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>hsa-let-7a-1    MA:6-27;mi:57-77    SRX018957
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>hsa-let-7b MA:6-27;mi:60-81    SRX018957
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>hsa-let-7c MA:11-32;mi:33-54 SRX018957

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-----GAGGUAGUAGAUUGUAUAGUa-----
--- 2 1, -1
-----GAGGUAGUAGAUUGUAUAGUaa-----
--- 4 1, -1
-----GAGGUAGUAGAUUGUAUAGUau-----
--- 2 1, -1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 39 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
--- 45 1,0
-----GAGGUAGUAGAUUGUAUAGUUaa-----
--- 6 1,0
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--- 7 1,1
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----      8      0,-2
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----    3349      0,-1
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----     72      0,-1
----UGAGGUAGUAGUUUGUACAGUaa-----
----     43      0,-1
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----     24      0,-1
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----    6213      0,0
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----   1339      0,0
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----     95      0,0
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----     98      0,0
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----   1267      0,1
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----     31      0,1
----UGAGGUAGUAGUUUGUACAGUUUu-----
----     36      0,1
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----      4      0,2
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----      5      1,-2
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----     31      1,-1
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----     46      1,0
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----      3      1,0
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--- 3 2,0

>hsa-let-7i MA:6-27:mi:62-83 SRX018957

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---- 244 0,-4

-----UGAGGUAGUAGUUUGUGC_a-----

--- 3 0,-4

-----UGAGGUAGUAGUUUGUGC_{aa}-----

----- 12 0,-4

-----UGAGGUAGUAGUUUGUGC_{au}-----

--- 3 0,-4

-----UGAGGUAGUAGUUUGUGCU-----

--- 796 0,-3

-----UGAGGUAGUAGUUUGUGCUa-----

--- 3 0, -3

-----UGAGGUAGUAGUUUGUGCUu-----

----- 2 0, -3

-----UGAGGUAGUAGUUUGUGCUuu-----

--- 2 0, -3

-----UGAGGUAGUAGUUUGUGCUG-----

--- 604 0, -2

-----UGAGGUAGUAGUUUGUGCUGa-----

----- 10 0,-2

-----UGAGGUAGUAGUUUGUGCUGaa-----

--- 13 0, -2

-----UGAGGUAGUAGUUUGUGCUGU-----

--- 338 0,-1

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--- 17 0,-1

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----- 17 0,-1

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----      180    0,0
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----      44      0,0
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----      8       0,0
----UGAGGUAGUAGUUUGUGCUGUUu-----
----      202    0,0
----UGAGGUAGUAGUUUGUGCUGUUuu-----
----      24      0,0
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----      9       0,1
----UGAGGUAGUAGUUUGUGCUGUUGa-----
----      2       0,1
----UGAGGUAGUAGUUUGUGCUGUUGu-----
----      2       0,1
----GAGGUAGUAGUUUGUGCUGUU-----
----      2       1,0
-----CUGCGCAAGCUACUGCCUU
----      2       0,-3
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G---      2       0,-2

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>hsa-mir-1-1 3p:46-67 SRX018957

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-----UGGAAUGUAAAGAAGUAU----- 4      0,-4
-----UGGAAUGUAAAGAAGUAUG----- 14     0,-3
-----UGGAAUGUAAAGAAGUAUGU----- 35     0,-2
-----UGGAAUGUAAAGAAGUAUGUA----- 92     0,-1
-----UGGAAUGUAAAGAAGUAUGUAa---- 38     0,-1
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      0,0
-----UGGAAUGUAAAGAAGUAUGUAUa--- 23     0,0

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-----GGAAUGUAAAGAAGUAUGUAU---- 3 1,0
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>hsa-mir-1-2 3p:53-74 SRX018957

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----- 1147 0,0

-----UGGAAUGUAAAGAAGUAUGUAU_a-----

----- 23 0,0

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----- 13 0,1

-----GGA AUGUAAAGAAGUAUGUAU-----

----- 3 1,0

-----GAAUGUAAAGAAGUAUGUAU-----

----- 3 2,0

>hsa-mi r-100 MA:13-34;mi :48-69 SRX018957

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7 0,-4

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2 0,-3
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3 0,-3
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4 0,-3
-----AACCCGUAGAUCCGAACUUG-----
1049 0,-2
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21 0,-2
-----AACCCGUAGAUCCGAACUUGaa-----
2 0,-2
-----AACCCGUAGAUCCGAACUUGU-----
8973 0,-1
-----AACCCGUAGAUCCGAACUUGUa-----
40 0,-1
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45 0,-1
-----AACCCGUAGAUCCGAACUUGUau-----
10 0,-1
-----AACCCGUAGAUCCGAACUUGUu-----
32 0,-1
-----AACCCGUAGAUCCGAACUUGUuu-----
6 0,-1
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7832 0,0
-----AACCCGUAGAUCCGAACUUGUGa-----
6589 0,0
-----AACCCGUAGAUCCGAACUUGUGaa-----
576 0,0
-----AACCCGUAGAUCCGAACUUGUGau-----
34 0,0
-----AACCCGUAGAUCCGAACUUGUGu-----
8632 0,0
-----AACCCGUAGAUCCGAACUUGUGuu-----
61 0,0

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49	0,1	AACCCGUAGA UCCGAACUUGUGG-
3	0,2	AACCCGUAGA UCCGAACUUGUGGU-
5	1,-1	ACCCGUAGA UCCGAACUUGU-
6	1,0	ACCCGUAGA UCCGAACUUGUG-
8	1,0	ACCCGUAGA UCCGAACUUGUGa-
4	1,0	ACCCGUAGA UCCGAACUUGUGaa-
5	1,0	ACCCGUAGA UCCGAACUUGUGu-

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>hsa-mir-101-1 mi:11-32;MA:47-67 SRX018957
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-1,-4
-----GUACAGUACUGUGAUAAACU----- 4257
-1,-3
-----GUACAGUACUGUGAUAAACUa----- 12
-1,-3
-----GUACAGUACUGUGAUAAACUaa----- 8
-1,-3
-----GUACAGUACUGUGAUAAACUau----- 3
-1,-3
-----GUACAGUACUGUGAUAAACUu----- 2
-1,-3
-----GUACAGUACUGUGAUAAACUG----- 2593
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17005 -1,-1
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26914	-1,0		
		-----GUACAGUACUGUGAUAAACUGAAa-----	6060
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAaa-----	256
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAau-----	5
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAu-----	31
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAuu-----	2
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAG-----	26
-1,1			
		-----GUACAGUACUGUGAUAAACUGAAGu-----	2
-1,1			
		-----UACAGUACUGUGAUAAACU-----	5567
0,-3			
		-----UACAGUACUGUGAUAAACUa-----	23
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0,-2			
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31682	0,-1		
		-----UACAGUACUGUGAUAAACUGAu-----	70
0,-1			
		-----UACAGUACUGUGAUAAACUGAuu-----	37
0,-1			
		-----UACAGUACUGUGAUAAACUGAA-----	
69934	0,0		

		-----UACAGUACUGUGAUAAACUGAAa-----	
17465	0,0		
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	0,0		
		-----UACAGUACUGUGAUAAACUGAAau-----	40
	0,0		
		-----UACAGUACUGUGAUAAACUGAAu-----	877
	0,0		
		-----UACAGUACUGUGAUAAACUGAAuu-----	37
	0,0		
		-----UACAGUACUGUGAUAAACUGAAG-----	3692
	0,1		
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	0,1		
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	0,2		
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	0,3		
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	1,-1		
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	1,0		
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	1,0		
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	1,0		
		-----ACAGUACUGUGAUAAACUGAAG-----	36
	1,1		
		-----ACAGUACUGUGAUAAACUGAAGu-----	11
	1,1		
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	2,-1		
		-----CAGUACUGUGAUAAACUGAA-----	92
	2,0		

2,0	-CAGUACUGUGUAACUGAAa-	24
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2,0	-CAGUACUGUGUAACUGAAau-	2
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2,0	-CAGUACUGUGUAACUGAAuu-	2
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2,1	-CAGUACUGUGUAACUGAAGu-	2
2,1	-CAGUACUGUGUAACUGAAGuu-	2

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>hsa-mir-101-2 3p:49-69 SRX018957
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		-GUACAGUACUGUGAUAAACUGAAa-----
6060	-1,0	
		-GUACAGUACUGUGAUAAACUGAAaa-----
256	-1,0	
		-GUACAGUACUGUGAUAAACUGAAau-----
5	-1,0	
		-GUACAGUACUGUGAUAAACUGAAu-----
31	-1,0	
		-GUACAGUACUGUGAUAAACUGAAuu-----
2	-1,0	
		-GUACAGUACUGUGAUAAACUGAAG-----
26	-1,1	
		-GUACAGUACUGUGAUAAACUGAAGu-----
2	-1,1	
		-GUACAGUACUGUGAUAAACUGAAGA-----
4	-1,2	
		-UACAGUACUGUGAUAAACU-----
5567	0,-3	
		-UACAGUACUGUGAUAAACUa-----
23	0,-3	
		-UACAGUACUGUGAUAAACUaa-----
17	0,-3	
		-UACAGUACUGUGAUAAACUu-----
2	0,-3	
		-UACAGUACUGUGAUAAACUG-----
3186	0,-2	
		-UACAGUACUGUGAUAAACUGu-----
28	0,-2	
		-UACAGUACUGUGAUAAACUGA-----
31682	0,-1	
		-UACAGUACUGUGAUAAACUGAu-----
70	0,-1	
		-UACAGUACUGUGAUAAACUGAuu-----
37	0,-1	

		-UACAGUACUGUGAUAAACUGAA-----
69934	0,0	
		-UACAGUACUGUGAUAAACUGAAa-----
17465	0,0	
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640	0,0	
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40	0,0	
		-UACAGUACUGUGAUAAACUGAAu-----
877	0,0	
		-UACAGUACUGUGAUAAACUGAAuu-----
37	0,0	
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3692	0,1	
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490	0,1	
		-UACAGUACUGUGAUAAACUGAAGA-----
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78	0,3	
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199	1,-1	
		-ACAGUACUGUGAUAAACUGAA-----
500	1,0	
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131	1,0	
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9	1,0	
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36	1,1	

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6   1,3
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36  2,-1
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92  2,0
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24  2,0
-----CAGUACUGUGAUAAACUGAAaa-----
2   2,0
-----CAGUACUGUGAUAAACUGAAau-----
2   2,0
-----CAGUACUGUGAUAAACUGAAu-----
3   2,0
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2   2,0
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2   2,1
-----CAGUACUGUGAUAAACUGAAGuu-----
2   2,1
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17  2,3
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15  2,3

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>hsa-mir-103-1 3p:48-70 SRX018957

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		-----AGCAGCAUUGUACAGGGCU-----
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		-----AGCAGCAUUGUACAGGGCUu-----
39	0, -4	
		-----AGCAGCAUUGUACAGGGCUuu-----
14	0, -4	
		-----AGCAGCAUUGUACAGGGCUA-----
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109	0, -3	
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240	0, -2	
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645	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
86	0, -2	
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7632	0, -1	

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212	0,-1	
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1631	0,0	
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40	0,0	
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494	0,1	
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		-----GCAGCAUUGUACAGGGCUA-----
3	1,-3	
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33	1,-2	
		-----GCAGCAUUGUACAGGGCUAUaa-----
3	1,-2	
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2	1,-2	
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>hsa-mir-103-2  mi:11-33;MA:48-70  SRX018957
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5    0,-5
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3    0,-5
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441  0,-4
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14   0,-4
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		-----AGCAGCAUUGUACAGGGCUAUaa-----
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86	0,-2	
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2614	0,-1	
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212	0,-1	
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40	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
494	0,1	
		-----AGCAGCAUUGUACAGGGCUAUGAAu-----
14	0,1	
		-----AGCAGCAUUGUACAGGGCUAUGAAA-----
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		-----GCAGCAUUGUACAGGGCUA-----
3	1,-3	
		-----GCAGCAUUGUACAGGGCUAU-----
33	1,-2	
		-----GCAGCAUUGUACAGGGCUAUaa-----
3	1,-2	
		-----GCAGCAUUGUACAGGGCUAUu-----
2	1,-2	


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-- 12 0,0
-----UAAAGUGCUGACAGUGCAGAU-----
-- 23 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 21 0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 12 0,1
-----ACCGCACUGUGGGUACUUGCUG-----
-- 6 -1,-1
-----ACCGCACUGUGGGUACUUGCUGa-----
-- 2 -1,-1
-----CCGCACUGUGGGUACUUGC-----
-- 2 0,-3
-----CCGCACUGUGGGUACUUGC-----
-- 4 0,-2
-----CCGCACUGUGGGUACUUGCUG-----
-- 57 0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 30 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 7 0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 8 0,-1
-----CCGCACUGUGGGUACUUGCUGC-----
-- 97 0,0
-----CCGCACUGUGGGUACUUGCUGCau-----
-- 2 0,0
-----CCGCACUGUGGGUACUUGCUGCU-----
-- 2 0,1
-----CGCACUGUGGGUACUUGCUGC-----
-- 2 1,0

```

>hsa-mir-107 3p:50-72 SRX018957

cucucugcuuucagcuucuuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCaagcacag
a

.(((.(((((.(((.(.(((((((((((.(((.(.(((....)))))))))))))).))))).)))))

-----AAGCAGCAUUGUACAGGGCUAU-----
- 5 -1,-2
-----AGCAGCAUUGUACAGGGC-----
- 747 0,-5
-----AGCAGCAUUGUACAGGGCa-----
- 3 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 5 0,-5
-----AGCAGCAUUGUACAGGGCau-----
- 3 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 441 0,-4
-----AGCAGCAUUGUACAGGGCUu-----
- 39 0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
- 14 0,-4
-----AGCAGCAUUGUACAGGGCUA-----
- 2206 0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
- 109 0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
- 29 0,-3
-----AGCAGCAUUGUACAGGGCUAau-----
- 19 0,-3
-----AGCAGCAUUGUACAGGGCUAU-----
- 9095 0,-2
-----AGCAGCAUUGUACAGGGCUAUa-----
- 303 0,-2
-----AGCAGCAUUGUACAGGGCUAUaa-----
- 240 0,-2
-----AGCAGCAUUGUACAGGGCUAUau-----
- 236 0,-2
-----AGCAGCAUUGUACAGGGCUAUu-----
- 645 0,-2
-----AGCAGCAUUGUACAGGGCUAUuu-----
- 86 0,-2

```

-----AGCAGCAUUGUACAGGGCUAUC-----
- 2014 0,-1
-----AGCAGCAUUGUACAGGGCUAUCu-----
- 1074 0,-1
-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 39 0,-1
-----AGCAGCAUUGUACAGGGCUAUCA-----
- 3490 0,0
-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 227 0,0
-----AGCAGCAUUGUACAGGGCUAUCAuu-----
- 4 0,0
-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 38 0,1
-----AGCAGCAUUGUACAGGGCUAUCAAu-----
- 2 0,1
-----GCAGCAUUGUACAGGGCU-----
- 3 1,-4
-----GCAGCAUUGUACAGGGCUA-----
- 3 1,-3
-----GCAGCAUUGUACAGGGCUAU-----
- 33 1,-2
-----GCAGCAUUGUACAGGGCUAUaa-----
- 3 1,-2
-----GCAGCAUUGUACAGGGCUAUu-----
- 2 1,-2
-----GCAGCAUUGUACAGGGCUAUuu-----
- 3 1,-2
-----GCAGCAUUGUACAGGGCUAUCA-----
- 11 1,0
-----CAGCAUUGUACAGGGCUAU-----
- 5 2,-2
-----CAGCAUUGUACAGGGCUAUCA-----
- 2 2,0

```

>hsa-mir-10a MA:22-44;mi:63-84 SRX018957

gaucugucugucuucuguaaUACCCUGUAGAUCCGAAUUUGUGuaaggaauuuuguggucaCAAAUUCGUAUCUAGGGG
AAUAuguaguugacauaaacacuccgcucu

```

-----AUACCCUGUAGAUCCGAAUU-----
-----      2   -1,-3
-----AUACCCUGUAGAUCCGAAUUUG-----
-----      2   -1,-2
-----UACCCUGUAGAUCCGAAU-----
-----     15   0,-5
-----UACCCUGUAGAUCCGAAUaa-----
-----      3   0,-5
-----UACCCUGUAGAUCCGAAUU-----
-----     23   0,-4
-----UACCCUGUAGAUCCGAAUUa-----
-----      2   0,-4
-----UACCCUGUAGAUCCGAAUUU-----
-----     18   0,-3
-----UACCCUGUAGAUCCGAAUUUG-----
-----    126   0,-2
-----UACCCUGUAGAUCCGAAUUUGa-----
-----      7   0,-2
-----UACCCUGUAGAUCCGAAUUUGU-----
-----    481   0,-1
-----UACCCUGUAGAUCCGAAUUUGUa-----
-----      5   0,-1
-----UACCCUGUAGAUCCGAAUUUGUu-----
-----      2   0,-1
-----UACCCUGUAGAUCCGAAUUUGUG-----
-----    191   0,0
-----UACCCUGUAGAUCCGAAUUUGUGa-----
-----     52   0,0
-----UACCCUGUAGAUCCGAAUUUGUGaa-----
-----      5   0,0
-----UACCCUGUAGAUCCGAAUUUGUGU-----
-----     32   0,1
-----UACCCUGUAGAUCCGAAUUUa-----
-----      2   1,-3
-----UACCCUGUAGAUCCGAAUUUG-----
-----     12   1,-2

```

```

-----ACCCUGUAGAUCCGAAUUUGU-----
-----71 1,-1-----
-----ACCCUGUAGAUCCGAAUUUGUG-----
-----78 1,0-----
-----ACCCUGUAGAUCCGAAUUUGUGa-----
-----69 1,0-----
-----ACCCUGUAGAUCCGAAUUUGUGaa-----
-----16 1,0-----
-----ACCCUGUAGAUCCGAAUUUGUGU-----
-----24 1,1-----
-----CAAUUCGUAUCUAGGGG-----
-----4 0,-4-----
-----AAUUCGUAUCUAGGGG-----
AAUAa-----2 1,0-----

```

>hsa-mi r-10b MA:27-49;mi :66-87 SRX018957

ccagagguuguaacguugucuauuaUACCCUGUAGAACCGAAUUUGUGugguauccguauagucACAGAUUCGAUUCUA
GGGGAAUauauggucgaugcaaaaacuca

$$\dots(((((((\dots(((((.((((((((.(((((. (((((.(((((((((((..((((\dots))) \dots)))))))).))))).)))))).))) .))))))))).$$

UACCCUGUAGAACCGAAUUU	2	0,-3
UACCCUGUAGAACCGAAUUUG	6	0,-2
UACCCUGUAGAACCGAAUUUGU	76	0,-1
UACCCUGUAGAACCGAAUUUGUa	2	0,-1
UACCCUGUAGAACCGAAUUUGUaa	2	0,-1
UACCCUGUAGAACCGAAUUUGUG	11	0,0
UACCCUGUAGAACCGAAUUUGUGa	4	0,0
UACCCUGUAGAACCGAAUUUGUGaa	4	0,0
UACCCUGUAGAACCGAAUUUGUGU	3	0,1

----- 2 0,-3

-----UACCCUGUAGAACCGAAUUUG

----- 6 0,-2

-----UACCCUGUAGAACCGAAUUUGU

----- 76 0,-1

-----UACCCUGUAGAACCGAAUUUGUa

----- 2 0,-1

-----UACCCUGUAGAACCGAAUUUGU_{aa}

----- 2 0,-1

-----UACCCUGUAGAACCGAAUUUGUG

----- 11 0,0

-----UACCCUGUAGAACCGAAUUUGUGa

----- 4 0,0

-----UACCCUGUAGAACCGAAUUUGUGaa

----- 4 0,0

-----UACCCUGUAGAACCGAAUUUGUGU

$$----- \quad 3 \quad 0,1$$


```

-----AGAGGAUACCCUUUGUAUGUUC-----
----- 14 0,1
-----AGAGGAUACCCUUUGUAUGUUCA-----
----- 2 0,2
-----AUAUACAGGGGAGACUCUCA-----
----- 3

```

>hsa-mir-122 MA:15-36;mi:51-72 SRX018957

```

ccuagcagagcugUGGAGUGUGACAAUGGUGUUUGugucuaaacuaucaAACGCCAUUAUCACACUAAAUAgcucugc
uaggc

```

```

((((((((((((((..(((((((.(((((((((((.((....))...)))))))))).))))))..))))))..))))
)))

```

```

-----UGUGGAGUGUGACAAUGGUGU-----
----- 10 -2,-3
-----UGUGGAGUGUGACAAUGGUGUU-----
----- 254 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUa-----
----- 10 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUU-----
----- 6 -2,-1
-----GUGGAGUGUGACAAUGGUG-----
----- 3 -1,-4
-----GUGGAGUGUGACAAUGGUGU-----
----- 8 -1,-3
-----GUGGAGUGUGACAAUGGUGUU-----
----- 8 -1,-2
-----GUGGAGUGUGACAAUGGUGUUU-----
----- 69 -1,-1
-----GUGGAGUGUGACAAUGGUGUUUG-----
----- 13 -1,0
-----GUGGAGUGUGACAAUGGUGUUUGa-----
----- 6 -1,0
-----UGGAGUGUGACAAUGGUG-----
----- 12191 0,-4
-----UGGAGUGUGACAAUGGUGa-----
----- 1418 0,-4
-----UGGAGUGUGACAAUGGUGaa-----
----- 530 0,-4

```

```

-----UGGAGUGUGACAAUGGUGau-----
----- 44 0,-4
-----UGGAGUGUGACAAUGGUGU-----
----- 38116 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 9199 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 4229 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 622 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 110927 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 10559 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 2535 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 993 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 261158 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 42238 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 21399 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 13928 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 4258 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 413 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1858034 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 1006546 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 50836 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 31964 0,0

```



```

-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 361843 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 5309 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 3420 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 3151 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 2218 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 665 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 390 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 95 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 363 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 183 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 64 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 26 1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 4 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 509 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 55 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 21 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 6 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 694 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 93 1,-1

```

```

-----GGAGUGUGACAAUGGUGUUUaa-----
----- 175 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 39 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 11 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 9884 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 6590 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 380 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 180 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 835 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 22 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 32 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 13 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 10 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 9 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 2 1,2
-----GAGUGUGACAAUGGUGUU-----
----- 112 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 7 2,-2
-----GAGUGUGACAAUGGUGUUau-----
----- 2 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 347 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 30 2,-1

```

```

-----GAGUGUGACAAUGGUGUUUaa-----
----- 27 2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 12 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 17 2,-1
-----GAGUGUGACAAUGGUGUUUuu-----
----- 2 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 1664 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 984 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 54 2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 38 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 442 2,1
-----GAGUGUGACAAUGGUGUUUGUa-----
----- 4 2,1
-----GAGUGUGACAAUGGUGUUUGUaa-----
----- 4 2,1
-----GAGUGUGACAAUGGUGUUUGUau-----
----- 3 2,1
-----AACGCCAUUAUCACACUAA-----
----- 2 -1,-3
-----AACGCCAUUAUCACACUAAAU-----
----- 9 -1,-1
-----AACGCCAUUAUCACACUA-----
----- 3 0,-4
-----AACGCCAUUAUCACACUAA-----
----- 9 0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 9 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 3 0,-2
-----AACGCCAUUAUCACACUAAAU-----
----- 72 0,-1

```

```

-----AACGCCAUUAUCACACUAAAUu-----
----- 9 0,-1
-----AACGCCAUUAUCACACUAAAUa-----
----- 31 0,0
-----AACGCCAUUAUCACACUAAAUa-----
----- 6 0,0
-----AACGCCAUUAUCACACUAAAUu-----
----- 13 0,0

```

```

>hsa-mir-1228 mi:1-21;MA:52-71 SRX018957
GUGGGCGGGGGCAGGUGUGUGguggguggguggccugcgugagcagggcccUCACACCUGCCUGCCCCCag
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
GUGGGCGGGGGCAGGUGUGU----- 2
0,-1
GUGGGCGGGGGCAGGUGUGUG----- 5
0,1

```

```

>hsa-mir-124-1 mi:14-35;MA:53-72 SRX018957
aggccucucucucCGUGUUCACAGCGGACCUUGAUuuuaauguccauacaauUAAGGCACGCGGUGAAUGCCaagaugg
ggcug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))).
-----UAAGGCACGCGGUGAAUG-----
----- 5 0,-2
-----UAAGGCACGCGGUGAAUGCCA-----
----- 2 0,1
-----UAAGGCACGCGGUGAAUGCCAA-----
----- 2 0,2

```

```

>hsa-mir-124-2 mi:25-46;MA:62-81 SRX018957
aucaagauuagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuuaaugucauacaauUAAGGCACGCGGUGAAUGC
Caagagcggagccuacggcugcacuugaa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAAGGCACGCGGUGAAUG-----
----- 5 0,-2
-----UAAGGCACGCGGUGAAUGC
CA----- 2 0,1

```

-----UAAGGCACGCGGUGAAUGC
CAA----- 2 0,2

```

-----UAAGGCACGCGGUGAAUG-----
----- 5    0,-2
-----UAAGGCACGCGGUGAAUGCCA-----
----- 2    0,1
-----UAAGGCACGCGGUGAAUGCCAA-----
----- 2    0,2

```

```
>hsa-mir-1244-1 3p:55-80      SRX018957
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((..(((..(((.....(((.((((.....)))))))))))).))))).)))))))).....
.....
-----AAGUAGUUGGUUUGUAUGAGAUGGU-
----- 2 0,-1
```

```
>hsa-mir-1244-2 3p:55-80      SRX018957
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
((((((((.....(((..(((..(((.....(((.((((.....)))))))))))).))))).)))))))).....
.....
-----AAGUAGUUGGUUUGUAUGAGAUGGU-
----- 2 0,-1
```

```
>hsa-mir-1244-3 3p:55-80      SRX018957
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((..(((..(((.....(((.((((.....)))))))))))).))))).)))))))).....
.....
-----AAGUAGUUGGUUUGUAUGAGAUGGU-
----- 2 0,-1
```

>hsa-mir-1246 5p:11-29 SRX018957

```
uguauccuugAAUGGAUUUUGGAGCAGGaguggacaccugacccaaaggaaaaucauccauaggcuagcaau
(((...(((...((((((((((((...(((...))))))...))))))...))))))...))..
-----AAUGGAUUUUGGAGCAGG----- 24
      0,0
-----AUGGAUUUUGGAGCAGG----- 6
      1,0
```

>hsa-mir-1254 5p:18-41 SRX018957

```
ggugggaggauugcuugAGCCUGGAAGCUGGAGCCUGCAGUgaacuaucuuuguccacuguacuccagccuaggcaaca
aaugaaaaccugucua
...((...(((...(((...((((((((((((...(((...))))))...))))))...))))))...))
).)))))))).)..
-----UGAGCCUGGAAGCUGGAGCCU-----
----- 2 -2,-5
-----AGCCUGGAAGCUGGAGCCUGCAGU-----
----- 2 0,0
```

>hsa-mir-1255a 5p:28-50 SRX018957

```
auuggaaauccuugaguugcuucucaAGGAUGAGCAAAGAAAGUAGAUUuuuuagauucuaaagaaacuaucuuucuuug
cuauccuugagaagcaacuccuuauccauuaa
..(((...(((...((((((((((((((((((((...(((...))))))...))))))...))))))
)))))))).)...
-----AGGAUGAGCAAAGAAAGU-----
----- 3 0,-5
-----AGGAUGAGCAAAGAAAGUAG-----
----- 5 0,-3
-----AGGAUGAGCAAAGAAAGUAGA-----
----- 2 0,-2
-----AGGAUGAGCAAAGAAAGUAGAU-----
----- 2 0,-1
-----AGGAUGAGCAAAGAAAGUAGAU-----
----- 6 0,0
```

>hsa-mir-1255b-1 5p:3-24 SRX018957

```
uaCGGAUGAGCAAAGAAAGUGGUUucuuaaaauggaauacuucuuugugaagaucugugaa
((((...(((...((((((((((((((((...(((...))))))...))))))...))))))..
```

```
--CGGAUGAGCAAAGAAAGUGGUU----- 2 0,0
--CGGAUGAGCAAAGAAAGUGGUUa----- 2 0,0
--CGGAUGAGCAAAGAAAGUGGUUU----- 6 0,1
```

>hsa-mir-1255b-2 5p:6-27 SRX018957

```
ucuuacCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuucuuugcucauccauaagga
(((((((((.....))))))))))))).
-----CGGAUGAGCAAAGAAAGUGGUU----- 2 0,0
-----CGGAUGAGCAAAGAAAGUGGUUa----- 2 0,0
-----CGGAUGAGCAAAGAAAGUGGUUU----- 6 0,1
```

>hsa-mir-1258 3p:44-64 SRX018957

```
cuguggcuuccacgaccuaauccuaacuccugcgagucccuggAGUUAGGAUUAGGUCUGGAAgcccacagga
((((((((((((((((((((((((((((((((.....))))))))))))))))))))).
-----AGUUAGGAUUAGGUCUGU----- 4
0,-3
-----AGUUAGGAUUAGGUCUGGAAa----- 2
0,0
```

>hsa-mir-125a 5p:15-38;3p:53-74 SRX018957

```
ugccagucucuaggUCCCUGAGACCCUUUAACCCUGUGAggacauccaggguacACAGGUGAGGUUCUUGGGAGCCuggcgu
cuggcc
(((((((((.....))))))))))))).
-----UCCCUGAGACCCUUUAACC-----
----- 117 0,-5
-----UCCCUGAGACCCUUUAACC-----
----- 2 0,-5
-----UCCCUGAGACCCUUUAACC-----
----- 2 0,-5
-----UCCCUGAGACCCUUUAACCU-----
----- 1337 0,-4
-----UCCCUGAGACCCUUUAACCUG-----
----- 624 0,-3
-----UCCCUGAGACCCUUUAACCUG-----
----- 15 0,-3
-----UCCCUGAGACCCUUUAACCUG-----
----- 2 0,-3
```



```

-----UCCCUGAGACCCUAACUUGa-----
----- 11 0,-3
-----UCCCUGAGACCCUAACUUGaa-----
----- 2 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 1645 0,-2
-----UCCCUGAGACCCUAACUUGUa-----
----- 6 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 7 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 2 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 1566 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 171 0,-1
-----UCCCUGAGACCCUAACUUGUGuu-----
----- 3 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 5083 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 2048 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 248 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 14 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
----- 139 0,1
-----UCCCUGAGACCCUAACUUGUGAUa-----
----- 8 0,1
-----UCCCUGAGACCCUAACUUGUGAUu-----
----- 4 0,1
-----CCCUGAGACCCUAACUUGUGAau-----
----- 2 1,0
-----CCCUGAGACCCUAACUUGUGAU-----
----- 14 1,1
-----CCUGAGACCCUAACUUGU-----
----- 13 2,-2

```



```

-----UCCCUGAGACCCUAACUUGaa-----
----- 2 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 1645 0,-2
-----UCCCUGAGACCCUAACUUGUa-----
----- 6 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 7 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 2 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 1566 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 171 0,-1
-----UCCCUGAGACCCUAACUUGUGuu-----
----- 3 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 5083 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 2048 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 248 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 14 0,0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 11 0,1
-----UCCCUGAGACCCUAACUUGUGAGa-----
----- 9 0,1
-----CCCUGAGACCCUAACUUGUGAau-----
----- 2 1,0
-----CCUGAGACCCUAACUUGU-----
----- 13 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 21 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 2 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 58 2,0

```

Sequence	Length	Score
CCUGAGACCCUAACUUGUGAa	21	2,0
CCUGAGACCCUAACUUGUGAaa	2	2,0
AUCACAAGUCAGGCUCUUGGG	9	-1,-2
AUCACAAGUCAGGCUCUUGGGA	5	-1,-1
UCACAAGUCAGGCUCUUGG	4	0,-3
UCACAAGUCAGGCUCUUGGGA	4	0,-1
UCACAAGUCAGGCUCUUGGGAC	3	0,0
ACAAGUCAGGCUCUUGGG	80	2,-2
ACAAGUCAGGCUCUUGGGA	32	2,-1
ACAAGUCAGGCUCUUGGGAa	2	2,-1
ACAAGUCAGGCUCUUGGGAC	32	2,0
ACAAGUCAGGCUCUUGGGACa	2	2,0
ACAAGUCAGGCUCUUGGGACC	5	2,1
ACAAGUCAGGCUCUUGGGACCU	8	2,2

```

-----CAUUAUUACUUUUGGUACGC-----
----- 39 0,-1
-----CAUUAUUACUUUUGGUACGCa-----
----- 3 0,-1
-----CAUUAUUACUUUUGGUACGCaa-----
----- 2 0,-1
-----CAUUAUUACUUUUGGUACGCG-----
----- 366 0,0
-----CAUUAUUACUUUUGGUACGCGa-----
----- 129 0,0
-----CAUUAUUACUUUUGGUACGCGaa-----
----- 3 0,0
-----CAUUAUUACUUUUGGUACGCGu-----
----- 54 0,0
-----CAUUAUUACUUUUGGUACGCGC-----
----- 7 0,1
-----CAUUAUUACUUUUGGUACGCGCU-----
----- 5 0,2
-----AUUAUUACUUUUGGUACGC-----
----- 4 1,-1
-----AUUAUUACUUUUGGUACGCG-----
----- 39 1,0
-----AUUAUUACUUUUGGUACGCGa-----
----- 3 1,0
-----AUUAUUACUUUUGGUACGCGCU-----
----- 8 1,2
-----CUCGUACCGUGAGUAAUAAUaa-----
----- 2 -1,-3
-----CUCGUACCGUGAGUAAUAAUG-----
----- 5 -1,-2
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 5 -1,-2
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 12 -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 25 -1,0
-----UCGUACCGUGAGUAAUAAU-----
----- 4 0,-3

```

```

-----UCGUACCGUGAGUAAUAAUG-----
----- 2 0,-2
-----UCGUACCGUGAGUAAUAAUGa-----
----- 9 0,-2
-----UCGUACCGUGAGUAAUAAUGaa-----
----- 5 0,-2
-----UCGUACCGUGAGUAAUAAUGu-----
----- 2 0,-2
-----UCGUACCGUGAGUAAUAAUGC-----
----- 28 0,-1
-----UCGUACCGUGAGUAAUAAUGCa-----
----- 3 0,-1
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 51 0,0
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 41 0,0
-----CGUACCGUGAGUAAUAAUG-----
----- 2 1,-2
-----CGUACCGUGAGUAAUAAUGC-----
----- 8 1,-1
-----CGUACCGUGAGUAAUAAUGCG-----
----- 38 1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 13 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 8 1,0
-----GUACCGUGAGUAAUAAUGC-----
----- 7 2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 9 2,0
-----GUACCGUGAGUAAUAAUGCGa-----
----- 5 2,0

```

>hsa-mir-1268 5p:5-22 SRX018957

uagcCGGGCGUGGUGGUGGGGGccuguggucccagcuacuuuggaggcugag

(((((...((.((((((.((((((...)))))).)))))).)))))..

```

-----CGGGCGUGGUGGUGGGGG----- 14 0,0

```

```

-----CGGGCGUGGUGGUGGGGGu----- 2 0,0

```

ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucaucauc

((.((((.((((...(((((((.....(((((((((((.(.((((((((((.....)).)).)))))))))))))))).)).)))).)))).)).....

-----UGCUGAAGCUCAGAGGGCUCU-----

$$----- \quad 3 \quad -2, -3$$

-----CUGAAGCUCAGAGGGCUC-----

----- 8 0,-4

-----CUGAAGCUCAGAGGGCUCU-----

----- 15 0,-3

-----CUGAAGCUCAGAGGGCUCUG-----

$$----- \quad 2 \quad 0, -2$$

-----CUGAAGCUCAGAGGGCUCUGA-----

----- 10 0,-1

-----CUGAAGCUCAGAGGGGCUCUGAU-----

----- 3 0,0

-----CUGAAGCUCAGAGGGGCUCUGAUU-----

----- 2 0.1

-----UCGGAUCCGUCUGAGCUUGG-----

----- 9 0,-2

-----UCGGAUCCGUCUGAGCUUGGa-----

$$-----4 \quad 0, -2$$

-----UCGGAUCCGUCUGAGCUUGGaa-----

----- 7 0,-2

-----UCGGAUCCGUCUGAGCUUGGC-----

----- 59 0, -1

-----UCGGAUCCGUCUGAGCUUGGC_a-----

----- 41 0, -1

-----UCGGAUCCGUCUGAGCUUGGCaa-

----- 39 0, -1

-----UCGGAUCCGUCUGAGCUUGGC_{au}-----

----- 97 0, -1

-----UCGGAUCCGUCUGAGCUUGGCU-----

----- 263 0,0

-----UCGGAUCCGUCUGAGCUUGGCUa-

----- 114 0,0

```

-----UCGGAUCCGUCUGAGCUUGGCUaa
----- 16 0,0
-----UCGGAUCCGUCUGAGCUUGGCUau
----- 153 0,0
-----UCGGAUCCGUCUGAGCUUGGCUu-
----- 99 0,0
-----UCGGAUCCGUCUGAGCUUGGCUuu
----- 25 0,0
-----UCGGAUCCGUCUGAGCUUGGCUG-
----- 6 0,1
-----UCGGAUCCGUCUGAGCUUGGCUGu
----- 3 0,1
-----CGGAUCCGUCUGAGCUUGGCUa-
----- 2 1,0
-----GGAUCCGUCUGAGCUUGGCa--
----- 2 2,-1
-----GGAUCCGUCUGAGCUUGGCU--
----- 5 2,0
-----GGAUCCGUCUGAGCUUGGCUa-
----- 2 2,0
-----GGAUCCGUCUGAGCUUGGCUau
----- 2 2,0
-----GGAUCCGUCUGAGCUUGGCUu-
----- 3 2,0

```

>hsa-mir-1270-1 5p:13-35 SRX018957

```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuuuauucuuauguggcucuuu
gca
((.((((((((..((((((.(((((((((.(((((.....)))))))))))))).))))))..)))))))).)
)..
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 2 0,0

```

>hsa-mir-1270-2 5p:13-35 SRX018957

```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuuuauucuuauguggcucuuu
gca
((.((((((((..((((((.(((((((((.(((((.....)))))))))))))).))))))..)))))))).)
)..

```


-----GGCGACAAAACGAGACCCUGUCau-----
2 0,0

```
>hsa-mir-1274b 5p:15-31 SRX018957
```

cuucuucacucacgUCCCUGUUCGGGCGCCAcuuguggcugucggguucgggacugaaugaagaagga

(((((((((.(((.((((((.(..(.(((((((((.)))..)))..)))..)))..)))..)))..)))..))..

-----GUCCCUGUUCGGGCGCCA----- 4 -1,0

```
>hsa-mir-1277    3p:47-68    SRX018957
```

accucccaauauauauauauauguacguauguguauauaaauguaUACGUAGAUUAUAUGUAUUUUugguggguuu

-----UACGUAGAUUAUAUGUAUUUU-----

7 0,0

>hsa-mir-1278 3p:50-71 SRX018957

auuugcucauagaugauaugcauaguacucccagaacucauuuaguuggUAGUACUGUGCAUAUCAUCUAUgagcgaaua
g

[illegible]

-----UAGUACUGUGCAUAUCAUCU-----

- 6 0,-2

-----UAGUACUGUGCAUAUCAUCUA-----

- 6 0, -1

-----UAGUACUGUGCAUAUCAUCAU-----

- 28 0,0

-----UAGUACUGUGCAUAUCAUCUAU_a-----

- 5 0,0

>hsa-mi r-128-1 3p:50-70 SRX018957

ugagcuguuggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUUuucagcugcu
uc

$$.((((.((((((\dots((((((\dots((((((\dots((((((\dots)))))))))\dots))))))\dots))))).))\dots).$$

-----CGGGGCCGUAGCACUGUCUGA-----

-- 3

-----UCACAGUGAACCGGUCUCU-----

-- 5 0,-2

-----UCACAGUGAACCGGUCUCUU-----

```

-- 15 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
-- 7 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 4 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 2 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 72 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 47 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 11 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 9 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 22 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 3 0,1
-----UCACAGUGAACCGGUCUCUUUUU-----
-- 2 0,2
-----CACAGUGAACCGGUCUCUUUa-----
-- 3 1,0

```

>hsa-mir-128-2 3p:52-72 SRX018957

```

ugugcagugggaagggggccgauacacugucgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(..(((((((.((((((((((...((((((..((((..(.....).))))))))))))....)))))))).))))))
..).

```

```

-----GGGGGCCGAUACACUGUACGA-----
---- 2
-----GGGGGCCGAUACACUGUACGAGA-----
---- 2
-----UCACAGUGAACCGGUCUCU-----
---- 5 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 15 0,-1
-----UCACAGUGAACCGGUCUCUUa-----

```

```

----      7      0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
----      4      0,-1
-----UCACAGUGAACCGGUCUCUUau-----
----      2      0,-1
-----UCACAGUGAACCGGUCUCUUU-----
----     72      0,0
-----UCACAGUGAACCGGUCUCUUUa-----
----     47      0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
----     11      0,0
-----UCACAGUGAACCGGUCUCUUUau-----
----      9      0,0
-----UCACAGUGAACCGGUCUCUUUC-----
----      3      0,1
-----UCACAGUGAACCGGUCUCUUUCa-----
----      2      0,1
-----CACAGUGAACCGGUCUCUUUa-----
----      3      1,0

```

>hsa-mir-1285-1 3p:51-72 SRX018957

```

uguagagauaggaucucacuuguugcccaggcuggucucuaaacuccuggUCUGGGCAACAAAGUGAGACCUuauucua
caag

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..

```

```

-----UCUGGGCAACAAAGUGAG-----
----      2      0,-4
-----UCUGGGCAACAAAGUGAGA-----
----      3      0,-3
-----UCUGGGCAACAAAGUGAGAC-----
----      9      0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----     12      0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
----      4      0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----      5      0,-1
-----UCUGGGCAACAAAGUGAGACCa-----

```

```

----      3      0,-1
-----UCUGGGCAACAAAGUGAGACCaa-----
----      2      0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----     22      0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----     36      0,0
-----UCUGGGCAACAAAGUGAGACCUaa-----
----      8      0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
----     24      0,0
-----UCUGGGCAACAAAGUGAGACCUU-----
----     22      0,1
-----UCUGGGCAACAAAGUGAGACCUUu-----
----     15      0,1
-----UCUGGGCAACAAAGUGAGACCUUuu-----
----      2      0,1
-----UCUGGGCAACAAAGUGAGACCUUA-----
----      4      0,2

```

>hsa-mir-1285-2 3p:52-73 SRX018957

```

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

```

```

(((((((((((.((((.....(((((((.(((((((.....((((.....))))).))))).))))).))))).))))).
).)))))..

```

```

-----UCUGGGCAACAAAGUGAG-----
-----      2      0,-4
-----UCUGGGCAACAAAGUGAGA-----
-----      3      0,-3
-----UCUGGGCAACAAAGUGAGAC-----
-----      9      0,-2
-----UCUGGGCAACAAAGUGAGACa-----
-----     12      0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
-----      4      0,-2
-----UCUGGGCAACAAAGUGAGACC-----
-----      5      0,-1
-----UCUGGGCAACAAAGUGAGACCa-----

```

-----	3	0, -1	-----UCUGGGCAACAAAGUGAGACCaa-----
-----	2	0, -1	-----UCUGGGCAACAAAGUGAGACCU-----
-----	22	0, 0	-----UCUGGGCAACAAAGUGAGACCUa-----
-----	36	0, 0	-----UCUGGGCAACAAAGUGAGACCUaa-----
-----	8	0, 0	-----UCUGGGCAACAAAGUGAGACCUau-----
-----	24	0, 0	

>hsa-mir-1286 3p:47-67 SRX018957

```
>hsa-mi r-1287      5p:16-37      SRX018957
```

```
>hsa-mir-1291    5p:14-37    SRX018957
```

```

-----GUGGCCCUGACUGAAGACCAG-----
----- 4    -1,-4
-----GUGGCCCUGACUGAAGACCAGC-----
----- 3    -1,-3
-----GUGGCCCUGACUGAAGACCAGCA-----
----- 85   -1,-2
-----UGGCCCUGACUGAAGACCAGCA-----
----- 15   0,-2

```

ggcugggcaacauagcgagaccucaacucuaacaauuuuuuuuuuuuuuuuuuuuuUUUAGAGACGGGGUCUUGCUCUguugcca
ggcuuu

---UGGGCAACAUAGCGAGACC-----

-----UUUUAGAGACGGGGUCUUGC-----

-----UUUUAGAGACGGGGUCUUGCU-----

-----UUUAGAGACGGGGUCUUGCU-----

-----UUAGAGACGGGGUCUUGCU-----

gugagcagucuccaccaccuccccugcaaacguccaguggugcagagguaauggACGUUGGCUCUGGUGGUGauggacag
uccga

-----ACGUUGGCUCUGGUGGUGAUG_u-----

caucaagaccagcugagucacugucacugccuaccaaucucgaccggaccucgaccggcucgucuguguugccaaucGA
CUCGGCGUGGGGUCGGUCGUGguagauaggcggucaugcauacgaauuuucagcucuuguucugggac

-----CUCGACCGGACCCUCGACCGGCU-----

-----UCGACCGGACCU CGACCG-----

-----UCGACCGGACCUCGACCGG-----

-----UCGACCGGACCU CGACCGGC-----

-----UCGACCGGACCU CGACCGGCaa-----

-----	2
-----UCGACCGGACCUCGACCGGCU-----	
-----	469
-----UCGACCGGACCUCGACCGGCUa-----	
-----	22
-----UCGACCGGACCUCGACCGGCUaa-----	
-----	9
-----UCGACCGGACCUCGACCGGCUau-----	
-----	16
-----UCGACCGGACCUCGACCGGCUu-----	
-----	67
-----UCGACCGGACCUCGACCGGCUuu-----	
-----	41
-----UCGACCGGACCUCGACCGGCUC-----	
-----	455
-----UCGACCGGACCUCGACCGGCUCa-----	
-----	42
-----UCGACCGGACCUCGACCGGCUCaa-----	
-----	3
-----UCGACCGGACCUCGACCGGCUCu-----	
-----	16
-----UCGACCGGACCUCGACCGGCUCuu-----	
-----	3
-----UCGACCGGACCUCGACCGGCUCG-----	
-----	30
-----UCGACCGGACCUCGACCGGCUCGU-----	
-----	19
-----UCGACCGGACCUCGACCGGCUCGUu-----	
-----	2
-----CGACCGGACCUCGACCGGCU-----	
-----	4
-----CGACCGGACCUCGACCGGCUC-----	
-----	3
-----GACCGGACCUCGACCGGCU-----	
-----	9
-----GACCGGACCUCGACCGGCUa-----	
-----	2
-----GACCGGACCUCGACCGGCUu-----	

-----	5		
-----GACCGGACCUCGACCGGCUuu-----			
-----	4		
-----GACCGGACCUCGACCGGCUC-----			
-----	12		
-----GACCGGACCUCGACCGGCUCu-----			
-----	2		
-----A			
CUCGGCGUGGCGUCGGUC-----	3	0,-3	
-----A			
CUCGGCGUGGCGUCGGUCG-----	9	0,-2	
-----A			
CUCGGCGUGGCGUCGGUCGU-----	16	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUu-----	3	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUG-----	246	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGa-----	12	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGu-----	17	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGG-----	5	0,1	
-----A			
CUCGGCGUGGCGUCGGUCGUGGU-----	2	0,2	

CUCGGCGUGGCGUCGGUCGU-----	2	1,-1	

CUCGGCGUGGCGUCGGUCGUu-----	2	1,-1	

CUCGGCGUGGCGUCGGUCGUG-----	78	1,0	

CUCGGCGUGGCGUCGGUCGUGa-----	2	1,0	

CUCGGCGUGGCGUCGGUCGUGu-----	2	1,0	

CUCGGCGUGGCGUCGGUCGUGG-----	3	1,1	

>hsa-mi r-130a mi:21-42;MA:55-76 SRX018957

ugcugcuggccagagcucuuUUCACAUUGUGCUACUGUCUGCaccugucacuagCAGUGCAAUGUAAAAGGGCAUuggc
cguguagug

.(((((((((((.((((((((.(((((((..((.((((...((....))...)))..)).))))).)))))))).)))))))).))))).

-----CAGUGCAAUGUUAAGG-----

----- 311 0,-4

-----CAGUGCAAUGUUA AAAAGGG-----

----- 172 0,-3

-----CAGUGCAAUGUUA AAAAGGGC-----

----- 381 0,-2

-----CAGUGCAAUGUUA AAAAGGGCA-----

----- 68 0,-1

-----CAGUGCAAUGUUAAGGGCAa-----

----- 14 0,-1

-----CAGUGCAAUGUUAAGGGCAaa-----

----- 6 0,-1

-----CAGUGCAAUGUUAAGGGCAau-----

----- 3 0,-1

-----CAGUGCAAUGUUA AAAAGGGCAU-----

----- 192 0,0

-----CAGUGCAAUGUUAAGGGCAUa-----

----- 83 0,0

-----CAGUGCAAUGUUAAGGGCAUaa-----

----- 8 0,0

-----CAGUGCAAUGUUA AAAAGGGCAU_{au}-----

----- 7 0,0

-----CAGUGCAAUGUUA AAAAGGGCAUU-----

----- 126 0,1

-----CAGUGCAAUGUUAAGGGCAUU_a-----

----- 11 0,1

-----CAGUGCAAUGUUAAGGGCAUU-----

----- 9 0,1

-----AGUGCAAUGUAAAAGGG-----

----- 5 1, -3

-----AGUGCAAUGUUAAGGGC-----

----- 5 1, -2

-----AGUGCAAUGUAAAAGGGCAU-----


```

)))..))..)))....))).
-----AACCGUGGCUUUCGAUUGUUA-----
-----      3      -1,-2
-----UAACAGUCUACAGCCAUGG-----
-----      5      0,-3
-----UAACAGUCUACAGCCAUGGU-----
-----      6      0,-2
-----UAACAGUCUACAGCCAUGGUCa
-----      2      0,-1
-----UAACAGUCUACAGCCAUGGUCG
-----     14     0,0
-----UAACAGUCUACAGCCAUGGUCG
a-----      2      0,0
-----UAACAGUCUACAGCCAUGGUCG
u-----     13     0,0

```

```

>hsa-mir-133a-1 3p:53-74 SRX018957
acaaugcuuugcuagagcugguaaaauggaaccaaaucgcucuucaauggaUUUGGUCCCCUUAACACAGCUGuagcua
ugcauga
.(((((((...((((((((((...(((...((((((((((...)))))))).)))).)))).)))).)))).)))).
.)))).)).
-----AGCUGGUAAAAUGGAACCAA-----
-----      2

```

```

>hsa-mir-133a-2 3p:59-80 SRX018957
gggagccaaaugcuuugcuagagcugguaaaauggaaccaaaucgacuguccauggaUUUGGUCCCCUUAACACAGCUG
uagcugugcauugauggcgccg
.(((((((((((...((((((((((...(((...((((((((((...)))))))).)))).)))).)))).)))).
))))...))))).)))).)).
-----AGCUGGUAAAAUGGAACCAA-----
-----      2

```

```

>hsa-mir-134 5p:8-29 SRX018957
cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguuacaccugugggccaccuagucaccaaccuc
.(((((((...((((((((((...(((...((((((((((...)))))))).)))).)))).)))).)))).
-----UGUGACUGGUUGACCAGA----- 2
0,-4
-----UGUGACUGGUUGACCAGAG----- 12

```

0, -3	-----UGUGACUGGUUGACCAGAGa-----	6
0, -3	-----UGUGACUGGUUGACCAGAGG-----	6
0, -2	-----UGUGACUGGUUGACCAGAGGa-----	3
0, -2	-----UGUGACUGGUUGACCAGAGGaa-----	3
0, -2	-----UGUGACUGGUUGACCAGAGGG-----	17
0, -1	-----UGUGACUGGUUGACCAGAGGGa-----	13
0, -1	-----UGUGACUGGUUGACCAGAGGGaa-----	3
0, -1	-----UGUGACUGGUUGACCAGAGGGgau-----	2
0, -1	-----UGUGACUGGUUGACCAGAGGGG-----	24
0, 0	-----UGUGACUGGUUGACCAGAGGGGa-----	2
0, 0	-----UGUGACUGGUUGACCAGAGGGGgau-----	6
0, 0	-----UGUGACUGGUUGACCAGAGGGGgu-----	3
0, 0	-----UGUGACUGGUUGACCAGAGGGGguu-----	2
0, 0		

-- 17 0,-3
-----CAUCAUCGUCUCAAUGAGUC-----

>hsa-mir-137 3p:59-81 SRX018957

>hsa-mi r-138-1 MA:23-45;mi :63-84 SRX018957

>hsa-mi r-138-2 MA:10-32;mi :57-78 SRX018957

>hsa-mi r-139 5p:7-28;3p:44-65 SRX018957

-----UCUACAGUGCACGUGUCUCCA-----	107	0,-1
-----UCUACAGUGCACGUGUCUCCAa-----	5	0,-1
-----UCUACAGUGCACGUGUCUCCAu-----	14	0,-1
-----UCUACAGUGCACGUGUCUCCAG-----	90	0,0
-----UCUACAGUGCACGUGUCUCCAGa-----	19	0,0
-----UCUACAGUGCACGUGUCUCCAGU-----	187	0,1
-----UCUACAGUGCACGUGUCUCCAGUa-----	6	0,1
-----UCUACAGUGCACGUGUCUCCAGUaa-----	2	0,1
-----UCUACAGUGCACGUGUCUCCAGUu-----	16	0,1
-----CUACAGUGCACGUGUCUCCA-----	2	1,-1
-----CUACAGUGCACGUGUCUCCAaa-----	2	1,-1
-----UACAGUGCACGUGUCUCCAGU-----	2	2,1
-----UGGAGACGCGGCCCUUU-----	24	
-1,-5		
-----UGGAGACGCGGCCCUUUa-----	2	
-1,-5		
-----UGGAGACGCGGCCCUUUG-----	75	
-1,-4		
-----UGGAGACGCGGCCCUUUGa-----	6	
-1,-4		
-----UGGAGACGCGGCCCUUUGu-----	3	
-1,-4		
-----UGGAGACGCGGCCCUUUGG-----	126	
-1,-3		
-----UGGAGACGCGGCCCUUUGGu-----	3	
-1,-3		
-----UGGAGACGCGGCCCUUUGGA-----	219	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAa-----	64	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAaa-----	67	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAau-----	5	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAu-----	14	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAG-----	476	
-1,-1		

-----	37	0,-3	
-----			-UACCACAGGGUAGAACCAC
-----	39	0,-2	
-----			-UACCACAGGGUAGAACCAC
G-----	514	0,-1	
-----			-UACCACAGGGUAGAACCAC
Ga-----	7	0,-1	
-----			-UACCACAGGGUAGAACCAC
Gaa-----	5	0,-1	
-----			-UACCACAGGGUAGAACCAC
Gu-----	5	0,-1	
-----			-UACCACAGGGUAGAACCAC
GG-----	7015	0,0	
-----			-UACCACAGGGUAGAACCAC
GGu-----	85	0,0	
-----			-UACCACAGGGUAGAACCAC
GGuu-----	24	0,0	
-----			-UACCACAGGGUAGAACCAC
GGA-----	7956	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAa-----	2196	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAaa-----	917	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAAu-----	425	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAu-----	229	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAu-----	9	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAC-----	1787	0,2	
-----			-UACCACAGGGUAGAACCAC
GGACu-----	52	0,2	
-----			-UACCACAGGGUAGAACCAC
GGACuu-----	3	0,2	
-----			-UACCACAGGGUAGAACCAC
GGACA-----	1083	0,3	
-----			-UACCACAGGGUAGAACCAC

GGACAa-----	42	0,3	
-----			-UACCACAGGGUAGAACCAC
GGACAu-----	30	0,3	
-----			-ACCACAGGGUAGAACCAC
-----	13	1,-2	
-----			-ACCACAGGGUAGAACCAC
G-----	35	1,-1	
-----			-ACCACAGGGUAGAACCAC
Ga-----	3	1,-1	
-----			-ACCACAGGGUAGAACCAC
GG-----	895	1,0	
-----			-ACCACAGGGUAGAACCAC
GGu-----	58	1,0	
-----			-ACCACAGGGUAGAACCAC
GGuu-----	36	1,0	
-----			-ACCACAGGGUAGAACCAC
GGA-----	9106	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAa-----	2834	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAaa-----	1054	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAau-----	189	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAu-----	1096	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAu-----	71	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAC-----	2751	1,2	
-----			-ACCACAGGGUAGAACCAC
GGACu-----	44	1,2	
-----			-ACCACAGGGUAGAACCAC
GGACA-----	254	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAa-----	145	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAaa-----	8	1,3	
-----			-ACCACAGGGUAGAACCAC

GGACAau-----	4	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAu-----	25	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAG-----	12	1,4	
-----			-ACCACAGGGUAGAACCAC
GGACAGa-----	4	1,4	
-----			-CCACAGGGUAGAACCAC
GG-----	31	2,0	
-----			-CCACAGGGUAGAACCAC
GGuu-----	2	2,0	
-----			-CCACAGGGUAGAACCAC
GGA-----	264	2,1	
-----			-CCACAGGGUAGAACCAC
GGAa-----	56	2,1	
-----			-CCACAGGGUAGAACCAC
GGAaa-----	34	2,1	
-----			-CCACAGGGUAGAACCAC
GGAau-----	5	2,1	
-----			-CCACAGGGUAGAACCAC
GGAu-----	42	2,1	
-----			-CCACAGGGUAGAACCAC
GGAuu-----	3	2,1	
-----			-CCACAGGGUAGAACCAC
GGAC-----	78	2,2	
-----			-CCACAGGGUAGAACCAC
GGACA-----	5	2,3	
-----			-CCACAGGGUAGAACCAC
GGACAa-----	12	2,3	

>hsa-mir-142 5p:16-36;3p:52-74 SRX018957

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug

.(((((((.(((.(((((((((((.(((((((((((...((....).).).))))))))).))))))))).))))).
)))))).

-----	-CCCAUAAAGUAGAAAGCA-	-----
-----	3 -2,-5	
-----	-CCCAUAAAGUAGAAAGCAa-	-----

```

----- 4   -2,-5
-----CCCAUAAAGUAGAAAGCAC-----
----- 11  -2,-4
-----CCCAUAAAGUAGAAAGCACU-----
----- 60  -2,-3
-----CCCAUAAAGUAGAAAGCACUA-----
----- 32  -2,-2
-----CCCAUAAAGUAGAAAGCACUAa-----
----- 4   -2,-2
-----CCCAUAAAGUAGAAAGCACUAu-----
----- 3   -2,-2
-----CCCAUAAAGUAGAAAGCACUAC-----
----- 15  -2,-1
-----CCCAUAAAGUAGAAAGCACUACa-----
----- 2   -2,-1
-----CCAUAAAGUAGAAAGCACU-----
----- 4   -1,-3
-----CCAUAAAGUAGAAAGCACUA-----
----- 2   -1,-2
-----CCAUAAAGUAGAAAGCACUAa-----
----- 2   -1,-2
-----CAUAAAGUAGAAAGCACU-----
----- 8   0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 23  0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 6   0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 2   0,-2
-----CAUAAAGUAGAAAGCACUAuu-----
----- 2   0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 8   0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 2   0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 28  0,0
-----CAUAAAGUAGAAAGCACUACUA-----

```



```

----- 5 0,-2
-----GGUGCAGUGCUGCAUCUCUGG-----
----- 24 0,-1
-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 10 0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 15 0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 6 0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 8 0,0
-----GGUGCAGUGCUGCAUCUCUGGUaa-----
----- 5 0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 11 0,0
-----GGUGCAGUGCUGCAUCUCUGGUu-----
----- 2 0,0
-----GGUGCAGUGCUGCAUCUCUGGUC-----
----- 2 0,1
-----GGUGCAGUGCUGCAUCUCUGGUCA-----
----- 2 0,2
-----GGUGCAGUGCUGCAUCUCUGGUCAu-----
----- 2 0,2
-----UCUGAGAUGAAGCACUGUAGC-----
----- 3 -2,-2
-----UCUGAGAUGAAGCACUGUAGCU
----- 4 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
C----- 2 -2,0
-----CUGAGAUGAAGCACUGUA-----
----- 2 -1,-4
-----CUGAGAUGAAGCACUGUAa-----
----- 2 -1,-4
-----CUGAGAUGAAGCACUGUAGCU
----- 25 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 23 -1,0
-----CUGAGAUGAAGCACUGUAGCU

```

Cu-----	8	-1,0	-----CUGAGAUGAAGCACUGUAGCU
CA-----	2	-1,1	-----UGAGAUGAAGCACUGUAG--
-----	145	0,-3	-----UGAGAUGAAGCACUGUAGa-
-----	3	0,-3	-----UGAGAUGAAGCACUGUAGaa
-----	9	0,-3	-----UGAGAUGAAGCACUGUAGuu
-----	3	0,-3	-----UGAGAUGAAGCACUGUAGC-
-----	230	0,-2	-----UGAGAUGAAGCACUGUAGCa
-----	91	0,-2	-----UGAGAUGAAGCACUGUAGCa
a-----	116	0,-2	-----UGAGAUGAAGCACUGUAGCa
u-----	4	0,-2	-----UGAGAUGAAGCACUGUAGCU
-----	3272	0,-1	-----UGAGAUGAAGCACUGUAGCU
a-----	378	0,-1	-----UGAGAUGAAGCACUGUAGCU
aa-----	64	0,-1	-----UGAGAUGAAGCACUGUAGCU
au-----	37	0,-1	-----UGAGAUGAAGCACUGUAGCU
u-----	72	0,-1	-----UGAGAUGAAGCACUGUAGCU
uu-----	13	0,-1	-----UGAGAUGAAGCACUGUAGCU
C-----	6179	0,0	-----UGAGAUGAAGCACUGUAGCU
Cu-----	1445	0,0	-----UGAGAUGAAGCACUGUAGCU
Cuu-----	158	0,0	-----UGAGAUGAAGCACUGUAGCU


```

----- 5 0,1
-----UACAGUAUAGAUGAUGUA-----
----- 4 0,-2
-----UACAGUAUAGAUGAUGUAC-----
----- 2 0,-1
-----UACAGUAUAGAUGAUGUACUA-----
----- 2 0,1
-----UACAGUAUAGAUGAUGUACUAG-----
----- 3 0,2

```

>hsa-mir-145 MA:16-38;mi:54-75 SRX018957

caccuuguccucacgGUCCAGUUUUCCCAGGAAUCCCUuagaugcuaagauggGGAUUCCUGGAAAUACUGUUCUugagg
ucaugguu

```

.(((((((.....)))))))).)))).
.)))).

```

```

-----GUCCAGUUUUCCCAGGAA-----
----- 7 0,-5
-----GUCCAGUUUUCCCAGGAAa-----
----- 12 0,-5
-----GUCCAGUUUUCCCAGGAAaa-----
----- 2 0,-5
-----GUCCAGUUUUCCCAGGAAU-----
----- 60 0,-4
-----GUCCAGUUUUCCCAGGAAUa-----
----- 4 0,-4
-----GUCCAGUUUUCCCAGGAAUaa-----
----- 6 0,-4
-----GUCCAGUUUUCCCAGGAAUC-----
----- 20 0,-3
-----GUCCAGUUUUCCCAGGAAUCa-----
----- 24 0,-3
-----GUCCAGUUUUCCCAGGAAUCC-----
----- 78 0,-2
-----GUCCAGUUUUCCCAGGAAUCCa-----
----- 25 0,-2
-----GUCCAGUUUUCCCAGGAAUCCau-----
----- 3 0,-2
-----GUCCAGUUUUCCCAGGAAUCCuu-----

```

```

-----      4      0,-2
-----GUCCAGUUUCCCCAGGAAUCCC-----
-----    134      0,-1
-----GUCCAGUUUCCCCAGGAAUCCC-----
-----    15      0,-1
-----GUCCAGUUUCCCCAGGAAUCCC-----
-----      2      0,-1
-----GUCCAGUUUCCCCAGGAAUCCC-----
-----   168      0,0
-----GUCCAGUUUCCCCAGGAAUCCC-----
-----      3      0,0
-----GUCCAGUUUCCCCAGGAAUCCC-----
-----      2      0,1
-----UCCAGUUUCCCCAGGAAUCCC-----
-----      3      1,0
-----AUUCCUGGAAAUACUGUUCU-----
-----   15      2,0
-----AUUCCUGGAAAUACUGUUCU-----
-----      4      2,0
-----AUUCCUGGAAAUACUGUUCU-----
-----      5      2,1

```

>hsa-mir-1468 5p:13-33 SRX018957

ggugggugguuuCUCCGUUUGCCUGUUUCGCGUaugugcauucacucauucucagcaaaaauagcaaauggaaaauucg
uccauc

(((((...(((((.....)))))).))))).)))))

```

-----CUCCGUUUGCCUGUUUCGCG-----
-----      2      0,-2
-----CUCCGUUUGCCUGUUUCGCG-----
-----   13      0,-1
-----CUCCGUUUGCCUGUUUCGCG-----
-----      4      0,1

```

>hsa-mir-146a MA:21-42;mi:57-78 SRX018957

ccgauguguauccucagcuUGAGAACUGAAUCCAUGGGUugugucagugucagaCCUCUGAAAUUCAGUUCUUCAGcu
gggauaucucugucaucgu

.(((((((.....)))))).))))

)))))).....))))).

```
-----UUGAGAACUGAAUCCAUGGGUUG-----
----- 2   -1,1
-----UGAGAACUGAAUCCAUG-----
----- 3   0,-4
-----UGAGAACUGAAUCCAUGG-----
----- 5   0,-3
-----UGAGAACUGAAUCCAUGGG-----
----- 20  0,-2
-----UGAGAACUGAAUCCAUGGGU-----
----- 25  0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 10  0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 19  0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 36  0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 116 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 175 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 29  0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 60  0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 63  0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 8   0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 60  0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 14  0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 20  0,2
-----UGAGAACUGAAUCCAUGGGUUGUa-----
----- 2   0,2
-----GAGAACUGAAUCCAUGGGUUa-----
```

$$----- 2 \quad 1,0$$

>hsa-mi r-146b 5p:9-30;3p:45-66 SRX018957

ccuggcacUGAGAACUGAAUCCAUAGGCUgugagcucuagcaaUGCCCUGUGGACUCAGUUCUGGugcccgg

$$((.(((((((.(((((((..((((((..((..(....)).)).)).)).)).)).)).)).)).)).)).))$$

-----CUGAGAACUGAAUCCAU----- 2

-1, -5

-----CUGAGAACUGAAUCCAUAGGC----- 4

-1, -1

-----CUGAGAACUGAAUCCAUAGGCU----- 30

-1.0

-----CUGAGAACUGAAUCCAUAGGCUG----- 2

-1,1

-----CUGAGAACUGAAUCCA UAGGCUGU----- 12

-1,2

-----UGAGAACUGAAUCCAUA----- 4

0,-4

-----UGAGAACUGAAUCCAUAAG----- 19

0,-3

-----UGAGAACUGAAUCCAUAGG----- 84

 $0, -2$

-----UGAGAACUGAAUCCAUAGGa----- 2

 $0, -2$

-----UGAGAACUGAAUCCAUAGGau----- 2

0,-2

-----UGAGAACUGAAUCCAUAGGC----- 228

0,-1

-----UGAGAACUGAAUCCAUAGGCa----- 88

 $0, -1$

-----UGAGAACUGAAUCCAUAGGCaa----- 40

 $0, -1$

-----UGAGAACUGAAUCCAUAGGCau----- 24

 $0, -1$

-----UGAGAACUGAAUCCAUAGGCU----- 1325

0.0

-----UGAGAACUGAAUCCAUAGGCUa----- 140

0,0

-----UGAGAACUGAAUCCAUAGGCU_{aa}----- 22

0,0		
-----UGAGAACUGAAUCCAUAGGCUau-----	164	
0,0		
-----UGAGAACUGAAUCCAUAGGCUu-----	219	
0,0		
-----UGAGAACUGAAUCCAUAGGCUuu-----	95	
0,0		
-----UGAGAACUGAAUCCAUAGGCUG-----	305	
0,1		
-----UGAGAACUGAAUCCAUAGGCUGa-----	486	
0,1		
-----UGAGAACUGAAUCCAUAGGCUGaa-----	20	
0,1		
-----UGAGAACUGAAUCCAUAGGCUGau-----	23	
0,1		
-----UGAGAACUGAAUCCAUAGGCUGU-----	5726	
0,2		
-----UGAGAACUGAAUCCAUAGGCUGUa-----	266	
0,2		
-----UGAGAACUGAAUCCAUAGGCUGUu-----	61	
0,2		
-----UGAGAACUGAAUCCAUAGGCUGUG-----	8	
0,3		
-----GAGAACUGAAUCCAUAGGCa-----	4	
1,-1		
-----GAGAACUGAAUCCAUAGGCU-----	18	
1,0		
-----GAGAACUGAAUCCAUAGGCUa-----	3	
1,0		
-----GAGAACUGAAUCCAUAGGCUau-----	3	
1,0		
-----GAGAACUGAAUCCAUAGGCUuu-----	2	
1,0		
-----GAGAACUGAAUCCAUAGGCUGa-----	3	
1,1		
-----GAGAACUGAAUCCAUAGGCUGU-----	24	
1,2		
-----GAGAACUGAAUCCAUAGGCUGUa-----	3	

1,2	-----AGAACUGAAUCCAUAGGCU-----	2
2,0	-----UGCCCUGUGGACUCAGUUCUGG-----	4
0,0	-----UGCCCUGUGGACUCAGUUCUGGU-----	3
0,1	-----GCCCUGUGGACUCAGUUCUGG-----	19
1,0	-----GCCCUGUGGACUCAGUUCUGGaa-----	2
1,0	-----GCCCUGUGGACUCAGUUCUGGU-----	9
1,1	-----GCCCUGUGGACUCAGUUCUGGUa-----	5
1,1	-----GCCCUGUGGACUCAGUUCUGGUau-----	21
1,1	-----GCCCUGUGGACUCAGUUCUGGUu-----	4
1,1	-----GCCCUGUGGACUCAGUUCUGGUGu-----	2
1,2	-----CCCUGUGGACUCAGUUCUGGUau-----	3
2,1		

>hsa-mir-148a mi:6-27;MA:44-65 SRX018957

gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc (((((((((((((((((((((.....))		
----CAAAGUUCUGAGACACUCCGA-----	6	
-1,-2		
----AAAGUUCUGAGACACUCCGA-----	84	0,-2
----AAAGUUCUGAGACACUCCGAC-----	3	0,-1
----AAAGUUCUGAGACACUCCGACU-----	13	0,0
-----UCAGUGCACUACAGAACU-----	4560	
0,-4		
-----UCAGUGCACUACAGAACUa-----	24	0,-4
-----UCAGUGCACUACAGAACUaa-----	7	0,-4
-----UCAGUGCACUACAGAACUU-----	249	0,-3
-----UCAGUGCACUACAGAACUUa-----	6	0,-3

-----UCAGUGCACUACAGAACUUaa----	2	0,-3
-----UCAGUGCACUACAGAACUUU-----	1160	
0,-2		
-----UCAGUGCACUACAGAACUUUa----	23	0,-2
-----UCAGUGCACUACAGAACUUUaa----	6	0,-2
-----UCAGUGCACUACAGAACUUUau----	4	0,-2
-----UCAGUGCACUACAGAACUUUu----	7	0,-2
-----UCAGUGCACUACAGAACUUUuu----	7	0,-2
-----UCAGUGCACUACAGAACUUUG-----	2464	
0,-1		
-----UCAGUGCACUACAGAACUUUGa----	3150	
0,-1		
-----UCAGUGCACUACAGAACUUUGaa----	360	0,-1
-----UCAGUGCACUACAGAACUUUGau----	2	0,-1
-----UCAGUGCACUACAGAACUUUGU-----	25920	
0,0		
-----UCAGUGCACUACAGAACUUUGUa----	129	0,0
-----UCAGUGCACUACAGAACUUUGUaa----	48	0,0
-----UCAGUGCACUACAGAACUUUGUau----	2	0,0
-----UCAGUGCACUACAGAACUUUGUu----	125	0,0
-----UCAGUGCACUACAGAACUUUGUuu----	6	0,0
-----UCAGUGCACUACAGAACUUUGUC-----	396	0,1
-----UCAGUGCACUACAGAACUUUGUCa----	22	0,1
-----UCAGUGCACUACAGAACUUUGUCU-----	63	0,2
-----UCAGUGCACUACAGAACUUUGUCUa-----	2	0,2
-----CAGUGCACUACAGAACUUUGU-----	33	1,0
-----AGUGCACUACAGAACUUU-----	33	2,-2
-----AGUGCACUACAGAACUUUG-----	35	2,-1
-----AGUGCACUACAGAACUUUGa----	31	2,-1
-----AGUGCACUACAGAACUUUGaa----	4	2,-1
-----AGUGCACUACAGAACUUUGU-----	361	2,0
-----AGUGCACUACAGAACUUUGUa----	2	2,0
-----AGUGCACUACAGAACUUUGUaa----	2	2,0
-----AGUGCACUACAGAACUUUGUC-----	8	2,1

>hsa-mir-148b mi:25-46;MA:63-84 SRX018957

caagcacgauuagcauuugaggugAAGUUCUGUUAUACACUCAGGCuguggcucucugaaagUCAGUGCAUCACAGAACU
UUGUcucgaaagcuucua

.....(((.(((.(((((((..(((((((((.((.(((((.(((....(.....).)))))))))).)).)))))))))
)..)))))))).))))..

-----GAAGUUCUGUUAUACACUC-----

----- 5 -1,-4

-----GAAGUUCUGUUAUACACUCAG-----

----- 2 -1,-2

-----GAAGUUCUGUUAUACACUCAGG-----

----- 7 -1,-1

-----GAAGUUCUGUUAUACACUCAGGC_a-----

----- 2 -1,0

-----GAAGUUCUGUUAUACACUCAGGC_{au}-----

----- 6 -1,0

-----GAAGUUCUGUUAUACACUCAGGCU-----

----- 12 -1,1

-----GAAGUUCUGUUAUACACUCAGGCU_a-----

----- 3 -1,1

-----UCAGUGCAUCACAGAACU

----- 1373 0,-4

-----UCAGUGCAUCACAGAACU

U----- 105 0,-3

-----UCAGUGCAUCACAGAACU

U_a----- 3 0,-3

-----UCAGUGCAUCACAGAACU

UU----- 369 0,-2

-----UCAGUGCAUCACAGAACU

UU_a----- 3 0,-2

-----UCAGUGCAUCACAGAACU

UUG----- 42 0,-1

-----UCAGUGCAUCACAGAACU

UUG_a----- 63 0,-1

-----UCAGUGCAUCACAGAACU

UUG_{aa}----- 7 0,-1

-----UCAGUGCAUCACAGAACU

UUGU----- 645 0,0

-----UCAGUGCAUCACAGAACU

UUGU_a----- 9 0,0

-----UCAGUGCAUCACAGAACU

UUGU_{aa}----- 4 0,0

```

-----UCAGUGCAUCACAGAACU
UUGUau----- 3 0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 124 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 13 0,0
-----CAGUGCAUCACAGAACU
UUGU----- 7 1,0
-----AGUGCAUCACAGAACU
UU----- 8 2,-2
-----AGUGCAUCACAGAACU
UUGU----- 8 2,0
-----AGUGCAUCACAGAACU
UUGUu----- 2 2,0

```

```

>hsa-mir-149 MA:15-37;mi:56-76 SRX018957
gccggcgccccgagcUCUGGCUCCGUGUCUUCACUCCCgugcuuguccgaggagggAGGGAGGGACGGGGGCUGUGCuggg
gcagcugga
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----GAGGGAGGGACGGGGGCUGUGC-----
----- 2 -1,0

```

```

>hsa-mir-150 MA:16-37;mi:51-72 SRX018957
cuccccauggcccugUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUCCCAACCCUUGUACCA-----
----- 4 0,-3
-----UCUCCCAACCCUUGUACCAGU-----
----- 11 0,-1
-----UCUCCCAACCCUUGUACCAGUa-----
----- 4 0,-1
-----UCUCCCAACCCUUGUACCAGUG-----
----- 56 0,0
-----UCUCCCAACCCUUGUACCAGUGa-----
----- 17 0,0

```

```

-----UCUCCCAACCCUUGUACCAGUGu-----
----    6    0,0
-----CUGGUACAGGCCUGGGGACAu-----
----    2    0,-1

```

>hsa-mir-151 5p:11-31;3p:47-67 SRX018957

```

uuuccugccccUCGAGGAGCUCACAGUCUAGUaugucucauccccuaCUAGACUGAAGCUCCUUGAGGacagggauuguca
uacucaccuc

```

```

(((((((.((((((((((((((..(((((((((((.(.....).)))))))))))).)))))))))))).)))))).....
.....

```

```

-----CUCGAGGAGCUCACAGUCUAGU-----
-----   18   -1,0
-----CUCGAGGAGCUCACAGUCUAGUA-----
-----    9    -1,1
-----UCGAGGAGCUCACAGUCU-----
-----    5    0,-3
-----UCGAGGAGCUCACAGUCUu-----
-----    2    0,-3
-----UCGAGGAGCUCACAGUCUA-----
-----    3    0,-2
-----UCGAGGAGCUCACAGUCUAu-----
-----    2    0,-2
-----UCGAGGAGCUCACAGUCUAG-----
-----   48    0,-1
-----UCGAGGAGCUCACAGUCUAGa-----
-----    6    0,-1
-----UCGAGGAGCUCACAGUCUAGaa-----
-----    3    0,-1
-----UCGAGGAGCUCACAGUCUAGU-----
-----  408    0,0
-----UCGAGGAGCUCACAGUCUAGUu-----
-----    3    0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
-----  265    0,1
-----UCGAGGAGCUCACAGUCUAGUAa-----
-----   55    0,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
-----   43    0,2

```

```

-----UCGAGGAGCUCACAGUCUAGUAUG-----
----- 3 0,3
-----CGAGGAGCUCACAGUCUAGU-----
----- 2 1,0
-----GAGGAGCUCACAGUCUAG-----
----- 2 2,-1
-----GAGGAGCUCACAGUCUAGU-----
----- 15 2,0
-----GAGGAGCUCACAGUCUAGUA-----
----- 9 2,1
-----GAGGAGCUCACAGUCUAGUAU-----
----- 2 2,2
-----UACUAGACUGAAGCUCCUUGA-----
----- 18 -2,-2
-----UACUAGACUGAAGCUCCUUGAa-----
----- 9 -2,-2
-----UACUAGACUGAAGCUCCUUGAaa-----
----- 2 -2,-2
-----UACUAGACUGAAGCUCCUUGAG-----
----- 31 -2,-1
-----UACUAGACUGAAGCUCCUUGAGa-----
----- 19 -2,-1
-----UACUAGACUGAAGCUCCUUGAGu-----
----- 3 -2,-1
-----UACUAGACUGAAGCUCCUUGAGG-----
----- 23 -2,0
-----UACUAGACUGAAGCUCCUUGAGGu-----
----- 4 -2,0
-----UACUAGACUGAAGCUCCUUGAGGA-----
----- 14 -2,1
-----ACUAGACUGAAGCUCCUUGAG-----
----- 6 -1,-1
-----ACUAGACUGAAGCUCCUUGAGa-----
----- 4 -1,-1
-----ACUAGACUGAAGCUCCUUGAGG-----
----- 10 -1,0
-----ACUAGACUGAAGCUCCUUGAGGA-----
----- 12 -1,1

```

-----			-CUAGACUGAAGCUCCUUGA------
-----	24	0,-2	
-----			-CUAGACUGAAGCUCCUUGAa------
-----	7	0,-2	
-----			-CUAGACUGAAGCUCCUUGAaa------
-----	2	0,-2	
-----			-CUAGACUGAAGCUCCUUGAG------
-----	103	0,-1	
-----			-CUAGACUGAAGCUCCUUGAGa------
-----	35	0,-1	
-----			-CUAGACUGAAGCUCCUUGAGaa------
-----	7	0,-1	
-----			-CUAGACUGAAGCUCCUUGAGu------
-----	6	0,-1	
-----			-CUAGACUGAAGCUCCUUGAGG------
-----	442	0,0	
-----			-CUAGACUGAAGCUCCUUGAGGu------
-----	37	0,0	
-----			-CUAGACUGAAGCUCCUUGAGGA------
-----	925	0,1	
-----			-CUAGACUGAAGCUCCUUGAGGAa------
-----	715	0,1	
-----			-CUAGACUGAAGCUCCUUGAGGAaa------
-----	425	0,1	
-----			-CUAGACUGAAGCUCCUUGAGGAau------
-----	97	0,1	
-----			-CUAGACUGAAGCUCCUUGAGGAu------
-----	98	0,1	
-----			-CUAGACUGAAGCUCCUUGAGGAuu------
-----	13	0,1	
-----			-CUAGACUGAAGCUCCUUGAGGAC------
-----	24	0,2	
-----			-CUAGACUGAAGCUCCUUGAGGACu------
-----	7	0,2	
-----			-UAGACUGAAGCUCCUUGAGG------
-----	13	1,0	
-----			-UAGACUGAAGCUCCUUGAGGA------
-----	23	1,1	

33	1,1	UAGACUGAAGCUCCUUGAGGAa
10	1,1	UAGACUGAAGCUCCUUGAGGAaa
6	1,1	UAGACUGAAGCUCCUUGAGGAau
2	1,1	UAGACUGAAGCUCCUUGAGGAu
2	1,3	UAGACUGAAGCUCCUUGAGGACA
2	2,2	AGACUGAAGCUCCUUGAGGAC
2	2,3	AGACUGAAGCUCCUUGAGGACA

>hsa-mir-152 3p:54-74 SRX018957

ugcccccccgcccagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgccccggaaggacc

$$\begin{aligned} & .((((\dots(((\((((((((((((((((((\dots(((\dots((\dots)))))))))))).)))))\\ & \dots))))). \end{aligned}$$

----- 635 0,-3	-----UCAGUGCAUGACAGAACU-----
----- 31 0,-2	-----UCAGUGCAUGACAGAACUU-----
----- 3 0,-2	-----UCAGUGCAUGACAGAACUu-----
----- 178 0,-1	-----UCAGUGCAUGACAGAACUUG-----
----- 4 0,-1	-----UCAGUGCAUGACAGAACUUGa-----
----- 6 0,-1	-----UCAGUGCAUGACAGAACUUGu-----
----- 3 0,-1	-----UCAGUGCAUGACAGAACUUGuu-----
----- 1233 0,0	-----UCAGUGCAUGACAGAACUUGG-----
----- 254 0,0	-----UCAGUGCAUGACAGAACUUGGa-----

-----		-----UCAGUGCAUGACAGAACUUGGaa-----
-----	60 0,0	
-----		-----UCAGUGCAUGACAGAACUUGGau-----
-----	2 0,0	
-----		-----UCAGUGCAUGACAGAACUUGGu-----
-----	859 0,0	
-----		-----UCAGUGCAUGACAGAACUUGGuu-----
-----	101 0,0	
-----		-----UCAGUGCAUGACAGAACUUGGG-----
-----	947 0,1	
-----		-----UCAGUGCAUGACAGAACUUGGGa-----
-----	378 0,1	
-----		-----UCAGUGCAUGACAGAACUUGGGaa-----
-----	58 0,1	
-----		-----UCAGUGCAUGACAGAACUUGGGau-----
-----	6 0,1	
-----		-----UCAGUGCAUGACAGAACUUGGGu-----
-----	711 0,1	
-----		-----UCAGUGCAUGACAGAACUUGGGuu-----
-----	54 0,1	
-----		-----UCAGUGCAUGACAGAACUUGGGC-----
-----	2 0,2	
-----		-----AGUGCAUGACAGAACUUG-----
-----	7 2,-1	
-----		-----AGUGCAUGACAGAACUUGG-----
-----	16 2,0	
-----		-----AGUGCAUGACAGAACUUGGa-----
-----	3 2,0	
-----		-----AGUGCAUGACAGAACUUGGu-----
-----	14 2,0	
-----		-----AGUGCAUGACAGAACUUGGuu-----
-----	3 2,0	
-----		-----AGUGCAUGACAGAACUUGGG-----
-----	17 2,1	
-----		-----AGUGCAUGACAGAACUUGGGa-----
-----	6 2,1	
-----		-----AGUGCAUGACAGAACUUGGGu-----
-----	6 2,1	

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuuuugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa

-----UAGGUUAUCCGUGUUGCCUUCG-----

-----AAUCAUACACGGUUGACCUAUU-----

cugUUA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUAGCAUUAACAg

---UUA AUGCUAAUCGUGAUA----- 5' 0, -5'

---UAAUGCUAAUCGUGAUAGG----- 4 0,-3

---UUA AUGCUAAUCGUGAUAGGG----- 7 0,-2

---UAAUGCUAAUCGUGAUAGGGG----- 7 0,-1

---UUAAGCUGAAUCGUGAUAGGGGU----- 6 0,0

ccuuggaguaaaagUAGCAGCACAAUUGGUUUGUGgauuuugaaaaggugCAGGCCAUAUUGUCUGCCUCAaaaauaca
agg

-----UAGCAGCACAUAAUGGUU-----

--- 11 0,-4

-----UAGCAGCACAUAAUGGUUa-----

--- 2 0,-4

-----UAGCAGCACAUAAUGGUUU-----

--- 135 0,-3

-----UAGCAGCACAUAAUGGUUUa-----

--- 2 0,-3

-----UAGCAGCACAUAAUGGUUUG-----

--- 190 0,-2

-----UAGCAGCACAUAAUGGUUUGU-----

--- 129 0,-1

-----UAGCAGCACAUAAUGGUUUGUa-----


```

--- 6   0,-1
-----UAGCAGCACAUAAUGGUUUUGUaa-----
--- 2   0,-1
-----UAGCAGCACAUAAUGGUUUUGUu-----
--- 2   0,-1
-----UAGCAGCACAUAAUGGUUUUGUG-----
--- 18  0,0
-----UAGCAGCACAUAAUGGUUUUGUGa-----
--- 4   0,0
-----UAGCAGCACAUAAUGGUUUUGUGu-----
--- 2   0,0

```

>hsa-mir-15b MA:20-41;mi:58-79 SRX018957

```

uugaggccuuaaaguacugUAGCAGCACAUCAUGGUUUACAugcuacagucaagaugCGAAUCAUUAUUUGCUCUCUAg
aaauuaaggaaucau

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
...))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UAGCAGCACAUCAUGGUU-----
----- 4   0,-4
-----UAGCAGCACAUCAUGGUUU-----
----- 37  0,-3
-----UAGCAGCACAUCAUGGUUUu-----
----- 3   0,-3
-----UAGCAGCACAUCAUGGUUUA-----
----- 108 0,-2
-----UAGCAGCACAUCAUGGUUUAa-----
----- 3   0,-2
-----UAGCAGCACAUCAUGGUUUu-----
----- 6   0,-2
-----UAGCAGCACAUCAUGGUUUAC-----
----- 42  0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 154 0,0
-----UAGCAGCACAUCAUGGUUUACAa-----
----- 5   0,0
-----AGCAGCACAUCAUGGUUUACA-----
----- 2   1,0

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018957

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuuaagauucuaaaauuauccCAGUAUUAACUGUCUGCUGAagu
aagguugac

(((((...(((.....)))))).)))))))))

-----UAGCAGCACGUAAAUAUU-----

----- 30 0,-4

-----UAGCAGCACGUAAAUAUUG-----

----- 123 0,-3

-----UAGCAGCACGUAAAUAUUGa-----

----- 2 0,-3

-----UAGCAGCACGUAAAUAUUGG-----

----- 252 0,-2

-----UAGCAGCACGUAAAUAUUGGa-----

----- 8 0,-2

-----UAGCAGCACGUAAAUAUUGGaa-----

----- 2 0,-2

-----UAGCAGCACGUAAAUAUUGGu-----

----- 2 0,-2

-----UAGCAGCACGUAAAUAUUGGC-----

----- 630 0,-1

-----UAGCAGCACGUAAAUAUUGGCa-----

----- 81 0,-1

-----UAGCAGCACGUAAAUAUUGGCaa-----

----- 86 0,-1

-----UAGCAGCACGUAAAUAUUGGCau-----

----- 41 0,-1

-----UAGCAGCACGUAAAUAUUGGCu-----

----- 5 0,-1

-----UAGCAGCACGUAAAUAUUGGCG-----

----- 1349 0,0

-----UAGCAGCACGUAAAUAUUGGCGa-----

----- 283 0,0

-----UAGCAGCACGUAAAUAUUGGCGaa-----

----- 7 0,0

-----UAGCAGCACGUAAAUAUUGGCGau-----

----- 14 0,0

-----UAGCAGCACGUAAAUAUUGGCGU-----

- 81 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----

- 86 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----

- 41 0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----

- 5 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----

- 1349 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----

- 283 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----

- 7 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----

- 14 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----

- 244 0,1
-----UAGCAGCACGUAAAUAUUGGCGUA-----

- 5 0,2
-----UAGCAGCACGUAAAUAUUGGCGUAa-----

- 2 0,2
-----AGCAGCACGUAAAUAUUG-----

- 2 1,-3
-----AGCAGCACGUAAAUAUUGG-----

- 2 1,-2
-----AGCAGCACGUAAAUAUUGGC-----

- 6 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----

- 7 1,0
-----AGCAGCACGUAAAUAUUGGCGa-----

- 3 1,0
-----GCAGCACGUAAAUAUUGGCG-----

- 4 2,0
-----ACCAAUAUUACUGUGCUG-----

- 2 -1,-5
-----ACCAAUAUUACUGUGCUGCU-----

- 2 -1,-3
-----ACCAAUAUUACUGUGCUGCUUU-----


```

----- 9 0,-5
-----AACAUUCAACGCUGUCGGU-----
----- 3 0,-4
-----AACAUUCAACGCUGUCGGUaa-----
----- 5 0,-4
-----AACAUUCAACGCUGUCGGUau-----
----- 3 0,-4
-----AACAUUCAACGCUGUCGGUG-----
----- 21 0,-3
-----AACAUUCAACGCUGUCGGUGu-----
----- 6 0,-3
-----AACAUUCAACGCUGUCGGUGA-----
----- 143 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
----- 2 0,-2
-----AACAUUCAACGCUGUCGGUGAaa-----
----- 2 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 547 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 18 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 118 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
----- 10 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
----- 145 0,1
-----AACAUUCAACGCUGUCGGUGAGUUa-----
----- 6 0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
----- 30 0,2
-----ACAUUCAACGCUGUCGGUGAGUU-----
----- 3 1,1
-----ACCAUCGACCGUUGAUU
G----- 8 0,-4
-----ACCAUCGACCGUUGAUU
GU----- 4 0,-3
-----ACCAUCGACCGUUGAUU

```

GUAC----- 4 0,-1
-----ACCAUCGACCGUUGAUU
GUACC----- 4 0,0

```
>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018957
agaagggcuaucaggccagccuucagaggacuccaaggAACAUUCAACGCUGUCGGUGAGUuugggauuugaaaaaACCA
CUGACCGUUGACUGUACCuugggguccuua
```

.....(((((((((((.(.(((((.(.(((((.(((.....))))))
)))))))))).)))..)))))))))))).

-----AACAUUCAACGCUGUCGG-----		
-----90,-5		
-----AACAUUCAACGCUGUCGGU-----		
-----30,-4		
-----AACAUUCAACGCUGUCGGUaa-----		
-----50,-4		
-----AACAUUCAACGCUGUCGGUau-----		
-----30,-4		
-----AACAUUCAACGCUGUCGGUG-----		
-----210,-3		
-----AACAUUCAACGCUGUCGGUGu-----		
-----60,-3		
-----AACAUUCAACGCUGUCGGUGA-----		
-----1430,-2		
-----AACAUUCAACGCUGUCGGUGAa-----		
-----20,-2		
-----AACAUUCAACGCUGUCGGUGAaa-----		
-----20,-2		
-----AACAUUCAACGCUGUCGGUGAG-----		
-----5470,-1		
-----AACAUUCAACGCUGUCGGUGAGa-----		
-----180,-1		
-----AACAUUCAACGCUGUCGGUGAGU-----		
-----1180,0		
-----AACAUUCAACGCUGUCGGUGAGUa-----		
-----100,0		
-----AACAUUCAACGCUGUCGGUGAGUU-----		
-----1450,1		
-----AACAUUCAACGCUGUCGGUGAGUUa-----		


```

----- 17 0,0
-----AACAUUCAUUGCUGUCGGUGGGUaa-----
----- 10 0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
----- 52 0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 61 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUa-----
----- 6 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUG-----
----- 2 0,2
-----CUCAC
UGAACAAUGAAUGCAA----- 2

```

>hsa-mir-181b-2 5p:16-38 SRX018957

```

cugauggcugcacucAACAUUCAUUGCUGUCGGUGGGUuugagucugaaucaacucacugaucaaugaaugcaaacugcg
gaccaaaca

```

```

....((((((((.....((((((((((..(((((((((((.(.....))))))))))))))))))))))))).))))))
).)))....

```

```

-----AACAUUCAUUGCUGUCGGU-----
----- 5 0,-4
-----AACAUUCAUUGCUGUCGGUG-----
----- 42 0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
----- 3 0,-3
-----AACAUUCAUUGCUGUCGGUGG-----
----- 27 0,-2
-----AACAUUCAUUGCUGUCGGUGGa-----
----- 2 0,-2
-----AACAUUCAUUGCUGUCGGUGGu-----
----- 4 0,-2
-----AACAUUCAUUGCUGUCGGUGGG-----
----- 94 0,-1
-----AACAUUCAUUGCUGUCGGUGGGa-----
----- 6 0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
----- 20 0,0
-----AACAUUCAUUGCUGUCGGUGGGUa-----

```

```

----- 17 0,0
-----AACAUUCAUUGCUGUCGGUGGGUaa-----
----- 10 0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
----- 52 0,0
-----AACAUUCAUUGCUGUCGGUGGGU--
----- 61 0,1
-----AACAUUCAUUGCUGUCGGUGGGUa-----
----- 6 0,1
-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 9 0,2
-----ACUCACUGAUCAAUGAAUGCAA-----
----- 2

```

>hsa-mi r-181c MA:27-48;mi:65-86 SRX018957

cggaaaauuugccaaggguuugggggAACAUCAACCUGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaauugccauccu

$.(((\dots(((.((.(..((((((...(((((((..(((((((.(((((\dots)))))))))..))))).))))).$

-----AACAUUCAACCGUCGGUGAG-----

----- 4 0,-1

-----AACAUUCAACCGUCGGUGAGU-----

----- 2 0,0

-----AACAUUCAACCGUCGGUGAGUU-----

----- 5 0,1

-----ACCAUCGACCGUUGA

GUG----- 17 1,-3

-----ACCAUCGACCGUUGA

GUGG----- 5 1,-2

```
>hsa-mi r-181d      5p:36-58      SRX018957
```

gucuccuuccuaggccacagccgaggucacaaucaACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accgggggaugaaugucacuguggcugggccagacacggcuuaaggggaauuggggac

-----AACAUUCAUUGUUGUCGGUG-----

----- 8 0,-3

-----AACAUUCAUUGUUGUCGGUGG-----

```

----- 12 0,-2
-----AACAUUCAUUGUUGUCGGUGGG-----
----- 16 0,-1
-----AACAUUCAUUGUUGUCGGUGGGa-----
----- 5 0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----
----- 6 0,0
-----AACAUUCAUUGUUGUCGGUGGGUa-----
----- 8 0,0
-----AACAUUCAUUGUUGUCGGUGGGUU-----
----- 8 0,1
-----AACAUUCAUUGUUGUCGGUGGGUUa-----
----- 3 0,1
-----AACAUUCAUUGUUGUCGGUGGGUUu-----
----- 3 0,1

```

```

>hsa-mir-182 MA:23-46;mi:67-87 SRX018957
gagcugcuugccuccccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAuggggcgaggacucagccggcac
..((((((..(((.((((((..((((((..((((((..((((((.....))))))))))))))..)))
))))..))))))..))))..))))..))))..
-----UUUGGCAAUGGUAGAACUCACACU-----
----- 2 0,0

```

```

>hsa-mir-185 MA:15-36;mi:50-71 SRX018957
agggggcgagggauUGGAGAGAAAGGCAGUUCCUGAuggucccccuccccAGGGGCUGGCUUCCUCUGGUCcuuccucc
ca
.((((((.((((((..(((.((((((.((((((..((((((..((((((..((((((..((((((..((((((..((((((..
))).
-----UUGGAGAGAAAGGCAGUUCCUG-----
-- 3 -1,-1
-----UGGAGAGAAAGGCAGUUC-----
-- 101 0,-4
-----UGGAGAGAAAGGCAGUUCa-----
-- 2 0,-4
-----UGGAGAGAAAGGCAGUUCC-----
-- 98 0,-3
-----UGGAGAGAAAGGCAGUUCCU-----

```

```

-- 1220    0,-2
-----UGGAGAGAAAGGCAGUCCUaa-----
-- 3      0,-2
-----UGGAGAGAAAGGCAGUCCUG-----
-- 1246    0,-1
-----UGGAGAGAAAGGCAGUCCUGu-----
-- 92     0,-1
-----UGGAGAGAAAGGCAGUCCUGuu-----
-- 33     0,-1
-----UGGAGAGAAAGGCAGUCCUGA-----
-- 6509    0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 1651    0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 67     0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 110    0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 2039    0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 154    0,1
-----UGGAGAGAAAGGCAGUCCUGAUaa-----
-- 4      0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 11     0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 217    0,1
-----UGGAGAGAAAGGCAGUCCUGAUuu-----
-- 11     0,1
-----UGGAGAGAAAGGCAGUCCUGAUG-----
-- 13     0,2
-----GGAGAGAAAGGCAGUCCU-----
-- 3      1,-2
-----GGAGAGAAAGGCAGUCCUG-----
-- 9      1,-1
-----GGAGAGAAAGGCAGUCCUGA-----
-- 29     1,0
-----GGAGAGAAAGGCAGUCCUGAa-----

```

```

-- 3 1,0
-----GGAGAGAAAGGCAGUUCCUGAaa-----
-- 2 1,0
-----GGAGAGAAAGGCAGUUCCUGAau-----
-- 2 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 10 1,1
-----CAGGGGCUGGCUUCCUC-----
-- 25 -1,-5
-----CAGGGGCUGGCUUCCUCU-----
-- 9 -1,-4
-----CAGGGGCUGGCUUCCUCUGGU-----
-- 2 -1,-1
-----AGGGGCUGGCUUCCUCU-----
-- 90 0,-4
-----AGGGGCUGGCUUCCUCUGG-----
-- 3 0,-2
-----AGGGGCUGGCUUCCUCUGGU-----
-- 3 0,-1
-----AGGGGCUGGCUUCCUCUGGUa-----
-- 4 0,-1
-----AGGGGCUGGCUUCCUCUGGUaa-----
-- 6 0,-1
-----AGGGGCUGGCUUCCUCUGGUau-----
-- 3 0,-1
-----AGGGGCUGGCUUCCUCUGGUu-----
-- 2 0,-1

```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018957

ugcuuguaacuuuCAAAGAAUUCUCCUUUUGGGCUuucugguuuuuuuuuuGCCCCAAAGGUGAAUUUUUGGGaagu
ugagcu

.((((.(((((((((((((((((((.((((.((((.....)))))))))..)))))))))
)))).

```

-----CCAAAGAAUUCUCCUUUUGGGa-----
----- 2    -1,-2
-----CCAAAGAAUUCUCCUUUUGGGCa-----
----- 3    -1,-1
-----CCAAAGAAUUCUCCUUUUGGGCU-----

```

----- 3 -1,0
-----CCAAAGAAUUCUCCUUUUGGGCUU-----
----- 3 -1,1
-----CAAAGAAUUCUCCUUUUG-----
----- 6 0,-4
-----CAAAGAAUUCUCCUUUUGG-----
----- 2 0,-3
-----CAAAGAAUUCUCCUUUUGG-----
----- 15 0,-2
-----CAAAGAAUUCUCCUUUUGGG-----
----- 17 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 76 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 26 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 102 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 143 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 48 0,0
-----CAAAGAAUUCUCCUUUUGGGCUaa-----
----- 5 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 11 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 338 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 18 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUaa-----
----- 2 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 16 0,2
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 3 1,-1
-----AAAGAAUUCUCCUUUUGGGCau-----
----- 2 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----

```

----- 17 1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 4 1,0
-----AAAGAAUUCUCCUUUUGGGCUau-----
----- 2 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 35 1,1

```

```

>hsa-mir-187    mi:35-56;MA:71-92    SRX018957
ggucgggcucaccaugacacagugagaccucgGGCUACAACACAGGACCCGGGCgcugcucugaccccUCGUGUCUUG
UGUUGCAGCCGGagggacgcagguccgca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCGUGUCUUG
UGUUGCAGCCGG----- 12 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGu----- 11 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGuu----- 9 0,0

```

```

>hsa-mir-18a    MA:6-28;mi:47-69    SRX018957
uguucUAAGGUGCAUCUAGUGCAGAUAGugaaguagauuagcaucuACUGCCCUAAGUGCUCUUCUGGca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAAGGUGCAUCUAGUGCAGA----- 3 0,-3
-----UAAGGUGCAUCUAGUGCAGAU----- 12 0,-2

```

```

>hsa-mir-1908   5p:12-32    SRX018957
cgggaaugccgCGGCGGGGACGGCGAUUGGUCgguauguguggugccaccggccgcccgcuccgccccggccccgcccc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CGGCGGGGACGGCGAUUGGU-----
2 0,-1

```

```

>hsa-mir-190b   5p:11-31    SRX018957
ugcuucugugUGAUUGUUUGAUAUUGGGUUGuuuaauuaggaaccaacuaaaugucaaacauauucuuacagcagcag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGAUUGUUUGAUAUUGGGUUGa-----
2 0,1
-----UGAUUGUUUGAUAUUGGGUUGU-----

```


3 0,2

>hsa-mir-191 MA:16-38;mi:58-79 SRX018957

cggcuggacagcgggCAACGGAAUCCCAAAAGCAGCUGuugucuccagagcauuccaGCUGCGCUUGGAUUUCGUCCCCu
gcucuccugccu

.(((.(((.((((((..((((((((((..((((((((((..((((..))..))..)))))..)))))..)))))..)))))
)))..)))).

-----CAACGGAAUCCCAAAAGC-----

----- 54 0,-5

-----CAACGGAAUCCCAAAAGCA-----

----- 461 0,-4

-----CAACGGAAUCCCAAAAGCAa-----

----- 9 0,-4

-----CAACGGAAUCCCAAAAGCAG-----

----- 1568 0,-3

-----CAACGGAAUCCCAAAAGCAGa-----

----- 13 0,-3

-----CAACGGAAUCCCAAAAGCAGau-----

----- 21 0,-3

-----CAACGGAAUCCCAAAAGCAGu-----

----- 10 0,-3

-----CAACGGAAUCCCAAAAGCAGuu-----

----- 10 0,-3

-----CAACGGAAUCCCAAAAGCAGC-----

----- 5052 0,-2

-----CAACGGAAUCCCAAAAGCAGCa-----

----- 126 0,-2

-----CAACGGAAUCCCAAAAGCAGCaa-----

----- 13 0,-2

-----CAACGGAAUCCCAAAAGCAGCau-----

----- 8 0,-2

-----CAACGGAAUCCCAAAAGCAGCU-----

----- 13182 0,-1

-----CAACGGAAUCCCAAAAGCAGCUa-----

----- 263 0,-1

-----CAACGGAAUCCCAAAAGCAGCUaa-----

----- 26 0,-1

-----CAACGGAAUCCCAAAAGCAGCUau-----

```

----- 90 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
----- 301 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
----- 142 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
----- 5564 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
----- 199 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
----- 23 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
----- 6 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
----- 2012 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
----- 28 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
----- 141 0,2
-----AACGGAAUCCCAAAAGCA-----
----- 31 1,-4
-----AACGGAAUCCCAAAAGCAG-----
----- 118 1,-3
-----AACGGAAUCCCAAAAGCAGa-----
----- 2 1,-3
-----AACGGAAUCCCAAAAGCAGu-----
----- 2 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
----- 537 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
----- 1682 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
----- 13 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
----- 2 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
----- 13 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----

```

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----- 12 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
----- 12 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
----- 694 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
----- 47 1,0
-----AACGGAAUCCCAAAAGCAGCUGaa-----
----- 7 1,0
-----AACGGAAUCCCAAAAGCAGCUGau-----
----- 2 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
----- 452 1,1
-----AACGGAAUCCCAAAAGCAGCUGUa-----
----- 4 1,1
-----AACGGAAUCCCAAAAGCAGCUGUaa-----
----- 4 1,1
-----AACGGAAUCCCAAAAGCAGCUGUau-----
----- 5 1,1
-----AACGGAAUCCCAAAAGCAGCUGUU-----
----- 19 1,2
-----AACGGAAUCCCAAAAGCAGCUGUUu-----
----- 7 1,2
-----ACGGAAUCCCAAAAGCAGC-----
----- 6 2,-2
-----ACGGAAUCCCAAAAGCAGCU-----
----- 12 2,-1
-----ACGGAAUCCCAAAAGCAGCUG-----
----- 7 2,0
-----GCUGCGCUUGGAUUUCGUCCCC-----
----- 2 0,0

```

>hsa-mir-192 MA:24-44;mi:67-88 SRX018957

```

gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucucccucuggCUGCCAAUCCAUA
GGUCACAGguauguucgccucaaugccagc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))).....
))))))))).....
-----CUCUGACCUAUGAAUUGACAGC-----

```

----- 2 -2,-1
-----CUCUGACCUAUGAAUUGACAGCC-----
----- 4 -2,0
-----CUCUGACCUAUGAAUUGACAGCCu-----
----- 3 -2,0
-----UCUGACCUAUGAAUUGAC-----
----- 2 -1,-4
-----UCUGACCUAUGAAUUGACA-----
----- 2 -1,-3
-----UCUGACCUAUGAAUUGACAG-----
----- 26 -1,-2
-----UCUGACCUAUGAAUUGACAGa-----
----- 2 -1,-2
-----UCUGACCUAUGAAUUGACAGu-----
----- 2 -1,-2
-----UCUGACCUAUGAAUUGACAGC-----
----- 255 -1,-1
-----UCUGACCUAUGAAUUGACAGCa-----
----- 49 -1,-1
-----UCUGACCUAUGAAUUGACAGCaa-----
----- 9 -1,-1
-----UCUGACCUAUGAAUUGACAGCau-----
----- 2 -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
----- 3 -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
----- 1403 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
----- 128 -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
----- 37 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 295 -1,1
-----UCUGACCUAUGAAUUGACAGCCAa-----
----- 3 -1,1
-----UCUGACCUAUGAAUUGACAGCCAau-----
----- 3 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----

----- 83 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 30 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
----- 6 -1,2
-----UCUGACCUAUGAAUUGACAGCCAGU-----
----- 9 -1,3
-----CUGACCUAUGAAUUGACA-----
----- 985 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 22 0,-3
-----CUGACCUAUGAAUUGACAaa-----
----- 12 0,-3
-----CUGACCUAUGAAUUGACAau-----
----- 3 0,-3
-----CUGACCUAUGAAUUGACAU-----
----- 4 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 5445 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 262 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 53 0,-2
-----CUGACCUAUGAAUUGACAGau-----
----- 5 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 233 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 12 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 73381 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 16691 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 2507 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 697 0,-1
-----CUGACCUAUGAAUUGACAGCu-----

```

----- 2508 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 233 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 405899 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 27944 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 6884 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 228890 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 5284 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 600 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
----- 2081 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 96343 0,1
-----CUGACCUAUGAAUUGACAGCCAuu-----
----- 59485 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 4296 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 445 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 10 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 7 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 3748 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 168 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 683 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 12 0,4
-----UGACCUAUGAAUUGACAG-----

```

----- 2000 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 25 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 36682 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 1069 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 274 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 35 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 103 1,-1
-----UGACCUAUGAAUUGACAGCuu-----
----- 5 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 25985 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 799 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 183 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 58022 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 1984 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 1481 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 1976 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 15108 1,1
-----UGACCUAUGAAUUGACAGCCAuu-----
----- 12091 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 33307 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 8063 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----

----- 230 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 175 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 45239 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 3263 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 252 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 315 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 6360 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 764 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 153 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 20 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 25 1,4
-----GACCUAUGAAUUGACAGC-----
----- 302 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 26 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 6 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 2 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 557 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 36 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 10 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 460 2,1
-----GACCUAUGAAUUGACAGCCAa-----


```

----- 15 2,1
-----GACCUAUGAAUUGACAGCCAAa-----
----- 4 2,1
-----GACCUAUGAAUUGACAGCCAAu-----
----- 11 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 157 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 110 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 361 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 85 2,2
-----GACCUAUGAAUUGACAGCCAGaa-----
----- 3 2,2
-----GACCUAUGAAUUGACAGCCAGau-----
----- 4 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 471 2,3
-----GACCUAUGAAUUGACAGCCAGUa-----
----- 30 2,3
-----GACCUAUGAAUUGACAGCCAGUaa-----
----- 3 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 70 2,3
-----GACCUAUGAAUUGACAGCCAGUuu-----
----- 19 2,3
-----CUGCCAAUUCCAUA
GGUCACAG----- 3 0,0
-----CUGCCAAUUCCAUA
GGUCACAGu----- 2 0,0

```

>hsa-mir-193a 5p:21-42;3p:55-76 SRX018957

cgaggauaggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

.....(((.((((((((((((((.(((((.(((.(((.....))))).)).)).)).)).)))))))))
)))..)).

```

-----UGGGUCUUUGCGGGCGAGAUG-----

```

```

----- 18 0,-1
-----UGGGUCUUUGCGGGCGAGAUGu-----
----- 10 0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
----- 138 0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----
----- 2 0,0
-----UGGGUCUUUGCGGGCGAGAUGAu-----
----- 12 0,0
-----AACUGGCCUACAAAGUCC-----
----- 7 0,-4
-----AACUGGCCUACAAAGUCCC-----
----- 13 0,-3
-----AACUGGCCUACAAAGUCCCA-----
----- 473 0,-2
-----AACUGGCCUACAAAGUCCCAu-----
----- 8 0,-2
-----AACUGGCCUACAAAGUCCCAuu-----
----- 5 0,-2
-----AACUGGCCUACAAAGUCCCAG-----
----- 32 0,-1
-----AACUGGCCUACAAAGUCCCAGa-----
----- 4 0,-1
-----AACUGGCCUACAAAGUCCCAGaa-----
----- 3 0,-1
-----AACUGGCCUACAAAGUCCCAGU-----
----- 14 0,0
-----AACUGGCCUACAAAGUCCCAGUa-----
----- 3 0,0
-----ACUGGCCUACAAAGUCCCA-----
----- 3 1,-2

```

>hsa-mir-193b mi:14-35;MA:51-72 SRX018957

guggucucagaauCGGGGUUUUGAGGGCGAGAUGAguuuanguuuuauccAACUGGCCCUACAAAGUCCCGCUuuuggggu
cau

```

(((..(((((((.((((..(((((((.((..((..(.....).)).)).))))))))..))))..))))..
)))

```

```

-----UCGGGGUUUUGAGGGCGAG-----

```

--- 2 -1,-4
-----UCGGGGUUUUGAGGGCGAGA-----
--- 2 -1,-3
-----UCGGGGUUUUGAGGGCGAGAU-----
--- 6 -1,-2
-----UCGGGGUUUUGAGGGCGAGAUa-----
--- 3 -1,-2
-----UCGGGGUUUUGAGGGCGAGAU-----
--- 8 -1,-1
-----UCGGGGUUUUGAGGGCGAGAUg-----
--- 10 -1,-1
-----UCGGGGUUUUGAGGGCGAGAU-----
--- 3 -1,0
-----CGGGGUUUUGAGGGCGAG-----
--- 38 0,-4
-----CGGGGUUUUGAGGGCGAGA-----
--- 16 0,-3
-----CGGGGUUUUGAGGGCGAGAA-----
--- 2 0,-3
-----CGGGGUUUUGAGGGCGAGAU-----
--- 31 0,-2
-----CGGGGUUUUGAGGGCGAGAUa-----
--- 9 0,-2
-----CGGGGUUUUGAGGGCGAGAUaa-----
--- 5 0,-2
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 11 0,-2
-----CGGGGUUUUGAGGGCGAGAU-----
--- 179 0,-1
-----CGGGGUUUUGAGGGCGAGAUg-----
--- 168 0,-1
-----CGGGGUUUUGAGGGCGAGAUuu-----
--- 10 0,-1
-----CGGGGUUUUGAGGGCGAGAU-----
--- 722 0,0
-----CGGGGUUUUGAGGGCGAGAUAA-----
--- 37 0,0
-----CGGGGUUUUGAGGGCGAGAUAAa-----

```

--- 4   0,0
-----CGGGGUUUUGAGGGCGAGAUGu-----
--- 47  0,0
-----CGGGGUUUUGAGGGCGAGAUGAG-----
--- 2   0,1
-----GGGGUUUUUGAGGGCGAGAUG-----
--- 3   1,-1
-----GGGGUUUUUGAGGGCGAGAUGu-----
--- 6   1,-1
-----GGGGUUUUUGAGGGCGAGAUGA-----
--- 21  1,0
-----AACUGGCCCUCAAAGUCC-----
--- 14  0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 25  0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 15  0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 33  0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 2   0,-1
-----AACUGGCCCUCAAAGUCCCGCaa-----
--- 2   0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----
--- 10  0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 55  0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 13  0,0
-----AACUGGCCCUCAAAGUCCCGCUaa-----
--- 3   0,0
-----AACUGGCCCUCAAAGUCCCGCUau-----
--- 9   0,0
-----AACUGGCCCUCAAAGUCCCGCUU-----
--- 31  0,1
-----AACUGGCCCUCAAAGUCCCGCUUau-----
--- 2   0,1
-----AACUGGCCCUCAAAGUCCCGCUUU-----

```



```

----- 181 0,0
-----UGUAACAGCAACUCCAUGUGGAuu-----
----- 11 0,0
-----UGUAACAGCAACUCCAUGUGGAC-----
----- 19 0,1
-----UGUAACAGCAACUCCAUGUGGACa-----
----- 10 0,1
-----GUAACAGCAACUCCAUGUGGA-----
----- 3 1,0

```

>hsa-mi r-194-2 MA:15-36;mi :51-72 SRX018957

ugguucccgccccUGUAACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGCUGCUGUUAUCUGgggcgagg
gccag

$$(((((((.((((((..(((((((((.((((((.((((\dots)))))))))))).)))))))).)))))).))$$

-----CCUGUAACAGCAACUCCAUGUGG-----

----- 8 -2,-1

-----CUGUAAACAGCAACUCCAUGUGG-----

----- 21 -1,-1

-----CUGU AACAGCAACUCCAUGUGGA-----

----- 29 -1,0

-----CUGUAACAGCAACUCCAUGUGGAA-----

----- 3 -1,1

-----UGUAACAGCAACUCCAUG-----

----- 23 0,-4

-----UGUAACAGCAACUCCAUGU-----

----- 20 0,-3

-----UGUAACAGCAACUCCAUGUa-----

----- 2 0,-3

-----UGUAACAGCAACUCCAUGU_{aa}-----

----- 2 0,-3

-----UGUAACAGCAACUCCAUGUG-----

----- 21 0,-2

-----UGUAACAGCAACUCCAUGUGa-----

----- 5 0,-2

-----UGUAACAGCAACUCCAUGUGaa-----

----- 2 0,-2

-----UGUAACAGCAACUCCAUGUGG-----

```

----- 770 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 14 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1404 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 181 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 11 0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
----- 2705 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 364 0,1
-----UGUAAACAGCAACUCCAUGUGGAAaa-----
----- 16 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 10 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 117 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 38 0,1
-----UGUAAACAGCAACUCCAUGUGGAAG-----
----- 8 0,2
-----GUAACAGCAACUCCAUGUGGA-----
----- 3 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 4 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 3 1,1
-----GUAACAGCAACUCCAUGUGGAAau-----
----- 2 1,1
-----CCAGUGGGGCUGCUGUUAU-----
----- 4 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 14 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 104 0,-1
-----CCAGUGGGGCUGCUGUUAUCUu-----

```



```

----- 594 0,1
-----UAGCAGCACAGAAAUAUUGGCAa-----
----- 570 0,1
-----UAGCAGCACAGAAAUAUUGGCAaa-----
----- 6 0,1
-----UAGCAGCACAGAAAUAUUGGCAau-----
----- 6 0,1
-----UAGCAGCACAGAAAUAUUGGCAu-----
----- 217 0,1
-----UAGCAGCACAGAAAUAUUGGCAuu-----
----- 29 0,1
-----AGCAGCACAGAAAUAUUGGCA-----
----- 5 1,1
-----AGCAGCACAGAAAUAUUGGCAa-----
----- 10 1,1
-----AGCAGCACAGAAAUAUUGGCAu-----
----- 4 1,1
-----GCAGCACAGAAAUAUUGGCAu-----
----- 2 2,1

```

>hsa-mir-197 3p:48-69 SRX018957

```

ggcugugccggguagagagggcagugggagguaagagcucuaccccUUCACCACCUUUCUCCACCCAGCauggcc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CGGGUAGAGAGGGCAGUGG----- 2
-----UUCACCACCUUUCUCCACCCAG----- 2
0,-1
-----UUCACCACCUUUCUCCACCCAGC----- 16
0,0

```

>hsa-mir-199a-1 5p:6-28;3p:47-68 SRX018957

```

gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucaauguguACAGUAGUCUGCACAUUGGUUAggc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CCCAGUGUUCAGACUACC----- 21 0,-5
-----CCCAGUGUUCAGACUACCU----- 375 0,-4
-----CCCAGUGUUCAGACUACCUG----- 12 0,-3
-----CCCAGUGUUCAGACUACCUGU----- 7 0,-2
-----CCCAGUGUUCAGACUACCUGUU----- 140 0,-1
-----CCCAGUGUUCAGACUACCUGUua----- 24 0,-1

```

-----CCCAGUGUUCAGACUACCUGUUu-----	9	0,-1
-----CCCAGUGUUCAGACUACCUGUUC-----	92	0,0
-----CCCAGUGUUCAGACUACCUGUUCA-----	4	0,1
-----CCAGUGUUCAGACUACCU-----	6	1,-4
-----CCAGUGUUCAGACUACCUGUU-----	3	1,-1
-----CCAGUGUUCAGACUACCUGUUC-----	4	1,0
-----UACAGUAGUCUGCACAUU-----	15	
-1,-5		
-----UACAGUAGUCUGCACAUUG-----	63	
-1,-4		
-----UACAGUAGUCUGCACAUUGuu-----	4	
-1,-4		
-----UACAGUAGUCUGCACAUUGG-----	106	
-1,-3		
-----UACAGUAGUCUGCACAUUGGa-----	7	
-1,-3		
-----UACAGUAGUCUGCACAUUGGaa-----	6	
-1,-3		
-----UACAGUAGUCUGCACAUUGGau-----	3	
-1,-3		
-----UACAGUAGUCUGCACAUUGGU-----	868	
-1,-2		
-----UACAGUAGUCUGCACAUUGGUa-----	202	
-1,-2		
-----UACAGUAGUCUGCACAUUGGUaa-----	138	
-1,-2		
-----UACAGUAGUCUGCACAUUGGUau-----	79	
-1,-2		
-----UACAGUAGUCUGCACAUUGGUU-----	7241	
-1,-1		
-----UACAGUAGUCUGCACAUUGGUUu-----	1195	
-1,-1		
-----UACAGUAGUCUGCACAUUGGUUuu-----	46	
-1,-1		
-----UACAGUAGUCUGCACAUUGGUUA-----	1497	
-1,0		
-----UACAGUAGUCUGCACAUUGGUUAa-----	79	-1,0
-----UACAGUAGUCUGCACAUUGGUUAaa-----	2	-1,0

-----	-UACAGUAGUCUGCACAUUGGUUAu--	93	-1,0
-----	-UACAGUAGUCUGCACAUUGGUUAuu-	2	-1,0
-----	-ACAGUAGUCUGCACAUUG-----	290	0,-4
-----	-ACAGUAGUCUGCACAUUGa-----	11	0,-4
-----	-ACAGUAGUCUGCACAUUGaa-----	3	0,-4
-----	-ACAGUAGUCUGCACAUUGu-----	30	0,-4
-----	-ACAGUAGUCUGCACAUUGuu-----	22	0,-4
-----	-ACAGUAGUCUGCACAUUGG-----	887	0,-3
-----	-ACAGUAGUCUGCACAUUGGa-----	21	0,-3
-----	-ACAGUAGUCUGCACAUUGGaa-----	20	0,-3
-----	-ACAGUAGUCUGCACAUUGGau-----	14	0,-3
-----	-ACAGUAGUCUGCACAUUGGU-----	3320	
0,-2			
-----	-ACAGUAGUCUGCACAUUGGUa----	671	0,-2
-----	-ACAGUAGUCUGCACAUUGGUaa----	539	0,-2
-----	-ACAGUAGUCUGCACAUUGGUau----	112	0,-2
-----	-ACAGUAGUCUGCACAUUGGUU-----	50760	
0,-1			
-----	-ACAGUAGUCUGCACAUUGGUUu---	7307	
0,-1			
-----	-ACAGUAGUCUGCACAUUGGUUuu---	377	0,-1
-----	-ACAGUAGUCUGCACAUUGGUUA----	25123	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAa--	6228	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAaa--	70	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAau--	48	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAu--	1387	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAuu--	43	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAG--	39	0,1
-----	-ACAGUAGUCUGCACAUUGGUUAGu-	3	0,1
-----	-CAGUAGUCUGCACAUUGG-----	273	1,-3
-----	-CAGUAGUCUGCACAUUGGa-----	5	1,-3
-----	-CAGUAGUCUGCACAUUGGaa-----	7	1,-3
-----	-CAGUAGUCUGCACAUUGGau-----	3	1,-3
-----	-CAGUAGUCUGCACAUUGGU-----	673	1,-2
-----	-CAGUAGUCUGCACAUUGGUa----	182	1,-2

```

-----CAGUAGUCUGCACAUUGGUaa--- 153 1,-2
-----CAGUAGUCUGCACAUUGGUau--- 14 1,-2
-----CAGUAGUCUGCACAUUGGUU--- 10322
1,-1
-----CAGUAGUCUGCACAUUGGUUu--- 1696
1,-1
-----CAGUAGUCUGCACAUUGGUUuu-- 82 1,-1
-----CAGUAGUCUGCACAUUGGUUA--- 11768
1,0
-----CAGUAGUCUGCACAUUGGUUAa-- 2237
1,0
-----CAGUAGUCUGCACAUUGGUUAaa- 80 1,0
-----CAGUAGUCUGCACAUUGGUUAau- 18 1,0
-----CAGUAGUCUGCACAUUGGUUAu-- 769 1,0
-----CAGUAGUCUGCACAUUGGUUAuu- 12 1,0
-----CAGUAGUCUGCACAUUGGUUAG-- 27 1,1
-----AGUAGUCUGCACAUUGGU----- 13 2,-2
-----AGUAGUCUGCACAUUGGUa---- 3 2,-2
-----AGUAGUCUGCACAUUGGUU---- 149 2,-1
-----AGUAGUCUGCACAUUGGUUu--- 20 2,-1
-----AGUAGUCUGCACAUUGGUUuu-- 4 2,-1
-----AGUAGUCUGCACAUUGGUUA--- 177 2,0
-----AGUAGUCUGCACAUUGGUUAa-- 47 2,0
-----AGUAGUCUGCACAUUGGUUAaa- 4 2,0
-----AGUAGUCUGCACAUUGGUUAu-- 15 2,0

```

>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018957

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaauGCCGUUGUACAGUAGUCUG
CACAUUGGUUAgacugggcaaggagagca

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.))))))))))..))))))..))))))..))))))..))))))..))))))..))))))..

```

```

-----CCCAGUGUUCAGACUACC-----
-----21 0,-5
-----CCCAGUGUUCAGACUACCU-----
-----375 0,-4
-----CCCAGUGUUCAGACUACCUG-----
-----12 0,-3
-----CCCAGUGUUCAGACUACCUGU-----

```

-----	7	0,-2	
-----	-CCCAGUGUUCAGACUACCUGUU-----		
-----	140	0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUa-----		
-----	24	0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUu-----		
-----	9	0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUC-----		
-----	92	0,0	
-----	-CCCAGUGUUCAGACUACCUGUUCA-----		
-----	4	0,1	
-----	-CCAGUGUUCAGACUACCU-----		
-----	6	1,-4	
-----	-CCAGUGUUCAGACUACCUGUU-----		
-----	3	1,-1	
-----	-CCAGUGUUCAGACUACCUGUUC-----		
-----	4	1,0	
-----			-UACAGUAGUCUG
CACAUU-----	15	-1,-5	
-----			-UACAGUAGUCUG
CACAUUG-----	63	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGuu-----	4	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGG-----	106	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGa-----	7	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGaa-----	6	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGau-----	3	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGU-----	868	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUa-----	202	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUaa-----	138	-1,-2	
-----			-UACAGUAGUCUG

CACAUUGGUau-----	79	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUU-----	7241	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUu-----	1195	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUuu-----	46	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUA-----	1497	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAa-----	79	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAaa-----	2	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAu-----	93	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAuu-----	2	-1,0	
-----			-ACAGUAGUCUG
CACAUUG-----	290	0,-4	
-----			-ACAGUAGUCUG
CACAUUGa-----	11	0,-4	
-----			-ACAGUAGUCUG
CACAUUGaa-----	3	0,-4	
-----			-ACAGUAGUCUG
CACAUUGu-----	30	0,-4	
-----			-ACAGUAGUCUG
CACAUUGuu-----	22	0,-4	
-----			-ACAGUAGUCUG
CACAUUGG-----	887	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGa-----	21	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGaa-----	20	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGau-----	14	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGU-----	3320	0,-2	
-----			-ACAGUAGUCUG

CACAUUGGUa-----	671	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUaa-----	539	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUau-----	112	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUU-----	50760	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUu-----	7307	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUuu-----	377	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUA-----	25123	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	6228	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	70	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	48	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	1387	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	43	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	39	0,1	
-----			ACAGUAGUCUG
CACAUUGGUUAGu-----	3	0,1	
-----			ACAGUAGUCUG
CACAUUGGUUAGA-----	2	0,2	
-----			CAGUAGUCUG
CACAUUGG-----	273	1,-3	
-----			CAGUAGUCUG
CACAUUGGa-----	5	1,-3	
-----			CAGUAGUCUG
CACAUUGGaa-----	7	1,-3	
-----			CAGUAGUCUG
CACAUUGGau-----	3	1,-3	
-----			CAGUAGUCUG

CACAUUGGU-----	673	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUa-----	182	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUaa-----	153	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUau-----	14	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUU-----	10322	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUu-----	1696	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUuu-----	82	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUA-----	11768	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAa-----	2237	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAaa-----	80	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAau-----	18	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAu-----	769	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAuu-----	12	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAG-----	27	1,1	
-----			-AGUAGUCUG
CACAUUGGU-----	13	2,-2	
-----			-AGUAGUCUG
CACAUUGGUa-----	3	2,-2	
-----			-AGUAGUCUG
CACAUUGGUU-----	149	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUu-----	20	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUuu-----	4	2,-1	
-----			-AGUAGUCUG

UGGU-----	868	-1,-2	-----UACAGUAGUCUGCACAU
UGGUa-----	202	-1,-2	-----UACAGUAGUCUGCACAU
UGGUaa-----	138	-1,-2	-----UACAGUAGUCUGCACAU
UGGUau-----	79	-1,-2	-----UACAGUAGUCUGCACAU
UGGUU-----	7241	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUu-----	1195	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUuu-----	46	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUA-----	1497	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAa-----	79	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAaa-----	2	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAu-----	93	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAuu-----	2	-1,0	-----ACAGUAGUCUGCACAU
UG-----	290	0,-4	-----ACAGUAGUCUGCACAU
UGa-----	11	0,-4	-----ACAGUAGUCUGCACAU
UGaa-----	3	0,-4	-----ACAGUAGUCUGCACAU
UGu-----	30	0,-4	-----ACAGUAGUCUGCACAU
UGuu-----	22	0,-4	-----ACAGUAGUCUGCACAU
UGG-----	887	0,-3	-----ACAGUAGUCUGCACAU
UGGa-----	21	0,-3	-----ACAGUAGUCUGCACAU

UGGaa-----	20	0,-3	
-----			-ACAGUAGUCUGCACAU
UGGau-----	14	0,-3	
-----			-ACAGUAGUCUGCACAU
UGGU-----	3320	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUa-----	671	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUaa-----	539	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUau-----	112	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUU-----	50760	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUu-----	7307	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUuu-----	377	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUA-----	25123	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAa-----	6228	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAaa-----	70	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAau-----	48	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAu-----	1387	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAuu-----	43	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAG-----	39	0,1	
-----			-ACAGUAGUCUGCACAU
UGGUUAGu-----	3	0,1	
-----			-CAGUAGUCUGCACAU
UGG-----	273	1,-3	
-----			-CAGUAGUCUGCACAU
UGGa-----	5	1,-3	
-----			-CAGUAGUCUGCACAU

UGGaa-----	7	1,-3	-CAGUAGUCUGCACAU
UGGau-----	3	1,-3	-CAGUAGUCUGCACAU
UGGU-----	673	1,-2	-CAGUAGUCUGCACAU
UGGUa-----	182	1,-2	-CAGUAGUCUGCACAU
UGGUaa-----	153	1,-2	-CAGUAGUCUGCACAU
UGGUau-----	14	1,-2	-CAGUAGUCUGCACAU
UGGUU-----	10322	1,-1	-CAGUAGUCUGCACAU
UGGUUu-----	1696	1,-1	-CAGUAGUCUGCACAU
UGGUUuu-----	82	1,-1	-CAGUAGUCUGCACAU
UGGUUA-----	11768	1,0	-CAGUAGUCUGCACAU
UGGUUAa-----	2237	1,0	-CAGUAGUCUGCACAU
UGGUUAaa-----	80	1,0	-CAGUAGUCUGCACAU
UGGUUAau-----	18	1,0	-CAGUAGUCUGCACAU
UGGUUAu-----	769	1,0	-CAGUAGUCUGCACAU
UGGUUAuu-----	12	1,0	-CAGUAGUCUGCACAU
UGGUUAG-----	27	1,1	-AGUAGUCUGCACAU
UGGU-----	13	2,-2	-AGUAGUCUGCACAU
UGGUa-----	3	2,-2	-AGUAGUCUGCACAU
UGGUU-----	149	2,-1	-AGUAGUCUGCACAU

```

UGGUUu----- 20 2,-1
-----AGUAGUCUGCACAU
UGGUUuu----- 4 2,-1
-----AGUAGUCUGCACAU
UGGUUA----- 177 2,0
-----AGUAGUCUGCACAU
UGGUUAa----- 47 2,0
-----AGUAGUCUGCACAU
UGGUUAaa----- 4 2,0
-----AGUAGUCUGCACAU
UGGUUAu----- 15 2,0

```

```

>hsa-mir-19b-1 mi:16-38;MA:54-76 SRX018957
cacuguucuaugguuAGUUUUGCAGGUUUGCAUCCAGCugugugauauucugcUGUGCAAAUCCAUGCAAAACUGAcugu
gguagug
(((((((((.....))))))))).)).)))))))))
))))))
-----UGUGCAAAUCCAUGCAAAAC-----
----- 3 0,-3
-----UGUGCAAAUCCAUGCAAAACU-----
----- 28 0,-2
-----UGUGCAAAUCCAUGCAAAACUG-----
----- 29 0,-1
-----UGUGCAAAUCCAUGCAAAACUGu-----
----- 3 0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 11 0,0

```

```

>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018957
acauugcuacuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguaauaanguaauauguggcUGUGCAAAUCCAUGCAAAA
CUGAuugugauaangu
(((((((((.....))))))))).)).)))))))))
)))))))))
-----UGUGCAAAUCCAUGCAAAA
C----- 3 0,-3
-----UGUGCAAAUCCAUGCAAAA
CU----- 28 0,-2
-----UGUGCAAAUCCAUGCAAAA

```

```
CUG-----      29   0,-1
-----UGUGCAAUCCAUGCAAAA
CUGu-----     3    0,-1
-----UGUGCAAUCCAUGCAAAA
CUGA-----    11   0,0

>hsa-mir-200a    mi:16-37;MA:54-75    SRX018957
ccgggccccugugagCAUCUUACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaaa
ggugaccgcg
(((((((.....)))))))).))))).)
)).).))).
-----CUAACACUGUCUGGUAACGAUG-----
----- 2    -1,-1
-----UAACACUGUCUGGUAACGAU-----
----- 32   0,-2
-----UAACACUGUCUGGUAACGAUG-----
----- 21   0,-1
-----UAACACUGUCUGGUAACGAUGa-----
----- 4    0,-1
-----UAACACUGUCUGGUAACGAUGaa-----
----- 3    0,-1
-----UAACACUGUCUGGUAACGAUGU-----
----- 14   0,0
-----UAACACUGUCUGGUAACGAUGUa-----
----- 4    0,0
-----UAACACUGUCUGGUAACGAUGUaa-----
----- 3    0,0
-----UAACACUGUCUGGUAACGAUGUU-----
----- 36   0,1
-----UAACACUGUCUGGUAACGAUGUUa-----
----- 7    0,1
-----UAACACUGUCUGGUAACGAUGUUu-----
----- 14   0,1
-----AACACUGUCUGGUAACGAUGUa-----
----- 2    1,0
-----AACACUGUCUGGUAACGAUGUU-----
----- 2    1,1
-----AACACUGUCUGGUAACGAUGUUa-----
```



```

----- 111 0,0
-----UAAUACUGCCUGGUA AUGAUGAa-
----- 14 0,0
-----UAAUACUGCCUGGUA AUGAUGAaa
----- 4 0,0
-----UAAUACUGCCUGGUA AUGAUGAu-
----- 5 0,0
-----UAAUACUGCCUGGUA AUGAUGAC-
----- 50 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
----- 44 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
a----- 2 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
u----- 3 0,1
-----UAAUACUGCCUGGUA AUGAUGACu
----- 46 0,1
-----AAUACUGCCUGGUA AUGAUGAC-
----- 6 1,1
-----AAUACUGCCUGGUA AUGAUGACa
----- 9 1,1
-----AAUACUGCCUGGUA AUGAUGACu
----- 22 1,1
-----AUACUGCCUGGUA AUGAUGA--
----- 2 2,0
-----AUACUGCCUGGUA AUGAUGAC-
----- 13 2,1
-----AUACUGCCUGGUA AUGAUGACa
----- 4 2,1
-----AUACUGCCUGGUA AUGAUGACu
----- 24 2,1
-----AUACUGCCUGGUA AUGAUGACu
u----- 5 2,1
-----AUACUGCCUGGUA AUGAUGACG
----- 2 2,2

```

>hsa-mir-200c mi:5-26;MA:44-66 SRX018957

cccuCGUCUUACCCAGCAGUGUUUGGgugcgguugggagucucUAAUACUGCCGGGUA AUGAGGagg


```
((..(((((((((((.(((((((((.(((.(.....)))))).)))))).)))))).)))
-----UAAUACUGCCGGGUAUAUGG--- 12 0,-1
-----UAAUACUGCCGGGUAUAUGGA-- 4 0,0
```

>hsa-mir-203 3p:65-86 SRX018957

guguuggggacucgcgcgcuggguccagugguucuaacaguucaacaguucuguagcgcaauuGUGAAAUGUUUAGGAC
CACUAGacccggcgggcgcgcgacagcga

```
.((((((..(.(((.(((((((((.(((((((((.(((.((((.((((.(.....).)))))).)))))).)))))).)))
))))).)))))).))))).)))).)))).)))).
```

```
-----UGUGAAAUGUUUAGGAC
CACU----- 2 -1,-2
-----UGUGAAAUGUUUAGGAC
CACUAG----- 2 -1,0
-----GUGAAAUGUUUAGGAC
CACUA----- 8 0,-1
-----GUGAAAUGUUUAGGAC
CACUAu----- 2 0,-1
-----GUGAAAUGUUUAGGAC
CACUAG----- 49 0,0
-----GUGAAAUGUUUAGGAC
CACUAGu----- 11 0,0
-----GUGAAAUGUUUAGGAC
CACUAGA----- 10 0,1
-----GUGAAAUGUUUAGGAC
CACUAGAA----- 2 0,1
-----UGAAAUGUUUAGGAC
CACU----- 2 1,-2
-----UGAAAUGUUUAGGAC
CACUA----- 2 1,-1
-----UGAAAUGUUUAGGAC
CACUAG----- 22 1,0
-----UGAAAUGUUUAGGAC
CACUAGu----- 8 1,0
-----UGAAAUGUUUAGGAC
CACUAGA----- 5 1,1
```

>hsa-mir-204 5p:33-54 SRX018957

ggcuacagucuuucuaugugacucguggacUUCCCUUUGUCAUCCUAUGCCUgagaauauaugaaggaggcugggaag

```

gcaaaggggacguucaauugucaucacuggc
.....((((((((...(((((.(((((((((.(((((.((((.....)))))))))))))
))))))))))..))))..))))..)).)).).
-----UUCCCUUUGUCAUCCU AUGCC-----
-----2    0,-1
-----UUCCCUUUGUCAUCCU AUGCCU-----
-----2    0,0
-----GCUGGGAAG
GCAAAGGGACGU-----9
-----GCUGGGAAG
GCAAAGGGACGUaa-----3
-----GCUGGGAAG
GCAAAGGGACGU-----4

```

```
>hsa-mir-206      3p:53-74      SRX018957
ugcuucccgaggccacaugcuucuuuauauccccaauuggauuacuuugcuaUGGAAUGUAAGGAAGUGUGUGG
uuucgg
caagug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))).
-----UGGAAUGUAAGGAAGUGUGUG-----
----- 5    0,-1
-----UGGAAUGUAAGGAAGUGUGUG-----
----- 20   0,0
-----UGGAAUGUAAGGAAGUGUGUG-----
----- 2    0,1
```

```

>hsa-mir-20a      MA:8-30;mi:44-65      SRX018957
guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuuaguuaucuACUGCAUUAUGAGCACUUAAGGuacugc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAAAGUGCUUAUAGUGCA----- 3    0,-5
-----UAAAGUGCUUAUAGUGCAG----- 18   0,-4
-----UAAAGUGCUUAUAGUGCAGG----- 10   0,-3
-----UAAAGUGCUUAUAGUGCAGGU----- 16   0,-2
-----UAAAGUGCUUAUAGUGCAGGUA----- 62   0,-1
-----UAAAGUGCUUAUAGUGCAGGUa----- 22   0,-1
-----UAAAGUGCUUAUAGUGCAGGUau----- 41   0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG----- 46   0,0
-----UAAAGUGCUUAUAGUGCAGGUAGa----- 3    0,0

```

-----UAAAGUGCUUAUAGUGCAGGUAGU-----	4	0,1
-----AAAGUGCUUAUAGUGCAGGUA-----	3	1,-1
-----AAAGUGCUUAUAGUGCAGGUAG-----	2	1,0

>hsa-mi r-21 MA:8-29;mi:46-66 SRX018957

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca .((((((..((((((((((.((((((.((((((.((((((.....)))))))))).)))))))))))))).)))))).		
-----GUAGCUUAUCAGACUGAUGUU-----		7
-1,-2		
-----GUAGCUUAUCAGACUGAUGUUG-----		15
-1,-1		
-----GUAGCUUAUCAGACUGAUGUUGA-----		14
-1,0		
-----GUAGCUUAUCAGACUGAUGUUGAC-----		3
-1,1		
-----UAGCUUAUCAGACUGAUG-----		191
0,-4		
-----UAGCUUAUCAGACUGAUGU-----		736
0,-3		
-----UAGCUUAUCAGACUGAUGUa-----		20
0,-3		
-----UAGCUUAUCAGACUGAUGUaa-----		13
0,-3		
-----UAGCUUAUCAGACUGAUGUU-----		5413
0,-2		
-----UAGCUUAUCAGACUGAUGUUa-----		36
0,-2		
-----UAGCUUAUCAGACUGAUGUUaa-----		8
0,-2		
-----UAGCUUAUCAGACUGAUGUUu-----		6
0,-2		
-----UAGCUUAUCAGACUGAUGUUG-----		
11762 0,-1		
-----UAGCUUAUCAGACUGAUGUUGu-----		23
0,-1		
-----UAGCUUAUCAGACUGAUGUUGA-----		4949
0,0		
-----UAGCUUAUCAGACUGAUGUUGAa-----		442

0,0	
-----UAGCUUAUCAGACUGAUGUUGAaa-----	34
0,0	
-----UAGCUUAUCAGACUGAUGUUGAau-----	15
0,0	
-----UAGCUUAUCAGACUGAUGUUGAu-----	13
0,0	
-----UAGCUUAUCAGACUGAUGUUGAC-----	2501
0,1	
-----UAGCUUAUCAGACUGAUGUUGACa-----	2411
0,1	
-----UAGCUUAUCAGACUGAUGUUGACaa-----	11
0,1	
-----UAGCUUAUCAGACUGAUGUUGACau-----	4
0,1	
-----UAGCUUAUCAGACUGAUGUUGACU-----	1107
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUa-----	2
0,2	
-----AGCUUAUCAGACUGAUGU-----	4
1,-3	
-----AGCUUAUCAGACUGAUGUU-----	21
1,-2	
-----AGCUUAUCAGACUGAUGUUG-----	46
1,-1	
-----AGCUUAUCAGACUGAUGUUGA-----	59
1,0	
-----AGCUUAUCAGACUGAUGUUGAa-----	3
1,0	
-----AGCUUAUCAGACUGAUGUUGAaa-----	2
1,0	
-----AGCUUAUCAGACUGAUGUUGAC-----	31
1,1	
-----AGCUUAUCAGACUGAUGUUGACa-----	44
1,1	
-----AGCUUAUCAGACUGAUGUUGACau-----	3
1,1	
-----AGCUUAUCAGACUGAUGUUGACU-----	11

1,2	-----GCUUAUCAGACUGAUGUU-----	7
2,-2	-----GCUUAUCAGACUGAUGUUG-----	26
2,-1	-----GCUUAUCAGACUGAUGUUGA-----	9
2,0	-----GCUUAUCAGACUGAUGUUGAC-----	12
2,1	-----GCUUAUCAGACUGAUGUUGACa-----	3
2,1	-----CAACACCAGUCGAUGGGC-----	17
0,-3	-----CAACACCAGUCGAUGGGCU-----	107
0,-2	-----CAACACCAGUCGAUGGGCUG-----	53
0,-1	-----CAACACCAGUCGAUGGGCUGU-----	112
0,0	-----CAACACCAGUCGAUGGGCUGUa-----	10
0,0	-----CAACACCAGUCGAUGGGCUGUaa-----	167
0,0	-----CAACACCAGUCGAUGGGCUGUau-----	72
0,0	-----CAACACCAGUCGAUGGGCUGUuu-----	22
0,0	-----CAACACCAGUCGAUGGGCUGUC-----	170
0,1	-----CAACACCAGUCGAUGGGCUGUCa-----	236
0,1	-----CAACACCAGUCGAUGGGCUGUCaa-----	6
0,1	-----CAACACCAGUCGAUGGGCUGUCau-----	31
0,1	-----CAACACCAGUCGAUGGGCUGUCU-----	192
0,2	-----CAACACCAGUCGAUGGGCUGUCUa-----	7

0,2	-----CAACACCAGUCGAUGGGCUGUCUau--	2
0,2	-----CAACACCAGUCGAUGGGCUGUCUu---	31
0,2	-----CAACACCAGUCGAUGGGCUGUCUuu--	23
0,2	-----AACACCAGUCGAUGGGCUGUC-----	3
1,1	-----AACACCAGUCGAUGGGCUGUCa----	5
1,1	-----AACACCAGUCGAUGGGCUGUCU-----	26
1,2	-----AACACCAGUCGAUGGGCUGUCUau--	2
1,2	-----AACACCAGUCGAUGGGCUGUCUu---	3
1,2	-----AACACCAGUCGAUGGGCUGUCUuu--	6
1,2		

>hsa-mir-210 3p:66-87 SRX018957

acccggcagugccuccaggcgcagggcagccccugcccaccgcacacugcgcugccccagacccaCUGUGCGUGUGACAG
CGGCUGAucugugccugggcagcgcgaccc

....((..(((.((((((((((..(((((.(((..((((((((((..(((...)))..)).)))))).)))..)))..)))).
..))))..))))))))))))..))))..)).

	-----ACUGUGCGUGUGACAG	
CGG-----	4 -1,-4	-----ACUGUGCGUGUGACAG
CGGC-----	4 -1,-3	-----ACUGUGCGUGUGACAG
CGGCU-----	8 -1,-2	-----ACUGUGCGUGUGACAG
CGGCUGA-----	2 -1,0	-----CUGUGCGUGUGACAG
CGG-----	9 0,-4	-----CUGUGCGUGUGACAG
CGGC-----	18 0,-3	-----CUGUGCGUGUGACAG

CGGCU-----	162	0,-2	
-----			-CUGUGCGUGUGACAG
CGGCUGA-----	55	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAa-----	6	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAU-----	5	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAUa-----	7	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAUu-----	8	0,1	

>hsa-mir-2110 5p:8-29 SRX018957

```

cagggguUUGGGGAAACGGCCGCUGAGUGaggcgucggcuguguuucucaccgcgguuuuccuccacucuug
(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
-----UUGGGGAAACGGCCGCUG----- 2
      0,-4
-----UUGGGGAAACGGCCGCUGA----- 5
      0,-3
-----UUGGGGAAACGGCCGCUGAG----- 8
      0,-2
-----UUGGGGAAACGGCCGCUGAGU----- 8
      0,-1
-----UUGGGGAAACGGCCGCUGAGUa----- 2
      0,-1
-----UUGGGGAAACGGCCGCUGAGUu----- 4
      0,-1
-----UUGGGGAAACGGCCGCUGAGUG----- 50
      0,0
-----UUGGGGAAACGGCCGCUGAGUGu----- 63
      0,0
-----UUGGGGAAACGGCCGCUGAGUGuu----- 7
      0,0
-----UUGGGGAAACGGCCGCUGAGUGA----- 140
      0,1
-----UUGGGGAAACGGCCGCUGAGUGAa----- 3
      0,1
-----UUGGGGAAACGGCCGCUGAGUGAu----- 3

```


CAGACAGaa-----	3	-1,-5	
-----			-UACAGCAGGCA
CAGACAGu-----	3	-1,-5	
-----			-UACAGCAGGCA
CAGACAGG-----	73	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGa-----	15	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGaa-----	2	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGC-----	6	-1,-3	
-----			-UACAGCAGGCA
CAGACAGGCA-----	55	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAa-----	93	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAaa-----	10	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAau-----	25	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAu-----	50	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAuu-----	12	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAG-----	33	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGa-----	35	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGU-----	118	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUa-----	22	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUau-----	5	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUu-----	22	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUuu-----	2	-1,0	
-----			-ACAGCAGGCA

CAGACAGG-----	64	0,-4	
-----			ACAGCAGGCA
CAGACAGGa-----	7	0,-4	
-----			ACAGCAGGCA
CAGACAGGaa-----	5	0,-4	
-----			ACAGCAGGCA
CAGACAGGC-----	10	0,-3	
-----			ACAGCAGGCA
CAGACAGGCA-----	48	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAa-----	65	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAaa-----	16	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAau-----	8	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAu-----	22	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAuu-----	2	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAG-----	65	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGa-----	52	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGaa-----	18	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGau-----	2	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGU-----	181	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUa-----	233	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUaa-----	16	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUau-----	43	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUu-----	43	0,0	
-----			ACAGCAGGCA


```

----- 3 0,2

>hsa-mir-219-2 5p:19-39;3p:62-83 SRX018957
acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCUuguacgagucugcgccaaccgAGAAUUGUGGCUGGACAUC
UGUggcugagcuccggg
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))).))))))))))
-----UGAUUGUCCAAACGCAAUUC-----
----- 2 0,-1
-----AGAAUUGUGGCUGGACAUC
U----- 2 0,-2

```

```

>hsa-mir-22 mi:15-36;MA:53-74 SRX018957
ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))).))))))))))
.))
-----AGUUCUUCAGUGGCAAGCU-----
----- 8 0,-3
-----AGUUCUUCAGUGGCAAGCUU-----
----- 9 0,-2
-----AGUUCUUCAGUGGCAAGCUUU-----
----- 98 0,-1
-----AGUUCUUCAGUGGCAAGCUUUu-----
----- 4 0,-1
-----AGUUCUUCAGUGGCAAGCUUUA-----
----- 79 0,0
-----AGUUCUUCAGUGGCAAGCUUUAa-----
----- 5 0,0
-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 6 0,1
-----AAGCUGCCAGUUGAAGAA-----
----- 441 0,-4
-----AAGCUGCCAGUUGAAGAAa-----
----- 3 0,-4
-----AAGCUGCCAGUUGAAGAAau-----
----- 3 0,-4
-----AAGCUGCCAGUUGAAGAAu-----

```

-----	2	0,-4	-----AAGCUGCCAGUUGAAGAAuu-----
-----	21	0,-4	-----AAGCUGCCAGUUGAAGAAC-----
-----	249	0,-3	-----AAGCUGCCAGUUGAAGAAca-----
-----	183	0,-3	-----AAGCUGCCAGUUGAAGAAcaa-----
-----	29	0,-3	-----AAGCUGCCAGUUGAAGAAcau-----
-----	3	0,-3	-----AAGCUGCCAGUUGAAGAAcu-----
-----	1285	0,-2	-----AAGCUGCCAGUUGAAGAAcuu-----
-----	30	0,-2	-----AAGCUGCCAGUUGAAGAAcuua-----
-----	11	0,-2	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	16	0,-2	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	19	0,-2	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	23	0,-2	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	125	0,-1	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	18	0,-1	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	1114	0,0	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	24	0,0	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	18	0,0	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	27	0,0	-----AAGCUGCCAGUUGAAGAAcuuu-----
-----	44	0,1	-----AAGCUGCCAGUUGAAGAAcuuu-----

```

----- 5 0,1
-----AAGCUGCCAGUUGAAGAACUGUUu-----
----- 73 0,1
-----AAGCUGCCAGUUGAAGAACUGUUuu-----
----- 3 0,1
-----AGCUGCCAGUUGAAGAACa-----
----- 2 1,-3
-----AGCUGCCAGUUGAAGAACU-----
----- 14 1,-2
-----AGCUGCCAGUUGAAGAACUGU-----
----- 8 1,0

```

```

>hsa-mir-221 mi:25-46;MA:65-87 SRX018957
ugaacauccaggucuggggcaugaACCUGGCAUACAAUGUAGAUUUcuguguucguuaggcaacAGCUACAUUGUCUGCU
GGGUUUCaggcuaaccuggaaacauguucuc
.((((((((((((.....(((.(((((((.....((((((((.....((((((((.....))))).))))))))))))).)).
.)).))))).))))))))).))))))))).)).
-----AACCUGGCAUACAAUGUAGAUUU-----
----- 2 -1,0
-----ACCUGGCAUACAAUGUAG-----
----- 8 0,-4
-----ACCUGGCAUACAAUGUAGA-----
----- 2 0,-3
-----ACCUGGCAUACAAUGUAGAUU-----
----- 24 0,-1
-----ACCUGGCAUACAAUGUAGAUUU-----
----- 124 0,0
-----ACCUGGCAUACAAUGUAGAUUUa-----
----- 5 0,0
-----ACCUGGCAUACAAUGUAGAUUUu-----
----- 2 0,0
-----ACCUGGCAUACAAUGUAGAUUUC-----
----- 38 0,1
-----ACCUGGCAUACAAUGUAGAUUUCU-----
----- 5 0,2
-----CCUGGCAUACAAUGUAGAUUU-----
----- 2 1,0
-----CAGCUACAUUGUCUGCU

```

GGGUUC-----	3	-1,0	
-----			-AGCUACAUUGUCUGCU
GGG-----	2	0,-4	
-----			-AGCUACAUUGUCUGCU
GGGU-----	2	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUaa-----	4	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUau-----	3	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUU-----	12	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUa-----	15	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUaa-----	7	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUau-----	13	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUU-----	213	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUa-----	32	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUaa-----	6	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUu-----	20	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUC-----	216	0,0	
-----			-AGCUACAUUGUCUGCU
GGGUUUCu-----	13	0,0	
-----			-AGCUACAUUGUCUGCU
GGGUUUCA-----	13	0,1	
-----			-GCUACAUUGUCUGCU
GGGUUau-----	2	1,-2	
-----			-GCUACAUUGUCUGCU
GGGUUU-----	17	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUC-----	10	1,0	

gcugcuggaagguguagguacccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG

-----AGCUACAUCUGG


```

AAUACCCCAAu----- 2 0,1
-----GUCAGUUUGUCA
AAUACCC----- 2 1,-2
-----GUCAGUUUGUCA
AAUACCCCA----- 2 1,0
-----GUCAGUUUGUCA
AAUACCCCAu----- 2 1,0
-----GUCAGUUUGUCA
AAUACCCCAA----- 4 1,1
-----GUCAGUUUGUCA
AAUACCCCAAa----- 3 1,1

```

```

>hsa-mir-224 MA:8-28;mi:53-75 SRX018957
gggcuuuCAAGUCACUAGUGGUUCCGUUuaguagaugauugugcauuguuucAAAAUGGUGCCCUAGUGACUACAaagcc
c
(((((((...(((((((((((((...(((((((...))))))...))))))...))))))...))))))
)
-----CAAGUCACUAGUGGUUCCGUUU-----
- 5 0,1
-----CAAGUCACUAGUGGUUCCGUUUA-----
- 3 0,2
-----CAAGUCACUAGUGGUUCCGUUUAG-----
- 15 0,3
-----AAAUGGUGCCCUAGUGAC-----
- 2 1,-4

```

```

>hsa-mir-2355 5p:11-31;3p:54-75 SRX018957
cagacgugucAUCCCCAGAUACAAUGGACAuauugcuauuauaauuguauggcAUUGUCCUUGCUGUUUGGAGAUaauac
ugcugac
(((...(((...(((((((((((...(((((((...))))))...))))))...))))))...))..
-----AUCCCCAGAUACAAUGGACA-----
----- 2 0,-1
-----AUCCCCAGAUACAAUGGACAA-----
----- 2 0,0
-----AUCCCCAGAUACAAUGGACAAU-----
----- 6 0,1

```

>hsa-mir-23a mi:9-30;MA:45-65 SRX018957

ggccggcuGGGGUCCUGGGGAUGGGAUUUgcuuccugucacaaAUCACAUUGCCAGGGAUUUCaaccgacc
(((.(((.(((((((((((.(((.(((((.)))))).)))))).)))))).))))))

-----AAUCACAUUGCCAGGGAUUUC-----	2
-1,-1	
-----AAUCACAUUGCCAGGGAUUUCa-----	3
-1,-1	
-----AAUCACAUUGCCAGGGAUUUC-----	3
-1,0	
-----AUCACAUUGCCAGGGAUU-----	54
0,-3	
-----AUCACAUUGCCAGGGAUUU-----	319
0,-2	
-----AUCACAUUGCCAGGGAUUUa-----	96
0,-2	
-----AUCACAUUGCCAGGGAUUUaa-----	18
0,-2	
-----AUCACAUUGCCAGGGAUUUu-----	17
0,-2	
-----AUCACAUUGCCAGGGAUUUC-----	387
0,-1	
-----AUCACAUUGCCAGGGAUUUCa-----	133
0,-1	
-----AUCACAUUGCCAGGGAUUUCaa-----	2
0,-1	
-----AUCACAUUGCCAGGGAUUUCu-----	3
0,-1	
-----AUCACAUUGCCAGGGAUUUC-----	256
0,0	
-----AUCACAUUGCCAGGGAUUUCcu-----	2
0,0	
-----AUCACAUUGCCAGGGAUUUCCA-----	919
0,1	
-----AUCACAUUGCCAGGGAUUUCCAu-----	92
0,1	
-----AUCACAUUGCCAGGGAUUUCCAA-----	105
0,2	
-----AUCACAUUGCCAGGGAUUUCCAAu-----	9


```

----- 121 0,-1
-----UGGGUUCCUGGCAUGCUGAUUa-----
----- 10 0,-1
-----UGGGUUCCUGGCAUGCUGAUUaa-----
----- 4 0,-1
-----UGGGUUCCUGGCAUGCUGAUUau-----
----- 2 0,-1
-----UGGGUUCCUGGCAUGCUGAUUU-----
----- 503 0,0
-----UGGGUUCCUGGCAUGCUGAUUUa-----
----- 55 0,0
-----UGGGUUCCUGGCAUGCUGAUUUaa-----
----- 5 0,0
-----UGGGUUCCUGGCAUGCUGAUUUau-----
----- 2 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
----- 90 0,0
-----UGGGUUCCUGGCAUGCUGAUUUG-----
----- 7 0,1
-----GGGUUCCUGGCAUGCUGA-----
----- 4 1,-3
-----GGGUUCCUGGCAUGCUGAU-----
----- 46 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
----- 142 1,-1
-----GGGUUCCUGGCAUGCUGAUUa-----
----- 12 1,-1
-----GGGUUCCUGGCAUGCUGAUUau-----
----- 4 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
----- 787 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
----- 59 1,0
-----GGGUUCCUGGCAUGCUGAUUUaa-----
----- 7 1,0
-----GGGUUCCUGGCAUGCUGAUUUau-----
----- 7 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----

```

-----	132	1,0	
-----	-GGGUUCCUGGCAUGCUGAUUUuu-----		
-----	2	1,0	
-----	-GGGUUCCUGGCAUGCUGAUUUUG-----		
-----	4	1,1	
-----	-----AAUCACAUUGCCAGGGAUUAC---		
-----	2	-1,-1	
-----	-----AAUCACAUUGCCAGGGAUUACa---		
-----	2	-1,-1	
-----	-----AAUCACAUUGCCAGGGAUUACC---		
-----	5	-1,0	
-----	-----AAUCACAUUGCCAGGGAUUACCA-		
-----	5	-1,1	
-----	-----AUCACAUUGCCAGGGAUU-----		
-----	54	0,-3	
-----	-----AUCACAUUGCCAGGGAUUA-----		
-----	253	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAa---		
-----	73	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAaa---		
-----	5	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAu---		
-----	34	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAC---		
-----	345	0,-1	
-----	-----AUCACAUUGCCAGGGAUUACa---		
-----	135	0,-1	
-----	-----AUCACAUUGCCAGGGAUUACaa-		
-----	13	0,-1	
-----	-----AUCACAUUGCCAGGGAUUACau-		
-----	2	0,-1	
-----	-----AUCACAUUGCCAGGGAUUACu---		
-----	20	0,-1	
-----	-----AUCACAUUGCCAGGGAUUACC---		
-----	405	0,0	
-----	-----AUCACAUUGCCAGGGAUUACCu-		
-----	13	0,0	
-----	-----AUCACAUUGCCAGGGAUUACCA-		

-----	1642	0,1	-----AUCACAUUGCCAGGGGAUUACCAa
-----	47	0,1	-----AUCACAUUGCCAGGGGAUUACCAa
u-----	10	0,1	-----AUCACAUUGCCAGGGGAUUACCAu
-----	272	0,1	-----AUCACAUUGCCAGGGGAUUACCAu
u-----	41	0,1	-----AUCACAUUGCCAGGGGAUUACCAC
-----	332	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
a-----	74	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
au-----	5	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
u-----	866	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
uu-----	5	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
G-----	10	0,3	-----AUCACAUUGCCAGGGGAUUACCAC
Ga-----	3	0,3	-----UCACAUUGCCAGGGGAUUA----
-----	7	1,-2	-----UCACAUUGCCAGGGGAUUAaa--
-----	2	1,-2	-----UCACAUUGCCAGGGGAUUAAC---
-----	6	1,-1	-----UCACAUUGCCAGGGGAUUAACa--
-----	2	1,-1	-----UCACAUUGCCAGGGGAUUACC--
-----	7	1,0	-----UCACAUUGCCAGGGGAUUACCA--
-----	20	1,1	-----UCACAUUGCCAGGGGAUUACCAa
-----	2	1,1	-----UCACAUUGCCAGGGGAUUACCAu


```

----- 7 1,1
-----UCACAUUGCCAGGGGAUUACCAu
u----- 8 1,1
-----UCACAUUGCCAGGGGAUUACCAC
----- 6 1,2
-----UCACAUUGCCAGGGGAUUACCAC
a----- 16 1,2
-----UCACAUUGCCAGGGGAUUACCAC
au----- 2 1,2
-----UCACAUUGCCAGGGGAUUACCAC
u----- 64 1,2
-----UCACAUUGCCAGGGGAUUACCAC
uu----- 16 1,2
-----CACAUUGCCAGGGGAUUACCAC
u----- 2 2,2

```

>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018957

```

cuccggUGCCUACUGAGCUGAUUAUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag
(((((((((.....)))))).))))))
---GGUGCCUACUGAGCUGAUUAUCA----- 2
-2,-2
---GUGCCUACUGAGCUGAUUAUC----- 3
-1,-3
---GUGCCUACUGAGCUGAUUAUCA----- 10
-1,-2
---UGCCUACUGAGCUGAUUAUCA----- 5 0,-2
-----UGGCUCAGUUCAGCAGGA----- 30 0,-4
-----UGGCUCAGUUCAGCAGGAA----- 46 0,-3
-----UGGCUCAGUUCAGCAGGAa----- 2 0,-3
-----UGGCUCAGUUCAGCAGGAAC----- 32 0,-2
-----UGGCUCAGUUCAGCAGGAACu----- 2 0,-2
-----UGGCUCAGUUCAGCAGGAACA----- 162 0,-1
-----UGGCUCAGUUCAGCAGGAACAa----- 48 0,-1
-----UGGCUCAGUUCAGCAGGAACAaa----- 8 0,-1
-----UGGCUCAGUUCAGCAGGAACAu----- 18 0,-1
-----UGGCUCAGUUCAGCAGGAACAuu----- 13 0,-1
-----UGGCUCAGUUCAGCAGGAACAG--- 1343

```

0,0

0,-2	-----UGGCUCAGUUCAGCAGGAACu---	2
0,-2	-----UGGCUCAGUUCAGCAGGAACA---	162
0,-1	-----UGGCUCAGUUCAGCAGGAACAa--	48
0,-1	-----UGGCUCAGUUCAGCAGGAACAaa-	8
0,-1	-----UGGCUCAGUUCAGCAGGAACAu--	18
0,-1	-----UGGCUCAGUUCAGCAGGAACAuu-	13
0,-1	-----UGGCUCAGUUCAGCAGGAACAG--	1343
0,0	-----UGGCUCAGUUCAGCAGGAACAGa-	45
0,0	-----UGGCUCAGUUCAGCAGGAACAGaa	3
0,0	-----UGGCUCAGUUCAGCAGGAACAGau	6
0,0	-----UGGCUCAGUUCAGCAGGAACAGu-	2351
0,0	-----UGGCUCAGUUCAGCAGGAACAGuu	747
0,0	-----UGGCUCAGUUCAGCAGGAACAGG-	2
0,1	-----UGGCUCAGUUCAGCAGGAACAGGu	4
0,1	-----GGCUCAGUUCAGCAGGAA-----	3
1,-3	-----GGCUCAGUUCAGCAGGAACA---	6
1,-1	-----GGCUCAGUUCAGCAGGAACAG--	35
1,0	-----GGCUCAGUUCAGCAGGAACAGau	2
1,0	-----GGCUCAGUUCAGCAGGAACAGu-	59


```

---- 486 0,-2
-----CAUUGCACUUGUCUCGGUCUa-----
---- 3 0,-2
-----CAUUGCACUUGUCUCGGUCUuu-----
---- 2 0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
---- 464 0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
---- 156 0,-1
-----CAUUGCACUUGUCUCGGUCUGuu-----
---- 4 0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
---- 1206 0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----
---- 21 0,0
-----CAUUGCACUUGUCUCGGUCUGAaa-----
---- 4 0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
---- 12 0,0
-----AUUGCACUUGUCUCGGUC-----
---- 6 1,-3
-----AUUGCACUUGUCUCGGUCU-----
---- 19 1,-2
-----AUUGCACUUGUCUCGGUCUG-----
---- 19 1,-1
-----AUUGCACUUGUCUCGGUCUGu-----
---- 2 1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
---- 42 1,0

```

>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018957

```

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.((((((.(((((((((.(((((((((.((.....))...)))))))))).)))))))).)))))))).))
-----UUCAAGUAAUCCAGGAUA-----
104 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
27 0,-4
-----UUCAAGUAAUCCAGGAUAu-----

```

5 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
591 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
6 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
7 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
1783 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
6 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
3 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
17 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
15 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
28 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
2799 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
786 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
526 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
201 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
10010 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
1170 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
329 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
1248 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
400 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----

5351 0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
4 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
2 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
9 0,2
-----UCAAGUAAUCCAGGAUAG-----
14 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
22 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
41 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
18 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
20 1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
3 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
185 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
13 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
7 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
29 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
7 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
31 1,0
-----CAAGUAAUCCAGGAUAGG-----
3 2,-2
-----CAAGUAAUCCAGGAUAGGC-----
4 2,-1
-----CAAGUAAUCCAGGAUAGGCaa-----
3 2,-1
-----CAAGUAAUCCAGGAUAGGCU-----

```

7    2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
4    2,0

>hsa-mir-26a-2  MA:14-35;mi:52-73  SRX018957
ggcuguggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu
(((((((...((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))...)))))))))...)))))))))...)))))))))...)))))))))...)))))))))...))))))
))))))
-----UUCAAGUAAUCCAGGAUA-----
----    104 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
----    27  0,-4
-----UUCAAGUAAUCCAGGAUAu-----
----    5   0,-4
-----UUCAAGUAAUCCAGGAUAG-----
----   591 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
----    6   0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
----    7   0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
----   1783 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
----    6   0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
----    3   0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
----   17   0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
----   15   0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
----   28   0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
----   2799 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
----   786 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----

```



```

----      526 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
----      201 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
----     10010   0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
----     1170    0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
----      329 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
----     1248    0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
----      400 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
----     5351    0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
----       4   0,1
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
----       2   0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
----       9   0,2
-----UCAAGUAAUCCAGGAUAG-----
----      14   1,-3
-----UCAAGUAAUCCAGGAUAGG-----
----      22   1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
----      41   1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
----      18   1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
----      20   1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
----       3   1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
----     185   1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
----      13   1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----

```


672 0,0
 -----UUCAAGUAAUUCAGGAUAGGUaa-----
 593 0,0
 -----UUCAAGUAAUUCAGGAUAGGUau-----
 264 0,0
 -----UUCAAGUAAUUCAGGAUAGGUU-----
 6449 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUa-----
 687 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUaa-----
 18 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUau-----
 18 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUu-----
 1008 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUuu-----
 12 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUG-----
 35 0,2
 -----UCAAGUAAUUCAGGAUAGG-----
 5 1,-1
 -----UCAAGUAAUUCAGGAUAGGU-----
 10 1,0
 -----UCAAGUAAUUCAGGAUAGGUa-----
 2 1,0
 -----UCAAGUAAUUCAGGAUAGGUau-----
 2 1,0
 -----UCAAGUAAUUCAGGAUAGGUU-----
 52 1,1
 -----UCAAGUAAUUCAGGAUAGGUUa-----
 8 1,1
 -----UCAAGUAAUUCAGGAUAGGUUu-----
 21 1,1
 -----CAAGUAAUUCAGGAUAGGU-----
 2 2,0
 -----CAAGUAAUUCAGGAUAGGUaa-----
 4 2,0
 -----CAAGUAAUUCAGGAUAGGUau-----


```

35  0,0
-----UUCACAGUGGCUAAGUUCCGCa-----
5   0,0
-----UUCACAGUGGCUAAGUUCCGCa-----
19  0,0
-----UUCACAGUGGCUAAGUUCCGCau-----
5   0,0
-----UUCACAGUGGCUAAGUUCCGCC-----
2   0,1
-----UUCACAGUGGCUAAGUUCCGCCa-----
4   0,1
-----UCACAGUGGCUAAGUUCCG-----
5   1,-1

```

```

>hsa-mir-27b    mi:19-40;MA:61-81    SRX018957
accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))...)))))))))...)))))))))...)))))))))...)))))))))...)))))))))...
)))))))))...)))))))))...)))))))))...)))))))))...)))))))))...)))))))))...))))
-----CAGAGCUUAGCUGAUUGGUGA-----
-----3   -1,-2
-----CAGAGCUUAGCUGAUUGGUGAA-----
-----4   -1,-1
-----CAGAGCUUAGCUGAUUGGUGAAC-----
-----2   -1,0
-----CAGAGCUUAGCUGAUUGGUGAACA-----
-----6   -1,1
-----AGAGCUUAGCUGAUUGGU-----
-----4   0,-4
-----AGAGCUUAGCUGAUUGGUG-----
-----13  0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
-----190 0,-2
-----AGAGCUUAGCUGAUUGGUGAA-----
-----412 0,-1
-----AGAGCUUAGCUGAUUGGUGAAa-----
-----2   0,-1
-----AGAGCUUAGCUGAUUGGUGAAC-----

```

```

----- 16 0,0
-----AGAGCUUAGCUGAUUGGUGAACAA-----
----- 20 0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
----- 6 0,2
-----AGAGCUUAGCUGAUUGGUGAACAGU-----
----- 8 0,3
-----GAGCUUAGCUGAUUGGUGAAC-----
----- 2 1,0
-----GAGCUUAGCUGAUUGGUGAACAA-----
----- 2 1,1
-----GAGCUUAGCUGAUUGGUGAACAU-----
----- 2 1,1
-----GUUCACAGUGGCUAAGUU-----
----- 8 -1,-4
-----GUUCACAGUGGCUAAGUUC-----
----- 36 -1,-3
-----GUUCACAGUGGCUAAGUUCU-----
----- 4 -1,-2
-----UUCACAGUGGCUAAGUUC-----
----- 13598 0,-3
-----UUCACAGUGGCUAAGUUCa-----
----- 37 0,-3
-----UUCACAGUGGCUAAGUUCaa-----
----- 10 0,-3
-----UUCACAGUGGCUAAGUUCU-----
----- 3044 0,-2
-----UUCACAGUGGCUAAGUUCUa-----
----- 34 0,-2
-----UUCACAGUGGCUAAGUUCUa-----
a----- 9 0,-2
-----UUCACAGUGGCUAAGUUCUa-----
u----- 2 0,-2
-----UUCACAGUGGCUAAGUUCUu-----
----- 16 0,-2
-----UUCACAGUGGCUAAGUUCUG-----
----- 143 0,-1
-----UUCACAGUGGCUAAGUUCUG-----

```

a-----	26	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
aa-----	49	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
au-----	2	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
u-----	8	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
uu-----	9	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
C-----	205	0,0	
-----			-UUCACAGUGGCUAAGUUCUG
Cu-----	11	0,0	
-----			-UUCACAGUGGCUAAGUUCUG
Cuu-----	3	0,0	
-----			-UUCACAGUGGCUAAGUUCUG
CA-----	243	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAa-----	132	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAaa-----	3	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAau-----	9	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAu-----	149	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAuu-----	25	0,1	
-----			-UCACAGUGGCUAAGUUCU-
-----	22	1,-2	
-----			-UCACAGUGGCUAAGUUCUG
CAu-----	6	1,1	
-----			-UCACAGUGGCUAAGUUCUG
CAuu-----	2	1,1	

>hsa-mir-28 5p:14-35;3p:54-75 SRX018957

gguccuugcccucAAGGAGCUCACAGUCAUUGAGUuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu

(((.(((((((((.(((((((((((((((.((((((.....))))).))))).))))).))))).))))))

)).)))

```
-----CAAGGAGCUCACAGUCUAUUG-----
----- 2   -1,-2
-----AAGGAGCUCACAGUCUAU-----
----- 2   0,-4
-----AAGGAGCUCACAGUCUAUU-----
----- 10  0,-3
-----AAGGAGCUCACAGUCUAUUa-----
----- 7   0,-3
-----AAGGAGCUCACAGUCUAUUG-----
----- 70  0,-2
-----AAGGAGCUCACAGUCUAUUGu-----
----- 2   0,-2
-----AAGGAGCUCACAGUCUAUUGA-----
----- 121 0,-1
-----AAGGAGCUCACAGUCUAUUGAa-----
----- 5   0,-1
-----AAGGAGCUCACAGUCUAUUGAaa-----
----- 2   0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 62  0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 16  0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 4   0,1
-----AGGAGCUCACAGUCUAUUG-----
----- 2   1,-2
-----CACUAGAUUGUGAGCUCC-----
----- 3   0,-4
-----CACUAGAUUGUGAGCUCCU-----
----- 4   0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 5   0,-2
-----CACUAGAUUGUGAGCUCCUGa-----
----- 7   0,-2
-----CACUAGAUUGUGAGCUCCUGG-----
----- 154 0,-1
-----CACUAGAUUGUGAGCUCCUGGu-----
```


----- 5 0,-1	-----CACUAGAUUGUGAGCUCCUGGA-----
----- 1821 0,0	-----CACUAGAUUGUGAGCUCCUGGAa-----
----- 675 0,0	-----CACUAGAUUGUGAGCUCCUGGAaa-----
----- 100 0,0	-----CACUAGAUUGUGAGCUCCUGGAau-----
----- 21 0,0	-----CACUAGAUUGUGAGCUCCUGGAu-----
----- 34 0,0	-----CACUAGAUUGUGAGCUCCUGGAuu-----
----- 4 0,0	-----CACUAGAUUGUGAGCUCCUGGAG-----
----- 5 0,1	-----CACUAGAUUGUGAGCUCCUGGAGa-----
----- 5 0,1	-----CACUAGAUUGUGAGCUCCUGGAGu-----
----- 3 0,1	-----ACUAGAUUGUGAGCUCCUGG-----
----- 5 1,-1	-----ACUAGAUUGUGAGCUCCUGGA-----
----- 65 1,0	-----ACUAGAUUGUGAGCUCCUGGAa-----
----- 23 1,0	-----ACUAGAUUGUGAGCUCCUGGAaa-----
----- 4 1,0	-----ACUAGAUUGUGAGCUCCUGGAau-----
----- 2 1,0	-----ACUAGAUUGUGAGCUCCUGGAG-----
----- 14 1,1	-----ACUAGAUUGUGAGCUCCUGGAGa-----
----- 18 1,1	-----ACUAGAUUGUGAGCUCCUGGAGaa-----
----- 2 1,1	-----ACUAGAUUGUGAGCUCCUGGAGu-----
----- 2 1,1	-----CUAGAUUGUGAGCUCCUGGA-----

```

----- 6 2,0
-----CUAGAUUGUGAGCUCCUGGAa----
----- 3 2,0
-----CUAGAUUGUGAGCUCCUGGAaa---
----- 2 2,0
-----CUAGAUUGUGAGCUCCUGGAG----
----- 3 2,1
-----CUAGAUUGUGAGCUCCUGGAGa---
----- 6 2,1
-----CUAGAUUGUGAGCUCCUGGAGaa--
----- 6 2,1
-----CUAGAUUGUGAGCUCCUGGAGu---
----- 2 2,1

```

>hsa-mir-299 5p:7-28;3p:39-60 SRX018957

```

aagaaaUGGUUUACCGUCCCACAUACAUuuugaauaugUAUGUGGGAUGGUAAACCGCUUcuu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGUUUACCGUCCCACAUACAU----- 3 0,0
-----UAUGUGGGAUGGUAAACCGCU---- 2 0,-1

```

>hsa-mir-29a mi:4-25;MA:42-63 SRX018957

```

augACUGAUUUCUUUUGGUGUUCAGagucaauauauuuuucUAGCACCAUCUGAAAUCGGUUAu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
---ACUGAUUUCUUUUGGUGUUC----- 3 0,-2
---ACUGAUUUCUUUUGGUGUUC----- 5 0,-1
---ACUGAUUUCUUUUGGUGUUCAG----- 2 0,1
-----CUAGCACCAUCUGAAAUC----- 4 -1,-5
-----CUAGCACCAUCUGAAAUCG----- 4 -1,-4
-----CUAGCACCAUCUGAAAUCGG----- 21 -1,-3
-----CUAGCACCAUCUGAAAUCGGU--- 43 -1,-2
-----CUAGCACCAUCUGAAAUCGGUa-- 10 -1,-2
-----CUAGCACCAUCUGAAAUCGGUaa- 8 -1,-2
-----CUAGCACCAUCUGAAAUCGGUU-- 402 -1,-1
-----CUAGCACCAUCUGAAAUCGGUUu- 52 -1,-1
-----CUAGCACCAUCUGAAAUCGGUUA- 269 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAa 5 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAU 10 -1,1
-----UAGCACCAUCUGAAAUCG----- 49 0,-4

```



```

-----UAGCACCAUUUGAAAUCAG-----
- 42 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 826 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 156 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 4 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 30 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 14 0,-1
-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 3 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 33 0,0
-----UAGCACCAUUUGAAAUCAGUGUUU-----
- 2 0,1
-----AGCACCAUUUGAAAUCAGU-----
- 11 1,-3
-----AGCACCAUUUGAAAUCAGUG-----
- 2 1,-2
-----GCACCAUUUGAAAUCAGU-----
- 2 2,-3

```

>hsa-mir-29c mi:16-37;MA:54-75 SRX018957

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

.((((((((((...((((((((((...((((((((((((.....))))))...))))))...)))))))).))
)))))))).

```

-----UGACCGAUUUCUCCUGGUGU-----
----- 3 0,-2
-----UGACCGAUUUCUCCUGGUGUU-----
----- 12 0,-1
-----UGACCGAUUUCUCCUGGUGUUC-----
----- 2 0,0
-----GACCGAUUUCUCCUGGUGUU-----
----- 5 1,-1

```

-----	-GACCGAUUUCUCCUGGUGUUCA-	-----
-----	7 1,1	
-----	-ACCGAUUUCUCCUGGUGUUCA-	-----
-----	5 2,1	
-----	-ACCGAUUUCUCCUGGUGUUCAG-	-----
-----	3 2,2	
-----	-ACCGAUUUCUCCUGGUGUUCAGA-	-----
-----	3 2,3	
-----		-----CUAGCACCAUUUGAAAUCGGUUu-----
-----	3 -1,-1	
-----		-----CUAGCACCAUUUGAAAUCGGUUA-----
-----	16 -1,0	
-----		-----UAGCACCAUUUGAAAUCG-----
-----	36 0,-4	
-----		-----UAGCACCAUUUGAAAUCGa-----
-----	2 0,-4	
-----		-----UAGCACCAUUUGAAAUCGuu-----
-----	2 0,-4	
-----		-----UAGCACCAUUUGAAAUCGG-----
-----	190 0,-3	
-----		-----UAGCACCAUUUGAAAUCGGU-----
-----	107 0,-2	
-----		-----UAGCACCAUUUGAAAUCGGUa-----
-----	5 0,-2	
-----		-----UAGCACCAUUUGAAAUCGGUaa-----
-----	41 0,-2	
-----		-----UAGCACCAUUUGAAAUCGGUU-----
-----	622 0,-1	
-----		-----UAGCACCAUUUGAAAUCGGUUu-----
-----	410 0,-1	
-----		-----UAGCACCAUUUGAAAUCGGUUuu-----
-----	8 0,-1	
-----		-----UAGCACCAUUUGAAAUCGGUUA-----
-----	8734 0,0	
-----		-----UAGCACCAUUUGAAAUCGGUUAa-----
-----	197 0,0	
-----		-----UAGCACCAUUUGAAAUCGGUUAU-----
-----	120 0,1	

-----			-----AGCACCAUUUGAAAUCGGUU-----
-----	3	1, -1	
-----			-----AGCACCAUUUGAAAUCGGUUA-----
-----	39	1, 0	
-----			-----GCACCAUUUGAAAUCGGUUA-----
-----	9	2, 0	
-----			-----GCACCAUUUGAAAUCGGUUAu-----
-----	4	2, 1	

>hsa-mir-301a 3p:51-73 SRX018957

acugcuaacgaaugcucugacuuuauugcacuacuguacuuuacagcuagCAGUGCAAUAGUAUUGUCAAAAGCaucugaa
agcagg

.(((((.(((((.(((((.(((((((((((.(((((...))))).)))))))).)))))))).))))).))..
)))).).

-----GCUCUGACUUUAUUGCACUACU-----
 ----- 3 -----
 -----CAGUGCAAUAGUAUUGUCAAAAGCA-----
 ----- 2 0,1 -----

>hsa-mi r-3065 5p:10-32;3p:50-72 SRX018957

cugccucuCAACAAAAUCACUGAUGCUGGAgucgccugagucaucacUCAGCACCAGGAUAUUGUUGGAGaggacag
(((.(((((((((((((((.((((.(((((((((((.(...)).))......)))))).)))))).)))))))))))).))

-----UCAACAAAAUCACUGAUGCU-----
2 0, -3
-----UCAACAAAAUCACUGAUGCUG-----
4 0, -2

>hsa-mi r-30a MA:6-27;mi:47-68 SRX018957

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc
(((.((((((((((((((.(((((((((((((((((.(((...)))....))))))))))))))))))))))))))))))))))))))

----	CUGUAAACAUCCUCGACUG-----	4	
	-1,-4		
----	CUGUAAACAUCCUCGACUGGA-----	6	
	-1,-2		
----	CUGUAAACAUCCUCGACUGGAA-----	6	
	-1,-1		
----	CUGUAAACAUCCUCGACUGGAAG-----	8	-1,0
----	CUGUAAACAUCCUCGACUGGAAGa-----	4	-1,0

----CUGUAAACAUCCUCGACUGGAAGC-----	37	-1,1
----CUGUAAACAUCCUCGACUGGAAGCa-----	4	-1,1
----CUGUAAACAUCCUCGACUGGAAGCU-----	38	-1,2
-----UGUAAACAUCCUCGACUG-----	104	0,-4
-----UGUAAACAUCCUCGACUGa-----	2	0,-4
-----UGUAAACAUCCUCGACUGG-----	135	0,-3
-----UGUAAACAUCCUCGACUGGu-----	7	0,-3
-----UGUAAACAUCCUCGACUGGuu-----	2	0,-3
-----UGUAAACAUCCUCGACUGGA-----	516	0,-2
-----UGUAAACAUCCUCGACUGGAu-----	2	0,-2
-----UGUAAACAUCCUCGACUGGAA-----	990	0,-1
-----UGUAAACAUCCUCGACUGGAAa-----	438	0,-1
-----UGUAAACAUCCUCGACUGGAAaa-----	21	0,-1
-----UGUAAACAUCCUCGACUGGAAau-----	6	0,-1
-----UGUAAACAUCCUCGACUGGAAu-----	12	0,-1
-----UGUAAACAUCCUCGACUGGAAG-----	4535	
0,0		
-----UGUAAACAUCCUCGACUGGAAGa-----	2752	
0,0		
-----UGUAAACAUCCUCGACUGGAAGaa-----	63	0,0
-----UGUAAACAUCCUCGACUGGAAGau-----	74	0,0
-----UGUAAACAUCCUCGACUGGAAGu-----	173	0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	11	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	9863	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCa-----	2099	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCaa-----	35	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	60	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	14495	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUa-----	128	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	473	0,2
-----UGUAAACAUCCUCGACUGGAAGCUG-----	5	0,3
-----GUAAACAUCCUCGACUGGAA-----	6	1,-1
-----GUAAACAUCCUCGACUGGAAa-----	2	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	40	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	9	1,0


```

-----GUAACAUCUCCUGACUGGAAGC----- 86 1,1
-----GUAACAUCUCCUGACUGGAAGCa----- 3 1,1
-----GUAACAUCUCCUGACUGGAAGCau----- 3 1,1
-----GUAACAUCUCCUGACUGGAAGCU----- 34 1,2
-----UAAACAUCUCCUGACUGGAAGCU----- 6 2,2
-----CUUUCAGUCGGAUGUUUG----- 3 0,-4
-----CUUUCAGUCGGAUGUUUGC----- 3 0,-3
-----CUUUCAGUCGGAUGUUUGCA----- 2 0,-2
-----CUUUCAGUCGGAUGUUUGCa----- 12 0,-2
-----CUUUCAGUCGGAUGUUUGCAG----- 83 0,-1
-----CUUUCAGUCGGAUGUUUGCAGa----- 4 0,-1
-----CUUUCAGUCGGAUGUUUGCAGu----- 20 0,-1
-----CUUUCAGUCGGAUGUUUGCAGC----- 143 0,0
-----CUUUCAGUCGGAUGUUUGCAGCa----- 36 0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa----- 6 0,0
-----CUUUCAGUCGGAUGUUUGCAGCau----- 42 0,0
-----CUUUCAGUCGGAUGUUUGCAGCU----- 4 0,1
-----UUUCAGUCGGAUGUUUGCA----- 3 1,-2
-----UUUCAGUCGGAUGUUUGCAG----- 33 1,-1
-----UUUCAGUCGGAUGUUUGCAGu----- 2 1,-1
-----UUUCAGUCGGAUGUUUGCAGuu----- 5 1,-1
-----UUUCAGUCGGAUGUUUGCAGC----- 60 1,0
-----UUUCAGUCGGAUGUUUGCAGCa----- 12 1,0
-----UUUCAGUCGGAUGUUUGCAGCaa----- 5 1,0
-----UUUCAGUCGGAUGUUUGCAGCau----- 13 1,0
-----UUUCAGUCGGAUGUUUGCAGCU----- 4 1,1
-----UUCAGUCGGAUGUUUGCAGC----- 2 2,0

```

>hsa-mir-30b MA:17-38;mi:55-76 SRX018957

accaaguucagucaUGUAAACAUCUACACUCAGCUgaaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
gacuugga

.((((((..((((((...((((((((((..((((((((.....))))))))..))))))))))))..))))))
)))))))).

```

-----UGUAAACAUCUACACUC-----
----- 33 0,-4
-----UGUAAACAUCUACACUCAG-----
----- 9 0,-2
-----UGUAAACAUCUACACUCAGau-----

```

Position	Count	Sequence	Label
2	0, -2	UGUAAACAUCCUACACUCAGC	
41	0, -1	UGUAAACAUCCUACACUCAGCa	
4	0, -1	UGUAAACAUCCUACACUCAGCau	
5	0, -1	UGUAAACAUCCUACACUCAGCU	
210	0, 0	UGUAAACAUCCUACACUCAGCUa	
27	0, 0	UGUAAACAUCCUACACUCAGCUau	
4	0, 0	UGUAAACAUCCUACACUCAGCUu	
14	0, 0	UGUAAACAUCCUACACUCAGCUuu	
4	0, 0	GUAACAUCCUACACUCAGCU	
2	1, 0	CUGGGAGGUGGAUGUUUA	
15	0, -4	CUGGGAGGUGGAUGUUUAa	
2	0, -4	CUGGGAGGUGGAUGUUUAu	
2	0, -4	CUGGGAGGUGGAUGUUUAC	
14	0, -3	CUGGGAGGUGGAUGUUUACa	
13	0, -3	CUGGGAGGUGGAUGUUUACaa	
3	0, -3	CUGGGAGGUGGAUGUUUACU	
142	0, -2	CUGGGAGGUGGAUGUUUACUa	
13	0, -2	CUGGGAGGUGGAUGUUUACUaa	
8	0, -2	CUGGGAGGUGGAUGUUUACUU	

```

----- 235 0,-1
-----CUGGGAGGUGGAUGUUUACUUa----
----- 75 0,-1
-----CUGGGAGGUGGAUGUUUACUUaa----
----- 37 0,-1
-----CUGGGAGGUGGAUGUUUACUUau----
----- 5 0,-1
-----CUGGGAGGUGGAUGUUUACUUu----
----- 25 0,-1
-----CUGGGAGGUGGAUGUUUACUUC----
----- 20 0,0
-----CUGGGAGGUGGAUGUUUACUUCu----
----- 4 0,0
-----CUGGGAGGUGGAUGUUUACUUCA----
----- 3 0,1
-----UGGGAGGUGGAUGUUUACU-----
----- 4 1,-2
-----UGGGAGGUGGAUGUUUACUU-----
----- 11 1,-1
-----UGGGAGGUGGAUGUUUACUUa----
----- 2 1,-1

```

>hsa-mir-30c-1 MA:17-39;mi:56-77 SRX018957

accaugcuguagugugUGUAAACAUCUACACUCUCAGCugugagcucaagguggCUGGGAGAGGGUUGUUUACUCCuuc
ugccaugga

.((((((...(((...((((((((...(((...(((((((((...(((...)))...)))))))).)))...)))))...)))))...)))).

```

-----UGUAAACAUCUACACUC-----
----- 33 0,-5
-----UGUAAACAUCUACACUCU-----
----- 2 0,-4
-----UGUAAACAUCUACACUCUC-----
----- 12 0,-3
-----UGUAAACAUCUACACUCUCA-----
----- 36 0,-2
-----UGUAAACAUCUACACUCUCAG-----
----- 70 0,-1
-----UGUAAACAUCUACACUCUCAGa-----

```

```

----- 28 0,-1
-----UGUAAACAUCCUACACUCUCAGaa-----
----- 2 0,-1
-----UGUAAACAUCCUACACUCUCAGau-----
----- 3 0,-1
-----UGUAAACAUCCUACACUCUCAGu-----
----- 5 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 183 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 55 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 8 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 7 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 648 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 18 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 24 0,1
-----GUAAACAUCCUACACUCUCAGCU-----
----- 4 1,1
-----CUGGGAGAGGGUUGUUUA-----
----- 7 0,-4
-----CUGGGAGAGGGUUGUUUAa-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUAC-----
----- 5 0,-3
-----CUGGGAGAGGGUUGUUUACa-----
----- 11 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 264 0,-2
-----CUGGGAGAGGGUUGUUUACUa-----
----- 18 0,-2
-----CUGGGAGAGGGUUGUUUACUaa-----
----- 13 0,-2
-----CUGGGAGAGGGUUGUUUACUau-----

```

-----	4	0,-2	-----CUGGGAGAGGGUUGUUUACUu-----
-----	7	0,-2	-----CUGGGAGAGGGUUGUUUACUC-----
-----	62	0,-1	-----CUGGGAGAGGGUUGUUUACUCa-----
-----	6	0,-1	-----CUGGGAGAGGGUUGUUUACUCaa-----
-----	3	0,-1	-----CUGGGAGAGGGUUGUUUACUCC-----
-----	6	0,0	-----CUGGGAGAGGGUUGUUUACUCCa-----
-----	12	0,0	-----CUGGGAGAGGGUUGUUUACUCCau-----
-----	5	0,0	-----CUGGGAGAGGGUUGUUUACUCCU-----
-----	16	0,1	-----UGGGAGAGGGUUGUUUAC-----
-----	3	1,-3	-----UGGGAGAGGGUUGUUUACau-----
-----	2	1,-3	-----UGGGAGAGGGUUGUUUACU-----
-----	33	1,-2	-----UGGGAGAGGGUUGUUUACUaa-----
-----	3	1,-2	-----UGGGAGAGGGUUGUUUACUC-----
-----	10	1,-1	-----UGGGAGAGGGUUGUUUACUCa-----
-----	4	1,-1	-----UGGGAGAGGGUUGUUUACUCaa-----
-----	2	1,-1	-----UGGGAGAGGGUUGUUUACUCC-----
-----	3	1,0	-----UGGGAGAGGGUUGUUUACUCCa-----
-----	4	1,0	-----UGGGAGAGGGUUGUUUACUCCau-----
-----	3	1,0	-----UGGGAGAGGGUUGUUUACUCCU-----

>hsa-mi r-30c-2 MA:7-29;mi:47-68 SRX018957

agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagCUGGGAGAAGGCUGUUUACUCUuucu	
(((((...(((((((.((((...((((((((((.....)))))))))).)))))).))))))....)))	
-----UGUAAACAUCCUACACUC-----	33
0, -5	
-----UGUAAACAUCCUACACUCU-----	2
0, -4	
-----UGUAAACAUCCUACACUCUC-----	12
0, -3	
-----UGUAAACAUCCUACACUCUCA-----	36
0, -2	
-----UGUAAACAUCCUACACUCUCAG-----	70
0, -1	
-----UGUAAACAUCCUACACUCUCAGa-----	28
0, -1	
-----UGUAAACAUCCUACACUCUCAGaa-----	2
0, -1	
-----UGUAAACAUCCUACACUCUCAGau-----	3
0, -1	
-----UGUAAACAUCCUACACUCUCAGu-----	5
0, -1	
-----UGUAAACAUCCUACACUCUCAGC-----	183
0, 0	
-----UGUAAACAUCCUACACUCUCAGCa-----	55
0, 0	
-----UGUAAACAUCCUACACUCUCAGCaa-----	8
0, 0	
-----UGUAAACAUCCUACACUCUCAGCau-----	7
0, 0	
-----UGUAAACAUCCUACACUCUCAGCU-----	648
0, 1	
-----UGUAAACAUCCUACACUCUCAGCUa-----	18
0, 1	
-----UGUAAACAUCCUACACUCUCAGCUu-----	24
0, 1	
-----GUAAACAUCCUACACUCUCAGCU-----	4

1,1	-CUGGGAGAAGGCUGUUUA-----	16
0,-4	-CUGGGAGAAGGCUGUUUAa-----	4
0,-4	-CUGGGAGAAGGCUGUUUAC-----	11
0,-3	-CUGGGAGAAGGCUGUUUACa-----	8
0,-3	-CUGGGAGAAGGCUGUUUACU-----	410
0,-2	-CUGGGAGAAGGCUGUUUACUa-----	22
0,-2	-CUGGGAGAAGGCUGUUUACUaa-----	5
0,-2	-CUGGGAGAAGGCUGUUUACUau-----	2
0,-2	-CUGGGAGAAGGCUGUUUACUu-----	2
0,-2	-CUGGGAGAAGGCUGUUUACUC-----	423
0,-1	-CUGGGAGAAGGCUGUUUACUCa-----	24
0,-1	-CUGGGAGAAGGCUGUUUACUCU-----	87
0,0	-CUGGGAGAAGGCUGUUUACUCUU-----	4
0,1	-UGGGAGAAGGCUGUUUACU-----	23
1,-2	-UGGGAGAAGGCUGUUUACUC-----	34
1,-1	-UGGGAGAAGGCUGUUUACUCU-----	9
1,0	-UGGGAGAAGGCUGUUUACUCUU-----	8
1,1	-GGGAGAAGGCUGUUUACU-----	2
2,-2		

>hsa-mir-30d MA:6-27;mi:46-67 SRX018957

```
guuguUGUAAACAUCCTCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUGUUUGCUGCuac
...((.((((((((((...((((((((((((((...((.....)).)))))))))))).)))))))).))...
----UUGUAAACAUCCTCCGACUGGAAGC----- 5 -1,1
----UUGUAAACAUCCTCCGACUGGAAGCU----- 5 -1,2
----UGUAAACAUCCTCCGACUG----- 84 0,-4
----UGUAAACAUCCTCCGACUGa----- 3 0,-4
----UGUAAACAUCCTCCGACUGG----- 177 0,-3
----UGUAAACAUCCTCCGACUGGA----- 359 0,-2
----UGUAAACAUCCTCCGACUGGAu----- 2 0,-2
----UGUAAACAUCCTCCGACUGGAA----- 1500
0,-1
----UGUAAACAUCCTCCGACUGGAa----- 654 0,-1
----UGUAAACAUCCTCCGACUGGAaa----- 42 0,-1
----UGUAAACAUCCTCCGACUGGAau----- 10 0,-1
----UGUAAACAUCCTCCGACUGGAau----- 60 0,-1
----UGUAAACAUCCTCCGACUGGAuu----- 3 0,-1
----UGUAAACAUCCTCCGACUGGAAG----- 2348
0,0
----UGUAAACAUCCTCCGACUGGAAGa----- 1258
0,0
----UGUAAACAUCCTCCGACUGGAAGaa----- 182 0,0
----UGUAAACAUCCTCCGACUGGAAGau----- 131 0,0
----UGUAAACAUCCTCCGACUGGAAGu----- 164 0,0
----UGUAAACAUCCTCCGACUGGAAGuu----- 19 0,0
----UGUAAACAUCCTCCGACUGGAAGC----- 6528
0,1
----UGUAAACAUCCTCCGACUGGAAGCa----- 1947
0,1
----UGUAAACAUCCTCCGACUGGAAGCaa----- 58 0,1
----UGUAAACAUCCTCCGACUGGAAGCau----- 53 0,1
----UGUAAACAUCCTCCGACUGGAAGCU----- 36201
0,2
----UGUAAACAUCCTCCGACUGGAAGCUa----- 551 0,2
----UGUAAACAUCCTCCGACUGGAAGCUu----- 1458
0,2
----UGUAAACAUCCTCCGACUGGAAGCUG----- 8 0,3
----GUAAACAUCCTCCGACUGGA----- 4 1,-2
```



```

----- 28 0,-1
-----UGUAAACAUCCUUGACUGGAaAa-----
----- 3 0,-1
-----UGUAAACAUCCUUGACUGGAaAu-----
----- 5 0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
----- 255 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
----- 262 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
----- 66 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
----- 15 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
----- 11 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
----- 1153 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
----- 246 0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
----- 2 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
----- 2058 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
----- 59 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
----- 468 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
----- 8 0,3
-----GUAAACAUCCUUGACUGGAAG-----
----- 11 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
----- 16 1,0
-----GUAAACAUCCUUGACUGGAAGaa-----
----- 3 1,0
-----GUAAACAUCCUUGACUGGAAGC-----
----- 39 1,1
-----GUAAACAUCCUUGACUGGAAGCa-----

```

```

----- 16 1,1
-----GUAACAUCUUGACUGGAAGCU-----
----- 57 1,2
-----GUAACAUCUUGACUGGAAGCUa-----
----- 4 1,2
-----GUAACAUCUUGACUGGAAGCUu-----
----- 9 1,2
-----GUAACAUCUUGACUGGAAGCUuu-----
----- 2 1,2
-----GUAACAUCUUGACUGGAAGCUG-----
----- 4 1,3
-----UAAACAUCUUGACUGGAAGCU-----
----- 6 2,2
-----CUUUCAGUCGGAUGUUUA-----
----- 4 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
----- 4 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
----- 5 0,-2
-----CUUUCAGUCGGAUGUUUACAa-----
----- 2 0,-2
-----CUUUCAGUCGGAUGUUUACAG-----
----- 28 0,-1
-----CUUUCAGUCGGAUGUUUACAGa-----
----- 8 0,-1
-----CUUUCAGUCGGAUGUUUACAGu-----
----- 47 0,-1
-----CUUUCAGUCGGAUGUUUACAGC-----
----- 83 0,0
-----CUUUCAGUCGGAUGUUUACAGC-----
a----- 193 0,0
-----CUUUCAGUCGGAUGUUUACAGC-----
aa----- 5 0,0
-----CUUUCAGUCGGAUGUUUACAGC-----
au----- 8 0,0
-----CUUUCAGUCGGAUGUUUACAGC-----
u----- 4 0,0
-----UUUCAGUCGGAUGUUUACA-----

```

```

-----      3      1,-2
-----UUUCAGUCGGAUGUUUACAGa
-----      2      1,-1
-----UUUCAGUCGGAUGUUUACAGu
-----      2      1,-1
-----UUUCAGUCGGAUGUUUACAGC
-----      7      1,0
-----UUUCAGUCGGAUGUUUACAGC
a-----      9      1,0
-----UUUCAGUCGGAUGUUUACAGC
au-----      3      1,0

```

>hsa-mir-31 MA:8-28;mi:44-65 SRX018957

```

ggagaggAGGCAAGAUAGCUUGGCAUAGCUguugaacugggaaccUGCUAUGCCAACAUAUUGCCAUcuuuucc
(((((((.(((((((((.((((((((((.((((.....))))).))))))))).))))).))))))
-----AGGCAAGAUAGCUUGGCAUAGCU----- 14 0,0
-----AGGCAAGAUAGCUUGGCAUAGCUG----- 3 0,1
-----AGGCAAGAUAGCUUGGCAUAGCUGU----- 4 0,2

```

>hsa-mir-3117 3p:46-66 SRX018957

```

cccuaaagggccagacacuaucgagucuaauaagggaaggcauuAUAGGACUCAUAUAGUGCCAGguguuuuguggg
(((((((.(((((((((.((((((((((.((((.....))))).))))))))).))))).))))))
-----AUAGGACUCAUAUAGUGCCAG-----
2 0,0

```

>hsa-mir-3124 5p:7-27 SRX018957

```

gcgggUUCGCGGGCGAAGGCAAAGUCgauuuccaaaagugacuuccucacucccgugaagucggc
((.(((((((((((.(((((((((.((((.....))))).))))))))).))))).))))))
-----UUCGCGGGCGAAGGCAAAGUCG----- 2 0,1

```

>hsa-mir-3127 5p:11-33 SRX018957

```

ggccaggcccAUCAGGGCUUGUGGAAUGGGAAGgagaaggagcgcuucccuucugcaggccugcuggguguggcu
(((((((.(((((((((.((((((((((.((((.....))))).))))))))).))))).))))))
-----AUCAGGGCUUGUGGAAUGGGA-----
2 0,-1

```

>hsa-mir-3129 5p:9-30 SRX018957

```

guacuuggGCAGUAGUGUAGAGAUUGGUUgucuguaaangaauucaaacuaaucucuacacugcugcccaagagc

```


.(((((((((((((((((((.((((.((((((((((.)))))))).)))..))).))))))))).
-----UAUAAAAUGAGGGCAGUAAGA----- 3
0,-1

-----UAGAAGGGGUGAAAUUAAACGU-----
 --- 2 -1,0

```
>hsa-mir-3179-3 3p:52-73      SRX018957
```

caggaucacagacguuuaaaauacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAAUUUAACGUcugugau
ccug
(((((((((((((((((((((((.((((((((((((((((.))))))))))).).)))))))))

))))

-----UAGAAGGGGUGAAAUUAAACGU-----
 ---- 2 -1,0

>hsa-mir-3190 3p:47-69 SRX018957

cuggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugaccccg
 ((((((((((((((.((((((((.((((.((((.((((.(....)))))).)))..))))..)))))).)))))))))
 -----UGGAAGGUAGACGGCCAGAGAG-----

2 2,1
-----UGGAAGGUAGACGGCCAGAGAGa-----
2 2,1

```
>hsa-mir-3191    3p:46-68    SRX018957
```

ggggucaccucucuggccgucuaccuuccacacugacaagggccgUGGGGACGUAGCUGGCCAGACAGgugacccc
 ((((((((((.((((((((.((((.((((.(.....).)))))).))))).)))))).)))))))))
 -----UGGGGACGUAGCUGGCCAGAC-----
 2 0,-2

>hsa-mi r-32 MA:6-27;mi :47-68 SRX018957

-----UAUUGCACAUUACUAAGUUG-----	12	0, -2
-----UAUUGCACAUUACUAAGUUGC-----	22	0, -1

>hsa-mi r-3200 5p:13-34;3p:54-75 SRX018957

>hsa-mir-320a 3p:48-69 SRX018957

gcuucgcuccccuccgccuucucuucccgguucuucccgagucgggAAAAGCUGGGUUGAGAGGGCGAaaaagggaugag
gu

(((((.(((....(((((((((.((((((.((((((.(((....)))))).)))))).)))))).))))).)))))))))

-----GAAAAGCUGGGUUGAGAGG-----

-- 2 -1,-4

-----GAAAAGCUGGGUUGAGAGGGC-----

-- 7 -1,-2

-----GAAAAGCUGGGUUGAGAGGGCG-----

-- 19 -1,-1

-----GAAAAGCUGGGUUGAGAGGGCGu-----

-- 34 -1,-1

-----GAAAAGCUGGGUUGAGAGGGCGuu-----

-- 4 -1,-1

-----GAAAAGCUGGGUUGAGAGGGCGA-----

-- 108 -1,0

-----GAAAAGCUGGGUUGAGAGGGCGAu-----

-- 6 -1,0

-----GAAAAGCUGGGUUGAGAGGGCGAAA-----

-- 2 -1,2

-----AAAAGCUGGGUUGAGAGG-----

-- 95 0,-4

-----AAAAGCUGGGUUGAGAGGG-----

-- 181 0,-3

-----AAAAGCUGGGUUGAGAGGGa-----

-- 17 0,-3

-----AAAAGCUGGGUUGAGAGGGaa-----

-- 15 0,-3

-----AAAAGCUGGGUUGAGAGGGau-----

-- 3 0,-3

-----AAAAGCUGGGUUGAGAGGGC-----

-- 565 0,-2

-----AAAAGCUGGGUUGAGAGGGCu-----

-- 11 0,-2

-----AAAAGCUGGGUUGAGAGGGCuu-----

-- 2 0,-2


```
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 2225 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 1966 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 515 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 13706 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 3140 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 831 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 5488 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 1719 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 227 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 1285 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 445 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 189 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 9 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 23 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 101 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 45 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 23 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 560 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 131 1,0
```

```
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 43 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 458 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 220 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 46 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 262 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 99 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 4 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 48 1,3
-----AAGCUGGGUUGAGAGGGC-----
-- 2 2,-2
-----AAGCUGGGUUGAGAGGGCG-----
-- 6 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 23 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 5 2,0
-----AAGCUGGGUUGAGAGGGCGAuu-----
-- 2 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 44 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 23 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 3 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 76 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 32 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 16 2,3
```

>hsa-mir-320b-1 3p:39-60 SRX018957

aauuauucccucucuucuaguucuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu

.....((((...((((((.....)))))).)))).....

-----GAAAAGCUGGGUUGAGAGG-----

2 -1,-4

-----GAAAAGCUGGGUUGAGAGGGC-----

7 -1,-2

-----GAAAAGCUGGGUUGAGAGGGCAu-----

3 -1,-1

-----AAAAGCUGGGUUGAGAGG-----

95 0,-4

-----AAAAGCUGGGUUGAGAGGG-----

181 0,-3

-----AAAAGCUGGGUUGAGAGGGa-----

17 0,-3

-----AAAAGCUGGGUUGAGAGGGaa-----

15 0,-3

-----AAAAGCUGGGUUGAGAGGGau-----

3 0,-3

-----AAAAGCUGGGUUGAGAGGGC-----

565 0,-2

-----AAAAGCUGGGUUGAGAGGGCu-----

11 0,-2

-----AAAAGCUGGGUUGAGAGGGCuu-----

2 0,-2

-----AAAAGCUGGGUUGAGAGGGCA-----

75 0,-1

-----AAAAGCUGGGUUGAGAGGGCAu-----

115 0,-1

-----AAAAGCUGGGUUGAGAGGGCAuu-----

38 0,-1

-----AAAAGCUGGGUUGAGAGGGCAA-----

167 0,0

-----AAAAGCUGGGUUGAGAGGGCAAu-----

34 0,0

-----AAAAGCUGGGUUGAGAGGGCAAuu-----

6 0,0

GUUGAGAGGGa	17	0, -3	-----AAAAGCUGG
GUUGAGAGGGGaa	15	0, -3	-----AAAAGCUGG
GUUGAGAGGGGau	3	0, -3	-----AAAAGCUGG
GUUGAGAGGGGC	565	0, -2	-----AAAAGCUGG
GUUGAGAGGGGCu	11	0, -2	-----AAAAGCUGG
GUUGAGAGGGGCuu	2	0, -2	-----AAAAGCUGG
GUUGAGAGGGGCA	75	0, -1	-----AAAAGCUGG
GUUGAGAGGGGCAu	115	0, -1	-----AAAAGCUGG
GUUGAGAGGGGCAuu	38	0, -1	-----AAAAGCUGG
GUUGAGAGGGGCAA	167	0, 0	-----AAAAGCUGG
GUUGAGAGGGGCAAu	34	0, 0	-----AAAAGCUGG
GUUGAGAGGGGCAAu	6	0, 0	-----AAAAGCUGG
GUUGAGAGGGGCAAA	19	0, 1	-----AAAAGCUGG
GUUGAGAGGGGCAAAu	7	0, 1	-----AAAAGCUGG
GUUGAGAGGGGCAAAA	6	0, 2	-----AAAAGCUGG
GUUGAGAGGGGCAAAAa	2	0, 2	-----AAAGCUGG
GUUGAGAGGGG	9	1, -3	-----AAAGCUGG
GUUGAGAGGGGC	23	1, -2	-----AAAGCUGG
GUUGAGAGGGGCA	6	1, -1	

```

-----AAAGCUGG
GUUGAGAGGGCAu----- 8 1,-1
-----AAAGCUGG
GUUGAGAGGGCAuu----- 2 1,-1
-----AAAGCUGG
GUUGAGAGGGCAA----- 5 1,0
-----AAAGCUGG
GUUGAGAGGGCAAu----- 4 1,0
-----AAAGCUGG
GUUGAGAGGGCAAA----- 2 1,1
-----AAAGCUGG
GUUGAGAGGGCAAAA----- 2 1,2
-----AAGCUGG
GUUGAGAGGGC----- 2 2,-2

```

>hsa-mir-320c-1 3p:50-69 SRX018957

uuugcauuaaaaaugaggccuucucuuccaguucuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaaaau
gauguagg

.((((((((.....((((((((..((((((((..((((.....))))).)))))))).)))))))).

```

-----GAAAAGCUGGGUUGAGAGG-----
----- 2 -1,-2
-----AAAAGCUGGGUUGAGAGG-----
----- 95 0,-2
-----AAAAGCUGGGUUGAGAGGG-----
----- 181 0,-1
-----AAAAGCUGGGUUGAGAGGGa-----
----- 17 0,-1
-----AAAAGCUGGGUUGAGAGGGaa-----
----- 15 0,-1
-----AAAAGCUGGGUUGAGAGGGau-----
----- 3 0,-1
-----AAAAGCUGGGUUGAGAGGGU-----
----- 77 0,0
-----AAAAGCUGGGUUGAGAGGGUu-----
----- 5 0,0
-----AAAAGCUGGGUUGAGAGGGUuu-----
----- 3 0,0

```

```

-----AAAAGCUGGGUUGAGAGGGUA-----
-----      8      0,1
-----AAAAGCUGGGUUGAGAGGGUAa-----
-----     13      0,1
-----AAAAGCUGGGUUGAGAGGGUAau-----
-----      2      0,1
-----AAAAGCUGGGUUGAGAGGGUAu-----
-----     16      0,1
-----AAAGCUGGGUUGAGAGGG-----
-----      9      1,-1
-----AAAGCUGGGUUGAGAGGGUA-----
-----      3      1,1

```

>hsa-mir-320c-2 3p:31-50 SRX018957

```

cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU
(((((((..(((((((..((((((.....)))))).))))))..))))))..
-----GAAAAGCUGGGUUGAGAGG-- 2 -1,-2
-----AAAAGCUGGGUUGAGAGG-- 95 0,-2
-----AAAAGCUGGGUUGAGAGGG- 181 0,-1
-----AAAAGCUGGGUUGAGAGGGa 17 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 15 0,-1
-----AAAAGCUGGGUUGAGAGGGau 3 0,-1
-----AAAAGCUGGGUUGAGAGGGU 77 0,0
-----AAAAGCUGGGUUGAGAGGGUu 5 0,0
-----AAAAGCUGGGUUGAGAGGGUuu 3 0,0
-----AAAGCUGGGUUGAGAGGG- 9 1,-1

```

>hsa-mir-320d-1 3p:30-48 SRX018957

```

uucucgucccaguucuccaaaguugagAAAAGCUGGGUUGAGAGGA
(((((((..(((((((..((((((.....)))))).))))))..))))))..
-----GAAAAGCUGGGUUGAGAGG- 2 -1,-1
-----AAAAGCUGGGUUGAGAGG- 95 0,-1
-----AAAAGCUGGGUUGAGAGGA 4 0,0
-----AAAAGCUGGGUUGAGAGGAa 7 0,0
-----AAAAGCUGGGUUGAGAGGAaa 6 0,0

```

>hsa-mir-320d-2 3p:30-48 SRX018957

```

uucucuuccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA

```

```

((((((..(((((((.((((((....)))))).)))))).))))..
-----GAAAAGCUGGGUUGAGAGG-    2   -1,-1
-----AAAAGCUGGGUUGAGAGG-    95   0,-1
-----AAAAGCUGGGUUGAGAGGA    4    0,0
-----AAAAGCUGGGUUGAGAGGAa   7    0,0
-----AAAAGCUGGGUUGAGAGGAaa  6    0,0

```

```

>hsa-mir-320e    3p:35-52    SRX018957
gccuucucuuccaguucuccuggagucggggaAAAGCUGGGUUGAGAAGGu
((((((((..(((((((.((((((....)))))).)))))).))))..
-----AAAAGCUGGGUUGAGAAGG-    14   -1,0

```

```

>hsa-mir-323     5p:16-37;3p:51-71    SRX018957
uugguacuuggagagAGGUGGUCCGUGGCGCGUUCGCUuuuauuuauggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc
..(((((((.(((((((.((((((....((.((((.....)))))).))....)))))).))))))
).....
-----AGGUGGUCCGUGGCGCGUUC-----
----- 2    0,-2
-----CGCACAUUACACGGUCGACCU-----
----- 2    -2,-2
-----GCACAUUACACGGUCGAC-----
----- 3    -1,-4
-----GCACAUUACACGGUCGACC-----
----- 3    -1,-3
-----GCACAUUACACGGUCGACCU-----
----- 23   -1,-2
-----GCACAUUACACGGUCGACCUC-----
----- 6    -1,-1
-----GCACAUUACACGGUCGACCUCU-----
----- 4    -1,0
-----CACAUUACACGGUCGACC-----
----- 7    0,-3
-----CACAUUACACGGUCGACCU-----
----- 106  0,-2
-----CACAUUACACGGUCGACCUC-----
----- 8    0,-1

```



```

>hsa-mir-323b    5p:15-37;3p:51-72    SRX018957
ugguacucggaggaggAGGUUGUCCGUGGUGAGUUCGCAuuauuuuaugaugCCCAAUACACGGUCGACCUUuucgguauc
a
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----CCCAAUACACGGUCGACCU-----
-- 44  0,-3
-----CCAAUACACGGUCGACCU-----
-- 2   1,-3

```

```

>hsa-mir-324     5p:16-38;3p:53-72    SRX018957
cugacuaugccucccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagaccACUGCCCCAGGUGCUGCUGGggguagua
guc
..(((((((..(((((((((..(((..(((..(((((((((..(((..(((..((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----CGCAUCCCCUAGGGCAUUG-----
--- 3   0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 3   0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 7   0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 2   0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 10  0,0
-----CGCAUCCCCUAGGGCAUUGGUGUu-----
--- 2   0,0
-----CCACUGCCCCAGGUGCUGCUG-----
--- 6   -2,-1
-----CCACUGCCCCAGGUGCUGCUGGau-----
--- 2   -2,0
-----ACUGCCCCAGGUGCUGCU-----
--- 2   0,-2
-----ACUGCCCCAGGUGCUGCUG-----
--- 10  0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 23  0,0

```

>hsa-mir-326 3p:60-79 SRX018957

cucaucugucuguuagggcuggaggcagggccuuugugaaggcggguggugcucagaucgCCUCUGGGCCCUUCCUCCAGc
cccgaggcggauuca

-----CCUCUGGGCCCUUCCUCCAGa

----- 5 0,0

-----CCUCUGGGCCCUUCCUCCAGu

----- 3 0,0

>hsa-mir-328 3p:48-69 SRX018957

uggagugggggggcaggaggggcucagggagaaagugcauacagcccCUGGCCUCUCUGCCCUUCCGUccccug

-----CUGGCCCUUCUCUGCCCUUCCGU----- 3

 $0,0$

-----CUGGCCCUUCUCUGCCCUUCCGU_a----- 3

0,0

-----CUGGCCCUUCUCUGCCCUUCCGU_{au}----- 2

0.0

-----CUGGCCUCUCUGCCCUUCCGU₁₁----- 3

 $0,0$

-----CUGGCCCUUCUCUGCCCUUCCGUuu----- 3

0.0

>hsa-mi r-330 5p:18-39;3p:57-79 SRX018957

cuuuggcgaucacugccUCUCUGGGCCUGUGUCUAGGCucugcaagaucacccgaGCAAAGCACACGGCCUGCAGAGAg
gcagcgcucugccc

-----UCUCUGGGCCUGUGUCUAGGC_{au}-----

$$----- 2 \quad 0,0$$

-----GCAAAGCACACGGCCUGCA-----

----- 2 0,-4

-----GCAAAGCACACGGCCUGCAGAGA-----

----- 10 0.0

-----CAAAGCACACGGCCUGCAGAGA-----

----- 8 1.0

-----CAAAGCACACGGCCUGCAGAGAG


```

----- 9 0,-4
-----UCCCUGUCCUCCAGGAGCUCA-----
----- 10 0,-2
-----UCCCUGUCCUCCAGGAGCUAu-----
----- 4 0,-2
-----UCCCUGUCCUCCAGGAGCUAuu-----
----- 4 0,-2
-----UCCCUGUCCUCCAGGAGCUCAC-----
----- 5 0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 16 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 6 0,1
-----UCCCUGUCCUCCAGGAGCUCACGUu-----
----- 3 0,1
-----CCUGUCCUCCAGGAGCUCACG-----
----- 4 2,0
-----CCUGUCCUCCAGGAGCUCACGUa-----
----- 2 2,1
-----UGAGCGCCUCGACGACAG-----
----- 7 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 12 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 36 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 15 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 3 0,-2
-----UGAGCGCCUCGACGACAGAGCau-----
----- 4 0,-2
-----UGAGCGCCUCGACGACAGAGCC-----
----- 28 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 37 0,-1
-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 4 0,-1
-----UGAGCGCCUCGACGACAGAGCCau-----

```

```

----- 20 0,-1
-----UGAGCGCCUCGACGACAGAGCCu-----
----- 24 0,-1
-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 17 0,-1
-----UGAGCGCCUCGACGACAGAGCCG-----
----- 18 0,0
-----UGAGCGCCUCGACGACAGAGCCGa-----
----- 2 0,0
-----UGAGCGCCUCGACGACAGAGCCGau-----
----- 3 0,0
-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 5 0,0
-----UGAGCGCCUCGACGACAGAGCCGuu-----
----- 5 0,0
-----GAGCGCCUCGACGACAGAG-----
----- 2 1,-3
-----AGCGCCUCGACGACAGAG-----
----- 24 2,-3
-----AGCGCCUCGACGACAGAGCC-----
----- 2 2,-1
-----AGCGCCUCGACGACAGAGCCG-----
----- 8 2,0
-----AGCGCCUCGACGACAGAGCCGuu-----
----- 2 2,0

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018957

```

cugugGUGCAUUGUAGUUGCAUUGCAuguucugggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((.(.((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GUGCAUUGUAGUUGCAUU----- 121 0,-3
-----GUGCAUUGUAGUUGCAUUG----- 6 0,-2
-----GUGCAUUGUAGUUGCAUUGa----- 2 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 35 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 45 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 41 0,0
-----GUGCAUUGUAGUUGCAUUGCAau----- 3 0,0
-----CAAUGUUUCCACAGUGCAUCA--- 2 0,-1

```


$$----- 2 \quad 0,1$$

>hsa-mi r-342 5p:19-39;3p:61-83 SRX018957

gaaacugggcucaaggugAGGGGUGCUAUCUGUGAUUGAgggacaugguuaauggaauugUCUCACACAGAAUCGCACC
CGUcaccuuggccuacuaa

.....((((.((((((((.(((((((..((((((.....((((((...((...))..)))))).)))))).))))))....
).)))))))))....

-----AGGGGUGCUAUCUGUGAU_a-----

----- 2 0, -3

-----AGGGGUGCUAUCUGUGAUU-----

----- 26 0, -2

-----AGGGGUGCUAUCUGUGAUUG-----

----- 6 0,-1

-----AGGGGUGCUAUCUGUGAUUGA-----

----- 26 0,0

-----AGGGGUGCUAUCUGUGAUUGAaa-----

----- 2 0,0

-----AGGGGUGCUAUCUGUGAUUGAG-----

----- 36 0,1

-----AGGGGUGCUAUCUGUGAUUGAGa-----

----- 6 0,1

-----AGGGGUGCUAUCUGUGAUUGAGu-----

----- 3 0,1

-----AGGGGUGCUAUCUGUGAUUGAGG-----

----- 25 0,2

-----AGGGGUGCUAUCUGUGAUUGAGGG-----

----- 2 0,3

-----AGGGGUGCUAUCUGUGAUUGAGGGA-----

----- 4 0,4

-----GGGGUGCUAUCUGUGAUUGAGGa-----

$$\text{-----} \quad 2 \quad 1, 2$$

-----GGGGUGCUAUCUGUGAUUGAGGGA-----

----- 5 1,4

-----GGGGUGCUAUCUGUGAUUGAGGGAC-----

----- 2 1,5

-----UCUCACACAGAAAUCGCA-----

----- 12 0, -5

-----UCUCACACAGAAAUCGCAC-----

-----	32	0,-4	-----UCUCACACAGAAAUCGCACC
-----	18	0,-3	-----UCUCACACAGAAAUCGCACC
C-----	15	0,-2	-----UCUCACACAGAAAUCGCACC
CG-----	59	0,-1	-----UCUCACACAGAAAUCGCACC
CGU-----	217	0,0	-----UCUCACACAGAAAUCGCACC
CGUa-----	8	0,0	-----UCUCACACAGAAAUCGCACC
CGUu-----	10	0,0	-----UCUCACACAGAAAUCGCACC
CGUC-----	114	0,1	-----UCUCACACAGAAAUCGCACC
CGUCu-----	49	0,1	-----UCUCACACAGAAAUCGCACC
CGUCA-----	32	0,2	-----CUCACACAGAAAUCGCACC
CG-----	3	1,-1	-----UCACACAGAAAUCGCACC
C-----	4	2,-2	-----UCACACAGAAAUCGCACC
CG-----	2	2,-1	-----UCACACAGAAAUCGCACC
CGU-----	7	2,0	-----UCACACAGAAAUCGCACC
CGUaa-----	2	2,0	-----UCACACAGAAAUCGCACC
CGUC-----	3	2,1	-----UCACACAGAAAUCGCACC
CGUCu-----	5	2,1	-----UCACACAGAAAUCGCACC
CGUCA-----	42	2,2	-----UCACACAGAAAUCGCACC
CGUCAu-----	5	2,2	-----UCACACAGAAAUCGCACC

>hsa-mir-345 5p:18-39 SRX018957

acccaaaccuaggucuGCUGACUCCUAGUCCAGGGCUCgugauggcugguggggcccgaaacgaggggucuggaggccug
gguuugaauaucgacgc

...(((((((.((((((((.((((((((.(.(((((((((((..(....)..)))))))))))).).)))))))).).)))))))).
))))))......

-----GCUGACUCCUAGUCCAGG-----

----- 57 0, -4

-----GCUGACUCCUAGUCCAGGG-----

----- 26 0,-3

-----GCUGACUCCUAGUCCAGGGC-----

----- 24 0,-2

-----GCUGACUCCUAGUCCAGGGCU-----

----- 46 0,-1

-----GCUGACUCCUAGUCCAGGGCUa-----

----- 4 0, -1

-----GCUGACUCCUAGUCCAGGGCU_{aa}-----

----- 8 0, -1

-----GCUGACUCCUAGUCCAGGGCU_{au}-----

----- 14 0,-1

-----GCUGACUCCUAGUCCAGGGCUu-----

----- 4 0, -1

-----GCUGACUCCUAGUCCAGGGCUuu-----

----- 12 0, -1

-----GCUGACUCCUAGUCCAGGGCUC-----

----- 50 0,0

-----GCUGACUCCUAGUCCAGGGCUCa-----

----- 4 0,0

-----GCUGACUCCUAGUCCAGGGCUCaa-----

----- 10 0,0

-----GCUGACUCCUAGUCCAGGGCUC_{au}-----

----- 24 0,0

-----GCUGACUCCUAGUCCAGGGCUCuu-----

----- 16 0,0

-----GCUGACUCCUAGUCCAGGGCUCGa-----

----- 3 0,1

>hsa-mi r-34a MA:22-43;mi :64-85 SRX018957

ggccagcugugaguguuucuuUGGCAGUGUCUAGCUGGUUGUugugagcaauaguaaggaagCAAUCAGCAAGUAUACU


```

----- 5 0,-2
-----UGAGGAUGGAUAGCAAGGAAGC-----
----- 5 0,-1
-----UGAGGAUGGAUAGCAAGGAAGCC-----
----- 10 0,0
-----UGAGGAUGGAUAGCAAGGAAGCCu-----
----- 2 0,0

```

>hsa-mi r-361 5p:6-27;3p:45-67 SRX018957

ggagcUUAUCAGAAUCUCCAGGGUACuuuuaauuucaaaaagUCCCCAGGUGUGAUUCUGAUUUgcuuc
((((((..(((((((((.((.((((.((((.....)))))).)).)).)).)).)).)).)).)).))

-----UUAUCAGAAUCUCCAGGG-----	3
0, -4	
-----UUAUCAGAAUCUCCAGGGG-----	11
0, -3	
-----UUAUCAGAAUCUCCAGGGGU-----	11
0, -2	
-----UUAUCAGAAUCUCCAGGGGUA-----	39
0, -1	
-----UUAUCAGAAUCUCCAGGGGUAa-----	23
0, -1	
-----UUAUCAGAAUCUCCAGGGGUAu-----	53
0, -1	
-----UUAUCAGAAUCUCCAGGGGUAuu-----	4
0, -1	
-----UUAUCAGAAUCUCCAGGGGGUAC-----	51
0,0	
-----UUAUCAGAAUCUCCAGGGGGUACa-----	32
0,0	
-----UUAUCAGAAUCUCCAGGGGGUACaa-----	4
0,0	
-----UUAUCAGAAUCUCCAGGGGGUACau-----	4
0,0	
-----UUAUCAGAAUCUCCAGGGGGUACU-----	9
0,1	
-----UCCCCCAGGUGUGAUUCU-----	2
0, -5	
-----UCCCCCAGGUGUGAUUCUGA-----	2


```

----- 11  0,-2
-----UCUCUCGGCUCUCCUCGCGGCU-----
----- 25  0,-1
-----UCUCUCGGCUCUCCUCGCGGCUuu-----
----- 4   0,-1
-----UCUCUCGGCUCUCCUCGCGGCU-----
----- 2   0,0

```

>hsa-mir-362 5p:5-28;3p:42-63 SRX018957

```

cuugAAUCCUUGGAACCUAGGUGUGAGUgcuauuucagugcAACACACCUAUUCAAGGAUUCaAa
.((((((((((((((...((((((((((...((.....))..))..))))))))))))))))).
---AAUCCUUGGAACCUAGGUGUG----- 5  0,-3
---AAUCCUUGGAACCUAGGUGUGA----- 4  0,-2
---AAUCCUUGGAACCUAGGUGUGAGU----- 2  0,0
-----AACACACCUAUUCAAGGAUU----- 3  0,-2
-----AACACACCUAUUCAAGGAUUC--- 2  0,-1
-----AACACACCUAUUCAAGGAUUCA-- 5  0,0
-----AACACACCUAUUCAAGGAUUCAA- 2  0,1

```

>hsa-mir-363 mi:7-28;MA:50-71 SRX018957

```

uguuguCGGGUGGAUCACGAUGCAAUUUgugaugagaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaacc
.(((...((((((((((...(((((((((((((...((.....))).....))))))))))))..)))))))).
-----AAUUGCACGGUAUCCAUC----- 3
0,-4
-----AAUUGCACGGUAUCCAUCU----- 10
0,-3
-----AAUUGCACGGUAUCCAUCUG----- 3
0,-2
-----AAUUGCACGGUAUCCAUCUGU----- 8
0,-1
-----AAUUGCACGGUAUCCAUCUGUA---- 17
0,0
-----AAUUGCACGGUAUCCAUCUGUAuu-- 3
0,0
-----AAUUGCACGGUAUCCAUCUGUAA--- 14
0,1
-----AUUGCACGGUAUCCAUCUGUA---- 3
1,0

```

```

-----AUUGCACGGUAUCCAUCUGUAu--- 2
1,0

>hsa-mir-3647 5p:15-37;3p:62-84 SRX018957
uugcuuucacagcCUGAAGUGAUGAUUCACAUUCAUgucucuucucugauaaaauucuugaAGAAAAUUUUUGUGUGUCU
GAUCagggccucuagagggcag
.(((((((.....(((((((.....(((.((((.....(((((((.....(((.....)))))))).))))).
..)))))))).)))))).
-----AAGAAAAUUUUUGUGUGUCU
GA----- 2 -1,-2

```

```

>hsa-mir-365-1 3p:56-77 SRX018957
accgcaggggaaaaugaggggacuuuugggggcagauguguuuccauuccacuaUAAUGCCCCUAAAAUCCUUAUugc
ucuugca
...(((((((.....(((((((.....(((.(((((((.....(((((((.....(((.....)))))))).))))).
)))))))).
-----AGGGACUUUUGGGGGCAGA-----
----- 2
-----AGGGACUUUUGGGGGCAGAU-----
----- 2
-----AGGGACUUUUGGGGGCAGAUu-----
----- 2
-----AGGGACUUUUGGGGGCAGAUG-----
----- 6
-----AGGGACUUUUGGGGGCAGAU-----
----- 23
-----AGGGACUUUUGGGGGCAGAUa-----
----- 2
-----AGGGACUUUUGGGGGCAGAUaa-----
----- 3
-----AGGGACUUUUGGGGGCAGAUau-----
----- 3
-----AGGGACUUUUGGGGGCAGAUu-----
----- 2
-----AGGGACUUUUGGGGGCAGAUuu-----
----- 3
-----AGGGACUUUUGGGGGCAGAU-----
----- 65

```

```

-----AGGGACUUUUGGGGGCAGAUGUGa-----
----- 4
-----AGGGACUUUUGGGGGCAGAUGUGU-----
----- 59
-----AGGGACUUUUGGGGGCAGAUGUGUU-----
----- 2
-----GGGACUUUUGGGGGCAGAUGUG-----
----- 2
-----GGGACUUUUGGGGGCAGAUGUGU-----
----- 3
-----UAAUGCCCCUAAAAAUCC-----
----- 3 0,-4
-----UAAUGCCCCUAAAAAUCCU-----
----- 2 0,-2
-----UAAUGCCCCUAAAAAUCCUUA-----
----- 3 0,-1
-----UAAUGCCCCUAAAAAUCCUUAU-----
----- 10 0,0

```

>hsa-mir-365-2 mi:29-50;MA:68-89 SRX018957

agaguguucaaggacagcaagaaaaaugAGGGACUUUCAGGGGCAGCUGUguuuucugacucagucaUAAUGCCCCUAAA
AAUCCUUAUuguuucuugcagugugcaucggg

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----GAGGGACUUUCAGGGGCAGCU-----
----- 18 -1,-2
-----GAGGGACUUUCAGGGGCAGCUa-----
----- 2 -1,-2
-----GAGGGACUUUCAGGGGCAGCUG-----
----- 5 -1,-1
-----GAGGGACUUUCAGGGGCAGCUGU-----
----- 31 -1,0
-----GAGGGACUUUCAGGGGCAGCUGUau-----
----- 2 -1,0
-----GAGGGACUUUCAGGGGCAGCUGUu-----
----- 7 -1,0
-----GAGGGACUUUCAGGGGCAGCUGUG-----
----- 3 -1,1

```



```

)))))))))...
-----UCUCAGGAGUAAAGACAGAG--
----- 3
-----UCUCAGGAGUAAAGACAGAGUU
----- 11
-----CAGGAGUAAAGACAGAGUU
----- 6
-----CAGGAGUAAAGACAGAGUU
C----- 2
-----CAGGAGUAAAGACAGAGUU
CCC----- 2

```

```

>hsa-mir-3676 3p:60-79 SRX018957
uugguuaaagcgccugucuaguaaacaggagauccuggguucgaauccagcgguccuCCGUGUUUCCCCACGCUUUu
gcaa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----GUAAACAGGAGAUCCUGG-----
----- 2

```

```

>hsa-mir-3679 5p:6-28;3p:44-65 SRX018957
cguggUGAGGAUAUGGCAGGGAAGGGGAguuuucccucuaauuccCUUCCCCCAGUAAUCUUCAUCaug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGAGGAUAUGGCAGGGAAGGGGA----- 3 0,0
-----UGAGGAUAUGGCAGGGAAGGGGAa----- 2 0,0

```

```

>hsa-mir-3687 3p:35-58 SRX018957
cgcgcgugcgcccgagcgcgggcccgugguuccuCCCGGACAGGCGUUCGUGCGACGugug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CCGGACAGGCGUUCGUGCGAC----- 3 1,-2

```

```

>hsa-mir-369 5p:9-30;3p:44-64 SRX018957
uugaagggAGAU CGACCGUGUUAUAUUCGCUuuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAU CGACCGUGUUAUAU- 3 0,-3
-----AGAU CGACCGUGUUAUAUUC- 21 0,-2
-----AGAU CGACCGUGUUAUAUUCG- 6 0,-1
-----AGAU CGACCGUGUUAUAUUCGCU- 4 0,1

```


>hsa-mir-374a MA:12-33;mi:42-63 SRX018957

uacaucggccaUUAUAAUACAACCUGAUAGUGuuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((((.((((((((((((((.((((((((((((((...)))))))))))).)))))))))))).))))))

-----UUAUAAUACAACCUGAUAA-----	76
0,-3	
-----UUAUAAUACAACCUGAUAG-----	20
0,-2	
-----UUAUAAUACAACCUGAUAGa-----	2
0,-2	
-----UUAUAAUACAACCUGAUAGU-----	182
0,-1	
-----UUAUAAUACAACCUGAUAGUa-----	21
0,-1	
-----UUAUAAUACAACCUGAUAGUaa-----	9
0,-1	
-----UUAUAAUACAACCUGAUAGUG-----	462
0,0	
-----UUAUAAUACAACCUGAUAGUGa-----	142
0,0	
-----UUAUAAUACAACCUGAUAGUGaa-----	5
0,0	
-----UUAUAAUACAACCUGAUAGUGU-----	23
0,1	
-----UAUAAUACAACCUGAUAGU-----	2
1,-1	
-----UAUAAUACAACCUGAUAGUG-----	2
1,0	
-----CUUAUCAGAUUGUAUUGU-----	4
0,-4	
-----CUUAUCAGAUUGUAUUGUAA-----	7
0,-2	
-----CUUAUCAGAUUGUAUUGUAAU-----	31
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUa-----	2
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUU-----	72
0,0	
-----CUUAUCAGAUUGUAUUGUAAUUa-----	55

-----UUUGUUCGUUCGGCUCGCGUGAu--	36	0,0
-----UUUGUUCGUUCGGCUCGCGUGAuu-	3	0,0
-----UUUGUUCGUUCGGCUCGCGUGAG--	3	0,1
-----UUGUUCGUUCGGCUCGCGUG----	11	1,-1
-----UUGUUCGUUCGGCUCGCGUGA---	6	1,0
-----UUGUUCGUUCGGCUCGCGUGAaa-	2	1,0

>hsa-mir-376c 3p:43-63 SRX018957

aaaagguggauauuccuucuauguuuanguuauuuauugguuaAACAUAGAGGAAAUUCCACGUuuu
 ((((((((.....))))))))))..)))))))))
 -----AACAUAGAGGAAAUUCCAC----- 3 0,-2
 -----AACAUAGAGGAAAUUCCACG---- 10 0,-1
 -----AACAUAGAGGAAAUUCCACGU--- 71 0,0
 -----AACAUAGAGGAAAUUCCACGUa-- 3 0,0
 -----AACAUAGAGGAAAUUCCACGUU-- 9 0,1
 -----AACAUAGAGGAAAUUCCACGUUa- 2 0,1
 -----ACAUAGAGGAAAUUCCACGUUU- 2 1,2

>hsa-mir-377 mi:7-28;MA:45-66 SRX018957

uugagcAGAGGUUGCCCUUGGUGAAUUCgcuuuuuuanguugaAUCACACAAAGGCAACUUUUGUuug
 ..((((((((((((((((.....))))))))))..)))))))))
 -----AGAGGUUGCCCUUGGUGAA----- 2 0,-3
 -----AGAGGUUGCCCUUGGUGAAUU----- 32 0,-1
 -----AGAGGUUGCCCUUGGUGAAUUC----- 12 0,0
 -----AGAGGUUGCCCUUGGUGAAUUCa----- 2 0,0
 -----AUCACACAAAGGCAACUUUUGU--- 5 0,0

>hsa-mir-378 mi:5-26;MA:43-63 SRX018957

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu
 ((((((((.....))))))))))..)))))))))
 ----CUCCUGACUCCAGGUCCUG----- 2 0,-3
 ----CUCCUGACUCCAGGUCCUGUGU----- 4 0,0
 ----UCCUGACUCCAGGUCCUGUGU----- 27 1,0
 ----UCCUGACUCCAGGUCCUGUGUa----- 8 1,0
 ----UCCUGACUCCAGGUCCUGUGUaa----- 4 1,0
 ----UCCUGACUCCAGGUCCUGUGUau----- 5 1,0
 ----UCCUGACUCCAGGUCCUGUGUu----- 3 1,0
 ----UCCUGACUCCAGGUCCUGUGUGU----- 4 1,2

-----GCACUGGACUUGGAGUCAGAAG----	5	-2,-1
-----GCACUGGACUUGGAGUCAGAAGa---	2	-2,-1
-----CACUGGACUUGGAGUCAGAAG----	3	-1,-1
-----CACUGGACUUGGAGUCAGAAGG----	30	-1,0
-----CACUGGACUUGGAGUCAGAAGGa--	5	-1,0
-----CACUGGACUUGGAGUCAGAAGGaa-	3	-1,0
-----CACUGGACUUGGAGUCAGAAGGu--	2	-1,0
-----CACUGGACUUGGAGUCAGAAGGC--	19	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa-	20	-1,1
-----CACUGGACUUGGAGUCAGAAGGCau	6	-1,1
-----CACUGGACUUGGAGUCAGAAGGCu-	7	-1,1
-----CACUGGACUUGGAGUCAGAAGGCuu	3	-1,1
-----ACUGGACUUGGAGUCAGA-----	110	0,-3
-----ACUGGACUUGGAGUCAGAu-----	2	0,-3
-----ACUGGACUUGGAGUCAGAA-----	340	0,-2
-----ACUGGACUUGGAGUCAGAAa----	36	0,-2
-----ACUGGACUUGGAGUCAGAAaa---	18	0,-2
-----ACUGGACUUGGAGUCAGAAu----	4	0,-2
-----ACUGGACUUGGAGUCAGAAG----	1646	0,-1
-----ACUGGACUUGGAGUCAGAAGGu---	101	0,-1
-----ACUGGACUUGGAGUCAGAAGG----	17900	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	3653	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	403	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	122	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	960	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	142	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	25487	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	18130	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	1742	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	4771	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	10424	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	2987	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	40	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	5	0,2
-----ACUGGACUUGGAGUCAGAAGGCCau	10	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	12	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	5	0,3
-----CUGGACUUGGAGUCAGAA-----	2	1,-2

-----CUGGACUUGGAGUCAGAAa----	2	1,-2
-----CUGGACUUGGAGUCAGAAG----	22	1,-1
-----CUGGACUUGGAGUCAGAAGG---	277	1,0
-----CUGGACUUGGAGUCAGAAGGa--	56	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	18	1,0
-----CUGGACUUGGAGUCAGAAGGau-	3	1,0
-----CUGGACUUGGAGUCAGAAGGu--	23	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	3	1,0
-----CUGGACUUGGAGUCAGAAGGC--	1503	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	515	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	165	1,1
-----CUGGACUUGGAGUCAGAAGGCau	144	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	640	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	478	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	10	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	5	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	7	1,2
-----CUGGACUUGGAGUCAGAAGGCCU	3	1,3
-----CUGGACUUGGAGUCAGAAGGCCUau	2	1,3
-----CUGGACUUGGAGUCAGAAGGCCUu	2	1,3
-----UGGACUUGGAGUCAGAAG----	4	2,-1
-----UGGACUUGGAGUCAGAAGG---	12	2,0
-----UGGACUUGGAGUCAGAAGGa--	5	2,0
-----UGGACUUGGAGUCAGAAGGaa-	5	2,0
-----UGGACUUGGAGUCAGAAGGC--	56	2,1
-----UGGACUUGGAGUCAGAAGGCa-	18	2,1
-----UGGACUUGGAGUCAGAAGGCaa	5	2,1
-----UGGACUUGGAGUCAGAAGGCau	6	2,1
-----UGGACUUGGAGUCAGAAGGCu-	20	2,1
-----UGGACUUGGAGUCAGAAGGCuu	22	2,1

>hsa-mir-378b 3p:34-52 SRX018957

ggucauugagucuucaaggcuaguggaaagagcACUGGACUUGGAGGCAGAAagacc

(((((.(.(((((((((((((.....)))))).)))))))))).))))))

-----ACUGGACUUGGAGGCAGAA----- 199 0,0

>hsa-mir-378c 5p:11-35 SRX018957

ggaggccaucACUGGACUUGGAGUCAGAAGAGUGGagucgggucagacuucaacucugacuuugaagguggugagugccu


```

c
((((((((((((((((.....(((((.....((((((.....)))))))).)))))))).))))))
)
-----CACUGGACUUGGAGUCAGAAG-----
-   3   -1,-5
-----ACUGGACUUGGAGUCAGAAG-----
-  1646   0,-5
-----ACUGGACUUGGAGUCAGAAGu-----
-   101  0,-5
-----ACUGGACUUGGAGUCAGAAGA-----
-   810  0,-4
-----ACUGGACUUGGAGUCAGAAGa-----
-   54   0,-4
-----ACUGGACUUGGAGUCAGAAGaAa-----
-   11   0,-4
-----ACUGGACUUGGAGUCAGAAGAu-----
-    8   0,-4
-----ACUGGACUUGGAGUCAGAAGAu-----
-    2   0,-4
-----CUGGACUUGGAGUCAGAAG-----
-   22   1,-5
-----CUGGACUUGGAGUCAGAAGA-----
-   10   1,-4
-----UGGACUUGGAGUCAGAAG-----
-    4    2,-5
-----UGGACUUGGAGUCAGAAGA-----
-    3    2,-4

```

>hsa-mir-379 MA:6-26;mi:44-65 SRX018957

```

agagaUGGUAGACUAUGGAACGUAGGcguaugauuucugaccUAUGUAACAUGGUCCACUAACUcu
(((((((((.....(((((.....((((((.....)))))))).)))))))).))))))
-----UGGUAGACUAUGGAACGUA----- 4   0,-2
-----UGGUAGACUAUGGAACGUAG----- 39  0,-1
-----UGGUAGACUAUGGAACGUAGG----- 119 0,0
-----UGGUAGACUAUGGAACGUAGGa----- 27  0,0
-----UGGUAGACUAUGGAACGUAGGaa----- 35  0,0
-----UGGUAGACUAUGGAACGUAGGu----- 12  0,0

```

>hsa-mir-381 3p:49-70 SRX018957
uacuuaaagcgagguugcccuuuguauauucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua
(((((((.(.(((.((((((((.((((((((.(.....)))))))))))))))))).)).)).))))))
-----AGCGAGGUUGCCCUUGUAU----- 2

>hsa-mir-382 5p:11-32 SRX018957
uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucauucacggacaacacuuuuuucagua
(((((((.((((((((.((((((((.(.....)))))))))))))).)).))))))
-----GAAGUUGUUCGUGGUGGA-----
2 0,-4
-----GAAGUUGUUCGUGGUGGAU-----
9 0,-3
-----GAAGUUGUUCGUGGUGGAU-----
9 0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
11 0,-1
-----AAGUUGUUCGUGGUGGAUUCGu-----
2 1,0
-----AGUUGUUCGUGGUGGAUUCGCU-----
2 2,2
-----AAUCAUUCACGGACAACAC-----
3
-----AAUCAUUCACGGACAACACU-----
42
-----AAUCAUUCACGGACAACACUU-----
5
-----AAUCAUUCACGGACAACACUUU-----
4
-----AAUCAUUCACGGACAACACUUUa-----
3

>hsa-mir-383 5p:7-28 SRX018957
cuccucAGAUCAGAAGGUGAUUGUGGCUuuggguggauauuaucagccacagcacugccuggucagaaagag
(((.(((.((((((((.((((((((.(.....)))))))))))))).)).))))
-----CAGAUCAGAAGGUGAUUG----- 2
-1,-5
-----CAGAUCAGAAGGUGAUUGGGCa----- 2
-1,-1

-----CAGAU CAGAAGGUGAUUGUGGCU-----	5
-1,0	
-----CAGAU CAGAAGGUGAUUGUGGCUU-----	2
-1,1	
-----CAGAU CAGAAGGUGAUUGUGGCUUU-----	2
-1,2	
-----AGAU CAGAAGGUGAUUGUGGC-----	2
0,-1	
-----AGAU CAGAAGGUGAUUGUGGCau-----	2
0,-1	
-----AGAU CAGAAGGUGAUUGUGGCU-----	84
0,0	
-----AGAU CAGAAGGUGAUUGUGGCUau-----	20
0,0	
-----AGAU CAGAAGGUGAUUGUGGCUU-----	100
0,1	
-----AGAU CAGAAGGUGAUUGUGGCUUa-----	18
0,1	
-----AGAU CAGAAGGUGAUUGUGGCUUaa-----	3
0,1	
-----AGAU CAGAAGGUGAUUGUGGCUUU-----	81
0,2	
-----AGAU CAGAAGGUGAUUGUGGCUUUu-----	5
0,2	
-----GAU CAGAAGGUGAUUGUGGCU-----	5
1,0	
-----GAU CAGAAGGUGAUUGUGGCUU-----	18
1,1	
-----GAU CAGAAGGUGAUUGUGGCUUU-----	13
1,2	

```

>hsa-mir-3910-2 3p:50-69 SRX018957
uuuuuuuguugcuugucuugguuuuugccuuuugugccuugauuaAAAGGCAUAAAACCAAGACAagcaacagaaa
aa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----AAAGGCAUAAAACCAAGACA-----
-- 2 0,0

```

```

>hsa-mir-3928 3p:37-58 SRX018957
gcugaagcucuaagguuccgccugcgggcaggaagcGGAGGAACCUUGGAGCUUCGGC
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----GGAGGAACCUUGGAGCUUCGG- 7 0,-1
-----GGAGGAACCUUGGAGCUUCGGC 9 0,0

```

```

>hsa-mir-3936 3p:66-87 SRX018957
augauucagagcaucuguccagugucugcuguagaucuccucaaauccguguuuggacgcuucuggUAAGGGGUGUAUGGC
AGAUGCAcccagacagaugcacuuggcagca
.(((.(.((.((((((((((.((((((((((((((.((((((((((((((((((((((((((((((((((((((((
))))))....))))))....))))))....))))))....))))))....))))))....))))))....))
-----UAAGGGGUGUAUGGC
AGAUGCA----- 2 0,0

```

```

>hsa-mir-409 5p:15-37;3p:47-68 SRX018957
ugguacucggggagAGGUUACCCGAGCAACUUUGCAUcuggacgacGAAUGUUGCUCGGUGAACCCCUuuucgguauca
.((((((.((.((.((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))....))))))....))))))....))))))....))))))....))))))....))))))....))
-----AGGUUACCCGAGCAACUU-----
4 0,-5
-----AGGUUACCCGAGCAACUU-----
18 0,-4
-----AGGUUACCCGAGCAACUUUG-----
4 0,-3
-----AGGUUACCCGAGCAACUUUGC-----
2 0,-2
-----AGGUUACCCGAGCAACUUUGCA-----
72 0,-1
-----AGGUUACCCGAGCAACUUUGCAa-----
2 0,-1

```

```

-----AGGUUACCCGAGCAACUUUGCAU-----
102 0,0
-----AGGUUACCCGAGCAACUUUGCAUC-----
9 0,1
-----AGGUUACCCGAGCAACUUUGCAUCa-----
2 0,1
-----AGGUUACCCGAGCAACUUUGCAUCU-----
2 0,2
-----CGAAUGUUGCUCGGUGAA-----
13 -1,-5
-----CGAAUGUUGCUCGGUGAAC-----
5 -1,-4
-----CGAAUGUUGCUCGGUGAACCC-----
2 -1,-2
-----CGAAUGUUGCUCGGUGAACCCC-----
2 -1,-1
-----GAAUGUUGCUCGGUGAAC-----
5 0,-4
-----GAAUGUUGCUCGGUGAACCCC-----
3 0,-1
-----GAAUGUUGCUCGGUGAACCCCU-----
7 0,0
-----GAAUGUUGCUCGGUGAACCCCUU-----
2 0,1
-----AAUGUUGCUCGGUGAACCCCU-----
2 1,0

```

>hsa-mir-410 3p:50-70 SRX018957

```

gguaccugagaagagguugucugugaugaguucgcuuuuuuuuuuaugacgAAUAUAACACAGAUGGCCUGUuuucaguacc
(((((((((.((((((.((((((.((((((.((((((.....).))))).)).))))).))))).))))).))))))
-----AAUAUAACACAGAUGGCCU-----
4 0,-2
-----AAUAUAACACAGAUGGCCUGU-----
4 0,0
-----AAUAUAACACAGAUGGCCUGUaa-----
2 0,0

```

>hsa-mir-411 MA:16-36;mi:51-72 SRX018957


```

-----AUCAACAGACAUUAAUUG-----
----- 7 0,-5
-----AUCAACAGACAUUAAUUGG-----
----- 11 0,-4
-----AUCAACAGACAUUAAUUGGG-----
----- 3 0,-3
-----AUCAACAGACAUUAAUUGGGCG-----
----- 4 0,-1
-----AUCAACAGACAUUAAUUGGGCGCa-----
----- 2 0,0

```

>hsa-mir-423 5p:17-39;3p:53-75 SRX018957

```

auaaaggaaguuaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

```

```

....(((((((.((((((((((((((..(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).....)))))))))
)))))).....

```

```

-----CUGAGGGGCAGAGAGCGAGACUUU-----
----- 3 -1,0
-----UGAGGGGCAGAGAGCGAG-----
----- 41 0,-5
-----UGAGGGGCAGAGAGCGAGu-----
----- 5 0,-5
-----UGAGGGGCAGAGAGCGAGA-----
----- 123 0,-4
-----UGAGGGGCAGAGAGCGAGAA-----
----- 20 0,-4
-----UGAGGGGCAGAGAGCGAGAAa-----
----- 19 0,-4
-----UGAGGGGCAGAGAGCGAGAAu-----
----- 2 0,-4
-----UGAGGGGCAGAGAGCGAGAC-----
----- 68 0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 8 0,-3
-----UGAGGGGCAGAGAGCGAGACaa-----
----- 3 0,-3
-----UGAGGGGCAGAGAGCGAGACU-----
----- 71 0,-2

```

```

-----UGAGGGGCAGAGAGCGAGACUa-----
----- 7 0,-2
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 13 0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 11 0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 147 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 76 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 12 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 24 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 1563 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 72 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 12 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 24 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 254 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUa-----
----- 4 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 2 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUC-----
----- 2 0,2
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 11 1,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 3 2,1
-----AAGCUCGGUCUGAGGCCCCUC-----
----- 3 -1,-3
-----AAGCUCGGUCUGAGGCCCCUCAa-----
----- 3 -1,-2

```


-----			-----AAGCUCGGUCUGAGGCCCCUCAu-----
-----	3	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAG-----
-----	5	-1,-1	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGa-----
-----	5	-1,-1	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGU-----
-----	37	-1,0	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGUu-----
-----	2	-1,0	
-----			-----AGCUCGGUCUGAGGCCCC-----
-----	5	0,-5	
-----			-----AGCUCGGUCUGAGGCCCCUC-----
-----	7	0,-3	
-----			-----AGCUCGGUCUGAGGCCCCUCA-----
-----	10	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAa-----
-----	2	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAaa-----
-----	4	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAau-----
-----	4	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAu-----
-----	3	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAG-----
-----	30	0,-1	
-----			-----AGCUCGGUCUGAGGCCCCUCAGa-----
-----	10	0,-1	
-----			-----AGCUCGGUCUGAGGCCCCUCAGU-----
-----	170	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUa-----
-----	20	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUaa-----
-----	5	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUau-----
-----	30	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUu-----
-----	23	0,0	

-----AGCUCGGUCUGAGGCCCCUCAGUuu-----
 ----- 9 0,0
 -----GCUCGGUCUGAGGCCCCUCAGU-----
 ----- 4 1,0

>hsa-mir-424 MA:11-32;mi:48-68 SRX018957

cgagggggaacCAGCAGCAAUUAUGUUUUGAAguguucuaaaugguuCAAACGUGAGGCGCUGCUAUacccccucgugg
ggaagguagaaggugggg

.....

-----CAGCAGCAAUUC AUGUUU-----

----- 8 0,-4

-----CAGCAGCAAUUCAUGUUUU-----

----- 12 0,-3

-----CAGCAGCAAUUCAUGUUUUG-----

----- 223 0,-2

-----CAGCAGCAAUUCAUGUUUGA-----

----- 315 0,-1

-----CAGCAGCAAUUCAUGUUUGAu-----

----- 2 0,-1

-----CAGCAGCAAUUGUUUGAA-----

----- 71 0,0

-----CAGCAGCAAUUCAUGUUUUGAAa-----

----- 16 0,0

-----CAGCAGCAAUUGUUUGAAu-----

----- 4 0,0

-----AGCAGCAAUUC AUGUUUUG-----

----- 8 1,-2

-----AGCAGCAAUUC AUGUUUGA-----

----- 9 1,-1

-----CAAACGUGAGGCGCUGCU-----

----- 5 0,-2

-----CAAACGUGAGGCGCUGCUA-----

----- 44 0,-1

-----CAAAACGUGAGGCGCUGCUAa-----

----- 4 0,-1

-----CAAAACGUGAGGCGCUGCUAU-----

----- 430 0,0

```

-----CAAAACGUGAGGCGCUGCUAUu-----
----- 20 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 261 0,1
-----CAAAACGUGAGGCGCUGCUAUa-----
----- 70 0,1
-----CAAAACGUGAGGCGCUGCUAUaa-----
----- 4 0,1
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 35 0,1
-----AAAACGUGAGGCGCUGCUAU-----
----- 11 1,0
-----AAAACGUGAGGCGCUGCUAUA-----
----- 11 1,1
-----AAAACGUGAGGCGCUGCUAUu-----
----- 9 1,1
-----AAACGUGAGGCGCUGCUAUu-----
----- 3 2,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018957

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAAUGUCGUGUCCGCCAgug
cucuuc

(((((.(.(((...(((((((.(.(((((.(((((...))....))))).))))).))))))....)))

```

-----AAUGACACGAUCACUCCCGU-----
----- 2 0,-3
-----AAUGACACGAUCACUCCCGUUG-----
----- 10 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 31 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 6 0,1
-----AUGACACGAUCACUCCCGUUGA-----
----- 9 1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 5 1,1
-----CAUCGGGAAUGUCGUGUC-----
----- 2 -1,-5

```


>hsa-mi r-432 MA:14-36;mi :62-82 SRX018957

ugacuccuccaggUCUUGGAGUAGGUC AUUGGGUGGaucucuaauuuccuuacguggggccaCUGGAUGGCUCCUCCAUGU
CUuggaguagauc

-----UCUUGGAGUAGGUCAUUG-----

----- 6 0, -5

-----UCUUGGAGUAGGUCAUUGaa-----

----- 2 0,-5

-----UCUUGGAGUAGGUCAUUGG-----

----- 67 0,-4

-----UCUUGGAGUAGGUCAUUGGa-----

----- 4 0, -4

-----UCUUGGAGUAGGUCAUUGGaa-----

----- 7 0,-4

-----UCUUGGAGUAGGUCAUUGGG-----

----- 142 0,-3

-----UCUUGGAGUAGGUCAUUGGGa-----

----- 9 0,-3

-----UCUUGGAGUAGGUCAUUGGGaa-----

----- 5 0,-3

-----UCUUGGAGUAGGUCAUUGGGU-----

----- 45 0,-2

-----UCUUGGAGUAGGUCAUUGGGUa-----

----- 13 0,-2

-----UCUUGGAGUAGGUCAUUGGGU_{aa}-----

----- 15 0,-2

-----UCUUGGAGUAGGUCAUUGGGU_{au}-----

----- 26 0,-2

-----UCUUGGAGUAGGUCAUUGGGUuu-----

----- 3 0,-2

-----UCUUGGAGUAGGUCAUUGGGUG-----

----- 48 0,-1

-----UCUUGGAGUAGGUCAUUGGGUGa-----

----- 30 0,-1

-----UCUUGGAGUAGGUCAUUGGGUGaa-----

----- 3 0,-1

```

-----UCUUGGAGUAGGUCAUUGGGUGau-----
----- 2 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 19 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 23 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGu-----
----- 2 0,0

```

```

>hsa-mir-4326 5p:11-30 SRX018957
gcugcucugcUGUUCCUCUGUCUCCCAGACucugggguggauggagcaggucggggggcca
(((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGUUCCUCUGUCUCCCAGACU----- 4 0,1

```

```

>hsa-mir-433 3p:64-85 SRX018957
ccgggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg
((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)...)...)))))...)))))...)))))...)))))...)))))...)))))...)))))...))
)...)...)))))...))
-----AUCAUGAUGGGCUCCUC
G----- 2 0,-4
-----AUCAUGAUGGGCUCCUC
GG----- 2 0,-3
-----AUCAUGAUGGGCUCCUC
GGUG----- 7 0,-1
-----AUCAUGAUGGGCUCCUC
GGUGa----- 6 0,-1
-----AUCAUGAUGGGCUCCUC
GGUGU----- 72 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUa----- 8 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUaa----- 2 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUau----- 3 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUU----- 6 0,1
-----UCAUGAUGGGCUCCUC

```

GGUG----- 2 1,-1
-----UCAUGAUGGGCUCCUC
GGUGU----- 6 1,0

```

-----          9
-----
-----          3
-----
-----          7
-----
-----          2
-----
-----          3
-----

```

>hsa-mir-450b 5p:11-32;3p:48-69 SRX018957

```

gcagaauuauUUUUGCAAUAUGUUCCUGAAUAuguaauauaaguguaUUGGGAUCAUUUUGCAUCCAUAguuuuugua
(((((((((((...(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.
-----UUUUGCAAUAUGUUCCUG-----
10  0,-4
-----UUUUGCAAUAUGUUCCUGA-----
6   0,-3
-----UUUUGCAAUAUGUUCCUGAA-----
16  0,-2
-----UUUUGCAAUAUGUUCCUGAAa-----
3   0,-2
-----UUUUGCAAUAUGUUCCUGAAU-----
6   0,-1
-----UUUUGCAAUAUGUUCCUGAAUA-----
2   0,0
-----UUUUGCAAUAUGUUCCUGAAUAa-----
8   0,0

```

>hsa-mir-451 5p:17-38 SRX018957

```

cuugggaauaggcaaggAAACCGUUACCAUACUGAGUUuaguaaugguaaugguucucuugcuauaccaga
.(((((((((.(((((((((((.(((((((((((.(((((((((((.(((((((((((.(((((((((((.(((((((((((.
-----AAACCGUUACCAUACUG----- 2
0,-4
-----AAACCGUUACCAUACUGAG----- 19
0,-2
-----AAACCGUUACCAUACUGAGU----- 5
0,-1
-----AAACCGUUACCAUACUGAGUU----- 126

```


0,0	-----AAACCGUUACCAUACUGAGUU-----	27
0,1	-----AAACCGUUACCAUACUGAGUUUA-----	4
0,2	-----AAACCGUUACCAUACUGAGUUUAG-----	5
0,3	-----AACCGUUACCAUACUGAGUU-----	2
1,0		

>hsa-mir-452 MA:14-35;mi:58-79 SRX018957
gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc

$$(((.((((((((((\dots(.(((((((((.((((((((((\dots\dots\dots)))))))).).))))))).).)))))$$

-----	AACUGUUUGCAGAGGAAAC-----
-----	7 0,-3
-----	AACUGUUUGCAGAGGAAACU-----
-----	23 0,-2
-----	AACUGUUUGCAGAGGAAACUG-----
-----	3 0,-1
-----	AACUGUUUGCAGAGGAAACUGA-----
-----	2 0,0
-----	AACUGUUUGCAGAGGAAACUGAa-----
-----	2 0,0
-----	AACUGUUUGCAGAGGAAACUGAG-----
-----	5 0,1
-----	AACUGUUUGCAGAGGAAACUGAGA-----
-----	4 0,2

>hsa-mir-455 5p:16-37;3p:54-74 SRX018957
ucccuggcgugagggUAUGUGCCUUUGGACUACAUCGuggaagccagcaccauGCAGUCCAUGGGCAUUAUACACuugccu
caaggccuaugucauc

[illegible]

-----GUAUGUGCCUUGGACUACA-----
-----4-1,-3-----
-----GUAUGUGCCUUGGACUACAU-----

```

----- 18 -1,-2
-----GUAUGUGCCUUUGGACUACAUC-----
----- 4 -1,-1
-----GUAUGUGCCUUUGGACUACAUCG-----
----- 7 -1,0
-----GUAUGUGCCUUUGGACUACAUCGU-----
----- 5 -1,1
-----UAUGUGCCUUUGGACUACA-----
----- 3 0,-3
-----UAUGUGCCUUUGGACUACAU-----
----- 5 0,-2
-----UAUGUGCCUUUGGACUACAUC-----
----- 39 0,-1
-----UAUGUGCCUUUGGACUACAUCa-----
----- 2 0,-1
-----UAUGUGCCUUUGGACUACAUCG-----
----- 127 0,0
-----UAUGUGCCUUUGGACUACAUCGa-----
----- 9 0,0
-----UAUGUGCCUUUGGACUACAUCGU-----
----- 48 0,1
-----UAUGUGCCUUUGGACUACAUCGUG-----
----- 3 0,2
-----AUGUGCCUUUGGACUACAUCGU-----
----- 2 1,1
-----UGUGCCUUUGGACUACAUCGU-----
----- 2 2,1
-----UGUGCCUUUGGACUACAUCGUG-----
----- 4 2,2
-----UGUGCCUUUGGACUACAUCGUGa-----
----- 3 2,2
-----UGUGCCUUUGGACUACAUCGUGu-----
----- 5 2,2
-----AUGCAGUCCAUGGGCAUA-----
----- 3 -2,-5
-----AUGCAGUCCAUGGGCAUAU-----
----- 11 -2,-4
-----AUGCAGUCCAUGGGCAUAUA-----

```

-----	3	-2,-3	-----AUGCAGUCCAUGGGCAUAUAa-----
-----	2	-2,-3	-----AUGCAGUCCAUGGGCAUAUAu-----
-----	3	-2,-3	-----AUGCAGUCCAUGGGCAUAUAC-----
-----	32	-2,-2	-----AUGCAGUCCAUGGGCAUAUACA-----
-----	56	-2,-1	-----AUGCAGUCCAUGGGCAUAUACAa-----
-----	2	-2,-1	-----AUGCAGUCCAUGGGCAUAUACAC-----
-----	28	-2,0	-----AUGCAGUCCAUGGGCAUAUACACa-----
-----	2	-2,0	-----AUGCAGUCCAUGGGCAUAUACACU-----
-----	12	-2,1	-----UGCAGUCCAUGGGCAUAUAU-----
-----	2	-1,-4	-----UGCAGUCCAUGGGCAUAUAC-----
-----	5	-1,-2	-----UGCAGUCCAUGGGCAUAUACA-----
-----	23	-1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	13	-1,0	-----UGCAGUCCAUGGGCAUAUACACa-----
-----	3	-1,0	-----UGCAGUCCAUGGGCAUAUACACU-----
-----	3	-1,1	-----GCAGUCCAUGGGCAUAUAa-----
-----	4	0,-3	-----GCAGUCCAUGGGCAUAUAu-----
-----	3	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	29	0,-2	-----GCAGUCCAUGGGCAUAUACu-----
-----	5	0,-2	-----GCAGUCCAUGGGCAUAUACA-----

-----	186	0,-1	-----GCAGUCCAUGGGCAUAUACa-----
-----	12	0,-1	-----GCAGUCCAUGGGCAUAUACau-----
-----	3	0,-1	-----GCAGUCCAUGGGCAUAUACauu-----
-----	4	0,-1	-----GCAGUCCAUGGGCAUAUACAC-----
-----	254	0,0	-----GCAGUCCAUGGGCAUAUACACa-----
-----	65	0,0	-----GCAGUCCAUGGGCAUAUACACaa-----
-----	4	0,0	-----GCAGUCCAUGGGCAUAUACACU-----
-----	286	0,1	-----GCAGUCCAUGGGCAUAUACACUa-----
-----	9	0,1	-----GCAGUCCAUGGGCAUAUACACUau-----
-----	3	0,1	-----GCAGUCCAUGGGCAUAUACACUU-----
-----	14	0,2	-----GCAGUCCAUGGGCAUAUACACUUa-----
-----	2	0,2	-----GCAGUCCAUGGGCAUAUACACUUu-----
-----	6	0,2	-----CAGUCCAUGGGCAUAUACA-----
-----	7	1,-1	-----CAGUCCAUGGGCAUAUACAC-----
-----	62	1,0	-----CAGUCCAUGGGCAUAUACACU-----
-----	61	1,1	-----CAGUCCAUGGGCAUAUACACUa-----
-----	3	1,1	-----CAGUCCAUGGGCAUAUACACUU-----
-----	38	1,2	-----CAGUCCAUGGGCAUAUACACUUa-----
-----	18	1,2	-----CAGUCCAUGGGCAUAUACACUUu-----

```

----- 36 1,2
-----CAGUCCAUGGGCAUAUACACUuu--
----- 3 1,2
-----AGUCCAUGGGCAUAUACAC-----
----- 2 2,0
-----AGUCCAUGGGCAUAUACACU-----
----- 2 2,1
-----AGUCCAUGGGCAUAUACACUU----
----- 2 2,2

```

>hsa-mir-483 5p:8-29;3p:48-68 SRX018957

```

gagggggAAGACGGGAGGAAAGAAGGGAGugguuccaucagccuccUCACUCCUCUCCUCCCGUCUUcuccucuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGACGGGAGGAAAGAAG-----
66 0,-4
-----AAGACGGGAGGAAAGAAGa-----
2 0,-4
-----AAGACGGGAGGAAAGAAGG-----
175 0,-3
-----AAGACGGGAGGAAAGAAGGa-----
13 0,-3
-----AAGACGGGAGGAAAGAAGGaa-----
12 0,-3
-----AAGACGGGAGGAAAGAAGGu-----
2 0,-3
-----AAGACGGGAGGAAAGAAGGG-----
437 0,-2
-----AAGACGGGAGGAAAGAAGGGu-----
3 0,-2
-----AAGACGGGAGGAAAGAAGGGuu-----
5 0,-2
-----AAGACGGGAGGAAAGAAGGGA-----
863 0,-1
-----AAGACGGGAGGAAAGAAGGGa-----
303 0,-1
-----AAGACGGGAGGAAAGAAGGGAa-----
162 0,-1
-----AAGACGGGAGGAAAGAAGGGAau-----

```

62 0, -1
-----AAGACGGGAGGAAAGAAGGGAu-----
64 0, -1
-----AAGACGGGAGGAAAGAAGGGAuu-----
48 0, -1
-----AAGACGGGAGGAAAGAAGGGAG-----
1587 0,0
-----AAGACGGGAGGAAAGAAGGGAGa-----
436 0,0
-----AAGACGGGAGGAAAGAAGGGAGaa-----
56 0,0
-----AAGACGGGAGGAAAGAAGGGAGau-----
33 0,0
-----AAGACGGGAGGAAAGAAGGGAGU-----
282 0,1
-----AAGACGGGAGGAAAGAAGGGAGUa-----
14 0,1
-----AAGACGGGAGGAAAGAAGGGAGUaa-----
13 0,1
-----AAGACGGGAGGAAAGAAGGGAGUau-----
26 0,1
-----AAGACGGGAGGAAAGAAGGGAGUu-----
37 0,1
-----AAGACGGGAGGAAAGAAGGGAGUuu-----
24 0,1
-----AAGACGGGAGGAAAGAAGGGAGUG-----
4 0,2
-----AAGACGGGAGGAAAGAAGGGAGUGG-----
10 0,3
-----AGACGGGAGGAAAGAAGG-----
12 1, -3
-----AGACGGGAGGAAAGAAGGG-----
18 1, -2
-----AGACGGGAGGAAAGAAGGGA-----
36 1, -1
-----AGACGGGAGGAAAGAAGGGAG-----
68 1,0
-----AGACGGGAGGAAAGAAGGGAGa-----

```

3    1,0
-----AGACGGGAGGAAAGAAGGGAGU-----
46   1,1
-----AGACGGGAGGAAAGAAGGGAGUu-----
2    1,1
-----AGACGGGAGGAAAGAAGGGAGUG-----
14   1,2
-----AGACGGGAGGAAAGAAGGGAGUGG-----
89   1,3
-----AGACGGGAGGAAAGAAGGGAGUGGU-----
4    1,4
-----UCACUCCUCUCCUCCCGUCUUC-----
2    0,1
-----CACUCCUCUCCUCCCGUCUUC-----
3    1,1
-----CACUCCUCUCCUCCCGUCUUCU-----
2    1,2

```

>hsa-mir-484 5p:8-29 SRX018957

```

agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaauagggacuucccggggggugaccucggcuuuuuuggcg
.(((...(((((((.....(((.(((((((...(((.((((.....))))).))))).))))).))))).))))).
-----UCAGGCUCAGUCCCCUCCCGuu-----
2    0,-2
-----UCAGGCUCAGUCCCCUCCCGA-----
7    0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
15   0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
2    0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
40   0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
8    0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
11   0,1
-----UCAGGCUCAGUCCCCUCCCGAUAu-----
3    0,1
-----UCAGGCUCAGUCCCCUCCCGAUAa-----

```

```

3    0,2
-----AGGCUCAGUCCCCUCCCGA-----
2    2,-1
-----AGGCUCAGUCCCCUCCCGAU-----
2    2,0

>hsa-mir-485    5p:9-30;3p:46-67    SRX018957
acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((...((((((((...((((((((((((...((((((((((((...))))))))))...))))))))))...)))
-----AGAGGCUGGCCGUGAUGA----- 4
0,-4
-----AGAGGCUGGCCGUGAUGAA----- 13
0,-3
-----AGAGGCUGGCCGUGAUGAAU----- 12
0,-2
-----AGAGGCUGGCCGUGAUGAAU----- 276
0,-1
-----AGAGGCUGGCCGUGAUGAAUa----- 6
0,-1
-----AGAGGCUGGCCGUGAUGAAUu----- 6
0,-1
-----AGAGGCUGGCCGUGAUGAAUUC----- 86
0,0
-----AGAGGCUGGCCGUGAUGAAUUCu----- 4
0,0
-----AGAGGCUGGCCGUGAUGAAUUCG----- 121
0,1
-----AGAGGCUGGCCGUGAUGAAUUCGu----- 15
0,1
-----AGAGGCUGGCCGUGAUGAAUUCGA----- 10
0,2
-----GUCAUACACGGCUCUCCUCUCa----- 4
0,-1
-----GUCAUACACGGCUCUCCUCUCU----- 16
0,0

```

```

>hsa-mir-486    5p:4-25;3p:46-66    SRX018957
gcaUCCUGUACUGAGCUGCCCCGAGgcccuucaugcugcccagcuCGGGGCAGCUCAGUACAGGAUac

```



```

--- 5      0,-1
-----CCCAGAUAAUGGCACUCUCAA-----
--- 3      0,0

>hsa-mir-490      5p:39-58;3p:76-97      SRX018957
uggaggccuugcugguuuggaaagucauuguucgacaCCAUGGAUCUCCAGGUGGGUcaaguuagagaugcacCAACC
UGGAGGACUCCAUGCUGuugagcguguucacaaagcagcggaacacuucca
(((((((.....(((((((.....)))))))))..))))).
)))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----CAACC
UGGAGGACUCCAUG-----3      0,-3
-----CAACC
UGGAGGACUCCAUGC-----2      0,-2
-----CAACC
UGGAGGACUCCAUGCa-----2      0,-2
-----CAACC
UGGAGGACUCCAUGCUG-----9      0,-1
-----CAACC
UGGAGGACUCCAUGCUGa-----5      0,-1
-----CAACC
UGGAGGACUCCAUGCUGu-----5      0,-1
-----CAACC
UGGAGGACUCCAUGCUG-----79     0,0
-----CAACC
UGGAGGACUCCAUGCUGa-----18     0,0
-----CAACC
UGGAGGACUCCAUGCUGUG-----263    0,1
-----CAACC
UGGAGGACUCCAUGCUGUGa-----9      0,1
-----CAACC
UGGAGGACUCCAUGCUGUU-----20     0,2
-----CAACC
UGGAGGACUCCAUGCUGUUu-----3      0,2
-----AACC
UGGAGGACUCCAUGCUG-----2      1,0
-----AACC
UGGAGGACUCCAUGCUG-----10     1,1

```

```

>hsa-mir-491    5p:16-37;3p:50-71    SRX018957
uugacuuagcuggguAGUGGGGAACCCUCCAUGAGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcuggcuggg
uugg
(((((.....))))))
))
-----AGUGGGGAACCCUCCAUGAG-----
----    2    0,-1
-----AGUGGGGAACCCUCCAUGAGGA-----
----    5    0,1

```

```

>hsa-mir-493    mi:16-37;MA:57-78    SRX018957
cuggccuccagggcuUUGUACAUGGUAGGCUUUCAUUCauucguuugcacauucggUGAAGGUCUACUGUGUGCCAGGcc
cugugccag
((((.....))))))
)))
-----UUGUACAUGGUAGGCUUUCA-----
-----    2    0,-2
-----UUGUACAUGGUAGGCUUUCAU-----
-----    2    0,-1
-----UUGUACAUGGUAGGCUUUCAU-----
-----   12    0,0
-----GUACAUGGUAGGCUUUCAU-----
-----    2    2,0
-----UGAAGGUCUACUGUGUGCC-----
-----    2    0,-3
-----UGAAGGUCUACUGUGUGCCAa---
-----    3    0,-2
-----UGAAGGUCUACUGUGUGCCAG---
-----    6    0,-1
-----UGAAGGUCUACUGUGUGCCAGa--
-----    9    0,-1
-----UGAAGGUCUACUGUGUGCCAGaa-
-----    2    0,-1
-----UGAAGGUCUACUGUGUGCCAGG--
-----    8    0,0
-----UGAAGGUCUACUGUGUGCCAGGa-
-----    4    0,0
-----UGAAGGUCUACUGUGUGCCAGGu-

```

$$- - - - - 2 \quad 0,0$$

>hsa-mir-494 3p:48-69 SRX018957

gauacucgaaggagagguuguccguguugucuucucuuuuuuuugaUGAAACAUACACGGGAAACCUCuuuuuuaguau
C

$$\begin{aligned} &(((((((\cdot((((((((((((\cdot(((((((\dots))) \cdot)))))).))))).)))))) \\ &) \end{aligned}$$

-----UGAAACAUACACGGGAAAC-----

- 2 0,-3

-----UGAAACAUACACGGGAAACCU-----

- 6 0,-1

-----UGAAACAUACACGGGAAACCUC-----

- 5 0,0

-----UGAAACAUACACGGGAAACCUCU-----

- 29 0,1

-----GAAACAUACACGGGAAACCU-----

$$-2 \quad 1, -1$$

>hsa-mir-495 3p:50-71 SRX018957

ugguaccugaaaagaaguugcccauguuuuuucgcuuuauaugugacgAAACAAACAUGGUGCACUUCUuuucgguau
ca

-----AAACAAACAUGGUGCACUU-----

-- 2 0,-3

-----AAACAAACAUGGUGCACUUCU-----

-- 13 0.0

-----AAACAAACAUGGUGCACUUCUU_a-----

-- 3 0,0

-----AAACAAACAUGGUGCACUUCUU-----

-- 6 0,1

-----AACAAACAUGGUGCACUUCUUa-----

-- 2 1,0

-----AACAAACAUGGUGCACUUCUU-----

-- 5 1,1

>hsa-mir-496 3p:56-77 SRX018957

cccaagucagguacucgaauggagguuguccauggguguucauuuuuuuugaUGAGUAUUACAUGGCCAUCUCcuu

((((((...(((((.(((.((((((((.((((..((((((((((.....))))))))).))))).)))))))).
))))))))......))))))

----- 2 0, -3

----- 3 0,-1

ccaccccguccugcucccgcccCAGCAGCACACUGUGGUUUGUacggcacuguggccacgucCAAACCACACUGUGGUG
UUAGAgcgagggugggggaggcaccgccgagg

----- 2 0, -3

----- 2 0, -3

----- 17 0,-2

----- 25 0,-1

$$----- \quad 2 \quad 0, -1$$

----- 68 0,0

----- 61 0,1

----- 26 0,1

----- 15 0,1

----- 9 1, -2

----- 23 1, -1

----- 6 1,0

-----AGCAGCACACUGUGGUUUGUA-----

----- 15 1,1
-----AGCAGCACACUGUGGUUUGUAa-----
----- 14 1,1
-----AGCAGCACACUGUGGUUUGUAu-----
----- 5 1,1
-----AGCAGCACACUGUGGUUUGUAC-----
----- 11 1,2
-----AGCAGCACACUGUGGUUUGUACa-----
----- 4 1,2

```

>hsa-mir-499      5p:33-53;3p:70-91      SRX018957
gcccgugccccugugccuugggcgggcggcgUUAAGACUUGCAGUGAUGUUaacuccucuccacgugAACAUACAGC
AAGUCUGUGGCUgcuucccgucccuacgcugccugggcagggg
((((((((((.....((...(((((((.(.((.(.(((((((.(.((((((((((.....)))))))))).))
))))))..)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).))
-----UUAAGACUUGCAGUGAUGU-----
-----2    0,-2
-----UUAAGACUUGCAGUGAUGUU-----
-----19   0,-1
-----UUAAGACUUGCAGUGAUGUUa-----
-----8    0,-1
-----UUAAGACUUGCAGUGAUGUUU-----
-----419  0,0
-----UUAAGACUUGCAGUGAUGUUUu-----
-----6    0,0
-----UUAAGACUUGCAGUGAUGUUUA-----
-----237  0,1
-----UUAAGACUUGCAGUGAUGUUUAu-----
-----3    0,1
-----UUAAGACUUGCAGUGAUGUUUAA-----
-----14   0,2

```

```
>hsa-mir-500a    MA:13-35;mi:52-73    SRX018957
gucucccucucUAAUCCUUGCACCUAGGUGAGAgugcugucugaaugcaAUGCACCUGGGCAAGGAUUCUGagagcgaggagc
(((((((((.....)))))))))..))))).)
-----AAUGCACCUGGGCAAGGA-----
```


Sequence	Length	Score	Sequence
AAUGCACCUGGGCAAGGA	9	0, -4	AAUGCACCUGGGCAAGGAU
AAUGCACCUGGGCAAGGAU	14	0, -3	AAUGCACCUGGGCAAGGAUU
AAUGCACCUGGGCAAGGAUU	40	0, -2	AAUGCACCUGGGCAAGGAUUC
AAUGCACCUGGGCAAGGAUUC	6	0, -1	AAUGCACCUGGGCAAGGAUUCA
AAUGCACCUGGGCAAGGAUUCA	13	0, 0	AAUGCACCUGGGCAAGGAUUCAG
AAUGCACCUGGGCAAGGAUUCAG	8	0, 1	AUGCACCUGGGCAAGGAU
AUGCACCUGGGCAAGGAU	25	1, -3	AUGCACCUGGGCAAGGAUU
AUGCACCUGGGCAAGGAUU	166	1, -2	AUGCACCUGGGCAAGGAUUC
AUGCACCUGGGCAAGGAUUC	21	1, -1	

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgaucggugcucugggguaauuguuuccgcugccagggua
(((((((.((((((((((((((((((.((.(.(.(((((.)))))))).)).)).)))))))).))))))

-----UAGCAGCGGGAACAGUUC-----	257	0, -5
-----UAGCAGCGGGAACAGUUCa-----	27	0, -5
-----UAGCAGCGGGAACAGUUCaa-----	18	0, -5
-----UAGCAGCGGGAACAGUUCU-----	314	0, -4
-----UAGCAGCGGGAACAGUUCUa-----	47	0, -4
-----UAGCAGCGGGAACAGUUCUaa-----	95	0, -4
-----UAGCAGCGGGAACAGUUCUau-----	4	0, -4
-----UAGCAGCGGGAACAGUUCUG-----	21	0, -3
-----UAGCAGCGGGAACAGUUCUGa-----	3	0, -3
-----UAGCAGCGGGAACAGUUCUGaa-----	9	0, -3
-----UAGCAGCGGGAACAGUUCUGCA-----	4	0, -1
-----UAGCAGCGGGAACAGUUCUGCAa-----	5	0, -1
-----UAGCAGCGGGAACAGUUCUGCAu-----	2	0, -1

-----UAGCAGCGGGAACAGUUCUGCAG-----	55	0,0
-----UAGCAGCGGGAACAGUUCUGCAGa-----	2	0,0
-----AGCAGCGGGAACAGUUCU-----	2	1,-4
-----AGCAGCGGGAACAGUUCUGCAG-----	3	1,0

```

>hsa-mir-505      mi:15-36;MA:51-72      SRX018957
gaugcaccaguggGGGAGCCAGGAAGUAUUGAUUucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc
((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.
)))))))))
))))))
-----GGGAGCCAGGAAGUAUUGAU-----
----      5      0,-2
-----GGGAGCCAGGAAGUAUUGAUa-----
----      5      0,-2
-----GGGAGCCAGGAAGUAUUGAUG-----
----     19      0,-1
-----GGGAGCCAGGAAGUAUUGAUGa-----
----      2      0,-1
-----GGGAGCCAGGAAGUAUUGAUGU-----
----    124      0,0
-----GGGAGCCAGGAAGUAUUGAUGUa-----
----     11      0,0
-----GGGAGCCAGGAAGUAUUGAUGUU-----
----    317      0,1

```


(((((.((((..(((..(((((((((((..(((.((((.((((.....)))))))).)))..)))))))).)))..)))..))

-----GUGUCUUUUGCUCUGCAGUCA-----
----- 7 0,0 -----
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 5 -----
-----AAUGUGUAGCAAAAGACAG-----
----- 2 -----
-----AAUGUGUAGCAAAAGACAGA-----
----- 45 -----
-----AAUGUGUAGCAAAAGACAGAA-----
----- 14 -----
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 2 -----
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 7 -----

>hsa-mi r-532 5p:20-41;3p:57-78 SRX018957
cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu
.(.((((((((.....((.(((((((.(((.((((.....)))))))).)))..)))))))).)...
)))))))).).

-----CAUGCCUUGAGUGUAGGA-----
----- 3 0,-4 -----
-----CAUGCCUUGAGUGUAGGACCGU-----
----- 54 0,0 -----
-----CAUGCCUUGAGUGUAGGACCGUa-----
----- 11 0,0 -----
-----CAUGCCUUGAGUGUAGGACCGUU-----
----- 4 0,1 -----
-----CCUCCCACACCCAAGGCUU-----
----- 5 0,-3 -----
-----CCUCCCACACCCAAGGCUUGC-----
----- 8 0,-1 -----
-----CCUCCCACACCCAAGGCUUGCA-----
----- 40 0,0 -----
-----CCUCCCACACCCAAGGCUUGCAu-----
----- 4 0,0 -----

-----CCUCCCACACCCAAGGCUUGCAA-

----- 6 0,1

```
>hsa-mir-539      5p:9-30  SRX018957
```

auacuuugaGGAGAAAUUAUCCUUGGUGUGUucgcuuuuuuuuangaugaaucauacaaggacaauuuucuuuuugaguau
 ((((((.(((((((((.(((((((((.(.....).))))).))))))))).))))))))).))))))
 -----GGAGAAAUUAUCCUUGGUGUGU-----
 2 0,0

>hsa-mi r-542 5p:16-38;3p:53-74 SRX018957

cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAACUGAAAaggucug
ggagccacucaucuua

....((((((((...((((...((((...(((((((((.(((...)))..)))))))))...))))..))))..))))))
))).....

-----UCGGGAUCAUCAUGUCACG-----
-----2 0,-3-----

-----UUGUGACAGAUUGAUAAACU-----

$$----- \quad 2 \quad -1, -4$$

-----UUGUGACAGAUUGAU AACUG-----

----- 2 -1,-3

-----UUGUGACAGAUUGAUAACUGA-----

$$----- \quad 2 \quad -1, -2$$

-----UGUGACAGAUUGAUAAACU-----

----- 16 0,-4

-----UGUGACAGAUUGAUAACUG-----

----- 14 0,-3

-----UGUGACAGAUUGAUAACUGA-----

----- 11 0,-2

-----UGUGACAGAUUGAU AACUGAA-----

----- 24 0,-1

-----UGUGACAGAUUGAUAAACUGAAA-----

----- 26 0,0

>hsa-mi r-543 3p:47-68 SRX018957

uacuuuaugagaaguugcccguuuuuuucgcuuuauugugacgAAACAUUCGCGUGCACUUCUuuucaguauc
(((((((((.(.(((((((.(.(((((((.(.(((.(.(((.....))))).)))....)))).)))))))).)).)))...

-----AAACAUUCGCGGUGCACUU-----

 $2 \quad 0, -3$

```

-----AAACAUUCGCGGUGCACUUCUU-----
5    0,0
-----AAACAUUCGCGGUGCACUUCUU-----
3    0,1

```

```

>hsa-mir-548a-1 3p:61-82    SRX018957
ugcaggaggguauuaaguuggugcaaaaguaauugugauuuuugccauuaaaaguaacgaCAAAACUGGCAAUACUUUU
GCaccaaaccugguauu
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CAAAACUGGCAAUACUUUU
G----- 4    0,-1

```

```

>hsa-mir-548a-2 3p:61-82    SRX018957
ugugauguguauuagguuugugcaaaaguaauugggguuuuugccguuaaaaguaauggCAAAACUGGCAAUACUUUU
GCaccaaacuaauauaa
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CAAAACUGGCAAUACUUUU
G----- 4    0,-1

```

```

>hsa-mir-548a-3 5p:25-46;3p:61-82    SRX018957
ccuagaauguauuaggucggugcAAAAGUAAUUGCGAGUUUUACCAuuacuuaauggCAAAACUGGCAAUACUUUU
GCaccaacguaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CAAAACUGGCAAUACUUUU
G----- 4    0,-1

```

```

>hsa-mir-548b 5p:25-46;3p:61-82    SRX018957
cagacuauauauuagguuggcgcAAAAGUAAUUGUGGUUUUGGCCuuuauuuucaauggCAAGAACCUCAGUUGCUUUU
GUgccaaccuaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAAGUAAUUGUGGUUUUGGCa-----
----- 5    0,-1
-----AAAAGUAAUUGUGGUUUUGGCau-----
----- 2    0,-1

```

```
>hsa-mir-548c    5p:25-46;3p:61-82    SRX018957
cauuggcaucuaauuagguuggugcAAAAGUAAUUGCGGUUUUUGCCauuacuuucaguagCAAAAUCUCAAUUACUUUU
GCaccaacuuaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))...
-----AAAAGUAAUUGCGGUUUUUG-----
-----2    0,-2
```

```
>hsa-mir-548f-1 3p:51-69 SRX018957
auuagguuggugcaaaaguaaucacaguuuuugacauuacuuccaaagacAAAAACUGUAAUACUUUUggaccaaccua
auag
(((((((((((.(((((((((((.(((((((((((.....)))))))))).))))))))).)))))))))
)).
-UUAGGUUGGUGCAAAAGUAAU-----
---- 2
```

>hsa-mir-548f-3 3p:54-72 SRX018957

$$\begin{aligned} &((((((((((((((((((\dots((((((((((\dots)))))))))\dots))))))\dots))))))\dots) \\ &))))\dots \end{aligned}$$

>hsa-mir-548f-4 3p:63-81 SRX018957

>hsa-mir-548h-1 5p:21-42 SRX018957

$$\begin{aligned} & ((((((((\dots))))))\dots))\dots) \\ & \dots) \end{aligned}$$

-----AAGUAAUCGCGUUUUUG-----
----- 2 2,-2 -----

guauuagguuggugcAAAAGUAAUCGCGUUUUUGUCauuacuuaauggcaaacaccacaauuacuuuugcaccaacc
uaauauaa

-----AAAAGUAAUCGCGUUUUUG-----
-----2 0,-2-----

>hsa-mir-548h-3 5p:29-50 SRX018957

UUUUGC----- 3

----- 2 2,-2

>hsa-mir-558 3p:61-79 SRX018957

gugugugugugugugugugguuauuuugguauaguagcucuagacucuauuauaguuuuccUGAGCUGCUGUACCAAAAUa
ccacaaacgggcug

.....(((.(((.(((((.((((((((((((((((((((((..((..((...)))..))..))))))))))))))))))
))))).)))..

>hsa-mir-574 5p:25-47;3p:61-82 SRX018957

gggaccugcgugggugcgggcgugUGAGUGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUCAUGCACACACCCA
CAgccccacacucagg

.....(.(((((.(((((((((.((((((((((((((((((((((..((.....))..))))))))))))))))))
))))).))))).

-----UGAGUGUGUGUGUGUGAG-----	
-----40 0,-5-----	
-----UGAGUGUGUGUGUGUGAGU-----	
-----72 0,-4-----	
-----UGAGUGUGUGUGUGUGAGUaa-----	
-----3 0,-4-----	
-----UGAGUGUGUGUGUGUGAGUG-----	
-----3 0,-3-----	
-----UGAGUGUGUGUGUGUGAGUGU-----	
-----20 0,-2-----	
-----UGAGUGUGUGUGUGUGAGUGUG-----	
-----2 0,-1-----	
-----UGAGUGUGUGUGUGUGAGUGUGa-----	
-----6 0,-1-----	
-----UGAGUGUGUGUGUGUGAGUGUGaa-----	
-----3 0,-1-----	
-----UGAGUGUGUGUGUGUGAGUGUGU-----	
-----14 0,0-----	
-----UGAGUGUGUGUGUGUGAGUGUGUau-----	
-----3 0,0-----	
-----UGAGUGUGUGUGUGUGAGUGUGUG-----	
-----7 0,1-----	
-----UGAGUGUGUGUGUGUGAGUGUGUGa-----	
-----6 0,1-----	
-----UGAGUGUGUGUGUGUGAGUGUGUGU-----	
-----18 0,2-----	

Sequence	Length	Score	Sequence
-			-CACGCUCAUGCACACACC-
8	0,-4		
-			-CACGCUCAUGCACACACCC-
15	0,-3		
-			-CACGCUCAUGCACACACCCA
16	0,-2		
-			-CACGCUCAUGCACACACCCA
a	2	0,-2	
-			-CACGCUCAUGCACACACCCA
u	5	0,-2	
-			-CACGCUCAUGCACACACCCA
C	12	0,-1	
-			-CACGCUCAUGCACACACCCA
Cu	3	0,-1	
-			-CACGCUCAUGCACACACCCA
CA	95	0,0	
-			-CACGCUCAUGCACACACCCA
CAa	7	0,0	
-			-CACGCUCAUGCACACACCCA
CAu	8	0,0	
-			-ACGCUCAUGCACACACCCA
C	2	1,-1	
-			-ACGCUCAUGCACACACCCA
CA	2	1,0	

```

>hsa-mir-576      5p:16-37;3p:55-76      SRX018957
uacaauccaacgaggAUUCUAAUUUCCACGUCUUUgguaauaagguuuggcaAAGAUGUGGAAAAAUUGGAUCcuca
uucgauuggguuaaacca
..(((((((.(.(((((((((((((((.(((((((((((((((.(((.....))).)))))))))))))).)))))))))))))).
)).)))))).
-----AAGAUGUGGAAAAAUUGGAA-----
----- 2      0,-2
-----AAGAUGUGGAAAAAUUGGAU-----
----- 2      0,-1
-----AGAUGUGGAAAAAUUGGAUC-----
----- 2      1,0

```

>hsa-mi r-582 5p:16-38;3p:53-74 SRX018957

aucugugcucuugaUUACAGUUGUUAACCAGUUACUaaucuaacuaauugUAACUGGUUGAACAAACUGAACCCaaagg
gugcaaaguagaaacauu

...(((.....((((((((((((((((((((.....))))))))))))))))))....))))))
)..)).....

-----UAACUGGUUGAACAAACUGA-----
----- 3 0,-3
-----UAACUGGUUGAACAAACUGAA-----
----- 10 0,-2
-----UAACUGGUUGAACAAACUGAAC-----
----- 3 0,-1
-----UAACUGGUUGAACAAACUGAACCC-----
----- 3 0,0
-----UAACUGGUUGAACAAACUGAACCC-----
----- 4 0,1

>hsa-mir-584 5p:16-37 SRX018957

uagggugaccagccaUUAUGGUUUGCCUGGGACUGAGgaauuugcugggauaugucaguuccaggccaaccaggcugguu
ggucuccugaagcaac

(((((.....((((((((((((((((.....))))))))))))))))))....))))))
))))..)))).

-----UUAUGGUUUGCCUGGGAC-----
----- 6 0,-4

>hsa-mir-589 MA:24-45;mi:61-84 SRX018957

uccagccugugcccagcagccccUGAGAACCACGUCUGCUCUGAGcuggguacugccuguUCAGAACAAAUGCCGGUUC
CAGAcgcugccagcuggcc

....(((.....((((((((((((((((.....))))))))))))))))))....))))))
))))..)))).

-----UGAGAACCACGUCUGCUC-----
----- 3 0,-4
-----UGAGAACCACGUCUGCUC-----
----- 2 0,-3

>hsa-mir-590 5p:16-37;3p:56-76 SRX018957

uagccagucagaaauGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUAUGUAUAAGCUAGUcucu
gauugaaacaugcagca

....(((((((.....((((((((((((((((.....))))))))))))))))))....))))))
))))..)))).

--- 3

$$\begin{aligned} & \dots(((\dots((((((\dots(((\dots((\dots(((\dots((((((\dots\dots(((((\dots\dots))).)))))))))\dots)).))\dots)\dots\dots \\ & \dots))\dots))\dots))\dots) \end{aligned}$$

----- 2 0, -4

$$----- \quad 2 \quad 0, -2$$
$$----- \quad 2 \quad 0, -1$$

.((..((..(((.....(((((((..((((((((((..(((.....)))))))).)))))))))
))))))....))..

----- 7

----- 4

----- 2

----- 11

----- 2

----- 4

----- 4


```

-----UGGGAUUACAGGCAUGAGCCA-----
----- 4
-----UGGGAUUACAGGCAUGAGCCAC-----
----- 2
-----GGGAUUACAGGCAUGAGCCAC-----
----- 7

```

```

>hsa-mir-624    mi:16-37;MA:54-74    SRX018957
aaugcuguuucaaggUAGUACCAGUACCUUGUGUUCAguggaaccaagguaaaCACAAGGUAUUGGUAUUACCUugagau
agcauuacaccuaagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----UAGUACCAGUACCUUGUGUUC-----
----- 5    0,-1
-----UAGUACCAGUACCUUGUGUUCA-----
----- 15    0,0

```

```

>hsa-mir-625    MA:15-35;mi:52-73    SRX018957
agggugaggggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUAucccucu
gcccu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----AGGGGGAAAGUUCUAUAGUC-----
----- 18    0,-1
-----AGGGGGAAAGUUCUAUAGUCC-----
----- 3    0,0
-----AGGGGGAAAGUUCUAUAGUCCU-----
----- 5    0,1

```

```

>hsa-mir-628    5p:23-44;3p:61-81    SRX018957
auagcuguugugucacuuccucAUGCUGACAUUUUACUAGAGGguaaaauuaauaaccuUCUAGUAAGAGUGGCAGUCG
Aagggaagggcucau
.....((.(((.(((((.(((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((
..)))))))))).
-----AUGCUGACAUUUUACUA-----
----- 2    0,-4
-----AUGCUGACAUUUUACUAGA-----
----- 3    0,-2

```

```

-----AUGCUGACAUUUUACUAGAG-----
----- 13  0,-1
-----AUGCUGACAUUUUACUAGAGa-----
----- 2   0,-1
-----AUGCUGACAUUUUACUAGAGG-----
----- 8   0,0
-----AUGCUGACAUUUUACUAGAGGa-----
----- 3   0,0
-----AUGCUGACAUUUUACUAGAGGGa-----
----- 2   0,1

```

```

>hsa-mir-629    MA:22-42;mi:61-82    SRX018957
ucccuucccaggggaggggcUGGGUUUACGUUGGGAGAACUuuuacgggugaaccaggagGUUCUCCCAACGUAAGCCCA
GCccucuccucugccu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGGGUUUACGUUGGGAGA-----
----- 76  0,-3
-----UGGGUUUACGUUGGGAGAA-----
----- 51  0,-2

```

```

>hsa-mir-641    5p:16-39    SRX018957
ugggugaaaggaaggAAAGACAUAGGAUAGAGUCACCUCuguccucuguccucuaccuauagaggugacuguccuauguc
uuuccuuccucuuaccccu
.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAGACAUAGGAUAGAGUCA-----
----- 3   0,-4
-----AAAGACAUAGGAUAGAGUCAC-----
----- 10  0,-3
-----AAAGACAUAGGAUAGAGUCACC-----
----- 12  0,-2
-----AAAGACAUAGGAUAGAGUCACCU-----
----- 22  0,-1
-----AAAGACAUAGGAUAGAGUCACCUC-----
----- 4   0,0

```

```

>hsa-mir-652    3p:61-81    SRX018957

```

```

acgauggcuaugcacugcacaacccuaggagagggugccauucacauagacuauaaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----ACAACCCUAGGAGAGGGUGCCAU-----
----- 3
-----AAUGGCGCCACUAGGGUUGU--
----- 10 0,-3
-----AAUGGCGCCACUAGGGUUGU
Ga----- 5 0,0
-----AAUGGCGCCACUAGGGUUGU
Gu----- 11 0,0
-----AAUGGCGCCACUAGGGUUGU
Guu----- 2 0,0
-----AAUGGCGCCACUAGGGUUGU
GC----- 2 0,1

```

```

>hsa-mir-654 5p:16-37;3p:51-72 SRX018957
ggguaaguggaaagaUGGUGGGCCGCAGAACAUGUGCugaguucgugccaUAUGUCUGCUGACCAUCACCUUuagaagcc
c
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----UAUGUCUGCUGACCAUCACCa-----
- 6 0,-2
-----UAUGUCUGCUGACCAUCACCU-----
- 3 0,-1
-----UAUGUCUGCUGACCAUCACCUU-----
- 2 0,0

```

```

>hsa-mir-656 3p:43-63 SRX018957
cugaaauagguugccugugagguguucacuucuaauaugaugAAUAUUAUACAGUCAACCUCUuuccgauaucgauc
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAUAUUAUACAGUCAACCU-----
2 0,-2

```

```

>hsa-mir-659 3p:61-82 SRX018957
uaccgaccucgauuugguucaggaccuucccugaaccaaggaagagucacagucucuucCUUGGUUCAGGGAGGGUCCC
CAacauguccucaugg

```


.....((((...(((((((.((((..((.((((.(.((((.(((((((.....)))))))))))))
).))))).)).))))).))))).))))).

>hsa-mi r-7-3 5p:31-53 SRX018957
agauuagaguggcuguggucuagugcugugUGGAAGACUAGUGAUUUUGUUGUucugauguacuacgacaacaagucaca
gccggccucauagcgcagacucccuucgac

$$\begin{aligned} & \dots\dots(((.((\dots((((.(((((((.(.(.(.(.((((((.((\dots\dots)).))))))))))))))))) \\ &).).).).)))))))))))))))).))\dots \end{aligned}$$

>hsa-mir-708 MA:11-33;mi:57-78 SRX018957
aacugcccucAAGGAGCUUACAAUCUAGCUGGGgguaaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcagggga

..(((((((((.(((((((((((((.(((((.((...((..(((.....)))..)).)).))))).)))))))).))
)))))...


```

-----AAGGAGCUUACAAUCUAGCU-----
-----      7      0,-3
-----AAGGAGCUUACAAUCUAGCUGa-----
-----      3      0,-2
-----AAGGAGCUUACAAUCUAGCUGG-----
-----     13      0,-1
-----AAGGAGCUUACAAUCUAGCUGGa-----
-----      6      0,-1
-----AAGGAGCUUACAAUCUAGCUGGu-----
-----      2      0,-1
-----AAGGAGCUUACAAUCUAGCUGGG-----
-----      6      0,0
-----AACUAGACUGUGAGCUUCUAGA-----
-----      3      1,1

```

>hsa-mi r-720 5p:27-43 SRX018957

```

ccggaucucacacggugguguuaaUAUCUCGCUGGGGCCUCCAaaauguugugcccagggguguuagagaaaacaccaca
cuuugagaugaauaaagaguccuuuuuag
....(((((((.....((((((((((((((((.....((((((.....).)).))))).))))))))).))))).
...)))))).....
-----AUCUCGCUGGGGCCUCCA-----
-----      112     -1,0

```

>hsa-mi r-744 MA:11-32;mi:68-89 SRX018957

```

uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuuacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc
(((((((((.....((((((((((((((((.....))))))))))))))))).)).
))))).))))).)).
-----UGCGGGGCUAGGGCUAACA-----
-----      5      0,-3
-----UGCGGGGCUAGGGCUAACAa-----
-----      2      0,-3
-----UGCGGGGCUAGGGCUAACAG-----
-----     63      0,-2
-----UGCGGGGCUAGGGCUAACAGa-----
-----     24      0,-2
-----UGCGGGGCUAGGGCUAACAGaa-----
-----      7      0,-2

```


-----AUGGUUGACCAGAGAGCACA-----
-----11-----
-----AUGGUUGACCAGAGAGCACAC-----
-----18-----
-----AUGGUUGACCAGAGAGCACACG-----
-----2-----

```

>hsa-mir-765      3p:69-89      SRX018957
uuuagggcgcugaugaaaguggaguucaguagacagcccuuuucaagcccuacgagaaacugggguuucUGGAGGAGAAGG
AAGGUGAUGaaggaucuguucucgugagccugaa
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
...))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUGGAGGAGAAGG
AAGGUGAUG-----2    -2,0
-----UGGAGGAGAAGG
AAGGUGAUGA-----2    0,1

```

```

>hsa-mir-766      3p:65-86      SRX018957
gcauccucaggaccugggcuugggugguaggaggaauuggugcuggucuuucauuuuggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaauugucauaggagc
(((.(((...(((...(((.(((((((...(((...(((.((((...(((.(...(((...(((.(...(((.(...
)))..)))))).))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..
-----AGGAGGAAUUGGUGCUGGUCU-----
----- 5
-----AGGAGGAAUUGGUGCUGGUCUU-----
----- 10
-----AGGAGGAAUUGGUGCUGGUCUa-----
----- 7
-----AGGAGGAAUUGGUGCUGGUCUU-----
----- 11

```

```
>hsa-mir-769      5p:30-51;3p:69-91      SRX018957
gccuuggugcugauuccugggcucugaccUGAGACCUCUGGGUUCUGAGCUGugauguugcucucgagCUGGGAUCUCCG
GGGUCUUGGUUcagggccggggccucuggguccaagc
..((((((.((((((..(((.(((((((((.((.(((((((((.(((.(((.(((((.(((.....))))))))).))))).)))
))))))..).)))))))).))))..)).)).)).))))).
-----UGAGACCUCUGGGUUCUGAG-----
-----7      0,-2
```


-----UCCAUUACACUACCCUGCCUCa-----	2
0,-1	
-----UCCAUUACACUACCCUGCCUCU-----	31
0,0	
-----UCCAUUACACUACCCUGCCUCUa-----	2
0,0	
-----UCCAUUACACUACCCUGCCUCUau-----	3
0,0	
-----CAUUACACUACCCUGCCUCU-----	2
2,0	
-----GAGGCAGCGGGGUGUAGUGGAUA-----	2
-1,0	
-----AGGCAGCGGGGUGUAGUGa-----	2
0,-4	
-----AGGCAGCGGGGUGUAGUGG-----	61
0,-3	
-----AGGCAGCGGGGUGUAGUGGA-----	25
0,-2	
-----AGGCAGCGGGGUGUAGUGGAa-----	4
0,-2	
-----AGGCAGCGGGGUGUAGUGGAaa-----	4
0,-2	
-----AGGCAGCGGGGUGUAGUGGAU-----	33
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUu-----	15
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUA-----	72
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAa-----	33
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAaa-----	15
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAau-----	15
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAu-----	40
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAuu-----	5
0,0	

.((((..((((((((((.((((((((((((((((((.((((((..((.....))..))))).))))))))))))))))).))))))
)))..))))).

-----UCUUUGGUUAUCUAGCUGUAU-----

----- 3 0,-2

-----AUAAGCUAGAUAAACCGAAAGU-----

----- 4 0,0

>hsa-mir-92a-1 mi:11-33;MA:48-69 SRX018957

cuuucuacacAGGUUGGGAUCGGUUGCAAUGCUguguuucuguauggUAUUGCACUUGUCCCGGCCUGUugaguuuugg

..((((..((((((((((((((.((((((((((((((((((.((((((..((.....))..))))).))))))))))))))))).))))).)))).....

-----AGGUUGGGAUCGGUUGCAAU-----

2 0,-3

-----AGGUUGGGAUCGGUUGCAAUG-----

9 0,-2

-----AGGUUGGGAUCGGUUGCAAUGC-----

14 0,-1

-----AGGUUGGGAUCGGUUGCAAUGCa-----

4 0,-1

-----AGGUUGGGAUCGGUUGCAAUGCU-----

196 0,0

-----AGGUUGGGAUCGGUUGCAAUGCUu-----

8 0,0

-----AGGUUGGGAUCGGUUGCAAUGCUuu-----

2 0,0

-----UAUUGCACUUGUCCCGGCC-----

91 0,-4

-----UAUUGCACUUGUCCCGGCCuu-----

2 0,-4

-----UAUUGCACUUGUCCCGGCC-----

195 0,-3

-----UAUUGCACUUGUCCCGGCCU-----

2651 0,-2

-----UAUUGCACUUGUCCCGGCCUau-----

2 0,-2

-----UAUUGCACUUGUCCCGGCCUu-----

3 0,-2

-----UAUUGCACUUGUCCCGGCCUG-----

633 0,-1

		-----UAUUGCACUUGUCCCGGCCUGa-----
8	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGaa-----
16	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGau-----
4	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGU-----
889	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUa-----
188	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUaa-----
87	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUau-----
131	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUU-----
74	0,1	
		-----UAUUGCACUUGUCCCGGCCUGUUa-----
9	0,1	
		-----UAUUGCACUUGUCCCGGCCUGUUau-----
6	0,1	
		-----UAUUGCACUUGUCCCGGCCUGUUu-----
24	0,1	
		-----UAUUGCACUUGUCCCGGCCUGUUuu-----
5	0,1	
		-----AUUGCACUUGUCCCGGCC-----
4	1,-3	
		-----AUUGCACUUGUCCCGGCCU-----
54	1,-2	
		-----AUUGCACUUGUCCCGGCCUG-----
5	1,-1	
		-----AUUGCACUUGUCCCGGCCUGU-----
9	1,0	
		-----AUUGCACUUGUCCCGGCCUGUa-----
2	1,0	
		-----AUUGCACUUGUCCCGGCCUGUau-----
3	1,0	
		-----AUUGCACUUGUCCCGGCCUGUUu-----
2	1,1	


```

-----AUUGCACUUGUCCCGGCCU----- 54
1,-2
-----AUUGCACUUGUCCCGGCCUG----- 5
1,-1
-----AUUGCACUUGUCCCGGCCUGU----- 9
1,0
-----AUUGCACUUGUCCCGGCCUGUa----- 2
1,0
-----AUUGCACUUGUCCCGGCCUGUau----- 3
1,0
-----AUUGCACUUGUCCCGGCCUGUG----- 2
1,1
-----UUGCACUUGUCCCGGCCU----- 2
2,-2

```

>hsa-mir-92b mi:20-41;MA:61-82 SRX018957

cgggccccgggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuuccccgcaaUAUUGCACUCGUCCCGGCCU
CCggcccccccgggccc

.((((((..(((.(((.((((((.(((((((.((((((((((((((.....))))))))))))))))))))).)))
)..)))))))).))))))

```

-----AGGGACGGGACGCGGUGCAGUGU-----
-----3 0,1
-----AGGGACGGGACGCGGUGCAGUGUU-----
-----2 0,2
-----UAUUGCACUCGUCCCGGCC-----
-----20 0,-3
-----UAUUGCACUCGUCCCGGCCU
-----17 0,-2
-----UAUUGCACUCGUCCCGGCCU
aa-----2 0,-2
-----UAUUGCACUCGUCCCGGCCU
C-----12 0,-1
-----UAUUGCACUCGUCCCGGCCU
Ca-----4 0,-1
-----UAUUGCACUCGUCCCGGCCU
Caa-----4 0,-1
-----UAUUGCACUCGUCCCGGCCU
CC-----8 0,0

```

```

-----UAUUGCACUCGUCCCGGCCU
CCa-----      5      0,0
-----UAUUGCACUCGUCCCGGCCU
CCaa-----      6      0,0
-----UAUUGCACUCGUCCCGGCCU
CCau-----      2      0,0
-----UAUUGCACUCGUCCCGGCCU
CCu-----       6      0,0
-----UAUUGCACUCGUCCCGGCCU
CCuu-----      2      0,0

```

>hsa-mir-93 MA:11-33;mi:50-71 SRX018957

```

cuggggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagcccccg
((((((((((..(((((((((((.(((((((((..((.....)).))))))))))))).))))))....)))))))))
-----CAAAGUGCUGUUCGUGCA-----
      20      0,-5
-----CAAAGUGCUGUUCGUGCAG-----
      33      0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
      42      0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
      86      0,-2
-----CAAAGUGCUGUUCGUGCAGGUA-----
     215      0,-1
-----CAAAGUGCUGUUCGUGCAGGUa-----
      26      0,-1
-----CAAAGUGCUGUUCGUGCAGGUa-----
      15      0,-1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
      54      0,0
-----CAAAGUGCUGUUCGUGCAGGUAGa-----
       2      0,0
-----AAAGUGCUGUUCGUGCAG-----
       3      1,-4
-----AAAGUGCUGUUCGUGCAGG-----
       2      1,-3
-----AAAGUGCUGUUCGUGCAGGU-----
       7      1,-2

```

```
>hsa-mir-940      3p:60-80      SRX018957
gugaggugugggggcccgccccaggagcggggccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugaccccac
(((.(((.((((((((.....((((((((((((((..((..(((.....))..))...)).)))).)))))))))
)))))))).)))
-----AAGGCAGGGCCCCCGCUCCCC
-----      2      0,0
```


aacacagugggcacucaauaaaugucuguugaauugaaaugcguuacaUUCAACGGGUUUUAUUGAGCAcccacucugu
g

.(((.((((((..((((((((((..(((((((((((((.)))))))))..)))))))))..))))))..)))

.

-----CUCAAUAAAUGUCUGUUGAAU-----

- 2

-----UUCAACGGGUUUUAUUG-----

- 112 0,-4

-----UUCAACGGGUUUUAUUGA-----

- 67 0,-3

-----UUCAACGGGUUUUAUUGAG-----

- 268 0,-2

-----UUCAACGGGUUUUAUUGAGC-----

- 18 0,-1

-----UUCAACGGGUUUUAUUGAGCA-----

- 20 0,0

-----UUCAACGGGUUUUAUUGAGCAa-----

- 32 0,0

-----UUCAACGGGUUUUAUUGAGCAu-----

- 4 0,0

-----UCAACGGGUUUUAUUGA-----

- 2 1,-3

-----UCAACGGGUUUUAUUGAG-----

- 3 1,-2

-----UCAACGGGUUUUAUUGAGC-----

- 2 1,-1

-----UCAACGGGUUUUAUUGAGCA-----

- 4 1,0

-----UCAACGGGUUUUAUUGAGCAa-----

- 9 1,0

-----UCAACGGGUUUUAUUGAGCAu-----

- 4 1,0

-----CAACGGGUUUUAUUGAGCAa-----

- 2 2,0

-----CAACGGGUUUUAUUGAGCAu-----

- 5 2,0

>hsa-mir-98 5p:22-43 SRX018957

$$\begin{aligned} & .((((\dots(((((((((((((((\dots)))))))))\dots))))))\dots) \\ & \dots)\dots)\dots). \end{aligned}$$

```
>hsa-mir-99a      MA:13-34;mi:50-71      SRX018957
cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g
```



```

-----AACCCGUAGAUCCGAUCU-----
- 531 0,-4
-----AACCCGUAGAUCCGAUCUa-----
- 9 0,-4
-----AACCCGUAGAUCCGAUCUU-----
- 1979 0,-3
-----AACCCGUAGAUCCGAUCUUa-----
- 44 0,-3
-----AACCCGUAGAUCCGAUCUUau-----
- 12 0,-3
-----AACCCGUAGAUCCGAUCUUu-----
- 33 0,-3
-----AACCCGUAGAUCCGAUCUUuu-----
- 17 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 7817 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
- 131 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
- 8 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 45842 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
- 567 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 124 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
- 18 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----
- 113 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----
- 24 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 56791 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 15497 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 374 0,0

```

```

-----AACCCGUAGAUCCGAUCUUGUGau-----
- 29 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 16634 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----
- 67 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 43 0,1
-----ACCCGUAGAUCCGAUCUU-----
- 5 1,-3
-----ACCCGUAGAUCCGAUCUUG-----
- 4 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----
- 41 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 49 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 14 1,0
-----ACCCGUAGAUCCGAUCUUGUGaa-----
- 2 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----
- 23 1,0
-----CAAGCUCGCUUCUAUGGG-----
- 6 0,-4
-----CAAGCUCGCUUCUAUGGGU-----
- 5 0,-3
-----CAAGCUCGCUUCUAUGGGUCU-----
- 17 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 12 0,0
-----CAAGCUCGCUUCUAUGGGUCUGa-----
- 12 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 29 0,1
-----CAAGCUCGCUUCUAUGGGUCUGUu-----
- 2 0,1
-----AAGCUCGCUUCUAUGGGU-----
- 2 1,-3

```

```

-----AAGCUCGCUUCUAUGGGUC-----
- 2 1,-2
-----AAGCUCGCUUCUAUGGGUCUGU-----
- 3 1,1

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018957

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCUU----- 2 0,-3
-----CACCCGUAGAACCGACCUUG----- 11 0,-2
-----CACCCGUAGAACCGACCUUGC----- 123 0,-1
-----CACCCGUAGAACCGACCUUGCa----- 4 0,-1
-----CACCCGUAGAACCGACCUUGCaa----- 2 0,-1
-----CACCCGUAGAACCGACCUUGCau----- 3 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 195 0,0
-----CACCCGUAGAACCGACCUUGCGa----- 86 0,0
-----CACCCGUAGAACCGACCUUGCGaa----- 3 0,0
-----CACCCGUAGAACCGACCUUGCGau----- 2 0,0
-----CACCCGUAGAACCGACCUUGCGu----- 73 0,0
-----CACCCGUAGAACCGACCUUGCGG----- 18 0,1
-----CACCCGUAGAACCGACCUUGCGGu----- 2 0,1
-----ACCCGUAGAACCGACCUUGC----- 3 1,-1
-----ACCCGUAGAACCGACCUUGCG----- 4 1,0
-----ACCCGUAGAACCGACCUUGCGa----- 2 1,0
-----ACCCGUAGAACCGACCUUGCGu----- 2 1,0
-----CAAGCUCGUGUCUGUGGGUC----- 4 0,-2
-----CAAGCUCGUGUCUGUGGGUCu----- 2 0,-2
-----CAAGCUCGUGUCUGUGGGUCC----- 2 0,-1
-----CAAGCUCGUGUCUGUGGGUCCGa----- 7 0,0
-----CAAGCUCGUGUCUGUGGGUCCGU----- 2 0,1

```

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018958

```

ugggaUGAGGUAGUAGGUUGUAUAGUUuuaggguacacccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
(((((((((.....)))))))))))))
----AUGAGGUAGUAGGUUGUAU-----
14 -1,-4
----AUGAGGUAGUAGGUUGUAUAGU-----
4 -1,-1

```

```

-----AUGAGGUAGUAGGUUGUAUAGUU-----
      20  -1,0
-----AUGAGGUAGUAGGUUGUAUAGUUa-----
      3   -1,0
-----AUGAGGUAGUAGGUUGUAUAGUUU-----
      2   -1,1
-----UGAGGUAGUAGGUUGUAU-----
    1382    0,-4
-----UGAGGUAGUAGGUUGUAUu-----
      90    0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
      88    0,-4
-----UGAGGUAGUAGGUUGUAUA-----
    8212    0,-3
-----UGAGGUAGUAGGUUGUAUAa-----
     406    0,-3
-----UGAGGUAGUAGGUUGUAUAaa-----
      95    0,-3
-----UGAGGUAGUAGGUUGUAUAau-----
      15    0,-3
-----UGAGGUAGUAGGUUGUAUAu-----
     148    0,-3
-----UGAGGUAGUAGGUUGUAUAuu-----
      20    0,-3
-----UGAGGUAGUAGGUUGUAUAG-----
    15057   0,-2
-----UGAGGUAGUAGGUUGUAUAGa-----
     361    0,-2
-----UGAGGUAGUAGGUUGUAUAGaa-----
      66    0,-2
-----UGAGGUAGUAGGUUGUAUAGau-----
     191    0,-2
-----UGAGGUAGUAGGUUGUAUAGU-----
    49093   0,-1
-----UGAGGUAGUAGGUUGUAUAGUa-----
    2283    0,-1
-----UGAGGUAGUAGGUUGUAUAGUaa-----
    3110    0,-1

```

-----UGAGGUAGUAGGUUGUAUAGUau-----
 680 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 233014 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 35001 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 4564 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 1317 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 36370 0,1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 895 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUu-----
 15 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUA-----
 11 0,3
 -----GAGGUAGUAGGUUGUAUA-----
 21 1, -3
 -----GAGGUAGUAGGUUGUAUAa-----
 2 1, -3
 -----GAGGUAGUAGGUUGUAUAG-----
 58 1, -2
 -----GAGGUAGUAGGUUGUAUAGau-----
 2 1, -2
 -----GAGGUAGUAGGUUGUAUAGU-----
 177 1, -1
 -----GAGGUAGUAGGUUGUAUAGUa-----
 4 1, -1
 -----GAGGUAGUAGGUUGUAUAGUaa-----
 12 1, -1
 -----GAGGUAGUAGGUUGUAUAGUau-----
 5 1, -1
 -----GAGGUAGUAGGUUGUAUAGUU-----
 759 1,0
 -----GAGGUAGUAGGUUGUAUAGUUa-----
 125 1,0

```

-----GAGGUAGUAGGUUGUAUAGUUaa-----
30  1,0
-----GAGGUAGUAGGUUGUAUAGUUau-----
6   1,0
-----GAGGUAGUAGGUUGUAUAGUUU-----
134 1,1
-----GAGGUAGUAGGUUGUAUAGUUUU-----
7   1,2
-----AGGUAGUAGGUUGUAUAG-----
3   2,-2
-----AGGUAGUAGGUUGUAUAGU-----
11  2,-1
-----AGGUAGUAGGUUGUAUAGUU-----
110 2,0
-----AGGUAGUAGGUUGUAUAGUUa-----
13  2,0
-----AGGUAGUAGGUUGUAUAGUUU-----
28  2,1
-----AGGUAGUAGGUUGUAUAGUUUU-----
2   2,2
-----CUAUACAAUCUACUGUCUU-----
2   0,-2
-----CUAUACAAUCUACUGUCUUU-----
2   0,-1
-----CUAUACAAUCUACUGUCUUUC-----
8   0,0
-----CUAUACAAUCUACUGUCUUUCa-----
2   0,0
-----CUAUACAAUCUACUGUCUUUCu-----
10  0,0
-----CUAUACAAUCUACUGUCUUUCCa-----
2   0,1
-----AUACAAUCUACUGUCUUU-----
2   2,-1
-----AUACAAUCUACUGUCUUUCCU-----
7   2,2

```

agguUGAGGUAGUAGGUUGUAUAGUU	uagaauuacaucaagggagauaaCUGUACAGCCUCCUAGCUUCCu
((((...(((.((((.(((((((((((((((((.....(..(.....)..)))))..)))))).)))..)))).)))	
---UUGAGGUAGUAGGUUGUAUA-	-----2
-1,-3	
---UUGAGGUAGUAGGUUGUAUAG-	-----3
-1,-2	
---UUGAGGUAGUAGGUUGUAUAGU-	-----9
-1,-1	
---UUGAGGUAGUAGGUUGUAUAGUU-	-----6
-1,0	
---UUGAGGUAGUAGGUUGUAUAGUUa-	-----2
-1,0	
---UGAGGUAGUAGGUUGUAU-	-----1382
0,-4	
---UGAGGUAGUAGGUUGUAUu-	-----90
0,-4	
---UGAGGUAGUAGGUUGUAUuu-	-----88
0,-4	
---UGAGGUAGUAGGUUGUAUA-	-----8212
0,-3	
---UGAGGUAGUAGGUUGUAUAa-	-----406
0,-3	
---UGAGGUAGUAGGUUGUAUAaa-	-----95
0,-3	
---UGAGGUAGUAGGUUGUAUAau-	-----15
0,-3	
---UGAGGUAGUAGGUUGUAUAu-	-----148
0,-3	
---UGAGGUAGUAGGUUGUAUAuu-	-----20
0,-3	
---UGAGGUAGUAGGUUGUAUAG-	-----
15057 0,-2	
---UGAGGUAGUAGGUUGUAUAGa-	-----361
0,-2	
---UGAGGUAGUAGGUUGUAUAGaa-	-----66
0,-2	
---UGAGGUAGUAGGUUGUAUAGau-	-----191
0,-2	

----UGAGGUAGUAGGUUGUAUAGU-----	
49093 0, -1	
----UGAGGUAGUAGGUUGUAUAGUa-----	2283
0, -1	
----UGAGGUAGUAGGUUGUAUAGUaa-----	3110
0, -1	
----UGAGGUAGUAGGUUGUAUAGUau-----	680
0, -1	
----UGAGGUAGUAGGUUGUAUAGUU-----	
233014 0,0	
----UGAGGUAGUAGGUUGUAUAGUUa-----	
35001 0,0	
----UGAGGUAGUAGGUUGUAUAGUUaa-----	4564
0,0	
----UGAGGUAGUAGGUUGUAUAGUUau-----	1317
0,0	
----UGAGGUAGUAGGUUGUAUAGUUU-----	
36370 0,1	
----UGAGGUAGUAGGUUGUAUAGUUUA-----	402
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAa-----	11
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAu-----	10
0,2	
----GAGGUAGUAGGUUGUAUA-----	21
1, -3	
----GAGGUAGUAGGUUGUAUAa-----	2
1, -3	
----GAGGUAGUAGGUUGUAUAG-----	58
1, -2	
----GAGGUAGUAGGUUGUAUAGau-----	2
1, -2	
----GAGGUAGUAGGUUGUAUAGU-----	177
1, -1	
----GAGGUAGUAGGUUGUAUAGUa-----	4
1, -1	
----GAGGUAGUAGGUUGUAUAGUaa-----	12
1, -1	

-----GAGGUAGUAGGUUGUAUAGUau-----	5
1,-1	
----GAGGUAGUAGGUUGUAUAGUU-----	759
1,0	
----GAGGUAGUAGGUUGUAUAGUUa-----	125
1,0	
----GAGGUAGUAGGUUGUAUAGUUaa-----	30
1,0	
----GAGGUAGUAGGUUGUAUAGUUau-----	6
1,0	
----GAGGUAGUAGGUUGUAUAGUUU-----	134
1,1	
----GAGGUAGUAGGUUGUAUAGUUUA-----	2
1,2	
----AGGUAGUAGGUUGUAUAG-----	3
2,-2	
----AGGUAGUAGGUUGUAUAGU-----	11
2,-1	
----AGGUAGUAGGUUGUAUAGUU-----	110
2,0	
----AGGUAGUAGGUUGUAUAGUUa-----	13
2,0	
----AGGUAGUAGGUUGUAUAGUUU-----	28
2,1	
>hsa-let-7a-3 MA:4-25;mi:52-72 SRX018958	
gggUGAGGUAGUAGGUUGUAUAGUuuggggcucugcccugcuaugggauaaCUAUACAAUCUACUGUCUUUCcu	
(((((...((((((((((((((((((((((((((...)))))).....))))))))))))))))).)).)))	
--GUGAGGUAGUAGGUUGUAUA-----	2
-1,-3	
--GUGAGGUAGUAGGUUGUAUAG-----	32
-1,-2	
--GUGAGGUAGUAGGUUGUAUAGU-----	42
-1,-1	
--GUGAGGUAGUAGGUUGUAUAGUU-----	25
-1,0	
--UGAGGUAGUAGGUUGUAU-----	1382
0,-4	

---UGAGGUAGUAGGUUGUAUu-----	90
0, -4	
---UGAGGUAGUAGGUUGUAUuu-----	88
0, -4	
---UGAGGUAGUAGGUUGUAUA-----	8212
0, -3	
---UGAGGUAGUAGGUUGUAUAa-----	406
0, -3	
---UGAGGUAGUAGGUUGUAUAaa-----	95
0, -3	
---UGAGGUAGUAGGUUGUAUAau-----	15
0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	148
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	20
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	
15057 0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	361
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	66
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	191
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
49093 0, -1	
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35001 0,0	
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2,-1	

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--- 115 0,-3
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--- 3 0,-3
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--- 158 0,-3
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--- 40 0,-3
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--- 78 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
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-----UGAGGUAGUAGGUUGUGUGGau-----
--- 38 0,-2
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--- 4839 0,-1
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--- 758 0,-1
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--- 3556 0,-1
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--- 2978 0,-1
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--- 345 0,1
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--- 4734 0,1
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--- 193 0,1
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--- 2 1,-3
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--- 17 1,-2
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--- 23 1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 5 1,-1
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--- 32 1,-1
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--- 27 1,-1
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--- 19 1,0
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--- 52 1,0

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--- 12 1,1
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--- 4 1,1
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--- 2 2,-1
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--- 4 2,0
-----AGGUAGUAGGUUGUGUGGUa-----
--- 5 2,0
-----AGGUAGUAGGUUGUGUGGUaa-----
--- 2 2,0
-----AGGUAGUAGGUUGUGUGGUau-----
--- 9 2,0
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 24 2,1
-----AGGUAGUAGGUUGUGUGGUUUu-----
--- 6 2,1
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--- 3 0,-3
-----CUAUACAACCUACUGCCUUC-
--- 3 0,-2
-----CUAUACAACCUACUGCCUUCu
--- 3 0,-2
-----CUAUACAACCUACUGCCUUCC
--- 22 0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 5 0,-1
-----CUAUACAACCUACUGCCUUCC
u-- 45 0,-1
-----CUAUACAACCUACUGCCUUCC
uu- 9 0,-1

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>hsa-let-7c MA:11-32;mi:33-54 SRX018958

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gagc

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---- 7 -2,0

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---- 48 -1,-2

-----UUGAGGUAGUAGGUUGUAUGGU-----

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---- 61 -1,-1

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---- 4 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUau-----

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---- 331 -1,0

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-----UUGAGGUAGUAGGUUGUAUGGUUau-----

---- 5 -1,0

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-----UGAGGUAGUAGGUUGUAUGau-----
---- 4 0,-3
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---- 38 0,-3
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---- 26 0,-3
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---- 148 0,-2
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---- 23601 0,1
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---- 1291 0,1

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---- 27 1,0
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---- 38 1,0
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---- 3 2,-1

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---- 3 2,2

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>hsa-let-7d MA:8-29;mi:62-83 SRX018958

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----- 5 0,1

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----- 5 1,-2
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----- 21 1,-1
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----- 3 1,-1
-----GAGGUAGUAGGUUGCAUAGUau-----
----- 5 1,-1
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----- 4 1,0
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----- 86 1,1
-----GAGGUAGUAGGUUGCAUAGUUUa-----
----- 2 1,1
-----GAGGUAGUAGGUUGCAUAGUUUU-----
----- 4 1,2
-----AGGUAGUAGGUUGCAUAGUU-----
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-----AGGUAGUAGGUUGCAUAGUUa-----
----- 5 2,0
-----AGGUAGUAGGUUGCAUAGUUU-----
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U----- 2 0,-2
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Uu----- 2 0,-2

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55     0, -3
-----UGAGGUAGGAGGUUGUAUAaa-----
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-----UGAGGUAGGAGGUUGUAUAu-----
11     0, -3
-----UGAGGUAGGAGGUUGUAUAuu-----
5      0, -3
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-----UGAGGUAGGAGGUUGUAUAGau-----
38     0, -2
-----UGAGGUAGGAGGUUGUAUAGU-----
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304    0, -1
-----UGAGGUAGGAGGUUGUAUAGUaa-----
811    0, -1
-----UGAGGUAGGAGGUUGUAUAGUau-----
258    0, -1
-----UGAGGUAGGAGGUUGUAUAGUU-----
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4066   0, 0
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752    0, 0

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470 0,1
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4 1,-1
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9 1,0
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2 1,0
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3 1,0
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UCCCUga

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-----UGAGGUAGUAGAUUGUAUuu-----

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----- 178 0,-3

-----UGAGGUAGUAGAUUGUAUAaa-----

----- 64 0,-3

-----UGAGGUAGUAGAUUGUAUAau-----

----- 20 0, -3

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----- 29 0, -3

-----UGAGGUAGUAGAUUGUAUuu-----

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-----UGAGGUAGUAGAUUGUAUAG_{aa}-----

----- 62 0, -2

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----- 70 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGaa-----
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----- 2 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
----- 44 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
----- 217 1,-1
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----- 10 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
----- 32 1,-1
-----GAGGUAGUAGAUUGUAUAGUau-----
----- 4 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
----- 822 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
----- 369 1,0
-----GAGGUAGUAGAUUGUAUAGUUaa-----
----- 44 1,0


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--- 45 0,-4
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--- 81 0,-4
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--- 64 0,-3
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--- 140 0,-2
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--- 46467 0,-1
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--- 1506 0,-1
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--- 4938 0,-1

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--- 63702 0,0
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--- 6331 0,0
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--- 1341 0,0
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--- 38768 0,1
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--- 137 0,1
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--- 9 0,1
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--- 354 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUu-----
--- 4 0,2
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--- 2 1,-3
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--- 44 1,-2
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--- 217 1,-1
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--- 10 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
--- 32 1,-1
-----GAGGUAGUAGAUUGUAUAGUau-----
--- 4 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 822 1,0
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--- 369 1,0

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----    67   0, -1
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----      2      1,-2
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----      6      1,-1
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----GAGGUAGUAGUUUGUACAGUUU-----
----      20      1,1
----AGGUAGUAGUUUGUACAG-----
----      2      2,-2
----AGGUAGUAGUUUGUACAGU-----
----      3      2,-1
----AGGUAGUAGUUUGUACAGUU-----
----      6      2,0
----AGGUAGUAGUUUGUACAGUUU-----
----      8      2,1
-----CUGUACAGGCCACUGCCUU
GCu-      3      0,0

```

>hsa-let-7i MA:6-27;mi:62-83 SRX018958

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cuggcUGAGGUAGUAGUUUGUGCUGUUGgucgguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUU
GCUa

```



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87  0,-1
-----AACCCGUAGAUCCGAACUUGUau-----
19  0,-1
-----AACCCGUAGAUCCGAACUUGUu-----
76  0,-1
-----AACCCGUAGAUCCGAACUUGUuu-----
26  0,-1
-----AACCCGUAGAUCCGAACUUGUG-----
13858  0,0
-----AACCCGUAGAUCCGAACUUGUGa-----
13174  0,0
-----AACCCGUAGAUCCGAACUUGUGaa-----
839 0,0
-----AACCCGUAGAUCCGAACUUGUGau-----
58  0,0
-----AACCCGUAGAUCCGAACUUGUGu-----
8993  0,0
-----AACCCGUAGAUCCGAACUUGUGuu-----
72  0,0
-----AACCCGUAGAUCCGAACUUGUGG-----
42  0,1
-----AACCCGUAGAUCCGAACUUGUGGU-----
2   0,2
-----ACCCGUAGAUCCGAACUUG-----
2   1,-2
-----ACCCGUAGAUCCGAACUUGU-----
9   1,-1
-----ACCCGUAGAUCCGAACUUGUG-----
17  1,0
-----ACCCGUAGAUCCGAACUUGUGa-----
28  1,0
-----ACCCGUAGAUCCGAACUUGUGaa-----
12  1,0
-----ACCCGUAGAUCCGAACUUGUGu-----
9   1,0

```

>hsa-mir-101-1 mi:11-32;MA:47-67 SRX018958

ugcccuggcuCAGUUAUCACAGUGCUGAUGCUgucuauucuaaaggUACAGUACUGUGAUAAACUGAAggauggca

(((((((.....)))))))).		
-2,-3	GGUACAGUACUGUGAUAACT-3'	3
-1,-4	GUACAGUACUGUGAUAACT-	1948
-1,-4	GUACAGUACUGUGAUAACTa-	16
-1,-4	GUACAGUACUGUGAUAACTaa-	3
-1,-4	GUACAGUACUGUGAUAACT-	
63242 -1,-3	GUACAGUACUGUGAUAACTa-	29
-1,-3	GUACAGUACUGUGAUAACTaa-	44
-1,-3	GUACAGUACUGUGAUAACTau-	2
-1,-3	GUACAGUACUGUGAUAACTu-	25
-1,-3	GUACAGUACUGUGAUAACTG-	4265
-1,-2	GUACAGUACUGUGAUAACTGu-	130
-1,-2	GUACAGUACUGUGAUAACTGuu-	10
-1,-2	GUACAGUACUGUGAUAACTGA-	
51714 -1,-1	GUACAGUACUGUGAUAACTGAu-	502
-1,-1	GUACAGUACUGUGAUAACTGAuu-	10
-1,-1	GUACAGUACUGUGAUAACTGAA-	
73289 -1,0	GUACAGUACUGUGAUAACTGAAa-	
18127 -1,0	GUACAGUACUGUGAUAACTGAAaa-	696
-1,0	GUACAGUACUGUGAUAACTGAAau-	38

-1,0		-GUACAGUACUGUGAUAAACUGAAu-----	261
-1,0		-GUACAGUACUGUGAUAAACUGAAuu-----	6
-1,0		-GUACAGUACUGUGAUAAACUGAAG-----	100
-1,1		-GUACAGUACUGUGAUAAACUGAAGu-----	5
-1,1		-GUACAGUACUGUGAUAAACUGAAGG-----	9
-1,2		-GUACAGUACUGUGAUAAACUGAAGGu-----	2
-1,2		-UACAGUACUGUGAUAAACU-----	
75423	0,-3	-UACAGUACUGUGAUAAACUa-----	18
0,-3		-UACAGUACUGUGAUAAACUaa-----	66
0,-3		-UACAGUACUGUGAUAAACUau-----	9
0,-3		-UACAGUACUGUGAUAAACUu-----	36
0,-3		-UACAGUACUGUGAUAAACUG-----	6904
0,-2		-UACAGUACUGUGAUAAACUGu-----	121
0,-2		-UACAGUACUGUGAUAAACUGuu-----	5
0,-2		-UACAGUACUGUGAUAAACUGA-----	
93514	0,-1	-UACAGUACUGUGAUAAACUGAu-----	564
0,-1		-UACAGUACUGUGAUAAACUGAuu-----	448
0,-1		-UACAGUACUGUGAUAAACUGAA-----	
192208	0,0	-UACAGUACUGUGAUAAACUGAAa-----	

53831	0,0		
-----		-UACAGUACUGUGAUAAACUGAAaa-----	1949
0,0			
-----		-UACAGUACUGUGAUAAACUGAAau-----	226
0,0			
-----		-UACAGUACUGUGAUAAACUGAAu-----	8877
0,0			
-----		-UACAGUACUGUGAUAAACUGAAuu-----	318
0,0			
-----		-UACAGUACUGUGAUAAACUGAAG-----	
14629	0,1		
-----		-UACAGUACUGUGAUAAACUGAAGu-----	2019
0,1			
-----		-UACAGUACUGUGAUAAACUGAAGuu-----	42
0,1			
-----		-UACAGUACUGUGAUAAACUGAAGG-----	41
0,2			
-----		-UACAGUACUGUGAUAAACUGAAGGu-----	5
0,2			
-----		-UACAGUACUGUGAUAAACUGAAGGA-----	25
0,3			
-----		-ACAGUACUGUGAUAAACUG-----	54
1,-2			
-----		-ACAGUACUGUGAUAAACUGA-----	527
1,-1			
-----		-ACAGUACUGUGAUAAACUGAu-----	2
1,-1			
-----		-ACAGUACUGUGAUAAACUGAuu-----	8
1,-1			
-----		-ACAGUACUGUGAUAAACUGAA-----	1334
1,0			
-----		-ACAGUACUGUGAUAAACUGAAa-----	516
1,0			
-----		-ACAGUACUGUGAUAAACUGAAaa-----	39
1,0			
-----		-ACAGUACUGUGAUAAACUGAAau-----	23
1,0			
-----		-ACAGUACUGUGAUAAACUGAAu-----	127

1,0	-----ACAGUACUGUGAUAAACUGAAuu-----	8
1,0	-----ACAGUACUGUGAUAAACUGAAG-----	169
1,1	-----ACAGUACUGUGAUAAACUGAAGu-----	48
1,1	-----CAGUACUGUGAUAAACUGA-----	57
2,-1	-----CAGUACUGUGAUAAACUGAA-----	203
2,0	-----CAGUACUGUGAUAAACUGAAa-----	54
2,0	-----CAGUACUGUGAUAAACUGAAaa-----	9
2,0	-----CAGUACUGUGAUAAACUGAAau-----	6
2,0	-----CAGUACUGUGAUAAACUGAAu-----	12
2,0	-----CAGUACUGUGAUAAACUGAAuu-----	6
2,0	-----CAGUACUGUGAUAAACUGAAG-----	28
2,1	-----CAGUACUGUGAUAAACUGAAGu-----	30
2,1	-----CAGUACUGUGAUAAACUGAAGuu-----	4
2,1		

>hsa-mir-101-2 3p:49-69 SRX018958

acuguccuuuuucgguaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGAUAAACUGAAgaugguggu		
((..((.((((((((((((((((((((((.(((((.....)))))).)))))))))))))))))))).))..))		
	-----GGUUAUCAUGGUACCGAUGCU-----	
2	-----GGUACAGUACUGUGAUAAACU-----	
3 -2,-3	-----GUACAGUACUGUGAUAAAC-----	
1948 -1,-4	-----GUACAGUACUGUGAUAACa-----	

16	-1,-4	-GUACAGUACUGUGAUAACa-
3	-1,-4	-GUACAGUACUGUGAUAACU-
63242	-1,-3	-GUACAGUACUGUGAUAACUa-
29	-1,-3	-GUACAGUACUGUGAUAACUaa-
44	-1,-3	-GUACAGUACUGUGAUAACUau-
2	-1,-3	-GUACAGUACUGUGAUAACUu-
25	-1,-3	-GUACAGUACUGUGAUAAACUG-
4265	-1,-2	-GUACAGUACUGUGAUAAACUGu-
130	-1,-2	-GUACAGUACUGUGAUAAACUGuu-
10	-1,-2	-GUACAGUACUGUGAUAAACUGA-
51714	-1,-1	-GUACAGUACUGUGAUAAACUGAu-
502	-1,-1	-GUACAGUACUGUGAUAAACUGAuu-
10	-1,-1	-GUACAGUACUGUGAUAAACUGAA-
73289	-1,0	-GUACAGUACUGUGAUAAACUGAAa-
18127	-1,0	-GUACAGUACUGUGAUAAACUGAAaa-
696	-1,0	-GUACAGUACUGUGAUAAACUGAAau-
38	-1,0	-GUACAGUACUGUGAUAAACUGAAu-
261	-1,0	-GUACAGUACUGUGAUAAACUGAAuu-
6	-1,0	-GUACAGUACUGUGAUAAACUGAAG-

100	-1,1	-GUACAGUACUGUGAUAAACUGAAGu-----
5	-1,1	-GUACAGUACUGUGAUAAACUGAAGA-----
50	-1,2	-GUACAGUACUGUGAUAAACUGAAGAA-----
2	-1,3	-UACAGUACUGUGAUAAACU-----
75423	0,-3	-UACAGUACUGUGAUAAACUa-----
18	0,-3	-UACAGUACUGUGAUAAACUaa-----
66	0,-3	-UACAGUACUGUGAUAAACUau-----
9	0,-3	-UACAGUACUGUGAUAAACUu-----
36	0,-3	-UACAGUACUGUGAUAAACUG-----
6904	0,-2	-UACAGUACUGUGAUAAACUGu-----
121	0,-2	-UACAGUACUGUGAUAAACUGuu-----
5	0,-2	-UACAGUACUGUGAUAAACUGA-----
93514	0,-1	-UACAGUACUGUGAUAAACUGAu-----
564	0,-1	-UACAGUACUGUGAUAAACUGAuu-----
448	0,-1	-UACAGUACUGUGAUAAACUGAA-----
192208	0,0	-UACAGUACUGUGAUAAACUGAAa-----
53831	0,0	-UACAGUACUGUGAUAAACUGAAaa-----
1949	0,0	-UACAGUACUGUGAUAAACUGAAau-----
226	0,0	-UACAGUACUGUGAUAAACUGAAu-----

8877	0,0	-UACAGUACUGUGAUAAACUGAAuu-----
318	0,0	-UACAGUACUGUGAUAAACUGAAG-----
14629	0,1	-UACAGUACUGUGAUAAACUGAAGu-----
2019	0,1	-UACAGUACUGUGAUAAACUGAAGuu-----
42	0,1	-UACAGUACUGUGAUAAACUGAAGA-----
3522	0,2	-UACAGUACUGUGAUAAACUGAAGAu-----
19	0,2	-UACAGUACUGUGAUAAACUGAAGAA-----
207	0,3	-UACAGUACUGUGAUAAACUGAAGAAa-----
41	0,3	-UACAGUACUGUGAUAAACUGAAGAAU-----
3	0,4	-ACAGUACUGUGAUAAACUG-----
54	1,-2	-ACAGUACUGUGAUAAACUGA-----
527	1,-1	-ACAGUACUGUGAUAAACUGAu-----
2	1,-1	-ACAGUACUGUGAUAAACUGAuu-----
8	1,-1	-ACAGUACUGUGAUAAACUGAA-----
1334	1,0	-ACAGUACUGUGAUAAACUGAAa-----
516	1,0	-ACAGUACUGUGAUAAACUGAAaa-----
39	1,0	-ACAGUACUGUGAUAAACUGAAau-----
23	1,0	-ACAGUACUGUGAUAAACUGAAu-----
127	1,0	-ACAGUACUGUGAUAAACUGAAuu-----

8	1,0	-ACAGUACUGUGAUAACUGAAG-----
169	1,1	-ACAGUACUGUGAUAACUGAAGu-----
48	1,1	-ACAGUACUGUGAUAACUGAAGA-----
56	1,2	-ACAGUACUGUGAUAACUGAAGAA-----
4	1,3	-ACAGUACUGUGAUAACUGAAGAAa-----
5	1,3	-CAGUACUGUGAUAACUGA-----
57	2,-1	-CAGUACUGUGAUAACUGAA-----
203	2,0	-CAGUACUGUGAUAACUGAAa-----
54	2,0	-CAGUACUGUGAUAACUGAAaa-----
9	2,0	-CAGUACUGUGAUAACUGAAau-----
6	2,0	-CAGUACUGUGAUAACUGAAu-----
12	2,0	-CAGUACUGUGAUAACUGAAuu-----
6	2,0	-CAGUACUGUGAUAACUGAAG-----
28	2,1	-CAGUACUGUGAUAACUGAAGu-----
30	2,1	-CAGUACUGUGAUAACUGAAGuu-----
4	2,1	-CAGUACUGUGAUAACUGAAGA-----
57	2,2	-CAGUACUGUGAUAACUGAAGAu-----
4	2,2	-CAGUACUGUGAUAACUGAAGAA-----
37	2,3	-CAGUACUGUGAUAACUGAAGAAa-----

-----CAGUACUGUGAUAACUGAAGAAU-----

>hsa-mi r-103-1 3p:48-70 SRX018958

-----GGCUUCUUACAGUGCUGCCUUG-----

-----AAGCAGCAUUGUACAGGGCUAU_{au}-----

-----AGCAGCAUUGUACAGGGC-----

-----AGCAGCAUUGUACAGGGCa-----

-----AGCAGCAUUGUACAGGGCaa-----

-----AGCAGCAUUGUACAGGGCau-----

-----AGCAGCAUUGUACAGGGCU-----

-----AGCAGCAUUGUACAGGGCUu-----

-----AGCAGCAUUGUACAGGGCUuu-----

-----AGCAGCAUUGUACAGGGCUA-----

-----AGCAGCAUUGUACAGGGCUA_a-----

-----AGCAGCAUUGUACAGGGCUAaa-----

-----AGCAGCAUUGUACAGGGCUAau-----

-----AGCAGCAUUGUACAGGGCUAU-----

-----AGCAGCAUUGUACAGGGCUAU_a-----

-----AGCAGCAUUGUACAGGGCUAU_{aa}-----

429	0, -2	-----AGCAGCAUUGUACAGGGCUAUau-----
452	0, -2	-----AGCAGCAUUGUACAGGGCUAUu-----
1891	0, -2	-----AGCAGCAUUGUACAGGGCUAUuu-----
673	0, -2	-----AGCAGCAUUGUACAGGGCUAUG-----
10728	0, -1	-----AGCAGCAUUGUACAGGGCUAUGu-----
3060	0, -1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
344	0, -1	-----AGCAGCAUUGUACAGGGCUAUGA-----
13902	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
917	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
32	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
291	0, 1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
8	0, 1	-----AGCAGCAUUGUACAGGGCUAUGAAG-----
2	0, 2	-----GCAGCAUUGUACAGGGCU-----
6	1, -4	-----GCAGCAUUGUACAGGGCUA-----
9	1, -3	-----GCAGCAUUGUACAGGGCUAU-----
52	1, -2	-----GCAGCAUUGUACAGGGCUAUa-----
3	1, -2	-----GCAGCAUUGUACAGGGCUAUu-----
3	1, -2	-----GCAGCAUUGUACAGGGCUAUG-----
27	1, -1	-----GCAGCAUUGUACAGGGCUAUGu-----

11	1, -1	-GCAGCAUUGUACAGGGCUAUGA-
94	1, 0	-GCAGCAUUGUACAGGGCUAUGAu-
2	1, 0	-GCAGCAUUGUACAGGGCUAUGAA-
4	1, 1	-CAGCAUUGUACAGGGCUA-
3	2, -3	-CAGCAUUGUACAGGGCUAU-
9	2, -2	-CAGCAUUGUACAGGGCUAUa-
2	2, -2	-CAGCAUUGUACAGGGCUAUG-
20	2, -1	-CAGCAUUGUACAGGGCUAUGu-
3	2, -1	-CAGCAUUGUACAGGGCUAUGA-
38	2, 0	-CAGCAUUGUACAGGGCUAUGAu-
2	2, 0	

6	0, -5	-----AGCAGCAUUGUACAGGGCU-----
1844	0, -4	-----AGCAGCAUUGUACAGGGCUu-----
27	0, -4	-----AGCAGCAUUGUACAGGGCUuu-----
22	0, -4	-----AGCAGCAUUGUACAGGGCUA-----
2674	0, -3	-----AGCAGCAUUGUACAGGGCUAa-----
206	0, -3	-----AGCAGCAUUGUACAGGGCUAaa-----
39	0, -3	-----AGCAGCAUUGUACAGGGCUAau-----
56	0, -3	-----AGCAGCAUUGUACAGGGCUAU-----
14288	0, -2	-----AGCAGCAUUGUACAGGGCUAUa-----
5914	0, -2	-----AGCAGCAUUGUACAGGGCUAUaa-----
429	0, -2	-----AGCAGCAUUGUACAGGGCUAUau-----
452	0, -2	-----AGCAGCAUUGUACAGGGCUAUu-----
1891	0, -2	-----AGCAGCAUUGUACAGGGCUAUuu-----
673	0, -2	-----AGCAGCAUUGUACAGGGCUAUG-----
10728	0, -1	-----AGCAGCAUUGUACAGGGCUAUGu-----
3060	0, -1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
344	0, -1	-----AGCAGCAUUGUACAGGGCUAUGA-----
13902	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
917	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----

32	0,0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
291	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
8	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAA-----
33	0,2	-----GCAGCAUUGUACAGGGCU-----
6	1,-4	-----GCAGCAUUGUACAGGGCUA-----
9	1,-3	-----GCAGCAUUGUACAGGGCUAU-----
52	1,-2	-----GCAGCAUUGUACAGGGCUAUa-----
3	1,-2	-----GCAGCAUUGUACAGGGCUAUu-----
3	1,-2	-----GCAGCAUUGUACAGGGCUAUG-----
27	1,-1	-----GCAGCAUUGUACAGGGCUAUGu-----
11	1,-1	-----GCAGCAUUGUACAGGGCUAUGA-----
94	1,0	-----GCAGCAUUGUACAGGGCUAUGAu-----
2	1,0	-----GCAGCAUUGUACAGGGCUAUGAA-----
4	1,1	-----CAGCAUUGUACAGGGCUA-----
3	2,-3	-----CAGCAUUGUACAGGGCUAU-----
9	2,-2	-----CAGCAUUGUACAGGGCUAUa-----
2	2,-2	-----CAGCAUUGUACAGGGCUAUG-----
20	2,-1	-----CAGCAUUGUACAGGGCUAUGu-----
3	2,-1	-----CAGCAUUGUACAGGGCUAUGA-----

$2 \quad 2,0$

>hsa-mir-106a MA:13-35;mi:50-71 SRX018958

ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucaCUGCAAUGUAAGCACUUCUUAcauaccaug
g

$$((.((((..(((((((((((((((((((((.(((((.(((.(.....)).)))))))))..)))))))))..))))).))).)$$

-----AAAAGUGCUUACAGUGCAG-----

- 4 0,-4

-----AAAAGUGCUUACAGUGCAGGU-----

- 7 0,-2

-----AAAGUGCUUACAGUGCAGG-----

- 8 1, -3

-----AAAGUGCUUACAGUGCAGGU-----

- 8 1, -2

-----AAAGUGCUUACAGUGCAGGUA-----

- 7 1, -1

-----AAAGUGCUUACAGUGCAGGUAa-----

- 6 1, -1

-----AAAGUGCUUACAGUGCAGGUAu-----

$$-2 \quad 1, -1$$

-----AAAGUGCUUACAGUGCAGGUAG-----

- 2 1,0

-----AAAGUGCUUACAGUGCAGGUAGa-----

- 3 1,0

>hsa-mir-106b MA:12-32;mi:52-73 SRX018958

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

$$(((((((.((((((..(((((((.(((((((.(.(((((((.....))...)))))).)))))).)))))).)))))).))))))$$

-----UAAAGUGCUGACAGUGCA-----

-- 11 0,-3

-----UAAAGUGCUGACAGUGCAG-----

-- 47 0,-2

-----UAAAGUGCUGACAGUGCAGu-----

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-- 2 0,-2
-----UAAAGUGCUGACAGUGCAGA-----
-- 25 0,-1
-----UAAAGUGCUGACAGUGCAGAAa-----
-- 8 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 49 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 11 0,0
-----UAAAGUGCUGACAGUGCAGAUuu-----
-- 2 0,0
-----UAAAGUGCUGACAGUGCAGAU-----
-- 102 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 55 0,1
-----UAAAGUGCUGACAGUGCAGUAaa-----
-- 2 0,1
-----UAAAGUGCUGACAGUGCAGUAu-----
-- 25 0,1
-----UAAAGUGCUGACAGUGCAGUAuu-----
-- 3 0,1
-----UAAAGUGCUGACAGUGCAGUAG-----
-- 2 0,2
-----UAAAGUGCUGACAGUGCAGUAGU-----
-- 3 0,3
-----UACCGCACUGUGGGUACUUGu-----
-- 2 -2,-4
-----UACCGCACUGUGGGUACUUGC-----
-- 3 -2,-3
-----UACCGCACUGUGGGUACUUGCU-----
-- 31 -2,-2
-----ACCGCACUGUGGGUACUUGCU-----
-- 2 -1,-2
-----CCGCACUGUGGGUACUUGC-----
-- 2 0,-3
-----CCGCACUGUGGGUACUUGCU-----
-- 13 0,-2
-----CCGCACUGUGGGUACUUGCUG-----

```

```
-- 55 0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 30 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 9 0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 12 0,-1
-----CCGCACUGUGGGUACUUGCUGC-----
-- 87 0,0
-----CCGCACUGUGGGUACUUGCUGCau-----
-- 5 0,0
```

>hsa-mir-107 3p:50-72 SRX018958

```
cucucugcuuucagcuucuuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCaagcacag
a
```

```
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
```

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-----AAGCAGCAUUGUACAGGGCUAUau-----
- 2 -1,-2
-----AGCAGCAUUGUACAGGGC-----
- 4252 0,-5
-----AGCAGCAUUGUACAGGGCa-----
- 2 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 4 0,-5
-----AGCAGCAUUGUACAGGGCau-----
- 6 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 1844 0,-4
-----AGCAGCAUUGUACAGGGCUu-----
- 27 0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
- 22 0,-4
-----AGCAGCAUUGUACAGGGCUA-----
- 2674 0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
- 206 0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
```

- 39 0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
- 56 0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
- 14288 0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
- 5914 0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
- 429 0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
- 452 0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
- 1891 0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
- 673 0,-2	-----AGCAGCAUUGUACAGGGCUAUC-----
- 1913 0,-1	-----AGCAGCAUUGUACAGGGCUAUCu-----
- 1407 0,-1	-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 31 0,-1	-----AGCAGCAUUGUACAGGGCUAUCA-----
- 4615 0,0	-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 148 0,0	-----AGCAGCAUUGUACAGGGCUAUCAuu-----
- 5 0,0	-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 37 0,1	-----GCAGCAUUGUACAGGGCU-----
- 6 1,-4	-----GCAGCAUUGUACAGGGCUA-----
- 9 1,-3	-----GCAGCAUUGUACAGGGCUAU-----
- 52 1,-2	-----GCAGCAUUGUACAGGGCUAUa-----
- 3 1,-2	-----GCAGCAUUGUACAGGGCUAUu-----

----- 32 0,-2
-----UACCCUGUAGAUCCGAAUUUGaa-----
----- 4 0,-2
-----UACCCUGUAGAUCCGAAUUUGU-----
----- 3978 0,-1
-----UACCCUGUAGAUCCGAAUUUGUa-----
----- 15 0,-1
-----UACCCUGUAGAUCCGAAUUUGUu-----
----- 6 0,-1
-----UACCCUGUAGAUCCGAAUUUGUG-----
----- 363 0,0
-----UACCCUGUAGAUCCGAAUUUGUGa-----
----- 144 0,0
-----UACCCUGUAGAUCCGAAUUUGUGaa-----
----- 2 0,0
-----UACCCUGUAGAUCCGAAUUUGUGU-----
----- 34 0,1
-----ACCCUGUAGAUCCGAAUU-----
----- 4 1,-4
-----ACCCUGUAGAUCCGAAUUaa-----
----- 2 1,-4
-----ACCCUGUAGAUCCGAAUUU-----
----- 16 1,-3
-----ACCCUGUAGAUCCGAAUUUG-----
----- 28 1,-2
-----ACCCUGUAGAUCCGAAUUUGa-----
----- 3 1,-2
-----ACCCUGUAGAUCCGAAUUUGaa-----
----- 3 1,-2
-----ACCCUGUAGAUCCGAAUUUGU-----
----- 413 1,-1
-----ACCCUGUAGAUCCGAAUUUGUaa-----
----- 5 1,-1
-----ACCCUGUAGAUCCGAAUUUGUG-----
----- 265 1,0
-----ACCCUGUAGAUCCGAAUUUGUGa-----
----- 478 1,0
-----ACCCUGUAGAUCCGAAUUUGUGaa-----

-----AGGCAAGAUGGUGGACUA-----

```

>hsa-mir-1185-2 5p:15-35      SRX018958
uuugguacuuaaagAGAGGAUACCCUUGUAUGUUcacuugauuaauggcgaauauacagggggagacucucauuugcgu
aucaaa
.(((((((.(((((((((.(((((((((((((((((.((((((((((((((((((((((((((((((((((((((((
)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).
)))))).
-----AGAGGAUACCCUUGUAUGU-----
----- 5    0,-1
-----AGAGGAUACCCUUGUAUGUU-----
----- 23   0,0
-----AGAGGAUACCCUUGUAUGUUa-----
----- 7    0,0
-----AGAGGAUACCCUUGUAUGUUC-----

```

```
----- 24 0,1
-----AGAGGAUACCCUUGUAUGUUCA-----
----- 5 0,2
```

>hsa-mir-1193 5p:10-32 SRX018958

```
guagcugagGGGAUGGUAGACCGGUGACGUGCacuucauuuacgauguaggucacccguuugacuauccaccagcgcc
...(((((((((.(((((((((((.(((((((.((((((.....)))))).)))))).)))))).))))).)))))...
-----GGGAUGGUAGACCGGUGACGUGCAu-----
4 0,1
```

>hsa-mir-122 MA:15-36;mi:51-72 SRX018958

```
ccuuagcagagcugUGGAGUGUGACAAUGGUGUUUGugucuaaacuaucaAACGCCAUUAUCACACUAAAUAguacuagc
uaggc
.(((((((((((((((.(((((((((((.(((((((((((.(((((((.((((((.....)))))).)))))).)))))).))))).)))))
))))).
-----UGUGGAGUGUGACAAUGGUG-----
----- 2 -2,-4
-----UGUGGAGUGUGACAAUGGUGU-----
----- 17 -2,-3
-----UGUGGAGUGUGACAAUGGUGUU-----
----- 88 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUa-----
----- 10 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUU-----
----- 12 -2,-1
-----UGUGGAGUGUGACAAUGGUGUUUGU-----
----- 2 -2,1
-----GUGGAGUGUGACAAUGGUG-----
----- 3 -1,-4
-----GUGGAGUGUGACAAUGGUGU-----
----- 17 -1,-3
-----GUGGAGUGUGACAAUGGUGUU-----
----- 47 -1,-2
-----GUGGAGUGUGACAAUGGUGUUU-----
----- 200 -1,-1
-----GUGGAGUGUGACAAUGGUGUUUG-----
----- 9 -1,0
-----GUGGAGUGUGACAAUGGUGUUUGa-----
```

----- 9 -1,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 9 -1,1
-----UGGAGUGUGACAAUGGUG-----
----- 13832 0,-4
-----UGGAGUGUGACAAUGGUGa-----
----- 466 0,-4
-----UGGAGUGUGACAAUGGUGaa-----
----- 309 0,-4
-----UGGAGUGUGACAAUGGUGau-----
----- 28 0,-4
-----UGGAGUGUGACAAUGGUGU-----
----- 48610 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 1625 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 4243 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 513 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 104956 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 11270 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 5383 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 1007 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 601368 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 43157 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 40792 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 20396 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 19389 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----

```

----- 2518    0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1354051 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 1589016 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 32292    0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 16436    0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 1001990 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 3352     0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 2754     0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 1822     0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 3463     0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 942    0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 326    0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 68     0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 145    0,3
-----GGAGUGUGACAAUGGUGU-----
----- 646    1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 13     1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 64     1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 6      1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 1419    1,-2
-----GGAGUGUGACAAUGGUGUUa-----

```

----- 130 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 93 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 19 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 5090 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 618 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 689 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 246 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 153 1,-1
-----GGAGUGUGACAAUGGUGUUUuu-----
----- 16 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 22662 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 24016 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 631 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 331 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 9001 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 75 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 50 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 62 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 84 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 29 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----

```

----- 17 1,2
-----GGAGUGUGACAAUGGUGUUUGUGa-----
----- 2 1,2
-----GGAGUGUGACAAUGGUGUUUGUGU-----
----- 7 1,3
-----GAGUGUGACAAUGGUGUU-----
----- 147 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 105 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 8 2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 15 2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 2 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 3 2,-1
-----GAGUGUGACAAUGGUGUUUuu-----
----- 2 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 106 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 133 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 8 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 106 2,1
-----GAGUGUGACAAUGGUGUUUGUGa-----
----- 2 2,2
-----CAAACGCCAUUAUCACACUAA-----
----- 3 -2,-3
-----AAACGCCAUUAUCACACUA-----
----- 30 -1,-4
-----AAACGCCAUUAUCACACUAu-----
----- 11 -1,-4
-----AAACGCCAUUAUCACACUAuu-----
----- 17 -1,-4
-----AAACGCCAUUAUCACACUAA-----

```


-----	100	-1,-3	-----AAACGCCAUUAUCACACUAAu-----
-----	25	-1,-3	-----AAACGCCAUUAUCACACUAAuu-----
-----	16	-1,-3	-----AAACGCCAUUAUCACACUAAA-----
-----	82	-1,-2	-----AAACGCCAUUAUCACACUAAAa-----
-----	11	-1,-2	-----AAACGCCAUUAUCACACUAAAaa-----
-----	6	-1,-2	-----AAACGCCAUUAUCACACUAAAU-----
-----	410	-1,-1	-----AAACGCCAUUAUCACACUAAAUu-----
-----	33	-1,-1	-----AAACGCCAUUAUCACACUAAAUA-----
-----	12	-1,0	-----AAACGCCAUUAUCACACUAAAUAa-----
-----	3	-1,0	-----AACGCCAUUAUCACACUA-----
-----	67	0,-4	-----AACGCCAUUAUCACACUAu-----
-----	14	0,-4	-----AACGCCAUUAUCACACUAuu-----
-----	2	0,-4	-----AACGCCAUUAUCACACUAA-----
-----	305	0,-3	-----AACGCCAUUAUCACACUAAu-----
-----	37	0,-3	-----AACGCCAUUAUCACACUAAuu-----
-----	59	0,-3	-----AACGCCAUUAUCACACUAAA-----
-----	314	0,-2	-----AACGCCAUUAUCACACUAAAa-----
-----	64	0,-2	-----AACGCCAUUAUCACACUAAAaa-----
-----	7	0,-2	-----AACGCCAUUAUCACACUAAAau-----

```

----- 2 0,-2
-----AACGCCAUUAUCACACUAAAU-----
----- 3975 0,-1
-----AACGCCAUUAUCACACUAAAUu-----
----- 391 0,-1
-----AACGCCAUUAUCACACUAAAUuu-----
----- 36 0,-1
-----AACGCCAUUAUCACACUAAAUA-----
----- 1243 0,0
-----AACGCCAUUAUCACACUAAAUAa-----
----- 259 0,0
-----AACGCCAUUAUCACACUAAAUAaa-----
----- 4 0,0
-----AACGCCAUUAUCACACUAAAUAu-----
----- 811 0,0
-----AACGCCAUUAUCACACUAAAUAuu-----
----- 12 0,0
-----AACGCCAUUAUCACACUAAAUAG-----
----- 5 0,1
-----ACGCCAUUAUCACACUAA-----
----- 2 1,-3
-----ACGCCAUUAUCACACUAAuu-----
----- 4 1,-3
-----ACGCCAUUAUCACACUAAA-----
----- 3 1,-2
-----ACGCCAUUAUCACACUAAAU-----
----- 14 1,-1
-----ACGCCAUUAUCACACUAAAUu-----
----- 5 1,-1
-----ACGCCAUUAUCACACUAAAUAa-----
----- 2 1,0
-----ACGCCAUUAUCACACUAAAUAu-----
----- 3 1,0

```

>hsa-mir-1228 mi:1-21;MA:52-71 SRX018958

```

GUGGGCGGGGGCAGGUGUGUGgugggugggugccugcgugagcagggcccUCACACCUGCCUCGCCCCCag
..((((((((((.((((((((.....((((.....((((.....))))))))).)))))))))))))).....
GUGGGCGGGGGCAGGUGUGUG-----

```

[illegible]

[illegible]

```
>hsa-mir-1248    5p:4-30 SRX018958
uuuACCUUCUUGUAUAAGCACUGUGCUAAAauugcagacacuaggaccaugucuugguuuuugcauaaugcuagcagag
uacacacaagaagaaaaguaacagca
.....((((((((.....(.(((.(((((..((((((((.((((((((((...))))))))).)))))))).)))))))).)
).).)))))))).).....
---ACCUUCUUGUAUAAGCACUGUGCU-----
-----                2      0,-3
```

```
>hsa-mir-1249    3p:41-62    SRX018958
gggaggaggaggaggaugggccaaguucccucuggcuggaACGCCCUCUCCCCCCCUCUUCACcug
.(((((((((.((.(.((((...(((((.)))))))).)).)))))))).)....
-----ACGCCCUCUCCCCCCCUCUUCAC----- 2    0.0
```

```
>hsa-mir-1252    5p:5-26 SRX018958
agaaAGAAGGAAAUUGAAUUCAUUUAgaagagaaauccaaugagcuuaauuuccuuuuuuucu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAAGGAAAUUGAAUUCAUU----- 3    0,-2
-----AGAAGGAAAUUGAAUUCAUU----- 3    0,-1
```

```
>hsa-mir-1254    5p:18-41    SRX018958
ggugggaggauugcuugAGCCUGGAAGCUGGAGCCUGCAGUGaacuaucauugugccacuguacuccagccuaggcaaca
aaaugaaauccugucua
...(((.((((((..(((.((((((..((((((..(((((((.(.....))..))))))))))))))))))))))..))
). ....)))))))).)..
-----AGCCUGGAAGCUGGAGCCUGCAGU-----
-----
-----      4      0.0
```

```
>hsa-mir-1255a 5p:28-50 SRX018958
auuggaaauccuuugaguugcuucucaAGGAUGAGCAAAGAAAGUAGAUUuuuuagauucuaaagaaacuaucucuucuuug
cucauccuugagaagcaacuccuuauccauuaa
..((((.....((((((((((((((((((((((((((((((((((((..(((.(((((((((((...)))))))).)).)).))))))
)))))))))..)))....))....
```



```

-----UCCCUGAGACCCUAACUUGUau-----
----- 4 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 16 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 4296 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 319 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 12593 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 3669 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 450 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 29 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
----- 242 0,1
-----UCCCUGAGACCCUAACUUGUGAUa-----
----- 46 0,1
-----UCCCUGAGACCCUAACUUGUGAUu-----
----- 5 0,1
-----UCCCUGAGACCCUAACUUGUGAUG-----
----- 3 0,2
-----CCCUGAGACCCUAACUUG-----
----- 4 1,-3
-----CCCUGAGACCCUAACUUGUGA-----
----- 3 1,0
-----CCCUGAGACCCUAACUUGUGAa-----
----- 3 1,0
-----CCCUGAGACCCUAACUUGUGAU-----
----- 4 1,1
-----CCUGAGACCCUAACUUGU-----
----- 13 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 9 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 5 2,-1

```


-----	CCUGAGACCCUAACUUGUGA-----
-----	95 2,0
-----	CCUGAGACCCUAACUUGUGAa-----
-----	27 2,0
-----	CCUGAGACCCUAACUUGUGAaa-----
-----	7 2,0
-----	CCUGAGACCCUAACUUGUGAU-----
-----	4 2,1
-----	-----CACGGGUUAGGCUCUUGGGAGa-----
-----	2 -1,-2
-----	-----ACGGGUUAGGCUCUUGGGAG-----
-----	2 0,-2
-----	-----ACGGGUUAGGCUCUUGGGAGu-----
-----	8 0,-2
-----	-----ACGGGUUAGGCUCUUGGGAGC-----
-----	5 0,-1

-----	-UCCCUGAGACCCUAACUU-----
-----	235 0, -4
-----	-UCCCUGAGACCCUAACUUa-----
-----	15 0, -4
-----	-UCCCUGAGACCCUAACUUaa-----
-----	10 0, -4
-----	-UCCCUGAGACCCUAACUUau-----
-----	4 0, -4
-----	-UCCCUGAGACCCUAACUUu-----
-----	5 0, -4
-----	-UCCCUGAGACCCUAACUUuu-----
-----	2 0, -4
-----	-UCCCUGAGACCCUAACUUG-----
-----	737 0, -3
-----	-UCCCUGAGACCCUAACUUGa-----
-----	43 0, -3

```

-----UCCCUGAGACCCUAACUUGaa-----
----- 5 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 2151 0,-2
-----UCCCUGAGACCCUAACUUGUa-----
----- 12 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 27 0,-2
-----UCCCUGAGACCCUAACUUGUau-----
----- 4 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 16 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 4296 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 319 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 12593 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 3669 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 450 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 29 0,0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 28 0,1
-----UCCCUGAGACCCUAACUUGUGAGa-----
----- 11 0,1
-----UCCCUGAGACCCUAACUUGUGAGu-----
----- 3 0,1
-----CCCUGAGACCCUAACUUG-----
----- 4 1,-3
-----CCCUGAGACCCUAACUUGUGA-----
----- 3 1,0
-----CCCUGAGACCCUAACUUGUGAa-----
----- 3 1,0
-----CCUGAGACCCUAACUUGU-----
----- 13 2,-2

```

```

-----CCUGAGACCCUAAACUUGUG-----
----- 9 2,-1
-----CCUGAGACCCUAAACUUGUGu-----
----- 5 2,-1
-----CCUGAGACCCUAAACUUGUGA-----
----- 95 2,0
-----CCUGAGACCCUAAACUUGUGAa-----
----- 27 2,0
-----CCUGAGACCCUAAACUUGUGAaa-----
----- 7 2,0
-----AUCACAAGUCAGGCUCUU-----
----- 2 -1,-5
-----AUCACAAGUCAGGCUCUUG-----
----- 10 -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 16 -1,-3
-----AUCACAAGUCAGGCUCUUGGG-----
----- 7 -1,-2
-----AUCACAAGUCAGGCUCUUGGGA-----
----- 2 -1,-1
-----UCACAAGUCAGGCUCUUG-----
----- 28 0,-4
-----UCACAAGUCAGGCUCUUGG-----
----- 7 0,-3
-----UCACAAGUCAGGCUCUUGGG-----
----- 2 0,-2
-----UCACAAGUCAGGCUCUUGGGA-----
----- 3 0,-1
-----ACAAGUCAGGCUCUUGGG-----
----- 52 2,-2
-----ACAAGUCAGGCUCUUGGGA-----
----- 36 2,-1
-----ACAAGUCAGGCUCUUGGGAC-----
----- 24 2,0
-----ACAAGUCAGGCUCUUGGGACau-----
----- 3 2,0
-----ACAAGUCAGGCUCUUGGGACu-----
----- 2 2,0

```

-----			-----ACAAGUCAGGCUCUUGGGACC-----
-----	2	2,1	
-----			-----ACAAGUCAGGCUCUUGGGACCaa-----
-----	2	2,1	
-----			-----ACAAGUCAGGCUCUUGGGACCau-----
-----	2	2,1	
-----			-----ACAAGUCAGGCUCUUGGGACCU-----
-----	5	2,2	
-----			-----ACAAGUCAGGCUCUUGGGACCUu-----
-----	8	2,2	
-----			-----ACAAGUCAGGCUCUUGGGACCUuu-----
-----	10	2,2	
-----			-----ACAAGUCAGGCUCUUGGGACCUA-----
-----	2	2,3	
-----			-----ACAAGUCAGGCUCUUGGGACCUAu-----
-----	4	2,3	

>hsa-mi r-126 mi:15-35;MA:52-73 SRX018958

cgcuggcgacgggaCAUUAUUACUUUUGGUACGCGcugugacacuuaaacUCGUACCGUGAGUAAUAAUGCGccgucca
cggca
.((((..(((((.(((((((((.((((((.(...(((...)))..).)))))).)))).))))).))))).
))))).

```

-----ACAUAUACUUUUGGUACG-----
----- 2    -1,-2
-----CAUAUACUUUUGGUAC-----
-----136 0,-3
-----CAUAUACUUUUGGUACG-----
----- 79 0,-2
-----CAUAUACUUUUGGUACGa-----
----- 2    0,-2
-----CAUAUACUUUUGGUACGC-----
----- 76 0,-1
-----CAUAUACUUUUGGUACGCa-----
----- 7    0,-1
-----CAUAUACUUUUGGUACGCaa-----
----- 4    0,-1
-----CAUAUACUUUUGGUACGCau-----
----- 2    0,-1

```

```

-----CAUUAUUACUUUUGGUACGCGu-----
----- 2 0,-1
-----CAUUAUUACUUUUGGUACGCG-----
----- 649 0,0
-----CAUUAUUACUUUUGGUACGCGa-----
----- 239 0,0
-----CAUUAUUACUUUUGGUACGCGaa-----
----- 9 0,0
-----CAUUAUUACUUUUGGUACGCGu-----
----- 83 0,0
-----CAUUAUUACUUUUGGUACGCGuu-----
----- 3 0,0
-----CAUUAUUACUUUUGGUACGCGC-----
----- 13 0,1
-----CAUUAUUACUUUUGGUACGCGCa-----
----- 4 0,1
-----CAUUAUUACUUUUGGUACGCGCU-----
----- 5 0,2
-----AUUAUUACUUUUGGUACG-----
----- 9 1,-2
-----AUUAUUACUUUUGGUACGCG-----
----- 9 1,-1
-----AUUAUUACUUUUGGUACGCG-----
----- 27 1,0
-----AUUAUUACUUUUGGUACGCGa-----
----- 11 1,0
-----AUUAUUACUUUUGGUACGCGaa-----
----- 3 1,0
-----AUUAUUACUUUUGGUACGCGCU-----
----- 7 1,2
-----CUCGUACCGUGAGUAAUAAU-----
----- 4 -1,-3
-----CUCGUACCGUGAGUAAUAAUa-----
----- 3 -1,-3
-----CUCGUACCGUGAGUAAUAAUG-----
----- 9 -1,-2
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 12 -1,-2

```

```

-----CUCGUACCGUGAGUAAUAAUGC-----
----- 57  -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 27  -1,0
-----UCGUACCGUGAGUAAUAAU-----
----- 37  0,-3
-----UCGUACCGUGAGUAAUAAUa-----
----- 19  0,-3
-----UCGUACCGUGAGUAAUAAUG-----
----- 72  0,-2
-----UCGUACCGUGAGUAAUAAUGa-----
----- 30  0,-2
-----UCGUACCGUGAGUAAUAAUGaa-----
----- 25  0,-2
-----UCGUACCGUGAGUAAUAAUGC-----
----- 348 0,-1
-----UCGUACCGUGAGUAAUAAUGCa-----
----- 3   0,-1
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 232 0,0
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 180 0,0
-----UCGUACCGUGAGUAAUAAUGCGaa-----
----- 5   0,0
-----UCGUACCGUGAGUAAUAAUGCGu-----
----- 10  0,0
-----CGUACCGUGAGUAAUAAU-----
----- 11  1,-3
-----CGUACCGUGAGUAAUAAUa-----
----- 4   1,-3
-----CGUACCGUGAGUAAUAAUG-----
----- 44  1,-2
-----CGUACCGUGAGUAAUAAUGa-----
----- 3   1,-2
-----CGUACCGUGAGUAAUAAUGaa-----
----- 4   1,-2
-----CGUACCGUGAGUAAUAAUGC-----
----- 100 1,-1

```

```

-----CGUACCGUGAGUAAUAAUGCG-----
----- 96 1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 53 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 19 1,0
-----GUACCGUGAGUAAUAAUG-----
----- 8 2,-2
-----GUACCGUGAGUAAUAAUGa-----
----- 6 2,-2
-----GUACCGUGAGUAAUAAUGC-----
----- 41 2,-1
-----GUACCGUGAGUAAUAAUGCaa-----
----- 2 2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 17 2,0
-----GUACCGUGAGUAAUAAUGCGa-----
----- 5 2,0

```

>hsa-mir-1262 5p:14-35 SRX018958

```

aucuacaugggugAUGGGUGAAUUUGUAGAAGGAUgaaagucaaagaauccuucugggaacuaauuuuuggccuucaca
agaauugugauau
(((.(((((.((...(((.(((((.((((((((.....)))))))))).)).....)).)))).
...))))))..
-----AUGGGUGAAUUUGUAGAAGGAU-----
----- 8 0,0

```

>hsa-mir-1265 5p:14-35 SRX018958

```

augguuugggacuCAGGAUGUGGUCAAGUGUUGUuaaggcauguucaggaacaauacuugaccacauuuugaauuccaaa
ccauau
(((((((((.((((((((((((((((((((((((.....)))))..)))))))).)))))
)))..
-----CAGGAUGUGGUCAAGUGUU-----
----- 2 0,-3

```

>hsa-mir-127 5p:23-44;3p:57-78 SRX018958

```

ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucaUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucaucauc

```

UCGUGAAGCUCAGAGGGCUC-			
2	-2,-4		
-CUGAAGCUCAGAGGGCUC-			
13	0,-4		
-CUGAAGCUCAGAGGGCUCU-			
8	0,-3		
-CUGAAGCUCAGAGGGCUCUGA-			
7	0,-1		
-CUGAAGCUCAGAGGGCUCUGAU-			
3	0,0		
-UGAAGCUCAGAGGGCUCU-			
2	1,-3		
-GAAGCUCAGAGGGCUCUGAUU-			
3	2,1		
		UCGGAUCCGUCUGAGCUU-	
2	0,-4		
		UCGGAUCCGUCUGAGCUUG-	
4	0,-3		
		UCGGAUCCGUCUGAGCUUGG-	
38	0,-2		
		UCGGAUCCGUCUGAGCUUGGa-	
2	0,-2		
		UCGGAUCCGUCUGAGCUUGGaa-	
4	0,-2		
		UCGGAUCCGUCUGAGCUUGGau-	
2	0,-2		
		UCGGAUCCGUCUGAGCUUGGu-	
2	0,-2		
		UCGGAUCCGUCUGAGCUUGGuu-	
2	0,-2		
		UCGGAUCCGUCUGAGCUUGGC-	
77	0,-1		
		UCGGAUCCGUCUGAGCUUGGCa-	
95	0,-1		
		UCGGAUCCGUCUGAGCUUGGCaa-	
92	0,-1		


```

-----UCGGAUCCGUCUGAGCUUGGCau-
----- 404 0,-1
-----UCGGAUCCGUCUGAGCUUGGCU--
----- 531 0,0
-----UCGGAUCCGUCUGAGCUUGGCUa-
----- 28 0,0
-----UCGGAUCCGUCUGAGCUUGGCUaa
----- 48 0,0
-----UCGGAUCCGUCUGAGCUUGGCUau
----- 223 0,0
-----UCGGAUCCGUCUGAGCUUGGCUu-
----- 202 0,0
-----UCGGAUCCGUCUGAGCUUGGCUuu
----- 60 0,0
-----UCGGAUCCGUCUGAGCUUGGCUGa
----- 6 0,1
-----CGGAUCCGUCUGAGCUUGGCau-
----- 2 1,-1
-----CGGAUCCGUCUGAGCUUGGCU--
----- 4 1,0
-----CGGAUCCGUCUGAGCUUGGCUau
----- 7 1,0
-----GGAUCCGUCUGAGCUUGGCaa-
----- 2 2,-1
-----GGAUCCGUCUGAGCUUGGCau-
----- 6 2,-1
-----GGAUCCGUCUGAGCUUGGCU--
----- 10 2,0
-----GGAUCCGUCUGAGCUUGGCUau
----- 7 2,0
-----GGAUCCGUCUGAGCUUGGCUu-
----- 4 2,0
-----GGAUCCGUCUGAGCUUGGCUuu
----- 2 2,0

```

>hsa-mir-1270-1 5p:13-35 SRX018958

```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuuuuauucuuauguggcucuuu
gca

```

((.((((((((((..(((((((.((((((((((.((((((((((.....)))))))))))))))))))))))).)))))))).)))))))).))

-----CUGGAGAU AUGGAAGAGC-----
--- 3 0,-5
-----CUGGAGAU AUGGAAGAGCU-----
--- 2 0,-4
-----CUGGAGAU AUGGAAGAGCUGU-----
--- 2 0,-2

>hsa-mir-1270-2 5p:13-35 SRX018958

cacagaguauaCUGGAGAU AUGGAAGAGCUGUGUuggguauaaguaacaggcuuuucuuuauucuucuauguggcucuuu
gca

((.((((((((((..(((((((.((((((((((.((((((((((.....)))))))))))))))))))))))).)))))))).)))))))).))

-----CUGGAGAU AUGGAAGAGC-----
--- 3 0,-5
-----CUGGAGAU AUGGAAGAGCU-----
--- 2 0,-4
-----CUGGAGAU AUGGAAGAGCUGU-----
--- 2 0,-2

>hsa-mir-1271 5p:15-36 SRX018958

caccagaucagugCUUGGCACCUAGCAAGCACUCAguaaaauuuuguugagugccugcuaugugccaggcauugugcug
agggu

..((((((..(((((((((((((((.(((((((.((((((((((((((.....)))))))))))))))))))))))).)))))))).)))))))).))

-----CUUGGCACCUAGCAAGCAC-----
----- 42 0,-3
-----CUUGGCACCUAGCAAGCACU-----
----- 25 0,-2
-----CUUGGCACCUAGCAAGCACUC-----
----- 3 0,-1
-----CUUGGCACCUAGCAAGCACUCA-----
----- 4 0,0
-----AGUGCCUGCUAUGUGCCA-----
----- 4
-----AGUGCCUGCUAUGUGCCAG-----
----- 2

[illegible]

```

ugcagccugGGCGACAAAACGAGACCCUGUCuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga
..(((((((((.(((((((.(((((((.....)))))).)))))).)))))).))))..
-----GGCGACAAAACGAGACCC-----
6    0, -4
-----GGCGACAAAACGAGACCCU-----
6    0, -3
-----GGCGACAAAACGAGACCCUGU-----
2    0, -1
-----GGCGACAAAACGAGACCCUGUa-----
2    0, -1
-----GGCGACAAAACGAGACCCUGUaa-----
2    0, -1
-----GGCGACAAAACGAGACCCUGUCa-----
10   0, 0
-----GGCGACAAAACGAGACCCUGUCU-----
2    0, 1

```

accucccaaaauauauauauauauguacguauguguaauauaaauguaUACGUAGAUUAUAUGUAUUUuugguggguuu
 (((..(((.((((((((((((.((((((((..(.....)..)))))))).)))))))).))))).))))).)))).
 -----UACGUAGAUUAUAUGUAU-----
 2 0,-3
 -----UACGUAGAUUAUAUGUAUa-----
 3 0,-3
 -----UACGUAGAUUAUAUGUAUU-----
 5 0,-2
 -----UACGUAGAUUAUAUGUAUUU-----
 38 0,-1

```
-----UACGUAGAUUAUAUGUAUUU-----  
95   0,0  
  
>hsa-mir-1278    3p:50-71      SRX018958  
auuuugcucaugaugauaugcauaguacucccagaacucauaaaguuggUAGUACUGUGCAUAUCAUCUAUgagcgaaa  
g  
(((((((((((((((((((((((((((((((.(((..((.....)))))).)))))())))))))))))))).  
. . . . .  
-----GUAGUACUGUGCAUAUCAUCU-----  
-     4       -1,-2  
-----UAGUACUGUGCAUAUCAU-----  
-     5        0,-4  
-----UAGUACUGUGCAUAUCAUa-----  
-    10         0,-4  
-----UAGUACUGUGCAUAUCAUc-----  
-     2          0,-3  
-----UAGUACUGUGCAUAUCAUCU-----  
-    25          0,-2  
-----UAGUACUGUGCAUAUCAUCUA-----  
-    11           0,-1  
-----UAGUACUGUGCAUAUCAUCUa-----  
-     5            0,-1  
-----UAGUACUGUGCAUAUCAUCUAU-----  
-   138             0,0  
-----UAGUACUGUGCAUAUCAUCUAUa-----  
-    11              0,0  
-----AGUACUGUGCAUAUCAUCUAU-----  
-     2               1,0
```

```
>hsa-mir-128-1 3p:50-70 SRX018958
ugagcuguuggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUUuucagcugcu
uc
.((((.(((((((...(((((((...((((((..(((((((...))))))))))))))...))))))...))))))..))
).
-----CUCACAGUGAACCGGUCUCUUUU-----
-- 2 -1,1
-----UCACAGUGAACCGGUCUC-----
-- 47 0,-3
```

```
-----UCACAGUGAACCGGUCUCaa-----
-- 2 0,-3
-----UCACAGUGAACCGGUCUCU-----
-- 173 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
-- 6 0,-2
-----UCACAGUGAACCGGUCUCUau-----
-- 3 0,-2
-----UCACAGUGAACCGGUCUCUU-----
-- 299 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
-- 67 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 34 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 29 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 2930 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 770 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 141 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 98 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 1511 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 62 0,1
-----UCACAGUGAACCGGUCUCUUUUaa-----
-- 3 0,1
-----UCACAGUGAACCGGUCUCUUUUau-----
-- 7 0,1
-----UCACAGUGAACCGGUCUCUUUUU-----
-- 80 0,2
-----UCACAGUGAACCGGUCUCUUUUUa-----
-- 7 0,2
-----UCACAGUGAACCGGUCUCUUUUUu-----
-- 4 0,2
```

```

-----CACAGUGAACCGGUCUCUUUU-----
-- 2 1,1
-----ACAGUGAACCGGUCUCUUa-----
-- 2 2,-1
-----ACAGUGAACCGGUCUCUUU-----
-- 10 2,0
-----ACAGUGAACCGGUCUCUUUa-----
-- 2 2,0
-----ACAGUGAACCGGUCUCUUUU-----
-- 10 2,1
-----ACAGUGAACCGGUCUCUUUUa-----
-- 3 2,1
-----ACAGUGAACCGGUCUCUUUUU-----
-- 2 2,2

```

>hsa-mir-128-2 3p:52-72 SRX018958

```

ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(..(((((((.((((((((((...((((((..(((((.(...)).)))))))))))).)))))))).))))))
..).

```

```

-----UCACAGUGAACCGGUCUC-----
---- 47 0,-3
-----UCACAGUGAACCGGUCUCaa-----
---- 2 0,-3
-----UCACAGUGAACCGGUCUCU-----
---- 173 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
---- 6 0,-2
-----UCACAGUGAACCGGUCUCUau-----
---- 3 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 299 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
---- 67 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
---- 34 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
---- 29 0,-1

```


-----			UCUGGGCAACAAAGUGAG-----
----	2	0,-4	
-----			UCUGGGCAACAAAGUGAGA-----
----	5	0,-3	
-----			UCUGGGCAACAAAGUGAGAC-----
----	33	0,-2	
-----			UCUGGGCAACAAAGUGAGACa-----
----	7	0,-2	
-----			UCUGGGCAACAAAGUGAGACaa-----
----	11	0,-2	
-----			UCUGGGCAACAAAGUGAGACau-----
----	2	0,-2	
-----			UCUGGGCAACAAAGUGAGACC-----
----	20	0,-1	
-----			UCUGGGCAACAAAGUGAGACCaa-----
----	9	0,-1	
-----			UCUGGGCAACAAAGUGAGACCau-----
----	11	0,-1	
-----			UCUGGGCAACAAAGUGAGACCU-----
----	78	0,0	
-----			UCUGGGCAACAAAGUGAGACCUa-----
----	30	0,0	
-----			UCUGGGCAACAAAGUGAGACCUaa-----
----	10	0,0	
-----			UCUGGGCAACAAAGUGAGACCUau-----
----	64	0,0	
-----			UCUGGGCAACAAAGUGAGACCUU-----
----	72	0,1	
-----			UCUGGGCAACAAAGUGAGACCUUu-----
----	26	0,1	
-----			UCUGGGCAACAAAGUGAGACCUUuu-----
----	3	0,1	
-----			UCUGGGCAACAAAGUGAGACCUUA-----
----	12	0,2	
-----			UCUGGGCAACAAAGUGAGACCUUAU-----
----	3	0,3	
-----			CUGGGCAACAAAGUGAGACC-----
----	2	1,-1	

uuugggaggccgaggcuggugcaucacuuagagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

-----UCUGGGCAACAAAGUGAG-----

-----UCUGGGCAACAAAGUGAGA-----

-----UCUGGGCAACAAAGUGAGAC-----

-----UCUGGGCAACAAAGUGAGACa-----

-----UCUGGGCAACAAAGUGAGACaa-----

-----UCUGGGCAACAAAGUGAGACau-----

-----UCUGGGCAACAAAGUGAGACC-----

-----UCUGGGCAACAAAGUGAGACC_{aa}-----

-----UCUGGGCAACAAAGUGAGACC_{au}-----

-----UCUGGGCAACAAAGUGAGACCU-----

-----UCUGGGCAACAAAGUGAGACCU_a-----

-----UCUGGGCAACAAAGUGAGACCU_{aa}-----

-----UCUGGGCAACAAAGUGAGACCU_{au}-----

-----CUGGGCAACAAAGUGAGACC-----

guugugcuguccaggUGCUGGAUCAGUGGUUCGAGUCugagccuuuaaaagccacucuagccacagaugcagugauugga
gccaugacaa

-----UCGACCGGACCUCGACCGGC-----	
-----	16
-----UCGACCGGACCUCGACCGGCaa-----	
-----	5
-----UCGACCGGACCUCGACCGGCau-----	
-----	2
-----UCGACCGGACCUCGACCGGCU-----	
-----	409
-----UCGACCGGACCUCGACCGGCUa-----	
-----	4
-----UCGACCGGACCUCGACCGGCUaa-----	
-----	11
-----UCGACCGGACCUCGACCGGCUau-----	
-----	5
-----UCGACCGGACCUCGACCGGCUu-----	
-----	74
-----UCGACCGGACCUCGACCGGCUuu-----	
-----	21
-----UCGACCGGACCUCGACCGGCUC-----	
-----	151
-----UCGACCGGACCUCGACCGGCUCa-----	
-----	18
-----UCGACCGGACCUCGACCGGCUCaa-----	
-----	2
-----UCGACCGGACCUCGACCGGCUCau-----	
-----	3
-----UCGACCGGACCUCGACCGGCUCu-----	
-----	17
-----UCGACCGGACCUCGACCGGCUCG-----	
-----	12
-----CGACCGGACCUCGACCGGCU-----	
-----	2
-----CGACCGGACCUCGACCGGCUu-----	
-----	2
-----GACCGGACCUCGACCGGCaa-----	
-----	2
-----GACCGGACCUCGACCGGCU-----	
-----	2

Sequence	Count	Score
-GACCGGACCUCGACCGGCUu-	2	
-GACCGGACCUCGACCGGCUC-	5	
CUCGGCGUGGCGUCGGU-	4	0,-4
CUCGGCGUGGCGUCGGUCG-	11	0,-2
CUCGGCGUGGCGUCGGUCGU-	15	0,-1
CUCGGCGUGGCGUCGGUCGUu-	4	0,-1
CUCGGCGUGGCGUCGGUCGUG-	59	0,0
CUCGGCGUGGCGUCGGUCGUGu-	4	0,0
CUCGGCGUGGCGUCGGUCGUG-	35	1,0

			-CAGUGCAAUGUUAAAAGGGCA-----
-----	196	0,-1	
			-CAGUGCAAUGUUAAAAGGGCAa-----
-----	26	0,-1	
			-CAGUGCAAUGUUAAAAGGGCAaa-----
-----	10	0,-1	
			-CAGUGCAAUGUUAAAAGGGCAau-----
-----	7	0,-1	
			-CAGUGCAAUGUUAAAAGGGCAU-----
-----	1072	0,0	
			-CAGUGCAAUGUUAAAAGGGCAUa-----
-----	339	0,0	
			-CAGUGCAAUGUUAAAAGGGCAUaa-----
-----	19	0,0	
			-CAGUGCAAUGUUAAAAGGGCAUau-----
-----	6	0,0	
			-CAGUGCAAUGUUAAAAGGGCAUU-----
-----	375	0,1	
			-CAGUGCAAUGUUAAAAGGGCAUUa-----
-----	12	0,1	
			-CAGUGCAAUGUUAAAAGGGCAUUau-----
-----	7	0,1	
			-CAGUGCAAUGUUAAAAGGGCAUUu-----
-----	7	0,1	
			-CAGUGCAAUGUUAAAAGGGCAUUuu-----
-----	4	0,1	
			-AGUGCAAUGUUAAAAGGG-----
-----	12	1,-3	
			-AGUGCAAUGUUAAAAGGGC-----
-----	11	1,-2	
			-AGUGCAAUGUUAAAAGGGCA-----
-----	8	1,-1	
			-AGUGCAAUGUUAAAAGGGCAa-----
-----	2	1,-1	
			-AGUGCAAUGUUAAAAGGGCAU-----
-----	19	1,0	
			-AGUGCAAUGUUAAAAGGGCAUa-----
-----	6	1,0	

```

-----AGUGCAAUGUAAAAGGGCAUU-----
----- 2 1,1
>hsa-mir-130b mi:13-33;MA:51-72 SRX018958
ggccugcccgacACUCUUUCCCUGUUGCACUACuauaggccgcugggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc
(((((((.(((((.(((((((.(((((((.(((.(((....)))...)).)))))))))..)))))))).))))).)))
))
-----ACUCUUUCCCUGUUGCACUACU-----
-- 9 0,1
-----CAGUGCAAUGAUGAAAGG-----
-- 83 0,-4
-----CAGUGCAAUGAUGAAAGGG-----
-- 18 0,-3
-----CAGUGCAAUGAUGAAAGGGC-----
-- 12 0,-2
-----CAGUGCAAUGAUGAAAGGGCA-----
-- 14 0,-1
-----CAGUGCAAUGAUGAAAGGGCAa-----
-- 11 0,-1
-----CAGUGCAAUGAUGAAAGGGCAau-----
-- 2 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 365 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 54 0,0
-----CAGUGCAAUGAUGAAAGGGCAUaa-----
-- 2 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 91 0,0
-----CAGUGCAAUGAUGAAAGGGCAUuu-----
-- 13 0,0
-----CAGUGCAAUGAUGAAAGGGCAUC-----
-- 7 0,1
-----AGUGCAAUGAUGAAAGGGCA-----
-- 2 1,-1
-----AGUGCAAUGAUGAAAGGGCAU-----
-- 7 1,0

```

$$.(((\dots((((((.(.(((((((((((((((((\dots((((((((((((((\dots))))))))))\dots))))))\dots))))))\dots))))).$$

-----AACCGUGGCUUUCGAUGUU-----

----- 2 -1,-3

-----AACCGUGGCUUUCGAUUGUUA-----

----- 14 -1,-2

-----ACCGUGGCUUUCGAUUGUUAC-----

----- 3 0,-1

-----ACCGUGGCUUUCGAUUGUUACU-----

----- 8 0,0

-----U AACAGUCUACAGCCAUG-----

----- 8 0,-4

-----UACAGUCUACAGCCAUGG-----

----- 11 0,-3

-----UAACAGUCUACAGCCAUGGU-----

----- 8 0,-2

-----UAACAGUCUACAGCCAUGGUC-----

----- 4 0, -1

-----UAACAGUCUACAGCCAUGGUCG

----- 12 0,0

-----UAACAGUCUACAGCCAUGGUCG

u----- 8 0,0

-----AACAGUCUACAGCCAUGG-----

$$----- \quad 2 \quad 1, -3$$

-----AACAGUCUACAGCCAUGGU-----

----- 3 1,-2

-----ACAGUCUACAGCCAUGGUCG

----- 4 2,0

```
>hsa-mir-133a-1 3p:53-74 SRX018958
```

acaugcuuugcuagagcugguaaaauggaaccaaucgccucuucaauggaUUUGGUCCCCUUAACCAGCUGuagcua
ugcauuga

.(((((((...(((((.(((((((..((.(.((((((((.....)))))))).)).)).)).)).)).)).
 .)))))).

-----AGCUGGUA AAAAUGGAACCAA-----
 -----3-----
 -----UUGGUCCCCUUAACCAGCUGU-----
 -----2 1,1-----

```

>hsa-mir-134      5p:8-29 SRX018958
caggggUGUGACUGGUUGACCAGAGGGGcaugcacuguguuacaccugugggccaccuagucaccaaccuc
.(((((.(((((((.(.(((.((((((((.....))))).))))).)))..))..)))).).
-----UGUGACUGGUUGACCAGAGGG----- 4
    0,-1
-----UGUGACUGGUUGACCAGAGGGa----- 7
    0,-1
-----UGUGACUGGUUGACCAGAGGGaa----- 3
    0,-1
-----UGUGACUGGUUGACCAGAGGGau----- 2
    0,-1
-----UGUGACUGGUUGACCAGAGGGuu----- 3
    0,-1
-----UGUGACUGGUUGACCAGAGGGG----- 12
    0,0
-----UGUGACUGGUUGACCAGAGGGGa----- 2
    0,0
-----UGUGACUGGUUGACCAGAGGGGau----- 3
    0,0

```



```

-----CAUCAUCGUCUCAAUGAGUC-----
-- 2 0,-1
-----CAUCAUCGUCUCAAUGAGUC-----
-- 6 0,0
-----AUCAUCGUCUCAAUGAG-----
-- 3 1,-3

```

```

>hsa-mir-138-1 MA:23-45;mi:63-84 SRX018958
cccuggcaugggugugggggcAGCUGGUGUUGUGAAUCAGGCCGuugccaucagagaacgGCUACUUCACAACACCAG
GGCCacaccacacuacagg
.((((...(((((((((((((...((((((((((((((...(((((((...))))))))))))))))))))))
.))))))))))))))))))
-----AGCUGGUGUUGUGAAUCA-----
----- 3 0,-5
-----AGCUGGUGUUGUGAAUCAGGC-----
----- 2 0,-2
-----AGCUGGUGUUGUGAAUCAGGCC-----
----- 3 0,-1

```

```

>hsa-mir-138-2 MA:10-32;mi:57-78 SRX018958
cguugcugcAGCUGGUGUUGUGAAUCAGGCCGacgagcagcgcauccucuacccgGCUAUUUCACGACACCAGGGUUGc
auca
.((((...((((((((((((((...((((((((((((((...(((((((...))))))))))))))))))))))
.)).
-----AGCUGGUGUUGUGAAUCA-----
----- 3 0,-5
-----AGCUGGUGUUGUGAAUCAGGC-----
----- 2 0,-2
-----AGCUGGUGUUGUGAAUCAGGCC-----
----- 3 0,-1

```

```

>hsa-mir-139 5p:7-28;3p:44-65 SRX018958
guguauUCUACAGUGCACGUGUCUCCAGuguggcucggaggcuGGAGACGCGGCCUGUUGGAGUaac
...(((((((((((((...((((((((((((((...(((((((...))))))))))))))))))))))..
-----UCUACAGUGCACGUGUCU----- 11 0,-4
-----UCUACAGUGCACGUGUCUC----- 49 0,-3
-----UCUACAGUGCACGUGUCUCa----- 3 0,-3
-----UCUACAGUGCACGUGUCUCC----- 39 0,-2

```

-----UCUACAGUGCACGUGUCUCCA-----	196	0,-1
-----UCUACAGUGCACGUGUCUCCAa-----	26	0,-1
-----UCUACAGUGCACGUGUCUCCAaa-----	2	0,-1
-----UCUACAGUGCACGUGUCUCCAau-----	3	0,-1
-----UCUACAGUGCACGUGUCUCCAu-----	25	0,-1
-----UCUACAGUGCACGUGUCUCCAG-----	261	0,0
-----UCUACAGUGCACGUGUCUCCAGa-----	46	0,0
-----UCUACAGUGCACGUGUCUCCAGaa-----	3	0,0
-----UCUACAGUGCACGUGUCUCCAGU-----	470	0,1
-----UCUACAGUGCACGUGUCUCCAGUa-----	8	0,1
-----UCUACAGUGCACGUGUCUCCAGUau-----	3	0,1
-----UCUACAGUGCACGUGUCUCCAGUu-----	18	0,1
-----UGGAGACGCGGCCCUUU-----	12	
-1,-5		
-----UGGAGACGCGGCCCUUUG-----	19	
-1,-4		
-----UGGAGACGCGGCCCUUUGG-----	20	
-1,-3		
-----UGGAGACGCGGCCCUUUGGA-----	25	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAa-----	3	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAaa-----	6	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAau-----	2	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAu-----	2	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAG-----	54	
-1,-1		
-----UGGAGACGCGGCCCUUUGGAGa-----	20	
-1,-1		
-----UGGAGACGCGGCCCUUUGGAGU-----	110	-1,0
-----UGGAGACGCGGCCCUUUGGAGUu-----	3	-1,0
-----UGGAGACGCGGCCCUUUGGAGUuu-----	2	-1,0
-----UGGAGACGCGGCCCUUUGGAGUAu-----	5	-1,1
-----GGAGACGCGGCCCUUUG-----	3	0,-4
-----GGAGACGCGGCCCUUUGG-----	3	0,-3

-----GGAGACGCGGCCCUUGGA-----	4	0,-2
-----GGAGACGCGGCCCUUGGAG----	10	0,-1
-----GGAGACGCGGCCCUUGGAGa---	2	0,-1
-----GGAGACGCGGCCCUUGGAGU---	32	0,0
-----GGAGACGCGGCCCUUGGAGUu--	2	0,0
-----AGACGCGGCCCUUGGAGU---	5	2,0
-----AGACGCGGCCCUUGGAGUu--	5	2,0
-----AGACGCGGCCCUUGGAGUuu--	9	2,0

>hsa-mi r-140 5p:23-44;3p:62-82 SRX018958

ugugucucucucuguguccgcCAGUGGUUUACCCUAUGGUAGguuacgucaugcuguucUACCACAGGGUAGAACCAC
GGacaggauaccggggcacc

$$\begin{aligned} & .(((((((\dots((((((((.((((((((((((.(((((((..(((\dots)))))))))))).))))))))))))) \\ &))).)))))))).)))))). \end{aligned}$$

-----CAGUGGUUUUACCCUAUGGUA-----

$$----- \quad 2 \quad 0, -1$$

-----CAGUGGUUUUACCCUAUGGUAa-----

----- 5 0, -1

-----CAGUGGUUUUACCCUAUGGUAGa-----

$$----- \quad 2 \quad 0,0$$

-----CUACCACAGGGUAGAACCAC

G----- 4 -1, -1

-----CUACCACAGGGUAGAACCAC

GGA----- 11 -1,1

-----CUACCACAGGGUAGAACCAC

GGAa-----2-1,1

-----CUACCACAGGGUAGAACCAC

GGAC----- 4 -1,2

-----UACCACAGGGUAGAACCA-----

----- 83 0,-3

-----UACCACAGGGUAGAACCAC

----- 162 0, -2

-----UACCACAGGGUAGAACCAC

a-----2 0,-2

-----UACCACAGGGUAGAACCAC

G----- 1899 0,-1

-----UACCACAGGGUAGAACCAC

Ga----- 15 0,-1

-----				-----UACCACAGGGUAGAACCAC
Gaa-----	3	0,-1		
-----				-----UACCACAGGGUAGAACCAC
Gu-----	3	0,-1		
-----				-----UACCACAGGGUAGAACCAC
GG-----	3373	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGu-----	75	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGuu-----	34	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGA-----	3617	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAA-----	1302	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAAA-----	657	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAAu-----	248	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAu-----	266	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAu-----	20	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAC-----	1173	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACu-----	23	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACA-----	155	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAA-----	19	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAU-----	9	0,3		
-----				-----ACCACAGGGUAGAACCAC
-----	57	1,-2		
-----				-----ACCACAGGGUAGAACCAC
u-----	3	1,-2		
-----				-----ACCACAGGGUAGAACCAC
G-----	128	1,-1		

-----				-----ACCACAGGGUAGAACCAC
Gaa-----	5	1,-1		
-----				-----ACCACAGGGUAGAACCAC
GG-----	2916	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGu-----	182	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGuu-----	110	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGA-----	17362	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAa-----	6393	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAAa-----	2325	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAAu-----	509	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAu-----	3146	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAuu-----	238	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAC-----	3941	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACu-----	96	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACuu-----	12	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACA-----	409	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAa-----	273	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAaa-----	21	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAau-----	8	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAu-----	55	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAG-----	17	1,4		

```

-----ACCACAGGGUAGAACCAC
GGACAGu-----      3    1,4
-----CCACAGGGUAGAACCAC
GG-----      61    2,0
-----CCACAGGGUAGAACCAC
GGu-----      4    2,0
-----CCACAGGGUAGAACCAC
GGuu-----      4    2,0
-----CCACAGGGUAGAACCAC
GGA-----      308  2,1
-----CCACAGGGUAGAACCAC
GGAa-----      130  2,1
-----CCACAGGGUAGAACCAC
GGAaa-----      60    2,1
-----CCACAGGGUAGAACCAC
GGAau-----      13    2,1
-----CCACAGGGUAGAACCAC
GGAu-----      61    2,1
-----CCACAGGGUAGAACCAC
GGAuu-----      4    2,1
-----CCACAGGGUAGAACCAC
GGAC-----      98    2,2
-----CCACAGGGUAGAACCAC
GGACu-----      5    2,2
-----CCACAGGGUAGAACCAC
GGACA-----      26    2,3
-----CCACAGGGUAGAACCAC
GGACAA-----      12    2,3
-----CCACAGGGUAGAACCAC
GGACAAA-----      5    2,3
-----CCACAGGGUAGAACCAC
GGACAU-----      3    2,3
-----CCACAGGGUAGAACCAC
GGACAG-----      3    2,4

```

>hsa-mir-141 mi:17-38;MA:59-80 SRX018958

```

cggccggcccugggucCAUCUCCAGUACAGUGUUGGAuggucuaauugugaagcuccUAACACUGUCUGGUAAAGAUGG
cucccggguggguuc

```



```

-----UAACACUGUCUGGUAAGAU-----
-3    0,-2
-----UAACACUGUCUGGUAAGAUG-----
-2    0,-1
-----UAACACUGUCUGGUAAGAUGu-----
-3    0,-1
-----UAACACUGUCUGGUAAGAUGu-----
u-2    0,-1

```

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug

[illegible]

-----CCCAUAAAGUAGAAAGCACUAC-----
 ----- 33 -2,-1
 -----CCCAUAAAGUAGAAAGCACUACa-----
 ----- 2 -2,-1
 -----CCAUAAAGUAGAAAGCACU-----
 ----- 5 -1,-3
 -----CCAUAAAGUAGAAAGCACUA-----
 ----- 6 -1,-2
 -----CCAUAAAGUAGAAAGCACUAu-----
 ----- 2 -1,-2
 -----CAUAAAGUAGAAAGCACU-----
 ----- 16 0,-3
 -----CAUAAAGUAGAAAGCACUA-----
 ----- 102 0,-2
 -----CAUAAAGUAGAAAGCACUAa-----
 ----- 44 0,-2
 -----CAUAAAGUAGAAAGCACUAaa-----
 ----- 34 0,-2
 -----CAUAAAGUAGAAAGCACUAu-----
 ----- 4 0,-2
 -----CAUAAAGUAGAAAGCACUAuu-----
 ----- 2 0,-2
 -----CAUAAAGUAGAAAGCACUAC-----
 ----- 90 0,-1
 -----CAUAAAGUAGAAAGCACUACU-----
 ----- 88 0,0
 -----CAUAAAGUAGAAAGCACUACUA-----
 ----- 64 0,1
 -----CAUAAAGUAGAAAGCACUACUAu-----
 ----- 10 0,1
 -----CAUAAAGUAGAAAGCACUACUAA-----
 ----- 25 0,2
 -----AUAAAGUAGAAAGCACUA-----
 ----- 19 1,-2
 -----AUAAAGUAGAAAGCACUAa-----
 ----- 2 1,-2
 -----AUAAAGUAGAAAGCACUAaa-----
 ----- 2 1,-2

```

-----AUAAGUAGAAAGCACUAC-----
----- 10 1,-1
-----AUAAGUAGAAAGCACUACU-----
----- 18 1,0
-----AUAAGUAGAAAGCACUACUA-----
----- 18 1,1
-----AUAAGUAGAAAGCACUACUau-----
----- 15 1,1
-----AUAAGUAGAAAGCACUACUAA-----
----- 211 1,2
-----UAAAGUAGAAAGCACUAC-----
----- 3 2,-1
-----UGUAGUGUUUCCUACUUUAUG-----
----- 3 0,-2
-----UGUAGUGUUUCCUACUUUAUGG-----
----- 5 0,-1
-----GUAGUGUUUCCUACUUUAU-----
----- 2 1,-3
-----GUAGUGUUUCCUACUUUAUG-----
----- 4 1,-2
-----GUAGUGUUUCCUACUUUAUGa-----
----- 2 1,-2
-----GUAGUGUUUCCUACUUUAUGG-----
----- 36 1,-1

```

>hsa-mir-143 mi:27-48;MA:61-81 SRX018958

gcgagcgcggcugucuccagccugaGGUGCAGUGCUGCAUCUCUGGUcaguugggagucUGAGAUGAAGCACUGUAGCU
Caggaagagagaaguuguucugcagc

```

..((((((.....((((((.....((((((((((((((((((((((((((((((((.....))))))))))))))))))))))))))
))))))..)))))).....))))))...

```

```

-----AGGUGCAGUGCUGCAUCUCU-----
----- 12 -1,-3
-----GGUGCAGUGCUGCAUCUC-----
----- 305 0,-4
-----GGUGCAGUGCUGCAUCUCU-----
----- 2650 0,-3
-----GGUGCAGUGCUGCAUCUCUu-----
----- 4 0,-3

```

```

-----GGUGCAGUGCUGCAUCUCUG-----
----- 57  0,-2
-----GGUGCAGUGCUGCAUCUCUGa-----
----- 6   0,-2
-----GGUGCAGUGCUGCAUCUCUGaa-----
----- 6   0,-2
-----GGUGCAGUGCUGCAUCUCUGG-----
----- 62  0,-1
-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 41  0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 14  0,-1
-----GGUGCAGUGCUGCAUCUCUGGau-----
----- 3   0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 8   0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 14  0,0
-----GGUGCAGUGCUGCAUCUCUGGUaa-----
----- 10  0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 23  0,0
-----GGUGCAGUGCUGCAUCUCUGGUu-----
----- 3   0,0
-----GGUGCAGUGCUGCAUCUCUGGUuu-----
----- 3   0,0
-----GGUGCAGUGCUGCAUCUCUGGUC-----
----- 2   0,1
-----GGUGCAGUGCUGCAUCUCUGGUCA-----
----- 4   0,2
-----GGUGCAGUGCUGCAUCUCUGGUCAa-----
----- 2   0,2
-----UCUGAGAUGAAGCACUGUAGC-----
----- 3   -2,-2
-----UCUGAGAUGAAGCACUGUAGCa
u----- 3   -2,-2
-----UCUGAGAUGAAGCACUGUAGCU
----- 7   -2,-1

```

```

-----UCUGAGAUGAAGCACUGUAGCU
a----- 3 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
au----- 2 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
C----- 5 -2,0
-----CUGAGAUGAAGCACUGUA---
----- 10 -1,-4
-----CUGAGAUGAAGCACUGUAG--
----- 5 -1,-3
-----CUGAGAUGAAGCACUGUAGa-
----- 2 -1,-3
-----CUGAGAUGAAGCACUGUAGC-
----- 15 -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 95 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
a----- 4 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
aa----- 2 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
au----- 2 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
u----- 3 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 86 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 29 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cuu----- 3 -1,0
-----CUGAGAUGAAGCACUGUAGCU
CA----- 4 -1,1
-----UGAGAUGAAGCACUGUAG--
----- 418 0,-3
-----UGAGAUGAAGCACUGUAGa-
----- 5 0,-3
-----UGAGAUGAAGCACUGUAGaa
----- 7 0,-3

```

-----			UGAGAUGAAGCACUGUAGau
-----	2	0,-3	
-----			UGAGAUGAAGCACUGUAGu-
-----	2	0,-3	
-----			UGAGAUGAAGCACUGUAGuu
-----	8	0,-3	
-----			UGAGAUGAAGCACUGUAGC-
-----	385	0,-2	
-----			UGAGAUGAAGCACUGUAGCa
-----	56	0,-2	
-----			UGAGAUGAAGCACUGUAGCa
a-----	73	0,-2	
-----			UGAGAUGAAGCACUGUAGCa
u-----	5	0,-2	
-----			UGAGAUGAAGCACUGUAGCU
-----	4959	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
a-----	302	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
aa-----	99	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
au-----	56	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
u-----	111	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
uu-----	26	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
C-----	7883	0,0	
-----			UGAGAUGAAGCACUGUAGCU
Cu-----	2173	0,0	
-----			UGAGAUGAAGCACUGUAGCU
Cuu-----	326	0,0	
-----			UGAGAUGAAGCACUGUAGCU
CA-----	492	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAa-----	66	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAaa-----	12	0,1	


```

-----GUCCAGUUUUCCCAGGAU-----
----- 91  0, -4
-----GUCCAGUUUUCCCAGGAUa-----
----- 86  0, -4
-----GUCCAGUUUUCCCAGGAUaa-----
----- 17  0, -4
-----GUCCAGUUUUCCCAGGAUu-----
-----  3  0, -4
-----GUCCAGUUUUCCCAGGAUC-----
----- 37  0, -3
-----GUCCAGUUUUCCCAGGAUCa-----
----- 47  0, -3
-----GUCCAGUUUUCCCAGGAUCaa-----
-----  3  0, -3
-----GUCCAGUUUUCCCAGGAUCu-----
-----  5  0, -3
-----GUCCAGUUUUCCCAGGAUCC-----
----- 173 0, -2
-----GUCCAGUUUUCCCAGGAUCCa-----
----- 26  0, -2
-----GUCCAGUUUUCCCAGGAUCCu-----
-----  4  0, -2
-----GUCCAGUUUUCCCAGGAUCCuu-----
-----  2  0, -2
-----GUCCAGUUUUCCCAGGAUCCC-----
----- 379 0, -1
-----GUCCAGUUUUCCCAGGAUCCCa-----
----- 27  0, -1
-----GUCCAGUUUUCCCAGGAUCCCU-----
----- 621 0, 0
-----GUCCAGUUUUCCCAGGAUCCCUa-----
----- 10  0, 0
-----GUCCAGUUUUCCCAGGAUCCCUU-----
----- 48  0, 1
-----GUCCAGUUUUCCCAGGAUCCCUu-----
-----  7  0, 1
-----UCCAGUUUUCCCAGGAUCCCU-----
-----  2  1, 0

```

```

-----GGAUCCUGGAAAUACUGUUC-----
-----12 0,-1-----
-----GGAUCCUGGAAAUACUGUUCa-----
-----2 0,-1-----
-----GGAUCCUGGAAAUACUGUUCU-----
-----38 0,0-----
-----GAUCCUGGAAAUACUGUUCU-----
-----5 1,0-----
-----GAUCCUGGAAAUACUGUUCUU-----
-----4 1,1-----
-----AUUCCUGGAAAUACUGUU-----
-----3 2,-2-----
-----AUUCCUGGAAAUACUGUUC-----
-----13 2,-1-----
-----AUUCCUGGAAAUACUGUUCa-----
-----4 2,-1-----
-----AUUCCUGGAAAUACUGUUCU-----
-----93 2,0-----
-----AUUCCUGGAAAUACUGUUCUa-----
-----9 2,0-----
-----AUUCCUGGAAAUACUGUUCUau-----
-----2 2,0-----
-----AUUCCUGGAAAUACUGUUCUU-----
-----73 2,1-----
-----AUUCCUGGAAAUACUGUUCUUa-----
-----2 2,1-----
-----AUUCCUGGAAAUACUGUUCUUaa-----
-----2 2,1-----
-----AUUCCUGGAAAUACUGUUCUUu-----
-----3 2,1-----
-----AUUCCUGGAAAUACUGUUCUUG-----
-----4 2,2-----

```

>hsa-mir-1468 5p:13-33 SRX018958

```

gguggggugguuuCUCCGUUUGCCUGUUUCGCUGaugugcauucacucauucucagcaaaaauagcaaauggaaaauucg
uccauc
((((((..((..(((..((((((((..((((..((((..((((.....))))..))))).))))).))))).))))).
.)))))

```

```

-----CUCCGUUUGCCUGUUUCGC-----
----- 3 0,-2
-----CUCCGUUUGCCUGUUUCGCU-----
----- 11 0,-1
-----CUCCGUUUGCCUGUUUCGCUGA-----
----- 10 0,1

```

>hsa-mir-146a MA:21-42;mi:57-78 SRX018958

```

ccgauguguauccucagcuUGAGAACUGAAUCCAUGGGUugugucagugucagaCCUCUGAAAUUCAGUUCUUCAGcu
gggauaucucugucaugu

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UUGAGAACUGAAUCCAUGGGUU-----
----- 2 -1,0
-----UGAGAACUGAAUCCAUG-----
----- 5 0,-4
-----UGAGAACUGAAUCCAUGG-----
----- 19 0,-3
-----UGAGAACUGAAUCCAUGGa-----
----- 2 0,-3
-----UGAGAACUGAAUCCAUGGG-----
----- 17 0,-2
-----UGAGAACUGAAUCCAUGGGau-----
----- 2 0,-2
-----UGAGAACUGAAUCCAUGGGU-----
----- 59 0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 17 0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 21 0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 71 0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 277 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 168 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 51 0,0

```

```

-----UGAGAACUGAAUCCAUGGGUau-----
----- 88  0,0
-----UGAGAACUGAAUCCAUGGGUu-----
----- 107 0,0
-----UGAGAACUGAAUCCAUGGGUuu-----
----- 22  0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 69  0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 22  0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 36  0,2
-----GAGAACUGAAUCCAUGGGU-----
----- 2   1,-1
-----GAGAACUGAAUCCAUGGGUa-----
----- 2   1,-1
-----GAGAACUGAAUCCAUGGGUU-----
----- 19  1,0
-----GAGAACUGAAUCCAUGGGUUa-----
----- 8   1,0
-----GAGAACUGAAUCCAUGGGUau-----
----- 4   1,0
-----GAGAACUGAAUCCAUGGGUu-----
----- 8   1,0
-----GAGAACUGAAUCCAUGGGUUG-----
----- 4   1,1
-----GAGAACUGAAUCCAUGGGUUGa-----
----- 2   1,1
-----AGAACUGAAUCCAUGGG-----
----- 3   2,-2
-----AGAACUGAAUCCAUGGGUU-----
----- 17  2,0
-----AGAACUGAAUCCAUGGGUUG-----
----- 9   2,1

```

>hsa-mir-146b 5p:9-30;3p:45-66 SRX018958

```

ccuggcacUGAGAACUGAAUCCAUAGGCUgugagcucuagcaaUGCCUGUGGACUCAGUUCUGGugcccg
((.((((((.(((((((..(((((((..((....)).)).)))))))).)))))))).))

```

-----CUGAGAACUGAAUCCAU-----	4
-1,-5	
-----CUGAGAACUGAAUCCAUAGG-----	4
-1,-2	
-----CUGAGAACUGAAUCCAUAGGC-----	5
-1,-1	
-----CUGAGAACUGAAUCCAUAGGCU-----	111
-1,0	
-----UGAGAACUGAAUCCAU-----	2
0,-4	
-----UGAGAACUGAAUCCAUAG-----	40
0,-3	
-----UGAGAACUGAAUCCAUAGG-----	186
0,-2	
-----UGAGAACUGAAUCCAUAGGau-----	2
0,-2	
-----UGAGAACUGAAUCCAUAGGC-----	90
0,-1	
-----UGAGAACUGAAUCCAUAGGCa-----	100
0,-1	
-----UGAGAACUGAAUCCAUAGGCaa-----	46
0,-1	
-----UGAGAACUGAAUCCAUAGGCau-----	27
0,-1	
-----UGAGAACUGAAUCCAUAGGCU-----	2300
0,0	
-----UGAGAACUGAAUCCAUAGGCUa-----	19
0,0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	38
0,0	
-----UGAGAACUGAAUCCAUAGGCUau-----	120
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	260
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	147
0,0	
-----UGAGAACUGAAUCCAUAGGCUG-----	119
0,1	

-----UGAGAACUGAAUCCAUAGGCUGa-----	483
0,1	
-----UGAGAACUGAAUCCAUAGGCUGaa-----	11
0,1	
-----UGAGAACUGAAUCCAUAGGCUGau-----	14
0,1	
-----UGAGAACUGAAUCCAUAGGCUGU-----	21
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUa-----	4
0,2	
-----GAGAACUGAAUCCAUAGG-----	4
1,-2	
-----GAGAACUGAAUCCAUAGGCU-----	37
1,0	
-----GAGAACUGAAUCCAUAGGCUu-----	7
1,0	
-----GAGAACUGAAUCCAUAGGCUG-----	7
1,1	
-----GAGAACUGAAUCCAUAGGCUGa-----	7
1,1	
-----AGAACUGAAUCCAUAGGCU-----	3
2,0	
-----UGCCCUGUGGACUCAGUUCUGGUau----	3
0,1	
-----GCCCUGUGGACUCAGUUCUG-----	5
1,-1	
-----GCCCUGUGGACUCAGUUCUGG-----	18
1,0	
-----GCCCUGUGGACUCAGUUCUGGU-----	16
1,1	
-----GCCCUGUGGACUCAGUUCUGGUa-----	15
1,1	
-----GCCCUGUGGACUCAGUUCUGGUaa----	2
1,1	
-----GCCCUGUGGACUCAGUUCUGGUau----	75
1,1	
-----GCCCUGUGGACUCAGUUCUGGUu-----	9
1,1	

1,1	-GCCCUGUGGACUCAGUUCUGGU <u>uu</u> ----	4
1,2	-GCCCUGUGGACUCAGUUCUGGUG-----	2
2,0	-----CCCUGUGGACUCAGUUCUGG-----	2
2,1	-----CCCUGUGGACUCAGUUCUGGU <u>a</u> ----	2
2,1	-----CCCUGUGGACUCAGUUCUGGU <u>au</u> ----	5

>hsa-mir-148a mi:6-27:MA:44-65 SRX018958

gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc

-----CAAAGUUCUGAGACACUCCGA----- 6

-1, -2

-----AAAGUUCUGAGACACUCC----- 3 0,-4

-----AAAGUUCUGAGACACUCCGA----- 151 0,-2

-----AAAGUUCUGAGACACUCCGAa----- 6 0,-2

-----AAAGUUCUGAGACACUCCGaaa----- 3 0,-2

-----AAAGUUCUGAGACACUCCGAC----- 8 0,-1

-----AAAGUUCUGAGACACUCCGACU----- 57 0,0

-----AAAGUUCUGAGACACUCCGACUa----- 4 0,0

-----AAAGUUCUGAGACACUCCGACUu----- 4 0,0

-----AAGUUCUGAGACACUCCGA----- 2 1,-2

-----AGUCAGUGCACUACAGAACUUUG----- 2

-2,-1

-----GUCAGUGCACUACAGAACUUUG----- 2

-1,-1

-----GUCAGUGCACUACAGAACUUUGa----- 2

-1,-1

-----GUCAGUGCACUACAGAACUUUGU----- 12 -1,0

-----UCAGUGCACUACAGAACU----- 12983

0,-4

-----UCAGUGCACUACAGAACUa----- 8 0,-4

-----UCAGUGCACUACAGAACUaa----- 10 0,-4

-----UCAGUGCACUACAGAACU_{au}----- 5 0, -4

-----UCAGUGCACUACAGAACUU----- 818 0,-3

-----UCAGUGCACUACAGAACUUa-----	15	0,-3
-----UCAGUGCACUACAGAACUUaa-----	8	0,-3
-----UCAGUGCACUACAGAACUUau-----	7	0,-3
-----UCAGUGCACUACAGAACUUU-----	4586	
0,-2		
-----UCAGUGCACUACAGAACUUUa-----	80	0,-2
-----UCAGUGCACUACAGAACUUUaa-----	19	0,-2
-----UCAGUGCACUACAGAACUUUau-----	22	0,-2
-----UCAGUGCACUACAGAACUUUu-----	55	0,-2
-----UCAGUGCACUACAGAACUUUuu-----	16	0,-2
-----UCAGUGCACUACAGAACUUUG-----	6471	
0,-1		
-----UCAGUGCACUACAGAACUUUGa---	6205	
0,-1		
-----UCAGUGCACUACAGAACUUUGaa--	705	0,-1
-----UCAGUGCACUACAGAACUUUGau--	14	0,-1
-----UCAGUGCACUACAGAACUUUGU---	58520	
0,0		
-----UCAGUGCACUACAGAACUUUGUa--	479	0,0
-----UCAGUGCACUACAGAACUUUGUaa--	109	0,0
-----UCAGUGCACUACAGAACUUUGUau--	41	0,0
-----UCAGUGCACUACAGAACUUUGUu--	697	0,0
-----UCAGUGCACUACAGAACUUUGUuu--	34	0,0
-----UCAGUGCACUACAGAACUUUGUC--	933	0,1
-----UCAGUGCACUACAGAACUUUGUCa-	55	0,1
-----UCAGUGCACUACAGAACUUUGUCaa	2	0,1
-----UCAGUGCACUACAGAACUUUGUCau	4	0,1
-----UCAGUGCACUACAGAACUUUGUCU-	186	0,2
-----UCAGUGCACUACAGAACUUUGUCUu	3	0,2
-----UCAGUGCACUACAGAACUUUGUCUC	3	0,3
-----CAGUGCACUACAGAACUUU-----	6	1,-2
-----CAGUGCACUACAGAACUUUG-----	2	1,-1
-----CAGUGCACUACAGAACUUUGU---	74	1,0
-----CAGUGCACUACAGAACUUUGUu--	3	1,0
-----AGUGCACUACAGAACUUU-----	112	2,-2
-----AGUGCACUACAGAACUUUG-----	99	2,-1
-----AGUGCACUACAGAACUUUGa---	68	2,-1
-----AGUGCACUACAGAACUUUGaa--	16	2,-1

-----AGUGCACUACAGAACUUGU---	885	2,0
-----AGUGCACUACAGAACUUGUa--	14	2,0
-----AGUGCACUACAGAACUUGUaa-	2	2,0
-----AGUGCACUACAGAACUUGUu--	15	2,0
-----AGUGCACUACAGAACUUGUC--	22	2,1
-----AGUGCACUACAGAACUUGUCa-	4	2,1
-----AGUGCACUACAGAACUUGUCU-	7	2,2

U-----	112	0,-3	-----UCAGUGCAUCACAGAACU
UU-----	528	0,-2	-----UCAGUGCAUCACAGAACU
UUa-----	3	0,-2	-----UCAGUGCAUCACAGAACU
UUu-----	6	0,-2	-----UCAGUGCAUCACAGAACU
UUG-----	126	0,-1	-----UCAGUGCAUCACAGAACU
UUGa-----	92	0,-1	-----UCAGUGCAUCACAGAACU
UUGaa-----	8	0,-1	-----UCAGUGCAUCACAGAACU
UUGU-----	1014	0,0	-----UCAGUGCAUCACAGAACU
UUGUa-----	37	0,0	-----UCAGUGCAUCACAGAACU
UUGUaa-----	11	0,0	-----UCAGUGCAUCACAGAACU
UUGUau-----	11	0,0	-----UCAGUGCAUCACAGAACU
UUGUu-----	370	0,0	-----UCAGUGCAUCACAGAACU
UUGUuu-----	33	0,0	-----UCAGUGCAUCACAGAACU
UUGUC-----	2	0,1	-----CAGUGCAUCACAGAACU
UUGUuu-----	2	1,0	-----AGUGCAUCACAGAACU
UU-----	9	2,-2	-----AGUGCAUCACAGAACU
UUGa-----	2	2,-1	-----AGUGCAUCACAGAACU
UUGU-----	18	2,0	-----AGUGCAUCACAGAACU
UUGUu-----	12	2,0	

>hsa-mi r-150 MA:16-37;mi :51-72 SRX018958

cuccccaugggccugUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGACAGggaccugg
ggac

.(((((((.(((((((((((((((((((.(((.(((((((((.(((((...)))..))))))))))))..))))))))))))..)))))))).

-----UCUCCAACCCUUGUACC-----

--- 11 0,-4

-----UCUCCAACCCUUGUACCA-----

--- 41 0,-3

-----UCUCCCAACCCUUGUACCAG-----

--- 15 0,-2

-----UCUCCCAACCCUUGUACCAGU-----

--- 61 0,-1

-----UCUCCCAACCCUUGUACCAGU_a-----

--- 8 0,-1

-----UCUCCAACCCUUGUACCAGU_{aa}-----

--- 2 0,-1

-----UCUCCAACCCUUGUACCAGUG-----

--- 170 0,0

-----UCUCCAACCCUUGUACCAGUGa-----

--- 86 0,0

-----UCUCCAACCCUUGUACCAGUGaa-----

--- 2 0,0

-----UCUCCAACCCUUGUACCAGUGu-----

--- 30 0,0

>hsa-mir-151 5p:11-31;3p:47-67 SRX018958

uuuccugcccUCGAGGAGCUCACAGUCUAGUaugucucaucccuaCUAGACUGAAGCUCCUUGAGGacagggaugguca
uacucaccuc

.(((((((.(((((((((((((((.(((((((((((((((.(.....).)))))))))).)))))))))).))))))....

-----CUCGAGGAGCUCACAGUCUA-----

----- 5 -1, -2

-----CUCGAGGAGCUCACAGUCUAG-----

----- 9 -1,-1

-----CUCGAGGAGCUCACAGUCUAGU-----

----- 63 -1,0

-----CUCGAGGAGCUCACAGUCUAGUA-----

```

----- 15 -1,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
----- 7 -1,2
-----UCGAGGAGCUCACAGUCU-----
----- 4 0,-3
-----UCGAGGAGCUCACAGUCUA-----
----- 145 0,-2
-----UCGAGGAGCUCACAGUCUAuu-----
----- 2 0,-2
-----UCGAGGAGCUCACAGUCUAG-----
----- 120 0,-1
-----UCGAGGAGCUCACAGUCUAGa-----
----- 18 0,-1
-----UCGAGGAGCUCACAGUCUAGaa-----
----- 10 0,-1
-----UCGAGGAGCUCACAGUCUAGU-----
----- 944 0,0
-----UCGAGGAGCUCACAGUCUAGUu-----
----- 5 0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
----- 479 0,1
-----UCGAGGAGCUCACAGUCUAGUAa-----
----- 112 0,1
-----UCGAGGAGCUCACAGUCUAGUAaa-----
----- 5 0,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
----- 71 0,2
-----UCGAGGAGCUCACAGUCUAGUAUa-----
----- 4 0,2
-----UCGAGGAGCUCACAGUCUAGUAUG-----
----- 2 0,3
-----CGAGGAGCUCACAGUCUAG-----
----- 2 1,-1
-----CGAGGAGCUCACAGUCUAGUA-----
----- 2 1,1
-----CGAGGAGCUCACAGUCUAGUAU-----
----- 2 1,2
-----CGAGGAGCUCACAGUCUAGUAUG-----

```

-----	2	1,3	
-----	-GAGGAGCUCACAGUCUAGU-----		
-----	30	2,0	
-----	-GAGGAGCUCACAGUCUAGUA-----		
-----	7	2,1	
-----	-GAGGAGCUCACAGUCUAGUAa-----		
-----	2	2,1	
-----	-GAGGAGCUCACAGUCUAGUAU-----		
-----	4	2,2	
-----	-----UACUAGACUGAAGCUCCUUG-----		
-----	3	-2,-3	
-----	-----UACUAGACUGAAGCUCCUUGA-----		
-----	59	-2,-2	
-----	-----UACUAGACUGAAGCUCCUUGAa-----		
-----	16	-2,-2	
-----	-----UACUAGACUGAAGCUCCUUGAuu-----		
-----	3	-2,-2	
-----	-----UACUAGACUGAAGCUCCUUGAG-----		
-----	140	-2,-1	
-----	-----UACUAGACUGAAGCUCCUUGAGa-----		
-----	46	-2,-1	
-----	-----UACUAGACUGAAGCUCCUUGAGaa-----		
-----	2	-2,-1	
-----	-----UACUAGACUGAAGCUCCUUGAGu-----		
-----	4	-2,-1	
-----	-----UACUAGACUGAAGCUCCUUGAGG-----		
-----	75	-2,0	
-----	-----UACUAGACUGAAGCUCCUUGAGGu-----		
-----	7	-2,0	
-----	-----UACUAGACUGAAGCUCCUUGAGGA-----		
-----	22	-2,1	
-----	-----UACUAGACUGAAGCUCCUUGAGGAa-----		
-----	4	-2,1	
-----	-----ACUAGACUGAAGCUCCUUGAG-----		
-----	17	-1,-1	
-----	-----ACUAGACUGAAGCUCCUUGAGa-----		
-----	8	-1,-1	
-----	-----ACUAGACUGAAGCUCCUUGAGu-----		

-----	7	-1,-1	-----ACUAGACUGAAGCUCCUUGAGG-----
-----	26	-1,0	-----ACUAGACUGAAGCUCCUUGAGGA-----
-----	45	-1,1	-----ACUAGACUGAAGCUCCUUGAGGAa-----
-----	10	-1,1	-----ACUAGACUGAAGCUCCUUGAGGAau-----
-----	3	-1,1	-----CUAGACUGAAGCUCCUUG-----
-----	6	0,-3	-----CUAGACUGAAGCUCCUUGA-----
-----	61	0,-2	-----CUAGACUGAAGCUCCUUGAa-----
-----	22	0,-2	-----CUAGACUGAAGCUCCUUGAaa-----
-----	14	0,-2	-----CUAGACUGAAGCUCCUUGAau-----
-----	2	0,-2	-----CUAGACUGAAGCUCCUUGAu-----
-----	2	0,-2	-----CUAGACUGAAGCUCCUUGAG-----
-----	422	0,-1	-----CUAGACUGAAGCUCCUUGAGa-----
-----	109	0,-1	-----CUAGACUGAAGCUCCUUGAGaa-----
-----	48	0,-1	-----CUAGACUGAAGCUCCUUGAGau-----
-----	3	0,-1	-----CUAGACUGAAGCUCCUUGAGu-----
-----	31	0,-1	-----CUAGACUGAAGCUCCUUGAGG-----
-----	1305	0,0	-----CUAGACUGAAGCUCCUUGAGGu-----
-----	54	0,0	-----CUAGACUGAAGCUCCUUGAGGuu-----
-----	6	0,0	-----CUAGACUGAAGCUCCUUGAGGA-----

-----	2449	0,1	-----CUAGACUGAAGCUCCUUGAGGAa-----
-----	2559	0,1	-----CUAGACUGAAGCUCCUUGAGGAaa-----
-----	1468	0,1	-----CUAGACUGAAGCUCCUUGAGGAau-----
-----	405	0,1	-----CUAGACUGAAGCUCCUUGAGGAu-----
-----	394	0,1	-----CUAGACUGAAGCUCCUUGAGGAuu-----
-----	54	0,1	-----CUAGACUGAAGCUCCUUGAGGAC-----
-----	43	0,2	-----CUAGACUGAAGCUCCUUGAGGACu-----
-----	13	0,2	-----CUAGACUGAAGCUCCUUGAGGACA-----
-----	6	0,3	-----UAGACUGAAGCUCCUUGAG-----
-----	14	1,-1	-----UAGACUGAAGCUCCUUGAGa-----
-----	3	1,-1	-----UAGACUGAAGCUCCUUGAGaa-----
-----	2	1,-1	-----UAGACUGAAGCUCCUUGAGG-----
-----	37	1,0	-----UAGACUGAAGCUCCUUGAGGu-----
-----	8	1,0	-----UAGACUGAAGCUCCUUGAGGA-----
-----	70	1,1	-----UAGACUGAAGCUCCUUGAGGAa-----
-----	76	1,1	-----UAGACUGAAGCUCCUUGAGGAaa-----
-----	47	1,1	-----UAGACUGAAGCUCCUUGAGGAau-----
-----	16	1,1	-----UAGACUGAAGCUCCUUGAGGAu-----
-----	11	1,1	-----UAGACUGAAGCUCCUUGAGGAuu-----

----- 3 0,-1	-----UCAGUGCAUGACAGAACUUGG-----
----- 1083 0,0	-----UCAGUGCAUGACAGAACUUGGa-----
----- 248 0,0	-----UCAGUGCAUGACAGAACUUGGaa-----
----- 65 0,0	-----UCAGUGCAUGACAGAACUUGGau-----
----- 5 0,0	-----UCAGUGCAUGACAGAACUUGGu-----
----- 1106 0,0	-----UCAGUGCAUGACAGAACUUGGuu-----
----- 126 0,0	-----UCAGUGCAUGACAGAACUUGGG-----
----- 867 0,1	-----UCAGUGCAUGACAGAACUUGGGa-----
----- 280 0,1	-----UCAGUGCAUGACAGAACUUGGGaa-----
----- 90 0,1	-----UCAGUGCAUGACAGAACUUGGGau-----
----- 13 0,1	-----UCAGUGCAUGACAGAACUUGGGu-----
----- 665 0,1	-----UCAGUGCAUGACAGAACUUGGGuu-----
----- 54 0,1	-----AGUGCAUGACAGAACUUG-----
----- 5 2,-1	-----AGUGCAUGACAGAACUUGG-----
----- 22 2,0	-----AGUGCAUGACAGAACUUGGa-----
----- 3 2,0	-----AGUGCAUGACAGAACUUGGaa-----
----- 2 2,0	-----AGUGCAUGACAGAACUUGGu-----
----- 15 2,0	-----AGUGCAUGACAGAACUUGGuu-----
----- 4 2,0	-----AGUGCAUGACAGAACUUGGG-----

```

----- 14 2,1
-----AGUGCAUGACAGAACUUGGgAa-----
----- 7 2,1
-----AGUGCAUGACAGAACUUGGgAa-----
----- 3 2,1
-----AGUGCAUGACAGAACUUGGgGu-----
----- 10 2,1
-----AGUGCAUGACAGAACUUGGgGuu-----
----- 2 2,1

```

>hsa-mir-154 MA:15-36;mi:51-72 SRX018958

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuauuugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa

.(((((((.(((((((((((((.((((((....(((((.))))))....))))))....))))))....))))))....))))).)))).

```

-----UAGGUUAUCCGUGUUGCCU-----
---- 2 0,-3
-----UAGGUUAUCCGUGUUGCCU-----
---- 4 0,-2
-----UAGGUUAUCCGUGUUGCCUUC-----
---- 7 0,-1
-----UAGGUUAUCCGUGUUGCCUUCG-----
---- 15 0,0
-----AAUCAUACACGGUUGACCUAU-----
---- 3 0,-1
-----AAUCAUACACGGUUGACCUAUa-----
---- 2 0,-1
-----AAUCAUACACGGUUGACCUAUU-----
---- 24 0,0
-----AAUCAUACACGGUUGACCUAUUU-----
---- 4 0,1

```

>hsa-mir-155 MA:4-26;mi:43-64 SRX018958

cugUUA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUUAGCAUUAACAg

(((((((((((((((.(((((((((.((((((....))))))....))))))....))))))....))))))....))))).)))).

```

---UUA AUGCUAAUCGUGAU----- 53 0,-5
---UUA AUGCUAAUCGUGAUAG----- 4 0,-4
---UUA AUGCUAAUCGUGAUAGG----- 2 0,-3

```

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>hsa-mir-15a      MA:14-35;mi:51-72    SRX018958
ccuuggaguaaagUAGCAGCACAUAAUGGUUUGGgaauuugaaaaggugCAGGCCAUAUUGUGCCUCAaaaauaca
agg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----UAGCAGCACAUAAUGGUU-----
--- 104 0,-4
-----UAGCAGCACAUAAUGGUU-----
--- 1039 0,-3
-----UAGCAGCACAUAAUGGUUa-----
--- 6 0,-3
-----UAGCAGCACAUAAUGGUUaa-----
--- 2 0,-3
-----UAGCAGCACAUAAUGGUUu-----
--- 15 0,-3
-----UAGCAGCACAUAAUGGUUUG-----
--- 490 0,-2
-----UAGCAGCACAUAAUGGUUGa-----
--- 2 0,-2
-----UAGCAGCACAUAAUGGUUUGU-----
--- 389 0,-1
-----UAGCAGCACAUAAUGGUUUGUa-----
--- 5 0,-1
-----UAGCAGCACAUAAUGGUUUGUau-----
--- 2 0,-1
-----UAGCAGCACAUAAUGGUUUGUu-----
--- 2 0,-1
-----UAGCAGCACAUAAUGGUUUGUG-----
--- 42 0,0
-----UAGCAGCACAUAAUGGUUUGUGa-----
--- 11 0,0
-----AGCAGCACAUAAUGGUU-----
--- 3 1,-3

```

```

-----AGCAGCACAUAAUGGUUUG-----
--- 2 1,-2
-----AGCAGCACAUAAUGGUUUGU-----
--- 3 1,-1

```

>hsa-mir-15b MA:20-41;mi:58-79 SRX018958

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uugaggccuuaaaguacugUAGCAGCACAUCAUGGUUUACAugcuacagucaagaugCGAAUCAUUAUUUGCUCUCUAg
aaauuaaggaaucau

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((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
...))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

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```

-----UAGCAGCACAUCAUGGUU-----
----- 13 0,-4
-----UAGCAGCACAUCAUGGUUU-----
----- 85 0,-3
-----UAGCAGCACAUCAUGGUUUu-----
----- 14 0,-3
-----UAGCAGCACAUCAUGGUUUA-----
----- 352 0,-2
-----UAGCAGCACAUCAUGGUUUa-----
----- 19 0,-2
-----UAGCAGCACAUCAUGGUUUu-----
----- 8 0,-2
-----UAGCAGCACAUCAUGGUUUAC-----
----- 172 0,-1
-----UAGCAGCACAUCAUGGUUUACu-----
----- 2 0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 463 0,0
-----UAGCAGCACAUCAUGGUUUACAa-----
----- 13 0,0
-----UAGCAGCACAUCAUGGUUUACAU-----
----- 5 0,1
-----AGCAGCACAUCAUGGUUUA-----
----- 2 1,-2
-----AGCAGCACAUCAUGGUUUAC-----
----- 4 1,-1
-----GCAGCACAUCAUGGUUUACA-----
----- 2 2,0

```

-----CGAAUCAUUAUUUGCUCUCUAu
----- 3 0,0

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018958

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuaagauucuaaaauuauucuCCAGUAUUAACUGUGCUCUGAagu
aagguugac

(((((...(((.....))))).)))))

-----UAGCAGCACGUAAAUAUU-----

----- 331 0,-4

-----UAGCAGCACGUAAAUAUUa-----

----- 17 0,-4

-----UAGCAGCACGUAAAUAUUaa-----

----- 3 0,-4

-----UAGCAGCACGUAAAUAUUu-----

----- 2 0,-4

-----UAGCAGCACGUAAAUAUUG-----

----- 1125 0,-3

-----UAGCAGCACGUAAAUAUUGa-----

----- 11 0,-3

-----UAGCAGCACGUAAAUAUUGaa-----

----- 9 0,-3

-----UAGCAGCACGUAAAUAUUGu-----

----- 5 0,-3

-----UAGCAGCACGUAAAUAUUGG-----

----- 1720 0,-2

-----UAGCAGCACGUAAAUAUUGGa-----

----- 35 0,-2

-----UAGCAGCACGUAAAUAUUGGaa-----

----- 16 0,-2

-----UAGCAGCACGUAAAUAUUGGu-----

----- 12 0,-2

-----UAGCAGCACGUAAAUAUUGGC-----

----- 661 0,-1

-----UAGCAGCACGUAAAUAUUGGCa-----

----- 247 0,-1

-----UAGCAGCACGUAAAUAUUGGCaa-----

----- 146 0,-1

```

-----UAGCAGCACGUAAAUAUUGGCau-----
----- 72  0, -1
-----UAGCAGCACGUAAAUAUUGGCu-----
----- 12  0, -1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 3076  0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 98  0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 20  0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 27  0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 519  0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 42  0,2
-----UAGCAGCACGUAAAUAUUGGCGUu-----
----- 9  0,2
-----AGCAGCACGUAAAUAUUG-----
----- 8  1, -3
-----AGCAGCACGUAAAUAUUGG-----
----- 7  1, -2
-----AGCAGCACGUAAAUAUUGGC-----
----- 2  1, -1
-----AGCAGCACGUAAAUAUUGGCa-----
----- 2  1, -1
-----AGCAGCACGUAAAUAUUGGCuu-----
----- 2  1, -1
-----AGCAGCACGUAAAUAUUGGCG-----
----- 37  1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
----- 5  1,1
-----AGCAGCACGUAAAUAUUGGCGUU-----
----- 2  1,2
-----GCAGCACGUAAAUAUUGGCG-----
----- 4  2,0
-----CCAGUAUUAACUGUGCUGCU-----
----- 2  0, -2

```

guuccacucUAGCAGCACGUAAAUAUUGGCGuagugaaauauauuuuacaCCAAUAUUACUGUGCUGCUUUAguuguga
c

-----CUAGCAGCACGUAAAUAUU-----

-----CUAGCAGCACGUAUUUAUUG-----

-----CUAGCAGCACGUAAAUAUUGG-----

-----CUAGCAGCACGUAUUUAUUGGC-----

-----CUAGCAGCACGUAAAUAUUGGCG-----

-----UAGCAGCACGUAUUUAUU-----

-----UAGCAGCACGUAAAUAUUa-----

-----UAGCAGCACGUAUUUAUU_{aa}-----

-----UAGCAGCACGUAAAUAUUu-----

-----UAGCAGCACGUAAAUAUUG-----

-----UAGCAGCACGUAUUUAUUGa-----

-----UAGCAGCACGUAAAUAUUGaa-----

-----UAGCAGCACGUAAAUAUUGu-----

-----UAGCAGCACGUAAAUAUUGG-----

-----UAGCAGCACGUAAAUAUUGGa-----

-----UAGCAGCACGUAAAUAUUGG_{aa}-----

- 16 0,-2

```

-----UAGCAGCACGUAAAUAUUGGu-----
- 12 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
- 661 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
- 247 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
- 146 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
- 72 0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----
- 12 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
- 3076 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
- 98 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
- 20 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
- 27 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
- 519 0,1
-----UAGCAGCACGUAAAUAUUGGCGUA-----
- 8 0,2
-----UAGCAGCACGUAAAUAUUGGCGUAu-----
- 2 0,2
-----AGCAGCACGUAAAUAUUG-----
- 8 1,-3
-----AGCAGCACGUAAAUAUUGG-----
- 7 1,-2
-----AGCAGCACGUAAAUAUUGGC-----
- 2 1,-1
-----AGCAGCACGUAAAUAUUGGCa-----
- 2 1,-1
-----AGCAGCACGUAAAUAUUGGCuu-----
- 2 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
- 37 1,0

```



```

-----AGCAGCACGUAAAUUUGGCGU-----
-   5   1,1
-----GCAGCACGUAAAUUUGGCG-----
-   4   2,0
-----ACCAUAUUACUGUGCUGCU-----
-   8   -1,-3
-----ACCAUAUUACUGUGCUGCUU-----
-  20   -1,-2
-----ACCAUAUUACUGUGCUGCUUU-----
-  96   -1,-1
-----ACCAUAUUACUGUGCUGCUUUu-----
-  25   -1,-1
-----ACCAUAUUACUGUGCUGCUUUA-----
-  15   -1,0
-----ACCAUAUUACUGUGCUGCUUUAu-----
-   4   -1,0
-----CCAUAUUACUGUGCUGCUUU-----
-   2    0,-1

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>hsa-mi r-17 MA:14-36;mi:51-72 SRX018958

gucagaauaanguCAAAGUGCUUACAGUGCAGGUAGugauaugugcaucuACUGCAGUGAAGGCACUUGUAGcauuauagg
ugac

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((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
))))))

```

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-----UCAAGUGCUUACAGUGCAG-----
----  10  -1,-4
-----UCAAGUGCUUACAGUGCAGGU-----
----   8  -1,-2
-----UCAAGUGCUUACAGUGCAGGUAa-----
----   2  -1,-1
-----UCAAGUGCUUACAGUGCAGGUAu-----
----   2  -1,-1
-----CAAAGUGCUUACAGUGCA-----
----  40   0,-5
-----CAAAGUGCUUACAGUGCAG-----
---- 268   0,-4
-----CAAAGUGCUUACAGUGCAGG-----
---- 217   0,-3

```

```

-----CAAAGUGCUUACAGUGCAGGa-----
---- 4 0,-3
-----CAAAGUGCUUACAGUGCAGGU-----
---- 140 0,-2
-----CAAAGUGCUUACAGUGCAGGUu-----
---- 3 0,-2
-----CAAAGUGCUUACAGUGCAGGUuu-----
---- 4 0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
---- 204 0,-1
-----CAAAGUGCUUACAGUGCAGGUAa-----
---- 56 0,-1
-----CAAAGUGCUUACAGUGCAGGUAau-----
---- 3 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 80 0,-1
-----CAAAGUGCUUACAGUGCAGGUAuu-----
---- 5 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 270 0,0
-----CAAAGUGCUUACAGUGCAGGUAGa-----
---- 2 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
---- 16 0,1
-----AAAGUGCUUACAGUGCAGG-----
---- 8 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
---- 8 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
---- 7 1,-1
-----AAAGUGCUUACAGUGCAGGUAa-----
---- 6 1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
---- 2 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
---- 2 1,0
-----AAAGUGCUUACAGUGCAGGUAGa-----
---- 3 1,0

```

-----				-UACUGCAGUGAAGGCACUUGU-----
----	3	-1,-2		
-----				-ACUGCAGUGAAGGCACUU-----
----	243	0,-4		
-----				-ACUGCAGUGAAGGCACUUuu-----
----	2	0,-4		
-----				-ACUGCAGUGAAGGCACUUG-----
----	443	0,-3		
-----				-ACUGCAGUGAAGGCACUUGU-----
----	768	0,-2		
-----				-ACUGCAGUGAAGGCACUUGUu-----
----	2	0,-2		
-----				-ACUGCAGUGAAGGCACUUGUA-----
----	73	0,-1		
-----				-ACUGCAGUGAAGGCACUUGUAa-----
----	7	0,-1		
-----				-ACUGCAGUGAAGGCACUUGUAu-----
----	9	0,-1		
-----				-ACUGCAGUGAAGGCACUUGUAG-----
----	25	0,0		
-----				-ACUGCAGUGAAGGCACUUGUAGa-----
----	3	0,0		
-----				-ACUGCAGUGAAGGCACUUGUAGaa-----
----	3	0,0		
-----				-ACUGCAGUGAAGGCACUUGUAGC-----
----	5	0,1		
-----				-ACUGCAGUGAAGGCACUUGUAGCu-----
----	5	0,1		
-----				-ACUGCAGUGAAGGCACUUGUAGCA-----
----	5	0,2		
-----				-CUGCAGUGAAGGCACUUG-----
----	5	1,-3		
-----				-CUGCAGUGAAGGCACUUGU-----
----	12	1,-2		
-----				-CUGCAGUGAAGGCACUUGUA-----
----	7	1,-1		
-----				-CUGCAGUGAAGGCACUUGUAG-----
----	5	1,0		

-			CUGCAGUGAAGGCACUUGUAga-
----	2	1,0	
-			CUGCAGUGAAGGCACUUGUAGCu-
----	2	1,1	
-			UGCAGUGAAGGCACUUGU-
----	9	2,-2	
-			UGCAGUGAAGGCACUUGUA-
----	2	2,-1	

-----AACAUUCAACGCUGUCGGUaa-----		
-----9 0,-4-----		
-----AACAUUCAACGCUGUCGGUau-----		
-----2 0,-4-----		
-----AACAUUCAACGCUGUCGGUG-----		
-----13 0,-3-----		
-----AACAUUCAACGCUGUCGGUGu-----		
-----4 0,-3-----		
-----AACAUUCAACGCUGUCGGUGA-----		
-----120 0,-2-----		
-----AACAUUCAACGCUGUCGGUGAa-----		
-----2 0,-2-----		
-----AACAUUCAACGCUGUCGGUGAu-----		
-----2 0,-2-----		
-----AACAUUCAACGCUGUCGGUGAG-----		
-----600 0,-1-----		
-----AACAUUCAACGCUGUCGGUGAGa-----		
-----9 0,-1-----		
-----AACAUUCAACGCUGUCGGUGAGU-----		
-----73 0,0-----		
-----AACAUUCAACGCUGUCGGUGAGUa-----		
-----9 0,0-----		
-----AACAUUCAACGCUGUCGGUGAGUau-----		
-----2 0,0-----		
-----AACAUUCAACGCUGUCGGUGAGUU-----		
-----116 0,1-----		
-----AACAUUCAACGCUGUCGGUGAGUUa-----		
-----5 0,1-----		
-----AACAUUCAACGCUGUCGGUGAGUUU-----		
-----49 0,2-----		
-----ACAUUCAACGCUGUCGGUGAGUU-----		
-----4 1,1-----		
-----AACCA		
CUGACCGUUGACU-----5 -1,-5-----		
-----ACCA		
CUGACCGUUGACUG-----33 0,-4-----		
-----ACCA		
CUGACCGUUGACUGU-----7 0,-3-----		


```

-----AACAUUCAACCGUGCGGUGAG-----
-----13 0,-1
-----AACAUUCAACCGUGCGGUGAGUU-----
-----12 0,1
-----AACAUUCAACCGUGCGGUGAGUUU-----
-----6 0,2
-----ACCAUCGACCGUUGA
GUG-----11 1,-3
-----ACCAUCGACCGUUGA
GUGG-----2 1,-2

```

>hsa-mir-181d 5p:36-58 SRX018958

```

guccccucccuaggccacagccgaggucacaaucAACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accgggggaugaaugucacuguggcugggccagacacggcuuaaggggaauuggggac
((((((((((((((((((...(((...((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
-----AACAUUCAUUGUUGUCGGUG-----
-----5 0,-3
-----AACAUUCAUUGUUGUCGGUGG-----
-----2 0,-2
-----AACAUUCAUUGUUGUCGGUGGG-----
-----19 0,-1
-----AACAUUCAUUGUUGUCGGUGGGa-----
-----2 0,-1
-----AACAUUCAUUGUUGUCGGUGGGau-----
-----2 0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----
-----11 0,0
-----AACAUUCAUUGUUGUCGGUGGGUaa-----
-----2 0,0
-----AACAUUCAUUGUUGUCGGUGGGUau-----
-----5 0,0
-----AACAUUCAUUGUUGUCGGUGGGUU-----
-----17 0,1
-----AACAUUCAUUGUUGUCGGUGGGUu-----
-----3 0,1
-----ACAUUCAUUGUUGUCGGUGGGUU-----
-----2 1,1

```

```

>hsa-mir-182    MA:23-46;mi:67-87    SRX018958
gagcugcuugccuccccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAuggggcgaggacucagccggcac
..(((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..
-----UUUGGCAAUGGUAGAACUCA-----
----- 7    0,-4
-----UUUGGCAAUGGUAGAACUCACA-----
----- 3    0,-2
-----UUUGGCAAUGGUAGAACUCACACU-----
----- 7    0,0

```

```

>hsa-mir-1827   3p:49-66    SRX018958
ucagcagcacagccuucagccuaaagcaaugagaagccucugaaaggcUGAGGCAGUAGAUUGAAU
(((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..
-----UGAGGCAGUAGAUUGAAU    2    0,0

```

```

>hsa-mir-183    MA:27-48;mi:66-87    SRX018958
ccgcagagugugacuccuguucugugUAUGGCACUGGUAGAAUUCACUgugaacagucucagucaGUGAAUUACCGAAGG
GCCAUAAacagagcagagacagauccacga
.....(((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..
-----UAUGGCACUGGUAGAAUUCACU-----
----- 5    0,0

```

```

>hsa-mir-185    MA:15-36;mi:50-71    SRX018958
agggggcgagggauUGGAGAGAAAGGCAGUUCCUGAuggucccccuccccAGGGGCUGGCUUCCUCUGGUCcuucccucc
ca
.(((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..))))))..
).
-----UUGGAGAGAAAGGCAGUUCCU-----
-- 5    -1,-2
-----UGGAGAGAAAGGCAGUUC-----
-- 60    0,-4
-----UGGAGAGAAAGGCAGUUCau-----
-- 2    0,-4
-----UGGAGAGAAAGGCAGUUCC-----

```

```

-- 127 0,-3
-----UGGAGAGAAAGGCAGUCCU-----
-- 1942 0,-2
-----UGGAGAGAAAGGCAGUCCUa-----
-- 2 0,-2
-----UGGAGAGAAAGGCAGUCCUaa-----
-- 4 0,-2
-----UGGAGAGAAAGGCAGUCCUau-----
-- 5 0,-2
-----UGGAGAGAAAGGCAGUCCUG-----
-- 839 0,-1
-----UGGAGAGAAAGGCAGUCCUGu-----
-- 72 0,-1
-----UGGAGAGAAAGGCAGUCCUGuu-----
-- 18 0,-1
-----UGGAGAGAAAGGCAGUCCUGA-----
-- 6750 0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 1337 0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 55 0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 49 0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 1880 0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 123 0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 7 0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 106 0,1
-----UGGAGAGAAAGGCAGUCCUGAUuu-----
-- 9 0,1
-----UGGAGAGAAAGGCAGUCCUGAUG-----
-- 6 0,2
-----GGAGAGAAAGGCAGUCC-----
-- 6 1,-3
-----GGAGAGAAAGGCAGUCCU-----

```

```

-- 15 1,-2
-----GGAGAGAAAGGCAGUUCCUG-----
-- 6 1,-1
-----GGAGAGAAAGGCAGUUCCUGA-----
-- 62 1,0
-----GGAGAGAAAGGCAGUUCCUGAa-----
-- 13 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 6 1,1
-----GGAGAGAAAGGCAGUUCCUGAUu-----
-- 2 1,1
-----GAGAGAAAGGCAGUUCCU-----
-- 4 2,-2
-----CAGGGGCUGGCUUCCUC-----
-- 4 -1,-5
-----AGGGGCUGGCUUCCUCU-----
-- 23 0,-4
-----AGGGGCUGGCUUCCUCUGGU-----
-- 10 0,-1
-----AGGGGCUGGCUUCCUCUGGUaa-----
-- 3 0,-1
-----AGGGGCUGGCUUCCUCUGGUau-----
-- 2 0,-1

```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018958

```

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuuuuuuGCCCCAAAGGUGAAUUUUUUGGgaagu
ugagcu

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).

```

```

-----CCAAAGAAUUCUCCUUUUG-----
----- 2 -1,-4
-----CCAAAGAAUUCUCCUUUUGGGC-----
----- 2 -1,-1
-----CCAAAGAAUUCUCCUUUUGGGCU-----
----- 10 -1,0
-----CAAAGAAUUCUCCUUUUG-----
----- 13 0,-4
-----CAAAGAAUUCUCCUUUUG-----

```

----- 21 0,-3
-----CAAAGAAUUCUCCUUUUGGa-----
----- 4 0,-3
-----CAAAGAAUUCUCCUUUUGGG-----
----- 26 0,-2
-----CAAAGAAUUCUCCUUUUGGGa-----
----- 8 0,-2
-----CAAAGAAUUCUCCUUUUGGGaa-----
----- 2 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 53 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 74 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 55 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 192 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 281 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 52 0,0
-----CAAAGAAUUCUCCUUUUGGGCUaa-----
----- 15 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 37 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 578 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 33 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUau-----
----- 7 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 36 0,2
-----AAAGAAUUCUCCUUUUGGG-----
----- 3 1,-2
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 3 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----

```

----- 2 1,-1
-----AAAGAAUUCUCCUUUUGGGCau-----
----- 7 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 26 1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 4 1,0
-----AAAGAAUUCUCCUUUUGGGCUau-----
----- 7 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 57 1,1
-----AAAGAAUUCUCCUUUUGGGCUUa-----
----- 2 1,1
-----AAAGAAUUCUCCUUUUGGGCUUU-----
----- 3 1,2
-----AAAGAAUUCUCCUUUUGGGCUUUa-----
----- 2 1,2

```

>hsa-mir-187 mi:35-56;MA:71-92 SRX018958

```

ggucgggcucaccaugacacagugagaccucgGGCUACAACACAGGACCCGGGCgcugcucugaccccUCGUGUCUUG
UGUUGCAGCCGGagggacgcagguccgca

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UCGUGUCUUG
UGUUGCAGCCGG----- 8 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGu----- 15 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGuu----- 6 0,0

```

>hsa-mir-188 5p:15-35;3p:54-74 SRX018958

```

ugcucccucucucaCAUCCCUUGCAUGGUGGAGGGugagcuuucugaaaaccCUGCCACAUGCAGGGUUUGCAggaugg
cgagcc

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----CAUCCCUUGCAUGGUGGAG-----
----- 2 0,-2
-----CAUCCCUUGCAUGGUGGAGGGUu-----

```

-----CAACGGAAUCCCAAAGCA-----

----- 1133 0,-4
-----CAACGGAAUCCCAAAAGCAa-----
----- 20 0,-4
-----CAACGGAAUCCCAAAAGCAu-----
----- 7 0,-4
-----CAACGGAAUCCCAAAAGCAuu-----
----- 2 0,-4
-----CAACGGAAUCCCAAAAGCAG-----
----- 4179 0,-3
-----CAACGGAAUCCCAAAAGCAGa-----
----- 21 0,-3
-----CAACGGAAUCCCAAAAGCAGau-----
----- 22 0,-3
-----CAACGGAAUCCCAAAAGCAGu-----
----- 22 0,-3
-----CAACGGAAUCCCAAAAGCAGuu-----
----- 36 0,-3
-----CAACGGAAUCCCAAAAGCAGC-----
----- 13436 0,-2
-----CAACGGAAUCCCAAAAGCAGCa-----
----- 180 0,-2
-----CAACGGAAUCCCAAAAGCAGCaa-----
----- 29 0,-2
-----CAACGGAAUCCCAAAAGCAGCau-----
----- 11 0,-2
-----CAACGGAAUCCCAAAAGCAGCU-----
----- 27534 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
----- 392 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
----- 46 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
----- 168 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
----- 513 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
----- 187 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----


```

----- 3702 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
----- 251 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
----- 13 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
----- 3 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
----- 2358 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
----- 22 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
----- 105 0,2
-----AACGGAAUCCCAAAAGCA-----
----- 128 1,-4
-----AACGGAAUCCCAAAAGCAG-----
----- 506 1,-3
-----AACGGAAUCCCAAAAGCAGu-----
----- 6 1,-3
-----AACGGAAUCCCAAAAGCAGuu-----
----- 2 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
----- 1653 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
----- 12 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
----- 3669 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
----- 29 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
----- 6 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
----- 38 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
----- 35 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
----- 23 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----

```

```

----- 530 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
----- 89 1,0
-----AACGGAAUCCCAAAAGCAGCUGaa-----
----- 3 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
----- 697 1,1
-----AACGGAAUCCCAAAAGCAGCUGUa-----
----- 6 1,1
-----AACGGAAUCCCAAAAGCAGCUGUau-----
----- 5 1,1
-----AACGGAAUCCCAAAAGCAGCUGUU-----
----- 27 1,2
-----AACGGAAUCCCAAAAGCAGCUGUUa-----
----- 4 1,2
-----AACGGAAUCCCAAAAGCAGCUGUUu-----
----- 5 1,2
-----ACGGAAUCCCAAAAGCAG-----
----- 2 2,-3
-----ACGGAAUCCCAAAAGCAGC-----
----- 9 2,-2
-----ACGGAAUCCCAAAAGCAGCU-----
----- 27 2,-1
-----ACGGAAUCCCAAAAGCAGCUG-----
----- 5 2,0
-----ACGGAAUCCCAAAAGCAGCUGU-----
----- 2 2,1
-----GCUGCGCUUGGAUUUCGUCCCC-----
----- 2 0,0

```

```

>hsa-mir-1910 5p:12-32 SRX018958
ugucccuucagCCAGUCCUGUGCCUGCCGCCUuugugcuguccuuggagggaggcagaagcaggaugacaaugagggcaa
((.(((.(. ....(((((((.((((.((((.....)))))).)))))).))))). ....)))))).
-----GAGGCAGAAGCAGGAUGACA-----

```

2

```

>hsa-mir-192 MA:24-44;mi:67-88 SRX018958
gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucucccucuggCUGCCAAUCCAUA

```

GGUCACAGguauguugccucaaugccagc

-----CUCUGACCUAUGAAUUGACAGC-----

----- 8 -2,-1

-----CUCUGACCUAUGAAUUGACAGCC-----

----- 12 -2,0

-----UCUGACCUAUGAAUUGAC-----

----- 3 -1, -4

-----UCUGACCUAUGAAUUGACA-----

----- 41 -1, -3

-----UCUGACCUAUGAAUUGACAG-----

----- 128 -1,-2

-----UCUGACCUAUGAAUUGACAGa-----

----- 5 -1, -2

-----UCUGACCUAUGAAUUGACAGaa-----

----- 3 -1, -2

-----UCUGACCUAUGAAUUGACAGu-----

$$----- 2 \quad -1, -2$$

-----UCUGACCUAUGAAUUGACAGC-----

----- 753 -1, -1

-----UCUGACCUAUGAAUUGACAGCa-----

----- 98 -1, -1

-----UCUGACCUAUGAAUUGACAGCaa-----

----- 7 -1, -1

-----UCUGACCUAUGAAUGACAGC_{au}-----

----- 5 -1, -1

-----UCUGACCUAUGAAUGACAGC_u-----

----- 18 -1,-1

-----UCUGACCUAUGAAUGACAGCC-----

----- 3531 -1,0

-----UCUGACCUAUGAAUGACAGCCu-----

----- 339 -1,0

-----UCUGACCUAUGAAUUGACAGCCuu-----

----- 59 -1,0

-----UCUGACCUAUGAAUUGACAGCCA-----

----- 604 -1,1

-----UCUGACCUAUGAAUUGACAGCCAa-----

----- 12 -1,1
-----UCUGACCUAUGAAUUGACAGCCAau-----
----- 2 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 191 -1,1
-----UCUGACCUAUGAAUUGACAGCCAuu-----
----- 97 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
----- 3 -1,2
-----UCUGACCUAUGAAUUGACAGCCAGU-----
----- 2 -1,3
-----CUGACCUAUGAAUUGACA-----
----- 8210 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 33 0,-3
-----CUGACCUAUGAAUUGACAaa-----
----- 26 0,-3
-----CUGACCUAUGAAUUGACAau-----
----- 3 0,-3
-----CUGACCUAUGAAUUGACAU-----
----- 8 0,-3
-----CUGACCUAUGAAUUGACAUu-----
----- 16 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 20917 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 568 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 107 0,-2
-----CUGACCUAUGAAUUGACAGau-----
----- 13 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 815 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 158 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 185649 0,-1
-----CUGACCUAUGAAUUGACAGCa-----

----- 22438 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 3724 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 1398 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 5061 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 498 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 585089 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 38430 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 12309 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 316113 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 12857 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 1167 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
----- 2330 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 152778 0,1
-----CUGACCUAUGAAUUGACAGCCAuu-----
----- 77339 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 3310 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 327 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 18 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 21 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 3089 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----

----- 243 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 1010 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 14 0,4
-----UGACCUAUGAAUUGACAG-----
----- 3927 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 34 1,-2
-----UGACCUAUGAAUUGACAGuu-----
----- 4 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 37848 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 637 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 224 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 38 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 146 1,-1
-----UGACCUAUGAAUUGACAGCuu-----
----- 7 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 16871 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 633 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 187 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 44394 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 2767 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 1374 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 1314 1,1
-----UGACCUAUGAAUUGACAGCCAu-----

----- 12403 1,1
-----UGACCUAUGAAUUGACAGCCAuu-----
----- 11395 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 10483 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 2378 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 153 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 136 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 15994 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 2942 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 217 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 250 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 6142 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 710 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 116 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 6 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 10 1,4
-----GACCUAUGAAUUGACAGC-----
----- 705 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 9 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 5 2,-1
-----GACCUAUGAAUUGACAGCau-----
----- 2 2,-1
-----GACCUAUGAAUUGACAGCu-----

----- 2 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 423 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 19 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 9 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 559 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 63 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 27 2,1
-----GACCUAUGAAUUGACAGCCAau-----
----- 25 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 174 2,1
-----GACCUAUGAAUUGACAGCCAuu-----
----- 159 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 230 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 59 2,2
-----GACCUAUGAAUUGACAGCCAGaa-----
----- 2 2,2
-----GACCUAUGAAUUGACAGCCAGau-----
----- 2 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 399 2,3
-----GACCUAUGAAUUGACAGCCAGUa-----
----- 66 2,3
-----GACCUAUGAAUUGACAGCCAGUaa-----
----- 7 2,3
-----GACCUAUGAAUUGACAGCCAGUau-----
----- 4 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 120 2,3
-----GACCUAUGAAUUGACAGCCAGUuu-----


```

----- 19 2,3
-----GACCUAUGAAUUGACAGCCAGUG-----
----- 2 2,4
-----GACCUAUGAAUUGACAGCCAGUGu-----
----- 2 2,4
-----GGCUGCCAAUCCAUA
GGUC----- 2 -2,-4
-----GGCUGCCAAUCCAUA
GGUCACu----- 2 -2,-2
-----GGCUGCCAAUCCAUA
GGUCACA----- 3 -2,-1
-----GCUGCCAAUCCAUA
GGUCACA----- 3 -1,-1
-----GCUGCCAAUCCAUA
GGUCACAG----- 3 -1,0
-----CUGCCAAUCCAUA
GGUCA----- 2 0,-3
-----CUGCCAAUCCAUA
GGUCACA----- 9 0,-1
-----CUGCCAAUCCAUA
GGUCACAG----- 5 0,0
-----CUGCCAAUCCAUA
GGUCACAGu----- 5 0,0

```

>hsa-mir-193a 5p:21-42;3p:55-76 SRX018958

cgaggauaggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

.....(((.((((((((((((((.((((((..(((..(((.....))))).)).)))).)))).)))).)))).

```

-----UGGGUCUUUGCGGGCGAG-----
----- 2 0,-4
-----UGGGUCUUUGCGGGCGAGA-----
----- 2 0,-3
-----UGGGUCUUUGCGGGCGAGAUa-----
----- 5 0,-2
-----UGGGUCUUUGCGGGCGAGAUG-----
----- 34 0,-1
-----UGGGUCUUUGCGGGCGAGAUGu-----

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```

----- 23 0,-1
-----UGGGUCUUUGCGGGCGAGAUGuu-----
----- 2 0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
----- 129 0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----
----- 2 0,0
-----UGGGUCUUUGCGGGCGAGAUGAu-----
----- 12 0,0
-----UGGGUCUUUGCGGGCGAGAUGAuu-----
----- 2 0,0
-----GGGUCUUUGCGGGCGAGAUGu-----
----- 3 1,-1
-----GGGUCUUUGCGGGCGAGAUGuu-----
----- 2 1,-1
-----GGGUCUUUGCGGGCGAGAUGAa-----
----- 3 1,0
-----AACUGGCCUACAAAGUCC-----
----- 212 0,-4
-----AACUGGCCUACAAAGUCCaa-----
----- 4 0,-4
-----AACUGGCCUACAAAGUCCC-----
----- 339 0,-3
-----AACUGGCCUACAAAGUCCCA-----
----- 3105 0,-2
-----AACUGGCCUACAAAGUCCCAa-----
----- 3 0,-2
-----AACUGGCCUACAAAGUCCCAaa-----
----- 2 0,-2
-----AACUGGCCUACAAAGUCCCAu-----
----- 24 0,-2
-----AACUGGCCUACAAAGUCCCAuu-----
----- 5 0,-2
-----AACUGGCCUACAAAGUCCCAG-----
----- 78 0,-1
-----AACUGGCCUACAAAGUCCCAGa-----
----- 10 0,-1
-----AACUGGCCUACAAAGUCCCAGaa-----

```



```

--- 6   0,-2
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 8   0,-2
-----CGGGGUUUUGAGGGCGAGAUG-----
--- 116 0,-1
-----CGGGGUUUUGAGGGCGAGAUGu-----
--- 114 0,-1
-----CGGGGUUUUGAGGGCGAGAUGuu-----
--- 7   0,-1
-----CGGGGUUUUGAGGGCGAGAUGA-----
--- 433 0,0
-----CGGGGUUUUGAGGGCGAGAUGAa-----
--- 19  0,0
-----CGGGGUUUUGAGGGCGAGAUGAu-----
--- 39  0,0
-----GGGGUUUUUGAGGGCGAGAUG-----
--- 6   1,-1
-----GGGGUUUUUGAGGGCGAGAUGu-----
--- 7   1,-1
-----GGGGUUUUUGAGGGCGAGAUGA-----
--- 20  1,0
-----GGGGUUUUUGAGGGCGAGAUGAa-----
--- 3   1,0
-----AACUGGCCCUCAAAGUCC-----
--- 48  0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 46  0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 12  0,-2
-----AACUGGCCCUCAAAGUCCCGuu-----
--- 3   0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 15  0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 2   0,-1
-----AACUGGCCCUCAAAGUCCCGCaa-----
--- 2   0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----

```



```

----- 4 0,-2
-----UGUAAACAGCAACUCCAUGUGaa-----
----- 4 0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 365 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 14 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1017 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 216 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 15 0,0
-----UGUAAACAGCAACUCCAUGUGGAC-----
----- 12 0,1
-----UGUAAACAGCAACUCCAUGUGGACa-----
----- 4 0,1
-----GUAACAGCAACUCCAUGU-----
----- 3 1,-3
-----GUAACAGCAACUCCAUGUG-----
----- 2 1,-2
-----GUAACAGCAACUCCAUGUGG-----
----- 5 1,-1
-----GUAACAGCAACUCCAUGUGGu-----
----- 2 1,-1
-----GUAACAGCAACUCCAUGUGGA-----
----- 2 1,0
-----GUAACAGCAACUCCAUGUGGAu-----
----- 3 1,0

```

>hsa-mir-194-2 MA:15-36;mi:51-72 SRX018958

ugguucccgcccccUGUAAACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGGCUGCUGUUAUCUGgggcgagg
gccag

(((((.((((.(((((((.((((.((((...(((...)))))))))))))).)))))))).))))).

```

-----CCUGUAAACAGCAACUCCAUGUGG-----
----- 12 -2,-1
-----CCUGUAAACAGCAACUCCAUGUGGAu-----

```

```

----- 2   -2,0
-----CUGUAAACAGCAACUCCAUGUGG-----
----- 31  -1,-1
-----CUGUAAACAGCAACUCCAUGUGGu-----
----- 3   -1,-1
-----CUGUAAACAGCAACUCCAUGUGGA-----
----- 72  -1,0
-----CUGUAAACAGCAACUCCAUGUGGAu-----
----- 5   -1,0
-----CUGUAAACAGCAACUCCAUGUGGAA-----
----- 21  -1,1
-----CUGUAAACAGCAACUCCAUGUGGAAa-----
----- 6   -1,1
-----UGUAAACAGCAACUCCAUG-----
----- 15  0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 25  0,-3
-----UGUAAACAGCAACUCCAUGUaa-----
----- 2   0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 27  0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 4   0,-2
-----UGUAAACAGCAACUCCAUGUGaa-----
----- 4   0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 365 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 14  0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1017 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 216 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 15  0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
----- 2875 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----

```

```

----- 537 0,1
-----UGUAAACAGCAACUCCAUGUGGAAaa-----
----- 24 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 26 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 191 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 47 0,1
-----UGUAAACAGCAACUCCAUGUGGAAG-----
----- 6 0,2
-----GUAACAGCAACUCCAUGU-----
----- 3 1,-3
-----GUAACAGCAACUCCAUGUG-----
----- 2 1,-2
-----GUAACAGCAACUCCAUGUGG-----
----- 5 1,-1
-----GUAACAGCAACUCCAUGUGGu-----
----- 2 1,-1
-----GUAACAGCAACUCCAUGUGGA-----
----- 2 1,0
-----GUAACAGCAACUCCAUGUGGAu-----
----- 3 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 11 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 4 1,1
-----CCAGUGGGGCUGCUGUUAaa-----
----- 3 0,-4
-----CCAGUGGGGCUGCUGUUAU-----
----- 2 0,-3
-----CCAGUGGGGCUGCUGUUAUa-----
----- 29 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 17 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 108 0,-1
-----CCAGUGGGGCUGCUGUUAUCUG-----

```



```

----- 7 0,0
-----CCAGUGGGGCUGCUGUUAUCUGa-----
----- 8 0,0
-----CCAGUGGGGCUGCUGUUAUCUGu-----
----- 15 0,0
-----CCAGUGGGGCUGCUGUUAUCUGuu-----
----- 2 0,0
-----CAGUGGGGCUGCUGUUAUC-----
----- 2 1,-2
-----CAGUGGGGCUGCUGUUAUCU-----
----- 3 1,-1

```

>hsa-mir-195 MA:15-35;mi:53-74 SRX018958

agcuucccuggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUAUUGGCUGUGCUCUCCaggcagguggug

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.(((((((((((((.....))))))))))..)))))))))..)))).
)))).

```

```

-----CUAGCAGCACAGAAAUAUUGG-----
----- 3 -1,-1
-----UAGCAGCACAGAAAUAUU-----
----- 37 0,-3
-----UAGCAGCACAGAAAUAUUa-----
----- 8 0,-3
-----UAGCAGCACAGAAAUAUUaa-----
----- 3 0,-3
-----UAGCAGCACAGAAAUAUUG-----
----- 124 0,-2
-----UAGCAGCACAGAAAUAUUGa-----
----- 4 0,-2
-----UAGCAGCACAGAAAUAUUGaa-----
----- 9 0,-2
-----UAGCAGCACAGAAAUAUUGu-----
----- 5 0,-2
-----UAGCAGCACAGAAAUAUUGG-----
----- 763 0,-1
-----UAGCAGCACAGAAAUAUUGGa-----
----- 49 0,-1
-----UAGCAGCACAGAAAUAUUGGaa-----

```

```

----- 36  0,-1
-----UAGCAGCACAGAAAUAUUGGu-----
----- 11  0,-1
-----UAGCAGCACAGAAAUAUUGGC-----
----- 82  0,0
-----UAGCAGCACAGAAAUAUUGGCA-----
----- 1481  0,1
-----UAGCAGCACAGAAAUAUUGGCAa-----
----- 1127  0,1
-----UAGCAGCACAGAAAUAUUGGCAaa-----
----- 15  0,1
-----UAGCAGCACAGAAAUAUUGGCAau-----
----- 28  0,1
-----UAGCAGCACAGAAAUAUUGGCAu-----
----- 667 0,1
-----UAGCAGCACAGAAAUAUUGGCAuu-----
----- 36  0,1
-----UAGCAGCACAGAAAUAUUGGCAC-----
----- 4   0,2
-----UAGCAGCACAGAAAUAUUGGCACA-----
----- 2   0,3
-----AGCAGCACAGAAAUAUUG-----
----- 3   1,-2
-----AGCAGCACAGAAAUAUUGG-----
----- 5   1,-1
-----AGCAGCACAGAAAUAUUGGCA-----
----- 14  1,1
-----AGCAGCACAGAAAUAUUGGCAa-----
----- 9   1,1
-----AGCAGCACAGAAAUAUUGGCAu-----
----- 6   1,1
-----AGCAGCACAGAAAUAUUGGCAuu-----
----- 2   1,1
-----GCAGCACAGAAAUAUUGGCAa-----
----- 3   2,1

```

>hsa-mir-197 3p:48-69 SRX018958

ggcugugccggguagagagggcagugggagguaagagcucuucacccUUCACCACCUUCUCCACCCAGCauggcc

[illegible]

>hsa-mi r-199a-1 5p:6-28;3p:47-68 SRX018958

gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucaauguguACAGUAGUCUGCACAUUGGUUAggc

(((((...(((((((((((((.....)))))))).))))).))))))		
-----CCCAGUGUUCAGACUACC-----	236	0,-5
-----CCCAGUGUUCAGACUACCU-----	2340	
0,-4		
-----CCCAGUGUUCAGACUACCUG-----	107	0,-3
-----CCCAGUGUUCAGACUACCUGU-----	51	0,-2
-----CCCAGUGUUCAGACUACCUGU _a -----	3	0,-2
-----CCCAGUGUUCAGACUACCUGUU-----	659	0,-1
-----CCCAGUGUUCAGACUACCUGUU _a -----	45	0,-1
-----CCCAGUGUUCAGACUACCUGUU _u -----	64	0,-1
-----CCCAGUGUUCAGACUACCUGUU _{uu} -----	2	0,-1
-----CCCAGUGUUCAGACUACCUGUUC-----	181	0,0
-----CCCAGUGUUCAGACUACCUGUUC _u -----	3	0,0
-----CCCAGUGUUCAGACUACCUGUUCA-----	4	0,1
-----CCCAGUGUUCAGACUACCUGUUCA _a -----	3	0,1
-----CCAGUGUUCAGACUACCU-----	28	1,-4
-----CCAGUGUUCAGACUACCUGU _a -----	2	1,-2
-----CCAGUGUUCAGACUACCUGUU-----	10	1,-1
-----CCAGUGUUCAGACUACCUGUU _u -----	3	1,-1
-----CCAGUGUUCAGACUACCUGUUC-----	3	1,0
-----UACAGUAGUCUGCACAUU-----	111	
-1,-5		
-----UACAGUAGUCUGCACAUU _{aa} -----	2	
-1,-5		

-----	-UACAGUAGUCUGCACAUUG-----	313	
-1,-4			
-----	-UACAGUAGUCUGCACAUUGaa-----	4	
-1,-4			
-----	-UACAGUAGUCUGCACAUUGu-----	4	
-1,-4			
-----	-UACAGUAGUCUGCACAUUGuu-----	4	
-1,-4			
-----	-UACAGUAGUCUGCACAUUGG-----	578	
-1,-3			
-----	-UACAGUAGUCUGCACAUUGGa-----	33	
-1,-3			
-----	-UACAGUAGUCUGCACAUUGGaa-----	6	
-1,-3			
-----	-UACAGUAGUCUGCACAUUGGau-----	43	
-1,-3			
-----	-UACAGUAGUCUGCACAUUGGU-----	1280	
-1,-2			
-----	-UACAGUAGUCUGCACAUUGGUa-----	597	
-1,-2			
-----	-UACAGUAGUCUGCACAUUGGUaa-----	479	
-1,-2			
-----	-UACAGUAGUCUGCACAUUGGUau-----	398	
-1,-2			
-----	-UACAGUAGUCUGCACAUUGGUU-----	13202	
-1,-1			
-----	-UACAGUAGUCUGCACAUUGGUUu-----	2109	
-1,-1			
-----	-UACAGUAGUCUGCACAUUGGUUuu-----	77	
-1,-1			
-----	-UACAGUAGUCUGCACAUUGGUUA-----	2564	
-1,0			
-----	-UACAGUAGUCUGCACAUUGGUUAa--	293	-1,0
-----	-UACAGUAGUCUGCACAUUGGUUAaa--	2	-1,0
-----	-UACAGUAGUCUGCACAUUGGUUAu--	173	-1,0
-----	-UACAGUAGUCUGCACAUUGGUUAG--	6	-1,1
-----	-ACAGUAGUCUGCACAUUG-----	1209	
0,-4			

-----	ACAGUAGUCUGCACAUUGa-----	31	0,-4
-----	ACAGUAGUCUGCACAUUGaa-----	10	0,-4
-----	ACAGUAGUCUGCACAUUGau-----	3	0,-4
-----	ACAGUAGUCUGCACAUUGu-----	35	0,-4
-----	ACAGUAGUCUGCACAUUGuu-----	24	0,-4
-----	ACAGUAGUCUGCACAUUGG-----	5039	
0,-3			
-----	ACAGUAGUCUGCACAUUGGa-----	38	0,-3
-----	ACAGUAGUCUGCACAUUGGaa-----	37	0,-3
-----	ACAGUAGUCUGCACAUUGGau-----	102	0,-3
-----	ACAGUAGUCUGCACAUUGGU-----	4523	
0,-2			
-----	ACAGUAGUCUGCACAUUGGUa-----	1363	
0,-2			
-----	ACAGUAGUCUGCACAUUGGUaa---	2547	
0,-2			
-----	ACAGUAGUCUGCACAUUGGUau---	812	0,-2
-----	ACAGUAGUCUGCACAUUGGUU-----	74446	
0,-1			
-----	ACAGUAGUCUGCACAUUGGUUu---	11560	
0,-1			
-----	ACAGUAGUCUGCACAUUGGUUuu---	498	0,-1
-----	ACAGUAGUCUGCACAUUGGUUA---	51924	
0,0			
-----	ACAGUAGUCUGCACAUUGGUUAa--	25332	
0,0			
-----	ACAGUAGUCUGCACAUUGGUUAaa-	152	0,0
-----	ACAGUAGUCUGCACAUUGGUUAau-	100	0,0
-----	ACAGUAGUCUGCACAUUGGUUAu--	3895	
0,0			
-----	ACAGUAGUCUGCACAUUGGUUAuu-	60	0,0
-----	ACAGUAGUCUGCACAUUGGUUAG--	100	0,1
-----	ACAGUAGUCUGCACAUUGGUUAGu-	5	0,1
-----	ACAGUAGUCUGCACAUUGGUUAGG-	2	0,2
-----	CAGUAGUCUGCACAUUGG-----	611	1,-3
-----	CAGUAGUCUGCACAUUGGa-----	5	1,-3
-----	CAGUAGUCUGCACAUUGGaa-----	2	1,-3
-----	CAGUAGUCUGCACAUUGGau-----	3	1,-3

```

-----CAGUAGUCUGCACAUUGGU----- 474 1,-2
-----CAGUAGUCUGCACAUUGGUa---- 143 1,-2
-----CAGUAGUCUGCACAUUGGUaa--- 283 1,-2
-----CAGUAGUCUGCACAUUGGUau--- 55 1,-2
-----CAGUAGUCUGCACAUUGGUU---- 5499
1,-1
-----CAGUAGUCUGCACAUUGGUUu--- 1054
1,-1
-----CAGUAGUCUGCACAUUGGUUuu-- 130 1,-1
-----CAGUAGUCUGCACAUUGGUUA--- 9473
1,0
-----CAGUAGUCUGCACAUUGGUUAa-- 4457
1,0
-----CAGUAGUCUGCACAUUGGUUAaa- 146 1,0
-----CAGUAGUCUGCACAUUGGUUAau- 29 1,0
-----CAGUAGUCUGCACAUUGGUUAu-- 924 1,0
-----CAGUAGUCUGCACAUUGGUUAuu- 14 1,0
-----CAGUAGUCUGCACAUUGGUUAG-- 41 1,1
-----CAGUAGUCUGCACAUUGGUUAGu- 2 1,1
-----AGUAGUCUGCACAUUGGU----- 8 2,-2
-----AGUAGUCUGCACAUUGGUa---- 3 2,-2
-----AGUAGUCUGCACAUUGGUaa--- 2 2,-2
-----AGUAGUCUGCACAUUGGUU---- 145 2,-1
-----AGUAGUCUGCACAUUGGUUu--- 23 2,-1
-----AGUAGUCUGCACAUUGGUUuu-- 2 2,-1
-----AGUAGUCUGCACAUUGGUUA--- 113 2,0
-----AGUAGUCUGCACAUUGGUUAa-- 79 2,0
-----AGUAGUCUGCACAUUGGUUAaa- 5 2,0
-----AGUAGUCUGCACAUUGGUUAau- 2 2,0
-----AGUAGUCUGCACAUUGGUUAu-- 23 2,0

```

>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018958

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaaugccguuguACAGUAGUCUG
CACAUUGGUUAgacuggggcaagggagagca

```

.....(((.(.....(((((((.(....(((((((.(.....((.....))).....))))))))))
.)))))....)))).))))).)))))))).

```

```

-----CCCCAGUGUUCAGACUACCU-----
----- 2 -1,-4

```

```

-----CCCAGUGUUCAGACUACC-----
-----236 0,-5-----
-----CCCAGUGUUCAGACUACCU-----
-----2340 0,-4-----
-----CCCAGUGUUCAGACUACCUG-----
-----107 0,-3-----
-----CCCAGUGUUCAGACUACCUGU-----
-----51 0,-2-----
-----CCCAGUGUUCAGACUACCUGUa-----
-----3 0,-2-----
-----CCCAGUGUUCAGACUACCUGUU-----
-----659 0,-1-----
-----CCCAGUGUUCAGACUACCUGUUa-----
-----45 0,-1-----
-----CCCAGUGUUCAGACUACCUGUUu-----
-----64 0,-1-----
-----CCCAGUGUUCAGACUACCUGUUuu-----
-----2 0,-1-----
-----CCCAGUGUUCAGACUACCUGUUC-----
-----181 0,0-----
-----CCCAGUGUUCAGACUACCUGUUCu-----
-----3 0,0-----
-----CCCAGUGUUCAGACUACCUGUUCA-----
-----4 0,1-----
-----CCCAGUGUUCAGACUACCUGUUCAa-----
-----3 0,1-----
-----CCAGUGUUCAGACUACCU-----
-----28 1,-4-----
-----CCAGUGUUCAGACUACCUGUa-----
-----2 1,-2-----
-----CCAGUGUUCAGACUACCUGUU-----
-----10 1,-1-----
-----CCAGUGUUCAGACUACCUGUUu-----
-----3 1,-1-----
-----CCAGUGUUCAGACUACCUGUUC-----
-----3 1,0-----
-----UACAGUAGUCUG
CACAUU-----111 -1,-5

```

-----				-----UACAGUAGUCUG
CACAUUaa-----	2	-1,-5		
-----				-----UACAGUAGUCUG
CACAUUG-----	313	-1,-4		
-----				-----UACAGUAGUCUG
CACAUUGaa-----	4	-1,-4		
-----				-----UACAGUAGUCUG
CACAUUGu-----	4	-1,-4		
-----				-----UACAGUAGUCUG
CACAUUGuu-----	4	-1,-4		
-----				-----UACAGUAGUCUG
CACAUUGG-----	578	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGa-----	33	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGaa-----	6	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGau-----	43	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGU-----	1280	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUa-----	597	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUaa-----	479	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUau-----	398	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUU-----	13202	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUu-----	2109	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUuu-----	77	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUA-----	2564	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAa-----	293	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAaa-----	2	-1,0		

-----				UACAGUAGUCUG
CACAUUGGUUAu-----	173	-1,0		
-----				UACAGUAGUCUG
CACAUUGGUUAG-----	6	-1,1		
-----				ACAGUAGUCUG
CACAUUG-----	1209	0,-4		
-----				ACAGUAGUCUG
CACAUUGa-----	31	0,-4		
-----				ACAGUAGUCUG
CACAUUGaa-----	10	0,-4		
-----				ACAGUAGUCUG
CACAUUGau-----	3	0,-4		
-----				ACAGUAGUCUG
CACAUUGu-----	35	0,-4		
-----				ACAGUAGUCUG
CACAUUGuu-----	24	0,-4		
-----				ACAGUAGUCUG
CACAUUGG-----	5039	0,-3		
-----				ACAGUAGUCUG
CACAUUGGa-----	38	0,-3		
-----				ACAGUAGUCUG
CACAUUGGaa-----	37	0,-3		
-----				ACAGUAGUCUG
CACAUUGGau-----	102	0,-3		
-----				ACAGUAGUCUG
CACAUUGGU-----	4523	0,-2		
-----				ACAGUAGUCUG
CACAUUGGUa-----	1363	0,-2		
-----				ACAGUAGUCUG
CACAUUGGUaa-----	2547	0,-2		
-----				ACAGUAGUCUG
CACAUUGGUau-----	812	0,-2		
-----				ACAGUAGUCUG
CACAUUGGUU-----	74446	0,-1		
-----				ACAGUAGUCUG
CACAUUGGUUu-----	11560	0,-1		
-----				ACAGUAGUCUG
CACAUUGGUUuu-----	498	0,-1		

-----			-----ACAGUAGUCUG
CACAUUGGUUA-----	51924	0,0	
-----			-----ACAGUAGUCUG
CACAUUGGUUAa-----	25332	0,0	
-----			-----ACAGUAGUCUG
CACAUUGGUUAaa-----	152	0,0	
-----			-----ACAGUAGUCUG
CACAUUGGUUAau-----	100	0,0	
-----			-----ACAGUAGUCUG
CACAUUGGUUAu-----	3895	0,0	
-----			-----ACAGUAGUCUG
CACAUUGGUUAuu-----	60	0,0	
-----			-----ACAGUAGUCUG
CACAUUGGUUAG-----	100	0,1	
-----			-----ACAGUAGUCUG
CACAUUGGUUAGu-----	5	0,1	
-----			-----ACAGUAGUCUG
CACAUUGGUUAGA-----	3	0,2	
-----			-----ACAGUAGUCUG
CACAUUGGUUAGAC-----	2	0,3	
-----			-----CAGUAGUCUG
CACAUUGG-----	611	1,-3	
-----			-----CAGUAGUCUG
CACAUUGGa-----	5	1,-3	
-----			-----CAGUAGUCUG
CACAUUGGaa-----	2	1,-3	
-----			-----CAGUAGUCUG
CACAUUGGau-----	3	1,-3	
-----			-----CAGUAGUCUG
CACAUUGGU-----	474	1,-2	
-----			-----CAGUAGUCUG
CACAUUGGUa-----	143	1,-2	
-----			-----CAGUAGUCUG
CACAUUGGUaa-----	283	1,-2	
-----			-----CAGUAGUCUG
CACAUUGGUau-----	55	1,-2	
-----			-----CAGUAGUCUG
CACAUUGGUU-----	5499	1,-1	

-----			-CAGUAGUCUG
CACAUUGGUUu-----	1054	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUuu-----	130	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUA-----	9473	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAa-----	4457	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAaa-----	146	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAau-----	29	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAu-----	924	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAuu-----	14	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAG-----	41	1,1	
-----			-CAGUAGUCUG
CACAUUGGUUAGu-----	2	1,1	
-----			-AGUAGUCUG
CACAUUGGU-----	8	2,-2	
-----			-AGUAGUCUG
CACAUUGGUa-----	3	2,-2	
-----			-AGUAGUCUG
CACAUUGGUaa-----	2	2,-2	
-----			-AGUAGUCUG
CACAUUGGUU-----	145	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUu-----	23	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUuu-----	2	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUA-----	113	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAa-----	79	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAaa-----	5	2,0	

			-AGUAGUCUG
CACAUUGGUUAau-----	2	2,0	
			-AGUAGUCUG
CACAUUGGUUAu-----	23	2,0	
>hsa-mir-199b	5p:26-48;3p:65-86	SRX018958	
ccagaggacaccuccacuccgucuaCCCAGUGUUUAGACUAUCUGUUCaggacucccaaauguACAGUAGUCUGCACAU			
UGGUUAggcugggcuggguagaccucgg			
...((((.....((((..(((((((.((((((((.((((((((.(((((((.....)).)).)).)))))))))..))))).))))).			
-----CCCAGUGUUUAGACUAUC-			
-----48	0,-5		
-----CCCAGUGUUUAGACUAUCU-			
-----383	0,-4		
-----CCCAGUGUUUAGACUAUCUG-			
-----6	0,-3		
-----CCCAGUGUUUAGACUAUCUGa-			
-----3	0,-3		
-----CCCAGUGUUUAGACUAUCUGU-			
-----6	0,-2		
-----CCCAGUGUUUAGACUAUCUGUU-			
-----30	0,-1		
-----CCCAGUGUUUAGACUAUCUGUUC-			
-----10	0,0		
-----CCAGUGUUUAGACUAUCU-			
-----3	1,-4		
-----CCAGUGUUUAGACUAUCUGUUC-			
-----2	1,0		
			-UACAGUAGUCUGCACAU
U-----	111	-1,-5	
			-UACAGUAGUCUGCACAU
Uaa-----	2	-1,-5	
			-UACAGUAGUCUGCACAU
UG-----	313	-1,-4	
			-UACAGUAGUCUGCACAU
UGaa-----	4	-1,-4	
			-UACAGUAGUCUGCACAU
UGu-----	4	-1,-4	

-----				-----UACAGUAGUCUGCACAU
UGuu-----	4	-1,-4		
-----				-----UACAGUAGUCUGCACAU
UGG-----	578	-1,-3		
-----				-----UACAGUAGUCUGCACAU
UGGa-----	33	-1,-3		
-----				-----UACAGUAGUCUGCACAU
UGGaa-----	6	-1,-3		
-----				-----UACAGUAGUCUGCACAU
UGGau-----	43	-1,-3		
-----				-----UACAGUAGUCUGCACAU
UGGU-----	1280	-1,-2		
-----				-----UACAGUAGUCUGCACAU
UGGUa-----	597	-1,-2		
-----				-----UACAGUAGUCUGCACAU
UGGUaa-----	479	-1,-2		
-----				-----UACAGUAGUCUGCACAU
UGGUau-----	398	-1,-2		
-----				-----UACAGUAGUCUGCACAU
UGGUU-----	13202	-1,-1		
-----				-----UACAGUAGUCUGCACAU
UGGUUu-----	2109	-1,-1		
-----				-----UACAGUAGUCUGCACAU
UGGUUuu-----	77	-1,-1		
-----				-----UACAGUAGUCUGCACAU
UGGUUA-----	2564	-1,0		
-----				-----UACAGUAGUCUGCACAU
UGGUUAa-----	293	-1,0		
-----				-----UACAGUAGUCUGCACAU
UGGUUAaa-----	2	-1,0		
-----				-----UACAGUAGUCUGCACAU
UGGUUAu-----	173	-1,0		
-----				-----UACAGUAGUCUGCACAU
UGGUUAG-----	6	-1,1		
-----				-----ACAGUAGUCUGCACAU
UG-----	1209	0,-4		
-----				-----ACAGUAGUCUGCACAU
UGa-----	31	0,-4		

-----				-----ACAGUAGUCUGCACAU
UGaa-----	10	0,-4		
-----				-----ACAGUAGUCUGCACAU
UGau-----	3	0,-4		
-----				-----ACAGUAGUCUGCACAU
UGu-----	35	0,-4		
-----				-----ACAGUAGUCUGCACAU
UGuu-----	24	0,-4		
-----				-----ACAGUAGUCUGCACAU
UGG-----	5039	0,-3		
-----				-----ACAGUAGUCUGCACAU
UGGa-----	38	0,-3		
-----				-----ACAGUAGUCUGCACAU
UGGaa-----	37	0,-3		
-----				-----ACAGUAGUCUGCACAU
UGGau-----	102	0,-3		
-----				-----ACAGUAGUCUGCACAU
UGGU-----	4523	0,-2		
-----				-----ACAGUAGUCUGCACAU
UGGUa-----	1363	0,-2		
-----				-----ACAGUAGUCUGCACAU
UGGUaa-----	2547	0,-2		
-----				-----ACAGUAGUCUGCACAU
UGGUau-----	812	0,-2		
-----				-----ACAGUAGUCUGCACAU
UGGUU-----	74446	0,-1		
-----				-----ACAGUAGUCUGCACAU
UGGUUu-----	11560	0,-1		
-----				-----ACAGUAGUCUGCACAU
UGGUUuu-----	498	0,-1		
-----				-----ACAGUAGUCUGCACAU
UGGUUA-----	51924	0,0		
-----				-----ACAGUAGUCUGCACAU
UGGUUAa-----	25332	0,0		
-----				-----ACAGUAGUCUGCACAU
UGGUUAaa-----	152	0,0		
-----				-----ACAGUAGUCUGCACAU
UGGUUAau-----	100	0,0		

UGGUUAu	3895	0,0	-ACAGUAGUCUGCACAU
UGGUUAuu	60	0,0	-ACAGUAGUCUGCACAU
UGGUUAG	100	0,1	-ACAGUAGUCUGCACAU
UGGUUAGu	5	0,1	-ACAGUAGUCUGCACAU
UGGUUAGG	2	0,2	-CAGUAGUCUGCACAU
UGG	611	1,-3	-CAGUAGUCUGCACAU
UGGa	5	1,-3	-CAGUAGUCUGCACAU
UGGaa	2	1,-3	-CAGUAGUCUGCACAU
UGGau	3	1,-3	-CAGUAGUCUGCACAU
UGGU	474	1,-2	-CAGUAGUCUGCACAU
UGGUa	143	1,-2	-CAGUAGUCUGCACAU
UGGUaa	283	1,-2	-CAGUAGUCUGCACAU
UGGUau	55	1,-2	-CAGUAGUCUGCACAU
UGGUU	5499	1,-1	-CAGUAGUCUGCACAU
UGGUUu	1054	1,-1	-CAGUAGUCUGCACAU
UGGUUuu	130	1,-1	-CAGUAGUCUGCACAU
UGGUUA	9473	1,0	-CAGUAGUCUGCACAU
UGGUUAa	4457	1,0	-CAGUAGUCUGCACAU
UGGUUAaa	146	1,0	


```

-----AGUUUUGCAUAGUUGCACUA-----
-- 4 0,-2
-----UUGUGCAAAUCUAUGCAAAACU-----
-- 5 -1,-2
-----UGUGCAAAUCUAUGCAAAAC-----
-- 2 0,-3
-----UGUGCAAAUCUAUGCAAAACU-----
-- 9 0,-2
-----UGUGCAAAUCUAUGCAAAACUG-----
-- 5 0,-1
-----UGUGCAAAUCUAUGCAAAACUGA-----
-- 4 0,0

```

>hsa-mir-19b-1 mi:16-38;MA:54-76 SRX018958

cacuguucuaugguuAGUUUUGCAGGUUUGCAUCCAGCugugugauauucugcUGUGCAAAUCCAUGCAAAACUGAcugu
 gguagug

```

(((((((((.....)))))))))))))
))))))

```

```

-----AGUUUUGCAGGUUUGCAUCCA-----
----- 3 0,-2
-----AGUUUUGCAGGUUUGCAUCCAG-----
----- 2 0,-1
-----UGUGCAAAUCCAUGCAAAAC-----
----- 4 0,-3
-----UGUGCAAAUCCAUGCAAAACU-----
----- 169 0,-2
-----UGUGCAAAUCCAUGCAAAACUG-----
----- 31 0,-1
-----UGUGCAAAUCCAUGCAAAACUGu-----
----- 2 0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 14 0,0
-----GUGCAAAUCCAUGCAAAACU-----
----- 3 1,-2

```

>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018958

acauugcuacuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguauauauguauauguggcUGUGCAAAUCCAUGCAAAA
 CUGAuugugauaangu

(((((.....((((((((((((((((((((((((((((((((.....((((((((.....)))))))).)))))))))))))

-----UGUGCAAAUCCAUGCAAAA
C-----4 0,-3
-----UGUGCAAAUCCAUGCAAAA
CU-----169 0,-2
-----UGUGCAAAUCCAUGCAAAA
CUG-----31 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGu-----2 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGA-----14 0,0
-----GUGCAAAUCCAUGCAAAA
CU-----3 1,-2

>hsa-mir-200a mi:16-37;MA:54-75 SRX018958
ccgggccccugugagCAUCUUAACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaaa
ggugaccgc
.(((((((((.((((((((((((((((((((((((((((((((.....)))))))).)))))))))))))

-----CUAACACUGUCUGGUAACGAUGUU-----
-----2 -1,1
-----UAACACUGUCUGGUAACG-----
-----12 0,-4
-----UAACACUGUCUGGUAACGA-----
-----22 0,-3
-----UAACACUGUCUGGUAACGAU-----
-----187 0,-2
-----UAACACUGUCUGGUAACGAUa-----
-----8 0,-2
-----UAACACUGUCUGGUAACGAUG-----
-----48 0,-1
-----UAACACUGUCUGGUAACGAUGa-----
-----17 0,-1
-----UAACACUGUCUGGUAACGAUGaa-----
-----7 0,-1
-----UAACACUGUCUGGUAACGAUGU-----
-----64 0,0


```

-----CAUCUUACUGGGCAGCAUa-----
----- 5 0,-4
-----CAUCUUACUGGGCAGCAUU-----
----- 85 0,-3
-----CAUCUUACUGGGCAGCAUUG-----
----- 13 0,-2
-----CAUCUUACUGGGCAGCAUUGG-----
----- 40 0,-1
-----CAUCUUACUGGGCAGCAUUGGu-----
----- 4 0,-1
-----CAUCUUACUGGGCAGCAUUGGA-----
----- 13 0,0
-----CAUCUUACUGGGCAGCAUUGGAa-----
----- 4 0,0
-----CAUCUUACUGGGCAGCAUUGGAaa-----
----- 4 0,0
-----AUCUUACUGGGCAGCAUU-----
----- 8 1,-3
-----AUCUUACUGGGCAGCAUUGG-----
----- 5 1,-1
-----AUCUUACUGGGCAGCAUUGGA-----
----- 2 1,0
-----AUCUUACUGGGCAGCAUUGGAa-----
----- 4 1,0
-----AUCUUACUGGGCAGCAUUGGAaa-----
----- 4 1,0
-----AUCUUACUGGGCAGCAUUGGAU-----
----- 2 1,1
-----UAAUACUGCCUGGUA AUG-----
----- 5 0,-4
-----UAAUACUGCCUGGUA AUGA-----
----- 19 0,-3
-----UAAUACUGCCUGGUA AUGAa-----
----- 3 0,-3
-----UAAUACUGCCUGGUA AUGAU-----
----- 24 0,-2
-----UAAUACUGCCUGGUA AUGAUa-----
----- 18 0,-2

```

```

-----UAAUACUGCCUGGUA AUGAUaa--
----- 2 0,-2
-----UAAUACUGCCUGGUA AUGAUG---
----- 44 0,-1
-----UAAUACUGCCUGGUA AUGAUgu--
----- 15 0,-1
-----UAAUACUGCCUGGUA AUGAUguu-
----- 5 0,-1
-----UAAUACUGCCUGGUA AUGAUGA--
----- 202 0,0
-----UAAUACUGCCUGGUA AUGAUGAa-
----- 50 0,0
-----UAAUACUGCCUGGUA AUGAUGAaa
----- 7 0,0
-----UAAUACUGCCUGGUA AUGAUGAu-
----- 10 0,0
-----UAAUACUGCCUGGUA AUGAUGAuu
----- 2 0,0
-----UAAUACUGCCUGGUA AUGAUGAC-
----- 166 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
----- 32 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
u----- 2 0,1
-----UAAUACUGCCUGGUA AUGAUGACu
----- 100 0,1
-----UAAUACUGCCUGGUA AUGAUGACu
u----- 6 0,1
-----UAAUACUGCCUGGUA AUGAUGACG
----- 2 0,2
-----AAUACUGCCUGGUA AUGAUGA--
----- 10 1,0
-----AAUACUGCCUGGUA AUGAUGAC-
----- 20 1,1
-----AAUACUGCCUGGUA AUGAUGACa
----- 18 1,1
-----AAUACUGCCUGGUA AUGAUGACu
----- 35 1,1

```


Sequence	Count	ΔG (kcal/mol)
UGUGAAAUGUUUAGGAC		
CACUAG	2	-1,0
GUGAAAUGUUUAGGAC		
CAC	3	0,-3
GUGAAAUGUUUAGGAC		
CACU	14	0,-2
GUGAAAUGUUUAGGAC		
CACUA	32	0,-1
GUGAAAUGUUUAGGAC		
CACUAu	5	0,-1
GUGAAAUGUUUAGGAC		
CACUAG	132	0,0
GUGAAAUGUUUAGGAC		
CACUAGu	29	0,0
GUGAAAUGUUUAGGAC		
CACUAGA	20	0,1
UGAAAUGUUUAGGAC		
CACUA	9	1,-1
UGAAAUGUUUAGGAC		
CACUAG	22	1,0
UGAAAUGUUUAGGAC		
CACUAGu	13	1,0
UGAAAUGUUUAGGAC		
CACUAGuu	5	1,0
UGAAAUGUUUAGGAC		
CACUAGA	2	1,1
UGAAAUGUUUAGGAC		
CACUAGAa	2	1,1
GAAAUGUUUAGGAC		
CACUAG	2	2,0

>hsa-mir-204 5p:33-54 SRX018958

```

ggcuacagucuuucuaugugacucguggacUUCCCUUUGUCAUCCU AUGCCUgagaauauaugaaggaggcugggag
gcaaagggacguucaauugucaucacuggc
.....((((((((...(((((.(((((((((.(((((.((((.....))))))))).)
))))))))).))))).)))).).)).).
-----UUCCCUUUGUCAUCCU AUGCC-----
-----5    0,-1

```

```

-----UCCCCUUGUCAUCCUAGCCU-----
----- 22 0,0
-----GCUGGGAAG
GCAAAGGGA----- 11
-----GCUGGGAAG
GCAAAGGGAC----- 7
-----GCUGGGAAG
GCAAAGGGACGU----- 11

```

>hsa-mir-206 3p:53-74 SRX018958

```

ugcuucccgaggccacaugcuucuuuauauccccaauuggauuacuuugcuaUGGAAUGUAAGGAAGUGUGUGGuuucgg
caagug

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.)))).

```

```

-----UGGAAUGUAAGGAAGUGUGUG-----
----- 2 0,-1
-----UGGAAUGUAAGGAAGUGUGUGG-----
----- 12 0,0
-----UGGAAUGUAAGGAAGUGUGUGGU-----
----- 2 0,1

```

>hsa-mir-208b 3p:46-67 SRX018958

```

ccucucaggggaagcuuuuugcucgaauuanguuucugauccgaauAUAAGACGAACAAAAGGUUUGUcugagggcag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))...

```

```

-----AUAAGACGAACAAAAGGUUU-----
3 0,-2

```

>hsa-mir-20a MA:8-30;mi:44-65 SRX018958

```

guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuaguuaucUACUGCAUUAUGAGCACUUAAGGuacugc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UAAAGUGCUUAUAGUGCA----- 11 0,-5
-----UAAAGUGCUUAUAGUGCAG----- 162 0,-4
-----UAAAGUGCUUAUAGUGCAGG----- 77 0,-3
-----UAAAGUGCUUAUAGUGCAGGa----- 2 0,-3
-----UAAAGUGCUUAUAGUGCAGGU----- 65 0,-2
-----UAAAGUGCUUAUAGUGCAGGUu----- 5 0,-2
-----UAAAGUGCUUAUAGUGCAGGUA----- 223 0,-1
-----UAAAGUGCUUAUAGUGCAGGUa----- 81 0,-1

```


-----UAAAGUGCUUAUAGUGCAGGUAau-----	2	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAu-----	84	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAuu-----	2	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG-----	94	0,0
-----UAAAGUGCUUAUAGUGCAGGUAGa-----	8	0,0
-----UAAAGUGCUUAUAGUGCAGGUAGU-----	3	0,1
-----UAAAGUGCUUAUAGUGCAGGUAGUa-----	2	0,1
-----AAGUGCUUAUAGUGCAGGUA-----	2	2,-1
-----ACUGCAUUAUGAGCACUUA-----	5	0,-3
-----ACUGCAUUAUGAGCACUUA-----	2	0,-2
-----ACUGCAUUAUGAGCACUUA-----	3	0,-1
-----ACUGCAUUAUGAGCACUUA-----	3	0,0
-----ACUGCAUUAUGAGCACUUA-----	8	0,1
-----ACUGCAUUAUGAGCACUUA-----	4	0,2
-----CUGCAUUAUGAGCACUUA-----	2	1,1

>hsa-mi r-20b MA:6-28:mi:44-65 SRX018958

```

aguacCAAAGUGCUCAUAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGGCACUUCCAGuacu
((((((..(((((((((((..((((((..((((.....))))..)))))).)))))))).))))))
-----CAAAGUGCUCAUAGUGCAGGU----- 2 0,-2
-----CAAAGUGCUCAUAGUGCAGGUau----- 2 0,-1
-----ACUGUAGUAUGGGGCACUUCC----- 2 0,-2
-----ACUGUAGUAUGGGGCACUUCCA----- 2 0,-1
-----ACUGUAGUAUGGGGCACUUCCAGU--- 3 0,1

```

>hsa-mi r-21 MA:8-29;mi:46-66 SRX018958

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca	
.(((((.(((((((.(((((.(((((.(((.(.....)))))))))).)))))))).))))).	
-----GUAGCUUAUCAGACUGAUGU-----	2
-1,-3	
-----GUAGCUUAUCAGACUGAUGUU-----	27
-1,-2	
-----GUAGCUUAUCAGACUGAUGUUG-----	45
-1,-1	
-----GUAGCUUAUCAGACUGAUGUUGA-----	51
-1,0	
-----GUAGCUUAUCAGACUGAUGUUGAC-----	3
-1,1	

-----GUAGCUUAUCAGACUGAUGUUGACa-----	5
-1,1	
-----GUAGCUUAUCAGACUGAUGUUGACU-----	3
-1,2	
-----UAGCUUAUCAGACUGAUG-----	1802
0,-4	
-----UAGCUUAUCAGACUGAUGa-----	3
0,-4	
-----UAGCUUAUCAGACUGAUGau-----	13
0,-4	
-----UAGCUUAUCAGACUGAUGU-----	5753
0,-3	
-----UAGCUUAUCAGACUGAUGUa-----	54
0,-3	
-----UAGCUUAUCAGACUGAUGUaa-----	20
0,-3	
-----UAGCUUAUCAGACUGAUGUU-----	
39996 0,-2	
-----UAGCUUAUCAGACUGAUGUUa-----	244
0,-2	
-----UAGCUUAUCAGACUGAUGUUaa-----	34
0,-2	
-----UAGCUUAUCAGACUGAUGUUu-----	44
0,-2	
-----UAGCUUAUCAGACUGAUGUUG-----	
23613 0,-1	
-----UAGCUUAUCAGACUGAUGUUGu-----	79
0,-1	
-----UAGCUUAUCAGACUGAUGUUGA-----	
18367 0,0	
-----UAGCUUAUCAGACUGAUGUUGAa-----	1053
0,0	
-----UAGCUUAUCAGACUGAUGUUGAaa-----	125
0,0	
-----UAGCUUAUCAGACUGAUGUUGAau-----	7
0,0	
-----UAGCUUAUCAGACUGAUGUUGAu-----	46
0,0	

-----UAGCUUAUCAGACUGAUGUUGAuu-----	13
0,0	
-----UAGCUUAUCAGACUGAUGUUGAC-----	7182
0,1	
-----UAGCUUAUCAGACUGAUGUUGACa-----	3612
0,1	
-----UAGCUUAUCAGACUGAUGUUGACaa-----	30
0,1	
-----UAGCUUAUCAGACUGAUGUUGACau-----	14
0,1	
-----UAGCUUAUCAGACUGAUGUUGACU-----	2000
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUa-----	7
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUu-----	3
0,2	
-----AGCUUAUCAGACUGAUGU-----	23
1,-3	
-----AGCUUAUCAGACUGAUGUU-----	178
1,-2	
-----AGCUUAUCAGACUGAUGUUa-----	2
1,-2	
-----AGCUUAUCAGACUGAUGUUG-----	102
1,-1	
-----AGCUUAUCAGACUGAUGUUGu-----	14
1,-1	
-----AGCUUAUCAGACUGAUGUUGA-----	260
1,0	
-----AGCUUAUCAGACUGAUGUUGAa-----	13
1,0	
-----AGCUUAUCAGACUGAUGUUGAau-----	4
1,0	
-----AGCUUAUCAGACUGAUGUUGAu-----	3
1,0	
-----AGCUUAUCAGACUGAUGUUGAC-----	92
1,1	
-----AGCUUAUCAGACUGAUGUUGACa-----	63
1,1	

-----AGCUUAUCAGACUGAUGUUGACau-----	4
1,1	
-----AGCUUAUCAGACUGAUGUUGACU-----	16
1,2	
-----GCUUAUCAGACUGAUGUU-----	48
2,-2	
-----GCUUAUCAGACUGAUGUUG-----	48
2,-1	
-----GCUUAUCAGACUGAUGUUGA-----	58
2,0	
-----GCUUAUCAGACUGAUGUUGAC-----	25
2,1	
-----GCUUAUCAGACUGAUGUUGACa-----	6
2,1	
-----GCUUAUCAGACUGAUGUUGACau-----	3
2,1	
-----GCUUAUCAGACUGAUGUUGACU-----	4
2,2	
-----GCUUAUCAGACUGAUGUUGACUa-----	4
2,2	
-----CAACACCAGUCGAUGGGC-----	2
0,-3	
-----CAACACCAGUCGAUGGGCU-----	30
0,-2	
-----CAACACCAGUCGAUGGGCUG-----	11
0,-1	
-----CAACACCAGUCGAUGGGCUGU-----	49
0,0	
-----CAACACCAGUCGAUGGGCUGUaa-----	82
0,0	
-----CAACACCAGUCGAUGGGCUGUau-----	48
0,0	
-----CAACACCAGUCGAUGGGCUGUuu-----	13
0,0	
-----CAACACCAGUCGAUGGGCUGUC-----	16
0,1	
-----CAACACCAGUCGAUGGGCUGUCa-----	84
0,1	


```

-----CUGUGCGUGUGACAG
CGG----- 2 0,-4
-----CUGUGCGUGUGACAG
CGGCU----- 88 0,-2
-----CUGUGCGUGUGACAG
CGGCUGA----- 21 0,0
-----CUGUGCGUGUGACAG
CGGCUGAa----- 11 0,0
-----CUGUGCGUGUGACAG
CGGCUGAU----- 2 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUa----- 2 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUu----- 3 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUuu----- 4 0,1

```

>hsa-mir-2110 5p:8-29 SRX018958

```

cagggguUUGGGGAAACGGCCGCUGAGUGagggcugcguguguuucucaccgcgguuuuccuccacucuug
(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))))
-----UUGGGGAAACGGCCGCUGAGU----- 2
0,-1
-----UUGGGGAAACGGCCGCUGAGUG----- 8
0,0
-----UUGGGGAAACGGCCGCUGAGUGu----- 12
0,0
-----UUGGGGAAACGGCCGCUGAGUGA----- 29
0,1
-----UUGGGGAAACGGCCGCUGAGUGAa----- 2
0,1
-----UUGGGGAAACGGCCGCUGAGUGAu----- 2
0,1
-----UUGGGGAAACGGCCGCUGAGUGAG----- 10
0,2
-----UUGGGGAAACGGCCGCUGAGUGAGu----- 2
0,2

```

>hsa-mir-212 3p:71-91 SRX018958

-----				-----UACAGCAGGCA
CAGACAGGCAaa-----	18	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAau-----	23	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAu-----	64	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAuu-----	26	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAG-----	10	-1,-1		
-----				-----UACAGCAGGCA
CAGACAGGCAGa-----	36	-1,-1		
-----				-----UACAGCAGGCA
CAGACAGGCAGaa-----	3	-1,-1		
-----				-----UACAGCAGGCA
CAGACAGGCAGau-----	2	-1,-1		
-----				-----UACAGCAGGCA
CAGACAGGCAGU-----	3	-1,0		
-----				-----ACAGCAGGCA
CAGACAGG-----	62	0,-4		
-----				-----ACAGCAGGCA
CAGACAGGa-----	4	0,-4		
-----				-----ACAGCAGGCA
CAGACAGGaa-----	5	0,-4		
-----				-----ACAGCAGGCA
CAGACAGGCA-----	143	0,-2		
-----				-----ACAGCAGGCA
CAGACAGGCAa-----	63	0,-2		
-----				-----ACAGCAGGCA
CAGACAGGCAaa-----	42	0,-2		
-----				-----ACAGCAGGCA
CAGACAGGCAau-----	18	0,-2		
-----				-----ACAGCAGGCA
CAGACAGGCAu-----	38	0,-2		
-----				-----ACAGCAGGCA
CAGACAGGCAuu-----	9	0,-2		
-----				-----ACAGCAGGCA
CAGACAGGCAG-----	67	0,-1		

CAGACAGGCAGa	87	0,-1	ACAGCAGGCA
CAGACAGGCAGaa	19	0,-1	ACAGCAGGCA
CAGACAGGCAGau	10	0,-1	ACAGCAGGCA
CAGACAGGCAGU	46	0,0	ACAGCAGGCA
CAGACAGGCAGUa	12	0,0	ACAGCAGGCA

>hsa-mir-215 5p:27-47 SRX018958

aucauucagaaaugguauacagggaaaAUGACCUAUGAAUUGACAGACaauauagcugaguuugucugucauuucuuuagg
ccaauauucuguaugacugugcuacuucua

.....(((.(((((((((((.(.(((.(((.(((((((((((.....)))))))).))..)))
.)).).)))))).....)))))).)))..

-----AUGACCUAUGAAUUGACAG-----
-----295 0,-2-----
-----AUGACCUAUGAAUUGACAGAC-----
-----9 0,0-----
-----AUGACCUAUGAAUUGACAGACA-----
-----7 0,1-----
-----UGACCUAUGAAUUGACAG-----
-----3927 1,-2-----
-----UGACCUAUGAAUUGACAGu-----
-----34 1,-2-----
-----UGACCUAUGAAUUGACAGuu-----
-----4 1,-2-----
-----UGACCUAUGAAUUGACAGA-----
-----98 1,-1-----
-----UGACCUAUGAAUUGACAGaaa-----
-----6 1,-1-----
-----UGACCUAUGAAUUGACAGAC-----
-----11 1,0-----
-----UGACCUAUGAAUUGACAGACA-----
-----81 1,1-----
-----UGACCUAUGAAUUGACAGACau-----
-----17 1,1-----

-----AGAGUUGAGUCUGGACGUC
CCGu----- 4 0,0

>hsa-mi r-219-2 5p:19-39;3p:62-83 SRX018958

acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCUuguacgagucugcggccaaccgAGAAUUGUGGCUGGACAUC
UGUggcugagcuccggg

.(((.(((((((.(((((.((((.((((((.(((((((((((((((((...((.(...)))...)))))))))))).)))))))))
 .))))).)))))))))

-----UGAUUGUCCAAACGCAAU-----

----- 3 0, -3

-----UGAUUGUCCAAACGCAAUU-----

----- 3 0, -2

>hsa-mi r-22 mi:15-36;MA:53-74 SRX018958

ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc

-----AGUUCUUCAGUGGCAAGC-----

----- 10 0,-4

-----AGUUCUUCAGUGGCAAGCU-----

----- 71 0, -3

-----AGUUCUUCAGUGGCAAGCUU-----

----- 22 0, -2

-----AGUUCUUCAGUGGCAAGCUUa-----

----- 8 0, -2

-----AGUUCUUCAGUGGCAAGCUUU-----

----- 509 0, -1

-----AGUUCUUCAGUGGCAAGCUUUu-----

----- 32 0, -1

-----AGUUCUUCAGUGGCAAGCUUA-----

----- 238 0,0

-----AGUUCUUCAGUGGCAAGCUUUAa-----

----- 35 0,0

-----AGUUCUUCAGUGGCAAGCUUUAU-----

----- 32 0,1

-----AAAGCUGCCAGUUGAAGAA-----

----- 3 -1, -4

-----			-----AAAGCUGCCAGUUGAAGAACU-----
-----	2	-1,-2	
-----			-----AAAGCUGCCAGUUGAAGAACUGU-----
-----	8	-1,0	
-----			-----AAGCUGCCAGUUGAAGAA-----
-----	2982	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAa-----
-----	19	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAaa-----
-----	7	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAau-----
-----	7	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAu-----
-----	6	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAuu-----
-----	166	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAC-----
-----	1227	0,-3	
-----			-----AAGCUGCCAGUUGAAGAACa-----
-----	207	0,-3	
-----			-----AAGCUGCCAGUUGAAGAACaa-----
-----	42	0,-3	
-----			-----AAGCUGCCAGUUGAAGAACau-----
-----	7	0,-3	
-----			-----AAGCUGCCAGUUGAAGAACU-----
-----	4072	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUa-----
-----	47	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUaa-----
-----	39	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUau-----
-----	56	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUu-----
-----	67	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUuu-----
-----	224	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUG-----
-----	690	0,-1	

```

-----AAGCUGCCAGUUGAAGAACUGa-----
----- 38  0,-1
-----AAGCUGCCAGUUGAAGAACUGaa-----
----- 4   0,-1
-----AAGCUGCCAGUUGAAGAACUGau-----
----- 2   0,-1
-----AAGCUGCCAGUUGAAGAACUGU-----
----- 3331  0,0
-----AAGCUGCCAGUUGAAGAACUGUa-----
----- 72  0,0
-----AAGCUGCCAGUUGAAGAACUGUaa-----
----- 36  0,0
-----AAGCUGCCAGUUGAAGAACUGUau-----
----- 35  0,0
-----AAGCUGCCAGUUGAAGAACUGUU-----
----- 140 0,1
-----AAGCUGCCAGUUGAAGAACUGUUa-----
----- 13  0,1
-----AAGCUGCCAGUUGAAGAACUGUUau-----
----- 4   0,1
-----AAGCUGCCAGUUGAAGAACUGUUu-----
----- 161 0,1
-----AAGCUGCCAGUUGAAGAACUGUUuu-----
----- 12  0,1
-----AGCUGCCAGUUGAAGAAC-----
----- 14  1,-3
-----AGCUGCCAGUUGAAGAACU-----
----- 25  1,-2
-----AGCUGCCAGUUGAAGAACUG-----
----- 9   1,-1
-----AGCUGCCAGUUGAAGAACUGU-----
----- 34  1,0
-----AGCUGCCAGUUGAAGAACUGUU-----
----- 3   1,1
-----AGCUGCCAGUUGAAGAACUGUUu-----
----- 2   1,1
-----GCUGCCAGUUGAAGAACUGUUu-----
----- 2   2,1

```

ugaacauccagggucuggggcaugaACCUGGCAUACAAUGUAGAUUucuguguucguuaggcaacAGCUACAUUGUCUGCU
GGGUUUCaggcuaaccuggaaacauguucuc

.((((((((((((((((.....(((.(((((((..(((.(((((((((((((.....((((((((.....)))).)))))))))))))).)).).
 .)).)))))).))))))))))))).)))).)))).))..

-----AACCUGGCAUACAAUGUAGAUAU-----

----- 10 -1,-1

-----AACCUGGCAUACAAUGUAGAUIIa-----

----- 5 -1,-1

-----AACCUGGCAUACAAUGUAGAUUU-----

----- 15 -1.0

-----AACCUGGCAUACAAUGUAGAUIUC-----

$$----- 2 \quad -1, 1$$

-----ACCUGGCAUACAAUGUAG-----

----- 7 0,-4

-----ACCUGGCAUACAAUGUAGA-----

$$----- 2 \quad 0, -3$$

-----ACCUGGCAUACAAUGUAGA_a-----

----- 2 0,-3

-----ACCUGGCAUACAAUGUAGA_{aa}-----

$$----- 2 \quad 0, -3$$

-----ACCUGGCAUACAAUGUAGAU-----

----- 27 0,-2

-----ACCUGGCAUACAAUGUAGAUa-----

----- 33 0,-2

-----ACCUGGCAUACAAUGUAGAU_{aa}-----

----- 3 0,-2

-----ACCUGGCAUACAAUGUAGAUau-----

----- 2 0, -2

-----ACCUGGCAUACAAUGUAGAUAU-----

----- 143 0,-1

-----ACCUGGCAUACAAUGUAGAUA-----

----- 13 0,-1

-----ACCUGGCAUACAAUGUAGAUU-----

----- 1137 0,0

-----ACCUGGCAUACAAUGUAGAUUUa-----

----- 18 0,0

```

-----ACCUGGCAUACAAUGUAGAUUUu-----
----- 23 0,0
-----ACCUGGCAUACAAUGUAGAUUUC-----
----- 170 0,1
-----ACCUGGCAUACAAUGUAGAUUUUCU-----
----- 97 0,2
-----ACCUGGCAUACAAUGUAGAUUUUCUG-----
----- 2 0,3
-----CCUGGCAUACAAUGUAGAUUU-----
----- 10 1,0
-----CUGGCAUACAAUGUAGAUU-----
----- 2 2,-1
-----AGCUACAUUGUCUGCU
GG----- 8 0,-5
-----AGCUACAUUGUCUGCU
GGG----- 118 0,-4
-----AGCUACAUUGUCUGCU
GGGU----- 41 0,-3
-----AGCUACAUUGUCUGCU
GGGUa----- 3 0,-3
-----AGCUACAUUGUCUGCU
GGGUaa----- 9 0,-3
-----AGCUACAUUGUCUGCU
GGGUau----- 11 0,-3
-----AGCUACAUUGUCUGCU
GGGUU----- 116 0,-2
-----AGCUACAUUGUCUGCU
GGGUUa----- 54 0,-2
-----AGCUACAUUGUCUGCU
GGGUUaa----- 18 0,-2
-----AGCUACAUUGUCUGCU
GGGUUau----- 47 0,-2
-----AGCUACAUUGUCUGCU
GGGUUU----- 1326 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUa----- 161 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUaa----- 17 0,-1

```



```

-----AGCUACAUUGUCUGCU
GGGUUUau----- 30 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUu----- 324 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUuu----- 23 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUC----- 524 0,0
-----AGCUACAUUGUCUGCU
GGGUUUCu----- 42 0,0
-----AGCUACAUUGUCUGCU
GGGUUUCa----- 21 0,1
-----GCUACAUUGUCUGCU
GGGUUa----- 2 1,-2
-----GCUACAUUGUCUGCU
GGGUUU----- 49 1,-1
-----GCUACAUUGUCUGCU
GGGUUUu----- 7 1,-1
-----GCUACAUUGUCUGCU
GGGUUUC----- 10 1,0

```

>hsa-mi r-222 mi:31-52;MA:69-89 SRX018958

```

gcugcuggaagguguagguaccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu

```

```

...((((((((((((.....((.(((..((((((((((((((((((((.....(((.....))))).))))).))))
))))))))).))))).))))))))))))).

```

```

-----AGCUACAUCUGG
CUACUG----- 389 0,-3
-----AGCUACAUCUGG
CUACUGG----- 518 0,-2
-----AGCUACAUCUGG
CUACUGGu----- 2 0,-2
-----AGCUACAUCUGG
CUACUGGG----- 509 0,-1
-----AGCUACAUCUGG
CUACUGGGa----- 6 0,-1
-----AGCUACAUCUGG
CUACUGGGU----- 607 0,0

```

-----				-----AGCUACAUCUGG
CUACUGGGUa-----	35	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUaa-----	51	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUau-----	56	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUu-----	36	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUuu-----	18	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUC-----	2471	0,1		
-----				-----AGCUACAUCUGG
CUACUGGGUCa-----	24	0,1		
-----				-----AGCUACAUCUGG
CUACUGGGUCaa-----	5	0,1		
-----				-----AGCUACAUCUGG
CUACUGGGUCau-----	3	0,1		
-----				-----AGCUACAUCUGG
CUACUGGGUCU-----	2074	0,2		
-----				-----AGCUACAUCUGG
CUACUGGGUCUa-----	16	0,2		
-----				-----AGCUACAUCUGG
CUACUGGGUCUaa-----	5	0,2		
-----				-----AGCUACAUCUGG
CUACUGGGUCUau-----	12	0,2		
-----				-----AGCUACAUCUGG
CUACUGGGUCUu-----	79	0,2		
-----				-----AGCUACAUCUGG
CUACUGGGUCUuu-----	59	0,2		
-----				-----AGCUACAUCUGG
CUACUGGGUCUC-----	234	0,3		
-----				-----AGCUACAUCUGG
CUACUGGGUCUCa-----	35	0,3		
-----				-----AGCUACAUCUGG
CUACUGGGUCUCU-----	90	0,4		
-----				-----GCUACAUCUGG
CUACUGG-----	2	1,-2		

```

-----GCUACAUCUGG
CUACUGGG----- 2 1,-1
-----GCUACAUCUGG
CUACUGGGU----- 2 1,0
-----GCUACAUCUGG
CUACUGGGUC----- 8 1,1
-----GCUACAUCUGG
CUACUGGGUCU----- 13 1,2
-----GCUACAUCUGG
CUACUGGGUCUuu----- 2 1,2

```

>hsa-mi r-223 mi:26-47;MA:68-89 SRX018958

```

ccuggccuccugcagugccacgcucCGUGUAUUUGACAAGCUGAGUUGgacacuccaugugguagagUGUCAGUUUGUCA
AAUACCCCAagugcggcacaugcuaccag

```

```

.((((.....(((((((.((((..((((((((((((((((.....(((((((.....))))))))))))))))))
))))).).))))).))))).))))).))))))

```

```

-----GUGUAUUUGACAAGCUGAGUUG-----
----- 2 1,1
-----UGUCAGUUUGUCA
AAUAC----- 3 0,-4
-----UGUCAGUUUGUCA
AAUACC----- 4 0,-3
-----UGUCAGUUUGUCA
AAUACCC----- 3 0,-2
-----UGUCAGUUUGUCA
AAUACCCC----- 2 0,-1
-----UGUCAGUUUGUCA
AAUACCCCA----- 18 0,0
-----UGUCAGUUUGUCA
AAUACCCCAu----- 4 0,0
-----UGUCAGUUUGUCA
AAUACCCCAA----- 14 0,1
-----UGUCAGUUUGUCA
AAUACCCCAAa----- 3 0,1
-----GUCAGUUUGUCA
AAUACC----- 8 1,-3
-----GUCAGUUUGUCA
AAUACCC----- 5 1,-2

```

```

-----GUCAGUUUGUCA
AAUACCCC----- 4 1,-1
-----GUCAGUUUGUCA
AAUACCCCA----- 16 1,0
-----GUCAGUUUGUCA
AAUACCCCAA----- 23 1,1
-----GUCAGUUUGUCA
AAUACCCCAAa----- 2 1,1
-----GUCAGUUUGUCA
AAUACCCCAAu----- 5 1,1

```

>hsa-mir-224 MA:8-28;mi:53-75 SRX018958

gggcuuuCAAGUCACUAGUGGUUCCGUUuaguagaugauugugcauuguuucAAAAUGGUGCCCUAGUGACUACAaagcc
c

(((((...(((((((((((((...((((((...((...))...)))))...)))))...)))))...)))))
)

```

-----CAAGUCACUAGUGGUUCCGUUU-----
- 16 0,1
-----CAAGUCACUAGUGGUUCCGUUUA-----
- 6 0,2
-----CAAGUCACUAGUGGUUCCGUUUAa-----
- 2 0,2
-----CAAGUCACUAGUGGUUCCGUUUAG-----
- 39 0,3
-----AAGUCACUAGUGGUUCCGUUUAG-----
- 2 1,3
-----AAAUGGUGCCCUAGUGAC-----
- 2 1,-4
-----AAAUGGUGCCCUAGUGACUAC-----
- 4 1,-1

```

>hsa-mir-2355 5p:11-31;3p:54-75 SRX018958

cagacgugucAUCCCCAGAUACAAUGGACAAuauugcuauuauaaucgnauggcAUUGUCCUUGCUGUUUGGAGAUaauac
ugcugac

((...(((...(((...(((((((((((((...((((((...((...))...)))))...)))))...)))))...))...))..

```

-----AUCCCCAGAUACAAUGGACAAu-----
----- 2 0,0

```


-----AUCACAUUGCCAGGGAUUUC <u>C</u> u-----	9
0,0	
-----AUCACAUUGCCAGGGAUUUC <u>C</u> A-----	2981
0,1	
-----AUCACAUUGCCAGGGAUUUC <u>C</u> Au-----	319
0,1	
-----AUCACAUUGCCAGGGAUUUC <u>C</u> Auu-----	20
0,1	
-----AUCACAUUGCCAGGGAUUUC <u>C</u> AA-----	437
0,2	
-----AUCACAUUGCCAGGGAUUUC <u>C</u> AAa-----	8
0,2	
-----AUCACAUUGCCAGGGAUUUC <u>C</u> AAu-----	35
0,2	
-----AUCACAUUGCCAGGGAUUUC <u>C</u> AAuu-----	5
0,2	
-----AUCACAUUGCCAGGGAUUUC <u>C</u> AA <u>C</u> -----	2
0,3	
-----UCACAUUGCCAGGGAUUU <u>C</u> a-----	2
1,-2	
-----UCACAUUGCCAGGGAUUU <u>C</u> u-----	4
1,-2	
-----UCACAUUGCCAGGGAUUU <u>C</u> -----	7
1,-1	
-----UCACAUUGCCAGGGAUUU <u>C</u> a-----	4
1,-1	
-----UCACAUUGCCAGGGAUUU <u>C</u> -----	2
1,0	
-----UCACAUUGCCAGGGAUUU <u>C</u> A-----	9
1,1	
-----UCACAUUGCCAGGGAUUU <u>C</u> Au-----	3
1,1	
-----UCACAUUGCCAGGGAUUU <u>C</u> AA-----	7
1,2	
-----UCACAUUGCCAGGGAUUU <u>C</u> AAu-----	4
1,2	
-----UCACAUUGCCAGGGAUUU <u>C</u> AA <u>C</u> -----	2
1,3	

-----UCACAUUGCCAGGGAUUCCAACu---- 3

1,3

>hsa-mir-23b mi:20-41;MA:58-78 SRX018958

cucaggugcucuggcugcuUGGGUCCUGGCAUGCUGAUUgugacuuaagauuaaaAUCACAUUGCCAGGGAUUACCa
gcaaccacgaccuuggc

.(((((.(((((.(((.(((((((((((((((((.(((((.)))))))).)))))))).))))).
)))..)))))))).

-----UUGGGUCCUGGCAUGCUGAU-----

----- 4 -1,-2

-----UUGGGUCCUGGCAUGCUGAUU-----

----- 13 -1,-1

-----UUGGGUCCUGGCAUGCUGAUUa-----

----- 3 -1,-1

-----UUGGGUCCUGGCAUGCUGAUUU-----

----- 26 -1,0

-----UUGGGUCCUGGCAUGCUGAUUUu-----

----- 4 -1,0

-----UGGGUCCUGGCAUGCUGA-----

----- 2 0,-3

-----UGGGUCCUGGCAUGCUGAU-----

----- 18 0,-2

-----UGGGUCCUGGCAUGCUGAUa-----

----- 25 0,-2

-----UGGGUCCUGGCAUGCUGAUU-----

----- 84 0,-1

-----UGGGUCCUGGCAUGCUGAUUa-----

----- 15 0,-1

-----UGGGUCCUGGCAUGCUGAUUaa-----

----- 2 0,-1

-----UGGGUCCUGGCAUGCUGAUUau-----

----- 2 0,-1

-----UGGGUCCUGGCAUGCUGAUUU-----

----- 607 0,0

-----UGGGUCCUGGCAUGCUGAUUUa-----

----- 42 0,0

-----UGGGUCCUGGCAUGCUGAUUUau-----

----- 2 0,0

```

-----UGGGUCCUGGCAUGCUGAUUUu-----
-----84 0,0-----
-----GGGUUCCUGGCAUGCUGA-----
-----5 1,-3-----
-----GGGUUCCUGGCAUGCUGAU-----
-----27 1,-2-----
-----GGGUUCCUGGCAUGCUGAUa-----
-----6 1,-2-----
-----GGGUUCCUGGCAUGCUGAUU-----
-----73 1,-1-----
-----GGGUUCCUGGCAUGCUGAUUa-----
-----3 1,-1-----
-----GGGUUCCUGGCAUGCUGAUUaa-----
-----2 1,-1-----
-----GGGUUCCUGGCAUGCUGAUUU-----
-----537 1,0-----
-----GGGUUCCUGGCAUGCUGAUUUa-----
-----22 1,0-----
-----GGGUUCCUGGCAUGCUGAUUUaa-----
-----9 1,0-----
-----GGGUUCCUGGCAUGCUGAUUUau-----
-----9 1,0-----
-----GGGUUCCUGGCAUGCUGAUUUu-----
-----174 1,0-----
-----GGGUUCCUGGCAUGCUGAUUUuu-----
-----22 1,0-----
-----GGGUUCCUGGCAUGCUGAUUUUGU-----
-----9 1,2-----
-----AAUCACAUUGCCAGGGAUU-----
-----4 -1,-3-----
-----AAUCACAUUGCCAGGGAUUA-----
-----10 -1,-2-----
-----AAUCACAUUGCCAGGGAUUAC-----
-----6 -1,-1-----
-----AAUCACAUUGCCAGGGAUUACa-----
-----2 -1,-1-----
-----AAUCACAUUGCCAGGGAUUACC-----
-----24 -1,0-----

```


-----			-----AAUCACAUUGCCAGGGAUUACCA-
-----	7	-1,1	-----AAUCACAUUGCCAGGGAUUACCAC
-----	3	-1,2	-----AUCACAUUGCCAGGGAUU-----
-----	145	0,-3	-----AUCACAUUGCCAGGGAUUA-----
-----	927	0,-2	-----AUCACAUUGCCAGGGAUUAa---
-----	237	0,-2	-----AUCACAUUGCCAGGGAUUAaa---
-----	40	0,-2	-----AUCACAUUGCCAGGGAUUAau---
-----	4	0,-2	-----AUCACAUUGCCAGGGAUUAu---
-----	83	0,-2	-----AUCACAUUGCCAGGGAUUAuu---
-----	12	0,-2	-----AUCACAUUGCCAGGGAUUAC---
-----	919	0,-1	-----AUCACAUUGCCAGGGAUUACa---
-----	291	0,-1	-----AUCACAUUGCCAGGGAUUACaa---
-----	34	0,-1	-----AUCACAUUGCCAGGGAUUACau---
-----	2	0,-1	-----AUCACAUUGCCAGGGAUUACu---
-----	55	0,-1	-----AUCACAUUGCCAGGGAUUACuu---
-----	3	0,-1	-----AUCACAUUGCCAGGGAUUACCC---
-----	1412	0,0	-----AUCACAUUGCCAGGGAUUACCu---
-----	48	0,0	-----AUCACAUUGCCAGGGAUUACCUu---
-----	14	0,0	-----AUCACAUUGCCAGGGAUUACCA-
-----	5120	0,1	

-----			-----AUCACAUUGCCAGGGGAUUACCAa
-----	190	0,1	
-----			-----AUCACAUUGCCAGGGGAUUACCAa
u-----	11	0,1	
-----			-----AUCACAUUGCCAGGGGAUUACCAu
-----	945	0,1	
-----			-----AUCACAUUGCCAGGGGAUUACCAu
u-----	249	0,1	
-----			-----AUCACAUUGCCAGGGGAUUACCAC
-----	1288	0,2	
-----			-----AUCACAUUGCCAGGGGAUUACCAC
a-----	230	0,2	
-----			-----AUCACAUUGCCAGGGGAUUACCAC
aa-----	6	0,2	
-----			-----AUCACAUUGCCAGGGGAUUACCAC
au-----	12	0,2	
-----			-----AUCACAUUGCCAGGGGAUUACCAC
u-----	3536	0,2	
-----			-----AUCACAUUGCCAGGGGAUUACCAC
uu-----	51	0,2	
-----			-----AUCACAUUGCCAGGGGAUUACCAC
G-----	15	0,3	
-----			-----AUCACAUUGCCAGGGGAUUACCAC
Gu-----	3	0,3	
-----			-----UCACAUUGCCAGGGGAUUA----
-----	14	1,-2	
-----			-----UCACAUUGCCAGGGGAUUAa---
-----	3	1,-2	
-----			-----UCACAUUGCCAGGGGAUUAu---
-----	3	1,-2	
-----			-----UCACAUUGCCAGGGGAUUAC---
-----	20	1,-1	
-----			-----UCACAUUGCCAGGGGAUUACa--
-----	7	1,-1	
-----			-----UCACAUUGCCAGGGGAUUACC--
-----	28	1,0	
-----			-----UCACAUUGCCAGGGGAUUACCA-
-----	86	1,1	

-			-UCACAUUGCCAGGGGAUUACCAa
-	8	1,1	
-			-UCACAUUGCCAGGGGAUUACCAu
-	6	1,1	
-			-UCACAUUGCCAGGGGAUUACCAu
u-	45	1,1	
-			-UCACAUUGCCAGGGGAUUACCAC
-	54	1,2	
-			-UCACAUUGCCAGGGGAUUACCAC
a-	34	1,2	
-			-UCACAUUGCCAGGGGAUUACCAC
aa-	3	1,2	
-			-UCACAUUGCCAGGGGAUUACCAC
u-	278	1,2	
-			-UCACAUUGCCAGGGGAUUACCAC
uu-	47	1,2	
-			-CACAUUGCCAGGGGAUUACCAC
u-	2	2,2	

>hsa-mir-23c 3p:66-87 SRX018958

agugacuuuccaggugucacacagugaguggcauaaucagaguacaauuugagucaugcccauacAUCACAUUGCCAGUG
AUUACCCaaggaaagugacg

$.(((((.((((((((.((((((((((((((.(((.....))))))....)))...)).))....)))..))))).)$

-----AUCACAUGCCAGUG
AUUACCa----- 4 0,-1

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>hsa-mi r-24-1    mi:7-28;MA:44-65    SRX018958
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cuccggUGCCUACUGAGCUGAUACAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag

(((.((.((((.(((((((((.(((((.)))))).)))))).)).)).)))))

-----GGUGCCUACUGAGCUGAUAUCA----- 5

-2, -2

-----GUGCCUACUGAGCUGAUAU----- 2

-1, -4

-----GUGCCUACUGAGCUGAUUA----- 4

-1, -4

-----GUGCCUACUGAGCUGAUAUC----- 2

-1, -3

-----GUGCCUACUGAGCUGAUAUCA-----	27	
-1, -2		
-----GUGCCUACUGAGCUGAUUUCAG-----	9	
-1, -1		
-----CUGGCUCAGUUCAGCAGGAAC-----	2	
-1, -2		
-----UGGCUCAGUUCAGCAGGA-----	8	0, -4
-----UGGCUCAGUUCAGCAGGAA-----	61	0, -3
-----UGGCUCAGUUCAGCAGGAa-----	4	0, -3
-----UGGCUCAGUUCAGCAGGAAC-----	32	0, -2
-----UGGCUCAGUUCAGCAGGAACA-----	110	0, -1
-----UGGCUCAGUUCAGCAGGAACAa-----	42	0, -1
-----UGGCUCAGUUCAGCAGGAACAaa-----	7	0, -1
-----UGGCUCAGUUCAGCAGGAACAau-----	2	0, -1
-----UGGCUCAGUUCAGCAGGAACAu-----	21	0, -1
-----UGGCUCAGUUCAGCAGGAACAuu-----	20	0, -1
-----UGGCUCAGUUCAGCAGGAACAG-----	1019	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGa-----	28	0,0
-----UGGCUCAGUUCAGCAGGAACAGu-----	1619	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGuu-----	325	0,0
-----UGGCUCAGUUCAGCAGGAACAGG-----	6	0,1
-----UGGCUCAGUUCAGCAGGAACAGGu-----	2	0,1
-----GGCUCAGUUCAGCAGGAA-----	11	1, -3
-----GGCUCAGUUCAGCAGGAAC-----	2	1, -2
-----GGCUCAGUUCAGCAGGAACA-----	5	1, -1
-----GGCUCAGUUCAGCAGGAACAa-----	7	1, -1
-----GGCUCAGUUCAGCAGGAACAu-----	4	1, -1
-----GGCUCAGUUCAGCAGGAACAG-----	43	1,0
-----GGCUCAGUUCAGCAGGAACAGa-----	5	1,0
-----GGCUCAGUUCAGCAGGAACAGu-----	107	1,0
-----GGCUCAGUUCAGCAGGAACAGuu-----	16	1,0
-----GCUCAGUUCAGCAGGAACAG-----	32	2,0
-----GCUCAGUUCAGCAGGAACAGa-----	4	2,0
-----GCUCAGUUCAGCAGGAACAGu-----	18	2,0
-----GCUCAGUUCAGCAGGAACAGuu-----	15	2,0
-----GCUCAGUUCAGCAGGAACAGG-----	18	2,1

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-----GCUCAGUUCAGCAGGAACAGGA-      3    2,2

>hsa-mir-24-2    mi:13-34;MA:50-71    SRX018958
cucugccucccgUGCCUACUGAGCUGAAACACAGuugguuuguguacacUGGCUCAGUUCAGCAGGAACAGgg
((((((...(((...(((...((((((((...((((((.....))))))....)))))))))...))))))..))))))
-----GUGCCUACUGAGCUGAAACA-----      3
    -1,-3
-----GUGCCUACUGAGCUGAAACAC-----      37
    -1,-2
-----GUGCCUACUGAGCUGAAACACA-----      28
    -1,-1
-----GUGCCUACUGAGCUGAAACACAG-----      28
    -1,0
-----GUGCCUACUGAGCUGAAACACAGU-----      4
    -1,1
-----CUGGCUCAGUUCAGCAGGAAC----      2
    -1,-2
-----UGGCUCAGUUCAGCAGGA-----      8
    0,-4
-----UGGCUCAGUUCAGCAGGA-----      61
    0,-3
-----UGGCUCAGUUCAGCAGGAa-----      4
    0,-3
-----UGGCUCAGUUCAGCAGGAAC----      32
    0,-2
-----UGGCUCAGUUCAGCAGGAACA---      110
    0,-1
-----UGGCUCAGUUCAGCAGGAACAa--      42
    0,-1
-----UGGCUCAGUUCAGCAGGAACAaa-      7
    0,-1
-----UGGCUCAGUUCAGCAGGAACAau-      2
    0,-1
-----UGGCUCAGUUCAGCAGGAACAu--      21
    0,-1
-----UGGCUCAGUUCAGCAGGAACAuu-      20
    0,-1
-----UGGCUCAGUUCAGCAGGAACAG--      1019

```

0,0	-----UGGCUCAGUUCAGCAGGAACAGa-	28
0,0	-----UGGCUCAGUUCAGCAGGAACAGu-	1619
0,0	-----UGGCUCAGUUCAGCAGGAACAGuu	325
0,0	-----UGGCUCAGUUCAGCAGGAACAGG-	6
0,1	-----UGGCUCAGUUCAGCAGGAACAGGu	2
0,1	-----GGCUCAGUUCAGCAGGAA-----	11
1,-3	-----GGCUCAGUUCAGCAGGAAC----	2
1,-2	-----GGCUCAGUUCAGCAGGAACA---	5
1,-1	-----GGCUCAGUUCAGCAGGAACAa--	7
1,-1	-----GGCUCAGUUCAGCAGGAACAu--	4
1,-1	-----GGCUCAGUUCAGCAGGAACAG--	43
1,0	-----GGCUCAGUUCAGCAGGAACAGa-	5
1,0	-----GGCUCAGUUCAGCAGGAACAGu-	107
1,0	-----GGCUCAGUUCAGCAGGAACAGuu	16
1,0	-----GCUCAGUUCAGCAGGAACAG--	32
2,0	-----GCUCAGUUCAGCAGGAACAGa-	4
2,0	-----GCUCAGUUCAGCAGGAACAGu-	18
2,0	-----GCUCAGUUCAGCAGGAACAGuu	15
2,0	-----GCUCAGUUCAGCAGGAACAGG-	18

2,1

>hsa-mir-25 mi:14-34;MA:52-73 SRX018958

ggccaguguugagAGGCGGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc

(((((.(.(((.((((.((((.((((.((((.(.....))..)))))))).)..))))).))))..)).
)))

-----AGGCGGAGACUUGGGCAAUa-----

---- 2 0,-2

-----AGGCGGAGACUUGGGCAAUU-----

---- 12 0,-1

-----AGGCGGAGACUUGGGCAAUUG-----

---- 24 0,0

-----AGGCGGAGACUUGGGCAAUUGa-----

---- 3 0,0

-----AGGCGGAGACUUGGGCAAUUGC-----

---- 50 0,1

-----AGGCGGAGACUUGGGCAAUUGCa-----

---- 2 0,1

-----AGGCGGAGACUUGGGCAAUUGCU-----

---- 228 0,2

-----AGGCGGAGACUUGGGCAAUUGCUa-----

---- 4 0,2

-----AGGCGGAGACUUGGGCAAUUGCUu-----

---- 13 0,2

-----AGGCGGAGACUUGGGCAAUUGCUuu-----

---- 2 0,2

-----CAUUGCACUUGUCUCGGU-----

---- 88 0,-4

-----CAUUGCACUUGUCUCGGUuu-----

---- 2 0,-4

-----CAUUGCACUUGUCUCGGUC-----

---- 233 0,-3

-----CAUUGCACUUGUCUCGGUCU-----

---- 503 0,-2

-----CAUUGCACUUGUCUCGGUCUa-----

---- 3 0,-2

-----CAUUGCACUUGUCUCGGUCUu-----

```

----      2      0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
----    293      0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
----      73      0,-1
-----CAUUGCACUUGUCUCGGUCUGuu-----
----     14      0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
----    983      0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----
----     48      0,0
-----CAUUGCACUUGUCUCGGUCUGAaa-----
----      4      0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
----     31      0,0
-----CAUUGCACUUGUCUCGGUCUGAC-----
----      3      0,1
-----AUUGCACUUGUCUCGGUC-----
----      9      1,-3
-----AUUGCACUUGUCUCGGUCU-----
----     33      1,-2
-----AUUGCACUUGUCUCGGUCUG-----
----     19      1,-1
-----AUUGCACUUGUCUCGGUCUGu-----
----      3      1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
----     30      1,0
-----AUUGCACUUGUCUCGGUCUGAu-----
----      2      1,0

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>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018958

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guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.((((((.(((((((((.(((((((((.((.....))...)))))))))).)))))))).)))))))).))
-----UUCAAGUAAUCCAGGAUA-----
1095      0,-4
-----UUCAAGUAAUCCAGGAUAa-----
37      0,-4
-----UUCAAGUAAUCCAGGAUAaa-----

```


5 0,-4
-----UUCAAGUAAUCCAGGAUAu-----
7 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
1910 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
6 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
5 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
1853 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
8 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
6 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
18 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
10 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
44 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
1081 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
1671 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
990 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
651 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
13236 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
356 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
451 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
1436 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----

645 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
2064 0,0
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
4 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
2 0,2
-----UCAAGUAAUCCAGGAUAG-----
25 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
28 1,-2
-----UCAAGUAAUCCAGGAUAGGau-----
2 1,-2
-----UCAAGUAAUCCAGGAUAGGuu-----
2 1,-2
-----UCAAGUAAUCCAGGAUAGGCa-----
36 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
12 1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
12 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
186 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
11 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
8 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
6 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
15 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
19 1,0
-----CAAGUAAUCCAGGAUAGG-----
4 2,-2
-----CAAGUAAUCCAGGAUAGGCa-----
2 2,-1
-----CAAGUAAUCCAGGAUAGGCaa-----


```

----      6      0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
----      5      0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
----    1853      0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
----      8      0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
----      6      0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
----     18      0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
----     10      0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
----     44      0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
----    1081      0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
----    1671      0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
----     990      0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
----     651      0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
----   13236      0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
----     356      0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
----     451      0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
----    1436      0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
----     645      0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
----    2064      0,0
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
----      4      0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----

```

```

----      2   0,2
-----UCAAGUAAUCCAGGAUAG-----
----     25   1,-3
-----UCAAGUAAUCCAGGAUAGG-----
----     28   1,-2
-----UCAAGUAAUCCAGGAUAGGau-----
----      2    1,-2
-----UCAAGUAAUCCAGGAUAGGuu-----
----      2    1,-2
-----UCAAGUAAUCCAGGAUAGGCa-----
----     36   1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
----     12   1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
----     12   1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
----    186  1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
----     11   1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
----      8    1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
----      6    1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
----     15   1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
----     19   1,0
-----CAAGUAAUCCAGGAUAGG-----
----      4    2,-2
-----CAAGUAAUCCAGGAUAGGCa-----
----      2    2,-1
-----CAAGUAAUCCAGGAUAGGCaa-----
----      6    2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
----     14   2,0
-----CAAGUAAUCCAGGAUAGGCUau-----
----      3    2,0
-----CAAGUAAUCCAGGAUAGGCUu-----

```


65 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUau-----
 20 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUu-----
 1825 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUuu-----
 41 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUG-----
 13 0,2
 -----UUCAAGUAAUUCAGGAUAGGUUGa-----
 2 0,2
 -----UCAAGUAAUUCAGGAUAG-----
 9 1,-2
 -----UCAAGUAAUUCAGGAUAGG-----
 22 1,-1
 -----UCAAGUAAUUCAGGAUAGGU-----
 12 1,0
 -----UCAAGUAAUUCAGGAUAGGUaa-----
 2 1,0
 -----UCAAGUAAUUCAGGAUAGGUau-----
 3 1,0
 -----UCAAGUAAUUCAGGAUAGGUU-----
 63 1,1
 -----UCAAGUAAUUCAGGAUAGGUUa-----
 2 1,1
 -----UCAAGUAAUUCAGGAUAGGUUu-----
 32 1,1
 -----UCAAGUAAUUCAGGAUAGGUUuu-----
 4 1,1
 -----CAAGUAAUUCAGGAUAGG-----
 4 2,-1
 -----CAAGUAAUUCAGGAUAGGU-----
 3 2,0
 -----CAAGUAAUUCAGGAUAGGUU-----
 6 2,1
 -----CAAGUAAUUCAGGAUAGGUUu-----
 9 2,1
 -----CCUGUUCUCCAUUACUUGGCU-----


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4    0,0
-----UUCACAGUGGCUAAGUUCCGCC-----
3    0,1
-----UCACAGUGGCUAAGUUCCG-----
2    1,-1

>hsa-mir-27b    mi:19-40;MA:61-81    SRX018958
accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug
((((((((.....((((((((((((((((.....((((((((.....((...)))..))))))))..)))))))))))))
))))..))))..))))).
-----CAGAGCUUAGCUGAUUGGUGA-----
-----7    -1,-2
-----CAGAGCUUAGCUGAUUGGUGAA-----
-----13   -1,-1
-----CAGAGCUUAGCUGAUUGGUGAAC-----
-----3    -1,0
-----AGAGCUUAGCUGAUUGGU-----
-----5    0,-4
-----AGAGCUUAGCUGAUUGGUG-----
-----38   0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
-----358  0,-2
-----AGAGCUUAGCUGAUUGGUGAA-----
-----181  0,-1
-----AGAGCUUAGCUGAUUGGUGAAC-----
-----14   0,0
-----AGAGCUUAGCUGAUUGGUGAACA-----
-----24   0,1
-----AGAGCUUAGCUGAUUGGUGAACAa-----
-----4    0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
-----14   0,2
-----AGAGCUUAGCUGAUUGGUGAACAGU-----
-----7    0,3
-----GAGCUUAGCUGAUUGGUGAACA-----
-----6    1,1
-----GUUCACAGUGGCUAAGUU-----

```

-----	14	-1,-4	-----GUUCACAGUGGCUAAGUUC--
-----	56	-1,-3	-----GUUCACAGUGGCUAAGUUCU-
-----	6	-1,-2	-----GUUCACAGUGGCUAAGUUCUG
CAa-----	2	-1,1	-----UUCACAGUGGCUAAGUUC--
-----	7689	0,-3	-----UUCACAGUGGCUAAGUUCa-
-----	25	0,-3	-----UUCACAGUGGCUAAGUUCaa
-----	5	0,-3	-----UUCACAGUGGCUAAGUUCU-
-----	1703	0,-2	-----UUCACAGUGGCUAAGUUCUa
-----	16	0,-2	-----UUCACAGUGGCUAAGUUCUa
a-----	14	0,-2	-----UUCACAGUGGCUAAGUUCUa
u-----	3	0,-2	-----UUCACAGUGGCUAAGUUCUu
-----	13	0,-2	-----UUCACAGUGGCUAAGUUCUu
u-----	18	0,-2	-----UUCACAGUGGCUAAGUUCUG
-----	155	0,-1	-----UUCACAGUGGCUAAGUUCUG
a-----	37	0,-1	-----UUCACAGUGGCUAAGUUCUG
aa-----	61	0,-1	-----UUCACAGUGGCUAAGUUCUG
au-----	2	0,-1	-----UUCACAGUGGCUAAGUUCUG
u-----	14	0,-1	-----UUCACAGUGGCUAAGUUCUG
uu-----	14	0,-1	-----UUCACAGUGGCUAAGUUCUG


```

----- 16 0,-4
-----AAGGAGCUCACAGUCUAUaa-----
----- 3 0,-4
-----AAGGAGCUCACAGUCUAUU-----
----- 135 0,-3
-----AAGGAGCUCACAGUCUAUUa-----
----- 14 0,-3
-----AAGGAGCUCACAGUCUAUUau-----
----- 2 0,-3
-----AAGGAGCUCACAGUCUAUUG-----
----- 124 0,-2
-----AAGGAGCUCACAGUCUAUUGu-----
----- 10 0,-2
-----AAGGAGCUCACAGUCUAUUGA-----
----- 343 0,-1
-----AAGGAGCUCACAGUCUAUUGAa-----
----- 19 0,-1
-----AAGGAGCUCACAGUCUAUUGAaa-----
----- 6 0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 203 0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 59 0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 9 0,1
-----AGGAGCUCACAGUCUAUUG-----
----- 4 1,-2
-----AGGAGCUCACAGUCUAUUGAGa-----
----- 4 1,0
-----CACUAGAUUGUGAGCUCC-----
----- 4 0,-4
-----CACUAGAUUGUGAGCUCCU-----
----- 15 0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 38 0,-2
-----CACUAGAUUGUGAGCUCCUGa-----
----- 9 0,-2
-----CACUAGAUUGUGAGCUCCUGaa-----

```

----- 5 0,-2	-----CACUAGAUUGUGAGCUCCUGG-----
----- 516 0,-1	-----CACUAGAUUGUGAGCUCCUGGu-----
----- 19 0,-1	-----CACUAGAUUGUGAGCUCCUGGuu-----
----- 3 0,-1	-----CACUAGAUUGUGAGCUCCUGGA-----
----- 2562 0,0	-----CACUAGAUUGUGAGCUCCUGGAa-----
----- 1498 0,0	-----CACUAGAUUGUGAGCUCCUGGAaa-----
----- 193 0,0	-----CACUAGAUUGUGAGCUCCUGGAau-----
----- 52 0,0	-----CACUAGAUUGUGAGCUCCUGGAu-----
----- 126 0,0	-----CACUAGAUUGUGAGCUCCUGGAuu-----
----- 10 0,0	-----CACUAGAUUGUGAGCUCCUGGAG-----
----- 24 0,1	-----CACUAGAUUGUGAGCUCCUGGAGa-----
----- 6 0,1	-----CACUAGAUUGUGAGCUCCUGGAGu-----
----- 20 0,1	-----ACUAGAUUGUGAGCUCCUGG-----
----- 16 1,-1	-----ACUAGAUUGUGAGCUCCUGGA-----
----- 113 1,0	-----ACUAGAUUGUGAGCUCCUGGAa-----
----- 68 1,0	-----ACUAGAUUGUGAGCUCCUGGAaa-----
----- 20 1,0	-----ACUAGAUUGUGAGCUCCUGGAau-----
----- 14 1,0	-----ACUAGAUUGUGAGCUCCUGGAu-----
----- 5 1,0	-----ACUAGAUUGUGAGCUCCUGGAG-----

```

----- 67 1,1
-----ACUAGAUUGUGAGCUCCUGGAGa---
----- 64 1,1
-----ACUAGAUUGUGAGCUCCUGGAGaa--
----- 9 1,1
-----ACUAGAUUGUGAGCUCCUGGAGu---
----- 30 1,1
-----CUAGAUUGUGAGCUCCUGG-----
----- 3 2,-1
-----CUAGAUUGUGAGCUCCUGGA-----
----- 9 2,0
-----CUAGAUUGUGAGCUCCUGGAa-----
----- 4 2,0
-----CUAGAUUGUGAGCUCCUGGAG-----
----- 20 2,1
-----CUAGAUUGUGAGCUCCUGGAGa---
----- 27 2,1
-----CUAGAUUGUGAGCUCCUGGAGaa--
----- 5 2,1
-----CUAGAUUGUGAGCUCCUGGAGau--
----- 6 2,1
-----CUAGAUUGUGAGCUCCUGGAGu---
----- 13 2,1

```

```

>hsa-mir-296 5p:14-34;3p:48-69 SRX018958
aggacccuuccagAGGGCCCCCCCUCAAUCCUGUugugccuaauucaGAGGGUUGGGUGGAGGCUCUCCugaagggcucu
((..((((((..(((((((..(((((((((((..((((.....)))))))))))))))))))).)))))..)))))..))
-----GAGGGUUGGGUGGAGGCU-----
2 0,-4

```

```

>hsa-mir-299 5p:7-28;3p:39-60 SRX018958
aagaaaUGGUUUACCGUCCCACAUACAUnuugaauaugUAUGUGGGAUGGUAAACCGCUUcuu
((((..((((((((((((((((((((((((((((.....)))))))))))))))))))).)))))
-----AUGGUUUACCGUCCCACAUACA----- 2 -1,-1
-----UGGUUUACCGUCCCACAUACA----- 8 0,0
-----GUAUGUGGGAUGGUAAACCGCUa--- 2 -1,-1
-----UAUGUGGGAUGGUAAACCGCUU--- 15 0,0

```

>hsa-mi r-29a mi:4-25;MA:42-63 SRX018958

augACUGAUUUUUUGGUGUUCAGagucaauaaauuuucUAGCACCAUCUGAAAUCGGUAu

$$((((((((((((((\dots(((((((.((((((\dots\dots\dots)))))))))\dots)))))))))$$

---ACUGAUUUCUUUGGUGUUC---

---ACUGAUUUCUUUGGUGUUCAG-----

---ACUGAUUUCUUUGGUGUUCAGA-----

---ACUGAUUUCUUUGGUGUUCAGAG-----

-----UCUAGCACCAUCUGAAAUCGGU-----

-----UCUAGCACCAUCUGAAAUCGGGUA-----

-----CUAGCACCAUCUGAAAUC-----

-----CUAGCACCAUCUGAAAUCG-----

-----CUAGCACCAUCUGAAAUCGG-----

-----CUAGCACCAUCUGAAAUCGG_{1a}-----

-----CUAGCACCAUCUGAAAUCGG_{tail}-----

-----CUAGCACCAUCUGAAAUCGGU-----

-----CUAGCACCAUCUGAAAUCGGU₃-----

CUAGGACCAUCUGAAAUCGGU₂₃

CUAGGACCAUCUGAAAUCGGU₂₁₁

CUAGGACCAUUCUGAAAUCGGU

CUAGGACCAUUCUGAAAUCGGUUA₃

CGAGGACCAACCTGAAATCCGCTTA

GUAGGACCAUUGCAAAUUGCCUUA.

CHACGACCAAGCAGAAAGCCCTTAA

UAGGACCAUUGAAAUCC

UAGCCGCGCCGCGGAAATCG
UAGGACGCAUCUGAAAUCC

UAGCACCACUCGAAATCCG

-----CAGCACCACCCGAAACCGG-----

UAGGACCGAUGCAGAAAGCGG

-----UAGCACCACUCCUAAAUCCU-----
 UAGCACCACUCCUAAAUCCU

-----CAGCACCACUCCUAAAUCGU-----
 UACGACCAAGCUGAAAUCCG

-----UAGCACCACUCCUAAAUCGaa-----
UAGCACCACUCCUAAAUCGaa

UAGCACCACUCGAAAACCGau-
UAGCAGCGAGCUGAAGUCCG

-----UAGCACCACUCGAAAACGGU-----
UAGCAGCAACGCGCAAAAGCGG

-----UAGCACCACUCGAAAUCGGUa-----
UAGCGCGAGCGUGA + AAGCGG

-----UAGCACCACUCGAAAUCGGUaa-----

-----UAGCACCACUCGAAAUCCGUau-----

-----UAGCACCACCGAAATCGGU-----

-----UAGCACCACUGAAAU CGGUU-----

-----UAGCACCACUCGAAAU CGGUuu

-----UAGCACC AUCUGAAAUCGGUUA-----

12	0,-1
10	0,0
4	0,1
2	0,2
3	-2,-2
2	-2,0
10	-1,-5
13	-1,-4
82	-1,-3
3	-1,-3
2	-1,-3
86	-1,-2
27	-1,-2
46	-1,-2
7	-1,-2
833	-1,-1
302	-1,-1
645	-1,0
48	-1,0
39	-1,1
393	0,-4
4	0,-4
10	0,-4
7495	0,-3
2	0,-3
5	0,-3
35	0,-3
1363	0,-2
122	0,-2
1654	0,-2
171	0,-2
18634	0,-1
12915	0,-1
403	0,-1
122371	0,0

-----UAGCACCAUCUGAAAUCGGUUAa	5880	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	40	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	19	0,0
-----UAGCACCAUCUGAAAUCGGUUAU	3433	0,1
-----UAGCACCAUCUGAAAUCGGUUAUa	33	0,1
-----UAGCACCAUCUGAAAUCGGUUAUu	25	0,1
-----UAGCACCAUCUGAAAUCGGUUAUuu	2	0,1
-----AGCACCAUCUGAAAUCGG----	78	1,-3
-----AGCACCAUCUGAAAUCGGU---	16	1,-2
-----AGCACCAUCUGAAAUCGGUa--	2	1,-2
-----AGCACCAUCUGAAAUCGGUaa-	11	1,-2
-----AGCACCAUCUGAAAUCGGUU--	135	1,-1
-----AGCACCAUCUGAAAUCGGUUu-	150	1,-1
-----AGCACCAUCUGAAAUCGGUUuu	4	1,-1
-----AGCACCAUCUGAAAUCGGUUA-	1157	1,0
-----AGCACCAUCUGAAAUCGGUUAa	71	1,0
-----AGCACCAUCUGAAAUCGGUUAU	38	1,1
-----GCACCAUCUGAAAUCGGU---	2	2,-2
-----GCACCAUCUGAAAUCGGUU--	9	2,-1
-----GCACCAUCUGAAAUCGGUUu-	7	2,-1
-----GCACCAUCUGAAAUCGGUUA-	62	2,0
-----GCACCAUCUGAAAUCGGUUAa	3	2,0
-----GCACCAUCUGAAAUCGGUUAU	7	2,1

>hsa-mi r-29b-1 mi:10-33;MA:51-73 SRX018958

cuucaggaaGCUGGUUCAUAUGGUGGUUAGAuuuuuagugaauugucUAGCACCAUUUGAAUCAGUGUucuggggg

•

-----CUAGCACCAUUUGAAAUCA-----

- 4 -1, -5

-----CUAGCACCAUUUGAAAUCAG-----

- 12 -1, -4

-----CUAGCACCAUUUGAAAUCAGU-----

- 79 -1,-3

-----CUAGCACCAUUUGAAAUCAGUG-----

- 7 -1, -2

-----UAGCACCAUUUGAAAUCA-----

- 162 0,-5	-----UAGCACCAUUUGAAAUCAa-----
- 2 0,-5	-----UAGCACCAUUUGAAAUCAau-----
- 2 0,-5	-----UAGCACCAUUUGAAAUCAuu-----
- 3 0,-5	-----UAGCACCAUUUGAAAUCAG-----
- 346 0,-4	-----UAGCACCAUUUGAAAUCAGa-----
- 14 0,-4	-----UAGCACCAUUUGAAAUCAGU-----
- 8715 0,-3	-----UAGCACCAUUUGAAAUCAGUa-----
- 12 0,-3	-----UAGCACCAUUUGAAAUCAGUaa-----
- 6 0,-3	-----UAGCACCAUUUGAAAUCAGUu-----
- 17 0,-3	-----UAGCACCAUUUGAAAUCAGUuu-----
- 10 0,-3	-----UAGCACCAUUUGAAAUCAGUG-----
- 278 0,-2	-----UAGCACCAUUUGAAAUCAGUGa-----
- 11 0,-2	-----UAGCACCAUUUGAAAUCAGUGU-----
- 142 0,-1	-----UAGCACCAUUUGAAAUCAGUGUa-----
- 34 0,-1	-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 3 0,-1	-----UAGCACCAUUUGAAAUCAGUGUU-----
- 274 0,0	-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 13 0,0	-----AGCACCAUUUGAAAUCAGU-----
- 56 1,-3	-----AGCACCAUUUGAAAUCAGUG-----

```

- 7 1,-2
-----GCACCAUUUGAAAUCAGU-----
- 8 2,-3

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018958
cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----CUGGUUUCACAUGGUGGCUUA-----
- 4 0,-1
-----CUAGCACCAUUUGAAAUCA-----
- 4 -1,-5
-----CUAGCACCAUUUGAAAUCAG-----
- 12 -1,-4
-----CUAGCACCAUUUGAAAUCAGU-----
- 79 -1,-3
-----CUAGCACCAUUUGAAAUCAGUG-----
- 7 -1,-2
-----UAGCACCAUUUGAAAUCA-----
- 162 0,-5
-----UAGCACCAUUUGAAAUCAa-----
- 2 0,-5
-----UAGCACCAUUUGAAAUCAau-----
- 2 0,-5
-----UAGCACCAUUUGAAAUCAuu-----
- 3 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 346 0,-4
-----UAGCACCAUUUGAAAUCAGa-----
- 14 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 8715 0,-3
-----UAGCACCAUUUGAAAUCAGUa-----
- 12 0,-3
-----UAGCACCAUUUGAAAUCAGUaa-----
- 6 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----

```



```

----- 2 0,-1
-----GACCGAUUUCUCCUGGUGUU-----
----- 12 1,-1
-----GACCGAUUUCUCCUGGUGUUu-----
----- 4 1,-1
-----GACCGAUUUCUCCUGGUGUUC-----
----- 2 1,0
-----GACCGAUUUCUCCUGGUGUUA-----
----- 4 1,1
-----ACCGAUUUCUCCUGGUGUUC-----
----- 2 2,0
-----ACCGAUUUCUCCUGGUGUUA-----
----- 6 2,1
-----ACCGAUUUCUCCUGGUGUUAa-----
----- 2 2,1
-----ACCGAUUUCUCCUGGUGUUCAG-----
----- 10 2,2
-----ACCGAUUUCUCCUGGUGUUCAGA-----
----- 6 2,3
-----CUAGCACCAUUUGAAAUCGG-----
----- 2 -1,-3
-----CUAGCACCAUUUGAAAUCGGUUu-----
----- 2 -1,-1
-----CUAGCACCAUUUGAAAUCGGUUA-----
----- 16 -1,0
-----UAGCACCAUUUGAAAUCG-----
----- 187 0,-4
-----UAGCACCAUUUGAAAUCGa-----
----- 2 0,-4
-----UAGCACCAUUUGAAAUCGuu-----
----- 7 0,-4
-----UAGCACCAUUUGAAAUCGG-----
----- 1101 0,-3
-----UAGCACCAUUUGAAAUCGGau-----
----- 4 0,-3
-----UAGCACCAUUUGAAAUCGGU-----
----- 290 0,-2
-----UAGCACCAUUUGAAAUCGGUa-----

```

-----	8	0,-2	-----UAGCACCAUUUGAAAUCGGUaa-----
-----	128	0,-2	-----UAGCACCAUUUGAAAUCGGUau-----
-----	9	0,-2	-----UAGCACCAUUUGAAAUCGGUU-----
-----	1206	0,-1	-----UAGCACCAUUUGAAAUCGGUu-----
-----	892	0,-1	-----UAGCACCAUUUGAAAUCGGUuu-----
-----	39	0,-1	-----UAGCACCAUUUGAAAUCGGUUA-----
-----	11690	0,0	-----UAGCACCAUUUGAAAUCGGUUAa-----
-----	670	0,0	-----UAGCACCAUUUGAAAUCGGUUAaa-----
-----	11	0,0	-----UAGCACCAUUUGAAAUCGGUUAau-----
-----	2	0,0	-----UAGCACCAUUUGAAAUCGGUUUAU-----
-----	292	0,1	-----UAGCACCAUUUGAAAUCGGUUUAu-----
-----	5	0,1	-----UAGCACCAUUUGAAAUCGGUUUAuu-----
-----	2	0,1	-----AGCACCAUUUGAAAUCGG-----
-----	2	1,-3	-----AGCACCAUUUGAAAUCGGU-----
-----	4	1,-2	-----AGCACCAUUUGAAAUCGGUa-----
-----	2	1,-2	-----AGCACCAUUUGAAAUCGGUU-----
-----	10	1,-1	-----AGCACCAUUUGAAAUCGGUUu-----
-----	4	1,-1	-----AGCACCAUUUGAAAUCGGUUA-----
-----	64	1,0	-----AGCACCAUUUGAAAUCGGUUAa-----

- - - - -	2	1,0		-AGCACCAUUUGAAAUCGGUUAU-
- - - - -	4	1,1		-GCACCAUUUGAAAUCGGUU-
- - - - -	2	2,-1		-GCACCAUUUGAAAUCGGUUA-
- - - - -	13	2,0		-GCACCAUUUGAAAUCGGUUA _a -
- - - - -	2	2,0		-GCACCAUUUGAAAUCGGUUAU _a -
- - - - -	2	2,1		-GCACCAUUUGAAAUCGGUUAU _u -
- - - - -	5	2,1		

>hsa-mir-301a 3p:51-73 SRX018958

acugcuaacgaaugcucugacuuuauugcacuacuguacuuuacagcuagCAGUGCAAUAGUAUUGUCAAAAGCaucugaa
agcagg

.(((((.(((((.(((((.(((((((((((.(((((...))))).)))))))).)))))))).))))).))..
)))).).

-----GCUCUGACUUUAUUGCACUAC-----

----- 12

-----GCUCUGACUUUAUUGCACUACU-----

----- 17

-----GCUCUGACUUUAUUGCACUACUuu-----

----- 4

-----CAGUGCAAUAGUAUUGUCA-----

----- 3 0,-3

-----CAGUGCAAUAGUAUUGUCAAGCAU-----

----- 2 0,2

>hsa-mir-3065 5p:10-32;3p:50-72 SRX018958

cugccucUCAACAAAUACUGAUGCUGGAgucgccugagucaucacUCAGCACCAGGAUAUUGUUGGAGaggacag

-----UCAACAAAUCACUGAUGCU-----

17 0,-3

-----UCAACAAAUCACUGAUGCUGGA-----

7 0,0

-----UCAGCACCAGGAUAUUGUUG-----

7 0,-3

-----UCAGCACCAGGAUAUUGUUGGAGu-----

2 0,0

>hsa-mir-30a MA:6-27;mi:47-68 SRX018958

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc
(((.((((((((((((((..((((((((((((((((((....)))....))))))))))))))))))))))))))))))

----CUGUAAACAUCCUCGACU----- 5

-1,-5

----CUGUAAACAUCCUCGACUGGA----- 2

-1,-2

----CUGUAAACAUCCUCGACUGGAA----- 9

-1,-1

----CUGUAAACAUCCUCGACUGGAAa----- 4

-1,-1

----CUGUAAACAUCCUCGACUGGAAG----- 18 -1,0

----CUGUAAACAUCCUCGACUGGAAGa----- 10 -1,0

----CUGUAAACAUCCUCGACUGGAAGC----- 61 -1,1

----CUGUAAACAUCCUCGACUGGAAGCa----- 3 -1,1

----CUGUAAACAUCCUCGACUGGAAGCU----- 65 -1,2

----UGUAAACAUCCUCGACUG----- 139 0,-4

----UGUAAACAUCCUCGACUGa----- 2 0,-4

----UGUAAACAUCCUCGACUGG----- 143 0,-3

----UGUAAACAUCCUCGACUGGu----- 6 0,-3

----UGUAAACAUCCUCGACUGGA----- 360 0,-2

----UGUAAACAUCCUCGACUGGAA----- 1096

0,-1

----UGUAAACAUCCUCGACUGGAAa----- 583 0,-1

----UGUAAACAUCCUCGACUGGAAaa----- 41 0,-1

----UGUAAACAUCCUCGACUGGAAau----- 8 0,-1

----UGUAAACAUCCUCGACUGGAAu----- 14 0,-1

----UGUAAACAUCCUCGACUGGAAuu----- 4 0,-1

----UGUAAACAUCCUCGACUGGAAG----- 3972

0,0

----UGUAAACAUCCUCGACUGGAAGa----- 3284

0,0

----UGUAAACAUCCUCGACUGGAAGaa----- 163 0,0

----UGUAAACAUCCUCGACUGGAAGau----- 151 0,0

-----UGUAAACAUCCUCGACUGGAAGu-----	265	0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	38	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	18904	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCa-----	2421	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCaa-----	30	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	71	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	26590	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUa-----	145	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	1164	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUG-----	10	0,3
-----GUAAACAUCCUCGACUGGA-----	2	1,-2
-----GUAAACAUCCUCGACUGGAA-----	6	1,-1
-----GUAAACAUCCUCGACUGGAAa-----	2	1,-1
-----GUAAACAUCCUCGACUGGAAau-----	2	1,-1
-----GUAAACAUCCUCGACUGGAAu-----	2	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	69	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	15	1,0
-----GUAAACAUCCUCGACUGGAAGaa-----	2	1,0
-----GUAAACAUCCUCGACUGGAAGu-----	3	1,0
-----GUAAACAUCCUCGACUGGAAGuu-----	2	1,0
-----GUAAACAUCCUCGACUGGAAGC-----	165	1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	7	1,1
-----GUAAACAUCCUCGACUGGAAGCU-----	100	1,2
-----GUAAACAUCCUCGACUGGAAGCUu-----	5	1,2
-----UAAACAUCCUCGACUGGAAGC-----	5	2,1
-----UAAACAUCCUCGACUGGAAGCa-----	3	2,1
-----UAAACAUCCUCGACUGGAAGCU-----	5	2,2
-----CUUUCAGUCGGAUGUUUG-----	13	0,-4
-----CUUUCAGUCGGAUGUUUGC-----	8	0,-3
-----CUUUCAGUCGGAUGUUUGCA-----	31	0,-2
-----CUUUCAGUCGGAUGUUUGCAa-----	10	0,-2
-----CUUUCAGUCGGAUGUUUGCAu-----	7	0,-2
-----CUUUCAGUCGGAUGUUUGCAuu-----	4	0,-2
-----CUUUCAGUCGGAUGUUUGCAG-----	197	0,-1


```

-----CUUUCAGUCGGAUGUUUGCAGu--- 26 0,-1
-----CUUUCAGUCGGAUGUUUGCAGuu-- 4 0,-1
-----CUUUCAGUCGGAUGUUUGCAGC--- 111 0,0
-----CUUUCAGUCGGAUGUUUGCAGCa-- 24 0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa- 5 0,0
-----CUUUCAGUCGGAUGUUUGCAGCau- 47 0,0
-----CUUUCAGUCGGAUGUUUGCAGCU-- 4 0,1
-----UUUCAGUCGGAUGUUUGCAG---- 49 1,-1
-----UUUCAGUCGGAUGUUUGCAGu--- 7 1,-1
-----UUUCAGUCGGAUGUUUGCAGC--- 23 1,0
-----UUUCAGUCGGAUGUUUGCAGCa-- 5 1,0
-----UUUCAGUCGGAUGUUUGCAGCau- 6 1,0
-----UUUCAGUCGGAUGUUUGCAGCU-- 2 1,1

```

>hsa-mir-30b MA:17-38;mi:55-76 SRX018958

accaaguucagucaUGUAAACAUCCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
gacuugga

.((((((...((((((...((((((((((...((((((((...))))))))...))))))))))))))))).
)))))))).

```

-----UGUAAACAUCCUACACUC-----
----- 16 0,-4
-----UGUAAACAUCCUACACUCA-----
----- 5 0,-3
-----UGUAAACAUCCUACACUCAG-----
----- 29 0,-2
-----UGUAAACAUCCUACACUCAGC-----
----- 68 0,-1
-----UGUAAACAUCCUACACUCAGCa-----
----- 8 0,-1
-----UGUAAACAUCCUACACUCAGCau-----
----- 4 0,-1
-----UGUAAACAUCCUACACUCAGCU-----
----- 290 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
----- 38 0,0
-----UGUAAACAUCCUACACUCAGCUau-----
----- 18 0,0
-----UGUAAACAUCCUACACUCAGCUu-----

```

```

----- 39 0,0
-----UGUAAACAUCCUACACUCAGCUuu-----
----- 7 0,0
-----GUAAACAUCCUACACUCAGCU-----
----- 6 1,0
-----CUGGGAGGUGGAUGUUUA-----
----- 19 0,-4
-----CUGGGAGGUGGAUGUUUAa-----
----- 2 0,-4
-----CUGGGAGGUGGAUGUUUAu-----
----- 3 0,-4
-----CUGGGAGGUGGAUGUUUAC-----
----- 17 0,-3
-----CUGGGAGGUGGAUGUUUACa-----
----- 6 0,-3
-----CUGGGAGGUGGAUGUUUACaa-----
----- 5 0,-3
-----CUGGGAGGUGGAUGUUUACU-----
----- 216 0,-2
-----CUGGGAGGUGGAUGUUUACUa-----
----- 16 0,-2
-----CUGGGAGGUGGAUGUUUACUaa-----
----- 25 0,-2
-----CUGGGAGGUGGAUGUUUACUau-----
----- 3 0,-2
-----CUGGGAGGUGGAUGUUUACUU-----
----- 232 0,-1
-----CUGGGAGGUGGAUGUUUACUUa-----
----- 69 0,-1
-----CUGGGAGGUGGAUGUUUACUUaa-----
----- 56 0,-1
-----CUGGGAGGUGGAUGUUUACUUau-----
----- 7 0,-1
-----CUGGGAGGUGGAUGUUUACUUu-----
----- 39 0,-1
-----CUGGGAGGUGGAUGUUUACUUuu-----
----- 7 0,-1
-----CUGGGAGGUGGAUGUUUACUUC-----

```

-----	31	0,0	-----CUGGGAGGUGGAUGUUUACUUCu-----
-----	4	0,0	-----CUGGGAGGUGGAUGUUUACUUCA-----
-----	4	0,1	-----UGGGAGGUGGAUGUUUACU-----
-----	7	1,-2	-----UGGGAGGUGGAUGUUUACUU-----
-----	5	1,-1	-----UGGGAGGUGGAUGUUUACUUC-----
-----	3	1,0	-----UGGGAGGUGGAUGUUUACUUCu-----
-----	2	1,0	

>hsa-mi r-30c-1 MA:17-39;mi :56-77 SRX018958

accaugcuguagugugUGUAAACAUCCUACACUCUCAGCugugagcuaagguggCUGGGAGAGGGUUGUUUACUCCuuc
ugccaugga

$$.((((((..(((...(.(((((((.((((...(((((((((((.((...)).)...)))))...)).).)))))))).)...))\right)$$

-----UGUAAACAUCCUACACUC-----

----- 16 0,-5

-----UGUAAACAUCCUACACUCU-----

----- 6 0,-4

-----UGUAAACAUCCUACACUCUC-----

----- 18 0,-3

-----UGUAAACAUCCUACACUCUCA-----

----- 60 0,-2

-----UGUAAACAUCCUACACUCUCAG-----

----- 105 0,-1

-----UGUAAACAUCCUACACUCUCAGa-----

----- 23 0,-1

-----UGUAAACAUCCUACACUCUCAGaa-----

----- 13 0,-1

-----UGUAAACAUCCUACACUCUCAGu-----

----- 2 0,-1

-----UGUAAACAUCCUACACUCUCAGuu-----

----- 2 0,-1

-----UGUAAACAUCCUACACUCUCAGC-----

```

----- 181 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 43 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 3 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 9 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 634 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 28 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 38 0,1
-----GUAAACAUCCUACACUCUCA-----
----- 2 1,-2
-----GUAAACAUCCUACACUCUCAG-----
----- 2 1,-1
-----GUAAACAUCCUACACUCUCAGC-----
----- 5 1,0
-----GUAAACAUCCUACACUCUCAGCau-----
----- 2 1,0
-----GUAAACAUCCUACACUCUCAGCU-----
----- 9 1,1
-----UAAACAUCCUACACUCUCAGCU-----
----- 4 2,1
-----CUGGGAGAGGGUUGUUUA-----
----- 3 0,-4
-----CUGGGAGAGGGUUGUUUAa-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUAau-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUAC-----
----- 17 0,-3
-----CUGGGAGAGGGUUGUUUACa-----
----- 6 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 254 0,-2
-----CUGGGAGAGGGUUGUUUACUa-----

```

-----	16	0,-2	-----CUGGGAGAGGGUUGUUUACUaa---
-----	22	0,-2	-----CUGGGAGAGGGUUGUUUACUau---
-----	5	0,-2	-----CUGGGAGAGGGUUGUUUACUu---
-----	3	0,-2	-----CUGGGAGAGGGUUGUUUACUC---
-----	41	0,-1	-----CUGGGAGAGGGUUGUUUACUCaa---
-----	4	0,-1	-----CUGGGAGAGGGUUGUUUACUCau---
-----	4	0,-1	-----CUGGGAGAGGGUUGUUUACUCC---
-----	6	0,0	-----CUGGGAGAGGGUUGUUUACUCCa---
-----	2	0,0	-----CUGGGAGAGGGUUGUUUACUCCaa---
-----	3	0,0	-----CUGGGAGAGGGUUGUUUACUCCau---
-----	7	0,0	-----CUGGGAGAGGGUUGUUUACUCCU---
-----	11	0,1	-----UGGGAGAGGGUUGUUUAC-----
-----	2	1,-3	-----UGGGAGAGGGUUGUUUACU-----
-----	22	1,-2	-----UGGGAGAGGGUUGUUUACUC---
-----	6	1,-1	-----UGGGAGAGGGUUGUUUACUCCa---
-----	2	1,0	-----UGGGAGAGGGUUGUUUACUCCaa---
-----	2	1,0	-----UGGGAGAGGGUUGUUUACUCCau---
-----	2	1,0	-----UGGGAGAGGGUUGUUUACUCCU---
-----	12	1,1	

```

>hsa-mir-30c-2  MA:7-29;mi:47-68    SRX018958
agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagCUGGGAGAAGGCUGUUUACUCUuucu
(((....(((((((.(((....((((((((.....)))))))))).)))..))))))....)))
-----CUGUAAACAUCCUACACUC----- 3
      -1, -5
-----UGUAAACAUCCUACACUC----- 16
      0, -5
-----UGUAAACAUCCUACACUCU----- 6
      0, -4
-----UGUAAACAUCCUACACUCUC----- 18
      0, -3
-----UGUAAACAUCCUACACUCUCA----- 60
      0, -2
-----UGUAAACAUCCUACACUCUCAG----- 105
      0, -1
-----UGUAAACAUCCUACACUCUCAGa----- 23
      0, -1
-----UGUAAACAUCCUACACUCUCAGaa----- 13
      0, -1
-----UGUAAACAUCCUACACUCUCAGu----- 2
      0, -1
-----UGUAAACAUCCUACACUCUCAGuu----- 2
      0, -1
-----UGUAAACAUCCUACACUCUCAGC----- 181
      0, 0
-----UGUAAACAUCCUACACUCUCAGCa----- 43
      0, 0
-----UGUAAACAUCCUACACUCUCAGCaa----- 3
      0, 0
-----UGUAAACAUCCUACACUCUCAGCau----- 9
      0, 0
-----UGUAAACAUCCUACACUCUCAGCU----- 634
      0, 1
-----UGUAAACAUCCUACACUCUCAGCUa----- 28
      0, 1
-----UGUAAACAUCCUACACUCUCAGCUu----- 38
      0, 1
-----GUAAACAUCCUACACUCUCA----- 2

```

1, -2		
-----GUAACAUCUACACUCUCAG-----		2
1, -1		
-----GUAACAUCUACACUCUCAGC-----		5
1, 0		
-----GUAACAUCUACACUCUCAGCau-----		2
1, 0		
-----GUAACAUCUACACUCUCAGCU-----		9
1, 1		
-----UAAACAUCUACACUCUCAGCU-----		4
2, 1		
-----CUGGGAGAAGGCUGUUUA-----		24
0, -4		
-----CUGGGAGAAGGCUGUUUAa-----		7
0, -4		
-----CUGGGAGAAGGCUGUUUAau-----		5
0, -4		
-----CUGGGAGAAGGCUGUUUAu-----		2
0, -4		
-----CUGGGAGAAGGCUGUUUAuu-----		3
0, -4		
-----CUGGGAGAAGGCUGUUUAC-----		77
0, -3		
-----CUGGGAGAAGGCUGUUUACa-----		5
0, -3		
-----CUGGGAGAAGGCUGUUUACU-----		1584
0, -2		
-----CUGGGAGAAGGCUGUUUACUa-----		17
0, -2		
-----CUGGGAGAAGGCUGUUUACUaa-----		15
0, -2		
-----CUGGGAGAAGGCUGUUUACUau-----		4
0, -2		
-----CUGGGAGAAGGCUGUUUACUu-----		14
0, -2		
-----CUGGGAGAAGGCUGUUUACUuu-----		3
0, -2		
-----CUGGGAGAAGGCUGUUUACUC-----		604

0,-1	-----CUGGGAGAAGGCUGUUUACUCa----	13
0,-1	-----CUGGGAGAAGGCUGUUUACUCaa----	3
0,-1	-----CUGGGAGAAGGCUGUUUACUCau----	2
0,-1	-----CUGGGAGAAGGCUGUUUACUCU-----	138
0,0	-----CUGGGAGAAGGCUGUUUACUCUa----	4
0,0	-----CUGGGAGAAGGCUGUUUACUCUU-----	7
0,1	-----UGGGAGAAGGCUGUUUAC-----	2
1,-3	-----UGGGAGAAGGCUGUUUACU-----	32
1,-2	-----UGGGAGAAGGCUGUUUACUa-----	2
1,-2	-----UGGGAGAAGGCUGUUUACUC-----	30
1,-1	-----UGGGAGAAGGCUGUUUACUCU-----	5
1,0	-----UGGGAGAAGGCUGUUUACUCUU-----	6
1,1	-----GGGAGAAGGCUGUUUACU-----	2
2,-2		

>hsa-mir-30d MA:6-27;mi:46-67 SRX018958

guuguUGUAAACAUCCCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUUUUGCUGCuac		
...(((.((((((((((...((((((((((((((...((.....)).))))))))))))).))))))))).))...		
----UUGUAAACAUCCCCGACUGGAAGC-----	3	-1,1
----UUGUAAACAUCCCCGACUGGAAGCU-----	5	-1,2
----UGUAAACAUCCCCGACUG-----	101	0,-4
----UGUAAACAUCCCCGACUGG-----	94	0,-3
----UGUAAACAUCCCCGACUGGA-----	259	0,-2
----UGUAAACAUCCCCGACUGGAA-----	762	0,-1
----UGUAAACAUCCCCGACUGGAAa-----	649	0,-1

-----UGUAAACAUCCCCGACUGGAaAa-----	67	0,-1
-----UGUAAACAUCCCCGACUGGAaAu-----	12	0,-1
-----UGUAAACAUCCCCGACUGGAaUu-----	37	0,-1
-----UGUAAACAUCCCCGACUGGAAG-----	1194	
0,0		
-----UGUAAACAUCCCCGACUGGAAGa-----	1754	
0,0		
-----UGUAAACAUCCCCGACUGGAAGaa-----	165	0,0
-----UGUAAACAUCCCCGACUGGAAGau-----	168	0,0
-----UGUAAACAUCCCCGACUGGAAGu-----	208	0,0
-----UGUAAACAUCCCCGACUGGAAGuu-----	52	0,0
-----UGUAAACAUCCCCGACUGGAAGC-----	5213	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCa-----	1334	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCaa-----	18	0,1
-----UGUAAACAUCCCCGACUGGAAGCau-----	43	0,1
-----UGUAAACAUCCCCGACUGGAAGCU-----	43988	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUa-----	320	0,2
-----UGUAAACAUCCCCGACUGGAAGCUu-----	2359	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUG-----	2	0,3
-----GUAAACAUCCCCGACUGGAA-----	10	1,-1
-----GUAAACAUCCCCGACUGGAAa-----	14	1,-1
-----GUAAACAUCCCCGACUGGAAau-----	4	1,-1
-----GUAAACAUCCCCGACUGGAAG-----	69	1,0
-----GUAAACAUCCCCGACUGGAAGa-----	31	1,0
-----GUAAACAUCCCCGACUGGAAGaa-----	3	1,0
-----GUAAACAUCCCCGACUGGAAGau-----	3	1,0
-----GUAAACAUCCCCGACUGGAAGu-----	7	1,0
-----GUAAACAUCCCCGACUGGAAGC-----	111	1,1
-----GUAAACAUCCCCGACUGGAAGCa-----	22	1,1
-----GUAAACAUCCCCGACUGGAAGCU-----	743	1,2
-----GUAAACAUCCCCGACUGGAAGCUa-----	7	1,2
-----GUAAACAUCCCCGACUGGAAGCUaa-----	3	1,2
-----GUAAACAUCCCCGACUGGAAGCUau-----	6	1,2
-----GUAAACAUCCCCGACUGGAAGCUu-----	57	1,2


```

----- 7 0,-1
-----UGUAAACAUCCUUGACUGGAAu-----
----- 8 0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
----- 210 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
----- 482 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
----- 136 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
----- 17 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
----- 10 0,0
-----UGUAAACAUCCUUGACUGGAAGuu-----
----- 3 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
----- 2795 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
----- 249 0,1
-----UGUAAACAUCCUUGACUGGAAGCaa-----
----- 2 0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
----- 7 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
----- 3171 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
----- 31 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
----- 524 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
----- 2 0,3
-----GUAAACAUCCUUGACUGGAA-----
----- 10 1,-1
-----GUAAACAUCCUUGACUGGAAG-----
----- 54 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
----- 18 1,0
-----GUAAACAUCCUUGACUGGAAGaa-----

```

-----	2	1,0	
-----			-GUAACAUCUUGACUGGAAGC-----
-----	223	1,1	
-----			-GUAACAUCUUGACUGGAAGCa-----
-----	47	1,1	
-----			-GUAACAUCUUGACUGGAAGCU-----
-----	207	1,2	
-----			-GUAACAUCUUGACUGGAAGCUau-----
-----	5	1,2	
-----			-GUAACAUCUUGACUGGAAGCUu-----
-----	21	1,2	
-----			-GUAACAUCUUGACUGGAAGCUuu-----
-----	11	1,2	
-----			-UAAACAUCUUGACUGGAAGC-----
-----	11	2,1	
-----			-UAAACAUCUUGACUGGAAGCU-----
-----	9	2,2	
-----			-----CUUUCAGUCGGAUGUUUA-----
-----	14	0,-4	
-----			-----CUUUCAGUCGGAUGUUUAa-----
-----	7	0,-4	
-----			-----CUUUCAGUCGGAUGUUUAC-----
-----	13	0,-3	
-----			-----CUUUCAGUCGGAUGUUUACA-----
-----	30	0,-2	
-----			-----CUUUCAGUCGGAUGUUUACAa-----
-----	3	0,-2	
-----			-----CUUUCAGUCGGAUGUUUACAG-----
-----	109	0,-1	
-----			-----CUUUCAGUCGGAUGUUUACAGa-----
-----	12	0,-1	
-----			-----CUUUCAGUCGGAUGUUUACAGu-----
-----	158	0,-1	
-----			-----CUUUCAGUCGGAUGUUUACAGu-----
u-----	18	0,-1	
-----			-----CUUUCAGUCGGAUGUUUACAGC-----
-----	130	0,0	
-----			-----CUUUCAGUCGGAUGUUUACAGC-----

.(((((((((((((((.(.((((((.....)))))).)).))))))))))).
-----UAUAAAUGAGGGCAGUAAG----- 3
0,-2


```

)))..
-----AGAGGCUUUGUGCGGAUACaa-----
----- 2 0,-4
-----AGAGGCUUUGUGCGGAUACGGGGau---
----- 2 0,0

```

```

>hsa-mir-3190 3p:47-69 SRX018958
cugggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugacccccgg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GUGGAAGGUAGACGGCCAGAGA-----
4 1,0

```

```

>hsa-mir-3192 5p:10-32 SRX018958
ggaagggauUCUGGGAGGUUGUAGCAGUGGAAaaaguucuuuucuccucugaucgcccucucagcucuuccuuccu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UCUGGGAGGUUGUAGCAGU-----
2 0,-4

```

```

>hsa-mir-3193 5p:1-22 SRX018958
UCCUGCGUAGGAUCUGAGGAGUggacgagucucauuaccagcuccugagcagga
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
UCCUGCGUAGGAUCUGAGGAGU----- 2 0,0

```

```

>hsa-mir-3194 5p:10-30 SRX018958
agguggcagGGCCAGCCACCAGGAGGGCUGcgugccacccgggcagcucugcugcucacuggcagugucaccu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGCUCUGCUCACUGGCAuu----- 3

```

```

>hsa-mir-32 MA:6-27;mi:47-68 SRX018958
ggagaUAUUGCACAUUACUAAGUUGCAuguugucacggccucaaugCAAUUUAGUGUGUGUGAUUUUuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
----AUUUGCACAUUACUAAGUUG----- 2
-1,-2
----UAUUGCACAUUACUAAGU----- 12 0,-4
----UAUUGCACAUUACUAAGUU----- 27 0,-3
----UAUUGCACAUUACUAAGUUG----- 65 0,-2
----UAUUGCACAUUACUAAGUUGa----- 2 0,-2
----UAUUGCACAUUACUAAGUUGC----- 29 0,-1

```

-----UAUUGCACAUUACUAAGUUGCA-----	4	0,0
-----UAUUGCACAUUACUAAGUUGCAa-----	3	0,0
-----UAUUGCACAUUACUAAGUUGCAU-----	4	0,1
-----UAUUGCACAUUACUAAGUUGCAUu-----	2	0,1
-----AUUGCACAUUACUAAGUUG-----	5	1,-2
-----CAAUUUAGUGUGUGUGAUUU---	9	0,-1

```

>hsa-mir-320a 3p:48-69 SRX018958
gcuucgcucucccuccgccuucucuucccgguucucccgagucgggAAAAGCUGGGUUGAGAGGGCGAaaaaggaugag
gu
(((((((.....((((((((((.....((((((((.....)))))))).)))))))).)))))))).)))))))).))))))
))
-----GAAAAGCUGGGUUGAGAGG-----
-- 3 -1,-4
-----GAAAAGCUGGGUUGAGAGGG-----
-- 3 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
-- 15 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 14 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 21 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGuu-----
-- 2 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 60 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAu-----
-- 11 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAA-----
-- 3 -1,1
-----AAAAGCUGGGUUGAGAGG-----
-- 224 0,-4
-----AAAAGCUGGGUUGAGAGGu-----
-- 3 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 296 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 18 0,-3

```

```
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 16 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 7 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 1049 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 3 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 1280 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 1100 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 476 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 9463 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 2918 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 525 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 4279 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 778 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 143 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 611 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 180 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 54 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 7 1,-3
-----AAAGCUGGGUUGAGAGGGa-----
-- 2 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 55 1,-2
```

```
-----AAAGCUGGGUUGAGAGGGCG-----
-- 89 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 32 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 25 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 466 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 168 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 47 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 428 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 129 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 50 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 145 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 45 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 2 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 20 1,3
-----AAGCUGGGUUGAGAGGGC-----
-- 2 2,-2
-----AAGCUGGGUUGAGAGGGCG-----
-- 3 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 26 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 3 2,0
-----AAGCUGGGUUGAGAGGGCGAuu-----
-- 13 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 35 2,1
```

```

-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 17 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 6 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 46 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 22 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 3 2,3
-----AAGCUGGGUUGAGAGGGCGAAAAu-----
-- 3 2,3
-----AAGCUGGGUUGAGAGGGCGAAAAAu-----
-- 2 2,4

```

>hsa-mir-320b-1 3p:39-60 SRX018958

```

aauuaauccucucuucuaguucuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuacuaauuaauu
.....((((...((((.....)))))).)))).
-----GAAAAGCUGGGUUGAGAGG-----
3 -1,-4
-----GAAAAGCUGGGUUGAGAGGG-----
3 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
15 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCA-----
2 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAu-----
2 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAA-----
2 -1,0
-----AAAAGCUGGGUUGAGAGG-----
224 0,-4
-----AAAAGCUGGGUUGAGAGGu-----
3 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
296 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
18 0,-3

```

	-----AAAAGCUGGGUUGAGAGGGa-----
16 0,-3	
	-----AAAAGCUGGGUUGAGAGGGau-----
7 0,-3	
	-----AAAAGCUGGGUUGAGAGGGC-----
1049 0,-2	
	-----AAAAGCUGGGUUGAGAGGGCu-----
3 0,-2	
	-----AAAAGCUGGGUUGAGAGGGCA-----
128 0,-1	
	-----AAAAGCUGGGUUGAGAGGGCAu-----
206 0,-1	
	-----AAAAGCUGGGUUGAGAGGGCAuu-----
67 0,-1	
	-----AAAAGCUGGGUUGAGAGGGCAA-----
163 0,0	
	-----AAAAGCUGGGUUGAGAGGGCAAu-----
34 0,0	
	-----AAAAGCUGGGUUGAGAGGGCAAuu-----
2 0,0	
	-----AAAAGCUGGGUUGAGAGGGCAAA-----
23 0,1	
	-----AAAAGCUGGGUUGAGAGGGCAAAu-----
9 0,1	
	-----AAAGCUGGGUUGAGAGGG-----
7 1,-3	
	-----AAAGCUGGGUUGAGAGGGa-----
2 1,-3	
	-----AAAGCUGGGUUGAGAGGGC-----
55 1,-2	
	-----AAAGCUGGGUUGAGAGGGCA-----
3 1,-1	
	-----AAAGCUGGGUUGAGAGGGCAu-----
6 1,-1	
	-----AAAGCUGGGUUGAGAGGGCAA-----
4 1,0	
	-----AAAGCUGGGUUGAGAGGGCAAu-----
2 1,0	

-----AAAGCUGGGUUGAGAGGGCAAA-----
3 1,1
-----AAGCUGGGUUGAGAGGGC-----
2 2,-2

>hsa-mir-320b-2 3p:72-93 SRX018958

uguuaauuuuuugucuuacuacuaagaauucugucucuuaggcuuucucuucccagauuuuccaaaguugggAAAAGCUGG
GUUGAGAGGGCAaaaggaaaaaaaagaauucugucucugacauaauuagauagggaa

-----GAAAAGCUGG
GUUGAGAGG----- 3 -1,-4

-----GAAAAGCUGG
GUUGAGAGGG----- 3 -1, -3

-----GAAAAGCUGG
GUUGAGAGGGC----- 15 -1,-2

-----GAAAAGCUGG
GUUGAGAGGGCA----- 2 -1,-1

-----GAAAAGCUGG
GUUGAGAGGGCA_U----- 2 -1, -1

-----GAAAAGCUGG
GUUGAGAGGGCAA----- 2 -1,0

-----AAAAGCUGG
GUUGAGAGG----- 224 0,-4

-----AAAAGCUGG
GUUGAGAGGu----- 3 0,-4

-----AAAAGCUGG
GUUGAGAGGG----- 296 0, -3

-----AAAAGCUGG
GUUGAGAGGGa----- 18 0,-3

-----AAAAGCUGG
GUUGAGAGGGaa----- 16 0,-3

-----AAAAGCUGG
GUUGAGAGGGGau----- 7 0,-3

-----AAAAGCUGG
GUUGAGAGGGC----- 1049 0,-2

-----AAAAGCUGG
GUUGAGAGGGCu----- 3 0,-2

GUUGAGAGGGCA	128	0,-1	AAAAGCUGG
GUUGAGAGGGCAu	206	0,-1	AAAAGCUGG
GUUGAGAGGGCAuu	67	0,-1	AAAAGCUGG
GUUGAGAGGGCAA	163	0,0	AAAAGCUGG
GUUGAGAGGGCAAu	34	0,0	AAAAGCUGG
GUUGAGAGGGCAAuu	2	0,0	AAAAGCUGG
GUUGAGAGGGCAAA	23	0,1	AAAAGCUGG
GUUGAGAGGGCAAAu	9	0,1	AAAAGCUGG
GUUGAGAGGGCAAAA	5	0,2	AAAAGCUGG
GUUGAGAGGGCAAAAu	3	0,2	AAAGCUGG
GUUGAGAGGGG	7	1,-3	AAAGCUGG
GUUGAGAGGGGa	2	1,-3	AAAGCUGG
GUUGAGAGGGGC	55	1,-2	AAAGCUGG
GUUGAGAGGGGCA	3	1,-1	AAAGCUGG
GUUGAGAGGGGCAu	6	1,-1	AAAGCUGG
GUUGAGAGGGGCAA	4	1,0	AAAGCUGG
GUUGAGAGGGGCAAu	2	1,0	AAAGCUGG
GUUGAGAGGGGCAAA	3	1,1	AAGCUGG
GUUGAGAGGGGC	2	2,-2	

>hsa-mir-320c-1 3p:50-69 SRX018958

uuugcauuaaaaaugaggccuucucuuccaguucuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg

.((((((((.....((((((((..((((((((..((((.....))))).)))))))).)))))))).

```
-----GAAAAGCUGGGUUGAGAGG-----
----- 3  -1,-2
-----GAAAAGCUGGGUUGAGAGGG-----
----- 3  -1,-1
-----GAAAAGCUGGGUUGAGAGGGU-----
----- 4  -1,0
-----GAAAAGCUGGGUUGAGAGGGUAa-----
----- 2  -1,1
-----AAAAGCUGGGUUGAGAGG-----
-----224 0,-2
-----AAAAGCUGGGUUGAGAGGu-----
----- 3   0,-2
-----AAAAGCUGGGUUGAGAGGG-----
-----296 0,-1
-----AAAAGCUGGGUUGAGAGGGa-----
-----18  0,-1
-----AAAAGCUGGGUUGAGAGGGaa-----
-----16  0,-1
-----AAAAGCUGGGUUGAGAGGGau-----
----- 7   0,-1
-----AAAAGCUGGGUUGAGAGGGU-----
-----202 0,0
-----AAAAGCUGGGUUGAGAGGGUu-----
-----10  0,0
-----AAAAGCUGGGUUGAGAGGGUuu-----
----- 7   0,0
-----AAAAGCUGGGUUGAGAGGGUA-----
----- 3   0,1
-----AAAAGCUGGGUUGAGAGGGUAa-----
-----14  0,1
-----AAAAGCUGGGUUGAGAGGGUAaa-----
----- 3   0,1
```

```

-----AAAAGCUGGGUUGAGAGGGUAu-----
-----4 0,1-----
-----AAAAGCUGGGUUGAGAGGGUAu-----
-----20 0,1-----
-----AAAAGCUGGGUUGAGAGGGUAuu-----
-----3 0,1-----
-----AAAGCUGGGUUGAGAGGG-----
-----7 1,-1-----
-----AAAGCUGGGUUGAGAGGGa-----
-----2 1,-1-----

```

>hsa-mir-320c-2 3p:31-50 SRX018958

```

cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU
(((((((.....)))))).))))).
-----GAAAAGCUGGGUUGAGAGG-- 3 -1,-2
-----GAAAAGCUGGGUUGAGAGGG- 3 -1,-1
-----GAAAAGCUGGGUUGAGAGGGU 4 -1,0
-----AAAAGCUGGGUUGAGAGG-- 224 0,-2
-----AAAAGCUGGGUUGAGAGGu- 3 0,-2
-----AAAAGCUGGGUUGAGAGGG- 296 0,-1
-----AAAAGCUGGGUUGAGAGGGa 18 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 16 0,-1
-----AAAAGCUGGGUUGAGAGGGau 7 0,-1
-----AAAAGCUGGGUUGAGAGGGU 202 0,0
-----AAAAGCUGGGUUGAGAGGGUu 10 0,0
-----AAAAGCUGGGUUGAGAGGGUuu 7 0,0
-----AAAGCUGGGUUGAGAGGG- 7 1,-1
-----AAAGCUGGGUUGAGAGGGa 2 1,-1

```

>hsa-mir-320d-1 3p:30-48 SRX018958

```

uucucguccaguucuccaaaguagAAAAGCUGGGUUGAGAGGA
(((((((.....)))))).))))).
-----GAAAAGCUGGGUUGAGAGG- 3 -1,-1
-----AAAAGCUGGGUUGAGAGG- 224 0,-1
-----AAAAGCUGGGUUGAGAGGu 3 0,-1
-----AAAAGCUGGGUUGAGAGGA 15 0,0
-----AAAAGCUGGGUUGAGAGGAa 8 0,0
-----AAAAGCUGGGUUGAGAGGAaa 4 0,0

```

```

-----AAAAGCUGGGUUGAGAGGAau 3 0,0
-----AAAGCUGGGUUGAGAGGA 3 1,0

```

>hsa-mir-320d-2 3p:30-48 SRX018958

```

uucucuucccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA
((((((..(((((((..((((((....)))))).)))))).))))..
-----GAAAAGCUGGGUUGAGAGG- 3 -1,-1
-----AAAAGCUGGGUUGAGAGG- 224 0,-1
-----AAAAGCUGGGUUGAGAGGu 3 0,-1
-----AAAAGCUGGGUUGAGAGGA 15 0,0
-----AAAAGCUGGGUUGAGAGGAa 8 0,0
-----AAAAGCUGGGUUGAGAGGAaa 4 0,0
-----AAAAGCUGGGUUGAGAGGAau 3 0,0
-----AAAGCUGGGUUGAGAGGA 3 1,0

```

>hsa-mir-320e 3p:35-52 SRX018958

```

gccuucucuucccaguucuccuggagucggggaAAAGCUGGGUUGAGAAGGu
((((((((..(((((((..((((((...)))))).)))))).))))))
-----AAAAGCUGGGUUGAGAAGG- 2 -1,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018958

```

uugguacuuggagagAGGUUGUCCGUGGCGCGUUCGCuuuauuuauggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc
..(((((((..(((((((..((((((....((..((((.....)))))).))....)))))).)))))
).....
-----GCACAUUACACGGUCGACC-----
----- 8 -1,-3
-----GCACAUUACACGGUCGACCU-----
----- 43 -1,-2
-----GCACAUUACACGGUCGACCUC-----
----- 8 -1,-1
-----CACAUUACACGGUCGACC-----
----- 8 0,-3
-----CACAUUACACGGUCGACCU-----
----- 79 0,-2
-----CACAUUACACGGUCGACCUC-----
----- 4 0,-1
-----CACAUUACACGGUCGACCUCa-----

```

```

----- 2 0,-1
-----CACAUUACACGGUCGACCUCU-----
----- 5 0,0
-----CACAUUACACGGUCGACCUCUaa-----
----- 2 0,0
-----ACAUUACACGGUCGACCU-----
----- 2 1,-2

```

>hsa-mir-323b 5p:15-37;3p:51-72 SRX018958

```

ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuauuuuaugaugCCCAAUACACGGUCGACCUCUuucgguau
ca

```

```

.(((((((.(((((((((((((((.((((((.....(((((((((...)))))).)))))).)))))).))))))
).

```

```

-----CCCAAUACACGGUCGACCU-----
-- 11 0,-3
-----CCCAAUACACGGUCGACCUCU-----
-- 2 0,-1

```

>hsa-mir-324 5p:16-38;3p:53-72 SRX018958

```

cugacuaugccucccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagaccACUGCCCCAGGUGCUGCUGGggguugua
guc

```

```

..(((((((..((((((.((((((.((((((.((((((.((((((.....)))))).)))))).)))))).))))))
)))

```

```

-----CGCAUCCCCUAGGGCAUU-----
--- 6 0,-5
-----CGCAUCCCCUAGGGCAUUG-----
--- 29 0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 8 0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 7 0,-2
-----CGCAUCCCCUAGGGCAUUGGUu-----
--- 2 0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 2 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGa-----
--- 3 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----

```



```

3
-----AACACACCUGGUUAACCU-----
2  0,-4
-----AACACACCUGGUUAACCUC-----
8  0,-3
-----AACACACCUGGUUAACCUCU-----
6  0,-2
-----AACACACCUGGUUAACCUCUau-----
3  0,-2
-----AACACACCUGGUUAACCUCUUa-----
2  0,-1
-----AACACACCUGGUUAACCUCUUau-----
2  0,-1
-----AACACACCUGGUUAACCUCUUU-----
7  0,0
-----ACACACCUGGUUAACCUCUUaa-----
2  1,-1

```

>hsa-mir-329-2 3p:52-73 SRX018958

gugguaccugaagagagguuuucuggguuucuguuucuuuauugaggacgaAACACACCUGGUUAACCUCUUUuccagua
ucaa

.(((((((.....)))))).)).

```

-----AGAGGUUUUCUGGGUUUCUGUU-----
---- 3
-----AACACACCUGGUUAACCU-----
---- 2  0,-4
-----AACACACCUGGUUAACCUC-----
---- 8  0,-3
-----AACACACCUGGUUAACCUCU-----
---- 6  0,-2
-----AACACACCUGGUUAACCUCUau-----
---- 3  0,-2
-----AACACACCUGGUUAACCUCUUa-----
---- 2  0,-1
-----AACACACCUGGUUAACCUCUUau-----
---- 2  0,-1
-----AACACACCUGGUUAACCUCUUU-----

```

```

----- 7 0,0
-----ACACACCUGGUUAACCUUUaa-----
----- 2 1,-1

>hsa-mir-330 5p:18-39;3p:57-79 SRX018958
cuuuggcgaucacugccUCUCUGGGCCUGUGUCUUAGGCucugcaagaucacaccgaGCAAAGCACACGGCCUGCAGAGAg
gcagcgcucugccc
....(((((((((.....)))))).))))).
))))).)).)).
-----GCAAAGCACACGGCCUGCA-----
----- 3 0,-4
-----GCAAAGCACACGGCCUGCAGAGu-
----- 5 0,-1
-----GCAAAGCACACGGCCUGCAGAGA-
----- 16 0,0
-----GCAAAGCACACGGCCUGCAGAGAu
----- 4 0,0
-----GCAAAGCACACGGCCUGCAGAGAG
----- 2 0,1
-----GCAAAGCACACGGCCUGCAGAGAG
u----- 2 0,1
-----GCAAAGCACACGGCCUGCAGAGAG
G----- 3 0,2
-----CAAAGCACACGGCCUGCAGAGA-
----- 10 1,0
-----CAAAGCACACGGCCUGCAGAGAu
----- 2 1,0
-----CAAAGCACACGGCCUGCAGAGAG
----- 8 1,1
-----CAAAGCACACGGCCUGCAGAGAG
G----- 2 1,2
-----AAAGCACACGGCCUGCAGAGA-
----- 4 2,0
-----AAAGCACACGGCCUGCAGAGaa
----- 3 2,0
-----AAAGCACACGGCCUGCAGAGAG
----- 3 2,1
-----AAAGCACACGGCCUGCAGAGAG

```



```

a----- 5 2,1
-----AAAGCACACGGCCUGCAGAGAG
G----- 6 2,2

```

```

>hsa-mir-331 5p:26-47;3p:61-81 SRX018958
gaguuuugguuuuguuugggguuuguCUAGGUAUGGUCCCAGGGAUCCcagaucaaaccagGCCCCUGGGCCUAUCCUAGA
Accaaccuaagcuc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----GCCCCUGGGCCUAUCCUA--
----- 9 0,-3
-----GCCCCUGGGCCUAUCCUAG-
----- 4 0,-2
-----GCCCCUGGGCCUAUCCUAGA
----- 16 0,-1
-----GCCCCUGGGCCUAUCCUAGA
u----- 4 0,-1
-----GCCCCUGGGCCUAUCCUAGA
A----- 50 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aa----- 4 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aaa----- 2 0,0
-----GCCCCUGGGCCUAUCCUAGA
Au----- 10 0,0
-----GCCCCUGGGCCUAUCCUAGA
Auu----- 3 0,0
-----CCCCUGGGCCUAUCCUAG-
----- 2 1,-2

```

```

>hsa-mir-335 MA:16-38;mi:52-73 SRX018958
uguuuugagcgggggUCAAGAGCAUAACGAAAAUGUuugucauaaaccgUUUUUCAUUAUUGCUCUCCUGACCuccucuc
auuugcuauauuca
.((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
....
-----UCAAGAGCAUAACGAAA-----
----- 9 0,-5
-----UCAAGAGCAUAACGAAAA-----

```

```

----- 17 0,-4
-----UCAAGAGCAUAACGAAAAA-----
----- 42 0,-3
-----UCAAGAGCAUAACGAAAAAa-----
----- 19 0,-3
-----UCAAGAGCAUAACGAAAAAaa-----
----- 4 0,-3
-----UCAAGAGCAUAACGAAAAAU-----
----- 358 0,-2
-----UCAAGAGCAUAACGAAAAAUa-----
----- 184 0,-2
-----UCAAGAGCAUAACGAAAAAUaa-----
----- 2 0,-2
-----UCAAGAGCAUAACGAAAAAUu-----
----- 2 0,-2
-----UCAAGAGCAUAACGAAAAAUG-----
----- 978 0,-1
-----UCAAGAGCAUAACGAAAAAUGa-----
----- 75 0,-1
-----UCAAGAGCAUAACGAAAAAUGU-----
----- 308 0,0
-----UCAAGAGCAUAACGAAAAAUGUa-----
----- 2 0,0
-----UCAAGAGCAUAACGAAAAAUGUU-----
----- 3 0,1
-----CAAGAGCAUAACGAAAAAU-----
----- 2 1,-2
-----CAAGAGCAUAACGAAAAAUG-----
----- 3 1,-1
-----AAGAGCAUAACGAAAAAU-----
----- 2 2,-2
-----AAGAGCAUAACGAAAAAUG-----
----- 7 2,-1
-----AAGAGCAUAACGAAAAAUGU-----
----- 4 2,0
-----UUUUUCAUUUUGCUCCU-----
----- 4 0,-4
-----UUUUUCAUUUUGCUCCUGA-----

```

```

----- 3 0,-2
-----UUUUUCAUUAUUGCUCUGACC-----
----- 3 0,0

```

>hsa-mir-337 5p:23-43;3p:61-82 SRX018958

guagucaguaguugggggggGAACGGCUUCAUACAGGAGUUGaugcacaguuaucagCUCCUAUAUGAUGCCUUUCU
UCaucccccuaa

```

.....(((((.....)))))).....
)))))))).

```

```

-----GAACGGCUUCAUACAGGAG-----

```

```

----- 2 0,-2

```

```

-----GAACGGCUUCAUACAGGAGU-----

```

```

----- 4 0,-1

```

```

-----GAACGGCUUCAUACAGGAGUU-----

```

```

----- 2 0,0

```

```

-----GAACGGCUUCAUACAGGAGUua-----

```

```

----- 2 0,0

```

```

-----GAACGGCUUCAUACAGGAGUuaa-----

```

```

----- 5 0,0

```

```

-----GAACGGCUUCAUACAGGAGUuu-----

```

```

----- 2 0,0

```

```

-----AACGGCUUCAUACAGGAGUU-----

```

```

----- 2 1,0

```

```

-----CUCCUAUAUGAUGCCUUUCU

```

```

U----- 3 0,-1

```

```

-----CUCCUAUAUGAUGCCUUUCU

```

```

UC----- 4 0,0

```

```

-----UCCUAUAUGAUGCCUUUCU

```

```

----- 2 1,-2

```

```

-----UCCUAUAUGAUGCCUUUCU

```

```

UC----- 6 1,0

```

>hsa-mir-338 5p:6-27;3p:42-63 SRX018958

ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga

```

(((.....)))))).....
)))))))).

```

```

-----UCCAGCAUCAGUGAUUUU----- 7 0,-4

```

```

-----UCCAGCAUCAGUGAUUUUG----- 15 0,-3

```

```

-----UCCAGCAUCAGUGAUUUUGU----- 5 0,-2

```



```

-----UGAGCGCCUCGACGACAGAGC-----
----- 7 0,-2 -----
-----UGAGCGCCUCGACGACAGAGCa-----
----- 2 0,-2 -----
-----UGAGCGCCUCGACGACAGAGCu-----
----- 3 0,-2 -----
-----UGAGCGCCUCGACGACAGAGCuu-----
----- 2 0,-2 -----
-----UGAGCGCCUCGACGACAGAGCC-----
----- 7 0,-1 -----
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 9 0,-1 -----
-----UGAGCGCCUCGACGACAGAGCCau-----
----- 12 0,-1 -----
-----UGAGCGCCUCGACGACAGAGCCu-----
----- 9 0,-1 -----
-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 9 0,-1 -----
-----UGAGCGCCUCGACGACAGAGCCG-----
----- 3 0,0 -----
-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 3 0,0 -----
-----GAGCGCCUCGACGACAGAG-----
----- 2 1,-3 -----
-----AGCGCCUCGACGACAGAG-----
----- 17 2,-3 -----
-----AGCGCCUCGACGACAGAGCCau-----
----- 2 2,-1 -----
-----AGCGCCUCGACGACAGAGCCG-----
----- 7 2,0 -----
-----AGCGCCUCGACGACAGAGCCGu-----
----- 3 2,0 -----
-----AGCGCCUCGACGACAGAGCCGG-----
----- 2 2,1 -----

```

```

>hsa-mir-33a    MA:6-26;mi:46-67    SRX018958
cugugGUGCAUUGUAGUUGCAUUGCAUgucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((.(..((((((((((.....((((.....))))))))))))..).))))))))))))))

```

-----GUGCAUUGUAGUUGCAUU-----	898	0,-3
-----GUGCAUUGUAGUUGCAUUG-----	25	0,-2
-----GUGCAUUGUAGUUGCAUUGa-----	11	0,-2
-----GUGCAUUGUAGUUGCAUUGu-----	5	0,-2
-----GUGCAUUGUAGUUGCAUUGC-----	215	0,-1
-----GUGCAUUGUAGUUGCAUUGCu-----	2	0,-1
-----GUGCAUUGUAGUUGCAUUGCA-----	474	0,0
-----GUGCAUUGUAGUUGCAUUGCAa-----	117	0,0
-----GUGCAUUGUAGUUGCAUUGCAU-----	25	0,1
-----CAAUGUUUCCACAGUGCA-----	2	0,-4
-----CAAUGUUUCCACAGUGCAU-----	4	0,-3
-----CAAUGUUUCCACAGUGCAUa-----	2	0,-3

>hsa-mir-33b MA:16-35;mi:54-75 SRX018958

gcgggcgggcccccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcgggugCAGUGCCUCGGCAGUGCAGCCCggagc
cggccccuggcaccac

(((((((((.(((.((((((((((((((.((((((((((.(((.....))).)))))))))).)))))))))).)))))).))
(.))))).)))).

-----GUGCAUUGCUGUUGCAUU-----	
-----24	0,-2
-----GUGCAUUGCUGUUGCAUUaa-----	
-----2	0,-2
-----GUGCAUUGCUGUUGCAUUG-----	
-----14	0,-1
-----GUGCAUUGCUGUUGCAUUGa-----	
-----9	0,-1
-----GUGCAUUGCUGUUGCAUUGu-----	
-----2	0,-1
-----GUGCAUUGCUGUUGCAUUGC-----	
-----6	0,0
-----GUGCAUUGCUGUUGCAUUGCA-----	
-----5	0,1
-----GUGCAUUGCUGUUGCAUUGCAa-----	
-----9	0,1

>hsa-mir-340 MA:16-37;mi:58-79 SRX018958

uuguaccuggugugaUUUAUAAAGCAAUGAGACUGAUUgucauauugucguuugugggaUCCGUCUCAGUUACUUUAUAGCc
auaccugguauaua


```

-----AGGGGUGCUAUCUGUGAUU-----
----- 19  0,-2
-----AGGGGUGCUAUCUGUGAUUG-----
----- 5   0,-1
-----AGGGGUGCUAUCUGUGAUUGA-----
----- 34  0,0
-----AGGGGUGCUAUCUGUGAUUGAa-----
----- 6   0,0
-----AGGGGUGCUAUCUGUGAUUGAG-----
----- 37  0,1
-----AGGGGUGCUAUCUGUGAUUGAGa-----
----- 3   0,1
-----AGGGGUGCUAUCUGUGAUUGAGG-----
----- 26  0,2
-----AGGGGUGCUAUCUGUGAUUGAGGG-----
----- 2   0,3
-----AGGGGUGCUAUCUGUGAUUGAGGGA-----
----- 3   0,4
-----GGGGUGCUAUCUGUGAUUGAGGGAC-----
----- 4   1,5
-----UCUCACACAGAAAUCGCA-----
----- 78  0,-5
-----UCUCACACAGAAAUCGCAC-----
----- 162 0,-4
-----UCUCACACAGAAAUCGCACC
----- 157 0,-3
-----UCUCACACAGAAAUCGCACC
C----- 205 0,-2
-----UCUCACACAGAAAUCGCACC
Ca----- 2   0,-2
-----UCUCACACAGAAAUCGCACC
Cuu----- 2   0,-2
-----UCUCACACAGAAAUCGCACC
CG----- 270 0,-1
-----UCUCACACAGAAAUCGCACC
CGa----- 23  0,-1
-----UCUCACACAGAAAUCGCACC
CGU----- 952 0,0

```



```

-----UCUCACACAGAAAUCGCACC
CGUa----- 11 0,0
-----UCUCACACAGAAAUCGCACC
CGUaa----- 3 0,0
-----UCUCACACAGAAAUCGCACC
CGUau----- 3 0,0
-----UCUCACACAGAAAUCGCACC
CGUu----- 40 0,0
-----UCUCACACAGAAAUCGCACC
CGUuu----- 7 0,0
-----UCUCACACAGAAAUCGCACC
CGUC----- 331 0,1
-----UCUCACACAGAAAUCGCACC
CGUCu----- 169 0,1
-----UCUCACACAGAAAUCGCACC
CGUCA----- 61 0,2
-----CUCACACAGAAAUCGCACC
CGU----- 2 1,0
-----UCACACAGAAAUCGCACC
----- 4 2,-3
-----UCACACAGAAAUCGCACC
C----- 7 2,-2
-----UCACACAGAAAUCGCACC
CG----- 9 2,-1
-----UCACACAGAAAUCGCACC
CGU----- 18 2,0
-----UCACACAGAAAUCGCACC
CGUC----- 12 2,1
-----UCACACAGAAAUCGCACC
CGUCu----- 6 2,1
-----UCACACAGAAAUCGCACC
CGUCA----- 76 2,2
-----UCACACAGAAAUCGCACC
CGUCAa----- 3 2,2
-----UCACACAGAAAUCGCACC
CGUCAu----- 4 2,2

```

>hsa-mi r-345 5p:18-39 SRX018958

acccaaacccuaggucuGCUGACUCCUAGUCCAGGGCUCgugauggcuggugggcccugaacgaggggucuggaggccug
gguuugaauaucgacagc

...(((((((.((((((.(.(((((((.(((.(((((((((((.((....).).))))))))).).)))))))).).))))))
)))))).....

-----GCUGACUCCUAGUCCAGG-----
----- 83 0,-4
-----GCUGACUCCUAGUCCAGGG-----
----- 45 0,-3
-----GCUGACUCCUAGUCCAGGGC-----
----- 39 0,-2
-----GCUGACUCCUAGUCCAGGGCaa-----
----- 6 0,-2
-----GCUGACUCCUAGUCCAGGGCau-----
----- 5 0,-2
-----GCUGACUCCUAGUCCAGGGCU-----
----- 78 0,-1
-----GCUGACUCCUAGUCCAGGGCUa-----
----- 9 0,-1
-----GCUGACUCCUAGUCCAGGGCUaa-----
----- 9 0,-1
-----GCUGACUCCUAGUCCAGGGCUau-----
----- 36 0,-1
-----GCUGACUCCUAGUCCAGGGCUu-----
----- 10 0,-1
-----GCUGACUCCUAGUCCAGGGCUuu-----
----- 19 0,-1
-----GCUGACUCCUAGUCCAGGGCUC-----
----- 81 0,0
-----GCUGACUCCUAGUCCAGGGCUCa-----
----- 22 0,0
-----GCUGACUCCUAGUCCAGGGCUCaa-----
----- 13 0,0
-----GCUGACUCCUAGUCCAGGGCUCau-----
----- 56 0,0
-----GCUGACUCCUAGUCCAGGGCUCu-----
----- 28 0,0
-----GCUGACUCCUAGUCCAGGGCUCuu-----
----- 13 0,0

-----GCUGACUCCUAGUCCAGGGCUCGa-----
----- 4 0,1 -----

>hsa-mi r-34a MA:22-43;mi :64-85 SRX018958

ggccagcugugaguguuuucuuUGGCAGUGUCUUAGCUGGUUGUugugagcaauaguaaggaagCAAUCAGCAAGUAUACU
GCCCUagaagugcugcacguuguggggccc
((((.((((((((..(((((((((.((((((((((...((...))...)))))))))))).))))
)))..))))).)).))))).)).))))).

-----UGGCAGUGUCUUAGCUGGUUGU-----
----- 3 0,0 -----

-----UGGCAGUGUCUUAGCUGGUUGUU-----
----- 2 0,1 -----

-----UGGCAGUGUCUUAGCUUGUUGUUu-----
----- 2 0,1 -----

GC-----2 0,-3-----CAAUCAGCAAGUAUACU

-----CAAUCAGCAAGUAUACU
GCCCU----- 2 0,0

-----CAAUCAGCAAGUAUACU
GCCCUA----- 5 0,1

-----CAAUCAGCAAGUAUACU
GCCCUAu----- 2 0,1

-----AAUCAGCAAGUAUACU
GCC----- 6 1,-2

-----AAUCAGCAAGUAUACU
GCCCUC----- 4 1,0

-----AAUCAGCAAGUAUACU
GCCCUA----- 23 1,1

>hsa-mi r-34c 5p:13-35;3p:46-67 SRX018958

-----AGGCAGUGUAGUUAGCUGAUUGu-----
2 0,-1

-----AGGCAGUGUAGUUAGCUGAUUGC-----
2 0,0

>hsa-mi r-3605 5p:22-44;3p:66-88 SRX018958

acuuuauacguguaauugugaUGAGGAUGGAUAGCAAGGAAGCCgcucccaccugaccucacggCCUCCGUGUUACCUG
UCCUCUAGgugggacgcucg

.....((((.....((((((((((((((((((((.....)))))).)))))).))))).)))
))))).))))).))...

-----GAUGAGGAUGGAUAGCAAGG-----
-----7-2,-5-----
-----GAUGAGGAUGGAUAGCAAGGA-----
-----8-2,-4-----
-----GAUGAGGAUGGAUAGCAAGGAA-----
-----7-2,-3-----
-----GAUGAGGAUGGAUAGCAAGGAAG-----
-----10-2,-2-----
-----GAUGAGGAUGGAUAGCAAGGAAGC-----
-----5-2,-1-----
-----AUGAGGAUGGAUAGCAAGGAA-----
-----3-1,-3-----
-----AUGAGGAUGGAUAGCAAGGAAG-----
-----2-1,-2-----
-----AUGAGGAUGGAUAGCAAGGAAGC-----
-----2-1,-1-----
-----AUGAGGAUGGAUAGCAAGGAAGCC-----
-----3-1,0-----
-----AUGAGGAUGGAUAGCAAGGAAGCCu-----
-----2-1,0-----
-----UGAGGAUGGAUAGCAAGG-----
-----20,-5-----
-----UGAGGAUGGAUAGCAAGGAAG-----
-----50,-2-----
-----UGAGGAUGGAUAGCAAGGAAGC-----
-----30,-1-----
-----UGAGGAUGGAUAGCAAGGAAGCC-----
-----40,0-----
-----UGAGGAUGGAUAGCAAGGAAGCCuu-----
-----20,0-----

>hsa-mir-3609 3p:51-74 SRX018958

guaacaguaacuuuuauucucauuuuuccuuuucucuaccuuguagagaagCAAAGUGAUGAGUAAUACUGGCUGgagccc
((..((((.....((((((((((((((((((((.....)))))).)))))).))))).)))...))...))...))...

-----GCAAAGUGAUGAGUAAUACU-----
 3 -1,-5
 -----CAAAGUGAUGAGUAAUACU-----
 7 0,-5

0,-5	UCCCCCAGGUGUGAUUCU	11
0,-3	UCCCCCAGGUGUGAUUCUGA	5
0,-3	UCCCCCAGGUGUGAUUCUGAa	4
0,-2	UCCCCCAGGUGUGAUUCUGAU	8
0,-2	UCCCCCAGGUGUGAUUCUGAUa	5
0,-2	UCCCCCAGGUGUGAUUCUGAUaa	2
0,-1	UCCCCCAGGUGUGAUUCUGAUU	19
0,-1	UCCCCCAGGUGUGAUUCUGAUUa	2
0,0	UCCCCCAGGUGUGAUUCUGAUUU	64
0,0	UCCCCCAGGUGUGAUUCUGAUUUu	4
0,1	UCCCCCAGGUGUGAUUCUGAUUUUG	5
0,1	UCCCCCAGGUGUGAUUCUGAUUUUGu	2
0,2	UCCCCCAGGUGUGAUUCUGAUUUUGC	3
1,1	CCCCCAGGUGUGAUUCUGAUUUUG	4
2,-3	CCCCAGGUGUGAUUCUGA	2

-----UGUUGUACUUUUUUUUUUUGUUC-----
----- 3 0,0
-----ACAAAAAAAAAAGCCCAAC-----
----- 8 0,-5
-----ACAAAAAAAAAAGCCCAACC-----
----- 4 0,-4
-----ACAAAAAAAAAAGCCCAACCC-----
----- 2 0,-3

>hsa-mi r-3614 5p:15-37;3p:53-75 SRX018958

gguucugucuuugggCCACUUGGAUCUGAAGGUGCCCCuuugcucucuggggUAGCCUUCAGAUUUGGUGUUUgaaucuuacu

-----UAGCCUUCAGAUCUUGGUG-----
 ----- 2 0,-4

-----UAGCCUUCAGAUCUUGGUGU-----
----- 2 0,-3

-----UAGCCUUCAGAUUUGGUGUU-----
 ----- 4 0,-2

-----UAGCCUUCAGAUUCUUGGUGUUa-----
 ----- 4 0,-2

-----UAGCCUUCAGAUUCUUGGUGUU-----
----- 22 0,-1

-----UAGCCUUCAGAUUCUUGGUGUUUU-----
 ----- 3 0,0

>hsa-mi r-362 5p:5-28;3p:42-63 SRX018958

cuugAAUCCUUGGAACCUAGGUGUGAGUgcuaauuucagugcAACACACCUAUUCAAGGAUUCaaa

.(((((((((((((((((. . .((((((((((.(..((.))..)..)))))))))))))))))))))).

---AAUCCUUGGAACCUAGGUGU----- 4 0,-4

-----AAUCCUUGGAACCUAGGUGUG----- 3 0,-3

---AAUCCUUGGAACCUAGGUGUGA----- 11 0,-2

-----AAUCCUUGGAACCUAGGUGUGAG----- 9 0,-1

---AAUCCUUGGAACCUAGGUGUGAGU----- 8 0,0

-----AACACACCUAUUCAAGGAU----- 3 0,-3

-----AACACACCUAUUCAAGGAUU----- 6 0,-2

-----AACACACCUAUUCAAGGAUUa----- 2 0,-2

```

-----AACACACCUAUUCAAGGAUUC--- 16 0,-1
-----AACACACCUAUUCAAGGAUUCA-- 22 0,0
-----AACACACCUAUUCAAGGAUUCAA- 2 0,1

```

>hsa-mir-363 mi:7-28;MA:50-71 SRX018958

```

uguuguCGGGUGGAUCACGAUGCAAUUUugaugagaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaacc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAUUGCACGGUAUCCAUC----- 8
0,-4
-----AAUUGCACGGUAUCCAUCU----- 50
0,-3
-----AAUUGCACGGUAUCCAUCUG----- 6
0,-2
-----AAUUGCACGGUAUCCAUCUGU----- 11
0,-1
-----AAUUGCACGGUAUCCAUCUGUA----- 9
0,0
-----AAUUGCACGGUAUCCAUCUGUAu--- 4
0,0
-----AAUUGCACGGUAUCCAUCUGUAA--- 11
0,1
-----AUUGCACGGUAUCCAUCU----- 9
1,-3

```

>hsa-mir-3647 5p:15-37;3p:62-84 SRX018958

```

uugcuuucacagcCUGAAGUGAUGAUUCACAUUCAUgucucuucucugauaaauucuugaAGAAAAUUUUUGUGUGUCU
GAUCaggccucuagagggcag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----GAAGAAAAUUUUUGUGUGUCU
----- 3 -2,-4
-----AGAAAAUUUUUGUGUGUC-
----- 2 0,-5
-----AGAAAAUUUUUGUGUGUCU
----- 2 0,-4

```

>hsa-mir-365-1 3p:56-77 SRX018958

```

accgcagggaaaaugagggacuuuugggggcagauguguuuccauuccacuaUCAUUGCCCCUAAAAAUCCUUAUugc

```


ucuugca

...(((((((.....))))).))))).
))))).

-----AGGGACUUUUGGGGGCAG-----

----- 2

-----AGGGACUUUUGGGGGCAGA-----

----- 3

-----AGGGACUUUUGGGGGCAGAU-----

----- 6

-----AGGGACUUUUGGGGGCAGAUG-----

----- 3

-----AGGGACUUUUGGGGGCAGAUGU-----

----- 28

-----AGGGACUUUUGGGGGCAGAUGUa-----

----- 4

-----AGGGACUUUUGGGGGCAGAUGUau-----

----- 4

-----AGGGACUUUUGGGGGCAGAUGUu-----

----- 6

-----AGGGACUUUUGGGGGCAGAUGUuu-----

----- 2

-----AGGGACUUUUGGGGGCAGAUGUG-----

----- 97

-----AGGGACUUUUGGGGGCAGAUGUGa-----

----- 5

-----AGGGACUUUUGGGGGCAGAUGUGau-----

----- 2

-----AGGGACUUUUGGGGGCAGAUGUGU-----

----- 73

-----AGGGACUUUUGGGGGCAGAUGUGUU-----

----- 7

-----GGGACUUUUGGGGGCAGAUGUGU-----

----- 9

-----UAAUGCCCCUAAAAAUCC-----

----- 10 0,-4

-----UAAUGCCCCUAAAAAUCCU-----

----- 4 0,-3

-----UAAUGCCCCUAAAAAUCCUU-----

```

----- 22  0,-2
-----UAAUGCCCCUAAAAAUCCUUu-----
----- 6   0,-2
-----UAAUGCCCCUAAAAAUCCUUuu-----
----- 4   0,-2
-----UAAUGCCCCUAAAAAUCCUUA-----
----- 60  0,-1
-----UAAUGCCCCUAAAAAUCCUUAa-----
----- 33  0,-1
-----UAAUGCCCCUAAAAAUCCUUAU-----
----- 316 0,0
-----UAAUGCCCCUAAAAAUCCUUAUa-----
----- 20  0,0
-----UAAUGCCCCUAAAAAUCCUUAUU-----
----- 22  0,1
-----UAAUGCCCCUAAAAAUCCUUAUUu-----
----- 2   0,1
-----AUGCCCCUAAAAAUCCUUA-----
----- 2   2,-1
-----AUGCCCCUAAAAAUCCUUAU-----
----- 3   2,0

```

>hsa-mir-365-2 mi:29-50;MA:68-89 SRX018958

```

agaguguucaaggacagcaagaaaaaugAGGGACUUUCAGGGGCAGCUGUguuuucugacucagucaUAAUGCCCCUAAA
AAUCCUUAUuguucuugcagugugcaucggg

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----GAGGGACUUUCAGGGGCAGC-----
----- 2   -1,-3
-----GAGGGACUUUCAGGGGCAGCU-----
----- 16  -1,-2
-----GAGGGACUUUCAGGGGCAGCUG-----
----- 3   -1,-1
-----GAGGGACUUUCAGGGGCAGCUGU-----
----- 3   -1,0
-----GAGGGACUUUCAGGGGCAGCUGUuu-----
----- 2   -1,0
-----AGGGACUUUCAGGGGCAGC-----

```

```

----- 4 0,-3
-----AGGGACUUUCAGGGGCAGCU-----
----- 10 0,-2
-----AGGGACUUUCAGGGGCAGCUG-----
----- 4 0,-1
-----AGGGACUUUCAGGGGCAGCUGUa-----
----- 2 0,0
-----AGGGACUUUCAGGGGCAGCUGUau-----
----- 6 0,0
-----AGGGACUUUCAGGGGCAGCUGUG-----
----- 43 0,1
-----AGGGACUUUCAGGGGCAGCUGUGU-----
----- 11 0,2
-----UAAUGCCCCUAAA
AAUCC----- 10 0,-4
-----UAAUGCCCCUAAA
AAUCCU----- 4 0,-3
-----UAAUGCCCCUAAA
AAUCCUU----- 22 0,-2
-----UAAUGCCCCUAAA
AAUCCUUu----- 6 0,-2
-----UAAUGCCCCUAAA
AAUCCUUuu----- 4 0,-2
-----UAAUGCCCCUAAA
AAUCCUUA----- 60 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAa----- 33 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAU----- 316 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUa----- 20 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUU----- 22 0,1
-----UAAUGCCCCUAAA
AAUCCUUAUUu----- 2 0,1
-----AUGCCCCUAAA
AAUCCUUA----- 2 2,-1
-----AUGCCCCUAAA

```



```

-----AAACAGGAGAUCCUGGGUU-----
----- 2
-----AAACAGGAGAUCCUGGGUUC-----
----- 2

```

>hsa-mir-369 5p:9-30;3p:44-64 SRX018958

```

uugaagggAGAUCGACCGUGUUAUUAUUCGCUuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAUCGACCGUGUUAUUAUa----- 2 0,-4
-----AGAUCGACCGUGUUAUUAU----- 29 0,-3
-----AGAUCGACCGUGUUAUUAUC----- 37 0,-2
-----AGAUCGACCGUGUUAUUAUUCG----- 12 0,-1
-----AGAUCGACCGUGUUAUUAUUCGa----- 2 0,-1
-----AGAUCGACCGUGUUAUUAUUCGCa----- 3 0,0
-----AGAUCGACCGUGUUAUUAUUCGCU----- 10 0,1
-----AGAUCGACCGUGUUAUUAUUCGCUU----- 2 0,2
-----GAAUAAUACAUGGUUGAUCUUU----- 2 -1,0
-----AAUAAUACAUGGUUGAUCUU----- 3 0,-1
-----AAUAAUACAUGGUUGAUCUUa----- 2 0,-1
-----AAUAAUACAUGGUUGAUCUUU----- 78 0,0
-----AAUAAUACAUGGUUGAUCUUUa----- 3 0,0
-----AAUAAUACAUGGUUGAUCUUUU----- 7 0,1

```

>hsa-mir-3690 5p:10-32 SRX018958

```

cccaucuccACCUGGACCCAGCGUAGACAAAGagguguuuucuacuccauaucuaccuggacccaguguagauggg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----ACCUGGACCCAGCGUAGA----- 2
0,-5
-----ACCUGGACCCAGCGUAGACA----- 2
0,-3
-----ACCUGGACCCAGCGUAGACAA----- 4
0,-2
-----ACCUGGACCCAGCGUAGACAAAG----- 5
0,0
-----ACCUGGACCCAGCGUAGACAAAGA----- 2
0,1

```

>hsa-mir-3692 mi:6-29;MA:44-67 SRX018958

```

ccauuCCUGCUGGUCAGGAGUGGAUACUGgagcaauagauacaGUUCCACACUGACACUGCAGAAGUgg
(((((((((...(((((((...(((((((...(((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))))))))
-----GUUCCACACUGACACUGCAGAAG---      2      0,-1

```

```

>hsa-mir-370      3p:48-69      SRX018958
agacagagaagccaggucacgucucugcaguuacacagcucacgaguGCCUCUGGGGUGGAACCUGGUcugucu
(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))))))))
-----GCCUCUGGGGUGGAACCUGG-----      3
0,-1
-----GCCUCUGGGGUGGAACCUGGUaa----      3
0,0

```

```

>hsa-mir-371      5p:6-25;3p:42-64      SRX018958
guggcACUCAAACUGUGGGGGGCACUuucugcucucuggugaAAGUGCCGCCAUCUUUUGAGUGUuac
(((((((((((((((...(((((((...(((((((...(((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))))))))
-----ACUCAAACUGUGGGGGGCACU-----      2      0,0
-----ACUCAAACUGUGGGGGGCACUau-----      2      0,1

```

```

>hsa-mir-372      3p:42-64      SRX018958
gugggccucaaauuggagcacuauucugauguccaaguggAAAGUGCUGCGACAUUUGAGCGUcac
...(((((((((((((((...(((((((...(((((((...(((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))))))))
-----AAAGUGCUGCGACAUUUGAG-----      11      0,-3

```

```

>hsa-mir-374a     MA:12-33;mi:42-63      SRX018958
uacaucggccaUUAUAAUACAACCUGAUAAAGUGuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))))))))
-----UUAUAAUACAACCUGAUAA-----      31
0,-4
-----UUAUAAUACAACCUGAUAA-----      257
0,-3
-----UUAUAAUACAACCUGAUAAa-----      10
0,-3
-----UUAUAAUACAACCUGAUAAaa-----      5
0,-3
-----UUAUAAUACAACCUGAUAAuu-----      3
0,-3
-----UUAUAAUACAACCUGAUAAAG-----      71
0,-2

```

-----UUAUAAUACAACCUGAUAGa-----	8
0,-2	
-----UUAUAAUACAACCUGAUAGU-----	705
0,-1	
-----UUAUAAUACAACCUGAUAGUa-----	37
0,-1	
-----UUAUAAUACAACCUGAUAGUaa-----	22
0,-1	
-----UUAUAAUACAACCUGAUAGUG-----	823
0,0	
-----UUAUAAUACAACCUGAUAGUGa-----	355
0,0	
-----UUAUAAUACAACCUGAUAGUGaa-----	7
0,0	
-----UUAUAAUACAACCUGAUAGUGU-----	62
0,1	
-----UAUAAUACAACCUGAUAA-----	2
1,-3	
-----UAUAAUACAACCUGAUAGU-----	7
1,-1	
-----UAUAAUACAACCUGAUAGUG-----	2
1,0	
-----UAUAAUACAACCUGAUAGUGa-----	3
1,0	
-----ACUUAUCAGAUUGUAUUGAAU-----	11
-1,-1	
-----CUUAUCAGAUUGUAUUGU-----	17
0,-4	
-----CUUAUCAGAUUGUAUUGUA-----	2
0,-3	
-----CUUAUCAGAUUGUAUUGUAuu-----	2
0,-3	
-----CUUAUCAGAUUGUAUUGUAA-----	18
0,-2	
-----CUUAUCAGAUUGUAUUGUAAa-----	12
0,-2	
-----CUUAUCAGAUUGUAUUGUAAaa-----	7
0,-2	

0,-1	CUUAUCAGAUUGUAUUGUAAU	529
0,-1	CUUAUCAGAUUGUAUUGUAAUa	231
0,-1	CUUAUCAGAUUGUAUUGUAAUaa	4
0,0	CUUAUCAGAUUGUAUUGUAAUU	1229
0,0	CUUAUCAGAUUGUAUUGUAAUa	131
0,0	CUUAUCAGAUUGUAUUGUAAUu	25
0,1	CUUAUCAGAUUGUAUUGUAAUUG	2
1,-1	UUAUCAGAUUGUAUUGUAAU	4
1,-1	UUAUCAGAUUGUAUUGUAAUa	2
1,0	UUAUCAGAUUGUAUUGUAAUU	13
2,-1	UaucAGAUUGUAUUGUAAU	2
2,0	UaucAGAUUGUAUUGUAAUU	2
2,0	UaucAGAUUGUAUUGUAAUa	5
2,0	UaucAGAUUGUAUUGUAAUu	4
2,2	UaucAGAUUGUAUUGUAAUUGU	2

>hsa-mir-378 mi:5-26;MA:43-63 SRX018958

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu

(((((((.....)))))).)))))))))

----CUCCUGACUCCAGGUCCU-----	7	0,-4
----CUCCUGACUCCAGGUCCUGUGU-----	5	0,0
-----UCCUGACUCCAGGUCCUGUGU-----	2	1,0
-----UCCUGACUCCAGGUCCUGUGUau-----	3	1,0
-----UCCUGACUCCAGGUCCUGUGUu-----	2	1,0
-----UCCUGACUCCAGGUCCUGUGUuu-----	2	1,0
-----GCACUGGACUUGGAGUCAGAA-----	2	-2,-2
-----GCACUGGACUUGGAGUCAGAAG-----	4	-2,-1
-----GCACUGGACUUGGAGUCAGAAGa-----	3	-2,-1
-----GCACUGGACUUGGAGUCAGAAGG-----	3	-2,0
-----CACUGGACUUGGAGUCAGA-----	2	-1,-3
-----CACUGGACUUGGAGUCAGAA-----	2	-1,-2
-----CACUGGACUUGGAGUCAGAAG-----	3	-1,-1
-----CACUGGACUUGGAGUCAGAAGG-----	16	-1,0
-----CACUGGACUUGGAGUCAGAAGGa-----	3	-1,0
-----CACUGGACUUGGAGUCAGAAGGaa-----	2	-1,0
-----CACUGGACUUGGAGUCAGAAGGu-----	4	-1,0
-----CACUGGACUUGGAGUCAGAAGGC-----	33	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa-----	23	-1,1
-----CACUGGACUUGGAGUCAGAAGGCaa-----	2	-1,1
-----CACUGGACUUGGAGUCAGAAGGCau-----	5	-1,1
-----CACUGGACUUGGAGUCAGAAGGCu-----	7	-1,1
-----CACUGGACUUGGAGUCAGAAGGCuu-----	2	-1,1
-----ACUGGACUUGGAGUCAGA-----	190	0,-3
-----ACUGGACUUGGAGUCAGAu-----	4	0,-3
-----ACUGGACUUGGAGUCAGAA-----	434	0,-2
-----ACUGGACUUGGAGUCAGAAa-----	53	0,-2
-----ACUGGACUUGGAGUCAGAAaa-----	14	0,-2
-----ACUGGACUUGGAGUCAGAAau-----	4	0,-2
-----ACUGGACUUGGAGUCAGAAG-----	1614	0,-1
-----ACUGGACUUGGAGUCAGAAGu-----	138	0,-1
-----ACUGGACUUGGAGUCAGAAGuu-----	4	0,-1
-----ACUGGACUUGGAGUCAGAAGG-----	11456	0,0
-----ACUGGACUUGGAGUCAGAAGGa-----	3130	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-----	432	0,0

-----ACUGGACUUGGAGUCAGAAGGau-	78	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	888	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	182	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	25656	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	14904	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	1314	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	6175	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	8292	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	2994	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	29	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	3	0,2
-----ACUGGACUUGGAGUCAGAAGGCCau	7	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	22	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	9	0,3
-----CUGGACUUGGAGUCAGAA-----	15	1,-2
-----CUGGACUUGGAGUCAGAAG----	27	1,-1
-----CUGGACUUGGAGUCAGAAGG---	229	1,0
-----CUGGACUUGGAGUCAGAAGGa--	29	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	21	1,0
-----CUGGACUUGGAGUCAGAAGGu--	25	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	5	1,0
-----CUGGACUUGGAGUCAGAAGGC--	2342	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	557	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	207	1,1
-----CUGGACUUGGAGUCAGAAGGCau	257	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	738	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	649	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	9	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	8	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	22	1,2
-----CUGGACUUGGAGUCAGAAGGCCU	9	1,3
-----CUGGACUUGGAGUCAGAAGGCCUau	3	1,3
-----CUGGACUUGGAGUCAGAAGGCCUu	3	1,3
-----CUGGACUUGGAGUCAGAAGGCCUuu	5	1,3
-----UGGACUUGGAGUCAGAAGGC--	55	2,1
-----UGGACUUGGAGUCAGAAGGCa-	16	2,1
-----UGGACUUGGAGUCAGAAGGCau	3	2,1
-----UGGACUUGGAGUCAGAAGGCu-	6	2,1

-----UGGACUUGGAGUCAGAAGGCuu 12 2,1

>hsa-mir-378b 3p:34-52 SRX018958

ggucauugagucuucaaggcuaguggaaagagcACUGGACUUGGAGGCAGAAgacc

(((((.(.(((.(((.(((.(((.(.....)))))).)))))))).)).))))

-----ACUGGACUUGGAGGCAGAA----- 363 0,0

>hsa-mir-378c 5p:11-35 SRX018958

ggaggccaucACUGGACUUGGAGUCAGAAGAGUGGagucgggucagacuucaacucugacuuugaagguggugagugccu
c

.((((((((((((.....(.(((.(((.(((.(((.(((.(.....)))))).)))))))).)).)))))))).))))))
)

-----CACUGGACUUGGAGUCAGAAG-----

- 3 -1,-5

-----CACUGGACUUGGAGUCAGAAGA-----

- 3 -1,-4

-----ACUGGACUUGGAGUCAGAAG-----

- 1614 0,-5

-----ACUGGACUUGGAGUCAGAAGu-----

- 138 0,-5

-----ACUGGACUUGGAGUCAGAAGuu-----

- 4 0,-5

-----ACUGGACUUGGAGUCAGAAGA-----

- 715 0,-4

-----ACUGGACUUGGAGUCAGAAGAA-----

- 65 0,-4

-----ACUGGACUUGGAGUCAGAAGAAa-----

- 18 0,-4

-----ACUGGACUUGGAGUCAGAAGAAu-----

- 2 0,-4

-----ACUGGACUUGGAGUCAGAAGAu-----

- 5 0,-4

-----ACUGGACUUGGAGUCAGAAGAu-----

- 3 0,-4

-----ACUGGACUUGGAGUCAGAAGAGa-----

- 4 0,-3

-----CUGGACUUGGAGUCAGAAG-----

- 27 1,-5

>hsa-mir-382 5p:11-32 SRX018958

uacuugaagaGAAGUUGUUCGUGGGAUUCGcuuacuaugacgaaucauucacggacaacacuuuuuucagua

-----GAAGUUGUUCGUGGUGGAUU-----

21 0, -2

-----GAAGUUGUUCGUGGUGGAUUa-----

$$2 \quad 0, -2$$

-----GAAGUUGUUCGUGGUGGAUUC-----

6 0,-1

-----GAAGUUGUUCGUGGUGGAUUCG-----

9 0,0

-----GAAGUUGUUCGUGGUGGAUUCGu-----

4 0,0

-----AAGUUGUUCGUGGUGGAUU-----

3 1, -2

-----AAGUUGUUCGUGGUGGAUUC-----

 $2 \quad 1, -1$

-----AGUUGUUCGUGGUGGAUUCGCU-----

 $2 \quad 2,2$

-----AAUCAUUCACGGACAACAC-----

122

-----AAUCAUUCACGGACAACACU-----

155

-----AAUCAUUCACGGACAACACUU-----

38

-----AAUCAUUCACGGACAACACUUU-----

15

-----AUCAUUCACGGACAACAC-----

2

-----AUCAUUCACGGACAACACU-----

2

>hsa-mir-383 5p:7-28 SRX018958

cuccucAGAUCAGAAGGUGAUUGGGCUuuggguggauauuaaucagccacagcacugccuggucagaaagag

(((.(.(.(((((.(((((.((((((((...(((.....))))))))))))))..))))).).))

-----CAGAU CAGAAGGUGAUUG-----

-1, -5

-----CAGAUCAAGGUGAUUGGGCU-----	3
-1,0	
-----AGAUCAAGGUGAUUGU-----	4
0,-4	
-----AGAUCAAGGUGAUUGUG-----	4
0,-3	
-----AGAUCAAGGUGAUUGUGG-----	16
0,-2	
-----AGAUCAAGGUGAUUGGGC-----	8
0,-1	
-----AGAUCAAGGUGAUUGGGCa-----	4
0,-1	
-----AGAUCAAGGUGAUUGGGCaa-----	5
0,-1	
-----AGAUCAAGGUGAUUGGGCau-----	3
0,-1	
-----AGAUCAAGGUGAUUGGGCU-----	116
0,0	
-----AGAUCAAGGUGAUUGGGCUaa-----	17
0,0	
-----AGAUCAAGGUGAUUGGGCUU-----	81
0,1	
-----AGAUCAAGGUGAUUGGGCUUa-----	26
0,1	
-----AGAUCAAGGUGAUUGGGCUUau-----	5
0,1	
-----AGAUCAAGGUGAUUGGGCUUU-----	78
0,2	
-----AGAUCAAGGUGAUUGGGCUUUa-----	2
0,2	
-----AGAUCAAGGUGAUUGGGCUUUu-----	4
0,2	
-----GAUCAAGGUGAUUGGGCU-----	2
1,0	
-----GAUCAAGGUGAUUGGGCUUU-----	2
1,2	

cuuuugcugucaguuuuucuguugcuugucuugguuuuauugccuuuuauaucuaaggcacauaAAAGGCAUAAAACCAAGA
CAagcaacaaaaaaaggauugaucacagaag

(((((...(((((((((((((.....))))))))).....))))))
)))))))).....))))))))...))))))

-----AAAAGGCAUAAAACCAAGA

----- 2 -1,-2

-----AAAAGGCAUAAAACCAAGA

CA----- 5 -1,0

ugucuauaauaacugaaaaaUUUGGGACUGAUCUUGAUGUCUgccaaagguuuuggcagacaucaagaucagucccaau
auuucaguuuauuauaaaca

-----GACAUCAAGAUCAGUCCAA-----
-----2-----

gcugaagcucuaagguuccgccugcgggcaggaagcGGAGGAACCUUGGAGCUUCGGC

-----GGAGGAACCUUGGAGCUUCGG-	11	0,-1
-----GGAGGAACCUUGGAGCUUCGGu	5	0,-1
-----GGAGGAACCUUGGAGCUUCGGC	6	0,0
-----GGAGGAACCUUGGAGCUUCGGCa	15	0,0
-----GGAGGAACCUUGGAGCUUCGGCaa	2	0,0
-----GGAGGAACCUUGGAGCUUCGGCau	8	0,0
-----GGAGGAACCUUGGAGCUUCGGCu	6	0,0
-----GAGGAACCUUGGAGCUUCGGCaa	3	1,0

>hsa-mir-3929 3p:33-55 SRX018958

aguggcucacaccaguaaucccagcacuuuggGAGGCUGAUGUGAGUAGACCACU

$$(((((((((((.((((((..((((((\dots)))))).))))).\dots))))))$$

>hsa-mir-3942 5p:23-44 SRX018958

uccuucagauugacaccucaaaagAAGCAAUACUGUUACCUGAAAUaggcugcgaagauaacaguuuucagauaacaguu
uacaucuuugaagugucuuuucacugac

$$\begin{aligned} & \dots((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((\\ &) .) .)))))))) .)))))))). \dots))))). \end{aligned}$$

-----AGCAAUACUGUUACCUGAAA-----
-----21,-1-----

>hsa-mi r-409 5p:15-37;3p:47-68 SRX018958

ugguacucggggagAGGUUACCCGAGCAACUUUGCAUcuggacgacGAAUGUUGCUCGGUGAACCCCUuuucgguauc

.(((((.((..(((.((((.(((((((((((((.....).))))).)))))).)).)).)).)).).

-----AGGUUACCCGAGCAACUU-----

4 0,-5

		-AGGUUACCCGAGCAACUUU-
44	0, -4	
		-AGGUUACCCGAGCAACUUUG-
5	0, -3	
		-AGGUUACCCGAGCAACUUUGC-
4	0, -2	
		-AGGUUACCCGAGCAACUUUGCA-
67	0, -1	
		-AGGUUACCCGAGCAACUUUGCAU-
64	0, 0	
		-AGGUUACCCGAGCAACUUUGCAU _a -
7	0, 0	
		-AGGUUACCCGAGCAACUUUGCAUC-
2	0, 1	
		-AGGUUACCCGAGCAACUUUGCAUCU-
3	0, 2	
		-CGAAUGUUGCUCGGUGAA-
27	-1, -5	
		-CGAAUGUUGCUCGGUGAAC-
4	-1, -4	
		-CGAAUGUUGCUCGGUGAAC _{aa} -
2	-1, -4	
		-CGAAUGUUGCUCGGUGAACCCCU-
9	-1, 0	
		-CGAAUGUUGCUCGGUGAACCCCUU-
6	-1, 1	
		-GAAUGUUGCUCGGUGAAC-
4	0, -4	
		-GAAUGUUGCUCGGUGAACC-
2	0, -3	
		-GAAUGUUGCUCGGUGAACCCC-
13	0, -1	
		-GAAUGUUGCUCGGUGAACCCCU-
17	0, 0	
		-GAAUGUUGCUCGGUGAACCCCU _{au} -
3	0, 0	
		-GAAUGUUGCUCGGUGAACCCCUU-
5	0, 1	

```

-----GAAUGUUGCUCGGUGAACCCCUUU-----
      8   0,2
-----AAUGUUGCUCGGUGAACCCCU-----
      3   1,0
-----AAUGUUGCUCGGUGAACCCCUa-----
      2   1,0
-----AAUGUUGCUCGGUGAACCCCU-----
      2   1,1
-----AAUGUUGCUCGGUGAACCCCUUU-----
      2   1,2

```

>hsa-mir-410 3p:50-70 SRX018958

```

gguaccugagaagagguugucugugaugaguucgcuuuauuaugacgAAUAUAACACAGAUGGCCUGUuuucaguacc
(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.
-----AAUAUAACACAGAUGGCCU-----
      12  0,-2

```

>hsa-mir-411 MA:16-36;mi:51-72 SRX018958

```

ugguacuuggagagaUAGUAGACCGUAUAGCGUACGcuuuauucugugacgUAUGUAACACGGUCCACUAACCCucaguau
caauuccaucccgag
(((((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((
))).....
-----AUAGUAGACCGUAUAGCG-----
-----      11  -1,-4
-----AUAGUAGACCGUAUAGCGU-----
-----      248 -1,-3
-----AUAGUAGACCGUAUAGCGUA-----
-----      144 -1,-2
-----AUAGUAGACCGUAUAGCGUAa-----
-----      20  -1,-2
-----AUAGUAGACCGUAUAGCGUAaa-----
-----      4   -1,-2
-----AUAGUAGACCGUAUAGCGUAu-----
-----      9   -1,-2
-----AUAGUAGACCGUAUAGCGUAC-----
-----      470 -1,-1
-----AUAGUAGACCGUAUAGCGUACa-----
-----      3   -1,-1

```

```

-----AUAGUAGACCGUAUAGCGUACaa-----
-----      3   -1,-1
-----AUAGUAGACCGUAUAGCGUACG-----
-----      83   -1,0
-----AUAGUAGACCGUAUAGCGUACGa-----
-----      4   -1,0
-----UAGUAGACCGUAUAGCGU-----
-----     235   0,-3
-----UAGUAGACCGUAUAGCGUA-----
-----     201   0,-2
-----UAGUAGACCGUAUAGCGUAa-----
-----     13    0,-2
-----UAGUAGACCGUAUAGCGUAaa-----
-----      3    0,-2
-----UAGUAGACCGUAUAGCGUAu-----
-----      4    0,-2
-----UAGUAGACCGUAUAGCGUAC-----
-----     432   0,-1
-----UAGUAGACCGUAUAGCGUACa-----
-----      8    0,-1
-----UAGUAGACCGUAUAGCGUACaa-----
-----      2    0,-1
-----UAGUAGACCGUAUAGCGUACG-----
-----     70    0,0
-----UAUGUAACACGGUCCACUAAC-----
-----      7    0,-1
-----UAUGUAACACGGUCCACUAACa-----
-----      4    0,-1
-----UAUGUAACACGGUCCACUAACu-----
-----      4    0,-1

```

>hsa-mir-421 3p:48-70 SRX018958

```

gcacauuguaggccucauuaaanguuuguugaugaaaaaangaaucaUCAACAGACAUUAAUUGGGCGCcugcucugug
aucuc

```

```

.((((..((((((((((...((((((((((((((..((((.....))))))))))))))))))....))))).))))))
.....
-----AUCAACAGACAUUAAUUG-----
-----    47   0,-5

```

-----			AUCAACAGACAUUAAUUGG-----
-----	16	0,-4	
-----			AUCAACAGACAUUAAUUGGG-----
-----	2	0,-3	
-----			AUCAACAGACAUUAAUUGGGCGa-----
-----	2	0,-1	
-----			AUCAACAGACAUUAAUUGGGCGau-----
-----	3	0,-1	
-----			AUCAACAGACAUUAAUUGGGCGC-----
-----	3	0,0	

>hsa-mi r-423 5p:17-39;3p:53-75 SRX018958

auaaaaggaaguuaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

....(((((((.(((((((((((((((..(((.((((.((((.....)))))))))).))...)))))))))))).))
)))))).

-----CUGAGGGGCAGAGAGCGAGAu-----	
-----2-1,-4-----	
-----CUGAGGGGCAGAGAGCGAGACUUU-----	
-----9-1,0-----	
-----UGAGGGGCAGAGAGCGAG-----	
-----90,-5-----	
-----UGAGGGGCAGAGAGCGAGu-----	
-----20,-5-----	
-----UGAGGGGCAGAGAGCGAGA-----	
-----360,-4-----	
-----UGAGGGGCAGAGAGCGAGAA-----	
-----30,-4-----	
-----UGAGGGGCAGAGAGCGAGAAa-----	
-----70,-4-----	
-----UGAGGGGCAGAGAGCGAGAC-----	
-----300,-3-----	
-----UGAGGGGCAGAGAGCGAGACaa-----	
-----40,-3-----	
-----UGAGGGGCAGAGAGCGAGACU-----	
-----500,-2-----	
-----UGAGGGGCAGAGAGCGAGACUa-----	
-----20,-2-----	

```

-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 4 0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 4 0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 91 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 31 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 6 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 16 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 918 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 33 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 7 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 8 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 208 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUa-----
----- 3 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 5 0,1
-----GAGGGGCAGAGAGCGAGAC-----
----- 2 1,-3
-----GAGGGGCAGAGAGCGAGACUU-----
----- 4 1,-1
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 55 1,0
-----GAGGGGCAGAGAGCGAGACUUUa-----
----- 2 1,0
-----GAGGGGCAGAGAGCGAGACUUUU-----
----- 9 1,1
-----AGGGGCAGAGAGCGAGACUUU-----
----- 8 2,0

```



```

-----AGGGGCAGAGAGCGAGACUUUU-----
----- 35 2,1
-----AGGGGCAGAGAGCGAGACUUUUa-----
----- 5 2,1
-----AGGGGCAGAGAGCGAGACUUUUu-----
----- 2 2,1
-----AAGCUCGGUCUGAGGCCCC-----
----- 4 -1,-5
-----AAGCUCGGUCUGAGGCCCCU-----
----- 2 -1,-4
-----AAGCUCGGUCUGAGGCCCCUaa-----
----- 2 -1,-4
-----AAGCUCGGUCUGAGGCCCCUu-----
----- 3 -1,-4
-----AAGCUCGGUCUGAGGCCCCUuu-----
----- 2 -1,-4
-----AAGCUCGGUCUGAGGCCCCUCA-----
----- 5 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAu-----
----- 7 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAuu-----
----- 2 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAG-----
----- 11 -1,-1
-----AAGCUCGGUCUGAGGCCCCUCAGa-----
----- 2 -1,-1
-----AAGCUCGGUCUGAGGCCCCUCAGU-----
----- 47 -1,0
-----AAGCUCGGUCUGAGGCCCCUCAGUu-----
----- 5 -1,0
-----AGCUCGGUCUGAGGCCCC-----
----- 3 0,-5
-----AGCUCGGUCUGAGGCCCCU-----
----- 3 0,-4
-----AGCUCGGUCUGAGGCCCCUC-----
----- 9 0,-3
-----AGCUCGGUCUGAGGCCCCUCA-----
----- 23 0,-2

```

```

-----AGCUCGGUCUGAGGCCCCUCAa-----
----- 10  0,-2
-----AGCUCGGUCUGAGGCCCCUCAaa-----
----- 10  0,-2
-----AGCUCGGUCUGAGGCCCCUCAG-----
----- 49  0,-1
-----AGCUCGGUCUGAGGCCCCUCAGa-----
----- 9   0,-1
-----AGCUCGGUCUGAGGCCCCUCAGU-----
----- 213 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUa-----
----- 21  0,0
-----AGCUCGGUCUGAGGCCCCUCAGUaa-----
----- 13  0,0
-----AGCUCGGUCUGAGGCCCCUCAGUau-----
----- 31  0,0
-----AGCUCGGUCUGAGGCCCCUCAGUu-----
----- 44  0,0
-----AGCUCGGUCUGAGGCCCCUCAGUuu-----
----- 17  0,0
-----GCUCGGUCUGAGGCCCCUCAGUaa-----
----- 2   1,0

```

>hsa-mir-424 MA:11-32;mi:48-68 SRX018958

cgaggggauaCAGCAGCAAUUC AUGUUUGAAguguucuaaaugguuCAAAACGUGAGGCGCUGCUAUacccccucgugg
ggaagguagaaggugggg

(((((((((((.(((((((.(((((((((((((((.((((.....))))).))))))))))))))))).)))))))).)...
.....

```

-----ACAGCAGCAAUUC AUGUUUU-----
----- 7   -1,-3
-----ACAGCAGCAAUUC AUGUUUUG-----
----- 8   -1,-2
-----ACAGCAGCAAUUC AUGUUUUGA-----
----- 2   -1,-1
-----ACAGCAGCAAUUC AUGUUUUGAA-----
----- 5   -1,0
-----CAGCAGCAAUUC AUGUUU-----
----- 54  0,-4

```

```

-----CAGCAGCAAUUC AUGUUUa-----
-----      3      0,-4
-----CAGCAGCAAUUC AUGUUUU-----
-----     332      0,-3
-----CAGCAGCAAUUC AUGUUUUa-----
-----      9      0,-3
-----CAGCAGCAAUUC AUGUUUUaa-----
-----      3      0,-3
-----CAGCAGCAAUUC AUGUUUUg-----
-----    1113      0,-2
-----CAGCAGCAAUUC AUGUUUUgu-----
-----      4      0,-2
-----CAGCAGCAAUUC AUGUUUUgA-----
-----    3546      0,-1
-----CAGCAGCAAUUC AUGUUUUgAu-----
-----      6      0,-1
-----CAGCAGCAAUUC AUGUUUUgAA-----
-----    1565      0,0
-----CAGCAGCAAUUC AUGUUUUgAAa-----
-----    209      0,0
-----CAGCAGCAAUUC AUGUUUUgAAaa-----
-----    14      0,0
-----CAGCAGCAAUUC AUGUUUUgAAu-----
-----    31      0,0
-----CAGCAGCAAUUC AUGUUUUgAAG-----
-----      7      0,1
-----AGCAGCAAUUC AUGUUUU-----
-----      7      1,-3
-----AGCAGCAAUUC AUGUUUUg-----
-----    17      1,-2
-----AGCAGCAAUUC AUGUUUUgA-----
-----    46      1,-1
-----AGCAGCAAUUC AUGUUUUgAA-----
-----    40      1,0
-----AGCAGCAAUUC AUGUUUUgAAa-----
-----      5      1,0
-----
-----CAAACGUGAGGCGCUGCUA-----
-----    19      0,-1

```

```

-----CAAAACGUGAGGCGCUGCUAa-----
----- 5 0,-1
-----CAAAACGUGAGGCGCUGCUAaa-----
----- 2 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 369 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 24 0,0
-----CAAAACGUGAGGCGCUGCUAUuu-----
----- 2 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 209 0,1
-----CAAAACGUGAGGCGCUGCUAUa-----
----- 83 0,1
-----CAAAACGUGAGGCGCUGCUAUaa-----
----- 3 0,1
-----CAAAACGUGAGGCGCUGCUAUau-----
----- 36 0,1
-----CAAAACGUGAGGCGCUGCUAUuu-----
----- 2 0,1
-----AAAACGUGAGGCGCUGCUAU-----
----- 15 1,0
-----AAAACGUGAGGCGCUGCUAUA-----
----- 19 1,1
-----AAAACGUGAGGCGCUGCUAUa-----
----- 6 1,1
-----AAAACGUGAGGCGCUGCUAUau-----
----- 17 1,1
-----AAAACGUGAGGCGCUGCUAUuu-----
----- 2 1,1
-----AAACGUGAGGCGCUGCUAUa-----
----- 3 2,1
-----AAACGUGAGGCGCUGCUAUau-----
----- 3 2,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018958

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAUGUCGUGUCCGCCagug
cucuuc

(((((.(.(((...((((((.(.((((((.(.((((...)).)).)).)).)).)).)).)).)).)).)).)).)).))
)..))))

-----	-AAUGACACGAUCACUCCC-	-----
-----	6	0,-5
-----	-AAUGACACGAUCACUCCCG-	-----
-----	2	0,-4
-----	-AAUGACACGAUCACUCCCGU-	-----
-----	2	0,-3
-----	-AAUGACACGAUCACUCCCGUU-	-----
-----	8	0,-2
-----	-AAUGACACGAUCACUCCCGUUG-	-----
-----	6	0,-1
-----	-AAUGACACGAUCACUCCCGUUGA-	-----
-----	49	0,0
-----	-AAUGACACGAUCACUCCCGUUGAu-	-----
-----	3	0,0
-----	-AAUGACACGAUCACUCCCGUUGAG-	-----
-----	14	0,1
-----	-AUGACACGAUCACUCCCGUUGA-	-----
-----	6	1,0
-----	-AUGACACGAUCACUCCCGUUGAG-	-----
-----	5	1,1
-----	-AUGACACGAUCACUCCCGUUGAGU-	-----
-----	6	1,2
-----	-----CAUCGGGAAUGUCGUGUCC-	-----
-----	3	-1,-4
-----	-----CAUCGGGAAUGUCGUGUCCGC-	-----
-----	2	-1,-2
-----	-----CAUCGGGAAUGUCGUGUCCGCu-	-----
-----	5	-1,-2
-----	-----CAUCGGGAAUGUCGUGUCCGCC-	-----
-----	10	-1,-1
-----	-----AUCGGGAAUGUCGUGUCC-	-----
-----	2	0,-4
-----	-----AUCGGGAAUGUCGUGUCCGCa-	-----
-----	2	0,-2
-----	-----AUCGGGAAUGUCGUGUCCGCC-	-----
-----	9	0,-1

-----AUCGGGAUGUCGUGUCCGCCu-----
 ----- 4 0,-1
 -----AUCGGGAUGUCGUGUCCGCC-----
 ----- 3 0,0

```
>hsa-mir-4284    5p:11-28    SRX018958
guucugugagGGGCUCACAUCACCCCAUcaaaguggggacucauggggagaggggguaguuaaggagcuugauagaggcg
g
.(((((((..(((((((..((.(((((.((...((((....))))).))..)))))).))..)))))).))....
.
-----GGGCUCACAUCACCCCAU-----
-   14   0,0
```

```

>hsa-mir-4286    5p:11-27    SRX018958
uacuuauaggcACCCACUCCUGGUACCAuagucuaaaguuaggagauguuagagcugugaguaccaugacuuaagugugg
uggcuuuaacaug
...(((.(.(((.((((.(((((((((((((((..((((((...)))..)))..)))))).)))))).))....)))..))
)).).))).....
-----ACCCACUCCUGGUACCA-----
-----      32   0,1
-----ACCCACUCCUGGUACCAa-----
-----      6    0,1
-----ACCCACUCCUGGUACCAaa-----
-----      2    0,1
-----ACCCACUCCUGGUACCAU-----
-----     10   0,2
-----ACCCACUCCUGGUACCAUu-----
-----     10   0,2
-----ACCCACUCCUGGUACCAUuu-----
-----      3    0,2
-----ACCCACUCCUGGUACCAUA-----
-----      2    0,3

```

```
>hsa-mir-429      3p:51-72      SRX018958
cgccggccgaugggcgucuuaccagacaugguuagaccuggcccucugucUAAUACUGUCUGGUAAAACCGUccaucggc
ugc
...((((.((((((((..((((((((((..(((((((.....)))))))).)))))))).)))))))).))
)).
```



```

-----UCUUGGAGUAGGUCAUUGGGa-----
----- 6 0,-3
-----UCUUGGAGUAGGUCAUUGGGaa-----
----- 4 0,-3
-----UCUUGGAGUAGGUCAUUGGGU-----
----- 28 0,-2
-----UCUUGGAGUAGGUCAUUGGGUa-----
----- 7 0,-2
-----UCUUGGAGUAGGUCAUUGGGUaa-----
----- 23 0,-2
-----UCUUGGAGUAGGUCAUUGGGUau-----
----- 32 0,-2
-----UCUUGGAGUAGGUCAUUGGGUu-----
----- 2 0,-2
-----UCUUGGAGUAGGUCAUUGGGUG-----
----- 28 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGa-----
----- 14 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGau-----
----- 6 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 12 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 2 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGu-----
----- 4 0,0

```

>hsa-mir-4326 5p:11-30 SRX018958

gcugcucugcUGUUCCUCUGUCUCCCAGACucugggguggauggagcaggucggggggcca

((((...((((((((...((((((((...)))))))))...))))))...))..

```

-----UGUUCCUCUGUCUCCCAGACU----- 2 0,1

```

>hsa-mir-433 3p:64-85 SRX018958

ccggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC

GGUGUucuccagg

((..((((...(((.((((((((...((((...)))))))))...))))))...))
)...))))))..))

```

-----UACGGUGAGCCUGUCAUUAUa-----

```


Sequence	Count	Score
-----	2	
-----		-AUCAUGAUGGGCUCCUC
G-----	2	0, -4
-----		-AUCAUGAUGGGCUCCUC
GGUaa-----	2	0, -2
-----		-AUCAUGAUGGGCUCCUC
GGUau-----	2	0, -2
-----		-AUCAUGAUGGGCUCCUC
GGUG-----	5	0, -1
-----		-AUCAUGAUGGGCUCCUC
GGUGa-----	2	0, -1
-----		-AUCAUGAUGGGCUCCUC
GGUGU-----	43	0, 0
-----		-AUCAUGAUGGGCUCCUC
GGUGUa-----	4	0, 0
-----		-AUCAUGAUGGGCUCCUC
GGUGUau-----	2	0, 0
-----		-AUCAUGAUGGGCUCCUC
GGUGUU-----	6	0, 1
-----		-AUCAUGAUGGGCUCCUC
GGUGUUu-----	4	0, 1

```
>hsa-mir-450a-1 5p:18-39      SRX018958
aaacgauacuaaacuguUUUUGCGAUGUGUCCUAAUAUgcacuauaaaauauauugggaacauuuugcauguauaguuuu
gauucaauaua
....(((((((((...(((((.((((((((((((((((.....)))))))))..))))).)))))).
))))).
-----UUUUGCGAUGUGUCCUAAU-----
----- 16   0,-2
-----UUUUGCGAUGUGUCCUAAUA-----
----- 19   0,-1
-----UUUUGCGAUGUGUCCUAAUAa-----
----- 5    0,-1
-----UUUUGCGAUGUGUCCUAAUA-----
----- 32   0,0
-----AUUGGGAACAUUUUGCAUGUAU-----
----- 8
-----AUUGGGAACAUUUUGCAUGUAUA-----
```

```

>hsa-mir-450a-2 5p:23-44      SRX018958
ccaaagaaagaugcuaaacuauUUUUGCGAUGUGUUCCUAAUAUguaauauaaaanguauuggggacauuuugcauucuaa
guuuuguaucaauaauaugg
.....((((((.(((((((...(((((.((((((((((((((((((((((((.....)))))))))))))))))))).))))))....)))).))))).))))).
-----UUUUGCGAUGUGUUCCUAAU-----
-----16  0,-2
-----UUUUGCGAUGUGUUCCUAAUA-----
-----19  0,-1
-----UUUUGCGAUGUGUUCCUAAUAa-----
-----5   0,-1
-----UUUUGCGAUGUGUUCCUAAUAU-----
-----32  0,0
-----UAUUGGGGACAUUUUGCAUU-----
-----2
-----AUUGGGGACAUUUUGCAU-----
-----2
-----AUUGGGGACAUUUUGCAUa-----
-----4
-----AUUGGGGACAUUUUGCAUU-----
-----23
-----AUUGGGGACAUUUUGCAUUCA-----
-----7
-----AUUGGGGACAUUUUGCAUUCAU-----
-----22
-----UUGGGGACAUUUUGCAUU-----
-----3
-----UUGGGGACAUUUUGCAUUCAU-----
-----4

```

```
>hsa-mir-450b    5p:11-32;3p:48-69    SRX018958
gcgaauuauUUUUGCAAUAUGUCCUGAAUAuguaauaaguguaUUGGGAUCAUUUUGCAUCCAUAguuuuguau
(((((((((((...(((((.(((.(((((.(((.(.....)).))))))))).)))..))))))))))..
-----UUUUGCAAUAUGUCCUG-----
      4    0,-4
-----UUUUGCAAUAUGUCCUGA-----
```

4	0,-3	-----UUUUGCAAUAUGUUCCUGAA-----	
14	0,-2	-----UUUUGCAAUAUGUUCCUGAAU-----	
12	0,-1	-----UUUUGCAAUAUGUUCCUGAAUA-----	
7	0,0	-----UUUUGCAAUAUGUUCCUGAAUAa-----	
15	0,0	-----UUUUGCAAUAUGUUCCUGAAUAU-----	
2	0,1	-----AUUGGGAUCAUUUUGCAUC-----	
2	-1,-4		
 >hsa-mir-451 5p:17-38 SRX018958			
cuugggaauggcaaggAAACCGUUACCAUACUGAGUUaguaaugguaauggguucucuugcuauaccaga			
.(((((.(((((((.(((((((((((((((((((((.)))))))))))))))))))))))))))))))))))).			
		-----AAACCGUUACCAUACUG-----	98
0,-4		-----AAACCGUUACCAUACUGA-----	34
0,-3		-----AAACCGUUACCAUACUGAG-----	228
0,-2		-----AAACCGUUACCAUACUGAGau-----	4
0,-2		-----AAACCGUUACCAUACUGAGU-----	245
0,-1		-----AAACCGUUACCAUACUGAGUU-----	2126
0,0		-----AAACCGUUACCAUACUGAGUUa-----	4
0,0		-----AAACCGUUACCAUACUGAGUUU-----	548
0,1		-----AAACCGUUACCAUACUGAGUUUA-----	71
0,2		-----AAACCGUUACCAUACUGAGUUUAa-----	3
0,2		-----AAACCGUUACCAUACUGAGUUUAG-----	45


```

UAGG----- 2 0,-2
-----UAGUGCAAUAUUGCUUA
UAGGGU----- 2 0,0
-----UAGUGCAAUAUUGCUUA
UAGGGUU----- 2 0,2

```

>hsa-mir-455 5p:16-37;3p:54-74 SRX018958

```

ucccuggcgugagggUAUGUGCCUUUGGACUACAUCGuggaagccagcaccuGCAGUCCAUGGGCAUAUACACuugccu
caagccuaugucauc

```

```

.....(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))).....

```

```

-----GUAUGUGCCUUUGGACUA-----
----- 5 -1,-5
-----GUAUGUGCCUUUGGACUACA-----
----- 14 -1,-3
-----GUAUGUGCCUUUGGACUACAa-----
----- 2 -1,-3
-----GUAUGUGCCUUUGGACUACAU-----
----- 153 -1,-2
-----GUAUGUGCCUUUGGACUACAUa-----
----- 74 -1,-2
-----GUAUGUGCCUUUGGACUACAUaa-----
----- 9 -1,-2
-----GUAUGUGCCUUUGGACUACAUu-----
----- 36 -1,-2
-----GUAUGUGCCUUUGGACUACAUC-----
----- 28 -1,-1
-----GUAUGUGCCUUUGGACUACAUCa-----
----- 2 -1,-1
-----GUAUGUGCCUUUGGACUACAUCG-----
----- 48 -1,0
-----GUAUGUGCCUUUGGACUACAUCGa-----
----- 3 -1,0
-----GUAUGUGCCUUUGGACUACAUCGU-----
----- 39 -1,1
-----UAUGUGCCUUUGGACUACA-----
----- 15 0,-3
-----UAUGUGCCUUUGGACUACAa-----

```

```

----- 2 0,-3
-----UAUGUGCCUUUGGACUACAU-----
----- 26 0,-2
-----UAUGUGCCUUUGGACUACAUa-----
----- 177 0,-2
-----UAUGUGCCUUUGGACUACAUu-----
----- 2 0,-2
-----UAUGUGCCUUUGGACUACAUC-----
----- 100 0,-1
-----UAUGUGCCUUUGGACUACAUCG-----
----- 196 0,0
-----UAUGUGCCUUUGGACUACAUCGa-----
----- 9 0,0
-----UAUGUGCCUUUGGACUACAUCGU-----
----- 67 0,1
-----UAUGUGCCUUUGGACUACAUCGUG-----
----- 5 0,2
-----UAUGUGCCUUUGGACUACAUCGUGu-----
----- 2 0,2
-----AUGUGCCUUUGGACUACAUa-----
----- 2 1,-2
-----AUGUGCCUUUGGACUACAUCG-----
----- 4 1,0
-----AUGUGCCUUUGGACUACAUCGU-----
----- 4 1,1
-----UGUGCCUUUGGACUACAUa-----
----- 2 2,-2
-----UGUGCCUUUGGACUACAUC-----
----- 2 2,-1
-----UGUGCCUUUGGACUACAUCGU-----
----- 2 2,1
-----UGUGCCUUUGGACUACAUCGUG-----
----- 6 2,2
-----UGUGCCUUUGGACUACAUCGUGa-----
----- 12 2,2
-----UGUGCCUUUGGACUACAUCGUGu-----
----- 4 2,2
-----AUGCAGUCCAUGGGCAUA-----

```

-----	9	-2,-5	-----AUGCAGUCCAUGGGCAUAU-----
-----	16	-2,-4	-----AUGCAGUCCAUGGGCAUAUA-----
-----	64	-2,-3	-----AUGCAGUCCAUGGGCAUAUAa-----
-----	18	-2,-3	-----AUGCAGUCCAUGGGCAUAUAaa-----
-----	2	-2,-3	-----AUGCAGUCCAUGGGCAUAUAu-----
-----	12	-2,-3	-----AUGCAGUCCAUGGGCAUAUAC-----
-----	58	-2,-2	-----AUGCAGUCCAUGGGCAUAUACu-----
-----	5	-2,-2	-----AUGCAGUCCAUGGGCAUAUACA-----
-----	149	-2,-1	-----AUGCAGUCCAUGGGCAUAUACa-----
-----	10	-2,-1	-----AUGCAGUCCAUGGGCAUAUACau-----
-----	3	-2,-1	-----AUGCAGUCCAUGGGCAUAUACAC-----
-----	78	-2,0	-----AUGCAGUCCAUGGGCAUAUACACa-----
-----	11	-2,0	-----AUGCAGUCCAUGGGCAUAUACACU-----
-----	13	-2,1	-----UGCAGUCCAUGGGCAUAUA-----
-----	3	-1,-3	-----UGCAGUCCAUGGGCAUAUAC-----
-----	5	-1,-2	-----UGCAGUCCAUGGGCAUAUACA-----
-----	25	-1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	18	-1,0	-----UGCAGUCCAUGGGCAUAUACACa-----
-----	7	-1,0	-----UGCAGUCCAUGGGCAUAUACACU-----

-----	5	-1,1	-----GCAGUCCAUGGGCAUAUA-----
-----	61	0,-3	-----GCAGUCCAUGGGCAUAUAa-----
-----	8	0,-3	-----GCAGUCCAUGGGCAUAUAu-----
-----	7	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	47	0,-2	-----GCAGUCCAUGGGCAUAUACA-----
-----	389	0,-1	-----GCAGUCCAUGGGCAUAUACa-----
-----	34	0,-1	-----GCAGUCCAUGGGCAUAUACau-----
-----	8	0,-1	-----GCAGUCCAUGGGCAUAUACauu-----
-----	10	0,-1	-----GCAGUCCAUGGGCAUAUACAC-----
-----	672	0,0	-----GCAGUCCAUGGGCAUAUACACa-----
-----	98	0,0	-----GCAGUCCAUGGGCAUAUACACaa-----
-----	16	0,0	-----GCAGUCCAUGGGCAUAUACACU-----
-----	796	0,1	-----GCAGUCCAUGGGCAUAUACACUa-----
-----	9	0,1	-----GCAGUCCAUGGGCAUAUACACUU-----
-----	28	0,2	-----GCAGUCCAUGGGCAUAUACACUua-----
-----	5	0,2	-----GCAGUCCAUGGGCAUAUACACUuu-----
-----	4	0,2	-----CAGUCCAUGGGCAUAUACA-----
-----	2	0,2	-----CAGUCCAUGGGCAUAUACauu-----
-----	13	1,-1	


```

-----      2    1,-1
-----CAGUCCAUGGGCAUAUACAC-----
-----    114  1,0
-----CAGUCCAUGGGCAUAUACACa-----
-----      3    1,0
-----CAGUCCAUGGGCAUAUACACU-----
-----    200  1,1
-----CAGUCCAUGGGCAUAUACACUa-----
-----      7    1,1
-----CAGUCCAUGGGCAUAUACACUaa-----
-----      2    1,1
-----CAGUCCAUGGGCAUAUACACUU-----
-----     77   1,2
-----CAGUCCAUGGGCAUAUACACUUa-----
-----     30   1,2
-----CAGUCCAUGGGCAUAUACACUUu-----
-----     44   1,2
-----CAGUCCAUGGGCAUAUACACUUuu-----
-----      5    1,2
-----AGUCCAUGGGCAUAUACAC-----
-----      4    2,0
-----AGUCCAUGGGCAUAUACACU-----
-----      6    2,1
-----AGUCCAUGGGCAUAUACACUU-----
-----      2    2,2

```

>hsa-mir-483 5p:8-29;3p:48-68 SRX018958

```

gagggggAAGACGGGAGGAAAGAAGGGAGugguuccaucacgccuccUCACUCCUCUCCUCCCGUCUUcuccucuc
(((((((((((((((((((((((((.(.(.(.(.(.(.....)))..)))..)).)).)))))))))))).))))))
-----AAGACGGGAGGAAAGAAG-----
      154  0,-4
-----AAGACGGGAGGAAAGAAGa-----
      2    0,-4
-----AAGACGGGAGGAAAGAAGaa-----
      3    0,-4
-----AAGACGGGAGGAAAGAAGu-----
      3    0,-4
-----AAGACGGGAGGAAAGAAGG-----

```

309 0, -3
-----AAGACGGGAGGAAAGAAGGa-----
21 0, -3
-----AAGACGGGAGGAAAGAAGGaa-----
21 0, -3
-----AAGACGGGAGGAAAGAAGGu-----
5 0, -3
-----AAGACGGGAGGAAAGAAGGG-----
743 0, -2
-----AAGACGGGAGGAAAGAAGGGu-----
17 0, -2
-----AAGACGGGAGGAAAGAAGGGuu-----
7 0, -2
-----AAGACGGGAGGAAAGAAGGGA-----
1701 0, -1
-----AAGACGGGAGGAAAGAAGGGa-----
548 0, -1
-----AAGACGGGAGGAAAGAAGGGa-----
306 0, -1
-----AAGACGGGAGGAAAGAAGGGau-----
70 0, -1
-----AAGACGGGAGGAAAGAAGGGau-----
130 0, -1
-----AAGACGGGAGGAAAGAAGGGau-----
66 0, -1
-----AAGACGGGAGGAAAGAAGGGAG-----
3161 0, 0
-----AAGACGGGAGGAAAGAAGGGAGa-----
918 0, 0
-----AAGACGGGAGGAAAGAAGGGAGaa-----
77 0, 0
-----AAGACGGGAGGAAAGAAGGGAGau-----
67 0, 0
-----AAGACGGGAGGAAAGAAGGGAGU-----
604 0, 1
-----AAGACGGGAGGAAAGAAGGGAGUa-----
18 0, 1
-----AAGACGGGAGGAAAGAAGGGAGUaa-----

12 0,1
-----AAGACGGGAGGAAAGAAGGGAGUau-----
19 0,1
-----AAGACGGGAGGAAAGAAGGGAGUu-----
47 0,1
-----AAGACGGGAGGAAAGAAGGGAGUuu-----
36 0,1
-----AAGACGGGAGGAAAGAAGGGAGUG-----
5 0,2
-----AAGACGGGAGGAAAGAAGGGAGUGu-----
2 0,2
-----AAGACGGGAGGAAAGAAGGGAGUGG-----
15 0,3
-----AGACGGGAGGAAAGAAGG-----
26 1,-3
-----AGACGGGAGGAAAGAAGGG-----
61 1,-2
-----AGACGGGAGGAAAGAAGGGA-----
77 1,-1
-----AGACGGGAGGAAAGAAGGGAa-----
5 1,-1
-----AGACGGGAGGAAAGAAGGGAaa-----
3 1,-1
-----AGACGGGAGGAAAGAAGGGAu-----
2 1,-1
-----AGACGGGAGGAAAGAAGGGAG-----
166 1,0
-----AGACGGGAGGAAAGAAGGGAGU-----
136 1,1
-----AGACGGGAGGAAAGAAGGGAGUa-----
2 1,1
-----AGACGGGAGGAAAGAAGGGAGUu-----
6 1,1
-----AGACGGGAGGAAAGAAGGGAGUG-----
35 1,2
-----AGACGGGAGGAAAGAAGGGAGUGG-----
107 1,3
-----AGACGGGAGGAAAGAAGGGAGUGGU-----

```

6    1,4
-----GACGGGAGGAAAGAAGGGAG-----
2    2,0
-----GACGGGAGGAAAGAAGGGAGU-----
2    2,1
-----UCACUCCUCUCCUCCCGU-----
2    0,-3
-----UCACUCCUCUCCUCCCGUCUau-----
2    0,-1
-----UCACUCCUCUCCUCCCGUCUU-----
3    0,0
-----UCACUCCUCUCCUCCCGUCUUa-----
3    0,0
-----UCACUCCUCUCCUCCCGUCUUaa-----
2    0,0
-----UCACUCCUCUCCUCCCGUCUUau-----
3    0,0
-----UCACUCCUCUCCUCCCGUCUUu-----
10   0,0
-----UCACUCCUCUCCUCCCGUCUUuu-----
2    0,0
-----UCACUCCUCUCCUCCCGUCUUC-----
7    0,1
-----CACUCCUCUCCUCCCGUC-----
3    1,-2
-----CACUCCUCUCCUCCCGUCUUCa-----
2    1,1
-----CACUCCUCUCCUCCCGUCUUCU-----
15   1,2

```

>hsa-mir-484 5p:8-29 SRX018958

```

agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaauagggacuuucccggggggugaccuggcuuuuuuggcg
.(((..((((((....(((.((((((..(((.((((....))))..))))..)))))).))))))......)).
-----UCAGGCUCAGUCCCCUCC-----
7    0,-4
-----UCAGGCUCAGUCCCCUCC-----
6    0,-3
-----UCAGGCUCAGUCCCCUCCCG-----

```

```

3    0,-2
-----UCAGGCUCAGUCCCCUCCCGuu-----
4    0,-2
-----UCAGGCUCAGUCCCCUCCCGA-----
31   0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
19   0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
10   0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
100  0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
23   0,0
-----UCAGGCUCAGUCCCCUCCCGAUuu-----
2    0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
24   0,1
-----UCAGGCUCAGUCCCCUCCCGAUAu-----
16   0,1
-----UCAGGCUCAGUCCCCUCCCGAUAA-----
9    0,2
-----AGGCUCAGUCCCCUCCCGAau-----
2    2,-1
-----AGGCUCAGUCCCCUCCCGAU-----
3    2,0

```

>hsa-mir-485 5p:9-30;3p:46-67 SRX018958

```

acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((..(((((((..(((((((((((..((((.....))))))))).))))))..))))))..)))
-----AGAGGCUGGCCGUGAUGAA----- 2
0,-3
-----AGAGGCUGGCCGUGAUGAAau----- 6
0,-3
-----AGAGGCUGGCCGUGAUGAAU----- 4
0,-2
-----AGAGGCUGGCCGUGAUGAAUa----- 15
0,-2
-----AGAGGCUGGCCGUGAUGAAUU----- 147

```

0,-1		
-----AGAGGCUGGCCGUGAUGAAUua-----		2
0,-1		
-----AGAGGCUGGCCGUGAUGAAUuu-----		15
0,-1		
-----AGAGGCUGGCCGUGAUGAAUUC-----		43
0,0		
-----AGAGGCUGGCCGUGAUGAAUUCa-----		2
0,0		
-----AGAGGCUGGCCGUGAUGAAUUCu-----		3
0,0		
-----AGAGGCUGGCCGUGAUGAAUUCG-----		52
0,1		
-----AGAGGCUGGCCGUGAUGAAUUCGu-----		10
0,1		
-----AGAGGCUGGCCGUGAUGAAUUCGA-----		3
0,2		
-----GUCAUACACGGCUCUCCUC-----		3
0,-3		
-----GUCAUACACGGCUCUCCUCU-----		2
0,-2		
-----GUCAUACACGGCUCUCCUCUC-----		15
0,-1		
-----GUCAUACACGGCUCUCCUCUCa-----		7
0,-1		
-----GUCAUACACGGCUCUCCUCUCU-----		71
0,0		
-----GUCAUACACGGCUCUCCUCUCUa-----		3
0,0		
-----GUCAUACACGGCUCUCCUCUCUau-----		4
0,0		
-----GUCAUACACGGCUCUCCUCUCUU-----		2
0,1		
>hsa-mir-486	5p:4-25;3p:46-66	SRX018958
gcaUCCUGUACUGAGCUGCCCCGAGgcccuucaugcugcccagcuCGGGGCAGCUCAGUACAGGAUac		
..((((((((((((((((((((((((((.....)))....)))))))))))))))).		
---UCCUGUACUGAGCUGCCC-		26 0,-4

```

---UCCUGUACUGAGCUGCCCC----- 62 0,-3
---UCCUGUACUGAGCUGCCCCG----- 16 0,-2
---UCCUGUACUGAGCUGCCCCGA----- 131 0,-1
---UCCUGUACUGAGCUGCCCCGAa----- 16 0,-1
---UCCUGUACUGAGCUGCCCCGAu----- 2 0,-1
---UCCUGUACUGAGCUGCCCCGAG----- 343 0,0
---UCCUGUACUGAGCUGCCCCGAGa----- 83 0,0
---UCCUGUACUGAGCUGCCCCGAGaa----- 4 0,0
---UCCUGUACUGAGCUGCCCCGAGau----- 2 0,0
---UCCUGUACUGAGCUGCCCCGAGu----- 10 0,0
-----CUGUACUGAGCUGCCCCGAG----- 3 2,0
-----CUGUACUGAGCUGCCCCGAGa----- 2 2,0
-----CGGGGCAGCUCAGUACAGGAUA----- 2 0,1

```

>hsa-mir-487a 3p:49-70 SRX018958

```

gguacuugaagagugguauccugcuguguucgcuuaauuuangacgAAUCAUACAGGGACAUCCAGUUuuucaguauc
(((((((.((((((.(((...((((((.(((((((((.(((.....)))))))).)))))))).))))).))))))
-----AAUCAUACAGGGACAUCCAGUU-----
6 0,0
-----AAUCAUACAGGGACAUCCAGUUU-----
3 0,1

```

>hsa-mir-487b 3p:51-72 SRX018958

```

uugguacuuggagagugguauccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
ucaa
.(((((((.((((((((.....((((((.((((((((.....)))))))).)))))))).))))))
)))
-----AAUCGUACAGGGUCAUCCAC-----
---- 5 0,-2
-----AAUCGUACAGGGUCAUCCACU-----
---- 87 0,-1
-----AAUCGUACAGGGUCAUCCACUU-----
---- 42 0,0
-----AAUCGUACAGGGUCAUCCACUUU-----
---- 3 0,1
-----AAUCGUACAGGGUCAUCCACUUUU-----
---- 2 0,2
-----AUCGUACAGGGUCAUCCACUU-----

```

```

----- 5 1,0
-----AUCGUACAGGGUCAUCCACUUU-----
----- 7 1,1
-----UCGUACAGGGUCAUCCACUU-----
----- 2 2,0
-----UCGUACAGGGUCAUCCACUUau-----
----- 2 2,0
-----UCGUACAGGGUCAUCCACUUU-----
----- 3 2,1
-----UCGUACAGGGUCAUCCACUUUa-----
----- 2 2,1

```

```

>hsa-mir-488 mi:14-34;MA:52-72 SRX018958
gagaaucaucucuCCCAGAUAAUGGCACUCUCAAAacaaguuccaaauuguUUGAAAGGCUAUUUCUUGGUCagaugacu
cuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----CCCAGAUAAUGGCACUCUCAAAAC-----
--- 3 0,2

```

```

>hsa-mir-489 3p:52-73 SRX018958
guggcagcuugguggucguaugugugacgccauuuacuugaaccuuuaggaGUGACAUCACAUAUACGGCAGCuaaacug
cuac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----GUGACAUCACAUAUACGGCAGC-----
---- 4 0,0

```

```

>hsa-mir-490 5p:39-58;3p:76-97 SRX018958
uggaggccuugcugguuuggaaaguucuuuguucgacaCCAUGGAUCUCCAGGUGGGUcaaguuuagagaugcacCAACC
UGGAGGACUCCAUGCUGuugagcuguucacaaagcagcggacacuucca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CAACC
UGGAGGACUCCAUG----- 7 0,-3
-----CAACC
UGGAGGACUCCAUGC----- 9 0,-2
-----CAACC

```


UGGAGGACUCCAUGC <u>U</u> -----	21	0,-1	-----CAACC
UGGAGGACUCCAUGC <u>U</u> -----	6	0,-1	-----CAACC
UGGAGGACUCCAUGC <u>G</u> -----	38	0,0	-----CAACC
UGGAGGACUCCAUGC <u>G</u> a-----	33	0,0	-----CAACC
UGGAGGACUCCAUGC <u>G</u> aa-----	2	0,0	-----CAACC
UGGAGGACUCCAUGC <u>G</u> U-----	164	0,1	-----CAACC
UGGAGGACUCCAUGC <u>G</u> Ua-----	8	0,1	-----CAACC
UGGAGGACUCCAUGC <u>G</u> UU-----	11	0,2	-----AACC
UGGAGGACUCCAUGC <u>G</u> U-----	3	1,1	

>hsa-mi r-491 5p:16-37;3p:50-71 SRX018958

uugacuuagcuggguAGUGGGGAACCCUCCAUGAGGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcuggcuggg
uugg

```

-----AGUGGGGAACCCUCCAUGAGa-----
----    4    0,-1
-----AGUGGGGAACCCUCCAUGAGG-----
----    2    0,0
-----AGUGGGGAACCCUCCAUGAGGA-----
----   15    0,1

```

>hsa-mi r-493 mi:16-37;MA:57-78 SRX018958

cuggccuccagggcuUUGUACAUGGUAGGCUUCAUucauucguuugcacauucggUGAAGGUCUACUGUGUGCCAGGcc
cugugccag

-----UUGUACAUGGUAGGCUUUCA-----
-----2 0,-2-----
-----UUGUACAUGGUAGGCUUUCAU-----

```

----- 5 0,-1
-----UUGUACAUGGUAGGCUUUCAUU-----
----- 19 0,0
-----UUGUACAUGGUAGGCUUUCAUUa-----
----- 2 0,0
-----UGAAGGUCUACUGUGUGCC-----
----- 2 0,-3
-----UGAAGGUCUACUGUGUGCCAa---
----- 2 0,-2
-----UGAAGGUCUACUGUGUGCCAG---
----- 2 0,-1
-----UGAAGGUCUACUGUGUGCCAGa--
----- 3 0,-1

```

>hsa-mir-494 3p:48-69 SRX018958

gauacucgaaggagagguuguccguguugucuucucuuuuuuuugaUGAAACAUACACGGGAAACCUuuuuuuaguau
c

(((((.(((((((((((.(((((((((.(((((.)))))).)))))).)))))).)))))))))

```

-----UGAAACAUACACGGGAAACCU-----
- 7 0,-1
-----UGAAACAUACACGGGAAACCUC-----
- 17 0,0
-----UGAAACAUACACGGGAAACCUCa-----
- 2 0,0
-----UGAAACAUACACGGGAAACCUCU-----
- 89 0,1
-----GAAACAUACACGGGAAACCU-----
- 3 1,-1
-----GAAACAUACACGGGAAACCUC-----
- 2 1,0
-----GAAACAUACACGGGAAACCUCU-----
- 2 1,1

```

>hsa-mir-495 3p:50-71 SRX018958

ugguaccugaaaagaaguugcccauguuauuuucgcuuuauaugugacgAAACAAACAUGGUGCACUUCUuuuucggua
ca

.((((((.(((((((((((.(((((((((.(((((.)))))).)))))).)))))).)))))))))

--			AAACAAACAUGGUGCACUU	--
--	9	0,-3		
--			AAACAAACAUGGUGCACUUuu	--
--	2	0,-3		
--			AAACAAACAUGGUGCACUUCU	--
--	15	0,-1		
--			AAACAAACAUGGUGCACUUCUU	--
--	145	0,0		
--			AAACAAACAUGGUGCACUUCUua	--
--	12	0,0		
--			AAACAAACAUGGUGCACUUCUUU	--
--	158	0,1		
--			AACAAACAUGGUGCACUUCU	--
--	5	1,-1		
--			AACAAACAUGGUGCACUUCUU	--
--	5	1,0		
--			AACAAACAUGGUGCACUUCUua	--
--	6	1,0		
--			AACAAACAUGGUGCACUUCUau	--
--	2	1,0		
--			AACAAACAUGGUGCACUUCUUU	--
--	30	1,1		
--			ACAAACAUGGUGCACUUCUUUU	--
--	2	2,2		

```

cccaagucagguacucgaauaggagguuguccauggguguguucauuuuuuuugaUGAGUAUUACAUGGCCAAUCUCcuu
ucgguacucaauucucuuggg
(((((((...(((((.(((.((((((((.((((.((((((((...))))))))).))))).)))))))).)
)))))))).))))))

```

-----UGAGUAUUACAUGGCCAAUCU-----
 ----- 3 0,-1 -----
 -----AGUAUUACAUGGCCAAUCUCC-----
 ----- 3 2,1 -----

ccaccccgguccugcucccgcccCAGCAGCACACUGUGGUUUGUacggcacuguggccacgucCAAACCACACUGUGGUG

((.(.(((((((.((((((((((((((.(((.((((((((((.(((((...)))..)).)))))...))))).)))..))
))....).))))))))))))).)))))..).

>hsa-mir-499 5p:33-53;3p:70-91 SRX018958
 gcccgucccccugugccuugggcggcgccgUUAAGACUUGCAGUGAUGUUaacuccucuccacgugAACAUACAGC

(((((((((.....((...(((((((.((((.(..((((((((((.(((((((((((.....)))))))))..))
)))))).).)).)).)).)..)).....)))))))))

```
>hsa-mir-500a    MA:13-35;mi:52-73    SRX018958
gcucccccucucUAAUCCUUGCUACCUAGGGUGAGAgugcugucugaaugcaAUGCACCUAGGCAAGGAUUCUGagagcga
gagc
```

(((.(((((.(((((((...(((((...(((.....))))...)))))).)))))).).
))))

-----AAUGCACCUGGGCAAGGA-----
 ---- 21 -1,-5
 -----AAUGCACCUGGGCAAGGAU-----
 ---- 12 -1,-4
 -----AAUGCACCUGGGCAAGGAUa-----
 ---- 4 -1,-4
 -----AAUGCACCUGGGCAAGGAUU-----
 ---- 59 -1,-3
 -----AAUGCACCUGGGCAAGGAUUC-----

```

----- 5   -1,-2
-----AUGCACCUGGGCAAGGAU-----
----- 45  0,-4
-----AUGCACCUGGGCAAGGAUa-----
----- 22  0,-4
-----AUGCACCUGGGCAAGGAUU-----
----- 224 0,-3
-----AUGCACCUGGGCAAGGAUUC-----
----- 15  0,-2
-----AUGCACCUGGGCAAGGAUUCU-----
----- 21  0,-1
-----AUGCACCUGGGCAAGGAUUCUGu-----
----- 5   0,0
-----AUGCACCUGGGCAAGGAUUCUGA-----
----- 25  0,1
-----AUGCACCUGGGCAAGGAUUCUGAa-----
----- 2   0,1

```

>hsa-mir-500b 5p:11-28 SRX018958

```

ccccucucuAAUCCUUGCUACCUGGGUgagagugcuuucugaaugcagugcaccaggcaaggauucugcaaggggga
((((((..((((((((((..(((((((..((((.....))))..))))))))))))))))..)))))).
-----AGUGCACCCAGGCAAGGA-----
2
-----AGUGCACCCAGGCAAGGAUU-----
2

```

>hsa-mir-501 5p:14-35;3p:51-72 SRX018958

```

gcucuuccucucuAAUCCUUUGUCCCUGGGUGAGAgugcuuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagagggu
gagc
((((..(((((((..(((((((..(((((((..((((.....))))..))))))))))))))))..)))))).
))))
-----AAUGCACCCGGGCAAGGAUa-----
----- 2   0,-3
-----AAUGCACCCGGGCAAGGAUU-----
----- 21  0,-2
-----AAUGCACCCGGGCAAGGAUUC-----
----- 2   0,-1
-----AAUGCACCCGGGCAAGGAUUCU-----

```

```

----- 6 0,0
-----AAUGCACCCGGGCAAGGAUUCUu-----
----- 2 0,0
-----AAUGCACCCGGGCAAGGAUUCUG-----
----- 2 0,1

>hsa-mir-502 5p:16-36;3p:52-73 SRX018958
ugcucuccucucuaAUCCUUGCUAUCUGGGUGCUAgugcuggcucaaugcAAUGCACCUGGGCAAGGAUUCAgagaggg
ggagcu
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).
-----AAUCCUUGCUAUCUGGGUGCU-----
----- 2 -1,-1
-----AAUGCACCUGGGCAAGGA-----
----- 21 0,-4
-----AAUGCACCUGGGCAAGGAU-----
----- 12 0,-3
-----AAUGCACCUGGGCAAGGAUa-----
----- 4 0,-3
-----AAUGCACCUGGGCAAGGAUU-----
----- 59 0,-2
-----AAUGCACCUGGGCAAGGAUUC-----
----- 5 0,-1
-----AAUGCACCUGGGCAAGGAUUCA-----
----- 7 0,0
-----AAUGCACCUGGGCAAGGAUUCa-----
----- 4 0,0
-----AAUGCACCUGGGCAAGGAUUCau-----
----- 5 0,0
-----AAUGCACCUGGGCAAGGAUUCAG-----
----- 20 0,1
-----AAUGCACCUGGGCAAGGAUUCAGu-----
----- 2 0,1
-----AUGCACCUGGGCAAGGAU-----
----- 45 1,-3
-----AUGCACCUGGGCAAGGAUa-----
----- 22 1,-3
-----AUGCACCUGGGCAAGGAUU-----

```

```

----- 224 1,-2
-----AUGCACCUGGGCAAGGAUUC-----
----- 15 1,-1

```

>hsa-mir-503 5p:6-28 SRX018958

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgaucggugcucuggggauuuguuuuccgcugccagggua
(((((((.(((((((((((((((((.((.(.((((((.....)))))))).)).)))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 533 0,-5
-----UAGCAGCGGGAACAGUUCa----- 16 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 40 0,-5
-----UAGCAGCGGGAACAGUUCau----- 2 0,-5
-----UAGCAGCGGGAACAGUUCU----- 440 0,-4
-----UAGCAGCGGGAACAGUUCUa----- 24 0,-4
-----UAGCAGCGGGAACAGUUCUaa----- 181 0,-4
-----UAGCAGCGGGAACAGUUCUau----- 5 0,-4
-----UAGCAGCGGGAACAGUUCUG----- 60 0,-3
-----UAGCAGCGGGAACAGUUCUGa----- 6 0,-3
-----UAGCAGCGGGAACAGUUCUGaa----- 18 0,-3
-----UAGCAGCGGGAACAGUUCUGCA----- 8 0,-1
-----UAGCAGCGGGAACAGUUCUGCAa----- 6 0,-1
-----UAGCAGCGGGAACAGUUCUGCAuu----- 4 0,-1
-----UAGCAGCGGGAACAGUUCUGCAG----- 77 0,0
-----UAGCAGCGGGAACAGUUCUGCAGa----- 3 0,0
-----AGCAGCGGGAACAGUUCUG----- 4 1,-3
-----AGCAGCGGGAACAGUUCUGCAa----- 3 1,-1
-----AGCAGCGGGAACAGUUCUGCAG----- 11 1,0
-----AGCAGCGGGAACAGUUCUGCAGU----- 2 1,1

```

>hsa-mir-504 5p:13-34 SRX018958

```

gcugcuguugggAGACCCUGGUCUGCACUCUAUCuguauucuuacugaagggagugcagggcagggguuucccauacagag
ggc
(((((((.(((((((((((((((((.(((((((((.((.(.((((((.....)))))))).)).)))))))).))))))..
)))
-----AGACCCUGGUCUGCACUCUAU-----
--- 30 0,-1
-----AGACCCUGGUCUGCACUCUAUa-----
--- 9 0,-1
-----AGACCCUGGUCUGCACUCUAUu-----

```


----	822	0,1	-----GGGAGCCAGGAAGUAUUGAUGUUa-----
----	36	0,1	-----GGGAGCCAGGAAGUAUUGAUGUUU-----
----	200	0,2	-----GGGAGCCAGGAAGUAUUGAUGUUUu-----
----	3	0,2	-----GGAGCCAGGAAGUAUUGAUGUU-----
----	3	1,1	-----CGUCAACACUUGCUGGUUCC-----
----	4	0,-1	-----CGUCAACACUUGCUGGUUCCU-----
----	7	0,0	-----GUCAACACUUGCUGGUUUC-----
----	2	1,-2	-----GUCAACACUUGCUGGUUCC-----
----	2	1,-1	-----GUCAACACUUGCUGGUUCCU-----
----	31	1,0	-----GUCAACACUUGCUGGUUCCUu-----
----	2	1,0	-----GUCAACACUUGCUGGUUCCUC-----
----	12	1,1	-----GUCAACACUUGCUGGUUCCUCU-----
----	7	1,2	-----UCAACACUUGCUGGUUCC-----
----	2	2,-1	-----UCAACACUUGCUGGUUCCU-----
----	4	2,0	-----UCAACACUUGCUGGUUCCUC-----
----	5	2,1	-----UCAACACUUGCUGGUUCCUCU-----
----	3	2,2	

0,0

>hsa-mir-511-1 5p:16-36 SRX018958

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauggugg
uccauug

(((((.((((..(((..(((((((((((..(((.((((.(.....)))))))).)))..)))))))))..))))..))
)).)))

-----CGUGUCUUUUGCUCUGCAGUCAu-----

----- 2 -1,0

-----GUGUCUUUUGCUCUGCAGUCA-----

----- 20 0,0

-----GUGUCUUUUGCUCUGCAGUCAGa-----

----- 2 0,1

-----UGAAUGUGUAGCAAAAGACAGA-----

----- 17

-----GAAUGUGUAGCAAAAGACAGA-----

----- 2

-----GAAUGUGUAGCAAAAGACAGAA-----

----- 4

-----AAUGUGUAGCAAAAGACA-----

----- 14

-----AAUGUGUAGCAAAAGACAG-----

----- 8

-----AAUGUGUAGCAAAAGACAGA-----

----- 182

-----AAUGUGUAGCAAAAGACAGAu-----

----- 2

-----AAUGUGUAGCAAAAGACAGAA-----

----- 109

-----AAUGUGUAGCAAAAGACAGAAa-----

----- 8

-----AAUGUGUAGCAAAAGACAGAAU-----

----- 45

-----AAUGUGUAGCAAAAGACAGAAUa-----

----- 3

-----AAUGUGUAGCAAAAGACAGAAUu-----

----- 4

-----AUGUGUAGCAAAAGACAGAA-----

```

----- 3
-----AUGUGUAGCAAAAGACAGAAa-----
----- 2

>hsa-mir-511-2 5p:16-36 SRX018958
caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauggugg
uccauug
(((((((((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))
-----CGUGUCUUUUGCUCUGCAGUCAu-----
----- 2 -1,0
-----GUGUCUUUUGCUCUGCAGUCA-----
----- 20 0,0
-----GUGUCUUUUGCUCUGCAGUCAGa-----
----- 2 0,1
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 17
-----GAAUGUGUAGCAAAAGACAGA-----
----- 2
-----GAAUGUGUAGCAAAAGACAGAA-----
----- 4
-----AAUGUGUAGCAAAAGACA-----
----- 14
-----AAUGUGUAGCAAAAGACAG-----
----- 8
-----AAUGUGUAGCAAAAGACAGA-----
----- 182
-----AAUGUGUAGCAAAAGACAGAu-----
----- 2
-----AAUGUGUAGCAAAAGACAGAA-----
----- 109
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 8
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 45
-----AAUGUGUAGCAAAAGACAGAAUa-----
----- 3
-----AAUGUGUAGCAAAAGACAGAAUu-----

```

----- 4
-----AUGUGUAGCAAAAGACAGAA-----
----- 3
-----AUGUGUAGCAAAAGACAGAAa-----
----- 2

>hsa-mir-532 5p:20-41;3p:57-78 SRX018958

cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu

.(.((((((((.....((.((((((.(((((.(((.(.....))..)))..))))..))))..))))..))....
)))))))).).

-----CAUGCCUUGAGUGUAGGAC-----

----- 3 0,-3

-----CAUGCCUUGAGUGUAGGACC-----

----- 4 0,-2

-----CAUGCCUUGAGUGUAGGACCG-----

----- 7 0,-1

-----CAUGCCUUGAGUGUAGGACCGa-----

----- 5 0,-1

-----CAUGCCUUGAGUGUAGGACCGU-----

----- 154 0,0

-----CAUGCCUUGAGUGUAGGACCGUa-----

----- 7 0,0

-----CAUGCCUUGAGUGUAGGACCGUU-----

----- 10 0,1

-----AUGCCUUGAGUGUAGGACCGU-----

----- 4 1,0

-----CCUCCCACACCCAAGGCU-----

----- 3 0,-4

-----CCUCCCACACCCAAGGCUUG-----

----- 10 0,-2

-----CCUCCCACACCCAAGGCUUGC-----

----- 11 0,-1

-----CCUCCCACACCCAAGGCUUGCA-----

----- 61 0,0

-----CCUCCCACACCCAAGGCUUGCAu-----

----- 10 0,0

-----CCUCCCACACCCAAGGCUUGCAuu-----

-----AAACAUUCGCGGUGCACUUCUU-----

41 0.1

>hsa-mi r-544 3p:55-76 SRX018958

-----UCUUGUUAAAAAGCAGAUUCU-----

----- 2

>hsa-mir-548a-1 3p:61-82 SRX018958

ugcagggagguauuaaguuggugcaaaaguaauuugauuuuugccauuaaaaguaacgaCAAAACUGGCAAUACUUU
GCaccaaaccugguauu

$$\begin{aligned} & \dots((((\dots\dots\dots(((\dots\dots\dots((\dots\dots\dots(\dots\dots\dots(.\cdot(\dots\dots(.\cdot(\dots\dots)))).).))))).\cdot))))))))) \\ &)))))).)\cdot)),\dots,\end{aligned}$$

-----CAAACUGGCAAUUACUUUU

----- 9 0,-2

-----CAAACUGGCAAUUACUUUU

G----- 10 0,-1

-----CAAACUGGCAAUACUUU

$$\text{Ga} \text{-----} 2 \quad 0, -1$$

>hsa-mi r-548a-2 3p:61-82 SRX018958

ugugauguguauuagguuugcaaaaguaauugggguuuuuugccguuaaaaguaauggCAAAACUGGCAAUACUUU
GCaccaaacuauauaa

$$\begin{aligned} & \dots\dots(((((((\dots((((((((((((((.(((((..(((((((\dots)))))))))\dots))\dots))))))\dots) \\ &)))),\dots))\dots))))), \end{aligned}$$

-----CAAACUGGCAAUACUUU

----- 9 0, -2

-----CAAACUGGCAAUACUUU

G----- 10 0,-1

-----CAAACUGGCAAUACUUU

$$\text{Ga} \text{-----} 2 \quad 0, -1$$

>hsa-mi r-548a-3 5p:25-46;3p:61-82 SRX018958

ccuagaauguuuuaggucggugcAAAAGUAAUUGCGAGUUUACCaauacuuccauggCAAACUGGCAAUACUUUU

----- 9 0,-2

G----- 10 0,-1

$$\text{Ga} \text{-----} 2 \quad 0, -1$$

cuuuuuagucuggugcaaaagaaacugugguuuuugccauuacuuuacaggcAAAAACCACAAUACUUUUGCACCAa
ccuaauuaacuuguuu

...(((((((..(((((((((((.(.((((((((((((((.....)))))))))))))).)).)))))))))).
.))))))).....

$$-----2 \quad 0, -3$$

uuuuuuagguuggugcaaaagaaacugugguuuuugccauuacuucuaauggcAAAAACCACAAUACUUUUGCACCAa
ccuaaaucuucccucuc

[illegible]
$$-----2 \quad 0, -3$$

cagacuaauauuuagguuggcgAAAAGUAUUUGUGGUUUUGGCCuuuuuuuucaauggCAAGAACCUCAGUUGCuuu
GUgccaaccuaauacuu

[illegible]
$$----- \quad 2 \quad -1, -3$$

----- 3 0, -4

----- 2 0, -1

-----AAAAGUAAUUGUGGUUUUGGCau-----

```

----- 3 0,-1
-----AAAGUAAUUGUGGUUUUGGCaa-----
----- 2 1,-1
-----AAGUAAUUGUGGUUUUGGCCUUU-----
----- 2 2,3
-----CAAGAACCUCAGUUGCUUUU
G----- 4 0,-1
-----CAAGAACCUCAGUUGCUUUU
GU----- 4 0,0

```

```

>hsa-mir-548c 5p:25-46;3p:61-82 SRX018958
cauuggcaucauuagguuggugcAAAAGUAAUUGCGGUUUUUGCCauuacuuucaguagCAAAAUCUCAAUUACUUUU
GCaccaacuuaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))...
-----AAAAGUAAUUGCGGUUUUU-----
----- 2 0,-3
-----AAAAGUAAUUGCGGUUUUUUG-----
----- 3 0,-2
-----AAAAGUAAUUGCGGUUUUUUGC-----
----- 5 0,-1
-----AAAGUAAUUGCGGUUUUUUGC-----
----- 2 1,-1
-----AAGUAAUUGCGGUUUUUUGCCA-----
----- 2 2,1

```

```

>hsa-mir-548d-1 5p:25-46;3p:61-82 SRX018958
aaacaaguauauuagguuggugcAAAAGUAAUUGUGGUUUUUGCCuguaaaaguaauggCAAAAACCACAGUUUCUUUU
GCaccagacuaauaaag
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))...
-----CAAAGUAAUUGUGGUUUUU-----
----- 4 -1,-3
-----CAAAGUAAUUGUGGUUUUUUGa-----
----- 3 -1,-2
-----AAAAGUAAUUGUGGUUUUU-----
----- 3 0,-4
-----AAAAGUAAUUGUGGUUUUU-----

```

-----	2	0, -3	-----AAAAGUAAUUGUGGUUUUUG-----
-----	2	0, -2	-----AAAAGUAAUUGUGGUUUUUGu-----
-----	2	0, -2	-----AAAAGUAAUUGUGGUUUUUGuu-----
-----	6	0, -2	-----AAAGUAAUUGUGGUUUUUGa-----
-----	2	1, -2	-----AAAGUAAUUGUGGUUUUUGCu-----
-----	3	1, -1	

>hsa-mi r-548d-2 5p:25-46;3p:61-82 SRX018958

gagaggggaagauuuagguuggugcAAAAGUAAUUGUGGUUUUUGCCauugaaaguaauggCAAAAACACAGUUUCUUU
GCaccaaccuaauaaaa

-----		-----CAAAAGUAAUUGUGGUUUU-----
-----	4	-1, -3
-----		-----CAAAAGUAAUUGUGGUUUUGa-----
-----	3	-1, -2
-----		-----AAAAGUAAUUGUGGUUU-----
-----	3	0, -4
-----		-----AAAAGUAAUUGUGGUUUU-----
-----	2	0, -3
-----		-----AAAAGUAAUUGUGGUUUUG-----
-----	2	0, -2
-----		-----AAAAGUAAUUGUGGUUUUGu-----
-----	2	0, -2
-----		-----AAAAGUAAUUGUGGUUUUGuu-----
-----	6	0, -2
-----		-----AAAGUAAUUGUGGUUUUGa-----
-----	2	1, -2
-----		-----AAAGUAAUUGUGGUUUUGCu-----
-----	3	1, -1

>hsa-mir-548e 3p:53-74 SRX018958

uuuuuagguugguacaaaagcaaucgcgguuuuugcuuuacuuaaaggcAAAAACUGAGACUACUUUUGCAccaacc

$$\begin{aligned} &(((((((((((((((.(((((((\dots((.((((((((((((((((.(((((\dots))))).)))))))))..)))))))))..))))))))).. \\ &)))))).. \end{aligned}$$

```
>hsa-mir-548f-2 3p:59-77      SRX018958
uaauaacuauuagguuggugcgaacauaaauugcaguuuuaucauuacuuaauggcAAAAACUGUAAUUACUUUgca
ccaaccuaauauuuuagu
.....((((((((((((((((((..((((((((((((((((((..((((((.....))))).))))))))))))))))).))))))
)))))))))))).
-----CAAAAACUGUAAUUACUUUUGC-
----- 4      -1,2
```

```
>hsa-mir-548f-3 3p:54-72 SRX018958
uuuagguuggugcaaaccuaauugcauuuuugcaguuuuuuuaaguaauugcAAAAACUGUAAUACUUUgcaccaac
```

$$(((((((((((((((((((..(((((((((.(((((((((((.....)))))))))))).))))))))))..)))))))))))))$$

----- 4 -1,2

----- 2

$$\begin{aligned} &(((((((((\dots))))))))) \\ &)\dots \end{aligned}$$

----- 2 0,-3

----- 5 0, -1

----- 3 2,-2

[illegible]

----- 2 0,-3

----- 5 0,-1

$$- - - - - \quad 3 \quad 2, -2$$

-----ACAAUACUUUUGCACCAAC_U

u----- 2

>hsa-mi r-548h-3 5p:29-50 SRX018958

ucugauucugcauguaauagguuggugcAAAAGUAAUCGCGUUUUUGUCauugaaaguaauagcaaaaacugcaauuac
uuuugcaccaaccuaaaaguagucacugucuucagaua

-----AAAAGUAAUCGCGUUUU-----

----- 2 0,-3

-----AAAAGUAAUCGCGGUUUUGU-----

----- 5 0,-1

-----AAGUAAUCGCGGUUUUG-----

----- 3 2,-2

-----CAAAAACUGCAAUAC

UU----- 8

-----CAAAAACUGCAAUAC

UUU----- 15

-----CAAAAACUGCAAUAC

UUUU-----69

-----CAAAAACUGCAAUAC

UUUUG----- 35

-----CAAAAACUGCAAUAC

UUUGa----- 7

-----CAAAAACUGCAAUAC

UUUUGu----- 10

-----CAAAAACUGCAAUAC

UUUUGC-----7

-----AAAAACUGCAAUAC

UUU-----14

-----AAAAACUGCAAUAC

UUUU-----39

-----AAAAACUGCAAUAC

UUUa-----2

-----AAAAACUGCAAUAC

UUUUG----- 30

-----AAAAACUGCAAUAC

UUUUGa----- 3

gcuauuagguuggugcAAAAGUAAUCGCGUUUUGUCauuacuuaauuacuuaacguuucauuaugacaaaaaccgc
 aauuacuuuugcaccaaccuaauacuugcua

-----AAAAGUAAUCGCGGUUUU-----

-----AAAAGUAAUCGCGGUUUUGU-----

-----AAGUAAUCGCGGUUUUG-----

-----CAAAAACCGC

-----AAAAACCGC

gggcagccagugaauaguuaagcugggucAAAAGUAAUUGCGUCUUUGGUauuacuucaguggcaaaaacugcauuacu
uuugcaccagccuacuagaacgcugaguucag

-----CAAAGUAAUUGCGGUCUUUG-----

-----CAAAGUAAUUGCGGUCUUUG-----

-----CAAAGUAAUUGCGGUCUUUGGU-----

-----AAAAGUAAUUGCGGUCUU-----

-----AAAAGUAAUUGCGGUCUUG-----

-----AAAAGUAAUUGCGGUCUUUGG-----

-----AAAAGUAAUUGCGGUCUUGGU-----

-----AAAAGUAAUUGCGUCUUGGUA-----

-----AAAGUAAUUGCGGUCUU-----

-----	3	1,-3	-----CAAAAACUGCAUUACU
UUU-----	5		-----CAAAAACUGCAUUACU
UUUG-----	24		-----CAAAAACUGCAUUACU
UUUGa-----	3		-----AAAAACUGCAUUACU
UUUGCA-----	2		

>hsa-mir-548k 5p:32-53 SRX018958

cuuuucuaaguaauugcuguuagguuggugcAAAAGUACUUGCGGAUUUUGCUuuacuuuuuauggcaaaaaccgcaauu
auuuuugcuucaaccuaauaugaugcaaaaauuggcu

-----AAAAGUACUUGCUGAUUU-----

----- 2 0,-4

-----AAAAGUACUUGCGGAUUUU-----

----- 8 0,-3

-----AAAAGUACUUGC GGAUUUUGC-----

----- 4 0,-1

-----AAAAGUACUUGCGGAUUUUGCU-----

----- 20 0,0

>hsa-mi r-548n 5p:10-31 SRX018958

agguuggugCAAAGUAAUUGUGGAUUUUGUcguuaaaaaauagcaaaacccgcaauuacuuuugcaccaaccuaa

(((((.....))))))..

-----CAAAGUAAUUGUGGAUUUU----- 5

 $0, -2$

>hsa-mir-548o 3p:87-108 SRX018958

uggugaaaauguguugauuguaauggguuccuauucugaucaauaaacauggguugagccuaguuaacaugaucuaaaaauu
cacgguCCAAAACUGCAGUUACUUUUGCaccaac

$(((((((((... (((((((((((((.. ((((... ((((((((... ((((.. ((((...))) ...)))...)))))) ...))) .$

-----CCAAAACUGCAGUUAUUUU----- 2 0,-2

-----CCAAAACUGCAGUUAUUUG----- 5 0,-1

-----CCAAACUGCAGUUACUUUGa----- 3 0,-1

-----CCAAAACUGCAGUUAUUUGC----- 4 0,0

>hsa-mir-548q 5p:8-29 SRX018958

.....(((.((((.(((((((.(.(.(((((((((((((((((((.(.....)).))))))))))))))))).).
 .))))))))).))))).)))

-----AGGCUGGUGCAAAGUAAUG-----

$$----- \quad 2 \quad -2, -4$$

-----AGGCUGGUGCAAAAGUAAUGGCa-----

----- 3 -2,-2

>hsa-mir-548s 3p:52-74 SRX018958

uugcugcaaaaaaauugcaguuuugccauuuuuuaauaaauaaAUGGCCAAACUGCAGUUAUUUugcacc
aa

-----AUA AUUGCAGUUUUUGCCAU-----

>hsa-mi r-548t 5p:10-30 SRX018958

agggguggugCAAAAGUGAUCGUGGUUUUGcauuuuuuuaugacaaaaaccacaauuacuuuugcaccaaccu

-----AAAAACCACAAUACUUUU----- 2

-----AAAAACCACAAUACUUUGCA----- 2

>hsa-mi r-548u 3p:49-71 SRX018958

uuuaggauggugcaaaaguaaugugguuuuuuucuuuacuuuaauggCAAAGACUGCAAUUACUUUUGCGccaaccuaa
u

-----CAAAGACUGCAAUACUUUUGCG-----

```

>hsa-mir-548v    3p:49-70    SRX018958
aauacuagguuugagcaaaaguaauugcgguuuugccaucaugccaaaAGCUACAGUUACUUUUGCACCAgcccuaauuu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGCUACAGUUACUUUUGCACC-----
      2    -1,-1
-----AGCUACAGUUACUUUUGCACC-----
      3     0,-1
-----AGCUACAGUUACUUUUGCACCA-----
      7     0,0

```

```

>hsa-mir-548w    5p:10-32    SRX018958
gguuuggugcAAAAGUAACUGCGGUUUUUGCCUuucaacauaauuggcaaaaccacaauuacuuuugcaccaauc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAAGUAACUGCGGUUUU----- 11
      0,-4
-----AAAAGUAACUGCGGUUUUUG----- 4
      0,-3

```

```

>hsa-mir-548x    3p:46-66    SRX018958
agguuagugcaaaaguaauugcaguuuuugcguuacuuucaaucGUAAAACUGCAAUUACUUUCacaccaaucu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAAGUAAUUGCAGUUUU----- 2
-----AAAAACUGCAAUUACUUU----- 14
      1,-2

```

```

>hsa-mir-548z    3p:54-76    SRX018958
aaguaauaaguuggugcaaaaguaauugagauuuuugcuacugaaaguaauggCAAAAACCGCAAUUACUUUUGCAccaa
ccuaauagaugccaug
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).)))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----CAAAAACCGCAAUUACUUUU-----
----- 3     0,-3
-----AAAAACCGCAAUUACUUUU-----
----- 2     1,-3

```

```

>hsa-mir-550a-1  MA:22-44;mi:61-82    SRX018958
ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguuguuaagauagUGUCUUACUCCCUAGGCAC
AUcuccaacaagucucu

```



```

cuagauaaguuaauaggugggugcaaagguaauugcaguuuuuccauuaauuuuauugCGAAAACAGCAAUUACCUUUG
Caccaaccugauggagu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))...
-----AAAGGUAUUUGCAGUUUU-----
-----      2
-----AAAGGUAUUUGCAGUUUUUC-----
-----      2
-----AAAGGUAUUUGCAGUUUUUCC-----
-----      3
-----AAAGGUAUUUGCAGUUUUUCCCA-----
-----     10
-----CGAAAACAGCAAUUACCUUUG
-----      5      0,-1

```

```

>hsa-mir-574      5p:25-47;3p:61-82      SRX018958
gggaccugcgugggugcgggcgugUGAGUGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUCAUGCACACACCCA
CAGccccacacucagg
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))
-----UGAGUGUGUGUGUGUGAG-----
-----     14      0,-5
-----UGAGUGUGUGUGUGUGAGU-----
-----     22      0,-4
-----UGAGUGUGUGUGUGUGAGUG-----
-----      2      0,-3
-----UGAGUGUGUGUGUGUGAGUGU-----
-----      4      0,-2
-----UGAGUGUGUGUGUGUGAGUGUaa-----
-----      2      0,-1
-----UGAGUGUGUGUGUGUGAGUGUGU-----
-----      5      0,0
-----UGAGUGUGUGUGUGUGAGUGUGUG-----
-----      2      0,1
-----UGAGUGUGUGUGUGUGAGUGUGUGa-----
-----      2      0,1
-----UGAGUGUGUGUGUGUGAGUGUGUGU-----
-----      5      0,2

```

			-CACGCUCAUGCACACACC-
	22	0,-4	
			-CACGCUCAUGCACACACCC-
	33	0,-3	
			-CACGCUCAUGCACACACCCA
	76	0,-2	
			-CACGCUCAUGCACACACCCA
a	3	0,-2	
			-CACGCUCAUGCACACACCCA
u	3	0,-2	
			-CACGCUCAUGCACACACCCA
uu	4	0,-2	
			-CACGCUCAUGCACACACCCA
C	45	0,-1	
			-CACGCUCAUGCACACACCCA
Cu	15	0,-1	
			-CACGCUCAUGCACACACCCA
CA	206	0,0	
			-CACGCUCAUGCACACACCCA
CAa	28	0,0	
			-CACGCUCAUGCACACACCCA
CAu	32	0,0	
			-CACGCUCAUGCACACACCCA
CAuu	7	0,0	
			-ACGCUCAUGCACACACCCA
	2	1,-2	
			-ACGCUCAUGCACACACCCA
C	3	1,-1	
			-ACGCUCAUGCACACACCCA
CA	9	1,0	
			-ACGCUCAUGCACACACCCA
CAu	2	1,0	

>hsa-mi r-576 5p:16-37;3p:55-76 SRX018958

uacaauccaacgaggAUUCUAAUUUCUCCACGUCUUUgguaauaagguuuggcaAAGAUGUGGAAAAAUUGGAUUCuca
uucgauugguuuaacca

..((((.(.(((((((((((((((.((((((((((((.(((.....)).)))))))))....).)))))))).
.)).))))).


```

...(((..((((((((.....((((((((((((((((((((((((.....))))))))))))))))))....))))))
)).)).....
-----UACAGUUGUUAACAGUAC-----
----- 2 1,-1
-----UACAGUUGUUAACAGUACU-----
----- 4 1,0
-----UAACUGGUUGAACAAACUGA-----
----- 3 0,-3
-----UAACUGGUUGAACAAACUGAA-----
----- 35 0,-2
-----UAACUGGUUGAACAAACUGAAC-----
----- 6 0,-1
-----UAACUGGUUGAACAAACUGAACCC-----
----- 4 0,0
-----UAACUGGUUGAACAAACUGAACCC-----
----- 4 0,1
-----AACUGGUUGAACAAACUGAA-----
----- 2 1,-2

```

```

>hsa-mir-584      5p:16-37      SRX018958
uagggugaccagccaUUAUGGUUUGCCUGGGACUGAGgaauuugcugggauaugucaguuccaggccaaccaggcugguu
ggucucccugaagcaac
((((((.(((((((...((((((.(((((((((((((.(((((.....)).).))))))))))))).))))).))))))
))))).))))).
-----UUAUGGUUUGCCUGGGAC-----
-----      2      0,-4
-----UUAUGGUUUGCCUGGGACUGAa-----
-----      2      0,-1

```

uagccagucagaaauGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUAUGUAUAAGCUAGUcucu
gauugaaacaugcagca

-----GAGCUUAUUCAUAAAAGU-----

-----GAGCUUAUUCAUAAAAGUG-----

-----GAGCUUAUUCAUAAAAGUGCA-----

-----GAGCUUAUUCAUAAAAGUGCAa-----

-----GAGCUUAUUCAUAAAAGUGCAG-----

-----GUAUUUUAUGUAUAAGCUAG-----

-----GUAUUUAUGUAUAAGCUAGU-----

-----GUAUUUAUGUAUAAGCUAGUa-----

-----UAAUUUAUGUAUAAGCU-----

-----UAAUUUAUGUAUAAGCUA-----

-----UAAUUUAUGUAUAAGCUAG-----

-----UAAUUUAUGUAUAAGCUAGU-----

-----UAAUUUAUGUAUAAGCUAGUu-----

-----UAAUUUAUGUAUAAGCUAGUC-----

uacuuacucuacgugUGUGUCACUCGAUGACCACUGUgaagacaguaaaauguacagugguucucuuguggcucaagcgu
aauguagaguacugguc

cucuuguucacagccAAACUCUACUUGUCCUUCUGAGUguaauuacguacaugcaguagcucaggagacaagcagguua
cccuguggaugagucuga

..((..((((((..((((..((((((..((((((.....((((.....))))))))))))))))).)))))).
..)))))))).)).....

-----AAACUCUACUUGUCCUUCU-----

----- 10 0,-4

-----AAACUCUACUUGUCCUUCUGA-----

----- 2 0,-2

-----AAACUCUACUUGUCCUUCUGAG-----

----- 2 0,-1

>hsa-mir-619 3p:61-84 SRX018958

cgcccaccucagccucccaaaugcugggauuacaggcaugagccacugcggucgaccauGACCUGGACAUGUUUGUGCC
CAGUacugucaguuugcag

..((..((..((((.....((((((..((((((.....((((.....))))))))))))).))))))))))
)))))))).))..

-----GCUGGGAUUACAGGCAUG-----

----- 3

-----GCUGGGAUUACAGGCAUGAG-----

----- 2

>hsa-mir-624 mi:16-37;MA:54-74 SRX018958

aaugcuguuucaaggUAGUACCAGUACCUUGUGUUCAguggaaccaagguaaaCACAAGGUAAUUGGUAAUACCUugagau
agcauuacaccuaagug

((((((((((((((((((((((((((((((((((.....((((.....))))))))))))))))))))))
)))))))).

-----UAGUACCAGUACCUUGUGUU-----

----- 2 0,-2

-----UAGUACCAGUACCUUGUGUUC-----

----- 9 0,-1

-----UAGUACCAGUACCUUGUGUUCA-----

----- 9 0,0

-----AACACAAGGUAAUUGGUAAUACu-----

----- 2 -2,-2

>hsa-mir-625 MA:15-35;mi:52-73 SRX018958

agggugaggggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUAucccucu
gcccu

-----			-AGGGGGAAAGUUCUAUAGU-	-----
-----	5	0,-2		
-----			-AGGGGGAAAGUUCUAUAGUC-	-----
-----	12	0,-1		
-----			-AGGGGGAAAGUUCUAUAGUCa-	-----
-----	2	0,-1		
-----			-AGGGGGAAAGUUCUAUAGUCC-	-----
-----	11	0,0		
-----			-AGGGGGAAAGUUCUAUAGUCCU-	-----
-----	10	0,1		
-----			-AGGGGGAAAGUUCUAUAGUCCUa-	-----
-----	2	0,1		
-----				-GACUAUAGAACUUUCCCCC-
-----	3	0,-3		
-----				-GACUAUAGAACUUUCCCCCUC-
-----	9	0,-1		
-----				-GACUAUAGAACUUUCCCCCUCu-
-----	2	0,-1		
-----				-GACUAUAGAACUUUCCCCCUCa-
-----	10	0,0		
-----				-GACUAUAGAACUUUCCCCCUCa-
-----	8	0,0		
-----				-GACUAUAGAACUUUCCCCCUCAU-
-----	6	0,1		
-----				-ACUAUAGAACUUUCCCCCUCa-
-----	4	1,0		
-----				-ACUAUAGAACUUUCCCCCUCa-
-----	3	1,0		

auagcuguugugucacuuccucAUGCUGACAUUUACUAGAGGguaaaauuaaaccuUCUAGUAAGAGUGGCAGUCG
Aaggaagggcucau

-----AUGCUGACAUAUUUACUA-----
----- 6 0,-4

```

-----AUGCUGACAUUUUACUAG-----
----- 5 0,-3
-----AUGCUGACAUUUUACUAGA-----
----- 7 0,-2
-----AUGCUGACAUUUUACUAGAG-----
----- 18 0,-1
-----AUGCUGACAUUUUACUAGAGa-----
----- 4 0,-1
-----AUGCUGACAUUUUACUAGAGG-----
----- 20 0,0
-----AUGCUGACAUUUUACUAGAGGa-----
----- 17 0,0
-----AUGCUGACAUUUUACUAGAGGaa-----
----- 8 0,0
-----AUGCUGACAUUUUACUAGAGGu-----
----- 2 0,0
-----AUGCUGACAUUUUACUAGAGGG-----
----- 5 0,1
-----AUGCUGACAUUUUACUAGAGGGa-----
----- 2 0,1

```

```

>hsa-mir-629    MA:22-42;mi:61-82    SRX018958
uccuuucccaggggaggggcUGGGUUUACGUUGGGAGAACUuuuacgggugaaccaggagGUUCUCCCAACGUAAGCCCA
GCccuucccucugccu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGGGUUUACGUUGGGAGA-----
----- 13 0,-3
-----UGGGUUUACGUUGGGAGAA-----
----- 8 0,-2

```

```

>hsa-mir-641    5p:16-39    SRX018958
ugggugaaaggaaggAAAGACAUAGGAUAGAGUCACCUCuguccucuguccucuaccuauagaggugacuguccuauguc
uuuccuuccucuuaacccu
.((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAGACAUAGGAUAGAGUCA-----
----- 21 0,-4

```

```

-----AAAGACAUAGGAUAGAGUCAa-----
----- 3 0,-4
-----AAAGACAUAGGAUAGAGUCAC-----
----- 30 0,-3
-----AAAGACAUAGGAUAGAGUCACC-----
----- 50 0,-2
-----AAAGACAUAGGAUAGAGUCACCa-----
----- 3 0,-2
-----AAAGACAUAGGAUAGAGUCACCU-----
----- 67 0,-1
-----AAAGACAUAGGAUAGAGUCACCUu-----
----- 2 0,-1
-----AAAGACAUAGGAUAGAGUCACCUC-----
----- 6 0,0
-----AAAGACAUAGGAUAGAGUCACCUCU-----
----- 2 0,1
-----AAGACAUAGGAUAGAGUCACC-----
----- 3 1,-2
-----AAGACAUAGGAUAGAGUCACCU-----
----- 2 1,-1
-----AGGUGACUGUCCUAUGUC
UUU----- 2

```

>hsa-mir-642a 5p:16-37 SRX018958

```

aucugaguugggaggGUCCCUCUCCAAUGUGUCUUGgggugggggaucaagacacauuuggagaggggaaccuccaacu
cggccucugccaauu

```

```

..((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))).....

```

```

-----AGACACAUUUGGAGAGGG-----
----- 4
-----AGACACAUUUGGAGAGGGA-----
----- 3
-----AGACACAUUUGGAGAGGGAA-----
----- 3
-----AGACACAUUUGGAGAGGGAAuu-----
----- 2

```

>hsa-mir-642b 3p:47-68 SRX018958

-----AGACACAUUUGGAGAGGG-----

-----AGACACAUUUGGAGAGGGA-----

$$----- \quad 2 \quad -2, -3$$
$$\begin{aligned} & \dots((\dots(((((((((((((((((((((\dots((((((((((((((\dots)))))))))))))))).))))))))) \\ &)))))))\dots) \dots \end{aligned}$$

----- 20 0, -3

$$----- \quad 3 \quad 0, -1$$

- 11 0,-2

-----CAGGACCUUCCCUGAACCAAGGA-----
-----2-----
-----AGGACCUUCCCUGAACCAAGGA-----
-----3-----
-----AGGACCUUCCCUGAACCAAGGAA-----
-----5-----
-----GGACCUUCCCUGAACCAAGGAu-----
-----2-----

>hsa-mir-660 5p:16-37 SRX018958

cugcuccuucucccaUACCCAUUGCAUAUCGGAGUUGugaauucuaaaacaccuccugugugcauggauuacaggaggg
ugagccuugucaucgug

..((((.((((((.((((.((((((.((((.((((.....))) .)))))))))))))))
.)))).

-----UACCCAUUGCAUAUCGGAG-----

----- 8 0,-3

-----UACCCAUUGCAUAUCGGAGU-----

----- 14 0,-2

-----UACCCAUUGCAUAUCGGAGUU-----

----- 119 0,-1

-----UACCCAUUGCAUAUCGGAGUUa-----

----- 6 0,-1

-----UACCCAUUGCAUAUCGGAGUUu-----

----- 2 0,-1

-----UACCCAUUGCAUAUCGGAGUUG-----

----- 25 0,0

-----UACCAUUGCAUAUCGGAGUUGU-----

----- 17 0,1

-----ACCUCCUGUGUGCAUGGAUU-----

----- 5

-----ACCUCCUGUGUGCAUGGAUUu-----

----- 2

-----ACCUCCUGUGUGCAUGGAUUA-----

----- 5

>hsa-mir-663b 3p:90-111 SRX018958

ggugccgagggccguccggcauccuagggcgggucgcugcgguaaccuccuccugucuguggcggugggaucuccguggccg
uguuuuccuGGUGGCCCCGCCGUGCCUGAGGuuuc

-----UCCGGUUCUCAGG

GCUCCACC----- 2 0,0

```

>hsa-mir-675      MA:10-32;mi:45-64      SRX018958
cccaggguUGGUGCGGAGAGGGCCCACAGUGgacuuggugacgCUGUAUGCCCUCACCGCUCAGccccuggg
(((((((.(((.(((.(((((.(((((. . . . .))))))..)))))).))))))..))))))
-----UGGUGCGGAGAGGGCCCACAGU----- 2
0,-1
-----UGGUGCGGAGAGGGCCCACAGUGu----- 2
0,0
-----CUGUAUGCCCUCACCGCUCAG----- 2
0,1
-----CUGUAUGCCCUCACCGCUCAGC----- 2
0,2
-----CUGUAUGCCCUCACCGCUCAGCa----- 2
0,2

```

```

>hsa-mir-676      mi:8-28;MA:43-63      SRX018958
gcaugacUCUUAACCCUCAGGACUUGCAGaauuaauggaugCUGUCCUAAGGUUGUUGAGUuguc
(((...(((...(((...(((...(((...(((...(((...(((...(((...(((...(((...
-----CUGUCCUAAGGUUGUUGAGU----- 2    0,-1
-----CUGUCCUAAGGUUGUUGAGUU---- 4    0,0

```

```

>hsa-mir-7-1      MA:24-46;mi:66-87      SRX018958
uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucgaCAACAAAUACAGUC
UGCCAUAuggcacaggccaugccucucacag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).)))))))))).)))))))).)).)))).)...)
-----UGGAAGACUAGUGAUUUU-----
-----      2      0,-5
-----UGGAAGACUAGUGAUUUUGUU-----
-----      7      0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
-----     13      0,-1
-----UGGAAGACUAGUGAUUUUGUUG-----
-----     40      0,0
-----UGGAAGACUAGUGAUUUUGUUGU-----
-----    235     0,1

```

```

-----UGGAAGACUAGUGAUUUUGUUGUa-----
-----      2      0,1
-----GGAAGACUAGUGAUUUUGUUGU-----
-----      3      1,0
-----CAACAAAUCACAGUC
UGCCA-----      2      0,-2
-----CAACAAAUCACAGUC
UGCCAU-----      5      0,-1
-----CAACAAAUCACAGUC
UGCCAUu-----      3      0,-1
-----CAACAAAUCACAGUC
UGCCAUa-----      17     0,0
-----CAACAAAUCACAGUC
UGCCAUaA-----      7      0,0
-----CAACAAAUCACAGUC
UGCCAUaU-----      2      0,1
-----AACAAAUCACAGUC
UGCCAUa-----      11     1,0
-----AACAAAUCACAGUC
UGCCAUaA-----      4      1,0
-----AACAAAUCACAGUC
UGCCAUaU-----      4      1,1

```

>hsa-mir-7-2 MA:32-54;mi:72-93 SRX018958

cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuacugcgcucaaCAACAAAUC
CCAGUCUACCUAAuggugccagccaucgca

.....((((...(((((((.((((...((.(((((((.(((((((.(((((((.....)))))))))))))))))
).))))).))..))))).)))))))).))))).

```

-----UGGAAGACUAGUGAUUUU-----
-----      2      0,-5
-----UGGAAGACUAGUGAUUUUGU-----
-----      7      0,-2
-----UGGAAGACUAGUGAUUUUGU-----
-----      13     0,-1
-----UGGAAGACUAGUGAUUUUGU-----
-----      40     0,0
-----UGGAAGACUAGUGAUUUUGU-----
-----      235    0,1

```

-----UGGAAGACUAGUGAUUUUGUUGUa-----
 ----- 2 0,1
 -----GGAAGACUAGUGAUUUUGUUGU-----
 ----- 3 1,0

>hsa-mir-7-3 5p:31-53 SRX018958

agauuagaguggcuguggucuagugcugugUGGAAGACUAGUGAUUUUGUUGUucugauguacuacgacaacaagucaca
gccggccuauagcgcagacucccuucgac

$$\begin{aligned} & \dots\dots(((\cdot((\dots((((\cdot(((((((\cdot((\cdot(\cdot(((((\cdot((((((\cdot(\dots\dots)).)))))(((())))))))) \\ &)\cdot)\cdot))\cdot)))))(((()))))))))\cdot)))\dots \end{aligned}$$

-----UGGAAGACUAGUGAUUUU-----

----- 2 0,-5

-----UGGAAGACUAGUGAUUUUGUU-----

----- 7 0,-2

-----UGGAAGACUAGUGAUUUUGUUG-----

----- 13 0,-1

-----UGGAAGACUAGUGAUUUUGUUGU-----

----- 40 0,0

-----UGGAAGACUAGUGAUUUUGUUGUU-----

----- 235 0,1

-----UGGAAGACUAGUGAUUUUGUUGUUa-----

----- 2 0,1

-----GGAAGACUAGUGAUUUUGUUGU-----

----- 3 1,0

>hsa-mi r-708 MA:11-33;mi :57-78 SRX018958

aacugccucAAGGAGCUUACAAUCUAGCUGGGgguaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcagggga

-----AAGGAGCUUACAAUCUAG-----

----- 7 0, -5

-----AAGGAGCUUACAAUCUAGC-----

----- 4 0, -4

-----AAGGAGCUUACAAUCUAGCU-----

----- 27 0, -3

-----AAGGAGCUUACAAUCUAGCUG-----

----- 4 0, -2

```

-----AAGGAGCUUACAAUCUAGCUGG-----
-----      33   0,-1
-----AAGGAGCUUACAAUCUAGCUGGa-----
-----      3    0,-1
-----AAGGAGCUUACAAUCUAGCUGGu-----
-----      7    0,-1
-----AAGGAGCUUACAAUCUAGCUGGG-----
-----     24   0,0
-----
-----CAACUAGACUGUGAGCUUCUAG--
-----      3    0,0
-----
-----AACUAGACUGUGAGCUUCUAGA-
-----      4    1,1
-----
-----AACUAGACUGUGAGCUUCUAGAA
-----      4    1,1
-----
-----ACUAGACUGUGAGCUUCUAGA-
-----      4    2,1

```

>hsa-mi r-720 5p:27-43 SRX018958

```

ccggaucucacacggugguguuaaUAUCUCGCGUGGGGCCUCCAaaauguugugcccagggguguuagagaaaacaccaca
cuuugagaugaauaaagaguccuuuuuag
....(((((((.....((((((((((((((((((((.....((((((.....).)).))))).))))))))).))))).
...)))))).....
-----AUCUCGCGUGGGGCCUCCA-----
-----      71   -1,0

```

>hsa-mi r-744 MA:11-32;mi:68-89 SRX018958

```

uugggcaaggUGCGGGGCUAGGGGCUAACAGCAgucuuacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc
((((((.....((((.....((((.....))))))))))))).)).
))))).))))).)).
-----UGCGGGGCUAGGGGCUAACAG-----
-----     11   0,-2
-----UGCGGGGCUAGGGGCUAACAGa-----
-----      3    0,-2
-----UGCGGGGCUAGGGGCUAACAGu-----
-----      4    0,-2
-----UGCGGGGCUAGGGGCUAACAGC-----
-----     11   0,-1

```


ggcgcgucgccccucaguccaccagagcccggauaccucagaaauCGGCUCUGGGUCUGUGGGGAgcgaaugcaac
 .(((.(.(((.((((.((((.((((.((((.((((.(.....)))))))))))).)).)).)).)).)).)).)...
 -----CGGCUCUGGGUCUGUGGGGAG-----

uuuaggcgcgugaagaaaguggaguucaguagacagcccuuucaagcccuacgagaaacuggggguuucUGGAGGAGAAGG
AAGGUGAUGaaggauucuguucucgugagccugaa
(((((((.....(((((((((.....((((((((((((((((((((.....)))))))))).....)))))))))
...))..))))..))..))..))))..)))))).

AAGGUGAUGAA----- 2 0,2

gcauccucaggaccuggggcuuggggugguaggaggaauugggugcugggucuucuuuuggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaauugucauaggagc
(((.(((...(((...(((.(((((((...(((...(((.(((((...(((.....)))..))))).)))...
)))..)))))).)))....)))..))))))

2


```

-----AGGAGGAAUUGGUGCUGGUCUUu-----
----- 5
-----AGGAGGAAUUGGUGCUGGUCUUUC-----
----- 4
-----AGGAGGAAUUGGUGCUGGUCUUUCA-----
----- 6
-----GGAGGAAUUGGUGCUGGUCUU-----
----- 2
-----GGAGGAAUUGGUGCUGGUCUU-----
----- 3
-----GGAGGAAUUGGUGCUGGUCUUUC-----
----- 2
-----ACUCCAGCCCCACAGC
CUCAGCau----- 2 0,0

```

```

>hsa-mir-769 5p:30-51;3p:69-91 SRX018958
gccuuggugcugauuccugggcucugaccUGAGACCUCUGGGUUCUGAGCUgugauguugcucucgagCUGGGAUCUCCG
GGGUCUUGGUUcagggccggggccucuggguccaagc
..(((((((((.....)))))))).)))).)
)))))).)))).)
-----UGAGACCUCUGGGUUCUGAG-----
----- 4 0,-2
-----UGAGACCUCUGGGUUCUGAGa-----
----- 2 0,-2
-----UGAGACCUCUGGGUUCUGAGCU-----
----- 4 0,0
-----UGAGACCUCUGGGUUCUGAGCUuu-----
----- 3 0,0

```

```

>hsa-mir-873 5p:11-31 SRX018958
gugugcauuuGCAGGAACUUGUGAGUCUCCUauugaaaaugaacaggagacugaugaguucccggaacaccacaa
(((.....)))))))).)
-----GCAGGAACUUGUGAGUCUCCU-----
2 0,0

```

```

>hsa-mir-874 3p:47-68 SRX018958
uuagcccugcgccccacgcaccaggguaagagagacucucgcuucCUGCCCUGGCCGAGGGACCGAcuggcugggc
((((.....)))))))).)

```

-----CUGCCCUGGCCCAGGGACCGACU-----
2 0,2

>hsa-mir-877 MA:1-20;mi:66-86 SRX018958
GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggaccucagacgugugUCCUCUUCUCCCUCC
UCCCAG
...((((((...((...((((((((((...((((((((((...)))))))).)))))...)))))...
))....
GUAGAGGAGAUGGCGCAGGG-----
----- 2 0,0
GUAGAGGAGAUGGCGCAGGGGA-----
----- 6 0,2
GUAGAGGAGAUGGCGCAGGGGAC-----
----- 4 0,3
GUAGAGGAGAUGGCGCAGGGGACA-----
----- 17 0,4
-UAGAGGAGAUGGCGCAGGGGACA-----
----- 2 1,4

>hsa-mir-885 5p:11-32;3p:43-64 SRX018958
ccgcacucucUCCAUUACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu
(((...((((...((((((((((((...((((((((((((...)))))))).)))))...))))))..
-----UCCAUUACACUACCCUGC----- 15
0,-4
-----UCCAUUACACUACCCUGCC----- 14
0,-3
-----UCCAUUACACUACCCUGCCU----- 39
0,-2
-----UCCAUUACACUACCCUGCCUC----- 44
0,-1
-----UCCAUUACACUACCCUGCCUCa----- 4
0,-1
-----UCCAUUACACUACCCUGCCUCU----- 154
0,0
-----UCCAUUACACUACCCUGCCUCUa----- 5
0,0
-----UCCAUUACACUACCCUGCCUCUau----- 3
0,0

-----UCCAUAACACUACCCUGCCUCU-----	3
0,1	
-----CAUUAACACUACCCUGCCUC-----	7
2,-1	
-----CAUUAACACUACCCUGCCUCU-----	12
2,0	
-----CAUUAACACUACCCUGCCUCU-----	2
2,1	
-----AGGCAGCGGGGUGUAGUG-----	4
0,-4	
-----AGGCAGCGGGGUGUAGUGG-----	11
0,-3	
-----AGGCAGCGGGGUGUAGUGGA-----	6
0,-2	
-----AGGCAGCGGGGUGUAGUGGAa-----	5
0,-2	
-----AGGCAGCGGGGUGUAGUGGAaa-----	7
0,-2	
-----AGGCAGCGGGGUGUAGUGGAU-----	27
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUu-----	24
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUuu-----	2
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUA-----	39
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAa-----	23
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAaa-----	17
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAau-----	10
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAu-----	12
0,0	
-----GGCAGCGGGGUGUAGUGGAU-----	2
1,-1	

gugcagauccuugggagcccuguuagacucuggauuuuacacuuggaGUGAACGGGCGCCAUCCCGAGGcuuugcacag
(((((((.((((((((((((((((((((.((((.(.....).))))).))))).)).)))))))).))))))..
-----GUGAACGGGCGCCAUCCCGAG-----

3 0,-1

>hsa-mir-889 3p:49-69 SRX018958

gugcuuaaagaauaggcuguccguaguauggucucuauauuuauaugaUUAUAUUCGGACAACCAUUGUuuuaguaucc
(((((((.((((.((((((((((((((((.((((.(.....).))))).))))).)).)))))))).))))))..
-----UUAUAUUCGGACAACCAU-----

2 0,-3

-----UUAUAUUCGGACAACCAUa-----

4 0,-3

-----UUAUAUUCGGACAACCAUU-----

27 0,-2

-----UUAUAUUCGGACAACCAUUG-----

3 0,-1

-----UUAUAUUCGGACAACCAUUGa-----

2 0,-1

-----UUAUAUUCGGACAACCAUUGU-----

19 0,0

>hsa-mir-9-1 MA:16-38;mi:55-76 SRX018958

cggggguugguuguuaUCUUUGGUUAUCUAGCUGUAUGAgugguguggagucuucAUAAGCUAGAUAAACCGAAAGUaaaa
auaacccca
(((((((.((((.((((((((((((((((.((((.(.....).))))).))))).)).)))))))).))))))..
.))))))).

-----UCUUUGGUUAUCUAGCUGUAUG-----

----- 4 0,-1

-----UCUUUGGUUAUCUAGCUGUAUGA-----

----- 6 0,0

-----AUAAGCUAGAUAAACCGAAAGU-----

----- 8 0,0

-----UAAAGCUAGAUAAACCGAAAG-----

----- 2 1,-1

-----UAAAGCUAGAUAAACCGAAAGU-----

----- 9 1,0

-----UAAAGCUAGAUAAACCGAAAGUAu-----

----- 2 1,1

```

>hsa-mir-9-2    MA:16-38;mi:53-74    SRX018958
ggaagcgaguuguuaUCUUUGGUUAUCUAGCUGUAUGAguguauuggucuucAUAAGCUAGAUACCGAAAGUaaaaac
uccuuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).
-----UCUUUGGUUAUCUAGCUGUAUG-----
----- 4    0,-1
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 6    0,0
-----AUAAGCUAGAUACCGAAAGU-----
----- 8    0,0
-----UAAAGCUAGAUACCGAAAG-----
----- 2    1,-1
-----UAAAGCUAGAUACCGAAAG-----
----- 9    1,0
-----UAAAGCUAGAUACCGAAAGUa-----
----- 2    1,1

```

```

>hsa-mir-9-3    MA:16-38;mi:55-76    SRX018958
ggaggcccgguuucucUCUUUGGUUAUCUAGCUGUAUGAgugccacagagccgucAUAAGCUAGAUACCGAAAGUagaa
augauucua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).
-----UCUUUGGUUAUCUAGCUGUAUG-----
----- 4    0,-1
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 6    0,0
-----AUAAGCUAGAUACCGAAAGU-----
----- 8    0,0
-----UAAAGCUAGAUACCGAAAG-----
----- 2    1,-1
-----UAAAGCUAGAUACCGAAAG-----
----- 9    1,0
-----UAAAGCUAGAUACCGAAAGUa-----
----- 2    1,1

```

```

>hsa-mir-92a-1  mi:11-33;MA:48-69    SRX018958

```

[illegible]

		-----UAUUGCACUUGUCCCGGCCUu-----
7	0,-2	
		-----UAUUGCACUUGUCCCGGCCUuu-----
4	0,-2	
		-----UAUUGCACUUGUCCCGGCCUG-----
200	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGa-----
9	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGaa-----
12	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGau-----
5	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGU-----
467	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUa-----
65	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUaa-----
90	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUau-----
118	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUU-----
54	0,1	
		-----UAUUGCACUUGUCCCGGCCUGUUa-----
14	0,1	
		-----UAUUGCACUUGUCCCGGCCUGUUau-----
6	0,1	
		-----UAUUGCACUUGUCCCGGCCUGUUu-----
49	0,1	
		-----UAUUGCACUUGUCCCGGCCUGUUuu-----
13	0,1	
		-----AUUGCACUUGUCCCGGCC-----
9	1,-3	
		-----AUUGCACUUGUCCCGGCCU-----
56	1,-2	
		-----AUUGCACUUGUCCCGGCCUG-----
2	1,-1	
		-----AUUGCACUUGUCCCGGCCUGU-----
3	1,0	


```

-----AGGGACGGGACGCGGUGCAGUGUU-----
-----      5      0,2
-----UAUUGCACUCGUCCCCGGCC-
-----      8      0,-3
-----UAUUGCACUCGUCCCCGGCCU
-----      31     0,-2
-----UAUUGCACUCGUCCCCGGCCU
a-----      6      0,-2
-----UAUUGCACUCGUCCCCGGCCU
aa-----     5      0,-2
-----UAUUGCACUCGUCCCCGGCCU
au-----     4      0,-2
-----UAUUGCACUCGUCCCCGGCCU
uu-----     5      0,-2
-----UAUUGCACUCGUCCCCGGCCU
C-----     11     0,-1
-----UAUUGCACUCGUCCCCGGCCU
Caa-----     4      0,-1
-----UAUUGCACUCGUCCCCGGCCU
Cau-----     4      0,-1
-----UAUUGCACUCGUCCCCGGCCU
CC-----     3      0,0
-----UAUUGCACUCGUCCCCGGCCU
CCa-----     5      0,0
-----UAUUGCACUCGUCCCCGGCCU
CCau-----     9      0,0
-----UAUUGCACUCGUCCCCGGCCU
CCu-----     7      0,0
-----AUUGCACUCGUCCCCGGCCU
CCu-----     2      1,0

```

>hsa-mir-93 MA:11-33;mi:50-71 SRX018958

```

cugggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUCCCCGagccccggg
((((((((((..((((((((((((((..((((..((((..((.....)).))))))))))))).))))))....)))))))))
-----CAAAGUGCUGUUCGUGCA-----
114 0,-5
-----CAAAGUGCUGUUCGUGCAG-----
191 0,-4

```

```

-----CAAAGUGCUGUUCGUGCAGG-----
94  0,-3
-----CAAAGUGCUGUUCGUGCAGGaa-----
6   0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
100 0,-2
-----CAAAGUGCUGUUCGUGCAGGUA-----
289 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAa-----
77  0,-1
-----CAAAGUGCUGUUCGUGCAGGUAaa-----
2   0,-1
-----CAAAGUGCUGUUCGUGCAGGUAu-----
69  0,-1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
41  0,0
-----CAAAGUGCUGUUCGUGCAGGUAGa-----
3   0,0
-----CAAAGUGCUGUUCGUGCAGGUAGU-----
3   0,1
-----AAAGUGCUGUUCGUGCAG-----
12  1,-4
-----AAAGUGCUGUUCGUGCAGG-----
5   1,-3
-----AAAGUGCUGUUCGUGCAGGU-----
4   1,-2
-----AAAGUGCUGUUCGUGCAGGUA-----
19  1,-1
-----AAAGUGCUGUUCGUGCAGGUAu-----
4   1,-1
-----ACUGCUGAGCUAGCACUUCCC-----
5   0,-1
-----ACUGCUGAGCUAGCACUUCCCG-----
2   0,0
-----ACUGCUGAGCUAGCACUUCCCGA-----
6   0,1
-----ACUGCUGAGCUAGCACUUCCCGAu-----
3   0,1

```

agaaauaaggcuucUGUCUACUUGGAGACACUGGuaguauaaaaccagagucuccaguaauggacgggagccuuauu
ucu

-----UCUGUCUACUACUGGAGACACU-----

-----UGUCUACUACUGGAGACACU-----

gugaggugugggccccggccccaggagcggggccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugaccccac

-----AAGGCAGGGCCCCCGCUCCCC

-----AAGGCAGGGCCCCCGCUCCCC

-----AAGGCAGGGCCCCCGCUCCCC

cacggaagaggacacacccggcuguguggacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg

-----CACCCGGCUG

-----CACCCGGCUG

-----CACCCGGCUG

-----CACCCGGCUG

-----CACCCGGCUG

UGUGCACAUGUGC----- 14 0,0

-----ACCCGGCUG
UGUGCACAUGUC----- 2 1,0

>hsa-mir-941-2 3p:71-93 SRX018958

cacggaagaggacgcacccggcugugugcacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg

.....((.(((.((((((.((.((((((((((.((.(((.(((...(((((.(...)).)).)))))).).
)).)))))))).)).)).))))).)))).))....

-----CACCCGGCUGUGUGCACAUGU-----

----- 2

-----CACCCGGCUGUGUGCACAUGUG-----

----- 5

-----CACCCGGCUGUGUGCACAUGUGa-----

----- 8

-----CACCCGGCUGUGUGCACAUGUGu-----

----- 3

-----CACCCGGCUGUGUGCACAUGUGC-----

----- 14

-----ACCCGGCUGUGUGCACAUGUGC-----

----- 2

-----CACCCGGCUG

UGUGCACAUGU----- 2 0,-2

-----CACCCGGCUG

UGUGCACAUGUG----- 5 0,-1

-----CACCCGGCUG

UGUGCACAUGUGa----- 8 0,-1

-----CACCCGGCUG

UGUGCACAUGUGu----- 3 0,-1

-----CACCCGGCUG

UGUGCACAUGUGC----- 14 0,0

-----ACCCGGCUG

UGUGCACAUGUGC----- 2 1,0

>hsa-mir-941-3 3p:71-93 SRX018958

cacggaagaggacgcacccggcugugugcacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccaugg

.....((.(((.((((((.((.((((((((((.((.(((.(((...(((((.(...)).)).)))))).).
)).)))))))).)).)).))))).)))).))....


```

-----CACCCGGCUGUGUGCACAUGUGC-----
-----14
-----ACCCGGCUGUGUGCACAUGUGC-----
-----2
-----CACCCGGCUG
UGUGCACAUGU-----2 0,-2
-----CACCCGGCUG
UGUGCACAUGUG-----5 0,-1
-----CACCCGGCUG
UGUGCACAUGUGa-----8 0,-1
-----CACCCGGCUG
UGUGCACAUGUGu-----3 0,-1
-----CACCCGGCUG
UGUGCACAUGUGC-----14 0,0
-----ACCCGGCUG
UGUGCACAUGUGC-----2 1,0

```

>hsa-mir-942 5p:13-34 SRX018958

```

auuaggagaguaUCUUCUCUGUUUUGGCCAUGUGuguacucacagccccucacacauggccgaaacagagaaguuaauuu
ccuaau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----UUCUCUGUUUUGGCCAUGUGUG-----
-----2 2,2

```

>hsa-mir-944 3p:54-75 SRX018958

```

guuccagacacaucucaucugauauacaauuuuucuaaaauuguauaaagagAAAUUAUUGUACAUCGGAUGAGcugug
ucugggau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----GAAAUUAUUGUACAUCGGAUGAG-----
-----3 -1,0
-----AAAUUAUUGUACAUCGGAUGAG-----
-----12 0,0
-----AAUUAUUGUACAUCGGAUGAG-----
-----4 1,0

```

>hsa-mir-95 3p:49-70 SRX018958

aacacagugggcacucaauaaaugucuguugaauugaaaugcguuacaUUCAACGGGUUUUAUUGAGCAcccacucugu
g

.(((.((((.((((.((((.((((.((((.(.....)))..)))))))))..)))))))))..))))))..)))

.

-----UCAAUAAAUGUCUGUUGAAUa-----

- 2

-----AUUCAACGGGUUUUAUUGAGa-----

- 2 -1,-2

-----UUCAACGGGUUUUAUUG-----

- 383 0,-4

-----UUCAACGGGUUUUAUUGA-----

- 334 0,-3

-----UUCAACGGGUUUUAUUGAG-----

- 329 0,-2

-----UUCAACGGGUUUUAUUGAGC-----

- 23 0,-1

-----UUCAACGGGUUUUAUUGAGCA-----

- 16 0,0

-----UUCAACGGGUUUUAUUGAGCAa-----

- 30 0,0

-----UCAACGGGUUUUAUUGA-----

- 19 1,-3

-----UCAACGGGUUUUAUUGAG-----

- 2 1,-2

-----UCAACGGGUUUUAUUGAGC-----

- 3 1,-1

-----UCAACGGGUUUUAUUGAGCA-----

- 6 1,0

-----UCAACGGGUUUUAUUGAGCAa-----

- 10 1,0

-----UCAACGGGUUUUAUUGAGCAu-----

- 4 1,0

-----CAACGGGUUUUAUUGAG-----

- 8 2,-2

-----CAACGGGUUUUAUUGAGCAa-----

- 4 2,0

-----CAACGGGUUUUAUUGAGCAu-----

- 4 2,0

-----UGAGGUAGUAAGUUGUAU-----

----- 98 0,-4

-----UGAGGUAGUAAGUUGUAUa-----

----- 10 0,-4

-----UGAGGUAGUAAGUUGUAUU-----

----- 47 0,-3

-----UGAGGUAGUAAGUUGUAUUG-----

----- 44 0,-2

-----UGAGGUAGUAAGUUGUAUUGU-----

----- 53 0,-1

-----UGAGGUAGUAAGUUGUAUUGUa-----

----- 3 0,-1

-----UGAGGUAGUAAGUUGUAUUGU_{aa}-----

----- 2 0,-1

-----UGAGGUAGUAAGUUGUAUUGUU-----

----- 73 0,0

-----UGAGGUAGUAAGUUGUAUUGUUa-----

----- 2 0,0

-----UGAGGUAGUAAGUUGUAUUGUUu-----

----- 12 0,0

-----GAGGUAGUAAGUUGUAUUG-----

----- 2 1, -2

-----C

UAUACAACUACUACUUUCCu----- 6

UAUACAACUUACUACUUUCCa----- 2

>hsa-mi r-99a MA:13-34;mi :50-71 SRX018958

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

..(((((((((((.((((((((((((..(((.((((((((.(.....))))))))).)))..))))))))).))))))))))..

.

```

-----AAACCCGUAGAUCCGAUC-----
- 3 -1,-5
-----AAACCCGUAGAUCCGAUCU-----
- 30 -1,-4
-----AAACCCGUAGAUCCGAUCUU-----
- 42 -1,-3
-----AAACCCGUAGAUCCGAUCUau-----
- 2 -1,-3
-----AAACCCGUAGAUCCGAUCUUG-----
- 128 -1,-2
-----AAACCCGUAGAUCCGAUCUUGU-----
- 730 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUa-----
- 6 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUaa-----
- 7 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUuu-----
- 2 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUG-----
- 30 -1,0
-----AAACCCGUAGAUCCGAUCUUGUGa-----
- 10 -1,0
-----AACCCGUAGAUCCGAUCU-----
- 1833 0,-4
-----AACCCGUAGAUCCGAUCUa-----
- 6 0,-4
-----AACCCGUAGAUCCGAUCUU-----
- 3995 0,-3
-----AACCCGUAGAUCCGAUCUUa-----
- 79 0,-3
-----AACCCGUAGAUCCGAUCUUau-----
- 15 0,-3
-----AACCCGUAGAUCCGAUCUUu-----
- 125 0,-3
-----AACCCGUAGAUCCGAUCUUuu-----
- 95 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 18253 0,-2

```

```

-----AACCCGUAGAUCCGAUCUUGa-----
- 265 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
- 12 0,-2
-----AACCCGUAGAUCCGAUCUUGau-----
- 7 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 70183 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
- 397 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 143 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
- 25 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----
- 546 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----
- 55 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 59683 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 20906 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 440 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----
- 72 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 8930 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----
- 89 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 26 0,1
-----AACCCGUAGAUCCGAUCUU-----
- 2 1,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 9 1,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 64 1,-1

```

```

-----ACCCGUAGAUCCGAUCUUGUG-----
- 86 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 36 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----
- 26 1,0
-----CAAGCUCGCUUCUAUGGGU-----
- 2 0,-3
-----CAAGCUCGCUUCUAUGGGUCU-----
- 16 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 16 0,0
-----CAAGCUCGCUUCUAUGGGUCUGa-----
- 2 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 19 0,1
-----CAAGCUCGCUUCUAUGGGUCUGUu-----
- 5 0,1
-----AAGCUCGCUUCUAUGGGUC-----
- 2 1,-2

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018958

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCU----- 3 0,-4
-----CACCCGUAGAACCGACCU----- 12 0,-3
-----CACCCGUAGAACCGACCUUG----- 22 0,-2
-----CACCCGUAGAACCGACCUUGa----- 6 0,-2
-----CACCCGUAGAACCGACCUUGaa----- 3 0,-2
-----CACCCGUAGAACCGACCUUGu----- 3 0,-2
-----CACCCGUAGAACCGACCUUGC----- 285 0,-1
-----CACCCGUAGAACCGACCUUGC----- 14 0,-1
-----CACCCGUAGAACCGACCUUGC----- 3 0,-1
-----CACCCGUAGAACCGACCUUGC----- 3 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 300 0,0
-----CACCCGUAGAACCGACCUUGCG----- 119 0,0
-----CACCCGUAGAACCGACCUUGCG----- 2 0,0
-----CACCCGUAGAACCGACCUUGCG----- 7 0,0

```

-----CACCCGUAGAACCGACCUUGCGu-----	99	0,0
-----CACCCGUAGAACCGACCUUGCGuu-----	4	0,0
-----CACCCGUAGAACCGACCUUGCGG-----	14	0,1
-----ACCCGUAGAACCGACCUUGC-----	5	1,-1
-----ACCCGUAGAACCGACCUUGCG-----	6	1,0
-----ACCCGUAGAACCGACCUUGCGa-----	2	1,0
-----ACCCGUAGAACCGACCUUGCGu-----	5	1,0
-----CAAGCUCGUGUCUGUGGGUC-----	4	0,-2
-----CAAGCUCGUGUCUGUGGGUCC-----	3	0,-1
-----CAAGCUCGUGUCUGUGGGUCCG-----	2	0,0
-----CAAGCUCGUGUCUGUGGGUCCGa-----	5	0,0
-----CAAGCUCGUGUCUGUGGGUCCGU-----	8	0,1
-----CAAGCUCGUGUCUGUGGGUCCGu-----	4	0,1

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018959

---AUGAGGUAGUAGGUUGUAU-----

12 -1,-4

-----AUGAGGUAGUAGGUUGUAUAGU-----

 $2 \quad -1, -1$

---AUGAGGUAGUAGGUUGUAUAGUU-----

11 -1,0

---AUGAGGUAGUAGGUUGUAUAGUUU-----

 $2 \quad -1, 1$

-----UGAGGUAGUAGGUUGUAU-----

1223 0,-4

-----UGAGGUAGUAGGUUGUAUu-----

109 0,-4

-----UGAGGUAGUAGGUUGUAUuu-----

74 0, -4

-----UGAGGUAGUAGGUUGUAUA-----

6825 0, -3

-----UGAGGUAGUAGGUUGUAUAa-----

312 0,-3

-----UGAGGUAGUAGGUUGUAUAaa-----

101 0,-3

-----UGAGGUAGUAGGUUGUAUAau-----

11 0,-3
 -----UGAGGUAGUAGGUUGUAUAu-----
 128 0,-3
 -----UGAGGUAGUAGGUUGUAUAuu-----
 20 0,-3
 -----UGAGGUAGUAGGUUGUAUAG-----
 12652 0,-2
 -----UGAGGUAGUAGGUUGUAUAGa-----
 322 0,-2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 44 0,-2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 137 0,-2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 48817 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 1812 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 2410 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 558 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 210971 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 28624 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 3725 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 1190 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 30598 0,1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 634 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUu-----
 11 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUA-----
 5 0,3
 -----GAGGUAGUAGGUUGUAUA-----

11 1,-3
 -----GAGGUAGUAGGUUGUAUAG-----
 31 1,-2
 -----GAGGUAGUAGGUUGUAUAGau-----
 2 1,-2
 -----GAGGUAGUAGGUUGUAUAGU-----
 133 1,-1
 -----GAGGUAGUAGGUUGUAUAGUa-----
 4 1,-1
 -----GAGGUAGUAGGUUGUAUAGUaa-----
 11 1,-1
 -----GAGGUAGUAGGUUGUAUAGUau-----
 2 1,-1
 -----GAGGUAGUAGGUUGUAUAGUU-----
 608 1,0
 -----GAGGUAGUAGGUUGUAUAGUUa-----
 72 1,0
 -----GAGGUAGUAGGUUGUAUAGUUaa-----
 14 1,0
 -----GAGGUAGUAGGUUGUAUAGUUau-----
 4 1,0
 -----GAGGUAGUAGGUUGUAUAGUUU-----
 100 1,1
 -----GAGGUAGUAGGUUGUAUAGUUUU-----
 3 1,2
 -----AGGUAGUAGGUUGUAUAGUU-----
 45 2,0
 -----AGGUAGUAGGUUGUAUAGUUa-----
 8 2,0
 -----AGGUAGUAGGUUGUAUAGUUU-----
 6 2,1
 -----CUAUACAAUCUACUGUCUUU-----
 4 0,-1
 -----CUAUACAAUCUACUGUCUUUC-----
 16 0,0
 -----CUAUACAAUCUACUGUCUUUCa-----
 2 0,0
 -----CUAUACAAUCUACUGUCUUUCu-----

20	0,0	CUAUACAAUCUACUGUCUUUCC-
3	0,1	UAUACAAUCUACUGUCUUUCu-
2	1,0	UAUACAAUCUACUGUCUUUCC-
2	1,1	UAUACAAUCUACUGUCUUUCCUu
3	1,2	AUACAAUCUACUGUCUUUCCU-
3	2,2	

0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	128
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	20
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	
12652 0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	322
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	44
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	137
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
48817 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	1812
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	2410
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	558
0, -1	
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210971 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	
28624 0,0	
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0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	1190
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	
30598 0,1	
---UGAGGUAGUAGGUUGUAUAGUUUA-----	290
0,2	
---UGAGGUAGUAGGUUGUAUAGUUUAa-----	20
0,2	
---UGAGGUAGUAGGUUGUAUAGUUUAu-----	5
0,2	
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-----GAGGUAGUAGGUUGUAUAGau-----	2
1,-2	
-----GAGGUAGUAGGUUGUAUAGU-----	133
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-----GAGGUAGUAGGUUGUAUAGUa-----	4
1,-1	
-----GAGGUAGUAGGUUGUAUAGUaa-----	11
1,-1	
-----GAGGUAGUAGGUUGUAUAGUau-----	2
1,-1	
-----GAGGUAGUAGGUUGUAUAGUU-----	608
1,0	
-----GAGGUAGUAGGUUGUAUAGUUa-----	72
1,0	
-----GAGGUAGUAGGUUGUAUAGUUaa-----	14
1,0	
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1,0	
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2,0	
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2,0	
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>hsa-let-7a-3 MA:4-25;mi:52-72 SRX018959

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0, -1	
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0,0	
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1,0	
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1,0	
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--- 39 0,-2
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--- 510 0,1
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--- 7278 0,1
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--- 16 1,-1
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--- 3 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 20 1,-1
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--- 126 1,0
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--- 70 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----

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--- 23 1,0
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--- 6 1,1
-----GAGGUAGUAGGUUGUGUGGUUUau-----
--- 4 1,1
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--- 24 1,1
-----GAGGUAGUAGGUUGUGUGGUUUuu-----
--- 2 1,1
-----AGGUAGUAGGUUGUGUGGUU-----
--- 3 2,0
-----AGGUAGUAGGUUGUGUGGUUa-----
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-----AGGUAGUAGGUUGUGUGGUUaa-----
--- 2 2,0
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--- 6 2,1
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-----CUAUACAACCUACUGCCUUC-
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--- 19 0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 9 0,-1
-----CUAUACAACCUACUGCCUUCC
au- 2 0,-1
-----CUAUACAACCUACUGCCUUCC
u-- 62 0,-1
-----CUAUACAACCUACUGCCUUCC
uu- 3 0,-1
-----UAUACAACCUACUGCCUUCC

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--- 2 1,-1
-----UAUACAACCUACUGCCUCC
u-- 4 1,-1

>hsa-let-7c MA:11-32;mi:33-54 SRX018959

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gagc

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---- 17 -1,-3

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---- 59 -1,-2

-----UUGAGGUAGUAGGUUGUAUGGaa-----

---- 2 -1,-2

-----UUGAGGUAGUAGGUUGUAUGGU-----

---- 106 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUa-----

---- 38 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUaa-----

---- 8 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUau-----

---- 21 -1,-1

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---- 348 -1,0

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---- 8 -1,0

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---- 2 -1,1

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----      49      0,2
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----      110      1,-1
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----      28      1,-1
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----      21      1,-1
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----      86      1,0
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----      29      1,0
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----      2    2,-1
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----      2    2,0
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----     13    2,1

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>hsa-let-7d MA:8-29;mi:62-83 SRX018959

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UCUuagg

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----- 2    -1,-3
-----AAGAGGUAGUAGGUUGCAUAG-----
----- 2    -1,-2
-----AAGAGGUAGUAGGUUGCAUAGU-----
----- 10   -1,-1
-----AAGAGGUAGUAGGUUGCAUAGUU-----
----- 31   -1,0
-----AAGAGGUAGUAGGUUGCAUAGUUa-----
----- 4    -1,0
-----AGAGGUAGUAGGUUGCAU-----
----- 1192   0,-4
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----- 11217 0,1
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----- 92 0,1
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----- 3 0,1
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----- 2 0,1
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----- 487 0,2
-----AGAGGUAGUAGGUUGCAUAGUUUUu-----
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----- 5 2,0
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----- 6 2,1
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 24 0,-3
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 3 0,-3
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 3 0,-3
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 26 0,-2
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 239 0,-1
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 732 0,-1
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 4189 0,0
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 710 0,0
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 244 0,0
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84    0,0
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81    0,1
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>hsa-let-7f-1 MA:7-28;mi:63-84 SRX018959

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UCCCuga

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-----UGAGGUAGUAGAUUGUAUAa-----
----- 102 0,-3
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----- 23 0,-3
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----- 8 0,-3
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----- 948 0,-1
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----- 472 0,-1
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----- 3 2,-1
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----- 4 2,0
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UCC---- 2 0,-1
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>hsa-let-7f-2 MA:8-29;mi:58-79 SRX018959
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--- 2 -1,-2
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--- 3 -1,0
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-----UGAGGUAGUAGAUUGUAUuu-----
--- 54 0,-4
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--- 8549 0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
--- 102 0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----

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--- 11 0,-3
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--- 23 0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
--- 8 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 5817 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 225 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 34 0,-2
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--- 67 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
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--- 948 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 3310 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 472 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 111267 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 44260 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 4090 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 1082 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 26371 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUa-----
--- 89 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUaa-----
--- 2 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUau-----

--- 4 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 310 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUu-----
--- 6 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUA-----
--- 2 0,3
-----GAGGUAGUAGAUUGUAUA-----
--- 17 1,-3
-----GAGGUAGUAGAUUGUAUAu-----
--- 2 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
--- 40 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 117 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
--- 16 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 558 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
--- 197 1,0
-----GAGGUAGUAGAUUGUAUAGUUaa-----
--- 31 1,0
-----GAGGUAGUAGAUUGUAUAGUUau-----
--- 10 1,0
-----GAGGUAGUAGAUUGUAUAGUUU-----
--- 155 1,1
-----GAGGUAGUAGAUUGUAUAGUUUU-----
--- 2 1,2
-----AGGUAGUAGAUUGUAUAG-----
--- 2 2,-2
-----AGGUAGUAGAUUGUAUAGU-----
--- 3 2,-1
-----AGGUAGUAGAUUGUAUAGUU-----
--- 22 2,0
-----AGGUAGUAGAUUGUAUAGUUa-----
--- 4 2,0
-----AGGUAGUAGAUUGUAUAGUUU-----


```

---- 3 0,-2
----UGAGGUAGUAGUUUGUACAGU-----
---- 4133 0,-1
----UGAGGUAGUAGUUUGUACAGUa-----
---- 70 0,-1
----UGAGGUAGUAGUUUGUACAGUaa-----
---- 56 0,-1
----UGAGGUAGUAGUUUGUACAGUau-----
---- 6 0,-1
----UGAGGUAGUAGUUUGUACAGUU-----
---- 9411 0,0
----UGAGGUAGUAGUUUGUACAGUUa-----
---- 1472 0,0
----UGAGGUAGUAGUUUGUACAGUUaa-----
---- 102 0,0
----UGAGGUAGUAGUUUGUACAGUUau-----
---- 67 0,0
----UGAGGUAGUAGUUUGUACAGUUU-----
---- 1187 0,1
----UGAGGUAGUAGUUUGUACAGUUUa-----
---- 13 0,1
----UGAGGUAGUAGUUUGUACAGUUUu-----
---- 37 0,1
----UGAGGUAGUAGUUUGUACAGUUUG-----
---- 3 0,2
----GAGGUAGUAGUUUGUACA-----
---- 2 1,-3
----GAGGUAGUAGUUUGUACAa-----
---- 2 1,-3
----GAGGUAGUAGUUUGUACAG-----
---- 9 1,-2
----GAGGUAGUAGUUUGUACAGU-----
---- 50 1,-1
----GAGGUAGUAGUUUGUACAGUa-----
---- 4 1,-1
----GAGGUAGUAGUUUGUACAGUaa-----
---- 2 1,-1
----GAGGUAGUAGUUUGUACAGUau-----

```



```

----      3      1,-1
-----GAGGUAGUAGUUUGUACAGUU-----
----     146      1,0
-----GAGGUAGUAGUUUGUACAGUUa-----
----      13      1,0
-----GAGGUAGUAGUUUGUACAGUUaa-----
----       4      1,0
-----GAGGUAGUAGUUUGUACAGUUU-----
----      16      1,1
-----GAGGUAGUAGUUUGUACAGUUUu-----
----       2      1,1
-----AGGUAGUAGUUUGUACAGU-----
----       2      2,-1
-----AGGUAGUAGUUUGUACAGUU-----
----       3      2,0

```

>hsa-let-7i MA:6-27;mi:62-83 SRX018959

```

cuggcUGAGGUAGUAGUUUGUGCUGUUGgucgguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUU
GCUa

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))

```

```

----CUGAGGUAGUAGUUUGUGC-----
----      4      -1,-4
----CUGAGGUAGUAGUUUGUGCU-----
----      6      -1,-3
----UGAGGUAGUAGUUUGUGC-----
----     540      0,-4
----UGAGGUAGUAGUUUGUGCaa-----
----      2      0,-4
----UGAGGUAGUAGUUUGUGCau-----
----      3      0,-4
----UGAGGUAGUAGUUUGUGCU-----
----     2038      0,-3
----UGAGGUAGUAGUUUGUGCUG-----
----     305      0,-2
----UGAGGUAGUAGUUUGUGCUGa-----
----      7      0,-2
----UGAGGUAGUAGUUUGUGCUGU-----

```

```

---- 188 0,-1
----UGAGGUAGUAGUUUGUGCUGUa-----
---- 5 0,-1
----UGAGGUAGUAGUUUGUGCUGUaa-----
---- 8 0,-1
----UGAGGUAGUAGUUUGUGCUGUau-----
---- 4 0,-1
----UGAGGUAGUAGUUUGUGCUGUU-----
---- 293 0,0
----UGAGGUAGUAGUUUGUGCUGUUa-----
---- 101 0,0
----UGAGGUAGUAGUUUGUGCUGUUaa-----
---- 27 0,0
----UGAGGUAGUAGUUUGUGCUGUUau-----
---- 8 0,0
----UGAGGUAGUAGUUUGUGCUGUUu-----
---- 192 0,0
----UGAGGUAGUAGUUUGUGCUGUUuu-----
---- 28 0,0
----GAGGUAGUAGUUUGUGCU-----
---- 10 1,-3
----GAGGUAGUAGUUUGUGCUGU-----
---- 5 1,-1
----GAGGUAGUAGUUUGUGCUGUU-----
---- 3 1,0
----GAGGUAGUAGUUUGUGCUGUUu-----
---- 2 1,0
-----CUGCGCAAGCUACUGCCUU
---- 3 0,-3

```

>hsa-mir-1-1 3p:46-67 SRX018959

```

ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAGAAGUAUGUAUcuca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGAAUGUAAAGAAGUAU----- 44 0,-4
-----UGGAAUGUAAAGAAGUAUa----- 5 0,-4
-----UGGAAUGUAAAGAAGUAUG----- 34 0,-3
-----UGGAAUGUAAAGAAGUAUGU----- 29 0,-2
-----UGGAAUGUAAAGAAGUAUGUA----- 99 0,-1

```


-----			-----UGGAAUGUAAAGAAGUAUGUAUUU-----
-----	2	0,2	
-----			-----GGAAUGUAAAGAAGUAUGUAa-----
-----	2	1,-1	
-----			-----GGAAUGUAAAGAAGUAUGUAU-----
-----	20	1,0	
-----			-----GAAUGUAAAGAAGUAUGUAU-----
-----	3	2,0	

>hsa-mi r-100 MA:13-34;mi :48-69 SRX018959

```

-----AACCCGUAGAUCCGAACUUGUaa-----
49  0,-1
-----AACCCGUAGAUCCGAACUUGUau-----
18  0,-1
-----AACCCGUAGAUCCGAACUUGUu-----
44  0,-1
-----AACCCGUAGAUCCGAACUUGUuu-----
16  0,-1
-----AACCCGUAGAUCCGAACUUGUG-----
8799  0,0
-----AACCCGUAGAUCCGAACUUGUGa-----
7640  0,0
-----AACCCGUAGAUCCGAACUUGUGaa-----
472  0,0
-----AACCCGUAGAUCCGAACUUGUGau-----
26  0,0
-----AACCCGUAGAUCCGAACUUGUGu-----
5573  0,0
-----AACCCGUAGAUCCGAACUUGUGuu-----
27  0,0
-----AACCCGUAGAUCCGAACUUGUGG-----
33  0,1
-----AACCCGUAGAUCCGAACUUGUGGa-----
2  0,1
-----ACCCGUAGAUCCGAACUUGU-----
4  1,-1
-----ACCCGUAGAUCCGAACUUGUG-----
4  1,0
-----ACCCGUAGAUCCGAACUUGUGa-----
16  1,0
-----ACCCGUAGAUCCGAACUUGUGu-----
5  1,0

```

>hsa-mir-101-1 mi:11-32;MA:47-67 SRX018959

```

ugcccuggcuCAGUUAUCACAGUGCUGAUGCUgucuaauucuaaaggUACAGUACUGUGAUAAACUGAAggauggca
.((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((

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```

-----GGUACAGUACUGUGAUAAACUG----- 2
-2,-2

```

-----	-GGUACAGUACUGUGAUAACUGAA-----	3
-2,0		
-----	-GUACAGUACUGUGAUAAC-----	1019
-1,-4		
-----	-GUACAGUACUGUGAUAACa-----	8
-1,-4		
-----	-GUACAGUACUGUGAUAACU-----	
37264	-1,-3	
-----	-GUACAGUACUGUGAUAACUa-----	19
-1,-3		
-----	-GUACAGUACUGUGAUAACUaa-----	19
-1,-3		
-----	-GUACAGUACUGUGAUAACUau-----	2
-1,-3		
-----	-GUACAGUACUGUGAUAACUu-----	16
-1,-3		
-----	-GUACAGUACUGUGAUAACUuu-----	2
-1,-3		
-----	-GUACAGUACUGUGAUAACUG-----	2760
-1,-2		
-----	-GUACAGUACUGUGAUAACUGu-----	76
-1,-2		
-----	-GUACAGUACUGUGAUAACUGuu-----	2
-1,-2		
-----	-GUACAGUACUGUGAUAACUGA-----	
31898	-1,-1	
-----	-GUACAGUACUGUGAUAACUGAu-----	296
-1,-1		
-----	-GUACAGUACUGUGAUAACUGAuu-----	9
-1,-1		
-----	-GUACAGUACUGUGAUAACUGAA-----	
43674	-1,0	
-----	-GUACAGUACUGUGAUAACUGAAa-----	
10276	-1,0	
-----	-GUACAGUACUGUGAUAACUGAAaa-----	354
-1,0		
-----	-GUACAGUACUGUGAUAACUGAAau-----	22
-1,0		

		-----GUACAGUACUGUGAUAAACUGAAu-----	105
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAG-----	56
-1,1			
		-----GUACAGUACUGUGAUAAACUGAAGu-----	3
-1,1			
		-----GUACAGUACUGUGAUAAACUGAAGG-----	2
-1,2			
		-----UACAGUACUGUGAUAAACU-----	
39178	0,-3		
		-----UACAGUACUGUGAUAAACUa-----	10
0,-3			
		-----UACAGUACUGUGAUAAACUaa-----	31
0,-3			
		-----UACAGUACUGUGAUAAACUu-----	16
0,-3			
		-----UACAGUACUGUGAUAAACUG-----	4005
0,-2			
		-----UACAGUACUGUGAUAAACUGu-----	50
0,-2			
		-----UACAGUACUGUGAUAAACUGA-----	
53281	0,-1		
		-----UACAGUACUGUGAUAAACUGAu-----	235
0,-1			
		-----UACAGUACUGUGAUAAACUGAuu-----	219
0,-1			
		-----UACAGUACUGUGAUAAACUGAA-----	
115605	0,0		
		-----UACAGUACUGUGAUAAACUGAAa-----	
31911	0,0		
		-----UACAGUACUGUGAUAAACUGAAaa-----	1030
0,0			
		-----UACAGUACUGUGAUAAACUGAAau-----	119
0,0			
		-----UACAGUACUGUGAUAAACUGAAu-----	3595
0,0			
		-----UACAGUACUGUGAUAAACUGAAuu-----	128
0,0			

	-----UACAGUACUGUGAUAAACUGAAG-----	8492
0,1		
	-----UACAGUACUGUGAUAAACUGAAGu-----	1004
0,1		
	-----UACAGUACUGUGAUAAACUGAAGuu-----	24
0,1		
	-----UACAGUACUGUGAUAAACUGAAGG-----	9
0,2		
	-----UACAGUACUGUGAUAAACUGAAGGA-----	9
0,3		
	-----ACAGUACUGUGAUAAACUG-----	27
1,-2		
	-----ACAGUACUGUGAUAAACUGA-----	299
1,-1		
	-----ACAGUACUGUGAUAAACUGAA-----	779
1,0		
	-----ACAGUACUGUGAUAAACUGAAa-----	298
1,0		
	-----ACAGUACUGUGAUAAACUGAAaa-----	18
1,0		
	-----ACAGUACUGUGAUAAACUGAAau-----	22
1,0		
	-----ACAGUACUGUGAUAAACUGAAu-----	35
1,0		
	-----ACAGUACUGUGAUAAACUGAAuu-----	11
1,0		
	-----ACAGUACUGUGAUAAACUGAAG-----	102
1,1		
	-----ACAGUACUGUGAUAAACUGAAGu-----	44
1,1		
	-----CAGUACUGUGAUAAACUGA-----	29
2,-1		
	-----CAGUACUGUGAUAAACUGAA-----	119
2,0		
	-----CAGUACUGUGAUAAACUGAAa-----	29
2,0		
	-----CAGUACUGUGAUAAACUGAAaa-----	9
2,0		


```

-----CAGUACUGUGUAACUGAAu----- 4
2,0
-----CAGUACUGUGUAACUGAAuu----- 2
2,0
-----CAGUACUGUGUAACUGAAG----- 15
2,1
-----CAGUACUGUGUAACUGAAGu----- 5
2,1

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>hsa-mir-101-2 3p:49-69 SRX018959

```

acuguccuuuuucgguaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGUAACUGAAgaugguggu
((..((.((((((((((((((((((((((.((((.....)))))).))))))))))))))))))..))

```

```

-----GGUACAGUACUGUGUAACUG-----
2 -2,-2
-----GGUACAGUACUGUGUAACUGAA-----
3 -2,0
-----GUACAGUACUGUGUAAC-----
1019 -1,-4
-----GUACAGUACUGUGUAACa-----
8 -1,-4
-----GUACAGUACUGUGUAACU-----
37264 -1,-3
-----GUACAGUACUGUGUAACUa-----
19 -1,-3
-----GUACAGUACUGUGUAACUaa-----
19 -1,-3
-----GUACAGUACUGUGUAACUau-----
2 -1,-3
-----GUACAGUACUGUGUAACUu-----
16 -1,-3
-----GUACAGUACUGUGUAACUuu-----
2 -1,-3
-----GUACAGUACUGUGUAACUG-----
2760 -1,-2
-----GUACAGUACUGUGUAACUGu-----
76 -1,-2
-----GUACAGUACUGUGUAACUGuu-----
2 -1,-2

```

-----GUACAGUACUGUGAUAAACUGA-----
31898 -1,-1
-----GUACAGUACUGUGAUAAACUGAu-----
296 -1,-1
-----GUACAGUACUGUGAUAAACUGAuu-----
9 -1,-1
-----GUACAGUACUGUGAUAAACUGAA-----
43674 -1,0
-----GUACAGUACUGUGAUAAACUGAAa-----
10276 -1,0
-----GUACAGUACUGUGAUAAACUGAAaa-----
354 -1,0
-----GUACAGUACUGUGAUAAACUGAAau-----
22 -1,0
-----GUACAGUACUGUGAUAAACUGAAu-----
105 -1,0
-----GUACAGUACUGUGAUAAACUGAAG-----
56 -1,1
-----GUACAGUACUGUGAUAAACUGAAGu-----
3 -1,1
-----GUACAGUACUGUGAUAAACUGAAGA-----
17 -1,2
-----UACAGUACUGUGAUAAACU-----
39178 0,-3
-----UACAGUACUGUGAUAAACUa-----
10 0,-3
-----UACAGUACUGUGAUAAACUaa-----
31 0,-3
-----UACAGUACUGUGAUAAACUu-----
16 0,-3
-----UACAGUACUGUGAUAAACUG-----
4005 0,-2
-----UACAGUACUGUGAUAAACUGu-----
50 0,-2
-----UACAGUACUGUGAUAAACUGA-----
53281 0,-1
-----UACAGUACUGUGAUAAACUGAu-----
235 0,-1

		-----UACAGUACUGUGAUAAACUGAuu-----
219	0, -1	
		-----UACAGUACUGUGAUAAACUGAA-----
115605	0,0	
		-----UACAGUACUGUGAUAAACUGAAa-----
31911	0,0	
		-----UACAGUACUGUGAUAAACUGAAaa-----
1030	0,0	
		-----UACAGUACUGUGAUAAACUGAAau-----
119	0,0	
		-----UACAGUACUGUGAUAAACUGAAu-----
3595	0,0	
		-----UACAGUACUGUGAUAAACUGAAuu-----
128	0,0	
		-----UACAGUACUGUGAUAAACUGAAG-----
8492	0,1	
		-----UACAGUACUGUGAUAAACUGAAGu-----
1004	0,1	
		-----UACAGUACUGUGAUAAACUGAAGuu-----
24	0,1	
		-----UACAGUACUGUGAUAAACUGAAGA-----
2077	0,2	
		-----UACAGUACUGUGAUAAACUGAAGAu-----
6	0,2	
		-----UACAGUACUGUGAUAAACUGAAGAA-----
89	0,3	
		-----UACAGUACUGUGAUAAACUGAAGAAa-----
20	0,3	
		-----ACAGUACUGUGAUAAACUG-----
27	1, -2	
		-----ACAGUACUGUGAUAAACUGA-----
299	1, -1	
		-----ACAGUACUGUGAUAAACUGAA-----
779	1,0	
		-----ACAGUACUGUGAUAAACUGAAa-----
298	1,0	
		-----ACAGUACUGUGAUAAACUGAAaa-----
18	1,0	

		-----ACAGUACUGUGAUAACUGAA <u>au</u> -----
22	1,0	
		-----ACAGUACUGUGAUAACUGAA <u>u</u> -----
35	1,0	
		-----ACAGUACUGUGAUAACUGAA <u>uu</u> -----
11	1,0	
		-----ACAGUACUGUGAUAACUGAAG-----
102	1,1	
		-----ACAGUACUGUGAUAACUGAAG <u>u</u> -----
44	1,1	
		-----ACAGUACUGUGAUAACUGAAGA-----
36	1,2	
		-----ACAGUACUGUGAUAACUGAAGAA-----
4	1,3	
		-----ACAGUACUGUGAUAACUGAAGAA <u>a</u> -----
2	1,3	
		-----CAGUACUGUGAUAACUGA-----
29	2,-1	
		-----CAGUACUGUGAUAACUGAA-----
119	2,0	
		-----CAGUACUGUGAUAACUGAA <u>a</u> -----
29	2,0	
		-----CAGUACUGUGAUAACUGAA <u>aa</u> -----
9	2,0	
		-----CAGUACUGUGAUAACUGAA <u>u</u> -----
4	2,0	
		-----CAGUACUGUGAUAACUGAA <u>uu</u> -----
2	2,0	
		-----CAGUACUGUGAUAACUGAAG-----
15	2,1	
		-----CAGUACUGUGAUAACUGAAG <u>u</u> -----
5	2,1	
		-----CAGUACUGUGAUAACUGAAGA-----
35	2,2	
		-----CAGUACUGUGAUAACUGAAG <u>u</u> -----
3	2,2	
		-----CAGUACUGUGAUAACUGAAGAA-----
21	2,3	

```

-----CAGUACUGUGAUAACUGAAGAAa-----
28 2,3
-----CAGUACUGUGAUAACUGAAGAAU-----
2 2,4

>hsa-mir-103-1 3p:48-70 SRX018959
uacugcccucggcuucuuuacagugcugccuuguugcatauuggaucacAGCAGCAUUGUACAGGGCUAUGAaggcauug
...(((((((.(((.(((((((((((((((.(((.(....).).))))))))))))).))))).)).))))...
-----GGCUUCUUUACAGUGCUGCCUU-----
2
-----AGCAGCAUUGUACAGGGC-----
4102 0,-5
-----AGCAGCAUUGUACAGGGCa-----
4 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
3 0,-5
-----AGCAGCAUUGUACAGGGCau-----
4 0,-5
-----AGCAGCAUUGUACAGGGCU-----
1983 0,-4
-----AGCAGCAUUGUACAGGGCUu-----
26 0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
26 0,-4
-----AGCAGCAUUGUACAGGGCUA-----
2933 0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
148 0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
34 0,-3
-----AGCAGCAUUGUACAGGGCUAau-----
28 0,-3
-----AGCAGCAUUGUACAGGGCUAU-----
14923 0,-2
-----AGCAGCAUUGUACAGGGCUAUa-----
4958 0,-2
-----AGCAGCAUUGUACAGGGCUAUaa-----
306 0,-2

```

		-----AGCAGCAUUGUACAGGGCUAUau-----
304	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
1299	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
403	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
9556	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
2270	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
231	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
12145	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
804	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
26	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
225	0, 1	
		-----AGCAGCAUUGUACAGGGCUAUGAAu-----
4	0, 1	
		-----GCAGCAUUGUACAGGGCU-----
4	1, -4	
		-----GCAGCAUUGUACAGGGCUA-----
8	1, -3	
		-----GCAGCAUUGUACAGGGCUAU-----
40	1, -2	
		-----GCAGCAUUGUACAGGGCUAUa-----
8	1, -2	
		-----GCAGCAUUGUACAGGGCUAUG-----
27	1, -1	
		-----GCAGCAUUGUACAGGGCUAUGu-----
10	1, -1	
		-----GCAGCAUUGUACAGGGCUAUGA-----
82	1, 0	
		-----GCAGCAUUGUACAGGGCUAUGAu-----
6	1, 0	

```

-----CAGCAUUGUACAGGGCUAU-----
11  2,-2
-----CAGCAUUGUACAGGGCUAUa-----
5   2,-2
-----CAGCAUUGUACAGGGCUAUG-----
16  2,-1
-----CAGCAUUGUACAGGGCUAUGu-----
6   2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
49  2,0

```

>hsa-mir-103-2 mi:11-33;MA:48-70 SRX018959

```

uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..((.((((((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGCUUCUUUACAGUGCUGCCUUG-----
2   0,0
-----AGCAGCAUUGUACAGGGC-----
4102  0,-5
-----AGCAGCAUUGUACAGGGCa-----
4   0,-5
-----AGCAGCAUUGUACAGGGCaa-----
3   0,-5
-----AGCAGCAUUGUACAGGGCau-----
4   0,-5
-----AGCAGCAUUGUACAGGGCU-----
1983  0,-4
-----AGCAGCAUUGUACAGGGCUu-----
26  0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
26  0,-4
-----AGCAGCAUUGUACAGGGCUA-----
2933  0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
148  0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
34  0,-3
-----AGCAGCAUUGUACAGGGCUAau-----
28  0,-3

```

		-----AGCAGCAUUGUACAGGGCUAU-----
14923	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUa-----
4958	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUaa-----
306	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUau-----
304	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
1299	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
403	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
9556	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
2270	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
231	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
12145	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
804	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
26	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
225	0, 1	
		-----AGCAGCAUUGUACAGGGCUAUGAAu-----
4	0, 1	
		-----AGCAGCAUUGUACAGGGCUAUGAAA-----
46	0, 2	
		-----GCAGCAUUGUACAGGGCU-----
4	1, -4	
		-----GCAGCAUUGUACAGGGCUA-----
8	1, -3	
		-----GCAGCAUUGUACAGGGCUAU-----
40	1, -2	
		-----GCAGCAUUGUACAGGGCUAUa-----
8	1, -2	


```

-----GCAGCAUUGUACAGGGCUAUG-----
27  1,-1
-----GCAGCAUUGUACAGGGCUAUGu-----
10  1,-1
-----GCAGCAUUGUACAGGGCUAUGA-----
82  1,0
-----GCAGCAUUGUACAGGGCUAUGAu-----
6   1,0
-----CAGCAUUGUACAGGGCUAU-----
11  2,-2
-----CAGCAUUGUACAGGGCUAUa-----
5   2,-2
-----CAGCAUUGUACAGGGCUAUG-----
16  2,-1
-----CAGCAUUGUACAGGGCUAUGu-----
6   2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
49  2,0

```

>hsa-mir-106a MA:13-35;mi:50-71 SRX018959

ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucuaCUGCAAUGUAAGCACUUCUUACauuaccaug
g

((.(((..((((((((((((((((((.(((((.(((.(.....)).))))))))).))))))))).))))).))

```

-----AAAAGUGCUUACAGUGCAG-----
- 2  0,-4
-----AAAAGUGCUUACAGUGCAGGU-----
- 2  0,-2
-----AAAAGUGCUUACAGUGCAGGUA-----
- 2  0,-1
-----AAAGUGCUUACAGUGCAG-----
- 4  1,-4
-----AAAGUGCUUACAGUGCAGG-----
- 4  1,-3
-----AAAGUGCUUACAGUGCAGGU-----
- 3  1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
- 2  1,-1

```

```

-----AAAGUGCUUACAGUGCAGGUAu-----
-   3   1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
-   8   1,0

>hsa-mir-106b   MA:12-32;mi:52-73   SRX018959
ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----UAAAGUGCUGACAGUGCA-----
--  10   0,-3
-----UAAAGUGCUGACAGUGCAG-----
--  35   0,-2
-----UAAAGUGCUGACAGUGCAGA-----
--  10   0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
--  37   0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
--   6   0,0
-----UAAAGUGCUGACAGUGCAGAUa-----
--  73   0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
--  31   0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
--  25   0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
--   3   0,2
-----UACCGCACUGUGGGUACUUGC-----
--   3   -2,-3
-----UACCGCACUGUGGGUACUUGCU-----
--  17   -2,-2
-----CCGCACUGUGGGUACUUGCU-----
--  20   0,-2
-----CCGCACUGUGGGUACUUGCUa-----
--   4   0,-2
-----CCGCACUGUGGGUACUUGCUG-----
--  44   0,-1

```

```

-----CCGCACUGUGGGUACUUGCUGa-----
-- 44 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 11 0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 11 0,-1
-----CCGCACUGUGGGUACUUGCUGC-----
-- 78 0,0
-----CCGCACUGUGGGUACUUGCUGCa-----
-- 2 0,0
-----CCGCACUGUGGGUACUUGCUGCU-----
-- 3 0,1
-----CGCACUGUGGGUACUUGCUGC-----
-- 3 1,0

```

>hsa-mir-107 3p:50-72 SRX018959

```

cucucugcuuucagcuucuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCaagcacag
a

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

```

```

-----AGCUUCUUUACAGUGUUGCCUUG-----
- 2
-----AGCAGCAUUGUACAGGGC-----
- 4102 0,-5
-----AGCAGCAUUGUACAGGGCa-----
- 4 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 3 0,-5
-----AGCAGCAUUGUACAGGGCau-----
- 4 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 1983 0,-4
-----AGCAGCAUUGUACAGGGCUu-----
- 26 0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
- 26 0,-4
-----AGCAGCAUUGUACAGGGCUA-----
- 2933 0,-3

```

```

-----AGCAGCAUUGUACAGGGCUAa-----
- 148 0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
- 34 0,-3
-----AGCAGCAUUGUACAGGGCUAau-----
- 28 0,-3
-----AGCAGCAUUGUACAGGGCUAU-----
- 14923 0,-2
-----AGCAGCAUUGUACAGGGCUAUa-----
- 4958 0,-2
-----AGCAGCAUUGUACAGGGCUAUaa-----
- 306 0,-2
-----AGCAGCAUUGUACAGGGCUAUau-----
- 304 0,-2
-----AGCAGCAUUGUACAGGGCUAUu-----
- 1299 0,-2
-----AGCAGCAUUGUACAGGGCUAUuu-----
- 403 0,-2
-----AGCAGCAUUGUACAGGGCUAUC-----
- 1474 0,-1
-----AGCAGCAUUGUACAGGGCUAUCu-----
- 871 0,-1
-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 24 0,-1
-----AGCAGCAUUGUACAGGGCUAUCA-----
- 3636 0,0
-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 94 0,0
-----AGCAGCAUUGUACAGGGCUAUCAuu-----
- 4 0,0
-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 24 0,1
-----GCAGCAUUGUACAGGGCU-----
- 4 1,-4
-----GCAGCAUUGUACAGGGCUA-----
- 8 1,-3
-----GCAGCAUUGUACAGGGCUAU-----
- 40 1,-2

```



```

-----UACCCUGUAGAUCCGAAUUUG-----
-----763 0,-2-----
-----UACCCUGUAGAUCCGAAUUUGa-----
-----9 0,-2-----
-----UACCCUGUAGAUCCGAAUUUGau-----
-----3 0,-2-----
-----UACCCUGUAGAUCCGAAUUUGU-----
-----2053 0,-1-----
-----UACCCUGUAGAUCCGAAUUUGUa-----
-----7 0,-1-----
-----UACCCUGUAGAUCCGAAUUUGUaa-----
-----2 0,-1-----
-----UACCCUGUAGAUCCGAAUUUGUu-----
-----5 0,-1-----
-----UACCCUGUAGAUCCGAAUUUGUG-----
-----164 0,0-----
-----UACCCUGUAGAUCCGAAUUUGUGa-----
-----45 0,0-----
-----UACCCUGUAGAUCCGAAUUUGUGU-----
-----23 0,1-----
-----ACCCUGUAGAUCCGAAUUU-----
-----4 1,-3-----
-----ACCCUGUAGAUCCGAAUUUG-----
-----8 1,-2-----
-----ACCCUGUAGAUCCGAAUUUGa-----
-----3 1,-2-----
-----ACCCUGUAGAUCCGAAUUUGU-----
-----230 1,-1-----
-----ACCCUGUAGAUCCGAAUUUGUG-----
-----150 1,0-----
-----ACCCUGUAGAUCCGAAUUUGUGa-----
-----205 1,0-----
-----ACCCUGUAGAUCCGAAUUUGUGaa-----
-----26 1,0-----
-----ACCCUGUAGAUCCGAAUUUGUGU-----
-----75 1,1-----
-----CCCUGUAGAUCCGAAUUUGU-----
-----2 2,-1-----

```



```

-----UGGAGUGUGACAAUGGUGa-----
----- 416 0,-4
-----UGGAGUGUGACAAUGGUGaa-----
----- 240 0,-4
-----UGGAGUGUGACAAUGGUGau-----
----- 14 0,-4
-----UGGAGUGUGACAAUGGUGU-----
----- 57427 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 1356 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 3396 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 433 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 119783 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 11885 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 4739 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 805 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 766530 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 54095 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 36921 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 18234 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 22122 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 2779 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1676822 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 1542903 0,0

```

```

-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 31836 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 14742 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 932474 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 2580 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 2456 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 1410 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 2617 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 781 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 142 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 32 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 114 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 718 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 20 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 37 1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 7 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 1493 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 103 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 79 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 14 1,-2

```

```

-----GGAGUGUGACAAUGGUGUUU-----
----- 7321 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 653 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 516 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 208 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 175 1,-1
-----GGAGUGUGACAAUGGUGUUUuu-----
----- 18 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 23633 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 20580 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 522 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 276 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 10155 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 39 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 56 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 29 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 68 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 20 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 5 1,2
-----GGAGUGUGACAAUGGUGUUUGUGU-----
----- 9 1,3
-----GAGUGUGACAAUGGUGUU-----
----- 181 2,-2

```

```

-----GAGUGUGACAAUGGUGUUU-----
----- 199 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 10 2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 6 2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 2 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 5 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 133 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 189 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 6 2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 2 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 124 2,1
-----CAAACGCCAUUAUCACACUAA-----
----- 5 -2,-3
-----AAACGCCAUUAUCACACU-----
----- 4 -1,-5
-----AAACGCCAUUAUCACACUA-----
----- 25 -1,-4
-----AAACGCCAUUAUCACACUAu-----
----- 12 -1,-4
-----AAACGCCAUUAUCACACUAuu-----
----- 22 -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 176 -1,-3
-----AAACGCCAUUAUCACACUAAu-----
----- 45 -1,-3
-----AAACGCCAUUAUCACACUAAuu-----
----- 27 -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 88 -1,-2

```

-----			-----AAACGCCAUUAUCACACUAAAa-----
-----	9	-1,-2	
-----			-----AAACGCCAUUAUCACACUAAAU-----
-----	848	-1,-1	
-----			-----AAACGCCAUUAUCACACUAAAUu-----
-----	42	-1,-1	
-----			-----AAACGCCAUUAUCACACUAAAUA-----
-----	38	-1,0	
-----			-----AAACGCCAUUAUCACACUAAAUAa-----
-----	4	-1,0	
-----			-----AACGCCAUUAUCACACUA-----
-----	153	0,-4	
-----			-----AACGCCAUUAUCACACUAu-----
-----	5	0,-4	
-----			-----AACGCCAUUAUCACACUAuu-----
-----	29	0,-4	
-----			-----AACGCCAUUAUCACACUAA-----
-----	150	0,-3	
-----			-----AACGCCAUUAUCACACUAAu-----
-----	46	0,-3	
-----			-----AACGCCAUUAUCACACUAAuu-----
-----	141	0,-3	
-----			-----AACGCCAUUAUCACACUAAA-----
-----	407	0,-2	
-----			-----AACGCCAUUAUCACACUAAAa-----
-----	78	0,-2	
-----			-----AACGCCAUUAUCACACUAAAaa-----
-----	25	0,-2	
-----			-----AACGCCAUUAUCACACUAAAau-----
-----	2	0,-2	
-----			-----AACGCCAUUAUCACACUAAAU-----
-----	5861	0,-1	
-----			-----AACGCCAUUAUCACACUAAAUu-----
-----	540	0,-1	
-----			-----AACGCCAUUAUCACACUAAAUuu-----
-----	55	0,-1	
-----			-----AACGCCAUUAUCACACUAAAUA-----
-----	1564	0,0	

```

-----AACGCCAUUAUCACACUAAAUa-----
----- 308 0,0
-----AACGCCAUUAUCACACUAAAUau-----
----- 2 0,0
-----AACGCCAUUAUCACACUAAAUau-----
----- 911 0,0
-----AACGCCAUUAUCACACUAAAUau-----
----- 19 0,0
-----ACGCCAUUAUCACACUAAA-----
----- 2 1,-2
-----ACGCCAUUAUCACACUAAAa-----
----- 5 1,-2
-----ACGCCAUUAUCACACUAAAU-----
----- 23 1,-1
-----ACGCCAUUAUCACACUAAAU-----
----- 11 1,0
-----ACGCCAUUAUCACACUAAAUa-----
----- 3 1,0

```

```

>hsa-mir-1228 mi:1-21;MA:52-71 SRX018959
GUGGGCGGGGGCAGGUGUGUGgugggugggugccugcgugagcagggcccUCACACCUGCCUGCCCCCag
..(((((((((((((.....((((.....((((.....)))))))))).)))))))))).....
GUGGGCGGGGGCAGGUGUGUG----- 9
0,0

```

```

>hsa-mir-124-1 mi:14-35;MA:53-72 SRX018959
aggccucucucucCGUGUUCACAGCGGACCUUGAUuuuaauguccauacaauUAAGGCACGCGGUGAAUGCCaagaugg
ggcug
.((((((..(((..(((((((..(((..(((((((.....)))))))))).))))))))).))))..))
))))).
-----UAAGGCACGCGGUGAAUGCCAu-----
----- 2 0,1
-----UAAGGCACGCGGUGAAUGCCAA-----
----- 3 0,2

```

```

>hsa-mir-124-2 mi:25-46;MA:62-81 SRX018959
aucaagauuagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuuaaugucauacaauUAAGGCACGCGGUGAAUGC
Caagagcggagccuacggcugcacuugaa

```



```

>hsa-mir-1252    5p:5-26 SRX018959
agaaAGAAGGAAAUGAAUUCAUUUAgaaaagagaauuccaaugagcuuaauuuccuuuuuucu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
----AGAAGGAAAUGAAUUCAUUU-----                2    0,-1

>hsa-mir-1254    5p:18-41    SRX018959
ggugggaggauugcuugAGCCUGGAAGCUGGAGCCUGCAGUgaacuaucuuuguccacuguacuccagccuaggcaaca
aaugaaauccugucua
...((.((((((..(((.((((((..((((((..((((((..((((((..((((((..((((((..((((((..((((((..
). ....)))))).))..
-----AGCCUGGAAGCUGGAGCCUGCAGU-----
-----                2    0,0

>hsa-mir-1255b-1    5p:3-24 SRX018959
uaCGGAUGAGCAAAGAAAGUGGUUucuuaaaauggaauacuacucuugugaagaugcugugaa
(((((. ..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
--CGGAUGAGCAAAGAAAGUGGUU-----                17    0,0
--CGGAUGAGCAAAGAAAGUGGUUa-----                2    0,0
--CGGAUGAGCAAAGAAAGUGGUUU-----                3    0,1

>hsa-mir-1255b-2    5p:6-27 SRX018959
ucuuaCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuucuuugcucauccauaagga
(((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
----CGGAUGAGCAAAGAAAGUGGUU-----                17    0,0
----CGGAUGAGCAAAGAAAGUGGUUa-----                2    0,0
----CGGAUGAGCAAAGAAAGUGGUUU-----                3    0,1

>hsa-mir-1256    5p:35-56    SRX018959
agucagccuguugaagcuugaagcuugaugccAGGCAUUGACUUCUCACUAGCUgugaaaguccuagcuaaaagagaag
ucaaugcaugacauuguuucaauagauggcuguuuca
(((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).))..))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..
-----AGGCAUUGACUUCUCACUAGCU-----
-----                5    0,0
-----UAAAGAGAAG
UCA AUGCAUG-----                3

>hsa-mir-1258    3p:44-64    SRX018959

```

cuguggcuuccagaccuaauccuaacuccugcgcagucccuggAGUUAGGAUUAAGGUCGUGGAAgccacagga
(((((((((((((((((((((((((((((((((((.....)))))))))~))))))))))))).
-----CACGACCUAAUCCUAACU----- 2
-----GAGUUAGGAUUAAGGUCGU----- 2
-1,-4
-----AGUUAGGAUUAAGGUCGUG----- 2
0,-3

>hsa-mi r-125a 5p:15-38;3p:53-74 SRX018959

```

ugccagucucuaggUCCCUGAGACCCUUUAACCUGUGAggacauccaggguacACAGGUGAGGUUCUUGGGAGCCuggcguc
cuggcc
(((((((.(.((((((..((..(((.((((..(((((((((((.....))....)))))))))))...)).)).).))).).
)))))).
-----UCCCUGAGACCCUUUAACC-----
-----700 0,-5
-----UCCCUGAGACCCUUUAACCa-----
-----3 0,-5
-----UCCCUGAGACCCUUUAACCU-----
-----7411 0,-4
-----UCCCUGAGACCCUUUAACCUu-----
-----6 0,-4
-----UCCCUGAGACCCUUUAACCUG-----
-----724 0,-3
-----UCCCUGAGACCCUUUAACCUGa-----
-----29 0,-3
-----UCCCUGAGACCCUUUAACCUGaa-----
-----9 0,-3
-----UCCCUGAGACCCUUUAACCUGU-----
-----721 0,-2
-----UCCCUGAGACCCUUUAACCUGUa-----
-----10 0,-2
-----UCCCUGAGACCCUUUAACCUGUu-----
-----12 0,-2
-----UCCCUGAGACCCUUUAACCUGUG-----
-----221 0,-1
-----UCCCUGAGACCCUUUAACCUGUGu-----
-----10 0,-1
-----UCCCUGAGACCCUUUAACCUGUGA-----

```



```

----- 11 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 3526 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 209 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 10487 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 2570 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 338 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 14 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
----- 122 0,1
-----UCCCUGAGACCCUAACUUGUGAUa-----
----- 30 0,1
-----UCCCUGAGACCCUAACUUGUGAUG-----
----- 2 0,2
-----CCUGAGACCCUAACUUGUG-----
----- 2 1,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 2 1,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 3 1,0
-----CCUGAGACCCUAACUUGUGAaa-----
----- 2 1,0
-----CCUGAGACCCUAACUUGUGAU-----
----- 6 1,1
-----CCUGAGACCCUAACUUGU-----
----- 16 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 19 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 3 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 71 2,0
-----CCUGAGACCCUAACUUGUGAa-----

```



```

----- 10487 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 2570 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 338 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 14 0,0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 14 0,1
-----CCCUGAGACCCUAACUUGUG-----
----- 2 1,-1
-----CCCUGAGACCCUAACUUGUGA-----
----- 2 1,0
-----CCCUGAGACCCUAACUUGUGAa-----
----- 3 1,0
-----CCCUGAGACCCUAACUUGUGAaa-----
----- 2 1,0
-----CCUGAGACCCUAACUUGU-----
----- 16 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 19 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 3 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 71 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 12 2,0
-----CCUGAGACCCUAACUUGUGAaa-----
----- 4 2,0
-----AUCACAAGUCAGGCUCUU-----
----- 2 -1,-5
-----AUCACAAGUCAGGCUCUUG-----
----- 14 -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 19 -1,-3
-----AUCACAAGUCAGGCUCUUGGG-----
----- 3 -1,-2
-----AUCACAAGUCAGGCUCUUGGGAC-----

```

```

----- 5 -1,0
-----UCACAAGUCAGGCUCUUG-----
----- 9 0,-4
-----UCACAAGUCAGGCUCUUG-----
----- 7 0,-3
-----UCACAAGUCAGGCUCUUGG-----
----- 5 0,-2
-----ACAAGUCAGGCUCUUGG-----
----- 42 2,-2
-----ACAAGUCAGGCUCUUGGA-----
----- 27 2,-1
-----ACAAGUCAGGCUCUUGGAa-----
----- 6 2,-1
-----ACAAGUCAGGCUCUUGGAC-----
----- 32 2,0
-----ACAAGUCAGGCUCUUGGACC-----
----- 8 2,1
-----ACAAGUCAGGCUCUUGGACCU-----
----- 8 2,2
-----ACAAGUCAGGCUCUUGGACCUu-----
----- 4 2,2
-----ACAAGUCAGGCUCUUGGACCUuu-----
----- 2 2,2
-----ACAAGUCAGGCUCUUGGACCUAu-----
----- 3 2,3

```

>hsa-mir-126 mi:15-35;MA:52-73 SRX018959

```

cgcuggcgcacgggaCAUUAUUACUUUUGGUACGCGcugugacacuucaaacUCGUACCGUGAGUAAUAAUGCGccgucca
cggca

```

```

.((((..((((((..((((((((((..((((((((..((...(((....)))..).)))))))).)))))))).))))..
))))).

```

```

-----CAUUAUUACUUUUGGUAC-----
----- 113 0,-3
-----CAUUAUUACUUUUGGUACG-----
----- 51 0,-2
-----CAUUAUUACUUUUGGUACGC-----
----- 52 0,-1
-----CAUUAUUACUUUUGGUACGCG-----

```

```

----- 509 0,0
-----CAUUAUUACUUUUGGUACGCGa-----
----- 167 0,0
-----CAUUAUUACUUUUGGUACGCGu-----
----- 72 0,0
-----CAUUAUUACUUUUGGUACGCGuu-----
----- 3 0,0
-----CAUUAUUACUUUUGGUACGCGC-----
----- 7 0,1
-----CAUUAUUACUUUUGGUACGCGCa-----
----- 3 0,1
-----CAUUAUUACUUUUGGUACGCGCU-----
----- 3 0,2
-----AUUAUUACUUUUGGUACGC-----
----- 9 1,-1
-----AUUAUUACUUUUGGUACGCG-----
----- 20 1,0
-----AUUAUUACUUUUGGUACGCGa-----
----- 6 1,0
-----AUUAUUACUUUUGGUACGCGaa-----
----- 3 1,0
-----AUUAUUACUUUUGGUACGCGu-----
----- 4 1,0
-----AUUAUUACUUUUGGUACGCGC-----
----- 4 1,1
-----AUUAUUACUUUUGGUACGCGCU-----
----- 14 1,2
-----AUUAUUACUUUUGGUACGCGCUa-----
----- 3 1,2
-----CUCGUACCGUGAGUAAUAAU-----
----- 3 -1,-3
-----CUCGUACCGUGAGUAAUAAUaa-----
----- 2 -1,-3
-----CUCGUACCGUGAGUAAUAAUG-----
----- 14 -1,-2
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 4 -1,-2
-----CUCGUACCGUGAGUAAUAAUGaa-----

```


-----	2	-1,-2	-----CUCGUACCGUGAGUAAUAAUGC-----
-----	41	-1,-1	-----CUCGUACCGUGAGUAAUAAUGCG-----
-----	14	-1,0	-----UCGUACCGUGAGUAAUAA-----
-----	2	0,-4	-----UCGUACCGUGAGUAAUAAU-----
-----	23	0,-3	-----UCGUACCGUGAGUAAUAAUa-----
-----	5	0,-3	-----UCGUACCGUGAGUAAUAAUG-----
-----	24	0,-2	-----UCGUACCGUGAGUAAUAAUGa-----
-----	21	0,-2	-----UCGUACCGUGAGUAAUAAUGaa-----
-----	13	0,-2	-----UCGUACCGUGAGUAAUAAUGC-----
-----	232	0,-1	-----UCGUACCGUGAGUAAUAAUGCa-----
-----	4	0,-1	-----UCGUACCGUGAGUAAUAAUGCG-----
-----	121	0,0	-----UCGUACCGUGAGUAAUAAUGCGa-----
-----	82	0,0	-----UCGUACCGUGAGUAAUAAUGCGu-----
-----	6	0,0	-----CGUACCGUGAGUAAUAAU-----
-----	4	1,-3	-----CGUACCGUGAGUAAUAAUG-----
-----	17	1,-2	-----CGUACCGUGAGUAAUAAUGaa-----
-----	3	1,-2	-----CGUACCGUGAGUAAUAAUGC-----
-----	70	1,-1	-----CGUACCGUGAGUAAUAAUGCa-----
-----	3	1,-1	-----CGUACCGUGAGUAAUAAUGCu-----

```

----- 2 1,-1
-----CGUACCGUGAGUAAUAAUGCG-----
----- 84 1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 29 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 11 1,0
-----GUACCGUGAGUAAUAAUG-----
----- 5 2,-2
-----GUACCGUGAGUAAUAAUGC-----
----- 26 2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 19 2,0
-----GUACCGUGAGUAAUAAUGCGa-----
----- 11 2,0

```

>hsa-mir-1260b 5p:10-28 SRX018959

```

ucuccguuuAUCCCACCACUGCCACCAUuauugcuacuguucagcaggugcugcugguggugauggugauagucuggugg
gggcggugg
.(.(((...(((((((((((.((((((((((...(((.....((((.....))))).)))...)))))))).))))).)))))
)))))).).
-----AUCCCACCACUGCCACCA-----
----- 2 0,-1

```

>hsa-mir-127 5p:23-44;3p:57-78 SRX018959

```

ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucaUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucaucauc
((.(((...(((...((((.....(((((((((((.(((((((((((.....)))...)))))).)))...)))))))).))))).))....
-----CUGAAGCUCAGAGGGCUC-----
----- 14 0,-4
-----CUGAAGCUCAGAGGGCUCU-----
----- 8 0,-3
-----CUGAAGCUCAGAGGGCUCUG-----
----- 2 0,-2
-----CUGAAGCUCAGAGGGCUCUGA-----
----- 10 0,-1
-----CUGAAGCUCAGAGGGCUCUGAU-----

```

-----	6	0,0	-----UCGGAUCCGUCUGAGCUU-----
-----	3	0,-4	-----UCGGAUCCGUCUGAGCUUG-----
-----	2	0,-3	-----UCGGAUCCGUCUGAGCUUGG-----
-----	18	0,-2	-----UCGGAUCCGUCUGAGCUUGGa---
-----	3	0,-2	-----UCGGAUCCGUCUGAGCUUGGaa--
-----	2	0,-2	-----UCGGAUCCGUCUGAGCUUGGuu--
-----	3	0,-2	-----UCGGAUCCGUCUGAGCUUGGC---
-----	60	0,-1	-----UCGGAUCCGUCUGAGCUUGGCa--
-----	69	0,-1	-----UCGGAUCCGUCUGAGCUUGGCaa-
-----	49	0,-1	-----UCGGAUCCGUCUGAGCUUGGCau-
-----	255	0,-1	-----UCGGAUCCGUCUGAGCUUGGCU--
-----	440	0,0	-----UCGGAUCCGUCUGAGCUUGGCUa-
-----	21	0,0	-----UCGGAUCCGUCUGAGCUUGGCUaa
-----	36	0,0	-----UCGGAUCCGUCUGAGCUUGGCUau
-----	192	0,0	-----UCGGAUCCGUCUGAGCUUGGCUu-
-----	174	0,0	-----UCGGAUCCGUCUGAGCUUGGCUuu
-----	63	0,0	-----CGGAUCCGUCUGAGCUUGGCUaa
-----	4	1,0	-----CGGAUCCGUCUGAGCUUGGCUau
-----	2	1,0	-----CGGAUCCGUCUGAGCUUGGCUu-

```

----- 2 1,0
-----GGAUCCGUCUGAGCUUGG-----
----- 2 2,-2
-----GGAUCCGUCUGAGCUUGGCau-
----- 4 2,-1
-----GGAUCCGUCUGAGCUUGGCU--
----- 10 2,0
-----GGAUCCGUCUGAGCUUGGCUau
----- 2 2,0
-----GGAUCCGUCUGAGCUUGGCUu-
----- 11 2,0
-----GGAUCCGUCUGAGCUUGGCUuu
----- 2 2,0

```

>hsa-mir-1270-1 5p:13-35 SRX018959

```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuucuuaucuucauguggcucuuu
gca
((.((((((((..((((((.(((((((((.(((((.....)))))))))))))).)))))).)))))))).)
)..
-----CUGGAGAU AUGGAAGAGC-----
--- 3 0,-5

```

>hsa-mir-1270-2 5p:13-35 SRX018959

```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuucuuaucuucauguggcucuuu
gca
((.((((((((..((((((.(((((((((.(((((.....)))))))))))))).)))))).)))))))).)
)..
-----CUGGAGAU AUGGAAGAGC-----
--- 3 0,-5

```

>hsa-mir-1271 5p:15-36 SRX018959

```

caccagaucagugCUUGGCACCUAGCAAGCACUCAguaaaauuuuguugagugccugcuauugugccaggcauugugcug
agggcu
..((((..((((((((((((..((((..((((((((((((.....)))))))))))))).)))))).)))))))).)
..))...
-----CUUGGCACCUAGCAAGCA-----
----- 2 0,-4
-----CUUGGCACCUAGCAAGCAC-----

```


2	-1, -1	UACGUAGAUUAUAUAUGUAU
2	0, -3	UACGUAGAUUAUAUAUGUAU _a
2	0, -3	UACGUAGAUUAUAUAUGUAUU
7	0, -2	UACGUAGAUUAUAUAUGUAUUU
19	0, -1	UACGUAGAUUAUAUAUGUAUUUU
96	0, 0	ACGUAGAUUAUAUAUGUAUUUU
2	1, 0	

>hsa-mir-128-1 3p:50-70 SRX018959
ugagcuguuuggaauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUUuucagcugcu

uc

$$.((((.(((((((\dots(((((((\dots(((((((\dots(((((((\dots)))))))))\dots))))))\dots))))))\dots))))).))\dots).$$

```

-----CUCACAGUGAACCGGUCUCUUa-----
-- 3 -1,-1
-----CUCACAGUGAACCGGUCUCUU-----
-- 5 -1,0
-----UCACAGUGAACCGGUCUC-----
-- 43 0,-3
-----UCACAGUGAACCGGUCUC-----
-- 117 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
-- 6 0,-2
-----UCACAGUGAACCGGUCUCUau-----
-- 3 0,-2
-----UCACAGUGAACCGGUCUCUU-----
-- 260 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
-- 73 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 38 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 37 0,-1
-----UCACAGUGAACCGGUCUCUU-----
-- 2691 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 579 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 97 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 84 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 1427 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 73 0,1
-----UCACAGUGAACCGGUCUCUUUUaa-----
-- 5 0,1
-----UCACAGUGAACCGGUCUCUUUUau-----

```

```

-- 4 0,1
-----UCACAGUGAACCGGUCUCUUUUU-----
-- 66 0,2
-----UCACAGUGAACCGGUCUCUUUUUa-----
-- 3 0,2
-----UCACAGUGAACCGGUCUCUUUUUu-----
-- 6 0,2
-----CACAGUGAACCGGUCUCUUU-----
-- 5 1,0
-----ACAGUGAACCGGUCUCUU-----
-- 2 2,-1
-----ACAGUGAACCGGUCUCUU-----
-- 17 2,0
-----ACAGUGAACCGGUCUCUUUa-----
-- 6 2,0
-----ACAGUGAACCGGUCUCUUUU-----
-- 13 2,1

```

>hsa-mir-128-2 3p:52-72 SRX018959

```

ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(..(((((((.((((((((((...((((((...(((.(.....).))))))))))))....)))))))).))))))
..).

```

```

-----CUCACAGUGAACCGGUCUCUUa-----
---- 3 -1,-1
-----CUCACAGUGAACCGGUCUCUU-----
---- 5 -1,0
-----UCACAGUGAACCGGUCUC-----
---- 43 0,-3
-----UCACAGUGAACCGGUCUC-----
---- 117 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
---- 6 0,-2
-----UCACAGUGAACCGGUCUCUau-----
---- 3 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 260 0,-1
-----UCACAGUGAACCGGUCUCUUa-----

```



```

----      73   0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
----      38   0,-1
-----UCACAGUGAACCGGUCUCUUau-----
----      37   0,-1
-----UCACAGUGAACCGGUCUCUUU-----
----     2691   0,0
-----UCACAGUGAACCGGUCUCUUUa-----
----      579  0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
----      97   0,0
-----UCACAGUGAACCGGUCUCUUUau-----
----      84   0,0
-----UCACAGUGAACCGGUCUCUUUC-----
----      24   0,1
-----UCACAGUGAACCGGUCUCUUUCa-----
----       4   0,1
-----UCACAGUGAACCGGUCUCUUUCu-----
----       6   0,1
-----CACAGUGAACCGGUCUCUUU-----
----       5   1,0
-----ACAGUGAACCGGUCUCUU-----
----       2   2,-1
-----ACAGUGAACCGGUCUCUUU-----
----      17   2,0
-----ACAGUGAACCGGUCUCUUUa-----
----       6   2,0

```

```

>hsa-mir-1284   5p:30-51   SRX018959
auuuugauauauaagccaguuaauguuuUCUAUACAGACCCUGGCUUUUCuuaaauuuuauauauuggaaagcccaugu
uuguauuggaaacugcugguuucuucauacugaaaaucu
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUAUACAGACCCUGGCUUUUC-----
-----4   0,0

```

```

>hsa-mir-1285-1 3p:51-72   SRX018959
uguagagauaggauaucacuuuguugcccaggcuggucuaaacuccuggUCUGGGCAACAAAGUGAGACCUuauucua

```

$$(((((((((((((((.(((((((((((((((((((((((((((..(.....)..)))))))))))))))))))))))).))))))))))$$

$$))..$$

-----			UCUGGGCAACAAAGUGAGA-----
----	4	0,-3	
-----			UCUGGGCAACAAAGUGAGAC-----
----	29	0,-2	
-----			UCUGGGCAACAAAGUGAGACa-----
----	5	0,-2	
-----			UCUGGGCAACAAAGUGAGACaa-----
----	6	0,-2	
-----			UCUGGGCAACAAAGUGAGACau-----
----	3	0,-2	
-----			UCUGGGCAACAAAGUGAGACC-----
----	13	0,-1	
-----			UCUGGGCAACAAAGUGAGACCaa-----
----	4	0,-1	
-----			UCUGGGCAACAAAGUGAGACCau-----
----	12	0,-1	
-----			UCUGGGCAACAAAGUGAGACCU-----
----	46	0,0	
-----			UCUGGGCAACAAAGUGAGACCUa-----
----	33	0,0	
-----			UCUGGGCAACAAAGUGAGACCUaa-----
----	11	0,0	
-----			UCUGGGCAACAAAGUGAGACCUau-----
----	41	0,0	
-----			UCUGGGCAACAAAGUGAGACCUU-----
----	33	0,1	
-----			UCUGGGCAACAAAGUGAGACCUUu-----
----	18	0,1	
-----			UCUGGGCAACAAAGUGAGACCUUuu-----
----	5	0,1	
-----			UCUGGGCAACAAAGUGAGACCUUA-----
----	2	0,2	
-----			CUGGGCAACAAAGUGAGACC-----
----	2	1,-1	
-----			CUGGGCAACAAAGUGAGACCUUu-----

---- 2 1,1

>hsa-mir-1285-2 3p:52-73 SRX018959

uuugggaggccgaggcuggugcaucacuugagcccagcaauugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

(((((((((((((((.....(((((((.....((((.....)))))).)))))).....))))))..))))).)))))..

-----UCUGGGCAACAAAGUGAGA-----

----- 4 0,-3

-----UCUGGGCAACAAAGUGAGAC-----

----- 29 0,-2

-----UCUGGGCAACAAAGUGAGACa-----

----- 5 0,-2

-----UCUGGGCAACAAAGUGAGACaa-----

----- 6 0,-2

-----UCUGGGCAACAAAGUGAGACau-----

----- 3 0,-2

-----UCUGGGCAACAAAGUGAGACC-----

----- 13 0,-1

-----UCUGGGCAACAAAGUGAGACCaa-----

----- 4 0,-1

-----UCUGGGCAACAAAGUGAGACCau-----

----- 12 0,-1

-----UCUGGGCAACAAAGUGAGACCU-----

----- 46 0,0

-----UCUGGGCAACAAAGUGAGACCUa-----

----- 33 0,0

-----UCUGGGCAACAAAGUGAGACCUaa-----

----- 11 0,0

-----UCUGGGCAACAAAGUGAGACCUau-----

----- 41 0,0

-----CUGGGCAACAAAGUGAGACC-----

----- 2 1,-1

>hsa-mir-1286 3p:47-67 SRX018959

uguccucuggggacucagcuugcucuggcugcuggauugaauuagcUGCAGGACCAAGAUGAGCCCUugguggagaca

..(((.(.(((.((((.((((.((((.(.....)))))).))))).))))).))))).))))).))))).))))).))))..

-----UGCAGGACCAAGAUGAGCCCUu-----

$2 \quad 0,1$

>hsa-mi r-1287 5p:16-37 SRX018959

guugugcuguccaggUGCUGGAUCAGUGGUUCGAGUCugagccuuuaaaagccacucuagccacagaugcagugauugga
gccaugacaa

$$((\dots(((\dots((((\dots(((\dots(((\dots(((((\dots(((\dots((\dots\dots\dots)))))))))\dots))))))\dots)\dots)\dots)\dots)$$

-----UGCUGGAUCAGUGGUUCGAGUu-----

$$----- \quad 2 \quad 0, -1$$

>hsa-mi r-129-2 5p:15-35;3p:57-78 SRX018959

ugcccuucgcgaauCUUUUUGCGGUCUGGGCUUGCuguacauaacucaauagccggAAGCCCUUACCCCAAAAAGCAUuu
gcggagggcg

-----AAGCCCUUACCCCAAAAAGCAU-----

$$- - - - - 2 \quad 0,0$$

>hsa-mi r-1291 5p:14-37 SRX018959

gguagaauuccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuucagcagaggccuaaaggacugu
cuuccug

$$((.((((.((((...(((((((.(.((((((((((((..(...).)))))))).)))...))).)...)))).))..$$

-----GUGGCCUGACUGAAGACCA-----

----- 5 -1, -5

-----GUGGCCUGACUGAAGACCAG-----

----- 2 -1, -4

-----GUGGCCUGACUGAAGACCAGC-----

----- 3 -1, -3

-----GUGGCCUGACUGAAGACCAGCA-----

----- 91 -1, -2

-----UGGCCCUGACUGAAGACCAGCA-----

----- 16 0,-2

>hsa-mir-1301 3p:48-71 SRX018959

ggauuguggggggucgcucuaggcaccgcagcacugugcuggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc

>hsa-mir-1307 3p:80-101 SRX018959

caucaagaccagcugagucacugucacugccuaccaaucuggaccgaccucgaccggcucgucuguguugccaaucGA
CUCGGCGUGGGCUCGGUCGUGguagauaggcggucaugcauacgaauuuucagcucuuguucugggac

-----UCGACCGGACCUCGACCGG_{uu}-----

 2

-----UCGACCGGACCUCGACCGGC-----

 2

-----UCGACCGGACCUCGACCGGCU-----

 145

-----UCGACCGGACCUCGACCGGCU_{aa}-----

 3

-----UCGACCGGACCUUGACCGGCUuu-----

13

-----UCGACCGGACCUUGACCGGCUC-----

 24

-----UIGACCGGACCTUCGACCGGGTUCa-----

5

-----UUGACCGGACCUUGACCGGGCU_{all}-----

-----UCGACCGGACCUUGACCGGCUUC-----

UCGACCGGACCUUGACCGGGUUG

3

CUCCGGCGUCCGGUCCGUCG	18	0	2
----------------------	----	---	---

10 0, 2

Λ

CUCCCCUCCCCUCCCCUCCU	23	0	1
----------------------	----	---	---

CCCCCCCCCCCCCCCCCC

ZS 0,-1

A

CUCCCCCUCCCCUCCCUCCU- 5' 0' 1'

cccccccccccccccccccc-----90,-1

CUCCCCCUCCCCUCCCUCCU	70	0	0
----------------------	----	---	---

----- 19 0,0

-----A

CUCCCCUCCCCUCCCCUCCU 7 0 0

00000000000000000000----- / 0,0

CHGGGGCHGGGGCHGGGG

0 1 2

CCGCGGCGGCGGCGGCG-----21,-2

```

CUCGGCGUGGCGUCGGUCGU----- 4 1,-1
-----
CUCGGCGUGGCGUCGGUCGUG----- 58 1,0
-----
CUCGGCGUGGCGUCGGUCGUGG----- 2 1,1
-----
-UCGGCGUGGCGUCGGUCG----- 2 2,-2

```

>hsa-mir-130a mi:21-42;MA:55-76 SRX018959

```

ugcugcuggccagagcucuuUUCACAUUGUGCUACUGUCUGCaccugucacuagCAGUGCAAUGUUAAAAGGGCAUuggc
cguguagug

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))).)))))).

```

```

-----CAGUGCAAUGUUAAAAGG-----
----- 2255 0,-4 -----
-----CAGUGCAAUGUUAAAAGGa-----
----- 2 0,-4 -----
-----CAGUGCAAUGUUAAAAGGu-----
----- 2 0,-4 -----
-----CAGUGCAAUGUUAAAAGGG-----
----- 388 0,-3 -----
-----CAGUGCAAUGUUAAAAGGGaa-----
----- 2 0,-3 -----
-----CAGUGCAAUGUUAAAAGGGC-----
----- 664 0,-2 -----
-----CAGUGCAAUGUUAAAAGGGCA-----
----- 161 0,-1 -----
-----CAGUGCAAUGUUAAAAGGGCAa-----
----- 20 0,-1 -----
-----CAGUGCAAUGUUAAAAGGGCAaa-----
----- 6 0,-1 -----
-----CAGUGCAAUGUUAAAAGGGCAau-----
----- 10 0,-1 -----
-----CAGUGCAAUGUUAAAAGGGCAU-----
----- 794 0,0 -----
-----CAGUGCAAUGUUAAAAGGGCAUa-----
----- 206 0,0 -----
-----CAGUGCAAUGUUAAAAGGGCAUaa-----

```

```

----- 15 0,0
-----CAGUGCAAUGUUAAAAGGGCAUU---
----- 261 0,1
-----CAGUGCAAUGUUAAAAGGGCAUUa--
----- 7 0,1
-----CAGUGCAAUGUUAAAAGGGCAUUaa-
----- 3 0,1
-----CAGUGCAAUGUUAAAAGGGCAUUau-
----- 3 0,1
-----CAGUGCAAUGUUAAAAGGGCAUUu--
----- 9 0,1
-----AGUGCAAUGUUAAAAGGG-----
----- 9 1,-3
-----AGUGCAAUGUUAAAAGGGC-----
----- 10 1,-2
-----AGUGCAAUGUUAAAAGGGCA-----
----- 2 1,-1
-----AGUGCAAUGUUAAAAGGGCAU-----
----- 18 1,0
-----AGUGCAAUGUUAAAAGGGCAUa---
----- 5 1,0
-----AGUGCAAUGUUAAAAGGGCAUU---
----- 7 1,1

```

>hsa-mir-130b mi:13-33;MA:51-72 SRX018959

```

ggccugcccgacACUCUUUCCCUGUUGCACUACuauaggccgcugggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc

```

```

(((((((.....)))))).....))
))

```

```

-----ACUCUUUCCCUGUUGCACUA-----
-- 2 0,-1
-----ACUCUUUCCCUGUUGCACUAC-----
-- 2 0,0
-----ACUCUUUCCCUGUUGCACUACU-----
-- 9 0,1
-----CAGUGCAAUGAUGAAAGG-----
-- 48 0,-4
-----CAGUGCAAUGAUGAAAGGG-----

```



```

))))...))))).
-----UUGGUCCCCUUAACCAGCUG
U----- 2 1,1

```

```

>hsa-mir-134 5p:8-29 SRX018959
cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguucacccugugggccaccuagucaccaaccuc
.((((((.(((((((.(((((.(((((((.....))))).))))).))))).))))).
-----UGUGACUGGUUGACCAGAGGG----- 4
0,-1
-----UGUGACUGGUUGACCAGAGGG----- 6
0,0
-----UGUGACUGGUUGACCAGAGGGGau----- 2
0,0

```

```

>hsa-mir-135a-2 5p:23-45 SRX018959
agauaaaauccacucuagugcuuUAUGGCUUUUUAUCCUAUGUGAuaguaauaaagucucauguaggggauggaagccaug
aaauacauugugaaaaauca
.((((...((((...(((.((((((((((((((.((((((((((((((.((.....).).))))))))))))))))))))))
)).))))...))))).
-----UGUAGGGAUGGAAGCCAUG
AAA----- 2

```

```

>hsa-mir-136 MA:15-37;mi:49-70 SRX018959
ugagcccucggaggACUCCAUUUGUUUUGAUGAUGGAuucuuauaucucCAUCAUCGUCUAAAUGAGUCUucagaggguu
cu
.(((((((.(((((((.(((((((.(((((((.....))))))))))))))))))))))))).
).
-----ACUCCAUUUGUUUUGAUG-----
-- 3 0,-5
-----ACUCCAUUUGUUUUGAUGA-----
-- 19 0,-4
-----ACUCCAUUUGUUUUGAUGAU-----
-- 47 0,-3
-----ACUCCAUUUGUUUUGAUGAUGGA-----
-- 6 0,0
-----ACUCCAUUUGUUUUGAUGAUGGAa-----
-- 3 0,0
-----CUCCAUUUGUUUUGAUGA-----

```

```

-- 3 1,-4
-----CAUCAUCGUCUCAAUAUGA-----
-- 15 0,-4
-----CAUCAUCGUCUCAAUAUGAG-----
-- 3 0,-3
-----CAUCAUCGUCUCAAUAUGAGU-----
-- 2 0,-2
-----CAUCAUCGUCUCAAUAUGAGUC-----
-- 5 0,-1
-----CAUCAUCGUCUCAAUAUGAGUCU-----
-- 3 0,0
-----AUCAUCGUCUCAAUAUGAGU-----
-- 2 1,-2

```

```

>hsa-mir-138-1 MA:23-45;mi:63-84 SRX018959
cccuggcauggugugguggggcAGCUGGUGUUGUGAAUCAGGCCGGuugccaucagagaacgGCUACUUCACAACACCAG
GGCCacaccacacuacagg
.((((...(((((((((((((...((((((((((((((((...((((((((((.....))))))))))..))))))))))))))
.)))).))))))))))))))
-----AGCUGGUGUUGUGAAUCAGGCCGU-----
----- 3 0,1

```

```

>hsa-mir-139 5p:7-28;3p:44-65 SRX018959
guguauUCUACAGUGCACGUGUCUCCAGuguggcucggaggcuGGAGACGCGGCCUGUUGGAGUaac
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UCUACAGUGCACGUGUCU----- 8 0,-4
-----UCUACAGUGCACGUGUCUC----- 27 0,-3
-----UCUACAGUGCACGUGUCUCa----- 2 0,-3
-----UCUACAGUGCACGUGUCUCC----- 40 0,-2
-----UCUACAGUGCACGUGUCUCCA----- 152 0,-1
-----UCUACAGUGCACGUGUCUCCAa----- 9 0,-1
-----UCUACAGUGCACGUGUCUCCAu----- 17 0,-1
-----UCUACAGUGCACGUGUCUCCAuu----- 5 0,-1
-----UCUACAGUGCACGUGUCUCCAG----- 130 0,0
-----UCUACAGUGCACGUGUCUCCAGa----- 20 0,0
-----UCUACAGUGCACGUGUCUCCAGU----- 301 0,1
-----UCUACAGUGCACGUGUCUCCAGUa----- 4 0,1
-----UCUACAGUGCACGUGUCUCCAGUu----- 17 0,1

```

-----UGGAGACGCGGCCCUUU-----	9	
-1,-5		
-----UGGAGACGCGGCCCUUUG-----	20	
-1,-4		
-----UGGAGACGCGGCCCUUUGG-----	21	
-1,-3		
-----UGGAGACGCGGCCCUUUGGA-----	22	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAa---	5	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAaa---	6	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAG-----	63	
-1,-1		
-----UGGAGACGCGGCCCUUUGGAGa---	10	
-1,-1		
-----UGGAGACGCGGCCCUUUGGAGU---	116	-1,0
-----UGGAGACGCGGCCCUUUGGAGUu--	3	-1,0
-----UGGAGACGCGGCCCUUUGGAGUuu-	2	-1,0
-----GGAGACGCGGCCCUUUGG-----	4	0,-3
-----GGAGACGCGGCCCUUUGGAG-----	9	0,-1
-----GGAGACGCGGCCCUUUGGAGa---	6	0,-1
-----GGAGACGCGGCCCUUUGGAGU---	33	0,0
-----GGAGACGCGGCCCUUUGGAGUAu-	2	0,1
-----AGACGCGGCCCUUUGGAGU---	2	2,0
-----AGACGCGGCCCUUUGGAGUu--	7	2,0
-----AGACGCGGCCCUUUGGAGUuu-	4	2,0
-----AGACGCGGCCCUUUGGAGUAu-	2	2,1

>hsa-mir-140 5p:23-44;3p:62-82 SRX018959

ugugucucucuguguccugcCAGUGGUUUUACCCUAUGGUAGguuacgucaugcuguucUACCACAGGGUAGAACCAC
GGacaggauaccggggcacc

.(((((((.....(((((((((((.(((((((((((((((.(((((((((((.....))

-----CAGUGGUUUUACCCUAUGGUAG-----

-----4 0,0

-----CUACCACAGGGUAGAACCAC

G-----3 -1,-1

-----				-----CUACCACAGGGUAGAACCAC
GG-----	3	-1,0		
-----				-----CUACCACAGGGUAGAACCAC
GGA-----	4	-1,1		
-----				-----CUACCACAGGGUAGAACCAC
GGAA-----	2	-1,1		
-----				-----CUACCACAGGGUAGAACCAC
GGAC-----	2	-1,2		
-----				-----UACCACAGGGUAGAACCA-
-----	48	0,-3		
-----				-----UACCACAGGGUAGAACCAC
-----	104	0,-2		
-----				-----UACCACAGGGUAGAACCAC
G-----	1135	0,-1		
-----				-----UACCACAGGGUAGAACCAC
Ga-----	5	0,-1		
-----				-----UACCACAGGGUAGAACCAC
Gu-----	5	0,-1		
-----				-----UACCACAGGGUAGAACCAC
GG-----	2456	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGu-----	55	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGuu-----	12	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGA-----	2315	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAA-----	689	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAAA-----	474	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAAu-----	146	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAU-----	131	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAAU-----	6	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAC-----	917	0,2		

-----				-----UACCACAGGGUAGAACCAC
GGACu-----	11	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACA-----	90	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAa-----	7	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAu-----	4	0,3		
-----				-----ACCACAGGGUAGAACCAC
-----	48	1,-2		
-----				-----ACCACAGGGUAGAACCAC
G-----	52	1,-1		
-----				-----ACCACAGGGUAGAACCAC
GG-----	1301	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGu-----	57	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGuu-----	31	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGA-----	10290	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAa-----	3262	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAaa-----	1072	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAau-----	266	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAu-----	1529	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAuu-----	80	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAC-----	2834	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACu-----	69	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACuu-----	3	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACA-----	178	1,3		

-----				-----ACCACAGGGUAGAACCAC
GGACAa-----	159	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAaa-----	13	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAau-----	2	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAu-----	22	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAG-----	8	1,4		
-----				-----CCACAGGGUAGAACCAC
GG-----	28	2,0		
-----				-----CCACAGGGUAGAACCAC
GGuu-----	2	2,0		
-----				-----CCACAGGGUAGAACCAC
GGA-----	184	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAa-----	78	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAaa-----	35	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAau-----	8	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAu-----	29	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAuu-----	3	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAC-----	68	2,2		
-----				-----CCACAGGGUAGAACCAC
GGACu-----	3	2,2		
-----				-----CCACAGGGUAGAACCAC
GGACA-----	3	2,3		
-----				-----CCACAGGGUAGAACCAC
GGACAa-----	8	2,3		
-----				-----CCACAGGGUAGAACCAC
GGACAaa-----	2	2,3		

>hsa-mi r-141 mi:17-38;MA:59-80 SRX018959


```

-----CCAUAAAGUAGAAAGCACU-----
----- 3   -1,-3
-----CCAUAAAGUAGAAAGCACUA-----
----- 3   -1,-2
-----CCAUAAAGUAGAAAGCACUAa-----
----- 3   -1,-2
-----CCAUAAAGUAGAAAGCACUAC-----
----- 2   -1,-1
-----CAUAAAGUAGAAAGCACU-----
----- 3    0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 77   0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 36   0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 17   0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 6    0,-2
-----CAUAAAGUAGAAAGCACUAuu-----
----- 5    0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 73   0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 84   0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 66   0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 8    0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 17   0,2
-----CAUAAAGUAGAAAGCACUACUAAa-----
----- 3    0,2
-----AUAAAGUAGAAAGCACUAa-----
----- 2    1,-2
-----AUAAAGUAGAAAGCACUAC-----
----- 4    1,-1
-----AUAAAGUAGAAAGCACUACU-----
----- 12   1,0

```

```

-----AUAAAGUAGAAAGCACUACUA-----
----- 12 1,1
-----AUAAAGUAGAAAGCACUACUAu-----
----- 12 1,1
-----AUAAAGUAGAAAGCACUACUAA-----
----- 158 1,2
-----AUAAAGUAGAAAGCACUACUAAa-----
----- 2 1,2
-----AUAAAGUAGAAAGCACUACUAAu-----
----- 2 1,2
-----UGUAGUGUUUCCUACUUUAUG-----
----- 6 0,-2
-----UGUAGUGUUUCCUACUUUAUGG-----
----- 4 0,-1
-----GUAGUGUUUCCUACUUUAUG-----
----- 2 1,-2
-----GUAGUGUUUCCUACUUUAUGG-----
----- 31 1,-1
-----GUAGUGUUUCCUACUUUAUGGA-----
----- 5 1,0

```

>hsa-mir-143 mi:27-48;MA:61-81 SRX018959

g'gcagcgcgccugucucccagccugaGGUGCAGUGCUGCAUCUCUGGUcaguugggagucUGAGAUGAAGCACUGUAGCU
Caggaagagagaaguuguucgagc

```

..((((((.....((((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))

```

```

-----AGGUGCAGUGCUGCAUCUCU-----
----- 2 -1,-3
-----GGUGCAGUGCUGCAUCUC-----
----- 126 0,-4
-----GGUGCAGUGCUGCAUCUCU-----
----- 1038 0,-3
-----GGUGCAGUGCUGCAUCUCUG-----
----- 23 0,-2
-----GGUGCAGUGCUGCAUCUCUGaa-----
----- 2 0,-2
-----GGUGCAGUGCUGCAUCUCUGG-----
----- 13 0,-1

```

```

-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 13  0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 14  0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 4   0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 7   0,0
-----GGUGCAGUGCUGCAUCUCUGGUaa-----
----- 2   0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 8   0,0
-----GGUGCAGUGCUGCAUCUCUGGUC-----
----- 2   0,1
-----GGUGCAGUGCUGCAUCUCUGGUCA-----
----- 4   0,2
-----UCUGAGAUGAAGCACUGUAG--
----- 2   -2,-3
-----UCUGAGAUGAAGCACUGUAGCa
u----- 2   -2,-2
-----UCUGAGAUGAAGCACUGUAGCU
----- 13  -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
C----- 3   -2,0
-----CUGAGAUGAAGCACUGUA---
----- 3   -1,-4
-----CUGAGAUGAAGCACUGUAaa-
----- 3   -1,-4
-----CUGAGAUGAAGCACUGUAGC-
----- 3   -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 40  -1,-1
-----CUGAGAUGAAGCACUGUAGCU
a----- 5   -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 34  -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 9   -1,0

```

CA	8	-1,1	-CUGAGAUGAAGCACUGUAGCU
			-UGAGAUGAAGCACUGUAG--
	222	0,-3	-UGAGAUGAAGCACUGUAGaa
	2	0,-3	-UGAGAUGAAGCACUGUAGa
	3	0,-3	-UGAGAUGAAGCACUGUAGuu
	2	0,-3	-UGAGAUGAAGCACUGUAGC-
	191	0,-2	-UGAGAUGAAGCACUGUAGCa
	29	0,-2	-UGAGAUGAAGCACUGUAGCa
a	40	0,-2	-UGAGAUGAAGCACUGUAGCa
			-UGAGAUGAAGCACUGUAGCu
	3	0,-2	-UGAGAUGAAGCACUGUAGCU
	2544	0,-1	-UGAGAUGAAGCACUGUAGCU
a	160	0,-1	-UGAGAUGAAGCACUGUAGCU
			-UGAGAUGAAGCACUGUAGCU
aa	51	0,-1	-UGAGAUGAAGCACUGUAGCU
			-UGAGAUGAAGCACUGUAGCU
au	22	0,-1	-UGAGAUGAAGCACUGUAGCU
			-UGAGAUGAAGCACUGUAGCU
u	63	0,-1	-UGAGAUGAAGCACUGUAGCU
			-UGAGAUGAAGCACUGUAGCU
uu	11	0,-1	-UGAGAUGAAGCACUGUAGCU
			-UGAGAUGAAGCACUGUAGCU
C	4387	0,0	-UGAGAUGAAGCACUGUAGCU
			-UGAGAUGAAGCACUGUAGCU
Cu	1223	0,0	-UGAGAUGAAGCACUGUAGCU
			-UGAGAUGAAGCACUGUAGCU
Cuu	163	0,0	-UGAGAUGAAGCACUGUAGCU
			-UGAGAUGAAGCACUGUAGCU
CA	274	0,1	-UGAGAUGAAGCACUGUAGCU

```

-----UGAGAUGAAGCACUGUAGCU
CAa----- 34 0,1
-----UGAGAUGAAGCACUGUAGCU
CAaa----- 6 0,1
-----UGAGAUGAAGCACUGUAGCU
CAu----- 4 0,1
-----UGAGAUGAAGCACUGUAGCU
CAG----- 2 0,2
-----GAGAUGAAGCACUGUAGC-
----- 3 1,-2
-----GAGAUGAAGCACUGUAGCU
----- 7 1,-1
-----GAGAUGAAGCACUGUAGCU
C----- 52 1,0
-----GAGAUGAAGCACUGUAGCU
Cu----- 11 1,0
-----GAGAUGAAGCACUGUAGCU
Cuu----- 3 1,0
-----AGAUGAAGCACUGUAGCU
----- 2 2,-1
-----AGAUGAAGCACUGUAGCU
C----- 3 2,0
-----AGAUGAAGCACUGUAGCU
Cu----- 2 2,0

```

>hsa-mir-144 mi:15-36;MA:52-71 SRX018959

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uggggcccuggcugGGAUAUCAUAUACUGUAAGuuugcgaugagacacUACAGUAUAGAUGAUGUACUaguccgggc
accccc

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((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))..

```

```

-----GGAUAUCAUCAUAUACUG-----
----- 5 0,-4
-----GGAUAUCAUCAUAUACUGUAAG-----
----- 23 0,0
-----GGAUAUCAUCAUAUACUGUAAGU-----
----- 12 0,1
-----CUACAGUAUAGAUGAUGUA-----
----- 2 -1,-2

```



```

-----GUCCAGUUUUCCCAGGAAUCCC-----
-----110 0,-1
-----GUCCAGUUUUCCCAGGAAUCCCa-----
-----17 0,-1
-----GUCCAGUUUUCCCAGGAAUCCCU-----
-----186 0,0
-----GUCCAGUUUUCCCAGGAAUCCCUa-----
-----3 0,0
-----GUCCAGUUUUCCCAGGAAUCCCUU-----
-----19 0,1
-----GGAUUCCUGGAAAUACUGUUC-----
-----4 0,-1
-----GGAUUCCUGGAAAUACUGUUCU-----
-----25 0,0
-----GAUUCCUGGAAAUACUGUUC-----
-----3 1,-1
-----GAUUCCUGGAAAUACUGUUCU-----
-----5 1,1
-----AUUCCUGGAAAUACUGUU-----
-----3 2,-2
-----AUUCCUGGAAAUACUGUUC-----
-----6 2,-1
-----AUUCCUGGAAAUACUGUUCU-----
-----60 2,0
-----AUUCCUGGAAAUACUGUUCUa-----
-----14 2,0
-----AUUCCUGGAAAUACUGUUCUaa-----
-----5 2,0
-----AUUCCUGGAAAUACUGUUCU-----
-----45 2,1
-----AUUCCUGGAAAUACUGUUCUa-----
-----5 2,1
-----AUUCCUGGAAAUACUGUUCUu-----
-----2 2,1

```

>hsa-mir-1468 5p:13-33 SRX018959

ggugggugguuuCUCCGUUUGCCUGUUUCGCUGaugugcauucacucauucucagcaaaaauagcaaauggaaaauucg
uccauc


```

-----CUCCGUUUGCCUGUUUCGC-----
----- 2 0,-2
-----CUCCGUUUGCCUGUUUCGCU-----
----- 12 0,-1
-----CUCCGUUUGCCUGUUUCGCUGA-----
----- 3 0,1
-----CUCCGUUUGCCUGUUUCGCGAa-----
----- 3 0,1

```

c c g a u g u g u a u c c u c a g c u u U G A G A A C U G A A U U C C A U G G G U U g u g u c a g u g u c a g a C C U C U G A A A U U C A G U U C U U C A G c u
g g g a u a u c u c u g u c a u c g u
.((((.((((.((((..(((((((((((.((.((((.(.....)))))).).)))))(((()).)))
))))))......))))).

UUGAGAACUGAAU	UCCAU	
2	-1,-5	
UUGAGAACUGAAU	UCCAUGGGU	au
2	-1,-1	
UUGAGAACUGAAU	UCCAUGGGU	
2	-1,0	
UGAGAACUGAAU	UCCAUGG	
12	0,-3	
UGAGAACUGAAU	UCCAUGGG	
13	0,-2	
UGAGAACUGAAU	UCCAUGGGU	
31	0,-1	
UGAGAACUGAAU	UCCAUGGGU	a
9	0,-1	
UGAGAACUGAAU	UCCAUGGGU	aa
16	0,-1	
UGAGAACUGAAU	UCCAUGGGU	au
39	0,-1	
UGAGAACUGAAU	UCCAUGGGU	
208	0,0	
UGAGAACUGAAU	UCCAUGGGU	a
163	0,0	

-----CUGAGAACUGAAUCCAUAGGCU-----	83
-1,0	
-----CUGAGAACUGAAUCCAUAGGCUu-----	3
-1,0	
-----UGAGAACUGAAUCCAU-----	5
0,-4	
-----UGAGAACUGAAUCCAUAG-----	28
0,-3	
-----UGAGAACUGAAUCCAUAGG-----	163
0,-2	
-----UGAGAACUGAAUCCAUAGGau-----	4
0,-2	
-----UGAGAACUGAAUCCAUAGGuu-----	3
0,-2	
-----UGAGAACUGAAUCCAUAGGC-----	72
0,-1	
-----UGAGAACUGAAUCCAUAGGCa-----	88
0,-1	
-----UGAGAACUGAAUCCAUAGGCaa-----	41
0,-1	
-----UGAGAACUGAAUCCAUAGGCau-----	41
0,-1	
-----UGAGAACUGAAUCCAUAGGCU-----	1805
0,0	
-----UGAGAACUGAAUCCAUAGGCUa-----	8
0,0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	30
0,0	
-----UGAGAACUGAAUCCAUAGGCUau-----	68
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	216
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	72
0,0	
-----UGAGAACUGAAUCCAUAGGCUG-----	54
0,1	
-----UGAGAACUGAAUCCAUAGGCUGa-----	429
0,1	

-----UGAGAACUGAAUCCAUAGGCUGaa-----	17
0,1	
-----UGAGAACUGAAUCCAUAGGCUGau-----	12
0,1	
-----UGAGAACUGAAUCCAUAGGCUGU-----	12
0,2	
-----GAGAACUGAAUCCAUAGG-----	4
1,-2	
-----GAGAACUGAAUCCAUAGGCU-----	23
1,0	
-----GAGAACUGAAUCCAUAGGCUaa-----	3
1,0	
-----GAGAACUGAAUCCAUAGGCUu-----	6
1,0	
-----GAGAACUGAAUCCAUAGGCUuu-----	3
1,0	
-----GAGAACUGAAUCCAUAGGCUG-----	6
1,1	
-----GAGAACUGAAUCCAUAGGCUGa-----	11
1,1	
-----AGAACUGAAUCCAUAGGCU-----	3
2,0	
-----UGCCCUGUGGACUCAGUUCUGGUau----	4
0,1	
-----GCCCUGUGGACUCAGUUCUG-----	2
1,-1	
-----GCCCUGUGGACUCAGUUCUGG-----	12
1,0	
-----GCCCUGUGGACUCAGUUCUGGU-----	20
1,1	
-----GCCCUGUGGACUCAGUUCUGGUa-----	21
1,1	
-----GCCCUGUGGACUCAGUUCUGGUaa----	9
1,1	
-----GCCCUGUGGACUCAGUUCUGGUau----	57
1,1	
-----GCCCUGUGGACUCAGUUCUGGUu-----	13
1,1	

```

-----CCCUGUGGACUCAGUUCUGGUau----- 11
2,1

>hsa-mir-148a    mi:6-27;MA:44-65    SRX018959
gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc
((((((((((((((((((.(((((.(((((((.....)))..)))))))).)).)))))))))
----CAAAGUUCUGAGACACUCCGA----- 9
-1,-2
-----AAAGUUCUGAGACACUCC----- 5 0,-4
-----AAAGUUCUGAGACACUCCGA----- 53 0,-2
-----AAAGUUCUGAGACACUCCGAa----- 4 0,-2
-----AAAGUUCUGAGACACUCCGAaa----- 2 0,-2
-----AAAGUUCUGAGACACUCCGAC----- 3 0,-1
-----AAAGUUCUGAGACACUCCGACa----- 5 0,-1
-----AAAGUUCUGAGACACUCCGACU----- 15 0,0
-----AAAGUUCUGAGACACUCCGACUa----- 3 0,0
-----AAGUUCUGAGACACUCCGACU----- 3 1,0
-----GUCAGUGCACUACAGAACUUUGa--- 2
-1,-1
-----GUCAGUGCACUACAGAACUUUGU--- 3 -1,0
-----UCAGUGCACUACAGAACU----- 9673
0,-4
-----UCAGUGCACUACAGAACUa----- 5 0,-4
-----UCAGUGCACUACAGAACUaa----- 9 0,-4
-----UCAGUGCACUACAGAACUau----- 2 0,-4
-----UCAGUGCACUACAGAACUU----- 498 0,-3
-----UCAGUGCACUACAGAACUUa----- 9 0,-3
-----UCAGUGCACUACAGAACUUU----- 2518
0,-2
-----UCAGUGCACUACAGAACUUUa----- 45 0,-2
-----UCAGUGCACUACAGAACUUUaa----- 9 0,-2
-----UCAGUGCACUACAGAACUUUau----- 5 0,-2
-----UCAGUGCACUACAGAACUUUu----- 37 0,-2
-----UCAGUGCACUACAGAACUUUuu----- 15 0,-2
-----UCAGUGCACUACAGAACUUUG----- 3646
0,-1
-----UCAGUGCACUACAGAACUUUGa--- 3055
0,-1

```

-----UCAGUGCACUACAGAACUUUGaa--	261	0,-1
-----UCAGUGCACUACAGAACUUUGU---	32418	
0,0		
-----UCAGUGCACUACAGAACUUUGUa--	219	0,0
-----UCAGUGCACUACAGAACUUUGUaa-	49	0,0
-----UCAGUGCACUACAGAACUUUGUau-	15	0,0
-----UCAGUGCACUACAGAACUUUGUu--	313	0,0
-----UCAGUGCACUACAGAACUUUGUuu-	15	0,0
-----UCAGUGCACUACAGAACUUUGUC--	521	0,1
-----UCAGUGCACUACAGAACUUUGUCa-	44	0,1
-----UCAGUGCACUACAGAACUUUGUCaa	3	0,1
-----UCAGUGCACUACAGAACUUUGUCU-	96	0,2
-----UCAGUGCACUACAGAACUUUGUCUa	2	0,2
-----UCAGUGCACUACAGAACUUUGUCUu	3	0,2
-----CAGUGCACUACAGAACUUU-----	4	1,-2
-----CAGUGCACUACAGAACUUUG----	2	1,-1
-----CAGUGCACUACAGAACUUUGa---	3	1,-1
-----CAGUGCACUACAGAACUUUGU---	29	1,0
-----AGUGCACUACAGAACUUU-----	78	2,-2
-----AGUGCACUACAGAACUUUa----	2	2,-2
-----AGUGCACUACAGAACUUUu----	3	2,-2
-----AGUGCACUACAGAACUUUG----	48	2,-1
-----AGUGCACUACAGAACUUUGa---	19	2,-1
-----AGUGCACUACAGAACUUUGaa--	5	2,-1
-----AGUGCACUACAGAACUUUGU---	486	2,0
-----AGUGCACUACAGAACUUUGUa--	7	2,0
-----AGUGCACUACAGAACUUUGUaa-	2	2,0
-----AGUGCACUACAGAACUUUGUu--	11	2,0
-----AGUGCACUACAGAACUUUGUC--	15	2,1
-----AGUGCACUACAGAACUUUGUCa-	2	2,1
-----AGUGCACUACAGAACUUUGUCU-	3	2,2

>hsa-mir-148b mi:25-46;MA:63-84 SRX018959

.....((..(((.(((((((..((((((((.(.(.((((..((((....(.....)..))))))))))..))))))))..))..

```

----- 4   -1,-5
-----GAAGUUCUGUUAUACACUC-----
----- 6   -1,-4
-----GAAGUUCUGUUAUACACUCAG-----
----- 10  -1,-2
-----GAAGUUCUGUUAUACACUCAGG-----
----- 9   -1,-1
-----GAAGUUCUGUUAUACACUCAGGCau-----
----- 2   -1,0
-----GAAGUUCUGUUAUACACUCAGGCU-----
----- 25  -1,1
-----GAAGUUCUGUUAUACACUCAGGCUa-----
----- 2   -1,1
-----GAAGUUCUGUUAUACACUCAGGCUu-----
----- 4   -1,1
-----UCAGUGCAUCACAGAACU
----- 1877 0,-4
-----UCAGUGCAUCACAGAACU
U----- 83 0,-3
-----UCAGUGCAUCACAGAACU
Ua----- 3   0,-3
-----UCAGUGCAUCACAGAACU
UU----- 491 0,-2
-----UCAGUGCAUCACAGAACU
UUa----- 2   0,-2
-----UCAGUGCAUCACAGAACU
UUau----- 2   0,-2
-----UCAGUGCAUCACAGAACU
UUu----- 4   0,-2
-----UCAGUGCAUCACAGAACU
UUuu----- 2   0,-2
-----UCAGUGCAUCACAGAACU
UUG----- 106 0,-1
-----UCAGUGCAUCACAGAACU
UUGa----- 59 0,-1
-----UCAGUGCAUCACAGAACU
UUGaa----- 6   0,-1
-----UCAGUGCAUCACAGAACU

```

```

UUGU----- 908 0,0
-----UCAGUGCAUCACAGAACU
UUGUa----- 24 0,0
-----UCAGUGCAUCACAGAACU
UUGUaa----- 4 0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 290 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 33 0,0
-----UCAGUGCAUCACAGAACU
UUGUC----- 4 0,1
-----UCAGUGCAUCACAGAACU
UUGUCU----- 3 0,2
-----AGUGCAUCACAGAACU
UU----- 6 2,-2
-----AGUGCAUCACAGAACU
UUGU----- 12 2,0
-----AGUGCAUCACAGAACU
UUGUu----- 6 2,0
-----AGUGCAUCACAGAACU
UUGUuu----- 2 2,0

```

```

>hsa-mir-150    MA:16-37;mi:51-72    SRX018959
cuccccauggcccgUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac
.(((((((.(((((((((((((((.(((.(((((((.((((((...)))..))))))))))))..)))))))))))).
)).
-----UCUCCCAACCCUUGUACC-----
----    14  0,-4
-----UCUCCCAACCCUUGUACCA-----
----    26  0,-3
-----UCUCCCAACCCUUGUACCAG-----
----     8  0,-2
-----UCUCCCAACCCUUGUACCAGU-----
----    19  0,-1
-----UCUCCCAACCCUUGUACCAGUa-----
----     5  0,-1
-----UCUCCCAACCCUUGUACCAGUaa-----

```



```

----- 4 0,0
-----UCCAGGAGCUCACAGUCUAGUA-----
----- 339 0,1
-----UCCAGGAGCUCACAGUCUAGUAa-----
----- 91 0,1
-----UCCAGGAGCUCACAGUCUAGUAaa-----
----- 7 0,1
-----UCCAGGAGCUCACAGUCUAGUAU-----
----- 25 0,2
-----UCCAGGAGCUCACAGUCUAGUAUG-----
----- 2 0,3
-----CGAGGAGCUCACAGUCUAGU-----
----- 2 1,0
-----GAGGAGCUCACAGUCUAGU-----
----- 24 2,0
-----GAGGAGCUCACAGUCUAGUA-----
----- 7 2,1
-----GAGGAGCUCACAGUCUAGUAa-----
----- 2 2,1
-----UACUAGACUGAAGCUCCUUGA-----
----- 47 -2,-2
-----UACUAGACUGAAGCUCCUUGAa-----
----- 22 -2,-2
-----UACUAGACUGAAGCUCCUUGAaa-----
----- 4 -2,-2
-----UACUAGACUGAAGCUCCUUGAa-----
----- 2 -2,-2
-----UACUAGACUGAAGCUCCUUGAG-----
----- 57 -2,-1
-----UACUAGACUGAAGCUCCUUGAGa-----
----- 26 -2,-1
-----UACUAGACUGAAGCUCCUUGAGu-----
----- 5 -2,-1
-----UACUAGACUGAAGCUCCUUGAGG-----
----- 47 -2,0
-----UACUAGACUGAAGCUCCUUGAGGA-----
----- 15 -2,1
-----UACUAGACUGAAGCUCCUUGAGGAa-----

```

----- 2	-2,1	-----ACUAGACUGAAGCUCCUUG-----
----- 2	-1,-3	-----ACUAGACUGAAGCUCCUUGAG-----
----- 8	-1,-1	-----ACUAGACUGAAGCUCCUUGAGa-----
----- 2	-1,-1	-----ACUAGACUGAAGCUCCUUGAGG-----
----- 12	-1,0	-----ACUAGACUGAAGCUCCUUGAGGu-----
----- 3	-1,0	-----ACUAGACUGAAGCUCCUUGAGGA-----
----- 29	-1,1	-----ACUAGACUGAAGCUCCUUGAGGAa-----
----- 3	-1,1	-----ACUAGACUGAAGCUCCUUGAGGAaa-----
----- 3	-1,1	-----CUAGACUGAAGCUCCUUG-----
----- 2	0,-3	-----CUAGACUGAAGCUCCUUGA-----
----- 48	0,-2	-----CUAGACUGAAGCUCCUUGAa-----
----- 17	0,-2	-----CUAGACUGAAGCUCCUUGAaa-----
----- 9	0,-2	-----CUAGACUGAAGCUCCUUGAu-----
----- 2	0,-2	-----CUAGACUGAAGCUCCUUGAG-----
----- 249	0,-1	-----CUAGACUGAAGCUCCUUGAGa-----
----- 67	0,-1	-----CUAGACUGAAGCUCCUUGAGaa-----
----- 20	0,-1	-----CUAGACUGAAGCUCCUUGAGau-----
----- 3	0,-1	-----CUAGACUGAAGCUCCUUGAGu-----
----- 22	0,-1	-----CUAGACUGAAGCUCCUUGAGG-----

-----	806	0,0	-----CUAGACUGAAGCUCCUUGAGGu-----
-----	29	0,0	-----CUAGACUGAAGCUCCUUGAGGA-----
-----	1592	0,1	-----CUAGACUGAAGCUCCUUGAGGAa-----
-----	1549	0,1	-----CUAGACUGAAGCUCCUUGAGGAaa-----
-----	906	0,1	-----CUAGACUGAAGCUCCUUGAGGAau-----
-----	206	0,1	-----CUAGACUGAAGCUCCUUGAGGAu-----
-----	199	0,1	-----CUAGACUGAAGCUCCUUGAGGAuu-----
-----	29	0,1	-----CUAGACUGAAGCUCCUUGAGGAC-----
-----	22	0,2	-----CUAGACUGAAGCUCCUUGAGGACu-----
-----	8	0,2	-----CUAGACUGAAGCUCCUUGAGGACA-----
-----	4	0,3	-----UAGACUGAAGCUCCUUGA-----
-----	2	1,-2	-----UAGACUGAAGCUCCUUGAGG-----
-----	11	1,0	-----UAGACUGAAGCUCCUUGAGGA-----
-----	29	1,1	-----UAGACUGAAGCUCCUUGAGGAa-----
-----	43	1,1	-----UAGACUGAAGCUCCUUGAGGAaa-----
-----	24	1,1	-----UAGACUGAAGCUCCUUGAGGAau-----
-----	8	1,1	-----UAGACUGAAGCUCCUUGAGGAu-----
-----	9	1,1	-----UAGACUGAAGCUCCUUGAGGAC-----
-----	6	1,2	-----UAGACUGAAGCUCCUUGAGGACu-----

----- 1001	0,0	-----UCAGUGCAUGACAGAACUUGG	uu-----
----- 107	0,0	-----UCAGUGCAUGACAGAACUUGG	G-----
----- 1006	0,1	-----UCAGUGCAUGACAGAACUUGG	Ga-----
----- 263	0,1	-----UCAGUGCAUGACAGAACUUGG	Gaa-----
----- 86	0,1	-----UCAGUGCAUGACAGAACUUGG	Gau-----
----- 8	0,1	-----UCAGUGCAUGACAGAACUUGG	Gu-----
----- 647	0,1	-----UCAGUGCAUGACAGAACUUGG	Guu-----
----- 45	0,1	-----UCAGUGCAUGACAGAACUUGG	GC-----
----- 2	0,2	-----AGUGCAUGACAGAACUUG	-----
----- 9	2,-1	-----AGUGCAUGACAGAACUUG	-----
----- 20	2,0	-----AGUGCAUGACAGAACUUG	Ga-----
----- 3	2,0	-----AGUGCAUGACAGAACUUG	Gaa-----
----- 2	2,0	-----AGUGCAUGACAGAACUUG	Gu-----
----- 18	2,0	-----AGUGCAUGACAGAACUUG	Guu-----
----- 4	2,0	-----AGUGCAUGACAGAACUUGG	-----
----- 22	2,1	-----AGUGCAUGACAGAACUUGG	Ga-----
----- 9	2,1	-----AGUGCAUGACAGAACUUGG	Gu-----
----- 9	2,1	-----AGUGCAUGACAGAACUUGG	Guu-----
----- 2	2,1		

-----AAAACCGUCUAGUUACAG----- 4 0,-4

--- 2 1,0

-----UAAUGC UAAUCGUGAUAGGGGU----- 2 1,0

>hsa-mir-15a MA:14-35;mi:51-72 SRX018959

ccuuggaguaaagUAGCAGCACAUAAUGGUUUGGgauuuugaaaaggugCAGGCCAUAUUGUGCCUCAaaaauaca
agg

(((((.....(((((.....(((.....(((.....(((.....))).....))).....))).....))).....))).....)))

-----UAGCAGCACAUAAUGGUU-----

--- 40 0,-4

-----UAGCAGCACAUAAUGGUUU-----

--- 679 0,-3

-----UAGCAGCACAUAAUGGUUUau-----

--- 2 0,-3

-----UAGCAGCACAUAAUGGUUUu-----

--- 8 0,-3

-----UAGCAGCACAUAAUGGUUUG-----

--- 388 0,-2

-----UAGCAGCACAUAAUGGUUUGa-----

--- 2 0,-2

-----UAGCAGCACAUAAUGGUUUGU-----

--- 279 0,-1

-----UAGCAGCACAUAAUGGUUUGUa-----

--- 5 0,-1

-----UAGCAGCACAUAAUGGUUUGUaa-----

--- 3 0,-1

-----UAGCAGCACAUAAUGGUUUGUG-----

--- 32 0,0

-----AGCAGCACAUAAUGGUUU-----

--- 2 1,-3

>hsa-mir-15b MA:20-41;mi:58-79 SRX018959

uugaggccuuaaaguacugUAGCAGCACAUCAUGGUUUACAugcuacagucaagaugCGAAUCAUUUUUGCUCUCUAg
aaauuaaggaaaucau

.((((.....(((.....(((.....(((.....(((.....))).....))).....))).....))).....)))

-----UAGCAGCACAUCAUGGUU-----

----- 6 0,-4

-----UAGCAGCACAUCAUGGUUa-----

----- 2 0,-4

-----UAGCAGCACAUCAUGGUUU-----


```

----- 56 0,-3
-----UAGCAGCACAUCAUGGUUUu-----
----- 2 0,-3
-----UAGCAGCACAUCAUGGUUA-----
----- 297 0,-2
-----UAGCAGCACAUCAUGGUUAa-----
----- 16 0,-2
-----UAGCAGCACAUCAUGGUUAu-----
----- 3 0,-2
-----UAGCAGCACAUCAUGGUUAC-----
----- 130 0,-1
-----UAGCAGCACAUCAUGGUUACA-----
----- 336 0,0
-----UAGCAGCACAUCAUGGUUACAa-----
----- 17 0,0
-----AGCAGCACAUCAUGGUUA-----
----- 3 1,-2
-----CGAAUCAUUAUUUGCUGCU-----
----- 9 0,-3
-----CGAAUCAUUAUUUGCUGCUCUAu
----- 2 0,0

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018959

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuuaagauucuaaaauuauucuCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

```

(((((((.(((.(((((((((((((.(((((((((.(((.....))))).))))))))).))))))))).))
).))))))

```

```

-----UAGCAGCACGUAAAUAUU-----
----- 167 0,-4
-----UAGCAGCACGUAAAUAUUa-----
----- 6 0,-4
-----UAGCAGCACGUAAAUAUUaa-----
----- 2 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 501 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 3 0,-3
-----UAGCAGCACGUAAAUAUUGu-----

```

```

----- 2 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 1003 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 14 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
----- 7 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
----- 5 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 365 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 151 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 79 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 50 0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----
----- 4 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 2243 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 59 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 9 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 9 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 388 0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 20 0,2
-----UAGCAGCACGUAAAUAUUGGCGUu-----
----- 2 0,2
-----AGCAGCACGUAAAUAUUGG-----
----- 3 1,-2
-----AGCAGCACGUAAAUAUUGGCa-----
----- 2 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----

```

```

----- 19 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
----- 4 1,1
-----GCAGCACGUAAAUAUUGGCG-----
----- 4 2,0

```

>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018959

guuccacucUAGCAGCACGUAAAUAUUGGCGuagugaaauauauuuuaacaCCAAUAAUACUGUGCUGCUUUAguguga
c

((..(((..((((((((((..(((((((..((..((.....)))..)).)))))))).)))))))).))))))..))

```

-----CUAGCAGCACGUAAAUAUUGGC-----

```

```

- 2 -1,-1
-----UAGCAGCACGUAAAUAUU-----

```

```

- 167 0,-4
-----UAGCAGCACGUAAAUAUUa-----

```

```

- 6 0,-4
-----UAGCAGCACGUAAAUAUUaa-----

```

```

- 2 0,-4
-----UAGCAGCACGUAAAUAUUG-----

```

```

- 501 0,-3
-----UAGCAGCACGUAAAUAUUGa-----

```

```

- 3 0,-3
-----UAGCAGCACGUAAAUAUUGu-----

```

```

- 2 0,-3
-----UAGCAGCACGUAAAUAUUGG-----

```

```

- 1003 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----

```

```

- 14 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----

```

```

- 7 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----

```

```

- 5 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----

```

```

- 365 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----

```

```

- 151 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----

```

- 79 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----

- 50 0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----

- 4 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----

- 2243 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----

- 59 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----

- 9 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----

- 9 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----

- 388 0,1
-----UAGCAGCACGUAAAUAUUGGCGUA-----

- 3 0,2
-----AGCAGCACGUAAAUAUUGG-----

- 3 1,-2
-----AGCAGCACGUAAAUAUUGGCa-----

- 2 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----

- 19 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----

- 4 1,1
-----GCAGCACGUAAAUAUUGGCG-----

- 4 2,0
-----CACCAUAUUACUGUGCUGCUUU-----

- 2 -2,-1
-----ACCAUAUUACUGUGCUGC-----

- 3 -1,-4
-----ACCAUAUUACUGUGCUGCU-----

- 8 -1,-3
-----ACCAUAUUACUGUGCUGCUU-----

- 14 -1,-2
-----ACCAUAUUACUGUGCUGCUUa-----

- 2 -1,-2
-----ACCAUAUUACUGUGCUGCUUU-----


```

----- 5 0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
----- 182 0,-1
-----CAAAGUGCUUACAGUGCAGGUAa-----
----- 43 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
----- 45 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
----- 198 0,0
-----CAAAGUGCUUACAGUGCAGGUAGa-----
----- 8 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
----- 12 0,1
-----AAAGUGCUUACAGUGCAG-----
----- 4 1,-4
-----AAAGUGCUUACAGUGCAGG-----
----- 4 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
----- 3 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
----- 2 1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
----- 3 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
----- 8 1,0
-----UACUGCAGUGAAGGCACUUGU-----
----- 3 -1,-2
-----UACUGCAGUGAAGGCACUUGUA-----
----- 2 -1,-1
-----ACUGCAGUGAAGGCACUU-----
----- 107 0,-4
-----ACUGCAGUGAAGGCACUUG-----
----- 258 0,-3
-----ACUGCAGUGAAGGCACUUGU-----
----- 487 0,-2
-----ACUGCAGUGAAGGCACUUGUu-----
----- 2 0,-2
-----ACUGCAGUGAAGGCACUUGUA-----

```



```

----- 5 0,-4
-----AACAUUCAACGCUGUCGGUaa-----
----- 2 0,-4
-----AACAUUCAACGCUGUCGGUau-----
----- 2 0,-4
-----AACAUUCAACGCUGUCGGUG-----
----- 22 0,-3
-----AACAUUCAACGCUGUCGGUGu-----
----- 2 0,-3
-----AACAUUCAACGCUGUCGGUGA-----
----- 139 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
----- 4 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 733 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 5 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 80 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
----- 2 0,0
-----AACAUUCAACGCUGUCGGUGAGUau-----
----- 3 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
----- 111 0,1
-----AACAUUCAACGCUGUCGGUGAGUUa-----
----- 4 0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
----- 56 0,2
-----ACAUUCAACGCUGUCGGUGAG-----
----- 5 1,-1
-----ACAUUCAACGCUGUCGGUGAGUU-----
----- 2 1,1
-----AACCAUCGACCGUUGAUU
GUAu----- 3 -1,-2
-----ACCAUCGACCGUUGAUU
G----- 13 0,-4
-----ACCAUCGACCGUUGAUU

```



```

GU----- 2 0,-3
-----ACCAUCGACCGUUGAUU
GUA----- 4 0,-2
-----ACCAUCGACCGUUGAUU
GUAC----- 6 0,-1
-----ACCAUCGACCGUUGAUU
GUACC----- 8 0,0

```

>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018959

```

agaagggcuaucaggccagccuucagaggacuccaaggAACAUUCAACGCUGUCGGUGAGUuuggggaauuugaaaaaACCA
CUGACCGUUGACUGUACCuugggguccuua

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----GAACAUUCAACGCUGUCGGUGA-----
----- 2 -1,-2
-----AACAUUCAACGCUGUCGG-----
----- 144 0,-5
-----AACAUUCAACGCUGUCGGU-----
----- 5 0,-4
-----AACAUUCAACGCUGUCGGUaa-----
----- 2 0,-4
-----AACAUUCAACGCUGUCGGUau-----
----- 2 0,-4
-----AACAUUCAACGCUGUCGGUG-----
----- 22 0,-3
-----AACAUUCAACGCUGUCGGUGu-----
----- 2 0,-3
-----AACAUUCAACGCUGUCGGUGA-----
----- 139 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
----- 4 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 733 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 5 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 80 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----

```


.....(((((((.....((((((((((...(((((((((((...((...)))...)))))))))
))).)))))))))...))))))....

```
>hsa-mir-181b-2 5p:16-38      SRX018959
cugauggcugcacucAACAUUCAUUGCUGUCGGUGGGUuugagucugaaucaacucacugaucaaugaaugcaaacugcg
gaccaaaca
....((((((((.....((((((((((..(((((((((((.(.....))))))))))))))))))))))))....)))
).)))....
-----AACAUUCAUUGCUGUCGG-----
```

```

----- 27  0,-5
-----AACAUUCAUUGCUGUCGGU-----
----- 2   0,-4
-----AACAUUCAUUGCUGUCGGUG-----
----- 19  0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
----- 2   0,-3
-----AACAUUCAUUGCUGUCGGUGGG-----
----- 72  0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
----- 8   0,0
-----AACAUUCAUUGCUGUCGGUGGGUaa-----
----- 3   0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
----- 4   0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 26  0,1
-----AACAUUCAUUGCUGUCGGUGGGUUa-----
----- 5   0,1
-----AACAUUCAUUGCUGUCGGUGGGUUU-----
----- 2   0,2
-----ACAUUCAUUGCUGUCGGUGGGU-----
----- 2   1,0
-----ACAUUCAUUGCUGUCGGUGGGUU-----
----- 2   1,1
-----CUCACUGAUCAAUGAAUGCA-----
----- 2

```

```

----- 6 0,1
-----AACAUUCAACCGUGCGGUGAGUUU-----
----- 5 0,2
-----ACCAUCGACCGUUGA
GUG----- 2 1,-3

```

>hsa-mir-181d 5p:36-58 SRX018959

```

gucccccucccuaggccacagccgaggucacaaucAACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accggggggaugaaugucacuguggcugggccagacacggcuuaaggggaauuggggac
((((((((((((((((((...(((...((((((((((((((((((((((...(((...)))))))))
)))))))))...)))))))))...)))))))))...)))))))))...)))))))))
-----AACAUUCAUUGUUGUCGGUG-----
----- 4 0,-3
-----AACAUUCAUUGUUGUCGGUGG-----
----- 2 0,-2
-----AACAUUCAUUGUUGUCGGUGGG-----
----- 6 0,-1
-----AACAUUCAUUGUUGUCGGUGGGa-----
----- 2 0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----
----- 5 0,0
-----AACAUUCAUUGUUGUCGGUGGGUa-----
----- 4 0,0
-----AACAUUCAUUGUUGUCGGUGGGUaa-----
----- 2 0,0
-----AACAUUCAUUGUUGUCGGUGGGUau-----
----- 4 0,0
-----AACAUUCAUUGUUGUCGGUGGGUU-----
----- 16 0,1
-----AACAUUCAUUGUUGUCGGUGGGUUu-----
----- 5 0,1

```

>hsa-mir-185 MA:15-36;mi:50-71 SRX018959

```

agggggcgagggaUGGAGAGAAAGGCAGUCCUGAuggucccccuccccAGGGGCUGGCUUCCUCUGGUCcuucccucc
ca
.((((((((((((((((...(((...((((((((((((((((((((((...(((...)))))))))
)))))))))...)))))))))...)))))))))...)))))))))...)))))))))
).
-----UGGAGAGAAAGGCAGUUC-----

```

```
-- 53 0,-4
-----UGGAGAGAAAGGCAGUUCC-----
-- 104 0,-3
-----UGGAGAGAAAGGCAGUUCCU-----
-- 1413 0,-2
-----UGGAGAGAAAGGCAGUUCCUa-----
-- 3 0,-2
-----UGGAGAGAAAGGCAGUUCCUaa-----
-- 3 0,-2
-----UGGAGAGAAAGGCAGUUCCUau-----
-- 3 0,-2
-----UGGAGAGAAAGGCAGUUCCUu-----
-- 2 0,-2
-----UGGAGAGAAAGGCAGUUCCUG-----
-- 570 0,-1
-----UGGAGAGAAAGGCAGUUCCUGu-----
-- 70 0,-1
-----UGGAGAGAAAGGCAGUUCCUGuu-----
-- 19 0,-1
-----UGGAGAGAAAGGCAGUUCCUGA-----
-- 6298 0,0
-----UGGAGAGAAAGGCAGUUCCUGAa-----
-- 1059 0,0
-----UGGAGAGAAAGGCAGUUCCUGAaa-----
-- 38 0,0
-----UGGAGAGAAAGGCAGUUCCUGAau-----
-- 41 0,0
-----UGGAGAGAAAGGCAGUUCCUGAU-----
-- 1479 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUa-----
-- 94 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUaa-----
-- 2 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUau-----
-- 4 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUu-----
-- 95 0,1
-----GGAGAGAAAGGCAGUUCC-----
```


----- 15 0,-4
-----CAAAGAAUUCUCCUUUUGG-----
----- 9 0,-3
-----CAAAGAAUUCUCCUUUUGG-----
----- 42 0,-2
-----CAAAGAAUUCUCCUUUUGGga-----
----- 2 0,-2
-----CAAAGAAUUCUCCUUUUGGgaa-----
----- 2 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 30 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 68 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 40 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 162 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 246 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 52 0,0
-----CAAAGAAUUCUCCUUUUGGGCUaa-----
----- 7 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 27 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 531 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 17 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUau-----
----- 6 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 32 0,2
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 2 0,2
-----AAAGAAUUCUCCUUUUGG-----
----- 3 1,-3
-----AAAGAAUUCUCCUUUUGG-----


```

----- 3 1,-2
-----AAAGAAUUCUCCUUUUGGGC-----
----- 4 1,-1
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 9 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----
----- 2 1,-1
-----AAAGAAUUCUCCUUUUGGGCau-----
----- 2 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 13 1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 4 1,0
-----AAAGAAUUCUCCUUUUGGGCUaa-----
----- 2 1,0
-----AAAGAAUUCUCCUUUUGGGCUau-----
----- 7 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 46 1,1
-----AAAGAAUUCUCCUUUUGGGCUUa-----
----- 6 1,1
-----AAAGAAUUCUCCUUUUGGGCUUU-----
----- 4 1,2

```

>hsa-mir-187 mi:35-56;MA:71-92 SRX018959

```

ggucgggcucaccaugacacagugagaccucgGGCUACAACACAGGACCCGGGCgcugcucugaccccUCGUGUCUUG
UGUUGCAGCCGGagggacgcagguccgca

```

```

.(.(((((((.....((((...(((.((((.((((((((((.((((.(.....).).)).)).))))))
))))).))))).))))).))))).))))).

```

```

-----GCUACAACACAGGACCCGGGCGu-----
----- 2 1,1
-----UCGUGUCUUG
UGUUGCAGC----- 2 0,-3
-----UCGUGUCUUG
UGUUGCAGCC----- 2 0,-2
-----UCGUGUCUUG
UGUUGCAGCCGG----- 8 0,0
-----UCGUGUCUUG

```

UGUUGCAGCCGGu-----	3	0,0	
-----			UCGUGUCUUG
UGUUGCAGCCGGuu-----	10	0,0	

```
>hsa-mir-18a      MA:6-28;mi:47-69      SRX018959
uguucUAAGGUGCAUCUAGUGCAGAUAGugaaguagauuagcaucuACUGCCCUAAGUGCUCUUUCUGGca
.(((((((.(((.(((.(((.(((.(((.(((.(((.(((((.((.....)).)).)))))))).)))..))).).)))..)))..
-----UAAGGUGCAUCUAGUGCAGA----- 5    0,-3
-----UAAGGUGCAUCUAGUGCAGAU----- 23   0,-2
-----UAAGGUGCAUCUAGUGCAGAU----- 19   0,-1
-----UAAGGUGCAUCUAGUGCAGAUaa----- 3    0,-1
-----UAAGGUGCAUCUAGUGCAGAUAG----- 5    0,0
-----ACUGCCCUAAGUGCUCUUUCU----- 6    0,-2
```

```
>hsa-mir-190      5p:15-36      SRX018959
ugcaggccucugugUGAU AUGUUUGAU AUUUAGGUuguuauuuauccaacuaauauaucaaacauauuccuacaguguc
uugcc
(((((((.(.((((((..((((((((((((((((((..((((((.....))))))))))))))))))))))))))..)).)).)
))))).
-----UGAU AUGUUUGAU AUUUAGGUUG-----
----- 2    0,2
```

```
>hsa-mir-1908      5p:12-32      SRX018959
cggggaugccgCGGCGGGGACGGCGAUUGGUCcguauguguggugccaccggccgccggcuccgccccggcccccgcccc
((((...(((.(((((((.((((((.(((..(((.....))))).))))..))))).))))))..))))).))))....
-----CGGCGGGGACGGCGAUUGGUC-----
3      0,0
-----CGGCGGGGACGGCGAUUGGUCu-----
2      0,0
```

```
>hsa-mir-190b    5p:11-31    SRX018959
ugcuucugugUGAU AUGUUUGAU AUGGGGUUguuuuaauuaggaaccaacuaaaugucaaacauauucuuacagcagcag
((((.((((.(((((((((((((((((.(((((((((.....))).))))).)))))))))))))))).))))).)).).
-----UGAU AUGUUUGAU AUGGGGUUGU-----
      2      0,2
```

>hsa-mir-191 MA:16-38;mi:58-79 SRX018959
cggcuggacagcgggCAACGGAAUCCCAAAAGCAGCUGuugucuccagagcauuccaGCUGCGCUUGGAUUUCGUCCCCu

gcucuccugccu

.(((.((((.((((((.(((((((((.(.(((((((((.((((...)).)).)))))))).)).)))))))).)).))
)))).)).).

-----CAACGGAAUCCCAAAGC-----

----- 200 0, -5

-----CAACGGAAUCCCAAAGCu-----

----- 3 0, -5

-----CAACGGAUCCCAAAGCA-----

----- 694 0, -4

-----CAACGGAAUCCCAAAGCAa-----

----- 8 0, -4

-----CAACGGAUCCCAAAGCAu-----

----- 3 0, -4

-----CAACGGAUCCCAAAGCAG-----

----- 2551 0, -3

-----CAACGGAUCCCAAAGCAGa-----

----- 11 0,-3

-----CAACGGAUCCCAAAGCAGau-----

----- 29 0,-3

-----CAACGGAUCCCAAAGCAGu-----

----- 15 0,-3

-----CAACGGAUCCCAAAGCAGuu-----

----- 16 0,-3

-----CAACGGAUCCCAAAGCAGC-----

----- 8192 0,-2

-----CAACGGAAUCCCAAAGCAGCa-----

----- 85 0,-2

-----CAACGGAAUCCCAAAGCAGCa-----

----- 12 0, -2

-----CAACGGAAUCCCAAAGCAGCau-----

----- 5 0, -2

-----CAACGGAAUCCCAAAGCAGCU-----

----- 19298 0,-1

-----CAACGGAAUCCCAAAGCAGCUa-----

----- 232 0,-1

-----CAACGGAAUCCCAAAGCAGCU_{aa}-----

----- 27 0,-1

-----CAACGGAAUCCCAAAGCAGCU_{au}-----

```

----- 98 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
----- 358 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
----- 111 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
----- 2703 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
----- 203 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
----- 13 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
----- 6 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
----- 1735 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
----- 6 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
----- 73 0,2
-----AACGGAAUCCCAAAAGCA-----
----- 68 1,-4
-----AACGGAAUCCCAAAAGCAG-----
----- 342 1,-3
-----AACGGAAUCCCAAAAGCAGa-----
----- 4 1,-3
-----AACGGAAUCCCAAAAGCAGu-----
----- 4 1,-3
-----AACGGAAUCCCAAAAGCAGuu-----
----- 4 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
----- 1177 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
----- 2 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
----- 2873 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
----- 20 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----

```

```

-----      4      1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
-----      28      1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
-----      19      1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
-----      11      1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
-----      405      1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
-----      39      1,0
-----AACGGAAUCCCAAAAGCAGCUGaa-----
-----      2      1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
-----      466      1,1
-----AACGGAAUCCCAAAAGCAGCUGUa-----
-----      7      1,1
-----AACGGAAUCCCAAAAGCAGCUGUU-----
-----      10      1,2
-----AACGGAAUCCCAAAAGCAGCUGUUa-----
-----      2      1,2
-----AACGGAAUCCCAAAAGCAGCUGUUu-----
-----      4      1,2
-----ACGGAAUCCCAAAAGCAG-----
-----      3      2,-3
-----ACGGAAUCCCAAAAGCAGC-----
-----      7      2,-2
-----ACGGAAUCCCAAAAGCAGCU-----
-----      14      2,-1
-----ACGGAAUCCCAAAAGCAGCUG-----
-----      3      2,0

```

>hsa-mir-1910 5p:12-32 SRX018959

```

ugucccuucagCCAGUCCUGUGCCUGCCGCCUuugugcuguccuuggagggaggcagagcaggaugacaaugagggcaa
((.(((.(.....(((((((..((((.((((.....)))))))).))))).))))).))))).
-----GAGGCAGAAGCAGGAUGACA-----

```

```

>hsa-mir-192    MA:24-44;mi:67-88    SRX018959
gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucucccucuggCUGCCAAUCCAUA
GGUCACAGguauguugcccucaaugccagc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))).....
-----CUCUGACCUAUGAAUUGACAGC-----
----- 6  -2,-1
-----CUCUGACCUAUGAAUUGACAGCC-----
----- 3  -2,0
-----UCUGACCUAUGAAUUGAC-----
----- 5  -1,-4
-----UCUGACCUAUGAAUUGACA-----
----- 25 -1,-3
-----UCUGACCUAUGAAUUGACAG-----
----- 96 -1,-2
-----UCUGACCUAUGAAUUGACAGu-----
----- 6  -1,-2
-----UCUGACCUAUGAAUUGACAGC-----
----- 461 -1,-1
-----UCUGACCUAUGAAUUGACAGCa-----
----- 44 -1,-1
-----UCUGACCUAUGAAUUGACAGCaa-----
----- 4  -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
----- 7  -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
----- 2196 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
----- 158 -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
----- 41 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 313 -1,1
-----UCUGACCUAUGAAUUGACAGCCa-----
----- 9  -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 94 -1,1
-----UCUGACCUAUGAAUUGACAGCCAuu-----

```

----- 41 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
----- 3 -1,2
-----UCUGACCUAUGAAUUGACAGCCAGU-----
----- 2 -1,3
-----CUGACCUAUGAAUUGACA-----
----- 5889 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 19 0,-3
-----CUGACCUAUGAAUUGACAaa-----
----- 18 0,-3
-----CUGACCUAUGAAUUGACAu-----
----- 2 0,-3
-----CUGACCUAUGAAUUGACAUu-----
----- 6 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 14715 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 364 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 42 0,-2
-----CUGACCUAUGAAUUGACAGau-----
----- 7 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 540 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 94 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 150469 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 14206 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 2173 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 708 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 3031 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----

```

----- 204 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 460348 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 26208 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 6096 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 219691 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 7645 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 627 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
----- 1230 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 88113 0,1
-----CUGACCUAUGAAUUGACAGCCAuu-----
----- 36071 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 1947 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 173 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 9 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 5 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 1592 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 96 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 396 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 3 0,4
-----UGACCUAUGAAUUGACAG-----
----- 3441 1,-2
-----UGACCUAUGAAUUGACAGu-----

```


----- 33 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 37051 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 496 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 148 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 26 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 88 1,-1
-----UGACCUAUGAAUUGACAGCuu-----
----- 5 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 16524 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 529 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 118 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 36514 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 2135 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 862 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 935 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 10025 1,1
-----UGACCUAUGAAUUGACAGCCAuu-----
----- 6881 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 8053 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 1514 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 79 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----

----- 74 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 9806 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 1281 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 86 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 66 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 2966 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 231 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 40 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 6 1,4
-----GACCUAUGAAUUGACAGC-----
----- 598 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 7 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 5 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 2 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 346 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 15 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 3 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 310 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 16 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 12 2,1
-----GACCUAUGAAUUGACAGCCAau-----

```

----- 11 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 142 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 77 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 129 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 31 2,2
-----GACCUAUGAAUUGACAGCCAGau-----
----- 3 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 174 2,3
-----GACCUAUGAAUUGACAGCCAGUa-----
----- 17 2,3
-----GACCUAUGAAUUGACAGCCAGUaa-----
----- 2 2,3
-----GACCUAUGAAUUGACAGCCAGUau-----
----- 2 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 54 2,3
-----GACCUAUGAAUUGACAGCCAGUuu-----
----- 11 2,3
-----GGCUGCCAAUUCCAUA
GGUCAC----- 3 -2,-2
-----GGCUGCCAAUUCCAUA
GGUCACA----- 4 -2,-1
-----GCUGCCAAUUCCAUA
GGUCA----- 3 -1,-3
-----CUGCCAAUUCCAUA
GGUCA----- 3 0,-3
-----CUGCCAAUUCCAUA
GGUCAC----- 3 0,-2
-----CUGCCAAUUCCAUA
GGUCACA----- 6 0,-1
-----CUGCCAAUUCCAUA
GGUCACAu----- 2 0,-1
-----CUGCCAAUUCCAUA

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>hsa-mir-193a    5p:21-42;3p:55-76    SRX018959
cgagggaugggagcugaggggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg
.....(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).
-----UGGGUCUUUGCGGGCGAG-----
-----    3    0,-4
-----UGGGUCUUUGCGGGCGAGAU-----
-----    5    0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
-----   14    0,-2
-----UGGGUCUUUGCGGGCGAGAUG-----
-----   52    0,-1
-----UGGGUCUUUGCGGGCGAGAUGu-----
-----   24    0,-1
-----UGGGUCUUUGCGGGCGAGAUGuu-----
-----    2    0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
-----  168    0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----
-----    6    0,0
-----UGGGUCUUUGCGGGCGAGAUGAu-----
-----   13    0,0
-----UGGGUCUUUGCGGGCGAGAUGAG-----
-----    2    0,1
-----GGGUCUUUGCGGGCGAGAUa-----
-----    2    1,-2
-----GGGUCUUUGCGGGCGAGAUGA-----
-----    7    1,0
-----AACUGGCCUACAAAGUCC-----
-----   91    0,-4
-----AACUGGCCUACAAAGUCCa-----
-----    2    0,-4
-----AACUGGCCUACAAAGUCCC-----
-----  201    0,-3
-----AACUGGCCUACAAAGUCCCA-----

```


--- 44 0,-4
-----CGGGGUUUUGAGGGCGAGA-----
--- 6 0,-3
-----CGGGGUUUUGAGGGCGAGAAa-----
--- 7 0,-3
-----CGGGGUUUUGAGGGCGAGAU-----
--- 34 0,-2
-----CGGGGUUUUGAGGGCGAGAUa-----
--- 38 0,-2
-----CGGGGUUUUGAGGGCGAGAUaa-----
--- 3 0,-2
-----CGGGGUUUUGAGGGCGAGAUau-----
--- 4 0,-2
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 10 0,-2
-----CGGGGUUUUGAGGGCGAGAUuu-----
--- 3 0,-2
-----CGGGGUUUUGAGGGCGAGAUg-----
--- 134 0,-1
-----CGGGGUUUUGAGGGCGAGAUgu-----
--- 129 0,-1
-----CGGGGUUUUGAGGGCGAGAUguu-----
--- 9 0,-1
-----CGGGGUUUUGAGGGCGAGAUga-----
--- 661 0,0
-----CGGGGUUUUGAGGGCGAGAUgaAa-----
--- 24 0,0
-----CGGGGUUUUGAGGGCGAGAUgaAu-----
--- 41 0,0
-----CGGGGUUUUGAGGGCGAGAUgaAG-----
--- 2 0,1
-----GGGGUUUUGAGGGCGAGAUg-----
--- 2 1,-1
-----GGGGUUUUGAGGGCGAGAUgu-----
--- 7 1,-1
-----GGGGUUUUGAGGGCGAGAUga-----
--- 19 1,0
-----GGGGUUUUGAGGGCGAGAUgaAu-----

---	4	1,0	-----AACUGGCCCUCAAAGUCC-----
---	72	0,-4	-----AACUGGCCCUCAAAGUCCC-----
---	59	0,-3	-----AACUGGCCCUCAAAGUCCCG-----
---	8	0,-2	-----AACUGGCCCUCAAAGUCCCGC-----
---	34	0,-1	-----AACUGGCCCUCAAAGUCCCGCau-----
---	7	0,-1	-----AACUGGCCCUCAAAGUCCCGCU-----
---	71	0,0	-----AACUGGCCCUCAAAGUCCCGCUa-----
---	12	0,0	-----AACUGGCCCUCAAAGUCCCGCUaa-----
---	3	0,0	-----AACUGGCCCUCAAAGUCCCGCUau-----
---	8	0,0	-----AACUGGCCCUCAAAGUCCCGCUU-----
---	51	0,1	-----AACUGGCCCUCAAAGUCCCGCUUa-----
---	2	0,1	-----AACUGGCCCUCAAAGUCCCGCUUau-----
---	3	0,1	-----AACUGGCCCUCAAAGUCCCGCUUU-----
---	24	0,2	-----AACUGGCCCUCAAAGUCCCGCUUUU-----
---	4	0,3	-----ACUGGCCCUCAAAGUCCC-----
---	2	1,-3	-----ACUGGCCCUCAAAGUCCCGCUau-----
---	5	1,0	-----ACUGGCCCUCAAAGUCCCGCUU-----
---	7	1,1	-----ACUGGCCCUCAAAGUCCCGCUUUU-----
---	2	1,3	

augguguuaucaagUGUAACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

.(((((.(((((.(((((((((.((((((.((((.(.....)).)))))))))).)))))))).)))))).).
)))).

-----UGUAACAGCAACUCCAUG-----

----- 11 0,-4

-----UGUAACAGCAACUCCAUGa-----

----- 2 0,-4

-----UGUAACAGCAACUCCAUGU-----

----- 11 0,-3

-----UGUAACAGCAACUCCAUGUG-----

----- 31 0,-2

-----UGUAACAGCAACUCCAUGUGa-----

----- 2 0,-2

-----UGUAACAGCAACUCCAUGUGG-----

----- 437 0,-1

-----UGUAACAGCAACUCCAUGUGGu-----

----- 7 0,-1

-----UGUAACAGCAACUCCAUGUGGA-----

----- 966 0,0

-----UGUAACAGCAACUCCAUGUGGAu-----

----- 131 0,0

-----UGUAACAGCAACUCCAUGUGGAuu-----

----- 5 0,0

-----UGUAACAGCAACUCCAUGUGGAC-----

----- 9 0,1

-----UGUAACAGCAACUCCAUGUGGACa-----

----- 3 0,1

-----GUAACAGCAACUCCAUGUG-----

----- 4 1, -2

-----GUAACAGCAACUCCAUGUGG-----

----- 5 1, -1

-----GUAACAGCAACUCCAUGUGGA-----

----- 4 1.0

>hsa-mi r-194-2 MA:15-36;mi :51-72 SRX018959

ugguucccgccccUGUAAACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGGCUGCUGUUAUCUGggggcgagg


```

----- 2543 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 482 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 20 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 14 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 144 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 15 0,1
-----UGUAAACAGCAACUCCAUGUGGAAG-----
----- 3 0,2
-----GUAACAGCAACUCCAUGUG-----
----- 4 1,-2
-----GUAACAGCAACUCCAUGUGG-----
----- 5 1,-1
-----GUAACAGCAACUCCAUGUGGA-----
----- 4 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 11 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 3 1,1
-----GUAACAGCAACUCCAUGUGGAAau-----
----- 3 1,1
-----CCAGUGGGGCUGCUGUUUAU-----
----- 5 0,-3
-----CCAGUGGGGCUGCUGUUUAUa-----
----- 24 0,-3
-----CCAGUGGGGCUGCUGUUUAUuu-----
----- 2 0,-3
-----CCAGUGGGGCUGCUGUUUAUC-----
----- 9 0,-2
-----CCAGUGGGGCUGCUGUUUAUCU-----
----- 126 0,-1
-----CCAGUGGGGCUGCUGUUUAUCUu-----
----- 2 0,-1
-----CCAGUGGGGCUGCUGUUUAUCUG-----

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----- 2    0,0
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----- 734 0,1
-----UAGCAGCACAGAAAUAUUGGCAa-----
----- 412 0,1
-----UAGCAGCACAGAAAUAUUGGCAaa-----
----- 6    0,1
-----UAGCAGCACAGAAAUAUUGGCAau-----
----- 10   0,1
-----UAGCAGCACAGAAAUAUUGGCAu-----
----- 289 0,1
-----UAGCAGCACAGAAAUAUUGGCAuu-----
----- 41   0,1
-----AGCAGCACAGAAAUAUUGG-----
----- 4    1,-1
-----AGCAGCACAGAAAUAUUGGCA-----
----- 8    1,1
-----AGCAGCACAGAAAUAUUGGCAa-----
----- 5    1,1
-----AGCAGCACAGAAAUAUUGGCAu-----
----- 2    1,1

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>hsa-mir-197 3p:48-69 SRX018959

>hsa-mi r-199a-1 5p:6-28;3p:47-68 SRX018959

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-----CCCAGUGUUCAGACUACC----- 110 0, -5
-----CCCAGUGUUCAGACUACCU----- 1261
0, -4
-----CCCAGUGUUCAGACUACCUu----- 2 0, -4

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-----CCCAGUGUUCAGACUACCUG-----	42	0,-3
-----CCCAGUGUUCAGACUACCUGa-----	2	0,-3
-----CCCAGUGUUCAGACUACCUGU-----	21	0,-2
-----CCCAGUGUUCAGACUACCUGUa-----	4	0,-2
-----CCCAGUGUUCAGACUACCUGUU-----	319	0,-1
-----CCCAGUGUUCAGACUACCUGUa-----	26	0,-1
-----CCCAGUGUUCAGACUACCUGUUu-----	26	0,-1
-----CCCAGUGUUCAGACUACCUGUUC-----	101	0,0
-----CCCAGUGUUCAGACUACCUGUUCu-----	4	0,0
-----CCCAGUGUUCAGACUACCUGUUCA-----	4	0,1
-----CCAGUGUUCAGACUACCU-----	16	1,-4
-----CCAGUGUUCAGACUACCUGUU-----	4	1,-1
-----CCAGUGUUCAGACUACCUGUUC-----	2	1,0
-----CAGUGUUCAGACUACCUGUU-----	2	2,-1
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-1,-5		
-----UACAGUAGUCUGCACAUUaa-----	2	
-1,-5		
-----UACAGUAGUCUGCACAUUG-----	129	
-1,-4		
-----UACAGUAGUCUGCACAUUGa-----	4	
-1,-4		
-----UACAGUAGUCUGCACAUUGu-----	2	
-1,-4		
-----UACAGUAGUCUGCACAUUGuu-----	3	
-1,-4		
-----UACAGUAGUCUGCACAUUGG-----	284	
-1,-3		
-----UACAGUAGUCUGCACAUUGGa-----	10	
-1,-3		
-----UACAGUAGUCUGCACAUUGGaa-----	4	
-1,-3		
-----UACAGUAGUCUGCACAUUGGau-----	21	
-1,-3		
-----UACAGUAGUCUGCACAUUGGU-----	694	
-1,-2		
-----UACAGUAGUCUGCACAUUGGUa-----	265	
-1,-2		

	-----UACAGUAGUCUGCACAUUGGUaa---	212	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUau---	189	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUU----	7005	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUu---	1046	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUuu--	51	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUA---	1193	
-1,0			
	-----UACAGUAGUCUGCACAUUGGUUAa--	135	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	113	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAG--	3	-1,1
	-----ACAGUAGUCUGCACAUUG-----	588	0,-4
	-----ACAGUAGUCUGCACAUUGa-----	15	0,-4
	-----ACAGUAGUCUGCACAUUGaa-----	11	0,-4
	-----ACAGUAGUCUGCACAUUGu-----	12	0,-4
	-----ACAGUAGUCUGCACAUUGuu-----	10	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	3077	
0,-3			
	-----ACAGUAGUCUGCACAUUGGa-----	19	0,-3
	-----ACAGUAGUCUGCACAUUGGaa-----	10	0,-3
	-----ACAGUAGUCUGCACAUUGGau-----	57	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	2777	
0,-2			
	-----ACAGUAGUCUGCACAUUGGUa-----	781	0,-2
	-----ACAGUAGUCUGCACAUUGGUaa---	1375	
0,-2			
	-----ACAGUAGUCUGCACAUUGGUau---	379	0,-2
	-----ACAGUAGUCUGCACAUUGGUU----	45778	
0,-1			
	-----ACAGUAGUCUGCACAUUGGUUu---	5563	
0,-1			
	-----ACAGUAGUCUGCACAUUGGUUuu--	257	0,-1
	-----ACAGUAGUCUGCACAUUGGUUA---	29339	
0,0			

-----	-ACAGUAGUCUGCACAUUGGUUAa--	14645	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAaa-	70	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAau-	54	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAu--	2281	
0,0			
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-----	-ACAGUAGUCUGCACAUUGGUUAGu-	5	0,1
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-----	-CAGUAGUCUGCACAUUGGaa----	2	1,-3
-----	-CAGUAGUCUGCACAUUGGU-----	279	1,-2
-----	-CAGUAGUCUGCACAUUGGUa----	86	1,-2
-----	-CAGUAGUCUGCACAUUGGUaa----	160	1,-2
-----	-CAGUAGUCUGCACAUUGGUau----	20	1,-2
-----	-CAGUAGUCUGCACAUUGGUU-----	3667	
1,-1			
-----	-CAGUAGUCUGCACAUUGGUUu---	637	1,-1
-----	-CAGUAGUCUGCACAUUGGUUuu---	38	1,-1
-----	-CAGUAGUCUGCACAUUGGUUA---	5913	
1,0			
-----	-CAGUAGUCUGCACAUUGGUUAa--	2753	
1,0			
-----	-CAGUAGUCUGCACAUUGGUUAaa-	71	1,0
-----	-CAGUAGUCUGCACAUUGGUUAau-	12	1,0
-----	-CAGUAGUCUGCACAUUGGUUAu--	521	1,0
-----	-CAGUAGUCUGCACAUUGGUUAG--	14	1,1
-----	-CAGUAGUCUGCACAUUGGUUAGu-	2	1,1
-----	-AGUAGUCUGCACAUUGGU-----	9	2,-2
-----	-AGUAGUCUGCACAUUGGUa----	3	2,-2
-----	-AGUAGUCUGCACAUUGGUaa----	3	2,-2
-----	-AGUAGUCUGCACAUUGGUau----	2	2,-2
-----	-AGUAGUCUGCACAUUGGUU-----	89	2,-1
-----	-AGUAGUCUGCACAUUGGUUu---	6	2,-1
-----	-AGUAGUCUGCACAUUGGUUA---	75	2,0
-----	-AGUAGUCUGCACAUUGGUUAa--	57	2,0
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-----	CCCAGUGUUCAGACUACC-	-----
-----	110 0,-5	-----
-----	CCCAGUGUUCAGACUACCU-	-----
-----	1261 0,-4	-----
-----	CCCAGUGUUCAGACUACCUu-	-----
-----	2 0,-4	-----
-----	CCCAGUGUUCAGACUACCUG-	-----
-----	42 0,-3	-----
-----	CCCAGUGUUCAGACUACCUGa-	-----
-----	2 0,-3	-----
-----	CCCAGUGUUCAGACUACCUGU-	-----
-----	21 0,-2	-----
-----	CCCAGUGUUCAGACUACCUGUa-	-----
-----	4 0,-2	-----
-----	CCCAGUGUUCAGACUACCUGUU-	-----
-----	319 0,-1	-----
-----	CCCAGUGUUCAGACUACCUGUUa-	-----
-----	26 0,-1	-----
-----	CCCAGUGUUCAGACUACCUGUUu-	-----
-----	26 0,-1	-----
-----	CCCAGUGUUCAGACUACCUGUUC-	-----
-----	101 0,0	-----
-----	CCCAGUGUUCAGACUACCUGUUCu-	-----
-----	4 0,0	-----
-----	CCCAGUGUUCAGACUACCUGUUCA-	-----
-----	4 0,1	-----
-----	CCAGUGUUCAGACUACCU-	-----
-----	16 1,-4	-----
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-----	4 1,-1	-----
-----	CCAGUGUUCAGACUACCUGUUC-	-----
-----	2 1,0	-----
-----	CAGUGUUCAGACUACCUGUU-	-----

-----	2	2,-1	
-----			-UACAGUAGUCUG
CACAUU-----	32	-1,-5	
-----			-UACAGUAGUCUG
CACAUUaa-----	2	-1,-5	
-----			-UACAGUAGUCUG
CACAUUG-----	129	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGa-----	4	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGu-----	2	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGuu-----	3	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGG-----	284	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGa-----	10	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGaa-----	4	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGau-----	21	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGU-----	694	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUa-----	265	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUaa-----	212	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUau-----	189	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUU-----	7005	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUu-----	1046	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUuu-----	51	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUA-----	1193	-1,0	
-----			-UACAGUAGUCUG

CACAUUGGUUAa-----	135	-1,0	
-----			--UACAGUAGUCUG
CACAUUGGUUAu-----	113	-1,0	
-----			--UACAGUAGUCUG
CACAUUGGUUAG-----	3	-1,1	
-----			--ACAGUAGUCUG
CACAUUG-----	588	0,-4	
-----			--ACAGUAGUCUG
CACAUUGa-----	15	0,-4	
-----			--ACAGUAGUCUG
CACAUUGaa-----	11	0,-4	
-----			--ACAGUAGUCUG
CACAUUGu-----	12	0,-4	
-----			--ACAGUAGUCUG
CACAUUGuu-----	10	0,-4	
-----			--ACAGUAGUCUG
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-----			--ACAGUAGUCUG
CACAUUGGa-----	19	0,-3	
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CACAUUGGaa-----	10	0,-3	
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CACAUUGGau-----	57	0,-3	
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CACAUUGGU-----	2777	0,-2	
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CACAUUGGUaa-----	1375	0,-2	
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CACAUUGGUau-----	379	0,-2	
-----			--ACAGUAGUCUG
CACAUUGGUU-----	45778	0,-1	
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CACAUUGGUUu-----	5563	0,-1	
-----			--ACAGUAGUCUG
CACAUUGGUUuu-----	257	0,-1	
-----			--ACAGUAGUCUG

CACAUUGGUUA-----	29339	0,0	
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CACAUUGGUUAa-----	14645	0,0	
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CACAUUGGUUAaa-----	70	0,0	
-----			-ACAGUAGUCUG
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-----			-ACAGUAGUCUG
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-----			-ACAGUAGUCUG
CACAUUGGUUAuu-----	44	0,0	
-----			-ACAGUAGUCUG
CACAUUGGUUAG-----	74	0,1	
-----			-ACAGUAGUCUG
CACAUUGGUUAGu-----	5	0,1	
-----			-CAGUAGUCUG
CACAUUGG-----	395	1,-3	
-----			-CAGUAGUCUG
CACAUUGGaa-----	2	1,-3	
-----			-CAGUAGUCUG
CACAUUGGU-----	279	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUa-----	86	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUaa-----	160	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUau-----	20	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUU-----	3667	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUu-----	637	1,-1	
-----			-CAGUAGUCUG
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-----			-CAGUAGUCUG
CACAUUGGUUAa-----	2753	1,0	
-----			-CAGUAGUCUG


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-----CCCAGUGUUUAGACUAUCUGUUC-----
----- 2 0,0
-----CCAGUGUUUAGACUAUCU-----
----- 3 1,-4
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U----- 32 -1,-5
-----UACAGUAGUCUGCACAU
Uaa----- 2 -1,-5
-----UACAGUAGUCUGCACAU
UG----- 129 -1,-4
-----UACAGUAGUCUGCACAU
UGa----- 4 -1,-4
-----UACAGUAGUCUGCACAU
UGu----- 2 -1,-4
-----UACAGUAGUCUGCACAU
UGuu----- 3 -1,-4
-----UACAGUAGUCUGCACAU
UGG----- 284 -1,-3
-----UACAGUAGUCUGCACAU
UGGa----- 10 -1,-3
-----UACAGUAGUCUGCACAU
UGGaa----- 4 -1,-3
-----UACAGUAGUCUGCACAU
UGGau----- 21 -1,-3
-----UACAGUAGUCUGCACAU
UGGU----- 694 -1,-2
-----UACAGUAGUCUGCACAU
UGGUa----- 265 -1,-2
-----UACAGUAGUCUGCACAU
UGGUaa----- 212 -1,-2
-----UACAGUAGUCUGCACAU
UGGUau----- 189 -1,-2
-----UACAGUAGUCUGCACAU
UGGUU----- 7005 -1,-1
-----UACAGUAGUCUGCACAU

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UGGUUu-----	1046	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUuu-----	51	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUA-----	1193	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAa-----	135	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAu-----	113	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAG-----	3	-1,1	-----ACAGUAGUCUGCACAU
UG-----	588	0,-4	-----ACAGUAGUCUGCACAU
UGa-----	15	0,-4	-----ACAGUAGUCUGCACAU
UGaa-----	11	0,-4	-----ACAGUAGUCUGCACAU
UGu-----	12	0,-4	-----ACAGUAGUCUGCACAU
UGuu-----	10	0,-4	-----ACAGUAGUCUGCACAU
UGG-----	3077	0,-3	-----ACAGUAGUCUGCACAU
UGGa-----	19	0,-3	-----ACAGUAGUCUGCACAU
UGGaa-----	10	0,-3	-----ACAGUAGUCUGCACAU
UGGau-----	57	0,-3	-----ACAGUAGUCUGCACAU
UGGU-----	2777	0,-2	-----ACAGUAGUCUGCACAU
UGGUa-----	781	0,-2	-----ACAGUAGUCUGCACAU
UGGUaa-----	1375	0,-2	-----ACAGUAGUCUGCACAU
UGGUau-----	379	0,-2	-----ACAGUAGUCUGCACAU

UGGUU-----	45778	0,-1	-----ACAGUAGUCUGCACAU
UGGUUu-----	5563	0,-1	-----ACAGUAGUCUGCACAU
UGGUUuu-----	257	0,-1	-----ACAGUAGUCUGCACAU
UGGUUA-----	29339	0,0	-----ACAGUAGUCUGCACAU
UGGUUAa-----	14645	0,0	-----ACAGUAGUCUGCACAU
UGGUUAaa-----	70	0,0	-----ACAGUAGUCUGCACAU
UGGUUAau-----	54	0,0	-----ACAGUAGUCUGCACAU
UGGUUAu-----	2281	0,0	-----ACAGUAGUCUGCACAU
UGGUUAuu-----	44	0,0	-----ACAGUAGUCUGCACAU
UGGUUAG-----	74	0,1	-----ACAGUAGUCUGCACAU
UGGUUAGu-----	5	0,1	-----CAGUAGUCUGCACAU
UGG-----	395	1,-3	-----CAGUAGUCUGCACAU
UGGaa-----	2	1,-3	-----CAGUAGUCUGCACAU
UGGU-----	279	1,-2	-----CAGUAGUCUGCACAU
UGGUa-----	86	1,-2	-----CAGUAGUCUGCACAU
UGGUaa-----	160	1,-2	-----CAGUAGUCUGCACAU
UGGUau-----	20	1,-2	-----CAGUAGUCUGCACAU
UGGUU-----	3667	1,-1	-----CAGUAGUCUGCACAU
UGGUUu-----	637	1,-1	-----CAGUAGUCUGCACAU


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-----AGUUUUGCAUAGUUGCACUA-----
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-----UUGUGCAAAUCUAUGCAAAACU-----
-- 4 -1,-2
-----UGUGCAAAUCUAUGCAAAAC-----
-- 2 0,-3
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-- 7 0,-2
-----UGUGCAAAUCUAUGCAAAACUGA-----
-- 2 0,0

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>hsa-mir-19b-1 mi:16-38;MA:54-76 SRX018959
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gguaugug
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))))))
-----AGUUUUGCAGGUUUGCAUCCA-----
----- 3 0,-2
-----UGUGCAAAUCCAUGCAAAA-----
----- 2 0,-4
-----UGUGCAAAUCCAUGCAAAAC-----
----- 4 0,-3
-----UGUGCAAAUCCAUGCAAAACU-----
----- 118 0,-2
-----UGUGCAAAUCCAUGCAAAACUG-----
----- 21 0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 8 0,0
-----GUGCAAAUCCAUGCAAAACU-----
----- 2 1,-2

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>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018959
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CUGAuugugauaaugu
(((((((((.....))))))))).)).)))))))))
)))))))))
-----UGUGCAAAUCCAUGCAAAA

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----- 5 1,-1
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----- 2 1,0
-----AUCUUACUGGGCAGCAUUGGAa-----
----- 7 1,0
-----CUAAUACUGCCUGGUA AUGACa
----- 2 -1,1
-----UAAUACUGCCUGGUA AUG-----
----- 2 0,-4
-----UAAUACUGCCUGGUA AUGA-----
----- 17 0,-3
-----UAAUACUGCCUGGUA AUGAU-----
----- 24 0,-2
-----UAAUACUGCCUGGUA AUGAUa---
----- 3 0,-2
-----UAAUACUGCCUGGUA AUGAUG---
----- 26 0,-1
-----UAAUACUGCCUGGUA AUGAUgu--
----- 9 0,-1
-----UAAUACUGCCUGGUA AUGAUGA--
----- 133 0,0
-----UAAUACUGCCUGGUA AUGAUGAa-
----- 32 0,0
-----UAAUACUGCCUGGUA AUGAUGAu-
----- 2 0,0
-----UAAUACUGCCUGGUA AUGAUGAC-
----- 103 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
----- 30 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
u----- 4 0,1
-----UAAUACUGCCUGGUA AUGAUGACu
----- 59 0,1
-----UAAUACUGCCUGGUA AUGAUGACu
u----- 2 0,1
-----UAAUACUGCCUGGUA AUGAUGACG
----- 2 0,2
-----AAUACUGCCUGGUA AUGAUGA--

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CACUAGu----- 16 1,0
-----UGAAAUGUUUAGGAC

CACUAGuu----- 4 1,0
-----UGAAAUGUUUAGGAC

CACUAGA----- 4 1,1

>hsa-mir-204 5p:33-54 SRX018959

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gcaaagggacguucaauugucaucacuggc

.....((((((((((...(((((((((.(((((((.((((((.....)))))))))))).))
)))))))))).))))).))))).))))).

-----UCCCCUUGUCAUCCUAUGCC-----

----- 4 0,-1

-----UCCCCUUGUCAUCCUAUGCCU-----

----- 14 0,0

-----GCUGGGAAG

GCAAAGGGA----- 14

-----GCUGGGAAG

GCAAAGGGAC----- 2

-----GCUGGGAAG

GCAAAGGGACG----- 2

-----GCUGGGAAG

GCAAAGGGACGU----- 17

-----GCUGGGAAG

GCAAAGGGACGUa----- 2

-----GCUGGGAAG

GCAAAGGGACGUau----- 2

>hsa-mir-206 3p:53-74 SRX018959

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caugug

.((...((((((.(.....).)))))).))))))))))))))))))))))))))
.))))).

-----UGGAAUGUAAGGAAGUGUGU-----

----- 2 0,-2

-----UGGAAUGUAAGGAAGUGUGUG-----

----- 2 0,-1

-----UGGAAUGUAAGGAAGUGUGUGu-----

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----- 2 0,-1
-----UGGAAUGUAAGGAAGUGUGUGG-----
----- 19 0,0

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>hsa-mir-20a MA:8-30;mi:44-65 SRX018959

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-----UAAAGUGCUUAUAGUGCAG----- 162 0,-4
-----UAAAGUGCUUAUAGUGCAGG----- 65 0,-3
-----UAAAGUGCUUAUAGUGCAGGU----- 81 0,-2
-----UAAAGUGCUUAUAGUGCAGGUA----- 171 0,-1
-----UAAAGUGCUUAUAGUGCAGGUa----- 42 0,-1
-----UAAAGUGCUUAUAGUGCAGGUa----- 72 0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG----- 64 0,0
-----UAAAGUGCUUAUAGUGCAGGUAGa----- 4 0,0
-----UAAAGUGCUUAUAGUGCAGGUAGU----- 6 0,1
-----AAAGUGCUUAUAGUGCAG----- 2 1,-4
-----AAAGUGCUUAUAGUGCAGGUA----- 2 1,-1
-----AAGUGCUUAUAGUGCAGGU----- 2 2,-2
-----ACUGCAUUAUGAGCACUAAA----- 3 0,-2
-----ACUGCAUUAUGAGCACUAAAAG----- 3 0,0
-----ACUGCAUUAUGAGCACUAAAAGU----- 8 0,1
-----CUGCAUUAUGAGCACUAAAAGU----- 2 1,1

```

>hsa-mir-20b MA:6-28;mi:44-65 SRX018959

```

aguacCAAAGUGCUCAUAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGCACUUCCAGuacu
(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----ACUGUAGUAUGGGCACUUCC----- 2 0,-2

```

>hsa-mir-21 MA:8-29;mi:46-66 SRX018959

```

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca
.(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GUAGCUUAUCAGACUGAUGU----- 2
-1,-3
-----GUAGCUUAUCAGACUGAUGUU----- 23
-1,-2
-----GUAGCUUAUCAGACUGAUGUUG----- 36

```


-1,-1	
-----GUAGCUUAUCAGACUGAUGUUGA-----	31
-1,0	
-----GUAGCUUAUCAGACUGAUGUUGAC-----	5
-1,1	
-----GUAGCUUAUCAGACUGAUGUUGACa-----	3
-1,1	
-----GUAGCUUAUCAGACUGAUGUUGACU-----	8
-1,2	
-----UAGCUUAUCAGACUGAUG-----	1304
0,-4	
-----UAGCUUAUCAGACUGAUGau-----	7
0,-4	
-----UAGCUUAUCAGACUGAUGU-----	4972
0,-3	
-----UAGCUUAUCAGACUGAUGUa-----	26
0,-3	
-----UAGCUUAUCAGACUGAUGUaa-----	25
0,-3	
-----UAGCUUAUCAGACUGAUGUU-----	
36742 0,-2	
-----UAGCUUAUCAGACUGAUGUUa-----	134
0,-2	
-----UAGCUUAUCAGACUGAUGUUaa-----	10
0,-2	
-----UAGCUUAUCAGACUGAUGUUu-----	42
0,-2	
-----UAGCUUAUCAGACUGAUGUUG-----	
19839 0,-1	
-----UAGCUUAUCAGACUGAUGUUGu-----	52
0,-1	
-----UAGCUUAUCAGACUGAUGUUGA-----	
14122 0,0	
-----UAGCUUAUCAGACUGAUGUUGAa-----	747
0,0	
-----UAGCUUAUCAGACUGAUGUUGAaa-----	81
0,0	
-----UAGCUUAUCAGACUGAUGUUGAau-----	9

0,0	
-----UAGCUUAUCAGACUGAUGUUGAu-----	28
0,0	
-----UAGCUUAUCAGACUGAUGUUGAuu-----	7
0,0	
-----UAGCUUAUCAGACUGAUGUUGAC-----	5574
0,1	
-----UAGCUUAUCAGACUGAUGUUGACa-----	2765
0,1	
-----UAGCUUAUCAGACUGAUGUUGACaa-----	6
0,1	
-----UAGCUUAUCAGACUGAUGUUGACau-----	16
0,1	
-----UAGCUUAUCAGACUGAUGUUGACU-----	1359
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUa-----	5
0,2	
-----AGCUUAUCAGACUGAUGU-----	18
1,-3	
-----AGCUUAUCAGACUGAUGUU-----	132
1,-2	
-----AGCUUAUCAGACUGAUGUUa-----	3
1,-2	
-----AGCUUAUCAGACUGAUGUUG-----	68
1,-1	
-----AGCUUAUCAGACUGAUGUUGu-----	16
1,-1	
-----AGCUUAUCAGACUGAUGUUGA-----	200
1,0	
-----AGCUUAUCAGACUGAUGUUGAa-----	4
1,0	
-----AGCUUAUCAGACUGAUGUUGAC-----	72
1,1	
-----AGCUUAUCAGACUGAUGUUGACa-----	55
1,1	
-----AGCUUAUCAGACUGAUGUUGACau-----	6
1,1	
-----AGCUUAUCAGACUGAUGUUGACU-----	8

1,2	-----GCUUAUCAGACUGAUGUU-----	46
2,-2	-----GCUUAUCAGACUGAUGUUG-----	33
2,-1	-----GCUUAUCAGACUGAUGUUGA-----	39
2,0	-----GCUUAUCAGACUGAUGUUGAC-----	11
2,1	-----GCUUAUCAGACUGAUGUUGACa-----	6
2,1	-----GCUUAUCAGACUGAUGUUGACU-----	2
2,2	-----CAACACCAGUCGAUGGGC-----	2
0,-3	-----CAACACCAGUCGAUGGGCU-----	35
0,-2	-----CAACACCAGUCGAUGGGCUG-----	16
0,-1	-----CAACACCAGUCGAUGGGCUGU-----	30
0,0	-----CAACACCAGUCGAUGGGCUGUaa-----	97
0,0	-----CAACACCAGUCGAUGGGCUGUau-----	24
0,0	-----CAACACCAGUCGAUGGGCUGUuu-----	8
0,0	-----CAACACCAGUCGAUGGGCUGUC-----	17
0,1	-----CAACACCAGUCGAUGGGCUGUCa-----	53
0,1	-----CAACACCAGUCGAUGGGCUGUCaa-----	4
0,1	-----CAACACCAGUCGAUGGGCUGUCau-----	16
0,1	-----CAACACCAGUCGAUGGGCUGUCU-----	37
0,2	-----CAACACCAGUCGAUGGGCUGUCUau-----	2

CAGACAGG	3	-2,-4	-GUACAGCAGGCA
CAGACAG	5	-1,-5	-UACAGCAGGCA
CAGACAGG	26	-1,-4	-UACAGCAGGCA
CAGACAGGa	4	-1,-4	-UACAGCAGGCA
CAGACAGGaa	4	-1,-4	-UACAGCAGGCA
CAGACAGGCA	30	-1,-2	-UACAGCAGGCA
CAGACAGGCAa	49	-1,-2	-UACAGCAGGCA
CAGACAGGCAaa	5	-1,-2	-UACAGCAGGCA
CAGACAGGCAau	9	-1,-2	-UACAGCAGGCA
CAGACAGGCAu	44	-1,-2	-UACAGCAGGCA
CAGACAGGCAuu	12	-1,-2	-UACAGCAGGCA
CAGACAGGCAG	4	-1,-1	-UACAGCAGGCA
CAGACAGGCAGa	14	-1,-1	-UACAGCAGGCA
CAGACAGGCAGU	2	-1,0	-ACAGCAGGCA
CAGACAGG	24	0,-4	-ACAGCAGGCA
CAGACAGGa	2	0,-4	-ACAGCAGGCA
CAGACAGGaa	3	0,-4	-ACAGCAGGCA

```

-----ACAGCAGGCA
CAGACAGGCA----- 83 0,-2
-----ACAGCAGGCA
CAGACAGGCAa----- 37 0,-2
-----ACAGCAGGCA
CAGACAGGCAaa----- 22 0,-2
-----ACAGCAGGCA
CAGACAGGCAau----- 13 0,-2
-----ACAGCAGGCA
CAGACAGGCAu----- 18 0,-2
-----ACAGCAGGCA
CAGACAGGCAuu----- 2 0,-2
-----ACAGCAGGCA
CAGACAGGCAG----- 32 0,-1
-----ACAGCAGGCA
CAGACAGGCAGa----- 32 0,-1
-----ACAGCAGGCA
CAGACAGGCAGaa----- 7 0,-1
-----ACAGCAGGCA
CAGACAGGCAGU----- 27 0,0
-----ACAGCAGGCA
CAGACAGGCAGUa----- 5 0,0

```

>hsa-mir-215 5p:27-47 SRX018959

aucauucagaaaugguauacaggaauAUGACCUAUGAAUUGACAGACaauauagcugaguuuugucugucauuucuuuagg
ccaauauucuguaugacugugcuacucaa

.....(((.(((((((((((((.((.(((.(((.((((((((((((.....)))))))))).)))..)))..)))).)))).)))).)))).)))).)))).))..

```

-----AUGACCUAUGAAUUGACA-----
----- 2 0,-3
-----AUGACCUAUGAAUUGACAG-----
----- 198 0,-2
-----AUGACCUAUGAAUUGACAGA-----
----- 9 0,-1
-----AUGACCUAUGAAUUGACAGAC-----
----- 13 0,0
-----AUGACCUAUGAAUUGACAGACA-----
----- 20 0,1

```



```

-----AAAUCUCUGCAGGCAAUGUGu-----
-- 2 0,-1
-----AAAUCUCUGCAGGCAAUGUGA-----
-- 9 0,0

```

>hsa-mir-217 5p:35-57 SRX018959

```

aguauaauuauuacauaguuuuugaugucgcagaUACUGCAUCAGGAACUGAUUGGAuaagaaucagucaccaucaguuc
cuaaugcauugccuucagcaucuaaacaag

```

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.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))...

```

```

-----AUACUGCAUCAGGAACUGAUU-----
----- 6 -1,-3
-----AUACUGCAUCAGGAACUGAUUG-----
----- 23 -1,-2
-----AUACUGCAUCAGGAACUGAUUGG-----
----- 5 -1,-1
-----UACUGCAUCAGGAACUGAUUG-----
----- 2 0,-2

```

>hsa-mir-219-1 5p:21-41;3p:62-83 SRX018959

```

ccgccccgggcccgcggcuccUGAUUGUCCAAACGCAAUUCucgagucuauggcuccggccgAGAGUUGAGUCUGGACGUC
CCGagccgcccgcaccccaaccucgagcggg

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..

```

```

-----UGAUUGUCCAAACGCAAU-----
----- 6 0,-3
-----UGAUUGUCCAAACGCAAU-----
----- 2 0,-2
-----UGAUUGUCCAAACGCAAUUCUG-----
----- 2 0,2
-----AGAGUUGAGUCUGGACGUC
CCGu----- 5 0,0
-----AGAGUUGAGUCUGGACGUC
CCGA----- 3 0,1

```

>hsa-mir-219-2 5p:19-39;3p:62-83 SRX018959

```

acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCuguacgagucugcggccaaccgAGAAUUGUGGCUUGACAUC
UGUggcugagcuccggg

```


-----			-----AAAGCUGCCAGUUGAAGAACU-----
-----	2	-1, -2	
-----			-----AAGCUGCCAGUUGAAGAA-----
-----	2213	0, -4	
-----			-----AAGCUGCCAGUUGAAGAAa-----
-----	20	0, -4	
-----			-----AAGCUGCCAGUUGAAGAAaa-----
-----	2	0, -4	
-----			-----AAGCUGCCAGUUGAAGAAau-----
-----	4	0, -4	
-----			-----AAGCUGCCAGUUGAAGAAu-----
-----	15	0, -4	
-----			-----AAGCUGCCAGUUGAAGAAuu-----
-----	144	0, -4	
-----			-----AAGCUGCCAGUUGAAGAAC-----
-----	1122	0, -3	
-----			-----AAGCUGCCAGUUGAAGAACa-----
-----	221	0, -3	
-----			-----AAGCUGCCAGUUGAAGAACaa-----
-----	56	0, -3	
-----			-----AAGCUGCCAGUUGAAGAACau-----
-----	8	0, -3	
-----			-----AAGCUGCCAGUUGAAGAACU-----
-----	4029	0, -2	
-----			-----AAGCUGCCAGUUGAAGAACUa-----
-----	48	0, -2	
-----			-----AAGCUGCCAGUUGAAGAACUaa-----
-----	17	0, -2	
-----			-----AAGCUGCCAGUUGAAGAACUau-----
-----	31	0, -2	
-----			-----AAGCUGCCAGUUGAAGAACUu-----
-----	48	0, -2	
-----			-----AAGCUGCCAGUUGAAGAACUuu-----
-----	141	0, -2	
-----			-----AAGCUGCCAGUUGAAGAACUG-----
-----	443	0, -1	
-----			-----AAGCUGCCAGUUGAAGAACUGa-----
-----	41	0, -1	


```

-----ACCUGGCAUACAAUGUAGAU-----
----- 7 0,-2
-----ACCUGGCAUACAAUGUAGAUa-----
----- 22 0,-2
-----ACCUGGCAUACAAUGUAGAUaa-----
----- 2 0,-2
-----ACCUGGCAUACAAUGUAGAUU-----
----- 89 0,-1
-----ACCUGGCAUACAAUGUAGAUUa-----
----- 9 0,-1
-----ACCUGGCAUACAAUGUAGAUUU-----
----- 493 0,0
-----ACCUGGCAUACAAUGUAGAUUUa-----
----- 10 0,0
-----ACCUGGCAUACAAUGUAGAUUUu-----
----- 9 0,0
-----ACCUGGCAUACAAUGUAGAUUUC-----
----- 78 0,1
-----ACCUGGCAUACAAUGUAGAUUUUCU-----
----- 33 0,2
-----ACCUGGCAUACAAUGUAGAUUUUCUG-----
----- 2 0,3
-----CCUGGCAUACAAUGUAGAUUU-----
----- 5 1,0
-----AGCUACAUUGUCUGCU
GG----- 3 0,-5
-----AGCUACAUUGUCUGCU
GGG----- 68 0,-4
-----AGCUACAUUGUCUGCU
GGGU----- 10 0,-3
-----AGCUACAUUGUCUGCU
GGGUaa----- 4 0,-3
-----AGCUACAUUGUCUGCU
GGGUau----- 7 0,-3
-----AGCUACAUUGUCUGCU
GGGUU----- 70 0,-2
-----AGCUACAUUGUCUGCU
GGGUUa----- 23 0,-2

```

```

-----AGCUACAUUGUCUGCU
GGGUUaa----- 11 0,-2
-----AGCUACAUUGUCUGCU
GGGUUau----- 34 0,-2
-----AGCUACAUUGUCUGCU
GGGUUU----- 704 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUa----- 64 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUaa----- 10 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUau----- 16 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUu----- 177 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUuu----- 10 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUC----- 405 0,0
-----AGCUACAUUGUCUGCU
GGGUUUCu----- 20 0,0
-----AGCUACAUUGUCUGCU
GGGUUUCA----- 16 0,1
-----GCUACAUUGUCUGCU
GGGUUU----- 23 1,-1
-----GCUACAUUGUCUGCU
GGGUUUu----- 6 1,-1
-----GCUACAUUGUCUGCU
GGGUUUC----- 6 1,0

```

>hsa-mir-222 mi:31-52;MA:69-89 SRX018959

```

gcugcuggaagguguagguacccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu

```

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...((((((((((((.....((.(((..((((((((((((((((((((.....(((.....))))....)))))))).))))
))))))))))..)).)))))))))))))))).

```

```

-----AGCUACAUCUGG
CUACUG----- 288 0,-3
-----AGCUACAUCUGG
CUACUGa----- 3 0,-3

```

-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGG-----	421	0,-2		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGG-----	464	0,-1		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGU-----	499	0,0		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGUa-----	12	0,0		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGUaa-----	31	0,0		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGUau-----	38	0,0		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGUu-----	16	0,0		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGUuu-----	13	0,0		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUC-----	2046	0,1		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCa-----	20	0,1		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCau-----	2	0,1		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCU-----	1787	0,2		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCUa-----	13	0,2		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCUaa-----	6	0,2		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCUau-----	9	0,2		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCUu-----	46	0,2		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCUuu-----	52	0,2		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCUC-----	237	0,3		
-----	-----	-----	-----	-----AGCUACAUCUGG
CUACUGGGGUCUCa-----	25	0,3		

```

-----AGCUACAUCUGG
CUACUGGGUCUCU----- 54 0,4
-----GCUACAUCUGG
CUACUGG----- 4 1,-2
-----GCUACAUCUGG
CUACUGGGUC----- 7 1,1
-----GCUACAUCUGG
CUACUGGGUCU----- 6 1,2

```

>hsa-mir-223 mi:26-47;MA:68-89 SRX018959

```

ccuggccuccugcagugccacgcucCGUGUAUUUGACAAGCUGAGUUGgacacuccaugugguagagUGUCAGUUUGUCA
AAUACCCCAagugcggcacaugcuaccag

```

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((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----CGUGUAUUUGACAAGCUGAGUUG-----
----- 4 0,1
-----CGUGUAUUUGACAAGCUGAGUUG-----
----- 2 0,2
-----GUGUCAGUUUGUCA
AAUAC----- 2 -1,-4
-----UGUCAGUUUGUCA
AAUAC----- 8 0,-4
-----UGUCAGUUUGUCA
AAUACC----- 18 0,-3
-----UGUCAGUUUGUCA
AAUACCC----- 15 0,-2
-----UGUCAGUUUGUCA
AAUACCCC----- 17 0,-1
-----UGUCAGUUUGUCA
AAUACCCCA----- 27 0,0
-----UGUCAGUUUGUCA
AAUACCCCAu----- 20 0,0
-----UGUCAGUUUGUCA
AAUACCCCAuu----- 2 0,0
-----UGUCAGUUUGUCA
AAUACCCCAA----- 21 0,1
-----UGUCAGUUUGUCA
AAUACCCCAa----- 4 0,1

```



```

-----UGUCAGUUUGUCA
AAUACCCCAAu----- 9 0,1
-----UGUCAGUUUGUCA
AAUACCCCAAG----- 2 0,2
-----GUCAGUUUGUCA
AAUACC----- 24 1,-3
-----GUCAGUUUGUCA
AAUACCC----- 13 1,-2
-----GUCAGUUUGUCA
AAUACCCC----- 9 1,-1
-----GUCAGUUUGUCA
AAUACCCCA----- 14 1,0
-----GUCAGUUUGUCA
AAUACCCCAu----- 3 1,0
-----GUCAGUUUGUCA
AAUACCCCAA----- 37 1,1
-----GUCAGUUUGUCA
AAUACCCCAAu----- 7 1,1

```

>hsa-mir-224 MA:8-28;mi:53-75 SRX018959

```

gggcuuuCAAGUCACUAGUGGUUCCGUUaguagaugauugugcauuguuucAAAAUGGUGCCCUAGUGACUACAaagcc
c

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(((((((...(((((((((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

```

```

-----CAAGUCACUAGUGGUUCCGU-----
- 2 0,-1
-----CAAGUCACUAGUGGUUCCGU-----
- 2 0,0
-----CAAGUCACUAGUGGUUCCGUU-----
- 30 0,1
-----CAAGUCACUAGUGGUUCCGUUu-----
- 2 0,1
-----CAAGUCACUAGUGGUUCCGUUA-----
- 9 0,2
-----CAAGUCACUAGUGGUUCCGUUAG-----
- 31 0,3
-----AAAUGGUGCCCUAGUGAC-----
- 3 1,-4

```


-----AUCACAUUGCCAGGGAUUUaa-----	19
0,-2	
-----AUCACAUUGCCAGGGAUUUau-----	11
0,-2	
-----AUCACAUUGCCAGGGAUUUu-----	86
0,-2	
-----AUCACAUUGCCAGGGAUUUC-----	557
0,-1	
-----AUCACAUUGCCAGGGAUUUCa-----	103
0,-1	
-----AUCACAUUGCCAGGGAUUUCaa-----	11
0,-1	
-----AUCACAUUGCCAGGGAUUUCau-----	4
0,-1	
-----AUCACAUUGCCAGGGAUUUCu-----	18
0,-1	
-----AUCACAUUGCCAGGGAUUUCc-----	444
0,0	
-----AUCACAUUGCCAGGGAUUUCcu-----	5
0,0	
-----AUCACAUUGCCAGGGAUUUCcuu-----	2
0,0	
-----AUCACAUUGCCAGGGAUUUCcA-----	1528
0,1	
-----AUCACAUUGCCAGGGAUUUCcAu-----	183
0,1	
-----AUCACAUUGCCAGGGAUUUCcAuu-----	10
0,1	
-----AUCACAUUGCCAGGGAUUUCcAA-----	218
0,2	
-----AUCACAUUGCCAGGGAUUUCcAAu-----	19
0,2	
-----UCACAUUGCCAGGGAUUUu-----	3
1,-2	
-----UCACAUUGCCAGGGAUUUC-----	7
1,-1	
-----UCACAUUGCCAGGGAUUUCc-----	3
1,0	

1,1	-----UCACAUUGCCAGGGAUUCCA-----	6
1,1	-----UCACAUUGCCAGGGAUUCCAu-----	2
1,1	-----UCACAUUGCCAGGGAUUCCAuu-----	3
1,2	-----UCACAUUGCCAGGGAUUCCAA-----	4

>hsa-mi r-23b mi:20-41;MA:58-78 SRX018959

cucaggugcucuggcugcuUGGGUCCUGGCAUGCUGAUUgugacuaagauuaaaAUCACAUGCCAGGGAUUACCac
gcaaccacgaccuuggc

```

-----UUGGGUUCCUGGCAUGCUGAU-----
-----7-1,-2-----
-----UUGGGUUCCUGGCAUGCUGAUa-----
-----7-1,-2-----
-----UUGGGUUCCUGGCAUGCUGAUU-----
-----17-1,-1-----
-----UUGGGUUCCUGGCAUGCUGAUUa-----
-----2-1,-1-----
-----UUGGGUUCCUGGCAUGCUGAUUU-----
-----23-1,0-----
-----UUGGGUUCCUGGCAUGCUGAUUUu-----
-----4-1,0-----
-----UGGGUUCCUGGCAUGCUGA-----
-----30,-3-----
-----UGGGUUCCUGGCAUGCUGAU-----
-----240,-2-----
-----UGGGUUCCUGGCAUGCUGAUa-----
-----250,-2-----
-----UGGGUUCCUGGCAUGCUGAUaa-----
-----60,-2-----
-----UGGGUUCCUGGCAUGCUGAUU-----
-----1140,-1-----
-----UGGGUUCCUGGCAUGCUGAUUa-----
-----130,-1-----

```

```

-----UGGGUCCUGGCAUGCUGAUUaa-----
----- 2 0,-1
-----UGGGUCCUGGCAUGCUGAUUU-----
----- 606 0,0
-----UGGGUCCUGGCAUGCUGAUUUa-----
----- 37 0,0
-----UGGGUCCUGGCAUGCUGAUUUaa-----
----- 2 0,0
-----UGGGUCCUGGCAUGCUGAUUUau-----
----- 4 0,0
-----UGGGUCCUGGCAUGCUGAUUUu-----
----- 73 0,0
-----GGGUCCUGGCAUGCUGA-----
----- 3 1,-3
-----GGGUCCUGGCAUGCUGAU-----
----- 11 1,-2
-----GGGUCCUGGCAUGCUGAUa-----
----- 3 1,-2
-----GGGUCCUGGCAUGCUGAUU-----
----- 23 1,-1
-----GGGUCCUGGCAUGCUGAUUU-----
----- 214 1,0
-----GGGUCCUGGCAUGCUGAUUUa-----
----- 15 1,0
-----GGGUCCUGGCAUGCUGAUUUaa-----
----- 18 1,0
-----GGGUCCUGGCAUGCUGAUUUau-----
----- 7 1,0
-----GGGUCCUGGCAUGCUGAUUUu-----
----- 67 1,0
-----GGGUCCUGGCAUGCUGAUUUuu-----
----- 18 1,0
-----GGGUCCUGGCAUGCUGAUUUUG-----
----- 9 1,1
-----GGGUCCUGGCAUGCUGAUUUUGa-----
----- 2 1,1
-----GGGUCCUGGCAUGCUGAUUUUGU-----
----- 5 1,2

```

-----			-----AAUCACAUUGCCAGGGAUU-----
-----	4	-1,-3	-----AAUCACAUUGCCAGGGAUUA-----
-----	11	-1,-2	-----AAUCACAUUGCCAGGGAUUAa-----
-----	2	-1,-2	-----AAUCACAUUGCCAGGGAUUAC-----
-----	4	-1,-1	-----AAUCACAUUGCCAGGGAUUACC-----
-----	11	-1,0	-----AAUCACAUUGCCAGGGAUUACCA-----
-----	5	-1,1	-----AAUCACAUUGCCAGGGAUUACCAa-----
-----	2	-1,1	-----AUCACAUUGCCAGGGAUU-----
-----	59	0,-3	-----AUCACAUUGCCAGGGAUUA-----
-----	696	0,-2	-----AUCACAUUGCCAGGGAUUAa-----
-----	141	0,-2	-----AUCACAUUGCCAGGGAUUAaa-----
-----	23	0,-2	-----AUCACAUUGCCAGGGAUUAau-----
-----	3	0,-2	-----AUCACAUUGCCAGGGAUUAu-----
-----	61	0,-2	-----AUCACAUUGCCAGGGAUUAuu-----
-----	11	0,-2	-----AUCACAUUGCCAGGGAUUAC-----
-----	726	0,-1	-----AUCACAUUGCCAGGGAUUACa-----
-----	211	0,-1	-----AUCACAUUGCCAGGGAUUACaa-----
-----	18	0,-1	-----AUCACAUUGCCAGGGAUUACau-----
-----	2	0,-1	-----AUCACAUUGCCAGGGAUUACu-----
-----	39	0,-1	

-----			-----AUCACAUUGCCAGGGAUUACC--
-----	959	0,0	
-----			-----AUCACAUUGCCAGGGAUUACCu-
-----	23	0,0	
-----			-----AUCACAUUGCCAGGGAUUACCuu
-----	8	0,0	
-----			-----AUCACAUUGCCAGGGAUUACCA-
-----	3300	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAa
-----	85	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAa
a-----	5	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAa
u-----	10	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAu
-----	628	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAu
u-----	171	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAC
-----	920	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
a-----	142	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
aa-----	2	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
au-----	9	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
u-----	2467	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
uu-----	40	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
G-----	13	0,3	
-----			-----AUCACAUUGCCAGGGAUUACCAC
Gu-----	3	0,3	
-----			-----UCACAUUGCCAGGGAUUA----
-----	8	1,-2	
-----			-----UCACAUUGCCAGGGAUUAaa--
-----	2	1,-2	

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-----UCACAUUGCCAGGGAUUAC---
-----12 1,-1
-----UCACAUUGCCAGGGAUUACa--
-----5 1,-1
-----UCACAUUGCCAGGGAUUACaa-
-----3 1,-1
-----UCACAUUGCCAGGGAUUACC--
-----9 1,0
-----UCACAUUGCCAGGGAUUACCA-
-----70 1,1
-----UCACAUUGCCAGGGAUUACCAa
-----7 1,1
-----UCACAUUGCCAGGGAUUACCAu
-----7 1,1
-----UCACAUUGCCAGGGAUUACCAu
u-----23 1,1
-----UCACAUUGCCAGGGAUUACCAC
-----25 1,2
-----UCACAUUGCCAGGGAUUACCAC
a-----22 1,2
-----UCACAUUGCCAGGGAUUACCAC
aa-----2 1,2
-----UCACAUUGCCAGGGAUUACCAC
u-----219 1,2
-----UCACAUUGCCAGGGAUUACCAC
uu-----30 1,2
-----UCACAUUGCCAGGGAUUACCAC
G-----5 1,3
-----UCACAUUGCCAGGGAUUACCAC
Gu-----3 1,3
-----CACAUUGCCAGGGAUUACCAC
-----2 2,2

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>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018959

cuccggUGCCUACUGAGCUGAUUUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag

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----GGUGCCUACUGAGCUGAUUUCAG-----

2

-2,-1

-----GUGCCUACUGAGCUGAUUAa-----	2	
-1, -4		
-----GUGCCUACUGAGCUGAUAUCA-----	29	
-1, -2		
-----GUGCCUACUGAGCUGAUUAUCAGU-----	2	-1,0
-----UGCCUACUGAGCUGAUUAUCA-----	2	0,-2
-----UGGCUCAGUUCAGCAGGA-----	12	0,-4
-----UGGCUCAGUUCAGCAGGAA-----	65	0,-3
-----UGGCUCAGUUCAGCAGGAaA-----	4	0,-3
-----UGGCUCAGUUCAGCAGGAAC-----	26	0,-2
-----UGGCUCAGUUCAGCAGGAACA-----	128	0,-1
-----UGGCUCAGUUCAGCAGGAACAa-----	42	0,-1
-----UGGCUCAGUUCAGCAGGAACAaa-----	7	0,-1
-----UGGCUCAGUUCAGCAGGAACAau-----	8	0,-1
-----UGGCUCAGUUCAGCAGGAACAu-----	28	0,-1
-----UGGCUCAGUUCAGCAGGAACAuu-----	19	0,-1
-----UGGCUCAGUUCAGCAGGAACAG-----	1174	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGa-----	29	0,0
-----UGGCUCAGUUCAGCAGGAACAGaa-----	2	0,0
-----UGGCUCAGUUCAGCAGGAACAGau-----	2	0,0
-----UGGCUCAGUUCAGCAGGAACAGu-----	1958	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGuu-----	366	0,0
-----UGGCUCAGUUCAGCAGGAACAGG-----	5	0,1
-----UGGCUCAGUUCAGCAGGAACAGGu-----	3	0,1
-----UGGCUCAGUUCAGCAGGAACAGGA-----	2	0,2
-----GGCUCAGUUCAGCAGGAA-----	6	1,-3
-----GGCUCAGUUCAGCAGGAAC-----	6	1,-2
-----GGCUCAGUUCAGCAGGAACA-----	7	1,-1
-----GGCUCAGUUCAGCAGGAACAa-----	3	1,-1
-----GGCUCAGUUCAGCAGGAACAuu-----	3	1,-1
-----GGCUCAGUUCAGCAGGAACAG-----	48	1,0
-----GGCUCAGUUCAGCAGGAACAGa-----	7	1,0
-----GGCUCAGUUCAGCAGGAACAGu-----	84	1,0
-----GGCUCAGUUCAGCAGGAACAGuu-----	25	1,0
-----GGCUCAGUUCAGCAGGAACAGG-----	2	1,1
-----GGCUCAGUUCAGCAGGAACAGGu-----	3	1,1

-----GCUCAGUUCAGCAGGAACAG---	24	2,0
-----GCUCAGUUCAGCAGGAACAGa--	4	2,0
-----GCUCAGUUCAGCAGGAACAGu--	22	2,0
-----GCUCAGUUCAGCAGGAACAGuu-	40	2,0
-----GCUCAGUUCAGCAGGAACAGG--	11	2,1
-----GCUCAGUUCAGCAGGAACAGGu-	3	2,1
-----GCUCAGUUCAGCAGGAACAGGA-	3	2,2

>hsa-mir-24-2 mi:13-34;MA:50-71 SRX018959

cucugccucccgUGCCUACUGAGCUGAAACACAGuugguuuguguacacUGGCUCAGUUCAGCAGGAACAGgg (((((((((...(((((((((((...((((((((...))))))))))))))))))))))))))))))))))		
-----GUGCCUACUGAGCUGAAACA-----	2	
-1,-3		
-----GUGCCUACUGAGCUGAAACAC-----	18	
-1,-2		
-----GUGCCUACUGAGCUGAAACACA-----	18	
-1,-1		
-----GUGCCUACUGAGCUGAAACACAG-----	17	
-1,0		
-----UGGCUCAGUUCAGCAGGA-----	12	
0,-4		
-----UGGCUCAGUUCAGCAGGAA-----	65	
0,-3		
-----UGGCUCAGUUCAGCAGGAaA-----	4	
0,-3		
-----UGGCUCAGUUCAGCAGGAAC-----	26	
0,-2		
-----UGGCUCAGUUCAGCAGGAACA-----	128	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAa-----	42	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAaa-----	7	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAau-----	8	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAu-----	28	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAuu-----	19	

0,-1	-----UGGCUCAGUUCAGCAGGAACAG--	1174
0,0	-----UGGCUCAGUUCAGCAGGAACAGa-	29
0,0	-----UGGCUCAGUUCAGCAGGAACAGaa	2
0,0	-----UGGCUCAGUUCAGCAGGAACAGau	2
0,0	-----UGGCUCAGUUCAGCAGGAACAGu-	1958
0,0	-----UGGCUCAGUUCAGCAGGAACAGuu	366
0,0	-----UGGCUCAGUUCAGCAGGAACAGG-	5
0,1	-----UGGCUCAGUUCAGCAGGAACAGGu	3
0,1	-----GGCUCAGUUCAGCAGGA-----	6
1,-3	-----GGCUCAGUUCAGCAGGAAC----	6
1,-2	-----GGCUCAGUUCAGCAGGAACA---	7
1,-1	-----GGCUCAGUUCAGCAGGAACAa--	3
1,-1	-----GGCUCAGUUCAGCAGGAACAuu-	3
1,-1	-----GGCUCAGUUCAGCAGGAACAG--	48
1,0	-----GGCUCAGUUCAGCAGGAACAGa-	7
1,0	-----GGCUCAGUUCAGCAGGAACAGu-	84
1,0	-----GGCUCAGUUCAGCAGGAACAGuu	25
1,0	-----GGCUCAGUUCAGCAGGAACAGG-	2
1,1	-----GGCUCAGUUCAGCAGGAACAGGu	3


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----- 2 1,2
-----CAUUGCACUUGUCUCGGU-----
----- 120 0,-4
-----CAUUGCACUUGUCUCGGUu-----
----- 3 0,-4
-----CAUUGCACUUGUCUCGGUC-----
----- 262 0,-3
-----CAUUGCACUUGUCUCGGUCU-----
----- 473 0,-2
-----CAUUGCACUUGUCUCGGUCUu-----
----- 2 0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
----- 285 0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
----- 56 0,-1
-----CAUUGCACUUGUCUCGGUCUGuu-----
----- 7 0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
----- 876 0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----
----- 26 0,0
-----CAUUGCACUUGUCUCGGUCUGAaa-----
----- 2 0,0
-----CAUUGCACUUGUCUCGGUCUGAau-----
----- 3 0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
----- 31 0,0
-----AUUGCACUUGUCUCGGUC-----
----- 4 1,-3
-----AUUGCACUUGUCUCGGUCU-----
----- 23 1,-2
-----AUUGCACUUGUCUCGGUCUG-----
----- 6 1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
----- 22 1,0

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>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018959

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc

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(((((.((((((.((((((((((.(((((((((((.((.....)))...)))))))))).)))))))).)))))))).))
-----UUCAAGUAAUCCAGGAUA-----
682 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
14 0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
6 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
1428 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
2 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
1518 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
5 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
2 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
7 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
10 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
40 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
731 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
965 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
503 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
314 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
10174 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
187 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
271 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
```


)))

```
-----AUUCAAGUAAUCCAGGAUA-----
---- 2 -1,-4
-----AUUCAAGUAAUCCAGGAUAGGCU-----
---- 3 -1,0
-----UUCAAGUAAUCCAGGAUA-----
---- 682 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 14 0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
---- 6 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 1428 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
---- 2 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 1518 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 5 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 2 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
---- 7 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 10 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 40 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
---- 731 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 965 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 503 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 314 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 10174 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
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```

----      187 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
----      271 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
----      745 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
----      455 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
----     1253   0,0
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
----       2   0,1
-----UCAAGUAAUCCAGGAUAG-----
----      25   1,-3
-----UCAAGUAAUCCAGGAUAGG-----
----      18   1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
----       5   1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
----      18   1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
----       4   1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
----       5   1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
----     143 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
----       6   1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
----       6   1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
----       6   1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
----       9   1,0
-----CAAGUAAUCCAGGAUAGGC-----
----       2   2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
----       6   2,0

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ccgggaccagUUCAAGUAAUUCAGGAUAGGUugugucguccagCCUGUUCUCCAUAACUUGGCUCggggaccgg  
((((..((((((.((((((((..(((((((((((.(.....)))))))))...)))))).)))).)))).  
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86 0,-3  
-----UUCAAGUAAUUCAGGAUAG-----  
669 0,-2  
-----UUCAAGUAAUUCAGGAUAGG-----  
963 0,-1  
-----UUCAAGUAAUUCAGGAUAGGa-----  
9 0,-1  
-----UUCAAGUAAUUCAGGAUAGGaa-----  
2 0,-1  
-----UUCAAGUAAUUCAGGAUAGGau-----  
3 0,-1  
-----UUCAAGUAAUUCAGGAUAGGU-----  
1039 0,0  
-----UUCAAGUAAUUCAGGAUAGGUa-----  
322 0,0  
-----UUCAAGUAAUUCAGGAUAGGUaa-----  
529 0,0  
-----UUCAAGUAAUUCAGGAUAGGUau-----  
247 0,0  
-----UUCAAGUAAUUCAGGAUAGGUU-----  
5055 0,1  
-----UUCAAGUAAUUCAGGAUAGGUUa-----  
685 0,1  
-----UUCAAGUAAUUCAGGAUAGGUUaa-----  
42 0,1  
-----UUCAAGUAAUUCAGGAUAGGUUau-----  
11 0,1  
-----UUCAAGUAAUUCAGGAUAGGUUu-----  
1427 0,1  
-----UUCAAGUAAUUCAGGAUAGGUUuu-----  
39 0,1  
-----UUCAAGUAAUUCAGGAUAGGUUG-----  
18 0,2  
-----UUCAAGUAAUUCAGGAUAGGUUGU-----
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```

----- 2 0,-4
-----AGAGCUUAGCUGAUUGGUG-----
----- 33 0,-3
-----AGAGCUUAGCUGAUUGGUGu-----
----- 2 0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
----- 236 0,-2
-----AGAGCUUAGCUGAUUGGUGAA-----
----- 156 0,-1
-----AGAGCUUAGCUGAUUGGUGAAC-----
----- 18 0,0
-----AGAGCUUAGCUGAUUGGUGAACA-----
----- 11 0,1
-----AGAGCUUAGCUGAUUGGUGAACAu-----
----- 2 0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
----- 7 0,2
-----AGAGCUUAGCUGAUUGGUGAACAGU-----
----- 6 0,3
-----GUUCACAGUGGCUAAGUU--
----- 17 -1,-4
-----GUUCACAGUGGCUAAGUUu--
----- 2 -1,-4
-----GUUCACAGUGGCUAAGUUC--
----- 70 -1,-3
-----GUUCACAGUGGCUAAGUUCU-
----- 10 -1,-2
-----GUUCACAGUGGCUAAGUUCUG
C----- 3 -1,0
-----GUUCACAGUGGCUAAGUUCUG
Cu----- 2 -1,0
-----UUCACAGUGGCUAAGUUC--
----- 10068 0,-3
-----UUCACAGUGGCUAAGUUCa-
----- 7 0,-3
-----UUCACAGUGGCUAAGUUCaa
----- 2 0,-3
-----UUCACAGUGGCUAAGUUCU-

```

-----	2055	0,-2	-----UUCACAGUGGCUAAGUUCUa
-----	17	0,-2	-----UUCACAGUGGCUAAGUUCUa
a-----	8	0,-2	-----UUCACAGUGGCUAAGUUCUu
-----	12	0,-2	-----UUCACAGUGGCUAAGUUCUu
u-----	17	0,-2	-----UUCACAGUGGCUAAGUUCUG
-----	164	0,-1	-----UUCACAGUGGCUAAGUUCUG
a-----	40	0,-1	-----UUCACAGUGGCUAAGUUCUG
aa-----	43	0,-1	-----UUCACAGUGGCUAAGUUCUG
au-----	6	0,-1	-----UUCACAGUGGCUAAGUUCUG
u-----	14	0,-1	-----UUCACAGUGGCUAAGUUCUG
uu-----	12	0,-1	-----UUCACAGUGGCUAAGUUCUG
C-----	379	0,0	-----UUCACAGUGGCUAAGUUCUG
Cu-----	8	0,0	-----UUCACAGUGGCUAAGUUCUG
Cuu-----	2	0,0	-----UUCACAGUGGCUAAGUUCUG
CA-----	100	0,1	-----UUCACAGUGGCUAAGUUCUG
CAa-----	52	0,1	-----UUCACAGUGGCUAAGUUCUG
CAaa-----	4	0,1	-----UUCACAGUGGCUAAGUUCUG
CAau-----	3	0,1	-----UUCACAGUGGCUAAGUUCUG
CAu-----	60	0,1	-----UUCACAGUGGCUAAGUUCUG

CAuu-----	11	0,1	
-----			-UCACAGUGGCUAAGUUCU-
-----	18	1,-2	
-----			-UCACAGUGGCUAAGUUCUu
-----	2	1,-2	
-----			-UCACAGUGGCUAAGUUCUG
-----	4	1,-1	
-----			-UCACAGUGGCUAAGUUCUG
C-----	2	1,0	
-----			-UCACAGUGGCUAAGUUCUG
CA-----	2	1,1	
-----			-UCACAGUGGCUAAGUUCUG
CAa-----	2	1,1	
-----			-UCACAGUGGCUAAGUUCUG
CAu-----	3	1,1	
-----			-UCACAGUGGCUAAGUUCUG
CAuu-----	5	1,1	
-----			-CACAGUGGCUAAGUUCUG
C-----	2	2,0	

>hsa-mi r-28 5p:14-35;3p:54-75 SRX018959

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGuuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu

(((.(((((((((.(((((((((((((((((.((((((((.....))))).))))).))))).))))).))))))
) .)))

-----	-CAAGGAGCUCACAGUCUAUUG-	-----
-----	4	-1,-2
-----	-CAAGGAGCUCACAGUCUAUUGA-	-----
-----	3	-1,-1
-----	-AAGGAGCUCACAGUCUAU-	-----
-----	5	0,-4
-----	-AAGGAGCUCACAGUCUAUa-	-----
-----	7	0,-4
-----	-AAGGAGCUCACAGUCUAUU-	-----
-----	75	0,-3
-----	-AAGGAGCUCACAGUCUAUUG-	-----
-----	72	0,-2
-----	-AAGGAGCUCACAGUCUAUUGu-	-----

```

----- 2 0,-2
-----AAGGAGCUCACAGUCUAUUGA-----
----- 257 0,-1
-----AAGGAGCUCACAGUCUAUUGAa-----
----- 11 0,-1
-----AAGGAGCUCACAGUCUAUUGAaa-----
----- 2 0,-1
-----AAGGAGCUCACAGUCUAUUGAu-----
----- 2 0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 153 0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 30 0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 7 0,1
-----AAGGAGCUCACAGUCUAUUGAGUa-----
----- 3 0,1
-----AGGAGCUCACAGUCUAUUGA-----
----- 5 1,-1
-----CCACUAGAUUGUGAGCUCCUGGA-----
----- 3 -1,0
-----CACUAGAUUGUGAGCUCC-----
----- 2 0,-4
-----CACUAGAUUGUGAGCUCCU-----
----- 14 0,-3
-----CACUAGAUUGUGAGCUCCUaa-----
----- 2 0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 20 0,-2
-----CACUAGAUUGUGAGCUCCUGa-----
----- 4 0,-2
-----CACUAGAUUGUGAGCUCCUGaa-----
----- 2 0,-2
-----CACUAGAUUGUGAGCUCCUGu-----
----- 2 0,-2
-----CACUAGAUUGUGAGCUCCUGG-----
----- 310 0,-1
-----CACUAGAUUGUGAGCUCCUGGu-----

```


----- 3 0,-1	-----CACUAGAUUGUGAGCUCCUGGuu-----
----- 3 0,-1	-----CACUAGAUUGUGAGCUCCUGGA-----
----- 1882 0,0	-----CACUAGAUUGUGAGCUCCUGGAa-----
----- 921 0,0	-----CACUAGAUUGUGAGCUCCUGGAaa-----
----- 114 0,0	-----CACUAGAUUGUGAGCUCCUGGAau-----
----- 36 0,0	-----CACUAGAUUGUGAGCUCCUGGAu-----
----- 46 0,0	-----CACUAGAUUGUGAGCUCCUGGAuu-----
----- 8 0,0	-----CACUAGAUUGUGAGCUCCUGGAG-----
----- 13 0,1	-----CACUAGAUUGUGAGCUCCUGGAGa-----
----- 6 0,1	-----CACUAGAUUGUGAGCUCCUGGAGu-----
----- 10 0,1	-----ACUAGAUUGUGAGCUCCUGG-----
----- 10 1,-1	-----ACUAGAUUGUGAGCUCCUGGA-----
----- 77 1,0	-----ACUAGAUUGUGAGCUCCUGGAa-----
----- 38 1,0	-----ACUAGAUUGUGAGCUCCUGGAaa-----
----- 6 1,0	-----ACUAGAUUGUGAGCUCCUGGAu-----
----- 2 1,0	-----ACUAGAUUGUGAGCUCCUGGAG-----
----- 42 1,1	-----ACUAGAUUGUGAGCUCCUGGAGa-----
----- 37 1,1	-----ACUAGAUUGUGAGCUCCUGGAGu-----
----- 8 1,1	-----CUAGAUUGUGAGCUCCUGGA-----

-----CUAGCACCAUCUGAAAUCG-----	12	-1,-4
-----CUAGCACCAUCUGAAAUCGG-----	58	-1,-3
-----CUAGCACCAUCUGAAAUCGGau--	3	-1,-3
-----CUAGCACCAUCUGAAAUCGGU---	54	-1,-2
-----CUAGCACCAUCUGAAAUCGGUa--	15	-1,-2
-----CUAGCACCAUCUGAAAUCGGUaa-	15	-1,-2
-----CUAGCACCAUCUGAAAUCGGUU--	569	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUu-	127	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUuu	4	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUA-	302	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAa	14	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAaa	3	-1,0
-----CUAGCACCAUCUGAAAUCGGUUUAU	17	-1,1
-----UAGCACCAUCUGAAAUCG-----	179	0,-4
-----UAGCACCAUCUGAAAUCGuu---	3	0,-4
-----UAGCACCAUCUGAAAUCGG-----	3936	0,-3
-----UAGCACCAUCUGAAAUCGGa---	5	0,-3
-----UAGCACCAUCUGAAAUCGGau---	15	0,-3
-----UAGCACCAUCUGAAAUCGGU---	672	0,-2
-----UAGCACCAUCUGAAAUCGGUa---	52	0,-2
-----UAGCACCAUCUGAAAUCGGUaa-	687	0,-2
-----UAGCACCAUCUGAAAUCGGUau-	57	0,-2
-----UAGCACCAUCUGAAAUCGGUU--	10081	0,-1
-----UAGCACCAUCUGAAAUCGGUUu-	5652	0,-1
-----UAGCACCAUCUGAAAUCGGUUuu	122	0,-1
-----UAGCACCAUCUGAAAUCGGUUA-	58448	0,0
-----UAGCACCAUCUGAAAUCGGUUAa	2759	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	17	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	12	0,0
-----UAGCACCAUCUGAAAUCGGUUUAU	1438	0,1
-----UAGCACCAUCUGAAAUCGGUUUAua	14	0,1
-----UAGCACCAUCUGAAAUCGGUUUAuu	12	0,1
-----AGCACCAUCUGAAAUCGG-----	42	1,-3
-----AGCACCAUCUGAAAUCGGU---	5	1,-2
-----AGCACCAUCUGAAAUCGGUaa-	4	1,-2
-----AGCACCAUCUGAAAUCGGUU--	58	1,-1
-----AGCACCAUCUGAAAUCGGUUu-	55	1,-1
-----AGCACCAUCUGAAAUCGGUUuu	2	1,-1


```

- 12 0,-3
-----UAGCACCAUUUGAAAUCAGUuu-----
- 16 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 165 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 5 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 2 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 61 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 12 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 129 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 9 0,0
-----AGCACCAUUUGAAAUCAGU-----
- 43 1,-3
-----AGCACCAUUUGAAAUCAGUG-----
- 3 1,-2
-----AGCACCAUUUGAAAUCAGUGUU-----
- 3 1,0
-----GCACCAUUUGAAAUCAGU-----
- 7 2,-3

```

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018959

```

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----GCUGGUUUCACAUGGUGGCUUA-----
- 2 -1,-1
-----GCUGGUUUCACAUGGUGGCUUAu-----
- 3 -1,-1
-----CUGGUUUCACAUGGUGGCUUA-----
- 4 0,-1
-----CUGGUUUCACAUGGUGGCUUAG-----

```

- 2 0,0	-----CUAGCACCAUUUGAAAUCAG-----
- 4 -1,-4	-----CUAGCACCAUUUGAAAUCAGU-----
- 44 -1,-3	-----CUAGCACCAUUUGAAAUCAGUu-----
- 3 -1,-3	-----CUAGCACCAUUUGAAAUCAGUG-----
- 9 -1,-2	-----CUAGCACCAUUUGAAAUCAGUGU-----
- 4 -1,-1	-----UAGCACCAUUUGAAAUCA-----
- 127 0,-5	-----UAGCACCAUUUGAAAUCAuu-----
- 2 0,-5	-----UAGCACCAUUUGAAAUCAG-----
- 142 0,-4	-----UAGCACCAUUUGAAAUCAGa-----
- 6 0,-4	-----UAGCACCAUUUGAAAUCAGU-----
- 4714 0,-3	-----UAGCACCAUUUGAAAUCAGUaa-----
- 2 0,-3	-----UAGCACCAUUUGAAAUCAGUu-----
- 12 0,-3	-----UAGCACCAUUUGAAAUCAGUuu-----
- 16 0,-3	-----UAGCACCAUUUGAAAUCAGUG-----
- 165 0,-2	-----UAGCACCAUUUGAAAUCAGUGa-----
- 5 0,-2	-----UAGCACCAUUUGAAAUCAGUGaa-----
- 2 0,-2	-----UAGCACCAUUUGAAAUCAGUGU-----
- 61 0,-1	-----UAGCACCAUUUGAAAUCAGUGUa-----
- 12 0,-1	-----UAGCACCAUUUGAAAUCAGUGUU-----

-----	2	2,2	-----CUAGCACCAUUUGAAAUCGGUU-----
-----	2	-1,-1	-----CUAGCACCAUUUGAAAUCGGUUA-----
-----	5	-1,0	-----UAGCACCAUUUGAAAUCG-----
-----	106	0,-4	-----UAGCACCAUUUGAAAUCGaa-----
-----	3	0,-4	-----UAGCACCAUUUGAAAUCGuu-----
-----	3	0,-4	-----UAGCACCAUUUGAAAUCGG-----
-----	645	0,-3	-----UAGCACCAUUUGAAAUCGGU-----
-----	191	0,-2	-----UAGCACCAUUUGAAAUCGGUa-----
-----	5	0,-2	-----UAGCACCAUUUGAAAUCGGUaa-----
-----	64	0,-2	-----UAGCACCAUUUGAAAUCGGUau-----
-----	3	0,-2	-----UAGCACCAUUUGAAAUCGGUU-----
-----	817	0,-1	-----UAGCACCAUUUGAAAUCGGUUu-----
-----	443	0,-1	-----UAGCACCAUUUGAAAUCGGUUuu-----
-----	18	0,-1	-----UAGCACCAUUUGAAAUCGGUUA-----
-----	6770	0,0	-----UAGCACCAUUUGAAAUCGGUUAa-----
-----	365	0,0	-----UAGCACCAUUUGAAAUCGGUUAaa-----
-----	7	0,0	-----UAGCACCAUUUGAAAUCGGUUUA-----
-----	145	0,1	-----UAGCACCAUUUGAAAUCGGUUUAa-----
-----	3	0,1	-----AGCACCAUUUGAAAUCGG-----

62	0, -3	-----UCAACAAAAUCACUGAUGCUG-----
7	0, -2	-----UCAACAAAAUCACUGAUGCUGGA-----
5	0, 0	-----UCAACAAAAUCACUGAUGCUGGAGU-----
3	0, 2	-----UCAGCACCAGGAUAUUGU-----
3	0, -5	-----UCAGCACCAGGAUAUUGUU-----
2	0, -4	-----UCAGCACCAGGAUAUUGUUG-----
3	0, -3	-----UCAGCACCAGGAUAUUGUUGG-----
2	0, -2	-----UCAGCACCAGGAUAUUGUUGGAG-----
2	0, 0	-----UCAGCACCAGGAUAUUGUUGGAGu-----
2	0, 0	

>hsa-mir-30a MA:6-27;mi:47-68 SRX018959

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc
 (((.((((((((((((((..((((((((((((((((.....)))).....))

----	CUGUAAACAUCCUCGACUGGA-----	3	
	-1, -2		
----	CUGUAAACAUCCUCGACUGGAA-----	2	
	-1, -1		
----	CUGUAAACAUCCUCGACUGGAAa-----	3	
	-1, -1		
----	CUGUAAACAUCCUCGACUGGAAG-----	5	-1, 0
----	CUGUAAACAUCCUCGACUGGAAGa-----	7	-1, 0
----	CUGUAAACAUCCUCGACUGGAAGC-----	38	-1, 1
----	CUGUAAACAUCCUCGACUGGAAGCa-----	4	-1, 1
----	CUGUAAACAUCCUCGACUGGAAGCU-----	36	-1, 2
----	UGUAAACAUCCUCGACUG-----	94	0, -4
----	UGUAAACAUCCUCGACUGG-----	56	0, -3
----	UGUAAACAUCCUCGACUGGA-----	185	0, -2
----	UGUAAACAUCCUCGACUGGAA-----	545	0, -1

-----UGUAAACAUCCUCGACUGGAAa-----	354	0,-1
-----UGUAAACAUCCUCGACUGGAAaa-----	21	0,-1
-----UGUAAACAUCCUCGACUGGAAau-----	2	0,-1
-----UGUAAACAUCCUCGACUGGAAu-----	8	0,-1
-----UGUAAACAUCCUCGACUGGAAG-----	1693	
0,0		
-----UGUAAACAUCCUCGACUGGAAGa-----	1510	
0,0		
-----UGUAAACAUCCUCGACUGGAAGaa-----	45	0,0
-----UGUAAACAUCCUCGACUGGAAGau-----	58	0,0
-----UGUAAACAUCCUCGACUGGAAGu-----	100	0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	8	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	8322	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCa-----	995	0,1
-----UGUAAACAUCCUCGACUGGAAGCaa-----	11	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	40	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	11547	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUa-----	60	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	386	0,2
-----GUAAACAUCCUCGACUGG-----	3	1,-3
-----GUAAACAUCCUCGACUGGAA-----	3	1,-1
-----GUAAACAUCCUCGACUGGAAa-----	2	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	27	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	7	1,0
-----GUAAACAUCCUCGACUGGAAGC-----	70	1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	7	1,1
-----GUAAACAUCCUCGACUGGAAGCU-----	62	1,2
-----GUAAACAUCCUCGACUGGAAGCUu-----	2	1,2
-----UAAACAUCCUCGACUGGAAGC-----	6	2,1
-----UAAACAUCCUCGACUGGAAGCU-----	3	2,2
-----CUUUCAGUCGGAUGUUUGC-----	2	0,-3
-----CUUUCAGUCGGAUGUUUGCA-----	16	0,-2
-----CUUUCAGUCGGAUGUUUGCAa-----	3	0,-2
-----CUUUCAGUCGGAUGUUUGCAu-----	6	0,-2
-----CUUUCAGUCGGAUGUUUGCAuu-----	2	0,-2
-----CUUUCAGUCGGAUGUUUGCAG-----	119	0,-1

-----CUUUCAGUCGGAUGUUUGCAGu---	19	0,-1
-----CUUUCAGUCGGAUGUUUGCAGC---	75	0,0
-----CUUUCAGUCGGAUGUUUGCAGCa--	16	0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa-	2	0,0
-----CUUUCAGUCGGAUGUUUGCAGCau-	21	0,0
-----UUUCAGUCGGAUGUUUGCA----	2	1,-2
-----UUUCAGUCGGAUGUUUGCAG----	23	1,-1
-----UUUCAGUCGGAUGUUUGCAGu---	4	1,-1
-----UUUCAGUCGGAUGUUUGCAGC---	15	1,0
-----UUUCAGUCGGAUGUUUGCAGCau-	4	1,0

-----		AUGUAAACAUCCUACACUCAGCU-----
-----	2	-1,0
-----		UGUAAACAUCCUACACUC-----
-----	7	0,-4
-----		UGUAAACAUCCUACACUCA-----
-----	7	0,-3
-----		UGUAAACAUCCUACACUCAG-----
-----	15	0,-2
-----		UGUAAACAUCCUACACUCAGa-----
-----	2	0,-2
-----		UGUAAACAUCCUACACUCAGC-----
-----	36	0,-1
-----		UGUAAACAUCCUACACUCAGCau-----
-----	2	0,-1
-----		UGUAAACAUCCUACACUCAGCU-----
-----	166	0,0
-----		UGUAAACAUCCUACACUCAGCUa-----
-----	23	0,0
-----		UGUAAACAUCCUACACUCAGCUau-----
-----	9	0,0
-----		UGUAAACAUCCUACACUCAGCUu-----
-----	12	0,0

```

-----UGUAAACAUCCUACACUCAGCUuu-----
-----      2      0,0
-----GUAAACAUCCUACACUCAG-----
-----      2      1,-2
-----GUAAACAUCCUACACUCAGCU-----
-----      6      1,0
-----GUAAACAUCCUACACUCAGCUu-----
-----      2      1,0
-----CUGGGAGGUGGAUGUUUA-----
-----      6      0,-4
-----CUGGGAGGUGGAUGUUUAa-----
-----      5      0,-4
-----CUGGGAGGUGGAUGUUUAaa-----
-----      2      0,-4
-----CUGGGAGGUGGAUGUUUAau-----
-----      2      0,-4
-----CUGGGAGGUGGAUGUUUAu-----
-----      3      0,-4
-----CUGGGAGGUGGAUGUUUAC-----
-----      38     0,-3
-----CUGGGAGGUGGAUGUUUACa-----
-----      4      0,-3
-----CUGGGAGGUGGAUGUUUACaa-----
-----      5      0,-3
-----CUGGGAGGUGGAUGUUUACU-----
-----      237    0,-2
-----CUGGGAGGUGGAUGUUUACUa-----
-----      10     0,-2
-----CUGGGAGGUGGAUGUUUACUaa-----
-----      17     0,-2
-----CUGGGAGGUGGAUGUUUACUau-----
-----      3      0,-2
-----CUGGGAGGUGGAUGUUUACUU-----
-----      267    0,-1
-----CUGGGAGGUGGAUGUUUACUUa-----
-----      67     0,-1
-----CUGGGAGGUGGAUGUUUACUUaa-----
-----      45     0,-1

```



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-----UGUAAACAUCCUACACUCUCAGC-----
----- 136 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 24 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 4 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 12 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 403 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 13 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 30 0,1
-----GUAAACAUCCUACACUCUCAGCUau-----
----- 2 1,1
-----CUGGGAGAGGGUUGUUUA-----
----- 7 0,-4
-----CUGGGAGAGGGUUGUUUAaa-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUAau-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUAu-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUAC-----
----- 12 0,-3
-----CUGGGAGAGGGUUGUUUACa-----
----- 2 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 301 0,-2
-----CUGGGAGAGGGUUGUUUACUa-----
----- 13 0,-2
-----CUGGGAGAGGGUUGUUUACUaa-----
----- 16 0,-2
-----CUGGGAGAGGGUUGUUUACUau-----
----- 4 0,-2
-----CUGGGAGAGGGUUGUUUACUu-----
----- 2 0,-2

```

```

-----CUGGGAGAGGGUUGUUUACUC-----
----- 46 0,-1
-----CUGGGAGAGGGUUGUUUACUCC-----
----- 5 0,0
-----CUGGGAGAGGGUUGUUUACUCCa--
----- 6 0,0
-----CUGGGAGAGGGUUGUUUACUCCau-
----- 3 0,0
-----CUGGGAGAGGGUUGUUUACUCCU--
----- 10 0,1
-----UGGGAGAGGGUUGUUUACU-----
----- 22 1,-2
-----UGGGAGAGGGUUGUUUACUC-----
----- 4 1,-1
-----UGGGAGAGGGUUGUUUACUCCa--
----- 2 1,0
-----UGGGAGAGGGUUGUUUACUCCau-
----- 6 1,0
-----UGGGAGAGGGUUGUUUACUCCU--
----- 3 1,1

```

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018959

```

agauacUGUAAACAUCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
(((....(((((((....(((((((.....)))))))))).)).))))))....)))
-----CUGUAAACAUCUACACUC----- 3
-1,-5
-----CUGUAAACAUCUACACUCUCAGCU----- 2
-1,1
-----UGUAAACAUCUACACUC----- 7
0,-5
-----UGUAAACAUCUACACUC----- 6
0,-3
-----UGUAAACAUCUACACUCUCA----- 35
0,-2
-----UGUAAACAUCUACACUCUCAG----- 82
0,-1
-----UGUAAACAUCUACACUCUCAGa----- 15
0,-1

```


-----UGUAAACAUCCUACACUCUCAGaa-----	2
0,-1	
-----UGUAAACAUCCUACACUCUCAGu-----	5
0,-1	
-----UGUAAACAUCCUACACUCUCAGC-----	136
0,0	
-----UGUAAACAUCCUACACUCUCAGCa-----	24
0,0	
-----UGUAAACAUCCUACACUCUCAGCaa-----	4
0,0	
-----UGUAAACAUCCUACACUCUCAGCau-----	12
0,0	
-----UGUAAACAUCCUACACUCUCAGCU-----	403
0,1	
-----UGUAAACAUCCUACACUCUCAGCUa-----	13
0,1	
-----UGUAAACAUCCUACACUCUCAGCUu-----	30
0,1	
-----GUAAACAUCCUACACUCUCAGCUau-----	2
1,1	
-----CUGGGAGAAGGCUGUUUA-----	8
0,-4	
-----CUGGGAGAAGGCUGUUUAau-----	2
0,-4	
-----CUGGGAGAAGGCUGUUUAC-----	36
0,-3	
-----CUGGGAGAAGGCUGUUUACa-----	3
0,-3	
-----CUGGGAGAAGGCUGUUUACU-----	875
0,-2	
-----CUGGGAGAAGGCUGUUUACUa-----	12
0,-2	
-----CUGGGAGAAGGCUGUUUACUaa-----	7
0,-2	
-----CUGGGAGAAGGCUGUUUACUau-----	2
0,-2	
-----CUGGGAGAAGGCUGUUUACUu-----	7
0,-2	

0, -2	-CUGGGAGAAGGCUGUUUACUuu-----	3
0, -1	-----CUGGGAGAAGGCUGUUUACUC-----	447
0, -1	-----CUGGGAGAAGGCUGUUUACUCa-----	13
0, 0	-----CUGGGAGAAGGCUGUUUACUCU-----	74
1, -2	-----UGGGAGAAGGCUGUUUACU-----	13
1, -1	-----UGGGAGAAGGCUGUUUACUC-----	29
1, 0	-----UGGGAGAAGGCUGUUUACUCU-----	3
2, -2	-----GGGAGAAGGCUGUUUACU-----	2

0,1		
-----UGUAAACAUCCCCGACUGGAAGCa-----	949	0,1
-----UGUAAACAUCCCCGACUGGAAGCaa-----	17	0,1
-----UGUAAACAUCCCCGACUGGAAGCau-----	25	0,1
-----UGUAAACAUCCCCGACUGGAAGCU-----	29188	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUa-----	211	0,2
-----UGUAAACAUCCCCGACUGGAAGCUu-----	1527	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUG-----	4	0,3
-----GUAACAUCCCCGACUGGA-----	4	1,-2
-----GUAACAUCCCCGACUGGAA-----	11	1,-1
-----GUAACAUCCCCGACUGGAAG-----	40	1,0
-----GUAACAUCCCCGACUGGAAGa-----	26	1,0
-----GUAACAUCCCCGACUGGAAGu-----	4	1,0
-----GUAACAUCCCCGACUGGAAGC-----	63	1,1
-----GUAACAUCCCCGACUGGAAGCa-----	25	1,1
-----GUAACAUCCCCGACUGGAAGCU-----	448	1,2
-----GUAACAUCCCCGACUGGAAGCUa-----	2	1,2
-----GUAACAUCCCCGACUGGAAGCUau-----	3	1,2
-----GUAACAUCCCCGACUGGAAGCUu-----	30	1,2
-----GUAACAUCCCCGACUGGAAGCUuu-----	9	1,2
-----UAAACAUCCCCGACUGGAAGC-----	3	2,1
-----UAAACAUCCCCGACUGGAAGCU-----	6	2,2

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>hsa-mir-30e      MA:17-38;mi:59-80      SRX018959
gggcagucuuugcuacUGUAAACAUCCUUGACUGGAAGcuguaagguguucagaggagCUUUCAGUCGGAUGUUUACAGC
ggcaggcgugcca
.(((((((..(((.(((((((((((..(((((((((((.(...(...).)).)))))))))))))))))))))).
.)))))..)).
-----CUGUAAACAUCCUUGACUG-----
-----3      -1,-4
-----CUGUAAACAUCCUUGACUGGAAG-----
-----2      -1,0
-----CUGUAAACAUCCUUGACUGGAAGa-----
-----4      -1,0
-----CUGUAAACAUCCUUGACUGGAAGC-----
-----14     -1,1

```

```

-----CUGUAAACAUCCUUGACUGGAAGCU-----
-----      8      -1,2
-----UGUAAACAUCCUUGACUG-----
-----     21      0,-4
-----UGUAAACAUCCUUGACUGG-----
-----     24      0,-3
-----UGUAAACAUCCUUGACUGGA-----
-----     19      0,-2
-----UGUAAACAUCCUUGACUGGAA-----
-----     70      0,-1
-----UGUAAACAUCCUUGACUGGAa-----
-----     27      0,-1
-----UGUAAACAUCCUUGACUGGAu-----
-----      2      0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
-----    165      0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
-----    281      0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
-----     57      0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
-----     14      0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
-----      4      0,0
-----UGUAAACAUCCUUGACUGGAAGuu-----
-----      5      0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
-----   1588      0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
-----    156      0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
-----      3      0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
-----   2059      0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
-----     29      0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
-----    263      0,2

```

```

-----UGUAAACAUCCUUGACUGGAAGCUG-----
-----5 0,3
-----GUAAACAUCCUUGACUGGAA-----
-----6 1,-1
-----GUAAACAUCCUUGACUGGAa-----
-----2 1,-1
-----GUAAACAUCCUUGACUGGAAG-----
-----26 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
-----12 1,0
-----GUAAACAUCCUUGACUGGAAGC-----
-----140 1,1
-----GUAAACAUCCUUGACUGGAAGCa-----
-----14 1,1
-----GUAAACAUCCUUGACUGGAAGCU-----
-----111 1,2
-----GUAAACAUCCUUGACUGGAAGCUa-----
-----4 1,2
-----GUAAACAUCCUUGACUGGAAGCUau-----
-----2 1,2
-----GUAAACAUCCUUGACUGGAAGCUu-----
-----10 1,2
-----GUAAACAUCCUUGACUGGAAGCUuu-----
-----4 1,2
-----UAAACAUCCUUGACUGGAAGC-----
-----4 2,1
-----UAAACAUCCUUGACUGGAAGCU-----
-----12 2,2
-----CUUUCAGUCGGAUGUUUA-----
-----18 0,-4
-----CUUUCAGUCGGAUGUUUAa-----
-----2 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
-----8 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
-----34 0,-2
-----CUUUCAGUCGGAUGUUUACAa-----
-----3 0,-2

```

```

-----CUUUCAGUCGGAUGUUUACAG-
-----      104  0,-1
-----CUUUCAGUCGGAUGUUUACAGa
-----      11   0,-1
-----CUUUCAGUCGGAUGUUUACAGu
-----      181  0,-1
-----CUUUCAGUCGGAUGUUUACAGu
u-----      21   0,-1
-----CUUUCAGUCGGAUGUUUACAGC
-----      168  0,0
-----CUUUCAGUCGGAUGUUUACAGC
a-----      116  0,0
-----CUUUCAGUCGGAUGUUUACAGC
aa-----      4    0,0
-----CUUUCAGUCGGAUGUUUACAGC
au-----      11   0,0
-----UUUCAGUCGGAUGUUUACAGC
-----      6    1,0
-----UUUCAGUCGGAUGUUUACAGC
a-----      7    1,0

```

>hsa-mir-31 MA:8-28;mi:44-65 SRX018959

```

ggagaggAGGCAAGAUGCUGGCAUAGCUguugaacugggaaccUGCUAUGCCAACAUAUUGCCAUCuuuucc
(((((((.(((((.(((.(((((((((.(((.....)))..)))))))))).)))..))))))
-----AGGCAAGAUGCUGGCAUAGCU-----      6    0,0

```

>hsa-mir-3121 3p:47-68 SRX018959

```

aaaugguuauguccuuugccuauucuaauuaagacacccuguaccuUAAAUAGAGUAGGCAAAGGACAgaaacauuu
(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAAAUAGAGUAGGCAAAG-----
      2    0,-4
-----UAAAUAGAGUAGGCAAAG-----
      2    0,-3
-----UAAAUAGAGUAGGCAAAGGA-----
      2    0,-2

```

>hsa-mir-3124 5p:7-27 SRX018959

```

gcgggcUUCGCGGGCGAAGGCAAAGUCgauuuccaaaagugacuuccucacucccgugaagucggc

```

```
((.(((((((((((((.(((((.(((((.((((....)))))))))))))))).)).)))))))))))).))
-----UUCGCGGGCGAAGGCAAAGU----- 2 0,-1
-----UUCGCGGGCGAAGGCAAAGUCa----- 3 0,0
```

```
>hsa-mir-3127 5p:11-33 SRX018959
ggccaggcccAUCAGGGCUUGUGGAAUGGGAAGgagaaggacgcuuccccuucugcaggccugcuggguguggcu
(((((.((((....(((((((((.((((((((.....).)))))).)))).)))))).)))))).))))))
-----AUCAGGGCUUGUGGAAUGGGAAG-----
2 0,0
```

```
>hsa-mir-3129 5p:9-30 SRX018959
guacuuggGCAGUAGUGUAGAGAUUGGUUgucuguaaangaauucaaaacuaaucucuacacugcugcccaagagc
...((((((((((((((((((((((((((((((((((((.....).)))))).)))).)))))).)))))).))))))...
-----CAGUAGUGUAGAGAUUGGUUUGu-----
2 1,1
-----AGUAGUGUAGAGAUUGGUUUG-----
2 2,1
-----AGUAGUGUAGAGAUUGGUUUGC-----
4 2,2
```

```
>hsa-mir-3130-1 5p:13-33;3p:44-64 SRX018959
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuguugucaagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((.....).))))))))))))))))))))))))))))))))))
-----GCUGCACCGGAGACUGGG----- 2
0,-3
-----GCUGCACCGGAGACUGGGUAA----- 16
0,0
```

```
>hsa-mir-3130-2 5p:13-33;3p:44-64 SRX018959
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((.....).))))))))))))))))))))))))))))))))))
-----GCUGCACCGGAGACUGGG----- 2
0,-3
-----GCUGCACCGGAGACUGGGUAA----- 16
0,0
```

```
>hsa-mir-3141 5p:10-28 SRX018959
ucacccgggGAGGGCGGGUGGAGGAGGAggguccccaccaucagccuucacugggacggga
```

```

>hsa-mir-3145    3p:49-72    SRX018959
uauaugaguucaacuccaaacacucuaaaacucauuguugaauggaugAGAUUUUUGAGUGUUUGGAAUUGaacucgua
ua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----AACUCCAAACACUAAAACU-----
-- 3
-----AACUCCAAACACUAAAACUCA-----
-- 2
-----AGAUUUUUGAGUGUUUGGAAUU-----
-- 2    0,-1
-----AGAUUUUUGAGUGUUUGGAAUUG-----
-- 2    0,0

```

```
>hsa-mir-3154    3p:54-75    SRX018959
ggccccuccuucucagccccagcucccgcucaccccgccacgucaaaggaggCAGAAGGGGAGUUGGGAGCAGAgaggg
gacc
((((((((((..(((..((((((((((((((..(.....((((((..(.....).)))))).))))))))))))).))))))))))
).))
-----CAGAAGGGGAGUUGGGAGCAG-----
----    2    0,-1
```

[illegible]


```
>hsa-mir-3158-2 3p:50-71      SRX018959
auucaggccgguccugcagagaggaagcccuccaauaccuguaagcagAAGGGCUUCCUCUCUGCAGGACcggccugaa
u
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----AGGGCUUCCUCUCUGCAGGAC-----
-   2   1,0
```

```

6    0,0
-----CUGGGGUUCUGAGACAGACAGUa-----
2    0,0

```

>hsa-mir-3173 3p:43-64 SRX018959

```

ucccugcccugccuguuucuccuugugauuuuugagaacAAAGGAGGAAAUAGGCAGGCCAggga
(((((((.((((((((((((((((((((((((((..((....)).)))))))))))))))))))))))))
-----AAAGGAGGAAAUAGGCAGGCCAuu-- 2    0,0
-----AAGGAGGAAAUAGGCAGGCCA--- 2    1,0
-----AAGGAGGAAAUAGGCAGGCCAaa-- 2    1,0

```

>hsa-mir-3179-1 3p:52-73 SRX018959

```

caggaucacagacguuuaaaauacacuccuucugcugugccuacagcaguAGAAGGGGUGAAAUUUAAACGUcugugau
ccug
((((((((((((((((((((((((((.((((((((((((((((((((((((((((.....)))))))))))))))))))))))))
))))
-----UAGAAGGGGUGAAAUUUAAACG-----
---- 3    -1,-1
-----UAGAAGGGGUGAAAUUUAAACGU-----
---- 4    -1,0
-----AGAAGGGGUGAAAUUUAAACGU-----
---- 8    0,0
-----AGAAGGGGUGAAAUUUAAACGUa-----
---- 2    0,0

```

>hsa-mir-3179-2 3p:52-73 SRX018959

```

caggaucacagacguuuaaaauacacuccuucugcugugccuacagcaguAGAAGGGGUGAAAUUUAAACGUcugugau
ccug
((((((((((((((((((((((((((.((((((((((((((((((((((((((((.....)))))))))))))))))))))))))
))))
-----UAGAAGGGGUGAAAUUUAAACG-----
---- 3    -1,-1
-----UAGAAGGGGUGAAAUUUAAACGU-----
---- 4    -1,0
-----AGAAGGGGUGAAAUUUAAACGU-----
---- 8    0,0
-----AGAAGGGGUGAAAUUUAAACGUa-----
---- 2    0,0

```

caggauacagacguuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGUGAAUUUAAACGUcugugau
ccug

-----UAGAAGGGGUGAAAUUUAACG-----

-----UAGAAGGGGUGAAAUUUAACGU-----

-----AGAAGGGGUGAAAUUUAACGU-----

-----AGAAGGGGUGAAAUUUAAACGUa-----

cuggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugacccccgg
(((((((((((((((.(((((((((((((.(((((((.(((((((.)))))).)))))).)))))).))))))))))))))))))

-----GUGUGGAAGGUAGACGGCCAGA-----

ggaagggauUCUGGGAGGUUGUAGCAGUGGAAaaaguucuuuucuuccucugaucgccucucagcucuuccuucu
(((((((.(.(((((((.(.((...(((.((((.(.((...)))..)))).))..)))).))....))))))

-----UCUGGGAGGUUGUAGCAGU-----

-----UAUUGCACAUAUAAGU----- 7 0,-4

-----UAUUGCACAUAUAAGUU----- 14 0,-3

-----UAUUGCACAUUACUAAGUUG----- 48 0.-2

-----UAUUGCACAUAUACUAAGUUGa----- 2 0,-2

-----UAUUGCACAUUACUAAGUUGC----- 21 0.-1

-----UAUUGCACAUACUAAGUUGCA----- 2 0,0

-----UAUUGCACAUAACUAAGUUGCAa----- 2 0,0

-----UAUUGCACAUAACUAAGUUGCAU----- 2 0,1

-----UAUUGCACAUAACUAAGUUGCAUu-----	2	0, 1
-----AUUGCACAUAACUAAGUUG-----	3	1, -2
-----AUUGCACAUAACUAAGUUGC-----	2	1, -1
-----CAAUUUAGUGUGUGUGAUUAu-----	3	0, -2
-----CAAUUUAGUGUGUGUGAUUAU-----	4	0, -1

>hsa-mir-3200 5p:13-34;3p:54-75 SRX018959

gguggucgagggAAUCUGAGAAGGCGCACAAAGGUuuguguccaauacaguccaCACCUUGCGCUACUCAGGUCUGcucgu
gcccuc

((.(((((((((.(.(((((((..(((((((..(((((((..(((((.(((..(.....).)))))))))))))))))).)))))).))))).

-----CACCUUGCGCUACUCAGGUCU-----

----- 2 0,-1

>hsa-mir-320a 3p:48-69 SRX018959

gcuucgcuccccuccgccuucucuucccgguucuucccggagucgggAAAAGCUGGGUUGAGAGGGCGAaaaaggaugag
gu

-----GAAAAGCUGGGUUGAGAG-----

-- 2 -1, -5

-----GAAAAGCUGGGUUGAGAGGG-----

-- 5 -1, -3

-----GAAAAGCUGGGUUGAGAGGGC-----

-- 27 -1, -2

-----GAAAAGCUGGGUUGAGAGGGCG-----

-- 21 -1,-1

-----GAAAAGCUGGGUUGAGAGGGCGu-----

-- 27 -1,-1

-----GAAAAGCUGGGUUGAGAGGGCGuu-----

$$-- \quad 6 \quad -1, -1$$

-----GAAAAGCUGGGUUGAGAGGGCGA-----

-- 107 -1,0

-----GAAAAGCUGGGUUGAGAGGGCGAu-----

-- 10 -1,0

-----GAAAAGCUGGGUUGAGAGGGCGAA-----

-- 3 -1,1

-----AAAAGCUGGGUUGAGAGG-----

```
-- 400 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 476 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 20 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 13 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 4 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 1775 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 7 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 2169 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 2034 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 913 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 16375 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 4505 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 723 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 5941 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 842 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 169 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 757 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 238 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 70 0,3
-----AAAGCUGGGUUGAGAGGG-----
```

```

-- 27 1,-3
-----AAAGCUGGGUUGAGAGGGa-----
-- 4 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 83 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 146 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 70 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 66 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 911 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 287 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 67 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 732 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 190 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 58 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 187 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 73 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 6 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 23 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAA-----
-- 2 1,4
-----AAGCUGGGUUGAGAGGGC-----
-- 3 2,-2
-----AAGCUGGGUUGAGAGGGCG-----
-- 4 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----

```

```

-- 60 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 10 2,0
-----AAGCUGGGUUGAGAGGGCGAuu-----
-- 5 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 100 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 26 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 4 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 86 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 24 2,2
-----AAGCUGGGUUGAGAGGGCGAAAuu-----
-- 2 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 6 2,3
-----AAGCUGGGUUGAGAGGGCGAAAAA-----
-- 3 2,4
-----AAGCUGGGUUGAGAGGGCGAAAAA-----

```

>hsa-mir-320b-1 3p:39-60 SRX018959

```

aauuaaucccucucuucuaguucuuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).)))).....
-----GAAAAGCUGGGUUGAGAG-----
2 -1,-5
-----GAAAAGCUGGGUUGAGAGGG-----
5 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
27 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCAu-----
5 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAA-----
3 -1,0
-----AAAAGCUGGGUUGAGAGG-----
400 0,-4
-----AAAAGCUGGGUUGAGAGGG-----

```

476	0,-3	-----AAAAGCUGGGUUGAGAGGGa-----
20	0,-3	-----AAAAGCUGGGUUGAGAGGGaa-----
13	0,-3	-----AAAAGCUGGGUUGAGAGGGau-----
4	0,-3	-----AAAAGCUGGGUUGAGAGGGC-----
1775	0,-2	-----AAAAGCUGGGUUGAGAGGGCu-----
7	0,-2	-----AAAAGCUGGGUUGAGAGGGCA-----
235	0,-1	-----AAAAGCUGGGUUGAGAGGGCAu-----
295	0,-1	-----AAAAGCUGGGUUGAGAGGGCAuu-----
95	0,-1	-----AAAAGCUGGGUUGAGAGGGCAA-----
254	0,0	-----AAAAGCUGGGUUGAGAGGGCAAu-----
77	0,0	-----AAAAGCUGGGUUGAGAGGGCAAuu-----
4	0,0	-----AAAAGCUGGGUUGAGAGGGCAAA-----
32	0,1	-----AAAAGCUGGGUUGAGAGGGCAAAu-----
9	0,1	-----AAAGCUGGGUUGAGAGGG-----
27	1,-3	-----AAAGCUGGGUUGAGAGGGa-----
4	1,-3	-----AAAGCUGGGUUGAGAGGGC-----
83	1,-2	-----AAAGCUGGGUUGAGAGGGCA-----
6	1,-1	-----AAAGCUGGGUUGAGAGGGCAu-----
14	1,-1	-----AAAGCUGGGUUGAGAGGGCAuu-----

GUUGAGAGGGCu-----	7	0,-2	-----AAAAGCUGG
GUUGAGAGGGCA-----	235	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAu-----	295	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAuu-----	95	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAA-----	254	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAu-----	77	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAuu-----	4	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAA-----	32	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAu-----	9	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAAA-----	9	0,2	-----AAAGCUGG
GUUGAGAGGG-----	27	1,-3	-----AAAGCUGG
GUUGAGAGGGa-----	4	1,-3	-----AAAGCUGG
GUUGAGAGGGC-----	83	1,-2	-----AAAGCUGG
GUUGAGAGGGCA-----	6	1,-1	-----AAAGCUGG
GUUGAGAGGGCAu-----	14	1,-1	-----AAAGCUGG
GUUGAGAGGGCAuu-----	3	1,-1	-----AAAGCUGG
GUUGAGAGGGCAA-----	13	1,0	-----AAAGCUGG
GUUGAGAGGGCAAu-----	4	1,0	-----AAAGCUGG
GUUGAGAGGGCAAA-----	6	1,1	-----AAGCUGG

GUUGAGAGGGC----- 3 2,-2

>hsa-mir-320c-1 3p:50-69 SRX018959

uuugcauuaaaaaugaggccuucucuuccaguucuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg

.((((((((.....((((((((.....((((((((.....))))).)))))))).)))))))).)))))))).

-----GAAAAGCUGGGUUGAGAG-----

----- 2 -1,-3

-----GAAAAGCUGGGUUGAGAGGG-----

----- 5 -1,-1

-----GAAAAGCUGGGUUGAGAGGGU-----

----- 2 -1,0

-----AAAAGCUGGGUUGAGAGG-----

----- 400 0,-2

-----AAAAGCUGGGUUGAGAGGG-----

----- 476 0,-1

-----AAAAGCUGGGUUGAGAGGGa-----

----- 20 0,-1

-----AAAAGCUGGGUUGAGAGGGaa-----

----- 13 0,-1

-----AAAAGCUGGGUUGAGAGGGau-----

----- 4 0,-1

-----AAAAGCUGGGUUGAGAGGGU-----

----- 334 0,0

-----AAAAGCUGGGUUGAGAGGGUu-----

----- 9 0,0

-----AAAAGCUGGGUUGAGAGGGUuu-----

----- 9 0,0

-----AAAAGCUGGGUUGAGAGGGUA-----

----- 6 0,1

-----AAAAGCUGGGUUGAGAGGGUAa-----

----- 21 0,1

-----AAAAGCUGGGUUGAGAGGGUAau-----

----- 2 0,1

-----AAAAGCUGGGUUGAGAGGGUAu-----

----- 18 0,1

-----AAAAGCUGGGUUGAGAGGGUAuu-----


```

uucucuucccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA
((((((..(((((((.((((((....)))))).)))))).))))..
-----GAAAAGCUGGGUUGAGAG--      2   -1,-2
-----AAAAGCUGGGUUGAGAGG-    400  0,-1
-----AAAAGCUGGGUUGAGAGGA    18   0,0
-----AAAAGCUGGGUUGAGAGGAa    6    0,0
-----AAAAGCUGGGUUGAGAGGAaa   5    0,0
-----AAAGCUGGGUUGAGAGGA     2    1,0

```

```

>hsa-mir-320e   3p:35-52   SRX018959
gccuucucuucccaguucuccuggagucggggaAAAGCUGGGUUGAGAAGGu
((((((((..(((((((.((((((....)))))).)))))).))))..
-----AAAAGCUGGGUUGAGAAGG-    10   -1,0

```

```

>hsa-mir-323    5p:16-37;3p:51-71   SRX018959
uugguacuuggagagAGGUGGUCCGUGGCGCGUUCGCuuuauuuauggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc
..(((((((.(((((((.((((((....((.((((.....)))))).))....)))))).))..
).....
-----GCACAUUACACGGUCGAC-----
----- 2   -1,-4
-----GCACAUUACACGGUCGACC-----
----- 2   -1,-3
-----GCACAUUACACGGUCGACCU-----
----- 45  -1,-2
-----GCACAUUACACGGUCGACCUC-----
----- 6   -1,-1
-----GCACAUUACACGGUCGACCUCU-----
----- 3   -1,0
-----CACAUUACACGGUCGACC-----
----- 10  0,-3
-----CACAUUACACGGUCGACCU-----
----- 93  0,-2
-----CACAUUACACGGUCGACCUCU-----
----- 6   0,0
-----ACAUUACACGGUCGACCUC-----
----- 2   1,-1

```

```
>hsa-mir-323b    5p:15-37;3p:51-72    SRX018959
ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuauuuuaugaugCCCAUACACGGUCGACCUUuucggua
ca
.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)).
-----CCCAUACACGGUCGACCU-----
-- 15  0,-3
```

```
>hsa-mir-324     5p:16-38;3p:53-72    SRX018959
cugacuaugccucuccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagagaccACUGCCCCAGGUGCUGCUGGggguagua
guc
..(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))
-----CGCAUCCCCUAGGGCAUU-----
--- 10  0,-5
-----CGCAUCCCCUAGGGCAUUG-----
--- 19  0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 4   0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 11  0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 3   0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 22  0,0
-----CGCAUCCCCUAGGGCAUUGGUGUu-----
--- 3   0,0
-----CCACUGCCCCAGGUGCUGCU-----
--- 2   -2,-2
-----CCACUGCCCCAGGUGCUGCUG-----
--- 4   -2,-1
-----ACUGCCCCAGGUGCUGCU-----
--- 4   0,-2
-----ACUGCCCCAGGUGCUGCUGG-----
--- 9   0,0
```

```
>hsa-mir-326     3p:60-79    SRX018959
cucaucugucuguugggcuggaggcagggccuuugugaaggcggguggugcucagaucCCUCUGGGCCCUUCCUCCAGc
```

```

cccgaggcggaauca
...((((((((...(((((((((((((...(((...((...)))...))))))...))))))...))
))...))))))...
-----CCUCUGGGCCCUUCCUCCAau
----- 3 0,-1
-----CCUCUGGGCCCUUCCUCCAGa
----- 2 0,0
-----CCUCUGGGCCCUUCCUCCAGa
a----- 4 0,0
-----CCUCUGGGCCCUUCCUCCAGu
----- 2 0,0
-----CCUCUGGGCCCUUCCUCCAGu
u----- 2 0,0

```

```

>hsa-mir-328 3p:48-69 SRX018959
uggagugggggggcaggaggggcucaggagaaaagugcauacagcccCUGGCCCUCUCUGCCCUUCCGUccccug
.(((...((((((((...((((...(((...((...)))...))))))...))))))...))...
-----CUGGCCCUCUCUGCCCUUCCGa----- 3
0,-1
-----CUGGCCCUCUCUGCCCUUCCGU----- 5
0,0
-----CUGGCCCUCUCUGCCCUUCCGUau---- 4
0,0

```

```

>hsa-mir-329-1 3p:50-71 SRX018959
gguaccugaagagagguuuucuggguuucuguuuuuuaugaggacgaAACACACCUGGUUAACCUUUuccaguauc
((((...((((((((...(((...(((...((...)))...))))))...))))))...))...
-----AGAGGUUUUCUGGGUUUCU-----
5
-----AGAGGUUUUCUGGGUUUCUGUU-----
4
-----AACACACCUGGUUAACCU-----
2 0,-4
-----AACACACCUGGUUAACCUC-----
5 0,-3
-----AACACACCUGGUUAACCUCU-----
2 0,-2
-----AACACACCUGGUUAACCUCUU-----

```

-----AACACACCUGGUUAACCUCUU-----

8 0,0

>hsa-mir-329-2 3p:52-73 SRX018959

gugguaccugaagagagguuuucuggguuucuguuucuuuauugaggacgaAACACACCUGGUUAACCUUUUuccagua
ucca

.(((((((..((((((((((((((..(((((..(((((((.(.....)).)))))).)))).)))).)))).)))).)))).
))).

-----AGAGGUUUUCUGGGUUUCU-----

— — — — 5

-----AGAGGUUUUCUGGGUUUCUGUUU-----

— — — — 4

-----AACACACCUGGUUAACCU-----

----- 2 0, -4

-----AACACACCUGGUUAACCUC-----

----- 5 0, -3

-----AACACACCUGGUUAACCUUCU-----

----- 2 0, -2

-----AACACACCUGGUUAACCUUU-----

----- 4 0, -1

-----AACACACCUGGUUAACCUUU-----

--- 8 0,0

>hsa-mi r-330 5p:18-39;3p:57-79 SRX018959

cuuuggcgaucacugccUCUCUGGGCCUGUGUCUAGGCucugcaagaucacaccgaGCAAAGCACACGGCCUGCAGAGAg
gcagcgcucugccc

-----GCAAAGCACACGGCCUGCA-----

----- 3 0, -4

-----GCAAAGCACACGGCCUGCAGAaa-

$$----- \quad 2 \quad 0, -2$$

-----GCAAAGCACACGGCCUGCAGAG--

----- 3 0, -1

-----GCAAAGCACACGGCCUGCAGAGA-----

----- 17 0,0

-----GCAAAGCACACGGCCUGCAGAGAG

auuugcuauauuca

.((..(((.(((((((.(((((((.(((((((.(.....)).)))))))).)))))))).)))))))).))
)...)).....

-----UCAAGAGCAAUAACGAAA-----
----- 2 0,-5
-----UCAAGAGCAAUAACGAAA-----
----- 4 0,-4
-----UCAAGAGCAAUAACGAAAA-----
----- 36 0,-3
-----UCAAGAGCAAUAACGAAAAa-----
----- 5 0,-3
-----UCAAGAGCAAUAACGAAAAAU-----
----- 298 0,-2
-----UCAAGAGCAAUAACGAAAAAUa-----
----- 91 0,-2
-----UCAAGAGCAAUAACGAAAAAUG-----
----- 591 0,-1
-----UCAAGAGCAAUAACGAAAAAUGa-----
----- 26 0,-1
-----UCAAGAGCAAUAACGAAAAAUGU-----
----- 194 0,0
-----CAAGAGCAAUAACGAAAAAUGU-----
----- 3 1,0
-----AAGAGCAAUAACGAAAAAU-----
----- 7 2,-2
-----AAGAGCAAUAACGAAAAAUa-----
----- 3 2,-2
-----AAGAGCAAUAACGAAAAAUG-----
----- 8 2,-1
-----AAGAGCAAUAACGAAAAAUGU-----
----- 4 2,0
-----GUUUUUAUUUUGCUCCUGA-----
----- 2 -1,-2
-----GUUUUUAUUUUGCUCCUGACC-----
----- 3 -1,0
-----UUUUUUAUUUUGCUCCU-----
----- 4 0,-4
-----UUUUUUAUUUUGCUCCUGACC-----

----- 4 0,0
-----UUUCAUUAUUGCUGACC-----
----- 2 2,0

>hsa-mi-r-337 5p:23-43;3p:61-82 SRX018959
guagucaguaguugggggguggGAACGGCUUCAUACAGGAGUUGaugcacaguuauccagCUCCUAUAUGAGCCUUCU
UCaucccccuaa

.....(..(((((((((((.(.(((.((((((((((((.....))))).))))).)))..)))).))..

-----GAACGGCUUCAUACAGGAG-----

----- 4 0,-2

-----AACGGCUUCAUACAGGAG-----

$$----- \quad 2 \quad 1, -2$$

-----CUCCUAUAUGAUGCCUUUCU

U----- 2 0,-1

-----CUCCUAUAUGAUGCCUUUCU

UC----- 7 0,0

-----UCCUAUAUGAUGCCUUUCU

UC----- 3 1.0

-----UCCAGCAUCAGUGAUUUU----- 13 0,-4

-----UCCAGCAUCAGUGAUUUUG----- 17 0,-3

-----UCCAGCAUCAGUGAUUUUGUU----- 3 0,-1

-----UCCAGCAUCAGUGAUUUUGUUG----- 3 0,0

-----UCCAGCAUCAGUGAUUUUGUUGA--- 4 0,1

>hsa-mir-339 5p:15-37;3p:50-72 SRX018959
 cggggcgggcgcgcucUCCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGgcgccugc
 cccagugucugcgc

-----UCCCUGUCCUCCAGGAGC-----

----- 2 0,-5

-----UCCCUGUCCUCCAGGAGCU-----

----- 11 0,-4

```

-----UCCCUGUCCUCCAGGAGCUC-----
----- 2 0,-3
-----UCCCUGUCCUCCAGGAGCUCA-----
----- 4 0,-2
-----UCCCUGUCCUCCAGGAGCUCAa-----
----- 5 0,-2
-----UCCCUGUCCUCCAGGAGCUCAu-----
----- 4 0,-2
-----UCCCUGUCCUCCAGGAGCUCAuu-----
----- 2 0,-2
-----UCCCUGUCCUCCAGGAGCUCAC-----
----- 6 0,-1
-----UCCCUGUCCUCCAGGAGCUCACa-----
----- 2 0,-1
-----UCCCUGUCCUCCAGGAGCUCACu-----
----- 3 0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 15 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 5 0,1
-----UCCCUGUCCUCCAGGAGCUCACGUu-----
----- 2 0,1
-----CCUGUCCUCCAGGAGCUCACG-----
----- 3 2,0
-----UGAGCGCCUCGACGACAG-----
----- 5 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 10 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 8 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 5 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 2 0,-2
-----UGAGCGCCUCGACGACAGAGCaa-----
----- 2 0,-2
-----UGAGCGCCUCGACGACAGAGCu-----
----- 5 0,-2

```

```

-----UGAGCGCCUCGACGACAGAGCC-----
----- 13 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 8 0,-1
-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 2 0,-1
-----UGAGCGCCUCGACGACAGAGCCau-----
----- 11 0,-1
-----UGAGCGCCUCGACGACAGAGCCu-----
----- 10 0,-1
-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 12 0,-1
-----UGAGCGCCUCGACGACAGAGCCG-----
----- 3 0,0
-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 4 0,0
-----GAGCGCCUCGACGACAGA-----
----- 2 1,-4
-----AGCGCCUCGACGACAGAG-----
----- 35 2,-3
-----AGCGCCUCGACGACAGAGC-----
----- 3 2,-2
-----AGCGCCUCGACGACAGAGCCG-----
----- 8 2,0
-----AGCGCCUCGACGACAGAGCCGa-----
----- 7 2,0
-----AGCGCCUCGACGACAGAGCCGGu-----
----- 2 2,1

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018959

```

cugugGUGCAUUGUAGUUGCAUUGCAUgucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((..((((((((((.....((((.....))))))))))))..)).))))))))))
-----GUGCAUUGUAGUUGCAUU----- 567 0,-3
-----GUGCAUUGUAGUUGCAUUG----- 4 0,-2
-----GUGCAUUGUAGUUGCAUUGa----- 3 0,-2
-----GUGCAUUGUAGUUGCAUUGu----- 3 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 64 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 279 0,0

```

```

-----GUGCAUUGUAGUUGCAUUGCAa----- 48 0,0
-----GUGCAUUGUAGUUGCAUUGCAU----- 16 0,1
-----CAAUGUUUCCACAGUGCAU----- 6 0,-3
-----CAAUGUUUCCACAGUGCAUa----- 5 0,-3
-----CAAUGUUUCCACAGUGCAUCA--- 2 0,-1
-----CAAUGUUUCCACAGUGCAUCAu-- 2 0,-1

```

>hsa-mir-33b MA:16-35;mi:54-75 SRX018959

```

gcggggcggccccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcgggugCAGUGCCUCGGCAGUGCAGCCCggagc
cggccccuggcaccac

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))

```

```

-----GUGCAUUGCUGUUGCAUU-----
----- 5 0,-2
-----GUGCAUUGCUGUUGCAUUGa-----
----- 3 0,-1

```

>hsa-mir-340 MA:16-37;mi:58-79 SRX018959

```

uuguaccuggugugaUUAUAAAGCAAUGAGACUGAUUgucauaugucguuuguggaUCCGUCUCAGUUACUUUAUAGCc
auaccugguaucuaa

```

```

..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
)))))))))

```

```

-----UUAUAAAGCAAUGAGACU-----
----- 11 0,-4
-----UUAUAAAGCAAUGAGACUGA-----
----- 6 0,-2
-----UUAUAAAGCAAUGAGACUGAaa-----
----- 3 0,-2
-----UUAUAAAGCAAUGAGACUGAU-----
----- 24 0,-1
-----UUAUAAAGCAAUGAGACUGAUa-----
----- 29 0,-1
-----UUAUAAAGCAAUGAGACUGAUau-----
----- 2 0,-1
-----UUAUAAAGCAAUGAGACUGAUU-----
----- 137 0,0
-----UUAUAAAGCAAUGAGACUGAUUa-----
----- 8 0,0

```

```

-----UUAUAAAGCAAUGAGACUGAUU-----
----- 3    0,0
-----UAUAAAGCAAUGAGACUGA-----
----- 3    1,-2
-----UCCGUCUCAGUUACUUUAUAGC-----
----- 3    0,0

```

>hsa-mi r-342 5p:19-39;3p:61-83 SRX018959

gaaacugggcucaaggugAGGGGUGCUAUCUGUGAUUGAgggacaugguuaauggaauugUCUCACACAGAAAUCGCACC
CGUcaccuuggccuacuua

```

-----AGGGGUGCUAUCUGUGAU-----
----- 2 0,-3
-----AGGGGUGCUAUCUGUGAUa-----
----- 5 0,-3
-----AGGGGUGCUAUCUGUGAUU-----
----- 21 0,-2
-----AGGGGUGCUAUCUGUGAUUG-----
----- 8 0,-1
-----AGGGGUGCUAUCUGUGAUUGA-----
----- 43 0,0
-----AGGGGUGCUAUCUGUGAUUGAa-----
----- 3 0,0
-----AGGGGUGCUAUCUGUGAUUGAG-----
----- 64 0,1
-----AGGGGUGCUAUCUGUGAUUGAGa-----
----- 3 0,1
-----AGGGGUGCUAUCUGUGAUUGAGG-----
----- 14 0,2
-----AGGGGUGCUAUCUGUGAUUGAGGGA-----
----- 2 0,4
-----GGGGUGCUAUCUGUGAUUGAGGG-----
----- 2 1,3
-----UCUCACACAGAAAUCGCA-----
----- 64 0,-5
-----UCUCACACAGAAAUCGCAC-----
----- 136 0,-4

```

-----				-----UCUCACACAGAAAUCGCACC
-----	124	0,-3		
-----				-----UCUCACACAGAAAUCGCACC
C-----	207	0,-2		
-----				-----UCUCACACAGAAAUCGCACC
Cau-----	2	0,-2		
-----				-----UCUCACACAGAAAUCGCACC
CG-----	255	0,-1		
-----				-----UCUCACACAGAAAUCGCACC
CGa-----	3	0,-1		
-----				-----UCUCACACAGAAAUCGCACC
CGU-----	780	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUa-----	17	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUau-----	3	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUu-----	29	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUuu-----	2	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUC-----	346	0,1		
-----				-----UCUCACACAGAAAUCGCACC
CGUCu-----	162	0,1		
-----				-----UCUCACACAGAAAUCGCACC
CGUCA-----	112	0,2		
-----				-----CUCACACAGAAAUCGCACC
-----	3	1,-3		
-----				-----CUCACACAGAAAUCGCACC
CGU-----	4	1,0		
-----				-----CUCACACAGAAAUCGCACC
CGUC-----	2	1,1		
-----				-----UCACACAGAAAUCGCACC
-----	8	2,-3		
-----				-----UCACACAGAAAUCGCACC
C-----	11	2,-2		
-----				-----UCACACAGAAAUCGCACC
CG-----	7	2,-1		

Sequence	Length	GC Content	GC Content (%)
CGU	10	2,0	20
CGUaa	2	2,0	20
CGUuu	3	2,0	20
CGUC	17	2,1	21
CGUCu	13	2,1	21
CGUCA	94	2,2	22
CGUCAa	5	2,2	22
CGUCAu	8	2,2	22

```

>hsa-mir-345      5p:18-39      SRX018959
acccaaacccuaggucuGCUGACUCCUAGUCCAGGGGUCgugauggcugguggggcccugaacgaggggucuggaggccug
gguuugaauaucgacagc
...(((((((.((((((.(.(((((((.((.((((((((((..(....)..)))))))).)).)))))))).).))))))
)))))).....
-----GCUGACUCCUAGUCCAGG-----
----- 95  0,-4
-----GCUGACUCCUAGUCCAGGG-----
----- 37  0,-3
-----GCUGACUCCUAGUCCAGGGC-----
----- 19  0,-2
-----GCUGACUCCUAGUCCAGGGCaa-----
----- 4   0,-2
-----GCUGACUCCUAGUCCAGGGCau-----
----- 4   0,-2
-----GCUGACUCCUAGUCCAGGGGCU-----
----- 74  0,-1
-----GCUGACUCCUAGUCCAGGGGCUa-----
----- 5   0,-1
-----GCUGACUCCUAGUCCAGGGGCUaa-----
----- 11  0,-1

```



```

-----UGAGGAUGGAUAGCAAGGAAG-----
          3      0,-2
-----UGAGGAUGGAUAGCAAGGAAGC-----
          3      0,-1
-----UGAGGAUGGAUAGCAAGGAAGCa-----
          4      0,-1
-----UGAGGAUGGAUAGCAAGGAAGCC-----
          3      0,0

```

>hsa-mir-3606 5p:16-36 SRX018959

`uuuguugcuaucaaggUUAGUGAAAGGCUAUUUUAAUUnnnnnnaaaauuccuuucacuaacuaggg`

.....(((((((.(((((((((..((((((((.....)))))))).).)))))))))

-----UAGUGAAGGCUAUUUAAUUUU----- 4 1,2

-----UAGUGAAGGCUAUUUUAAUUUU----- 2 1,3

>hsa-mir-3609 3p:51-74 SRX018959

guaacaguaacuuuuauucucauuuuccuuuucucuaccuuguagagaagCAAAGUGAUGAGUAAUACUGGCUGgagccc

$$(((\dots((((\dots(((((\dots(((((\dots(((((\dots)))))))))\dots))))))\dots))))))\dots)\dots$$

-----CAAAGUGAUGAGUAAUACU-----

4 0,-5

>hsa-mi r-361 5p:6-27;3p:45-67 SRX018959

ggagcUUAUCAGAAUCUCCAGGGGUACuuuauaauuucaaaaagUCCCCAGGUGUGAUUCUGAUUUgcuuc

(((((.(((((((.(.((((.((((.(.....))))).))))).)).)))))))).))))))

---CUUAUCAGAAUCUCCAGGGGUAC----- 2

-1,0

-----UUUUCAGAAUCUCCAGGG----- 4

0,-4

-----UUAUCAGAAUCUCCAGGGG----- 5

0,-3

-----UUAUCAGAAUCUCCAGGGGU----- 20

0,-2

-----UUAUCAGAAUCUCCAGGGGUA----- 33

 $0, -1$

-----UUAUCAGAAUCUCCAGGGGUAa----- 12

0,-1

-----UUAUCAGAAUCUCCAGGGGUA_u----- 32

 $0, -1$

-----UUAUCAGAAUCUCCAGGGGUAAu-----	3
0,-1	
-----UUAUCAGAAUCUCCAGGGGUAC-----	57
0,0	
-----UUAUCAGAAUCUCCAGGGGUACa-----	19
0,0	
-----UUAUCAGAAUCUCCAGGGGUACau-----	7
0,0	
-----UUAUCAGAAUCUCCAGGGGUACU-----	2
0,1	
-----UCCCCCAGGUGUGAUUCU-----	9
0,-5	
-----UCCCCCAGGUGUGAUUCUGA-----	2
0,-3	
-----UCCCCCAGGUGUGAUUCUGAa-----	5
0,-3	
-----UCCCCCAGGUGUGAUUCUGAaa-----	3
0,-3	
-----UCCCCCAGGUGUGAUUCUGAU-----	8
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUa-----	2
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUaa-----	4
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUU-----	12
0,-1	
-----UCCCCCAGGUGUGAUUCUGAUUa-----	2
0,-1	
-----UCCCCCAGGUGUGAUUCUGAUUU-----	44
0,0	
-----UCCCCCAGGUGUGAUUCUGAUUUu-----	3
0,0	
-----UCCCCCAGGUGUGAUUCUGAUUUUG-----	6
0,1	
-----UCCCCCAGGUGUGAUUCUGAUUUUGC-----	2
0,2	
-----CCCCCAGGUGUGAUUCUGAUUU-----	6
1,0	

accgcagggaaaaugaggggacuuuuggggggcagauguguuuccauuccacuaucaUAAUGCCCCUAAAAUCCUUAUugc

ucuugca

...(((((((.....))))).))))).
))))).

-----GAGGGACUUUUGGGGGCAGAU-----

----- 2

-----AGGGACUUUUGGGGGCAGA-----

----- 4

-----AGGGACUUUUGGGGGCAGAU-----

----- 3

-----AGGGACUUUUGGGGGCAGUa-----

----- 4

-----AGGGACUUUUGGGGGCAGUaa-----

----- 2

-----AGGGACUUUUGGGGGCAGAU-----

----- 9

-----AGGGACUUUUGGGGGCAGUGa-----

----- 3

-----AGGGACUUUUGGGGGCAGUGU-----

----- 32

-----AGGGACUUUUGGGGGCAGUGUa-----

----- 3

-----AGGGACUUUUGGGGGCAGUGUaa-----

----- 4

-----AGGGACUUUUGGGGGCAGUGUau-----

----- 2

-----AGGGACUUUUGGGGGCAGUGUu-----

----- 7

-----AGGGACUUUUGGGGGCAGUGUuu-----

----- 9

-----AGGGACUUUUGGGGGCAGUGUG-----

----- 73

-----AGGGACUUUUGGGGGCAGUGUGa-----

----- 6

-----AGGGACUUUUGGGGGCAGUGUGaa-----

----- 3

-----AGGGACUUUUGGGGGCAGUGUGU-----

----- 66

-----AGGGACUUUUGGGGGCAGUGUGUU-----


```

----- 2
-----GGGACUUUUGGGGGCAGAUGUaa-----
----- 2
-----GGGACUUUUGGGGGCAGAUGUga-----
----- 2
-----GGGACUUUUGGGGGCAGAUGUGU-----
----- 14
-----GGGACUUUUGGGGGCAGAUGUGUU-----
----- 2
-----GGGACUUUUGGGGGCAGAUGUGUUU-----
----- 2
-----UAAUGCCCCUAAAAAUCC-----
----- 7 0,-4
-----UAAUGCCCCUAAAAAUCCU-----
----- 5 0,-3
-----UAAUGCCCCUAAAAAUCCUa-----
----- 2 0,-3
-----UAAUGCCCCUAAAAAUCCUau-----
----- 3 0,-3
-----UAAUGCCCCUAAAAAUCCUU-----
----- 27 0,-2
-----UAAUGCCCCUAAAAAUCCUUu-----
----- 2 0,-2
-----UAAUGCCCCUAAAAAUCCUUA-----
----- 77 0,-1
-----UAAUGCCCCUAAAAAUCCUUAa-----
----- 31 0,-1
-----UAAUGCCCCUAAAAAUCCUUAU-----
----- 330 0,0
-----UAAUGCCCCUAAAAAUCCUUUAa-----
----- 13 0,0
-----UAAUGCCCCUAAAAAUCCUUAAU-----
----- 28 0,1
-----AAUGCCCCUAAAAAUCCUU-----
----- 2 1,-2

```

>hsa-mir-365-2 mi:29-50;MA:68-89 SRX018959

agaguguucaaggacagcaagaaaaaugAGGGACUUUCAGGGGCAGCUGUguuuucugacucagucaUAAUGCCCCUAAA

.....(.(((((((((((.(((((((((.(((.(((((((((((((.(((...)))..)))).....)))))))))
 ..)))))))).))))))..)).)......

	-GAGGGACUUUCAGGGGCAGC-	
	7	-1,-3
	-GAGGGACUUUCAGGGGCAGCU-	
	36	-1,-2
	-GAGGGACUUUCAGGGGCAGCUG-	
	2	-1,-1
	-GAGGGACUUUCAGGGGCAGCUGU-	
	7	-1,0
	-GAGGGACUUUCAGGGGCAGCUGUa-	
	2	-1,0
	-GAGGGACUUUCAGGGGCAGCUGUG-	
	2	-1,1
	-GAGGGACUUUCAGGGGCAGCUGUGU-	
	2	-1,2
	-AGGGACUUUCAGGGGCAGC-	
	6	0,-3
	-AGGGACUUUCAGGGGCAGCU-	
	19	0,-2
	-AGGGACUUUCAGGGGCAGCUG-	
	4	0,-1
	-AGGGACUUUCAGGGGCAGCUGU-	
	12	0,0
	-AGGGACUUUCAGGGGCAGCUGUu-	
	8	0,0
	-AGGGACUUUCAGGGGCAGCUGUuu-	
	2	0,0
	-AGGGACUUUCAGGGGCAGCUGUG-	
	57	0,1
	-AGGGACUUUCAGGGGCAGCUGUGU-	
	22	0,2
		UAAUGCCCCUAAA
AAUCC-	7	0,-4
		UAAUGCCCCUAAA
AAUCCU-	5	0,-3
		UAAUGCCCCUAAA

```

AAUCCUa----- 2 0,-3
-----UAAUGCCCCUAAA
AAUCCUau----- 3 0,-3
-----UAAUGCCCCUAAA
AAUCCUU----- 27 0,-2
-----UAAUGCCCCUAAA
AAUCCUUu----- 2 0,-2
-----UAAUGCCCCUAAA
AAUCCUUA----- 77 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAa----- 31 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAU----- 330 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUa----- 13 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUU----- 28 0,1
-----AAUGCCCCUAAA
AAUCCUU----- 2 1,-2

```

```

>hsa-mi r-3656 3p:49-65 SRX018959
cuuucggccagcgggacggcauccgaggugggcuaggcucgggcccguGGCGGGUGCGGGGUGGgagg
(((((((((.....((((((((((((((((.....))))))))).)))))).))))))
-----GGCGGGUGCGGGGUGGG--- 2 0,1

```

```

>hsa-mi r-3664 5p:21-42 SRX018959
cuguaaacuugaagguaggAACUCUGUCUUCACUCAUGAGUaccuuccaacacgagcucucaggaguaaagacagagu
ccuaccuuccauguggau
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUCAGGAGUAAAGACAG---
----- 9
-----UCUCAGGAGUAAAGACAGA---
----- 15
-----UCUCAGGAGUAAAGACAGAG--
----- 9
-----UCUCAGGAGUAAAGACAGAGUa
a----- 2

```

```

-----UCUCAGGAGUAAAGACAGAGUU
----- 26
-----UCUCAGGAGUAAAGACAGAGUU
a----- 2
-----UCUCAGGAGUAAAGACAGAGUU
u----- 8
-----UCAGGAGUAAAGACAGAGUU
----- 6
-----UCAGGAGUAAAGACAGAGUU
u----- 3
-----CAGGAGUAAAGACAGAGUU
----- 7
-----AGGAGUAAAGACAGAGUU
CCCU----- 4

```

>hsa-mir-3676 3p:60-79 SRX018959

```

uugguuaaagcgccugucuaguaaacaggagauccuggguucgaauccagcggugccuCCGUGUUUCCCCACGCUUUu
gcaa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).

```

>hsa-mir-3687 3p:35-58 SRX018959

```

cgcgcgugcgccccgagcgcgccccggugguccuCCCGGACAGGCGUUCGUGCGACGUgug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CGGACAGGCGUUCGUGCGAC----- 2 2,-2
-----CGGACAGGCGUUCGUGCGACG---- 2 2,-1
-----CGGACAGGCGUUCGUGCGACGU--- 2 2,0

```

>hsa-mir-369 5p:9-30;3p:44-64 SRX018959

```

uugaagggAGAUCGACCGUGUUAUAUUCGCuuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AGAUCGACCGUGUUAUAUU----- 11 0,-3
-----AGAUCGACCGUGUUAUAUUC----- 34 0,-2
-----AGAUCGACCGUGUUAUAUUCG----- 8 0,-1
-----AGAUCGACCGUGUUAUAUUCGCU----- 7 0,1
-----AGAUCGACCGUGUUAUAUUCGCUU----- 3 0,2
-----AAUAAUACAUGGUUGAUCU----- 3 0,-2
-----AAUAAUACAUGGUUGAUCUUU----- 77 0,0

```



```

-----AAAGUGCUGCGACAUUUGAG----- 7 0,-3
-----AAGUGCUGCGACAUUUGAGCGU--- 2 1,0

```

>hsa-mir-374a MA:12-33;mi:42-63 SRX018959

```

uacaucggccaUUAUAAUACAACCUGAUAGUGuuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((((.((((((((((((((.((((((((((((((...)))))))))))))).)))))))))))).))))))
-----UUAUAAUACAACCUGAU----- 7
0,-4
-----UUAUAAUACAACCUGAUAA----- 146
0,-3
-----UUAUAAUACAACCUGAUAAa----- 7
0,-3
-----UUAUAAUACAACCUGAUAAaa----- 4
0,-3
-----UUAUAAUACAACCUGAUAAAG----- 62
0,-2
-----UUAUAAUACAACCUGAUAAAGa----- 6
0,-2
-----UUAUAAUACAACCUGAUAAAGU----- 559
0,-1
-----UUAUAAUACAACCUGAUAAAGUa----- 29
0,-1
-----UUAUAAUACAACCUGAUAAAGUaa----- 12
0,-1
-----UUAUAAUACAACCUGAUAAAGUG----- 653
0,0
-----UUAUAAUACAACCUGAUAAAGUGa----- 205
0,0
-----UUAUAAUACAACCUGAUAAAGUGU----- 32
0,1
-----UAUAAUACAACCUGAUAAAG----- 2
1,-2
-----UAUAAUACAACCUGAUAAAGU----- 8
1,-1
-----UAUAAUACAACCUGAUAAAGUG----- 3
1,0
-----UAUAAUACAACCUGAUAAAGUGU----- 2
1,1

```

-----AUAUACAACCUGAUAGUGa-----	2
2,0	
-----ACUUAUCAGAUUGUAUUGUAA-----	2
-1,-2	
-----ACUUAUCAGAUUGUAUUGUAAU-----	3
-1,-1	
-----ACUUAUCAGAUUGUAUUGUAAUU-----	2
-1,0	
-----CUUAUCAGAUUGUAUUGU-----	11
0,-4	
-----CUUAUCAGAUUGUAUUGUA-----	4
0,-3	
-----CUUAUCAGAUUGUAUUGUAuu-----	2
0,-3	
-----CUUAUCAGAUUGUAUUGUAA-----	31
0,-2	
-----CUUAUCAGAUUGUAUUGUAAa-----	5
0,-2	
-----CUUAUCAGAUUGUAUUGUAAU-----	317
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUa-----	166
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUaa-----	5
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUU-----	877
0,0	
-----CUUAUCAGAUUGUAUUGUAAUUa-----	108
0,0	
-----CUUAUCAGAUUGUAUUGUAAUUu-----	14
0,0	
-----UUAUCAGAUUGUAUUGUAAU-----	4
1,-1	
-----UUAUCAGAUUGUAUUGUAAUa-----	3
1,-1	
-----UUAUCAGAUUGUAUUGUAAUU-----	14
1,0	
-----UUAUCAGAUUGUAUUGUAAUUa-----	2
1,0	

-----UAUCAGAUUGUAUUGUAAUa-----	7
2,0	
-----UAUCAGAUUGUAUUGUAAUaa-----	2
2,0	
 >hsa-mir-374b MA:11-32;mi:41-62 SRX018959	
acucggauggAUAAUACAACCUGCUAAGUGuccuagcaCUUAGCAGGUUGUAUUAUCAUguccgugucu	
(((.....))..	
-----AUAAUACAACCUGCUA-----	2
0,-3	
-----AUAAUACAACCUGCUAAG-----	13
0,-2	
-----AUAAUACAACCUGCUAAGU-----	246
0,-1	
-----AUAAUACAACCUGCUAAGUa-----	7
0,-1	
-----AUAAUACAACCUGCUAAGUaa-----	6
0,-1	
-----AUAAUACAACCUGCUAAGUG-----	379
0,0	
-----AUAAUACAACCUGCUAAGUGa-----	96
0,0	
-----AUAAUACAACCUGCUAAGUGU-----	27
0,1	
-----AUAAUACAACCUGCUAAGU-----	2
2,-1	
-----AUAAUACAACCUGCUAAGUG-----	6
2,0	
-----CUUAGCAGGUUGUAUUAUCA-----	2
0,-2	
-----CUUAGCAGGUUGUAUUAUCAU-----	6
0,-1	
-----CUUAGCAGGUUGUAUUAUCAUa-----	5
0,-1	
-----CUUAGCAGGUUGUAUUAUCAUU-----	13
0,0	
-----UUAGCAGGUUGUAUUAUCAUU-----	6
1,0	

acacggacaaugAUAUACAACCUGCUAAGUGCUaggacacuuagcagguuguauuuauauccauccgagu

-----AUAUACAACCUGCUAAGU-----	2	0,-3
-----AUAUACAACCUGCUAAGUG-----	6	0,-2

>hsa-mir-375 3p:40-61 SRX018959

ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUAggc

.(((((((.(((((((...((.(((((((.(.....)).)))))).))...)))))))))))).).

-----UUUGUUCGUUCGGCUCGCGU-----	2	-1,-2
-----UUUGUUCGUUCGGCUCGCGUG----	3	-1,-1
-----UUUGUUCGUUCGGCUCGCGUGA---	3	-1,0
-----UUUGUUCGUUCGGCUCGC-----	7	0,-4
-----UUUGUUCGUUCGGCUCGCG-----	22	0,-3
-----UUUGUUCGUUCGGCUCGCGU-----	35	0,-2
-----UUUGUUCGUUCGGCUCGCGUG----	152	0,-1
-----UUUGUUCGUUCGGCUCGCGUGu---	12	0,-1
-----UUUGUUCGUUCGGCUCGCGUGA---	150	0,0
-----UUUGUUCGUUCGGCUCGCGUGAa--	6	0,0
-----UUUGUUCGUUCGGCUCGCGUGAau--	3	0,0
-----UUUGUUCGUUCGGCUCGCGUGAu---	15	0,0
-----UUUGUUCGUUCGGCUCGCGUGAuu--	4	0,0
-----UUUGUUCGUUCGGCUCGCGUGAG---	2	0,1
-----UUGUUCGUUCGGCUCGCGUGu---	2	1,-1
-----UUGUUCGUUCGGCUCGCGUGA---	2	1,0

>hsa-mi r-376a-1 mi:7-28;MA:44-64 SRX018959

uaaaagGUAGAUUCUCCUUCUAUGAGUAcuuuuuuugauuaAUCAUAGAGGAAAAUCCACGUuuuc

.((((.(.(.(((.((((.((((((...(((.....)))).....)))))))).))))).)))).).

-----AUCAUAGAGGAAAAUCCA-----	3	0,-3
-----AUCAUAGAGGAAAAUCCACGU----	12	0,0

>hsa-mir-376a-2 3p:50-70 SRX018959

gguauuuaaaagguagauuuuccuucuauggguacguguuugauggguuAUCAUAGAGGAAAAUCCACGUuuucaguauc

(((((.((((.(.((((((((((.(((((((((((((.....)))..)))))))))))))))))).)).))))).))))))

-----AUCAUAGAGGAAAAUCCA-----

$$3 \quad 0, -3$$

-----AGAGGUUGCCCUUGGUGAAUUC-----	6	0,0
-----AAUCACACAAAGGCAACUUUUG----	4	
-1, -1		
-----AAUCACACAAAGGCAACUUUUGU---	2	-1,0
-----AUCACACAAAGGCAACUUUUG----	3	0,-1
-----AUCACACAAAGGCAACUUUUGU---	3	0,0

>hsa-mir-378 mi:5-26;MA:43-63 SRX018959

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu

(((.((.((((((((((((((((...((((((.....)))))).))))))))))))).)))))

----CUCCUGACUCCAGGUCCU-----	5	0,-4
----CUCCUGACUCCAGGUCCUG-----	3	0,-3
----CUCCUGACUCCAGGUCCUGUGU-----	4	0,0
----CUCCUGACUCCAGGUCCUGUGUuu-----	3	0,0
----UCCUGACUCCAGGUCCUG-----	2	1,-3
----UCCUGACUCCAGGUCCUGU-----	3	1,-2
----UCCUGACUCCAGGUCCUGUGU-----	8	1,0
----UCCUGACUCCAGGUCCUGUGUaa-----	2	1,0
----UCCUGACUCCAGGUCCUGUGUG-----	3	1,1
-----GCACUGGACUUGGAGUCAGAAa----	2	-2,-2
-----GCACUGGACUUGGAGUCAGAAG----	3	-2,-1
-----GCACUGGACUUGGAGUCAGAAGu----	3	-2,-1
-----CACUGGACUUGGAGUCAGAAGG---	19	-1,0
-----CACUGGACUUGGAGUCAGAAGGC--	25	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa-	11	-1,1
-----CACUGGACUUGGAGUCAGAAGGCau	3	-1,1
-----CACUGGACUUGGAGUCAGAAGGCu-	7	-1,1
-----CACUGGACUUGGAGUCAGAAGGCuu	2	-1,1
-----ACUGGACUUGGAGUCAGA-----	149	0,-3
-----ACUGGACUUGGAGUCAGAA-----	285	0,-2
-----ACUGGACUUGGAGUCAGAAa----	21	0,-2
-----ACUGGACUUGGAGUCAGAAaa---	9	0,-2
-----ACUGGACUUGGAGUCAGAAG----	998	0,-1
-----ACUGGACUUGGAGUCAGAAGu----	67	0,-1
-----ACUGGACUUGGAGUCAGAAGG---	8703	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	1973	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	204	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	61	0,0

-----ACUGGACUUGGAGUCAGAAGGu--	472	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	89	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	19155	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	10336	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	728	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	3610	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	5527	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	1824	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	17	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	5	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	15	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	10	0,3
-----CUGGACUUGGAGUCAGAA-----	5	1,-2
-----CUGGACUUGGAGUCAGAAG----	11	1,-1
-----CUGGACUUGGAGUCAGAAGG---	165	1,0
-----CUGGACUUGGAGUCAGAAGGa--	13	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	18	1,0
-----CUGGACUUGGAGUCAGAAGGu--	7	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	5	1,0
-----CUGGACUUGGAGUCAGAAGGC--	1584	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	446	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	108	1,1
-----CUGGACUUGGAGUCAGAAGGCau	193	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	609	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	463	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	11	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	14	1,2
-----CUGGACUUGGAGUCAGAAGGCCaa	3	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	15	1,2
-----CUGGACUUGGAGUCAGAAGGCCU	4	1,3
-----CUGGACUUGGAGUCAGAAGGCCUu	9	1,3
-----CUGGACUUGGAGUCAGAAGGCCUuu	6	1,3
-----UGGACUUGGAGUCAGAAGG---	2	2,0
-----UGGACUUGGAGUCAGAAGGC--	32	2,1
-----UGGACUUGGAGUCAGAAGGCa-	5	2,1
-----UGGACUUGGAGUCAGAAGGCaa	3	2,1
-----UGGACUUGGAGUCAGAAGGCau	3	2,1
-----UGGACUUGGAGUCAGAAGGCu-	5	2,1


```

-----UGGUAGACUAUGGAACGUAG----- 27 0,-1
-----UGGUAGACUAUGGAACGUAGa----- 2 0,-1
-----UGGUAGACUAUGGAACGUAGG----- 110 0,0
-----UGGUAGACUAUGGAACGUAGGa----- 26 0,0
-----UGGUAGACUAUGGAACGUAGGaa----- 24 0,0
-----UGGUAGACUAUGGAACGUAGGu----- 8 0,0
-----UGGUAGACUAUGGAACGUAGGC----- 2 0,1
-----UGGUAGACUAUGGAACGUAGGCau----- 2 0,1
-----GGUAGACUAUGGAACGUAGG----- 2 1,0

```

>hsa-mir-380 mi:5-26;MA:40-61 SRX018959

```

aagaUGGUUGACCAUAGAACAUGCGCuaucucugugucgUAUGUAAUAUGGUCCACAUCUU
(((((((...(((((((...(((((((...(((((((...))))))))...))))))))...))))))
---AUGGUUGACCAUAGAACAUG----- 2 -1,-3

```

>hsa-mir-381 3p:49-70 SRX018959

```

uacuuaaagcgagguugcccuuuguauauucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua
(((((((...(((((((...(((((((...(((((((...))))))))...))))))))...))))))
-----UAUACAAGGGCAAGCUCUCU----- 2
0,-2
-----AUACAAGGGCAAGCUCUCU----- 2
1,-2

```

>hsa-mir-382 5p:11-32 SRX018959

```

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucauucacggacaacacuuuuuucagua
(((((((...(((((((...(((((((...(((((((...))))))))...))))))))...))))))
-----GAAGUUGUUCGUGGUGGAU-----
6 0,-3
-----GAAGUUGUUCGUGGUGGAU-----
14 0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
12 0,-1
-----GAAGUUGUUCGUGGUGGAUUCG-----
3 0,0
-----GAAGUUGUUCGUGGUGGAUUCGa-----
2 0,0
-----AAGUUGUUCGUGGUGGAU-----
5 1,-2

```

```

-----AGUUGUUCGUGGUGGAUUCGCU-----
2 2,2
-----AAUCAUUCACGGACAACA-----
2
-----AAUCAUUCACGGACAACAC-----
95
-----AAUCAUUCACGGACAACACU-----
155
-----AAUCAUUCACGGACAACACUU-----
14
-----AAUCAUUCACGGACAACACUUU-----
30

```

>hsa-mir-383 5p:7-28 SRX018959

```

cuccucAGAUCAAGAAGGUGAUUGUGGCUuuggguggauauuaucagccacagcacugccuggucagaaagag
(((.(((.(((((.(((.((((((((...(((.....))))))))))))))))).))))).)))))
-----CAGAUCAAGAAGGUGAUUGUG----- 2
-1,-3
-----CAGAUCAAGAAGGUGAUUGUGGCa----- 4
-1,-1
-----CAGAUCAAGAAGGUGAUUGUGGCU----- 2
-1,0
-----AGAUCAAGAAGGUGAUUGU----- 6
0,-4
-----AGAUCAAGAAGGUGAUUGUGG----- 8
0,-2
-----AGAUCAAGAAGGUGAUUGUGGC----- 9
0,-1
-----AGAUCAAGAAGGUGAUUGUGGCa----- 6
0,-1
-----AGAUCAAGAAGGUGAUUGUGGCaa----- 2
0,-1
-----AGAUCAAGAAGGUGAUUGUGGCau----- 10
0,-1
-----AGAUCAAGAAGGUGAUUGUGGCU----- 101
0,0
-----AGAUCAAGAAGGUGAUUGUGGCUaa----- 6
0,0

```

```

-----AGAUCAGAAGGUGAUUGUGGCUU----- 45
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUa----- 18
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUau----- 4
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUU----- 45
0,2
-----AGAUCAGAAGGUGAUUGUGGCUUUu----- 7
0,2

```

>hsa-mir-3909 3p:71-92 SRX018959

```

gguaugcuguugcgcuguccuuccucuggggagcaggcuccgggggacagggaaaagcacacaaggaacuUGUCCUCUAG
GGCCUGCAGUCUcaugggagagugacaugcaccaggacc
((((...(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))
-----GAGCAGGCUCCGGGGGACAGG-----
----- 4
-----UGUCCUCUAG
GGCCUGCAGUCUau----- 2 0,0
-----UGUCCUCUAG
GGCCUGCAGUCUuu----- 2 0,0

```

>hsa-mir-3910-1 3p:63-82 SRX018959

```

cuuuugcugucaguuuuucuguugcuugucuugguuuuangccuuuuauaucaaggcacauaAAAGGCAUAAAACCAAGA
CAagcaacaaaaaaaggauugaucacagaag
(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))
-----AAAAGGCAUAAAACCAAGA
CA----- 2 -1,0

```

>hsa-mir-3910-2 3p:50-69 SRX018959

```

uuuuuuuuguugcuugucuugguuuuangccuuuuangugccuugauauaAAAGGCAUAAAACCAAGACAagcaacagaaa
aa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))
).
-----AAAAGGCAUAAAACCAAGACA-----
-- 2 -1,0

```


agagaggaaugaacaguuaauuaaacauguccauuuuagggguaguugggacacauacUAACGCAUAAUAUGGACA
UGUuauaauuuuacuguccuuucu

-----CAUAUUAUGGGUUAGUUGU-----

-----UAACGCAUAAUAUGGACA

uaaaugaaaaaguaguagucaaaauaucgagaucuauaucuauuuacagAUAUGUAUAUGUGACUGCUACUuuuuuguuu
a

-----AUAUGUAUAUGUGACUGCUAC-----

gcugaagcucuaagguuccgccugcgggcaggaagcGGAGGAACCUUGGAGCUUCGGC

-----GGAGGAACCUUGGAGCUUCGG- 3 0, -1

-----GGAGGAACCUUGGAGCUUCGga 3 0, -1

-----GGAGGAACCUUGGAGCUUCGGu 5 0, -1

-----GGAGGAACCUUGGAGCUUCGGC 11 0.0

-----GGAGGAACCUUGGAGCUUCGGCa 16 0.0

-----GGAGGAACCUUGGAGCUUCGGC_{au} 2 0.0

-----GGAGGAACCUUGGAGCUUCGGC_u 6 0.0

-----AGGAACCUUGGAGCUUCGGC 5 2,0

augauucagagcaucuguccagugucugcuguagaucuccucaaauccguguuuggacgcuucuggUAAGGGGUGUAUGGC
AGAUGCAcccgcagauhcacuuuggcagca

-----UAAGGGGUGUAUGGC

AGAUGC----- 2 0,-1

-----UAAGGGGUGUAUGGC
AGAUGCA----- 2 0,0

>hsa-mir-3942 5p:23-44 SRX018959

$$\dots(((((((.((((.(.(((((((.((((.(.....)))))))).))))).)))))))).).$$

>hsa-mi r-409 5p:15-37;3p:47-68 SRX018959

-----AGGUUACCCGAGCAACUU-----

-----AGGUUACCCGAGCAACUUU-----

-----AGGUUACCCGAGCAACUUUG-----

-----AGGUUACCCGAGCAACUUUGC-----

-----AGGUUACCCGAGCAACUUUGCA-----

-----AGGUUACCCGAGCAACUUUGCAa-----

-----AGGUUACCCGAGCAACUUUGCAU-----

-----AGGUUACCCGAGCAACUUUGCAUa-----

-----AGGUUACCCGAGCAACUUUGCAUC-----

-----GGUUACCCGAGCAACUUUGCA-----

-----CGA AUGUUGCUCGGUGAA-----

```

-----CGAAUGUUGCUCGGUGAAC-----
6   -1,-4
-----CGAAUGUUGCUCGGUGAACC-----
3   -1,-3
-----CGAAUGUUGCUCGGUGAACCC-----
2   -1,-2
-----CGAAUGUUGCUCGGUGAACCCC-----
2   -1,-1
-----CGAAUGUUGCUCGGUGAACCCCU-----
7   -1,0
-----CGAAUGUUGCUCGGUGAACCCCUU-----
3   -1,1
-----CGAAUGUUGCUCGGUGAACCCCUUa-----
2   -1,1
-----GAAUGUUGCUCGGUGAAC-----
6   0,-4
-----GAAUGUUGCUCGGUGAACC-----
4   0,-3
-----GAAUGUUGCUCGGUGAACCC-----
2   0,-2
-----GAAUGUUGCUCGGUGAACCCC-----
6   0,-1
-----GAAUGUUGCUCGGUGAACCCCU-----
19  0,0
-----GAAUGUUGCUCGGUGAACCCCUa-----
4   0,0
-----GAAUGUUGCUCGGUGAACCCCUU-----
5   0,1
-----GAAUGUUGCUCGGUGAACCCCUUU-----
3   0,2

```

>hsa-mir-410 3p:50-70 SRX018959

```

gguaccugagaagagguugucugugaugaguucgcuuuuauuaaugacgAAUAUAACACAGAUGGCCUGUuuucaguacc
(((((((((.((((((.((((((.((((((.((((((.....).))))).)).))))).)).))))).)))))))))
-----AAUAUAACACAGAUGGCCU-----
6   0,-2
-----AAUAUAACACAGAUGGCCUGU-----
2   0,0

```

>hsa-mir-411 MA:16-36;mi:51-72 SRX018959

ugguacuuggagagaUAGUAGACCGUAUAGCGUACGcuuuaucugugacgUAUGUAACACGGUCCACUAACCcucaguau
caaauccaucccgag

((((((((.....)))))).)))))))))

-----AUAGUAGACCGUAUAGCG-----
-----6 -1,-4-----
-----AUAGUAGACCGUAUAGCGU-----
-----188 -1,-3-----
-----AUAGUAGACCGUAUAGCGUA-----
-----88 -1,-2-----
-----AUAGUAGACCGUAUAGCGUAa-----
-----15 -1,-2-----
-----AUAGUAGACCGUAUAGCGUAaa-----
-----3 -1,-2-----
-----AUAGUAGACCGUAUAGCGUAu-----
-----2 -1,-2-----
-----AUAGUAGACCGUAUAGCGUAC-----
-----262 -1,-1-----
-----AUAGUAGACCGUAUAGCGUACa-----
-----3 -1,-1-----
-----AUAGUAGACCGUAUAGCGUACaa-----
-----2 -1,-1-----
-----AUAGUAGACCGUAUAGCGUACG-----
-----32 -1,0-----
-----AUAGUAGACCGUAUAGCGUACGaa-----
-----2 -1,0-----
-----UAGUAGACCGUAUAGCGU-----
-----149 0,-3-----
-----UAGUAGACCGUAUAGCGUA-----
-----110 0,-2-----
-----UAGUAGACCGUAUAGCGUAa-----
-----7 0,-2-----
-----UAGUAGACCGUAUAGCGUAC-----
-----274 0,-1-----
-----UAGUAGACCGUAUAGCGUACa-----
-----2 0,-1-----

-----AUCAACAGACAUUAAUUGGGCGCau-----
 -----2 0,0-----
 -----UCAACAGACAUUAAUUGGGCGC-----
 -----3 1,0-----

...(((((((.((((((((((((((..(((.((((.((((.....)))))))))).))...)))))))))))))).))
))))).....

----- 2 -1,-1

----- 2 -1,0

$$----- \quad 2 \quad -1,1$$

----- 11 0,-5

----- 42 0,-4

----- 8 0,-4

----- 13 0,-4

----- 2 0, -4

----- 50 0,-3

----- 5 0, -3

----- 81 0,-2

----- 3 0, -2

----- 7 0,-2

----- 5 0, -2

```

-----UGAGGGGCAGAGAGCGAGACUU-----
----- 141 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 54 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 8 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 17 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 1383 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 34 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 5 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 13 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 308 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUa-----
----- 4 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 25 0,1
-----GAGGGGCAGAGAGCGAGACU-----
----- 2 1,-2
-----GAGGGGCAGAGAGCGAGACUaa-----
----- 2 1,-2
-----GAGGGGCAGAGAGCGAGACUU-----
----- 4 1,-1
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 54 1,0
-----GAGGGGCAGAGAGCGAGACUUUU-----
----- 6 1,1
-----AGGGGCAGAGAGCGAGACU-----
----- 2 2,-2
-----AGGGGCAGAGAGCGAGACUUU-----
----- 10 2,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 42 2,1

```

-----			-----AAGCUCGGUCUGAGGCCCC-----
-----	3	-1,-5	
-----			-----AAGCUCGGUCUGAGGCCCCUaa-----
-----	4	-1,-4	
-----			-----AAGCUCGGUCUGAGGCCCCUu-----
-----	2	-1,-4	
-----			-----AAGCUCGGUCUGAGGCCCCUuu-----
-----	4	-1,-4	
-----			-----AAGCUCGGUCUGAGGCCCCUC-----
-----	2	-1,-3	
-----			-----AAGCUCGGUCUGAGGCCCCUCu-----
-----	2	-1,-3	
-----			-----AAGCUCGGUCUGAGGCCCCUCA-----
-----	9	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAa-----
-----	7	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAu-----
-----	3	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAG-----
-----	13	-1,-1	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGU-----
-----	45	-1,0	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGUa-----
-----	3	-1,0	
-----			-----AGCUCGGUCUGAGGCCCC-----
-----	6	0,-5	
-----			-----AGCUCGGUCUGAGGCCCCU-----
-----	2	0,-4	
-----			-----AGCUCGGUCUGAGGCCCCUaa-----
-----	2	0,-4	
-----			-----AGCUCGGUCUGAGGCCCCUC-----
-----	5	0,-3	
-----			-----AGCUCGGUCUGAGGCCCCUCu-----
-----	3	0,-3	
-----			-----AGCUCGGUCUGAGGCCCCUCA-----
-----	15	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAa-----
-----	4	0,-2	


```

-----CAGCAGCAAUCAUGUUU-----
-----      17  0,-4
-----CAGCAGCAAUCAUGUUUa-----
-----      3   0,-4
-----CAGCAGCAAUCAUGUUUaa-----
-----      2   0,-4
-----CAGCAGCAAUCAUGUUUU-----
-----     138  0,-3
-----CAGCAGCAAUCAUGUUUUa-----
-----      5   0,-3
-----CAGCAGCAAUCAUGUUUUaa-----
-----      2   0,-3
-----CAGCAGCAAUCAUGUUUUUG-----
-----     518  0,-2
-----CAGCAGCAAUCAUGUUUUUGuu-----
-----      2   0,-2
-----CAGCAGCAAUCAUGUUUUUGA-----
-----    1720   0,-1
-----CAGCAGCAAUCAUGUUUUUGAu-----
-----      4   0,-1
-----CAGCAGCAAUCAUGUUUUUGAA-----
-----     519  0,0
-----CAGCAGCAAUCAUGUUUUUGAAa-----
-----      82  0,0
-----CAGCAGCAAUCAUGUUUUUGAAaa-----
-----      8   0,0
-----CAGCAGCAAUCAUGUUUUUGAAu-----
-----      5   0,0
-----CAGCAGCAAUCAUGUUUUUGAAG-----
-----      2   0,1
-----AGCAGCAAUCAUGUUUU-----
-----      4   1,-3
-----AGCAGCAAUCAUGUUUUUG-----
-----      6   1,-2
-----AGCAGCAAUCAUGUUUUUGA-----
-----     28   1,-1
-----AGCAGCAAUCAUGUUUUUGAA-----
-----     17   1,0

```

```

-----CAAAACGUGAGGCGCUGCUu-----
----- 3 0,-2
-----CAAAACGUGAGGCGCUGCUA-----
----- 14 0,-1
-----CAAAACGUGAGGCGCUGCUAa-----
----- 11 0,-1
-----CAAAACGUGAGGCGCUGCUAaa-----
----- 2 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 347 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 13 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 159 0,1
-----CAAAACGUGAGGCGCUGCUAUa-----
----- 57 0,1
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 24 0,1
-----AAAACGUGAGGCGCUGCUAU-----
----- 12 1,0
-----AAAACGUGAGGCGCUGCUAUA-----
----- 11 1,1
-----AAAACGUGAGGCGCUGCUAUa-----
----- 3 1,1
-----AAAACGUGAGGCGCUGCUAUu-----
----- 12 1,1
-----AAACGUGAGGCGCUGCUAUu-----
----- 4 2,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018959

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAAUGUCGUGUCCGCCCagug
cucuuc

(((((.(.(((...(((((((.(.((((((.(.((((....))....))))).))))).))))).))))).))

```

-----AAUGACACGAUCACUCCC-----
----- 7 0,-5
-----AAUGACACGAUCACUCCCG-----
----- 2 0,-4

```

```

-----AAUGACACGAUCACUCCCGU-----
----- 2 0,-3
-----AAUGACACGAUCACUCCCGUU-----
----- 6 0,-2
-----AAUGACACGAUCACUCCCGUUG-----
----- 15 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 39 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 10 0,1
-----AAUGACACGAUCACUCCCGUUGAGa-----
----- 2 0,1
-----AAUGACACGAUCACUCCCGUUGAGU-----
----- 6 0,2
-----AUGACACGAUCACUCCCGUUGA-----
----- 19 1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 4 1,1
-----AUGACACGAUCACUCCCGUUGAGU-----
----- 3 1,2
-----CAUCGGGAAUGUCGUGUCC-----
----- 2 -1,-4
-----CAUCGGGAAUGUCGUGUCCGu-----
----- 3 -1,-3
-----CAUCGGGAAUGUCGUGUCCGCu-----
----- 3 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 13 -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCa-----
----- 3 -1,-1
-----AUCGGGAAUGUCGUGUCC-----
----- 2 0,-4
-----AUCGGGAAUGUCGUGUCCGC-----
----- 2 0,-2
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 9 0,-1

```



```

-----UCUUGGAGUAGGUCAUUGGa-----
----- 2 0,-4
-----UCUUGGAGUAGGUCAUUGGaa-----
----- 3 0,-4
-----UCUUGGAGUAGGUCAUUGGu-----
----- 2 0,-4
-----UCUUGGAGUAGGUCAUUGGG-----
----- 128 0,-3
-----UCUUGGAGUAGGUCAUUGGGa-----
----- 7 0,-3
-----UCUUGGAGUAGGUCAUUGGGaa-----
----- 9 0,-3
-----UCUUGGAGUAGGUCAUUGGGU-----
----- 39 0,-2
-----UCUUGGAGUAGGUCAUUGGGUa-----
----- 13 0,-2
-----UCUUGGAGUAGGUCAUUGGGUaa-----
----- 20 0,-2
-----UCUUGGAGUAGGUCAUUGGGUau-----
----- 25 0,-2
-----UCUUGGAGUAGGUCAUUGGGUu-----
----- 5 0,-2
-----UCUUGGAGUAGGUCAUUGGGUG-----
----- 58 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGa-----
----- 23 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGau-----
----- 9 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 8 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGuu-----
----- 2 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 7 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGu-----
----- 3 0,0

```

>hsa-mir-4326 5p:11-30 SRX018959

```
gcugcucugcUGUUCCUCUGUCUCCCAGACucugggguggauggagcaggucggggggcca
(((.(...(((((((...(((((((...))))).)))))))))...))..
-----UGUUCCUCUGUCUCCCAGAC----- 2    0,0
-----UGUUCCUCUGUCUCCCAGACUCU----- 2    0,3
```

>hsa-mir-433 3p:64-85 SRX018959

```
ccggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg
((..(((((((...(((((((...(((((((...))))).)))))))))...))))))...))
).)))))...))
-----GAUCAUGAUGGGCUCCUC
GGUGU----- 2    -1,0
-----AUCAUGAUGGGCUCCUC
GG----- 5    0,-3
-----AUCAUGAUGGGCUCCUC
GGU----- 3    0,-2
-----AUCAUGAUGGGCUCCUC
GGUG----- 2    0,-1
-----AUCAUGAUGGGCUCCUC
GGUGU----- 42   0,0
-----AUCAUGAUGGGCUCCUC
GGUGUa----- 3    0,0
-----AUCAUGAUGGGCUCCUC
GGUGUau----- 2    0,0
-----AUCAUGAUGGGCUCCUC
GGUGUUa----- 3    0,1
-----AUCAUGAUGGGCUCCUC
GGUGUUu----- 7    0,1
-----UCAUGAUGGGCUCCUC
GGUG----- 3    1,-1
-----UCAUGAUGGGCUCCUC
GGUGU----- 3    1,0
```

>hsa-mir-450a-1 5p:18-39 SRX018959

```
aaacgauacuaaaacuguUUUUGCGAUGUGUCCUAAUAUgcacuaauaaauauauugggaacauuuugcauguauaguuuu
guaucaauaua
....(((((((...(((((((...(((((((...))))).)))))))))...))))))...))
))))).....
```



```
gcagaauuauUUUUGCAAUAUGUUCCUGAAUAuguaauuaaguguaUUGGGAUCAUUUGCAUCCAUAguuuuuguau
(((((((((((...(((((((...(((((((...(((((((...))))))))))))))))))))))))))..
-----UUUUGCAAUAUGUUCCUG-----
6 0,-4
-----UUUUGCAAUAUGUUCCUGA-----
6 0,-3
-----UUUUGCAAUAUGUUCCUGAA-----
6 0,-2
-----UUUUGCAAUAUGUUCCUGAAU-----
7 0,-1
-----UUUUGCAAUAUGUUCCUGAAUA-----
4 0,0
-----UUUUGCAAUAUGUUCCUGAAUAa-----
15 0,0
```

>hsa-mir-451 5p:17-38 SRX018959

```
cuugggaugggcaaggAAACCGUUACCAUACUGAGUUuaguaaugguaauggguucucuugcuauaccaga
.(((((((...(((((((...(((((((...(((((((...))))))))))))))))))))))))..
-----AAACCGUUACCAUACUG----- 11
0,-4
-----AAACCGUUACCAUACUGAG----- 49
0,-2
-----AAACCGUUACCAUACUGAGau----- 2
0,-2
-----AAACCGUUACCAUACUGAGU----- 52
0,-1
-----AAACCGUUACCAUACUGAGUU----- 476
0,0
-----AAACCGUUACCAUACUGAGUUa----- 2
0,0
-----AAACCGUUACCAUACUGAGUUU----- 163
0,1
-----AAACCGUUACCAUACUGAGUUUA----- 43
0,2
-----AAACCGUUACCAUACUGAGUUUAG----- 11
0,3
```

>hsa-mir-452 MA:14-35;mi:58-79 SRX018959

$$((.((((((((((\dots(.(((((((((.((((((((((\dots\dots\dots)))))))))\cdot))\cdot))))))\cdot))\cdot))))))\cdot))\cdot))$$

>hsa-mir-454 mi:24-45;MA:64-86 SRX018959
ucuguuuauccagauccuagaACCCUAUCAUAUUGUCUCUGCuguguaaauguucugagUAGUGCAAUAUUGCUIA
UAGGGUuuugguguuuggaaagaacaaugggcagg

>hsa-mi r-455 5p:16-37;3p:54-74 SRX018959
ucccuggcgugagggUAUGUGCCUUGGACUACAUCGuggaagccagcaccuGCAGUCCAUGGGCAUAUACACuugccu
caaggccuaugucauc

.....(((.(((((((((((((((.((((((.(((.(.....)))..)))))).)))))....)))
))..))).....
 -----GUAUGUGCCUUGGACUA-----
 ----- 3 -1,-5
 -----GUAUGUGCCUUGGACUAC-----
 ----- 2 -1,-4

```

-----GUAUGUGCCUUUGGACUACA-----
-----7 -1,-3-----
-----GUAUGUGCCUUUGGACUACAU-----
-----102 -1,-2-----
-----GUAUGUGCCUUUGGACUACAUa-----
-----45 -1,-2-----
-----GUAUGUGCCUUUGGACUACAUaa-----
-----3 -1,-2-----
-----GUAUGUGCCUUUGGACUACAUu-----
-----15 -1,-2-----
-----GUAUGUGCCUUUGGACUACAUC-----
-----12 -1,-1-----
-----GUAUGUGCCUUUGGACUACAUCG-----
-----12 -1,0-----
-----GUAUGUGCCUUUGGACUACAUCGU-----
-----37 -1,1-----
-----GUAUGUGCCUUUGGACUACAUCGUG-----
-----2 -1,2-----
-----UAUGUGCCUUUGGACUACA-----
-----16 0,-3-----
-----UAUGUGCCUUUGGACUACAU-----
-----22 0,-2-----
-----UAUGUGCCUUUGGACUACAUa-----
-----140 0,-2-----
-----UAUGUGCCUUUGGACUACAUC-----
-----75 0,-1-----
-----UAUGUGCCUUUGGACUACAUCa-----
-----2 0,-1-----
-----UAUGUGCCUUUGGACUACAUCG-----
-----138 0,0-----
-----UAUGUGCCUUUGGACUACAUCGa-----
-----13 0,0-----
-----UAUGUGCCUUUGGACUACAUCGU-----
-----83 0,1-----
-----UAUGUGCCUUUGGACUACAUCGUu-----
-----3 0,1-----
-----UAUGUGCCUUUGGACUACAUCGUG-----
-----2 0,2-----

```

-----UAUGUGCCUUUGGACUACAUCGUGu-----	
-----3 0,2-----	
-----AUGUGCCUUUGGACUACAUCG-----	
-----4 1,0-----	
-----AUGUGCCUUUGGACUACAUCGU-----	
-----4 1,1-----	
-----UGUGCCUUUGGACUACAUCGU-----	
-----3 2,1-----	
-----UGUGCCUUUGGACUACAUCGUG-----	
-----8 2,2-----	
-----UGUGCCUUUGGACUACAUCGUGa-----	
-----7 2,2-----	
-----UGUGCCUUUGGACUACAUCGUGu-----	
-----9 2,2-----	
-----AUGCAGUCCAUGGGCAUAU-----	
-----2 -2,-4-----	
-----AUGCAGUCCAUGGGCAUAUuu-----	
-----2 -2,-4-----	
-----AUGCAGUCCAUGGGCAUAUA-----	
-----25 -2,-3-----	
-----AUGCAGUCCAUGGGCAUAUAa-----	
-----12 -2,-3-----	
-----AUGCAGUCCAUGGGCAUAUAu-----	
-----9 -2,-3-----	
-----AUGCAGUCCAUGGGCAUAUAC-----	
-----32 -2,-2-----	
-----AUGCAGUCCAUGGGCAUAUACu-----	
-----2 -2,-2-----	
-----AUGCAGUCCAUGGGCAUAUACA-----	
-----51 -2,-1-----	
-----AUGCAGUCCAUGGGCAUAUACAa-----	
-----4 -2,-1-----	
-----AUGCAGUCCAUGGGCAUAUACAC-----	
-----32 -2,0-----	
-----AUGCAGUCCAUGGGCAUAUACACa-----	
-----2 -2,0-----	
-----AUGCAGUCCAUGGGCAUAUACACU-----	
-----7 -2,1-----	

-----			-----UGCAGUCCAUGGGCAUAUA-----
-----	3	-1,-3	-----UGCAGUCCAUGGGCAUAUAC-----
-----	2	-1,-2	-----UGCAGUCCAUGGGCAUAUACA-----
-----	16	-1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	7	-1,0	-----UGCAGUCCAUGGGCAUAUACACa-----
-----	2	-1,0	-----GCAGUCCAUGGGCAUAUA-----
-----	65	0,-3	-----GCAGUCCAUGGGCAUAUAa-----
-----	3	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	14	0,-2	-----GCAGUCCAUGGGCAUAUACu-----
-----	4	0,-2	-----GCAGUCCAUGGGCAUAUACA-----
-----	263	0,-1	-----GCAGUCCAUGGGCAUAUACa-----
-----	16	0,-1	-----GCAGUCCAUGGGCAUAUACAu-----
-----	4	0,-1	-----GCAGUCCAUGGGCAUAUACAu-----
-----	6	0,-1	-----GCAGUCCAUGGGCAUAUACAC-----
-----	525	0,0	-----GCAGUCCAUGGGCAUAUACACa-----
-----	60	0,0	-----GCAGUCCAUGGGCAUAUACACaa-----
-----	2	0,0	-----GCAGUCCAUGGGCAUAUACACU-----
-----	451	0,1	-----GCAGUCCAUGGGCAUAUACACUa-----
-----	8	0,1	-----GCAGUCCAUGGGCAUAUACACUU-----
-----	14	0,2	

Sequence	Count	Frequency
GCAGUCCAUGGGCAUAUACACUa	4	0,2
CAGUCCAUGGGCAUAUACA	9	1,-1
CAGUCCAUGGGCAUAUACAa	2	1,-1
CAGUCCAUGGGCAUAUACAC	76	1,0
CAGUCCAUGGGCAUAUACACa	4	1,0
CAGUCCAUGGGCAUAUACACU	94	1,1
CAGUCCAUGGGCAUAUACACUa	4	1,1
CAGUCCAUGGGCAUAUACACUaa	2	1,1
CAGUCCAUGGGCAUAUACACUU	56	1,2
CAGUCCAUGGGCAUAUACACUUa	21	1,2
CAGUCCAUGGGCAUAUACACUUu	30	1,2
CAGUCCAUGGGCAUAUACACUUuu	2	1,2

>hsa-mi r-483 5p:8-29;3p:48-68 SRX018959

gaggggggAAGACGGGAGGAAAGAAGGGAGugguuccaucacgccuccUCACUCCUCUCCUCCCGUCUUcuccucuc
(((((((((((((((((((.(.(.(.(.(.....)))..)).).)).)))))))).))))).))))))
-----AAGACGGGAGGAAAGAAG-----
204 0, -4
-----AAGACGGGAGGAAAGAAGa-----
7 0, -4
-----AAGACGGGAGGAAAGAAGaa-----
2 0, -4
-----AAGACGGGAGGAAAGAAGG-----
374 0, -3
-----AAGACGGGAGGAAAGAAGGa-----
31 0, -3

-----AAGACGGGAGGAAAGAAGGaa-----
24 0, -3

-----AAGACGGGAGGAAAGAAGGu-----
12 0, -3

-----AAGACGGGAGGAAAGAAGGG-----
943 0, -2

-----AAGACGGGAGGAAAGAAGGGu-----
15 0, -2

-----AAGACGGGAGGAAAGAAGGGuu-----
8 0, -2

-----AAGACGGGAGGAAAGAAGGGA-----
2238 0, -1

-----AAGACGGGAGGAAAGAAGGGa-----
817 0, -1

-----AAGACGGGAGGAAAGAAGGGa-----
439 0, -1

-----AAGACGGGAGGAAAGAAGGGau-----
109 0, -1

-----AAGACGGGAGGAAAGAAGGGau-----
188 0, -1

-----AAGACGGGAGGAAAGAAGGGau-----
65 0, -1

-----AAGACGGGAGGAAAGAAGGGAG-----
4462 0, 0

-----AAGACGGGAGGAAAGAAGGGAG-----
1039 0, 0

-----AAGACGGGAGGAAAGAAGGGAG-----
85 0, 0

-----AAGACGGGAGGAAAGAAGGGAG-----
59 0, 0

-----AAGACGGGAGGAAAGAAGGGAGU-----
645 0, 1

-----AAGACGGGAGGAAAGAAGGGAGU-----
16 0, 1

-----AAGACGGGAGGAAAGAAGGGAGU-----
9 0, 1

-----AAGACGGGAGGAAAGAAGGGAGU-----
35 0, 1

-----AAGACGGGAGGAAAGAAGGGAGUu-----
100 0,1

-----AAGACGGGAGGAAAGAAGGGAGUuu-----
42 0,1

-----AAGACGGGAGGAAAGAAGGGAGUG-----
2 0,2

-----AAGACGGGAGGAAAGAAGGGAGUGG-----
13 0,3

-----AGACGGGAGGAAAGAAGG-----
26 1,-3

-----AGACGGGAGGAAAGAAGGG-----
62 1,-2

-----AGACGGGAGGAAAGAAGGGu-----
2 1,-2

-----AGACGGGAGGAAAGAAGGGA-----
87 1,-1

-----AGACGGGAGGAAAGAAGGGa-----
6 1,-1

-----AGACGGGAGGAAAGAAGGGAu-----
5 1,-1

-----AGACGGGAGGAAAGAAGGGAG-----
181 1,0

-----AGACGGGAGGAAAGAAGGGAGU-----
142 1,1

-----AGACGGGAGGAAAGAAGGGAGUa-----
2 1,1

-----AGACGGGAGGAAAGAAGGGAGUau-----
2 1,1

-----AGACGGGAGGAAAGAAGGGAGUu-----
3 1,1

-----AGACGGGAGGAAAGAAGGGAGUuu-----
3 1,1

-----AGACGGGAGGAAAGAAGGGAGUG-----
42 1,2

-----AGACGGGAGGAAAGAAGGGAGUGa-----
2 1,2

-----AGACGGGAGGAAAGAAGGGAGUGG-----
150 1,3


```

-----AGACGGGAGGAAAGAAGGGAGUGGU-----
3   1,4
-----GACGGGAGGAAAGAAGGGA-----
2   2,-1
-----GACGGGAGGAAAGAAGGGAGaa-----
4   2,0
-----UCACUCCUCUCCUCCCGUCU-----
2   0,-1
-----UCACUCCUCUCCUCCCGUCUU-----
14  0,0
-----UCACUCCUCUCCUCCCGUCUUa-----
2   0,0
-----UCACUCCUCUCCUCCCGUCUUaa-----
5   0,0
-----UCACUCCUCUCCUCCCGUCUUau-----
2   0,0
-----UCACUCCUCUCCUCCCGUCUUu-----
12  0,0
-----UCACUCCUCUCCUCCCGUCUUC-----
14  0,1
-----UCACUCCUCUCCUCCCGUCUUCU-----
2   0,2
-----CACUCCUCUCCUCCCGUCUU-----
4   1,0
-----CACUCCUCUCCUCCCGUCUUa-----
2   1,0
-----CACUCCUCUCCUCCCGUCUUC-----
4   1,1
-----CACUCCUCUCCUCCCGUCUUCU-----
6   1,2

```

>hsa-mir-484 5p:8-29 SRX018959

```

agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaauagggacuucccggggggugaccuggcuuuuuuggcg
.((((..((((((.....(((.(((((((..(((.((((.....))))..)))))).)))))).))))).))))).
-----UCAGGCUCAGUCCCCUCCC-----
5   0,-3
-----UCAGGCUCAGUCCCCUCCCGA-----
12  0,-1

```

```

-----UCAGGCUCAGUCCCCUCCCGAa-----
9  0, -1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
12 0, -1
-----UCAGGCUCAGUCCCCUCCCGAU-----
57 0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
12 0,0
-----UCAGGCUCAGUCCCCUCCCGAUuu-----
6  0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
13 0,1
-----UCAGGCUCAGUCCCCUCCCGAUAu-----
5  0,1
-----UCAGGCUCAGUCCCCUCCCGAUAA-----
8  0,2
-----AGGCUCAGUCCCCUCCCGAU-----
6  2,0

```

>hsa-mi r-485 5p:9-30;3p:46-67 SRX018959

```

acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((...(((((((...(((((((((((...((((((((((((((((((((((((((((((((((((((((((((
-----AGAGGCUGGCCGUGAUGAA----- 2
0, -3
-----AGAGGCUGGCCGUGAUGAAau----- 3
0, -3
-----AGAGGCUGGCCGUGAUGAAU----- 5
0, -2
-----AGAGGCUGGCCGUGAUGAAUa----- 14
0, -2
-----AGAGGCUGGCCGUGAUGAAUU----- 100
0, -1
-----AGAGGCUGGCCGUGAUGAAUUa----- 2
0, -1
-----AGAGGCUGGCCGUGAUGAAUUu----- 11
0, -1
-----AGAGGCUGGCCGUGAUGAAUUC----- 41
0,0

```

0,0	AGAGGCUGGCCGUGAUGAAUUCa	3
0,0	AGAGGCUGGCCGUGAUGAAUUCu	8
0,1	AGAGGCUGGCCGUGAUGAAUUCG	58
0,1	AGAGGCUGGCCGUGAUGAAUUCGu	4
0,2	AGAGGCUGGCCGUGAUGAAUUCGA	3
-1,-2	AGUCAUACACGGCUCUCCUCU	4
-1,-1	AGUCAUACACGGCUCUCCUCUC	2
-1,0	AGUCAUACACGGCUCUCCUCUCU	3
0,-4	GUCAUACACGGCUCUCCU	3
0,-3	GUCAUACACGGCUCUCCUC	8
0,-2	GUCAUACACGGCUCUCCUCU	3
0,-1	GUCAUACACGGCUCUCCUCUC	18
0,-1	GUCAUACACGGCUCUCCUCUCa	14
0,0	GUCAUACACGGCUCUCCUCUCU	78
0,0	GUCAUACACGGCUCUCCUCUCUa	2
0,0	GUCAUACACGGCUCUCCUCUCUau	3

---UCCUGUACUGAGCUGCCCCG-----	3	0,-2
---UCCUGUACUGAGCUGCCCCGA-----	46	0,-1
---UCCUGUACUGAGCUGCCCCGAa-----	5	0,-1
---UCCUGUACUGAGCUGCCCCGAaa-----	2	0,-1
---UCCUGUACUGAGCUGCCCCGAG-----	108	0,0
---UCCUGUACUGAGCUGCCCCGAGa-----	41	0,0
---UCCUGUACUGAGCUGCCCCGAGaa-----	3	0,0
---UCCUGUACUGAGCUGCCCCGAGau-----	2	0,0
---UCCUGUACUGAGCUGCCCCGAGu-----	9	0,0
-----CGGGGCAGCUCAGUACAGGAU--	5	0,0

>hsa-mir-487a 3p:49-70 SRX018959

gguacuugaagagugguuaucccugcuguguucgcuaauuuuagacgAAUCAUACAGGGACAUCAGUUuuucaguauc
 ((((((.((((.((((...((((((.(((((((.((((...)))))))).)))))).)))))).))))))
 -----GUGGUUAUCCCUGCUGUGUUC-----
 3

>hsa-mir-487b 3p:51-72 SRX018959

uugguacuuggagagugguuaucccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
 ucaa
 .(((((((..(((((((.....(((((((.(.(((((((.....)))))))).)))))).)))))).))))
)))
 -----AAUCGUACAGGGUCAUCCAC-----
 ---- 2 0,-2
 -----AAUCGUACAGGGUCAUCCACU-----
 ---- 66 0,-1
 -----AAUCGUACAGGGUCAUCCACUa-----
 ---- 2 0,-1
 -----AAUCGUACAGGGUCAUCCACUU-----
 ---- 24 0,0
 -----AAUCGUACAGGGUCAUCCACUUU-----
 ---- 3 0,1
 -----UCGUACAGGGUCAUCCACUU-----
 ---- 2 2,0
 -----UCGUACAGGGUCAUCCACUUU-----
 ---- 2 2,1

>hsa-mir-488 mi:14-34;MA:52-72 SRX018959

$$\begin{aligned} &(((((((\dots)))))))). \\ &))) \end{aligned}$$

--- 3 0,0

UGGAGGACUCCAUGC----- 4 0,-2

UGGAGGACUCCAUGCU----- 3 0,-1

UGGAGGACUCCAUGCU_u----- 2 0,-1

UGGAGGACUCCAUGCUG----- 11 0,0

UGGAGGACUCCAUGCUGa----- 8 0,0

UGGAGGACUCCAUGCUGU----- 71 0,1

UGGAGGACUCCAUGCUGU_a----- 2 0,1

UGGAGGACUCCAUGCUGUU----- 4 0,2

(..(((((((..(((((.((((((..(((.(((((((((((.....)))))))))..))).)).))))).))))).))))).

)..))

--- 3 0,0

--- 7 0,1

```

>hsa-mir-493    mi:16-37;MA:57-78    SRX018959
cuggccuccagggcuUUGUACAUGGUAGGCUUUCAUucauucguuugcacauucggUGAAGGUCUACUGUGUGCCAGGcc
cugugccag
(((((((.....((.....)).....))))))))))))))))))))))))))))))
)))..))))))
-----UUGUACAUGGUAGGCUUUCAU-----
----- 2    0,-1
-----UUGUACAUGGUAGGCUUUCAUa-----
----- 2    0,-1
-----UUGUACAUGGUAGGCUUUCAUaa-----
----- 2    0,-1
-----UUGUACAUGGUAGGCUUUCAUU-----
----- 21   0,0
-----UUGUACAUGGUAGGCUUUCAUu-----
----- 2    0,0
-----UGUACAUGGUAGGCUUUCAUU-----
----- 3    1,0
-----UGAAGGUCUACUGUGUGCCA-----
----- 2    0,-2
-----UGAAGGUCUACUGUGUGCCAu-----
----- 2    0,-2
-----UGAAGGUCUACUGUGUGCCAG-----
----- 6    0,-1

```

```

>hsa-mir-494    3p:48-69    SRX018959
gauacucgaaggagagguuguccguguugucucucuuuauuuauugaUGAAACAUACACGGGAAACCUCuuuuuuaguau
c
(((((((.....((.....)).....))))))))))))))))))))))))))))))
)
-----UGAAACAUACACGGGAAAC-----
- 2    0,-3
-----UGAAACAUACACGGGAAACCU-----
- 9    0,-1
-----UGAAACAUACACGGGAAACCUC-----
- 16   0,0
-----UGAAACAUACACGGGAAACCUCU-----
- 53   0,1

```


$$((.(..(((((((.((((((((((((((((.((((.(((((((((((.((((((\dots)))..)).)))))))).)).)).)))).\dots).)))))))).)).)).))$$

```
>hsa-mir-499      5p:33-53;3p:70-91    SRX018959  
gccuguccccugugccuuggggcgggcggcugUUAAGACUUGCAGUGAUGUUaacuccucuccacgugAACAUACAGC  
AAGUCUGUGCUgcuucccgucccuacgcugccuggggcaggggu  
((((((((((.....(((.....(((((((.....((((((((((.....)))))))).)))  
))))).)).)).)).)).)).)).)).)).))))))
```



```
-----AUGCACCUGGGCAAGGAUUCU-----
---- 15 0,-1
-----AUGCACCUGGGCAAGGAUUCUGA-----
---- 19 0,1
```

>hsa-mir-500b 5p:11-28 SRX018959

```
ccccucucuAAUCCUUGCUACCUUGGUgagagugcuucugaaugcagugcaccaggcaaggauucugcaaggggga
((((((..((((((((((...(((((((..((((.....)))..))))))))))))))..)))))).
-----AGUGCACCCAGGCAAGGAUU-----
2
```

>hsa-mir-501 5p:14-35;3p:51-72 SRX018959

```
gcucuuccucucuAAUCCUUUGUCCCUGGGUGAGAgugcuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagagggu
gagc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAUGCACCCGGGCAAGGA-----
---- 4 0,-4
-----AAUGCACCCGGGCAAGGAU-----
---- 2 0,-3
-----AAUGCACCCGGGCAAGGAUa-----
---- 2 0,-3
-----AAUGCACCCGGGCAAGGAUU-----
---- 16 0,-2
-----AAUGCACCCGGGCAAGGAUUCU-----
---- 3 0,0
-----AUGCACCCGGGCAAGGAUU-----
---- 2 1,-2
```

>hsa-mir-502 5p:16-36;3p:52-73 SRX018959

```
ugcucucccucucuaAUCCUUGCUAUCUGGGUGCUAgugcuggcucaaugcAAUGCACCUGGGCAAGGAUUCAgagaggg
ggagcu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----GCAAUGCACCUGGGCAAGGAUU-----
----- 2 -2,-2
-----AAUGCACCUGGGCAAGGA-----
----- 14 0,-4
```

```

-----AAUGCACCUGGGCAAGGAU-----
----- 17 0,-3
-----AAUGCACCUGGGCAAGGAUa-----
----- 6 0,-3
-----AAUGCACCUGGGCAAGGAUU-----
----- 38 0,-2
-----AAUGCACCUGGGCAAGGAUUC-----
----- 10 0,-1
-----AAUGCACCUGGGCAAGGAUUCa-----
----- 5 0,0
-----AAUGCACCUGGGCAAGGAUUCa-----
----- 2 0,0
-----AAUGCACCUGGGCAAGGAUUCAG-----
----- 14 0,1
-----AAUGCACCUGGGCAAGGAUUCAGu-----
----- 4 0,1
-----AUGCACCUGGGCAAGGAU-----
----- 35 1,-3
-----AUGCACCUGGGCAAGGAUa-----
----- 32 1,-3
-----AUGCACCUGGGCAAGGAUU-----
----- 205 1,-2
-----AUGCACCUGGGCAAGGAUUC-----
----- 6 1,-1
-----AUGCACCUGGGCAAGGAUUCAGa-----
----- 2 1,2

```

>hsa-mir-503 5p:6-28 SRX018959

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgauccggugcucuggggguauuguuuuccgcugccagggua
(((((((.(((((((((((((((((.((.(.((.(((((.)))))))).)).)))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 356 0,-5
-----UAGCAGCGGGAACAGUUCa----- 10 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 41 0,-5
-----UAGCAGCGGGAACAGUUCU----- 327 0,-4
-----UAGCAGCGGGAACAGUUCUa----- 8 0,-4
-----UAGCAGCGGGAACAGUUCUaa----- 117 0,-4
-----UAGCAGCGGGAACAGUUCUG----- 27 0,-3
-----UAGCAGCGGGAACAGUUCUGa----- 8 0,-3

```

-----UAGCAGCGGGAACAGUUCUGaa-----	10	0,-3
-----UAGCAGCGGGAACAGUUCUGCA-----	3	0,-1
-----UAGCAGCGGGAACAGUUCUGCAa-----	2	0,-1
-----UAGCAGCGGGAACAGUUCUGCAaa-----	2	0,-1
-----UAGCAGCGGGAACAGUUCUGCAu-----	7	0,-1
-----UAGCAGCGGGAACAGUUCUGCAG-----	38	0,0
-----UAGCAGCGGGAACAGUUCUGCAGU-----	3	0,1
-----AGCAGCGGGAACAGUUCUGCAa-----	2	1,-1
-----AGCAGCGGGAACAGUUCUGCAG-----	4	1,0

```
>hsa-mir-505      mi:15-36;MA:51-72      SRX018959
gaugcaccaguggGGGAGCCAGGAAGUAUUGAUUucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc
((((((.((((((.((((((((((((((.((((((.((((((((((.....))))))))).))))).)))))))))))).))))))
))))
-----GGGAGCCAGGAAGUAUUGA-----
----      5      0,-3
-----GGGAGCCAGGAAGUAUUGAU-----
----      16     0,-2
-----GGGAGCCAGGAAGUAUUGAUa-----
```

```

---- 18 0,-2
-----GGGAGCCAGGAAGUAUUGAUaa-----
---- 2 0,-2
-----GGGAGCCAGGAAGUAUUGAUG-----
---- 89 0,-1
-----GGGAGCCAGGAAGUAUUGAUGa-----
---- 12 0,-1
-----GGGAGCCAGGAAGUAUUGAUGU-----
---- 370 0,0
-----GGGAGCCAGGAAGUAUUGAUGUa-----
---- 18 0,0
-----GGGAGCCAGGAAGUAUUGAUGUaa-----
---- 3 0,0
-----GGGAGCCAGGAAGUAUUGAUGUau-----
---- 2 0,0
-----GGGAGCCAGGAAGUAUUGAUGUU-----
---- 929 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUa-----
---- 37 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUU-----
---- 167 0,2
-----GGAGCCAGGAAGUAUUGAUGUU-----
---- 3 1,1
-----GGAGCCAGGAAGUAUUGAUGUUU-----
---- 2 1,2
-----CGUCAACACUUGCUGGUUUCC-----
---- 2 0,-1
-----CGUCAACACUUGCUGGUUUCCU-----
---- 7 0,0
-----CGUCAACACUUGCUGGUUUCCUC-----
---- 2 0,1
-----CGUCAACACUUGCUGGUUUCCUCU-----
---- 2 0,2
-----GUCAACACUUGCUGGUUUCC-----
---- 12 1,-1
-----GUCAACACUUGCUGGUUUCCU-----
---- 23 1,0
-----GUCAACACUUGCUGGUUUCCUC-----

```



```

----- 175
-----AAUGUGUAGCAAAAGACAGAu-----
----- 3
-----AAUGUGUAGCAAAAGACAGAA-----
----- 87
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 14
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 2
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 18
-----AAUGUGUAGCAAAAGACAGAAUa-----
----- 2
-----AUGUGUAGCAAAAGACAGAAU-----
----- 2

```

>hsa-mir-511-2 5p:16-36 SRX018959

```

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggg
uccauug

```

```

(((((((((.....)))))))).))))))
)))))

```

```

-----CGUGUCUUUUGCUCUGCAGUCA-----
----- 3 -1,0
-----GUGUCUUUUGCUCUGCAGUCA-----
----- 8 0,0
-----GUGUCUUUUGCUCUGCAGUCAa-----
----- 2 0,0
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 7
-----AAUGUGUAGCAAAAGACA-----
----- 11
-----AAUGUGUAGCAAAAGACAG-----
----- 12
-----AAUGUGUAGCAAAAGACAGA-----
----- 175
-----AAUGUGUAGCAAAAGACAGAu-----
----- 3
-----AAUGUGUAGCAAAAGACAGAA-----

```

```

----- 87
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 14
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 2
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 18
-----AAUGUGUAGCAAAAGACAGAAUa-----
----- 2
-----AUGUGUAGCAAAAGACAGAAU-----
----- 2

```

```

>hsa-mir-514-1 3p:59-79 SRX018959
aacauguugucugugguacccuacucuggagagugacaaucauguauaauuaauuugAUUGACACUUCUGUGAGUAGag
uaacgcaugacacguacg
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AUUGACACUUCUGUGAGUA-----
----- 2 0,-2

```

```

>hsa-mir-514-2 3p:54-74 SRX018959
guugucugugguacccuacucuggagagugacaaucauguauaauuaauuugAUUGACACUUCUGUGAGUAGAguaacg
caugacac
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AUUGACACUUCUGUGAGUA-----
----- 2 0,-2

```

```

>hsa-mir-514-3 3p:54-74 SRX018959
guugucugugguacccuacucuggagagugacaaucauguauaauuaauuugAUUGACACUUCUGUGAGUAGAguaacg
caugacac
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AUUGACACUUCUGUGAGUA-----
----- 2 0,-2

```

```

>hsa-mir-532 5p:20-41;3p:57-78 SRX018959
cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa

```



```

aaagcgagccu
.(.((((((((.....((.((((((.(((.(.(((.....))..)))..))))..)))..)))..))....
)))))))).).
-----CAUGCCUUGAGUGUAGGACCG-----
----- 7 0,-1
-----CAUGCCUUGAGUGUAGGACCGU-----
----- 75 0,0
-----CAUGCCUUGAGUGUAGGACCGUa-----
----- 2 0,0
-----CAUGCCUUGAGUGUAGGACCGUU-----
----- 6 0,1
-----AUGCCUUGAGUGUAGGACCGU-----
----- 4 1,0
-----CCUCCCACACCCAAGGCUU-----
----- 5 0,-3
-----CCUCCCACACCCAAGGCUUG-----
----- 10 0,-2
-----CCUCCCACACCCAAGGCUUGC-----
----- 15 0,-1
-----CCUCCCACACCCAAGGCUUGCA-----
----- 38 0,0
-----CCUCCCACACCCAAGGCUUGCAu-----
----- 6 0,0
-----CCUCCCACACCCAAGGCUUGCAA-----
----- 5 0,1

```

>hsa-mir-539 5p:9-30 SRX018959

```

auacuugaGGAGAAAUUAUCCUUGGUGUGUucgcuuuuuuanguagaucauacaaggacaauuucuuuuugaguau
((((..((((((((((.((((((.((((((((.....).))))..)))))))).)))))))).))))))
-----AUCAUACAAGGACAAUUUCU-----
4
-----AUCAUACAAGGACAAUUUCUUU-----
31
-----CAUACAAGGACAAUUUCUUUUU-----
3
-----AUACAAGGACAAUUUCUUUUU-----
6
-----AUACAAGGACAAUUUCUUUUUa-----

```

```

-----AUACAAGGACAAUUCUUUUUG-----
14

>hsa-mir-541    mi:10-34;MA:54-75    SRX018959
acgucagggAAAGGAUUCUGCUGUCGGUCCCACUccaaaguucacagaugggUGGUGGGCACAGAAUCUGGACUcugcu
ugug
(((.((((...(((((((.(((.(...((((...(((...)))))))))).))))))))))...))))).
)).
-----AAAGGAUUCUGCUGUCGGUC-----
----    2    0,-5

>hsa-mir-542    5p:16-38;3p:53-74    SRX018959
cagaucucagacaucUCGGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAAACUGAAAggucug
ggagccacucaucuca
....(((((((...((((...(((((((...(((((((...(((((((...(((((((...))))))))))
))).....
-----UCGGGGGAUCAUCAUGUCAC-----
-----    9    0,-4
-----UCGGGGGAUCAUCAUGUCACG-----
-----    3    0,-3
-----UCGGGGGAUCAUCAUGUCACGA-----
-----    2    0,-2
-----UUGUGACAGAUUGAUAAAC-----
-----    9    -1,-5
-----UUGUGACAGAUUGAUAAACU-----
-----    5    -1,-4
-----UGUGACAGAUUGAUAAACU-----
-----    30    0,-4
-----UGUGACAGAUUGAUAAACUG-----
-----    2    0,-3
-----UGUGACAGAUUGAUAAACUGA-----
-----    3    0,-2
-----UGUGACAGAUUGAUAAACUGAA-----
-----    15    0,-1
-----UGUGACAGAUUGAUAAACUGAAA-----
-----    15    0,0
-----UGUGACAGAUUGAUAAACUGAAAu-----

```

----- 5 0,0

>hsa-mir-543 3p:47-68 SRX018959

uacuuaaugagaaguugcccguguuuuuuucgcuuuauuugugacgAAACAUUCGCGGUGCACUUCUuuucaguauc

(((((.(.(.(((.(((.(.(((.(.(((.....))))).)))...))))).)))))))).)).))))...

-----AAACAUUCGCGGUGCACUUC-----

4 0, -2

-----AAACAUUCGCGGUGCACUUCU-----

5 0, -1

-----AAACAUUCGCGGUGCACUUCUU-----

42 0.0

-----AAACAUUCGCGGUGCACUUCUUa-----

5 0,0

-----AAACAUUCGCGGUGCACUUCUU-----

61 0,1

>hsa-mir-548a-1 3p:61-82 SRX018959

ugcagggagguauuaaguuggugcaaaaguaauugugauuuuugccauuaaaaguaacgaCAAAACUGGCAAUACUUUU

GCaccaaaccugguauu

)))))).))))

-----CAAACUGGCAAUACUUU-----

$$----- \quad 2 \quad 0, -3$$

-----CAAACUGGCAAUACUUU

----- 12 0,-2

-----CAAACUGGCAAUACUUUU

G----- 6 0,-1

>hsa-mi r-548a-2 3p:61-82 SRX018959

ugugauguguaauuagguuugugcaaaaguaauugggguuuuuugccguuaaaaguaauggCAAAACUGGCAAUUACUUUU

GCaccaacuaauauaa

))))...)))))))).

-----CAAACUGGCAAUACUUU-----

$$----- \quad 2 \quad 0, -3$$

-----CAAACUGGCAAUACUUUU

----- 12 0,-2

-----CAAACUGGCAAUACUUUU

```

>hsa-mir-548a-3 5p:25-46;3p:61-82 SRX018959
ccuagaauguuuuuaggucggugcAAAAGUAAUUGCGAGUUUUACCAuuacuuucaauggCAAAACUGGCAAUUACUUUU
GCaccaacguaauacuu
.....(((((((.(.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).))))))...
-----CAAAACUGGCAAUUACUUU-
-----2 0,-3
-----CAAAACUGGCAAUUACUUU
-----12 0,-2
-----CAAAACUGGCAAUUACUUU
G-----6 0,-1

```

```

>hsa-mir-548aa-2      3p:55-79      SRX018959
uuuuuuuagguuggugcaaaagaaacugugguuuuugccauuacuucuauggcAAAAACCACAAUUACUUUUGCACCAa
ccuaaaucuucccucuc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
)))))).....
-----CAAAAACCACAAUUACUUUUG-----
-----2      -1,-5
-----AAAAACCACAAUUACUUUUGCA-----
-----7      0,-3

```

[illegible]

-----			AAAAGUAAUUGUGGUUUU-----
-----	10	0,-4	
-----			AAAAGUAAUUGUGGUUUUGG-----
-----	3	0,-2	
-----			AAAAGUAAUUGUGGUUUUGGC _a -----
-----	4	0,-1	
-----			AAAAGUAAUUGUGGUUUUGGC _{aa} -----
-----	2	0,-1	
-----			-----CAAGAACCUCAGUUGCUIUUU
-----	7	0,-2	
-----			-----CAAGAACCUCAGUUGCUIUUU
GU-----	5	0,0	
-----			-----AAGAACCUCAGUUGCUIUUU
-----	2	1,-2	

```
cauuggcaucuaauagguuggugcAAAAGUAAUUGCGUUUUGCCauuacuuucaguagCAAAAAUCUCAAUUACUUUU  
GCaccaacuuaauacuu  
.....(((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((  
)))))))))))))))))))))))))))).)))))))))))
```

-----		-AAAAGUAAUUGCGGUUUUU-	-----
-----	2	0,-3	
-----		-AAAAGUAAUUGCGGUUUUUG-	-----
-----	7	0,-2	
-----		-AAAGUAAUUGCGGUUUUU-	-----
-----	2	1,-3	
-----		-AAAGUAAUUGCGGUUUUUu-	-----
-----	2	1,-3	
-----		-AAAGUAAUUGCGGUUUUUG-	-----
-----	2	1,-2	

aaacaaguuaauuuagguuggugcAAAAGUAAUUGUGGUUUUUGCCuguaaaaguaauggCAAAAACACAGUUUCUUU
GCaccagacuaauaaag
.....(((((((.(((((((((((.((((((((((((((((((((.....))))))))))))))))).))))
))))))))).))))))...
-----CAAAAGUAAUUGUGGUUUU-----


```

))))).
-----CAAAAGCAAUCGCGUUUUU-----
-----      2
-----CAAAAGCAAUCGCGUUUUUG-----
-----      2
-----CAAAAACUGAGACUACUUUU-----
-----      3   -1,-3
-----CAAAAACUGAGACUACUUU-----
-----      3   0,-4
-----CAAAAACUGAGACUACUUUU-----
-----      5   0,-3
-----CAAAAACUGAGACUACUUUUG-----
-----      2   0,-2
-----CAAAAACUGAGACUACUUUUGC-----
-----     22   0,-1
-----CAAAAACUGAGACUACUUUUGCA-----
-----     54   0,0
-----CAAAAACUGAGACUACUUUUGCAa-----
-----     24   0,0
-----CAAAAACUGAGACUACUUUUGCAu-----
-----      2   0,0

```

```

>hsa-mir-548f-2 3p:59-77   SRX018959
uaauaacuauuagguuggugcgaacauaauugcaguuuuuaucauuacuuaauggcAAAAACUGUAAUUACUUUUgca
ccaaccuaauuuuuagu
.....((((((((((((((((((..((((((((((((((((((..((((((....))))))..)))))))))..))))))
)))))))))..
-----CAAAAACUGUAAUUACUUUUGC-----
-----      6   -1,2

```

```

>hsa-mir-548f-3 3p:54-72   SRX018959
auuagguuggugcaaaccuaauugcauuuuugcaguuuuuuuagaauugcAAAAACUGUAAUUACUUUUgcaccaac
cuaauac
((((((((((((((((((..((((((((((((((((((..((((((((((((((((..))))))..)))))))))..))))))
))))))..
-----CAAAAACUGUAAUUACUUUUGC-----
-----      6   -1,2

```

```
>hsa-mir-548g 3p:54-75 SRX018959
aguuaauagauuagugcaaaaguaauugcaguuuuugcauuacguucuauggcAAAACUGUAAUUCUUUUGUACcaaca
uaauacuuc
...((((((..(((.....))))))))))))))..
))))).
-----AAAAGUAAUUGCAGUUUU-----
----- 3
```

```
>hsa-mir-548h-1 5p:21-42 SRX018959
ucuguccauuagguggugcAAAAGUAAUCGCGUUUUUGUCauuacuuaaugguaaaacuggaauuacuuuugcac
ugaccuaauauaaagccagaua
((((..(((.....))))))))))..
))))).
-----AAAAGUAAUCGCGUUUUU-----
----- 2 0,-3
-----AAAAGUAAUCGCGUUUUUG-----
----- 3 0,-1
-----AAGUAAUCGCGUUUUUG-----
----- 3 2,-2
```

```
>hsa-mir-548h-2 5p:16-37 SRX018959
guauuagguuggugcAAAAGUAAUCGCGUUUUUGUCauuacuuaauggcaaacaccacaauuacuuuugcaccaacc
uaauauaa
((((((((((((((((((((..(((.....))))))))))..)))..))))))..
))))).
-----AAAAGUAAUCGCGUUUUU-----
----- 2 0,-3
-----AAAAGUAAUCGCGUUUUUG-----
----- 3 0,-1
-----AAGUAAUCGCGUUUUUG-----
----- 3 2,-2
```

```
>hsa-mir-548h-3 5p:29-50 SRX018959
ucugauucugcaugauuagguuggugcAAAAGUAAUCGCGUUUUUGUCauugaaaguaauagcaaaaacugcaauuac
uuuugcaccaaccuaaaaguagucacugucuucagaua
((((..(((.....(((.....))))))))))..
))))).
-----AAAAGUAAUCGCGUUUUU-----
```



```

.)))))))))))))))))))))))...))..
-----AAAAGUAAUCGCGGUUUUU-----
----- 2 0,-3
-----AAAAGUAAUCGCGGUUUUUG-----
----- 3 0,-1
-----AAGUAAUCGCGGUUUUUG-----
----- 3 2,-2
-----AAAAACCGC
AAUACUUUU----- 3

```

```

>hsa-mir-548j 5p:29-50 SRX018959
gggcagccagugaauaguagcuggugcAAAAGUAAUUGCGGUCUUUGGUauuacuuucaguggcaaaaacugcauuacu
uuugcaccagccuacuagaacgcugaguucag
((((...((((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----CAAAAGUAAUUGCGGUCUU-----
----- 3 -1,-4
-----CAAAAGUAAUUGCGGUCUU-----
----- 6 -1,-3
-----CAAAAGUAAUUGCGGUCUUUG-----
----- 2 -1,-2
-----CAAAAGUAAUUGCGGUCUUUG-----
----- 3 -1,-1
-----CAAAAGUAAUUGCGGUCUUUGGaa-----
----- 2 -1,-1
-----CAAAAGUAAUUGCGGUCUUUGGU-----
----- 5 -1,0
-----AAAAGUAAUUGCGGUCUU-----
----- 11 0,-3
-----AAAAGUAAUUGCGGUCUUUG-----
----- 5 0,-2
-----AAAAGUAAUUGCGGUCUUUG-----
----- 15 0,-1
-----AAAAGUAAUUGCGGUCUUUGGa-----
----- 3 0,-1
-----AAAAGUAAUUGCGGUCUUUGGaa-----
----- 3 0,-1
-----AAAAGUAAUUGCGGUCUUUGGU-----

```

-----	26	0,0	
-----AAAAGUAAUUGCGGUCUUUGGUu-----			
-----	3	0,0	
-----AAAAGUAAUUGCGGUCUUUGGUA-----			
-----	6	0,1	
-----CAAAAACUGCAUUACU			
UUU-----	3		
-----CAAAAACUGCAUUACU			
UUUG-----	17		
-----CAAAAACUGCAUUACU			
UUUGa-----	3		

[illegible]

```
>hsa-mir-5481    5p:15-36    SRX018959
uuuuagguuggugcAAAAGUAUUUGCGGGUUUUGUCguagaaaguaauggcaaaaacugcaguuacuugugcaccaacca
aaugcu
.....(((((((((((.(((((.((((((.(((((((((. . . . .)))))))).)))))).)))))).)))))).
.....
-----AAAAGUAUUUGCGGGUUUU-----
----- 4    0,-3
-----AAAAGUAUUUGCGGGUUUUG-----
----- 2    0,-2
```

```
>hsa-mir-548n    5p:10-31    SRX018959
agguuggugCAAAAGUAAUUGUGGAUUUUGUcguaaaaauagcaaaacccgcauuacuuugcaccaaccuaa
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CAAAAGUAAUUGUGGAUUUUGU----- 4
0,0
-----AAAAGUAAUUGUGGAUUU----- 2
```

1,-2

>hsa-mir-548o 3p:87-108 SRX018959

uggugaaaauguguugaauugaaugguuccuauucugaucaauaaacaugguuugagccuaguuaacaugaucuaaaaau
cacgguCCAAAACUGCAGUUACUUUUGCaccaac

-----CCAAAACUGCAGUUACUUUUG----- 3 0,-1

-----CCAAAACUGCAGUUACUUUUGC----- 3 0,0

-----AAAACUGCAGUUACUUUUGC----- 2 2,0

>hsa-mir-548q 5p:8-29 SRX018959

-----AGGCUGGUGCAAAAAGUAAUG-

$$----- \quad 2 \quad -2, -4$$

>hsa-mir-548s 3p:52-74 SRX018959

uugcugcaaaaauaauugcaguuuuugccauuuuuuaauuuuaauaAUGGCCAAAACUGCAGUUAUUUugcacc
aa

$$.((.((((((((((((((((((((((((.((((((((((.)))))))).))))))))))))))))))))))).$$

-----AUGGCCAAAACUGCAGUUAUUU-----

-- 7 0,-1

>hsa-mir-548t 5p:10-30 SRX018959

aggguggugCAAAAGUGAUCGUGGUUUUGcaauuuuuuaugacaaaaccacaauuacuuuugcaccaaccu

-----CAAAGUGAUCGUGGUUUU----- 2

 $0,-1$

-----CAAAAACCAAAUACUUUUG----- 2

-----AAAAACCACAAUUACUUUUGCA----- 7

[illegible]

-----CAAAGACUGCAAUUACUUUUG-----

-----CAAAGACUGCAAUUACUUUGa-----

-----AAAGACUGCAAUACUUUUGCGa-----

aauacuagguuugagcaaaaguaauugcgguuuugccauaugccaaaAGCUACAGUACUUUUGCACCAgccaauuu
(((((((((.(.(((((((((((((((((.(((((((.....)).).))))).).)))))))))))))).).))))).)))

2

 $2 \quad 0, -1$ $2 \quad 0, -1$

8 0.0

2 0.0

gguuggugcAAAAGUAACUGCGGUUUUUGCCUuucaacauaauggcaaaaccacaauuacuuiuugcaccauc
(((((((((((((((((((.(.(.(.((((((.....)))))))).).).).)))))))))

-1, -4

-1,-2

0,-5

0,-4

-----AAAAGUAACUGCGGUUUUGCC----- 3

0,-1

>hsa-mir-548x 3p:46-66 SRX018959

agguuagugcaaaaguaauugcaguuuuugcguuacuuucaaucgUAAAAACUGCAAUACUUUCacaccaaucu

(((((.((((.((((((((((((((((((((((((((((.(.....))))))))))))))))))))))..)))..)))

-----AAAAGUAAUUGCAGUUU----- 3

-----AAAAACUGCAAUACUUU----- 6

1,-2

>hsa-mir-548z 3p:54-76 SRX018959

aaguaauaaguuggugcaaaaguaauugagauuuuugcuacugaaaguaauggCAAAAACCGCAAUACUUUUGCAccea

ccuaauagaugccaug

...(((.((((((((((((((((((((((((((((.(.(((((((((.(....))))))))))))))))))))))..)))

).))))).))))).))))..

-----AAAAACCGCAAUACUUU-----

----- 3 1,-3

>hsa-mir-550a-1 MA:22-44;mi:61-82 SRX018959

ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCcuguuguuguaagauagUGUCUUACUCCCUCAGGCAC

AUcuccaacaagucucu

..(((.((((.((((.(.....))))))))))))))))))))..)))

)).))))).))))..

-----AGUGCCUGAGGGAGUAAG-----

----- 4 0,-5

-----AGUGCCUGAGGGAGUAAGAGC-----

----- 2 0,-2

-----AGUGCCUGAGGGAGUAAGAGCaa-----

----- 2 0,-2

-----UGUCUUACUCCCUCAGGCAC

AU----- 6 0,0

-----GUCUUACUCCCUCAGGCAC

AU----- 2 1,0

>hsa-mir-550a-2 MA:22-44;mi:61-82 SRX018959

ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCcuguuguugucagauagUGUCUUACUCCCUCAGGCAC

AUcuccagcgagucucu

.....(((.((((.((((((((((((((((((((((.(.(((((((((.(.....))))))))))))))))))))))..)))

..).))))).))))....

```

-----AGUGCCUGAGGGAGUAAG-----
----- 4 0,-5
-----AGUGCCUGAGGGAGUAAGAGC-----
----- 2 0,-2
-----AGUGCCUGAGGGAGUAAGAGCaa-----
----- 2 0,-2
-----UGUCUUACUCCCUCAGGCAC
AU----- 6 0,0
-----GUCUUACUCCCUCAGGCAC
AU----- 2 1,0

```

```

>hsa-mir-551b mi:22-43;MA:61-81 SRX018959
agaugugcucuccuggcccauGAAAUCAAGCGUGGGUGAGACCuggugcagaacgggaagGCGACCCAUACUUGGUUUA
Gaggcugugagaauaa
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..)))))))).))))....
-----GCGACCCAUACUUGGUUUA
----- 2 0,-1
-----GCGACCCAUACUUGGUUUA
Gu----- 5 0,0

```

```

>hsa-mir-556 5p:16-37;3p:55-76 SRX018959
gauaguaaauaagaaaGAUGAGCUCAUUGUAAUAUGAGcuucauuuauacauuucAUAUUACCAUUAGCUCAUCUUuuua
uuacuaccuuaaca
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).))))....
-----CAUAUUACCAUUAGCUCAUCU-----
----- 2 -1,-2
-----AUAUUACCAUUAGCUCAUCUU-----
----- 17 0,-1
-----AUAUUACCAUUAGCUCAUCUUa-----
----- 9 0,-1
-----AUAUUACCAUUAGCUCAUCUU-----
----- 6 0,0
-----AUAUUACCAUUAGCUCAUCUUU-----
----- 3 0,1

```

```

>hsa-mir-570 3p:60-81 SRX018959

```

.....(((((((((.(((((((((((((((((.(((((.(((((...)))..)))))..)))))))))
)))).))))))))....

>hsa-mi-r-574 5p:25-47;3p:61-82 SRX018959
 gggaccugcggggugcgggcgugUGAGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUAUGCACACACCCA
 CAgccccacacucagg

		-GUGAGUGUGUGUGUGUGAGU-
	4	-1, -4
		-UGAGUGUGUGUGUGUGAG-
	41	0, -5
		-UGAGUGUGUGUGUGUGAGU-
	50	0, -4
		-UGAGUGUGUGUGUGUGAGUaa-
	4	0, -4
		-UGAGUGUGUGUGUGUGAGUG-
	2	0, -3
		-UGAGUGUGUGUGUGUGAGUGa-
	2	0, -3
		-UGAGUGUGUGUGUGUGAGUGaa-
	2	0, -3
		-UGAGUGUGUGUGUGUGAGUGU-
	6	0, -2
		-UGAGUGUGUGUGUGUGAGUGUau-
	2	0, -2
		-UGAGUGUGUGUGUGUGAGUGUuu-
	2	0, -2
		-UGAGUGUGUGUGUGUGAGUGUGa-
	5	0, -1
		-UGAGUGUGUGUGUGUGAGUGUGU-
	8	0, 0

-----			-UGAGUGUGUGUGUGUGAGUGUGUG-	-----
-----	9	0,1		
-----			-UGAGUGUGUGUGUGUGAGUGUGUGa-	-----
-----	2	0,1		
-----			-UGAGUGUGUGUGUGUGAGUGUGUGU-	-----
-----	6	0,2		
-----			-GAGUGUGUGUGUGUGAGUGUGUGa-	-----
-----	3	1,1		
-----			-----CACGCUCAUGCACACACC--	
-----	37	0,-4		
-----			-----CACGCUCAUGCACACACCCC-	
-----	43	0,-3		
-----			-----CACGCUCAUGCACACACCCCA	
-----	88	0,-2		
-----			-----CACGCUCAUGCACACACCCCA	
a-----	6	0,-2		
-----			-----CACGCUCAUGCACACACCCCA	
aa-----	2	0,-2		
-----			-----CACGCUCAUGCACACACCCCA	
u-----	7	0,-2		
-----			-----CACGCUCAUGCACACACCCCA	
uu-----	2	0,-2		
-----			-----CACGCUCAUGCACACACCCCA	
C-----	64	0,-1		
-----			-----CACGCUCAUGCACACACCCCA	
Cu-----	24	0,-1		
-----			-----CACGCUCAUGCACACACCCCA	
Cuu-----	6	0,-1		
-----			-----CACGCUCAUGCACACACCCCA	
CA-----	221	0,0		
-----			-----CACGCUCAUGCACACACCCCA	
CAa-----	23	0,0		
-----			-----CACGCUCAUGCACACACCCCA	
CAu-----	33	0,0		
-----			-----CACGCUCAUGCACACACCCCA	
CAuu-----	3	0,0		
-----			-----CACGCUCAUGCACACACCCCA	
CAC-----	5	0,1		

Sequence	Length	Score
ACGCUCAUGCACACACCCC-	12	1, -3
ACGCUCAUGCACACACCCCA	12	1, -2
ACGCUCAUGCACACACCCCA	12	1, -1
ACGCUCAUGCACACACCCCA	12	1, 0
ACGCUCAUGCACACACCCCA	12	1, 0
ACGCUCAUGCACACACCCCA	12	1, 0
ACGCUCAUGCACACACCCCA	12	1, 1
ACGCUCAUGCACACACCCCA	12	1, 1

cauuuagguuaaugcaaaaguaaucgcgguuuguccagaugacgauuugaauuaauaaUUCAUUUGGUAUAAACCGC
GAUuauuuuugcaucaac

-----AAUCGCGGUUGUGCCAGAU-----
----- 3 -----
-----UCGCGGUUGUGCCAGAUGA-----
----- 2 -----

aucugugcucuugaUUACAGUUGUUAACAGUACUaaucuaacuaauugUACUGGUUGAACAAACUGAACCCaaagg
gugcaaaguagaaacauu

-----UUACAGUUGUUAACCAAGUUA-----		
-----20,-2		
-----UUACAGUUGUUAACCAAGUUAACU-----		
-----20,0		
-----UAACUGGUUGAACAAACUGA-----		
-----30,-3		
-----UAACUGGUUGAACAAACUGAA-----		
-----170,-2		
-----UAACUGGUUGAACAAACUGAAa-----		
-----30,-2		
-----UAACUGGUUGAACAAACUGAACCC-----		
-----50,0		
-----UAACUGGUUGAACAAACUGAACCCC-----		
-----30,1		
-----AACUGGUUGAACAAACUGAA-----		
-----21,-2		

uagggugaccagccaUUAUGGUUGCCUGGGACUGAGgaauuugcugggauaugucaguuccaggccaaccaggcugguu
ggucucccugaagcaac

((((((.(((((((((((...((((((.(((((((((((((((.(.((((.....)))..).))))))))))))).))))).))))))...))))))
)))).))))).

-----UUAUGGUUUGCCUGGGAC-----
-----3 0,-4-----

```

>hsa-mir-590      5p:16-37;3p:56-76      SRX018959
uagccagucagaaauGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUUUAUGUAUAAGCUAGUcucu
gauugaaacaugcagca
....(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.
)))))).....
-----GAGCUUAUUCAUAAAAGU-----
-----      6      0,-4
-----GAGCUUAUUCAUAAAAGUG-----
-----      2      0,-3
-----GAGCUUAUUCAUAAAAGUGCA-----
-----     11      0,-1
-----GAGCUUAUUCAUAAAAGUGCAa-----
-----      5      0,-1
-----GAGCUUAUUCAUAAAAGUGCAG-----
-----     45      0,0
-----GUAUUUUUAUGUAUAAGCUAG-----
-----      3      -1,-1
-----GUAUUUUUAUGUAUAAGCUAGU-----
-----      9      -1,0
-----UAAUUUUUAUGUAUAAGCU-----
-----     37      0,-3
-----UAAUUUUUAUGUAUAAGCUA-----
-----      5      0,-2
-----UAAUUUUUAUGUAUAAGCUAGU-----
-----      7      0,0

```

```

-----UAAUUUAUGUAUAAGCUAGUC---
----- 2 0,1
-----UAAUUUAUGUAUAAGCUAGUCa--
----- 2 0,1

```

>hsa-mir-597 5p:16-37 SRX018959

```

uacuuacucuacgugUGUGUCACUCGAUGACCACUGUgaagacaguaaaauguacagugguucucuuguggcucaagcgu
aanguagaguacugguc
(((((((((((((((((.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))))))))..)))))..)))))..)))))..)))))..)))))..)))))..)))))..)))))..)))))..
.)))))..)))))..)))))..)))))..)))))..)))))..)))))..)))))..)))))..)))))..)))))..
-----AGUGGUUCUCUUGUGGCUCAAGu--
----- 2

```

>hsa-mir-598 3p:61-82 SRX018959

```

gcuugaugaugcugcugaugcuggcggugaucgggugagcuggaaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag
.....((((((((((((((((((((((((((((((((((((((((((((((((((((
).....
-----UACGUCAUCGUUGUCAUC--
----- 33 0,-4
-----UACGUCAUCGUUGUCAUCG-
----- 2 0,-3
-----UACGUCAUCGUUGUCAUCGU
----- 34 0,-2
-----UACGUCAUCGUUGUCAUCGU
C----- 2 0,-1
-----UACGUCAUCGUUGUCAUCGU
Cu----- 2 0,-1
-----UACGUCAUCGUUGUCAUCGU
CA----- 26 0,0
-----UACGUCAUCGUUGUCAUCGU
CAa----- 8 0,0
-----UACGUCAUCGUUGUCAUCGU
CAU----- 31 0,1
-----UACGUCAUCGUUGUCAUCGU
CAUu----- 2 0,1

```

>hsa-mir-600 3p:61-83 SRX018959


```

>hsa-mir-619    3p:61-84    SRX018959
cgcccaccucagccucccaaaugcugggauuacaggcaugagccacugcggucgaccauGACCUGGACAUGUUUGUGCC
CAGUacugucaguuugcag
.(((.(((.(((.....(((((((.(((((((.(((.....((((.....)))))).)))))))))))))
)))))))).)))).)..
-----GCUGGGAUUACAGGCAUGA-----
----- 3
-----GCUGGGAUUACAGGCAUGAa-----
----- 4
-----GCUGGGAUUACAGGCAUGAG-----
----- 4
-----CUGGGAUUACAGGCAUGAG-----
----- 2

```

```

>hsa-mir-624    mi:16-37;MA:54-74    SRX018959
aaugcuguuucaaggUAGUACCAGUACCUUGUGUUCAguggaaccaagguaaaCACAAGGUAUUGGUAAUACCUugagau
agcauuacaccuaagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
-----UAGUACCAGUACCUUGUGUU-----
----- 3 0,-2
-----UAGUACCAGUACCUUGUGUUC-----
----- 6 0,-1
-----UAGUACCAGUACCUUGUGUUCA-----
----- 6 0,0

```

```

>hsa-mir-625    MA:15-35;mi:52-73    SRX018959
aggguagagggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUAucccucu
gccc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))
-----AGGGGGAAAGUUCUAUAGU-----
----- 2 0,-2
-----AGGGGGAAAGUUCUAUAGUC-----
----- 15 0,-1
-----AGGGGGAAAGUUCUAUAGUCC-----
----- 12 0,0

```

```

-----AGGGGGAAAGUUCUAUAGUCCU-----
----- 5 0,1
-----AGGGGGAAAGUUCUAUAGUCCUu-----
----- 3 0,1
-----GACUAUAGAACUUUCCCCCUC-----
----- 7 0,-1
-----GACUAUAGAACUUUCCCCCUCA-----
----- 11 0,0
-----GACUAUAGAACUUUCCCCCUCAa-----
----- 2 0,0
-----GACUAUAGAACUUUCCCCCUCAU-----
----- 4 0,1

```

>hsa-mir-628 5p:23-44;3p:61-81 SRX018959

auagcuguugugucacuuccucAUGCUGACAUAUUUACUAGAGGguaaaauuaauaaccuUCUAGUAAGAGUGGCAGUCG
Aagggaagggcucau

```

.....(((.(((.(((((.(((.(((.(((((((((((((.)))))))))).)))..)))..))
..)))))))))).)).

```

```

-----AUGCUGACAUAUUUACUA-----
----- 7 0,-4
-----AUGCUGACAUAUUUACUAG-----
----- 6 0,-3
-----AUGCUGACAUAUUUACUAGA-----
----- 5 0,-2
-----AUGCUGACAUAUUUACUAGAG-----
----- 15 0,-1
-----AUGCUGACAUAUUUACUAGAGa-----
----- 3 0,-1
-----AUGCUGACAUAUUUACUAGAGG-----
----- 12 0,0
-----AUGCUGACAUAUUUACUAGAGGa-----
----- 6 0,0
-----AUGCUGACAUAUUUACUAGAGGaa-----
----- 5 0,0
-----AUGCUGACAUAUUUACUAGAGGu-----
----- 3 0,0

```

>hsa-mir-629 MA:22-42;mi:61-82 SRX018959

>hsa-mir-641 5p:16-39 SRX018959
 ugggugaaaggaaggAAAGACAUAGGAUAGAGUCACCUcuguccucuguccucuaccuauagaggugacuguccuauguc
 uuuccuuccucuuaccccu

-----AAAGACAUAGGAUAGAGUC-----
----- 2 0,-5

-----AAAGACAUAGGAUAGAGUCA-----
----- 18 0,-4

-----AAAGACAUAGGAUAGAGUCAC-----
----- 37 0,-3

-----AAAGACAUAGGAUAGAGUCACC-----
----- 45 0,-2

-----AAAGACAUAGGAUAGAGUCACCU-----
----- 47 0,-1

-----AAAGACAUAGGAUAGAGUCACCUu-----
----- 3 0,-1

-----AAAGACAUAGGAUAGAGUACCUC-----
----- 4 0,0

-----AAAGACAUAGGAUAGAGUCACCUCU-----
----- 3 0,1

-----AAGACAUAGGAUAGAGUCACCU-----
----- 2 1,-1-----

>hsa-mir-643 3p:61-82 SRX018959

-			-----UAUGCUCGUGACCAUCAC-----
-	2	0,-3	
-			-----UAUGCUCGUGACCAUACACC-----
-	8	0,-2	
-			-----UAUGCUCGUGACCAUACACC _a -----
-	5	0,-2	
-			-----UAUGCUCGUGACCAUACACC _{aa} -----
-	4	0,-2	
-			-----UAUGCUCGUGACCAUACACCU-----
-	7	0,-1	
-			-----UAUGCUCGUGACCAUACACCUU-----
-	2	0,0	
-			-----UAUGCUCGUGACCAUACACCUUU-----
-	4	0,1	

>hsa-mir-655 3p:61-82 SRX018959

aacuaugcaaggauuuugaggagagguuaucguguuauguucgcuucauucaugaAUAUAACAUGGUUAACCCUCU
UUugaauaucagacuc

.....(((((((..((((((((((.((((((.(((((.)))))))).)))))))).))))))
)))..)))))).....

-----AUAUACAUGGUUAACCUCU
UU----- 15 0,0

>hsa-mir-656 3p:43-63 SRX018959

cugaaauagguugccugugagguguucacuuucuauaugaugAAUAUUAUACAGUCAACCUUuuccgauaucgauc

-----AAUAUUAUACAGUCAACCU-----

7 0,-2

-----AAUAUUAUACAGUCAACCUC-----

6 0, -1

-----AAUAUUAUACAGUCAACCUCU-----

3 0,0

>hsa-mir-659 3p:61-82 SRX018959

uaccgaccucgauuugguucaggaccuucccugaaccaaggaagagucacagucucuucCUUGGUUCAGGGAGGGUCCC
CAacauguccucaugg

.....(((((((.....))))))))).
 .)))...)).....

-----AGGACCUUCCUUGAACCAAGGA-----
-----6-----

>hsa-mir-660 5p:16-37 SRX018959

cugcuccuucucccaUACCCAUUGCAUAUCGGAGUUGugaauucucaaaacaccuccugugugcauggauuacaggaggg
ugagccuugucaucgug

..((((.((((((.((((.((((((.((((.((((.....))) .)))))))))))))))
.)))).

-----UACCCAUUGCAUAUCGGAG-----

----- 11 0,-3

-----UACCCAUGCAUAUCGGAGU-----

----- 17 0,-2

-----UACCCAUGCAUAUCGGAGUU-----

----- 79 0,-1

-----UACCCAUUGCAUAUCGGAGUUa-----

$$----- \quad 2 \quad 0, -1$$

-----UACCCAUUGCAUAUCGGAGUUG-----

----- 17 0,0

-----UACCCAUUGCAUAUCGGAGUUGU-----

----- 8 0,1

-----ACCUCCUGUGUGCAUGGAU-----

----- 2

-----ACCUCCUGUGUGCAUGGAUU-----

----- 7

-----ACCUCCUGUGUGCAUGGAUUA-----

----- 5

>hsa-mi r-664 mi:11-34;MA:49-71 SRX018959

gaacauugaaACUGGCUAGGGAAAAUGAUUGGAUagaaacuauuuuucUAUUCAUUUAUCCCCAGCCUACAaaaugaaaa
aa

$$\dots((((\dots(((((.((((\dots(((.((((((((((\dots)))))))).)))))).))))). \dots))) \dots$$

$$\vdots$$

-----AACUGGCUAGGGAAAAUGAUUGG_u-----

$$-- \quad 3 \quad -1, -2$$

-----AACUGGCUAGGGAAAAUGAUUGGA-----

$$-- \quad 4 \quad -1, -1$$

-----ACUGGCUAGGGAAAAUGAUU-----

-- 2 0,-4

```

-----ACUGGCUAGGGAAAAUGAUUGG-----
-- 121 0,-2
-----ACUGGCUAGGGAAAAUGAUUGGu-----
-- 32 0,-2
-----ACUGGCUAGGGAAAAUGAUUGGuu-----
-- 5 0,-2
-----ACUGGCUAGGGAAAAUGAUUGGA-----
-- 142 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAa-----
-- 5 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAU-----
-- 9 0,0
-----CUGGCUAGGGAAAAUGAU-----
-- 2 1,-5
-----CUGGCUAGGGAAAAUGAUU-----
-- 2 1,-4
-----CUGGCUAGGGAAAAUGAUUGG-----
-- 4 1,-2
-----CUGGCUAGGGAAAAUGAUUGGA-----
-- 27 1,-1
-----CUGGCUAGGGAAAAUGAUUGGAa-----
-- 3 1,-1
-----UGGCUAGGGAAAAUGAUUGGA-----
-- 4 2,-1
-----UGGCUAGGGAAAAUGAUUGGAa-----
-- 2 2,-1
-----UAUUCAUUUAUCCCCAGC-----
-- 3 0,-5
-----UAUUCAUUUAUCCCCAGCCUA-----
-- 6 0,-2
-----UAUUCAUUUAUCCCCAGCCUAa-----
-- 3 0,-2
-----UAUUCAUUUAUCCCCAGCCUAC-----
-- 9 0,-1
-----UAUUCAUUUAUCCCCAGCCUACA-----
-- 39 0,0
-----UAUUCAUUUAUCCCCAGCCUACAA-----
-- 3 0,1

```

-----AUUCAUUUAUCCCCAGCCUACA-----
 -- 3 1,0

>hsa-mi r-671 5p:29-51;3p:68-88 SRX018959

gcaggugaacuggcagggccaggaagaggAGGAAGCCCUGGAGGGGCGUGAGgugauggauguuuuccUCCGGUUCUCAGG
GCUCCACCucuuucgggccguagagccagggcgugguc

((((...(((((.((((.((((((((.((((.((((((.(((((((((((.((((...)))..)))))))))

))))).)))))).))))....)))))..))..))

-----UCCGGUUCUCAGG

GCUCCACC_{au}----- 2 0,0

-----CGGUUCUCAGG

GCUCCACC----- 2 2,0

>hsa-mi r-675 MA:10-32;mi :45-64 SRX018959

cccagggucUGGUGCGGAGAGGGCCCACAGUGgacuuggugacgCUGUAUGCCCUCACCGCUCAgccccuggg
(((((((.((((.((((.((((.(.....)))))).)))))).))))))

-----UGGUGCGGAGAGGGCCCACAGU----- 6
0,-1

-----UGGUGCGGAGAGGGCCCACAGUG----- 2
0,0

-----UGGUGCGGAGAGGGCCCACAGUGu----- 3
0,0

-----CUGUAUGCCCCUACCGCUCA----- 2

0,0

-----CUGUAUGCCCUCACCGCUCAGC----- 11
0,2

-----UGUAUGCCCCUACCGCUCAGC----- 3

1,2

>hsa-mi r-7-1 MA:24-46;mi :66-87 SRX018959

uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucgaCAACAAUCACAGUC
UGCCAUauggcacaggccaugccucucacag

-----UGGAAGACUAGUGAUUUUG-----
----- 2 0,-4 -----

-----UGGAAGACUAGUGAUUUUGU-----
 ----- 2 0,-3 -----

UGGAAGACUAGUGAUUUUG	2	0,-4
UGGAAGACUAGUGAUUUUGU	2	0,-3
UGGAAGACUAGUGAUUUUGUU	5	0,-2
UGGAAGACUAGUGAUUUUGUUG	6	0,-1
UGGAAGACUAGUGAUUUUGUUGU	24	0,0
UGGAAGACUAGUGAUUUUGUUGUU	158	0,1
GGAAGACUAGUGAUUUUGUUGUU	2	1,1

>hsa-mir-7-3 5p:31-53 SRX018959

agauuagaguggcuguggucuagugcugugUGGAAGACUAGUGAUUUUGUUGUucugauguacuacgacaacaagucaca
gccggccuauagcgagacucccuucgac

.....(((.((...((((.((((((((.((..(.((.(((((((.(((((((.(.....)).)))))))))))))))))
).).)).)))))))))))))))))).))....

UGGAAGACUAGUGAUUUUG	2	0,-4
UGGAAGACUAGUGAUUUUGU	2	0,-3
UGGAAGACUAGUGAUUUUGUU	5	0,-2
UGGAAGACUAGUGAUUUUGUUG	6	0,-1
UGGAAGACUAGUGAUUUUGUUGU	24	0,0
UGGAAGACUAGUGAUUUUGUUGUU	158	0,1
GGAAGACUAGUGAUUUUGUUGUU	2	1,1

>hsa-mi r-708 MA:11-33;mi :57-78 SRX018959

aacugccucAAGGAGCUUACAAUCUAGCUGGGgguaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcagggga


```

-----AAGGAGCUUACAAUCUAG-----
-----      5      0,-5
-----AAGGAGCUUACAAUCUAGCU-----
-----     13      0,-3
-----AAGGAGCUUACAAUCUAGCUG-----
-----      3      0,-2
-----AAGGAGCUUACAAUCUAGCUGG-----
-----     10      0,-1
-----AAGGAGCUUACAAUCUAGCUGGa-----
-----      4      0,-1
-----AAGGAGCUUACAAUCUAGCUGGu-----
-----      3      0,-1
-----AAGGAGCUUACAAUCUAGCUGGG-----
-----     10      0,0
-----AACUAGACUGUGAGCUUCUAGA-----
-----      5      1,1

```

.....(((((((.....((((((((((((((((((((.....((((((..(.....)..)).))))).)))))))).)))))))).
)))).
 -----AUCUCGCUGGGGCCUCCA-----
 -----4-1,0-----

(((((((.....)))))))).)))).
)))).)))).)))).
 -----UGCGGGCUAGGGCUAACA-----
 ----- 2 0,-3
 -----UGCGGGCUAGGGCUAACAG-----
 ----- 10 0,-2
 -----UGCGGGCUAGGGCUAACAGa-----
 ----- 3 0,-2

```

-----UGCGGGGCUAGGGCUAACAGu-----
-----      7      0,-2
-----UGCGGGGCUAGGGCUAACAGC-----
-----     35      0,-1
-----UGCGGGGCUAGGGCUAACAGCu-----
-----      3      0,-1
-----UGCGGGGCUAGGGCUAACAGCA-----
-----    175      0,0
-----UGCGGGGCUAGGGCUAACAGCAa-----
-----     64      0,0
-----UGCGGGGCUAGGGCUAACAGCAaa-----
-----      4      0,0
-----UGCGGGGCUAGGGCUAACAGCAau-----
-----      3      0,0
-----UGCGGGGCUAGGGCUAACAGCAu-----
-----   186      0,0
-----UGCGGGGCUAGGGCUAACAGCAuu-----
-----     23      0,0
-----GCGGGGCUAGGGCUAACAG-----
-----      3      1,-2
-----GCGGGGCUAGGGCUAACAGC-----
-----      2      1,-1
-----GCGGGGCUAGGGCUAACAGCA-----
-----     39      1,0
-----GCGGGGCUAGGGCUAACAGCAa-----
-----      8      1,0
-----GCGGGGCUAGGGCUAACAGCAu-----
-----     18      1,0
-----GCGGGGCUAGGGCUAACAGCAuu-----
-----      2      1,0

```

>hsa-mir-758 3p:52-73 SRX018959

gccuggauacaugagaugguugaccagagagcacacgcuuauuuugugccgUUUGUGACCUGGUCCACUAACCCucagua
ucuaugc

```

...(((((((.(((((.(((.((((((...(((.(((.....).)))..)))...)))))).))))....
)))....

```

```

-----AUGGUUGACCAGAGAGCA-----
-----      4

```

-----AUGGUUGACCAGAGAGCACA-----
----- 13
-----AUGGUUGACCAGAGAGCACAC-----
----- 26

```

>hsa-mir-766      3p:65-86      SRX018959
gcauccucaggaccugggcuugggugguaggaggaauuggugcuggucuauuuuggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaauugucauaggagc
((.(((...(((...(((.((((((...(((...(((...(((...(((...(((...(((...(((...(((...
)))...)))...)))...)))...)))...)))...)))...)))...)))...)))...)))...)))...)))
-----AGGAGGAAUUGGUGCUGGUaa-----
----- 2
-----AGGAGGAAUUGGUGCUGGUCU-----
----- 3
-----AGGAGGAAUUGGUGCUGGUCUU-----
----- 19
-----AGGAGGAAUUGGUGCUGGUCUUa-----
----- 10
-----AGGAGGAAUUGGUGCUGGUCUUaa-----
----- 5
-----AGGAGGAAUUGGUGCUGGUCUUau-----
----- 4
-----AGGAGGAAUUGGUGCUGGUCUUU-----
----- 60
-----AGGAGGAAUUGGUGCUGGUCUUUu-----
----- 6

```


-----AGGCAGCGGGGUGUAGUGGA-----	13
0,-2	
-----AGGCAGCGGGGUGUAGUGGAa-----	8
0,-2	
-----AGGCAGCGGGGUGUAGUGGAaa-----	10
0,-2	
-----AGGCAGCGGGGUGUAGUGGAU-----	65
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUu-----	23
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUuu-----	2
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUA-----	21
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAa-----	23
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAaa-----	18
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAau-----	18
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAu-----	10
0,0	
-----GGCAGCGGGGUGUAGUGGAUAa-----	2
1,0	

>hsa-mir-889 3p:49-69 SRX018959

gugcuuaaagaauaggcuguccguaguauggucucuauauuuauaugaUUAUAUCGGACAACCAUUGUuuuaguaucc
 ((((((.(((.((((((.((((((.....(((((((.....))).))))).))))).))))).))))).))))).))..

-----UUAUAUCGGACAACCAU-----	
4 0,-3	
-----UUAUAUCGGACAACCAUa-----	
10 0,-3	
-----UUAUAUCGGACAACCAUU-----	
40 0,-2	
-----UUAUAUCGGACAACCAUUG-----	
6 0,-1	
-----UUAUAUCGGACAACCAUUGU-----	
25 0,0	

```

-----UUAUAUCGGACAACCAUUGUaa-----
4    0,0
-----UUAUAUCGGACAACCAUUGUa-----
2    0,1

```

>hsa-mir-890 5p:11-31 SRX018959

```

ggaagugcccUACUUGGAAAGGCAUCAGUUGcuuagauuacauguacuaaucccuucugaguagaguaagucuua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UACUUGGAAAGGCAUCAGUa-----
2    0,-1

```

>hsa-mir-9-1 MA:16-38;mi:55-76 SRX018959

```

cgggguugguuguuaUCUUUGGUUAUCUAGCUGUAUGAgugguguggagucuucAUAAGCUAGAUACCGAAAGUaaaa
auaacccca
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UCUUUGGUUAUCUAGCUGU-----
----- 2    0,-4
-----UCUUUGGUUAUCUAGCUGUAUG-----
----- 2    0,-1
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 4    0,0
-----AUAAGCUAGAUACCGAAAGU-----
----- 5    0,0
-----UAAAGCUAGAUACCGAAAGU-----
----- 5    1,0

```

>hsa-mir-9-2 MA:16-38;mi:53-74 SRX018959

```

ggaagcgaguuguuaUCUUUGGUUAUCUAGCUGUAUGAguguauuggucuucAUAAGCUAGAUACCGAAAGUaaaaac
uccuua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UCUUUGGUUAUCUAGCUGU-----
----- 2    0,-4
-----UCUUUGGUUAUCUAGCUGUAUG-----
----- 2    0,-1
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 4    0,0

```

```

-----AUAAGCUAGAUACCGAAAGU-----
----- 5 0,0
-----UAAAGCUAGAUACCGAAAGU-----
----- 5 1,0

```

>hsa-mir-9-3 MA:16-38;mi:55-76 SRX018959

```

ggaggcccgguucucUCUUUGGUUAUCUAGCUGUAUGAgugccacagagccgucAUAAGCUAGAUACCGAAAGUagaa
augauucuca

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UCUUUGGUUAUCUAGCUGU-----
----- 2 0,-4
-----UCUUUGGUUAUCUAGCUGUAUG-----
----- 2 0,-1
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 4 0,0
-----AUAAGCUAGAUACCGAAAGU-----
----- 5 0,0
-----UAAAGCUAGAUACCGAAAGU-----
----- 5 1,0

```

>hsa-mir-92a-1 mi:11-33;MA:48-69 SRX018959

```

cuuucuacacAGGUUGGGAUCGGUUGCAAUGCUguguuucuguauggUAUUGCACUUGUCCCGCCUGUugaguugg
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AGGUUGGGAUCGGUUGCAAU-----
5 0,-3
-----AGGUUGGGAUCGGUUGCAAUa-----
3 0,-3
-----AGGUUGGGAUCGGUUGCAAUG-----
34 0,-2
-----AGGUUGGGAUCGGUUGCAAUGu-----
2 0,-2
-----AGGUUGGGAUCGGUUGCAAUGC-----
27 0,-1
-----AGGUUGGGAUCGGUUGCAAUGCU-----
194 0,0
-----AGGUUGGGAUCGGUUGCAAUGCUu-----
3 0,0

```


		-GGUUGGGAUCGGUUGCAAUGCU-
5	1,0	
		-UAUUGCACUUGUCCCGGC-
75	0,-4	
		-UAUUGCACUUGUCCCGGC _a -
2	0,-4	
		-UAUUGCACUUGUCCCGGC _{uu} -
2	0,-4	
		-UAUUGCACUUGUCCCGGCC-
437	0,-3	
		-UAUUGCACUUGUCCCGGCC _{au} -
3	0,-3	
		-UAUUGCACUUGUCCCGGCCU-
6459	0,-2	
		-UAUUGCACUUGUCCCGGCCU _a -
4	0,-2	
		-UAUUGCACUUGUCCCGGCCU _{aa} -
8	0,-2	
		-UAUUGCACUUGUCCCGGCCU _{au} -
4	0,-2	
		-UAUUGCACUUGUCCCGGCCU _u -
12	0,-2	
		-UAUUGCACUUGUCCCGGCCU _{uu} -
10	0,-2	
		-UAUUGCACUUGUCCCGGCCUG-
189	0,-1	
		-UAUUGCACUUGUCCCGGCCUG _a -
9	0,-1	
		-UAUUGCACUUGUCCCGGCCUG _{aa} -
7	0,-1	
		-UAUUGCACUUGUCCCGGCCUG _{au} -
5	0,-1	
		-UAUUGCACUUGUCCCGGCCUGU-
383	0,0	
		-UAUUGCACUUGUCCCGGCCUGU _a -
76	0,0	
		-UAUUGCACUUGUCCCGGCCUGU _{aa} -
72	0,0	

0,-4	-----UAUUGCACUUGUCCCGGCuu-----	2
0,-3	-----UAUUGCACUUGUCCCGGCC-----	437
0,-3	-----UAUUGCACUUGUCCCGGCCau-----	3
0,-2	-----UAUUGCACUUGUCCCGGCCU-----	6459
0,-2	-----UAUUGCACUUGUCCCGGCCUa-----	4
0,-2	-----UAUUGCACUUGUCCCGGCCUaa-----	8
0,-2	-----UAUUGCACUUGUCCCGGCCUau-----	4
0,-2	-----UAUUGCACUUGUCCCGGCCUu-----	12
0,-2	-----UAUUGCACUUGUCCCGGCCUuu-----	10
0,-1	-----UAUUGCACUUGUCCCGGCCUG-----	189
0,-1	-----UAUUGCACUUGUCCCGGCCUGa-----	9
0,-1	-----UAUUGCACUUGUCCCGGCCUGaa-----	7
0,-1	-----UAUUGCACUUGUCCCGGCCUGau-----	5
0,0	-----UAUUGCACUUGUCCCGGCCUGU-----	383
0,0	-----UAUUGCACUUGUCCCGGCCUGUa-----	76
0,0	-----UAUUGCACUUGUCCCGGCCUGUaa-----	72
0,0	-----UAUUGCACUUGUCCCGGCCUGUau-----	115
0,1	-----UAUUGCACUUGUCCCGGCCUGUGu-----	2
1,-3	-----AUUGCACUUGUCCCGGCC-----	10

1,-2	-AUUGCACUUGUCCCGGCCU-	94
1,-1	-AUUGCACUUGUCCCGGCCUG-	2
1,0	-AUUGCACUUGUCCCGGCCUGU-	2
1,0	-AUUGCACUUGUCCCGGCCUGU _a -	2
1,0	-AUUGCACUUGUCCCGGCCUGU _{aa} -	2

```

-----UAUUGCACUCGUCCCGGCCU
CC-----17 0,0
-----UAUUGCACUCGUCCCGGCCU
CCa-----7 0,0
-----UAUUGCACUCGUCCCGGCCU
CCaa-----3 0,0
-----UAUUGCACUCGUCCCGGCCU
CCau-----6 0,0
-----UAUUGCACUCGUCCCGGCCU
CCu-----7 0,0
-----UAUUGCACUCGUCCCGGCCU
CCuu-----5 0,0

```

>hsa-mir-93 MA:11-33;mi:50-71 SRX018959

```

cuggggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagcccccg
((((((((((..((((((((((((((..((((..((.....))..))))))))))))..))))))..)))))))))
-----CAAAGUGCUGUUCGUGCA-----
90 0,-5
-----CAAAGUGCUGUUCGUGCAG-----
200 0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
78 0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
125 0,-2
-----CAAAGUGCUGUUCGUGCAGGUu-----
3 0,-2
-----CAAAGUGCUGUUCGUGCAGGUA-----
321 0,-1
-----CAAAGUGCUGUUCGUGCAGGUa-----
33 0,-1
-----CAAAGUGCUGUUCGUGCAGGUau-----
2 0,-1
-----CAAAGUGCUGUUCGUGCAGGUau-----
41 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
21 0,0
-----CAAAGUGCUGUUCGUGCAGGUAGU-----
2 0,1

```

```

-----AAAGUGCUGUUCGUGCAG-----
12  1,-4
-----AAAGUGCUGUUCGUGCAGG-----
6   1,-3
-----AAAGUGCUGUUCGUGCAGGU-----
3   1,-2
-----AAAGUGCUGUUCGUGCAGGUA-----
9   1,-1
-----AAAGUGCUGUUCGUGCAGGUAa-----
2   1,-1
-----AAAGUGCUGUUCGUGCAGGUAG-----
3   1,0
-----ACUGCUGAGCUAGCACUUC-----
3   0,-3
-----ACUGCUGAGCUAGCACUUCCC-----
5   0,-1
-----ACUGCUGAGCUAGCACUUCCCGu-----
5   0,0
-----ACUGCUGAGCUAGCACUUCCCGA-----
4   0,1
-----ACUGCUGAGCUAGCACUUCCCGAa-----
2   0,1

```

>hsa-mir-940 3p:60-80 SRX018959

gugagguguggggcccgccccaggagcggggcccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugacccccac

(((((((.....(((((((((((((.....)))...)))...)))...)))))))))
)))))))))...)))

```

-----AAGGCAGGGCCCCCGCUCCCC-----
----- 2   0,-1
-----AAGGCAGGGCCCCCGCUCCCC
----- 7   0,0
-----AAGGCAGGGCCCCCGCUCCCC
u----- 3   0,0
-----AAGGCAGGGCCCCCGCUCCCC
uu----- 2   0,0

```

>hsa-mir-941-1 3p:71-93 SRX018959

cacggaagaggacacacccggcuguguggacaugugcccagggccccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCcaggggccccgggacagcgccacgg

.....(((((((.(.((((((((((.(.(((.(.((...(((((.(...).)).))).)))))).
.)).)))))))).))))..)).)))....

-----CACCCGGCUG

UGUGCACAUGUG----- 5 0,-1

-----CACCCGGCUG

UGUGCACAUGUGa----- 2 0,-1

-----CACCCGGCUG

UGUGCACAUGUGu----- 3 0,-1

-----CACCCGGCUG

UGUGCACAUGUGC----- 6 0,0

>hsa-mir-941-2 3p:71-93 SRX018959

>hsa-mir-941-3 3p:71-93 SRX018959

cacggaagaggacgcacccggcugugugcacauugcccagggccccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUUGUGCccagggccccgggacagcgccaugg

-----CACCCGGCUG
UGUGCACAUGUGC----- 6 0,0

>hsa-mir-944 3p:54-75 SRX018959

guuccagacacaucucaucugauauacaauuuucuuaaauguauaaagagAAAUUAUUGUACAUCGGAUGAGcugug
ucugggau

-----AAAUUAUUGUACAUCGGAUGAG-----
-----12 0,0-----

-----AAUUAUUGUACAUCGGAUGAG-----
-----2 1,0-----

```
>hsa-mir-95 3p:49-70      SRX018959
```

aacacagugggcacucaauaaaugucuguugaauugaaaugcguuacaUUCACGGGUUUUAUUGAGCAcccacucugu
g

.(((.((((.(.((((((.(.(((((((((.(.....)).)))))))).)).)))))))).)).)))))).))
 .

-----UCAUAAAUGUCUGUUGAAa-----
- 2

-----UUCAACGGGUAUUUAUUG-----
- 329 0,-4

-----UUCAACGGGUAUUUAUUGA-----
- 311 0,-3

-----UUCAACGGGUAUUUAUUGAaa-----
- 2 0,-3

-----UUCAACGGGUAUUUAUUGAG-----
- 310 0,-2

-----UUCAACGGGUAUUUAUUGAGu-----
- 2 0,-2

-----UUCAACGGGUAUUUAUUGAGC-----
- 9 0,-1

-----UUCAACGGGUAUUUAUUGAGCA-----

-----UUCAACGGGUAUUUAUUGAGCAa-----
- 19 0.0

-----UUCAACGGGUAUUUAUUGAGCAu-----
- 2 0,0

-			UCAAACGGGGUAUUUAUUGA-
-	15	1,-3	
-			UCAAACGGGGUAUUUAUUGAG-
-	2	1,-2	
-			UCAAACGGGGUAUUUAUUGAGCAa-
-	9	1,0	
-			UCAAACGGGGUAUUUAUUGAGCAu-
-	5	1,0	
-			UCAAACGGGGUAUUUAUUGAGCAC-
-	2	1,1	
-			CAACGGGGUAUUUAUUGAG-
-	7	2,-2	
-			CAACGGGGUAUUUAUUGAGCAa-
-	7	2,0	

```
>hsa-mir-98 5p:22-43      SRX018959
```

aggauucugcucaugccagggUGAGGUAGUAAGUUGUAUUGUUguggggguaggggauuuaggccccaauuagaagauaac
uuuacaacuuacuacuuuucccugguguguggcatauauca

.((((..(((((((((((((((.(((((((((((((((((((.(((((((((((.....)))))).....))))).
.))))))))))))))))))).)))).

UGAGGUAGUAAGUUGUAU-	92	0,-4
UGAGGUAGUAAGUUGUAUa-	7	0,-4
UGAGGUAGUAAGUUGUAUU-	54	0,-3
UGAGGUAGUAAGUUGUAUUG-	49	0,-2
UGAGGUAGUAAGUUGUAUUGU-	68	0,-1
UGAGGUAGUAAGUUGUAUUGUU-	81	0,0
UGAGGUAGUAAGUUGUAUUGUUa-	3	0,0
UGAGGUAGUAAGUUGUAUUGUUaa-	2	0,0
UGAGGUAGUAAGUUGUAUUGUUu-	6	0,0

-----C
UAUACAACUACUACUUCCa----- 6

-----C
UAUACAACUACUACUUCU----- 3

 UAUACAACUACUACUUCCu----- 8

>hsa-mi r-99a MA:13-34;mi :50-71 SRX018959

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

..(((((((((((.(((((((((.(((.((((((.(.....)))))))).)).)).)))))).)).)))))))).
.

-----AAACCCGUAGAUCCGAUC-----
- 4 -1,-5

-----AAACCCGUAGAUCCGAUCU-----
- 5 -1,-4

-----AAACCCGUAGAUCCGAUCUU-----
- 20 -1,-3

-----AAACCCGUAGAUCCGAUCUUG-----
- 96 -1,-2

-----AAACCCGUAGAUCCGAUCUUGa-----
- 2 -1,-2

-----AAACCCGUAGAUCCGAUCUUGU-----
- 557 -1,-1

-----AAACCCGUAGAUCCGAUCUUGUa-----
- 5 -1,-1

-----AAACCCGUAGAUCCGAUCUUGUG-----
- 14 -1,0

-----AAACCCGUAUAUCCGAUCUUGUGa-----
- 11 -1,0

-----AAACCCGUAGAUCCGAUCUUGUGu-----
- 5 -1,0

-----AACCCGUAGAUCCGAUCU-----
- 1107 0,-4

-----AACCCGUAGAUCCGAUCUa-----
- 3 0,-4

-----AACCCGUAGAUCCGAUCUU-----
- 2072 0,-3

-----AACCCGUAGAUCCGAUCUa-----
- 56 0,-3
-----AACCCGUAGAUCCGAUCUau-----
- 4 0,-3
-----AACCCGUAGAUCCGAUCUu-----
- 90 0,-3
-----AACCCGUAGAUCCGAUCUuu-----
- 56 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 12947 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
- 235 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
- 8 0,-2
-----AACCCGUAGAUCCGAUCUUGau-----
- 5 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 57539 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
- 296 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 97 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
- 9 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----
- 408 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----
- 25 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 47151 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 13565 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 277 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----
- 31 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 4147 0,0

```

-----AACCCGUAGAUCCGAUCUUGUGuu-----
- 46 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 17 0,1
-----AACCCGUAGAUCCGAUCUUGUGGaa-----
- 2 0,1
-----ACCCGUAGAUCCGAUCUU-----
- 7 1,-3
-----ACCCGUAGAUCCGAUCUUG-----
- 6 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----
- 48 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 45 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 21 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----
- 9 1,0
-----CAAGCUCGCUUCUAUGGG-----
- 3 0,-4
-----CAAGCUCGCUUCUAUGGGU-----
- 2 0,-3
-----CAAGCUCGCUUCUAUGGGUC-----
- 6 0,-2
-----CAAGCUCGCUUCUAUGGGUCU-----
- 10 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 12 0,0
-----CAAGCUCGCUUCUAUGGGUCUGa-----
- 3 0,0
-----CAAGCUCGCUUCUAUGGGUCUGaa-----
- 2 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 9 0,1
-----CAAGCUCGCUUCUAUGGGUCUGUu-----
- 2 0,1
-----AAGCUCGCUUCUAUGGGUuu-----
- 2 1,-3

```

```

-----AAGCUCGCUUCUAUGGGUC-----
- 2 1,-2
-----AAGCUCGCUUCUAUGGGUCUG-----
- 2 1,0

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018959

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCUU----- 10 0,-3
-----CACCCGUAGAACCGACCUUG----- 17 0,-2
-----CACCCGUAGAACCGACCUUGa----- 2 0,-2
-----CACCCGUAGAACCGACCUUGC----- 225 0,-1
-----CACCCGUAGAACCGACCUUGCa----- 9 0,-1
-----CACCCGUAGAACCGACCUUGCu----- 2 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 218 0,0
-----CACCCGUAGAACCGACCUUGCGa----- 79 0,0
-----CACCCGUAGAACCGACCUUGCGaa----- 3 0,0
-----CACCCGUAGAACCGACCUUGCGau----- 3 0,0
-----CACCCGUAGAACCGACCUUGCGu----- 74 0,0
-----CACCCGUAGAACCGACCUUGCGG----- 8 0,1
-----CACCCGUAGAACCGACCUUGCGGau----- 2 0,1
-----ACCCGUAGAACCGACCUUGC----- 3 1,-1
-----ACCCGUAGAACCGACCUUGCG----- 6 1,0
-----ACCCGUAGAACCGACCUUGCGa----- 2 1,0
-----ACCCGUAGAACCGACCUUGCGu----- 2 1,0
-----CAAGCUCGUGUCUGUGGGUCC----- 3 0,-1
-----CAAGCUCGUGUCUGUGGGUCCGa----- 2 0,0
-----CAAGCUCGUGUCUGUGGGUCCGU----- 2 0,1

```

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018960

```

ugggaUGAGGUAGUAGGUUGUAUAGUUnuaggguacacccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
(((((((((.....)))))))))))))
----AUGAGGUAGUAGGUUGUAU-----
12 -1,-4
----UGAGGUAGUAGGUUGUAU-----
360 0,-4
----UGAGGUAGUAGGUUGUAUu-----
26 0,-4

```

-----UGAGGUAGUAGGUUGUAUuu-----
 7 0, -4
 -----UGAGGUAGUAGGUUGUAUA-----
 502 0, -3
 -----UGAGGUAGUAGGUUGUAUAa-----
 122 0, -3
 -----UGAGGUAGUAGGUUGUAUAaa-----
 30 0, -3
 -----UGAGGUAGUAGGUUGUAUAau-----
 2 0, -3
 -----UGAGGUAGUAGGUUGUAUAu-----
 22 0, -3
 -----UGAGGUAGUAGGUUGUAUAuu-----
 5 0, -3
 -----UGAGGUAGUAGGUUGUAUAG-----
 2775 0, -2
 -----UGAGGUAGUAGGUUGUAUAGa-----
 178 0, -2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 53 0, -2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 8 0, -2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 12629 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 430 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 356 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 50 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 17845 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 3340 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 309 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 88 0, 0

-----UGAGGUAGUAGGUUGUAUAGUUU-----	
1271 0,1	
-----UGAGGUAGUAGGUUGUAUAGUUUU-----	
18 0,2	
-----GAGGUAGUAGGUUGUAUAG-----	
3 1,-2	
-----GAGGUAGUAGGUUGUAUAGU-----	
11 1,-1	
-----GAGGUAGUAGGUUGUAUAGUU-----	
12 1,0	
>hsa-let-7a-2 MA:5-26;mi:50-71 SRX018960	
agguUGAGGUAGUAGGUUGUAUAGUUuagaauuacaucaagggagauaaCUGUACAGCCUCCUAGCUUCCu	
((((.(((.((((.((((((((((((((((.....(..(.....)...)...))))))))))))))))).)))..)))	
---UUGAGGUAGUAGGUUGUAUAGU-----	2
-1,-1	
---UGAGGUAGUAGGUUGUAU-----	360
0,-4	
---UGAGGUAGUAGGUUGUAUu-----	26
0,-4	
---UGAGGUAGUAGGUUGUAUuu-----	7
0,-4	
---UGAGGUAGUAGGUUGUAUA-----	502
0,-3	
---UGAGGUAGUAGGUUGUAUAa-----	122
0,-3	
---UGAGGUAGUAGGUUGUAUAaa-----	30
0,-3	
---UGAGGUAGUAGGUUGUAUAau-----	2
0,-3	
---UGAGGUAGUAGGUUGUAUAu-----	22
0,-3	
---UGAGGUAGUAGGUUGUAUAuu-----	5
0,-3	
---UGAGGUAGUAGGUUGUAUAG-----	2775
0,-2	
---UGAGGUAGUAGGUUGUAUAGa-----	178
0,-2	

--GUGAGGUAGUAGGUUGUAUAGU-----	17
-1, -1	
---UGAGGUAGUAGGUUGUAU-----	360
0, -4	
---UGAGGUAGUAGGUUGUAUu-----	26
0, -4	
---UGAGGUAGUAGGUUGUAUuu-----	7
0, -4	
---UGAGGUAGUAGGUUGUAUA-----	502
0, -3	
---UGAGGUAGUAGGUUGUAUAa-----	122
0, -3	
---UGAGGUAGUAGGUUGUAUAaa-----	30
0, -3	
---UGAGGUAGUAGGUUGUAUAau-----	2
0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	22
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	5
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	2775
0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	178
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	53
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	8
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
12629 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	430
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	356
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	50
0, -1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
17845 0, 0	

---UGAGGUAGUAGGUUGUAUAGUUa-----	3340
0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	309
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	88
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	1271
0,1	
---GAGGUAGUAGGUUGUAUAG-----	3
1,-2	
---GAGGUAGUAGGUUGUAUAGU-----	11
1,-1	
---GAGGUAGUAGGUUGUAUAGUU-----	12
1,0	

>hsa-let-7b MA:6-27;mi:60-81 SRX018960

cggggUGAGGUAGUAGGUUGUGUGGUUucagggcagugauguugccccucggaagauaaCUAUACAACCUACUGCCUUC

(((((.(((((((((((((((((((((((.....))))))))))))))))
)))

-----UGAGGUAGUAGGUUGUGU-----

--- 3113 0,-4

-----UGAGGUAGUAGGUUGUGU_a-----

--- 53 0,-4

-----UGAGGUAGUAGGUUGUGU_{aa}-----

--- 169 0,-4

-----UGAGGUAGUAGGUUGUGU_{au}-----

--- 15 0,-4

-----UGAGGUAGUAGGUUGUGU_u-----

--- 10 0,-4

-----UGAGGUAGUAGGUUGUGUuu-----

--- 3 0,-4

-----UGAGGUAGUAGGUUGUGUG-----

--- 11252 0,-3

-----UGAGGUAGUAGGUUGUGUGa-----

--- 361 0,-3

-----UGAGGUAGUAGGUUGUGUG_{aa}-----

--- 95 0,-3

-----UGAGGUAGUAGGUUGUGUGau-----
--- 2 0,-3
-----UGAGGUAGUAGGUUGUGUGu-----
--- 230 0,-3
-----UGAGGUAGUAGGUUGUGUGuu-----
--- 25 0,-3
-----UGAGGUAGUAGGUUGUGUGG-----
--- 6118 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 313 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 151 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 56 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 11317 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 1776 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 3228 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 3085 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 26118 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 9529 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 1650 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 1480 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 5867 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 444 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 58 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 9 0,1

```

-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 231 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 4 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 9 0,2
-----GAGGUAGUAGGUUGUGUG-----
--- 28 1,-3
-----GAGGUAGUAGGUUGUGUGG-----
--- 16 1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 43 1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 9 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 12 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 10 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 159 1,0
-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 88 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 5 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 19 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 80 1,1
-----GAGGUAGUAGGUUGUGUGGUUUu-----
--- 2 1,1
-----AGGUAGUAGGUUGUGUGGUa-----
--- 4 2,-1
-----AGGUAGUAGGUUGUGUGGUU-----
--- 7 2,0
-----AGGUAGUAGGUUGUGUGGUUa-----
--- 3 2,0
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 3 2,1

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018960

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc

((.((((((.(((.(((.((((((((((((((.((.(.((.....)).)).)))))))))))))).)).)).)).))

-----GUUGAGGUAGUAGGUUGUAUGGU-----

---- 3 -2,-1

-----GUUGAGGUAGUAGGUUGUAUGGU-----

---- 6 -2,0

-----UUGAGGUAGUAGGUUGUAUG-----

---- 5 -1,-3

-----UUGAGGUAGUAGGUUGUAUGG-----

---- 20 -1,-2

-----UUGAGGUAGUAGGUUGUAUGGU-----

---- 149 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUa-----

---- 43 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUau-----

---- 7 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGU-----

---- 152 -1,0

-----UUGAGGUAGUAGGUUGUAUGGUUU-----

---- 5 -1,1

-----UGAGGUAGUAGGUUGUAU-----

---- 360 0,-4

-----UGAGGUAGUAGGUUGUAUu-----

---- 26 0,-4

-----UGAGGUAGUAGGUUGUAUuu-----

---- 7 0,-4

-----UGAGGUAGUAGGUUGUAUG-----

---- 753 0,-3

-----UGAGGUAGUAGGUUGUAUGa-----

---- 12 0,-3

-----UGAGGUAGUAGGUUGUAUGaa-----

---- 8 0,-3

-----UGAGGUAGUAGGUUGUAUGau-----

---- 4 0,-3

```

-----UGAGGUAGUAGGUUGUAUGu-----
---- 20 0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
---- 23 0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
---- 2879 0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
---- 148 0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 217 0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 25 0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 12447 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----
---- 2787 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 1499 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 732 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 47324 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 5959 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 458 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 283 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 2622 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 33 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 81 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUAa-----
---- 6 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUAG-----
---- 2 0,3

```

```

-----GAGGUAGUAGGUUGUAUGG-----
---- 6 1,-2
-----GAGGUAGUAGGUUGUAUGGU-----
---- 34 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 23 1,-1
-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 18 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 2 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----
---- 211 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 46 1,0
-----GAGGUAGUAGGUUGUAUGGUUaa-----
---- 3 1,0
-----GAGGUAGUAGGUUGUAUGGUUau-----
---- 3 1,0
-----GAGGUAGUAGGUUGUAUGGUUU-----
---- 18 1,1
-----AGGUAGUAGGUUGUAUGGU-----
---- 3 2,-1
-----AGGUAGUAGGUUGUAUGGUaa-----
---- 3 2,-1

```

>hsa-let-7d MA:8-29;mi:62-83 SRX018960

```

ccuaggaAGAGGUAGUAGGUUGCAUAGUUuuagggcagggauuuugcccacaaggagguaaCUAUACGACCUGCUGCCUU
UCUuagg

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(((((((.(((((((((((((((.((((((.....)))))).))))))))))))))
))))))

```

```

-----AAGAGGUAGUAGGUUGCAUAGUU-----
----- 7 -1,0
-----AGAGGUAGUAGGUUGCAU-----
----- 166 0,-4
-----AGAGGUAGUAGGUUGCAUu-----
----- 9 0,-4
-----AGAGGUAGUAGGUUGCAUA-----
----- 177 0,-3

```



```

-----AGAGGUAGUAGGUUGCAUAa-----
----- 23  0,-3
-----AGAGGUAGUAGGUUGCAUAaa-----
----- 3   0,-3
-----AGAGGUAGUAGGUUGCAUAu-----
----- 6   0,-3
-----AGAGGUAGUAGGUUGCAUAG-----
----- 399 0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 14  0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 12  0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 6   0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 573 0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 75  0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 14  0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 8   0,-1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 5884  0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 711 0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 32  0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 21  0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 710 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 14  0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 16  0,2
-----GAGGUAGUAGGUUGCAUAGU-----
----- 3   1,-1

```


-----UGAGGUAGUAGAUUGUAUAa-----
 ----- 17 0,-3
 -----UGAGGUAGUAGAUUGUAUAaa-----
 ----- 16 0,-3
 -----UGAGGUAGUAGAUUGUAUAu-----
 ----- 3 0,-3
 -----UGAGGUAGUAGAUUGUAUAG-----
 ----- 603 0,-2
 -----UGAGGUAGUAGAUUGUAUAGa-----
 ----- 38 0,-2
 -----UGAGGUAGUAGAUUGUAUAGaa-----
 ----- 24 0,-2
 -----UGAGGUAGUAGAUUGUAUAGau-----
 ----- 2 0,-2
 -----UGAGGUAGUAGAUUGUAUAGU-----
 ----- 3229 0,-1
 -----UGAGGUAGUAGAUUGUAUAGUa-----
 ----- 123 0,-1
 -----UGAGGUAGUAGAUUGUAUAGUaa-----
 ----- 275 0,-1
 -----UGAGGUAGUAGAUUGUAUAGUau-----
 ----- 26 0,-1
 -----UGAGGUAGUAGAUUGUAUAGUU-----
 ----- 3712 0,0
 -----UGAGGUAGUAGAUUGUAUAGUUa-----
 ----- 2754 0,0
 -----UGAGGUAGUAGAUUGUAUAGUUaa-----
 ----- 189 0,0
 -----UGAGGUAGUAGAUUGUAUAGUUau-----
 ----- 24 0,0
 -----UGAGGUAGUAGAUUGUAUAGUUG-----
 ----- 185 0,1
 -----UGAGGUAGUAGAUUGUAUAGUUGa-----
 ----- 16 0,1
 -----UGAGGUAGUAGAUUGUAUAGUUGU-----
 ----- 8 0,2
 -----UGAGGUAGUAGAUUGUAUAGUUGUG-----
 ----- 2 0,3


```

-----UGAGGUAGUAGAUUGUAUAGau-----
--- 2 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 3229 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 123 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 275 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 26 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 3712 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 2754 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 189 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 24 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 485 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 2 0,2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 3 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 5 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
--- 7 1,0
-----GAGGUAGUAGAUUGUAUAGUUaa-----
--- 3 1,0

```

>hsa-let-7g MA:5-26;mi:62-82 SRX018960

aggcUGAGGUAGUAGUUUGUACAGUUugaggggucuaugauaccacccgguacaggagauaaCUGUACAGGCCACUGCCUU
GCca

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))

```

```

---CUGAGGUAGUAGUUUGUACAG-----
---- 2 -1,-2

```

```

---CUGAGGUAGUAGUUUGUACAGU-----
---- 14 -1,-1
---CUGAGGUAGUAGUUUGUACAGUaa-----
---- 4 -1,-1
---CUGAGGUAGUAGUUUGUACAGUU-----
---- 9 -1,0
---CUGAGGUAGUAGUUUGUACAGUUa-----
---- 2 -1,0
---UGAGGUAGUAGUUUGUAC-----
---- 12 0,-4
---UGAGGUAGUAGUUUGUACA-----
---- 25 0,-3
---UGAGGUAGUAGUUUGUACAa-----
---- 15 0,-3
---UGAGGUAGUAGUUUGUACAG-----
---- 359 0,-2
---UGAGGUAGUAGUUUGUACAGa-----
---- 23 0,-2
---UGAGGUAGUAGUUUGUACAGaa-----
---- 3 0,-2
---UGAGGUAGUAGUUUGUACAGU-----
---- 2227 0,-1
---UGAGGUAGUAGUUUGUACAGUa-----
---- 52 0,-1
---UGAGGUAGUAGUUUGUACAGUaa-----
---- 19 0,-1
---UGAGGUAGUAGUUUGUACAGUau-----
---- 2 0,-1
---UGAGGUAGUAGUUUGUACAGUU-----
---- 3770 0,0
---UGAGGUAGUAGUUUGUACAGUUa-----
---- 635 0,0
---UGAGGUAGUAGUUUGUACAGUUaa-----
---- 21 0,0
---UGAGGUAGUAGUUUGUACAGUUau-----
---- 27 0,0
---UGAGGUAGUAGUUUGUACAGUUU-----
---- 624 0,1

```

```

----UGAGGUAGUAGUUUGUACAGUUa-----
----      5      0,1
----UGAGGUAGUAGUUUGUACAGUUu-----
----      6      0,1
----GAGGUAGUAGUUUGUACAG-----
----     12     1,-2
----GAGGUAGUAGUUUGUACAGU-----
----     14     1,-1
----GAGGUAGUAGUUUGUACAGUa-----
----      2      1,-1
----GAGGUAGUAGUUUGUACAGUU-----
----     28     1,0
----GAGGUAGUAGUUUGUACAGUUa-----
----      3      1,0

```

>hsa-let-7i MA:6-27;mi:62-83 SRX018960

cuggcUGAGGUAGUAGUUUGUGCUGUUGgucggguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUU
GCUa

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))

```

```

----CUGAGGUAGUAGUUUGUGCU-----
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----CUGAGGUAGUAGUUUGUGCUGUa-----
----      3      -1,0
----UGAGGUAGUAGUUUGUGC-----
----     254     0,-4
----UGAGGUAGUAGUUUGUGCa-----
----      5      0,-4
----UGAGGUAGUAGUUUGUGCaa-----
----      7      0,-4
----UGAGGUAGUAGUUUGUGCU-----
----    1281      0,-3
----UGAGGUAGUAGUUUGUGCUaa-----
----      2      0,-3
----UGAGGUAGUAGUUUGUGCUu-----
----      5      0,-3
----UGAGGUAGUAGUUUGUGCUuu-----
----      4      0,-3

```



```

-----UGAGGUAGUAGUUUGUGCUG-----
---- 1313 0,-2
-----UGAGGUAGUAGUUUGUGCUGa-----
---- 37 0,-2
-----UGAGGUAGUAGUUUGUGCUGaa-----
---- 56 0,-2
-----UGAGGUAGUAGUUUGUGCUGU-----
---- 759 0,-1
-----UGAGGUAGUAGUUUGUGCUGUa-----
---- 34 0,-1
-----UGAGGUAGUAGUUUGUGCUGUaa-----
---- 96 0,-1
-----UGAGGUAGUAGUUUGUGCUGUau-----
---- 8 0,-1
-----UGAGGUAGUAGUUUGUGCUGUU-----
---- 904 0,0
-----UGAGGUAGUAGUUUGUGCUGUUa-----
---- 412 0,0
-----UGAGGUAGUAGUUUGUGCUGUUaa-----
---- 67 0,0
-----UGAGGUAGUAGUUUGUGCUGUUau-----
---- 2 0,0
-----UGAGGUAGUAGUUUGUGCUGUUu-----
---- 344 0,0
-----UGAGGUAGUAGUUUGUGCUGUUuu-----
---- 27 0,0
-----UGAGGUAGUAGUUUGUGCUGUUG-----
---- 35 0,1
-----UGAGGUAGUAGUUUGUGCUGUUGa-----
---- 8 0,1
-----UGAGGUAGUAGUUUGUGCUGUUGu-----
---- 8 0,1
-----GAGGUAGUAGUUUGUGCU-----
---- 3 1,-3
-----GAGGUAGUAGUUUGUGCUG-----
---- 3 1,-2
-----GAGGUAGUAGUUUGUGCUGU-----
---- 5 1,-1

```

```

-----GAGGUAGUAGUUUGUGCUGUau-----
----      2      1,-1
-----GAGGUAGUAGUUUGUGCUGUU-----
----      6      1,0
-----GAGGUAGUAGUUUGUGCUGUUu-----
----      2      1,0

```

>hsa-mir-1-1 3p:46-67 SRX018960

```

ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAGAAGUAUGUAUcuca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGAAUGUAAAGAAGUAUG----- 26 0,-3
-----UGGAAUGUAAAGAAGUAUGU----- 22 0,-2
-----UGGAAUGUAAAGAAGUAUGUA----- 66 0,-1
-----UGGAAUGUAAAGAAGUAUGUAa---- 18 0,-1
-----UGGAAUGUAAAGAAGUAUGUAaa--- 3 0,-1
-----UGGAAUGUAAAGAAGUAUGUAU---- 474 0,0
-----UGGAAUGUAAAGAAGUAUGUAUa--- 13 0,0

```

>hsa-mir-1-2 3p:53-74 SRX018960

```

accuacucagaguacauacuucuuuanguacccauangaacauacaauaugcuaUGGAAUGUAAAGAAGUAUGUAUuuuugg
uaggc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))).
-----UGGAAUGUAAAGAAGUAUG-----
----- 26 0,-3
-----UGGAAUGUAAAGAAGUAUGU-----
----- 22 0,-2
-----UGGAAUGUAAAGAAGUAUGUA-----
----- 66 0,-1
-----UGGAAUGUAAAGAAGUAUGUAa----
----- 18 0,-1
-----UGGAAUGUAAAGAAGUAUGUAaa---
----- 3 0,-1
-----UGGAAUGUAAAGAAGUAUGUAU----
----- 474 0,0
-----UGGAAUGUAAAGAAGUAUGUAUa----
----- 13 0,0
-----UGGAAUGUAAAGAAGUAUGUAUU----

```



```

10287  0,0
-----AACCCGUAGAUCCGAACUUGUGaa-----
1234   0,0
-----AACCCGUAGAUCCGAACUUGUGau-----
48    0,0
-----AACCCGUAGAUCCGAACUUGUGu-----
16025  0,0
-----AACCCGUAGAUCCGAACUUGUGuu-----
40    0,0
-----AACCCGUAGAUCCGAACUUGUGG-----
68    0,1
-----AACCCGUAGAUCCGAACUUGUGGa-----
3     0,1
-----ACCCGUAGAUCCGAACUU-----
4     1,-3
-----ACCCGUAGAUCCGAACUUG-----
3     1,-2
-----ACCCGUAGAUCCGAACUUGU-----
20    1,-1
-----ACCCGUAGAUCCGAACUUGUG-----
20    1,0
-----ACCCGUAGAUCCGAACUUGUGa-----
24    1,0
-----ACCCGUAGAUCCGAACUUGUGaa-----
8     1,0
-----ACCCGUAGAUCCGAACUUGUGu-----
4     1,0

```

>hsa-mir-101-1 mi:11-32;MA:47-67 SRX018960

```

ugcccuggcuCAGUUAUCACAGUGCUGAUGCUgucuaauucuaaaggUACAGUACUGUGAUAAACUGAAggauggca
.((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CAGUUAUCACAGUGCUGAUGCU----- 3
0,0
-----GGUACAGUACUGUGAUAAACUGAA----- 8
-2,0
-----GGUACAGUACUGUGAUAAACUGAAa----- 2
-2,0
-----GUACAGUACUGUGAUAAAC----- 264

```

-1,-4		-GUACAGUACUGUGAUAACa-	2
-1,-4		-GUACAGUACUGUGAUAACU-	5768
-1,-3		-GUACAGUACUGUGAUAACUa-	13
-1,-3		-GUACAGUACUGUGAUAACUaa-	25
-1,-3		-GUACAGUACUGUGAUAACUau-	3
-1,-3		-GUACAGUACUGUGAUAACUu-	2
-1,-3		-GUACAGUACUGUGAUAAACUG-	4998
-1,-2		-GUACAGUACUGUGAUAAACUGu-	55
-1,-2		-GUACAGUACUGUGAUAAACUGA-	
36753	-1,-1	-GUACAGUACUGUGAUAAACUGAu-	306
-1,-1		-GUACAGUACUGUGAUAAACUGAuu-	14
-1,-1		-GUACAGUACUGUGAUAAACUGAA-	
75188	-1,0	-GUACAGUACUGUGAUAAACUGAAa-	
18210	-1,0	-GUACAGUACUGUGAUAAACUGAAaa-	648
-1,0		-GUACAGUACUGUGAUAAACUGAAau-	17
-1,0		-GUACAGUACUGUGAUAAACUGAAu-	126
-1,0		-GUACAGUACUGUGAUAAACUGAAuu-	6
-1,0		-GUACAGUACUGUGAUAAACUGAAG-	112
-1,1		-GUACAGUACUGUGAUAAACUGAAGG-	8

-1,2		-UACAGUACUGUGAUAAACU-----	5163
0,-3		-UACAGUACUGUGAUAAACUa-----	16
0,-3		-UACAGUACUGUGAUAAACUaa-----	21
0,-3		-UACAGUACUGUGAUAAACUG-----	4346
0,-2		-UACAGUACUGUGAUAAACUGu-----	43
0,-2		-UACAGUACUGUGAUAAACUGA-----	
52896	0,-1	-UACAGUACUGUGAUAAACUGAu-----	236
0,-1		-UACAGUACUGUGAUAAACUGAuu-----	195
0,-1		-UACAGUACUGUGAUAAACUGAA-----	
159213	0,0	-UACAGUACUGUGAUAAACUGAAa-----	
43023	0,0	-UACAGUACUGUGAUAAACUGAAaa-----	1459
0,0		-UACAGUACUGUGAUAAACUGAAau-----	125
0,0		-UACAGUACUGUGAUAAACUGAAu-----	3105
0,0		-UACAGUACUGUGAUAAACUGAAuu-----	130
0,0		-UACAGUACUGUGAUAAACUGAAG-----	
11643	0,1	-UACAGUACUGUGAUAAACUGAAGu-----	1300
0,1		-UACAGUACUGUGAUAAACUGAAGuu-----	14
0,1		-UACAGUACUGUGAUAAACUGAAGG-----	25
0,2		-UACAGUACUGUGAUAAACUGAAGGA-----	13

0,3	-----ACAGUACUGUGAUAAACUG-----	5
1,-2	-----ACAGUACUGUGAUAAACUGA-----	313
1,-1	-----ACAGUACUGUGAUAAACUGAA-----	1040
1,0	-----ACAGUACUGUGAUAAACUGAAa-----	320
1,0	-----ACAGUACUGUGAUAAACUGAAaa-----	16
1,0	-----ACAGUACUGUGAUAAACUGAAau-----	8
1,0	-----ACAGUACUGUGAUAAACUGAAu-----	34
1,0	-----ACAGUACUGUGAUAAACUGAAuu-----	3
1,0	-----ACAGUACUGUGAUAAACUGAAG-----	165
1,1	-----ACAGUACUGUGAUAAACUGAAGu-----	31
1,1	-----CAGUACUGUGAUAAACUGA-----	36
2,-1	-----CAGUACUGUGAUAAACUGAA-----	212
2,0	-----CAGUACUGUGAUAAACUGAAa-----	69
2,0	-----CAGUACUGUGAUAAACUGAAaa-----	8
2,0	-----CAGUACUGUGAUAAACUGAAu-----	5
2,0	-----CAGUACUGUGAUAAACUGAAuu-----	6
2,0	-----CAGUACUGUGAUAAACUGAAG-----	15
2,1	-----CAGUACUGUGAUAAACUGAAGu-----	11
2,1	-----CAGUACUGUGAUAAACUGAAGGA-----	3

2,3

>hsa-mir-101-2 3p:49-69 SRX018960

acuguccuuuuucgguuaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGAUAAACUGAAgaugguggu

((..((.(((((((((((((((((((((((((((.(.((((.....)))))).)))))))))))))))))))))))))).))..))

-----GGUACAGUACUGUGAUAAACUGAA-----

8 -2,0

-----GGUACAGUACUGUGAUAAACUGAAa-----

2 -2,0

-----GUACAGUACUGUGAUAAAC-----

264 -1,-4

-----GUACAGUACUGUGAUAAACa-----

2 -1,-4

-----GUACAGUACUGUGAUAAACU-----

5768 -1,-3

-----GUACAGUACUGUGAUAAACUa-----

13 -1,-3

-----GUACAGUACUGUGAUAAACUaa-----

25 -1,-3

-----GUACAGUACUGUGAUAAACUau-----

3 -1,-3

-----GUACAGUACUGUGAUAAACUu-----

2 -1,-3

-----GUACAGUACUGUGAUAAACUG-----

4998 -1,-2

-----GUACAGUACUGUGAUAAACUGu-----

55 -1,-2

-----GUACAGUACUGUGAUAAACUGA-----

36753 -1,-1

-----GUACAGUACUGUGAUAAACUGAu-----

306 -1,-1

-----GUACAGUACUGUGAUAAACUGAuu-----

14 -1,-1

-----GUACAGUACUGUGAUAAACUGAA-----

75188 -1,0

-----GUACAGUACUGUGAUAAACUGAAa-----

18210 -1,0

-----GUACAGUACUGUGAUAAACUGAAaa-----

648 -1,0	-GUACAGUACUGUGAUAAACUGAAau-----
17 -1,0	-GUACAGUACUGUGAUAAACUGAAu-----
126 -1,0	-GUACAGUACUGUGAUAAACUGAAuu-----
6 -1,0	-GUACAGUACUGUGAUAAACUGAAG-----
112 -1,1	-GUACAGUACUGUGAUAAACUGAAGA-----
18 -1,2	-UACAGUACUGUGAUAAACU-----
5163 0,-3	-UACAGUACUGUGAUAAACUa-----
16 0,-3	-UACAGUACUGUGAUAAACUaa-----
21 0,-3	-UACAGUACUGUGAUAAACUG-----
4346 0,-2	-UACAGUACUGUGAUAAACUGu-----
43 0,-2	-UACAGUACUGUGAUAAACUGA-----
52896 0,-1	-UACAGUACUGUGAUAAACUGAu-----
236 0,-1	-UACAGUACUGUGAUAAACUGAuu-----
195 0,-1	-UACAGUACUGUGAUAAACUGAA-----
159213 0,0	-UACAGUACUGUGAUAAACUGAAa-----
43023 0,0	-UACAGUACUGUGAUAAACUGAAaa-----
1459 0,0	-UACAGUACUGUGAUAAACUGAAau-----
125 0,0	-UACAGUACUGUGAUAAACUGAAu-----
3105 0,0	-UACAGUACUGUGAUAAACUGAAuu-----

130 0,0	-UACAGUACUGUGAUAAACUGAAG-----
11643 0,1	-UACAGUACUGUGAUAAACUGAAGu-----
1300 0,1	-UACAGUACUGUGAUAAACUGAAGuu-----
14 0,1	-UACAGUACUGUGAUAAACUGAAGA-----
3237 0,2	-UACAGUACUGUGAUAAACUGAAGAu-----
4 0,2	-UACAGUACUGUGAUAAACUGAAGAA-----
186 0,3	-UACAGUACUGUGAUAAACUGAAGAAa-----
31 0,3	-ACAGUACUGUGAUAAACUG-----
5 1,-2	-ACAGUACUGUGAUAAACUGA-----
313 1,-1	-ACAGUACUGUGAUAAACUGAA-----
1040 1,0	-ACAGUACUGUGAUAAACUGAAa-----
320 1,0	-ACAGUACUGUGAUAAACUGAAaa-----
16 1,0	-ACAGUACUGUGAUAAACUGAAau-----
8 1,0	-ACAGUACUGUGAUAAACUGAAu-----
34 1,0	-ACAGUACUGUGAUAAACUGAAuu-----
3 1,0	-ACAGUACUGUGAUAAACUGAAG-----
165 1,1	-ACAGUACUGUGAUAAACUGAAGu-----
31 1,1	-ACAGUACUGUGAUAAACUGAAGA-----
111 1,2	-ACAGUACUGUGAUAAACUGAAGAA-----

381	0, -4	-----AGCAGCAUUGUACAGGGCUu-----
28	0, -4	-----AGCAGCAUUGUACAGGGCUuu-----
18	0, -4	-----AGCAGCAUUGUACAGGGCUA-----
1655	0, -3	-----AGCAGCAUUGUACAGGGCUAa-----
111	0, -3	-----AGCAGCAUUGUACAGGGCUAaa-----
31	0, -3	-----AGCAGCAUUGUACAGGGCUAau-----
22	0, -3	-----AGCAGCAUUGUACAGGGCUAU-----
6665	0, -2	-----AGCAGCAUUGUACAGGGCUAUa-----
194	0, -2	-----AGCAGCAUUGUACAGGGCUAUaa-----
90	0, -2	-----AGCAGCAUUGUACAGGGCUAUau-----
39	0, -2	-----AGCAGCAUUGUACAGGGCUAUu-----
378	0, -2	-----AGCAGCAUUGUACAGGGCUAUuu-----
26	0, -2	-----AGCAGCAUUGUACAGGGCUAUG-----
5178	0, -1	-----AGCAGCAUUGUACAGGGCUAUGu-----
1442	0, -1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
92	0, -1	-----AGCAGCAUUGUACAGGGCUAUGA-----
14596	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
1395	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
47	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAA-----

736	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
17	0,1	-----GCAGCAUUGUACAGGGCU-----
8	1,-4	-----GCAGCAUUGUACAGGGCUAU-----
33	1,-2	-----GCAGCAUUGUACAGGGCUAUG-----
33	1,-1	-----GCAGCAUUGUACAGGGCUAUGu-----
8	1,-1	-----GCAGCAUUGUACAGGGCUAUGA-----
119	1,0	-----GCAGCAUUGUACAGGGCUAUGAu-----
5	1,0	-----GCAGCAUUGUACAGGGCUAUGAA-----
5	1,1	-----CAGCAUUGUACAGGGCUAU-----
8	2,-2	-----CAGCAUUGUACAGGGCUAUG-----
5	2,-1	-----CAGCAUUGUACAGGGCUAUGu-----
2	2,-1	-----CAGCAUUGUACAGGGCUAUGA-----
21	2,0	-----CAGCAUUGUACAGGGCUAUGAAG-----
2	2,2	

>hsa-mir-103-2 mi:11-33;MA:48-70 SRX018960

uugugcuuucAGCUUCUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca		
..((.((((((((((.(((.((((((((((((((((.....))))).))))))))))))).))))).))))).))..		
5	0,0	-----AGCUUCUUACAGUGCUGCCUUGau-----
375	0,-5	-----AGCAGCAUUGUACAGGGC-----
381	0,-4	-----AGCAGCAUUGUACAGGGCU-----
		-----AGCAGCAUUGUACAGGGCUu-----

28	0,-4	-----AGCAGCAUUGUACAGGGCUuu-----
18	0,-4	-----AGCAGCAUUGUACAGGGCUA-----
1655	0,-3	-----AGCAGCAUUGUACAGGGCUAa-----
111	0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
31	0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
22	0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
6665	0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
194	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
90	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
39	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
378	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
26	0,-2	-----AGCAGCAUUGUACAGGGCUAUG-----
5178	0,-1	-----AGCAGCAUUGUACAGGGCUAUGu-----
1442	0,-1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
92	0,-1	-----AGCAGCAUUGUACAGGGCUAUGA-----
14596	0,0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
1395	0,0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
47	0,0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
736	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----

- 8 1,0

>hsa-mir-106b MA:12-32;mi:52-73 SRX018960

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

(((((.((((.(((((((.(((((((.(((((((.(.....)).)))))).)))))).)))))).)))))).))))))
)

-----UAAAGUGCUGACAGUGCAG-----

-- 12 0,-2

-----UAAAGUGCUGACAGUGCAGA-----

-- 9 0,-1

-----UAAAGUGCUGACAGUGCAGAU-----

-- 5 0,0

-----UAAAGUGCUGACAGUGCAGAU-----

-- 14 0,1

-----UAAAGUGCUGACAGUGCAGAUa-----

-- 13 0,1

-----UAAAGUGCUGACAGUGCAGAUu-----

-- 5 0,1

-----UACCGCACUGUGGGUACUUGaa-----

-- 8 -2,-4

-----UACCGCACUGUGGGUACUUGC-----

-- 5 -2,-3

-----UACCGCACUGUGGGUACUUGC-----

-- 29 -2,-2

-----UACCGCACUGUGGGUACUUGC-----

-- 2 -2,-1

-----UACCGCACUGUGGGUACUUGC-----

-- 2 -2,0

-----ACCGCACUGUGGGUACUUGC-----

-- 3 -1,-2

-----ACCGCACUGUGGGUACUUGC-----

-- 7 -1,-1

-----ACCGCACUGUGGGUACUUGCga-----

-- 10 -1,-1

-----ACCGCACUGUGGGUACUUGCga-----

-- 2 -1,-1

-----CCGCACUGUGGGUACUUG-----


```

-- 2 0,-4
-----CCGCACUGUGGGUACUUGC-----
-- 4 0,-3
-----CCGCACUGUGGGUACUUGC-----
-- 42 0,-2
-----CCGCACUGUGGGUACUUGCa-----
-- 2 0,-2
-----CCGCACUGUGGGUACUUGCu-----
-- 2 0,-2
-----CCGCACUGUGGGUACUUGCG-----
-- 153 0,-1
-----CCGCACUGUGGGUACUUGCGa-----
-- 167 0,-1
-----CCGCACUGUGGGUACUUGCGaa-----
-- 44 0,-1
-----CCGCACUGUGGGUACUUGCGu-----
-- 14 0,-1
-----CCGCACUGUGGGUACUUGCG-----
-- 323 0,0
-----CCGCACUGUGGGUACUUGCGaa-----
-- 4 0,0
-----CCGCACUGUGGGUACUUGCGau-----
-- 6 0,0
-----CCGCACUGUGGGUACUUGCGU-----
-- 2 0,1

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>hsa-mir-107 3p:50-72 SRX018960

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cucucugcuuucagcuucuuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCaagcacag
a
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----AGCAGCAUUGUACAGGGC-----
- 375 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 381 0,-4
-----AGCAGCAUUGUACAGGGCu-----
- 28 0,-4
-----AGCAGCAUUGUACAGGGCuuu-----

```

- 18 0,-4	-----AGCAGCAUUGUACAGGGCUA-----
- 1655 0,-3	-----AGCAGCAUUGUACAGGGCUAa-----
- 111 0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
- 31 0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
- 22 0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
- 6665 0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
- 194 0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
- 90 0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
- 39 0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
- 378 0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
- 26 0,-2	-----AGCAGCAUUGUACAGGGCUAUC-----
- 1211 0,-1	-----AGCAGCAUUGUACAGGGCUAUCu-----
- 439 0,-1	-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 3 0,-1	-----AGCAGCAUUGUACAGGGCUAUCA-----
- 1188 0,0	-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 40 0,0	-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 7 0,1	-----GCAGCAUUGUACAGGGCU-----
- 8 1,-4	-----GCAGCAUUGUACAGGGCUAU-----
- 33 1,-2	-----CAGCAUUGUACAGGGCUAU-----

-----AGGCAAGAUGGUGGACUACAGCG-----

```
>hsa-mi r-1185-1 5p:15-35      SRX018960
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uuugguacuugaagAGAGGAUACCCUUUGUAUGUUCacuugauuaauggcgaauauacagggggagacucuauuuugcgu
aucaaa

.(((((((.((((((((((.(((((((((((((((((((.(.....)).))))))))))))))..))))).))))).))
)))))).

-----AGAGGAUACCCUUUGUAUGU-----

----- 2 0,-1

-----AGAGGAUACCCUUGUAUGUU-----

----- 11 0,0

-----AGAGGAUACCCUUUGUAUGUUa-----

----- 3 0,0

-----AGAGGAUACCCUUGUAUGUUC-----

----- 11 0,1

-----AGAGGAUACCCUUUGUAUGUUC-----

----- 3 0,2

-----AUAUACAGGGGGAGACUCUU-----

----- 3

-----AUAUACAGGGGGAGACUCUUAU-----

----- 2

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>hsa-mir-1185-2 5p:15-35      SRX018960
```

uuugguacuuaaagAGAGGAUACCCUUGUAUGUucacuugauuaauggcgaauauacagggggagacucucuuugcgu
aucaaa

.(((((((.((((((((((.(((((((((((((((((((.(.....)).)))))))))))))).))))).))
)))).

-----AGAGGAUACCCUUUGUAUGU-----

----- 2 0, -1

-----AGAGGAUACCCUUUGUAUGUU-----

----- 11 0,0

-----AGAGGAUACCCUUUGUAUGUUa-----

----- 3 0,0

-----AGAGGAUACCCUUUGUAUGUUC-----

----- 11 0,1

-----AGAGGAUACCCUUGUAUGUUC-----

----- 3 0,2

>hsa-mir-122 MA:15-36;mi:51-72 SRX018960

ccuuagcagagcugUGGAGUGUGACAAUGGUGUUUGugucuaaacuaucAACGCCAUUAUCACACUAAAUAgcuacugc
uaggc

.((((((((((((((...(((((((.((((((((((((((.((...))...)))))))))))).)))))))).)))))))).))))))
)))).

-----UGUGGAGUGUGACAAUGGU-----

----- 2 -2,-5

-----UGUGGAGUGUGACAAUGGUu-----

----- 3 -2,-5

-----UGUGGAGUGUGACAAUGGUG-----

----- 4 -2,-4

-----UGUGGAGUGUGACAAUGGUGU-----

----- 48 -2,-3

-----UGUGGAGUGUGACAAUGGUGUU-----

----- 887 -2,-2

-----UGUGGAGUGUGACAAUGGUGUUa-----

----- 38 -2,-2

-----UGUGGAGUGUGACAAUGGUGUUau-----

----- 5 -2,-2

-----UGUGGAGUGUGACAAUGGUGUUU-----

----- 54 -2,-1

-----UGUGGAGUGUGACAAUGGUGUUUu-----

----- 7 -2,-1

-----UGUGGAGUGUGACAAUGGUGUUUG-----

----- 7 -2,0

-----GUGGAGUGUGACAAUGGUuu-----

----- 3 -1,-5

-----GUGGAGUGUGACAAUGGUGU-----

----- 3 -1,-3

-----GUGGAGUGUGACAAUGGUGUU-----

----- 46 -1,-2

-----GUGGAGUGUGACAAUGGUGUUU-----

----- 163 -1,-1

-----GUGGAGUGUGACAAUGGUGUUUG-----

----- 41 -1,0

-----GUGGAGUGUGACAAUGGUGUUUGa-----

```

----- 12 -1,0
-----GUGGAGUGUGACAAUGGUGUUUGU-----
----- 2 -1,1
-----UGGAGUGUGACAAUGGUG-----
----- 13922 0,-4
-----UGGAGUGUGACAAUGGUGa-----
----- 1904 0,-4
-----UGGAGUGUGACAAUGGUGaa-----
----- 723 0,-4
-----UGGAGUGUGACAAUGGUGau-----
----- 62 0,-4
-----UGGAGUGUGACAAUGGUGU-----
----- 53849 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 8411 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 1767 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 246 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 144618 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 11681 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 1931 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 414 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 230011 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 28300 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 14634 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 3289 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 3605 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----

```



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----- 390 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1869236 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 1307288 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 60818 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 28937 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 254506 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 2530 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 857 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 564 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 1201 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 307 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 297 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 99 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 333 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 217 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 31 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 13 1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 3 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 438 1,-2
-----GGAGUGUGACAAUGGUGUUa-----

```

----- 33 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 18 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 5 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 605 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 70 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 121 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 9 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 7452 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 6010 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 324 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 125 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 577 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 14 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 4 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 5 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 2 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 3 1,2
-----GAGUGUGACAAUGGUGUU-----
----- 93 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 7 2,-2
-----GAGUGUGACAAUGGUGUUU-----

```

----- 284 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 23 2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 14 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 12 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 1478 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 1103 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 82 2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 33 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 330 2,1
-----GAGUGUGACAAUGGUGUUUGUa-----
----- 4 2,1
-----GAGUGUGACAAUGGUGUUUGUau-----
----- 3 2,1
-----GAGUGUGACAAUGGUGUUUGUu-----
----- 5 2,1
-----GAGUGUGACAAUGGUGUUUGUGa-----
----- 2 2,2
-----AAACGCCAUUAUCACACUAu-----
----- 2 -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 5 -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 2 -1,-2
-----AAACGCCAUUAUCACACUAAAU-----
----- 47 -1,-1
-----AAACGCCAUUAUCACACUAAAUa-----
----- 2 -1,0
-----AAACGCCAUUAUCACACUAAAUa-----
----- 2 -1,0
-----AACGCCAUUAUCACACUA-----

```

```

----- 13 0,-4
-----AACGCCAUUAUCACACUAu-----
----- 2 0,-4
-----AACGCCAUUAUCACACUAA-----
----- 37 0,-3
-----AACGCCAUUAUCACACUAAu-----
----- 2 0,-3
-----AACGCCAUUAUCACACUAAuu-----
----- 3 0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 16 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 5 0,-2
-----AACGCCAUUAUCACACUAAAu-----
----- 260 0,-1
-----AACGCCAUUAUCACACUAAAu-----
----- 18 0,-1
-----AACGCCAUUAUCACACUAAAUA-----
----- 32 0,0
-----AACGCCAUUAUCACACUAAAUAa-----
----- 5 0,0
-----AACGCCAUUAUCACACUAAAUAu-----
----- 5 0,0

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>hsa-mir-1224 5p:1-19;3p:65-85 SRX018960

GUGAGGACUCGGGAGGUGGaggguggugccgccggggccgggcgcuguuucagcucgcuucuccCCCCACCUCCUCUCUC
CUCAG

.(((((((...(((((((((((((.((((.((((.....)))))).)).)))))))))))).)))

))))).
GUGAGGACUCGGGAGGUGG-----

----- 2 0,0

GUGAGGACUCGGGAGGUGGAu-----

----- 3 0,1

GUGAGGACUCGGGAGGUGGAG-----

----- 3 0,2

>hsa-mir-1228 mi:1-21;MA:52-71 SRX018960

GUGGGCGGGGGCAGGUGUGUGgugggugguggccugcggugagcagggcccUCACACCUGCCUCGCCCCCag

$\dots(((((((.(((((((((\dots(((((\dots(((((\dots)))))))))).)))))))))))).\dots$
 GUGGGCGGGGCAGGUGUGUGG----- 2
 0,1

```
>hsa-mi r-124-1  mi:14-35;MA:53-72  SRX018960
```

agggcucucucucCGUGUUCACAGCGGACCUUGAUuuaaauguccauacaauUAAGGCACGCGGUGAAUGCCaagaaugg
ggcug

.(((((((..(((..((((((((..(((..((((((((.....))))))))..)))..))))))))..)))..))
)))).

-----UAAGGCACGCGGUGAAUG-----

----- 6 0,-2

-----UAAGGCACGCGGUGAAUGC-----

----- 2 0. -1

-----UAAGGCACGCGGUGAAUGCau-----

----- 5 0,-1

-----UAAGGCACGCGGUGAAUGCCA-----

----- 5 0,1

-----UAAGGCACGCGGUGAAUGCCAu-----

----- 6 0,1

-----UAAGGCACGCGGUGAAUGCCAuu-----

----- 5 0,1

-----UAAGGCACGCGGUGAAUGCCAA-----

----- 16 0,2

-----UAAGGCACGCGGUGAAUGCCAAa-----

----- 6 0,2

-----UAAGGCACGCGGUGAAUGCCAAu-----

----- 3 0,2

```
>hsa-mi r-124-2  mi:25-46;MA:62-81  SRX018960
```

aucaagauuagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuaaugucauacaauUAAGGCACGCGGUGAAUGC
Caagagcggagccuacggcugcacuugaa

$$\begin{aligned}
 & .((((\dots(((((((((((((((((\dots(((((((((((((\dots(((((((((\dots\dots\dots)))))))))\dots))))))\dots \\
 & \dots)))))))))\dots)))\dots))))),
 \end{aligned}$$

-----UAAGGCACGCGGUGAAUG-----

----- 6 0,-2

-----UAAGGCACGCGGUGAAUGC

----- 2 0, -1

-----UAAGGCACGCGGUGAAUGC

```

au----- 5 0,-1
-----UAAGGCACGCGGUGAAUGC
CA----- 5 0,1
-----UAAGGCACGCGGUGAAUGC
CAu----- 6 0,1
-----UAAGGCACGCGGUGAAUGC
CAuu----- 5 0,1
-----UAAGGCACGCGGUGAAUGC
CAA----- 16 0,2
-----UAAGGCACGCGGUGAAUGC
CAAa----- 6 0,2
-----UAAGGCACGCGGUGAAUGC
CAAu----- 3 0,2

```

>hsa-mir-124-3 mi:15-36;MA:53-72 SRX018960

```

ugagggccccucugCGUGUUCACAGCGGACCUUGAUuuuaugucuauacaauUAAGGCACGCGGUGAAUGCCaagagagg
cgccucc

```

```

.(((((((.(((((.(((((((.(((.(((((((. ....)))))))).)))))).))))).))
).)))).

```

```

-----UAAGGCACGCGGUGAAUG-----
----- 6 0,-2
-----UAAGGCACGCGGUGAAUGC-----
----- 2 0,-1
-----UAAGGCACGCGGUGAAUGCau-----
----- 5 0,-1
-----UAAGGCACGCGGUGAAUGCCA-----
----- 5 0,1
-----UAAGGCACGCGGUGAAUGCCAu-----
----- 6 0,1
-----UAAGGCACGCGGUGAAUGCCAuu-----
----- 5 0,1
-----UAAGGCACGCGGUGAAUGCCAA-----
----- 16 0,2
-----UAAGGCACGCGGUGAAUGCCAAa-----
----- 6 0,2
-----UAAGGCACGCGGUGAAUGCCAAu-----
----- 3 0,2

```

```

>hsa-mir-1244-1 3p:55-80 SRX018960
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((.....(((.....(((.....(((.....)))))))))))))))))).....
.....
-----GUAGUUGGUUUGUAUGAGAUGGUU
----- 4 2,0

```

```

>hsa-mir-1244-2 3p:55-80 SRX018960
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((.....(((.....(((.....(((.....)))))))))))))))))).....
.....
-----GUAGUUGGUUUGUAUGAGAUGGUU
----- 4 2,0

```

```

>hsa-mir-1244-3 3p:55-80 SRX018960
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((.....(((.....(((.....(((.....)))))))))))))))))).....
.....
-----GUAGUUGGUUUGUAUGAGAUGGUU
----- 4 2,0

```

```

>hsa-mir-1246 5p:11-29 SRX018960
uguauccuugAAUGGAUUUUUGGAGCAGGaguggacaccugacccaaaggaaaucaauccauaggcuagcaau
(((.....(((.....(((.....(((.....(((.....)))))))))))))).....))..
-----GAAUGGAUUUUUGGAGCAGG----- 3
-1,0
-----AAUGGAUUUUUGGAGCAGG----- 113
0,0
-----AUGGAUUUUUGGAGCAGG----- 57
1,0

```

```

>hsa-mir-1247 5p:40-61 SRX018960
ccgcuuugccucgcccagcgcagccccggccgcugggcgcACCCGUCCCGUUCGUCCCGGAcguugcucucuaccccggg
aacgucgagacuggagcgcgccgaacugagccaccuucgcggacccccgagagcggcg
.((((.....(((.....(((.....(((.....(((.....))))))))))))))

```


>hsa-mir-1255b-2 5p:6-27 SRX018960

```
ucuuuCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuuucuuugcucauccauaagga
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CGGAUGAGCAAAGAAAGUGGUaa----- 2 0,-1
-----CGGAUGAGCAAAGAAAGUGGUU----- 6 0,0
-----CGGAUGAGCAAAGAAAGUGGUUU----- 4 0,1
```

>hsa-mir-1258 3p:44-64 SRX018960

```
cuguggcuuccacgaccuaauccuaacuccugcgagucccuggAGUUAGGAUUAGGUCGUGGAAgccacagga
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGUUAGGAUUAGGUCGUGGA----- 6
0,-1
```

>hsa-mir-125a 5p:15-38;3p:53-74 SRX018960

```
ugccagucucuaggUCCCUGAGACCCUUUAACCUUGAGgacauccaggguacACAGGUGAGGUUCUUGGGAGCCuggcgu
cuggcc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UCCCUGAGACCCUUUAACC-----
----- 66 0,-5
-----UCCCUGAGACCCUUUAACCU-----
----- 1068 0,-4
-----UCCCUGAGACCCUUUAACCUG-----
----- 519 0,-3
-----UCCCUGAGACCCUUUAACCUGa-----
----- 10 0,-3
-----UCCCUGAGACCCUUUAACCUGU-----
----- 389 0,-2
-----UCCCUGAGACCCUUUAACCUGUa-----
----- 3 0,-2
-----UCCCUGAGACCCUUUAACCUGUG-----
----- 108 0,-1
-----UCCCUGAGACCCUUUAACCUGUGu-----
----- 6 0,-1
-----UCCCUGAGACCCUUUAACCUGUGA-----
----- 25 0,0
-----CCUGAGACCCUUUAACCU-----
```

```

----- 2 2,-4
-----CCUGAGACCCUUUAACCUG-----
----- 6 2,-3
-----CCUGAGACCCUUUAACCUGU-----
----- 39 2,-2
-----CCUGAGACCCUUUAACCUGUu-----
----- 2 2,-2
-----CCUGAGACCCUUUAACCUGUG-----
----- 7 2,-1
-----CCUGAGACCCUUUAACCUGUGA-----
----- 2 2,0
-----ACAGGUGAGGUUCUUGGGAGC-----
----- 12 0,-1
-----ACAGGUGAGGUUCUUGGGAGCaa-----
----- 2 0,-1
-----CAGGUGAGGUUCUUGGGAGC-----
----- 3 1,-1

```

>hsa-mi r-125b-1 MA:15-36;mi:55-76 SRX018960

ugcgcuccucucagUCCCUGAGACCCUAACUUGUGAuguuuaccguuuaaauccACGGGUUAGGCUCUUGGGAGCUgcga
gucgugcu

.(((((((((.....)))))).))))).
(..)))).

```

-----UCCCUGAGACCCUAACUU-----
----- 25 0,-4
-----UCCCUGAGACCCUAACUUa-----
----- 5 0,-4
-----UCCCUGAGACCCUAACUUu-----
----- 3 0,-4
-----UCCCUGAGACCCUAACUUG-----
----- 77 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 1346 0,-2
-----UCCCUGAGACCCUAACUUGUa-----
----- 10 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 2 0,-2
-----UCCCUGAGACCCUAACUUGUG-----

```

```

----- 1106 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 139 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 3806 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 1903 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 218 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 12 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
----- 99 0,1
-----UCCCUGAGACCCUAACUUGUGAUa-----
----- 7 0,1
-----UCCCUGAGACCCUAACUUGUGAUu-----
----- 3 0,1
-----UCCCUGAGACCCUAACUUGUGAUG-----
----- 2 0,2
-----CCUGAGACCCUAACUUGU-----
----- 3 1,-2
-----CCUGAGACCCUAACUUGUGAau-----
----- 3 1,0
-----CCUGAGACCCUAACUUGUGAU-----
----- 6 1,1
-----CCUGAGACCCUAACUUGU-----
----- 15 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 23 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 2 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 66 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 32 2,0
-----ACGGGUUAGGCUCUUGGGAG-----
----- 15 0,-2
-----ACGGGUUAGGCUCUUGGGAGa-----

```



```

----- 12 0,0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 14 0,1
-----UCCCUGAGACCCUAACUUGUGAGa-----
----- 2 0,1
-----CCCUGAGACCCUAACUUGU-----
----- 3 1,-2
-----CCCUGAGACCCUAACUUGUGAau-----
----- 3 1,0
-----CCUGAGACCCUAACUUGU-----
----- 15 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 23 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 2 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 66 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 32 2,0
-----AUCACAAGUCAGGCUCUUG-----
----- 7 -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 7 -1,-3
-----AUCACAAGUCAGGCUCUUGGG-----
----- 4 -1,-2
-----AUCACAAGUCAGGCUCUUGGGA-----
----- 5 -1,-1
-----UCACAAGUCAGGCUCUUGGG-----
----- 3 0,-2
-----UCACAAGUCAGGCUCUUGGGA-----
----- 7 0,-1
-----ACAAGUCAGGCUCUUGGG-----
----- 64 2,-2
-----ACAAGUCAGGCUCUUGGGA-----
----- 75 2,-1
-----ACAAGUCAGGCUCUUGGGAa-----
----- 3 2,-1
-----ACAAGUCAGGCUCUUGGGAaa-----

```



```

----- 18 1,0
-----AUUAUUACUUUUGGUACGCGC-----
----- 4 1,1
-----CUCGUACCGUGAGUAAUAAUGaa-----
----- 5 -1,-2
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 3 -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 19 -1,0
-----CUCGUACCGUGAGUAAUAAUGCGa-----
----- 2 -1,0
-----UCGUACCGUGAGUAAUAAUG-----
----- 4 0,-2
-----UCGUACCGUGAGUAAUAAUGa-----
----- 4 0,-2
-----UCGUACCGUGAGUAAUAAUGaa-----
----- 6 0,-2
-----UCGUACCGUGAGUAAUAAUGC-----
----- 8 0,-1
-----UCGUACCGUGAGUAAUAAUGCaa-----
----- 6 0,-1
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 48 0,0
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 18 0,0
-----CGUACCGUGAGUAAUAAUGC-----
----- 7 1,-1
-----CGUACCGUGAGUAAUAAUGCG-----
----- 15 1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 8 1,0
-----CGUACCGUGAGUAAUAAUGCGau-----
----- 2 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 15 1,0
-----GUACCGUGAGUAAUAAUGC-----
----- 2 2,-1
-----GUACCGUGAGUAAUAAUGCG-----

```

```

----- 6 2,0
-----GUACCGUGAGUAAUAAUGCGu-----
----- 3 2,0

```

```

>hsa-mir-1262 5p:14-35 SRX018960
aucuacaauaggugAUGGGUGAAUUUGUAGAAGGAUgaaagucaaagaauccuucugggaacuaauuuuuggccuacaaca
agaauugugauau
(((.(((((.((...(((.(((((.(((((((.....)))))))))).)).....)).))))....)).
...))))))))...
-----GAUGGGUGAAUUUGUAGAAGGAa-----
----- 2 -1,-1

```

```

>hsa-mir-1266 5p:13-35 SRX018960
acagguagugucCCUCAGGGCUGUAGAACAGGGCUgggauuacuaaagcccuguucuaugcccugagggacacugagcau
guca
(((..(((((((((((((((((.((((((((((((((((((.....))..))))))))))))))))))))))))))....)
))..
-----CCUCAGGGCUGUAGAACAGGGCa-----
---- 2 0,-1
-----CCUCAGGGCUGUAGAACAGGGCU-----
---- 2 0,0
-----CCUCAGGGCUGUAGAACAGGGCUu-----
---- 2 0,0

```

```

>hsa-mir-1269 3p:67-88 SRX018960
uggauugccuagaccaggaagccaguuggcauggcucaguccaagucugaccaccugaggaaugcCUGGACUGAGCCGU
GCUACUGGcuucccugggucuccagc
((((.....(((((((((((((((((.((((((((((((((((((.....))..))))))))))))))))))))))))))
))))))))))))))))))))))..
-----CUGGACUGAGCCGU
GCUACU----- 3 0,-2

```

```

>hsa-mir-127 5p:23-44;3p:57-78 SRX018960
ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucaUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucaucauc
((.(((..(((...(((.....(((((((((.(((.((((((((((.....))..))))))))))))))))))))))
..))..))..)).....
-----UGCUGAAGCUCAGAGGGCUCU-----

```



```

----- 3   -2,-3
-----GCUGAAGCUCAGAGGGCUC-----
----- 3   -1,-4
-----CUGAAGCUCAGAGGGCUC-----
----- 8   0,-4
-----CUGAAGCUCAGAGGGCUCU-----
----- 12  0,-3
-----CUGAAGCUCAGAGGGCUCUGA-----
----- 32  0,-1
-----CUGAAGCUCAGAGGGCUCUGAaa-----
----- 2   0,-1
-----CUGAAGCUCAGAGGGCUCUGAU-----
----- 6   0,0
-----UGAAGCUCAGAGGGCUCUGAaa-----
----- 2   1,-1
-----UGAAGCUCAGAGGGCUCUGAU-----
----- 10  1,0
-----AUCGGAUCCGUCUGAGCUUGGu---
----- 4   -1,-2
-----UCGGAUCCGUCUGAGCUUGG-----
----- 33  0,-2
-----UCGGAUCCGUCUGAGCUUGGa---
----- 4   0,-2
-----UCGGAUCCGUCUGAGCUUGGaa--
----- 26  0,-2
-----UCGGAUCCGUCUGAGCUUGGu---
----- 7   0,-2
-----UCGGAUCCGUCUGAGCUUGGC---
----- 246 0,-1
-----UCGGAUCCGUCUGAGCUUGGCa--
----- 146 0,-1
-----UCGGAUCCGUCUGAGCUUGGCaa-
----- 82  0,-1
-----UCGGAUCCGUCUGAGCUUGGCau-
----- 477 0,-1
-----UCGGAUCCGUCUGAGCUUGGCU--
----- 1179 0,0
-----UCGGAUCCGUCUGAGCUUGGCUa-

```

-----	473	0,0	-----	-UCGGAUCCGUCUGAGCUUGGCUaa
-----	29	0,0	-----	-UCGGAUCCGUCUGAGCUUGGCUau
-----	200	0,0	-----	-UCGGAUCCGUCUGAGCUUGGCUu-
-----	535	0,0	-----	-UCGGAUCCGUCUGAGCUUGGCUuu
-----	79	0,0	-----	-UCGGAUCCGUCUGAGCUUGGCUG-
-----	21	0,1	-----	-UCGGAUCCGUCUGAGCUUGGCUga
-----	2	0,1	-----	-UCGGAUCCGUCUGAGCUUGGCUgu
-----	25	0,1	-----	-CGGAUCCGUCUGAGCUUGGCU--
-----	3	1,0	-----	-CGGAUCCGUCUGAGCUUGGCUa-
-----	5	1,0	-----	-CGGAUCCGUCUGAGCUUGGCUau
-----	2	1,0	-----	-CGGAUCCGUCUGAGCUUGGCUu-
-----	6	1,0	-----	-CGGAUCCGUCUGAGCUUGGCUG-
-----	3	1,1	-----	-CGGAUCCGUCUGAGCUUGGCUgu
-----	6	1,1	-----	-GGAUCCGUCUGAGCUUGGaa--
-----	3	2,-2	-----	-GGAUCCGUCUGAGCUUGGC---
-----	5	2,-1	-----	-GGAUCCGUCUGAGCUUGGCau-
-----	5	2,-1	-----	-GGAUCCGUCUGAGCUUGGCU--
-----	18	2,0	-----	-GGAUCCGUCUGAGCUUGGCUa-
-----	10	2,0	-----	-GGAUCCGUCUGAGCUUGGCUau

----- 7 2,0
-----GGAUCCGUCUGAGCUUGGCUu-
----- 13 2,0

```
>hsa-mi r-1270-1 5p:13-35      SRX018960
```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguaaaguaacaggcuuuucuuuauucuuauguggcucuuu
gca

$$((.(((((((.(((((((.(((((((.(((((((.(.....)))))))))))).)))))))).)))))))).))$$

-----CUGGAGAU AUGGAAGAGCUG-----

--- 2 0,-3

-----CUGGAGAU AUGGAAGAGCUGU-----

--- 2 0,-2

-----CUGGAGAU AUGGAAGAGCUGUGa-----

--- 4 0, -1

-----CUGGAGAU AUGGAAGAGCUGUGU-----

--- 8 0,0

```
>hsa-mir-1270-2 5p:13-35      SRX018960
```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuucuuuauucuuauguggcucuuu
gca

$$((.((((((((((..(((((((.((((((((((.((((((((((.(.....)))))))))))).)))))))).)))))))).))$$

-----CUGGAGAU AUGGAAGAGCUG-----

--- 2 0,-3

-----CUGGAGAU AUGGAAGAGCUGU-----

--- 2 0,-2

-----CUGGAGAU AUGGAAGAGCUGUGa-----

--- 4 0,-1

-----CUGGAGAU AUGGAAGAGCUGUGU-----

--- 8 0,0

```
>hsa-mi r-1271      5p:15-36      SRX018960
```

caccagaucagugCUUGGCACCUAGCAAGCACUCAguaaauuuuguugagugccugcuaugugccaggcauugugcug
agggu

$$\begin{aligned} & \dots(((\dots(((((\dots(((((((\dots(.....)))))))))..))))).)))))) \\ & ..)) \dots \end{aligned}$$

-----CUUGGCACCUAGCAAGCAC-----

```

----- 24  0,-3
-----CUUGGCACCUAGCAAGCACU-----
----- 15  0,-2
-----CUUGGCACCUAGCAAGCACUCA-----
----- 4   0,0

```

>hsa-mir-1273 3p:76-100 SRX018960

ugaggcaggagaauugcuugaacccgggugguggagguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUCUUUCUgga

[illegible]

-----CAGGAGAAUUGCUUGAACCCGGG-----

----- 3

-----AGGAGAAUUGCUUGAACC-----

----- 14

-----AGGAGAAUUGCUUGAACC_u-----

-----AGGAGAAUUGCUUGAACCC-----

-----AGGAGAAUUGCUUGAACCCG-----

----- 8

-----AGGAGAAUUGCUUGAACCCGGG-----

----- 2

-----GGAGAAUUGCUUGAACCCGGG-----

----- 10

-----GAGAAUUGCUUGAACCCGGG-----

----- 3

```
>hsa-mi r-1273c 5p:10-31 SRX018960
```

ugcagccugGGCGACAAAACGAGACCCUGUCuuuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga

..((((.(((((((((.(((((((((.(.....)))))).)))))).))))).)))).

-----GGCGACAAAACGAGACCCU-----

3 0,-3

-----GGCGACAAAACGAGACCCUGU-----

3 0,-1

-----GGCGACAAAACGAGACCCUGUCa-----

5 0,0

-----CAGAGUCUCGUUCUGUUGCCCA-----

>hsa-mir-1273e 5p:14-35 SRX018960

ugaggcaggagaaUUGCUUGAACCCAGGAAGUGGAggcugcagugagccgagaucgagccacuguacuccagccugggug
acacagcgagacuccagucua

.(((((((.....)))))))).
.)))))).

-----GCUUGAACCCAGGAAGUGGAG-----

----- 2 2,1

>hsa-mir-1276 5p:12-31 SRX018960

ccccagcuaggUAAAGAGCCCUGUGGAGACAccuggauucagagaacaugucuccacugagcacuugggccuugauggcg
gcu

(((((.....)))))).
)..

-----UGUCUCCACUGAGCACUUGGGCu-----

--- 2

>hsa-mir-1278 3p:50-71 SRX018960

auuugcucauagaugauaugcauaguacucccagaacucauuaaguuggUAGUACUGUGCAUAUCAUCUAUgagcgaaua
g

(((((.....)))))).
.

-----UAGUACUGUGCAUAUCAUCUAU-----

- 14 0,0

>hsa-mir-128-1 3p:50-70 SRX018960

ugagcuguuggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUuucagcugcu
uc

.(((((((.....)))))))).
).

-----CGGGGCCGUAGCACUGUCUGA-----

-- 8

-----UCACAGUGAACCGGUCUCUaa-----

-- 6 0,-2

-----UCACAGUGAACCGGUCUCUU-----

-- 12 0,-1

-----UCACAGUGAACCGGUCUCUa-----

```

-- 4 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 5 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 2 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 72 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 46 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 9 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 4 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 30 0,1
-----CACAGUGAACCGGUCUCUUU-----
-- 2 1,0
-----ACAGUGAACCGGUCUCUUU-----
-- 2 2,0

```

>hsa-mir-128-2 3p:52-72 SRX018960

```

ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(.(((((((.((((((((((...((((((...(((.(.....).))))))))))...)))))))).))))))
..).

```

```

-----GGGGGCCGAUACACUGUACGA-----
---- 2
-----GGGGGCCGAUACACUGUACGAG-----
---- 3
-----GGGGGCCGAUACACUGUACGAGA-----
---- 6
-----UCACAGUGAACCGGUCUCUaa-----
---- 6 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 12 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
---- 4 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----

```

```

----- 5 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
----- 2 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
----- 72 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
----- 46 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
----- 9 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
----- 4 0,0
-----UCACAGUGAACCGGUCUCUUUC-----
----- 8 0,1
-----UCACAGUGAACCGGUCUCUUUCa-----
----- 5 0,1
-----CACAGUGAACCGGUCUCUUU-----
----- 2 1,0
-----ACAGUGAACCGGUCUCUUU-----
----- 2 2,0

```

>hsa-mir-1285-1 3p:51-72 SRX018960

```

uguagagauaggaucucacuuguugcccaggcuggucucuaaacuccuggUCUGGGCAACAAAGUGAGACCUuauucua
caag

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..

```

```

-----UCUGGGCAACAAAGUGAGAC-----
----- 2 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----- 2 0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
----- 3 0,-2
-----UCUGGGCAACAAAGUGAGACuu-----
----- 3 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----- 7 0,-1
-----UCUGGGCAACAAAGUGAGACCau-----
----- 3 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----

```

```

----- 22 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----- 16 0,0
-----UCUGGGCAACAAAGUGAGACCUaa-----
----- 7 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
----- 24 0,0
-----UCUGGGCAACAAAGUGAGACCUU-----
----- 11 0,1
-----UCUGGGCAACAAAGUGAGACCUUu-----
----- 5 0,1
-----UCUGGGCAACAAAGUGAGACCUUA-----
----- 2 0,2

```

>hsa-mir-1285-2 3p:52-73 SRX018960

```

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

```

```

(((((((((((.(((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).))))).)))))..

```

```

-----UCUGGGCAACAAAGUGAGAC-----
----- 2 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----- 2 0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
----- 3 0,-2
-----UCUGGGCAACAAAGUGAGACuu-----
----- 3 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----- 7 0,-1
-----UCUGGGCAACAAAGUGAGACCau-----
----- 3 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----- 22 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----- 16 0,0
-----UCUGGGCAACAAAGUGAGACCUaa-----
----- 7 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----

```


----- 24 0,0

>hsa-mir-1286 3p:47-67 SRX018960

uguccucuggggacucagcuugcucuggcugcuggauugaauuagcUGCAGGACCAAGAUGAGCCCUugguggagaca
..(((.(...(((.((((.((((.((((.((((.(.....)))))).)))..))))..))))..))....
-----UGCAGGACCAAGAUGAGCCCUau-----

2 0,0

>hsa-mir-1287 5p:16-37 SRX018960

guugugcuguccaggUGCUGGAUCAGUGGUUCGAGUCugagccuuuaaaagccacucuagccacagaugcagugauugga
gccaugacaa
((..(((...(((.((((.((((.((((.((((.(.....)))))).)))..))))..))))..))....
..))..))..

-----UGCUGGAUCAGUGGUUCGAG-----

----- 9 0,-2

-----UGCUGGAUCAGUGGUUCGAGU-----

----- 7 0,-1

-----UGCUGGAUCAGUGGUUCGAGUu-----

----- 3 0,-1

-----UGCUGGAUCAGUGGUUCGAGUC-----

----- 10 0,0

-----UGCUGGAUCAGUGGUUCGAGUCa-----

----- 18 0,0

-----UGCUGGAUCAGUGGUUCGAGUCU-----

----- 7 0,1

>hsa-mir-1291 5p:14-37 SRX018960

gguaagaauuccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuucaagcagaggccuaaaggacugu
cuuccug
(((.(((...(((.((((.((((.((((.((((.(.....)))))).)))..))))..))))..))....
))..))..

-----GUGGCCCUGACUGAAGACCA-----

----- 2 -1,-5

-----GUGGCCCUGACUGAAGACCAGC-----

----- 22 -1,-3

-----GUGGCCCUGACUGAAGACCAGCA-----

----- 184 -1,-2

-----UGGCCCUGACUGAAGACCAGCA-----

```

----- 58  0,-2
-----UGGCCCUGACUGAAGACCAGCAG-----
----- 4   0,-1

```

>hsa-mir-1292 5p:3-27 SRX018960

```

ccUGGGAACGGGUUCCGGCAGACGCUgagguugcguugacgcucgcgccccggcucccgguuccagg
(((((((((...(((...(((...(((...))))))...))))))...))))))
--UGGGAACGGGUUCCGGCAGACGCU----- 3   0,-1
---GGGAACGGGUUCCGGCAGACGC----- 3   1,-2
---GGGAACGGGUUCCGGCAGACGCUu----- 2   1,-1

```

>hsa-mir-1295 3p:49-69 SRX018960

```

aggacauuuugcccagauccguggccuauucagaaauguggccugugaUUAGGCCGCAGAUUCUGGUGAaauuguccucc
((((((((...((((((((...((((((((...((((...))))))...))))))...))))))...))
-----UUAGGCCGCAGAUUCUGGUGA-----
2   0,0

```

>hsa-mir-1296 5p:16-37 SRX018960

```

accuaccuaacugggUUAGGGCCCUGGCUCCAUCUCCuuuaggaaaaccuucuguggggaguggggcuucgaccuaacc
caggugggcugu
((((((((...((((((((...((((((((...((((...))))))...))))))...))))))...))
))))))....
-----UUAGGGCCCUGGCUCCAUCUCCa-----
----- 3   0,0

```

>hsa-mir-1299 3p:62-83 SRX018960

```

ccucauggcaguguucuggaauccuacgugagggacaaucuuacagaccacguagcagugUUCUGGAAUUCUGUGUGAG
GGA
(((((((...(((...(((...(((...(((...))))))...))))))...))))))...))
)..
-----UUCUGGAAUUCUGUGUGAG
--- 6   0,-3
-----UUCUGGAAUUCUGUGUGAG
aa- 2   0,-3
-----UUCUGGAAUUCUGUGUGAG
G-- 24  0,-2
-----UUCUGGAAUUCUGUGUGAG
Ga- 16  0,-2

```

```

-----UUCUGGAAUUCUGUGUGAG
Gaa 10  0,-2
-----UUCUGGAAUUCUGUGUGAG
Gau 2   0,-2
-----UUCUGGAAUUCUGUGUGAG
GG- 2   0,-1
-----UUCUGGAAUUCUGUGUGAG
GGA 63  0,0
-----UUCUGGAAUUCUGUGUGAG
GGAa   15 0,0
-----UUCUGGAAUUCUGUGUGAG
GGAaa   3  0,0
-----UUCUGGAAUUCUGUGUGAG
GGAu   15 0,0
-----UCUGGAAUUCUGUGUGAG
GGAu    2  1,0

```

>hsa-mir-1301 3p:48-71 SRX018960

```

ggauugugggggucgcucuaggcaccgcagcacugugcuggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((

```

```

..

```

```

-----UUGCAGCUGCCUGGGAGUGA-----
-- 2   0,-4
-----UUGCAGCUGCCUGGGAGUGAC-----
-- 13  0,-3
-----UUGCAGCUGCCUGGGAGUGACUU-----
-- 5   0,-1
-----UUGCAGCUGCCUGGGAGUGACUUa-----
-- 2   0,-1
-----UUGCAGCUGCCUGGGAGUGACUUC-----
-- 6   0,0
-----UGCAGCUGCCUGGGAGUGAC-----
-- 3   1,-3
-----UGCAGCUGCCUGGGAGUGACU-----
-- 2   1,-2
-----UGCAGCUGCCUGGGAGUGACUU-----
-- 3   1,-1

```

-----	UGCAGCUGCCUGGGAGUGACUUa	-----
-- 6	1,-1	
-----	UGCAGCUGCCUGGGAGUGACUUu	-----
-- 2	1,-1	
-----	UGCAGCUGCCUGGGAGUGACUUC	-----
-- 3	1,0	
-----	UGCAGCUGCCUGGGAGUGACUUCA	-----
-- 4	1,1	
-----	UGCAGCUGCCUGGGAGUGACUUCAu	-----
-- 4	1,1	

>hsa-mir-1303 3p:52-73 SRX018960

ggcugggcaacauagcgagaccucaacucuaacaauuuuuuuuuuuuuuuuuuuUUUAGAGACGGGUCUUGCUCUguugcca
ggcuuu

$(((((.(((((((.((((((((((((..(((((.(((((.)))))).)))))..)))))))).).)))))).$

---UGGGCAACAUAGCGAGACC-----

----- 21

-----UUUUAGAGACGGGGUCUUGCU-----

----- 9 -1,-2

-----UUUAGAGACGGGGUCUUGCU-----

----- 9 0, -2

-----UUAGAGACGGGGUCUUGCU-----

----- 3 1, -2

>hsa-mir-1306 3p:55-72 SRX018960

gugagcagucuccaccaccuccccugcaaacguccaguggugcagagguaauggACGUUGGCUCUGGUGGUGauggacag
uccga

$$.(((.(((((.(((((((.....(((((((((....(((....)))))))).))....)))))).)))).) \\ ..)).$$

-----ACGUUGGCUCUGGUGGUGAU-----

----- 2 0,2

-----ACGUUGGCUCUGGUGGUGAUaa-----

----- 2 0,2

-----ACGUUGGCUCUGGUGGUGAUu-----

----- 2 0,2

>hsa-mir-1307 3p:80-101 SRX018960

[illegible]

-----UCGACCGGACCUCGACCGGCUCuu-----			
-----	9		
-----UCGACCGGACCUCGACCGGCUCG-----			
-----	64		
-----UCGACCGGACCUCGACCGGCUCGU-----			
-----	38		
-----CGACCGGACCUCGACCGGCU-----			
-----	2		
-----CGACCGGACCUCGACCGGCUC-----			
-----	2		
-----GACCGGACCUCGACCGGC-----			
-----	2		
-----GACCGGACCUCGACCGGCU-----			
-----	19		
-----GACCGGACCUCGACCGGCUa-----			
-----	2		
-----GACCGGACCUCGACCGGCUu-----			
-----	3		
-----GACCGGACCUCGACCGGCUC-----			
-----	30		
-----GACCGGACCUCGACCGGCUCa-----			
-----	5		
-----GACCGGACCUCGACCGGCUCu-----			
-----	4		
-----A			
CUCGGCGUGGCGUCGGUC-----	2	0,-3	
-----A			
CUCGGCGUGGCGUCGGUCG-----	17	0,-2	
-----A			
CUCGGCGUGGCGUCGGUCGU-----	35	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUu-----	15	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUG-----	344	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGa-----	7	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGu-----	11	0,0	

Sequence	Count	Frequency
CUCGGCGUGGCGUCGGUCGUGG-A	16	0,1
CUCGGCGUGGCGUCGGUCGaa	2	1,-2
CUCGGCGUGGCGUCGGUCGU-	6	1,-1
CUCGGCGUGGCGUCGGUCGUu	4	1,-1
CUCGGCGUGGCGUCGGUCGUG-	197	1,0
CUCGGCGUGGCGUCGGUCGUGa	5	1,0
CUCGGCGUGGCGUCGGUCGUGu	10	1,0
CUCGGCGUGGCGUCGGUCGUGuu	3	1,0
CUCGGCGUGGCGUCGGUCGUGG-	11	1,1
-UCGGCGUGGCGUCGGUCGUG-	4	2,0
-UCGGCGUGGCGUCGGUCGUGa	2	2,0

>hsa-mi r-130a mi:21-42;MA:55-76 SRX018960

ugcugcuggccagagcucuuUUCACAUUGUGCUACUGUCUGCaccugucacuagCAGUGCAAUGUAAAAGGGCAUuggc
cguguagug

.(((((((((((.(((((((.((((((.((.((((...((....))....)).).))))))..)))))))..))))))

)).))))).

		-CAGUGCAAUGUUAAAAGG-
69	0,-4	
		-CAGUGCAAUGUUAAAAGGG-
41	0,-3	
		-CAGUGCAAUGUUAAAAGGGC-
169	0,-2	
		-CAGUGCAAUGUUAAAAGGGCA-
50	0,-1	
		-CAGUGCAAUGUUAAAAGGGCAa-
14	0,-1	


```

-----CAGUGCAAUGAUGAAAGGGC-----
-- 26 0,-2
-----CAGUGCAAUGAUGAAAGGGCA-----
-- 7 0,-1
-----CAGUGCAAUGAUGAAAGGGCAa-----
-- 5 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 70 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 2 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 16 0,0
-----CAGUGCAAUGAUGAAAGGGCAUuu-----
-- 2 0,0
-----AGUGCAAUGAUGAAAGGG-----
-- 2 1,-3

```

>hsa-mir-132 mi:23-44;MA:59-80 SRX018960

```

ccgccccgcgcuccagggaACCGUGGCUUUCGAUUGUUACUgugggaacuggaggUAACAGUCUACAGCCAUGGUCG
ccccgcagcacgcccacgcgc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AACCGUGGCUUUCGAUUGUUA-----
----- 2 -1,-2
-----AACCGUGGCUUUCGAUUGUUAaa-----
----- 3 -1,-2
-----AACCGUGGCUUUCGAUUGUUA-----
----- 3 0,-2
-----UAACAGUCUACAGCCAUGGUC-----
----- 9 0,-1
-----UAACAGUCUACAGCCAUGGUCG
----- 5 0,0
-----UAACAGUCUACAGCCAUGGUCG
a----- 5 0,0
-----UAACAGUCUACAGCCAUGGUCG
u----- 4 0,0

```

>hsa-mir-133a-1 3p:53-74 SRX018960

.(((((((...((((.((((((((...)))))).))..)))))).)))).
 .)))))).

$$\begin{aligned} & .(((.(((((((((\dots(((((.(((((((((\dots(((.((((((((((.(\dots\dots\dots).)))))))).)))).)))).)))).)))).) \\ &))))\dots)))))\dots)))).)). \end{aligned}$$
$$\begin{aligned} & .(((.(.(.(.(.(.(((((((((.(((((((.(.(.(.((((((.(.(.(((. . .)))))))))))).)).)). . .) \\ &)))))).)).))))). . .)) . . .)).)).)).). \end{aligned}$$

.((((((..(((((((((.(((.((((((((((((.....))))).)))).)))).)))).)))).)))).)))).

-----UGUGACUGGUUGACCAGAGaa----- 2
0.-3

UGUGACUGGUUGACCAGAGu	2
0, -3	
UGUGACUGGUUGACCAGAGG	22
0, -2	
UGUGACUGGUUGACCAGAGGa	6
0, -2	
UGUGACUGGUUGACCAGAGGG	39
0, -1	
UGUGACUGGUUGACCAGAGGGa	10
0, -1	
UGUGACUGGUUGACCAGAGGGaa	10
0, -1	
UGUGACUGGUUGACCAGAGGGG	74
0, 0	
UGUGACUGGUUGACCAGAGGGGa	8
0, 0	
UGUGACUGGUUGACCAGAGGGGaa	5
0, 0	
UGUGACUGGUUGACCAGAGGGGau	9
0, 0	
UGUGACUGGUUGACCAGAGGGGu	3
0, 0	
UGUGACUGGUUGACCAGAGGGGuu	3
0, 0	

```
>hsa-mir-136      MA:15-37;mi:49-70    SRX018960
ugagcccucggaggACUCCAUUUGUUUGAUGGAuuccuaugcucCAUCAUCGUCUCAAUGAGUCUucagaggguu
cu
((((((((((.(((((((((.(((((((.(((((((((((.....)))))))))...)))))))).))))))
).
```

```

-----CAUCAUCGUCUCAAUGA-----
-- 2 0,-4
-----CAUCAUCGUCUCAAUGAG-----
-- 2 0,-3
-----CAUCAUCGUCUCAAUGAGUC-----
-- 4 0,-1

```

```

>hsa-mir-138-1 MA:23-45;mi:63-84 SRX018960
cccuggcaugggugugggggcAGCUGGUGUUGUGAAUCAGGCCGuugccaucagagaacgGCUACUUCACAACACCAG
GGCCacaccacacuacagg
.((((...(((((((((((((...((((((((((((((...(((((((...((...)))))...)))))))))
.)))).)))))))))
-----AGCUGGUGUUGUGAAUCA-----
----- 3 0,-5
-----AGCUGGUGUUGUGAAUCAGGCa-----
----- 3 0,-2
-----AGCUGGUGUUGUGAAUCAGGCCG-----
----- 5 0,0

```

```

>hsa-mir-138-2 MA:10-32;mi:57-78 SRX018960
cguugcugcAGCUGGUGUUGUGAAUCAGGCCGacgagcagcgcauccucuacccgGCUAUUUCACGACACCAGGGUUGc
auca
.((((...((((((((((((((...((((((((((((((...(((((((...((...)))))...)))))))))
.)).
-----AGCUGGUGUUGUGAAUCA-----
----- 3 0,-5
-----AGCUGGUGUUGUGAAUCAGGCa-----
----- 3 0,-2
-----AGCUGGUGUUGUGAAUCAGGCCG-----
----- 5 0,0

```

```

>hsa-mir-139 5p:7-28;3p:44-65 SRX018960
guguauUCUACAGUGCACGUGUCUCCAGuguggcucggaggcuGGAGACGCGGCCUGUUGGAGUaac
...(((((((((((((((((...((((((((((((((...(((((((...((...)))))...)))))))))
-----UCUACAGUGCACGUGUCU----- 4 0,-4
-----UCUACAGUGCACGUGUCUC----- 6 0,-3
-----UCUACAGUGCACGUGUCUCa----- 3 0,-3
-----UCUACAGUGCACGUGUCUCC----- 8 0,-2

```

-----UCUACAGUGCACGUGUCUCCA-----	47	0,-1
-----UCUACAGUGCACGUGUCUCCAa-----	4	0,-1
-----UCUACAGUGCACGUGUCUCCAu-----	3	0,-1
-----UCUACAGUGCACGUGUCUCCAG-----	34	0,0
-----UCUACAGUGCACGUGUCUCCAGU-----	75	0,1
-----UCUACAGUGCACGUGUCUCCAGUa-----	7	0,1
-----UCUACAGUGCACGUGUCUCCAGUu-----	2	0,1
-----UGGAGACGCGGCCCUUU-----	53	
-1,-5		
-----UGGAGACGCGGCCCUUUa-----	2	
-1,-5		
-----UGGAGACGCGGCCCUUUG-----	296	
-1,-4		
-----UGGAGACGCGGCCCUUUGa-----	7	
-1,-4		
-----UGGAGACGCGGCCCUUUGu-----	5	
-1,-4		
-----UGGAGACGCGGCCCUUUGG-----	479	
-1,-3		
-----UGGAGACGCGGCCCUUUGGu-----	5	
-1,-3		
-----UGGAGACGCGGCCCUUUGGA-----	1100	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAa-----	203	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAaa-----	310	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAau-----	32	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAu-----	29	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAG-----	2048	
-1,-1		
-----UGGAGACGCGGCCCUUUGGAGa-----	899	
-1,-1		
-----UGGAGACGCGGCCCUUUGGAGaa-----	54	
-1,-1		
-----UGGAGACGCGGCCCUUUGGAGau-----	17	

-1,-1	-----UGGAGACGCGGCCCUUGGAGU---	3342	
-1,0	-----UGGAGACGCGGCCCUUGGAGUu--	76	-1,0
	-----UGGAGACGCGGCCCUUGGAGUuu-	10	-1,0
	-----UGGAGACGCGGCCCUUGGAGUA--	25	-1,1
	-----UGGAGACGCGGCCCUUGGAGUAu-	13	-1,1
	-----GGAGACGCGGCCCUUGGA-----	6	0,-2
	-----GGAGACGCGGCCCUUGGAG-----	7	0,-1
	-----GGAGACGCGGCCCUUGGAGa---	5	0,-1
	-----GGAGACGCGGCCCUUGGAGU---	59	0,0
	-----AGACGCGGCCCUUGGAGU---	14	2,0
	-----AGACGCGGCCCUUGGAGUu--	10	2,0
	-----AGACGCGGCCCUUGGAGUuu-	11	2,0
	-----AGACGCGGCCCUUGGAGUA--	3	2,1
	-----AGACGCGGCCCUUGGAGUAu-	6	2,1

-----			-----UACCACAGGGUAGAACCAC
-----	38	0,-2	
-----			-----UACCACAGGGUAGAACCAC
G-----	507	0,-1	
-----			-----UACCACAGGGUAGAACCAC
Ga-----	12	0,-1	
-----			-----UACCACAGGGUAGAACCAC
GG-----	4773	0,0	
-----			-----UACCACAGGGUAGAACCAC
GGu-----	51	0,0	
-----			-----UACCACAGGGUAGAACCAC
GGuu-----	11	0,0	
-----			-----UACCACAGGGUAGAACCAC
GGA-----	5214	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAA-----	1330	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAAA-----	486	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAAu-----	167	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAu-----	197	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAu-----	10	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAC-----	1116	0,2	
-----			-----UACCACAGGGUAGAACCAC
GGACu-----	38	0,2	
-----			-----UACCACAGGGUAGAACCAC
GGACA-----	263	0,3	
-----			-----UACCACAGGGUAGAACCAC
GGACAA-----	4	0,3	
-----			-----UACCACAGGGUAGAACCAC
GGACAu-----	8	0,3	
-----			-----ACCACAGGGUAGAACCAC
-----	27	1,-2	
-----			-----ACCACAGGGUAGAACCAC
G-----	50	1,-1	

-----				-----ACCACAGGGUAGAACCAC
Gaa-----	2	1,-1		
-----				-----ACCACAGGGUAGAACCAC
GG-----	1392	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGu-----	94	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGuu-----	62	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGA-----	15820	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAa-----	5390	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAAa-----	2274	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAAu-----	356	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAu-----	2014	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAuu-----	107	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAC-----	6286	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACu-----	126	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACuu-----	3	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACA-----	566	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAa-----	375	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAaa-----	46	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAau-----	6	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAu-----	33	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAG-----	33	1,4		


```

-----ACCACAGGGUAGAACCAC
GGACAGa-----      7   1,4
-----ACCACAGGGUAGAACCAC
GGACAGu-----      2   1,4
-----CCACAGGGUAGAACCAC
G-----          2   2,-1
-----CCACAGGGUAGAACCAC
GG-----         42   2,0
-----CCACAGGGUAGAACCAC
GGA-----        429  2,1
-----CCACAGGGUAGAACCAC
GGAa-----       143  2,1
-----CCACAGGGUAGAACCAC
GGAaa-----      97   2,1
-----CCACAGGGUAGAACCAC
GGAau-----       2   2,1
-----CCACAGGGUAGAACCAC
GGAu-----       62   2,1
-----CCACAGGGUAGAACCAC
GGAC-----      173  2,2
-----CCACAGGGUAGAACCAC
GGACu-----       8   2,2
-----CCACAGGGUAGAACCAC
GGACA-----      30   2,3
-----CCACAGGGUAGAACCAC
GGACAa-----     35   2,3
-----CCACAGGGUAGAACCAC
GGACAaa-----     7   2,3
-----CCACAGGGUAGAACCAC
GGACAau-----     2   2,3
-----CCACAGGGUAGAACCAC
GGACAu-----     7   2,3

```

>hsa-mir-142 5p:16-36;3p:52-74 SRX018960

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUUCCUACUUUAUGGAugagug
uacugug

.(((((((.(((.(((((((((((.(((((((((((...((....)..)))))(((((((.)))))))))))).)))..))
)))))).


```

-----AGGUGCAGUGCUGCAUCUCU-----
----- 11 -1,-3
-----GGUGCAGUGCUGCAUCUC-----
----- 212 0,-4
-----GGUGCAGUGCUGCAUCUCU-----
----- 1493 0,-3
-----GGUGCAGUGCUGCAUCUCUG-----
----- 58 0,-2
-----GGUGCAGUGCUGCAUCUCUGa-----
----- 7 0,-2
-----GGUGCAGUGCUGCAUCUCUGaa-----
----- 9 0,-2
-----GGUGCAGUGCUGCAUCUCUGG-----
----- 99 0,-1
-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 20 0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 56 0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 14 0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 4 0,0
-----GGUGCAGUGCUGCAUCUCUGGUaa-----
----- 10 0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 17 0,0
-----GGUGCAGUGCUGCAUCUCUGGUu-----
----- 4 0,0
-----GGUGCAGUGCUGCAUCUCUGGUC-----
----- 5 0,1
-----GGUGCAGUGCUGCAUCUCUGGUCA-----
----- 7 0,2
-----UCUGAGAUGAAGCACUGUA-----
----- 3 -2,-4
-----UCUGAGAUGAAGCACUGUAGCa
----- 5 -2,-2
-----UCUGAGAUGAAGCACUGUAGCa
u----- 2 -2,-2

```

```

-----UCUGAGAUGAAGCACUGUAGCU
----- 4 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
u----- 2 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
C----- 5 -2,0
-----UCUGAGAUGAAGCACUGUAGCU
Cu----- 3 -2,0
-----CUGAGAUGAAGCACUGUA---
----- 6 -1,-4
-----CUGAGAUGAAGCACUGUAG--
----- 4 -1,-3
-----CUGAGAUGAAGCACUGUAGC-
----- 9 -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 51 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
a----- 7 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
aa----- 2 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 244 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 62 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cuu----- 6 -1,0
-----CUGAGAUGAAGCACUGUAGCU
CA----- 13 -1,1
-----UGAGAUGAAGCACUGUAG--
----- 772 0,-3
-----UGAGAUGAAGCACUGUAGa-
----- 7 0,-3
-----UGAGAUGAAGCACUGUAGaa
----- 66 0,-3
-----UGAGAUGAAGCACUGUAGau
----- 5 0,-3
-----UGAGAUGAAGCACUGUAGu-
----- 4 0,-3

```

-----			UGAGAUGAAGCACUGUAGuu
-----	5	0,-3	
-----			UGAGAUGAAGCACUGUAGC-
-----	738	0,-2	
-----			UGAGAUGAAGCACUGUAGCa
-----	225	0,-2	
-----			UGAGAUGAAGCACUGUAGCa
a-----	258	0,-2	
-----			UGAGAUGAAGCACUGUAGCa
u-----	14	0,-2	
-----			UGAGAUGAAGCACUGUAGCU
-----	9260	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
a-----	980	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
aa-----	132	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
au-----	70	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
u-----	221	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
uu-----	38	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
C-----	42485	0,0	
-----			UGAGAUGAAGCACUGUAGCU
Cu-----	11308	0,0	
-----			UGAGAUGAAGCACUGUAGCU
Cuu-----	1137	0,0	
-----			UGAGAUGAAGCACUGUAGCU
CA-----	2463	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAa-----	278	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAaa-----	81	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAau-----	12	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAu-----	77	0,1	

```

-----UGAGAUGAAGCACUGUAGCU
CAuu----- 4 0,1
-----UGAGAUGAAGCACUGUAGCU
CAG----- 23 0,2
-----UGAGAUGAAGCACUGUAGCU
CAGa----- 13 0,2
-----UGAGAUGAAGCACUGUAGCU
CAGaa----- 2 0,2
-----UGAGAUGAAGCACUGUAGCU
CAGu----- 11 0,2
-----GAGAUGAAGCACUGUAGC-
----- 3 1,-2
-----GAGAUGAAGCACUGUAGCU
----- 8 1,-1
-----GAGAUGAAGCACUGUAGCU
C----- 174 1,0
-----GAGAUGAAGCACUGUAGCU
Cu----- 82 1,0
-----GAGAUGAAGCACUGUAGCU
Cuu----- 10 1,0
-----GAGAUGAAGCACUGUAGCU
CA----- 3 1,1
-----GAGAUGAAGCACUGUAGCU
CAa----- 4 1,1
-----AGAUGAAGCACUGUAGCU
----- 4 2,-1
-----AGAUGAAGCACUGUAGCU
C----- 21 2,0
-----AGAUGAAGCACUGUAGCU
Cu----- 8 2,0
-----AGAUGAAGCACUGUAGCU
Cuu----- 2 2,0
-----AGAUGAAGCACUGUAGCU
CA----- 3 2,1

```

>hsa-mir-144 mi:15-36;MA:52-71 SRX018960

```

uggggcccuggcugGGAUAUCAUAUACUGUAAGuuugcgaugagacacUACAGUAUAGAUGAUGUACUaguccgggc
acccc

```


-----GGAUCCUGGAAAUACUGUUC-----
 ----- 4 0,-1 -----
 -----GGAUCCUGGAAAUACUGUUCU-----
 ----- 11 0,0 -----
 -----AUUCCUGGAAAUACUGUUCU-----
 ----- 16 2,0 -----
 -----AUUCCUGGAAAUACUGUUCUa-----
 ----- 4 2,0 -----

>hsa-mir-1468 5p:13-33 SRX018960

gguggggugguuuCUCCGUUUGCCUGUUUCGCUGaugugcauucacucauucucagcaaaauaagcaaauggaaaauucg
uccauc

$$((((((..((.((((((((((.((((((.((((((.(((.....)))..))))).))))).))))).))..).))))))$$

```

-----CUGCCGUUUGCCUGUUUCGC-----
----- 2 0,-2
-----CUGCCGUUUGCCUGUUUCGCU-----
----- 13 0,-1
-----CUGCCGUUUGCCUGUUUCGCUGA-----
----- 9 0,1
-----CUGCCGUUUGCCUGUUUCGCAa-----
----- 3 0,1

```

>hsa-mi r-146a MA:21-42;mi :57-78 SRX018960

ccgauguguauccucagcuUGAGAACUGAAUCCAUGGGUugugucagugucagaCCUCUGAAAUUCAGUUCUUCAGcu
gggauaucucugucaucgu

[illegible]

UGAGAACUGAAUCCAUG-
8 0,-4
UGAGAACUGAAUCCAUGG-
34 0,-3
UGAGAACUGAAUCCAUGGG-
54 0,-2
UGAGAACUGAAUCCAUGGGa-
10 0,-2
UGAGAACUGAAUCCAUGGGaa-
7 0,-2


```

-----UGAGAACUGAAUCCAUGGGU-----
----- 73  0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 35  0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 38  0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 63  0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 267 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 497 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 51  0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 66  0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 237 0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 22  0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 143 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 72  0,1
-----UGAGAACUGAAUCCAUGGGUUGau-----
----- 3   0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 63  0,2
-----UGAGAACUGAAUCCAUGGGUUGUu-----
----- 4   0,2
-----GAGAACUGAAUCCAUGGGU-----
----- 7   1,-1
-----GAGAACUGAAUCCAUGGGUa-----
----- 2   1,-1
-----GAGAACUGAAUCCAUGGGUU-----
----- 8   1,0
-----GAGAACUGAAUCCAUGGGUUa-----
----- 13  1,0

```


-----UGAGAACUGAAUCCAUAGGCU-----	337
0,0	
-----UGAGAACUGAAUCCAUAGGCUa-----	42
0,0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	2
0,0	
-----UGAGAACUGAAUCCAUAGGCUau-----	29
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	72
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	10
0,0	
-----UGAGAACUGAAUCCAUAGGCUG-----	92
0,1	
-----UGAGAACUGAAUCCAUAGGCUGa-----	162
0,1	
-----UGAGAACUGAAUCCAUAGGCUGaa-----	7
0,1	
-----UGAGAACUGAAUCCAUAGGCUGau-----	6
0,1	
-----UGAGAACUGAAUCCAUAGGCUGU-----	1828
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUa-----	84
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUu-----	14
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUG-----	2
0,3	
-----GAGAACUGAAUCCAUAGGCU-----	2
1,0	
-----GAGAACUGAAUCCAUAGGCUu-----	2
1,0	
-----GAGAACUGAAUCCAUAGGCUG-----	2
1,1	
-----GAGAACUGAAUCCAUAGGCUGU-----	16
1,2	
-----GAGAACUGAAUCCAUAGGCUGUa-----	6
1,2	

-----AGAACUGAAUCCAUAGGC-----	2
2,-1	
-----UGCCCUGUGGACUCAGUUCUGG-----	16
0,0	
-----UGCCCUGUGGACUCAGUUCUGGa-----	2
0,0	
-----UGCCCUGUGGACUCAGUUCUGGU-----	10
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUa-----	3
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUaa-----	2
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUu-----	5
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUuu-----	3
0,1	
-----GCCCUGUGGACUCAGUUC-----	3
1,-3	
-----GCCCUGUGGACUCAGUUCUGG-----	74
1,0	
-----GCCCUGUGGACUCAGUUCUGGU-----	38
1,1	
-----GCCCUGUGGACUCAGUUCUGGUa-----	16
1,1	
-----GCCCUGUGGACUCAGUUCUGGUaa-----	6
1,1	
-----GCCCUGUGGACUCAGUUCUGGUau-----	34
1,1	
-----GCCCUGUGGACUCAGUUCUGGUu-----	16
1,1	
-----CCCUGUGGACUCAGUUCUGGUa-----	2
2,1	
-----CCCUGUGGACUCAGUUCUGGUaa-----	3
2,1	
-----CCCUGUGGACUCAGUUCUGGUau-----	2
2,1	

>hsa-mir-148a mi:6-27;MA:44-65 SRX018960

```

gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CAAAGUUCUGAGACACUCCGA-----12
-1,-2
-----AAAGUUCUGAGACACUCC-----6 0,-4
-----AAAGUUCUGAGACACUCCGA-----159 0,-2
-----AAAGUUCUGAGACACUCCGAa-----22 0,-2
-----AAAGUUCUGAGACACUCCGAaa-----6 0,-2
-----AAAGUUCUGAGACACUCCGAC-----17 0,-1
-----AAAGUUCUGAGACACUCCGACa-----2 0,-1
-----AAAGUUCUGAGACACUCCGACU-----46 0,0
-----AAAGUUCUGAGACACUCCGACUa-----2 0,0
-----AAGUUCUGAGACACUCCGA-----4 1,-2
-----GUCAGUGCACUACAGAACUUUGU---2 -1,0
-----UCAGUGCACUACAGAACU-----5437
0,-4
-----UCAGUGCACUACAGAACUa-----12 0,-4
-----UCAGUGCACUACAGAACUaa-----14 0,-4
-----UCAGUGCACUACAGAACUau-----3 0,-4
-----UCAGUGCACUACAGAACUU-----504 0,-3
-----UCAGUGCACUACAGAACUUa-----5 0,-3
-----UCAGUGCACUACAGAACUUaa-----3 0,-3
-----UCAGUGCACUACAGAACUUU-----2256
0,-2
-----UCAGUGCACUACAGAACUUUa-----31 0,-2
-----UCAGUGCACUACAGAACUUUaa-----17 0,-2
-----UCAGUGCACUACAGAACUUUau-----6 0,-2
-----UCAGUGCACUACAGAACUUUu-----32 0,-2
-----UCAGUGCACUACAGAACUUUuu-----15 0,-2
-----UCAGUGCACUACAGAACUUUG-----6163
0,-1
-----UCAGUGCACUACAGAACUUUGa---8514
0,-1
-----UCAGUGCACUACAGAACUUUGaa--1078
0,-1
-----UCAGUGCACUACAGAACUUUGau--8 0,-1
-----UCAGUGCACUACAGAACUUUGU---68722
0,0

```



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-----GAAGUUCUGUUAUACACUCAGGC-----
----- 4   -1,0
-----GAAGUUCUGUUAUACACUCAGGCau-----
----- 12  -1,0
-----GAAGUUCUGUUAUACACUCAGGCU-----
----- 44  -1,1
-----GAAGUUCUGUUAUACACUCAGGCUa-----
----- 5   -1,1
-----GAAGUUCUGUUAUACACUCAGGCUu-----
----- 3   -1,1
-----UCAGUGCAUCACAGAACU
----- 284 0,-4
-----UCAGUGCAUCACAGAACU
U----- 30  0,-3
-----UCAGUGCAUCACAGAACU
UU----- 152 0,-2
-----UCAGUGCAUCACAGAACU
UUu----- 3   0,-2
-----UCAGUGCAUCACAGAACU
UUG----- 39  0,-1
-----UCAGUGCAUCACAGAACU
UUGa----- 15  0,-1
-----UCAGUGCAUCACAGAACU
UUGaa----- 10  0,-1
-----UCAGUGCAUCACAGAACU
UUGU----- 323 0,0
-----UCAGUGCAUCACAGAACU
UUGUa----- 4   0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 104 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 5   0,0
-----AGUGCAUCACAGAACU
UU----- 2   2,-2
-----AGUGCAUCACAGAACU
UUGU----- 4   2,0

```

>hsa-mir-149 MA:15-37;mi:56-76 SRX018960

.(((((((.(((((((((((((((..(((((((((((((.(.).)))))))))))).)))))))))))).

 -----CUCGAGGAGCUCACAGUCU-----
 ----- 2 -1, -3
 -----CUCGAGGAGCUCACAGUCUAGU-----
 ----- 2 -1, 0
 -----UCGAGGAGCUCACAGUCU-----
 ----- 3 0, -3
 -----UCGAGGAGCUCACAGUCUAG-----
 ----- 11 0, -1
 -----UCGAGGAGCUCACAGUCUAGU-----
 ----- 88 0, 0
 -----UCGAGGAGCUCACAGUCUAGUu-----
 ----- 4 0, 0
 -----UCGAGGAGCUCACAGUCUAGUA-----
 ----- 35 0, 1
 -----UCGAGGAGCUCACAGUCUAGUAa-----
 ----- 3 0, 1
 -----UCGAGGAGCUCACAGUCUAGUAU-----
 ----- 2 0, 2
 -----CGAGGAGCUCACAGUCUAGU-----
 ----- 2 1, 0
 -----GAGGAGCUCACAGUCUAG-----
 ----- 2 2, -1
 -----UACUAGACUGAAGCUCCUUGA-----
 ----- 20 -2, -2
 -----UACUAGACUGAAGCUCCUUGAa-----
 ----- 7 -2, -2
 -----UACUAGACUGAAGCUCCUUGAaa-----
 ----- 4 -2, -2
 -----UACUAGACUGAAGCUCCUUGAG-----
 ----- 32 -2, -1
 -----UACUAGACUGAAGCUCCUUGAGa-----
 ----- 16 -2, -1
 -----UACUAGACUGAAGCUCCUUGAGG-----
 ----- 35 -2, 0
 -----UACUAGACUGAAGCUCCUUGAGGu-----
 ----- 5 -2, 0

-----			-----UACUAGACUGAAGCUCCUUGAGGA-----
-----	25	-2,1	
-----			-----ACUAGACUGAAGCUCCUUGA-----
-----	2	-1,-2	
-----			-----ACUAGACUGAAGCUCCUUGAG-----
-----	2	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGa-----
-----	2	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGaa-----
-----	4	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGG-----
-----	24	-1,0	
-----			-----ACUAGACUGAAGCUCCUUGAGGA-----
-----	10	-1,1	
-----			-----ACUAGACUGAAGCUCCUUGAGGAa-----
-----	7	-1,1	
-----			-----CUAGACUGAAGCUCCUUGA-----
-----	22	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAa-----
-----	27	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAaa-----
-----	14	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAau-----
-----	3	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAG-----
-----	171	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGa-----
-----	84	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGaa-----
-----	40	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGu-----
-----	18	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGG-----
-----	537	0,0	
-----			-----CUAGACUGAAGCUCCUUGAGGu-----
-----	53	0,0	
-----			-----CUAGACUGAAGCUCCUUGAGGuu-----
-----	8	0,0	

			-CUAGACUGAAGCUCCUUGAGGA-
-----	1741	0,1	
			-CUAGACUGAAGCUCCUUGAGGAa-
-----	1387	0,1	
			-CUAGACUGAAGCUCCUUGAGGAaa-
-----	820	0,1	
			-CUAGACUGAAGCUCCUUGAGGAau-
-----	197	0,1	
			-CUAGACUGAAGCUCCUUGAGGAu-
-----	142	0,1	
			-CUAGACUGAAGCUCCUUGAGGAuu-
-----	21	0,1	
			-CUAGACUGAAGCUCCUUGAGGAC-
-----	31	0,2	
			-CUAGACUGAAGCUCCUUGAGGACu-
-----	16	0,2	
			-CUAGACUGAAGCUCCUUGAGGACA-
-----	8	0,3	
			-UAGACUGAAGCUCCUUGAGaa-
-----	2	1,-1	
			-UAGACUGAAGCUCCUUGAGu-
-----	2	1,-1	
			-UAGACUGAAGCUCCUUGAGG-
-----	27	1,0	
			-UAGACUGAAGCUCCUUGAGGA-
-----	38	1,1	
			-UAGACUGAAGCUCCUUGAGGAa-
-----	63	1,1	
			-UAGACUGAAGCUCCUUGAGGAaa-
-----	17	1,1	
			-UAGACUGAAGCUCCUUGAGGAau-
-----	5	1,1	
			-UAGACUGAAGCUCCUUGAGGAu-
-----	5	1,1	
			-UAGACUGAAGCUCCUUGAGGAC-
-----	10	1,2	
			-AGACUGAAGCUCCUUGAGG-
-----	4	2,0	

-----			AGACUGAAGCUCCUUGAGGA-----
-----	2	2,1	
-----			AGACUGAAGCUCCUUGAGGAC-----
-----	2	2,2	
-----			AGACUGAAGCUCCUUGAGGACu-----
-----	11	2,2	
-----			AGACUGAAGCUCCUUGAGGACA-----
-----	4	2,3	

>hsa-mir-152 3p:54-74 SRX018960

ugcccccccgcccagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgccccggaaggacc

$$.((((..(((((((((((((((((((.((.(((((..((((...)))))))))...)).).)))))...)).).$$

-----	UCAGUGCAUGACAGAACU-----
----- 325 0,-3	
-----	UCAGUGCAUGACAGAACUU-----
----- 32 0,-2	
-----	UCAGUGCAUGACAGAACUUG-----
----- 147 0,-1	
-----	UCAGUGCAUGACAGAACUUGa-----
----- 2 0,-1	
-----	UCAGUGCAUGACAGAACUUGu-----
----- 13 0,-1	
-----	UCAGUGCAUGACAGAACUUGG-----
----- 1039 0,0	
-----	UCAGUGCAUGACAGAACUUGGa-----
----- 268 0,0	
-----	UCAGUGCAUGACAGAACUUGGaa-----
----- 74 0,0	
-----	UCAGUGCAUGACAGAACUUGGau-----
----- 3 0,0	
-----	UCAGUGCAUGACAGAACUUGGu-----
----- 1086 0,0	
-----	UCAGUGCAUGACAGAACUUGGuu-----
----- 165 0,0	
-----	UCAGUGCAUGACAGAACUUGGG-----
----- 1052 0,1	

----- 392 0,1	-----UCAGUGCAUGACAGAACUUGGGa-----
----- 59 0,1	-----UCAGUGCAUGACAGAACUUGGGaa-----
----- 9 0,1	-----UCAGUGCAUGACAGAACUUGGGau-----
----- 896 0,1	-----UCAGUGCAUGACAGAACUUGGGu-----
----- 105 0,1	-----UCAGUGCAUGACAGAACUUGGGuu-----
----- 7 0,2	-----UCAGUGCAUGACAGAACUUGGGC-----
----- 2 2,-1	-----AGUGCAUGACAGAACUUG-----
----- 8 2,0	-----AGUGCAUGACAGAACUUGG-----
----- 8 2,0	-----AGUGCAUGACAGAACUUGGa-----
----- 2 2,0	-----AGUGCAUGACAGAACUUGGaa-----
----- 25 2,0	-----AGUGCAUGACAGAACUUGGu-----
----- 4 2,0	-----AGUGCAUGACAGAACUUGGuu-----
----- 9 2,1	-----AGUGCAUGACAGAACUUGGG-----
----- 4 2,1	-----AGUGCAUGACAGAACUUGGGa-----
----- 5 2,1	-----AGUGCAUGACAGAACUUGGGaa-----
----- 15 2,1	-----AGUGCAUGACAGAACUUGGGu-----

>hsa-mi r-154 MA:15-36;mi :51-72 SRX018960

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuauuugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa
.(((((((.((((((((((((.((((((. . . .(((.).))))))))).)))))))).))))).)))
)))..

```

-----UAGGUUAUCCGUGUUGCCUUCG-----
----      6      0,0
-----AAUCAUACACGGUUGACCUAUU-----
----      2      0,0

```

>hsa-mir-155 MA:4-26;mi:43-64 SRX018960

cugUUA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUUAGCAUUAACAg

(((((.....(((((.....(.....)))))))))..))))))

---UUA AUGCUAAUCGUGAUAG----- 2 0,-4

---UUAAUGC UAAUCGUGAUAGG----- 5 0,-3

---UUAAUGC UAAUCGUGAUAGGG----- 2 0,-2

---UUA AUGCUAAUCGUGAUAGGGa----- 5 0,-2

---UUAAUGC UAAUCGUGAUAGGGG----- 2 0,-1

---UUAAUGC UAAUCGUGAUAGGGGU----- 8 0,0

---UUAAUGC UAAUCGUGAUAGGGGUU----- 3 0,1

>hsa-mir-15a MA:14-35;mi:51-72 SRX018960

ccuuggaguaaagUAGCAGCACAAUAAUGGUUUGUGgauuuugaaaaggugCAGGCCAUAUUGUGCUGCCUCAaaaauaca

agg

((((((.....(..((((((((..((((((((((((..((.....))..))))))))))..)))))))))..).....))

)))

-----UAGCAGCACAUAAUGGUUU-----

--- 11 0,-3

-----UAGCAGCACAUAAUGGUUUG-----

--- 52 0,-2

-----UAGCAGCACAUAAUGGUUUGU-----

--- 47 0,-1

-----UAGCAGCACAUAAUGGUUGUaa-----

--- 3 0, -1

-----UAGCAGCACAUAAUGGUUUGUG-----

--- 18 0,0

-----UAGCAGCACAUAAUGGUUGUGaa-----

--- 2 0,0

>hsa-mi r-15b MA:20-41;mi:58-79 SRX018960

uugagggccuuaaguacugUAGCAGCACAUCAUGGUUACAugcuacagucaagaugCGAAUCAUUAUUUGCUGCUCUAg

aaauuuaggaaaucau

.((((.(((((((...(((.((((((((.(.(((((((..(((.(.(.....))))).).)))))).).))

...))))))...))))).

```
-----UAGCAGCACAUCAUGGUUU-----
----- 12 0,-3
-----UAGCAGCACAUCAUGGUUA-----
----- 27 0,-2
-----UAGCAGCACAUCAUGGUUUAC-----
----- 11 0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 31 0,0
```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018960

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuuaagauucuaaaauuauccCAGUAUUAACUGUGCUGCUGAagu
aagguugac

(((((...(((.((((((((((((((.(((((((((.(((((.....))))).).)))))))).).).)))))))).).))
(..))))))

```
-----UAGCAGCACGUAAAUAUU-----
----- 3 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 21 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 2 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 53 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 3 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 120 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 14 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 36 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 6 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 402 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 82 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
```



```

----      3      0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
----      5      0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
----     138      0,0
-----AAAGUGCUUACAGUGCAGGU-----
----      3      1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
----      6      1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
----      4      1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
----      8      1,0
-----ACUGCAGUGAAGGCACUU-----
----     12      0,-4
-----ACUGCAGUGAAGGCACUUG-----
----     50      0,-3
-----ACUGCAGUGAAGGCACUUGU-----
----     92      0,-2
-----ACUGCAGUGAAGGCACUUGUA-----
----     81      0,-1
-----ACUGCAGUGAAGGCACUUGUAa-----
----      3      0,-1
-----ACUGCAGUGAAGGCACUUGUAu-----
----      2      0,-1
-----ACUGCAGUGAAGGCACUUGUAG-----
----     14      0,0
-----ACUGCAGUGAAGGCACUUGUAGa-----
----      8      0,0
-----ACUGCAGUGAAGGCACUUGUAGaa-----
----      4      0,0
-----ACUGCAGUGAAGGCACUUGUAGC-----
----     14      0,1
-----ACUGCAGUGAAGGCACUUGUAGCu-----
----      4      0,1
-----ACUGCAGUGAAGGCACUUGUAGCA-----
----      6      0,2
-----CUGCAGUGAAGGCACUUGUA-----

```

----	2	1,-1	-----CUGCAGUGAAGGCACUUGUAG-----
----	3	1,0	-----CUGCAGUGAAGGCACUUGUAGa-----
----	5	1,0	-----CUGCAGUGAAGGCACUUGUAGC-----
----	7	1,1	-----CUGCAGUGAAGGCACUUGUAGCA-----
----	2	1,2	-----UGCAGUGAAGGCACUUGUAG-----
----	4	2,0	

-----	6	0,2	-----ACCAUCGACCGUUGAUU
G-----	3	0,-4	-----ACCAUCGACCGUUGAUU
GUAu-----	3	0,-2	-----ACCAUCGACCGUUGAUU
-----			-----ACCAUCGACCGUUGAUU
GUAC-----	9	0,-1	-----ACCAUCGACCGUUGAUU
-----			-----ACCAUCGACCGUUGAUU
GUACC-----	14	0,0	

>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018960

agaagggcuaucaggccagccuucagaggacuccaaggAACAUUCAACGCUGUCGGUGAGUuugggauuugaaaaaACCA
CUGACCGUUGACUGUACCuugggguccuua

.....(((((((((((.((((.(((((((..(((((((.((((.....))))))
)))))))))).))) .)))))))))))))).

-----AACAUUCAACGCUGUCGGUaa-----		
-----60, -4-----		
-----AACAUUCAACGCUGUCGGUG-----		
-----190, -3-----		
-----AACAUUCAACGCUGUCGGUGA-----		
-----560, -2-----		
-----AACAUUCAACGCUGUCGGUGAa-----		
-----30, -2-----		
-----AACAUUCAACGCUGUCGGUGAG-----		
-----1410, -1-----		
-----AACAUUCAACGCUGUCGGUGAGa-----		
-----70, -1-----		
-----AACAUUCAACGCUGUCGGUGAGU-----		
-----210, 0-----		
-----AACAUUCAACGCUGUCGGUGAGUa-----		
-----90, 0-----		
-----AACAUUCAACGCUGUCGGUGAGUU-----		
-----450, 1-----		
-----AACAUUCAACGCUGUCGGUGAGUUa-----		
-----60, 1-----		
-----AACAUUCAACGCUGUCGGUGAGUUU-----		
-----60, 2-----		
-----AACCA-----		

cggaaaauuugccaaggguuugggggAACAUCAACCUGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaauugccauccu

-----AACAUUCAACCGUCGGUGAGUU-----

-----ACCAUCGACCGUUGA

-----ACCAUCGACCGUUGA

>hsa-mir-181d 5p:36-58 SRX018960

gucuccuucccuaggccacagccgaggucacaucAACAUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accgggggaugaaugucacuguggcugggccagacacggcuuaaggggaauuggggac

-----AACAUUCAUUGUUGUCGGUG-----

-----AACAUUCAUUGUUGUCGGUGG-----

-----AACAUUCAUUGUUGUCGGUGGa-----

-----AACAUUCAUUGUUGUCGGUGGG-----

-----AACAUUCAUUGUUGUCGGUGGGa-----

-----AACAUUCAUUGUUGUCGGUGGGU_{au}-----

-----AACAUUCAUUGUUGUCGGUGGGUU-----

-----AACAUUCAUUGUUGUCGGUGGGUUG-----

>hsa-mi r-182 MA:23-46;mi :67-87 SRX018960

gagcugcuugccucccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAuggggcgaggacucagccggcac

..(((((((..(((((.(((((((..(((((((.(.(((((((...(((((((.....))))))))))))))))))))))))))..))))))


```
-- 2 0,-2
-----UGGAGAGAAAGGCAGUCCUu-----
-- 2 0,-2
-----UGGAGAGAAAGGCAGUCCUG-----
-- 1090 0,-1
-----UGGAGAGAAAGGCAGUCCUGu-----
-- 60 0,-1
-----UGGAGAGAAAGGCAGUCCUGuu-----
-- 15 0,-1
-----UGGAGAGAAAGGCAGUCCUGA-----
-- 6103 0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 2465 0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 159 0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 165 0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 2116 0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 184 0,1
-----UGGAGAGAAAGGCAGUCCUGAUaa-----
-- 5 0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 8 0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 217 0,1
-----UGGAGAGAAAGGCAGUCCUGAUuu-----
-- 12 0,1
-----UGGAGAGAAAGGCAGUCCUGAUG-----
-- 24 0,2
-----GGAGAGAAAGGCAGUCCU-----
-- 4 1,-2
-----GGAGAGAAAGGCAGUCCUG-----
-- 2 1,-1
-----GGAGAGAAAGGCAGUCCUGA-----
-- 13 1,0
-----GGAGAGAAAGGCAGUCCUGAa-----
```

```

-- 7 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 3 1,1
-----GAGAGAAAGGCAGUUCCUGAU-----
-- 2 2,1
-----CAGGGGCUGGCUUCCUC-----
-- 21 -1,-5
-----CAGGGGCUGGCUUCCUCU-----
-- 10 -1,-4
-----AGGGGCUGGCUUCCUCU-----
-- 57 0,-4
-----AGGGGCUGGCUUCCUCUGGU-----
-- 9 0,-1
-----AGGGGCUGGCUUCCUCUGGUaa-----
-- 2 0,-1

```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018960

```

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuuuuuuaaGCCCAAAGGUGAAUUUUUUGGgaagu
ugagcu

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).

```

```

-----CCAAAGAAUUCUCCUUUUGGG-----
----- 3 -1,-2
-----CCAAAGAAUUCUCCUUUUGGGC-----
----- 10 -1,-1
-----CCAAAGAAUUCUCCUUUUGGGCa-----
----- 5 -1,-1
-----CAAAGAAUUCUCCUUUUG-----
----- 4 0,-4
-----CAAAGAAUUCUCCUUUUG-----
----- 9 0,-3
-----CAAAGAAUUCUCCUUUUGGG-----
----- 21 0,-2
-----CAAAGAAUUCUCCUUUUGGGa-----
----- 2 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 52 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----

```

```

----- 123 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 46 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 75 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 380 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 74 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 4 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 933 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 8 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 21 0,2
-----AAAGAAUUCUCCUUUUGGGC-----
----- 7 1,-1
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 6 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----
----- 14 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 40 1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 18 1,0
-----AAAGAAUUCUCCUUUUGGGCUau-----
----- 2 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 130 1,1
-----AAAGAAUUCUCCUUUUGGGCUUa-----
----- 9 1,1

```

>hsa-mir-187 mi:35-56;MA:71-92 SRX018960

ggucgggcucaccaugacacagugagaccucgGGCUACAACACAGGACCCGGGCgcugcucugaccccUCGUGUCUUG
UGUUGCAGCCGGagggacgcaggucgcga

.(.((((((.....((((...((((.(.(((((((((((((.(((((.((.....).).)).)).)))))))))

))))).))))).))))).))))).))))).			
-----GGCUACAACACAGGACCCGGG-----			
-----20,-1-----			
-----UCGUGUCUUG-----			
UGUUGCAG-----20,-4-----			
-----UCGUGUCUUG-----			
UGUUGCAGCCGG-----300,0-----			
-----UCGUGUCUUG-----			
UGUUGCAGCCGGu-----80,0-----			
-----UCGUGUCUUG-----			
UGUUGCAGCCGGuu-----120,0-----			
-----UCGUGUCUUG-----			
UGUUGCAGCCGGA-----20,1-----			
-----CGUGUCUUG-----			
UGUUGCAGCCGGu-----21,0-----			

```

>hsa-mir-190      5p:15-36      SRX018960
ugcaggccucugugUGAUAUGUUUGAUAUAUAGGUUguuuuuuuauccaacuauauaucaaacauauuccuacaguguc
uugcc
.(((((.(((((((((.....)))))))))))))))).)).)))).)))).
-----UGAUAUGUUUGAUAUAUAGGUUG-----
----- 2      0,2

```

```
>hsa-mir-1908    5p:12-32    SRX018960
cggggaugccgCGGCGGGGACGGCGAUUGGUCcguauguguggugccaccggccgccggcuccgccccggcccccgcccc
((((...(((.(((((((.(((((((.((((...))))).))))).))))).))))).))))).))))...
-----CGGCGGGGACGGCGAUUGGUC-----
      3      0.0
```

```
>hsa-mir-1909    mi:16-36;MA:49-70    SRX018960
cauccaggacaauggUGAGUGCCGGUGCCUGCCUGggggccgucccugCGCAGGGGCCGGGUGCUCACCGcaucugcccc
....((((....((((((((..(((((.(((((.((((....)))..).)))).)))).)))).)))).)))).))))....
```



```

-----CAACGGAAUCCCAAAAGCAGCUuu-----
-----22 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
-----2243 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
-----71 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
-----12 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
-----3 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
-----637 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
-----5 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
-----63 0,2
-----AACGGAAUCCCAAAAGCA-----
-----18 1,-4
-----AACGGAAUCCCAAAAGCAG-----
-----33 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
-----94 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
-----2 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
-----315 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
-----3 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
-----3 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
-----280 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
-----27 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
-----105 1,1
-----AACGGAAUCCCAAAAGCAGCUGUa-----
-----6 1,1

```

-----AACGGAAUCCCAAAAGCAGCUGUU-----
-----10 1,2-----

>hsa-mi r-192 MA:24-44;mi :67-88 SRX018960

gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucuccccucuggCUGCCAAUCCAUA
GGUCACAGguauguucgccucaaugccagc

-----CUCUGACCUAUGAAUUGACAGCC-----

----- 3 -2,0

-----UCUGACCUAUGAAUUGACA-----

$$-----3 \quad -1, -3$$

-----UCUGACCUAUGAAUUGACAG-----

----- 17 -1,-2

-----UCUGACCUAUGAAUUGACAGu-----

----- 3 -1,-2

-----UCUGACCUAUGAAUUGACAGC-----

----- 75 -1,-1

-----UCUGACCUAUGAAUUGACAGCa-----

----- 15 -1,-1

-----UCUGACCUAUGAAUUGACAGCC-----

----- 477 -1,0

-----UCUGACCUAUGAAUUGACAGCCu-----

----- 25 -1,0

-----UCUGACCUAUGAAUUGACAGCCA-----

----- 88 -1,1

-----UCUGACCUAUGAAUUGACAGCCAa-----

----- 3 -1,1

-----UCUGACCUAUGAAUUGACAGCCAu-----

----- 31 -1,1

-----UCUGACCUAUGAAUUGACAGCCAG-----

----- 9 -1,2

-----UCUGACCUAUGAAUUGACAGCCAGU-----

----- 5 -1,3

-----CUGACCUAUGAAUUGACA-----

----- 771 0,-3

-----CUGACCUAUGAAUUGACAa-----

----- 9 0,-3

```

-----CUGACCUAUGAAUUGACAaa-----
----- 9 0,-3
-----CUGACCUAUGAAUUGACAu-----
----- 3 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 4011 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 180 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 56 0,-2
-----CUGACCUAUGAAUUGACAGau-----
----- 4 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 124 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 9 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 72062 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 12859 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 1551 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 341 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 2354 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 187 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 492274 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 26246 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 5335 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 231995 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 4304 0,1

```



```

-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 575 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
----- 1381 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 66672 0,1
-----CUGACCUAUGAAUUGACAGCCAuu-----
----- 29662 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 3887 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 315 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 6 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 7 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 2563 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 59 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 345 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 15 0,4
-----UGACCUAUGAAUUGACAG-----
----- 1037 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 7 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 22879 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 944 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 179 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 24 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 108 1,-1

```

```

-----UGACCUAUGAAUUGACAGCuu-----
----- 7 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 31878 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 831 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 140 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 66448 1,1
-----UGACCUAUGAAUUGACAGCCa-----
----- 1965 1,1
-----UGACCUAUGAAUUGACAGCCa-----
----- 1515 1,1
-----UGACCUAUGAAUUGACAGCCau-----
----- 1768 1,1
-----UGACCUAUGAAUUGACAGCCau-----
----- 12989 1,1
-----UGACCUAUGAAUUGACAGCCau-----
----- 7905 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 33502 1,2
-----UGACCUAUGAAUUGACAGCCAG-----
----- 7347 1,2
-----UGACCUAUGAAUUGACAGCCAG-----
----- 268 1,2
-----UGACCUAUGAAUUGACAGCCAG-----
----- 149 1,2
-----UGACCUAUGAAUUGACAGCCAG-----
----- 35708 1,3
-----UGACCUAUGAAUUGACAGCCAG-----
----- 1672 1,3
-----UGACCUAUGAAUUGACAGCCAG-----
----- 70 1,3
-----UGACCUAUGAAUUGACAGCCAG-----
----- 101 1,3
-----UGACCUAUGAAUUGACAGCCAG-----
----- 3568 1,3

```

```

-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 244 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 132 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 3 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 12 1,4
-----UGACCUAUGAAUUGACAGCCAGUGC-----
----- 4 1,5
-----GACCUAUGAAUUGACAGC-----
----- 191 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 20 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 2 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 4 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 585 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 39 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 6 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 445 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 14 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 7 2,1
-----GACCUAUGAAUUGACAGCCAau-----
----- 11 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 146 2,1
-----GACCUAUGAAUUGACAGCCAuu-----
----- 55 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 409 2,2

```

```

-----GACCUAUGAAUUGACAGCCAGa-----
-----      128  2,2
-----GACCUAUGAAUUGACAGCCAGaa-----
-----      4    2,2
-----GACCUAUGAAUUGACAGCCAGau-----
-----      4    2,2
-----GACCUAUGAAUUGACAGCCAGU-----
-----     389  2,3
-----GACCUAUGAAUUGACAGCCAGUa-----
-----     19   2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
-----     54   2,3
-----GACCUAUGAAUUGACAGCCAGUuu-----
-----      4    2,3

```

>hsa-mir-193a 5p:21-42;3p:55-76 SRX018960

```

cgagggaugggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

```

```

.....(((.((((((((((((((.((((((..(((.(.(((.....))))).)).)))..))))).)))))))))
)))..))).

```

```

-----UGGGUCUUUGCGGGCGAGA-----
-----      6    0,-3
-----UGGGUCUUUGCGGGCGAGAU-----
-----      8    0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
-----      2    0,-2
-----UGGGUCUUUGCGGGCGAGAUau-----
-----      2    0,-2
-----UGGGUCUUUGCGGGCGAGAUu-----
-----      4    0,-2
-----UGGGUCUUUGCGGGCGAGAUG-----
-----     101  0,-1
-----UGGGUCUUUGCGGGCGAGAUg-----
-----      28   0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
-----     458  0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----
-----      20   0,0

```



```

-----UCGGGGUUUUGAGGGCGAGAUGu-----
--- 14  -1,-1
-----UCGGGGUUUUGAGGGCGAGAUGA-----
--- 3   -1,0
-----CGGGGUUUUGAGGGCGAG-----
--- 40  0,-4
-----CGGGGUUUUGAGGGCGAGuu-----
--- 3   0,-4
-----CGGGGUUUUGAGGGCGAGA-----
--- 27  0,-3
-----CGGGGUUUUGAGGGCGAGAAa-----
--- 3   0,-3
-----CGGGGUUUUGAGGGCGAGAU-----
--- 96  0,-2
-----CGGGGUUUUGAGGGCGAGAUa-----
--- 14  0,-2
-----CGGGGUUUUGAGGGCGAGAUaa-----
--- 8   0,-2
-----CGGGGUUUUGAGGGCGAGAUau-----
--- 4   0,-2
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 22  0,-2
-----CGGGGUUUUGAGGGCGAGAUG-----
--- 433 0,-1
-----CGGGGUUUUGAGGGCGAGAUGu-----
--- 322 0,-1
-----CGGGGUUUUGAGGGCGAGAUGuu-----
--- 8   0,-1
-----CGGGGUUUUGAGGGCGAGAUGA-----
--- 2026 0,0
-----CGGGGUUUUGAGGGCGAGAUGAAa-----
--- 92  0,0
-----CGGGGUUUUGAGGGCGAGAUGAAaa-----
--- 13  0,0
-----CGGGGUUUUGAGGGCGAGAUGAAau-----
--- 4   0,0
-----CGGGGUUUUGAGGGCGAGAUGAU-----
--- 86  0,0

```

```

-----CGGGGUUUUGAGGGCGAGAUGAuu-----
--- 4    0,0
-----CGGGGUUUUGAGGGCGAGAUGAG-----
--- 5    0,1
-----GGGGUUUUUGAGGGCGAGAUa-----
--- 2    1,-2
-----GGGGUUUUUGAGGGCGAGAUG-----
--- 3    1,-1
-----GGGGUUUUUGAGGGCGAGAUGu-----
--- 14   1,-1
-----GGGGUUUUUGAGGGCGAGAUGA-----
--- 50   1,0
-----GGGGUUUUUGAGGGCGAGAUGAa-----
--- 5    1,0
-----AACUGGCCCUCAAAGUCC-----
--- 12   0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 30   0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 19   0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 11   0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 87   0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 11   0,0
-----AACUGGCCCUCAAAGUCCCGCUU-----
--- 18   0,1
-----AACUGGCCCUCAAAGUCCCGCUUU-----
--- 10   0,2
-----ACUGGCCCUCAAAGUCCCG-----
--- 4    1,-2
-----ACUGGCCCUCAAAGUCCCGCau-----
--- 2    1,-1
-----ACUGGCCCUCAAAGUCCCGCU-----
--- 7    1,0
-----ACUGGCCCUCAAAGUCCCGCUa-----
--- 2    1,0

```

-----ACUGGCCCUCAAAGUCCCGCUU-----
 --- 2 1,1

```
>hsa-mir-194-1 5p:15-36 SRX018960
```

augguguuaucaagUGUACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

$$\begin{aligned} & .((((((..(((((((.(((((((((((.((((((((.((((..((.....)).).)))))))))).).)))))))).).))))).).). \\ &)))). \end{aligned}$$

-----UGUAACAGCAACUCCAUG-----

----- 11 0,-4

-----UGUAACAGCAACUCCAUGa-----

----- 2 0,-4

-----UGUAACAGCAACUCCAUGUG-----

----- 16 0,-2

-----UGUAACAGCAACUCCAUGUGG-----

----- 416 0,-1

-----UGUAACAGCAACUCCAUGUGG_u-----

----- 6 0,-1

-----UGUAACAGCAACUCCAUGUGGA-----

----- 1643 0,0

-----UGUAACAGCAACUCCAUGUGGAu-----

----- 85 0,0

-----UGUAACAGCAACUCCAUGUGGAuu-----

----- 2 0,0

-----UGUAACAGCAACUCCAUGUGGAC-----

----- 16 0,1

-----UGUAACAGCAACUCCAUGUGGACa-----

----- 9 0,1

-----UGUAACAGCAACUCCAUGUGGACU-----

----- 2 0,2

-----GUAACAGCAACUCCAUGUGG-----

----- 6 1, -1

-----GUAACAGCAACUCCAUGUGGAu-----

----- 2 1,0

-----UAACAGCAACUCCAUGUGGA-----

----- 2 2,0

>hsa-mi r-194-2 MA:15-36;mi :51-72 SRX018960

ugguucccgccccUGUAAACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGGCUGCUGUUAUCUGggggcgagg
gccag

(((((.((((.(((((((.((((.((((...(((...)))))))))).)))))).)).)))))).))
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-----CUGUAAACAGCAACUCCAUGUGG-----

----- 3 -1,-1

-----CUGUAAACAGCAACUCCAUGUGGA-----

----- 15 -1,0

-----UGUAAACAGCAACUCCAUG-----

----- 11 0,-4

-----UGUAAACAGCAACUCCAUGa-----

----- 2 0,-4

-----UGUAAACAGCAACUCCAUGUG-----

----- 16 0,-2

-----UGUAAACAGCAACUCCAUGUGG-----

----- 416 0,-1

-----UGUAAACAGCAACUCCAUGUGGu-----

----- 6 0,-1

-----UGUAAACAGCAACUCCAUGUGGA-----

----- 1643 0,0

-----UGUAAACAGCAACUCCAUGUGGAu-----

----- 85 0,0

-----UGUAAACAGCAACUCCAUGUGGAuu-----

----- 2 0,0

-----UGUAAACAGCAACUCCAUGUGGAA-----

----- 1851 0,1

-----UGUAAACAGCAACUCCAUGUGGAAa-----

----- 213 0,1

-----UGUAAACAGCAACUCCAUGUGGAAaa-----

----- 17 0,1

-----UGUAAACAGCAACUCCAUGUGGAAau-----

----- 5 0,1

-----UGUAAACAGCAACUCCAUGUGGAAu-----

----- 53 0,1

-----UGUAAACAGCAACUCCAUGUGGAAuu-----

----- 16 0,1

-----UGUAAACAGCAACUCCAUGUGGAAGa-----

----- 2 0,2

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-----GUAACAGCAACUCCAUGUGG-----
----- 6 1,-1
-----GUAACAGCAACUCCAUGUGGAu-----
----- 2 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 3 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 2 1,1
-----UAACAGCAACUCCAUGUGGA-----
----- 2 2,0
-----CCAGUGGGGCUGCUGUUAU-----
----- 7 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 12 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 87 0,-1
-----CCAGUGGGGCUGCUGUUAUCUG-----
----- 8 0,0
-----CCAGUGGGGCUGCUGUUAUCUGa-----
----- 10 0,0
-----CCAGUGGGGCUGCUGUUAUCUGaa-----
----- 3 0,0
-----CCAGUGGGGCUGCUGUUAUCUGu-----
----- 5 0,0
-----CAGUGGGGCUGCUGUUAUCU-----
----- 5 1,-1
-----CAGUGGGGCUGCUGUUAUCUGa-----
----- 2 1,0
-----AGUGGGGCUGCUGUUAUCU-----
----- 2 2,-1

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>hsa-mir-195 MA:15-35;mi:53-74 SRX018960

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agcuucccugggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUUAUUGGCUGUGCUGCUCCaggcag
gguggug

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.(((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
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-----UAGCAGCACAGAAAUAUUG-----
----- 6 0,-2

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-----CGGGUAGAGAGGGCAGUGGGAGG----- 7
-----UUCACCACCUUCUCCACCCAGC----- 9
0,0

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>hsa-mir-199a-1 5p:6-28;3p:47-68 SRX018960

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gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucaauguguACAGUAGUCUGCACAUUGGUUAggc
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-----CCCAGUGUUCAGACUACC----- 13 0,-5
-----CCCAGUGUUCAGACUACCU----- 229 0,-4
-----CCCAGUGUUCAGACUACCUG----- 29 0,-3
-----CCCAGUGUUCAGACUACCUGU----- 21 0,-2
-----CCCAGUGUUCAGACUACCUGUU----- 209 0,-1
-----CCCAGUGUUCAGACUACCUGUUa----- 33 0,-1
-----CCCAGUGUUCAGACUACCUGUUu----- 9 0,-1
-----CCCAGUGUUCAGACUACCUGUUC----- 149 0,0
-----CCCAGUGUUCAGACUACCUGUUCu----- 14 0,0
-----CCCAGUGUUCAGACUACCUGUUCA----- 9 0,1
-----CCAGUGUUCAGACUACCU----- 7 1,-4
-----CCAGUGUUCAGACUACCUGUU----- 2 1,-1
-----CCAGUGUUCAGACUACCUGUUC----- 5 1,0
-----CAGUGUUCAGACUACCUGUUC----- 3 2,0
-----UACAGUAGUCUGCACAUU----- 19
-1,-5
-----UACAGUAGUCUGCACAUUG----- 96
-1,-4
-----UACAGUAGUCUGCACAUUGu----- 6
-1,-4
-----UACAGUAGUCUGCACAUUGuu----- 5
-1,-4
-----UACAGUAGUCUGCACAUUGG----- 252
-1,-3
-----UACAGUAGUCUGCACAUUGGa----- 13
-1,-3
-----UACAGUAGUCUGCACAUUGGaa----- 6
-1,-3
-----UACAGUAGUCUGCACAUUGGau----- 15
-1,-3
-----UACAGUAGUCUGCACAUUGGU----- 1723

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-1,-2	-----UACAGUAGUCUGCACAUUGGUa----	508	
-1,-2	-----UACAGUAGUCUGCACAUUGGUaa---	264	
-1,-2	-----UACAGUAGUCUGCACAUUGGUau---	137	
-1,-2	-----UACAGUAGUCUGCACAUUGGUU----	16390	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUu---	2646	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUuu--	64	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUA---	3006	
-1,0	-----UACAGUAGUCUGCACAUUGGUUAa--	90	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	127	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAG--	7	-1,1
	-----ACAGUAGUCUGCACAUUG-----	475	0,-4
	-----ACAGUAGUCUGCACAUUGa-----	13	0,-4
	-----ACAGUAGUCUGCACAUUGaa-----	13	0,-4
	-----ACAGUAGUCUGCACAUUGu-----	47	0,-4
	-----ACAGUAGUCUGCACAUUGuu-----	45	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	1558	
0,-3	-----ACAGUAGUCUGCACAUUGGa-----	20	0,-3
	-----ACAGUAGUCUGCACAUUGGaa-----	37	0,-3
	-----ACAGUAGUCUGCACAUUGGau-----	35	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	7314	
0,-2	-----ACAGUAGUCUGCACAUUGGUa----	1216	
0,-2	-----ACAGUAGUCUGCACAUUGGUaa---	694	0,-2
	-----ACAGUAGUCUGCACAUUGGUau---	205	0,-2
	-----ACAGUAGUCUGCACAUUGGUU----	118357	
0,-1	-----ACAGUAGUCUGCACAUUGGUUu---	17010	
0,-1			

-----	-ACAGUAGUCUGCACAUUGGUUuu--	460	0,-1
-----	-ACAGUAGUCUGCACAUUGGUUA---	46786	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAa--	6576	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAaa-	51	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAau-	35	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAu--	1720	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAuu-	21	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAG--	43	0,1
-----	-ACAGUAGUCUGCACAUUGGUUAGu-	5	0,1
-----	-CAGUAGUCUGCACAUUGG-----	397	1,-3
-----	-CAGUAGUCUGCACAUUGGa-----	4	1,-3
-----	-CAGUAGUCUGCACAUUGGaa-----	6	1,-3
-----	-CAGUAGUCUGCACAUUGGau-----	5	1,-3
-----	-CAGUAGUCUGCACAUUGGU-----	1229	
1,-2			
-----	-CAGUAGUCUGCACAUUGGUa-----	206	1,-2
-----	-CAGUAGUCUGCACAUUGGUaa-----	150	1,-2
-----	-CAGUAGUCUGCACAUUGGUau-----	23	1,-2
-----	-CAGUAGUCUGCACAUUGGUU-----	20625	
1,-1			
-----	-CAGUAGUCUGCACAUUGGUUu---	3904	
1,-1			
-----	-CAGUAGUCUGCACAUUGGUUuu--	183	1,-1
-----	-CAGUAGUCUGCACAUUGGUUA---	18358	
1,0			
-----	-CAGUAGUCUGCACAUUGGUUAa--	2214	
1,0			
-----	-CAGUAGUCUGCACAUUGGUUAaa-	73	1,0
-----	-CAGUAGUCUGCACAUUGGUUAau-	16	1,0
-----	-CAGUAGUCUGCACAUUGGUUAu--	761	1,0
-----	-CAGUAGUCUGCACAUUGGUUAuu-	5	1,0
-----	-CAGUAGUCUGCACAUUGGUUAG--	18	1,1
-----	-CAGUAGUCUGCACAUUGGUUAGu-	2	1,1
-----	-AGUAGUCUGCACAUUGGU-----	35	2,-2
-----	-AGUAGUCUGCACAUUGGUa-----	8	2,-2

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-----AGUAGUCUGCACAUUGGUaa--- 5 2,-2
-----AGUAGUCUGCACAUUGGUU--- 381 2,-1
-----AGUAGUCUGCACAUUGGUUu--- 94 2,-1
-----AGUAGUCUGCACAUUGGUUuu-- 20 2,-1
-----AGUAGUCUGCACAUUGGUUA--- 343 2,0
-----AGUAGUCUGCACAUUGGUUAa-- 47 2,0
-----AGUAGUCUGCACAUUGGUUAaa- 3 2,0
-----AGUAGUCUGCACAUUGGUUAu-- 13 2,0
-----AGUAGUCUGCACAUUGGUUAuu- 3 2,0

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>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018960
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CACAUGGUUAgacugggcaaggagagca

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-----CCCAGUGUUCAGACUACC-----
-----13 0,-5-----
-----CCCAGUGUUCAGACUACCU-----
-----229 0,-4-----
-----CCCAGUGUUCAGACUACCUG-----
-----29 0,-3-----
-----CCCAGUGUUCAGACUACCUGU-----
-----21 0,-2-----
-----CCCAGUGUUCAGACUACCUGUU-----
-----209 0,-1-----
-----CCCAGUGUUCAGACUACCUGUUa-----
-----33 0,-1-----
-----CCCAGUGUUCAGACUACCUGUUu-----
-----9 0,-1-----
-----CCCAGUGUUCAGACUACCUGUUC-----
-----149 0,0-----
-----CCCAGUGUUCAGACUACCUGUUCu-----
-----14 0,0-----
-----CCCAGUGUUCAGACUACCUGUUCA-----
-----9 0,1-----
-----CCAGUGUUCAGACUACCU-----
-----7 1,-4-----
-----CCAGUGUUCAGACUACCUGUU-----

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-----	2	1,-1	
-----	-CCAGUGUUCAGACUACCUGUUC-----		
-----	5	1,0	
-----	-CAGUGUUCAGACUACCUGUUC-----		
-----	3	2,0	
-----	-----UACAGUAGUCUG		
CACAUU-----	19	-1,-5	
-----	-----UACAGUAGUCUG		
CACAUUG-----	96	-1,-4	
-----	-----UACAGUAGUCUG		
CACAUUGu-----	6	-1,-4	
-----	-----UACAGUAGUCUG		
CACAUUGuu-----	5	-1,-4	
-----	-----UACAGUAGUCUG		
CACAUUGG-----	252	-1,-3	
-----	-----UACAGUAGUCUG		
CACAUUGGa-----	13	-1,-3	
-----	-----UACAGUAGUCUG		
CACAUUGGaa-----	6	-1,-3	
-----	-----UACAGUAGUCUG		
CACAUUGGau-----	15	-1,-3	
-----	-----UACAGUAGUCUG		
CACAUUGGU-----	1723	-1,-2	
-----	-----UACAGUAGUCUG		
CACAUUGGUa-----	508	-1,-2	
-----	-----UACAGUAGUCUG		
CACAUUGGUaa-----	264	-1,-2	
-----	-----UACAGUAGUCUG		
CACAUUGGUau-----	137	-1,-2	
-----	-----UACAGUAGUCUG		
CACAUUGGUU-----	16390	-1,-1	
-----	-----UACAGUAGUCUG		
CACAUUGGUUu-----	2646	-1,-1	
-----	-----UACAGUAGUCUG		
CACAUUGGUUuu-----	64	-1,-1	
-----	-----UACAGUAGUCUG		
CACAUUGGUUA-----	3006	-1,0	
-----	-----UACAGUAGUCUG		

CACAUUGGUUAa-----	90	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAu-----	127	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAG-----	7	-1,1	
-----			-ACAGUAGUCUG
CACAUUG-----	475	0,-4	
-----			-ACAGUAGUCUG
CACAUUGa-----	13	0,-4	
-----			-ACAGUAGUCUG
CACAUUGaa-----	13	0,-4	
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CACAUUGu-----	47	0,-4	
-----			-ACAGUAGUCUG
CACAUUGuu-----	45	0,-4	
-----			-ACAGUAGUCUG
CACAUUGG-----	1558	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGa-----	20	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGaa-----	37	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGau-----	35	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGU-----	7314	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUa-----	1216	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUaa-----	694	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUau-----	205	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUU-----	118357	0,-1	
-----			-ACAGUAGUCUG
CACAUUGGUUu-----	17010	0,-1	
-----			-ACAGUAGUCUG
CACAUUGGUUuu-----	460	0,-1	
-----			-ACAGUAGUCUG

CACAUUGGUUA-----	46786	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	6576	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	51	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	35	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	1720	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	21	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	43	0,1	
-----			ACAGUAGUCUG
CACAUUGGUUAGu-----	5	0,1	
-----			CAGUAGUCUG
CACAUUGG-----	397	1,-3	
-----			CAGUAGUCUG
CACAUUGGa-----	4	1,-3	
-----			CAGUAGUCUG
CACAUUGGaa-----	6	1,-3	
-----			CAGUAGUCUG
CACAUUGGau-----	5	1,-3	
-----			CAGUAGUCUG
CACAUUGGU-----	1229	1,-2	
-----			CAGUAGUCUG
CACAUUGGUa-----	206	1,-2	
-----			CAGUAGUCUG
CACAUUGGUaa-----	150	1,-2	
-----			CAGUAGUCUG
CACAUUGGUau-----	23	1,-2	
-----			CAGUAGUCUG
CACAUUGGUU-----	20625	1,-1	
-----			CAGUAGUCUG
CACAUUGGUUu-----	3904	1,-1	
-----			CAGUAGUCUG
CACAUUGGUUuu-----	183	1,-1	
-----			CAGUAGUCUG

CACAUUGGUUA-----	18358	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAa-----	2214	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAaa-----	73	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAau-----	16	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAu-----	761	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAuu-----	5	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAG-----	18	1,1	
-----			-CAGUAGUCUG
CACAUUGGUUAGu-----	2	1,1	
-----			-CAGUAGUCUG
CACAUUGGUUAGA-----	2	1,2	
-----			-AGUAGUCUG
CACAUUGGU-----	35	2,-2	
-----			-AGUAGUCUG
CACAUUGGUa-----	8	2,-2	
-----			-AGUAGUCUG
CACAUUGGUaa-----	5	2,-2	
-----			-AGUAGUCUG
CACAUUGGUU-----	381	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUu-----	94	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUuu-----	20	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUA-----	343	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAa-----	47	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAaa-----	3	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAu-----	13	2,0	
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>hsa-mir-199b    5p:26-48;3p:65-86    SRX018960
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...((((.....((((..(((((((.(((((((.(((((((.((((.....))).....)))..)))))))))..
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-----CCCAGUGUUUAGACUAUC-----
-----      2      0,-5
-----CCCAGUGUUUAGACUAUCU-----
-----     33      0,-4
-----CCCAGUGUUUAGACUAUCUG-----
-----      2      0,-3
-----CCCAGUGUUUAGACUAUCUGU-----
-----      4      0,-2
-----CCCAGUGUUUAGACUAUCUGUU-----
-----      2      0,-1
-----CCCAGUGUUUAGACUAUCUGUUC-----
-----     19      0,0
-----CCCAGUGUUUAGACUAUCUGUUCA-----
-----      3      0,1
-----UACAGUAGUCUGCACAU
U-----     19     -1,-5
-----UACAGUAGUCUGCACAU
UG-----     96     -1,-4
-----UACAGUAGUCUGCACAU
UGu-----      6     -1,-4
-----UACAGUAGUCUGCACAU
UGuu-----      5     -1,-4
-----UACAGUAGUCUGCACAU
UGG-----    252     -1,-3
-----UACAGUAGUCUGCACAU
UGGa-----     13     -1,-3
-----UACAGUAGUCUGCACAU
UGGaa-----      6     -1,-3
-----UACAGUAGUCUGCACAU
UGGau-----     15     -1,-3
-----UACAGUAGUCUGCACAU

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UGGU-----	1723	-1,-2	-----UACAGUAGUCUGCACAU
UGGUa-----	508	-1,-2	-----UACAGUAGUCUGCACAU
UGGUaa-----	264	-1,-2	-----UACAGUAGUCUGCACAU
UGGUau-----	137	-1,-2	-----UACAGUAGUCUGCACAU
UGGUU-----	16390	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUu-----	2646	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUuu-----	64	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUA-----	3006	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAa-----	90	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAu-----	127	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAG-----	7	-1,1	-----ACAGUAGUCUGCACAU
UG-----	475	0,-4	-----ACAGUAGUCUGCACAU
UGa-----	13	0,-4	-----ACAGUAGUCUGCACAU
UGaa-----	13	0,-4	-----ACAGUAGUCUGCACAU
UGu-----	47	0,-4	-----ACAGUAGUCUGCACAU
UGuu-----	45	0,-4	-----ACAGUAGUCUGCACAU
UGG-----	1558	0,-3	-----ACAGUAGUCUGCACAU
UGGa-----	20	0,-3	-----ACAGUAGUCUGCACAU
UGGaa-----	37	0,-3	-----ACAGUAGUCUGCACAU

UGGau-----	35	0,-3	-----ACAGUAGUCUGCACAU
UGGU-----	7314	0,-2	-----ACAGUAGUCUGCACAU
UGGUa-----	1216	0,-2	-----ACAGUAGUCUGCACAU
UGGUaa-----	694	0,-2	-----ACAGUAGUCUGCACAU
UGGUau-----	205	0,-2	-----ACAGUAGUCUGCACAU
UGGUU-----	118357	0,-1	-----ACAGUAGUCUGCACAU
UGGUUu-----	17010	0,-1	-----ACAGUAGUCUGCACAU
UGGUUuu-----	460	0,-1	-----ACAGUAGUCUGCACAU
UGGUUA-----	46786	0,0	-----ACAGUAGUCUGCACAU
UGGUUAa-----	6576	0,0	-----ACAGUAGUCUGCACAU
UGGUUAaa-----	51	0,0	-----ACAGUAGUCUGCACAU
UGGUUAau-----	35	0,0	-----ACAGUAGUCUGCACAU
UGGUUAu-----	1720	0,0	-----ACAGUAGUCUGCACAU
UGGUUAuu-----	21	0,0	-----ACAGUAGUCUGCACAU
UGGUUAG-----	43	0,1	-----ACAGUAGUCUGCACAU
UGGUUAGu-----	5	0,1	-----CAGUAGUCUGCACAU
UGG-----	397	1,-3	-----CAGUAGUCUGCACAU
UGGa-----	4	1,-3	-----CAGUAGUCUGCACAU
UGGaa-----	6	1,-3	-----CAGUAGUCUGCACAU

UGGau-----	5	1,-3	
-----			-CAGUAGUCUGCACAU
UGGU-----	1229	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUa-----	206	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUaa-----	150	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUau-----	23	1,-2	
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UGGUU-----	20625	1,-1	
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UGGUUu-----	3904	1,-1	
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UGGUUuu-----	183	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUA-----	18358	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAa-----	2214	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAaa-----	73	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAau-----	16	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAu-----	761	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAuu-----	5	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAG-----	18	1,1	
-----			-CAGUAGUCUGCACAU
UGGUUAGu-----	2	1,1	
-----			-AGUAGUCUGCACAU
UGGU-----	35	2,-2	
-----			-AGUAGUCUGCACAU
UGGUa-----	8	2,-2	
-----			-AGUAGUCUGCACAU
UGGUaa-----	5	2,-2	
-----			-AGUAGUCUGCACAU

[illegible]

CU----- 35 0,-2

CUG----- 14 0,-1

CUGA----- 7 0,0

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ggugacccgc

-----UAACACUGUCUGGUAACGAU-----

-----UAACACUGUCUGGUAACGAUG-----

-----UAACACUGUCUGGUAACGAUGa-----

-----UAACACUGUCUGGUAACGAUGaa-----

-----UAACACUGUCUGGUAACGAUGU-----

-----UAACACUGUCUGGUAACGAUGU_a-----

-----UAACACUGUCUGGUAACGAUGUaa-----

-----UAACACUGUCUGGUAACGAUGUU-----

-----UAACACUGUCUGGUAACGAUGUa-----

-----UAACACUGUCUGGUAACGAUGUUn-----

-----AACACUGUCUGGUAACGAUGUU_a-----

-----AACACUGUCUGGUAACGAUGUU-----

```
>hsa-mir-200b    mi:21-42;MA:57-78    SRX018960  
ccagcucgggcagccguggcCAUCUACUGGGCAGCAUUGGAuggagucaggucucUAAUACUGCCUGGUAAGAUGAcg  
gcggagcccugcacg  
...(((..(((..((((..(((((.....)))))))).))))).)))...  
-----CAUCUACUGGGCAGCAUUGG-----  
----- 5   0,-1  
-----CAUCUACUGGGCAGCAUUGGA-----  
----- 5   0,0  
-----UAAUACUGCCUGGUAAGAUG-----  
----- 2   0,-4  
-----UAAUACUGCCUGGUAAGAUG-----  
----- 8   0,-1  
-----UAAUACUGCCUGGUAAGAUGu-----  
----- 9   0,-1  
-----UAAUACUGCCUGGUAAGAUGA-----  
-----75  0,0  
-----UAAUACUGCCUGGUAAGAUGAa-----  
-----14  0,0  
-----UAAUACUGCCUGGUAAGAUGAaa-----  
----- 2   0,0  
-----UAAUACUGCCUGGUAAGAUGAu-----  
----- 2   0,0  
-----UAAUACUGCCUGGUAAGAUGAC-----  
-----68  0,1  
-----UAAUACUGCCUGGUAAGAUGACA-----  
-----84  0,1  
-----UAAUACUGCCUGGUAAGAUGACA  
a----- 3   0,1  
-----UAAUACUGCCUGGUAAGAUGACu-----  
-----61  0,1  
-----UAAUACUGCCUGGUAAGAUGACG-----  
-----10  0,2  
-----AAUACUGCCUGGUAAGAUGA-----  
----- 2   1,0  
-----AAUACUGCCUGGUAAGAUGAaa-----
```

```

----- 2    1,0
-----AAUACUGCCUGGUA AUGAUGAC-
----- 6    1,1
-----AAUACUGCCUGGUA AUGAUGACa
----- 21   1,1
-----AAUACUGCCUGGUA AUGAUGACu
----- 46   1,1
-----AUACUGCCUGGUA AUGAUGA--
----- 4    2,0
-----AUACUGCCUGGUA AUGAUGAC-
----- 15   2,1
-----AUACUGCCUGGUA AUGAUGACa
----- 4    2,1
-----AUACUGCCUGGUA AUGAUGACa
u----- 5    2,1
-----AUACUGCCUGGUA AUGAUGACu
----- 43   2,1
-----AUACUGCCUGGUA AUGAUGACu
u----- 9    2,1
-----AUACUGCCUGGUA AUGAUGACG
----- 7    2,2
-----AUACUGCCUGGUA AUGAUGACG
u----- 3    2,2
-----AUACUGCCUGGUA AUGAUGACG
G----- 2    2,3

```

>hsa-mir-200c mi:5-26;MA:44-66 SRX018960

cccuCGUCUUACCCAGCAGUGUUUGGgugcggguugggagucucUAAUACUGCCGGGUA AUGAUGGAgg

((..(((((((((((.(((((((.(((.(.....)))))).)))))).)))))).))))))

```

-----UAAUACUGCCGGGUA AUGAUG---- 3    0,-2
-----UAAUACUGCCGGGUA AUGAUGa--- 2    0,-2
-----UAAUACUGCCGGGUA AUGAUGG--- 22   0,-1
-----UAAUACUGCCGGGUA AUGAUGGu-- 2    0,-1
-----UAAUACUGCCGGGUA AUGAUGGA-- 16   0,0

```

>hsa-mir-202 mi:28-49;MA:64-83 SRX018960

cgccucagagccgcccgcguuccuuuUCCUAUGCAUAUACUUCUUUGaggauccuggccuaaAGAGGUUAUAGGGCAUGG

GAAaacggggcgguccggguccuccccagcg

.....(((((((...(((((.(((((((((.(((((.(((.....))))))))))..)))))..)))).

-----	-UCCCCUUGUCAUCCUAUGCCU-	-----
-----	6 0,0	
-----		-----GCUGGGAAG
GCAAAGGGAC-----	2	
-----		-----GCUGGGAAG
GCAAAGGGACGU-----	9	
-----		-----GCUGGGAAG
GCAAAGGGACGUaa-----	2	

```

>hsa-mir-206      3p:53-74      SRX018960
ugcuucccgaggccacaugcuucuuuauauccccaauuggauuacuuugcuaUGGAAUGUAAGGAAGUGUGUGGuucgg
caagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))).
-----UGGAAUGUAAGGAAGUGUG-----
----- 2    0,-3
-----UGGAAUGUAAGGAAGUGUG-----
----- 12   0,-1
-----UGGAAUGUAAGGAAGUGUGUG-----
----- 58   0,0
-----UGGAAUGUAAGGAAGUGUGUGGa-----
----- 4    0,0
-----UGGAAUGUAAGGAAGUGUGUGGa-----
----- 3    0,0
-----GGAAUGUAAGGAAGUGUGUG-----
----- 5    1,0

```

```

>hsa-mir-20a      MA:8-30;mi:44-65      SRX018960
guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuaguuaucUACUGCAUUAUGAGCACUUAAGGuacugc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAAAGUGCUUAUAGUGCAG----- 3    0,-4
-----UAAAGUGCUUAUAGUGCAGG----- 7    0,-3
-----UAAAGUGCUUAUAGUGCAGGU----- 3    0,-2
-----UAAAGUGCUUAUAGUGCAGGUA----- 36   0,-1
-----UAAAGUGCUUAUAGUGCAGGUaa----- 2    0,-1
-----UAAAGUGCUUAUAGUGCAGGUau----- 15   0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG----- 27   0,0
-----AAAGUGCUUAUAGUGCAGGUA----- 4    1,-1

```

-----ACUGCAUUAUGAGCACUU----- 6 0,-4

>hsa-mi r-21 MA:8-29;mi:46-66 SRX018960

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCCAUGGGGCGUcugaca

-----GUAGCUUAUCAGACUGAU----- 3

-1, -5

-----GUAGCUUAUCAGACUGAUGUU----- 9

-1,-2

-----GUAGCUUAUCAGACUGAUGUUG----- 33

-1,-1

-----GUAGCUUAUCAGACUGAUGUUGA----- 19

-1.0

-----GUAGCUUAUCAGACUGAUGUUGAa----- 15

-1.0

-----GUAGCUUAUCAGACUGAUGUUGAC----- 20

-1,1

-----UAGCUUAUCAGACUGAUG----- 129

0,-4

-----UAGCUUAUCAGACUGAUGU----- 324

0,-3

-----UAGCUUAUCAGACUGAUGUa----- 20

0.-3

-----UAGCUUAUCAGACUGAUGUU----- 1884

0,-2

-----UAGCUUAUCAGACUGAUGUUa----- 34

0,-2

-----UAGCUUAUCAGACUGAUGUU_{aa}----- 2

0,-2

-----UAGCUUAUCAGACUGAUGUU----- 5

0,-2

-----UAGCUUAUCAGACUGAUGUUG----- 5112

 $0, -1$

-----UAGCUUAUCAGACUGAUGUUGu----- 2

 $0, -1$

-----UAGCUUAUCAGACUGAUGUUGA----- 3551

0,0

-----UAGCUUAUCAGACUGAUGUUGAa----- 548

0,0		
-----UAGCUUAUCAGACUGAUGUUGAaa-----	60	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAau-----	6	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAu-----	2	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAC-----	2695	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACa-----	2377	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACaa-----	21	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACau-----	6	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACU-----	1176	
0,2		
-----UAGCUUAUCAGACUGAUGUUGACUa-----	4	
0,2		
-----AGCUUAUCAGACUGAUGUU-----	2	
1,-2		
-----AGCUUAUCAGACUGAUGUUG-----	21	
1,-1		
-----AGCUUAUCAGACUGAUGUUGA-----	24	
1,0		
-----AGCUUAUCAGACUGAUGUUGAa-----	6	
1,0		
-----AGCUUAUCAGACUGAUGUUGAC-----	32	
1,1		
-----AGCUUAUCAGACUGAUGUUGACa-----	33	
1,1		
-----AGCUUAUCAGACUGAUGUUGACU-----	15	
1,2		
-----GCUUAUCAGACUGAUGUU-----	3	
2,-2		
-----GCUUAUCAGACUGAUGUUa-----	2	
2,-2		
-----GCUUAUCAGACUGAUGUUG-----	18	

2, -1		
-----GCUUAUCAGACUGAUGUUGA-----		12
2, 0		
-----GCUUAUCAGACUGAUGUUGAa-----		2
2, 0		
-----GCUUAUCAGACUGAUGUUGAC-----		7
2, 1		
-----GCUUAUCAGACUGAUGUUGACa-----		7
2, 1		
-----GCUUAUCAGACUGAUGUUGACU-----		3
2, 2		
-----CAACACCAGUCGAUGGGC-----		5
0, -3		
-----CAACACCAGUCGAUGGGCU-----		21
0, -2		
-----CAACACCAGUCGAUGGGCUG-----		15
0, -1		
-----CAACACCAGUCGAUGGGCUGaa-----		4
0, -1		
-----CAACACCAGUCGAUGGGCUGU-----		68
0, 0		
-----CAACACCAGUCGAUGGGCUGUa-----		3
0, 0		
-----CAACACCAGUCGAUGGGCUGUaa-----		161
0, 0		
-----CAACACCAGUCGAUGGGCUGUau-----		31
0, 0		
-----CAACACCAGUCGAUGGGCUGUuu-----		12
0, 0		
-----CAACACCAGUCGAUGGGCUGUC-----		41
0, 1		
-----CAACACCAGUCGAUGGGCUGUCa-----		94
0, 1		
-----CAACACCAGUCGAUGGGCUGUCaa-----		2
0, 1		
-----CAACACCAGUCGAUGGGCUGUCau-----		4
0, 1		
-----CAACACCAGUCGAUGGGCUGUCU-----		96

0,2	-CAACACCAGUCGAUGGGCUGUCUa---	2
0,2	-CAACACCAGUCGAUGGGCUGUCUu---	11
0,2	-CAACACCAGUCGAUGGGCUGUCUuu---	6
0,2	-AACACCAGUCGAUGGGCUGU-----	2
1,0	-AACACCAGUCGAUGGGCUGUaa---	3
1,0	-AACACCAGUCGAUGGGCUGUCa---	15
1,1	-AACACCAGUCGAUGGGCUGUCU-----	49
1,2	-AACACCAGUCGAUGGGCUGUCUau---	2
1,2	-AACACCAGUCGAUGGGCUGUCUu---	3
1,2	-AACACCAGUCGAUGGGCUGUCUuu---	11
1,2	-ACACCAGUCGAUGGGCUGUCa---	2
2,1	-ACACCAGUCGAUGGGCUGUCU-----	3
2,2		

CGGCUGA-----	2	-1,0	
-----			-CUGUGCGUGUGACAG
CGG-----	7	0,-4	
-----			-CUGUGCGUGUGACAG
CGGC-----	11	0,-3	
-----			-CUGUGCGUGUGACAG
CGGCU-----	171	0,-2	
-----			-CUGUGCGUGUGACAG
CGGCUG-----	3	0,-1	
-----			-CUGUGCGUGUGACAG
CGGCUGu-----	4	0,-1	
-----			-CUGUGCGUGUGACAG
CGGCUGA-----	82	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAa-----	12	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAU-----	6	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAUa-----	7	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAUu-----	6	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAUuu-----	4	0,1	
-----			-UGUGCGUGUGACAG
CGGCU-----	6	1,-2	

>hsa-mir-2110 5p:8-29 SRX018960

```

cagggguUUGGGGAAACGGCCGCUGAGUGagggcgucggcuguguuuucucaccgcgguuuuccuccacucuug
(((((((..(((((((.((((((((((.((.((.....)))..)))..)))))).))))))..))))))
-----UUGGGGAAACGGCCGCUGA----- 11
0,-3
-----UUGGGGAAACGGCCGCUGAaa----- 4
0,-3
-----UUGGGGAAACGGCCGCUGAG----- 35
0,-2
-----UUGGGGAAACGGCCGCUGAGU----- 13
0,-1
-----UUGGGGAAACGGCCGCUGAGUa----- 8

```

Pair	Sequence	Count
0, -1	UUGGGGAAACGGCCGCUGAGUaa	9
0, -1	UUGGGGAAACGGCCGCUGAGUG	193
0, 0	UUGGGGAAACGGCCGCUGAGUGu	105
0, 0	UUGGGGAAACGGCCGCUGAGUGuu	3
0, 0	UUGGGGAAACGGCCGCUGAGUGA	382
0, 1	UUGGGGAAACGGCCGCUGAGUGAa	4
0, 1	UUGGGGAAACGGCCGCUGAGUGAau	2
0, 1	UUGGGGAAACGGCCGCUGAGUGAu	17
0, 1	UUGGGGAAACGGCCGCUGAGUGAG	32
0, 2	UUGGGGAAACGGCCGCUGAGUGAGa	8
0, 2	UUGGGGAAACGGCCGCUGAGUGAGu	14
0, 2	UGGGGAAACGGCCGCUGAGUG	4
1, 0	UGGGGAAACGGCCGCUGAGUGA	8
1, 1	UGGGGAAACGGCCGCUGAGUGAu	4
1, 1		

```
>hsa-mir-214      mi:30-51;MA:71-92      SRX018960
ggccugggcuggacagaguugucaugugucUGCCUGUCUACACUUGCUGUGCagaacaucgcucaccuguACAGCAGGCA
CAGACAGGCAGUcacaugacaaccagccu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))))))).))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
.)))))))))).))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----UGCCUGUCUACACUUGCUGUGC-----
-----      2      0,0
-----UGCCUGUCUACACUUGCUGUGCAu-----
```

-----	2	0,1	
-----GCCUGUCUACACUUGCUGUG-----			
-----	2	1,-1	
-----GCCUGUCUACACUUGCUGUGCA-----			
-----	4	1,1	
-----			UACAGCAGGCA
CAGACAG-----	6	-1,-5	
-----			UACAGCAGGCA
CAGACAGa-----	3	-1,-5	
-----			UACAGCAGGCA
CAGACAGG-----	22	-1,-4	
-----			UACAGCAGGCA
CAGACAGGa-----	4	-1,-4	
-----			UACAGCAGGCA
CAGACAGGu-----	2	-1,-4	
-----			UACAGCAGGCA
CAGACAGGC-----	2	-1,-3	
-----			UACAGCAGGCA
CAGACAGGCA-----	20	-1,-2	
-----			UACAGCAGGCA
CAGACAGGCAa-----	60	-1,-2	
-----			UACAGCAGGCA
CAGACAGGCAaa-----	7	-1,-2	
-----			UACAGCAGGCA
CAGACAGGCAau-----	17	-1,-2	
-----			UACAGCAGGCA
CAGACAGGCau-----	17	-1,-2	
-----			UACAGCAGGCA
CAGACAGGCAuu-----	12	-1,-2	
-----			UACAGCAGGCA
CAGACAGGCAG-----	24	-1,-1	
-----			UACAGCAGGCA
CAGACAGGCAGa-----	42	-1,-1	
-----			UACAGCAGGCA
CAGACAGGCAGaa-----	2	-1,-1	
-----			UACAGCAGGCA
CAGACAGGCAGU-----	74	-1,0	
-----			UACAGCAGGCA

CAGACAGGCAGUa-----	11	-1,0	
-----			UACAGCAGGCA
CAGACAGGCAGUaa-----	2	-1,0	
-----			UACAGCAGGCA
CAGACAGGCAGUau-----	6	-1,0	
-----			UACAGCAGGCA
CAGACAGGCAGUu-----	9	-1,0	
-----			ACAGCAGGCA
CAGACAGG-----	37	0,-4	
-----			ACAGCAGGCA
CAGACAGGa-----	3	0,-4	
-----			ACAGCAGGCA
CAGACAGGu-----	2	0,-4	
-----			ACAGCAGGCA
CAGACAGGC-----	9	0,-3	
-----			ACAGCAGGCA
CAGACAGGCA-----	33	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAa-----	28	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAaa-----	21	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAau-----	5	0,-2	
-----			ACAGCAGGCA
CAGACAGGCau-----	10	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAuu-----	2	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAG-----	45	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGa-----	23	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGaa-----	5	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGau-----	4	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGU-----	115	0,0	
-----			ACAGCAGGCA


```

----- 3 0,-1
-----UUGUGCUUGAUCUAACCAUGUG-----
----- 5 0,1

```

```

>hsa-mir-218-2  MA:25-45;mi:67-88  SRX018960
gaccagucgcugcggggcuuuccuUUGUCUUGAUCUAACCAUGUgguggaacgauggaaacggaaCAUGGUUCUGUCAA
GCACCGCGgaaagcaccgugcucuccugca
...(((...((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))...)))))))).))))))....)))..
-----UUGUCUUGAUCUAACCAU-----
-----4 0,-2
-----UUGUCUUGAUCUAACCAUG-----
-----3 0,-1
-----UUGUCUUGAUCUAACCAUGUG-----
-----5 0,1

```

```
>hsa-mir-219-1   5p:21-41;3p:62-83    SRX018960
ccgccccgggccgcggcuccUGAUUGUCCAAACGCAAUUCucgagucuauggcuccggccgAGAGUUGAGUCUGGACGUC
CCGagccgcccgcaccccaaacucgagcgagg
(((((((((.....)))))))))..)))).)
..)))).).....).)))..
-----AGAGUUGAGUCUGGACGUC
CCGAu-----      3      0,1
```



```

----- 3 0,-3
-----AGUUCUUCAGUGGCAAGCUU-----
----- 6 0,-2
-----AGUUCUUCAGUGGCAAGCUUU-----
----- 45 0,-1
-----AGUUCUUCAGUGGCAAGCUUUu-----
----- 2 0,-1
-----AGUUCUUCAGUGGCAAGCUUUA-----
----- 19 0,0
-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 6 0,1
-----AAGCUGCCAGUUGAAGAA-----
----- 290 0,-4
-----AAGCUGCCAGUUGAAGAAau-----
----- 2 0,-4
-----AAGCUGCCAGUUGAAGAAuu-----
----- 12 0,-4
-----AAGCUGCCAGUUGAAGAAC-----
----- 204 0,-3
-----AAGCUGCCAGUUGAAGAACa-----
----- 195 0,-3
-----AAGCUGCCAGUUGAAGAACaa-----
----- 41 0,-3
-----AAGCUGCCAGUUGAAGAACau-----
----- 6 0,-3
-----AAGCUGCCAGUUGAAGAACU-----
----- 1649 0,-2
-----AAGCUGCCAGUUGAAGAACUa-----
----- 54 0,-2
-----AAGCUGCCAGUUGAAGAACUaa-----
----- 21 0,-2
-----AAGCUGCCAGUUGAAGAACUau-----
----- 18 0,-2
-----AAGCUGCCAGUUGAAGAACUu-----
----- 35 0,-2
-----AAGCUGCCAGUUGAAGAACUuu-----
----- 33 0,-2
-----AAGCUGCCAGUUGAAGAACUG-----

```

-----	198	0, -1	-----AAGCUGCCAGUUGAAGAACUGa-----
-----	30	0, -1	-----AAGCUGCCAGUUGAAGAACUGU-----
-----	1688	0, 0	-----AAGCUGCCAGUUGAAGAACUGUa-----
-----	37	0, 0	-----AAGCUGCCAGUUGAAGAACUGUaa-----
-----	19	0, 0	-----AAGCUGCCAGUUGAAGAACUGUau-----
-----	15	0, 0	-----AAGCUGCCAGUUGAAGAACUGUU-----
-----	48	0, 1	-----AAGCUGCCAGUUGAAGAACUGUUa-----
-----	4	0, 1	-----AAGCUGCCAGUUGAAGAACUGUUu-----
-----	38	0, 1	-----AAGCUGCCAGUUGAAGAACUGUUuu-----
-----	5	0, 1	-----AGCUGCCAGUUGAAGAACa-----
-----	4	1, -3	-----AGCUGCCAGUUGAAGAACU-----
-----	8	1, -2	-----AGCUGCCAGUUGAAGAACUG-----
-----	2	1, -1	-----AGCUGCCAGUUGAAGAACUGU-----
-----	13	1, 0	

```
>hsa-mir-221      mi:25-46;MA:65-87      SRX018960
```

ugaacauccaggucuggggcaugaACCUGGCAUACAAUGUAGAUUucuguguucguuaggcaacAGCUACAUUGUCUGCU
GGGUUUCaggcuaaccuggaaacauguucuc

-----AACCUGGCAUACAAUGUAGAUUU-----

----- 2 -1,0

-----ACCUGGCAUACAAUGUAGAU-----

----- 3 0,-2

-----ACCUGGCAUACAAUGUAGAUU-----

-----	15	0,-1	
-----	-ACCUGGCAUACAAUGUAGAUUa-----		
-----	2	0,-1	
-----	-ACCUGGCAUACAAUGUAGAUUU-----		
-----	51	0,0	
-----	-ACCUGGCAUACAAUGUAGAUUUC-----		
-----	13	0,1	
-----	-ACCUGGCAUACAAUGUAGAUUUCa-----		
-----	3	0,1	
-----	-ACCUGGCAUACAAUGUAGAUUUUC-----		
-----	2	0,2	
-----	-ACCUGGCAUACAAUGUAGAUUUUCUG-----		
-----	4	0,3	
-----			-AGCUACAUUGUCUGCU
GGG-----	7	0,-4	
-----			-AGCUACAUUGUCUGCU
GGGU-----	4	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUaa-----	2	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUau-----	12	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUU-----	34	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUa-----	8	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUau-----	7	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUU-----	161	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUa-----	10	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUaa-----	2	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUu-----	9	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUC-----	94	0,0	
-----			-AGCUACAUUGUCUGCU

GGGUUCu-----	2	0,0	
-----			-GCUACAUUGUCUGCU
GGG-----	2	1,-4	
-----			-GCUACAUUGUCUGCU
GGGU-----	3	1,-3	
-----			-GCUACAUUGUCUGCU
GGGUU-----	5	1,-2	
-----			-GCUACAUUGUCUGCU
GGGUUU-----	29	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUa-----	4	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUu-----	3	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUC-----	6	1,0	

>hsa-mi r-222 mi:31-52;MA:69-89 SRX018960

gcugcuggaagguguagguaccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu

...((((((((((((.....((.(((..((((((((((((((((((((((((..(((.....))))....)))))).)))))))).)))))))).

-----			-AGCUACAUCUGG
CUACUG-----	16	0,-3	
-----			-AGCUACAUCUGG
CUACUGG-----	28	0,-2	
-----			-AGCUACAUCUGG
CUACUGGG-----	62	0,-1	
-----			-AGCUACAUCUGG
CUACUGGGaa-----	2	0,-1	
-----			-AGCUACAUCUGG
CUACUGGGU-----	92	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUa-----	17	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUau-----	12	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUuu-----	2	0,0	
-----			-AGCUACAUCUGG

CUACUGGGUC-----	543	0,1	
-----			-AGCUACAUCUGG
CUACUGGGUCa-----	11	0,1	
-----			-AGCUACAUCUGG
CUACUGGGUCU-----	560	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUa-----	2	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUu-----	28	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUuu-----	4	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUC-----	437	0,3	
-----			-AGCUACAUCUGG
CUACUGGGUCUCa-----	42	0,3	
-----			-AGCUACAUCUGG
CUACUGGGUCUCU-----	95	0,4	
-----			-GCUACAUCUGG
CUACUGG-----	3	1,-2	
-----			-GCUACAUCUGG
CUACUGGGUC-----	5	1,1	
-----			-GCUACAUCUGG
CUACUGGGUCU-----	9	1,2	
-----			-GCUACAUCUGG
CUACUGGGUCUu-----	2	1,2	
-----			-GCUACAUCUGG
CUACUGGGUCUC-----	4	1,3	
-----			-GCUACAUCUGG
CUACUGGGUCUCa-----	5	1,3	

>hsa-mir-223 mi:26-47;MA:68-89 SRX018960

ccuggccuccgagugccacgcucCGUGUAUUUGACAAGCUGAGUUGgacacuccaugugguagagUGUCAGUUUGUCA

AAUACCCCAagugcggcacaugcuuaccag

..((((.....(((((((.(((((.((((((((((((((((.....(((((((.....))))))))))))))))))))))

))))).).))))).))))).))))).))))).))))))

-----UGUCAGUUUGUCA

AAUACCCC-----2 0,-1

-----UGUCAGUUUGUCA

-----AUCACAUUGCCAGGGAUUCCAA----- 19

-----UCACAUUGCCAGGGAUUUC----- 4

cucaggugcucuggcugcuUGGGUUCCUGGCAUGCUGAUUgugacuuaagauuaaaAUCACAUUGCCAGGGAUACCAc
gcaaccacgaccuuggc

-----UUGGGUCCUGGCAUGCUGAU-----

----- 10 -1, -2

-----UUGGGUCCUGGCAUGCUGAU_a-----

$$----- \quad 2 \quad -1, -2$$

-----UUGGGUCCUGGCAUGCUGAUU-----

----- 21 -1, -1

-----UUGGGUCCUGGCAUGCUGAUUa-----

$$-----4 \quad -1, -1$$

-----UUGGGUCCUGGCAUGCUGAUUU-----

----- 16 -1,0

-----UGGGUCCUGGCAUGCUG-----

----- 2 0, -4

-----UGGGUUCCUGGCAUGCUGA-----

----- 5 0, -3

-----UGGGUUCCUGGCAUGCUGAa-----

----- 8 0, -3

-----UGGGUUCCUGGCAUGCUGAaa-----

----- 2 0, -3

-----UGGGUUCCUGGCAUGCUGAU-----

----- 94 0, -2

-----UGGGUUCCUGGCAUGCUGAUa-----

----- 26 0, -2

-----UGGGUCCUGGCAUGCUGAUaa-----

----- 4 0, -2

-----UGGGUCCUGGCAUGCUGAUau-----

----- 2 0, -2

-----UGGGUUCCUGGCAUGCUGAUU-----


```

----- 229 0,-1
-----UGGGUUCCUGGCAUGCUGAUUa-----
----- 30 0,-1
-----UGGGUUCCUGGCAUGCUGAUUaa-----
----- 3 0,-1
-----UGGGUUCCUGGCAUGCUGAUUau-----
----- 3 0,-1
-----UGGGUUCCUGGCAUGCUGAUUU-----
----- 987 0,0
-----UGGGUUCCUGGCAUGCUGAUUUa-----
----- 135 0,0
-----UGGGUUCCUGGCAUGCUGAUUUaa-----
----- 3 0,0
-----UGGGUUCCUGGCAUGCUGAUUUau-----
----- 2 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
----- 86 0,0
-----UGGGUUCCUGGCAUGCUGAUUUUG-----
----- 3 0,1
-----GGGUUCCUGGCAUGCUGAU-----
----- 23 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
----- 62 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
----- 220 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
----- 36 1,0
-----GGGUUCCUGGCAUGCUGAUUUaa-----
----- 11 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----
----- 23 1,0
-----GGGUUCCUGGCAUGCUGAUUUUG-----
----- 11 1,1
-----GGGUUCCUGGCAUGCUGAUUUUGa-----
----- 2 1,1
-----AAUCACAUUGCCAGGGAUUAC-----
----- 2 -1,-1
-----AAUCACAUUGCCAGGGAUUACu-----

```

-----	3	-1,-1	-----AAUCACAUUGCCAGGGAUUACC--
-----	2	-1,0	-----AAUCACAUUGCCAGGGAUUACCA-
-----	2	-1,1	-----AUCACAUUGCCAGGGAUU-----
-----	22	0,-3	-----AUCACAUUGCCAGGGAUUA----
-----	68	0,-2	-----AUCACAUUGCCAGGGAUUAa----
-----	27	0,-2	-----AUCACAUUGCCAGGGAUUAaa----
-----	6	0,-2	-----AUCACAUUGCCAGGGAUUAau----
-----	3	0,-2	-----AUCACAUUGCCAGGGAUUAu----
-----	7	0,-2	-----AUCACAUUGCCAGGGAUUAC----
-----	111	0,-1	-----AUCACAUUGCCAGGGAUUACa----
-----	47	0,-1	-----AUCACAUUGCCAGGGAUUACu----
-----	4	0,-1	-----AUCACAUUGCCAGGGAUUACC--
-----	207	0,0	-----AUCACAUUGCCAGGGAUUACCA-
-----	545	0,1	-----AUCACAUUGCCAGGGAUUACCAa
-----	12	0,1	-----AUCACAUUGCCAGGGAUUACCAu
-----	61	0,1	-----AUCACAUUGCCAGGGAUUACCAu
u-----	9	0,1	-----AUCACAUUGCCAGGGAUUACCAC
-----	134	0,2	-----AUCACAUUGCCAGGGAUUACCAC
a-----	16	0,2	-----AUCACAUUGCCAGGGAUUACCAC

```

u----- 243 0,2
-----UCACAUUGCCAGGGAUUACCA-
----- 12 1,1
-----UCACAUUGCCAGGGAUUACCAu
----- 3 1,1
-----UCACAUUGCCAGGGAUUACCAu
u----- 3 1,1
-----UCACAUUGCCAGGGAUUACCAC
----- 4 1,2
-----UCACAUUGCCAGGGAUUACCAC
u----- 17 1,2
-----UCACAUUGCCAGGGAUUACCAC
uu----- 6 1,2
-----UCACAUUGCCAGGGAUUACCAC
G----- 3 1,3

```

>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018960

```

cuccggUGCCUACUGAGCUGAUUAUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag
(((((((((.....)))))).))))))
----GGUGCCUACUGAGCUGAUUAUCA----- 3
-2,-2
----GUGCCUACUGAGCUGAUUAUC----- 7
-1,-3
----GUGCCUACUGAGCUGAUUAUCA----- 18
-1,-2
----GUGCCUACUGAGCUGAUUAUCAG----- 2
-1,-1
-----UGGCUCAGUUCAGCAGGA----- 11 0,-4
-----UGGCUCAGUUCAGCAGGAA----- 34 0,-3
-----UGGCUCAGUUCAGCAGGAAC----- 33 0,-2
-----UGGCUCAGUUCAGCAGGAACA---- 131 0,-1
-----UGGCUCAGUUCAGCAGGAACAa--- 23 0,-1
-----UGGCUCAGUUCAGCAGGAACAaa-- 7 0,-1
-----UGGCUCAGUUCAGCAGGAACAau-- 7 0,-1
-----UGGCUCAGUUCAGCAGGAACAu--- 9 0,-1
-----UGGCUCAGUUCAGCAGGAACAuu-- 8 0,-1
-----UGGCUCAGUUCAGCAGGAACAG--- 908 0,0
-----UGGCUCAGUUCAGCAGGAACAGa-- 52 0,0

```

-----UGGCUCAGUUCAGCAGGAACAGaa-	3	0,0
-----UGGCUCAGUUCAGCAGGAACAGau-	3	0,0
-----UGGCUCAGUUCAGCAGGAACAGu--	1792	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGuu-	356	0,0
-----UGGCUCAGUUCAGCAGGAACAGG--	5	0,1
-----UGGCUCAGUUCAGCAGGAACAGGu-	3	0,1
-----GGCUCAGUUCAGCAGGA--	2	1,-3
-----GGCUCAGUUCAGCAGGAACA---	6	1,-1
-----GGCUCAGUUCAGCAGGAACAG---	25	1,0
-----GGCUCAGUUCAGCAGGAACAGa--	3	1,0
-----GGCUCAGUUCAGCAGGAACAGu--	74	1,0
-----GGCUCAGUUCAGCAGGAACAGuu-	17	1,0
-----GCUCAGUUCAGCAGGAACAaa--	2	2,-1
-----GCUCAGUUCAGCAGGAACAG---	5	2,0
-----GCUCAGUUCAGCAGGAACAGa--	2	2,0
-----GCUCAGUUCAGCAGGAACAGu--	6	2,0
-----GCUCAGUUCAGCAGGAACAGuu-	4	2,0
-----GCUCAGUUCAGCAGGAACAGG--	8	2,1
-----GCUCAGUUCAGCAGGAACAGGu-	2	2,1

-----UGGCUCAGUUCAGCAGGAAC-----	33
0,-2	
-----UGGCUCAGUUCAGCAGGAACA---	131
0,-1	
-----UGGCUCAGUUCAGCAGGAACAa--	23
0,-1	
-----UGGCUCAGUUCAGCAGGAACAaa-	7
0,-1	
-----UGGCUCAGUUCAGCAGGAACAau-	7
0,-1	
-----UGGCUCAGUUCAGCAGGAACAu--	9
0,-1	
-----UGGCUCAGUUCAGCAGGAACAuu-	8
0,-1	
-----UGGCUCAGUUCAGCAGGAACAG--	908
0,0	
-----UGGCUCAGUUCAGCAGGAACAGa-	52
0,0	
-----UGGCUCAGUUCAGCAGGAACAGaa	3
0,0	
-----UGGCUCAGUUCAGCAGGAACAGau	3
0,0	
-----UGGCUCAGUUCAGCAGGAACAGu-	1792
0,0	
-----UGGCUCAGUUCAGCAGGAACAGuu	356
0,0	
-----UGGCUCAGUUCAGCAGGAACAGG-	5
0,1	
-----UGGCUCAGUUCAGCAGGAACAGGu	3
0,1	
-----GGCUCAGUUCAGCAGGAA-----	2
1,-3	
-----GGCUCAGUUCAGCAGGAACA---	6
1,-1	
-----GGCUCAGUUCAGCAGGAACAG--	25
1,0	
-----GGCUCAGUUCAGCAGGAACAGa-	3
1,0	

1,0	-GGCUCAGUUCAGCAGGAACAGu-	74
1,0	-GGCUCAGUUCAGCAGGAACAGuu	17
2,-1	-GCUCAGUUCAGCAGGAACAaa-	2
2,0	-GCUCAGUUCAGCAGGAACAG--	5
2,0	-GCUCAGUUCAGCAGGAACAGa-	2
2,0	-GCUCAGUUCAGCAGGAACAGu-	6
2,0	-GCUCAGUUCAGCAGGAACAGuu	4
2,1	-GCUCAGUUCAGCAGGAACAGG-	8
2,1	-GCUCAGUUCAGCAGGAACAGGu	2

```

-----CAUUGCACUUGUCUCGGU-----
---- 39 0,-4
-----CAUUGCACUUGUCUCGGUC-----
---- 83 0,-3
-----CAUUGCACUUGUCUCGGUCU-----
---- 162 0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
---- 118 0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
---- 36 0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
---- 309 0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
---- 4 0,0
-----CAUUGCACUUGUCUCGGUCUGAC-----
---- 3 0,1
-----AUUGCACUUGUCUCGGUCU-----
---- 9 1,-2
-----AUUGCACUUGUCUCGGUCUG-----
---- 14 1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
---- 24 1,0

```

>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018960

```

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.((((((.(((((((.(((((((.((.....))...)))))))))).)))))))).)))))))).)))
-----UUCAAGUAAUCCAGGAUA-----
---- 33 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 8 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 193 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
---- 3 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 644 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 5 0,-2

```

-----UUCAAGUAAUCCAGGAUAGGau-----
10 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
15 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
1225 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
405 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
301 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
67 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
5526 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
656 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
136 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
553 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
222 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
2342 0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
2 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
9 0,2
-----UCAAGUAAUCCAGGAUAGG-----
10 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
43 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
12 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
6 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
105 1,0


```

-----UCAAGUAAUCCAGGAUAGGCUa-----
15 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
8 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
5 1,0
-----UCAAGUAAUCCAGGAUAGGCUGU-----
2 1,2
-----CAAGUAAUCCAGGAUAGG-----
3 2,-2
-----CAAGUAAUCCAGGAUAGGCU-----
4 2,0
-----CAAGUAAUCCAGGAUAGGCUa-----
2 2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
5 2,0

```

>hsa-mir-26a-2 MA:14-35;mi:52-73 SRX018960

```

ggcuguggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu
((((((...((...(((.....))))))))).)))))))))...))...))
)))

```

```

-----UUCAAGUAAUCCAGGAUA-----
---- 33 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 8 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 193 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
---- 3 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 644 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 5 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
---- 10 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 15 0,-2

```

```

-----UUCAAGUAAUCCAGGAUAGGC-----
---- 1225 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 405 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 301 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 67 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 5526 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
---- 656 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
---- 136 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
---- 553 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
---- 222 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
---- 2342 0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
---- 2 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
---- 9 0,2
-----UCAAGUAAUCCAGGAUAGG-----
---- 10 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
---- 43 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
---- 12 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
---- 6 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
---- 105 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
---- 15 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
---- 8 1,0

```



```

-----UUCAAGUAAUUCAGGAUAGGUU-----
2246    0,1
-----UUCAAGUAAUUCAGGAUAGGUUa-----
192    0,1
-----UUCAAGUAAUUCAGGAUAGGUUaa-----
11     0,1
-----UUCAAGUAAUUCAGGAUAGGUUau-----
5      0,1
-----UUCAAGUAAUUCAGGAUAGGUUu-----
231    0,1
-----UUCAAGUAAUUCAGGAUAGGUUuu-----
3      0,1
-----UUCAAGUAAUUCAGGAUAGGUUG-----
11     0,2
-----UUCAAGUAAUUCAGGAUAGGUUGU-----
4      0,3
-----UCAAGUAAUUCAGGAUAGG-----
2      1,-1
-----UCAAGUAAUUCAGGAUAGGU-----
3      1,0
-----UCAAGUAAUUCAGGAUAGGUU-----
18     1,1
-----CAAGUAAUUCAGGAUAGGUU-----
11     2,1
-----CAAGUAAUUCAGGAUAGGUUu-----
3      2,1

```

>hsa-mir-27a mi:10-31;MA:51-71 SRX018960

```

cugaggagcAGGGCUUAGCUGCUUGUGAGCAggguccacaccaagucgugUUCACAGUGGCUAAGUCCGCccccag
(((.((.((.(((((((..((.(((((((..((.....)))..)))))))).)))))))).)))).)))
-----AGGGCUUAGCUGCUUGUGAGCA-----
15     0,0
-----AGGGCUUAGCUGCUUGUGAGCAa-----
4      0,0
-----GUUCACAGUGGCUAAGUU-----
4      -1,-4
-----GUUCACAGUGGCUAAGUUC-----
19     -1,-3

```



```

-----AGAGCUUAGCUGAUUGGUGAA-----
-----147 0,-1-----
-----AGAGCUUAGCUGAUUGGUGAAC-----
-----5 0,0-----
-----AGAGCUUAGCUGAUUGGUGAACA-----
-----6 0,1-----
-----AGAGCUUAGCUGAUUGGUGAACAG-----
-----7 0,2-----
-----GUUCACAGUGGCUAAGUU-----
-----4 -1,-4-----
-----GUUCACAGUGGCUAAGUUC-----
-----19 -1,-3-----
-----GUUCACAGUGGCUAAGUUCU-----
-----4 -1,-2-----
-----GUUCACAGUGGCUAAGUUCUG
CA-----4 -1,1-----
-----UUCACAGUGGCUAAGUUC-----
-----6164 0,-3-----
-----UUCACAGUGGCUAAGUUCa-----
-----15 0,-3-----
-----UUCACAGUGGCUAAGUUCaa-----
-----3 0,-3-----
-----UUCACAGUGGCUAAGUUCU-----
-----2107 0,-2-----
-----UUCACAGUGGCUAAGUUCUa-----
-----26 0,-2-----
-----UUCACAGUGGCUAAGUUCUa-----
a-----8 0,-2-----
-----UUCACAGUGGCUAAGUUCUu-----
-----4 0,-2-----
-----UUCACAGUGGCUAAGUUCUG-----
-----177 0,-1-----
-----UUCACAGUGGCUAAGUUCUG-----
a-----35 0,-1-----
-----UUCACAGUGGCUAAGUUCUG-----
aa-----81 0,-1-----
-----UUCACAGUGGCUAAGUUCUG-----
au-----9 0,-1-----

```

```

-----UUCACAGUGGCUAAGUUCUG
u-----      8      0,-1
-----UUCACAGUGGCUAAGUUCUG
uu-----      5      0,-1
-----UUCACAGUGGCUAAGUUCUG
C-----    251    0,0
-----UUCACAGUGGCUAAGUUCUG
Cu-----      5      0,0
-----UUCACAGUGGCUAAGUUCUG
Cuu-----     3      0,0
-----UUCACAGUGGCUAAGUUCUG
CA-----    409    0,1
-----UUCACAGUGGCUAAGUUCUG
CAa-----    254    0,1
-----UUCACAGUGGCUAAGUUCUG
CAaa-----      6      0,1
-----UUCACAGUGGCUAAGUUCUG
CAau-----      7      0,1
-----UUCACAGUGGCUAAGUUCUG
CAu-----    199    0,1
-----UUCACAGUGGCUAAGUUCUG
CAuu-----     30     0,1
-----UCACAGUGGCUAAGUUCU-
-----    14      1,-2
-----UCACAGUGGCUAAGUUCUG
-----      4      1,-1
-----UCACAGUGGCUAAGUUCUG
CA-----      4      1,1
-----UCACAGUGGCUAAGUUCUG
CAa-----      6      1,1
-----UCACAGUGGCUAAGUUCUG
CAu-----      9      1,1
-----UCACAGUGGCUAAGUUCUG
CAuu-----      6      1,1

```

>hsa-mir-28 5p:14-35;3p:54-75 SRX018960

```

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGUuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu

```

-----AAGGAGCUCACAGUCUAUU-----			
3	0,-3		
-----AAGGAGCUCACAGUCUAUUG-----			
8	0,-2		
-----AAGGAGCUCACAGUCUAUUGA-----			
39	0,-1		
-----AAGGAGCUCACAGUCUAUUGAa-----			
5	0,-1		
-----AAGGAGCUCACAGUCUAUUGAG-----			
5	0,0		
-----AAGGAGCUCACAGUCUAUUGAGa-----			
8	0,0		
-----AAGGAGCUCACAGUCUAUUGAGU-----			
3	0,1		
			-----CACUAGAUUGUGAGCUCCU-----
4	0,-3		
			-----CACUAGAUUGUGAGCUCCUG-----
20	0,-2		
			-----CACUAGAUUGUGAGCUCCUGa-----
13	0,-2		
			-----CACUAGAUUGUGAGCUCCUGaa-----
4	0,-2		
			-----CACUAGAUUGUGAGCUCCUGG-----
290	0,-1		
			-----CACUAGAUUGUGAGCUCCUGGu-----
8	0,-1		
			-----CACUAGAUUGUGAGCUCCUGGA-----
3404	0,0		
			-----CACUAGAUUGUGAGCUCCUGGAa-----
1620	0,0		
			-----CACUAGAUUGUGAGCUCCUGGAaa-----
241	0,0		
			-----CACUAGAUUGUGAGCUCCUGGAau-----
44	0,0		
			-----CACUAGAUUGUGAGCUCCUGGAu-----
71	0,0		

-----			-----CACUAGAUUGUGAGCUCCUGGAuu---
-----	5	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAG---
-----	22	0,1	
-----			-----CACUAGAUUGUGAGCUCCUGGAGa---
-----	14	0,1	
-----			-----CACUAGAUUGUGAGCUCCUGGAGaa---
-----	4	0,1	
-----			-----ACUAGAUUGUGAGCUCCUG-----
-----	3	1,-2	
-----			-----ACUAGAUUGUGAGCUCCUGG-----
-----	8	1,-1	
-----			-----ACUAGAUUGUGAGCUCCUGGA-----
-----	89	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAa-----
-----	64	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAaa-----
-----	16	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAG-----
-----	44	1,1	
-----			-----ACUAGAUUGUGAGCUCCUGGAGa---
-----	64	1,1	
-----			-----ACUAGAUUGUGAGCUCCUGGAGaa---
-----	6	1,1	
-----			-----ACUAGAUUGUGAGCUCCUGGAGu---
-----	4	1,1	
-----			-----ACUAGAUUGUGAGCUCCUGGAGuu---
-----	3	1,1	
-----			-----CUAGAUUGUGAGCUCCUGGA-----
-----	6	2,0	
-----			-----CUAGAUUGUGAGCUCCUGGAa-----
-----	5	2,0	
-----			-----CUAGAUUGUGAGCUCCUGGAaa-----
-----	2	2,0	
-----			-----CUAGAUUGUGAGCUCCUGGAau-----
-----	2	2,0	
-----			-----CUAGAUUGUGAGCUCCUGGAG-----
-----	34	2,1	

-----CUAGCACCAUCUGAAAUCGGU <u>u</u> -	100	-1,-1
-----CUAGCACCAUCUGAAAUCGGU <u>U</u> A-	469	-1,0
-----CUAGCACCAUCUGAAAUCGGU <u>U</u> Aa	7	-1,0
-----CUAGCACCAUCUGAAAUCGGU <u>U</u> AU	7	-1,1
-----UAGCACCAUCUGAAAUCG-----	42	0,-4
-----UAGCACCAUCUGAAAUCG <u>u</u> u---	4	0,-4
-----UAGCACCAUCUGAAAUCGG-----	511	0,-3
-----UAGCACCAUCUGAAAUCGGa--	7	0,-3
-----UAGCACCAUCUGAAAUCGGa <u>u</u> --	6	0,-3
-----UAGCACCAUCUGAAAUCGGU---	512	0,-2
-----UAGCACCAUCUGAAAUCGGUa--	89	0,-2
-----UAGCACCAUCUGAAAUCGGUaa-	206	0,-2
-----UAGCACCAUCUGAAAUCGGUa <u>u</u> -	13	0,-2
-----UAGCACCAUCUGAAAUCGGU <u>U</u> ---	10110	0,-1
-----UAGCACCAUCUGAAAUCGGU <u>U</u> u-	2755	0,-1
-----UAGCACCAUCUGAAAUCGGU <u>U</u> uu	54	0,-1
-----UAGCACCAUCUGAAAUCGGU <u>U</u> A-	35511	0,0
-----UAGCACCAUCUGAAAUCGGU <u>U</u> Aa	646	0,0
-----UAGCACCAUCUGAAAUCGGU <u>U</u> Aaa	4	0,0
-----UAGCACCAUCUGAAAUCGGU <u>U</u> Aau	2	0,0
-----UAGCACCAUCUGAAAUCGGU <u>U</u> AU	379	0,1
-----AGCACCAUCUGAAAUCGGU <u>U</u> ---	80	1,-1
-----AGCACCAUCUGAAAUCGGU <u>U</u> u-	34	1,-1
-----AGCACCAUCUGAAAUCGGU <u>U</u> A-	257	1,0
-----AGCACCAUCUGAAAUCGGU <u>U</u> Aa	2	1,0
-----AGCACCAUCUGAAAUCGGU <u>U</u> AU	10	1,1
-----GCACCAUCUGAAAUCGGU <u>U</u> ---	8	2,-1
-----GCACCAUCUGAAAUCGGU <u>U</u> A-	24	2,0

```

-----UAGCACCAUUUGAAAUCAGU-----
- 312 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 81 0,-2
-----UAGCACCAUUUGAAAUCAGUGau-----
- 3 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 23 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 15 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 14 0,0
-----GCACCAUUUGAAAUCAGUG-----
- 2 2,-2

```

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018960

```

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

```

```

-----CUGGUUUCACAUGGUGGCUUAG-----
- 2 0,0
-----CUGGUUUCACAUGGUGGCUUAGAU-----
- 3 0,2
-----CUAGCACCAUUUGAAAUCAGU-----
- 3 -1,-3
-----UAGCACCAUUUGAAAUCAG-----
- 22 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 312 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 81 0,-2
-----UAGCACCAUUUGAAAUCAGUGau-----
- 3 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 23 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 15 0,-1

```

```

-----UAGCACCAUUUGAAAUCAGUGUU-----
- 14 0,0
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 2 0,1
-----GCACCAUUUGAAAUCAGUG-----
- 2 2,-2

```

>hsa-mir-29c mi:16-37;MA:54-75 SRX018960

```

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UGACCGAUUUCUCCUGGU-----
----- 2 0,-4
-----UGACCGAUUUCUCCUGGUGUa-----
----- 2 0,-2
-----UGACCGAUUUCUCCUGGUGUU-----
----- 9 0,-1
-----GACCGAUUUCUCCUGGUGUU-----
----- 3 1,-1
-----GACCGAUUUCUCCUGGUGUUC-----
----- 3 1,0
-----GACCGAUUUCUCCUGGUGUUCA-----
----- 6 1,1
-----ACCGAUUUCUCCUGGUGUUC-----
----- 4 2,0
-----ACCGAUUUCUCCUGGUGUUCAG-----
----- 3 2,2
-----ACCGAUUUCUCCUGGUGUUCAGAu-----
----- 2 2,3
-----CUAGCACCAUUUGAAAUCGGUU-----
----- 2 -1,-1
-----CUAGCACCAUUUGAAAUCGGUUAa-----
----- 2 -1,0
-----UAGCACCAUUUGAAAUCG-----
----- 12 0,-4
-----UAGCACCAUUUGAAAUCGG-----
----- 47 0,-3

```

```

-----UAGCACCAUUUGAAAUCGGU-----
----- 67 0,-2 -----
-----UAGCACCAUUUGAAAUCGGUa-----
----- 4 0,-2 -----
-----UAGCACCAUUUGAAAUCGGUaa-----
----- 11 0,-2 -----
-----UAGCACCAUUUGAAAUCGGUU-----
----- 334 0,-1 -----
-----UAGCACCAUUUGAAAUCGGUUu-----
----- 174 0,-1 -----
-----UAGCACCAUUUGAAAUCGGUUuu-----
----- 2 0,-1 -----
-----UAGCACCAUUUGAAAUCGGUUA-----
----- 3957 0,0 -----
-----UAGCACCAUUUGAAAUCGGUUAa-----
----- 97 0,0 -----
-----UAGCACCAUUUGAAAUCGGUUAU-----
----- 20 0,1 -----
-----UAGCACCAUUUGAAAUCGGUUAUu-----
----- 3 0,1 -----
-----AGCACCAUUUGAAAUCGGUUA-----
----- 17 1,0 -----
-----GCACCAUUUGAAAUCGGUUA-----
----- 2 2,0 -----
-----GCACCAUUUGAAAUCGGUUAUu-----
----- 2 2,1 -----

```

>hsa-mir-301a 3p:51-73 SRX018960

acugcuaacgaaugcucugacuuuauugcacuacuguacuuaacagcuagCAGUGCAAUAGUAAUUGUCAAAAGCaucugaa
agcagg

.((((((..(((.(((((((((.(((((((((((.((((((...))))).))))).))))).))))).))))..
))))).

```

-----GCUCUGACUUUAUUGCACUACU-----
----- 2 -----
-----CAGUGCAAUAGUAAUUGUC-----
----- 3 0,-5 -----

```

>hsa-mir-301b 3p:45-67 SRX018960

gccgcaggugcucugacgagguugcacuacugugcucugagaagCAGUGCAAUGAUUUGUCAAGCaucugggacca
 .(((.(((((((.((((((.(((((((.((...(.)))...)))...)))...)))...)))...)))...
 -----GCUCUGACGAGGUUGCACUACU-----

3

>hsa-mir-3065 5p:10-32;3p:50-72 SRX018960

cugccccucuUCAACAAAAUCACUGAUGCUGGAgucgccugagucaucacUCAGCACCAGGAUAUUGUUGGAGaggacag
 (((.(((((((.((((((.(((((((.((...(.)))...)))...)))...)))...)))...)))...)))...))
 -----UCAACAAAAUCACUGAUGCU-----

3 0,-3

-----UCAACAAAAUCACUGAUGCUGGAG-----

2 0,1

-----UCAGCACCAGGAUAUUGUUGG-----

4 0,-2

>hsa-mir-30a MA:6-27;mi:47-68 SRX018960

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc
 (((.(((((((.((((((.(((((((.((...(.)))...)))...)))...)))...)))...)))...)))...))
 ---CUGUAAACAUCCUCGACUGGA----- 4

-1,-2

---CUGUAAACAUCCUCGACUGGAA----- 21

-1,-1

---CUGUAAACAUCCUCGACUGGAAa----- 5

-1,-1

---CUGUAAACAUCCUCGACUGGAAG----- 35 -1,0

---CUGUAAACAUCCUCGACUGGAAGa----- 20 -1,0

---CUGUAAACAUCCUCGACUGGAAGC----- 71 -1,1

---CUGUAAACAUCCUCGACUGGAAGCa----- 10 -1,1

---CUGUAAACAUCCUCGACUGGAAGCU----- 79 -1,2

----UGUAAACAUCCUCGACUG----- 208 0,-4

----UGUAAACAUCCUCGACUGa----- 3 0,-4

----UGUAAACAUCCUCGACUGG----- 208 0,-3

----UGUAAACAUCCUCGACUGGu----- 20 0,-3

----UGUAAACAUCCUCGACUGGA----- 957 0,-2

----UGUAAACAUCCUCGACUGGAu----- 3 0,-2

----UGUAAACAUCCUCGACUGGAA----- 2885

0,-1

----UGUAAACAUCCUCGACUGGAAa----- 1374

0, -1	
-----UGUAAACAUCCUCGACUGGAaAa-----	56 0, -1
-----UGUAAACAUCCUCGACUGGAaAu-----	8 0, -1
-----UGUAAACAUCCUCGACUGGAaU-----	63 0, -1
-----UGUAAACAUCCUCGACUGGAAG-----	10751
0,0	
-----UGUAAACAUCCUCGACUGGAAGa-----	6511
0,0	
-----UGUAAACAUCCUCGACUGGAAGaa-----	179 0,0
-----UGUAAACAUCCUCGACUGGAAGau-----	175 0,0
-----UGUAAACAUCCUCGACUGGAAGu-----	322 0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	36 0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	27853
0,1	
-----UGUAAACAUCCUCGACUGGAAGCa-----	4254
0,1	
-----UGUAAACAUCCUCGACUGGAAGCaa-----	91 0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	81 0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	51076
0,2	
-----UGUAAACAUCCUCGACUGGAAGCUa-----	366 0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	1629
0,2	
-----UGUAAACAUCCUCGACUGGAAGCUG-----	7 0,3
-----GUAAACAUCCUCGACUGGA-----	6 1, -2
-----GUAAACAUCCUCGACUGGAA-----	16 1, -1
-----GUAAACAUCCUCGACUGGAaA-----	8 1, -1
-----GUAAACAUCCUCGACUGGAAG-----	126 1,0
-----GUAAACAUCCUCGACUGGAAGa-----	25 1,0
-----GUAAACAUCCUCGACUGGAAGC-----	247 1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	11 1,1
-----GUAAACAUCCUCGACUGGAAGCau-----	6 1,1
-----GUAAACAUCCUCGACUGGAAGCU-----	157 1,2
-----GUAAACAUCCUCGACUGGAAGCUu-----	10 1,2
-----GUAAACAUCCUCGACUGGAAGCUG-----	2 1,3
-----UAAACAUCCUCGACUGGAAG-----	3 2,0
-----UAAACAUCCUCGACUGGAAGa-----	4 2,0
-----UAAACAUCCUCGACUGGAAGC-----	24 2,1


```

-----UAAACAUCCUCGACUGGAAGCU----- 14 2,2
-----UAAACAUCCUCGACUGGAAGCUu----- 2 2,2
-----CUUUCAGUCGGAUGUUUGC----- 2 0,-3
-----CUUUCAGUCGGAUGUUUGCA----- 8 0,-2
-----CUUUCAGUCGGAUGUUUGCAG---- 24 0,-1
-----CUUUCAGUCGGAUGUUUGCAGu--- 7 0,-1
-----CUUUCAGUCGGAUGUUUGCAGC--- 66 0,0
-----CUUUCAGUCGGAUGUUUGCAGCa-- 5 0,0
-----CUUUCAGUCGGAUGUUUGCAGCU-- 2 0,1
-----UUUCAGUCGGAUGUUUGCAG---- 13 1,-1
-----UUUCAGUCGGAUGUUUGCAGu--- 2 1,-1
-----UUUCAGUCGGAUGUUUGCAGC--- 32 1,0
-----UUUCAGUCGGAUGUUUGCAGCa-- 6 1,0

```

>hsa-mir-30b MA:17-38;mi:55-76 SRX018960

accaaguucaguucaUGUAAACAUCCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
gacuugga

.((((((...((((((...((((((((((...((((((((((...)))))))).)))))))).)))))))).

```

-----UGUAAACAUCCUACACUC-----
----- 6 0,-4
-----UGUAAACAUCCUACACUCAG-----
----- 2 0,-2
-----UGUAAACAUCCUACACUCAGC-----
----- 23 0,-1
-----UGUAAACAUCCUACACUCAGCau-----
----- 2 0,-1
-----UGUAAACAUCCUACACUCAGCU-----
----- 86 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
----- 14 0,0
-----UGUAAACAUCCUACACUCAGCUaa-----
----- 2 0,0
-----UGUAAACAUCCUACACUCAGCUau-----
----- 5 0,0
-----UGUAAACAUCCUACACUCAGCUu-----
----- 7 0,0
-----UGUAAACAUCCUACACUCAGCUG-----

```

```

-----      4   0,1
-----CUGGGAGGUGGAUGUUUA-----
-----     13   0,-4
-----CUGGGAGGUGGAUGUUUAa-----
-----      3   0,-4
-----CUGGGAGGUGGAUGUUUAaa-----
-----      2   0,-4
-----CUGGGAGGUGGAUGUUUAC-----
-----     10   0,-3
-----CUGGGAGGUGGAUGUUUACa-----
-----     12   0,-3
-----CUGGGAGGUGGAUGUUUACU-----
-----     83   0,-2
-----CUGGGAGGUGGAUGUUUACUa-----
-----      5   0,-2
-----CUGGGAGGUGGAUGUUUACUaa-----
-----      6   0,-2
-----CUGGGAGGUGGAUGUUUACUU-----
-----    160   0,-1
-----CUGGGAGGUGGAUGUUUACUUa-----
-----     40   0,-1
-----CUGGGAGGUGGAUGUUUACUUaa-----
-----     14   0,-1
-----CUGGGAGGUGGAUGUUUACUUu-----
-----     12   0,-1
-----CUGGGAGGUGGAUGUUUACUUC-----
-----      9   0,0
-----CUGGGAGGUGGAUGUUUACUUCu-----
-----      3   0,0
-----CUGGGAGGUGGAUGUUUACUUCA-----
-----     10   0,1
-----UGGGAGGUGGAUGUUUACUU-----
-----      3   1,-1
-----UGGGAGGUGGAUGUUUACUUa-----
-----      2   1,-1

```

>hsa-mir-30c-1 MA:17-39;mi:56-77 SRX018960

accaugcuguagugugUGUAAACAUCUACACUCUCAGCugugagcucaagguggCUGGGAGAGGGUUGUUUACUCCuuc

		-UGUAAACAUCCUACACUC-	
6	0,-5		
		-UGUAAACAUCCUACACUCUC-	
8	0,-3		
		-UGUAAACAUCCUACACUCUCA-	
7	0,-2		
		-UGUAAACAUCCUACACUCUCAG-	
18	0,-1		
		-UGUAAACAUCCUACACUCUCAGa-	
2	0,-1		
		-UGUAAACAUCCUACACUCUCAGau-	
3	0,-1		
		-UGUAAACAUCCUACACUCUCAGC-	
86	0,0		
		-UGUAAACAUCCUACACUCUCAGCa-	
20	0,0		
		-UGUAAACAUCCUACACUCUCAGCU-	
142	0,1		
		-UGUAAACAUCCUACACUCUCAGCUa-	
12	0,1		
		-UGUAAACAUCCUACACUCUCAGCUu-	
9	0,1		
		-UGUAAACAUCCUACACUCUCAGCUG-	
2	0,2		
			-CUGGGAGAGGGUUGUUUAC-
4	0,-3		
			-CUGGGAGAGGGUUGUUUACa-
4	0,-3		
			-CUGGGAGAGGGUUGUUUACU-
155	0,-2		
			-CUGGGAGAGGGUUGUUUACUa-
12	0,-2		
			-CUGGGAGAGGGUUGUUUACUaa-
3	0,-2		
			-CUGGGAGAGGGUUGUUUACUuu-

-----	2	0,-2	-----CUGGGAGAGGGUUGUUUACUC-----
-----	68	0,-1	-----CUGGGAGAGGGUUGUUUACUCa---
-----	11	0,-1	-----CUGGGAGAGGGUUGUUUACUCaa--
-----	13	0,-1	-----CUGGGAGAGGGUUGUUUACUCau--
-----	2	0,-1	-----CUGGGAGAGGGUUGUUUACUCu---
-----	4	0,-1	-----CUGGGAGAGGGUUGUUUACUCC---
-----	11	0,0	-----CUGGGAGAGGGUUGUUUACUCCa--
-----	11	0,0	-----CUGGGAGAGGGUUGUUUACUCCaa-
-----	5	0,0	-----CUGGGAGAGGGUUGUUUACUCCau-
-----	5	0,0	-----CUGGGAGAGGGUUGUUUACUCCU--
-----	23	0,1	-----CUGGGAGAGGGUUGUUUACUCCUa-
-----	3	0,1	-----UGGGAGAGGGUUGUUUACaa-----
-----	2	1,-3	-----UGGGAGAGGGUUGUUUACU-----
-----	35	1,-2	-----UGGGAGAGGGUUGUUUACUa-----
-----	2	1,-2	-----UGGGAGAGGGUUGUUUACUC-----
-----	16	1,-1	-----UGGGAGAGGGUUGUUUACUCa---
-----	3	1,-1	-----UGGGAGAGGGUUGUUUACUCaa--
-----	7	1,-1	-----UGGGAGAGGGUUGUUUACUCC---
-----	6	1,0	-----UGGGAGAGGGUUGUUUACUCCa--

-----	8	1,0	-----UGGGAGAGGGUUGUUUACUCCU-----	
-----	12	1,1		
>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018960				
agauacUGUAAACAUCUACACUCUCAGCuguggaaaguaagCUGGGAGAAGGCUGUUUACUCUuucu				
(((...(((((((.(((...((((((((((.....)))))))))).)))..))))))....)))				
-----	UGUAAACAUCUACACUC-----			6
0,-5				
-----	UGUAAACAUCUACACUCUC-----			8
0,-3				
-----	UGUAAACAUCUACACUCUCA-----			7
0,-2				
-----	UGUAAACAUCUACACUCUCAG-----			18
0,-1				
-----	UGUAAACAUCUACACUCUCAGa-----			2
0,-1				
-----	UGUAAACAUCUACACUCUCAGau-----			3
0,-1				
-----	UGUAAACAUCUACACUCUCAGC-----			86
0,0				
-----	UGUAAACAUCUACACUCUCAGCa-----			20
0,0				
-----	UGUAAACAUCUACACUCUCAGCU-----			142
0,1				
-----	UGUAAACAUCUACACUCUCAGCUa-----			12
0,1				
-----	UGUAAACAUCUACACUCUCAGCUu-----			9
0,1				
-----	UGUAAACAUCUACACUCUCAGCUG-----			2
0,2				
-----	CUGGGAGAAGGCUGUUUA-----			24
0,-4				
-----	CUGGGAGAAGGCUGUUUAa-----			2
0,-4				
-----	CUGGGAGAAGGCUGUUUAaa-----			2
0,-4				
-----	CUGGGAGAAGGCUGUUUAau-----			6

0, -4	-----CUGGGAGAAGGCUGUUUAC-----	54
0, -3	-----CUGGGAGAAGGCUGUUUACa-----	12
0, -3	-----CUGGGAGAAGGCUGUUUACU-----	1292
0, -2	-----CUGGGAGAAGGCUGUUUACUa-----	33
0, -2	-----CUGGGAGAAGGCUGUUUACUaa-----	10
0, -2	-----CUGGGAGAAGGCUGUUUACUau-----	5
0, -2	-----CUGGGAGAAGGCUGUUUACUu-----	11
0, -2	-----CUGGGAGAAGGCUGUUUACUuu-----	9
0, -2	-----CUGGGAGAAGGCUGUUUACUC-----	1908
0, -1	-----CUGGGAGAAGGCUGUUUACUCa-----	40
0, -1	-----CUGGGAGAAGGCUGUUUACUCaa-----	15
0, -1	-----CUGGGAGAAGGCUGUUUACUCU-----	443
0, 0	-----CUGGGAGAAGGCUGUUUACUCUa-----	5
0, 0	-----CUGGGAGAAGGCUGUUUACUCUU-----	24
0, 1	-----CUGGGAGAAGGCUGUUUACUCUUU-----	3
0, 2	-----UGGGAGAAGGCUGUUUACU-----	38
1, -2	-----UGGGAGAAGGCUGUUUACUu-----	2
1, -2	-----UGGGAGAAGGCUGUUUACUC-----	157
1, -1	-----UGGGAGAAGGCUGUUUACUCaa-----	3

1, -1	-----UGGGAGAAGGCUGUUUACUCU-----	52
1, 0	-----UGGGAGAAGGCUGUUUACUCUaa--	3
1, 0	-----UGGGAGAAGGCUGUUUACUCUU--	7
1, 1	-----GGGAGAAGGCUGUUUACUCU-----	2
2, 0		

>hsa-mir-30d MA:6-27;mi:46-67 SRX018960

guuguUGUAAACAUCCTCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUUUUGCUGCuac		
...(((.((((((((((...((((((((((((((...((.....)).))))))))))))).)))))))).))...		
----UUGUAAACAUCCTCCGACUGGAAG-----	2	-1,0
----UUGUAAACAUCCTCCGACUGGAAGC-----	4	-1,1
----UUGUAAACAUCCTCCGACUGGAAGCU-----	8	-1,2
----UGUAAACAUCCTCCGACUG-----	147	0,-4
----UGUAAACAUCCTCCGACUGaa-----	4	0,-4
----UGUAAACAUCCTCCGACUGG-----	315	0,-3
----UGUAAACAUCCTCCGACUGGu-----	3	0,-3
----UGUAAACAUCCTCCGACUGGA-----	554	0,-2
----UGUAAACAUCCTCCGACUGGAu-----	2	0,-2
----UGUAAACAUCCTCCGACUGGAA-----	2964	
0, -1		
----UGUAAACAUCCTCCGACUGGAa-----	1642	
0, -1		
----UGUAAACAUCCTCCGACUGGAa-----	124	0,-1
----UGUAAACAUCCTCCGACUGGAau-----	27	0,-1
----UGUAAACAUCCTCCGACUGGAu-----	137	0,-1
----UGUAAACAUCCTCCGACUGGAuu-----	4	0,-1
----UGUAAACAUCCTCCGACUGGAAG-----	4463	
0, 0		
----UGUAAACAUCCTCCGACUGGAAGa-----	2323	
0, 0		
----UGUAAACAUCCTCCGACUGGAAGaa-----	346	0,0
----UGUAAACAUCCTCCGACUGGAAGau-----	313	0,0
----UGUAAACAUCCTCCGACUGGAAGu-----	288	0,0
----UGUAAACAUCCTCCGACUGGAAGuu-----	61	0,0

-----UGUAAACAUCCCCGACUGGAAGC-----	15960	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCa-----	3020	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCaa-----	32	0,1
-----UGUAAACAUCCCCGACUGGAAGCau-----	42	0,1
-----UGUAAACAUCCCCGACUGGAAGCU-----	100518	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUa-----	1228	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUu-----	3202	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUG-----	7	0,3
-----GUAACAUCCCCGACUGGA-----	15	1,-2
-----GUAACAUCCCCGACUGGAA-----	21	1,-1
-----GUAACAUCCCCGACUGGAAa-----	12	1,-1
-----GUAACAUCCCCGACUGGAAu-----	2	1,-1
-----GUAACAUCCCCGACUGGAAG-----	33	1,0
-----GUAACAUCCCCGACUGGAAGa-----	18	1,0
-----GUAACAUCCCCGACUGGAAGau-----	2	1,0
-----GUAACAUCCCCGACUGGAAGu-----	5	1,0
-----GUAACAUCCCCGACUGGAAGC-----	133	1,1
-----GUAACAUCCCCGACUGGAAGCa-----	29	1,1
-----GUAACAUCCCCGACUGGAAGCU-----	846	1,2
-----GUAACAUCCCCGACUGGAAGCUa-----	10	1,2
-----GUAACAUCCCCGACUGGAAGCUaa-----	3	1,2
-----GUAACAUCCCCGACUGGAAGCUau-----	5	1,2
-----GUAACAUCCCCGACUGGAAGCUu-----	17	1,2
-----GUAACAUCCCCGACUGGAAGCUuu-----	20	1,2
-----UAAACAUCCCCGACUGGAAGa-----	3	2,0
-----UAAACAUCCCCGACUGGAAGC-----	3	2,1
-----UAAACAUCCCCGACUGGAAGCU-----	6	2,2
-----UUUCAGUCAGAUUUUGCUG-----	2	1,-1
-----UUUCAGUCAGAUUUUGCUGCaa-----	5	1,0

>hsa-mir-30e MA:17-38;mi:59-80 SRX018960

gggcagucuuugcuacUGUAAACAUCCUUGACUGGAAGcuguaagguguucagaggagCUUUCAGUCGGAUGUUACAGC
ggcaggcugcca

-----CUGUAAACAUCUUGACUGGAAGuu-----	
-----2-1,0-----	
-----CUGUAAACAUCUUGACUGGAAGC-----	
-----9-1,1-----	
-----CUGUAAACAUCUUGACUGGAAGCU-----	
-----7-1,2-----	
-----UGUAAACAUCUUGACUG-----	
-----210,-4-----	
-----UGUAAACAUCUUGACUGG-----	
-----440,-3-----	
-----UGUAAACAUCUUGACUGGA-----	
-----490,-2-----	
-----UGUAAACAUCUUGACUGGAA-----	
-----1650,-1-----	
-----UGUAAACAUCUUGACUGGAAa-----	
-----470,-1-----	
-----UGUAAACAUCUUGACUGGAAaa-----	
-----40,-1-----	
-----UGUAAACAUCUUGACUGGAAu-----	
-----120,-1-----	
-----UGUAAACAUCUUGACUGGAAG-----	
-----5970,0-----	
-----UGUAAACAUCUUGACUGGAAGa-----	
-----5270,0-----	
-----UGUAAACAUCUUGACUGGAAGaa-----	
-----1550,0-----	
-----UGUAAACAUCUUGACUGGAAGau-----	
-----130,0-----	
-----UGUAAACAUCUUGACUGGAAGu-----	
-----120,0-----	
-----UGUAAACAUCUUGACUGGAAGuu-----	
-----30,0-----	
-----UGUAAACAUCUUGACUGGAAGC-----	
-----25460,1-----	
-----UGUAAACAUCUUGACUGGAAGCa-----	
-----3200,1-----	

```

-----UGUAAACAUCCUUGACUGGAAGCaa-----
-----4 0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
-----11 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
-----5416 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
-----98 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
-----867 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
-----28 0,3
-----GUAAACAUCCUUGACUGGAAG-----
-----26 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
-----8 1,0
-----GUAAACAUCCUUGACUGGAAGaa-----
-----3 1,0
-----GUAAACAUCCUUGACUGGAAGC-----
-----79 1,1
-----GUAAACAUCCUUGACUGGAAGCa-----
-----16 1,1
-----GUAAACAUCCUUGACUGGAAGCaa-----
-----6 1,1
-----GUAAACAUCCUUGACUGGAAGCU-----
-----157 1,2
-----GUAAACAUCCUUGACUGGAAGCUa-----
-----11 1,2
-----GUAAACAUCCUUGACUGGAAGCUu-----
-----8 1,2
-----GUAAACAUCCUUGACUGGAAGCUuu-----
-----10 1,2
-----GUAAACAUCCUUGACUGGAAGCUG-----
-----4 1,3
-----GUAAACAUCCUUGACUGGAAGCUGU-----
-----2 1,4
-----UAAACAUCCUUGACUGGAAGC-----
-----9 2,1

```



```
((.(((((((((((((.(((((.((((((.((((....)))))))))))))))).)).)))))))))))).))
-----UUCGCGGGCGAAGGCAAAGUCu----- 2 0,0
-----UUCGCGGGCGAAGGCAAAGUCG----- 5 0,1
```

```
>hsa-mir-3127 5p:11-33 SRX018960
ggccaggcccAUCAGGGCUUGUGGAAUGGGAAGgagaaggacgcuuccccuucugcaggccugcuggguguggcu
(((((.((((....(((((((.((((((.((((((.....).)))))).)))).)))))).)))))).))))))
-----AUCAGGGCUUGUGGAAUGGGA-----
2 0,-1
```

```
>hsa-mir-3130-1 5p:13-33;3p:44-64 SRX018960
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuguugucaagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((.....))))))))))))))))))))))))))))))))))))))
-----GCUGCACCGGAGACUGGGUA----- 7
0,-1
-----GCUGCACCGGAGACUGGGUAu----- 2
0,-1
-----GCUGCACCGGAGACUGGGUAA----- 16
0,0
```

```
>hsa-mir-3130-2 5p:13-33;3p:44-64 SRX018960
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((.....))))))))))))))))))))))))))))))))))))))
-----UACCCAGUCUCCGGUGCAGCCUU----- 5
0,2
-----GCUGCACCGGAGACUGGGUA----- 7
0,-1
-----GCUGCACCGGAGACUGGGUAu----- 2
0,-1
-----GCUGCACCGGAGACUGGGUAA----- 16
0,0
```

```
>hsa-mir-3133 5p:10-31 SRX018960
cagaaauugUAAAGAACUCUUA AAAACCCAAUaguaaaaagacaaccuguugaguuuuaagaguucuuuauauauucug
(((((.(((((((((((((((((((((((((.((((((.....)))))).)))).)))))))))))))).))))))
-----UAAAGAACUCUUA AAAACCCAAU-----
2 0,0
```

>hsa-mir-3141 5p:10-28 SRX018960

ucacccgguGAGGGCGGUGGAGGAGGAgggucacccaccaucagccuucacugggacggga

$\dots(((((((.((((.(.(.....))))).)))))..)))).\dots$

-----GAGGGCGGGUGGAGGAGG----- 2 0,-1

-----GAGGGCGGGUGGAGGAGGA----- 4 0,0

```
>hsa-mi r-3154      3p:54-75      SRX018960
```

ggccccuccuucucagccccagcucccgucaccccgccacgucaaaggaggCAGAAGGGGAGUUGGGAGCAGAgaggg
gacc

(((((((((..(((..((((((((((((((.(.....(((((.(...)).))))).))))))))))).)))))) .) .)

-----CAGAAGGGGAGUUGGGAGCA_a-----

--- 2 0,-2

-----CAGAAGGGGAGUUGGGAGCAG-----

--- 2 0,-1

```
>hsa-mir-3164    5p:10-31    SRX018960
```

cuuggaaacUGUGACUUUAAGGGAAAUGGCGcacagcagacccugcaucaugccguuuugcuugaagucgcaguuuccc
agg

-----UGUGACUUUAAGGGAAAUGGCG-----

--- 10 0,0

-----UGUGACUUUAAGGGAAAUGGCGu-----

--- 3 0,0

```
>hsa-mir-3173    3p:43-64    SRX018960
```

ucccugcccugccguuuucuccuuugugauuuuauagagaacAAAGGAGGAAAUAGGCAGGCCAggga

-----AAAGGAGGAAAUAGGCAGGCC----- 3 0,-1

```
>hsa-mir-3174    5p:10-32    SRX018960
```

guuaccuggUAGUGAGUUAGAGAUGCAGAGCCcugggcuccucagcaaaccuacuggaucugcauuuuuuuucacaugca
ugguaau

(((((.((((((((((.((((((((((.((.((((....)))...)).)))))()))))))).)).
.)))))))

-----UAGUGAGUUAGAGAUGCAG-----

----- 3 0,-4


```

>hsa-mir-3180-5 5p:36-54      SRX018960
gcuccgccccacgucgcaugcgccccgggaacgcgUGGGGCGGAGCUUCCGGAGgccccgcccugcugccgaccucugg
agcggaggggugaagccuccggaugccaguccucaucgcuggccccggucgcgcuguggcgaagggggcgaggc
(((((((((((.(((((((.(((((.(((((.(((...(((.(((((.(((.((((((((((...(((((((.(((((.((...)).)
.))))))))))..)))))))))).)).))))).)))..))))).)))..))))).)))..))))).)))..))))).)))..))))).)))
-----UGGGGCGGAGCUUCCGGAGGCCu-----
-----

```

```
>hsa-mir-3190    3p:47-69      SRX018960
cuggggucaccugucuggccagcuacgucacccacggcccuugucagUGUGGAAGGUAGACGCCAGAGAaggugaccccgg
(((((((((((.(((((((..(((((.(((.(((((((....))).)).)).)).)).)).)).)).)).))))))
-----GUGGAAGGUAGACGCCAGAGA-----
          3       1,0
```

```
>hsa-mir-3193    5p:1-22 SRX018960
UCCUGCGUAGGAUCUGAGGAGUggacgagucucauuaccagcuccugagcagga
((((((.(((((.(((.(((((((((. . . .).).)).).)).).)).)).)))))
UCCUGCGUAGGAUCUGAGGAGU----- 4      0,0
```

```

>hsa-mir-3198    3p:49-70    SRX018960
gacugugcucucacuguucaccagcacuagcaguaccagacgguucuGUGGAGUCCUGGGGAUUGGAGAgagcacaguc
((((((((((((((.((((((.(((((.(((.(((.(((...)))..)))..)))..)))..)))..)))..)))..)))
-----GUGGAGUCCUGGGGAUUGGAGu-----
3    0,-1
-----GUGGAGUCCUGGGGAUUGGAGA-----
2    0,0

```

```
>hsa-mir-32 MA:6-27;mi:47-68      SRX018960
ggagaUAUUGCACAUACUAAGUUGCAuguugucacggccucaaugCAAUUUAGUGUGUGUGAUUUUuc
((((((((((..(((((.((((((((((((((((((..((....)).)).))))))))))))))))..)))))))))
-----UAUUGCACAUACUAAGUUG----- 4    0,-2
-----UAUUGCACAUACUAAGUUGC----- 3    0,-1
```

>hsa-mir-320a 3p:48-69 SRX018960
gcuucgcucucccuccgcuucucuucccgguucuuucccgagucgggAAAAGCUGGGUUGAGAGGGCGAaaaagggaugag

gu

(((((.((((....((((((((((..(((((((.(((((((....)))))).)))))).)))))).))))).))))))

))
-----GAAAAGCUGGGUUGAGAGG-----
-- 2 -1,-4
-----GAAAAGCUGGGUUGAGAGGG-----
-- 4 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
-- 29 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 95 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 93 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGuu-----
-- 24 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 180 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAu-----
-- 14 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAA-----
-- 11 -1,1
-----AAAAGCUGGGUUGAGAGG-----
-- 192 0,-4
-----AAAAGCUGGGUUGAGAGGuu-----
-- 3 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 446 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 35 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 41 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 12 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 1522 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 4 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----


```

-- 4730    0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 4522    0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 1509    0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 29666   0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 7911    0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 1459    0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 12839   0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 4003    0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 329 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 3818    0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 1009    0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 514 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 9   1,-3
-----AAAGCUGGGUUGAGAGGGa-----
-- 6   1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 44   1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 212 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 89   1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 65   1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 882 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----

```

```

-- 249 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 91 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 915 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 523 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 72 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 490 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 183 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 2 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 135 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAu-----
-- 4 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAA-----
-- 3 1,4
-----AAGCUGGGUUGAGAGGGCG-----
-- 2 2,-1
-----AAGCUGGGUUGAGAGGGCGu-----
-- 3 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 29 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 4 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 71 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 25 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 4 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 117 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----

```

```
-- 56 2,2
-----AAGCUGGGUUGAGAGGGCGAAAAuu-----
-- 6 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 33 2,3
-----AAGCUGGGUUGAGAGGGCGAAAAu-----
-- 2 2,3
```

>hsa-mir-320b-1 3p:39-60 SRX018960

```
aauuaaucccucucuucuaguucuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).)))).....
-----GAAAAGCUGGGUUGAGAGG-----
2 -1,-4
-----GAAAAGCUGGGUUGAGAGGG-----
4 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
29 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCA-----
9 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAu-----
3 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAA-----
6 -1,0
-----GAAAAGCUGGGUUGAGAGGGCAAu-----
2 -1,0
-----AAAAGCUGGGUUGAGAGG-----
192 0,-4
-----AAAAGCUGGGUUGAGAGGuu-----
3 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
446 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
35 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
41 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
12 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
```

1522	0,-2	-----AAAAGCUGGGUUGAGAGGGCu-----
4	0,-2	-----AAAAGCUGGGUUGAGAGGGCA-----
192	0,-1	-----AAAAGCUGGGUUGAGAGGGCAu-----
234	0,-1	-----AAAAGCUGGGUUGAGAGGGCAuu-----
91	0,-1	-----AAAAGCUGGGUUGAGAGGGCAA-----
348	0,0	-----AAAAGCUGGGUUGAGAGGGCAAu-----
97	0,0	-----AAAAGCUGGGUUGAGAGGGCAAuu-----
4	0,0	-----AAAAGCUGGGUUGAGAGGGCAAA-----
64	0,1	-----AAAAGCUGGGUUGAGAGGGCAAAu-----
9	0,1	-----AAAGCUGGGUUGAGAGGG-----
9	1,-3	-----AAAGCUGGGUUGAGAGGGa-----
6	1,-3	-----AAAGCUGGGUUGAGAGGGC-----
44	1,-2	-----AAAGCUGGGUUGAGAGGGCAu-----
4	1,-1	-----AAAGCUGGGUUGAGAGGGCAA-----
18	1,0	-----AAAGCUGGGUUGAGAGGGCAAu-----
2	1,0	-----AAAGCUGGGUUGAGAGGGCAAA-----
4	1,1	

>hsa-mir-320b-2 3p:72-93 SRX018960

```

uguuauuuuuugucuucuaaccuaagaauucugucucuagggcuucucuucccagauuuuccaaaguugggAAAAGCUGG
GUUGAGAGGGCAAaaggaaaaaaaaagaauucugucucugacauauuagauaggga
.....(((((((.(.(((..(((((((..(((((.((((((.....)))))))).))))))

```

)..)))))..))))).....))))).....

-----	-----	-GAAAAGCUGG
GUUGAGAGG-----	2 -1,-4	-----
-----	-----	-GAAAAGCUGG
GUUGAGAGGG-----	4 -1,-3	-----
-----	-----	-GAAAAGCUGG
GUUGAGAGGGC-----	29 -1,-2	-----
-----	-----	-GAAAAGCUGG
GUUGAGAGGGCA-----	9 -1,-1	-----
-----	-----	-GAAAAGCUGG
GUUGAGAGGGCAu-----	3 -1,-1	-----
-----	-----	-GAAAAGCUGG
GUUGAGAGGGCAA-----	6 -1,0	-----
-----	-----	-GAAAAGCUGG
GUUGAGAGGGCAAu-----	2 -1,0	-----
-----	-----	-AAAAGCUGG
GUUGAGAGG-----	192 0,-4	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGuu-----	3 0,-4	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGG-----	446 0,-3	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGGa-----	35 0,-3	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGGaa-----	41 0,-3	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGGau-----	12 0,-3	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGGC-----	1522 0,-2	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGGCu-----	4 0,-2	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGGCA-----	192 0,-1	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGGCAu-----	234 0,-1	-----
-----	-----	-AAAAGCUGG
GUUGAGAGGGCAuu-----	91 0,-1	-----
-----	-----	-AAAAGCUGG

GUUGAGAGGGCAA-----	348	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAu-----	97	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAuu-----	4	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAA-----	64	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAAu-----	9	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAAA-----	25	0,2	-----AAAAGCUGG
GUUGAGAGGGCAAAAu-----	4	0,2	-----AAAGCUGG
GUUGAGAGGG-----	9	1,-3	-----AAAGCUGG
GUUGAGAGGGa-----	6	1,-3	-----AAAGCUGG
GUUGAGAGGGC-----	44	1,-2	-----AAAGCUGG
GUUGAGAGGGCAu-----	4	1,-1	-----AAAGCUGG
GUUGAGAGGGCAA-----	18	1,0	-----AAAGCUGG
GUUGAGAGGGCAAu-----	2	1,0	-----AAAGCUGG
GUUGAGAGGGCAAA-----	4	1,1	

>hsa-mir-320c-1 3p:50-69 SRX018960

uuugcauuaaaaaugaggccuucucuuccaguucuuuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaaaau
gauguagg

.((((((((.....((((((((.....)))))).)))))).)))))).)))))).

-----			-----GAAAAGCUGGGUUGAGAGG-----
-----	2	-1,-2	
-----			-----GAAAAGCUGGGUUGAGAGGG-----
-----	4	-1,-1	
-----			-----AAAAGCUGGGUUGAGAGG-----

```

----- 192 0,-2
-----AAAAGCUGGGUUGAGAGGuu-----
----- 3 0,-2
-----AAAAGCUGGGUUGAGAGGG-----
----- 446 0,-1
-----AAAAGCUGGGUUGAGAGGGa-----
----- 35 0,-1
-----AAAAGCUGGGUUGAGAGGGaa-----
----- 41 0,-1
-----AAAAGCUGGGUUGAGAGGGau-----
----- 12 0,-1
-----AAAAGCUGGGUUGAGAGGGU-----
----- 151 0,0
-----AAAAGCUGGGUUGAGAGGGUA-----
----- 4 0,1
-----AAAAGCUGGGUUGAGAGGGUAa-----
----- 9 0,1
-----AAAAGCUGGGUUGAGAGGGUAu-----
----- 16 0,1
-----AAAAGCUGGGUUGAGAGGGUAG-----
----- 2 0,2
-----AAAGCUGGGUUGAGAGGG-----
----- 9 1,-1
-----AAAGCUGGGUUGAGAGGGa-----
----- 6 1,-1
-----AAAGCUGGGUUGAGAGGGU-----
----- 3 1,0
-----AAAGCUGGGUUGAGAGGGUAaa-----
----- 2 1,1

```

>hsa-mir-320c-2 3p:31-50 SRX018960

```

cuucucuuuccaguucuccagaaugggAAAAGCUGGGUUGAGAGGGU
(((((((..(((((((..((((((.....)))))).)))))))).))))))..
-----GAAAAGCUGGGUUGAGAGG-- 2 -1,-2
-----GAAAAGCUGGGUUGAGAGGG-- 4 -1,-1
-----AAAAGCUGGGUUGAGAGG-- 192 0,-2
-----AAAAGCUGGGUUGAGAGGuu 3 0,-2
-----AAAAGCUGGGUUGAGAGGG-- 446 0,-1

```

```

-----AAAAGCUGGGUUGAGAGGGa 35 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 41 0,-1
-----AAAAGCUGGGUUGAGAGGGau 12 0,-1
-----AAAAGCUGGGUUGAGAGGGU 151 0,0
-----AAAGCUGGGUUGAGAGGG- 9 1,-1
-----AAAGCUGGGUUGAGAGGGa 6 1,-1
-----AAAGCUGGGUUGAGAGGGU 3 1,0

```

>hsa-mir-320d-1 3p:30-48 SRX018960

```

uucucguccagauucuucccaaaguagAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.(((.(....)).))).)))))).))))).
-----GAAAAGCUGGGUUGAGAGG- 2 -1,-1
-----AAAAGCUGGGUUGAGAGG- 192 0,-1
-----AAAAGCUGGGUUGAGAGGuu 3 0,-1
-----AAAAGCUGGGUUGAGAGGA 19 0,0
-----AAAAGCUGGGUUGAGAGGAa 9 0,0
-----AAAAGCUGGGUUGAGAGGAaa 10 0,0
-----AAAGCUGGGUUGAGAGGA 2 1,0

```

>hsa-mir-320d-2 3p:30-48 SRX018960

```

uucucuucccagauucuucuggagucaggAAAAGCUGGGUUGAGAGGA
((((((..(((((((.(((((((....)))))).)))))).))))).
-----GAAAAGCUGGGUUGAGAGG- 2 -1,-1
-----AAAAGCUGGGUUGAGAGG- 192 0,-1
-----AAAAGCUGGGUUGAGAGGuu 3 0,-1
-----AAAAGCUGGGUUGAGAGGA 19 0,0
-----AAAAGCUGGGUUGAGAGGAa 9 0,0
-----AAAAGCUGGGUUGAGAGGAaa 10 0,0
-----AAAGCUGGGUUGAGAGGA 2 1,0

```

>hsa-mir-320e 3p:35-52 SRX018960

```

gccuucucuucccagauucuuccaggagucggggaAAAGCUGGGUUGAGAAGGu
((((((((..(((((((.(((((((....)).)))))).)))))).))))).
-----AAAAGCUGGGUUGAGAAGG- 28 -1,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018960

```

uugguacuuggagagAGGUGGUCCGUGGCGGUUCGCuuuauuuauaggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc

```


..(((((((.(.(((((((((.(((((.....(((((.....))))).)).....))))).)))))))).))))))

-----AGGUGGUCCGUGGCGGUUCG-----

----- 2 0,-1

-----CACAUUACACGGUCGACCU-----

----- 10 0,-2

>hsa-mir-323b 5p:15-37;3p:51-72 SRX018960

ugguacucggaggAGGUUGUCCGUGGUGAGUUCGCAuuuuuaugaugCCCAUACACGGUCGACCUCUuucgguauc

..(((((((.(((((((((.(((((.....(((((.....))))).)).....))))).)))))))).))))))

-----CCCAUACACGGUCGACCU-----

-- 11 0,-3

-----CCCAUACACGGUCGACCUC-----

-- 2 0,-2

>hsa-mir-324 5p:16-38;3p:53-72 SRX018960

cugacuaugccuccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagaccACUGCCCCAGGUGCUGCUGGggguugua

..(((((((.(((((((((.(((((.....(((((.....))))).)).....))))).)))))))).))))))

-----CGCAUCCCCUAGGGCAUU-----

--- 2 0,-5

-----CGCAUCCCCUAGGGCAUUGGUG-----

--- 2 0,-1

-----CGCAUCCCCUAGGGCAUUGGUGU-----

--- 16 0,0

-----GCAUCCCCUAGGGCAUUGGUGU-----

--- 3 1,0

-----CCACUGCCCCAGGUGCUGCUG-----

--- 6 -2,-1

-----ACUGCCCCAGGUGCUGCU-----

--- 2 0,-2

-----ACUGCCCCAGGUGCUGCUu-----

--- 2 0,-2

-----ACUGCCCCAGGUGCUGCUGG-----

--- 17 0,0

```

-----ACUGCCCCAGGUGCUGCUGGu-----
--- 4    0,0
-----ACUGCCCCAGGUGCUGCUGGuu-----
--- 2    0,0

```

>hsa-mir-326 3p:60-79 SRX018960

```

cucaucugucuguugggcuggaggcagggccuugugaaggcggguggugcucagaucGCCUCUGGGCCCUUCCUCCAGc
cccgaggcggaauca

```

```

...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))))))))))...

```

```

-----CCUCUGGGCCCUUCCUCCAG-
----- 2    0,0
-----CCUCUGGGCCCUUCCUCCAGa
----- 3    0,0

```

>hsa-mir-328 3p:48-69 SRX018960

```

uggagugggggggcaggaggggcucaggagagaaagugcauacagcccCUGGCCCUCUCUGCCCUUCCGUccccug
..(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))..))))))))))...

```

```

-----CUGGCCCUCUCUGCCCUUCCGU----- 15
0,0
-----CUGGCCCUCUCUGCCCUUCCGUaa---- 2
0,0
-----CUGGCCCUCUCUGCCCUUCCGUu---- 2
0,0
-----CUGGCCCUCUCUGCCCUUCCGUuu---- 4
0,0

```

>hsa-mir-330 5p:18-39;3p:57-79 SRX018960

```

cuuuggcgaucacugccUCUCUGGGCCUGUGUCUUAGGCucugcaagaaucaaccgaGCAAAGCACACGGCCUGCAGAGa
gcagcgcucugccc

```

```

....(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))..))))))))))..

```

```

-----GCAAAGCACACGGCCUGCA-----
----- 3    0,-4
-----GCAAAGCACACGGCCUGCAGAAa-
----- 4    0,-2
-----GCAAAGCACACGGCCUGCAGAAu-
----- 2    0,-2

```

			-GCAAAGCACACGGCCUGCAGAG-
	5	0,-1	
			-GCAAAGCACACGGCCUGCAGAGA-
	48	0,0	
			-GCAAAGCACACGGCCUGCAGAGaa
	3	0,0	
			-GCAAAGCACACGGCCUGCAGAGAu
	3	0,0	
			-GCAAAGCACACGGCCUGCAGAGAG
u	3	0,1	
			-CAAAGCACACGGCCUGCA----
	2	1,-4	
			-CAAAGCACACGGCCUGCAGAG--
	4	1,-1	
			-CAAAGCACACGGCCUGCAGAGA-
	40	1,0	
			-CAAAGCACACGGCCUGCAGAGAu
	4	1,0	
			-CAAAGCACACGGCCUGCAGAGAG
	28	1,1	
			-CAAAGCACACGGCCUGCAGAGAG
a	13	1,1	
			-CAAAGCACACGGCCUGCAGAGAG
u	11	1,1	
			-CAAAGCACACGGCCUGCAGAGAG
G	4	1,2	
			-CAAAGCACACGGCCUGCAGAGAG
Gu	4	1,2	
			-AAAGCACACGGCCUGCAGAAa-
	2	2,-2	
			-AAAGCACACGGCCUGCAGAGA-
	2	2,0	
			-AAAGCACACGGCCUGCAGAGAG
	2	2,1	
			-AAAGCACACGGCCUGCAGAGAG
a	6	2,1	
			-AAAGCACACGGCCUGCAGAGAG
u	4	2,1	

-----AAAGCACACGGCCUGCAGAGAG
G----- 2 2,2

>hsa-mi r-331 5p:26-47;3p:61-81 SRX018960

.....(((((((.((((((((.((((.(((((((..(.....)..))))))).)))))

)).)))))))).

-----GCCCCUGGGCCUAUCCUAGA

Aa----- 6 0,0

-----GCCCCUGGGCCUAUCCUAGA

Au----- 2 0,0

>hsa-mi r-335 MA:16-38;mi :52-73 SRX018960

.(((.((((.(((((((.(((((((.(((((((.(.....)).)))))))).)))))))).)))))))).))
)...)).....

-----UCAAGAGCAAUAACGAAAAAUG-----
-----103 0,-1-----

-----UCAAGAGCAAUACGAAAAAUGa-----
 -----3 0,-1-----

-----UCAAGAGCAAUAACGAAAAAUGU-----
----- 17 0,0

-----AAGAGCAAUACGAAAAAUG-----
-----4 2, -1-----

-----AAGAGCAAUACGAAAAUGU-----
----- 2 2,0

>hsa-mi r-337 5p:23-43;3p:61-82 SRX018960

.....((.(((((((((((.(((.(((((.(((((((((((.....))))).))))).))))).))))).
)))))))).)..

-----GAACGGCUUCAUACAGGAGUUaa-----
----- 2 0,0

>hsa-mir-338 5p:6-27;3p:42-63 SRX018960

ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga
(((.((((((.(((((((((((.....))))).))))).))))).))))).))))

-----UCCAGCAUCAGUGAUUUUGUU----- 3 0,-1

>hsa-mir-339 5p:15-37;3p:50-72 SRX018960

cggggcggccgcucUCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGgcgccugc
cccagugucugcgc

.(((((((.(((.((.(((((.(((.(((((((((((.....))))).))))).))))).))))).))))).))))
))).....

-----UCCUGUCCUCCAGGAGC-----
----- 4 0,-5

-----UCCUGUCCUCCAGGAGCU-----
----- 10 0,-4

-----UCCUGUCCUCCAGGAGCUC-----
----- 2 0,-3

-----UCCUGUCCUCCAGGAGCUCA-----
----- 9 0,-2

-----UCCUGUCCUCCAGGAGCUCAu-----
----- 3 0,-2

-----UCCUGUCCUCCAGGAGCUCAuu-----
----- 2 0,-2

-----UCCUGUCCUCCAGGAGCUCACG-----
----- 26 0,0

-----UCCUGUCCUCCAGGAGCUCACGa-----
----- 4 0,0

-----UCCUGUCCUCCAGGAGCUCACGU-----
----- 24 0,1

-----UCCUGUCCUCCAGGAGCUCACGUu-----
----- 3 0,1

-----CCUGUCCUCCAGGAGCUCACG-----
----- 2 2,0

-----UGAGCGCCUCGACGACAG-----

----- 3	0,-5	-----UGAGCGCCUCGACGACAGA-----
----- 17	0,-4	-----UGAGCGCCUCGACGACAGAG-----
----- 19	0,-3	-----UGAGCGCCUCGACGACAGAGC-----
----- 15	0,-2	-----UGAGCGCCUCGACGACAGAGCa-----
----- 5	0,-2	-----UGAGCGCCUCGACGACAGAGCaa-----
----- 2	0,-2	-----UGAGCGCCUCGACGACAGAGCu-----
----- 8	0,-2	-----UGAGCGCCUCGACGACAGAGCC-----
----- 27	0,-1	-----UGAGCGCCUCGACGACAGAGCCa-----
----- 49	0,-1	-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 3	0,-1	-----UGAGCGCCUCGACGACAGAGCCau-----
----- 18	0,-1	-----UGAGCGCCUCGACGACAGAGCCu-----
----- 27	0,-1	-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 30	0,-1	-----UGAGCGCCUCGACGACAGAGCCG-----
----- 23	0,0	-----UGAGCGCCUCGACGACAGAGCCGaa-----
----- 4	0,0	-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 10	0,0	-----UGAGCGCCUCGACGACAGAGCCGuu-----
----- 3	0,0	-----AGCGCCUCGACGACAGAG-----
----- 11	2,-3	-----AGCGCCUCGACGACAGAGCCG-----
----- 19	2,0	-----AGCGCCUCGACGACAGAGCCGa-----

```

----- 3 2,0
-----AGCGCCUCGACGACAGAGCCGaa-----
----- 4 2,0

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018960

```

cugugGUGCAUUGUAGUUGCAUUGCAuguucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((.((.((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GUGCAUUGUAGUUGCAUU----- 39 0,-3
-----GUGCAUUGUAGUUGCAUUG----- 5 0,-2
-----GUGCAUUGUAGUUGCAUUGa----- 4 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 23 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 57 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 79 0,0
-----CAAUGUUUCCACAGUGCAUCA--- 3 0,-1

```

>hsa-mir-33b MA:16-35;mi:54-75 SRX018960

```

gcgggcgggcccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcggggugCAGUGCCUCGGCAGUGCAGCCCggagc
cggccccuggcaccac
((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----GUGCAUUGCUGUUGCAUU-----
----- 3 0,-2
-----GUGCAUUGCUGUUGCAUUG-----
----- 5 0,-1
-----CAGUGCCUCGGCAGUGCAGC-----
----- 2 0,-2

```

>hsa-mir-340 MA:16-37;mi:58-79 SRX018960

```

uuguaccuggugugaUUAUAAAGCAAUGAGACUGAUUgucauaugucguuugugggaUCCGUCUCAGUUACUUUAUAGCc
auaccugguaucuaa
..((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----UUAUAAAGCAAUGAGACU-----
----- 21 0,-4
-----UUAUAAAGCAAUGAGACUGAU-----
----- 18 0,-1
-----UUAUAAAGCAAUGAGACUGAUa-----
----- 12 0,-1

```



```

-----GGGGUGCUAUCUGUGAUUGAGGGAC-----
----- 3    1,5
-----UCUCACACAGAAAUCGCA--
----- 4    0,-5
-----UCUCACACAGAAAUCGCAC-
----- 24   0,-4
-----UCUCACACAGAAAUCGCACC
----- 15   0,-3
-----UCUCACACAGAAAUCGCACC
C----- 25   0,-2
-----UCUCACACAGAAAUCGCACC
CG----- 64   0,-1
-----UCUCACACAGAAAUCGCACC
CGU----- 168  0,0
-----UCUCACACAGAAAUCGCACC
CGUa----- 7    0,0
-----UCUCACACAGAAAUCGCACC
CGUu----- 9    0,0
-----UCUCACACAGAAAUCGCACC
CGUC----- 80   0,1
-----UCUCACACAGAAAUCGCACC
CGUCu----- 15   0,1
-----UCUCACACAGAAAUCGCACC
CGUCA----- 16   0,2
-----UCACACAGAAAUCGCACC
CG----- 4    2,-1
-----UCACACAGAAAUCGCACC
CGU----- 7    2,0
-----UCACACAGAAAUCGCACC
CGUC----- 4    2,1
-----UCACACAGAAAUCGCACC
CGUCA----- 10   2,2
-----UCACACAGAAAUCGCACC
CGUCAa----- 6    2,2

```

>hsa-mir-345 5p:18-39 SRX018960

acccaaacccuaggucugcugacuccuaguccagggcucgugaugggcugguggggccugaacgaggggucuggaggccug
 gguuugaauaucgacagc

...(((((((.((((((.(.(((((((.(((.(((((((((((.((....).).))))))))).).)))))))).).)))))))))
)))))).....

-----GCUGACUCCUAGUCCAGG-----
----- 15 0,-4
-----GCUGACUCCUAGUCCAGGG-----
----- 24 0,-3
-----GCUGACUCCUAGUCCAGGGC-----
----- 12 0,-2
-----GCUGACUCCUAGUCCAGGGCaa-----
----- 6 0,-2
-----GCUGACUCCUAGUCCAGGGCU-----
----- 33 0,-1
-----GCUGACUCCUAGUCCAGGGCUa-----
----- 8 0,-1
-----GCUGACUCCUAGUCCAGGGCUaa-----
----- 5 0,-1
-----GCUGACUCCUAGUCCAGGGCUau-----
----- 17 0,-1
-----GCUGACUCCUAGUCCAGGGCUu-----
----- 6 0,-1
-----GCUGACUCCUAGUCCAGGGCUuu-----
----- 6 0,-1
-----GCUGACUCCUAGUCCAGGGCUC-----
----- 15 0,0
-----GCUGACUCCUAGUCCAGGGCUCaa-----
----- 10 0,0
-----GCUGACUCCUAGUCCAGGGCUCau-----
----- 4 0,0
-----GCUGACUCCUAGUCCAGGGCUCuu-----
----- 6 0,0
-----GCUGACUCCUAGUCCAGGGCUCGa-----
----- 2 0,1

>hsa-mir-34a MA:22-43;mi:64-85 SRX018960

ggccagcugugaguguuucuuUGGCAGUGUCUUAGCUGGUUGUugugagcaauaguaaggaagCAAUCAGCAAGUAUACU
GCCCUagaagugcugcagguugggggccc

(((.(((((((.((((((.(.(((((((.(((.(((((((((((.((....).).))))))))).).)))))))).).)))))))))
)))..))))).).).))))).).).))))).


```

-----AUGAGGAUGGAUAGCAAGGAAGu-----
-----      2   -1,-2
-----UGAGGAUGGAUAGCAAGGA-----
-----      2    0,-4
-----UGAGGAUGGAUAGCAAGGAA-----
-----      4    0,-3
-----UGAGGAUGGAUAGCAAGGAAG-----
-----     11    0,-2
-----UGAGGAUGGAUAGCAAGGAAGC-----
-----      6    0,-1
-----UGAGGAUGGAUAGCAAGGAAGCa-----
-----      2    0,-1
-----UGAGGAUGGAUAGCAAGGAAGCC-----
-----     13    0,0
-----UGAGGAUGGAUAGCAAGGAAGCCa-----
-----      3    0,0
-----UGAGGAUGGAUAGCAAGGAAGCCu-----
-----      6    0,0

```

>hsa-mir-361 5p:6-27;3p:45-67 SRX018960

```

ggagcUUAUCAGAAUCUCCAGGGGUACuuuauaauuucaaaaagUCCCCAGGUGUGAUUCUGAUUUgcuuc
(((((((((.....)))))).))))))

```

```

----CUUAUCAGAAUCUCCAGGGGU----- 3
-1,-2
----CUUAUCAGAAUCUCCAGGGGUAu----- 3
-1,-1
----UUAUCAGAAUCUCCAGGGG----- 2
0,-3
----UUAUCAGAAUCUCCAGGGGU----- 3
0,-2
----UUAUCAGAAUCUCCAGGGGUA----- 10
0,-1
----UUAUCAGAAUCUCCAGGGGUAa----- 9
0,-1
----UUAUCAGAAUCUCCAGGGGUAaa----- 4
0,-1
----UUAUCAGAAUCUCCAGGGGUAu----- 33
0,-1

```

-----UUAUCAGAAUCUCCAGGGGUAAu-----	6
0, -1	
-----UUAUCAGAAUCUCCAGGGGUAC-----	33
0, 0	
-----UUAUCAGAAUCUCCAGGGGUACa-----	22
0, 0	
-----UUAUCAGAAUCUCCAGGGGUACaa-----	4
0, 0	
-----UUAUCAGAAUCUCCAGGGGUACau-----	3
0, 0	
-----UUAUCAGAAUCUCCAGGGGUACU-----	4
0, 1	
-----UCCCCCAGGUGUGAUUCUGAa-----	9
0, -3	
-----UCCCCCAGGUGUGAUUCUGAU-----	10
0, -2	
-----UCCCCCAGGUGUGAUUCUGAUU-----	13
0, -1	
-----UCCCCCAGGUGUGAUUCUGAUUa-----	2
0, -1	
-----UCCCCCAGGUGUGAUUCUGAUUU-----	16
0, 0	
-----UCCCCCAGGUGUGAUUCUGAUUUGC-----	5
0, 2	
-----CCCCCAGGUGUGAUUCUGAUUUGC-----	4
1, 2	


```

-----AGGCACGGGAGCUCAGGUGAG-----
--- 2    1,0

>hsa-mir-363      mi:7-28;MA:50-71      SRX018960
uguuguCGGGUGGAUCACGAUGCAAUUUugaugaguaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaacc
.(((..((((((((..((.(((((((((.(((.....))).....))))))))))..)))))))).)).).
-----AAUUGCACGGUAUCCAUCU----- 8
    0,-3
-----AAUUGCACGGUAUCCAUCUGU----- 4
    0,-1
-----AAUUGCACGGUAUCCAUCUGUuu--- 4
    0,-1
-----AAUUGCACGGUAUCCAUCUGUA----- 17
    0,0
-----AAUUGCACGGUAUCCAUCUGUAA--- 9
    0,1
-----AUUGCACGGUAUCCAUCUGUAA--- 4
    1,1

```

>hsa-mi r-363 mi:7-28;MA:50-71 SRX018960

uguuguCGGGUGGAUCACGAUGCAAUUUugaugaguaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaac
 .(((.(.(((((((((.((.(((((((((.(((.....))).....))))))))...))))))))...)).

-----AAUUGCACGGUAUCCAUCU----- 8
0,-3

-----AAUUGCACGGUAUCCAUCUGU----- 4
0,-1

-----AAUUGCACGGUAUCCAUCUGUuu----- 4
0,-1

-----AAUUGCACGGUAUCCAUCUGUA----- 17

-----AAUUGCACGGUAUCCAUCUGUAA----- 9

-----AUUGCACGGUAUCCAUCUGUAA----- 4
1,1

>hsa-mir-3648 5p:28-48 SRX018960

cgcgacugcggcggcgguugggggggAGCCGCGGGGAUCGCCGAGGGcgcggucggccgccccgggugccgcgcggugcc
gcccggcggcgguagggccccgcgcguugugucccggcugcggucggccgcgcucgagggguccccguggcguccccuuccc
cgccggccgcccuuucucgcg

[illegible]

>hsa-mir-365-1 3p:56-77 SRX018960

accgcagggaaaaugaggggacuuuugggggcagauguguuuccauuccacuaucUAAUGCCCCUAAAAUCCUUAUugc
ucuuugca

-----AGGGACUUUUGGGGGCAGA-----
----- 6

-----AGGGACUUUUGGGGGCAGAU-----
----- 6

-----AGGGACUUUUGGGGCAGAUu-----
----- 4


```
>hsa-mir-3664    5p:21-42    SRX018960
cuguaaacuugaagguagggAACUCUGUCUUCACUCAUGAGUaccuuccaacacgagcucucaggaguaaagacagagu
cccuaccuucuauguggau
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))....
-----UCUCAGGAGUAAAGACAGAG-----
----- 3
-----UCUCAGGAGUAAAGACAGAGUa
```

----- 3 -----UCUCAGGAGUAAAGACAGAGUU
----- 7 -----CAGGAGUAAAGACAGAGUU
----- 4 -----

```
>hsa-mir-3676    3p:60-79    SRX018960
uugguuaaagcgccugucuaguaaacaggagauccuggguucgaauccagcggugccuCCGUGUUUCCCCACGCUUUu
gccaa
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))).
-----GUAAACAGGAGAUCCUGGG-----
-----3-----
```

```
>hsa-mir-3679    5p:6-28;3p:44-65    SRX018960
cguggUGAGGAUAUGGCAGGGAAGGGGaguuuuccucuaauccCUUCCCCCAGUAAUCUUCAUCaug
(((((((((((((.(((..((((((((((.....)))))))))).))..)))))))))))))
-----UGAGGAUAUGGCAGGGAAGGG-----                2    0,-2
```

```
>hsa-mir-3687    3p:35-58      SRX018960
cgcgcgugcgcgggagcgcgggcccguggucccuCCCCGACAGGCGUUCGUGCGACGUgug
(((((((.(.((.(.(((((((.(.(.(((.(...)).)))).).)))))..)))))))))
-----UCCCGGACAGGCGUUCGUGCGA-----   4    -1,-3
-----CCC GGACAGGCGUUCGUGCG-----   2     0,-4
-----CCC GGACAGGCGUUCGUGCGAC-----   6     0,-2
-----CGGACAGGCGUUCGUGCGAC-----   2     2,-2
```

```

>hsa-mir-369      5p:9-30;3p:44-64      SRX018960
uugaagggaGAUCGACCGUGUUAUAUUCGcuuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.(((.((((((((((((((((.((((((.)))))))))..)))))))))..)).
-----AGAUUCGACCGUGUUAUAUUCGCUU----- 2    0,2
-----AAUAAUACAUGGUUGAUCUU----- 3    0,-1
-----AAUAAUACAUGGUUGAUCUUU----- 2    0,0

```

```
>hsa-mir-3690    5p:10-32    SRX018960
cccaucuccACCUGGACCCAGCGUAGACAAAGagguguuuucuaucuccauaucuaccuggacccaguguagauggg
(((((((.(.((.(.(((.((((.(....(((.....)))....)))))))).))))))..))))))..))))))
-----ACCUGGACCCAGCGUAGACAA----- 4
```

```

0,-2
-----ACCUGGACCCAGCGUAGACAAA----- 2
0,-1
-----ACCUGGACCCAGCGUAGACAAAG----- 5
0,0
-----ACCUGGACCCAGCGUAGACAAAGAu----- 2
0,1

```

>hsa-mir-370 3p:48-69 SRX018960

```

agacagagaagccaggucacgucucugcaguuacacagcucacgaguGCCUGCUGGGGUGGAACCUUGUcugucu
(((((((.....(((((((..(((((.....).))))).))))).))))).))))))
-----GCCUGCUGGGGUGGAACCU----- 5
0,-3
-----GCCUGCUGGGGUGGAACCU----- 5
0,-2
-----GCCUGCUGGGGUGGAACCUga----- 7
0,-2
-----GCCUGCUGGGGUGGAACCUgaa----- 2
0,-2
-----GCCUGCUGGGGUGGAACCUUG----- 4
0,-1
-----GCCUGCUGGGGUGGAACCUgaa----- 4
0,-1
-----GCCUGCUGGGGUGGAACCUUGU----- 3
0,0
-----GCCUGCUGGGGUGGAACCUUGUaa----- 2
0,0
-----GCCUGCUGGGGUGGAACCUUGUuu----- 4
0,0

```

>hsa-mir-371 5p:6-25;3p:42-64 SRX018960

```

guggcACUCAAACUGUGGGGGCACUuucugcucucuggugaAAGUGCCGCCAUCUUUUGAGUGUuac
(((((((((((..(((((((.....))))))))))))).))))).))))))
-----ACUCAAACUGUGGGGGCAau----- 2 0,-2
-----ACUCAAACUGUGGGGGCAuu----- 2 0,-2
-----ACUCAAACUGUGGGGGCACU----- 2 0,0

```

>hsa-mir-374a MA:12-33;mi:42-63 SRX018960


```

-----AUAUAAUACAACCUGCUAAGU----- 4
0,-1
-----AUAUAAUACAACCUGCUAAGUG----- 16
0,0
-----AUAUAAUACAACCUGCUAAGUGa----- 5
0,0

```

>hsa-mir-375 3p:40-61 SRX018960

```

ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUGAggc
.(((((((.(((((((...((.(((((((.....)).)))))).))...)))))))))).)).
-----UUUGUUCGUUCGGCUCGCGU----- 2 -1,-2
-----UUUGUUCGUUCGGCUCGCGUG----- 15 -1,-1
-----UUUGUUCGUUCGGCUCGCGUGA--- 7 -1,0
-----UUUGUUCGUUCGGCUCGCG----- 3 0,-3
-----UUUGUUCGUUCGGCUCGCGU----- 42 0,-2
-----UUUGUUCGUUCGGCUCGCGUaa--- 2 0,-2
-----UUUGUUCGUUCGGCUCGCGUG--- 271 0,-1
-----UUUGUUCGUUCGGCUCGCGUGu--- 4 0,-1
-----UUUGUUCGUUCGGCUCGCGUGA--- 555 0,0
-----UUUGUUCGUUCGGCUCGCGUGAa--- 27 0,0
-----UUUGUUCGUUCGGCUCGCGUGAaa- 21 0,0
-----UUUGUUCGUUCGGCUCGCGUGAau- 4 0,0
-----UUUGUUCGUUCGGCUCGCGUGAu-- 13 0,0
-----UUUGUUCGUUCGGCUCGCGUGAuu- 3 0,0
-----UUUGUUCGUUCGGCUCGCGUGAGu- 3 0,1
-----UUUGUUCGUUCGGCUCGCGUG--- 5 1,-1
-----UUUGUUCGUUCGGCUCGCGUGA--- 5 1,0
-----UGUUCGUUCGGCUCGCGUG--- 2 2,-1

```

>hsa-mir-376c 3p:43-63 SRX018960

```

aaaagguggauauuccuucuauguuuuanguuauuuuanguuuaAACAUAGAGGAAAUUCCACGUuuu
(((((((.(((((((.(((((((.....)))))))))))))).)))).))))).
-----UAAACAUAGAGGAAAUUCCACG----- 3 -2,-1
-----AACAUAGAGGAAAUUCCACGU--- 19 0,0

```

>hsa-mir-377 mi:7-28;MA:45-66 SRX018960

```

uugagcAGAGGUUGCCCUUGGUGAAUUCgcuuuuuuanguugaAUCACACAAAGGCAACUUUUGUuug
..(((((((((((((((.(((((((.(((((((.....)).)))))))))).)))).))))))))))))).

```

-----AGAGGUUGCCCUUGGUGAAUU-----	20	0,-1
-----AGAGGUUGCCCUUGGUGAAUUC-----	4	0,0
-----AGAGGUUGCCCUUGGUGAAUUCu-----	2	0,0
-----AUCACACAAAGGCAACUUUUGU---	3	0,0

>hsa-mir-378 mi:5-26;MA:43-63 SRX018960

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu

(((((((.....)))))).))))))

---CUCCUGACUCCAGGUCCUGUG-----	7	0,-1
---CUCCUGACUCCAGGUCCUGUGU-----	8	0,0
---CUCCUGACUCCAGGUCCUGUGUu-----	2	0,0
----UCCUGACUCCAGGUCCUGUGU-----	13	1,0
----UCCUGACUCCAGGUCCUGUGUa-----	2	1,0
-----GCACUGGACUUGGAGUCAGAAa----	4	-2,-2
-----GCACUGGACUUGGAGUCAGAAG----	2	-2,-1
-----GCACUGGACUUGGAGUCAGAAGu----	3	-2,-1
-----GCACUGGACUUGGAGUCAGAAGGu--	3	-2,0
-----GCACUGGACUUGGAGUCAGAAGGC--	2	-2,1
-----CACUGGACUUGGAGUCAGAAGG----	41	-1,0
-----CACUGGACUUGGAGUCAGAAGGa--	8	-1,0
-----CACUGGACUUGGAGUCAGAAGGu--	3	-1,0
-----CACUGGACUUGGAGUCAGAAGGC--	58	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa-	16	-1,1
-----CACUGGACUUGGAGUCAGAAGGCu-	10	-1,1
-----ACUGGACUUGGAGUCAGA-----	88	0,-3
-----ACUGGACUUGGAGUCAGAA-----	276	0,-2
-----ACUGGACUUGGAGUCAGAAa----	31	0,-2
-----ACUGGACUUGGAGUCAGAAaa----	12	0,-2
-----ACUGGACUUGGAGUCAGAAG----	2007	0,-1
-----ACUGGACUUGGAGUCAGAAGu----	98	0,-1
-----ACUGGACUUGGAGUCAGAAGG----	20919	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	4537	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	473	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	88	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	871	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	123	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	30126	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	17788	0,1

-----ACUGGACUUGGAGUCAGAAGGCaa	915	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	2109	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	10038	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	1562	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	48	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	3	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	17	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	2	0,3
-----CUGGACUUGGAGUCAGAA-----	2	1,-2
-----CUGGACUUGGAGUCAGAAG----	41	1,-1
-----CUGGACUUGGAGUCAGAAGG---	344	1,0
-----CUGGACUUGGAGUCAGAAGGa--	53	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	38	1,0
-----CUGGACUUGGAGUCAGAAGGau-	2	1,0
-----CUGGACUUGGAGUCAGAAGGu--	35	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	4	1,0
-----CUGGACUUGGAGUCAGAAGGC--	1562	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	817	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	166	1,1
-----CUGGACUUGGAGUCAGAAGGCau	88	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	929	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	500	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	22	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	24	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	4	1,2
-----CUGGACUUGGAGUCAGAAGGCCU	4	1,3
-----CUGGACUUGGAGUCAGAAGGCCUu	8	1,3
-----UGGACUUGGAGUCAGAAGG---	28	2,0
-----UGGACUUGGAGUCAGAAGGa--	4	2,0
-----UGGACUUGGAGUCAGAAGGC--	51	2,1
-----UGGACUUGGAGUCAGAAGGCa-	24	2,1
-----UGGACUUGGAGUCAGAAGGCau	5	2,1
-----UGGACUUGGAGUCAGAAGGCu-	17	2,1
-----UGGACUUGGAGUCAGAAGGCuu	20	2,1
-----UGGACUUGGAGUCAGAAGGCC-	5	2,2
-----UGGACUUGGAGUCAGAAGGCCU	2	2,3

ggucauugagucuucaaggcuaguggaaagagcACUGGACUUGGAGGCAGAAgacc
(((((((((.....)))))).)))))))))...)))))
-----ACUGGACUUGGAGGCAGAA----- 240 0,0

>hsa-mir-378c 5p:11-35 SRX018960

ggaggccaucACUGGACUUGGAGUCAGAAGAGUGGagucgggucagacuucaacucugacuuugaagguggugagugccu
c

.(((((((((((.....(((.....)))))).)))))))))...)))))
)

-----UCACUGGACUUGGAGUCAGAAG-----

- 2 -2,-5

-----ACUGGACUUGGAGUCAGAAG-----

- 2007 0,-5

-----ACUGGACUUGGAGUCAGAAGu-----

- 98 0,-5

-----ACUGGACUUGGAGUCAGAAGA-----

- 977 0,-4

-----ACUGGACUUGGAGUCAGAAGAa-----

- 69 0,-4

-----ACUGGACUUGGAGUCAGAAGAaa-----

- 10 0,-4

-----ACUGGACUUGGAGUCAGAAGAu-----

- 4 0,-4

-----ACUGGACUUGGAGUCAGAAGAG-----

- 3 0,-3

-----CUGGACUUGGAGUCAGAAG-----

- 41 1,-5

-----CUGGACUUGGAGUCAGAAGA-----

- 13 1,-4

-----CUGGACUUGGAGUCAGAAGAa-----

- 3 1,-4

-----UGGACUUGGAGUCAGAAGA-----

- 5 2,-4

>hsa-mir-379 MA:6-26;mi:44-65 SRX018960

agagaUGGUAGACUAUGGAACGUAGGcguaugauuucugaccUAUGUAACAUGGUCCACUAACUcu

(((((.(((.(((((((.....)))))).)))))))))...)))))

-----UGGUAGACUAUGGAACGUA----- 11 0,-2


```

-----UGGUAGACUAUGGAACGUAG----- 30 0,-1
-----UGGUAGACUAUGGAACGUAGG----- 82 0,0
-----UGGUAGACUAUGGAACGUAGGa----- 28 0,0
-----UGGUAGACUAUGGAACGUAGGaa----- 24 0,0
-----UGGUAGACUAUGGAACGUAGGu----- 9 0,0
-----UGGUAGACUAUGGAACGUAGGuu----- 6 0,0
-----UGGUAGACUAUGGAACGUAGGCaa----- 2 0,1
-----UGGUAGACUAUGGAACGUAGGCau----- 2 0,1

```

>hsa-mir-380 mi:5-26;MA:40-61 SRX018960

aagaUGGUUGACCAUAGAACAUGCGCuaucucugugucgUAUGUAAUAUGGUCCACAUCUU

(((((...(((((((...(((((((...))))))...))))))...))))))

```

---AUGGUUGACCAUAGAACAUGCG----- 2 -1,-1

```

>hsa-mir-381 3p:49-70 SRX018960

uacuuaaagcgagguugcccuuuguauauucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua

(((((...(((...(((((((...(((((((...))))))...))))))...))))))

```

-----AGCGAGGUUGCCCUUUGUAU----- 7

```

>hsa-mir-382 5p:11-32 SRX018960

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucauucacggacaacacuuuuuucagua

(((((...(((((((...(((((((...))))))...))))))...))))))

```

-----AGAAGUUGUUCGUGGUGGAUUC-----

```

3 -1,-1

```

-----GAAGUUGUUCGUGGUGGAU-----

```

2 0,-3

```

-----GAAGUUGUUCGUGGUGGAU-----

```

3 0,-2

```

-----GAAGUUGUUCGUGGUGGAUUC-----

```

9 0,-1

```

-----GAAGUUGUUCGUGGUGGAUUCG-----

```

2 0,0

```

-----AGUUGUUCGUGGUGGAUUCGCU-----

```

4 2,2

```

-----AAUCAUUCACGGACAACACUU-----

```

2

>hsa-mir-383 5p:7-28 SRX018960


```

uggacuucagauuuacuucucauuuucugguuccuucuaaugaguaugcuuaacuugguagAAGGAACCAGAAAAUGAG
AAGUugaguaggaacucua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAGGAACCAGAAAAUGAG
AAG----- 3 0,-1

```

```

>hsa-mir-3914-2 3p:61-82 SRX018960
gaguuccuacucaacuucucauuuucugguuccuucuaaccaaguuaagcauacucauuagAAGGAACCAGAAAAUGAGAA
GUaaaaucugaaguc
(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))).....))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAGGAACCAGAAAAUGAGAA
G----- 3 0,-1

```

```

>hsa-mir-3928 3p:37-58 SRX018960
gcugaagcucuaagguuccgccugcgggcaggaagcGGAGGAACCUUGGAGCUUCGGC
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GGAGGAACCUUGGAGCUUCGG- 5 0,-1
-----GGAGGAACCUUGGAGCUUCGGu 2 0,-1
-----GGAGGAACCUUGGAGCUUCGGC 6 0,0
-----GGAGGAACCUUGGAGCUUCGGCa 18 0,0
-----GGAGGAACCUUGGAGCUUCGGCaa 2 0,0
-----GGAGGAACCUUGGAGCUUCGGCau 6 0,0
-----GGAGGAACCUUGGAGCUUCGGCu 15 0,0
-----GAGGAACCUUGGAGCUUCGGCa 3 1,0
-----GAGGAACCUUGGAGCUUCGGCu 2 1,0

```

```

>hsa-mir-3934 5p:25-46 SRX018960
cacagcccuuccuguccccaguuuUCAGGUGUGGAAACUGAGGCAGgaggcagugaaguaacuugcucagguugcacagc
ugggaaguggagcagggauuugaaucc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))..))..))..))..))..))..))..))..))..))..))..))..))..))..))..))..))..))..))..
-----UCAGGUGUGGAAACUGAGGCaa-----
----- 4 0,-1

```

```

>hsa-mir-3936 3p:66-87 SRX018960
augauucagagcaucuguccagugucugcuguagaauccucaaauccguguuuggacgcucucuggUAAGGGGUGUAUGGC

```

AGAUGC----- 5 0,-1

AGAUGCA----- 4 0,0

AGAUGCAC----- 2 0,1

ucucaguaugacaccucaaagAAGCAUACUGUACCGAAUaggcugcgaagauaacaguauuucagauaacaguau
uacaucuuugaagugucauauucacugac

-----AGCAAUACUGUUACCUGAAAUA-----

ugguacucggggagAGGUUACCCGAGCAACUUUGCAUcuggacgacGAAUGUUGCUCGGUGAACCCCUuuucgguauc

-----AGGUUACCCGAGCAACUU-----

-----AGGUUACCCGAGCAACUUU-----

-----AGGUUACCCGAGCAACUUUG-----

-----AGGUUACCCGAGCAACUUUGCA-----

-----AGGUUACCCGAGCAACUUUGCAU-----

-----CGA AUGUUGCUCGGUGAA-----

-----CGAAUGUUGCUCGGUGAAC-----

-----CGAAUGUUGCUCGGUGAACCCC-----

-----CGAAUGUUGCUCGGUGAACCCCU-----

-----GAAUGUUGCUCGGUGAACC-----

-----GAAUGUUGCUCGGUGAACCCC-----

ugguacuuggagagaUAGUAGACCGUAUAGCGUACGcuuuaucugugacgUAUGUAACACGGUCCACUAACCcucaguau
caaauccauccccgag

(((((((((.(((.(.(((.(((((((.(.(((((((.....).)))))).).)))))).).)))))).).)))))))).
)).....

-----AUAGUAGACCGUAUAGCGU-----

----- 9 -1,-3

-----AUAGUAGACCGUAUAGCGUA-----

----- 12 -1,-2

-----AUAGUAGACCGUAUAGCGUAC-----

----- 35 -1,-1

-----AUAGUAGACCGUAUAGCGUACa-----

----- 9 -1,-1

-----AUAGUAGACCGUAUAGCGUACG-----

----- 19 -1,0

-----UAGUAGACCGUAUAGCGU-----

----- 10 0,-3

-----UAGUAGACCGUAUAGCGUA-----

----- 14 0,-2

-----UAGUAGACCGUAUAGCGUAa-----

----- 3 0,-2

-----UAGUAGACCGUAUAGCGUAC-----

----- 37 0,-1

-----UAGUAGACCGUAUAGCGUACG-----

----- 67 0.0

-----UAGUAGACCGUAUAGCGUACG_a-----

----- 2 0.0

gcacauuguaggccucauuaaanguuuguugaaugaaaaauggaucAUCAACAGACAUUAAUUGGGCGCcugcucugug
aucuc

----- 3 0, -2

>hsa-mir-423 5p:17-39;3p:53-75 SRX018960

auaaaggaaguuaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

....(((((((.((((((((((((((..(((.((((.((((.....))))))))).))...)))))))))))).))
))))).....

-----UGAGGGGCAGAGAGCGAG-----

----- 71 0,-5

-----UGAGGGGCAGAGAGCGAGA-----

----- 453 0,-4

-----UGAGGGGCAGAGAGCGAGAA-----

----- 59 0,-4

-----UGAGGGGCAGAGAGCGAGAaa-----

----- 113 0,-4

-----UGAGGGGCAGAGAGCGAGAau-----

----- 5 0.-4

-----UGAGGGGCAGAGAGCGAGA₁₁-----

----- 13 0,-4

-----UGAGGGGCAGAGAGCGAGAu-----

----- 4 0,-4

-----UGAGGGGCAGAGAGCGAGAC-----

----- 283 0,-3

-----UGAGGGGCAGAGAGCGAGACa-----

----- 41 0,-3

-----UGAGGGGCAGAGAGCGAGACaa-----

----- 17 0,-3

-----UGAGGGGCAGAGAGCGAGACU-----

----- 350 0,-2

-----UGAGGGGCAGAGAGCGAGACUa-----

----- 16 0,-2

-----UGAGGGGCAGAGAGCGAGACU_{aa}-----

----- 16 0.-2

-----UGAGGGGCAGAGAGCGAGACUau-----

----- 14 0,-2

-----UGAGGGGCAGAGAGCGAGACUU-----

```

----- 560 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 153 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 17 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 23 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 3377 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 113 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 17 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 14 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 266 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUa-----
----- 3 0,1
-----GAGGGGCAGAGAGCGAGACU-----
----- 2 1,-2
-----GAGGGGCAGAGAGCGAGACUU-----
----- 12 1,-1
-----GAGGGGCAGAGAGCGAGACUUa-----
----- 2 1,-1
-----GAGGGGCAGAGAGCGAGACUUau-----
----- 2 1,-1
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 54 1,0
-----GAGGGGCAGAGAGCGAGACUUUa-----
----- 2 1,0
-----AGGGGCAGAGAGCGAGACUUU-----
----- 8 2,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 16 2,1
-----AAGCUCGGUCUGAGGCCCCC-----
----- 4 -1,-5
-----AAGCUCGGUCUGAGGCCCCCU-----

```


----- 8	-1,-4	-----AAGCUCGGUCUGAGGCCCCUC-----
----- 11	-1,-3	-----AAGCUCGGUCUGAGGCCCCUCu-----
----- 4	-1,-3	-----AAGCUCGGUCUGAGGCCCCUCuu-----
----- 2	-1,-3	-----AAGCUCGGUCUGAGGCCCCUCA-----
----- 6	-1,-2	-----AAGCUCGGUCUGAGGCCCCUCAa-----
----- 6	-1,-2	-----AAGCUCGGUCUGAGGCCCCUCAu-----
----- 5	-1,-2	-----AAGCUCGGUCUGAGGCCCCUCAG-----
----- 17	-1,-1	-----AAGCUCGGUCUGAGGCCCCUCAGa-----
----- 14	-1,-1	-----AAGCUCGGUCUGAGGCCCCUCAGU-----
----- 71	-1,0	-----AAGCUCGGUCUGAGGCCCCUCAGUa-----
----- 2	-1,0	-----AAGCUCGGUCUGAGGCCCCUCAGUu-----
----- 6	-1,0	-----AGCUCGGUCUGAGGCCCC-----
----- 7	0,-5	-----AGCUCGGUCUGAGGCCCCU-----
----- 4	0,-4	-----AGCUCGGUCUGAGGCCCCUC-----
----- 13	0,-3	-----AGCUCGGUCUGAGGCCCCUCA-----
----- 23	0,-2	-----AGCUCGGUCUGAGGCCCCUCAa-----
----- 9	0,-2	-----AGCUCGGUCUGAGGCCCCUCAaa-----
----- 6	0,-2	-----AGCUCGGUCUGAGGCCCCUCAau-----
----- 6	0,-2	-----AGCUCGGUCUGAGGCCCCUCAu-----


```

----- 99 0,0
-----CAGCAGCAAUUC AUGUUUUGAAa-----
----- 25 0,0
-----CAGCAGCAAUUC AUGUUUUGAAu-----
----- 5 0,0
-----AGCAGCAAUUC AUGUUUUG-----
----- 4 1,-2
-----AGCAGCAAUUC AUGUUUUGA-----
----- 2 1,-1
-----AGCAGCAAUUC AUGUUUUGAA-----
----- 5 1,0
-----CAAAACGUGAGGCGCUGCU-----
----- 8 0,-2
-----CAAAACGUGAGGCGCUGCUA-----
----- 34 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 279 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 6 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 79 0,1
-----CAAAACGUGAGGCGCUGCUAUa-----
----- 23 0,1
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 16 0,1
-----AAAACGUGAGGCGCUGCUAU-----
----- 6 1,0
-----AAAACGUGAGGCGCUGCUAUA-----
----- 4 1,1
-----AAAACGUGAGGCGCUGCUAUa-----
----- 3 1,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018960

```

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGA AUGUCGUGUCCGCCCagug
cucuuc
(((((((((...(((((((...)))))).)))))).))))))...)))
).))))
-----AAUGACACGAUCACUCCCGUU-----

```

```

----- 6   0,-2
-----AAUGACACGAUCACUCCCGUUG-----
----- 7   0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 18  0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 2   0,1
-----AUGACACGAUCACUCCCGUU-----
----- 3   1,-2
-----AUGACACGAUCACUCCCGUUGAG-----
----- 7   1,1
-----CAUCGGGAAUGUCGUGUCC-----
----- 3   -1,-4
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 2   -1,-2
-----CAUCGGGAAUGUCGUGUCCGCa-----
----- 2   -1,-2
-----CAUCGGGAAUGUCGUGUCCGCu-----
----- 3   -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 18  -1,-1
-----AUCGGGAAUGUCGUGUCC-----
----- 3   0,-4
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 17  0,-1
-----AUCGGGAAUGUCGUGUCCGCCu-----
----- 4   0,-1
-----AUCGGGAAUGUCGUGUCCGCCC-----
----- 2   0,0
-----AUCGGGAAUGUCGUGUCCGCCCuu-----
----- 2   0,0
-----AUCGGGAAUGUCGUGUCCGCCCAa-----
----- 4   0,1

```

>hsa-mir-4263 3p:56-73 SRX018960

auagugcucuucaggguuuuacuugggagauuggaguggccaguguuccuaaacaAUUCUAAGUGCCUUGGCCcacaaca
uac

...(((.....((((((((.....((((((((.....((..((.....))..)).....))))))))))))))))....


```

----- 4 0,-3
-----UCUUGGAGUAGGUCAUUGGGU-----
----- 20 0,-2
-----UCUUGGAGUAGGUCAUUGGGUa-----
----- 10 0,-2
-----UCUUGGAGUAGGUCAUUGGGUau-----
----- 10 0,-2
-----UCUUGGAGUAGGUCAUUGGGUG-----
----- 12 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGa-----
----- 14 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGau-----
----- 2 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 8 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGuu-----
----- 4 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 16 0,0

```

>hsa-mir-4326 5p:11-30 SRX018960

```

gcugcucugcUGUUCCUCUGUCUCCCAGACucuggguggauggagcaggucgggggcca
(((.(...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGUUCCUCUGUCUCCCAGAC----- 2 0,0
-----UGUUCCUCUGUCUCCCAGACU----- 3 0,1

```

>hsa-mir-433 3p:64-85 SRX018960

```

ccggggagaaguacggugagccugucauuauucagagagggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg
((..(((((((...(((.((((((((((((((((((((((((((((((((((((((((((((((((((((
))...)))))))).))
-----AUCAUGAUGGGCUCCUC
G----- 2 0,-4
-----AUCAUGAUGGGCUCCUC
GGUG----- 4 0,-1
-----AUCAUGAUGGGCUCCUC
GGUGa----- 16 0,-1
-----AUCAUGAUGGGCUCCUC

```

GGUGU----- 63 0,0
-----AUCAUGAGGGGCCUCCUC

>hsa-mi r-450a-1 5p:18-39 SRX018960

>hsa-mi r-450a-2 5p:23-44 SRX018960

>hsa-mir-450b 5p:11-32;3p:48-69 SRX018960

```

2    0,0
-----UUUUGCAAUAUGUCCUGAAU-----
2    0,1

```

```

>hsa-mir-451    5p:17-38    SRX018960
cuugggauggcaaggAAACCGUUACCAUUACUGAGUUuaguaaugguaaugguucucuugcuauaccaga
.((((((.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAACCGUUACCAUUACUGAG----- 19
0,-2
-----AAACCGUUACCAUUACUGAGU----- 17
0,-1
-----AAACCGUUACCAUUACUGAGUU----- 57
0,0
-----AAACCGUUACCAUUACUGAGUUU----- 17
0,1
-----AAACCGUUACCAUUACUGAGUUUA----- 2
0,2
-----AACCGUUACCAUUACUGAGUU----- 2
1,0

```

```

>hsa-mir-452    MA:14-35;mi:58-79    SRX018960
gcuaagcacuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc
(((.(((((((((((.(((((((((((.(((((((((((.(((((((((((.(((((((((((.(((((((((((
)))
-----AACUGUUUGCAGAGGAAA-----
----- 8    0,-4
-----AACUGUUUGCAGAGGAAAC-----
----- 15    0,-3
-----AACUGUUUGCAGAGGAAACU-----
----- 68    0,-2
-----AACUGUUUGCAGAGGAAACUGA-----
----- 22    0,0
-----AACUGUUUGCAGAGGAAACUGAa-----
----- 6    0,0
-----AACUGUUUGCAGAGGAAACUGAG-----
----- 54    0,1
-----AACUGUUUGCAGAGGAAACUGAGA-----

```



```

>hsa-mir-454      mi:24-45;MA:64-86      SRX018960
ucuguuuaucauccagauccuagaACCCUAUCAUAUUGUCUCUGCuguguaaaauaguucugagUAGUGCAAUAUUGCUUA
UAGGGUuuuggguguuuggaaagaacaaugggcagg
.(((((((((.(((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----UAGUGCAAUAUUGCUUA
UAGGGaa----- 2    0,-1
-----UAGUGCAAUAUUGCUUA
UAGGGU----- 3    0,0

```

```

>hsa-mir-455      5p:16-37;3p:54-74      SRX018960
ucccuggcgugagggUAUGUGCCUUGGACUACAUCGuggaagccagcaccauGCAGUCCAUGGGCAUAUACACuugccu
caaggccuaugucauc
.....(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..
))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..
-----GUAUGUGCCUUGGACUAC-----
-----      4      -1,-4
-----GUAUGUGCCUUGGACUACA-----
-----      14     -1,-3
-----GUAUGUGCCUUGGACUACAa-----
-----      3      -1,-3
-----GUAUGUGCCUUGGACUACAU-----
-----      12     -1,-2
-----GUAUGUGCCUUGGACUACAUCG-----
-----      6      -1,0
-----GUAUGUGCCUUGGACUACAUCGU-----
-----      10     -1,1
-----UAUGUGCCUUGGACUACA-----
-----      5      0,-3
-----UAUGUGCCUUGGACUACAU-----
-----      3      0,-2
-----UAUGUGCCUUGGACUACAua-----
-----      3      0,-2
-----UAUGUGCCUUGGACUACAUC-----
-----      8      0,-1
-----UAUGUGCCUUGGACUACAUCa-----

```

-----	3	0,-1	
-----	-UAUGUGCCUUUGGACUACAUCG-----		
-----	60	0,0	
-----	-UAUGUGCCUUUGGACUACAUCGU-----		
-----	10	0,1	
-----	-UAUGUGCCUUUGGACUACAUCGUG-----		
-----	4	0,2	
-----	-UGUGCCUUUGGACUACAUC-----		
-----	2	2,-1	
-----	-UGUGCCUUUGGACUACAUCGUG-----		
-----	7	2,2	
-----	-UGUGCCUUUGGACUACAUCGUGa-----		
-----	8	2,2	
-----	-----AUGCAGUCCAUGGGCAUA-----		
-----	2	-2,-5	
-----	-----AUGCAGUCCAUGGGCAUAU-----		
-----	5	-2,-4	
-----	-----AUGCAGUCCAUGGGCAUAUAC-----		
-----	14	-2,-2	
-----	-----AUGCAGUCCAUGGGCAUAUACA-----		
-----	30	-2,-1	
-----	-----AUGCAGUCCAUGGGCAUAUACAC-----		
-----	5	-2,0	
-----	-----UGCAGUCCAUGGGCAUAUA-----		
-----	2	-1,-3	
-----	-----UGCAGUCCAUGGGCAUAUAC-----		
-----	6	-1,-2	
-----	-----UGCAGUCCAUGGGCAUAUACA-----		
-----	21	-1,-1	
-----	-----UGCAGUCCAUGGGCAUAUACAC-----		
-----	15	-1,0	
-----	-----UGCAGUCCAUGGGCAUAUACACa-----		
-----	6	-1,0	
-----	-----UGCAGUCCAUGGGCAUAUACACU-----		
-----	9	-1,1	
-----	-----GCAGUCCAUGGGCAUAUAC-----		
-----	12	0,-2	
-----	-----GCAGUCCAUGGGCAUAUACA-----		

2 0,-3
-----AAGACGGGAGGAAAGAAGGu-----
4 0,-3
-----AAGACGGGAGGAAAGAAGGG-----
400 0,-2
-----AAGACGGGAGGAAAGAAGGGu-----
4 0,-2
-----AAGACGGGAGGAAAGAAGGGa-----
1019 0,-1
-----AAGACGGGAGGAAAGAAGGGaA-----
459 0,-1
-----AAGACGGGAGGAAAGAAGGGaAa-----
257 0,-1
-----AAGACGGGAGGAAAGAAGGGaAu-----
96 0,-1
-----AAGACGGGAGGAAAGAAGGGaU-----
79 0,-1
-----AAGACGGGAGGAAAGAAGGGaUu-----
44 0,-1
-----AAGACGGGAGGAAAGAAGGGAG-----
2140 0,0
-----AAGACGGGAGGAAAGAAGGGAGa-----
554 0,0
-----AAGACGGGAGGAAAGAAGGGAGaa-----
50 0,0
-----AAGACGGGAGGAAAGAAGGGAGau-----
34 0,0
-----AAGACGGGAGGAAAGAAGGGAGU-----
391 0,1
-----AAGACGGGAGGAAAGAAGGGAGUa-----
10 0,1
-----AAGACGGGAGGAAAGAAGGGAGUaa-----
2 0,1
-----AAGACGGGAGGAAAGAAGGGAGUau-----
8 0,1
-----AAGACGGGAGGAAAGAAGGGAGUu-----
20 0,1
-----AAGACGGGAGGAAAGAAGGGAGUuu-----

5 0,1
-----AAGACGGGAGGAAAGAAGGGAGUGu-----
4 0,2
-----AAGACGGGAGGAAAGAAGGGAGUGG-----
14 0,3
-----AGACGGGAGGAAAGAAGG-----
3 1,-3
-----AGACGGGAGGAAAGAAGGG-----
15 1,-2
-----AGACGGGAGGAAAGAAGGGA-----
39 1,-1
-----AGACGGGAGGAAAGAAGGGAa-----
3 1,-1
-----AGACGGGAGGAAAGAAGGGAaa-----
3 1,-1
-----AGACGGGAGGAAAGAAGGGAuu-----
2 1,-1
-----AGACGGGAGGAAAGAAGGGAG-----
52 1,0
-----AGACGGGAGGAAAGAAGGGAGa-----
12 1,0
-----AGACGGGAGGAAAGAAGGGAGU-----
69 1,1
-----AGACGGGAGGAAAGAAGGGAGUu-----
3 1,1
-----AGACGGGAGGAAAGAAGGGAGUG-----
8 1,2
-----AGACGGGAGGAAAGAAGGGAGUGG-----
111 1,3
-----AGACGGGAGGAAAGAAGGGAGUGGU-----
3 1,4
-----GACGGGAGGAAAGAAGGGAG-----
3 2,0

```

6   0,-2
-----UCAGGCUCAGUCCCCUCCCGA-----
12  0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
18  0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
5   0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
48  0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
6   0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
9   0,1
-----UCAGGCUCAGUCCCCUCCCGAUAA-----
3   0,2
-----AGGCUCAGUCCCCUCCCGA-----
5   2,-1
-----AGGCUCAGUCCCCUCCCGAaa-----
3   2,-1
-----AGGCUCAGUCCCCUCCCGAau-----
3   2,-1
-----AGGCUCAGUCCCCUCCCGAU-----
9   2,0
-----AGGCUCAGUCCCCUCCCGAUA-----
8   2,1

```

>hsa-mir-485 5p:9-30;3p:46-67 SRX018960

```

acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((...(((((((...(((((((((((...((((((((((((((((((((((((((((((((((((((((((((
-----AGAGGCUGGCCGUGAUGA----- 3
0,-4
-----AGAGGCUGGCCGUGAUGAA----- 12
0,-3
-----AGAGGCUGGCCGUGAUGAAU----- 15
0,-2
-----AGAGGCUGGCCGUGAUGAAUU----- 322
0,-1
-----AGAGGCUGGCCGUGAUGAAUa----- 5

```

0, -1	-----AGAGGCUGGCCCGUGAUGAAU <u>U</u> -----	6
0, -1	-----AGAGGCUGGCCCGUGAUGAAU <u>C</u> -----	155
0, 0	-----AGAGGCUGGCCCGUGAUGAAU <u>C</u> <u>a</u> -----	2
0, 0	-----AGAGGCUGGCCCGUGAUGAAU <u>C</u> <u>a</u> <u>a</u> -----	8
0, 0	-----AGAGGCUGGCCCGUGAUGAAU <u>C</u> <u>u</u> -----	20
0, 0	-----AGAGGCUGGCCCGUGAUGAAU <u>C</u> <u>G</u> -----	203
0, 1	-----AGAGGCUGGCCCGUGAUGAAU <u>C</u> <u>G</u> <u>u</u> -----	38
0, 1	-----AGAGGCUGGCCCGUGAUGAAU <u>C</u> <u>G</u> <u>u</u> <u>u</u> -----	4
0, 1	-----AGAGGCUGGCCCGUGAUGAAU <u>C</u> <u>G</u> <u>A</u> -----	43
0, 2	-----GAGGCUGGCCCGUGAUGAAU <u>U</u> <u>a</u> -----	2
1, -1	-----AGUCAUACACGGCUCUCCUCUCU-----	2
-1, 0	-----GUCAUACACGGCUCUCCUCUCU-----	2
0, -2	-----GUCAUACACGGCUCUCCUCUC <u>a</u> -----	9
0, -1	-----GUCAUACACGGCUCUCCUCUCU-----	11
0, 0		

```

---UCCUGUACUGAGCUGCCCCGAa----- 15 0,-1
---UCCUGUACUGAGCUGCCCCGAu----- 4 0,-1
---UCCUGUACUGAGCUGCCCCGAG----- 401 0,0
---UCCUGUACUGAGCUGCCCCGAGa----- 170 0,0
---UCCUGUACUGAGCUGCCCCGAGaa----- 12 0,0
---UCCUGUACUGAGCUGCCCCGAGau----- 2 0,0
---UCCUGUACUGAGCUGCCCCGAGu----- 23 0,0
---UCCUGUACUGAGCUGCCCCGAGGa----- 2 0,1
-----CUGUACUGAGCUGCCCCGAG----- 11 2,0
-----CGGGGCAGCUCAGUACAGGAU-- 2 0,0

```

>hsa-mir-487b 3p:51-72 SRX018960

uugguacuuggagagugguuaucuccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUuuucagua
ucaa

.(((((((..(((((((.....(((((((.(.(((((((.....)))))).).)))))).)))))).))))).)))).

```

-----AAUCGUACAGGGUCAUCCACU-----
---- 6 0,-1

```

>hsa-mir-488 mi:14-34;MA:52-72 SRX018960

gagaaucaucucuCCCAGAUAAUGGCACUCUCAAacaaguuuccaaauuguUUGAAAGGCUAUUUCUUGGUCagaugacu
cuc

(((((.(((((((..((.(((.(((((((.(.(((((((.....)))))).).)))))).)))))).))))).)))).

```

-----CCCAGAUAAUGGCACUCUCA-----
--- 3 0,0

```

```

-----CCCAGAUAAUGGCACUCUCAAAC-----
--- 2 0,2

```

```

-----UGAAAGGCUAUUUCUUGGU-----
--- 3 1,-1

```

>hsa-mir-490 5p:39-58;3p:76-97 SRX018960

uggaggccuugcugguuuggaaagucauuguucgacaCCAUGGAUCUCCAGGUGGGUcaaguuuagagaugcacCAACC
UGGAGGACUCCAUGCUGuugagcuguucacaagcagcgagacacuucca

.(((((((..(((((((.(((((((.....(((((((.(((((((.....)))))).).)))))).)))))).))))).)))).

```

-----CCAACC
UGGAGGACUCCAUGCUGU----- 4 -1,1

```


Sequence	Count	ΔG (kcal/mol)	ΔG _{obs} (kcal/mol)
UGGAGGACUCCAUGCUG	13	0, -1	-CAACC
UGGAGGACUCCAUGCUGu	9	0, -1	-CAACC
UGGAGGACUCCAUGCUGuu	4	0, -1	-CAACC
UGGAGGACUCCAUGCUGa	93	0, 0	-CAACC
UGGAGGACUCCAUGCUGaa	32	0, 0	-CAACC
UGGAGGACUCCAUGCUGuu	4	0, 0	-CAACC
UGGAGGACUCCAUGCUGU	393	0, 1	-CAACC
UGGAGGACUCCAUGCUGUa	15	0, 1	-CAACC
UGGAGGACUCCAUGCUGUU	18	0, 2	-CAACC
UGGAGGACUCCAUGCUGUUu	5	0, 2	-CAACC
UGGAGGACUCCAUGCUGUu	12	1, 1	-AACC

```

>hsa-mir-491      5p:16-37;3p:50-71      SRX018960
uugacuuagcuggguAGUGGGGAACCCUCCAUGAGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcuggcuggg
uugg
(..(((((((..((((((.((((((..(((.(((((((((((.....)))))))))).)).)))))).))))))
)..)
-----AGUGGGGAACCCUCCAUGAGG-----
----      2      0,0
-----AGUGGGGAACCCUCCAUGAGGA-----
----      2      0,1
-----AGUGGGGAACCCUCCAUGAGGAa-----
----      2      0,1

```

>hsa-mir-493 mi:16-37;MA:57-78 SRX018960
cuggccuccagggcuUUGUACAUGGUAGGCUUCAUUCauucguuugcacauucggUGAAGGUCUACUGUGUGCCAGGcc
cugugccag

-----		UUGUACAUGGUAGGCUUUCA-----	
-----	3	0,-2	
-----		UUGUACAUGGUAGGCUUUCAU-----	
-----	6	0,-1	
-----		UUGUACAUGGUAGGCUUUCAUaa-----	
-----	2	0,-1	
-----		UUGUACAUGGUAGGCUUUCAUU-----	
-----	6	0,0	
-----		-----UGAAGGUCUACUGUGGCCAG-----	
-----	11	0,-1	
-----		-----UGAAGGUCUACUGUGGCCAGa-----	
-----	12	0,-1	
-----		-----UGAAGGUCUACUGUGGCCAGaa-----	
-----	2	0,-1	
-----		-----UGAAGGUCUACUGUGGCCAGG-----	
-----	7	0,0	
-----		-----UGAAGGUCUACUGUGGCCAGGa-----	
-----	21	0,0	
-----		-----UGAAGGUCUACUGUGGCCAGGu-----	
-----	2	0,0	

>hsa-mir-495 3p:50-71 SRX018960

```
>hsa-mi r-497      MA:24-44;mi :64-85      SRX018960
ccaccccgguccugcucccgcccCAGCAGCACACUGUGGUUUGUacggcacuguggccacgucCAAACCACACUGUGUG
UUAGAgcgaggguggggggagggcaccgcccagg
(((...(((((((.(((((((((((((((.((((.(((((((((((.(((((.....)))..)).)))))))).)))))).)))).))
)).....).)))))))).)))))).)).)).))
```

-CAGCAGCACACUGUGUUU-	
18	0,-2
-CAGCAGCACACUGUGUUUa-	
5	0,-2
-CAGCAGCACACUGUGUUUG-	
31	0,-1
-CAGCAGCACACUGUGUUUGa-	
3	0,-1
-CAGCAGCACACUGUGUUUGU-	
50	0,0
-CAGCAGCACACUGUGUUUGUA-	
33	0,1
-CAGCAGCACACUGUGUUUGUAa-	
23	0,1
-CAGCAGCACACUGUGUUUGUAu-	
2	0,1
-CAGCAGCACACUGUGUUUGUAC-	
2	0,2
-AGCAGCACACUGUGUUU-	
9	1,-2
-AGCAGCACACUGUGUUUG-	
32	1,-1

```

-----AGCAGCACACUGUGGUUUGU-----
-----          9    1,0
-----AGCAGCACACUGUGGUUUGUA-----
-----          4    1,1
-----AGCAGCACACUGUGGUUUGUAa-----
-----          2    1,1
-----AGCAGCACACUGUGGUUUGUAu-----
-----          3    1,1
-----AGCAGCACACUGUGGUUUGUAC-----
-----         12    1,2
-----AGCAGCACACUGUGGUUUGUACa-----
-----          7    1,2

```

>hsa-mir-499 5p:33-53;3p:70-91 SRX018960

gcccuguccccugugccuugggcgggcggcugUUAAGACUUGCAGUGAUGUUUaacuccucuccacgugAACAUACAGC
AAGUCUGUGCUgcuucccgucccuacgcugccugggcagggg

((((((((((.....((...(((((((.((((.(...(((((((((((((((((((((.....)))))))))).))
)))))).)).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))))

```

-----UUAAGACUUGCAGUGAUG-----
-----          3    0,-3
-----UUAAGACUUGCAGUGAUGU-----
-----          4    0,-2
-----UUAAGACUUGCAGUGAUGUU-----
-----         14    0,-1
-----UUAAGACUUGCAGUGAUGUUa-----
-----          7    0,-1
-----UUAAGACUUGCAGUGAUGUUU-----
-----         235    0,0
-----UUAAGACUUGCAGUGAUGUUUA-----
-----         108    0,1
-----UUAAGACUUGCAGUGAUGUUUAu-----
-----          2    0,1
-----UUAAGACUUGCAGUGAUGUUUAA-----
-----         11    0,2

```

>hsa-mir-500a MA:13-35;mi:52-73 SRX018960

gcuccccucucUAAUCCUUGCUACCUGGGUGAGAgugcugucugaaugcaAUGCACCUGGGCAAGGAUUCUGagagcga
gagc

-----UAGCAGCGGGAACAGUUC-----	96	0,-5
-----UAGCAGCGGGAACAGUUCa-----	6	0,-5
-----UAGCAGCGGGAACAGUUCaa-----	5	0,-5
-----UAGCAGCGGGAACAGUUCU-----	175	0,-4
-----UAGCAGCGGGAACAGUUCUa-----	16	0,-4
-----UAGCAGCGGGAACAGUUCUaa-----	26	0,-4
-----UAGCAGCGGGAACAGUUCUG-----	19	0,-3
-----UAGCAGCGGGAACAGUUCUGa-----	4	0,-3
-----UAGCAGCGGGAACAGUUCUGaa-----	7	0,-3
-----UAGCAGCGGGAACAGUUCUGCA-----	2	0,-1
-----UAGCAGCGGGAACAGUUCUGCAG-----	37	0,0
-----UAGCAGCGGGAACAGUUCUGCAGa-----	2	0,0
-----UAGCAGCGGGAACAGUUCUGCAGU-----	8	0,1
-----AGCAGCGGGAACAGUUCU-----	4	1,-4
-----AGCAGCGGGAACAGUUCUGCAGa-----	2	1,0

>hsa-mir-504 5p:13-34 SRX018960

gcugcuguugggAGACCCUGGUCUGCACUCUAUCguuauucuuacugaagggagugcagggcaggguuucccauacagag
ggc

((((((((((((((((((((((((((.(((((((((((((. ((.((((...)))).) ..)))))))).))))))).)))).))))

-----AGACCCUGGUCUGCACUCUAU-----

--- 15 0,-1

-----AGACCCUGGUCUGCACUCUAUC-----

--- 28 0,0

-----AGACCCUGGUCUGCACUCUAUCU-----

--- 2 0,1

-----GACCCUGGUCUGCACUCUA-----

--- 2 1,-2

-----GACCCUGGUCUGCACUCUAU-----

--- 2 1, -1

-----GACCCUGGUCUGCACUCUAUC-----

--- 2 1,0

-----AGGGAGUGCAGGGCAGGGUUUC-----

--- 2

>hsa-mi r-505 mi:15-36;MA:51-72 SRX018960

gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag

cauc

(((((..(((..(((((((((((..(((..((((((((.....)))))))).))))).))))).))))).))))))

-----GGGAGCCAGGAAGUAUUGA-----
---- 3 0,-3
-----GGGAGCCAGGAAGUAUUGAU-----
---- 2 0,-2
-----GGGAGCCAGGAAGUAUUGAUG-----
---- 7 0,-1
-----GGGAGCCAGGAAGUAUUGAUGU-----
---- 42 0,0
-----GGGAGCCAGGAAGUAUUGAUGUa-----
---- 10 0,0
-----GGGAGCCAGGAAGUAUUGAUGUU-----
---- 79 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUa-----
---- 3 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUU-----
---- 8 0,2
-----GUCAACACUUGCUGGUUCCUC-----
---- 2 1,1
-----GUCAACACUUGCUGGUUCCUCau-----
---- 3 1,1
-----GUCAACACUUGCUGGUUCCUCU-----
---- 3 1,2

>hsa-mir-511-1 5p:16-36 SRX018960

caauagacaccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuugugaauguguagcaaaagacagaauuggg
uccauug

(((((..(((..(((((((((((..(((..((((((((.....)))))))).))))).))))).))))).))))))

-----GUGUCUUUUGCUCUGCAGUCA-----
----- 2 0,0
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 4
-----GAAUGUGUAGCAAAAGACAGA-----
----- 2
-----AAUGUGUAGCAAAAGACAGu-----


```

----- 6
-----AAUGUGUAGCAAAAGACAGA-----
----- 63
-----AAUGUGUAGCAAAAGACAGAA-----
----- 23
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 9

```

>hsa-mir-511-2 5p:16-36 SRX018960

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

(((((.((((..(((..(((((((((..(((.((((.(.....)))))))).)))..)))))))).)))..)))))

```

-----GUGUCUUUUGCUCUGCAGUCA-----
----- 2 0,0
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 4
-----GAAUGUGUAGCAAAAGACAGA-----
----- 2
-----AAUGUGUAGCAAAAGACAGu-----
----- 6
-----AAUGUGUAGCAAAAGACAGA-----
----- 63
-----AAUGUGUAGCAAAAGACAGAA-----
----- 23
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 9

```

>hsa-mir-532 5p:20-41;3p:57-78 SRX018960

cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu

.(.(((((((.....((.((((((.((((.(.....)))))).)))..)))))).))....
)))))))).).

```

-----CCAUGCCUUGAGUGUAGGACCGU-----
----- 5 -1,0
-----CAUGCCUUGAGUGUAGGA-----
----- 8 0,-4
-----CAUGCCUUGAGUGUAGGAC-----

```


-----	2	-1,-3	-----UUGUGACAGAUUGAUAACUGA-----
-----	2	-1,-2	-----UUGUGACAGAUUGAUAACUGAAA-----
-----	2	-1,0	-----UGUGACAGAUUGAUAACU-----
-----	9	0,-4	-----UGUGACAGAUUGAUAACUG-----
-----	11	0,-3	-----UGUGACAGAUUGAUAACUGA-----
-----	8	0,-2	-----UGUGACAGAUUGAUAACUGAA-----
-----	29	0,-1	-----UGUGACAGAUUGAUAACUGAAA-----
-----	32	0,0	-----UGUGACAGAUUGAUAACUGAAAa-----
-----	5	0,0	-----UGUGACAGAUUGAUAACUGAAAu-----
-----	11	0,0	

```
>hsa-mir-548c    5p:25-46;3p:61-82    SRX018960  
cauuggcaucuaauagguuggugcAAAAGUAAUUGCGUUUUGCCauuacuuucaguagCAAAAAUCUCAAUUACUUU  
GCaccaacuuaauacuu  
. . . . .(((((((((((((((((((((((((((((((((.( ((((((((((...(((....))))))))).....)).))))))))))
```

)))))))))...
 -----AAAGUAAUUGCGUUUUUGCCA-----
 -----2 1,1

```
>hsa-mir-548d-1 5p:25-46;3p:61-82 SRX018960
aaacaaguuaauuagguuggugcAAAAGUAAUUGUGGUUUUUGCCuguaaaaguaauggCAAAAACACAGUUUCUUUU
GCaccagacuaauaaag
.....(((((((.(((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))).))))))....))))))....))))))....))))))....))))))....))))))....))))))....
-----AAAAGUAAUUGUGGUUUUUG-----
----- 2 0,-2
-----AAAAGUAAUUGUGGUUUUUGCa-----
----- 3 0,-1
```

```
>hsa-mir-548d-2 5p:25-46;3p:61-82 SRX018960
gagaggggaagauuuagguuggugcAAAAGUAAUUGUGGUUUUUGCCauugaaaguaauggCAAAAACACAGUUUCUUUU
GCaccaaccuaauaaaaa
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAAGUAAUUGUGGUUUUUG-----
-----2 0,-2
-----AAAAGUAAUUGUGGUUUUUGCa-----
-----3 0,-1
```

```
>hsa-mir-548e    3p:53-74    SRX018960
uuauuagguugguacaaaagcaaucgcgguuuuugcuauuacuuuuaaaggcAAAAACUGAGACUACUUUUGCAccaacc
ugauagaa
(((((((((((((((.(((((((...(((.(((((((((((((((.((((...)))..))))))))))))..))))))
))))))..
-----AAAAACUGAGACUACUUUUGC-----
-----      15    0,-1
-----AAAAACUGAGACUACUUUUGCA-----
-----      6     0,0
-----AAAAACUGAGACUACUUUUGCAa-----
-----     11    0,0
```

```
>hsa-mir-548f-2 3p:59-77      SRX018960
uaauuacuaauuagguuggugcgaacuaauugcaguuuuuaucauuacuuuuuauggcAAAAACUGUAAUUCUUUgca
```

.....((((((((((((((((((((((..((((((((((((((((((..((((((...)))))).)))))))))))))))))).))))))
))))))))))))......

>hsa-mir-548f-3 3p:54-72 SRX018960

[illegible]

>hsa-mir-548h-3 5p:29-50 SRX018960

$$\begin{aligned} & ((((((\dots(((((((((\dots(((((((\dots(((((((\dots(((((((\dots)))))))))\dots)))))))))\dots)))))))))\dots) \\ &)))))).\dots\dots\dots)))).\dots \end{aligned}$$

-----CAAAAACUGCAAUAC
UUUUGa----- 4

-----CAAAAACUGCAAUAC
UUUUGaa----- 5

>hsa-mir-548j 5p:29-50 SRX018960

-----AAAAGUAAUUGCGGUCUUUGGaa-----
-----2 0,-1-----

-----AAAAGUAAUUGCGGUCUUUGGU-----
 -----2 0.0-----

-----CAAAAACUGCAUUACU
UUUGC----- 3

-----CAAAAACUGCAUUACU

2

SRX018960

13 0,0

SRX018960

3

SRX018960

4 0,0

SRX018960

 $3 \quad -2, -2$

SRX018960

aauacuagguugagcaaaaguaauugcgguuuugccaucaugccaaaAGCUACAGUUACUUUUGCACCAgcccuaauuu

(((.((((.(.(((((((((((((.((((((.....)).))))).))))))))))))).))))).)))
-----AGCUACAGUACUUUUGCACCA-----

>hsa-mir-551b mi:22-43;MA:61-81 SRX018960

.....(((((((((.....)))))).....)))))
 ..)))))..))....

Gu----- 2 0,0

$$----- \quad 2 \quad -1, -1$$

A----- 3 0,0

$$\begin{aligned} & \dots\dots\dots(((((((.((((((((((((((((((.(((((.(((((\dots))))).)))))\dots \\ &)))).))))))))).\dots \end{aligned}$$

----- 4

.....(.((((((.(((((((((.((((((((((((((((((..((.....))..))))))))))))))))))
))))))).))))).)

$$----- \quad 4 \quad -1, -4$$

-----	16	0,-5	
-----			-UGAGUGUGUGUGUGAGU-----
-----	42	0,-4	
-----			-UGAGUGUGUGUGUGAGUaa-----
-----	5	0,-4	
-----			-UGAGUGUGUGUGUGAGUG-----
-----	5	0,-3	
-----			-UGAGUGUGUGUGUGAGUGaa-----
-----	4	0,-3	
-----			-UGAGUGUGUGUGUGAGUGU-----
-----	9	0,-2	
-----			-UGAGUGUGUGUGUGAGUGUaa-----
-----	3	0,-2	
-----			-UGAGUGUGUGUGUGAGUGUG-----
-----	4	0,-1	
-----			-UGAGUGUGUGUGUGAGUGUGa-----
-----	4	0,-1	
-----			-UGAGUGUGUGUGUGAGUGUGU-----
-----	29	0,0	
-----			-UGAGUGUGUGUGUGAGUGUGUG-----
-----	11	0,1	
-----			-UGAGUGUGUGUGUGAGUGUGUGa-----
-----	8	0,1	
-----			-UGAGUGUGUGUGUGAGUGUGUGU-----
-----	13	0,2	
-----			-----CACGCUAUGCACACACC--
-----	2	0,-4	
-----			-----CACGCUAUGCACACACCC-
-----	12	0,-3	
-----			-----CACGCUAUGCACACACCCA
-----	13	0,-2	
-----			-----CACGCUAUGCACACACCCA
u-----	3	0,-2	
-----			-----CACGCUAUGCACACACCCA
uu-----	5	0,-2	
-----			-----CACGCUAUGCACACACCCA
C-----	10	0,-1	
-----			-----CACGCUAUGCACACACCCA


```

Cu-----      3   0,-1
-----CACGCUCAUGCACACACCCA
CA-----      65  0,0
-----CACGCUCAUGCACACACCCA
CAa-----     3   0,0
-----CACGCUCAUGCACACACCCA
CAu-----     2   0,0
-----ACGCUCAUGCACACACCCA
CA-----     9   1,0

```

```

>hsa-mir-576      5p:16-37;3p:55-76      SRX018960
uacaauccaacgaggAUUCUAAUUUCUCCACGUCUUUgguaauaagguuuggcaAAGAUGUGGAAAAAUUGGAAUCcuca
uucgauuggguauaacca
..(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAGAUGUGGAAAAAUUGG-----
-----      2   0,-4
-----AAGAUGUGGAAAAAUUGGAA-----
-----      4   0,-2
-----AAGAUGUGGAAAAAUUGGAAa-----
-----      2   0,-2
-----AAGAUGUGGAAAAAUUGGAAU-----
-----      8   0,-1
-----AAGAUGUGGAAAAAUUGGAAUC-----
-----      4   0,0
-----AAGAUGUGGAAAAAUUGGAAUCC---
-----      9   0,1

```

```

>hsa-mir-579      3p:62-84      SRX018960
cauauuagguuaaugcaaaaguaaucgcgguuugugccagaugacgauuugaauuaauaaaUUCAUUUGGUUAUAAACCGC
GAUUauuuuugcaucaac
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AUCGCGGUUUGUGCCAGAUGACa-----
-----      2
-----UCGCGGUUUGUGCCAGAUGACa-----
-----      2
-----UCGCGGUUUGUGCCAGAUGACGA-----

```

----- 2


```
>hsa-mir-600      3p:61-83      SRX018960
aagucacgugcuguggcuccagcucauaggaaggcucugucugucaggcaguggaguuACUUCAGACAAGAGCCUUG
CUCaggccagcccugccc
.....(((.(.(((...(((...((.(((((((((((((((((((.(.....)).)))))))))))))).
)).))))).))))).))..
-----CAUAGGAAGGCUCUUGUCUGUC-----
-----2
```

```

>hsa-mir-619      3p:61-84      SRX018960
cgcccaccucagccucccaaaaugcugggauuacaggcaugagccacugcggucgaccauGACCUGGACAUGUUUGGCC
CAGUacugucaguuugcag
.((..((..(((.....(((((((..(((((((..(((.....)))))))).)))))))))))))
))))))))....))..
-----GCUGGGAUUACAGGCAUGAG-----
----- 4
-----GCUGGGAUUACAGGCAUGAGCC-----
----- 4
-----CUGGGAUUACAGGCAUGAG-----
----- 5
-----CUGGGAUUACAGGCAUGAGau-----
----- 2
-----CUGGGAUUACAGGCAUGAGCCA-----
----- 3
-----CUGGGAUUACAGGCAUGAGCCACU-----
----- 4
-----UGGGAUUACAGGCAUGAG-----
----- 7
-----UGGGAUUACAGGCAUGAGCCAC-----

```

```

----- 7
-----GGGAUUACAGGCAUGAGC-----
----- 10
-----GGGAUUACAGGCAUGAGCC-----
----- 4
-----GGGAUUACAGGCAUGAGCCA-----
----- 2
-----GGGAUUACAGGCAUGAGCCAC-----
----- 18
-----GGGAUUACAGGCAUGAGCCACUG-----
----- 2

```

```

>hsa-mir-624    mi:16-37;MA:54-74    SRX018960
aaugcuguuucaaggUAGUACCAGUACCUUGUGUUCAguggaaccaagguaaaCACAAAGGUAUUGGUAUUACCUugagau
agcauuacaccuaagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----UAGUACCAGUACCUUGUGUUCA-----
----- 3    0,0

```

```

>hsa-mir-625    MA:15-35;mi:52-73    SRX018960
aggguaagaggggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUCAucccucu
gcccu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----AGGGGGAAAGUUCUAUAGUC-----
----- 3    0,-1
-----GACUAUAGAACUUUCCCCCUCAa-----
----- 5    0,0
-----GACUAUAGAACUUUCCCCCUCAU-----
----- 2    0,1

```

```

>hsa-mir-629    MA:22-42;mi:61-82    SRX018960
uccuuucccaggggaggggcUGGGUUUACGUUGGGAGAACUuuuacggugaaccaggagGUUCUCCCAACGUAAGCCCA
GCccuccccucugccu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----UGGGUUUACGUUGGGAGA-----

```

```

----- 28 0,-3
-----UGGGUUUACGUUGGGAGAA-----
----- 22 0,-2
-----UGGGUUUACGUUGGGAGAACaa-----
----- 2 0,-1
-----UGGGUUUACGUUGGGAGAACUUa-----
----- 2 0,1

```

>hsa-mir-641 5p:16-39 SRX018960

```

ugggugaaaggaaggAAAGACAUAGGAUAGAGUACCCUCuguccucuguccucuaccuauagaggugacuguccuauguc
uuuccuuccucuaccccu

```

```

(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))).))))))..

```

```

-----GAAAGACAUAGGAUAGAGUCA-----
----- 3 -1,-4
-----AAAGACAUAGGAUAGAGUCA-----
----- 12 0,-4
-----AAAGACAUAGGAUAGAGUCAC-----
----- 14 0,-3
-----AAAGACAUAGGAUAGAGUCACa-----
----- 2 0,-3
-----AAAGACAUAGGAUAGAGUCACC-----
----- 22 0,-2
-----AAAGACAUAGGAUAGAGUACCCU-----
----- 23 0,-1
-----AAAGACAUAGGAUAGAGUACCCUC-----
----- 2 0,0

```

>hsa-mir-652 3p:61-81 SRX018960

```

acgaauaggcuaugcacugcacaacccuaggagagggugccauucacauagacuauaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac

```

```

.....(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))).)))))).....

```

```

-----AAUGGCGCCACUAGGGUU--
----- 11 0,-3
-----AAUGGCGCCACUAGGGUUGU
Gu----- 12 0,0

```

>hsa-mi r-654 5p:16-37;3p:51-72 SRX018960

ggguaaguggaaagaUGGUGGGCCGCAGAACAUUGUCugaguucgugccaUAUGUCUGCUGACCAUCACCUUuagaagcc
c

$$(((\dots(((((.((((((.(((((((\dots)).).)))))))).).))))).)))$$

-----AUGGUGGGCCGCAGAACAUUGUGaa-----

$$-4 \quad -1, -1$$

-----UGGUGGGCCGCAGAACAUUGUGa-----

- 4 0,-1

-----UGGUGGGCCGCAGAAC AUGUGaa-----

- 2 0,-1

-----UGGUGGGCCGCAGAAC AUGUGC-----

- 24 0,0

-----UAUGUCUGCUGACCAUCACC_a-----

- 3 0,-2

-----UAUGUCUGCUGACCAUCACCU-----

- 2 0,-1

>hsa-mir-660 5p:16-37 SRX018960

cugcuccuucucccaUACCCAUGCAUAUCGGAGUUGugaauucuaaaacaccuccugugugcauggauuacaggaggg
ugagccuugucaucgug

$\dots(((((((\dots(((((.((((.((((.((((.\dots))))).)))).))))).)\dots))))).$

-----UACCCAUGCAUAUCGGAGUU-----

$$----- \quad 2 \quad 0, -1$$

-----UACCCAUGCAUAUCGGAGUUG-----

----- 5 0,0

-----ACCUCCUGUGUGCAUGGAU-----

----- 2

-----ACCUCCUGUGUGCAUGGAUU-----

----- 3

-----ACCUCCUGUGUGCAUGGAUUu-----

----- 3

-----ACCUCCUGUGUGCAUGGAUUAC-----

----- 3

>hsa-mir-663 5p:15-36 SRX018960

ccuuccggcgucccAGGCGGGGCGCCGCGGGACCGCccucgugucugugggcgguugggauc ccgcggccguguuuucugg

$\dots(((((((.(.(.(.(.(.(.(.(.(.(.....)).))))).)))))..))).).$

>hsa-mi r-663b 3p:90-111 SRX018960

-----UGCCCCGGCCGUGCCUGAGGUUUa 2 2,3

$$\dots((((\dots\dots(((((.((((.\dots(((.((((((((((\dots\dots)))))))))..))))).))))).\dots)))).$$

-----ACUGGCUAGGGAAAAUGAUUGG-----


```

-- 226 0,-2
-----ACUGGCUAGGGAAAAUGAUUGGu-----
-- 47 0,-2
-----ACUGGCUAGGGAAAAUGAUUGGuu-----
-- 3 0,-2
-----ACUGGCUAGGGAAAAUGAUUGGA-----
-- 205 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAa-----
-- 7 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAaa-----
-- 5 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAU-----
-- 17 0,0
-----CUGGCUAGGGAAAAUGAUU-----
-- 3 1,-4
-----CUGGCUAGGGAAAAUGAUUG-----
-- 6 1,-3
-----CUGGCUAGGGAAAAUGAUUGG-----
-- 11 1,-2
-----CUGGCUAGGGAAAAUGAUUGGA-----
-- 37 1,-1
-----CUGGCUAGGGAAAAUGAUUGGAa-----
-- 4 1,-1
-----UGGCUAGGGAAAAUGAUUGGA-----
-- 21 2,-1
-----UGGCUAGGGAAAAUGAUUGGAa-----
-- 2 2,-1
-----UAUUCAUUUUAUCCCCAGCCUAC-----
-- 2 0,-1

```

>hsa-mir-665 3p:43-62 SRX018960

```

ucuccucgaggggucucugccucuaccaggacucuucaugACCAGGAGGCUGAGGCCCCUcacaggcggc
(((.(((.(((((((((.((((((...((.(.....)).))....)))))).)))))))).)).).
-----ACCAGGAGGCUGAGGCCCC----- 2
0,-2
-----ACCAGGAGGCUGAGGCCCC----- 2
0,-1
-----ACCAGGAGGCUGAGGCCCCUCu----- 3

```

```

0,1
-----ACCAGGAGGCUGAGGCCCCUCA----- 2
0,2

>hsa-mir-671 5p:29-51;3p:68-88 SRX018960
gcaggugaacuggcaggccaggaagaggAGGAAGCCCUUGAGGGGCUUGAGgugauggauguuuuccUCCGGUUCUCAGG
GCUCCACCucuucgggccguagagccagggcuggugc
((((...(((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....
))))).)))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))
-----UCCGGUUCUCAGG
GCUCCACC----- 8 0,0

>hsa-mir-675 MA:10-32;mi:45-64 SRX018960
cccaggguucUGGUGCGGAGAGGGGCCACAGUGgacuuggugacgCUGUAUGCCCUCACCGCUCAgccccuggg
(((((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....
-----UGGUGCGGAGAGGGGCCACAGUG----- 2
0,0
-----UGGUGCGGAGAGGGGCCACAGUGu----- 15
0,0
-----CUGUAUGCCCUCACCGCUCAGC----- 4
0,2

>hsa-mir-7-1 MA:24-46;mi:66-87 SRX018960
uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucgaCAACAAAUCACAGUC
UGCCAUAuggcacaggccaugccucuacag
(((((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....
))))).)))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))
-----UGGAAGACUAGUGAUUUU-----
----- 5 0,-5
-----UGGAAGACUAGUGAUUUUG-----
----- 4 0,-4
-----UGGAAGACUAGUGAUUUUGUaa-----
----- 3 0,-3
-----UGGAAGACUAGUGAUUUUGUU-----
----- 4 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 46 0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----

```


agauuagaguggcuguggucuagugcugugUGGAAGACUAGUGAUUUUGUUGUucugauguacuacgacaacaagucaca
gccggccucauagcgcagacucccuucgac

UGGAAGACUAGUGAUUUU	5	0,-5
UGGAAGACUAGUGAUUUUG	4	0,-4
UGGAAGACUAGUGAUUUUUGa	3	0,-3
UGGAAGACUAGUGAUUUUUGU	4	0,-2
UGGAAGACUAGUGAUUUUUGUG	46	0,-1
UGGAAGACUAGUGAUUUUUGUUGU	156	0,0
UGGAAGACUAGUGAUUUUUGUUGUU	138	0,1
UGGAAGACUAGUGAUUUUUGUUGUa	11	0,1
GGAAGACUAGUGAUUUUUGUUGUU	2	1,1

aacugcccucAAGGAGCUUACAAUCUAGCUGGGgguaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcagggga

```

-----AAGGAGCUUACAAUCUAGCU-----
-----      2      0,-3
-----AAGGAGCUUACAAUCUAGCUG-----
-----      2      0,-2
-----AAGGAGCUUACAAUCUAGCUGG-----
-----     10     0,-1
-----AAGGAGCUUACAAUCUAGCUGGG-----
-----     12     0,0

```

>hsa-mir-720 5p:27-43 SRX018960

ccggaucucacacggugguguuaaauUCUCGCUUGGGGCCUCCAaaauguugugcccagggguguuagagaaaacaccaca
cuuugagaugaauaagaguccuuuauag

....(((((((.....((((((((((((((((((((.....((((((.....))..)))))).))))))))).
...)))))).....

-----AUCUCGCUUGGGGCCUCCA-----
----- 43 -1,0

>hsa-mir-744 MA:11-32;mi:68-89 SRX018960

uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuacugaagguuuccuggaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc

(((((.((((.....((((((((((((((((((((.....)))))))))).))))).
))))).))))).)))).

-----UGCGGGGCUAGGGCUAACA-----
----- 5 0,-3

-----UGCGGGGCUAGGGCUAACAAa-----
----- 4 0,-3

-----UGCGGGGCUAGGGCUAACAG-----
----- 70 0,-2

-----UGCGGGGCUAGGGCUAACAGa-----
----- 28 0,-2

-----UGCGGGGCUAGGGCUAACAGaa-----
----- 10 0,-2

-----UGCGGGGCUAGGGCUAACAGu-----
----- 9 0,-2

-----UGCGGGGCUAGGGCUAACAGC-----
----- 229 0,-1

-----UGCGGGGCUAGGGCUAACAGCu-----
----- 7 0,-1

-----UGCGGGGCUAGGGCUAACAGCA-----
----- 372 0,0

-----UGCGGGGCUAGGGCUAACAGCAa-----
----- 103 0,0

-----UGCGGGGCUAGGGCUAACAGCAaa-----
----- 3 0,0

-----UGCGGGGCUAGGGCUAACAGCAau-----
----- 7 0,0

-----UGCGGGGCUAGGGCUAACAGCAu-----

$$\begin{aligned} & .(((((((\dots(((((((((\dots(((((((((((((((((((((\dots)))))))))\dots))))))))) \\ & \dots)))\dots)))\dots))\dots))\dots)))\dots))))). \end{aligned}$$

AAGGUGA----- 2 -2,-2

AAGGUGAU----- 3 -2,-1

AAGGUGAUG----- 2 -1,0

AAGGUGAUG----- 2 0,0

gcauccucaggaccuggggcuugggugguaggaggaauuggugcugggucuucuuuuggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaauugucauaggagc

[illegible]

----- 4

----- 6

----- 22

----- 9

----- 5

----- 19

----- 2

gccuuggugcugauuccugggcucugaccUGAGACCUCUGGGUUCUGAGCUgugauguugcucucgagCUGGGAUCUCCG
GGGUCUUGGUUCagggccggggccucuggguuccaagc

-----UGAGACCUCUGGGUUCUGAG-----

```

----- 32 0,-2
-----UGAGACCUCUGGGUUCUGAGa-----
----- 3 0,-2
-----UGAGACCUCUGGGUUCUGAGC-----
----- 29 0,-1
-----UGAGACCUCUGGGUUCUGAGCa-----
----- 3 0,-1
-----UGAGACCUCUGGGUUCUGAGCaa-----
----- 5 0,-1
-----UGAGACCUCUGGGUUCUGAGCU-----
----- 29 0,0
-----UGAGACCUCUGGGUUCUGAGCUa-----
----- 3 0,0
-----UGAGACCUCUGGGUUCUGAGCUau-----
----- 4 0,0
-----UGAGACCUCUGGGUUCUGAGCUu-----
----- 12 0,0
-----CUGGGAUCUCCG
GGGUCUUGGU----- 2 0,-1
-----UGGGAUCUCCG
GGGUCUUGGU----- 2 1,0

```

>hsa-mir-873 5p:11-31 SRX018960

```

gugugcauuuGCAGGAACUUGUGAGUCUCCUauugaaaaaugaacaggagacugaugaguucccggaacacccacaa
(((.(.(((.(.((((((.(.(((((((.(.((.....)).)))))))).).)))))).).))..
-----GCAGGAACUUGUGAGUCUC-----
5 0,-2

```

>hsa-mir-874 3p:47-68 SRX018960

```

uuagcccugcggccccacgcaccaggguaagagagacucucgcuucCUGCCCUGGCCCAGGGACCGAcuggcugggc
((((((...(((.(.(((.(.(((((((.(.(((.....)).)))))))).).)))))).).))..
-----GCGGCCCCACGCACCAGGGUAA-----
3
-----CGGCCCCACGCACCAGGGUAA-----
3
-----CGGCCCCACGCACCAGGGUAAGA-----
3
-----CUGCCCUGGCCCAGGGACCGA-----

```



```

3    0,0
-----CUGCCCUGGCCCAGGGACCGAa-----
2    0,0
-----CUGCCCUGGCCCAGGGACCGAC-----
5    0,1

>hsa-mir-876    5p:11-32;3p:50-71    SRX018960
ugaagugcugUGGAUUUCUUUGUGAAUCACCAuaucaagcuaauguggUGGUGGUUUACAAAGUAAUUCaagugcuuc
a
.(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.
-----UGGAUUUCUUUGUGAAUCA-----
- 2    0,-3

>hsa-mir-877    MA:1-20;mi:66-86    SRX018960
GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggaccucagacgugugUCCUCUUCUCCCUCC
UCCCAG
...(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))....
GUAGAGGAGAUGGCGCAGGGGAu-----
----- 2    0,2
GUAGAGGAGAUGGCGCAGGGGACu-----
----- 3    0,3
GUAGAGGAGAUGGCGCAGGGGACA-----
----- 11    0,4
GUAGAGGAGAUGGCGCAGGGGACAa-----
----- 3    0,4
-UAGAGGAGAUGGCGCAGGGGAC-----
----- 4    1,3
-UAGAGGAGAUGGCGCAGGGGACu-----
----- 2    1,3
-UAGAGGAGAUGGCGCAGGGGACAa-----
----- 2    1,4

>hsa-mir-885    5p:11-32;3p:43-64    SRX018960
ccgcacucucUCCAUAACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu
(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UCCAUAACACUACCCUGCCU-----

```

0, -2	UCCAUUACACUACCCUGCCUC	5
0, -1	UCCAUUACACUACCCUGCCUCU	12
0, 0	AGGCAGCGGGGUGUAGUGG	28
0, -3	AGGCAGCGGGGUGUAGUGGuu	2
0, -3	AGGCAGCGGGGUGUAGUGGA	54
0, -2	AGGCAGCGGGGUGUAGUGGAa	14
0, -2	AGGCAGCGGGGUGUAGUGGAaa	15
0, -2	AGGCAGCGGGGUGUAGUGGAU	35
0, -1	AGGCAGCGGGGUGUAGUGGAUu	17
0, -1	AGGCAGCGGGGUGUAGUGGAUA	55
0, 0	AGGCAGCGGGGUGUAGUGGAUAa	25
0, 0	AGGCAGCGGGGUGUAGUGGAUAaa	7
0, 0	AGGCAGCGGGGUGUAGUGGAUAu	16
0, 0	AGGCAGCGGGGUGUAGUGGAUAuu	2
0, 0	GGCAGCGGGGUGUAGUGGAU	3
1, -1		


```

----- 4 2,0
-----UAAAGCUAGAUAAACCGAAAGUAA--
----- 2 1,2

```

>hsa-mir-9-2 MA:16-38;mi:53-74 SRX018960

```

ggaagcgaguuguuaUCUUUGGUUAUCUAGCUGUAUGAguguauuggucuucAUAAGCUAGAUAAACCGAAAGUaaaaac
uccuuca

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))).

```

```

-----UCUUUGGUUAUCUAGCUG-----

```

```

----- 2 0,-5
-----UCUUUGGUUAUCUAGCUG-----

```

```

----- 5 0,-4
-----UCUUUGGUUAUCUAGCUGA-----

```

```

----- 2 0,-3
-----UCUUUGGUUAUCUAGCUGAU-----

```

```

----- 2 0,-2
-----UCUUUGGUUAUCUAGCUGAUG-----

```

```

----- 5 0,-1
-----UCUUUGGUUAUCUAGCUGAUGu-----

```

```

----- 3 0,-1
-----UCUUUGGUUAUCUAGCUGAUGA-----

```

```

----- 53 0,0
-----UCUUUGGUUAUCUAGCUGAUGAa-----

```

```

----- 3 0,0
-----UUUGGUUAUCUAGCUGAUGA-----

```

```

----- 4 2,0
-----UAAAGCUAGAUAAACCGAAAGUAA----

```

```

----- 2 1,2

```

>hsa-mir-9-3 MA:16-38;mi:55-76 SRX018960

```

ggaggcccguuucucUCUUUGGUUAUCUAGCUGUAUGAgugccacagagccgucAUAAGCUAGAUAAACCGAAAGUagaa
augauucuca

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))).

```

```

-----UCUUUGGUUAUCUAGCUG-----

```

```

----- 2 0,-5
-----UCUUUGGUUAUCUAGCUG-----

```


345	0, -1	-----UAUUGCACUUGUCCCCGGCCUGa-----
13	0, -1	-----UAUUGCACUUGUCCCCGGCCUGaa-----
7	0, -1	-----UAUUGCACUUGUCCCCGGCCUGau-----
2	0, -1	-----UAUUGCACUUGUCCCCGGCCUGU-----
448	0, 0	-----UAUUGCACUUGUCCCCGGCCUGUa-----
113	0, 0	-----UAUUGCACUUGUCCCCGGCCUGUaa-----
83	0, 0	-----UAUUGCACUUGUCCCCGGCCUGUau-----
58	0, 0	-----UAUUGCACUUGUCCCCGGCCUGUU-----
44	0, 1	-----UAUUGCACUUGUCCCCGGCCUGUUa-----
3	0, 1	-----UAUUGCACUUGUCCCCGGCCUGUUu-----
16	0, 1	-----UAUUGCACUUGUCCCCGGCCUGUUG-----
2	0, 2	-----AUUGCACUUGUCCCCGGCC-----
3	1, -3	-----AUUGCACUUGUCCCCGGCCU-----
61	1, -2	-----AUUGCACUUGUCCCCGGCCUG-----
11	1, -1	-----AUUGCACUUGUCCCCGGCCUGU-----
12	1, 0	-----AUUGCACUUGUCCCCGGCCUGUa-----
11	1, 0	-----AUUGCACUUGUCCCCGGCCUGUaa-----
5	1, 0	

>hsa-mir-92a-2 mi:9-30;MA:48-69 SRX018960

ucaucccuGGGUGGGGAUUUGUUGCAUUAACuuguguucuauauaaagUAUUGCACUUGUCCCCGGCCUGUggaaga


```

1,0
-----AUUGCACUUGUCCCGGCCUGUa----- 11
1,0
-----AUUGCACUUGUCCCGGCCUGUaa----- 5
1,0

>hsa-mir-92b      mi:20-41;MA:61-82      SRX018960
cgggccccgggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuucccccgccaaUAUUGCACUCGUCCCGGCCU
CCggccccccccggccc
.((((((.(((.((((((.((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)).)))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))
-----AGGGACGGGACGCGGUGCA-----
-----2    0,-3
-----AGGGACGGGACGCGGUGCAGUa-----
-----2    0,-1
-----AGGGACGGGACGCGGUGCAGUGU-----
-----16   0,1
-----AGGGACGGGACGCGGUGCAGUGUU-----
-----6    0,2
-----UAUUGCACUCGUCCCGGCC-----
-----10   0,-3
-----UAUUGCACUCGUCCCGGCCU
-----26   0,-2
-----UAUUGCACUCGUCCCGGCCU
aa-----7    0,-2
-----UAUUGCACUCGUCCCGGCCU
au-----5    0,-2
-----UAUUGCACUCGUCCCGGCCU
u-----2    0,-2
-----UAUUGCACUCGUCCCGGCCU
C-----22   0,-1
-----UAUUGCACUCGUCCCGGCCU
Caa-----11   0,-1
-----UAUUGCACUCGUCCCGGCCU
CC-----24   0,0
-----UAUUGCACUCGUCCCGGCCU
CCa-----7    0,0
-----UAUUGCACUCGUCCCGGCCU

```


CCaa-----	8	0,0	-----UAUUGCACUCGUCCCGGCCU
CCau-----	13	0,0	-----UAUUGCACUCGUCCCGGCCU
CCu-----	12	0,0	-----AUUGCACUCGUCCCGGCCU
CCu-----	2	1,0	

>hsa-mi r-93 MA:11-33;mi:50-71 SRX018960

cuggggggcucCAAAGUGCUGUUCGUGCAGGUAGGugugauuacccaaccuACUGCUGAGCUAGCACUCCCCGagcccccg
(((((((((((...(((((((((((((((((...(((...((...))...)))))))))))))))).))))))...)))))))))
-----CAAAGUGCUGUUCGUGCA-----
20 0, -5
-----CAAAGUGCUGUUCGUGCAG-----
6 0, -4
-----CAAAGUGCUGUUCGUGCAGG-----
21 0, -3
-----CAAAGUGCUGUUCGUGCAGGU-----
46 0, -2
-----CAAAGUGCUGUUCGUGCAGGUA-----
95 0, -1
-----CAAAGUGCUGUUCGUGCAGGUaa-----
7 0, -1
-----CAAAGUGCUGUUCGUGCAGGUau-----
2 0, -1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
64 0, 0
-----CAAAGUGCUGUUCGUGCAGGUAGa-----
3 0, 0
-----AAAGUGCUGUUCGUGCAGGU-----
3 1, -2
-----AAAGUGCUGUUCGUGCAGGUAGa-----
3 1, 0

```
>hsa-mir-934      5p:15-36      SRX018960
```

agaaauaaggcuucUGUCUACUACUGGAGACACUGGuaguauaaaaacccagagucuccaguaauggacgggagccuuauu
ucu

(((((((((((((((((((((((((.()))))))).(((((.....)))..))))))))).))))))))))))))))))

```

)))
-----UGUCUACUACUGGAGACACUG-----
--- 2 0,-1

```

```

>hsa-mir-940 3p:60-80 SRX018960
gugaggugugggcccgcccgaggagcggggcccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugacccac
(((.(((.(((((((.....(((((((((((..((..(((.....))..))...)).)))..))))))))))
))))))))))..)))
-----AAGGCAGGGCCCCCGCUCCCC
----- 6 0,0

```

```

>hsa-mir-941-1 3p:71-93 SRX018960
cacggaagaggacacacccggcuguguggacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg
.....(((((((.(((.(((((((((((.(((.(((.(((...(((((.(...).)).)))..)))))).
)).))))))))).))))).)))).)))).))....
-----CACCCGGCUG
UGUGCACAUGUG----- 2 0,-1
-----CACCCGGCUG
UGUGCACAUGUGa----- 7 0,-1
-----CACCCGGCUG
UGUGCACAUGUGaa----- 2 0,-1
-----CACCCGGCUG
UGUGCACAUGUGu----- 3 0,-1
-----CACCCGGCUG
UGUGCACAUGUGC----- 59 0,0
-----CACCCGGCUG
UGUGCACAUGUGCa----- 3 0,0

```

```

>hsa-mir-941-2 3p:71-93 SRX018960
cacggaagaggacgcacccggcugugugcacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg
.....(((.(((.(((((((.(((.(((((((((((.(((.(((.(((...(((((.(...).)).)))..)))))).
)).))))))))).))))).)))).)))).))....
-----CACCCGGCUGUGUGCACAUGUG-----
----- 2
-----CACCCGGCUGUGUGCACAUGUGa-----

```

```

----- 7
-----CACCCGGCUGUGUGCACAUGUGaa-----
----- 2
-----CACCCGGCUGUGUGCACAUGUGu-----
----- 3
-----CACCCGGCUGUGUGCACAUGUGC-----
----- 59
-----CACCCGGCUGUGUGCACAUGUGCa-----
----- 3
-----CACCCGGCUG
UGUGCACAUGUG----- 2 0,-1
-----CACCCGGCUG
UGUGCACAUGUGa----- 7 0,-1
-----CACCCGGCUG
UGUGCACAUGUGaa----- 2 0,-1
-----CACCCGGCUG
UGUGCACAUGUGu----- 3 0,-1
-----CACCCGGCUG
UGUGCACAUGUGC----- 59 0,0
-----CACCCGGCUG
UGUGCACAUGUGCa----- 3 0,0

```

>hsa-mir-941-3 3p:71-93 SRX018960

```

cacggaagaggacgcacccggcugugugcacaugugcccagggcccgaggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCcagggcccgaggacagcgccaugg
.....(((.(((.(((((.((.(((((((((.((.(((((.(((...(((((.(((.(((.)))...)))...
)).)))))))))).)).)).))))).)))...
-----CACCCGGCUGUGUGCACAUGUG-----
----- 2
-----CACCCGGCUGUGUGCACAUGUGa-----
----- 7
-----CACCCGGCUGUGUGCACAUGUGaa-----
----- 2
-----CACCCGGCUGUGUGCACAUGUGu-----
----- 3
-----CACCCGGCUGUGUGCACAUGUGC-----
----- 59
-----CACCCGGCUGUGUGCACAUGUGCa-----

```



```

UGUGCACAUGUGu----- 3 0,-1
-----CACCCGGCUG
UGUGCACAUGUGC----- 59 0,0
-----CACCCGGCUG
UGUGCACAUGUGCa----- 3 0,0

```

>hsa-mir-944 3p:54-75 SRX018960

```

guuccagacacaucucaucugauauacaauuuuucuuaauuguauaaagagAAAUUAUUGUACAUCGGAUGAGcugug
ucugggau

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AAAUUAUUGUACAUCGGAUGAG-----
----- 6 0,0
-----AAAUUAUUGUACAUCGGAUGAG-----
----- 4 1,0

```

>hsa-mir-95 3p:49-70 SRX018960

```

aacacagugggcacucaauaaaugucuguugaauugaaaugcguuacaUUCAACGGGUUUUAUUGAGCAcccacucugu
g

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.

```

```

-----UUCAACGGGUUUUAUUG-----
- 11 0,-4
-----UUCAACGGGUUUUAUUGA-----
- 10 0,-3
-----UUCAACGGGUUUUAUUGAG-----
- 93 0,-2
-----UUCAACGGGUUUUAUUGAGC-----
- 6 0,-1
-----UUCAACGGGUUUUAUUGAGCA-----
- 12 0,0
-----UUCAACGGGUUUUAUUGAGCAa-----
- 8 0,0
-----UCAACGGGUUUUAUUGAG-----
- 3 1,-2
-----UCAACGGGUUUUAUUGAGCAa-----
- 3 1,0
-----CAACGGGUUUUAUUGAGCAa-----

```

```

- 2 2,0
-----CAACGGGUAUUUAUUGAGCAuu-----
- 2 2,0

```

>hsa-mir-98 5p:22-43 SRX018960

```

aggauucugcucaugccagggUGAGGUAGUAAGUUGUAUUGUUGuggggguagggauauuaggccccaauuagaagauaac
uauacaacuacuacuuccugguguguggcauauuca
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
-----UGAGGUAGUAAGUUGUAU-----
-----30 0,-4
-----UGAGGUAGUAAGUUGUAUUG-----
-----3 0,-2
-----UGAGGUAGUAAGUUGUAUUGU-----
-----6 0,-1
-----UGAGGUAGUAAGUUGUAUUGUa-----
-----4 0,-1
-----UGAGGUAGUAAGUUGUAUUGUU-----
-----10 0,0
-----UGAGGUAGUAAGUUGUAUUGUUa-----
-----3 0,0
-----UGAGGUAGUAAGUUGUAUUGUUG-----
-----2 0,1

```

>hsa-mir-99a MA:13-34;mi:50-71 SRX018960

```

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
.
-----AAACCCGUAGAUCCGAUC-----
- 5 -1,-5
-----AAACCCGUAGAUCCGAUCU-----
- 2 -1,-4
-----AAACCCGUAGAUCCGAUCUU-----
- 6 -1,-3
-----AAACCCGUAGAUCCGAUCUUG-----
- 28 -1,-2
-----AAACCCGUAGAUCCGAUCUUGU-----

```

- 168 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUG-----
- 23 -1,0
-----AAACCCGUAGAUCCGAUCUUGUGa-----
- 19 -1,0
-----AAACCCGUAGAUCCGAUCUUGUGu-----
- 7 -1,0
-----AACCCGUAGAUCCGAUCU-----
- 426 0,-4
-----AACCCGUAGAUCCGAUCUa-----
- 6 0,-4
-----AACCCGUAGAUCCGAUCUU-----
- 1982 0,-3
-----AACCCGUAGAUCCGAUCUa-----
- 42 0,-3
-----AACCCGUAGAUCCGAUCUau-----
- 6 0,-3
-----AACCCGUAGAUCCGAUCUu-----
- 17 0,-3
-----AACCCGUAGAUCCGAUCUuu-----
- 15 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 7435 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
- 133 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
- 3 0,-2
-----AACCCGUAGAUCCGAUCUUGau-----
- 3 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 44603 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
- 487 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 83 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
- 17 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----

- 113 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----

- 16 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----

- 77989 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----

- 20100 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----

- 365 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----

- 52 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----

- 17316 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----

- 38 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----

- 31 0,1
-----ACCCGUAGAUCCGAUCUUG-----

- 10 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----

- 47 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----

- 59 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----

- 18 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----

- 39 1,0
-----CAAGCUCGCUUCUAUGGG-----

- 4 0,-4
-----CAAGCUCGCUUCUAUGGGUC-----

- 3 0,-2
-----CAAGCUCGCUUCUAUGGGUCUG-----

- 8 0,0
-----CAAGCUCGCUUCUAUGGGUCUGa-----

- 12 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----

- 7 0,1
-----AAGCUCGCUUCUAUGGGUC-----


```

- 4 1,-2
-----AAGCUCGCUUCUAUGGGUCU-----
- 5 1,-1

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018960

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCUU----- 11 0,-3
-----CACCCGUAGAACCGACCUUG----- 27 0,-2
-----CACCCGUAGAACCGACCUUGa----- 3 0,-2
-----CACCCGUAGAACCGACCUUGaa----- 4 0,-2
-----CACCCGUAGAACCGACCUUGC----- 300 0,-1
-----CACCCGUAGAACCGACCUUGCa----- 27 0,-1
-----CACCCGUAGAACCGACCUUGCaa----- 2 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 533 0,0
-----CACCCGUAGAACCGACCUUGCGa----- 325 0,0
-----CACCCGUAGAACCGACCUUGCGaa----- 7 0,0
-----CACCCGUAGAACCGACCUUGCGu----- 220 0,0
-----CACCCGUAGAACCGACCUUGCGG----- 85 0,1
-----ACCCGUAGAACCGACCUUGC----- 5 1,-1
-----ACCCGUAGAACCGACCUUGCG----- 12 1,0
-----ACCCGUAGAACCGACCUUGCGa----- 3 1,0
-----ACCCGUAGAACCGACCUUGCGaa----- 2 1,0
-----ACCCGUAGAACCGACCUUGCGu----- 12 1,0
-----ACCCGUAGAACCGACCUUGCGG----- 2 1,1
-----ACCCGUAGAACCGACCUUGCGGa----- 2 1,1
-----ACCCGUAGAACCGACCUUGCGGu----- 2 1,1
-----CAAGCUCGUGUCUGUGGGUC----- 18 0,-2
-----CAAGCUCGUGUCUGUGGGUCC----- 2 0,-1
-----CAAGCUCGUGUCUGUGGGUCCGa----- 24 0,0
-----CAAGCUCGUGUCUGUGGGUCCGU----- 8 0,1

```

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018961

```

ugggaUGAGGUAGUAGGUUGUAUAGUUnuaggguacacccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
(((((((((.....)))))))))))))
----AUGAGGUAGUAGGUUGUAU-----
3 -1,-4
----AUGAGGUAGUAGGUUGUAUAG-----

```

4 -1, -2
 ----AUGAGGUAGUAGGUUGUAUAGU-----
 6 -1, -1
 ----AUGAGGUAGUAGGUUGUAUAGUU-----
 3 -1, 0
 ----UGAGGUAGUAGGUUGUAU-----
 1300 0, -4
 ----UGAGGUAGUAGGUUGUAUu-----
 29 0, -4
 ----UGAGGUAGUAGGUUGUAUuu-----
 7 0, -4
 ----UGAGGUAGUAGGUUGUAUA-----
 1419 0, -3
 ----UGAGGUAGUAGGUUGUAUAa-----
 190 0, -3
 ----UGAGGUAGUAGGUUGUAUAaa-----
 40 0, -3
 ----UGAGGUAGUAGGUUGUAUAau-----
 11 0, -3
 ----UGAGGUAGUAGGUUGUAUAu-----
 48 0, -3
 ----UGAGGUAGUAGGUUGUAUAuu-----
 9 0, -3
 ----UGAGGUAGUAGGUUGUAUAG-----
 9476 0, -2
 ----UGAGGUAGUAGGUUGUAUAGa-----
 507 0, -2
 ----UGAGGUAGUAGGUUGUAUAGaa-----
 137 0, -2
 ----UGAGGUAGUAGGUUGUAUAGau-----
 14 0, -2
 ----UGAGGUAGUAGGUUGUAUAGU-----
 36657 0, -1
 ----UGAGGUAGUAGGUUGUAUAGUa-----
 719 0, -1
 ----UGAGGUAGUAGGUUGUAUAGUaa-----
 448 0, -1
 ----UGAGGUAGUAGGUUGUAUAGUau-----

```

69  0,-1
-----UGAGGUAGUAGGUUGUAUAGUU-----
48149  0,0
-----UGAGGUAGUAGGUUGUAUAGUUa-----
5123  0,0
-----UGAGGUAGUAGGUUGUAUAGUUaa-----
436  0,0
-----UGAGGUAGUAGGUUGUAUAGUUau-----
70  0,0
-----UGAGGUAGUAGGUUGUAUAGUUU-----
1670  0,1
-----UGAGGUAGUAGGUUGUAUAGUUUU-----
16  0,2
-----GAGGUAGUAGGUUGUAUAG-----
16  1,-2
-----GAGGUAGUAGGUUGUAUAGU-----
33  1,-1
-----GAGGUAGUAGGUUGUAUAGUU-----
29  1,0
-----GAGGUAGUAGGUUGUAUAGUUa-----
4  1,0
-----GAGGUAGUAGGUUGUAUAGUUU-----
2  1,1
-----AGGUAGUAGGUUGUAUAG-----
2  2,-2
-----AGGUAGUAGGUUGUAUAGU-----
3  2,-1
-----AGGUAGUAGGUUGUAUAGUU-----
10  2,0
-----UUAUACAAUCUACUGUCUUUCCU-----
3  1,2

```

>hsa-let-7a-2 MA:5-26;mi:50-71 SRX018961

```

agguUGAGGUAGUAGGUUGUAUAGUUuagaauuacaucaaggagauaaCUGUACAGCCUCCUAGCUUUCcu
(((...(((.((((.((((((((((((.....(..(.....)..).....))))))))))))).)))..)))
---UUGAGGUAGUAGGUUGUA-----
-1,-5
---UUGAGGUAGUAGGUUGUAUAGU-----

```

2

6

-1, -1	
---UGAGGUAGUAGGUUGUAU-----	1300
0, -4	
---UGAGGUAGUAGGUUGUAUu-----	29
0, -4	
---UGAGGUAGUAGGUUGUAUuu-----	7
0, -4	
---UGAGGUAGUAGGUUGUAUA-----	1419
0, -3	
---UGAGGUAGUAGGUUGUAUAa-----	190
0, -3	
---UGAGGUAGUAGGUUGUAUAaa-----	40
0, -3	
---UGAGGUAGUAGGUUGUAUAau-----	11
0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	48
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	9
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	9476
0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	507
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	137
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	14
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
36657 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	719
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	448
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	69
0, -1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
48149 0, 0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	5123

0,0	UGAGGUAGUAGGUUGUAUAGUUaa	436
0,0	UGAGGUAGUAGGUUGUAUAGUUau	70
0,0	UGAGGUAGUAGGUUGUAUAGUUU	1670
0,1	UGAGGUAGUAGGUUGUAUAGUUUA	34
0,2	UGAGGUAGUAGGUUGUAUAGUUUAa	2
0,2	UGAGGUAGUAGGUUGUAUAGUUUAu	4
0,2	GAGGUAGUAGGUUGUAUAG	16
1,-2	GAGGUAGUAGGUUGUAUAGU	33
1,-1	GAGGUAGUAGGUUGUAUAGUU	29
1,0	GAGGUAGUAGGUUGUAUAGUUa	4
1,0	GAGGUAGUAGGUUGUAUAGUUU	2
1,1	AGGUAGUAGGUUGUAUAG	2
2,-2	AGGUAGUAGGUUGUAUAGU	3
2,-1	AGGUAGUAGGUUGUAUAGUU	10
2,0		

-1, -1	
--GUGAGGUAGUAGGUUGUAUAGUU-----	10
-1, 0	
---UGAGGUAGUAGGUUGUAU-----	1300
0, -4	
---UGAGGUAGUAGGUUGUAUu-----	29
0, -4	
---UGAGGUAGUAGGUUGUAUuu-----	7
0, -4	
---UGAGGUAGUAGGUUGUAUA-----	1419
0, -3	
---UGAGGUAGUAGGUUGUAUAa-----	190
0, -3	
---UGAGGUAGUAGGUUGUAUAaa-----	40
0, -3	
---UGAGGUAGUAGGUUGUAUAau-----	11
0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	48
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	9
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	9476
0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	507
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	137
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	14
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
36657 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	719
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	448
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	69
0, -1	
---UGAGGUAGUAGGUUGUAUAGUU-----	

--- 5 -1,-4
-----UGAGGUAGUAGGUUGUGU-----
--- 16445 0,-4
-----UGAGGUAGUAGGUUGUGUa-----
--- 115 0,-4
-----UGAGGUAGUAGGUUGUGUaa-----
--- 275 0,-4
-----UGAGGUAGUAGGUUGUGUau-----
--- 25 0,-4
-----UGAGGUAGUAGGUUGUGUu-----
--- 32 0,-4
-----UGAGGUAGUAGGUUGUGUuu-----
--- 3 0,-4
-----UGAGGUAGUAGGUUGUGUG-----
--- 34077 0,-3
-----UGAGGUAGUAGGUUGUGUGa-----
--- 843 0,-3
-----UGAGGUAGUAGGUUGUGUGaa-----
--- 178 0,-3
-----UGAGGUAGUAGGUUGUGUGau-----
--- 20 0,-3
-----UGAGGUAGUAGGUUGUGUGu-----
--- 483 0,-3
-----UGAGGUAGUAGGUUGUGUGuu-----
--- 63 0,-3
-----UGAGGUAGUAGGUUGUGUGG-----
--- 15584 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 555 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 224 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 85 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 25709 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 2524 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----

--- 4272 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 4603 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 46308 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 13858 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 2331 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 1906 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 7969 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 475 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 107 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 5 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 203 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 3 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 43 0,2
-----GAGGUAGUAGGUUGUGUG-----
--- 109 1,-3
-----GAGGUAGUAGGUUGUGUGu-----
--- 2 1,-3
-----GAGGUAGUAGGUUGUGUGG-----
--- 58 1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 119 1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 20 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 20 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----

```

--- 16 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 290 1,0
-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 161 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 19 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 26 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 74 1,1
-----GAGGUAGUAGGUUGUGUGGUUUa-----
--- 3 1,1
-----GAGGUAGUAGGUUGUGUGGUUUaa-----
--- 3 1,1
-----AGGUAGUAGGUUGUGUGG-----
--- 10 2,-2
-----AGGUAGUAGGUUGUGUGGU-----
--- 6 2,-1
-----AGGUAGUAGGUUGUGUGGUau-----
--- 2 2,-1
-----AGGUAGUAGGUUGUGUGGU-----
--- 28 2,0
-----AGGUAGUAGGUUGUGUGGUUa-----
--- 12 2,0
-----AGGUAGUAGGUUGUGUGGUUaa-----
--- 3 2,0
-----AGGUAGUAGGUUGUGUGGUUau-----
--- 2 2,0
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 29 2,1
-----CUAUACAACCUACUGCCU-----
--- 3 0,-4
-----CUAUACAACCUACUGCCUU-----
--- 2 0,-3
-----CUAUACAACCUACUGCCUUC-----
--- 6 0,-2
-----CUAUACAACCUACUGCCUUCC-----

```

```

--- 2    0,-1
-----CUAUACAACCUACUGCCUUC
a-- 8    0,-1
-----CUAUACAACCUACUGCCUUC
u-- 2    0,-1

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018961

```

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc

```

```

(((.(((((.(((.(((.(((((((((((((.((.(.((....).).)))))))))))))).)).)).))
)))

```

```

-----GUUGAGGUAGUAGGUUGUAUGG-----
---- 2    -2,-2
-----GUUGAGGUAGUAGGUUGUAUGGU-----
---- 2    -2,-1
-----GUUGAGGUAGUAGGUUGUAUGGU-----
---- 6    -2,0
-----UUGAGGUAGUAGGUUGUA-----
---- 2    -1,-5
-----UUGAGGUAGUAGGUUGUAUGG-----
---- 44   -1,-2
-----UUGAGGUAGUAGGUUGUAUGGaa-----
---- 3    -1,-2
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 190  -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUa-----
---- 27   -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUaa-----
---- 2    -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUau-----
---- 5    -1,-1
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 211  -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUa-----
---- 12   -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUU-----
---- 8    -1,1
-----UUGAGGUAGUAGGUUGUAUGGUUUA-----

```

```

----      2   -1,2
-----UGAGGUAGUAGGUUGUAU-----
----    1300    0,-4
-----UGAGGUAGUAGGUUGUAUu-----
----      29    0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
----       7    0,-4
-----UGAGGUAGUAGGUUGUAUG-----
----    1788    0,-3
-----UGAGGUAGUAGGUUGUAUGa-----
----      29    0,-3
-----UGAGGUAGUAGGUUGUAUGaa-----
----     19    0,-3
-----UGAGGUAGUAGGUUGUAUGau-----
----       3    0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
----     36    0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
----     18    0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
----    4818    0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
----     244    0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
----     187    0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
----     32    0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
----    20277    0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----
----     3110    0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
----     1339    0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
----     536    0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
----    62032    0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----

```

```

---- 4718 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 363 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 150 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 1818 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 10 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 39 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUAA-----
---- 4 0,2
-----GAGGUAGUAGGUUGUAUG-----
---- 11 1,-3
-----GAGGUAGUAGGUUGUAUGu-----
---- 2 1,-3
-----GAGGUAGUAGGUUGUAUGGU-----
---- 87 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 14 1,-1
-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 11 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 3 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----
---- 331 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 38 1,0
-----GAGGUAGUAGGUUGUAUGGUUau-----
---- 3 1,0
-----GAGGUAGUAGGUUGUAUGGUUU-----
---- 17 1,1
-----AGGUAGUAGGUUGUAUGGU-----
---- 4 2,-1
-----AGGUAGUAGGUUGUAUGGUa-----
---- 3 2,-1
-----AGGUAGUAGGUUGUAUGGUU-----

```


----- 6 0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 1843 0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 171 0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 25 0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 8 0,-1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 13491 0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 1160 0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 41 0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 19 0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 935 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 13 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 15 0,2
-----GAGGUAGUAGGUUGCAUA-----
----- 7 1,-3
-----GAGGUAGUAGGUUGCAUAG-----
----- 6 1,-2
-----GAGGUAGUAGGUUGCAUAGU-----
----- 8 1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 26 1,0
-----GAGGUAGUAGGUUGCAUAGUUa-----
----- 2 1,0
-----GAGGUAGUAGGUUGCAUAGUUU-----
----- 7 1,1
-----AGGUAGUAGGUUGCAUAGUU-----
----- 8 2,0
-----CUAUACGACCUGCUGCCUU

2306 0, -2
 -----UGAGGUAGGAGGUUGUAUAGa-----
 210 0, -2
 -----UGAGGUAGGAGGUUGUAUAGaa-----
 116 0, -2
 -----UGAGGUAGGAGGUUGUAUAGau-----
 5 0, -2
 -----UGAGGUAGGAGGUUGUAUAGU-----
 5742 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUa-----
 233 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUaa-----
 393 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUau-----
 67 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUU-----
 6997 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUa-----
 2626 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUaa-----
 288 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUau-----
 72 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUu-----
 994 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUuu-----
 22 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUG-----
 1112 0,1
 -----UGAGGUAGGAGGUUGUAUAGUUGu-----
 122 0,1
 -----UGAGGUAGGAGGUUGUAUAGUUGA-----
 86 0,2
 -----GAGGUAGGAGGUUGUAUAGU-----
 2 1, -1
 -----GAGGUAGGAGGUUGUAUAGUUa-----
 2 1,0
 -----AGGUAGGAGGUUGUAUAGU-----

-----CUAUACGGCCUCCUAGCUUUCC-----

-----UAUACGGCCUCCUAGCUUUCCa-----

ucagagUGAGGUAGUAGAUUGUAUAGUUgugggguagugauuuuaccuguucaggagauaaCUAUACAAUCUAUUGCCU
UCCCUga

-----UGAGGUAGUAGAUUGUAU-----

-----UGAGGUAGUAGAUUGUAUu-----

-----UGAGGUAGUAGAUUGUAUuu-----

-----UGAGGUAGUAGAUUGUAUA-----

-----UGAGGUAGUAGAUUGUAUAa-----

-----UGAGGUAGUAGAUUGUAUAaa-----

-----UGAGGUAGUAGAUUGUAUA_{au}-----

-----UGAGGUAGUAGAUUGUAUAG-----

-----UGAGGUAGUAGAUUGUAUAGa-----

-----UGAGGUAGUAGAUUGUAUAGaa-----

-----UGAGGUAGUAGAUUGUAUAGau-----

-----UGAGGUAGUAGAUUGUAUAGU-----

-----UGAGGUAGUAGAUUGUAUAGUa-----

-----UGAGGUAGUAGAUUGUAUAGUaa-----

)).

```
-----AUGAGGUAGUAGAUUGUAUAG-----
--- 5    -1,-2
-----AUGAGGUAGUAGAUUGUAUAGU-----
--- 2    -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUU-----
--- 2    -1,0
-----UGAGGUAGUAGAUUGUAU-----
--- 361  0,-4
-----UGAGGUAGUAGAUUGUAUu-----
--- 2    0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
--- 5    0,-4
-----UGAGGUAGUAGAUUGUAUA-----
--- 1240  0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
--- 36   0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
--- 8    0,-3
-----UGAGGUAGUAGAUUGUAUAau-----
--- 2    0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 2138  0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 124  0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 23   0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
--- 4    0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 8221  0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 185  0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 230  0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 10   0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
```

```

--- 8787    0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 3651    0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 176 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 14  0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 483 0,1
-----GAGGUAGUAGAUUGUAUA-----
--- 2   1,-3
-----GAGGUAGUAGAUUGUAUAG-----
--- 5   1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 18  1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 13  1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
--- 8   1,0
-----GAGGUAGUAGAUUGUAUAGUUU-----
--- 2   1,1

```

>hsa-let-7g MA:5-26;mi:62-82 SRX018961

aggcUGAGGUAGUAGUUUGUACAGUUugagggucuaugauaccacccgguacaggagauaaCUGUACAGGCCACUGCCUU
GCca

.(((.(((((((.(((((((((((.....(((((.(((.....)))))).))))))))))))).))))))

```

---CUGAGGUAGUAGUUUGUACAG-----
---- 10  -1,-2
---CUGAGGUAGUAGUUUGUACAGU-----
---- 40  -1,-1
---CUGAGGUAGUAGUUUGUACAGUa-----
---- 2   -1,-1
---CUGAGGUAGUAGUUUGUACAGUU-----
---- 58  -1,0
---CUGAGGUAGUAGUUUGUACAGUUa-----
---- 3   -1,0
---UGAGGUAGUAGUUUGUAC-----

```

```

----    60    0,-4
----UGAGGUAGUAGUUUGUACA-----
----   144    0,-3
----UGAGGUAGUAGUUUGUACAa-----
----    93    0,-3
----UGAGGUAGUAGUUUGUACAaa-----
----     8    0,-3
----UGAGGUAGUAGUUUGUACAau-----
----     6    0,-3
----UGAGGUAGUAGUUUGUACAG-----
----   1613    0,-2
----UGAGGUAGUAGUUUGUACAGa-----
----   129    0,-2
----UGAGGUAGUAGUUUGUACAGaa-----
----    13    0,-2
----UGAGGUAGUAGUUUGUACAGau-----
----     2    0,-2
----UGAGGUAGUAGUUUGUACAGU-----
----   7768    0,-1
----UGAGGUAGUAGUUUGUACAGUa-----
----   120    0,-1
----UGAGGUAGUAGUUUGUACAGUaa-----
----    15    0,-1
----UGAGGUAGUAGUUUGUACAGUau-----
----     6    0,-1
----UGAGGUAGUAGUUUGUACAGUU-----
----  10931    0,0
----UGAGGUAGUAGUUUGUACAGUUa-----
----   1033    0,0
----UGAGGUAGUAGUUUGUACAGUUaa-----
----    37    0,0
----UGAGGUAGUAGUUUGUACAGUUau-----
----    30    0,0
----UGAGGUAGUAGUUUGUACAGUUU-----
----   753    0,1
----UGAGGUAGUAGUUUGUACAGUUUa-----
----     6    0,1
----UGAGGUAGUAGUUUGUACAGUUUau-----

```



```

---- 25 0,-4
----UGAGGUAGUAGUUUGUGCU-----
---- 6521 0,-3
----UGAGGUAGUAGUUUGUGCUa-----
---- 3 0,-3
----UGAGGUAGUAGUUUGUGCUaa-----
---- 3 0,-3
----UGAGGUAGUAGUUUGUGCUau-----
---- 2 0,-3
----UGAGGUAGUAGUUUGUGCUu-----
---- 11 0,-3
----UGAGGUAGUAGUUUGUGCUuu-----
---- 4 0,-3
----UGAGGUAGUAGUUUGUGCUG-----
---- 5176 0,-2
----UGAGGUAGUAGUUUGUGCUGa-----
---- 191 0,-2
----UGAGGUAGUAGUUUGUGCUGaa-----
---- 203 0,-2
----UGAGGUAGUAGUUUGUGCUGau-----
---- 10 0,-2
----UGAGGUAGUAGUUUGUGCUGU-----
---- 3298 0,-1
----UGAGGUAGUAGUUUGUGCUGUa-----
---- 95 0,-1
----UGAGGUAGUAGUUUGUGCUGUaa-----
---- 132 0,-1
----UGAGGUAGUAGUUUGUGCUGUau-----
---- 18 0,-1
----UGAGGUAGUAGUUUGUGCUGUU-----
---- 4180 0,0
----UGAGGUAGUAGUUUGUGCUGUUa-----
---- 952 0,0
----UGAGGUAGUAGUUUGUGCUGUUaa-----
---- 152 0,0
----UGAGGUAGUAGUUUGUGCUGUUau-----
---- 40 0,0
----UGAGGUAGUAGUUUGUGCUGUUu-----

```



```

---- 922 0,0
-----UGAGGUAGUAGUUUGUGCUGUuu-----
---- 52 0,0
-----UGAGGUAGUAGUUUGUGCUGUUG-----
---- 147 0,1
-----UGAGGUAGUAGUUUGUGCUGUUGa-----
---- 26 0,1
-----UGAGGUAGUAGUUUGUGCUGUUGu-----
---- 8 0,1
-----GAGGUAGUAGUUUGUGCU-----
---- 60 1,-3
-----GAGGUAGUAGUUUGUGCUG-----
---- 30 1,-2
-----GAGGUAGUAGUUUGUGCUGU-----
---- 17 1,-1
-----GAGGUAGUAGUUUGUGCUGUaa-----
---- 2 1,-1
-----GAGGUAGUAGUUUGUGCUGUU-----
---- 16 1,0
-----GAGGUAGUAGUUUGUGCUGUUa-----
---- 15 1,0
-----GAGGUAGUAGUUUGUGCUGUUu-----
---- 9 1,0
-----AGGUAGUAGUUUGUGCUG-----
---- 3 2,-2
-----AGGUAGUAGUUUGUGCUGUU-----
---- 2 2,0
-----CUGCGCAAGCUACUGCCUU
G--- 21 0,-2
-----UGCGCAAGCUACUGCCUU
---- 2 1,-3

```

>hsa-mir-1-1 3p:46-67 SRX018961

```

ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAGAAGUAUGUAUcuca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUGGAAUGUAAAGAAGUAUG----- 5
-1,-3
-----UGGAAUGUAAAGAAGUAU----- 9 0,-4

```


2 0,-1
 -----AACCCGUAGAUCCGAACUUGUu-----
 47 0,-1
 -----AACCCGUAGAUCCGAACUUGUuu-----
 9 0,-1
 -----AACCCGUAGAUCCGAACUUGUG-----
 26421 0,0
 -----AACCCGUAGAUCCGAACUUGUGa-----
 15234 0,0
 -----AACCCGUAGAUCCGAACUUGUGaa-----
 942 0,0
 -----AACCCGUAGAUCCGAACUUGUGau-----
 42 0,0
 -----AACCCGUAGAUCCGAACUUGUGu-----
 12925 0,0
 -----AACCCGUAGAUCCGAACUUGUGuu-----
 27 0,0
 -----AACCCGUAGAUCCGAACUUGUGG-----
 138 0,1
 -----AACCCGUAGAUCCGAACUUGUGGU-----
 5 0,2
 -----ACCCGUAGAUCCGAACUU-----
 2 1,-3
 -----ACCCGUAGAUCCGAACUUG-----
 8 1,-2
 -----ACCCGUAGAUCCGAACUUGU-----
 18 1,-1
 -----ACCCGUAGAUCCGAACUUGUG-----
 11 1,0
 -----ACCCGUAGAUCCGAACUUGUGa-----
 40 1,0
 -----ACCCGUAGAUCCGAACUUGUGaa-----
 9 1,0
 -----ACCCGUAGAUCCGAACUUGUGu-----
 13 1,0
 -----CCCGUAGAUCCGAACUUGUG-----
 4 2,0

`ugccucggcuCAGUUAUCACAGUGCUGAUGCUgucuauucuaaaggUACAGUACUGUGAUAACUGAAggauggca
(((((((.....(((((.....)))))))))..))))).)))))).`

		-GGUACAGUACUGUGAUAACUGA-----	3
-2,-1		-----	
		-GGUACAGUACUGUGAUAACUGAAa-----	2
-2,0		-----	
		-GUACAGUACUGUGAUAAC-----	351
-1,-4		-----	
		-GUACAGUACUGUGAUAACU-----	8419
-1,-3		-----	
		-GUACAGUACUGUGAUAACUa-----	11
-1,-3		-----	
		-GUACAGUACUGUGAUAACUaa-----	6
-1,-3		-----	
		-GUACAGUACUGUGAUAACUu-----	2
-1,-3		-----	
		-GUACAGUACUGUGAUAACUG-----	5433
-1,-2		-----	
		-GUACAGUACUGUGAUAACUGu-----	20
-1,-2		-----	
		-GUACAGUACUGUGAUAACUGA-----	
40841	-1,-1	-----	
		-GUACAGUACUGUGAUAACUGAu-----	234
-1,-1		-----	
		-GUACAGUACUGUGAUAACUGAuu-----	3
-1,-1		-----	
		-GUACAGUACUGUGAUAACUGAA-----	
73086	-1,0	-----	
		-GUACAGUACUGUGAUAACUGAAa-----	
11509	-1,0	-----	
		-GUACAGUACUGUGAUAACUGAAaa-----	342
-1,0		-----	
		-GUACAGUACUGUGAUAACUGAAau-----	9
-1,0		-----	
		-GUACAGUACUGUGAUAACUGAAu-----	64
-1,0		-----	
		-GUACAGUACUGUGAUAACUGAAuu-----	2

[illegible]

0,1	-----UACAGUACUGUGAUAAACUGAAGuu-----	9
0,1	-----UACAGUACUGUGAUAAACUGAAGG-----	4
0,2	-----UACAGUACUGUGAUAAACUGAAGGA-----	12
0,3	-----ACAGUACUGUGAUAAACUG-----	17
1,-2	-----ACAGUACUGUGAUAAACUGA-----	284
1,-1	-----ACAGUACUGUGAUAAACUGAA-----	932
1,0	-----ACAGUACUGUGAUAAACUGAAa-----	178
1,0	-----ACAGUACUGUGAUAAACUGAAaa-----	15
1,0	-----ACAGUACUGUGAUAAACUGAAu-----	31
1,0	-----ACAGUACUGUGAUAAACUGAAuu-----	3
1,0	-----ACAGUACUGUGAUAAACUGAAG-----	110
1,1	-----ACAGUACUGUGAUAAACUGAAGu-----	34
1,1	-----ACAGUACUGUGAUAAACUGAAGG-----	2
1,2	-----CAGUACUGUGAUAAACUGA-----	65
2,-1	-----CAGUACUGUGAUAAACUGAA-----	212
2,0	-----CAGUACUGUGAUAAACUGAAa-----	43
2,0	-----CAGUACUGUGAUAAACUGAAaa-----	13
2,0	-----CAGUACUGUGAUAAACUGAAu-----	8
2,0	-----CAGUACUGUGAUAAACUGAAuu-----	3

```

2,0
-----CAGUACUGUGUAACUGAAG----- 21
2,1
-----CAGUACUGUGUAACUGAAGu----- 9
2,1
-----CAGUACUGUGUAACUGAAGuu----- 2
2,1

>hsa-mir-101-2 3p:49-69 SRX018961
acuguccuuuuucgguaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGUAACUGAAgaugguggu
((..((.((((((((((((((((((((((.((((.....)))))).)))))))))))))))))))).))
-----CGGUUAUCAUGGUACCGA-----
3
-----GGUACAGUACUGUGUAACUGA-----
3 -2,-1
-----GGUACAGUACUGUGUAACUGAAa-----
2 -2,0
-----GUACAGUACUGUGUAAC-----
351 -1,-4
-----GUACAGUACUGUGUAACU-----
8419 -1,-3
-----GUACAGUACUGUGUAACUa-----
11 -1,-3
-----GUACAGUACUGUGUAACUaa-----
6 -1,-3
-----GUACAGUACUGUGUAACUu-----
2 -1,-3
-----GUACAGUACUGUGUAACUG-----
5433 -1,-2
-----GUACAGUACUGUGUAACUGu-----
20 -1,-2
-----GUACAGUACUGUGUAACUGA-----
40841 -1,-1
-----GUACAGUACUGUGUAACUGAu-----
234 -1,-1
-----GUACAGUACUGUGUAACUGAuu-----
3 -1,-1
-----GUACAGUACUGUGUAACUGAA-----

```


73086	-1,0	-GUACAGUACUGUGAUAACUGAAa-----
11509	-1,0	-GUACAGUACUGUGAUAACUGAAaa-----
342	-1,0	-GUACAGUACUGUGAUAACUGAAau-----
9	-1,0	-GUACAGUACUGUGAUAACUGAAu-----
64	-1,0	-GUACAGUACUGUGAUAACUGAAuu-----
2	-1,0	-GUACAGUACUGUGAUAACUGAAG-----
76	-1,1	-GUACAGUACUGUGAUAACUGAAGA-----
22	-1,2	-UACAGUACUGUGAUAACU-----
8045	0,-3	-UACAGUACUGUGAUAACUa-----
8	0,-3	-UACAGUACUGUGAUAACUaa-----
21	0,-3	-UACAGUACUGUGAUAACUu-----
3	0,-3	-UACAGUACUGUGAUAACUG-----
4855	0,-2	-UACAGUACUGUGAUAACUGu-----
31	0,-2	-UACAGUACUGUGAUAACUGA-----
53129	0,-1	-UACAGUACUGUGAUAACUGAu-----
204	0,-1	-UACAGUACUGUGAUAACUGAuu-----
54	0,-1	-UACAGUACUGUGAUAACUGAA-----
138156	0,0	-UACAGUACUGUGAUAACUGAAa-----
26367	0,0	-UACAGUACUGUGAUAACUGAAaa-----

874	0,0	-UACAGUACUGUGAUAAACUGAAau-----
45	0,0	-UACAGUACUGUGAUAAACUGAAu-----
1659	0,0	-UACAGUACUGUGAUAAACUGAAuu-----
48	0,0	-UACAGUACUGUGAUAAACUGAAG-----
9570	0,1	-UACAGUACUGUGAUAAACUGAAGu-----
640	0,1	-UACAGUACUGUGAUAAACUGAAGuu-----
9	0,1	-UACAGUACUGUGAUAAACUGAAGA-----
2039	0,2	-UACAGUACUGUGAUAAACUGAAGAu-----
2	0,2	-UACAGUACUGUGAUAAACUGAAGAA-----
131	0,3	-UACAGUACUGUGAUAAACUGAAGAAa-----
11	0,3	-ACAGUACUGUGAUAAACUG-----
17	1,-2	-ACAGUACUGUGAUAAACUGA-----
284	1,-1	-ACAGUACUGUGAUAAACUGAA-----
932	1,0	-ACAGUACUGUGAUAAACUGAAa-----
178	1,0	-ACAGUACUGUGAUAAACUGAAaa-----
15	1,0	-ACAGUACUGUGAUAAACUGAAu-----
31	1,0	-ACAGUACUGUGAUAAACUGAAuu-----
3	1,0	-ACAGUACUGUGAUAAACUGAAG-----
110	1,1	-ACAGUACUGUGAUAAACUGAAGu-----

```

34  1,1
-----ACAGUACUGUGAUAACUGAAGA-----
38  1,2
-----CAGUACUGUGAUAACUGA-----
65  2,-1
-----CAGUACUGUGAUAACUGAA-----
212 2,0
-----CAGUACUGUGAUAACUGAAa-----
43  2,0
-----CAGUACUGUGAUAACUGAAaa-----
13  2,0
-----CAGUACUGUGAUAACUGAAu-----
8   2,0
-----CAGUACUGUGAUAACUGAAuu-----
3   2,0
-----CAGUACUGUGAUAACUGAAG-----
21  2,1
-----CAGUACUGUGAUAACUGAAGu-----
9   2,1
-----CAGUACUGUGAUAACUGAAGuu-----
2   2,1
-----CAGUACUGUGAUAACUGAAGA-----
40  2,2
-----CAGUACUGUGAUAACUGAAGAA-----
32  2,3
-----CAGUACUGUGAUAACUGAAGAAa-----
21  2,3

>hsa-mir-103-1 3p:48-70 SRX018961
uacugcccucggcuucuuuacagugcugccuuguugcauauaggcaucaAGCAGCAUUGUACAGGGCUAUGAaggcauug
...(((((((((.(((.(((((((((((((((((.(((.((.....).).))))))))))))))))).))))).)).))))...
-----AAGCAGCAUUGUACAGGGCUAUu-----
2   -1,-2
-----AAGCAGCAUUGUACAGGGCUAUG-----
2   -1,-1
-----AGCAGCAUUGUACAGGGC-----
1313 0,-5
-----AGCAGCAUUGUACAGGGCU-----

```

1114	0,-4	-----AGCAGCAUUGUACAGGGCUu-----
80	0,-4	-----AGCAGCAUUGUACAGGGCUuu-----
37	0,-4	-----AGCAGCAUUGUACAGGGCUA-----
3741	0,-3	-----AGCAGCAUUGUACAGGGCUAa-----
328	0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
78	0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
27	0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
11430	0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
257	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
120	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
30	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
467	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
8	0,-2	-----AGCAGCAUUGUACAGGGCUAUG-----
7541	0,-1	-----AGCAGCAUUGUACAGGGCUAUGu-----
1260	0,-1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
40	0,-1	-----AGCAGCAUUGUACAGGGCUAUGA-----
19057	0,0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
1795	0,0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
51	0,0	-----AGCAGCAUUGUACAGGGCUAUGAA-----

1038	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
26	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAG-----
3	0,2	-----GCAGCAUUGUACAGGGCU-----
3	1,-4	-----GCAGCAUUGUACAGGGCUA-----
13	1,-3	-----GCAGCAUUGUACAGGGCUAU-----
51	1,-2	-----GCAGCAUUGUACAGGGCUAUu-----
7	1,-2	-----GCAGCAUUGUACAGGGCUAUG-----
47	1,-1	-----GCAGCAUUGUACAGGGCUAUGu-----
10	1,-1	-----GCAGCAUUGUACAGGGCUAUGA-----
137	1,0	-----GCAGCAUUGUACAGGGCUAUGAu-----
11	1,0	-----GCAGCAUUGUACAGGGCUAUGAA-----
11	1,1	-----CAGCAUUGUACAGGGCUA-----
4	2,-3	-----CAGCAUUGUACAGGGCUAU-----
13	2,-2	-----CAGCAUUGUACAGGGCUAUG-----
25	2,-1	-----CAGCAUUGUACAGGGCUAUGA-----
85	2,0	-----CAGCAUUGUACAGGGCUAUGAu-----
2	2,0	

>hsa-mir-103-2 mi:11-33;MA:48-70 SRX018961

```

uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..((.((((((((((.((.((((((((((((((((((.....))))).))))))))))))).))))).))))).))..
-----AGCUUCUUUACAGUGCUGCCUUG-----

```

7	0,0	-----AAGCAGCAUUGUACAGGGCUAUu-----
2	-1,-2	-----AAGCAGCAUUGUACAGGGCUAUG-----
2	-1,-1	-----AGCAGCAUUGUACAGGGC-----
1313	0,-5	-----AGCAGCAUUGUACAGGGCU-----
1114	0,-4	-----AGCAGCAUUGUACAGGGCUu-----
80	0,-4	-----AGCAGCAUUGUACAGGGCUuu-----
37	0,-4	-----AGCAGCAUUGUACAGGGCUA-----
3741	0,-3	-----AGCAGCAUUGUACAGGGCUAa-----
328	0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
78	0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
27	0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
11430	0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
257	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
120	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
30	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
467	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
8	0,-2	-----AGCAGCAUUGUACAGGGCUAUG-----
7541	0,-1	-----AGCAGCAUUGUACAGGGCUAUGu-----
1260	0,-1	-----AGCAGCAUUGUACAGGGCUAUGuu-----

40	0,-1	-----AGCAGCAUUGUACAGGGCUAUGA-----
19057	0,0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
1795	0,0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
51	0,0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
1038	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
26	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAA-----
240	0,2	-----GCAGCAUUGUACAGGGCU-----
3	1,-4	-----GCAGCAUUGUACAGGGCUA-----
13	1,-3	-----GCAGCAUUGUACAGGGCUAU-----
51	1,-2	-----GCAGCAUUGUACAGGGCUAUu-----
7	1,-2	-----GCAGCAUUGUACAGGGCUAUG-----
47	1,-1	-----GCAGCAUUGUACAGGGCUAUGu-----
10	1,-1	-----GCAGCAUUGUACAGGGCUAUGA-----
137	1,0	-----GCAGCAUUGUACAGGGCUAUGAu-----
11	1,0	-----GCAGCAUUGUACAGGGCUAUGAA-----
11	1,1	-----CAGCAUUGUACAGGGCUA-----
4	2,-3	-----CAGCAUUGUACAGGGCUAU-----
13	2,-2	-----CAGCAUUGUACAGGGCUAUG-----
25	2,-1	-----CAGCAUUGUACAGGGCUAUGA-----

2 2.0

>hsa-mir-106a MA:13-35;mi:50-71 SRX018961

ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucaCUGCAAUGUAAGCACUUCUUAcauaccaug
g

$$((.((((..(((((((((((((((((((((.(((((.(((.(.....)).)))))))))..)))))))))..))))).)))).)$$

-----AAAAGUGCUUACAGUGCA-----

- 2 0,-5

-----AAAAGUGCUUACAGUGCAG-----

- 2 0,-4

-----AAAAGUGCUUACAGUGCAGGU-----

- 3 0,-2

-----AAAAGUGCUUACAGUGCAGGUA-----

- 4 0,-1

-----AAAAGUGCUUACAGUGCAGGUAa-----

- 8 0,-1

-----AAAGUGCUUACAGUGCAGGU-----

- 6 1,-2

-----AAAGUGCUUACAGUGCAGGUA-----

$$-4 \quad 1, -1$$

-----AAAGUGCUUACAGUGCAGGUAG-----

- 3 1,0

>hsa-mir-106b MA:12-32;mi:52-73 SRX018961

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

(((((.(((((. ((((((((.(((((((.(((((((.....)).))))).)))))..))))).)))
))

-----UAAAGUGCUGACAGUGCA-----

-- 12 0,-3

-----UAAAGUGCUGACAGUGCAG-----

-- 15 0,-2

-----UAAAGUGCUGACAGUGCAGA-----

-- 27 0,-1

-----UAAAGUGCUGACAGUGCAGAU-----


```

-- 49 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 9 0,0
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 69 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 18 0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 4 0,1
-----UACCGCACUGUGGGUACUuu-----
-- 2 -2,-5
-----UACCGCACUGUGGGUACUUG-----
-- 22 -2,-4
-----UACCGCACUGUGGGUACUUGa-----
-- 9 -2,-4
-----UACCGCACUGUGGGUACUUGaa-----
-- 12 -2,-4
-----UACCGCACUGUGGGUACUUGC-----
-- 16 -2,-3
-----UACCGCACUGUGGGUACUUGCa-----
-- 2 -2,-3
-----UACCGCACUGUGGGUACUUGCU-----
-- 122 -2,-2
-----UACCGCACUGUGGGUACUUGCUa-----
-- 6 -2,-2
-----UACCGCACUGUGGGUACUUGCUG-----
-- 9 -2,-1
-----UACCGCACUGUGGGUACUUGCUGa-----
-- 5 -2,-1
-----UACCGCACUGUGGGUACUUGCUGC-----
-- 4 -2,0
-----ACCGCACUGUGGGUACUUGC-----
-- 7 -1,-3
-----ACCGCACUGUGGGUACUUGCU-----
-- 15 -1,-2
-----ACCGCACUGUGGGUACUUGCUG-----
-- 4 -1,-1
-----ACCGCACUGUGGGUACUUGCUGa-----

```

```

-- 6   -1,-1
-----CCGCACUGUGGGUACUUGC-----
-- 2   0,-4
-----CCGCACUGUGGGUACUUGaa-----
-- 2   0,-4
-----CCGCACUGUGGGUACUUGC-----
-- 26  0,-3
-----CCGCACUGUGGGUACUUGC-----
-- 159 0,-2
-----CCGCACUGUGGGUACUUGC-----
-- 3   0,-2
-----CCGCACUGUGGGUACUUGC-----
-- 477 0,-1
-----CCGCACUGUGGGUACUUGC-----
-- 381 0,-1
-----CCGCACUGUGGGUACUUGC-----
-- 136 0,-1
-----CCGCACUGUGGGUACUUGC-----
-- 46  0,-1
-----CCGCACUGUGGGUACUUGC-----
-- 613 0,0
-----CCGCACUGUGGGUACUUGC-----
-- 13  0,0
-----CCGCACUGUGGGUACUUGC-----
-- 3   0,0
-----CCGCACUGUGGGUACUUGC-----
-- 9   0,0
-----CCGCACUGUGGGUACUUGC-----
-- 2   0,1
-----CGCACUGUGGGUACUUGC-----
-- 3   1,-2
-----CGCACUGUGGGUACUUGC-----
-- 3   1,-1
-----CGCACUGUGGGUACUUGC-----
-- 8   1,0

```

>hsa-mir-107 3p:50-72 SRX018961

cucucugcuuucagcuuuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCAaagcacag

a

.(((.(((((.(((.(.(((((((((((.(((.(.(((....)))))))))))))).))))).)))))..)))))

		-AAGCAGCAUUGUACAGGGCUAUu-----
-	2 -1,-2	
		-----AGCAGCAUUGUACAGGGC-----
-	1313 0,-5	
		-----AGCAGCAUUGUACAGGGCU-----
-	1114 0,-4	
		-----AGCAGCAUUGUACAGGGCUu-----
-	80 0,-4	
		-----AGCAGCAUUGUACAGGGCUuu-----
-	37 0,-4	
		-----AGCAGCAUUGUACAGGGCUA-----
-	3741 0,-3	
		-----AGCAGCAUUGUACAGGGCUAa-----
-	328 0,-3	
		-----AGCAGCAUUGUACAGGGCUAaa-----
-	78 0,-3	
		-----AGCAGCAUUGUACAGGGCUAau-----
-	27 0,-3	
		-----AGCAGCAUUGUACAGGGCUAU-----
-	11430 0,-2	
		-----AGCAGCAUUGUACAGGGCUAUa-----
-	257 0,-2	
		-----AGCAGCAUUGUACAGGGCUAUaa-----
-	120 0,-2	
		-----AGCAGCAUUGUACAGGGCUAUau-----
-	30 0,-2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
-	467 0,-2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
-	8 0,-2	
		-----AGCAGCAUUGUACAGGGCUAUC-----
-	462 0,-1	
		-----AGCAGCAUUGUACAGGGCUAUCu-----
-	74 0,-1	
		-----AGCAGCAUUGUACAGGGCUAUCA-----

----- 8 0,-4
-----UACCCUGUAGAUCCGAAUUU-----
----- 76 0,-3
-----UACCCUGUAGAUCCGAAUUUa-----
----- 2 0,-3
-----UACCCUGUAGAUCCGAAUUUG-----
----- 710 0,-2
-----UACCCUGUAGAUCCGAAUUUGa-----
----- 17 0,-2
-----UACCCUGUAGAUCCGAAUUUGaa-----
----- 6 0,-2
-----UACCCUGUAGAUCCGAAUUUGU-----
----- 2360 0,-1
-----UACCCUGUAGAUCCGAAUUUGUa-----
----- 37 0,-1
-----UACCCUGUAGAUCCGAAUUUGUaa-----
----- 4 0,-1
-----UACCCUGUAGAUCCGAAUUUGUu-----
----- 8 0,-1
-----UACCCUGUAGAUCCGAAUUUGUG-----
----- 1675 0,0
-----UACCCUGUAGAUCCGAAUUUGUGa-----
----- 277 0,0
-----UACCCUGUAGAUCCGAAUUUGUGaa-----
----- 18 0,0
-----UACCCUGUAGAUCCGAAUUUGUGau-----
----- 3 0,0
-----UACCCUGUAGAUCCGAAUUUGUGU-----
----- 230 0,1
-----ACCCUGUAGAUCCGAAUU-----
----- 12 1,-4
-----ACCCUGUAGAUCCGAAUUa-----
----- 3 1,-4
-----ACCCUGUAGAUCCGAAUUU-----
----- 13 1,-3
-----ACCCUGUAGAUCCGAAUUUG-----
----- 120 1,-2
-----ACCCUGUAGAUCCGAAUUUGa-----

```

----- 2 1,-2
-----ACCCUGUAGAUCCGAAUUUGaa-----
----- 2 1,-2
-----ACCCUGUAGAUCCGAAUUUGU-----
----- 957 1,-1
-----ACCCUGUAGAUCCGAAUUUGUa-----
----- 8 1,-1
-----ACCCUGUAGAUCCGAAUUUGUG-----
----- 1451 1,0
-----ACCCUGUAGAUCCGAAUUUGUGa-----
----- 565 1,0
-----ACCCUGUAGAUCCGAAUUUGUGaa-----
----- 92 1,0
-----ACCCUGUAGAUCCGAAUUUGUGau-----
----- 8 1,0
-----ACCCUGUAGAUCCGAAUUUGUGU-----
----- 441 1,1
-----ACCCUGUAGAUCCGAAUUUGUGUu-----
----- 4 1,1
-----CCCUGUAGAUCCGAAUUUGU-----
----- 11 2,-1
-----CCCUGUAGAUCCGAAUUUGUG-----
----- 27 2,0
-----CCCUGUAGAUCCGAAUUUGUGa-----
----- 5 2,0
-----CCCUGUAGAUCCGAAUUUGUGaa-----
----- 2 2,0
-----CCCUGUAGAUCCGAAUUUGUGU-----
----- 5 2,1
-----CCCUGUAGAUCCGAAUUUGUGUA-----
----- 3 2,2
-----CAAUUCGUAUCUAGGGG
----- 8 0,-4
-----CAAUUCGUAUCUAGGGG
A----- 7 0,-3
-----CAAUUCGUAUCUAGGGG
AAUu----- 2 0,-1
-----AAUUCGUAUCUAGGGG

```


-----	-UGUGGAGUGUGACAAUGGUG-	-----
-----	4 -2, -4	-----
-----	-UGUGGAGUGUGACAAUGGUGU-	-----
-----	20 -2, -3	-----
-----	-UGUGGAGUGUGACAAUGGUGUa-	-----
-----	3 -2, -3	-----
-----	-UGUGGAGUGUGACAAUGGUGUU-	-----
-----	289 -2, -2	-----
-----	-UGUGGAGUGUGACAAUGGUGUUa-	-----
-----	2 -2, -2	-----
-----	-UGUGGAGUGUGACAAUGGUGUUU-	-----
-----	11 -2, -1	-----
-----	-UGUGGAGUGUGACAAUGGUGUUUu-	-----
-----	2 -2, -1	-----
-----	-GUGGAGUGUGACAAUGGUGU-	-----
-----	8 -1, -3	-----
-----	-GUGGAGUGUGACAAUGGUGUU-	-----
-----	24 -1, -2	-----
-----	-GUGGAGUGUGACAAUGGUGUUU-	-----
-----	87 -1, -1	-----
-----	-GUGGAGUGUGACAAUGGUGUUUG-	-----
-----	14 -1, 0	-----
-----	-GUGGAGUGUGACAAUGGUGUUUGa-	-----
-----	7 -1, 0	-----
-----	-UGGAGUGUGACAAUGGUG-	-----
-----	16475 0, -4	-----
-----	-UGGAGUGUGACAAUGGUGa-	-----
-----	1355 0, -4	-----
-----	-UGGAGUGUGACAAUGGUGaa-	-----
-----	327 0, -4	-----
-----	-UGGAGUGUGACAAUGGUGau-	-----
-----	77 0, -4	-----
-----	-UGGAGUGUGACAAUGGUGU-	-----
-----	73835 0, -3	-----
-----	-UGGAGUGUGACAAUGGUGUa-	-----

----- 4833 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 780 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 119 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 466247 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 22741 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 1792 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 425 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 306297 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 10837 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 3248 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 551 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 1954 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 83 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1312169 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 345528 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 16687 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 10439 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 90297 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 593 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----

```

----- 251 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 123 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 484 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 84 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 290 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 36 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 221 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 409 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 30 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 5 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 1753 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 101 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 18 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 717 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 12 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 14 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 3 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 6983 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 2157 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----

```

```

----- 131 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 81 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 227 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 3 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 2 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 4 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 2 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 8 1,2
-----GGAGUGUGACAAUGGUGUUUGUGa-----
----- 9 1,2
-----GGAGUGUGACAAUGGUGUUUGUGU-----
----- 11 1,3
-----GAGUGUGACAAUGGUGUU-----
----- 381 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 17 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 366 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 5 2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 3 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 9 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 980 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 260 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 7 2,0
-----GAGUGUGACAAUGGUGUUUGau-----

```

```

----- 7 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 117 2,1
-----CAAACGCCAUUAUCACACUAAA-----
----- 3 -2,-2
-----AAACGCCAUUAUCACACUA-----
----- 3 -1,-4
-----AAACGCCAUUAUCACACUAu-----
----- 2 -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 6 -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 2 -1,-2
-----AAACGCCAUUAUCACACUAAAa-----
----- 2 -1,-2
-----AAACGCCAUUAUCACACUAAAU-----
----- 19 -1,-1
-----AACGCCAUUAUCACACUA-----
----- 10 0,-4
-----AACGCCAUUAUCACACUAA-----
----- 13 0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 6 0,-2
-----AACGCCAUUAUCACACUAAAU-----
----- 44 0,-1

```

>hsa-mir-1224 5p:1-19;3p:65-85 SRX018961

GUGAGGACUCGGGAGGUGGaggguggugccgccggggccgggcgcuguuucagcucgcuucuccCCCCACCUCCUCUCUC
CUCAG

.(((((((...(((((((((((((.((((.((((.....)))))).))))))))))))))))....))
))))).

```

GUGAGGACUCGGGAGGUGG-----
----- 16 0,0
GUGAGGACUCGGGAGGUGGA-----
----- 11 0,1
GUGAGGACUCGGGAGGUGGAa-----
----- 4 0,1
GUGAGGACUCGGGAGGUGGAG-----

```

----- 12 0,2
GUGAGGACUCGGGAGGUGGAGa-----
----- 4 0,2
GUGAGGACUCGGGAGGUGGAGG-----
----- 15 0,3
GUGAGGACUCGGGAGGUGGAGGG-----
----- 5 0,4
GUGAGGACUCGGGAGGUGGAGGGa-----
----- 3 0,4
GUGAGGACUCGGGAGGUGGAGGGaa-----
----- 4 0,4
GUGAGGACUCGGGAGGUGGAGGGU-----
----- 4 0,5
GUGAGGACUCGGGAGGUGGAGGGUa-----
----- 3 0,5
GUGAGGACUCGGGAGGUGGAGGGUu-----
----- 6 0,5

[illegible]

```
>hsa-mir-1227    3p:69-88    SRX018961
guggggccaggcgguuggggcacugcuggggugggcacagcagccaugcagagcgggcuuugacccCGUGCCACCCUU
UUCCCCAG
.....((((((.....))))))..
.....
-----CGUGCCACCCUU
UUCCCCAGa    2    0,0
```

```
>hsa-mir-1228    mi:1-21;MA:52-71    SRX018961
GUGGGCGGGGCAGGUGUGUGgugggugggugccugcggugagcagggcccUCACACCUGCCUCGCCCCCag
..(((((((.(((((((....(((((((....(((((((....))))))))).))))))))))))))))....
GUGGGCGGGGCAGGUGUGUG-----15
    0,0
GUGGGCGGGGCAGGUGUGUG-----5
```

0,1

>hsa-mir-1236 3p:81-102 SRX018961

gugagugacaggggaaugggggauggacuggaagugggcagcauggagcugaccuucacaucauggcuuggccaacauaauug
CCUCUUCUUUUUUGUCUCUCCAG

(.(((.(((((((.....))))))))))))))..

>hsa-mir-124-1 mi:14-35;MA:53-72 SRX018961

agggcucucucucCGUGUUCACAGCGGACCUUGAUuuuaauguccauacaauUAAGGCACGCGGUGAAUGCCaagaugg
ggcug

.((((((..(((.(((((((.....))))))))))))))..))))))..))

-----UAAGGCACGCGGUGAAUG-----

----- 8 0,-2

-----UAAGGCACGCGGUGAAUGC-----

----- 3 0,-1

-----UAAGGCACGCGGUGAAUGCCA-----

----- 3 0,1

-----UAAGGCACGCGGUGAAUGCCAu-----

----- 3 0,1

-----UAAGGCACGCGGUGAAUGCCAA-----

----- 6 0,2

>hsa-mir-124-2 mi:25-46;MA:62-81 SRX018961

aucaagauuagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuuaugucacauacaauUAAGGCACGCGGUGAAUGC
Caagagcggagccuacggcugcacuugaa

.((((((..((((((.....))))))))))))))..))))))..))

-----UAAGGCACGCGGUGAAUG-----

----- 8 0,-2

-----UAAGGCACGCGGUGAAUGC-----

----- 3 0,-1

-----UAAGGCACGCGGUGAAUGC-----

CA----- 3 0,1

-----UAAGGCACGCGGUGAAUGC-----

CAu----- 3 0,1

-----UAAGGCACGCGGUGAAUGC-----

-----ACCCGUCCCGUUCGUCCCCGG-----

```

----- 4 0,-1
-----ACCCGUCCCGUUCGUCCCCGGA-----
----- 5 0,0
-----ACCCGUCCCGUUCGUCCCCGGAu-----
----- 2 0,0
-----CGGG
AACGUUCGAGACUGGAG----- 2

```

>hsa-mir-1249 3p:41-62 SRX018961

```

gggaggaggaggagagaugggccaaguucccucugggcuggaACGCCCUUCCCCCCCUCUUCACcug
.(((((((((((((.(((.((((((...((((((.....)))))))))).)).))))))))))....
---AGGAGGGAGGAGAUGGGCCAAGUUa----- 2

```

>hsa-mir-1250 5p:24-44 SRX018961

```

cugucccguggccuggcaggugACGGUGCUGGAUGUGGCCUUUuugccuuuucuaaaggccacauuuuccagcccauuc
aaccuuccagagcccucugaaguggccacaggc
(((((((((((((((((((.(((((((.((((((((((((((((((((.....)))))))))).)).))))))))))..
.)))).)))).))....)))))).)))).
-----ACGGUGCUGGAUGUGGCCUU-----
----- 4 0,-1
-----ACGGUGCUGGAUGUGGCCUU-----
----- 6 0,0

```

>hsa-mir-1252 5p:5-26 SRX018961

```

agaaAGAAGGAAAUUGAAUUCAUUUAgaagagagaauuccaaugagcuuaauuuccuuuuuucu
(((((((((((((((((((.(((((((.((((((((((((((((((((.....)))))))))).)).))))))))))
----AGAAGGAAAUUGAAUUCAUU----- 4 0,-2

```

>hsa-mir-1254 5p:18-41 SRX018961

```

ggugggaggauugcuugAGCCUGGAAGCUGGAGCCUGCAGUgaacuaucuuugugccacuguacuccagccuaggcaaca
aaugaaauccugucua
...(((.(((((((.(((((((.(((((((.((((((((((((((((((((.....)))))))))).)).))))))))))..
).))....)))))).))..
-----GAGCCUGGAAGCUGGAGCCUGC-----
----- 4 -1,-3
-----GAGCCUGGAAGCUGGAGCCUGCAu-----
----- 2 -1,-2
-----AGCCUGGAAGCUGGAGCCU-----

```

```

----- 10 0,-5
-----AGCCUGGAAGCUGGAGCCUGCA-----
----- 3 0,-2
-----AGCCUGGAAGCUGGAGCCUGCAa-----
----- 3 0,-2
-----AGCCUGGAAGCUGGAGCCUGCAaa-----
----- 3 0,-2
-----AGCCUGGAAGCUGGAGCCUGCAu-----
----- 2 0,-2
-----AGCCUGGAAGCUGGAGCCUGCAG-----
----- 3 0,-1
-----AGCCUGGAAGCUGGAGCCUGCAGU-----
----- 2 0,0

```

>hsa-mir-1255a 5p:28-50 SRX018961

```

auuggaaauccuugaguugcuucucaAGGAUGAGCAAAGAAAGUAGAUUuuuuagauucuaaagaaacuaucucuuug
cucauccuugagaagcaacuccuuauccauuaa

```

```

..((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))....

```

```

-----AGGAUGAGCAAAGAAAGUA-----
----- 7 0,-4
-----AGGAUGAGCAAAGAAAGUAG-----
----- 5 0,-3
-----AGGAUGAGCAAAGAAAGUAGA-----
----- 3 0,-2
-----AGGAUGAGCAAAGAAAGUAGAU-----
----- 6 0,0

```

>hsa-mir-1255b-1 5p:3-24 SRX018961

```

uaCGGAUGAGCAAAGAAAGUGGUUucuuaaaauggaauacuucuuugugaagaugcugugaa

```

```

((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..

```

```

--CGGAUGAGCAAAGAAAGUGGU----- 2 0,-1
--CGGAUGAGCAAAGAAAGUGGUa----- 2 0,-1
--CGGAUGAGCAAAGAAAGUGGUU----- 13 0,0
--CGGAUGAGCAAAGAAAGUGGUUa----- 2 0,0
---GGAUGAGCAAAGAAAGUGGUU----- 3 1,0

```

>hsa-mir-1255b-2 5p:6-27 SRX018961

```

ucuuaCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuuucuuugcucauccauaagga
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CGGAUGAGCAAAGAAAGUGGU----- 2 0,-1
-----CGGAUGAGCAAAGAAAGUGGUa----- 2 0,-1
-----CGGAUGAGCAAAGAAAGUGGU----- 13 0,0
-----CGGAUGAGCAAAGAAAGUGGUa----- 2 0,0
-----GGAUGAGCAAAGAAAGUGGU----- 3 1,0

```

```

>hsa-mi r-1256 5p:35-56 SRX018961
agucagccuguugaagcuugaagcuugaugccAGGCAUUGACUUCUCACUAGCUgugaaaguccuagcuaaagagaag
ucaaugcaugacaucuuguuucuuuagauggcuguuuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AGGCAUUGACUUCUCACUAGCU-----
----- 3 0,0

```

```

>hsa-mi r-125a 5p:15-38;3p:53-74 SRX018961
ugccagucucuaggUCCCUGAGACCCUUUAACCUUGAGgagacauccaggguacAGGUGAGGUUCUUGGGAGCCuggcgu
cuggcc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCCCUGAGACCCUUUAACC-----
----- 365 0,-5
-----UCCCUGAGACCCUUUAACCU-----
----- 3119 0,-4
-----UCCCUGAGACCCUUUAACCUu-----
----- 2 0,-4
-----UCCCUGAGACCCUUUAACCUG-----
----- 1309 0,-3
-----UCCCUGAGACCCUUUAACCUga-----
----- 13 0,-3
-----UCCCUGAGACCCUUUAACCUGU-----
----- 1107 0,-2
-----UCCCUGAGACCCUUUAACCUGUa-----
----- 2 0,-2
-----UCCCUGAGACCCUUUAACCUGUu-----
----- 7 0,-2
-----UCCCUGAGACCCUUUAACCUGUG-----

```



```

----- 13 0,-3
-----UCCCUGAGACCCUAACUUGaa-----
----- 6 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 2382 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 4 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 2 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 1933 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 132 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 6076 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 2459 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 142 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
----- 85 0,1
-----CCUGAGACCCUAACUUGU-----
----- 4 1,-2
-----CCUGAGACCCUAACUUGUGA-----
----- 7 1,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 2 1,0
-----CCUGAGACCCUAACUUGUGAU-----
----- 3 1,1
-----CCUGAGACCCUAACUUGU-----
----- 34 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 24 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 140 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 30 2,0
-----CCUGAGACCCUAACUUGUGAaa-----

```



```

----- 6 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 2382 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 4 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 2 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 1933 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 132 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 6076 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 2459 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 142 0,0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 20 0,1
-----UCCCUGAGACCCUAACUUGUGAGa-----
----- 4 0,1
-----CCUGAGACCCUAACUUGU-----
----- 4 1,-2
-----CCUGAGACCCUAACUUGUGA-----
----- 7 1,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 2 1,0
-----CCUGAGACCCUAACUUGU-----
----- 34 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 24 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 140 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 30 2,0
-----CCUGAGACCCUAACUUGUGAaa-----
----- 7 2,0
-----AUCACAAGUCAGGCUCUUG-----

```



```

----- 2   -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 9   -1,-3
-----AUCACAAGUCAGGCUCUUGG-----
----- 2   -1,-2
-----UCACAAGUCAGGCUCUUGG-----
----- 4   0,-3
-----UCACAAGUCAGGCUCUUGGA-----
----- 6   0,-1
-----UCACAAGUCAGGCUCUUGGAC-----
----- 8   0,0
-----ACAAGUCAGGCUCUUGG-----
-----109  2,-2
-----ACAAGUCAGGCUCUUGGA-----
----- 62  2,-1
-----ACAAGUCAGGCUCUUGGAaa-----
----- 7   2,-1
-----ACAAGUCAGGCUCUUGGAC-----
-----125  2,0
-----ACAAGUCAGGCUCUUGGACa-----
----- 3   2,0
-----ACAAGUCAGGCUCUUGGACau-----
----- 2   2,0
-----ACAAGUCAGGCUCUUGGACu-----
----- 2   2,0
-----ACAAGUCAGGCUCUUGGACC-----
----- 5   2,1
-----ACAAGUCAGGCUCUUGGACCU-----
-----10   2,2

```

>hsa-mir-126 mi:15-35;MA:52-73 SRX018961

```

cgcuggcgcacgggaCAUUAUUACUUUUGGUACGCGcugugacacuucaaacUCGUACCGUGAGUAAUAAUGCGccgucca
cggca

```

```

.((((..((((((..((((((((((..(((((((..(((..))))..)).)))))))).))))))..
))))).

```

```

-----CAUUAUUACUUUUGGUAC-----
-----10  0,-3
-----CAUUAUUACUUUUGGUACG-----

```

```

----- 47 0,-2
-----CAUUAUUACUUUUGGUACGCG-----
----- 26 0,-1
-----CAUUAUUACUUUUGGUACGCG-----
----- 260 0,0
-----CAUUAUUACUUUUGGUACGCGa-----
----- 132 0,0
-----CAUUAUUACUUUUGGUACGCGaa-----
----- 2 0,0
-----CAUUAUUACUUUUGGUACGCGu-----
----- 68 0,0
-----CAUUAUUACUUUUGGUACGCGC-----
----- 5 0,1
-----CAUUAUUACUUUUGGUACGCGCU-----
----- 9 0,2
-----AUUAUUACUUUUGGUACG-----
----- 2 1,-2
-----AUUAUUACUUUUGGUACGCG-----
----- 8 1,-1
-----AUUAUUACUUUUGGUACGCG-----
----- 29 1,0
-----AUUAUUACUUUUGGUACGCGCU-----
----- 6 1,2
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 4 -1,-2
-----CUCGUACCGUGAGUAAUAAUGaa-----
----- 5 -1,-2
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 11 -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 18 -1,0
-----CUCGUACCGUGAGUAAUAAUGCGaa-----
----- 2 -1,0
-----UCGUACCGUGAGUAAUAAUG-----
----- 7 0,-2
-----UCGUACCGUGAGUAAUAAUGa-----
----- 24 0,-2
-----UCGUACCGUGAGUAAUAAUGaa-----

```

```

----- 14 0,-2
-----UCGUACCGUGAGUAAUAAUGC-----
----- 28 0,-1
-----UCGUACCGUGAGUAAUAAUGCaa-----
----- 3 0,-1
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 83 0,0
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 73 0,0
-----UCGUACCGUGAGUAAUAAUGCGaa-----
----- 2 0,0
-----UCGUACCGUGAGUAAUAAUGCGau-----
----- 2 0,0
-----CGUACCGUGAGUAAUAAU-----
----- 3 1,-3
-----CGUACCGUGAGUAAUAAUG-----
----- 11 1,-2
-----CGUACCGUGAGUAAUAAUGaa-----
----- 4 1,-2
-----CGUACCGUGAGUAAUAAUGC-----
----- 9 1,-1
-----CGUACCGUGAGUAAUAAUGCa-----
----- 4 1,-1
-----CGUACCGUGAGUAAUAAUGCG-----
----- 51 1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 40 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 7 1,0
-----GUACCGUGAGUAAUAAUGC-----
----- 2 2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 6 2,0
-----GUACCGUGAGUAAUAAUGCGa-----
----- 5 2,0

```

>hsa-mir-1262 5p:14-35 SRX018961

aucuacaaggugAUGGGUGAAUUUGUAGAAGGAUgaaagucaaagaauccuucugggaacuaauuuuuggccuucaca

```

agaauugugauau
(((.(((((.((...(((.(((((.(((((((.....)))))))))))).)).....)).))))....)).
...)))))..
-----UGAUGGGUGAAUUUGUAGAAa-----
-----      2      -2,-4
-----UGAUGGGUGAAUUUGUAGAAGGu-----
-----      2      -2,-2
-----UGAUGGGUGAAUUUGUAGAAGGA-----
-----      2      -2,-1
-----GAUGGGUGAAUUUGUAGAAGGA-----
-----      7      -1,-1
-----AUGGGUGAAUUUGUAGAAGGAU-----
-----      3      0,0

```

```

>hsa-mir-1266    5p:13-35    SRX018961
acagguagugucCCUCAGGGCUGUAGAACAGGGCUgggauuacuaaagcccuguucuaugcccugagggacacugagcau
guca
(((.(((((((.....))..))))))))))))))))))))))))))))))))))))..
-----CCUCAGGGCUGUAGAACAGGG-----
-----      2      0,-2
-----CCUCAGGGCUGUAGAACAGGGC-----
-----      5      0,-1
-----CCUCAGGGCUGUAGAACAGGGCU-----
-----      6      0,0
-----CCUCAGGGCUGUAGAACAGGGCUu-----
-----      5      0,0

```

```

>hsa-mir-1268    5p:5-22    SRX018961
uagcCGGGCGUGGUGGUGGGGGccugugguccagcuacuuggaggcugag
((((...((.(((((.((((((...)))))).)))).))..)))))..
----CGGGCGUGGUGGUGGGGG-----52  0,0
----CGGGCGUGGUGGUGGGGGa-----3   0,0
----CGGGCGUGGUGGUGGGGGu-----4   0,0

```

```

>hsa-mir-1269    3p:67-88    SRX018961
uggauugccuagaccaggggaagccaguuggcauggcucaguccaagucugaccaccugaggaaugcCUGGACUGAGCCGU
GCUACUGGcuucccuggucuccagc

```

----- 25 0,0

-----	-CUGAAGCUCAGAGGGCUCUGAUa-	-----
-----	3 0,0	
-----	-CUGAAGCUCAGAGGGCUCUGAUU-	-----
-----	13 0,1	
-----	-CUGAAGCUCAGAGGGCUCUGAUUu-	-----
-----	2 0,1	
-----	-UGAAGCUCAGAGGGCUCU-	-----
-----	5 1,-3	
-----	-UGAAGCUCAGAGGGCUCUGA-	-----
-----	15 1,-1	
-----	-UGAAGCUCAGAGGGCUCUGAU-	-----
-----	8 1,0	
-----	-UGAAGCUCAGAGGGCUCUGAUU-	-----
-----	7 1,1	
-----	-GAAGCUCAGAGGGCUCUGAU-	-----
-----	3 2,0	
-----	-GAAGCUCAGAGGGCUCUGAUUC-	-----
-----	10 2,2	
-----	-GAAGCUCAGAGGGCUCUGAUUCu-	-----
-----	4 2,2	
-----	-----CAUCGGAUCCGUCUGAGCUUGGCuA-	
-----	2 -2,0	
-----	-----AUCGGAUCCGUCUGAGCUUGGuu--	
-----	2 -1,-2	
-----	-----AUCGGAUCCGUCUGAGCUUGGC---	
-----	2 -1,-1	
-----	-----UCGGAUCCGUCUGAGCUU-----	
-----	13 0,-4	
-----	-----UCGGAUCCGUCUGAGCUUG-----	
-----	26 0,-3	
-----	-----UCGGAUCCGUCUGAGCUUGG-----	
-----	75 0,-2	
-----	-----UCGGAUCCGUCUGAGCUUGGa---	
-----	16 0,-2	
-----	-----UCGGAUCCGUCUGAGCUUGGaa---	
-----	33 0,-2	
-----	-----UCGGAUCCGUCUGAGCUUGGau---	
-----	10 0,-2	

-----			-----UCGGAUCCGUCUGAGCUUGGu---
-----	7	0,-2	
-----			-----UCGGAUCCGUCUGAGCUUGGuu---
-----	11	0,-2	
-----			-----UCGGAUCCGUCUGAGCUUGGC---
-----	807	0,-1	
-----			-----UCGGAUCCGUCUGAGCUUGGCa---
-----	394	0,-1	
-----			-----UCGGAUCCGUCUGAGCUUGGCaa---
-----	243	0,-1	
-----			-----UCGGAUCCGUCUGAGCUUGGCau---
-----	929	0,-1	
-----			-----UCGGAUCCGUCUGAGCUUGGCU---
-----	4753	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUa---
-----	1387	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUaa---
-----	102	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUau---
-----	812	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUu---
-----	1846	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUuu---
-----	300	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUg---
-----	77	0,1	
-----			-----UCGGAUCCGUCUGAGCUUGGCUga---
-----	21	0,1	
-----			-----UCGGAUCCGUCUGAGCUUGGCUgu---
-----	93	0,1	
-----			-----CGGAUCCGUCUGAGCUUGGC---
-----	6	1,-1	
-----			-----CGGAUCCGUCUGAGCUUGGCaa---
-----	6	1,-1	
-----			-----CGGAUCCGUCUGAGCUUGGCU---
-----	43	1,0	
-----			-----CGGAUCCGUCUGAGCUUGGCUa---
-----	8	1,0	

```

-----CGGAUCCGUCUGAGCUUGGCUaa
----- 2 1,0
-----CGGAUCCGUCUGAGCUUGGCUau
----- 3 1,0
-----CGGAUCCGUCUGAGCUUGGCUu-
----- 6 1,0
-----CGGAUCCGUCUGAGCUUGGCUuu
----- 6 1,0
-----CGGAUCCGUCUGAGCUUGGCUg-
----- 5 1,1
-----CGGAUCCGUCUGAGCUUGGCUga
----- 5 1,1
-----CGGAUCCGUCUGAGCUUGGCUgu
----- 11 1,1
-----GGAUCCGUCUGAGCUUGGC---
----- 20 2,-1
-----GGAUCCGUCUGAGCUUGGCa--
----- 10 2,-1
-----GGAUCCGUCUGAGCUUGGCaa-
----- 4 2,-1
-----GGAUCCGUCUGAGCUUGGCau-
----- 7 2,-1
-----GGAUCCGUCUGAGCUUGGCU--
----- 90 2,0
-----GGAUCCGUCUGAGCUUGGCUa-
----- 15 2,0
-----GGAUCCGUCUGAGCUUGGCUaa
----- 3 2,0
-----GGAUCCGUCUGAGCUUGGCUau
----- 17 2,0
-----GGAUCCGUCUGAGCUUGGCUu-
----- 37 2,0
-----GGAUCCGUCUGAGCUUGGCUuu
----- 6 2,0
-----GGAUCCGUCUGAGCUUGGCUgu
----- 3 2,1

```

>hsa-mir-1270-1 5p:13-35 SRX018961


```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuauucuucuauguggcucuuu
gca
((.((((((((..((((((.(((((((((.(((((.)))))))))..))))))..))))))..))
)..
-----ACUGGAGAU AUGGAAGAGCUG-----
--- 2    -1,-3
-----ACUGGAGAU AUGGAAGAGCUGUG-----
--- 2    -1,-1
-----CUGGAGAU AUGGAAGAGC-----
--- 12   0,-5
-----CUGGAGAU AUGGAAGAGCU-----
--- 19   0,-4
-----CUGGAGAU AUGGAAGAGCUG-----
--- 6    0,-3
-----CUGGAGAU AUGGAAGAGCUGUGa-----
--- 10   0,-1
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 32   0,0

```

>hsa-mir-1270-2 5p:13-35 SRX018961

```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuauucuucuauguggcucuuu
gca
((.((((((((..((((((.(((((((((.(((((.)))))))))..))))))..))))))..))
)..
-----ACUGGAGAU AUGGAAGAGCUG-----
--- 2    -1,-3
-----ACUGGAGAU AUGGAAGAGCUGUG-----
--- 2    -1,-1
-----CUGGAGAU AUGGAAGAGC-----
--- 12   0,-5
-----CUGGAGAU AUGGAAGAGCU-----
--- 19   0,-4
-----CUGGAGAU AUGGAAGAGCUG-----
--- 6    0,-3
-----CUGGAGAU AUGGAAGAGCUGUGa-----
--- 10   0,-1
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 32   0,0

```

caccagaucaugCUUGGCACCUAGCAAGCACUCAguaaaauuuuguugagugccugcuaugugccaggcauugugcug
agggu

-----CUUGGCACCUAGCAAGCAC-----

-----CUUGGCACCUAGCAAGCACU-----

-----UUGGCACCUAGCAAGCAC-----

-----UUGGCACCUAGCAAGCACU-----

-----AGUGCCUGCUAUGUGCCA-----

-----AGUGCCUGCUAUGUGCCAG-----

ccagaucagaucugggugcGAUGAUGAUGGCAGCAAUUCUGAAAcgugcucagugucuuuaaacaggaaagccguaa
acuuagaaauguaggcugcagcucgugugcucuguggucugggcuggua

-----GAUGAUGAUGGCAGCAAAUUCUGA-----

ugaggcaggagaauugcuugaacccgggugggaggguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUCUUCUgga

-----CAGGAGAAUUGCUUGAAC-----

-----AGGAGAAUUGCUUGAACC-----

-----AGGAGAAUUGCUUGAACCC-----

----- 5

accucccaauauauauauauguacguauguguauauaaauguaUACGUAGAUUAUAUGUAUUUUuggguggguuu
(((..((((.(((((((((((.((((((((..(.....)..)))))))).)))))))).))))).))))).))))..

```
-----UACGUAGAUAAUAUGUAAAA--  
4    0,0  
  
>hsa-mir-1278    3p:50-71    SRX018961  
uuuugcucauagaugauaugcauguacucccagAACUCAUUAgagcgaaug  
g  
(((((((((((((((((((((((((((.(...)))))..))))))))).....).  
. .  
-----UAGUACUGUCAUAUCAUCU-----  
-   8    0,-2  
-----UAGUACUGUCAUAUCAUCAU-----  
-   23   0,0  
  
>hsa-mir-128-1  3p:50-70    SRX018961  
ugagcuguuggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUuucagcugcu  
uc  
(((((((((...(((((((...(((((((...)))))....)))))...)))).)  
).  
-----CGGGGCCGUAGCACUGUCUG-----  
--  2  
-----CGGGGCCGUAGCACUGUCUGA-----  
--  20  
-----CGGGGCCGUAGCACUGUCUGAGA-----  
--  7  
-----UCACAGUGAACCGGUCUC-----  
--  9    0,-3  
-----UCACAGUGAACCGGUCUCa-----  
--  2    0,-3  
-----UCACAGUGAACCGGUCUCaa-----  
--  3    0,-3  
-----UCACAGUGAACCGGUCUCU-----  
--  27   0,-2  
-----UCACAGUGAACCGGUCUCUa-----  
--  2    0,-2  
-----UCACAGUGAACCGGUCUCUaa-----  
--  2    0,-2  
-----UCACAGUGAACCGGUCUCUU-----  
--  76   0,-1
```

```

-----UCACAGUGAACCGGUCUCUUa-----
-- 14 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 10 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 5 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 147 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 39 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 14 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 2 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 28 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 2 0,1
-----ACAGUGAACCGGUCUCUUa-----
-- 3 2,-1

```

>hsa-mir-128-2 3p:52-72 SRX018961

```

ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(..(((((((.(((((((((((...(((((((.(((((.(...)).)))))))))))).)))))))).))))))
..).

```

```

-----GGGGGCCGAUACACUGUACGAG-----
---- 6
-----GGGGGCCGAUACACUGUACGAGA-----
---- 10
-----UCACAGUGAACCGGUCUC-----
---- 9 0,-3
-----UCACAGUGAACCGGUCUCa-----
---- 2 0,-3
-----UCACAGUGAACCGGUCUCaa-----
---- 3 0,-3
-----UCACAGUGAACCGGUCUCU-----
---- 27 0,-2

```

```

-----UCACAGUGAACCGGUCUCUa-----
---- 2 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
---- 2 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 76 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
---- 14 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
---- 10 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
---- 5 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
---- 147 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
---- 39 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
---- 14 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
---- 2 0,0
-----ACAGUGAACCGGUCUCUUa-----
---- 3 2,-1

```

>hsa-mir-1285-1 3p:51-72 SRX018961

```

uguagagauaggaucucacuuguugcccaggcuggucuaaacuccuggUCUGGGCAACAAAGUGAGACCUuauucucua
caag

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..

```

```

-----UCUGGGCAACAAAGUGAGA-----
---- 3 0,-3
-----UCUGGGCAACAAAGUGAGAC-----
---- 30 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
---- 15 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
---- 6 0,-1
-----UCUGGGCAACAAAGUGAGACCau-----
---- 2 0,-1

```

```

-----UCUGGGCAACAAAGUGAGACCU-----
---- 37 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
---- 36 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
---- 12 0,0
-----UCUGGGCAACAAAGUGAGACCUU-----
---- 6 0,1
-----UCUGGGCAACAAAGUGAGACCUUu-----
---- 4 0,1
-----UCUGGGCAACAAAGUGAGACCUUA-----
---- 6 0,2

```

>hsa-mir-1285-2 3p:52-73 SRX018961

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

(((((((((((((((.....(((((((.....((((.....))))).))))).))))).))))).))))).)))).

```

-----UCUGGGCAACAAAGUGAGA-----
----- 3 0,-3
-----UCUGGGCAACAAAGUGAGAC-----
----- 30 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----- 15 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----- 6 0,-1
-----UCUGGGCAACAAAGUGAGACCau-----
----- 2 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----- 37 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----- 36 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
----- 12 0,0

```

>hsa-mir-1286 3p:47-67 SRX018961

uguccucuggggacucagcuugcucuggcugcuggauugaauuagcUGCAGGACCAAGAUGAGCCCUugguggagaca
..(((.(.(((.((((.((((.(.((((.....))))).))))).))))).))))).))))).))))).))))....

(((((.....((..((((..(((.(.(.(((((((.((((((((((((((((((((((((((((((.((.(.....))
.)).)))))))))))))))))))))))))).))))))).) .))) .)) .)) .)) .)) .)) .)) ..

-CUGUGAGGUUGGCAUUGUU-	2	-1,-4
-UGUGAGGUUGGCAUUGUU-	2	0,-4
-UGUGAGGUUGGCAUUGUUG-	18	0,-3
-UGUGAGGUUGGCAUUGUUGa-	2	0,-3
-UGUGAGGUUGGCAUUGUUGU-	17	0,-2
-UGUGAGGUUGGCAUUGUUGUC-	6	0,-1
-UGUGAGGUUGGCAUUGUUGUCU-	12	0,0
-UGUGAGGUUGGCAUUGUUGUCUuu-	3	0,0

>hsa-mir-1295 3p:49-69 SRX018961

aggacauuuugcccagaucguggccuauucagaaauguggccugugaUUAGGCCGCAGAU CUGGGUGAaauguccucc
 ((((((((((..(((((((.(((((((.(.(((..)))))).)))))).)))))).)))))).)))))).))..
 -----UUAGGCCGCAGAU CUGGGUGAAA-----
 2 0,2

>hsa-mir-1301 3p:48-71 SRX018961

```

ggauuguggggggucgcucuaggcacccgcagcacugugcugggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc
(((((((.(((((((((((((((((((.((((((((.....)).)))))).).)))))).)))))))).)))))))).
..
-----UUGCAGCUGCCUGGGAGUGA-----
-- 14 0,-4
-----UUGCAGCUGCCUGGGAGUGAC-----
-- 28 0,-3
-----UUGCAGCUGCCUGGGAGUGACa-----
-- 8 0,-3
-----UUGCAGCUGCCUGGGAGUGACU-----
-- 16 0,-2

```

			UUGCAGCUGCCUGGGAGUGACU _a
--	4	0,-2	
			UUGCAGCUGCCUGGGAGUGACUU
--	16	0,-1	
			UUGCAGCUGCCUGGGAGUGACUUC
--	5	0,0	
			UUGCAGCUGCCUGGGAGUGACUUC _u
--	5	0,0	
			UUGCAGCUGCCUGGGAGUGACUUCA
--	2	0,1	
			UGCAGCUGCCUGGGAGUGA
--	6	1,-4	
			UGCAGCUGCCUGGGAGUGAC
--	5	1,-3	
			UGCAGCUGCCUGGGAGUGAC _{au}
--	3	1,-3	
			UGCAGCUGCCUGGGAGUGACU
--	9	1,-2	
			UGCAGCUGCCUGGGAGUGACUU
--	28	1,-1	
			UGCAGCUGCCUGGGAGUGACUU _a
--	7	1,-1	
			UGCAGCUGCCUGGGAGUGACUUC
--	39	1,0	
			UGCAGCUGCCUGGGAGUGACUUC _u
--	4	1,0	
			UGCAGCUGCCUGGGAGUGACUUCA
--	16	1,1	
			UGCAGCUGCCUGGGAGUGACUUCA _u
--	6	1,1	

>hsa-mir-1303 3p:52-73 SRX018961

ggcugggcaacauagcgagaccucaacucuaacaauuuuuuuuuuuuuuuuuuuuuUUUAGAGACGGGGUCUUGCUCUguugcca
ggcuuu

(((.(((((((.((((((((((((..((((.(((((.....))))).))))).))))).))))).))))).
))))..

-----AGCGAGACCUCAACUCUACA-----

----- 2

Number of nucleotides	Number of nucleotides in the 3' end	Number of nucleotides in the 5' end	Sequence
4	-2,-2		AUUUUAGAGACGGGGUCUUGC-
2	-2,-2		AUUUUAGAGACGGGGUCUUGC _{aa} -
3	-1,-3		UUUUAGAGACGGGGUCUUGC-
17	-1,-2		UUUUAGAGACGGGGUCUUGC-
5	-1,-1		UUUUAGAGACGGGGUCUUGC _{aa} -
2	0,-4		UUUAGAGACGGGGUCUUG _a -
3	0,-4		UUUAGAGACGGGGUCUUG _{aa} -
10	0,-3		UUUAGAGACGGGGUCUUGC-
56	0,-2		UUUAGAGACGGGGUCUUGC-
2	0,-2		UUUAGAGACGGGGUCUUGC _{aa} -
8	0,-1		UUUAGAGACGGGGUCUUGC-
2	0,-1		UUUAGAGACGGGGUCUUGC _{aa} -
3	0,0		UUUAGAGACGGGGUCUUGC _{aa} -
5	1,-2		UUAGAGACGGGGUCUUGC-

>hsa-mir-1304 5p:20-41 SRX018961

gugagcagucuccaccaccuccccugcaaacguccaguggugcagagguaauggACGUUGGCUCUGGUGGUGauggacag
uccga

-----			-GACGUUGGCUCUGGUGGUGAU <u>u</u> -----
-----	3	-1,3	
-----			-ACGUUGGCUCUGGUGGUG <u>u</u> -----
-----	2	0,0	
-----			-ACGUUGGCUCUGGUGGUGAU-----
-----	5	0,2	
-----			-ACGUUGGCUCUGGUGGUGAU <u>au</u> -----
-----	2	0,2	
-----			-ACGUUGGCUCUGGUGGUGAUG-----
-----	9	0,3	
-----			-ACGUUGGCUCUGGUGGUGAUG <u>u</u> -----
-----	6	0,3	

[illegible]

-CUCGACCGGACCUCGACCGGCU-	4
-CUCGACCGGACCUCGACCGGCUC-	3
-UCGACCGGACCUCGACCG-	29
-UCGACCGGACCUCGACCGG-	16
-UCGACCGGACCUCGACCGGa-	3
-UCGACCGGACCUCGACCGGau-	5
-UCGACCGGACCUCGACCGGC-	225
-UCGACCGGACCUCGACCGGCa-	5
-UCGACCGGACCUCGACCGGCaa-	7

-----UCGACCGGACCUCGACCGGCau-----	
-----	2
-----UCGACCGGACCUCGACCGGCU-----	
-----	1517
-----UCGACCGGACCUCGACCGGCUa-----	
-----	93
-----UCGACCGGACCUCGACCGGCUaa-----	
-----	20
-----UCGACCGGACCUCGACCGGCUau-----	
-----	16
-----UCGACCGGACCUCGACCGGCUu-----	
-----	265
-----UCGACCGGACCUCGACCGGCUuu-----	
-----	65
-----UCGACCGGACCUCGACCGGCUC-----	
-----	2029
-----UCGACCGGACCUCGACCGGCUCa-----	
-----	98
-----UCGACCGGACCUCGACCGGCUCau-----	
-----	2
-----UCGACCGGACCUCGACCGGCUCu-----	
-----	47
-----UCGACCGGACCUCGACCGGCUCG-----	
-----	80
-----UCGACCGGACCUCGACCGGCUCGU-----	
-----	30
-----CGACCGGACCUCGACCGGCU-----	
-----	9
-----CGACCGGACCUCGACCGGCUC-----	
-----	5
-----CGACCGGACCUCGACCGGCUCa-----	
-----	3
-----CGACCGGACCUCGACCGGCUCG-----	
-----	2
-----GACCGGACCUCGACCGGC-----	
-----	5
-----GACCGGACCUCGACCGGCU-----	
-----	32

-----GACCGGACCUCGACCGGCUa-----			
-----	4		
-----GACCGGACCUCGACCGGCUu-----			
-----	8		
-----GACCGGACCUCGACCGGCUC-----			
-----	53		
-----GACCGGACCUCGACCGGCUCa-----			
-----	6		
-----GACCGGACCUCGACCGGCUCGU-----			
-----	10		
-----A			
CUCGGCGUGGCGUCGGU-----	5	0,-4	
-----A			
CUCGGCGUGGCGUCGGUC-----	26	0,-3	
-----A			
CUCGGCGUGGCGUCGGUCG-----	62	0,-2	
-----A			
CUCGGCGUGGCGUCGGUCGU-----	87	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUau-----	2	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUu-----	6	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUG-----	429	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGa-----	40	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGau-----	9	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGu-----	68	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGuu-----	2	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGG-----	30	0,1	
-----A			
CUCGGCGUGGCGUCGGUCGUGGa-----	5	0,1	
-----A			
CUCGGCGUGGCGUCGGUCGUGGU-----	2	0,2	


```

-----CAGUGCAAUGAUGAAAGGGCAa-----
-- 27 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 150 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 14 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 40 0,0
-----AGUGCAAUGAUGAAAGGG-----
-- 2 1,-3
-----AGUGCAAUGAUGAAAGGGCAa-----
-- 2 1,-1
-----AGUGCAAUGAUGAAAGGGCAU-----
-- 6 1,0
-----AGUGCAAUGAUGAAAGGGCAUa-----
-- 3 1,0
-----GUGCAAUGAUGAAAGGGC-----
-- 2 2,-2

```

>hsa-mir-132 mi:23-44;MA:59-80 SRX018961

```

ccgccccgcgucuccagggcaACCGUGGCUUUCGAUUGUUACUgugggaacuggaggUAACAGUCUACAGCCAUGGUCG
ccccgcagcacgcccacgcgc

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))

```

```

-----CAACCGUGGCUUUCGAUUG-----
-- 2 -2,-5
-----CAACCGUGGCUUUCGAUUGUUA-----
-- 3 -2,-2
-----AACCGUGGCUUUCGAUUGUU-----
-- 6 -1,-3
-----AACCGUGGCUUUCGAUUGUUA-----
-- 11 -1,-2
-----AACCGUGGCUUUCGAUUGUUAa-----
-- 5 -1,-2
-----ACCGUGGCUUUCGAUUGUUA-----
-- 7 0,-2
-----ACCGUGGCUUUCGAUUGUUAC-----
-- 4 0,-1

```

```

-----ACCGUGGCUUUCGAUUGUUACU-----
----- 7 0,0
-----UAACAGUCUACAGCCAUG-----
----- 4 0,-4
-----UAACAGUCUACAGCCAUGG-----
----- 3 0,-3
-----UAACAGUCUACAGCCAUGGU-----
----- 16 0,-2
-----UAACAGUCUACAGCCAUGGUC-----
----- 28 0,-1
-----UAACAGUCUACAGCCAUGGUCG
----- 62 0,0
-----UAACAGUCUACAGCCAUGGUCG
a----- 5 0,0
-----UAACAGUCUACAGCCAUGGUCG
u----- 59 0,0
-----AACAGUCUACAGCCAUGGU-----
----- 2 1,-2
-----ACAGUCUACAGCCAUGGUCG
u----- 4 2,0

```

>hsa-mir-133a-1 3p:53-74 SRX018961

```

acaaugcuugcuagagcugguaaaauggaaccaaucgccucucaauggaUUUGGUCCCCUUAACCAGCUGuagcua
ugcauga
.(((((((...(((((((((((...(((...((((((((((((.....)))))))))).)).)).)))))).)))).
.)))).).
-----AGCUGGUAAAAUGGAACCAA-----
----- 2
-----AGCUGGUAAAAUGGAACCAAUa-----
----- 4
-----UUUGGUCCCCUUAACCAGCa-----
----- 2 0,-2
-----UUUGGUCCCCUUAACCAGCUG-----
----- 2 0,0
-----UUUGGUCCCCUUAACCAGCUGU-----
----- 3 0,1
-----UUUGGUCCCCUUAACCAGCUG-----
----- 2 1,0

```

```

-----UUGGUCCCCUUAACCAGCUGU-----
-----      6      1,1
-----UUGGUCCCCUUAACCAGCUGUAu-----
-----      2      1,2
-----UGGUCCCCUUAACCAGCUGU-----
-----      2      2,1

```

>hsa-mir-133a-2 3p:59-80 SRX018961

```

gggagccaaaugcuugcuagagcugguaaaauggaaccaaaucaugcuguccauggaUUUGGUCCCCUUAACCAGCUG
uagcugugcauugauggcgccg

```

```

.(((.((((((((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).

```

```

-----AGCUGGUAAAAUGGAACCAA-----
-----      2
-----AGCUGGUAAAAUGGAACCAAUa-----
-----      4

```

```

-----UUUGGUCCCCUUAACCAGCa-----
-----      2      0,-2
-----UUUGGUCCCCUUAACCAGCUG
-----      2      0,0
-----UUUGGUCCCCUUAACCAGCUG

```

```

U-----      3      0,1
-----UUUGGUCCCCUUAACCAGCUG
-----      2      1,0
-----UUUGGUCCCCUUAACCAGCUG

```

```

U-----      6      1,1
-----UUUGGUCCCCUUAACCAGCUG
UAu-----      2      1,2
-----UGGUCCCCUUAACCAGCUG

```

```

U-----      2      2,1

```

>hsa-mir-133b 3p:66-87 SRX018961

```

ccucagaagaaagaugcccccugcucuggcuggucaaacggaaccaaguccgucuuccugagaggUUUGGUCCCCUUAAC
CCAGCUAcagcagggcuggcaaugcccaguccuuggaga

```

```

.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((
))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).

```

```

-----UUUGGUCCCCUUAAC
CCAGCa-----      2      0,-2

```

>hsa-mir-134 5p:8-29 SRX018961

caggguUGUGACUGGUUGACCAGAGGGGcaugcacuguguuacaccugugggccaccuagucaccaaccuc

.((((((.(((((((.(((.(((((((((.)))))))).)))))).)))))).)))))).

-----UGUGACUGGUUGACCAGA----- 57

0,-4

-----UGUGACUGGUUGACCAGAA----- 3

0,-4

-----UGUGACUGGUUGACCAGAAa----- 10

0,-4

-----UGUGACUGGUUGACCAGAG----- 230

0,-3

-----UGUGACUGGUUGACCAGAGa----- 79

0,-3

-----UGUGACUGGUUGACCAGAGu----- 7

0,-3

-----UGUGACUGGUUGACCAGAGG----- 172

0,-2

-----UGUGACUGGUUGACCAGAGGa----- 44

0,-2

-----UGUGACUGGUUGACCAGAGGaa----- 3

0,-2

-----UGUGACUGGUUGACCAGAGGu----- 15

0,-2

-----UGUGACUGGUUGACCAGAGGG----- 461

0,-1

-----UGUGACUGGUUGACCAGAGGGa----- 91

0,-1

-----UGUGACUGGUUGACCAGAGGGaa----- 37

0,-1

-----UGUGACUGGUUGACCAGAGGGau----- 15

0,-1

-----UGUGACUGGUUGACCAGAGGGu----- 26

0,-1

-----UGUGACUGGUUGACCAGAGGGuu----- 2

0,-1

-----UGUGACUGGUUGACCAGAGGGG----- 708

0,0

-----UGUGACUGGUUGACCAGAGGGGa-----	117
0,0	
-----UGUGACUGGUUGACCAGAGGGGaa-----	45
0,0	
-----UGUGACUGGUUGACCAGAGGGGau-----	48
0,0	
-----UGUGACUGGUUGACCAGAGGGGu-----	37
0,0	
-----UGUGACUGGUUGACCAGAGGGGuu-----	16
0,0	
-----GUGACUGGUUGACCAGAGGG-----	2
1,-1	
-----GUGACUGGUUGACCAGAGGGG-----	9
1,0	
-----GUGACUGGUUGACCAGAGGGGaa-----	3
1,0	
-----GUGACUGGUUGACCAGAGGGGuu-----	5
1,0	

>hsa-mir-135a-2 5p:23-45 SRX018961

agauaaaauccacucuaugugcuuUAUGGCUUUUUAUCCUAUGUGAuaguaaauaaagucucauguagggauuggaagccaug
aaauacauugugaaaaauca

.(((...((((...(((.(((((((((((((.(((((((((((((.((.....).).))))))))))))))))))))))))))
)..)))...))))..))).

-----AUGUAGGGAUGGAAGCCAUG	
-----2	
-----AUGUAGGGAUGGAAGCCAUG	
A-----4	
-----AUGUAGGGAUGGAAGCCAUG	
AA-----2	
-----UGUAGGGAUGGAAGCCAUG	
-----3	
-----UGUAGGGAUGGAAGCCAUG	
A-----13	
-----UGUAGGGAUGGAAGCCAUG	
AA-----18	
-----UGUAGGGAUGGAAGCCAUG	
AAu-----9	

-----UGUAGGGAUGGAAGCCAUG
AAA-----11

>hsa-mi r-135b MA:16-38;mi :55-76 SRX018961

cacucugcuguggccUAUGGCUUUCAUCCUAUGUGAaugcugucccaaacucAUGUAGGGCUAAAAGCCAUGGGcuac
agugaggggcgagcucc

-----UAUGGCUUUCAUCCUAUGUG-----

----- 3 0,-1

-----UAUGGCUUUUCAUCCUAUGUG_u-----

----- 3 0,-1

-----UAUGGCUUUUCAUCCUAUGUGA-----

----- 19 0,0

-----UAUGGCUUUUCAUCCUAUGUGAU-----

----- 2 0,1

-----AUGUAGGGCUAAAAGCCAUGGGaa-----

----- 3 0,0

>hsa-mi r-136 MA:15-37;mi :49-70 SRX018961

ugagcccucggaggACUCCAUUUGUUUGAUGAUGGAuucuaugcucCAUCAUCGUCUCAAUGAGUCUucagaggguu
cu

$$.(((((((.(((((((.((((((\dots((((((((((\dots)))))))).\dots)))))))))\dots))))).))))).$$

-----ACUCCAUUUGUUUGAUGA-----

-- 5 0,-4

-----ACUCCAUUGUUUGAUGAU-----

-- 18 0,-3

-----ACUCCAUUUGUUUUGAUGAUGG-----

$$-2 \quad 0, -1$$

-----CAUCAUCGUCUCAAUGAG-----

-- 16 0,-3

-----CAUCAUCGUCUCAAUGAGUC-----

$$-- \quad 2 \quad 0, -1$$

-----CAUCAUGCUCUAAAUGAGUCU-----

-- 2 0,0

-----AUCAUCGUCUCAAAUGAG-----

-- 2 1,-3


```

-----AGCUGGUGUUGUGAAUCAGGCa-----
----   3   0,-2
-----AGCUGGUGUUGUGAAUCAGGCau-----
----   7   0,-2
-----AGCUGGUGUUGUGAAUCAGGCC-----
----  17   0,-1
-----AGCUGGUGUUGUGAAUCAGGCCau-----
----   3   0,-1
-----AGCUGGUGUUGUGAAUCAGGCCG-----
----  14   0,0

```

>hsa-mir-139 5p:7-28;3p:44-65 SRX018961

```

guguauUCUACAGUGCACGUGUCUCCAGuguggcucggaggcuGGAGACGCGGCCCUUGGAGUaac
...(((((((((((.(((.(((((((((((((.(. . . . .).)))))))))))))).))))))..
-----UCUACAGUGCACGUGUCU----- 8   0,-4
-----UCUACAGUGCACGUGUCUC----- 7   0,-3
-----UCUACAGUGCACGUGUCUCC----- 15  0,-2
-----UCUACAGUGCACGUGUCUCCA----- 53  0,-1
-----UCUACAGUGCACGUGUCUCCAa----- 18  0,-1
-----UCUACAGUGCACGUGUCUCCAu----- 11  0,-1
-----UCUACAGUGCACGUGUCUCCAG----- 100 0,0
-----UCUACAGUGCACGUGUCUCCAGa----- 9   0,0
-----UCUACAGUGCACGUGUCUCCAGU----- 154 0,1
-----UCUACAGUGCACGUGUCUCCAGUu----- 3   0,1
-----CUACAGUGCACGUGUCUCCAGU----- 3   1,1
-----UGGAGACGCGGCCCUUGU----- 242
-1,-5
-----UGGAGACGCGGCCCUUGUa----- 12
-1,-5
-----UGGAGACGCGGCCCUUGUaa----- 5
-1,-5
-----UGGAGACGCGGCCCUUGUu----- 5
-1,-5
-----UGGAGACGCGGCCCUUGUG----- 897
-1,-4
-----UGGAGACGCGGCCCUUGUGa----- 25
-1,-4
-----UGGAGACGCGGCCCUUGUGaa----- 13

```

-1,-4	-----UGGAGACGCGGCCCUGUUGu-----	15	
-1,-4	-----UGGAGACGCGGCCCUGUUGG-----	1287	
-1,-3	-----UGGAGACGCGGCCCUGUUGGu-----	13	
-1,-3	-----UGGAGACGCGGCCCUGUUGGuu-----	2	
-1,-3	-----UGGAGACGCGGCCCUGUUGGA-----	2146	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAa-----	530	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAaa-----	479	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAau-----	45	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAu-----	90	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAuu-----	2	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAG-----	4291	
-1,-1	-----UGGAGACGCGGCCCUGUUGGAGa-----	1566	
-1,-1	-----UGGAGACGCGGCCCUGUUGGAGaa-----	65	
-1,-1	-----UGGAGACGCGGCCCUGUUGGAGau-----	24	
-1,-1	-----UGGAGACGCGGCCCUGUUGGAGU-----	7526	
-1,0	-----UGGAGACGCGGCCCUGUUGGAGUu-----	153	-1,0
	-----UGGAGACGCGGCCCUGUUGGAGUuu-----	36	-1,0
	-----UGGAGACGCGGCCCUGUUGGAGUA-----	60	-1,1
	-----UGGAGACGCGGCCCUGUUGGAGUAu-----	17	-1,1
	-----UGGAGACGCGGCCCUGUUGGAGUAA-----	13	-1,2
	-----GGAGACGCGGCCCUGUUG-----	8	0,-4
	-----GGAGACGCGGCCCUGUUGG-----	18	0,-3

-----GGAGACGCGGCCCUUUGGA-----	22	0,-2
-----GGAGACGCGGCCCUUUGGAa----	5	0,-2
-----GGAGACGCGGCCCUUUGGAau---	2	0,-2
-----GGAGACGCGGCCCUUUGGAG----	50	0,-1
-----GGAGACGCGGCCCUUUGGAGa---	6	0,-1
-----GGAGACGCGGCCCUUUGGAGU---	216	0,0
-----GGAGACGCGGCCCUUUGGAGUu--	5	0,0
-----GGAGACGCGGCCCUUUGGAGUA--	4	0,1
-----GAGACGCGGCCCUUUGGA-----	2	1,-2
-----AGACGCGGCCCUUUGGA-----	2	2,-2
-----AGACGCGGCCCUUUGGAG----	4	2,-1
-----AGACGCGGCCCUUUGGAGU---	26	2,0
-----AGACGCGGCCCUUUGGAGUu--	25	2,0
-----AGACGCGGCCCUUUGGAGUuu-	37	2,0
-----AGACGCGGCCCUUUGGAGUA--	2	2,1
-----AGACGCGGCCCUUUGGAGUAu-	3	2,1

>hsa-mi r-140 5p:23-44;3p:62-82 SRX018961

ugugucucucucuguguccugcCAGUGGUUUUACCCUAUGGUAGguuacgucaugcuguucUACCACAGGGUAGAACCAC
GGacaggauaccggggcacc

.(((((((.....(((((((((((.(((((((((((((((.(((((((((((.....)))))))))).))))))))))))))
)..))))))))).)))))))).

-----CAGUGGUUUUACCCUAUGGUAG-----		
-----6 0,-1		
-----CAGUGGUUUUACCCUAUGGUAGa-----		
-----15 0,-1		
-----CAGUGGUUUUACCCUAUGGUAG-----		
-----7 0,0		
-----CAGUGGUUUUACCCUAUGGUAGa-----		
-----3 0,0		
-----AGUGGUUUUACCCUAUGGUAG-----		
-----2 1,0		
-----CUACCACAGGGUAGAACCAC		
GG-----9 -1,0		
-----CUACCACAGGGUAGAACCAC		
GGA-----27 -1,1		
-----CUACCACAGGGUAGAACCAC		
GGAa-----2 -1,1		

-----				-----CUACCACAGGGUAGAACCAC
GGAC-----	6	-1,2		
-----				-----UACCACAGGGUAGAACCA-
-----	45	0,-3		
-----				-----UACCACAGGGUAGAACCAC
-----	65	0,-2		
-----				-----UACCACAGGGUAGAACCAC
aa-----	2	0,-2		
-----				-----UACCACAGGGUAGAACCAC
G-----	1249	0,-1		
-----				-----UACCACAGGGUAGAACCAC
Ga-----	31	0,-1		
-----				-----UACCACAGGGUAGAACCAC
Gaa-----	6	0,-1		
-----				-----UACCACAGGGUAGAACCAC
Gu-----	2	0,-1		
-----				-----UACCACAGGGUAGAACCAC
GG-----	10019	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGu-----	151	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGuu-----	35	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGA-----	9960	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAA-----	2004	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAAA-----	644	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAAu-----	181	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAU-----	326	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAUu-----	15	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAC-----	1510	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACu-----	56	0,2		

-----				-----UACCACAGGGUAGAACCAC
GGACA-----	472	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAa-----	23	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAu-----	5	0,3		
-----				-----ACCACAGGGUAGAACCAC
-----	49	1,-2		
-----				-----ACCACAGGGUAGAACCAC
G-----	84	1,-1		
-----				-----ACCACAGGGUAGAACCAC
Ga-----	5	1,-1		
-----				-----ACCACAGGGUAGAACCAC
Gaa-----	2	1,-1		
-----				-----ACCACAGGGUAGAACCAC
Gu-----	3	1,-1		
-----				-----ACCACAGGGUAGAACCAC
GG-----	2987	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGu-----	269	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGuu-----	85	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGA-----	35312	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAa-----	10850	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAaa-----	3769	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAAu-----	508	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAu-----	4188	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAu-----	145	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAC-----	12069	1,2		
-----				-----ACCACAGGGUAGAACCAC
GGACu-----	199	1,2		

-----			-----ACCACAGGGUAGAACCAC
GGACuu-----	5	1,2	-----ACCACAGGGUAGAACCAC
GGACA-----	594	1,3	-----ACCACAGGGUAGAACCAC
GGACAa-----	517	1,3	-----ACCACAGGGUAGAACCAC
GGACAaa-----	30	1,3	-----ACCACAGGGUAGAACCAC
GGACAau-----	13	1,3	-----ACCACAGGGUAGAACCAC
GGACAu-----	37	1,3	-----ACCACAGGGUAGAACCAC
GGACAUu-----	3	1,3	-----ACCACAGGGUAGAACCAC
GGACAG-----	32	1,4	-----ACCACAGGGUAGAACCAC
GGACAGa-----	11	1,4	-----CCACAGGGUAGAACCAC
GG-----	91	2,0	-----CCACAGGGUAGAACCAC
GGu-----	9	2,0	-----CCACAGGGUAGAACCAC
GGuu-----	4	2,0	-----CCACAGGGUAGAACCAC
GGA-----	972	2,1	-----CCACAGGGUAGAACCAC
GGAa-----	276	2,1	-----CCACAGGGUAGAACCAC
GGAAA-----	132	2,1	-----CCACAGGGUAGAACCAC
GGAAu-----	17	2,1	-----CCACAGGGUAGAACCAC
GGAAu-----	167	2,1	-----CCACAGGGUAGAACCAC
GGAC-----	392	2,2	-----CCACAGGGUAGAACCAC
GGACu-----	6	2,2	

```

-----CCACAGGGUAGAACCAC
GGACA-----      40  2,3
-----CCACAGGGUAGAACCAC
GGACAa-----     52  2,3
-----CCACAGGGUAGAACCAC
GGACAaa-----    7   2,3
-----CCACAGGGUAGAACCAC
GGACAGa-----    4   2,4

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>hsa-mi r-141      mi:17-38;MA:59-80   SRX018961
cggccggcccugggucCAUCUCCAGUACAGUGUUGGAuggucuaauugugaagcuccUAACACUGUCUGGUAAGAUGG
cucccggguggguuc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAACACUGUCUGGUAAGAUGu
u----- 2   0,-1

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>hsa-mi r-142      5p:16-36;3p:52-74   SRX018961
gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CCCAUAAAGUAGAAAGCA-----
----- 20  -2,-5
-----CCCAUAAAGUAGAAAGCAa-----
----- 17  -2,-5
-----CCCAUAAAGUAGAAAGCAuu-----
----- 2   -2,-5
-----CCCAUAAAGUAGAAAGCAC-----
----- 34  -2,-4
-----CCCAUAAAGUAGAAAGCACU-----
----- 237 -2,-3
-----CCCAUAAAGUAGAAAGCACUA-----
----- 105 -2,-2
-----CCCAUAAAGUAGAAAGCACUAa-----
----- 26  -2,-2
-----CCCAUAAAGUAGAAAGCACUAu-----
----- 3   -2,-2

```

-----CCCAUAAAGUAGAAAGCACUAC-----
----- 12 -2,-1
-----CCAUAAAGUAGAAAGCAC-----
----- 2 -1,-4
-----CCAUAAAGUAGAAAGCACU-----
----- 7 -1,-3
-----CCAUAAAGUAGAAAGCACUA-----
----- 4 -1,-2
-----CCAUAAAGUAGAAAGCACUAa-----
----- 3 -1,-2
-----CAUAAAGUAGAAAGCACU-----
----- 43 0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 142 0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 15 0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 13 0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 2 0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 63 0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 4 0,-1
-----CAUAAAGUAGAAAGCACUACaa-----
----- 6 0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 98 0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 42 0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 3 0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 6 0,2
-----AUAAAGUAGAAAGCACUA-----
----- 14 1,-2
-----AUAAAGUAGAAAGCACUAC-----
----- 5 1,-1


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-----GGUGCAGUGCUGCAUCUCUG-----
----- 166 0,-2
-----GGUGCAGUGCUGCAUCUCUGa-----
----- 18 0,-2
-----GGUGCAGUGCUGCAUCUCUGaa-----
----- 20 0,-2
-----GGUGCAGUGCUGCAUCUCUGu-----
----- 4 0,-2
-----GGUGCAGUGCUGCAUCUCUGG-----
----- 211 0,-1
-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 62 0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 94 0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 22 0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 38 0,0
-----GGUGCAGUGCUGCAUCUCUGGUaa-----
----- 10 0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 19 0,0
-----GGUGCAGUGCUGCAUCUCUGGUu-----
----- 16 0,0
-----GGUGCAGUGCUGCAUCUCUGGUC-----
----- 18 0,1
-----GGUGCAGUGCUGCAUCUCUGGUCu-----
----- 7 0,1
-----GGUGCAGUGCUGCAUCUCUGGUCA-----
----- 7 0,2
-----GGUGCAGUGCUGCAUCUCUGGUCAu-----
----- 6 0,2
-----GUGCAGUGCUGCAUCUCU-----
----- 2 1,-3
-----UCUGAGAUGAAGCACUGU-----
----- 4 -2,-5
-----UCUGAGAUGAAGCACUGUAG-----
----- 2 -2,-3

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-----UCUGAGAUGAAGCACUGUAGC-
----- 19 -2,-2
-----UCUGAGAUGAAGCACUGUAGCa
----- 4 -2,-2
-----UCUGAGAUGAAGCACUGUAGCU
----- 21 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
C----- 32 -2,0
-----CUGAGAUGAAGCACUGUA---
----- 25 -1,-4
-----CUGAGAUGAAGCACUGUAa--
----- 2 -1,-4
-----CUGAGAUGAAGCACUGUAu--
----- 3 -1,-4
-----CUGAGAUGAAGCACUGUAG--
----- 28 -1,-3
-----CUGAGAUGAAGCACUGUAGC-
----- 33 -1,-2
-----CUGAGAUGAAGCACUGUAGCa
----- 3 -1,-2
-----CUGAGAUGAAGCACUGUAGCa
a----- 3 -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 241 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
a----- 19 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
u----- 4 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 859 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 191 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cuu----- 12 -1,0
-----CUGAGAUGAAGCACUGUAGCU
CA----- 11 -1,1
-----CUGAGAUGAAGCACUGUAGCU
CAa----- 6 -1,1

```

			-CUGAGAUGAAGCACUGUAGCU
CAaa	2	-1,1	
			-UGAGAUGAAGCACUGUAG--
	1999	0,-3	
			-UGAGAUGAAGCACUGUAGa-
	18	0,-3	
			-UGAGAUGAAGCACUGUAGaa
	163	0,-3	
			-UGAGAUGAAGCACUGUAGau
	30	0,-3	
			-UGAGAUGAAGCACUGUAGu-
	2	0,-3	
			-UGAGAUGAAGCACUGUAGuu
	33	0,-3	
			-UGAGAUGAAGCACUGUAGC-
	2982	0,-2	
			-UGAGAUGAAGCACUGUAGCa
	557	0,-2	
			-UGAGAUGAAGCACUGUAGCa
a-	430	0,-2	
			-UGAGAUGAAGCACUGUAGCa
u-	43	0,-2	
			-UGAGAUGAAGCACUGUAGCU
	42158	0,-1	
			-UGAGAUGAAGCACUGUAGCU
a-	2329	0,-1	
			-UGAGAUGAAGCACUGUAGCU
aa-	234	0,-1	
			-UGAGAUGAAGCACUGUAGCU
au-	155	0,-1	
			-UGAGAUGAAGCACUGUAGCU
u-	1251	0,-1	
			-UGAGAUGAAGCACUGUAGCU
uu-	221	0,-1	
			-UGAGAUGAAGCACUGUAGCU
C-	165706	0,0	
			-UGAGAUGAAGCACUGUAGCU
Cu-	34170	0,0	

-----			UGAGAUGAAGCACUGUAGCU
Cuu-----	3554	0,0	-----
-----			UGAGAUGAAGCACUGUAGCU
CA-----	6360	0,1	-----
-----			UGAGAUGAAGCACUGUAGCU
CAa-----	430	0,1	-----
-----			UGAGAUGAAGCACUGUAGCU
CAaa-----	118	0,1	-----
-----			UGAGAUGAAGCACUGUAGCU
CAau-----	13	0,1	-----
-----			UGAGAUGAAGCACUGUAGCU
CAu-----	120	0,1	-----
-----			UGAGAUGAAGCACUGUAGCU
CAuu-----	6	0,1	-----
-----			UGAGAUGAAGCACUGUAGCU
CAG-----	56	0,2	-----
-----			UGAGAUGAAGCACUGUAGCU
CAGa-----	23	0,2	-----
-----			UGAGAUGAAGCACUGUAGCU
CAGaa-----	10	0,2	-----
-----			UGAGAUGAAGCACUGUAGCU
CAGu-----	9	0,2	-----
-----			UGAGAUGAAGCACUGUAGCU
CAGGA-----	4	0,4	-----
-----			GAGAUGAAGCACUGUAGC-
-----	13	1,-2	-----
-----			GAGAUGAAGCACUGUAGCa
-----	4	1,-2	-----
-----			GAGAUGAAGCACUGUAGCa
a-----	5	1,-2	-----
-----			GAGAUGAAGCACUGUAGCU
-----	76	1,-1	-----
-----			GAGAUGAAGCACUGUAGCU
a-----	9	1,-1	-----
-----			GAGAUGAAGCACUGUAGCU
u-----	5	1,-1	-----
-----			GAGAUGAAGCACUGUAGCU
uu-----	2	1,-1	

```

-----GAGAUGAAGCACUGUAGCU
C----- 624 1,0
-----GAGAUGAAGCACUGUAGCU
Cu----- 174 1,0
-----GAGAUGAAGCACUGUAGCU
Cuu----- 17 1,0
-----GAGAUGAAGCACUGUAGCU
CA----- 17 1,1
-----AGAUGAAGCACUGUAGCU
----- 23 2,-1
-----AGAUGAAGCACUGUAGCU
C----- 139 2,0
-----AGAUGAAGCACUGUAGCU
Cu----- 32 2,0
-----AGAUGAAGCACUGUAGCU
Cuu----- 13 2,0
-----AGAUGAAGCACUGUAGCU
CA----- 4 2,1
-----AGAUGAAGCACUGUAGCU
CAGG----- 2 2,3

```

>hsa-mir-144 mi:15-36;MA:52-71 SRX018961

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uggggcccuggcugGGAUAUCAUAUAUACUGUAAGuuugcgaugagacacUACAGUAUAGAUGAUGUACUaguccgggc
accccc

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((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))..

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```

-----GGAUAUCAUAUAUACUG-----
----- 31 0,-4
-----GGAUAUCAUAUAUACUGU-----
----- 6 0,-3
-----GGAUAUCAUAUAUACUGUA-----
----- 12 0,-2
-----GGAUAUCAUAUAUACUGUAA-----
----- 3 0,-1
-----GGAUAUCAUAUAUACUGUAAG-----
----- 59 0,0
-----GGAUAUCAUAUAUACUGUAAGU-----
----- 51 0,1

```



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-----GUCCAGUUUUCCCAGGAUa-----
----- 11 0,-4
-----GUCCAGUUUUCCCAGGAUaa-----
----- 3 0,-4
-----GUCCAGUUUUCCCAGGAAUC-----
----- 65 0,-3
-----GUCCAGUUUUCCCAGGAUca-----
----- 26 0,-3
-----GUCCAGUUUUCCCAGGAUCC-----
----- 74 0,-2
-----GUCCAGUUUUCCCAGGAUCCa-----
----- 17 0,-2
-----GUCCAGUUUUCCCAGGAUCCu-----
----- 4 0,-2
-----GUCCAGUUUUCCCAGGAUCCC-----
----- 182 0,-1
-----GUCCAGUUUUCCCAGGAUCCCa-----
----- 13 0,-1
-----GUCCAGUUUUCCCAGGAUCCCU-----
----- 226 0,0
-----GUCCAGUUUUCCCAGGAUCCCUU-----
----- 6 0,1
-----UCCAGUUUUCCCAGGAUCCC-----
----- 4 1,-1
-----GGAUUCCUGGAAAUACUGUUC-----
----- 12 0,-1
-----GGAUUCCUGGAAAUACUGUUCU-----
----- 32 0,0
-----GAUUCCUGGAAAUACUGUUCU-----
----- 3 1,0
-----GAUUCCUGGAAAUACUGUUCUU-----
----- 2 1,1
-----AUUCCUGGAAAUACUGUUCU-----
----- 6 2,0
-----AUUCCUGGAAAUACUGUUCUa-----
----- 2 2,0
-----AUUCCUGGAAAUACUGUUCUU-----
----- 2 2,1

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```

-----UGAGAACUGAAUCCAUGGGU-----
----- 362 0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 135 0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 206 0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 227 0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 1233 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 1357 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 129 0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 168 0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 728 0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 65 0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 715 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 180 0,1
-----UGAGAACUGAAUCCAUGGGUUGaa-----
----- 3 0,1
-----UGAGAACUGAAUCCAUGGGUUGau-----
----- 4 0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 271 0,2
-----UGAGAACUGAAUCCAUGGGUUGUa-----
----- 5 0,2
-----GAGAACUGAAUCCAUGGGU-----
----- 3 1,-1
-----GAGAACUGAAUCCAUGGGUaa-----
----- 5 1,-1
-----GAGAACUGAAUCCAUGGGUU-----
----- 19 1,0

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-----GAGAACUGAAUCCAUGGGUa-----
----- 33 1,0
-----GAGAACUGAAUCCAUGGGUu-----
----- 11 1,0
-----GAGAACUGAAUCCAUGGGUuu-----
----- 2 1,0
-----GAGAACUGAAUCCAUGGGUUG-----
----- 7 1,1
-----GAGAACUGAAUCCAUGGGUUGU-----
----- 15 1,2
-----AGAACUGAAUCCAUGGGUaa-----
----- 3 2,-1
-----AGAACUGAAUCCAUGGGUU-----
----- 7 2,0
-----AGAACUGAAUCCAUGGGUa-----
----- 6 2,0
-----AGAACUGAAUCCAUGGGUUu-----
----- 4 2,0
-----AGAACUGAAUCCAUGGGUuu-----
----- 5 2,0
-----AGAACUGAAUCCAUGGGUUG-----
----- 3 2,1

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>hsa-mir-146b 5p:9-30;3p:45-66 SRX018961

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ccuggcacUGAGAACUGAAUCCAUAGGCUgugagcucuagcaaUGCCCUGUGGACUCAGUUCUGGugcccg
((.((((((.(((((((..(((((((..((..((....)).)).)))))))).)))))))).))
-----CUGAGAACUGAAUCCA----- 9
-1,-5
-----CUGAGAACUGAAUCCAUAGGC----- 4
-1,-1
-----CUGAGAACUGAAUCCAUAGGCU----- 63
-1,0
-----CUGAGAACUGAAUCCAUAGGCUG----- 12
-1,2
-----UGAGAACUGAAUCCAUA----- 4
0,-4
-----UGAGAACUGAAUCCAUAG----- 42
0,-3

```

-----UGAGAACUGAAUCCAUAGa-----	2
0,-3	
-----UGAGAACUGAAUCCAUAGG-----	81
0,-2	
-----UGAGAACUGAAUCCAUAGGa-----	32
0,-2	
-----UGAGAACUGAAUCCAUAGGaa-----	6
0,-2	
-----UGAGAACUGAAUCCAUAGGau-----	4
0,-2	
-----UGAGAACUGAAUCCAUAGGuu-----	2
0,-2	
-----UGAGAACUGAAUCCAUAGGC-----	303
0,-1	
-----UGAGAACUGAAUCCAUAGGCa-----	360
0,-1	
-----UGAGAACUGAAUCCAUAGGCaa-----	74
0,-1	
-----UGAGAACUGAAUCCAUAGGCau-----	28
0,-1	
-----UGAGAACUGAAUCCAUAGGCU-----	3229
0,0	
-----UGAGAACUGAAUCCAUAGGCUa-----	412
0,0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	49
0,0	
-----UGAGAACUGAAUCCAUAGGCUau-----	91
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	286
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	31
0,0	
-----UGAGAACUGAAUCCAUAGGCUG-----	440
0,1	
-----UGAGAACUGAAUCCAUAGGCUGa-----	692
0,1	
-----UGAGAACUGAAUCCAUAGGCUGaa-----	36
0,1	

-----UGAGAACUGAAUCCAUAGGCUGau-----	26
0,1	
-----UGAGAACUGAAUCCAUAGGCUGU-----	8888
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUa-----	320
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUu-----	87
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUG-----	8
0,3	
-----GAGAACUGAAUCCAUAGGC-----	7
1,-1	
-----GAGAACUGAAUCCAUAGGCa-----	5
1,-1	
-----GAGAACUGAAUCCAUAGGCU-----	46
1,0	
-----GAGAACUGAAUCCAUAGGCUa-----	5
1,0	
-----GAGAACUGAAUCCAUAGGCUu-----	2
1,0	
-----GAGAACUGAAUCCAUAGGCUG-----	2
1,1	
-----GAGAACUGAAUCCAUAGGCUGa-----	4
1,1	
-----GAGAACUGAAUCCAUAGGCUGU-----	49
1,2	
-----GAGAACUGAAUCCAUAGGCUGUa-----	2
1,2	
-----AGAACUGAAUCCAUAGGCUu-----	2
2,0	
-----AGAACUGAAUCCAUAGGCUGU-----	3
2,2	
-----UGCCCUGUGGACUCAGUUCUG-----	11
0,-1	
-----UGCCCUGUGGACUCAGUUCUGa-----	2
0,-1	
-----UGCCCUGUGGACUCAGUUCUGG-----	46
0,0	

-----UGCCCUGUGGACUCAGUUCUGGa-----	3
0,0	
-----UGCCCUGUGGACUCAGUUCUGGU-----	46
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUa-----	26
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUaa-----	6
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUau-----	36
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUu-----	31
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUuu-----	6
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUG-----	2
0,2	
-----UGCCCUGUGGACUCAGUUCUGGUGu-----	3
0,2	
-----GCCCUGUGGACUCAGUUC-----	5
1,-3	
-----GCCCUGUGGACUCAGUUCUG-----	13
1,-1	
-----GCCCUGUGGACUCAGUUCUGG-----	278
1,0	
-----GCCCUGUGGACUCAGUUCUGGa-----	3
1,0	
-----GCCCUGUGGACUCAGUUCUGGU-----	171
1,1	
-----GCCCUGUGGACUCAGUUCUGGUa-----	74
1,1	
-----GCCCUGUGGACUCAGUUCUGGUaa-----	12
1,1	
-----GCCCUGUGGACUCAGUUCUGGUau-----	53
1,1	
-----GCCCUGUGGACUCAGUUCUGGUu-----	42
1,1	
-----GCCCUGUGGACUCAGUUCUGGUuu-----	5
1,1	

-----GCCCUGUGGACUCAGUUCUGGUG-----	2
1,2	
-----GCCCUGUGGACUCAGUUCUGGUGu----	14
1,2	
-----CCCUGUGGACUCAGUUCUGG-----	5
2,0	
-----CCCUGUGGACUCAGUUCUGGU-----	3
2,1	
-----CCCUGUGGACUCAGUUCUGGUaa----	4
2,1	
-----CCCUGUGGACUCAGUUCUGGUau----	13
2,1	
-----CCCUGUGGACUCAGUUCUGGUu-----	2
2,1	
-----CCCUGUGGACUCAGUUCUGGUuu----	2
2,1	
-----CCCUGUGGACUCAGUUCUGGUG-----	2
2,2	
-----CCCUGUGGACUCAGUUCUGGUGu----	2
2,2	

>hsa-mir-148a mi:6-27;MA:44-65 SRX018961

gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc
 ((((((((((((((((((((.....)))..))))))))..))))))))))))))

-----CAAAGUUCUGAGACACUCCGA-----	31
-1,-2	
-----AAAGUUCUGAGACACUCC-----	5 0,-4
-----AAAGUUCUGAGACACUCCG-----	4 0,-3
-----AAAGUUCUGAGACACUCCGA-----	359 0,-2
-----AAAGUUCUGAGACACUCCGAa-----	14 0,-2
-----AAAGUUCUGAGACACUCCGAaa-----	7 0,-2
-----AAAGUUCUGAGACACUCCGAC-----	7 0,-1
-----AAAGUUCUGAGACACUCCGACU-----	2 0,0
-----AAGUUCUGAGACACUCCGA-----	2 1,-2
-----AGUUCUGAGACACUCCGAaa-----	2 2,-2
-----UCAGUGCACUACAGAACU-----	13960
0,-4	
-----UCAGUGCACUACAGAACUa-----	10 0,-4

-----UCAGUGCACUACAGAACUaa-----	5	0,-4
-----UCAGUGCACUACAGAACUU-----	542	0,-3
-----UCAGUGCACUACAGAACUua-----	5	0,-3
-----UCAGUGCACUACAGAACUUU-----	2551	
0,-2		
-----UCAGUGCACUACAGAACUUUa----	26	0,-2
-----UCAGUGCACUACAGAACUUUaa---	10	0,-2
-----UCAGUGCACUACAGAACUUUau---	5	0,-2
-----UCAGUGCACUACAGAACUUUu---	26	0,-2
-----UCAGUGCACUACAGAACUUUuu---	4	0,-2
-----UCAGUGCACUACAGAACUUUG----	3413	
0,-1		
-----UCAGUGCACUACAGAACUUUGa---	6703	
0,-1		
-----UCAGUGCACUACAGAACUUUGaa---	1060	
0,-1		
-----UCAGUGCACUACAGAACUUUGau---	6	0,-1
-----UCAGUGCACUACAGAACUUUGU---	26838	
0,0		
-----UCAGUGCACUACAGAACUUUGUa---	58	0,0
-----UCAGUGCACUACAGAACUUUGUaa---	20	0,0
-----UCAGUGCACUACAGAACUUUGUu---	104	0,0
-----UCAGUGCACUACAGAACUUUGUuu---	7	0,0
-----UCAGUGCACUACAGAACUUUGUC---	405	0,1
-----UCAGUGCACUACAGAACUUUGUCa---	2	0,1
-----UCAGUGCACUACAGAACUUUGUCU---	34	0,2
-----CAGUGCACUACAGAACUUUG-----	3	1,-1
-----CAGUGCACUACAGAACUUUGa---	3	1,-1
-----CAGUGCACUACAGAACUUUGU---	51	1,0
-----AGUGCACUACAGAACUUU-----	72	2,-2
-----AGUGCACUACAGAACUUUG-----	53	2,-1
-----AGUGCACUACAGAACUUUGa---	68	2,-1
-----AGUGCACUACAGAACUUUGaa---	11	2,-1
-----AGUGCACUACAGAACUUUGU---	320	2,0
-----AGUGCACUACAGAACUUUGUu---	2	2,0
-----AGUGCACUACAGAACUUUGUC---	6	2,1

>hsa-mir-148b mi:25-46;MA:63-84 SRX018961


```

-----UCAGUGCAUCACAGAACU
UUGa----- 72  0,-1
-----UCAGUGCAUCACAGAACU
UUGaa----- 3   0,-1
-----UCAGUGCAUCACAGAACU
UUGU----- 475 0,0
-----UCAGUGCAUCACAGAACU
UUGUa----- 12  0,0
-----UCAGUGCAUCACAGAACU
UUGUaa----- 3   0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 80  0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 12  0,0
-----UCAGUGCAUCACAGAACU
UUGUC----- 5   0,1
-----CAGUGCAUCACAGAACU
UUGUuu----- 2   1,0
-----AGUGCAUCACAGAACU
UU----- 4   2,-2

```

>hsa-mir-149 MA:15-37;mi:56-76 SRX018961

```

gccggcgcccgagcUCUGGCUCCGUGUCUUCACUCCCgugcuuguccgaggagggAGGGAGGGACGGGGGCUGUGCuggg
gcagcugga

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----GAGGGAGGGACGGGGGCUGUGC-----

```

```

----- 2   -1,0

```

```

-----GAGGGAGGGACGGGGGCUGUGCuuu-

```

```

----- 2   -1,1

```

>hsa-mir-150 MA:16-37;mi:51-72 SRX018961

```

cuccccauggcccugUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UGUCUCCCAACCCUUGUACCAGU-----

```

```

----- 2   -2,-1

```

```

-----UCUCCCAACCCUUGUACC-----
---- 19 0,-4
-----UCUCCCAACCCUUGUACCA-----
---- 43 0,-3
-----UCUCCCAACCCUUGUACCAG-----
---- 57 0,-2
-----UCUCCCAACCCUUGUACCAGa-----
---- 5 0,-2
-----UCUCCCAACCCUUGUACCAGU-----
---- 118 0,-1
-----UCUCCCAACCCUUGUACCAGUa-----
---- 8 0,-1
-----UCUCCCAACCCUUGUACCAGUaa-----
---- 4 0,-1
-----UCUCCCAACCCUUGUACCAGUu-----
---- 2 0,-1
-----UCUCCCAACCCUUGUACCAGUG-----
---- 686 0,0
-----UCUCCCAACCCUUGUACCAGUGa-----
---- 160 0,0
-----UCUCCCAACCCUUGUACCAGUGaa-----
---- 2 0,0
-----UCUCCCAACCCUUGUACCAGUGau-----
---- 2 0,0
-----UCUCCCAACCCUUGUACCAGUGu-----
---- 43 0,0
-----UCUCCCAACCCUUGUACCAGUGC-----
---- 7 0,1
-----UCCCAACCCUUGUACCAGUG-----
---- 5 2,0
-----CCUGGUACAGGCCUGGGGGAC-----
---- 7 -1,-2
-----CCUGGUACAGGCCUGGGGGACA-----
---- 4 -1,-1
-----CCUGGUACAGGCCUGGGGGACAu-----
---- 2 -1,-1
-----CUGGUACAGGCCUGGGGGA-----
---- 8 0,-3

```

```

-----CUGGUACAGGCCUGGGGGAaa-----
---- 2 0,-3
-----CUGGUACAGGCCUGGGGGAC-----
---- 88 0,-2
-----CUGGUACAGGCCUGGGGGACA-----
---- 37 0,-1
-----CUGGUACAGGCCUGGGGGACAa-----
---- 4 0,-1
-----CUGGUACAGGCCUGGGGGACAu-----
---- 5 0,-1
-----CUGGUACAGGCCUGGGGGACAG-----
---- 2 0,0
-----CUGGUACAGGCCUGGGGGACAGa-----
---- 4 0,0
-----UGGUACAGGCCUGGGGGACA-----
---- 2 1,-1
-----UGGUACAGGCCUGGGGGACAGa-----
---- 2 1,0

```

>hsa-mir-151 5p:11-31;3p:47-67 SRX018961

```

uuuccugccccUCGAGGAGCUCACAGUCUAGUaugucucauccccuaCUAGACUGAAGCUCCUUGAGGacaggggaugguca
uacucaccuc

```

```

.(((((((.((((((((((((((..(((((((((((.(.....).))))))))))))).))))))))))))).)))))).....
.....

```

```

-----CUCGAGGAGCUCACAGUCUAGU-----
----- 3 -1,0
-----UCGAGGAGCUCACAGUCUAG-----
----- 29 0,-1
-----UCGAGGAGCUCACAGUCUAGa-----
----- 4 0,-1
-----UCGAGGAGCUCACAGUCUAGaa-----
----- 4 0,-1
-----UCGAGGAGCUCACAGUCUAGU-----
----- 100 0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
----- 49 0,1
-----CGAGGAGCUCACAGUCUAGU-----
----- 6 1,0

```

-----	-GAGGAGCUCACAGUCUAGUA-	-----
-----	4 2,1	
-----		-----UACUAGACUGAAGCUCCUUG-----
-----	3 -2,-3	
-----		-----UACUAGACUGAAGCUCCUUGA-----
-----	50 -2,-2	
-----		-----UACUAGACUGAAGCUCCUUGAa-----
-----	32 -2,-2	
-----		-----UACUAGACUGAAGCUCCUUGAaa-----
-----	3 -2,-2	
-----		-----UACUAGACUGAAGCUCCUUGAG-----
-----	97 -2,-1	
-----		-----UACUAGACUGAAGCUCCUUGAGa-----
-----	39 -2,-1	
-----		-----UACUAGACUGAAGCUCCUUGAGu-----
-----	10 -2,-1	
-----		-----UACUAGACUGAAGCUCCUUGAGG-----
-----	57 -2,0	
-----		-----UACUAGACUGAAGCUCCUUGAGGu-----
-----	13 -2,0	
-----		-----UACUAGACUGAAGCUCCUUGAGGuu-----
-----	2 -2,0	
-----		-----UACUAGACUGAAGCUCCUUGAGGA-----
-----	54 -2,1	
-----		-----UACUAGACUGAAGCUCCUUGAGGAa-----
-----	4 -2,1	
-----		-----UACUAGACUGAAGCUCCUUGAGGAu-----
-----	7 -2,1	
-----		-----ACUAGACUGAAGCUCCUUGA-----
-----	5 -1,-2	
-----		-----ACUAGACUGAAGCUCCUUGAa-----
-----	6 -1,-2	
-----		-----ACUAGACUGAAGCUCCUUGAG-----
-----	12 -1,-1	
-----		-----ACUAGACUGAAGCUCCUUGAGG-----
-----	13 -1,0	
-----		-----ACUAGACUGAAGCUCCUUGAGGu-----
-----	4 -1,0	

			ACUAGACUGAAGCUCCUUGAGGA-
29	-1,1		ACUAGACUGAAGCUCCUUGAGGAa-
3	-1,1		ACUAGACUGAAGCUCCUUGAGGAaa-
2	-1,1		CUAGACUGAAGCUCCUUG-
10	0,-3		CUAGACUGAAGCUCCUUGA-
137	0,-2		CUAGACUGAAGCUCCUUGAa-
69	0,-2		CUAGACUGAAGCUCCUUGAaa-
29	0,-2		CUAGACUGAAGCUCCUUGAu-
2	0,-2		CUAGACUGAAGCUCCUUGAG-
611	0,-1		CUAGACUGAAGCUCCUUGAGa-
195	0,-1		CUAGACUGAAGCUCCUUGAGaa-
66	0,-1		CUAGACUGAAGCUCCUUGAGau-
4	0,-1		CUAGACUGAAGCUCCUUGAGu-
31	0,-1		CUAGACUGAAGCUCCUUGAGG-
992	0,0		CUAGACUGAAGCUCCUUGAGGu-
155	0,0		CUAGACUGAAGCUCCUUGAGGuu-
12	0,0		CUAGACUGAAGCUCCUUGAGGA-
3537	0,1		CUAGACUGAAGCUCCUUGAGGAa-
2456	0,1		CUAGACUGAAGCUCCUUGAGGAaa-
861	0,1		

-----		-CUAGACUGAAGCUCCUUGAGGAu-----
-----	226 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAu-----
-----	306 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAuu-----
-----	45 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAC-----
-----	90 0,2	
-----		-CUAGACUGAAGCUCCUUGAGGACu-----
-----	16 0,2	
-----		-CUAGACUGAAGCUCCUUGAGGACA-----
-----	12 0,3	
-----		-UAGACUGAAGCUCCUUGA-----
-----	2 1,-2	
-----		-UAGACUGAAGCUCCUUGAG-----
-----	6 1,-1	
-----		-UAGACUGAAGCUCCUUGAGa-----
-----	3 1,-1	
-----		-UAGACUGAAGCUCCUUGAGG-----
-----	27 1,0	
-----		-UAGACUGAAGCUCCUUGAGGu-----
-----	3 1,0	
-----		-UAGACUGAAGCUCCUUGAGGA-----
-----	90 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAa-----
-----	85 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAaa-----
-----	6 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAau-----
-----	7 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAu-----
-----	27 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAC-----
-----	22 1,2	
-----		-UAGACUGAAGCUCCUUGAGGACu-----
-----	6 1,2	
-----		-AGACUGAAGCUCCUUGAG-----
-----	2 2,-1	

Sequence	Count	Frequency
UCAGUGCAUGACAGAACUUGGG	1399	0,1
UCAGUGCAUGACAGAACUUGGGa	384	0,1
UCAGUGCAUGACAGAACUUGGGaa	51	0,1
UCAGUGCAUGACAGAACUUGGGau	5	0,1
UCAGUGCAUGACAGAACUUGGGu	931	0,1
UCAGUGCAUGACAGAACUUGGGuu	35	0,1
UCAGUGCAUGACAGAACUUGGGC	3	0,2
AGUGCAUGACAGAACUUG	14	2,-1
AGUGCAUGACAGAACUUGG	19	2,0
AGUGCAUGACAGAACUUGGu	30	2,0
AGUGCAUGACAGAACUUGGuu	2	2,0
AGUGCAUGACAGAACUUGGG	17	2,1
AGUGCAUGACAGAACUUGGGa	8	2,1
AGUGCAUGACAGAACUUGGGu	22	2,1
AGUGCAUGACAGAACUUGGGuu	5	2,1

>hsa-mir-153-1 3p:54-75 SRX018961

cucacagcugccagugucauuuuugugaucugcagcuaguaauucucacuccagUUGCAUAGUCACAAAAGUGAUCauugg
cagguguggc

-----UUGCAUAGUCACAAAAGUG-----
 ----- 3 0,-3 -----

agcgguggccagugucauuuuugugauguugcagcuaguaauaugagcccagUUGCAUAGUCACAAAAGUGAUCauugga
aacugug

-----UUGCAUAGUCACAAAAGUG-----
----- 3 0,-3

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuuuugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa

-----UAGGUUAUCCGUGUUGCCU-----
 ---- 4 0,-3

-----UAGGUUAUCCGUGUUGCCUUCG-----
 ---- 22 0.0

-----AGGUUAUCCGUGUUGCCUUCG-----
 ---- 4 1.0

-----AAUCAUACACGGUUGACCUAU-----
 ---- 4 0,-1

-----AAUCAUACACGGUUGACCUAUU-----
 ---- 28 0,0

cugUUAAGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUUAGCAUUAACAg

---UUAAGCUAAUCGUGAUA----- 35 0,-5

---UUAAGCUAAUCGUGAUAG----- 33 0,-4

---UUAAGCUAAUCGUGAUAGG----- 26 0,-3

---UUAAGCUAAUCGUGAUAGGG----- 51 0,-2

---UUA AUGCUAAUCGUGAUAGGGa----- 6 0,-2

---UUAAGCUAAUCGUGAUAGGGG----- 30 0,-1

---UUA AUGCUAAUCGUGAUAGGGG_a----- 4 0, -1

---UUA AUGCUAAUCGUGAUAGGGG_{au}----- 2 0,-1

---UUAAUGC UAAUCGUGAUAGGGGU----- 25 0,0

---UUA AUGCUAAUCGUGAUAGGGGUU----- 10 0,1

---UAAUGCUAAUCGUGAUAGGGGUU _a -----	2	0,1
---UAAUGCUAAUCGUGAUAGGGGU-----	2	1,0

>hsa-mi r-15a MA:14-35;mi :51-72 SRX018961

ccuuggaguaagUAGCAGCACAAUUGGUUUGUGgauuugaaaaggugCAGGCCAUUUGUGCUGCCUCAaaaauaca
agg

-----UAGCAGCACAUAAUGGUU-----

--- 9 0,-4

-----UAGCAGCACAUAAUGGUUU-----

--- 69 0.-3

-----UAGCAGCACAUAAUGGUUUG-----

--- 131 0,-2

-----UAGCAGCACAUAAUGGUUUGU-----

--- 108 0,-1

-----UAGCAGCACAAUAAUGGUUUGUG-----

--- 44 0,0

-----UAGCAGCACAUAAUGGUUUGUGa-----

--- 2 0,0

>hsa-mi r-15b MA:20-41;mi:58-79 SRX018961

uugaggccuuaaguacugUAGCAGCACAUCAUGGUUUACAUGCuacagucaagaugCGAAUCAUUUUUGCUGCUCUAg
 aaauuuuaggaaauucau

$$\begin{aligned} & .(((((((\dots(((((((((((((((((\dots)))))) \dots)))))) \dots)) \\ & \dots)))))) \dots))))). \end{aligned}$$

-----UAGCAGCACAUCAUGGUU-----

----- 33 0,-4

-----UAGCAGCACAUCAUGGUUa-----

$$-----4 \quad 0, -4$$

-----UAGCAGCACAUCAUGGUU_{aa}-----

----- 9 0, -4

-----UAGCAGCACAUCAUGGUUU-----

----- 181 0,-3

-----UAGCAGCACAUCAUGGUUU_u-----

----- 3 0,-3

-----UAGCAGCACAUCAUGGUUUA-----

----- 236 0,-2

```

-----UAGCAGCACAUCAUGGUUUAa-----
----- 13 0,-2
-----UAGCAGCACAUCAUGGUUUAAC-----
----- 79 0,-1
-----UAGCAGCACAUCAUGGUUUAACA-----
----- 264 0,0
-----UAGCAGCACAUCAUGGUUUAACAa-----
----- 2 0,0
-----AGCAGCACAUCAUGGUUU-----
----- 3 1,-3
-----AGCAGCACAUCAUGGUUUA-----
----- 3 1,-2
-----GCAGCACAUCAUGGUUUA-----
----- 3 2,-2
-----CGAAUCAUUAUUUGCUGCUC-----
----- 3 0,-2

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018961

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuaaagauucuaaaauuauucuccAGUAUUAACUGUGCUGCUGAagu
aagguugac

(((((...(((.(((((((((((((.(((((((((.((((.....))))).))))))))).))))))))))..))))))

```

-----UAGCAGCACGUAAAUAUU-----
----- 16 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 57 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 127 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 2 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 273 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 22 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 28 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 7 0,-1

```

```

-----UAGCAGCACGUAAAUUUGGCuu-----
----- 2 0,-1
-----UAGCAGCACGUAAAUUUGGCG-----
----- 1138 0,0
-----UAGCAGCACGUAAAUUUGGCGa-----
----- 118 0,0
-----UAGCAGCACGUAAAUUUGGCGau-----
----- 15 0,0
-----UAGCAGCACGUAAAUUUGGCGU-----
----- 269 0,1
-----UAGCAGCACGUAAAUUUGGCGUU-----
----- 7 0,2
-----AGCAGCACGUAAAUUUGG-----
----- 7 1,-2
-----AGCAGCACGUAAAUUUGGCG-----
----- 12 1,0
-----AGCAGCACGUAAAUUUGGCGa-----
----- 3 1,0
-----GCAGCACGUAAAUUUGGCG-----
----- 2 2,0
-----CCAGUAUUAACUGUGCUGCU-----
----- 11 0,-2
-----CCAGUAUUAACUGUGCUGCUGA-----
----- 7 0,0
-----CCAGUAUUAACUGUGCUGCUGAA-----
----- 2 0,1

```

>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018961

guuccacucUAGCAGCACGUAAAUUUGGCGuagugaaauauauauuaacaCCAAUUAUACUGUGCUGCUUUAguuguga
c

((..(((..((((((((..(((((((..(((..(((.....))))..))))))))..))))))))..))))..))
)

```

-----CUAGCAGCACGUAAAUUUGGCG-----
- 6 -1,0
-----UAGCAGCACGUAAAUUU-----
- 16 0,-4
-----UAGCAGCACGUAAAUUUG-----
- 57 0,-3

```

```

-----UAGCAGCACGUAAAUAUUGG-----
- 127 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
- 2 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
- 273 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
- 22 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
- 28 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
- 7 0,-1
-----UAGCAGCACGUAAAUAUUGGCuu-----
- 2 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
- 1138 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
- 118 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
- 15 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
- 269 0,1
-----UAGCAGCACGUAAAUAUUGGCGUA-----
- 2 0,2
-----AGCAGCACGUAAAUAUUGG-----
- 7 1,-2
-----AGCAGCACGUAAAUAUUGGCG-----
- 12 1,0
-----AGCAGCACGUAAAUAUUGGCGa-----
- 3 1,0
-----GCAGCACGUAAAUAUUGGCG-----
- 2 2,0
-----ACCAAUAUUACUGUGCUGCU-----
- 7 -1,-3
-----ACCAAUAUUACUGUGCUGCUU-----
- 5 -1,-2
-----ACCAAUAUUACUGUGCUGCUUU-----
- 2 -1,-1

```

```

-----CCAAUAUUACUGUGCUGCUUUA-----
-   3   0,0

>hsa-mir-17 MA:14-36;mi:51-72   SRX018961
gucagaauaanguCAAAGUGCUUACAGUGCAGGUAGugauaugugcaucuACUGCAGUGAAGGCACUUGUAGcauuauagg
ugac
((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
))))))
-----CAAAGUGCUUACAGUGCA-----
----   19   0,-5
-----CAAAGUGCUUACAGUGCAG-----
----   52   0,-4
-----CAAAGUGCUUACAGUGCAGG-----
----   53   0,-3
-----CAAAGUGCUUACAGUGCAGGU-----
----   90   0,-2
-----CAAAGUGCUUACAGUGCAGGUu-----
----    2   0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
----  108   0,-1
-----CAAAGUGCUUACAGUGCAGGUAa-----
----   14   0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
----    4   0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
----  117   0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
----    3   0,1
-----AAAGUGCUUACAGUGCAGGU-----
----    6   1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
----    4   1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
----    3   1,0
-----UACUGCAGUGAAGGCACUUG-----
----    2   -1,-3
-----ACUGCAGUGAAGGCACUU-----
----   11   0,-4

```



```

-----AACAUUCAACGCUGUCGGU-----
-----      8      0,-4
-----AACAUUCAACGCUGUCGGUa-----
-----      2      0,-4
-----AACAUUCAACGCUGUCGGUaa-----
-----      3      0,-4
-----AACAUUCAACGCUGUCGGUG-----
-----     41      0,-3
-----AACAUUCAACGCUGUCGGUGu-----
-----      5      0,-3
-----AACAUUCAACGCUGUCGGUGA-----
-----    132      0,-2
-----AACAUUCAACGCUGUCGGUGAu-----
-----      5      0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
-----   480      0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
-----     21      0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
-----    124      0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
-----     19      0,0
-----AACAUUCAACGCUGUCGGUGAGUaa-----
-----      8      0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
-----    124      0,1
-----AACAUUCAACGCUGUCGGUGAGUUa-----
-----      4      0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
-----     64      0,2
-----ACAUUCAACGCUGUCGGUGAa-----
-----      2      1,-2
-----ACAUUCAACGCUGUCGGUGAGU-----
-----      5      1,0
-----ACAUUCAACGCUGUCGGUGAGUU-----
-----      3      1,1
-----ACAUUCAACGCUGUCGGUGAGUUU-----
-----      3      1,2

```

```

-----AAACCAUCGACCGUUGAUU
G----- 2 -2,-4
-----AAACCAUCGACCGUUGAUU
GU----- 3 -2,-3
-----AACCAUCGACCGUUGAUU
GUAC----- 12 -1,-1
-----ACCAUCGACCGUUGAUU
G----- 56 0,-4
-----ACCAUCGACCGUUGAUU
GU----- 23 0,-3
-----ACCAUCGACCGUUGAUU
GUA----- 5 0,-2
-----ACCAUCGACCGUUGAUU
GUAa----- 3 0,-2
-----ACCAUCGACCGUUGAUU
GUAu----- 11 0,-2
-----ACCAUCGACCGUUGAUU
GUAC----- 31 0,-1
-----ACCAUCGACCGUUGAUU
GUACC----- 65 0,0

```

>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018961

```

agaagggcuaucaggccagccuucagaggacuccaaggAACAUUCAACGCUGUCGGUGAGUuuggggaauugaaaaaACCA
CUGACCGUUGACUGUACCuugggguccuua

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AACAUUCAACGCUGUCGG-----
----- 17 0,-5
-----AACAUUCAACGCUGUCGGU-----
----- 8 0,-4
-----AACAUUCAACGCUGUCGGUa-----
----- 2 0,-4
-----AACAUUCAACGCUGUCGGUaa-----
----- 3 0,-4
-----AACAUUCAACGCUGUCGGUG-----
----- 41 0,-3
-----AACAUUCAACGCUGUCGGUGu-----
----- 5 0,-3

```

-----AACAUUCAACGCUGUCGGUGA-----			
-----132 0,-2-----			
-----AACAUUCAACGCUGUCGGUGAu-----			
-----5 0,-2-----			
-----AACAUUCAACGCUGUCGGUGAG-----			
-----480 0,-1-----			
-----AACAUUCAACGCUGUCGGUGAGa-----			
-----21 0,-1-----			
-----AACAUUCAACGCUGUCGGUGAGU-----			
-----124 0,0-----			
-----AACAUUCAACGCUGUCGGUGAGUa-----			
-----19 0,0-----			
-----AACAUUCAACGCUGUCGGUGAGUaa-----			
-----8 0,0-----			
-----AACAUUCAACGCUGUCGGUGAGUU-----			
-----124 0,1-----			
-----AACAUUCAACGCUGUCGGUGAGUUa-----			
-----4 0,1-----			
-----AACAUUCAACGCUGUCGGUGAGUUU-----			
-----64 0,2-----			
-----ACAUUCAACGCUGUCGGUGAGa-----			
-----2 1,-2-----			
-----ACAUUCAACGCUGUCGGUGAGU-----			
-----5 1,0-----			
-----ACAUUCAACGCUGUCGGUGAGUU-----			
-----3 1,1-----			
-----ACAUUCAACGCUGUCGGUGAGUUU-----			
-----3 1,2-----			
-----AACCA			
CUGACCGUUGACU-----2 -1,-5-----			
-----AACCA			
CUGACCGUUGACUG-----5 -1,-4-----			
-----AACCA			
CUGACCGUUGACUGUAu-----2 -1,-2-----			
-----ACCA			
CUGACCGUUGACUG-----98 0,-4-----			
-----ACCA			
CUGACCGUUGACUG-----41 0,-3-----			


```

-----AACAUUCAUUGCUGUCGGU-----
----- 16 0,-4
-----AACAUUCAUUGCUGUCGGUG-----
----- 73 0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
----- 5 0,-3
-----AACAUUCAUUGCUGUCGGUGG-----
----- 39 0,-2
-----AACAUUCAUUGCUGUCGGUGGG-----
----- 144 0,-1
-----AACAUUCAUUGCUGUCGGUGGGa-----
----- 22 0,-1
-----AACAUUCAUUGCUGUCGGUGGGaa-----
----- 3 0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
----- 65 0,0
-----AACAUUCAUUGCUGUCGGUGGGUa-----
----- 11 0,0
-----AACAUUCAUUGCUGUCGGUGGGUaa-----
----- 22 0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
----- 77 0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 180 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUa-----
----- 9 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUU-----
----- 34 0,2
-----ACAUUCAUUGCUGUCGGUG-----
----- 2 1,-3
-----ACAUUCAUUGCUGUCGGUGGG-----
----- 2 1,-1
-----ACAUUCAUUGCUGUCGGUGGGa-----
----- 7 1,-1
-----ACAUUCAUUGCUGUCGGUGGGUUUu-----
----- 2 1,2

```

>hsa-mir-181c MA:27-48;mi:65-86 SRX018961

```

cggaaaauuugccaaggguuuggggAACAUUCAACCUGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaauugccauccu
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AACAUUCAACCUGUCGGUGAG-----
----- 2 0,-1
-----AACAUUCAACCUGUCGGUGAGUa-----
----- 2 0,0
-----AACAUUCAACCUGUCGGUGAGUU-----
----- 5 0,1
-----AACAUUCAACCUGUCGGUGAGUUU-----
----- 7 0,2
-----AACCAUCGACCGUUGA
GUG----- 4 0,-3
-----AACCAUCGACCGUUGA
GUGG----- 4 0,-2
-----ACCAUCGACCGUUGA
GUG----- 44 1,-3
-----ACCAUCGACCGUUGA
GUGG----- 33 1,-2
-----ACCAUCGACCGUUGA
GUGGA----- 7 1,-1

```

```

>hsa-mir-181d 5p:36-58 SRX018961
gucccccucccuaggccacagccgaggucacaaucAACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accgggggaugaaugucacuguggcugggccagacacggcuuaaggggaauuggggac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CAACAUUCAUUGUUGUCGGUG-----
----- 3 -1,-3
-----AACAUUCAUUGUUGUCGG-----
----- 3 0,-5
-----AACAUUCAUUGUUGUCGGUG-----
----- 4 0,-3
-----AACAUUCAUUGUUGUCGGUGa-----
----- 8 0,-3
-----AACAUUCAUUGUUGUCGGUGG-----
----- 44 0,-2

```

-----AACAUUCAUUGUUGUCGGUGGG-----		
-----	44	0,-1
-----AACAUUCAUUGUUGUCGGUGGGa-----		
-----	8	0,-1
-----AACAUUCAUUGUUGUCGGUGGGaa-----		
-----	2	0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----		
-----	21	0,0
-----AACAUUCAUUGUUGUCGGUGGGUa-----		
-----	5	0,0
-----AACAUUCAUUGUUGUCGGUGGGUaa-----		
-----	2	0,0
-----AACAUUCAUUGUUGUCGGUGGGUau-----		
-----	13	0,0
-----AACAUUCAUUGUUGUCGGUGGGUU-----		
-----	51	0,1

>hsa-mi r-182 MA:23-46;mi :67-87 SRX018961

gagcugcuugccucccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAugggggcgaggacucagccggcac

[illegible]

UUUGGCAAUGGUAGAACUC-	6	0,-5
UUUGGCAAUGGUAGAACUCu	2	0,-5
UUUGGCAAUGGUAGAACUCA-	53	0,-4
UUUGGCAAUGGUAGAACUCAC-	8	0,-3
UUUGGCAAUGGUAGAACUCACA-	56	0,-2
UUUGGCAAUGGUAGAACUCACAC-	13	0,-1
UUUGGCAAUGGUAGAACUCACACU-	131	0,0
UUUGGCAAUGGUAGAACUCACACUG-	34	0,1

-----UGGUUCUAGACUUG
CCAACUAU----- 2 0,1

>hsa-mir-183 MA:27-48;mi:66-87 SRX018961

ccgcagagugugacuccuguucugugUAUGGCACUGGUAGAAUUCACUgugaacagucucagucaGUGAAUACCGAAGG
GCCAUAAacagagcagagacagauccacga

.....(((.((.(((((((((((.((((((..((((((.((((((((((((.....)))..))))))))))))))....
)))))).)))))))))).))....)))))..

-----UAUGGCACUGGUAGAAUU-----

----- 3 0,-4

-----UAUGGCACUGGUAGAAUa-----

----- 8 0,-4

-----UAUGGCACUGGUAGAAUUC-----

----- 39 0,-3

-----UAUGGCACUGGUAGAAUUCA-----

----- 14 0,-2

-----UAUGGCACUGGUAGAAUUCAC-----

----- 14 0,-1

-----UAUGGCACUGGUAGAAUUCACU-----

----- 33 0,0

-----UAUGGCACUGGUAGAAUUCACUG-----

----- 16 0,1

-----UAUGGCACUGGUAGAAUUCACUGa-----

----- 13 0,1

-----UAUGGCACUGGUAGAAUUCACUGU-----

----- 2 0,2

-----AUGGCACUGGUAGAAUUC-----

----- 3 1,-3

-----AUGGCACUGGUAGAAUUCA-----

----- 5 1,-2

-----AUGGCACUGGUAGAAUUCACU-----

----- 8 1,0

-----AUGGCACUGGUAGAAUUCACUG-----

----- 8 1,1

-----AUGGCACUGGUAGAAUUCACUGa-----

----- 10 1,1

-----AUGGCACUGGUAGAAUUCACUGaa-----

----- 4 1,1


```

-----UGGAGAGAAAGGCAGUCCUGA-----
-- 22453 0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 10072 0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 461 0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 714 0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 6188 0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 463 0,1
-----UGGAGAGAAAGGCAGUCCUGAUaa-----
-- 6 0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 16 0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 537 0,1
-----UGGAGAGAAAGGCAGUCCUGAUuu-----
-- 20 0,1
-----UGGAGAGAAAGGCAGUCCUGAUG-----
-- 29 0,2
-----UGGAGAGAAAGGCAGUCCUGAUGa-----
-- 6 0,2
-----GGAGAGAAAGGCAGUCC-----
-- 4 1,-3
-----GGAGAGAAAGGCAGUCCU-----
-- 6 1,-2
-----GGAGAGAAAGGCAGUCCUG-----
-- 18 1,-1
-----GGAGAGAAAGGCAGUCCUGu-----
-- 8 1,-1
-----GGAGAGAAAGGCAGUCCUGuu-----
-- 2 1,-1
-----GGAGAGAAAGGCAGUCCUGA-----
-- 86 1,0
-----GGAGAGAAAGGCAGUCCUGAa-----
-- 41 1,0

```

```

-----GGAGAGAAAGGCAGUUCCUGAau-----
-- 3 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 14 1,1
-----GGAGAGAAAGGCAGUUCCUGAUu-----
-- 4 1,1
-----GAGAGAAAGGCAGUUCCU-----
-- 2 2,-2
-----GAGAGAAAGGCAGUUCCUGA-----
-- 11 2,0
-----GAGAGAAAGGCAGUUCCUGAa-----
-- 2 2,0
-----GAGAGAAAGGCAGUUCCUGAU-----
-- 9 2,1
-----CAGGGGCUGGCUUCCUC-----
-- 125 -1,-5
-----CAGGGGCUGGCUUCCUCU-----
-- 40 -1,-4
-----CAGGGGCUGGCUUCCUCUG-----
-- 2 -1,-3
-----AGGGGCUGGCUUCCUCU-----
-- 444 0,-4
-----AGGGGCUGGCUUCCUCUG-----
-- 4 0,-3
-----AGGGGCUGGCUUCCUCUGG-----
-- 5 0,-2
-----AGGGGCUGGCUUCCUCUGGU-----
-- 18 0,-1
-----AGGGGCUGGCUUCCUCUGGUa-----
-- 10 0,-1
-----AGGGGCUGGCUUCCUCUGGUaa-----
-- 10 0,-1
-----AGGGGCUGGCUUCCUCUGGUau-----
-- 4 0,-1
-----AGGGGCUGGCUUCCUCUGGUu-----
-- 8 0,-1
-----AGGGGCUGGCUUCCUCUGGUuu-----
-- 7 0,-1

```

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuuuuuuuaGCCCAAAGGUGAAUUUUUGGGaagu
ugagcu

.((((.(((((((((((((((((((.((((.(((((.)))))))))..)))))))))
)))).

-----CCAAAGAAUUCUCCUUUUGGG-----

----- 7 -1,-2

-----CCAAAGAAUUCUCCUUUUGGga-----

----- 6 -1,-2

-----CCAAAGAAUUCUCCUUUUGGGC-----

----- 2 -1,-1

-----CCAAAGAAUUCUCCUUUUGGGCU-----

----- 17 -1,0

-----CAAAGAAUUCUCCUUUUG-----

----- 9 0,-4

-----CAAAGAAUUCUCCUUUUGG-----

----- 16 0,-3

-----CAAAGAAUUCUCCUUUUGGa-----

----- 4 0, -3

-----CAAAGAAUUCUCCUUUUGGaa-----

----- 2 0, -3

-----CAAAGAAUUCUCCUUUUGGG-----

----- 126 0,-2

-----CAAAGAAUUCUCCUUUUGGga-----

----- 6 0,-2

-----CAAAGAAUUCUCCUUUUGGau-----

----- 2 0, -2

-----CAAAGAAUUCUCCUUUUGG_{uu}-----

----- 2 0, -2

-----CAAAGAAUUCUCCUUUUGGGC-----

----- 123 0,-1

-----CAAAGAAUUCUCCUUUUGGGCa-----

----- 275 0,-1

-----CAAAGAAUUCUCCUUUUGGGCaa-----

----- 80 0,-1

-----CAAAGAAUUCUCCUUUUGGGCau-----

----- 106 0,-1

```

-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 1068 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 187 0,0
-----CAAAGAAUUCUCCUUUUGGGCUaa-----
----- 4 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 26 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 1748 0,1
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 15 0,1
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 2 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 32 0,2
-----AAAGAAUUCUCCUUUUGGGC-----
----- 14 1,-1
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 22 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----
----- 8 1,-1
-----AAAGAAUUCUCCUUUUGGGCau-----
----- 12 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 142 1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 14 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 211 1,1
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 6 1,1
-----GCCCAAAGGUGAAUUUUUUG-----
----- 2 0,-2
-----CCAAAGGUGAAUUUUUUGGAA-----
----- 2 2,2

```

>hsa-mir-187 mi:35-56;MA:71-92 SRX018961

.(.(((((((.....((((...(((.((((.((((((((((((.((((.(.....).).)).)).))))))
))))).))))..)))))))))

>hsa-mir-188 5p:15-35;3p:54-74 SRX018961
ugcucccucucucaCAUCCCUUGCAUGGUGGAGGGugagcuuucugaaaaccCUGCCACAUGCAGGGUUUGCAggaugg
cgagcc

.(((((((..(((..(((..((((((((..((((((....(.....).....))))))..)))))))))..)).)).)).)
 .)))).

```

-----CAUCCCUUGCAUGGUGGAGG-----
----- 4    0,-1
-----CAUCCCUUGCAUGGUGGAGGa-----
----- 2    0,-1
-----CAUCCCUUGCAUGGUGGAGGGU-----
----- 2    0,1
-----CAUCCCUUGCAUGGUGGAGGGUa-----
----- 3    0,1
-----CAUCCCUUGCAUGGUGGAGGGUu-----
----- 3    0,1
-----UCCCACAUGCAGGGUUUGCAG-----
----- 2    1,1

```

uguucUAAGGUGCAUCUAGUGCAGAUAGugaaguagauuagcaucuACUGCCCUAAGUGCUCUUUCUGGca

-----UAAGGUGCAUCUAGUGCAG-----	3	0, -4
-----UAAGGUGCAUCUAGUGCAGAU-----	44	0, -2
-----UAAGGUGCAUCUAGUGCAGAU-----	8	0, -1

>hsa-mir-18b MA:6-28:mi:49-70 SRX018961

uguguUAAGGUGCAUCUAGUGCAGUUAGugaagcagcuuagaaucaacUGCCCUAAAUGCCCCUUCUGGCa

..(((((((((.(((((.(((.((((.(.((.((((...)))...))..))))).)))..))))..))))))

-----UAAGGUGCAUCUAGUGCAG----- 3 0,-4

ugcaggccucugugUGAUUGUUUGAUUAUUAGGUuguuuuuauccaacuauauaucaaacauauuccuacaguguc
uugcc

.(((((.((((((.....))))))))))))))..).)))..)
)))).

-----UGAUUGUUUGAUUAUUAGGUUG-----
 ----- 6 0.2

>hsa-mir-1908 5p:12-32 SRX018961

cgggaaugccgCGGCGGGACGGCGAUUGGUCcguaugugugguccaccggccgccggcuccgccccggccccgc
(((...(((((((((((((((((..((((..((((.....))))).)))).))))).))))).))))).))....

-----CGGCGGGGACGGCGAUUGGU-----
3 0,-1

-----CGGCGGGGACGGCGAUUGGUC-----
2 0,0

-----CGGCGGGGACGGCGAUUGGUCa-----
3 0,0

-----CGGCGGGGACGGCGAUUGGUCu-----
6 0,0

```
>hsa-mir-190b    5p:11-31    SRX018961
```

ugcuucugugUGAUAUGUUGAUAUUGGGUUguuuauuuaggaaccaacuaaaugucaaacauauucuuacagcagcag

(((((.((((((.((((((((((((((((((.(((((((((((.....)))..)))))).)))))))).)))).

-----UGAUAUGUUUGAUAUUGGGUUGU-----
3 0,2


```

-----CAACGGAAUCCCAAAAGCAGCUau-----
-----21 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
-----146 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
-----36 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
-----4742 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
-----114 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
-----12 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
-----1489 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
-----12 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
-----101 0,2
-----AACGGAAUCCCAAAAGCA-----
-----37 1,-4
-----AACGGAAUCCCAAAAGCAG-----
-----41 1,-3
-----AACGGAAUCCCAAAAGCAGa-----
-----2 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
-----157 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
-----554 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
-----13 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
-----16 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
-----2 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
-----358 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
-----28 1,0

```



```

-----UCUGACCUAUGAAUUGACAGC-----
-----      68  -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
-----      4   -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
-----     375  -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
-----      8   -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
-----      4   -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
-----     22   -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
-----     22   -1,1
-----CUGACCUAUGAAUUGACA-----
-----    988  0,-3
-----CUGACCUAUGAAUUGACAa-----
-----     11   0,-3
-----CUGACCUAUGAAUUGACAaa-----
-----      3    0,-3
-----CUGACCUAUGAAUUGACAu-----
-----      5    0,-3
-----CUGACCUAUGAAUUGACAG-----
-----   4542    0,-2
-----CUGACCUAUGAAUUGACAGa-----
-----    270  0,-2
-----CUGACCUAUGAAUUGACAGaa-----
-----     52   0,-2
-----CUGACCUAUGAAUUGACAGau-----
-----      2    0,-2
-----CUGACCUAUGAAUUGACAGu-----
-----    257  0,-2
-----CUGACCUAUGAAUUGACAGuu-----
-----      8    0,-2
-----CUGACCUAUGAAUUGACAGC-----
-----   91823   0,-1
-----CUGACCUAUGAAUUGACAGCa-----
-----   7974    0,-1

```

```

-----CUGACCUAUGAAUUGACAGCaa-----
----- 678 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 85 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 2020 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 75 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 419249 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 10509 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 747 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 131702 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 2111 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 529 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
----- 538 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 15780 0,1
-----CUGACCUAUGAAUUGACAGCCAuu-----
----- 4589 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 2640 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 208 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 6 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 2 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 1109 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 46 0,3

```

```

-----CUGACCUAUGAAUUGACAGCCAGUu-----
-----      87  0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
-----      2  0,4
-----UGACCUAUGAAUUGACAG-----
-----    1262    1,-2
-----UGACCUAUGAAUUGACAGu-----
-----     18    1,-2
-----UGACCUAUGAAUUGACAGC-----
-----   26510    1,-1
-----UGACCUAUGAAUUGACAGCa-----
-----   1052    1,-1
-----UGACCUAUGAAUUGACAGCaa-----
-----     98    1,-1
-----UGACCUAUGAAUUGACAGCau-----
-----      7    1,-1
-----UGACCUAUGAAUUGACAGCu-----
-----   159    1,-1
-----UGACCUAUGAAUUGACAGCuu-----
-----      2    1,-1
-----UGACCUAUGAAUUGACAGCC-----
-----   52316    1,0
-----UGACCUAUGAAUUGACAGCCu-----
-----   736    1,0
-----UGACCUAUGAAUUGACAGCCuu-----
-----     98    1,0
-----UGACCUAUGAAUUGACAGCCA-----
-----   55158    1,1
-----UGACCUAUGAAUUGACAGCCAa-----
-----   1340    1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
-----    989    1,1
-----UGACCUAUGAAUUGACAGCCAau-----
-----   632    1,1
-----UGACCUAUGAAUUGACAGCCAu-----
-----   4821    1,1
-----UGACCUAUGAAUUGACAGCCAuu-----
-----   1862    1,1

```

```

-----UGACCUAUGAAUUGACAGCCAG-----
-----24734 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
-----3029 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
-----128 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
-----34 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
-----12912 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
-----389 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
-----9 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
-----17 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
-----811 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
-----27 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
-----53 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
-----2 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
-----6 1,4
-----GACCUAUGAAUUGACAGC-----
-----214 2,-1
-----GACCUAUGAAUUGACAGCa-----
-----7 2,-1
-----GACCUAUGAAUUGACAGCu-----
-----2 2,-1
-----GACCUAUGAAUUGACAGCC-----
-----482 2,0
-----GACCUAUGAAUUGACAGCCu-----
-----3 2,0
-----GACCUAUGAAUUGACAGCCA-----
-----319 2,1

```

```

-----GACCUAUGAAUUGACAGCCAa-----
----- 17 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 5 2,1
-----GACCUAUGAAUUGACAGCCAau-----
----- 4 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 35 2,1
-----GACCUAUGAAUUGACAGCCAuu-----
----- 19 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 241 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 30 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 214 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 14 2,3
-----GACCUAUGAAUUGACAGCCAGUG-----
----- 5 2,4
-----GGCUGCCAAUUCCAUA
GGUC----- 3 -2,-4
-----CUGCCAAUUCCAUA
GGUCACA----- 3 0,-1
-----CUGCCAAUUCCAUA
GGUCACAG----- 2 0,0

```

>hsa-mir-193a 5p:21-42;3p:55-76 SRX018961

cgaggaugggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

.....(((.((((((((((((((.((((((..(((.(.(((.....))))).)).)))..))))).)))))))))
)))..)))..

```

-----CUGGGUCUUUGCGGGCGAGAUGA-----
----- 4 -1,0
-----UGGGUCUUUGCGGGCGAG-----
----- 5 0,-4
-----UGGGUCUUUGCGGGCGAGA-----
----- 5 0,-3

```



```

-----UGGGUCUUUGCGGGCGAGAAa-----
----- 3 0,-3
-----UGGGUCUUUGCGGGCGAGAU-----
----- 15 0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
----- 6 0,-2
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 4 0,-2
-----UGGGUCUUUGCGGGCGAGAUg-----
----- 71 0,-1
-----UGGGUCUUUGCGGGCGAGAUgu-----
----- 4 0,-1
-----UGGGUCUUUGCGGGCGAGAUgA-----
----- 427 0,0
-----UGGGUCUUUGCGGGCGAGAUgAa-----
----- 11 0,0
-----UGGGUCUUUGCGGGCGAGAUgAu-----
----- 27 0,0
-----UGGGUCUUUGCGGGCGAGAUgAG-----
----- 6 0,1
-----GGGUCUUUGCGGGCGAGAUgAaa-----
----- 2 1,0
-----AACUGGCCUACAAAGUCC-----
----- 2 0,-4
-----AACUGGCCUACAAAGUCCC-----
----- 26 0,-3
-----AACUGGCCUACAAAGUCCCA-----
----- 527 0,-2
-----AACUGGCCUACAAAGUCCCAa-----
----- 2 0,-2
-----AACUGGCCUACAAAGUCCCAu-----
----- 7 0,-2
-----AACUGGCCUACAAAGUCCCAuu-----
----- 2 0,-2
-----AACUGGCCUACAAAGUCCCAg-----
----- 31 0,-1
-----AACUGGCCUACAAAGUCCCAgaa-----
----- 2 0,-1

```

```

-----AACUGGCCUACAAAGUCCCAGU-----
-----      16   0,0
-----AACUGGCCUACAAAGUCCCAGUau-----
-----      2    0,0
-----ACUGGCCUACAAAGUCCCA-----
-----     11   1,-2

```

>hsa-mir-193b mi:14-35;MA:51-72 SRX018961

```

guggucucagaauCGGGGUUUUGAGGGCGAGAUGaguuauguuuuauccAACUGGCCUACAAAGUCCCAGUuuuggggu
cau

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UCGGGGUUUUGAGGGCGAGA-----
--- 8   -1,-3
-----UCGGGGUUUUGAGGGCGAGAA-----
--- 2   -1,-3
-----UCGGGGUUUUGAGGGCGAGAU-----
--- 4   -1,-2
-----UCGGGGUUUUGAGGGCGAGAUG-----
--- 12  -1,-1
-----UCGGGGUUUUGAGGGCGAGAUu-----
--- 6   -1,-1
-----UCGGGGUUUUGAGGGCGAGAUGA-----
--- 8   -1,0
-----CGGGGUUUUGAGGGCGAG-----
--- 70  0,-4
-----CGGGGUUUUGAGGGCGAGA-----
--- 35  0,-3
-----CGGGGUUUUGAGGGCGAGAU-----
--- 84  0,-2
-----CGGGGUUUUGAGGGCGAGAUa-----
--- 9   0,-2
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 7   0,-2
-----CGGGGUUUUGAGGGCGAGAUG-----
--- 336 0,-1
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 70  0,-1

```

```

-----CGGGGUUUUGAGGGCGAGAUGuu-----
--- 2 0,-1
-----CGGGGUUUUGAGGGCGAGAUGA-----
--- 908 0,0
-----CGGGGUUUUGAGGGCGAGAUGAa-----
--- 27 0,0
-----CGGGGUUUUGAGGGCGAGAUGAaa-----
--- 10 0,0
-----CGGGGUUUUGAGGGCGAGAUGAu-----
--- 38 0,0
-----CGGGGUUUUGAGGGCGAGAUGAG-----
--- 4 0,1
-----GGGGUUUUUGAGGGCGAGA-----
--- 2 1,-3
-----GGGGUUUUUGAGGGCGAGAU-----
--- 4 1,-2
-----GGGGUUUUUGAGGGCGAGAUG-----
--- 19 1,-1
-----GGGGUUUUUGAGGGCGAGAUGu-----
--- 3 1,-1
-----GGGGUUUUUGAGGGCGAGAUGA-----
--- 16 1,0
-----GGGUUUUUUGAGGGCGAGAUGA-----
--- 3 2,0
-----AACUGGCCCUCAAAGUCC-----
--- 34 0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 38 0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 22 0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 16 0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 2 0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 45 0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 3 0,0

```

---	4	0,0	-----AACUGGCCCUCAAAGUCCCGCUaa-----
---	10	0,1	-----AACUGGCCCUCAAAGUCCCGCUU-----
---	3	1,-3	-----ACUGGCCCUCAAAGUCCC-----
---	4	1,-2	-----ACUGGCCCUCAAAGUCCCG-----
---	2	1,0	-----ACUGGCCCUCAAAGUCCCGCU-----

>hsa-mir-194-1 5p:15-36 SRX018961

augguguuaucaagUGUAACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

.(((((.((((((.(((((((((.((((((.((((..(.....)).)))))))))))).)))))))).)))))))).
)))).

-----	-UGUAACAGCAACUCCAUG-	-----
-----	3 0,-4	-----
-----	-UGUAACAGCAACUCCAUGU-	-----
-----	7 0,-3	-----
-----	-UGUAACAGCAACUCCAUGUG-	-----
-----	5 0,-2	-----
-----	-UGUAACAGCAACUCCAUGUGG-	-----
-----	206 0,-1	-----
-----	-UGUAACAGCAACUCCAUGUGGA-	-----
-----	764 0,0	-----
-----	-UGUAACAGCAACUCCAUGUGGAu-	-----
-----	50 0,0	-----
-----	-UGUAACAGCAACUCCAUGUGGAuu-	-----
-----	5 0,0	-----
-----	-UGUAACAGCAACUCCAUGUGGAC-	-----
-----	13 0,1	-----
-----	-UGUAACAGCAACUCCAUGUGGACa-	-----
-----	6 0,1	-----
-----	-GUAACAGCAACUCCAUGUGGu-	-----
-----	3 1,-1	-----

>hsa-mi r-194-2 MA:15-36;mi :51-72 SRX018961

ugguucccgcccccUGUAAACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGGCUGCUGUUAUCUGggggcgagg
gccag

(((((.((((.(((((((.((((.((((...(((...)))))))))).)))))).)))))).

-----CUGUAAACAGCAACUCCAUGUGG-----

----- 7 -1,-1

-----CUGUAAACAGCAACUCCAUGUGGA-----

----- 23 -1,0

-----UGUAAACAGCAACUCCAUG-----

----- 3 0,-4

-----UGUAAACAGCAACUCCAUGU-----

----- 7 0,-3

-----UGUAAACAGCAACUCCAUGUG-----

----- 5 0,-2

-----UGUAAACAGCAACUCCAUGUGG-----

----- 206 0,-1

-----UGUAAACAGCAACUCCAUGUGGA-----

----- 764 0,0

-----UGUAAACAGCAACUCCAUGUGGAu-----

----- 50 0,0

-----UGUAAACAGCAACUCCAUGUGGAuu-----

----- 5 0,0

-----UGUAAACAGCAACUCCAUGUGGAA-----

----- 1203 0,1

-----UGUAAACAGCAACUCCAUGUGGAAa-----

----- 102 0,1

-----UGUAAACAGCAACUCCAUGUGGAAaa-----

----- 11 0,1

-----UGUAAACAGCAACUCCAUGUGGAAau-----

----- 5 0,1

-----UGUAAACAGCAACUCCAUGUGGAAu-----

----- 49 0,1

-----UGUAAACAGCAACUCCAUGUGGAAuu-----

----- 6 0,1

-----GUAACAGCAACUCCAUGUGGu-----

----- 3 1,-1

-----CCAGUGGGGCUGCUGUUA-----

----- 4 0,-4

```

-----CCAGUGGGGCUGCUGUUAU-----
----- 9 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 4 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 63 0,-1
-----CCAGUGGGGCUGCUGUUAUCUG-----
----- 3 0,0

```

>hsa-mir-195 MA:15-35;mi:53-74 SRX018961

```

agcuucccugggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUAUUGGCUGUGCUGCUCCaggcag
gguggug

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).)).)).

```

```

-----UAGCAGCACAGAAAUAUUG-----
----- 39 0,-2
-----UAGCAGCACAGAAAUAUUGG-----
----- 86 0,-1
-----UAGCAGCACAGAAAUAUUGGu-----
----- 2 0,-1
-----UAGCAGCACAGAAAUAUUGGC-----
----- 97 0,0
-----UAGCAGCACAGAAAUAUUGGCA-----
----- 346 0,1
-----UAGCAGCACAGAAAUAUUGGCAa-----
----- 231 0,1
-----UAGCAGCACAGAAAUAUUGGCAau-----
----- 4 0,1
-----UAGCAGCACAGAAAUAUUGGCAu-----
----- 76 0,1
-----AGCAGCACAGAAAUAUUGGCA-----
----- 5 1,1

```

>hsa-mir-197 3p:48-69 SRX018961

```

ggcgugccggguagagagggcagugggagguaagagcucuucacccUUCACCACCUUCCACCCAGCauggcc

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----CCGGGUAGAGAGGGGCAGU----- 2
-----CCGGGUAGAGAGGGGCAGUGGGAGu----- 2

```

-----CGGGUAGAGAGGGCAGUG-----	16
-----CGGGUAGAGAGGGCAGUGa-----	2
-----CGGGUAGAGAGGGCAGUGaa-----	3
-----CGGGUAGAGAGGGCAGUGG-----	6
-----CGGGUAGAGAGGGCAGUGGaa-----	2
-----CGGGUAGAGAGGGCAGUGGGAG-----	3
-----CGGGUAGAGAGGGCAGUGGGAGa-----	2
-----CGGGUAGAGAGGGCAGUGGGAGu-----	2
-----CGGGUAGAGAGGGCAGUGGGAGG-----	5
-----UUCACCACCUUUCUCCACCCAG-----	17
0, -1	
-----UUCACCACCUUUCUCCACCCAGa-----	4
0, -1	
-----UUCACCACCUUUCUCCACCCAGaa-----	3
0, -1	
-----UUCACCACCUUUCUCCACCCAGC-----	24
0, 0	
-----UUCACCACCUUUCUCCACCCAGCA-----	2
0, 1	

gcagcaaggaaggcagggguccuaagguguguCCUCCUGCCCUCUUGCUGU
 ((((((((((.((((((((.(.....).))))))))).)))))))))
 -CAGCAAGGAAGGCAGGGGUC----- 2
 -----UCCUCCUGCCCUCUUGCUGU 2 -1.0

>hsa-mir-199a-1 5p:6-28;3p:47-68 SRX018961

gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucuaauguguACAGUAGUCUGCACAUUGGUUAggc		
((...(((((((.((((((((.((((.(.(...)))...)).)))))))))).))))))...))		
-----CCCAGUGUUCAGACUACC-----	53	0, -5
-----CCCAGUGUUCAGACUACCU-----	689	0, -4
-----CCCAGUGUUCAGACUACCUG-----	42	0, -3
-----CCCAGUGUUCAGACUACCUGU-----	20	0, -2
-----CCCAGUGUUCAGACUACCUGUaa-----	2	0, -2
-----CCCAGUGUUCAGACUACCUGUU-----	323	0, -1
-----CCCAGUGUUCAGACUACCUGUUa-----	27	0, -1
-----CCCAGUGUUCAGACUACCUGUUu-----	34	0, -1
-----CCCAGUGUUCAGACUACCUGUUC-----	328	0, 0

-----CCCAGUGUUCAGACUACCUGUUCu-----	2	0,0
-----CCCAGUGUUCAGACUACCUGUUCA-----	4	0,1
-----CCAGUGUUCAGACUACCU-----	14	1,-4
-----CCAGUGUUCAGACUACCUGUU-----	3	1,-1
-----CCAGUGUUCAGACUACCUGUUC-----	21	1,0
-----CAGUGUUCAGACUACCUGUU-----	5	2,-1
-----CAGUGUUCAGACUACCUGUUC-----	3	2,0
-----GUACAGUAGUCUGCACAUUGGU-----	3	
-2,-2		
-----GUACAGUAGUCUGCACAUUGGUU-----	12	
-2,-1		
-----UACAGUAGUCUGCACAUU-----	58	
-1,-5		
-----UACAGUAGUCUGCACAUUG-----	281	
-1,-4		
-----UACAGUAGUCUGCACAUUGu-----	14	
-1,-4		
-----UACAGUAGUCUGCACAUUGuu-----	34	
-1,-4		
-----UACAGUAGUCUGCACAUUGG-----	565	
-1,-3		
-----UACAGUAGUCUGCACAUUGGa-----	12	
-1,-3		
-----UACAGUAGUCUGCACAUUGGaa-----	3	
-1,-3		
-----UACAGUAGUCUGCACAUUGGau-----	27	
-1,-3		
-----UACAGUAGUCUGCACAUUGGU-----	3430	
-1,-2		
-----UACAGUAGUCUGCACAUUGGUa-----	666	
-1,-2		
-----UACAGUAGUCUGCACAUUGGUaa-----	195	
-1,-2		
-----UACAGUAGUCUGCACAUUGGUau-----	129	
-1,-2		
-----UACAGUAGUCUGCACAUUGGUU-----	41124	
-1,-1		
-----UACAGUAGUCUGCACAUUGGUUu-----	5632	

-1,-1	-----UACAGUAGUCUGCACAUUGGUUuu--	122	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUA---	5202	
-1,0	-----UACAGUAGUCUGCACAUUGGUUAa--	102	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	278	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAG--	2	-1,1
	-----ACAGUAGUCUGCACAUUG-----	1452	
0,-4	-----ACAGUAGUCUGCACAUUGGa-----	11	0,-4
	-----ACAGUAGUCUGCACAUUGGaa-----	9	0,-4
	-----ACAGUAGUCUGCACAUUGGau-----	8	0,-4
	-----ACAGUAGUCUGCACAUUGGu-----	92	0,-4
	-----ACAGUAGUCUGCACAUUGGuu-----	89	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	3931	
0,-3	-----ACAGUAGUCUGCACAUUGGa-----	34	0,-3
	-----ACAGUAGUCUGCACAUUGGaa-----	55	0,-3
	-----ACAGUAGUCUGCACAUUGGau-----	137	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	18071	
0,-2	-----ACAGUAGUCUGCACAUUGGUa-----	1788	
0,-2	-----ACAGUAGUCUGCACAUUGGUaa-----	689	0,-2
	-----ACAGUAGUCUGCACAUUGGUau-----	195	0,-2
	-----ACAGUAGUCUGCACAUUGGUU-----	320152	
0,-1	-----ACAGUAGUCUGCACAUUGGUUu---	33792	
0,-1	-----ACAGUAGUCUGCACAUUGGUUuu---	982	0,-1
	-----ACAGUAGUCUGCACAUUGGUUA---	93943	
0,0	-----ACAGUAGUCUGCACAUUGGUUAa--	9239	
0,0	-----ACAGUAGUCUGCACAUUGGUUAaa--	75	0,0
	-----ACAGUAGUCUGCACAUUGGUUAau--	39	0,0
	-----ACAGUAGUCUGCACAUUGGUUAu--	3139	

0,0		
-----	-ACAGUAGUCUGCACAUUGGUUAuu-	50 0,0
-----	-ACAGUAGUCUGCACAUUGGUUAG--	81 0,1
-----	-ACAGUAGUCUGCACAUUGGUUAGu-	7 0,1
-----	-ACAGUAGUCUGCACAUUGGUUAGGu	4 0,2
-----	-CAGUAGUCUGCACAUUGG-----	1085
1,-3		
-----	-CAGUAGUCUGCACAUUGGa-----	7 1,-3
-----	-CAGUAGUCUGCACAUUGGau----	14 1,-3
-----	-CAGUAGUCUGCACAUUGGU-----	3234
1,-2		
-----	-CAGUAGUCUGCACAUUGGUa----	373 1,-2
-----	-CAGUAGUCUGCACAUUGGUaa---	158 1,-2
-----	-CAGUAGUCUGCACAUUGGUau---	16 1,-2
-----	-CAGUAGUCUGCACAUUGGUU----	53006
1,-1		
-----	-CAGUAGUCUGCACAUUGGUUu---	7243
1,-1		
-----	-CAGUAGUCUGCACAUUGGUUuu---	311 1,-1
-----	-CAGUAGUCUGCACAUUGGUUA---	39021
1,0		
-----	-CAGUAGUCUGCACAUUGGUUAa--	3086
1,0		
-----	-CAGUAGUCUGCACAUUGGUUAaa--	61 1,0
-----	-CAGUAGUCUGCACAUUGGUUAau--	17 1,0
-----	-CAGUAGUCUGCACAUUGGUUAu--	1254
1,0		
-----	-CAGUAGUCUGCACAUUGGUUAuu--	22 1,0
-----	-CAGUAGUCUGCACAUUGGUUAG--	20 1,1
-----	-AGUAGUCUGCACAUUGGU-----	68 2,-2
-----	-AGUAGUCUGCACAUUGGUa----	8 2,-2
-----	-AGUAGUCUGCACAUUGGUaa---	7 2,-2
-----	-AGUAGUCUGCACAUUGGUU----	1414
2,-1		
-----	-AGUAGUCUGCACAUUGGUUu---	220 2,-1
-----	-AGUAGUCUGCACAUUGGUUuu---	16 2,-1
-----	-AGUAGUCUGCACAUUGGUUA---	724 2,0
-----	-AGUAGUCUGCACAUUGGUUAa--	74 2,0

-----AGUAGUCUGCACAUUGGUUAu-- 30 2,0

>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018961

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaaugccguuguACAGUAGUCUG
CACAUUGGUUAgacugggcaaggagagca

.....(((.(((.....(((((((((((((...(((((((((((((...(((.....))).....)))))))))))))
.)))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).

-----CCCAGUGUUCAGACUACC-----

----- 53 0,-5

-----CCCAGUGUUCAGACUACCU-----

----- 689 0,-4

-----CCCAGUGUUCAGACUACCUG-----

----- 42 0,-3

-----CCCAGUGUUCAGACUACCUGU-----

----- 20 0,-2

-----CCCAGUGUUCAGACUACCUGUaa-----

----- 2 0,-2

-----CCCAGUGUUCAGACUACCUGUU-----

----- 323 0,-1

-----CCCAGUGUUCAGACUACCUGUua-----

----- 27 0,-1

-----CCCAGUGUUCAGACUACCUGUuu-----

----- 34 0,-1

-----CCCAGUGUUCAGACUACCUGUUC-----

----- 328 0,0

-----CCCAGUGUUCAGACUACCUGUUCu-----

----- 2 0,0

-----CCCAGUGUUCAGACUACCUGUUCA-----

----- 4 0,1

-----CCAGUGUUCAGACUACCU-----

----- 14 1,-4

-----CCAGUGUUCAGACUACCUGUU-----

----- 3 1,-1

-----CCAGUGUUCAGACUACCUGUUC-----

----- 21 1,0

-----CAGUGUUCAGACUACCUGUU-----

----- 5 2,-1

-----CAGUGUUCAGACUACCUGUUC-----

-----	3	2,0	
-----			-GUACAGUAGUCUG
CACAUUGGU-----	3	-2,-2	
-----			-GUACAGUAGUCUG
CACAUUGGUU-----	12	-2,-1	
-----			-UACAGUAGUCUG
CACAUU-----	58	-1,-5	
-----			-UACAGUAGUCUG
CACAUUG-----	281	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGu-----	14	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGuu-----	34	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGG-----	565	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGa-----	12	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGaa-----	3	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGau-----	27	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGU-----	3430	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUa-----	666	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUaa-----	195	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUau-----	129	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUU-----	41124	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUu-----	5632	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUuu-----	122	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUA-----	5202	-1,0	
-----			-UACAGUAGUCUG

CACAUUGGUUAa-----	102	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAu-----	278	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAG-----	2	-1,1	
-----			-ACAGUAGUCUG
CACAUUG-----	1452	0,-4	
-----			-ACAGUAGUCUG
CACAUUGa-----	11	0,-4	
-----			-ACAGUAGUCUG
CACAUUGaa-----	9	0,-4	
-----			-ACAGUAGUCUG
CACAUUGau-----	8	0,-4	
-----			-ACAGUAGUCUG
CACAUUGu-----	92	0,-4	
-----			-ACAGUAGUCUG
CACAUUGuu-----	89	0,-4	
-----			-ACAGUAGUCUG
CACAUUGG-----	3931	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGa-----	34	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGaa-----	55	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGau-----	137	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGU-----	18071	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUa-----	1788	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUaa-----	689	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUau-----	195	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUU-----	320152	0,-1	
-----			-ACAGUAGUCUG
CACAUUGGUUu-----	33792	0,-1	
-----			-ACAGUAGUCUG

CACAUUGGUUuu-----	982	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUA-----	93943	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	9239	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	75	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	39	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	3139	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	50	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	81	0,1	
-----			ACAGUAGUCUG
CACAUUGGUUAGu-----	7	0,1	
-----			ACAGUAGUCUG
CACAUUGGUUAGA-----	2	0,2	
-----			CAGUAGUCUG
CACAUUGG-----	1085	1,-3	
-----			CAGUAGUCUG
CACAUUGGa-----	7	1,-3	
-----			CAGUAGUCUG
CACAUUGGau-----	14	1,-3	
-----			CAGUAGUCUG
CACAUUGGU-----	3234	1,-2	
-----			CAGUAGUCUG
CACAUUGGUa-----	373	1,-2	
-----			CAGUAGUCUG
CACAUUGGUaa-----	158	1,-2	
-----			CAGUAGUCUG
CACAUUGGUau-----	16	1,-2	
-----			CAGUAGUCUG
CACAUUGGUU-----	53006	1,-1	
-----			CAGUAGUCUG
CACAUUGGUUu-----	7243	1,-1	
-----			CAGUAGUCUG

CACAUUGGUUuu-----	311	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUA-----	39021	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAa-----	3086	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAaa-----	61	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAau-----	17	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAu-----	1254	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAuu-----	22	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAG-----	20	1,1	
-----			-AGUAGUCUG
CACAUUGGU-----	68	2,-2	
-----			-AGUAGUCUG
CACAUUGGUa-----	8	2,-2	
-----			-AGUAGUCUG
CACAUUGGUaa-----	7	2,-2	
-----			-AGUAGUCUG
CACAUUGGUU-----	1414	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUu-----	220	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUuu-----	16	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUA-----	724	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAa-----	74	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAu-----	30	2,0	

>hsa-mir-199b 5p:26-48;3p:65-86 SRX018961

ccagaggacaccuccacuccgucuaCCCAGUGUUUAGACUAUCUGUUCaggacucccaauuguACAGUAGUCUGCACAU
UGGUUAggcuggggcuggguagaccucgg

...((((.....((((.....((((.....((((.....((((.....((((.....((((.....))))))))))))))))))))))))

)))..))))..))..)))).....))))..
 -----CCCAGUGUUUAGACUAUC-----
 ----- 17 0,-5 -----
 -----CCCAGUGUUUAGACUAUCU-----
 ----- 70 0,-4 -----
 -----CCCAGUGUUUAGACUAUCUG-----
 ----- 7 0,-3 -----
 -----CCCAGUGUUUAGACUAUCUGUU-----
 ----- 35 0,-1 -----
 -----CCCAGUGUUUAGACUAUCUGUUa-----
 ----- 3 0,-1 -----
 -----CCCAGUGUUUAGACUAUCUGUUC-----
 ----- 48 0,0 -----
 -----CCCAGUGUUUAGACUAUCUGUUCA-----
 ----- 4 0,1 -----
 -----CCAGUGUUUAGACUAUCUGUU-----
 ----- 4 1,-1 -----
 -----GUACAGUAGUCUGCACAU
 UGGU----- 3 -2,-2 -----
 -----GUACAGUAGUCUGCACAU
 UGGUU----- 12 -2,-1 -----
 -----UACAGUAGUCUGCACAU
 U----- 58 -1,-5 -----
 -----UACAGUAGUCUGCACAU
 UG----- 281 -1,-4 -----
 -----UACAGUAGUCUGCACAU
 UGu----- 14 -1,-4 -----
 -----UACAGUAGUCUGCACAU
 UGuu----- 34 -1,-4 -----
 -----UACAGUAGUCUGCACAU
 UGG----- 565 -1,-3 -----
 -----UACAGUAGUCUGCACAU
 UGGa----- 12 -1,-3 -----
 -----UACAGUAGUCUGCACAU
 UGGaa----- 3 -1,-3 -----
 -----UACAGUAGUCUGCACAU
 UGGau----- 27 -1,-3 -----
 -----UACAGUAGUCUGCACAU

UGGU-----	3430	-1,-2	-----UACAGUAGUCUGCACAU
UGGUa-----	666	-1,-2	-----UACAGUAGUCUGCACAU
UGGUaa-----	195	-1,-2	-----UACAGUAGUCUGCACAU
UGGUau-----	129	-1,-2	-----UACAGUAGUCUGCACAU
UGGUU-----	41124	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUu-----	5632	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUuu-----	122	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUA-----	5202	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAa-----	102	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAu-----	278	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAG-----	2	-1,1	-----ACAGUAGUCUGCACAU
UG-----	1452	0,-4	-----ACAGUAGUCUGCACAU
UGa-----	11	0,-4	-----ACAGUAGUCUGCACAU
UGaa-----	9	0,-4	-----ACAGUAGUCUGCACAU
UGau-----	8	0,-4	-----ACAGUAGUCUGCACAU
UGu-----	92	0,-4	-----ACAGUAGUCUGCACAU
UGuu-----	89	0,-4	-----ACAGUAGUCUGCACAU
UGG-----	3931	0,-3	-----ACAGUAGUCUGCACAU
UGGa-----	34	0,-3	-----ACAGUAGUCUGCACAU

UGGaa-----	55	0,-3	
-----			-ACAGUAGUCUGCACAU
UGGau-----	137	0,-3	
-----			-ACAGUAGUCUGCACAU
UGGU-----	18071	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUa-----	1788	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUaa-----	689	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUau-----	195	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUU-----	320152	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUu-----	33792	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUuu-----	982	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUA-----	93943	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAa-----	9239	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAaa-----	75	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAau-----	39	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAu-----	3139	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAuu-----	50	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAG-----	81	0,1	
-----			-ACAGUAGUCUGCACAU
UGGUUAGu-----	7	0,1	
-----			-ACAGUAGUCUGCACAU
UGGUUAGGu-----	4	0,2	
-----			-CAGUAGUCUGCACAU
UGG-----	1085	1,-3	
-----			-CAGUAGUCUGCACAU

UGGa-----	7	1,-3	-----CAGUAGUCUGCACAU
UGGau-----	14	1,-3	-----CAGUAGUCUGCACAU
UGGU-----	3234	1,-2	-----CAGUAGUCUGCACAU
UGGUa-----	373	1,-2	-----CAGUAGUCUGCACAU
UGGUaa-----	158	1,-2	-----CAGUAGUCUGCACAU
UGGUau-----	16	1,-2	-----CAGUAGUCUGCACAU
UGGUU-----	53006	1,-1	-----CAGUAGUCUGCACAU
UGGUUu-----	7243	1,-1	-----CAGUAGUCUGCACAU
UGGUUuu-----	311	1,-1	-----CAGUAGUCUGCACAU
UGGUUA-----	39021	1,0	-----CAGUAGUCUGCACAU
UGGUUAa-----	3086	1,0	-----CAGUAGUCUGCACAU
UGGUUAaa-----	61	1,0	-----CAGUAGUCUGCACAU
UGGUUAau-----	17	1,0	-----CAGUAGUCUGCACAU
UGGUUAu-----	1254	1,0	-----CAGUAGUCUGCACAU
UGGUUAuu-----	22	1,0	-----CAGUAGUCUGCACAU
UGGUUAG-----	20	1,1	-----AGUAGUCUGCACAU
UGGU-----	68	2,-2	-----AGUAGUCUGCACAU
UGGUa-----	8	2,-2	-----AGUAGUCUGCACAU
UGGUaa-----	7	2,-2	-----AGUAGUCUGCACAU


```

----- 13 0,0
-----GUGCAAAUCCAUGCAAAACUG-----
----- 2 1,-1

```

>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018961

```

acauugcuacuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguauauauguauauguggcUGUGCAAAUCCAUGCAAAA
CUGAuugugauaangu

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(((((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UGUGCAAAUCCAUGCAAAA
----- 2 0,-4
-----UGUGCAAAUCCAUGCAAAA
C----- 4 0,-3
-----UGUGCAAAUCCAUGCAAAA
CU----- 42 0,-2
-----UGUGCAAAUCCAUGCAAAA
CUG----- 31 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGA----- 13 0,0
-----GUGCAAAUCCAUGCAAAA
CUG----- 2 1,-1

```

>hsa-mir-200a mi:16-37;MA:54-75 SRX018961

```

ccgggccccugugagCAUCUUAACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaaa
ggugacccgc

```

```

.(((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))).))))).

```

```

-----CAUCUUAACCGGACAGUGCU-----
----- 5 0,-3
-----UAACACUGUCUGGUAACGA-----
----- 13 0,-3
-----UAACACUGUCUGGUAACGAU-----
----- 213 0,-2
-----UAACACUGUCUGGUAACGAUG-----
----- 92 0,-1
-----UAACACUGUCUGGUAACGAUGa-----
----- 25 0,-1
-----UAACACUGUCUGGUAACGAUGaa-----

```

```

----- 9 0,-1
-----UAACACUGUCUGGUAACGAUGU-----
----- 58 0,0
-----UAACACUGUCUGGUAACGAUGUa---
----- 18 0,0
-----UAACACUGUCUGGUAACGAUGUaa---
----- 5 0,0
-----UAACACUGUCUGGUAACGAUGUU---
----- 386 0,1
-----UAACACUGUCUGGUAACGAUGUUa---
----- 31 0,1
-----UAACACUGUCUGGUAACGAUGUUaa--
----- 3 0,1
-----UAACACUGUCUGGUAACGAUGUUu---
----- 118 0,1
-----UAACACUGUCUGGUAACGAUGUUC---
----- 4 0,2
-----AACACUGUCUGGUAACGAU-----
----- 3 1,-2
-----AACACUGUCUGGUAACGAUG-----
----- 2 1,-1
-----AACACUGUCUGGUAACGAUGa-----
----- 2 1,-1
-----AACACUGUCUGGUAACGAUGU-----
----- 6 1,0
-----AACACUGUCUGGUAACGAUGUU-----
----- 12 1,1
-----AACACUGUCUGGUAACGAUGUUa---
----- 13 1,1
-----AACACUGUCUGGUAACGAUGUUu---
----- 13 1,1
-----AACACUGUCUGGUAACGAUGUUC---
----- 2 1,2
-----ACACUGUCUGGUAACGAUGUU-----
----- 4 2,1

```

>hsa-mir-200b mi:21-42;MA:57-78 SRX018961

ccagcucgggcagccguggcCAUCUACUGGGCAGCAUUGGAuggagucaggucucUAAUACUGCCUGGUAAUGAUGAcg

----- 12 0,0	-----UAAUACUGCCUGGUA AUGAUGAu-
----- 11 0,0	-----UAAUACUGCCUGGUA AUGAUGAuu
----- 2 0,0	-----UAAUACUGCCUGGUA AUGAUGAC-
----- 704 0,1	-----UAAUACUGCCUGGUA AUGAUGACa
----- 527 0,1	-----UAAUACUGCCUGGUA AUGAUGACa
u----- 14 0,1	-----UAAUACUGCCUGGUA AUGAUGACu
----- 313 0,1	-----UAAUACUGCCUGGUA AUGAUGACu
u----- 12 0,1	-----UAAUACUGCCUGGUA AUGAUGACG
----- 29 0,2	-----UAAUACUGCCUGGUA AUGAUGACG
u----- 10 0,2	-----AAUACUGCCUGGUA AUGAUGA--
----- 3 1,0	-----AAUACUGCCUGGUA AUGAUGAau
----- 2 1,0	-----AAUACUGCCUGGUA AUGAUGAC-
----- 32 1,1	-----AAUACUGCCUGGUA AUGAUGACa
----- 78 1,1	-----AAUACUGCCUGGUA AUGAUGACu
----- 144 1,1	-----AUACUGCCUGGUA AUGAUG---
----- 3 2,-1	-----AUACUGCCUGGUA AUGAUGA--
----- 12 2,0	-----AUACUGCCUGGUA AUGAUGAa-
----- 4 2,0	-----AUACUGCCUGGUA AUGAUGAuu
----- 5 2,0	-----AUACUGCCUGGUA AUGAUGAC-


```

----- 52 2,1
-----AUACUGCCUGGUA AUGAUGACa
----- 15 2,1
-----AUACUGCCUGGUA AUGAUGACa
a----- 2 2,1
-----AUACUGCCUGGUA AUGAUGACu
----- 136 2,1
-----AUACUGCCUGGUA AUGAUGACu
u----- 35 2,1
-----AUACUGCCUGGUA AUGAUGACG
----- 18 2,2
-----AUACUGCCUGGUA AUGAUGACG
a----- 2 2,2
-----AUACUGCCUGGUA AUGAUGACG
u----- 11 2,2
-----AUACUGCCUGGUA AUGAUGACG
G----- 8 2,3

```

>hsa-mir-200c mi:5-26;MA:44-66 SRX018961

```

cccuCGUCUUACCCAGCAGUGUUUGGgugcggguugggagucucUAAUACUGCCGGGUA AUGAUGGAgg
((..((((((((((.(((((((.(((.(.....)))))).)))))).))))))..))
-----UAAUACUGCCGGGUA AUGAUGa--- 4 0,-2
-----UAAUACUGCCGGGUA AUGAUGG--- 23 0,-1
-----UAAUACUGCCGGGUA AUGAUGGu-- 2 0,-1
-----UAAUACUGCCGGGUA AUGAUGGA-- 23 0,0
-----UAAUACUGCCGGGUA AUGAUGGAu- 2 0,0

```

>hsa-mir-203 3p:65-86 SRX018961

```

guguuggggacucgcgcgcuggguccagugguucuaacaguucaacaguucuguagcgcaauuGUGAAAUGUUUAGGAC
CACUAGacccggcgggcgcggcgcagacgca
.((((((..(.(((((.((((((((((.((((((((((.((((((((((.....).)))))))))).)))))).))))))
))))).)))))))).))))).))..)))))).
-----UUGUGAAAUGUUUAGGAC
CACU----- 2 -2,-2
-----UGUGAAAUGUUUAGGAC
CAC----- 2 -1,-3
-----GUGAAAUGUUUAGGAC
CACU----- 9 0,-2

```

```

-----GUGAAAUGUUUAGGAC
CACUA----- 8 0,-1
-----GUGAAAUGUUUAGGAC
CACUAG----- 49 0,0
-----GUGAAAUGUUUAGGAC
CACUAGA----- 12 0,1
-----UGAAAUGUUUAGGAC
CACUA----- 3 1,-1
-----UGAAAUGUUUAGGAC
CACUAG----- 11 1,0
-----UGAAAUGUUUAGGAC
CACUAGA----- 3 1,1

```

>hsa-mir-204 5p:33-54 SRX018961

```

ggcuacagucuucucaugugacucguggacUCCCCUUGUCAUCCUAUGCCUgagaauauaugaaggaggcugggaag
gcaaaggagcguucaauugucaucacuggc

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UCUUCAUGUGACUCGUGGAC-----
----- 3
-----UCCCCUUGUCAUCCUAUGCCU-----
----- 5 0,0
-----UCCCCUUGUCAUCCUAUGCCUG-----
----- 2 0,1
-----GGCUGGGAAG
GCAAAGGGAC----- 4
-----GCUGGGAAG
GCAAAGGGA----- 3
-----GCUGGGAAG
GCAAAGGGACGU----- 13

```

>hsa-mir-206 3p:53-74 SRX018961

```

ugcuucccgaggccacaugcuucuuuauauccccaauuggauuacuuugcuaUGGAAUGUAAGGAAGUGUGUGGuucgg
caagug

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UGGAAUGUAAGGAAGUGUG-----
----- 3 0,-3

```

```

-----UGGAAUGUAAGGAAGUGUGUG-----
----- 11 0,-1
-----UGGAAUGUAAGGAAGUGUGUGa-----
----- 2 0,-1
-----UGGAAUGUAAGGAAGUGUGUGG-----
----- 50 0,0
-----UGGAAUGUAAGGAAGUGUGUGGU-----
----- 3 0,1

```

>hsa-mir-20a MA:8-30;mi:44-65 SRX018961

```

guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuaguuaucuACUGCAUUAUGAGCACUAAAAGuacugc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAAAGUGCUUAUAGUGCAGG----- 4 0,-3
-----UAAAGUGCUUAUAGUGCAGGU----- 7 0,-2
-----UAAAGUGCUUAUAGUGCAGGUA----- 17 0,-1
-----UAAAGUGCUUAUAGUGCAGGUa----- 2 0,-1
-----UAAAGUGCUUAUAGUGCAGGUa----- 2 0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG----- 14 0,0
-----UAAAGUGCUUAUAGUGCAGGUAGa----- 16 0,0

```

>hsa-mir-20b MA:6-28;mi:44-65 SRX018961

```

aguacCAAAGUGCUCUAUAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGCACUUCCAGuacu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CAAAGUGCUCUAUAGUGCAGGUAG----- 2 0,0
-----ACUGUAGUAUGGGCACUUCCAGU--- 5 0,1

```

>hsa-mir-21 MA:8-29;mi:46-66 SRX018961

```

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GUAGCUUAUCAGACUGAU----- 7
-1,-5
-----GUAGCUUAUCAGACUGAUG----- 16
-1,-4
-----GUAGCUUAUCAGACUGAUGU----- 11
-1,-3
-----GUAGCUUAUCAGACUGAUGUU----- 162
-1,-2
-----GUAGCUUAUCAGACUGAUGUUa----- 9

```

-1,-2	
-----GUAGCUUAUCAGACUGAUGUUG-----	583
-1,-1	
-----GUAGCUUAUCAGACUGAUGUUGu-----	2
-1,-1	
-----GUAGCUUAUCAGACUGAUGUUGA-----	615
-1,0	
-----GUAGCUUAUCAGACUGAUGUUGAa-----	25
-1,0	
-----GUAGCUUAUCAGACUGAUGUUGAaa-----	4
-1,0	
-----GUAGCUUAUCAGACUGAUGUUGAC-----	136
-1,1	
-----GUAGCUUAUCAGACUGAUGUUGACa-----	39
-1,1	
-----GUAGCUUAUCAGACUGAUGUUGACU-----	46
-1,2	
-----UAGCUUAUCAGACUGAUG-----	1590
0,-4	
-----UAGCUUAUCAGACUGAUGa-----	5
0,-4	
-----UAGCUUAUCAGACUGAUGau-----	7
0,-4	
-----UAGCUUAUCAGACUGAUGU-----	3681
0,-3	
-----UAGCUUAUCAGACUGAUGUa-----	46
0,-3	
-----UAGCUUAUCAGACUGAUGUaa-----	7
0,-3	
-----UAGCUUAUCAGACUGAUGUU-----	
24924 0,-2	
-----UAGCUUAUCAGACUGAUGUUa-----	114
0,-2	
-----UAGCUUAUCAGACUGAUGUUaa-----	6
0,-2	
-----UAGCUUAUCAGACUGAUGUUu-----	39
0,-2	
-----UAGCUUAUCAGACUGAUGUUG-----	

61948	0, -1	
-----UAGCUUAUCAGACUGAUGUUGu-----		109
0, -1		
-----UAGCUUAUCAGACUGAUGUUGA-----		
35623	0, 0	
-----UAGCUUAUCAGACUGAUGUUGAa-----		3475
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAaa-----		231
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAau-----		14
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAu-----		70
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAuu-----		4
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAC-----		
20520	0, 1	
-----UAGCUUAUCAGACUGAUGUUGACa-----		
13193	0, 1	
-----UAGCUUAUCAGACUGAUGUUGACaa-----		14
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACau-----		26
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACU-----		7392
0, 2		
-----UAGCUUAUCAGACUGAUGUUGACUa-----		20
0, 2		
-----UAGCUUAUCAGACUGAUGUUGACUu-----		4
0, 2		
-----UAGCUUAUCAGACUGAUGUUGACUG-----		13
0, 3		
-----AGCUUAUCAGACUGAUGU-----		2
1, -3		
-----AGCUUAUCAGACUGAUGUU-----		118
1, -2		
-----AGCUUAUCAGACUGAUGUUG-----		247
1, -1		
-----AGCUUAUCAGACUGAUGUUGu-----		16

1, -1		
-----AGCUUAUCAGACUGAUGUUGA-----	334	
1, 0		
-----AGCUUAUCAGACUGAUGUUGAa-----	25	
1, 0		
-----AGCUUAUCAGACUGAUGUUGAau-----	2	
1, 0		
-----AGCUUAUCAGACUGAUGUUGAu-----	5	
1, 0		
-----AGCUUAUCAGACUGAUGUUGAC-----	283	
1, 1		
-----AGCUUAUCAGACUGAUGUUGACa-----	170	
1, 1		
-----AGCUUAUCAGACUGAUGUUGACaa-----	2	
1, 1		
-----AGCUUAUCAGACUGAUGUUGACau-----	5	
1, 1		
-----AGCUUAUCAGACUGAUGUUGACU-----	117	
1, 2		
-----GCUUAUCAGACUGAUGUU-----	26	
2, -2		
-----GCUUAUCAGACUGAUGUUG-----	197	
2, -1		
-----GCUUAUCAGACUGAUGUUGA-----	85	
2, 0		
-----GCUUAUCAGACUGAUGUUGAC-----	71	
2, 1		
-----GCUUAUCAGACUGAUGUUGACa-----	23	
2, 1		
-----GCUUAUCAGACUGAUGUUGACU-----	13	
2, 2		
-----GCUUAUCAGACUGAUGUUGACUa-----	11	
2, 2		
-----GGCAACACCAGUCGAUGGGC-----	2	
-2, -3		
-----GCAACACCAGUCGAUGGGCUGU-----	6	
-1, 0		
-----CAACACCAGUCGAUGGGC-----	71	

0,-3	-----CAACACCAGUCGAUGGGCU-----	553
0,-2	-----CAACACCAGUCGAUGGGCUuu-----	3
0,-2	-----CAACACCAGUCGAUGGGCUG-----	246
0,-1	-----CAACACCAGUCGAUGGGCUGau-----	2
0,-1	-----CAACACCAGUCGAUGGGCUGU-----	831
0,0	-----CAACACCAGUCGAUGGGCUGUa-----	54
0,0	-----CAACACCAGUCGAUGGGCUGUaa-----	1395
0,0	-----CAACACCAGUCGAUGGGCUGUau-----	398
0,0	-----CAACACCAGUCGAUGGGCUGUu-----	18
0,0	-----CAACACCAGUCGAUGGGCUGUuu-----	128
0,0	-----CAACACCAGUCGAUGGGCUGUC-----	778
0,1	-----CAACACCAGUCGAUGGGCUGUCa-----	628
0,1	-----CAACACCAGUCGAUGGGCUGUCaa-----	5
0,1	-----CAACACCAGUCGAUGGGCUGUCau-----	49
0,1	-----CAACACCAGUCGAUGGGCUGUCU-----	629
0,2	-----CAACACCAGUCGAUGGGCUGUCUa-----	13
0,2	-----CAACACCAGUCGAUGGGCUGUCUaa-----	5
0,2	-----CAACACCAGUCGAUGGGCUGUCUau-----	3
0,2	-----CAACACCAGUCGAUGGGCUGUCUu-----	52

0,2	-----CAACACCAGUCGAUGGGCUGUCUuu--	44
0,2	-----AACACCAGUCGAUGGGCU-----	13
1,-2	-----AACACCAGUCGAUGGGCUGU-----	16
1,0	-----AACACCAGUCGAUGGGCUGUaa---	13
1,0	-----AACACCAGUCGAUGGGCUGUau---	4
1,0	-----AACACCAGUCGAUGGGCUGUuu---	9
1,0	-----AACACCAGUCGAUGGGCUGUC-----	14
1,1	-----AACACCAGUCGAUGGGCUGUCa---	41
1,1	-----AACACCAGUCGAUGGGCUGUCau---	6
1,1	-----AACACCAGUCGAUGGGCUGUCU-----	293
1,2	-----AACACCAGUCGAUGGGCUGUCUa---	7
1,2	-----AACACCAGUCGAUGGGCUGUCUu---	36
1,2	-----AACACCAGUCGAUGGGCUGUCUuu--	30
1,2	-----ACACCAGUCGAUGGGCUGUC-----	7
2,1	-----ACACCAGUCGAUGGGCUGUCa---	4
2,1	-----ACACCAGUCGAUGGGCUGUCU-----	35
2,2	-----ACACCAGUCGAUGGGCUGUCUuu--	3
2,2		

>hsa-mir-210 3p:66-87 SRX018961

acccggcagugccuccaggcgcagggcagccccugcccaccgcacacugcgcugccccagacccaCUGUGCGUGUGACAG

----- 4 0,-2

----- 7 0,-1

----- 8 0,0

----- 4 0,1

CAGACAG----- 7 -2,-5

CAGACAGG----- 3 -2,-4

CAGACAGGa----- 2 -2, -4

CAGACAGGCAa----- 4 -2,-2

CAGACAGGCAGU----- 8 -2,0

CAGACAG----- 40 -1,-5

CAGACAGG----- 39 -1,-4

CAGACAGGa----- 5 -1,-4

CAGACAGGC----- 12 -1,-3

CAGACAGGCA----- 60 -1,-2

CAGACAGGCAa----- 46 -1,-2

CAGACAGGCAaa----- 8 -1,-2

CAGACAGGCA_{au}----- 7 -1,-2

-----UACAGCAGGCA

CAGACAGGCAu-----	28	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCCAuu-----	4	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAG-----	65	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGa-----	45	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGaa-----	2	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGau-----	4	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGU-----	150	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUa-----	18	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUaa-----	2	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUau-----	5	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUu-----	16	-1,0	
-----			-ACAGCAGGCA
CAGACAGG-----	84	0,-4	
-----			-ACAGCAGGCA
CAGACAGGa-----	3	0,-4	
-----			-ACAGCAGGCA
CAGACAGGaa-----	2	0,-4	
-----			-ACAGCAGGCA
CAGACAGGC-----	10	0,-3	
-----			-ACAGCAGGCA
CAGACAGGCA-----	55	0,-2	
-----			-ACAGCAGGCA
CAGACAGGCa-----	47	0,-2	
-----			-ACAGCAGGCA
CAGACAGGCAa-----	22	0,-2	
-----			-ACAGCAGGCA
CAGACAGGCAau-----	19	0,-2	
-----			-ACAGCAGGCA

.....(((((((((.(.(((.((((.((((((((((.(((((((.....))))).).)))))))))
))).))))).)).)).).))))).))))...

>hsa-mir-218-1 MA:25-45;mi:68-89 SRX018961
guguaaanguagcgagauuuucugUUGUGCUUGAUCUAACCAUGUgguugcgagguaugaguaaaacAUGGUUCCGUCAA
GCACCAUGGaacgucacgcagcuuucuaca

$$(((\dots((\dots(((\dots((((\dots(((((((((\dots(((((((((\dots)))))))))\dots))))))\dots))))).)))))).$$

>hsa-mir-218-2 MA:25-45;mi:67-88 SRX018961
gaccagucgcugcggggcuuuccuUUGUGCUUGAUCUAACCAUGUgguggaacgauggaaacggaaCAUGGUUCUGUCA
GCACCGCGgaaaagcaccgugcucuccugca

$$\dots(((\dots((\dots((((((\dots(((((((((\dots(((((((((\dots\dots\dots((\dots))\dots))))))\dots)))\dots))))))\dots))\dots))\dots)$$

-----UUGUGCUUGAUCUAACCAUGU-----
-----3 0,0-----
-----UUGUGCUUGAUCUAACCAUGUG-----


```

----- 200 0,-1
-----AGUUCUUCAGUGGCAAGCUUUu-----
----- 5 0,-1
-----AGUUCUUCAGUGGCAAGCUUUA-----
----- 161 0,0
-----AGUUCUUCAGUGGCAAGCUUUAa-----
----- 13 0,0
-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 8 0,1
-----AAGCUGCCAGUUGAAGAA-----
----- 1490 0,-4
-----AAGCUGCCAGUUGAAGAAa-----
----- 9 0,-4
-----AAGCUGCCAGUUGAAGAAau-----
----- 9 0,-4
-----AAGCUGCCAGUUGAAGAAu-----
----- 3 0,-4
-----AAGCUGCCAGUUGAAGAAuu-----
----- 31 0,-4
-----AAGCUGCCAGUUGAAGAAC-----
----- 1009 0,-3
-----AAGCUGCCAGUUGAAGAACa-----
----- 403 0,-3
-----AAGCUGCCAGUUGAAGAACaa-----
----- 61 0,-3
-----AAGCUGCCAGUUGAAGAACau-----
----- 6 0,-3
-----AAGCUGCCAGUUGAAGAACU-----
----- 7167 0,-2
-----AAGCUGCCAGUUGAAGAACUa-----
----- 136 0,-2
-----AAGCUGCCAGUUGAAGAACUaa-----
----- 46 0,-2
-----AAGCUGCCAGUUGAAGAACUau-----
----- 19 0,-2
-----AAGCUGCCAGUUGAAGAACUu-----
----- 51 0,-2
-----AAGCUGCCAGUUGAAGAACUuu-----

```

```

----- 76 0,-2
-----AAGCUGCCAGUUGAAGAACUG-----
----- 622 0,-1
-----AAGCUGCCAGUUGAAGAACUGa-----
----- 76 0,-1
-----AAGCUGCCAGUUGAAGAACUGaa-----
----- 12 0,-1
-----AAGCUGCCAGUUGAAGAACUGU-----
----- 3979 0,0
-----AAGCUGCCAGUUGAAGAACUGUa-----
----- 88 0,0
-----AAGCUGCCAGUUGAAGAACUGUaa-----
----- 30 0,0
-----AAGCUGCCAGUUGAAGAACUGUau-----
----- 9 0,0
-----AAGCUGCCAGUUGAAGAACUGUU-----
----- 137 0,1
-----AAGCUGCCAGUUGAAGAACUGUUa-----
----- 4 0,1
-----AAGCUGCCAGUUGAAGAACUGUUau-----
----- 3 0,1
-----AAGCUGCCAGUUGAAGAACUGUUu-----
----- 46 0,1
-----AGCUGCCAGUUGAAGAAC-----
----- 15 1,-3
-----AGCUGCCAGUUGAAGAACU-----
----- 53 1,-2
-----AGCUGCCAGUUGAAGAACUG-----
----- 2 1,-1
-----AGCUGCCAGUUGAAGAACUGa-----
----- 6 1,-1
-----AGCUGCCAGUUGAAGAACUGU-----
----- 24 1,0
-----AGCUGCCAGUUGAAGAACUGUUu-----
----- 3 1,1

```

>hsa-mir-221 mi:25-46;MA:65-87 SRX018961

ugaacauccaggucuggggcaugaACCUGGCAUACAAUGUAGAUUUcuguguucguuaggcaacAGCUACAUUGUCUGCU

----- 3 -1,-5

----- 3 -1,-4

----- 5 -1,-1

----- 5 -1.0

----- 18 0.-4

----- 4 0,-2

----- 5 0,-2

----- 5 0. -2

----- 86 0.-1

----- 15 0.-1

----- 168 0.0

----- 11 0.0

----- 2 0,0

----- 49 0.1

----- 21 0,2

----- 5 0,3

GG----- 26 0,-5

-----AGCUACAUGUCUGCU

GGG-----	21	0,-4	
-----			-AGCUACAUUGUCUGCU
GGGa-----	5	0,-4	
-----			-AGCUACAUUGUCUGCU
GGGU-----	26	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUa-----	2	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUaa-----	22	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUau-----	21	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUU-----	154	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUa-----	96	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUaa-----	12	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUau-----	24	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUU-----	604	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUa-----	65	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUau-----	5	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUu-----	39	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUC-----	260	0,0	
-----			-AGCUACAUUGUCUGCU
GGGUUUCu-----	11	0,0	
-----			-AGCUACAUUGUCUGCU
GGGUUUCA-----	15	0,1	
-----			-GCUACAUUGUCUGCU
GGG-----	2	1,-4	
-----			-GCUACAUUGUCUGCU
GGGUU-----	27	1,-2	
-----			-GCUACAUUGUCUGCU

GGGUUa-----	3	1,-2	
-----			-GCUACAUUGUCUGCU
GGGUUau-----	2	1,-2	
-----			-GCUACAUUGUCUGCU
GGGUUU-----	121	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUa-----	21	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUuu-----	2	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUC-----	24	1,0	

>hsa-mi r-222 mi:31-52;MA:69-89 SRX018961

gcugcuggaagguguagguacccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu
...((((((((((((.....((.((((((((((((((((((((((((((((.....(((.....))))....)))))).)))))))))
))))))))))..)).)))))))))))))).

-----			-CAGCUACAUCUGG
CUACU-----	2	-1,-4	
-----			-CAGCUACAUCUGG
CUACUGGGUCU-----	2	-1,2	
-----			-AGCUACAUCUGG
CUACUG-----	159	0,-3	
-----			-AGCUACAUCUGG
CUACUGG-----	260	0,-2	
-----			-AGCUACAUCUGG
CUACUGGuu-----	3	0,-2	
-----			-AGCUACAUCUGG
CUACUGGG-----	374	0,-1	
-----			-AGCUACAUCUGG
CUACUGGGa-----	16	0,-1	
-----			-AGCUACAUCUGG
CUACUGGGaa-----	8	0,-1	
-----			-AGCUACAUCUGG
CUACUGGGU-----	742	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUa-----	34	0,0	
-----			-AGCUACAUCUGG

CUACUGGGUaa-----	55	0,0	-----AGCUACAUCUGG
CUACUGGGUau-----	38	0,0	-----AGCUACAUCUGG
CUACUGGGUu-----	47	0,0	-----AGCUACAUCUGG
CUACUGGGUuu-----	28	0,0	-----AGCUACAUCUGG
CUACUGGGUC-----	1839	0,1	-----AGCUACAUCUGG
CUACUGGGUCa-----	72	0,1	-----AGCUACAUCUGG
CUACUGGGUCaa-----	8	0,1	-----AGCUACAUCUGG
CUACUGGGUCU-----	2541	0,2	-----AGCUACAUCUGG
CUACUGGGUCUa-----	25	0,2	-----AGCUACAUCUGG
CUACUGGGUCUau-----	8	0,2	-----AGCUACAUCUGG
CUACUGGGUCUu-----	105	0,2	-----AGCUACAUCUGG
CUACUGGGUCUuu-----	24	0,2	-----AGCUACAUCUGG
CUACUGGGUCUC-----	1020	0,3	-----AGCUACAUCUGG
CUACUGGGUCUCa-----	97	0,3	-----AGCUACAUCUGG
CUACUGGGUCUCU-----	261	0,4	-----GCUACAUCUGG
CUACUGGGU-----	2	1,0	-----GCUACAUCUGG
CUACUGGGUC-----	15	1,1	-----GCUACAUCUGG
CUACUGGGUCaa-----	4	1,1	-----GCUACAUCUGG
CUACUGGGUCU-----	19	1,2	-----GCUACAUCUGG

CUACUGGGUCUC-----	5	1,3	
-----			-GCUACAUCUGG
CUACUGGGUCUCa-----	3	1,3	
-----			-GCUACAUCUGG
CUACUGGGUCUCU-----	2	1,4	

>hsa-mi r-223 mi:26-47;MA:68-89 SRX018961
ccuggccuccugcagugccacgcucCGUGUAUUUGACAAGCUGAGUUGgacacuccaugugguagagUGUCAGUUUGUCA
AAUACCCCAagugcggcacaugcuuaccag

.((((.....(((((((.(((((.((((((((((((((((.....(((((((.....))))))))))))))))))))))
))))).).))))).))))).))))).))))))

-----CGUGUAUUUGACAAGCUGAGUU-----			
-----	2	0,0	
-----CGUGUAUUUGACAAGCUGAGUUG-----			
-----	14	0,1	
-----CGUGUAUUUGACAAGCUGAGUUGu-----			
-----	9	0,1	
-----CGUGUAUUUGACAAGCUGAGUUGG-----			
-----	6	0,2	
-----UGUCAGUUUGUCA			
AAUAC-----	3	0,-4	
-----UGUCAGUUUGUCA			
AAUACC-----	11	0,-3	
-----UGUCAGUUUGUCA			
AAUACCC-----	10	0,-2	
-----UGUCAGUUUGUCA			
AAUACCCC-----	28	0,-1	
-----UGUCAGUUUGUCA			
AAUACCCCA-----	48	0,0	
-----UGUCAGUUUGUCA			
AAUACCCCAu-----	28	0,0	
-----UGUCAGUUUGUCA			
AAUACCCCAuu-----	3	0,0	
-----UGUCAGUUUGUCA			
AAUACCCCAA-----	46	0,1	
-----UGUCAGUUUGUCA			
AAUACCCCAAu-----	14	0,1	
-----UGUCAGUUUGUCA			


```

AAUACCCCAAG----- 4 0,2
-----GUCAGUUUGUCA
AAUACC----- 9 1,-3
-----GUCAGUUUGUCA
AAUACCC----- 8 1,-2
-----GUCAGUUUGUCA
AAUACCCC----- 11 1,-1
-----GUCAGUUUGUCA
AAUACCCCA----- 20 1,0
-----GUCAGUUUGUCA
AAUACCCCAA----- 34 1,1
-----GUCAGUUUGUCA
AAUACCCCAAu----- 5 1,1

```

```

>hsa-mir-224 MA:8-28;mi:53-75 SRX018961
gggcuuuCAAGUCACUAGUGGUUCCGUUuaguagaugauugugcauuguuucAAAAUGGUGCCCUAGUGACUACAaagcc
c
(((((((..(((((((((((((.((((((..((((((.....)))))).)))))).)))))).))))))..))))))
)
-----CAAGUCACUAGUGGUUCCGUUU-----
- 78 0,1
-----CAAGUCACUAGUGGUUCCGUUUA-----
- 13 0,2
-----CAAGUCACUAGUGGUUCCGUUUAG-----
- 22 0,3

```

```

>hsa-mir-2276 3p:54-75 SRX018961
guguuuccaguccgcccucugucaccuugcagacggcuuucucuccgaugUCUGCAAGUGUCAGAGGCGAGGagugg
cagcugcau
((((((..(((((((((((((.((((((..((((((.....)))))).)))))).)))))).))))..))))))
..))))))
-----UCUGCAAGUGUCAGAGGCGAGGu-----
----- 2 0,0

```

```

>hsa-mir-2278 5p:16-37 SRX018961
gugcugcagguguugGAGAGCAGUGUGUGUUGCCUGGggacuguguggacugguaucaaccagacagcuugcacugacuc
cagaccugccgucau
((((((..(((((((((((((.((((((..((((((.....)))))).)))))).)))))).))))..))))))

```

```

)))..))))).))
-----AGAGCAGUGUGUGUUGCCU-----
-----      2      1,-2

```

```

>hsa-mir-2355    5p:11-31;3p:54-75    SRX018961
cagacgugucAUCCCCAGAUACAAUGGACAUAuugcuauuauaaucguauggcAUUGUCCUUGCUGUUUGGAGAUaauc
ugcugac
(((..(((.(((.(((((((((((.((((((.((((((.....)))))))))))))).))))))..)))).))
..))..
-----AUCCCCAGAUACAAUGGACAUA-----
----- 2      0,1
-----AUUGUCCUUGCUGUUUGGAGA-----
----- 2      0,-1
-----AUUGUCCUUGCUGUUUGGAGAU-----
----- 5      0,0

```

```

>hsa-mir-23a     mi:9-30;MA:45-65    SRX018961
ggccggcuGGGGUCCUGGGGAUGGGAUUgcuuccugucacaaAUCACAUUGCCAGGGAUUCCaaccgacc
((.(((.(((((((((((.((((((.((((((.....)))))))))))))).))))))..)))).))
-----UGGGGUUCCUGGGGAUGG----- 4
-1,-5
-----UGGGGUUCCUGGGGAUGGGAU----- 5
-1,-2
-----UGGGGUUCCUGGGGAUGGGAUaa----- 2
-1,-2
-----UGGGGUUCCUGGGGAUGGGAU----- 10
-1,-1
-----GGGGUUCCUGGGGAUGGG----- 7
0,-4
-----GGGGUUCCUGGGGAUGGGA----- 9
0,-3
-----GGGGUUCCUGGGGAUGGGAU----- 8
0,-2
-----GGGGUUCCUGGGGAUGGGAU----- 34
0,-1
-----GGGGUUCCUGGGGAUGGGAUUU----- 26
0,0
-----AAUCACAUUGCCAGGGAU----- 5

```

-1,-3	-----AAUCACAUUGCCAGGGAUUU-----	20
-1,-2	-----AAUCACAUUGCCAGGGAUUUC-----	8
-1,-1	-----AAUCACAUUGCCAGGGAUUUCC-----	4
-1,0	-----AAUCACAUUGCCAGGGAUUUCCA-----	19
-1,1	-----AUCACAUUGCCAGGGAUU-----	225
0,-3	-----AUCACAUUGCCAGGGAUUU-----	1678
0,-2	-----AUCACAUUGCCAGGGAUUUa-----	271
0,-2	-----AUCACAUUGCCAGGGAUUUaa-----	50
0,-2	-----AUCACAUUGCCAGGGAUUUau-----	6
0,-2	-----AUCACAUUGCCAGGGAUUUu-----	54
0,-2	-----AUCACAUUGCCAGGGAUUUC-----	1397
0,-1	-----AUCACAUUGCCAGGGAUUUCa-----	167
0,-1	-----AUCACAUUGCCAGGGAUUUCaa-----	4
0,-1	-----AUCACAUUGCCAGGGAUUUCu-----	28
0,-1	-----AUCACAUUGCCAGGGAUUUCC-----	743
0,0	-----AUCACAUUGCCAGGGAUUUCCA-----	1668
0,1	-----AUCACAUUGCCAGGGAUUUCCAu-----	90
0,1	-----AUCACAUUGCCAGGGAUUUCCAA-----	149
0,2	-----AUCACAUUGCCAGGGAUUUCCAAu-----	15

0,2	UCACAUUGCCAGGGAUUU	10
1,-2	UCACAUUGCCAGGGAUUUa	4
1,-2	UCACAUUGCCAGGGAUUUaa	2
1,-2	UCACAUUGCCAGGGAUUUC	9
1,-1	UCACAUUGCCAGGGAUUUCa	2
1,-1	UCACAUUGCCAGGGAUUUCCA	16
1,1	UCACAUUGCCAGGGAUUUCCAA	7
1,2		

>hsa-mi r-23b mi:20-41;MA:58-78 SRX018961

cucaggugcucuggcugcuUGGGUCCUGGCAUGCUGAUUgugacuaagauuaaaAUCACAUGCCAGGGAUUACCac
gcaaccacgaccuuggc

$$\begin{aligned} & .(((((.(((((.(((.((((((((((((((((.(((((.....)))))))).)))))))).)).) \\ &))).))) .))))). \end{aligned}$$

```

-----UUGGGUUCCUGGCAUGCUGAU-----
-----   35   -1,-2
-----UUGGGUUCCUGGCAUGCUGAUU-----
-----   30   -1,-1
-----UUGGGUUCCUGGCAUGCUGAUUa-----
-----   3    -1,-1
-----UUGGGUUCCUGGCAUGCUGAUUU-----
-----   18   -1,0
-----UGGGUUCCUGGCAUGCUG-----
-----   5    0,-4
-----UGGGUUCCUGGCAUGCUGu-----
-----   2    0,-4
-----UGGGUUCCUGGCAUGCUGA-----
-----   25   0,-3
-----UGGGUUCCUGGCAUGCUGAa-----
-----   4    0,-3
-----UGGGUUCCUGGCAUGCUGAaa-----

```

```

----- 9 0,-3
-----UGGGUUCCUGGCAUGCUGAU-----
----- 287 0,-2
-----UGGGUUCCUGGCAUGCUGAUa-----
----- 20 0,-2
-----UGGGUUCCUGGCAUGCUGAUaa-----
----- 10 0,-2
-----UGGGUUCCUGGCAUGCUGAUU-----
----- 428 0,-1
-----UGGGUUCCUGGCAUGCUGAUUa-----
----- 29 0,-1
-----UGGGUUCCUGGCAUGCUGAUUaa-----
----- 3 0,-1
-----UGGGUUCCUGGCAUGCUGAUUau-----
----- 4 0,-1
-----UGGGUUCCUGGCAUGCUGAUUU-----
----- 1262 0,0
-----UGGGUUCCUGGCAUGCUGAUUUa-----
----- 114 0,0
-----UGGGUUCCUGGCAUGCUGAUUUau-----
----- 3 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
----- 44 0,0
-----UGGGUUCCUGGCAUGCUGAUUUUG-----
----- 5 0,1
-----GGGUUCCUGGCAUGCUGA-----
----- 11 1,-3
-----GGGUUCCUGGCAUGCUGAU-----
----- 37 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
----- 128 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
----- 424 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
----- 31 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----
----- 22 1,0
-----GGGUUCCUGGCAUGCUGAUUUUG-----

```

-----	11	1,1	
-----	-GGGUUCCUGGCAUGCUGAUUUGU-----		
-----	2	1,2	
-----	-GGGUUCCUGGCAUGCUGAUUUGU-----		
-----	2	1,3	
-----	-GGUUCCUGGCAUGCUGAUU-----		
-----	4	2,-1	
-----	-----AAUCACAUUGCCAGGGAUU-----		
-----	5	-1,-3	
-----	-----AAUCACAUUGCCAGGGAUUA-----		
-----	4	-1,-2	
-----	-----AAUCACAUUGCCAGGGAUUACC--		
-----	9	-1,0	
-----	-----AUCACAUUGCCAGGGAUU-----		
-----	225	0,-3	
-----	-----AUCACAUUGCCAGGGAUUA-----		
-----	413	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAa---		
-----	109	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAaa--		
-----	3	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAau--		
-----	2	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAu---		
-----	44	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAC---		
-----	190	0,-1	
-----	-----AUCACAUUGCCAGGGAUUACa--		
-----	32	0,-1	
-----	-----AUCACAUUGCCAGGGAUUACu--		
-----	3	0,-1	
-----	-----AUCACAUUGCCAGGGAUUACC--		
-----	304	0,0	
-----	-----AUCACAUUGCCAGGGAUUACCu-		
-----	2	0,0	
-----	-----AUCACAUUGCCAGGGAUUACCA-		
-----	569	0,1	
-----	-----AUCACAUUGCCAGGGAUUACCAa		

```

----- 11 0,1
-----AUCACAUUGCCAGGGGAUUACCAu
----- 115 0,1
-----AUCACAUUGCCAGGGGAUUACCAu
u----- 6 0,1
-----AUCACAUUGCCAGGGGAUUACCAC
----- 158 0,2
-----AUCACAUUGCCAGGGGAUUACCAC
a----- 19 0,2
-----AUCACAUUGCCAGGGGAUUACCAC
aa----- 2 0,2
-----AUCACAUUGCCAGGGGAUUACCAC
u----- 188 0,2
-----AUCACAUUGCCAGGGGAUUACCAC
uu----- 6 0,2
-----AUCACAUUGCCAGGGGAUUACCAC
Gu----- 2 0,3
-----UCACAUUGCCAGGGGAUUAC---
----- 2 1,-1
-----UCACAUUGCCAGGGGAUUACC--
----- 2 1,0
-----UCACAUUGCCAGGGGAUUACCA-
----- 4 1,1
-----UCACAUUGCCAGGGGAUUACCAu
u----- 3 1,1
-----UCACAUUGCCAGGGGAUUACCAC
u----- 26 1,2

```

>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018961

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cuccggUGCCUACUGAGCUGAUAUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag
(((((((((.....)))))).))))))
----GGUGCCUACUGAGCUGAUAUCAG----- 2
-2,-1
----GUGCCUACUGAGCUGAUA----- 3
-1,-5
----GUGCCUACUGAGCUGAUAUC----- 2
-1,-3
----GUGCCUACUGAGCUGAUAUCA----- 13

```

-1, -2		
-----UGCCUACUGAGCUGAUUCA-----	5	0, -2
-----ACUGGCUCAGUUCAGCAGG-----	2	
-2, -5		
-----CUGGCUCAGUUCAGCAGGAACA----	5	
-1, -1		
-----CUGGCUCAGUUCAGCAGGAACAG---	6	-1, 0
-----UGGCUCAGUUCAGCAGGA-----	51	0, -4
-----UGGCUCAGUUCAGCAGGAu-----	3	0, -4
-----UGGCUCAGUUCAGCAGGA-----	91	0, -3
-----UGGCUCAGUUCAGCAGGAa-----	7	0, -3
-----UGGCUCAGUUCAGCAGGAau-----	3	0, -3
-----UGGCUCAGUUCAGCAGGAAC-----	156	0, -2
-----UGGCUCAGUUCAGCAGGAACu-----	2	0, -2
-----UGGCUCAGUUCAGCAGGAACA-----	278	0, -1
-----UGGCUCAGUUCAGCAGGAACAa---	81	0, -1
-----UGGCUCAGUUCAGCAGGAACAaa---	10	0, -1
-----UGGCUCAGUUCAGCAGGAACAu---	22	0, -1
-----UGGCUCAGUUCAGCAGGAACAuu---	13	0, -1
-----UGGCUCAGUUCAGCAGGAACAG---	1782	
0, 0		
-----UGGCUCAGUUCAGCAGGAACAGa---	123	0, 0
-----UGGCUCAGUUCAGCAGGAACAGaa---	18	0, 0
-----UGGCUCAGUUCAGCAGGAACAGau---	7	0, 0
-----UGGCUCAGUUCAGCAGGAACAGu---	2748	
0, 0		
-----UGGCUCAGUUCAGCAGGAACAGuu---	492	0, 0
-----UGGCUCAGUUCAGCAGGAACAGG---	11	0, 1
-----UGGCUCAGUUCAGCAGGAACAGGu---	5	0, 1
-----GGCUCAGUUCAGCAGGAACA-----	8	1, -1
-----GGCUCAGUUCAGCAGGAACAu---	6	1, -1
-----GGCUCAGUUCAGCAGGAACAG---	70	1, 0
-----GGCUCAGUUCAGCAGGAACAGa---	7	1, 0
-----GGCUCAGUUCAGCAGGAACAGu---	73	1, 0
-----GGCUCAGUUCAGCAGGAACAGuu---	15	1, 0
-----GGCUCAGUUCAGCAGGAACAGG---	3	1, 1
-----GGCUCAGUUCAGCAGGAACAGGA---	2	1, 2
-----GCUCAGUUCAGCAGGAACAG---	10	2, 0

-----UGGCUCAGUUCAGCAGGA-----	51
0,-4	
-----UGGCUCAGUUCAGCAGGAu-----	3
0,-4	
-----UGGCUCAGUUCAGCAGGAA-----	91
0,-3	
-----UGGCUCAGUUCAGCAGGAa-----	7
0,-3	
-----UGGCUCAGUUCAGCAGGAAu-----	3
0,-3	
-----UGGCUCAGUUCAGCAGGAAC-----	156
0,-2	
-----UGGCUCAGUUCAGCAGGAACu---	2
0,-2	
-----UGGCUCAGUUCAGCAGGAACA---	278
0,-1	
-----UGGCUCAGUUCAGCAGGAACAa--	81
0,-1	
-----UGGCUCAGUUCAGCAGGAACAaa-	10
0,-1	
-----UGGCUCAGUUCAGCAGGAACAu--	22
0,-1	
-----UGGCUCAGUUCAGCAGGAACAuu-	13
0,-1	
-----UGGCUCAGUUCAGCAGGAACAG--	1782
0,0	
-----UGGCUCAGUUCAGCAGGAACAGa-	123
0,0	
-----UGGCUCAGUUCAGCAGGAACAGaa	18
0,0	
-----UGGCUCAGUUCAGCAGGAACAGau	7
0,0	
-----UGGCUCAGUUCAGCAGGAACAGu-	2748
0,0	
-----UGGCUCAGUUCAGCAGGAACAGuu	492
0,0	
-----UGGCUCAGUUCAGCAGGAACAGG-	11
0,1	

-----UGGCUCAGUUCAGCAGGAACAGGu	5
0,1	
-----GGCUCAGUUCAGCAGGAACA---	8
1,-1	
-----GGCUCAGUUCAGCAGGAACAu--	6
1,-1	
-----GGCUCAGUUCAGCAGGAACAG--	70
1,0	
-----GGCUCAGUUCAGCAGGAACAGa-	7
1,0	
-----GGCUCAGUUCAGCAGGAACAGu-	73
1,0	
-----GGCUCAGUUCAGCAGGAACAGuu	15
1,0	
-----GGCUCAGUUCAGCAGGAACAGG-	3
1,1	
-----GCUCAGUUCAGCAGGAACAG--	10
2,0	
-----GCUCAGUUCAGCAGGAACAGa-	2
2,0	
-----GCUCAGUUCAGCAGGAACAGu-	11
2,0	

>hsa-mir-25 mi:14-34;MA:52-73 SRX018961

ggccaguguugagAGGCGGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc

(((((.(.(((.((((.((((.(.(((.((((.(.....))..))))))))).).))))).))))..)).
))))

-----AGGCGGAGACUUGGGCAAUU-----	
---- 9 0,-1	
-----AGGCGGAGACUUGGGCAAUUG-----	
---- 73 0,0	
-----AGGCGGAGACUUGGGCAAUUGa-----	
---- 9 0,0	
-----AGGCGGAGACUUGGGCAAUUGC-----	
---- 87 0,1	
-----AGGCGGAGACUUGGGCAAUUGCU-----	
---- 320 0,2	

```

-----AGGCGGAGACUUGGGCAAUUGCUa-----
---- 5 0,2
-----AGGCGGAGACUUGGGCAAUUGCUau-----
---- 2 0,2
-----AGGCGGAGACUUGGGCAAUUGCUu-----
---- 2 0,2
-----GGCGGAGACUUGGGCAAUUGCU-----
---- 4 1,2
-----GCAUUGCACUUGUCUCGGUCUG-----
---- 2 -1,-1
-----CAUUGCACUUGUCUCGGU-----
---- 183 0,-4
-----CAUUGCACUUGUCUCGGUC-----
---- 284 0,-3
-----CAUUGCACUUGUCUCGGUCU-----
---- 288 0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
---- 322 0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
---- 103 0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
---- 846 0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----
---- 10 0,0
-----CAUUGCACUUGUCUCGGUCUGAaa-----
---- 4 0,0
-----CAUUGCACUUGUCUCGGUCUGAau-----
---- 3 0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
---- 14 0,0
-----AUUGCACUUGUCUCGGUC-----
---- 15 1,-3
-----AUUGCACUUGUCUCGGUCU-----
---- 26 1,-2
-----AUUGCACUUGUCUCGGUCUG-----
---- 18 1,-1
-----AUUGCACUUGUCUCGGUCUGu-----
---- 3 1,-1

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-----AUUGCACUUGUCUCGGUCUGA-----
----    39    1,0

>hsa-mir-26a-1  MA:10-31;mi:49-70  SRX018961
guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.(((((((.(((((((((.(((((((((.((.....))...)))))))))))).)))))))).)))))))).)))
-----UUCAAGUAAUCCAGGAUA-----
    55    0,-4
-----UUCAAGUAAUCCAGGAUAa-----
    15    0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
     2    0,-4
-----UUCAAGUAAUCCAGGAUAG-----
    256   0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
     2    0,-3
-----UUCAAGUAAUCCAGGAUAGaa-----
     2    0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
     3    0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
    1015   0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
    16    0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
     2    0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
    11    0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
    17    0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
    10    0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
    1702   0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
    498   0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
    258   0,-1

```

```

-----UUCAAGUAAUCCAGGAUAGGCau-----
65  0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
8662  0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
894  0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
144  0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
486  0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
341  0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
1598  0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
11  0,1
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
2  0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
30  0,2
-----UCAAGUAAUCCAGGAUAG-----
7  1,-3
-----UCAAGUAAUCCAGGAUAGG-----
8  1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
25  1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
16  1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
6  1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
4  1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
160 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
6  1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
5  1,0

```

```

-----UCAAGUAAUCCAGGAUAGGCUau-----
10 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
5 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
7 1,0
-----CAAGUAAUCCAGGAUAGGC-----
3 2,-1
-----CAAGUAAUCCAGGAUAGGCa-----
3 2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
25 2,0
-----CAAGUAAUCCAGGAUAGGCUu-----
2 2,0

```

>hsa-mir-26a-2 MA:14-35;mi:52-73 SRX018961

```

ggcuguggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu

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((((((...((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))

```

```

-----AUUCAAGUAAUCCAGGAUAGGCU-----
---- 2 -1,0
-----UUCAAGUAAUCCAGGAUA-----
---- 55 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 15 0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
---- 2 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 256 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
---- 2 0,-3
-----UUCAAGUAAUCCAGGAUAGaa-----
---- 2 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
---- 3 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 1015 0,-2

```

```

-----UUCAAGUAAUCCAGGAUAGGa-----
---- 16 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 2 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
---- 11 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 17 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 10 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
---- 1702 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 498 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 258 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 65 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 8662 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
---- 894 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
---- 144 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
---- 486 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
---- 341 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
---- 1598 0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
---- 11 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
---- 2 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
---- 30 0,2
-----UCAAGUAAUCCAGGAUAG-----
---- 7 1,-3

```



```

-----UCAAGUAAUCCAGGAUAGG-----
---- 8 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
---- 25 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
---- 16 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
---- 6 1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
---- 4 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
---- 160 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
---- 6 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
---- 5 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
---- 10 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
---- 5 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
---- 7 1,0
-----CAAGUAAUCCAGGAUAGGC-----
---- 3 2,-1
-----CAAGUAAUCCAGGAUAGGCa-----
---- 3 2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
---- 25 2,0
-----CAAGUAAUCCAGGAUAGGCUu-----
---- 2 2,0

```

>hsa-mir-26b MA:12-32;mi:47-68 SRX018961

```

ccgggaccagUUCAAGUAAUUCAGGAUAGGUugugugcuguccagCCUGUUCUCAUUAUUGGCUCggggaccgg
((((..((((((.(((((((..(((((((((((. ....)))))))))))).)))))))).))))))
-----UUCAAGUAAUUCAGGAUA-----
7 0,-3
-----UUCAAGUAAUUCAGGAUAG-----
72 0,-2

```

```

-----UUCAAGUAAUUCAGGAUAGG-----
310 0,-1
-----UUCAAGUAAUUCAGGAUAGGa-----
4 0,-1
-----UUCAAGUAAUUCAGGAUAGGau-----
3 0,-1
-----UUCAAGUAAUUCAGGAUAGGU-----
819 0,0
-----UUCAAGUAAUUCAGGAUAGGUa-----
242 0,0
-----UUCAAGUAAUUCAGGAUAGGUaa-----
84 0,0
-----UUCAAGUAAUUCAGGAUAGGUau-----
21 0,0
-----UUCAAGUAAUUCAGGAUAGGUU-----
3879 0,1
-----UUCAAGUAAUUCAGGAUAGGUUa-----
179 0,1
-----UUCAAGUAAUUCAGGAUAGGUUaa-----
10 0,1
-----UUCAAGUAAUUCAGGAUAGGUUau-----
5 0,1
-----UUCAAGUAAUUCAGGAUAGGUUu-----
126 0,1
-----UUCAAGUAAUUCAGGAUAGGUUuu-----
2 0,1
-----UUCAAGUAAUUCAGGAUAGGUUG-----
38 0,2
-----UUCAAGUAAUUCAGGAUAGGUUGU-----
8 0,3
-----UCAAGUAAUUCAGGAUAGG-----
11 1,-1
-----UCAAGUAAUUCAGGAUAGGU-----
5 1,0
-----UCAAGUAAUUCAGGAUAGGUa-----
2 1,0
-----UCAAGUAAUUCAGGAUAGGUU-----
41 1,1

```



```

-----UUCACAGUGGCUAAGUUCC-----
1046    0,-2
-----UUCACAGUGGCUAAGUUCCa-----
8      0,-2
-----UUCACAGUGGCUAAGUUCCu-----
15     0,-2
-----UUCACAGUGGCUAAGUUCCG-----
5367   0,-1
-----UUCACAGUGGCUAAGUUCCGa-----
257    0,-1
-----UUCACAGUGGCUAAGUUCCGaa-----
47     0,-1
-----UUCACAGUGGCUAAGUUCCGau-----
8      0,-1
-----UUCACAGUGGCUAAGUUCCGu-----
167    0,-1
-----UUCACAGUGGCUAAGUUCCGuu-----
13     0,-1
-----UUCACAGUGGCUAAGUUCCGC-----
85     0,0
-----UUCACAGUGGCUAAGUUCCGCaa-----
6      0,0
-----UUCACAGUGGCUAAGUUCCGCau-----
3      0,0
-----UUCACAGUGGCUAAGUUCCGCCa-----
6      0,1
-----UCACAGUGGCUAAGUUCC-----
5      1,-2
-----UCACAGUGGCUAAGUUCCG-----
24     1,-1
-----UCACAGUGGCUAAGUUCCGC-----
2      1,0
-----CACAGUGGCUAAGUUCCG-----
3      2,-1

```

>hsa-mir-27b mi:19-40;MA:61-81 SRX018961

accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug

	-CAGAGCUUAGCUGAUUGGUGA-	
	4	-1,-2
	-CAGAGCUUAGCUGAUUGGUGAAC-	
	4	-1,1
	-AGAGCUUAGCUGAUUGGU-	
	4	0,-4
	-AGAGCUUAGCUGAUUGGUG-	
	33	0,-3
	-AGAGCUUAGCUGAUUGGUGA-	
	149	0,-2
	-AGAGCUUAGCUGAUUGGUGAA-	
	282	0,-1
	-AGAGCUUAGCUGAUUGGUGAAC-	
	14	0,0
	-AGAGCUUAGCUGAUUGGUGAAC-	
	6	0,1
	-AGAGCUUAGCUGAUUGGUGAACAG-	
	6	0,2
	-GAGCUUAGCUGAUUGGUGAAC-	
	2	1,0
		-UGUUCACAGUGGCUAAGUU--
	2	-2,-4
		-UGUUCACAGUGGCUAAGUUC--
	3	-2,-3
		-GUUCACAGUGGCUAAGUU--
	8	-1,-4
		-GUUCACAGUGGCUAAGUUC--
	74	-1,-3
		-GUUCACAGUGGCUAAGUUCU-
	13	-1,-2
		-GUUCACAGUGGCUAAGUUCUG
CA	3	-1,1
		-GUUCACAGUGGCUAAGUUCUG
CAa	5	-1,1
		-UUCACAGUGGCUAAGUUC--
	15509	0,-3

-----			-----UUCACAGUGGCUAAGUUCa-
-----	55	0,-3	
-----			-----UUCACAGUGGCUAAGUUCaa
-----	3	0,-3	
-----			-----UUCACAGUGGCUAAGUUCU-
-----	3783	0,-2	
-----			-----UUCACAGUGGCUAAGUUCUa
-----	17	0,-2	
-----			-----UUCACAGUGGCUAAGUUCUa
a-----	6	0,-2	
-----			-----UUCACAGUGGCUAAGUUCUu
-----	13	0,-2	
-----			-----UUCACAGUGGCUAAGUUCUG
-----	177	0,-1	
-----			-----UUCACAGUGGCUAAGUUCUG
a-----	41	0,-1	
-----			-----UUCACAGUGGCUAAGUUCUG
aa-----	47	0,-1	
-----			-----UUCACAGUGGCUAAGUUCUG
u-----	23	0,-1	
-----			-----UUCACAGUGGCUAAGUUCUG
uu-----	4	0,-1	
-----			-----UUCACAGUGGCUAAGUUCUG
C-----	228	0,0	
-----			-----UUCACAGUGGCUAAGUUCUG
Cu-----	49	0,0	
-----			-----UUCACAGUGGCUAAGUUCUG
CA-----	264	0,1	
-----			-----UUCACAGUGGCUAAGUUCUG
CAa-----	116	0,1	
-----			-----UUCACAGUGGCUAAGUUCUG
CAaa-----	2	0,1	
-----			-----UUCACAGUGGCUAAGUUCUG
CAau-----	2	0,1	
-----			-----UUCACAGUGGCUAAGUUCUG
CAu-----	128	0,1	
-----			-----UUCACAGUGGCUAAGUUCUG
CAuu-----	2	0,1	

-----UCACAGUGGCUAAGUUCU-
 ----- 18 1,-2
 -----UCACAGUGGCUAAGUUCUG
 C----- 2 1,0
 -----CACAGUGGCUAAGUUCUG
 C----- 3 2,0

>hsa-mir-28 5p:14-35;3p:54-75 SRX018961

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGuuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu

(((.(((((((((((.((((((((((((((((((.(((((((.....))))).)).))))))))))))))))).))))))
)).)))

-----			-AAGGAGCUCACAGUCUAUU-----	
-----	4	0,-3		
-----			-AAGGAGCUCACAGUCUAUUG-----	
-----	7	0,-2		
-----			-AAGGAGCUCACAGUCUAUUGA-----	
-----	17	0,-1		
-----			-AAGGAGCUCACAGUCUAUUGAG-----	
-----	14	0,0		
-----				-----CCACUAGAUUGUGAGCUCCUGG-----
-----	3	-1,-1		
-----				-----CCACUAGAUUGUGAGCUCCUGGA-----
-----	2	-1,0		
-----				-----CCACUAGAUUGUGAGCUCCUGGAa-----
-----	2	-1,0		
-----				-----CCACUAGAUUGUGAGCUCCUGGAaa-----
-----	2	-1,0		
-----				-----CACUAGAUUGUGAGCUCC-----
-----	14	0,-4		
-----				-----CACUAGAUUGUGAGCUCCU-----
-----	7	0,-3		
-----				-----CACUAGAUUGUGAGCUCCUG-----
-----	26	0,-2		
-----				-----CACUAGAUUGUGAGCUCCUGa-----
-----	16	0,-2		
-----				-----CACUAGAUUGUGAGCUCCUGaa-----
-----	9	0,-2		

498	0, -1	-CACUAGAUUGUGAGCUCCUGG-
20	0, -1	-CACUAGAUUGUGAGCUCCUGGu-
5385	0,0	-CACUAGAUUGUGAGCUCCUGGA-
2040	0,0	-CACUAGAUUGUGAGCUCCUGGAa-
253	0,0	-CACUAGAUUGUGAGCUCCUGGAaa-
28	0,0	-CACUAGAUUGUGAGCUCCUGGAau-
54	0,0	-CACUAGAUUGUGAGCUCCUGGAu-
2	0,0	-CACUAGAUUGUGAGCUCCUGGAuu-
80	0,1	-CACUAGAUUGUGAGCUCCUGGAG-
25	0,1	-CACUAGAUUGUGAGCUCCUGGAGa-
15	0,1	-CACUAGAUUGUGAGCUCCUGGAGu-
6	0,1	-CACUAGAUUGUGAGCUCCUGGAGuu-
2	1, -2	-ACUAGAUUGUGAGCUCCUGu-
17	1, -1	-ACUAGAUUGUGAGCUCCUGG-
163	1,0	-ACUAGAUUGUGAGCUCCUGGA-
98	1,0	-ACUAGAUUGUGAGCUCCUGGAa-
20	1,0	-ACUAGAUUGUGAGCUCCUGGAaa-
2	1,0	-ACUAGAUUGUGAGCUCCUGGAau-
77	1,1	-ACUAGAUUGUGAGCUCCUGGAG-


```

-----UAUGUGGGAUGGUAACC----- 20 0,-4
-----UAUGUGGGAUGGUAACCG----- 20 0,-3
-----UAUGUGGGAUGGUAACCGCU---- 4 0,-1
-----UAUGUGGGAUGGUAACCGCUU--- 18 0,0
-----UAUGUGGGAUGGUAACCGCUUu-- 2 0,0

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>hsa-mir-29a mi:4-25;MA:42-63 SRX018961

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augACUGAUUUUUUGGUGUUCAGagucaauauauuuuucUAGCACCAUCUGAAAUCGGUUAu
((((((((((((((...(((((((.((((.....))))))))))))))...))))))))))

```

```

---ACUGAUUUUUUGGUGUU----- 3 0,-3
---ACUGAUUUUUUGGUGUUC----- 4 0,-2
---ACUGAUUUUUUGGUGUCA----- 9 0,-1
---ACUGAUUUUUUGGUGUUCAG----- 5 0,0
-----CUAGCACCAUCUGAAAUC----- 14 -1,-5
-----CUAGCACCAUCUGAAAUCG----- 17 -1,-4
-----CUAGCACCAUCUGAAAUCGuu--- 3 -1,-4
-----CUAGCACCAUCUGAAAUCGG----- 105 -1,-3
-----CUAGCACCAUCUGAAAUCGGa--- 3 -1,-3
-----CUAGCACCAUCUGAAAUCGGU--- 199 -1,-2
-----CUAGCACCAUCUGAAAUCGGUa-- 29 -1,-2
-----CUAGCACCAUCUGAAAUCGGUaa- 6 -1,-2
-----CUAGCACCAUCUGAAAUCGGUU-- 1519
-1,-1
-----CUAGCACCAUCUGAAAUCGGUUu- 188 -1,-1
-----CUAGCACCAUCUGAAAUCGGUUuu 5 -1,-1
-----CUAGCACCAUCUGAAAUCGGUUA- 966 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAa 8 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAU 10 -1,1
-----UAGCACCAUCUGAAAUCG----- 190 0,-4
-----UAGCACCAUCUGAAAUCGuu--- 8 0,-4
-----UAGCACCAUCUGAAAUCGG----- 1356 0,-3
-----UAGCACCAUCUGAAAUCGGa--- 12 0,-3
-----UAGCACCAUCUGAAAUCGGaa-- 9 0,-3
-----UAGCACCAUCUGAAAUCGGau-- 9 0,-3
-----UAGCACCAUCUGAAAUCGGU--- 1698 0,-2
-----UAGCACCAUCUGAAAUCGGUa-- 249 0,-2
-----UAGCACCAUCUGAAAUCGGUaa- 564 0,-2
-----UAGCACCAUCUGAAAUCGGUau- 26 0,-2

```

-----UAGCACCAUCUGAAAUCGGUU--	26149	0,-1
-----UAGCACCAUCUGAAAUCGGUUu-	3846	0,-1
-----UAGCACCAUCUGAAAUCGGUUuu	35	0,-1
-----UAGCACCAUCUGAAAUCGGUUA-	74328	0,0
-----UAGCACCAUCUGAAAUCGGUUAa	896	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	7	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	3	0,0
-----UAGCACCAUCUGAAAUCGGUUAU	377	0,1
-----UAGCACCAUCUGAAAUCGGUUAUu	7	0,1
-----AGCACCAUCUGAAAUCGG-----	8	1,-3
-----AGCACCAUCUGAAAUCGGU---	16	1,-2
-----AGCACCAUCUGAAAUCGGUU--	145	1,-1
-----AGCACCAUCUGAAAUCGGUUu-	34	1,-1
-----AGCACCAUCUGAAAUCGGUUA-	604	1,0
-----AGCACCAUCUGAAAUCGGUUAa	10	1,0
-----AGCACCAUCUGAAAUCGGUUAU	9	1,1
-----GCACCAUCUGAAAUCGGUaa-	3	2,-2
-----GCACCAUCUGAAAUCGGUU--	17	2,-1
-----GCACCAUCUGAAAUCGGUUA-	111	2,0
-----GCACCAUCUGAAAUCGGUUAU	2	2,1

>hsa-mi r-29b-1 mi:10-33;MA:51-73 SRX018961

cuucaggaaGCUGGUUCAUAUGGUGGUUAGAuuuuauagugaauugucUAGCACCAUUUGAAUCAGUGUucuggggg
g

(((((.....))))))

•

-----GCUGGUUCAUAUGGUGGUUAGA-----

- 9 0,0

-----CUGGUUCAUAUGGUGGUUAGA-----

- 2 1,0

-----CUAGCACCAUUUGAAAUCA-----

- 5 -1, -5

-----CUAGCACCAUUUGAAAUCAG-----

- 7 -1, -4

-----CUAGCACCAUUUGAAAUCAGU-----

- 12 -1, -3

-----CUAGCACCAUUUGAAAUCAGUG-----

- 8 -1,-2

```

-----UAGCACCAUUUGAAAUCA-----
- 36 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 112 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 1410 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 314 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 10 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 3 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 108 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 30 0,-1
-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 2 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 127 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 11 0,0
-----AGCACCAUUUGAAAUCAGU-----
- 18 1,-3
-----AGCACCAUUUGAAAUCAGUGU-----
- 6 1,-1
-----GCACCAUUUGAAAUCAGU-----
- 11 2,-3

```

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018961

```

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----GCUGGUUUCACAUGGUGGCUU-----
- 6 -1,-2
-----GCUGGUUUCACAUGGUGGCUUA-----
- 3 -1,-1

```

```

-----GCUGGUUUCACAUGGUGGCUUAG-----
- 5 -1,0
-----CUGGUUUCACAUGGUGGCUU-----
- 3 0,-2
-----CUGGUUUCACAUGGUGGCUUA-----
- 4 0,-1
-----CUGGUUUCACAUGGUGGCUUAG-----
- 3 0,0
-----UGGUUUCACAUGGUGGCUUAG-----
- 3 1,0
-----UGGUUUCACAUGGUGGCUUAGA-----
- 2 1,1
-----CUAGCACCAUUUGAAAUCA-----
- 5 -1,-5
-----CUAGCACCAUUUGAAAUCAG-----
- 7 -1,-4
-----CUAGCACCAUUUGAAAUCAGU-----
- 12 -1,-3
-----CUAGCACCAUUUGAAAUCAGUG-----
- 8 -1,-2
-----UAGCACCAUUUGAAAUCA-----
- 36 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 112 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 1410 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 314 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 10 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 3 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 108 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 30 0,-1
-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 2 0,-1

```

```

-----UAGCACCAUUUGAAAUCAGUGUU-----
- 127 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 11 0,0
-----UAGCACCAUUUGAAAUCAGUGUUU-----
- 3 0,1
-----AGCACCAUUUGAAAUCAGU-----
- 18 1,-3
-----AGCACCAUUUGAAAUCAGUGU-----
- 6 1,-1
-----AGCACCAUUUGAAAUCAGUGUUa-----
- 2 1,1
-----GCACCAUUUGAAAUCAGU-----
- 11 2,-3

```

>hsa-mir-29c mi:16-37;MA:54-75 SRX018961

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

.((((((((((((...((((((((((((...((((((((((((...)))))))))...)))))))))...)))))))).))
)))))))).

```

-----UGACCGAUUUCUCCUGGUGU-----
----- 9 0,-2
-----UGACCGAUUUCUCCUGGUGUU-----
----- 22 0,-1
-----UGACCGAUUUCUCCUGGUGUUu-----
----- 2 0,-1
-----UGACCGAUUUCUCCUGGUGUUC-----
----- 4 0,0
-----UGACCGAUUUCUCCUGGUGUUCA-----
----- 3 0,1
-----GACCGAUUUCUCCUGGUGU-----
----- 4 1,-2
-----GACCGAUUUCUCCUGGUGUU-----
----- 21 1,-1
-----GACCGAUUUCUCCUGGUGUUC-----
----- 9 1,0
-----GACCGAUUUCUCCUGGUGUUCA-----
----- 8 1,1

```

-----	-GACCGAUUUCUCCUGGUGUUCAG-	-----
-----	9 1,2	
-----	-ACCGAUUUCUCCUGGUGUU-	-----
-----	2 2,-1	
-----	-ACCGAUUUCUCCUGGUGUUCA-	-----
-----	3 2,1	
-----	-ACCGAUUUCUCCUGGUGUUCAG-	-----
-----	13 2,2	
-----		-----CUAGCACCAUUUGAAAUCGGU-----
-----	3 -1,-2	
-----		-----CUAGCACCAUUUGAAAUCGGUU-----
-----	4 -1,-1	
-----		-----CUAGCACCAUUUGAAAUCGGUUA-----
-----	13 -1,0	
-----		-----UAGCACCAUUUGAAAUCG-----
-----	33 0,-4	
-----		-----UAGCACCAUUUGAAAUCGuu-----
-----	4 0,-4	
-----		-----UAGCACCAUUUGAAAUCGG-----
-----	207 0,-3	
-----		-----UAGCACCAUUUGAAAUCGGa-----
-----	5 0,-3	
-----		-----UAGCACCAUUUGAAAUCGGU-----
-----	110 0,-2	
-----		-----UAGCACCAUUUGAAAUCGGUa-----
-----	2 0,-2	
-----		-----UAGCACCAUUUGAAAUCGGUaa-----
-----	35 0,-2	
-----		-----UAGCACCAUUUGAAAUCGGUU-----
-----	694 0,-1	
-----		-----UAGCACCAUUUGAAAUCGGUUu-----
-----	228 0,-1	
-----		-----UAGCACCAUUUGAAAUCGGUUA-----
-----	6680 0,0	
-----		-----UAGCACCAUUUGAAAUCGGUUAa-----
-----	75 0,0	
-----		-----UAGCACCAUUUGAAAUCGGUUAU-----
-----	34 0,1	

-----			AGCACCAUUUGAAAUCGGUU-----
-----	5	1,-1	
-----			AGCACCAUUUGAAAUCGGUUA-----
-----	38	1,0	
-----			GCACCAUUUGAAAUCGGU-----
-----	5	2,-2	
-----			GCACCAUUUGAAAUCGGUU-----
-----	2	2,-1	
-----			GCACCAUUUGAAAUCGGUUA-----
-----	13	2,0	

>hsa-mir-301a 3p:51-73 SRX018961

acugcuaacgaaugcucugacuuuauugcacuacuguacuuuacagcuagCAGUGCAAUAGUUUGUCAAAGCaucugaa
agcagg

.(((((.((.(((((.(((.((((((((((.(((((...))))).)))))))).))))).)))).).))..
)))).).

-----CAGUGCAAUAGUAUUGUCA-----
 ----- 4 0,-3 -----
 -----CAGUGCAAUAGUAUUGUCAAGC-----
 ----- 4 0,0 -----
 -----CAGUGCAAUAGUAUUGUCAAGCAU-----
 ----- 2 0,2 -----

>hsa-mi r-3065 5p:10-32;3p:50-72 SRX018961

cugccucucuCAACAAAAUCACUGAUGCUGGAgucgccugagucacUCAGCACCAGGAUAUUGUUGGAGaggacag
(((.((((((((((((.((((.((((((((.(....)).))......))))).)))))).)))))))))

3	0,0	UCAACAAAAUCACUGAUGCUGGA
2	0,-4	UCAGCACCAGGAUAUUGUU
2	0,-3	UCAGCACCAGGAUAUUGUUG
2	0,0	UCAGCACCAGGAUAUUGUUGGAGu

>hsa-mi r-30a MA:6-27;mi:47-68 SRX018961

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc
(((.((((((((((((((.(((((((((((((((((.)))....))))))))))))))))))))))))))))))))))

----CUGUAAACAUCCUCGACUGGA-----	10	
-1, -2		
----CUGUAAACAUCCUCGACUGGAA-----	19	
-1, -1		
----CUGUAAACAUCCUCGACUGGAAG-----	85	-1,0
----CUGUAAACAUCCUCGACUGGAAGa-----	10	-1,0
----CUGUAAACAUCCUCGACUGGAAGu-----	4	-1,0
----CUGUAAACAUCCUCGACUGGAAGC-----	129	-1,1
----CUGUAAACAUCCUCGACUGGAAGCa-----	7	-1,1
----CUGUAAACAUCCUCGACUGGAAGCU-----	164	-1,2
-----UGUAAACAUCCUCGACUG-----	529	0,-4
-----UGUAAACAUCCUCGACUGG-----	560	0,-3
-----UGUAAACAUCCUCGACUGGu-----	16	0,-3
-----UGUAAACAUCCUCGACUGGA-----	1923	
0, -2		
-----UGUAAACAUCCUCGACUGGAA-----	5898	
0, -1		
-----UGUAAACAUCCUCGACUGGAAa-----	1352	
0, -1		
-----UGUAAACAUCCUCGACUGGAAaa-----	46	0,-1
-----UGUAAACAUCCUCGACUGGAAau-----	5	0,-1
-----UGUAAACAUCCUCGACUGGAAu-----	48	0,-1
-----UGUAAACAUCCUCGACUGGAAG-----	22556	
0,0		
-----UGUAAACAUCCUCGACUGGAAGa-----	8193	
0,0		
-----UGUAAACAUCCUCGACUGGAAGaa-----	217	0,0
-----UGUAAACAUCCUCGACUGGAAGau-----	232	0,0
-----UGUAAACAUCCUCGACUGGAAGu-----	396	0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	55	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	51000	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCa-----	4037	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCaa-----	72	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	37	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	116665	
0,2		

-----UGUAAACAUCCUCGACUGGAAGCUa-----	568	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	2207	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUG-----	4	0,3
-----GUAAACAUCCUCGACUGG-----	2	1,-3
-----GUAAACAUCCUCGACUGGA-----	26	1,-2
-----GUAAACAUCCUCGACUGGAA-----	46	1,-1
-----GUAAACAUCCUCGACUGGAAaa-----	2	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	233	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	19	1,0
-----GUAAACAUCCUCGACUGGAAGu-----	3	1,0
-----GUAAACAUCCUCGACUGGAAGC-----	395	1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	21	1,1
-----GUAAACAUCCUCGACUGGAAGCU-----	324	1,2
-----GUAAACAUCCUCGACUGGAAGCUa-----	8	1,2
-----GUAAACAUCCUCGACUGGAAGCUu-----	4	1,2
-----UAAACAUCCUCGACUGGAAG-----	6	2,0
-----UAAACAUCCUCGACUGGAAGC-----	11	2,1
-----UAAACAUCCUCGACUGGAAGCU-----	14	2,2
-----CUUUCAGUCGGAUGUUUG-----	8	0,-4
-----CUUUCAGUCGGAUGUUUGa-----	2	0,-4
-----CUUUCAGUCGGAUGUUUGC-----	4	0,-3
-----CUUUCAGUCGGAUGUUUGCA-----	27	0,-2
-----CUUUCAGUCGGAUGUUUGCAa-----	7	0,-2
-----CUUUCAGUCGGAUGUUUGCAG-----	102	0,-1
-----CUUUCAGUCGGAUGUUUGCAGaa-----	4	0,-1
-----CUUUCAGUCGGAUGUUUGCAGu-----	21	0,-1
-----CUUUCAGUCGGAUGUUUGCAGC-----	247	0,0
-----CUUUCAGUCGGAUGUUUGCAGCa-----	35	0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa-----	4	0,0
-----CUUUCAGUCGGAUGUUUGCAGCau-----	18	0,0
-----CUUUCAGUCGGAUGUUUGCAGCU-----	9	0,1
-----UUUCAGUCGGAUGUUUGCAG-----	23	1,-1
-----UUUCAGUCGGAUGUUUGCAGu-----	13	1,-1
-----UUUCAGUCGGAUGUUUGCAGC-----	118	1,0
-----UUUCAGUCGGAUGUUUGCAGCa-----	5	1,0
-----UUUCAGUCGGAUGUUUGCAGCaa-----	5	1,0
-----UUUCAGUCGGAUGUUUGCAGCau-----	13	1,0

-----UUUCAGUCGGAUGUUUGCAGCU-- 18 1,1
-----UUCAGUCGGAUGUUUGCAGC-- 4 2,0

>hsa-mi r-30b MA:17-38;mi :55-76 SRX018961

accaaguucaguucaUGUAAACAUCCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUACUUCagcu
gacuugga

$$\begin{aligned} & .((((\dots(((((((\dots(((((((((((\dots)))))))))\dots))))))\dots))) \\ &)))))). \end{aligned}$$

-----UGUAAACAUCCUACACUC-----

----- 19 0,-4

-----UGUAAACAUCCUACACUCAG-----

----- 8 0, -2

-----UGUAAACAUCCUACACUCAGa-----

----- 3 0,-2

-----UGUAAACAUCCUACACUCAGC-----

----- 27 0,-1

-----UGUAAACAUCCUACACUCAGCU-----

----- 107 0,0

-----UGUAAACAUCCUACACUCAGCU_a-----

----- 4 0,0

-----UGUAAACAUCCUACACUCAGCUu-----

----- 6 0,0

-----CUGGGAGGUGGAUGUUUA-----

----- 33 0,-4

-----CUGGGAGGUGGAUGUUUAC-----

----- 12 0,-3

-----CUGGGAGGUGGAUGUUUACa-----

----- 4 0, -3

-----CUGGGAGGUGGAUGUUUACU-----

----- 141 0,-2

-----CUGGGAGGUGGAUGUUUACU_a-----

----- 6 0, -2

-----CUGGGAGGUGGAUGUUUACU_{aa}-----

----- 4 0, -2

-----CUGGGAGGUGGAUGUUUACUU-----

----- 136 0, -1

-----CUGGGAGGUGGAUGUUUACUUa-----

----- 23 0,-1

```

-----CUGGGAGGUGGAUGUUUACUaa-----
-----      8      0,-1
-----CUGGGAGGUGGAUGUUUACUau-----
-----      2      0,-1
-----CUGGGAGGUGGAUGUUUACUu-----
-----      9      0,-1
-----CUGGGAGGUGGAUGUUUACUUC-----
-----     22      0,0
-----CUGGGAGGUGGAUGUUUACUUCu-----
-----      8      0,0
-----UGGGAGGUGGAUGUUUACU-----
-----      2      1,-2
-----UGGGAGGUGGAUGUUUACUa-----
-----      2      1,-2
-----UGGGAGGUGGAUGUUUACUU-----
-----      5      1,-1
-----UGGGAGGUGGAUGUUUACUUC-----
-----      4      1,0

```

>hsa-mir-30c-1 MA:17-39;mi:56-77 SRX018961

accaugcuguagugugUGUAAACAUCCUACACUCUCAGCugugagcucaagguggCUGGGAGAGGGUUGUUUACUCCuuc
ugccaugga

.((((((...(((...(((((((((...(((...(((((((((((...(((...)))...)))))))).)))...)))))...)))))...)))).

```

-----UGUAAACAUCCUACACUC-----
-----     19      0,-5
-----UGUAAACAUCCUACACUCUC-----
-----      8      0,-3
-----UGUAAACAUCCUACACUCUCA-----
-----     36      0,-2
-----UGUAAACAUCCUACACUCUCAG-----
-----     46      0,-1
-----UGUAAACAUCCUACACUCUCAGa-----
-----      4      0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
-----     78      0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
-----      2      0,0

```

```

-----UGUAAACAUCCUACACUCUCAGCU-----
----- 270 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 9 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 7 0,1
-----GUAAACAUCCUACACUCUCAGC-----
----- 3 1,0
-----CUGGGAGAGGGUUGUUUAC-----
----- 5 0,-3
-----CUGGGAGAGGGUUGUUUACa-----
----- 2 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 185 0,-2
-----CUGGGAGAGGGUUGUUUACUa-----
----- 5 0,-2
-----CUGGGAGAGGGUUGUUUACUC-----
----- 114 0,-1
-----CUGGGAGAGGGUUGUUUACUCa-----
----- 2 0,-1
-----CUGGGAGAGGGUUGUUUACUCaa-----
----- 3 0,-1
-----CUGGGAGAGGGUUGUUUACUCu-----
----- 11 0,-1
-----CUGGGAGAGGGUUGUUUACUCC-----
----- 17 0,0
-----CUGGGAGAGGGUUGUUUACUCCa-----
----- 7 0,0
-----CUGGGAGAGGGUUGUUUACUCCau-----
----- 2 0,0
-----CUGGGAGAGGGUUGUUUACUCCU-----
----- 7 0,1
-----UGGGAGAGGGUUGUUUACU-----
----- 21 1,-2
-----UGGGAGAGGGUUGUUUACUuu-----
----- 7 1,-2
-----UGGGAGAGGGUUGUUUACUC-----
----- 36 1,-1

```

```

-----UGGGAGAGGGUUGUUUACUCa---
----- 2 1,-1
-----UGGGAGAGGGUUGUUUACUCaa--
----- 2 1,-1
-----UGGGAGAGGGUUGUUUACUCu---
----- 2 1,-1
-----UGGGAGAGGGUUGUUUACUCC---
----- 11 1,0
-----UGGGAGAGGGUUGUUUACUCCa--
----- 5 1,0
-----UGGGAGAGGGUUGUUUACUCCU--
----- 4 1,1
-----GGGAGAGGGUUGUUUACUC-----
----- 3 2,-1

```

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018961

```

agauacUGUAAACAUCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
(((....(((((((....(((((((.....)))))))))).)).))))))....)))
-----UGUAAACAUCUACACUC----- 19
0,-5
-----UGUAAACAUCUACACUCUC----- 8
0,-3
-----UGUAAACAUCUACACUCUCA----- 36
0,-2
-----UGUAAACAUCUACACUCUCAG----- 46
0,-1
-----UGUAAACAUCUACACUCUCAGa----- 4
0,-1
-----UGUAAACAUCUACACUCUCAGC----- 78
0,0
-----UGUAAACAUCUACACUCUCAGCa----- 2
0,0
-----UGUAAACAUCUACACUCUCAGCU----- 270
0,1
-----UGUAAACAUCUACACUCUCAGCUa----- 9
0,1
-----UGUAAACAUCUACACUCUCAGCUu----- 7
0,1

```

-----GUAACAUCUACACUCUCAGC-----	3
1,0	
-----CUGGGAGAAGGCUGUUUA-----	152
0,-4	
-----CUGGGAGAAGGCUGUUUAa-----	17
0,-4	
-----CUGGGAGAAGGCUGUUUAaa-----	7
0,-4	
-----CUGGGAGAAGGCUGUUUAau-----	2
0,-4	
-----CUGGGAGAAGGCUGUUUAu-----	7
0,-4	
-----CUGGGAGAAGGCUGUUUAuu-----	3
0,-4	
-----CUGGGAGAAGGCUGUUUAC-----	108
0,-3	
-----CUGGGAGAAGGCUGUUUACa-----	27
0,-3	
-----CUGGGAGAAGGCUGUUUACU-----	2781
0,-2	
-----CUGGGAGAAGGCUGUUUACUa-----	43
0,-2	
-----CUGGGAGAAGGCUGUUUACUaa-----	11
0,-2	
-----CUGGGAGAAGGCUGUUUACUau-----	2
0,-2	
-----CUGGGAGAAGGCUGUUUACUu-----	12
0,-2	
-----CUGGGAGAAGGCUGUUUACUuu-----	10
0,-2	
-----CUGGGAGAAGGCUGUUUACUC-----	3061
0,-1	
-----CUGGGAGAAGGCUGUUUACUCa-----	48
0,-1	
-----CUGGGAGAAGGCUGUUUACUCaa-----	7
0,-1	
-----CUGGGAGAAGGCUGUUUACUCau-----	4
0,-1	

-----CUGGGAGAAGGCUGUUUACUCU----	652
0,0	
-----CUGGGAGAAGGCUGUUUACUCUa---	5
0,0	
-----CUGGGAGAAGGCUGUUUACUCUU---	20
0,1	
-----CUGGGAGAAGGCUGUUUACUCUUU--	2
0,2	
-----UGGGAGAAGGCUGUUUAC-----	3
1,-3	
-----UGGGAGAAGGCUGUUUACU-----	156
1,-2	
-----UGGGAGAAGGCUGUUUACUa-----	4
1,-2	
-----UGGGAGAAGGCUGUUUACUC-----	249
1,-1	
-----UGGGAGAAGGCUGUUUACUCa----	3
1,-1	
-----UGGGAGAAGGCUGUUUACUCaa---	4
1,-1	
-----UGGGAGAAGGCUGUUUACUCU----	92
1,0	
-----UGGGAGAAGGCUGUUUACUCUU---	19
1,1	
-----GGGAGAAGGCUGUUUACUC-----	6
2,-1	
-----GGGAGAAGGCUGUUUACUCU----	8
2,0	

>hsa-mir-30d MA:6-27;mi:46-67 SRX018961

guuguUGUAAACAUCCCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUUUUGCUGCuac

...((.((((((((...((((((((((...((.....)).)))))))))).)))))))).))...

----UUGUAAACAUCCCCGACUGGAAG-----	3	-1,0
----UUGUAAACAUCCCCGACUGGAAGC-----	3	-1,1
----UUGUAAACAUCCCCGACUGGAAGCU-----	13	-1,2
----UGUAAACAUCCCCGACUG-----	231	0,-4
----UGUAAACAUCCCCGACUGu-----	6	0,-4
----UGUAAACAUCCCCGACUGG-----	463	0,-3

-----UGUAAACAUCCCCGACUGGA-----	1109	
0,-2		
-----UGUAAACAUCCCCGACUGGAA-----	5698	
0,-1		
-----UGUAAACAUCCCCGACUGGAa-----	1279	
0,-1		
-----UGUAAACAUCCCCGACUGGAaa-----	79	0,-1
-----UGUAAACAUCCCCGACUGGAau-----	13	0,-1
-----UGUAAACAUCCCCGACUGGAu-----	105	0,-1
-----UGUAAACAUCCCCGACUGGAuu-----	3	0,-1
-----UGUAAACAUCCCCGACUGGAAG-----	8388	
0,0		
-----UGUAAACAUCCCCGACUGGAAGa-----	2593	
0,0		
-----UGUAAACAUCCCCGACUGGAAGaa-----	320	0,0
-----UGUAAACAUCCCCGACUGGAAGau-----	305	0,0
-----UGUAAACAUCCCCGACUGGAAGu-----	310	0,0
-----UGUAAACAUCCCCGACUGGAAGuu-----	54	0,0
-----UGUAAACAUCCCCGACUGGAAGC-----	24102	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCa-----	1829	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCaa-----	30	0,1
-----UGUAAACAUCCCCGACUGGAAGCau-----	25	0,1
-----UGUAAACAUCCCCGACUGGAAGCU-----	165852	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUa-----	1411	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUu-----	3294	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUG-----	28	0,3
-----GUAAACAUCCCCGACUGGA-----	6	1,-2
-----GUAAACAUCCCCGACUGGAA-----	47	1,-1
-----GUAAACAUCCCCGACUGGAAa-----	12	1,-1
-----GUAAACAUCCCCGACUGGAAu-----	2	1,-1
-----GUAAACAUCCCCGACUGGAAG-----	77	1,0
-----GUAAACAUCCCCGACUGGAAGa-----	26	1,0
-----GUAAACAUCCCCGACUGGAAGau-----	4	1,0

----- 52 0,-1
-----UGUAAACAUCCUUGACUGGAaa-----
----- 2 0,-1
-----UGUAAACAUCCUUGACUGGAau-----
----- 5 0,-1
-----UGUAAACAUCCUUGACUGGAuu-----
----- 2 0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
----- 728 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
----- 471 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
----- 161 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
----- 22 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
----- 14 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
----- 2691 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
----- 165 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
----- 6510 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
----- 71 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
----- 607 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
----- 19 0,3
-----GUAAACAUCCUUGACUGGAA-----
----- 2 1,-1
-----GUAAACAUCCUUGACUGGAAG-----
----- 23 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
----- 10 1,0
-----GUAAACAUCCUUGACUGGAAGaa-----
----- 5 1,0
-----GUAAACAUCCUUGACUGGAAGC-----

```

----- 103 1,1
-----GUAACAUCUUGACUGGAAGCa-----
----- 20 1,1
-----GUAACAUCUUGACUGGAAGCU-----
----- 215 1,2
-----GUAACAUCUUGACUGGAAGCUa-----
----- 9 1,2
-----GUAACAUCUUGACUGGAAGCUu-----
----- 15 1,2
-----GUAACAUCUUGACUGGAAGCUG-----
----- 5 1,3
-----UAAACAUCUUGACUGGAAGCU-----
----- 19 2,2
-----CUUUCAGUCGGAUGUUUA-----
----- 2 0,-4
-----CUUUCAGUCGGAUGUUUAa-----
----- 3 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
----- 2 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
----- 15 0,-2
-----CUUUCAGUCGGAUGUUUACAG-----
----- 32 0,-1
-----CUUUCAGUCGGAUGUUUACAGa
----- 3 0,-1
-----CUUUCAGUCGGAUGUUUACAGu
----- 28 0,-1
-----CUUUCAGUCGGAUGUUUACAGC
----- 66 0,0
-----CUUUCAGUCGGAUGUUUACAGC
a----- 39 0,0
-----CUUUCAGUCGGAUGUUUACAGC
u----- 2 0,0
-----UUUCAGUCGGAUGUUUACAGa
----- 4 1,-1
-----UUUCAGUCGGAUGUUUACAGC
----- 6 1,0
-----UUUCAGUCGGAUGUUUACAGC

```



```

>hsa-mir-3127 5p:11-33 SRX018961
ggccaggcccAUCAGGGCUUGUGGAAUGGGAAGgagaaggacgcuuccccuucugcaggccugcuggguguggcu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUCAGGGCUUGUGGAAUGGGA-----
      8 0,-1
-----AUCAGGGCUUGUGGAAUGGGA-----
      7 0,0

```

```

>hsa-mir-3129 5p:9-30 SRX018961
guacuuggGCAGUAGUGUAGAGAUUGGUUgucuguaaangaauucaaacuaaucucuacacugcugcccaagagc
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GCAGUAGUGUAGAGAUUGGU-----
      3 0,-1
-----GCAGUAGUGUAGAGAUUGGUa-----
      4 0,-1
-----GCAGUAGUGUAGAGAUUGGUUG-----
      2 0,1
-----CAGUAGUGUAGAGAUUGGUUG-----
      6 1,1
-----AGUAGUGUAGAGAUUGGUUG-----
      3 2,1
-----AGUAGUGUAGAGAUUGGUUUGC-----
      5 2,2

```

```

>hsa-mir-3130-1 5p:13-33;3p:44-64 SRX018961
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuguugucaagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GCUGCACCGGAGACUGGGUA----- 8
      0,-1
-----GCUGCACCGGAGACUGGGUAA----- 59
      0,0

```

```

>hsa-mir-3130-2 5p:13-33;3p:44-64 SRX018961
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GCUGCACCGGAGACUGGGUA----- 8
      0,-1
-----GCUGCACCGGAGACUGGGUAA----- 59

```

0,0

>hsa-mir-3136 5p:10-32 SRX018961

```
aauaugaaaCUGACUGAAUAGGUAGGGUCAUuuucugugacugcacauggcccaaccuauucaguuaguuccauuu
(((((((.(((((((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CUGACUGAAUAGGUAGGGUCAa-----
      3  0,-2
-----CUGACUGAAUAGGUAGGGUCAU-----
      2  0,-1
```

>hsa-mir-3138 3p:48-71 SRX018961

```
cccuccuggcacauccccaccucacugcccgggugcccacaagacUGUGGACAGUGAGGUAGAGGGAGUgccgaggag
gg
(((((((((((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
))
-----UGUGGACAGUGAGGUAGAGGGAG-----
-- 2  0,-1
```

>hsa-mir-3139 5p:10-32 SRX018961

```
ggcucagagUAGGAGCUC AACAGAU GCCUGU Ugcugaa uaa uaaacagguaucgcaggagcuuuuguuaugugcc
(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.
-----UAGGAGCUC AACAGAU GCCUGU-----
      2  0,-1
```

>hsa-mir-3141 5p:10-28 SRX018961

```
ucacccgguGAGGGCGGGUGGAGGAGGAggguccccaccaucagccuucacugggacggga
...(((((((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GAGGGCGGGUGGAGGAGG----- 9  0,-1
-----GAGGGCGGGUGGAGGAGGA----- 5  0,0
-----GAGGGCGGGUGGAGGAGGAa----- 8  0,0
-----AGGGCGGGUGGAGGAGGA----- 3  1,0
```

>hsa-mir-3148 5p:10-31 SRX018961

```
gaguuaagaUGGAAAAACUGGUGUGUGUCUauungauguagccaacaagcauacaucaguuuuuuccaacuuaacuc
(((((((((((.(((((((((((((((((((((((.((((((((((((((((((((((((((((((((((((((((
-----UGGAAAAACUGGUGUGUGUCU-----
      2  0,-1
```

gggggugaugGGUGGGGCAAUGGGAUCAGGUgccucaaaggggaucuccaccugaucccacagcccaccugucacccc
 ((((((((((((((((.((((((((((((((...))))))....)))))))))..)))))))))
 -----GGUGGGGCAAUGGGAUCAGGUu-----

gggaagggcUUCAGCCAGGCUAGUGCAGUCUgcuuugugccaacacuggggugaugacugcccuagucuagcugaagcuu
uuccc
(((((((((((((((.(((((((.((((((. . . . (. ((. . . .))).) . . .))))) .)))))).)))))))))
))))))

[illegible]

-----AAGGGCUUCCUCUCGAGGA-----
- 3 0,-1


```
>hsa-mir-3159    5p:10-31    SRX018961
ccaaaguccUAGGAUUAACAAGUGUCGGCCACgggcugggcacaguggcucacgccuguaaucccagcauuuugg
(((((((.(.(.(((((((.((((.(((((((..((...))....))))).))))).)))))))).)).))))))
-----CUCACGCCUGUAAUCCAGCA----- 3
```

[illegible]

```

>hsa-mir-3164    5p:10-31    SRX018961
cuuggaaacUGUGACUUUAAGGGAAAUGGCGcacagcagaccugcaaucaugccguuuugcuugaagucgcaguuuccc
agg
((.((((((((((((((((((((((.((((((((((...((((...)))....)))))))).)))))))).)))))).
)).
-----UGUGACUUUAAGGGAAAUGG-----
--- 2    0,-2
-----UGUGACUUUAAGGGAAAUGGCG-----
--- 30   0,0
-----UGUGACUUUAAGGGAAAUGGCGu-----
--- 4    0,0

```

```
>hsa-mir-3167    3p:54-75      SRX018961
ggcuguggaggcaccaguuuuucugaaaucuuuuuuucugaaauucuucaggaAGGAUUUCAGAAAUACUGGUGUcccga
cagcc
(((((((.()))))))))...(((((....)))))).....)
))))))
```

-----AGGAUUUCAGAAAUACUGGUGU-----
 ----- 2 0,0

```
>hsa-mir-3173    3p:43-64    SRX018961
```

ucccugcccugccguguuuucuccuuugauuuuaugagaacAAAGGAGGAUUAGGCAGGCCAggga
(((((((.(((((((((((((((((((((((..(.)))...)))).))))))))))))))))).))))))

-----AAGGAGGAAAUAGGCAGGCCAa--- 3 1,0

```
>hsa-mir-3174    5p:10-32    SRX018961
```

guuaccuggUAGUGAGUUAGAGAU~~CAGAGCC~~cugggcuccucagcaaaccuacuggaucugcauuuu~~aa~~uucacaugca
ugguaau

(((((((..(((((((((((.((((((((((((..((.(((((((...)))...))....)).)))))))))))))))))))).)).).
 .))))))

-----UAGUGAGUUAGAGAUGCA-----

----- 3 0, -5

uggccucuccagucugcagcucccggcagccucgggccacacucccgggaucuccagggACUGGCCUGGGACUACCGGgg
guggcggccg

$$.((((\dots\dots\dots((.(((((((((.((.((((((((((\dots(((((((((\dots))).)))))).)))))).)))))).)))))).$$

-----ACUGGCCUGGGACUACCGG-----

----- 8 0,0

-----UGGCCUGGGACUACCGGGG

GU----- 3 2,4

>hsa-mir-3177 3p:54-74 SRX018961

ccacgugccauguguacacacgugccaggcgcugucuugagacauucgcgcagUGCACGGCACUGGGGACACGUggcacu
gg

$$(((.(((((((((((\dots((.(((((((..(((((((..(((((\dots))))).))))))\dots)))))))))$$

-----UGCACGGCACUGGGGACACG-----

-- 6 0, -1

>hsa-mir-3179-1 3p:52-73 SRX018961

caggaucacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAGGGGUGAAUUUAAACGUcugugau
ccug

(((((.....))))))


```

>hsa-mir-3180-3 5p:18-42;3p:62-83 SRX018961
cagugcgcagcgggcggagCUUCCAGACGCUCCGCCCCACGUCGcaugcgcggcgaaagcgUGGGGCGGAGCUUCCGGAG
GCCcgcggccugcug
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGGGGCGGAGCUUCCGGAG
G----- 3 0,-2
-----UGGGGCGGAGCUUCCGGAG
Guu----- 3 0,-2

```

```

>hsa-mir-3180-4 5p:36-54      SRX018961
gcuccgccccacgucgcaugcgccccgggaacgcgUGGGGCGGAGCUUCCGGAGgccccgcucugcugccgaccucugg
agcggagggugaagccuccggaugccagucccucaucgcugggccuggucgcgcuguggcgaagggggcgaggc
((((((((((.(((((((.(((.((((...((.((((.(.(.((((((((((((((.(((((((.((((.....)))
)))))))))).)..)))))))))).)).))))).)))...))))....))))....))))....)))).)))))))))
-----UGGGGCGGAGCUUCCGGAGG-----
0,1
-----UGGGGCGGAGCUUCCGGAGGuu-----
0,1

```

[illegible]

>hsa-mir-3188 3p:53-75 SRX018961
ggcgccuccugcucugcugugccgccagggccuccccuagcgcgccuucuggAGAGGCUUUGUGCGGAUACGGGGcugga

----- 2 0,-2

cuggggucaccugucuggccagcuacguccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAaggugaccccgg
(((((((((((((((.(((((((..((((.((((.(((((((...)))..))).)).))))).)))))..)))))))))

$$2 \quad 1, -1$$

11 1,0

 $2 \quad 2, -1$

8 2.0

9 2.1

6 2,1

 $2 \quad 2,2$

agguggcagGGCCAGCCACCAGGAGGGGcUGcgugccacccgggcagcucugcugcucacuggcagugucacu
((((((((((..((((((.....(((.(((((((((((.(.....)).)))))))))).)).)...))))...)))))))))

 $0, -1$

gacugugcucucacuguucacccagcacuagcaguaccagacgguucUGGAGUCCUGGGGAUGGAGAgagcacaguc
(((((((((((((((.(((((((.((((.((((.((((....))).)))))).)))))).)))))).)))))))))

10 0.0

ggugacuccAGGGACUGCCUAGGAGAAAGUUucuggaaguucugacauuccagaaacuucuccuaaggcagucccugg

$$----- \quad 2 \quad 0, -2$$

----- 2 0, -2

((((((((((..(((((.((((((((((((((((((..((...)).)..).))))))))))))))))))..)))))))))

$$(((.(((((((.(.(((((((..((((((..((((((..((((((..(.....)..)))))))))..)))))).).))).).))))).$$

----- 3 0,0

----- 2 0,2

----- 9 0, -1

$$(((((((.(((\dots((((((((((\dots(((((((.(((((((\dots)))))))).)))))))).\dots)))))))))$$

-- 10 -1,-5

```
-----GAAAAGCUGGGUUGAGAGGG-----
-- 7 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
-- 53 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 80 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 141 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGuu-----
-- 7 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 148 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAu-----
-- 14 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAA-----
-- 14 -1,1
-----GAAAAGCUGGGUUGAGAGGGCGAAA-----
-- 2 -1,2
-----AAAAGCUGGGUUGAGAGG-----
-- 308 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 444 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 36 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 33 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 4 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 1725 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 22 0,-2
-----AAAAGCUGGGUUGAGAGGGCuu-----
-- 3 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 3889 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 4769 0,-1
```

```

-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 2047 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 21201 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 5880 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 745 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 10185 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 2572 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 116 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 3472 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 541 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 374 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 18 1,-3
-----AAAGCUGGGUUGAGAGGGa-----
-- 2 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 85 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 188 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 149 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 66 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 612 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 311 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 43 1,0

```



```
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 875 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 365 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 27 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 531 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 102 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 4 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 84 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAu-----
-- 3 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAA-----
-- 3 1,4
-----AAGCUGGGUUGAGAGGGCG-----
-- 7 2,-1
-----AAGCUGGGUUGAGAGGGCGu-----
-- 4 2,-1
-----AAGCUGGGUUGAGAGGGCGuu-----
-- 5 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 49 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 25 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 91 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 37 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 3 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 146 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 54 2,2
```

```

-----AAGCUGGGUUGAGAGGGCGAAAAuu-----
-- 4 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 36 2,3
-----AAGCUGGGUUGAGAGGGCGAAAAu-----
-- 3 2,3
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 4 2,4

```

>hsa-mir-320b-1 3p:39-60 SRX018961

```

aauuaauccucucuucuaguucuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).)))).....

```

```

-----GAAAAGCUGGGUUGAGAG-----
10 -1,-5
-----GAAAAGCUGGGUUGAGAGGG-----
7 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
53 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCA-----
9 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAu-----
13 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAA-----
9 -1,0
-----AAAAGCUGGGUUGAGAGG-----
308 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
444 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
36 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
33 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
4 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
1725 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
22 0,-2

```

```

-----AAAAGCUGGGUUGAGAGGGCuu-----
3  0,-2
-----AAAAGCUGGGUUGAGAGGGCA-----
199 0,-1
-----AAAAGCUGGGUUGAGAGGGCAu-----
330 0,-1
-----AAAAGCUGGGUUGAGAGGGCAuu-----
36  0,-1
-----AAAAGCUGGGUUGAGAGGGCAA-----
470 0,0
-----AAAAGCUGGGUUGAGAGGGCAAu-----
53  0,0
-----AAAAGCUGGGUUGAGAGGGCAAuu-----
2   0,0
-----AAAAGCUGGGUUGAGAGGGCAAA-----
74  0,1
-----AAAAGCUGGGUUGAGAGGGCAAAu-----
10  0,1
-----AAAGCUGGGUUGAGAGGG-----
18  1,-3
-----AAAGCUGGGUUGAGAGGGa-----
2   1,-3
-----AAAGCUGGGUUGAGAGGGC-----
85  1,-2
-----AAAGCUGGGUUGAGAGGGCA-----
8   1,-1
-----AAAGCUGGGUUGAGAGGGCAu-----
11  1,-1
-----AAAGCUGGGUUGAGAGGGCAuu-----
3   1,-1
-----AAAGCUGGGUUGAGAGGGCAA-----
20  1,0
-----AAAGCUGGGUUGAGAGGGCAAu-----
4   1,0

```

>hsa-mir-320b-2 3p:72-93 SRX018961

uguuauuuuuuugucuucuaccuaagaauucugucucuauaggcuuucucuucccagauuuucccaaaguugggAAAAGCUGG
GUUGAGAGGGCAAaaggaaaaaaaaaagaauucugucucugacauauuagauaggga


```

-----GAAAAGCUGGGUUGAGAG-----
-----10 -1,-3-----
-----GAAAAGCUGGGUUGAGAGGG-----
-----7 -1,-1-----
-----AAAAGCUGGGUUGAGAGG-----
-----308 0,-2-----
-----AAAAGCUGGGUUGAGAGGG-----
-----444 0,-1-----
-----AAAAGCUGGGUUGAGAGGGa-----
-----36 0,-1-----
-----AAAAGCUGGGUUGAGAGGGaa-----
-----33 0,-1-----
-----AAAAGCUGGGUUGAGAGGGau-----
-----4 0,-1-----
-----AAAAGCUGGGUUGAGAGGGU-----
-----81 0,0-----
-----AAAAGCUGGGUUGAGAGGGUA-----
-----5 0,1-----
-----AAAAGCUGGGUUGAGAGGGUAa-----
-----5 0,1-----
-----AAAAGCUGGGUUGAGAGGGUAaa-----
-----4 0,1-----
-----AAAAGCUGGGUUGAGAGGGUAu-----
-----9 0,1-----
-----AAAGCUGGGUUGAGAGGG-----
-----18 1,-1-----
-----AAAGCUGGGUUGAGAGGGa-----
-----2 1,-1-----
-----AAAGCUGGGUUGAGAGGGU-----
-----3 1,0-----
-----AAGCUGGGUUGAGAGGGUAaa-----
-----3 2,1-----

```

>hsa-mir-320c-2 3p:31-50 SRX018961

```

cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU
(((((((..(((((((..(((((((.....)))))).)))))).)))))).

```

```

-----GAAAAGCUGGGUUGAGAG---10 -1,-3
-----GAAAAGCUGGGUUGAGAGGG-7 -1,-1

```

```

-----AAAAGCUGGGUUGAGAGG-- 308 0,-2
-----AAAAGCUGGGUUGAGAGGG- 444 0,-1
-----AAAAGCUGGGUUGAGAGGGa 36 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 33 0,-1
-----AAAAGCUGGGUUGAGAGGGau 4 0,-1
-----AAAAGCUGGGUUGAGAGGGU 81 0,0
-----AAAGCUGGGUUGAGAGGG- 18 1,-1
-----AAAGCUGGGUUGAGAGGGa 2 1,-1
-----AAAGCUGGGUUGAGAGGGU 3 1,0

```

>hsa-mir-320d-1 3p:30-48 SRX018961

```

uucucguccagauucuuccaaaguagAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.(((.(....)).))).)))))).))))).
-----GAAAAGCUGGGUUGAGAG-- 10 -1,-2
-----AAAAGCUGGGUUGAGAGG- 308 0,-1
-----AAAAGCUGGGUUGAGAGGA 16 0,0
-----AAAAGCUGGGUUGAGAGGa 12 0,0
-----AAAAGCUGGGUUGAGAGGaa 12 0,0
-----AAAGCUGGGUUGAGAGGA 10 1,0

```

>hsa-mir-320d-2 3p:30-48 SRX018961

```

uucucuuccagauucuucuggagucaggAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.(((((((....)))))).)))))).))))).
-----GAAAAGCUGGGUUGAGAG-- 10 -1,-2
-----AAAAGCUGGGUUGAGAGG- 308 0,-1
-----AAAAGCUGGGUUGAGAGGA 16 0,0
-----AAAAGCUGGGUUGAGAGGa 12 0,0
-----AAAAGCUGGGUUGAGAGGaa 12 0,0
-----AAAGCUGGGUUGAGAGGA 10 1,0

```

>hsa-mir-320e 3p:35-52 SRX018961

```

gccuucucuuccagauucuuccaggagucggggaAAAGCUGGGUUGAGAAGGu
(((((((.(((((((.(((((((....)).)))))).)))))).))))).
-----AAAAGCUGGGUUGAGAAGG- 10 -1,0
-----AAAGCUGGGUUGAGAAGG- 3 0,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018961

```

uugguacuuggagagAGGUGGUCCGUGGCGGUUCGCuuuauuuauuggcgCACAUUACACGGUCGACCUCUuugcaguau

```

----- 7 0,-1

----- 6 -1, -2

----- 3 -1, -1

$$- - - - - 2 \quad -1,0$$

----- 54 0,-2

----- 8 0,-1

----- 8 0,0

----- 2 1, -2

ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuuuuuauaugCCCAUACACGGUCGACCUCUuucgguau
ca

.((((.(((((((((((((((.((((((.(((((((((.)))))).)))))).)))))))))
).

-- 24 0,-3

-- 5 0,-2

-- 7 0,-1

cugacuaugccucccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagaccACUGCCCCAGGUGCUGCUGGggguugua
guc

-----CGCAUCCCCUAGGGCAUU-----


```

--- 4    0,-5
-----CGCAUCCCCUAGGGCAUUG-----
--- 7    0,-4
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 31   0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 20   0,-1
-----CGCAUCCCCUAGGGCAUUGGUGa-----
--- 6    0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 86   0,0
-----CGCAUCCCCUAGGGCAUUGGUGUu-----
--- 3    0,0
-----CCACUGCCCCAGGUGCUG-----
--- 5    -2,-4
-----CCACUGCCCCAGGUGCUGC-----
--- 3    -2,-3
-----CCACUGCCCCAGGUGCUGCU-----
--- 6    -2,-2
-----CCACUGCCCCAGGUGCUGCUG-----
--- 7    -2,-1
-----CCACUGCCCCAGGUGCUGCUGG-----
--- 2    -2,0
-----CCACUGCCCCAGGUGCUGCUGGa-----
--- 6    -2,0
-----ACUGCCCCAGGUGCUGCU-----
--- 3    0,-2
-----ACUGCCCCAGGUGCUGCUG-----
--- 19   0,-1
-----ACUGCCCCAGGUGCUGCUGu-----
--- 2    0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 41   0,0
-----ACUGCCCCAGGUGCUGCUGGu-----
--- 4    0,0
-----ACUGCCCCAGGUGCUGCUGGuu-----
--- 3    0,0

```

```

>hsa-mir-326    3p:60-79    SRX018961
cucaucugucuguugggcuggaggcagggccuugugaaggcggguggugcucagaucgCCUCUGGGCCCUUCCUCCAGc
cccgaggcggaauca
...(((((((...(((((((((((((...(((...((...)))...)))))).)))))))).))))))
))...))))))...
-----CCUCUGGGCCCUUCCUCCAGa
----- 2    0,0
-----CCUCUGGGCCCUUCCUCCAGa
a----- 4    0,0

```

```

>hsa-mir-328    3p:48-69    SRX018961
uggagugggggggcaggaggggcucaggagagaaagugcauacagcccCUGGCCCUCUCUGCCCUUCCGUccccug
..(((...((((((((((...((((...(((...((...)))...)))))).)))))))).))))))
-----CUGGCCCUCUCUGCCCUUCC----- 2
0,-2
-----CUGGCCCUCUCUGCCCUUCCG----- 2
0,-1
-----CUGGCCCUCUCUGCCCUUCCGaa----- 3
0,-1
-----CUGGCCCUCUCUGCCCUUCCGU----- 15
0,0
-----CUGGCCCUCUCUGCCCUUCCGUuu----- 2
0,0

```

```

>hsa-mir-329-1  3p:50-71    SRX018961
gguaaccugaagagagguuuucuggguuucuguuuuuuauagaggacgaAACACACCUGGUUAACCUUUUuccaguauc
((((...((((((((((...(((...(((...((...)))...)))))).)))))))).))))))
-----AGAGGUUUUCUGGGUUUCUGUUUC-----
5
-----AACACACCUGGUUAACCU-----
2    0,-4
-----AACACACCUGGUUAACCUUaa-----
2    0,-2

```

```

>hsa-mir-329-2  3p:52-73    SRX018961
gugguaaccugaagagagguuuucuggguuucuguuuuuuauagaggacgaAACACACCUGGUUAACCUUUUuccagua
ucaa
..((((...((((((((((...(((...(((...((...)))...)))))).)))))))).))))))

```

)))

```
-----AGAGGUUUUCUGGGUUUCUGUUUC-----
----      5
-----AACACACCUGGUUAACCU-----
----      2      0,-4
-----AACACACCUGGUUAACCUUaa-----
----      2      0,-2
```

>hsa-mir-330 5p:18-39;3p:57-79 SRX018961

cuuuggcgaucacugccUCUCUGGGCCUGUGUCUUAGGCucugcaagaucaaccgaGCAAAGCACACGGCCUGCAGAGAg
gcagcgcucugccc

....(((((((((.....)))))).)))))))).)))))))).)))))))).

```
-----GCAAAGCACACGGCCUGC-----
-----      2      0,-5
-----GCAAAGCACACGGCCUGCA-----
-----      6      0,-4
-----GCAAAGCACACGGCCUGCAG-----
-----      2      0,-3
-----GCAAAGCACACGGCCUGCAGA-----
-----      2      0,-2
-----GCAAAGCACACGGCCUGCAGAAa--
-----      6      0,-2
-----GCAAAGCACACGGCCUGCAGAAu--
-----      2      0,-2
-----GCAAAGCACACGGCCUGCAGAG--
-----      23     0,-1
-----GCAAAGCACACGGCCUGCAGAGu-
-----      14     0,-1
-----GCAAAGCACACGGCCUGCAGAGA-
-----      147    0,0
-----GCAAAGCACACGGCCUGCAGAGAAa
-----      5      0,0
-----GCAAAGCACACGGCCUGCAGAGAAa
u-----      4      0,0
-----GCAAAGCACACGGCCUGCAGAGAAu
-----      3      0,0
-----GCAAAGCACACGGCCUGCAGAGAG
```

-----	17	0,1	
-----			-GCAAAGCACACGGCCUGCAGAGAG
u-----	9	0,1	
-----			-CAAAGCACACGGCCUGCAG-----
-----	3	1,-3	
-----			-CAAAGCACACGGCCUGCAGAG--
-----	12	1,-1	
-----			-CAAAGCACACGGCCUGCAGAGA-
-----	54	1,0	
-----			-CAAAGCACACGGCCUGCAGAGAA
-----	8	1,0	
-----			-CAAAGCACACGGCCUGCAGAGAU
-----	6	1,0	
-----			-CAAAGCACACGGCCUGCAGAGAG
-----	57	1,1	
-----			-CAAAGCACACGGCCUGCAGAGAG
a-----	4	1,1	
-----			-CAAAGCACACGGCCUGCAGAGAG
u-----	9	1,1	
-----			-CAAAGCACACGGCCUGCAGAGAG
uu-----	2	1,1	
-----			-CAAAGCACACGGCCUGCAGAGAG
G-----	22	1,2	
-----			-CAAAGCACACGGCCUGCAGAGAG
Gu-----	9	1,2	
-----			-AAAGCACACGGCCUGCAGAGA-
-----	19	2,0	
-----			-AAAGCACACGGCCUGCAGAGAA
-----	2	2,0	
-----			-AAAGCACACGGCCUGCAGAGAG
-----	32	2,1	
-----			-AAAGCACACGGCCUGCAGAGAG
a-----	8	2,1	
-----			-AAAGCACACGGCCUGCAGAGAG
aa-----	2	2,1	
-----			-AAAGCACACGGCCUGCAGAGAG
u-----	10	2,1	
-----			-AAAGCACACGGCCUGCAGAGAG

G----- 22 2,2
-----AAAGCACACGGCCUGCAGAGAG

>hsa-mir-331 5p:26-47;3p:61-81 SRX018961

-----GCCCUUGGGCCUAUCCUAG-----

----- 4 0,-2

-----GCCCCUGGGCCUAUCCUAGA

----- 5 0, -1

-----GCCCCUGGGCCUAUCCUAGA

A----- 41 0,0

-----GCCCCUGGGCCUAUCCUAGA

Aa----- 7 0,0

-----GCCCCUGGGCCUAUCCUAGA

Aaa----- 3 0,0

-----GCCCUUGGGCCUAUCCUAGA

Au----- 7 0,0

-----CCCCUGGGCCUAUCCUAGA

A----- 5 1,0

-----CCCUGGGCCUAUCCUAGA

A----- 2 2,0

>hsa-mi r-335 MA:16-38;mi :52-73 SRX018961

-----UCAAGAGCAAUACGAAAA-----

----- 6 0, -4

-----UCAAGAGCAAUACGAAAAA-----

----- 2 0, -3

-----UCAAGAGCAAUACGAAAAAU-----

```

----- 25 0,-2
-----UCAAGAGCAAUAACGAAAAAUG-----
----- 160 0,-1
-----UCAAGAGCAAUAACGAAAAAUGa-----
----- 7 0,-1
-----UCAAGAGCAAUAACGAAAAAUGU-----
----- 30 0,0
-----UCAAGAGCAAUAACGAAAAAUGUa-----
----- 11 0,0
-----AAGAGCAAUAACGAAAAAU-----
----- 2 2,-2
-----AAGAGCAAUAACGAAAAAUG-----
----- 8 2,-1
-----UUUUUCAUUAUUGCUCUG-----
----- 4 0,-3
-----UUUUUCAUUAUUGCUCUGACC-----
----- 2 0,0

```

```

>hsa-mir-337 5p:23-43;3p:61-82 SRX018961
guagucaguaguuggggguggGAACGGCUUCAUACAGGAGUUGaugcacaguuauccagCUCCUAUAUGAUGCCUUUCU
UCauccccucaa
.....((.((((((((((.(((.((((((.((((((((((.....)))..)))))))).))))).)))..
)))))))).)..
-----GAACGGCUUCAUACAGGAGUa-----
----- 4 0,0
-----AACGGCUUCAUACAGGAGUU-----
----- 2 1,0
-----CUCCUAUAUGAUGCCUUUCU
UC----- 2 0,0

```

```

>hsa-mir-338 5p:6-27;3p:42-63 SRX018961
ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga
(((.((((((.((((((((((((.....)))))))).))))).))))).)))
-----UCCAGCAUCAGUGAUUUUGUU----- 3 0,-1

```

```

>hsa-mir-339 5p:15-37;3p:50-72 SRX018961
cggggcgggccgcucUCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGgcgccugc
cccagugucugcgc

```

```

-----UCCUGUCCUCCAGGAGC-----
----- 27 0,-5
-----UCCUGUCCUCCAGGAGCU-----
----- 61 0,-4
-----UCCUGUCCUCCAGGAGCUu-----
----- 2 0,-4
-----UCCUGUCCUCCAGGAGCUuu-----
----- 4 0,-4
-----UCCUGUCCUCCAGGAGCUC-----
----- 10 0,-3
-----UCCUGUCCUCCAGGAGCUCA-----
----- 34 0,-2
-----UCCUGUCCUCCAGGAGCUCAu-----
----- 7 0,-2
-----UCCUGUCCUCCAGGAGCUCAuu-----
----- 4 0,-2
-----UCCUGUCCUCCAGGAGCUCAC-----
----- 7 0,-1
-----UCCUGUCCUCCAGGAGCUCACG-----
----- 17 0,0
-----UCCUGUCCUCCAGGAGCUCACGU-----
----- 7 0,1
-----CCUGUCCUCCAGGAGCUCACG-----
----- 3 2,0
-----CCUGUCCUCCAGGAGCUCACGa-----
----- 2 2,0
-----UGAGCGCCUCGACGACAG-----
----- 38 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 49 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 131 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 59 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 10 0,-2

```

-----			UGAGCGCCUCGACGACAGAGCu-----
-----	44	0, -2	
-----			UGAGCGCCUCGACGACAGAGCuu-----
-----	2	0, -2	
-----			UGAGCGCCUCGACGACAGAGCC-----
-----	59	0, -1	
-----			UGAGCGCCUCGACGACAGAGCCa-----
-----	73	0, -1	
-----			UGAGCGCCUCGACGACAGAGCCaa-----
-----	5	0, -1	
-----			UGAGCGCCUCGACGACAGAGCCau-----
-----	38	0, -1	
-----			UGAGCGCCUCGACGACAGAGCCu-----
-----	29	0, -1	
-----			UGAGCGCCUCGACGACAGAGCCuu-----
-----	15	0, -1	
-----			UGAGCGCCUCGACGACAGAGCCG-----
-----	127	0, 0	
-----			UGAGCGCCUCGACGACAGAGCCGa-----
-----	12	0, 0	
-----			UGAGCGCCUCGACGACAGAGCCGau-----
-----	5	0, 0	
-----			UGAGCGCCUCGACGACAGAGCCGu-----
-----	7	0, 0	
-----			UGAGCGCCUCGACGACAGAGCCGuu-----
-----	9	0, 0	
-----			GAGCGCCUCGACGACAGAG-----
-----	4	1, -3	
-----			AGCGCCUCGACGACAGAG-----
-----	73	2, -3	
-----			AGCGCCUCGACGACAGAGC-----
-----	9	2, -2	
-----			AGCGCCUCGACGACAGAGCC-----
-----	2	2, -1	
-----			AGCGCCUCGACGACAGAGCCa-----
-----	7	2, -1	
-----			AGCGCCUCGACGACAGAGCCG-----
-----	22	2, 0	

-----			-----AGCGCCUCGACGACAGAGCCGa-----
-----	5	2,0	
-----			-----AGCGCCUCGACGACAGAGCCGau-----
-----	2	2,0	
-----			-----AGCGCCUCGACGACAGAGCCGG-----
-----	2	2,1	
-----			-----AGCGCCUCGACGACAGAGCCGGu-----
-----	2	2,1	

>hsa-mi r-33a MA:6-26;mi:46-67 SRX018961

cugugGUGCAUUGUAGUUGCAUUGCAuguucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag		
((((((((((((((((. (((((((((((((... (((...)))))))))))))...)))...)))		
-----GUGCAUUGUAGUUGCAU-----	79	0, -3
-----GUGCAUUGUAGUUGCAUUG-----	8	0, -2
-----GUGCAUUGUAGUUGCAUUGa-----	17	0, -2
-----GUGCAUUGUAGUUGCAUUGC-----	71	0, -1
-----GUGCAUUGUAGUUGCAUUGCA-----	85	0, 0
-----GUGCAUUGUAGUUGCAUUGCAa-----	53	0, 0
-----CAAUGUUUCCACAGUGCAU-----	4	0, -3

>hsa-mi r-33b MA:16-35;mi :54-75 SRX018961

```

gcggggcggccccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcgggugCAGUGCCUCGGCAGUGCAGCCCggagc
cggccccuggcaccac
(((((((((((((.((((((((((((((..(((((((((((.(((.....)))..))))))))))..))))))))))..))))).)))
).))))...)).....
-----GUGCAUUGCUGUUGCAU-----
-----      17    0,-2
-----GUGCAUUGCUGUUGCAUUG-----
-----      7     0,-1
-----GUGCAUUGCUGUUGCAUUGCA-----
-----      3     0,1
-----CAGUGCCUCGGCAGUGCAGCC-----
-----      5     0,-1

```

>hsa-mi r-340 MA:16-37;mi :58-79 SRX018961

uuguaccuggugugaUUAUAAAGCAAUGAGACUGAUUgucauaugucguuugugggaUCCGUCUCAGUUAUUUAUAGCc
auaccugguaucuaa
..((((((.(((((((..((((((..((((((.((((.((((.(.....)))))))))).)))))).)))))).)))))).))

```

-----UUAUAAAGCAAUGAGACU-----
----- 49  0,-4
-----UUAUAAAGCAAUGAGACUG-----
----- 5   0,-3
-----UUAUAAAGCAAUGAGACUGA-----
----- 5   0,-2
-----UUAUAAAGCAAUGAGACUGAU-----
----- 22  0,-1
-----UUAUAAAGCAAUGAGACUGAUa-----
----- 2   0,-1
-----UUAUAAAGCAAUGAGACUGAUU-----
----- 73  0,0
-----UUAUAAAGCAAUGAGACUGAUUG-----
----- 9   0,1

```

gaaacugggcucaaggugAGGGGUGCUAUCUGUGAUUGagggacaugguuaauggaaugUCUCACACAGAAUCGCACC
CGUcaccuuggccuacuaa

AGGGGUGCUAUCUGUGAU	4	0,-3
AGGGGUGCUAUCUGUGAUaa	2	0,-3
AGGGGUGCUAUCUGUGAUU	196	0,-2
AGGGGUGCUAUCUGUGAUUa	5	0,-2
AGGGGUGCUAUCUGUGAUUG	82	0,-1
AGGGGUGCUAUCUGUGAUUGA	204	0,0
AGGGGUGCUAUCUGUGAUUGAa	32	0,0
AGGGGUGCUAUCUGUGAUUGAaa	4	0,0
AGGGGUGCUAUCUGUGAUUGAG		

```

----- 239 0,1
-----AGGGGUGCUAUCUGUGAUUGAGa-----
----- 22 0,1
-----AGGGGUGCUAUCUGUGAUUGAGu-----
----- 2 0,1
-----AGGGGUGCUAUCUGUGAUUGAGG-----
----- 74 0,2
-----AGGGGUGCUAUCUGUGAUUGAGGu-----
----- 2 0,2
-----AGGGGUGCUAUCUGUGAUUGAGGGA-----
----- 4 0,4
-----GGGGUGCUAUCUGUGAUUGA-----
----- 5 1,0
-----GGGGUGCUAUCUGUGAUUGAG-----
----- 6 1,1
-----GGGGUGCUAUCUGUGAUUGAGG-----
----- 8 1,2
-----GGGGUGCUAUCUGUGAUUGAGGGA-----
----- 11 1,4
-----GGGGUGCUAUCUGUGAUUGAGGGAa-----
----- 4 1,4
-----GGGGUGCUAUCUGUGAUUGAGGGAu-----
----- 2 1,4
-----GGGGUGCUAUCUGUGAUUGAGGGAC-----
----- 3 1,5
-----UCUCACACAGAAAUCGCA--
----- 66 0,-5
-----UCUCACACAGAAAUCGCAC-
----- 121 0,-4
-----UCUCACACAGAAAUCGCACa
----- 2 0,-4
-----UCUCACACAGAAAUCGCACC
----- 140 0,-3
-----UCUCACACAGAAAUCGCACC
a----- 8 0,-3
-----UCUCACACAGAAAUCGCACC
C----- 109 0,-2
-----UCUCACACAGAAAUCGCACC

```

CG-----	334	0,-1	-----UCUCACACAGAAAUCGCACC
CGa-----	9	0,-1	-----UCUCACACAGAAAUCGCACC
CGU-----	710	0,0	-----UCUCACACAGAAAUCGCACC
CGUa-----	16	0,0	-----UCUCACACAGAAAUCGCACC
CGUaa-----	9	0,0	-----UCUCACACAGAAAUCGCACC
CGUau-----	5	0,0	-----UCUCACACAGAAAUCGCACC
CGUu-----	14	0,0	-----UCUCACACAGAAAUCGCACC
CGUC-----	330	0,1	-----UCUCACACAGAAAUCGCACC
CGUCu-----	56	0,1	-----UCUCACACAGAAAUCGCACC
CGUCA-----	39	0,2	-----UCACACAGAAAUCGCACC
C-----	5	2,-2	-----UCACACAGAAAUCGCACC
CG-----	2	2,-1	-----UCACACAGAAAUCGCACC
CGa-----	4	2,-1	-----UCACACAGAAAUCGCACC
CGU-----	22	2,0	-----UCACACAGAAAUCGCACC
CGUaa-----	4	2,0	-----UCACACAGAAAUCGCACC
CGUC-----	12	2,1	-----UCACACAGAAAUCGCACC
CGUCA-----	16	2,2	-----UCACACAGAAAUCGCACC
CGUCAu-----	4	2,2	

>hsa-mir-345 5p:18-39 SRX018961

acccaaacccuaggucUGCUGACUCCUAGUCCAGGGCUCgugauggcugguggggccugaacgaggggucuggaggccug


```

----- 4 0,1
-----UGGCAGUGUCUUAGCUGGUUUa-----
----- 12 0,1
-----UGGCAGUGUCUUAGCUGGUUGU-----
----- 6 0,3
-----GGCAGUGUCUUAGCUGGU-----
----- 5 1,-2
-----GGCAGUGUCUUAGCUGGU-----
----- 8 1,0
-----AAUCAGCAAGUAUACU
GCCCU----- 4 1,0
-----AAUCAGCAAGUAUACU
GCCCUA----- 6 1,1

```

```

>hsa-mir-34b    mi:13-35;MA:50-71    SRX018961
gugcucgguuugUAGGCAGUGUCAUUAGCUGAUUGuacugugggguuaCAAUCACUAAUCCACUGCCAUcaaaacaag
gcac
(((((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))
)))
-----UAGGCAGUGUCAUUAGCUGAU-----
---- 2 0,-2

```

```

>hsa-mir-34c    5p:13-35;3p:46-67    SRX018961
agucuaguuaacuAGGCAGUGUAGUUAGCUGAUUGCuaauaguaccAAUCACUAACCACACGGCCAGGuaaaaagauu
(((((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))
-----AGGCAGUGUAGUUAGCUG-----
5 0,-5
-----AGGCAGUGUAGUUAGCUGA-----
4 0,-4
-----AGGCAGUGUAGUUAGCUGAU-----
6 0,-3
-----AGGCAGUGUAGUUAGCUGAUUG-----
11 0,-1
-----AGGCAGUGUAGUUAGCUGAUUGa-----
5 0,-1
-----AGGCAGUGUAGUUAGCUGAUUGu-----
8 0,-1
-----AGGCAGUGUAGUUAGCUGAUUGC-----

```

146 0,0

-----AGGCAGUGUAGUUAGCUGAUUGC_a-----

4 0,0

>hsa-mi r-3605 5p:22-44;3p:66-88 SRX018961

acuuuauacguguaauugugaUGAGGAUGGAUAGCAAGGAAGCCgcucccaccugaccucacggCCUCCGUGUACCUG
UCCUCUAGgugggacgcucg

.....((((.....((((((((.....((((.....((((.....))))).)))..)))..)))
))))).....)))))...

-----GAUGAGGAUGGAUAGCAAGG-----

----- 8 -2, -5

-----GAUGAGGAUGGAUAGCAAGGA-----

----- 34 -2,-4

-----GAUGAGGAUGGAUAGCAAGGAA-----

----- 26 -2, -3

-----GAUGAGGAUGGAUAGCAAGGAAa-----

----- 4 -2, -3

-----GAUGAGGAUGGAUAGCAAGGAAG-----

----- 57 -2,-2

-----GAUGAGGAUGGAUAGCAAGGAAGC-----

----- 41 -2, -1

-----GAUGAGGAUGGAUAGCAAGGAAGCC-----

----- 7 -2,0

-----AUGAGGAUGGAUAGCAAGGA-----

----- 8 -1, -4

-----AUGAGGAUGGAUAGCAAGGAAG-----

----- 8 -1, -2

-----AUGAGGAUGGAUAGCAAGGAAGC-----

----- 6 -1, -1

-----AUGAGGAUGGAUAGCAAGGAAGCC-----

----- 7 -1,0

-----UGAGGAUGGAUAGCAAGGA-----

----- 5 0, -4

-----UGAGGAUGGAUAGCAAGGAA-----

----- 3 0, -3

-----UGAGGAUGGAUAGCAAGGAAG-----

----- 13 0,-2

-----UGAGGAUGGAUAGCAAGGAAGC-----


```

----- 26 0,-1
-----UGAGGAUGGAUAGCAAGGAAGCa-----
----- 10 0,-1
-----UGAGGAUGGAUAGCAAGGAAGCC-----
----- 40 0,0
-----UGAGGAUGGAUAGCAAGGAAGCCu-----
----- 2 0,0
-----GAGGAUGGAUAGCAAGGAAG-----
----- 2 1,-2
-----GAGGAUGGAUAGCAAGGAAGC-----
----- 2 1,-1
-----CCUCCGUGUUACCUG
UCCUC----- 2 0,-3
-----CCUCCGUGUUACCUG
UCCUCUAG----- 8 0,0
-----CUCCGUGUUACCUG
UCCUCUAG----- 2 1,0

```

>hsa-mir-361 5p:6-27;3p:45-67 SRX018961

```

ggagcUUAUCAGAAUCUCCAGGGGUACuuuauauuucaaaaagUCCCCAGGUGUGAUUCUGAUUUgcuuc
((((((((( (((((((((( (((((((((( (((((((((( (((((((((( (((((((((( ((((((((((
-----CUUAUCAGAAUCUCCAGGGGUAC----- 2
-1,0
-----UUAUCAGAAUCUCCAGGG----- 9
0,-4
-----UUAUCAGAAUCUCCAGGGG----- 25
0,-3
-----UUAUCAGAAUCUCCAGGGGU----- 25
0,-2
-----UUAUCAGAAUCUCCAGGGGUA----- 60
0,-1
-----UUAUCAGAAUCUCCAGGGGUAa----- 21
0,-1
-----UUAUCAGAAUCUCCAGGGGUAaa----- 6
0,-1
-----UUAUCAGAAUCUCCAGGGGUAu----- 58
0,-1
-----UUAUCAGAAUCUCCAGGGGUAC----- 83

```

0,0		
-----UUAUCAGAAUCUCCAGGGGUACa-----		30
0,0		
-----UUAUCAGAAUCUCCAGGGGUACaa-----		3
0,0		
-----UUAUCAGAAUCUCCAGGGGUACau-----		2
0,0		
-----UUAUCAGAAUCUCCAGGGGUACU-----		4
0,1		
-----UAUCAGAAUCUCCAGGGGUA-----		2
1,-1		
-----UAUCAGAAUCUCCAGGGGUAa-----		4
1,-1		
-----UAUCAGAAUCUCCAGGGGUAu-----		2
1,-1		
-----UCCCCCAGGUGUGAUUCU-----		26
0,-5		
-----UCCCCCAGGUGUGAUUCUGA-----		35
0,-3		
-----UCCCCCAGGUGUGAUUCUGAa-----		33
0,-3		
-----UCCCCCAGGUGUGAUUCUGAaa-----		24
0,-3		
-----UCCCCCAGGUGUGAUUCUGAU-----		59
0,-2		
-----UCCCCCAGGUGUGAUUCUGAUa-----		2
0,-2		
-----UCCCCCAGGUGUGAUUCUGAUaa-----		5
0,-2		
-----UCCCCCAGGUGUGAUUCUGAUU-----		51
0,-1		
-----UCCCCCAGGUGUGAUUCUGAUUa-----		8
0,-1		
-----UCCCCCAGGUGUGAUUCUGAUUU-----		51
0,0		
-----UCCCCCAGGUGUGAUUCUGAUUUu-----		5
0,0		
-----UCCCCCAGGUGUGAUUCUGAUUUUG-----		21

Sequence	Count
-GAGGGACUUUUGGGGGCAGA-	3
-GAGGGACUUUUGGGGGCAGAUGU-	5
-AGGGACUUUUGGGGGCAGA-	8
-AGGGACUUUUGGGGGCAGAU-	24
-AGGGACUUUUGGGGGCAGAUau-	4
-AGGGACUUUUGGGGGCAGAUG-	12
-AGGGACUUUUGGGGGCAGAUGU-	41
-AGGGACUUUUGGGGGCAGAUGUa-	3
-AGGGACUUUUGGGGGCAGAUGUu-	9
-AGGGACUUUUGGGGGCAGAUGUG-	211
-AGGGACUUUUGGGGGCAGAUGUGa-	4
-AGGGACUUUUGGGGGCAGAUGUGU-	18
-GGGACUUUUGGGGGCAGAUGU-	5
-GGGACUUUUGGGGGCAGAUGUG-	5
-UAAUGCCCCUAAAAAUCCUU-	3
-UAAUGCCCCUAAAAAUCCUUUAU-	3

agaguguucaaggacagcaagaaaaaugAGGGACUUCAGGGGCAGCUGUguuuucugacucagucaUAAUGCCCCUAAA
AAUCCUUAUuguucucgagugugcaucggg

.....(.(((((((((.((((((((..(((.((((((((((((((.(((...)))..)))....)))))))))))))

..)))))))).))))))..)))).).....

-----GAGGGACUUUCAGGGGCAu-----
----- 3 -1,-5
-----GAGGGACUUUCAGGGGCAGC-----
----- 4 -1,-3
-----GAGGGACUUUCAGGGGCAGCU-----
----- 16 -1,-2
-----GAGGGACUUUCAGGGGCAGCUG-----
----- 5 -1,-1
-----GAGGGACUUUCAGGGGCAGCUGa-----
----- 11 -1,-1
-----GAGGGACUUUCAGGGGCAGCUGU-----
----- 41 -1,0
-----GAGGGACUUUCAGGGGCAGCUGUu-----
----- 6 -1,0
-----GAGGGACUUUCAGGGGCAGCUGUG-----
----- 4 -1,1
-----GAGGGACUUUCAGGGGCAGCUGUGa-----
----- 2 -1,1
-----GAGGGACUUUCAGGGGCAGCUGUGU-----
----- 7 -1,2
-----AGGGACUUUCAGGGGCAGCU-----
----- 27 0,-2
-----AGGGACUUUCAGGGGCAGCUGU-----
----- 38 0,0
-----AGGGACUUUCAGGGGCAGCUGUa-----
----- 2 0,0
-----AGGGACUUUCAGGGGCAGCUGUu-----
----- 2 0,0
-----AGGGACUUUCAGGGGCAGCUGUuu-----
----- 3 0,0
-----AGGGACUUUCAGGGGCAGCUGUG-----
----- 162 0,1
-----AGGGACUUUCAGGGGCAGCUGUGa-----
----- 7 0,1
-----AGGGACUUUCAGGGGCAGCUGUGU-----
----- 14 0,2
-----GGGACUUUCAGGGGCAGCU-----

-----CAGGAGUAAAGACAGAGUU
----- 12
-----CAGGAGUAAAGACAGAGUU
C----- 4

```

>hsa-mir-3667    5p:9-30;3p:45-66    SRX018961
ugaggaugAAAGACCCAUUGAGGAGAAGGUUucugcugggcugagaACCUUCCUCUCCAUGGGUCUUUcauccuca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGACCCAUUGAGGAGAAGGUU-----
      1,1
-----AGACCCAUUGAGGAGAAGGUU-----
      2,1

```

```
>hsa-mir-3676    3p:60-79    SRX018961
uugguuaaagcgccugucuaguaaacaggagauccuggguucgaauccagcggugccuCCGUGUUUCCCCACGCUUUu
gccaa
.(((((((((...(((...(((((...))))).)))...))))).)))).
))))).
-----GUAAACAGGAGAUCCUGGU-----
-----2-----
-----CCGUGUUUCCCCACGCUUU-----
-----2    0.0-----
```

```

>hsa-mir-3687    3p:35-58    SRX018961
cgcgcgugcgccccgagcgcgggcccguggucccuCCCGGACAGGCGUUCGUGCGACGUgug
(((((((.(((.(((((((.(((((.((...)).)).)).)).)).)).)).)).)))))
-----UCCCGGACAGGCGUUCGUGCGACG----- 2    -1,-1
-----CCCGGACAGGCGUUCGUGCG----- 5    0,-4
-----CGGACAGGCGUUCGUGCGACGU--- 2    2,0

```

```

>hsa-mir-369      5p:9-30;3p:44-64      SRX018961
uugaagggAGAU CGACCGUGUUAUAUUCGCUuuuaauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.(((..((((((((((((((((..((((((.....))))))..)))))))))))))))).
-----AGAU CGACCGUGUUAUAUUC-----      8      0,-2
-----AGAU CGACCGUGUUAUAUUCG-----      4      0,-1
-----AGAU CGACCGUGUUAUAUUCGC-----      4      0,0
-----AGAU CGACCGUGUUAUAUUCGCU-----      8      0,1
-----AGAU CGACCGUGUUAUAUUCGCUUU-----      4      0,3

```



```

-----GCCUGCUGGGGUGGAACCUGa----- 25
0,-2
-----GCCUGCUGGGGUGGAACCUGa----- 15
0,-2
-----GCCUGCUGGGGUGGAACCUGu----- 5
0,-2
-----GCCUGCUGGGGUGGAACCUGG----- 33
0,-1
-----GCCUGCUGGGGUGGAACCUGa----- 11
0,-1
-----GCCUGCUGGGGUGGAACCUGGaa----- 20
0,-1
-----GCCUGCUGGGGUGGAACCUGGU----- 41
0,0
-----GCCUGCUGGGGUGGAACCUGGUaa----- 9
0,0
-----GCCUGCUGGGGUGGAACCUGGUau----- 3
0,0
-----GCCUGCUGGGGUGGAACCUGGUu----- 3
0,0
-----GCCUGCUGGGGUGGAACCUGGUuu----- 3
0,0

```

```

>hsa-mir-371    5p:6-25;3p:42-64    SRX018961
guggcACUCAAACUGUGGGGGGCACUuucugcucucuggugaAAGUGCCGCCAUCUUUUGAGUGUuac
((((((((((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((
-----ACUCAAACUGUGGGGGGCACU----- 2    0,0

```

```

>hsa-mir-372    3p:42-64    SRX018961
gugggccucaaauuggaggcacuauucugauguccaaguggAAAGUGCUGCGACAUUUGAGCGUcac
...((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAGUGCUGCGACAUUUGA----- 6    0,-4
-----AAAGUGCUGCGACAUUUGAG----- 11   0,-3
-----AAAGUGCUGCGACAUUUGAGC----- 11   0,-2

```

```

>hsa-mir-374a    MA:12-33;mi:42-63    SRX018961
uacaucggccaUUAUAAUACAACCUGAUAGUGuauagcaCUUAUCAGAUUGUAUUGUAAUuugucugugua
((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((

```



```

-----AUAUAAUACAACCUGCUAAGUG----- 41
0,0
-----AUAUAAUACAACCUGCUAAGUGa----- 3
0,0

```

>hsa-mir-375 3p:40-61 SRX018961

```

ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUGAggc
.(((((((.(((((((...((.(((((((.....)).))))).))...)))))))).)).
-----UUUGUUCGUUCGGCUCGCG----- 6 0,-4
-----UUUGUUCGUUCGGCUCGCG----- 5 0,-3
-----UUUGUUCGUUCGGCUCGCGU----- 42 0,-2
-----UUUGUUCGUUCGGCUCGCGUG----- 138 0,-1
-----UUUGUUCGUUCGGCUCGCGUGA--- 171 0,0
-----UUUGUUCGUUCGGCUCGCGUGAa-- 11 0,0
-----UUUGUUCGUUCGGCUCGCGUGAaa- 9 0,0
-----UUUGUUCGUUCGGCUCGCGUGAu-- 15 0,0
-----UUUGUUCGUUCGGCUCGCGUGAG-- 2 0,1
-----UUUGUUCGUUCGGCUCGCGUGAGu- 2 0,1
-----UUUGUUCGUUCGGCUCGCGUGA--- 4 1,0

```

>hsa-mir-376b 3p:62-83 SRX018961

```

caguccuucuuugguauuuuaaaacguggauauuccuucuauguuuacgugauuccugguuaAUCAUAGAGGAAAAUCCAUGU
GUUuucagaucaaaugcug
((((.....(((((((((((.(((((((((((.....((((.....))))).)))))))).))))))
))))).)))))))).))))
-----AUCAUAGAGGAAAAUCCAUGU-----
-----4 0,-3-----
-----AUCAUAGAGGAAAAUCCAUGU-----
GU-----7 0,-1-----
-----AUCAUAGAGGAAAAUCCAUGU-----
GUU-----8 0,0-----

```

>hsa-mir-376c 3p:43-63 SRX018961

```

aaaagguggauauuccuucuauguuuauuguuauuuauugguuaAACAUAGAGGAAAUUCCACGUuuu
(((((((.(((((((.(((((((((((.....)))))))).)))))))).))))))
-----AACAUAGAGGAAAUUCCA----- 3 0,-3
-----AACAUAGAGGAAAUUCCACG----- 14 0,-1
-----AACAUAGAGGAAAUUCCACGU--- 43 0,0

```

-----AACAUAGAGGAAAUCCACGUU-- 5 0,1

>hsa-mir-377 mi:7-28;MA:45-66 SRX018961

uugagcAGAGGUUGCCCUUGGUGAAUUCgcuuuuuuanguugaAUCACACAAAGGCAACUUUUGUuug

-----AGAGGUUGCCCUUGGUGAAU----- 5 0,-2

-----AGAGGUUGCCCUUGGUGAAUU----- 129 0,-1

-----AGAGGUUGCCCUUGGUGAAUUC----- 57 0,0

-----AGAGGUUGCCCUUGGUGAAUUCa----- 9 0,0

-----AGAGGUUGCCCUUGGUGAAUUCu----- 5 0,0

-----AGAGGUUGCCCUUGGUGAAUUCG----- 6 0,1

-----AUCACACAAAGGCAACUUUG----- 5 0,-1

-----AUCACACAAAGGCAACUUUUGU----- 6 0,0

>hsa-mi r-378 mi:5-26;MA:43-63 SRX018961

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu

---CUCCUGACUCCAGGUCCUGUG----- 2 0,-1

---CUCCUGACUCCAGGUCCUGUGU----- 3 0,0

-----UCCUGACUCCAGGUCCUGUGU----- 3 1,0

-----GCACUGGACUUGGAGUCAGAAG----- 2 -2,-1

-----GCACUGGACUUGGAGUCAGAAGa--- 2 -2,-1

-----CACUGGACUUGGAGUCAGAA----- 3 -1,-2

-----CACUGGACUUGGAGUCAGAAG----- 3 -1, -1

-----CACUGGACUUGGAGUCAGAAGG--- 53 -1,0

-----CACUGGACUUGGAGUCAGAAGGa-- 6 -1,0

-----CACUGGACUUGGAGUCAGAAGGC-- 42 -1,1

-----CACUGGACUUGGAGUCAGAAGGCa- 9 -1,1

-----CACUGGACUUGGAGUCAGAAGGC_{au} 3 -1,1

-----CACUGGACUUGGAGUCAGAAGGCu- 7 -1,1

-----ACUGGACUUGGAGUCAGA----- 152 0,-3

-----ACUGGACUUGGAGUCAGAu----- 3 0,-3

-----ACUGGACUUGGAGUCAGAA----- 494 0,-2

-----ACUGGACUUGGAGUCAGAAa----- 73 0,-2

-----ACUGGACUUGGAGUCAGAAaa--- 14 0,-2

-----ACUGGACUUGGAGUCAGAAu----- 2 0,-2

-----ACUGGACUUGGAGUCAGAAG----- 4439 0,-1

-----ACUGGACUUGGAGUCAGAAGu--- 120 0,-1

-----ACUGGACUUGGAGUCAGAAGG---	30650	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	4491	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	358	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	85	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	943	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	87	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	35027	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	13551	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	825	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	1308	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	6335	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	693	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	49	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	4	0,3
-----CUGGACUUGGAGUCAGAA-----	15	1,-2
-----CUGGACUUGGAGUCAGAAG-----	72	1,-1
-----CUGGACUUGGAGUCAGAAGG---	731	1,0
-----CUGGACUUGGAGUCAGAAGGa--	126	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	34	1,0
-----CUGGACUUGGAGUCAGAAGGau-	7	1,0
-----CUGGACUUGGAGUCAGAAGGu--	53	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	6	1,0
-----CUGGACUUGGAGUCAGAAGGC--	2206	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	1147	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	230	1,1
-----CUGGACUUGGAGUCAGAAGGCau	82	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	1239	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	366	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	31	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	18	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	11	1,2
-----CUGGACUUGGAGUCAGAAGGCCU	10	1,3
-----CUGGACUUGGAGUCAGAAGGCCUuu	3	1,3
-----UGGACUUGGAGUCAGAAGG---	48	2,0
-----UGGACUUGGAGUCAGAAGGa--	2	2,0
-----UGGACUUGGAGUCAGAAGGaa-	4	2,0
-----UGGACUUGGAGUCAGAAGGC--	122	2,1
-----UGGACUUGGAGUCAGAAGGCa-	27	2,1


```

- 72 1,-5
-----CUGGACUUGGAGUCAGAAGA-----
- 44 1,-4
-----CUGGACUUGGAGUCAGAAGa-----
- 3 1,-4
-----UGGACUUGGAGUCAGAAGA-----
- 11 2,-4
-----UGGACUUGGAGUCAGAAGa-----
- 3 2,-4

```

```

>hsa-mir-379      MA:6-26;mi:44-65      SRX018961
agagaUGGUAGACUAUGGAACGUAGGcguuaugauuucugaccUAUGUAACAUGGUCCACUAACUcu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGUAGACUAUGGAACGU----- 20  0,-3
-----UGGUAGACUAUGGAACGUA----- 29  0,-2
-----UGGUAGACUAUGGAACGUAG----- 154 0,-1
-----UGGUAGACUAUGGAACGUAGa----- 3  0,-1
-----UGGUAGACUAUGGAACGUAGau----- 2  0,-1
-----UGGUAGACUAUGGAACGUAGG----- 277 0,0
-----UGGUAGACUAUGGAACGUAGGa----- 70  0,0
-----UGGUAGACUAUGGAACGUAGGaa----- 38  0,0
-----UGGUAGACUAUGGAACGUAGGau----- 5  0,0
-----UGGUAGACUAUGGAACGUAGGu----- 27  0,0
-----UGGUAGACUAUGGAACGUAGGC----- 8  0,1
-----UGGUAGACUAUGGAACGUAGGCa----- 3  0,1
-----UGGUAGACUAUGGAACGUAGGCaa----- 2  0,1
-----UGGUAGACUAUGGAACGUAGGCau----- 2  0,1
-----GGUAGACUAUGGAACGUAGG----- 2  1,0

```

```
>hsa-mir-380      mi:5-26;MA:40-61      SRX018961
aagaUGGUUGACCAUAGAACAUGCGCuaucucugugucgUAUGUAAUAUGGUCCACAUCU
(((((((...(((((((...(((((((...(((((((...)))))))).)))))))).))))))
---AUGGUUGACCAUAGAACAUGC-----10  -1,-2
```

```
>hsa-mir-381      3p:49-70      SRX018961
uacuuaaagcggagguugcccuuguauauucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua
((((((.(.(.(((.((((((((.((((((((.((((...)))...))))))))))))))))).)).)).))))))
-----AGCGAGGUUGCCCUUGUAa----- 3
```

```

-----AGCGAGGUUGCCCUUGUAU----- 18
-----UAUACAAGGGCAAGCUCUC----- 3
0,-3
-----UAUACAAGGGCAAGCUCUCU----- 9
0,-2
-----UAUACAAGGGCAAGCUCUCUGa----- 5
0,-1
-----UAUACAAGGGCAAGCUCUCUGU----- 5
0,0
-----AUACAAGGGCAAGCUCUCU----- 3
1,-2

```

>hsa-mir-382 5p:11-32 SRX018961

```

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucauucacggacaacacuuuuuucagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GAAGUUGUUCGUGGUGGA-----
15 0,-4
-----GAAGUUGUUCGUGGUGGAU-----
27 0,-3
-----GAAGUUGUUCGUGGUGGAUa-----
2 0,-3
-----GAAGUUGUUCGUGGUGGAU-----
39 0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
91 0,-1
-----GAAGUUGUUCGUGGUGGAUUCG-----
15 0,0
-----GAAGUUGUUCGUGGUGGAUUCGu-----
2 0,0
-----AAGUUGUUCGUGGUGGAU-----
3 1,-3
-----AAGUUGUUCGUGGUGGAU-----
6 1,-2
-----AAGUUGUUCGUGGUGGAUUC-----
15 1,-1
-----AGUUGUUCGUGGUGGAU-----
10 2,-2
-----AGUUGUUCGUGGUGGAUUC-----

```


-1,2	
-----AGAUCAGAAGGUGAUUGU-----	8
0,-4	
-----AGAUCAGAAGGUGAUUGUG-----	10
0,-3	
-----AGAUCAGAAGGUGAUUGUGG-----	19
0,-2	
-----AGAUCAGAAGGUGAUUGUGGa-----	3
0,-2	
-----AGAUCAGAAGGUGAUUGUGGC-----	19
0,-1	
-----AGAUCAGAAGGUGAUUGUGGCa-----	24
0,-1	
-----AGAUCAGAAGGUGAUUGUGGCau-----	2
0,-1	
-----AGAUCAGAAGGUGAUUGUGGCCU-----	435
0,0	
-----AGAUCAGAAGGUGAUUGUGGCCUa-----	10
0,0	
-----AGAUCAGAAGGUGAUUGUGGCCUaa-----	13
0,0	
-----AGAUCAGAAGGUGAUUGUGGCCUau-----	25
0,0	
-----AGAUCAGAAGGUGAUUGUGGCCUU-----	407
0,1	
-----AGAUCAGAAGGUGAUUGUGGCCUua-----	20
0,1	
-----AGAUCAGAAGGUGAUUGUGGCCUUU-----	164
0,2	
-----AGAUCAGAAGGUGAUUGUGGCCUUUa-----	2
0,2	
-----GAUCAGAAGGUGAUUGUGG-----	2
1,-2	
-----GAUCAGAAGGUGAUUGUGGC-----	2
1,-1	
-----GAUCAGAAGGUGAUUGUGGCa-----	7
1,-1	
-----GAUCAGAAGGUGAUUGUGGCCU-----	17

```

1,0
-----GAUCAGAAGGUGAUUGUGGCUU----- 44
1,1
-----GAUCAGAAGGUGAUUGUGGCUUa----- 5
1,1
-----GAUCAGAAGGUGAUUGUGGCUUU----- 6
1,2

>hsa-mir-3909 3p:71-92 SRX018961
gguaugcuguugcgcuguccuuccucuggggagcaggcuccgggggacagggaagcacacaaggaacuUGUCCUCUAG
GGCCUGCAGUCUcauggggagagugacaugcaccaggacc
((((...(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))..))))).))))).))))).))))).))))).))))).))))).))))).))))).))))))
-----GAGCAGGCUCCGGGGGACAGG-----
----- 3
-----GAGCAGGCUCCGGGGGACAGGaa-----
----- 3
-----UGUCCUCUAG
GGCCUGCAGUCa----- 2 0,-1
-----UGUCCUCUAG
GGCCUGCAGUCUa----- 3 0,0

```

```
>hsa-mir-3910-1 3p:63-82 SRX018961
uuuuuugcugucaguuuuucuguugcuugucuugguuuuuugccuuuuauaucaaggcacauaAAAGGCAUAAAACCAAGA
CAagcaacaaaaaaaggauugaucacagaag
(((((((..(((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))....))))))))))..))))))
-----AAAAGGCAUAAAACCAAGA
CA----- 7 -1,0
-----AAAAGGCAUAAAACCAAGA
CAA----- 5 -1,1
```

[illegible]

-----AGAGGAAGAAAUGGCUGGUUCUCAG-----

4	0, -3	-AGGUUACCCGAGCAACUUUGa-
7	0, -3	-AGGUUACCCGAGCAACUUUGC-
9	0, -2	-AGGUUACCCGAGCAACUUUGCA-
432	0, -1	-AGGUUACCCGAGCAACUUUGCAa-
8	0, -1	-AGGUUACCCGAGCAACUUUGCAU-
512	0, 0	-AGGUUACCCGAGCAACUUUGCAUaa-
2	0, 0	-AGGUUACCCGAGCAACUUUGCAUu-
2	0, 0	-AGGUUACCCGAGCAACUUUGCAUC-
44	0, 1	-AGGUUACCCGAGCAACUUUGCAUCU-
6	0, 2	-GGUUACCCGAGCAACUUUGCA-
2	1, -1	-CGAAUGUUGCUCGGUGAA-
250	-1, -5	-CGAAUGUUGCUCGGUGAAa-
8	-1, -5	-CGAAUGUUGCUCGGUGAAC-
60	-1, -4	-CGAAUGUUGCUCGGUGAACC-
27	-1, -3	-CGAAUGUUGCUCGGUGAACCC-
15	-1, -2	-CGAAUGUUGCUCGGUGAACCCC-
21	-1, -1	-CGAAUGUUGCUCGGUGAACCCCU-
39	-1, 0	-CGAAUGUUGCUCGGUGAACCCCUau-
2	-1, 0	-CGAAUGUUGCUCGGUGAACCCCUU-


```

----- 345 0,-4
-----UGAGGGGCAGAGAGCGAGAAa-----
----- 405 0,-4
-----UGAGGGGCAGAGAGCGAGAAu-----
----- 15 0,-4
-----UGAGGGGCAGAGAGCGAGAAu-----
----- 77 0,-4
-----UGAGGGGCAGAGAGCGAGAAu-----
----- 14 0,-4
-----UGAGGGGCAGAGAGCGAGAC-----
----- 851 0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 61 0,-3
-----UGAGGGGCAGAGAGCGAGACaa-----
----- 22 0,-3
-----UGAGGGGCAGAGAGCGAGACau-----
----- 4 0,-3
-----UGAGGGGCAGAGAGCGAGACU-----
----- 1024 0,-2
-----UGAGGGGCAGAGAGCGAGACUa-----
----- 30 0,-2
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 27 0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 8 0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 938 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 188 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 21 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 14 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 5583 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 121 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----

```

```

----- 8 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 13 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 295 0,1
-----GAGGGGCAGAGAGCGAGA-----
----- 7 1,-4
-----GAGGGGCAGAGAGCGAGAC-----
----- 6 1,-3
-----GAGGGGCAGAGAGCGAGACa-----
----- 2 1,-3
-----GAGGGGCAGAGAGCGAGACU-----
----- 4 1,-2
-----GAGGGGCAGAGAGCGAGACUU-----
----- 9 1,-1
-----GAGGGGCAGAGAGCGAGACUUa-----
----- 7 1,-1
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 102 1,0
-----GAGGGGCAGAGAGCGAGACUUUa-----
----- 4 1,0
-----GAGGGGCAGAGAGCGAGACUUUaa-----
----- 2 1,0
-----GAGGGGCAGAGAGCGAGACUUUU-----
----- 9 1,1
-----AGGGGCAGAGAGCGAGACU-----
----- 7 2,-2
-----AGGGGCAGAGAGCGAGACUU-----
----- 5 2,-1
-----AGGGGCAGAGAGCGAGACUUa-----
----- 2 2,-1
-----AGGGGCAGAGAGCGAGACUUU-----
----- 13 2,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 21 2,1
-----AAAGCUCGGUCUGAGGCCCCUC-----
----- 2 -2,-3
-----AAAGCUCGGUCUGAGGCCCCUCA-----

```

----- 2 -2,-2	-----AAAGCUCGGUCUGAGGCCCCUCAGU-----
----- 2 -2,0	-----AAGCUCGGUCUGAGGCCCC-----
----- 15 -1,-5	-----AAGCUCGGUCUGAGGCCCCU-----
----- 37 -1,-4	-----AAGCUCGGUCUGAGGCCCCUa-----
----- 3 -1,-4	-----AAGCUCGGUCUGAGGCCCCUaa-----
----- 5 -1,-4	-----AAGCUCGGUCUGAGGCCCCUu-----
----- 5 -1,-4	-----AAGCUCGGUCUGAGGCCCCUC-----
----- 14 -1,-3	-----AAGCUCGGUCUGAGGCCCCUCA-----
----- 19 -1,-2	-----AAGCUCGGUCUGAGGCCCCUCAa-----
----- 6 -1,-2	-----AAGCUCGGUCUGAGGCCCCUCAu-----
----- 9 -1,-2	-----AAGCUCGGUCUGAGGCCCCUCAG-----
----- 38 -1,-1	-----AAGCUCGGUCUGAGGCCCCUCAGU-----
----- 99 -1,0	-----AAGCUCGGUCUGAGGCCCCUCAGUu-----
----- 12 -1,0	-----AGCUCGGUCUGAGGCCCC-----
----- 15 0,-5	-----AGCUCGGUCUGAGGCCCCU-----
----- 22 0,-4	-----AGCUCGGUCUGAGGCCCCUau-----
----- 4 0,-4	-----AGCUCGGUCUGAGGCCCCUu-----
----- 2 0,-4	-----AGCUCGGUCUGAGGCCCCUC-----
----- 29 0,-3	-----AGCUCGGUCUGAGGCCCCUCA-----

```

----- 39 0,-2
-----AGCUCGGUCUGAGGCCCCUCAa-----
----- 10 0,-2
-----AGCUCGGUCUGAGGCCCCUCAaa-----
----- 8 0,-2
-----AGCUCGGUCUGAGGCCCCUCAau-----
----- 5 0,-2
-----AGCUCGGUCUGAGGCCCCUCAu-----
----- 8 0,-2
-----AGCUCGGUCUGAGGCCCCUCAuu-----
----- 4 0,-2
-----AGCUCGGUCUGAGGCCCCUCAG-----
----- 115 0,-1
-----AGCUCGGUCUGAGGCCCCUCAGa-----
----- 8 0,-1
-----AGCUCGGUCUGAGGCCCCUCAGaa-----
----- 2 0,-1
-----AGCUCGGUCUGAGGCCCCUCAGU-----
----- 455 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUa-----
----- 31 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUaa-----
----- 5 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUau-----
----- 6 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUu-----
----- 52 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUuu-----
----- 5 0,0
-----GCUCGGUCUGAGGCCCCUCAGU-----
----- 2 1,0
-----CUCGGUCUGAGGCCCCUCAGU-----
----- 5 2,0

```

>hsa-mir-424 MA:11-32;mi:48-68 SRX018961

cgaggggaaCAGCAGCAAUUAUGUUUGAAguguucuaaugguuCAAAACGUGAGGCGCUGCUAUacccccucgugg
ggaagguagaaggugggg

(((((.((.(((((.(((((((((((((.((.....)).))))))))))))).))))).)).))))))...


```

.....
-----ACAGCAGCAAUUC AUGUUUUG-----
-----6    -1,-2
-----ACAGCAGCAAUUC AUGUUUUGA-----
-----5    -1,-1
-----CAGCAGCAAUUC AUGUUU-----
-----9    0,-4
-----CAGCAGCAAUUC AUGUUUU-----
-----11   0,-3
-----CAGCAGCAAUUC AUGUUUUG-----
-----490  0,-2
-----CAGCAGCAAUUC AUGUUUUGA-----
-----801  0,-1
-----CAGCAGCAAUUC AUGUUUUGAu-----
-----2    0,-1
-----CAGCAGCAAUUC AUGUUUUGAA-----
-----509  0,0
-----CAGCAGCAAUUC AUGUUUUGAAa-----
-----55   0,0
-----CAGCAGCAAUUC AUGUUUUGAAu-----
-----9    0,0
-----AGCAGCAAUUC AUGUUUUG-----
-----16   1,-2
-----AGCAGCAAUUC AUGUUUUGA-----
-----48   1,-1
-----AGCAGCAAUUC AUGUUUUGAA-----
-----12   1,0
-----UCAAAACGUGAGGCGCUGCUAU-----
-----2    -1,0
-----CAAAACGUGAGGCGCUGCU-----
-----29   0,-2
-----CAAAACGUGAGGCGCUGCUu-----
-----5    0,-2
-----CAAAACGUGAGGCGCUGCUA-----
-----146  0,-1
-----CAAAACGUGAGGCGCUGCUAa-----
-----6    0,-1
-----CAAAACGUGAGGCGCUGCUAaa-----

```

```

----- 2 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 910 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 29 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 425 0,1
-----CAAAACGUGAGGCGCUGCUAUa-----
----- 48 0,1
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 12 0,1
-----AAAACGUGAGGCGCUGCUAU-----
----- 24 1,0
-----AAAACGUGAGGCGCUGCUAUA-----
----- 12 1,1
-----AAAACGUGAGGCGCUGCUAUu-----
----- 7 1,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018961

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAAUGUCGUGUCCGCCcagug
cucuuc

(((((.(.(((...(((((((.(.(((((.(((((...))....))))).))))).))))))....)))

```

-----AAUGACACGAUCACUCCCG-----
----- 3 0,-4
-----AAUGACACGAUCACUCCCGUU-----
----- 8 0,-2
-----AAUGACACGAUCACUCCCGUUG-----
----- 20 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 102 0,0
-----AAUGACACGAUCACUCCCGUUGa-----
----- 4 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 14 0,1
-----AAUGACACGAUCACUCCCGUUGAGU-----
----- 10 0,2
-----AUGACACGAUCACUCCCGUUG-----

```

```

----- 6   1,-1
-----AUGACACGAUCACUCCCGUUGA-----
----- 14  1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 4   1,1
-----AUGACACGAUCACUCCCGUUGAGU-----
----- 2   1,2
-----CCAUCGGGAAUGUCGUGUC-----
----- 3   -2,-5
-----CCAUCGGGAAUGUCGUGUCCG-----
----- 2   -2,-3
-----CAUCGGGAAUGUCGUGUCa-----
----- 3   -1,-5
-----CAUCGGGAAUGUCGUGUCC-----
----- 3   -1,-4
-----CAUCGGGAAUGUCGUGUCCG-----
----- 2   -1,-3
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 2   -1,-2
-----CAUCGGGAAUGUCGUGUCCGCa-----
----- 2   -1,-2
-----CAUCGGGAAUGUCGUGUCCGcu-----
----- 2   -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 21  -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCau-----
----- 3   -1,-1
-----AUCGGGAAUGUCGUGUCC-----
----- 5   0,-4
-----AUCGGGAAUGUCGUGUCCG-----
----- 3   0,-3
-----AUCGGGAAUGUCGUGUCCGu-----
----- 2   0,-3
-----AUCGGGAAUGUCGUGUCCGC-----
----- 3   0,-2
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 12  0,-1
-----AUCGGGAAUGUCGUGUCCGCCcu-----

```

----- 2 0,0

>hsa-mir-4286 5p:11-27 SRX018961

uacuuauaggcACCCCACUCCUGGUACCAuagucuaaaguuaggagauguuagagcugugaguaccaugacuuaagugugg
uggcuaaaacaug

...(((.(.(((.((((.((((((((((.(((((((....)))))).)))))).)))))).))....))))))
)..)))).

-----ACCCCACUCCUGGUACCA-----

----- 2 0,1

-----ACCCCACUCCUGGUACCAUu-----

----- 3 0,2

>hsa-mir-429 3p:51-72 SRX018961

cgccggccgaugggcgucuuaccagacaugguuagaccuggcccucugucUAAUACUGUCUGGUAAAACCGUccaucgc
ugc

...(((.(.((((((.((((((((((.(((((((.....)))))))))).)))))).))....))))))
)..).

-----CUAAUACUGUCUGGUAAAACCG-----

--- 2 -1,-1

-----CUAAUACUGUCUGGUAAAACCGU-----

--- 3 -1,0

-----UAAUACUGUCUGGUAAAA-----

--- 2 0,-4

-----UAAUACUGUCUGGUAAAAC-----

--- 3 0,-3

-----UAAUACUGUCUGGUAAAACC-----

--- 2 0,-2

-----UAAUACUGUCUGGUAAAACCG-----

--- 94 0,-1

-----UAAUACUGUCUGGUAAAACCGa-----

--- 25 0,-1

-----UAAUACUGUCUGGUAAAACCGU-----

--- 195 0,0

-----AAUACUGUCUGGUAAAACCGU-----

--- 3 1,0

-----AUACUGUCUGGUAAAACCGU-----

--- 4 2,0

```

>hsa-mir-4306    3p:65-81    SRX018961
aagcugcuuaguguccuagagucuccagaggcaucccuaaccagaaucuuuugacuguccucUGGAGAGAAAGGCAGU
Aggucuguacc
..((.((((((.(((.....((((((((((((((((.....)))))))))))).)))))))).)
)))))))).)
-----UGGAGAGAAAGGCAGU
AG----- 3    0,1

```

```

>hsa-mir-431     MA:20-40;mi:63-84    SRX018961
uccugcuuguccugcgaggUGUCUUGCAGGCCGUAUGCAggccacacugacgguaacguugCAGGUCGUCUUGCAGGGC
UUCUcgcaagacgacauccucaaccaacgacg
...((.((((((.((((((((((((((((.....)))))))))))).)))))))).)
)))))))).)
-----UGCAGGUCGUCUUGCAGGGC
UUu----- 2    -2,-2

```

```

>hsa-mir-432     MA:14-36;mi:62-82    SRX018961
ugacuccuccaggUCUUGGAGUAGGUCAUUGGGUGGauccucuauuuccuuacgugggccuUGGAUGGCUCCUCCAUGU
CUuggaguagauca
.((((((.((((((.(((.....)))))))))))).)))))))).)
)))))))).)
-----UCUUGGAGUAGGUCAUUG-----
----- 45    0,-5
-----UCUUGGAGUAGGUCAUUGaa-----
----- 5    0,-5
-----UCUUGGAGUAGGUCAUUGG-----
----- 204    0,-4
-----UCUUGGAGUAGGUCAUUGGa-----
----- 5    0,-4
-----UCUUGGAGUAGGUCAUUGGaa-----
----- 6    0,-4
-----UCUUGGAGUAGGUCAUUGGG-----
----- 393    0,-3
-----UCUUGGAGUAGGUCAUUGGGa-----
----- 23    0,-3
-----UCUUGGAGUAGGUCAUUGGGaa-----
----- 6    0,-3
-----UCUUGGAGUAGGUCAUUGGGU-----

```

```

----- 195 0,-2
-----UCUUGGAGUAGGUCAUUGGGUa-----
----- 28 0,-2
-----UCUUGGAGUAGGUCAUUGGGUaa-----
----- 23 0,-2
-----UCUUGGAGUAGGUCAUUGGGUau-----
----- 18 0,-2
-----UCUUGGAGUAGGUCAUUGGGUu-----
----- 2 0,-2
-----UCUUGGAGUAGGUCAUUGGGUG-----
----- 127 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGa-----
----- 32 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGau-----
----- 5 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 75 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 65 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGu-----
----- 9 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGuu-----
----- 3 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGA-----
----- 3 0,1
-----CUUGGAGUAGGUCAUUGGGUGa-----
----- 2 1,-1
-----CUUGGAGUAGGUCAUUGGGUGu-----
----- 3 1,-1
-----CUUGGAGUAGGUCAUUGGGUGGu-----
----- 2 1,0
-----UUGGAGUAGGUCAUUGGGUG-----
----- 2 2,-1

```

>hsa-mir-4326 5p:11-30 SRX018961

gcugcucugcUGUUCCUCUGUCUCCCAGACucugggguggauggagcaggucggggggcca

((((...((((((((...((((((((...)))))))))...))))))...))..

```

-----UGUUCCUCUGUCUCCCAGA----- 2 0,-1

```

```

-----UGUUCCUCUGUCUCCCAGACU----- 12 0,1
-----UGUUCCUCUGUCUCCCAGACUC----- 4 0,2
-----UGUUCCUCUGUCUCCCAGACUCU----- 9 0,3
-----UGUUCCUCUGUCUCCCAGACUCUGu----- 3 0,4

```

>hsa-mir-433 3p:64-85 SRX018961

ccggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg

((..(((((((...(((.(((((((((((.(((((.(((((.)))))))).)).....)))))).)))))))).))
)...)))))))).))

```

-----AUCAUGAUGGGCUCCUC
G----- 6 0,-4
-----AUCAUGAUGGGCUCCUC
GG----- 6 0,-3
-----AUCAUGAUGGGCUCCUC
GGUG----- 15 0,-1
-----AUCAUGAUGGGCUCCUC
GGUGa----- 13 0,-1
-----AUCAUGAUGGGCUCCUC
GGUGU----- 192 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUa----- 19 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUaa----- 7 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUau----- 9 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUU----- 14 0,1
-----UCAUGAUGGGCUCCUC
GGUG----- 4 1,-1
-----UCAUGAUGGGCUCCUC
GGUGa----- 2 1,-1
-----UCAUGAUGGGCUCCUC
GGUGU----- 12 1,0
-----UCAUGAUGGGCUCCUC
GGUGUU----- 2 1,1

```

>hsa-mir-448 3p:71-92 SRX018961

>hsa-mir-450b 5p:11-32;3p:48-69 SRX018961

```
gcagaauuauUUUUGCAAUAUGUUCCUGAAUAuguaauuaaguguaUUGGGAUCAUUUUGCAUCCAUAguuuugua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UUUUGCAAUAUGUUCCUG-----
9 0,-4
-----UUUUGCAAUAUGUUCCUGA-----
6 0,-3
-----UUUUGCAAUAUGUUCCUGAA-----
22 0,-2
-----UUUUGCAAUAUGUUCCUGAAU-----
10 0,-1
-----UUUUGCAAUAUGUUCCUGAAUA-----
24 0,0
-----UUUUGCAAUAUGUUCCUGAAUAa-----
9 0,0
-----UUGCAAUAUGUUCCUGAA-----
2 2,-2
-----UUGCAAUAUGUUCCUGAAU-----
2 2,-1
```

>hsa-mir-451 5p:17-38 SRX018961

```
cuugggaugggcaaggAAACCGUUACCAUACUGAGUUuaguaaugguaauggguucucuugcuauaccaga
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAACCGUUACCAUACUG----- 28
0,-4
-----AAACCGUUACCAUACUGA----- 14
0,-3
-----AAACCGUUACCAUACUGAG----- 220
0,-2
-----AAACCGUUACCAUACUGAGU----- 145
0,-1
-----AAACCGUUACCAUACUGAGUU----- 1223
0,0
-----AAACCGUUACCAUACUGAGUUa----- 2
0,0
-----AAACCGUUACCAUACUGAGUUU----- 309
0,1
```

0,2	-----AAACCGUUACCAUUACUGAGUUUA-----	34
0,3	-----AAACCGUUACCAUUACUGAGUUUAG-----	29
1,-1	-----AACCGUUACCAUUACUGAGU-----	4
1,0	-----AACCGUUACCAUUACUGAGUU-----	3
1,1	-----AACCGUUACCAUUACUGAGUUU-----	5

>hsa-mi r-452 MA:14-35;mi :58-79 SRX018961

gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc

$$(((.((((((((((\dots(.(((((((((.((((((((((\dots\dots\dots)))))))).).)))))))).).)))))))).))$$

-----	-AACUGUUUGCAGAGGAAA-	-----
-----	7 0,-4	
-----	-AACUGUUUGCAGAGGAAAC-	-----
-----	27 0,-3	
-----	-AACUGUUUGCAGAGGAAACU-	-----
-----	98 0,-2	
-----	-AACUGUUUGCAGAGGAAACUG-	-----
-----	20 0,-1	
-----	-AACUGUUUGCAGAGGAAACUGA-	-----
-----	34 0,0	
-----	-AACUGUUUGCAGAGGAAACUGAa-	-----
-----	10 0,0	
-----	-AACUGUUUGCAGAGGAAACUGAG-	-----
-----	23 0,1	
-----	-AACUGUUUGCAGAGGAAACUGAGA-	-----
-----	17 0,2	
-----	-AACUGUUUGCAGAGGAAACUGAGAu-	-----
-----	2 0,2	

>hsa-mi r-455 5p:16-37;3p:54-74 SRX018961

ucccuggcgugagggUAUGGCCUUGGACUACAUCGuggaagccagcaccauGCAGUCCAUGGGCAUUAACACuugccu
caaggccuaugucauc

```

-----GUAUGGCCUUUGGACUA-----
-----6-1,-5-----
-----GUAUGGCCUUUGGACUAu-----
-----2-1,-5-----
-----GUAUGGCCUUUGGACUAC-----
-----13-1,-4-----
-----GUAUGGCCUUUGGACUACA-----
-----12-1,-3-----
-----GUAUGGCCUUUGGACUACAU-----
-----34-1,-2-----
-----GUAUGGCCUUUGGACUACAUu-----
-----2-1,-2-----
-----GUAUGGCCUUUGGACUACAUC-----
-----5-1,-1-----
-----GUAUGGCCUUUGGACUACAUCG-----
-----4-1,0-----
-----GUAUGGCCUUUGGACUACAUCGU-----
-----30-1,1-----
-----UAUGGCCUUUGGACUACA-----
-----110,-3-----
-----UAUGGCCUUUGGACUACAUC-----
-----180,-1-----
-----UAUGGCCUUUGGACUACAUCG-----
-----610,0-----
-----UAUGGCCUUUGGACUACAUCGa-----
-----50,0-----
-----UAUGGCCUUUGGACUACAUCGU-----
-----190,1-----
-----UAUGGCCUUUGGACUACAUCGUG-----
-----40,2-----
-----AUGUGCCUUUGGACUACAUCG-----
-----51,0-----
-----UGUGCCUUUGGACUACAUCGU-----
-----102,1-----
-----UGUGCCUUUGGACUACAUCGUG-----
-----152,2-----

```

-----	-UGUGCCUUUGGACUACAUCGUGa-	-----
-----	8 2,2	
-----	-UGUGCCUUUGGACUACAUCGUGaa-	-----
-----	5 2,2	
-----	-UGUGCCUUUGGACUACAUCGUGu-	-----
-----	8 2,2	
-----		-----AUGCAGUCCAUGGGCAUAUA-
-----	2 -2,-3	
-----		-----AUGCAGUCCAUGGGCAUAUAC-
-----	3 -2,-2	
-----		-----AUGCAGUCCAUGGGCAUAUACA-
-----	8 -2,-1	
-----		-----AUGCAGUCCAUGGGCAUAUACAC-
-----	3 -2,0	
-----		-----UGCAGUCCAUGGGCAUAUACA-
-----	25 -1,-1	
-----		-----UGCAGUCCAUGGGCAUAUACAC-
-----	11 -1,0	
-----		-----GCAGUCCAUGGGCAUAUAC-
-----	4 0,-2	
-----		-----GCAGUCCAUGGGCAUAUACA-
-----	50 0,-1	
-----		-----GCAGUCCAUGGGCAUAUACa-
-----	2 0,-1	
-----		-----GCAGUCCAUGGGCAUAUACauu-
-----	5 0,-1	
-----		-----GCAGUCCAUGGGCAUAUACAC-
-----	76 0,0	
-----		-----GCAGUCCAUGGGCAUAUACACa-
-----	10 0,0	
-----		-----GCAGUCCAUGGGCAUAUACACU-
-----	36 0,1	
-----		-----GCAGUCCAUGGGCAUAUACACUa-
-----	3 0,2	
-----		-----CAGUCCAUGGGCAUAUACACa-
-----	3 1,0	
-----		-----CAGUCCAUGGGCAUAUACACU-
-----	3 1,1	


```

-----UCAGGCUCAGUCCCCUCCCGAa-----
17  0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
9   0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
42  0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
12  0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
2   0,1
-----UCAGGCUCAGUCCCCUCCCGAUAa-----
2   0,2
-----AGGCUCAGUCCCCUCCCGAU-----
8   2,0

```

>hsa-mir-485 5p:9-30;3p:46-67 SRX018961

```

acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((...(((((((...(((((((((((...((((((((((((((((((((((((((((((((((((((((((((
-----AGAGGCUGGCCGUGAUGA----- 33
0,-4
-----AGAGGCUGGCCGUGAUGAA----- 59
0,-3
-----AGAGGCUGGCCGUGAUGAAU----- 58
0,-2
-----AGAGGCUGGCCGUGAUGAAUU----- 1485
0,-1
-----AGAGGCUGGCCGUGAUGAAUUa----- 9
0,-1
-----AGAGGCUGGCCGUGAUGAAUUau----- 2
0,-1
-----AGAGGCUGGCCGUGAUGAAUUu----- 13
0,-1
-----AGAGGCUGGCCGUGAUGAAUUC----- 630
0,0
-----AGAGGCUGGCCGUGAUGAAUUCa----- 3
0,0
-----AGAGGCUGGCCGUGAUGAAUUCaa----- 3
0,0

```


Sequence	Count
AGAGGCUGGCCGUGAUGAAUUCu	31
0,0	
AGAGGCUGGCCGUGAUGAAUUCG	690
0,1	
AGAGGCUGGCCGUGAUGAAUUCGu	161
0,1	
AGAGGCUGGCCGUGAUGAAUUCGuu	7
0,1	
AGAGGCUGGCCGUGAUGAAUUCGA	119
0,2	
AGUCAUACACGGCUCUCCUCUCa	3
-1,-1	
AGUCAUACACGGCUCUCCUCUCU	18
-1,0	
GUCAUACACGGCUCUCCUCUCU	3
0,-2	
GUCAUACACGGCUCUCCUCUC	2
0,-1	
GUCAUACACGGCUCUCCUCUCa	5
0,-1	
GUCAUACACGGCUCUCCUCUCU	27
0,0	
GUCAUACACGGCUCUCCUCUCUau	2
0,0	

---UCCUGUACUGAGCUGCCCCGu-----	8	0,-2
---UCCUGUACUGAGCUGCCCCGA-----	3148	
0,-1		
---UCCUGUACUGAGCUGCCCCGAa-----	267	0,-1
---UCCUGUACUGAGCUGCCCCGAaa-----	10	0,-1
---UCCUGUACUGAGCUGCCCCGAau-----	3	0,-1
---UCCUGUACUGAGCUGCCCCGAu-----	56	0,-1
---UCCUGUACUGAGCUGCCCCGAG-----	7333	
0,0		
---UCCUGUACUGAGCUGCCCCGAGa-----	2265	
0,0		
---UCCUGUACUGAGCUGCCCCGAGaa-----	63	0,0
---UCCUGUACUGAGCUGCCCCGAGau-----	30	0,0
---UCCUGUACUGAGCUGCCCCGAGu-----	271	0,0
---UCCUGUACUGAGCUGCCCCGAGuu-----	5	0,0
---UCCUGUACUGAGCUGCCCCGAGG-----	17	0,1
---UCCUGUACUGAGCUGCCCCGAGGa-----	48	0,1
---UCCUGUACUGAGCUGCCCCGAGGaa-----	3	0,1
---UCCUGUACUGAGCUGCCCCGAGGC-----	2	0,2
-----CUGUACUGAGCUGCCCCG-----	3	2,-2
-----CUGUACUGAGCUGCCCCGA-----	56	2,-1
-----CUGUACUGAGCUGCCCCGAa-----	6	2,-1
-----CUGUACUGAGCUGCCCCGAG-----	124	2,0
-----CUGUACUGAGCUGCCCCGAGa-----	27	2,0
-----CUGUACUGAGCUGCCCCGAGu-----	3	2,0
-----UCCGGGCAGCUCAGUACAGGAU--	3	-1,0
-----CGGGGCAGCUCAGUACAGGA---	3	0,-1
-----CGGGGCAGCUCAGUACAGGAU--	18	0,0
-----CGGGGCAGCUCAGUACAGGAUu-	6	0,0
-----CGGGGCAGCUCAGUACAGGAUA-	18	0,1
-----GGGGCAGCUCAGUACAGGAU--	2	1,0

>hsa-mir-487a 3p:49-70 SRX018961

gguacuugaagagugguauccugcuguguuucgcuaauuuangacgAAUCAUACAGGGACAUCCAGUuuucaguauc
 ((((((.((((.((((...((((((.((((((((.((((.....)))))))).)))))))).))))).))))))
 -----GUGGUUAUCCCUGCUGUGUUC-----
 7
 -----GUGGUUAUCCCUGCUGUGUUCG-----

6

-----GUGGUUAUCCUGCUGUGUUCGa-----

2

>hsa-mir-487b 3p:51-72 SRX018961

uugguacuuggagagugguuaucuccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUuuucagua
ucaa

.(((((((...(((((((...(((((((...(((((((...)))))).)))))).)))))).))))).
))).

-----AAUCGUACAGGGUCAUCCACU-----

---- 17 0,-1

-----AAUCGUACAGGGUCAUCCACUU-----

---- 19 0,0

-----UCGUACAGGGUCAUCCACUUU-----

---- 3 2,1

>hsa-mir-488 mi:14-34;MA:52-72 SRX018961

gagaaucaucucuCCCAGAUAAUGGCACUCUCAAacaaguuuccaaauuguUUGAAAGGCUAUUUCUUGGUCagaugacu
cuc

(((((.(((((((...(((((((...(((((((...(((((((...)))))).)))))).)))))).))))).
)))

-----CCCAGAUAAUGGCACUCUCA-----

--- 2 0,-1

-----CCCAGAUAAUGGCACUCUCAAAC-----

--- 6 0,2

-----UUUGAAAGGCUAUUUCUUGGU-----

--- 2 -1,-1

-----UUGAAAGGCUAUUUCUUGGU-----

--- 3 0,-1

>hsa-mir-489 3p:52-73 SRX018961

guggcagcuugggugucguaugugugacgccauuuacuugaaccuuuaggaGUGACAUCACAUAUACGGCAGCuaaacug
cuac

(((((((((.(((((((...(((((((...(((((((...(((((((...)))))).)))))).)))))).))))).
)))

-----UGGUCGUAUGUGUGACGCCAUU-----

---- 3


```

----- 2 1,0
-----UGAAGGUCUACUGUGUGC-----
----- 28 0,-4
-----UGAAGGUCUACUGUGUGCu-----
----- 2 0,-4
-----UGAAGGUCUACUGUGUGCC-----
----- 5 0,-3
-----UGAAGGUCUACUGUGUGCCA-----
----- 8 0,-2
-----UGAAGGUCUACUGUGUGCCa-----
----- 6 0,-2
-----UGAAGGUCUACUGUGUGCCAG-----
----- 47 0,-1
-----UGAAGGUCUACUGUGUGCCAGa-----
----- 49 0,-1
-----UGAAGGUCUACUGUGUGCCAGaa-----
----- 22 0,-1
-----UGAAGGUCUACUGUGUGCCAGu-----
----- 18 0,-1
-----UGAAGGUCUACUGUGUGCCAGuu-----
----- 6 0,-1
-----UGAAGGUCUACUGUGUGCCAGG-----
----- 47 0,0
-----UGAAGGUCUACUGUGUGCCAGGa-----
----- 40 0,0
-----UGAAGGUCUACUGUGUGCCAGGaa-----
----- 3 0,0
-----UGAAGGUCUACUGUGUGCCAGGu-----
----- 14 0,0
-----UGAAGGUCUACUGUGUGCCAGGuu-----
----- 2 0,0

```

>hsa-mir-494 3p:48-69 SRX018961

```

gauacucgaaggagagguuguccguguugucuucucuuaauuuuangaUGAAACAUACACGGGAAACCUuuuuuuaguau
c
(((((((.(((((((((((((.(((((((((.(((((.)))))).)))))).)))))).))))))
)
-----AGAGGUUGUCCGUGUUGUCU-----

```


-----UGAGUAUUACAUGGCCAAUCU-----
 ----- 3 0,-1 -----
 -----UGAGUAUUACAUGGCCAAUCUC-----
 ----- 6 0,0 -----

ccaccccgguccugcucccgcccCAGCAGCACACUGUGGUUUGUacggcacuguggccacgucCAAACCACACUGUGGUG
UUAGAgcgagggugggggaggcaccgccgagg
((.((.(((((((.((((((((((((((.(((.((((((((((.(((((.)))..)).)))))))).).)))..))
)).).)))))))).))))).)))..).))

CAGCAGCACACUGUGGUU-	8	0,-3
CAGCAGCACACUGUGGUUa-	8	0,-3
CAGCAGCACACUGUGGUUU-	40	0,-2
CAGCAGCACACUGUGGUUUG-	61	0,-1
CAGCAGCACACUGUGGUUUGU-	200	0,0
CAGCAGCACACUGUGGUUUGUA-	81	0,1
CAGCAGCACACUGUGGUUUGUAa-	19	0,1
CAGCAGCACACUGUGGUUUGUAaa-	2	0,1
CAGCAGCACACUGUGGUUUGUAu-	14	0,1
CAGCAGCACACUGUGGUUUGUAC-	2	0,2
AGCAGCACACUGUGGUUU-	37	1,-2
AGCAGCACACUGUGGUUUG-	60	1,-1
AGCAGCACACUGUGGUUUGU-	37	1,0
AGCAGCACACUGUGGUUUGUA-		


```

----- 34 1,1
-----AGCAGCACACUGUGGUUUGUAa-----
----- 16 1,1
-----AGCAGCACACUGUGGUUUGUAu-----
----- 6 1,1
-----AGCAGCACACUGUGGUUUGUAC-----
----- 5 1,2
-----AGCAGCACACUGUGGUUUGUACa-----
----- 2 1,2
-----AGCAGCACACUGUGGUUUGUACG-----
----- 2 1,3

```

```

>hsa-mir-499 5p:33-53;3p:70-91 SRX018961
gccucgucuccugugccuugggcgggcggcgUUAAGACUUGCAGUGAUGUUUaacuccucuccacgugAACAUACAGC
AAGUCUGUGCUgcuucccgucccuacgcugccugggcagggg
((((((((.....((...(((((((.....((((((((.....))))))))))))))))))
))))))..)).)).)).)).)).)).)).)).)).)).)).)).)).)).))
-----UUAAGACUUGCAGUGAUGU-----
----- 3 0,-2
-----UUAAGACUUGCAGUGAUGUU-----
----- 4 0,-1
-----UUAAGACUUGCAGUGAUGUUa-----
----- 3 0,-1
-----UUAAGACUUGCAGUGAUGUUU-----
----- 144 0,0
-----UUAAGACUUGCAGUGAUGUUUA-----
----- 57 0,1

```

```

>hsa-mir-500a MA:13-35;mi:52-73 SRX018961
gcucuccucUAAUCCUUGCUACCUGGGUGAGAgugcugucugaaugcaAUGCACCUGGGCAAGGAUUCUGagagcga
gagc
((((((.....((((((((.....((...((.....))))))..))))))..))))))..)).
))))
-----UAAUCCUUGCUACCUGGG-----
----- 2 0,-5
-----UAAUCCUUGCUACCUGGGUGAGA-----
----- 4 0,0
-----AAUGCACCUGGGCAAGGA-----

```

```

---- 46 -1,-5
-----AAUGCACCUGGGCAAGGAU-----
---- 49 -1,-4
-----AAUGCACCUGGGCAAGGAUU-----
---- 199 -1,-3
-----AAUGCACCUGGGCAAGGAUUC-----
---- 30 -1,-2
-----AAUGCACCUGGGCAAGGAUUCU-----
---- 3 -1,-1
-----AAUGCACCUGGGCAAGGAUUCUGAa-----
---- 3 -1,1
-----AUGCACCUGGGCAAGGAU-----
---- 93 0,-4
-----AUGCACCUGGGCAAGGAUU-----
---- 681 0,-3
-----AUGCACCUGGGCAAGGAUUC-----
---- 90 0,-2
-----AUGCACCUGGGCAAGGAUUCU-----
---- 24 0,-1
-----AUGCACCUGGGCAAGGAUUCUaa-----
---- 3 0,-1
-----AUGCACCUGGGCAAGGAUUCUG-----
---- 12 0,0
-----AUGCACCUGGGCAAGGAUUCUGu-----
---- 3 0,0
-----AUGCACCUGGGCAAGGAUUCUGA-----
---- 118 0,1
-----AUGCACCUGGGCAAGGAUUCUGAa-----
---- 10 0,1
-----UGCACCUGGGCAAGGAUU-----
---- 4 1,-3

```

>hsa-mir-500b 5p:11-28 SRX018961

```

ccccucucuAAUCCUUGCUACCUGGGUgagagugcuuucugaaugcagugcaccagggaaggauucugcaaggggga
((((((..((((((((((..((((((((..((((((((..((((((((..((((((((..((((((((..((((((((..
-----UAAUCCUUGCUACCUGGG-----
2 -1,-1
-----UAAUCCUUGCUACCUGGGUGAGA-----

```

```

4   -1,4
-----AGUGCACCCAGGCAAGGA-----
9
-----AGUGCACCCAGGCAAGGAUU-----
2

>hsa-mir-501    5p:14-35;3p:51-72    SRX018961
gcucuuccucucuAAUCCUUUGUCCCUGGGUGAGAgugcuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagagggg
gagc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAUGCACCCGGGCAAGGA-----
---- 32  0,-4
-----AAUGCACCCGGGCAAGGAU-----
---- 37  0,-3
-----AAUGCACCCGGGCAAGGAUa-----
---- 2   0,-3
-----AAUGCACCCGGGCAAGGAUU-----
---- 137 0,-2
-----AAUGCACCCGGGCAAGGAUUC-----
---- 12  0,-1
-----AAUGCACCCGGGCAAGGAUUCa-----
---- 2   0,-1
-----AAUGCACCCGGGCAAGGAUUCU-----
---- 7   0,0
-----AUGCACCCGGGCAAGGAUU-----
---- 13  1,-2

```

```

>hsa-mir-502    5p:16-36;3p:52-73    SRX018961
ugcucucccucucuaAUCCUUGCUAUCUGGGUGCUAgugcuggcucaaugcAAUGCACCUGGGCAAGGAUUCAgagaggg
ggagcu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAUGCACCUGGGCAAGGA-----
----- 46  0,-4
-----AAUGCACCUGGGCAAGGAU-----
----- 49  0,-3
-----AAUGCACCUGGGCAAGGAUU-----

```

```

----- 199 0,-2
-----AAUGCACCUGGGCAAGGAUUC-----
----- 30 0,-1
-----AAUGCACCUGGGCAAGGAUUC-----
----- 12 0,0
-----AAUGCACCUGGGCAAGGAUUCAG-----
----- 23 0,1
-----AAUGCACCUGGGCAAGGAUUCAGu-----
----- 5 0,1
-----AUGCACCUGGGCAAGGAU-----
----- 93 1,-3
-----AUGCACCUGGGCAAGGAU-----
----- 681 1,-2
-----AUGCACCUGGGCAAGGAUUC-----
----- 90 1,-1
-----AUGCACCUGGGCAAGGAUUC-----
----- 3 1,0
-----UGCACCUGGGCAAGGAU-----
----- 4 2,-2

```

>hsa-mir-503 5p:6-28 SRX018961

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgauccggugcucugggguaauuguuuuccgcugccagggua
(((((((.(((((((((((((((.((.((.((((((.....)))))))).)).)))))))).))))))

```

```

-----UAGCAGCGGGAACAGUUC----- 1795
0,-5
-----UAGCAGCGGGAACAGUUCa----- 44 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 65 0,-5
-----UAGCAGCGGGAACAGUUCU----- 2033
0,-4
-----UAGCAGCGGGAACAGUUCUa----- 103 0,-4
-----UAGCAGCGGGAACAGUUCUaa----- 248 0,-4
-----UAGCAGCGGGAACAGUUCUau----- 2 0,-4
-----UAGCAGCGGGAACAGUUCUG----- 212 0,-3
-----UAGCAGCGGGAACAGUUCUGa----- 16 0,-3
-----UAGCAGCGGGAACAGUUCUGaa----- 70 0,-3
-----UAGCAGCGGGAACAGUUCUGC----- 6 0,-2
-----UAGCAGCGGGAACAGUUCUGCA----- 69 0,-1
-----UAGCAGCGGGAACAGUUCUGCAa----- 18 0,-1

```

```

-----UAGCAGCGGGAACAGUUCUGCAaa----- 7 0,-1
-----UAGCAGCGGGAACAGUUCUGCAu----- 15 0,-1
-----UAGCAGCGGGAACAGUUCUGCAG----- 279 0,0
-----UAGCAGCGGGAACAGUUCUGCAGa----- 15 0,0
-----UAGCAGCGGGAACAGUUCUGCAGU----- 7 0,1
-----AGCAGCGGGAACAGUUCU----- 4 1,-4
-----AGCAGCGGGAACAGUUCUGCAG----- 9 1,0
-----AGCAGCGGGAACAGUUCUGCAGaa----- 2 1,0
-----GGGUAAUUGUUUCCGCUGCCAGG--- 6
-----GGGUAAUUGUUUCCGCUGCCAG--- 2

```

```

>hsa-mir-504 5p:13-34 SRX018961
gcugcuguugggAGACCCUGGUCUGCACUCUAUCuguaauucuacugaaggagugcagggcaggguuuccauacagag
ggc
(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----AGACCCUGGUCUGCACUC-----
--- 3 0,-4
-----AGACCCUGGUCUGCACUCUAU-----
--- 41 0,-1
-----AGACCCUGGUCUGCACUCUAUu-----
--- 3 0,-1
-----AGACCCUGGUCUGCACUCUAUC-----
--- 29 0,0
-----AGACCCUGGUCUGCACUCUAUCa-----
--- 4 0,0
-----AGACCCUGGUCUGCACUCUAUCU-----
--- 3 0,1
-----GACCCUGGUCUGCACUCUAU-----
--- 4 1,-1
-----GACCCUGGUCUGCACUCUAUC-----
--- 13 1,0
-----GACCCUGGUCUGCACUCUAUCa-----
--- 2 1,0
-----GACCCUGGUCUGCACUCUAUCUGU-----
--- 3 1,3
-----AGGGAGUGCAGGGCAGGGUUU-----
--- 2

```

-----AGGGAGUGCAGGGCAGGGUUUCu-----
--- 3

>hsa-mir-505 mi:15-36;MA:51-72 SRX018961

gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc

(((((...(((.((((((((((.(((.((((((((.....)))))))).)))))).)))))).))))))

-----GGGAGCCAGGAAGUAUUGAU-----

---- 2 0,-2

-----GGGAGCCAGGAAGUAUUGAUG-----

---- 4 0,-1

-----GGGAGCCAGGAAGUAUUGAUGU-----

---- 49 0,0

-----GGGAGCCAGGAAGUAUUGAUGUa-----

---- 7 0,0

-----GGGAGCCAGGAAGUAUUGAUGUU-----

---- 92 0,1

-----GGGAGCCAGGAAGUAUUGAUGUUU-----

---- 7 0,2

-----GGAGCCAGGAAGUAUUGAUGUUU-----

---- 2 1,2

-----GUCAACACUUGCUGGUUCCUC-----

---- 6 1,1

-----UCAACACUUGCUGGUUCCUCa-----

---- 2 2,1

>hsa-mir-508 5p:26-48;3p:61-83 SRX018961

ccaccuucagcugaguguagugcccUACUCCAGAGGGCGUCACUCAUGuaaacuaaaacaUGAUUGUAGCCUUUUGGAGU
AGAguaauacacauacgaaacgcauuuuggugg

(((((...(((((((((((((.(((.((((((((((((((...(((.((((((((.....)))))))).)))))).))))))

-----UGAUUGUAGCCUUUUGGAGU

AG----- 8 0,-1

-----UGAUUGUAGCCUUUUGGAGU

AGA----- 11 0,0

>hsa-mir-509-1 5p:20-40;3p:55-76 SRX018961

```

caugcugugugugguacccUACUGCAGACAGUGGCAAUCAuguauaauuaaaaaUGAUUGGUACGUCUGUGGGUAGagua
cugcaugacacaug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UACUGCAGACAGUGGCAAUCA-----
----- 2 0,0
-----UACUGCAGACAGUGGCAAUCAU-----
----- 13 0,1
-----UACUGCAGACAGUGGCAAUCAUG-----
----- 3 0,2
-----UGAUUGGUACGUCUGUGGGUA-----
----- 3 0,-1
-----UGAUUGGUACGUCUGUGGGUAa-----
----- 2 0,-1

```

```

>hsa-mir-509-2 5p:20-40;3p:55-76 SRX018961
caugcugugugugguacccUACUGCAGACAGUGGCAAUCAuguauaauuaaaaaUGAUUGGUACGUCUGUGGGUAGagua
cugcaugacac
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UACUGCAGACAGUGGCAAUCA-----
----- 2 0,0
-----UACUGCAGACAGUGGCAAUCAU-----
----- 13 0,1
-----UACUGCAGACAGUGGCAAUCAUG-----
----- 3 0,2
-----UGAUUGGUACGUCUGUGGGUA-----
----- 3 0,-1
-----UGAUUGGUACGUCUGUGGGUAa-----
----- 2 0,-1

```

```

>hsa-mir-509-3 5p:10-31;3p:44-65 SRX018961
gugguacccUACUGCAGACGUGGCAAUCAUGuauaauuaaaaaUGAUUGGUACGUCUGUGGGUAGaguacugcau
(..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UACUGCAGACGUGGCAAUCA----- 6
0,-2
-----UACUGCAGACGUGGCAAUCAU----- 9
0,-1

```



```

-----AAUGUGUAGCAAAAGACAGAA-----
----- 89
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 6
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 21
-----AAUGUGUAGCAAAAGACAGAAUa-----
----- 2
-----AUGUGUAGCAAAAGACAGA-----
----- 5

```

>hsa-mir-511-2 5p:16-36 SRX018961

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggg
uccauug

(((((.((((..(((..(((((((((((..(((.((((.((((.....)))))))).)))..)))))))).)))..)))..))

```

-----CGUGUCUUUUGCUCUGCAGUC-----
----- 2 -1,-1
-----CGUGUCUUUUGCUCUGCAGUCA-----
----- 5 -1,0
-----GUGUCUUUUGCUCUGCAGUCA-----
----- 15 0,0
-----GUGAAUGUGUAGCAAAAGACAGAA-----
----- 4
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 29
-----GAAUGUGUAGCAAAAGACAGA-----
----- 6
-----GAAUGUGUAGCAAAAGACAGAA-----
----- 2
-----AAUGUGUAGCAAAAGACA-----
----- 3
-----AAUGUGUAGCAAAAGACAG-----
----- 10
-----AAUGUGUAGCAAAAGACAGA-----
----- 156
-----AAUGUGUAGCAAAAGACAGAA-----
----- 89

```

-----AAUGUGUAGCAAAAAGACAGAAa-----
----- 6 -----
-----AAUGUGUAGCAAAAAGACAGAAU-----
----- 21 -----
-----AAUGUGUAGCAAAAAGACAGAAUa-----
----- 2 -----
-----AUGUGUAGCAAAAAGACAGA-----
----- 5 -----

```
>hsa-mir-513c    5p:14-35    SRX018961
gcguacagugccuUUCUCAAGGAGGUGUCGUUUAUgugaacuaaaauuaaaauucaccuuucugagaagaguaauguac
agca
(((((((.((((.(((((((.(((((((.(((((((.(.....))))))))).)))))).)))))).))))).
.)).
-----AAAUUUCACCUUUCUGAGAAGA-----
----      2
```

[illegible]

```
>hsa-mir-514-2 3p:54-74 SRX018961
guugucugugguacccuacucuggagagugacaaucauguauaacuaaaauugAUUGACACUUCUGUGAGUAGAguaacg
caugacac
..(((((((.(((.((((((((((.(((.((((((.((.....)).)))))).)))))).)))))).)))).
)).))))).
-----UACUCUGGAGAGUGACAAUCA-----
-----5
```

```
>hsa-mir-514-3 3p:54-74 SRX018961
guugucugugguacccuacucuggagagugacaaucauguauaacuaaaauugAUUGACACUUCUGUGAGUAGAguaacg
caugacac
..(((((((.(((.((((((((((.(((((.(((((.((.....)).)))))).)))))).)))))).))))).
)).))))).
```

-----UACUCUGGAGAGUGACAAUCA-----
-----5-----

```

>hsa-mir-532      5p:20-41;3p:57-78      SRX018961
cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu
.(.((((((((.....((.((((((.((((.((((.(.....))..)))..))))..))))..))....
)))))))).).
-----CCAUGCCUUGAGUGUAGGACCG-----
----- 7      -1,-1
-----CCAUGCCUUGAGUGUAGGACCGU-----
----- 12     -1,0
-----CAUGCCUUGAGUGUAGGA-----
----- 2      0,-4
-----CAUGCCUUGAGUGUAGGAa-----
----- 7      0,-4
-----CAUGCCUUGAGUGUAGGAC-----
----- 8      0,-3
-----CAUGCCUUGAGUGUAGGACC-----
----- 18     0,-2
-----CAUGCCUUGAGUGUAGGACCG-----
----- 34     0,-1
-----CAUGCCUUGAGUGUAGGACCGa-----
----- 2      0,-1
-----CAUGCCUUGAGUGUAGGACCGU-----
----- 642    0,0
-----CAUGCCUUGAGUGUAGGACCGUa-----
----- 45     0,0
-----CAUGCCUUGAGUGUAGGACCGUaa-----
----- 2      0,0
-----CAUGCCUUGAGUGUAGGACCGUU-----
----- 24     0,1

```

	-CAUGCCUUGAGUGUAGGACCGUUG-	
5	0,2	
	-CAUGCCUUGAGUGUAGGACCGUUG _u -	
3	0,2	
	-AUGCCUUGAGUGUAGGACCGU-	
21	1,0	
	-AUGCCUUGAGUGUAGGACCGUU-	
5	1,1	
		-CCUCCCACACCCAAGGCUU- -
4	0,-3	
		-CCUCCCACACCCAAGGCUUG- -
23	0,-2	
		-CCUCCCACACCCAAGGCUUGC- -
23	0,-1	
		-CCUCCCACACCCAAGGCUUGCA- -
108	0,0	
		-CCUCCCACACCCAAGGCUUGCA _u -
14	0,0	
		-CCUCCCACACCCAAGGCUUGCAA- -
17	0,1	
		-CUCCCACACCCAAGGCUUG- -
4	1,-2	
		-CUCCCACACCCAAGGCUUGCA- -
3	1,0	

```
>hsa-mir-541      mi:10-34;MA:54-75      SRX018961
acgucagggAAAGGAUUCUGCUGUCGGUCCACUccaaaguucacagaaugggUGGUGGGCACAGAAUCUGGACUcugcu
ugug
(((.((((((...(((((((.((((.(..((((((....(((...)))))))))).))))))))))....))))..
))).
-----AAAGGAUUCUGCUGUCGGUCCAC-----
----      4      0,-1
```

cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAACUGAAAaggucug
ggagccacucaucuca

$\dots(((((((\dots((((\dots((((\dots((((((((((\dots))))))\dots))))))\dots))))))\dots))))))\dots))))))\dots))))\dots\dots\dots$

-----UCGGGGAUCAUGUCACGAG-----

----- 2 0,-1

-----UUGUGACAGAUUGAUAAAC-----

----- 5 -1,-5

-----UUGUGACAGAUUGAUAAUCU-----

----- 11 -1,-4

-----UUGUGACAGAUUGAUAAACUG-----

$$----- \quad 4 \quad -1, -3$$

-----UUGUGACAGAUUGAUAACUGA-----

----- 12 -1,-2

-----UUGUGACAGAUUGAUAACUGAA-----

----- 33 -1,-1

-----UUGUGACAGAUUGAUAAACUGAAu-----

$$----- \quad 2 \quad -1, -1$$

-----UUGUGACAGAUUGAUAAACUGAAA-----

----- 10 -1,0

-----UGUGACAGAUUGAUACU-----

----- 125 0,-4

-----UGUGACAGAUUGAUAAACUG-----

----- 122 0,-3

-----UGUGACAGAUUGAUAACUGA-----

----- 91 0,-2

-----UGUGACAGAUUGAUAACUGAA-----

----- 227 0,-1

-----UGUGACAGAUUGAUAACUGAAA-----

----- 203 0,0

-----UGUGACAGAUUGAUAACUGAAAa-----

----- 17 0,0

-----UGUGACAGAUUGAUAAACUGAAu-----

----- 16 0,0

-----UGUGACAGAUUGAUAAACUGAAAG-----

----- 7 0,1

-----			-----GUGACAGAUUGAUAAACUGA-----
-----	2	1,-2	
-----			-----GUGACAGAUUGAUAAACUGAA-----
-----	7	1,-1	
-----			-----GUGACAGAUUGAUAAACUGAAA-----
-----	3	1,0	

[illegible]

>hsa-mir-548a-1 3p:61-82 SRX018961

ugcagggagguaauaaguuggugcaaaaguaauugugauuuuugccauuaaaaguaacgaCAAAACUGGCAUUACUUU
 GCaccaaaccugguauu
 ..((((.....(((((((((((((((((((((.(((((.((((.....)).)).)))))).)).)))))))))
)))))).)).)).
 -----CAAAACUGGCAUUACUUU
 Ga----- 6 0,-1

>hsa-mir-548a-2 3p:61-82 SRX018961

>hsa-mi r-548a-3 5p:25-46;3p:61-82 SRX018961

ccuagaauguuuuaggucggugcAAAAGUAAUUGCGAGUUUACCaauacuuccauggCAAACUGGCAAUACUUUU
GCaccaacguaauacuu

[illegible]

```
>hsa-mir-548i-4 5p:11-32      SRX018961
agguuggugcAAAAGUAAUUGCGGAUUUUGCCauacuuaaagcgcaaaaaccacaaauuuauugcaccaaccuau
(((((((((((((.(((.(((.(((((((.....)))))))).)).)).)).)).)).)).)).)..
-----AAAAGUAAUUGCGGAUUUUG-----
7    0,-2
```

```

-----CAAAAACUGCAUUACU
UUU-----2
-----CAAAAACUGCAUUACU
UUUG-----30
-----CAAAAACUGCAUUACU
UUUGa-----6
-----CAAAAACUGCAUUACU
UUUGC-----16

```

```

>hsa-mir-548k 5p:32-53 SRX018961
cuuuucucaaguaugcuguuagguuggugcAAAAGUACUUGCGGAUUUUGCUuuacuuaauggcaaaaaccgcaauu
auuuuugcuucaaccuaauaugaugcaaaaauuggcu
.....(((((((.(((((((((((.(((((((((.(((((((.(((((((.....)))))))).)))))).)
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----AAAAGUACUUGCGGAUUU-----
-----2 0,-3
-----AAAAGUACUUGCGGAUUUUG-----
-----3 0,-2
-----AAAAGUACUUGCGGAUUUUGCU-----
-----31 0,0

```

```

>hsa-mir-548n 5p:10-31 SRX018961
agguuggugCAAAAGUAAUUGUGGAUUUUGUcguuaaaaauagcaaaaccgcaauuacuuuugcaccaaccuaa
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----CAAUUACUUUUGCACCAACC--- 2

```

```

>hsa-mir-548o 3p:87-108 SRX018961
uggugaaaauguguugauguuaugguuccuauucugaucaauaaacaugguuugagccuaguuaacaugaucuaaaaau
cacgguCCAAAACUGCAGUUACUUUUGCaccaac
(((((.(((...((.(((((((.(((...((.(((...(((...(((...(((...(((...(((...(((...
...)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).
-----
-----CCAAAACUGCAGUUACUUUUGa----- 6 0,-1
-----
-----CCAAAACUGCAGUUACUUUUGaa----- 2 0,-1
-----
-----CCAAAACUGCAGUUACUUUUGC----- 8 0,0
-----

```

-----AAAACUGCAGUACUUUUGa----- 3 2,-1

>hsa-mir-548t 5p:10-30 SRX018961

aggguggugCAAAAGUGAUCGUGGUUUUUGcaauuuuuuaugacaaaaccacaauuacuuuugcaccaaccu

(((((((.....)))))))).)))))))))

-----CAAUUACUUUUGCACCAACC- 2

>hsa-mir-548u 3p:49-71 SRX018961

auuaggauggugcaaaaguaaugugguuuuuuucuuaauuuuauggCAAAGACUGCAAUUACUUUUGCGccaaccuaa

u

(((((.....)))))).)))))))))

)

-----CAAAGACUGCAAUUACUUUUG-----

- 8 0,-2

-----CAAAGACUGCAAUUACUUUUGC-----

- 2 0,-1

-----CAAAGACUGCAAUUACUUUUGCu-----

- 2 0,-1

-----CAAAGACUGCAAUUACUUUUGCG-----

- 6 0,0

-----CAAAGACUGCAAUUACUUUUGCGa-----

- 3 0,0

>hsa-mir-548w 5p:10-32 SRX018961

gguggugcAAAAGUACUGCGGUUUUUGCCUuucacauaauggcaaaaccacaaauuacuuuugcaccaauc

(((((.....)))))).)))))))))

-----CAAAAGUACUGCGGUUUUUGa----- 3

-1,-3

-----AAAAGUACUGCGGUUUU----- 3

0,-4

-----AAAAGUACUGCGGUUUUUG----- 4

0,-3

-----AAAAGUACUGCGGUUUUUGCaa----- 3

0,-2

-----AAAAGUACUGCGGUUUUUGCu----- 2

0,-2

-----AAAAGUACUGCGGUUUUUGCC----- 13

0,-1

```

>hsa-mir-549    3p:61-81    SRX018961
agacaugcaacucaagaauauauugagagcucacuccauaguugucacugucucaaaucagUGACAACUAUGGAUGAGCUC
Uuaauauauucccaggc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))).....
-----GUGACAACUAUGGAUGAG---
-----3    -1,-4
-----UGACAACUAUGGAUGAGC--
-----4    0,-3

```

```

>hsa-mir-550a-1 MA:22-44;mi:61-82    SRX018961
ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguuguaagauagUGUCUUAUCCCCUCAGGCAC
AUcuccaacaagucucu
.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))))))))))))))))))).
-----AGUGCCUGAGGGAGUAAG-----
-----2    0,-5
-----AGUGCCUGAGGGAGUAAGAG-----
-----5    0,-3

```

```

>hsa-mir-550a-2 MA:22-44;mi:61-82    SRX018961
ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguugucagauagUGUCUUAUCCCCUCAGGCAC
AUcuccagcgagucucu
.....(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
..))))))))))))))))))....
-----AGUGCCUGAGGGAGUAAG-----
-----2    0,-5
-----AGUGCCUGAGGGAGUAAGAG-----
-----5    0,-3

```

```

>hsa-mir-551a    3p:61-81    SRX018961
ggggacugccgggugacccuggaaauccagaguggguggggccagucugaccguuucuagGCGACCCACUCUUGGUUCC
Agggguugcccgga
.....(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))....
-----GGCGACCCACUCUUGGUUU-----
-----2    -1,-3

```

```

>hsa-mir-551b    mi:22-43;MA:61-81    SRX018961
agaugugcucuccuggcccauGAAAUCAAGCGUGGGUGAGACCuggugcagaacgggaagGCGACCCAUACUUGGUUUA
Gaggcugugagaauaa
.....(((((((((.....(((((((.....(((((((.....(((((((.....(((((((.....(((((((.....
..)))))).))))....
-----GCGACCCAUACUUGGUUU--
-----          3      0,-3

```

```
>hsa-mir-566      5p:16-34      SRX018961
gcuaggcgugguggcGGGCGCCUGUGAUCCCAACuacucaggaggcuggggcagcagaaucgcuugaacccgggaggcga
agguugcagugagc
.....((.(((..(((((.(((..(((((.((.(....).)).))))).))))).))))).))))).))))).))))).
.....
```

gggaccugcgu^{ggg}ugc^{gggc}gugUGAGUGUGUGUGUGAGUGUGUgucgcucc^{ggg}ucCACGCUCAUGCACACACCCA
Cagcccacacucagg

		-GUGAGUGUGUGUGUGUGAG-
	2	-1, -5
		-UGAGUGUGUGUGUGUGAG-
	81	0, -5
		-UGAGUGUGUGUGUGUGAGa-
	5	0, -5
		-UGAGUGUGUGUGUGUGAGU-
	103	0, -4
		-UGAGUGUGUGUGUGUGAGUG-
	23	0, -3
		-UGAGUGUGUGUGUGUGAGUGa-
	3	0, -3
		-UGAGUGUGUGUGUGUGAGUGaa-
	2	0, -3
		-UGAGUGUGUGUGUGUGAGUGU-
	42	0, -2
		-UGAGUGUGUGUGUGUGAGUGUa-
	3	0, -2
		-UGAGUGUGUGUGUGUGAGUGUu-
	4	0, -2
		-UGAGUGUGUGUGUGUGAGUGUG-
	11	0, -1
		-UGAGUGUGUGUGUGUGAGUGUGa-
	9	0, -1
		-UGAGUGUGUGUGUGUGAGUGUGaa-
	11	0, -1
		-UGAGUGUGUGUGUGUGAGUGUGU-
	26	0, 0
		-UGAGUGUGUGUGUGUGAGUGUGUG-
	18	0, 1
		-UGAGUGUGUGUGUGUGAGUGUGUGa-
	14	0, 1

-----			-----AAGAUGUGGAAAAAUUGGAAUCC-----
-----	6	0,1	
-----			-----AGAUGUGGAAAAAUUGGAAUC-----
-----	2	1,0	
-----			-----AGAUGUGGAAAAAUUGGAAUCa-----
-----	4	1,0	
-----			-----AGAUGUGGAAAAAUUGGAAUCu-----
-----	2	1,0	

>hsa-mir-579 3p:62-84 SRX018961

cauuuagguuaaugcaaaaguaaucgcgguuuguccagaugacgauuugaauuaauaaaUUCAUUUGGUUAAACCGC
GAUuauuuuugcaucaac

>hsa-mi r-582 5p:16-38;3p:53-74 SRX018961

aucugugcucuugaUUACAGUUGUUAACAGUACUaaucuaacuaauugUACUGGUUGAACAAACUGAACCCaaagg
gugcaaaguagaaacauu

-----GUAACUGGUUGAACAAACUGAA-----
 ----- 7 -1,-2 -----

-----GUAACUGGUUGAACAAACUGAAa-----
 ----- 2 -1,-2

-----UAACUGGUUGAACACUGA-----
----- 85 0,-3

-----UAACUGGUUGAACACUGAA-----
----- 296 0,-2

-----UAACUGGUUGAACACUGAAa-----
-----20 0,-2-----

-----UAACUGGUUGAACACUGAAaa-----
----- 6 0,-2

-----UAACUGGUUGAACACUGAAC-----
----- 38 0,-1

-----UAACUGGUUGAACACUGAACC-----
----- 10 0,0

-----	UGAGAACCACGUCUGCUCUG-----
----- 3	0, -2
-----	UGAGAACCACGUCUGCUCUGA-----
----- 6	0, -1
-----	UGAGAACCACGUCUGCUCUGAaa-----
----- 2	0, -1
-----	UGAGAACCACGUCUGCUCUGAG-----
----- 3	0, 0
-----	UGAGAACCACGUCUGCUCUGAGC-----
----- 2	0, 1
-----	-----UCAGAACAAAUGCCGGUUCC
C----- 2	0, -3
-----	-----UCAGAACAAAUGCCGGUUCC
CAu----- 2	0, -2
-----	-----UCAGAACAAAUGCCGGUUCC
CAG----- 5	0, -1

```

>hsa-mir-590      5p:16-37;3p:56-76      SRX018961
uagccagucagaaaUGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUUUUGUAUAAGCUAGUcucu
gauugaaacaugcagca
....(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.
)))))).....
-----UGAGCUUAUUCAUAAAAGUGCA-----
-----      2      -1,-1
-----GAGCUUAUUCAUAAAAGUG-----
-----      2      0,-3
-----GAGCUUAUUCAUAAAAGUGCA-----
-----     11      0,-1
-----GAGCUUAUUCAUAAAAGUGCAG-----
-----      9      0,0
-----UAAUUUUUUGUAUAAGCUAGUCa-----
-----     12      0,1

```

```
>hsa-mir-597      5p:16-37      SRX018961  
uacuuacucuacgugUGUGUCACUCGAUGACCACUGUgaagacaguaaaauguacagugguucucuugggcucaagcgu  
aauguagaguacugguc  
.(((((((((((((((.(.(((((.((.((((((((((....(((.....)))))))))..)).))))).))....  
.)))))))))..))).
```

```

-----UGUGUCACUCGAUGACCACUG-----
-----      3      0,-1
-----AGUGGUUCUCUUGUGGCUAAu-----
-----      2

```

>hsa-mir-598 3p:61-82 SRX018961

gcuugaugaugcugcugaugcuggcggugaucgccgauggugugagcuggaaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag

.....(((((((((((((.....))))))..))))))..))))))..
).....

```

-----CUACGUCAUCGUUGUCAUCGU
CA-----      2      -1,0

```

```

-----UACGUCAUCGUUGUCAUC-
-----      22      0,-4

```

```

-----UACGUCAUCGUUGUCAUCG-
-----      3      0,-3

```

```

-----UACGUCAUCGUUGUCAUCGU
-----      14      0,-2

```

```

-----UACGUCAUCGUUGUCAUCGU
C-----      19      0,-1

```

```

-----UACGUCAUCGUUGUCAUCGU
CA-----      80      0,0

```

```

-----UACGUCAUCGUUGUCAUCGU
CAa-----      2      0,0

```

```

-----UACGUCAUCGUUGUCAUCGU
CAU-----      28      0,1

```

>hsa-mir-600 3p:61-83 SRX018961

aagucacgugcuguggcuccagcuucauaggaaggcucuugucugucaggcaguggaguuACUUACAGACAAGAGCCUUG
CUCaggccagcccugccc

.....((.(((((((((.....))))))..))))))..))))))..
)..))))..))))..))..

```

-----CAUAGGAAGGCUCUUGUCUGUC-----
-----      4

```

```

-----CAUAGGAAGGCUCUUGUCUGUCA-----
-----      2

```

>hsa-mir-605 5p:16-38 SRX018961

--- 3

(((...(((((.((.(.(.(((.((((((((((((((((((((((.((...)).)).)))))))).)))))))).)).))
...))))).)).)).

----- 6 -1,-3

[illegible]

----- 2 0,0

$$\begin{aligned} & .((\dots(((\dots((((\dots(((((\dots(((((\dots(((((\dots(((((\dots)))))))))\\ &))))))))\dots))\dots \end{aligned}$$

----- 3

----- 11

```

-----GCUGGGAUUACAGGCAUGAG-----
----- 8
-----GCUGGGAUUACAGGCAUGAGCC-----
----- 12
-----CUGGGAUUACAGGCAUGAG-----
----- 4
-----CUGGGAUUACAGGCAUGAGCC-----
----- 4
-----UGGGAUUACAGGCAUGAG-----
----- 14
-----UGGGAUUACAGGCAUGAGu-----
----- 5
-----UGGGAUUACAGGCAUGAGC-----
----- 2
-----UGGGAUUACAGGCAUGAGCCA-----
----- 3
-----UGGGAUUACAGGCAUGAGCCAC-----
----- 3
-----UGGGAUUACAGGCAUGAGCCACU-----
----- 6
-----GGGAUUACAGGCAUGAGCCA-----
----- 4
-----GGGAUUACAGGCAUGAGCCAu-----
----- 2
-----GGGAUUACAGGCAUGAGCCACU-----
----- 2

```

>hsa-mir-622 3p:61-81 SRX018961

agagaagcuggacaaguacuggucucagcagauugaggagagcaccacaguggucaucacACAGUCUGCUGAGGUUGGAG
Cugcugagaugacacu

.....((((...(((...(((.....(((.....(((.....)))..)).)).)).)))))).....))..))..)).....

```

-----CAGAUUGAGGAGAGCACC-----
----- 2

```

>hsa-mir-625 MA:15-35;mi:52-73 SRX018961

aggguaagagggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUCAucccucu
gcccu

			-AGGGGGAAAGUUCUAUAG-	
----	5	0,-3		
			-AGGGGGAAAGUUCUAUAGU-	
----	3	0,-2		
			-AGGGGGAAAGUUCUAUAGUC-	
----	18	0,-1		
			-AGGGGGAAAGUUCUAUAGUCa-	
----	3	0,-1		
			-AGGGGGAAAGUUCUAUAGUCC-	
----	2	0,0		
			-AGGGGGAAAGUUCUAUAGUCCU-	
----	5	0,1		
				-GACUAUAGAACUUUCCCCCUau-
----	2	0,-2		
				-GACUAUAGAACUUUCCCCCUC-
----	19	0,-1		
				-GACUAUAGAACUUUCCCCCUCu-
----	4	0,-1		
				-GACUAUAGAACUUUCCCCCUCA-
----	5	0,0		
				-GACUAUAGAACUUUCCCCCUCa-
----	6	0,0		
				-ACUAUAGAACUUUCCCCCUC-
----	5	1,-1		
				-ACUAUAGAACUUUCCCCCUCA-
----	7	1,0		
				-ACUAUAGAACUUUCCCCCUCa-
----	2	1,0		
				-ACUAUAGAACUUUCCCCCUCAU-
----	2	1,1		

auagcuguugugucacuccucAUGCUGACAUAUUUACUAGAGGguaaaauuaauaacuUCUAGUAAGAGUGGCAGUCG
 Aaggggaagggcucau
((.(((.(((((.(((.(((.(((((((((((((.)))))))))))).)).)).))
 ..)))))))))).)).


```

-----AAAGACAUAGGAUAGAGUACCa-----
----- 4    0,-2
-----AAAGACAUAGGAUAGAGUACCU-----
----- 8    0,-1

```

```

>hsa-mir-642b    3p:47-68    SRX018961
gaguugggagguucccucuccaaugugucuugaucceccaccccaAGACACAUUUGGAGAGGGACCCucccaacuc
(((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGACACAUUUGGAGAGGG-----
      2    0,-4
-----AGACACAUUUGGAGAGGGA-----
      5    0,-3

```

```
>hsa-mir-650      5p:16-36      SRX018961
cagugcugggggucucAGGAGGCAGCGCUCUCAGGACgucaccaccaugggcugggcucugcuccuccucacccuccucac
ucagggcacaggugau
..((((((((((...((((((.((((..((((((.((((.....)))..))))))..))))))..)))))).....
....)))))).....
```

```

-----AGGAGGCAGCGCUCUCAGGACGUC-----
-----      3      0,3
-----AUGGCCUGGGCUCUGCUCCUCCUC-----
-----      2

```

>hsa-mir-651 5p:16-37 SRX018961

```

aaucuaucacugcuUUUAGGAUAAGCUUGACUUUGuucuaauaaaaaugcaaaaggaaaguguauccuaaaaggcaau
gacaguuaaauguguuu

```

```

...(((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..)).....

```

```

-----UUUAGGAUAAGCUUGACUUU-----
-----      2      0,-1
-----UAGGAUAAGCUUGACUUUG-----
-----      3      2,0

```

>hsa-mir-652 3p:61-81 SRX018961

```

acgaugggcuaugcacugcacaacccuaggagaggugccauucacauagacuauaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac

```

```

.....(((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))).....

```

```

-----ACAACCCUAGGAGAGGGUGCCA-----
-----      8
-----ACAACCCUAGGAGAGGGUGCCAU-----
-----      3

```

```

-----GAAUGGCGCCACUAGGGUU-----
-----      4      -1,-3

```

```

-----AAUGGCGCCACUAGGGUU-----
-----      35      0,-3

```

```

-----AAUGGCGCCACUAGGGUUG-----
-----      21      0,-2

```

```

-----AAUGGCGCCACUAGGGUUGU-----
-----      15      0,-1

```

```

-----AAUGGCGCCACUAGGGUUGU-----
G-----      3      0,0

```

```

-----AAUGGCGCCACUAGGGUUGU-----
Ga-----      15      0,0

```

```

-----AAUGGCGCCACUAGGGUUGU-----
Gu-----      23      0,0

```

-----			-----AAUGGCGCCACUAGGGUUGU
Guu-----	2	0,0	
-----			-----AAUGGCGCCACUAGGGUUGU
GC-----	2	0,1	
-----			-----AUGGCGCCACUAGGGUUGU
Gu-----	6	1,0	

>hsa-mi r-654 5p:16-37;3p:51-72 SRX018961

ggguaaguggaaagaUGGUGGGCCGCAGAAACAUGUGCugaguucgugccaUAUGUCUGCUGACCAUCACCUUuagaagcc

$$(((\dots(((((.((((((.(((((((\dots)).).)))))))))..))))))\dots))$$

```

-----AUGGUGGGCCCGCAGAACAUGUG-----
-   2   -1,-1
-----AUGGUGGGCCCGCAGAACAUGUGa-----
-   3   -1,-1
-----AUGGUGGGCCCGCAGAACAUGUGu-----
-   2   -1,-1
-----UGGUGGGCCCGCAGAACAUGUG-----
-  10   0,-1
-----UGGUGGGCCCGCAGAACAUGUGa-----
-  25   0,-1
-----UGGUGGGCCCGCAGAACAUGUGu-----
-   5   0,-1
-----UGGUGGGCCCGCAGAACAUGUGC-----
-  66   0,0
-----UGGUGGGCCCGCAGAACAUGUGCa-----
-   2   0,0
-----UGGUGGGCCCGCAGAACAUGUGCU-----
-   7   0,1
-----UGGUGGGCCCGCAGAACAUGUGCUa-----
-   5   0,1
-----UAUGUCUGCUGACCAUCACC-----
-   5   0,-2
-----UAUGUCUGCUGACCAUCACCa-----
-   6   0,-2
-----UAUGUCUGCUGACCAUCACCaa-----
-   8   0,-2

```

```

-----UAUGUCUGCUGACCAUACCau-----
- 11 0,-2
-----UAUGUCUGCUGACCAUACCU-----
- 15 0,-1

```

```

>hsa-mir-655 3p:61-82 SRX018961
aacuaugcaaggauuuugaggagagguuauccguguuauguucgcuucaucaugaAUAUAUCAUGGUUAACCUCU
UUuugaauaucagacuc
.....(((((((.....(((((((.....))))))..))))))..))))))
)))..)))))).....
-----AUAUAUCAUGGUUAACCUCU
U----- 2 0,-1

```

```

>hsa-mir-659 3p:61-82 SRX018961
uaccgaccucgauuugguucaggaccuucccugaaccaaggaagagucacagucucuucCUUGGUUCAGGGAGGGUCCC
CAacauguccucaugg
.....(((((((.....(((((((.....))))))..))))))..))))))..
.))..)))))).....
-----AGGACCUUCCCUGAACCAAaa-----
----- 2
-----AGGACCUUCCCUGAACCAAGGA-----
----- 5

```

```

>hsa-mir-660 5p:16-37 SRX018961
cugcuccuucuccaUACCCAUUGCAUAUCGGAGUUGugaauucuaaaacaccuccugugugcauggauuacaggaggg
ugagccuugucaucgug
..(((((((.....(((((((.....))))))..))))))..))))))..))))))
.))..)))))).....
-----UACCCAUUGCAUAUCGGAGU-----
----- 3 0,-2
-----UACCCAUUGCAUAUCGGAGUU-----
----- 9 0,-1
-----UACCCAUUGCAUAUCGGAGUUa-----
----- 5 0,-1
-----UACCCAUUGCAUAUCGGAGUUG-----
----- 50 0,0
-----UACCCAUUGCAUAUCGGAGUUG-----
----- 18 0,1

```



```

-----ACUGGCUAGGGAAAAUGAUUGGu-----
-- 54 0,-2
-----ACUGGCUAGGGAAAAUGAUUGGA-----
-- 360 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAa-----
-- 31 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAaa-----
-- 2 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAU-----
-- 11 0,0
-----CUGGCUAGGGAAAAUGAUU-----
-- 2 1,-4
-----CUGGCUAGGGAAAAUGAUUG-----
-- 10 1,-3
-----CUGGCUAGGGAAAAUGAUUGG-----
-- 28 1,-2
-----CUGGCUAGGGAAAAUGAUUGGu-----
-- 4 1,-2
-----CUGGCUAGGGAAAAUGAUUGGA-----
-- 101 1,-1
-----CUGGCUAGGGAAAAUGAUUGGAa-----
-- 2 1,-1
-----UGGCUAGGGAAAAUGAUUGG-----
-- 3 2,-2
-----UGGCUAGGGAAAAUGAUUGGA-----
-- 32 2,-1
-----UGGCUAGGGAAAAUGAUUGGAa-----
-- 2 2,-1
-----UGGCUAGGGAAAAUGAUUGGAU-----
-- 5 2,0
-----UAUUCAUUUAUCCCCAGCCUAu-----
-- 2 0,-2
-----UAUUCAUUUAUCCCCAGCCUAC-----
-- 6 0,-1
-----UAUUCAUUUAUCCCCAGCCUACA-----
-- 8 0,0

```

>hsa-mir-665 3p:43-62 SRX018961

GCUCCACC-----	10	0,0	
-----			UCCGGUUCUCAGG
GCUCCACCU-----	3	0,1	

```

>hsa-mir-675      MA:10-32;mi:45-64      SRX018961
cccaggguUGGUGCGGAGAGGGCCCACAGUGgacuuggugacgCUGUAUGCCCUCACCGCUCAgccccuggg
(((((((.((((.((((.((((.((((.(.....)))))))).)))))).)))))))).))))))
-----UGGUGCGGAGAGGGCCCACAGU----- 5
0,-1
-----UGGUGCGGAGAGGGCCCACAGUuu----- 3
0,-1
-----UGGUGCGGAGAGGGCCCACAGUG----- 6
0,0
-----UGGUGCGGAGAGGGCCCACAGUGu----- 11
0,0
-----CUGUAUGCCCUCACCGCUCAG----- 3
0,1
-----CUGUAUGCCCUCACCGCUCAGC----- 2
0,2

```

```
>hsa-mir-676      mi:8-28;MA:43-63      SRX018961
gcaugacUCUUCAACCCUCAGGACUUGCAgaauuaauggaaugCUGUCCUAAGGUUGUUGAGUUGugc
(((..(((..((((((.((((((..(((.....)))))).)))))).))))).))))).)))
-----UCUUCAACCCUCAGGACUUGCA----- 3      0,0
```

```

>hsa-mir-7-1      MA:24-46;mi:66-87      SRX018961
uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucgaCAACAAAUACAGUC
UGCCAUAuggcacaggccaugccucuacag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).)))))))))).)))))))))).)).))))))...
-----UGGAAGACUAGUGAUUUU-----
-----77  0,-5
-----UGGAAGACUAGUGAUUUUG-----
-----14  0,-4
-----UGGAAGACUAGUGAUUUUGU-----
-----22  0,-3
-----UGGAAGACUAGUGAUUUUGU-----
-----77  0,-2

```



```

-----UGGAAGACUAGUGAUUUUGUUa-----
----- 3 0,-2
-----UGGAAGACUAGUGAUUUUGUUaa-----
----- 2 0,-2
-----UGGAAGACUAGUGAUUUUGUUu-----
----- 6 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 388 0,-1
-----UGGAAGACUAGUGAUUUUGUUGa-----
----- 7 0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 1271 0,0
-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 1000 0,1
-----UGGAAGACUAGUGAUUUUGUUGUUa-----
----- 20 0,1
-----UGGAAGACUAGUGAUUUUGUUGUUU-----
----- 11 0,2
-----GGAAGACUAGUGAUUUUGUU-----
----- 5 1,-2
-----GGAAGACUAGUGAUUUUGUUGU-----
----- 14 1,0
-----GGAAGACUAGUGAUUUUGUUGUU-----
----- 6 1,1
-----CAACAAAUCACAGUC
UGCCAU----- 3 0,-1

```

```

>hsa-mir-7-2 MA:32-54;mi:72-93 SRX018961
cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuacugcgcucaaCAACAAAUC
CCAGUCUACCUAAuggugccagccaucgca
.....((((...(((((((.(.((((...((.(((((((.(((((((.(((((((.....))))))))))))))
).))))).))..))))).))))))..))))).
-----CUGGAAGACUAGUGAUUUUGUUGU-----
----- 5 -1,0
-----UGGAAGACUAGUGAUUUU-----
----- 77 0,-5
-----UGGAAGACUAGUGAUUUUG-----
----- 14 0,-4

```



```

-----AAGGAGCUACAAUCUAGCUG-----
----- 21  0,-2
-----AAGGAGCUACAAUCUAGCUGG-----
----- 31  0,-1
-----AAGGAGCUACAAUCUAGCUGGa-----
----- 5  0,-1
-----AAGGAGCUACAAUCUAGCUGGG-----
----- 8  0,0
-----CAACUAGACUGUGAGCUUCUAG--
----- 2  0,0
-----AACUAGACUGUGAGCUUCUA---
----- 4  1,-1
-----AACUAGACUGUGAGCUUCUAGA-
----- 9  1,1
-----ACUAGACUGUGAGCUUCUAG--
----- 2  2,0
-----ACUAGACUGUGAGCUUCUAGA-
----- 2  2,1
-----ACUAGACUGUGAGCUUCUAGa
----- 2  2,1

```

>hsa-mir-720 5p:27-43 SRX018961

```

ccggaucucacacggugguguuaaUAUCUCGCGUGGGGCCUCCAaaauguugugcccagggguguuagagaaaacaccaca
cuuugagaugaauaaagaguccuuuuuag
....(((((((.....((((((((((((((((.....((((((.....).)).))))).))))))))).))))).
...)))))).....
-----AUCUCGCGUGGGGCCUCCA-----
----- 29  -1,0
-----AUCUCGCGUGGGGCCUCCA AAA-----
----- 2  -1,3

```

>hsa-mir-744 MA:11-32;mi:68-89 SRX018961

```

uugggcaaggUGCGGGGCUAGGGCUAACAGCAGucuuacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc
((((((.....((((((.....))))))))).)).
))))).))))).
-----UGCGGGGCUAGGGCUAAC-----
----- 5  0,-4

```

```

-----UGCGGGGCUAGGGCUAACA-----
-----      12  0,-3
-----UGCGGGGCUAGGGCUAACAa-----
-----      3   0,-3
-----UGCGGGGCUAGGGCUAACAG-----
-----     162  0,-2
-----UGCGGGGCUAGGGCUAACAGa-----
-----     24   0,-2
-----UGCGGGGCUAGGGCUAACAGaa-----
-----      4   0,-2
-----UGCGGGGCUAGGGCUAACAGu-----
-----     13   0,-2
-----UGCGGGGCUAGGGCUAACAGC-----
-----    409  0,-1
-----UGCGGGGCUAGGGCUAACAGCu-----
-----      4   0,-1
-----UGCGGGGCUAGGGCUAACAGCA-----
-----    494  0,0
-----UGCGGGGCUAGGGCUAACAGCAa-----
-----    146  0,0
-----UGCGGGGCUAGGGCUAACAGCAaa-----
-----      4   0,0
-----UGCGGGGCUAGGGCUAACAGCAau-----
-----      7   0,0
-----UGCGGGGCUAGGGCUAACAGCAu-----
-----    252  0,0
-----UGCGGGGCUAGGGCUAACAGCAuu-----
-----     10   0,0
-----UGCGGGGCUAGGGCUAACAGCAG-----
-----      2   0,1
-----GCGGGGCUAGGGCUAACAG-----
-----      9   1,-2
-----GCGGGGCUAGGGCUAACAGC-----
-----     16   1,-1
-----GCGGGGCUAGGGCUAACAGCA-----
-----     22   1,0
-----GCGGGGCUAGGGCUAACAGCAa-----
-----      8   1,0

```


$$\begin{aligned} & .(((((((\dots(((((((((\dots(((\dots(((((((((((((((((((((\dots)))))))))\dots))))))))) \\ & \dots))))))\dots))\dots))\dots))\dots))\dots)). \end{aligned}$$

>hsa-mir-766 3p:65-86 SRX018961
gcauccucaggaccuggggcuuggggugguaggaggaaauugggucuggucuuucauuuuggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaaauugucauaggagc


```

-----UGAGACCUCUGGGUUCUGAGCaa-----
-----      8      0,-1
-----UGAGACCUCUGGGUUCUGAGCU-----
-----      45      0,0
-----UGAGACCUCUGGGUUCUGAGCUa-----
-----      28      0,0
-----UGAGACCUCUGGGUUCUGAGCUaa-----
-----      2      0,0
-----UGAGACCUCUGGGUUCUGAGCUu-----
-----      14      0,0
-----UGAGACCUCUGGGUUCUGAGCUuu-----
-----      8      0,0
-----GAGACCUCUGGGUUCUGAGC-----
-----      3      1,-1
-----CUGGGAUCUCCG
GGGUCUUGGa-----      5      0,-2
-----CUGGGAUCUCCG
GGGUCUUGGUU-----      2      0,0
-----UGGGAUCUCCG
GGGUCUUGGUU-----      9      1,0

```

>hsa-mir-802 5p:18-40 SRX018961

guucuguuauuugcaguCAGUAACAAAGAUUCAUCCUUGUguccaucaugcaacaaggagaaucuuugucacuuagugua
auuaauagcuggac

...(((((((.(((((.(((.(((((((((((.(((((((((((.....)).))))))))))))))))).)).).)))
)..))))).))....

```

-----AGGAGAAUCUUUGUCACUU-----
-----      2

```

>hsa-mir-873 5p:11-31 SRX018961

gugugcauuuGCAGGAACUUGUGAGUCUCCUauugaaaaugaacaggagacugaugaguucccggaacaccacaaa

(((.(((((.(((.(((((((.(((((((((((.(((((((((((.....)).))))))))))))))))).)).).)))..

```

-----GCAGGAACUUGUGAGUCUC-----
-----      2      0,-2

```

```

-----GGAGACUGAUGAGUUCCCGGA-----
-----      2

```

```

-----GAGACUGAUGAGUUCCCGG-----
-----      3

```

-----GAGACUGAUGAGUUCCCGGGAA-----
7

>hsa-mir-874 3p:47-68 SRX018961

uuagcccugcggccccacgcaccaggguaagagagacucucgcuucCUGCCCUGGCCCAGGGACCGAcuggcugggc
(((((((...(((.(((.((...(((((((.(((.).)))..)))))))).)))..))))))..
-----CGGCCCCACGCACCAGGGUAA-----

5
-----CGGCCCCACGCACCAGGGUAAG-----

3
-----CGGCCCCACGCACCAGGGUAAGA-----

3
-----CUGCCCUGGCCCAGGGAC-----

3 0,-3
-----CUGCCCUGGCCCAGGGACCGA-----

8 0,0
-----CUGCCCUGGCCCAGGGACCGAa-----

4 0,0
-----CUGCCCUGGCCCAGGGACCGAC-----

7 0,1

>hsa-mir-876 5p:11-32;3p:50-71 SRX018961

ugaagugcugUGGAUUUCUUUGUGAAUCACCAuaucaagcuaauguggUGGUGGUUUACAAAGUAAUUCaagugcuuc
a
..(((((((.(((((((.(((((((.).)))..)))))))).)))..))))))..))))))
.

-----UGGAUUUCUUUGUGAAUCAC-----
- 2 0,-2

-----UGGUGGUUUACAAAGUAAUUCA-----
- 3 0,0

>hsa-mir-877 MA:1-20;mi:66-86 SRX018961

GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggaccucagacgugugUCCUCUUCUCCUCC
UCCCAG

...(((((((.(((.).)))..))))))..))))))..))))))
))....

GUAGAGGAGAUGGCGCAG-----
----- 9 0,-2

```

GUAGAGGAGAUGGCGCAGG-----
----- 13 0,-1
GUAGAGGAGAUGGCGCAGGaa-----
----- 2 0,-1
GUAGAGGAGAUGGCGCAGGG-----
----- 19 0,0
GUAGAGGAGAUGGCGCAGGGa-----
----- 4 0,0
GUAGAGGAGAUGGCGCAGGGaa-----
----- 3 0,0
GUAGAGGAGAUGGCGCAGGGG-----
----- 5 0,1
GUAGAGGAGAUGGCGCAGGGGA-----
----- 4 0,2
GUAGAGGAGAUGGCGCAGGGGAa-----
----- 7 0,2
GUAGAGGAGAUGGCGCAGGGGAu-----
----- 2 0,2
GUAGAGGAGAUGGCGCAGGGGAC-----
----- 20 0,3
GUAGAGGAGAUGGCGCAGGGGACu-----
----- 10 0,3
GUAGAGGAGAUGGCGCAGGGGACA-----
----- 63 0,4
GUAGAGGAGAUGGCGCAGGGGACa-----
----- 9 0,4
GUAGAGGAGAUGGCGCAGGGGACAu-----
----- 7 0,4
-UAGAGGAGAUGGCGCAGGGGACu-----
----- 2 1,3
-UAGAGGAGAUGGCGCAGGGGACA-----
----- 20 1,4
-UAGAGGAGAUGGCGCAGGGGACACu-----
----- 4 1,5

```

```

>hsa-mir-885 5p:11-32;3p:43-64 SRX018961
ccgcacucucUCCAUAACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu
(((...(((.((((((((((((.((((((((((((.....))))))))).))))))))))))).))))..

```



```

-----GUGAACGGGCGCCAUCCCGAGGC-----
9   0,1
-----GUGAACGGGCGCCAUCCCGAGGCa-----
7   0,1
-----GUGAACGGGCGCCAUCCCGAGGCU-----
19  0,2
-----GUGAACGGGCGCCAUCCCGAGGCUU-----
22  0,3

```

>hsa-mir-889 3p:49-69 SRX018961

```

gugcuuaaagaauaggcuguccguaguauggucucuauauuuauaugaUUAUAUCGGACAACCAUUGUuuuaguaucc
(((((((((.((((((.....((((((.....)).))))).))))).))))).))))).))..
-----AAUGGCUGUCCGUAGUAUGG-----
2
-----AAUGGCUGUCCGUAGUAUGGU-----
4
-----UUAUAUCGGACAACCAUU-----
2   0,-2

```

>hsa-mir-9-1 MA:16-38;mi:55-76 SRX018961

```

cggggguugguuguuaUCUUUGGUUAUCUAGCUGUAUGAgugguguggagucuucAUAAGCUAGAUACCGAAAGUaaaa
auaacccca
.(((((((.....(((.((((((((((((((((((.((((((.....))))))))).))))))))))))).))..
.)))).)))).
-----UCUUUGGUUAUCUAGCUG-----
-----7   0,-5
-----UCUUUGGUUAUCUAGCUG-----
-----9   0,-4
-----UCUUUGGUUAUCUAGCUGA-----
-----5   0,-3
-----UCUUUGGUUAUCUAGCUGAUG-----
-----12  0,-1
-----UCUUUGGUUAUCUAGCUGAUGA-----
-----36  0,0
-----UCUUUGGUUAUCUAGCUGAUGAa-----
-----12  0,0
-----UCUUUGGUUAUCUAGCUGAUGAaa-----
-----6   0,0

```

-----UUUGGUAUCUAGCUGUAUGAaa-----
-----42,0-----
-----AUAAGCUAGAUAACCGAAAG-----
-----20,-1-----
-----UAAAGCUAGAUAACCGAAAGUA-----
-----31,1-----

>hsa-mi r-9-2 MA:16-38;mi :53-74 SRX018961

ggaagcgaguuguuaUCUUUGGUUAUCUAGCUGUAUGAguguaauuggucuucAUAAAGCUAGAUAACCGAAAGUaaaaac
uccuuca

.((((.((((.((((..((((((((((((((((((.(((((((..(....)..)))))).)))))))).)))))))).)))))).
)))))).

```

-----UCUUUGGUUAUCUAGCUG-----
----- 7    0,-5
-----UCUUUGGUUAUCUAGCUGU-----
----- 9    0,-4
-----UCUUUGGUUAUCUAGCUGUA-----
----- 5    0,-3
-----UCUUUGGUUAUCUAGCUGUAUG-----
-----12    0,-1
-----UCUUUGGUUAUCUAGCUGUAUGA-----
-----36    0,0
-----UCUUUGGUUAUCUAGCUGUAUGAa-----
-----12    0,0
-----UCUUUGGUUAUCUAGCUGUAUGAaa-----
----- 6    0,0
-----UUUGGUUAUCUAGCUGUAUGAaa-----
----- 4    2,0
-----AUAAGCUAGAUAAACCGAAAG-----
----- 2    0,-1
-----UAAAGCUAGAUAAACCGAAAGUA-----
----- 3    1,1

```

>hsa-mi r-9-3 MA:16-38;mi :55-76 SRX018961

ggaggcccgguucucUCUUUGGUUAUCUAGCUGUAUGAgugccacagagccgucAUAAGCUAGAUACCGAAAGUagaa
augauucua

.((((..(((((((((.(((((((((((((((((.(((((..((.....))..))))).)))))))))))))))))))).)))
)))..))))).

```

-----UCUUUGGUUAUCUAGCUG-----
----- 7 0,-5
-----UCUUUGGUUAUCUAGCUGU-----
----- 9 0,-4
-----UCUUUGGUUAUCUAGCUGUA-----
----- 5 0,-3
-----UCUUUGGUUAUCUAGCUGUAUG-----
----- 12 0,-1
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 36 0,0
-----UCUUUGGUUAUCUAGCUGUAUGAa-----
----- 12 0,0
-----UCUUUGGUUAUCUAGCUGUAUGAaa-----
----- 6 0,0
-----UUUGGUUAUCUAGCUGUAUGAaa-----
----- 4 2,0
-----AUAAGCUAGAUAAACCGAAAG-----
----- 2 0,-1
-----UAAAGCUAGAUAAACCGAAAGUA-----
----- 3 1,1

```

>hsa-mir-92a-1 mi:11-33;MA:48-69 SRX018961

```

cuuucuacacAGGUUGGGAUCGGUUGCAAUGCUguguuucuguauggUAUUGCACUUGUCCCGCCUGUugaguugg
..(((...(((((((((((((((((.(((.((((((((((((.....)))))))))))))).)))))))))).))....
-----AGGUUGGGAUCGGUUGCA-----
----- 3 0,-5
-----AGGUUGGGAUCGGUUGCAA-----
----- 2 0,-4
-----AGGUUGGGAUCGGUUGCAAU-----
----- 5 0,-3
-----AGGUUGGGAUCGGUUGCAAUG-----
----- 4 0,-2
-----AGGUUGGGAUCGGUUGCAAUGa-----
----- 2 0,-2
-----AGGUUGGGAUCGGUUGCAAUGC-----
----- 22 0,-1
-----AGGUUGGGAUCGGUUGCAAUGCU-----
----- 188 0,0

```

-----	-AGGUUGGGAUCGGUUGCAAUGCUu-	-----
2	0,0	
-----		-----UAUUGCACUUGUCCCGGC-----
74	0,-4	
-----		-----UAUUGCACUUGUCCCGGCu-----
3	0,-4	
-----		-----UAUUGCACUUGUCCCGGCC-----
180	0,-3	
-----		-----UAUUGCACUUGUCCCGGCCU-----
1987	0,-2	
-----		-----UAUUGCACUUGUCCCGGCCUa-----
3	0,-2	
-----		-----UAUUGCACUUGUCCCGGCCUu-----
15	0,-2	
-----		-----UAUUGCACUUGUCCCGGCCUG-----
371	0,-1	
-----		-----UAUUGCACUUGUCCCGGCCUGa-----
12	0,-1	
-----		-----UAUUGCACUUGUCCCGGCCUGaa-----
4	0,-1	
-----		-----UAUUGCACUUGUCCCGGCCUGau-----
10	0,-1	
-----		-----UAUUGCACUUGUCCCGGCCUGU-----
502	0,0	
-----		-----UAUUGCACUUGUCCCGGCCUGUa-----
76	0,0	
-----		-----UAUUGCACUUGUCCCGGCCUGUaa-----
59	0,0	
-----		-----UAUUGCACUUGUCCCGGCCUGUau-----
57	0,0	
-----		-----UAUUGCACUUGUCCCGGCCUGUU-----
30	0,1	
-----		-----UAUUGCACUUGUCCCGGCCUGUau-----
5	0,1	
-----		-----UAUUGCACUUGUCCCGGCCUGUu-----
3	0,1	
-----		-----UAUUGCACUUGUCCCGGCCUGUUG-----
2	0,2	


```

-----UAUUGCACUUGUCCCGGCCUGUaa---- 59
0,0
-----UAUUGCACUUGUCCCGGCCUGUau---- 57
0,0
-----UAUUGCACUUGUCCCGGCCUGUG----- 4
0,1
-----AUUGCACUUGUCCCGGCC----- 2
1,-3
-----AUUGCACUUGUCCCGGCCU----- 98
1,-2
-----AUUGCACUUGUCCCGGCCUG----- 5
1,-1
-----AUUGCACUUGUCCCGGCCUGU----- 37
1,0
-----AUUGCACUUGUCCCGGCCUGUaa---- 3
1,0
-----AUUGCACUUGUCCCGGCCUGUG----- 2
1,1

```

>hsa-mir-92b mi:20-41;MA:61-82 SRX018961

cgggccccgggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuuccccgccaUUAUUGCACUCGUCCCGGCCU
CCggccccccccggccc

.((((((...(((.(((((((((...(((((((...)))))))))))))))))))))))))

```

-----AGGGACGGGACGCGGUGCA-----
-----4 0,-3
-----AGGGACGGGACGCGGUGCAG-----
-----7 0,-2
-----AGGGACGGGACGCGGUGCAGU-----
-----18 0,-1
-----AGGGACGGGACGCGGUGCAGUG-----
-----4 0,0
-----AGGGACGGGACGCGGUGCAGUGa-----
-----2 0,0
-----AGGGACGGGACGCGGUGCAGUGau-----
-----2 0,0
-----AGGGACGGGACGCGGUGCAGUGU-----
-----56 0,1

```

-----	-AGGGACGGGACGCGGUGCAGUGUU-	-----
-----	27 0,2	
-----	-AGGGACGGGACGCGGUGCAGUGUUu-	-----
-----	17 0,2	
-----	-AGGGACGGGACGCGGUGCAGUGUUG-	-----
-----	2 0,3	
-----		-----AUAUUGCACUCGUCCCCGGC--
-----	2 -1,-4	
-----		-----UAUUGCACUCGUCCCCGGC--
-----	17 0,-4	
-----		-----UAUUGCACUCGUCCCCGGCa-
-----	2 0,-4	
-----		-----UAUUGCACUCGUCCCCGGCC-
-----	87 0,-3	
-----		-----UAUUGCACUCGUCCCCGGCCa
-----	5 0,-3	
-----		-----UAUUGCACUCGUCCCCGGCCU
-----	130 0,-2	
-----		-----UAUUGCACUCGUCCCCGGCCU
a-----	20 0,-2	
-----		-----UAUUGCACUCGUCCCCGGCCU
aa-----	25 0,-2	
-----		-----UAUUGCACUCGUCCCCGGCCU
au-----	3 0,-2	
-----		-----UAUUGCACUCGUCCCCGGCCU
u-----	9 0,-2	
-----		-----UAUUGCACUCGUCCCCGGCCU
uu-----	3 0,-2	
-----		-----UAUUGCACUCGUCCCCGGCCU
C-----	107 0,-1	
-----		-----UAUUGCACUCGUCCCCGGCCU
Ca-----	13 0,-1	
-----		-----UAUUGCACUCGUCCCCGGCCU
Caa-----	11 0,-1	
-----		-----UAUUGCACUCGUCCCCGGCCU
Cu-----	7 0,-1	
-----		-----UAUUGCACUCGUCCCCGGCCU
CC-----	55 0,0	

```

-----UAUUGCACUCGUCCCGGCCU
CCa-----      25  0,0
-----UAUUGCACUCGUCCCGGCCU
CCaa-----      2   0,0
-----UAUUGCACUCGUCCCGGCCU
CCau-----     14  0,0
-----UAUUGCACUCGUCCCGGCCU
CCu-----     10  0,0
-----AUUGCACUCGUCCCGGCC-
-----      3   1,-3
-----AUUGCACUCGUCCCGGCCU
-----      3   1,-2

```

>hsa-mi r-93 MA:11-33;mi:50-71 SRX018961

```

cuggggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagcccccg
((((((((((..(((((((((((.(((((((((..(.....)).))))))))))))).))))))....)))))))))
-----CAAAGUGCUGUUCGUGCA-----
48  0,-5
-----CAAAGUGCUGUUCGUGCAG-----
63  0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
49  0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
101 0,-2
-----CAAAGUGCUGUUCGUGCAGGUA-----
274 0,-1
-----CAAAGUGCUGUUCGUGCAGGUa-----
34  0,-1
-----CAAAGUGCUGUUCGUGCAGGUa-----
8   0,-1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
181 0,0
-----CAAAGUGCUGUUCGUGCAGGUAGa-----
8   0,0
-----CAAAGUGCUGUUCGUGCAGGUAGaa-----
3   0,0
-----AAAGUGCUGUUCGUGCAGGU-----
9   1,-2

```

```

-----AAAGUGCUGUUCGUGCAGGUA-----
10  1,-1
-----AAAGUGCUGUUCGUGCAGGUAG-----
10  1,0
-----AAAGUGCUGUUCGUGCAGGUAGa-----
5   1,0
-----ACUGCUGAGCUAGCACUUCCCGA-----
3   0,1

```

```

>hsa-mir-934    5p:15-36    SRX018961
agaaauaaggcuucUGUCUACUACUGGAGACACUGGuaguauaaaaccagagucuccaguaauggacgggagccuuauu
ucu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----UGUCUACUACUGGAGACACU-----
--- 11  0,-2
-----UGUCUACUACUGGAGACACUGa-----
--- 2   0,-1
-----UGUCUACUACUGGAGACACUGG-----
--- 9   0,0

```

```

>hsa-mir-939    5p:15-38    SRX018961
ugugggcagggcccUGGGGAGCUGAGGCUCUGGGGGUGgccggggcugaccugggccucugcuccccagugucugaccg
cg
.((((...(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).
-----UGGGGAGCUGAGGCUCUGGGGGU-----
-- 3   0,-1
-----UGGGGAGCUGAGGCUCUGGGGGUGu-----
-- 3   0,0

```

```

>hsa-mir-940    3p:60-80    SRX018961
gugaggugugggccccggccccaggagcggggccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCUCCC
gggcugacccac
(((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))
-----AAGGCAGGGCCCCCGCUC-----
----- 4   0,-3

```

-----AAGGCAGGGCCCCCGCUCCCC
 ----- 4 0,0
 -----AAGGCAGGGCCCCCGCUCCCC
 au----- 2 0,0
 -----AAGGCAGGGCCCCCGCUCCCC
 u----- 4 0,0

>hsa-mir-941-1 3p:71-93 SRX018961

cacggaagaggacacacccggcuguguggacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg

[illegible]

-----CACCCGGCUG

UGUGCACAUGU----- 7 0,-2

-----CACCCGGCUG

UGUGCACAUGUG----- 35 0,-1

-----CACCCGGCUG

UGUGCACAUGUGa----- 41 0,-1

-----CACCCGGCUG

UGUGCACAUGUGaa----- 6 0,-1

-----CACCCGGCUG

UGUGCACAUGUGu----- 19 0,-1

-----CACCCGGCUG

UGUGCACAUGUGC----- 141 0,0

-----CACCCGGCUG

UGUGCACAUGUGC_a----- 3 0,0

-----CACCCGGCUG

UGUGCACAUGUGCaa----- 2 0,0

-----CACCCGGCUG

UGUGCACAUGUGC_u----- 2 0,0

-----ACCCGGCUG

UGUGCACAUGUGC----- 4 1,0

>hsa-mir-941-2 3p:71-93 SRX018961

cacggaagaggacgcacccggcugugugcacauugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUUGUGCccagggcccgggacagcgccacgg

-----CACC CGGCUGUG CACAUGU-----			
-----	7		
-----CACC CGGCUGUG CACAUGUG-----			
-----	35		
-----CACC CGGCUGUG CACAUGUGa-----			
-----	41		
-----CACC CGGCUGUG CACAUGUGaa-----			
-----	6		
-----CACC CGGCUGUG CACAUGUGu-----			
-----	19		
-----CACC CGGCUGUG CACAUGUGC-----			
-----	141		
-----CACC CGGCUGUG CACAUGUGCa-----			
-----	3		
-----CACC CGGCUGUG CACAUGUGCaa-----			
-----	2		
-----CACC CGGCUGUG CACAUGUGCu-----			
-----	2		
-----ACCC CGGCUGUG CACAUGUGC-----			
-----	4		
-----CACC CGGCUGUG CACAUGUG-----			
UGUG CACAUGU-----	7	0,-2	
-----CACC CGGCUGUG CACAUGUG-----			
UGUG CACAUGUG-----	35	0,-1	
-----CACC CGGCUGUG CACAUGUGa-----			
UGUG CACAUGUGa-----	41	0,-1	
-----CACC CGGCUGUG CACAUGUGaa-----			
UGUG CACAUGUGaa-----	6	0,-1	
-----CACC CGGCUGUG CACAUGUGu-----			
UGUG CACAUGUGu-----	19	0,-1	
-----CACC CGGCUGUG CACAUGUGC-----			
UGUG CACAUGUGC-----	141	0,0	
-----CACC CGGCUGUG CACAUGUGCa-----			
UGUG CACAUGUGCa-----	3	0,0	
-----CACC CGGCUGUG CACAUGUGCaa-----			
UGUG CACAUGUGCaa-----	2	0,0	
-----CACC CGGCUGUG CACAUGUGCu-----			
UGUG CACAUGUGCu-----	2	0,0	


```

-----CACCCGGCUG
UGUGCACAUGUG----- 35 0,-1
-----CACCCGGCUG
UGUGCACAUGUGa----- 41 0,-1
-----CACCCGGCUG
UGUGCACAUGUGaa----- 6 0,-1
-----CACCCGGCUG
UGUGCACAUGUGu----- 19 0,-1
-----CACCCGGCUG
UGUGCACAUGUGC----- 141 0,0
-----CACCCGGCUG
UGUGCACAUGUGCa----- 3 0,0
-----CACCCGGCUG
UGUGCACAUGUGCaa----- 2 0,0
-----CACCCGGCUG
UGUGCACAUGUGCu----- 2 0,0
-----ACCCGGCUG
UGUGCACAUGUGC----- 4 1,0

```

```

>hsa-mi r-942 5p:13-34 SRX018961
auuaggagaguaUCUUCUCUGUUUUGGCCAUGUGuguacucacagccccucacacauggccgaaacagagaaguuaauuu
ccuaau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CACAUGGCCGAAACAGAGAAGU-----
----- 2

```

```

>hsa-mi r-943 3p:55-75 SRX018961
gggacguucugagcucggggugggggacguuugccggucacugcugcugggcgccCUGACUGUUGCCGUCCUCCAGcccca
cucaaaggcauccc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CCUGACUGUUGCCGUCCUCCAGa-----
----- 2 -1,0

```

```

>hsa-mi r-944 3p:54-75 SRX018961
guuccagacacaucucaucugauauacaauuuuucuaaaauuguauaaagagAAAUUAUUGUACAUCGGAUGAGcugug
ucugggau

```


aggauucugcucaugccagggUGAGGUAGUAAGUUGUAUUGUUguggggguagggauuuaggccccaauuagaagauaac
uauacaacuacuacuuucccugguguguggcatauua

-----UGAGGUAGUAAGUUGUAU-----
-----44 0,-4-----

-----UGAGGUAGUAAGUUGUAUU-----
-----9 0,-3-----

-----UGAGGUAGUAAGUUGUAUUG-----
----- 6 0,-2

-----UGAGGUAGUAAGUUGUAUUGU-----
----- 28 0,-1

-----UGAGGUAGUAAGUUGUAUUGUa-----
----- 5' 0' -1

-----UGAGGUAGUAAGUUGUAUUGUU-----
----- 26 0.0

-----UGAGGUAGUAAGUUGUAUUGUUa-----
----- 5 0.0

-----UGAGGUAGUAAGUUGUAUUGUUG-----
----- 3 0,1

-----UGAGGUAGUAAGUUGUAUUGUUGa-----
----- 2 0,1 -----

-----GAGGUAGUAAGUUGUAUUG-----
----- 3 1,-2

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

. .(((((((((((.((((((((((.((.((((((((.(.....)))))))).).)).))).))).).)))).)).).

.

-----AAACCCGUAGAUCCGAUCU-----
- 2 -1,-4

-----AAACCCGUAGAUCCGAUCUU-----
- 4 -1,-3

-----AAACCCGUAGAUCCGAUCUUG-----
- 20 -1,-2

```

-----AAACCCGUAGAUCCGAUCUUGU-----
- 125 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUG-----
- 16 -1,0
-----AACCCGUAGAUCCGAUCU-----
- 806 0,-4
-----AACCCGUAGAUCCGAUCUa-----
- 3 0,-4
-----AACCCGUAGAUCCGAUCUaa-----
- 2 0,-4
-----AACCCGUAGAUCCGAUCUU-----
- 3451 0,-3
-----AACCCGUAGAUCCGAUCUua-----
- 49 0,-3
-----AACCCGUAGAUCCGAUCUuaa-----
- 2 0,-3
-----AACCCGUAGAUCCGAUCUuau-----
- 10 0,-3
-----AACCCGUAGAUCCGAUCUUu-----
- 17 0,-3
-----AACCCGUAGAUCCGAUCUUuu-----
- 18 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 15889 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
- 203 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
- 14 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 56112 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
- 360 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 58 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
- 3 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----
- 48 0,-1

```

```

-----AACCCGUAGAUCCGAUCUUGUuu-----
- 7 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 86028 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 14849 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 258 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----
- 32 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 8496 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----
- 15 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 34 0,1
-----AACCCGUAGAUCCGAUCUUGUGGa-----
- 2 0,1
-----ACCCGUAGAUCCGAUCUU-----
- 6 1,-3
-----ACCCGUAGAUCCGAUCUUG-----
- 12 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----
- 51 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 54 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 15 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----
- 16 1,0
-----CAAGCUCGCUUCUAUGGGUC-----
- 2 0,-2
-----CAAGCUCGCUUCUAUGGGUCU-----
- 9 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 10 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 14 0,1

```


-----CAAGCUCGUGUCUGUGGGUaa-----	8	0,-3
-----CAAGCUCGUGUCUGUGGGUC-----	85	0,-2
-----CAAGCUCGUGUCUGUGGGUCa-----	2	0,-2
-----CAAGCUCGUGUCUGUGGGUCu-----	6	0,-2
-----CAAGCUCGUGUCUGUGGGUCC-----	43	0,-1
-----CAAGCUCGUGUCUGUGGGUCCau---	2	0,-1
-----CAAGCUCGUGUCUGUGGGUCCG----	39	0,0
-----CAAGCUCGUGUCUGUGGGUCCGa---	129	0,0
-----CAAGCUCGUGUCUGUGGGUCCGaa--	9	0,0
-----CAAGCUCGUGUCUGUGGGUCCGau--	2	0,0
-----CAAGCUCGUGUCUGUGGGUCCGU---	52	0,1
-----CAAGCUCGUGUCUGUGGGUCCGUu--	7	0,1

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018962

```

ugggaUGAGGUAGUAGGUUGUAUAGUUuuagggucacacccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUGAGGUAGUAGGUUGUAU-----
      4    -1,-4
-----UGAGGUAGUAGGUUGUAU-----
      1016    0,-4
-----UGAGGUAGUAGGUUGUAUu-----
      41    0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
      24    0,-4
-----UGAGGUAGUAGGUUGUAUA-----
      968    0,-3
-----UGAGGUAGUAGGUUGUAUAa-----
      174    0,-3
-----UGAGGUAGUAGGUUGUAUAaa-----
      24    0,-3
-----UGAGGUAGUAGGUUGUAUAau-----
      4    0,-3
-----UGAGGUAGUAGGUUGUAUAu-----
      38    0,-3
-----UGAGGUAGUAGGUUGUAUAuu-----
      5    0,-3
-----UGAGGUAGUAGGUUGUAUAG-----
      3530    0,-2

```


-----UGAGGUAGUAGGUUGUAUAGa-----
 189 0,-2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 40 0,-2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 8 0,-2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 16796 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 464 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 278 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 67 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 23173 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 2754 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 173 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 75 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 1367 0,1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 15 0,2
 -----GAGGUAGUAGGUUGUAUAG-----
 6 1,-2
 -----GAGGUAGUAGGUUGUAUAGU-----
 28 1,-1
 -----GAGGUAGUAGGUUGUAUAGUU-----
 29 1,0
 -----GAGGUAGUAGGUUGUAUAGUUa-----
 6 1,0
 -----GAGGUAGUAGGUUGUAUAGUUaa-----
 2 1,0
 -----AGGUAGUAGGUUGUAUAGU-----
 7 2,-1

-----AGGUAGUAGGUUGUAUAGUU-----
14 2,0
-----CUAUACAAUCUACUGUCUUUCu-----
3 0,0

>hsa-let-7a-2 MA:5-26;mi:50-71 SRX018962

---UUGAGGUAGUAGGUUGUAUAGU-----	5
-1, -1	
---UGAGGUAGUAGGUUGUAU-----	1016
0, -4	
---UGAGGUAGUAGGUUGUAUu-----	41
0, -4	
---UGAGGUAGUAGGUUGUAUuu-----	24
0, -4	
---UGAGGUAGUAGGUUGUAUA-----	968
0, -3	
---UGAGGUAGUAGGUUGUAUAa-----	174
0, -3	
---UGAGGUAGUAGGUUGUAUAaa-----	24
0, -3	
---UGAGGUAGUAGGUUGUAUAau-----	4
0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	38
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	5
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	3530
0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	189
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	40
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	8
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
16796 0, -1	

--GUGAGGUAGUAGGUUGUAUAGUU-----	2
-1,0	
---UGAGGUAGUAGGUUGUAU-----	1016
0,-4	
---UGAGGUAGUAGGUUGUAUu-----	41
0,-4	
---UGAGGUAGUAGGUUGUAUuu-----	24
0,-4	
---UGAGGUAGUAGGUUGUAUA-----	968
0,-3	
---UGAGGUAGUAGGUUGUAUAa-----	174
0,-3	
---UGAGGUAGUAGGUUGUAUAaa-----	24
0,-3	
---UGAGGUAGUAGGUUGUAUAau-----	4
0,-3	
---UGAGGUAGUAGGUUGUAUAu-----	38
0,-3	
---UGAGGUAGUAGGUUGUAUAuu-----	5
0,-3	
---UGAGGUAGUAGGUUGUAUAG-----	3530
0,-2	
---UGAGGUAGUAGGUUGUAUAGa-----	189
0,-2	
---UGAGGUAGUAGGUUGUAUAGaa-----	40
0,-2	
---UGAGGUAGUAGGUUGUAUAGau-----	8
0,-2	
---UGAGGUAGUAGGUUGUAUAGU-----	
16796 0,-1	
---UGAGGUAGUAGGUUGUAUAGUa-----	464
0,-1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	278
0,-1	
---UGAGGUAGUAGGUUGUAUAGUau-----	67
0,-1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
23173 0,0	

-----UGAGGUAGUAGGUUGUGUa-----
--- 83 0,-4
-----UGAGGUAGUAGGUUGUGUaa-----
--- 203 0,-4
-----UGAGGUAGUAGGUUGUGUau-----
--- 17 0,-4
-----UGAGGUAGUAGGUUGUGUu-----
--- 19 0,-4
-----UGAGGUAGUAGGUUGUGUuu-----
--- 5 0,-4
-----UGAGGUAGUAGGUUGUGUG-----
--- 19027 0,-3
-----UGAGGUAGUAGGUUGUGUGa-----
--- 313 0,-3
-----UGAGGUAGUAGGUUGUGUGaa-----
--- 38 0,-3
-----UGAGGUAGUAGGUUGUGUGau-----
--- 10 0,-3
-----UGAGGUAGUAGGUUGUGUGu-----
--- 227 0,-3
-----UGAGGUAGUAGGUUGUGUGuu-----
--- 56 0,-3
-----UGAGGUAGUAGGUUGUGUGG-----
--- 13628 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 497 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 123 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 62 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 22168 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 3089 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 4350 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 6478 0,-1

```

-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 50118 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 14300 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 1963 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 3320 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 9974 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 652 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 54 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 21 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 288 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 3 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 25 0,2
-----GAGGUAGUAGGUUGUGUG-----
--- 49 1,-3
-----GAGGUAGUAGGUUGUGUGG-----
--- 25 1,-2
-----GAGGUAGUAGGUUGUGUGGa-----
--- 2 1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 44 1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 10 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 18 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 23 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 100 1,0

```

```

-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 55 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 7 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 18 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 53 1,1
-----AGGUAGUAGGUUGUGUGG-----
--- 2 2,-2
-----AGGUAGUAGGUUGUGUGGU-----
--- 6 2,-1
-----AGGUAGUAGGUUGUGUGGUa-----
--- 2 2,-1
-----AGGUAGUAGGUUGUGUGGUau-----
--- 3 2,-1
-----AGGUAGUAGGUUGUGUGGU-----
--- 18 2,0
-----AGGUAGUAGGUUGUGUGGUUa-----
--- 4 2,0
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 5 2,1
-----CUAUACAACCUACUGCCU-----
--- 3 0,-3
-----CUAUACAACCUACUGCCUUC-----
--- 8 0,-2
-----CUAUACAACCUACUGCCUUCu
u-- 2 0,-2
-----CUAUACAACCUACUGCCUUCC
--- 30 0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 5 0,-1
-----CUAUACAACCUACUGCCUUCC
aa- 2 0,-1
-----CUAUACAACCUACUGCCUUCC
u-- 29 0,-1

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018962

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc

((.((((((..(((.(((.((((((((((((((..((.(..(.....).).)))))))))))))))).)).)).)).))

-----GUUGAGGUAGUAGGUUGUAUGGUU-----
---- 4 -2,0
-----UUGAGGUAGUAGGUUGUAUG-----
---- 2 -1,-3
-----UUGAGGUAGUAGGUUGUAUGG-----
---- 13 -1,-2
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 77 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUa-----
---- 22 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUaa-----
---- 2 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUau-----
---- 6 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUU-----
---- 89 -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUa-----
---- 3 -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUU-----
---- 2 -1,1
-----UGAGGUAGUAGGUUGUAU-----
---- 1016 0,-4
-----UGAGGUAGUAGGUUGUAUu-----
---- 41 0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
---- 24 0,-4
-----UGAGGUAGUAGGUUGUAUG-----
---- 1270 0,-3
-----UGAGGUAGUAGGUUGUAUGa-----
---- 15 0,-3
-----UGAGGUAGUAGGUUGUAUGaa-----
---- 4 0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
---- 14 0,-3

```

-----UGAGGUAGUAGGUUGUAUGuu-----
---- 20 0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
---- 3116 0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
---- 114 0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 107 0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 23 0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 11439 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----
---- 2727 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 1188 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 778 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 47592 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 5101 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 363 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 375 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 3356 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 38 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 79 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUa-----
---- 5 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUau-----
---- 2 0,2
-----GAGGUAGUAGGUUGUAUG-----
---- 10 1,-3

```

```

-----GAGGUAGUAGGUUGUAUGG-----
---- 12 1,-2
-----GAGGUAGUAGGUUGUAUGGU-----
---- 46 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 20 1,-1
-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 5 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 6 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----
---- 265 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 30 1,0
-----GAGGUAGUAGGUUGUAUGGUUaa-----
---- 4 1,0
-----GAGGUAGUAGGUUGUAUGGUUau-----
---- 4 1,0
-----GAGGUAGUAGGUUGUAUGGUUU-----
---- 22 1,1
-----AGGUAGUAGGUUGUAUGGU-----
---- 6 2,-1
-----AGGUAGUAGGUUGUAUGGUU-----
---- 19 2,0
-----AGGUAGUAGGUUGUAUGGUUa-----
---- 2 2,0
-----AGGUAGUAGGUUGUAUGGUUU-----
---- 3 2,1

```

>hsa-let-7d MA:8-29;mi:62-83 SRX018962

ccuaggaAGAGGUAGUAGGUUGCAUAGUUuuagggcagggauuuugcccacaaggagguaaCUAUACGACCUGCUGCCUU
UCUuagg

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(((((((.(((((((((((((((.((((((.....)))))).))))))))))))
))))))

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```

-----AAGAGGUAGUAGGUUGCAUAGUU-----
----- 4 -1,0
-----AGAGGUAGUAGGUUGCAU-----
----- 474 0,-4

```

```

-----AGAGGUAGUAGGUUGCAUu-----
----- 14  0,-4
-----AGAGGUAGUAGGUUGCAUuu-----
----- 13  0,-4
-----AGAGGUAGUAGGUUGCAUA-----
----- 402 0,-3
-----AGAGGUAGUAGGUUGCAUAa-----
----- 38  0,-3
-----AGAGGUAGUAGGUUGCAUAaa-----
----- 4   0,-3
-----AGAGGUAGUAGGUUGCAUAau-----
----- 2   0,-3
-----AGAGGUAGUAGGUUGCAUAu-----
----- 5   0,-3
-----AGAGGUAGUAGGUUGCAUAG-----
----- 1090   0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 42  0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 13  0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 19  0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 1685   0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 199 0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 15  0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 11  0,-1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 12441  0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 971 0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 21  0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 9   0,0

```


-----CUGAGGUAGGAGGUUGUAUAGUU-----
 2 -1,0
 -----UGAGGUAGGAGGUUGUAU-----
 168 0, -4
 -----UGAGGUAGGAGGUUGUAUA-----
 145 0, -3
 -----UGAGGUAGGAGGUUGUAUAa-----
 21 0, -3
 -----UGAGGUAGGAGGUUGUAUAaa-----
 15 0, -3
 -----UGAGGUAGGAGGUUGUAUAG-----
 348 0, -2
 -----UGAGGUAGGAGGUUGUAUAGa-----
 46 0, -2
 -----UGAGGUAGGAGGUUGUAUAGaa-----
 28 0, -2
 -----UGAGGUAGGAGGUUGUAUAGU-----
 1039 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUa-----
 78 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUaa-----
 97 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUau-----
 22 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUU-----
 1273 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUa-----
 531 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUaa-----
 49 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUau-----
 23 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUu-----
 194 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUuu-----
 3 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUG-----
 129 0,1


```

-----UGAGGUAGUAGAUUGUAUAGau-----
----- 3 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
----- 2701 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
----- 64 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
----- 141 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 34 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 3518 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 1794 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 73 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 21 0,0
-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 118 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 2 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGU-----
----- 5 0,2
-----GAGGUAGUAGAUUGUAUA-----
----- 2 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
----- 3 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
----- 8 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
----- 13 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
----- 7 1,0

```

>hsa-let-7f-2 MA:8-29;mi:58-79 SRX018962

```

ugugggaUGAGGUAGUAGAUUGUAUAGUUuuagggucauaccccaucuuggagauaaCUAUACAGUCUACUGUCUUUCCc
acg

```



```

-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 1794 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 73 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 21 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 388 0,1
-----GAGGUAGUAGAUUGUAUA-----
--- 2 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
--- 3 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 8 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 13 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
--- 7 1,0
-----GAGGUAGUAGAUUGUAUAGUUU-----
--- 2 1,1

```

>hsa-let-7g MA:5-26;mi:62-82 SRX018962

aggcUGAGGUAGUAGUUUGUACAGUUugaggggucuaugauaccacccgguacaggagauaaCUGUACAGGCCACUGCCUU
GCca

.(((.(((((((.((((((((((((.....(((((.(((.((((.....))))))..))))))))))))))))).))))))

```

---CUGAGGUAGUAGUUUGUACAG-----
---- 7 -1,-2
---CUGAGGUAGUAGUUUGUACAGa-----
---- 2 -1,-2
---CUGAGGUAGUAGUUUGUACAGU-----
---- 7 -1,-1
---CUGAGGUAGUAGUUUGUACAGUU-----
---- 12 -1,0
---UGAGGUAGUAGUUUGUAC-----
---- 101 0,-4
---UGAGGUAGUAGUUUGUACA-----
---- 44 0,-3

```

```

----UGAGGUAGUAGUUUGUACAa-----
----    20    0,-3
----UGAGGUAGUAGUUUGUACAaa-----
----     4     0,-3
----UGAGGUAGUAGUUUGUACAu-----
----     2     0,-3
----UGAGGUAGUAGUUUGUACAuu-----
----     4     0,-3
----UGAGGUAGUAGUUUGUACAG-----
----   499    0,-2
----UGAGGUAGUAGUUUGUACAGa-----
----    42     0,-2
----UGAGGUAGUAGUUUGUACAGaa-----
----     5     0,-2
----UGAGGUAGUAGUUUGUACAGU-----
----  2328     0,-1
----UGAGGUAGUAGUUUGUACAGUa-----
----    25     0,-1
----UGAGGUAGUAGUUUGUACAGUaa-----
----    13     0,-1
----UGAGGUAGUAGUUUGUACAGUau-----
----     5     0,-1
----UGAGGUAGUAGUUUGUACAGUU-----
----  2626     0,0
----UGAGGUAGUAGUUUGUACAGUUa-----
----   277    0,0
----UGAGGUAGUAGUUUGUACAGUUaa-----
----     9     0,0
----UGAGGUAGUAGUUUGUACAGUUau-----
----    14     0,0
----UGAGGUAGUAGUUUGUACAGUUU-----
----   282    0,1
----UGAGGUAGUAGUUUGUACAGUUUu-----
----     5     0,1
----GAGGUAGUAGUUUGUACA-----
----     2     1,-3
----GAGGUAGUAGUUUGUACAG-----
----     9     1,-2

```

```

-----GAGGUAGUAGUUUGUACAGU-----
----      23      1,-1
-----GAGGUAGUAGUUUGUACAGUU-----
----      20      1,0
-----AGGUAGUAGUUUGUACAGUU-----
----      3       2,0
-----CUGUACAGGCCACUGCCUU
GCu-      2       0,0

```

>hsa-let-7i MA:6-27;mi:62-83 SRX018962

```

cuggcUGAGGUAGUAGUUUGUGCUGUUGgucgguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUU
GCUa

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

----CUGAGGUAGUAGUUUGUGCU-----
----      2      -1,-3
----CUGAGGUAGUAGUUUGUGCUGU-----
----      4      -1,-1
----UGAGGUAGUAGUUUGUGC-----
----     531     0,-4
----UGAGGUAGUAGUUUGUGCU-----
----    1642     0,-3
----UGAGGUAGUAGUUUGUGCUuu-----
----      4      0,-3
----UGAGGUAGUAGUUUGUGCUG-----
----    1266     0,-2
----UGAGGUAGUAGUUUGUGCUGa-----
----     24     0,-2
----UGAGGUAGUAGUUUGUGCUGaa-----
----     15     0,-2
----UGAGGUAGUAGUUUGUGCUGU-----
----    657     0,-1
----UGAGGUAGUAGUUUGUGCUGUa-----
----     20     0,-1
----UGAGGUAGUAGUUUGUGCUGUaa-----
----      6      0,-1
----UGAGGUAGUAGUUUGUGCUGUU-----
----    610     0,0

```


897 0, -2
 -----AACCCGUAGAUCCGAACUUGa-----
 22 0, -2
 -----AACCCGUAGAUCCGAACUUGU-----
 7000 0, -1
 -----AACCCGUAGAUCCGAACUUGUa-----
 24 0, -1
 -----AACCCGUAGAUCCGAACUUGUaa-----
 15 0, -1
 -----AACCCGUAGAUCCGAACUUGUau-----
 7 0, -1
 -----AACCCGUAGAUCCGAACUUGUu-----
 21 0, -1
 -----AACCCGUAGAUCCGAACUUGUuu-----
 3 0, -1
 -----AACCCGUAGAUCCGAACUUGUG-----
 4802 0,0
 -----AACCCGUAGAUCCGAACUUGUGa-----
 2872 0,0
 -----AACCCGUAGAUCCGAACUUGUGaa-----
 165 0,0
 -----AACCCGUAGAUCCGAACUUGUGau-----
 9 0,0
 -----AACCCGUAGAUCCGAACUUGUGu-----
 4142 0,0
 -----AACCCGUAGAUCCGAACUUGUGuu-----
 16 0,0
 -----AACCCGUAGAUCCGAACUUGUGG-----
 34 0,1
 -----AACCCGUAGAUCCGAACUUGUGGU-----
 2 0,2
 -----ACCCGUAGAUCCGAACUUGU-----
 8 1, -1
 -----ACCCGUAGAUCCGAACUUGUG-----
 2 1,0
 -----ACCCGUAGAUCCGAACUUGUGa-----
 11 1,0
 -----ACCCGUAGAUCCGAACUUGUGaa-----

```

5      1,0
-----ACCCGUAGAUCCGAACUUGUGu-----
2      1,0

>hsa-mir-101-1   mi:11-32;MA:47-67    SRX018962
ugccuccggcuCAGUUAUCACAGUGCUGAUGCUgucuaauucuaaaggUACAGUACUGUGAUAAACUGAAggauggca
.(((.....(((((((((((((((((((((((((.....))))))))).....))).
-----GUACAGUACUGUGAUAAC----- 254
-1,-4
-----GUACAGUACUGUGAUAACT----- 6496
-1,-3
-----GUACAGUACUGUGAUAACTa----- 4
-1,-3
-----GUACAGUACUGUGAUAACTaa----- 3
-1,-3
-----GUACAGUACUGUGAUAACTu----- 3
-1,-3
-----GUACAGUACUGUGAUAACTG----- 3211
-1,-2
-----GUACAGUACUGUGAUAACTGu----- 19
-1,-2
-----GUACAGUACUGUGAUAACTGA-----
18236   -1,-1
-----GUACAGUACUGUGAUAACTGAu----- 87
-1,-1
-----GUACAGUACUGUGAUAACTGAuu----- 2
-1,-1
-----GUACAGUACUGUGAUAACTGAA-----
25857   -1,0
-----GUACAGUACUGUGAUAACTGAAa----- 4728
-1,0
-----GUACAGUACUGUGAUAACTGAAaa----- 96
-1,0
-----GUACAGUACUGUGAUAACTGAAau----- 2
-1,0
-----GUACAGUACUGUGAUAACTGAAu----- 26
-1,0
-----GUACAGUACUGUGAUAACTGAAG----- 12
```


-1,1		-UACAGUACUGUGUAACU-----	7451
0,-3		-UACAGUACUGUGUAACUa-----	7
0,-3		-UACAGUACUGUGUAACUaa-----	5
0,-3		-UACAGUACUGUGUAACUau-----	2
0,-3		-UACAGUACUGUGUAACUu-----	3
0,-3		-UACAGUACUGUGUAACUG-----	3562
0,-2		-UACAGUACUGUGUAACUGu-----	22
0,-2		-UACAGUACUGUGUAACUGA-----	
31088	0,-1	-UACAGUACUGUGUAACUGAu-----	86
0,-1		-UACAGUACUGUGUAACUGAuu-----	28
0,-1		-UACAGUACUGUGUAACUGAA-----	
66302	0,0	-UACAGUACUGUGUAACUGAAa-----	
15243	0,0	-UACAGUACUGUGUAACUGAAaa-----	443
0,0		-UACAGUACUGUGUAACUGAAau-----	22
0,0		-UACAGUACUGUGUAACUGAAu-----	634
0,0		-UACAGUACUGUGUAACUGAAuu-----	12
0,0		-UACAGUACUGUGUAACUGAAG-----	3229
0,1		-UACAGUACUGUGUAACUGAAGu-----	308
0,1		-UACAGUACUGUGUAACUGAAGG-----	3

0,2	-----UACAGUACUGUGAUAAACUGAAGGA-----	6
0,3	-----ACAGUACUGUGAUAAACUG-----	12
1,-2	-----ACAGUACUGUGAUAAACUGA-----	218
1,-1	-----ACAGUACUGUGAUAAACUGAuu-----	2
1,-1	-----ACAGUACUGUGAUAAACUGAA-----	473
1,0	-----ACAGUACUGUGAUAAACUGAAa-----	131
1,0	-----ACAGUACUGUGAUAAACUGAAaa-----	8
1,0	-----ACAGUACUGUGAUAAACUGAAau-----	6
1,0	-----ACAGUACUGUGAUAAACUGAAu-----	9
1,0	-----ACAGUACUGUGAUAAACUGAAuu-----	2
1,0	-----ACAGUACUGUGAUAAACUGAAG-----	29
1,1	-----ACAGUACUGUGAUAAACUGAAGu-----	6
1,1	-----CAGUACUGUGAUAAACUGA-----	45
2,-1	-----CAGUACUGUGAUAAACUGAA-----	105
2,0	-----CAGUACUGUGAUAAACUGAAa-----	13
2,0	-----CAGUACUGUGAUAAACUGAAu-----	2
2,0	-----CAGUACUGUGAUAAACUGAAG-----	9
2,1	-----CAGUACUGUGAUAAACUGAAGu-----	3
2,1		

>hsa-mir-101-2 3p:49-69 SRX018962

acuguccuuuuucgguuaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGAUAAACUGAAgaugguggu
((..((.((((((((((((((((((((((((((.(.((((.....)))))).))))))))))))))))))))))))))..))

-----GUACAGUACUGUGAUAAAC-----
254 -1,-4
-----GUACAGUACUGUGAUAAACU-----
6496 -1,-3
-----GUACAGUACUGUGAUAAACUa-----
4 -1,-3
-----GUACAGUACUGUGAUAAACUaa-----
3 -1,-3
-----GUACAGUACUGUGAUAAACUu-----
3 -1,-3
-----GUACAGUACUGUGAUAAACUG-----
3211 -1,-2
-----GUACAGUACUGUGAUAAACUGu-----
19 -1,-2
-----GUACAGUACUGUGAUAAACUGA-----
18236 -1,-1
-----GUACAGUACUGUGAUAAACUGAu-----
87 -1,-1
-----GUACAGUACUGUGAUAAACUGAuu-----
2 -1,-1
-----GUACAGUACUGUGAUAAACUGAA-----
25857 -1,0
-----GUACAGUACUGUGAUAAACUGAAa-----
4728 -1,0
-----GUACAGUACUGUGAUAAACUGAAaa-----
96 -1,0
-----GUACAGUACUGUGAUAAACUGAAau-----
2 -1,0
-----GUACAGUACUGUGAUAAACUGAAu-----
26 -1,0
-----GUACAGUACUGUGAUAAACUGAAG-----
12 -1,1
-----GUACAGUACUGUGAUAAACUGAAGA-----
3 -1,2
-----UACAGUACUGUGAUAAACU-----

7451	0,-3	-UACAGUACUGUGAUAACUa-----
7	0,-3	-UACAGUACUGUGAUAACUaa-----
5	0,-3	-UACAGUACUGUGAUAACUau-----
2	0,-3	-UACAGUACUGUGAUAACUu-----
3	0,-3	-UACAGUACUGUGAUAAACUG-----
3562	0,-2	-UACAGUACUGUGAUAAACUGu-----
22	0,-2	-UACAGUACUGUGAUAAACUGA-----
31088	0,-1	-UACAGUACUGUGAUAAACUGAu-----
86	0,-1	-UACAGUACUGUGAUAAACUGAuu-----
28	0,-1	-UACAGUACUGUGAUAAACUGAA-----
66302	0,0	-UACAGUACUGUGAUAAACUGAAa-----
15243	0,0	-UACAGUACUGUGAUAAACUGAAaa-----
443	0,0	-UACAGUACUGUGAUAAACUGAAau-----
22	0,0	-UACAGUACUGUGAUAAACUGAAu-----
634	0,0	-UACAGUACUGUGAUAAACUGAAuu-----
12	0,0	-UACAGUACUGUGAUAAACUGAAG-----
3229	0,1	-UACAGUACUGUGAUAAACUGAAGu-----
308	0,1	-UACAGUACUGUGAUAAACUGAAGA-----
735	0,2	-UACAGUACUGUGAUAAACUGAAGAA-----

37	0,3	UACAGUACUGUGAUAAACUGAAGAAa-----
2	0,3	ACAGUACUGUGAUAAACUG-----
12	1,-2	ACAGUACUGUGAUAAACUGA-----
218	1,-1	ACAGUACUGUGAUAAACUGAuu-----
2	1,-1	ACAGUACUGUGAUAAACUGAA-----
473	1,0	ACAGUACUGUGAUAAACUGAAa-----
131	1,0	ACAGUACUGUGAUAAACUGAAaa-----
8	1,0	ACAGUACUGUGAUAAACUGAAau-----
6	1,0	ACAGUACUGUGAUAAACUGAAu-----
9	1,0	ACAGUACUGUGAUAAACUGAAuu-----
2	1,0	ACAGUACUGUGAUAAACUGAAG-----
29	1,1	ACAGUACUGUGAUAAACUGAAGu-----
6	1,1	ACAGUACUGUGAUAAACUGAAGA-----
16	1,2	ACAGUACUGUGAUAAACUGAAGAAa-----
2	1,3	CAGUACUGUGAUAAACUGA-----
45	2,-1	CAGUACUGUGAUAAACUGAA-----
105	2,0	CAGUACUGUGAUAAACUGAAa-----
13	2,0	CAGUACUGUGAUAAACUGAAu-----
2	2,0	CAGUACUGUGAUAAACUGAAG-----

```

9    2,1
-----CAGUACUGUGAUAAACUGAAGu-----
3    2,1
-----CAGUACUGUGAUAAACUGAAGA-----
19   2,2
-----CAGUACUGUGAUAAACUGAAGAu-----
2    2,2
-----CAGUACUGUGAUAAACUGAAGAA-----
20   2,3
-----CAGUACUGUGAUAAACUGAAGAAa-----
19   2,3
-----CAGUACUGUGAUAAACUGAAGAAU-----
2    2,4

```

>hsa-mir-103-1 3p:48-70 SRX018962

```

uacugcccucggcuucuuacagugcugccuuguugcauauggaucaAGCAGCAUUGUACAGGGCUAUGAaggcauug
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((

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```

-----AAGCAGCAUUGUACAGGGCUAU-----
4    -1,-2
-----AGCAGCAUUGUACAGGGC-----
1537  0,-5
-----AGCAGCAUUGUACAGGGCa-----
7     0,-5
-----AGCAGCAUUGUACAGGGCaa-----
3     0,-5
-----AGCAGCAUUGUACAGGGCau-----
2     0,-5
-----AGCAGCAUUGUACAGGGCU-----
1114  0,-4
-----AGCAGCAUUGUACAGGGCUu-----
65    0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
26    0,-4
-----AGCAGCAUUGUACAGGGCUA-----
4447  0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
178   0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----

```

30	0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
23	0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
12379	0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
253	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
108	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
100	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
745	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
65	0,-2	-----AGCAGCAUUGUACAGGGCUAUG-----
7334	0,-1	-----AGCAGCAUUGUACAGGGCUAUGu-----
1571	0,-1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
73	0,-1	-----AGCAGCAUUGUACAGGGCUAUGA-----
9529	0,0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
555	0,0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
10	0,0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
163	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
3	0,1	-----GCAGCAUUGUACAGGGCU-----
3	1,-4	-----GCAGCAUUGUACAGGGCUA-----
18	1,-3	-----GCAGCAUUGUACAGGGCUAU-----
88	1,-2	-----GCAGCAUUGUACAGGGCUAUa-----

2	1, -2	-GCAGCAUUGUACAGGGCUAUG-
36	1, -1	-GCAGCAUUGUACAGGGCUAUG _u -
5	1, -1	-GCAGCAUUGUACAGGGCUAUGA-
120	1, 0	-GCAGCAUUGUACAGGGCUAUGA _u -
8	1, 0	-CAGCAUUGUACAGGGCUAU-
11	2, -2	-CAGCAUUGUACAGGGCUAUG-
16	2, -1	-CAGCAUUGUACAGGGCUAUG _u -
4	2, -1	-CAGCAUUGUACAGGGCUAUGA-
54	2, 0	

```

>hsa-mir-103-2   mi:11-33;MA:48-70   SRX018962
uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..((.((((((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGCUUCUUUACAGUGCUGCCUUGU-----
      2    0,1
-----AAGCAGCAUUGUACAGGGCUAU-----
      4    -1,-2
-----AGCAGCAUUGUACAGGGC-----
    1537    0,-5
-----AGCAGCAUUGUACAGGGCa-----
      7    0,-5
-----AGCAGCAUUGUACAGGGCaa-----
      3    0,-5
-----AGCAGCAUUGUACAGGGCau-----
      2    0,-5
-----AGCAGCAUUGUACAGGGCU-----
    1114    0,-4
-----AGCAGCAUUGUACAGGGCUu-----
      65    0,-4
-----AGCAGCAUUGUACAGGGCUuu-----

```


26	0, -4	-----AGCAGCAUUGUACAGGGCUA-----
4447	0, -3	-----AGCAGCAUUGUACAGGGCUAa-----
178	0, -3	-----AGCAGCAUUGUACAGGGCUAaa-----
30	0, -3	-----AGCAGCAUUGUACAGGGCUAau-----
23	0, -3	-----AGCAGCAUUGUACAGGGCUAU-----
12379	0, -2	-----AGCAGCAUUGUACAGGGCUAUa-----
253	0, -2	-----AGCAGCAUUGUACAGGGCUAUaa-----
108	0, -2	-----AGCAGCAUUGUACAGGGCUAUau-----
100	0, -2	-----AGCAGCAUUGUACAGGGCUAUu-----
745	0, -2	-----AGCAGCAUUGUACAGGGCUAUuu-----
65	0, -2	-----AGCAGCAUUGUACAGGGCUAUG-----
7334	0, -1	-----AGCAGCAUUGUACAGGGCUAUGu-----
1571	0, -1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
73	0, -1	-----AGCAGCAUUGUACAGGGCUAUGA-----
9529	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
555	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
10	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
163	0, 1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
3	0, 1	-----AGCAGCAUUGUACAGGGCUAUGAAA-----


```

- 21 0,-2
-----AAAAGUGCUUACAGUGCAGGUA-----
- 21 0,-1
-----AAAGUGCUUACAGUGCAGGU-----
- 4 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
- 8 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
- 5 1,0

```

>hsa-mir-106b MA:12-32;mi:52-73 SRX018962

```

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))

```

```

-----UAAAGUGCUGACAGUGCA-----
-- 4 0,-3
-----UAAAGUGCUGACAGUGCAu-----
-- 2 0,-3
-----UAAAGUGCUGACAGUGCAG-----
-- 52 0,-2
-----UAAAGUGCUGACAGUGCAGA-----
-- 54 0,-1
-----UAAAGUGCUGACAGUGCAGAA-----
-- 3 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 55 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 2 0,0
-----UAAAGUGCUGACAGUGCAGAU-----
-- 49 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 9 0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 6 0,1
-----UAAAGUGCUGACAGUGCAGAUAGU-----
-- 3 0,3
-----UACCGCACUGUGGGUACUUG-----

```

```

-- 2   -2,-4
-----UACCGCACUGUGGGUACUUGC-----
-- 3   -2,-3
-----UACCGCACUGUGGGUACUUGC-----
-- 23  -2,-2
-----UACCGCACUGUGGGUACUUGC-----
-- 2   -2,0
-----ACCGCACUGUGGGUACUUGC-----
-- 4   -1,-2
-----ACCGCACUGUGGGUACUUGC-----
-- 3   -1,-1
-----CCGCACUGUGGGUACUUGC-----
-- 7   0,-3
-----CCGCACUGUGGGUACUUGC-----
-- 23  0,-2
-----CCGCACUGUGGGUACUUGC-----
-- 74  0,-1
-----CCGCACUGUGGGUACUUGCGa-----
-- 48  0,-1
-----CCGCACUGUGGGUACUUGCGaa-----
-- 9   0,-1
-----CCGCACUGUGGGUACUUGCGu-----
-- 6   0,-1
-----CCGCACUGUGGGUACUUGC-----
-- 120 0,0
-----CCGCACUGUGGGUACUUGCGa-----
-- 3   0,0
-----CCGCACUGUGGGUACUUGCGau-----
-- 5   0,0
-----CCGCACUGUGGGUACUUGC-----
-- 3   0,1
-----CGCACUGUGGGUACUUGC-----
-- 2   1,-2
-----CGCACUGUGGGUACUUGC-----
-- 2   1,0

```

>hsa-mir-107 3p:50-72 SRX018962

cucucugcuuucagcuuuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUC_{Aa}agcacag

-	4	-1,-2	-AGCAGCAUUGUACAGGGCUAU-
-	1537	0,-5	-AGCAGCAUUGUACAGGGC-
-	7	0,-5	-AGCAGCAUUGUACAGGGCa-
-	3	0,-5	-AGCAGCAUUGUACAGGGCaa-
-	2	0,-5	-AGCAGCAUUGUACAGGGCau-
-	1114	0,-4	-AGCAGCAUUGUACAGGGCU-
-	65	0,-4	-AGCAGCAUUGUACAGGGCUu-
-	26	0,-4	-AGCAGCAUUGUACAGGGCUuu-
-	4447	0,-3	-AGCAGCAUUGUACAGGGCUA-
-	178	0,-3	-AGCAGCAUUGUACAGGGCUAa-
-	30	0,-3	-AGCAGCAUUGUACAGGGCUAaa-
-	23	0,-3	-AGCAGCAUUGUACAGGGCUAau-
-	12379	0,-2	-AGCAGCAUUGUACAGGGCUAU-
-	253	0,-2	-AGCAGCAUUGUACAGGGCUAUa-
-	108	0,-2	-AGCAGCAUUGUACAGGGCUAUaa-
-	100	0,-2	-AGCAGCAUUGUACAGGGCUAUau-
-	745	0,-2	-AGCAGCAUUGUACAGGGCUAUu-
-			-AGCAGCAUUGUACAGGGCUAUuu-


```

))))).)))))))).))))....)))))).
-----UACCCUGUAGAACCGAAUUU-----
----- 4 0,-3
-----UACCCUGUAGAACCGAAUUUG-----
----- 16 0,-2
-----UACCCUGUAGAACCGAAUUUGU-----
----- 96 0,-1
-----UACCCUGUAGAACCGAAUUUGUG-----
----- 12 0,0
-----UACCCUGUAGAACCGAAUUUGUGa-----
----- 2 0,0
-----ACCCUGUAGAACCGAAUUUGU-----
----- 8 1,-1
-----ACCCUGUAGAACCGAAUUUGUG-----
----- 5 1,0
-----ACCCUGUAGAACCGAAUUUGUGU-----
----- 5 1,1

```

```

>hsa-mir-1180 3p:41-62 SRX018962
gcugcuggaccaccggccgggaauagugcuccugguugUUUCCGGCUCGCGUGGGUGUGUcggcggc
((((((((((((((.(((((((((((..(.....)))))))))))))).)).))))))....)))))))))
-----UUUCCGGCUCGCGUGGGUG----- 2 0,-3

```

```

>hsa-mir-1181 5p:14-34 SRX018962
uccacugcugccgCCGUCGCCGCCACCCGAGCCGgagcgggcuggggccccaaggcaagaugguggacuacagcgugugg
g
.((((((((((((((((((((((((..(((..((((.....)))))))))).)).)).)).)).)).)).)).)).)).)).)).))
.
-----AGGCAAGAUGGUGGACUA-----
- 7

```

```

>hsa-mir-1185-1 5p:15-35 SRX018962
uuugguacuugaagAGAGGAUACCCUUGUAUGUUcacuugauuaauggcgaaauauacagggggagacucuauuuugcgu
aucaaa
.(((((((.(((((((((((..((((((((((((((((((..(.....)).)))))))))))))).)))))).)))))).))
))))).
-----AGAGGAUACCCUUGUAUGUUa-----
----- 3 0,0

```



```
>hsa-mir-1185-2 5p:15-35      SRX018962
```

uuugguacuuaaagAGAGGAUACCCUUUGUAUGUUCacuugauuaauggcgaauauacagggggagacucucauuugcgu
aucaaa

.(((((((.((((((((((.(((((((((((((((((((.(.....)).)))))))))))))).))))).)))))
)))))).

-----AGAGGAUACCCUUUGUAUGUUa-----

----- 3 0,0

>hsa-mi r-122 MA:15-36;mi :51-72 SRX018962

ccuagcagagcugUGGAGUGUGACAAUGGUGUUUGugucuaaacuaucAACGCCAUUAUCACACUAAAUAgcuacugc
uaggc

.(((((((((((((((((.(((((((.(((((((((((((.((...))....)))))))).).)))))).).))))).))))).))))).

-----UGUGGAGUGUGACAAUGGU-----

----- 6 -2, -5

-----UGUGGAGUGUGACAAUGGUG-----

----- 12 -2, -4

-----UGUGGAGUGUGACAAUGGUGU-----

----- 53 -2,-3

-----UGUGGAGUGUGACAAUGGUGUU-----

----- 598 -2,-2

-----UGUGGAGUGUGACAAUGGUGUUa-----

----- 20 -2, -2

-----UGUGGAGUGUGACAAUGGUGUUU-----

----- 9 -2,-1

-----UGUGGAGUGUGACAAUGGUGUUUG-----

----- 2 -2,0

-----GUGGAGUGUGACAAUGGUG-----

----- 7 -1, -4

-----GUGGAGUGUGACAAUGGUGU-----

----- 31 -1, -3

-----GUGGAGUGUGACAAUGGUGUU-----

----- 57 -1,-2

-----GUGGAGUGUGACAAUGGUGUUU-----

----- 154 -1,-1

-----GUGGAGUGUGACAAUGGUGUUUG-----

----- 13 -1,0

```

-----GUGGAGUGUGACAAUGGUGUUUGa-----
----- 5   -1,0
-----GUGGAGUGUGACAAUGGUGUUUGU-----
----- 2   -1,1
-----UGGAGUGUGACAAUGGUG-----
----- 15753  0,-4
-----UGGAGUGUGACAAUGGUGa-----
----- 1709   0,-4
-----UGGAGUGUGACAAUGGUGaa-----
----- 559  0,-4
-----UGGAGUGUGACAAUGGUGau-----
----- 49   0,-4
-----UGGAGUGUGACAAUGGUGU-----
----- 73978  0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 11797  0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 3048   0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 505  0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 228675  0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 13276  0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 2836   0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 1129   0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 364151  0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 34195   0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 10740   0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 7967   0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 5052   0,-1

```

```

-----UGGAGUGUGACAAUGGUGUUuu-----
----- 415 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1637446 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 540027 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 21072 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 13612 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 310210 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 2114 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 632 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 684 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 1323 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 215 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 179 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 42 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 129 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 469 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 87 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 29 1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 2 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 1168 1,-2

```

```

-----GGAGUGUGACAAUGGUGUUa-----
----- 99 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 20 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 7 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 1021 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 129 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 138 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 21 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 16 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 11606 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 5194 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 211 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 96 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 920 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 12 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 8 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 4 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 6 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 2 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 2 1,2

```

```

-----GAGUGUGACAAUGGUGUU-----
----- 659 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 36 2,-2
-----GAGUGUGACAAUGGUGUUaa-----
----- 8 2,-2
-----GAGUGUGACAAUGGUGUUau-----
----- 2 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 1258 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 87 2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 25 2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 22 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 24 2,-1
-----GAGUGUGACAAUGGUGUUUuu-----
----- 5 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 4149 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 1568 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 57 2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 55 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 1047 2,1
-----GAGUGUGACAAUGGUGUUUGUa-----
----- 6 2,1
-----GAGUGUGACAAUGGUGUUUGUau-----
----- 3 2,1
-----GAGUGUGACAAUGGUGUUUGUu-----
----- 3 2,1
-----GAGUGUGACAAUGGUGUUUGUG-----
----- 5 2,2

```

-----			-----CAAACGCCAUUAUCACACUAA-----
-----	2	-2,-3	
-----			-----CAAACGCCAUUAUCACACUAAA-----
-----	5	-2,-2	
-----			-----AAACGCCAUUAUCACACU-----
-----	33	-1,-5	
-----			-----AAACGCCAUUAUCACACUA-----
-----	78	-1,-4	
-----			-----AAACGCCAUUAUCACACUAu-----
-----	5	-1,-4	
-----			-----AAACGCCAUUAUCACACUAuu-----
-----	5	-1,-4	
-----			-----AAACGCCAUUAUCACACUAA-----
-----	84	-1,-3	
-----			-----AAACGCCAUUAUCACACUAAu-----
-----	18	-1,-3	
-----			-----AAACGCCAUUAUCACACUAAuu-----
-----	2	-1,-3	
-----			-----AAACGCCAUUAUCACACUAAA-----
-----	47	-1,-2	
-----			-----AAACGCCAUUAUCACACUAAAa-----
-----	4	-1,-2	
-----			-----AAACGCCAUUAUCACACUAAAU-----
-----	244	-1,-1	
-----			-----AAACGCCAUUAUCACACUAAAUu-----
-----	6	-1,-1	
-----			-----AAACGCCAUUAUCACACUAAAUA-----
-----	5	-1,0	
-----			-----AACGCCAUUAUCACACUA-----
-----	178	0,-4	
-----			-----AACGCCAUUAUCACACUAu-----
-----	6	0,-4	
-----			-----AACGCCAUUAUCACACUAA-----
-----	212	0,-3	
-----			-----AACGCCAUUAUCACACUAAu-----
-----	26	0,-3	
-----			-----AACGCCAUUAUCACACUAAuu-----
-----	15	0,-3	

```

-----AACGCCAUUAUCACACUAAA-----
----- 189 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 19 0,-2
-----AACGCCAUUAUCACACUAAAU-----
----- 1256 0,-1
-----AACGCCAUUAUCACACUAAAUu-----
----- 50 0,-1
-----AACGCCAUUAUCACACUAAAUA-----
----- 152 0,0
-----AACGCCAUUAUCACACUAAAUAa-----
----- 13 0,0
-----AACGCCAUUAUCACACUAAAUAu-----
----- 41 0,0
-----ACGCCAUUAUCACACUAA-----
----- 2 1,-3
-----ACGCCAUUAUCACACUAAuu-----
----- 2 1,-3
-----ACGCCAUUAUCACACUAAAU-----
----- 6 1,-1

```

>hsa-mir-1224 5p:1-19;3p:65-85 SRX018962

GUGAGGACUCGGGAGGUGGaggguggugccgccggggccgggcgcuguuucagcucgcucuccCCCCACCUCCUCUCUC
CUCAG

.(((((((...(((((((((((((.((((.((((.....))))))))))))))))))))))))))))))))))
))))).

```

GUGAGGACUCGGGAGGUG-----
----- 2 0,-1

```

>hsa-mir-1228 mi:1-21;MA:52-71 SRX018962

GUGGGCGGGGGCAGGUGUGUGgugggugguggccugcgugagcagggcccUCACACCUGCCUGCCCCCag

..(((((((((((((((((((((.....((((.....)))))))))))))))))))))))))))))))))).....

```

GUGGGCGGGGGCAGGUGUGU----- 3
0,-1

```

```

GUGGGCGGGGGCAGGUGUGUG----- 5
0,0

```

```

GUGGGCGGGGGCAGGUGUGUG----- 5
0,1

```

aggccucucucucCGUGUUCACAGCGGACCUUGAUuuaaauguccauacaauUAAGGCACGCGGUGAAUGCCaagaugg
ggcug

-----UAAGGCACGCGGUGAAUG-----

-----UAAGGCACGCGGUGAAUGC-----

-----UAAGGCACGCGGUGAAUGCCAA-----

aucaagauuagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuuaugucauacaauUAAGGCACGCGGUGAAUGC
Caagagcggagccuacggcugcacuugaa

-----UAAGGCACGCGGUGAAUG-----

-----UAAGGCACGCGGUGAAUGC

-----UAAGGCACGCGGUGAAUGC

ugagggccccucugCGUGUACAGCGGACCUUGAUuuuaugucuauacaauUAAGGCACGCGGUGAAUGCCaagagagg
cgccucc

-----UAAGGCACGCGGUGAAUG-----

-----UAAGGCACGCGGUGAAUGC-----

-----UAAGGCACGCGGUGAAUGCCAA-----

```
>hsa-mir-1246    5p:11-29    SRX018962
```


uguauccuugAAUGGAUUUUUGGAGCAGGaguggacaccugacccaaaggaaucauccauaggcuagcaau
 (((..(((...(((((((((((..(((..(...).))))).))))).))))).))))).))..
 -----AAUGGAUUUUUGGAGCAGG----- 27
 0,0
 -----AUGGAUUUUUGGAGCAGG----- 35
 1,0

```

>hsa-mir-1247    5p:40-61    SRX018962
ccgcuugccucgcccagcgcagccccggccgcugggcgAcCCCGUCCCGUUCGUCCCCGGA
aacgucgagacuggagcgcgggaacugagccaccuucgcggacccccgagagcggcg
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----ACCCGUCCCGUUCGUCCCCGGA-----
-----7    0,0
-----ACCCGUCCCGUUCGUCCCCGGAu-----
-----4    0,0

```

```
>hsa-mir-1250    5p:24-44    SRX018962
cugucccgcuggccuggcaggugACGGUGCUGGAUGUGGCCUUUuugccuuuucuaaaggccacauuuuccagcccauuc
aaccuuccagagcccucugaaguggccacaggc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----ACGGUGCUGGAUGUGGCCUUU-----
-----3    0,0
```

[illegible]

```
>hsa-mir-1255b-1      5p:3-24 SRX018962
uaCGGAUGAGCAAAGAAAGUGGUUucuuaaaaauggaaucaucucuuuugugaagaugcugugaa
((((((.(..(((((((..(((.((((.....))))).))))))))))..).)).)))))..
--CGGAUGAGCAAAGAAAGUGG----- 2      0,-2
--CGGAUGAGCAAAGAAAGUGGU----- 3      0,-1
```

```
--CGGAUGAGCAAAGAAAGUGGUU----- 23 0,0
--CGGAUGAGCAAAGAAAGUGGUUa----- 3 0,0
```

>hsa-mir-1255b-2 5p:6-27 SRX018962

```
ucuuaCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuucuuugcucauccauaagga
(((((((((.....))))))))))))).
-----CGGAUGAGCAAAGAAAGUGG----- 2 0,-2
-----CGGAUGAGCAAAGAAAGUGGU----- 3 0,-1
-----CGGAUGAGCAAAGAAAGUGGUU----- 23 0,0
-----CGGAUGAGCAAAGAAAGUGGUa----- 3 0,0
```

>hsa-mir-1258 3p:44-64 SRX018962

```
cuguggcuccacgaccuaauccuaacuccugcgagucccuggAGUUAGGAUUAGGUCGUGGAagccacagga
((((((((((((((((((((((((((((((((.....))))))))))))))))))))).
-----AGUUAGGAUUAGGUCGUG----- 4
0,-3
-----AGUUAGGAUUAGGUCGUGG----- 3
0,-2
```

>hsa-mir-125a 5p:15-38;3p:53-74 SRX018962

```
ugccagucucuaggUCCCUGAGACCCUUUAACCUUGAGgacauccagggucACAGGUGAGGUUCUUGGGAGCCuggcgu
cuggcc
(((((((((.....))))))))))))).
-----UCCCUGAGACCCUUUAACC-----
----- 232 0,-5
-----UCCCUGAGACCCUUUAACC-----
----- 2 0,-5
-----UCCCUGAGACCCUUUAACCU-----
----- 1931 0,-4
-----UCCCUGAGACCCUUUAACCUa-----
----- 2 0,-4
-----UCCCUGAGACCCUUUAACCUG-----
----- 813 0,-3
-----UCCCUGAGACCCUUUAACCUGa-----
----- 12 0,-3
-----UCCCUGAGACCCUUUAACCUGaa-----
----- 5 0,-3
```

```

-----UCCCUGAGACCCUUAACCUGU-----
----- 601 0,-2
-----UCCCUGAGACCCUUAACCUGUa-----
----- 3 0,-2
-----UCCCUGAGACCCUUAACCUGUu-----
----- 4 0,-2
-----UCCCUGAGACCCUUAACCUGUG-----
----- 134 0,-1
-----UCCCUGAGACCCUUAACCUGUGu-----
----- 8 0,-1
-----UCCCUGAGACCCUUAACCUGUGA-----
----- 32 0,0
-----CCUGAGACCCUUAACCU-----
----- 17 2,-4
-----CCUGAGACCCUUAACCUG-----
----- 15 2,-3
-----CCUGAGACCCUUAACCUGU-----
----- 24 2,-2
-----CCUGAGACCCUUAACCUGUG-----
----- 7 2,-1
-----ACAGGUGAGGUUCUUGGG-----
----- 2 0,-4
-----ACAGGUGAGGUUCUUGGGA-----
----- 3 0,-3
-----ACAGGUGAGGUUCUUGGGAG-----
----- 7 0,-2
-----ACAGGUGAGGUUCUUGGGAGu-----
----- 2 0,-2
-----ACAGGUGAGGUUCUUGGGAGC-----
----- 2 0,-1
-----CAGGUGAGGUUCUUGGGAG-----
----- 2 1,-2

```

>hsa-mir-125b-1 MA:15-36;mi:55-76 SRX018962

ugcgcuccucucagUCCCUGAGACCCUUAACUUGUGAuguuuaccguuuuuauccACGGGUUAGGCUCUUGGGAGCUgcga
gucgugcu

```

(((((((.....))))).))))).))
)..)).

```

```

-----UCCCUGAGACCCUAACUU-----
----- 50  0, -4
-----UCCCUGAGACCCUAACUUa-----
----- 4   0, -4
-----UCCCUGAGACCCUAACUUuu-----
----- 2   0, -4
-----UCCCUGAGACCCUAACUUG-----
-----264  0, -3
-----UCCCUGAGACCCUAACUUGa-----
----- 9   0, -3
-----UCCCUGAGACCCUAACUUGU-----
-----2655  0, -2
-----UCCCUGAGACCCUAACUUGUa-----
----- 9   0, -2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 5   0, -2
-----UCCCUGAGACCCUAACUUGUu-----
-----10  0, -2
-----UCCCUGAGACCCUAACUUGUG-----
-----2125  0, -1
-----UCCCUGAGACCCUAACUUGUGu-----
-----200  0, -1
-----UCCCUGAGACCCUAACUUGUGuu-----
----- 2   0, -1
-----UCCCUGAGACCCUAACUUGUGA-----
-----5318  0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
-----1723  0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
-----166  0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 5   0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
-----107  0,1
-----CCCUGAGACCCUAACUUGUGA-----
----- 9   1,0
-----CCCUGAGACCCUAACUUGUGAau-----
----- 2   1,0

```

```

-----CCCUGAGACCCUAACUUGUGAU-----
-----      4      1,1
-----CCUGAGACCCUAACUUGU-----
-----     34      2,-2
-----CCUGAGACCCUAACUUGUG-----
-----     28      2,-1
-----CCUGAGACCCUAACUUGUGu-----
-----      6      2,-1
-----CCUGAGACCCUAACUUGUGA-----
-----     77      2,0
-----CCUGAGACCCUAACUUGUGAa-----
-----     26      2,0
-----CCUGAGACCCUAACUUGUGAU-----
-----      2      2,1
-----ACGGGUUAGGCUCUUGGGAaa-----
-----      2      0,-3
-----ACGGGUUAGGCUCUUGGAG-----
-----     15      0,-2
-----ACGGGUUAGGCUCUUGGAGa-----
-----      3      0,-2
-----ACGGGUUAGGCUCUUGGAGu-----
-----      4      0,-2
-----ACGGGUUAGGCUCUUGGAGC-----
-----      6      0,-1

```

>hsa-mir-125b-2 MA:17-38;mi:54-75 SRX018962

```

accagacuuuuccuagUCCCUGAGACCCUAACUUGUGAgguauuuuaguaacaUCACAAGUCAGGCUCUUGGGACcuagg
cggagggga

```

```

.(((...(((...((((...(((...(((...((((((((...(((...)))...)))))))).)))...)))...)))
..)))..).

```

```

-----UCCCUGAGACCCUAACUU-----
-----     50      0,-4
-----UCCCUGAGACCCUAACUUa-----
-----      4      0,-4
-----UCCCUGAGACCCUAACUUuu-----
-----      2      0,-4
-----UCCCUGAGACCCUAACUUG-----
-----    264      0,-3

```

```

-----UCCCUGAGACCCUAACUUGa-----
----- 9 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 2655 0,-2
-----UCCCUGAGACCCUAACUUGUa-----
----- 9 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 5 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 10 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 2125 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 200 0,-1
-----UCCCUGAGACCCUAACUUGUGuu-----
----- 2 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 5318 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 1723 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 166 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 5 0,0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 12 0,1
-----UCCCUGAGACCCUAACUUGUGAGa-----
----- 6 0,1
-----CCUGAGACCCUAACUUGUGA-----
----- 9 1,0
-----CCUGAGACCCUAACUUGUGAau-----
----- 2 1,0
-----CCUGAGACCCUAACUUGU-----
----- 34 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 28 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 6 2,-1

```

```

-----CCUGAGACCCUAAACUUGUGA-----
----- 77 2,0
-----CCUGAGACCCUAAACUUGUGAa-----
----- 26 2,0
-----AUCACAAGUCAGGCUCUU-----
----- 2 -1,-5
-----AUCACAAGUCAGGCUCUUG-----
----- 2 -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 3 -1,-3
-----AUCACAAGUCAGGCUCUUGGG-----
----- 7 -1,-2
-----AUCACAAGUCAGGCUCUUGGGA-----
----- 5 -1,-1
-----AUCACAAGUCAGGCUCUUGGGAC-----
----- 2 -1,0
-----UCACAAGUCAGGCUCUUG-----
----- 6 0,-4
-----UCACAAGUCAGGCUCUUGG-----
----- 14 0,-3
-----UCACAAGUCAGGCUCUUGGG-----
----- 16 0,-2
-----UCACAAGUCAGGCUCUUGGGA-----
----- 4 0,-1
-----UCACAAGUCAGGCUCUUGGGAC-----
----- 3 0,0
-----CACAAGUCAGGCUCUUGGG-----
----- 2 1,-2
-----ACAAGUCAGGCUCUUGGG-----
----- 117 2,-2
-----ACAAGUCAGGCUCUUGGGA-----
----- 33 2,-1
-----ACAAGUCAGGCUCUUGGGAa-----
----- 5 2,-1
-----ACAAGUCAGGCUCUUGGGAC-----
----- 51 2,0
-----ACAAGUCAGGCUCUUGGGACa-----
----- 2 2,0

```

-----			-----ACAAGUCAGGCUCUUGGGACaa-----
-----	2	2,0	
-----			-----ACAAGUCAGGCUCUUGGGACCU-----
-----	2	2,2	
-----			-----ACAAGUCAGGCUCUUGGGACCUu-----
-----	2	2,2	

>hsa-mi r-126 mi:15-35;MA:52-73 SRX018962

cgcuggcgacgggaCAUUAUUACUUUUGGUACGCGcugugacacucaaacUCGUACCGUGAGUAAUAUGCGccgucca
cggca

$$.((((..((((((.(((((((((((.(((((((.(...(((...)))..).)))))))).)))))))).))))).\\$$

Index	Sequence	Score
21	CAUUAUUACUUUUGGUAC	0, -3
23	CAUUAUUACUUUUGGUACG	0, -2
58	CAUUAUUACUUUUGGUACGC	0, -1
311	CAUUAUUACUUUUGGUACGCG	0, 0
113	CAUUAUUACUUUUGGUACGCG _a	0, 0
49	CAUUAUUACUUUUGGUACGCG _u	0, 0
3	CAUUAUUACUUUUGGUACGCGC	0, 1
2	CAUUAUUACUUUUGGUACGCGCU	0, 2
5	AUUAUUACUUUUGGUACG	1, -2
3	AUUAUUACUUUUGGUACGC	1, -1
37	AUUAUUACUUUUGGUACGCG	1, 0
6	AUUAUUACUUUUGGUACGCG _u	1, 0
6	AUUAUUACUUUUGGUACGCGCU	1, 2

-----			-CUCGUACCGUGAGUAAUAAUGC-----
-----	2	-1,-1	
-----			-CUCGUACCGUGAGUAAUAAUGCG-----
-----	6	-1,0	
-----			-UCGUACCGUGAGUAAUAAUG-----
-----	7	0,-2	
-----			-UCGUACCGUGAGUAAUAAUGa-----
-----	10	0,-2	
-----			-UCGUACCGUGAGUAAUAAUGaa-----
-----	2	0,-2	
-----			-UCGUACCGUGAGUAAUAAUGC-----
-----	27	0,-1	
-----			-UCGUACCGUGAGUAAUAAUGCa-----
-----	3	0,-1	
-----			-UCGUACCGUGAGUAAUAAUGCG-----
-----	18	0,0	
-----			-UCGUACCGUGAGUAAUAAUGCGa-----
-----	22	0,0	
-----			-CGUACCGUGAGUAAUAAU-----
-----	4	1,-3	
-----			-CGUACCGUGAGUAAUAAUG-----
-----	6	1,-2	
-----			-CGUACCGUGAGUAAUAAUGC-----
-----	8	1,-1	
-----			-CGUACCGUGAGUAAUAAUGCG-----
-----	34	1,0	
-----			-CGUACCGUGAGUAAUAAUGCGa-----
-----	16	1,0	
-----			-CGUACCGUGAGUAAUAAUGCGu-----
-----	9	1,0	
-----			-GUACCGUGAGUAAUAAUG-----
-----	2	2,-2	
-----			-GUACCGUGAGUAAUAAUGC-----
-----	3	2,-1	
-----			-GUACCGUGAGUAAUAAUGCG-----
-----	8	2,0	
-----			-GUACCGUGAGUAAUAAUGCGa-----
-----	5	2,0	


```

----- 14 0,-4
-----CUGAAGCUCAGAGGGCUCU-----
----- 19 0,-3
-----CUGAAGCUCAGAGGGCUCUGA-----
----- 10 0,-1
-----CUGAAGCUCAGAGGGCUCUGAa-----
----- 3 0,-1
-----CUGAAGCUCAGAGGGCUCUGAU-----
----- 3 0,0
-----UGAAGCUCAGAGGGCUCUGAa-----
----- 2 1,-1
-----UGAAGCUCAGAGGGCUCUGAUU-----
----- 3 1,1
-----UCGGAUCCGUCUGAGCUU-----
----- 2 0,-4
-----UCGGAUCCGUCUGAGCUUG-----
----- 3 0,-3
-----UCGGAUCCGUCUGAGCUUUG-----
----- 24 0,-2
-----UCGGAUCCGUCUGAGCUUUGGa---
----- 2 0,-2
-----UCGGAUCCGUCUGAGCUUUGGaa--
----- 5 0,-2
-----UCGGAUCCGUCUGAGCUUUGGu---
----- 4 0,-2
-----UCGGAUCCGUCUGAGCUUUGGC---
----- 166 0,-1
-----UCGGAUCCGUCUGAGCUUUGGCa--
----- 143 0,-1
-----UCGGAUCCGUCUGAGCUUUGGCaa-
----- 92 0,-1
-----UCGGAUCCGUCUGAGCUUUGGCau-
----- 374 0,-1
-----UCGGAUCCGUCUGAGCUUUGGCU--
----- 853 0,0
-----UCGGAUCCGUCUGAGCUUUGGCUa-
----- 250 0,0
-----UCGGAUCCGUCUGAGCUUUGGCUaa

```



```

)..
-----CUGGAGAU AUGGAAGAGCU-----
--- 2   0,-4
-----CUGGAGAU AUGGAAGAGCUG-----
--- 3   0,-3
-----CUGGAGAU AUGGAAGAGCUGU-----
--- 2   0,-2
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 4   0,0

```

>hsa-mir-1270-2 5p:13-35 SRX018962

cacagaguaua CUGGAGAU AUGGAAGAGCUGUGU ugguaua aguaacaggcuuuu ucuuau cuuucuauguggcucuuu
gca

```

((.((((((((..((((((.(((((((((.((((((.)))))))))))))).)))))))).)))))))).)
)..

```

```

-----CUGGAGAU AUGGAAGAGCU-----
--- 2   0,-4
-----CUGGAGAU AUGGAAGAGCUG-----
--- 3   0,-3
-----CUGGAGAU AUGGAAGAGCUGU-----
--- 2   0,-2
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 4   0,0

```

>hsa-mir-1271 5p:15-36 SRX018962

caccagaucagug CUUGGCACCUAGCAAGCACU CAguaaauuuuguugagugccugcuaugugccaggcauugugcug
agggu

```

..((((..((((((((((((..((((..((((((((((((..)))))))))))))).)))))))).)))))))).)
.))...

```

```

-----CUUGGCACCUAGCAAGCA-----
----- 6   0,-4
-----CUUGGCACCUAGCAAGCAC-----
----- 35  0,-3
-----CUUGGCACCUAGCAAGCACU-----
----- 55  0,-2
-----CUUGGCACCUAGCAAGCACUC-----
----- 2   0,-1
-----CUUGGCACCUAGCAAGCACUCA-----

```

----- 5 0,0
-----AGUGCCUGCUAUGUGCCA-----
----- 7

```
>hsa-mi r-1273    3p:76-100    SRX018962
```

ugaggcaggagaauugcuugaacccgggugguggagguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUCUUUCUgga

[illegible]

-----AGGAGAAUUGCUUGAACC-----

-----AGGAGAAUUGCUUGAACCC-----

-----AGGAGAAUUGCUUGAACCCGG-----

----- 2

-----AGAAUUGCUUGAACCCGGG-----

```
>hsa-mi r-1273c 5p:10-31 SRX018962
```

ugcagccugGGCGACAAAACGAGACCCUGUCuuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga

..((((.(((((((((.(((((((((.(.....)))))).)))))).))))).)))).

-----GGCGACAAAACGAGACCC-----

8 0,-4

8 0,-4

-----GGCGACAAAACGAGACCCU-----

6 0,-3

-----GGCGACAAAACGAGACCCUGUaa-----

3 0.-1

-----GGCGACAAAACGAGACCCUGUCa-----

3 0,0

```
>hsa-mi r-1274b 5p:15-31 SRX018962
```

cuucuucacucacgUCCCUGUUCGGGCGCCAcuuguggcugucggguucgggacugaaugaagaagga

((((((((.((((.(((((((.(..(.((((((((((..)))..)))..)))..)))..)))..)))..)))..))..

-----CGUCCCUGUUCGGGCGCCA----- 3 -2,0

-----GUCCCUGUUCGGGCGCCA----- 6 -1,0

>hsa-mir-1277 3p:47-68 SRX018962

accucccaauauauauauauauguacguauguguauauaaauguaUACGUAGAUAUAUGUAUUUugguggguuu

(((((.....))))))..
-----UACGUAGAUUAUAUGUAUU-----

2 0,-2

-----UACGUAGAUUAUAUGUAUUU-----

7 0,0

>hsa-mir-1278 3p:50-71 SRX018962

auuugcucauagaugauaugcauaguacucccagaacucauaaaguuggUAGUACUGUGCAUAUCAUCUAUgagcgaaua
g

(((((.....))))))..
.

-----UAGUACUGUGCAUAUCAUCU-----

- 8 0,-2

-----UAGUACUGUGCAUAUCAUCUAU-----

- 11 0,0

>hsa-mir-128-1 3p:50-70 SRX018962

ugagcuguuggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUUuucagcugcu
uc

.(((((.....))))))..
)

-----CGGGGCCGUAGCACUGUCUGA-----

-- 4

-----UCACAGUGAACCGGUCUC-----

-- 38 0,-3

-----UCACAGUGAACCGGUCUCa-----

-- 2 0,-3

-----UCACAGUGAACCGGUCUCU-----

-- 90 0,-2

-----UCACAGUGAACCGGUCUCUa-----

-- 5 0,-2

-----UCACAGUGAACCGGUCUCUaa-----

-- 9 0,-2

-----UCACAGUGAACCGGUCUCUau-----

-- 2 0,-2

-----UCACAGUGAACCGGUCUCUU-----

-- 299 0,-1

-----UCACAGUGAACCGGUCUCUa-----

```

-- 55 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 17 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 16 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 901 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 254 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 38 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 20 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 201 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 8 0,1
-----UCACAGUGAACCGGUCUCUUUUU-----
-- 8 0,2
-----ACAGUGAACCGGUCUCUU-----
-- 4 2,-1
-----ACAGUGAACCGGUCUCUUU-----
-- 6 2,0
-----ACAGUGAACCGGUCUCUUUa-----
-- 3 2,0
-----ACAGUGAACCGGUCUCUUUU-----
-- 2 2,1

```

>hsa-mir-128-2 3p:52-72 SRX018962

```

ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(..(((((((.((((((((((...((((((..(((((. ....)).))))))))))....))))))))).))))))
..).

```

```

-----GGGGGCCGAUACACUGUACGAGA-----
----- 3
-----UCACAGUGAACCGGUCUC-----
----- 38 0,-3
-----UCACAGUGAACCGGUCUCa-----

```


----	2	0,-3	-----UCACAGUGAACCGGUCUCU-----
----	90	0,-2	-----UCACAGUGAACCGGUCUCUa-----
----	5	0,-2	-----UCACAGUGAACCGGUCUCUaa-----
----	9	0,-2	-----UCACAGUGAACCGGUCUCUau-----
----	2	0,-2	-----UCACAGUGAACCGGUCUCUU-----
----	299	0,-1	-----UCACAGUGAACCGGUCUCUa-----
----	55	0,-1	-----UCACAGUGAACCGGUCUCUaa-----
----	17	0,-1	-----UCACAGUGAACCGGUCUCUau-----
----	16	0,-1	-----UCACAGUGAACCGGUCUCUUU-----
----	901	0,0	-----UCACAGUGAACCGGUCUCUUUa-----
----	254	0,0	-----UCACAGUGAACCGGUCUCUUUaa-----
----	38	0,0	-----UCACAGUGAACCGGUCUCUUUau-----
----	20	0,0	-----UCACAGUGAACCGGUCUCUUUC-----
----	48	0,1	-----UCACAGUGAACCGGUCUCUUUCa-----
----	4	0,1	-----UCACAGUGAACCGGUCUCUUUCu-----
----	7	0,1	-----ACAGUGAACCGGUCUCUU-----
----	4	2,-1	-----ACAGUGAACCGGUCUCUUU-----
----	6	2,0	-----ACAGUGAACCGGUCUCUUUa-----
----	3	2,0	

```

>hsa-mir-1284 5p:30-51 SRX018962
auuuugauauauaagccaguuaauguuuUCUAUACAGACCCUGGCUUUUCuuuuuuuuuuauauauuggaaagcccaugu
uuguauuggaaacugcugguuucuucacugaaaaucu
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUAUACAGACCCUGGCUUUUC-----
-----2 0,0

```

```

>hsa-mir-1285-1 3p:51-72 SRX018962
uguagagauaggaucucacuuguugcccaggcuggucucacacuccuggUCUGGGCAACAAAGUGAGACCUuauucucua
caag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..
-----UCUGGGCAACAAAGUGAGAC-----
----10 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----9 0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
----2 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----5 0,-1
-----UCUGGGCAACAAAGUGAGACCaa-----
----2 0,-1
-----UCUGGGCAACAAAGUGAGACCau-----
----4 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----19 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----11 0,0
-----UCUGGGCAACAAAGUGAGACCUaa-----
----5 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
----12 0,0
-----UCUGGGCAACAAAGUGAGACCUU-----
----17 0,1
-----UCUGGGCAACAAAGUGAGACCUUu-----
----2 0,1
-----UGGGCAACAAAGUGAGACC-----

```

---- 2 2,-1

>hsa-mir-1285-2 3p:52-73 SRX018962

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

(((((((((((((((.....(((((((.....(((((((.....(((((((.....)))))))).)))))).)))))).))))).))))).)))))..

-----UCUGGGCAACAAAGUGAGAC-----

----- 10 0,-2

-----UCUGGGCAACAAAGUGAGACa-----

----- 9 0,-2

-----UCUGGGCAACAAAGUGAGACaa-----

----- 2 0,-2

-----UCUGGGCAACAAAGUGAGACC-----

----- 5 0,-1

-----UCUGGGCAACAAAGUGAGACCaa-----

----- 2 0,-1

-----UCUGGGCAACAAAGUGAGACCau-----

----- 4 0,-1

-----UCUGGGCAACAAAGUGAGACCU-----

----- 19 0,0

-----UCUGGGCAACAAAGUGAGACCUa-----

----- 11 0,0

-----UCUGGGCAACAAAGUGAGACCUaa-----

----- 5 0,0

-----UCUGGGCAACAAAGUGAGACCUau-----

----- 12 0,0

-----UGGGCAACAAAGUGAGACC-----

----- 2 2,-1

>hsa-mir-1287 5p:16-37 SRX018962

guugugcuguccaggUGCUGGAUCAGUGGUUCGAGUCugagccuuuaaaagccacucuagccacagaugcagugauugga
gccaugacaa

((..((...(((((((((.....(((((((.....(((((((.....(((((((.....)))))))).)))))).))))).))))).)))))..

-----UGCUGGAUCAGUGGUUCGA-----

----- 12 0,-3

-----UGCUGGAUCAGUGGUUCGAG-----

```

----- 6 0,-2
-----UGCUGGAUCAGUGGUUCGAGU-----
----- 3 0,-1
-----UGCUGGAUCAGUGGUUCGAGUaa-----
----- 2 0,-1
-----UGCUGGAUCAGUGGUUCGAGUC-----
----- 10 0,0
-----UGCUGGAUCAGUGGUUCGAGUCa-----
----- 6 0,0
-----UGCUGGAUCAGUGGUUCGAGUCU-----
----- 3 0,1

```

>hsa-mir-129-2 5p:15-35;3p:57-78 SRX018962

```

ugcccuucgcgaauCUUUUUGCGGUCUGGGCUUGCuguacauaacucaauagccggAAGCCCUUACCCCAAAAAGCAUuu
gcggagggcg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))).
-----CUUUUUGCGGUCUGGGCUU-----
----- 2 0,-2

```

>hsa-mir-1291 5p:14-37 SRX018962

```

gguaagaaauccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuucaagcagaggccuaaaggacugu
cuuccug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))..
-----GUGGCCCUGACUGAAGACCA-----
----- 5 -1,-5
-----GUGGCCCUGACUGAAGACCAG-----
----- 8 -1,-4
-----GUGGCCCUGACUGAAGACCAGC-----
----- 15 -1,-3
-----GUGGCCCUGACUGAAGACCAGCA-----
----- 148 -1,-2
-----GUGGCCCUGACUGAAGACCAGCAG-----
----- 2 -1,-1
-----UGGCCCUGACUGAAGACCAG-----
----- 3 0,-4
-----UGGCCCUGACUGAAGACCAGC-----

```

```

----- 6 0,-3
-----UGGCCCUGACUGAAGACCAGCA-----
----- 66 0,-2
-----UGGCCCUGACUGAAGACCAGCAG-----
----- 3 0,-1

```

>hsa-mir-1292 5p:3-27 SRX018962

```

ccUGGGAACGGGUUCCGGCAGACGCUGagguugcguugacgcucgcgccccggcucccguuccagg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
--UGGGAACGGGUUCCGGCAGACGCU----- 2 0,-1

```

>hsa-mir-1294 5p:48-69 SRX018962

```

caccuaaugugugccaagaucuguucauuuaugaucucaccgaguccUGUGAGGUUGGCAUUGUUGUCUggcauugucug
auauacaacagugccaaccucacaggacucagugaggugaaacugaggauuaggaaggugua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)).)))))))))))))))))))))))))))))))))))))).)))))))))).))))))..
-----UGUGAGGUUGGCAUUGUU-----
----- 5 0,-4
-----UGUGAGGUUGGCAUUGUUG-----
----- 20 0,-3
-----UGUGAGGUUGGCAUUGUUG-----
----- 14 0,-2

```

>hsa-mir-1301 3p:48-71 SRX018962

```

ggauuguggggggucgcucuaggcaccgcagcacugugcugggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..
-----UUGCAGCUGCCUGGGAGUGA-----
-- 3 0,-4
-----UUGCAGCUGCCUGGGAGUGAC-----
-- 7 0,-3
-----UUGCAGCUGCCUGGGAGUGACU-----
-- 3 0,-2
-----UUGCAGCUGCCUGGGAGUGACUU-----
-- 4 0,-1
-----UUGCAGCUGCCUGGGAGUGACUUC-----
-- 3 0,0

```

```

-----UGCAGCUGCCUGGGAGUGAC-----
--  2    1,-3
-----UGCAGCUGCCUGGGAGUGACU-----
--  2    1,-2
-----UGCAGCUGCCUGGGAGUGACUU-----
-- 10    1,-1
-----UGCAGCUGCCUGGGAGUGACUUC-----
--  2    1,0

```

>hsa-mir-1303 3p:52-73 SRX018962

ggcugggcaacauagcgagaccucaacucuaacaauuuuuuuuuuuuuuuuuuuuuUUUAGAGACGGGGUCUUGCUCUguugcca
ggcuuu

$$\begin{aligned} &(((((((.((((((((((.(((((((((((((. ((((((((((((((. (.)))))))).)))..))))). \\ &))))).. \end{aligned}$$

-----UUUUAGAGACGGGGUCUUGCU-----
 ----- 7 -1,-2

-----UUUAGAGACGGGGUCUUGCU-----
----- 11 0,-2

```
>hsa-mir-1304    5p:20-41    SRX018962
```

aaacacuugagcccagcggUUUGAGGCUACAGUGAGAUGUGauccugccacaucucacuguagccucgaaccccugggcu
caagugauuca

-----GUUUGAGGCUACAGUGAGAUGaa-----
 ----- 2 -1,-2

>hsa-mir-1306 3p:55-72 SRX018962

gugagcagucuccaccaccuccccugcaaacguccaguggugcagagguaauggACGUUGGCUCUGGUGGUGauggacag
uccga

$$.(((.(.((((.(((((((.....((.((((((((.....(((.....)))..)))))))).))...))))))..))))..)))).$$

-----CCACCUCCCCUGCAAACGUCCA-----
----- 5

-----CCACCUCCCCUGCAAACGUCCAu-----
----- 2 -----

-----ACGUUGGCUCUGGUGGUGA-----
----- 2 0.1

-----ACGUUGGCUCUGGUGGUGAUGu-----
----- 6 0,3

-----UCGACCGGACCUCGACCGGCUu-----	
-----	308
-----UCGACCGGACCUCGACCGGCUuu-----	
-----	91
-----UCGACCGGACCUCGACCGGCUC-----	
-----	2365
-----UCGACCGGACCUCGACCGGCUCa-----	
-----	129
-----UCGACCGGACCUCGACCGGCUCaa-----	
-----	2
-----UCGACCGGACCUCGACCGGCUCau-----	
-----	4
-----UCGACCGGACCUCGACCGGCUCu-----	
-----	67
-----UCGACCGGACCUCGACCGGCUCuu-----	
-----	3
-----UCGACCGGACCUCGACCGGCUCG-----	
-----	68
-----UCGACCGGACCUCGACCGGCUCGa-----	
-----	2
-----UCGACCGGACCUCGACCGGCUCGU-----	
-----	17
-----CGACCGGACCUCGACCGGCU-----	
-----	2
-----CGACCGGACCUCGACCGGCUC-----	
-----	4
-----GACCGGACCUCGACCGGC-----	
-----	3
-----GACCGGACCUCGACCGGCU-----	
-----	67
-----GACCGGACCUCGACCGGCUau-----	
-----	2
-----GACCGGACCUCGACCGGCUu-----	
-----	6
-----GACCGGACCUCGACCGGCUC-----	
-----	63
-----GACCGGACCUCGACCGGCUCa-----	
-----	2

-----GACCGGACCUCGACCGGCUCu-----			
-----	4		
-----A			
CUCGGCGUGGCGUCGGU-----	12	0,-4	
-----A			
CUCGGCGUGGCGUCGGUC-----	9	0,-3	
-----A			
CUCGGCGUGGCGUCGGUCa-----	2	0,-3	
-----A			
CUCGGCGUGGCGUCGGUCG-----	19	0,-2	
-----A			
CUCGGCGUGGCGUCGGUCGU-----	25	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUu-----	7	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUuu-----	2	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUG-----	183	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGa-----	3	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGu-----	9	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGG-----	3	0,1	

CUCGGCGUGGCGUCGGUC-----	3	1,-3	

CUCGGCGUGGCGUCGGUCG-----	10	1,-2	

CUCGGCGUGGCGUCGGUCGU-----	12	1,-1	

CUCGGCGUGGCGUCGGUCGUu-----	3	1,-1	

CUCGGCGUGGCGUCGGUCGUG-----	295	1,0	

CUCGGCGUGGCGUCGGUCGUGa-----	5	1,0	

CUCGGCGUGGCGUCGGUCGUGu-----	19	1,0	

CUCGGCGUGGCGUCGGUCGUGG----- 15 1,1

-UCGGCGUGGCGUCGGUCGUG----- 4 2,0

```
>hsa-mir-130a    mi:21-42;MA:55-76    SRX018962
```

ugcugcuggccagagcucuuUUCACAUUGUGCUACUGUCUGCaccugucacuagCAGUGCAAUGUUAAGGGCAUuggc
cguguagug

.(((((((((((.((((((((.(((((((..((.((((...((....))...)))..))..))))).)))))))).)))))))).)))))))).

-----CAGUGCAAUGUAAAAGG-----

----- 263 0,-4

-----CAGUGCAAUGUUAAAAGGG-----

----- 148 0,-3

-----CAGUGCAAUGUUA AAAAGGGC-----

----- 310 0,-2

-----CAGUGCAAUGUUAAAAGGGCA-----

----- 45 0,-1

-----CAGUGCAAUGUUA AAAAGGGCA_a-----

----- 10 0, -1

-----CAGUGCAAUGUUAAGGGCA_{au}-----

----- 3 0, -1

-----CAGUGCAAUGUAAAAGGGCAU-----

----- 175 0,0

-----CAGUGCAAUGUUAAAAGGGCAU_a-----

----- 46 0,0

-----CAGUGCAAUGUAAAAGGGCAU_{aa}-----

----- 3 0,0

-----CAGUGCAAUGUUAAGGGCAUU-----

----- 111 0,1

-----CAGUGCAAUGUUAAGGGCAUUa-----

----- 3 0,1

-----AGUGCAAUGUAAAAGGGC-----

$$----- \quad 2 \quad 1, -2$$

-----AGUGCAAUGUAAAAGGGCAa-----

$$----- \quad 2 \quad 1, -1$$

-----AGUGCAAUGUAAAAGGGCAU-----

----- 6 1,0

	-AACCGUGGCUUUCGAUUGUU-	
	9	-1,-3
	-AACCGUGGCUUUCGAUUGUUA-	
	6	-1,-2
	-ACCGUGGCUUUCGAUUGUUA-	
	5	0,-2
	-ACCGUGGCUUUCGAUUGUUACU-	
	4	0,0
		-UAACAGUCUACAGCCAUG-
	6	0,-4
		-UAACAGUCUACAGCCAUGG-
	3	0,-3
		-UAACAGUCUACAGCCAUGGU-
	2	0,-2
		-UAACAGUCUACAGCCAUGGUC-
	5	0,-1
		-UAACAGUCUACAGCCAUGGUCG
	4	0,0
		-UAACAGUCUACAGCCAUGGUCG
a-	2	0,0
		-UAACAGUCUACAGCCAUGGUCG
u-	4	0,0
		-AACAGUCUACAGCCAUGGUCG
	3	1,0

>hsa-mir-133a-1 3p:53-74 SRX018962

acaaugcuuugcuagagcugguaaaauggaaccaaaucgccucuucaauggaUUUGGUCCCCUUAACCAGCUGuagcua
ugcauuga

.(((((((...((((((((((((...(((...(((((((((...)))))))).)))).)))).)))).
 .)))))).

-----UUUGGUCCCCUUAACCCAGCUG-----
 ----- 2 0,0 -----
 -----UUUGGUCCCCUUAACCCAGCUGU-----
 ----- 4 0,1 -----
 -----UGGUCCCCUUAACCCAGCUGU-----
 ----- 3 2,1 -----

>hsa-mir-133a-2 3p:59-80 SRX018962

>hsa-mir-134 5p:8-29 SRX018962

.((((((..(((((((.(.(.(((.((((((((.....))))).)).)))).)))..))))).

-----UGUGACUGGUUGACCAGA-----	2
0, -4	
-----UGUGACUGGUUGACCAGAAA-----	2
0, -4	
-----UGUGACUGGUUGACCAGAG-----	25
0, -3	
-----UGUGACUGGUUGACCAGAGa-----	4
0, -3	
-----UGUGACUGGUUGACCAGAGG-----	12
0, -2	
-----UGUGACUGGUUGACCAGAGGa-----	3
0, -2	
-----UGUGACUGGUUGACCAGAGGG-----	24
0, -1	
-----UGUGACUGGUUGACCAGAGGGa-----	4
0, -1	
-----UGUGACUGGUUGACCAGAGGGGu-----	3
0, -1	
-----UGUGACUGGUUGACCAGAGGGG-----	24
0, 0	
-----UGUGACUGGUUGACCAGAGGGGa-----	5
0, 0	
-----UGUGACUGGUUGACCAGAGGGGGau-----	4
0, 0	

-----UGUGACUGGUUGACCAGAGGGGu----- 2
0,0

>hsa-mir-135a-2 5p:23-45 SRX018962

agauaaaauccacucuagugcuUAUGGCUUUUAUCCUAUGUGAuaguaaaaagucucauguagggauuggaagccaug
aaauacauugugaaaaauca
(((((((.....(((.(((((((((((((.(((((((((((((.((.....).).))))))))))))))))))))))
)).)))).....))))).
-----UGUAGGGAUGGAAGCCAUG
AA----- 2

>hsa-mir-136 MA:15-37;mi:49-70 SRX018962

ugagcccucggaggACUCCAUUUGUUUGAUGAUGGAuucuaugcucCAUCAUCGUCUCAAUGAGUCUucagaggguu
cu
(((((((((.(((((((((.(((((((.....)))))))))))).....))))))))).))))))
).
-----CAUCAUCGUCUCAAUGAG-----
-- 7 0,-3
-----CAUCAUCGUCUCAAUGAGUC-----
-- 5 0,-1

>hsa-mir-138-1 MA:23-45;mi:63-84 SRX018962

cccugggauggugugguggggcAGCUGGUGUUGUGAAUCAGGCCGuugccaaucaagagaacgGCUACUUCACAACACCAG
GGCCacaccacacuacagg
(((((((.....(((.(((((((((((((.(((((((((((((.((.....).).))))))))))))))))))))
).)))).....))))).
-----AGCUGGUGUUGUGAAUCA-----
----- 11 0,-5
-----AGCUGGUGUUGUGAAUCAG-----
----- 2 0,-4
-----AGCUGGUGUUGUGAAUCAGGC-----
----- 6 0,-2
-----AGCUGGUGUUGUGAAUCAGGCau-----
----- 4 0,-2
-----AGCUGGUGUUGUGAAUCAGGCC-----
----- 7 0,-1
-----AGCUGGUGUUGUGAAUCAGGCCG-----
----- 7 0,0

-1,-5	-----UGGAGACGCGGCCCUGUUa-----	5	
-1,-5	-----UGGAGACGCGGCCCUGUUG-----	205	
-1,-4	-----UGGAGACGCGGCCCUGUUGa-----	10	
-1,-4	-----UGGAGACGCGGCCCUGUUGaa-----	3	
-1,-4	-----UGGAGACGCGGCCCUGUUGu-----	3	
-1,-4	-----UGGAGACGCGGCCCUGUUGG-----	259	
-1,-3	-----UGGAGACGCGGCCCUGUUGGu-----	3	
-1,-3	-----UGGAGACGCGGCCCUGUUGGA-----	399	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAa-----	77	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAaa-----	74	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAau-----	7	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAu-----	16	
-1,-2	-----UGGAGACGCGGCCCUGUUGGAG-----	732	
-1,-1	-----UGGAGACGCGGCCCUGUUGGAGa-----	229	
-1,-1	-----UGGAGACGCGGCCCUGUUGGAGaa-----	6	
-1,-1	-----UGGAGACGCGGCCCUGUUGGAGau-----	4	
-1,-1	-----UGGAGACGCGGCCCUGUUGGAGU-----	915	-1,0
	-----UGGAGACGCGGCCCUGUUGGAGUu-----	17	-1,0
	-----UGGAGACGCGGCCCUGUUGGAGUA-----	7	-1,1
	-----UGGAGACGCGGCCCUGUUGGAGUAu-----	3	-1,1
	-----GGAGACGCGGCCCUGUUG-----	3	0,-4

-----GGAGACGCGGCCCGUUGG-----	4	0,-3
-----GGAGACGCGGCCCGUUGGA-----	2	0,-2
-----GGAGACGCGGCCCGUUGGAaa--	2	0,-2
-----GGAGACGCGGCCCGUUGGAG----	16	0,-1
-----GGAGACGCGGCCCGUUGGAGU---	29	0,0
-----GAGACGCGGCCCGUUGGAG----	2	1,-1
-----AGACGCGGCCCGUUGGAaa--	2	2,-2
-----AGACGCGGCCCGUUGGAGU---	2	2,0
-----AGACGCGGCCCGUUGGAGUu--	6	2,0
-----AGACGCGGCCCGUUGGAGUuu-	10	2,0
-----AGACGCGGCCCGUUGGAGUAu-	2	2,1

GGu-----	99	0,0	
-----			-UACCACAGGGUAGAACCAC
GGuu-----	18	0,0	
-----			-UACCACAGGGUAGAACCAC
GGA-----	7408	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAA-----	1246	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAAA-----	348	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAAu-----	106	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAu-----	94	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAu-----	2	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAC-----	757	0,2	
-----			-UACCACAGGGUAGAACCAC
GGACu-----	6	0,2	
-----			-UACCACAGGGUAGAACCAC
GGACA-----	168	0,3	
-----			-ACCACAGGGUAGAACCAC
-----	70	1,-2	
-----			-ACCACAGGGUAGAACCAC
G-----	112	1,-1	
-----			-ACCACAGGGUAGAACCAC
GG-----	2501	1,0	
-----			-ACCACAGGGUAGAACCAC
GGu-----	132	1,0	
-----			-ACCACAGGGUAGAACCAC
GGuu-----	60	1,0	
-----			-ACCACAGGGUAGAACCAC
GGA-----	20616	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAA-----	5786	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAAA-----	1767	1,1	
-----			-ACCACAGGGUAGAACCAC

GGAuu-----	267	1,1	-----ACCACAGGGUAGAACCAC
GGAu-----	1924	1,1	-----ACCACAGGGUAGAACCAC
GGAuu-----	60	1,1	-----ACCACAGGGUAGAACCAC
GGAC-----	4760	1,2	-----ACCACAGGGUAGAACCAC
GGACu-----	70	1,2	-----ACCACAGGGUAGAACCAC
GGACA-----	378	1,3	-----ACCACAGGGUAGAACCAC
GGACAa-----	146	1,3	-----ACCACAGGGUAGAACCAC
GGACAaa-----	3	1,3	-----ACCACAGGGUAGAACCAC
GGACAau-----	3	1,3	-----ACCACAGGGUAGAACCAC
GGACAu-----	16	1,3	-----ACCACAGGGUAGAACCAC
GGACAG-----	6	1,4	-----CCACAGGGUAGAACCAC
G-----	2	2,-1	-----CCACAGGGUAGAACCAC
GG-----	62	2,0	-----CCACAGGGUAGAACCAC
GGu-----	5	2,0	-----CCACAGGGUAGAACCAC
GGuu-----	3	2,0	-----CCACAGGGUAGAACCAC
GGA-----	513	2,1	-----CCACAGGGUAGAACCAC
GGAa-----	138	2,1	-----CCACAGGGUAGAACCAC
GGAaa-----	58	2,1	-----CCACAGGGUAGAACCAC
GGAau-----	13	2,1	-----CCACAGGGUAGAACCAC

```

GGAu----- 61 2,1
-----CCACAGGGUAGAACCAC
GGAC----- 120 2,2
-----CCACAGGGUAGAACCAC
GGACu----- 6 2,2
-----CCACAGGGUAGAACCAC
GGACA----- 9 2,3
-----CCACAGGGUAGAACCAC
GGACAa----- 10 2,3

```

>hsa-mir-142 5p:16-36;3p:52-74 SRX018962

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug

.(((((((.(((.(((((((((((.(((((((((((...((....).).).))))))))).))))))))).))))).))

```

-----CCCAUAAAGUAGAAAGCA-----
----- 40 -2,-5
-----CCCAUAAAGUAGAAAGCAa-----
----- 15 -2,-5
-----CCCAUAAAGUAGAAAGCAC-----
----- 48 -2,-4
-----CCCAUAAAGUAGAAAGCACU-----
----- 190 -2,-3
-----CCCAUAAAGUAGAAAGCACUA-----
----- 98 -2,-2
-----CCCAUAAAGUAGAAAGCACUAa-----
----- 8 -2,-2
-----CCCAUAAAGUAGAAAGCACUAaa-----
----- 2 -2,-2
-----CCCAUAAAGUAGAAAGCACUAu-----
----- 9 -2,-2
-----CCCAUAAAGUAGAAAGCACUAC-----
----- 23 -2,-1
-----CCAUAAAGUAGAAAGCAC-----
----- 2 -1,-4
-----CCAUAAAGUAGAAAGCACU-----
----- 5 -1,-3
-----CCAUAAAGUAGAAAGCACUA-----

```

```

----- 2   -1,-2
-----CAUAAAGUAGAAAGCACU-----
----- 32  0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 87  0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 14  0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 9   0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 4   0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 49  0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 3   0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 83  0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 38  0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 6   0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 13  0,2
-----AUAAAGUAGAAAGCACUA-----
----- 6   1,-2
-----AUAAAGUAGAAAGCACUAa-----
----- 2   1,-2
-----AUAAAGUAGAAAGCACUAC-----
----- 7   1,-1
-----AUAAAGUAGAAAGCACUACa-----
----- 3   1,-1
-----AUAAAGUAGAAAGCACUACU-----
----- 10  1,0
-----AUAAAGUAGAAAGCACUACUA-----
----- 46  1,1
-----AUAAAGUAGAAAGCACUACUAu-----
----- 9   1,1
-----AUAAAGUAGAAAGCACUACUAA-----

```



```

----- 34 0,-1
-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 19 0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 15 0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 4 0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 4 0,0
-----GGUGCAGUGCUGCAUCUCUGGUaa-----
----- 6 0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 7 0,0
-----GGUGCAGUGCUGCAUCUCUGGUu-----
----- 2 0,0
-----GGUGCAGUGCUGCAUCUCUGGUC-----
----- 2 0,1
-----UCUGAGAUGAAGCACUGUAGC-----
----- 3 -2,-2
-----UCUGAGAUGAAGCACUGUAGCU
----- 3 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
C----- 3 -2,0
-----CUGAGAUGAAGCACUGUA-----
----- 4 -1,-4
-----CUGAGAUGAAGCACUGUAG-----
----- 2 -1,-3
-----CUGAGAUGAAGCACUGUAGC-----
----- 2 -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 15 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
a----- 2 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 37 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 8 -1,0
-----CUGAGAUGAAGCACUGUAGCU

```

CA-----	2	-1,1	-----UGAGAUGAAGCACUGUAG--
-----	125	0,-3	-----UGAGAUGAAGCACUGUAGa-
-----	4	0,-3	-----UGAGAUGAAGCACUGUAGaa
-----	12	0,-3	-----UGAGAUGAAGCACUGUAGuu
-----	2	0,-3	-----UGAGAUGAAGCACUGUAGC-
-----	364	0,-2	-----UGAGAUGAAGCACUGUAGCa
-----	119	0,-2	-----UGAGAUGAAGCACUGUAGCa
a-----	107	0,-2	-----UGAGAUGAAGCACUGUAGCa
-----	11	0,-2	-----UGAGAUGAAGCACUGUAGCU
u-----	3758	0,-1	-----UGAGAUGAAGCACUGUAGCU
-----	425	0,-1	-----UGAGAUGAAGCACUGUAGCU
a-----	49	0,-1	-----UGAGAUGAAGCACUGUAGCU
aa-----	28	0,-1	-----UGAGAUGAAGCACUGUAGCU
au-----	130	0,-1	-----UGAGAUGAAGCACUGUAGCU
u-----	15	0,-1	-----UGAGAUGAAGCACUGUAGCU
uu-----	9033	0,0	-----UGAGAUGAAGCACUGUAGCU
C-----	1491	0,0	-----UGAGAUGAAGCACUGUAGCU
Cu-----	167	0,0	-----UGAGAUGAAGCACUGUAGCU
Cuu-----	431	0,1	-----UGAGAUGAAGCACUGUAGCU
CA-----			-----UGAGAUGAAGCACUGUAGCU


```

----- 18 0,-1
-----GGUAUCAUCAUAUACUGUAAG-----
----- 153 0,0
-----GGUAUCAUCAUAUACUGUAAGU-----
----- 98 0,1
-----GGUAUCAUCAUAUACUGUAAGUU-----
----- 2 0,2
-----GAUAUCAUCAUAUACUGU-----
----- 8 1,-3
-----GAUAUCAUCAUAUACUGUAAG-----
----- 5 1,0
-----GAUAUCAUCAUAUACUGUAAGU-----
----- 6 1,1
-----GAUAUCAUCAUAUACUGUAAGUU-----
----- 2 1,2
-----CUACAGUAUAGAUGAUGU-----
----- 10 -1,-3
-----CUACAGUAUAGAUGAUGUA-----
----- 16 -1,-2
-----CUACAGUAUAGAUGAUGUAC-----
----- 5 -1,-1
-----UACAGUAUAGAUGAUGUA-----
----- 203 0,-2
-----UACAGUAUAGAUGAUGUAa-----
----- 9 0,-2
-----UACAGUAUAGAUGAUGUAC-----
----- 163 0,-1
-----UACAGUAUAGAUGAUGUACa-----
----- 4 0,-1
-----UACAGUAUAGAUGAUGUACU-----
----- 101 0,0
-----UACAGUAUAGAUGAUGUACUu-----
----- 2 0,0
-----UACAGUAUAGAUGAUGUACUuu-----
----- 17 0,0
-----UACAGUAUAGAUGAUGUACUA-----
----- 23 0,1
-----UACAGUAUAGAUGAUGUACUAa-----

```

----- 36 0,1
-----UACAGUAUAGAUGUACUAu-----
----- 21 0,1
-----ACAGUAUAGAUGUACU-----
----- 4 1,0

>hsa-mi r-145 MA:16-38;mi :54-75 SRX018962

caccuuguccucacgGUCCAGUUUCCCAGGAAUCCCUuagaugcuaagauggGGAUCCUGGAAUACUGUUCUugagg
ucaugguu

$$.(((.(.((((.((..((((.(.((((((((((((((.)))))))))))).).)))).).))))).)))).$$

-----GUCCAGUUUCCCCAGGAA-----

----- 20 0,-5

-----GUCCAGUUUCCCCAGGAAa-----

----- 3 0,-5

-----GUCCAGUUUCCCAGGAAU-----

----- 82 0,-4

-----GUCCAGUUUCCCAGGAUa-----

----- 5 0, -4

-----GUCCAGUUUCCCAGGAU_{aa}-----

----- 3 0, -4

-----GUCCAGUUUCCCAGGAAUC-----

----- 35 0,-3

-----GUCCAGUUUCCCAGGAAUCa-----

----- 30 0,-3

-----GUCCAGUUUCCCAGGAAUCaa-----

----- 2 0,-3

-----GUCCAGUUUCCCAGGAAUCC-----

----- 61 0,-2

-----GUCCAGUUUCCCAGGAAUCCa-----

----- 17 0,-2

-----GUCCAGUUUCCCAGGAAUCCC-----

----- 123 0,-1

-----GUCCAGUUUCCCAGGAAUCCC_a-----

----- 5 0,-1

-----GUCCAGUUUCCCAGGAAUCCCU-----

----- 127 0,0

-----GUCCAGUUUCCCAGGAAUCCCUa-----

----- 42 0,-3
-----UGAGAACUGAAUCCAUGGG-----
----- 60 0,-2
-----UGAGAACUGAAUCCAUGGGaa-----
----- 4 0,-2
-----UGAGAACUGAAUCCAUGGGU-----
----- 105 0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 69 0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 90 0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 148 0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 625 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 577 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 63 0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 136 0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 295 0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 15 0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 220 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 24 0,1
-----UGAGAACUGAAUCCAUGGGUUGaa-----
----- 4 0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 94 0,2
-----UGAGAACUGAAUCCAUGGGUUGUa-----
----- 6 0,2
-----GAGAACUGAAUCCAUGGGU-----
----- 2 1,-1
-----GAGAACUGAAUCCAUGGGUaa-----

0, -2		
-----UGAGAACUGAAUCCAUAGGu-----		3
0, -2		
-----UGAGAACUGAAUCCAUAGGC-----		688
0, -1		
-----UGAGAACUGAAUCCAUAGGCa-----		249
0, -1		
-----UGAGAACUGAAUCCAUAGGCaa-----		101
0, -1		
-----UGAGAACUGAAUCCAUAGGCau-----		62
0, -1		
-----UGAGAACUGAAUCCAUAGGCU-----		4751
0, 0		
-----UGAGAACUGAAUCCAUAGGCUa-----		211
0, 0		
-----UGAGAACUGAAUCCAUAGGCUaa-----		35
0, 0		
-----UGAGAACUGAAUCCAUAGGCUau-----		206
0, 0		
-----UGAGAACUGAAUCCAUAGGCUu-----		639
0, 0		
-----UGAGAACUGAAUCCAUAGGCUuu-----		129
0, 0		
-----UGAGAACUGAAUCCAUAGGCUG-----		828
0, 1		
-----UGAGAACUGAAUCCAUAGGCUGa-----		635
0, 1		
-----UGAGAACUGAAUCCAUAGGCUGaa-----		14
0, 1		
-----UGAGAACUGAAUCCAUAGGCUGau-----		12
0, 1		
-----UGAGAACUGAAUCCAUAGGCUGU-----		2122
0, 2		
-----UGAGAACUGAAUCCAUAGGCUGUa-----		22
0, 2		
-----UGAGAACUGAAUCCAUAGGCUGUu-----		3
0, 2		
-----GAGAACUGAAUCCAUAGGC-----		4

1, -1		
-----GAGAACUGAAUCCAUAGGCa-----	6	
1, -1		
-----GAGAACUGAAUCCAUAGGCaa-----	2	
1, -1		
-----GAGAACUGAAUCCAUAGGCU-----	44	
1, 0		
-----GAGAACUGAAUCCAUAGGCUa-----	2	
1, 0		
-----GAGAACUGAAUCCAUAGGCUu-----	6	
1, 0		
-----GAGAACUGAAUCCAUAGGCUG-----	12	
1, 1		
-----GAGAACUGAAUCCAUAGGCUGa-----	9	
1, 1		
-----GAGAACUGAAUCCAUAGGCUGU-----	16	
1, 2		
-----AGAACUGAAUCCAUAGGCU-----	10	
2, 0		
-----UGCCCUGUGGACUCAGUUCUGG-----	4	
0, 0		
-----UGCCCUGUGGACUCAGUUCUGGU-----	8	
0, 1		
-----UGCCCUGUGGACUCAGUUCUGGUa-----	5	
0, 1		
-----UGCCCUGUGGACUCAGUUCUGGUau-----	13	
0, 1		
-----UGCCCUGUGGACUCAGUUCUGGUu-----	4	
0, 1		
-----GCCCUGUGGACUCAGUUC-----	2	
1, -3		
-----GCCCUGUGGACUCAGUUCUG-----	4	
1, -1		
-----GCCCUGUGGACUCAGUUCUGG-----	87	
1, 0		
-----GCCCUGUGGACUCAGUUCUGGa-----	2	
1, 0		
-----GCCCUGUGGACUCAGUUCUGGU-----	139	

1,1	-----GCCCUGUGGACUCAGUUCUGGUa-----	71
1,1	-----GCCCUGUGGACUCAGUUCUGGUaa----	4
1,1	-----GCCCUGUGGACUCAGUUCUGGUau----	100
1,1	-----GCCCUGUGGACUCAGUUCUGGUu-----	47
1,1	-----GCCCUGUGGACUCAGUUCUGGUuu----	8
1,1	-----GCCCUGUGGACUCAGUUCUGGUG-----	4
1,2	-----GCCCUGUGGACUCAGUUCUGGUGu----	2
1,2	-----CCCUGUGGACUCAGUUCUGG-----	3
2,0	-----CCCUGUGGACUCAGUUCUGGUa-----	5
2,1	-----CCCUGUGGACUCAGUUCUGGUau----	17
2,1	-----CCCUGUGGACUCAGUUCUGGUu-----	3
2,1	-----CCCUGUGGACUCAGUUCUGGUuu----	2
2,1		

>hsa-mir-148a mi:6-27;MA:44-65 SRX018962

gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc		
((((((((((((((.((((..((((((.....)))..))))))))..)).))))))))))))))		
----CAAAGUUCUGAGACACUCCGA-----	8	
-1,-2		
----AAAGUUCUGAGACACUCCG-----	3	0,-3
----AAAGUUCUGAGACACUCCGA-----	163	0,-2
----AAAGUUCUGAGACACUCCGAaa-----	2	0,-2
----AAAGUUCUGAGACACUCCGAC-----	8	0,-1
----AAAGUUCUGAGACACUCCGACU-----	6	0,0
-----UCAGUGCACUACAGAACU-----	6688	
0,-4		

-----UCAGUGCACUACAGAACUa-----	17	0,-4
-----UCAGUGCACUACAGAACUaa-----	9	0,-4
-----UCAGUGCACUACAGAACUU-----	250	0,-3
-----UCAGUGCACUACAGAACUUa-----	10	0,-3
-----UCAGUGCACUACAGAACUUaa-----	2	0,-3
-----UCAGUGCACUACAGAACUUU-----	1067	
0,-2		
-----UCAGUGCACUACAGAACUUUa----	16	0,-2
-----UCAGUGCACUACAGAACUUUaa----	4	0,-2
-----UCAGUGCACUACAGAACUUUau----	3	0,-2
-----UCAGUGCACUACAGAACUUUu----	6	0,-2
-----UCAGUGCACUACAGAACUUUuu----	7	0,-2
-----UCAGUGCACUACAGAACUUUG----	2086	
0,-1		
-----UCAGUGCACUACAGAACUUUGa----	2581	
0,-1		
-----UCAGUGCACUACAGAACUUUGaa----	274	0,-1
-----UCAGUGCACUACAGAACUUUGU----	20081	
0,0		
-----UCAGUGCACUACAGAACUUUGUa----	61	0,0
-----UCAGUGCACUACAGAACUUUGUaa----	25	0,0
-----UCAGUGCACUACAGAACUUUGUau----	5	0,0
-----UCAGUGCACUACAGAACUUUGUu----	52	0,0
-----UCAGUGCACUACAGAACUUUGUuu----	2	0,0
-----UCAGUGCACUACAGAACUUUGUC----	242	0,1
-----UCAGUGCACUACAGAACUUUGUCa----	10	0,1
-----UCAGUGCACUACAGAACUUUGUCU----	18	0,2
-----UCAGUGCACUACAGAACUUUGUCUu----	2	0,2
-----CAGUGCACUACAGAACUUUGa----	3	1,-1
-----CAGUGCACUACAGAACUUUGU----	26	1,0
-----AGUGCACUACAGAACUUU-----	40	2,-2
-----AGUGCACUACAGAACUUUG-----	44	2,-1
-----AGUGCACUACAGAACUUUGa----	46	2,-1
-----AGUGCACUACAGAACUUUGU----	353	2,0
-----AGUGCACUACAGAACUUUGUa----	3	2,0
-----AGUGCACUACAGAACUUUGUu----	3	2,0
-----AGUGCACUACAGAACUUUGUC----	5	2,1

```
>hsa-mi r-148b    mi:25-46;MA:63-84    SRX018962
```

caagcagcauuagcauuugaggugAAGUUCUGUUAUACACUCAGGCugugggcucucugaaagUCAGUGCAUCACAGAACU
UUGUcucgaaagcuuucua

.....((..(((.((((((((..((((((((((.(.((((..((((.....(.....)..))))))))).)).)))))))))
)..)))))))).)).)..

-----UGAAGUUCUGUUAUACACUC-----

----- 3 -2, -4

-----GAAGUUCUGUUAUACACU-----

----- 2 -1,-5

-----GAAGUUCUGUUAUACACUC-----

----- 12 -1,-4

-----GAAGUUCUGUUAUACACUCAG-----

----- 4 -1,-2

-----GAAGUUCUGUUAUACACUCAGG-----

----- 9 -1,-1

-----GAAGUUCUGUUAUACACUCAGGa-----

$$\text{-----} 2 \quad -1, -1$$

-----GAAGUUCUGUUAUACACUCAGGCa-----

----- 4 -1,0

-----GAAGUUCUGUUAUACACUCAGGCau-----

----- 5 -1,0

-----GAAGUUCUGUUAUACACUCAGGCU-----

----- 17 -1,1

-----GAAGUUCUGUUAUACACUCAGGCU_a-----

$$----- 4 \quad -1, 1$$

-----AAGUUCUGUUAUACACUCAGGCU-----

----- 3 0,1

-----AAGUUCUGUUAUACACUCAGGCU_{au}-----

----- 2 0,1

-----UCAGUGCAUCACAGAACU

----- 2434 0,-4

-----UCAGUGCAUCACAGAACU

U----- 121 0,-3

-----UCAGUGCAUCACAGAACU

UU----- 481 0,-2

-----UCAGUGCAUCACAGAACU

$$Uu \text{-----} 2 \quad 0, -2$$

-----UCAGUGCAUCACAGAACU

```

UUG----- 47 0,-1
-----UCAGUGCAUCACAGAACU
UUGa----- 72 0,-1
-----UCAGUGCAUCACAGAACU
UUGaa----- 8 0,-1
-----UCAGUGCAUCACAGAACU
UUGU----- 624 0,0
-----UCAGUGCAUCACAGAACU
UUGUa----- 8 0,0
-----UCAGUGCAUCACAGAACU
UUGUaa----- 3 0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 108 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 6 0,0
-----AGUGCAUCACAGAACU
UU----- 6 2,-2
-----AGUGCAUCACAGAACU
UUG----- 2 2,-1
-----AGUGCAUCACAGAACU
UUGU----- 10 2,0
-----AGUGCAUCACAGAACU
UUGUu----- 2 2,0

```

```

>hsa-mir-149 MA:15-37;mi:56-76 SRX018962
gccggcgcccgagcUCUGGCUCCGUGUCUUCACUCCCgugcuuguccgaggagggAGGGAGGGACGGGGGCUGUGCuggg
gcagcugga
.(((((((((((((.(.(.(((((((.((((.((((.(.(....)))..)))))))))))).))))).).)).))
)).))))).
-----GAGGGAGGGACGGGGGCUGUGC-----
----- 3 -1,0

```

```

>hsa-mir-150 MA:16-37;mi:51-72 SRX018962
cuccccauggcccgUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac
.(((((((.((((((((((((((((..(((.((((((((.((((....)))..)))))))))))))).))))))
))).
-----UCUCCCAACCCUUGUACC-----

```

```

---- 15 0,-4
-----UCUCCCAACCCUUGUACCA-----
---- 46 0,-3
-----UCUCCCAACCCUUGUACCAG-----
---- 55 0,-2
-----UCUCCCAACCCUUGUACCAGU-----
---- 149 0,-1
-----UCUCCCAACCCUUGUACCAGUa-----
---- 14 0,-1
-----UCUCCCAACCCUUGUACCAGUG-----
---- 723 0,0
-----UCUCCCAACCCUUGUACCAGUGa-----
---- 141 0,0
-----UCUCCCAACCCUUGUACCAGUGaa-----
---- 4 0,0
-----UCUCCCAACCCUUGUACCAGUGu-----
---- 48 0,0
-----UCUCCCAACCCUUGUACCAGUGC-----
---- 5 0,1
-----UCCCAACCCUUGUACCAGUG-----
---- 4 2,0
-----CCUGGUACAGGCCUGGGGGAC-----
---- 2 -1,-2
-----CUGGUACAGGCCUGGGGG-----
---- 2 0,-4
-----CUGGUACAGGCCUGGGGGA-----
---- 2 0,-3
-----CUGGUACAGGCCUGGGGGAC-----
---- 17 0,-2
-----CUGGUACAGGCCUGGGGGACA-----
---- 9 0,-1
-----CUGGUACAGGCCUGGGGGACAa-----
---- 3 0,-1
-----CUGGUACAGGCCUGGGGGACAaa-----
---- 2 0,-1
-----CUGGUACAGGCCUGGGGGACAau-----
---- 2 0,-1
-----CUGGUACAGGCCUGGGGGACAu-----

```

---- 3 0,-1
-----CUGGUACAGGCCUGGGGACAUU-----
---- 3 0,-1

>hsa-mir-151 5p:11-31;3p:47-67 SRX018962

uuuccugcccUCGAGGAGCUCACAGUCUAGUaugucucauccccuaCUAGACUGAAGCUCCUUGAGGacagggauuguca
uacucaccuc

.(((((((.((((((((((((((..(((((((((((.(.....).)))))))))))).)))))))))))).)))))).....
.....

-----CUCGAGGAGCUCACAGUCUAG-----
----- 3 -1,-1
-----CUCGAGGAGCUCACAGUCUAGa-----
----- 4 -1,-1
-----CUCGAGGAGCUCACAGUCUAGU-----
----- 10 -1,0
-----UCGAGGAGCUCACAGUCU-----
----- 10 0,-3
-----UCGAGGAGCUCACAGUCUA-----
----- 7 0,-2
-----UCGAGGAGCUCACAGUCUAG-----
----- 65 0,-1
-----UCGAGGAGCUCACAGUCUAGa-----
----- 4 0,-1
-----UCGAGGAGCUCACAGUCUAGaa-----
----- 3 0,-1
-----UCGAGGAGCUCACAGUCUAGU-----
----- 427 0,0
-----UCGAGGAGCUCACAGUCUAGUu-----
----- 2 0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
----- 150 0,1
-----UCGAGGAGCUCACAGUCUAGUAa-----
----- 15 0,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
----- 10 0,2
-----CGAGGAGCUCACAGUCUAGU-----
----- 2 1,0
-----GAGGAGCUCACAGUCUAG-----

-----	2	2,-1	
-----			-GAGGAGCUCACAGUCUAGU-----
-----	24	2,0	
-----			-GAGGAGCUCACAGUCUAGUA-----
-----	14	2,1	
-----			-----UACUAGACUGAAGCUCCUUGuu-----
-----	2	-2,-3	
-----			-----UACUAGACUGAAGCUCCUUGA-----
-----	15	-2,-2	
-----			-----UACUAGACUGAAGCUCCUUGAa-----
-----	5	-2,-2	
-----			-----UACUAGACUGAAGCUCCUUGAG-----
-----	24	-2,-1	
-----			-----UACUAGACUGAAGCUCCUUGAGa-----
-----	10	-2,-1	
-----			-----UACUAGACUGAAGCUCCUUGAGG-----
-----	15	-2,0	
-----			-----UACUAGACUGAAGCUCCUUGAGGA-----
-----	4	-2,1	
-----			-----ACUAGACUGAAGCUCCUUGA-----
-----	4	-1,-2	
-----			-----ACUAGACUGAAGCUCCUUGAG-----
-----	4	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGa-----
-----	3	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGG-----
-----	7	-1,0	
-----			-----ACUAGACUGAAGCUCCUUGAGGA-----
-----	8	-1,1	
-----			-----CUAGACUGAAGCUCCUUG-----
-----	9	0,-3	
-----			-----CUAGACUGAAGCUCCUUGA-----
-----	42	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAa-----
-----	24	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAaa-----
-----	8	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAG-----

----- 160 0,-1	-----CUAGACUGAAGCUCCUUGAGa-----
----- 58 0,-1	-----CUAGACUGAAGCUCCUUGAGaa-----
----- 12 0,-1	-----CUAGACUGAAGCUCCUUGAGau-----
----- 3 0,-1	-----CUAGACUGAAGCUCCUUGAGu-----
----- 17 0,-1	-----CUAGACUGAAGCUCCUUGAGG-----
----- 655 0,0	-----CUAGACUGAAGCUCCUUGAGGu-----
----- 49 0,0	-----CUAGACUGAAGCUCCUUGAGGuu-----
----- 5 0,0	-----CUAGACUGAAGCUCCUUGAGGA-----
----- 925 0,1	-----CUAGACUGAAGCUCCUUGAGGAa-----
----- 781 0,1	-----CUAGACUGAAGCUCCUUGAGGAaa-----
----- 304 0,1	-----CUAGACUGAAGCUCCUUGAGGAau-----
----- 58 0,1	-----CUAGACUGAAGCUCCUUGAGGAu-----
----- 113 0,1	-----CUAGACUGAAGCUCCUUGAGGAuu-----
----- 11 0,1	-----CUAGACUGAAGCUCCUUGAGGAC-----
----- 30 0,2	-----CUAGACUGAAGCUCCUUGAGGACu-----
----- 3 0,2	-----CUAGACUGAAGCUCCUUGAGGACA-----
----- 8 0,3	-----UAGACUGAAGCUCCUUGAG-----
----- 8 1,-1	-----UAGACUGAAGCUCCUUGAGa-----
----- 2 1,-1	-----UAGACUGAAGCUCCUUGAGG-----

----- 8 0,-1	-----UCAGUGCAUGACAGAACUUGG-----
----- 948 0,0	-----UCAGUGCAUGACAGAACUUGGa-----
----- 157 0,0	-----UCAGUGCAUGACAGAACUUGGaa-----
----- 44 0,0	-----UCAGUGCAUGACAGAACUUGGau-----
----- 3 0,0	-----UCAGUGCAUGACAGAACUUGGu-----
----- 595 0,0	-----UCAGUGCAUGACAGAACUUGGuu-----
----- 56 0,0	-----UCAGUGCAUGACAGAACUUGGG-----
----- 621 0,1	-----UCAGUGCAUGACAGAACUUGGGa-----
----- 173 0,1	-----UCAGUGCAUGACAGAACUUGGGaa-----
----- 30 0,1	-----UCAGUGCAUGACAGAACUUGGGau-----
----- 2 0,1	-----UCAGUGCAUGACAGAACUUGGGu-----
----- 333 0,1	-----UCAGUGCAUGACAGAACUUGGGuu-----
----- 22 0,1	-----UCAGUGCAUGACAGAACUUGGGC-----
----- 2 0,2	-----UCAGUGCAUGACAGAACUUGGGCa-----
----- 2 0,2	-----AGUGCAUGACAGAACUUG-----
----- 7 2,-1	-----AGUGCAUGACAGAACUUGG-----
----- 13 2,0	-----AGUGCAUGACAGAACUUGGa-----
----- 3 2,0	-----AGUGCAUGACAGAACUUGGu-----
----- 8 2,0	-----AGUGCAUGACAGAACUUGGG-----

----- 5 2,1
-----AGUGCAUGACAGAACUUGGga-----
----- 7 2,1
-----AGUGCAUGACAGAACUUGGu-----
----- 6 2,1
-----AGUGCAUGACAGAACUUGGgu-----
----- 2 2,1

>hsa-mir-154 MA:15-36;mi:51-72 SRX018962

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuauugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa

```

-----UAGGUUAUCCGUGUUGCCUUCG-----
---      6      0,0
-----AAUCAUACACGGUUGACCUAU-----
---      2      0,-1
-----AAUCAUACACGGUUGACCUAUU-----
---      8      0,0

```

>hsa-mir-155 MA:4-26;mi:43-64 SRX018962

cugUUA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUUUAGCAUUAACAg

$$(((((((((((((((.((((.((((((((((.(((\dots)))..)))))))))))))))))$$

---UAAUGC ¹ AAUCGUGAUA-----	36	0,-5
---UAAUGC ¹ AAUCGUGAUAG-----	22	0,-4
---UAAUGC ¹ AAUCGUGAUAGG-----	11	0,-3
---UAAUGC ¹ AAUCGUGAUAGGG-----	18	0,-2
---UAAUGC ¹ AAUCGUGAUAGGGG-----	18	0,-1
---UAAUGC ¹ AAUCGUGAUAGGGGU-----	15	0,0
---UAAUGC ¹ AAUCGUGAUAGGGGUUU-----	2	0,2

>hsa-mir-15a MA:14-35;mi:51-72 SRX018962

ccuuggaguaaagUAGCAGCACAAUUGGUUUGUGgauuugaaaaggugCAGGCCAUUUGUGCUGCCUCAaaaauaca
agg

-----UAGCAGCACAUAAUGGUU-----
 --- 26 0,-4


```

-----UAGCAGCACAUCAUGGUUUAa-----
----- 6 0,-2
-----UAGCAGCACAUCAUGGUUUAu-----
----- 5 0,-2
-----UAGCAGCACAUCAUGGUUUAC-----
----- 108 0,-1
-----UAGCAGCACAUCAUGGUUUACu-----
----- 2 0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 395 0,0
-----UAGCAGCACAUCAUGGUUUACAa-----
----- 6 0,0
-----UAGCAGCACAUCAUGGUUUACAU-----
----- 3 0,1
-----AGCAGCACAUCAUGGUUU-----
----- 2 1,-3
-----AGCAGCACAUCAUGGUUUA-----
----- 7 1,-2
-----AGCAGCACAUCAUGGUUUACA-----
----- 5 1,0
-----GCAGCACAUCAUGGUUUACA-----
----- 3 2,0
-----CGAAUCAUUAUUUGCUGC-----
----- 5 0,-4
-----CGAAUCAUUAUUUGCUGCU-----
----- 3 0,-3

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018962

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuuaagauucuaaaauuauucuCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

(((((...(((.....))))).)))))))))..)))))

```

-----UAGCAGCACGUAAAUAUU-----
----- 64 0,-4
-----UAGCAGCACGUAAAUAUUa-----
----- 2 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 222 0,-3

```

```

-----UAGCAGCACGUAAAUAUUGG-----
----- 301 0, -2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 2 0, -2
-----UAGCAGCACGUAAAUAUUGGaa-----
----- 2 0, -2
-----UAGCAGCACGUAAAUAUUGGu-----
----- 2 0, -2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 398 0, -1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 35 0, -1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 10 0, -1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 6 0, -1
-----UAGCAGCACGUAAAUAUUGGCu-----
----- 2 0, -1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 1180 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 73 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 3 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 144 0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 6 0,2
-----AGCAGCACGUAAAUAUUGGC-----
----- 4 1, -1
-----AGCAGCACGUAAAUAUUGGCG-----
----- 4 1,0
-----AGCAGCACGUAAAUAUUGGCGa-----
----- 2 1,0
-----CCAGUAUUAACUGUGCUGCU-----
----- 2 0, -2
-----CCAGUAUUAACUGUGCUGCUGA-----
----- 2 0,0

```

-----CAGUAUUAACUGUGCUGCUGA---
----- 2 1,0

>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018962

guuccacucUAGCAGCACGUAAAUAUUGGCGuagugaaauauauuuuuaacaCCAAUAUUACUGUGCUGCUUUAguuguga
c

((..(((..((((((((..(((((((..((..((.....)))..))..))))))..))))))..))))..))
)

-----CUAGCAGCACGUAAAUAUUGGCG-----

- 2 -1,0

-----UAGCAGCACGUAAAUAUU-----

- 64 0,-4

-----UAGCAGCACGUAAAUAUUa-----

- 2 0,-4

-----UAGCAGCACGUAAAUAUUG-----

- 222 0,-3

-----UAGCAGCACGUAAAUAUUGG-----

- 301 0,-2

-----UAGCAGCACGUAAAUAUUGGa-----

- 2 0,-2

-----UAGCAGCACGUAAAUAUUGGaa-----

- 2 0,-2

-----UAGCAGCACGUAAAUAUUGGu-----

- 2 0,-2

-----UAGCAGCACGUAAAUAUUGGC-----

- 398 0,-1

-----UAGCAGCACGUAAAUAUUGGCa-----

- 35 0,-1

-----UAGCAGCACGUAAAUAUUGGCaa-----

- 10 0,-1

-----UAGCAGCACGUAAAUAUUGGCau-----

- 6 0,-1

-----UAGCAGCACGUAAAUAUUGGCu-----

- 2 0,-1

-----UAGCAGCACGUAAAUAUUGGCG-----

- 1180 0,0

-----UAGCAGCACGUAAAUAUUGGCGa-----

- 73 0,0


```

-----UCAAAGUGCUUACAGUGCAGGUA-----
----   6   -1, -1
-----CAAAGUGCUUACAGUGCA-----
----  17   0, -5
-----CAAAGUGCUUACAGUGCAG-----
----  49   0, -4
-----CAAAGUGCUUACAGUGCAGG-----
----  78   0, -3
-----CAAAGUGCUUACAGUGCAGGa-----
----   2   0, -3
-----CAAAGUGCUUACAGUGCAGGU-----
---- 132   0, -2
-----CAAAGUGCUUACAGUGCAGGUA-----
----  90   0, -1
-----CAAAGUGCUUACAGUGCAGGUa-----
----  19   0, -1
-----CAAAGUGCUUACAGUGCAGGUa-----
----  12   0, -1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 102   0, 0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
----   3   0, 1
-----AAAGUGCUUACAGUGCAGGU-----
----   4   1, -2
-----AAAGUGCUUACAGUGCAGGUA-----
----   8   1, -1
-----AAAGUGCUUACAGUGCAGGUAG-----
----   5   1, 0
-----UACUGCAGUGAAGGCACUUGUA-----
----   2   -1, -1
-----ACUGCAGUGAAGGCACUU-----
----  29   0, -4
-----ACUGCAGUGAAGGCACUUG-----
---- 160   0, -3
-----ACUGCAGUGAAGGCACUUGa-----
----   2   0, -3
-----ACUGCAGUGAAGGCACUUGU-----
---- 237   0, -2

```



```

-----AACAUUCAACGCUGUCGGUG-----
-----120 0,-3
-----AACAUUCAACGCUGUCGGUGu-----
-----23 0,-3
-----AACAUUCAACGCUGUCGGUGA-----
-----417 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
-----10 0,-2
-----AACAUUCAACGCUGUCGGUGAaa-----
-----10 0,-2
-----AACAUUCAACGCUGUCGGUGAu-----
-----8 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
-----1359 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
-----51 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
-----227 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
-----12 0,0
-----AACAUUCAACGCUGUCGGUGAGUaa-----
-----3 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
-----181 0,1
-----AACAUUCAACGCUGUCGGUGAGUUa-----
-----3 0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
-----48 0,2
-----ACAUUCAACGCUGUCGGUG-----
-----3 1,-3
-----ACAUUCAACGCUGUCGGUGAG-----
-----6 1,-1
-----AACCAUCGACCGUUGAUU
GUAC-----3 -1,-1
-----AACCAUCGACCGUUGAUU
GUACC-----2 -1,0
-----ACCAUCGACCGUUGAUU
G-----17 0,-4

```

```

-----ACCAUCGACCGUUGAUU
GU----- 12 0,-3
-----ACCAUCGACCGUUGAUU
GUACC----- 8 0,0

```

>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018962

```

agaagggcuaucaggccagccuucagaggacuccaaggAACAUUCAACGCUGUCGGUGAGUuugggauuugaaaaaACCA
CUGACCGUUGACUGUACCuugggguccuua

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).

```

```

-----AACAUUCAACGCUGUCGG-----
----- 61 0,-5
-----AACAUUCAACGCUGUCGGU-----
----- 36 0,-4
-----AACAUUCAACGCUGUCGGUa-----
----- 4 0,-4
-----AACAUUCAACGCUGUCGGUaa-----
----- 17 0,-4
-----AACAUUCAACGCUGUCGGUau-----
----- 3 0,-4
-----AACAUUCAACGCUGUCGGUG-----
----- 120 0,-3
-----AACAUUCAACGCUGUCGGUGu-----
----- 23 0,-3
-----AACAUUCAACGCUGUCGGUGA-----
----- 417 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
----- 10 0,-2
-----AACAUUCAACGCUGUCGGUGAaa-----
----- 10 0,-2
-----AACAUUCAACGCUGUCGGUGAu-----
----- 8 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 1359 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 51 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 227 0,0

```



```

-----AACAUUCAUUGCUGUCGGU-----
----- 25 0,-4
-----AACAUUCAUUGCUGUCGGUaa-----
----- 2 0,-4
-----AACAUUCAUUGCUGUCGGUG-----
----- 77 0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
----- 4 0,-3
-----AACAUUCAUUGCUGUCGGUGG-----
----- 11 0,-2
-----AACAUUCAUUGCUGUCGGUGGa-----
----- 3 0,-2
-----AACAUUCAUUGCUGUCGGUGGG-----
----- 92 0,-1
-----AACAUUCAUUGCUGUCGGUGGGa-----
----- 9 0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
----- 35 0,0
-----AACAUUCAUUGCUGUCGGUGGGUa-----
----- 8 0,0
-----AACAUUCAUUGCUGUCGGUGGGUaa-----
----- 6 0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
----- 23 0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 82 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUa-----
----- 3 0,1
-----ACAUUCAUUGCUGUCGGUG-----
----- 2 1,-3
-----ACAUUCAUUGCUGUCGGUGGG-----
----- 3 1,-1
-----ACAUUCAUUGCUGUCGGUGGGUa-----
----- 2 1,0
-----ACAUUCAUUGCUGUCGGUGGGUU-----
----- 4 1,1
-----CUCAC
UGAACAAUGAUGCA----- 2

```

-----CUCAC
UGAACAAUGAAUGCAuu----- 5
-----CUCAC
UGAACAAUGAAUGCAA----- 2

>hsa-mir-181b-2 5p:16-38 SRX018962

cugauggcugcacucAACAUUCAUUGCUGUCGGUGGGUuugagucugaaucacucugaucaaugaaugcaaacugcg
gaccaaaca

...((((((((.....((((((((((..((((((((((((((.(.....))))))))))))))))))))))))))....)))
).)))....

-----AACAUUCAUUGCUGUCGG-----	
-----180,-5	
-----AACAUUCAUUGCUGUCGGU-----	
-----250,-4	
-----AACAUUCAUUGCUGUCGGUaa-----	
-----20,-4	
-----AACAUUCAUUGCUGUCGGUG-----	
-----770,-3	
-----AACAUUCAUUGCUGUCGGUGu-----	
-----40,-3	
-----AACAUUCAUUGCUGUCGGUGG-----	
-----110,-2	
-----AACAUUCAUUGCUGUCGGUGGa-----	
-----30,-2	
-----AACAUUCAUUGCUGUCGGUGGG-----	
-----920,-1	
-----AACAUUCAUUGCUGUCGGUGGGa-----	
-----90,-1	
-----AACAUUCAUUGCUGUCGGUGGGU-----	
-----350,0	
-----AACAUUCAUUGCUGUCGGUGGGUa-----	
-----80,0	
-----AACAUUCAUUGCUGUCGGUGGGUaa-----	
-----60,0	
-----AACAUUCAUUGCUGUCGGUGGGUau-----	
-----230,0	
-----AACAUUCAUUGCUGUCGGUGGGUU-----	
-----820,1	

```

-----AACAUUCAUUGCUGUCGGUGGGUa-----
-----   3   0,1
-----AACAUUCAUUGCUGUCGGUGGGUU-----
-----   9   0,2
-----ACAUUCAUUGCUGUCGGUG-----
-----   2   1,-3
-----ACAUUCAUUGCUGUCGGUGG-----
-----   3   1,-1
-----ACAUUCAUUGCUGUCGGUGGGUa-----
-----   2   1,0
-----ACAUUCAUUGCUGUCGGUGGGUU-----
-----   4   1,1

```

>hsa-mir-181c MA:27-48;mi:65-86 SRX018962

cggaaaaauugccaagggguugggggAACAUUCAACCUGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaauugccauc

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AACAUUCAACCUGUCGGUGAG-----
-----   8   0,-1
-----AACAUUCAACCUGUCGGUGAGU-----
-----   3   0,0
-----AACAUUCAACCUGUCGGUGAGUU-----
-----   9   0,1
-----AACAUUCAACCUGUCGGUGAGUU-----
-----   2   0,2
-----ACCAUCGACCGUUGA
GUG-----   30  1,-3
-----ACCAUCGACCGUUGA
GUGG-----   10  1,-2

```

>hsa-mir-181d 5p:36-58 SRX018962

gucccccucccuaggccacagccgaggucacaaucAACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accgggggaugaauugucacuguggcugggccagacacggcuuaaggggaauuggggac

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AACAUUCAUUGUUGUCGG-----
-----   2   0,-5

```


agggggcgagggauUGGAGAGAAAGGCAGUUCCUGAuggucccccuccccAGGGGCUGGCUUCCUCUGGUCcuuccccucc
ca

.((((((.((((((..(((.((((((.((((((((((..((.....)).))))))))).))))))))..)))))))).))))
).

-----UUGGAGAGAAAGGCAGUUCCUGA-----
-- 2 -1,0
-----UGGAGAGAAAGGCAGUUC-----
-- 183 0,-4
-----UGGAGAGAAAGGCAGUUCa-----
-- 6 0,-4
-----UGGAGAGAAAGGCAGUUCu-----
-- 2 0,-4
-----UGGAGAGAAAGGCAGUUCuu-----
-- 3 0,-4
-----UGGAGAGAAAGGCAGUUCC-----
-- 290 0,-3
-----UGGAGAGAAAGGCAGUUCCU-----
-- 2057 0,-2
-----UGGAGAGAAAGGCAGUUCCUa-----
-- 6 0,-2
-----UGGAGAGAAAGGCAGUUCCUu-----
-- 4 0,-2
-----UGGAGAGAAAGGCAGUUCCUG-----
-- 2782 0,-1
-----UGGAGAGAAAGGCAGUUCCUGu-----
-- 94 0,-1
-----UGGAGAGAAAGGCAGUUCCUGuu-----
-- 17 0,-1
-----UGGAGAGAAAGGCAGUUCCUGA-----
-- 9102 0,0
-----UGGAGAGAAAGGCAGUUCCUGAa-----
-- 1752 0,0
-----UGGAGAGAAAGGCAGUUCCUGAaa-----
-- 51 0,0
-----UGGAGAGAAAGGCAGUUCCUGAau-----
-- 52 0,0
-----UGGAGAGAAAGGCAGUUCCUGAU-----
-- 1652 0,1

```

-----UGGAGAGAAAGGCAGUUCCUGAUa-----
-- 67 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUaa-----
-- 3 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUau-----
-- 2 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUu-----
-- 121 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUuu-----
-- 5 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUG-----
-- 6 0,2
-----GGAGAGAAAGGCAGUUCC-----
-- 2 1,-3
-----GGAGAGAAAGGCAGUUCCU-----
-- 6 1,-2
-----GGAGAGAAAGGCAGUUCCUG-----
-- 17 1,-1
-----GGAGAGAAAGGCAGUUCCUGA-----
-- 65 1,0
-----GGAGAGAAAGGCAGUUCCUGAa-----
-- 12 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 12 1,1
-----GAGAGAAAGGCAGUUCCU-----
-- 3 2,-2
-----GAGAGAAAGGCAGUUCCUG-----
-- 4 2,-1
-----GAGAGAAAGGCAGUUCCUGA-----
-- 7 2,0
-----CAGGGGCUGGCUUCCUC-----
-- 50 -1,-5
-----CAGGGGCUGGCUUCCUCU-----
-- 20 -1,-4
-----AGGGGCUGGCUUCCUCU-----
-- 224 0,-4
-----AGGGGCUGGCUUCCUCUu-----
-- 2 0,-4

```

```

-----AGGGGCUGGCUUCCUCUG-----
-- 2 0,-3
-----AGGGGCUGGCUUCCUCUG-----
-- 4 0,-2
-----AGGGGCUGGCUUCCUCUGGU-----
-- 7 0,-1
-----AGGGGCUGGCUUCCUCUGGUa-----
-- 4 0,-1

```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018962

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuauuuuaGCCCAAAGGUGAAUUUUUUGGgaagu
ugagcu

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))

```

```

-----CAAAGAAUUCUCCUUUUG-----
----- 5 0,-4
-----CAAAGAAUUCUCCUUUUGG-----
----- 21 0,-3
-----CAAAGAAUUCUCCUUUUGGG-----
----- 60 0,-2
-----CAAAGAAUUCUCCUUUUGGGa-----
----- 2 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 41 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 143 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 31 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 84 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 344 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 96 0,0
-----CAAAGAAUUCUCCUUUUGGGCUaa-----
----- 3 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 10 0,0

```

```

-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 790 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 16 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUau-----
----- 3 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 15 0,2
-----AAAGAAUUCUCCUUUUGGG-----
----- 3 1,-2
-----AAAGAAUUCUCCUUUUGGGC-----
----- 4 1,-1
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 6 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----
----- 6 1,-1
-----AAAGAAUUCUCCUUUUGGGCau-----
----- 4 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 37 1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 6 1,0
-----AAAGAAUUCUCCUUUUGGGCUau-----
----- 3 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 95 1,1
-----AAAGAAUUCUCCUUUUGGGCUUU-----
----- 3 1,2
-----GCCCAAAGGUGAAUUUUU-----
----- 2 0,-4
-----GCCCAAAGGUGAAUUUUUUG-----
----- 3 0,-2
-----CCCAAAGGUGAAUUUUUUG-----
----- 3 1,-2

```

>hsa-mir-187 mi:35-56;MA:71-92 SRX018962

ggucgggcucaccaugacacagugagaccucgGGCUACAACACAGGACCCGGGCgcugcucugaccccUCGUGUCUUG
 UGUUGCAGCCGGagggacgcaggucgcga

UGUUGCAGC-----	4	0, -3	UCGUGUCUUG
UGUUGCAGCCGG-----	11	0, 0	UCGUGUCUUG
UGUUGCAGCCCG _u -----	3	0, 0	UCGUGUCUUG
UGUUGCAGCCCG _{uu} -----	3	0, 0	UCGUGUCUUG

```

>hsa-mir-18b      MA:6-28;mi:49-70      SRX018962
uguguUAAGGUGCAUCUAGUGCAGUUAUGugaagcagcuuagaauacuacUGCCCUAAAUGCCCUUCUGGCa
..(((((((.((((.((((.((((..(((.((((...)))...)))).)))).)))).)))).)))))
-----UAAGGUGCAUCUAGUGCA----- 3      0,-5
-----UAAGGUGCAUCUAGUGCAGU----- 4      0,-3

```

```
>hsa-mi r-190b      5p:11-31      SRX018962
```

ugcuucugugUGAU AUGUUUGAU AUUGGGUUGuuuaauuaggaaccaacuaaaugucaaacauauucuuacagcagcag
 (((((.((((.(((((((((((((((((.((((((((.....))))).))))).))))).))))).))))).))))).
 -----UGAU AUGUUUGAU AUUGGGUUGU-----

>hsa-mir-191 MA:16-38;mi:58-79 SRX018962

.(((.((((.(((((((..((((((((((.(..((((((((..((((...)).)).)))))))).)).)))))))).)).))
))).)).)).).

----- 207 0,-5

----- 1232 0,-4

----- 11 0,-4

$$----- \quad 2 \quad 0, -4$$

----- 3 0,-4

----- 2408 0,-3

$$----- \quad 3 \quad 0, -3$$

----- 3 0,-3

----- 5 0,-3

----- 7 0,-3

----- 3726 0,-2

----- 115 0,-2

----- 10 0,-2

----- 8 0, -2


```

-----CAACGGAAUCCCAAAAGCAGCU-----
-----10288 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
-----275 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
-----15 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
-----62 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
-----297 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
-----59 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
-----5332 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
-----101 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
-----1197 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
-----5 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
-----54 0,2
-----AACGGAAUCCCAAAAGCA-----
-----93 1,-4
-----AACGGAAUCCCAAAAGCAG-----
-----204 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
-----385 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
-----2 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
-----1137 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
-----21 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
-----3 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
-----7 1,-1

```

```

-----AACGGAAUCCCAAAGCAGCUu-----
-----      11  1,-1
-----AACGGAAUCCCAAAGCAGCUuu-----
-----      6   1,-1
-----AACGGAAUCCCAAAGCAGCUG-----
-----     557  1,0
-----AACGGAAUCCCAAAGCAGCUGa-----
-----     45   1,0
-----AACGGAAUCCCAAAGCAGCUGU-----
-----    269  1,1
-----AACGGAAUCCCAAAGCAGCUGUa-----
-----      4   1,1
-----AACGGAAUCCCAAAGCAGCUGUU-----
-----      8   1,2
-----ACGGAAUCCCAAAGCAGC-----
-----      4   2,-2
-----ACGGAAUCCCAAAGCAGCU-----
-----      7   2,-1
-----ACGGAAUCCCAAAGCAGCUG-----
-----      9   2,0
-----GCUGCGCUUGGAUUUCGUCCC-----
-----      2   0,-1

```

>hsa-mir-1910 5p:12-32 SRX018962

```

ugucccuucagCCAGUCCUGUGCCUGCCGCCUuugugcuguccuuggagggagggcagaagcaggaugacaaugagggcaa
((.(((.((...(((((((.(((((.(((((.)))))).)))))).)))))).))))).
-----GAGGCAGAAGCAGGAUGACAAa-----

```

2

>hsa-mir-192 MA:24-44;mi:67-88 SRX018962

```

gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucucccucuggCUGCCAAUUCCAUA
GGUCACAGguauguucgccucaauggccagc
.....(((.(((((.((.(((((((((((((.((((((.....)))))).)))))).))))).
))))).)).)).))))).
-----CUCUGACCUAUGAAUUGACAGC-----
-----      6   -2,-1
-----UCUGACCUAUGAAUUGAC-----
-----      3   -1,-4

```

```

-----UCUGACCUAUGAAUUGACA-----
----- 9 -1,-3
-----UCUGACCUAUGAAUUGACAG-----
----- 38 -1,-2
-----UCUGACCUAUGAAUUGACAGC-----
----- 156 -1,-1
-----UCUGACCUAUGAAUUGACAGCa-----
----- 24 -1,-1
-----UCUGACCUAUGAAUUGACAGCaa-----
----- 2 -1,-1
-----UCUGACCUAUGAAUUGACAGCau-----
----- 2 -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
----- 7 -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
----- 924 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
----- 67 -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
----- 14 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 140 -1,1
-----UCUGACCUAUGAAUUGACAGCCAa-----
----- 3 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 45 -1,1
-----UCUGACCUAUGAAUUGACAGCCAuu-----
----- 11 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
----- 6 -1,2
-----UCUGACCUAUGAAUUGACAGCCAGU-----
----- 2 -1,3
-----CUGACCUAUGAAUUGACA-----
----- 1653 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 15 0,-3
-----CUGACCUAUGAAUUGACAaa-----
----- 9 0,-3

```

```

-----CUGACCUAUGAAUUGACAu-----
----- 2 0,-3
-----CUGACCUAUGAAUUGACAUu-----
----- 2 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 4321 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 186 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 23 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 115 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 5 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 68539 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 9929 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 1150 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 379 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 1483 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 113 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 349505 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 17931 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 3449 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 153620 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 2364 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 255 0,1

```

```

-----CUGACCUAUGAAUUGACAGCCAau-----
----- 654 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 48586 0,1
-----CUGACCUAUGAAUUGACAGCCAuu-----
----- 15734 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 2235 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 165 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 2 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 5 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 951 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 26 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 87 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 2 0,4
-----UGACCUAUGAAUUGACAG-----
----- 1840 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 14 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 29382 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 764 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 167 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 27 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 82 1,-1
-----UGACCUAUGAAUUGACAGCuu-----
----- 4 1,-1

```

```

-----UGACCUAUGAAUUGACAGCC-----
----- 26165 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 597 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 101 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 43528 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 1107 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 718 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 981 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 9149 1,1
-----UGACCUAUGAAUUGACAGCCAuu-----
----- 5109 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 17616 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 3361 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 75 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 47 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 14089 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 543 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 16 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 21 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 1188 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 102 1,3

```

```

-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 40 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 4 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 4 1,4
-----GACCUAUGAAUUGACAGC-----
----- 565 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 29 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 10 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 4 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 826 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 28 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 12 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 437 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 4 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 10 2,1
-----GACCUAUGAAUUGACAGCCAau-----
----- 8 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 127 2,1
-----GACCUAUGAAUUGACAGCCAuu-----
----- 47 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 198 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 38 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 174 2,3

```

```

-----GACCUAUGAAUUGACAGCCAGUa-----
----- 4 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 16 2,3
-----GACCUAUGAAUUGACAGCCAGUuu-----
----- 2 2,3
-----GGCUGCCAAUCCAUA
GGUCA----- 2 -2,-3
-----CUGCCAAUCCAUA
GGUCACA----- 8 0,-1
-----CUGCCAAUCCAUA
GGUCACAG----- 7 0,0

```

>hsa-mir-193a 5p:21-42;3p:55-76 SRX018962

```

cgagggaugggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))

```

```

-----UGGGUCUUUGCGGGCGAG-----
----- 59 0,-4
-----UGGGUCUUUGCGGGCGAGA-----
----- 28 0,-3
-----UGGGUCUUUGCGGGCGAGAU-----
----- 30 0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
----- 12 0,-2
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 5 0,-2
-----UGGGUCUUUGCGGGCGAGAUG-----
----- 221 0,-1
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 73 0,-1
-----UGGGUCUUUGCGGGCGAGAUuu-----
----- 3 0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
----- 641 0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----
----- 15 0,0

```



```

-----UGGGUCUUUGCGGGCGAGAUGAu-----
-----      33  0,0
-----UGGGUCUUUGCGGGCGAGAUGAuu-----
-----      3   0,0
-----GGGUCUUUGCGGGCGAGAUG-----
-----     14  1,-1
-----GGGUCUUUGCGGGCGAGAUGA-----
-----      5   1,0
-----AACUGGCCUACAAAGUCC-----
-----     32  0,-4
-----AACUGGCCUACAAAGUCCaa-----
-----      2   0,-4
-----AACUGGCCUACAAAGUCCC-----
-----     62  0,-3
-----AACUGGCCUACAAAGUCCCA-----
-----    1096  0,-2
-----AACUGGCCUACAAAGUCCCAa-----
-----      2   0,-2
-----AACUGGCCUACAAAGUCCCAu-----
-----     16  0,-2
-----AACUGGCCUACAAAGUCCCAuu-----
-----      5   0,-2
-----AACUGGCCUACAAAGUCCCAG-----
-----     79  0,-1
-----AACUGGCCUACAAAGUCCCAGa-----
-----      5   0,-1
-----AACUGGCCUACAAAGUCCCAGU-----
-----     14  0,0
-----AACUGGCCUACAAAGUCCCAGUa-----
-----      3   0,0
-----ACUGGCCUACAAAGUCCCA-----
-----     11  1,-2

```

>hsa-mir-193b mi:14-35;MA:51-72 SRX018962

```

guggucucagaauCGGGGUUUUGAGGGCGAGAUGAguuuanguuuuauccAACUGGCCCUACAAAGUCCCGCUuuuggggg
cau
(((...(((((((.((((...((((((((((.((...((...)))).)))).)))).)))).)))).)))).)))).))
)))

```

-----UCGGGGUUUUGAGGGCGAGAU-----
--- 3 -1,-2
-----UCGGGGUUUUGAGGGCGAGAUau-----
--- 2 -1,-2
-----UCGGGGUUUUGAGGGCGAGAU-----
--- 4 -1,-1
-----UCGGGGUUUUGAGGGCGAGAUu-----
--- 7 -1,-1
-----CGGGGUUUUGAGGGCGAG-----
--- 71 0,-4
-----CGGGGUUUUGAGGGCGAGA-----
--- 40 0,-3
-----CGGGGUUUUGAGGGCGAGAAa-----
--- 2 0,-3
-----CGGGGUUUUGAGGGCGAGAU-----
--- 70 0,-2
-----CGGGGUUUUGAGGGCGAGAUa-----
--- 13 0,-2
-----CGGGGUUUUGAGGGCGAGAUaa-----
--- 3 0,-2
-----CGGGGUUUUGAGGGCGAGAUau-----
--- 2 0,-2
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 16 0,-2
-----CGGGGUUUUGAGGGCGAGAU-----
--- 257 0,-1
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 221 0,-1
-----CGGGGUUUUGAGGGCGAGAUuu-----
--- 7 0,-1
-----CGGGGUUUUGAGGGCGAGAU-----
--- 788 0,0
-----CGGGGUUUUGAGGGCGAGAUAAa-----
--- 29 0,0
-----CGGGGUUUUGAGGGCGAGAUAAa-----
--- 3 0,0
-----CGGGGUUUUGAGGGCGAGAUau-----
--- 45 0,0

```

-----CGGGUUUUGAGGGCGAGAUGAG-----
--- 2 0,1
-----GGGGUUUUGAGGGCGAGA-----
--- 2 1,-3
-----GGGGUUUUGAGGGCGAGAU-----
--- 2 1,-2
-----GGGGUUUUGAGGGCGAGAUu-----
--- 2 1,-2
-----GGGGUUUUGAGGGCGAGAUG-----
--- 6 1,-1
-----GGGGUUUUGAGGGCGAGAUGu-----
--- 11 1,-1
-----GGGGUUUUGAGGGCGAGAUGA-----
--- 41 1,0
-----GGGGUUUUGAGGGCGAGAUGAa-----
--- 3 1,0
-----AACUGGCCCUCAAAGUCC-----
--- 58 0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 69 0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 22 0,-2
-----AACUGGCCCUCAAAGUCCCGu-----
--- 2 0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 54 0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 7 0,-1
-----AACUGGCCCUCAAAGUCCCGCa a-----
--- 2 0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----
--- 15 0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 132 0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 21 0,0
-----AACUGGCCCUCAAAGUCCCGCUau-----
--- 8 0,0

```



```

-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 3 0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
----- 1380 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 124 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 4 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 39 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 2 0,1
-----GUAACAGCAACUCCAUGUG-----
----- 2 1,-2
-----GUAACAGCAACUCCAUGUGG-----
----- 3 1,-1
-----GUAACAGCAACUCCAUGUGGu-----
----- 3 1,-1
-----GUAACAGCAACUCCAUGUGGA-----
----- 3 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 3 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 2 1,1
-----CCAGUGGGGCUGCUGUUUAU-----
----- 4 0,-3
-----CCAGUGGGGCUGCUGUUUAUC-----
----- 22 0,-2
-----CCAGUGGGGCUGCUGUUUAUCU-----
----- 108 0,-1
-----CCAGUGGGGCUGCUGUUUAUCUG-----
----- 4 0,0
-----CCAGUGGGGCUGCUGUUUAUCUGaa-----
----- 3 0,0
-----CAGUGGGGCUGCUGUUUAUCU-----
----- 3 1,-1

```

>hsa-mir-195 MA:15-35;mi:53-74 SRX018962

$$(((\dots(((((((.((((((((.((((.((((\dots))))))\dots)).)))))))))\dots)))$$

-----CCCAGUGUUCAGACUACC-----	22	0, -5
-----CCCAGUGUUCAGACUACCU-----	444	0, -4
-----CCCAGUGUUCAGACUACCCUG-----	9	0, -3
-----CCCAGUGUUCAGACUACCCUGU-----	15	0, -2
-----CCCAGUGUUCAGACUACCCUGUa-----	2	0, -2
-----CCCAGUGUUCAGACUACCCUGUU-----	125	0, -1
-----CCCAGUGUUCAGACUACCCUGUUa-----	12	0, -1
-----CCCAGUGUUCAGACUACCCUGUUaa-----	2	0, -1
-----CCCAGUGUUCAGACUACCCUGUUu-----	8	0, -1
-----CCCAGUGUUCAGACUACCCUGUUC-----	90	0, 0
-----CCCAGUGUUCAGACUACCCUGUUCA-----	3	0, 1
-----CCAGUGUUCAGACUACCU-----	9	1, -4
-----CCAGUGUUCAGACUACCCUGUU-----	7	1, -1
-----CCAGUGUUCAGACUACCCUGUUC-----	3	1, 0
-----CAGUGUUCAGACUACCCUGUU-----	4	2, -1
-----GUACAGUAGUCUGCACAUUGGUUuu-----	2	
-2, -1		
-----UACAGUAGUCUGCACAUU-----	8	
-1, -5		
-----UACAGUAGUCUGCACAUUa-----	3	
-1, -5		
-----UACAGUAGUCUGCACAUUG-----	39	
-1, -4		
-----UACAGUAGUCUGCACAUUGuu-----	3	
-1, -4		
-----UACAGUAGUCUGCACAUUGG-----	89	
-1, -3		
-----UACAGUAGUCUGCACAUUGGaa-----	4	
-1, -3		
-----UACAGUAGUCUGCACAUUGGau-----	9	
-1, -3		
-----UACAGUAGUCUGCACAUUGGU-----	519	
-1, -2		
-----UACAGUAGUCUGCACAUUGGUa-----	203	
-1, -2		

	-----UACAGUAGUCUGCACAUUGGUaa---	85	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUau---	67	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUU----	4736	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUu---	614	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUuu--	13	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUA---	977	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAa--	23	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAaa-	5	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	33	-1,0
	-----ACAGUAGUCUGCACAUUG-----	345	0,-4
	-----ACAGUAGUCUGCACAUUGaa-----	2	0,-4
	-----ACAGUAGUCUGCACAUUGu-----	19	0,-4
	-----ACAGUAGUCUGCACAUUGuu-----	18	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	1075	
0,-3			
	-----ACAGUAGUCUGCACAUUGGa-----	10	0,-3
	-----ACAGUAGUCUGCACAUUGGaa-----	11	0,-3
	-----ACAGUAGUCUGCACAUUGGau-----	98	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	3237	
0,-2			
	-----ACAGUAGUCUGCACAUUGGUa----	838	0,-2
	-----ACAGUAGUCUGCACAUUGGUaa----	408	0,-2
	-----ACAGUAGUCUGCACAUUGGUau----	159	0,-2
	-----ACAGUAGUCUGCACAUUGGUU----	45760	
0,-1			
	-----ACAGUAGUCUGCACAUUGGUUu---	5289	
0,-1			
	-----ACAGUAGUCUGCACAUUGGUUuu--	194	0,-1
	-----ACAGUAGUCUGCACAUUGGUUA---	24116	
0,0			
	-----ACAGUAGUCUGCACAUUGGUUAa--	2316	
0,0			
	-----ACAGUAGUCUGCACAUUGGUUAaa-	27	0,0

```

-----ACAGUAGUCUGCACAUUGGUUAau- 9 0,0
-----ACAGUAGUCUGCACAUUGGUUAu-- 866 0,0
-----ACAGUAGUCUGCACAUUGGUUAuu- 10 0,0
-----ACAGUAGUCUGCACAUUGGUUAG-- 29 0,1
-----ACAGUAGUCUGCACAUUGGUUAGu- 2 0,1
-----CAGUAGUCUGCACAUUGG----- 162 1,-3
-----CAGUAGUCUGCACAUUGGa----- 5 1,-3
-----CAGUAGUCUGCACAUUGGau---- 5 1,-3
-----CAGUAGUCUGCACAUUGGU----- 515 1,-2
-----CAGUAGUCUGCACAUUGGUa---- 150 1,-2
-----CAGUAGUCUGCACAUUGGUaa--- 82 1,-2
-----CAGUAGUCUGCACAUUGGUau--- 10 1,-2
-----CAGUAGUCUGCACAUUGGUU---- 7825
1,-1
-----CAGUAGUCUGCACAUUGGUUu--- 1095
1,-1
-----CAGUAGUCUGCACAUUGGUUuu-- 51 1,-1
-----CAGUAGUCUGCACAUUGGUUA--- 7533
1,0
-----CAGUAGUCUGCACAUUGGUUAa-- 822 1,0
-----CAGUAGUCUGCACAUUGGUUAaa- 16 1,0
-----CAGUAGUCUGCACAUUGGUUAau- 2 1,0
-----CAGUAGUCUGCACAUUGGUUAu-- 312 1,0
-----CAGUAGUCUGCACAUUGGUUAuu- 4 1,0
-----CAGUAGUCUGCACAUUGGUUAG-- 7 1,1
-----AGUAGUCUGCACAUUGGU----- 13 2,-2
-----AGUAGUCUGCACAUUGGUa----- 4 2,-2
-----AGUAGUCUGCACAUUGGUaa--- 7 2,-2
-----AGUAGUCUGCACAUUGGUU---- 176 2,-1
-----AGUAGUCUGCACAUUGGUUu--- 22 2,-1
-----AGUAGUCUGCACAUUGGUUA--- 150 2,0
-----AGUAGUCUGCACAUUGGUUAa-- 17 2,0
-----AGUAGUCUGCACAUUGGUUAu-- 8 2,0

```

>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018962

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaaugccguuguACAGUAGUCUG
CACAUUGGUUAgacugggcaaggagagca

.....(((.(((.....(((((((.(((...(((((((.(((((((.(((((((.((((...(((.....))).....))))))))))))))))))

.))))))...)).))))))))).

-----	-CCCAGUGUUCAGACUACC-	-----
-----	22 0,-5	
-----	-CCCAGUGUUCAGACUACCU-	-----
-----	444 0,-4	
-----	-CCCAGUGUUCAGACUACCUG-	-----
-----	9 0,-3	
-----	-CCCAGUGUUCAGACUACCUGU-	-----
-----	15 0,-2	
-----	-CCCAGUGUUCAGACUACCUGUa-	-----
-----	2 0,-2	
-----	-CCCAGUGUUCAGACUACCUGUU-	-----
-----	125 0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUa-	-----
-----	12 0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUaa-	-----
-----	2 0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUu-	-----
-----	8 0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUC-	-----
-----	90 0,0	
-----	-CCCAGUGUUCAGACUACCUGUUCA-	-----
-----	3 0,1	
-----	-CCAGUGUUCAGACUACCU-	-----
-----	9 1,-4	
-----	-CCAGUGUUCAGACUACCUGUU-	-----
-----	7 1,-1	
-----	-CCAGUGUUCAGACUACCUGUUC-	-----
-----	3 1,0	
-----	-CAGUGUUCAGACUACCUGUU-	-----
-----	4 2,-1	
-----		-GUACAGUAGUCUG
CACAUUGGUUuu-----	2 -2,-1	
-----		-UACAGUAGUCUG
CACAUU-----	8 -1,-5	
-----		-UACAGUAGUCUG
CACAUUa-----	3 -1,-5	
-----		-UACAGUAGUCUG

CACAUUG-----	39	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGuu-----	3	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGG-----	89	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGaa-----	4	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGau-----	9	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGU-----	519	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUa-----	203	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUaa-----	85	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUau-----	67	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUU-----	4736	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUu-----	614	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUuu-----	13	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUA-----	977	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAa-----	23	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAaa-----	5	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAu-----	33	-1,0	
-----			-ACAGUAGUCUG
CACAUUG-----	345	0,-4	
-----			-ACAGUAGUCUG
CACAUUGaa-----	2	0,-4	
-----			-ACAGUAGUCUG
CACAUUGu-----	19	0,-4	
-----			-ACAGUAGUCUG

CACAUUGuu-----	18	0,-4	
-----			ACAGUAGUCUG
CACAUUGG-----	1075	0,-3	
-----			ACAGUAGUCUG
CACAUUGGa-----	10	0,-3	
-----			ACAGUAGUCUG
CACAUUGGaa-----	11	0,-3	
-----			ACAGUAGUCUG
CACAUUGGau-----	98	0,-3	
-----			ACAGUAGUCUG
CACAUUGGU-----	3237	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUa-----	838	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUaa-----	408	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUau-----	159	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUU-----	45760	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUu-----	5289	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUuu-----	194	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUA-----	24116	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	2316	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	27	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	9	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	866	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	10	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	29	0,1	
-----			ACAGUAGUCUG

CACAUUGGUAGu-----	2	0,1	
-----			-CAGUAGUCUG
CACAUUGG-----	162	1,-3	
-----			-CAGUAGUCUG
CACAUUGGa-----	5	1,-3	
-----			-CAGUAGUCUG
CACAUUGGau-----	5	1,-3	
-----			-CAGUAGUCUG
CACAUUGGU-----	515	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUa-----	150	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUaa-----	82	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUau-----	10	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUU-----	7825	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUu-----	1095	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUuu-----	51	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUA-----	7533	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAa-----	822	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAaa-----	16	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAau-----	2	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAu-----	312	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAuu-----	4	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAG-----	7	1,1	
-----			-AGUAGUCUG
CACAUUGGU-----	13	2,-2	
-----			-AGUAGUCUG

UGuu-----	3	-1,-4	-----UACAGUAGUCUGCACAU
UGG-----	89	-1,-3	-----UACAGUAGUCUGCACAU
UGGaa-----	4	-1,-3	-----UACAGUAGUCUGCACAU
UGGau-----	9	-1,-3	-----UACAGUAGUCUGCACAU
UGGU-----	519	-1,-2	-----UACAGUAGUCUGCACAU
UGGUa-----	203	-1,-2	-----UACAGUAGUCUGCACAU
UGGUaa-----	85	-1,-2	-----UACAGUAGUCUGCACAU
UGGUau-----	67	-1,-2	-----UACAGUAGUCUGCACAU
UGGUU-----	4736	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUu-----	614	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUuu-----	13	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUA-----	977	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAa-----	23	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAaa-----	5	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAu-----	33	-1,0	-----ACAGUAGUCUGCACAU
UG-----	345	0,-4	-----ACAGUAGUCUGCACAU
UGaa-----	2	0,-4	-----ACAGUAGUCUGCACAU
UGu-----	19	0,-4	-----ACAGUAGUCUGCACAU
UGuu-----	18	0,-4	-----ACAGUAGUCUGCACAU

UGG-----	1075	0,-3	-----ACAGUAGUCUGCACAU
UGGa-----	10	0,-3	-----ACAGUAGUCUGCACAU
UGGaa-----	11	0,-3	-----ACAGUAGUCUGCACAU
UGGau-----	98	0,-3	-----ACAGUAGUCUGCACAU
UGGU-----	3237	0,-2	-----ACAGUAGUCUGCACAU
UGGUa-----	838	0,-2	-----ACAGUAGUCUGCACAU
UGGUaa-----	408	0,-2	-----ACAGUAGUCUGCACAU
UGGUau-----	159	0,-2	-----ACAGUAGUCUGCACAU
UGGUU-----	45760	0,-1	-----ACAGUAGUCUGCACAU
UGGUUu-----	5289	0,-1	-----ACAGUAGUCUGCACAU
UGGUUuu-----	194	0,-1	-----ACAGUAGUCUGCACAU
UGGUUA-----	24116	0,0	-----ACAGUAGUCUGCACAU
UGGUUAa-----	2316	0,0	-----ACAGUAGUCUGCACAU
UGGUUAaa-----	27	0,0	-----ACAGUAGUCUGCACAU
UGGUUAau-----	9	0,0	-----ACAGUAGUCUGCACAU
UGGUUAu-----	866	0,0	-----ACAGUAGUCUGCACAU
UGGUUAuu-----	10	0,0	-----ACAGUAGUCUGCACAU
UGGUUAG-----	29	0,1	-----ACAGUAGUCUGCACAU
UGGUUAGu-----	2	0,1	-----CAGUAGUCUGCACAU

UGG-----	162	1,-3	
-----			-CAGUAGUCUGCACAU
UGGa-----	5	1,-3	
-----			-CAGUAGUCUGCACAU
UGGau-----	5	1,-3	
-----			-CAGUAGUCUGCACAU
UGGU-----	515	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUa-----	150	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUaa-----	82	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUau-----	10	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUU-----	7825	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUu-----	1095	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUuu-----	51	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUA-----	7533	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAa-----	822	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAaa-----	16	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAau-----	2	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAu-----	312	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAuu-----	4	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAG-----	7	1,1	
-----			-AGUAGUCUGCACAU
UGGU-----	13	2,-2	
-----			-AGUAGUCUGCACAU
UGGUa-----	4	2,-2	
-----			-AGUAGUCUGCACAU


```

----- 5 0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 18 0,0

```

>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018962

```

acauugcuacuuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguauauauguauauguggcUGUGCAAAUCCAUGCAAAA
CUGAuugugauaangu

```

```

(((((((.....((((((((((((((((((((((((((((((((.....((((((((.....)))))))).)))))))).)))))))))
)))))))))

```

```

-----UGUGCAAAUCCAUGCAAAA
----- 3 0,-4
-----UGUGCAAAUCCAUGCAAAA
C----- 2 0,-3
-----UGUGCAAAUCCAUGCAAAA
CU----- 69 0,-2
-----UGUGCAAAUCCAUGCAAAA
CUG----- 64 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGu----- 5 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGA----- 18 0,0

```

>hsa-mir-200a mi:16-37;MA:54-75 SRX018962

```

ccgggccccugugagCAUCUUAACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaaa
ggugaccgcg

```

```

.(((((((.((((((((((((((((((((((((((((((((.....)))))))).)))))))).)))))))).)))))))).)
)))).))))).

```

```

-----CAUCUUAACCGGACAGUGC-----
----- 4 0,-4
-----UAACACUGUCUGGUAACGA-----
----- 10 0,-3
-----UAACACUGUCUGGUAACGAU-----
----- 145 0,-2
-----UAACACUGUCUGGUAACGAUG-----
----- 50 0,-1
-----UAACACUGUCUGGUAACGAUGa-----
----- 8 0,-1
-----UAACACUGUCUGGUAACGAUGaa-----

```



```

----- 4 0,0
-----AUCUUACUGGGCAGCAUU-----
----- 6 1,-3
-----AUCUUACUGGGCAGCAUUGG-----
----- 3 1,-1
-----AUCUUACUGGGCAGCAUUGGA-----
----- 6 1,0
-----AUCUUACUGGGCAGCAUUGGAa-----
----- 5 1,0
-----UAAUACUGCCUGGUA AUG-----
----- 6 0,-4
-----UAAUACUGCCUGGUA AUGA-----
----- 11 0,-3
-----UAAUACUGCCUGGUA AUGAa-----
----- 5 0,-3
-----UAAUACUGCCUGGUA AUGAaa-----
----- 2 0,-3
-----UAAUACUGCCUGGUA AUGAU-----
----- 12 0,-2
-----UAAUACUGCCUGGUA AUGAUa-----
----- 2 0,-2
-----UAAUACUGCCUGGUA AUGAUG-----
----- 48 0,-1
-----UAAUACUGCCUGGUA AUGAUGu-----
----- 12 0,-1
-----UAAUACUGCCUGGUA AUGAUGA-----
----- 222 0,0
-----UAAUACUGCCUGGUA AUGAUGAa-----
----- 23 0,0
-----UAAUACUGCCUGGUA AUGAUGAaa
----- 4 0,0
-----UAAUACUGCCUGGUA AUGAUGAu-----
----- 3 0,0
-----UAAUACUGCCUGGUA AUGAUGAC-----
----- 119 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
----- 54 0,1
-----UAAUACUGCCUGGUA AUGAUGACu

```

```

----- 37 0,1
-----AAUACUGCCUGGUA AUGAU-----
----- 2 1,-2
-----AAUACUGCCUGGUA AUGAUGA-----
----- 5 1,0
-----AAUACUGCCUGGUA AUGAUGAa-----
----- 2 1,0
-----AAUACUGCCUGGUA AUGAUGAC-----
----- 6 1,1
-----AAUACUGCCUGGUA AUGAUGACa-----
----- 13 1,1
-----AAUACUGCCUGGUA AUGAUGACu-----
----- 42 1,1
-----AUACUGCCUGGUA AUGAUGAaa-----
----- 2 2,0
-----AUACUGCCUGGUA AUGAUGAC-----
----- 24 2,1
-----AUACUGCCUGGUA AUGAUGACa-----
----- 10 2,1
-----AUACUGCCUGGUA AUGAUGACa-----
u----- 4 2,1
-----AUACUGCCUGGUA AUGAUGACu-----
----- 35 2,1
-----AUACUGCCUGGUA AUGAUGACu-----
u----- 10 2,1
-----AUACUGCCUGGUA AUGAUGACG-----
----- 4 2,2

```

>hsa-mir-200c mi:5-26;MA:44-66 SRX018962

```

cccuCGUCUUAACCCAGCAGUGUUUGGgugcgguugggagucucUAAUACUGCCGGGUA AUGAGGagg
((..(((((((((((((.(((((((.(.(((.(.....)))))).)))))).)))))).))))))

```

```

-----UAAUACUGCCGGGUA AUGAU----- 2 0,-3
-----UAAUACUGCCGGGUA AUGAGG--- 6 0,-1
-----UAAUACUGCCGGGUA AUGAGGA-- 11 0,0

```

>hsa-mir-202 mi:28-49;MA:64-83 SRX018962

```

cgccucagagccgcccgcguuccuuuUCCUAUGCAUAUACUUCUUUGaggauaucuggccuaaAGAGGUUAUAGGGCAUGG
GAaAacggggcgguccggguccuccccagcg

```


ggcuacagucuuucuaugugacucguggacUCCCUUUGUCAUCCU AUGCCUgagaauauaugaaggaggcugggaag
gcaaaggagcguucaauugucaucacuggc

GCAAAGGGACGU----- 8

----- 8 0,0

-----ACUGCAUUAUGAGCACUAAA----- 2 0,-1

aguacCAAAGUGCUCUAAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGCACUUCCAGuacu

```

(((((((((.....))))))))).....
-----CAAAGUGCUCAUAGUGCAG----- 3 0,-4
-----CAAAGUGCUCAUAGUGCAGG----- 3 0,-3
-----CAAAGUGCUCAUAGUGCAGGU----- 2 0,-2
-----CAAAGUGCUCAUAGUGCAGGUA----- 5 0,-1

```

>hsa-mi r-21 MA:8-29;mi:46-66 SRX018962

```

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca
.(((((((((.....))))))))).....).
-----GUAGCUUAUCAGACUGAUGU----- 3
-1,-3
-----GUAGCUUAUCAGACUGAUGUU----- 12
-1,-2
-----GUAGCUUAUCAGACUGAUGUUG----- 14
-1,-1
-----GUAGCUUAUCAGACUGAUGUUGA----- 17
-1,0
-----UAGCUUAUCAGACUGAUG----- 309
0,-4
-----UAGCUUAUCAGACUGAUGa----- 2
0,-4
-----UAGCUUAUCAGACUGAUGU----- 1143
0,-3
-----UAGCUUAUCAGACUGAUGUa----- 26
0,-3
-----UAGCUUAUCAGACUGAUGUaa----- 4
0,-3
-----UAGCUUAUCAGACUGAUGUU----- 9192
0,-2
-----UAGCUUAUCAGACUGAUGUUa----- 86
0,-2
-----UAGCUUAUCAGACUGAUGUUaa----- 6
0,-2
-----UAGCUUAUCAGACUGAUGUUu----- 17
0,-2
-----UAGCUUAUCAGACUGAUGUUG-----
15998 0,-1
-----UAGCUUAUCAGACUGAUGUUGu----- 50

```

0, -1	
-----UAGCUUAUCAGACUGAUGUUGA-----	6155
0,0	
-----UAGCUUAUCAGACUGAUGUUGAa-----	297
0,0	
-----UAGCUUAUCAGACUGAUGUUGAaa-----	21
0,0	
-----UAGCUUAUCAGACUGAUGUUGAu-----	12
0,0	
-----UAGCUUAUCAGACUGAUGUUGAC-----	1995
0,1	
-----UAGCUUAUCAGACUGAUGUUGACa-----	969
0,1	
-----UAGCUUAUCAGACUGAUGUUGACU-----	568
0,2	
-----AGCUUAUCAGACUGAUGUU-----	31
1, -2	
-----AGCUUAUCAGACUGAUGUUG-----	59
1, -1	
-----AGCUUAUCAGACUGAUGUUGu-----	7
1, -1	
-----AGCUUAUCAGACUGAUGUUGA-----	95
1,0	
-----AGCUUAUCAGACUGAUGUUGAa-----	6
1,0	
-----AGCUUAUCAGACUGAUGUUGAaa-----	2
1,0	
-----AGCUUAUCAGACUGAUGUUGAu-----	4
1,0	
-----AGCUUAUCAGACUGAUGUUGAC-----	43
1,1	
-----AGCUUAUCAGACUGAUGUUGACa-----	27
1,1	
-----AGCUUAUCAGACUGAUGUUGACU-----	9
1,2	
-----GCUUAUCAGACUGAUGUU-----	29
2, -2	
-----GCUUAUCAGACUGAUGUUG-----	42

2, -1	-----GCUUAUCAGACUGAUGUUGA-----	20
2, 0	-----GCUUAUCAGACUGAUGUUGAC-----	15
2, 1	-----GCUUAUCAGACUGAUGUUGACa-----	4
2, 1	-----GCUUAUCAGACUGAUGUUGACU-----	2
2, 2	-----GCUUAUCAGACUGAUGUUGACUa-----	2
2, 2	-----CAACACCAGUCGAUGGGC-----	40
0, -3	-----CAACACCAGUCGAUGGGCU-----	384
0, -2	-----CAACACCAGUCGAUGGGCUu-----	2
0, -2	-----CAACACCAGUCGAUGGGCUG-----	123
0, -1	-----CAACACCAGUCGAUGGGCUGU-----	268
0, 0	-----CAACACCAGUCGAUGGGCUGUa-----	9
0, 0	-----CAACACCAGUCGAUGGGCUGUaa-----	144
0, 0	-----CAACACCAGUCGAUGGGCUGUau-----	46
0, 0	-----CAACACCAGUCGAUGGGCUGUu-----	4
0, 0	-----CAACACCAGUCGAUGGGCUGUuu-----	13
0, 0	-----CAACACCAGUCGAUGGGCUGUC-----	543
0, 1	-----CAACACCAGUCGAUGGGCUGUCa-----	239
0, 1	-----CAACACCAGUCGAUGGGCUGUCaa-----	3
0, 1	-----CAACACCAGUCGAUGGGCUGUCau-----	13

0,1	-----CAACACCAGUCGAUGGGCUGUCU----	245
0,2	-----CAACACCAGUCGAUGGGCUGUCUa---	2
0,2	-----CAACACCAGUCGAUGGGCUGUCUu---	8
0,2	-----AACACCAGUCGAUGGGCU-----	5
1,-2	-----AACACCAGUCGAUGGGCUG-----	2
1,-1	-----AACACCAGUCGAUGGGCUGUaa----	2
1,0	-----AACACCAGUCGAUGGGCUGUCa----	15
1,1	-----AACACCAGUCGAUGGGCUGUCau---	3
1,1	-----AACACCAGUCGAUGGGCUGUCU----	45
1,2	-----AACACCAGUCGAUGGGCUGUCUu---	3
1,2	-----AACACCAGUCGAUGGGCUGUCUuu--	4
1,2	-----ACACCAGUCGAUGGGCUGUau----	2
2,0		

>hsa-mir-210 3p:66-87 SRX018962

acccggcagugccuccaggcgcagggcagccccugcccaccgcacacugcgcugccccagacccaCUGUGCGUGUGACAG
CGGCUGAucugugccugggcagcgcgaccc

....((..(((.((((((((((..(((.(.(((.((((((((((..(((.(.((((....)))..)).)))).)))).)))).)))).)))).)))).

-----AGCCCCUGCCCACCGCACACU-----

----- 2 -----ACUGUGCGUGUGACAG

CG----- 3 -1,-5

-----ACUGUGCGUGUGACAG

CGG----- 3 -1,-4

-----ACUGUGCGUGUGACAG

CGGCU-----	13	-1,-2	
-----			-ACUGUGCGUGUGACAG
CGGCUGA-----	4	-1,0	
-----			-CUGUGCGUGUGACAG
CGG-----	31	0,-4	
-----			-CUGUGCGUGUGACAG
CGGC-----	32	0,-3	
-----			-CUGUGCGUGUGACAG
CGGCU-----	407	0,-2	
-----			-CUGUGCGUGUGACAG
CGGCUG-----	3	0,-1	
-----			-CUGUGCGUGUGACAG
CGGCUGA-----	131	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAa-----	11	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAaa-----	2	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAU-----	15	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAUa-----	8	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAUu-----	2	0,1	
-----			-UGUGCGUGUGACAG
CGGCU-----	10	1,-2	
-----			-UGUGCGUGUGACAG
CGGCUGA-----	4	1,0	
-----			-UGUGCGUGUGACAG
CGGCUGAU-----	2	1,1	

>hsa-mir-2110 5p:8-29 SRX018962

```

cagggguUUGGGGAAACGGCCGCUGAGUGaggcgucggcuguguuucucaccgcgguuuuccuccacucuuug
(((((((..(((((((.((((((((((.((.(.....)).)).))))..)))))).))))))..))))))
-----UUGGGGAAACGGCCGCUG----- 9
0,-4
-----UUGGGGAAACGGCCGCUGA----- 6
0,-3
-----UUGGGGAAACGGCCGCUGAG----- 35

```

0,-2	
-----UUGGGGAAACGGCCGCUGAGU-----	16
0,-1	
-----UUGGGGAAACGGCCGCUGAGUa-----	2
0,-1	
-----UUGGGGAAACGGCCGCUGAGUaa-----	2
0,-1	
-----UUGGGGAAACGGCCGCUGAGUG-----	88
0,0	
-----UUGGGGAAACGGCCGCUGAGUGu-----	67
0,0	
-----UUGGGGAAACGGCCGCUGAGUGuu-----	2
0,0	
-----UUGGGGAAACGGCCGCUGAGUGA-----	199
0,1	
-----UUGGGGAAACGGCCGCUGAGUGAa-----	5
0,1	
-----UUGGGGAAACGGCCGCUGAGUGAu-----	7
0,1	
-----UUGGGGAAACGGCCGCUGAGUGAG-----	16
0,2	
-----UUGGGGAAACGGCCGCUGAGUGAGu-----	7
0,2	
-----UGGGGAAACGGCCGCUGAGUG-----	3
1,0	
-----UGGGGAAACGGCCGCUGAGUGA-----	6
1,1	
-----UGGGGAAACGGCCGCUGAGUGAG-----	3
1,2	
-----UGGGGAAACGGCCGCUGAGUGAGu-----	2
1,2	
-----GGGGAAACGGCCGCUGAGUGu-----	3
2,0	
-----GGGGAAACGGCCGCUGAGUGA-----	2
2,1	

>hsa-mir-2115 MA:21-42;mi:58-79 SRX018962

acugucaucccacugcuuccAGCUUCCAUGACUCCUGAUGGAggaaucaucaugaauCAUCAGAAUUCAUGGAGGCUAGa

agcaguaugaggaucauuua
.....(((((((((((.(((((((((((...(((((((((...((...)).)))))))))...)))))))))..))
))))))..).))))).
-----CAUCAGAAUUCAUGGAGGCUAG-
----- 2 0.0

CAGACAGG-----	35	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGa-----	4	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGaa-----	2	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGC-----	10	-1,-3	
-----			-UACAGCAGGCA
CAGACAGGCA-----	30	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAa-----	54	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAaa-----	9	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAau-----	8	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAu-----	35	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAuu-----	6	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAG-----	13	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGa-----	27	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGU-----	48	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUa-----	3	-1,0	
-----			-ACAGCAGGCA
CAGACAGG-----	51	0,-4	
-----			-ACAGCAGGCA
CAGACAGGa-----	2	0,-4	
-----			-ACAGCAGGCA
CAGACAGGaa-----	2	0,-4	
-----			-ACAGCAGGCA
CAGACAGGC-----	9	0,-3	
-----			-ACAGCAGGCA
CAGACAGGCA-----	50	0,-2	
-----			-ACAGCAGGCA

CAGACAGGCAa-----	53	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAaa-----	9	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAau-----	8	0,-2	
-----			ACAGCAGGCA
CAGACAGGCau-----	23	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAuu-----	9	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAG-----	52	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGa-----	43	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGaa-----	4	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGU-----	105	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUa-----	45	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUaa-----	4	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUau-----	6	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUu-----	8	0,0	
-----			CAGCAGGCA
CAGACAGGCAGa-----	2	1,-1	
-----			CAGCAGGCA
CAGACAGGCAGU-----	2	1,0	

>hsa-mir-215 5p:27-47 SRX018962

aucauucagaaaugguauacaggaaaAUGACCUAUGAAUUGACAGACaauauagcugaguuuugucugucauuucuuuagg
ccaauauucuguaugacugugcuacucaa

.....(((.((((((((((.((.(((.(((.((((((((((((.....)))))))))).)))..)))
.)).).)))))).....)))))).)))..

-----AAUGACCUAUGAAUUGACAG-----

-----3-1,-2-----

-----AUGACCUAUGAAUUGACAG-----

```

----- 480 0,-2
-----AUGACCUAUGAAUUGACAGAC-----
----- 3 0,0
-----AUGACCUAUGAAUUGACAGACA-----
----- 5 0,1
-----UGACCUAUGAAUUGACAG-----
----- 1840 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 14 1,-2
-----UGACCUAUGAAUUGACAGA-----
----- 13 1,-1
-----UGACCUAUGAAUUGACAGAC-----
----- 13 1,0
-----UGACCUAUGAAUUGACAGACA-----
----- 27 1,1
-----UGACCUAUGAAUUGACAGACau-----
----- 5 1,1

```

```
>hsa-mi r-216b      5p:11-32      SRX018962
```

gcagacuggaAAAUCUCUGCAGGCAAAUGUGAugucacugaggaaucacacacuuacccguagagauucuacagucuga
ca

$\cdot(((((((\dots((((((((((\cdot(\dots((((((\cdot(\dots\dots))\cdot))))))\dots\dots))\cdot))))))\cdot\dots))))))\cdot$
 $\vdots$

```

-----AAAUCUCUCGCAGGCAAAUGUG-----
--  2    -1,-1
-----AAAUCUCUCGCAGGCAAAUGU-----
--  2    0,-2
-----AAAUCUCUCGCAGGCAAAUGUG-----
--  2    0,-1
-----AAAUCUCUCGCAGGCAAAUGUGA-----
--  4    0,0

```

>hsa-mi r-217 5p:35-57 SRX018962

aguauuuuuuuacauaguuuuugaugucgcagaUACUGCAUCAGGAACUGAUUGGAuaagaaucagucaccaucaguuc
cuauugcauugccuucagcaucuaaacaag

----- 2 0,2

>hsa-mi r-219-2 5p:19-39;3p:62-83 SRX018962

acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCUuguacgagucugcggccaaccgAGAAUUGUGGCUGGACAUC
UGUggcugagcuccggg

.((((.(((((((.(((((.((((.((((((..((((((((((((((...((.(...)))...)))))))))))).)))))))))
.)))))).)))))))))

-----UGAUUGUCCAAACGCAAU-----

$$----- 2 \quad 0, -3$$

-----UGAUUGUCCAAACGCAAUU-----

----- 3 0, -2

-----UGAUUGUCCAAACGCAAUUC-----

----- 3 0, -1

```
>hsa-mir-22 mi:15-36;MA:53-74 SRX018962
```

ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc

-----AGUUCUUCAGUGGCAAGC-----

----- 6 0, -4

-----AGUUCUUCAGUGGCAAGCU-----

----- 8 0, -3

-----AGUUCUUCAGUGGCAAGCUU-----

----- 12 0, -2

-----AGUUCUUCAGUGGCAAGCUUa-----

----- 3 0, -2

-----AGUUCUUCAGUGGCAAGCUUU-----

----- 292 0, -1

-----AGUUCUUCAGUGGCAAGCUUUu-----

----- 13 0,-1

-----AGUUCUUCAGUGGCAAGCUUA-----

----- 204 0,0

-----AGUUCUUCAGUGGCAAGCUUUAa-----

----- 14 0,0

-----AGUUCUUCAGUGGCAAGCUUUAU-----

----- 17 0,1

-----AAGCUGCCAGUUGAAGAA-----

-----	1142	0,-4	-----AAGCUGCCAGUUGAAGAAa-----
-----	13	0,-4	-----AAGCUGCCAGUUGAAGAAaa-----
-----	5	0,-4	-----AAGCUGCCAGUUGAAGAAuu-----
-----	23	0,-4	-----AAGCUGCCAGUUGAAGAAC-----
-----	573	0,-3	-----AAGCUGCCAGUUGAAGAACa-----
-----	268	0,-3	-----AAGCUGCCAGUUGAAGAACaa-----
-----	34	0,-3	-----AAGCUGCCAGUUGAAGAACau-----
-----	10	0,-3	-----AAGCUGCCAGUUGAAGAACU-----
-----	3096	0,-2	-----AAGCUGCCAGUUGAAGAACUa-----
-----	54	0,-2	-----AAGCUGCCAGUUGAAGAACUaa-----
-----	14	0,-2	-----AAGCUGCCAGUUGAAGAACUau-----
-----	12	0,-2	-----AAGCUGCCAGUUGAAGAACUu-----
-----	22	0,-2	-----AAGCUGCCAGUUGAAGAACUuu-----
-----	47	0,-2	-----AAGCUGCCAGUUGAAGAACUG-----
-----	319	0,-1	-----AAGCUGCCAGUUGAAGAACUGa-----
-----	44	0,-1	-----AAGCUGCCAGUUGAAGAACUGU-----
-----	2193	0,0	-----AAGCUGCCAGUUGAAGAACUGUa-----
-----	60	0,0	-----AAGCUGCCAGUUGAAGAACUGUaa-----
-----	9	0,0	-----AAGCUGCCAGUUGAAGAACUGUau-----

-----	10	0,0	-----AAGCUGCCAGUUGAAGAACUGUU-----
-----	75	0,1	-----AAGCUGCCAGUUGAAGAACUGUUa-----
-----	10	0,1	-----AAGCUGCCAGUUGAAGAACUGUUu-----
-----	32	0,1	-----AAGCUGCCAGUUGAAGAACUGUUuu-----
-----	2	0,1	-----AGCUGCCAGUUGAAGAAC-----
-----	4	1,-3	-----AGCUGCCAGUUGAAGAAACU-----
-----	21	1,-2	-----AGCUGCCAGUUGAAGAACUGU-----
-----	23	1,0	-----AGCUGCCAGUUGAAGAACUGUau-----
-----	2	1,0	-----AGCUGCCAGUUGAAGAACUGUUu-----
-----	6	1,1	

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>hsa-mir-221      mi:25-46;MA:65-87      SRX018962
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ugaacauccaggucuggggcaugaACCUGGCAUACAAUGUAGAUUUCuguguucguuaggcaacAGCUACAUUGUCUGCU
GGGUUUCaggcuaaccuggaaacauguucuc

-----AACCUGGCAUACAAUGUAGAUU-----

----- 3 -1,-1

-----ACCUGGCAUACAAUGUAG-----

----- 7 0,-4

-----ACCUGGCAUACAAUGUAGA-----

----- 2 0,-3

-----ACCUGGCAUACAAUGUAGAUU-----

----- 31 0,-1

-----ACCUGGCAUACAAUGUAGAUUa-----

----- 5 0,-1

-----ACCUGGCAUACAAUGUAGAUUU-----

----- 77 0,0

-----ACCUGGCAUACAAUGUAGAUUUC-----

-----	15	0,1	
-----	-ACCUGGCAUACAAUGUAGAUUUCU-		
-----	4	0,2	
-----			-CAGCUACAUUGUCUGCU
GGGUUU-----	2	-1,-1	
-----			-AGCUACAUUGUCUGCU
GG-----	9	0,-5	
-----			-AGCUACAUUGUCUGCU
GGG-----	24	0,-4	
-----			-AGCUACAUUGUCUGCU
GGGa-----	2	0,-4	
-----			-AGCUACAUUGUCUGCU
GGGU-----	21	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUa-----	2	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUaa-----	4	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUau-----	18	0,-3	
-----			-AGCUACAUUGUCUGCU
GGGUU-----	61	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUa-----	45	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUaa-----	5	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUau-----	16	0,-2	
-----			-AGCUACAUUGUCUGCU
GGGUUU-----	395	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUa-----	38	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUu-----	32	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUuu-----	2	0,-1	
-----			-AGCUACAUUGUCUGCU
GGGUUUC-----	236	0,0	
-----			-AGCUACAUUGUCUGCU

GGGUUCu-----	8	0,0	
-----			-AGCUACAUUGUCUGCU
GGGUUCA-----	7	0,1	
-----			-GCUACAUUGUCUGCU
GGG-----	5	1,-4	
-----			-GCUACAUUGUCUGCU
GGGUaa-----	2	1,-3	
-----			-GCUACAUUGUCUGCU
GGGUU-----	13	1,-2	
-----			-GCUACAUUGUCUGCU
GGGUUa-----	2	1,-2	
-----			-GCUACAUUGUCUGCU
GGGUUaa-----	3	1,-2	
-----			-GCUACAUUGUCUGCU
GGGUUU-----	38	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUa-----	3	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUC-----	15	1,0	

>hsa-mi r-222 mi:31-52;MA:69-89 SRX018962

gcugcuggaagguguagguacccucaauggCUCAGUAGCCAGUGUAGAUCCUgucuuuucguaaucagcAGCUACAUCUGG			
CUACUGGGUcucugauggcaucuucuagcu			
...((((((((((((.....((.(((..((((((((((((((((((((((((.....(((.....))))....)))))).))))))			
))))))))))..)).)))))))))))))).			
-----CUCAGUAGCCAGUGUAGAUC-----			
-----	2	0,-1	
-----			-AGCUACAUCUGG
CUACUG-----	123	0,-3	
-----			-AGCUACAUCUGG
CUACUGG-----	149	0,-2	
-----			-AGCUACAUCUGG
CUACUGGu-----	2	0,-2	
-----			-AGCUACAUCUGG
CUACUGGG-----	238	0,-1	
-----			-AGCUACAUCUGG
CUACUGGGU-----	266	0,0	
-----			-AGCUACAUCUGG

CUACUGGGUa-----	24	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUaa-----	22	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUau-----	15	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUu-----	13	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUuu-----	6	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUC-----	1058	0,1	
-----			-AGCUACAUCUGG
CUACUGGGUCa-----	12	0,1	
-----			-AGCUACAUCUGG
CUACUGGGUCaa-----	3	0,1	
-----			-AGCUACAUCUGG
CUACUGGGUCau-----	4	0,1	
-----			-AGCUACAUCUGG
CUACUGGGUCU-----	962	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUa-----	3	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUau-----	11	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUu-----	33	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUuu-----	7	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUC-----	251	0,3	
-----			-AGCUACAUCUGG
CUACUGGGUCUCa-----	8	0,3	
-----			-AGCUACAUCUGG
CUACUGGGUCUCU-----	39	0,4	
-----			-GCUACAUCUGG
CUACUGG-----	3	1,-2	
-----			-GCUACAUCUGG
CUACUGGG-----	4	1,-1	
-----			-GCUACAUCUGG

CUACUGGGU-----	4	1,0	
-----			-GCUACAUCUGG
CUACUGGGUC-----	9	1,1	
-----			-GCUACAUCUGG
CUACUGGGUCa-----	2	1,1	
>hsa-mi r-223 mi:26-47;MA:68-89 SRX018962			
ccuggccuccugcagugccacgcucCGUGUAUUUGACAAGCUGAGUUGgacacuccaugugguagagUGUCAGUUUGUCA			
AAUACCCCAagugcggcacaugcuuaccag			
.((((.....(((((((.((((..(.(((((((((((((((((.....(((((((.....))))))))))))))))))))))			
))))).).))))).))))).))))).))))))			
-----			-UGUCAGUUUGUCA
AAUAC-----	5	0,-4	
-----			-UGUCAGUUUGUCA
AAUACC-----	4	0,-3	
-----			-UGUCAGUUUGUCA
AAUACCC-----	6	0,-2	
-----			-UGUCAGUUUGUCA
AAUACCCC-----	16	0,-1	
-----			-UGUCAGUUUGUCA
AAUACCCCA-----	36	0,0	
-----			-UGUCAGUUUGUCA
AAUACCCCAu-----	17	0,0	
-----			-UGUCAGUUUGUCA
AAUACCCCAuu-----	2	0,0	
-----			-UGUCAGUUUGUCA
AAUACCCCAA-----	28	0,1	
-----			-UGUCAGUUUGUCA
AAUACCCCAAa-----	5	0,1	
-----			-UGUCAGUUUGUCA
AAUACCCCAAu-----	10	0,1	
-----			-GUCAGUUUGUCA
AAUACC-----	9	1,-3	
-----			-GUCAGUUUGUCA
AAUACCC-----	9	1,-2	
-----			-GUCAGUUUGUCA
AAUACCCC-----	8	1,-1	
-----			-GUCAGUUUGUCA

```

AAUACCCCA----- 16 1,0
-----GUCAGUUUGUCA
AAUACCCCAu----- 2 1,0
-----GUCAGUUUGUCA
AAUACCCCAA----- 26 1,1
-----GUCAGUUUGUCA
AAUACCCCAu----- 11 1,1
-----GUCAGUUUGUCA
AAUACCCCAAG----- 2 1,2

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>hsa-mir-224    MA:8-28;mi:53-75    SRX018962
gggcuuuCAAGUCACUAGUGGUUCCGUUuaguagaugauugugcauuguuucAAAUGGUGCCCUAGUGACUACAaagcc
c
(((((((...(((((((((((((...(((...((...))...))...))...))...))...))...))...))...))...))
)
-----CAAGUCACUAGUGGUUCCGUUU-----
- 19 0,1
-----CAAGUCACUAGUGGUUCCGUUUA-----
- 7 0,2
-----CAAGUCACUAGUGGUUCCGUUUAu-----
- 2 0,2
-----CAAGUCACUAGUGGUUCCGUUUAG-----
- 9 0,3
-----AAAUGGUGCCCUAGUGAC-----
- 2 1,-4
-----AAAUGGUGCCCUAGUGACUAC-----
- 2 1,-1
-----AAAUGGUGCCCUAGUGACUACA-----
- 3 1,0

```

```

>hsa-mir-2276   3p:54-75    SRX018962
guguuuccaguccgcccucugucaccuugcagacggcuuucucuccgaugUCUGCAAGUGUCAGAGGCGAGGagugg
cagcugcau
(((((((...(((((((((((((...(((...((...))...))...))...))...))...))...))...))...))...))
.)...))
-----UCUGCAAGUGUCAGAGGCGAGG-----
----- 2 0,0

```

cagacgugucAUCCCCAGAUACAAUGGACAAuaugcuauuuaaauaagcuauggcAUUGUCCUUGCUGUUUGGAGAUaauc
ugcugac

```

-----AUGCCAGAUACAAUGGACA-----
----- 2    0,-1
-----AUGCCAGAUACAAUGGACAA-----
----- 3    0,0
-----AUGCCAGAUACAAUGGACAAU-----
----- 8    0,1
-----AUUGCCUUGCUGUUUGGAGAU-----
----- 2    0,0

```

ggccggcuGGGGUCCUGGGGAUGGGAUUUgcuuccugucacaaAUCACAUGCCAGGGAUUUCCaaccgacc

-----UGGGGUUCCUGGGGAUGGGAUU-----	3
-1,-1	
-----GGGGUUCCUGGGGAUGGG-----	4
0,-4	
-----GGGGUUCCUGGGGAUGGGAUU-----	9
0,-1	
-----GGGGUUCCUGGGGAUGGGAUUU-----	4
0,0	
-----GGGGUUCCUGGGGAUGGGAUUUGCU-----	7
0,3	
-----AAUCACAUUGCCAGGGAUUU-----	5
-1,-2	
-----AAUCACAUUGCCAGGGAUUUC-----	9
-1,-1	
-----AAUCACAUUGCCAGGGAUUUCa-----	2
-1,-1	
-----AAUCACAUUGCCAGGGAUUUCC-----	2
-1,0	
-----AAUCACAUUGCCAGGGAUUUCCA-----	4
-1,1	
-----AUCACAUUGCCAGGGAUU-----	1

0,-3	-----AUCACAUUGCCAGGGAUUU-----	587
0,-2	-----AUCACAUUGCCAGGGAUUUa-----	134
0,-2	-----AUCACAUUGCCAGGGAUUUaa-----	23
0,-2	-----AUCACAUUGCCAGGGAUUUau-----	2
0,-2	-----AUCACAUUGCCAGGGAUUUu-----	45
0,-2	-----AUCACAUUGCCAGGGAUUUC-----	670
0,-1	-----AUCACAUUGCCAGGGAUUUCa-----	139
0,-1	-----AUCACAUUGCCAGGGAUUUCaa-----	3
0,-1	-----AUCACAUUGCCAGGGAUUUCu-----	16
0,-1	-----AUCACAUUGCCAGGGAUUUCC-----	523
0,0	-----AUCACAUUGCCAGGGAUUUCCA-----	1304
0,1	-----AUCACAUUGCCAGGGAUUUCCAu-----	93
0,1	-----AUCACAUUGCCAGGGAUUUCCAA-----	125
0,2	-----AUCACAUUGCCAGGGAUUUCCAAu-----	7
0,2	-----UCACAUUGCCAGGGAUUU-----	3
1,-2	-----UCACAUUGCCAGGGAUUUC-----	6
1,-1	-----UCACAUUGCCAGGGAUUUCa-----	2
1,-1	-----UCACAUUGCCAGGGAUUUCC-----	3
1,0	-----UCACAUUGCCAGGGAUUUCCA-----	5

1,1

-----CACAUUGCCAGGGAUUUC----- 2

2,-1

>hsa-mir-23b mi:20-41;MA:58-78 SRX018962

cucaggugcucuggcugcuUGGGUCCUGGCAUGCUGAUUUgugacuuaagauuaaaAUCACAUUGCCAGGGAUUACCAc
gcaaccacgaccuuggc

.((((((.((((((((((.((((((((((((((((((.((((((.....))))))))).))))))))).)).)).
))))).))))).))))).)).

-----UUGGGUCCUGGCAUGCUG-----

----- 3 -1,-4

-----UUGGGUCCUGGCAUGCUGAU-----

----- 20 -1,-2

-----UUGGGUCCUGGCAUGCUGAUU-----

----- 13 -1,-1

-----UUGGGUCCUGGCAUGCUGAUUa-----

----- 2 -1,-1

-----UUGGGUCCUGGCAUGCUGAUUU-----

----- 14 -1,0

-----UUGGGUCCUGGCAUGCUGAUUUa-----

----- 2 -1,0

-----UGGGUCCUGGCAUGCUG-----

----- 20 0,-4

-----UGGGUCCUGGCAUGCUGA-----

----- 12 0,-3

-----UGGGUCCUGGCAUGCUGAU-----

----- 59 0,-2

-----UGGGUCCUGGCAUGCUGAUa-----

----- 5 0,-2

-----UGGGUCCUGGCAUGCUGAUU-----

----- 131 0,-1

-----UGGGUCCUGGCAUGCUGAUUa-----

----- 15 0,-1

-----UGGGUCCUGGCAUGCUGAUUU-----

----- 652 0,0

-----UGGGUCCUGGCAUGCUGAUUUa-----

----- 54 0,0

-----UGGGUCCUGGCAUGCUGAUUUu-----


```

----- 50 0,0
-----UGGGUUCCUGGCAUGCUGAUUUG-----
----- 2 0,1
-----GGGUUCCUGGCAUGCUGA-----
----- 8 1,-3
-----GGGUUCCUGGCAUGCUGAU-----
----- 58 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
----- 125 1,-1
-----GGGUUCCUGGCAUGCUGAUUa-----
----- 2 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
----- 429 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
----- 28 1,0
-----GGGUUCCUGGCAUGCUGAUUUaa-----
----- 2 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----
----- 28 1,0
-----GGGUUCCUGGCAUGCUGAUUUUG-----
----- 8 1,1
-----GGGUUCCUGGCAUGCUGAUUUUGU-----
----- 5 1,2
-----GGGUUCCUGGCAUGCUGAUUUUGUG-----
----- 2 1,3
-----AAUCACAUUGCCAGGGAUUA-----
----- 2 -1,-2
-----AAUCACAUUGCCAGGGAUUAC-----
----- 3 -1,-1
-----AAUCACAUUGCCAGGGAUUACu-----
----- 2 -1,-1
-----AAUCACAUUGCCAGGGAUUACC-----
----- 6 -1,0
-----AAUCACAUUGCCAGGGAUUACCA-----
----- 5 -1,1
-----AUCACAUUGCCAGGGAUU-----
----- 107 0,-3
-----AUCACAUUGCCAGGGAUUA-----

```

-----	244	0,-2	-----AUCACAUUGCCAGGGAUUAa---
-----	51	0,-2	-----AUCACAUUGCCAGGGAUUAa---
-----	8	0,-2	-----AUCACAUUGCCAGGGAUUAu---
-----	32	0,-2	-----AUCACAUUGCCAGGGAUUAC---
-----	277	0,-1	-----AUCACAUUGCCAGGGAUUACa---
-----	114	0,-1	-----AUCACAUUGCCAGGGAUUACaa-
-----	10	0,-1	-----AUCACAUUGCCAGGGAUUACu---
-----	14	0,-1	-----AUCACAUUGCCAGGGAUUACuu-
-----	3	0,-1	-----AUCACAUUGCCAGGGAUUACC---
-----	501	0,0	-----AUCACAUUGCCAGGGAUUACCu-
-----	12	0,0	-----AUCACAUUGCCAGGGAUUACCA-
-----	1661	0,1	-----AUCACAUUGCCAGGGAUUACCAa
-----	36	0,1	-----AUCACAUUGCCAGGGAUUACCAu
-----	205	0,1	-----AUCACAUUGCCAGGGAUUACCAu
u-----	36	0,1	-----AUCACAUUGCCAGGGAUUACCAC
-----	275	0,2	-----AUCACAUUGCCAGGGAUUACCAC
a-----	43	0,2	-----AUCACAUUGCCAGGGAUUACCAC
u-----	475	0,2	-----AUCACAUUGCCAGGGAUUACCAC
G-----	2	0,3	-----UCACAUUGCCAGGGAUUAa---

```

----- 2 1,-2
-----UCACAUUGCCAGGGAUUAu---
----- 2 1,-2
-----UCACAUUGCCAGGGAUUAC---
----- 5 1,-1
-----UCACAUUGCCAGGGAUUACC--
----- 8 1,0
-----UCACAUUGCCAGGGAUUACCA-
----- 14 1,1
-----UCACAUUGCCAGGGAUUACCAa
----- 3 1,1
-----UCACAUUGCCAGGGAUUACCAa
u----- 2 1,1
-----UCACAUUGCCAGGGAUUACCAu
----- 4 1,1
-----UCACAUUGCCAGGGAUUACCAu
u----- 7 1,1
-----UCACAUUGCCAGGGAUUACCAC
----- 8 1,2
-----UCACAUUGCCAGGGAUUACCAC
a----- 9 1,2
-----UCACAUUGCCAGGGAUUACCAC
u----- 42 1,2
-----UCACAUUGCCAGGGAUUACCAC
uu----- 4 1,2
-----UCACAUUGCCAGGGAUUACCAC
Gu----- 3 1,3
-----CACAUUGCCAGGGAUUACCAu
----- 2 2,1

```

>hsa-mir-23c 3p:66-87 SRX018962

```

agugacuuuccaggugucacacagugaguggcauaaucagaguacaauuugagucaugcccauacAUCACAUUGCCAGUG
AUUACCCaaggaaagugacg
.(((.((((((.(((((((.((((((((((((((..(((((.))))))...))))))...)).))))...)))
).))))...)))))))).)).
-----AUCACAUUGCCAGUG
AUUACCa----- 6 0,-1

```

>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018962

```
cuccggUGCCUACUGAGCUGAUUAUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag
(((((((((.(((((((((((((.((((((((((((((((((((((((((((((((((((((((((((
----GGUGCCUACUGAGCUGAUUAUCAG-----3
-2,-1
----GUGCCUACUGAGCUGAUUAUC-----4
-1,-3
----GUGCCUACUGAGCUGAUUAUCA-----13
-1,-2
----UGCCUACUGAGCUGAUUAUCA-----4 0,-2
-----CUGGCUCAGUUCAGCAGGAA-----2
-1,-3
-----UGGCUCAGUUCAGCAGGA-----40 0,-4
-----UGGCUCAGUUCAGCAGGAA-----61 0,-3
-----UGGCUCAGUUCAGCAGGAa-----2 0,-3
-----UGGCUCAGUUCAGCAGGAau-----2 0,-3
-----UGGCUCAGUUCAGCAGGAAC-----87 0,-2
-----UGGCUCAGUUCAGCAGGAACu-----3 0,-2
-----UGGCUCAGUUCAGCAGGAACA-----196 0,-1
-----UGGCUCAGUUCAGCAGGAACAa-----45 0,-1
-----UGGCUCAGUUCAGCAGGAACAaa-----6 0,-1
-----UGGCUCAGUUCAGCAGGAACAu-----15 0,-1
-----UGGCUCAGUUCAGCAGGAACAuu-----6 0,-1
-----UGGCUCAGUUCAGCAGGAACAG---1032
0,0
-----UGGCUCAGUUCAGCAGGAACAGa--26 0,0
-----UGGCUCAGUUCAGCAGGAACAGaa--2 0,0
-----UGGCUCAGUUCAGCAGGAACAGu--1714
0,0
-----UGGCUCAGUUCAGCAGGAACAGuu--233 0,0
-----UGGCUCAGUUCAGCAGGAACAGG--4 0,1
-----GGCUCAGUUCAGCAGGAAC-----2 1,-2
-----GGCUCAGUUCAGCAGGAACA-----3 1,-1
-----GGCUCAGUUCAGCAGGAACAG---16 1,0
-----GGCUCAGUUCAGCAGGAACAGa--2 1,0
-----GGCUCAGUUCAGCAGGAACAGaa--3 1,0
-----GGCUCAGUUCAGCAGGAACAGu--45 1,0
-----GGCUCAGUUCAGCAGGAACAGuu--7 1,0
```


-----UGGCUCAGUUCAGCAGGAACAuu-	6
0,-1	
-----UGGCUCAGUUCAGCAGGAACAG--	1032
0,0	
-----UGGCUCAGUUCAGCAGGAACAGa-	26
0,0	
-----UGGCUCAGUUCAGCAGGAACAGaa	2
0,0	
-----UGGCUCAGUUCAGCAGGAACAGu-	1714
0,0	
-----UGGCUCAGUUCAGCAGGAACAGuu	233
0,0	
-----UGGCUCAGUUCAGCAGGAACAGG-	4
0,1	
-----GGCUCAGUUCAGCAGGAAC----	2
1,-2	
-----GGCUCAGUUCAGCAGGAACA---	3
1,-1	
-----GGCUCAGUUCAGCAGGAACAG--	16
1,0	
-----GGCUCAGUUCAGCAGGAACAGa-	2
1,0	
-----GGCUCAGUUCAGCAGGAACAGaa	3
1,0	
-----GGCUCAGUUCAGCAGGAACAGu-	45
1,0	
-----GGCUCAGUUCAGCAGGAACAGuu	7
1,0	
-----GCUCAGUUCAGCAGGAACAG--	8
2,0	
-----GCUCAGUUCAGCAGGAACAGu-	11
2,0	
-----GCUCAGUUCAGCAGGAACAGuu	6
2,0	
-----GCUCAGUUCAGCAGGAACAGG-	2
2,1	

>hsa-mir-25 mi:14-34;MA:52-73 SRX018962

ggccaguguugagAGGCCGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc

(((((.(.(((.((((.((((.((((.((((.(.....)).)))))))).).)))))).))))).)).
))))

-----	-AGGCCGAGACUUGGGCAAUUG-	-----
----	19 0,0	
-----	-AGGCCGAGACUUGGGCAAUUGu-	-----
----	2 0,0	
-----	-AGGCCGAGACUUGGGCAAUUGC-	-----
----	41 0,1	
-----	-AGGCCGAGACUUGGGCAAUUGCU-	-----
----	106 0,2	
-----	-AGGCCGAGACUUGGGCAAUUGCUa-	-----
----	2 0,2	
-----	-AGGCCGAGACUUGGGCAAUUGCUu-	-----
----	3 0,2	
-----	-CAUUGCACUUGUCUCGGU-	-----
----	697 0,-4	
-----	-CAUUGCACUUGUCUCGGUu-	-----
----	3 0,-4	
-----	-CAUUGCACUUGUCUCGGUC-	-----
----	1257 0,-3	
-----	-CAUUGCACUUGUCUCGGUCa-	-----
----	2 0,-3	
-----	-CAUUGCACUUGUCUCGGUCU-	-----
----	1285 0,-2	
-----	-CAUUGCACUUGUCUCGGUCUa-	-----
----	3 0,-2	
-----	-CAUUGCACUUGUCUCGGUCUG-	-----
----	1103 0,-1	
-----	-CAUUGCACUUGUCUCGGUCUGu-	-----
----	200 0,-1	
-----	-CAUUGCACUUGUCUCGGUCUGuu-	-----
----	3 0,-1	
-----	-CAUUGCACUUGUCUCGGUCUGA-	-----
----	2430 0,0	
-----	-CAUUGCACUUGUCUCGGUCUGAa-	-----
----	21 0,0	

```

-----CAUUGCACUUGUCUCGGUCUGAau-----
---- 2 0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
---- 16 0,0
-----CAUUGCACUUGUCUCGGUCUGAC-----
---- 2 0,1
-----AUUGCACUUGUCUCGGUC-----
---- 7 1,-3
-----AUUGCACUUGUCUCGGUCU-----
---- 45 1,-2
-----AUUGCACUUGUCUCGGUCUG-----
---- 49 1,-1
-----AUUGCACUUGUCUCGGUCUGu-----
---- 6 1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
---- 84 1,0
-----AUUGCACUUGUCUCGGUCUGAa-----
---- 2 1,0

```

>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018962

```

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.((((((.(((((((.(((((((.((.....))...)))))))))).)))))))).)))))))).)))
-----UUCAAGUAAUCCAGGAUA-----
49 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
19 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
321 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
4 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
4 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
765 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
4 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
2 0,-2

```



```

-----UUCAAGUAAUCCAGGAUAGGu-----
3    0, -2
-----UUCAAGUAAUCCAGGAUAGGuu-----
6    0, -2
-----UUCAAGUAAUCCAGGAUAGGC-----
942  0, -1
-----UUCAAGUAAUCCAGGAUAGGCa-----
299  0, -1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
133  0, -1
-----UUCAAGUAAUCCAGGAUAGGCau-----
54   0, -1
-----UUCAAGUAAUCCAGGAUAGGCU-----
3581    0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
225  0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
42   0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
209  0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
134  0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
1010    0,0
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
2    0,2
-----UCAAGUAAUCCAGGAUAG-----
8    1, -3
-----UCAAGUAAUCCAGGAUAGG-----
6    1, -2
-----UCAAGUAAUCCAGGAUAGGC-----
13   1, -1
-----UCAAGUAAUCCAGGAUAGGCa-----
13   1, -1
-----UCAAGUAAUCCAGGAUAGGCaa-----
4    1, -1
-----UCAAGUAAUCCAGGAUAGGCU-----
72   1,0

```

```

-----UCAAGUAAUCCAGGAUAGGCUa-----
5   1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
2   1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
10  1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
3   1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
2   1,0
-----CAAGUAAUCCAGGAUAGGCU-----
7   2,0
-----CAAGUAAUCCAGGAUAGGCUau-----
2   2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
3   2,0
-----CCUAUUCUUGGUUACUUGCACG-----
3   0,0

```

>hsa-mi r-26a-2 MA:14-35;mi:52-73 SRX018962

```

ggcugugggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu

```

```

(((((((...((...(((((((((((...)))))))))).))))))))))...))...))
)))

```

```

-----UUCAAGUAAUCCAGGAUA-----
---- 49  0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 19  0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 321 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
---- 4   0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
---- 4   0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 765 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 4   0,-2

```

```

-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 2 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 3 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 6 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
---- 942 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 299 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 133 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 54 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 3581 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
---- 225 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
---- 42 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
---- 209 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
---- 134 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
---- 1010 0,0
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
---- 2 0,2
-----UCAAGUAAUCCAGGAUAG-----
---- 8 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
---- 6 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
---- 13 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
---- 13 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
---- 4 1,-1

```



```

-----UUCAAGUAAUUCAGGAUAGGUaa-----
56  0,0
-----UUCAAGUAAUUCAGGAUAGGUau-----
36  0,0
-----UUCAAGUAAUUCAGGAUAGGUU-----
1605  0,1
-----UUCAAGUAAUUCAGGAUAGGUUa-----
120  0,1
-----UUCAAGUAAUUCAGGAUAGGUUau-----
2  0,1
-----UUCAAGUAAUUCAGGAUAGGUUu-----
130  0,1
-----UUCAAGUAAUUCAGGAUAGGUUG-----
8  0,2
-----UCAAGUAAUUCAGGAUAGG-----
3  1,-1
-----UCAAGUAAUUCAGGAUAGGUU-----
17  1,1
-----UCAAGUAAUUCAGGAUAGGUUa-----
2  1,1
-----UCAAGUAAUUCAGGAUAGGUUu-----
4  1,1
-----UCAAGUAAUUCAGGAUAGGUUG-----
3  1,2
-----CAAGUAAUUCAGGAUAGGUU-----
4  2,1
-----CCUGUUCUCCAUUACUUGGCU-----
4  0,-1

```

>hsa-mir-27a mi:10-31;MA:51-71 SRX018962

```

cugaggagcAGGGCUUAGCUGCUUGUGAGCAggguccacaccaagucgugUUCACAGUGGCUAAGUUCCGCccccag
(((.((.((.(((((((((.((.((((((.(.((.....))).)))))))).)))))))).))))))
-----AGGGCUUAGCUGCUUGUGA-----
4  0,-3
-----AGGGCUUAGCUGCUUGUGAG-----
2  0,-2
-----AGGGCUUAGCUGCUUGUGAGC-----
5  0,-1

```

	-----AGGGCUUAGCUGCUUGUGAGCA-----
51	0,0
	-----AGGGCUUAGCUGCUUGUGAGCAG-----
4	0,1
	-----GGGCUUAGCUGCUUGUGAGCA-----
3	1,0
	-----GUUCACAGUGGCUAAGUU-----
19	-1,-4
	-----GUUCACAGUGGCUAAGUUa-----
2	-1,-4
	-----GUUCACAGUGGCUAAGUUC-----
96	-1,-3
	-----UUCACAGUGGCUAAGUUC-----
24576	0,-3
	-----UUCACAGUGGCUAAGUUCa-----
36	0,-3
	-----UUCACAGUGGCUAAGUUCaa-----
8	0,-3
	-----UUCACAGUGGCUAAGUUCC-----
329	0,-2
	-----UUCACAGUGGCUAAGUUCCa-----
5	0,-2
	-----UUCACAGUGGCUAAGUUCCu-----
5	0,-2
	-----UUCACAGUGGCUAAGUUCCuu-----
2	0,-2
	-----UUCACAGUGGCUAAGUUCCG-----
1737	0,-1
	-----UUCACAGUGGCUAAGUUCCGa-----
78	0,-1
	-----UUCACAGUGGCUAAGUUCCGaa-----
7	0,-1
	-----UUCACAGUGGCUAAGUUCCGau-----
2	0,-1
	-----UUCACAGUGGCUAAGUUCCGu-----
83	0,-1
	-----UUCACAGUGGCUAAGUUCCGuu-----
4	0,-1

41	0,0	UUCACAGUGGCUAAGUUCCGC-
2	0,0	UUCACAGUGGCUAAGUUCCGC _a -
6	0,0	UUCACAGUGGCUAAGUUCCGC _{aa} -
6	0,0	UUCACAGUGGCUAAGUUCCGC _{au} -
2	0,1	UUCACAGUGGCUAAGUUCCGCC _a -
12	1,-1	UCACAGUGGCUAAGUUCCG-
3	1,0	UCACAGUGGCUAAGUUCCGC-

>hsa-mi r-27b mi:19-40;MA:61-81 SRX018962

accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugaauugguuuccgcuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug

$$(((((((\dots(((((((((((((((((\dots(((((((((\dots((\dots)))..)))))))).\dots)))))))))\dots))))).)$$

```

-----CAGAGCUUAGCUGAUUGGUGA-----
-----3-1,-2-----
-----CAGAGCUUAGCUGAUUGGUGAA-----
-----4-1,-1-----
-----CAGAGCUUAGCUGAUUGGUGAACA-----
-----2-1,1-----
-----AGAGCUUAGCUGAUUGGU-----
-----20,-4-----
-----AGAGCUUAGCUGAUUGGUG-----
-----320,-3-----
-----AGAGCUUAGCUGAUUGGUGA-----
-----2390,-2-----
-----AGAGCUUAGCUGAUUGGUGAA-----
-----4310,-1-----
-----AGAGCUUAGCUGAUUGGUGAAa-----
-----30,-1-----
-----AGAGCUUAGCUGAUUGGUGAAC-----
-----260,0-----

```

```

-----AGAGCUUAGCUGAUUGGUGAACA-----
-----17 0,1
-----AGAGCUUAGCUGAUUGGUGAACAa-----
-----2 0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
-----7 0,2
-----AGAGCUUAGCUGAUUGGUGAACAGU-----
-----2 0,3
-----GUUCACAGUGGCUAAGUU-----
-----19 -1,-4
-----GUUCACAGUGGCUAAGUUa-----
-----2 -1,-4
-----GUUCACAGUGGCUAAGUUC-----
-----96 -1,-3
-----GUUCACAGUGGCUAAGUUCU-----
-----11 -1,-2
-----GUUCACAGUGGCUAAGUUCUG
u-----2 -1,-1
-----UUCACAGUGGCUAAGUUC-----
-----24576 0,-3
-----UUCACAGUGGCUAAGUUCa-----
-----36 0,-3
-----UUCACAGUGGCUAAGUUCaa
-----8 0,-3
-----UUCACAGUGGCUAAGUUCU-----
-----4891 0,-2
-----UUCACAGUGGCUAAGUUCUa
-----39 0,-2
-----UUCACAGUGGCUAAGUUCUa
a-----12 0,-2
-----UUCACAGUGGCUAAGUUCUa
u-----6 0,-2
-----UUCACAGUGGCUAAGUUCUu
-----8 0,-2
-----UUCACAGUGGCUAAGUUCUG
-----133 0,-1
-----UUCACAGUGGCUAAGUUCUG
a-----32 0,-1

```



```

-----UUCACAGUGGCUAAGUUCUG
aa----- 33 0,-1
-----UUCACAGUGGCUAAGUUCUG
u----- 13 0,-1
-----UUCACAGUGGCUAAGUUCUG
uu----- 6 0,-1
-----UUCACAGUGGCUAAGUUCUG
C----- 241 0,0
-----UUCACAGUGGCUAAGUUCUG
Cu----- 10 0,0
-----UUCACAGUGGCUAAGUUCUG
CA----- 185 0,1
-----UUCACAGUGGCUAAGUUCUG
CAa----- 77 0,1
-----UUCACAGUGGCUAAGUUCUG
CAaa----- 2 0,1
-----UUCACAGUGGCUAAGUUCUG
CAau----- 3 0,1
-----UUCACAGUGGCUAAGUUCUG
CAu----- 82 0,1
-----UUCACAGUGGCUAAGUUCUG
CAuu----- 14 0,1
-----UUCACAGUGGCUAAGUUCUG
CAC----- 2 0,2
-----UCACAGUGGCUAAGUUCU-
----- 46 1,-2
-----UCACAGUGGCUAAGUUCUG
C----- 2 1,0
-----UCACAGUGGCUAAGUUCUG
CA----- 2 1,1
-----UCACAGUGGCUAAGUUCUG
CAu----- 5 1,1

```

>hsa-mir-28 5p:14-35;3p:54-75 SRX018962

```

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGuuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu
(((.(((((((((.(((((((((((((((((.((((((.....))))).)).))))))))))))))))).))))))
)).)))

```

```

-----AAGGAGCUCACAGUCUAU-----
----- 2 0,-4
-----AAGGAGCUCACAGUCUAUU-----
----- 7 0,-3
-----AAGGAGCUCACAGUCUAUUG-----
----- 69 0,-2
-----AAGGAGCUCACAGUCUAUUGA-----
----- 85 0,-1
-----AAGGAGCUCACAGUCUAUUGAa-----
----- 10 0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 56 0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 9 0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 4 0,1
-----CACUAGAUUGUGAGCUCC-----
----- 6 0,-4
-----CACUAGAUUGUGAGCUCCU-----
----- 11 0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 11 0,-2
-----CACUAGAUUGUGAGCUCCUGa-----
----- 5 0,-2
-----CACUAGAUUGUGAGCUCCUGaa-----
----- 6 0,-2
-----CACUAGAUUGUGAGCUCCUGG-----
----- 244 0,-1
-----CACUAGAUUGUGAGCUCCUGGu-----
----- 11 0,-1
-----CACUAGAUUGUGAGCUCCUGGA-----
----- 1779 0,0
-----CACUAGAUUGUGAGCUCCUGGAa-----
----- 602 0,0
-----CACUAGAUUGUGAGCUCCUGGAaa-----
----- 65 0,0
-----CACUAGAUUGUGAGCUCCUGGAau-----
----- 13 0,0

```

```

-----CACUAGAUUGUGAGCUCCUGGAu-----
----- 28 0,0
-----CACUAGAUUGUGAGCUCCUGGAuu-----
----- 2 0,0
-----CACUAGAUUGUGAGCUCCUGGAG-----
----- 21 0,1
-----CACUAGAUUGUGAGCUCCUGGAGa-----
----- 3 0,1
-----CACUAGAUUGUGAGCUCCUGGAGu-----
----- 4 0,1
-----ACUAGAUUGUGAGCUCCUGG-----
----- 6 1,-1
-----ACUAGAUUGUGAGCUCCUGGA-----
----- 59 1,0
-----ACUAGAUUGUGAGCUCCUGGAa-----
----- 27 1,0
-----ACUAGAUUGUGAGCUCCUGGAaa-----
----- 3 1,0
-----ACUAGAUUGUGAGCUCCUGGAau-----
----- 4 1,0
-----ACUAGAUUGUGAGCUCCUGGAu-----
----- 2 1,0
-----ACUAGAUUGUGAGCUCCUGGAG-----
----- 21 1,1
-----ACUAGAUUGUGAGCUCCUGGAGa-----
----- 22 1,1
-----ACUAGAUUGUGAGCUCCUGGAGaa-----
----- 2 1,1
-----CUAGAUUGUGAGCUCCUGGA-----
----- 3 2,0
-----CUAGAUUGUGAGCUCCUGGAa-----
----- 3 2,0
-----CUAGAUUGUGAGCUCCUGGAG-----
----- 9 2,1
-----CUAGAUUGUGAGCUCCUGGAGa-----
----- 5 2,1
-----CUAGAUUGUGAGCUCCUGGAGaa-----
----- 3 2,1

```

aggacccuuccagAGGGCCCCCCCUCAAUCCUGUugugccuaauucaGAGGGUUGGGUGGAGGCUCUCCugaagggcucu
((.(((((((.(((((((.(((((((.(.....)))))))))..)).))))).)))))..)
-----GAGGGUUGGGUGGAGGCU-----

```

aagaaaUGGUUUACCGUCCCACAUACAUnuugaauaugUAUGUGGGAUGGUAAACCGCUUcuu
((((.(((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUGGUUUACCGUCCCACAUACA-----
-----UAUGUGGGAUGGUAAACC-----
-----UAUGUGGGAUGGUAAACCGCUU-----

```

augACUGAUUUCUUUUGGUGUUCAGaguc	aa	ua	ua	uuuucUAGCACCAUCUGAAAUCGGU	Uau		
(((((((((((((((...(((((((.((((.....))))))))))))))...))))))))))							
---ACUGAUUUCUUUUGGUGUUC-----						3	0,-2
---ACUGAUUUCUUUUGGUGUUCA-----						8	0,-1
---ACUGAUUUCUUUUGGUGUUCAGA-----						4	0,1
-----CUAGCACCAUCUGAAAUC-----						3	-1,-5
-----CUAGCACCAUCUGAAAUCG-----						3	-1,-4
-----CUAGCACCAUCUGAAAUCGG-----						62	-1,-3
-----CUAGCACCAUCUGAAAUCGGU---						108	-1,-2
-----CUAGCACCAUCUGAAAUCGGUa--						15	-1,-2
-----CUAGCACCAUCUGAAAUCGGUaa-						10	-1,-2
-----CUAGCACCAUCUGAAAUCGGUau-						2	-1,-2
-----CUAGCACCAUCUGAAAUCGGUU--						741	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUu-						103	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUuu						4	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUA-						351	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAa						7	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAU						9	-1,1
-----UAGCACCAUCUGAAAUCG-----						157	0,-4
-----UAGCACCAUCUGAAAUCGa----						2	0,-4
-----UAGCACCAUCUGAAAUCGuu----						7	0,-4
-----UAGCACCAUCUGAAAUCGG-----						756	0,-3
-----UAGCACCAUCUGAAAUCGGa----						13	0,-3

-----UAGCACCAUCUGAAAUCGGaa--	4	0,-3
-----UAGCACCAUCUGAAAUCGGau--	18	0,-3
-----UAGCACCAUCUGAAAUCGGU---	1326	0,-2
-----UAGCACCAUCUGAAAUCGGUa--	200	0,-2
-----UAGCACCAUCUGAAAUCGGUaa-	446	0,-2
-----UAGCACCAUCUGAAAUCGGUau-	30	0,-2
-----UAGCACCAUCUGAAAUCGGUU--	15461	0,-1
-----UAGCACCAUCUGAAAUCGGUUu-	3089	0,-1
-----UAGCACCAUCUGAAAUCGGUUuu	50	0,-1
-----UAGCACCAUCUGAAAUCGGUUA-	40544	0,0
-----UAGCACCAUCUGAAAUCGGUUAa	691	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	8	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	5	0,0
-----UAGCACCAUCUGAAAUCGGUUUAU	465	0,1
-----AGCACCAUCUGAAAUCGG----	8	1,-3
-----AGCACCAUCUGAAAUCGGU---	7	1,-2
-----AGCACCAUCUGAAAUCGGUa--	4	1,-2
-----AGCACCAUCUGAAAUCGGUaa-	3	1,-2
-----AGCACCAUCUGAAAUCGGUU--	207	1,-1
-----AGCACCAUCUGAAAUCGGUUu-	37	1,-1
-----AGCACCAUCUGAAAUCGGUUA-	557	1,0
-----AGCACCAUCUGAAAUCGGUUAa	12	1,0
-----AGCACCAUCUGAAAUCGGUUUAU	16	1,1
-----GCACCAUCUGAAAUCGGUaa-	3	2,-2
-----GCACCAUCUGAAAUCGGUU--	19	2,-1
-----GCACCAUCUGAAAUCGGUUu-	5	2,-1
-----GCACCAUCUGAAAUCGGUUA-	84	2,0

```

- 4 -1,-2
-----UAGCACCAUUUGAAAUCA-----
- 17 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 60 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 733 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----
- 2 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 157 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 2 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 25 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 16 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 32 0,0
-----AGCACCAUUUGAAAUCAGU-----
- 3 1,-3
-----AGCACCAUUUGAAAUCAGUG-----
- 4 1,-2
-----GCACCAUUUGAAAUCAGU-----
- 4 2,-3
-----

```

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018962

```

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----GCUGGUUUCACAUGGUGG-----
- 2 -1,-5
-----CUGGUUUCACAUGGUGGCUU-----
- 2 0,-2
-----CUGGUUUCACAUGGUGGCUUA-----
- 4 0,-1
-----CUGGUUUCACAUGGUGGCUUAG-----

```

- 3	0,0	-CUGGUUUCACAUGGUGGCUUAGA-
- 2	0,1	-UGGUUUUCACAUGGUGGCUUAGA-
- 3	1,1	-CUAGCACCAUUUGAAAUCAGU-
- 3	-1,-3	-CUAGCACCAUUUGAAAUCAGU _a -
- 2	-1,-3	-CUAGCACCAUUUGAAAUCAGUG-
- 4	-1,-2	-UAGCACCAUUUGAAAUCA-
- 17	0,-5	-UAGCACCAUUUGAAAUCAG-
- 60	0,-4	-UAGCACCAUUUGAAAUCAGU-
- 733	0,-3	-UAGCACCAUUUGAAAUCAGU _u -
- 2	0,-3	-UAGCACCAUUUGAAAUCAGUG-
- 157	0,-2	-UAGCACCAUUUGAAAUCAGUG _{aa} -
- 2	0,-2	-UAGCACCAUUUGAAAUCAGUGU-
- 25	0,-1	-UAGCACCAUUUGAAAUCAGUGU _a -
- 16	0,-1	-UAGCACCAUUUGAAAUCAGUGUU-
- 32	0,0	-UAGCACCAUUUGAAAUCAGUGUUU-
- 2	0,1	-AGCACCAUUUGAAAUCAGU-
- 3	1,-3	-AGCACCAUUUGAAAUCAGUG-
- 4	1,-2	-GCACCAUUUGAAAUCAGU-
- 4	2,-3	

>hsa-mi r-29c mi:16-37;MA:54-75 SRX018962

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

.(((((((((((...(((((((((((...(((((((((((...))))))...))))))...)))))))).))
)))))).

-----UGACCGAUUUCUCCUGGUGU-----

----- 7 0,-2

-----UGACCGAUUUCUCCUGGUGUU-----

----- 42 0,-1

-----UGACCGAUUUCUCCUGGUGUUa-----

----- 4 0,-1

-----UGACCGAUUUCUCCUGGUGUUC-----

----- 4 0,0

-----GACCGAUUUCUCCUGGUGUU-----

----- 11 1, -1

-----GACCGAUUUCUCCUGGUGUUC-----

----- 3 1,0

-----GACCGAUUUCUCCUGGUGUUCA-----

----- 5 1,1

-----ACCGAUUUCUCCUGGUGUU-----

$$- - - - - \quad 2 \quad 2, -1$$

-----ACCGAUUUCUCCUGGUGUUCAG-----

$$- - - - - \quad 2 \quad 2, 2$$

-----ACCGAUUUCUCCUGGUGUUCAGA-----

$$- - - - - \quad 2 \quad 2,3$$

-----CUAGCACCAUUUGAAAUCGGUU-----

----- 5 -1,-1

-----CUAGCACCAUUUGAAAUCGGUUA-----

----- 12 -1,0

-----CUAGCACCAUUUGAAAUCGGUUAa-----

$$- - - - - \quad 2 \quad -1, 0$$

-----UAGCACCAUUUGAAAUCG-----

----- 46 0, -4

-----UAGCACCAUUUGAAAUCGuu-----

----- 2 0, -4

-----UAGCACCAUUUGAAAUCGG-----

----- 219 0, -3

-----UAGCACCAUUUGAAAUCGGa-----


```

-----      7   0,-3
-----UAGCACCAUUUGAAAUCGGU-----
-----    144  0,-2
-----UAGCACCAUUUGAAAUCGGUa-----
-----      8   0,-2
-----UAGCACCAUUUGAAAUCGGUaa-----
-----     68   0,-2
-----UAGCACCAUUUGAAAUCGGUau-----
-----      5   0,-2
-----UAGCACCAUUUGAAAUCGGUU-----
-----    763  0,-1
-----UAGCACCAUUUGAAAUCGGUUu-----
-----    379  0,-1
-----UAGCACCAUUUGAAAUCGGUUuu-----
-----     12   0,-1
-----UAGCACCAUUUGAAAUCGGUUA-----
-----   7991   0,0
-----UAGCACCAUUUGAAAUCGGUUAa-----
-----    100  0,0
-----UAGCACCAUUUGAAAUCGGUUUA-----
-----     45   0,1
-----AGCACCAUUUGAAAUCGGUU-----
-----      4   1,-1
-----AGCACCAUUUGAAAUCGGUUA-----
-----     50   1,0
-----AGCACCAUUUGAAAUCGGUUAa-----
-----      3   1,0
-----GCACCAUUUGAAAUCGGUU-----
-----      2   2,-1
-----GCACCAUUUGAAAUCGGUUA-----
-----      8   2,0
-----GCACCAUUUGAAAUCGGUUAUu-----
-----      5   2,1
-----GCACCAUUUGAAAUCGGUUAUuu-----
-----      2   2,1

```

>hsa-mir-301a 3p:51-73 SRX018962

acugcuaacgaaugcucugacuuuauugcacuacuguacuuuacagcuagCAGUGCAAUAGUAUUGUCAAAAGCaucugaa

agcagg

.((((((..(((.((((((.(((((((((.((((((...))))).))))).))))).))))).))))).

-----GCUCUGACUUUAUUGCACUAC-----

----- 3

-----GCUCUGACUUUAUUGCACUACU-----

----- 3

-----CAGUGCAAUAGUAUUGUCA-----

----- 2 0,-4

>hsa-mir-3065 5p:10-32;3p:50-72 SRX018962

cugcccccucUAACA AAAUCACUGAUGCUGGAgucgccugagucaucacUCAGCACCAGGAUAUUGUUGGAGaggacag

((.((((((((((((((.(((.(((.((((((((((.((((((...)).)).....))))).))))).))))).))))).))))).

-----UCAACA AAAUCACUGAUGCU-----

14 0,-3

-----UCAACA AAAUCACUGAUGCUG-----

4 0,-2

-----UCAACA AAAUCACUGAUGCUGGA-----

6 0,0

-----UCAGCACCAGGAUAUUGU-----

2 0,-5

>hsa-mir-30a MA:6-27;mi:47-68 SRX018962

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc

((.((((((((((((((.(((.(((.((((((((((.((((((...)).)).....))))).))))).))))).))))).))))).

---CUGUAAACAUCCUCGACUG----- 2

-1,-4

---CUGUAAACAUCCUCGACUGGA----- 5

-1,-2

---CUGUAAACAUCCUCGACUGGAA----- 6

-1,-1

---CUGUAAACAUCCUCGACUGGAAa----- 4

-1,-1

---CUGUAAACAUCCUCGACUGGAAG----- 19 -1,0

---CUGUAAACAUCCUCGACUGGAAGa----- 3 -1,0

---CUGUAAACAUCCUCGACUGGAAGC----- 33 -1,1

---CUGUAAACAUCCUCGACUGGAAGCU----- 12 -1,2

---UGUAAACAUCCUCGACUG----- 211 0,-4

-----UGUAAACAUCCUCGACUGG-----	362	0,-3
-----UGUAAACAUCCUCGACUGGu-----	7	0,-3
-----UGUAAACAUCCUCGACUGGuu-----	3	0,-3
-----UGUAAACAUCCUCGACUGGA-----	1095	
0,-2		
-----UGUAAACAUCCUCGACUGGAu-----	2	0,-2
-----UGUAAACAUCCUCGACUGGAA-----	1784	
0,-1		
-----UGUAAACAUCCUCGACUGGAAa-----	570	0,-1
-----UGUAAACAUCCUCGACUGGAAaa-----	36	0,-1
-----UGUAAACAUCCUCGACUGGAAau-----	4	0,-1
-----UGUAAACAUCCUCGACUGGAAu-----	24	0,-1
-----UGUAAACAUCCUCGACUGGAAG-----	5815	
0,0		
-----UGUAAACAUCCUCGACUGGAAGa-----	3533	
0,0		
-----UGUAAACAUCCUCGACUGGAAGaa-----	72	0,0
-----UGUAAACAUCCUCGACUGGAAGau-----	33	0,0
-----UGUAAACAUCCUCGACUGGAAGu-----	209	0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	9	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	10310	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCa-----	1034	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCaa-----	10	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	14	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	13477	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUa-----	73	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	402	0,2
-----GUAAACAUCCUCGACUGG-----	5	1,-3
-----GUAAACAUCCUCGACUGGA-----	13	1,-2
-----GUAAACAUCCUCGACUGGAA-----	14	1,-1
-----GUAAACAUCCUCGACUGGAAa-----	3	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	57	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	12	1,0
-----GUAAACAUCCUCGACUGGAAGC-----	105	1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	5	1,1

```

-----GUAACAUCUCCUGACUGGAAGCU----- 60 1,2
-----GUAACAUCUCCUGACUGGAAGCUu----- 3 1,2
-----UAAACAUCUCCUGACUGGAAGa----- 2 2,0
-----UAAACAUCUCCUGACUGGAAGC----- 5 2,1
-----UAAACAUCUCCUGACUGGAAGCU----- 3 2,2
-----CUUUCAGUCGGAUGUUUG----- 11 0,-4
-----CUUUCAGUCGGAUGUUUGC----- 13 0,-3
-----CUUUCAGUCGGAUGUUUGCA----- 14 0,-2
-----CUUUCAGUCGGAUGUUUGCAa----- 8 0,-2
-----CUUUCAGUCGGAUGUUUGCAaa----- 4 0,-2
-----CUUUCAGUCGGAUGUUUGCAu----- 5 0,-2
-----CUUUCAGUCGGAUGUUUGCAG----- 165 0,-1
-----CUUUCAGUCGGAUGUUUGCAGa----- 3 0,-1
-----CUUUCAGUCGGAUGUUUGCAGu----- 27 0,-1
-----CUUUCAGUCGGAUGUUUGCAGC----- 187 0,0
-----CUUUCAGUCGGAUGUUUGCAGCa----- 26 0,0
-----CUUUCAGUCGGAUGUUUGCAGCau----- 10 0,0
-----CUUUCAGUCGGAUGUUUGCAGCU----- 3 0,1
-----UUUCAGUCGGAUGUUUGCAG----- 53 1,-1
-----UUUCAGUCGGAUGUUUGCAGu----- 15 1,-1
-----UUUCAGUCGGAUGUUUGCAGC----- 104 1,0
-----UUUCAGUCGGAUGUUUGCAGCa----- 5 1,0
-----UUUCAGUCGGAUGUUUGCAGCaa----- 2 1,0
-----UUUCAGUCGGAUGUUUGCAGCau----- 5 1,0
-----UUUCAGUCGGAUGUUUGCAGCU----- 4 1,1
-----UUCAGUCGGAUGUUUGCAGC----- 13 2,0
-----UUCAGUCGGAUGUUUGCAGCaa----- 3 2,0

```

>hsa-mir-30b MA:17-38;mi:55-76 SRX018962

accaaguucagucaUGUAAACAUCUACACUCAGCUgaaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
gacuugga

.((((((..((((((...((((((((((..((((((((.....))))))))..))))))))))))..))))))

```

-----UGUAAACAUCUACACUC-----
----- 60 0,-4
-----UGUAAACAUCUACACUCA-----
----- 8 0,-3
-----UGUAAACAUCUACACUCAG-----

```

```

----- 14 0,-2
-----UGUAAACAUCCUACACUCAGC-----
----- 53 0,-1
-----UGUAAACAUCCUACACUCAGCa-----
----- 9 0,-1
-----UGUAAACAUCCUACACUCAGCau-----
----- 3 0,-1
-----UGUAAACAUCCUACACUCAGCU-----
----- 233 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
----- 35 0,0
-----UGUAAACAUCCUACACUCAGCUau-----
----- 2 0,0
-----UGUAAACAUCCUACACUCAGCUu-----
----- 19 0,0
-----UGUAAACAUCCUACACUCAGCUG-----
----- 2 0,1
-----GUAAACAUCCUACACUCAGCU-----
----- 3 1,0
-----CUGGGAGGUGGAUGUUUA-----
----- 8 0,-4
-----CUGGGAGGUGGAUGUUUAa-----
----- 4 0,-4
-----CUGGGAGGUGGAUGUUUAaa-----
----- 3 0,-4
-----CUGGGAGGUGGAUGUUUAC-----
----- 15 0,-3
-----CUGGGAGGUGGAUGUUUACa-----
----- 8 0,-3
-----CUGGGAGGUGGAUGUUUACaa-----
----- 8 0,-3
-----CUGGGAGGUGGAUGUUUACU-----
----- 151 0,-2
-----CUGGGAGGUGGAUGUUUACUa-----
----- 13 0,-2
-----CUGGGAGGUGGAUGUUUACUaa-----
----- 8 0,-2
-----CUGGGAGGUGGAUGUUUACUau-----

```



```

----- 3 0,-1
-----UGUAAACAUCCUACACUCUCAGu-----
----- 5 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 210 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 26 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 6 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 4 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 290 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 7 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 15 0,1
-----GUAAACAUCCUACACUCUCA-----
----- 4 1,-2
-----GUAAACAUCCUACACUCUCAGCU-----
----- 2 1,1
-----CUGGGAGAGGGUUGUUUAa-----
----- 3 0,-4
-----CUGGGAGAGGGUUGUUUAu-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUAC-----
----- 9 0,-3
-----CUGGGAGAGGGUUGUUUACa-----
----- 2 0,-3
-----CUGGGAGAGGGUUGUUUACaa-----
----- 3 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 227 0,-2
-----CUGGGAGAGGGUUGUUUACUa-----
----- 14 0,-2
-----CUGGGAGAGGGUUGUUUACUaa-----
----- 7 0,-2
-----CUGGGAGAGGGUUGUUUACUu-----

```

```

----- 2 0,-2
-----CUGGGAGAGGGUUGUUUACUuu---
----- 2 0,-2
-----CUGGGAGAGGGUUGUUUACUC---
----- 57 0,-1
-----CUGGGAGAGGGUUGUUUACUCa---
----- 7 0,-1
-----CUGGGAGAGGGUUGUUUACUCau--
----- 4 0,-1
-----CUGGGAGAGGGUUGUUUACUCu---
----- 3 0,-1
-----CUGGGAGAGGGUUGUUUACUCC---
----- 7 0,0
-----CUGGGAGAGGGUUGUUUACUCCa--
----- 7 0,0
-----CUGGGAGAGGGUUGUUUACUCCU--
----- 5 0,1
-----UGGGAGAGGGUUGUUUAC-----
----- 3 1,-3
-----UGGGAGAGGGUUGUUUACU-----
----- 24 1,-2
-----UGGGAGAGGGUUGUUUACUC-----
----- 4 1,-1
-----UGGGAGAGGGUUGUUUACUCC---
----- 3 1,0
-----UGGGAGAGGGUUGUUUACUCCa--
----- 2 1,0
-----UGGGAGAGGGUUGUUUACUCCaa-
----- 3 1,0
-----UGGGAGAGGGUUGUUUACUCCU--
----- 2 1,1

```

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018962

```

agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
(((....(((((((.(....((((((((.....)))))))))).)).))))))....)))
-----CUGUAAACAUCCUACACUCUCAGC----- 2
-1,0
-----UGUAAACAUCCUACACUC----- 60

```


0, -5		
-----UGUAAACAUCCUACACUCU-----		5
0, -4		
-----UGUAAACAUCCUACACUCUC-----		52
0, -3		
-----UGUAAACAUCCUACACUCUCA-----		65
0, -2		
-----UGUAAACAUCCUACACUCUCAG-----		107
0, -1		
-----UGUAAACAUCCUACACUCUCAGa-----		20
0, -1		
-----UGUAAACAUCCUACACUCUCAGaa-----		3
0, -1		
-----UGUAAACAUCCUACACUCUCAGu-----		5
0, -1		
-----UGUAAACAUCCUACACUCUCAGC-----		210
0, 0		
-----UGUAAACAUCCUACACUCUCAGCa-----		26
0, 0		
-----UGUAAACAUCCUACACUCUCAGCaa-----		6
0, 0		
-----UGUAAACAUCCUACACUCUCAGCau-----		4
0, 0		
-----UGUAAACAUCCUACACUCUCAGCU-----		290
0, 1		
-----UGUAAACAUCCUACACUCUCAGCUa-----		7
0, 1		
-----UGUAAACAUCCUACACUCUCAGCUu-----		15
0, 1		
-----GUAAACAUCCUACACUCUCA-----		4
1, -2		
-----GUAAACAUCCUACACUCUCAGCU-----		2
1, 1		
-----CUGGGAGAAGGCUGUUUA-----		26
0, -4		
-----CUGGGAGAAGGCUGUUUAa-----		5
0, -4		
-----CUGGGAGAAGGCUGUUUAaa-----		4

0,-4	-----CUGGGAGAAGGCUGUUUAC-----	34
0,-3	-----CUGGGAGAAGGCUGUUUACa-----	10
0,-3	-----CUGGGAGAAGGCUGUUUACaa-----	2
0,-3	-----CUGGGAGAAGGCUGUUUACU-----	888
0,-2	-----CUGGGAGAAGGCUGUUUACUa-----	22
0,-2	-----CUGGGAGAAGGCUGUUUACUaa-----	8
0,-2	-----CUGGGAGAAGGCUGUUUACUu-----	5
0,-2	-----CUGGGAGAAGGCUGUUUACUC-----	838
0,-1	-----CUGGGAGAAGGCUGUUUACUCa-----	24
0,-1	-----CUGGGAGAAGGCUGUUUACUCaa-----	5
0,-1	-----CUGGGAGAAGGCUGUUUACUCU-----	114
0,0	-----CUGGGAGAAGGCUGUUUACUCUa-----	3
0,0	-----UGGGAGAAGGCUGUUUAC-----	5
1,-3	-----UGGGAGAAGGCUGUUUACU-----	49
1,-2	-----UGGGAGAAGGCUGUUUACUa-----	2
1,-2	-----UGGGAGAAGGCUGUUUACUuu-----	2
1,-2	-----UGGGAGAAGGCUGUUUACUC-----	66
1,-1	-----UGGGAGAAGGCUGUUUACUCU-----	22
1,0	-----UGGGAGAAGGCUGUUUACUCUU-----	7

```

1,1
-----GGGAGAAGGCUGUUUACU----- 3
2,-2
-----GGGAGAAGGCUGUUUACUC----- 4
2,-1

>hsa-mir-30d    MA:6-27;mi:46-67    SRX018962
guuguUGUAAACAUCCTCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUGUUUGCUGCuac
...((.((((((((((...((((((((((((((...((.....)).))))))))))))).)))))))).)...
----UUGUAAACAUCCTCCGACUGGAAG----- 2   -1,0
----UGUAAACAUCCTCCGACUG----- 110  0,-4
----UGUAAACAUCCTCCGACUGaa----- 2   0,-4
----UGUAAACAUCCTCCGACUGu----- 2   0,-4
----UGUAAACAUCCTCCGACUGG----- 307  0,-3
----UGUAAACAUCCTCCGACUGGA----- 569  0,-2
----UGUAAACAUCCTCCGACUGGAu----- 3   0,-2
----UGUAAACAUCCTCCGACUGGAA----- 1849
0,-1
----UGUAAACAUCCTCCGACUGGAa----- 671  0,-1
----UGUAAACAUCCTCCGACUGGAaa----- 51   0,-1
----UGUAAACAUCCTCCGACUGGAau----- 6    0,-1
----UGUAAACAUCCTCCGACUGGAau----- 61   0,-1
----UGUAAACAUCCTCCGACUGGAAG----- 1906
0,0
----UGUAAACAUCCTCCGACUGGAAGa----- 1157
0,0
----UGUAAACAUCCTCCGACUGGAAGaa----- 103  0,0
----UGUAAACAUCCTCCGACUGGAAGau----- 30   0,0
----UGUAAACAUCCTCCGACUGGAAGu----- 120  0,0
----UGUAAACAUCCTCCGACUGGAAGuu----- 15   0,0
----UGUAAACAUCCTCCGACUGGAAGC----- 4701
0,1
----UGUAAACAUCCTCCGACUGGAAGCa----- 651  0,1
----UGUAAACAUCCTCCGACUGGAAGCaa----- 10   0,1
----UGUAAACAUCCTCCGACUGGAAGCau----- 10   0,1
----UGUAAACAUCCTCCGACUGGAAGCU----- 19323
0,2
----UGUAAACAUCCTCCGACUGGAAGCUa----- 158  0,2

```

-----UGUAAACAUCCCCGACUGGAAGCUu-----	416	0,2
-----GUAACAUCUCCCCGACUGG-----	2	1,-3
-----GUAACAUCUCCCCGACUGGAA-----	15	1,-1
-----GUAACAUCUCCCCGACUGGAa-----	6	1,-1
-----GUAACAUCUCCCCGACUGGAAG-----	19	1,0
-----GUAACAUCUCCCCGACUGGAAGa-----	11	1,0
-----GUAACAUCUCCCCGACUGGAAGu-----	2	1,0
-----GUAACAUCUCCCCGACUGGAAGC-----	49	1,1
-----GUAACAUCUCCCCGACUGGAAGCa-----	8	1,1
-----GUAACAUCUCCCCGACUGGAAGCU-----	206	1,2
-----GUAACAUCUCCCCGACUGGAAGCUu-----	7	1,2
-----GUAACAUCUCCCCGACUGGAAGCUuu-----	2	1,2
-----UAAACAUCUCCCCGACUGGAAGC-----	2	2,1
-----UAAACAUCUCCCCGACUGGAAGCU-----	5	2,2
-----CUUUCAGUCAGAUUUUGCU-----	4	0,-2

>hsa-mir-30e MA:17-38;mi:59-80 SRX018962

gggcagucuuugcuacUGUAAACAUCCUUGACUGGAAGcuguaagguguucagaggagCUUUCAGUCGGAUGUUUACAGC
ggcaggcugcca

.(((((((((((((.....))))))))))))))))).
.))))))))).

-----CUGUAAACAUCCUUGACUGGAAGC-----	
-----4	-1,1
-----CUGUAAACAUCCUUGACUGGAAGCa-----	
-----2	-1,1
-----CUGUAAACAUCCUUGACUGGAAGCU-----	
-----3	-1,2
-----UGUAAACAUCCUUGACUG-----	
-----11	0,-4
-----UGUAAACAUCCUUGACUGG-----	
-----45	0,-3
-----UGUAAACAUCCUUGACUGGA-----	
-----48	0,-2
-----UGUAAACAUCCUUGACUGGAA-----	
-----76	0,-1
-----UGUAAACAUCCUUGACUGGAa-----	
-----30	0,-1
-----UGUAAACAUCCUUGACUGGAu-----	

```

----- 3 0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
----- 202 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
----- 204 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
----- 40 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
----- 3 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
----- 4 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
----- 648 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
----- 78 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
----- 897 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
----- 6 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
----- 95 0,2
-----GUAAACAUCCUUGACUGGAAG-----
----- 5 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
----- 5 1,0
-----GUAAACAUCCUUGACUGGAAGC-----
----- 41 1,1
-----GUAAACAUCCUUGACUGGAAGCa-----
----- 14 1,1
-----GUAAACAUCCUUGACUGGAAGCU-----
----- 74 1,2
-----GUAAACAUCCUUGACUGGAAGCUu-----
----- 7 1,2
-----UAAACAUCCUUGACUGGAAGCU-----
----- 2 2,2
-----CUUUCAGUCGGAUGUUUA-----
----- 6 0,-4
-----CUUUCAGUCGGAUGUUUAa-----

```

```

-----      2   0,-4
-----CUUUCAGUCGGAUGUUUAC---
-----      20  0,-3
-----CUUUCAGUCGGAUGUUUACA--
-----      17  0,-2
-----CUUUCAGUCGGAUGUUUACAG-
-----      35  0,-1
-----CUUUCAGUCGGAUGUUUACAGa
-----      8   0,-1
-----CUUUCAGUCGGAUGUUUACAGu
-----      61  0,-1
-----CUUUCAGUCGGAUGUUUACAGC
-----     101 0,0
-----CUUUCAGUCGGAUGUUUACAGC
a-----      66 0,0
-----CUUUCAGUCGGAUGUUUACAGC
u-----      5   0,0
-----UUUCAGUCGGAUGUUUACAGC
-----      7   1,0
-----UUUCAGUCGGAUGUUUACAGC
a-----      5   1,0

```

>hsa-mir-31 MA:8-28;mi:44-65 SRX018962

```

ggagaggAGGCAAGAUGCUGGCAUAGCUguugaacugggaaccUGCUAUGCCAACAUAUUGCCAUcuuucc
(((((((.(((((.(((.(((((((.((((.....))))).)))))).))))).))))))
-----AGGCAAGAUGCUGGCAUA-----      2   0,-3
-----AGGCAAGAUGCUGGCAUAG-----      4   0,-2
-----AGGCAAGAUGCUGGCAUAGu-----      3   0,-2
-----AGGCAAGAUGCUGGCAUAGC-----      2   0,-1
-----AGGCAAGAUGCUGGCAUAGCU-----     22   0,0
-----AGGCAAGAUGCUGGCAUAGCUa-----      2   0,0
-----AGGCAAGAUGCUGGCAUAGCUG-----      8   0,1
-----AGGCAAGAUGCUGGCAUAGCUGU-----      3   0,2
-----AGGCAAGAUGCUGGCAUAGCUGUU-----      3   0,3

```

>hsa-mir-3117 3p:46-66 SRX018962

```

cccuuaagggccagacacauacgagucauauaagggaaggcauuAUAGGACUCAUAUAGUGCCAGguguuuuguggg
(((((((.(((((.(((((((.((((.....))))).)))))).))))).))))))

```

-----AUAGGACUCAUAUAGUGCCA-----

2 0,-1

```
>hsa-mir-3124    5p:7-27 SRX018962
```

-----UUCGCGGGCGAAGGCAAAGU-----	2	0,-1
-----UUCGCGGGCGAAGGCAAAGUC-----	4	0,0
-----UUCGCGGGCGAAGGCAAAGUCG-----	3	0,1

```
>hsa-mir-3127    5p:11-33    SRX018962
```

-----AUCAGGGCUUGUGGAAUGGGAA-----
2 0,-1

>hsa-mi r-3130-1 5p:13-33;3p:44-64 SRX018962

0,-1	-----GCUGCACCGGAGACUGGGUA-----	4
0,0	-----GCUGCACCGGAGACUGGGUAA-----	43

>hsa-mi r-3130-2 5p:13-33;3p:44-64 SRX018962

0,-1	-----GCUGCACCGGAGACUGGGUA-----	4
0,0	-----GCUGCACCGGAGACUGGGUAA-----	43

```
>hsa-mir-3131    5p:4-26  SRX018962
```

---UCGAGGACUGGUGGAAGGGC-----	2	0,-3
---UCGAGGACUGGUGGAAGGGCCU-----	2	0,-1

>hsa-mir-3133 5p:10-31 SRX018962

cagaaaugUAAAGAACUCUAAAACCCAAUaguaaaaagacaaccuguugaguuuuaagaguucuuuauauauucug
(((((((((.....)))))).)))))).....))

-----AAAGAACUCUAAAACCCAAU-----

2 1,0

-----AAAGAACUCUAAAACCCAAUA-----

2 1,1

>hsa-mir-3141 5p:10-28 SRX018962

ucacccgguGAGGGCGGGUGGAGGAGGAggguccccaccaucagccuucacugggacggga
...(((((((.....)))))).)))))).....

-----GAGGGCGGGUGGAGGAGGA----- 3 0,0

-----GAGGGCGGGUGGAGGAGGAa----- 3 0,0

>hsa-mir-3144 5p:13-34;3p:48-69 SRX018962

aacuacacuuuaAGGGGACCAAAGAGAUUAUAGauaucagcuaccuAUAUACCGUUCGGUCUCUUUAaaguguagu
(((((((((((.....)))))).)).)).)))))).....))

-----AGGGGACCAAAGAGAUUAUAG-----

2 0,0

>hsa-mir-3150 3p:49-70 SRX018962

gggaagcaggccaaccucgacgaucuccucagcaccugaacgccaaggCUGGGGAGAUCCUCGAGGUUGGccugcuuucc
(((((((((((.....)))))).)))))).....))

-----AACCUCGACGAUCUCCUCAGCA-----

2

>hsa-mir-3158-1 3p:50-71 SRX018962

auucaggccgguccugcagagaggaagcccuucugcuuacagguauuggAAGGGCUUCCUCUCUGCAGGACcggccugaa
u

(((((((((((((.....)))))).)))))).....))
)

-----AAGGGCUUCCUCUCUGCAGGAC-----

- 3 0,0

-----AAGGGCUUCCUCUCUGCAGGACa-----

- 3 0,0

-----AAGGGCUUCCUCUCUGCAGGACu-----

- 2 0,0


```

>hsa-mir-3158-2 3p:50-71 SRX018962
auucaggccgguccugcagagaggaagcccuuccaauaccuguaagcagAAGGGCUUCCUCUCUGCAGGACcggccugaa
u
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----AAGGGCUUCCUCUCUGCAGGAC-----
- 3 0,0
-----AAGGGCUUCCUCUCUGCAGGACa-----
- 3 0,0
-----AAGGGCUUCCUCUCUGCAGGACu-----
- 2 0,0

```

```

>hsa-mir-3159 5p:10-31 SRX018962
ccaaaguccUAGGAUUACAAGUGUCGGCCACgggcugggcacaguggcucacgccuguaaucccagcauuuugg
(((((((.(((.(((((((((.(((.(((((((.((...))...)))))).)))))).)))))).))))))
-----UAGGAUUACAAGUGUCGGCCAC----- 2
0,0

```

```

>hsa-mir-3160-1 3p:54-75 SRX018962
ggaccugcccugggcuuucuagucucagcucuccuccagcucagcuggucaggAGAGCUGAGACUAGAAAGCCCCAgggca
gguuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----AGAGCUGAGACUAGAAAGCCCCAu-----
----- 2 0,0

```

```

>hsa-mir-3160-2 3p:52-73 SRX018962
accugcccugggcuuucuagucucagcucuccugaccagcugagcuggaggAGAGCUGAGACUAGAAAGCCCCAgggcagg
u
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----AGAGCUGAGACUAGAAAGCCCCAu-----
- 2 0,0

```

```

>hsa-mir-3164 5p:10-31 SRX018962
cuuggaaacUGUGACUUUAAGGGAAAUGGCGcacagcagaccugcaaucaugccguuuugcuugaagucgcaguuuccc
agg
((.(((((((((((((((((((((.(((((((((((....(((...)))....)))))).)))))).)))))).

```

```

-----UGUGACUUUAAGGGAAAUGGCG-----
--- 3    0,0
-----UGUGACUUUAAGGGAAAUGGCGu-----
--- 2    0,0

```

[illegible]

```
>hsa-mir-3179-2 3p:52-73      SRX018962
caggaucacagacguuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAAUUUAACGUcugugau
ccug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))
-----UAGAAGGGGUGAAAUUUAACGU-----
----      3      -1,0
```

```
>hsa-mir-3179-3 3p:52-73 SRX018962  
caggaucacagacguuuaaauaacacuccuucuggcugugccuacagcaguAGAAGGGGUGAAUUUAAACGUcugugau  
ccug  
(((((((((((((((((((((((.()))))))))((.....)))))))).)))))))))  
))))
```

-----UAGAAGGGGUGAAAUUAAAACGU-----
---- 3 -1,0

>hsa-mir-3190 3p:47-69 SRX018962

cuggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugacccccgg
(((((((((((((((((.....)))))).)))))).))))).)))))))))
-----GUGGAAGGUAGACGGCCAGAGA-----
5 1,0
-----UGGAAGGUAGACGGCCAGAGA-----
3 2,0

>hsa-mir-32 MA:6-27;mi:47-68 SRX018962

ggagaUAUUGCACAUUACUAAGUUGCAuguugucacggccucaaugCAAUUUAGUGUGUGAUUUUuc
((((((((((((((((.....)))))).)))))).))))).)))))))))
-----UAUUGCACAUUACUAAGUUG----- 12 0,-2
-----UAUUGCACAUUACUAAGUUGC----- 5 0,-1

>hsa-mir-3200 5p:13-34;3p:54-75 SRX018962

gguggucgagggAAUCUGAGAAGGCGCACAAAGGUuuguguccaauacaguccaCACCUUGCGCUACUCAGGUCUGcucgu
gcccu
(((.....((((((((.....)))))).))))).)))))))))
-----AAUCUGAGAAGGCGCACAAAGGU-----
----- 6 0,1
-----CACCUUGCGCUACUCAGGUC-----
----- 3 0,-2

>hsa-mir-320a 3p:48-69 SRX018962

gcuucgcuccccuccgccuucucucccgguucucccgagucgggAAAAGCUGGGUUGAGAGGGCGAaaaaggauag
gu
((((((((.....((((((((.....)))))).)))))).))))).)))))))))
-----GAAAAGCUGGGUUGAGAGGG-----
-- 4 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
-- 25 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 47 -1,-1

```

-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 43 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 58 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAu-----
-- 6 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAA-----
-- 4 -1,1
-----AAAAGCUGGGUUGAGAGG-----
-- 171 0,-4
-----AAAAGCUGGGUUGAGAGGu-----
-- 3 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 185 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 16 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 13 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 5 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 955 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 7 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 2127 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 1931 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 618 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 9700 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 2247 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 303 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 3506 0,1

```

```

-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 659 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 44 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 681 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 92 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 39 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 7 1,-3
-----AAAGCUGGGUUGAGAGGGaa-----
-- 3 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 43 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 127 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 75 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 30 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 383 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 112 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 27 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 371 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 126 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 11 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 153 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 39 1,2

```

```

-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 2 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 13 1,3
-----AAGCUGGGUUGAGAGGGCG-----
-- 6 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 33 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 4 2,0
-----AAGCUGGGUUGAGAGGGCGAuu-----
-- 2 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 42 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 19 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 59 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 18 2,2
-----AAGCUGGGUUGAGAGGGCGAAAuu-----
-- 3 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 12 2,3

```

>hsa-mir-320b-1 3p:39-60 SRX018962

```

aauuaauccucucuuucuaguucuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauaacuaauuaauu
.....(((((((((.....)))))).))).....
-----GAAAAGCUGGGUUGAGAGGG-----
4 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
25 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCAu-----
4 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAA-----
5 -1,0
-----AAAAGCUGGGUUGAGAGG-----
171 0,-4

```

	-----AAAAGCUGGGUUGAGAGGu-----
3 0,-4	
	-----AAAAGCUGGGUUGAGAGGG-----
185 0,-3	
	-----AAAAGCUGGGUUGAGAGGGa-----
16 0,-3	
	-----AAAAGCUGGGUUGAGAGGGaa-----
13 0,-3	
	-----AAAAGCUGGGUUGAGAGGGau-----
5 0,-3	
	-----AAAAGCUGGGUUGAGAGGGC-----
955 0,-2	
	-----AAAAGCUGGGUUGAGAGGGCu-----
7 0,-2	
	-----AAAAGCUGGGUUGAGAGGGCA-----
93 0,-1	
	-----AAAAGCUGGGUUGAGAGGGCAu-----
171 0,-1	
	-----AAAAGCUGGGUUGAGAGGGCAuu-----
29 0,-1	
	-----AAAAGCUGGGUUGAGAGGGCAA-----
167 0,0	
	-----AAAAGCUGGGUUGAGAGGGCAAu-----
42 0,0	
	-----AAAAGCUGGGUUGAGAGGGCAAuu-----
3 0,0	
	-----AAAAGCUGGGUUGAGAGGGCAAA-----
21 0,1	
	-----AAAAGCUGGGUUGAGAGGGCAAAu-----
2 0,1	
	-----AAAGCUGGGUUGAGAGGG-----
7 1,-3	
	-----AAAGCUGGGUUGAGAGGGaa-----
3 1,-3	
	-----AAAGCUGGGUUGAGAGGGC-----
43 1,-2	
	-----AAAGCUGGGUUGAGAGGGCA-----
10 1,-1	


```

-----AAAAGCUGGGUUGAGAGG-----
-----171 0,-2-----
-----AAAAGCUGGGUUGAGAGGu-----
-----3 0,-2-----
-----AAAAGCUGGGUUGAGAGGG-----
-----185 0,-1-----
-----AAAAGCUGGGUUGAGAGGGa-----
-----16 0,-1-----
-----AAAAGCUGGGUUGAGAGGGaa-----
-----13 0,-1-----
-----AAAAGCUGGGUUGAGAGGGau-----
-----5 0,-1-----
-----AAAAGCUGGGUUGAGAGGGU-----
-----26 0,0-----
-----AAAAGCUGGGUUGAGAGGGUu-----
-----2 0,0-----
-----AAAAGCUGGGUUGAGAGGGUA-----
-----4 0,1-----
-----AAAAGCUGGGUUGAGAGGGUAa-----
-----7 0,1-----
-----AAAAGCUGGGUUGAGAGGGUAu-----
-----6 0,1-----
-----AAAGCUGGGUUGAGAGGG-----
-----7 1,-1-----
-----AAAGCUGGGUUGAGAGGGaa-----
-----3 1,-1-----
-----AAAGCUGGGUUGAGAGGGU-----
-----2 1,0-----

```

>hsa-mir-320c-2 3p:31-50 SRX018962

cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU

(((((...(((((((.....)))))).))))))..

```

-----GAAAAGCUGGGUUGAGAGGG- 4 -1,-1
-----AAAAGCUGGGUUGAGAGG-- 171 0,-2
-----AAAAGCUGGGUUGAGAGGu- 3 0,-2
-----AAAAGCUGGGUUGAGAGGG- 185 0,-1
-----AAAAGCUGGGUUGAGAGGGa 16 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 13 0,-1

```

```

-----AAAAGCUGGGUUGAGAGGGau 5 0,-1
-----AAAAGCUGGGUUGAGAGGGU 26 0,0
-----AAAAGCUGGGUUGAGAGGGUu 2 0,0
-----AAAGCUGGGUUGAGAGGG- 7 1,-1
-----AAAGCUGGGUUGAGAGGGaa 3 1,-1
-----AAAGCUGGGUUGAGAGGGU 2 1,0

```

>hsa-mir-320d-1 3p:30-48 SRX018962

```

uucucguccaguucuccaaaguagAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.(((.(....)).))).)))))).))))).))..
-----AAAAGCUGGGUUGAGAGG- 171 0,-1
-----AAAAGCUGGGUUGAGAGGu 3 0,-1
-----AAAAGCUGGGUUGAGAGGA 7 0,0
-----AAAAGCUGGGUUGAGAGGaa 5 0,0
-----AAAAGCUGGGUUGAGAGGaaa 8 0,0
-----AAAAGCUGGGUUGAGAGGAu 2 0,0

```

>hsa-mir-320d-2 3p:30-48 SRX018962

```

uucucuuccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA
((((((..(((((((.(((((((. ....)))))).)))))).))))).))..
-----AAAAGCUGGGUUGAGAGG- 171 0,-1
-----AAAAGCUGGGUUGAGAGGu 3 0,-1
-----AAAAGCUGGGUUGAGAGGA 7 0,0
-----AAAAGCUGGGUUGAGAGGaa 5 0,0
-----AAAAGCUGGGUUGAGAGGaaa 8 0,0
-----AAAAGCUGGGUUGAGAGGAu 2 0,0

```

>hsa-mir-320e 3p:35-52 SRX018962

```

gccuucucuuccaguucuccaggagucggggaAAAGCUGGGUUGAGAAGGu
((((((((..(((((((.(((((((. ....)).)))))).)))))).))))).))..
-----AAAAGCUGGGUUGAGAAGG- 8 -1,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018962

```

uugguacuuggagagAGGUGGUCCGUGGCGGUUCGCuuuauuuauggcgCACAUUACACGGUCGACCUCUuugcagau
cuaauc
..(((((((.(((((((.(((((((. ....((. ....)).)))))).)))))).))))).))..
).....
-----GCACAUUACACGGUCGACC-----

```

```

----- 2   -1,-3
-----GCACAUUACACGGUCGACCU-----
----- 6   -1,-2
-----GCACAUUACACGGUCGACCUCU-----
----- 2   -1,0
-----CACAUUACACGGUCGACC-----
----- 8   0,-3
-----CACAUUACACGGUCGACCU-----
----- 56  0,-2
-----CACAUUACACGGUCGACCUC-----
----- 6   0,-1
-----CACAUUACACGGUCGACCUCU-----
----- 3   0,0
-----ACAUUACACGGUCGACCU-----
----- 3   1,-2

```

>hsa-mir-323b 5p:15-37;3p:51-72 SRX018962

```

ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuauuuuaugaugCCCAAUACACGGUCGACCUCUuucgguauc
a

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).

```

```

-----CCCAAUACACGGUCGACC-----
-- 2   0,-4
-----CCCAAUACACGGUCGACCU-----
-- 25  0,-3
-----CCCAAUACACGGUCGACCUC-----
-- 2   0,-2

```

>hsa-mir-324 5p:16-38;3p:53-72 SRX018962

```

cugacuaugccucccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagacccACUGCCCCAGGUGCUGCUGGggguagua
guc

```

```

..(((((((..(((((((((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))

```

```

-----CGCAUCCCCUAGGGCAUUG-----
--- 10  0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 5   0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----

```



```

))..)))))))).
-----GCCCCUGGGCCUAUCCUAG-
----- 3 0,-2
-----GCCCCUGGGCCUAUCCUAGA
----- 13 0,-1
-----GCCCCUGGGCCUAUCCUAGA
u----- 2 0,-1
-----GCCCCUGGGCCUAUCCUAGA
A----- 48 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aa----- 8 0,0
-----CCCCUGGGCCUAUCCUAGA
A----- 4 1,0

```

>hsa-mir-335 MA:16-38;mi:52-73 SRX018962

```

uguuuugagcgggggUCAAGAGCAUAACGAAAAAUGUuugucauaaacgUUUUUCAUUAUUGCUCUCCUGACCuccucuc
auuugcuauauuca

```

```

.((..(((.(((((((.(((((((.(((((((.(.....)).)))))))).)))))))).)))))))).)))
)...).....

```

```

-----UCAAGAGCAUAACGAAAA-----
----- 2 0,-4
-----UCAAGAGCAUAACGAAAA-----
----- 2 0,-3
-----UCAAGAGCAUAACGAAAAAU-----
----- 37 0,-2
-----UCAAGAGCAUAACGAAAAAUa-----
----- 2 0,-2
-----UCAAGAGCAUAACGAAAAAUG-----
----- 93 0,-1
-----UCAAGAGCAUAACGAAAAAUGa-----
----- 2 0,-1
-----UCAAGAGCAUAACGAAAAAUGU-----
----- 14 0,0
-----AAGAGCAUAACGAAAAAUG-----
----- 4 2,-1
-----UUUUUCAUUAUUGCUCUCCUGACu-----
----- 2 0,-1
-----UUUUUCAUUAUUGCUCUCCUGACC-----

```


----- 4 0,0

>hsa-mi r-338 5p:6-27;3p:42-63 SRX018962

ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga

(((((.(((((((.((((((((((((((((.(.....))))).)))))).))))).))))).))))))

-----UCCAGCAUCAGUGAUUUUG----- 3 0,-3

-----UCCAGCAUCAGUGAUUUUGU----- 2 0,-2

-----UCCAGCAUCAGUGAUUUUGUU----- 6 0, -1

-----UCCAGCAUCAGUGAUUUUGUUGA--- 2 0,1

-----CAGCAUCAGUGAUUUUGUU----- 3 2,-1

>hsa-mi r-339 5p:15-37;3p:50-72 SRX018962

cgggggcgggccggcucUCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGggcgccugc

cccagugucugcgc

)))

-----UCCCUGUCCUCCAGGAGC-----

----- 14 0,-5

-----UCCCUGUCCUCCAGGAGCU-----

----- 51 0,-4

-----UCCCUGUCCUCCAGGAGCU_a-----

----- 3 0, -4

-----UCCCUGUCCUCCAGGAGCUu-----

$$----- \quad 2 \quad 0, -4$$

-----UCCCUGUCCUCCAGGAGCUC-----

----- 15 0,-3

-----UCCCUGUCCUCCAGGAGCUCA-----

----- 32 0,-2

-----UCCCUGUCCUCCAGGAGCUCAa-----

----- 7 0, -2

-----UCCCUGUCCUCCAGGAGCUCAaa-----

----- 3 0, -2

-----UCCCUGUCCUCCAGGAGCUCAu-----

----- 8 0, -2

-----UCCCUGUCCUCCAGGAGCUCAuu-----

----- 8 0, -2

-----UCCCUGUCCUCCAGGAGCUCAC-----

----- 14 0,-1

```

-----UCCCUGUCCUCCAGGAGCUCACa-----
----- 5 0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 40 0,0
-----UCCCUGUCCUCCAGGAGCUCACGa-----
----- 3 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 10 0,1
-----CCUGUCCUCCAGGAGCUCA-----
----- 2 2,-2
-----CCUGUCCUCCAGGAGCUCAC-----
----- 4 2,-1
-----CCUGUCCUCCAGGAGCUCACG-----
----- 11 2,0
-----CCUGUCCUCCAGGAGCUCACGa-----
----- 2 2,0
-----CCUGUCCUCCAGGAGCUCACGU-----
----- 5 2,1
-----UGAGCGCCUCGACGACAG-----
----- 36 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 38 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 93 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 32 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 8 0,-2
-----UGAGCGCCUCGACGACAGAGCaa-----
----- 3 0,-2
-----UGAGCGCCUCGACGACAGAGCu-----
----- 17 0,-2
-----UGAGCGCCUCGACGACAGAGCC-----
----- 44 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 44 0,-1
-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 5 0,-1

```

```

-----UGAGCGCCUCGACGACAGAGCCau-----
----- 25  0,-1
-----UGAGCGCCUCGACGACAGAGCCu-----
----- 23  0,-1
-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 21  0,-1
-----UGAGCGCCUCGACGACAGAGCCG-----
----- 24  0,0
-----UGAGCGCCUCGACGACAGAGCCGa-----
----- 4   0,0
-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 4   0,0
-----GAGCGCCUCGACGACAGAG-----
----- 9   1,-3
-----GAGCGCCUCGACGACAGAGCCGa-----
----- 3   1,0
-----AGCGCCUCGACGACAGAG-----
----- 49  2,-3
-----AGCGCCUCGACGACAGAGC-----
----- 4   2,-2
-----AGCGCCUCGACGACAGAGCCa-----
----- 2   2,-1
-----AGCGCCUCGACGACAGAGCCG-----
----- 8   2,0
-----AGCGCCUCGACGACAGAGCCGa-----
----- 7   2,0
-----AGCGCCUCGACGACAGAGCCGu-----
----- 2   2,0

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018962

```

cugugGUGCAUUGUAGUUGCAUUGCAUgucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((..((((((((((.....((((.....)))))))))))).)).)))))))))))))
-----GUGCAUUGUAGUUGCAUU----- 259 0,-3
-----GUGCAUUGUAGUUGCAUUG----- 9 0,-2
-----GUGCAUUGUAGUUGCAUUGa----- 2 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 56 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 56 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 69 0,0

```

>hsa-mir-33b MA:16-35;mi:54-75 SRX018962

gcgggcggccccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcgggugCAGUGCCUCGGCAGUGCAGCCCggagc
cgccccuggcaccac

(((((((((.(((.((((((((((((((.((((((((((.(((.....))).)))))))))).)))))))))).))))).))
(.))))).)))).

-----GUGCAUUGCUGUUGCAUU-----
----- 111 0,-2
-----GUGCAUUGCUGUUGCAUUG-----
----- 11 0,-1
-----GUGCAUUGCUGUUGCAUUGa-----
----- 3 0,-1
-----GUGCAUUGCUGUUGCAUUGC-----
----- 3 0,0
-----GUGCAUUGCUGUUGCAUUGCA-----
----- 2 0,1
-----GUGCAUUGCUGUUGCAUUGCAa-----
----- 5 0,1
-----CAGUGCCUCGGCAGUGCAGCC-----
----- 2 0,-1

>hsa-mir-340 MA:16-37;mi:58-79 SRX018962

uuguaccuggugugaUUAUAAAGCAAUGAGACUGAUUgucauaugucguuugugggaUCCGUCUCAGUUACUUUAUAGCc
auaccugguaucuaa

..(((((((.(((((((.((((((((((((((.((((((((((.(((.....))).)))))))))).)))))))))).))))).))
(.))))).)))).

-----UUAUAAAGCAAUGAGACU-----
----- 23 0,-4
-----UUAUAAAGCAAUGAGACUG-----
----- 2 0,-3
-----UUAUAAAGCAAUGAGACUGA-----
----- 2 0,-2
-----UUAUAAAGCAAUGAGACUGAU-----
----- 13 0,-1
-----UUAUAAAGCAAUGAGACUGAUa-----
----- 5 0,-1
-----UUAUAAAGCAAUGAGACUGAUU-----
----- 27 0,0

gaaacugggcucaaggugAGGGGUGCUAUCUGUGAUUGagggacaugguuaugggaauugUCUCACACAGAAAUCGCACC
CGUcaccuuggccuacuaa

-----AGGGGUGCUAUCUGUGAU-----

-----AGGGGUGCUAUCUGUGAUa-----

-----AGGGGUGCUAUCUGUGAUU-----

-----AGGGGUGCUAUCUGUGAUUG-----

-----AGGGGUGCUAUCUGUGAUUG₁₁-----

-----AGGGGUGCUAUCUGUGAUUGA-----

-----AGGGGUGCUAUCUGUGAUUGAa-----

-----AGGGGUGCUAUCUGUGAUUGAG-----

-----AGGGGUGCUAUCUGUGAUUGAGa-----

-----AGGGGUGCUAUCUGUGAUUGAGG-----

-----AGGGGUGCUAUCUGUGAUUGACG₁₁-----

-----AGGGGUGCUAUCUGUGAUUGAGGGA-----

-----GGGGUGCUAUCUGUGAUUGAG-----

-----GGGGUGCUAUCUGUGAUUGAGG-----

-----GGGGUGCUAUCUGUGAUUGAGGGAC-----

-----UCUCACACAGAAAUCGCA-----

-----			-----UCUCACACAGAAAUCGCAC-
-----	62	0,-4	-----UCUCACACAGAAAUCGCACC
-----	54	0,-3	-----UCUCACACAGAAAUCGCACC
a-----	2	0,-3	-----UCUCACACAGAAAUCGCACC
C-----	65	0,-2	-----UCUCACACAGAAAUCGCACC
CG-----	258	0,-1	-----UCUCACACAGAAAUCGCACC
CGa-----	2	0,-1	-----UCUCACACAGAAAUCGCACC
CGU-----	405	0,0	-----UCUCACACAGAAAUCGCACC
CGUa-----	8	0,0	-----UCUCACACAGAAAUCGCACC
CGUu-----	14	0,0	-----UCUCACACAGAAAUCGCACC
CGUC-----	148	0,1	-----UCUCACACAGAAAUCGCACC
CGUCu-----	52	0,1	-----UCUCACACAGAAAUCGCACC
CGUCA-----	28	0,2	-----CUCACACAGAAAUCGCACC
CG-----	2	1,-1	-----UCACACAGAAAUCGCACC
C-----	7	2,-2	-----UCACACAGAAAUCGCACC
CG-----	9	2,-1	-----UCACACAGAAAUCGCACC
CGU-----	11	2,0	-----UCACACAGAAAUCGCACC
CGUC-----	11	2,1	-----UCACACAGAAAUCGCACC
CGUCu-----	3	2,1	-----UCACACAGAAAUCGCACC
CGUCA-----	37	2,2	

acccaaaccuaggucuGCUGACUCCUAGUCCAGGGCUCgugauggcugguggggccugaacgaggggucuggaggccug
gguuugaauaucgacgc

-----GCUGACUCCUAGUCCAGG-----

-----GCUGACUCCUAGUCCAGGG-----

-----GCUGACUCCUAGUCCAGGGC-----

-----GCUGACUCCUAGUCCAGGGC_{aa}-----

-----GCUGACUCCUAGUCCAGGGCU-----

-----GCUGACUCCUAGUCCAGGGCU_a-----

-----GCUGACUCCUAGUCCAGGGGCU_{aa}-----

-----GCUGACUCCUAGUCCAGGGCU_{au}-----

-----GCUGACUCCUAGUCCAGGGCU_u-----

-----GCUGACUCCUAGUCCAGGGCUuu-----

-----GCUGACUCCUAGUCCAGGGCUC-----

-----GCUGACUCCUAGUCCAGGGCUCa-----

-----GCUGACUCCUAGUCCAGGGCUCaa-----

-----GCUGACUCCUAGUCCAGGGCUC_{au}-----

-----GCUGACUCCUAGUCCAGGGCUCu-----

-----GCUGACUCCUAGUCCAGGGCUCuu-----

----- 9 0,0

ggucucuguguuggg'gcucUGUCUGCCCCGAUGCCUGCCUCUcuguugcucugaaggaggcaggggcugggccugcagcu
gccugggcagagcgg

-----UGUCUGCCCCGCAUGCCUGCCUC-----
 ----- 3 0, -1
 -----UGUCUGCCCCGCAUGCCUGCCUCU-----
 ----- 2 0, 0

ggccagcugugaguguuuuuUGGCAGUGUCUUAGCUGGUUGUugugagcaauaguaaggaagCAAUCAGCAAGUAUACU
GCCCCagaagugcugcacguugugggggccc

-----UGGCAGUGUCUUAGCUGGUUG-----
 ----- 7 0,-1
 -----UGGCAGUGUCUUAGCUGGUUGa-----
 ----- 2 0,-1
 -----UGGCAGUGUCUUAGCUGGUUGU-----
 ----- 7 0,0

-----			-----CAAUCAGCAAGUAUACU
GCCCU-----	2	0,0	
-----			-----AAUCAGCAAGUAUACU
GCCCUu-----	3	1,0	
-----			-----AAUCAGCAAGUAUACU
GCCCUA-----	8	1,1	

agucuaguacuAGGCAGUGUAGUUAGCUGAUUGCuaauaguaccAAUCACUAACCACACGGCCAGGuaaaaagauu

3 0,0
-----AGGCAGUGUAGUUAGCUGAUUGC a-----
2 0,0

acuuuauacguguaauugugaUGAGGAUGGAUAGCAAGGAAGCCgcucccaccugaccucacggCCUCCGUGUUACCUG
UCCUCUAGgugggacgcucg

.....((((.....(((((((.(((((.(((.(((.....))))).)))..))))).)))
))))).))))....

-----GAUGAGGAUGGAUAGCAAGG-----
-----4 -2,-5-----
-----GAUGAGGAUGGAUAGCAAGGA-----
-----11 -2,-4-----
-----GAUGAGGAUGGAUAGCAAGGAA-----
-----4 -2,-3-----
-----GAUGAGGAUGGAUAGCAAGGAa-----
-----3 -2,-3-----
-----GAUGAGGAUGGAUAGCAAGGAAG-----
-----8 -2,-2-----
-----GAUGAGGAUGGAUAGCAAGGAAGC-----
-----4 -2,-1-----
-----AUGAGGAUGGAUAGCAAGGAa-----
-----2 -1,-3-----
-----AUGAGGAUGGAUAGCAAGGAAG-----
-----2 -1,-2-----
-----AUGAGGAUGGAUAGCAAGGAAGC-----
-----4 -1,-1-----
-----UGAGGAUGGAUAGCAAGG-----
-----4 0,-5-----
-----UGAGGAUGGAUAGCAAGGA-----
-----2 0,-4-----
-----UGAGGAUGGAUAGCAAGGAA-----
-----5 0,-3-----
-----UGAGGAUGGAUAGCAAGGAa-----
-----2 0,-3-----
-----UGAGGAUGGAUAGCAAGGAAG-----
-----4 0,-2-----
-----UGAGGAUGGAUAGCAAGGAAGC-----
-----5 0,-1-----
-----UGAGGAUGGAUAGCAAGGAAGCa-----
-----2 0,-1-----
-----UGAGGAUGGAUAGCAAGGAAGCC-----
-----2 0,0-----

```

>hsa-mir-361      5p:6-27;3p:45-67      SRX018962
ggagcUUAUCAGAAUCUCCAGGGGUACuuuauaauuucaaaagUCCCCAGGUGUGAUUCUGAUUUgcuuc
(((((((((.(((((((.(((.(((((((.((((((.....)))))).)))))).)))))).))))))
-----UUAUCAGAAUCUCCAGGG----- 6
      0,-4
-----UUAUCAGAAUCUCCAGGG----- 16
      0,-3
-----UUAUCAGAAUCUCCAGGGGU----- 13
      0,-2
-----UUAUCAGAAUCUCCAGGGGUA----- 41
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAa----- 29
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAu----- 2
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAu----- 42
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAuu----- 5
      0,-1
-----UUAUCAGAAUCUCCAGGGGUA----- 61
      0,0
-----UUAUCAGAAUCUCCAGGGGUAca----- 25
      0,0
-----UUAUCAGAAUCUCCAGGGGUA----- 5
      0,1
-----UAUCAGAAUCUCCAGGGGUA----- 2
      1,-1
-----UAUCAGAAUCUCCAGGGGUA----- 3
      1,0
-----UCCCCAGGUGUGAUUCU----- 7
      0,-5
-----UCCCCAGGUGUGAUUCUGA----- 5
      0,-3
-----UCCCCAGGUGUGAUUCUGAa----- 5
      0,-3
-----UCCCCAGGUGUGAUUCUGAaa----- 6
      0,-3

```

0,-2	-----UCCCCCAGGUGUGAUUCUGAU-----	9
0,-1	-----UCCCCCAGGUGUGAUUCUGAUU-----	9
0,-1	-----UCCCCCAGGUGUGAUUCUGAUU _a -----	3
0,0	-----UCCCCCAGGUGUGAUUCUGAUUU-----	14
0,1	-----UCCCCCAGGUGUGAUUCUGAUUU _g -----	6
1,1	-----CCCCCAGGUGUGAUUCUGAUUU _g -----	2

0, -4	AAUUGCACGGUAUCCAUC	27
0, -3	AAUUGCACGGUAUCCAUCU	281
0, -2	AAUUGCACGGUAUCCAUCUG	22
0, -1	AAUUGCACGGUAUCCAUCUGU	56
0, -1	AAUUGCACGGUAUCCAUCUGUuu	2
0, 0	AAUUGCACGGUAUCCAUCUGUA	152
0, 0	AAUUGCACGGUAUCCAUCUGUAu	10
0, 1	AAUUGCACGGUAUCCAUCUGUAA	46
1, -3	AUUGCACGGUAUCCAUCU	22
1, -2	AUUGCACGGUAUCCAUCUG	9
1, -1	AUUGCACGGUAUCCAUCUGU	7
1, -1	AUUGCACGGUAUCCAUCUGUuu	4
1, 0	AUUGCACGGUAUCCAUCUGUA	16
1, 0	AUUGCACGGUAUCCAUCUGUAu	6
1, 1	AUUGCACGGUAUCCAUCUGUAA	12

>hsa-mir-365-1 3p:56-77 SRX018962

accgcagggaaaaugagggacuuuugggggcagauguguuuccauuccacuaucUAAUGCCCCUAAAAUCCUUAUugc
ucuugca

...(((((((..((((((((..((((((((((((((((((((((.....)))..)))....)))))))))))).)))))))).
)))))).

-----AGGGACUUUUGGGGGCAG-----
----- 7

```

-----AGGGACUUUUGGGGGCAGA-----
----- 4
-----AGGGACUUUUGGGGGCAGAU-----
----- 6
-----AGGGACUUUUGGGGGCAGAUG-----
----- 20
-----AGGGACUUUUGGGGGCAGAUGa-----
----- 2
-----AGGGACUUUUGGGGGCAGAUGU-----
----- 45
-----AGGGACUUUUGGGGGCAGAUGUa-----
----- 10
-----AGGGACUUUUGGGGGCAGAUGUaa-----
----- 2
-----AGGGACUUUUGGGGGCAGAUGUau-----
----- 3
-----AGGGACUUUUGGGGGCAGAUGUu-----
----- 7
-----AGGGACUUUUGGGGGCAGAUGUuu-----
----- 3
-----AGGGACUUUUGGGGGCAGAUGUG-----
----- 74
-----AGGGACUUUUGGGGGCAGAUGUGa-----
----- 3
-----AGGGACUUUUGGGGGCAGAUGUGU-----
----- 33
-----GGGACUUUUGGGGGCAGAUGU-----
----- 5
-----GGGACUUUUGGGGGCAGAUGUG-----
----- 7
-----GGGACUUUUGGGGGCAGAUGUGa-----
----- 2
-----GGGACUUUUGGGGGCAGAUGUGU-----
----- 9
-----UAAUGCCCCUAAAAAUCC-----
----- 5 0,-4
-----UAAUGCCCCUAAAAAUCCUU-----
----- 7 0,-2

```

```

-----UAAUGCCCCUAAAAAUCCUUA-----
----- 16  0,-1
-----UAAUGCCCCUAAAAAUCCUUAa-----
----- 7   0,-1
-----UAAUGCCCCUAAAAAUCCUUAU-----
----- 44  0,0

```

>hsa-mir-365-2 mi:29-50;MA:68-89 SRX018962

agaguguucaaggacagcaagaaaaaugAGGGACUUUCAGGGGCAGCUGUguuuucugacucagucaUAAUGCCCCUAAA
AAUCCUUAUguuucuugcagugugcaucggg

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----GAGGGACUUUCAGGGGCAG-----
----- 4   -1,-4
-----GAGGGACUUUCAGGGGCAGC-----
----- 3   -1,-3
-----GAGGGACUUUCAGGGGCAGCU-----
----- 21  -1,-2
-----GAGGGACUUUCAGGGGCAGCUG-----
----- 7   -1,-1
-----GAGGGACUUUCAGGGGCAGCUGU-----
----- 23  -1,0
-----GAGGGACUUUCAGGGGCAGCUGUu-----
----- 2   -1,0
-----GAGGGACUUUCAGGGGCAGCUGUG-----
----- 7   -1,1
-----AGGGACUUUCAGGGGCAG-----
----- 3   0,-4
-----AGGGACUUUCAGGGGCAGC-----
----- 3   0,-3
-----AGGGACUUUCAGGGGCAGCU-----
----- 31  0,-2
-----AGGGACUUUCAGGGGCAGCUG-----
----- 12  0,-1
-----AGGGACUUUCAGGGGCAGCUGa-----
----- 2   0,-1
-----AGGGACUUUCAGGGGCAGCUGU-----
----- 23  0,0

```

```

-----AGGGACUUUCAGGGGCAGCUGUu-----
----- 2 0,0
-----AGGGACUUUCAGGGGCAGCUGUG-----
----- 38 0,1
-----AGGGACUUUCAGGGGCAGCUGUGU-----
----- 21 0,2
-----UAAUGCCCCUAAA
AAUCC----- 5 0,-4
-----UAAUGCCCCUAAA
AAUCCUU----- 7 0,-2
-----UAAUGCCCCUAAA
AAUCCUUA----- 16 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAa----- 7 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAU----- 44 0,0

```

```

>hsa-mi r-3653 3p:75-92 SRX018962
uccuggggaccccuggcagccccuccugaugauucuuuccugagcacgcucaugaugagcaaacugagccuCUAAGA
AGUUGACUGAAGgggcugcuuccccaagga
(((.((((((.....((((((((((.....((((((...((((((.....))))))))).))))
))......).))))))))))))))))))))).)))
-----AAGA
AGUUGACUGAAGGGGC----- 2 2,4

```

```

>hsa-mi r-3656 3p:49-65 SRX018962
cuuucggccagcgggacggcauccgaggugggcuaggcucgggcccguGGCGGGUGCGGGGUGGgagg
(((((.(((.....(.(((((((.....)))))))).)))))).))))))
-----GGCGGGUGCGGGGUGGG--- 9 0,1

```

```

>hsa-mi r-3664 5p:21-42 SRX018962
cuguaaacuugaagguagggAACUCUGUCUUCACUCAUGAGUaccuuccaacacgagcucucaggaguaaagacagagu
cccuaccuucuauguggau
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUCAGGAGUAAAGACAGA---
----- 2
-----UCUCAGGAGUAAAGACAGAGUU

```



```

----- 7
-----UCAGGAGUAAAGACAGAGUU
----- 2
-----CAGGAGUAAAGACAGAGUU
----- 5
-----CAGGAGUAAAGACAGAGUU
CC----- 3

```

>hsa-mir-3676 3p:60-79 SRX018962

```

uugguuaaagcgccugucuaguaaacaggagaucgugguucgaaucgccagcggugccuCCGUGUUUCCCCACGCUUUu
gcca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))).

```

>hsa-mir-3677 3p:39-60 SRX018962

```

ggcaguggccagagcccugcagugcugggcaugggcuuCUCGUGGGCUCUGGCCACGGCC
(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CUCGUGGGCUCUGGCCACGGCu 2 0,-1
-----CUCGUGGGCUCUGGCCACGGCC 3 0,0

```

>hsa-mir-3687 3p:35-58 SRX018962

```

cgcgcgugcgccccagcgcgccccggugguuccuCCCGGACAGGCGUUCGUGCGACGUgug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CGAGCGCGGCCCGUGGU----- 4
-----CCCGGACAGGCGUUCGUGC----- 2 0,-5
-----CCCGGACAGGCGUUCGUGCGA----- 3 0,-3
-----CCCGGACAGGCGUUCGUGCGAC----- 6 0,-2
-----CCCGGACAGGCGUUCGUGCGACGU--- 2 0,0
-----CCGGACAGGCGUUCGUGC----- 4 1,-5
-----CCGGACAGGCGUUCGUGCG----- 7 1,-4
-----CCGGACAGGCGUUCGUGCGA----- 2 1,-3
-----CCGGACAGGCGUUCGUGCGAC----- 17 1,-2
-----CCGGACAGGCGUUCGUGCGACGU--- 4 1,0
-----CGGACAGGCGUUCGUGCG----- 24 2,-4
-----CGGACAGGCGUUCGUGCGA----- 4 2,-3
-----CGGACAGGCGUUCGUGCGAu----- 2 2,-3
-----CGGACAGGCGUUCGUGCGAC----- 29 2,-2
-----CGGACAGGCGUUCGUGCGACG----- 22 2,-1

```

-----CGGACAGGCGUUCGUGCGACGU----- 7 2,0

>hsa-mi r-369 5p:9-30;3p:44-64 SRX018962

uugaagggAGAUCGACCGUGUUAUAUUCGCuuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag

-----AGAUCGACCGUGUUAUAUUC----- 8 0,-2

-----AGAUCGACCGUGUUAUAUUCGCU----- 2 0,1

-----AAUAAUACAUGGUUGAUCUUU----- 12 0,0

>hsa-mir-3690 5p:10-32 SRX018962

cccaucuccACCUGGACCCAGCGUAGACAAAGagguguuucuacuccauaucuaccuggaccaguguagauggg

(((((.(.(((.(((((.((((.....))....)))))).)))))).))))))

-----ACCUGGACCCAGCGUAGACA----- 2

0,-3

-----ACCGGACCCAGCGUAGACAA----- 6

0,-2

-----ACCUGGACCCAGCGUAGACAAA----- 2

 $0, -1$

-----ACCUGGACCCAGCGUAGACAAAG----- 4

0,0

>hsa-mir-370 3p:48-69 SRX018962

agacagagaagccaggucacgucucugcaguacacagcucacgaguGCCUGCUGGGGUGGAACCUGGUcugucu

(((((((.....(((((((..(..((((.((((.((((.(.....).).)).).)).).)).).)).)).)).)).)).)).))

-----GCCUGCUGGGGUGGAACC----- 2

0,-4

-----GCCUGCUGGGGUGGAACCUGa----- 3

0,-2

-----GCCUGCUGGGGUGGAACCUUGU_{aa}---- 4

 $0,0$

-----GCCUGCUGGGGUGGAACCUUGU_{au}----- 2

 $0,0$

>hsa-mir-372 3p:42-64 SRX018962

gugggccucaaaguggagcacuauucugauguccaaguggAAAGUGCUGCGACAUUUGAGCGUcac

$\dots(((((((((((.(((((((.((((\dots\dots\dots)))))))))..)).)))))))).$

-----AAAGUGCUGCGACAUUUGAG----- 4 0,-3

-----AAAGUGCUGCGACAUUUGAGCGU--- 2 0,0

>hsa-mir-374a MA:12-33;mi:42-63 SRX018962

uacaucggccaUUAUAAUACAACCUGAUAGUGuuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua

(((((.((((.((((((((((((.((((((((((((...)))))))))).)))))))))).))))))

-----UUAUAAUACAACCUGAU-----	3
0,-4	
-----UUAUAAUACAACCUGAUAA-----	33
0,-3	
-----UUAUAAUACAACCUGAUAAa-----	2
0,-3	
-----UUAUAAUACAACCUGAUAG-----	10
0,-2	
-----UUAUAAUACAACCUGAUAGU-----	71
0,-1	
-----UUAUAAUACAACCUGAUAGUa-----	5
0,-1	
-----UUAUAAUACAACCUGAUAGUaa-----	2
0,-1	
-----UUAUAAUACAACCUGAUAGUG-----	181
0,0	
-----UUAUAAUACAACCUGAUAGUGa-----	21
0,0	
-----UUAUAAUACAACCUGAUAGUGU-----	15
0,1	
-----UAUAAUACAACCUGAUAGUG-----	6
1,0	
-----AUAAUACAACCUGAUAGUG-----	4
2,0	
-----AUAAUACAACCUGAUAGUGa-----	2
2,0	
-----CUUAUCAGAUUGUAUUGU-----	2
0,-4	
-----CUUAUCAGAUUGUAUUGUAA-----	3
0,-2	
-----CUUAUCAGAUUGUAUUGUAAU-----	14
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUU-----	20
0,0	

```

-----CUUAUCAGAUUGUAUUGAAUa----- 7
0,0
-----UAUCAGAUUGUAUUGAAUa----- 2
2,0

```

>hsa-mir-374b MA:11-32;mi:41-62 SRX018962

```

acucggauggAUAAUACAACCUGCUAAGUGuccuagcaCUUAGCAGGUUGUAUUAUCAUuguccgugucu
(((.(((.((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUAAUACAACCUGCUAAG----- 7
0,-2
-----AUAAUACAACCUGCUAAGU----- 36
0,-1
-----AUAAUACAACCUGCUAAGUG----- 96
0,0
-----AUAAUACAACCUGCUAAGUGa----- 15
0,0
-----AUAAUACAACCUGCUAAGUGU----- 6
0,1
-----CUUAGCAGGUUGUAUUAUCAU----- 2
0,0

```

>hsa-mir-375 3p:40-61 SRX018962

```

ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUGAggc
.((((((.((((((...((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.
-----UUUGUUCGUUCGGCUCGCG----- 3 -1,-4
-----UUUGUUCGUUCGGCUCGCG----- 3 -1,-3
-----UUUGUUCGUUCGGCUCGCGU----- 29 -1,-2
-----UUUGUUCGUUCGGCUCGCGUG----- 49 -1,-1
-----UUUGUUCGUUCGGCUCGCGUGu----- 11 -1,-1
-----UUUGUUCGUUCGGCUCGCGUGA----- 20 -1,0
-----UUUGUUCGUUCGGCUCGCG----- 121 0,-4
-----UUUGUUCGUUCGGCUCGCGau----- 3 0,-4
-----UUUGUUCGUUCGGCUCGCG----- 125 0,-3
-----UUUGUUCGUUCGGCUCGCGU----- 700 0,-2
-----UUUGUUCGUUCGGCUCGCGUa----- 5 0,-2
-----UUUGUUCGUUCGGCUCGCGUaa----- 10 0,-2
-----UUUGUUCGUUCGGCUCGCGUau----- 3 0,-2
-----UUUGUUCGUUCGGCUCGCGUu----- 6 0,-2

```


(((((.(((((..(((.(((((((.....)))))))))))).))))).)))

```
>hsa-mi r-377      mi:7-28;MA:45-66      SRX018962
```

$\dots(((((((.((((((.(((((. \dots)).)))))..))))).)))).$

>hsa-mi r-378 mi:5-26;MA:43-63 SRX018962

$$(((.(.(.((((((((((((((\dots((((((\dots\dots\dots)))))))).)))))))))\dots))))))$$

-----CUCCUGACUCCAGGUCCUGUGU-----	14	0,0
-----CUCCUGACUCCAGGUCCUGUGUa-----	7	0,0
-----CUCCUGACUCCAGGUCCUGUGUu-----	3	0,0
-----UCCUGACUCCAGGUCCUG-----	2	1,-3
-----UCCUGACUCCAGGUCCUGUGU-----	36	1,0
-----UCCUGACUCCAGGUCCUGUGUa-----	5	1,0
-----UCCUGACUCCAGGUCCUGUGUaa-----	2	1,0
-----UCCUGACUCCAGGUCCUGUGUu-----	2	1,0
-----UCCUGACUCCAGGUCCUGUGUGa-----	2	1,1
-----UCCUGACUCCAGGUCCUGUGUGU-----	3	1,2
-----GCACUGGACUUGGAGUCAGAAG-----	6	-2,-1
-----GCACUGGACUUGGAGUCAGAAGG-----	3	-2,0
-----CACUGGACUUGGAGUCAGA-----	2	-1,-3
-----CACUGGACUUGGAGUCAGAAG-----	3	-1,-1
-----CACUGGACUUGGAGUCAGAAGG-----	24	-1,0
-----CACUGGACUUGGAGUCAGAAGGa-----	2	-1,0
-----CACUGGACUUGGAGUCAGAAGGaa-----	3	-1,0
-----CACUGGACUUGGAGUCAGAAGGu-----	2	-1,0
-----CACUGGACUUGGAGUCAGAAGGC-----	32	-1,1

-----CACUGGACUUGGAGUCAGAAGGCa-	7	-1,1
-----CACUGGACUUGGAGUCAGAAGGCau	2	-1,1
-----CACUGGACUUGGAGUCAGAAGGCu-	12	-1,1
-----ACUGGACUUGGAGUCAGA-----	792	0,-3
-----ACUGGACUUGGAGUCAGAu-----	3	0,-3
-----ACUGGACUUGGAGUCAGAA-----	624	0,-2
-----ACUGGACUUGGAGUCAGAAa----	38	0,-2
-----ACUGGACUUGGAGUCAGAAaa---	18	0,-2
-----ACUGGACUUGGAGUCAGAAau---	3	0,-2
-----ACUGGACUUGGAGUCAGAAG----	2864	0,-1
-----ACUGGACUUGGAGUCAGAAGu---	126	0,-1
-----ACUGGACUUGGAGUCAGAAGuu---	2	0,-1
-----ACUGGACUUGGAGUCAGAAGG---	21164	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	3341	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	317	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	57	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	1018	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	109	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	21469	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	13298	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	482	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	2656	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	6500	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	876	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	126	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	9	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	45	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	2	0,3
-----CUGGACUUGGAGUCAGAA-----	12	1,-2
-----CUGGACUUGGAGUCAGAAG----	41	1,-1
-----CUGGACUUGGAGUCAGAAGG---	304	1,0
-----CUGGACUUGGAGUCAGAAGGa--	16	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	19	1,0
-----CUGGACUUGGAGUCAGAAGGau-	2	1,0
-----CUGGACUUGGAGUCAGAAGGu--	23	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	9	1,0
-----CUGGACUUGGAGUCAGAAGGC--	1150	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	625	1,1


```

-----ACUGGACUUGGAGUCAGAAGA-----
- 754 0,-4
-----ACUGGACUUGGAGUCAGAAGAa-----
- 53 0,-4
-----ACUGGACUUGGAGUCAGAAGAaa-----
- 2 0,-4
-----ACUGGACUUGGAGUCAGAAGAau-----
- 2 0,-4
-----ACUGGACUUGGAGUCAGAAGAu-----
- 5 0,-4
-----CUGGACUUGGAGUCAGAAG-----
- 41 1,-5
-----CUGGACUUGGAGUCAGAAGA-----
- 10 1,-4
-----CUGGACUUGGAGUCAGAAGAa-----
- 2 1,-4
-----UGGACUUGGAGUCAGAAGA-----
- 4 2,-4

```

>hsa-mir-379 MA:6-26;mi:44-65 SRX018962

```

agagaUGGUAGACUAUGGAACGUAGGcguaugauuucugaccUAUGUAACAUGGUCCACUAACUcu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGUAGACUAUGGAACGUAG----- 9 0,-1
-----UGGUAGACUAUGGAACGUAGG----- 58 0,0
-----UGGUAGACUAUGGAACGUAGGa----- 8 0,0
-----UGGUAGACUAUGGAACGUAGGaa----- 9 0,0
-----UGGUAGACUAUGGAACGUAGGu----- 2 0,0
-----UGGUAGACUAUGGAACGUAGGuu----- 2 0,0
-----UGGUAGACUAUGGAACGUAGGCau----- 2 0,1
-----UAUGUAACAUGGUCCACUAACa-- 2 0,-1

```

>hsa-mir-381 3p:49-70 SRX018962

```

uacuuaaagcgagguugcccuuuguauauucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAUACAAGGGCAAGCUCUCU----- 5
0,-2

```

>hsa-mir-382 5p:11-32 SRX018962

```

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucauucacggacaacacuuuuuucagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GAAGUUGUUCGUGGUGGAU-----
5 0,-3
-----GAAGUUGUUCGUGGUGGAU-----
15 0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
18 0,-1
-----AAGUUGUUCGUGGUGGAU-----
3 1,-2
-----AAGUUGUUCGUGGUGGAUUCG-----
2 1,0
-----AGUUGUUCGUGGUGGAU-----
2 2,-2
-----AGUUGUUCGUGGUGGAUUCGCU-----
3 2,2
-----AAUCAUUCACGGACAACAC-----
3
-----AAUCAUUCACGGACAACACU-----
16
-----AAUCAUUCACGGACAACACUU-----
6
-----AAUCAUUCACGGACAACACUUU-----
4

```

>hsa-mir-383 5p:7-28 SRX018962

```

cuccucAGAUCAGAAGGUGAUUGUGGCUuuggguggauauuaucagccacagcacugccuggucagaaagag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CAGAUCAGAAGGUGAUUGUGGa----- 2
-1,-2
-----CAGAUCAGAAGGUGAUUGUGGC----- 2
-1,-1
-----CAGAUCAGAAGGUGAUUGUGGCU----- 3
-1,0
-----AGAUCAGAAGGUGAUUGUGG----- 3
0,-2
-----AGAUCAGAAGGUGAUUGUGGC----- 2
0,-1

```

-----AGAUCAGAAGGUGAUUGUGGCa-----	4
0, -1	
-----AGAUCAGAAGGUGAUUGUGGCaa-----	2
0, -1	
-----AGAUCAGAAGGUGAUUGUGGCU-----	48
0,0	
-----AGAUCAGAAGGUGAUUGUGGCUau-----	2
0,0	
-----AGAUCAGAAGGUGAUUGUGGCUU-----	33
0,1	
-----AGAUCAGAAGGUGAUUGUGGCUUa-----	7
0,1	
-----AGAUCAGAAGGUGAUUGUGGCUUU-----	18
0,2	
-----GAUCAGAAGGUGAUUGUGGCU-----	5
1,0	
-----GAUCAGAAGGUGAUUGUGGCUU-----	6
1,1	
-----GAUCAGAAGGUGAUUGUGGCUUU-----	3
1,2	

>hsa-mir-3912 3p:63-83 SRX018962

agagaggaugaacaguuaauuaaacauguccauuuuagggguuaguugggacacauacUAACGCAUAAUAUGGACA
UGUuaauuuuaacuguccuuucu

(((((.....((((((((((((((((((((((((((((((((((((((.((((((.((.....)))))))).))))))))))
))))))))))))))))))))))))))))

-----UAACGCAUAAUAUGGACA

UG----- 3 0,-1

-----AACGCAUAAUAUGGACA

$$\text{UGUU} \text{-----} 2 \quad 1,1$$

```
>hsa-mir-3913-1 5p:23-44 SRX018962
```

uuguuuuuaauaaacugaaaauUUUGGGACUGAUCUUGAUGUCUgccaaaaccuuggcagacaucaagaucagucccaa
uauuucaguuuuuuauagacag

-----UGGGACUGAUCUUGAUGUC-----

$$----- 2 \quad 2, -1$$

ugucuauaauaacugaaaaaUUUGGGACUGAUCUUGAUGUCUgccaaagguuuuggcagacaucaagaucagucccaau
auuucaguuuuuuuaaaaca

-----UGGGACUGAUCUUGAUGUC-----
 -----2 2,-1-----

gcugaagcucuaagguuccgccugcgggcagggaagcGGAGGAACCUUGGAGCUUCGGC
((((((((((((((((((..(((.....))))).)))))))))

-----GGAGGAACCUUGGAGCUUCG--	2	0,-2
-----GGAGGAACCUUGGAGCUUCGG-	12	0,-1
-----GGAGGAACCUUGGAGCUUCGGa	2	0,-1
-----GGAGGAACCUUGGAGCUUCGGu	10	0,-1
-----GGAGGAACCUUGGAGCUUCGGuu	2	0,-1
-----GGAGGAACCUUGGAGCUUCGGC	30	0,0
-----GGAGGAACCUUGGAGCUUCGGCa	29	0,0
-----GGAGGAACCUUGGAGCUUCGGCau	8	0,0
-----GGAGGAACCUUGGAGCUUCGGCu	10	0,0
-----GAGGAACCUUGGAGCUUCGGC	2	1,0
-----GAGGAACCUUGGAGCUUCGGCa	2	1,0
-----GAGGAACCUUGGAGCUUCGGCau	4	1,0
-----AGGAACCUUGGAGCUUCGGC	6	2,0
-----AGGAACCUUGGAGCUUCGGCa	2	2,0

cacagcccuuccuguccccaguuUCAGGUGUGGAAACUGAGGCAGgaggcagugaaguaacuugcucagguugcacagc
ugggaaguggagcagggauuugaaucc

-----UCAGGUGUGGAAACUGAGGCAu-----
----- 2 0,-1

augauucagagcaucuguccagugucugcuguagaucuccucaaauccguguuuggacgcuucuggUAAGGGGUGUAUGGC
AGAUGCacccgacagaugcacuuggcagca

-----UAAGGGGUGUAUGGC

-----UAAGGGGUGUAUGGC

-----UAAGGGGUGUAUGGC

-----UUCGGGCUGGCCUGCUGC

-----AGGUUACCCGAGCAACUUU-----

-----AGGUUACCCGAGCAACUUUG-----

-----AGGUUACCCGAGCAACUUUGCA-----

-----AGGUUACCCGAGCAACUUUGCAa-----

-----AGGUUACCCGAGCAACUUUGCAU-----

-----AGGUUACCCGAGCAACUUUGCAUC-----

-----CGA AUGUUGCUCGGUGAA-----

-----CGAAUGUUGCUCGGUGAAC-----

-----CGAAUGUUGCUCGGUGAACC-----

 $2 \quad -1, -3$


```

-----AUAGUAGACCGUAUAGCGUACG-----
-----      25      -1,0
-----UAGUAGACCGUAUAGCGU-----
-----      16      0,-3
-----UAGUAGACCGUAUAGCGUA-----
-----      11      0,-2
-----UAGUAGACCGUAUAGCGUAC-----
-----      26      0,-1
-----UAGUAGACCGUAUAGCGUACG-----
-----      21      0,0
-----UAUGUAACACGGUCCACUAAC-----
-----      2      0,-1

```

```
>hsa-mir-412      3p:54-76      SRX018962
cuggggguacggggaugggucgaccaguugggaaaguaauuguuucuaauguACUUCACCUGGUCCACUAGCCGUccgu
auccgcugcag
...(((((((..((((((.((((.((((.((((..(((((((((.)))..)))))).)))))).)))))).))))))
))))).
-----UGGUCGACCAGUUGGAAAGUA-----
----- 4
```

```
>hsa-mir-421      3p:48-70    SRX018962
gcacauuguaggccucauuuaauguuuguugaaugaiaaaugaucAUCAACAGACAUAUAAUGGGCGCgugcucugug
aucuc
(((((((.....)))))))))...))))).))))..)))
.....
-----AUCAACAGACAUAUAAUG-----
----   7   0,-5
-----AUCAACAGACAUAUAAUGG-----
----  15   0,-4
-----AUCAACAGACAUAUAAUGGG-----
----   2   0,-3
-----AUCAACAGACAUAUAAUGGGC-----
----   4   0,-2
```

>hsa-mir-423 5p:17-39;3p:53-75 SRX018962
 auaaaggaaguuaggcUGAGGGGCAGAGAGCGAGACUUUucuaauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
 uuccuaacccgcgc

....(((((((.((((((((((((((..(((.(((((((((.....)))))))))).)))...)))))))))))))).))
))))).))))).

-----CUGAGGGGCAGAGAGCGAGACUUU-----
----- 5 -1,0
-----CUGAGGGGCAGAGAGCGAGACUUUa-----
----- 2 -1,0
-----UGAGGGGCAGAGAGCGAG-----
----- 202 0,-5
-----UGAGGGGCAGAGAGCGAGu-----
----- 14 0,-5
-----UGAGGGGCAGAGAGCGAGA-----
----- 569 0,-4
-----UGAGGGGCAGAGAGCGAGAA-----
----- 77 0,-4
-----UGAGGGGCAGAGAGCGAGAAa-----
----- 84 0,-4
-----UGAGGGGCAGAGAGCGAGAAu-----
----- 5 0,-4
-----UGAGGGGCAGAGAGCGAGAU-----
----- 9 0,-4
-----UGAGGGGCAGAGAGCGAGAC-----
----- 434 0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 26 0,-3
-----UGAGGGGCAGAGAGCGAGACaa-----
----- 14 0,-3
-----UGAGGGGCAGAGAGCGAGACU-----
----- 503 0,-2
-----UGAGGGGCAGAGAGCGAGACUa-----
----- 16 0,-2
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 13 0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 10 0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 588 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 166 0,-1


```

-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 11 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 19 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 3767 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 63 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 7 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 18 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 248 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 2 0,1
-----GAGGGGCAGAGAGCGAGA-----
----- 2 1,-4
-----GAGGGGCAGAGAGCGAGAC-----
----- 6 1,-3
-----GAGGGGCAGAGAGCGAGACaa-----
----- 2 1,-3
-----GAGGGGCAGAGAGCGAGACU-----
----- 6 1,-2
-----GAGGGGCAGAGAGCGAGACUU-----
----- 10 1,-1
-----GAGGGGCAGAGAGCGAGACUUa-----
----- 5 1,-1
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 63 1,0
-----GAGGGGCAGAGAGCGAGACUUUU-----
----- 4 1,1
-----AGGGGCAGAGAGCGAGACUUU-----
----- 5 2,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 16 2,1
-----AAGCUCGGUCUGAGGCCCCC-----
----- 4 -1,-5

```

-----			-----AAGCUCGGUCUGAGGCCCCU-----
-----	7	-1,-4	
-----			-----AAGCUCGGUCUGAGGCCCCUC-----
-----	11	-1,-3	
-----			-----AAGCUCGGUCUGAGGCCCCUCA-----
-----	9	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAa-----
-----	2	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAu-----
-----	2	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAG-----
-----	10	-1,-1	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGa-----
-----	2	-1,-1	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGU-----
-----	35	-1,0	
-----			-----AGCUCGGUCUGAGGCCCC-----
-----	14	0,-5	
-----			-----AGCUCGGUCUGAGGCCCCU-----
-----	7	0,-4	
-----			-----AGCUCGGUCUGAGGCCCCUaa-----
-----	3	0,-4	
-----			-----AGCUCGGUCUGAGGCCCCUC-----
-----	19	0,-3	
-----			-----AGCUCGGUCUGAGGCCCCUCA-----
-----	15	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAa-----
-----	5	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAuu-----
-----	3	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAG-----
-----	36	0,-1	
-----			-----AGCUCGGUCUGAGGCCCCUCAGa-----
-----	4	0,-1	
-----			-----AGCUCGGUCUGAGGCCCCUCAGU-----
-----	145	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUa-----
-----	6	0,0	

-----			-----AGCUCGGUCUGAGGCCCCUCAGUaa-----
-----	3	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUau-----
-----	7	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUu-----
-----	14	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUuu-----
-----	4	0,0	

>hsa-mi r-424 MA:11-32;mi :48-68 SRX018962

cgagggg¹auaCAGCAGCAAUCAUGUUUGAA²guguucuaa³agguuCAAACGUGAGGCGCUGCUAU⁴accccucgugg⁵
ggaagguagaaggugggg

$((((((((.(.(((((((.(((((((((((((.((((.(.....)))..)))))))))))).)))))))).))..)))))))).\dots$
 $\dots\dots\dots$

```

-----ACAGCAGCAAUUCAUGUUUUG-----
-----      3      -1,-2
-----ACAGCAGCAAUUCAUGUUUUGA-----
-----      2      -1,-1
-----CAGCAGCAAUUCAUGUUU-----
-----     11      0,-4
-----CAGCAGCAAUUCAUGUUUa-----
-----      4      0,-4
-----CAGCAGCAAUUCAUGUUUU-----
-----     41      0,-3
-----CAGCAGCAAUUCAUGUUUUG-----
-----    603      0,-2
-----CAGCAGCAAUUCAUGUUUUGu-----
-----      2      0,-2
-----CAGCAGCAAUUCAUGUUUUGA-----
-----    568      0,-1
-----CAGCAGCAAUUCAUGUUUUGAA-----
-----    155      0,0
-----CAGCAGCAAUUCAUGUUUUGAAa-----
-----     14      0,0
-----CAGCAGCAAUUCAUGUUUUGAAu-----
-----      5      0,0
-----AGCAGCAAUUCAUGUUUUG-----
-----     12      1,-2

```

```

-----AGCAGCAAUUC AUGUUUUGA-----
-----16 1,-1-----
-----AGCAGCAAUUC AUGUUUUGAA-----
-----2 1,0-----
-----CAAACGUGAGGCGCUGCaa-----
-----3 0,-3-----
-----CAAACGUGAGGCGCUGCU-----
-----24 0,-2-----
-----CAAACGUGAGGCGCUGCUA-----
-----69 0,-1-----
-----CAAACGUGAGGCGCUGCUAa-----
-----11 0,-1-----
-----CAAACGUGAGGCGCUGCUAaa-----
-----2 0,-1-----
-----CAAACGUGAGGCGCUGCUAU-----
-----606 0,0-----
-----CAAACGUGAGGCGCUGCUAUu-----
-----19 0,0-----
-----CAAACGUGAGGCGCUGCUAUA-----
-----239 0,1-----
-----CAAACGUGAGGCGCUGCUAUa-----
-----39 0,1-----
-----CAAACGUGAGGCGCUGCUAUu-----
-----22 0,1-----
-----AAACGUGAGGCGCUGCUA-----
-----2 1,-1-----
-----AAACGUGAGGCGCUGCUAU-----
-----20 1,0-----
-----AAACGUGAGGCGCUGCUAUA-----
-----16 1,1-----
-----AAACGUGAGGCGCUGCUAUa-----
-----2 1,1-----
-----AAACGUGAGGCGCUGCUAUu-----
-----6 1,1-----
-----AAACGUGAGGCGCUGCUAUa-----
-----2 2,1-----

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018962

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAUGUCGUGUCCGCCAgug
cucuuuc

(((((.(.(.(((...(((((((.(.((((((.(.((((....))....)))..))))..))))..))))..))))..))

-----AAUGACACGAUCACUCCC-----
----- 2 0,-5
-----AAUGACACGAUCACUCCCG-----
----- 2 0,-4
-----AAUGACACGAUCACUCCCGU-----
----- 7 0,-3
-----AAUGACACGAUCACUCCCGUU-----
----- 4 0,-2
-----AAUGACACGAUCACUCCCGUUG-----
----- 37 0,-1
-----AAUGACACGAUCACUCCCGUUGu-----
----- 2 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 101 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 11 0,1
-----AAUGACACGAUCACUCCCGUUGAGU-----
----- 4 0,2
-----AUGACACGAUCACUCCCGUUG-----
----- 3 1,-1
-----AUGACACGAUCACUCCCGUUGA-----
----- 8 1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 10 1,1
-----AUGACACGAUCACUCCCGUUGAGU-----
----- 2 1,2
-----CAUCGGGAUGUCGUGUC-----
----- 8 -1,-5
-----CAUCGGGAUGUCGUGUCC-----
----- 11 -1,-4
-----CAUCGGGAUGUCGUGUCCG-----
----- 2 -1,-3
-----CAUCGGGAUGUCGUGUCCGC-----
----- 5 -1,-2

-----		-----CAUCGGGAAUGUCGUGUCCGCu-----
-----	4	-1,-2
-----		-----CAUCGGGAAUGUCGUGUCCGCC-----
-----	25	-1,-1
-----		-----AUCGGGAAUGUCGUGUCCGC-----
-----	4	0,-2
-----		-----AUCGGGAAUGUCGUGUCCGCC-----
-----	18	0,-1
-----		-----AUCGGGAAUGUCGUGUCCGCC-----
-----	2	0,0

>hsa-mir-4286 5p:11-27 SRX018962

uacuuauaggcACCCCACUCCUGGUACCAuagucauaaguuaaggagauguuagagcugugaguaccaugacuuaagugugg
uggcuuuaacaug

[illegible]

-----ACCCACUCCUGGUACCA-----

----- 64 0,1

-----ACCCACUCCUGGUACCAa-----

----- 6 0,1

-----ACCCACUCCUGGUACCAaa-----

----- 5 0,1

-----ACCCACUCCUGGUACCAau-----

----- 4 0,1

-----ACCCACUCCUGGUACCAU-----

----- 17 0,2

>hsa-mir-429 3p:51-72 SRX018962

cgccggccgaugggcgucuuaccagacaugguuagaccuggcccucugucUAAUACUGUCUGGUAAAACCGUccaucgc
ugc

-----UAAUACUGUCUGGUA AAA-----

--- 4 0, -4

-----UAAUACUGUCUGGUA AAAAC-----

--- 4 0, -3

-----UAAUACUGUCUGGUA AAAACC-----

--- 6 0,-2

```

-----UAAUACUGUCUGGUAAAACCG-----
--- 34 0,-1
-----UAAUACUGUCUGGUAAAACCGa-----
--- 3 0,-1
-----UAAUACUGUCUGGUAAAACCGU-----
--- 94 0,0
-----AAUACUGUCUGGUAAAAC-----
--- 2 1,-3

```

```

>hsa-mir-4306 3p:65-81 SRX018962
aagcugcuuaguguccuagagucuccagaggcaucccuaaccagaaucuuuugacuguccucUGGAGAGAAAGGCAGU
Aggucuguacc
..((.(((((.(((.....((((((((((((((((.....))))))))))..))))))..))
)))..))...
-----UGGAGAGAAAGGCAGU
AG----- 2 0,1

```

```

>hsa-mir-431 MA:20-40;mi:63-84 SRX018962
uccugcuuguccugcgaggUGUCUUGCAGGCCGUCAUGCAggccacacugacgguaacguugCAGGUCGUCUUGCAGGGC
UUCUcgcaagacgacauccucaaccaacgacg
...((.(((((.(((((.((((((((((((((((.....))))....))))).)).)))))))))
.)))).)))).))....
-----UGUCUUGCAGGCCGUCAU-----
----- 2 0,-3

```

```

>hsa-mir-432 MA:14-36;mi:62-82 SRX018962
ugacuccuccaggUCUUGGAGUAGGUCAUUGGGUGGauccucauuuccuuacgugggcccaCUGGAUGGCUCCUCCAUGU
CUggaguagauca
.(((((.(((((.(((.....))))....))))).))))))..)))).))..
)))).)))).
-----UCUUGGAGUAGGUCAUUG-----
----- 13 0,-5
-----UCUUGGAGUAGGUCAUUGG-----
----- 66 0,-4
-----UCUUGGAGUAGGUCAUUGGa-----
----- 7 0,-4
-----UCUUGGAGUAGGUCAUUGGaa-----
----- 3 0,-4

```

```

-----UCUUGGAGUAGGUCAUUGGG-----
----- 102 0,-3
-----UCUUGGAGUAGGUCAUUGGGa-----
----- 4 0,-3
-----UCUUGGAGUAGGUCAUUGGGaa-----
----- 6 0,-3
-----UCUUGGAGUAGGUCAUUGGGU-----
----- 45 0,-2
-----UCUUGGAGUAGGUCAUUGGGUa-----
----- 7 0,-2
-----UCUUGGAGUAGGUCAUUGGGUaa-----
----- 7 0,-2
-----UCUUGGAGUAGGUCAUUGGGUau-----
----- 4 0,-2
-----UCUUGGAGUAGGUCAUUGGGUG-----
----- 25 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGa-----
----- 12 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGau-----
----- 3 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 11 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 7 0,0

```

>hsa-mir-4326 5p:11-30 SRX018962

```

gcugcucugcUGUUCCUCUGUCUCCCAGACucugggguggauggagcaggucggggggcca
(((.(...(((((((...(((((((...))))).))))))))))...)).)))..
-----UGUUCCUCUGUCUCCCAGAC----- 2 0,0

```

>hsa-mir-433 3p:64-85 SRX018962

```

ccgggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg
((..(((((((...(((.(((((((...(((.(((((((...))))).)))))))))))).))
)...)))))))).))
-----AUCAUGAUGGGCUCCUC
GG----- 4 0,-3
-----AUCAUGAUGGGCUCCUC

```


GGUG-----	3	0,-1	-----AUCAUGAUGGGCUCCUC
GGUGU-----	33	0,0	-----AUCAUGAUGGGCUCCUC
GGUGUa-----	4	0,0	-----AUCAUGAUGGGCUCCUC
GGUGUU-----	2	0,1	-----UCAUGAUGGGCUCCUC
GGUGU-----	2	1,0	

```
>hsa-mir-450a-1 5p:18-39 SRX018962
aaacgauacuuaacuguUUUUGCGAUGUGUCCUAAUAUgcacuaauaaaauauauugggaacauuuugcauguauaguuuu
guaucaauua
...(((((((.....)))))))).)....
))).....
-----UUUUGCGAUGUGUCCUAA-----
----- 2    0,-3
-----UUUUGCGAUGUGUCCUAAU-----
----- 7    0,-2
-----UUUUGCGAUGUGUCCUAAUA-----
----- 11   0,-1
-----UUUUGCGAUGUGUCCUAAUAa-----
----- 2    0,-1
-----UUUUGCGAUGUGUCCUAAUAU-----
----- 6    0,0
-----UUUUGCGAUGUGUCCUAAUAUG-----
----- 2    0,1
-----AUUGGGAACAUUUUGCAUGUAU-----
----- 2
```

```

>hsa-mir-450a-2 5p:23-44      SRX018962
ccaaagaaagaugcuaaacuauUUUUGCGAUGUGUCCUAAUguaauauaaaanguauuggggacauuuugcauucua
guuuuguaucuaauaauagg
.....(((((((.....(((((((.....))))))))))))))))))..)))
))))).))))).
-----UUUUGCGAUGUGUCCUAA-----
-----2    0,-3
-----UUUUGCGAUGUGUCCUAAU-----

```


0,-3	-----AAACCGUUACCAUUACUGAu-----	2
0,-3	-----AAACCGUUACCAUUACUGAG-----	3518
0,-2	-----AAACCGUUACCAUUACUGAGa-----	3
0,-2	-----AAACCGUUACCAUUACUGAGau-----	20
0,-2	-----AAACCGUUACCAUUACUGAGU-----	1583
0,-1	-----AAACCGUUACCAUUACUGAGUa-----	4
0,-1	-----AAACCGUUACCAUUACUGAGUaa-----	2
0,-1	-----AAACCGUUACCAUUACUGAGUU-----	
15018 0,0	-----AAACCGUUACCAUUACUGAGUUa-----	26
0,0	-----AAACCGUUACCAUUACUGAGUUaa-----	4
0,0	-----AAACCGUUACCAUUACUGAGUUU-----	2881
0,1	-----AAACCGUUACCAUUACUGAGUUUu-----	5
0,1	-----AAACCGUUACCAUUACUGAGUUUA-----	292
0,2	-----AAACCGUUACCAUUACUGAGUUUAG-----	126
0,3	-----AACCGUUACCAUUACUGA-----	2
1,-3	-----AACCGUUACCAUUACUGAG-----	16
1,-2	-----AACCGUUACCAUUACUGAGU-----	4
1,-1	-----AACCGUUACCAUUACUGAGUU-----	96
1,0	-----AACCGUUACCAUUACUGAGUUU-----	42

```

1,1
-----AACCGUUACCAUACUGAGUUUA----- 10
1,2
-----UAAUGGUA AUGGUUCUCUUGC----- 2

>hsa-mir-452    MA:14-35;mi:58-79    SRX018962
gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc
(((.((((((((((...((.((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))
-----AACUGUUUGCAGAGGAAA-----
----- 3    0,-4
-----AACUGUUUGCAGAGGAAAC-----
----- 20    0,-3
-----AACUGUUUGCAGAGGAAACU-----
----- 48    0,-2
-----AACUGUUUGCAGAGGAAACUGA-----
----- 2    0,0
-----AACUGUUUGCAGAGGAAACUGAG-----
----- 12    0,1

>hsa-mir-454    mi:24-45;MA:64-86    SRX018962
ucuguuuauccaggauccuagaACCCUAUCAUAUUGUCUCUGCuguguaaaauaguucugagUAGUGCAAUAUUGCUUA
UAGGGUuuuggguguuuggaaagaacauggggcagg
.((((((((((.((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAGUGCAAUAUUGCUUA
UAGG----- 2    0,-2

>hsa-mir-455    5p:16-37;3p:54-74    SRX018962
ucccuggcgugagggUAUGUGCCUUUGGACUACAUCGuggaagccagcaccuGCAGUCCAUGGGCAUAUACACuugccu
caaggccuangucauc
.....(((.((((((((((((((((.((((((.((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))).....
-----GUAUGUGCCUUUGGACUAC-----
----- 8    -1,-4
-----GUAUGUGCCUUUGGACUACA-----
----- 11    -1,-3

```

```

-----GUAUGUGCCUUUGGACUACAU-----
-----47 -1,-2-----
-----GUAUGUGCCUUUGGACUACAUu-----
-----5 -1,-2-----
-----GUAUGUGCCUUUGGACUACAUC-----
-----9 -1,-1-----
-----GUAUGUGCCUUUGGACUACAUCG-----
-----11 -1,0-----
-----GUAUGUGCCUUUGGACUACAUCGU-----
-----8 -1,1-----
-----UAUGUGCCUUUGGACUACA-----
-----9 0,-3-----
-----UAUGUGCCUUUGGACUACAU-----
-----10 0,-2-----
-----UAUGUGCCUUUGGACUACAUa-----
-----2 0,-2-----
-----UAUGUGCCUUUGGACUACAUC-----
-----53 0,-1-----
-----UAUGUGCCUUUGGACUACAUCG-----
-----150 0,0-----
-----UAUGUGCCUUUGGACUACAUCGa-----
-----10 0,0-----
-----UAUGUGCCUUUGGACUACAUCGU-----
-----41 0,1-----
-----UAUGUGCCUUUGGACUACAUCGUG-----
-----7 0,2-----
-----AUGUGCCUUUGGACUACAUCG-----
-----4 1,0-----
-----AUGUGCCUUUGGACUACAUCGU-----
-----7 1,1-----
-----UGUGCCUUUGGACUACAUCGU-----
-----7 2,1-----
-----UGUGCCUUUGGACUACAUCGUG-----
-----2 2,2-----
-----UGUGCCUUUGGACUACAUCGUGa-----
-----11 2,2-----
-----UGUGCCUUUGGACUACAUCGUGu-----
-----8 2,2-----

```

-----			-----AUGCAGUCCAUGGGCAUA-----
-----	2	-2,-5	-----AUGCAGUCCAUGGGCAUAU-----
-----	13	-2,-4	-----AUGCAGUCCAUGGGCAUAUA-----
-----	3	-2,-3	-----AUGCAGUCCAUGGGCAUAUAu-----
-----	3	-2,-3	-----AUGCAGUCCAUGGGCAUAUAC-----
-----	16	-2,-2	-----AUGCAGUCCAUGGGCAUAUACA-----
-----	22	-2,-1	-----AUGCAGUCCAUGGGCAUAUACAC-----
-----	12	-2,0	-----AUGCAGUCCAUGGGCAUAUACACU-----
-----	2	-2,1	-----UGCAGUCCAUGGGCAUAUAC-----
-----	3	-1,-2	-----UGCAGUCCAUGGGCAUAUACA-----
-----	24	-1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	12	-1,0	-----GCAGUCCAUGGGCAUAUA-----
-----	2	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	27	0,-2	-----GCAGUCCAUGGGCAUAUACA-----
-----	92	0,-1	-----GCAGUCCAUGGGCAUAUACa-----
-----	3	0,-1	-----GCAGUCCAUGGGCAUAUACauu-----
-----	3	0,-1	-----GCAGUCCAUGGGCAUAUACAC-----
-----	161	0,0	-----GCAGUCCAUGGGCAUAUACACa-----
-----	19	0,0	-----GCAGUCCAUGGGCAUAUACACaa-----
-----	2	0,0	

124	0,1	GCAGUCCAUGGGCAUAUACACU
7	0,2	GCAGUCCAUGGGCAUAUACACUU
2	1,-1	CAGUCCAUGGGCAUAUACA
18	1,0	CAGUCCAUGGGCAUAUACAC
22	1,1	CAGUCCAUGGGCAUAUACACU
2	1,1	CAGUCCAUGGGCAUAUACACU _a
5	1,2	CAGUCCAUGGGCAUAUACACUU
3	1,2	CAGUCCAUGGGCAUAUACACUU _a
8	1,2	CAGUCCAUGGGCAUAUACACUU _u
3	2,1	AGUCCAUGGGCAUAUACACU

```
>hsa-mir-483      5p:8-29;3p:48-68      SRX018962
gaggggggAAGACGGGAGGAAAGAAGGGAGugguuccaucacgccuccUCACUCCUCUCCUCCCGUCUUcuccucuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGACGGGAGGAAAGAAG-----
150 0,-4
-----AAGACGGGAGGAAAGAAGu-----
3 0,-4
-----AAGACGGGAGGAAAGAAGG-----
312 0,-3
-----AAGACGGGAGGAAAGAAGGa-----
16 0,-3
-----AAGACGGGAGGAAAGAAGGaa-----
6 0,-3
-----AAGACGGGAGGAAAGAAGGuu-----
2 0,-3
-----AAGACGGGAGGAAAGAAGGG-----
400 0,-2
```

```

-----AAGACGGGAGGAAAGAAGGGu-----
10  0,-2
-----AAGACGGGAGGAAAGAAGGGA-----
803 0,-1
-----AAGACGGGAGGAAAGAAGGGAa-----
290 0,-1
-----AAGACGGGAGGAAAGAAGGGAaa-----
133 0,-1
-----AAGACGGGAGGAAAGAAGGGAau-----
36  0,-1
-----AAGACGGGAGGAAAGAAGGGAu-----
56  0,-1
-----AAGACGGGAGGAAAGAAGGGAuu-----
31  0,-1
-----AAGACGGGAGGAAAGAAGGGAG-----
1421 0,0
-----AAGACGGGAGGAAAGAAGGGAGa-----
322 0,0
-----AAGACGGGAGGAAAGAAGGGAGaa-----
30  0,0
-----AAGACGGGAGGAAAGAAGGGAGau-----
11  0,0
-----AAGACGGGAGGAAAGAAGGGAGU-----
177 0,1
-----AAGACGGGAGGAAAGAAGGGAGUa-----
4  0,1
-----AAGACGGGAGGAAAGAAGGGAGUau-----
3  0,1
-----AAGACGGGAGGAAAGAAGGGAGUu-----
14  0,1
-----AAGACGGGAGGAAAGAAGGGAGUuu-----
3  0,1
-----AAGACGGGAGGAAAGAAGGGAGUGG-----
3  0,3
-----AGACGGGAGGAAAGAAGG-----
16  1,-3
-----AGACGGGAGGAAAGAAGGG-----
19  1,-2

```


23	1, -1	-AGACGGGAGGAAAGAAGGGA-
2	1, -1	-AGACGGGAGGAAAGAAGGGAa-
47	1, 0	-AGACGGGAGGAAAGAAGGGAG-
2	1, 0	-AGACGGGAGGAAAGAAGGGAGaa-
28	1, 1	-AGACGGGAGGAAAGAAGGGAGU-
14	1, 2	-AGACGGGAGGAAAGAAGGGAGUG-
25	1, 3	-AGACGGGAGGAAAGAAGGGAGUGG-
2	2, 3	-GACGGGAGGAAAGAAGGGAGUGG-
3	0, 0	-UCACUCCUCUCCUCCCGUCUU-
2	0, 0	-UCACUCCUCUCCUCCCGUCUUa-
4	0, 1	-UCACUCCUCUCCUCCCGUCUUC-
9	1, 2	-CACUCCUCUCCUCCCGUCUUCU-

-----UCAGGCUCAGUCCCCUCCCGAU-----
46 0.0

-----UCAGGCUCAGUCCCCUCCCGAUu-----
5 0,0

-----UCAGGCUCAGUCCCCUCCCGAUA-----
4 0,1

>hsa-mi r-485 5p:9-30;3p:46-67 SRX018962

acuuggagAGAGGCUGCCGUGAUGAAUUCgauucauaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu

(((((.....))))))

-----AGAGGCUGGCCGUGAUGA----- 7
0, -4

-----AGAGGCUGGCCGUGAUGAA----- 2
0,-3

-----AGAGGCUGGCCGUGAUGAAa----- 3
0,-3

-----AGAGGCUGGCCGUGAUGAAau----- 3
0,-3

-----AGAGGCUGGCCGUGAUGAAU----- 8
0,-2

-----AGAGGCUGGCCGUGAUGAAUU----- 232
0, -1

-----AGAGGCUGGCCGUGAUGAAUUa----- 5
0, -1

-----AGAGGCUGGCCGUGAUGAAUUu----- 3
0, -1

-----AGAGGCUGGCCGUGAUGAAUUC----- 77
0,0

-----AGAGGCUGGCCGUGAUGAAUUCu----- 3
0,0

-----AGAGGCUGGCCGUGAUGAAUUCG----- 59
0,1

-----AGAGGCUGGCCGUGAUGAAUUCG_u----- 10
0,1

-----AGAGGCUGGCCGUGAUGAAUUCGA----- 15
0,2

-----AGUCAUACACGGCUCUCCUCUCU----- 2

-1,0

-1,0

```

-----GUCAUACACGGCUCUCCUCUC----- 5
0,-1
-----GUCAUACACGGCUCUCCUCUCa----- 7
0,-1
-----GUCAUACACGGCUCUCCUCUCU----- 47
0,0

```

>hsa-mir-486 5p:4-25;3p:46-66 SRX018962

```

gcaUCCUGUACUGAGCUGCCCCGAGgcccucaugcugcccagcuCGGGGCAGCUCAGUACAGGAUac
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
--AUCCUGUACUGAGCUGCCCCGA----- 5
-1,-1
---UCCUGUACUGAGCUGCCC----- 282 0,-4
---UCCUGUACUGAGCUGCCCu----- 2 0,-4
---UCCUGUACUGAGCUGCCCC----- 769 0,-3
---UCCUGUACUGAGCUGCCCCG----- 647 0,-2
---UCCUGUACUGAGCUGCCCCGu----- 2 0,-2
---UCCUGUACUGAGCUGCCCCGA----- 2567
0,-1
---UCCUGUACUGAGCUGCCCCGAa----- 187 0,-1
---UCCUGUACUGAGCUGCCCCGAaa----- 18 0,-1
---UCCUGUACUGAGCUGCCCCGAau----- 4 0,-1
---UCCUGUACUGAGCUGCCCCGAu----- 34 0,-1
---UCCUGUACUGAGCUGCCCCGAG----- 5871
0,0
---UCCUGUACUGAGCUGCCCCGAGa----- 1912
0,0
---UCCUGUACUGAGCUGCCCCGAGaa----- 42 0,0
---UCCUGUACUGAGCUGCCCCGAGau----- 20 0,0
---UCCUGUACUGAGCUGCCCCGAGu----- 237 0,0
---UCCUGUACUGAGCUGCCCCGAGuu----- 6 0,0
---UCCUGUACUGAGCUGCCCCGAGG----- 15 0,1
---UCCUGUACUGAGCUGCCCCGAGGa----- 12 0,1
-----CUGUACUGAGCUGCCCCG----- 17 2,-2
-----CUGUACUGAGCUGCCCCGA----- 43 2,-1
-----CUGUACUGAGCUGCCCCGAa----- 5 2,-1
-----CUGUACUGAGCUGCCCCGAu----- 2 2,-1
-----CUGUACUGAGCUGCCCCGAG----- 122 2,0

```

```

-----CUGUACUGAGCUGCCCCGAGa----- 44 2,0
-----CUGUACUGAGCUGCCCCGAGaa----- 2 2,0
-----CUGUACUGAGCUGCCCCGAGu----- 4 2,0
-----CGGGGCAGCUCAGUACAGGA--- 8 0,-1
-----CGGGGCAGCUCAGUACAGGAU-- 26 0,0
-----CGGGGCAGCUCAGUACAGGAUu- 2 0,0
-----CGGGGCAGCUCAGUACAGGAUA- 8 0,1

```

>hsa-mir-487b 3p:51-72 SRX018962

uugguacuuggagagugguuaucuccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
uca

.(((((((..(((((((.....(((((((.(.(((((((.....)))))).).)))))).)))))).))))))
))).

```

-----AAUCGUACAGGGUCAUCCACU-----
---- 6 0,-1
-----AAUCGUACAGGGUCAUCCACUU-----
---- 6 0,0
-----AUCGUACAGGGUCAUCCACUU-----
---- 2 1,0

```

>hsa-mir-488 mi:14-34;MA:52-72 SRX018962

gagaaucaucucuCCCAGAUAAUGGCACUCUCAAacaaguuuuccaaauuguUUGAAAGGCUAUUUCUUGGUCagaugacu
cuc

(((((.(((((((..((.(((.(((((((.((.(((((((.....)))))).).)))))).)))))).))))))
)))

```

-----CCCAGAUAAUGGCACUCUCA-----
--- 11 0,-1

```

>hsa-mir-490 5p:39-58;3p:76-97 SRX018962

uggaggccuugcugguuuggaaaguucuuuguucgacaCCAUGGAUCUCCAGGUGGGUcaaguuuagagaugcacCAACC
UGGAGGACUCCAUGCUGuugagcuguucacaagcagcgacacuucca

.(((((((..(((((((.(((((((.....(((((((.(((((((.....)))))).).)))))).))))))
)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).

```

-----CAACC
UGGAGGACUCCAUGC----- 7 0,-2
-----CAACC
UGGAGGACUCCAUGC----- 14 0,-1
-----CAACC

```

```

UGGAGGACUCCAUGCUn----- 3 0,-1
-----CAACC
UGGAGGACUCCAUGCUnu----- 2 0,-1
-----CAACC
UGGAGGACUCCAUGCUG----- 44 0,0
-----CAACC
UGGAGGACUCCAUGCUGa----- 5 0,0
-----CAACC
UGGAGGACUCCAUGCUGU----- 139 0,1
-----CAACC
UGGAGGACUCCAUGCUGUn----- 4 0,1
-----CAACC
UGGAGGACUCCAUGCUGUU----- 5 0,2

```

```

>hsa-mir-491 5p:16-37;3p:50-71 SRX018962
uugacuuagcuggguAGUGGGGAACCCUCCAUGAGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcuggcuggg
uugg
(((((.....))))))
))
-----AGUGGGGAACCCUCCAUGAG-----
---- 2 0,-1
-----AGUGGGGAACCCUCCAUGAGGA-----
---- 9 0,1
-----AGUGGGGAACCCUCCAUGAGGAa-----
---- 2 0,1

```

```

>hsa-mir-493 mi:16-37;MA:57-78 SRX018962
cuggccuccagggcuUUGUACAUGGUAGGCUUUCAUUcauucguuugcacauucggUGAAGGUCUACUGUGUGCCAGGcc
cugugccag
((((.....))))
)))
-----UUGUACAUGGUAGGCUUUCAUU-----
----- 4 0,0
-----UGAAGGUCUACUGUGUGC-----
----- 2 0,-4
-----UGAAGGUCUACUGUGUGCC-----
----- 3 0,-3
-----UGAAGGUCUACUGUGUGCCAG-----

```



```

)).....).)))))))).))))..).))
-----CAGCAGCACACUGUGGUU-----
-----4 0,-3
-----CAGCAGCACACUGUGGUU-----
-----11 0,-2
-----CAGCAGCACACUGUGGUUG-----
-----24 0,-1
-----CAGCAGCACACUGUGGUUGU-----
-----164 0,0
-----CAGCAGCACACUGUGGUUGUA-----
-----81 0,1
-----CAGCAGCACACUGUGGUUGUAa-----
-----14 0,1
-----CAGCAGCACACUGUGGUUGUAu-----
-----10 0,1
-----CAGCAGCACACUGUGGUUGUAC-----
-----2 0,2
-----AGCAGCACACUGUGGUU-----
-----16 1,-2
-----AGCAGCACACUGUGGUUG-----
-----50 1,-1
-----AGCAGCACACUGUGGUUGU-----
-----26 1,0
-----AGCAGCACACUGUGGUUGUA-----
-----20 1,1
-----AGCAGCACACUGUGGUUGUAa-----
-----11 1,1
-----AGCAGCACACUGUGGUUGUAu-----
-----2 1,1
-----AGCAGCACACUGUGGUUGUAC-----
-----8 1,2
-----AGCAGCACACUGUGGUUGUACa-----
-----5 1,2

```

```

>hsa-mir-499 5p:33-53;3p:70-91 SRX018962
gccugucccugugccuugggcgggcggcugUUAAGACUUGCAGUGAUGUUaacuccucuccacgugAACAUACAGC
AAGUCUGUGCUgcuucccgucccuacgcugccugggcaggg
((((((((.....((...(((((((.....((((((((.....)))))))))).))

```



```

----- 2 0,0
-----AUGCACCUGGGCAAGGAUUCUGu-----
----- 9 0,0
-----AUGCACCUGGGCAAGGAUUCUGA-----
----- 28 0,1
-----UGCACCUGGGCAAGGAUU-----
----- 4 1,-3

```

>hsa-mir-500b 5p:11-28 SRX018962

```

ccccucucuAAUCCUUGCUACCUUGGGUgagagugcuuucugaaugcagugcaccaggcaaggauucugcaaggggga
((((((..((((((((((..((((((((..((((((((..((((((((..((((((((..((((((((..((((((((..
-----AGUGCACCCAGGCAAGGAUU-----
3
-----GUGCACCCAGGCAAGGAU-----
2
-----UGCACCCAGGCAAGGAUUCUGC-----
2

```

>hsa-mir-501 5p:14-35;3p:51-72 SRX018962

```

gcucuuccucucuAAUCCUUUGUCCCUUGGGUGAGAgugcuuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagagggg
gagc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))
-----AAUGCACCCGGGCAAGGA-----
----- 14 0,-4
-----AAUGCACCCGGGCAAGGAU-----
----- 13 0,-3
-----AAUGCACCCGGGCAAGGAUU-----
----- 58 0,-2
-----AAUGCACCCGGGCAAGGAUUC-----
----- 7 0,-1
-----AUGCACCCGGGCAAGGAU-----
----- 2 1,-3
-----AUGCACCCGGGCAAGGAUU-----
----- 7 1,-2

```

>hsa-mir-502 5p:16-36;3p:52-73 SRX018962

```

ugcucuccucucuaAUCCUUGCUAUCUGGGUGCUAgugcuggcucaaugcAAUGCACCUGGGCAAGGAUUCAgagaggg

```

>hsa-mir-503 5p:6-28 SRX018962

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgaucggugcucugggguaauuguuuccgcugccagggua
((((((.(((((((((((((((.(.(.((((((.....)))))).)).)))))))))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 365 0,-5
-----UAGCAGCGGGAACAGUUCa----- 23 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 20 0,-5
-----UAGCAGCGGGAACAGUUCU----- 440 0,-4
-----UAGCAGCGGGAACAGUUCUa----- 30 0,-4

```

-----UAGCAGCGGGAACAGUUCUaa-----	68	0,-4
-----UAGCAGCGGGAACAGUUCUau-----	2	0,-4
-----UAGCAGCGGGAACAGUUCUG-----	34	0,-3
-----UAGCAGCGGGAACAGUUCUGa-----	6	0,-3
-----UAGCAGCGGGAACAGUUCUGaa-----	14	0,-3
-----UAGCAGCGGGAACAGUUCUGCA-----	4	0,-1
-----UAGCAGCGGGAACAGUUCUGCAa-----	5	0,-1
-----UAGCAGCGGGAACAGUUCUGCAaa-----	2	0,-1
-----UAGCAGCGGGAACAGUUCUGCAG-----	33	0,0
-----UAGCAGCGGGAACAGUUCUGCAGa-----	3	0,0
-----UAGCAGCGGGAACAGUUCUGCAGU-----	3	0,1
-----AGCAGCGGGAACAGUUCU-----	2	1,-4
-----AGCAGCGGGAACAGUUCUGCAG-----	4	1,0
-----GCAGCGGGAACAGUUCUGCAG-----	2	2,0

>hsa-mir-504 5p:13-34 SRX018962

gcugcuguugggAGACCCUGGUCUGCACUCUAUCguuauucuuacugaagggagugcagggcaggguuucccauacagag
ggc

(((((((((((((((((((((((.(((((((((((.(.(.(((...)))..))..)))))))))).)))))))).))))).)))..
)))

-----AGACCCUGGUCUGCACUCUA-----

--- 3 0, -2

-----AGACCCUGGUCUGCACUCUAU-----

--- 31 0,-1

-----AGACCCUGGUCUGCACUCUAUC-----

--- 18 0,0

-----AGACCCUGGUCUGCACUCUAUCU-----

--- 3 0,1

-----GACCCUGGUCUGCACUCUAU-----

--- 2 1,-1

-----GACCCUGGUCUGCACUCUAUC-----

--- 6 1,0

-----GACCCUGGUCUGCACUCUAUCUG-----

--- 2 1,2

>hsa-mi r-505 mi:15-36;MA:51-72 SRX018962

gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc

Sequence	Count	Delta
GGGAGCCAGGAAGUAUUGA-	3	0,-3
GGGAGCCAGGAAGUAUUGAU-	2	0,-2
GGGAGCCAGGAAGUAUUGAUG-	12	0,-1
GGGAGCCAGGAAGUAUUGAUga-	3	0,-1
GGGAGCCAGGAAGUAUUGAUGU-	49	0,0
GGGAGCCAGGAAGUAUUGAUGUa-	4	0,0
GGGAGCCAGGAAGUAUUGAUGUU-	87	0,1
GGGAGCCAGGAAGUAUUGAUGUUU-	4	0,2
GUCAACACUUGCUGGUUCCUC-	4	1,1
GUCAACACUUGCUGGUUCCUCU-	3	1,2
UCAACACUUGCUGGUUCC-	3	2,-1
UCAACACUUGCUGGUUCCUC-	3	2,1
UCAACACUUGCUGGUUCCUCU-	3	2,2

[illegible]

>hsa-mir-511-1 5p:16-36 SRX018962

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugguccauug

(((((.((((..(((..(((((((((((..(((.((((.((((.....)))))))).)))..)))))))).))))..)))))

-----CGUGUCUUUUGCUCUGCAGUCA-----

----- 2 -1,0

-----GUGUCUUUUGCUCUGCAGUCA-----

----- 22 0,0

-----UGAAUGUGUAGCAAAAGACAGA-----

----- 7

-----AAUGUGUAGCAAAAGACAGu-----

----- 2

-----AAUGUGUAGCAAAAGACAGA-----

----- 51

-----AAUGUGUAGCAAAAGACAGAu-----

----- 2

-----AAUGUGUAGCAAAAGACAGAA-----

----- 12

-----AAUGUGUAGCAAAAGACAGAAa-----

----- 3

-----AAUGUGUAGCAAAAGACAGAAU-----

----- 4

>hsa-mir-511-2 5p:16-36 SRX018962

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugguccauug

(((((.((((..(((..(((((((((((..(((.((((.((((.....)))))))).)))..)))))))).))))..)))))

-----CGUGUCUUUUGCUCUGCAGUCA-----

----- 2 -1,0

-----GUGUCUUUUGCUCUGCAGUCA-----

----- 22 0,0

-----UGAAUGUGUAGCAAAAGACAGA-----

----- 7

-----AAUGUGUAGCAAAAGACAGu-----

----- 2

-----AAUGUGUAGCAAAAGACAGA-----

----- 51

```

-----AAUGUGUAGCAAAAGACAGAu-----
----- 2
-----AAUGUGUAGCAAAAGACAGAA-----
----- 12
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 3
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 4

```

>hsa-mir-532 5p:20-41;3p:57-78 SRX018962

```

cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu

```

```

.(.((((((((.....((.((((((.(((.(((.(((.....)))..)))..))))..))))..))....
)))))))).).

```

```

-----CAUGCCUUGAGUGUAGGAC-----
----- 3 0,-3
-----CAUGCCUUGAGUGUAGGACa-----
----- 2 0,-3
-----CAUGCCUUGAGUGUAGGACC-----
----- 3 0,-2
-----CAUGCCUUGAGUGUAGGACCG-----
----- 14 0,-1
-----CAUGCCUUGAGUGUAGGACCGa-----
----- 3 0,-1
-----CAUGCCUUGAGUGUAGGACCGU-----
----- 173 0,0
-----CAUGCCUUGAGUGUAGGACCGUa-----
----- 7 0,0
-----CAUGCCUUGAGUGUAGGACCGUU-----
----- 7 0,1
-----AUGCCUUGAGUGUAGGACCGU-----
----- 3 1,0
-----CCUCCCACACCCAAGGCU-----
----- 2 0,-4
-----CCUCCCACACCCAAGGCUU-----
----- 5 0,-3
-----CCUCCCACACCCAAGGCUUG-----
----- 5 0,-2

```

-----			-----CCUCCCACACCCAAGGCUUGC-----
-----	29	0,-1	
-----			-----CCUCCCACACCCAAGGCUUGCA-----
-----	64	0,0	
-----			-----CCUCCCACACCCAAGGCUUGCAu-----
-----	7	0,0	
-----			-----CCUCCCACACCCAAGGCUUGCAA-----
-----	11	0,1	
-----			-----CUCCCACACCCAAGGCUUGC-----
-----	2	1,-1	

>hsa-mir-539 5p:9-30 SRX018962

auacuugaGGAGAAAUUAUCCUUGGUGUGUucgcuuuuuuuugaugaaucauacaaggacaauuucuuuuugaguau
 ((((((.(((((((((.((((((((((.).))))).)))))))).)))))))).)))))))).))))))
 -----AUACAAGGACAAUUCUUUUUG-----

2

>hsa-mi r-542 5p:16-38;3p:53-74 SRX018962

cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGUAACUGAAAggucug
ggagccacucaucuca
....(((((((...((((...((((((((((...(((...)))...))))))))....)))...)))...)))
))).....

[illegible]

-----			UGUGACAGAUUGAUAAACUGAAA-----
-----	29	0,0	
-----			UGUGACAGAUUGAUAAACUGAAAa-----
-----	2	0,0	
-----			UGUGACAGAUUGAUAAACUGAAAG-----
-----	4	0,1	

>hsa-mir-543 3p:47-68 SRX018962

uacuuuaugagaaguugcccguguuuuuuucgcuuuuuugugacgAAACAUUCGGGUGCACUUCUUuuucaguauc
 ((((.((.(((((((.(((((((.(((.((((.....))))).))).....))))).)))))))).))))...
 -----AAACAUUCGGGUGCACUUCUU-----
 6 0,0
 -----AAACAUUCGGGUGCACUUCUU-----
 4 0,1

>hsa-mir-548a-1 3p:61-82 SRX018962

ugcaggaggguauuaaguuggugcaaaaguaauuugugauuuuugccauuaaaaguaacgaCAAAACUGGCAAUUACUUUU
 GCaccaaaccugguauu
 ..((((.....(((((((((((((((((((((.(((((.(.(((.....)).).))))).).)))))))))))))
))))))).)))).....
 -----CAAAACUGGCAAUUACUUUU
 Ga----- 3 0,-1

>hsa-mir-548a-2 3p:61-82 SRX018962

>hsa-mi r-548a-3 5p:25-46;3p:61-82 SRX018962

[illegible]

>hsa-mir-548e 3p:53-74 SRX018962

uuauuagguugguacaaaagcaaucgcgguuuugcuauuacuuuuaaaggcAAAAACUGAGACUACUUUUGCAccaacc
ugauagaa

(((((((((((((((((((...((((((((((((((((((((...)))...)))))))))...))))))...))))))..

-----AAAAACUGAGACUACUUUUGC-----
----- 14 0,-1
-----AAAAACUGAGACUACUUUUGCA-----
----- 28 0,0
-----AAAAACUGAGACUACUUUUGCAa-----
----- 2 0,0
-----AAAACUGAGACUACUUUUGCA-----
----- 4 1,0

>hsa-mir-548h-3 5p:29-50 SRX018962

ucugauucugcauguauuagguuggugcAAAAGUAAUCGCGUUUUUGUCauugaaaguaauagcaaaaacugcaauuac
uuuugcaccaaccuaaaaguagucacugucuucagaua

(((((...(((.....(((((((((((((((((((((((((((((...(((...)))...)))))))))...))))))...))))))..

-----CAAAAACUGCAAUUAC
UUU----- 2
-----CAAAAACUGCAAUUAC
UUUU----- 5
-----CAAAAACUGCAAUUAC
UUUUG----- 14
-----CAAAAACUGCAAUUAC
UUUUGa----- 3
-----CAAAAACUGCAAUUAC
UUUUGC----- 7
-----AAAAACUGCAAUUAC
UUUU----- 2
-----AAAAACUGCAAUUAC
UUUUG----- 4

>hsa-mir-548j 5p:29-50 SRX018962

gggcagccagugaauaguagcuggugcAAAAGUAAUUGCGGUCUUUGGUauuacuuucaguggcaaaaacugcauuacu
uuugcaccagccuacuagaacgcugaguucag

-----AGGCUGGUGCAAAAGUAAUG-----
-----2-2,-4-----

uugcugcaaaaauaauugcaguuuuugccauuuuuuaauaaauuaauaAUGGCCAAAACUGCAGUUAUUUUgaccc
 aa
 .(((.(((((((((((((((((((((.(((((((((.....)))))))).)))))))))..)))))))))
).

-----UAAUGGCCAAAACUGCAGUUAU-----
 -- 2 -2,-3

>hsa-mir-548u 3p:49-71 SRX018962

-----CAAAGACUGCAAUUACUUUUGC-----
- 2 0,-1

-----CAAAGACUGCAAUUACUUUUGCG-----

- 2 0,0

>hsa-mir-548v 3p:49-70 SRX018962

aauacuagguuugagcaaaaguaauugcgguuuugccaucaugccaaaAGCUACAGUUAUUUUGCACCAgccuaauuu
((((.(((((.(.(((((((((((((.((((((((.....)).)))))))))))))).).)))))).)))))
-----AGCUACAGUUAUUUUGCACC-----
2 0,-1

>hsa-mir-548w 5p:10-32 SRX018962

gguuggugcAAAAGUACUGCGUUUUUGCCUuucaacauauggcaaaaccacaauuacuuuugcaccauc
(((((((((((((((((((((.(.(.(.((((((.....))))))))).)).)).))))))))))))))))))

-----AAAAGUAACUGCGGUUUUUG----- 4
0,-3

-----AAAAGUAACUGCGGUUUUUGC----- 2
0,-2

-----AAAAGUAACUGCGUUUUUGCC----- 2
0, -1

>hsa-mi r-550a-1 MA:22-44;mi :61-82 SRX018962

.....(.((((((.(((((((((.(((((((((((((((((((((.((.....))..)))))))))))))))))))))
)))))))).)))))))).)

-----UGAGUGUGUGUGUGUGAG-----

----- 38 0,-5

-----UGAGUGUGUGUGUGUGAGU-----

----- 49 0,-4

-----UGAGUGUGUGUGUGUGAGUG-----

----- 2 0,-3

-----UGAGUGUGUGUGUGUGAGUGaa-----

----- 3 0,-3

-----UGAGUGUGUGUGUGUGAGUGU-----

----- 14 0,-2

-----UGAGUGUGUGUGUGUGAGUGUGa-----

----- 3 0,-1

-----UGAGUGUGUGUGUGUGAGUGUGU-----

----- 6 0,0

-----UGAGUGUGUGUGUGUGAGUGUGUG-----

----- 4 0,1

-----UGAGUGUGUGUGUGUGAGUGUGUGU-----

----- 5 0,2

-----CACGCUCAUGCACACACC-----

----- 20 0,-4

-----CACGCUCAUGCACACACCCC-----

----- 40 0,-3

-----CACGCUCAUGCACACACCCCA

----- 34 0,-2

-----CACGCUCAUGCACACACCCCA

a----- 2 0,-2

-----CACGCUCAUGCACACACCCCA

u----- 9 0,-2

-----CACGCUCAUGCACACACCCCA

uu----- 2 0,-2

-----CACGCUCAUGCACACACCCCA

C----- 52 0,-1

-----CACGCUCAUGCACACACCCCA

Cu----- 8 0,-1

-----CACGCUCAUGCACACACCCCA

Cuu----- 2 0,-1

Sequence	Count	Frequency
CA	159	0,0
CAa	9	0,0
CAu	14	0,0
	2	1,-3
	2	1,-2
CA	15	1,0

```

>hsa-mir-576      5p:16-37;3p:55-76      SRX018962
uacaauccaacgaggAUUCUAAUUCUCCACGUCUUUgguaauaagguuuggcaAAGAUGUGGAAAAAUUGGAAUCcua
uucgauugguuuaacca
..(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).
-----AAGAUGUGGAAAAAUUGG-----
----- 2      0,-4
-----AAGAUGUGGAAAAAUUGGA-----
----- 2      0,-3
-----AAGAUGUGGAAAAAUUGGAAU-----
----- 2      0,-1
-----AAGAUGUGGAAAAAUUGGAAUC-----
----- 3      0,0

```

```
>hsa-mir-582      5p:16-38;3p:53-74    SRX018962
aucugugcucuuugaUUACAGUUGUCAACCAGUUACUaaucuaacuaauugUAACUGGUUGAACAAACUGAACCCaaagg
gugcaaaguagaaaacauu
...(((..((((((.....((((((((((((((((((((.....)))))))))....))))))....)))
)..)).
-----GUAACUGGUUGAACAAACUGAA-----
-----2   -1,-2-----
-----UAACUGGUUGAACAAACUGA-----
-----5   0,-3-----
-----UAACUGGUUGAACAAACUGAA-----
-----19  0,-2-----
```



```

>hsa-mir-590    5p:16-37;3p:56-76    SRX018962
uagccagucagaaauGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUUUAUGUAUAAGCUAGUcucu
gauugaaacaugcagca
....(((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----GAGCUUAUUCAUAAAAGUG-----
-----5    0,-3
-----GAGCUUAUUCAUAAAAGUGCA-----
-----6    0,-1
-----GAGCUUAUUCAUAAAAGUGCAG-----
-----9    0,0

```

```

>hsa-mir-597    5p:16-37    SRX018962
uacuuacucuacgugUGUGUCACUCGAUGACCACUGUgaagacaguaaaauguacagugguucucuuguggcucaagcgu
aanguagaguacugguc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----AGUGGUUCUCUUGUGGCUCAAG---
-----2

```

```

>hsa-mir-598    3p:61-82    SRX018962
gcuugaugaugcugcugaugcuggcgugaugcccgauuggugugagcuggaaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----UACGUCAUCGUUGUCAUC--
-----14    0,-4
-----UACGUCAUCGUUGUCAUCG-
-----7    0,-3
-----UACGUCAUCGUUGUCAUCGU
-----28    0,-2
-----UACGUCAUCGUUGUCAUCGU
C-----13    0,-1
-----UACGUCAUCGUUGUCAUCGU
Cu-----3    0,-1
-----UACGUCAUCGUUGUCAUCGU
CA-----74    0,0

```

-----UACGUCAUCGUUGUCAUCGU
CAU----- 13 0,1

```
>hsa-mir-599      3p:61-80      SRX018962
aaagacaugcuguccacaguguguuugauaagcugacaugggacagggauucuuuucacuGUUGUGUCAGUUUAUCAAAC
ccauacuuggaugac
.....((((((.((((((((((((((((((((((((((..(((((((((. ....)))..))))))))))))))))))
..))))))))))...
-----UUUGAUAAGCUGACAUGG-----
----- 2
```

```
>hsa-mir-600      3p:61-83      SRX018962
aagucacgugcuguggcuccagcucauaggaaggcucugucugucaggcaguggaguuACUUCAGACAAGAGCCUUG
CUCagggccagcccugccc
.....((.(.(((...(((...((.(((((((((((((((((((.(.....)).)))))))))))))).
)).))))).))))).))..
-----CAUAGGAAGGCUCUUGUCUGU-----
----- 2
```

```
>hsa-mir-618      5p:16-38      SRX018962
cucuuguucacagccAAACUCUACUUGUCCUUCUGAGUguaauuacguacaugcaguagcucaggagacaagcagguuuu
cccuguggaugagucuga
..((..((((((..(((.(.((((((.(((((((.....((((((...)).))))))))))))))))).)))))).
..)))))))).)).....
-----AAACUCUACUUGUCCUUCUGA-----
-----      3      0,-2
```

```

>hsa-mir-619      3p:61-84      SRX018962
cgcccaccucagccucccaaaaugcugggauuacaggcaugagccacugcggucgaccauGACCUGGACAUGUUUGUCC
CAGUacugucaguuugcag
.((..((..(((.....(((((((..((((((((((..(((.....)))))))).))))))))))
))))))))....))..
-----UGCUGGGAUUACAGGCAUGAG-----
----- 2
-----UGCUGGGAUUACAGGCAUGAGCC-----
----- 2
-----GCUGGGAUUACAGGCAUG-----
----- 6

```

```

-----GCUGGGAUUACAGGCAUGA-----
----- 2
-----GCUGGGAUUACAGGCAUGAG-----
----- 13
-----GCUGGGAUUACAGGCAUGAGCC-----
----- 5
-----GCUGGGAUUACAGGCAUGAGCCAC-----
----- 2
-----CUGGGAUUACAGGCAUGAG-----
----- 4
-----UGGGAUUACAGGCAUGAG-----
----- 3
-----GGGAUUACAGGCAUGAGC-----
----- 2

```

```

>hsa-mir-624    mi:16-37;MA:54-74    SRX018962
aaugcuguuuaaggUAGUACCAGUACCUUGUGUUCAguggaaccaagguaaaCACAAGGUAUUGGUAUUACCUugagau
agcauuacaccuaagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----UAGUACCAGUACCUUGUGUUC-----
----- 2    0,-1
-----UAGUACCAGUACCUUGUGUUCA-----
----- 5    0,0

```

```

>hsa-mir-625    MA:15-35;mi:52-73    SRX018962
aggguaagagggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUCAucccucu
gcccu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----AGGGGGAAAGUUCUAUAGU-----
----- 3    0,-2
-----AGGGGGAAAGUUCUAUAGUC-----
----- 12    0,-1
-----AGGGGGAAAGUUCUAUAGUCCU-----
----- 9    0,1
-----GACUAUAGAACUUUCCCCCUCA-----
----- 3    0,0

```

-----GACUAUAGAACUUCCCCUCAU-----
 ----- 2 0,1 -----

```
>hsa-mi r-628      5p:23-44;3p:61-81      SRX018962
auagcuguugugucacuuccucAUGCUGACAUAUUUACUAGAGGguaaaauaaauaccuUCUAGUAAGAGUGGCAGUCG
Aaggggaagggcucau
.....((.(((.(((((.(((.(((.(((((((((((((.)))))))))))).)).)).))
..)))))))))).)).
```

-----AUGCUGACAUAUUUACUAGA-----
 ----- 2 0,-2
 -----AUGCUGACAUAUUUACUAGAGG-----
 ----- 4 0,0

```
>hsa-mir-629      MA:22-42;mi:61-82    SRX018962
ucccuuuccaggggaggggcUGGGUUACGUUGGAGAACUuuuacggugaaccaggagGUUCUCCCAACGUAAGCCCCA
GCccucucccucugccu
.....((((((((((((((((((((((((((((((((((..((...)).)))))))))((((((((((((((((
)))))))))....
```

-----	CUGGGUUUACGUUGGGAG-----
-----	2 -1,-4
-----	UGGGUUUACGUUGGGAGA-----
-----	326 0,-3
-----	UGGGUUUACGUUGGGAGAA-----
-----	119 0,-2
-----	UGGGUUUACGUUGGGAGAAC-----
-----	3 0,-1
-----	UGGGUUUACGUUGGGAGAACU _{aa} -----
-----	3 0,0

```

>hsa-mir-641      5p:16-39      SRX018962
ugggugaaaggaaggAAAGACAUAGGAUAGAGUACCUcuguccucuguccucuaccuauagaggugacuguccuauguc
uuuccuuccucuuaacccu
.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
)))))))).))))))..
-----AAAGACAUAGGAUAGAGUC-----
-----2      0,-5
-----AAAGACAUAGGAUAGAGUCA-----
-----2      0,-4

```

```

-----AAAGACAUAGGAUAGAGUCAC-----
----- 6    0,-3
-----AAAGACAUAGGAUAGAGUCACCU-----
----- 6    0,-1

```

```

>hsa-mir-652      3p:61-81      SRX018962
acgaauggcuaugcacugcacaacccuaggagagggugccauucacauagacuauaaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))).....
))))))))))....
-----AAUGGCGCCACUAGGGUU--
-----48  0,-3
-----AAUGGCGCCACUAGGGUUG-
-----12  0,-2
-----AAUGGCGCCACUAGGGUUGU
-----12  0,-1
-----AAUGGCGCCACUAGGGUUGU
G-----2  0,0
-----AAUGGCGCCACUAGGGUUGU
Ga-----6  0,0
-----AAUGGCGCCACUAGGGUUGU
Gu-----12 0,0

```


ggugccgagggccguccggcauccuagggcgggucgcugcgguaaccuccuccugucuguggcggugggaucuccguggccg
uguuuuccuGGUGGCCCCGCCGUGCCUGAGGuuuc

-----UGGUGGCCCGCCGUGCCUGAGG----- 2 -1,0

-----GGUGGCCCGGCCGUGCCU----- 18 0,-4

-----GGUGGCCCGGCCGUGCCUG----- 5 0,-3

-----GGUGGCCCGGCCGUGCCUGA----- 2 0,-2

-----GGUGGCCCGGCCGUGCCUGAG----- 3 0,-1

-----GGUGGCCCGGCCGUGCCUGAGG----- 2 0,0

gaacauugaaACUGGCUAGGGAAAAUGAUUGGAUagaaacuuaauucUAUUCAUUUAUCCCCAGCCUACAaaaugaaaa
aa

-----AACUGGCUAGGGAAAAUGAUUGGA.

$$-- \quad 2 \quad -1, -1$$

-----ACUGGCUAGGGAAAAUGAUUG.

$$-- \quad 3 \quad 0, -3$$

-----ACUGGCUAGGGAAAAUGAUUGG.

-- 111 0,-2

-----ACUGGCUAGGGAAAAUGAUUGGu.

-- 22 0,-2

-----ACUGGCUAGGGAAAAUGAUUGGA.

-- 83 0,-1

-----ACUGGCUAGGGAAAAUGAUUGGAa.

$$-- \quad 2 \quad 0, -1$$

-----ACUGGCUAGGGAAAAUGAUUGGAU.

-- 2 0,0

-----UCCGGUUCUCAGG		
GCUCCACaa-----	2	0,-1
-----UCCGGUUCUCAGG		
GCUCCACC-----	6	0,0

>hsa-mir-675 MA:10-32;mi:45-64 SRX018962

cccagggucUGGUGCGGAGAGGGCCCACAGUGgacuuggugacgCUGUAUGCCCUCACCGCUCAgccccuggg

(((((.((((.((((.((((((.(((((.....)))))).)))))..))))).))))))

-----UGGUGCGGAGAGGGCCCACA----- 3
0, -3

-----UGGUGCGGAGAGGGCCCACAG----- 4
0, -2

-----UGGUGCGGAGAGGGCCCACAGa----- 2
0,-2

-----UGGUGCGAGAGGGCCCACAGU----- 12
0,-1

-----UGGUGCGGAGAGGGCCCACAGUG----- 7
0,0

-----UGGUGCGAGAGGGCCCACAGUGu----- 4
0,0

-----CUGUAUGCCCUCACCGCUCAGa----- 2
0,1

-----CUGUAUGCCCUCACCGCUCAGu----- 2
0,1

-----CUGUAUGCCCUCACCGCUCAGC----- 5

-----CUGUAUGCCCUCACCGCUCAGCa----- 2

>hsa-mir-7-1 MA:24-46;mi:66-87 SRX018962

uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucgaCAACAAUCACAGUC

UGCCAUAuggcacaggccaugccucuacag

-----UGGAAGACUAGUGAUUU-----
----- 27 0,-5

-----UGGAAGACUAGUGAUUUUG-----
 -----3 0,-4

```

-----UGGAAGACUAGUGAUUUUGUU-----
----- 11 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 39 0,-1
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 81 0,0
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 55 0,1
-----UGGAAGACUAGUGAUUUUGUUGUa-----
----- 4 0,1
-----GGAAGACUAGUGAUUUUGUUG-----
----- 3 1,0
-----CAACAAAUCACAGUC
UGCCAU----- 3 0,-1
-----CAACAAAUCACAGUC
UGCCAU----- 4 0,0
-----AACAAAUCACAGUC
UGCCAU----- 2 1,0

```

>hsa-mir-7-2 MA:32-54;mi:72-93 SRX018962
cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuacugcgcucaaCAACAAAUC
CCAGUCUACCUAAuggugccagccaucgca

```

.....((((...(((((((.((((...((.(((((((.(((((((.(((((((.....))))))))))))))
).))))).))..))))).))))).))))).))))).

```

```

-----UGGAAGACUAGUGAUUUU-----
----- 27 0,-5
-----UGGAAGACUAGUGAUUUUG-----
----- 3 0,-4
-----UGGAAGACUAGUGAUUUUGUU-----
----- 11 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 39 0,-1
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 81 0,0
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 55 0,1
-----UGGAAGACUAGUGAUUUUGUUGUa-----
----- 4 0,1

```

-----GGAAGACUAGUGAUUUUGUUGU-----
----- 3 1,0 -----

agauuagaguggcuguggucuagugcugugUGGAAGACUAGUGAUUUUGUUGUucugauguacuacgacaacaagucaca
gccggccucauagcgcagacucccuucgac

.....(((.(((....((((.((((((((.(..(.(((.(((((((.((((((((.(.....)).))))))))))))))))))
).).)).)))))))))))))))))).))....

-----UGGAAGACUAGUGAUUUU-----
----- 27 0,-5 -----

-----UGGAAGACUAGUGAUUUUG-----
----- 3 0,-4 -----

-----UGGAAGACUAGUGAUUUUGUU-----
----- 11 0,-2 -----

-----UGGAAGACUAGUGAUUUUGUUG-----
----- 39 0,-1

-----UGGAAGACUAGUGAUUUUGUUGU-----
-----81 0,0-----

-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 55 0,1

-----UGGAAGACUAGUGAUUUUGUUGUUa-----
-----4 0,1-----

-----GGAAGACUAGUGAUUUUGUUGU-----
-----3 1,0-----

>hsa-mi r-708 MA:11-33;mi :57-78 SRX018962

aacugccucAAGGAGCUUACAAUCUAGCUGGGgguaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcagggga

$$\begin{aligned} & \dots(((((((\cdot(((((((((\cdot(((((\cdot(\ldots ((\cdot(((\ldots)))))) .))))) .))))) .))))) .))))) \\ &))))))). \end{aligned}$$

-----AAGGAGCUUACAAUCUAGCU-----
-----10 0,-3-----

-----AAGGAGCUUACAAUCUAGCUG-----
-----3 0,-2-----

-----AAGGAGCUUACAAUCUAGCUGa-----
-----2 0,-2-----

-----AAGGAGCUUACAAUCUAGCUGG-----
-----15 0,-1-----

```

-----AAGGAGCUACAAUCUAGCUGGa-----
-----      3      0,-1
-----AAGGAGCUACAAUCUAGCUGGG-----
-----      5      0,0
-----AACUAGACUGUGAGCUUCUAGA-
-----      3      1,1

```

>hsa-mir-720 5p:27-43 SRX018962

```

ccggaucucacacggugguguuaaUAUCUCGCUGGGGCCUCCAaaauguugugcccagggguguuagagaaaacaccaca
cuuugagaugaauaagaguccuuuuuag
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
...)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----AUCUCGCUGGGGCCUCCA-----
-----      35     -1,0
-----CUCGCUGGGGCCUCCAAA-----
-----      2      1,2

```

>hsa-mir-744 MA:11-32;mi:68-89 SRX018962

```

uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----UGCGGGGCUAGGGCUAAC-----
-----      17      0,-4
-----UGCGGGGCUAGGGCUAACA-----
-----      12      0,-3
-----UGCGGGGCUAGGGCUAACAAa-----
-----      3      0,-3
-----UGCGGGGCUAGGGCUAACAAu-----
-----      2      0,-3
-----UGCGGGGCUAGGGCUAACAG-----
-----     123      0,-2
-----UGCGGGGCUAGGGCUAACAGa-----
-----      14      0,-2
-----UGCGGGGCUAGGGCUAACAGaa-----
-----      5      0,-2
-----UGCGGGGCUAGGGCUAACAGu-----
-----      12      0,-2

```


ggcgcgucgccccccucaguccaccagagcccggauaccucagaaauuCGGCUCUGGGUCUGUGGGGAgcgaaaugcaac
 .(((.(.(((.((((.((((...((((((.((((.....)))))))))))).)).)).)).)).)...
 -----CGGCUCUGGGUCUGUGGGGAGu-----

gcauccucaggaccuggggcuuggggugguaggagggaauuggugcugggucuuucauuuugggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaauugucauaggagc
(((.(((...(((...(((.(((((((...(((...(((.((((...(((.....)))..))))).)))...
)))..))))))..))))....)))..))))))

gccuuggugcugauuccugggcucugaccUGAGACCUcUGGUUcUGAGCugugauguugcucucgagCUGGGAUCUCCG
GGGUCUUGGUUcagggccggggccucuggguuccaagc

..(((((((((.....)))))))).))))).
))))).))))).))))).))))).

-----UGAGACCUCUGGGUUCUG-----
----- 4 0,-4
-----UGAGACCUCUGGGUUCUGA-----
----- 2 0,-3
-----UGAGACCUCUGGGUUCUGAG-----
----- 12 0,-2
-----UGAGACCUCUGGGUUCUGAGu-----
----- 2 0,-2
-----UGAGACCUCUGGGUUCUGAGC-----
----- 15 0,-1
-----UGAGACCUCUGGGUUCUGAGCU-----
----- 17 0,0
-----UGAGACCUCUGGGUUCUGAGCUa-----
----- 2 0,0
-----UGAGACCUCUGGGUUCUGAGCUu-----
----- 5 0,0
-----UGGGAUCUCCG
GGGUCUUGGUU----- 4 1,0

>hsa-mir-874 3p:47-68 SRX018962

uuagcccugcgccccacgcaccaggguaagagagacucucgcuucCUGCCCUGGCCCAGGGACCGAcugggcugggc
((((((...(((.....)))))))).))))).))))).))))).))))).))))).))))).))..
-----CGGCCCCACGCACCAGGGUA-----
3
-----CGGCCCCACGCACCAGGGUAA-----
2
-----CGGCCCCACGCACCAGGGUAAGu-----
2
-----CUGCCCUGGCCCAGGGACC-----
3 0,-2
-----CUGCCCUGGCCCAGGGACCGA-----
2 0,0
-----CUGCCCUGGCCCAGGGACCGAC-----
4 0,1

>hsa-mir-877 MA:1-20;mi:66-86 SRX018962

...(((((((..((.(.((((((((((.(.....((((((((((.....))))))))).).)))))))).).))))))
))....

----- 2 0, -1

----- 4 0,0

----- 3 0,0

----- 3 0,0

----- 2 0,2

----- 4 0,2

----- 4 0,3

$$- - - - - 2 \quad 0.3$$

----- 17 0,4

----- 2 1,1

----- 2 1.3

ccgcacucucUCCAUACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu

-----CUCCAUUACACUACCCUGCCU----- 3

-1, -2

-1,-1

0.-4

0. -3

-----UCCAUUACACUACCCUGCCU-----	22
0,-2	
-----UCCAUUACACUACCCUGCCUC-----	37
0,-1	
-----UCCAUUACACUACCCUGCCUCa-----	2
0,-1	
-----UCCAUUACACUACCCUGCCUCU-----	99
0,0	
-----UCCAUUACACUACCCUGCCUCUa-----	5
0,0	
-----CAUUACACUACCCUGCCUC-----	3
2,-1	
-----CAUUACACUACCCUGCCUCU-----	2
2,0	
-----AGGCAGCGGGGUGUAGUG-----	9
0,-4	
-----AGGCAGCGGGGUGUAGUGu-----	3
0,-4	
-----AGGCAGCGGGGUGUAGUGG-----	91
0,-3	
-----AGGCAGCGGGGUGUAGUGGA-----	66
0,-2	
-----AGGCAGCGGGGUGUAGUGGAa-----	13
0,-2	
-----AGGCAGCGGGGUGUAGUGGAaa-----	13
0,-2	
-----AGGCAGCGGGGUGUAGUGGAau-----	3
0,-2	
-----AGGCAGCGGGGUGUAGUGGAU-----	37
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUu-----	33
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUuu-----	2
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUA-----	57
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAa-----	29
0,0	

```

-----AGGCAGCGGGGUGUAGUGGAUAaa----- 13
0,0
-----AGGCAGCGGGGUGUAGUGGAUAau----- 2
0,0
-----AGGCAGCGGGGUGUAGUGGAUAu----- 18
0,0
-----AGGCAGCGGGGUGUAGUGGAUAGA----- 3
0,2
-----GGCAGCGGGGUGUAGUGGAaa----- 2
1,-2
-----GGCAGCGGGGUGUAGUGGAU----- 3
1,-1

```

>hsa-mir-887 3p:48-69 SRX018962

```

gugcagauccuugggagcccuguuagacucuggauuuuacacuuggaGUGAACGGGCGCCAUCCCGAGGcuuugcacag
(((((((.((((((((((((((((((..((((..(.....).))))).))))).))..)))))))).))))))..
-----GUGAACGGGCGCCAUCCCGA-----
2 0,-2
-----GUGAACGGGCGCCAUCCCGAG-----
7 0,-1
-----GUGAACGGGCGCCAUCCCGAGGC-----
2 0,1
-----GUGAACGGGCGCCAUCCCGAGGCU-----
3 0,2

```

>hsa-mir-889 3p:49-69 SRX018962

```

gugcuuaaagaauaggcuguccguaguauggucucuauauuuuaugaugaUUAUAUCGGACAACCAUUGUuuuaguaucc
(((((.(((.(((((.((((((.....((((((.....)).))))).))))).))))).))))).))))).))))..
-----UAAUAUCGGACAACCAUUG-----
2 1,-1

```

>hsa-mir-92a-1 mi:11-33;MA:48-69 SRX018962

```

cuuucuacacAGGUUGGGAUCGGUUGCAAUGCUguguuucuguauggUUAUUGCACUUGUCCCGGCCUGUugaguugg
..(((...((((((((((((((.(((.((((((((((((.....)))))))).)))))))).)))))))).))))..
-----AGGUUGGGAUCGGUUGCA-----
2 0,-5
-----AGGUUGGGAUCGGUUGCAAU-----
5 0,-3

```

-----AGGUUGGGAUCGGUUGCAAUG-----	
15 0,-2	
-----AGGUUGGGAUCGGUUGCAAUGC-----	
31 0,-1	
-----AGGUUGGGAUCGGUUGCAAUGCU-----	
180 0,0	
-----AGGUUGGGAUCGGUUGCAAUGCUu-----	
3 0,0	
-----GUUGGGAUCGGUUGCAAUGCU-----	
2 2,0	
-----UAUUGCACUUGUCCCCGGC-----	
424 0,-4	
-----UAUUGCACUUGUCCCCGGCau-----	
10 0,-4	
-----UAUUGCACUUGUCCCCGGCu-----	
3 0,-4	
-----UAUUGCACUUGUCCCCGGCuu-----	
8 0,-4	
-----UAUUGCACUUGUCCCCGGCC-----	
1215 0,-3	
-----UAUUGCACUUGUCCCCGGCCa-----	
9 0,-3	
-----UAUUGCACUUGUCCCCGGCCau-----	
4 0,-3	
-----UAUUGCACUUGUCCCCGGCCU-----	
21335 0,-2	
-----UAUUGCACUUGUCCCCGGCCUa-----	
31 0,-2	
-----UAUUGCACUUGUCCCCGGCCUaa-----	
25 0,-2	
-----UAUUGCACUUGUCCCCGGCCUau-----	
17 0,-2	
-----UAUUGCACUUGUCCCCGGCCUu-----	
44 0,-2	
-----UAUUGCACUUGUCCCCGGCCUuu-----	
8 0,-2	
-----UAUUGCACUUGUCCCCGGCCUG-----	
2074 0,-1	

		-----UAUUGCACUUGUCCCCGGCCUGa-----
57	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGaa-----
44	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGau-----
6	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGU-----
2034	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUa-----
228	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUaa-----
101	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUau-----
82	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUU-----
116	0, 1	
		-----UAUUGCACUUGUCCCCGGCCUGUUa-----
6	0, 1	
		-----UAUUGCACUUGUCCCCGGCCUGUUau-----
4	0, 1	
		-----UAUUGCACUUGUCCCCGGCCUGUUu-----
36	0, 1	
		-----UAUUGCACUUGUCCCCGGCCUGUUuu-----
6	0, 1	
		-----AUUGCACUUGUCCCCGGCC-----
37	1, -3	
		-----AUUGCACUUGUCCCCGGCCU-----
371	1, -2	
		-----AUUGCACUUGUCCCCGGCCUG-----
56	1, -1	
		-----AUUGCACUUGUCCCCGGCCUGa-----
2	1, -1	
		-----AUUGCACUUGUCCCCGGCCUGU-----
57	1, 0	
		-----AUUGCACUUGUCCCCGGCCUGUa-----
9	1, 0	
		-----AUUGCACUUGUCCCCGGCCUGUaa-----
4	1, 0	

```

-----AUUGCACUUGUCCCGGCCUGUU-----
2    1,1
-----UUGCACUUGUCCCGGCCU-----
13   2,-2

>hsa-mir-92a-2   mi:9-30;MA:48-69      SRX018962
ucaucccuGGGUGGGGAUUUGUUGCAUUACuuguguucuauauaaagUAUUGCACUUGUCCCGGCCUGUggaaga
((.(((.((((.((((.((((.(((((((.(...)))..))))..))))..))))..))))..)))
-----UAUUGCACUUGUCCCGGCC----- 424
0,-4
-----UAUUGCACUUGUCCCGGCCau----- 10
0,-4
-----UAUUGCACUUGUCCCGGCCu----- 3
0,-4
-----UAUUGCACUUGUCCCGGCCuu----- 8
0,-4
-----UAUUGCACUUGUCCCGGCC----- 1215
0,-3
-----UAUUGCACUUGUCCCGGCCa----- 9
0,-3
-----UAUUGCACUUGUCCCGGCCau----- 4
0,-3
-----UAUUGCACUUGUCCCGGCCU-----
21335    0,-2
-----UAUUGCACUUGUCCCGGCCUa----- 31
0,-2
-----UAUUGCACUUGUCCCGGCCUaa----- 25
0,-2
-----UAUUGCACUUGUCCCGGCCUau----- 17
0,-2
-----UAUUGCACUUGUCCCGGCCUu----- 44
0,-2
-----UAUUGCACUUGUCCCGGCCUuu----- 8
0,-2
-----UAUUGCACUUGUCCCGGCCUG----- 2074
0,-1
-----UAUUGCACUUGUCCCGGCCUGa----- 57
0,-1

```

0,-1	UUAUUGCACUUGUCCCCGGCCUGaa	44
0,-1	UUAUUGCACUUGUCCCCGGCCUGau	6
0,0	UUAUUGCACUUGUCCCCGGCCUGU	2034
0,0	UUAUUGCACUUGUCCCCGGCCUGUa	228
0,0	UUAUUGCACUUGUCCCCGGCCUGUaa	101
0,0	UUAUUGCACUUGUCCCCGGCCUGUau	82
0,1	UUAUUGCACUUGUCCCCGGCCUGUG	4
1,-3	AUUUGCACUUGUCCCCGGCC	37
1,-2	AUUUGCACUUGUCCCCGGCCU	371
1,-1	AUUUGCACUUGUCCCCGGCCUG	56
1,-1	AUUUGCACUUGUCCCCGGCCUGa	2
1,0	AUUUGCACUUGUCCCCGGCCUGU	57
1,0	AUUUGCACUUGUCCCCGGCCUGUa	9
1,0	AUUUGCACUUGUCCCCGGCCUGUaa	4
2,-2	UUAUUGCACUUGUCCCCGGCCU	13

>hsa-mi r-92b mi:20-41;MA:61-82 SRX018962

cgggccccgggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuuccccgccaaUAUUGCACUCGUCCCCGGCCU
CCggccccccccggccc

.((((..(((.((((.(((((..(((((((.(((((((((((((.)))))))))))))))))))).))
))).)))))))).))))))

-----AGGGACGGGACGCGGUGCAG-----

$$----- \quad 2 \quad 0, -2$$

```

-----AGGGACGGGACGCGGUGCAGU-----
-----9  0,-1
-----AGGGACGGGACGCGGUGCAGUG-----
-----4  0,0
-----AGGGACGGGACGCGGUGCAGUGU-----
-----15 0,1
-----AGGGACGGGACGCGGUGCAGUGUU-----
-----12 0,2
-----AGGGACGGGACGCGGUGCAGUGUUG-----
-----2  0,3
-----UAUUGCACUCGUCCCCGGC--
-----11 0,-4
-----UAUUGCACUCGUCCCCGGCC-
-----91 0,-3
-----UAUUGCACUCGUCCCCGGCCa
-----10 0,-3
-----UAUUGCACUCGUCCCCGGCCa
a-----3  0,-3
-----UAUUGCACUCGUCCCCGGCCU
-----143 0,-2
-----UAUUGCACUCGUCCCCGGCCU
a-----22 0,-2
-----UAUUGCACUCGUCCCCGGCCU
aa-----29 0,-2
-----UAUUGCACUCGUCCCCGGCCU
au-----12 0,-2
-----UAUUGCACUCGUCCCCGGCCU
u-----4  0,-2
-----UAUUGCACUCGUCCCCGGCCU
uu-----2  0,-2
-----UAUUGCACUCGUCCCCGGCCU
C-----131 0,-1
-----UAUUGCACUCGUCCCCGGCCU
Ca-----20 0,-1
-----UAUUGCACUCGUCCCCGGCCU
Caa-----30 0,-1
-----UAUUGCACUCGUCCCCGGCCU
Cau-----8  0,-1

```

```

-----UAUUGCACUCGUCCCCGGCCU
Cu-----      4    0,-1
-----UAUUGCACUCGUCCCCGGCCU
CC-----      93   0,0
-----UAUUGCACUCGUCCCCGGCCU
CCa-----     30   0,0
-----UAUUGCACUCGUCCCCGGCCU
CCaa-----    11   0,0
-----UAUUGCACUCGUCCCCGGCCU
CCau-----    27   0,0
-----UAUUGCACUCGUCCCCGGCCU
CCu-----     31   0,0
-----UAUUGCACUCGUCCCCGGCCU
CCuu-----     3   0,0
-----AUUGCACUCGUCCCCGGCCU
C-----        6    1,-1
-----AUUGCACUCGUCCCCGGCCU
CCu-----        3    1,0

```

>hsa-mi r-93 MA:11-33;mi:50-71 SRX018962

```

cuggggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCCGagcccccg
(((((((((((..(((((((((((((((((..((((..((.....))..))))))))))))).))))))..)))))))))
-----CAAAGUGCUGUUCGUGCA-----
      62    0,-5
-----CAAAGUGCUGUUCGUGCAG-----
      78    0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
      66    0,-3
-----CAAAGUGCUGUUCGUGCAGGaa-----
      4     0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
     179    0,-2
-----CAAAGUGCUGUUCGUGCAGGUA-----
     337    0,-1
-----CAAAGUGCUGUUCGUGCAGGUa-----
      50    0,-1
-----CAAAGUGCUGUUCGUGCAGGUa-----
      47    0,-1

```



```

-----CAAAGUGCUGUUCGUGCAGGUAG-----
118 0,0
-----AAAGUGCUGUUCGUGCAGGU-----
6 1,-2
-----AAAGUGCUGUUCGUGCAGGUA-----
7 1,-1
-----AAAGUGCUGUUCGUGCAGGUAa-----
3 1,-1
-----AAAGUGCUGUUCGUGCAGGUAG-----
3 1,0
-----ACUGCUGAGCUAGCACUUCCCGA-----
5 0,1
-----ACUGCUGAGCUAGCACUUCCCGAu-----
3 0,1

```

>hsa-mir-935 3p:56-78 SRX018962

```

ggcggggggcgcgggcggcaguggcgggagcgggccccucggccauccuccgucugcCCAGUUACCGCUUCCGCUACCGCcgcgcuccccgcu
((((((((((...((((((.((((((((((((((((((...((.((((.....))))).))...))))))))))))))))))))))))))))))
))))))))))))))
-----CAGUUACCGCUUCCGCUACCG---
----- 2 1,-1

```

>hsa-mir-940 3p:60-80 SRX018962

```

gugaggugugggccccggccccaggagcgggggccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggcugacccccac
(((.(((.((((((((.....((((((((((((((((((...((.((((.....))))).))...))))))))))))))))))))))))))
))))))))))))))
-----AAGGCAGGGCCCCCGCUCC--
----- 2 0,-2
-----AAGGCAGGGCCCCCGCUCCCC
----- 2 0,0
-----AAGGCAGGGCCCCCGCUCCCC
u----- 4 0,0

```

>hsa-mir-941-1 3p:71-93 SRX018962

```

cacggaagaggacacacccggcuguguggacaugugcccaggggccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccaggggccgggacagcgccacgg

```

.....(((((((.(.(.((((((((((.(.((((.((((...(((((.(...).)).))).)))))))).
)).)))))))).)))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).

UGUGCACAUGUG	17	0,-1	-CACCCGGCUG
UGUGCACAUGUGa	9	0,-1	-CACCCGGCUG
UGUGCACAUGUGu	4	0,-1	-CACCCGGCUG
UGUGCACAUGUGC	58	0,0	-CACCCGGCUG
UGUGCACAUGUGCa	2	0,0	-CACCCGGCUG

>hsa-mir-941-2 3p:71-93 SRX018962

cacggaagaggacgcacccggcugugugcacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg

Sequence	Count	Count	Count
CACCCGGCUGUGUGCACAUGUG	17		
CACCCGGCUGUGUGCACAUGUG _a	9		
CACCCGGCUGUGUGCACAUGUG _u	4		
CACCCGGCUGUGUGCACAUGUGC	58		
CACCCGGCUGUGUGCACAUGUGC _a	2		
UGUGCACAUGUG	17	0, -1	
UGUGCACAUGUG _a	9	0, -1	
UGUGCACAUGUG _u	4	0, -1	
UGUGCACAUGUGC	58	0, 0	
UGUGCACAUGUGC _a	2	0, 0	


```

-----CACCCGGCUGUGUGCACAUGUGC-----
-----58
-----CACCCGGCUGUGUGCACAUGUGCa-----
-----2
-----CACCCGGCUG
UGUGCACAUGUG-----17 0,-1
-----CACCCGGCUG
UGUGCACAUGUGa-----9 0,-1
-----CACCCGGCUG
UGUGCACAUGUGu-----4 0,-1
-----CACCCGGCUG
UGUGCACAUGUGC-----58 0,0
-----CACCCGGCUG
UGUGCACAUGUGCa-----2 0,0

```

```

>hsa-mir-942 5p:13-34 SRX018962
auuaggagaguaUCUUCUCUGUUUUGGCCAUGUGuguacucacagccccucacacauggccgaaacagagaaguuaauuu
ccuaau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----UUCUCUGUUUUGGCCAUGUGUGa-----
-----2 2,2

```

```

>hsa-mir-944 3p:54-75 SRX018962
guuccagacacaucaucugauauacaauuuuucuaaaauuguauaaagagAAAUUAUUGUACAUCGGAUGAGcugug
ucugggau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----AAAUUAUUGUACAUCGGAUGAG-----
-----2 0,0

```

```

>hsa-mir-95 3p:49-70 SRX018962
aacacagugggcacucaauaaaugucuguugaauugaaaugcguuacaUUCAACGGGUUUUAUUGAGCacccacucugu
g
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.
-----AUUCAACGGGUUUUAUUGA-----
- 2 -1,-3

```

```

-----UUCAACGGGUUUUAUUG-----
- 107 0,-4
-----UUCAACGGGUUUUAUUGA-----
- 79 0,-3
-----UUCAACGGGUUUUAUUGAG-----
- 280 0,-2
-----UUCAACGGGUUUUAUUGAGC-----
- 19 0,-1
-----UUCAACGGGUUUUAUUGAGCA-----
- 12 0,0
-----UUCAACGGGUUUUAUUGAGCAa-----
- 14 0,0
-----UUCAACGGGUUUUAUUGAGCAu-----
- 3 0,0
-----UCAACGGGUUUUAUUGA-----
- 6 1,-3
-----UCAACGGGUUUUAUUGAG-----
- 4 1,-2
-----UCAACGGGUUUUAUUGAGC-----
- 4 1,-1
-----UCAACGGGUUUUAUUGAGCAu-----
- 3 1,0
-----CAACGGGUUUUAUUGAGCAa-----
- 2 2,0

```

>hsa-mir-96 MA:9-31;mi:52-73 SRX018962

```

uggccgauUUUGGCACUAGCACAUUUUUGCUugugucucuccgcucugagcAAUCAUGUGCAGUGCCAAUAUGggaaa
...((.((.(((((((.((((((..((((((((.....))))))..)))))))).)))).)...)
-----UUUGGCACUAGCACAUUUUUG-----
3 0,-2

```

>hsa-mir-98 5p:22-43 SRX018962

```

aggauucugcucaugccagggUGAGGUAGUAAGUUGUAUUGUUguggggguagggauauuaggccccaauuagaagauaac
uauacaacuacuacuucccugguguguggcauauuca
.((((..((((((((((((((.((((((((((((((((((.....)))))).....))))))
.)))))))).)))))))).))))).))))).
-----UGAGGUAGUAAGUUGUAU-----
----- 22 0,-4

```

```

-----UGAGGUAGUAAGUUGUAUUG-----
----- 2 0,-2
-----UGAGGUAGUAAGUUGUAUUG-----
----- 6 0,-1
-----UGAGGUAGUAAGUUGUAUUGU-----
----- 4 0,0
-----UGAGGUAGUAAGUUGUAUUGUu-----
----- 2 0,0

```

>hsa-mir-99a MA:13-34;mi:50-71 SRX018962

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

```

..((((((((((.(((((((((.(((.((((((.((.....)))))))))).)))..)))))))))).
.
-----AAACCCGUAGAUCCGAUC-----
- 4 -1,-5
-----AAACCCGUAGAUCCGAUC-----
- 3 -1,-4
-----AAACCCGUAGAUCCGAUCU-----
- 2 -1,-3
-----AAACCCGUAGAUCCGAUCUUG-----
- 31 -1,-2
-----AAACCCGUAGAUCCGAUCUUGU-----
- 150 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUaa-----
- 2 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUG-----
- 9 -1,0
-----AAACCCGUAGAUCCGAUCUUGUGa-----
- 3 -1,0
-----AAACCCGUAGAUCCGAUCUUGUGu-----
- 2 -1,0
-----AACCCGUAGAUCCGAUC-----
- 687 0,-4
-----AACCCGUAGAUCCGAUCa-----
- 5 0,-4
-----AACCCGUAGAUCCGAUCU-----
- 2012 0,-3

```

-----AACCCGUAGAUCCGAUCUa-----
- 38 0,-3
-----AACCCGUAGAUCCGAUCUau-----
- 8 0,-3
-----AACCCGUAGAUCCGAUCUu-----
- 28 0,-3
-----AACCCGUAGAUCCGAUCUuu-----
- 13 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 9327 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
- 135 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
- 8 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 49178 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
- 315 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 48 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
- 14 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----
- 135 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----
- 24 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 50243 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 8587 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 159 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----
- 11 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 11194 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----
- 29 0,0

```

-----AACCCGUAGAUCCGAUCUUGUGG-----
- 13 0,1
-----ACCCGUAGAUCCGAUCUU-----
- 3 1,-3
-----ACCCGUAGAUCCGAUCUUG-----
- 5 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----
- 40 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 61 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 17 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----
- 23 1,0
-----CAAGCUCGCUUCUAUGGG-----
- 6 0,-4
-----CAAGCUCGCUUCUAUGGGU-----
- 6 0,-3
-----CAAGCUCGCUUCUAUGGGUC-----
- 5 0,-2
-----CAAGCUCGCUUCUAUGGGUCU-----
- 14 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 11 0,0
-----CAAGCUCGCUUCUAUGGGUCUGa-----
- 3 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 10 0,1
-----CAAGCUCGCUUCUAUGGGUCUGUu-----
- 2 0,1
-----AAGCUCGCUUCUAUGGGUC-----
- 6 1,-2
-----AAGCUCGCUUCUAUGGGUCU-----
- 2 1,-1

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018962

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))

```


-----CACCCGUAGAACCGACCU-----	2	0,-4
-----CACCCGUAGAACCGACCUU-----	2	0,-3
-----CACCCGUAGAACCGACCUUG-----	6	0,-2
-----CACCCGUAGAACCGACCUUGa-----	3	0,-2
-----CACCCGUAGAACCGACCUUGC-----	149	0,-1
-----CACCCGUAGAACCGACCUUGCa-----	17	0,-1
-----CACCCGUAGAACCGACCUUGCau-----	2	0,-1
-----CACCCGUAGAACCGACCUUGCu-----	3	0,-1
-----CACCCGUAGAACCGACCUUGCG-----	213	0,0
-----CACCCGUAGAACCGACCUUGCGa-----	89	0,0
-----CACCCGUAGAACCGACCUUGCGaa-----	3	0,0
-----CACCCGUAGAACCGACCUUGCGu-----	81	0,0
-----CACCCGUAGAACCGACCUUGCGG-----	17	0,1
-----ACCCGUAGAACCGACCUUGC-----	3	1,-1
-----ACCCGUAGAACCGACCUUGCa-----	2	1,-1
-----ACCCGUAGAACCGACCUUGCG-----	8	1,0
-----ACCCGUAGAACCGACCUUGCGa-----	3	1,0
-----ACCCGUAGAACCGACCUUGCGu-----	3	1,0
-----CAAGCUCGUGUCUGUGGGU-----	2	0,-3
-----CAAGCUCGUGUCUGUGGGUC-----	13	0,-2
-----CAAGCUCGUGUCUGUGGGUCC-----	5	0,-1
-----CAAGCUCGUGUCUGUGGGUCCG-----	6	0,0
-----CAAGCUCGUGUCUGUGGGUCCGa-----	8	0,0
-----CAAGCUCGUGUCUGUGGGUCCGU-----	5	0,1

-----UGAGGUAGUAGGUUGUAUA-----
 2347 0, -3
 -----UGAGGUAGUAGGUUGUAUAa-----
 349 0, -3
 -----UGAGGUAGUAGGUUGUAUAaa-----
 65 0, -3
 -----UGAGGUAGUAGGUUGUAUAau-----
 12 0, -3
 -----UGAGGUAGUAGGUUGUAUAu-----
 112 0, -3
 -----UGAGGUAGUAGGUUGUAUAuu-----
 11 0, -3
 -----UGAGGUAGUAGGUUGUAUAG-----
 8639 0, -2
 -----UGAGGUAGUAGGUUGUAUAGa-----
 623 0, -2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 86 0, -2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 41 0, -2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 47139 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 1607 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 1042 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 281 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 76878 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 10013 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 638 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 325 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 4822 0, 1

--GUUGAGGUAGUAGGUUGUAUA-----	2
-2, -3	
---UUGAGGUAGUAGGUUGUAUAG-----	5
-1, -2	
---UUGAGGUAGUAGGUUGUAUAGU-----	6
-1, -1	
----UGAGGUAGUAGGUUGUAU-----	2241
0, -4	
----UGAGGUAGUAGGUUGUAUu-----	94
0, -4	
----UGAGGUAGUAGGUUGUAUuu-----	39
0, -4	
----UGAGGUAGUAGGUUGUAUA-----	2347
0, -3	
----UGAGGUAGUAGGUUGUAUAa-----	349
0, -3	
----UGAGGUAGUAGGUUGUAUAaa-----	65
0, -3	
----UGAGGUAGUAGGUUGUAUAau-----	12
0, -3	
----UGAGGUAGUAGGUUGUAUAu-----	112
0, -3	
----UGAGGUAGUAGGUUGUAUAuu-----	11
0, -3	
----UGAGGUAGUAGGUUGUAUAG-----	8639
0, -2	
----UGAGGUAGUAGGUUGUAUAGa-----	623
0, -2	
----UGAGGUAGUAGGUUGUAUAGaa-----	86
0, -2	
----UGAGGUAGUAGGUUGUAUAGau-----	41
0, -2	
----UGAGGUAGUAGGUUGUAUAGU-----	
47139 0, -1	
----UGAGGUAGUAGGUUGUAUAGUa-----	1607
0, -1	
----UGAGGUAGUAGGUUGUAUAGUaa-----	1042
0, -1	

----UGAGGUAGUAGGUUGUAUAGUau-----	281
0,-1	
----UGAGGUAGUAGGUUGUAUAGUU-----	
76878 0,0	
----UGAGGUAGUAGGUUGUAUAGUUa-----	
10013 0,0	
----UGAGGUAGUAGGUUGUAUAGUUaa-----	638
0,0	
----UGAGGUAGUAGGUUGUAUAGUUau-----	325
0,0	
----UGAGGUAGUAGGUUGUAUAGUUU-----	4822
0,1	
----UGAGGUAGUAGGUUGUAUAGUUUA-----	50
0,2	
----GAGGUAGUAGGUUGUAUAG-----	15
1,-2	
----GAGGUAGUAGGUUGUAUAGa-----	2
1,-2	
----GAGGUAGUAGGUUGUAUAGU-----	121
1,-1	
----GAGGUAGUAGGUUGUAUAGUa-----	2
1,-1	
----GAGGUAGUAGGUUGUAUAGUaa-----	3
1,-1	
----GAGGUAGUAGGUUGUAUAGUU-----	121
1,0	
----GAGGUAGUAGGUUGUAUAGUUa-----	23
1,0	
----GAGGUAGUAGGUUGUAUAGUUaa-----	3
1,0	
----GAGGUAGUAGGUUGUAUAGUUU-----	12
1,1	
----AGGUAGUAGGUUGUAUAGU-----	15
2,-1	
----AGGUAGUAGGUUGUAUAGUU-----	40
2,0	
----AGGUAGUAGGUUGUAUAGUUa-----	3
2,0	

```

-----AGGUAGUAGGUUGUAUAGUU----- 5
    2,1

>hsa-let-7a-3    MA:4-25;mi:52-72    SRX018963
gggUGAGGUAGUAGGUUGUAUAGUuuggggcucugcccugcuaugggauaaCUAUACAAUCUACUGUCUUUCcu
(((.((((.((((((((((((((((((((((....)))))).....)))))))))....))))))
--GUGAGGUAGUAGGUUGUAU----- 5
    -1,-4
--GUGAGGUAGUAGGUUGUAUA----- 2
    -1,-3
--GUGAGGUAGUAGGUUGUAUAG----- 2
    -1,-2
--GUGAGGUAGUAGGUUGUAUAGU----- 25
    -1,-1
--GUGAGGUAGUAGGUUGUAUAGUa----- 2
    -1,-1
--GUGAGGUAGUAGGUUGUAUAGUU----- 4
    -1,0
---UGAGGUAGUAGGUUGUAU----- 2241
    0,-4
---UGAGGUAGUAGGUUGUAUu----- 94
    0,-4
---UGAGGUAGUAGGUUGUAUuu----- 39
    0,-4
---UGAGGUAGUAGGUUGUAUA----- 2347
    0,-3
---UGAGGUAGUAGGUUGUAUAa----- 349
    0,-3
---UGAGGUAGUAGGUUGUAUAaa----- 65
    0,-3
---UGAGGUAGUAGGUUGUAUAau----- 12
    0,-3
---UGAGGUAGUAGGUUGUAUAu----- 112
    0,-3
---UGAGGUAGUAGGUUGUAUAuu----- 11
    0,-3
---UGAGGUAGUAGGUUGUAUAG----- 8639
    0,-2

```

---UGAGGUAGUAGGUUGUAUAGa-----	623
0,-2	
---UGAGGUAGUAGGUUGUAUAGaa-----	86
0,-2	
---UGAGGUAGUAGGUUGUAUAGau-----	41
0,-2	
---UGAGGUAGUAGGUUGUAUAGU-----	
47139 0,-1	
---UGAGGUAGUAGGUUGUAUAGUa-----	1607
0,-1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	1042
0,-1	
---UGAGGUAGUAGGUUGUAUAGUau-----	281
0,-1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
76878 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	
10013 0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	638
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	325
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	4822
0,1	
---UGAGGUAGUAGGUUGUAUAGUUUG-----	3
0,2	
---GAGGUAGUAGGUUGUAUAG-----	15
1,-2	
---GAGGUAGUAGGUUGUAUAGa-----	2
1,-2	
---GAGGUAGUAGGUUGUAUAGU-----	121
1,-1	
---GAGGUAGUAGGUUGUAUAGUa-----	2
1,-1	
---GAGGUAGUAGGUUGUAUAGUaa-----	3
1,-1	
---GAGGUAGUAGGUUGUAUAGUU-----	121
1,0	

-----UGAGGUAGUAGGUUGUGUG-----
--- 17887 0,-3
-----UGAGGUAGUAGGUUGUGUGa-----
--- 399 0,-3
-----UGAGGUAGUAGGUUGUGUGaa-----
--- 61 0,-3
-----UGAGGUAGUAGGUUGUGUGau-----
--- 16 0,-3
-----UGAGGUAGUAGGUUGUGUGu-----
--- 271 0,-3
-----UGAGGUAGUAGGUUGUGUGuu-----
--- 58 0,-3
-----UGAGGUAGUAGGUUGUGUGG-----
--- 13874 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 524 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 143 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 72 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 20756 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 2911 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 4074 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 5742 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 42311 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 12771 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 2056 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 3556 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 8818 0,1

```

-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 564 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 45 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 24 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 269 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 3 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 21 0,2
-----GAGGUAGUAGGUUGUGUG-----
--- 51 1,-3
-----GAGGUAGUAGGUUGUGUGG-----
--- 43 1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 40 1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 8 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 23 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 43 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 136 1,0
-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 67 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 7 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 17 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 66 1,1
-----AGGUAGUAGGUUGUGUGG-----
--- 5 2,-2
-----AGGUAGUAGGUUGUGUGGU-----
--- 3 2,-1

```



```

-----UUGAGGUAGUAGGUUGUAUGGaa-----
----    2    -1,-2
-----UUGAGGUAGUAGGUUGUAUGGU-----
----   145   -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUa-----
----    33   -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUaa-----
----     3    -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUau-----
----    13   -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUU-----
----   137   -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUa-----
----     9    -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUU-----
----     6    -1,1
-----UGAGGUAGUAGGUUGUAU-----
----   2241    0,-4
-----UGAGGUAGUAGGUUGUAUu-----
----    94    0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
----    39    0,-4
-----UGAGGUAGUAGGUUGUAUG-----
----   2162    0,-3
-----UGAGGUAGUAGGUUGUAUGa-----
----    25    0,-3
-----UGAGGUAGUAGGUUGUAUGaa-----
----     8    0,-3
-----UGAGGUAGUAGGUUGUAUGau-----
----     2    0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
----    42    0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
----    34    0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
----   5264    0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
----   228    0,-2

```

```

-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 171 0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 65 0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 19587 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----
---- 4071 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 1750 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 1262 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 76331 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 7658 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 549 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 611 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 5284 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 73 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 132 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUa-----
---- 6 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUau-----
---- 2 0,2
-----GAGGUAGUAGGUUGUAUG-----
---- 14 1,-3
-----GAGGUAGUAGGUUGUAUGG-----
---- 26 1,-2
-----GAGGUAGUAGGUUGUAUGGU-----
---- 93 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 25 1,-1

```

```

-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 18 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 7 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----
---- 519 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 75 1,0
-----GAGGUAGUAGGUUGUAUGGUUaa-----
---- 4 1,0
-----GAGGUAGUAGGUUGUAUGGUUau-----
---- 4 1,0
-----GAGGUAGUAGGUUGUAUGGUUU-----
---- 36 1,1
-----AGGUAGUAGGUUGUAUGGU-----
---- 5 2,-1
-----AGGUAGUAGGUUGUAUGGUaa-----
---- 3 2,-1
-----AGGUAGUAGGUUGUAUGGUU-----
---- 34 2,0
-----AGGUAGUAGGUUGUAUGGUUa-----
---- 5 2,0
-----AGGUAGUAGGUUGUAUGGUUau-----
---- 2 2,0
-----AGGUAGUAGGUUGUAUGGUUU-----
---- 3 2,1

```

>hsa-let-7d MA:8-29;mi:62-83 SRX018963

ccuaggaAGAGGUAGUAGGUUGCAUAGUUuuagggcagggauuuugcccacaaggagguaaCUAUACGACCUGCUGCCUU
UCUuagg

```

(((((((.(((((((((((((((.((((((.....)))))).))))))))))))))
))))))

```

```

-----AAGAGGUAGUAGGUUGCAUAGU-----
----- 2 -1,-1
-----AAGAGGUAGUAGGUUGCAUAGUU-----
----- 4 -1,0
-----AGAGGUAGUAGGUUGCAU-----
----- 597 0,-4

```

-----AGAGGUAGUAGGUUGCAUu-----
----- 26 0,-4
-----AGAGGUAGUAGGUUGCAUuu-----
----- 21 0,-4
-----AGAGGUAGUAGGUUGCAUA-----
----- 455 0,-3
-----AGAGGUAGUAGGUUGCAUAa-----
----- 50 0,-3
-----AGAGGUAGUAGGUUGCAUAaa-----
----- 2 0,-3
-----AGAGGUAGUAGGUUGCAUAu-----
----- 11 0,-3
-----AGAGGUAGUAGGUUGCAUAG-----
----- 1237 0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 58 0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 24 0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 30 0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 2500 0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 392 0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 65 0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 37 0,-1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 21224 0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 1899 0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 58 0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 31 0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 2238 0,1

```

-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 15 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 75 0,2
-----GAGGUAGUAGGUUGCAUA-----
----- 2 1,-3
-----GAGGUAGUAGGUUGCAUAG-----
----- 6 1,-2
-----GAGGUAGUAGGUUGCAUAGU-----
----- 7 1,-1
-----GAGGUAGUAGGUUGCAUAGUa-----
----- 2 1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 61 1,0
-----GAGGUAGUAGGUUGCAUAGUUa-----
----- 14 1,0
-----GAGGUAGUAGGUUGCAUAGUUU-----
----- 25 1,1
-----AGGUAGUAGGUUGCAUAG-----
----- 2 2,-2
-----AGGUAGUAGGUUGCAUAGUU-----
----- 5 2,0
-----CUAUACGACCUGCUGCCUU
----- 2 0,-3
-----CUAUACGACCUGCUGCCUU
U----- 2 0,-2
-----CUAUACGACCUGCUGCCUU
UC----- 16 0,-1
-----CUAUACGACCUGCUGCCUU
UCa---- 25 0,-1
-----CUAUACGACCUGCUGCCUU
UCU---- 48 0,0
-----UAUACGACCUGCUGCCUU
UC----- 2 1,-1
-----UAUACGACCUGCUGCCUU
UCU---- 6 1,0

```

>hsa-let-7e MA:8-29;mi:53-74 SRX018963


```

-----UGAGGUAGUAGAUUGUAUu-----
----- 17 0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
----- 18 0,-4
-----UGAGGUAGUAGAUUGUAUA-----
----- 2698 0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
----- 70 0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
----- 29 0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
----- 11 0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
----- 12 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
----- 2940 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
----- 195 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
----- 47 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
----- 7 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
----- 17008 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
----- 633 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
----- 1116 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 158 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 26055 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 12618 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 540 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 148 0,0

```

```

-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 730 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 27 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGaa-----
----- 2 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGU-----
----- 16 0,2
-----GAGGUAGUAGAUUGUAUA-----
----- 14 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
----- 5 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
----- 54 1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----
----- 2 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
----- 2 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
----- 83 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
----- 55 1,0
-----GAGGUAGUAGAUUGUAUAGUUG-----
----- 4 1,1
-----AGGUAGUAGAUUGUAUAG-----
----- 4 2,-2
-----AGGUAGUAGAUUGUAUAGU-----
----- 5 2,-1
-----AGGUAGUAGAUUGUAUAGUU-----
----- 5 2,0
-----AGGUAGUAGAUUGUAUAGUUa-----
----- 6 2,0
-----AGGUAGUAGAUUGUAUAGUUGU-----
----- 5 2,2
-----CUAUACAAUCUAUUGCCU
UCCu--- 2 0,-1

```

>hsa-let-7f-2 MA:8-29;mi:58-79 SRX018963

```

-----AUGAGGUAGUAGAUUGUAUA-----
--- 2    -1,-3
-----AUGAGGUAGUAGAUUGUAUAGU-----
--- 15   -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUU-----
--- 4    -1,0
-----UGAGGUAGUAGAUUGUAU-----
--- 928  0,-4
-----UGAGGUAGUAGAUUGUAUu-----
--- 17   0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
--- 18   0,-4
-----UGAGGUAGUAGAUUGUAUA-----
--- 2698    0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
--- 70    0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
--- 29    0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
--- 11    0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
--- 12    0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 2940    0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 195  0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 47    0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
--- 7     0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 17008    0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 633  0,-1

```

```

-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 1116    0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 158    0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 26055    0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 12618    0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 540    0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 148    0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 2995    0,1
-----UGAGGUAGUAGAUUGUAUAGUUUa-----
--- 11    0,1
-----UGAGGUAGUAGAUUGUAUAGUUUaa-----
--- 2    0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 11    0,2
-----GAGGUAGUAGAUUGUAUA-----
--- 14    1,-3
-----GAGGUAGUAGAUUGUAUAG-----
--- 5    1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 54    1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----
--- 2    1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
--- 2    1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 83    1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
--- 55    1,0
-----GAGGUAGUAGAUUGUAUAGUUU-----
--- 18    1,1
-----AGGUAGUAGAUUGUAUAG-----
--- 4    2,-2

```



```

----UGAGGUAGUAGUUUGUACAGau-----
----    6    0,-2
----UGAGGUAGUAGUUUGUACAGU-----
----   4841    0,-1
----UGAGGUAGUAGUUUGUACAGUa-----
----    93    0,-1
----UGAGGUAGUAGUUUGUACAGUaa-----
----   20    0,-1
----UGAGGUAGUAGUUUGUACAGUau-----
----    7    0,-1
----UGAGGUAGUAGUUUGUACAGUU-----
----   6852    0,0
----UGAGGUAGUAGUUUGUACAGUUa-----
----   685 0,0
----UGAGGUAGUAGUUUGUACAGUUaa-----
----   18    0,0
----UGAGGUAGUAGUUUGUACAGUUau-----
----   29    0,0
----UGAGGUAGUAGUUUGUACAGUUU-----
----   703 0,1
----UGAGGUAGUAGUUUGUACAGUUUa-----
----    3    0,1
----UGAGGUAGUAGUUUGUACAGUUUu-----
----   12    0,1
----GAGGUAGUAGUUUGUACAG-----
----   14    1,-2
----GAGGUAGUAGUUUGUACAGU-----
----   45    1,-1
----GAGGUAGUAGUUUGUACAGUU-----
----   82    1,0
----GAGGUAGUAGUUUGUACAGUUa-----
----    5    1,0
----GAGGUAGUAGUUUGUACAGUUU-----
----    6    1,1
----AGGUAGUAGUUUGUACAGUU-----
----    4    2,0
----AGGUAGUAGUUUGUACAGUUU-----
----    3    2,1

```


cuggcUGAGGUAGUAGUUUGUGCUGUUGgucggguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUUGCU_a

.((((.(((((((((((((((.((((.((((.....)))))))....)))).))))))))))

))))

---CUGAGGUAGUAGUUUGUGCU-----

----- 5 -1,-3

---CUGAGGUAGUAGUUUGUGCUG-----

--- 3 -1,-2

-----UGAGGUAGUAGUUUGUGC-----

--- 506 0, -4

-----UGAGGUAGUAGUUUGUGC_a-----

--- 5 0,-4

-----UGAGGUAGUAGUUUGUGC_{aa}-----

--- 7 0,-4

-----UGAGGUAGUAGUUUGUGCU-----

--- 1705 0,-3

-----UGAGGUAGUAGUUUGUGCUu-----

--- 3 0, -3

-----UGAGGUAGUAGUUUGUGCUG-----

--- 1172 0,-2

-----UGAGGUAGUAGUUUGUGCUGa-----

--- 23 0, -2

-----UGAGGUAGUAGUUUGUGCUGaa-----

----- 5 0, -2

-----UGAGGUAGUAGUUUGUGCUGU-----

--- 651 0,-1

-----UGAGGUAGUAGUUUGUGCUGU_a-----

--- 18 0,-1

-----UGAGGUAGUAGUUUGUGCUGU_{aa}-----

--- 12 0, -1

-----UGAGGUAGUAGUUUGUGCUGUau-----

--- 2 0, -1

-----UGAGGUAGUAGUUUGUGCUGUU-----

--- 580 0,0

-----UGAGGUAGUAGUUUGUGCUGUUa-----

--- 155 0,0

```

-----UGAGGUAGUAGUUUGUGCUGUaa-----
----      25  0,0
-----UGAGGUAGUAGUUUGUGCUGUau-----
----      7   0,0
-----UGAGGUAGUAGUUUGUGCUGUu-----
----     156  0,0
-----UGAGGUAGUAGUUUGUGCUGUuu-----
----     13   0,0
-----UGAGGUAGUAGUUUGUGCUGUUG-----
----      9   0,1
-----GAGGUAGUAGUUUGUGCU-----
----     11   1,-3
-----GAGGUAGUAGUUUGUGCUG-----
----      6   1,-2
-----GAGGUAGUAGUUUGUGCUGaa-----
----      2   1,-2
-----GAGGUAGUAGUUUGUGCUGU-----
----      8   1,-1
-----GAGGUAGUAGUUUGUGCUGUU-----
----      3   1,0
-----GAGGUAGUAGUUUGUGCUGUua-----
----      3   1,0
-----CUGCGCAAGCUACUGCCUU
----      2   0,-3
-----CUGCGCAAGCUACUGCCUU
G---     10  0,-2

```

>hsa-mir-1-1 3p:46-67 SRX018963

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ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAAGAAGUAUGUAUcuca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGAAUGUAAAAGAAGUAU----- 3  0,-4
-----UGGAAUGUAAAAGAAGUAUG----- 149 0,-3
-----UGGAAUGUAAAAGAAGUAUGU----- 25  0,-2
-----UGGAAUGUAAAAGAAGUAUGUA----- 46  0,-1
-----UGGAAUGUAAAAGAAGUAUGUAa---- 31  0,-1
-----UGGAAUGUAAAAGAAGUAUGUAaa--- 3   0,-1
-----UGGAAUGUAAAAGAAGUAUGUAU---- 670 0,0
-----UGGAAUGUAAAAGAAGUAUGUAUa--- 6   0,0

```

-----UGGAAUGUAAAGAAGUAUGUAUC--- 3 0,1
-----GGAAUGUAAAGAAGUAUGUAU--- 7 1,0

>hsa-mir-1-2 3p:53-74 SRX018963

accuacucagaguacauacuucuuuauguacccauaugaacauacaaugcuaUGGAAUGUAAAGAAGUAUGUAUuuuugg
uaggc

-----UGGAAUGUAAAGAAGUAU-----

----- 3 0,-4

-----UGGAAUGUAAAGAAGUAUG-----

----- 149 0,-3

-----UGGAAUGUAAAGAAGUAUGU-----

----- 25 0,-2

-----UGGAAUGUAAAGAAGUAUGUA-----

----- 46 0,-1

-----UGGAAUGUAAAGAAGUAUGUAa-----

----- 31 0,-1

-----UGGAAUGUAAAGAAGUAUGUAaa-----

----- 3 0,-1

-----UGGAAUGUAAAAGAAGUAUGUAU-----

----- 670 0,0

-----UGGAAUGUAAAGAAGUAUGUAU_a-----

----- 6 0,0

-----UGGAAUGUAAAGAAGUAUGUAUU-----

----- 8 0,1

-----GGAAUGUAAAAGAAGUAUGUAU-----

----- 7 1,0

>hsa-mi r-100 MA:13-34;mi :48-69 SRX018963

ccuguugccacaAACCCGUAGAUCCGAACUUGUGguauuaguccgcaCAAGCUUGUAUCUAUAGGUAUGgugucuguuagg

-----AACCCGUAGAUCCGAACU-----

347 0,-4

-----AACCCGUAGAUCCGAACUa-----

6 0, -4

-----AACCCGUAGAUCCGAACUU-----

172 0,-3

-----AACCCGUAGAUCCGAACUa-----
3 0, -3

-----AACCCGUAGAUCCGAACUu-----
2 0, -3

-----AACCCGUAGAUCCGAACUuu-----
3 0, -3

-----AACCCGUAGAUCCGAACUUG-----
1503 0, -2

-----AACCCGUAGAUCCGAACUUGa-----
28 0, -2

-----AACCCGUAGAUCCGAACUUGU-----
12121 0, -1

-----AACCCGUAGAUCCGAACUUGUa-----
44 0, -1

-----AACCCGUAGAUCCGAACUUGUaa-----
34 0, -1

-----AACCCGUAGAUCCGAACUUGUau-----
12 0, -1

-----AACCCGUAGAUCCGAACUUGUu-----
27 0, -1

-----AACCCGUAGAUCCGAACUUGUuu-----
4 0, -1

-----AACCCGUAGAUCCGAACUUGUG-----
8290 0,0

-----AACCCGUAGAUCCGAACUUGUGa-----
4849 0,0

-----AACCCGUAGAUCCGAACUUGUGaa-----
293 0,0

-----AACCCGUAGAUCCGAACUUGUGau-----
7 0,0

-----AACCCGUAGAUCCGAACUUGUGu-----
5855 0,0

-----AACCCGUAGAUCCGAACUUGUGuu-----
12 0,0

-----AACCCGUAGAUCCGAACUUGUGG-----
46 0,1

-----AACCCGUAGAUCCGAACUUGUGGU-----
5 0,2

-----ACCCGUAGAUCCGAACUU-----
4 1,-3
-----ACCCGUAGAUCCGAACUUGU-----
13 1,-1
-----ACCCGUAGAUCCGAACUUGUG-----
10 1,0
-----ACCCGUAGAUCCGAACUUGUGa-----
9 1,0
-----ACCCGUAGAUCCGAACUUGUGaa-----
2 1,0
-----ACCCGUAGAUCCGAACUUGUGu-----
9 1,0
-----ACCCGUAGAUCCGAACUUGUGG-----
2 1,1

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>hsa-mir-101-1 mi:11-32;MA:47-67 SRX018963
ugcccguggcuCAGUUAUCACAGUGCUGAUGCUgucuaauuccaaaggUACAGUACUGUGAUAAACUGAAggauggca
.(((((((.....)))))))).(((((.....)))))).....).
-----GUACAGUACUGUGAUAAC----- 325
-1,-4
-----GUACAGUACUGUGAUAACa----- 3
-1,-4
-----GUACAGUACUGUGAUAAcU----- 7214
-1,-3
-----GUACAGUACUGUGAUAAcUa----- 5
-1,-3
-----GUACAGUACUGUGAUAAcUaa----- 13
-1,-3
-----GUACAGUACUGUGAUAAcUu----- 2
-1,-3
-----GUACAGUACUGUGAUAAcUG----- 3650
-1,-2
-----GUACAGUACUGUGAUAAcUGu----- 37
-1,-2
-----GUACAGUACUGUGAUAAcUGA-----
23866 -1,-1
-----GUACAGUACUGUGAUAAcUGAu----- 105
-1,-1
```

		-----GUACAGUACUGUGAUAAACUGAA-----	
32370	-1,0		
		-----GUACAGUACUGUGAUAAACUGAAa-----	5462
	-1,0		
		-----GUACAGUACUGUGAUAAACUGAAaa-----	99
	-1,0		
		-----GUACAGUACUGUGAUAAACUGAAau-----	4
	-1,0		
		-----GUACAGUACUGUGAUAAACUGAAu-----	36
	-1,0		
		-----GUACAGUACUGUGAUAAACUGAAG-----	25
	-1,1		
		-----UACAGUACUGUGAUAAACU-----	7992
	0,-3		
		-----UACAGUACUGUGAUAAACUa-----	15
	0,-3		
		-----UACAGUACUGUGAUAAACUaa-----	9
	0,-3		
		-----UACAGUACUGUGAUAAACUu-----	2
	0,-3		
		-----UACAGUACUGUGAUAAACUG-----	3902
	0,-2		
		-----UACAGUACUGUGAUAAACUGu-----	27
	0,-2		
		-----UACAGUACUGUGAUAAACUGuu-----	3
	0,-2		
		-----UACAGUACUGUGAUAAACUGA-----	
37943	0,-1		
		-----UACAGUACUGUGAUAAACUGAu-----	100
	0,-1		
		-----UACAGUACUGUGAUAAACUGAuu-----	25
	0,-1		
		-----UACAGUACUGUGAUAAACUGAA-----	
78425	0,0		
		-----UACAGUACUGUGAUAAACUGAAa-----	
18405	0,0		
		-----UACAGUACUGUGAUAAACUGAAaa-----	462
	0,0		

-----	UACAGUACUGUGAUAAACUGAA <u>au</u> -----	27
0,0		
-----	UACAGUACUGUGAUAAACUGAA <u>u</u> -----	748
0,0		
-----	UACAGUACUGUGAUAAACUGAA <u>uu</u> -----	23
0,0		
-----	UACAGUACUGUGAUAAACUGAAG-----	3640
0,1		
-----	UACAGUACUGUGAUAAACUGAAG <u>u</u> -----	278
0,1		
-----	UACAGUACUGUGAUAAACUGAAGG-----	4
0,2		
-----	UACAGUACUGUGAUAAACUGAAGGA-----	2
0,3		
-----	ACAGUACUGUGAUAAACUG-----	16
1,-2		
-----	ACAGUACUGUGAUAAACUGA-----	191
1,-1		
-----	ACAGUACUGUGAUAAACUGAA-----	590
1,0		
-----	ACAGUACUGUGAUAAACUGAA <u>a</u> -----	174
1,0		
-----	ACAGUACUGUGAUAAACUGAA <u>aa</u> -----	7
1,0		
-----	ACAGUACUGUGAUAAACUGAA <u>au</u> -----	2
1,0		
-----	ACAGUACUGUGAUAAACUGAA <u>u</u> -----	10
1,0		
-----	ACAGUACUGUGAUAAACUGAA <u>uu</u> -----	3
1,0		
-----	ACAGUACUGUGAUAAACUGAAG-----	41
1,1		
-----	ACAGUACUGUGAUAAACUGAAG <u>u</u> -----	14
1,1		
-----	CAGUACUGUGAUAAACUGA-----	35
2,-1		
-----	CAGUACUGUGAUAAACUGAA-----	97
2,0		

```

-----CAGUACUGUGUAACUGAAa----- 29
2,0
-----CAGUACUGUGUAACUGAAaa----- 6
2,0
-----CAGUACUGUGUAACUGAAau----- 2
2,0
-----CAGUACUGUGUAACUGAAu----- 5
2,0
-----CAGUACUGUGUAACUGAAG----- 6
2,1

```

>hsa-mir-101-2 3p:49-69 SRX018963

```

acuguccuuuuucgguaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGUAACUGAAgaugguggu
((..(((.((((((((((((((((((((((.(((.....)))))).))))))))))))))))))..))
-----GUACAGUACUGUGUAAC-----
325 -1,-4
-----GUACAGUACUGUGUAACa-----
3 -1,-4
-----GUACAGUACUGUGUAACU-----
7214 -1,-3
-----GUACAGUACUGUGUAACUa-----
5 -1,-3
-----GUACAGUACUGUGUAACUaa-----
13 -1,-3
-----GUACAGUACUGUGUAACUu-----
2 -1,-3
-----GUACAGUACUGUGUAACUG-----
3650 -1,-2
-----GUACAGUACUGUGUAACUGu-----
37 -1,-2
-----GUACAGUACUGUGUAACUGA-----
23866 -1,-1
-----GUACAGUACUGUGUAACUGAu-----
105 -1,-1
-----GUACAGUACUGUGUAACUGAA-----
32370 -1,0
-----GUACAGUACUGUGUAACUGAAa-----
5462 -1,0

```


		-----GUACAGUACUGUGAUAAACUGAAaa-----
99	-1,0	
		-----GUACAGUACUGUGAUAAACUGAAau-----
4	-1,0	
		-----GUACAGUACUGUGAUAAACUGAAu-----
36	-1,0	
		-----GUACAGUACUGUGAUAAACUGAAG-----
25	-1,1	
		-----UACAGUACUGUGAUAAACU-----
7992	0,-3	
		-----UACAGUACUGUGAUAAACUa-----
15	0,-3	
		-----UACAGUACUGUGAUAAACUaa-----
9	0,-3	
		-----UACAGUACUGUGAUAAACUu-----
2	0,-3	
		-----UACAGUACUGUGAUAAACUG-----
3902	0,-2	
		-----UACAGUACUGUGAUAAACUGu-----
27	0,-2	
		-----UACAGUACUGUGAUAAACUGuu-----
3	0,-2	
		-----UACAGUACUGUGAUAAACUGA-----
37943	0,-1	
		-----UACAGUACUGUGAUAAACUGAu-----
100	0,-1	
		-----UACAGUACUGUGAUAAACUGAuu-----
25	0,-1	
		-----UACAGUACUGUGAUAAACUGAA-----
78425	0,0	
		-----UACAGUACUGUGAUAAACUGAAa-----
18405	0,0	
		-----UACAGUACUGUGAUAAACUGAAaa-----
462	0,0	
		-----UACAGUACUGUGAUAAACUGAAau-----
27	0,0	
		-----UACAGUACUGUGAUAAACUGAAu-----
748	0,0	

		-----UACAGUACUGUGAUAAACUGAAuu-----
23	0,0	
		-----UACAGUACUGUGAUAAACUGAAG-----
3640	0,1	
		-----UACAGUACUGUGAUAAACUGAAGu-----
278	0,1	
		-----UACAGUACUGUGAUAAACUGAAGA-----
815	0,2	
		-----UACAGUACUGUGAUAAACUGAAGAu-----
2	0,2	
		-----UACAGUACUGUGAUAAACUGAAGAA-----
28	0,3	
		-----UACAGUACUGUGAUAAACUGAAGAAa-----
7	0,3	
		-----ACAGUACUGUGAUAAACUG-----
16	1,-2	
		-----ACAGUACUGUGAUAAACUGA-----
191	1,-1	
		-----ACAGUACUGUGAUAAACUGAA-----
590	1,0	
		-----ACAGUACUGUGAUAAACUGAAa-----
174	1,0	
		-----ACAGUACUGUGAUAAACUGAAaa-----
7	1,0	
		-----ACAGUACUGUGAUAAACUGAAau-----
2	1,0	
		-----ACAGUACUGUGAUAAACUGAAu-----
10	1,0	
		-----ACAGUACUGUGAUAAACUGAAuu-----
3	1,0	
		-----ACAGUACUGUGAUAAACUGAAG-----
41	1,1	
		-----ACAGUACUGUGAUAAACUGAAGu-----
14	1,1	
		-----ACAGUACUGUGAUAAACUGAAGA-----
18	1,2	
		-----CAGUACUGUGAUAAACUGA-----
35	2,-1	

97	2,0	-CAGUACUGUGAUAAACUGAA-
29	2,0	-CAGUACUGUGAUAAACUGAAa-
6	2,0	-CAGUACUGUGAUAAACUGAAaa-
2	2,0	-CAGUACUGUGAUAAACUGAAau-
5	2,0	-CAGUACUGUGAUAAACUGAAu-
6	2,1	-CAGUACUGUGAUAAACUGAAG-
17	2,2	-CAGUACUGUGAUAAACUGAAGA-
2	2,2	-CAGUACUGUGAUAAACUGAAGAu-
18	2,3	-CAGUACUGUGAUAAACUGAAGAA-
8	2,3	-CAGUACUGUGAUAAACUGAAGAAa-

>hsa-mir-103-1 3p:48-70 SRX018963

uacugcccucggcuucuuuacagugcugccuuguugcauaugga^{ca}AGCAGCAUUGUACAGGGCUAUGAag^{gc}cauug
 ...(((((((.(((((((.(((.(((((((((((((((.(((((.(. ...).).))))))))))))))))).)))))).).)).))))....

4	-1, -2	AGCAGCAUUGUACAGGGCUAU
1235	0, -5	AGCAGCAUUGUACAGGGC
3	0, -5	AGCAGCAUUGUACAGGGCa
7	0, -5	AGCAGCAUUGUACAGGGCaa
8	0, -5	AGCAGCAUUGUACAGGGCau
897	0, -4	AGCAGCAUUGUACAGGGCU
64	0, -4	AGCAGCAUUGUACAGGGCUu

		-----AGCAGCAUUGUACAGGGCUuu-----
19	0,-4	
		-----AGCAGCAUUGUACAGGGCUA-----
4108	0,-3	
		-----AGCAGCAUUGUACAGGGCUAa-----
189	0,-3	
		-----AGCAGCAUUGUACAGGGCUAaa-----
36	0,-3	
		-----AGCAGCAUUGUACAGGGCUAau-----
27	0,-3	
		-----AGCAGCAUUGUACAGGGCUAU-----
13873	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUa-----
378	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUaa-----
187	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUau-----
187	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
836	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
79	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
8098	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
1956	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
65	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
11118	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
646	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
8	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
236	0,1	
		-----AGCAGCAUUGUACAGGGCUAUGAAu-----
3	0,1	

```

-----GCAGCAUUGUACAGGGCU-----
5    1,-4
-----GCAGCAUUGUACAGGGCUA-----
15   1,-3
-----GCAGCAUUGUACAGGGCUAU-----
94   1,-2
-----GCAGCAUUGUACAGGGCUAUa-----
2    1,-2
-----GCAGCAUUGUACAGGGCUAUu-----
3    1,-2
-----GCAGCAUUGUACAGGGCUAUG-----
45   1,-1
-----GCAGCAUUGUACAGGGCUAUGu-----
16   1,-1
-----GCAGCAUUGUACAGGGCUAUGA-----
137  1,0
-----GCAGCAUUGUACAGGGCUAUGAu-----
5    1,0
-----GCAGCAUUGUACAGGGCUAUGAA-----
4    1,1
-----CAGCAUUGUACAGGGCUA-----
2    2,-3
-----CAGCAUUGUACAGGGCUAU-----
13   2,-2
-----CAGCAUUGUACAGGGCUAUG-----
11   2,-1
-----CAGCAUUGUACAGGGCUAUGu-----
5    2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
47   2,0

>hsa-mir-103-2  mi:11-33;MA:48-70  SRX018963
uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..((.(((((((((.((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGCAGCAUUGUACAGGGCUAU-----
4    -1,-2
-----AGCAGCAUUGUACAGGGC-----
1235    0,-5

```

		-----AGCAGCAUUGUACAGGGCa-----
3	0, -5	
		-----AGCAGCAUUGUACAGGGCaa-----
7	0, -5	
		-----AGCAGCAUUGUACAGGGCau-----
8	0, -5	
		-----AGCAGCAUUGUACAGGGCU-----
897	0, -4	
		-----AGCAGCAUUGUACAGGGCUu-----
64	0, -4	
		-----AGCAGCAUUGUACAGGGCUuu-----
19	0, -4	
		-----AGCAGCAUUGUACAGGGCUA-----
4108	0, -3	
		-----AGCAGCAUUGUACAGGGCUAa-----
189	0, -3	
		-----AGCAGCAUUGUACAGGGCUAaa-----
36	0, -3	
		-----AGCAGCAUUGUACAGGGCUAau-----
27	0, -3	
		-----AGCAGCAUUGUACAGGGCUAU-----
13873	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUa-----
378	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUaa-----
187	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUau-----
187	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
836	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
79	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
8098	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
1956	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
65	0, -1	

		-----AGCAGCAUUGUACAGGGCUAUGA-----
11118	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
646	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
8	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
236	0,1	
		-----AGCAGCAUUGUACAGGGCUAUGAAu-----
3	0,1	
		-----AGCAGCAUUGUACAGGGCUAUGAAA-----
32	0,2	
		-----GCAGCAUUGUACAGGGCU-----
5	1,-4	
		-----GCAGCAUUGUACAGGGCUA-----
15	1,-3	
		-----GCAGCAUUGUACAGGGCUAU-----
94	1,-2	
		-----GCAGCAUUGUACAGGGCUAUa-----
2	1,-2	
		-----GCAGCAUUGUACAGGGCUAUu-----
3	1,-2	
		-----GCAGCAUUGUACAGGGCUAUG-----
45	1,-1	
		-----GCAGCAUUGUACAGGGCUAUGu-----
16	1,-1	
		-----GCAGCAUUGUACAGGGCUAUGA-----
137	1,0	
		-----GCAGCAUUGUACAGGGCUAUGAu-----
5	1,0	
		-----GCAGCAUUGUACAGGGCUAUGAA-----
4	1,1	
		-----CAGCAUUGUACAGGGCUA-----
2	2,-3	
		-----CAGCAUUGUACAGGGCUAU-----
13	2,-2	
		-----CAGCAUUGUACAGGGCUAUG-----
11	2,-1	

```

-----CAGCAUUGUACAGGGCUAUGu-----
5 2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
47 2,0

```

>hsa-mir-106a MA:13-35;mi:50-71 SRX018963

```

ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucuaCUGCAAUGUAAGCACUUCUUAcauuaccaug
g

```

```

(((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

```

```

-----AAAAGUGCUUACAGUGCA-----
- 4 0,-5
-----AAAAGUGCUUACAGUGCAGGU-----
- 7 0,-2
-----AAAAGUGCUUACAGUGCAGGUA-----
- 7 0,-1
-----AAAAGUGCUUACAGUGCAGGUau-----
- 2 0,-1
-----AAAAGUGCUUACAGUGCAGGUAG-----
- 6 0,0
-----AAAGUGCUUACAGUGCAGGU-----
- 3 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
- 3 1,-1
-----AAAGUGCUUACAGUGCAGGUau-----
- 3 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
- 9 1,0

```

>hsa-mir-106b MA:12-32;mi:52-73 SRX018963

```

ccugccgggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))

```

```

-----UAAAGUGCUGACAGUGCA-----
-- 3 0,-3
-----UAAAGUGCUGACAGUGCAG-----
-- 41 0,-2

```



```

-----UAAAGUGCUGACAGUGCAGA-----
-- 30 0,-1
-----UAAAGUGCUGACAGUGCAGAA-----
-- 4 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 34 0,0
-----UAAAGUGCUGACAGUGCAGAU-----
-- 73 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 19 0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 10 0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
-- 6 0,2
-----AAAGUGCUGACAGUGCAGAU-----
-- 3 1,1
-----UACCGCACUGUGGGUACUUGCU-----
-- 7 -2,-2
-----UACCGCACUGUGGGUACUUGCUG-----
-- 4 -2,-1
-----ACCGCACUGUGGGUACUUGCUG-----
-- 3 -1,-1
-----CCGCACUGUGGGUACUUG-----
-- 2 0,-4
-----CCGCACUGUGGGUACUUGC-----
-- 3 0,-3
-----CCGCACUGUGGGUACUUGCU-----
-- 21 0,-2
-----CCGCACUGUGGGUACUUGCUu-----
-- 2 0,-2
-----CCGCACUGUGGGUACUUGCUG-----
-- 69 0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 41 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 3 0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 6 0,-1

```

```

-----CCGCACUGUGGGUACUUGCUGC-----
-- 93 0,0
-----CCGCACUGUGGGUACUUGCUGCa-----
-- 2 0,0
-----CCGCACUGUGGGUACUUGCUGCau-----
-- 7 0,0
-----CCGCACUGUGGGUACUUGCUGCU-----
-- 2 0,1
-----CGCACUGUGGGUACUUGCUCU-----
-- 2 1,-2

```

>hsa-mir-107 3p:50-72 SRX018963

```

cucucugcuuucagcuucuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCaagcacag
a

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

```

```

-----AAGCAGCAUUGUACAGGGCUAU-----
- 4 -1,-2
-----AGCAGCAUUGUACAGGGC-----
- 1235 0,-5
-----AGCAGCAUUGUACAGGGCa-----
- 3 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 7 0,-5
-----AGCAGCAUUGUACAGGGCau-----
- 8 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 897 0,-4
-----AGCAGCAUUGUACAGGGCUu-----
- 64 0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
- 19 0,-4
-----AGCAGCAUUGUACAGGGCUA-----
- 4108 0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
- 189 0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
- 36 0,-3

```

```

-----AGCAGCAUUGUACAGGGCUAau-----
- 27 0,-3
-----AGCAGCAUUGUACAGGGCUAU-----
- 13873 0,-2
-----AGCAGCAUUGUACAGGGCUAUa-----
- 378 0,-2
-----AGCAGCAUUGUACAGGGCUAUaa-----
- 187 0,-2
-----AGCAGCAUUGUACAGGGCUAUau-----
- 187 0,-2
-----AGCAGCAUUGUACAGGGCUAUu-----
- 836 0,-2
-----AGCAGCAUUGUACAGGGCUAUuu-----
- 79 0,-2
-----AGCAGCAUUGUACAGGGCUAUC-----
- 2518 0,-1
-----AGCAGCAUUGUACAGGGCUAUCu-----
- 774 0,-1
-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 20 0,-1
-----AGCAGCAUUGUACAGGGCUAUCA-----
- 2426 0,0
-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 87 0,0
-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 19 0,1
-----AGCAGCAUUGUACAGGGCUAUCAAA-----
- 2 0,2
-----GCAGCAUUGUACAGGGCU-----
- 5 1,-4
-----GCAGCAUUGUACAGGGCUA-----
- 15 1,-3
-----GCAGCAUUGUACAGGGCUAU-----
- 94 1,-2
-----GCAGCAUUGUACAGGGCUAUa-----
- 2 1,-2
-----GCAGCAUUGUACAGGGCUAUu-----
- 3 1,-2

```

-			-GCAGCAUUGUACAGGGCUAUC-
-	6	1,-1	
-			-GCAGCAUUGUACAGGGCUAUCA-
-	4	1,0	
-			-CAGCAUUGUACAGGGGCUA-
-	2	2,-3	
-			-CAGCAUUGUACAGGGGCUAU-
-	13	2,-2	
-			-CAGCAUUGUACAGGGGCUAUCA-
-	4	2,0	

>hsa-mi r-10a MA:22-44;mi :63-84 SRX018963

gaucugucugucuucuguaaaUACCCUGUAGAUCCGAAUUUGUGuaaggaauuuuguggucaCAAAUUCGUAUCUAGGGG
AAUAuguaguugacauaaacacuccgcucu

...(((.((((..(((((((.((((.((((.((((((((((.....)))))))))).)))))))).
 .)))))))).))))...))......

-----AUACCCUGUAGAUCCGAAUUUGU-----

----- 3 -1,-1

-----UACCCUGUAGAUCCGAAU-----

----- 37 0,-5

-----UACCCUGUAGAUCCGAAUaa-----

----- 4 0,-5

-----UACCCUGUAGAUCCGAAUU-----

----- 39 0, -4

-----UACCCUGUAGAUCCGAAUUa-----

----- 5 0, -4

-----UACCCUGUAGAUCCGAAUUU-----

----- 18 0,-3

-----UACCCUGUAGAUCCGAAUUUG-----

----- 155 0,-2

-----UACCCUGUAGAUCCGAAUUGa-----

----- 5 0, -2

-----UACCCUGUAGAUCCGAAUUUGU-----

----- 536 0,-1

-----UACCCUGUAGAUCCGAAUUUGUa-----

----- 5 0,-1

-----UACCCUGUAGAUCCGAAUUUGUG-----

----- 147 0,0

```

-----UACCCUGUAGAACCGAAUUUGUGa-----
-----      27  0,0
-----UACCCUGUAGAACCGAAUUUGUGU-----
-----      28  0,1
-----ACCCUGUAGAACCGAAUUU-----
-----      2   1,-3
-----ACCCUGUAGAACCGAAUUUG-----
-----     11   1,-2
-----ACCCUGUAGAACCGAAUUUGU-----
-----    105   1,-1
-----ACCCUGUAGAACCGAAUUUGUG-----
-----     75   1,0
-----ACCCUGUAGAACCGAAUUUGUGa-----
-----     45   1,0
-----ACCCUGUAGAACCGAAUUUGUGaa-----
-----      8   1,0
-----ACCCUGUAGAACCGAAUUUGUGU-----
-----     38   1,1
-----CCCUGUAGAACCGAAUUUGU-----
-----      2   2,-1
-----CAAAUUCGUAUCUAGGGG
-----      3   0,-4
-----AAAUUCGUAUCUAGGGG
A-----      3   1,-3
-----AAAUUCGUAUCUAGGGG
AAUA-----      3   1,0
-----AAAUUCGUAUCUAGGGG
AAUAU-----      3   1,1

```

```

>hsa-mir-10b    MA:27-49;mi:66-87    SRX018963
ccagagguuguaacguugucuauaauaUACCCUGUAGAACCGAAUUUGUGugguauccguauagucACAGAUUCGAUUCUA
GGGGAAUauauggucgaugcaaaaacuuca
...(((((((.....(((((((.....(((((((.....(((((((.....(((((((.....(((((((.....(((((((.....
))))).)))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----UACCCUGUAGAACCGAAUUUG-----
-----     16   0,-2
-----UACCCUGUAGAACCGAAUUUGU-----
-----     90   0,-1

```


-----AUAUACAGGGGAGACUCUUA-----
----- 2

```
>hsa-mir-1185-2 5p:15-35      SRX018963
```

uuugguacuaaagAGAGGAUACCCUUUGUAUGUUCacuugauuaauggcgaauauacagggggagacucucauuugcgu
aucaaa

.(((((((.((((((((((.(((((((((((((((((((.(.....)).))))))))))))))..))))).))))).))
)))))).

-----AGAGGAUACCCUUUGUAUGUU-----

----- 19 0,0

-----AGAGGAUACCCUUGUAUGUUa-----

----- 4 0.0

-----AGAGGAUACCCUUGUAUGUUC-----

----- 5 0,1

>hsa-mi r-122 MA:15-36;mi :51-72 SRX018963

ccuagcagagcugUGGAGUGGACAAUGGUGUUUGugucuaaacuaucAAAGCCAUUAUCACACUAAAUAgcuacugc
uaggc

.((((((((((((((((((..(((((((.(((((((((((((((.(...))....)))))...)).)))))...)))))...)))))
)))).

-----UGUGGAGUGUGACAAUGGUG-----

----- 7 -2,-4

-----UGUGGAGUGUGACAAUGGUGU-----

----- 47 -2, -3

-----UGUGGAGUGUGACAAUGGUGU_{aa}-----

----- 2 -2, -3

-----UGUGGAGUGUGACAAUGGUGUU-----

----- 476 -2, -2

-----UGUGGAGUGUGACAAUGGUGUU_a-----

----- 6 -2, -2

-----UGUGGAGUGUGACAAUGGUGUU_{au}-----

----- 3 -2, -2

-----UGUGGAGUGUGACAAUGGUGUUU-----

----- 20 -2, -1

-----GUGGAGUGUGACAAUGGU-----

----- 6 -1, -5

-----GUGGAGUGUGACAAUGGUuu-----

----- 2 -1, -5

```

-----GUGGAGUGUGACAAUGGUG-----
----- 6   -1,-4
-----GUGGAGUGUGACAAUGGUGU-----
----- 33  -1,-3
-----GUGGAGUGUGACAAUGGUGUU-----
----- 58  -1,-2
-----GUGGAGUGUGACAAUGGUGUUU-----
----- 159 -1,-1
-----GUGGAGUGUGACAAUGGUGUUUG-----
----- 21  -1,0
-----GUGGAGUGUGACAAUGGUGUUUGa-----
----- 6   -1,0
-----GUGGAGUGUGACAAUGGUGUUUGU-----
----- 4   -1,1
-----UGGAGUGUGACAAUGGUG-----
----- 16137 0,-4
-----UGGAGUGUGACAAUGGUGa-----
----- 1861 0,-4
-----UGGAGUGUGACAAUGGUGaa-----
----- 624 0,-4
-----UGGAGUGUGACAAUGGUGau-----
----- 54 0,-4
-----UGGAGUGUGACAAUGGUGU-----
----- 77195 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 15116 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 4367 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 660 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 221469 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 14987 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 3409 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 1230 0,-2

```



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-----UGGAGUGUGACAAUGGUGUUU-----
----- 371081 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 35199 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 13547 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 9121 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 5489 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 473 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1649654 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 590970 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 22304 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 13514 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 322599 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 2600 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 860 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 891 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 1271 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 228 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 203 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 26 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 138 0,3

```

```

-----GGAGUGUGACAAUGGUGU-----
----- 584 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 156 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 42 1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 4 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 1315 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 84 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 34 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 5 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 1202 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 151 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 197 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 36 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 22 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 13920 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 6853 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 262 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 132 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 1079 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 12 1,1

```

```

-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 9 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 16 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 7 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 6 1,2
-----GGAGUGUGACAAUGGUGUUUGUGU-----
----- 4 1,3
-----GAGUGUGACAAUGGUGUU-----
----- 615 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 37 2,-2
-----GAGUGUGACAAUGGUGUUaa-----
----- 4 2,-2
-----GAGUGUGACAAUGGUGUUau-----
----- 6 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 1191 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 99 2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 40 2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 25 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 29 2,-1
-----GAGUGUGACAAUGGUGUUUuu-----
----- 4 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 4162 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 1734 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 76 2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 57 2,0

```

```

-----GAGUGUGACAAUGGUGUUUGU-----
----- 1106 2,1
-----GAGUGUGACAAUGGUGUUUGUa-----
----- 9 2,1
-----GAGUGUGACAAUGGUGUUUGUaa-----
----- 3 2,1
-----GAGUGUGACAAUGGUGUUUGUau-----
----- 5 2,1
-----GAGUGUGACAAUGGUGUUUGUu-----
----- 5 2,1
-----GAGUGUGACAAUGGUGUUUGUuu-----
----- 2 2,1
-----GAGUGUGACAAUGGUGUUUGUGa-----
----- 2 2,2
-----CAAACGCCAUUAUCACACUA-----
----- 2 -2,-4
-----CAAACGCCAUUAUCACACUAA-----
----- 3 -2,-3
-----CAAACGCCAUUAUCACACUAAu-----
----- 2 -2,-3
-----AAACGCCAUUAUCACACU-----
----- 19 -1,-5
-----AAACGCCAUUAUCACACUA-----
----- 79 -1,-4
-----AAACGCCAUUAUCACACUAu-----
----- 6 -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 77 -1,-3
-----AAACGCCAUUAUCACACUAAu-----
----- 27 -1,-3
-----AAACGCCAUUAUCACACUAAuu-----
----- 5 -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 56 -1,-2
-----AAACGCCAUUAUCACACUAAAa-----
----- 12 -1,-2
-----AAACGCCAUUAUCACACUAAAu-----
----- 267 -1,-1

```

-----			-----AACGCCAUUAUCACACUAAAUu-----
-----	6	-1,-1	
-----			-----AACGCCAUUAUCACACUAAAUu-----
-----	5	-1,0	
-----			-----AACGCCAUUAUCACACUA-----
-----	162	0,-4	
-----			-----AACGCCAUUAUCACACUAu-----
-----	10	0,-4	
-----			-----AACGCCAUUAUCACACUAuu-----
-----	5	0,-4	
-----			-----AACGCCAUUAUCACACUAA-----
-----	176	0,-3	
-----			-----AACGCCAUUAUCACACUAAu-----
-----	22	0,-3	
-----			-----AACGCCAUUAUCACACUAAuu-----
-----	24	0,-3	
-----			-----AACGCCAUUAUCACACUAAA-----
-----	225	0,-2	
-----			-----AACGCCAUUAUCACACUAAAa-----
-----	31	0,-2	
-----			-----AACGCCAUUAUCACACUAAAaa-----
-----	4	0,-2	
-----			-----AACGCCAUUAUCACACUAAAu-----
-----	1562	0,-1	
-----			-----AACGCCAUUAUCACACUAAAu-----
-----	72	0,-1	
-----			-----AACGCCAUUAUCACACUAAAuu-----
-----	2	0,-1	
-----			-----AACGCCAUUAUCACACUAAAUA-----
-----	287	0,0	
-----			-----AACGCCAUUAUCACACUAAAUAa-----
-----	32	0,0	
-----			-----AACGCCAUUAUCACACUAAAUAu-----
-----	76	0,0	
-----			-----ACGCCAUUAUCACACUAAA-----
-----	2	1,-2	
-----			-----ACGCCAUUAUCACACUAAAu-----
-----	6	1,-1	

-----ACGCCAUUAUCACACUAAAUA-----
 -----2 1,0-----


```
--CGGAUGAGCAAAGAAAGUGGUU----- 9 0,0
--CGGAUGAGCAAAGAAAGUGGUUa----- 2 0,0
--CGGAUGAGCAAAGAAAGUGGUUU----- 3 0,1
```

>hsa-mir-1255b-2 5p:6-27 SRX018963

```
ucuuacCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuucuuugcucauccauaagga
(((((((((.....))))))))))))).
-----CGGAUGAGCAAAGAAAGUGGUU----- 9 0,0
-----CGGAUGAGCAAAGAAAGUGGUUa----- 2 0,0
-----CGGAUGAGCAAAGAAAGUGGUUU----- 3 0,1
```

>hsa-mir-1256 5p:35-56 SRX018963

```
agucagccuguugaagcuugaagcuugaugccAGGCAUUGACUUCUCACUAGCUgugaaaguccuagcuaaagagaag
ucaaugcaugacaucuuguucaaauagauggcuguuua
(((((((((.....(((((((((.....))))))))))))))))).
)))))).))))).))))).))))).
-----AGGCAUUGACUUCUCACUAGCU-----
----- 3 0,0
```

>hsa-mir-1258 3p:44-64 SRX018963

```
cuguggcuuccacgaccuaauccuaacuccugcgagucccuggAGUUAGGAUUAGGUCGUGGAagccacagga
((((((((((((((((((((((((((((((((.....))))))))))))))))))))).
-----AGUUAGGAUUAGGUCGUG----- 2
0,-3
-----AGUUAGGAUUAGGUCGUGG----- 4
0,-2
```

>hsa-mir-125a 5p:15-38;3p:53-74 SRX018963

```
ugccagucucuaggUCCCUGAGACCCUUUAACCUGUGAggacauccaggguacACAGGUGAGGUUCUUGGGAGCCuggcgu
cuggcc
(((((((((.....))))))))))))).
))))).
-----UCCCUGAGACCCUUUAACC-----
----- 190 0,-5
-----UCCCUGAGACCCUUUAACCU-----
----- 1658 0,-4
-----UCCCUGAGACCCUUUAACCUa-----
----- 2 0,-4
```



```

-----UCCCUGAGACCCUAACUUGa-----
----- 11 0, -3
-----UCCCUGAGACCCUAACUUGU-----
----- 2286 0, -2
-----UCCCUGAGACCCUAACUUGUa-----
----- 5 0, -2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 7 0, -2
-----UCCCUGAGACCCUAACUUGUu-----
----- 4 0, -2
-----UCCCUGAGACCCUAACUUGUG-----
----- 2211 0, -1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 188 0, -1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 5663 0, 0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 1564 0, 0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 145 0, 0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 7 0, 0
-----UCCCUGAGACCCUAACUUGUGAU-----
----- 80 0, 1
-----CCCUGAGACCCUAACUUGUG-----
----- 3 1, -1
-----CCCUGAGACCCUAACUUGUGA-----
----- 3 1, 0
-----CCCUGAGACCCUAACUUGUGAa-----
----- 4 1, 0
-----CCCUGAGACCCUAACUUGUGAU-----
----- 4 1, 1
-----CCUGAGACCCUAACUUGU-----
----- 21 2, -2
-----CCUGAGACCCUAACUUGUG-----
----- 20 2, -1
-----CCUGAGACCCUAACUUGUGu-----
----- 4 2, -1

```



```

-----UCCCUGAGACCCUAACUUGUG-----
----- 2211 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 188 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 5663 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 1564 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 145 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 7 0,0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 6 0,1
-----CCCUGAGACCCUAACUUGUG-----
----- 3 1,-1
-----CCCUGAGACCCUAACUUGUGA-----
----- 3 1,0
-----CCCUGAGACCCUAACUUGUGAa-----
----- 4 1,0
-----CCUGAGACCCUAACUUGU-----
----- 21 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 20 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 4 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 64 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 18 2,0
-----CCUGAGACCCUAACUUGUGAaa-----
----- 2 2,0
-----AUCACAAGUCAGGCUCUUG-----
----- 3 -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 13 -1,-3
-----AUCACAAGUCAGGCUCUUGGG-----
----- 4 -1,-2

```

```

-----AUCACAAGUCAGGCUCUUGGA-----
----- 10 -1,-1
-----UCACAAGUCAGGCUCUUG-----
----- 12 0,-4
-----UCACAAGUCAGGCUCUUGG-----
----- 30 0,-3
-----UCACAAGUCAGGCUCUUGG-----
----- 12 0,-2
-----UCACAAGUCAGGCUCUUGGA-----
----- 8 0,-1
-----ACAAGUCAGGCUCUUGG-----
----- 100 2,-2
-----ACAAGUCAGGCUCUUGGA-----
----- 56 2,-1
-----ACAAGUCAGGCUCUUGGAa-----
----- 2 2,-1
-----ACAAGUCAGGCUCUUGGAaa-----
----- 4 2,-1
-----ACAAGUCAGGCUCUUGGAC-----
----- 39 2,0
-----ACAAGUCAGGCUCUUGGACau-----
----- 2 2,0
-----ACAAGUCAGGCUCUUGGACC-----
----- 3 2,1
-----ACAAGUCAGGCUCUUGGACCU-----
----- 3 2,2
-----ACAAGUCAGGCUCUUGGACCUuu-----
----- 2 2,2

```

>hsa-mir-126 mi:15-35;MA:52-73 SRX018963

```

cgcuggcgcacgggaCAUUAUUACUUUUGGUACGCGcugugacacuucaaacUCGUACCGUGAGUAAUAAUGCGccgucca
cggca

```

```

.((((...(((((((.(((((((((((.(((((((...(((....)))...)).)))))))).)))))))).))))).
))))).

```

```

-----CAUUAUUACUUUUGGUAC-----
----- 29 0,-3
-----CAUUAUUACUUUUGGUACG-----
----- 25 0,-2

```

```

-----CAUUAUUACUUUUGGUACGu-----
----- 2 0,-2
-----CAUUAUUACUUUUGGUACGC-----
----- 63 0,-1
-----CAUUAUUACUUUUGGUACGCa-----
----- 5 0,-1
-----CAUUAUUACUUUUGGUACGCaa-----
----- 2 0,-1
-----CAUUAUUACUUUUGGUACGCG-----
----- 468 0,0
-----CAUUAUUACUUUUGGUACGCGa-----
----- 200 0,0
-----CAUUAUUACUUUUGGUACGCGaa-----
----- 6 0,0
-----CAUUAUUACUUUUGGUACGCGu-----
----- 116 0,0
-----CAUUAUUACUUUUGGUACGCGuu-----
----- 3 0,0
-----CAUUAUUACUUUUGGUACGCGC-----
----- 10 0,1
-----CAUUAUUACUUUUGGUACGCGCa-----
----- 2 0,1
-----AUUAUUACUUUUGGUACG-----
----- 3 1,-2
-----AUUAUUACUUUUGGUACGCG-----
----- 38 1,0
-----AUUAUUACUUUUGGUACGCGa-----
----- 10 1,0
-----AUUAUUACUUUUGGUACGCGu-----
----- 8 1,0
-----AUUAUUACUUUUGGUACGCGCU-----
----- 26 1,2
-----CUCGUACCGUGAGUAAUAAUG-----
----- 4 -1,-2
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 5 -1,-2
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 18 -1,-1

```

```

-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 14  -1,0
-----UCGUACCGUGAGUAAUAAU-----
----- 3   0,-3
-----UCGUACCGUGAGUAAUAAUG-----
----- 6   0,-2
-----UCGUACCGUGAGUAAUAAUGa-----
----- 7   0,-2
-----UCGUACCGUGAGUAAUAAUGC-----
----- 40  0,-1
-----UCGUACCGUGAGUAAUAAUGCa-----
----- 4   0,-1
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 49  0,0
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 41  0,0
-----CGUACCGUGAGUAAUAAU-----
----- 3   1,-3
-----CGUACCGUGAGUAAUAAUG-----
----- 4   1,-2
-----CGUACCGUGAGUAAUAAUGC-----
----- 8   1,-1
-----CGUACCGUGAGUAAUAAUGCG-----
----- 51  1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 18  1,0
-----CGUACCGUGAGUAAUAAUGCGaa-----
----- 2   1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 17  1,0
-----GUACCGUGAGUAAUAAUGC-----
----- 13  2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 17  2,0
-----GUACCGUGAGUAAUAAUGCGa-----
----- 7   2,0

```

>hsa-mir-1260 5p:14-31 SRX018963

```

accuuuccagcucAUCCCACCUCUGCCACCAAaaacacucaucgcggggucagagggagugccaaaaaagguaa
(((((((...((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
-----AUCCCACCUCUGCCACCA----- 4
0,0

```

```

>hsa-mir-1260b 5p:10-28 SRX018963
ucuccguuuAUCCCACCACUGCCACCAUuaugcuacuguucagcaggugcugcugguggugauggugauagucuggugg
gggcggugg
.(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
)))))))).).
-----AUCCCACCACUGCCACCA-----
----- 8 0,-1

```

```

>hsa-mir-1268 5p:5-22 SRX018963
uagcCGGGCGUGGUGGUGGGGGccugugguccagcuacuuggaggcugag
(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
---CGGGCGUGGUGGUGGGGG----- 33 0,0
---CGGGCGUGGUGGUGGGGGa----- 3 0,0
---CGGGCGUGGUGGUGGGGGaa----- 3 0,0

```

```

>hsa-mir-127 5p:23-44;3p:57-78 SRX018963
ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucaUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucaucauc
(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
.)))).)))).).
-----CUGAAGCUCAGAGGGCUC-----
----- 6 0,-4
-----CUGAAGCUCAGAGGGCUCU-----
----- 6 0,-3
-----CUGAAGCUCAGAGGGCUCUGA-----
----- 10 0,-1
-----CUGAAGCUCAGAGGGCUCUGAU-----
----- 5 0,0
-----UCGGAUCCGUCUGAGCUUG-----
----- 3 0,-3
-----UCGGAUCCGUCUGAGCUUGG-----
----- 13 0,-2
-----UCGGAUCCGUCUGAGCUUGGaa--

```


-----	2	0,-2	-----UCGGAUCCGUCUGAGCUUGGC---
-----	116	0,-1	-----UCGGAUCCGUCUGAGCUUGGCa--
-----	154	0,-1	-----UCGGAUCCGUCUGAGCUUGGCaa-
-----	79	0,-1	-----UCGGAUCCGUCUGAGCUUGGCau-
-----	395	0,-1	-----UCGGAUCCGUCUGAGCUUGGCU--
-----	786	0,0	-----UCGGAUCCGUCUGAGCUUGGCUa-
-----	260	0,0	-----UCGGAUCCGUCUGAGCUUGGCUaa
-----	13	0,0	-----UCGGAUCCGUCUGAGCUUGGCUau
-----	250	0,0	-----UCGGAUCCGUCUGAGCUUGGCUu-
-----	239	0,0	-----UCGGAUCCGUCUGAGCUUGGCUuu
-----	28	0,0	-----UCGGAUCCGUCUGAGCUUGGCUgu
-----	9	0,1	-----CGGAUCCGUCUGAGCUUGGC---
-----	2	1,-1	-----CGGAUCCGUCUGAGCUUGGCau-
-----	4	1,-1	-----CGGAUCCGUCUGAGCUUGGCU--
-----	4	1,0	-----CGGAUCCGUCUGAGCUUGGCUau
-----	3	1,0	-----CGGAUCCGUCUGAGCUUGGCUu-
-----	2	1,0	-----GGAUCCGUCUGAGCUUGGC---
-----	2	2,-1	-----GGAUCCGUCUGAGCUUGGCa--
-----	5	2,-1	-----GGAUCCGUCUGAGCUUGGCau-

```

----- 7 2,-1
-----GGAUCCGUCUGAGCUUGGCU--
----- 34 2,0
-----GGAUCCGUCUGAGCUUGGCUa-
----- 8 2,0
-----GGAUCCGUCUGAGCUUGGCUau
----- 5 2,0
-----GGAUCCGUCUGAGCUUGGCUu-
----- 11 2,0

```

>hsa-mir-1270-1 5p:13-35 SRX018963

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuucuuuaucuucuauguggcucuuu
gca

((.((((((((..((((((.(((((((((.(((((.....)))))))))))))).)))))))).)))))))).))

)..-----CUGGAGAU AUGGAAGAGCUG-----

--- 3 0,-3

-----CUGGAGAU AUGGAAGAGCUGU-----

--- 3 0,-2

-----CUGGAGAU AUGGAAGAGCUGUGa-----

--- 2 0,-1

-----CUGGAGAU AUGGAAGAGCUGUGU-----

--- 2 0,0

>hsa-mir-1270-2 5p:13-35 SRX018963

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuucuuuaucuucuauguggcucuuu
gca

((.((((((((((((..((((((((.(((((((((.(((((((((.....)))))))))))))))))).)))))))).)))))))).)))))))).))

)..-----CUGGAGAU AUGGAAGAGCUG-----

--- 3 0,-3

-----CUGGAGAU AUGGAAGAGCUGU-----

--- 3 0,-2

-----CUGGAGAU AUGGAAGAGCUGUGa-----

--- 2 0,-1

-----CUGGAGAU AUGGAAGAGCUGUGU-----

--- 2 0,0

caccagaucagugCUUGGCACCUAGCAAGCACUCAguaaauuuuguugagugccugcuaugugccaggcauugugcug
agggu

-----CUUGGCACCUAGCAAGCA-----

-----CUUGGCACCUAGCAAGCAC-----

-----CUUGGCACCUAGCAAGCACU-----

-----UUGGCACCUAGCAAGCACU-----

-----AGUGCCUGCUAUGUGCCA-----

-----AGUGCCUGCUAUGUGCCAG-----

ugaggcaggagaauugcuugaacccgggugguggagguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUCUUUCUgga

UGAGGCAGGAGAAUUGCU-----

UGAGGCAGGAGAAUUGCUU-----

ugcagccugGGCGACAAAACGAGACCCUGUCuuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga

-----GGCGACAAAACGAGACCC-----

-----GGCGACAAAACGAGACCCU-----

-----GGCGACAAAACGAGACCCUGU-----

-----GGCGACAAAACGAGACCCUGUCa-----


```

- 13 0,-2
-----UAGUACUGUGCAUAUCAUCUA-----
- 2 0,-1
-----UAGUACUGUGCAUAUCAUCAU-----
- 56 0,0

>hsa-mir-128-1 3p:50-70 SRX018963
ugagcuguuggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUUuucagcugcu
uc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)).
-----UCACAGUGAACCGGUCUC-----
-- 32 0,-3
-----UCACAGUGAACCGGUCUCU-----
-- 84 0,-2
-----UCACAGUGAACCGGUCUCUa-----
-- 5 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
-- 5 0,-2
-----UCACAGUGAACCGGUCUCUau-----
-- 6 0,-2
-----UCACAGUGAACCGGUCUCUU-----
-- 280 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
-- 83 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 38 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 19 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 954 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 409 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 49 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 43 0,0
-----UCACAGUGAACCGGUCUCUUUU-----

```

```
-- 284 0,1
-----UCACAGUGAACCGGUCUCUUUa-----
-- 17 0,1
-----UCACAGUGAACCGGUCUCUUUU-----
-- 8 0,2
-----ACAGUGAACCGGUCUCU-----
-- 4 2,-1
-----ACAGUGAACCGGUCUCUU-----
-- 8 2,0
-----ACAGUGAACCGGUCUCUUa-----
-- 2 2,0
```

>hsa-mir-128-2 3p:52-72 SRX018963

```
ugugcagugggaagggggccgauacacuguacgagaguguaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc
```

```
.(..(((((((.((((((((((...((((((..((((..(.....).))))))))))..))))))))..))))))
..).
```

```
-----UCACAGUGAACCGGUCUC-----
---- 32 0,-3
-----UCACAGUGAACCGGUCUC-----
---- 84 0,-2
-----UCACAGUGAACCGGUCUCUa-----
---- 5 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
---- 5 0,-2
-----UCACAGUGAACCGGUCUCUau-----
---- 6 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 280 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
---- 83 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
---- 38 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
---- 19 0,-1
-----UCACAGUGAACCGGUCUCUU-----
---- 954 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
```

```

----      409  0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
----      49   0,0
-----UCACAGUGAACCGGUCUCUUUau-----
----      43   0,0
-----UCACAGUGAACCGGUCUCUUUC-----
----      48   0,1
-----UCACAGUGAACCGGUCUCUUUCa-----
----      12   0,1
-----UCACAGUGAACCGGUCUCUUUCu-----
----      18   0,1
-----ACAGUGAACCGGUCUCUU-----
----       4    2,-1
-----ACAGUGAACCGGUCUCUU-----
----       8    2,0
-----ACAGUGAACCGGUCUCUUUa-----
----       2    2,0

```

>hsa-mir-1284 5p:30-51 SRX018963

```

auuuugauauauaagccaguuaauguuuUCUAUACAGACCCUGGCUUUCuuaauuuuuauauauuggaaagcccaugu
uuguauuggaaacugcugguuucuucauacugaaaaucu
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUAUACAGACCCUGGCUU-----
-----2    0,-2
-----UCUAUACAGACCCUGGCUU-----
-----2    0,-1
-----UCUAUACAGACCCUGGCUUUC-----
-----2    0,0

```

>hsa-mir-1285-1 3p:51-72 SRX018963

```

uguagagauaggaucucacuuguugcccaggcuggucuaaacuccuggUCUGGGCAACAAAGUGAGACCUaaucucua
caag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..
-----AUCUCACUUUGUUGCCCA-----
-----2
-----UCUGGGCAACAAAGUGAG-----

```

```

----- 2 0,-4
-----UCUGGGCAACAAAGUGAGAC-----
----- 8 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----- 7 0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
----- 4 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----- 4 0,-1
-----UCUGGGCAACAAAGUGAGACCaa-----
----- 2 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----- 14 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----- 20 0,0
-----UCUGGGCAACAAAGUGAGACCUaa-----
----- 4 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
----- 15 0,0
-----UCUGGGCAACAAAGUGAGACCUU-----
----- 13 0,1
-----UCUGGGCAACAAAGUGAGACCUUu-----
----- 3 0,1
-----UCUGGGCAACAAAGUGAGACCUUA-----
----- 2 0,2

```

>hsa-mir-1285-2 3p:52-73 SRX018963

```

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

```

```

(((((((((((.((((.....(((((((.(((((((.....((((.....))))).))))))....))))))..))))).))))
).))))..

```

```

-----UCUGGGCAACAAAGUGAG-----
----- 2 0,-4
-----UCUGGGCAACAAAGUGAGAC-----
----- 8 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----- 7 0,-2
-----UCUGGGCAACAAAGUGAGACaa-----

```



```

----- 4 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----- 4 0,-1
-----UCUGGGCAACAAAGUGAGACCaa-----
----- 2 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----- 14 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----- 20 0,0
-----UCUGGGCAACAAAGUGAGACCUaa-----
----- 4 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
----- 15 0,0

```

>hsa-mir-1286 3p:47-67 SRX018963

```

uguccucuggggacucagcuugcucuggcugcuggauugaauuagcUGCAGGACCAAGAUGAGCCCUugguggagaca
..(((.(.(((.((((.((((.((((.((((.(.....)))))).)))..))))..))))..))....
-----UCGAGGACCAAGAUGAGCC-----
3 0,-2
-----UCGAGGACCAAGAUGAGCCCUau-----
2 0,0

```

>hsa-mir-1287 5p:16-37 SRX018963

```

guugugcuguccaggUGCUGGAUCAGUGGUUCGAGUCugagccuuuaaaagccacucuaagccacagaugcagugauugga
gccaugacaa
((..((...(((..(((.((((.((((.((((.(.....)))))).)))..))))..))))..))....
..))..))..
-----UCUGGAUCAGUGGUUCGA-----
----- 3 0,-3
-----UCUGGAUCAGUGGUUCGAG-----
----- 3 0,-2
-----UCUGGAUCAGUGGUUCGAGU-----
----- 4 0,-1
-----UCUGGAUCAGUGGUUCGAGUa-----
----- 2 0,-1
-----UCUGGAUCAGUGGUUCGAGUC-----
----- 14 0,0
-----UCUGGAUCAGUGGUUCGAGUCa-----

```

----- 7 0,0
-----UGCUGGAUCAGUGGUUCGAGUCU-----
----- 3 0,1

>hsa-mir-1289-1 3p:86-108 SRX018963

uucucauuuuuaguaggaauuaaaaaacaaaacugguaaaugcagacucuugguuuccacccccagagaaucccuaaacc
gggggUGGAGUCCAGGAUUCUGCAUUUAgaaaguaccaggugauucugauaaauugggaaca
((((((((.....((((((((.....((...((((((((.....((((((((.....((.....
)))))))))).)))))).))))))))).)))))).))))))))).))))))))).))))))))).

-----UGGAGUCCAGGAUUCUGCAUUU----- 2 0,0

>hsa-mir-1289-2 3p:70-92 SRX018963

ccacgguccuaguuaaaaaaggcacauuccuagaccugccucagaacuacugaacagagucacugggugUGGAGUCCAGG
AAUCUGCAUUUuaccccuauugcccccgcc
....((((.....((((((((.....((...((((((((.....((((((((.....((.....
)))))))))).)))))).))))))))).)))))).))))))))).))))))))).))))))))).
-----UGGAGUCCAGG
AAUCUGCAUUU----- 2 0,0

>hsa-mir-1291 5p:14-37 SRX018963

gguaagaauuccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuucaagcagaggccuaaaggacugu
cuuccug
(((.....((((((((.....((...((((((((.....((((((((.....((.....
)))))))))).)))))).))))))))).)))))).))))))))).))))))))).))))))))).
-----GUGGCCCUGACUGAAGACCA-----
----- 2 -1,-5
-----GUGGCCCUGACUGAAGACCAGC-----
----- 9 -1,-3
-----GUGGCCCUGACUGAAGACCAGCA-----
----- 118 -1,-2
-----UGGCCCUGACUGAAGACCAGC-----
----- 6 0,-3
-----UGGCCCUGACUGAAGACCAGCA-----
----- 27 0,-2
-----UGGCCCUGACUGAAGACCAGCAGU-----
----- 2 0,0

>hsa-mir-1292 5p:3-27 SRX018963

ccUGGGAACGGGUUCCGGCAGACGCUgagguugcguugacgcucgcgccccggcucccguuccagg

(((((.(((((((..((((..(((((.((((((.....)))..)))))).)))))))))

-----GCGCCCCGGCUCCCGUCCAGu 2

>hsa-mir-1294 5p:48-69 SRX018963

caccuaaugugugccaagaucuguucauuuaugaucucaccgaguccUGUGAGGUUGGCAUUGUUGUCUggcauugucug

auauacaacagugccaaccucacaggacucagugaggugaaacugaggauuaggaaggugua

(((((.....((..((((((..(((.(((.((.(.((.....))
..))..

-----CUGUGAGGUUGGCAUUGUUGU-----

----- 2 -1,-2

-----UGUGAGGUUGGCAUUGUUG-----

----- 2 0,-3

-----UGUGAGGUUGGCAUUGUUGU-----

----- 6 0,-2

-----UGUGAGGUUGGCAUUGUUGUCU-----

----- 4 0,0

>hsa-mir-1301 3p:48-71 SRX018963

ggauuguggggggucgcucuaggcaccgcagcacugugcugggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc

(((((((((.(((((((((((((((((((((((.((((((((.....)))..)))))).)))))))))..

-----UUGCAGCUGCCUGGGAGUGACU-----

-- 3 0,-2

-----UGCAGCUGCCUGGGAGUGAC-----

-- 2 1,-3

-----UGCAGCUGCCUGGGAGUGACU-----

-- 3 1,-2

-----UGCAGCUGCCUGGGAGUGACUU-----

-- 5 1,-1

-----UGCAGCUGCCUGGGAGUGACUUC-----

-- 2 1,0

-----UGCAGCUGCCUGGGAGUGACUUCA-----

-- 3 1,1

-----UGCAGCUGCCUGGGAGUGACUUCau-----

-- 2 1,1

ggcugggcaacauagcgagaccucaacucuaacaauuuuuuuuuuuuuuuuuuuUUUAGAGACGGGGUCUUGCUCUguugcca
ggcuuu

-----AGCGAGACCUCAACUCUACAAU-----

----- 2

-----UUUUAGAGACGGGGUCUUGCU-----

----- 14 -1,-2

-----UUUAGAGACGGGGUCUUGCU-----

----- 13 0, -2

-----UUAGAGACGGGGUCUUGCU-----

----- 3 1, -2

gugagcagucuccaccaccuccccugcaaacguccaguggugcagagguaauggACGUUGGCUCUGGUGGUGauggacag
uccga

$.((.(.(((.((((((. . . . ((.(((((((. . . ((. . .))) .))))))) .) . .)))))) .)) . .))).$

-----CCACCUGCCUGCAAACGUC-----

----- 2

-----CCACCUCCCCUGCAAACGUCCA-----

----- 2

-----ACGUUGGCUCUGGUGGUGAU-----

----- 3 0,2

-----ACGUUGGCUCUGGUGGUGAUG-----

----- 6 0,3

-----ACGUUGGCUCUGGUGGUGAUGu-----

----- 4 0,3

caucaagaccagcugagucacugucacugccuaccaaucucgaccggaccucgaccggcucgucuguguugccaaucgA
CUCGGCGUGGGCUCGGUCGUGguagauaggcggucaugcauacgaauuuucagcucuuguucuggugac

(((((.(.(.((((((.(.(((.((((((.(.(.(((.(((((.((.(.(((.(.....)).)))
 .))))).))..))))))).)).).))))))))....)).)...)))).)))).)..)))).).

-----CUCGACCGGACCUCGACCGGC_{aa}-----

-----CUCGACCGGACCUCGACCGGCU-----	
-----	6
-----UCGACCGGACCUCGACCG-----	
-----	77
-----UCGACCGGACCUCGACCGaa-----	
-----	2
-----UCGACCGGACCUCGACCGG-----	
-----	18
-----UCGACCGGACCUCGACCGGa-----	
-----	4
-----UCGACCGGACCUCGACCGGaa-----	
-----	5
-----UCGACCGGACCUCGACCGGuu-----	
-----	2
-----UCGACCGGACCUCGACCGGC-----	
-----	342
-----UCGACCGGACCUCGACCGGCa-----	
-----	11
-----UCGACCGGACCUCGACCGGCaa-----	
-----	53
-----UCGACCGGACCUCGACCGGCau-----	
-----	6
-----UCGACCGGACCUCGACCGGCU-----	
-----	2388
-----UCGACCGGACCUCGACCGGCUa-----	
-----	51
-----UCGACCGGACCUCGACCGGCUaa-----	
-----	26
-----UCGACCGGACCUCGACCGGCUau-----	
-----	25
-----UCGACCGGACCUCGACCGGCUu-----	
-----	317
-----UCGACCGGACCUCGACCGGCUuu-----	
-----	95
-----UCGACCGGACCUCGACCGGCUC-----	
-----	2245
-----UCGACCGGACCUCGACCGGCUCa-----	
-----	129

-----UCGACCGGACCUCGACCGGCUCaa-----		
-----	6	
-----UCGACCGGACCUCGACCGGCUCau-----		
-----	10	
-----UCGACCGGACCUCGACCGGCUCu-----		
-----	63	
-----UCGACCGGACCUCGACCGGCUCuu-----		
-----	3	
-----UCGACCGGACCUCGACCGGCUCG-----		
-----	68	
-----UCGACCGGACCUCGACCGGCUCGa-----		
-----	2	
-----UCGACCGGACCUCGACCGGCUCGU-----		
-----	19	
-----CGACCGGACCUCGACCGGC-----		
-----	2	
-----CGACCGGACCUCGACCGGCU-----		
-----	7	
-----CGACCGGACCUCGACCGGCUC-----		
-----	6	
-----CGACCGGACCUCGACCGGCUCu-----		
-----	2	
-----GACCGGACCUCGACCGGCU-----		
-----	40	
-----GACCGGACCUCGACCGGCUu-----		
-----	8	
-----GACCGGACCUCGACCGGCUuu-----		
-----	2	
-----GACCGGACCUCGACCGGCUC-----		
-----	51	
-----GACCGGACCUCGACCGGCUCa-----		
-----	4	
-----GACCGGACCUCGACCGGCUCu-----		
-----	2	
-----GACCGGACCUCGACCGGCUCG-----		
-----	2	
-----A		
CUCGGCGUGGCGUCGGU-----	4	0, -4

			-CAGUGCAAUGUUAAAAGG-
249	0,-4		-CAGUGCAAUGUUAAAAGGG-
193	0,-3		-CAGUGCAAUGUUAAAAGGGC-
370	0,-2		-CAGUGCAAUGUUAAAAGGGCA-
75	0,-1		-CAGUGCAAUGUUAAAAGGGCAa-
18	0,-1		-CAGUGCAAUGUUAAAAGGGCAU-
261	0,0		-CAGUGCAAUGUUAAAAGGGCAUa-
43	0,0		-CAGUGCAAUGUUAAAAGGGCAUU-
107	0,1		-CAGUGCAAUGUUAAAAGGGCAUUa-
5	0,1		-CAGUGCAAUGUUAAAAGGGCAUUu-
2	0,1		-AGUGCAAUGUUAAAAGGG-
2	1,-3		-AGUGCAAUGUUAAAAGGGC-
5	1,-2		-AGUGCAAUGUUAAAAGGGCAU-
3	1,0		-AGUGCAAUGUUAAAAGGGCAUU-
2	1,1		

>hsa-mi r-130b mi:13-33;MA:51-72 SRX018963

ggccugcccgaCACUCUUCUUGGACUACuauaggccgcugggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc

(((((.((((..((((((..(((((((.(.(((...)))...)).)))))))).)))))))).))))).)))
))

-----ACUCUUCCCUGUUGCACUACU-----

-- 3 0,1

-----CAGUGCAAUGAUGAAAGG-----

-- 30 0,-4


```

-----CAGUGCAAUGAUGAAAGGG-----
-- 17 0,-3
-----CAGUGCAAUGAUGAAAGGGC-----
-- 30 0,-2
-----CAGUGCAAUGAUGAAAGGGCA-----
-- 13 0,-1
-----CAGUGCAAUGAUGAAAGGGCAa-----
-- 8 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 125 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 14 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 23 0,0
-----AGUGCAAUGAUGAAAGGGCAU-----
-- 4 1,0

```

>hsa-mir-132 mi:23-44;MA:59-80 SRX018963

```

ccgcccccgcgucuccagggcaACCGUGGCUUUCGAUUGUUACUgugggaacuggaggUAACAGUCUACAGCCAUGGUCG
ccccgcagcacgcccacgcgc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AACCGUGGCUUUCGAUUG-----
----- 2 -1,-5
-----AACCGUGGCUUUCGAUUGUUA-----
----- 7 -1,-2
-----AACCGUGGCUUUCGAUUGUUA-----
----- 2 0,-2
-----UAACAGUCUACAGCCAUG-----
----- 5 0,-4
-----UAACAGUCUACAGCCAUGG-----
----- 6 0,-3
-----UAACAGUCUACAGCCAUGGU-----
----- 12 0,-2
-----UAACAGUCUACAGCCAUGGUaa
----- 2 0,-2
-----UAACAGUCUACAGCCAUGGUC-----
----- 5 0,-1

```

```

-----UAACAGUCUACAGCCAUGGUCG
----- 21 0,0
-----UAACAGUCUACAGCCAUGGUCG
a----- 4 0,0
-----UAACAGUCUACAGCCAUGGUCG
u----- 17 0,0
-----ACAGUCUACAGCCAUGGUCG
----- 3 2,0

```

>hsa-mir-133a-1 3p:53-74 SRX018963

```

acaugcuuugcuagagcugguaaaauggaaccaaauccgucucuuauggaUUUGGUCCCCUUAACCAGCUGuagcua
ugcauuga
.(((((((...(((((((((((...(((...((((((((((((.....)))))))))).)))).)))).)))).
.)))).)).
-----GAGCUGGUAAAAUGGAACCAAA-----
----- 2
-----UUUGGUCCCCUUAACCAGCUGU-----
----- 2 0,1

```

>hsa-mir-133a-2 3p:59-80 SRX018963

```

gggagccaaauugcuagagcugguaaaauggaaccaaauccgacuguccaauuggaUUUGGUCCCCUUAACCAGCUG
uagcugugcauugauggcgccg
.(((((((((((...(((((((((((...(((...((((((((((((.....)))))))))).)))).)))).)))).
))))...))))).)))).)).
-----GAGCUGGUAAAAUGGAACCAAA-----
----- 2
-----UUUGGUCCCCUUAACCAGCUG
U----- 2 0,1

```

>hsa-mir-134 5p:8-29 SRX018963

```

cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguuacccugugggccaccuagucaccaaccuc
.(((((((...(((((((((((...(((...((((((((((((.....)))))))))).)))).)))).)))).
-----UGUGACUGGUUGACCAGA----- 6
0,-4
-----UGUGACUGGUUGACCAGAG----- 20
0,-3
-----UGUGACUGGUUGACCAGAGa----- 4
0,-3

```

```

-----UGUGACUGGUUGACCAGAGG----- 11
    0,-2
-----UGUGACUGGUUGACCAGAGGa----- 6
    0,-2
-----UGUGACUGGUUGACCAGAGGu----- 3
    0,-2
-----UGUGACUGGUUGACCAGAGGG----- 16
    0,-1
-----UGUGACUGGUUGACCAGAGGGa----- 6
    0,-1
-----UGUGACUGGUUGACCAGAGGGG----- 19
    0,0
-----UGUGACUGGUUGACCAGAGGGGa----- 5
    0,0
-----UGUGACUGGUUGACCAGAGGGGaa----- 4
    0,0
-----UGUGACUGGUUGACCAGAGGGGau----- 3
    0,0
-----UGUGACUGGUUGACCAGAGGGGu----- 2
    0,0

```

>hsa-mir-135a-1 MA:17-39;mi:56-77 SRX018963

```

aggccucgcguucucUAUGGCUUUUAUCCUAUGUGAuucucacucacucaUAUAGGGAUUGGAGCCGUGGCGcac
ggcggggaca
.(.(((((((((.(((((((((.(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.
)))))))))).)))))))))).)))))))))).)))))))))).)))))))))).)))))))))).)))))))))).))
-----UAUGGCUUUUAUCCUAUGUG-----
----- 2 0,-1

```

>hsa-mir-135a-2 5p:23-45 SRX018963

```

agauaaaauccacucagugcuUAUGGCUUUUAUCCUAUGUGAuaguaaaaagucucauguagggauuggaagccaug
aaauacauugugaaaaauca
.(((...((((....(((.(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.
))))))...)))))).)))))).)))))))))).)))))))))).)))))))))).)))))))))).))))))))))
-----UAUGGCUUUUAUCCUAUGUG-----
----- 2 0,-1

```

>hsa-mir-135b MA:16-38;mi:55-76 SRX018963

```

cacucugcuguggccUAUGGCUUUUCAUCCUAUGUGAuugcugucccaaacucAUGUAGGGCUAAAAGCCAUGGGcuac
agugagggggcgagcucc
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))..)))))).....
-----UAUGGCUUUUCAUCCUAUGUGA-----
-----      3      0,0

```

```

>hsa-mir-136      MA:15-37;mi:49-70      SRX018963
ugagcccucggaggACUCCAUUUGUUUGAUGAUGGAuucuaugcucCAUCAUCGUCUCAAUGAGUCUucagaggguu
cu
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).
-----ACUCCAUUUGUUUGAUGAU-----
--  6      0,-3
-----CAUCAUCGUCUCAAUGA-----
-- 10      0,-4
-----CAUCAUCGUCUCAAUGAG-----
--  8      0,-3
-----CAUCAUCGUCUCAAUGAGU-----
--  3      0,-2
-----CAUCAUCGUCUCAAUGAGUC-----
--  7      0,-1

```

```

>hsa-mir-138-1   MA:23-45;mi:63-84      SRX018963
cccuggcaugguguggugggggcAGCUGGUGUUGUGAAUCAGGCCGuugccaucagagaacgGCUACUUCACAACACCAG
GGCCacaccacacuacagg
.((((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.)))).))))))))))))))))))
-----AGCUGGUGUUGUGAAUCA-----
-----  5      0,-5
-----AGCUGGUGUUGUGAAUCAGGC-----
-----  2      0,-2
-----AGCUGGUGUUGUGAAUCAGGCau-----
-----  2      0,-2

```

```

>hsa-mir-138-2   MA:10-32;mi:57-78      SRX018963
cguugcugcAGCUGGUGUUGUGAAUCAGGCCGacgagcagcgcauccucuacccgGCUAUUUCACGACACCAGGGUugc
auca

```


-1,-2	UGGAGACGCGGCCCUGUUGGAa----	52	
-1,-2	UGGAGACGCGGCCCUGUUGGAaa----	37	
-1,-2	UGGAGACGCGGCCCUGUUGGAau----	3	
-1,-2	UGGAGACGCGGCCCUGUUGGAu----	12	
-1,-2	UGGAGACGCGGCCCUGUUGGAG----	489	
-1,-1	UGGAGACGCGGCCCUGUUGGAGa----	157	
-1,-1	UGGAGACGCGGCCCUGUUGGAGaa----	2	
-1,-1	UGGAGACGCGGCCCUGUUGGAGau----	2	
-1,-1	UGGAGACGCGGCCCUGUUGGAGU----	597	-1,0
	UGGAGACGCGGCCCUGUUGGAGUu----	8	-1,0
	UGGAGACGCGGCCCUGUUGGAGUuu----	2	-1,0
	UGGAGACGCGGCCCUGUUGGAGUA----	3	-1,1
	UGGAGACGCGGCCCUGUUGGAGUAu----	4	-1,1
	GGAGACGCGGCCCUGUUGG-----	6	0,-3
	GGAGACGCGGCCCUGUUGGA-----	3	0,-2
	GGAGACGCGGCCCUGUUGGAG-----	12	0,-1
	GGAGACGCGGCCCUGUUGGAGa----	3	0,-1
	GGAGACGCGGCCCUGUUGGAGU----	29	0,0
	AGACGCGGCCCUGUUGGAGU----	2	2,0
	AGACGCGGCCCUGUUGGAGUu----	4	2,0
	AGACGCGGCCCUGUUGGAGUuu----	8	2,0
	AGACGCGGCCCUGUUGGAGUA----	2	2,1

-----	2	0,-1	
-----	AGUGGUUUUACCCUAUGGUAGa-----		
-----	2	1,0	
-----			-----CUACCACAGGGUAGAACCAC
GG-----	4	-1,0	
-----			-----CUACCACAGGGUAGAACCAC
GGA-----	6	-1,1	
-----			-----UACCACAGGGUAGAACCA-
-----	23	0,-3	
-----			-----UACCACAGGGUAGAACCAC
-----	48	0,-2	
-----			-----UACCACAGGGUAGAACCAC
G-----	535	0,-1	
-----			-----UACCACAGGGUAGAACCAC
Ga-----	7	0,-1	
-----			-----UACCACAGGGUAGAACCAC
Gaa-----	2	0,-1	
-----			-----UACCACAGGGUAGAACCAC
Gu-----	4	0,-1	
-----			-----UACCACAGGGUAGAACCAC
GG-----	8934	0,0	
-----			-----UACCACAGGGUAGAACCAC
GGu-----	77	0,0	
-----			-----UACCACAGGGUAGAACCAC
GGuu-----	10	0,0	
-----			-----UACCACAGGGUAGAACCAC
GGA-----	6018	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAa-----	1020	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAAA-----	293	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAAu-----	103	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAu-----	119	0,1	
-----			-----UACCACAGGGUAGAACCAC
GGAAu-----	6	0,1	
-----			-----UACCACAGGGUAGAACCAC

GGAC-----	602	0,2	
-----			-UACCACAGGGUAGAACCAC
GGACu-----	9	0,2	
-----			-UACCACAGGGUAGAACCAC
GGACA-----	193	0,3	
-----			-UACCACAGGGUAGAACCAC
GGACAa-----	6	0,3	
-----			-UACCACAGGGUAGAACCAC
GGACAu-----	3	0,3	
-----			-ACCACAGGGUAGAACCAC
-----	50	1,-2	
-----			-ACCACAGGGUAGAACCAC
G-----	76	1,-1	
-----			-ACCACAGGGUAGAACCAC
Ga-----	4	1,-1	
-----			-ACCACAGGGUAGAACCAC
GG-----	1837	1,0	
-----			-ACCACAGGGUAGAACCAC
GGu-----	117	1,0	
-----			-ACCACAGGGUAGAACCAC
GGuu-----	40	1,0	
-----			-ACCACAGGGUAGAACCAC
GGA-----	16772	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAa-----	4723	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAaa-----	1396	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAau-----	269	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAu-----	1955	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAuu-----	87	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAC-----	4161	1,2	
-----			-ACCACAGGGUAGAACCAC
GGACu-----	69	1,2	
-----			-ACCACAGGGUAGAACCAC

GGACuu-----	2	1,2	-----ACCACAGGGUAGAACCAC
GGACA-----	262	1,3	-----ACCACAGGGUAGAACCAC
GGACAa-----	100	1,3	-----ACCACAGGGUAGAACCAC
GGACAaa-----	5	1,3	-----ACCACAGGGUAGAACCAC
GGACAau-----	5	1,3	-----ACCACAGGGUAGAACCAC
GGACAu-----	17	1,3	-----ACCACAGGGUAGAACCAC
GGACAG-----	4	1,4	-----CCACAGGGUAGAACCAC
G-----	2	2,-1	-----CCACAGGGUAGAACCAC
GG-----	59	2,0	-----CCACAGGGUAGAACCAC
GGu-----	2	2,0	-----CCACAGGGUAGAACCAC
GGA-----	445	2,1	-----CCACAGGGUAGAACCAC
GGAa-----	123	2,1	-----CCACAGGGUAGAACCAC
GGAaa-----	43	2,1	-----CCACAGGGUAGAACCAC
GGAau-----	5	2,1	-----CCACAGGGUAGAACCAC
GGAu-----	59	2,1	-----CCACAGGGUAGAACCAC
GGAuu-----	9	2,1	-----CCACAGGGUAGAACCAC
GGAC-----	130	2,2	-----CCACAGGGUAGAACCAC
GGACu-----	6	2,2	-----CCACAGGGUAGAACCAC
GGACA-----	11	2,3	-----CCACAGGGUAGAACCAC

GGACAa----- 9 2,3
-----CCACAGGGUAGAACCAC

GGACAaa----- 4 2,3
-----CCACAGGGUAGAACCAC

GGACAGa----- 2 2,4

>hsa-mi r-142 5p:16-36;3p:52-74 SRX018963

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggaggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug

.(((((((.(((.(((((((((((.(((((((((((...((....).).).))))))))).))))))))).))))).))

-----CCCAUAAAGUAGAAAGCA-----

----- 44 -2,-5

-----CCCAUAAAGUAGAAAGCAa-----

----- 24 -2,-5

-----CCCAUAAAGUAGAAAGCAaa-----

----- 3 -2,-5

-----CCCAUAAAGUAGAAAGCAuu-----

----- 3 -2,-5

-----CCCAUAAAGUAGAAAGCAC-----

----- 52 -2,-4

-----CCCAUAAAGUAGAAAGCACa-----

----- 2 -2,-4

-----CCCAUAAAGUAGAAAGCACU-----

----- 321 -2,-3

-----CCCAUAAAGUAGAAAGCACUA-----

----- 176 -2,-2

-----CCCAUAAAGUAGAAAGCACUAa-----

----- 12 -2,-2

-----CCCAUAAAGUAGAAAGCACUAu-----

----- 25 -2,-2

-----CCCAUAAAGUAGAAAGCACUAC-----

----- 29 -2,-1

-----CCCAUAAAGUAGAAAGCACUACa-----

----- 2 -2,-1

-----CCAUAAAGUAGAAAGCACU-----

----- 8 -1,-3

-----CCAUAAAGUAGAAAGCACUA-----

----- 6 -1,-2
-----CCAUAAAGUAGAAAGCACUAu-----
----- 3 -1,-2
-----CCAUAAAGUAGAAAGCACUAC-----
----- 3 -1,-1
-----CAUAAAGUAGAAAGCACU-----
----- 40 0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 141 0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 20 0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 21 0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 4 0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 62 0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 3 0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 92 0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 58 0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 3 0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 6 0,2
-----AUAAAGUAGAAAGCACUA-----
----- 9 1,-2
-----AUAAAGUAGAAAGCACUAa-----
----- 2 1,-2
-----AUAAAGUAGAAAGCACUAaa-----
----- 2 1,-2
-----AUAAAGUAGAAAGCACUAC-----
----- 4 1,-1
-----AUAAAGUAGAAAGCACUACa-----
----- 3 1,-1
-----AUAAAGUAGAAAGCACUACaa-----


```

----- 3 0,-2
-----GGUGCAGUGCUGCAUCUCUGaa-----
----- 5 0,-2
-----GGUGCAGUGCUGCAUCUCUGG-----
----- 25 0,-1
-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 13 0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 20 0,-1
-----GGUGCAGUGCUGCAUCUCUGGau-----
----- 2 0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 4 0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 4 0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 5 0,0
-----GGUGCAGUGCUGCAUCUCUGGUC-----
----- 6 0,1
-----GUGCAGUGCUGCAUCUCU-----
----- 3 1,-3
-----UCUGAGAUGAAGCACUGUAGC-----
----- 6 -2,-2
-----UCUGAGAUGAAGCACUGUAGCU
----- 3 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
a----- 2 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
C----- 4 -2,0
-----CUGAGAUGAAGCACUGUA-----
----- 4 -1,-4
-----CUGAGAUGAAGCACUGUAaa-----
----- 2 -1,-4
-----CUGAGAUGAAGCACUGUAGCa
----- 2 -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 18 -1,-1
-----CUGAGAUGAAGCACUGUAGCU

```

a-----	7	-1,-1	
-----			-CUGAGAUGAAGCACUGUAGCU
u-----	2	-1,-1	
-----			-CUGAGAUGAAGCACUGUAGCU
C-----	23	-1,0	
-----			-CUGAGAUGAAGCACUGUAGCU
Cu-----	3	-1,0	
-----			-UGAGAUGAAGCACUGUAG--
-----	139	0,-3	
-----			-UGAGAUGAAGCACUGUAGa-
-----	4	0,-3	
-----			-UGAGAUGAAGCACUGUAGaa
-----	13	0,-3	
-----			-UGAGAUGAAGCACUGUAGau
-----	4	0,-3	
-----			-UGAGAUGAAGCACUGUAGuu
-----	2	0,-3	
-----			-UGAGAUGAAGCACUGUAGC-
-----	260	0,-2	
-----			-UGAGAUGAAGCACUGUAGCa
-----	101	0,-2	
-----			-UGAGAUGAAGCACUGUAGCa
a-----	78	0,-2	
-----			-UGAGAUGAAGCACUGUAGCa
u-----	8	0,-2	
-----			-UGAGAUGAAGCACUGUAGCU
-----	2823	0,-1	
-----			-UGAGAUGAAGCACUGUAGCU
a-----	331	0,-1	
-----			-UGAGAUGAAGCACUGUAGCU
aa-----	57	0,-1	
-----			-UGAGAUGAAGCACUGUAGCU
au-----	18	0,-1	
-----			-UGAGAUGAAGCACUGUAGCU
u-----	112	0,-1	
-----			-UGAGAUGAAGCACUGUAGCU
uu-----	6	0,-1	
-----			-UGAGAUGAAGCACUGUAGCU

C-----	6859	0,0	-----UGAGAUGAAGCACUGUAGCU
Cu-----	1178	0,0	-----UGAGAUGAAGCACUGUAGCU
Cuu-----	108	0,0	-----UGAGAUGAAGCACUGUAGCU
CA-----	316	0,1	-----UGAGAUGAAGCACUGUAGCU
CAa-----	24	0,1	-----UGAGAUGAAGCACUGUAGCU
CAaa-----	3	0,1	-----UGAGAUGAAGCACUGUAGCU
CAau-----	3	0,1	-----UGAGAUGAAGCACUGUAGCU
CAu-----	8	0,1	-----UGAGAUGAAGCACUGUAGCU
CAuu-----	3	0,1	-----UGAGAUGAAGCACUGUAGCU
CAG-----	2	0,2	-----GAGAUGAAGCACUGUAGC-
-----	4	1,-2	-----GAGAUGAAGCACUGUAGCU
-----	3	1,-1	-----GAGAUGAAGCACUGUAGCU
C-----	50	1,0	-----GAGAUGAAGCACUGUAGCU
Cu-----	8	1,0	-----GAGAUGAAGCACUGUAGCU
CA-----	2	1,1	-----AGAUGAAGCACUGUAGCU
C-----	4	2,0	-----AGAUGAAGCACUGUAGCU
Cu-----	3	2,0	-----AGAUGAAGCACUGUAGCU
Cuu-----	2	2,0	

>hsa-mir-144 mi:15-36;MA:52-71 SRX018963

uggggcccuggcugGGAUAUCAUAUACUGUAAGuuugcgaugagacacUACAGUAUAGAUGAUGUACUaguccgggc

.(((((((.(((((((.(((((((((.(((((((((((.((((.....))))..)))))))))))))))))))).))))).)))
 .)))..

-----	GGGAU	AUCAU	CAU	AU	ACUG	-----
-----	2	-1,-4				
-----	GGAU	AUCAU	CAU	AU	ACUG	-----
-----	136	0,-4				
-----	GGAU	AUCAU	CAU	AU	ACUGU	-----
-----	37	0,-3				
-----	GGAU	AUCAU	CAU	AU	ACUGUA	-----
-----	20	0,-2				
-----	GGAU	AUCAU	CAU	AU	ACUGUAA	-----
-----	24	0,-1				
-----	GGAU	AUCAU	CAU	AU	ACUGUAAG	-----
-----	130	0,0				
-----	GGAU	AUCAU	CAU	AU	ACUGUAAGU	-----
-----	79	0,1				
-----	GAU	AUCAU	CAU	AU	ACUGUAAG	-----
-----	3	1,0				
-----	GAU	AUCAU	CAU	AU	ACUGUAAGUU	-----
-----	3	1,2				
-----					CUACAGUAUAGAUGAUGU	-----
-----	3	-1,-3				
-----					CUACAGUAUAGAUGAUGUA	-----
-----	18	-1,-2				
-----					UACAGUAUAGAUGAUGUA	-----
-----	113	0,-2				
-----					UACAGUAUAGAUGAUGUAa	-----
-----	2	0,-2				
-----					UACAGUAUAGAUGAUGUAC	-----
-----	56	0,-1				
-----					UACAGUAUAGAUGAUGUACU	-----
-----	33	0,0				
-----					UACAGUAUAGAUGAUGUACUu	-----
-----	5	0,0				
-----					UACAGUAUAGAUGAUGUACUuu	-----
-----	6	0,0				
-----					UACAGUAUAGAUGAUGUACUA	-----

----- 52 0,-3
-----UGAGAACUGAAUCCAUGGG-----
----- 34 0,-2
-----UGAGAACUGAAUCCAUGGGaa-----
----- 2 0,-2
-----UGAGAACUGAAUCCAUGGGU-----
----- 73 0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 26 0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 70 0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 103 0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 320 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 422 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 50 0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 127 0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 252 0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 23 0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 170 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 10 0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 65 0,2
-----GAGAACUGAAUCCAUGG-----
----- 2 1,-3
-----GAGAACUGAAUCCAUGGGUU-----
----- 11 1,0
-----GAGAACUGAAUCCAUGGGUUa-----
----- 6 1,0
-----GAGAACUGAAUCCAUGGGUUu-----

0, -1	
-----UGAGAACUGAAUCCAUAGGCau-----	41
0, -1	
-----UGAGAACUGAAUCCAUAGGCU-----	1669
0,0	
-----UGAGAACUGAAUCCAUAGGCUa-----	140
0,0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	23
0,0	
-----UGAGAACUGAAUCCAUAGGCUau-----	127
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	511
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	86
0,0	
-----UGAGAACUGAAUCCAUAGGCUG-----	414
0,1	
-----UGAGAACUGAAUCCAUAGGCUGa-----	199
0,1	
-----UGAGAACUGAAUCCAUAGGCUGaa-----	3
0,1	
-----UGAGAACUGAAUCCAUAGGCUGau-----	6
0,1	
-----UGAGAACUGAAUCCAUAGGCUGU-----	908
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUa-----	11
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUu-----	2
0,2	
-----GAGAACUGAAUCCAUAGGC-----	2
1, -1	
-----GAGAACUGAAUCCAUAGGCU-----	25
1,0	
-----GAGAACUGAAUCCAUAGGCUau-----	6
1,0	
-----GAGAACUGAAUCCAUAGGCUG-----	6
1,1	
-----GAGAACUGAAUCCAUAGGCUGa-----	2

1,1	-----GAGAACUGAAUCCAUAGGCUGU-----	6
1,2	-----AGAACUGAAUCCAUAGG-----	2
2,-2	-----AGAACUGAAUCCAUAGGCU-----	4
2,0	-----AGAACUGAAUCCAUAGGCUGU-----	2
2,2	-----UGCCCUGUGGACUCAGUUCUGG-----	5
0,0	-----UGCCCUGUGGACUCAGUUCUGGU-----	9
0,1	-----UGCCCUGUGGACUCAGUUCUGGUa-----	6
0,1	-----UGCCCUGUGGACUCAGUUCUGGUaa-----	2
0,1	-----UGCCCUGUGGACUCAGUUCUGGUau-----	10
0,1	-----UGCCCUGUGGACUCAGUUCUGGUu-----	5
0,1	-----GCCCUGUGGACUCAGUUC-----	2
1,-3	-----GCCCUGUGGACUCAGUUCUG-----	3
1,-1	-----GCCCUGUGGACUCAGUUCUGG-----	72
1,0	-----GCCCUGUGGACUCAGUUCUGGa-----	2
1,0	-----GCCCUGUGGACUCAGUUCUGGaa-----	2
1,0	-----GCCCUGUGGACUCAGUUCUGGU-----	124
1,1	-----GCCCUGUGGACUCAGUUCUGGUa-----	71
1,1	-----GCCCUGUGGACUCAGUUCUGGUaa-----	3
1,1	-----GCCCUGUGGACUCAGUUCUGGUau-----	109

1,1	-----GCCCUGUGGACUCAGUUCUGGUu-----	57
1,1	-----GCCCUGUGGACUCAGUUCUGGUuu-----	7
1,1	-----GCCCUGUGGACUCAGUUCUGGUG-----	2
1,2	-----CCCUGUGGACUCAGUUCUGG-----	2
2,0	-----CCCUGUGGACUCAGUUCUGGU-----	2
2,1	-----CCCUGUGGACUCAGUUCUGGUa-----	7
2,1	-----CCCUGUGGACUCAGUUCUGGUaa-----	3
2,1	-----CCCUGUGGACUCAGUUCUGGUau-----	23
2,1	-----CCCUGUGGACUCAGUUCUGGUuu-----	2
2,1		

>hsa-mir-148a mi:6-27;MA:44-65 SRX018963

gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc		
((((((((.....)))))))))		
----CAAAGUUCUGAGACACUCCGA-----	5	
-1,-2		
----AAAGUUCUGAGACACUCCG-----	3	0,-3
----AAAGUUCUGAGACACUCCGA-----	154	0,-2
----AAAGUUCUGAGACACUCCGAaa-----	3	0,-2
----AAAGUUCUGAGACACUCCGAC-----	4	0,-1
----AAAGUUCUGAGACACUCCGACU-----	4	0,0
-----GUCAGUGCACUACAGAACUUUGU---	2	-1,0
-----UCAGUGCACUACAGAACU-----	8641	
0,-4		
-----UCAGUGCACUACAGAACUa-----	25	0,-4
-----UCAGUGCACUACAGAACUaa-----	13	0,-4
-----UCAGUGCACUACAGAACUau-----	4	0,-4
-----UCAGUGCACUACAGAACUU-----	422	0,-3
-----UCAGUGCACUACAGAACUUa-----	8	0,-3

0,-2	UCAGUGCACUACAGAACUUU	1526	
	UCAGUGCACUACAGAACUUUa	23	0,-2
	UCAGUGCACUACAGAACUUUaa	4	0,-2
	UCAGUGCACUACAGAACUUUau	4	0,-2
	UCAGUGCACUACAGAACUUUu	22	0,-2
	UCAGUGCACUACAGAACUUUuu	10	0,-2
	UCAGUGCACUACAGAACUUUG	3112	
0,-1			
	UCAGUGCACUACAGAACUUUGa	4043	
0,-1			
	UCAGUGCACUACAGAACUUUGaa	339	0,-1
	UCAGUGCACUACAGAACUUUGau	2	0,-1
	UCAGUGCACUACAGAACUUUGU	29599	
0,0			
	UCAGUGCACUACAGAACUUUGUa	84	0,0
	UCAGUGCACUACAGAACUUUGUaa	15	0,0
	UCAGUGCACUACAGAACUUUGUu	105	0,0
	UCAGUGCACUACAGAACUUUGUC	391	0,1
	UCAGUGCACUACAGAACUUUGUCa	19	0,1
	UCAGUGCACUACAGAACUUUGUCU	33	0,2
	CAGUGCACUACAGAACUUUGU	45	1,0
	AGUGCACUACAGAACUUU	53	2,-2
	AGUGCACUACAGAACUUUa	3	2,-2
	AGUGCACUACAGAACUUUuu	3	2,-2
	AGUGCACUACAGAACUUUG	58	2,-1
	AGUGCACUACAGAACUUUGa	57	2,-1
	AGUGCACUACAGAACUUUGaa	12	2,-1
	AGUGCACUACAGAACUUUGU	577	2,0
	AGUGCACUACAGAACUUUGUa	3	2,0
	AGUGCACUACAGAACUUUGUu	5	2,0
	AGUGCACUACAGAACUUUGUC	10	2,1

>hsa-mi r-148b mi:25-46;MA:63-84 SRX018963

.....((..(((.(((((((..((((((((.(.((((..(((.....(.....)..)))))))).)).)))))))).
)..)))))))).)).)..


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-----GAAGUUCUGUUAUACACU-----
----- 3   -1,-5
-----GAAGUUCUGUUAUACACUC-----
----- 8   -1,-4
-----GAAGUUCUGUUAUACACUCA-----
----- 2   -1,-3
-----GAAGUUCUGUUAUACACUCAG-----
----- 7   -1,-2
-----GAAGUUCUGUUAUACACUCAGG-----
----- 7   -1,-1
-----GAAGUUCUGUUAUACACUCAGGCa-----
----- 3   -1,0
-----GAAGUUCUGUUAUACACUCAGGCau-----
----- 2   -1,0
-----GAAGUUCUGUUAUACACUCAGGCU-----
----- 15  -1,1
-----GAAGUUCUGUUAUACACUCAGGCUa-----
----- 2   -1,1
-----UCAGUGCAUCACAGAACU
----- 2323   0,-4
-----UCAGUGCAUCACAGAACU
aa----- 3   0,-4
-----UCAGUGCAUCACAGAACU
U----- 145  0,-3
-----UCAGUGCAUCACAGAACU
Ua----- 2   0,-3
-----UCAGUGCAUCACAGAACU
UU----- 506  0,-2
-----UCAGUGCAUCACAGAACU
UUG----- 70   0,-1
-----UCAGUGCAUCACAGAACU
UUGa----- 86   0,-1
-----UCAGUGCAUCACAGAACU
UUGaa----- 2   0,-1
-----UCAGUGCAUCACAGAACU
UUGU----- 709  0,0
-----UCAGUGCAUCACAGAACU
UUGUa----- 6   0,0

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-----UCAGUGCAUCACAGAACU
UUGUau----- 4 0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 103 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 10 0,0
-----AGUGCAUCACAGAACU
UU----- 11 2,-2
-----AGUGCAUCACAGAACU
UUG----- 2 2,-1
-----AGUGCAUCACAGAACU
UUGU----- 5 2,0
-----AGUGCAUCACAGAACU
UUGUu----- 3 2,0

```

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>hsa-mir-149 MA:15-37;mi:56-76 SRX018963
gccggcgccccgagcUCUGGCUCCGUGUCUACUCCCgugcuuguccgaggagggAGGGAGGGACGGGGGCUGUGCuggg
gcagcugga
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))).
-----GAGGGAGGGACGGGGGCUGUGC-----
----- 3 -1,0

```

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>hsa-mir-150 MA:16-37;mi:51-72 SRX018963
cuccccauggcccugUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))).
-----UCUCCCAACCCUUGUACC-----
----- 9 0,-4
-----UCUCCCAACCCUUGUACCA-----
----- 55 0,-3
-----UCUCCCAACCCUUGUACCAG-----
----- 53 0,-2
-----UCUCCCAACCCUUGUACCAGU-----
----- 141 0,-1
-----UCUCCCAACCCUUGUACCAGUa-----
----- 19 0,-1

```

```

-----UCUCCCAACCCUUGUACCAGUaa-----
----   3   0,-1
-----UCUCCCAACCCUUGUACCAGUu-----
----   2   0,-1
-----UCUCCCAACCCUUGUACCAGUG-----
----  679  0,0
-----UCUCCCAACCCUUGUACCAGUGa-----
----  133  0,0
-----UCUCCCAACCCUUGUACCAGUGu-----
----   44  0,0
-----CUCCCAACCCUUGUACCAGUu-----
----   2   1,-1
-----UCCCAACCCUUGUACCAGUG-----
----   9   2,0
-----UCCCAACCCUUGUACCAGUGa-----
----   2   2,0
-----CUGGUACAGGCCUGGGGGAC-----
----  20   0,-2
-----CUGGUACAGGCCUGGGGGACA-----
----   5   0,-1

```

>hsa-mir-151 5p:11-31;3p:47-67 SRX018963

uuuccugcccUCGAGGAGCUCACAGUCUAGUaugucucauccccuaCUAGACUGAAGCUCCUUGAGGacagggauuguca
uacucaccuc

.(((((((.((((((((((((((..(((((((((((.(.....).))))))))))))).))))))))))))).)))))).....
.....

```

-----UCGAGGAGCUCACAGUCUAG-----
-----   5   -1,-1
-----UCGAGGAGCUCACAGUCUAGU-----
-----  21   -1,0
-----UCGAGGAGCUCACAGUCUAGUA-----
-----  11   -1,1
-----UCGAGGAGCUCACAGUCU-----
-----   5   0,-3
-----UCGAGGAGCUCACAGUCUA-----
-----   5   0,-2
-----UCGAGGAGCUCACAGUCUAG-----
-----  72   0,-1

```

-----UCGAGGAGCUCACAGUCUAGa-----
 ----- 8 0, -1
 -----UCGAGGAGCUCACAGUCUAGaa-----
 ----- 6 0, -1
 -----UCGAGGAGCUCACAGUCUAGU-----
 ----- 620 0, 0
 -----UCGAGGAGCUCACAGUCUAGUA-----
 ----- 238 0, 1
 -----UCGAGGAGCUCACAGUCUAGUAa-----
 ----- 22 0, 1
 -----UCGAGGAGCUCACAGUCUAGUAU-----
 ----- 19 0, 2
 -----CGAGGAGCUCACAGUCUAGU-----
 ----- 4 1, 0
 -----CGAGGAGCUCACAGUCUAGUA-----
 ----- 3 1, 1
 -----GAGGAGCUCACAGUCUAG-----
 ----- 2 2, -1
 -----GAGGAGCUCACAGUCUAGU-----
 ----- 27 2, 0
 -----GAGGAGCUCACAGUCUAGUA-----
 ----- 13 2, 1
 -----GAGGAGCUCACAGUCUAGUAa-----
 ----- 2 2, 1
 -----UACUAGACUGAAGCUCCUUGA-----
 ----- 20 -2, -2
 -----UACUAGACUGAAGCUCCUUGAa-----
 ----- 6 -2, -2
 -----UACUAGACUGAAGCUCCUUGAG-----
 ----- 48 -2, -1
 -----UACUAGACUGAAGCUCCUUGAGa-----
 ----- 9 -2, -1
 -----UACUAGACUGAAGCUCCUUGAGu-----
 ----- 5 -2, -1
 -----UACUAGACUGAAGCUCCUUGAGG-----
 ----- 25 -2, 0
 -----UACUAGACUGAAGCUCCUUGAGGu-----
 ----- 5 -2, 0

-----			-----UACUAGACUGAAGCUCCUUGAGGA-----
-----	13	-2,1	
-----			-----ACUAGACUGAAGCUCCUUGAG-----
-----	4	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGa-----
-----	7	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGG-----
-----	7	-1,0	
-----			-----ACUAGACUGAAGCUCCUUGAGGu-----
-----	4	-1,0	
-----			-----ACUAGACUGAAGCUCCUUGAGGA-----
-----	15	-1,1	
-----			-----CUAGACUGAAGCUCCUUG-----
-----	11	0,-3	
-----			-----CUAGACUGAAGCUCCUUGA-----
-----	38	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAa-----
-----	10	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAaa-----
-----	9	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAu-----
-----	2	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAG-----
-----	155	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGa-----
-----	39	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGaa-----
-----	19	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGau-----
-----	2	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGu-----
-----	18	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGG-----
-----	919	0,0	
-----			-----CUAGACUGAAGCUCCUUGAGGu-----
-----	30	0,0	
-----			-----CUAGACUGAAGCUCCUUGAGGuu-----
-----	4	0,0	

-----		-CUAGACUGAAGCUCCUUGAGGA-----
-----	791 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAa-----
-----	637 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAaa-----
-----	247 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAau-----
-----	57 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAu-----
-----	106 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAuu-----
-----	14 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAC-----
-----	21 0,2	
-----		-CUAGACUGAAGCUCCUUGAGGACu-----
-----	6 0,2	
-----		-CUAGACUGAAGCUCCUUGAGGACA-----
-----	8 0,3	
-----		-UAGACUGAAGCUCCUUGAG-----
-----	2 1,-1	
-----		-UAGACUGAAGCUCCUUGAGG-----
-----	19 1,0	
-----		-UAGACUGAAGCUCCUUGAGGu-----
-----	2 1,0	
-----		-UAGACUGAAGCUCCUUGAGGA-----
-----	30 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAa-----
-----	21 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAaa-----
-----	6 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAau-----
-----	4 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAC-----
-----	3 1,2	
-----		-UAGACUGAAGCUCCUUGAGGACA-----
-----	3 1,3	
-----		-AGACUGAAGCUCCUUGAGGAaa-----
-----	2 2,1	

```
-----AGACUGAAGCUCCUUGAGGAC-----
----- 4    2,2
-----AGACUGAAGCUCCUUGAGGACu-----
----- 2    2,2

>hsa-mir-152      3p:54-74      SRX018963
ugucggcgccgcccagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgcccggaaggacc
(((((((((.....)))))))).)))..))).
..))).
-----AGGUUCUGUGAUACACUCCGACUau-----
----- 2
-----GUCAGUGCAUGACAGAACU-----
----- 3    -1,-3
-----UCAGUGCAUGACAGAACU-----
----- 884  0,-3
-----UCAGUGCAUGACAGAACUa-----
----- 2    0,-3
-----UCAGUGCAUGACAGAACUU-----
----- 48   0,-2
-----UCAGUGCAUGACAGAACUUG-----
----- 161  0,-1
-----UCAGUGCAUGACAGAACUUGa-----
----- 5    0,-1
-----UCAGUGCAUGACAGAACUUGu-----
----- 8    0,-1
-----UCAGUGCAUGACAGAACUUGG-----
----- 1185     0,0
-----UCAGUGCAUGACAGAACUUGGa-----
----- 254  0,0
-----UCAGUGCAUGACAGAACUUGGaa-----
----- 53   0,0
-----UCAGUGCAUGACAGAACUUGGau-----
----- 2    0,0
-----UCAGUGCAUGACAGAACUUGGu-----
----- 689  0,0
-----UCAGUGCAUGACAGAACUUGGuu-----
----- 55   0,0
```

```

-----UCAGUGCAUGACAGAACUUGGG-----
----- 781 0,1
-----UCAGUGCAUGACAGAACUUGGGa-----
----- 191 0,1
-----UCAGUGCAUGACAGAACUUGGGaa-----
----- 31 0,1
-----UCAGUGCAUGACAGAACUUGGGau-----
----- 9 0,1
-----UCAGUGCAUGACAGAACUUGGGu-----
----- 389 0,1
-----UCAGUGCAUGACAGAACUUGGGuu-----
----- 24 0,1
-----UCAGUGCAUGACAGAACUUGGGC-----
----- 5 0,2
-----AGUGCAUGACAGAACUUG-----
----- 7 2,-1
-----AGUGCAUGACAGAACUUGG-----
----- 30 2,0
-----AGUGCAUGACAGAACUUGGa-----
----- 10 2,0
-----AGUGCAUGACAGAACUUGGu-----
----- 14 2,0
-----AGUGCAUGACAGAACUUGGG-----
----- 13 2,1
-----AGUGCAUGACAGAACUUGGGa-----
----- 4 2,1
-----AGUGCAUGACAGAACUUGGGu-----
----- 11 2,1

```

>hsa-mir-154 MA:15-36;mi:51-72 SRX018963

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuauuugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa

.(((((((.(((((((((((.((((((....((((((.....).))))....)))))).)))))))).))))).)))

```

-----UAGGUUAUCCGUGUUGCCUUCG-----
----- 11 0,0
-----AAUCAUACACGGUUGACCUAU-----
----- 7 0,-1

```



```
-----AAUCAUACACGGUUGACCUAUU-----
---- 10 0,0
```

>hsa-mir-155 MA:4-26;mi:43-64 SRX018963

cugUAA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUAGCAUUAACAg

(((((((((((((((.(((((((((((((.(((.....)))..))))))))))))))))))))))

```
---UAA AUGCUAAUCGUGAU----- 27 0,-5
---UAA AUGCUAAUCGUGAUAG----- 19 0,-4
---UAA AUGCUAAUCGUGAUAGG----- 23 0,-3
---UAA AUGCUAAUCGUGAUAGGG----- 29 0,-2
---UAA AUGCUAAUCGUGAUAGGGa----- 6 0,-2
---UAA AUGCUAAUCGUGAUAGGGG----- 14 0,-1
---UAA AUGCUAAUCGUGAUAGGGGU----- 12 0,0
---UAA AUGCUAAUCGUGAUAGGGGUU----- 7 0,1
---UAAUGCUAAUCGUGAUAGG----- 2 1,-3
---UAAUGCUAAUCGUGAUAGGG----- 3 1,-2
---UAAUGCUAAUCGUGAUAGGGa----- 2 1,-2
---UAAUGCUAAUCGUGAUAGGGGU----- 2 1,0
---UAAUGCUAAUCGUGAUAGGGGUU----- 2 1,1
```

>hsa-mir-15a MA:14-35;mi:51-72 SRX018963

ccuuggaguaaagUAGCAGCACAUAAUGGUUUGUGgauuuugaaaaggugCAGGCCAUAUUGUGCUGCCUCAaaaauaca
agg

(((((.....(((((((((((((((.(((((((((((((.(((.....)))..))))))))))))))))))))))
)))

```
-----UAGCAGCACAUAAUGGUU-----
--- 28 0,-4
-----UAGCAGCACAUAAUGGUUU-----
--- 246 0,-3
-----UAGCAGCACAUAAUGGUUUa-----
--- 3 0,-3
-----UAGCAGCACAUAAUGGUUUu-----
--- 2 0,-3
-----UAGCAGCACAUAAUGGUUUG-----
--- 368 0,-2
-----UAGCAGCACAUAAUGGUUUGU-----
--- 347 0,-1
-----UAGCAGCACAUAAUGGUUUUGUa-----
```

```

--- 3 0,-1
-----UAGCAGCACAUAAUGGUUUGUG-----
--- 58 0,0
-----UAGCAGCACAUAAUGGUUUGUGa-----
--- 3 0,0
-----GCAGCACAUAAUGGUUUGUa-----
--- 3 2,-1
-----CAGGCCAUAUUGUGCUGC-----
--- 2 0,-4

```

>hsa-mir-15b MA:20-41;mi:58-79 SRX018963

```

uugaggccuuaaaguacugUAGCAGCACAUCAUGGUUUACAugcuacagucaagaugCGAAUCAUUAUUUGCUCUCUAg
aaauuaaaggaaaucau

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
...))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UAGCAGCACAUCAUGGUU-----
----- 73 0,-4
-----UAGCAGCACAUCAUGGUUa-----
----- 10 0,-4
-----UAGCAGCACAUCAUGGUUU-----
----- 348 0,-3
-----UAGCAGCACAUCAUGGUUUu-----
----- 3 0,-3
-----UAGCAGCACAUCAUGGUUUA-----
----- 463 0,-2
-----UAGCAGCACAUCAUGGUUUa-----
----- 19 0,-2
-----UAGCAGCACAUCAUGGUUUa-----
----- 2 0,-2
-----UAGCAGCACAUCAUGGUUUa-----
----- 14 0,-2
-----UAGCAGCACAUCAUGGUUUAC-----
----- 176 0,-1
-----UAGCAGCACAUCAUGGUUUACu-----
----- 3 0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 474 0,0
-----UAGCAGCACAUCAUGGUUUACAa-----

```

```

----- 7 0,0
-----AGCAGCACAUCAUGGUUUAC-----
----- 2 1,-1
-----AGCAGCACAUCAUGGUUUACA-----
----- 2 1,0
-----CGAAUCAUUAUUUGCUGC-----
----- 4 0,-4
-----CGAAUCAUUAUUUGCUGCUCUA-
----- 2 0,0

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018963

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuuaagauucuaaaauuauccuCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

```

(((((((.(((.(((((((((((((.(((((((((.(((.....))))).))))))))).))))))))).))
).))))))

```

```

-----UAGCAGCACGUAAAUAUU-----
----- 119 0,-4
-----UAGCAGCACGUAAAUAUUa-----
----- 3 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 350 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 2 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 546 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 5 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
----- 5 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
----- 2 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 671 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 98 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 41 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----

```


- 350 0,-3
 -----UAGCAGCACGUAAAUAUUGa-----
 - 2 0,-3
 -----UAGCAGCACGUAAAUAUUGG-----
 - 546 0,-2
 -----UAGCAGCACGUAAAUAUUGGa-----
 - 5 0,-2
 -----UAGCAGCACGUAAAUAUUGGaa-----
 - 5 0,-2
 -----UAGCAGCACGUAAAUAUUGGu-----
 - 2 0,-2
 -----UAGCAGCACGUAAAUAUUGGC-----
 - 671 0,-1
 -----UAGCAGCACGUAAAUAUUGGCa-----
 - 98 0,-1
 -----UAGCAGCACGUAAAUAUUGGCaa-----
 - 41 0,-1
 -----UAGCAGCACGUAAAUAUUGGCau-----
 - 15 0,-1
 -----UAGCAGCACGUAAAUAUUGGCu-----
 - 5 0,-1
 -----UAGCAGCACGUAAAUAUUGGCG-----
 - 2094 0,0
 -----UAGCAGCACGUAAAUAUUGGCGa-----
 - 186 0,0
 -----UAGCAGCACGUAAAUAUUGGCGaa-----
 - 3 0,0
 -----UAGCAGCACGUAAAUAUUGGCGU-----
 - 261 0,1
 -----UAGCAGCACGUAAAUAUUGGCGUA-----
 - 2 0,2
 -----AGCAGCACGUAAAUAUUG-----
 - 4 1,-3
 -----AGCAGCACGUAAAUAUUGG-----
 - 3 1,-2
 -----AGCAGCACGUAAAUAUUGGCG-----
 - 25 1,0
 -----GCAGCACGUAAAUAUUGGCG-----

```

- 4 2,0
-----ACCAAUAUUACUGUGCUG-----
- 5 -1,-5
-----ACCAAUAUUACUGUGCUGC-----
- 4 -1,-4
-----ACCAAUAUUACUGUGCUGCU-----
- 17 -1,-3
-----ACCAAUAUUACUGUGCUGCUU-----
- 19 -1,-2
-----ACCAAUAUUACUGUGCUGCUUU-----
- 16 -1,-1
-----ACCAAUAUUACUGUGCUGCUUUu-----
- 2 -1,-1
-----ACCAAUAUUACUGUGCUGCUUUA-----
- 4 -1,0
-----CCAAUAUUACUGUGCUGCUUUA-----
- 3 0,0
-----CCAAUAUUACUGUGCUGCUUUAA-----
- 2 0,0
-----CCAAUAUUACUGUGCUGCUUUAAa-----

```

>hsa-mi r-17 MA:14-36;mi:51-72 SRX018963

gucagaauaauguCAAAGUGCUUACAGUGCAGGUAGugauaugugcaucuACUGCAGUGAAGGCACUUGUAGcauuauagg
ugac

```

(((((((((.....))))))))))..
))))

```

```

-----UCAAAGUGCUUACAGUGCAG-----
---- 3 -1,-4
-----UCAAAGUGCUUACAGUGCAGG-----
---- 4 -1,-3
-----UCAAAGUGCUUACAGUGCAGGU-----
---- 8 -1,-2
-----UCAAAGUGCUUACAGUGCAGGUA-----
---- 7 -1,-1
-----CAAAGUGCUUACAGUGCA-----
---- 10 0,-5
-----CAAAGUGCUUACAGUGCAG-----
---- 49 0,-4
-----CAAAGUGCUUACAGUGCAGG-----

```

```

---- 62 0,-3
-----CAAAGUGCUUACAGUGCAGGa-----
---- 3 0,-3
-----CAAAGUGCUUACAGUGCAGGU-----
---- 128 0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
---- 134 0,-1
-----CAAAGUGCUUACAGUGCAGGUAa-----
---- 19 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 32 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 159 0,0
-----CAAAGUGCUUACAGUGCAGGUAGa-----
---- 2 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
---- 8 0,1
-----AAAGUGCUUACAGUGCAGGU-----
---- 3 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
---- 3 1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
---- 3 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
---- 9 1,0
-----AAAGUGCUUACAGUGCAGGUAGU-----
---- 2 1,1
-----UACUGCAGUGAAGGCACUUG-----
---- 2 -1,-3
-----ACUGCAGUGAAGGCACUU-----
---- 30 0,-4
-----ACUGCAGUGAAGGCACUUG-----
---- 140 0,-3
-----ACUGCAGUGAAGGCACUUGU-----
---- 204 0,-2
-----ACUGCAGUGAAGGCACUUGUA-----
---- 94 0,-1
-----ACUGCAGUGAAGGCACUUGUAG-----

```



```

----- 415 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
----- 4 0,-2
-----AACAUUCAACGCUGUCGGUGAaa-----
----- 4 0,-2
-----AACAUUCAACGCUGUCGGUGAu-----
----- 6 0,-2
-----AACAUUCAACGCUGUCGGUGAuu-----
----- 2 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 1177 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 49 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 191 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
----- 10 0,0
-----AACAUUCAACGCUGUCGGUGAGUau-----
----- 2 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
----- 153 0,1
-----AACAUUCAACGCUGUCGGUGAGUUa-----
----- 4 0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
----- 30 0,2
-----ACAUUCAACGCUGUCGGUGAG-----
----- 3 1,-1
-----ACAUUCAACGCUGUCGGUGAGa-----
----- 2 1,-1
-----AACCAUCGACCGUUGAUU
GUAC----- 2 -1,-1
-----ACCAUCGACCGUUGAUU
G----- 12 0,-4
-----ACCAUCGACCGUUGAUU
GU----- 5 0,-3
-----ACCAUCGACCGUUGAUU
GUAa----- 2 0,-2
-----ACCAUCGACCGUUGAUU

```

GUAC----- 7 0,-1
-----ACCAUCGACCGUUGAUU
GUACC----- 3 0,0

```
>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018963
agaagggcuaucaggccagccuucagaggacuccaaggAACAUUCAACGCUGUCGGUGAGUuuggggaauugaaaaaACCA
CUGACCGUUGACUGUACCuugggguccuua
```

.....(((((((((((.(.(((((.(.(((((.(((.....))))))
)))))))))).)))..)))))))))))).

-----AACAUUCAACGCUGUCGG-----		
-----44 0,-5-----		
-----AACAUUCAACGCUGUCGGU-----		
-----32 0,-4-----		
-----AACAUUCAACGCUGUCGGUa-----		
-----10 0,-4-----		
-----AACAUUCAACGCUGUCGGUaa-----		
-----23 0,-4-----		
-----AACAUUCAACGCUGUCGGUau-----		
-----6 0,-4-----		
-----AACAUUCAACGCUGUCGGUG-----		
-----142 0,-3-----		
-----AACAUUCAACGCUGUCGGUGu-----		
-----16 0,-3-----		
-----AACAUUCAACGCUGUCGGUGA-----		
-----415 0,-2-----		
-----AACAUUCAACGCUGUCGGUGAa-----		
-----4 0,-2-----		
-----AACAUUCAACGCUGUCGGUGAaa-----		
-----4 0,-2-----		
-----AACAUUCAACGCUGUCGGUGAu-----		
-----6 0,-2-----		
-----AACAUUCAACGCUGUCGGUGAuu-----		
-----2 0,-2-----		
-----AACAUUCAACGCUGUCGGUGAG-----		
-----1177 0,-1-----		
-----AACAUUCAACGCUGUCGGUGAGa-----		
-----49 0,-1-----		
-----AACAUUCAACGCUGUCGGUGAGU-----		


```

----- 28 0,-4
-----AACAUUCAUUGCUGUCGGUaa-----
----- 2 0,-4
-----AACAUUCAUUGCUGUCGGUG-----
----- 105 0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
----- 3 0,-3
-----AACAUUCAUUGCUGUCGGUGG-----
----- 16 0,-2
-----AACAUUCAUUGCUGUCGGUGGa-----
----- 4 0,-2
-----AACAUUCAUUGCUGUCGGUGGu-----
----- 2 0,-2
-----AACAUUCAUUGCUGUCGGUGGG-----
----- 139 0,-1
-----AACAUUCAUUGCUGUCGGUGGGa-----
----- 10 0,-1
-----AACAUUCAUUGCUGUCGGUGGGau-----
----- 2 0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
----- 36 0,0
-----AACAUUCAUUGCUGUCGGUGGGUa-----
----- 5 0,0
-----AACAUUCAUUGCUGUCGGUGGGUaa-----
----- 2 0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
----- 22 0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 51 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUa-----
----- 2 0,1
-----ACAUUCAUUGCUGUCGGUG-----
----- 3 1,-3
-----ACAUUCAUUGCUGUCGGUGGG-----
----- 3 1,-1
-----ACAUUCAUUGCUGUCGGUGGGUa-----
----- 2 1,0
-----ACAUUCAUUGCUGUCGGUGGGUaa-----

```

```

----- 2 1,0
-----CUCAC
UGAACAAUGAAUGCAu----- 4
-----CUCAC
UGAACAAUGAAUGCAuu----- 2
-----CUCAC
UGAACAAUGAAUGCAA----- 3

```

>hsa-mir-181b-2 5p:16-38 SRX018963

```

cugauggcugcacucAACAUUCAUUGCUGUCGGUGGGUuugagucugaaucaacucacugaucaaugaaugcaaacugcg
gaccaaaca

```

```

....((((((((.....((((((((((..(((((((((((.(.....))))))))))))))))))))))))....)))
).)))....

```

```

-----AACAUUCAUUGCUGUCGG-----
----- 16 0,-5
-----AACAUUCAUUGCUGUCGGU-----
----- 28 0,-4
-----AACAUUCAUUGCUGUCGGUaa-----
----- 2 0,-4
-----AACAUUCAUUGCUGUCGGUG-----
----- 105 0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
----- 3 0,-3
-----AACAUUCAUUGCUGUCGGUGG-----
----- 16 0,-2
-----AACAUUCAUUGCUGUCGGUGGa-----
----- 4 0,-2
-----AACAUUCAUUGCUGUCGGUGGu-----
----- 2 0,-2
-----AACAUUCAUUGCUGUCGGUGGG-----
----- 139 0,-1
-----AACAUUCAUUGCUGUCGGUGGGa-----
----- 10 0,-1
-----AACAUUCAUUGCUGUCGGUGGGau-----
----- 2 0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
----- 36 0,0
-----AACAUUCAUUGCUGUCGGUGGGUa-----

```



```

GUG----- 16 1,-3
-----ACCAUCGACCGUUGA
GUGG----- 10 1,-2
-----ACCAUCGACCGUUGA
GUGGA----- 4 1,-1
-----CCAUCGACCGUUGA
GUGG----- 2 2,-2

```

>hsa-mir-181d 5p:36-58 SRX018963

```

guccccuccccuagggcacagccgaggucacaaucAACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accgggggaugaaugucacuguggcugggccagacacggcuuaaggggauggggac
((((((((((((((((((...(((...((((((((((((((((((((((...(((...)))...)))
))))))...))))))...))))))...))))))...))))))...))))))
-----AACAUUCAUUGUUGUCGGUG-----
----- 6 0,-3
-----AACAUUCAUUGUUGUCGGUG-----
----- 19 0,-2
-----AACAUUCAUUGUUGUCGGUGGa-----
----- 3 0,-2
-----AACAUUCAUUGUUGUCGGUGGG-----
----- 18 0,-1
-----AACAUUCAUUGUUGUCGGUGGGa-----
----- 11 0,-1
-----AACAUUCAUUGUUGUCGGUGGGaa-----
----- 2 0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----
----- 8 0,0
-----AACAUUCAUUGUUGUCGGUGGGUU-----
----- 3 0,1

```

>hsa-mir-182 MA:23-46;mi:67-87 SRX018963

```

gagcugcuugccuccccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAugggggcgaggacucagccggcac
..((((((...(((...((((((((((((((((((((...((((((((((((((((((((...)))
))))...))))))...))))...))))...
-----UUUGGCAAUGGUAGAACUCACA-----
----- 8 0,-2
-----UUUGGCAAUGGUAGAACUCACAC-----

```


-- 1283 0,-2
-----UGGAGAGAAAGGCAGUCCUa-----
-- 3 0,-2
-----UGGAGAGAAAGGCAGUCCUaa-----
-- 2 0,-2
-----UGGAGAGAAAGGCAGUCCUau-----
-- 2 0,-2
-----UGGAGAGAAAGGCAGUCCUu-----
-- 2 0,-2
-----UGGAGAGAAAGGCAGUCCUG-----
-- 1561 0,-1
-----UGGAGAGAAAGGCAGUCCUGu-----
-- 54 0,-1
-----UGGAGAGAAAGGCAGUCCUGuu-----
-- 16 0,-1
-----UGGAGAGAAAGGCAGUCCUGA-----
-- 5254 0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 1091 0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 41 0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 35 0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 1132 0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 41 0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 5 0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 63 0,1
-----UGGAGAGAAAGGCAGUCCUGAUuu-----
-- 3 0,1
-----UGGAGAGAAAGGCAGUCCUGAUG-----
-- 2 0,2
-----GGAGAGAAAGGCAGUCCU-----
-- 11 1,-2
-----GGAGAGAAAGGCAGUCCUG-----

```

-- 15 1,-1
-----GGAGAGAAAGGCAGUUCCUGA-----
-- 36 1,0
-----GGAGAGAAAGGCAGUUCCUGAa-----
-- 8 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 7 1,1
-----GAGAGAAAGGCAGUUCCUG-----
-- 3 2,-1
-----GAGAGAAAGGCAGUUCCUGA-----
-- 3 2,0
-----GAGAGAAAGGCAGUUCCUGAU-----
-- 2 2,1
-----CAGGGGCUGGCUUCCUC-----
-- 35 -1,-5
-----CAGGGGCUGGCUUCCUCU-----
-- 10 -1,-4
-----AGGGGCUGGCUUCCUCU-----
-- 174 0,-4
-----AGGGGCUGGCUUCCUCUGGU-----
-- 10 0,-1
-----AGGGGCUGGCUUCCUCUGGUa-----
-- 2 0,-1

```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018963

```

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuuuuuuaaGCCCAAAGGUGAAUUUUUUGGgaagu
ugagcu

```

```

.(((((((.(((((((((((((((((((.((((((.((((((.....))))))))))))).))))))))))))))
))))).

```

```

-----CCAAAGAAUUCUCCUUUUG-----
----- 3 -1,-4
-----CCAAAGAAUUCUCCUUUUGGG-----
----- 2 -1,-2
-----CCAAAGAAUUCUCCUUUUGGGCU-----
----- 5 -1,0
-----CAAAGAAUUCUCCUUUUG-----
----- 16 0,-4
-----CAAAGAAUUCUCCUUUUG-----

```

----- 11 0,-3
-----CAAAGAAUUCUCCUUUUGGG-----
----- 42 0,-2
-----CAAAGAAUUCUCCUUUUGGGa-----
----- 3 0,-2
-----CAAAGAAUUCUCCUUUUGGGaa-----
----- 3 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 27 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 114 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 33 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 97 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 280 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 89 0,0
-----CAAAGAAUUCUCCUUUUGGGCUaa-----
----- 9 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 20 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 680 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 18 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 11 0,2
-----AAAGAAUUCUCCUUUUGGG-----
----- 3 1,-2
-----AAAGAAUUCUCCUUUUGGGC-----
----- 2 1,-1
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 10 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----
----- 2 1,-1
-----AAAGAAUUCUCCUUUUGGGCau-----

```

----- 4    1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 23   1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 6    1,0
-----AAAGAAUUCUCCUUUUGGGCUau-----
----- 2    1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 68   1,1
-----CCCAAAGGUGAAUUUUUUG-----
----- 4    1,-2

```

```

>hsa-mir-187      mi:35-56;MA:71-92      SRX018963
ggucgggucaccaugacacagugugagaccucgGGCUACAACACAGGACCCGGGCGcugcugcugaccccUCGUGUCUUG
UGUUGCAGCCGGagggacgcagguccgca
.(.((((((.....((((...(((.((((.((((((((((((.((((.(.....).).)).)).))))))
))))).))))).))))).)))))))).
-----GCUACAACACAGGACCCGGGCGu-----
-----2      1,1
-----UCGUGUCUUG
UGUUGCAGC-----2      0,-3
-----UCGUGUCUUG
UGUUGCAGCCCGu-----2      0,-1
-----UCGUGUCUUG
UGUUGCAGCCCG-----10     0,0
-----UCGUGUCUUG
UGUUGCAGCCCGGu-----3      0,0
-----UCGUGUCUUG
UGUUGCAGCCCGGuu-----10     0,0
-----CGUGUCUUG
UGUUGCAGCCCG-----3      1,0

```

```
>hsa-mir-18a      MA:6-28;mi:47-69      SRX018963  
uguucUAAGGUGCAUCUAGUGCAGAUAGugaaguagauuagcaucuACUGCCCUAAGGUGCUCUUCUGGca  
.(((.(.(((.(.(((.(.(((.(.(((.(.(((((.(.....)).).)))))..))).)).)).)).).  
-----UAAGGUGCAUCUAGUGCA-----          5    0,-5  
-----UAAGGUGCAUCUAGUGCAG-----          4    0,-4  
-----UAAGGUGCAUCUAGUGCAGA-----          7    0,-3
```



```

-----CAACGGAAUCCCAAAAGCAGau-----
-----6 0,-3
-----CAACGGAAUCCCAAAAGCAGu-----
-----6 0,-3
-----CAACGGAAUCCCAAAAGCAGuu-----
-----5 0,-3
-----CAACGGAAUCCCAAAAGCAGC-----
-----3901 0,-2
-----CAACGGAAUCCCAAAAGCAGCa-----
-----149 0,-2
-----CAACGGAAUCCCAAAAGCAGCaa-----
-----16 0,-2
-----CAACGGAAUCCCAAAAGCAGCau-----
-----8 0,-2
-----CAACGGAAUCCCAAAAGCAGCU-----
-----12059 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
-----349 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
-----11 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
-----44 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
-----365 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
-----69 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
-----5991 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
-----104 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
-----7 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
-----2 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
-----1317 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
-----4 0,1

```

```

-----CAACGGAAUCCCAAAAGCAGCUGUU-----
-----41 0,2
-----AACGGAAUCCCAAAAGCA-----
-----69 1,-4
-----AACGGAAUCCCAAAAGCAG-----
-----186 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
-----383 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
-----3 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
-----1129 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
-----19 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
-----14 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
-----24 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
-----6 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
-----618 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
-----42 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
-----319 1,1
-----AACGGAAUCCCAAAAGCAGCUGUU-----
-----6 1,2
-----ACGGAAUCCCAAAAGCAGCU-----
-----9 2,-1
-----ACGGAAUCCCAAAAGCAGCUG-----
-----9 2,0

```

>hsa-mir-1910 5p:12-32 SRX018963

```

ugucccucagCCAGUCCUGUGCCUGCCGCCUuugugcuguccuuggagggaggcagaagcaggaugacaaugagggcaa
((.(((.(....((((((..((((.((((.....)))))).))))..))))).))))).))))).))))).
-----GAGGCAGAAGCAGGAUGACAA-----

```

gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucuccccucuggCUGCCAAUCCAUA
GGUCACAGguauguucgccucaaugccagc

.....(((.((((.(.(.((((((((((((((.(((((((.....)))))).))))).)))
)))).)).).)))..)))))......

-----CUCUGACCUAUGAAUUGACAGC-----

----- 7 -2,-1

-----UCUGACCUAUGAAUUGAC-----

----- 12 -1,-4

-----UCUGACCUAUGAAUUGACA-----

----- 13 -1,-3

-----UCUGACCUAUGAAUUGACAG-----

----- 58 -1,-2

-----UCUGACCUAUGAAUUGACAGaa-----

$$-----2 \quad -1, -2$$

-----UCUGACCUAUGAAUUGACAG_u-----

----- 2 -1,-2

-----UCUGACCUAUGAAUUGACAGC-----

----- 302 -1,-1

-----UCUGACCUAUGAAUUGACAGCa-----

----- 48 -1,-1

-----UCUGACCUAUGAAUUGACAGCaa-----

----- 3 -1,-1

-----UCUGACCUAUGAAUUGACAGCu-----

----- 5 -1,-1

-----UCUGACCUAUGAAUUGACAGCC-----

----- 1499 -1,0

-----UCUGACCUAUGAAUGACAGCCu-----

----- 100 -1,0

-----UCUGACCUAUGAAUGACAGCCuu-----

----- 13 -1,0

-----UCUGACCUAUGAAUUGACAGCCA-----

----- 249 -1,1

-----UCUGACCUAUGAAUUGACAGCCAa-----

----- 2 -1,1

-----UCUGACCUAUGAAUUGACAGCCAu-----

----- 53 -1,1


```

-----UCUGACCUAUGAAUUGACAGCCAu-----
-----13 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
-----12 -1,2
-----UCUGACCUAUGAAUUGACAGCCAGU-----
-----4 -1,3
-----CUGACCUAUGAAUUGACA-----
-----2065 0,-3
-----CUGACCUAUGAAUUGACAa-----
-----20 0,-3
-----CUGACCUAUGAAUUGACAaa-----
-----13 0,-3
-----CUGACCUAUGAAUUGACAau-----
-----3 0,-3
-----CUGACCUAUGAAUUGACAU-----
-----3 0,-3
-----CUGACCUAUGAAUUGACAG-----
-----5754 0,-2
-----CUGACCUAUGAAUUGACAGa-----
-----277 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
-----30 0,-2
-----CUGACCUAUGAAUUGACAGu-----
-----162 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
-----6 0,-2
-----CUGACCUAUGAAUUGACAGC-----
-----91127 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
-----16074 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
-----1916 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
-----702 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
-----2162 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
-----150 0,-1

```

```

-----CUGACCUAUGAAUUGACAGCC-----
-----461806 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
-----24533 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
-----4496 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
-----225814 0,1
-----CUGACCUAUGAAUUGACAGCCa-----
-----3518 0,1
-----CUGACCUAUGAAUUGACAGCCaa-----
-----383 0,1
-----CUGACCUAUGAAUUGACAGCCau-----
-----824 0,1
-----CUGACCUAUGAAUUGACAGCCau-----
-----72606 0,1
-----CUGACCUAUGAAUUGACAGCCauu-----
-----25178 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
-----2747 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
-----172 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
-----3 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
-----3 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
-----1322 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
-----45 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
-----112 0,3
-----UGACCUAUGAAUUGACAG-----
-----3029 1,-2
-----UGACCUAUGAAUUGACAGu-----
-----19 1,-2
-----UGACCUAUGAAUUGACAGC-----
-----45515 1,-1

```

```

-----UGACCUAUGAAUUGACAGCa-----
-----12641,-1-----
-----UGACCUAUGAAUUGACAGCaa-----
-----2621,-1-----
-----UGACCUAUGAAUUGACAGCau-----
-----411,-1-----
-----UGACCUAUGAAUUGACAGCu-----
-----1071,-1-----
-----UGACCUAUGAAUUGACAGCuu-----
-----31,-1-----
-----UGACCUAUGAAUUGACAGCC-----
-----366461,0-----
-----UGACCUAUGAAUUGACAGCCu-----
-----8061,0-----
-----UGACCUAUGAAUUGACAGCCuu-----
-----1641,0-----
-----UGACCUAUGAAUUGACAGCCA-----
-----660271,1-----
-----UGACCUAUGAAUUGACAGCCAa-----
-----17231,1-----
-----UGACCUAUGAAUUGACAGCCAaa-----
-----10851,1-----
-----UGACCUAUGAAUUGACAGCCAau-----
-----14441,1-----
-----UGACCUAUGAAUUGACAGCCAu-----
-----143321,1-----
-----UGACCUAUGAAUUGACAGCCAuu-----
-----80851,1-----
-----UGACCUAUGAAUUGACAGCCAG-----
-----273011,2-----
-----UGACCUAUGAAUUGACAGCCAGa-----
-----51031,2-----
-----UGACCUAUGAAUUGACAGCCAGaa-----
-----1261,2-----
-----UGACCUAUGAAUUGACAGCCAGau-----
-----861,2-----
-----UGACCUAUGAAUUGACAGCCAGU-----
-----226241,3-----

```

```

-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 957 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 44 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 36 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 1735 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 104 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 68 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 2 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 11 1,4
-----GACCUAUGAAUUGACAGC-----
----- 860 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 53 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 7 2,-1
-----GACCUAUGAAUUGACAGCau-----
----- 2 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 6 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 1232 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 63 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 4 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 720 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 34 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 13 2,1

```

-----GACCUAUGAAUUGACAGCCAu-----		
-----14 2,1-----		
-----GACCUAUGAAUUGACAGCCAu-----		
-----217 2,1-----		
-----GACCUAUGAAUUGACAGCCAu-----		
-----126 2,1-----		
-----GACCUAUGAAUUGACAGCCAG-----		
-----345 2,2-----		
-----GACCUAUGAAUUGACAGCCAGa-----		
-----77 2,2-----		
-----GACCUAUGAAUUGACAGCCAGaa-----		
-----3 2,2-----		
-----GACCUAUGAAUUGACAGCCAGau-----		
-----2 2,2-----		
-----GACCUAUGAAUUGACAGCCAGU-----		
-----287 2,3-----		
-----GACCUAUGAAUUGACAGCCAGUa-----		
-----18 2,3-----		
-----GACCUAUGAAUUGACAGCCAGUaa-----		
-----2 2,3-----		
-----GACCUAUGAAUUGACAGCCAGUu-----		
-----31 2,3-----		
-----GACCUAUGAAUUGACAGCCAGUuu-----		
-----6 2,3-----		
-----GACCUAUGAAUUGACAGCCAGUG-----		
-----2 2,4-----		
-----GACCUAUGAAUUGACAGCCAGUGu-----		
-----2 2,4-----		
-----GCUGCCAAUUCCAUA		
GGUCACA-----2 -1,-1-----		
-----CUGCCAAUUCCAUA		
GGUCAC-----3 0,-2-----		
-----CUGCCAAUUCCAUA		
GGUCACA-----10 0,-1-----		
-----CUGCCAAUUCCAUA		
GGUCACAa-----2 0,-1-----		
-----CUGCCAAUUCCAUA		
GGUCACAG-----8 0,0-----		

```

-----CUGCCAAUCCAUA
GGUCACAGu----- 2 0,0
-----CUGCCAAUCCAUA
GGUCACAGuu----- 2 0,0

```

>hsa-mir-193a 5p:21-42;3p:55-76 SRX018963

```

cgaggaugggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

```

```

.....(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))

```

```

-----UGGGUCUUUGCGGGCGAG-----
----- 45 0,-4
-----UGGGUCUUUGCGGGCGAGA-----
----- 24 0,-3
-----UGGGUCUUUGCGGGCGAGAU-----
----- 27 0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
----- 5 0,-2
-----UGGGUCUUUGCGGGCGAGAUau-----
----- 2 0,-2
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 14 0,-2
-----UGGGUCUUUGCGGGCGAGAUG-----
----- 241 0,-1
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 66 0,-1
-----UGGGUCUUUGCGGGCGAGAUuu-----
----- 4 0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
----- 615 0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----
----- 21 0,0
-----UGGGUCUUUGCGGGCGAGAUGAaa-----
----- 2 0,0
-----UGGGUCUUUGCGGGCGAGAUGAu-----
----- 37 0,0
-----GGGUCUUUGCGGGCGAGAUG-----
----- 4 1,-1

```



```

-----UCGGGGUUUUGAGGGCGAGA-----
--- 2   -1,-3
-----UCGGGGUUUUGAGGGCGAGAU-----
--- 5   -1,-2
-----UCGGGGUUUUGAGGGCGAGAUau-----
--- 2   -1,-2
-----UCGGGGUUUUGAGGGCGAGAUg-----
--- 6   -1,-1
-----UCGGGGUUUUGAGGGCGAGAUgu-----
--- 4   -1,-1
-----UCGGGGUUUUGAGGGCGAGAUgA-----
--- 2   -1,0
-----CGGGGUUUUUGAGGGCGAG-----
--- 44  0,-4
-----CGGGGUUUUUGAGGGCGAGA-----
--- 26  0,-3
-----CGGGGUUUUUGAGGGCGAGAAa-----
--- 4   0,-3
-----CGGGGUUUUUGAGGGCGAGAU-----
--- 59  0,-2
-----CGGGGUUUUUGAGGGCGAGAUa-----
--- 16  0,-2
-----CGGGGUUUUUGAGGGCGAGAUaa-----
--- 2   0,-2
-----CGGGGUUUUUGAGGGCGAGAUu-----
--- 9   0,-2
-----CGGGGUUUUUGAGGGCGAGAUg-----
--- 227 0,-1
-----CGGGGUUUUUGAGGGCGAGAUgu-----
--- 149 0,-1
-----CGGGGUUUUUGAGGGCGAGAUguu-----
--- 5   0,-1
-----CGGGGUUUUUGAGGGCGAGAUgA-----
--- 596 0,0
-----CGGGGUUUUUGAGGGCGAGAUgAa-----
--- 12  0,0
-----CGGGGUUUUUGAGGGCGAGAUgAAa-----
--- 2   0,0

```



```

-----CGGGUUUUGAGGGCGAGAUGAu-----
--- 25 0,0
-----GGGGUUUUGAGGGCGAGAU-----
--- 5 1,-2
-----GGGGUUUUGAGGGCGAGAUG-----
--- 6 1,-1
-----GGGGUUUUGAGGGCGAGAUGu-----
--- 3 1,-1
-----GGGGUUUUGAGGGCGAGAUGA-----
--- 29 1,0
-----GGGGUUUUGAGGGCGAGAUGAu-----
--- 2 1,0
-----AACUGGCCCUCAAAGUCC-----
--- 56 0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 60 0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 31 0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 56 0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 7 0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----
--- 15 0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 109 0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 13 0,0
-----AACUGGCCCUCAAAGUCCCGCUaa-----
--- 2 0,0
-----AACUGGCCCUCAAAGUCCCGCUau-----
--- 15 0,0
-----AACUGGCCCUCAAAGUCCCGCUU-----
--- 34 0,1
-----AACUGGCCCUCAAAGUCCCGCUUa-----
--- 2 0,1
-----AACUGGCCCUCAAAGUCCCGCUUU-----
--- 13 0,2

```

```

-----ACUGGCCCUCAAAGUCCC-----
--- 2    1,-3
-----ACUGGCCCUCAAAGUCCCGC-----
--- 5    1,-1
-----ACUGGCCCUCAAAGUCCCGCU-----
--- 3    1,0
-----ACUGGCCCUCAAAGUCCCGCUU-----
--- 3    1,1

```

>hsa-mir-194-1 5p:15-36 SRX018963

augguguuaucaagUGUAACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

.(((((.(((.((((((.((((((.(((..(.....).)))))))).)))))))).))) .
)))).

(

-----	-UGUAACAGCAACUCCAUG-	-----
-----	24 0,-4	
-----	-UGUAACAGCAACUCCAUGU-	-----
-----	21 0,-3	
-----	-UGUAACAGCAACUCCAUGUG-	-----
-----	32 0,-2	
-----	-UGUAACAGCAACUCCAUGUGa-	-----
-----	4 0,-2	
-----	-UGUAACAGCAACUCCAUGUGG-	-----
-----	883 0,-1	
-----	-UGUAACAGCAACUCCAUGUGGu-	-----
-----	20 0,-1	
-----	-UGUAACAGCAACUCCAUGUGGA-	-----
-----	1638 0,0	
-----	-UGUAACAGCAACUCCAUGUGGAu-	-----
-----	100 0,0	
-----	-UGUAACAGCAACUCCAUGUGGAC-	-----
-----	25 0,1	
-----	-UGUAACAGCAACUCCAUGUGGACa-	-----
-----	8 0,1	
-----	-GUAACAGCAACUCCAUGUGGA-	-----
-----	4 1,0	

>hsa-mi r-194-2 MA:15-36;mi :51-72 SRX018963

ugguucccgcccccUGUAAACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGGCUGCUGUUAUCUGgggcgagg
gccag

(((((.((((.(((((((.((((.((((...(((...)))))))))).)))))).))))).)))).

-----CCUGUAAACAGCAACUCCAUGUGG-----
----- 5 -2,-1
-----CUGUAAACAGCAACUCCAUGUGG-----
----- 18 -1,-1
-----CUGUAAACAGCAACUCCAUGUGGA-----
----- 21 -1,0
-----CUGUAAACAGCAACUCCAUGUGGAu-----
----- 2 -1,0
-----CUGUAAACAGCAACUCCAUGUGGAA-----
----- 3 -1,1
-----UGUAAACAGCAACUCCAUG-----
----- 24 0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 21 0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 32 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 4 0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 883 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 20 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1638 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 100 0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
----- 2300 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 217 0,1
-----UGUAAACAGCAACUCCAUGUGGAAaa-----
----- 8 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 3 0,1

```

-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 74 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 9 0,1
-----UGUAAACAGCAACUCCAUGUGGAAG-----
----- 5 0,2
-----GUAACAGCAACUCCAUGUGGA-----
----- 4 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 8 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 3 1,1
-----GUAACAGCAACUCCAUGUGGAAau-----
----- 2 1,1
-----CCAGUGGGGCUGCUGUUAU-----
----- 7 0,-3
-----CCAGUGGGGCUGCUGUUAUu-----
----- 3 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 25 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 164 0,-1
-----CCAGUGGGGCUGCUGUUAUCUG-----
----- 4 0,0
-----CCAGUGGGGCUGCUGUUAUCUGa-----
----- 6 0,0
-----CCAGUGGGGCUGCUGUUAUCUGu-----
----- 4 0,0
-----CAGUGGGGCUGCUGUUAUCU-----
----- 7 1,-1

```

>hsa-mir-195 MA:15-35;mi:53-74 SRX018963

```

agcuucccugggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUAUUGGCUGUGCUGCUCCaggcag
gguggug

```

```

.(((((((((((((.((((((((((((.....))))))))))..))))))))).)))).
)))).

```

```

-----UAGCAGCACAGAAAUAU-----
----- 14 0,-3

```

```

-----UAGCAGCACAGAAAUUUG-----
----- 46  0,-2
-----UAGCAGCACAGAAAUUUGG-----
----- 116 0,-1
-----UAGCAGCACAGAAAUUUGGa-----
----- 13  0,-1
-----UAGCAGCACAGAAAUUUGGaa-----
----- 6   0,-1
-----UAGCAGCACAGAAAUUUGGu-----
----- 2   0,-1
-----UAGCAGCACAGAAAUUUGGC-----
----- 73  0,0
-----UAGCAGCACAGAAAUUUGGCA-----
----- 473 0,1
-----UAGCAGCACAGAAAUUUGGCAa-----
----- 258 0,1
-----UAGCAGCACAGAAAUUUGGCAaa-----
----- 2   0,1
-----UAGCAGCACAGAAAUUUGGCAau-----
----- 2   0,1
-----UAGCAGCACAGAAAUUUGGCAu-----
----- 161 0,1
-----UAGCAGCACAGAAAUUUGGCAuu-----
----- 12  0,1
-----UAGCAGCACAGAAAUUUGGCAC-----
----- 7   0,2
-----AGCAGCACAGAAAUUUGGC-----
----- 2   1,0
-----AGCAGCACAGAAAUUUGGCA-----
----- 7   1,1
-----AGCAGCACAGAAAUUUGGCAa-----
----- 2   1,1
-----GCAGCACAGAAAUUUGGCA-----
----- 2   2,1

```

>hsa-mir-197 3p:48-69 SRX018963

```

ggcugugccggguagagagggcagugggagguaagagcucucacccUUCACCACCUUCCACCCAGCauggcc
(((((((.(((((((((..(((((((((.....))))..))))..))))..))))..))))..))))))

```

```

-----CCGGGUAGAGAGGGCAGU----- 2
-----CCGGGUAGAGAGGGCAGUGG----- 2
-----CGGGUAGAGAGGGCAGUG----- 5
-----CGGGUAGAGAGGGCAGUGaa----- 2
-----CGGGUAGAGAGGGCAGUGG----- 2
-----CGGGUAGAGAGGGCAGUGGGAGG----- 3
-----UUCACCACCUUCCACCCAG----- 11
0,-1
-----UUCACCACCUUCCACCCAGa----- 3
0,-1
-----UUCACCACCUUCCACCCAGC----- 28
0,0
-----UUCACCACCUUCCACCCAGCu----- 2
0,0
-----UUCACCACCUUCCACCCAGCA----- 4
0,1
-----UUCACCACCUUCCACCCAGCAU----- 2
0,2

```

>hsa-mir-199a-1 5p:6-28;3p:47-68 SRX018963

```

gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucaauguguACAGUAGUCUGCACAUUGGUUAggc
(((...(((((((.(((((((.(((.(((...)))...)).)))))))))).))))))...)))

```

```

-----CCCAGUGUUCAGACUACC----- 19 0,-5
-----CCCAGUGUUCAGACUACCU----- 435 0,-4
-----CCCAGUGUUCAGACUACCUG----- 12 0,-3
-----CCCAGUGUUCAGACUACCUGU----- 11 0,-2
-----CCCAGUGUUCAGACUACCUGUa----- 5 0,-2
-----CCCAGUGUUCAGACUACCUGUU----- 95 0,-1
-----CCCAGUGUUCAGACUACCUGUUa----- 20 0,-1
-----CCCAGUGUUCAGACUACCUGUUaa----- 2 0,-1
-----CCCAGUGUUCAGACUACCUGUUu----- 18 0,-1
-----CCCAGUGUUCAGACUACCUGUUC----- 77 0,0
-----CCCAGUGUUCAGACUACCUGUUCu----- 3 0,0
-----CCAGUGUUCAGACUACCU----- 7 1,-4
-----CCAGUGUUCAGACUACCUGUU----- 6 1,-1
-----UACAGUAGUCUGCACAUU----- 35
-1,-5
-----UACAGUAGUCUGCACAUUu----- 2

```

-1,-5	-----UACAGUAGUCUGCACAUUG-----	95	
-1,-4	-----UACAGUAGUCUGCACAUUGuu-----	5	
-1,-4	-----UACAGUAGUCUGCACAUUGG-----	263	
-1,-3	-----UACAGUAGUCUGCACAUUGGa-----	6	
-1,-3	-----UACAGUAGUCUGCACAUUGGaa-----	7	
-1,-3	-----UACAGUAGUCUGCACAUUGGau-----	18	
-1,-3	-----UACAGUAGUCUGCACAUUGGU-----	1223	
-1,-2	-----UACAGUAGUCUGCACAUUGGUa-----	641	
-1,-2	-----UACAGUAGUCUGCACAUUGGUaa-----	208	
-1,-2	-----UACAGUAGUCUGCACAUUGGUau-----	209	
-1,-2	-----UACAGUAGUCUGCACAUUGGUU-----	11757	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUu-----	1348	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUuu-----	32	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUA-----	2744	
-1,0	-----UACAGUAGUCUGCACAUUGGUUAa--	60	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAaa--	2	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	152	-1,0
	-----ACAGUAGUCUGCACAUUG-----	617	0,-4
	-----ACAGUAGUCUGCACAUUGa-----	3	0,-4
	-----ACAGUAGUCUGCACAUUGaa-----	5	0,-4
	-----ACAGUAGUCUGCACAUUGu-----	30	0,-4
	-----ACAGUAGUCUGCACAUUGuu-----	42	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	2118	

0, -3		
-----	-ACAGUAGUCUGCACAUUGGa-----	28 0, -3
-----	-ACAGUAGUCUGCACAUUGGaa-----	34 0, -3
-----	-ACAGUAGUCUGCACAUUGGau-----	151 0, -3
-----	-ACAGUAGUCUGCACAUUGGU-----	6332
0, -2		
-----	-ACAGUAGUCUGCACAUUGGUa----	2049
0, -2		
-----	-ACAGUAGUCUGCACAUUGGUaa---	1184
0, -2		
-----	-ACAGUAGUCUGCACAUUGGUau---	478 0, -2
-----	-ACAGUAGUCUGCACAUUGGUU-----	92543
0, -1		
-----	-ACAGUAGUCUGCACAUUGGUUu---	9747
0, -1		
-----	-ACAGUAGUCUGCACAUUGGUUuu---	282 0, -1
-----	-ACAGUAGUCUGCACAUUGGUUA----	58643
0, 0		
-----	-ACAGUAGUCUGCACAUUGGUUAa--	5492
0, 0		
-----	-ACAGUAGUCUGCACAUUGGUUAaa-	55 0, 0
-----	-ACAGUAGUCUGCACAUUGGUUAau-	42 0, 0
-----	-ACAGUAGUCUGCACAUUGGUUAu--	2254
0, 0		
-----	-ACAGUAGUCUGCACAUUGGUUAuu-	43 0, 0
-----	-ACAGUAGUCUGCACAUUGGUUAG--	85 0, 1
-----	-ACAGUAGUCUGCACAUUGGUUAGu-	3 0, 1
-----	-ACAGUAGUCUGCACAUUGGUUAGG-	2 0, 2
-----	-CAGUAGUCUGCACAUUGG-----	281 1, -3
-----	-CAGUAGUCUGCACAUUGGa-----	2 1, -3
-----	-CAGUAGUCUGCACAUUGGau-----	6 1, -3
-----	-CAGUAGUCUGCACAUUGGU-----	984 1, -2
-----	-CAGUAGUCUGCACAUUGGUa-----	287 1, -2
-----	-CAGUAGUCUGCACAUUGGUaa---	165 1, -2
-----	-CAGUAGUCUGCACAUUGGUau---	25 1, -2
-----	-CAGUAGUCUGCACAUUGGUU-----	14599
1, -1		
-----	-CAGUAGUCUGCACAUUGGUUu---	2002


```

1,-1
-----CAGUAGUCUGCACAUUGGUUuu-- 83 1,-1
-----CAGUAGUCUGCACAUUGGUUA--- 16452
1,0
-----CAGUAGUCUGCACAUUGGUUAa-- 1976
1,0
-----CAGUAGUCUGCACAUUGGUUAaa- 53 1,0
-----CAGUAGUCUGCACAUUGGUUAau- 12 1,0
-----CAGUAGUCUGCACAUUGGUUAu-- 748 1,0
-----CAGUAGUCUGCACAUUGGUUAuu- 8 1,0
-----CAGUAGUCUGCACAUUGGUUAG-- 22 1,1
-----AGUAGUCUGCACAUUGGU----- 18 2,-2
-----AGUAGUCUGCACAUUGGUa---- 10 2,-2
-----AGUAGUCUGCACAUUGGUaa--- 10 2,-2
-----AGUAGUCUGCACAUUGGUU---- 312 2,-1
-----AGUAGUCUGCACAUUGGUUu--- 42 2,-1
-----AGUAGUCUGCACAUUGGUUA--- 389 2,0
-----AGUAGUCUGCACAUUGGUUAa-- 50 2,0
-----AGUAGUCUGCACAUUGGUUAu-- 10 2,0

```

>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018963

```

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaaugccguuguACAGUAGUCUG
CACAUUGGUUAgacugggcaaggagagca

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```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.)))))

```

```

-----CCCAGUGUUCAGACUACC-----
-----19 0,-5
-----CCCAGUGUUCAGACUACCU-----
-----435 0,-4
-----CCCAGUGUUCAGACUACCUG-----
-----12 0,-3
-----CCCAGUGUUCAGACUACCUGU-----
-----11 0,-2
-----CCCAGUGUUCAGACUACCUGUa-----
-----5 0,-2
-----CCCAGUGUUCAGACUACCUGUU-----
-----95 0,-1
-----CCCAGUGUUCAGACUACCUGUUa-----

```

-----	20	0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUaa-----		
-----	2	0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUu-----		
-----	18	0,-1	
-----	-CCCAGUGUUCAGACUACCUGUUC-----		
-----	77	0,0	
-----	-CCCAGUGUUCAGACUACCUGUUCu-----		
-----	3	0,0	
-----	-CCAGUGUUCAGACUACCU-----		
-----	7	1,-4	
-----	-CCAGUGUUCAGACUACCUGUU-----		
-----	6	1,-1	
-----			-UACAGUAGUCUG
CACAUU-----	35	-1,-5	
-----			-UACAGUAGUCUG
CACAUUu-----	2	-1,-5	
-----			-UACAGUAGUCUG
CACAUUG-----	95	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGuu-----	5	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGG-----	263	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGa-----	6	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGaa-----	7	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGau-----	18	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGU-----	1223	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUa-----	641	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUaa-----	208	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUau-----	209	-1,-2	
-----			-UACAGUAGUCUG

CACAUUGGUU-----	11757	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUu-----	1348	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUuu-----	32	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUA-----	2744	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAa-----	60	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAaa-----	2	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAu-----	152	-1,0	
-----			-ACAGUAGUCUG
CACAUUG-----	617	0,-4	
-----			-ACAGUAGUCUG
CACAUUGa-----	3	0,-4	
-----			-ACAGUAGUCUG
CACAUUGaa-----	5	0,-4	
-----			-ACAGUAGUCUG
CACAUUGu-----	30	0,-4	
-----			-ACAGUAGUCUG
CACAUUGuu-----	42	0,-4	
-----			-ACAGUAGUCUG
CACAUUGG-----	2118	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGa-----	28	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGaa-----	34	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGau-----	151	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGU-----	6332	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUa-----	2049	0,-2	
-----			-ACAGUAGUCUG
CACAUUGGUaa-----	1184	0,-2	
-----			-ACAGUAGUCUG

CACAUUGGUau-----	478	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUU-----	92543	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUu-----	9747	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUuu-----	282	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUA-----	58643	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	5492	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	55	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	42	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	2254	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	43	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	85	0,1	
-----			ACAGUAGUCUG
CACAUUGGUUAGu-----	3	0,1	
-----			CAGUAGUCUG
CACAUUGG-----	281	1,-3	
-----			CAGUAGUCUG
CACAUUGGa-----	2	1,-3	
-----			CAGUAGUCUG
CACAUUGGau-----	6	1,-3	
-----			CAGUAGUCUG
CACAUUGGU-----	984	1,-2	
-----			CAGUAGUCUG
CACAUUGGUa-----	287	1,-2	
-----			CAGUAGUCUG
CACAUUGGUaa-----	165	1,-2	
-----			CAGUAGUCUG
CACAUUGGUau-----	25	1,-2	
-----			CAGUAGUCUG

CACAUUGGUU-----	14599	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUu-----	2002	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUuu-----	83	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUA-----	16452	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAa-----	1976	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAaa-----	53	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAau-----	12	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAu-----	748	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAuu-----	8	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAG-----	22	1,1	
-----			-AGUAGUCUG
CACAUUGGU-----	18	2,-2	
-----			-AGUAGUCUG
CACAUUGGUa-----	10	2,-2	
-----			-AGUAGUCUG
CACAUUGGUaa-----	10	2,-2	
-----			-AGUAGUCUG
CACAUUGGUU-----	312	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUu-----	42	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUA-----	389	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAa-----	50	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAu-----	10	2,0	

>hsa-mi r-199b 5p:26-48;3p:65-86 SRX018963

ccagaggacaccuccacuccgucuaCCCAGUGUUUAGACUAUCUGUUCaggacucccaauuguACAGUAGUCUGCACAU

```

UGGUUAggcugggcuggguagaccucgg
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----CCCAGUGUUUAGACUAUC-----
-----      8      0,-5
-----CCCAGUGUUUAGACUAUC-----
-----     29      0,-4
-----CCCAGUGUUUAGACUAUCUGUUC-----
-----      2      0,0
-----UACAGUAGUCUGCACAUC
U-----     35     -1,-5
-----UACAGUAGUCUGCACAUC
Uu-----      2     -1,-5
-----UACAGUAGUCUGCACAUC
UG-----     95     -1,-4
-----UACAGUAGUCUGCACAUC
UGuu-----      5     -1,-4
-----UACAGUAGUCUGCACAUC
UGG-----    263     -1,-3
-----UACAGUAGUCUGCACAUC
UGGa-----      6     -1,-3
-----UACAGUAGUCUGCACAUC
UGGaa-----      7     -1,-3
-----UACAGUAGUCUGCACAUC
UGGau-----     18     -1,-3
-----UACAGUAGUCUGCACAUC
UGGU-----   1223     -1,-2
-----UACAGUAGUCUGCACAUC
UGGUa-----    641     -1,-2
-----UACAGUAGUCUGCACAUC
UGGUaa-----   208     -1,-2
-----UACAGUAGUCUGCACAUC
UGGUau-----   209     -1,-2
-----UACAGUAGUCUGCACAUC
UGGUU-----  11757     -1,-1
-----UACAGUAGUCUGCACAUC
UGGUUu-----  1348     -1,-1
-----UACAGUAGUCUGCACAUC

```

UGGUUuu-----	32	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUA-----	2744	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAa-----	60	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAaa-----	2	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAu-----	152	-1,0	-----ACAGUAGUCUGCACAU
UG-----	617	0,-4	-----ACAGUAGUCUGCACAU
UGa-----	3	0,-4	-----ACAGUAGUCUGCACAU
UGaa-----	5	0,-4	-----ACAGUAGUCUGCACAU
UGu-----	30	0,-4	-----ACAGUAGUCUGCACAU
UGuu-----	42	0,-4	-----ACAGUAGUCUGCACAU
UGG-----	2118	0,-3	-----ACAGUAGUCUGCACAU
UGGa-----	28	0,-3	-----ACAGUAGUCUGCACAU
UGGaa-----	34	0,-3	-----ACAGUAGUCUGCACAU
UGGau-----	151	0,-3	-----ACAGUAGUCUGCACAU
UGGU-----	6332	0,-2	-----ACAGUAGUCUGCACAU
UGGUa-----	2049	0,-2	-----ACAGUAGUCUGCACAU
UGGUaa-----	1184	0,-2	-----ACAGUAGUCUGCACAU
UGGUau-----	478	0,-2	-----ACAGUAGUCUGCACAU
UGGUU-----	92543	0,-1	-----ACAGUAGUCUGCACAU

UGGUUu-----	9747	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUuu-----	282	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUA-----	58643	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAa-----	5492	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAaa-----	55	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAau-----	42	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAu-----	2254	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAuu-----	43	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAG-----	85	0,1	
-----			-ACAGUAGUCUGCACAU
UGGUUAGu-----	3	0,1	
-----			-ACAGUAGUCUGCACAU
UGGUUAGG-----	2	0,2	
-----			-CAGUAGUCUGCACAU
UGG-----	281	1,-3	
-----			-CAGUAGUCUGCACAU
UGGa-----	2	1,-3	
-----			-CAGUAGUCUGCACAU
UGGau-----	6	1,-3	
-----			-CAGUAGUCUGCACAU
UGGU-----	984	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUa-----	287	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUaa-----	165	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUau-----	25	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUU-----	14599	1,-1	
-----			-CAGUAGUCUGCACAU


```

CUG----- 55 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGu----- 2 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGA----- 23 0,0
-----GUGCAAAUCCAUGCAAAA
CU----- 2 1,-2

```

>hsa-mir-200a mi:16-37;MA:54-75 SRX018963

```

ccgggccccugugagCAUCUUAACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaa
ggugacccgc

```

```

.(((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))).....))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).).)))).

```

```

-----AUCUUAACCGGACAGUGCU-----
----- 2 1,-3
-----UAACACUGUCUGGUAACG-----
----- 8 0,-4
-----UAACACUGUCUGGUAACGA-----
----- 13 0,-3
-----UAACACUGUCUGGUAACGAU-----
----- 143 0,-2
-----UAACACUGUCUGGUAACGAUa-----
----- 2 0,-2
-----UAACACUGUCUGGUAACGAUG-----
----- 72 0,-1
-----UAACACUGUCUGGUAACGAUGa-----
----- 17 0,-1
-----UAACACUGUCUGGUAACGAUGaa-----
----- 4 0,-1
-----UAACACUGUCUGGUAACGAUGU-----
----- 52 0,0
-----UAACACUGUCUGGUAACGAUGUa-----
----- 6 0,0
-----UAACACUGUCUGGUAACGAUGUaa-----
----- 2 0,0
-----UAACACUGUCUGGUAACGAUGUU-----
----- 129 0,1
-----UAACACUGUCUGGUAACGAUGUUa-----

```



```

----- 4 1,-3
-----AUCUUACUGGGCAGCAUUGG-----
----- 9 1,-1
-----AUCUUACUGGGCAGCAUUGGu-----
----- 2 1,-1
-----AUCUUACUGGGCAGCAUUGGA-----
----- 8 1,0
-----AUCUUACUGGGCAGCAUUGGAa-----
----- 11 1,0
-----AUCUUACUGGGCAGCAUUGGAaa-----
----- 3 1,0
-----UAAUACUGCCUGGUA AUG-----
----- 10 0,-4
-----UAAUACUGCCUGGUA AUGA-----
----- 12 0,-3
-----UAAUACUGCCUGGUA AUGAU-----
----- 17 0,-2
-----UAAUACUGCCUGGUA AUGAUa-----
----- 2 0,-2
-----UAAUACUGCCUGGUA AUGAUG-----
----- 65 0,-1
-----UAAUACUGCCUGGUA AUGAUGu-----
----- 8 0,-1
-----UAAUACUGCCUGGUA AUGAUGuu-----
----- 2 0,-1
-----UAAUACUGCCUGGUA AUGAUGA-----
----- 243 0,0
-----UAAUACUGCCUGGUA AUGAUGAa-----
----- 21 0,0
-----UAAUACUGCCUGGUA AUGAUGAC-----
----- 127 0,1
-----UAAUACUGCCUGGUA AUGAUGACa-----
----- 41 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
u----- 6 0,1
-----UAAUACUGCCUGGUA AUGAUGACu-----
----- 44 0,1
-----UAAUACUGCCUGGUA AUGAUGACG

```

```

----- 2 0,2
-----AAUACUGCCUGGUAAGA-----
----- 2 1,-3
-----AAUACUGCCUGGUAAGAUG-----
----- 2 1,-1
-----AAUACUGCCUGGUAAGAUGA-----
----- 3 1,0
-----AAUACUGCCUGGUAAGAUGAC-----
----- 6 1,1
-----AAUACUGCCUGGUAAGAUGACa
----- 14 1,1
-----AAUACUGCCUGGUAAGAUGACu
----- 28 1,1
-----AUACUGCCUGGUAAGAUGA-----
----- 2 2,0
-----AUACUGCCUGGUAAGAUGAC-----
----- 14 2,1
-----AUACUGCCUGGUAAGAUGACa
----- 11 2,1
-----AUACUGCCUGGUAAGAUGACa
u----- 2 2,1
-----AUACUGCCUGGUAAGAUGACu
----- 33 2,1
-----AUACUGCCUGGUAAGAUGACu
u----- 12 2,1
-----AUACUGCCUGGUAAGAUGACG
G----- 6 2,3

```

```

>hsa-mir-200c mi:5-26;MA:44-66 SRX018963
cccuCGUCUUAACCCAGCAGUGUUUGGgugcgguugggagucucUAAUACUGCCGGGUAAGAUGGAagg
((..(((((((((((((.(((((((.(((.(.....)))))).)))))).)))))).))))))
-----UAAUACUGCCGGGUAAGAUGG--- 22 0,-1
-----UAAUACUGCCGGGUAAGAUGGA-- 8 0,0

```

```

>hsa-mir-203 3p:65-86 SRX018963
guguugggggacucgcgcgcuggguccagugguucuaacaguuaacaguucuguagcgcauuGUGAAAUGUUUAGGAC
CACUAGacccggcgggcgcgcgacagcga
.((((((..((.(.(((.(((((((((((((.(((((((.(((.(.....)))))).)))))).))))))

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))))).)))))))).))))).).).))))).
-----UUGUGAAAUGUUUAGGAC
CACU----- 2 -2,-2
-----UGUGAAAUGUUUAGGAC
CACU----- 2 -1,-2
-----UGUGAAAUGUUUAGGAC
CACUAG----- 4 -1,0
-----UGUGAAAUGUUUAGGAC
CACUAGA----- 2 -1,1
-----GUGAAAUGUUUAGGAC
CACU----- 8 0,-2
-----GUGAAAUGUUUAGGAC
CACUA----- 7 0,-1
-----GUGAAAUGUUUAGGAC
CACUAu----- 2 0,-1
-----GUGAAAUGUUUAGGAC
CACUAG----- 60 0,0
-----GUGAAAUGUUUAGGAC
CACUAGu----- 5 0,0
-----GUGAAAUGUUUAGGAC
CACUAGA----- 7 0,1
-----UGAAAUGUUUAGGAC
CACUA----- 5 1,-1
-----UGAAAUGUUUAGGAC
CACUAG----- 21 1,0
-----UGAAAUGUUUAGGAC
CACUAGu----- 27 1,0
-----UGAAAUGUUUAGGAC
CACUAGA----- 6 1,1
-----UGAAAUGUUUAGGAC
CACUAGAA----- 2 1,1

```

```

>hsa-mir-204 5p:33-54 SRX018963
ggcuacagucuuucuaugugacucguggacUCCCCUUGUCAUCCUAUGCCUgagaauauaugaaggaggcugggaag
gcaaagggacguucaauugucaucacuggc
.....((((((((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))).))))).).))))).).)).)).
-----UCCCCUUGUCAUCCUAUG-----

```


-----UAAAGUGCUUAUAGUGCAGGUAGU-----	2	0,1
-----AAAGUGCUUAUAGUGCAGGU-----	2	1,-2
-----ACUGCAUUAUGAGCACUU-----	2	0,-4
-----ACUGCAUUAUGAGCACUUAAA-----	4	0,-1
-----ACUGCAUUAUGAGCACUUAAAGU-----	2	0,1

>hsa-mir-20b MA:6-28;mi:44-65 SRX018963

aguacCAAAGUGCUCUAUAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGCACUUCCAGuacu		
(((((...(((((((((((.(((((.(((.....))))).)))))).)))))))).))))))		
-----CAAAGUGCUCUAUAGUGCAGG-----	2	0,-3
-----CAAAGUGCUCUAUAGUGCAGGUA-----	2	0,-1
-----ACUGUAGUAUGGGCACUUCCAGU---	2	0,1

>hsa-mir-21 MA:8-29;mi:46-66 SRX018963

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca		
.((((...(((((((((((.(((((.(((.....))))).)))))).)))))))).))))))		
-----GUAGCUUAUCAGACUGAUG-----		3
-1,-4		
-----GUAGCUUAUCAGACUGAUGU-----		3
-1,-3		
-----GUAGCUUAUCAGACUGAUGUU-----		13
-1,-2		
-----GUAGCUUAUCAGACUGAUGUUG-----		47
-1,-1		
-----GUAGCUUAUCAGACUGAUGUUGA-----		14
-1,0		
-----GUAGCUUAUCAGACUGAUGUUGAC-----		8
-1,1		
-----UAGCUUAUCAGACUGAUG-----		413
0,-4		
-----UAGCUUAUCAGACUGAUGa-----		4
0,-4		
-----UAGCUUAUCAGACUGAUGau-----		5
0,-4		
-----UAGCUUAUCAGACUGAUGU-----		1452
0,-3		
-----UAGCUUAUCAGACUGAUGUa-----		27
0,-3		

-----UAGCUUAUCAGACUGAUGUaa-----	7
0,-3	
-----UAGCUUAUCAGACUGAUGUU-----	
11222 0,-2	
-----UAGCUUAUCAGACUGAUGUua-----	130
0,-2	
-----UAGCUUAUCAGACUGAUGUuaa-----	5
0,-2	
-----UAGCUUAUCAGACUGAUGUuu-----	28
0,-2	
-----UAGCUUAUCAGACUGAUGUUG-----	
23123 0,-1	
-----UAGCUUAUCAGACUGAUGUUGu-----	57
0,-1	
-----UAGCUUAUCAGACUGAUGUUGA-----	8913
0,0	
-----UAGCUUAUCAGACUGAUGUUGAa-----	411
0,0	
-----UAGCUUAUCAGACUGAUGUUGAaa-----	32
0,0	
-----UAGCUUAUCAGACUGAUGUUGAu-----	14
0,0	
-----UAGCUUAUCAGACUGAUGUUGAC-----	2830
0,1	
-----UAGCUUAUCAGACUGAUGUUGACa-----	1324
0,1	
-----UAGCUUAUCAGACUGAUGUUGACaa-----	2
0,1	
-----UAGCUUAUCAGACUGAUGUUGACau-----	2
0,1	
-----UAGCUUAUCAGACUGAUGUUGACU-----	763
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUG-----	2
0,3	
-----AGCUUAUCAGACUGAUGU-----	9
1,-3	
-----AGCUUAUCAGACUGAUGUU-----	51
1,-2	

-----AGCUUAUCAGACUGAUGUUG-----	96
1,-1	
-----AGCUUAUCAGACUGAUGUUGu-----	7
1,-1	
-----AGCUUAUCAGACUGAUGUUGA-----	97
1,0	
-----AGCUUAUCAGACUGAUGUUGAa-----	3
1,0	
-----AGCUUAUCAGACUGAUGUUGAC-----	48
1,1	
-----AGCUUAUCAGACUGAUGUUGACa-----	45
1,1	
-----AGCUUAUCAGACUGAUGUUGACau-----	4
1,1	
-----AGCUUAUCAGACUGAUGUUGACU-----	7
1,2	
-----GCUUAUCAGACUGAUGUU-----	18
2,-2	
-----GCUUAUCAGACUGAUGUUG-----	73
2,-1	
-----GCUUAUCAGACUGAUGUUGA-----	37
2,0	
-----GCUUAUCAGACUGAUGUUGAa-----	2
2,0	
-----GCUUAUCAGACUGAUGUUGAC-----	16
2,1	
-----GCUUAUCAGACUGAUGUUGACa-----	6
2,1	
-----GCUUAUCAGACUGAUGUUGACUa-----	2
2,2	
-----CAACACCAGUCGAUGGGC-----	64
0,-3	
-----CAACACCAGUCGAUGGGCU-----	361
0,-2	
-----CAACACCAGUCGAUGGGCUG-----	170
0,-1	
-----CAACACCAGUCGAUGGGCUGU-----	247
0,0	

-----CAACACCAGUCGAUGGGCUGUa-----	8
0,0	
-----CAACACCAGUCGAUGGGCUGUaa-----	180
0,0	
-----CAACACCAGUCGAUGGGCUGUau-----	52
0,0	
-----CAACACCAGUCGAUGGGCUGUu-----	4
0,0	
-----CAACACCAGUCGAUGGGCUGUuu-----	13
0,0	
-----CAACACCAGUCGAUGGGCUGUC-----	598
0,1	
-----CAACACCAGUCGAUGGGCUGUCa-----	242
0,1	
-----CAACACCAGUCGAUGGGCUGUCaa---	2
0,1	
-----CAACACCAGUCGAUGGGCUGUCau---	18
0,1	
-----CAACACCAGUCGAUGGGCUGUCU-----	196
0,2	
-----CAACACCAGUCGAUGGGCUGUCUu---	11
0,2	
-----CAACACCAGUCGAUGGGCUGUCUuu--	7
0,2	
-----AACACCAGUCGAUGGGCU-----	4
1,-2	
-----AACACCAGUCGAUGGGCUGU-----	3
1,0	
-----AACACCAGUCGAUGGGCUGUC-----	3
1,1	
-----AACACCAGUCGAUGGGCUGUCa-----	19
1,1	
-----AACACCAGUCGAUGGGCUGUCU-----	34
1,2	
-----AACACCAGUCGAUGGGCUGUCUau--	2
1,2	
-----AACACCAGUCGAUGGGCUGUCUu---	6
1,2	

-----AACACCAGUCGAUGGGCUGUCUuu----- 6
1,2
-----ACACCAGUCGAUGGGCUGUCU----- 2
2,2

```

-----CUGUGCGUGUGACAG
CGGCUGAU----- 17 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUa----- 3 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUu----- 6 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUuu----- 4 0,1
-----UGUGCGUGUGACAG
CGGCU----- 7 1,-2
-----UGUGCGUGUGACAG
CGGCUGA----- 5 1,0
-----UGUGCGUGUGACAG
CGGCUGAU----- 2 1,1

```

>hsa-mir-2110 5p:8-29 SRX018963

```

cagggguUUGGGGAAACGGCCGCUGAGUGaggcgucggcuguguuuucacacgcggucuuuuccuccacucuuug
(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...)))))))))))))
-----UUGGGGAAACGGCCGCUG----- 3
0,-4
-----UUGGGGAAACGGCCGCUGA----- 7
0,-3
-----UUGGGGAAACGGCCGCUGAG----- 18
0,-2
-----UUGGGGAAACGGCCGCUGAGa----- 2
0,-2
-----UUGGGGAAACGGCCGCUGAGU----- 12
0,-1
-----UUGGGGAAACGGCCGCUGAGUa----- 2
0,-1
-----UUGGGGAAACGGCCGCUGAGUau----- 2
0,-1
-----UUGGGGAAACGGCCGCUGAGUuu----- 2
0,-1
-----UUGGGGAAACGGCCGCUGAGUG----- 71
0,0
-----UUGGGGAAACGGCCGCUGAGUGu----- 40
0,0

```

UUGGGGAAACGGCCGCUGAGUGA	145
0,1	
UUGGGGAAACGGCCGCUGAGUGAa	4
0,1	
UUGGGGAAACGGCCGCUGAGUGAau	2
0,1	
UUGGGGAAACGGCCGCUGAGUGAu	6
0,1	
UUGGGGAAACGGCCGCUGAGUGAG	18
0,2	
UUGGGGAAACGGCCGCUGAGUGAGu	7
0,2	
UGGGGAAACGGCCGCUGAGUG	2
1,0	
UGGGGAAACGGCCGCUGAGUGA	5
1,1	

>hsa-mir-212 3p:71-91 SRX018963

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>hsa-mi r-214      mi:30-51;MA:71-92      SRX018963
```

```

ggccugggcuggacagaguugucaugugucUGCCUGUCUACACUUGCUGUGCagaacaucgcucaccuguACAGCAGGCA
CAGACAGGCAGUcacaugacaaccagccu
.....(((((((.....(((((((((((.(((((((((((...((((((((((((((.....)))))))))))).
.)))))))))))).)))))))))))))))))).
-----UGCCUGUCUACACUUGC-----
-----2    0,-4
-----UGCCUGUCUACACUUGCUG-----
-----3    0,-1
-----UGCCUGUCUACACUUGCUGUC-----
-----4    0,0
-----GUACAGCAGGCA
CAGACAGG-----2    -2,-4

```

-----				-----GUACAGCAGGCA
CAGACAGGCA-----	3	-2,-2		
-----				-----GUACAGCAGGCA
CAGACAGGCAu-----	2	-2,-2		
-----				-----UACAGCAGGCA
CAGACAG-----	28	-1,-5		
-----				-----UACAGCAGGCA
CAGACAGa-----	4	-1,-5		
-----				-----UACAGCAGGCA
CAGACAGaa-----	4	-1,-5		
-----				-----UACAGCAGGCA
CAGACAGu-----	2	-1,-5		
-----				-----UACAGCAGGCA
CAGACAGG-----	39	-1,-4		
-----				-----UACAGCAGGCA
CAGACAGGa-----	8	-1,-4		
-----				-----UACAGCAGGCA
CAGACAGGaa-----	7	-1,-4		
-----				-----UACAGCAGGCA
CAGACAGGu-----	3	-1,-4		
-----				-----UACAGCAGGCA
CAGACAGGC-----	4	-1,-3		
-----				-----UACAGCAGGCA
CAGACAGGCA-----	40	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAa-----	108	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAaa-----	8	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAau-----	12	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAu-----	51	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAuu-----	12	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAG-----	12	-1,-1		
-----				-----UACAGCAGGCA
CAGACAGGCAGa-----	31	-1,-1		

-----				UACAGCAGGCA
CAGACAGGCAGaa-----	4	-1,-1		
-----				UACAGCAGGCA
CAGACAGGCAGau-----	2	-1,-1		
-----				UACAGCAGGCA
CAGACAGGCAGU-----	47	-1,0		
-----				UACAGCAGGCA
CAGACAGGCAGUa-----	3	-1,0		
-----				ACAGCAGGCA
CAGACAGG-----	51	0,-4		
-----				ACAGCAGGCA
CAGACAGGa-----	6	0,-4		
-----				ACAGCAGGCA
CAGACAGGC-----	5	0,-3		
-----				ACAGCAGGCA
CAGACAGGCA-----	69	0,-2		
-----				ACAGCAGGCA
CAGACAGGCAa-----	92	0,-2		
-----				ACAGCAGGCA
CAGACAGGCAaa-----	30	0,-2		
-----				ACAGCAGGCA
CAGACAGGCAau-----	14	0,-2		
-----				ACAGCAGGCA
CAGACAGGCAu-----	27	0,-2		
-----				ACAGCAGGCA
CAGACAGGCAuu-----	4	0,-2		
-----				ACAGCAGGCA
CAGACAGGCAG-----	79	0,-1		
-----				ACAGCAGGCA
CAGACAGGCAGa-----	77	0,-1		
-----				ACAGCAGGCA
CAGACAGGCAGaa-----	19	0,-1		
-----				ACAGCAGGCA
CAGACAGGCAGau-----	3	0,-1		
-----				ACAGCAGGCA
CAGACAGGCAGU-----	162	0,0		
-----				ACAGCAGGCA
CAGACAGGCAGUa-----	41	0,0		


```

-----UGAUUGUCCAAACGCAAUUCUC-----
-----      2      0,1
-----AGAGUUGAGUCUGGACGUC
CCG-----      3      0,0
-----AGAGUUGAGUCUGGACGUC
CCGA-----      2      0,1

```

```

>hsa-mir-219-2 5p:19-39;3p:62-83 SRX018963
acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCUuguacgagucugcggccaaccgAGAAUUGUGGUCUGGACAUC
UGUggcugagcuccggg
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))).))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGAUUGUCCAAACGCAAU-----
-----      3      0,-3
-----UGAUUGUCCAAACGCAAU-----
-----      2      0,-2

```

```

>hsa-mir-22 mi:15-36;MA:53-74 SRX018963
ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.)))
-----AGUUCUUCAGUGGCAAGC-----
-----      2      0,-4
-----AGUUCUUCAGUGGCAAGCU-----
-----     10      0,-3
-----AGUUCUUCAGUGGCAAGCUU-----
-----     13      0,-2
-----AGUUCUUCAGUGGCAAGCUUa-----
-----      5      0,-2
-----AGUUCUUCAGUGGCAAGCUUU-----
-----    275      0,-1
-----AGUUCUUCAGUGGCAAGCUUUu-----
-----     13      0,-1
-----AGUUCUUCAGUGGCAAGCUUUA-----
-----    223      0,0
-----AGUUCUUCAGUGGCAAGCUUUAa-----
-----     15      0,0

```

```

-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 26 0,1
-----GUUCUUCAGUGGCAAGCUUU-----
----- 3 1,-1
-----AAAGCUGCCAGUUGAAGAA-----
----- 2 -1,-4
-----AAAGCUGCCAGUUGAAGAACU-----
----- 3 -1,-2
-----AAAGCUGCCAGUUGAAGAACUGU-----
----- 4 -1,0
-----AAGCUGCCAGUUGAAGAA-----
----- 837 0,-4
-----AAGCUGCCAGUUGAAGAAa-----
----- 10 0,-4
-----AAGCUGCCAGUUGAAGAAaa-----
----- 3 0,-4
-----AAGCUGCCAGUUGAAGAAau-----
----- 4 0,-4
-----AAGCUGCCAGUUGAAGAAu-----
----- 4 0,-4
-----AAGCUGCCAGUUGAAGAAuu-----
----- 17 0,-4
-----AAGCUGCCAGUUGAAGAAC-----
----- 439 0,-3
-----AAGCUGCCAGUUGAAGAACa-----
----- 246 0,-3
-----AAGCUGCCAGUUGAAGAACaa-----
----- 43 0,-3
-----AAGCUGCCAGUUGAAGAACau-----
----- 7 0,-3
-----AAGCUGCCAGUUGAAGAACU-----
----- 2682 0,-2
-----AAGCUGCCAGUUGAAGAACUa-----
----- 87 0,-2
-----AAGCUGCCAGUUGAAGAACUaa-----
----- 28 0,-2
-----AAGCUGCCAGUUGAAGAACUau-----
----- 20 0,-2

```

```

-----AAGCUGCCAGUUGAAGAACUu-----
----- 25  0,-2
-----AAGCUGCCAGUUGAAGAACUuu-----
----- 36  0,-2
-----AAGCUGCCAGUUGAAGAACUG-----
----- 233 0,-1
-----AAGCUGCCAGUUGAAGAACUGa-----
----- 24  0,-1
-----AAGCUGCCAGUUGAAGAACUGaa-----
----- 4   0,-1
-----AAGCUGCCAGUUGAAGAACUGU-----
----- 1915  0,0
-----AAGCUGCCAGUUGAAGAACUGUa-----
----- 50  0,0
-----AAGCUGCCAGUUGAAGAACUGUaa-----
----- 10  0,0
-----AAGCUGCCAGUUGAAGAACUGUau-----
----- 10  0,0
-----AAGCUGCCAGUUGAAGAACUGUU-----
----- 51  0,1
-----AAGCUGCCAGUUGAAGAACUGUUa-----
----- 2   0,1
-----AAGCUGCCAGUUGAAGAACUGUUu-----
----- 15  0,1
-----AGCUGCCAGUUGAAGAAC-----
----- 5   1,-3
-----AGCUGCCAGUUGAAGAACa-----
----- 5   1,-3
-----AGCUGCCAGUUGAAGAACU-----
----- 18  1,-2
-----AGCUGCCAGUUGAAGAACUG-----
----- 6   1,-1
-----AGCUGCCAGUUGAAGAACUGU-----
----- 15  1,0
-----AGCUGCCAGUUGAAGAACUGUUu-----
----- 3   1,1

```

>hsa-mir-221 mi:25-46;MA:65-87 SRX018963

```

-----AACCUGGCAUACAAUGUAGAUU-----
-----      2      -1,-1
-----AACCUGGCAUACAAUGUAGAUUU-----
-----      3      -1,0
-----ACCUGGCAUACAAUGUAG-----
-----      7      0,-4
-----ACCUGGCAUACAAUGUAGA-----
-----      2      0,-3
-----ACCUGGCAUACAAUGUAGAU-----
-----      6      0,-2
-----ACCUGGCAUACAAUGUAGAUa-----
-----      4      0,-2
-----ACCUGGCAUACAAUGUAGAUU-----
-----     54      0,-1
-----ACCUGGCAUACAAUGUAGAUUa-----
-----      5      0,-1
-----ACCUGGCAUACAAUGUAGAUUU-----
-----    144      0,0
-----ACCUGGCAUACAAUGUAGAUUUa-----
-----      3      0,0
-----ACCUGGCAUACAAUGUAGAUUUC-----
-----     31      0,1
-----ACCUGGCAUACAAUGUAGAUUUCU-----
-----      2      0,2
-----ACCUGGCAUACAAUGUAGAUUUCUG-----
-----      2      0,3
-----AGCUACAUUGUCUGCU
GG-----      11      0,-5
-----AGCUACAUUGUCUGCU
GGG-----      7      0,-4
-----AGCUACAUUGUCUGCU
GGGU-----      4      0,-3
-----AGCUACAUUGUCUGCU
GGGUa-----      3      0,-3

```

-----				-----AGCUACAUUGUCUGCU
GGGUaa-----	9	0,-3		-----AGCUACAUUGUCUGCU
GGGUau-----	20	0,-3		-----AGCUACAUUGUCUGCU
GGGUU-----	33	0,-2		-----AGCUACAUUGUCUGCU
GGGUUa-----	20	0,-2		-----AGCUACAUUGUCUGCU
GGGUUaa-----	10	0,-2		-----AGCUACAUUGUCUGCU
GGGUUau-----	15	0,-2		-----AGCUACAUUGUCUGCU
GGGUUU-----	203	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUa-----	32	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUau-----	2	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUu-----	11	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUC-----	153	0,0		-----AGCUACAUUGUCUGCU
GGGUUUCu-----	3	0,0		-----AGCUACAUUGUCUGCU
GGGUUUCA-----	4	0,1		-----GCUACAUUGUCUGCU
GGGUUau-----	2	1,-2		-----GCUACAUUGUCUGCU
GGGUUU-----	12	1,-1		-----GCUACAUUGUCUGCU
GGGUUUa-----	2	1,-1		-----GCUACAUUGUCUGCU
GGGUUUC-----	8	1,0		

>hsa-mir-222 mi:31-52;MA:69-89 SRX018963

gcugcuggaagguguagguacccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUUGG
CUACUGGGUcucugauggcaucuucuagcu

...((((((((((((.....((.(((..((((((((((((((((((((((((((((..(((.....))))..)))))).)))))))).)))))))).

-----	-----	AGCUACAUCUGG
CUACUG-----	60 0,-3	-----
-----	-----	AGCUACAUCUGG
CUACUGu-----	2 0,-3	-----
-----	-----	AGCUACAUCUGG
CUACUGG-----	101 0,-2	-----
-----	-----	AGCUACAUCUGG
CUACUGGa-----	2 0,-2	-----
-----	-----	AGCUACAUCUGG
CUACUGGG-----	190 0,-1	-----
-----	-----	AGCUACAUCUGG
CUACUGGGU-----	225 0,0	-----
-----	-----	AGCUACAUCUGG
CUACUGGGUa-----	17 0,0	-----
-----	-----	AGCUACAUCUGG
CUACUGGGUaa-----	20 0,0	-----
-----	-----	AGCUACAUCUGG
CUACUGGGUau-----	10 0,0	-----
-----	-----	AGCUACAUCUGG
CUACUGGGUu-----	10 0,0	-----
-----	-----	AGCUACAUCUGG
CUACUGGGGUC-----	656 0,1	-----
-----	-----	AGCUACAUCUGG
CUACUGGGGUCa-----	19 0,1	-----
-----	-----	AGCUACAUCUGG
CUACUGGGGUCaa-----	2 0,1	-----
-----	-----	AGCUACAUCUGG
CUACUGGGGUCau-----	6 0,1	-----
-----	-----	AGCUACAUCUGG
CUACUGGGGUCU-----	502 0,2	-----
-----	-----	AGCUACAUCUGG
CUACUGGGGUCUa-----	4 0,2	-----
-----	-----	AGCUACAUCUGG
CUACUGGGGUCUu-----	15 0,2	-----
-----	-----	AGCUACAUCUGG
CUACUGGGGUCUuu-----	2 0,2	-----

```

-----AGCUACAUCUGG
CUACUGGGUCUC----- 119 0,3
-----AGCUACAUCUGG
CUACUGGGUCUCa----- 6 0,3
-----AGCUACAUCUGG
CUACUGGGUCUCU----- 26 0,4
-----GCUACAUCUGG
CUACUGGGUC----- 14 1,1
-----GCUACAUCUGG
CUACUGGGUCU----- 8 1,2
-----CUACAUCUGG
CUACUGGGUCU----- 2 2,2

```

>hsa-mir-223 mi:26-47;MA:68-89 SRX018963

```

ccuggccuccugcagugccacgcucCGUGUAUUUGACAAGCUGAGUUGgacacuccaugugguagagUGUCAGUUUGUCA
AAUACCCCAagugcggcacaugcuaccag

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----CGUGUAUUUGACAAGCUGAGUUGG-----
----- 2 0,2
-----UGUCAGUUUGUCA
AAUAC----- 2 0,-4
-----UGUCAGUUUGUCA
AAUACC----- 9 0,-3
-----UGUCAGUUUGUCA
AAUACCC----- 3 0,-2
-----UGUCAGUUUGUCA
AAUACCCC----- 11 0,-1
-----UGUCAGUUUGUCA
AAUACCCCA----- 28 0,0
-----UGUCAGUUUGUCA
AAUACCCCAu----- 6 0,0
-----UGUCAGUUUGUCA
AAUACCCCAA----- 24 0,1
-----UGUCAGUUUGUCA
AAUACCCCAAa----- 2 0,1
-----UGUCAGUUUGUCA
AAUACCCCAAu----- 8 0,1

```

```

-----GUCAGUUUGUCA
AAUACC----- 5 1,-3
-----GUCAGUUUGUCA
AAUACCC----- 10 1,-2
-----GUCAGUUUGUCA
AAUACCCC----- 5 1,-1
-----GUCAGUUUGUCA
AAUACCCCA----- 20 1,0
-----GUCAGUUUGUCA
AAUACCCCAu----- 2 1,0
-----GUCAGUUUGUCA
AAUACCCCAA----- 31 1,1
-----GUCAGUUUGUCA
AAUACCCCAAa----- 3 1,1
-----GUCAGUUUGUCA
AAUACCCCAAu----- 13 1,1

```

>hsa-mir-224 MA:8-28;mi:53-75 SRX018963

```

gggcuuuCAAGUCACUAGUGGUUCCGUUuaguagaugauugugcauuguuucAAAAUGGUGCCCUAGUGACUACAaagcc
c
(((((((...(((((((((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
)

```

```

-----CAAGUCACUAGUGGUUCCGUU-----
- 3 0,0
-----CAAGUCACUAGUGGUUCCGUUU-----
- 20 0,1
-----CAAGUCACUAGUGGUUCCGUUUA-----
- 14 0,2
-----CAAGUCACUAGUGGUUCCGUUUAG-----
- 21 0,3
-----AAAUGGUGCCCUAGUGAC-----
- 2 1,-4
-----AAAUGGUGCCCUAGUGACUACA-----
- 2 1,0

```

>hsa-mir-2278 5p:16-37 SRX018963

```

gugcugcagguguugGAGAGCAGUGUGUGUUGCCUGGggacuguguggacugguaucacccagacagcuugcacugacuc
cagaccugccgucau

```


-----AUCACAUUGCCAGGGAUUU-----	552
0,-2	
-----AUCACAUUGCCAGGGAUUUa-----	125
0,-2	
-----AUCACAUUGCCAGGGAUUUaa-----	42
0,-2	
-----AUCACAUUGCCAGGGAUUUau-----	4
0,-2	
-----AUCACAUUGCCAGGGAUUUu-----	44
0,-2	
-----AUCACAUUGCCAGGGAUUUC-----	587
0,-1	
-----AUCACAUUGCCAGGGAUUUCa-----	130
0,-1	
-----AUCACAUUGCCAGGGAUUUCaa-----	6
0,-1	
-----AUCACAUUGCCAGGGAUUUCu-----	16
0,-1	
-----AUCACAUUGCCAGGGAUUUCC-----	560
0,0	
-----AUCACAUUGCCAGGGAUUUCCu-----	8
0,0	
-----AUCACAUUGCCAGGGAUUUCCA-----	1527
0,1	
-----AUCACAUUGCCAGGGAUUUCCAu-----	133
0,1	
-----AUCACAUUGCCAGGGAUUUCCAA-----	138
0,2	
-----AUCACAUUGCCAGGGAUUUCCAAu-----	6
0,2	
-----UCACAUUGCCAGGGAUUU-----	2
1,-2	
-----UCACAUUGCCAGGGAUUUaa-----	2
1,-2	
-----UCACAUUGCCAGGGAUUUu-----	2
1,-2	
-----UCACAUUGCCAGGGAUUUC-----	6
1,-1	

1,0	-----UCACAUUGCCAGGGAUUUC-----	9
1,1	-----UCACAUUGCCAGGGAUUCCA-----	6
2,1	-----CACAUUGCCAGGGAUUCCAu-----	3

>hsa-mi r-23b mi:20-41;MA:58-78 SRX018963

cucaggugcucuggcugcuUGGGUCCUGGCAUGCUGAUUgugacuaagauuaaaAUCACAUGCCAGGGAUUACCac
gcaaccacgaccuuggc

UUGGGUUCCUGGCAUGCUGAU-	
11	-1,-2
UUGGGUUCCUGGCAUGCUGAUU-	
21	-1,-1
UUGGGUUCCUGGCAUGCUGAUUa-	
4	-1,-1
UUGGGUUCCUGGCAUGCUGAUUU-	
15	-1,0
UGGGUUCCUGGCAUGCUG-	
11	0,-4
UGGGUUCCUGGCAUGCUGA-	
8	0,-3
UGGGUUCCUGGCAUGCUGAU-	
39	0,-2
UGGGUUCCUGGCAUGCUGAUa-	
7	0,-2
UGGGUUCCUGGCAUGCUGAUaa-	
3	0,-2
UGGGUUCCUGGCAUGCUGAUU-	
133	0,-1
UGGGUUCCUGGCAUGCUGAUUa-	
7	0,-1
UGGGUUCCUGGCAUGCUGAUUau-	
3	0,-1
UGGGUUCCUGGCAUGCUGAUUU-	
510	0,0

```

-----UGGGUUCCUGGCAUGCUGAUUUa-----
-----40 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
-----49 0,0
-----GGGUUCCUGGCAUGCUGA-----
-----10 1,-3
-----GGGUUCCUGGCAUGCUGAU-----
-----43 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
-----88 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
-----387 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
-----29 1,0
-----GGGUUCCUGGCAUGCUGAUUUaa-----
-----4 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----
-----25 1,0
-----GGGUUCCUGGCAUGCUGAUUUuu-----
-----3 1,0
-----GGGUUCCUGGCAUGCUGAUUUUG-----
-----3 1,1
-----GGGUUCCUGGCAUGCUGAUUUUGU-----
-----6 1,2
-----GGUUCCUGGCAUGCUGAUUU-----
-----6 2,0
-----AAUCACAUUGCCAGGGAUU-----
-----2 -1,-3
-----AAUCACAUUGCCAGGGAUUA-----
-----2 -1,-2
-----AAUCACAUUGCCAGGGAUUAC-----
-----7 -1,-1
-----AAUCACAUUGCCAGGGAUUACa-----
-----2 -1,-1
-----AAUCACAUUGCCAGGGAUUACC-----
-----5 -1,0
-----AAUCACAUUGCCAGGGAUUACCA-----
-----6 -1,1

```

```

-----AUCACAUUGCCAGGGAUU-----
-----105 0,-3-----
-----AUCACAUUGCCAGGGAUUA-----
-----289 0,-2-----
-----AUCACAUUGCCAGGGAUUAa-----
-----96 0,-2-----
-----AUCACAUUGCCAGGGAUUAaa-----
-----12 0,-2-----
-----AUCACAUUGCCAGGGAUUAu-----
-----63 0,-2-----
-----AUCACAUUGCCAGGGAUUAC-----
-----411 0,-1-----
-----AUCACAUUGCCAGGGAUUACa-----
-----184 0,-1-----
-----AUCACAUUGCCAGGGAUUACaa-----
-----5 0,-1-----
-----AUCACAUUGCCAGGGAUUACu-----
-----13 0,-1-----
-----AUCACAUUGCCAGGGAUUACC-----
-----728 0,0-----
-----AUCACAUUGCCAGGGAUUACCu-----
-----8 0,0-----
-----AUCACAUUGCCAGGGAUUACCA-----
-----2584 0,1-----
-----AUCACAUUGCCAGGGAUUACCAa-----
-----48 0,1-----
-----AUCACAUUGCCAGGGAUUACCAu-----
-----311 0,1-----
-----AUCACAUUGCCAGGGAUUACCAu-----
u-----31 0,1-----
-----AUCACAUUGCCAGGGAUUACCAC-----
-----491 0,2-----
-----AUCACAUUGCCAGGGAUUACCAC-----
a-----60 0,2-----
-----AUCACAUUGCCAGGGAUUACCAC-----
u-----668 0,2-----
-----AUCACAUUGCCAGGGAUUACCAC-----
uu-----8 0,2-----

```


Sequence	Length	Score	Reference
G-----	7	0,3	-AUCACAUUGCCAGGGGAUUACCAC
-----			-UCACAUUGCCAGGGGAUUA----
-----	2	1,-2	-UCACAUUGCCAGGGGAUUAa---
-----	2	1,-2	-UCACAUUGCCAGGGGAUUAC---
-----	3	1,-1	-UCACAUUGCCAGGGGAUUACa--
-----	3	1,-1	-UCACAUUGCCAGGGGAUUACaa-
-----	3	1,-1	-UCACAUUGCCAGGGGAUUACC--
-----	7	1,0	-UCACAUUGCCAGGGGAUUACCA-
-----	17	1,1	-UCACAUUGCCAGGGGAUUACCAu
-----	8	1,1	-UCACAUUGCCAGGGGAUUACCAu
u-----	4	1,1	-UCACAUUGCCAGGGGAUUACCAC
-----	16	1,2	-UCACAUUGCCAGGGGAUUACCAC
a-----	15	1,2	-UCACAUUGCCAGGGGAUUACCAC
u-----	53	1,2	-UCACAUUGCCAGGGGAUUACCAC
uu-----	4	1,2	-UCACAUUGCCAGGGGAUUACCAC
G-----	3	1,3	-UCACAUUGCCAGGGGAUUACCAC

>hsa-mir-23c 3p:66-87 SRX018963

agugacuuuccaggugucacacagugaguggcauaaucagaguacaauuugagucaugcccauacAUCACAUUGCCAGUG
AUUACCCaaggaaagugacg

[illegible]

-----AUCACAUGCCAGUG
 AUU----- 2 0, -4

```

-----AUCACAUUGCCAGUG
AUUACC-----      2    0,-1
-----AUCACAUUGCCAGUG
AUUACCa-----      4    0,-1

>hsa-mir-24-1    mi:7-28;MA:44-65    SRX018963
cuccggUGCCUACUGAGCUGAUUAUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag
(((((((((.....)))))).))))))
----GGUGCCUACUGAGCUGAUUAUCA-----      3
-2,-2
----GUGCCUACUGAGCUGAUUAUC-----      4
-1,-3
----GUGCCUACUGAGCUGAUUAUCA-----      16
-1,-2
----GUGCCUACUGAGCUGAUUAUCAG-----      2
-1,-1
-----UGCCUACUGAGCUGAUUAUCA-----      2    0,-2
-----UGGCUCAGUUCAGCAGGA-----      55    0,-4
-----UGGCUCAGUUCAGCAGGAa-----      65    0,-3
-----UGGCUCAGUUCAGCAGGAa-----      6    0,-3
-----UGGCUCAGUUCAGCAGGAAC-----      87    0,-2
-----UGGCUCAGUUCAGCAGGAACu-----      2    0,-2
-----UGGCUCAGUUCAGCAGGAACA-----      205    0,-1
-----UGGCUCAGUUCAGCAGGAACAa-----      60    0,-1
-----UGGCUCAGUUCAGCAGGAACAa-----      5    0,-1
-----UGGCUCAGUUCAGCAGGAACAau-----      5    0,-1
-----UGGCUCAGUUCAGCAGGAACAu-----      19    0,-1
-----UGGCUCAGUUCAGCAGGAACAuu-----      12    0,-1
-----UGGCUCAGUUCAGCAGGAACAG-----      1192
0,0
-----UGGCUCAGUUCAGCAGGAACAGa-----      44    0,0
-----UGGCUCAGUUCAGCAGGAACAGu-----      1851
0,0
-----UGGCUCAGUUCAGCAGGAACAGuu-----      230    0,0
-----UGGCUCAGUUCAGCAGGAACAGG-----      8    0,1
-----GGCUCAGUUCAGCAGGAACA-----      4    1,-1
-----GGCUCAGUUCAGCAGGAACAG-----      29    1,0
-----GGCUCAGUUCAGCAGGAACAGa-----      5    1,0

```


-----UGGCUCAGUUCAGCAGGAACAu--	19
0,-1	
-----UGGCUCAGUUCAGCAGGAACAuu-	12
0,-1	
-----UGGCUCAGUUCAGCAGGAACAG--	1192
0,0	
-----UGGCUCAGUUCAGCAGGAACAGa-	44
0,0	
-----UGGCUCAGUUCAGCAGGAACAGu-	1851
0,0	
-----UGGCUCAGUUCAGCAGGAACAGuu	230
0,0	
-----UGGCUCAGUUCAGCAGGAACAGG-	8
0,1	
-----GGCUCAGUUCAGCAGGAACA---	4
1,-1	
-----GGCUCAGUUCAGCAGGAACAG--	29
1,0	
-----GGCUCAGUUCAGCAGGAACAGa-	5
1,0	
-----GGCUCAGUUCAGCAGGAACAGu-	53
1,0	
-----GGCUCAGUUCAGCAGGAACAGuu	9
1,0	
-----GCUCAGUUCAGCAGGAACAG--	6
2,0	
-----GCUCAGUUCAGCAGGAACAGa-	3
2,0	
-----GCUCAGUUCAGCAGGAACAGu-	12
2,0	
-----GCUCAGUUCAGCAGGAACAGuu	11
2,0	
-----GCUCAGUUCAGCAGGAACAGG-	8
2,1	

>hsa-mir-25 mi:14-34;MA:52-73 SRX018963

ggccaguguugagAGGCGGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc


```

-----AUUGCACUUGUCUCGGUCU-----
---- 36 1,-2
-----AUUGCACUUGUCUCGGUCUG-----
---- 44 1,-1
-----AUUGCACUUGUCUCGGUCUGu-----
---- 4 1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
---- 68 1,0

```

>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018963

```

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.(((((((.(((((((((.(((((((((.((.....))...)))))))))))).)))))))).)))))))).)))

```

```

-----UUCAAGUAAUCCAGGAUA-----
119 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
37 0,-4
-----UUCAAGUAAUCCAGGAUAu-----
8 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
721 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
5 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
1758 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
7 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
4 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
23 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
28 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
2445 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
892 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
316 0,-1

```

```

-----UUCAAGUAAUCCAGGAUAGGCau-----
188 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
9611 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
646 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
124 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
463 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
314 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
1562 0,0
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
2 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
11 0,2
-----UCAAGUAAUCCAGGAUAG-----
17 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
37 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
45 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
26 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
7 1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
6 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
223 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
19 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
2 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
15 1,0

```

```

-----UCAAGUAAUCCAGGAUAGGCUu-----
5   1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
11  1,0
-----CAAGUAAUCCAGGAUAGG-----
5   2,-2
-----CAAGUAAUCCAGGAUAGGC-----
4   2,-1
-----CAAGUAAUCCAGGAUAGGCa-----
3   2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
28  2,0
-----CCUAUUCUUGGUUACUUGCAC-----
2   0,-1

```

>hsa-mir-26a-2 MA:14-35;mi:52-73 SRX018963

```

ggcuguggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu

```

```

((((((...((...((((((((((...)))))))))).)))))))))...))...))
)))

```

```

-----UUCAAGUAAUCCAGGAUA-----
---- 119 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 37  0,-4
-----UUCAAGUAAUCCAGGAUAu-----
---- 8   0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 721 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
---- 5   0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 1758 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 7   0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 4   0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 23  0,-2

```



```

-----UUCAAGUAAUCCAGGAUAGGuu-----
----    28    0, -2
-----UUCAAGUAAUCCAGGAUAGGC-----
----   2445    0, -1
-----UUCAAGUAAUCCAGGAUAGGCa-----
----    892    0, -1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
----    316    0, -1
-----UUCAAGUAAUCCAGGAUAGGCau-----
----    188    0, -1
-----UUCAAGUAAUCCAGGAUAGGCu-----
----   9611    0, 0
-----UUCAAGUAAUCCAGGAUAGGCua-----
----    646    0, 0
-----UUCAAGUAAUCCAGGAUAGGCuaa-----
----    124    0, 0
-----UUCAAGUAAUCCAGGAUAGGCuau-----
----    463    0, 0
-----UUCAAGUAAUCCAGGAUAGGCuu-----
----    314    0, 0
-----UUCAAGUAAUCCAGGAUAGGCuuu-----
----   1562    0, 0
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
----     2    0, 1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
----    11    0, 2
-----UCAAGUAAUCCAGGAUAG-----
----    17    1, -3
-----UCAAGUAAUCCAGGAUAGG-----
----    37    1, -2
-----UCAAGUAAUCCAGGAUAGGC-----
----    45    1, -1
-----UCAAGUAAUCCAGGAUAGGCa-----
----    26    1, -1
-----UCAAGUAAUCCAGGAUAGGCaa-----
----     7    1, -1
-----UCAAGUAAUCCAGGAUAGGCau-----
----     6    1, -1

```

```

-----UCAAGUAAUCCAGGAUAGGCU-----
---- 223 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
---- 19 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
---- 2 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
---- 15 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
---- 5 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
---- 11 1,0
-----CAAGUAAUCCAGGAUAGG-----
---- 5 2,-2
-----CAAGUAAUCCAGGAUAGGC-----
---- 4 2,-1
-----CAAGUAAUCCAGGAUAGGCa-----
---- 3 2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
---- 28 2,0

```

>hsa-mir-26b MA:12-32;mi:47-68 SRX018963

```

ccgggaccagUUCAAGUAAUUCAGGAUAGGUgugugucguccagCCUGUUCUCCAUUACUUGGCUCggggaccgg
((((..((((((.(((((((..(((((((((((. ....))))))))))..)))))))).))..)))))
-----UUCAAGUAAUUCAGGAUA-----
27 0,-3
-----UUCAAGUAAUUCAGGAUAa-----
3 0,-3
-----UUCAAGUAAUUCAGGAUAG-----
149 0,-2
-----UUCAAGUAAUUCAGGAUAGuu-----
3 0,-2
-----UUCAAGUAAUUCAGGAUAGG-----
670 0,-1
-----UUCAAGUAAUUCAGGAUAGGa-----
8 0,-1
-----UUCAAGUAAUUCAGGAUAGGau-----
2 0,-1

```

```

-----UUCAAGUAAUUCAGGAUAGGU-----
1332 0,0
-----UUCAAGUAAUUCAGGAUAGGUa-----
588 0,0
-----UUCAAGUAAUUCAGGAUAGGUaa-----
326 0,0
-----UUCAAGUAAUUCAGGAUAGGUau-----
140 0,0
-----UUCAAGUAAUUCAGGAUAGGUU-----
6451 0,1
-----UUCAAGUAAUUCAGGAUAGGUUa-----
457 0,1
-----UUCAAGUAAUUCAGGAUAGGUUaa-----
11 0,1
-----UUCAAGUAAUUCAGGAUAGGUUau-----
7 0,1
-----UUCAAGUAAUUCAGGAUAGGUUu-----
640 0,1
-----UUCAAGUAAUUCAGGAUAGGUUG-----
32 0,2
-----UUCAAGUAAUUCAGGAUAGGUUGU-----
4 0,3
-----UCAAGUAAUUCAGGAUAGG-----
10 1,-1
-----UCAAGUAAUUCAGGAUAGGU-----
12 1,0
-----UCAAGUAAUUCAGGAUAGGUa-----
3 1,0
-----UCAAGUAAUUCAGGAUAGGUaa-----
4 1,0
-----UCAAGUAAUUCAGGAUAGGUU-----
64 1,1
-----UCAAGUAAUUCAGGAUAGGUUa-----
7 1,1
-----UCAAGUAAUUCAGGAUAGGUUu-----
22 1,1
-----UCAAGUAAUUCAGGAUAGGUUG-----
5 1,2

```



```

-----UUCACAGUGGCUAAGUUCCG-----
2160    0,-1
-----UUCACAGUGGCUAAGUUCCGa-----
119    0,-1
-----UUCACAGUGGCUAAGUUCCGu-----
122    0,-1
-----UUCACAGUGGCUAAGUUCCGuu-----
6      0,-1
-----UUCACAGUGGCUAAGUUCCGC-----
74     0,0
-----UUCACAGUGGCUAAGUUCCGCa-----
5      0,0
-----UUCACAGUGGCUAAGUUCCGCaa-----
9      0,0
-----UUCACAGUGGCUAAGUUCCGCau-----
6      0,0
-----UCACAGUGGCUAAGUUCC-----
3      1,-2
-----UCACAGUGGCUAAGUUCCG-----
13     1,-1
-----UCACAGUGGCUAAGUUCCGa-----
3      1,-1
-----UCACAGUGGCUAAGUUCCGC-----
2      1,0

```

>hsa-mir-27b mi:19-40;MA:61-81 SRX018963

accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug

((((((((.....((((((((((((((((((((.....((((((((.....((.....))..))))))))))..))))))))))))))
))))..))))..))))).

```

-----CAGAGCUUAGCUGAUUGGUG-----
-----3    -1,-3
-----CAGAGCUUAGCUGAUUGGUGAA-----
-----8    -1,-1
-----CAGAGCUUAGCUGAUUGGUGAACA-----
-----4    -1,1
-----AGAGCUUAGCUGAUUGGU-----
-----5    0,-4

```

```

-----AGAGCUUAGCUGAUUGGUG-----
-----30 0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
-----247 0,-2
-----AGAGCUUAGCUGAUUGGUGAA-----
-----433 0,-1
-----AGAGCUUAGCUGAUUGGUGAAC-----
-----22 0,0
-----AGAGCUUAGCUGAUUGGUGAACA-----
-----17 0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
-----5 0,2
-----AGAGCUUAGCUGAUUGGUGAACAGU-----
-----2 0,3
-----GUUCACAGUGGCUAAGUU-----
-----20 -1,-4
-----GUUCACAGUGGCUAAGUUC-----
-----106 -1,-3
-----GUUCACAGUGGCUAAGUUCU-----
-----15 -1,-2
-----UUCACAGUGGCUAAGUUC-----
-----26981 0,-3
-----UUCACAGUGGCUAAGUUCa-----
-----46 0,-3
-----UUCACAGUGGCUAAGUUCaa-----
-----18 0,-3
-----UUCACAGUGGCUAAGUUCU-----
-----5789 0,-2
-----UUCACAGUGGCUAAGUUCUa-----
-----46 0,-2
-----UUCACAGUGGCUAAGUUCUa-----
a-----19 0,-2
-----UUCACAGUGGCUAAGUUCUa-----
u-----3 0,-2
-----UUCACAGUGGCUAAGUUCUu-----
-----14 0,-2
-----UUCACAGUGGCUAAGUUCUG-----
-----227 0,-1

```

```

-----UUCACAGUGGCUAAGUUCUG
a----- 32  0,-1
-----UUCACAGUGGCUAAGUUCUG
aa----- 51  0,-1
-----UUCACAGUGGCUAAGUUCUG
au----- 2   0,-1
-----UUCACAGUGGCUAAGUUCUG
u----- 13  0,-1
-----UUCACAGUGGCUAAGUUCUG
uu----- 4   0,-1
-----UUCACAGUGGCUAAGUUCUG
C----- 354 0,0
-----UUCACAGUGGCUAAGUUCUG
Cu----- 9   0,0
-----UUCACAGUGGCUAAGUUCUG
Cuu----- 3   0,0
-----UUCACAGUGGCUAAGUUCUG
CA----- 281 0,1
-----UUCACAGUGGCUAAGUUCUG
CAa----- 96  0,1
-----UUCACAGUGGCUAAGUUCUG
CAaa----- 2   0,1
-----UUCACAGUGGCUAAGUUCUG
CAu----- 124 0,1
-----UUCACAGUGGCUAAGUUCUG
CAuu----- 8   0,1
-----UUCACAGUGGCUAAGUUCUG
CAC----- 3   0,2
-----UCACAGUGGCUAAGUUCU-
----- 46  1,-2
-----UCACAGUGGCUAAGUUCUG
a----- 2   1,-1
-----UCACAGUGGCUAAGUUCUG
C----- 8   1,0
-----UCACAGUGGCUAAGUUCUG
CA----- 4   1,1
-----UCACAGUGGCUAAGUUCUG
CAau----- 2   1,1

```

CAu	5	1,1	UCACAGUGGCUAAGUUCUG
CAuu	2	1,1	UCACAGUGGCUAAGUUCUG

>hsa-mi r-28 5p:14-35;3p:54-75 SRX018963

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGuuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu

$$(((.(((((((((((.(((((((((((((((((((.((((((((((.))))). . .)).))))) .)))))) .)))))) .))))))$$

-----	-CAAGGAGCUCACAGUCUAUUG-----
-----	2 -1, -2
-----	-CAAGGAGCUCACAGUCUAUUGA-----
-----	5 -1, -1
-----	-AAGGAGCUCACAGUCUAU-----
-----	2 0, -4
-----	-AAGGAGCUCACAGUCUAUU-----
-----	9 0, -3
-----	-AAGGAGCUCACAGUCUAUUa-----
-----	4 0, -3
-----	-AAGGAGCUCACAGUCUAUUG-----
-----	87 0, -2
-----	-AAGGAGCUCACAGUCUAUUGu-----
-----	2 0, -2
-----	-AAGGAGCUCACAGUCUAUUGA-----
-----	115 0, -1
-----	-AAGGAGCUCACAGUCUAUUGAa-----
-----	4 0, -1
-----	-AAGGAGCUCACAGUCUAUUGAaa-----
-----	4 0, -1
-----	-AAGGAGCUCACAGUCUAUUGAuu-----
-----	2 0, -1
-----	-AAGGAGCUCACAGUCUAUUGAG-----
-----	65 0, 0
-----	-AAGGAGCUCACAGUCUAUUGAGa-----
-----	23 0, 0
-----	-AAGGAGCUCACAGUCUAUUGAGU-----
-----	2 0, 1

-----			-----CCACUAGAUUGUGAGCUCCUGG-----
-----	2	-1,-1	
-----			-----CACUAGAUUGUGAGCUCC-----
-----	9	0,-4	
-----			-----CACUAGAUUGUGAGCUCCU-----
-----	3	0,-3	
-----			-----CACUAGAUUGUGAGCUCCUG-----
-----	7	0,-2	
-----			-----CACUAGAUUGUGAGCUCCUGu-----
-----	3	0,-2	
-----			-----CACUAGAUUGUGAGCUCCUGG-----
-----	235	0,-1	
-----			-----CACUAGAUUGUGAGCUCCUGGu-----
-----	11	0,-1	
-----			-----CACUAGAUUGUGAGCUCCUGGA-----
-----	1828	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAa-----
-----	581	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAaa-----
-----	38	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAau-----
-----	10	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAu-----
-----	29	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAuu-----
-----	2	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAG-----
-----	12	0,1	
-----			-----CACUAGAUUGUGAGCUCCUGGAGu-----
-----	2	0,1	
-----			-----ACUAGAUUGUGAGCUCCUGG-----
-----	3	1,-1	
-----			-----ACUAGAUUGUGAGCUCCUGGA-----
-----	75	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAa-----
-----	41	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAaa-----
-----	13	1,0	

-----			-----ACUAGAUUGUGAGCUCCUGGAG-----
-----	14	1,1	
-----			-----ACUAGAUUGUGAGCUCCUGGAGa-----
-----	15	1,1	
-----			-----ACUAGAUUGUGAGCUCCUGGAGu-----
-----	8	1,1	
-----			-----CUAGAUUGUGAGCUCCUGGA-----
-----	2	2,0	
-----			-----CUAGAUUGUGAGCUCCUGGAG-----
-----	4	2,1	
-----			-----CUAGAUUGUGAGCUCCUGGAGa-----
-----	7	2,1	
-----			-----CUAGAUUGUGAGCUCCUGGAGaa-----
-----	3	2,1	
-----			-----CUAGAUUGUGAGCUCCUGGAGu-----
-----	3	2,1	

```
>hsa-mir-296      5p:14-34;3p:48-69      SRX018963
aggaccuuccagAGGGCCCCCUCAAUCCUGUugugccuaauucaGAGGGUUGGGUGGAGGCUCUCCugaagggcucu
((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..
-----GAGGGUUGGGUGGAGGCUaa-----
      2      0,-4
```

```

>hsa-mir-299      5p:7-28;3p:39-60      SRX018963
aagaaaUGGUUUACCGUCCCACAUACAUuuugaauaugUAUGUGGGAUGGUAACCGCUUcuu
((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGUUUACCGUCCCACAUACA----- 2    0,-1
-----UGGUUUACCGUCCCACAUACAU----- 8    0,0
-----UAUGUGGGAUGGUAACCGCUU--- 3    0,0

```

```

>hsa-mir-29a      mi:4-25;MA:42-63      SRX018963
augACUGAUUUCUUUUGGUGUUCAGagucaauaauuuuucUAGCACCAUCUGAAAUCGGUUAu
(((((((((((((((...(((((((.((((.....))))))))))))))...))))))))))
---ACUGAUUUCUUUUGGUGUUC-----5    0,-2
---ACUGAUUUCUUUUGGUGUUCA-----15   0,-1
---ACUGAUUUCUUUUGGUGUUCAG-----4    0,0
-----CUAGCACCAUCUGAAAUCa-----2    -1,-5
-----CUAGCACCAUCUGAAAUCG-----4    -1,-4

```

-----CUAGCACCAUCUGAAAUCGG----	67	-1,-3
-----CUAGCACCAUCUGAAAUCGGU---	104	-1,-2
-----CUAGCACCAUCUGAAAUCGGUa--	21	-1,-2
-----CUAGCACCAUCUGAAAUCGGUaa-	5	-1,-2
-----CUAGCACCAUCUGAAAUCGGUau-	2	-1,-2
-----CUAGCACCAUCUGAAAUCGGUU--	871	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUu-	119	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUuu	2	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUA-	480	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAa	11	-1,0
-----CUAGCACCAUCUGAAAUCGGUUUAU	11	-1,1
-----UAGCACCAUCUGAAAUCG-----	162	0,-4
-----UAGCACCAUCUGAAAUCGuu---	8	0,-4
-----UAGCACCAUCUGAAAUCGG----	830	0,-3
-----UAGCACCAUCUGAAAUCGGa---	9	0,-3
-----UAGCACCAUCUGAAAUCGGaa--	8	0,-3
-----UAGCACCAUCUGAAAUCGGau--	16	0,-3
-----UAGCACCAUCUGAAAUCGGU---	1473	0,-2
-----UAGCACCAUCUGAAAUCGGUa--	272	0,-2
-----UAGCACCAUCUGAAAUCGGUaa-	568	0,-2
-----UAGCACCAUCUGAAAUCGGUau-	66	0,-2
-----UAGCACCAUCUGAAAUCGGUU--	18529	0,-1
-----UAGCACCAUCUGAAAUCGGUUu-	4099	0,-1
-----UAGCACCAUCUGAAAUCGGUUuu	68	0,-1
-----UAGCACCAUCUGAAAUCGGUUA-	53062	0,0
-----UAGCACCAUCUGAAAUCGGUUAa	1110	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	5	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	5	0,0
-----UAGCACCAUCUGAAAUCGGUUUAU	892	0,1
-----UAGCACCAUCUGAAAUCGGUUUAUu	4	0,1
-----AGCACCAUCUGAAAUCGG----	5	1,-3
-----AGCACCAUCUGAAAUCGGU---	10	1,-2
-----AGCACCAUCUGAAAUCGGUa--	3	1,-2
-----AGCACCAUCUGAAAUCGGUaa-	6	1,-2
-----AGCACCAUCUGAAAUCGGUU--	200	1,-1
-----AGCACCAUCUGAAAUCGGUUu-	59	1,-1
-----AGCACCAUCUGAAAUCGGUUA-	785	1,0
-----AGCACCAUCUGAAAUCGGUUAa	14	1,0


```

- 198 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 18 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 54 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 23 0,-1
-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 2 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 62 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 2 0,0
-----AGCACCAUUUGAAAUCAGU-----
- 12 1,-3
-----AGCACCAUUUGAAAUCAGUGU-----
- 4 1,-1
-----GCACCAUUUGAAAUCAGU-----
- 2 2,-3
-----GCACCAUUUGAAAUCAGUG-----
- 2 2,-2

```

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018963

```

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----CUGGUUUCACAUGGUGGCUU-----
- 5 0,-2
-----CUGGUUUCACAUGGUGGCUUA-----
- 6 0,-1
-----CUGGUUUCACAUGGUGGCUUAG-----
- 4 0,0
-----CUGGUUUCACAUGGUGGCUUAGA-----
- 2 0,1
-----CUAGCACCAUUUGAAAUCA-----
- 2 -1,-5
-----CUAGCACCAUUUGAAAUCAGU-----

```

- 11 -1,-3	-----CUAGCACCAUUUGAAAUCAGUG-----
- 2 -1,-2	-----CUAGCACCAUUUGAAAUCAGUGU-----
- 4 -1,-1	-----UAGCACCAUUUGAAAUCA-----
- 20 0,-5	-----UAGCACCAUUUGAAAUCAG-----
- 70 0,-4	-----UAGCACCAUUUGAAAUCAGa-----
- 3 0,-4	-----UAGCACCAUUUGAAAUCAGU-----
- 1246 0,-3	-----UAGCACCAUUUGAAAUCAGUa-----
- 3 0,-3	-----UAGCACCAUUUGAAAUCAGUaa-----
- 2 0,-3	-----UAGCACCAUUUGAAAUCAGUu-----
- 2 0,-3	-----UAGCACCAUUUGAAAUCAGUG-----
- 198 0,-2	-----UAGCACCAUUUGAAAUCAGUGa-----
- 18 0,-2	-----UAGCACCAUUUGAAAUCAGUGU-----
- 54 0,-1	-----UAGCACCAUUUGAAAUCAGUGUa-----
- 23 0,-1	-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 2 0,-1	-----UAGCACCAUUUGAAAUCAGUGUU-----
- 62 0,0	-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 2 0,0	-----UAGCACCAUUUGAAAUCAGUGUUU-----
- 7 0,1	-----AGCACCAUUUGAAAUCAGU-----
- 12 1,-3	-----AGCACCAUUUGAAAUCAGUGU-----

- 4 1,-1
-----GCACCAUUUGAAAUCAGU-----

- 2 2,-3
-----GCACCAUUUGAAAUCAGUG-----

$$-2 \quad 2, -2$$

>hsa-mi r-29c mi:16-37;MA:54-75 SRX018963

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

$$\begin{aligned} & .((((((((((\dots(((((((((((((\dots(((((((((((((\dots))))))\dots))))))\dots))))))\dots))))))\dots)) \\ &)))))). \end{aligned}$$

-----UGACCGAUUUCUCCUGGU_{aa}-----

$$- - - - - \quad 2 \quad 0, -4$$

-----UGACCGAUUUCUCCUGGUGU-----

----- 10 0,-2

-----UGACCGAUUUCUCCUGGUGUU-----

----- 25 0, -1

-----UGACCGAUUUCUCCUGGUGUUa-----

----- 8 0,-1

-----UGACCGAUUUCUCCUGGUGUUC-----

----- 6 0,0

-----GACCGAUUUCUCCUGGUGUU-----

----- 8 1,-1

-----GACCGAUUUCUCCUGGUGUU_a-----

$$- - - - - \quad 2 \quad 1, -1$$

-----GACCGAUUUCUCCUGGUGUUC-----

----- 3 1,0

-----GACCGAUUUCUCCUGGUGUUCA-----

$$- - - - - \quad 4 \quad 1, 1$$

-----ACCGAUUUCUCCUGGUGUUC-----

$$- - - - - \quad 2 \quad 2,0$$

-----ACCGAUUCUCCUGGUGUUCA-----

----- 6 2,1

-----ACCGAUUCUCCUGGUGUUCAG-----

$$- - - - - \quad 2 \quad 2, 2$$

-----CUAGCACCAUUUGAAAUCGGUU-----

$$----- \quad 2 \quad -1, -1$$

-----CUAGCACCAUUUGAAAUCGGUUA-----

-----	18	-1,0	-----UAGCACCAUUUGAAAUCG-----
-----	51	0,-4	-----UAGCACCAUUUGAAAUCG <u>uu</u> -----
-----	4	0,-4	-----UAGCACCAUUUGAAAUCGG-----
-----	255	0,-3	-----UAGCACCAUUUGAAAUCGGa-----
-----	4	0,-3	-----UAGCACCAUUUGAAAUCGG <u>au</u> -----
-----	3	0,-3	-----UAGCACCAUUUGAAAUCGGU-----
-----	159	0,-2	-----UAGCACCAUUUGAAAUCGGUa-----
-----	8	0,-2	-----UAGCACCAUUUGAAAUCGGUaa-----
-----	66	0,-2	-----UAGCACCAUUUGAAAUCGGU <u>au</u> -----
-----	6	0,-2	-----UAGCACCAUUUGAAAUCGGUU-----
-----	886	0,-1	-----UAGCACCAUUUGAAAUCGGUUu-----
-----	421	0,-1	-----UAGCACCAUUUGAAAUCGGUUuu-----
-----	8	0,-1	-----UAGCACCAUUUGAAAUCGGUUA-----
-----	9110	0,0	-----UAGCACCAUUUGAAAUCGGUUAa-----
-----	169	0,0	-----UAGCACCAUUUGAAAUCGGUU <u>AU</u> -----
-----	89	0,1	-----AGCACCAUUUGAAAUCGGUU-----
-----	7	1,-1	-----AGCACCAUUUGAAAUCGGUUA-----
-----	59	1,0	-----AGCACCAUUUGAAAUCGGUUAa-----
-----	4	1,0	-----GCACCAUUUGAAAUCGGUUA-----

2 0,-1

-----UCAGCACCAGGAUAUUGUUGGAG-----

2 0,0

>hsa-mir-30a MA:6-27;mi:47-68 SRX018963

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc

(((.((((((((((((((..((((((((((((((((((....)))....)))))))))))))))))))))))))))))

----CUGUAAACAUCCUCGACU----- 2

-1,-5

----CUGUAAACAUCCUCGACUG----- 2

-1,-4

----CUGUAAACAUCCUCGACUGG----- 3

-1,-3

----CUGUAAACAUCCUCGACUGGA----- 9

-1,-2

----CUGUAAACAUCCUCGACUGGAA----- 5

-1,-1

----CUGUAAACAUCCUCGACUGGAAa----- 2

-1,-1

----CUGUAAACAUCCUCGACUGGAAG----- 21 -1,0

----CUGUAAACAUCCUCGACUGGAAGa----- 6 -1,0

----CUGUAAACAUCCUCGACUGGAAGC----- 17 -1,1

----CUGUAAACAUCCUCGACUGGAAGCa----- 2 -1,1

----CUGUAAACAUCCUCGACUGGAAGCU----- 21 -1,2

----UGUAAACAUCCUCGACUG----- 234 0,-4

----UGUAAACAUCCUCGACUGa----- 6 0,-4

----UGUAAACAUCCUCGACUGaa----- 3 0,-4

----UGUAAACAUCCUCGACUGu----- 5 0,-4

----UGUAAACAUCCUCGACUGG----- 337 0,-3

----UGUAAACAUCCUCGACUGGu----- 2 0,-3

----UGUAAACAUCCUCGACUGGA----- 1177

0,-2

----UGUAAACAUCCUCGACUGGAu----- 2 0,-2

----UGUAAACAUCCUCGACUGGAA----- 2054

0,-1

----UGUAAACAUCCUCGACUGGAAa----- 753 0,-1

----UGUAAACAUCCUCGACUGGAAaa----- 34 0,-1

----UGUAAACAUCCUCGACUGGAAau----- 2 0,-1

-----UGUAAACAUCCUCGACUGGA <u>Au</u> -----	29	0,-1
-----UGUAAACAUCCUCGACUGGA <u>Auu</u> -----	2	0,-1
-----UGUAAACAUCCUCGACUGGAAG-----	6356	
0,0		
-----UGUAAACAUCCUCGACUGGAAG <u>a</u> -----	3443	
0,0		
-----UGUAAACAUCCUCGACUGGAAG <u>aa</u> -----	45	0,0
-----UGUAAACAUCCUCGACUGGAAG <u>au</u> -----	23	0,0
-----UGUAAACAUCCUCGACUGGAAG <u>u</u> -----	162	0,0
-----UGUAAACAUCCUCGACUGGAAG <u>uu</u> -----	8	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	9975	
0,1		
-----UGUAAACAUCCUCGACUGGAAGC <u>a</u> -----	1259	
0,1		
-----UGUAAACAUCCUCGACUGGAAGC <u>aa</u> -----	19	0,1
-----UGUAAACAUCCUCGACUGGAAGC <u>au</u> -----	30	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	10695	
0,2		
-----UGUAAACAUCCUCGACUGGAAGC <u>u</u> a-----	48	0,2
-----UGUAAACAUCCUCGACUGGAAGC <u>u</u> -----	188	0,2
-----GUAACAUCCUCGACUGG-----	4	1,-3
-----GUAACAUCCUCGACUGG <u>u</u> -----	2	1,-3
-----GUAACAUCCUCGACUGGA-----	6	1,-2
-----GUAACAUCCUCGACUGGA <u>A</u> -----	16	1,-1
-----GUAACAUCCUCGACUGGA <u>Aa</u> -----	4	1,-1
-----GUAACAUCCUCGACUGGA <u>Au</u> -----	2	1,-1
-----GUAACAUCCUCGACUGGAAG-----	94	1,0
-----GUAACAUCCUCGACUGGAAG <u>a</u> -----	9	1,0
-----GUAACAUCCUCGACUGGAAGC-----	98	1,1
-----GUAACAUCCUCGACUGGAAGC <u>a</u> -----	4	1,1
-----GUAACAUCCUCGACUGGAAGCU-----	50	1,2
-----GUAACAUCCUCGACUGGAAGC <u>u</u> -----	2	1,2
-----UAAACAUCCUCGACUGGAAG-----	2	2,0
-----UAAACAUCCUCGACUGGAAG <u>a</u> -----	3	2,0
-----UAAACAUCCUCGACUGGAAGC-----	13	2,1
-----UAAACAUCCUCGACUGGAAGCU-----	5	2,2
-----CUUUCAGUCGGAUGUUUG-----	4	0,-4
-----CUUUCAGUCGGAUGUUUG <u>u</u> -----	3	0,-4

```

-----CUUUCAGUCGGAUGUUUGC----- 12 0,-3
-----CUUUCAGUCGGAUGUUUGCA----- 12 0,-2
-----CUUUCAGUCGGAUGUUUGCAa---- 6 0,-2
-----CUUUCAGUCGGAUGUUUGCAu---- 5 0,-2
-----CUUUCAGUCGGAUGUUUGCAG---- 193 0,-1
-----CUUUCAGUCGGAUGUUUGCAGa--- 2 0,-1
-----CUUUCAGUCGGAUGUUUGCAGu--- 47 0,-1
-----CUUUCAGUCGGAUGUUUGCAGC--- 238 0,0
-----CUUUCAGUCGGAUGUUUGCAGCa-- 34 0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa- 2 0,0
-----CUUUCAGUCGGAUGUUUGCAGCau- 26 0,0
-----CUUUCAGUCGGAUGUUUGCAGCU-- 4 0,1
-----UUUCAGUCGGAUGUUUGC----- 2 1,-3
-----UUUCAGUCGGAUGUUUGCA----- 8 1,-2
-----UUUCAGUCGGAUGUUUGCAG---- 47 1,-1
-----UUUCAGUCGGAUGUUUGCAGu--- 21 1,-1
-----UUUCAGUCGGAUGUUUGCAGC--- 108 1,0
-----UUUCAGUCGGAUGUUUGCAGCa-- 13 1,0
-----UUUCAGUCGGAUGUUUGCAGCaa- 3 1,0
-----UUUCAGUCGGAUGUUUGCAGCau- 6 1,0
-----UUUCAGUCGGAUGUUUGCAGCU-- 3 1,1
-----UUCAGUCGGAUGUUUGCAGu--- 2 2,-1
-----UUCAGUCGGAUGUUUGCAGCau- 3 2,0

```

>hsa-mir-30b MA:17-38;mi:55-76 SRX018963

accaaguucaguucaUGUAAACAUCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
gacuugga

.((((((...((((((...((((((((((...((((((((((...))))))))))...))))))))))...))))))
)))))))).

```

-----AUGUAAACAUCUACACUC-----
----- 2 -1,-4
-----UGUAAACAUCUACACUC-----
----- 88 0,-4
-----UGUAAACAUCUACACUCA-----
----- 6 0,-3
-----UGUAAACAUCUACACUCAG-----
----- 22 0,-2
-----UGUAAACAUCUACACUCAGa-----

```

-----	3	0, -2	
-----			-UGUAAACAUCCUACACUCAGuu-----
-----	2	0, -2	
-----			-UGUAAACAUCCUACACUCAGC-----
-----	74	0, -1	
-----			-UGUAAACAUCCUACACUCAGCa-----
-----	21	0, -1	
-----			-UGUAAACAUCCUACACUCAGCaa-----
-----	2	0, -1	
-----			-UGUAAACAUCCUACACUCAGCau-----
-----	5	0, -1	
-----			-UGUAAACAUCCUACACUCAGCU-----
-----	469	0, 0	
-----			-UGUAAACAUCCUACACUCAGCUa-----
-----	57	0, 0	
-----			-UGUAAACAUCCUACACUCAGCUau-----
-----	8	0, 0	
-----			-UGUAAACAUCCUACACUCAGCUu-----
-----	34	0, 0	
-----			-UGUAAACAUCCUACACUCAGCUuu-----
-----	7	0, 0	
-----			-UGUAAACAUCCUACACUCAGCUGU-----
-----	2	0, 2	
-----			-GUAAACAUCCUACACUCAGCU-----
-----	2	1, 0	
-----			-----CUGGGAGGUGGAUGUUUA-----
-----	12	0, -4	
-----			-----CUGGGAGGUGGAUGUUUAa-----
-----	3	0, -4	
-----			-----CUGGGAGGUGGAUGUUUAaa-----
-----	2	0, -4	
-----			-----CUGGGAGGUGGAUGUUUAC-----
-----	8	0, -3	
-----			-----CUGGGAGGUGGAUGUUUACa-----
-----	10	0, -3	
-----			-----CUGGGAGGUGGAUGUUUACaa-----
-----	4	0, -3	
-----			-----CUGGGAGGUGGAUGUUUACU-----

-----	129	0,-2	-----CUGGGAGGUGGAUGUUUACUa-----
-----	8	0,-2	-----CUGGGAGGUGGAUGUUUACUaa-----
-----	11	0,-2	-----CUGGGAGGUGGAUGUUUACUU-----
-----	272	0,-1	-----CUGGGAGGUGGAUGUUUACUua-----
-----	41	0,-1	-----CUGGGAGGUGGAUGUUUACUuaa-----
-----	21	0,-1	-----CUGGGAGGUGGAUGUUUACUuau-----
-----	2	0,-1	-----CUGGGAGGUGGAUGUUUACUuu-----
-----	21	0,-1	-----CUGGGAGGUGGAUGUUUACUuuu-----
-----	2	0,-1	-----CUGGGAGGUGGAUGUUUACUUC-----
-----	25	0,0	-----CUGGGAGGUGGAUGUUUACUUCu-----
-----	2	0,0	-----CUGGGAGGUGGAUGUUUACUUCA-----
-----	8	0,1	-----CUGGGAGGUGGAUGUUUACUUCaa-----
-----	2	0,1	-----UGGGAGGUGGAUGUUUAC-----
-----	2	1,-3	-----UGGGAGGUGGAUGUUUACU-----
-----	6	1,-2	-----UGGGAGGUGGAUGUUUACUU-----
-----	10	1,-1	

>hsa-mi r-30c-1 MA:17-39;mi :56-77 SRX018963

accaucguguagugugUGUAAACAUCCUACACUCUCAGCugugagcuaagguggCUGGGAGAGGGUUGUUUACUCCuuc
ugccaugga

$$.((((((..((((...(.(((((((.((((...((((((((((.((...))...)))))))).)))).)))).))...))\right)$$

-----UGUAAACAUCCUACACUC-----

```

----- 88 0,-5
-----UGUAAACAUCCUACACUCU-----
----- 4 0,-4
-----UGUAAACAUCCUACACUCUC-----
----- 49 0,-3
-----UGUAAACAUCCUACACUCUCA-----
----- 80 0,-2
-----UGUAAACAUCCUACACUCUCAu-----
----- 2 0,-2
-----UGUAAACAUCCUACACUCUCAG-----
----- 186 0,-1
-----UGUAAACAUCCUACACUCUCAGa-----
----- 34 0,-1
-----UGUAAACAUCCUACACUCUCAGaa-----
----- 5 0,-1
-----UGUAAACAUCCUACACUCUCAGu-----
----- 3 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 358 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 46 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 2 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 12 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 436 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 10 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 17 0,1
-----GUAAACAUCCUACACUCUa-----
----- 2 1,-4
-----GUAAACAUCCUACACUCUCA-----
----- 2 1,-2
-----GUAAACAUCCUACACUCUCAG-----
----- 4 1,-1
-----GUAAACAUCCUACACUCUCAGCU-----

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```

----- 7 1,1
-----UAAACAUCCUACACUCUCAG-----
----- 2 2,-1
-----CUGGGAGAGGGUUGUUUA-----
----- 3 0,-4
-----CUGGGAGAGGGUUGUUUAaa-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUAC-----
----- 5 0,-3
-----CUGGGAGAGGGUUGUUUACa-----
----- 6 0,-3
-----CUGGGAGAGGGUUGUUUACaa-----
----- 4 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 232 0,-2
-----CUGGGAGAGGGUUGUUUACUa-----
----- 7 0,-2
-----CUGGGAGAGGGUUGUUUACUaa-----
----- 5 0,-2
-----CUGGGAGAGGGUUGUUUACUau-----
----- 5 0,-2
-----CUGGGAGAGGGUUGUUUACUu-----
----- 5 0,-2
-----CUGGGAGAGGGUUGUUUACUuu-----
----- 2 0,-2
-----CUGGGAGAGGGUUGUUUACUC-----
----- 58 0,-1
-----CUGGGAGAGGGUUGUUUACUCa-----
----- 7 0,-1
-----CUGGGAGAGGGUUGUUUACUCaa-----
----- 5 0,-1
-----CUGGGAGAGGGUUGUUUACUCu-----
----- 3 0,-1
-----CUGGGAGAGGGUUGUUUACUCC-----
----- 7 0,0
-----CUGGGAGAGGGUUGUUUACUCCa-----
----- 7 0,0
-----CUGGGAGAGGGUUGUUUACUCCU-----

```



```

----- 9 0,1
-----UGGGAGAGGGUUGUUUAC-----
----- 2 1,-3
-----UGGGAGAGGGUUGUUUACU-----
----- 35 1,-2
-----UGGGAGAGGGUUGUUUACUa-----
----- 3 1,-2
-----UGGGAGAGGGUUGUUUACUaa-----
----- 2 1,-2
-----UGGGAGAGGGUUGUUUACUC-----
----- 10 1,-1
-----UGGGAGAGGGUUGUUUACUCC-----
----- 5 1,0
-----UGGGAGAGGGUUGUUUACUCCa-----
----- 2 1,0
-----UGGGAGAGGGUUGUUUACUCCU-----
----- 6 1,1

```

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018963

```

agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CUGUAAACAUCCUACACUC----- 4
-1,-5
-----CUGUAAACAUCCUACACUCUCA----- 2
-1,-2
-----CUGUAAACAUCCUACACUCUCAGC----- 2
-1,0
-----CUGUAAACAUCCUACACUCUCAGCU----- 2
-1,1
-----UGUAAACAUCCUACACUC----- 88
0,-5
-----UGUAAACAUCCUACACUCU----- 4
0,-4
-----UGUAAACAUCCUACACUCUC----- 49
0,-3
-----UGUAAACAUCCUACACUCUCA----- 80
0,-2
-----UGUAAACAUCCUACACUCUCAu----- 2

```

0, -2		
-----UGUAAACAUCCUACACUCUCAG-----	186	
0, -1		
-----UGUAAACAUCCUACACUCUCAGa-----	34	
0, -1		
-----UGUAAACAUCCUACACUCUCAGaa-----	5	
0, -1		
-----UGUAAACAUCCUACACUCUCAGu-----	3	
0, -1		
-----UGUAAACAUCCUACACUCUCAGC-----	358	
0, 0		
-----UGUAAACAUCCUACACUCUCAGCa-----	46	
0, 0		
-----UGUAAACAUCCUACACUCUCAGCaa-----	2	
0, 0		
-----UGUAAACAUCCUACACUCUCAGCau-----	12	
0, 0		
-----UGUAAACAUCCUACACUCUCAGCU-----	436	
0, 1		
-----UGUAAACAUCCUACACUCUCAGCUa-----	10	
0, 1		
-----UGUAAACAUCCUACACUCUCAGCUu-----	17	
0, 1		
-----GUAAACAUCCUACACUCUa-----	2	
1, -4		
-----GUAAACAUCCUACACUCUCA-----	2	
1, -2		
-----GUAAACAUCCUACACUCUCAG-----	4	
1, -1		
-----GUAAACAUCCUACACUCUCAGCU-----	7	
1, 1		
-----UAAACAUCCUACACUCUCAG-----	2	
2, -1		
-----CUGGGAGAAGGCUGUUUA-----	27	
0, -4		
-----CUGGGAGAAGGCUGUUUAa-----	4	
0, -4		
-----CUGGGAGAAGGCUGUUUAu-----	2	

0,-4	-----CUGGGAGAAGGCUGUUUAC-----	36
0,-3	-----CUGGGAGAAGGCUGUUUACa-----	14
0,-3	-----CUGGGAGAAGGCUGUUUACU-----	726
0,-2	-----CUGGGAGAAGGCUGUUUACUa-----	17
0,-2	-----CUGGGAGAAGGCUGUUUACUaa-----	6
0,-2	-----CUGGGAGAAGGCUGUUUACUau-----	5
0,-2	-----CUGGGAGAAGGCUGUUUACUu-----	5
0,-2	-----CUGGGAGAAGGCUGUUUACUuu-----	2
0,-2	-----CUGGGAGAAGGCUGUUUACUC-----	720
0,-1	-----CUGGGAGAAGGCUGUUUACUCa-----	33
0,-1	-----CUGGGAGAAGGCUGUUUACUCaa-----	7
0,-1	-----CUGGGAGAAGGCUGUUUACUCU-----	141
0,0	-----CUGGGAGAAGGCUGUUUACUCUa-----	2
0,0	-----CUGGGAGAAGGCUGUUUACUCUU-----	4
0,1	-----UGGGAGAAGGCUGUUUACU-----	17
1,-2	-----UGGGAGAAGGCUGUUUACUa-----	2
1,-2	-----UGGGAGAAGGCUGUUUACUC-----	80
1,-1	-----UGGGAGAAGGCUGUUUACUCa-----	7
1,-1	-----UGGGAGAAGGCUGUUUACUCU-----	24

1,0	-----UGGGAGAAGGCUGUUUACUCUU---	2
1,1	-----GGGAGAAGGCUGUUUACU-----	5
2,-2	-----GGGAGAAGGCUGUUUACUC-----	2
2,-1		

>hsa-mir-30d MA:6-27;mi:46-67 SRX018963

```

guuguUGUAAACAUCCTCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUGUUUGCUGCuac
...((.((((((((((...((((((((((((((...((.....)).))))))))))))).)))))))).)...
-----UGUAAACAUCCTCCGACUG----- 121 0,-4
-----UGUAAACAUCCTCCGACUGG----- 286 0,-3
-----UGUAAACAUCCTCCGACUGGu----- 4 0,-3
-----UGUAAACAUCCTCCGACUGGA----- 706 0,-2
-----UGUAAACAUCCTCCGACUGGAu----- 4 0,-2
-----UGUAAACAUCCTCCGACUGGAA----- 2226
0,-1
-----UGUAAACAUCCTCCGACUGGAa----- 919 0,-1
-----UGUAAACAUCCTCCGACUGGAaa----- 49 0,-1
-----UGUAAACAUCCTCCGACUGGAau----- 11 0,-1
-----UGUAAACAUCCTCCGACUGGAau----- 67 0,-1
-----UGUAAACAUCCTCCGACUGGAAG----- 2359
0,0
-----UGUAAACAUCCTCCGACUGGAAGa----- 1318
0,0
-----UGUAAACAUCCTCCGACUGGAAGaa----- 85 0,0
-----UGUAAACAUCCTCCGACUGGAAGau----- 34 0,0
-----UGUAAACAUCCTCCGACUGGAAGu----- 147 0,0
-----UGUAAACAUCCTCCGACUGGAAGuu----- 18 0,0
-----UGUAAACAUCCTCCGACUGGAAGC----- 4981
0,1
-----UGUAAACAUCCTCCGACUGGAAGCa----- 874 0,1
-----UGUAAACAUCCTCCGACUGGAAGCaa----- 7 0,1
-----UGUAAACAUCCTCCGACUGGAAGCau----- 11 0,1
-----UGUAAACAUCCTCCGACUGGAAGCU----- 18699
0,2
-----UGUAAACAUCCTCCGACUGGAAGCUa----- 139 0,2

```

-----UGUAAACAUCCCCGACUGGAAGCUu-----	335	0,2
-----GUAAACAUCCCCGACUGGA-----	3	1,-2
-----GUAAACAUCCCCGACUGGAA-----	12	1,-1
-----GUAAACAUCCCCGACUGGAAa-----	7	1,-1
-----GUAAACAUCCCCGACUGGAAG-----	23	1,0
-----GUAAACAUCCCCGACUGGAAGa-----	14	1,0
-----GUAAACAUCCCCGACUGGAAGu-----	2	1,0
-----GUAAACAUCCCCGACUGGAAGC-----	43	1,1
-----GUAAACAUCCCCGACUGGAAGCa-----	13	1,1
-----GUAAACAUCCCCGACUGGAAGCau-----	2	1,1
-----GUAAACAUCCCCGACUGGAAGCU-----	263	1,2
-----GUAAACAUCCCCGACUGGAAGCUa-----	2	1,2
-----GUAAACAUCCCCGACUGGAAGCUu-----	3	1,2
-----GUAAACAUCCCCGACUGGAAGCUuu-----	2	1,2
-----UAAACAUCCCCGACUGGAAGC-----	2	2,1
-----UAAACAUCCCCGACUGGAAGCU-----	2	2,2

>hsa-mi r-30e MA:17-38;mi :59-80 SRX018963

gggcagucuuugcuacUGUAAACAUCUUGACUGGAAGcuguaagguguucagaggagCUUUCAGUCGGAUGUUACAGC
ggcaggcugcca

$$\begin{aligned} & .(((((((\dots((\dots(((((((((((((\dots(((((((((((((\dots(\dots)\dots).\)))))))))\dots)))))))). \\ & \dots)))))))). \end{aligned}$$

-----CUGUAAACAUCUUGACUG-----	
-----2-1,-4	
-----CUGUAAACAUCUUGACUGG-----	
-----2-1,-3	
-----CUGUAAACAUCUUGACUGGAAGC-----	
-----4-1,1	
-----UGUAAACAUCUUGACUG-----	
-----120,-4	
-----UGUAAACAUCUUGACUGa-----	
-----20,-4	
-----UGUAAACAUCUUGACUGG-----	
-----510,-3	
-----UGUAAACAUCUUGACUGGu-----	
-----40,-3	
-----UGUAAACAUCUUGACUGGA-----	
-----530,-2	

```

-----UGUAAACAUCCUUGACUGGAA-----
-----91 0,-1
-----UGUAAACAUCCUUGACUGGAa-----
-----42 0,-1
-----UGUAAACAUCCUUGACUGGAAu-----
-----6 0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
-----265 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
-----247 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
-----32 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
-----4 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
-----7 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
-----694 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
-----98 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
-----968 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
-----16 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
-----107 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
-----2 0,3
-----GUAAACAUCCUUGACUGGAA-----
-----3 1,-1
-----GUAAACAUCCUUGACUGGAAG-----
-----8 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
-----9 1,0
-----GUAAACAUCCUUGACUGGAAGaa-----
-----2 1,0
-----GUAAACAUCCUUGACUGGAAGC-----
-----55 1,1

```

```

-----GUAACAUCUUGACUGGAAGCa-----
-----15 1,1
-----GUAACAUCUUGACUGGAAGCU-----
-----70 1,2
-----GUAACAUCUUGACUGGAAGCUa-----
-----2 1,2
-----GUAACAUCUUGACUGGAAGCUu-----
-----6 1,2
-----UAAACAUCUUGACUGGAAGCU-----
-----7 2,2
-----CUUUCAGUCGGAUGUUUA-----
-----12 0,-4
-----CUUUCAGUCGGAUGUUUAa-----
-----6 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
-----16 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
-----15 0,-2
-----CUUUCAGUCGGAUGUUUACAa-----
-----2 0,-2
-----CUUUCAGUCGGAUGUUUACAaa-----
-----2 0,-2
-----CUUUCAGUCGGAUGUUUACAG-----
-----79 0,-1
-----CUUUCAGUCGGAUGUUUACAGa-----
-----14 0,-1
-----CUUUCAGUCGGAUGUUUACAGa-----
a-----2 0,-1
-----CUUUCAGUCGGAUGUUUACAGu-----
-----65 0,-1
-----CUUUCAGUCGGAUGUUUACAGC-----
-----140 0,0
-----CUUUCAGUCGGAUGUUUACAGC-----
a-----111 0,0
-----CUUUCAGUCGGAUGUUUACAGC-----
aa-----3 0,0
-----CUUUCAGUCGGAUGUUUACAGC-----
au-----3 0,0

```

-----			UUUCAGUCGGAUGUUUACAG-
-----	2	1,-1	
-----			UUUCAGUCGGAUGUUUACAGu
-----	7	1,-1	
-----			UUUCAGUCGGAUGUUUACAGC
-----	14	1,0	
-----			UUUCAGUCGGAUGUUUACAGC
a-----	4	1,0	
-----			UUCAGUCGGAUGUUUACAGC
-----	4	2,0	

>hsa-mir-31 MA:8-28:mi:44-65 SRX018963

ggagaggAGGCAAGAU¹GCUGGCAUAGCU²guugaacugggaaccUGCUAUGCCAACAUAUUGCCAU³cuuucc

-----AGGCAAGAUGCUGGCAUA-----	3	0,-3
-----AGGCAAGAUGCUGGCAUAG-----	5	0,-2
-----AGGCAAGAUGCUGGCAUAGC-----	5	0,-1
-----AGGCAAGAUGCUGGCAUAGCU-----	29	0,0
-----AGGCAAGAUGCUGGCAUAGCUG-----	8	0,1
-----AGGCAAGAUGCUGGCAUAGCUGU-----	6	0,2

>hsa-mir-3124 5p:7-27 SRX018963

gcggggcUUCGCGGGCGAAGGCAAAGUCgauuuccaaaagugacuuccucacucccgugaagucggc

$$((.(((((((((((.(.((((.((((((.((((\dots)))))))))))).).)))))))).))$$

-----UUCGCGGGCGAAGGCAAAGUC-----	2	0,0
-----UUCGCGGGCGAAGGCAAAGUCa-----	2	0,0
-----UUCGCGGGCGAAGGCAAAGUCG-----	4	0,1

```
>hsa-mir-3129    5p:9-30  SRX018963
```

guacuuggGCAGUAGUGUAGAGAUUGGUUUgccuguuaaungaauucaaacuaaucucuacacugcugcccaagagc

-----GCAGUAGUGUAGAGAUUGGUU-----
3 0,-1

>hsa-mi r-3130-1 5p:13-33;3p:44-64 SRX018963

cuugucaugucuUACCCAGUCUCCGGUGCAGCCuguugucaagGCUGCACCGGAGACUGGGUAAgacaugacaag

(((((.....))))))

-----GCUGCACCGGAGACUGGGUA----- 4


```
0,-1
-----GCUGCACCGGAGACUGGGUAA----- 41
0,0

>hsa-mir-3130-2 5p:13-33;3p:44-64 SRX018963
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((.....))))))))).....)))))))))
-----GCUGCACCGGAGACUGGGUAA----- 4
0,-1
-----GCUGCACCGGAGACUGGGUAA----- 41
0,0

>hsa-mir-3141 5p:10-28 SRX018963
ucacccgguGAGGGCGGGUGGAGGAGGAgggucacccaccaucagccuucacugggacggga
...(((((((((((.(.(((.(.((.....)))..))))).)))))).....
-----GAGGGCGGGUGGAGGAGGAa----- 9 0,0

>hsa-mir-3154 3p:54-75 SRX018963
ggccccuccuucucagcccagcucccgucaccccugccacgucaaaggaggCAGAAGGGGAGUUGGGAGCAGAgaggg
gacc
(((((((((.(((.(.(((((((((((((.((.....(((((.((.....)..))))).)))))))).))))))
)).))
-----CAGAAGGGGAGUUGGGAGCA-----
---- 2 0,-2
-----CAGAAGGGGAGUUGGGAGCAG-----
---- 4 0,-1

>hsa-mir-3157 5p:10-31 SRX018963
gggaagggcUUCAGCCAGGCUAGUGCAGUCUgcuuugugccaacacuggggugaugacugcccuagucuagcugaagcuu
uuccc
(((((((((((((((((.(((((((.(((((((....(..(((((....)))..))..))))).)))))))).))))))
))))))
-----CUUCAGCCAGGCUAGUGCAGU-----
---- 2 -1,-2
-----UUCAGCCAGGCUAGUGCAGUCa-----
---- 2 0,-1

>hsa-mir-3158-1 3p:50-71 SRX018963
```

```
>hsa-mir-3170    5p:10-31    SRX018963
cugguaacaCUGGGGUUCUGAGACAGACAGUguuagcuccagaagcawugccugucuuagaaccccuauuuaccag
((((((((((..(((((((((((((((((.(((((((.....)))))))).)))))))))..)))))))))
-----CUGGGGUUCUGAGACAGACAG-----
      5    0,-1
```

```
>hsa-mir-3190    3p:47-69    SRX018963
cuggggucaccugucuggccagcuacgucacacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugaccccg
(((((((((((((.(((((((.(((((.(((.((((((....)))..)))..))))..))))))..)))))))))
-----GUGGAAGGUAGACGGCCAGAGA-----
      2      1.0
```

```

-----UCUGGGAGGUUGUAGCAGUG-----
2    0,-2

>hsa-mir-32 MA:6-27;mi:47-68    SRX018963
ggagaUAUUGCACAUUACUAAGUUGCAuguugucacggccucaaugCAAUUUAGUGUGUGUGAUUUUuc
((((((((..((((..((((((((((((..((...)).)).))))))))))))..)))))))))
-----UAUUGCACAUUACUAAGUUG----- 19  0,-2
-----UAUUGCACAUUACUAAGUUG----- 14  0,-1
-----CAAUUUAGUGUGUGUGAUUU--- 2    0,-1

>hsa-mir-3200 5p:13-34;3p:54-75    SRX018963
gguggucgagggAAUCUGAGAAGGCGCACAAGGUuuguguccaauacaguccaCACCUUGCGCUACUCAGGUCUGcucgu
gcccu
((.(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..
))))))
-----AAUCUGAGAAGGCGCACAAGGU-----
----- 2    0,0
-----CACCUUGCGCUACUCAGGUCU-----
----- 5    0,-1

>hsa-mir-320a 3p:48-69    SRX018963
gcuucgcuccccuccgccuucucuucccggguucuucccggagucgggAAAAGCUGGGUUGAGAGGGCGAaaaagggaugag
gu
(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..
))))))
-----GAAAAGCUGGGUUGAGAGGGC-----
-- 13  -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 15  -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 19  -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGuu-----
-- 3    -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 45  -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAu-----
-- 3    -1,0
-----AAAAGCUGGGUUGAGAGG-----

```

```
-- 130 0,-4
-----AAAAGCUGGGUUGAGAGGu-----
-- 2 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 143 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 14 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 17 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 5 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 576 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 8 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 1306 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 1234 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 318 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 6373 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 1221 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 177 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 2069 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 434 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 23 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 408 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 53 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
```

```

-- 29 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 2 1,-3
-----AAAGCUGGGUUGAGAGGGaa-----
-- 4 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 29 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 68 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 41 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 25 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 332 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 56 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 17 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 238 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 74 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 10 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 97 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 26 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 9 1,3
-----AAGCUGGGUUGAGAGGGC-----
-- 3 2,-2
-----AAGCUGGGUUGAGAGGGCG-----
-- 7 2,-1
-----AAGCUGGGUUGAGAGGGCGu-----
-- 3 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----

```

```
-- 16 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 5 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 28 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 11 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 42 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 6 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 6 2,3
```

>hsa-mir-320b-1 3p:39-60 SRX018963

```
aauuaaucccucucuucuaguucuuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).)))).....
-----GAAAAGCUGGGUUGAGAGGGC-----
13 -1,-2
-----AAAAGCUGGGUUGAGAGG-----
130 0,-4
-----AAAAGCUGGGUUGAGAGGu-----
2 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
143 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
14 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
17 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
5 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
576 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
8 0,-2
-----AAAAGCUGGGUUGAGAGGGCA-----
38 0,-1
-----AAAAGCUGGGUUGAGAGGGCAu-----
```

85	0,-1	-----AAAAGCUGGGUUGAGAGGGCAuu-----
16	0,-1	-----AAAAGCUGGGUUGAGAGGGCAA-----
117	0,0	-----AAAAGCUGGGUUGAGAGGGCAAu-----
16	0,0	-----AAAAGCUGGGUUGAGAGGGCAAA-----
14	0,1	-----AAAAGCUGGGUUGAGAGGGCAAAu-----
2	0,1	-----AAAGCUGGGUUGAGAGGG-----
2	1,-3	-----AAAGCUGGGUUGAGAGGGaa-----
4	1,-3	-----AAAGCUGGGUUGAGAGGGC-----
29	1,-2	-----AAAGCUGGGUUGAGAGGGCA-----
2	1,-1	-----AAAGCUGGGUUGAGAGGGCAu-----
2	1,-1	-----AAAGCUGGGUUGAGAGGGCAA-----
4	1,0	-----AAAGCUGGGUUGAGAGGGCAAA-----
2	1,1	-----AAGCUGGGUUGAGAGGGC-----
3	2,-2	

>hsa-mir-320b-2 3p:72-93 SRX018963

```

uguuauuuuuugucuucuaaccuaagaauucugucucuagggcuuucucuucccagauuucccaaaguugggAAAAGCUGG
GUUGAGAGGGCAAaaggaaaaaaaaagaauucugucucugacauaauagauaggga
.....(((((((.(.((((..(((((((..(((((.(((((((.....)))))))))..))))))
)..)))))))))..)))))).....)))))))).
-----GAAAAGCUGG
GUUGAGAGGGC----- 13 -1,-2
-----AAAAGCUGG
GUUGAGAGG----- 130 0,-4
-----AAAAGCUGG

```

GUUGAGAGG <u>u</u> -----	2	0,-4	-----AAAAGCUGG
GUUGAGAGGG-----	143	0,-3	-----AAAAGCUGG
GUUGAGAGGG <u>a</u> -----	14	0,-3	-----AAAAGCUGG
GUUGAGAGGG <u>aa</u> -----	17	0,-3	-----AAAAGCUGG
GUUGAGAGGG <u>au</u> -----	5	0,-3	-----AAAAGCUGG
GUUGAGAGGGC-----	576	0,-2	-----AAAAGCUGG
GUUGAGAGGGC <u>u</u> -----	8	0,-2	-----AAAAGCUGG
GUUGAGAGGGCA-----	38	0,-1	-----AAAAGCUGG
GUUGAGAGGGC <u>u</u> -----	85	0,-1	-----AAAAGCUGG
GUUGAGAGGGC <u>uu</u> -----	16	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAA-----	117	0,0	-----AAAAGCUGG
GUUGAGAGGGC <u>u</u> -----	16	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAA-----	14	0,1	-----AAAAGCUGG
GUUGAGAGGGC <u>AAu</u> -----	2	0,1	-----AAAGCUGG
GUUGAGAGGG-----	2	1,-3	-----AAAGCUGG
GUUGAGAGGG <u>aa</u> -----	4	1,-3	-----AAAGCUGG
GUUGAGAGGGC-----	29	1,-2	-----AAAGCUGG
GUUGAGAGGGCA-----	2	1,-1	-----AAAGCUGG
GUUGAGAGGGC <u>u</u> -----	2	1,-1	-----AAAGCUGG


```

GUUGAGAGGGCAA----- 4 1,0
-----AAAGCUGG
GUUGAGAGGGCAAA----- 2 1,1
-----AAGCUGG
GUUGAGAGGGC----- 3 2,-2

```

>hsa-mir-320c-1 3p:50-69 SRX018963

```

uuugcauuaaaaaugaggccuucucuuccaguucuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg

```

```

.((((((((.....((((((((.....((((((((.....))))).)))))))).)))))))).
)))))))).

```

```

-----AAAAGCUGGGUUGAGAGG-----
----- 130 0,-2
-----AAAAGCUGGGUUGAGAGGu-----
----- 2 0,-2
-----AAAAGCUGGGUUGAGAGGG-----
----- 143 0,-1
-----AAAAGCUGGGUUGAGAGGGa-----
----- 14 0,-1
-----AAAAGCUGGGUUGAGAGGGaa-----
----- 17 0,-1
-----AAAAGCUGGGUUGAGAGGGau-----
----- 5 0,-1
-----AAAAGCUGGGUUGAGAGGGU-----
----- 13 0,0
-----AAAAGCUGGGUUGAGAGGGUu-----
----- 2 0,0
-----AAAAGCUGGGUUGAGAGGGUAa-----
----- 9 0,1
-----AAAAGCUGGGUUGAGAGGGUAu-----
----- 5 0,1
-----AAAGCUGGGUUGAGAGGG-----
----- 2 1,-1
-----AAAGCUGGGUUGAGAGGGaa-----
----- 4 1,-1
-----AAAGCUGGGUUGAGAGGGUAaa-----
----- 2 1,1

```

```
>hsa-mir-320c-2 3p:31-50 SRX018963
cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU
(((((((..(((((((.(((((.)))))))).)))))))).))))))..
-----AAAAGCUGGGUUGAGAGG-- 130 0,-2
-----AAAAGCUGGGUUGAGAGGu- 2 0,-2
-----AAAAGCUGGGUUGAGAGGG- 143 0,-1
-----AAAAGCUGGGUUGAGAGGGa 14 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 17 0,-1
-----AAAAGCUGGGUUGAGAGGGau 5 0,-1
-----AAAAGCUGGGUUGAGAGGGU 13 0,0
-----AAAAGCUGGGUUGAGAGGGUu 2 0,0
-----AAAGCUGGGUUGAGAGGG- 2 1,-1
-----AAAGCUGGGUUGAGAGGGaa 4 1,-1
```

```
>hsa-mir-320d-1 3p:30-48 SRX018963
uucucguccaguucuccaaaguagAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.(((((.)))))))).)))))))).))))))..
-----AAAAGCUGGGUUGAGAGG- 130 0,-1
-----AAAAGCUGGGUUGAGAGGu 2 0,-1
-----AAAAGCUGGGUUGAGAGGA 2 0,0
-----AAAAGCUGGGUUGAGAGGAa 2 0,0
-----AAAAGCUGGGUUGAGAGGAaa 3 0,0
```

```
>hsa-mir-320d-2 3p:30-48 SRX018963
uucucuuccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA
(((((((..(((((((.(((((.)))))))).)))))))).))))))..
-----AAAAGCUGGGUUGAGAGG- 130 0,-1
-----AAAAGCUGGGUUGAGAGGu 2 0,-1
-----AAAAGCUGGGUUGAGAGGA 2 0,0
-----AAAAGCUGGGUUGAGAGGAa 2 0,0
-----AAAAGCUGGGUUGAGAGGAaa 3 0,0
```

```
>hsa-mir-320e 3p:35-52 SRX018963
gccuucucuuccaguucuccaggagucggggaAAAGCUGGGUUGAGAAGGu
(((((((.(((((((.(((((.)))))))).)))))))).))))))..
-----AAAAGCUGGGUUGAGAAGG- 4 -1,0
```

```
>hsa-mir-323 5p:16-37;3p:51-71 SRX018963
```

uugguacuuggagagAGGUUGUCCGUGGCGGUUCGCuuuauuuauggcgCACAUUACACGGUCGACCUUuugcaguau
cuaauc

..(((((((.(((((((((.((((((....((((((.....))))).))....))))).)).....))))))
).....

-----GCACAUUACACGGUCGACCU-----

----- 11 -1,-2

-----CACAUUACACGGUCGACC-----

----- 4 0,-3

-----CACAUUACACGGUCGACCU-----

----- 63 0,-2

-----CACAUUACACGGUCGACCUC-----

----- 10 0,-1

-----CACAUUACACGGUCGACCUCU-----

----- 5 0,0

>hsa-mir-323b 5p:15-37;3p:51-72 SRX018963

ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuauuuauaugaugCCCAUACACGGUCGACCUUuucgguauc
ca

.(((((((.(((((((((((((((((.((((((.....((((((((.....))))))....))))).)).....))))))
)..

-----CCCAUACACGGUCGACCU-----

-- 20 0,-3

-----CCCAUACACGGUCGACCUC-----

-- 3 0,-2

>hsa-mir-324 5p:16-38;3p:53-72 SRX018963

cugacuaugccuccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagaccACUGCCCCAGGUGCUGCUGGggguagua
guc

..(((((((.(((((((((.((((((.((((((.((((((.((((((.....))))).))....))))).)).....))))
)..

-----CGCAUCCCCUAGGGCAUU-----

--- 3 0,-5

-----CGCAUCCCCUAGGGCAUUG-----

--- 4 0,-4

-----CGCAUCCCCUAGGGCAUUGG-----

--- 6 0,-3

-----CGCAUCCCCUAGGGCAUUGGU-----

--- 26 0,-2

```

-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 11  0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 34  0,0
-----CGCAUCCCCUAGGGCAUUGGUGUu-----
--- 4   0,0
-----CGCAUCCCCUAGGGCAUUGGUGUA-----
--- 2   0,1
-----GCAUCCCCUAGGGCAUUGGU-----
--- 2   1,-2
-----GCAUCCCCUAGGGCAUUGGUG-----
--- 2   1,-1
-----GCAUCCCCUAGGGCAUUGGUGU-----
--- 2   1,0
-----CCACUGCCCCAGGUGCUGCU-----
--- 6   -2,-2
-----CCACUGCCCCAGGUGCUGCUG-----
--- 5   -2,-1
-----CCACUGCCCCAGGUGCUGCUGa-----
--- 2   -2,-1
-----CCACUGCCCCAGGUGCUGCUGGu-----
--- 2   -2,0
-----ACUGCCCCAGGUGCUGCU-----
--- 6   0,-2
-----ACUGCCCCAGGUGCUGCUG-----
--- 9   0,-1
-----ACUGCCCCAGGUGCUGCUGu-----
--- 2   0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 26  0,0
-----ACUGCCCCAGGUGCUGCUGGaa-----
--- 2   0,0
-----ACUGCCCCAGGUGCUGCUGGu-----
--- 2   0,0
-----ACUGCCCCAGGUGCUGCUGGuu-----
--- 2   0,0

```

$$\dots(((((((\dots(((((((\dots(((((((\dots(((((\dots(((((\dots)))))\dots))))))\dots))))))\dots))))))\dots)$$

```

>hsa-mir-328      3p:48-69      SRX018963
uggagugggggggcaggaggggcucaggagagaaagugcauacagcccCUGGCCCUCUCUGCCCUUCCGUccccug
.((..(((((((((((..(((((.(((((.(((..((....))..))))))))))..)))))))))..))...
-----CUGGCCCUCUCUGCCCUUCCGU----- 9
0,0
-----CUGGCCCUCUCUGCCCUUCCGUu----- 4
0,0
-----CUGGCCCUCUCUGCCCUUCCGUuu----- 4
0,0

```

```
>hsa-mir-329-2 3p:52-73 SRX018963
gugguaccugaagagagguuuucuggguuucuguuucuuuaugaggacgaAACACACCUGGUUAACCUCUUUuccagua
uca
.(((((((..(((((((((((..((..(((..((((((..((.....)).)))))).))..)).)))))..)))
)).).
-----AACACACCUGGUUAACCUC-----
---- 2 0,-3
```

>hsa-mi r-330 5p:18-39;3p:57-79 SRX018963
cuuuggcgaucacugccUCUCUGGGCCUGUGUCUUAAGGCucugcaagaucacaccgaGCAAAGCACACGGCCUGCAGAGAg
gcagcgccucugccc

Sequence	Count	Label
-----GCAAAGCACACGGCCUGCAG-----	3	0,-3
-----GCAAAGCACACGGCCUGCAGA-----	4	0,-2
-----GCAAAGCACACGGCCUGCAGAG-----	2	0,-1
-----GCAAAGCACACGGCCUGCAGAGA-----	15	0,0
-----GCAAAGCACACGGCCUGCAGAGAu-----	2	0,0
-----GCAAAGCACACGGCCUGCAGAGAG-----	3	0,1
-----CAAAGCACACGGCCUGCAGAG-----	7	1,-1
-----CAAAGCACACGGCCUGCAGAGA-----	23	1,0
-----CAAAGCACACGGCCUGCAGAGAA-----	5	1,0
-----CAAAGCACACGGCCUGCAGAGAG-----	18	1,1
a-----CAAAGCACACGGCCUGCAGAGAG-----	3	1,1
u-----CAAAGCACACGGCCUGCAGAGAG-----	7	1,1
G-----CAAAGCACACGGCCUGCAGAGAG-----	3	1,2
-----AAAGCACACGGCCUGCAGAG-----	3	2,-1
-----AAAGCACACGGCCUGCAGAGA-----	8	2,0
-----AAAGCACACGGCCUGCAGAGAG-----	13	2,1
G-----AAAGCACACGGCCUGCAGAGAG-----	2	2,2

>hsa-mi r-331 5p:26-47;3p:61-81 SRX018963

>hsa-mi r-335 MA:16-38;mi :52-73 SRX018963
 uuuuuugagcgggggUCAAGAGCAUAACGAAAAUGUuugucauaaaccgUUUUUCAUUAUUGCUCUGACCuccucuc
 auuugcuauuuca

.((.(.(((.((((((((.((((((((.((((((((.(.....)).)))))))).)))))))).)))))))).)))
)...)).....

-----UCAAGAGCAAUAACGAAAA-----	
-----40,-4-----	
-----UCAAGAGCAAUAACGAAAAA-----	
-----90,-3-----	
-----UCAAGAGCAAUAACGAAAAAa-----	
-----30,-3-----	
-----UCAAGAGCAAUAACGAAAAAU-----	
-----640,-2-----	
-----UCAAGAGCAAUAACGAAAAAUa-----	
-----30,-2-----	
-----UCAAGAGCAAUAACGAAAAAUG-----	
-----1560,-1-----	
-----UCAAGAGCAAUAACGAAAAAUGU-----	
-----300,0-----	

```

-----AAGAGCAAUAACGAAAAAUG-----
----- 2 2,-1
-----AAGAGCAAUAACGAAAAAUGU-----
----- 2 2,0
-----UUUUUCAUUAUUGCUCUGACC-----
----- 2 0,0

```

```

>hsa-mir-337 5p:23-43;3p:61-82 SRX018963
guagucaguaguuggggggguggGAACGGCUUCAUACAGGAGUUGaugcacaguuauccagCUCCUAUAUGAUGCCUUUCU
UCaucccccuaa
.....(((((.....(((((.....(((((.....))))))))))))))))))..
))))))))))..
-----GAACGGCUUCAUACAGGAG-----
----- 2 0,-2
-----CUCCUAUAUGAUGCCUUUCU
UC----- 2 0,0

```

```

>hsa-mir-338 5p:6-27;3p:42-63 SRX018963
ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga
(((.....(((((.....(((((.....))))))))))))))))))..
-----UCCAGCAUCAGUGAUUUUG----- 2 0,-3
-----UCCAGCAUCAGUGAUUUUGUU----- 4 0,-1

```

```

>hsa-mir-339 5p:15-37;3p:50-72 SRX018963
cggggcggcgccgcucUCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGgcgccugc
cccagugucugcgc
(((((((.....(((((.....(((((.....))))))))))))))))))..
))).....
-----UCCUGUCCUCCAGGAGC-----
----- 11 0,-5
-----UCCUGUCCUCCAGGAGCU-----
----- 28 0,-4
-----UCCUGUCCUCCAGGAGCUC-----
----- 7 0,-3
-----UCCUGUCCUCCAGGAGCUA-----
----- 31 0,-2
-----UCCUGUCCUCCAGGAGCUAu-----
----- 11 0,-2

```



```

-----UCCCUGUCCUCCAGGAGCUCAuu-----
----- 4 0,-2
-----UCCCUGUCCUCCAGGAGCUCAC-----
----- 6 0,-1
-----UCCCUGUCCUCCAGGAGCUCACa-----
----- 3 0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 23 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 9 0,1
-----CCUGUCCUCCAGGAGCUCACG-----
----- 7 2,0
-----UGAGCGCCUCGACGACAG-----
----- 32 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 40 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 64 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 28 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 4 0,-2
-----UGAGCGCCUCGACGACAGAGCaa-----
----- 2 0,-2
-----UGAGCGCCUCGACGACAGAGCau-----
----- 5 0,-2
-----UGAGCGCCUCGACGACAGAGCu-----
----- 12 0,-2
-----UGAGCGCCUCGACGACAGAGCC-----
----- 30 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 33 0,-1
-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 7 0,-1
-----UGAGCGCCUCGACGACAGAGCCau-----
----- 12 0,-1
-----UGAGCGCCUCGACGACAGAGCCu-----
----- 19 0,-1

```

```

-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 12 0,-1
-----UGAGCGCCUCGACGACAGAGCCG-----
----- 14 0,0
-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 4 0,0
-----UGAGCGCCUCGACGACAGAGCCGuu-----
----- 3 0,0
-----GAGCGCCUCGACGACAGAG-----
----- 3 1,-3
-----AGCGCCUCGACGACAGAG-----
----- 31 2,-3
-----AGCGCCUCGACGACAGAGC-----
----- 2 2,-2
-----AGCGCCUCGACGACAGAGCC-----
----- 4 2,-1
-----AGCGCCUCGACGACAGAGCCG-----
----- 5 2,0
-----AGCGCCUCGACGACAGAGCCGa-----
----- 5 2,0

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018963

```

cugugGUGCAUUGUAGUUGCAUUGCAuugucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((..((((((((((.....((((.....))))))))))))))))))..))))))))))))))
-----GUGCAUUGUAGUUGCAUU----- 171 0,-3
-----GUGCAUUGUAGUUGCAUUG----- 4 0,-2
-----GUGCAUUGUAGUUGCAUUGa----- 10 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 47 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 64 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 59 0,0
-----CAAUGUUUCCACAGUGCAU----- 2 0,-3
-----CAAUGUUUCCACAGUGCAUC----- 3 0,-2
-----CAAUGUUUCCACAGUGCAUCA----- 2 0,-1
-----CAAUGUUUCCACAGUGCAUCAu----- 2 0,-1

```

>hsa-mir-33b MA:16-35;mi:54-75 SRX018963

```

gcgggcggcccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcggggugCAGUGCCUCGGCAGUGCAGCCCggagc
cggccccuggcaccac

```

-GUGCAUUGCUGUUGCAUU-	
96	0,-2
-GUGCAUUGCUGUUGCAUUu-	
2	0,-2
-GUGCAUUGCUGUUGCAUUG-	
10	0,-1
-GUGCAUUGCUGUUGCAUUGa-	
3	0,-1
-GUGCAUUGCUGUUGCAUUGC-	
5	0,0
-GUGCAUUGCUGUUGCAUUGCA-	
3	0,1
-GUGCAUUGCUGUUGCAUUGCAa-	
7	0,1

>hsa-mi r-340 MA:16-37;mi :58-79 SRX018963

uuguaccuggugugaUUAUAAAGCAAUGAGACUGAUUgucauaugucguuugugggaUCCGUCUCAGUUAUUUAUAGCc
auaccugguaucuaa
..((((.(((((..(((((.(((.((((.....)))))))).))))).))))).))))).))
))))).)))))....

```

-----UUAUAAAGCAAUGAGAGACU-----
----- 36  0,-4
-----UUAUAAAGCAAUGAGACUG-----
----- 6   0,-3
-----UUAUAAAGCAAUGAGACUGA-----
----- 4   0,-2
-----UUAUAAAGCAAUGAGACUGAa-----
----- 2   0,-2
-----UUAUAAAGCAAUGAGACUGAU-----
----- 26  0,-1
-----UUAUAAAGCAAUGAGACUGAUa-----
----- 14  0,-1
-----UUAUAAAGCAAUGAGACUGAUU-----
----- 81  0,0
-----UUAUAAAGCAAUGAGACUGAUUa-----
----- 5   0,0

```

-----UCCGUCUCAGUUAUUUUAUAGC-----
 ----- 2 0,0

AGGGGUGCUAUCUGUGAU	
4	0,-3
AGGGGUGCUAUCUGUGAUaa	
2	0,-3
AGGGGUGCUAUCUGUGAUU	
39	0,-2
AGGGGUGCUAUCUGUGAUUG	
21	0,-1
AGGGGUGCUAUCUGUGAUUGA	
46	0,0
AGGGGUGCUAUCUGUGAUUGAa	
7	0,0
AGGGGUGCUAUCUGUGAUUGAaa	
2	0,0
AGGGGUGCUAUCUGUGAUUGAG	
54	0,1
AGGGGUGCUAUCUGUGAUUGAGa	
3	0,1
AGGGGUGCUAUCUGUGAUUGAGu	
2	0,1
AGGGGUGCUAUCUGUGAUUGAGG	
20	0,2
AGGGGUGCUAUCUGUGAUUGAGGA	
2	0,4
GGGGUGCUAUCUGUGAUUGAG	
2	1,1
GGGGUGCUAUCUGUGAUUGAGG	
2	1,2
GGGGUGCUAUCUGUGAUUGAGGG	
3	1,3

-----			-----UCUCACACAGAAAUCGCA--
-----	46	0,-5	-----UCUCACACAGAAAUCGCAC-
-----	79	0,-4	-----UCUCACACAGAAAUCGCACC
-----	70	0,-3	-----UCUCACACAGAAAUCGCACC
a-----	2	0,-3	-----UCUCACACAGAAAUCGCACC
C-----	73	0,-2	-----UCUCACACAGAAAUCGCACC
CG-----	270	0,-1	-----UCUCACACAGAAAUCGCACC
CGa-----	6	0,-1	-----UCUCACACAGAAAUCGCACC
CGU-----	482	0,0	-----UCUCACACAGAAAUCGCACC
CGUa-----	12	0,0	-----UCUCACACAGAAAUCGCACC
CGUau-----	2	0,0	-----UCUCACACAGAAAUCGCACC
CGUu-----	17	0,0	-----UCUCACACAGAAAUCGCACC
CGUC-----	151	0,1	-----UCUCACACAGAAAUCGCACC
CGUCu-----	33	0,1	-----UCUCACACAGAAAUCGCACC
CGUCA-----	23	0,2	-----CUCACACAGAAAUCGCACC
CG-----	2	1,-1	-----CUCACACAGAAAUCGCACC
CGU-----	2	1,0	-----CUCACACAGAAAUCGCACC
CGUC-----	4	1,1	-----UCACACAGAAAUCGCACC
C-----	6	2,-2	-----UCACACAGAAAUCGCACC
CG-----	9	2,-1	

CGU	13	2,0	UCACACAGAAAUCGCACC
CGU _{aa}	2	2,0	UCACACAGAAAUCGCACC
CGUC	20	2,1	UCACACAGAAAUCGCACC
CGUC _u	11	2,1	UCACACAGAAAUCGCACC
CGUCA	61	2,2	UCACACAGAAAUCGCACC
CGUCA _u	4	2,2	UCACACAGAAAUCGCACC


```

>hsa-mir-361      5p:6-27;3p:45-67      SRX018963
ggagcUUAUCAGAAUCCAGGGGUACuuuauaauucaaaaagUCCCCCAGGUGUGAUUCUGAUUUgcuuc
(((((((((.(((((((.(((.(((((((.((((((.....)))))).)))))).)))))).))))))
----CUUAUCAGAAUCCAGGGGU----- 3
      -1,-2
----CUUAUCAGAAUCCAGGGGUAC----- 2
      -1,0
----UUAUCAGAAUCCAGGG----- 5
      0,-4
----UUAUCAGAAUCCAGGGG----- 10
      0,-3
----UUAUCAGAAUCCAGGGGU----- 12
      0,-2
----UUAUCAGAAUCCAGGGGUA----- 54
      0,-1
----UUAUCAGAAUCCAGGGGUAa----- 50
      0,-1
----UUAUCAGAAUCCAGGGGUAaa----- 5
      0,-1
----UUAUCAGAAUCCAGGGGUAu----- 65
      0,-1
----UUAUCAGAAUCCAGGGGUAuu----- 4
      0,-1
----UUAUCAGAAUCCAGGGGUAC----- 85
      0,0
----UUAUCAGAAUCCAGGGGUACa----- 41
      0,0
----UUAUCAGAAUCCAGGGGUACaa----- 2
      0,0
----UUAUCAGAAUCCAGGGGUACau----- 3
      0,0
----UUAUCAGAAUCCAGGGGUACU----- 4
      0,1
-----AGUCCCCCAGGUGUGAUUCUG----- 2
      -2,-4
-----UCCCCCAGGUGUGAUUCU----- 12
      0,-5

```

```

-----UCCCCCAGGUGUGAUUCUGA----- 5
0,-3
-----UCCCCCAGGUGUGAUUCUGAa----- 8
0,-3
-----UCCCCCAGGUGUGAUUCUGAaa----- 3
0,-3
-----UCCCCCAGGUGUGAUUCUGAU----- 5
0,-2
-----UCCCCCAGGUGUGAUUCUGAUU----- 7
0,-1
-----UCCCCCAGGUGUGAUUCUGAUUU----- 7
0,0
-----UCCCCCAGGUGUGAUUCUGAUUUG---- 3
0,1

```

>hsa-mir-3613 5p:16-37;3p:53-76 SRX018963

```

ugguuggguuggauUGUUGUACUUUUUUUUUGUUCguugcauuuuuaggaACAAAAAAAAAAGCCCAACCCUUCacac
cacuuca
.(((...(((.((((...(((.((((((((((((((((.(.....).)))))))))))))))).))))).)))
).)))
-----UGUUGUACUUUUUUUUUGUUC-----
----- 3 0,0

```

>hsa-mir-3614 5p:15-37;3p:53-75 SRX018963

```

gguucugucuugggCCACUUGGAUCUGAAGGCUGCCCcuuugcucucuggggUAGCCUUCAGAUUCUUGGUGUUUgaaui
cuuacu
.....((..(((((.(((((((((((((((((((.....)))))))))))))))).))))).))...
.....
-----UAGCCUUCAGAUUCUUGGUGUU-----
----- 3 0,-2
-----UAGCCUUCAGAUUCUUGGUGUU-----
----- 4 0,-1

```

>hsa-mir-3615 3p:51-71 SRX018963

```

gacucugggacgcucagacgccgcgcggggcggggauuggucugugguccUCUCUCGGCUCUUCGCGGCUCgcggcgggc
gacgguu
((((.(.(((...(((.(((((((.((((...(((.(.....).)))).)))))).)))))).))))).))
.).))))

```

----- 4	0, -3	----- UCUCUCGGCUCUCCUCGCGG-----
----- 19	0, -2	----- UCUCUCGGCUCUCCUCGCGGC-----
----- 89	0, -1	----- UCUCUCGGCUCUCCUCGCGGCU-----
----- 3	0, -1	----- UCUCUCGGCUCUCCUCGCGGCUau-----
----- 6	0, -1	----- UCUCUCGGCUCUCCUCGCGGCUu-----
----- 7	0, -1	----- UCUCUCGGCUCUCCUCGCGGCUuu-----
----- 15	0, 0	----- UCUCUCGGCUCUCCUCGCGGCUC-----
----- 2	0, 1	----- UCUCUCGGCUCUCCUCGCGGCUCG-----
----- 3	0, 2	----- UCUCUCGGCUCUCCUCGCGGCUCGcu-----

>hsa-mi r-362 5p:5-28;3p:42-63 SRX018963

cuugAAUCCUUGGAACCUAGGUGUGAGUgcuauuucagugcAACACACCUAUUCAAGGAUUCaa

.(((((((((((((((((. . .((((((((((.(..((.))..)..)))))))))))))))))))))).

-----AAUCCUUGGAACCUAGGUGU-----	4	0,-4
-----AAUCCUUGGAACCUAGGUGUG-----	7	0,-3
-----AAUCCUUGGAACCUAGGUGUGA-----	6	0,-2
-----AAUCCUUGGAACCUAGGUGUGAGU-----	3	0,0
-----AACACACCUAUUCAAGGAUU-----	2	0,-2
-----AACACACCUAUUCAAGGAUUC-----	2	0,-1
-----AACACACCUAUUCAAGGAUUCA-----	4	0,0

>hsa-mir-363 mi:7-28;MA:50-71 SRX018963

uguuguCGGGUGGAUCACGAUGCAAUUUugaugagaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaacc

.(((..((((((((((..((.(((((((((((.((((.....))).....)))))))))..)))))))).

-----AAUUGCACGGUAUCCAUC----- 6

0,-4

-----AAUUGCACGGUAUCCAUCU----- 117

0,-3

-----AAUUGCACGGUAUCCAUCUG----- 12

0,-2	-----AAUUGCACGGUAUCCAUCUGU-----	34
0,-1	-----AAUUGCACGGUAUCCAUCUGUuu---	2
0,-1	-----AAUUGCACGGUAUCCAUCUGUA----	95
0,0	-----AAUUGCACGGUAUCCAUCUGUAu---	8
0,0	-----AAUUGCACGGUAUCCAUCUGUAA---	47
0,1	-----AUUGCACGGUAUCCAUCU-----	17
1,-3	-----AUUGCACGGUAUCCAUCUGUu---	2
1,-1	-----AUUGCACGGUAUCCAUCUGUA----	16
1,0	-----AUUGCACGGUAUCCAUCUGUAu---	3
1,0	-----AUUGCACGGUAUCCAUCUGUAuu---	3
1,0	-----AUUGCACGGUAUCCAUCUGUAA---	11
1,1		

>hsa-mir-3647 5p:15-37;3p:62-84 SRX018963

uugcuuucacagcCUGAAGUGAUGAUUCACAUUCAUgucucuucucugauaaauucuugaAGAAAAUUUUUGUGUGUCU
GAUCaggccucuagagggcag

.(((((((.....(((((((.....(((.....((((.....((((.....)))))))).....)))))).)).
..)))))).....)))))))).

-----GAAAAUUUUUGUGUGUCU
GAU----- 2 1,-1

>hsa-mir-365-1 3p:56-77 SRX018963

accgcagggaaaaugagggacuuuugggggcagauguguuuccauuccacuaUCAUUGCCCCUAAAAAUCCUUAUugc
ucuugca

...(((((((.....(((((((.....((((.....((((.....)))))))).....)))))).)).
)))))))).

-----GAGGGACUUUUGGGGGCAGAUGU-----

----- 2
 -----AGGGACUUUUGGGGGCAGA-----
 ----- 2
 -----AGGGACUUUUGGGGGCAGAU-----
 ----- 11
 -----AGGGACUUUUGGGGGCAGAUa-----
 ----- 2
 -----AGGGACUUUUGGGGGCAGAUg-----
 ----- 15
 -----AGGGACUUUUGGGGGCAGAUgaa-----
 ----- 2
 -----AGGGACUUUUGGGGGCAGAUgu-----
 ----- 36
 -----AGGGACUUUUGGGGGCAGAUguu-----
 ----- 2
 -----AGGGACUUUUGGGGGCAGAUguuu-----
 ----- 5
 -----AGGGACUUUUGGGGGCAGAUguuuu-----
 ----- 4
 -----AGGGACUUUUGGGGGCAGAUguuuuu-----
 ----- 62
 -----AGGGACUUUUGGGGGCAGAUguuuuuu-----
 ----- 3
 -----AGGGACUUUUGGGGGCAGAUguuuuuuu-----
 ----- 29
 -----GGGACUUUUGGGGGCAGAUg-----
 ----- 2
 -----GGGACUUUUGGGGGCAGAUgu-----
 ----- 8
 -----GGGACUUUUGGGGGCAGAUguu-----
 ----- 5
 -----UAAUGCCCCUAAAAAUCC-----
 ----- 3 0,-4 -----UAAUGCCCCUAAAAAUCCU-----
 ----- 7 0,-3 -----UAAUGCCCCUAAAAAUCCUU-----
 ----- 24 0,-2 -----UAAUGCCCCUAAAAAUCCUUA-----

```

----- 42  0,-1
-----UAAUGCCCCUAAAAAUCCUUAa---
----- 7   0,-1
-----UAAUGCCCCUAAAAAUCCUUAU---
----- 114 0,0
-----UAAUGCCCCUAAAAAUCCUUAU---
----- 2   0,1
-----AAUGCCCCUAAAAAUCCUUAU---
----- 4   1,0

```

>hsa-mir-365-2 mi:29-50;MA:68-89 SRX018963

```

agaguguucaaggacagcaagaaaaaugAGGGACUUUCAGGGGCAGCUGUguuuucugacucagucaUAAUGCCCCUAAA
AAUCCUUAUuguucuugcagugugcaucggg

```

```

.....(.(((((((((((.((((((((((..(((.((((((((((((((.(((....)))..))))).)))))))))
..)))))))))..))))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..))))

```

```

-----GAGGGACUUUCAGGGGCAGC-----
----- 3   -1,-3
-----GAGGGACUUUCAGGGGCAGCU-----
----- 22  -1,-2
-----GAGGGACUUUCAGGGGCAGCUG-----
----- 10  -1,-1
-----GAGGGACUUUCAGGGGCAGCUGa-----
----- 2   -1,-1
-----GAGGGACUUUCAGGGGCAGCUGU-----
----- 17  -1,0
-----GAGGGACUUUCAGGGGCAGCUGUau-----
----- 2   -1,0
-----GAGGGACUUUCAGGGGCAGCUGUu-----
----- 7   -1,0
-----GAGGGACUUUCAGGGGCAGCUGUG-----
----- 4   -1,1
-----AGGGACUUUCAGGGGCAGC-----
----- 3   0,-3
-----AGGGACUUUCAGGGGCAGCU-----
----- 21  0,-2
-----AGGGACUUUCAGGGGCAGCUG-----
----- 4   0,-1
-----AGGGACUUUCAGGGGCAGCUGU-----

```



```

cuguaaacuugaagguagggAACUCUGUCUUCACUCAUGAGUaccuuccaacacgagcucucaggaguaaagacagaguu
cccuaccuuccaauuggau
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUCAGGAGUAAAGACAG----
----- 2
-----UCUCAGGAGUAAAGACAGA---
----- 3
-----UCUCAGGAGUAAAGACAGAG--
----- 4
-----UCUCAGGAGUAAAGACAGAGUU
----- 13
-----UCUCAGGAGUAAAGACAGAGUU
a----- 3
-----UCUCAGGAGUAAAGACAGAGUU
u----- 2
-----UCAGGAGUAAAGACAGAGUU
----- 4
-----CAGGAGUAAAGACAGAGUU
----- 2
-----CAGGAGUAAAGACAGAGUU
CCC----- 2

```

```

>hsa-mir-3676 3p:60-79 SRX018963
uugguuaaagcgccugucuaguaaacaggagauccuggguucgaaucccagcggugccuCCGUGUUUCCCCACGCUUUu
gcaa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
))))).

```

```

>hsa-mir-3677 3p:39-60 SRX018963
ggcaguggccagagcccugcagugcugggcaugggcuuCUUGUGGGCUCUGGCCACGGCC
(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CUCGUGGGCUCUGGCCACGGC- 2 0,-1

```

```

>hsa-mir-3679 5p:6-28;3p:44-65 SRX018963
cguggUGAGGAUAUGGCAGGGAAGGGGAguuucccucuauuccCUUCCCCCAGUAAUCUUAUCAug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGAGGAUAUGGCAGGGAAGGGa----- 2 0,-2

```


>hsa-mir-3682 3p:50-70 SRX018963

uaaguuauauaugucuacuucuaccuguguuaucauaauaaaggugucaUGAUGAUACAGGUGGAGGUA Gaaauauauaa
cuua

(((((((((((((.(((((((((((((((((((((((((((.(((....)))..))))))))))))))))))))))))))..)))))))))
))))

-----UGAUGAUACAGGUGGAGGUA-----
---- 2 0,-1

>hsa-mir-3684 3p:48-68 SRX018963

aaucuaaaggaccuguacuagguuuacauguugagcauuacucaugUUAGACCUAGUACACGUCCUUuagauu
(((((((((((((((.((((((((((((((((((((((((((((.....))))))))))))))))))))))))))..)))))))))

-----UUAGACCUAGUACACGUCCUa----- 2
0,-1

>hsa-mir-3687 3p:35-58 SRX018963

cgcgcgugcgcggcgagcgcggcgccggugguccuCCCGGACAGGCGUUCGUGCGACGUgug
(((((((.(((.(((((((.(((.(((....)))..))))))))))))))))))))))

-----CGAGCGCGGCCCGGUGGU-----	4	
-----CGAGCGCGGCCCGGUGGUC-----	2	
-----CGAGCGCGGCCCGGUGGUCCCU-----	7	
-----CGAGCGCGGCCCGGUGGUCCCUu-----	2	
-----GAGCGCGGCCCGGUGGUCCCU-----	2	
-----CCCGGACAGGCGUUCGUGC-----	2	0,-5
-----CCCGGACAGGCGUUCGUGCG-----	6	0,-4
-----CCCGGACAGGCGUUCGUGCGA-----	2	0,-3
-----CCCGGACAGGCGUUCGUGCGAC-----	6	0,-2
-----CCGGACAGGCGUUCGUGC-----	4	1,-5
-----CCGGACAGGCGUUCGUGCG-----	2	1,-4
-----CCGGACAGGCGUUCGUGCGA-----	2	1,-3
-----CCGGACAGGCGUUCGUGCGAC-----	13	1,-2
-----CCGGACAGGCGUUCGUGCGACGU---	4	1,0
-----CGGACAGGCGUUCGUGCG-----	18	2,-4
-----CGGACAGGCGUUCGUGCGA-----	5	2,-3
-----CGGACAGGCGUUCGUGCGAC-----	26	2,-2
-----CGGACAGGCGUUCGUGCGACG----	6	2,-1
-----CGGACAGGCGUUCGUGCGACGU---	8	2,0

```

>hsa-mir-369    5p:9-30;3p:44-64    SRX018963
uugaagggAGAUCGACCGUGUUAUAUUCGCUuuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.((((..((((((((((((((((..((((((.....))))))..)))))))))..)).
-----AGAUCGACCGUGUUAUAUUC----- 7    0,-2
-----AGAUCGACCGUGUUAUAUUCG----- 4    0,-1
-----AGAUCGACCGUGUUAUAUUCGCU----- 2    0,1
-----AAUAAUACAUGGUUGAUCUUU----- 14   0,0

```

```

>hsa-mir-3690   5p:10-32    SRX018963
cccaucuccACCUGGACCCAGCGUAGACAAAGagguguuucuacuccauaucuaccuggaccaguguagauggg
(((((((.(((.(((.(((.(((.....))))..)))))))))..))))))..))))))
-----ACCUGGACCCAGCGUAGACA----- 3
0,-3
-----ACCUGGACCCAGCGUAGACAA----- 3
0,-2
-----ACCUGGACCCAGCGUAGACAAAG----- 2
0,0

```

```

>hsa-mir-370    3p:48-69    SRX018963
agacagagaagccaggucacgucucugcaguacacagcucacagagGCCUGCUGGGGUGGAACCUGGUcugucu
(((((((.....(((((((.(((.(((.(((.....))))..)))))))))..))))))..))))))
-----CAGGUCACGUCUCUGCAGUUACA----- 3

```

```

>hsa-mir-374a   MA:12-33;mi:42-63    SRX018963
uacaucggccaUUAUAAUACAACCUGAUAAAGUGuuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((.(((.((((((((((((..((((((((((((.....)))))))))..)))))))))..))))))
-----UUAUAAUACAACCUGAU----- 13
0,-4
-----UUAUAAUACAACCUGAUAA----- 98
0,-3
-----UUAUAAUACAACCUGAUAAa----- 2
0,-3
-----UUAUAAUACAACCUGAUAAAG----- 38
0,-2
-----UUAUAAUACAACCUGAUAAAGU----- 189
0,-1
-----UUAUAAUACAACCUGAUAAAGUa----- 28
0,-1

```

-----UUAUAAUACAACCUGAUAGUaa-----	2
0,-1	
-----UUAUAAUACAACCUGAUAGUG-----	446
0,0	
-----UUAUAAUACAACCUGAUAGUGa-----	81
0,0	
-----UUAUAAUACAACCUGAUAGUGU-----	15
0,1	
-----UAUAAUACAACCUGAUAGU-----	2
1,-1	
-----UAUAAUACAACCUGAUAGUG-----	9
1,0	
-----UAUAAUACAACCUGAUAGUGaa-----	3
1,0	
-----CUUAUCAGAUUGUAUUGU-----	3
0,-4	
-----CUUAUCAGAUUGUAUUGUAA-----	3
0,-2	
-----CUUAUCAGAUUGUAUUGUAAa-----	2
0,-2	
-----CUUAUCAGAUUGUAUUGUAAU-----	48
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUa-----	3
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUaa-----	2
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUU-----	77
0,0	
-----CUUAUCAGAUUGUAUUGUAAUUa-----	29
0,0	
-----UUAUCAGAUUGUAUUGUAAUU-----	6
1,0	
-----UAUCAGAUUGUAUUGUAAUU-----	2
2,0	
-----UAUCAGAUUGUAUUGUAAUUa-----	5
2,0	

>hsa-mir-374b MA:11-32;mi:41-62 SRX018963

caguccuucuuugguauuuuuuuacguggauauuccuucuauguuuacgugaauuccugguuaAUCAUAGAGGAAAAUCCAUGUUuucagaucaaaugcug

-----AUCAUAGAGGAAAAUCCA-
 ----- 2 0, -4
 -----AUCAUAGAGGAAAAUCCA
 ----- 5 0, -3

aaaagguggauauuccuucuauguuuuanguuuuuuauugguuuAACAUAGAGGAAAUCCACGUuuu

-----AACAUAGAGGAAAUUCCAC-----	6	0,-2
-----AACAUAGAGGAAAUUCCACG----	10	0,-1
-----AACAUAGAGGAAAUUCCACGU----	53	0,0
-----AACAUAGAGGAAAUUCCACGUU----	5	0,1

uugagcAGAGGUUGCCCUUGGUGAAUUCgcuuuuuuuanguugaAUCACACAAAGGCAACUUUUGUuug

-----AGAGGUUGCCCUUGGUGAAU-----	24	0,-1
-----AGAGGUUGCCCUUGGUGAAUUC-----	5	0,0
-----AUCACACAAAGGCAACUUUUGU-----	2	0,0

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu

-----CUCCUGACUCCAGGUCCU-----	3	0,-4
-----CUCCUGACUCCAGGUCCUGUGU-----	7	0,0
-----UCCUGACUCCAGGUCCUGU-----	2	1,-2
-----UCCUGACUCCAGGUCCUGUGU-----	18	1,0
-----UCCUGACUCCAGGUCCUGUGU _a -----	2	1,0
-----UCCUGACUCCAGGUCCUGUGU _u -----	4	1,0
-----GCACUGGACUUGGAGUCAGAAG-----	6	-2,-1
-----GCACUGGACUUGGAGUCAGAAG _u -----	3	-2,-1
-----CACUGGACUUGGAGUCAGAAGG-----	17	-1,0
-----CACUGGACUUGGAGUCAGAAGGC-----	6	-1,1

-----CACUGGACUUGGAGUCAGAAGGCa-	14	-1,1
-----CACUGGACUUGGAGUCAGAAGGCaa	3	-1,1
-----CACUGGACUUGGAGUCAGAAGGCau	3	-1,1
-----CACUGGACUUGGAGUCAGAAGGCu-	2	-1,1
-----ACUGGACUUGGAGUCAGA-----	672	0,-3
-----ACUGGACUUGGAGUCAGAA-----	446	0,-2
-----ACUGGACUUGGAGUCAGAAa----	25	0,-2
-----ACUGGACUUGGAGUCAGAAaa----	13	0,-2
-----ACUGGACUUGGAGUCAGAAG----	1608	0,-1
-----ACUGGACUUGGAGUCAGAAGu----	75	0,-1
-----ACUGGACUUGGAGUCAGAAGG----	13853	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	1913	0,0
-----ACUGGACUUGGAGUCAGAAGGaa--	177	0,0
-----ACUGGACUUGGAGUCAGAAGGau--	40	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	637	0,0
-----ACUGGACUUGGAGUCAGAAGGuu--	87	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	15850	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	11269	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	560	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	3993	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	4338	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	687	0,1
-----ACUGGACUUGGAGUCAGAAGGCC--	105	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	7	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	53	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	9	0,3
-----CUGGACUUGGAGUCAGAA-----	8	1,-2
-----CUGGACUUGGAGUCAGAAG----	33	1,-1
-----CUGGACUUGGAGUCAGAAGG----	235	1,0
-----CUGGACUUGGAGUCAGAAGGa--	21	1,0
-----CUGGACUUGGAGUCAGAAGGaa--	11	1,0
-----CUGGACUUGGAGUCAGAAGGu--	14	1,0
-----CUGGACUUGGAGUCAGAAGGuu--	2	1,0
-----CUGGACUUGGAGUCAGAAGGC--	811	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	538	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	109	1,1
-----CUGGACUUGGAGUCAGAAGGCau	167	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	426	1,1

-----CUGGACUUGGAGUCAGAAGGCuu	180	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	12	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	9	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	7	1,2
-----UGGACUUGGAGUCAGAAG----	2	2,-1
-----UGGACUUGGAGUCAGAAGG---	7	2,0
-----UGGACUUGGAGUCAGAAGGa--	4	2,0
-----UGGACUUGGAGUCAGAAGGC--	40	2,1
-----UGGACUUGGAGUCAGAAGGCa-	28	2,1
-----UGGACUUGGAGUCAGAAGGCaa	5	2,1
-----UGGACUUGGAGUCAGAAGGCau	7	2,1
-----UGGACUUGGAGUCAGAAGGCu-	19	2,1
-----UGGACUUGGAGUCAGAAGGCuu	15	2,1
-----UGGACUUGGAGUCAGAAGGCC-	2	2,2

ggucauugagucuucaaggcuaugggaaagagcACUGGACUUGGAGGCAGAAagacc

(((.((..(((((((.(((((.)))))).)))))))).)))).))

-----ACUGGACUUGGAGGCAGAA----- 45 0,0

>hsa-mi r-378c 5p:11-35 SRX018963

ggaggccaucACUGGACUUGGAGUCAGAAGAGUGGagucgggucagacuucaacucugacuuugaagguggugagugccu
c

$$.((((((((((((((\dots(..((((((((((\dots(((((((((\dots\dots)))))))).\dots)))))))).\dots))))))\dots)))$$

-----ACUGGACUUGGAGUCAGAAG-----

- 1608 0,-5

-----ACUGGACUUGGAGUCAGAAGu-----

- 75 0,-5

-----ACUGGACUUGGAGUCAGAAGA-----

- 600 0,-4

-----ACUGGACUUGGAGUCAGAAGaa-----

- 25 0,-4

-----ACUGGACUUGGAGUCAGAAGAaa-----

- 5 0,-4

-----ACUGGACUUGGAGUCAGAAGAu-----

- 2 0,-4

-----ACUGGACUUGGAGUCAGAAGA_u-----


```

-      4      0,-4
-----CUGGACUUGGAGUCAGAAG-----
-     33     1,-5
-----CUGGACUUGGAGUCAGAAGA-----
-     10     1,-4
-----CUGGACUUGGAGUCAGAAGa-----
-      3      1,-4
-----UGGACUUGGAGUCAGAAG-----
-      2      2,-5
-----UGGACUUGGAGUCAGAAGA-----
-      4      2,-4

```

>hsa-mi r-379 MA:6-26;mi:44-65 SRX018963

agagaUGGUAGACUAUGGAACGUAGGcguuaugauuucugaccUAUGUAACAUGGUCCACUAACUcu		
(((((.((((.((((((((..((((((((((..(....)..)).)))))))).)))))))).))))))		
----UGGUAGACUAUGGAACGUAG-----	41	0,-1
----UGGUAGACUAUGGAACGUAGG-----	95	0,0
----UGGUAGACUAUGGAACGUAGGa-----	33	0,0
----UGGUAGACUAUGGAACGUAGGaa-----	32	0,0
----UGGUAGACUAUGGAACGUAGGau-----	5	0,0
----UGGUAGACUAUGGAACGUAGGu-----	11	0,0
----UGGUAGACUAUGGAACGUAGGuu-----	6	0,0
----UGGUAGACUAUGGAACGUAGGC-----	5	0,1
----UGGUAGACUAUGGAACGUAGGCa-----	5	0,1
----UGGUAGACUAUGGAACGUAGGCaa-----	2	0,1

>hsa-mi r-381 3p:49-70 SRX018963

uacuuaaagcgagguugcccuuuguauauucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua
 ((((((.(.(.(((.(((((((.((((((((.((((...)))...)))))))))))))))).)).)).))))))
 -----AGCGAGGUUGCCCUUUGUAU----- 2
 -----UAUACAAGGGCAAGCUCUCU----- 2
 0,-2

>hsa-mir-382 5p:11-32 SRX018963

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuangacgaauucacggacaacacuuuuuucagua
 ((((.((((((.(((((((((((..(((((((.....).))))).)))))))))).))))))))))
 -----GAAGUUGUUCGUGGUGGA-----
 2 0,-4

```

-----GAAGUUGUUCGUGGUGGAU-----
10  0,-3
-----GAAGUUGUUCGUGGUGGAU-----
7   0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
17  0,-1
-----GAAGUUGUUCGUGGUGGAUUCG-----
2   0,0
-----AAGUUGUUCGUGGUGGAU-----
4   1,-3
-----AAGUUGUUCGUGGUGGAU-----
2   1,-2
-----AGUUGUUCGUGGUGGAUUCG-----
2   2,0
-----AAUCAUUCACGGACAACAC-----
8
-----AAUCAUUCACGGACAACACU-----
34
-----AAUCAUUCACGGACAACACUU-----
5
-----AAUCAUUCACGGACAACACUUU-----
7

```

>hsa-mir-383 5p:7-28 SRX018963

```

cuccucAGAUCAAGGUGAUUGUGGCUuuggguggauauuaucagccacagcacugccuggucagaaagag
(((.(((.(((((.(((.((((((((...(((.....))))))))))))))))))..))))))..)))
-----AGAUCAAGGUGAUUGUGG----- 2
0,-2
-----AGAUCAAGGUGAUUGUGGCa----- 2
0,-1
-----AGAUCAAGGUGAUUGUGGCU----- 29
0,0
-----AGAUCAAGGUGAUUGUGGCUU----- 23
0,1
-----AGAUCAAGGUGAUUGUGGCUUa----- 2
0,1
-----AGAUCAAGGUGAUUGUGGCUUU----- 14
0,2

```


-----UAACGCAUAAUAUGGACA
UG-----6 0,-1

>hsa-mir-3913-1 5p:23-44 SRX018963

-----GACAUCAAGAUCAGUCCAAA
UA----- 2

>hsa-mir-3913-2 5p:22-43 SRX018963

-----GACAUCAAGAUCAGUCCCAAU
A----- 2

gcugaagcucuaagguuccgcugcgggcaggaagcGGAGGAACCUUGGAGCUUCGGC
((((((((((((((((((((((..(((.....)))..))))))))))))))))))

-----GGAGGAACCUUGGAGCUUCGG-	15	0,-1
-----GGAGGAACCUUGGAGCUUCGGa	2	0,-1
-----GGAGGAACCUUGGAGCUUCGGu	7	0,-1
-----GGAGGAACCUUGGAGCUUCGGC	15	0,0
-----GGAGGAACCUUGGAGCUUCGGCa	24	0,0
-----GGAGGAACCUUGGAGCUUCGGCaa	3	0,0
-----GGAGGAACCUUGGAGCUUCGGCau	6	0,0
-----GGAGGAACCUUGGAGCUUCGGCu	12	0,0
-----GAGGAACCUUGGAGCUUCGGCau	3	1,0
-----AGGAACCUUGGAGCUUCGGC	4	2,0
-----AGGAACCUUGGAGCUUCGGCa	2	2,0

>hsa-mir-3934 5p:25-46 SRX018963


```

27  -1,-5
-----CGAAUGUUGCUCGGUGAAC-----
9   -1,-4
-----CGAAUGUUGCUCGGUGAACC-----
5   -1,-3
-----CGAAUGUUGCUCGGUGAACCC-----
2   -1,-2
-----CGAAUGUUGCUCGGUGAACCCCU-----
5   -1,0
-----GAAUGUUGCUCGGUGAAC-----
9   0,-4
-----GAAUGUUGCUCGGUGAACCCC-----
7   0,-1
-----GAAUGUUGCUCGGUGAACCCCU-----
8   0,0

```

```

>hsa-mir-410    3p:50-70    SRX018963
gguaccugagaagagguugucugugaugaguucgcuuuuauuaaugacgAAUAUAACACAGAUGGCCUGUuuucaguacc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAUAUAACACAGAUGGCCU-----
2   0,-2
-----AAUAUAACACAGAUGGCCUGU-----
3   0,0

```

```

>hsa-mir-411    MA:16-36;mi:51-72    SRX018963
ugguacuuggagagaUAGUAGACCGUAUAGCGUACGcuuuaucugugacgUAUGUAACACGGUCCACUAACCCcucaguau
caauuccaucccgag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)).....
-----AUAGUAGACCGUAUAGCG-----
-----3   -1,-4
-----AUAGUAGACCGUAUAGCGa-----
-----2   -1,-4
-----AUAGUAGACCGUAUAGCGU-----
-----38  -1,-3
-----AUAGUAGACCGUAUAGCGUA-----
-----34  -1,-2
-----AUAGUAGACCGUAUAGCGUAa-----

```


----- 7 0,-3
-----AUCAACAGACAUUAAUUGGC-----
----- 4 0,-2

>hsa-mir-423 5p:17-39;3p:53-75 SRX018963

auaaaggaaguuaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

....(((((((.((((((((((((((..(((.((((((.....))))))))).)))...)))))))))))).))
))))).))))).

-----CUGAGGGGCAGAGAGCGAGA-----

----- 2 -1,-4

-----UGAGGGGCAGAGAGCGAG-----

----- 126 0,-5

-----UGAGGGGCAGAGAGCGAGu-----

----- 14 0,-5

-----UGAGGGGCAGAGAGCGAGA-----

----- 332 0,-4

-----UGAGGGGCAGAGAGCGAGAA-----

----- 40 0,-4

-----UGAGGGGCAGAGAGCGAGAAa-----

----- 48 0,-4

-----UGAGGGGCAGAGAGCGAGAAu-----

----- 7 0,-4

-----UGAGGGGCAGAGAGCGAGAU-----

----- 13 0,-4

-----UGAGGGGCAGAGAGCGAGAC-----

----- 264 0,-3

-----UGAGGGGCAGAGAGCGAGACa-----

----- 28 0,-3

-----UGAGGGGCAGAGAGCGAGACaa-----

----- 13 0,-3

-----UGAGGGGCAGAGAGCGAGACU-----

----- 313 0,-2

-----UGAGGGGCAGAGAGCGAGACUa-----

----- 12 0,-2

-----UGAGGGGCAGAGAGCGAGACUaa-----

----- 20 0,-2

-----UGAGGGGCAGAGAGCGAGACUau-----


```

----- 13 0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 470 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 109 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 12 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 34 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 2928 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 65 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 9 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 26 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 184 0,1
-----GAGGGGCAGAGAGCGAGAC-----
----- 4 1,-3
-----GAGGGGCAGAGAGCGAGACU-----
----- 8 1,-2
-----GAGGGGCAGAGAGCGAGACUU-----
----- 21 1,-1
-----GAGGGGCAGAGAGCGAGACUUa-----
----- 4 1,-1
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 58 1,0
-----AGGGGCAGAGAGCGAGACUaa-----
----- 2 2,-2
-----AGGGGCAGAGAGCGAGACUUU-----
----- 2 2,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 8 2,1
-----AAGCUCGGUCUGAGGCCCCC-----
----- 6 -1,-5
-----AAGCUCGGUCUGAGGCCCCCUCA-----

```

-----	7	-1,-2	-----AAGCUCGGUCUGAGGCCCCUCAu-----
-----	3	-1,-2	-----AAGCUCGGUCUGAGGCCCCUCAG-----
-----	8	-1,-1	-----AAGCUCGGUCUGAGGCCCCUCAGU-----
-----	32	-1,0	-----AAGCUCGGUCUGAGGCCCCUCAGUu-----
-----	2	-1,0	-----AGCUCGGUCUGAGGCCCC-----
-----	25	0,-5	-----AGCUCGGUCUGAGGCCCCU-----
-----	9	0,-4	-----AGCUCGGUCUGAGGCCCCUaa-----
-----	2	0,-4	-----AGCUCGGUCUGAGGCCCCUC-----
-----	9	0,-3	-----AGCUCGGUCUGAGGCCCCUCA-----
-----	19	0,-2	-----AGCUCGGUCUGAGGCCCCUCAa-----
-----	3	0,-2	-----AGCUCGGUCUGAGGCCCCUCAaa-----
-----	3	0,-2	-----AGCUCGGUCUGAGGCCCCUCAu-----
-----	2	0,-2	-----AGCUCGGUCUGAGGCCCCUCAG-----
-----	36	0,-1	-----AGCUCGGUCUGAGGCCCCUCAGa-----
-----	3	0,-1	-----AGCUCGGUCUGAGGCCCCUCAGU-----
-----	153	0,0	-----AGCUCGGUCUGAGGCCCCUCAGUa-----
-----	11	0,0	-----AGCUCGGUCUGAGGCCCCUCAGUaa-----
-----	2	0,0	-----AGCUCGGUCUGAGGCCCCUCAGUau-----
-----	10	0,0	-----AGCUCGGUCUGAGGCCCCUCAGUu-----

----- 12 0,0
-----GCUCGGUCUGAGGCCCCUCAG-----
----- 2 1,-1
-----GCUCGGUCUGAGGCCCCUCAGU-----
----- 2 1,0

>hsa-mi r-424 MA:11-32;mi :48-68 SRX018963

cgagggg¹g²auaCAGCAGCAAUUCAUGUUUGAAguguucuaaagg³uuCAAAACGUGAGGCGCUGCUAUacccccucgugg⁴
ggaagguagaaggugggg

(((((.(.(.(((((.((((((((((.(.)).).)))))))))..))))).).)))))...
.....

-----ACAGCAGCAAUUCAUGUUUG-----

----- 10 -1,-2

-----ACAGCAGCAAUUCAUGUUUUGA-----

----- 5 -1,-1

-----CAGCAGCAAUUCAUGUUU-----

----- 46 0,-4

-----CAGCAGCAAUUCAUGUUUa-----

----- 3 0,-4

-----CAGCAGCAAUUCAUGUUU-----

----- 90 0,-3

-----CAGCAGCAAUUCAUGUUUa-----

----- 3 0,-3

-----CAGCAGCAAUUCAUGUUUUu-----

----- 2 0,-3

-----CAGCAGCAAUUCAUGUUUG-----

----- 1305 0,-2

-----CAGCAGCAAUUCAUGUUUGu-----

----- 4 0,-2

-----CAGCAGCAAUUCAUGUUUGA-----

----- 1299 0,-1

-----CAGCAGCAAUUCAUGUUUGAu-----

----- 2 0,-1

-----CAGCAGCAAUUCAUGUUUGAA-----

----- 322 0,0

-----CAGCAGCAAUUCAUGUUUGAAa-----

----- 27 0,0

-----CAGCAGCAAUUCAUGUUUGAAu-----

----- 5 0,0	
-----AGCAGCAAUUC AUGUUUUG-----	
----- 33 1,-2	
-----AGCAGCAAUUC AUGUUUUGA-----	
----- 36 1,-1	
-----AGCAGCAAUUC AUGUUUUGAA-----	
----- 6 1,0	
-----	-----CAAAACGUGAGGCGCUGC-----
----- 2 0,-3	
-----	-----CAAAACGUGAGGCGCUGCU-----
----- 11 0,-2	
-----	-----CAAAACGUGAGGCGCUGCUA-----
----- 52 0,-1	
-----	-----CAAAACGUGAGGCGCUGCUAa-----
----- 8 0,-1	
-----	-----CAAAACGUGAGGCGCUGCUAU-----
----- 509 0,0	
-----	-----CAAAACGUGAGGCGCUGCUAUu-----
----- 18 0,0	
-----	-----CAAAACGUGAGGCGCUGCUAUA-----
----- 230 0,1	
-----	-----CAAAACGUGAGGCGCUGCUAUAa-----
----- 43 0,1	
-----	-----CAAAACGUGAGGCGCUGCUAUu-----
----- 25 0,1	
-----	-----CAAAACGUGAGGCGCUGCUAUAC-----
----- 2 0,2	
-----	-----AAAACGUGAGGCGCUGCUA-----
----- 5 1,-1	
-----	-----AAAACGUGAGGCGCUGCUAU-----
----- 22 1,0	
-----	-----AAAACGUGAGGCGCUGCUAUA-----
----- 9 1,1	
-----	-----AAAACGUGAGGCGCUGCUAUAa-----
----- 5 1,1	
-----	-----AAAACGUGAGGCGCUGCUAUu-----
----- 5 1,1	
-----	-----AAAACGUGAGGCGCUGCUAUAC-----


```

----- 5   -1,-4
-----CAUCGGGAAUGUCGUGUCCG-----
----- 5   -1,-3
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 8   -1,-2
-----CAUCGGGAAUGUCGUGUCCGCa-----
----- 4   -1,-2
-----CAUCGGGAAUGUCGUGUCCGCu-----
----- 8   -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 31  -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCa-----
----- 2   -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCC-----
----- 2   -1,0
-----AUCGGGAAUGUCGUGUCC-----
----- 4   0,-4
-----AUCGGGAAUGUCGUGUCCGC-----
----- 4   0,-2
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 11  0,-1
-----AUCGGGAAUGUCGUGUCCGCCC-----
----- 2   0,0

```

>hsa-mir-4286 5p:11-27 SRX018963

```

uacuuauaggcACCCACUCCUGGUACCAuagucauaaguaggagauuuagagcugugaguaccaugacuuaagugugg
uggcuuaaacaug

```

```

...(((.(.(((.((((.((((((((((....)))))).)))..)))))).))....)))
))..))).....

```

```

-----ACCCACUCCUGGUACCA-----
----- 119 0,1
-----ACCCACUCCUGGUACCAa-----
----- 13  0,1
-----ACCCACUCCUGGUACCAaa-----
----- 5   0,1
-----ACCCACUCCUGGUACCAau-----
----- 4   0,1
-----ACCCACUCCUGGUACCAU-----

```



```

----- 19 0,-5
-----UCUUGGAGUAGGUCAUUGG-----
----- 74 0,-4
-----UCUUGGAGUAGGUCAUUGGa-----
----- 9 0,-4
-----UCUUGGAGUAGGUCAUUGGaa-----
----- 4 0,-4
-----UCUUGGAGUAGGUCAUUGGu-----
----- 2 0,-4
-----UCUUGGAGUAGGUCAUUGGG-----
----- 113 0,-3
-----UCUUGGAGUAGGUCAUUGGGaa-----
----- 2 0,-3
-----UCUUGGAGUAGGUCAUUGGGU-----
----- 35 0,-2
-----UCUUGGAGUAGGUCAUUGGGUa-----
----- 11 0,-2
-----UCUUGGAGUAGGUCAUUGGGUaa-----
----- 8 0,-2
-----UCUUGGAGUAGGUCAUUGGGUau-----
----- 12 0,-2
-----UCUUGGAGUAGGUCAUUGGGUG-----
----- 20 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGa-----
----- 14 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGau-----
----- 3 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 5 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 5 0,0

```

>hsa-mir-4326 5p:11-30 SRX018963

gcugcucugcUGUUCCUCUGUCUCCCAGACucugggguggauggagcaggucggggggcca

((((...((((((((...((((((((...)))))))))...))))))...))..

```

-----UGUUCCUCUGUCUCCCAGACUC----- 2 0,2

```

>hsa-mir-433 3p:64-85 SRX018963


```

ccggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg
((..(((((((...(((.(((((((((((.(((((.(((((.(((.....)))))).)).....)))))).)))).))
).)))).)))).))
-----AUCAUGAUGGGCUCCUC
G----- 4 0,-4
-----AUCAUGAUGGGCUCCUC
GG----- 2 0,-3
-----AUCAUGAUGGGCUCCUC
GGUG----- 2 0,-1
-----AUCAUGAUGGGCUCCUC
GGUGU----- 39 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUa----- 6 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUau----- 2 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUU----- 4 0,1
-----UCAUGAUGGGCUCCUC
GGUGU----- 2 1,0

```

```

>hsa-mir-450a-1 5p:18-39 SRX018963
aaacgauacuaaaacuguUUUUGCGAUGUGUCCUAAUAUgcacuaauaaauauauugggaacauuuugcauguauaguuuu
guaucuuauaua
....(((((((.(((((((...(((.(((((((((((.(((((.(((((.(((.....)))))).)).....)))))).)))).))
))))).)))).))
-----UUUUGCGAUGUGUCCUAA-----
----- 3 0,-3
-----UUUUGCGAUGUGUCCUAAU-----
----- 10 0,-2
-----UUUUGCGAUGUGUCCUAAUA-----
----- 10 0,-1
-----UUUUGCGAUGUGUCCUAAUAa-----
----- 4 0,-1
-----UUUUGCGAUGUGUCCUAAUAU-----
----- 16 0,0
-----AUUGGGAACAUUUUGCAUGUAU-----
----- 7

```

-----UUGGAACAUUUUGCAUGUAU-----
----- 2 -----

>hsa-mir-450a-2 5p:23-44 SRX018963

ccaaagaaagaugcuaaacuauUUUUGCGAUGUGUCCUAAUAUguaauauaaauguaauuggggacauuuugcauucuaa
guuuuguaucaauaauaugg

-----UUUUGCGAUGUGUCCUAA-----

----- 3 0,-3

-----UUUUGCGAUGUGUCCUAAU-----

----- 10 0,-2

-----UUUUGCGAUGUGUUCCUAAUA-----

----- 10 0,-1

-----UUUUGCGAUGUGUCCUAAUAa-----

----- 4 0,-1

-----UUUUGCGAUGUGUCCUAAUAU-----

----- 16 0,0

-----AUUGGGGACAUUUUGCAUU-----

----- 8

-----AUUGGGGACAUUUUGCAUUC-----

-----AUUGGGGACAUUUUGCAUUCAU-----

----- 5

-----UUGGGGACAUUUUGCAUUC-----

----- 3

-----UUGGGGACAUUUUGCAUUCAU-----

----- 16

-----UUGGGGACAUUUGCAUUCAUA

>hsa-mi r-450b 5p:11-32;3p:48-69 SRX018963

gcagaauuauUUUGCAAUAUGUCCUGAAUAanguaauauaaguguaUUGGGAUCAUUUUGCAUCCAUAguuuuguau

-----UUUUGCAAUAUGUUCCUG-----

11 0,-4

-----UUUUGCAAUAUGUUCCUGA-----

7 0,-3

```

-----UUUUGCAAUAUGUUCCUGAA-----
29  0,-2
-----UUUUGCAAUAUGUUCCUGAAa-----
2   0,-2
-----UUUUGCAAUAUGUUCCUGAAU-----
4   0,-1
-----UUUUGCAAUAUGUUCCUGAAUA-----
5   0,0
-----UUUUGCAAUAUGUUCCUGAAUAa-----
6   0,0
-----UUUGCAAUAUGUUCCUGAA-----
2   1,-2
-----UUUGCAAUAUGUUCCUGAAU-----
2   1,-1

```

>hsa-mir-451 5p:17-38 SRX018963

```

cuugggaugggcaaggAAACCGUUACCAUUACUGAGUUuaguaaugguaauggguucucuugcuauaccaga
.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
-----AAACCGUUACCAUUACUG----- 432
0,-4
-----AAACCGUUACCAUUACUGA----- 180
0,-3
-----AAACCGUUACCAUUACUGAu----- 2
0,-3
-----AAACCGUUACCAUUACUGAG----- 1734
0,-2
-----AAACCGUUACCAUUACUGAGa----- 2
0,-2
-----AAACCGUUACCAUUACUGAGau----- 19
0,-2
-----AAACCGUUACCAUUACUGAGU----- 834
0,-1
-----AAACCGUUACCAUUACUGAGUa----- 3
0,-1
-----AAACCGUUACCAUUACUGAGUU----- 6062
0,0
-----AAACCGUUACCAUUACUGAGUUa----- 8
0,0

```

-----AAACCGUUACCAUUACUGAGUUU-----	1107
0,1	
-----AAACCGUUACCAUUACUGAGUUUA-----	84
0,2	
-----AAACCGUUACCAUUACUGAGUUUAG-----	47
0,3	
-----AACCGUUACCAUUACUGAG-----	8
1,-2	
-----AACCGUUACCAUUACUGAGU-----	3
1,-1	
-----AACCGUUACCAUUACUGAGUU-----	37
1,0	
-----AACCGUUACCAUUACUGAGUUU-----	22
1,1	
-----AACCGUUACCAUUACUGAGUUUA-----	3
1,2	
-----ACCGUUACCAUUACUGAGUUU-----	2
2,1	

>hsa-mir-452 MA:14-35;mi:58-79 SRX018963

gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc

((.((((((((((...(.((((((((((.((.((((((((((.....)))))))))).)).))))))))).).))))))

-----AACUGUUUGCAGAGGAAA-----	
----- 2 0,-4	
-----AACUGUUUGCAGAGGAAAC-----	
----- 20 0,-3	
-----AACUGUUUGCAGAGGAAACU-----	
----- 57 0,-2	
-----AACUGUUUGCAGAGGAAACUG-----	
----- 4 0,-1	
-----AACUGUUUGCAGAGGAAACUGu-----	
----- 2 0,-1	
-----AACUGUUUGCAGAGGAAACUGA-----	
----- 10 0,0	
-----AACUGUUUGCAGAGGAAACUGAa-----	
----- 4 0,0	

```

-----AACUGUUUGCAGAGGAAACUGAG-----
----- 7 0,1
-----AACUGUUUGCAGAGGAAACUGAGA-----
----- 3 0,2

```

```

>hsa-mir-454    mi:24-45;MA:64-86    SRX018963
ucuguuuauaccagauccuagaACCCUAUCAUAUUGUCUCUGCuguguaaaauaguucugagUAGUGCAAUAUUGCUUA
UAGGGUuuugguguuuggaaagaacaugggcagg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAGUGCAAUAUUGCUUA
UAGG----- 2 0,-2

```

```

>hsa-mir-455    5p:16-37;3p:54-74    SRX018963
ucccuggcgugagggUAUGUGCCUUUGGACUACAUCGuggaagccagcaccauGCAGUCCAUGGGCAUAUACACuugccu
caaggccuaugucauc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))).....
-----GUAUGUGCCUUUGGACUAC-----
----- 2 -1,-4
-----GUAUGUGCCUUUGGACUACA-----
----- 9 -1,-3
-----GUAUGUGCCUUUGGACUACAU-----
----- 35 -1,-2
-----GUAUGUGCCUUUGGACUACAUa-----
----- 4 -1,-2
-----GUAUGUGCCUUUGGACUACAUu-----
----- 5 -1,-2
-----GUAUGUGCCUUUGGACUACAUC-----
----- 6 -1,-1
-----GUAUGUGCCUUUGGACUACAUCG-----
----- 5 -1,0
-----GUAUGUGCCUUUGGACUACAUCGU-----
----- 10 -1,1
-----UAUGUGCCUUUGGACUACA-----
----- 9 0,-3
-----UAUGUGCCUUUGGACUACAU-----
----- 7 0,-2

```

```

-----UAUGUGCCUUUGGACUACAUA-----
-----      2      0,-2
-----UAUGUGCCUUUGGACUACAUC-----
-----     46      0,-1
-----UAUGUGCCUUUGGACUACAUCa-----
-----      3      0,-1
-----UAUGUGCCUUUGGACUACAUCG-----
-----    165      0,0
-----UAUGUGCCUUUGGACUACAUCGa-----
-----      6      0,0
-----UAUGUGCCUUUGGACUACAUCGU-----
-----     51      0,1
-----UAUGUGCCUUUGGACUACAUCGUG-----
-----      3      0,2
-----AUGUGCCUUUGGACUACAUCG-----
-----      4      1,0
-----AUGUGCCUUUGGACUACAUCGU-----
-----      3      1,1
-----UGUGCCUUUGGACUACAUC-----
-----      4      2,-1
-----UGUGCCUUUGGACUACAUCGU-----
-----      3      2,1
-----UGUGCCUUUGGACUACAUCGUG-----
-----     18      2,2
-----UGUGCCUUUGGACUACAUCGUGa-----
-----     14      2,2
-----UGUGCCUUUGGACUACAUCGUGu-----
-----      8      2,2
-----AUGCAGUCCAUGGGCAUA-----
-----      7      -2,-5
-----AUGCAGUCCAUGGGCAUAU-----
-----     13      -2,-4
-----AUGCAGUCCAUGGGCAUAUA-----
-----      4      -2,-3
-----AUGCAGUCCAUGGGCAUAUAu-----
-----      5      -2,-3
-----AUGCAGUCCAUGGGCAUAUAC-----
-----     30      -2,-2

```

-----			-----AUGCAGUCCAUGGGCAUAUACu-----
-----	3	-2,-2	-----AUGCAGUCCAUGGGCAUAUACA-----
-----	47	-2,-1	-----AUGCAGUCCAUGGGCAUAUACAC-----
-----	12	-2,0	-----AUGCAGUCCAUGGGCAUAUACACa-----
-----	2	-2,0	-----AUGCAGUCCAUGGGCAUAUACACU-----
-----	3	-2,1	-----UGCAGUCCAUGGGCAUAUAC-----
-----	4	-1,-2	-----UGCAGUCCAUGGGCAUAUACA-----
-----	33	-1,-1	-----UGCAGUCCAUGGGCAUAUACa-----
-----	3	-1,-1	-----UGCAGUCCAUGGGCAUAUACau-----
-----	2	-1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	17	-1,0	-----UGCAGUCCAUGGGCAUAUACACa-----
-----	6	-1,0	-----GCAGUCCAUGGGCAUAUA-----
-----	9	0,-3	-----GCAGUCCAUGGGCAUAUAa-----
-----	8	0,-3	-----GCAGUCCAUGGGCAUAUAu-----
-----	4	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	64	0,-2	-----GCAGUCCAUGGGCAUAUACu-----
-----	2	0,-2	-----GCAGUCCAUGGGCAUAUACA-----
-----	227	0,-1	-----GCAGUCCAUGGGCAUAUACAa-----
-----	11	0,-1	-----GCAGUCCAUGGGCAUAUACau-----
-----	2	0,-1	

			GCAGUCCAUGGGCAUAUACAuu
3	0,-1		GCAGUCCAUGGGCAUAUACAC
318	0,0		GCAGUCCAUGGGCAUAUACACa
60	0,0		GCAGUCCAUGGGCAUAUACACU
235	0,1		GCAGUCCAUGGGCAUAUACACUa
3	0,1		GCAGUCCAUGGGCAUAUACACUU
12	0,2		GCAGUCCAUGGGCAUAUACACUUu
2	0,2		CAGUCCAUGGGCAUAUACA
2	1,-1		CAGUCCAUGGGCAUAUACAC
36	1,0		CAGUCCAUGGGCAUAUACACU
35	1,1		CAGUCCAUGGGCAUAUACACUa
6	1,1		CAGUCCAUGGGCAUAUACACUU
28	1,2		CAGUCCAUGGGCAUAUACACUUa
17	1,2		CAGUCCAUGGGCAUAUACACUUu
21	1,2		AGUCCAUGGGCAUAUACA
2	2,-1		AGUCCAUGGGCAUAUACAC
4	2,0		AGUCCAUGGGCAUAUACACU
4	2,1		

>hsa-mi r-483 5p:8-29;3p:48-68 SRX018963

`gagggggAAGACGGGAGGAAGAAGGGAGugguuccaucacgccuccUCACUCCUCUCCUCCCUGUCUUcuccucuc
(((((((((((((((((((.(.(.(.(.(.(.....)))..)).).)).)))))))).))))).`

-----AAGACGGGAGGAAAGAAG-----
101 0, -4
-----AAGACGGGAGGAAAGAAGG-----
212 0, -3
-----AAGACGGGAGGAAAGAAGGa-----
12 0, -3
-----AAGACGGGAGGAAAGAAGGaa-----
7 0, -3
-----AAGACGGGAGGAAAGAAGGu-----
6 0, -3
-----AAGACGGGAGGAAAGAAGGG-----
279 0, -2
-----AAGACGGGAGGAAAGAAGGGu-----
5 0, -2
-----AAGACGGGAGGAAAGAAGGGA-----
702 0, -1
-----AAGACGGGAGGAAAGAAGGGa-----
266 0, -1
-----AAGACGGGAGGAAAGAAGGGa-----
107 0, -1
-----AAGACGGGAGGAAAGAAGGGau-----
35 0, -1
-----AAGACGGGAGGAAAGAAGGGau-----
50 0, -1
-----AAGACGGGAGGAAAGAAGGGau-----
24 0, -1
-----AAGACGGGAGGAAAGAAGGGAG-----
1380 0, 0
-----AAGACGGGAGGAAAGAAGGGAGa-----
228 0, 0
-----AAGACGGGAGGAAAGAAGGGAGaa-----
21 0, 0
-----AAGACGGGAGGAAAGAAGGGAGau-----
13 0, 0
-----AAGACGGGAGGAAAGAAGGGAGU-----
182 0, 1
-----AAGACGGGAGGAAAGAAGGGAGUa-----
7 0, 1

```

-----AAGACGGGAGGAAAGAAGGGAGUaa-----
3    0,1
-----AAGACGGGAGGAAAGAAGGGAGUau-----
2    0,1
-----AAGACGGGAGGAAAGAAGGGAGUu-----
11   0,1
-----AAGACGGGAGGAAAGAAGGGAGUG-----
2    0,2
-----AAGACGGGAGGAAAGAAGGGAGUGG-----
3    0,3
-----AGACGGGAGGAAAGAAGG-----
16   1,-3
-----AGACGGGAGGAAAGAAGGG-----
20   1,-2
-----AGACGGGAGGAAAGAAGGGA-----
28   1,-1
-----AGACGGGAGGAAAGAAGGGAa-----
2    1,-1
-----AGACGGGAGGAAAGAAGGGAG-----
48   1,0
-----AGACGGGAGGAAAGAAGGGAGa-----
2    1,0
-----AGACGGGAGGAAAGAAGGGAGU-----
31   1,1
-----AGACGGGAGGAAAGAAGGGAGUGG-----
26   1,3
-----GACGGGAGGAAAGAAGGGAG-----
2    2,0
-----GACGGGAGGAAAGAAGGGAGUGG-----
2    2,3
-----UCACUCCUCUCCUCCCGUCUU-----
5    0,0
-----UCACUCCUCUCCUCCCGUCUUC-----
5    0,1
-----CACUCCUCUCCUCCCGUCUUC-----
7    1,1
-----CACUCCUCUCCUCCCGUCUUCa-----
2    1,1

```

```

-----CACUCCUCUCCUCCCGUCUUCU-----
4   1,2
-----CACUCCUCUCCUCCCGUCUUCUa-----
2   1,2

```

>hsa-mir-484 5p:8-29 SRX018963

```

agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaaggacuuuccgggggggugaccuggcuuuuuuggcg
.((((..((((((....(((.(((((((..(((..(((....))))..)))))).)))))).))))).))))).
-----UCAGGCUCAGUCCCCUCCC-----
2   0,-3
-----UCAGGCUCAGUCCCCUCCCau-----
2   0,-3
-----UCAGGCUCAGUCCCCUCCCGA-----
11  0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
4   0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
4   0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
31  0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
18  0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
9   0,1
-----CAGGCUCAGUCCCCUCCCGA-----
3   1,-1

```

>hsa-mir-485 5p:9-30;3p:46-67 SRX018963

```

acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
((((..(((((((..(((((((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..
-----AGAGGCUGGCCGUGAUGA----- 8
0,-4
-----AGAGGCUGGCCGUGAUGAA----- 6
0,-3
-----AGAGGCUGGCCGUGAUGAAa----- 2
0,-3
-----AGAGGCUGGCCGUGAUGAAau----- 3
0,-3

```

AGAGGCUGGCCGUGAUGAAU	11
0, -2	
AGAGGCUGGCCGUGAUGAAU	190
0, -1	
AGAGGCUGGCCGUGAUGAAU _a	4
0, -1	
AGAGGCUGGCCGUGAUGAAUUC	47
0, 0	
AGAGGCUGGCCGUGAUGAAUUC _u	2
0, 0	
AGAGGCUGGCCGUGAUGAAUUCG	39
0, 1	
AGAGGCUGGCCGUGAUGAAUUCG _u	10
0, 1	
AGAGGCUGGCCGUGAUGAAUUCGA	6
0, 2	
GUCAUACACGGCUCUCCUCU	2
0, -2	
GUCAUACACGGCUCUCCUCUC	4
0, -1	
GUCAUACACGGCUCUCCUCUC _a	3
0, -1	
GUCAUACACGGCUCUCCUCUCU	17
0, 0	

---UCCUGUACUGAGCUGCCCCGA-----	1107	
0,-1		
---UCCUGUACUGAGCUGCCCCGAa-----	78	0,-1
---UCCUGUACUGAGCUGCCCCGAaa-----	8	0,-1
---UCCUGUACUGAGCUGCCCCGAu-----	23	0,-1
---UCCUGUACUGAGCUGCCCCGAG-----	2569	
0,0		
---UCCUGUACUGAGCUGCCCCGAGa-----	743	0,0
---UCCUGUACUGAGCUGCCCCGAGaa-----	7	0,0
---UCCUGUACUGAGCUGCCCCGAGau-----	8	0,0
---UCCUGUACUGAGCUGCCCCGAGu-----	106	0,0
---UCCUGUACUGAGCUGCCCCGAGG-----	5	0,1
---UCCUGUACUGAGCUGCCCCGAGGa-----	3	0,1
-----CUGUACUGAGCUGCCCCG-----	2	2,-2
-----CUGUACUGAGCUGCCCCGA-----	22	2,-1
-----CUGUACUGAGCUGCCCCGAa-----	3	2,-1
-----CUGUACUGAGCUGCCCCGAG-----	56	2,0
-----CUGUACUGAGCUGCCCCGAGa-----	17	2,0
-----CUGUACUGAGCUGCCCCGAGu-----	3	2,0
-----CGGGGCAGCUCAGUACAGG-----	4	0,-2
-----CGGGGCAGCUCAGUACAGGA---	7	0,-1
-----CGGGGCAGCUCAGUACAGGAU--	14	0,0
-----CGGGGCAGCUCAGUACAGGAUu-	3	0,0
-----CGGGGCAGCUCAGUACAGGAUA-	4	0,1

>hsa-mir-487b 3p:51-72 SRX018963

uugguacuuggagagugguuaucuccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUuuucagua
ucaa

.(((((((..(((((((.....(((((((.(.((((((.....)))))).).)))))).)))))))))))).

-----AAUCGUACAGGGUCAUCCACU-----	
---- 15 0,-1	
-----AAUCGUACAGGGUCAUCCACUU-----	
---- 24 0,0	
-----AAUCGUACAGGGUCAUCCACUUa-----	
---- 2 0,0	
-----AAUCGUACAGGGUCAUCCACUUU-----	
---- 2 0,1	

```

-----AUCGUACAGGGUCAUCCACU-----
---- 2 1,-1
-----AUCGUACAGGGUCAUCCACUU-----
---- 2 1,0
-----UCGUACAGGGUCAUCCACUUU-----
---- 2 2,1

```

>hsa-mir-488 mi:14-34;MA:52-72 SRX018963

gagaaucaucucuCCCAGAUAAUGGCACUCUCAAacaaguuccaaauuguUUGAAAGGCUAUUUCUUGGUCagaugacu
cuc

(((((.((((((.((.(((.((((((.((.(((((((((.)))))))).)))))))).)))))))).)))))

```

-----CCCAGAUAAUGGCACUCUCA-----
--- 2 0,-1
-----CCCAGAUAAUGGCACUCUCA-----
--- 2 0,0

```

>hsa-mir-490 5p:39-58;3p:76-97 SRX018963

uggaggccuugcugguuuggaaagucauuguucgacaCCAUGGAUCUCCAGGUGGGUcaaguuuagagaugcacCAACC
UGGAGGACUCCAUGCUGuugagcuguucacaagcagcgacacuucca

.((((((.((((((.((((((.)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).

```

-----CAACC
UGGAGGACUCCAUGC----- 4 0,-2
-----CAACC
UGGAGGACUCCAUGC----- 5 0,-1
-----CAACC
UGGAGGACUCCAUGCu----- 4 0,-1
-----CAACC
UGGAGGACUCCAUGCuu----- 3 0,-1
-----CAACC
UGGAGGACUCCAUGCG----- 60 0,0
-----CAACC
UGGAGGACUCCAUGCGa----- 14 0,0
-----CAACC
UGGAGGACUCCAUGCGU----- 130 0,1
-----CAACC
UGGAGGACUCCAUGCGUa----- 3 0,1

```

```

-----CAACC
UGGAGGACUCCAUGCUGUU----- 5 0,2
-----AACC
UGGAGGACUCCAUGCUGU----- 2 1,1

```

```

>hsa-mir-491 5p:16-37;3p:50-71 SRX018963
uugacuuagcuggguAGUGGGGAACCCUCCAUGAGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcuggcuggg
uugg
(((((.....))))))
))
-----AGUGGGGAACCCUCCAUGAGG-----
---- 3 0,0
-----AGUGGGGAACCCUCCAUGAGGA-----
---- 7 0,1

```

```

>hsa-mir-493 mi:16-37;MA:57-78 SRX018963
cuggccuccagggcuUGUACAUGGUAGGCUUUCAUucauucguuugcacauucggUGAAGGUCUACUGUGGCCAGGcc
cugugccag
((((.....))))
)))
-----UUUGUACAUGGUAGGCUUUCAa-----
----- 2 -1,-2
-----UUGUACAUGGUAGGCUUUCAU-----
----- 3 0,-1
-----UUGUACAUGGUAGGCUUUCAU-----
----- 9 0,0
-----UGAAGGUCUACUGUGUGC-----
----- 2 0,-4
-----UGAAGGUCUACUGUGUGCC-----
----- 5 0,-3
-----UGAAGGUCUACUGUGGCCAu-----
----- 2 0,-2
-----UGAAGGUCUACUGUGUGCCAG-----
----- 13 0,-1
-----UGAAGGUCUACUGUGUGCCAGa-----
----- 6 0,-1
-----UGAAGGUCUACUGUGUGCCAGG-----
----- 3 0,0

```

-----UGAAGGUCUACUGUGGCCAGGa-
----- 3 0,0

>hsa-mir-494 3p:48-69 SRX018963

gauacucgaaggagagguuguccguguugucuucucuuuuuuuugaUGAAACAUACACGGGAAACCUuuuuuuaguau
c
(((((((.(((((((((((((.(((((((((.(((((.)))))))).)))))).)))))))).))))))

-----UGAAACAUACACGGGAAACCU-----
- 6 0,-1

-----UGAAACAUACACGGGAAACCU-----
- 2 0,0

-----UGAAACAUACACGGGAAACCU-----
- 26 0,1

-----GAAACAUACACGGGAAACCU-----
- 2 1,-1

>hsa-mir-495 3p:50-71 SRX018963

ugguaccugaaaagaaguugcccauguuauuuucgcuuuauaugugacgAAACAAACAUGGUGCACUUCUuuuucgguauc
a
(((((((.(((((((((((((.(((((((((.(((((.)))))))).)))))).)))))))).))))))

-----AAACAAACAUGGUGCACUUCU-----
-- 3 0,-1

-----AAACAAACAUGGUGCACUUCU-----
-- 14 0,0

-----AAACAAACAUGGUGCACUUCUU-----
-- 10 0,1

-----AACAAACAUGGUGCACUUCUa-----
-- 2 1,0

-----AACAAACAUGGUGCACUUCUU-----
-- 5 1,1

>hsa-mir-496 3p:56-77 SRX018963

cccaagucagguacucgaauaggagguuguccaugguguguucauuuuuuuugaUGAGUAUUACAUGGCCAAUCUCcuu
ucgguacucauuucuucuggg
(((((((.(((((((((((((.(((((((((.(((((.)))))))).)))))).)))))))).))))))

-----UGAGUAUUACAUGGCCAAUCU-----
 ----- 7 0,-1 -----
 -----UGAGUAUUACAUGGCCAAUCUC-----
 ----- 2 0,0 -----

```

-----AGCAGCACACUGUGGUUUGUAC-----
-----12 1,2
-----AGCAGCACACUGUGGUUUGUACa-----
-----3 1,2
-----CCAAACCACACUGUGGUG
UU-----2 -1,-3

```

>hsa-mir-499 5p:33-53;3p:70-91 SRX018963

```

gccucgucccccugugccuugggcgggcggcugUUAAGACUUGCAGUGAUGUUUaacuccucuccacgugAACAUACAGC
AAGUCUGUGCUgcuucccgucccuacgcugccugggcagggg
((((((((.....((...(((((((.....((((((((.....)))))))))).))
)))))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).))
-----UUAAGACUUGCAGUGAUGU-----
-----4 0,-2
-----UUAAGACUUGCAGUGAUGUU-----
-----19 0,-1
-----UUAAGACUUGCAGUGAUGUUa-----
-----4 0,-1
-----UUAAGACUUGCAGUGAUGUUU-----
-----452 0,0
-----UUAAGACUUGCAGUGAUGUUUu-----
-----3 0,0
-----UUAAGACUUGCAGUGAUGUUUA-----
-----197 0,1
-----UUAAGACUUGCAGUGAUGUUUA-----
-----2 0,2
-----UAAGACUUGCAGUGAUGUUUA-----
-----2 1,1

```

>hsa-mir-500a MA:13-35;mi:52-73 SRX018963

```

gcucccccucucUAAUCCUUGCUACCUGGGUGAGAgugcugucugaugcaAUGCACCUGGGCAAGGAUUCUGagagcga
gagc
((((((.....((((((((.....((...((((((((.....)))))))))).))
)))))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).
-----AAUGCACCUGGGCAAGGA-----
-----18 -1,-5
-----AAUGCACCUGGGCAAGGAU-----
-----28 -1,-4

```

```

-----AAUGCACCUGGGCAAGGAUU-----
---- 101 -1,-3
-----AAUGCACCUGGGCAAGGAUUC-----
---- 6 -1,-2
-----AAUGCACCUGGGCAAGGAUUCUGA-----
---- 2 -1,1
-----AUGCACCUGGGCAAGGAU-----
---- 51 0,-4
-----AUGCACCUGGGCAAGGAUU-----
---- 272 0,-3
-----AUGCACCUGGGCAAGGAUUC-----
---- 45 0,-2
-----AUGCACCUGGGCAAGGAUUCU-----
---- 18 0,-1
-----AUGCACCUGGGCAAGGAUUCUGu-----
---- 4 0,0
-----AUGCACCUGGGCAAGGAUUCUGA-----
---- 27 0,1

```

>hsa-mir-500b 5p:11-28 SRX018963

```

ccccucucuAAUCCUUGCUACCUGGGUgagagugcuuucugaaugcagugcaccaggcaaggauucugcaaggggga
(((((((...((((((((...(((((((...((((((((...((((((((...))))))))))))))))))))).
-----AGUGCACCCAGGCAAGGAUU-----
2
-----AGUGCACCCAGGCAAGGAUUC-----
2
-----UGCACCCAGGCAAGGAUU-----
2
-----GCACCCAGGCAAGGAUUCUGC-----
2

```

>hsa-mir-501 5p:14-35;3p:51-72 SRX018963

```

gcucuuccucucuAAUCCUUUGUCCCUGGGUGAGAgugcuuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagaggu
gagc
(((((((...((((((((...(((((((...((((((((...((((((((...))))))))))))))))))))).
))))
-----AAUGCACCCGGGCAAGGA-----
---- 11 0,-4

```

-----			AAUGCACCCGGGCAAGGAU-----
----	13	0,-3	
-----			AAUGCACCCGGGCAAGGAUU-----
----	68	0,-2	
-----			AAUGCACCCGGGCAAGGAUUC-----
----	8	0,-1	
-----			AUGCACCCGGGCAAGGAUU-----
----	6	1,-2	

>hsa-mi r-502 5p:16-36;3p:52-73 SRX018963

ugcuccccucucuaAUCCUUGCUAUCUGGGUGCUAgugcuggcucaaugcAAUGCACCUGGGCAAGGAUUCAgagaggg
ggagcu

.(((((((((((((((((((((((((((((((((((...(..((((((...(((.....))))..)))))..)))))))).)))))))).
)))))..

-----			-----AAUGCACCUGGGCAAGGA-----
-----	18	0,-4	
-----			-----AAUGCACCUGGGCAAGGAU-----
-----	28	0,-3	
-----			-----AAUGCACCUGGGCAAGGAUU-----
-----	101	0,-2	
-----			-----AAUGCACCUGGGCAAGGAUUC-----
-----	6	0,-1	
-----			-----AAUGCACCUGGGCAAGGAUUCA-----
-----	18	0,0	
-----			-----AAUGCACCUGGGCAAGGAUUCAG-----
-----	9	0,1	
-----			-----AAUGCACCUGGGCAAGGAUUCAGu-----
-----	4	0,1	
-----			-----AUGCACCUGGGCAAGGAU-----
-----	51	1,-3	
-----			-----AUGCACCUGGGCAAGGAUU-----
-----	272	1,-2	
-----			-----AUGCACCUGGGCAAGGAUUC-----
-----	45	1,-1	

>hsa-mir-503 5p:6-28 SRX018963

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgau^{cg}gugcucugggguauuguuuccgcugccagggua
(((((((.((((((((((((((((((((.(.(.(((((.....)))))))).)).)))))))).)))))).))))))

-----UAGCAGCGGGAACAGUUC-----	481	0,-5
-----UAGCAGCGGGAACAGUUCa-----	28	0,-5
-----UAGCAGCGGGAACAGUUCaa-----	26	0,-5
-----UAGCAGCGGGAACAGUUCU-----	573	0,-4
-----UAGCAGCGGGAACAGUUCUa-----	43	0,-4
-----UAGCAGCGGGAACAGUUCUaa-----	83	0,-4
-----UAGCAGCGGGAACAGUUCUau-----	2	0,-4
-----UAGCAGCGGGAACAGUUCUu-----	2	0,-4
-----UAGCAGCGGGAACAGUUCUG-----	53	0,-3
-----UAGCAGCGGGAACAGUUCUGa-----	2	0,-3
-----UAGCAGCGGGAACAGUUCUGaa-----	14	0,-3
-----UAGCAGCGGGAACAGUUCUGCA-----	9	0,-1
-----UAGCAGCGGGAACAGUUCUGCAa-----	2	0,-1
-----UAGCAGCGGGAACAGUUCUGCAu-----	3	0,-1
-----UAGCAGCGGGAACAGUUCUGCAuu-----	2	0,-1
-----UAGCAGCGGGAACAGUUCUGCAG-----	62	0,0
-----UAGCAGCGGGAACAGUUCUGCAGa-----	2	0,0
-----AGCAGCGGGAACAGUUCU-----	6	1,-4
-----AGCAGCGGGAACAGUUCUGCAG-----	3	1,0

```
>hsa-mir-505      mi:15-36;MA:51-72      SRX018963
gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc
((((((..((((.((((((((((((.((((.((((((((.....))))))))).))))).)))))))).))))).
))))
-----GGGAGCCAGGAAGUAUUG-----
```



```

----- 15 0,0
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 13
-----AAUGUGUAGCAAAAGACAG-----
----- 4
-----AAUGUGUAGCAAAAGACAGA-----
----- 83
-----AAUGUGUAGCAAAAGACAGAA-----
----- 35
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 2
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 23
-----AAUGUGUAGCAAAAGACAGAAUa-----
----- 5
-----AUGUGUAGCAAAAGACAGA-----
----- 3

```

>hsa-mir-511-2 5p:16-36 SRX018963

caauagacaccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggg
uccauug

(((((...(((...(((((((((((...(((...(((...(((...))))))...))))))...))))))...))))))

```

-----CGUGUCUUUUGCUCUGCAGUCA-----
----- 2 -1,0
-----GUGUCUUUUGCUCUGCAGUCA-----
----- 15 0,0
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 13
-----AAUGUGUAGCAAAAGACAG-----
----- 4
-----AAUGUGUAGCAAAAGACAGA-----
----- 83
-----AAUGUGUAGCAAAAGACAGAA-----
----- 35
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 2
-----AAUGUGUAGCAAAAGACAGAAU-----

```

```

----- 23
-----AAUGUGUAGCAAAAGACAGAAUa-----
----- 5
-----AUGUGUAGCAAAAGACAGA-----
----- 3

```

>hsa-mir-532 5p:20-41;3p:57-78 SRX018963

```

cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu

```

```

.(.((((((((.....((.((((((.(((((.(((.....))..)))..))))..))))..))))..))....
)))))))).).

```

```

-----CAUGCCUUGAGUGUAGGA-----
----- 3 0,-4
-----CAUGCCUUGAGUGUAGGAC-----
----- 2 0,-3
-----CAUGCCUUGAGUGUAGGACCG-----
----- 5 0,-1
-----CAUGCCUUGAGUGUAGGACCGa-----
----- 2 0,-1
-----CAUGCCUUGAGUGUAGGACCGU-----
----- 49 0,0
-----CAUGCCUUGAGUGUAGGACCGUa-----
----- 5 0,0
-----CAUGCCUUGAGUGUAGGACCGUaa-----
----- 2 0,0
-----CAUGCCUUGAGUGUAGGACCGUU-----
----- 2 0,1
-----CCUCCCACACCCAAGGCU-----
----- 2 0,-4
-----CCUCCCACACCCAAGGCUUG-----
----- 5 0,-2
-----CCUCCCACACCCAAGGCUUGC-----
----- 15 0,-1
-----CCUCCCACACCCAAGGCUUGCA-----
----- 78 0,0
-----CCUCCCACACCCAAGGCUUGCAu-----
----- 9 0,0
-----CCUCCCACACCCAAGGCUUGCAA-----

```


----- 12 0,1

>hsa-mir-541 mi:10-34;MA:54-75 SRX018963

acgucagggAAAGGAUUCUGCUGUCGGUCCACUccaaaguucacagaugggUGGUGGGCACAGAAUCUGGACUcugcu
ugug

(((((.....(((((((((((((.....((((.....))))))))))))).))))))))))))).)))).

-----AAAGGAUUCUGCUGUCGGUCCACU-----

---- 2 0,0

>hsa-mir-542 5p:16-38;3p:53-74 SRX018963

cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAAACUGAAAggucug
ggagccacucaucuca

.....((((((((.....((((.....((((((((.....((((.....))))))))))))).))))))))))))).)))).

-----UCGGGGAUCAUCAUGUCAC-----

----- 5 0,-4

-----UCGGGGAUCAUCAUGUCACG-----

----- 3 0,-3

-----UCGGGGAUCAUCAUGUCACGA-----

----- 2 0,-2

-----UUGUGACAGAUUGAUAAAC-----

----- 5 -1,-5

-----UUGUGACAGAUUGAUAAACU-----

----- 6 -1,-4

-----UUGUGACAGAUUGAUAAACUGA-----

----- 3 -1,-2

-----UUGUGACAGAUUGAUAAACUGAA-----

----- 3 -1,-1

-----UGUGACAGAUUGAUAAACU-----

----- 34 0,-4

-----UGUGACAGAUUGAUAAACUG-----

----- 31 0,-3

-----UGUGACAGAUUGAUAAACUGA-----

----- 17 0,-2

-----UGUGACAGAUUGAUAAACUGAA-----

----- 41 0,-1

-----UGUGACAGAUUGAUAAACUGAAA-----

----- 37 0,0 -----UGUGACAGAUUGAUAACUGAAAa-----
----- 5 0,0 -----UGUGACAGAUUGAUAACUGAAAu-----
----- 2 0,0 -----

>hsa-mir-543 3p:47-68 SRX018963

[illegible]

-----AAACAUUCGCGGUGCACUUCUU-----

11 0.0

-----AAACAUUCGCGGUGCACUUCUUa-----

2 0,0

-----AAACAUUCGCGGUGCACUUCUU-----

3 0,1

>hsa-mir-548a-1 3p:61-82 SRX018963

ugcagggagguauuaaguuggugcaaaaguaauuugauuuuugccauuaaaaguaacgaCAAAACUGGCAAUACUUU
GCaccaaaccugguauu

..((((.....(((((((((((((((((((((.(((((.((((...)))..)))))))))
)))))))).)))).....

-----CAAACUGGCAAUACUUUU

G----- 3 0,-1

>hsa-mir-548a-2 3p:61-82 SRX018963

ugugauguguauuagguuugcaaaaguaauugggguuuuuugccguuaaaaguaauggCAAAACUGGCAAUACUUU
GCaccaaacuauuuuu

-----CAAACUGGCAAUACUUUU

G----- 3 0, -1

>hsa-mi r-548a-3 5p:25-46;3p:61-82 SRX018963

ccuagaauguuuuaggucggugcAAAAGUAAUUGCGAGUUUACcauuacuuucaauggCAAACUGGCAAUACUUU
GCaccaacguaauacu

$\dots\dots\dots(((((((.(.(.(((((((((((((((((((((.((((((.((((((\dots)))))).)))))..))))).)))).\dots$

-----CAAACUGGCAAUACUUUU

```

>hsa-mir-548b    5p:25-46;3p:61-82    SRX018963
cagacuaauauuuuagguuggcgcAAAAGUAAUUGUGGUUUUGGCCuuuauuuucaauggCAAGAACCUCAGUUGCUUUU
GUgccaaccuaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAAGUAAUUGUGGUUUUGGCa-----
-----3    0,-1

```

```
>hsa-mir-548d-1 5p:25-46;3p:61-82 SRX018963
aaacaaguuaauuuagguuggucAAAAGUAAUUGUGGUUUUUGCCuguaaaaguaauggCAAAAACCACAGUUUCUUUU
GCaccagacuaauaaag
.....(((((((.(((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))).)))))))))...
-----AAAAGUAAUUGUGGUUUUUG-----
-----2 0,-2
```

[illegible]

```

>hsa-mir-548e 3p:53-74 SRX018963
uuauuagguugguacaaaagcaaucgcgguuuuugcuauuacuuuuuagggcAAAAACUGAGACUACUUUUGCAccaacc
ugauagaa
((((((((((((((.((((((...((.((((((((((((((.((((...)))..)))))))))..)))))))))..
))))))..
-----AAAAACUGAGACUACUUUUG-----
----- 2 0,-2
-----AAAAACUGAGACUACUUUUG-----
----- 9 0,-1
-----AAAAACUGAGACUACUUUUGCA-----
----- 19 0,0
-----AAAAACUGAGACUACUUUUGCAa-----
----- 3 0,0

```

```

>hsa-mir-548f-2 3p:59-77 SRX018963
uaauaacuauuagguuggugcgaacauaauugcaguuuuuaucauuacuuuuuagggcAAAAACUGUAAUUACUUUUGca
ccaaccuaauuuuuagu
.....((((((((((((((((((.((((((((((((((((((.((((...)))..)))))))))..)))))))))..))))))
)))))))))..
-----CAAAAACUGUAAUUACUUUUGC-----
----- 2 -1,2

```

```

>hsa-mir-548f-3 3p:54-72 SRX018963
auuagguuggugcaaaccuaauugcauuuuuugcaguuuuuuuagaaauugcAAAAACUGUAAUUACUUUUGcaccaac
cuaauac
((((((((((((((((((.((((((((((((((((((.((((...)))..)))))))))..)))))))))..)))))))))..
))))))..
-----CAAAAACUGUAAUUACUUUUGC-----
----- 2 -1,2

```

```

>hsa-mir-548h-3 5p:29-50 SRX018963
ucugauucugcauguauuagguuggugcAAAAGUAAUCGCGGUUUUUGUCauugaaagaaauagcaaaaacugcauuac
uuuugcaccaaccuaaaaguagucacugucuucagaua
((((((.((((...((((((((((((((((((((.((((((((((((((.((((...)))..)))))))))..)))))))))..
)))))))))..))))))..))))))..))))))..
-----CAAAAACUGCAAUUAC
UU----- 2
-----CAAAAACUGCAAUUAC

```


((((((((((((((.((((.((((.(((((((.....)))))))).).)).)).))))))))...
 -----AAAAGUAAUUGCGGAUUUUGCC-----
 2 0,0

[illegible]


```

>hsa-mir-550a-1 MA:22-44;mi:61-82 SRX018963
ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguuguaagauagUGUCUUACUCCCUCAGGCAC
AUcuccaacaagucucu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AGUGCCUGAGGGAGUAAG-----
----- 2 0,-5
-----AGUGCCUGAGGGAGUAAGAGC-----
----- 2 0,-2
-----UGUCUUACUCCCUCAGGCAC
A----- 3 0,-1
-----GUCUUACUCCCUCAGGCAC
AU----- 3 1,0

```

```

>hsa-mir-550a-2 MA:22-44;mi:61-82 SRX018963
ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguugucagauagUGUCUUACUCCCUCAGGCAC
AUcuccagcgagucucu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AGUGCCUGAGGGAGUAAG-----
----- 2 0,-5
-----AGUGCCUGAGGGAGUAAGAGC-----
----- 2 0,-2
-----UGUCUUACUCCCUCAGGCAC
A----- 3 0,-1
-----GUCUUACUCCCUCAGGCAC
AU----- 3 1,0

```

```

>hsa-mir-551b mi:22-43;MA:61-81 SRX018963
agaugugcucuccuggcccauGAAAUCAAGCGUGGGUGAGACCuggugcagaacgggaagGCGACCCAUACUUGGUUUA
Gaggcugugagaauaa
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----GCGACCCAUACUUGGUUUA
Gu----- 2 0,0

```

```

>hsa-mir-556 5p:16-37;3p:55-76 SRX018963
gauaguaauaagaaaGAUGAGCUCAUUGUAAUAUGAGcuucauuuauacauuucAUAUUACCAUUAGCUCAUCUUUuuua

```


>hsa-mi r-574 5p:25-47;3p:61-82 SRX018963

-----UGAGUGUGUGUGUGAGU-----
-----43 0,-4-----

-----UGAGUGUGUGUGUGAGUaa-----
-----2 0,-4-----

-----UGAGUGUGUGUGUGAGUGU-----
-----10 0,-2-----

-----UGAGUGUGUGUGUGAGUGUGa-----
-----4 0,-1-----

-----UGAGUGUGUGUGUGAGUGUGU-----
-----4 0,0-----

-----UGAGUGUGUGUGUGAGUGUGUG-----
-----3 0,1-----

-----UGAGUGUGUGUGUGAGUGUGUGU-----
-----5 0,2-----

-----CACGCUCAUGCACACACC-----
----- 23 0,-4

-----CACGCUAUGCACACACCC-

----- 44 0,-3

-----CACGCUAUGCACACACCCA
----- 54 0,-2

-----CACGCUCAUGCACACACCCA
a-----4 0,-2

-----CACGCUAUGCACACACCCA


```

>hsa-mir-582      5p:16-38;3p:53-74      SRX018963
aucugugcucuugaUACAGUUGUUAACCAGUUACUaaucuaacuaaungUAACUGGUUGAACAAACUGAACCCaaagg
gugcaaaguagaaacaau
...(((.....))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))).
-----UAACUGGUUGAACAAACUGA-----
-----7    0,-3-----UAACUGGUUGAACAAACUGAA-----
-----11   0,-2-----UAACUGGUUGAACAAACUGAAC-----
-----12   0,-1-----UAACUGGUUGAACAAACUGAACCC-----
-----6    0,0-----UAACUGGUUGAACAAACUGAACCC-----
-----2    0,1-----AACUGGUUGAACAAACUGAA-----
-----2    1,-2-----

```

>hsa-mir-589 MA:24-45;mi:61-84 SRX018963
uccagccugugcccagcagccccUGAGAACCACGUCUGCUCUGAGcuggguacugccuguUCAGAACAAUGCCGGUCC

$$\begin{aligned} & \dots(((\dots((\dots(((((\dots(((\dots((((((\dots((\dots((((((\dots((\dots\dots)))))))))..)).)).)).)).). \\ &))).)).))).)..)).)).). \end{aligned}$$

>hsa-mir-590 5p:16-37;3p:56-76 SRX018963
uagccagucagaaaauGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUUAUGUAUAAGCUAGUcucu
gauugaaacaugcagca

...(((((((.(.(.(((((((.(((((((.((((((..((.....)))..)))))).)))))))).)))))))).)))))).....

```

-----GAGCUUAUUCAUAAAAGUG-----
-----      2      0,-3
-----GAGCUUAUUCAUAAAAGUGC-----
-----      2      0,-2
-----GAGCUUAUUCAUAAAAGUGCA-----
-----      5      0,-1
-----GAGCUUAUUCAUAAAAGUGCAG-----
-----     12     0,0
-----GUAUUUUUAUGUAUAAGCUAGU-----
-----      3     -1,0
-----UAAUUUUUAUGUAUAAGCU-----
-----      2      0,-3
-----UAAUUUUUAUGUAUAAGCUA-----
-----      3      0,-2
-----UAAUUUUUAUGUAUAAGCUAG-----
-----      2      0,-1
-----UAAUUUUUAUGUAUAAGCUAGU-----

```

$$----- \quad 2 \quad 0,0$$

>hsa-mir-592 5p:16-37 SRX018963

uauuauGCCAUGACAUUGUGUCAAUAUGCGAUGAUGUguugugauggcacagcgucaucacgugggagcgcaacaucag
acguaagacgucacaac

..((((.((((.((((((((.((((.((((((((.((((...)))))))))).))))).))))))
 .))))).

-----UUGUGUCAUAUGCGAUGAUGU-----

$$----- \quad 2 \quad 0,0$$

>hsa-mir-598 3p:61-82 SRX018963

gcuugaugaugcugcugaugcuggcgggugaucccggaugggugagcugggaaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag

.....((((((((..((((..((.(.....))))).))))).))))))
).

-----UACGUCAUCGUUGUCAUC-----

----- 15 0,-4

-----UACGUCAUCGUUGUCAUCG-----

----- 6 0, -3

-----UACGUCAUCGUUGUCAUCGU

----- 21 0, -2

-----UACGUCAUCGUUGUCAUCGU

C----- 15 0, -1

-----UACGUCAUCGUUGUCAUCGU

Cuu----- 2 0,-1

-----UACGUCAUCGUUGUCAUCGU

CA----- 100 0,0

-----UACGUCAUCGUUGUCAUCGU

CAa----- 6 0,0

-----UACGUCAUCGUUGUCAUCGU

CAU----- 18 0,1

-----UACGUCAUCGUUGUCAUCGU

CAUu----- 2 0,1

>hsa-mir-600 3p:61-83 SRX018963

aagucacgugcuguggcuccagcuucauaggaaggcucuuugucugucaggcaguggaguuACUUACAGACAAGAGCCUUG
CUCaggccagcccugccc

```

))..)))).)))).))..
-----CAUAGGAAGGCUCUUGUCU-----
----- 4
-----CAUAGGAAGGCUCUUGUCUGUC-----
----- 2

```

```

>hsa-mir-618    5p:16-38    SRX018963
cucuuguucacagccAAACUCUACUUGUCCUUCUGAGUguaauuacguacaugcaguagcucaggagacaagcagguuuu
cccuguggaugagucuga
..((..((((((..((((((..((((((..((((((.....((((((.....))))))))))))))))))))).
..)))))))).)))).
-----AAACUCUACUUGUCCUUCUGA-----
----- 2    0,-2
-----AAACUCUACUUGUCCUUCUGAG-----
----- 2    0,-1

```

```

>hsa-mir-619    3p:61-84    SRX018963
cgcccaccucagccucccaaaaugcugggauuacaggcaugagccacugcggucgaccauGACCUGGACAUGUUUGUGCC
CAGUacugucaguuugcag
.((..((..((((.....((((((..((((((..((((((..((((.....))))))))))))))))))))))
)))))))).)))).
-----UGCUGGGAUUACAGGCAUGAGCC-----
----- 3
-----GCUGGGAUUACAGGCAUG-----
----- 5
-----GCUGGGAUUACAGGCAUGA-----
----- 3
-----GCUGGGAUUACAGGCAUGAa-----
----- 3
-----GCUGGGAUUACAGGCAUGAG-----
----- 22
-----GCUGGGAUUACAGGCAUGAGCu-----
----- 3
-----GCUGGGAUUACAGGCAUGAGCC-----
----- 2
-----GCUGGGAUUACAGGCAUGAGCCACU-----
----- 2
-----CUGGGAUUACAGGCAUGA-----

```

```

----- 5
-----CUGGGAUUACAGGCAUGAu-----
----- 2
-----CUGGGAUUACAGGCAUGAG-----
----- 4
-----UGGGAUUACAGGCAUGAG-----
----- 8
-----UGGGAUUACAGGCAUGAGu-----
----- 2
-----UGGGAUUACAGGCAUGAGCCA-----
----- 7
-----GGGAUUACAGGCAUGAGCCA-----
----- 2

```

```

>hsa-mir-624    mi:16-37;MA:54-74    SRX018963
aaugcuguuucaaggUAGUACCAGUACCUUGUGUUCAguggaaccaagguaaaCACAAGGUAAUUGGUAAUACCUugagau
agcauuacaccuaagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).....
-----UAGUACCAGUACCUUGUGUUC-----
----- 2    0,-1
-----UAGUACCAGUACCUUGUGUUCA-----
----- 8    0,0

```

```

>hsa-mir-625    MA:15-35;mi:52-73    SRX018963
agguagaggggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUCAucccucu
gccc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))
-----AGGGGGAAAGUUCUAUAG-----
----- 2    0,-3
-----AGGGGGAAAGUUCUAUAGU-----
----- 4    0,-2
-----AGGGGGAAAGUUCUAUAGUC-----
----- 14   0,-1
-----AGGGGGAAAGUUCUAUAGUCa-----
----- 5    0,-1
-----AGGGGGAAAGUUCUAUAGUCCU-----

```


>hsa-mir-642a 5p:16-37 SRX018963
aucugaguugggaggGUCCCUCUCCAAUGUGUCUUGgggugggggaucaagacacauuuggagagggaaccucccaacu
cggccucugccaauuu

>hsa-mir-642b 3p:47-68 SRX018963

gaguuggggagguucccucuccaaaugugucuuugaucccccaccccaAGACACAUUUGGAGAGGGACCCucccaacuc
 ((((((((((((.(((((((((((((((((((((.))))))))))))))))))))))))))))))))))))))
 -----AGACACAUUUGGAGAGGGA-----
 2 0,-3

>hsa-mir-650 5p:16-36 SRX018963

cagugcugggggucucAGGAGGCAGCGCUCUCAGGACGucaccaccaugggccugggcucugcuccuccucaccuccucac
ucagggcacaggugau
..((((((((((...((((((.((((..((((((.((((.....)))..))))))..))))))..)))))).....
....))))).....
-----AGGAGGCAGCGCUCUCAGGACGUC-----

----- 2 0,3

>hsa-mir-651 5p:16-37 SRX018963

aaucuaucacugcuUUUAGGAUAAGCUUGACUUUUGuucacaaauaaaaaugcaaaaggaaaguguauccuaaaaggcaau
gacaguuuaauguguuu

-----UUAGGAUAAGCUUGACUUUUGU-----

$$----- \quad 2 \quad 1,1$$

>hsa-mir-652 3p:61-81 SRX018963

acgaauggcuaugcacugcacaacccuaggagagggugccauucacauagacuauaaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac

$\dots\dots((\dots(((((((((((((((((\dots\dots(((((((((((\dots((\dots\dots))\dots)))))))))).)))))))))$

-----AAUGGCGCCACUAGGGUU-----

----- 22 0, -3

-----AAUGGCGCCACUAGGGUUG-----

----- 6 0, -2

-----AAUGGCGCCACUAGGGUUGU

----- 17 0, -1

-----AAUGGCGCCACUAGGGUUGU

$$G \text{-----} 4 \quad 0,0$$

-----AAUGGCGCCACUAGGGUUGU

Ga----- 4 0,0

-----AAUGGCGCCACUAGGGUUGU

Gu----- 15 0,0

-----AAUGGCGCCACUAGGGUUGU

GC----- 3 0,1

>hsa-mi r-654 5p:16-37;3p:51-72 SRX018963

ggguaaguggaaagaUGGU^{GGCCGCAGAA}CAUGUGCugaguucgugccaUAUGUCUGCUGACCAUCACCUUuagaagcc

$$(((\dots(((((.((((((.(((((.((((((((((\dots)).).)))))))))..).))))))..).))\dots))$$

-----CAUAUGUCUGCUGACCAUCAC-----

- 3 -2, -3

-----UAUGUCUGCUGACCAUCACC-----

```

- 9 0,-2
-----UAUGUCUGCUGACCAUCACCa-----
- 7 0,-2
-----UAUGUCUGCUGACCAUCACCaa-----
- 3 0,-2
-----UAUGUCUGCUGACCAUCACCau-----
- 4 0,-2
-----UAUGUCUGCUGACCAUCACCU-----
- 2 0,-1

```

>hsa-mir-656 3p:43-63 SRX018963

```

cugaaauagguugccugugagguguucacuuucuaauaugaugAAUAUUUAUACAGUCAACCUCUuuccgauaucgauc
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAUAUUUAUACAGUCAACC-----
3 0,-3
-----AAUAUUUAUACAGUCAACCUC-----
2 0,-1

```

>hsa-mir-659 3p:61-82 SRX018963

```

uaccgaccucgauuugguucaggaccuucccugaaccaaggaagagucacagucucuucCUUGGUUCAGGGAGGGUCCC
CAacaauguccucaugg
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).
-----AGGACCUUCCCUGAACCAAGGA-----
-----4

```

>hsa-mir-660 5p:16-37 SRX018963

```

cugcuccuucucccaUACCCAUUGCAUAUCGGAGUUGugaauucuaaaacaccuccugugugcauggauuacaggaggg
ugagccuugucaucgug
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).
-----UACCCAUUGCAUAUCGGA-----
-----2 0,-4
-----UACCCAUUGCAUAUCGGAG-----
-----4 0,-3
-----UACCCAUUGCAUAUCGGAGU-----
-----8 0,-2
-----UACCCAUUGCAUAUCGGAGUU-----

```



```

..
-----AACUGGCUAGGGAAAAUGAUUGG-----
-- 3   -1,-2
-----AACUGGCUAGGGAAAAUGAUUGGA-----
-- 3   -1,-1
-----ACUGGCUAGGGAAAAUGAU-----
-- 2    0,-5
-----ACUGGCUAGGGAAAAUGAUUGG-----
-- 101  0,-2
-----ACUGGCUAGGGAAAAUGAUUGGu-----
-- 13   0,-2
-----ACUGGCUAGGGAAAAUGAUUGGA-----
-- 99   0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAa-----
-- 2    0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAU-----
-- 3    0,0
-----CUGGCUAGGGAAAAUGAUUG-----
-- 3    1,-3
-----CUGGCUAGGGAAAAUGAUUGG-----
-- 12   1,-2
-----CUGGCUAGGGAAAAUGAUUGGu-----
-- 3    1,-2
-----CUGGCUAGGGAAAAUGAUUGGA-----
-- 49   1,-1
-----CUGGCUAGGGAAAAUGAUUGGAa-----
-- 5    1,-1
-----UGGCUAGGGAAAAUGAUUGG-----
-- 5    2,-2
-----UGGCUAGGGAAAAUGAUUGGA-----
-- 9    2,-1
-----UAUUCAUUUUAUCCCCAGC-----
-- 2    0,-5
-----UAUUCAUUUUAUCCCCAGCCUA-----
-- 5    0,-2
-----UAUUCAUUUUAUCCCCAGCCUAu-----
-- 2    0,-2
-----UAUUCAUUUUAUCCCCAGCCUAC-----

```



```

0,0
-----UGGUGCGGAGAGGGCCCACAGUGa----- 2
0,0
-----UGGUGCGGAGAGGGCCCACAGUGu----- 9
0,0
-----CUGUAUGCCCUCACCGCUCAGu----- 2
0,1
-----CUGUAUGCCCUCACCGCUCAGC----- 14
0,2

```

>hsa-mir-676 mi:8-28;MA:43-63 SRX018963

```

gcaugacUCUUCAACCUCAGGACUUGCAgaauuaauggaugCUGUCCUAAGGUUGUUGAGUUGugc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UCUUCAACCUCAGGACUUGCA----- 4 0,0

```

>hsa-mir-7-1 MA:24-46;mi:66-87 SRX018963

```

uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucgaCAACAAAUCACAGUC
UGCCAUAuggcacaggccaugccucucacag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).))))))))).))))))))).))))))))).))))))))).))))))))).))))))))...
-----UGGAAGACUAGUGAUUUU-----
----- 19 0,-5
-----UGGAAGACUAGUGAUUUUGU-----
----- 2 0,-3
-----UGGAAGACUAGUGAUUUUGUU-----
----- 6 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 24 0,-1
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 57 0,0
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 39 0,1
-----GGAAGACUAGUGAUUUUGUUGU-----
----- 2 1,1
-----CAACAAAUCACAGUC
UGCCAU----- 8 0,0
-----AACAAAUCACAGUC
UGCCAU----- 2 1,-1

```

-----AACAAAUCACAGUC
UGCCAU----- 3 1,0

>hsa-mir-7-2 MA:32-54;mi:72-93 SRX018963

cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuaucugcgcucaaCAACAAAUCCAGUCUACCUAAuggugccagccaucgca

.....((((...(((((((.((((((.((((((.((((((.(((((((.....)))))))))))))))).))))).)))).))))).))))).))))).))))).

-----UGGAAGACUAGUGAUUUU-----
----- 19 0,-5
-----UGGAAGACUAGUGAUUUUGU-----
----- 2 0,-3
-----UGGAAGACUAGUGAUUUUGUU-----
----- 6 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 24 0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 57 0,0
-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 39 0,1
-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 2 1,1

>hsa-mir-7-3 5p:31-53 SRX018963

agauuagaguggcuguggucuagugcugugUGGAAGACUAGUGAUUUUGUUGUucugauguacuacgacaacaagucacagccggccuauagcgagacucccuucgac

.....((((...(((((((.(((((((.((((((.((((((.(((((((.....)))))))))))))))).))))).)))).))))).))))).))))).))))).))))).

-----UGGAAGACUAGUGAUUUU-----
----- 19 0,-5
-----UGGAAGACUAGUGAUUUUGU-----
----- 2 0,-3
-----UGGAAGACUAGUGAUUUUGUU-----
----- 6 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 24 0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 57 0,0


```

-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 39 0,1
-----GGAAGACUAGUGAUUUUGUUGUU-----
----- 2 1,1

```

>hsa-mir-708 MA:11-33;mi:57-78 SRX018963

```

aacugccucAAGGAGCUACAAUCUAGCUGGGgguaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcaggga

```

```

..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AAGGAGCUACAAUCUAG-----
----- 4 0,-5
-----AAGGAGCUACAAUCUAGCU-----
----- 9 0,-3
-----AAGGAGCUACAAUCUAGCUG-----
----- 4 0,-2
-----AAGGAGCUACAAUCUAGCUGG-----
----- 28 0,-1
-----AAGGAGCUACAAUCUAGCUGGG-----
----- 9 0,0

```

>hsa-mir-720 5p:27-43 SRX018963

```

ccggaucucacacggugguguuaaUAUCUCGCGUGGGGCCUCCAaaauguugugcccagggguguuagagaaaacaccaca
cuuugagaugaauaaagaguccuuuuuag

```

```

....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
...)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).

```

```

-----AUCUCGCGUGGGGCCUCCA-----
----- 34 -1,0

```

>hsa-mir-744 MA:11-32;mi:68-89 SRX018963

```

uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UGCGGGGCUAGGGCUAAC-----
----- 10 0,-4
-----UGCGGGGCUAGGGCUAACA-----
----- 6 0,-3

```

```

-----UGCGGGGCUAGGGCUAACAA-----
-----      2    0,-3
-----UGCGGGGCUAGGGCUAACAAa-----
-----      3    0,-3
-----UGCGGGGCUAGGGCUAACAG-----
-----    140  0,-2
-----UGCGGGGCUAGGGCUAACAGa-----
-----     19  0,-2
-----UGCGGGGCUAGGGCUAACAGaa-----
-----      2    0,-2
-----UGCGGGGCUAGGGCUAACAGu-----
-----     16  0,-2
-----UGCGGGGCUAGGGCUAACAGC-----
-----    215  0,-1
-----UGCGGGGCUAGGGCUAACAGCu-----
-----      9    0,-1
-----UGCGGGGCUAGGGCUAACAGCA-----
-----   1042    0,0
-----UGCGGGGCUAGGGCUAACAGCAa-----
-----    172  0,0
-----UGCGGGGCUAGGGCUAACAGCAaa-----
-----      3    0,0
-----UGCGGGGCUAGGGCUAACAGCAau-----
-----     20  0,0
-----UGCGGGGCUAGGGCUAACAGCAu-----
-----    894  0,0
-----UGCGGGGCUAGGGCUAACAGCAuu-----
-----     73  0,0
-----UGCGGGGCUAGGGCUAACAGCAG-----
-----     11  0,1
-----GCGGGGCUAGGGCUAACAG-----
-----      4    1,-2
-----GCGGGGCUAGGGCUAACAGC-----
-----      9    1,-1
-----GCGGGGCUAGGGCUAACAGCA-----
-----     58  1,0
-----GCGGGGCUAGGGCUAACAGCAa-----
-----     14  1,0

```

-----GCGGGGCUAGGGCUAACAGCAu-----
 ----- 33 1,0
 -----GCGGGGCUAGGGCUAACAGCAuu-----
 ----- 2 1,0

gccuggauacaugagaugguugaccagagagcacacgcuuuuuugugccgUUUGUGACCUGGUCCACUAACCcucagua
ucuaaUGC

$$\dots(((((((.(((((.(((((.(((((.(((.((((\dots)).)))).)))).)))).)))).)))).)))).\dots$$

-----AUGGUUGACCAGAGAGCACA-----
----- 9 -----

-----AUGGUUGACCAGAGAGCACAC-----
----- 7 -----

>hsa-mir-760 3p:49-68 SRX018963

ggcgcgucgccccccucaguccaccagagcccggaauaccucagaaauuCGGCUCUGGGUCUGUGGGGAgcgaaaugcaac
 .(((.(.(((.((((.((((....(((((((.((((.....)))))))))))))).))))).))))).))))..

-----CGGCUCUGGGUCUGUGGGAGu-----

3 0.1

>hsa-mir-766 3p:65-86 SRX018963

gcauccucaggaccugggcuugggugguaggaggaauggugcuggucuuucauuuuggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaauugucauaggagc

-----AGGAGGAAUUGGUGCUGGUCU-----
----- 2 -----

-----AGGAGGAAUUGGUCUGGUCUU-----
----- 7 -----

-----AGGAGGAAUUGGUCUGGUCUUa-----
----- 2 -----

-----AGGAGGAAUUGGUCUGGUCUU-----
----- 6 -----

-----ACUCCAGCCCCACAGC
CUCAGC----- 2 0,0

>hsa-mi r-769 5p:30-51;3p:69-91 SRX018963

GUAGAGGAGAUGGCCGAGG-----
 ----- 5 0,-1
 GUAGAGGAGAUGGCCGAGGaa-----
 ----- 2 0,-1
 GUAGAGGAGAUGGCCGAGGG-----
 ----- 6 0,0
 GUAGAGGAGAUGGCCGAGGGG-----
 ----- 2 0,1
 GUAGAGGAGAUGGCCGAGGGGAC-----
 ----- 6 0,3
 GUAGAGGAGAUGGCCGAGGGGACu-----
 ----- 2 0,3
 GUAGAGGAGAUGGCCGAGGGGACA-----
 ----- 14 0,4
 -UAGAGGAGAUGGCCGAGGG-----
 ----- 3 1,0
 -UAGAGGAGAUGGCCGAGGGGACA-----
 ----- 3 1,4
 -UAGAGGAGAUGGCCGAGGGGACAC-----
 ----- 2 1,5

>hsa-mir-885 5p:11-32;3p:43-64 SRX018963

ccgcacucucUCCAUUACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu
 (((...(((.(((((((((((.(((((((((((.....)))))))))).))))))))))))).))))..

-----UCCAUUACACUACCCUGC----- 20
 0,-4
 -----UCCAUUACACUACCCUGCC----- 15
 0,-3
 -----UCCAUUACACUACCCUGCCU----- 11
 0,-2
 -----UCCAUUACACUACCCUGCCUC----- 47
 0,-1
 -----UCCAUUACACUACCCUGCCUCa----- 2
 0,-1
 -----UCCAUUACACUACCCUGCCUCU----- 83
 0,0
 -----UCCAUUACACUACCCUGCCUCUa----- 2
 0,0

-----UCCAUUACACUACCCUGCCUCUau-----	2
0,0	
-----UCCAUUACACUACCCUGCCUCUU-----	3
0,1	
-----CAUUACACUACCCUGCCUCUa-----	3
2,0	
-----AGGCAGCGGGGUGUAGUG-----	11
0,-4	
-----AGGCAGCGGGGUGUAGUGG-----	113
0,-3	
-----AGGCAGCGGGGUGUAGUGGA-----	81
0,-2	
-----AGGCAGCGGGGUGUAGUGGAa-----	14
0,-2	
-----AGGCAGCGGGGUGUAGUGGAaa-----	16
0,-2	
-----AGGCAGCGGGGUGUAGUGGAU-----	74
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUu-----	40
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUuu-----	2
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUA-----	83
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAa-----	45
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAaa-----	19
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAau-----	20
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAu-----	30
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAuu-----	2
0,0	
-----GGCAGCGGGGUGUAGUGGAUu-----	2
1,-1	
-----GGCAGCGGGGUGUAGUGGAUAu-----	2
1,0	

gugcagaucccuugggagcccuguuagacucuggauuuuacacuuggaGUGAACGGGCGCCAUCCCGAGGcuuugcacag
(((((((.((((((((((((((((((.(((((.(.....).)))))).)))))..))..)))))))).))))))..

gugcuuaaagaauggcuguccguaguauggucucuauauuuuaugaugaUAAUAUCGGACAACCAUUGUuuuaguaucc
(((((((((((((((.....(((((((.....))).))))).))))).))))).))))).))))).))..

cggggguuggguuguuaUCUUUGGUUAUCUAGCUGUAUGAguggguguggagucuucAUAAGCUAGUAACCGAAAGUaaaa
auaacccca

ggaagcgaguuguuaUCUUUGGUUAUCUAGCUGUAUGAguguauuggucuucAUAAGCUAGUAACCGAAAGUaaaaac
uccuuc

.(((((((.((((.((((((((((((.((((((..(...)).))))).)))))...))).)).
-----UCUUUGGUUAUCUAGCUG-----
----- 2 0,-5

-----AUAAGCUAGAUACCGAAAGUA-----
----- 2 0,1

>hsa-mir-9-3 MA:16-38;mi:55-76 SRX018963
ggaggccccguuucucUCUUUGGUUAUCUAGCUGUAUGAgugccacagagccgucAUAAGCUAGAUACCGAAAGUagaa
augauucuca
(((((((.....)))))))).

-----UCUUUGGUUAUCUAGCUG-----
----- 2 0,-5
-----AUAAGCUAGAUACCGAAAGUA-----
----- 2 0,1

>hsa-mir-92a-1 mi:11-33;MA:48-69 SRX018963
cuuucacacAGGUUGGAUCGGUUGCAAUGCUguguuucuguauggUAUUGCACUUGUCCCGGCCUGUugaguugg
..(((((((.....)))))))).

-----AGGUUGGAUCGGUUGCA-----
3 0,-5
-----AGGUUGGAUCGGUUGCAAU-----
4 0,-3
-----AGGUUGGAUCGGUUGCAAUG-----
9 0,-2
-----AGGUUGGAUCGGUUGCAAUGu-----
2 0,-2
-----AGGUUGGAUCGGUUGCAAUGC-----
29 0,-1
-----AGGUUGGAUCGGUUGCAAUGCU-----
138 0,0
-----GGUUGGAUCGGUUGCAAUGCU-----
4 1,0
-----UAUUGCACUUGUCCCGGC-----
377 0,-4
-----UAUUGCACUUGUCCCGGCau-----
15 0,-4
-----UAUUGCACUUGUCCCGGCu-----
4 0,-4
-----UAUUGCACUUGUCCCGGCuu-----
10 0,-4

		-----UAUUGCACUUGUCCCGGCC-----
1078	0,-3	
		-----UAUUGCACUUGUCCCGGCCa-----
8	0,-3	
		-----UAUUGCACUUGUCCCGGCCau-----
5	0,-3	
		-----UAUUGCACUUGUCCCGGCCU-----
17766	0,-2	
		-----UAUUGCACUUGUCCCGGCCUa-----
18	0,-2	
		-----UAUUGCACUUGUCCCGGCCUaa-----
30	0,-2	
		-----UAUUGCACUUGUCCCGGCCUau-----
18	0,-2	
		-----UAUUGCACUUGUCCCGGCCUu-----
36	0,-2	
		-----UAUUGCACUUGUCCCGGCCUuu-----
7	0,-2	
		-----UAUUGCACUUGUCCCGGCCUG-----
2472	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGa-----
59	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGaa-----
50	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGau-----
9	0,-1	
		-----UAUUGCACUUGUCCCGGCCUGU-----
2398	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUa-----
307	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUaa-----
120	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUau-----
190	0,0	
		-----UAUUGCACUUGUCCCGGCCUGUU-----
122	0,1	
		-----UAUUGCACUUGUCCCGGCCUGUUa-----
13	0,1	

-----	UAUUGCACUUGUCCCGGCu-----	4
0,-4		
-----	UAUUGCACUUGUCCCGGCuu-----	10
0,-4		
-----	UAUUGCACUUGUCCCGGCC-----	1078
0,-3		
-----	UAUUGCACUUGUCCCGGCCa-----	8
0,-3		
-----	UAUUGCACUUGUCCCGGCCau-----	5
0,-3		
-----	UAUUGCACUUGUCCCGGCCU-----	
17766	0,-2	
-----	UAUUGCACUUGUCCCGGCCUa-----	18
0,-2		
-----	UAUUGCACUUGUCCCGGCCUaa-----	30
0,-2		
-----	UAUUGCACUUGUCCCGGCCUau-----	18
0,-2		
-----	UAUUGCACUUGUCCCGGCCUu-----	36
0,-2		
-----	UAUUGCACUUGUCCCGGCCUuu-----	7
0,-2		
-----	UAUUGCACUUGUCCCGGCCUG-----	2472
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGa-----	59
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGaa-----	50
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGau-----	9
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGU-----	2398
0,0		
-----	UAUUGCACUUGUCCCGGCCUGUa-----	307
0,0		
-----	UAUUGCACUUGUCCCGGCCUGUaa-----	120
0,0		
-----	UAUUGCACUUGUCCCGGCCUGUau-----	190
0,0		

```

-----UAUUGCACUUGUCCCGGCCUGUG----- 3
0,1
-----AUUGCACUUGUCCCGGCC----- 22
1,-3
-----AUUGCACUUGUCCCGGCCU----- 295
1,-2
-----AUUGCACUUGUCCCGGCCUG----- 45
1,-1
-----AUUGCACUUGUCCCGGCCUGa----- 2
1,-1
-----AUUGCACUUGUCCCGGCCUGU----- 61
1,0
-----AUUGCACUUGUCCCGGCCUGUa----- 8
1,0
-----AUUGCACUUGUCCCGGCCUGUaa----- 6
1,0
-----AUUGCACUUGUCCCGGCCUGUau----- 10
1,0
-----AUUGCACUUGUCCCGGCCUGUG----- 2
1,1
-----UUGCACUUGUCCCGGCCU----- 4
2,-2
-----UUGCACUUGUCCCGGCCUG----- 4
2,-1
-----UUGCACUUGUCCCGGCCUGU----- 3
2,0

```

>hsa-mir-92b mi:20-41;MA:61-82 SRX018963

cgggccccggggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuucccccgccaaUAUUGCACUCGUCCCGGCCU
CCggccccccccggccc

.((((((..(((.(((((((((..(((((((.((((((((((((((.....))))))))))))))))))))).)))
)..)))))))).))))))

```

-----AGGGACGGGACGCGGUGCAG-----
-----3 0,-2
-----AGGGACGGGACGCGGUGCAGUa-----
-----2 0,-1
-----AGGGACGGGACGCGGUGCAGUG-----
-----2 0,0

```

```

-----AGGGACGGGACGCGGUGCAGUGU-----
-----10 0,1
-----AGGGACGGGACGCGGUGCAGUGUU-----
-----16 0,2
-----UAUUGCACUCGUCCCCGGC--
-----6 0,-4
-----UAUUGCACUCGUCCCCGGCC-
-----68 0,-3
-----UAUUGCACUCGUCCCCGGCCa
-----3 0,-3
-----UAUUGCACUCGUCCCCGGCCU
-----103 0,-2
-----UAUUGCACUCGUCCCCGGCCU
a-----25 0,-2
-----UAUUGCACUCGUCCCCGGCCU
aa-----22 0,-2
-----UAUUGCACUCGUCCCCGGCCU
au-----12 0,-2
-----UAUUGCACUCGUCCCCGGCCU
u-----8 0,-2
-----UAUUGCACUCGUCCCCGGCCU
C-----99 0,-1
-----UAUUGCACUCGUCCCCGGCCU
Ca-----17 0,-1
-----UAUUGCACUCGUCCCCGGCCU
Caa-----16 0,-1
-----UAUUGCACUCGUCCCCGGCCU
Cau-----8 0,-1
-----UAUUGCACUCGUCCCCGGCCU
Cu-----2 0,-1
-----UAUUGCACUCGUCCCCGGCCU
CC-----107 0,0
-----UAUUGCACUCGUCCCCGGCCU
CCa-----30 0,0
-----UAUUGCACUCGUCCCCGGCCU
CCaa-----9 0,0
-----UAUUGCACUCGUCCCCGGCCU
CCau-----27 0,0

```

```
-----UAUUGCACUCGUCCCGGCCU
CCu-----      27  0,0
-----UAUUGCACUCGUCCCGGCCU
CCuu-----      2   0,0
```

>hsa-mir-93 MA:11-33;mi:50-71 SRX018963

cugggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagcccccg
((((((((((..(((((((((((.(((((((((..(.....).))))))))))))).))))))....)))))))))

```
-----CAAAGUGCUGUUCGUGCA-----
      82  0,-5
-----CAAAGUGCUGUUCGUGCAG-----
      117 0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
      109 0,-3
-----CAAAGUGCUGUUCGUGCAGGa-----
       4   0,-3
-----CAAAGUGCUGUUCGUGCAGGaa-----
       3   0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
      257 0,-2
-----CAAAGUGCUGUUCGUGCAGGUA-----
      541 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAa-----
       66  0,-1
-----CAAAGUGCUGUUCGUGCAGGUAaa-----
        6   0,-1
-----CAAAGUGCUGUUCGUGCAGGUau-----
       63  0,-1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
      182 0,0
-----CAAAGUGCUGUUCGUGCAGGUAGU-----
        3   0,1
-----AAAGUGCUGUUCGUGCAG-----
        3   1,-4
-----AAAGUGCUGUUCGUGCAGG-----
        3   1,-3
-----AAAGUGCUGUUCGUGCAGGU-----
        9   1,-2
```

-----AAAGUGCUGUUCGUGCAGGUA-----
 21 1, -1
 -----AAAGUGCUGUUCGUGCAGGUAa-----
 3 1, -1
 -----AAAGUGCUGUUCGUGCAGGUAu-----
 4 1, -1
 -----AAAGUGCUGUUCGUGCAGGUAG-----
 5 1, 0
 -----ACUGCUGAGCUAGCACUUCCCGA-----
 2 0, 1

```
>hsa-mir-941-1   3p:71-93      SRX018963
cacggaagaggacacacccgggcuguguggacaugugcccagggccccgggacagcgccacggaagaggacgCACCCGGGCGUG
UGUGCACAUGUGCcagggccccgggacagcgccacgg
.....(((((((.(((.((((((((((.(((.(((.(((...(((((.(...).)).)).)).)).)).)).)).)).)).)).))....
-----CACCCGGGCGUG
UGUGCACAUGUG-----          19    0,-1
-----CACCCGGGCGUG
UGUGCACAUGUGa-----         14    0,-1
-----CACCCGGGCGUG
UGUGCACAUGUGaa-----        2     0,-1
-----CACCCGGGCGUG
UGUGCACAUGUGu-----         8     0,-1
-----CACCCGGGCGUG
UGUGCACAUGUGC-----        36    0,0
-----CACCCGGGCGUG
UGUGCACAUGUGCa-----         3     0,0
```



```

-----CACCCGGCUGUGUGCACAUGUG-----
-----19
-----CACCCGGCUGUGUGCACAUGUGa-----
-----14
-----CACCCGGCUGUGUGCACAUGUGaa-----
-----2
-----CACCCGGCUGUGUGCACAUGUGu-----
-----8
-----CACCCGGCUGUGUGCACAUGUGC-----
-----36
-----CACCCGGCUGUGUGCACAUGUGCa-----
-----3
-----ACCCGGCUGUGUGCACAUGUG-----
-----2
-----CACCCGGCUG
UGUGCACAUGUG-----19 0,-1
-----CACCCGGCUG
UGUGCACAUGUGa-----14 0,-1
-----CACCCGGCUG
UGUGCACAUGUGaa-----2 0,-1
-----CACCCGGCUG
UGUGCACAUGUGu-----8 0,-1
-----CACCCGGCUG
UGUGCACAUGUGC-----36 0,0
-----CACCCGGCUG
UGUGCACAUGUGCa-----3 0,0
-----ACCCGGCUG
UGUGCACAUGUG-----2 1,-1

```

```

>hsa-mir-942 5p:13-34 SRX018963
auuaggagaguaUCUUCUCUGUUUUGGCCAUGUGuguacucacagccccucacacauggccgaaacagagaaguacuuc
ccuaau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----UUCUCUGUUUUGGCCAUGUGUG-----
-----2 2,2

```

>hsa-mir-95 3p:49-70 SRX018963

aacacagugggcacucaauaaaugucuguugaauugaaaugcguuacaUUCAACGGGUUUUAUUGAGCAcccacucugu
g

.(((.((((.((((.((((.((((.((((.(.....)))..))))))))..))))))))..))))))..)))

.

-----CUCAAUAAAUGUCUGUUGAAUU-----

- 2

-----UUCAACGGGUUUUAUUG-----

- 153 0,-4

-----UUCAACGGGUUUUAUUGA-----

- 162 0,-3

-----UUCAACGGGUUUUAUUGAG-----

- 537 0,-2

-----UUCAACGGGUUUUAUUGAGC-----

- 34 0,-1

-----UUCAACGGGUUUUAUUGAGCA-----

- 16 0,0

-----UUCAACGGGUUUUAUUGAGCAa-----

- 23 0,0

-----UUCAACGGGUUUUAUUGAGCAu-----

- 2 0,0

-----UCAACGGGUUUUAUUGA-----

- 5 1,-3

-----UCAACGGGUUUUAUUGAG-----

- 16 1,-2

-----UCAACGGGUUUUAUUGAGC-----

- 4 1,-1

-----UCAACGGGUUUUAUUGAGCA-----

- 7 1,0

-----UCAACGGGUUUUAUUGAGCAa-----

- 13 1,0

-----UCAACGGGUUUUAUUGAGCAu-----

- 3 1,0

-----UCAACGGGUUUUAUUGAGCAC-----

- 2 1,1

-----CAACGGGUUUUAUUGAG-----

- 3 2,-2

-----CAACGGGUUUUAUUGAGCAa-----

- 2 2,0

uggccgauUUUGGCACUAGCACAUUUUUGCUugugucucuccgcucugagcAAUCAUGUGCAGUGCCAAUAUGggaaa
 ...((.(.((((((.((((.(.((((((.(.....)))...)))))).)))))))).))...
 -----UUUGGCACUAGCACAUUUUUGC-----

aggauucugcucaugccagggUGAGGUAGUAAGUUGUAUUGUUgugggguaagggauuuaggccccaaauagaagauaac
uauacaacuuacuacuuucccugguuguguggcauuuca
.((((..(((((((((((.(((((((((((((((.((((((((((.)))))))).)))
.))))))) .))).) .

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

-----AAACCCGUAGAUCCGAUCU-----
- 5 -1,-4

-----AAACCCGUAGAUCCGAUCUU-----
- 5 -1,-3

-----AAACCCGUAGAUCCGAUCUUG-----
- 49 -1,-2

-----AAACCCGUAGAUCCGAUCUUGU-----
- 167 -1,-1

-----AAACCCGUAGAUCCGAUCUUGUG-----
- 10 -1,0

```

-----AAACCCGUAGAUCCGAUCUUGUGa-----
- 6 -1,0
-----AAACCCGUAGAUCCGAUCUUGUGu-----
- 4 -1,0
-----AACCCGUAGAUCCGAUCU-----
- 799 0,-4
-----AACCCGUAGAUCCGAUCUa-----
- 8 0,-4
-----AACCCGUAGAUCCGAUCUau-----
- 2 0,-4
-----AACCCGUAGAUCCGAUCUU-----
- 2326 0,-3
-----AACCCGUAGAUCCGAUCUua-----
- 38 0,-3
-----AACCCGUAGAUCCGAUCUuaa-----
- 2 0,-3
-----AACCCGUAGAUCCGAUCUuau-----
- 6 0,-3
-----AACCCGUAGAUCCGAUCUUu-----
- 32 0,-3
-----AACCCGUAGAUCCGAUCUUuu-----
- 14 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 9947 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
- 142 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
- 4 0,-2
-----AACCCGUAGAUCCGAUCUUGau-----
- 5 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 50914 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
- 441 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 74 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
- 13 0,-1

```

```

-----AACCCGUAGAUCCGAUCUUGUu-----
- 115 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----
- 14 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 53837 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 7489 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 140 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----
- 15 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 10161 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----
- 30 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 16 0,1
-----ACCCGUAGAUCCGAUCUU-----
- 3 1,-3
-----ACCCGUAGAUCCGAUCUUG-----
- 5 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----
- 43 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 71 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 18 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----
- 17 1,0
-----CAAGCUCGCUUCUAUGGG-----
- 17 0,-4
-----CAAGCUCGCUUCUAUGGGU-----
- 6 0,-3
-----CAAGCUCGCUUCUAUGGGUC-----
- 7 0,-2
-----CAAGCUCGCUUCUAUGGGUCU-----
- 13 0,-1

```

```

-----CAAGCUCGCUUCUAUGGGUCUG-----
- 7 0,0
-----CAAGCUCGCUUCUAUGGGUCUGa-----
- 5 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 10 0,1
-----AAGCUCGCUUCUAUGGGUC-----
- 2 1,-2

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018963

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCUU----- 7 0,-3
-----CACCCGUAGAACCGACCUUG----- 12 0,-2
-----CACCCGUAGAACCGACCUUGu----- 2 0,-2
-----CACCCGUAGAACCGACCUUGC----- 165 0,-1
-----CACCCGUAGAACCGACCUUGCa----- 25 0,-1
-----CACCCGUAGAACCGACCUUGCaa----- 4 0,-1
-----CACCCGUAGAACCGACCUUGCau----- 5 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 755 0,0
-----CACCCGUAGAACCGACCUUGCGa----- 228 0,0
-----CACCCGUAGAACCGACCUUGCGaa----- 4 0,0
-----CACCCGUAGAACCGACCUUGCGau----- 4 0,0
-----CACCCGUAGAACCGACCUUGCGu----- 196 0,0
-----CACCCGUAGAACCGACCUUGCGG----- 11 0,1
-----ACCCGUAGAACCGACCUUGC----- 3 1,-1
-----ACCCGUAGAACCGACCUUGCa----- 3 1,-1
-----ACCCGUAGAACCGACCUUGCG----- 12 1,0
-----ACCCGUAGAACCGACCUUGCGa----- 6 1,0
-----ACCCGUAGAACCGACCUUGCGu----- 7 1,0
-----ACCCGUAGAACCGACCUUGCGG----- 2 1,1
-----CAAGCUCGUGUCUGUGGGUaa----- 2 0,-3
-----CAAGCUCGUGUCUGUGGGUC----- 8 0,-2
-----CAAGCUCGUGUCUGUGGGUCC----- 7 0,-1
-----CAAGCUCGUGUCUGUGGGUCCGa----- 2 0,0
-----CAAGCUCGUGUCUGUGGGUCCGU----- 2 0,1

```

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018964

```

ugggaUGAGGUAGUAGGUUGUAUAGUUuuagggucacacccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
(((((((((.....))))))))))..))))))
----AUGAGGUAGUAGGUUGUAU-----
      5   -1,-4
----AUGAGGUAGUAGGUUGUAUAGU-----
      4   -1,-1
----AUGAGGUAGUAGGUUGUAUAGUU-----
      5   -1,0
----UGAGGUAGUAGGUUGUAU-----
     2439   0,-4
----UGAGGUAGUAGGUUGUAUu-----
     110  0,-4
----UGAGGUAGUAGGUUGUAUuu-----
     29   0,-4
----UGAGGUAGUAGGUUGUAUA-----
     2476   0,-3
----UGAGGUAGUAGGUUGUAUAa-----
     308  0,-3
----UGAGGUAGUAGGUUGUAUAaa-----
     64   0,-3
----UGAGGUAGUAGGUUGUAUAau-----
     11   0,-3
----UGAGGUAGUAGGUUGUAUAu-----
     121  0,-3
----UGAGGUAGUAGGUUGUAUAuu-----
     18   0,-3
----UGAGGUAGUAGGUUGUAUAG-----
     8811   0,-2
----UGAGGUAGUAGGUUGUAUAGa-----
     614  0,-2
----UGAGGUAGUAGGUUGUAUAGaa-----
     79   0,-2
----UGAGGUAGUAGGUUGUAUAGau-----
     43   0,-2
----UGAGGUAGUAGGUUGUAUAGU-----
     50813  0,-1
----UGAGGUAGUAGGUUGUAUAGUa-----
     1832   0,-1

```


-----UGAGGUAGUAGGUUGUAUAGUaa-----
 1415 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 379 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 91130 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 13071 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 1010 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 420 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 6861 0,1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 76 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUu-----
 2 0,2
 -----GAGGUAGUAGGUUGUAUA-----
 4 1, -3
 -----GAGGUAGUAGGUUGUAUAG-----
 12 1, -2
 -----GAGGUAGUAGGUUGUAUAGU-----
 94 1, -1
 -----GAGGUAGUAGGUUGUAUAGUa-----
 4 1, -1
 -----GAGGUAGUAGGUUGUAUAGUaa-----
 6 1, -1
 -----GAGGUAGUAGGUUGUAUAGUau-----
 2 1, -1
 -----GAGGUAGUAGGUUGUAUAGUU-----
 82 1,0
 -----GAGGUAGUAGGUUGUAUAGUUa-----
 23 1,0
 -----GAGGUAGUAGGUUGUAUAGUUaa-----
 3 1,0
 -----GAGGUAGUAGGUUGUAUAGUUU-----
 11 1,1

----UGAGGUAGUAGGUUGUAUAaa-----	64
0,-3	
----UGAGGUAGUAGGUUGUAUAau-----	11
0,-3	
----UGAGGUAGUAGGUUGUAUAu-----	121
0,-3	
----UGAGGUAGUAGGUUGUAUAuu-----	18
0,-3	
----UGAGGUAGUAGGUUGUAUAG-----	8811
0,-2	
----UGAGGUAGUAGGUUGUAUAGa-----	614
0,-2	
----UGAGGUAGUAGGUUGUAUAGaa-----	79
0,-2	
----UGAGGUAGUAGGUUGUAUAGau-----	43
0,-2	
----UGAGGUAGUAGGUUGUAUAGU-----	
50813 0,-1	
----UGAGGUAGUAGGUUGUAUAGUa-----	1832
0,-1	
----UGAGGUAGUAGGUUGUAUAGUaa-----	1415
0,-1	
----UGAGGUAGUAGGUUGUAUAGUau-----	379
0,-1	
----UGAGGUAGUAGGUUGUAUAGUU-----	
91130 0,0	
----UGAGGUAGUAGGUUGUAUAGUUa-----	
13071 0,0	
----UGAGGUAGUAGGUUGUAUAGUUaa-----	1010
0,0	
----UGAGGUAGUAGGUUGUAUAGUUau-----	420
0,0	
----UGAGGUAGUAGGUUGUAUAGUUU-----	6861
0,1	
----UGAGGUAGUAGGUUGUAUAGUUUA-----	99
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAa-----	3
0,2	

---UGAGGUAGUAGGUUGUAU-----	2439
0, -4	
---UGAGGUAGUAGGUUGUAUu-----	110
0, -4	
---UGAGGUAGUAGGUUGUAUuu-----	29
0, -4	
---UGAGGUAGUAGGUUGUAUA-----	2476
0, -3	
---UGAGGUAGUAGGUUGUAUAa-----	308
0, -3	
---UGAGGUAGUAGGUUGUAUAaa-----	64
0, -3	
---UGAGGUAGUAGGUUGUAUAau-----	11
0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	121
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	18
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	8811
0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	614
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	79
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	43
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
50813 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	1832
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	1415
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	379
0, -1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
91130 0, 0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	
13071 0, 0	

---UGAGGUAGUAGGUUGUAUAGUUaa-----	1010
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	420
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	6861
0,1	
---UGAGGUAGUAGGUUGUAUAGUUUG-----	4
0,2	
----GAGGUAGUAGGUUGUAUA-----	4
1,-3	
----GAGGUAGUAGGUUGUAUAG-----	12
1,-2	
----GAGGUAGUAGGUUGUAUAGU-----	94
1,-1	
----GAGGUAGUAGGUUGUAUAGUa-----	4
1,-1	
----GAGGUAGUAGGUUGUAUAGUaa-----	6
1,-1	
----GAGGUAGUAGGUUGUAUAGUau-----	2
1,-1	
----GAGGUAGUAGGUUGUAUAGUU-----	82
1,0	
----GAGGUAGUAGGUUGUAUAGUUa-----	23
1,0	
----GAGGUAGUAGGUUGUAUAGUUaa-----	3
1,0	
----GAGGUAGUAGGUUGUAUAGUUU-----	11
1,1	
----AGGUAGUAGGUUGUAUAGU-----	16
2,-1	
----AGGUAGUAGGUUGUAUAGUU-----	30
2,0	
----AGGUAGUAGGUUGUAUAGUUa-----	5
2,0	
----AGGUAGUAGGUUGUAUAGUUU-----	8
2,1	
-----CUAUACAAUCUACUGUCUUUC--	2
0,0	

0,0	-----CUAUACAAUCUACUGUCUUUCu-----	18
0,2	-----CUAUACAAUCUACUGUCUUUCCU-----	2
2,2	-----AUACAAUCUACUGUCUUUCCU-----	2

-----UGAGGUAGUAGGUUGUGUGG-----
--- 9984 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 405 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 125 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 77 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 16984 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 2666 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 4599 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 7147 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 43813 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 14713 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 2635 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 5176 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 10814 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 817 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 109 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 62 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 406 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 4 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 37 0,2


```

-----GAGGUAGUAGGUUGUGUG-----
--- 37 1,-3
-----GAGGUAGUAGGUUGUGUGaa-----
--- 2 1,-3
-----GAGGUAGUAGGUUGUGUGG-----
--- 11 1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 23 1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 7 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 23 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 45 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 112 1,0
-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 74 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 9 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 18 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 65 1,1
-----GAGGUAGUAGGUUGUGUGGUUUa-----
--- 6 1,1
-----GAGGUAGUAGGUUGUGUGGUUUu-----
--- 4 1,1
-----AGGUAGUAGGUUGUGUGG-----
--- 2 2,-2
-----AGGUAGUAGGUUGUGUGGU-----
--- 4 2,-1
-----AGGUAGUAGGUUGUGUGGUaa-----
--- 3 2,-1
-----AGGUAGUAGGUUGUGUGGUau-----
--- 4 2,-1
-----AGGUAGUAGGUUGUGUGGUU-----
--- 11 2,0

```

```

-----AGGUAGUAGGUUGUGUGGUUa-----
--- 5 2,0
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 5 2,1
-----CUAUACAACCUACUGCCUUC--
--- 4 0,-3
-----CUAUACAACCUACUGCCUUC-
--- 16 0,-2
-----CUAUACAACCUACUGCCUUCu
--- 2 0,-2
-----CUAUACAACCUACUGCCUUCC
--- 38 0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 17 0,-1
-----CUAUACAACCUACUGCCUUCC
u-- 35 0,-1
-----CUAUACAACCUACUGCCUUCC
uu- 2 0,-1

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018964

```

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc

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(((.(((((.(((.(((.(((((((((((((.(((.(.((.....).).))))))))))))))))).)).)).))
)))

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-----GUUGAGGUAGUAGGUUGUAUGGU-----
---- 4 -2,-1
-----GUUGAGGUAGUAGGUUGUAUGGU-----
---- 2 -2,0
-----UUGAGGUAGUAGGUUGUA-----
---- 2 -1,-5
-----UUGAGGUAGUAGGUUGUAU-----
---- 2 -1,-4
-----UUGAGGUAGUAGGUUGUAUGG-----
---- 17 -1,-2
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 138 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUa-----
---- 40 -1,-1

```

```

-----UUGAGGUAGUAGGUUGUAUGGUaa-----
----    6    -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUau-----
----    9    -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUU-----
----   185   -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUa-----
----    4    -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUau-----
----    2    -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUU-----
----    5    -1,1
-----UGAGGUAGUAGGUUGUAU-----
----  2439    0,-4
-----UGAGGUAGUAGGUUGUAUu-----
----   110   0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
----    29    0,-4
-----UGAGGUAGUAGGUUGUAUG-----
----  2467    0,-3
-----UGAGGUAGUAGGUUGUAUGa-----
----    13    0,-3
-----UGAGGUAGUAGGUUGUAUGaa-----
----    3     0,-3
-----UGAGGUAGUAGGUUGUAUGau-----
----    2     0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
----   42    0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
----   22    0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
----  4757    0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
----   213   0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
----   215   0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
----    69    0,-2

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```

-----UGAGGUAGUAGGUUGUAUGGU-----
---- 18643 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----
---- 4149 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 2283 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 1609 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 81951 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 9897 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 789 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 1017 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 7217 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 112 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 172 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUa-----
---- 15 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUau-----
---- 3 0,2
-----GAGGUAGUAGGUUGUAUG-----
---- 8 1,-3
-----GAGGUAGUAGGUUGUAUGG-----
---- 12 1,-2
-----GAGGUAGUAGGUUGUAUGGU-----
---- 65 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 34 1,-1
-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 14 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 15 1,-1

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```

-----GAGGUAGUAGGUUGUAUGGUU-----
---- 471 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 56 1,0
-----GAGGUAGUAGGUUGUAUGGUUaa-----
---- 9 1,0
-----GAGGUAGUAGGUUGUAUGGUUau-----
---- 6 1,0
-----GAGGUAGUAGGUUGUAUGGUUU-----
---- 49 1,1
-----AGGUAGUAGGUUGUAUGG-----
---- 6 2,-2
-----AGGUAGUAGGUUGUAUGGU-----
---- 6 2,-1
-----AGGUAGUAGGUUGUAUGGUa-----
---- 2 2,-1
-----AGGUAGUAGGUUGUAUGGUau-----
---- 2 2,-1
-----AGGUAGUAGGUUGUAUGGUU-----
---- 28 2,0
-----AGGUAGUAGGUUGUAUGGUUa-----
---- 5 2,0
-----AGGUAGUAGGUUGUAUGGUUU-----
---- 4 2,1

```

>hsa-let-7d MA:8-29;mi:62-83 SRX018964

ccuaggaAGAGGUAGUAGGUUGCAUAGUUuuagggcagggauuuugcccacaaggagguaaCUAUACGACCUGCUGCCUU
UCUuagg

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(((((((.(((((((((((((((.((((((.....)))))).))))))))))))))
))))))

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-----AAGAGGUAGUAGGUUGCAUAG-----
----- 3 -1,-2
-----AAGAGGUAGUAGGUUGCAUAG-----
----- 5 -1,-1
-----AGAGGUAGUAGGUUGCAU-----
----- 590 0,-4
-----AGAGGUAGUAGGUUGCAUu-----
----- 25 0,-4

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-----AGAGGUAGUAGGUUGCAUuu-----
----- 19  0,-4
-----AGAGGUAGUAGGUUGCAUA-----
----- 363 0,-3
-----AGAGGUAGUAGGUUGCAUAa-----
----- 46  0,-3
-----AGAGGUAGUAGGUUGCAUAaa-----
----- 3   0,-3
-----AGAGGUAGUAGGUUGCAUAu-----
----- 6   0,-3
-----AGAGGUAGUAGGUUGCAUAuu-----
----- 5   0,-3
-----AGAGGUAGUAGGUUGCAUAG-----
----- 1171   0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 51  0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 13  0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 28  0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 2329   0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 378 0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 92  0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 49  0,-1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 22260   0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 2288   0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 77  0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 44  0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 3161   0,1

```

```

-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 40 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 122 0,2
-----GAGGUAGUAGGUUGCAUA-----
----- 4 1,-3
-----GAGGUAGUAGGUUGCAUAG-----
----- 4 1,-2
-----GAGGUAGUAGGUUGCAUAGU-----
----- 8 1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 65 1,0
-----GAGGUAGUAGGUUGCAUAGUUa-----
----- 27 1,0
-----GAGGUAGUAGGUUGCAUAGUUU-----
----- 24 1,1
-----AGGUAGUAGGUUGCAUAGUU-----
----- 14 2,0
-----AGGUAGUAGGUUGCAUAGUUa-----
----- 2 2,0
-----CUAUACGACCUGCUGCCUU
----- 2 0,-3
-----CUAUACGACCUGCUGCCUU
UC----- 20 0,-1
-----CUAUACGACCUGCUGCCUU
UCa---- 9 0,-1
-----CUAUACGACCUGCUGCCUU
UCU---- 21 0,0
-----CUAUACGACCUGCUGCCUU
UCUa--- 2 0,0
-----CUAUACGACCUGCUGCCUU
UCUU--- 2 0,1
-----UAUACGACCUGCUGCCUU
UC----- 2 1,-1
-----UAUACGACCUGCUGCCUU
UCU---- 2 1,0

```

>hsa-let-7e MA:8-29;mi:53-74 SRX018964

ccccgggcUGAGGUAGGAGGUUGUAUAGUUGaggaggacaccaaggagaucaCUAUACGGCCUCCUAGCUUUCCcagg
(((.(((.(((.(((((((((((((((((.((...((....)).....)))))))))))))))))))).)))).))
-----CUGAGGUAGGAGGUUGUAUA-----
2 -1,-3
-----CUGAGGUAGGAGGUUGUAUAGUU-----
8 -1,0
-----CUGAGGUAGGAGGUUGUAUAGUUu-----
2 -1,0
-----UGAGGUAGGAGGUUGUAU-----
229 0,-4
-----UGAGGUAGGAGGUUGUAUu-----
6 0,-4
-----UGAGGUAGGAGGUUGUAUuu-----
2 0,-4
-----UGAGGUAGGAGGUUGUAUA-----
318 0,-3
-----UGAGGUAGGAGGUUGUAUAa-----
19 0,-3
-----UGAGGUAGGAGGUUGUAUAaa-----
9 0,-3
-----UGAGGUAGGAGGUUGUAUAu-----
7 0,-3
-----UGAGGUAGGAGGUUGUAUAuu-----
3 0,-3
-----UGAGGUAGGAGGUUGUAUAG-----
673 0,-2
-----UGAGGUAGGAGGUUGUAUAGa-----
86 0,-2
-----UGAGGUAGGAGGUUGUAUAGaa-----
26 0,-2
-----UGAGGUAGGAGGUUGUAUAGau-----
6 0,-2
-----UGAGGUAGGAGGUUGUAUAGU-----
1969 0,-1
-----UGAGGUAGGAGGUUGUAUAGUa-----
155 0,-1
-----UGAGGUAGGAGGUUGUAUAGUaa-----
257 0,-1

-----UGAGGUAGUAGAUUGUAU-----
----- 919 0,-4
-----UGAGGUAGUAGAUUGUAUu-----
----- 19 0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
----- 16 0,-4
-----UGAGGUAGUAGAUUGUAUA-----
----- 2949 0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
----- 73 0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
----- 33 0,-3
-----UGAGGUAGUAGAUUGUAUAau-----
----- 3 0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
----- 9 0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
----- 6 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
----- 3293 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
----- 245 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
----- 41 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
----- 17 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
----- 19312 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
----- 826 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
----- 1578 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 256 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 33102 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 17599 0,0

```

-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 877 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 294 0,0
-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 990 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 40 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGU-----
----- 43 0,2
-----GAGGUAGUAGAUUGUAUA-----
----- 8 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
----- 2 1,-2
-----GAGGUAGUAGAUUGUAUAGa-----
----- 3 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
----- 62 1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----
----- 4 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
----- 4 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
----- 60 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
----- 54 1,0
-----GAGGUAGUAGAUUGUAUAGUUaa-----
----- 3 1,0
-----GAGGUAGUAGAUUGUAUAGUUau-----
----- 2 1,0
-----AGGUAGUAGAUUGUAUAGU-----
----- 4 2,-1
-----AGGUAGUAGAUUGUAUAGUU-----
----- 7 2,0
-----AGGUAGUAGAUUGUAUAGUUa-----
----- 4 2,0
-----AGGUAGUAGAUUGUAUAGUUG-----
----- 4 2,1

```

```

-----AGGUAGUAGAUUGUAUAGUUGU-----
----- 7 2,2
-----CUAUACAAUCUAUUGCCU
UCC---- 3 0,-1
-----CUAUACAAUCUAUUGCCU
UCCu--- 5 0,-1
-----UAUACAAUCUAUUGCCU
UCC---- 2 1,-1

```

>hsa-let-7f-2 MA:8-29;mi:58-79 SRX018964

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ugugggaUGAGGUAGUAGAUUGUAUAGUuuaggggucauaccccaucuuggagauaaCUAUACAGUCUACUGUCUUUCCc
acg

```

```

(((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
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)).

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```

-----AUGAGGUAGUAGAUUGUAU-----
--- 2 -1,-4
-----AUGAGGUAGUAGAUUGUAUAG-----
--- 2 -1,-2
-----AUGAGGUAGUAGAUUGUAUAGU-----
--- 18 -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUU-----
--- 9 -1,0
-----AUGAGGUAGUAGAUUGUAUAGUUa-----
--- 3 -1,0
-----UGAGGUAGUAGAUUGUAU-----
--- 919 0,-4
-----UGAGGUAGUAGAUUGUAUu-----
--- 19 0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
--- 16 0,-4
-----UGAGGUAGUAGAUUGUAUA-----
--- 2949 0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
--- 73 0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
--- 33 0,-3
-----UGAGGUAGUAGAUUGUAUAau-----
--- 3 0,-3

```

```

-----UGAGGUAGUAGAUUGUAUAu-----
--- 9 0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
--- 6 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 3293 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 245 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 41 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
--- 17 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 19312 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 826 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 1578 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 256 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 33102 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 17599 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 877 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 294 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 4498 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUa-----
--- 20 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUaa-----
--- 2 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 22 0,2
-----GAGGUAGUAGAUUGUAUA-----
--- 8 1,-3

```



```

---CUGAGGUAGUAGUUUGUACAGU-----
----    31   -1,-1
---CUGAGGUAGUAGUUUGUACAGUU-----
----    36   -1,0
---CUGAGGUAGUAGUUUGUACAGUUU-----
----     2   -1,1
---UGAGGUAGUAGUUUGUAC-----
----   142   0,-4
---UGAGGUAGUAGUUUGUACA-----
----    53   0,-3
---UGAGGUAGUAGUUUGUACAa-----
----    49   0,-3
---UGAGGUAGUAGUUUGUACAaa-----
----     3   0,-3
---UGAGGUAGUAGUUUGUACAuu-----
----     3   0,-3
---UGAGGUAGUAGUUUGUACAG-----
----   844   0,-2
---UGAGGUAGUAGUUUGUACAGa-----
----    51   0,-2
---UGAGGUAGUAGUUUGUACAGaa-----
----     4   0,-2
---UGAGGUAGUAGUUUGUACAGau-----
----     2   0,-2
---UGAGGUAGUAGUUUGUACAGU-----
----  4238   0,-1
---UGAGGUAGUAGUUUGUACAGUa-----
----    95   0,-1
---UGAGGUAGUAGUUUGUACAGUaa-----
----    19   0,-1
---UGAGGUAGUAGUUUGUACAGUau-----
----    14   0,-1
---UGAGGUAGUAGUUUGUACAGUU-----
----  6791   0,0
---UGAGGUAGUAGUUUGUACAGUUa-----
----   742   0,0
---UGAGGUAGUAGUUUGUACAGUUaa-----
----    32   0,0

```

```

----UGAGGUAGUAGUUUGUACAGUUau-----
----    55  0,0
----UGAGGUAGUAGUUUGUACAGUUU-----
----    826 0,1
----UGAGGUAGUAGUUUGUACAGUUUa-----
----    7   0,1
----UGAGGUAGUAGUUUGUACAGUUUu-----
----    16  0,1
----UGAGGUAGUAGUUUGUACAGUUUG-----
----    4   0,2
----GAGGUAGUAGUUUGUACAG-----
----    14  1,-2
----GAGGUAGUAGUUUGUACAGU-----
----    30  1,-1
----GAGGUAGUAGUUUGUACAGUU-----
----    73  1,0
----GAGGUAGUAGUUUGUACAGUUa-----
----    4   1,0
----AGGUAGUAGUUUGUACAGU-----
----    7   2,-1
----AGGUAGUAGUUUGUACAGUU-----
----    6   2,0
----AGGUAGUAGUUUGUACAGUUU-----
----    2   2,1
-----CUGUACAGGCCACUGCCUU
GCu-    2   0,0

```

>hsa-let-7i MA:6-27;mi:62-83 SRX018964

```

cuggcUGAGGUAGUAGUUUGUGCUGUUggucgpgguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUU
GCUa

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))

```

```

----CUGAGGUAGUAGUUUGUGCU-----
----    6   -1,-3
----CUGAGGUAGUAGUUUGUGCUG-----
----    5   -1,-2
----UGAGGUAGUAGUUUGUGC-----
----   457 0,-4

```



```

-----UGAGGUAGUAGUUUGUGCa-----
----      3      0,-4
-----UGAGGUAGUAGUUUGUGCaa-----
----      9      0,-4
-----UGAGGUAGUAGUUUGUGCU-----
----    1506      0,-3
-----UGAGGUAGUAGUUUGUGCUa-----
----      2      0,-3
-----UGAGGUAGUAGUUUGUGCUaa-----
----      2      0,-3
-----UGAGGUAGUAGUUUGUGCUu-----
----      2      0,-3
-----UGAGGUAGUAGUUUGUGCUG-----
----     906 0,-2
-----UGAGGUAGUAGUUUGUGCUGa-----
----     14 0,-2
-----UGAGGUAGUAGUUUGUGCUGaa-----
----     14 0,-2
-----UGAGGUAGUAGUUUGUGCUGU-----
----    486 0,-1
-----UGAGGUAGUAGUUUGUGCUGUa-----
----     16 0,-1
-----UGAGGUAGUAGUUUGUGCUGUaa-----
----     17 0,-1
-----UGAGGUAGUAGUUUGUGCUGUau-----
----      4      0,-1
-----UGAGGUAGUAGUUUGUGCUGUU-----
----    601 0,0
-----UGAGGUAGUAGUUUGUGCUGUUa-----
----    161 0,0
-----UGAGGUAGUAGUUUGUGCUGUUaa-----
----     25 0,0
-----UGAGGUAGUAGUUUGUGCUGUUau-----
----     13 0,0
-----UGAGGUAGUAGUUUGUGCUGUUu-----
----    198 0,0
-----UGAGGUAGUAGUUUGUGCUGUUuu-----
----     16 0,0

```

```

-----UGAGGUAGUAGUUUGUGCUGUUG-----
----      3      0,1
-----UGAGGUAGUAGUUUGUGCUGUUGu-----
----      7      0,1
-----GAGGUAGUAGUUUGUGCU-----
----      6      1,-3
-----GAGGUAGUAGUUUGUGCUG-----
----      2      1,-2
-----GAGGUAGUAGUUUGUGCUGU-----
----      4      1,-1
-----GAGGUAGUAGUUUGUGCUGUU-----
----      5      1,0
-----GAGGUAGUAGUUUGUGCUGUUa-----
----      2      1,0
-----CUGCGCAAGCUACUGCCUU
----      6      0,-3
-----CUGCGCAAGCUACUGCCUU
G---      8      0,-2

```

>hsa-mir-1-1 3p:46-67 SRX018964

```

ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAGAAGUAUGUAUcuca
.((((((.((((((((((((((((((((((..((((((((((.....)))))))).)))))))).)))))).

```

```

-----UGGAAUGUAAAGAAGUAU----- 4 0,-4
-----UGGAAUGUAAAGAAGUAUG----- 86 0,-3
-----UGGAAUGUAAAGAAGUAUGU----- 29 0,-2
-----UGGAAUGUAAAGAAGUAUGUA----- 67 0,-1
-----UGGAAUGUAAAGAAGUAUGUAa---- 42 0,-1
-----UGGAAUGUAAAGAAGUAUGUAaa--- 8 0,-1
-----UGGAAUGUAAAGAAGUAUGUAU---- 876 0,0
-----UGGAAUGUAAAGAAGUAUGUAUa--- 23 0,0
-----GGAAUGUAAAGAAGUAUGUAU---- 5 1,0

```

>hsa-mir-1-2 3p:53-74 SRX018964

```

accuacucagaguacauacuucuuuanguacccauaugaacauacaaugcuaUGGAAUGUAAAGAAGUAUGUAUuuuugg
uaggc
.((((((.((((((((((((((((((((((..((((((((((.....)))))))).)))))))).)))))).
))))).

```

```

-----UGGAAUGUAAAGAAGUAU-----

```

Count	Delta	Sequence
4	0, -4	UGGAAUGUAAAGAAGUAUG
86	0, -3	UGGAAUGUAAAGAAGUAUGU
29	0, -2	UGGAAUGUAAAGAAGUAUGUA
67	0, -1	UGGAAUGUAAAGAAGUAUGUAa
42	0, -1	UGGAAUGUAAAGAAGUAUGUAaa
8	0, -1	UGGAAUGUAAAGAAGUAUGUAU
876	0, 0	UGGAAUGUAAAGAAGUAUGUAUa
23	0, 0	UGGAAUGUAAAGAAGUAUGUAUU
17	0, 1	GGAAUGUAAAGAAGUAUGUAU
5	1, 0	

>hsa-mi r-100 MA:13-34;mi :48-69 SRX018964

1507 0,-2
-----AACCCGUAGAUCCGAACUUGa-----
30 0,-2
-----AACCCGUAGAUCCGAACUUGU-----
12786 0,-1
-----AACCCGUAGAUCCGAACUUGUa-----
43 0,-1
-----AACCCGUAGAUCCGAACUUGUaa-----
38 0,-1
-----AACCCGUAGAUCCGAACUUGUau-----
8 0,-1
-----AACCCGUAGAUCCGAACUUGUu-----
31 0,-1
-----AACCCGUAGAUCCGAACUUGUuu-----
8 0,-1
-----AACCCGUAGAUCCGAACUUGUG-----
7679 0,0
-----AACCCGUAGAUCCGAACUUGUGa-----
5157 0,0
-----AACCCGUAGAUCCGAACUUGUGaa-----
372 0,0
-----AACCCGUAGAUCCGAACUUGUGau-----
21 0,0
-----AACCCGUAGAUCCGAACUUGUGu-----
7285 0,0
-----AACCCGUAGAUCCGAACUUGUGuu-----
28 0,0
-----AACCCGUAGAUCCGAACUUGUGG-----
42 0,1
-----ACCCGUAGAUCCGAACUUGU-----
11 1,-1
-----ACCCGUAGAUCCGAACUUGUG-----
4 1,0
-----ACCCGUAGAUCCGAACUUGUGa-----
9 1,0
-----ACCCGUAGAUCCGAACUUGUGu-----
9 1,0

`ugccucggcuCAGUUAUCACAGUGCUGAUGCUgucuauuccaaaggUACAGUACUGUGAUAACUGAAggauggca
(((((((((.....)))))))))`

		-GGUACAGUACUGUGAUAACUGA-----	2
-2,-1		-----GUACAGUACUGUGAUAAC-----	285
-1,-4		-----GUACAGUACUGUGAUAACU-----	8545
-1,-3		-----GUACAGUACUGUGAUAACUa-----	12
-1,-3		-----GUACAGUACUGUGAUAACUaa-----	9
-1,-3		-----GUACAGUACUGUGAUAACUu-----	2
-1,-3		-----GUACAGUACUGUGAUAACUG-----	3806
-1,-2		-----GUACAGUACUGUGAUAACUGu-----	12
-1,-2		-----GUACAGUACUGUGAUAACUGA-----	
23677	-1,-1	-----GUACAGUACUGUGAUAACUGAu-----	118
-1,-1		-----GUACAGUACUGUGAUAACUGAA-----	
33797	-1,0	-----GUACAGUACUGUGAUAACUGAAa-----	6631
-1,0		-----GUACAGUACUGUGAUAACUGAAaa-----	202
-1,0		-----GUACAGUACUGUGAUAACUGAAau-----	7
-1,0		-----GUACAGUACUGUGAUAACUGAAu-----	34
-1,0		-----GUACAGUACUGUGAUAACUGAAG-----	35
-1,1		-----GUACAGUACUGUGAUAACUGAAGG-----	2
-1,2		-----UACAGUACUGUGAUAACU-----	9657

0,-3		-UACAGUACUGUGAUAACUa-----	18
0,-3		-UACAGUACUGUGAUAACUaa-----	14
0,-3		-UACAGUACUGUGAUAACUu-----	4
0,-3		-UACAGUACUGUGAUAAACUG-----	4232
0,-2		-UACAGUACUGUGAUAAACUGu-----	42
0,-2		-UACAGUACUGUGAUAAACUGA-----	
40644	0,-1	-UACAGUACUGUGAUAAACUGAu-----	116
0,-1		-UACAGUACUGUGAUAAACUGAuu-----	36
0,-1		-UACAGUACUGUGAUAAACUGAA-----	
86321	0,0	-UACAGUACUGUGAUAAACUGAAa-----	
20533	0,0	-UACAGUACUGUGAUAAACUGAAaa-----	593
0,0		-UACAGUACUGUGAUAAACUGAAau-----	47
0,0		-UACAGUACUGUGAUAAACUGAAu-----	814
0,0		-UACAGUACUGUGAUAAACUGAAuu-----	23
0,0		-UACAGUACUGUGAUAAACUGAAG-----	3783
0,1		-UACAGUACUGUGAUAAACUGAAGu-----	411
0,1		-UACAGUACUGUGAUAAACUGAAGuu-----	2
0,1		-UACAGUACUGUGAUAAACUGAAGG-----	5
0,2		-UACAGUACUGUGAUAAACUGAAGGA-----	4

0,3	-----ACAGUACUGUGAUAAACUG-----	15
1,-2	-----ACAGUACUGUGAUAAACUGu-----	2
1,-2	-----ACAGUACUGUGAUAAACUGA-----	212
1,-1	-----ACAGUACUGUGAUAAACUGAA-----	635
1,0	-----ACAGUACUGUGAUAAACUGAAa-----	159
1,0	-----ACAGUACUGUGAUAAACUGAAaa-----	6
1,0	-----ACAGUACUGUGAUAAACUGAAau-----	5
1,0	-----ACAGUACUGUGAUAAACUGAAu-----	8
1,0	-----ACAGUACUGUGAUAAACUGAAG-----	30
1,1	-----ACAGUACUGUGAUAAACUGAAGu-----	2
1,1	-----CAGUACUGUGAUAAACUGA-----	43
2,-1	-----CAGUACUGUGAUAAACUGAA-----	100
2,0	-----CAGUACUGUGAUAAACUGAAa-----	34
2,0	-----CAGUACUGUGAUAAACUGAAaa-----	3
2,0	-----CAGUACUGUGAUAAACUGAAu-----	3
2,0	-----CAGUACUGUGAUAAACUGAAuu-----	3
2,0	-----CAGUACUGUGAUAAACUGAAG-----	3
2,1	-----CAGUACUGUGAUAAACUGAAGu-----	8
2,1		

>hsa-mir-101-2 3p:49-69 SRX018964

acuguccuuuuucgguuaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGAUAAACUGAAgaugguggu
((..((.(((((((((((((((((((((((((((.(((((.....)))))).))))))))))))))))))))))))))..))

-----GGUACAGUACUGUGAUAAACUGA-----
2 -2,-1
-----GUACAGUACUGUGAUAAAC-----
285 -1,-4
-----GUACAGUACUGUGAUAAACU-----
8545 -1,-3
-----GUACAGUACUGUGAUAAACUa-----
12 -1,-3
-----GUACAGUACUGUGAUAAACUaa-----
9 -1,-3
-----GUACAGUACUGUGAUAAACUu-----
2 -1,-3
-----GUACAGUACUGUGAUAAACUG-----
3806 -1,-2
-----GUACAGUACUGUGAUAAACUGu-----
12 -1,-2
-----GUACAGUACUGUGAUAAACUGA-----
23677 -1,-1
-----GUACAGUACUGUGAUAAACUGAu-----
118 -1,-1
-----GUACAGUACUGUGAUAAACUGAA-----
33797 -1,0
-----GUACAGUACUGUGAUAAACUGAAa-----
6631 -1,0
-----GUACAGUACUGUGAUAAACUGAAaa-----
202 -1,0
-----GUACAGUACUGUGAUAAACUGAAau-----
7 -1,0
-----GUACAGUACUGUGAUAAACUGAAu-----
34 -1,0
-----GUACAGUACUGUGAUAAACUGAAG-----
35 -1,1
-----GUACAGUACUGUGAUAAACUGAAGA-----
10 -1,2
-----UACAGUACUGUGAUAAACU-----

9657	0,-3	-UACAGUACUGUGAUAAcUa-----
18	0,-3	-UACAGUACUGUGAUAAcUaa-----
14	0,-3	-UACAGUACUGUGAUAAcUu-----
4	0,-3	-UACAGUACUGUGAUAAcUG-----
4232	0,-2	-UACAGUACUGUGAUAAcUGu-----
42	0,-2	-UACAGUACUGUGAUAAcUGA-----
40644	0,-1	-UACAGUACUGUGAUAAcUGAu-----
116	0,-1	-UACAGUACUGUGAUAAcUGAuu-----
36	0,-1	-UACAGUACUGUGAUAAcUGAA-----
86321	0,0	-UACAGUACUGUGAUAAcUGAAa-----
20533	0,0	-UACAGUACUGUGAUAAcUGAAaa-----
593	0,0	-UACAGUACUGUGAUAAcUGAAau-----
47	0,0	-UACAGUACUGUGAUAAcUGAAu-----
814	0,0	-UACAGUACUGUGAUAAcUGAAuu-----
23	0,0	-UACAGUACUGUGAUAAcUGAAG-----
3783	0,1	-UACAGUACUGUGAUAAcUGAAGu-----
411	0,1	-UACAGUACUGUGAUAAcUGAAGuu-----
2	0,1	-UACAGUACUGUGAUAAcUGAAGA-----
974	0,2	-UACAGUACUGUGAUAAcUGAAGAA-----

57	0,3	UACAGUACUGUGAUAACUGAAGAAa-----
12	0,3	ACAGUACUGUGAUAACUG-----
15	1,-2	ACAGUACUGUGAUAACUGu-----
2	1,-2	ACAGUACUGUGAUAACUGA-----
212	1,-1	ACAGUACUGUGAUAACUGAA-----
635	1,0	ACAGUACUGUGAUAACUGAAa-----
159	1,0	ACAGUACUGUGAUAACUGAAaa-----
6	1,0	ACAGUACUGUGAUAACUGAAau-----
5	1,0	ACAGUACUGUGAUAACUGAAu-----
8	1,0	ACAGUACUGUGAUAACUGAAG-----
30	1,1	ACAGUACUGUGAUAACUGAAGu-----
2	1,1	ACAGUACUGUGAUAACUGAAGA-----
19	1,2	ACAGUACUGUGAUAACUGAAGAA-----
5	1,3	CAGUACUGUGAUAACUGA-----
43	2,-1	CAGUACUGUGAUAACUGAA-----
100	2,0	CAGUACUGUGAUAACUGAAa-----
34	2,0	CAGUACUGUGAUAACUGAAaa-----
3	2,0	CAGUACUGUGAUAACUGAAu-----
3	2,0	CAGUACUGUGAUAACUGAAuu-----

```

3      2,0
-----CAGUACUGUGAUAACUGAAG-----
3      2,1
-----CAGUACUGUGAUAACUGAAGu-----
8      2,1
-----CAGUACUGUGAUAACUGAAGA-----
25     2,2
-----CAGUACUGUGAUAACUGAAGAA-----
16     2,3
-----CAGUACUGUGAUAACUGAAGAAa-----
19     2,3

>hsa-mir-103-1 3p:48-70 SRX018964
uacugcccucggcuucuuuacagugcugccuuguugcauuggaucaAGCAGCAUUGUACAGGGCUAUGAaggcauug
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGCAGCAUUGUACAGGGCUAU-----
3      -1,-2
-----AGCAGCAUUGUACAGGGC-----
1127   0,-5
-----AGCAGCAUUGUACAGGGCa-----
2      0,-5
-----AGCAGCAUUGUACAGGGCaa-----
5      0,-5
-----AGCAGCAUUGUACAGGGCau-----
3      0,-5
-----AGCAGCAUUGUACAGGGCU-----
805    0,-4
-----AGCAGCAUUGUACAGGGCUu-----
62     0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
20     0,-4
-----AGCAGCAUUGUACAGGGCUA-----
3532   0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
163    0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
30     0,-3
-----AGCAGCAUUGUACAGGGCUAau-----

```

28	0,-3	-AGCAGCAUUGUACAGGGCUAU-
14088	0,-2	-AGCAGCAUUGUACAGGGCUAUa-
370	0,-2	-AGCAGCAUUGUACAGGGCUAUaa-
249	0,-2	-AGCAGCAUUGUACAGGGCUAUau-
242	0,-2	-AGCAGCAUUGUACAGGGCUAUu-
968	0,-2	-AGCAGCAUUGUACAGGGCUAUuu-
90	0,-2	-AGCAGCAUUGUACAGGGCUAUG-
7918	0,-1	-AGCAGCAUUGUACAGGGCUAUGu-
2222	0,-1	-AGCAGCAUUGUACAGGGCUAUGuu-
114	0,-1	-AGCAGCAUUGUACAGGGCUAUGA-
12165	0,0	-AGCAGCAUUGUACAGGGCUAUGAu-
915	0,0	-AGCAGCAUUGUACAGGGCUAUGAuu-
11	0,0	-AGCAGCAUUGUACAGGGCUAUGAA-
251	0,1	-AGCAGCAUUGUACAGGGCUAUGAAu-
2	0,1	-GCAGCAUUGUACAGGGCU-
6	1,-4	-GCAGCAUUGUACAGGGCUA-
19	1,-3	-GCAGCAUUGUACAGGGCUAU-
80	1,-2	-GCAGCAUUGUACAGGGCUAUa-
4	1,-2	-GCAGCAUUGUACAGGGCUAUaa-

2	1,-2	-GCAGCAUUGUACAGGGCUAUau-----
3	1,-2	-GCAGCAUUGUACAGGGCUAUu-----
5	1,-2	-GCAGCAUUGUACAGGGCUAUG-----
45	1,-1	-GCAGCAUUGUACAGGGCUAUGu-----
10	1,-1	-GCAGCAUUGUACAGGGCUAUGA-----
129	1,0	-GCAGCAUUGUACAGGGCUAUGAu-----
5	1,0	-CAGCAUUGUACAGGGCUA-----
2	2,-3	-CAGCAUUGUACAGGGCUAU-----
14	2,-2	-CAGCAUUGUACAGGGCUAUG-----
14	2,-1	-CAGCAUUGUACAGGGCUAUGu-----
2	2,-1	-CAGCAUUGUACAGGGCUAUGA-----
33	2,0	
 >hsa-mir-103-2 mi:11-33;MA:48-70 SRX018964		
uugugcuuucAGCUUCUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca		
..(((.((((((((((.(((.(((((((((((((((((.)))))))).)))))))).)))))))).))..		
		-AAGCAGCAUUGUACAGGGCUAU-----
3	-1,-2	-AGCAGCAUUGUACAGGGC-----
1127	0,-5	-AGCAGCAUUGUACAGGGCa-----
2	0,-5	-AGCAGCAUUGUACAGGGCaa-----
5	0,-5	-AGCAGCAUUGUACAGGGCau-----
3	0,-5	-AGCAGCAUUGUACAGGGCU-----

805	0, -4	-----AGCAGCAUUGUACAGGGCUu-----
62	0, -4	-----AGCAGCAUUGUACAGGGCUuu-----
20	0, -4	-----AGCAGCAUUGUACAGGGCUA-----
3532	0, -3	-----AGCAGCAUUGUACAGGGCUAa-----
163	0, -3	-----AGCAGCAUUGUACAGGGCUAaa-----
30	0, -3	-----AGCAGCAUUGUACAGGGCUAau-----
28	0, -3	-----AGCAGCAUUGUACAGGGCUAU-----
14088	0, -2	-----AGCAGCAUUGUACAGGGCUAUa-----
370	0, -2	-----AGCAGCAUUGUACAGGGCUAUaa-----
249	0, -2	-----AGCAGCAUUGUACAGGGCUAUau-----
242	0, -2	-----AGCAGCAUUGUACAGGGCUAUu-----
968	0, -2	-----AGCAGCAUUGUACAGGGCUAUuu-----
90	0, -2	-----AGCAGCAUUGUACAGGGCUAUG-----
7918	0, -1	-----AGCAGCAUUGUACAGGGCUAUGu-----
2222	0, -1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
114	0, -1	-----AGCAGCAUUGUACAGGGCUAUGA-----
12165	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
915	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
11	0, 0	-----AGCAGCAUUGUACAGGGCUAUGAA-----

251	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
2	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAA-----
47	0,2	-----GCAGCAUUGUACAGGGCU-----
6	1,-4	-----GCAGCAUUGUACAGGGCUA-----
19	1,-3	-----GCAGCAUUGUACAGGGCUAU-----
80	1,-2	-----GCAGCAUUGUACAGGGCUAUa-----
4	1,-2	-----GCAGCAUUGUACAGGGCUAUaa-----
2	1,-2	-----GCAGCAUUGUACAGGGCUAUau-----
3	1,-2	-----GCAGCAUUGUACAGGGCUAUu-----
5	1,-2	-----GCAGCAUUGUACAGGGCUAUG-----
45	1,-1	-----GCAGCAUUGUACAGGGCUAUGu-----
10	1,-1	-----GCAGCAUUGUACAGGGCUAUGA-----
129	1,0	-----GCAGCAUUGUACAGGGCUAUGAu-----
5	1,0	-----CAGCAUUGUACAGGGCUA-----
2	2,-3	-----CAGCAUUGUACAGGGCUAU-----
14	2,-2	-----CAGCAUUGUACAGGGCUAUG-----
14	2,-1	-----CAGCAUUGUACAGGGCUAUGu-----
2	2,-1	-----CAGCAUUGUACAGGGCUAUGA-----
33	2,0	

>hsa-mi r-106a MA:13-35;mi :50-71 SRX018964

ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucuaCUGCAAUGUAAGCACUUCUACauuaccaug
g

$$((.((((..(((((((((((((((((((((((((.(((((.(((.(.....)).)))))))))..))))))))).))))))....).$$

-----AAAAGUGCUUACAGUGCAGGU-----

- 10 0, -2

-----AAAAGUGCUUACAGUGCAGGUA-----

- 5 0,-1

-----AAAAGUGCUUACAGUGCAGGUAu-----

- 3 0, -1

-----AAAAGUGCUUACAGUGCAGGUAG-----

- 3 0,0

-----AAAGUGCUUACAGUGCAGGU-----

- 7 1, -2

-----AAAGUGCUUACAGUGCAGGUA-----

- 5 1, -1

-----AAAGUGCUUACAGUGCAGGUAa-----

- 3 1, -1

-----AAAGUGCUUACAGUGCAGGUAu-----

- 2 1, -1

-----AAAGUGCUUACAGUGCAGGUAG-----

- 5 1,0

>hsa-mi r-106b MA:12-32;mi :52-73 SRX018964

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagcaggg

-----CUAAAGUGCUGACAGUGCAGUAa-----

$$-2 \quad -1,1$$

-----UAAAGUGCUGACAGUGCA-----

$$-- \quad 2 \quad 0, -3$$

-----UAAAGUGCUGACAGUGCAG-----

-- 16 0,-2

-----UAAAGUGCUGACAGUGCAGA-----

-- 21 0,-1

-----UAAAGUGCUGACAGUGCAGaa-----


```

-- 3 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 37 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 4 0,0
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 53 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 28 0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 18 0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
-- 6 0,2
-----AAAGUGCUGACAGUGCAG-----
-- 2 1,-2
-----UACCGCACUGUGGGUACUUGa-----
-- 3 -2,-4
-----UACCGCACUGUGGGUACUUGaa-----
-- 3 -2,-4
-----UACCGCACUGUGGGUACUUGC-----
-- 2 -2,-3
-----UACCGCACUGUGGGUACUUGCa-----
-- 2 -2,-3
-----UACCGCACUGUGGGUACUUGCU-----
-- 8 -2,-2
-----UACCGCACUGUGGGUACUUGCUa-----
-- 2 -2,-2
-----UACCGCACUGUGGGUACUUGCUGa-----
-- 3 -2,-1
-----ACCGCACUGUGGGUACUUGCUG-----
-- 2 -1,-1
-----CCGCACUGUGGGUACUUGC-----
-- 2 0,-3
-----CCGCACUGUGGGUACUUGCU-----
-- 15 0,-2
-----CCGCACUGUGGGUACUUGCUa-----
-- 2 0,-2
-----CCGCACUGUGGGUACUUGCUG-----

```

```

-- 60 0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 34 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 7 0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 3 0,-1
-----CCGCACUGUGGGUACUUGCUGC-----
-- 112 0,0
-----CCGCACUGUGGGUACUUGCUGCa-----
-- 2 0,0
-----CCGCACUGUGGGUACUUGCUGCaa-----
-- 2 0,0
-----CCGCACUGUGGGUACUUGCUGCau-----
-- 2 0,0
-----CGCACUGUGGGUACUUGCUGC-----
-- 2 1,0

```

>hsa-mir-107 3p:50-72 SRX018964

```

cucucugcuuucagcuucuuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCaagcacag
a

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```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

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```

-----AAGCAGCAUUGUACAGGGCUAU-----
- 3 -1,-2
-----AAGCAGCAUUGUACAGGGCUAUCA-----
- 2 -1,0
-----AGCAGCAUUGUACAGGGC-----
- 1127 0,-5
-----AGCAGCAUUGUACAGGGCa-----
- 2 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 5 0,-5
-----AGCAGCAUUGUACAGGGCau-----
- 3 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 805 0,-4
-----AGCAGCAUUGUACAGGGCUu-----

```

- 62 0,-4	-----AGCAGCAUUGUACAGGGCUuu-----
- 20 0,-4	-----AGCAGCAUUGUACAGGGCUA-----
- 3532 0,-3	-----AGCAGCAUUGUACAGGGCUAa-----
- 163 0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
- 30 0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
- 28 0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
- 14088 0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
- 370 0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
- 249 0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
- 242 0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
- 968 0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
- 90 0,-2	-----AGCAGCAUUGUACAGGGCUAUC-----
- 2535 0,-1	-----AGCAGCAUUGUACAGGGCUAUCu-----
- 1075 0,-1	-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 39 0,-1	-----AGCAGCAUUGUACAGGGCUAUCA-----
- 2674 0,0	-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 127 0,0	-----AGCAGCAUUGUACAGGGCUAUCAuu-----
- 2 0,0	-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 14 0,1	-----AGCAGCAUUGUACAGGGCUAUCAAA-----

----- 7 0,-5
-----UACCCUGUAGAUCCGAAUU-----
----- 45 0,-4
-----UACCCUGUAGAUCCGAAUUU-----
----- 29 0,-3
-----UACCCUGUAGAUCCGAAUUUu-----
----- 2 0,-3
-----UACCCUGUAGAUCCGAAUUUG-----
----- 209 0,-2
-----UACCCUGUAGAUCCGAAUUUGa-----
----- 9 0,-2
-----UACCCUGUAGAUCCGAAUUUGU-----
----- 902 0,-1
-----UACCCUGUAGAUCCGAAUUUGUa-----
----- 6 0,-1
-----UACCCUGUAGAUCCGAAUUUGUaa-----
----- 3 0,-1
-----UACCCUGUAGAUCCGAAUUUGUG-----
----- 247 0,0
-----UACCCUGUAGAUCCGAAUUUGUGa-----
----- 47 0,0
-----UACCCUGUAGAUCCGAAUUUGUGU-----
----- 37 0,1
-----ACCCUGUAGAUCCGAAUUUG-----
----- 11 1,-2
-----ACCCUGUAGAUCCGAAUUUGU-----
----- 159 1,-1
-----ACCCUGUAGAUCCGAAUUUGUG-----
----- 100 1,0
-----ACCCUGUAGAUCCGAAUUUGUGa-----
----- 52 1,0
-----ACCCUGUAGAUCCGAAUUUGUGaa-----
----- 13 1,0
-----ACCCUGUAGAUCCGAAUUUGUGU-----
----- 49 1,1
-----CCCUGUAGAUCCGAAUUUGU-----
----- 2 2,-1
-----CCCUGUAGAUCCGAAUUUGUG-----

-----	3	2,0	-----CAAAUUCGUAUCUAGGGG
-----	3	0,-4	-----CAAAUUCGUAUCUAGGGG
A-----	3	0,-3	-----CAAAUUCGUAUCUAGGGG
AAaa-----	2	0,-2	-----CAAAUUCGUAUCUAGGGG
AAU-----	2	0,-1	-----AAAUUCGUAUCUAGGGG
AAa-----	2	1,-2	-----AAAUUCGUAUCUAGGGG
AAU-----	2	1,-1	

```

>hsa-mir-10b      MA:27-49;mi:66-87      SRX018964
ccagagguuguaacguugucuauauaUACCCUGUAGAACCGAAUUUGUGugguaucCGuauagucACAGAUUCGAUUCUA
GGGGAAUauauggucgaugcaaaaacuca
...(((((((.....(((((.(((((((.(((((.(((((.(((((((.....((.....))).....))))))))))))))))))
))))).))))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----UACCCUGUAGAACCGAAUUUG-----
-----17  0,-2
-----UACCCUGUAGAACCGAAUUUGU-----
-----91  0,-1
-----UACCCUGUAGAACCGAAUUUGUG-----
-----12  0,0
-----UACCCUGUAGAACCGAAUUUGUGa-----
-----4  0,0
-----ACCCUGUAGAACCGAAUUUGU-----
-----10  1,-1
-----ACCCUGUAGAACCGAAUUUGUG-----
-----2  1,0
-----ACCCUGUAGAACCGAAUUUGUGa-----
-----3  1,0
-----ACCCUGUAGAACCGAAUUUGUGU-----
-----7  1,1

```

```
>hsa-mir-1181    5p:14-34    SRX018964
uccacugcugccgCCGUCGCCGCCACCCGAGCCGgagcgggcuggggccgccaaggcaagaugguggacuacagcgugugg
```


))))).

-----UGUGGAGUGUGACAAUGGUu-----
----- 2 -2,-5
-----UGUGGAGUGUGACAAUGGUG-----
----- 6 -2,-4
-----UGUGGAGUGUGACAAUGGUGU-----
----- 47 -2,-3
-----UGUGGAGUGUGACAAUGGUGUU-----
----- 542 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUa-----
----- 9 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUau-----
----- 2 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUU-----
----- 18 -2,-1
-----UGUGGAGUGUGACAAUGGUGUUUu-----
----- 3 -2,-1
-----GUGGAGUGUGACAAUGGU-----
----- 2 -1,-5
-----GUGGAGUGUGACAAUGGUuu-----
----- 2 -1,-5
-----GUGGAGUGUGACAAUGGUG-----
----- 5 -1,-4
-----GUGGAGUGUGACAAUGGUGU-----
----- 28 -1,-3
-----GUGGAGUGUGACAAUGGUGUU-----
----- 54 -1,-2
-----GUGGAGUGUGACAAUGGUGUUU-----
----- 135 -1,-1
-----GUGGAGUGUGACAAUGGUGUUUG-----
----- 17 -1,0
-----GUGGAGUGUGACAAUGGUGUUUGa-----
----- 3 -1,0
-----GUGGAGUGUGACAAUGGUGUUUGU-----
----- 4 -1,1
-----UGGAGUGUGACAAUGGUG-----
----- 13701 0,-4
-----UGGAGUGUGACAAUGGUGa-----

----- 1443 0,-4
-----UGGAGUGUGACAAUGGUGaa-----
----- 528 0,-4
-----UGGAGUGUGACAAUGGUGau-----
----- 54 0,-4
-----UGGAGUGUGACAAUGGUGU-----
----- 64652 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 13141 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 3828 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 560 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 185836 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 13091 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 3189 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 1224 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 397788 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 40553 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 13854 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 12452 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 5693 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 451 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1536157 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 517118 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----

```

----- 24360 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 17314 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 348078 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 3045 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 1158 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 1459 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 1819 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 377 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 209 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 35 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 162 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 535 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 118 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 41 1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 3 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 1033 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 104 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 40 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 11 1,-2
-----GGAGUGUGACAAUGGUGUUU-----

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----- 1183 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 157 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 138 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 48 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 12 1,-1
-----GGAGUGUGACAAUGGUGUUUuu-----
----- 3 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 12397 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 5827 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 265 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 144 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 1160 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 21 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 9 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 19 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 6 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 4 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 8 1,2
-----GGAGUGUGACAAUGGUGUUUGUGU-----
----- 6 1,3
-----GAGUGUGACAAUGGUGUU-----
----- 244 2,-2
-----GAGUGUGACAAUGGUGUUa-----

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```

----- 25 2,-2
-----GAGUGUGACAAUGGUGUUaa-----
----- 3 2,-2
-----GAGUGUGACAAUGGUGUUau-----
----- 5 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 765 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 62 2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 23 2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 25 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 20 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 2356 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 911 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 40 2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 32 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 783 2,1
-----GAGUGUGACAAUGGUGUUUGUa-----
----- 4 2,1
-----GAGUGUGACAAUGGUGUUUGUaa-----
----- 2 2,1
-----GAGUGUGACAAUGGUGUUUGUau-----
----- 2 2,1
-----GAGUGUGACAAUGGUGUUUGUu-----
----- 2 2,1
-----GAGUGUGACAAUGGUGUUUGUGU-----
----- 3 2,3
-----CAAACGCCAUUAUCACACUA-----
----- 3 -2,-4
-----CAAACGCCAUUAUCACACUAA-----

```

-----	2	-2,-3	-----CAAACGCCAUUAUCACACUAAu-----
-----	3	-2,-3	-----AAACGCCAUUAUCACACU-----
-----	17	-1,-5	-----AAACGCCAUUAUCACACUA-----
-----	47	-1,-4	-----AAACGCCAUUAUCACACUAu-----
-----	8	-1,-4	-----AAACGCCAUUAUCACACUAuu-----
-----	4	-1,-4	-----AAACGCCAUUAUCACACUAA-----
-----	71	-1,-3	-----AAACGCCAUUAUCACACUAAu-----
-----	20	-1,-3	-----AAACGCCAUUAUCACACUAAuu-----
-----	7	-1,-3	-----AAACGCCAUUAUCACACUAAA-----
-----	55	-1,-2	-----AAACGCCAUUAUCACACUAAAa-----
-----	7	-1,-2	-----AAACGCCAUUAUCACACUAAAAU-----
-----	360	-1,-1	-----AAACGCCAUUAUCACACUAAAAUu-----
-----	6	-1,-1	-----AAACGCCAUUAUCACACUAAAAUA-----
-----	9	-1,0	-----AACGCCAUUAUCACACUA-----
-----	100	0,-4	-----AACGCCAUUAUCACACUAu-----
-----	4	0,-4	-----AACGCCAUUAUCACACUAuu-----
-----	5	0,-4	-----AACGCCAUUAUCACACUAA-----
-----	186	0,-3	-----AACGCCAUUAUCACACUAAu-----
-----	27	0,-3	-----AACGCCAUUAUCACACUAAuu-----

```

----- 37 0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 227 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 33 0,-2
-----AACGCCAUUAUCACACUAAAaa-----
----- 2 0,-2
-----AACGCCAUUAUCACACUAAAu-----
----- 1986 0,-1
-----AACGCCAUUAUCACACUAAAuu-----
----- 84 0,-1
-----AACGCCAUUAUCACACUAAAUA-----
----- 289 0,0
-----AACGCCAUUAUCACACUAAAUAa-----
----- 31 0,0
-----AACGCCAUUAUCACACUAAAUAu-----
----- 62 0,0
-----AACGCCAUUAUCACACUAAAUAG-----
----- 2 0,1
-----ACGCCAUUAUCACACUAAAu-----
----- 13 1,-1
-----ACGCCAUUAUCACACUAAAUA-----
----- 4 1,0

```

>hsa-mir-1224 5p:1-19;3p:65-85 SRX018964

GUGAGGACUCGGGAGGUGGaggguggugccgccggggccgggcgcuguuucagcucgcucuccCCCCACCUCCUCUCUC
CUCAG

.(((((((...(((((((((((((.(.((.(.((.....)).)).)).)).)))))))).)))

))))).
GUGAGGACUCGGGAGGUGGAGa-----
----- 2 0,2

>hsa-mir-1227 3p:69-88 SRX018964

guggggccaggcggugguggggcacugcugggguggggcacagcagccaugcagagcgggcuuugacccCGUGCCACCCUU
UCCCCAG

.....(((((((.(((.....)))))))).)
.....
-----CGUGCCACCCUU

UCCCCAG 2 0,0
-----CGUGCCACCCUU
UCCCCAG_u 2 0,0

```
>hsa-mir-1228    mi:1-21;MA:52-71    SRX018964
GUGGGCGGGGCAGGUGUGUGgugggugguggccugcggugagcagggcccUCACACCUGCCUCGCCCCCag
..(((((((((.((((((((.....((((.....((((.....))))))))).)))))))))))))).....
GUGGGCGGGGCAGGUGUGUG-----
0,0
```

```
>hsa-mir-1234    3p:61-82    SRX018964
gugaguguggggugggcugggggggggggggggggggccggggacggcuuggggccugccuagUCGGCCUGACCACCCACCCC
ACag
.....(((((((((((.((((..((((..(((.(((((.((((...)))..))))).)))..)))..)))..))))))
))).
-----UCGGCCUGACCACCCACCCC
AC--    2    0,0
```

```
>hsa-mir-124-1  mi:14-35;MA:53-72  SRX018964
aggccucucucucCGUGUUCACAGCGGACCUUGAUuuaaauguccauacaauUAAGGCACGCGGUGAAUGCCaagaugg
ggcug
(((((((..(((..(((((((..(((..(((((((.....)))))))))..))).))))))..))).))
))))).
-----UAAGGCACGCGGUGAAUG-----
----- 6 0,-2
```

```
>hsa-mir-124-2    mi:25-46;MA:62-81    SRX018964
aucaagauuagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuuaugucauacaauUAAGGCACGCGGUGAAUGC
Caagagcgggagccuacggcugcacuugaa
(((((((.....)))))))).))))).))))))
.....)))).)).)).
-----UAAGGCACGCGGUGAAUG-
-----6    0,-2
```

[illegible]

-----UAAGGCACGCGGUGAAUG-----
----- 6 0,-2

uguauccuugAAUGGAUUUUUGGAGCAGGaguggacaccugacccaaaggaaaucauuccauaggcuagcaau
 (((...(((...(((((((((((...(((...)))...)))...)))...)))...)))...)))...))..
 -----AAUGGAUUUUUGGAGCAGG----- 20
 0,0
 -----AUGGAUUUUUGGAGCAGG----- 13
 1,0

gggaggaggaggaggauggggccaaguucccucuggcuggaACGCCCUCUUUUUUUUCUUAAccug
 .(((((((.(.(.(((((...((((.....)))))))).).).)))))))))....
 -----ACGCCCUCUUUUUUUUCUUA----- 5 0,0

```

uaCGGAUGAGCAAAGAAAGUGGUUucuuaaauggaaucaucucuuuugugaagaugcugugaa
((((((..(((((((..(((((((.....))))).))))))))))..))....)))..
--CGGAUGAGCAAAGAAAGUGGUaa----- 2    0,-1
--CGGAUGAGCAAAGAAAGUGGUU----- 13   0,0
--CGGAUGAGCAAAGAAAGUGGUUa----- 3    0,0
--CGGAUGAGCAAAGAAAGUGGUUU----- 3    0,1

```

```

ucuuuCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuuucuuugcucauccauaagga
((((.(((((((((((((((((((((((((((.(.....)))))))))))))))))))))).))))).
-----CGGAUGAGCAAAGAAAGUGGUaa----- 2    0,-1
-----CGGAUGAGCAAAGAAAGUGGUU----- 13   0,0
-----CGGAUGAGCAAAGAAAGUGGUUa----- 3    0,0
-----CGGAUGAGCAAAGAAAGUGGUUU----- 3    0,1

```

agucagccuguugaagcuuugaagcuuugaugccAGGCAUUGACUUCACUAGCUgugaaaguccuagcuaaagagaag
ucaaugcaugacaucuuguuucaauagauggcguguuuc

(((((.(((((((((.....(((((.(.(((((((((((((.((((((.(.....).)))))).))))))
)))))).).)))).).)))))))).).))))).))))).))))).))))).))))).))))).))))).))))).

-----AGGCAUUGACUUCUCACUAGC-----
----- 2 0,-1

```
>hsa-mir-1258    3p:44-64    SRX018964
```

[illegible]

-----AGUUAGGAUUAGGUCGUG----- 3

0,-2

-----AGUUAGGAUUAGGUCGUGGA----- 2

0, -1

-----AGUUAGGAUUAGGUCGUGGAa----- 3

0.0

>hsa-mi r-125a 5p:15-38;3p:53-74 SRX018964

ugccagucucuaggUCCCUGAGACCCUUAACCUUGUGaggacauccaggguACAGGUGAGGUUCUUGGGAGCCuggcgu
cuggcc

$$\begin{aligned} & .((((((.(((((((..(((.((((((((((.....))....)))))))))))).))..))..))))). \\ &))))))). \end{aligned}$$

-----UCCCUGAGACCCUUAACC-----
----- 211 0,-5

-----UCCCUGAGACCCUUAACC a-----
----- 2 0,-5

-----UCCCUGAGACCCUUAACCU-----
----- 1815 0,-4

-----UCCCUGAGACCCUUAACCUu-----
----- 2 0,-4

-----UCCCUGAGACCCUUAACCUG-----
----- 709 0,-3

-----UCCCUGAGACCCUUAACCUGa-----
----- 18 0,-3

-----UCCCUGAGACCCUUAACCUgaa-----
----- 4 0,-3

-----UCCCUGAGACCCUUAACCUGU-----
----- 532 0,-2

-----UCCCUGAGACCCUUAACCUUGUG-----
----- 122 0,-1

-----UCCCUGAGACCCUUAACCUUGUGu-----
----- 8 0,-1


```

-----UCCCUGAGACCCUAACUUGa-----
-----16 0,-3
-----UCCCUGAGACCCUAACUUGaa-----
-----5 0,-3
-----UCCCUGAGACCCUAACUUGU-----
-----2149 0,-2
-----UCCCUGAGACCCUAACUUGUa-----
-----6 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
-----16 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
-----3 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
-----1808 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
-----177 0,-1
-----UCCCUGAGACCCUAACUUGUGuu-----
-----3 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
-----4845 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
-----1604 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
-----179 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
-----7 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
-----107 0,1
-----UCCCUGAGACCCUAACUUGUGAUa-----
-----2 0,1
-----UCCCUGAGACCCUAACUUGUGAUu-----
-----3 0,1
-----CCCUGAGACCCUAACUUGUGA-----
-----5 1,0
-----CCCUGAGACCCUAACUUGUGAa-----
-----2 1,0
-----CCCUGAGACCCUAACUUGUGAau-----
-----2 1,0

```



```

-----UCCCUGAGACCCUAACUUGa-----
----- 16 0,-3
-----UCCCUGAGACCCUAACUUGaa-----
----- 5 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 2149 0,-2
-----UCCCUGAGACCCUAACUUGUa-----
----- 6 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 16 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 3 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 1808 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 177 0,-1
-----UCCCUGAGACCCUAACUUGUGuu-----
----- 3 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 4845 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 1604 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 179 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 7 0,0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 11 0,1
-----UCCCUGAGACCCUAACUUGUGAGa-----
----- 2 0,1
-----CCCUGAGACCCUAACUUGUGA-----
----- 5 1,0
-----CCCUGAGACCCUAACUUGUGAa-----
----- 2 1,0
-----CCCUGAGACCCUAACUUGUGAau-----
----- 2 1,0
-----CCUGAGACCCUAACUUGU-----
----- 23 2,-2

```

```

-----CCUGAGACCCUAACUUGUG-----
----- 20 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 3 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 46 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 14 2,0
-----AUCACAAGUCAGGCUCUUG-----
----- 2 -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 5 -1,-3
-----AUCACAAGUCAGGCUCUUGGG-----
----- 4 -1,-2
-----AUCACAAGUCAGGCUCUUGGGA-----
----- 4 -1,-1
-----AUCACAAGUCAGGCUCUUGGGAC-----
----- 2 -1,0
-----UCACAAGUCAGGCUCUUG-----
----- 3 0,-4
-----UCACAAGUCAGGCUCUUGG-----
----- 18 0,-3
-----UCACAAGUCAGGCUCUUGGG-----
----- 5 0,-2
-----UCACAAGUCAGGCUCUUGGGA-----
----- 5 0,-1
-----ACAAGUCAGGCUCUUGGG-----
----- 92 2,-2
-----ACAAGUCAGGCUCUUGGGA-----
----- 56 2,-1
-----ACAAGUCAGGCUCUUGGGAa-----
----- 2 2,-1
-----ACAAGUCAGGCUCUUGGGAC-----
----- 35 2,0
-----ACAAGUCAGGCUCUUGGGACCau-----
----- 3 2,1
-----ACAAGUCAGGCUCUUGGGACCU-----
----- 3 2,2

```

>hsa-mir-126 mi:15-35;MA:52-73 SRX018964

cgcuggcgacgggaCAUUAUUACUUUUGGUACGCGcugugacacuucaaacUCGUACCGUGAGUAAUAUGCGccgucca
cggca

.((((...(((((((.(((((((((((.(((((((((.(...(((....)))..).)))))))).)))))))).))))).
)))).

-----CAUUAUUACUUUUGGUAC-----

----- 47 0,-3

-----CAUUAUUACUUUUGGUACG-----

----- 16 0,-2

-----CAUUAUUACUUUUGGUACGaa-----

----- 2 0,-2

-----CAUUAUUACUUUUGGUACGC-----

----- 50 0,-1

-----CAUUAUUACUUUUGGUACGCa-----

----- 4 0,-1

-----CAUUAUUACUUUUGGUACGCG-----

----- 387 0,0

-----CAUUAUUACUUUUGGUACGCGa-----

----- 161 0,0

-----CAUUAUUACUUUUGGUACGCGu-----

----- 97 0,0

-----CAUUAUUACUUUUGGUACGCGuu-----

----- 3 0,0

-----CAUUAUUACUUUUGGUACGCGC-----

----- 16 0,1

-----CAUUAUUACUUUUGGUACGCGCU-----

----- 7 0,2

-----AUUAUUACUUUUGGUACG-----

----- 3 1,-2

-----AUUAUUACUUUUGGUACGCG-----

----- 27 1,0

-----AUUAUUACUUUUGGUACGCGa-----

----- 6 1,0

-----AUUAUUACUUUUGGUACGCGu-----

----- 7 1,0

-----AUUAUUACUUUUGGUACGCGCU-----

----- 19 1,2

```

-----UUAUUACUUUUGGUACGCGCa-----
----- 2 2,1-----
-----CUCGUACCGUGAGUAAUAAUG-----
----- 3 -1,-2-----
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 12 -1,-2-----
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 12 -1,-1-----
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 15 -1,0-----
-----UCGUACCGUGAGUAAUAAU-----
----- 10 0,-3-----
-----UCGUACCGUGAGUAAUAAUG-----
----- 7 0,-2-----
-----UCGUACCGUGAGUAAUAAUGa-----
----- 13 0,-2-----
-----UCGUACCGUGAGUAAUAAUGaa-----
----- 7 0,-2-----
-----UCGUACCGUGAGUAAUAAUGC-----
----- 38 0,-1-----
-----UCGUACCGUGAGUAAUAAUGCa-----
----- 3 0,-1-----
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 42 0,0-----
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 34 0,0-----
-----UCGUACCGUGAGUAAUAAUGCGu-----
----- 3 0,0-----
-----CGUACCGUGAGUAAUAAU-----
----- 3 1,-3-----
-----CGUACCGUGAGUAAUAAUG-----
----- 5 1,-2-----
-----CGUACCGUGAGUAAUAAUGaa-----
----- 2 1,-2-----
-----CGUACCGUGAGUAAUAAUGC-----
----- 14 1,-1-----
-----CGUACCGUGAGUAAUAAUGCG-----
----- 43 1,0-----

```



```

-----CGUACCGUGAGUAAUAAUGCGa-----
----- 21 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 9 1,0
-----GUACCGUGAGUAAUAAUGC-----
----- 14 2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 20 2,0
-----GUACCGUGAGUAAUAAUGCGa-----
----- 4 2,0

```

```

>hsa-mir-1260b 5p:10-28 SRX018964
ucuccguuuAUCCCACCACUGCCACCAUuauugcuacuguucagcaggugcugcugguggugauggugauagucuggugg
gggcggugg
.(.(((...((((((((((.(((((((((.(((.....((((.....))))).)))..)))))))).))))).)))))
)))))).).
-----AUCCCACCACUGCCACCAaa-----
----- 2 0,-1

```

```

>hsa-mir-1266 5p:13-35 SRX018964
acagguagugucCCUCAGGGCUGUAGAACAGGGCUgggauuacuaaagcccuguucuaugcccugagggacacugagcau
guca
(((..(((((((((((((((((.((((((((((((((((.....))..)))))))))..)))))))))..))..
))..
-----CCUCAGGGCUGUAGAACAGGGCUu-----
----- 2 0,0

```

```

>hsa-mir-1268 5p:5-22 SRX018964
uagcCGGGCGUGGUGGUGGGGGccugugguccagcuacuuggaggcugag
((((...((.((((((.((((((...))))).))))).))..))..))..
----CGGGCGUGGUGGUGGGGG----- 32 0,0

```

```

>hsa-mir-127 5p:23-44;3p:57-78 SRX018964
ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucaUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucaucauc
((.(((..(((...((((.....(((((((((.(((.....))..)))))))).))..)))))))))..))..
..))..))..))..))..
-----CUGAAGCUCAGAGGGCUC-----

```

-----	6	0,-4	
-----			-CUGAAGCUCAGAGGGCUCU-----
-----	10	0,-3	
-----			-CUGAAGCUCAGAGGGCUCUGA-----
-----	7	0,-1	
-----			-CUGAAGCUCAGAGGGCUCUGAa-----
-----	3	0,-1	
-----			-CUGAAGCUCAGAGGGCUCUGAU-----
-----	3	0,0	
-----			-GAAGCUCAGAGGGCUCUGAUUC-----
-----	2	2,2	
-----			-----UCGGAUCCGUCUGAGCUUG-----
-----	5	0,-3	
-----			-----UCGGAUCCGUCUGAGCUUGG-----
-----	19	0,-2	
-----			-----UCGGAUCCGUCUGAGCUUGGaa--
-----	4	0,-2	
-----			-----UCGGAUCCGUCUGAGCUUGGu---
-----	2	0,-2	
-----			-----UCGGAUCCGUCUGAGCUUGGC---
-----	101	0,-1	
-----			-----UCGGAUCCGUCUGAGCUUGGCa--
-----	106	0,-1	
-----			-----UCGGAUCCGUCUGAGCUUGGCaa-
-----	57	0,-1	
-----			-----UCGGAUCCGUCUGAGCUUGGCau-
-----	313	0,-1	
-----			-----UCGGAUCCGUCUGAGCUUGGCU--
-----	572	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUa-
-----	200	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUaa
-----	20	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUau
-----	192	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUu-
-----	212	0,0	
-----			-----UCGGAUCCGUCUGAGCUUGGCUuu

```

----- 42 0,0
-----UCGGAUCCGUCUGAGCUUGGCUGu
----- 3 0,1
-----CGGAUCCGUCUGAGCUUGGCU--
----- 3 1,0
-----CGGAUCCGUCUGAGCUUGGCUau
----- 5 1,0
-----CGGAUCCGUCUGAGCUUGGCUuu
----- 2 1,0
-----CGGAUCCGUCUGAGCUUGGCUGu
----- 2 1,1
-----GGAUCCGUCUGAGCUUGGC---
----- 4 2,-1
-----GGAUCCGUCUGAGCUUGGCa--
----- 4 2,-1
-----GGAUCCGUCUGAGCUUGGCau-
----- 4 2,-1
-----GGAUCCGUCUGAGCUUGGCU--
----- 15 2,0
-----GGAUCCGUCUGAGCUUGGCUa-
----- 5 2,0
-----GGAUCCGUCUGAGCUUGGCUau
----- 5 2,0
-----GGAUCCGUCUGAGCUUGGCUu-
----- 9 2,0

```

>hsa-mir-1270-1 5p:13-35 SRX018964

cacagaguauaCUGGAGAU AUGGAAGAGCUGUGUuggguauaaguaacaggcuuuucuuuauucuauguggcucuuu
gca

((.(((((((((.(((((((.(((((((((.(((((.))))))))))))))))))))))))))..))

-----ACUGGAGAU AUGGAAGAGCUGUGU-----

--- 2 -1,0

-----CUGGAGAU AUGGAAGAGC-----

--- 3 0,-5

-----CUGGAGAU AUGGAAGAGCU-----

--- 2 0,-4

-----CUGGAGAU AUGGAAGAGCUGU-----

```

--- 3    0,-2
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 4    0,0

```

```
>hsa-mir-1270-2 5p:13-35      SRX018964
```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUu gggguuaaaguaacaggcuuuucuuuauucuuauguggcucuuu
gca

$$((.(((((((..((((((.((((((((.((((.....)))))))))))).)))))).))))))\dots)$$

-----ACUGGAGAU AUGGAAGAGCUGUGU-----

--- 2 -1,0

-----CUGGAGAU AUGGAAGAGC-----

--- 3 0,-5

-----CUGGAGAU AUGGAAGAGCU-----

--- 2 0,-4

-----CUGGAGAU AUGGAAGAGCUGU-----

--- 3 0,-2

-----CUGGAGAU AUGGAAGAGCUGUGU-----

--- 4 0,0

>hsa-mir-1271 5p:15-36 SRX018964

caccagaucagugCUUGGACCUAGCAAGCACUCAguaaauuuuguugagugccugcuaugugccaggcauugugcug
agggu

[illegible]

-----CUUGGCACCUAGCAAGCA-----

----- 4 0,-4

-----CUUGGCACCUAGCAAGCAC-----

----- 24 0,-3

-----CUUGGCACCUAGCAAGCACU-----

----- 38 0, -2

-----CUUGGCACCUAGCAAGCACUC-----

----- 3 0, -1

ugaggcaggagaauugcuugaacccgggugguggagguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUCUUUCUgga

.((((.((((..((((((...(((((((..((((..(((((((.((((...)).))))))))))))))))))))))))..

UGAGGCAGGAGAAUUGCUU-----
----- 4
-GAGGCAGGAGAAUUGCUUGAA-----
----- 2

```

ugcagccugGGCGACAAAACGAGACCCUGUCuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga
..((((.((((((((.((((((((.((((((((.....)))))).)))))).)))))).))))).))))).
-----GGCGACAAAACGAGACCC-----
2    0,-4
-----GGCGACAAAACGAGACCCUGU-----
2    0,-1
-----GGCGACAAAACGAGACCCUGUaa-----
2    0,-1
-----GGCGACAAAACGAGACCCUGUCa-----
6    0,0

```

cuucucacucacgUCCCUGUUCGGGCGCCAcuuguggcugucgguucgggacugaaugaagaagga
 ((((((((((((.((((.((((.(..((((((((...)))))).)).)..)))))))).))))))))...
 -----GUCCCUGUUCGGGCGCCA----- 3 -1.0

accucccaauauauauauauguacguauguguauauaaauguaUACGUAGAUUAUAUGUAUUUUuggugggguuu
 (((..((((.(((((((((((.((((((((..(.....)..)))))))).)))))))).))))).))))).))..
 -----UACGUAGAUUAUAUGUA-----
 2 0,-4
 -----UACGUAGAUUAUAUGUAUU-----
 4 0,-2
 -----UACGUAGAUUAUAUGUAUUUU-----
 12 0,0

aauugcucaagaugauaugcauaguacucccagaacucaauaaguggUAGUACUGUGCAUAUCAUCUAUgagcgaaua

g
(((((((((((((((((((.((..((.....)))))..))))))))))))))))).
.

```

-----GUAGUACUGUGCAUAUCAUCU-----
- 2 -1,-2
-----UAGUACUGUGCAUAUCAUC-----
- 3 0,-3
-----UAGUACUGUGCAUAUCAUCU-----
- 26 0,-2
-----UAGUACUGUGCAUAUCAUCUA-----
- 15 0,-1
-----UAGUACUGUGCAUAUCAUCUAU-----
- 51 0,0
-----UAGUACUGUGCAUAUCAUCUAUa-----
- 4 0,0

```

>hsa-mir-128-1 3p:50-70 SRX018964

```

ugagcuguuggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUUuucagcugcu
uc

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).

```

```

-----CGGGGCCGUAGCACUGUCUGA-----
-- 2
-----UCACAGUGAACCGGUCUC-----
-- 26 0,-3
-----UCACAGUGAACCGGUCUCU-----
-- 46 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
-- 9 0,-2
-----UCACAGUGAACCGGUCUCUau-----
-- 4 0,-2
-----UCACAGUGAACCGGUCUCUU-----
-- 214 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
-- 62 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 19 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 20 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 865 0,0

```

```

-----UCACAGUGAACCGGUCUCUUUa-----
-- 321 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 57 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 44 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 265 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 11 0,1
-----UCACAGUGAACCGGUCUCUUUUau-----
-- 3 0,1
-----UCACAGUGAACCGGUCUCUUUUU-----
-- 7 0,2
-----ACAGUGAACCGGUCUCUUU-----
-- 3 2,0

```

>hsa-mir-128-2 3p:52-72 SRX018964

```

ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(..(((((((.((((((((((...((((((..((((..(.....).))))))))))))....)))))))))))).))))))
..).

```

```

-----GGGGGCCGAUACACUGUACGAG-----
---- 2
-----GGGGGCCGAUACACUGUACGAGA-----
---- 2
-----UCACAGUGAACCGGUCUC-----
---- 26 0,-3
-----UCACAGUGAACCGGUCUCU-----
---- 46 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
---- 9 0,-2
-----UCACAGUGAACCGGUCUCUau-----
---- 4 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 214 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
---- 62 0,-1

```

```

-----UCACAGUGAACCGGUCUCUUaa-----
---- 19 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
---- 20 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
---- 865 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
---- 321 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
---- 57 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
---- 44 0,0
-----UCACAGUGAACCGGUCUCUUUC-----
---- 47 0,1
-----UCACAGUGAACCGGUCUCUUUCa-----
---- 7 0,1
-----UCACAGUGAACCGGUCUCUUUCu-----
---- 15 0,1
-----UCACAGUGAACCGGUCUCUUUCuu-----
---- 3 0,1
-----ACAGUGAACCGGUCUCUUU-----
---- 3 2,0

```

>hsa-mir-1284 5p:30-51 SRX018964

```

auuuugauauauaagccaguuaauguuuUCUAUACAGACCCUGGCUUUUCuuaauuuuauauauuggaaagcccaugu
uuguauuggaaacugcugguuucuucauacugaaaaucu
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUAUACAGACCCUGGCUUU-----
----- 3 0,-1

```

>hsa-mir-1285-1 3p:51-72 SRX018964

```

uguagagauaggaucucacuuguugcccaggcuggucuaaacuccuggUCUGGGCAACAAAGUGAGACCUuauucua
caag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..
-----UCUGGGCAACAAAGUGAGAC-----
---- 7 0,-2

```



```

-----UCUGGGCAACAAAGUGAGACa-----
---- 7 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
---- 6 0,-1
-----UCUGGGCAACAAAGUGAGACCaa-----
---- 2 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
---- 22 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
---- 17 0,0
-----UCUGGGCAACAAAGUGAGACCUaa-----
---- 6 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
---- 19 0,0
-----UCUGGGCAACAAAGUGAGACCUU-----
---- 13 0,1
-----UCUGGGCAACAAAGUGAGACCUUu-----
---- 7 0,1
-----UCUGGGCAACAAAGUGAGACCUUA-----
---- 2 0,2

```

>hsa-mir-1285-2 3p:52-73 SRX018964

```

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

```

```

(((((((((((.((((.....(((((((.(((((((.....(((.....))))).)))))).....))))))..))))).))))
).))))..

```

```

-----UCUGGGCAACAAAGUGAGAC-----
----- 7 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----- 7 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----- 6 0,-1
-----UCUGGGCAACAAAGUGAGACCaa-----
----- 2 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----- 22 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----- 17 0,0

```

```

-----UCUGGGCAACAAAGUGAGACCUaa-----
-----      6      0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
-----     19      0,0
-----UCUGGGCAACAAAGUGAGACCUC-----
-----      2      0,1

```

>hsa-mir-1286 3p:47-67 SRX018964

```

uguccucuggggacucagcuugcucuggcugcuggauugaauuagcUGCAGGACCAAGAUGAGCCCUugguggagaca
..(((.(..(((.((((.((((.((((.(.....)))))).)).)).)).)).)).)).)).)).)...
-----UCGAGGACCAAGAUGAGC-----
      2      0,-3
-----UCGAGGACCAAGAUGAGCCCUau-----
      2      0,0

```

>hsa-mir-1287 5p:16-37 SRX018964

```

guugugcuguccaggUGCUGGAUCAGUGGUUCGAGUCugagccuuuaaaagccacucuagccacagaugcagugauugga
gccaugacaa
((..((...(((.((((.((((.((((.(.....)))))).)))))).))))..))..))..
-----UGCUGGAUCAGUGGUUCGA-----
-----      3      0,-3
-----UGCUGGAUCAGUGGUUCGAG-----
-----      2      0,-2
-----UGCUGGAUCAGUGGUUCGAGU-----
-----      4      0,-1
-----UGCUGGAUCAGUGGUUCGAGUa-----
-----      2      0,-1
-----UGCUGGAUCAGUGGUUCGAGUC-----
-----     12      0,0
-----UGCUGGAUCAGUGGUUCGAGUCa-----
-----      8      0,0
-----UGCUGGAUCAGUGGUUCGAGUCU-----
-----      4      0,1

```

>hsa-mir-129-2 5p:15-35;3p:57-78 SRX018964

```

ugcccuucgcgaauCUUUUUGCGGUCUGGGCUUGCuguacauaacucaauagccggAAGCCCUUACCCCAAAAAGCAUuu
gcggagggcg

```


$$\begin{aligned} & .(((((((\dots((((((((((.(..(((((((((.((.((((((\dots)))))).)))).)))).)))).)))).) \\ &)))))))\dots \end{aligned}$$

>hsa-mir-1301 3p:48-71 SRX018964
ggauuguggggggucgcucuaggcaccgcagcacugugcugggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc

-----UUGCAGCUGCCUGGGAGUGA-----
 -- 4 0,-4

-----UUGCAGCUGCCUGGGAGUGAC-----
 -- 3 0,-3

-----UUGCAGCUGCCUGGGAGUGACU-----
 -- 5 0,-2

-----UUGCAGCUGCCUGGGAGUGACUU-----
 -- 2 0,-1

-----UUGCAGCUGCCUGGGAGUGACUUC-----
 -- 2 0,1

-----UGCAGCUGCCUGGGAGUGACUU-----
 -- 4 1,-1

-----UGCAGCUGCCUGGGAGUGACUUC-----
 -- 3 1,0

-----UGCAGCUGCCUGGGAGUGACUUC-----
 -- 3 1,1

-----UGCAGCUGCCUGGGAGUGACUUCAn-----
 -- 2 1,1

(((.(((((((.((((((((((..(((.((((.(.....))))).))))).))))).))))).))))).
))))...

-----UUUUAGAGACGGGGUCUUGC-----
----- 2 -1,-3

-----UCGACCGGACCUCGACCGGCUau-----	
-----	28
-----UCGACCGGACCUCGACCGGCUu-----	
-----	214
-----UCGACCGGACCUCGACCGGCUuu-----	
-----	86
-----UCGACCGGACCUCGACCGGCUC-----	
-----	1239
-----UCGACCGGACCUCGACCGGCUCa-----	
-----	116
-----UCGACCGGACCUCGACCGGCUCaa-----	
-----	4
-----UCGACCGGACCUCGACCGGCUCau-----	
-----	3
-----UCGACCGGACCUCGACCGGCUCu-----	
-----	47
-----UCGACCGGACCUCGACCGGCUCuu-----	
-----	5
-----UCGACCGGACCUCGACCGGCUCG-----	
-----	36
-----UCGACCGGACCUCGACCGGCUCGU-----	
-----	28
-----CGACCGGACCUCGACCGGCU-----	
-----	6
-----CGACCGGACCUCGACCGGCUC-----	
-----	5
-----GACCGGACCUCGACCGGC-----	
-----	2
-----GACCGGACCUCGACCGGCU-----	
-----	27
-----GACCGGACCUCGACCGGCUu-----	
-----	7
-----GACCGGACCUCGACCGGCUuu-----	
-----	2
-----GACCGGACCUCGACCGGCUC-----	
-----	25
-----GACCGGACCUCGACCGGCUCa-----	
-----	3

-----GACCGGACCUCGACCGGCUCu-----			
-----	2		
-----GACCGGACCUCGACCGGCUCG-----			
-----	5		
-----A			
CUCGGCGUGGCGUCGGU-----	2	0,-4	
-----A			
CUCGGCGUGGCGUCGGUa-----	3	0,-4	
-----A			
CUCGGCGUGGCGUCGGUC-----	5	0,-3	
-----A			
CUCGGCGUGGCGUCGGUCG-----	13	0,-2	
-----A			
CUCGGCGUGGCGUCGGUCGU-----	21	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUu-----	6	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUG-----	134	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGa-----	2	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGu-----	8	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGG-----	3	0,1	

CUCGGCGUGGCGUCGGUCG-----	2	1,-2	

CUCGGCGUGGCGUCGGUCGU-----	8	1,-1	

CUCGGCGUGGCGUCGGUCGUa-----	2	1,-1	

CUCGGCGUGGCGUCGGUCGUG-----	194	1,0	

CUCGGCGUGGCGUCGGUCGUGa-----	6	1,0	

CUCGGCGUGGCGUCGGUCGUGu-----	8	1,0	

CUCGGCGUGGCGUCGGUCGUGG-----	5	1,1	

ugcugcuggccagagcucuuUUCACAUUGUGCUACUGUCUGAccugucacuagCAGUGCAAUGUAAAAGGGCAUuggc
cguguagug

.(((((((((((.((((((((.(((((((..((.((((...((....))...)))..)))).))))).)))))))).)))))))).

-----CAGUGCAAUGUUAAGG-----

----- 272 0,-4

-----CAGUGCAAUGUUA AAAAGGG-----

----- 192 0,-3

-----CAGUGCAAUGUUAAAAGGGa-----

$$- - - - - 2 \quad 0, -3$$

-----CAGUGCAAUGUUA AAAAGGGC-----

----- 405 0,-2

-----CAGUGCAAUGUUA AAAAGGGCA-----

----- 94 0,-1

-----CAGUGCAAUGUUAAAAGGGCAa-----

----- 17 0,-1

-----CAGUGCAAUGUUAAAAGGGCAaa-----

$$- - - - - 2 \quad 0, -1$$

-----CAGUGCAAUGUUAAAAGGGCA_{au}-----

----- 7 0, -1

-----CAGUGCAAUGUUA AAAAGGGCAU-----

----- 419 0,0

-----CAGUGCAAUGUUA AAAAGGGCAUa-----

----- 59 0,0

-----CAGUGCAAUGUUAAGGGCAU_{aa}-----

----- 5 0,0

-----CAGUGCAAUGUUAAGGGCAU_{au}-----

----- 5 0,0

-----CAGUGCAAUGUUAAGGGCAUU-----

----- 169 0,1

-----CAGUGCAAUGUUA AAAAGGGCAUUa-----

----- 3 0,1

-----CAGUGCAAUGUUAAAAGGGCAUUu-----

----- 5 0,1

-----CAGUGCAAUGUUAAGGGCAUUuu-----

----- 3 0,1

ccgccccgcgucuccagggaACCGUGGCUUUCGAUUGUUAUgugggaacuggaggUAACAGUCUACAGCCAUGGUCG
ccccgcagcacgcccacgcgc

-----AACCGUGGCUUUCGAUUGUU-----

-----AACCGUGGCUUUCGAUUGUUA-----

-----ACCGUGGCUUUCGAUUGUUA-----

-----U AACAGUCUACAGCCAUG-----

-----U AACAGUCUACAGCCAUGG-----

-----U AACAGUCUACAGCCAUGGU-----

-----UAACAGUCUACAGCCAUGGUC

-----UAACAGUCUACAGCCAUGGUCG

-----U AACAGUCUACAGCCAUGGUCG

-----UAACAGUCUACAGCCAUGGUCG

acaaugcuuugcuagagcugguaaaauggaaccaaauccgcucuucaauggaUUUGGUCCCCUUAACCAGCUGuagcua
 ugcauuga

-----UUUGGUCCCCUUCAACCAGCUGa-----

-----UUGGUCCCCUUCAACCAGCUG-----

-----UUGGUCCCCUUCAACCAGCUGU-----

$$- - - - - \quad 2 \quad 1, 1$$

gggagccaaugcuuugcuagagcugguaaaauggaaccaaaucgacuguccaaugaUUUGGUCCCCUUAACCAGCUG
uagcugugcauugauggcgccg

-----UUUGGUCCCCUUAACCAGCUG

-----UUGGUCCCCUUCAACCAGCUG

-----UUGGUCCCCUUCAACCAGCUG

cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguuacaccuguggggccaccuagucaccaaccuc

-----UGUGACUGGUUGACCAGA----- 9

-----UGUGACUGGUUGACCAGAG----- 13

-----UGUGACUGGUUGACCAGAGa----- 6

-----UGUGACUGGUUGACCAGAGaa----- 2

-----UGUGACUGGUUGACCAGAGG----- 7

-----UGUGACUGGUUGACCAGAGGa----- 3

-----UGUGACUGGUUGACCAGAGGG----- 21

-----UGUGACUGGUUGACCAGAGGGa----- 12

-----UGUGACUGGUUGACCAGAGGGu----- 2

-----UGUGACUGGUUGACCAGAGGGG----- 18

-----UGUGACUGGUUGACCAGAGGGG_a----- 2

 $0,0$

-----UGUGACUGGUUGACCAGAGGGGaa-----	4
0,0	
-----UGUGACUGGUUGACCAGAGGGGu-----	2
0,0	
-----GUGACUGGUUGACCAGAGGG-----	2
1,-1	

```

>hsa-mir-135b    MA:16-38;mi:55-76    SRX018964
cacucugcuguggccUAUGGCUUUUCAUCCUAUGUGAaugcugucccaaacucAUGUAGGGCUAAAAGCCAUGGGcuac
agugaggggcgagcucc
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))..))))).
-----UAUGGCUUUUCAUCCUAUGUGA-----
-----2    0.0

```

```

>hsa-mir-136      MA:15-37;mi:49-70    SRX018964
ugagcccucggaggACUCCAUUUGUUUGAUGAUGGAuuccuuaugcucCAUCAUCGUCUCAAUGAGUCUucagagggguu
cu
.((((((((((.((((((((((.(((((...(((((((((((.....))))))))))....))))))))))..))))))
).
-----ACUCCAUUUGUUUGAUGAU-----
--  4    0,-3
-----CAUCAUCGUCUCAAUGA-----
--  5    0,-4
-----CAUCAUCGUCUCAAUGAG-----
-- 12    0,-3
-----CAUCAUCGUCUCAAUGAGU-----
--  2    0,-2
-----CAUCAUCGUCUCAAUGAGUC-----
--  9    0,-1
-----CAUCAUCGUCUCAAUGAGUCU-----
--  2    0,0

```

```
>hsa-mir-138-1 MA:23-45;mi:63-84 SRX018964  
ccucggcauggugugggugggcAGCUGGUGUUGUGAAUCAGGCCGuugccaucagagaacgGCUACUUCACAACACCAG  
GGCCacaccacacuacagg  
.((((...(((((((((((((..((((((((((((((((...((((((((..(.....)..)))))))).)))))))))  
.))).)))))))))
```

```

-----AGCUGGUGUUGUGAAUCA-----
----- 10 0,-5
-----AGCUGGUGUUGUGAAUCAGGau-----
----- 2 0,-3
-----AGCUGGUGUUGUGAAUCAGGC-----
----- 3 0,-2
-----AGCUGGUGUUGUGAAUCAGGCa-----
----- 3 0,-2
-----AGCUGGUGUUGUGAAUCAGGCC-----
----- 2 0,-1
-----AGCUGGUGUUGUGAAUCAGGCCG-----
----- 4 0,0

```

>hsa-mir-138-2 MA:10-32;mi:57-78 SRX018964

```

cguugcugcAGCUGGUGUUGUGAAUCAGGCCGacgagcagcgcauccucuacccgGCUAUUUCACGACACCAGGGUUGC
auca
.(.(((.((.((((((((((((((...(((((((((.((.....))))))...))))))...)))))))).))
).).

```

```

-----AGCUGGUGUUGUGAAUCA-----
----- 10 0,-5
-----AGCUGGUGUUGUGAAUCAGGau-----
----- 2 0,-3
-----AGCUGGUGUUGUGAAUCAGGC-----
----- 3 0,-2
-----AGCUGGUGUUGUGAAUCAGGCa-----
----- 3 0,-2
-----AGCUGGUGUUGUGAAUCAGGCC-----
----- 2 0,-1
-----AGCUGGUGUUGUGAAUCAGGCCG-----
----- 4 0,0

```

>hsa-mir-139 5p:7-28;3p:44-65 SRX018964

```

guguauUCUACAGUGCACGUGUCUCCAGuguggcucggaggcuGGAGACGCGGCCUGUUGGAGUaac
...(((((((((((.((.((((((((((((((.((.....).)))))))).)))))).))))))..
-----UCUACAGUGCACGUGUCU----- 10 0,-4
-----UCUACAGUGCACGUGUCUC----- 28 0,-3
-----UCUACAGUGCACGUGUCUCa----- 2 0,-3
-----UCUACAGUGCACGUGUCUCC----- 59 0,-2

```

-----UCUACAGUGCACGUGUCUCCA-----	152	0,-1
-----UCUACAGUGCACGUGUCUCCAa-----	12	0,-1
-----UCUACAGUGCACGUGUCUCCAau-----	2	0,-1
-----UCUACAGUGCACGUGUCUCCAu-----	19	0,-1
-----UCUACAGUGCACGUGUCUCCAuu-----	4	0,-1
-----UCUACAGUGCACGUGUCUCCAG-----	168	0,0
-----UCUACAGUGCACGUGUCUCCAGa-----	7	0,0
-----UCUACAGUGCACGUGUCUCCAGU-----	264	0,1
-----UCUACAGUGCACGUGUCUCCAGUa-----	5	0,1
-----UCUACAGUGCACGUGUCUCCAGUaa-----	3	0,1
-----UCUACAGUGCACGUGUCUCCAGUu-----	8	0,1
-----CUACAGUGCACGUGUCUCCAu-----	2	1,-1
-----UACAGUGCACGUGUCUCCA-----	3	2,-1
-----UACAGUGCACGUGUCUCCAGU-----	2	2,1
-----UGGAGACGCGGCCCUUU-----	37	
-1,-5		
-----UGGAGACGCGGCCCUUUu-----	3	
-1,-5		
-----UGGAGACGCGGCCCUUUG-----	99	
-1,-4		
-----UGGAGACGCGGCCCUUUGu-----	4	
-1,-4		
-----UGGAGACGCGGCCCUUUGG-----	121	
-1,-3		
-----UGGAGACGCGGCCCUUUGGu-----	3	
-1,-3		
-----UGGAGACGCGGCCCUUUGGA-----	181	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAa-----	59	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAaa-----	65	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAau-----	8	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAu-----	7	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAG-----	404	
-1,-1		

-1, -1	UGGAGACGCGGCCCUUGGAGa--	118	
-1, -1	UGGAGACGCGGCCCUUGGAGaa--	5	
	UGGAGACGCGGCCCUUGGAGU--	655	-1, 0
	UGGAGACGCGGCCCUUGGAGUu--	12	-1, 0
	UGGAGACGCGGCCCUUGGAGUuu-	4	-1, 0
	UGGAGACGCGGCCCUUGGAGUA--	8	-1, 1
	UGGAGACGCGGCCCUUGGAGUAu-	2	-1, 1
	GGAGACGCGGCCCUUG--	2	0, -4
	GGAGACGCGGCCCUUGG--	7	0, -3
	GGAGACGCGGCCCUUGGAG--	12	0, -1
	GGAGACGCGGCCCUUGGAGU--	23	0, 0
	AGACGCGGCCCUUGGAGU--	3	2, 0
	AGACGCGGCCCUUGGAGUu--	3	2, 0
	AGACGCGGCCCUUGGAGUuu-	5	2, 0

>hsa-mi r-140 5p:23-44;3p:62-82 SRX018964

ugugucucucucuguguccgcCAGUGGUUUACCCUAUGGUAGguuacgucaugcuguucUACCACAGGGUAGAACCAC
GGacaggauaccggggcacc

$$\begin{aligned} & .(((((((\dots(((((((((((.(((((((((((((((.(((((((\dots)))))))))))).))))))))))))) \\ &))).)))))))).)))))))). \end{aligned}$$

-----CAGUGGUUUUACCCUAUG-----

$$----- \quad 2 \quad 0, -4$$

-----CAGUGGUUUUACCCUAUGGUAa-----

----- 3 0,-1

-----CAGUGGUUUUACCCUAUGGUAG-----

----- 2 0,0

-----UCUACCACAGGGUAGAACCAC

$$G \text{-----} 2 \quad -2, -1$$

-----CUACCACAGGGUAGAACCAC

GG----- 5 -1,0

-----CUACCACAGGGUAGAACCAC

GGA----- 10 -1,1

-----CUACCACAGGGUAGAACCAC

GGAC----- 2 -1,2

-----UACCACAGGGUAGAACCA-----

----- 32 0,-3

-----				-----UACCACAGGGUAGAACCAC
-----	37	0,-2		
-----				-----UACCACAGGGUAGAACCAC
G-----	570	0,-1		
-----				-----UACCACAGGGUAGAACCAC
Ga-----	9	0,-1		
-----				-----UACCACAGGGUAGAACCAC
Gaa-----	2	0,-1		
-----				-----UACCACAGGGUAGAACCAC
Gu-----	3	0,-1		
-----				-----UACCACAGGGUAGAACCAC
GG-----	8682	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGu-----	112	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGuu-----	15	0,0		
-----				-----UACCACAGGGUAGAACCAC
GGA-----	6533	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAA-----	1289	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAAA-----	409	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAAu-----	141	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAu-----	154	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAu-----	2	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAC-----	863	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACu-----	20	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACA-----	226	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAA-----	9	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAu-----	4	0,3		

-----			-----ACCACAGGGUAGAACCAC
-----	46	1,-2	
-----			-----ACCACAGGGUAGAACCAC
G-----	49	1,-1	
-----			-----ACCACAGGGUAGAACCAC
Ga-----	3	1,-1	
-----			-----ACCACAGGGUAGAACCAC
Gaa-----	8	1,-1	
-----			-----ACCACAGGGUAGAACCAC
GG-----	1499	1,0	
-----			-----ACCACAGGGUAGAACCAC
GGu-----	100	1,0	
-----			-----ACCACAGGGUAGAACCAC
GGuu-----	48	1,0	
-----			-----ACCACAGGGUAGAACCAC
GGA-----	13344	1,1	
-----			-----ACCACAGGGUAGAACCAC
GGAA-----	4230	1,1	
-----			-----ACCACAGGGUAGAACCAC
GGAAA-----	1490	1,1	
-----			-----ACCACAGGGUAGAACCAC
GGAAu-----	256	1,1	
-----			-----ACCACAGGGUAGAACCAC
GGAAU-----	1771	1,1	
-----			-----ACCACAGGGUAGAACCAC
GGAAUu-----	80	1,1	
-----			-----ACCACAGGGUAGAACCAC
GGAC-----	4185	1,2	
-----			-----ACCACAGGGUAGAACCAC
GGACu-----	58	1,2	
-----			-----ACCACAGGGUAGAACCAC
GGACUu-----	2	1,2	
-----			-----ACCACAGGGUAGAACCAC
GGACA-----	306	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAA-----	133	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAAA-----	3	1,3	

-----				-----ACCACAGGGUAGAACCAC
GGACAau-----	7	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAu-----	17	1,3		
-----				-----ACCACAGGGUAGAACCAC
GGACAG-----	14	1,4		
-----				-----ACCACAGGGUAGAACCAC
GGACAGa-----	2	1,4		
-----				-----CCACAGGGUAGAACCAC
GG-----	37	2,0		
-----				-----CCACAGGGUAGAACCAC
GGu-----	3	2,0		
-----				-----CCACAGGGUAGAACCAC
GGA-----	396	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAa-----	110	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAaa-----	51	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAAu-----	9	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAu-----	48	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAuu-----	4	2,1		
-----				-----CCACAGGGUAGAACCAC
GGAC-----	114	2,2		
-----				-----CCACAGGGUAGAACCAC
GGACu-----	5	2,2		
-----				-----CCACAGGGUAGAACCAC
GGACA-----	14	2,3		
-----				-----CCACAGGGUAGAACCAC
GGACAa-----	15	2,3		
-----				-----CCACAGGGUAGAACCAC
GGACAaa-----	3	2,3		

>hsa-mir-142 5p:16-36;3p:52-74 SRX018964

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug

-----CAUAAAGUAGAAAGCACUAu-----
----- 5 0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 79 0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 5 0,-1
-----CAUAAAGUAGAAAGCACUACaa-----
----- 3 0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 89 0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 54 0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 5 0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 8 0,2
-----AUAAGUAGAAAGCACUA-----
----- 6 1,-2
-----AUAAGUAGAAAGCACUAa-----
----- 2 1,-2
-----AUAAGUAGAAAGCACUAaa-----
----- 2 1,-2
-----AUAAGUAGAAAGCACUACU-----
----- 7 1,0
-----AUAAGUAGAAAGCACUACUA-----
----- 30 1,1
-----AUAAGUAGAAAGCACUACUAu-----
----- 9 1,1
-----AUAAGUAGAAAGCACUACUAA-----
----- 101 1,2
-----AUAAGUAGAAAGCACUACUAAa-----
----- 2 1,2
-----UAAAGUAGAAAGCACUACUAA-----
----- 2 2,2
-----UGUAGUGUUUCCUACUUUAUGG-----
----- 3 0,-1
-----GUAGUGUUUCCUACUUUAUG-----
----- 3 1,-2

-----GUAGUGUUCCUACUUUAUGG-----
 ----- 40 1,-1
 -----GUAGUGUUCCUACUUUAUGGA-----
 ----- 4 1,0
 -----UAGUGUUCCUACUUUAUGG-----
 ----- 4 2,-1

[illegible]

```

-----UCUGAGAUGAAGCACUGUAGCa
----- 2 -2,-2
-----UCUGAGAUGAAGCACUGUAGCU
----- 6 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
a----- 4 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
C----- 6 -2,0
-----CUGAGAUGAAGCACUGUA---
----- 6 -1,-4
-----CUGAGAUGAAGCACUGUAa--
----- 2 -1,-4
-----CUGAGAUGAAGCACUGUAG--
----- 4 -1,-3
-----CUGAGAUGAAGCACUGUAGC-
----- 6 -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 23 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
au----- 3 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 46 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 3 -1,0
-----UGAGAUGAAGCACUGUAG--
----- 121 0,-3
-----UGAGAUGAAGCACUGUAGa-
----- 7 0,-3
-----UGAGAUGAAGCACUGUAGaa
----- 6 0,-3
-----UGAGAUGAAGCACUGUAGC-
----- 270 0,-2
-----UGAGAUGAAGCACUGUAGCa
----- 68 0,-2
-----UGAGAUGAAGCACUGUAGCa
a----- 65 0,-2
-----UGAGAUGAAGCACUGUAGCa
u----- 9 0,-2

```

-----			UGAGAUGAAGCACUGUAGCU
-----	3656	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
a-----	312	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
aa-----	43	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
au-----	26	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
u-----	109	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
uu-----	13	0,-1	
-----			UGAGAUGAAGCACUGUAGCU
C-----	7965	0,0	
-----			UGAGAUGAAGCACUGUAGCU
Cu-----	1464	0,0	
-----			UGAGAUGAAGCACUGUAGCU
Cuu-----	134	0,0	
-----			UGAGAUGAAGCACUGUAGCU
CA-----	354	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAa-----	40	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAaa-----	5	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAau-----	2	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAu-----	16	0,1	
-----			UGAGAUGAAGCACUGUAGCU
CAGa-----	4	0,2	
-----			GAGAUGAAGCACUGUAGC-
-----	4	1,-2	
-----			GAGAUGAAGCACUGUAGCU
C-----	57	1,0	
-----			GAGAUGAAGCACUGUAGCU
Cu-----	6	1,0	
-----			GAGAUGAAGCACUGUAGCU
CA-----	2	1,1	

```

-----AGAUGAAGCACUGUAGCU
----- 2 2,-1
-----AGAUGAAGCACUGUAGCU
C----- 3 2,0
-----AGAUGAAGCACUGUAGCU
Cu----- 5 2,0

```

>hsa-mir-144 mi:15-36;MA:52-71 SRX018964

```

uggggcccuggcugGGAUAUCAUAUACUGUAAGuuugcgaugagacacUACAGUAUAGAUGAUGUACUaguccgggc
accccc

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))..

```

```

-----GGAUAUCAUAUACUG-----
----- 90 0,-4
-----GGAUAUCAUAUACUGU-----
----- 24 0,-3
-----GGAUAUCAUAUACUGUA-----
----- 10 0,-2
-----GGAUAUCAUAUACUGUAA-----
----- 13 0,-1
-----GGAUAUCAUAUACUGUAAG-----
----- 100 0,0
-----GGAUAUCAUAUACUGUAAGU-----
----- 67 0,1
-----GGAUAUCAUAUACUGUAAGUa-----
----- 4 0,1
-----GAUAUCAUAUACUGU-----
----- 2 1,-3
-----GAUAUCAUAUACUGUAAG-----
----- 2 1,0
-----CUACAGUAUAGAUGAUGU-----
----- 3 -1,-3
-----CUACAGUAUAGAUGAUGUA-----
----- 11 -1,-2
-----UACAGUAUAGAUGAUGUA-----
----- 50 0,-2
-----UACAGUAUAGAUGAUGUAC-----
----- 29 0,-1

```


-----			-----UACAGUAUAGAUGAUGUACU-----
-----	22	0,0	
-----			-----UACAGUAUAGAUGAUGUACUA-----
-----	4	0,1	
-----			-----UACAGUAUAGAUGAUGUACUaa-----
-----	8	0,1	
-----			-----UACAGUAUAGAUGAUGUACUau-----
-----	3	0,1	

>hsa-mi r-145 MA:16-38;mi :54-75 SRX018964

caccuuguccucacgGUCCAGUUUCCCAGGAAUCCCUuagaugcuaagauggGGAUCCUGGAAUACUGUUCUugagg
ucaugguu

$$\begin{aligned} & .(((.(.(((((.((..((((.(.((((((((((((((\dots)))))))))..)))))) \\ & .)).))). \end{aligned}$$

-----	GUCCAGUUU	UCCCAGGAA	-----
-----	50	0, -5	
-----	GUCCAGUUU	UCCCAGGAAa	-----
-----	10	0, -5	
-----	GUCCAGUUU	UCCCAGGAAaa	-----
-----	2	0, -5	
-----	GUCCAGUUU	UCCCAGGAAU	-----
-----	306	0, -4	
-----	GUCCAGUUU	UCCCAGGAAUa	-----
-----	23	0, -4	
-----	GUCCAGUUU	UCCCAGGAAUaa	-----
-----	22	0, -4	
-----	GUCCAGUUU	UCCCAGGAAUu	-----
-----	2	0, -4	
-----	GUCCAGUUU	UCCCAGGAAUC	-----
-----	129	0, -3	
-----	GUCCAGUUU	UCCCAGGAAUCa	-----
-----	91	0, -3	
-----	GUCCAGUUU	UCCCAGGAAUCaa	-----
-----	2	0, -3	
-----	GUCCAGUUU	UCCCAGGAAUCC	-----
-----	210	0, -2	
-----	GUCCAGUUU	UCCCAGGAAUCCa	-----
-----	68	0, -2	

```

-----GUCCAGUUUCCCCAGGAAUCCaa-----
-----3 0,-2-----
-----GUCCAGUUUCCCCAGGAAUCCau-----
-----5 0,-2-----
-----GUCCAGUUUCCCCAGGAAUCCu-----
-----4 0,-2-----
-----GUCCAGUUUCCCCAGGAAUCCC-----
-----439 0,-1-----
-----GUCCAGUUUCCCCAGGAAUCCCaa-----
-----29 0,-1-----
-----GUCCAGUUUCCCCAGGAAUCCCau-----
-----3 0,-1-----
-----GUCCAGUUUCCCCAGGAAUCCCU-----
-----369 0,0-----
-----GUCCAGUUUCCCCAGGAAUCCCUU-----
-----11 0,1-----
-----UCCAGUUUCCCCAGGAAUCCCU-----
-----2 1,0-----
-----GGAUUCCUGGAAAACUGUUC-----
-----2 0,-1-----
-----GGAUUCCUGGAAAACUGUUCU-----
-----9 0,0-----
-----AUUCCUGGAAAACUGUU-----
-----3 2,-2-----
-----AUUCCUGGAAAACUGUUC-----
-----4 2,-1-----
-----AUUCCUGGAAAACUGUUCU-----
-----18 2,0-----
-----AUUCCUGGAAAACUGUUCUa-----
-----10 2,0-----
-----AUUCCUGGAAAACUGUUCUaa-----
-----2 2,0-----
-----AUUCCUGGAAAACUGUUCUU-----
-----10 2,1-----

```

>hsa-mir-1468 5p:13-33 SRX018964

ggugggugguuuCUCCGUUUGCCUGUUUCGCUGaugugcauucacucauucucagcaaaaauagcaaauggaaaauucg
uccauc

-----CUGCGUUUGCCUGUUUCGCU-----
----- 11 0,-1

ccgauguguauccucagcuUGAGAACUGAAUCCAUGGGUugugucagugucagaCCUCUGAAAUUCAGUUCUUCAGcu
gggauaucucugucaucgu

$$\begin{aligned} & .(((((((((\dots))))))))) \\ &)))))). \end{aligned}$$

-----UGAGAACUGAAUCCAUG-----

----- 15 0,-4

-----UGAGAACUGAAUCCAUGG-----

----- 55 0,-3

-----UGAGAACUGAAUCCAUGGG-----

----- 61 0,-2

-----UGAGAACUGAAUCCAUGGGa-----

----- 3 0, -2

-----UGAGAACUGAAUCCAUGGGaa-----

----- 6 0, -2

-----UGAGAACUGAAUCCAUGGGU-----

----- 94 0,-1

-----UGAGAACUGAAUCCAUGGGUa-----

----- 44 0, -1

-----UGAGAACUGAAUCCAUGGGU_{aa}-----

----- 81 0, -1

-----UGAGAACUGAAUCCAUGGGU_{au}-----

----- 171 0,-1

-----UGAGAACUGAAUCCAUGGGUU-----

----- 499 0,0

-----UGAGAACUGAAUCCAUGGGUU_a-----

----- 528 0,0

-----UGAGAACUGAAUUCCAUGGGUU_{aa}-----

----- 67 0,0

-----UGAGAACUGAAUUCCAUGGGUU_{au}-----

----- 200 0,0

-----UGAGAACUGAAUCCAUGGGUUu-----

----- 368 0,0

```

-----UGAGAACUGAAUCCAUGGGUuu-----
----- 33  0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 194 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 26  0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 99  0,2
-----UGAGAACUGAAUCCAUGGGUUGUa-----
----- 5   0,2
-----GAGAACUGAAUCCAUGG-----
----- 2   1,-3
-----GAGAACUGAAUCCAUGGGU-----
----- 2   1,-1
-----GAGAACUGAAUCCAUGGGUau-----
----- 2   1,-1
-----GAGAACUGAAUCCAUGGGUU-----
----- 6   1,0
-----GAGAACUGAAUCCAUGGGUUa-----
----- 9   1,0
-----GAGAACUGAAUCCAUGGGUUau-----
----- 3   1,0
-----GAGAACUGAAUCCAUGGGUUu-----
----- 2   1,0
-----GAGAACUGAAUCCAUGGGUUG-----
----- 6   1,1
-----AGAACUGAAUCCAUGGG-----
----- 3   2,-2
-----AGAACUGAAUCCAUGGGU-----
----- 2   2,-1
-----AGAACUGAAUCCAUGGGUUu-----
----- 3   2,0
-----AGAACUGAAUCCAUGGGUUG-----
----- 5   2,1

```

>hsa-mir-146b 5p:9-30;3p:45-66 SRX018964

```

ccuggcacUGAGAACUGAAUCCAUAGGCUgugagcucuagcaaUGCCUGUGGACUCAGUUCUGGugcccg
((.((((((.(((((((..(((((((..((..((....)).)).)))))))).)))))))).))

```

-----CUGAGAACUGAAUCCAU-----	2
-1,-5	
-----CUGAGAACUGAAUCCAUAGGC-----	3
-1,-1	
-----CUGAGAACUGAAUCCAUAGGCU-----	43
-1,0	
-----CUGAGAACUGAAUCCAUAGGCUG-----	2
-1,2	
-----UGAGAACUGAAUCCAU-----	9
0,-4	
-----UGAGAACUGAAUCCAUAG-----	26
0,-3	
-----UGAGAACUGAAUCCAUAGG-----	139
0,-2	
-----UGAGAACUGAAUCCAUAGGa-----	2
0,-2	
-----UGAGAACUGAAUCCAUAGGC-----	372
0,-1	
-----UGAGAACUGAAUCCAUAGGCa-----	206
0,-1	
-----UGAGAACUGAAUCCAUAGGCaa-----	110
0,-1	
-----UGAGAACUGAAUCCAUAGGCau-----	79
0,-1	
-----UGAGAACUGAAUCCAUAGGCU-----	2897
0,0	
-----UGAGAACUGAAUCCAUAGGCUa-----	235
0,0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	35
0,0	
-----UGAGAACUGAAUCCAUAGGCUau-----	261
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	707
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	158
0,0	
-----UGAGAACUGAAUCCAUAGGCUG-----	964
0,1	

-----UGAGAACUGAAUCCAUAGGCUGa-----	448
0,1	
-----UGAGAACUGAAUCCAUAGGCUGaa-----	12
0,1	
-----UGAGAACUGAAUCCAUAGGCUGau-----	17
0,1	
-----UGAGAACUGAAUCCAUAGGCUGU-----	2392
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUa-----	23
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUG-----	2
0,3	
-----GAGAACUGAAUCCAUAGGC-----	4
1,-1	
-----GAGAACUGAAUCCAUAGGCa-----	2
1,-1	
-----GAGAACUGAAUCCAUAGGCU-----	21
1,0	
-----GAGAACUGAAUCCAUAGGCUa-----	3
1,0	
-----GAGAACUGAAUCCAUAGGCUu-----	11
1,0	
-----GAGAACUGAAUCCAUAGGCUG-----	13
1,1	
-----GAGAACUGAAUCCAUAGGCUGa-----	4
1,1	
-----GAGAACUGAAUCCAUAGGCUGU-----	8
1,2	
-----AGAACUGAAUCCAUAGGCau-----	2
2,-1	
-----AGAACUGAAUCCAUAGGCU-----	9
2,0	
-----AGAACUGAAUCCAUAGGCUGU-----	2
2,2	
-----UGCCCUGUGGACUCAGUUCUGG-----	7
0,0	
-----UGCCCUGUGGACUCAGUUCUGGU-----	4
0,1	

-----UGCCCUGUGGACUCAGUUCUGGUa-----	5
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUau-----	11
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUGu-----	2
0,2	
-----GCCCUGUGGACUCAGUUC-----	3
1,-3	
-----GCCCUGUGGACUCAGUUCUGG-----	72
1,0	
-----GCCCUGUGGACUCAGUUCUGGa-----	4
1,0	
-----GCCCUGUGGACUCAGUUCUGGU-----	106
1,1	
-----GCCCUGUGGACUCAGUUCUGGUa-----	54
1,1	
-----GCCCUGUGGACUCAGUUCUGGUaa-----	4
1,1	
-----GCCCUGUGGACUCAGUUCUGGUau-----	105
1,1	
-----GCCCUGUGGACUCAGUUCUGGUu-----	43
1,1	
-----GCCCUGUGGACUCAGUUCUGGUG-----	2
1,2	
-----GCCCUGUGGACUCAGUUCUGGUGu-----	4
1,2	
-----CCCUGUGGACUCAGUUCUGGU-----	5
2,1	
-----CCCUGUGGACUCAGUUCUGGUa-----	7
2,1	
-----CCCUGUGGACUCAGUUCUGGUau-----	17
2,1	
-----CCCUGUGGACUCAGUUCUGGUu-----	3
2,1	
-----CCCUGUGGACUCAGUUCUGGUGu-----	2
2,2	

uaaaaaucuaugggaaacauuucugcacaacuauguucuggacaccaGUGUGCGGAAUAGCUUCUGCUAcauuuuuagg
((.((((.((((.((((((((((((((. ((((. . .)))))))))).))) .))). .))). .))). .). .
-----AGUGUGCGGAAUAGCUUC-----

>hsa-mi r-148a mi:6-27;MA:44-65 SRX018964

-1, -2

-----AAAGUUCUGAGACACUCCG_U----- 3 0,-3

-----AAAGUUCUGAGACACUCCGA----- 139 0,-2

-----AAAGUUCUGAGACACUCCGaa----- 4 0,-2

-----AAAGUUCUGAGACACUCCGaa----- 2 0,-2

-----AAAGUUCUGAGACACUCCGau----- 2 0,-2

-----AAAGUUCUGAGACACUCCGAC----- 2 0,-1

-----AAAGUUCUGAGACACUCCGACU----- 7 0,0

-----GUCAGUGCACUACAGAACU----- 2

-1, -4

-----GUCAGUGCACUACAGAACUUUGU----- 4 -1,0

-----UCAGUGCACUACAGAACU----- 10727

0,-4

-----UCAGUGCACUACAGAACUa----- 16 0,-4

-----UCAGUGCACUACAGAACUaa----- 12 0,-4

-----UCAGUGCACUACAGAACU_{au}----- 7 0,-4

-----UCAGUGCACUACAGAACUU----- 376 0,-3

-----UCAGUGCACUACAGAACUUa----- 7 0,-3

-----UCAGUGCACUACAGAACUUaa----- 3 0,-3

-----UCAGUGCACUACAGAACUU----- 1496

0,-2

-----UCAGUGCACUACAGAACUUUa----- 35 0,-2

-----UCAGUGCACUACAGAACUUU_{aa}----- 10 0,-2

-----UCAGUGCACUACAGAACUUU_{au}----- 4 0, -2

-----UCAGUGCACUACAGAACUUUu----- 32 0,-2

-----UCAGUGCACUACAGAACUUUuu----- 12 0,-2

-----UCAGUGCACUACAGAACUUUG----- 3464

 $0, -1$

Sequence	Count	Label
-----UCAGUGCACUACAGAACUUUGa---	4784	
0,-1		
-----UCAGUGCACUACAGAACUUUGaa--	401	0,-1
-----UCAGUGCACUACAGAACUUUGau--	5	0,-1
-----UCAGUGCACUACAGAACUUUGU---	35897	
0,0		
-----UCAGUGCACUACAGAACUUUGUa--	140	0,0
-----UCAGUGCACUACAGAACUUUGUaa--	38	0,0
-----UCAGUGCACUACAGAACUUUGUau--	9	0,0
-----UCAGUGCACUACAGAACUUUGUu--	83	0,0
-----UCAGUGCACUACAGAACUUUGUuu--	3	0,0
-----UCAGUGCACUACAGAACUUUGUC--	458	0,1
-----UCAGUGCACUACAGAACUUUGUCa--	16	0,1
-----UCAGUGCACUACAGAACUUUGUCau	2	0,1
-----UCAGUGCACUACAGAACUUUGUCU-	50	0,2
-----CAGUGCACUACAGAACUUUG-----	2	1,-1
-----CAGUGCACUACAGAACUUUGa---	4	1,-1
-----CAGUGCACUACAGAACUUUGU---	50	1,0
-----AGUGCACUACAGAACUUU-----	59	2,-2
-----AGUGCACUACAGAACUUUuu---	2	2,-2
-----AGUGCACUACAGAACUUUG-----	65	2,-1
-----AGUGCACUACAGAACUUUGa---	65	2,-1
-----AGUGCACUACAGAACUUUGaa---	9	2,-1
-----AGUGCACUACAGAACUUUGU---	587	2,0
-----AGUGCACUACAGAACUUUGUa---	5	2,0
-----AGUGCACUACAGAACUUUGUaa--	4	2,0
-----AGUGCACUACAGAACUUUGUu---	2	2,0
-----AGUGCACUACAGAACUUUGUC--	14	2,1

```

-----GAAGUUCUGUUAUACACUC-----
----- 13  -1,-4
-----GAAGUUCUGUUAUACACUCAG-----
----- 6  -1,-2
-----GAAGUUCUGUUAUACACUCAGG-----
----- 9  -1,-1
-----GAAGUUCUGUUAUACACUCAGGC-----
----- 2  -1,0
-----GAAGUUCUGUUAUACACUCAGGCa-----
----- 3  -1,0
-----GAAGUUCUGUUAUACACUCAGGCau-----
----- 4  -1,0
-----GAAGUUCUGUUAUACACUCAGGCU-----
----- 25 -1,1
-----GAAGUUCUGUUAUACACUCAGGCUa-----
----- 2  -1,1
-----AAGUUCUGUUAUACACUCAGGCU-----
----- 2   0,1
-----UCAGUGCAUCACAGAACU
----- 2921   0,-4
-----UCAGUGCAUCACAGAACU
aa----- 3   0,-4
-----UCAGUGCAUCACAGAACU
U----- 137  0,-3
-----UCAGUGCAUCACAGAACU
UU----- 541  0,-2
-----UCAGUGCAUCACAGAACU
UUG----- 67   0,-1
-----UCAGUGCAUCACAGAACU
UUGa----- 99   0,-1
-----UCAGUGCAUCACAGAACU
UUGaa----- 7    0,-1
-----UCAGUGCAUCACAGAACU
UUGU----- 681  0,0
-----UCAGUGCAUCACAGAACU
UUGUa----- 7    0,0
-----UCAGUGCAUCACAGAACU
UUGUaa----- 2    0,0

```

```

-----UCAGUGCAUCACAGAACU
UUGUau----- 4 0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 96 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 14 0,0
-----AGUGCAUCACAGAACU
UU----- 4 2,-2
-----AGUGCAUCACAGAACU
UUGU----- 14 2,0
-----AGUGCAUCACAGAACU
UUGUuu----- 2 2,0

```

```

>hsa-mir-149 MA:15-37;mi:56-76 SRX018964
gccggcgccccgagcUCUGGCUCCGUGUCUUCACUCCCgugcuuguccgaggaggAGGGAGGGACGGGGGCUGUGCuggg
gcagcugga
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))).
-----UCUGGCUCCGUGUCUUCACUCCC-----
----- 2 0,0
-----GAGGGAGGGACGGGGGCUGUGC-----
----- 2 -1,0

```

```

>hsa-mir-150 MA:16-37;mi:51-72 SRX018964
cuccccauggcccugUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).
-----UCUCCCAACCCUUGUACC-----
----- 17 0,-4
-----UCUCCCAACCCUUGUACCA-----
----- 101 0,-3
-----UCUCCCAACCCUUGUACCAG-----
----- 67 0,-2
-----UCUCCCAACCCUUGUACCAGa-----
----- 2 0,-2
-----UCUCCCAACCCUUGUACCAGU-----
----- 137 0,-1

```

```

-----UCUCCCAACCCUUGUACCAGUa-----
---- 20 0,-1
-----UCUCCCAACCCUUGUACCAGUaa-----
---- 5 0,-1
-----UCUCCCAACCCUUGUACCAGUu-----
---- 4 0,-1
-----UCUCCCAACCCUUGUACCAGUG-----
---- 569 0,0
-----UCUCCCAACCCUUGUACCAGUGa-----
---- 157 0,0
-----UCUCCCAACCCUUGUACCAGUGaa-----
---- 2 0,0
-----UCUCCCAACCCUUGUACCAGUGu-----
---- 55 0,0
-----CCUGGUACAGGCCUGGGGGAC-----
---- 3 -1,-2
-----CUGGUACAGGCCUGGGGGAC-----
---- 9 0,-2
-----CUGGUACAGGCCUGGGGGACA-----
---- 3 0,-1
-----CUGGUACAGGCCUGGGGGACAa-----
---- 3 0,-1

```

>hsa-mir-151 5p:11-31;3p:47-67 SRX018964

```

uuuccugcccUCGAGGAGCUCACAGUCUAGUaugucucauccccuaCUAGACUGAAGCUCCUUGAGGacagggauuguca
uacucaccuc

```

```

.(((((((.((((((((((((((..(((((((((((.(.....).)))))))))))).)))))))))))).)))))).....
.....

```

```

-----CUCGAGGAGCUCACAGUCUAG-----
----- 3 -1,-1
-----CUCGAGGAGCUCACAGUCUAGU-----
----- 28 -1,0
-----CUCGAGGAGCUCACAGUCUAGUA-----
----- 10 -1,1
-----UCGAGGAGCUCACAGUCU-----
----- 2 0,-3
-----UCGAGGAGCUCACAGUCUA-----
----- 4 0,-2

```

```

-----UCGAGGAGCUCACAGUCUAG-----
----- 79  0,-1
-----UCGAGGAGCUCACAGUCUAGa-----
----- 7   0,-1
-----UCGAGGAGCUCACAGUCUAGaa-----
----- 4   0,-1
-----UCGAGGAGCUCACAGUCUAGU-----
----- 606 0,0
-----UCGAGGAGCUCACAGUCUAGUu-----
----- 2   0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
----- 249 0,1
-----UCGAGGAGCUCACAGUCUAGUAa-----
----- 27  0,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
----- 21  0,2
-----UCGAGGAGCUCACAGUCUAGUAUa-----
----- 2   0,2
-----CGAGGAGCUCACAGUCUAGU-----
----- 3   1,0
-----CGAGGAGCUCACAGUCUAGUA-----
----- 2   1,1
-----CGAGGAGCUCACAGUCUAGUAUG-----
----- 2   1,3
-----GAGGAGCUCACAGUCUAG-----
----- 3   2,-1
-----GAGGAGCUCACAGUCUAGU-----
----- 18  2,0
-----GAGGAGCUCACAGUCUAGUA-----
----- 9   2,1
-----UACUAGACUGAAGCUCCUUGA-----
----- 19  -2,-2
-----UACUAGACUGAAGCUCCUUGAa-----
----- 12  -2,-2
-----UACUAGACUGAAGCUCCUUGAaa-----
----- 2   -2,-2
-----UACUAGACUGAAGCUCCUUGAG-----
----- 43  -2,-1

```

-----			-----UACUAGACUGAAGCUCCUUGAGa-----
-----	19	-2,-1	
-----			-----UACUAGACUGAAGCUCCUUGAGG-----
-----	26	-2,0	
-----			-----UACUAGACUGAAGCUCCUUGAGGu-----
-----	7	-2,0	
-----			-----UACUAGACUGAAGCUCCUUGAGGA-----
-----	7	-2,1	
-----			-----ACUAGACUGAAGCUCCUUGA-----
-----	3	-1,-2	
-----			-----ACUAGACUGAAGCUCCUUGAG-----
-----	8	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGa-----
-----	5	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGu-----
-----	2	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGG-----
-----	14	-1,0	
-----			-----ACUAGACUGAAGCUCCUUGAGGA-----
-----	10	-1,1	
-----			-----CUAGACUGAAGCUCCUUG-----
-----	2	0,-3	
-----			-----CUAGACUGAAGCUCCUUGA-----
-----	42	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAa-----
-----	13	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAaa-----
-----	4	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAau-----
-----	2	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAG-----
-----	133	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGa-----
-----	48	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGaa-----
-----	14	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGau-----
-----	2	0,-1	

-----		-CUAGACUGAAGCUCCUUGAGu-----
-----	15 0,-1	
-----		-CUAGACUGAAGCUCCUUGAGG-----
-----	916 0,0	
-----		-CUAGACUGAAGCUCCUUGAGGu-----
-----	39 0,0	
-----		-CUAGACUGAAGCUCCUUGAGGuu-----
-----	9 0,0	
-----		-CUAGACUGAAGCUCCUUGAGGA-----
-----	898 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAa-----
-----	751 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAaa-----
-----	366 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAau-----
-----	104 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAu-----
-----	106 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAuu-----
-----	12 0,1	
-----		-CUAGACUGAAGCUCCUUGAGGAC-----
-----	28 0,2	
-----		-CUAGACUGAAGCUCCUUGAGGACA-----
-----	17 0,3	
-----		-UAGACUGAAGCUCCUUGAGa-----
-----	3 1,-1	
-----		-UAGACUGAAGCUCCUUGAGG-----
-----	9 1,0	
-----		-UAGACUGAAGCUCCUUGAGGA-----
-----	18 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAa-----
-----	34 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAaa-----
-----	7 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAau-----
-----	3 1,1	
-----		-UAGACUGAAGCUCCUUGAGGAC-----
-----	7 1,2	

-----UAGACUGAAGCUCCUUGAGGACu-----
 ----- 6 1,2 -----
 -----AGACUGAAGCUCCUUGAGGAaa-----
 ----- 2 2,1 -----
 -----AGACUGAAGCUCCUUGAGGAC-----
 ----- 5 2,2 -----

>hsa-mir-152 3p:54-74 SRX018964

ugcccccccgcccagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgccccggaaggacc

$$\begin{aligned} & .((((\dots(((\((((((((((((((((((\dots(((\dots((\dots)))))))))))).)))))\\ & \dots))))). \end{aligned}$$

-----			-----UCAGUGCAUGACAGAACU-----
-----	1165	0,-3	
-----			-----UCAGUGCAUGACAGAACUU-----
-----	34	0,-2	
-----			-----UCAGUGCAUGACAGAACUUG-----
-----	168	0,-1	
-----			-----UCAGUGCAUGACAGAACUUGa-----
-----	2	0,-1	
-----			-----UCAGUGCAUGACAGAACUUGaa-----
-----	3	0,-1	
-----			-----UCAGUGCAUGACAGAACUUGu-----
-----	6	0,-1	
-----			-----UCAGUGCAUGACAGAACUUGuu-----
-----	2	0,-1	
-----			-----UCAGUGCAUGACAGAACUUGG-----
-----	1069	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGa-----
-----	197	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGaa-----
-----	48	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGau-----
-----	6	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGu-----
-----	810	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGuu-----
-----	80	0,0	

773	0,1	UCAGUGCAUGACAGAACUUGGG
186	0,1	UCAGUGCAUGACAGAACUUGGGa
54	0,1	UCAGUGCAUGACAGAACUUGGGaa
9	0,1	UCAGUGCAUGACAGAACUUGGGau
446	0,1	UCAGUGCAUGACAGAACUUGGGu
30	0,1	UCAGUGCAUGACAGAACUUGGGuu
4	0,2	UCAGUGCAUGACAGAACUUGGGC
7	2,-1	AGUGCAUGACAGAACUUG
19	2,0	AGUGCAUGACAGAACUUGG
3	2,0	AGUGCAUGACAGAACUUGGa
14	2,0	AGUGCAUGACAGAACUUGGu
3	2,0	AGUGCAUGACAGAACUUGGuu
16	2,1	AGUGCAUGACAGAACUUGGG
2	2,1	AGUGCAUGACAGAACUUGGGaa
10	2,1	AGUGCAUGACAGAACUUGGGu

>hsa-mi r-154 MA:15-36;mi :51-72 SRX018964

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuauugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa

-----UAGGUUAUCCGUGUUGCC-----
 --- 3 0,-4

```

-----UAGGUUAUCCGUGUUGCCUUCG-----
---- 12 0,0
-----AAUCAUACACGGUUGACCUAU-----
---- 5 0,-1
-----AAUCAUACACGGUUGACCUAUU-----
---- 23 0,0

```

>hsa-mir-155 MA:4-26;mi:43-64 SRX018964

cugUAA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUAGCAUUAACAg

(((((((((((((((((((.(((((((((((.(((....)))..))))))))))))))))))))))))))

```

---UAA AUGCUAAUCGUGAU----- 32 0,-5
---UAA AUGCUAAUCGUGAUAG----- 22 0,-4
---UAA AUGCUAAUCGUGAUAGG----- 16 0,-3
---UAA AUGCUAAUCGUGAUAGGG----- 22 0,-2
---UAA AUGCUAAUCGUGAUAGGGa----- 2 0,-2
---UAA AUGCUAAUCGUGAUAGGGG----- 19 0,-1
---UAA AUGCUAAUCGUGAUAGGGGa----- 2 0,-1
---UAA AUGCUAAUCGUGAUAGGGGU----- 21 0,0
---UAA AUGCUAAUCGUGAUAGGGGUau----- 3 0,0
---UAA AUGCUAAUCGUGAUAGGGGUU----- 15 0,1
---UAA AUGCUAAUCGUGAUAGGGGUUU----- 2 0,2
---UAAUGCUAAUCGUGAUAGGGG----- 2 1,-1

```

>hsa-mir-15a MA:14-35;mi:51-72 SRX018964

ccuuggaguaaagUAGCAGCACAUAAUGGUUUGGgauuuugaaaaggugCAGGCCAUUUGUGCUGCCUCAaaaauaca
agg

(((((.....((((((((((((.(((((((((((.(((....)))..))))))))))))))))))))))))))
)))

```

-----UAGCAGCACAUAAUGGUU-----
--- 14 0,-4
-----UAGCAGCACAUAAUGGUUU-----
--- 280 0,-3
-----UAGCAGCACAUAAUGGUUUa-----
--- 4 0,-3
-----UAGCAGCACAUAAUGGUUUuu-----
--- 2 0,-3
-----UAGCAGCACAUAAUGGUUUG-----
--- 342 0,-2

```

```

-----UAGCAGCACAUAAUGGUUUGa-----
--- 5 0,-2
-----UAGCAGCACAUAAUGGUUUGU-----
--- 368 0,-1
-----UAGCAGCACAUAAUGGUUUGUa-----
--- 7 0,-1
-----UAGCAGCACAUAAUGGUUUGUG-----
--- 49 0,0
-----UAGCAGCACAUAAUGGUUUGUGa-----
--- 12 0,0
-----AGCAGCACAUAAUGGUUUG-----
--- 2 1,-2
-----AGCAGCACAUAAUGGUUUGU-----
--- 2 1,-1
-----CAGGCCAUAUUGUGCUGC-----
--- 3 0,-4

```

>hsa-mir-15b MA:20-41;mi:58-79 SRX018964

```

uugaggccuuaaaguacugUAGCAGCACAUCAUGGUUUACAugcuacagucaagaugCGAAUCAUUAUUUGCUGCUCUAg
aaauuaaaggaaaaucau
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
...))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UAGCAGCACAUCAUGGUU-----
----- 35 0,-4
-----UAGCAGCACAUCAUGGUUa-----
----- 3 0,-4
-----UAGCAGCACAUCAUGGUUaa-----
----- 3 0,-4
-----UAGCAGCACAUCAUGGUUU-----
----- 257 0,-3
-----UAGCAGCACAUCAUGGUUUu-----
----- 4 0,-3
-----UAGCAGCACAUCAUGGUUUA-----
----- 279 0,-2
-----UAGCAGCACAUCAUGGUUUa-----
----- 24 0,-2
-----UAGCAGCACAUCAUGGUUUu-----
----- 3 0,-2

```

```

-----UAGCAGCACAUCAUGGUUUAC-----
----- 159 0,-1
-----UAGCAGCACAUCAUGGUUUACu-----
----- 2 0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 461 0,0
-----UAGCAGCACAUCAUGGUUUACAa-----
----- 5 0,0
-----AGCAGCACAUCAUGGUUUACA-----
----- 4 1,0
-----GCAGCACAUCAUGGUUUACA-----
----- 2 2,0
-----CGAAUCAUUAUUUGCUGC-----
----- 2 0,-4
-----CGAAUCAUUAUUUGCUGCUC-----
----- 2 0,-2

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018964

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuaagauucuaaaauuauucCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

(((((...(((.(((((((((((((.(((((((((.((((.....))))).))))))))).))))))))))..))))))

```

-----UAGCAGCACGUAAAUAUU-----
----- 158 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 478 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 2 0,-3
-----UAGCAGCACGUAAAUAUUGu-----
----- 4 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 631 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 9 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
----- 5 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
----- 3 0,-2

```

```

-----UAGCAGCACGUAAAUAUUGGC-----
----- 738 0, -1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 101 0, -1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 62 0, -1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 17 0, -1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 2074 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 232 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 5 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 13 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 364 0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 14 0,2
-----UAGCAGCACGUAAAUAUUGGCGUu-----
----- 4 0,2
-----AGCAGCACGUAAAUAUUG-----
----- 2 1, -3
-----AGCAGCACGUAAAUAUUGG-----
----- 7 1, -2
-----AGCAGCACGUAAAUAUUGGCG-----
----- 19 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
----- 3 1,1
-----AGCAGCACGUAAAUAUUGGCGUU-----
----- 2 1,2
-----GCAGCACGUAAAUAUUGG-----
----- 2 2, -2
-----CCAGUAUUAACUGUGCUGCU-----
----- 3 0, -2
-----CCAGUAUUAACUGUGCUGCUGA-----
----- 3 0,0

```

>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018964

guuccacucUAGCAGCACGUAAAUAUUGGCGuagugaaauauauuuuacaCCAAUAUUACUGUGCUGCUUUAguguga
c

((..(((..((((((((..(((((((..(((..(((.....)))..)))..)))..)))..)))..)))..)))..))
)

-----CUAGCAGCACGUAAAUAUUGGCG-----

- 4 -1,0

-----UAGCAGCACGUAAAUAUU-----

- 158 0,-4

-----UAGCAGCACGUAAAUAUUG-----

- 478 0,-3

-----UAGCAGCACGUAAAUAUUGa-----

- 2 0,-3

-----UAGCAGCACGUAAAUAUUGu-----

- 4 0,-3

-----UAGCAGCACGUAAAUAUUGG-----

- 631 0,-2

-----UAGCAGCACGUAAAUAUUGGa-----

- 9 0,-2

-----UAGCAGCACGUAAAUAUUGGaa-----

- 5 0,-2

-----UAGCAGCACGUAAAUAUUGGu-----

- 3 0,-2

-----UAGCAGCACGUAAAUAUUGGC-----

- 738 0,-1

-----UAGCAGCACGUAAAUAUUGGCa-----

- 101 0,-1

-----UAGCAGCACGUAAAUAUUGGCaa-----

- 62 0,-1

-----UAGCAGCACGUAAAUAUUGGCau-----

- 17 0,-1

-----UAGCAGCACGUAAAUAUUGGCG-----

- 2074 0,0

-----UAGCAGCACGUAAAUAUUGGCGa-----

- 232 0,0

-----UAGCAGCACGUAAAUAUUGGCGaa-----

- 5 0,0

-	13	0,0	-UAGCAGCACGUA AAAUAUUGGCGau-
-	364	0,1	-UAGCAGCACGUA AAAUAUUGGCGU-
-	2	1,-3	-AGCAGCACGUA AAAUAUUG-
-	7	1,-2	-AGCAGCACGUA AAAUAUUGG-
-	19	1,0	-AGCAGCACGUA AAAUAUUGGCG-
-	3	1,1	-AGCAGCACGUA AAAUAUUGGCGU-
-	2	2,-2	-GCAGCACGUA AAAUAUUGG-
-	5	-1,-5	-ACCAAUAUUACUGUGCUG-
-	4	-1,-3	-ACCAAUAUUACUGUGCUGCU-
-	12	-1,-2	-ACCAAUAUUACUGUGCUGCUU-
-	14	-1,-1	-ACCAAUAUUACUGUGCUGCUUU-
-	2	-1,-1	-ACCAAUAUUACUGUGCUGCUUUu-
-	2	-1,0	-ACCAAUAUUACUGUGCUGCUUUA-
-	4	0,0	-CCAAUAUUACUGUGCUGCUUUA-
-	2	0,0	-CCAAUAUUACUGUGCUGCUUUUAa-
-	2	2,0	-AAUAUUACUGUGCUGCUUUUAa-

```

-----UCAAAGUGCUUACAGUGCAG-----
---- 4 -1,-4
-----UCAAAGUGCUUACAGUGCAGG-----
---- 3 -1,-3
-----UCAAAGUGCUUACAGUGCAGGUA-----
---- 3 -1,-1
-----UCAAAGUGCUUACAGUGCAGGUAu-----
---- 2 -1,-1
-----CAAAGUGCUUACAGUGCA-----
---- 14 0,-5
-----CAAAGUGCUUACAGUGCAG-----
---- 57 0,-4
-----CAAAGUGCUUACAGUGCAGG-----
---- 60 0,-3
-----CAAAGUGCUUACAGUGCAGGU-----
---- 87 0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
---- 88 0,-1
-----CAAAGUGCUUACAGUGCAGGUAa-----
---- 29 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 36 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 209 0,0
-----CAAAGUGCUUACAGUGCAGGUAGa-----
---- 6 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
---- 8 0,1
-----AAAGUGCUUACAGUGCAGGU-----
---- 7 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
---- 5 1,-1
-----AAAGUGCUUACAGUGCAGGUAa-----
---- 3 1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
---- 2 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
---- 5 1,0

```



```

-----ACUGCAGUGAAGGCACUUG-----
---- 25 0,-4
-----ACUGCAGUGAAGGCACUUG-----
---- 100 0,-3
-----ACUGCAGUGAAGGCACUUGU-----
---- 208 0,-2
-----ACUGCAGUGAAGGCACUUGUA-----
---- 97 0,-1
-----ACUGCAGUGAAGGCACUUGUAa-----
---- 4 0,-1
-----ACUGCAGUGAAGGCACUUGUAG-----
---- 11 0,0
-----ACUGCAGUGAAGGCACUUGUAGa-----
---- 5 0,0
-----ACUGCAGUGAAGGCACUUGUAGC-----
---- 5 0,1
-----ACUGCAGUGAAGGCACUUGUAGCu-----
---- 6 0,1
-----ACUGCAGUGAAGGCACUUGUAGCA-----
---- 5 0,2
-----ACUGCAGUGAAGGCACUUGUAGCAU-----
---- 2 0,3
-----CUGCAGUGAAGGCACUUG-----
---- 2 1,-3
-----CUGCAGUGAAGGCACUUGU-----
---- 3 1,-2
-----CUGCAGUGAAGGCACUUGUA-----
---- 5 1,-1
-----UGCAGUGAAGGCACUUGU-----
---- 4 2,-2
-----UGCAGUGAAGGCACUUGUA-----
---- 5 2,-1
-----UGCAGUGAAGGCACUUGUAG-----
---- 3 2,0

```

>hsa-mir-181a-1 MA:24-46;mi:64-85 SRX018964

ugaguuuugagguugcuucagugAACAUUCAACGCUGUCGGUGAGUuuggaauuaaaaucaaaACCAUCGACCGUUGAUU
GUACCcuauggcuaaccaucaucuacucca

.((((..((((((((((((..((.(.(((.((((..(((((((.((((.(.....)).)))))))))))))))))))).)
)).).)).)).)).)).)).)).)).)).)).)).).

-----AACAUUCAACGCUGUCGG-----
----- 56 0,-5
-----AACAUUCAACGCUGUCGGa-----
----- 2 0,-5
-----AACAUUCAACGCUGUCGGU-----
----- 31 0,-4
-----AACAUUCAACGCUGUCGGUa-----
----- 7 0,-4
-----AACAUUCAACGCUGUCGGUaa-----
----- 23 0,-4
-----AACAUUCAACGCUGUCGGUau-----
----- 4 0,-4
-----AACAUUCAACGCUGUCGGUG-----
----- 130 0,-3
-----AACAUUCAACGCUGUCGGUGu-----
----- 26 0,-3
-----AACAUUCAACGCUGUCGGUGA-----
----- 472 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
----- 11 0,-2
-----AACAUUCAACGCUGUCGGUGAaa-----
----- 6 0,-2
-----AACAUUCAACGCUGUCGGUGAu-----
----- 3 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 1192 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 72 0,-1
-----AACAUUCAACGCUGUCGGUGAGau-----
----- 3 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 328 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
----- 6 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
----- 271 0,1

Sequence	Count	Score
-AACAUUCAACGCUGUCGGUGAGUUa-	5	0,1
-AACAUUCAACGCUGUCGGUGAGUUU-	78	0,2
-ACAUUCAACGCUGUCGGUGAG-	5	1,-1
-ACAUUCAACGCUGUCGGUGAGU-	2	1,0
-ACAUUCAACGCUGUCGGUGAGUUU-	2	1,2
GU--ACCAUCGACCGUUGAUU	3	-1,-3
GUAC--ACCAUCGACCGUUGAUU	2	-1,-1
G--ACCAUCGACCGUUGAUU	11	0,-4
GU--ACCAUCGACCGUUGAUU	7	0,-3
GUA--ACCAUCGACCGUUGAUU	2	0,-2
GUAa--ACCAUCGACCGUUGAUU	5	0,-2
GUAC--ACCAUCGACCGUUGAUU	7	0,-1
GUACC--ACCAUCGACCGUUGAUU	5	0,0

```

-----AACAUUCAACGCUGUCGGUa-----
----- 7 0,-4
-----AACAUUCAACGCUGUCGGUaa-----
----- 23 0,-4
-----AACAUUCAACGCUGUCGGUau-----
----- 4 0,-4
-----AACAUUCAACGCUGUCGGUG-----
----- 130 0,-3
-----AACAUUCAACGCUGUCGGUGu-----
----- 26 0,-3
-----AACAUUCAACGCUGUCGGUGA-----
----- 472 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
----- 11 0,-2
-----AACAUUCAACGCUGUCGGUGAaa-----
----- 6 0,-2
-----AACAUUCAACGCUGUCGGUGAu-----
----- 3 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 1192 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 72 0,-1
-----AACAUUCAACGCUGUCGGUGAGau-----
----- 3 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 328 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
----- 6 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
----- 271 0,1
-----AACAUUCAACGCUGUCGGUGAGUUa-----
----- 5 0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
----- 78 0,2
-----ACAUUCAACGCUGUCGGUGAG-----
----- 5 1,-1
-----ACAUUCAACGCUGUCGGUGAGU-----
----- 2 1,0

```



```

-----AACAUUCAUUGCUGUCGGUG-----
----- 99 0,-3
-----AACAUUCAUUGCUGUCGGUGa-----
----- 3 0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
----- 6 0,-3
-----AACAUUCAUUGCUGUCGGUGG-----
----- 21 0,-2
-----AACAUUCAUUGCUGUCGGUGGaa-----
----- 2 0,-2
-----AACAUUCAUUGCUGUCGGUGGu-----
----- 3 0,-2
-----AACAUUCAUUGCUGUCGGUGGG-----
----- 132 0,-1
-----AACAUUCAUUGCUGUCGGUGGGa-----
----- 15 0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
----- 27 0,0
-----AACAUUCAUUGCUGUCGGUGGGUa-----
----- 7 0,0
-----AACAUUCAUUGCUGUCGGUGGGUaa-----
----- 2 0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
----- 35 0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 60 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUa-----
----- 9 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUU-----
----- 22 0,2
-----ACAUUCAUUGCUGUCGGUG-----
----- 3 1,-3
-----ACAUUCAUUGCUGUCGGUGGG-----
----- 5 1,-1
-----ACAUUCAUUGCUGUCGGUGGGUa-----
----- 2 1,0
-----ACAUUCAUUGCUGUCGGUGGGUU-----
----- 2 1,1

```

cggaaaauuugccaaggguuugggggAACAUCAACCUGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaauugccauccu

-----AACAUCAACCGUCGGUGA-----

-----AACAUUCAACCGUCGGUGAG-----

-----AACAUUCAACCUUGUCGGUGAGU-----

-----AACAUUCAACCUUGUCGGUGAGUU-----

-----AACAUUCAACCGUGCGGUGAGUUU-----

-----AACCAUCGACCGUUGA

-----ACCAUCGACCGUUGA

-----ACCAUCGACCGUUGA

```
>hsa-mir-181d    5p:36-58    SRX018964
```

-----AACAUUCAUUGUUGUCGG-----

-----AACAUUCAUUGUUGUCGGUG-----

-----AACAUUCAUUGUUGUCGGUGG-----

-----AACAUUCAUUGUUGUCGGUGGG-----

-----AACAUUCAUUGUUGUCGGUGGGa-----

----- 8 0,-1

-----AACAUUCAUUGUUGUCGGUGGGU-----		
-----80,0		
-----AACAUUCAUUGUUGUCGGUGGGUa-----		
-----50,0		
-----AACAUUCAUUGUUGUCGGUGGGUaa-----		
-----20,0		
-----AACAUUCAUUGUUGUCGGUGGGUU-----		
-----70,1		
-----AACAUUCAUUGUUGUCGGUGGGUUu-----		
-----60,1		

>hsa-mi r-182 MA:23-46;mi :67-87 SRX018964

gagcugcuugccucccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAugggggcgaggacucagccggcac

$$\begin{aligned} & \dots((((\dots(((\dots(((((\dots(((((\dots(((((\dots(((((\dots)))))))))\dots))))))\dots) \\ &))))\dots)))))\dots))\dots))\dots \end{aligned}$$

-----UUUGGCAAUGGUAGAACUCA-----

----- 4 0,-4

-----UUUGGCAAUGGUAGAACUCACA-----

----- 6 0,-2

-----UUUGGCAAUGGUAGAACUCACACU-----

----- 7 0,0

>hsa-mi r-183 MA:27-48;mi :66-87 SRX018964

ccgcagagugugacuccuguucugugUAUGGCACUGGUAGAAUUCACUgugaacagucucagucaGUGAAUACCGAAGG
GCCAUAAacagagcagagacagauccacga

-----UAUGGCACUGGUAGAAUUC-----

----- 3 0,-3

-----UAUGGCACUGGUAGAAUUCACU-----

----- 5 0,0

-----UAUGGCACUGGUAGAAUUCACUGa-----

----- 3 0,1

-----AUGGCACUGGUAGAAUUCACUGa-----

$$----- \quad 2 \quad 1,1$$

-----UGAAUUACCGAAGG

GCCAUA----- 2 1,-1

agggggcgagggauUGGAGAGAAAGGCAGUCCUGAugguccccuccccAGGGGCUGGCUUCCUCUGGUCcuuccuccc
ca

-----UGGAGAGAAAGGCAGUUC-----

-----UGGAGAGAAAGGCAGUUCa-----

-----UGGAGAGAAAGGCAGUUCaa-----

-----UGGAGAGAAAGGCAGUUC_u-----

-----UGGAGAGAAAGGCAGUUCuu-----

-----UGGAGAGAAAGGCAGUUCC-----

-----UGGAGAGAAAGGCAGUCCa-----

-----UGGAGAGAAAGGCAGUCCU-----

-----UGGAGAGAAAGGCAGUCCUa-----

-----UGGAGAGAAAGGCAGUCCU_{aa}-----

-----UGGAGAGAAAGGCAGUCCUau-----

-----UGGAGAGAAAGGCAGUCCU₄-----

-----UGGAGAGAAAGGCAGUCCUG-----

-----UGGAGAGAAAGGCAGUCCUGu-----

-----UGGAGAGAAAGGCAGUCCUG₁₀₀-----

-----UGGAGAGAAAGGCAGUCCUGA-----

-- 5214 0,0

```

-----UGGAGAGAAAGGCAGUUCCUGAa-----
-- 1371 0,0
-----UGGAGAGAAAGGCAGUUCCUGAaa-----
-- 57 0,0
-----UGGAGAGAAAGGCAGUUCCUGAau-----
-- 62 0,0
-----UGGAGAGAAAGGCAGUUCCUGAU-----
-- 1430 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUa-----
-- 64 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUau-----
-- 7 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUu-----
-- 124 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUuu-----
-- 5 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUG-----
-- 4 0,2
-----GGAGAGAAAGGCAGUUCCU-----
-- 5 1,-2
-----GGAGAGAAAGGCAGUUCCUG-----
-- 8 1,-1
-----GGAGAGAAAGGCAGUUCCUGA-----
-- 54 1,0
-----GGAGAGAAAGGCAGUUCCUGAa-----
-- 8 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 3 1,1
-----GAGAGAAAGGCAGUUCCUGA-----
-- 6 2,0
-----CAGGGGCUGGCUUCCUC-----
-- 36 -1,-5
-----CAGGGGCUGGCUUCCUCU-----
-- 6 -1,-4
-----AGGGGCUGGCUUCCUCU-----
-- 156 0,-4
-----AGGGGCUGGCUUCCUCUGGU-----
-- 2 0,-1

```

```

-----AGGGGCUGGCUUCCUCUGGUaa-----
-- 3 0,-1
-----AGGGGCUGGCUUCCUCUGGUau-----
-- 2 0,-1
-----AGGGGCUGGCUUCCUCUGGUu-----
-- 2 0,-1

```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018964

```

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuauuuuaGCCCAAAGUGAAUUUUUGGGAguu
ugagcu

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))

```

```

-----CCAAAGAAUUCUCCUUUUGGGCU-----
----- 2 -1,0
-----CAAAGAAUUCUCCUUUUG-----
----- 8 0,-4
-----CAAAGAAUUCUCCUUUUGG-----
----- 10 0,-3
-----CAAAGAAUUCUCCUUUUGGa-----
----- 4 0,-3
-----CAAAGAAUUCUCCUUUUGGG-----
----- 34 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 34 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 100 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 28 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 117 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 234 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 84 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 33 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 761 0,1

```

```

-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 29 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUau-----
----- 2 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 17 0,2
-----CAAAGAAUUCUCCUUUUGGGCUUUa-----
----- 2 0,2
-----AAAGAAUUCUCCUUUUGG-----
----- 2 1,-3
-----AAAGAAUUCUCCUUUUGGGC-----
----- 3 1,-1
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 3 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----
----- 2 1,-1
-----AAAGAAUUCUCCUUUUGGGCau-----
----- 8 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 32 1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 14 1,0
-----AAAGAAUUCUCCUUUUGGGCUau-----
----- 2 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 62 1,1
-----AAAGAAUUCUCCUUUUGGGCUUa-----
----- 3 1,1
-----CCCAAAGGUGAAUUUUUU-----
----- 2 1,-3
-----CCCAAAGGUGAAUUUUUUUG-----
----- 3 1,-2

```

>hsa-mir-187 mi:35-56;MA:71-92 SRX018964

ggucgggcucaccaugacacagugagaccucgGGCUACAACACAGGACCCGGGCgcugcucugaccccUCGUGUCUUG
UGUUGCAGCCGGagggacgcaggucgcga

.(.((((((.....((((...(((.((((.(((((((((((.((((.(.....).).)).)).))))))
))))).))))).))))).))))).))))).))))).))))).

```

-----UCGUGUCUUG
UGUUGCAGC----- 2 0,-3
-----UCGUGUCUUG
UGUUGCAGCCGG----- 15 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGu----- 9 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGuu----- 10 0,0

```

```

>hsa-mir-18a MA:6-28;mi:47-69 SRX018964
uguucUAAGGUGCAUCUAGUGCAGAUAGugaaguagauuagcaucuACUGCCCUAAGUGCUCUUCUGGca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAAGGUGCAUCUAGUGCA----- 3 0,-5
-----UAAGGUGCAUCUAGUGCAGA----- 15 0,-3
-----UAAGGUGCAUCUAGUGCAGAU----- 26 0,-2
-----UAAGGUGCAUCUAGUGCAGAU----- 2 0,-1

```

```

>hsa-mir-18b MA:6-28;mi:49-70 SRX018964
uguguUAAGGUGCAUCUAGUGCAGUUAGugaagcagcuuagaaucaucUGCCCUAAAUGCCCCUUCUGGCa
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAAGGUGCAUCUAGUGCA----- 3 0,-5

```

```

>hsa-mir-1908 5p:12-32 SRX018964
cgggaaugccgCGGCGGGGACGGCGAUUGGUCcguaugugugguccaccggccgcccggcuccgccccggccccgcccc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CGGCGGGGACGGCGAUUGGUC-----
4 0,0
-----CGGCGGGGACGGCGAUUGGUCu-----
2 0,0

```

```

>hsa-mir-191 MA:16-38;mi:58-79 SRX018964
cggcuggacagcgggCAACGGAAUCCCAAAAGCAGCUGuugucuccagagcauuccaGCUGGCUUGGAUUUCGUCCCCu
gcucuccugccu
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..
-----CAACGGAAUCCCAAAAGC-----
----- 252 0,-5
-----CAACGGAAUCCCAAAAGCu-----

```

----- 2 0,-5
-----CAACGGAAUCCCAAAAGCA-----
----- 1327 0,-4
-----CAACGGAAUCCCAAAAGCAa-----
----- 24 0,-4
-----CAACGGAAUCCCAAAAGCAu-----
----- 4 0,-4
-----CAACGGAAUCCCAAAAGCAG-----
----- 2490 0,-3
-----CAACGGAAUCCCAAAAGCAGa-----
----- 5 0,-3
-----CAACGGAAUCCCAAAAGCAGau-----
----- 13 0,-3
-----CAACGGAAUCCCAAAAGCAGu-----
----- 2 0,-3
-----CAACGGAAUCCCAAAAGCAGuu-----
----- 7 0,-3
-----CAACGGAAUCCCAAAAGCAGC-----
----- 4208 0,-2
-----CAACGGAAUCCCAAAAGCAGCa-----
----- 173 0,-2
-----CAACGGAAUCCCAAAAGCAGCaa-----
----- 14 0,-2
-----CAACGGAAUCCCAAAAGCAGCau-----
----- 12 0,-2
-----CAACGGAAUCCCAAAAGCAGCU-----
----- 15290 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
----- 515 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
----- 22 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
----- 110 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
----- 605 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
----- 113 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----

```

-----      8328      0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
-----      132      0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
-----       9       0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
-----       3       0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
-----     1885      0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
-----      18      0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
-----      83      0,2
-----AACGGAAUCCCAAAAGCA-----
-----     66      1,-4
-----AACGGAAUCCCAAAAGCAa-----
-----       4      1,-4
-----AACGGAAUCCCAAAAGCAG-----
-----     165      1,-3
-----AACGGAAUCCCAAAAGCAGC-----
-----    409      1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
-----       7      1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
-----   1357      1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
-----      28      1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
-----       2      1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
-----     18      1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
-----     31      1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
-----     10      1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
-----    684      1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----

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----- 44 1,0
-----AACGGAAUCCCAAAAGCAGCUGau-----
----- 2 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
----- 378 1,1
-----AACGGAAUCCCAAAAGCAGCUGUa-----
----- 7 1,1
-----AACGGAAUCCCAAAAGCAGCUGUaa-----
----- 3 1,1
-----AACGGAAUCCCAAAAGCAGCUGUU-----
----- 12 1,2
-----AACGGAAUCCCAAAAGCAGCUGUUa-----
----- 2 1,2
-----AACGGAAUCCCAAAAGCAGCUGUUu-----
----- 3 1,2
-----ACGGAAUCCCAAAAGCAGC-----
----- 3 2,-2
-----ACGGAAUCCCAAAAGCAGCU-----
----- 11 2,-1
-----ACGGAAUCCCAAAAGCAGCUG-----
----- 4 2,0
-----ACGGAAUCCCAAAAGCAGCUGU-----
----- 2 2,1
-----GCUGCGCUUGGAUUUCGUCCC--
----- 2 0,-1
-----CUGCGCUUGGAUUUCGUCCCC-
----- 2 1,0

```

>hsa-mir-192 MA:24-44;mi:67-88 SRX018964

gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucucccucuggCUGCCAAUCCAUA
GGUCACAGguauguugccucaauggccagc

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.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))).....
))))))))).....

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-----CUCUGACCUAUGAAUUGACAGC-----
----- 10 -2,-1
-----UCUGACCUAUGAAUUGAC-----
----- 6 -1,-4
-----UCUGACCUAUGAAUUGACA-----

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----- 23 -1,-3
-----UCUGACCUAUGAAUUGACAG-----
----- 54 -1,-2
-----UCUGACCUAUGAAUUGACAGC-----
----- 348 -1,-1
-----UCUGACCUAUGAAUUGACAGCa-----
----- 34 -1,-1
-----UCUGACCUAUGAAUUGACAGCaa-----
----- 4 -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
----- 6 -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
----- 1452 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
----- 95 -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
----- 21 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 223 -1,1
-----UCUGACCUAUGAAUUGACAGCCAa-----
----- 8 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 67 -1,1
-----UCUGACCUAUGAAUUGACAGCCAuu-----
----- 25 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
----- 6 -1,2
-----UCUGACCUAUGAAUUGACAGCCAGU-----
----- 3 -1,3
-----CUGACCUAUGAAUUGACA-----
----- 2065 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 15 0,-3
-----CUGACCUAUGAAUUGACAaa-----
----- 9 0,-3
-----CUGACCUAUGAAUUGACAU-----
----- 6 0,-3
-----CUGACCUAUGAAUUGACAG-----

```

----- 5391 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 256 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 46 0,-2
-----CUGACCUAUGAAUUGACAGau-----
----- 3 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 192 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 3 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 103824 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 16547 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 1949 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 805 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 2440 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 199 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 499934 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 28203 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 5837 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 213978 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 3543 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 487 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
----- 1303 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----

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----- 78781 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 34181 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 3074 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 248 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 5 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 9 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 1484 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 36 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 143 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 4 0,4
-----UGACCUAUGAAUUGACAG-----
----- 2884 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 24 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 48359 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 1274 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 267 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 60 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 121 1,-1
-----UGACCUAUGAAUUGACAGCuu-----
----- 4 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 40762 1,0
-----UGACCUAUGAAUUGACAGCCu-----

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----- 936 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 184 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 66831 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 1528 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 1144 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 1640 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 13886 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 9132 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 27176 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 4791 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 177 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 116 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 21259 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 1225 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 81 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 87 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 2176 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 239 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 70 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----

----- 8 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 5 1,4
-----GACCUAUGAAUUGACAGC-----
----- 612 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 19 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 6 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 5 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 695 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 40 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 4 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 488 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 14 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 7 2,1
-----GACCUAUGAAUUGACAGCCAau-----
----- 6 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 138 2,1
-----GACCUAUGAAUUGACAGCCAuu-----
----- 88 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 308 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 60 2,2
-----GACCUAUGAAUUGACAGCCAGaa-----
----- 4 2,2
-----GACCUAUGAAUUGACAGCCAGau-----
----- 4 2,2
-----GACCUAUGAAUUGACAGCCAGU-----


```

----- 30 0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
----- 11 0,-2
-----UGGGUCUUUGCGGGCGAGAUaa-----
----- 5 0,-2
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 4 0,-2
-----UGGGUCUUUGCGGGCGAGAUg-----
----- 181 0,-1
-----UGGGUCUUUGCGGGCGAGAUgu-----
----- 63 0,-1
-----UGGGUCUUUGCGGGCGAGAUguu-----
----- 2 0,-1
-----UGGGUCUUUGCGGGCGAGAUga-----
----- 551 0,0
-----UGGGUCUUUGCGGGCGAGAUgaAa-----
----- 34 0,0
-----UGGGUCUUUGCGGGCGAGAUgaAaa-----
----- 5 0,0
-----UGGGUCUUUGCGGGCGAGAUgaAu-----
----- 42 0,0
-----GGGUCUUUGCGGGCGAGAUg-----
----- 4 1,-1
-----GGGUCUUUGCGGGCGAGAUgu-----
----- 3 1,-1
-----GGGUCUUUGCGGGCGAGAUga-----
----- 3 1,0
-----GGUCUUUGCGGGCGAGAUga-----
----- 2 2,0
-----AACUGGCCUACAAAGUCC-----
----- 51 0,-4
-----AACUGGCCUACAAAGUCCaa-----
----- 2 0,-4
-----AACUGGCCUACAAAGUCCC-----
----- 109 0,-3
-----AACUGGCCUACAAAGUCCCu-----
----- 5 0,-3
-----AACUGGCCUACAAAGUCCCA-----

```


--- 55 0,-2
-----CGGGGUUUUGAGGGCGAGAUa-----
--- 10 0,-2
-----CGGGGUUUUGAGGGCGAGAUaa-----
--- 2 0,-2
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 15 0,-2
-----CGGGGUUUUGAGGGCGAGAUuu-----
--- 2 0,-2
-----CGGGGUUUUGAGGGCGAGAUg-----
--- 193 0,-1
-----CGGGGUUUUGAGGGCGAGAUgu-----
--- 135 0,-1
-----CGGGGUUUUGAGGGCGAGAUguu-----
--- 4 0,-1
-----CGGGGUUUUGAGGGCGAGAUga-----
--- 501 0,0
-----CGGGGUUUUGAGGGCGAGAUgaAa-----
--- 17 0,0
-----CGGGGUUUUGAGGGCGAGAUgaAaa-----
--- 6 0,0
-----CGGGGUUUUGAGGGCGAGAUgaAu-----
--- 21 0,0
-----GGGGUUUUUGAGGGCGAGAU-----
--- 2 1,-2
-----GGGGUUUUUGAGGGCGAGAUg-----
--- 7 1,-1
-----GGGGUUUUUGAGGGCGAGAUgu-----
--- 3 1,-1
-----GGGGUUUUUGAGGGCGAGAUga-----
--- 15 1,0
-----GGGGUUUUUGAGGGCGAGAUgaAa-----
--- 2 1,0
-----GGGGUUUUUGAGGGCGAGAUgaAu-----
--- 2 1,0
-----AACUGGCCCCUCAAAGUCC-----
--- 88 0,-4
-----AACUGGCCCCUCAAAGUCCC-----

---	115	0,-3	-----AACUGGCCCUCAAAGUCCCG-----
---	40	0,-2	-----AACUGGCCCUCAAAGUCCCGC-----
---	70	0,-1	-----AACUGGCCCUCAAAGUCCCGCa-----
---	8	0,-1	-----AACUGGCCCUCAAAGUCCCGCaa-----
---	3	0,-1	-----AACUGGCCCUCAAAGUCCCGCau-----
---	32	0,-1	-----AACUGGCCCUCAAAGUCCCGCU-----
---	167	0,0	-----AACUGGCCCUCAAAGUCCCGCUa-----
---	21	0,0	-----AACUGGCCCUCAAAGUCCCGCUau-----
---	17	0,0	-----AACUGGCCCUCAAAGUCCCGCUU-----
---	109	0,1	-----AACUGGCCCUCAAAGUCCCGCUUau-----
---	2	0,1	-----AACUGGCCCUCAAAGUCCCGCUUU-----
---	37	0,2	-----AACUGGCCCUCAAAGUCCCGCUUUU-----
---	3	0,3	-----ACUGGCCCUCAAAGUCCC-----
---	2	1,-3	-----ACUGGCCCUCAAAGUCCCGCU-----
---	5	1,0	-----ACUGGCCCUCAAAGUCCCGCUa-----
---	4	1,0	-----ACUGGCCCUCAAAGUCCCGCUau-----
---	7	1,0	-----ACUGGCCCUCAAAGUCCCGCUU-----
---	7	1,1	-----ACUGGCCCUCAAAGUCCCGCUUU-----
---	3	1,2	

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>hsa-mir-194-1 5p:15-36 SRX018964
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augguguuaucaagUGUAACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

.(((((.(((((.(((((((((.((((((.((((..(.....)).)))))))).).)))))))).)))))).).))))).).))))).))))).

-----UGUAACAGCAACUCCAUG-----

----- 24 0, -4

-----UGUAACAGCAACUCCAUGU-----

----- 12 0, -3

-----UGUAACAGCAACUCCAUGUG-----

----- 30 0,-2

-----UGUAACAGCAACUCCAUGUGG-----

----- 774 0,-1

-----UGUAACAGCAACUCCAUGUGGu-----

----- 11 0,-1

-----UGUAACAGCAACUCCAUGUGGA-----

----- 1331 0,0

-----UGUAACAGCAACUCCAUGUGGAu-----

----- 176 0,0

-----UGUAACAGCAACUCCAUGUGGAuu-----

----- 8 0,0

-----UGUAACAGCAACUCCAUGUGGAC-----

----- 30 0,1

-----UGUAACAGCAACUCCAUGUGGACa-----

----- 7 0,1

-----UGUAACAGCAACUCCAUGUGGACU-----

----- 3 0,2

-----GUAACAGCAACUCCAUGUGGA-----

----- 4 1,0

>hsa-mir-194-2 MA:15-36;mi:51-72 SRX018964

ugguuuccgccccUGUACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGCUGCUGUUAUCUGgggcgagg
gccag

((((((.(((((((..((((((((((.(((((((.((((...(((...)))))))))))).)))))))).)))))

-----CCUGUAAACAGCAACUCCAUGUGG-----

----- 3 -2, -1

-----CCUGUAAACAGCAACUCCAUGUGGu-----

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----- 2  -2,-1
-----CUGUAAACAGCAACUCCAUGUGG-----
----- 7  -1,-1
-----CUGUAAACAGCAACUCCAUGUGGu-----
----- 4  -1,-1
-----CUGUAAACAGCAACUCCAUGUGGA-----
----- 30 -1,0
-----CUGUAAACAGCAACUCCAUGUGGAA-----
----- 5  -1,1
-----UGUAAACAGCAACUCCAUG-----
----- 24 0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 12 0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 30 0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 774 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 11 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1331 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 176 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 8 0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
----- 2486 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 273 0,1
-----UGUAAACAGCAACUCCAUGUGGAAaa-----
----- 12 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 8 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 84 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 21 0,1
-----UGUAAACAGCAACUCCAUGUGGAAG-----

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----- 4 0,2
-----GUAACAGCAACUCCAUGUGGA-----
----- 4 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 7 1,1
-----GUAACAGCAACUCCAUGUGGAAu-----
----- 2 1,1
-----CCAGUGGGGCUGCUGUUAU-----
----- 8 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 23 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 172 0,-1
-----CCAGUGGGGCUGCUGUUAUCUu-----
----- 3 0,-1
-----CCAGUGGGGCUGCUGUUAUCUG-----
----- 10 0,0
-----CCAGUGGGGCUGCUGUUAUCUGa-----
----- 3 0,0
-----CCAGUGGGGCUGCUGUUAUCUGu-----
----- 6 0,0
-----CAGUGGGGCUGCUGUUAUCU-----
----- 6 1,-1

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>hsa-mir-195 MA:15-35;mi:53-74 SRX018964

agcuucccuggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUAUUGGCUGUGCUGCUCCaggcag
gguggug

.(((.((((((.((.((((((((((.((((((((((.....))))))))))..))))))))..)).)))
)..)).).

```

-----UAGCAGCACAGAAAUAUU-----
----- 25 0,-3
-----UAGCAGCACAGAAAUAUUa-----
----- 2 0,-3
-----UAGCAGCACAGAAAUAUUaa-----
----- 2 0,-3
-----UAGCAGCACAGAAAUAUUG-----
----- 70 0,-2
-----UAGCAGCACAGAAAUAUUGG-----

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```

----- 129 0,-1
-----UAGCAGCACAGAAAUAUUGGa-----
----- 11 0,-1
-----UAGCAGCACAGAAAUAUUGGaa-----
----- 3 0,-1
-----UAGCAGCACAGAAAUAUUGGu-----
----- 3 0,-1
-----UAGCAGCACAGAAAUAUUGGC-----
----- 115 0,0
-----UAGCAGCACAGAAAUAUUGGCu-----
----- 2 0,0
-----UAGCAGCACAGAAAUAUUGGCA-----
----- 590 0,1
-----UAGCAGCACAGAAAUAUUGGCAa-----
----- 387 0,1
-----UAGCAGCACAGAAAUAUUGGCAaa-----
----- 3 0,1
-----UAGCAGCACAGAAAUAUUGGCAau-----
----- 5 0,1
-----UAGCAGCACAGAAAUAUUGGCAu-----
----- 230 0,1
-----UAGCAGCACAGAAAUAUUGGCAuu-----
----- 17 0,1
-----UAGCAGCACAGAAAUAUUGGCAC-----
----- 8 0,2
-----AGCAGCACAGAAAUAUUG-----
----- 2 1,-2
-----AGCAGCACAGAAAUAUUGG-----
----- 2 1,-1
-----AGCAGCACAGAAAUAUUGGCA-----
----- 6 1,1
-----AGCAGCACAGAAAUAUUGGCAa-----
----- 4 1,1
-----AGCAGCACAGAAAUAUUGGCAu-----
----- 2 1,1

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>hsa-mir-196a-1 5p:7-28 SRX018964

gugaauUAGGUAGUUUCAUGUUGUUGGGccuggguuucugaacacaacaacaauuaaaccacccgauucac

-----CCGUGCAAAGGUAGCAUAa 2 1.0

gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucaauguguACAGUAGUCUGCACAUUGGUUAggc

-----CCCAGUGUUCAGACUACC----- 18 0,-5

-----CCCAGUGUUCAGACUACCU----- 440 0,-4

-----CCCAGUGUUCAGACUACCUG----- 21 0,-3

-----CCCAGUGUUCAGACUACCUGU----- 12 0,-2

-----CCCAGUGUUCAGACUACCUGUU----- 133 0,-1

-----CCCAGUGUUCAGACUACCUGUUa----- 17 0,-1

-----CCCAGUGUUCAGACUACCUGUUu----- 22 0,-1

-----CCCAGUGUUCAGACUACCUGUUC----- 96 0,0

-----CCCAGUGUUCAGACUACCUGUUCu----- 2 0,0

-----CCAGUGUUCAGACUACCU----- 7 1,-4

-----CCAGUGUUCAGACUACCUGUU----- 4 1,-1

-----CCAGUGUUCAGACUACCUGUUC----- 3 1,0

-----GUACAGUAGUCUGCACAUUGGU_a----- 2

-2, -2

-----GUACAGUAGUCUGCACAUUGGUU----- 2

-2, -1

-----UACAGUAGUCUGCACAUU----- 35

-1, -5

-----UACAGUAGUCUGCACAUG----- 97

-1, -4

-----UACAGUAGUCUGCACAUGuu----- 4

-1, -4

-----UACAGUAGUCUGCACAUUGG----- 204

-1, -3

-----UACAGUAGUCUGCACAUUGGa----- 3

-1, -3

-----UACAGUAGUCUGCACAUUGGaa----- 6

-1, -3

-----UACAGUAGUCUGCACAUGG_{au}----- 12

-1, -3

-----UACAGUAGUCUGCACAUUGGU----- 1038

-1, -2

	-----UACAGUAGUCUGCACAUUGGUa----	514	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUaa---	205	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUau---	190	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUU----	10820	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUu---	1446	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUuu--	38	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUA---	2450	
-1,0			
	-----UACAGUAGUCUGCACAUUGGUUAa--	48	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	122	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAG--	3	-1,1
	-----ACAGUAGUCUGCACAUUG-----	573	0,-4
	-----ACAGUAGUCUGCACAUUGa-----	3	0,-4
	-----ACAGUAGUCUGCACAUUGaa-----	5	0,-4
	-----ACAGUAGUCUGCACAUUGu-----	19	0,-4
	-----ACAGUAGUCUGCACAUUGuu-----	22	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	1723	
0,-3			
	-----ACAGUAGUCUGCACAUUGGa-----	23	0,-3
	-----ACAGUAGUCUGCACAUUGGaa-----	23	0,-3
	-----ACAGUAGUCUGCACAUUGGau-----	144	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	4796	
0,-2			
	-----ACAGUAGUCUGCACAUUGGUa----	1687	
0,-2			
	-----ACAGUAGUCUGCACAUUGGUaa---	1026	
0,-2			
	-----ACAGUAGUCUGCACAUUGGUau---	380	0,-2
	-----ACAGUAGUCUGCACAUUGGUU----	82083	
0,-1			
	-----ACAGUAGUCUGCACAUUGGUUu---	9770	
0,-1			

-----	ACAGUAGUCUGCACAUUGGUUuu--	367	0,-1
-----	ACAGUAGUCUGCACAUUGGUUA---	48692	
0,0			
-----	ACAGUAGUCUGCACAUUGGUUAa--	4920	
0,0			
-----	ACAGUAGUCUGCACAUUGGUUAaa-	81	0,0
-----	ACAGUAGUCUGCACAUUGGUUAau-	41	0,0
-----	ACAGUAGUCUGCACAUUGGUUAu--	2103	
0,0			
-----	ACAGUAGUCUGCACAUUGGUUAuu-	47	0,0
-----	ACAGUAGUCUGCACAUUGGUUAG--	60	0,1
-----	ACAGUAGUCUGCACAUUGGUUAGu-	3	0,1
-----	CAGUAGUCUGCACAUUGG-----	220	1,-3
-----	CAGUAGUCUGCACAUUGGa-----	3	1,-3
-----	CAGUAGUCUGCACAUUGGaa-----	5	1,-3
-----	CAGUAGUCUGCACAUUGGau----	9	1,-3
-----	CAGUAGUCUGCACAUUGGU-----	790	1,-2
-----	CAGUAGUCUGCACAUUGGUa----	231	1,-2
-----	CAGUAGUCUGCACAUUGGUaa----	139	1,-2
-----	CAGUAGUCUGCACAUUGGUau---	36	1,-2
-----	CAGUAGUCUGCACAUUGGUU----	13794	
1,-1			
-----	CAGUAGUCUGCACAUUGGUUu---	1889	
1,-1			
-----	CAGUAGUCUGCACAUUGGUUuu--	109	1,-1
-----	CAGUAGUCUGCACAUUGGUUA---	15413	
1,0			
-----	CAGUAGUCUGCACAUUGGUUAa--	1734	
1,0			
-----	CAGUAGUCUGCACAUUGGUUAaa-	59	1,0
-----	CAGUAGUCUGCACAUUGGUUAau-	24	1,0
-----	CAGUAGUCUGCACAUUGGUUAu--	720	1,0
-----	CAGUAGUCUGCACAUUGGUUAuu-	13	1,0
-----	CAGUAGUCUGCACAUUGGUUAG--	32	1,1
-----	AGUAGUCUGCACAUUGGU-----	11	2,-2
-----	AGUAGUCUGCACAUUGGUa----	2	2,-2
-----	AGUAGUCUGCACAUUGGUaa----	2	2,-2
-----	AGUAGUCUGCACAUUGGUau---	2	2,-2

-----AGUAGUCUGCACAUUGGUU----	290	2,-1
-----AGUAGUCUGCACAUUGGUUu---	24	2,-1
-----AGUAGUCUGCACAUUGGUUA---	298	2,0
-----AGUAGUCUGCACAUUGGUUAa--	41	2,0
-----AGUAGUCUGCACAUUGGUUAaa-	2	2,0
-----AGUAGUCUGCACAUUGGUUAu--	18	2,0

>hsa-mi r-199a-2 5p:31-53;3p:70-91 SRX018964

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaaugccguuguACAGUAGUCUG
CACAUUGGUUAgacuggggcaagggagagca

$$\begin{aligned} & \dots(((\dots(((((\dots(((((\dots(((\dots((((((\dots((((((\dots((((((\dots((((((\dots)))))))))\\ &)))))))\dots)))\dots)))\dots))). \end{aligned}$$

-----	CCCAGUGUUCAGACUACC-	-----
-----	18 0,-5	-----
-----	CCCAGUGUUCAGACUACCU-	-----
-----	440 0,-4	-----
-----	CCCAGUGUUCAGACUACCUG-	-----
-----	21 0,-3	-----
-----	CCCAGUGUUCAGACUACCUGU-	-----
-----	12 0,-2	-----
-----	CCCAGUGUUCAGACUACCUGUU-	-----
-----	133 0,-1	-----
-----	CCCAGUGUUCAGACUACCUGUUa-	-----
-----	17 0,-1	-----
-----	CCCAGUGUUCAGACUACCUGUUu-	-----
-----	22 0,-1	-----
-----	CCCAGUGUUCAGACUACCUGUUC-	-----
-----	96 0,0	-----
-----	CCCAGUGUUCAGACUACCUGUUCu-	-----
-----	2 0,0	-----
-----	CCAGUGUUCAGACUACCU-	-----
-----	7 1,-4	-----
-----	CCAGUGUUCAGACUACCUGUU-	-----
-----	4 1,-1	-----
-----	CCAGUGUUCAGACUACCUGUUC-	-----
-----	3 1,0	-----
-----		-----GUACAGUAGUCUG
CACAUUGGUa-	2 -2,-2	

-----				-----GUACAGUAGUCUG
CACAUUGGUU-----	2	-2,-1		
-----				-----UACAGUAGUCUG
CACAUU-----	35	-1,-5		
-----				-----UACAGUAGUCUG
CACAUUG-----	97	-1,-4		
-----				-----UACAGUAGUCUG
CACAUUGuu-----	4	-1,-4		
-----				-----UACAGUAGUCUG
CACAUUGG-----	204	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGa-----	3	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGaa-----	6	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGau-----	12	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGU-----	1038	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUa-----	514	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUaa-----	205	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUau-----	190	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUU-----	10820	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUu-----	1446	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUuu-----	38	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUA-----	2450	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAa-----	48	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAu-----	122	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAG-----	3	-1,1		

-----	-----	ACAGUAGUCUG
CACAUUG-----	573 0,-4	
-----	-----	ACAGUAGUCUG
CACAUUGa-----	3 0,-4	
-----	-----	ACAGUAGUCUG
CACAUUGaa-----	5 0,-4	
-----	-----	ACAGUAGUCUG
CACAUUGu-----	19 0,-4	
-----	-----	ACAGUAGUCUG
CACAUUGuu-----	22 0,-4	
-----	-----	ACAGUAGUCUG
CACAUUGG-----	1723 0,-3	
-----	-----	ACAGUAGUCUG
CACAUUGGa-----	23 0,-3	
-----	-----	ACAGUAGUCUG
CACAUUGGaa-----	23 0,-3	
-----	-----	ACAGUAGUCUG
CACAUUGGau-----	144 0,-3	
-----	-----	ACAGUAGUCUG
CACAUUGGU-----	4796 0,-2	
-----	-----	ACAGUAGUCUG
CACAUUGGUa-----	1687 0,-2	
-----	-----	ACAGUAGUCUG
CACAUUGGUaa-----	1026 0,-2	
-----	-----	ACAGUAGUCUG
CACAUUGGUau-----	380 0,-2	
-----	-----	ACAGUAGUCUG
CACAUUGGUU-----	82083 0,-1	
-----	-----	ACAGUAGUCUG
CACAUUGGUUu-----	9770 0,-1	
-----	-----	ACAGUAGUCUG
CACAUUGGUUuu-----	367 0,-1	
-----	-----	ACAGUAGUCUG
CACAUUGGUUA-----	48692 0,0	
-----	-----	ACAGUAGUCUG
CACAUUGGUUAa-----	4920 0,0	
-----	-----	ACAGUAGUCUG
CACAUUGGUUAaa-----	81 0,0	

-----			-----ACAGUAGUCUG
CACAUUGGUUAau-----	41	0,0	
-----			-----ACAGUAGUCUG
CACAUUGGUUAu-----	2103	0,0	
-----			-----ACAGUAGUCUG
CACAUUGGUUAuu-----	47	0,0	
-----			-----ACAGUAGUCUG
CACAUUGGUUAG-----	60	0,1	
-----			-----ACAGUAGUCUG
CACAUUGGUUAGu-----	3	0,1	
-----			-----CAGUAGUCUG
CACAUUGG-----	220	1,-3	
-----			-----CAGUAGUCUG
CACAUUGGa-----	3	1,-3	
-----			-----CAGUAGUCUG
CACAUUGGaa-----	5	1,-3	
-----			-----CAGUAGUCUG
CACAUUGGau-----	9	1,-3	
-----			-----CAGUAGUCUG
CACAUUGGU-----	790	1,-2	
-----			-----CAGUAGUCUG
CACAUUGGUa-----	231	1,-2	
-----			-----CAGUAGUCUG
CACAUUGGUaa-----	139	1,-2	
-----			-----CAGUAGUCUG
CACAUUGGUau-----	36	1,-2	
-----			-----CAGUAGUCUG
CACAUUGGUU-----	13794	1,-1	
-----			-----CAGUAGUCUG
CACAUUGGUUu-----	1889	1,-1	
-----			-----CAGUAGUCUG
CACAUUGGUUuu-----	109	1,-1	
-----			-----CAGUAGUCUG
CACAUUGGUUA-----	15413	1,0	
-----			-----CAGUAGUCUG
CACAUUGGUUAa-----	1734	1,0	
-----			-----CAGUAGUCUG
CACAUUGGUUAaa-----	59	1,0	


```

-----CCCAGUGUUUAGACUAUCUGUU-----
-----4 0,-1
-----CCCAGUGUUUAGACUAUCUGUUC-----
-----4 0,0
-----GUACAGUAGUCUGCACAU
UGGUa-----2 -2,-2
-----GUACAGUAGUCUGCACAU
UGGUU-----2 -2,-1
-----UACAGUAGUCUGCACAU
U-----35 -1,-5
-----UACAGUAGUCUGCACAU
UG-----97 -1,-4
-----UACAGUAGUCUGCACAU
UGuu-----4 -1,-4
-----UACAGUAGUCUGCACAU
UGG-----204 -1,-3
-----UACAGUAGUCUGCACAU
UGGa-----3 -1,-3
-----UACAGUAGUCUGCACAU
UGGaa-----6 -1,-3
-----UACAGUAGUCUGCACAU
UGGau-----12 -1,-3
-----UACAGUAGUCUGCACAU
UGGU-----1038 -1,-2
-----UACAGUAGUCUGCACAU
UGGUa-----514 -1,-2
-----UACAGUAGUCUGCACAU
UGGUaa-----205 -1,-2
-----UACAGUAGUCUGCACAU
UGGUau-----190 -1,-2
-----UACAGUAGUCUGCACAU
UGGUU-----10820 -1,-1
-----UACAGUAGUCUGCACAU
UGGUUu-----1446 -1,-1
-----UACAGUAGUCUGCACAU
UGGUUuu-----38 -1,-1
-----UACAGUAGUCUGCACAU
UGGUUA-----2450 -1,0

```

-----	UACAGUAGUCUGCACAU
UGGUUAa----- 48 -1,0	-----
-----	UACAGUAGUCUGCACAU
UGGUUAu----- 122 -1,0	-----
-----	UACAGUAGUCUGCACAU
UGGUUAG----- 3 -1,1	-----
-----	ACAGUAGUCUGCACAU
UG----- 573 0,-4	-----
-----	ACAGUAGUCUGCACAU
UGa----- 3 0,-4	-----
-----	ACAGUAGUCUGCACAU
UGaa----- 5 0,-4	-----
-----	ACAGUAGUCUGCACAU
UGu----- 19 0,-4	-----
-----	ACAGUAGUCUGCACAU
UGuu----- 22 0,-4	-----
-----	ACAGUAGUCUGCACAU
UGG----- 1723 0,-3	-----
-----	ACAGUAGUCUGCACAU
UGGa----- 23 0,-3	-----
-----	ACAGUAGUCUGCACAU
UGGaa----- 23 0,-3	-----
-----	ACAGUAGUCUGCACAU
UGGau----- 144 0,-3	-----
-----	ACAGUAGUCUGCACAU
UGGU----- 4796 0,-2	-----
-----	ACAGUAGUCUGCACAU
UGGUa----- 1687 0,-2	-----
-----	ACAGUAGUCUGCACAU
UGGUaa----- 1026 0,-2	-----
-----	ACAGUAGUCUGCACAU
UGGUau----- 380 0,-2	-----
-----	ACAGUAGUCUGCACAU
UGGUU----- 82083 0,-1	-----
-----	ACAGUAGUCUGCACAU
UGGUUu----- 9770 0,-1	-----
-----	ACAGUAGUCUGCACAU
UGGUUuu----- 367 0,-1	

UGGUUA	48692	0,0	-ACAGUAGUCUGCACAU
UGGUUAa	4920	0,0	-ACAGUAGUCUGCACAU
UGGUUAaa	81	0,0	-ACAGUAGUCUGCACAU
UGGUUAau	41	0,0	-ACAGUAGUCUGCACAU
UGGUUAu	2103	0,0	-ACAGUAGUCUGCACAU
UGGUUAuu	47	0,0	-ACAGUAGUCUGCACAU
UGGUUAG	60	0,1	-ACAGUAGUCUGCACAU
UGGUUAGu	3	0,1	-CAGUAGUCUGCACAU
UGG	220	1,-3	-CAGUAGUCUGCACAU
UGGa	3	1,-3	-CAGUAGUCUGCACAU
UGGaa	5	1,-3	-CAGUAGUCUGCACAU
UGGau	9	1,-3	-CAGUAGUCUGCACAU
UGGU	790	1,-2	-CAGUAGUCUGCACAU
UGGUa	231	1,-2	-CAGUAGUCUGCACAU
UGGUaa	139	1,-2	-CAGUAGUCUGCACAU
UGGUau	36	1,-2	-CAGUAGUCUGCACAU
UGGUU	13794	1,-1	-CAGUAGUCUGCACAU
UGGUUu	1889	1,-1	-CAGUAGUCUGCACAU
UGGUUuu	109	1,-1	-CAGUAGUCUGCACAU

-----	-----	-----	-----	-----CAGUAGUCUGCACAU
UGGUUA-----	15413	1,0	-----	-----CAGUAGUCUGCACAU
UGGUUAa-----	1734	1,0	-----	-----CAGUAGUCUGCACAU
UGGUUAaa-----	59	1,0	-----	-----CAGUAGUCUGCACAU
UGGUUAau-----	24	1,0	-----	-----CAGUAGUCUGCACAU
UGGUUAu-----	720	1,0	-----	-----CAGUAGUCUGCACAU
UGGUUAuu-----	13	1,0	-----	-----CAGUAGUCUGCACAU
UGGUUAG-----	32	1,1	-----	-----AGUAGUCUGCACAU
UGGU-----	11	2,-2	-----	-----AGUAGUCUGCACAU
UGGUa-----	2	2,-2	-----	-----AGUAGUCUGCACAU
UGGUaa-----	2	2,-2	-----	-----AGUAGUCUGCACAU
UGGUau-----	2	2,-2	-----	-----AGUAGUCUGCACAU
UGGUU-----	290	2,-1	-----	-----AGUAGUCUGCACAU
UGGUUu-----	24	2,-1	-----	-----AGUAGUCUGCACAU
UGGUUA-----	298	2,0	-----	-----AGUAGUCUGCACAU
UGGUUAa-----	41	2,0	-----	-----AGUAGUCUGCACAU
UGGUUAaa-----	2	2,0	-----	-----AGUAGUCUGCACAU
UGGUUAu-----	18	2,0	-----	-----AGUAGUCUGCACAU

>hsa-mir-19a mi:14-35;MA:49-71 SRX018964
gcaguccucuguuAGUUUUGCAUAGUUGCACUACAagaagaanguaguUGUGCAAAUCUAUGCAAAACUGAugguggccu
gc

-----UGUGCAAAUCCAUGCAAAA
CUGA----- 12 0,0

```
>hsa-mi r-200a    mi:16-37;MA:54-75    SRX018964
```

ccggggccccugugagCAUCUUACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaa
ggugacccgc

-----CAUCUUACCGGACAGUGCU-----

----- 2 0, -3

-----UAACACUGUCUGGUAACG-----

----- 5 0, -4

-----UAACACUGUCUGGUAACGA-----

----- 12 0, -3

-----UAACACUGUCUGGUAACGAU-----

----- 220 0, -2

-----UAACACUGUCUGGUAACGAUG-----

----- 74 0, -1

-----UAACACUGUCUGGUAACGAUGa-----

----- 18 0, -1

-----UAACACUGUCUGGUAACGAUGaa-----

----- 9 0, -1

-----UAACACUGUCUGGUAACGAUGU-----

----- 59 0,0

-----UAACACUGUCUGGUAACGAUGU_a-----

----- 19 0,0

-----UAACACUGUCUGGUAACGAUGU_{aa}-----

----- 4 0,0

-----UAACACUGUCUGGUAACGAUGUU-----

----- 187 0,1

-----UAACACUGUCUGGUAACGAUGUUa-----

----- 12 0,1

-----UAACACUGUCUGGUAACGAUGUUaa-----

$$- - - - - 2 \quad 0,1$$

-----UAACACUGUCUGGUAACGAUGUuau-----

----- 2 0,1

-----UAACACUGUCUGGUAACGAUGUUu-----

----- 87 0,1


```

-----AUCUUACUGGGCAGCAUUGGA-----
----- 9 1,0
-----AUCUUACUGGGCAGCAUUGGAa-----
----- 2 1,0
-----AUCUUACUGGGCAGCAUUGGAaa-----
----- 2 1,0
-----UAAUACUGCCUGGUA AUG-----
----- 9 0,-4
-----UAAUACUGCCUGGUA AUGA-----
----- 23 0,-3
-----UAAUACUGCCUGGUA AUGAU-----
----- 34 0,-2
-----UAAUACUGCCUGGUA AUGAUa-----
----- 6 0,-2
-----UAAUACUGCCUGGUA AUGAUG-----
----- 73 0,-1
-----UAAUACUGCCUGGUA AUGAUGu-----
----- 14 0,-1
-----UAAUACUGCCUGGUA AUGAUGuu-----
----- 3 0,-1
-----UAAUACUGCCUGGUA AUGAUGA-----
----- 286 0,0
-----UAAUACUGCCUGGUA AUGAUGAa-----
----- 33 0,0
-----UAAUACUGCCUGGUA AUGAUGAaa
----- 4 0,0
-----UAAUACUGCCUGGUA AUGAUGAau
----- 3 0,0
-----UAAUACUGCCUGGUA AUGAUGAu-----
----- 14 0,0
-----UAAUACUGCCUGGUA AUGAUGAC-----
----- 149 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
----- 97 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
a----- 2 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
u----- 7 0,1

```



```

-----UAAUACUGCCUGGUA AUGAUGACu
----- 105 0,1
-----UAAUACUGCCUGGUA AUGAUGACu
u----- 3 0,1
-----UAAUACUGCCUGGUA AUGAUGACG
----- 3 0,2
-----AAUACUGCCUGGUA AUGAUGA--
----- 2 1,0
-----AAUACUGCCUGGUA AUGAUGAC-
----- 9 1,1
-----AAUACUGCCUGGUA AUGAUGACa
----- 23 1,1
-----AAUACUGCCUGGUA AUGAUGACu
----- 47 1,1
-----AUACUGCCUGGUA AUGAUGA--
----- 7 2,0
-----AUACUGCCUGGUA AUGAUGAC-
----- 36 2,1
-----AUACUGCCUGGUA AUGAUGACa
----- 9 2,1
-----AUACUGCCUGGUA AUGAUGACa
u----- 6 2,1
-----AUACUGCCUGGUA AUGAUGACu
----- 58 2,1
-----AUACUGCCUGGUA AUGAUGACu
u----- 30 2,1
-----AUACUGCCUGGUA AUGAUGACG
----- 2 2,2
-----AUACUGCCUGGUA AUGAUGACG
u----- 4 2,2
-----AUACUGCCUGGUA AUGAUGACG
G----- 6 2,3

```

>hsa-mir-200c mi:5-26;MA:44-66 SRX018964

```

cccuCGUCUUACCCAGCAGUGUUUGGgugcggguugggagucucUAAUACUGCCGGGUA AUGAUGGAgg
((..(((((((((((.(((((((.(((.(.....)))))).)))))).))))).))))..))

```

```

-----UAAUACUGCCGGGUA AUGA----- 2 0,-4
-----UAAUACUGCCGGGUA AUGAUG---- 3 0,-2

```

```

-----UAAUACUGCCGGGUAAUGAUGG--- 25 0,-1
-----UAAUACUGCCGGGUAAUGAUGGu-- 2 0,-1
-----UAAUACUGCCGGGUAAUGAUGGA-- 14 0,0
-----UAAUACUGCCGGGUAAUGAUGGAa- 2 0,0

```

>hsa-mir-203 3p:65-86 SRX018964

guguuggggacucgcgcgcuggguccagugguucuaacaguucaacaguucuguagcgcaauuGUGAAAUGUUUAGGAC
CACUAGacccggcgggcgcgacagcga

```

((((((..((.(((.((((((((((.((((((((((.((((((.((((((.((((((.....).))))))))).))))).))))).
))))).))))))))).))))).)))).)))).

```

```

-----UGUGAAAUGUUUAGGAC
CAC----- 2 -1,-3
-----UGUGAAAUGUUUAGGAC
CACU----- 2 -1,-2
-----UGUGAAAUGUUUAGGAC
CACUAG----- 4 -1,0
-----GUGAAAUGUUUAGGAC
CACU----- 6 0,-2
-----GUGAAAUGUUUAGGAC
CACUA----- 7 0,-1
-----GUGAAAUGUUUAGGAC
CACUAG----- 49 0,0
-----GUGAAAUGUUUAGGAC
CACUAGu----- 4 0,0
-----GUGAAAUGUUUAGGAC
CACUAGA----- 11 0,1
-----UGAAAUGUUUAGGAC
CACU----- 3 1,-2
-----UGAAAUGUUUAGGAC
CACUA----- 3 1,-1
-----UGAAAUGUUUAGGAC
CACUAG----- 9 1,0
-----UGAAAUGUUUAGGAC
CACUAGu----- 16 1,0
-----UGAAAUGUUUAGGAC
CACUAGA----- 4 1,1

```

>hsa-mir-204 5p:33-54 SRX018964

.....(((((((...((((.((((((((((.((((.((((.....))))))))))..)))))..)))).

>hsa-mi r-206 3p:53-74 SRX018964
ugcuucccgaggccacaugcuucuuuauauccccaauaggauuacuuugcuaUGGAAUGUAAGGAAGUGUGUGGnuucgg
caagug

```
>hsa-mir-20a      MA:8-30;mi:44-65      SRX018964  
guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuaguuaucuACUGCAUUAUGAGCACUUAAAGGacugc  
((((.((((.()))))))))(((((.((((.....)).)))))))))(((((.((((.....)).)))))))))..))).))))
```

-----UAAAGUGCUUAUAGUGCA-----	8	0,-5
-----UAAAGUGCUUAUAGUGCAG-----	28	0,-4
-----UAAAGUGCUUAUAGUGCAGG-----	15	0,-3
-----UAAAGUGCUUAUAGUGCAGGU-----	29	0,-2
-----UAAAGUGCUUAUAGUGCAGGUA-----	86	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAa-----	18	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAu-----	43	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG-----	48	0,0
-----UAAAGUGCUUAUAGUGCAGGUAGU-----	5	0,1
-----ACUGCAUUAUGAGCACUU-----	2	0,-4

```

>hsa-mir-20b    MA:6-28;mi:44-65    SRX018964
aguacCAAAGUGCUCAUAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGCACUUCCAGuacu
(((((((((.....)))))))).))))))....)))))
-----ACUGUAGUAUGGGCACUUCCAGUu--    3    0,1

>hsa-mir-21 MA:8-29;mi:46-66    SRX018964
ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca
(((((((((.....)))))))).))))))....)))))
-----GUAGCUUAUCAGACUGAUG-----    2
    -1,-4
-----GUAGCUUAUCAGACUGAUGU-----    3
    -1,-3
-----GUAGCUUAUCAGACUGAUGUU-----    13
    -1,-2
-----GUAGCUUAUCAGACUGAUGUUG-----    16
    -1,-1
-----GUAGCUUAUCAGACUGAUGUUGA-----    19
    -1,0
-----GUAGCUUAUCAGACUGAUGUUGAC-----    7
    -1,1
-----GUAGCUUAUCAGACUGAUGUUGACU-----    3
    -1,2
-----UAGCUUAUCAGACUGAUG-----    371
    0,-4
-----UAGCUUAUCAGACUGAUGau-----    3
    0,-4
-----UAGCUUAUCAGACUGAUGU-----    1632
    0,-3
-----UAGCUUAUCAGACUGAUGUa-----    30
    0,-3
-----UAGCUUAUCAGACUGAUGUaa-----    19
    0,-3
-----UAGCUUAUCAGACUGAUGUau-----    2
    0,-3
-----UAGCUUAUCAGACUGAUGUU-----
13209    0,-2
-----UAGCUUAUCAGACUGAUGUUa-----    121

```

0, -2		
-----UAGCUUAUCAGACUGAUGUaa-----	6	
0, -2		
-----UAGCUUAUCAGACUGAUGUu-----	22	
0, -2		
-----UAGCUUAUCAGACUGAUGUUG-----		
23842 0, -1		
-----UAGCUUAUCAGACUGAUGUUGu-----	53	
0, -1		
-----UAGCUUAUCAGACUGAUGUUGA-----	8941	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAa-----	441	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAaa-----	34	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAau-----	2	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAu-----	20	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAC-----	2640	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACa-----	1872	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACaa-----	6	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACau-----	6	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACU-----	1000	
0,2		
-----AGCUUAUCAGACUGAUGU-----	5	
1, -3		
-----AGCUUAUCAGACUGAUGUU-----	35	
1, -2		
-----AGCUUAUCAGACUGAUGUUG-----	80	
1, -1		
-----AGCUUAUCAGACUGAUGUUGu-----	5	
1, -1		
-----AGCUUAUCAGACUGAUGUUGA-----	86	

1,0	-----AGCUUAUCAGACUGAUGUUGAa-----	7
1,0	-----AGCUUAUCAGACUGAUGUUGAC-----	55
1,1	-----AGCUUAUCAGACUGAUGUUGACa-----	60
1,1	-----AGCUUAUCAGACUGAUGUUGACU-----	9
1,2	-----GCUUAUCAGACUGAUGUU-----	18
2,-2	-----GCUUAUCAGACUGAUGUUG-----	65
2,-1	-----GCUUAUCAGACUGAUGUUGA-----	23
2,0	-----GCUUAUCAGACUGAUGUUGAC-----	11
2,1	-----GCUUAUCAGACUGAUGUUGACa-----	2
2,1	-----GCUUAUCAGACUGAUGUUGACU-----	3
2,2	-----GCUUAUCAGACUGAUGUUGACUa-----	3
2,2	-----CAACACCAGUCGAUGGGC-----	41
0,-3	-----CAACACCAGUCGAUGGGCU-----	319
0,-2	-----CAACACCAGUCGAUGGGCUG-----	139
0,-1	-----CAACACCAGUCGAUGGGCUGU-----	209
0,0	-----CAACACCAGUCGAUGGGCUGUa-----	7
0,0	-----CAACACCAGUCGAUGGGCUGUaa-----	182
0,0	-----CAACACCAGUCGAUGGGCUGUau-----	60
0,0	-----CAACACCAGUCGAUGGGCUGUu-----	5

0,0	-----CAACACCAGUCGAUGGGCUGUuu-----	25
0,0	-----CAACACCAGUCGAUGGGCUGUC-----	558
0,1	-----CAACACCAGUCGAUGGGCUGUCa-----	261
0,1	-----CAACACCAGUCGAUGGGCUGUCaa---	7
0,1	-----CAACACCAGUCGAUGGGCUGUCau---	24
0,1	-----CAACACCAGUCGAUGGGCUGUCU-----	275
0,2	-----CAACACCAGUCGAUGGGCUGUCUa---	4
0,2	-----CAACACCAGUCGAUGGGCUGUCUu---	21
0,2	-----CAACACCAGUCGAUGGGCUGUCUuu--	15
0,2	-----AACACCAGUCGAUGGGCU-----	7
1,-2	-----AACACCAGUCGAUGGGCUGUaa---	3
1,0	-----AACACCAGUCGAUGGGCUGUC-----	2
1,1	-----AACACCAGUCGAUGGGCUGUCa-----	9
1,1	-----AACACCAGUCGAUGGGCUGUCU-----	32
1,2	-----AACACCAGUCGAUGGGCUGUCUu---	5
1,2	-----AACACCAGUCGAUGGGCUGUCUuu--	4
1,2	-----ACACCAGUCGAUGGGCUGUCU-----	2
2,2		

>hsa-mir-210 3p:66-87 SRX018964

acccggcagugccuccaggcgcagggcagccccugcccaccgcacacugcgcugccccagacccaCUGUGCGUGUGACAG

$$\begin{aligned} & \dots((\dots(((\dots(((((((((\dots(((((((((\dots(((((((((\dots(((((((((\dots \\ & \dots)))))))))\dots))))))\dots))))). \end{aligned}$$

```
>hsa-mir-211      5p:26-47      SRX018964
ucaccuggccaugugacuugugggcUCCCCUUGUCAUCCUUCGCCUagggcucugagcagggcagggacagcaaagggg
ugcucaguugucacuuccacagcacggag
((..(((.....((((((...((((((..(((((((..((((((...((.....)).))))))))))..))))))))))
```



```
.))))))...))))). ....))))). ....)).
-----UUCCCUUUGUCAUCCUUCGCCU-----
----- 3 0,0
```

>hsa-mir-2110 5p:8-29 SRX018964

```
cagggguUUGGGGAAACGGCCGCUGAGUGaggcgucggcuguguuucucaccgcgguuuuccucccacucuug
(((((((...(((((((.(((((((((((.(((.(((.....))))).)).))))).)))))))).)))))))).)))))))).
-----UUGGGGAAACGGCCGCUGA----- 4
0,-3
-----UUGGGGAAACGGCCGCUGAG----- 18
0,-2
-----UUGGGGAAACGGCCGCUGAGU----- 15
0,-1
-----UUGGGGAAACGGCCGCUGAGUa----- 2
0,-1
-----UUGGGGAAACGGCCGCUGAGUu----- 2
0,-1
-----UUGGGGAAACGGCCGCUGAGUG----- 64
0,0
-----UUGGGGAAACGGCCGCUGAGUGu----- 30
0,0
-----UUGGGGAAACGGCCGCUGAGUGuu----- 2
0,0
-----UUGGGGAAACGGCCGCUGAGUGA----- 90
0,1
-----UUGGGGAAACGGCCGCUGAGUGAu----- 5
0,1
-----UUGGGGAAACGGCCGCUGAGUGAG----- 14
0,2
-----UUGGGGAAACGGCCGCUGAGUGAGu----- 6
0,2
-----UGGGGAAACGGCCGCUGAGUG----- 2
1,0
-----GGGGAAACGGCCGCUGAGUGA----- 2
2,1
```

>hsa-mir-2116 MA:14-34;mi:51-71 SRX018964

```
gaccuaggcuaggGGUUCUUAAGCAUAGGAGGUCUucccaugcuaagaaguCCUCCCAUGCCAAGAACUCCcagacuagga
```


CAGACAGG-----	24	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGa-----	7	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGaa-----	2	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGC-----	5	-1,-3	
-----			-UACAGCAGGCA
CAGACAGGCA-----	49	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAa-----	82	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAaa-----	9	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAau-----	17	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAu-----	56	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAuu-----	12	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAG-----	18	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGa-----	44	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGaa-----	4	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGau-----	4	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGU-----	91	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUa-----	6	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUau-----	2	-1,0	
-----			-UACAGCAGGCA
CAGACAGGCAGUu-----	2	-1,0	
-----			-ACAGCAGGCA
CAGACAGG-----	40	0,-4	
-----			-ACAGCAGGCA

CAGACAGGaa-----	3	0,-4	
-----			ACAGCAGGCA
CAGACAGGu-----	2	0,-4	
-----			ACAGCAGGCA
CAGACAGGC-----	6	0,-3	
-----			ACAGCAGGCA
CAGACAGGCA-----	80	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAa-----	71	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAaa-----	24	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAau-----	12	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAu-----	33	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAuu-----	5	0,-2	
-----			ACAGCAGGCA
CAGACAGGCAG-----	85	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGa-----	86	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGaa-----	18	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGau-----	3	0,-1	
-----			ACAGCAGGCA
CAGACAGGCAGU-----	173	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUa-----	79	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUaa-----	3	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUau-----	22	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUu-----	10	0,0	
-----			ACAGCAGGCA
CAGACAGGCAGUuu-----	3	0,0	


```

>hsa-mir-219-1 5p:21-41;3p:62-83 SRX018964
ccgccccgggcccgcggcuccUGAUUGUCCAAACGCAAUUCcgagucuauggcuccggccgAGAGUUGAGUCUGGACGUC
CCGagccgcccgcaccccaaccucgagcggg
((((((((((((.....)))))))))))).))))))
.....))))).
-----UGAUUGUCCAAACGCAAUU-----
----- 2 0,-2
-----UGAUUGUCCAAACGCAAUUC-----
----- 2 0,-1
-----UGAUUGUCCAAACGCAAUUCUC-----
----- 2 0,1
-----UGAUUGUCCAAACGCAAUUCUG-----
----- 3 0,2
-----AGAGUUGAGUCUGGACGUC
CCG----- 2 0,0
-----AGAGUUGAGUCUGGACGUC
CCGu----- 3 0,0

```

```

>hsa-mir-219-2 5p:19-39;3p:62-83 SRX018964
acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCUguuacgagucugcgccaaccgAGAAUUGUGGCUGGACAUC
UGUggcugagcuccggg
((((((((((((.....)))))))))))).))))))
.....))))).
-----UGAUUGUCCAAACGCAAUU-----
----- 2 0,-2
-----UGAUUGUCCAAACGCAAUUC-----
----- 2 0,-1

```

```

>hsa-mir-22 mi:15-36;MA:53-74 SRX018964
ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc
((((((((((((.....)))))))))))).))))))
.....))))).
-----AGUUCUUCAGUGGCAAGC-----
----- 2 0,-4
-----AGUUCUUCAGUGGCAAGCU-----
----- 6 0,-3
-----AGUUCUUCAGUGGCAAGCU-----

```

```

----- 16 0,-2
-----AGUUCUUCAGUGGCAAGCUUU-----
----- 327 0,-1
-----AGUUCUUCAGUGGCAAGCUUUu-----
----- 14 0,-1
-----AGUUCUUCAGUGGCAAGCUUUA-----
----- 283 0,0
-----AGUUCUUCAGUGGCAAGCUUUAa-----
----- 12 0,0
-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 34 0,1
-----GUUCUUCAGUGGCAAGCUUUA-----
----- 2 1,0
-----UUCUUCAGUGGCAAGCUUUA-----
----- 2 2,0
-----AAAGCUGCCAGUUGAAGAACU-----
----- 3 -1,-2
-----AAGCUGCCAGUUGAAGAA-----
----- 857 0,-4
-----AAGCUGCCAGUUGAAGAAa-----
----- 5 0,-4
-----AAGCUGCCAGUUGAAGAAau-----
----- 5 0,-4
-----AAGCUGCCAGUUGAAGAAu-----
----- 3 0,-4
-----AAGCUGCCAGUUGAAGAAuu-----
----- 22 0,-4
-----AAGCUGCCAGUUGAAGAAC-----
----- 498 0,-3
-----AAGCUGCCAGUUGAAGAACa-----
----- 251 0,-3
-----AAGCUGCCAGUUGAAGAACaa-----
----- 34 0,-3
-----AAGCUGCCAGUUGAAGAACau-----
----- 11 0,-3
-----AAGCUGCCAGUUGAAGAACU-----
----- 2940 0,-2
-----AAGCUGCCAGUUGAAGAACUa-----

```


-----	64	0,-2	-----AAGCUGCCAGUUGAAGAACUaa-----
-----	42	0,-2	-----AAGCUGCCAGUUGAAGAACUau-----
-----	23	0,-2	-----AAGCUGCCAGUUGAAGAACUu-----
-----	36	0,-2	-----AAGCUGCCAGUUGAAGAACUuu-----
-----	42	0,-2	-----AAGCUGCCAGUUGAAGAACUG-----
-----	308	0,-1	-----AAGCUGCCAGUUGAAGAACUGa-----
-----	36	0,-1	-----AAGCUGCCAGUUGAAGAACUGaa-----
-----	3	0,-1	-----AAGCUGCCAGUUGAAGAACUGU-----
-----	2420	0,0	-----AAGCUGCCAGUUGAAGAACUGUa-----
-----	61	0,0	-----AAGCUGCCAGUUGAAGAACUGUaa-----
-----	19	0,0	-----AAGCUGCCAGUUGAAGAACUGUau-----
-----	27	0,0	-----AAGCUGCCAGUUGAAGAACUGUU-----
-----	91	0,1	-----AAGCUGCCAGUUGAAGAACUGUUa-----
-----	7	0,1	-----AAGCUGCCAGUUGAAGAACUGUUau-----
-----	2	0,1	-----AAGCUGCCAGUUGAAGAACUGUUu-----
-----	54	0,1	-----AGCUGCCAGUUGAAGAAC-----
-----	5	1,-3	-----AGCUGCCAGUUGAAGAACU-----
-----	20	1,-2	-----AGCUGCCAGUUGAAGAACUG-----
-----	3	1,-1	-----AGCUGCCAGUUGAAGAACUGU-----

----- 21 1,0
-----AGCUGCCAGUUGAAGAACUGUa-----
----- 2 1,0
-----AGCUGCCAGUUGAAGAACUGUUu-----
----- 3 1,1
-----GCUGCCAGUUGAAGAACUG-----
----- 3 2,-1

>hsa-mir-221 mi:25-46;MA:65-87 SRX018964

ugaacauccaggucuggggcaugaACCUGGCAUACAAUGAUAUUcuguguucguuaggcaacAGCUACAUUGUCUGCU
GGGUUUCaggcuaaccuggaaacauguucuc

-----AACCUGGCAUACAAUGUAGAUU-----

----- 3 -1,-1

-----ACCUGGCAUACAAUGUAG-----

----- 8 0, -4

-----ACCUGGCAUACAAUGUAGA-----

----- 6 0,-3

-----ACCUGGCAUACAAUGUAGAU-----

----- 6 0,-2

-----ACCUGGCAUACAAUGUAGAUaa-----

----- 3 0,-2

-----ACCUGGCAUACAAUGUAGAUU-----

----- 58 0,-1

-----ACCUGGCAUACAAUGUAGAUUa-----

----- 4 0,-1

-----ACCUGGCAUACAAUGUAGAUUU-----

----- 170 0,0

-----ACCUGGCAUACAAUGUAGAUUUa-----

----- 2 0,0

-----ACCUGGCAUACAAUGUAGAUUUu-----

----- 2 0,0

-----ACCUGGCAUACAAUGUAGAUUUC-----

----- 48 0,1

-----ACCUGGCAUACAAUGUAGAUUUCa-----

$$----- \quad 2 \quad 0,1$$

-----ACCUGGCAUACAAUGUAGAUUUCU-----

-----	7	0,2	-----AGCUACAUUGUCUGCU
GG-----	9	0,-5	-----AGCUACAUUGUCUGCU
GGG-----	13	0,-4	-----AGCUACAUUGUCUGCU
GGGU-----	2	0,-3	-----AGCUACAUUGUCUGCU
GGGUau-----	15	0,-3	-----AGCUACAUUGUCUGCU
GGGUU-----	31	0,-2	-----AGCUACAUUGUCUGCU
GGGUUa-----	15	0,-2	-----AGCUACAUUGUCUGCU
GGGUUaa-----	11	0,-2	-----AGCUACAUUGUCUGCU
GGGUUau-----	20	0,-2	-----AGCUACAUUGUCUGCU
GGGUUU-----	218	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUa-----	26	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUaa-----	2	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUau-----	9	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUu-----	18	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUC-----	155	0,0	-----AGCUACAUUGUCUGCU
GGGUUUCA-----	5	0,1	-----GCUACAUUGUCUGCU
GGGUU-----	4	1,-2	-----GCUACAUUGUCUGCU
GGGUUa-----	3	1,-2	-----GCUACAUUGUCUGCU
GGGUUU-----	12	1,-1	-----GCUACAUUGUCUGCU

```

GGGUUUa----- 2 1,-1
-----GCUACAUUGUCUGCU
GGGUUUC----- 7 1,0

>hsa-mi r-222 mi:31-52;MA:69-89 SRX018964
gcugcuggaagguguagguaccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu
...((((((((((((.....((.(((.((((((((((((((((((((((((((((((((.....)))...))))).))))
))))))))).)).)).))))))))))))).
-----AGCUACAUCUGG
CUACUG----- 89 0,-3
-----AGCUACAUCUGG
CUACUGG----- 118 0,-2
-----AGCUACAUCUGG
CUACUGGG----- 189 0,-1
-----AGCUACAUCUGG
CUACUGGGa----- 2 0,-1
-----AGCUACAUCUGG
CUACUGGGU----- 215 0,0
-----AGCUACAUCUGG
CUACUGGGUa----- 12 0,0
-----AGCUACAUCUGG
CUACUGGGUaa----- 21 0,0
-----AGCUACAUCUGG
CUACUGGGUau----- 15 0,0
-----AGCUACAUCUGG
CUACUGGGUu----- 14 0,0
-----AGCUACAUCUGG
CUACUGGGUC----- 772 0,1
-----AGCUACAUCUGG
CUACUGGGUCa----- 9 0,1
-----AGCUACAUCUGG
CUACUGGGUCau----- 2 0,1
-----AGCUACAUCUGG
CUACUGGGUCU----- 735 0,2
-----AGCUACAUCUGG
CUACUGGGUCUa----- 6 0,2
-----AGCUACAUCUGG

```

CUACUGGGUCUau-----	6	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUu-----	10	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUC-----	222	0,3	
-----			-AGCUACAUCUGG
CUACUGGGUCUCa-----	9	0,3	
-----			-AGCUACAUCUGG
CUACUGGGUCUCU-----	27	0,4	
-----			-GCUACAUCUGG
CUACUGG-----	2	1,-2	
-----			-GCUACAUCUGG
CUACUGGGUC-----	8	1,1	
-----			-GCUACAUCUGG
CUACUGGGUCU-----	6	1,2	
-----			-GCUACAUCUGG
CUACUGGGUCUC-----	7	1,3	

>hsa-mi r-223 mi:26-47;MA:68-89 SRX018964

ccuggccuccugcagugccacgcucCGUGUAUUUGACAAGCUGAGUUggacacuccaugugguagagUGUCAGUUUGUCA			
AAUACCCCAagugcggcacaugcuuaccag			
.((((.....(((((((.((((..(.(((((((((((((((((.....(((((((.....))))))))))))))))))))))			
))))).).))))).))))).))))).))))).))))))			
-----			-UGUCAGUUUGUCA
AAUAC-----	4	0,-4	
-----			-UGUCAGUUUGUCA
AAUACC-----	9	0,-3	
-----			-UGUCAGUUUGUCA
AAUACCC-----	5	0,-2	
-----			-UGUCAGUUUGUCA
AAUACCCC-----	31	0,-1	
-----			-UGUCAGUUUGUCA
AAUACCCCA-----	31	0,0	
-----			-UGUCAGUUUGUCA
AAUACCCCAu-----	40	0,0	
-----			-UGUCAGUUUGUCA
AAUACCCCAA-----	33	0,1	
-----			-UGUCAGUUUGUCA

AAUACCCCAa-----	2	0,1	
-----			-UGUCAGUUUGUCA
AAUACCCCAu-----	21	0,1	
-----			-GUCAGUUUGUCA
AAUACC-----	2	1,-3	
-----			-GUCAGUUUGUCA
AAUACCC-----	6	1,-2	
-----			-GUCAGUUUGUCA
AAUACCCC-----	13	1,-1	
-----			-GUCAGUUUGUCA
AAUACCCCA-----	15	1,0	
-----			-GUCAGUUUGUCA
AAUACCCCAu-----	7	1,0	
-----			-GUCAGUUUGUCA
AAUACCCCAA-----	29	1,1	
-----			-GUCAGUUUGUCA
AAUACCCCAa-----	2	1,1	
-----			-GUCAGUUUGUCA
AAUACCCCAu-----	5	1,1	

>hsa-mi r-224 MA:8-28;mi:53-75 SRX018964

gggcuuuCAAGUCACUAGUGGUUCCGUUuaguagaugauugugcauuguuucAAAAUGGUGCCCUAGUGACUACAaagcc
c

((((((((..(((((((((((((.((((((..((((((.....)))..))))).)))))).))))))..))))))
)

-----CAAGUCACUAGUGGUUCCG-----	
- 2 0,-2	
-----CAAGUCACUAGUGGUUCCGUUU-----	
- 38 0,1	
-----CAAGUCACUAGUGGUUCCGUUUu-----	
- 4 0,1	
-----CAAGUCACUAGUGGUUCCGUUUA-----	
- 8 0,2	
-----CAAGUCACUAGUGGUUCCGUUUAG-----	
- 34 0,3	
-----	-AAAUGGUGCCCUAGUGACUA-----
- 2 1,-2	
-----	-AAAUGGUGCCCUAGUGACUACA-----

-1,0	-----AAUCACAUUGCCAGGGAUUUCCA-----	10
-1,1	-----AUCACAUUGCCAGGGGAUU-----	116
0,-3	-----AUCACAUUGCCAGGGGAUUU-----	633
0,-2	-----AUCACAUUGCCAGGGGAUUUa-----	174
0,-2	-----AUCACAUUGCCAGGGGAUUUaa-----	26
0,-2	-----AUCACAUUGCCAGGGGAUUUau-----	2
0,-2	-----AUCACAUUGCCAGGGGAUUUu-----	63
0,-2	-----AUCACAUUGCCAGGGGAUUUC-----	854
0,-1	-----AUCACAUUGCCAGGGGAUUUCa-----	180
0,-1	-----AUCACAUUGCCAGGGGAUUUCaa-----	6
0,-1	-----AUCACAUUGCCAGGGGAUUUCu-----	18
0,-1	-----AUCACAUUGCCAGGGGAUUUCC-----	1001
0,0	-----AUCACAUUGCCAGGGGAUUUCCu-----	6
0,0	-----AUCACAUUGCCAGGGGAUUUCCA-----	2521
0,1	-----AUCACAUUGCCAGGGGAUUUCCAu-----	204
0,1	-----AUCACAUUGCCAGGGGAUUUCCAuu-----	3
0,1	-----AUCACAUUGCCAGGGGAUUUCCAA-----	221
0,2	-----AUCACAUUGCCAGGGGAUUUCCAAa-----	5
0,2	-----AUCACAUUGCCAGGGGAUUUCCAAu-----	23

0,2	-----UCACAUUGCCAGGGAUUUa-----	4
1,-2	-----UCACAUUGCCAGGGAUUUC-----	5
1,-1	-----UCACAUUGCCAGGGAUUUCa-----	2
1,-1	-----UCACAUUGCCAGGGAUUUCC-----	6
1,0	-----UCACAUUGCCAGGGAUUUCCA-----	9
1,1	-----UCACAUUGCCAGGGAUUUCCAu-----	2
1,1		

>hsa-mi r-23b mi:20-41;MA:58-78 SRX018964

cucaggugcucuggcugcuUGGGUCCUGGCAUGCUGAUUugugacuuaagauuaaaAUCACAUGCCAGGGAUUACCac
gcaaccacgaccuuggc

$$.(((((.(((((.(((.(((((((((((((((((.(((((.)))))))).))))) .)))))))).)))).$$

UUGGGU	UCCUGGCAUGCUGA	
2	-1,-3	
UUGGGU	UCCUGGCAUGCUGAU	
18	-1,-2	
UUGGGU	UCCUGGCAUGCUGAUU	
23	-1,-1	
UUGGGU	UCCUGGCAUGCUGAUUa	
3	-1,-1	
UUGGGU	UCCUGGCAUGCUGAUUU	
17	-1,0	
UGGGU	UCCUGGCAUGCUG	
9	0,-4	
UGGGU	UCCUGGCAUGCUGA	
6	0,-3	
UGGGU	UCCUGGCAUGCUGAU	
42	0,-2	
UGGGU	UCCUGGCAUGCUGAUa	
14	0,-2	
UGGGU	UCCUGGCAUGCUGAUaa	

```

----- 2 0,-2
-----UGGGUUCCUGGCAUGCUGAUU-----
----- 100 0,-1
-----UGGGUUCCUGGCAUGCUGAUUa-----
----- 9 0,-1
-----UGGGUUCCUGGCAUGCUGAUUaa-----
----- 2 0,-1
-----UGGGUUCCUGGCAUGCUGAUUau-----
----- 2 0,-1
-----UGGGUUCCUGGCAUGCUGAUUU-----
----- 515 0,0
-----UGGGUUCCUGGCAUGCUGAUUUa-----
----- 53 0,0
-----UGGGUUCCUGGCAUGCUGAUUUaa-----
----- 2 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
----- 46 0,0
-----GGGUUCCUGGCAUGCUGAU-----
----- 32 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
----- 62 1,-1
-----GGGUUCCUGGCAUGCUGAUUa-----
----- 3 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
----- 289 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
----- 20 1,0
-----GGGUUCCUGGCAUGCUGAUUUaa-----
----- 6 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----
----- 20 1,0
-----GGGUUCCUGGCAUGCUGAUUUUG-----
----- 3 1,1
-----GGGUUCCUGGCAUGCUGAUUUUGU-----
----- 3 1,2
-----GGGUUCCUGGCAUGCUGAUUUUGUG-----
----- 2 1,3
-----AAUCACAUUGCCAGGGAUUA-----

```

-----	2	-1,-2	-----AAUCACAUUGCCAGGGAUUAa---
-----	2	-1,-2	-----AAUCACAUUGCCAGGGAUUAC---
-----	2	-1,-1	-----AAUCACAUUGCCAGGGAUUACa---
-----	2	-1,-1	-----AAUCACAUUGCCAGGGAUUACC---
-----	5	-1,0	-----AAUCACAUUGCCAGGGAUUACCA-
-----	7	-1,1	-----AAUCACAUUGCCAGGGAUUACCAC
-----	2	-1,2	-----AUCACAUUGCCAGGGAUU-----
-----	116	0,-3	-----AUCACAUUGCCAGGGAUUA-----
-----	335	0,-2	-----AUCACAUUGCCAGGGAUUAa---
-----	109	0,-2	-----AUCACAUUGCCAGGGAUUAaa---
-----	12	0,-2	-----AUCACAUUGCCAGGGAUUAu---
-----	60	0,-2	-----AUCACAUUGCCAGGGAUUAuu---
-----	4	0,-2	-----AUCACAUUGCCAGGGAUUAC---
-----	496	0,-1	-----AUCACAUUGCCAGGGAUUACa---
-----	181	0,-1	-----AUCACAUUGCCAGGGAUUACaa-
-----	3	0,-1	-----AUCACAUUGCCAGGGAUUACau-
-----	2	0,-1	-----AUCACAUUGCCAGGGAUUACu---
-----	26	0,-1	-----AUCACAUUGCCAGGGAUUACuu-
-----	3	0,-1	-----AUCACAUUGCCAGGGAUUACC---

-----	1017	0,0	-----AUCACAUUGCCAGGGAUUACCu-----
-----	26	0,0	-----AUCACAUUGCCAGGGAUUACCu-----
-----	3	0,0	-----AUCACAUUGCCAGGGAUUACCA-----
-----	3292	0,1	-----AUCACAUUGCCAGGGAUUACCAa-----
-----	74	0,1	-----AUCACAUUGCCAGGGAUUACCAa-----
a-----	2	0,1	-----AUCACAUUGCCAGGGAUUACCAa-----
u-----	4	0,1	-----AUCACAUUGCCAGGGAUUACCAu-----
-----	456	0,1	-----AUCACAUUGCCAGGGAUUACCAu-----
u-----	86	0,1	-----AUCACAUUGCCAGGGAUUACCAC-----
-----	646	0,2	-----AUCACAUUGCCAGGGAUUACCAC-----
a-----	151	0,2	-----AUCACAUUGCCAGGGAUUACCAC-----
au-----	5	0,2	-----AUCACAUUGCCAGGGAUUACCAC-----
u-----	1276	0,2	-----AUCACAUUGCCAGGGAUUACCAC-----
uu-----	12	0,2	-----AUCACAUUGCCAGGGAUUACCAC-----
G-----	11	0,3	-----AUCACAUUGCCAGGGAUUACCAC-----
Gu-----	2	0,3	-----UCACAUUGCCAGGGAUUA-----
-----	2	1,-2	-----UCACAUUGCCAGGGAUUAa-----
-----	5	1,-2	-----UCACAUUGCCAGGGAUUAaa-----
-----	2	1,-2	-----UCACAUUGCCAGGGAUUAC-----

AUUACCa----- 7 0,-1

>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018964

```
cuccggUGCCUACUGAGCUGAUUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag
(((((((((.(((((((((((((.((((((((((((((((((((((((((((((((((((((((
-----GUGCCUACUGAGCUGAUUC----- 5
-1,-3
-----GUGCCUACUGAGCUGAUUCA----- 21
-1,-2
-----GUGCCUACUGAGCUGAUUCAG----- 5
-1,-1
-----UGCCUACUGAGCUGAUUCA----- 4 0,-2
-----CUGGCUCAGUUCAGCAGGAACAGu-- 3 -1,0
-----UGGCUCAGUUCAGCAGGA----- 29 0,-4
-----UGGCUCAGUUCAGCAGGAA----- 72 0,-3
-----UGGCUCAGUUCAGCAGGAaA----- 16 0,-3
-----UGGCUCAGUUCAGCAGGAaAu----- 5 0,-3
-----UGGCUCAGUUCAGCAGGAAC----- 107 0,-2
-----UGGCUCAGUUCAGCAGGAACu----- 3 0,-2
-----UGGCUCAGUUCAGCAGGAACA----- 235 0,-1
-----UGGCUCAGUUCAGCAGGAACAa----- 58 0,-1
-----UGGCUCAGUUCAGCAGGAACAaa----- 6 0,-1
-----UGGCUCAGUUCAGCAGGAACAau----- 4 0,-1
-----UGGCUCAGUUCAGCAGGAACAu----- 35 0,-1
-----UGGCUCAGUUCAGCAGGAACAuu----- 10 0,-1
-----UGGCUCAGUUCAGCAGGAACAG--- 1337
0,0
-----UGGCUCAGUUCAGCAGGAACAGa-- 47 0,0
-----UGGCUCAGUUCAGCAGGAACAGaa-- 3 0,0
-----UGGCUCAGUUCAGCAGGAACAGau-- 8 0,0
-----UGGCUCAGUUCAGCAGGAACAGu-- 2418
0,0
-----UGGCUCAGUUCAGCAGGAACAGuu-- 448 0,0
-----UGGCUCAGUUCAGCAGGAACAGG-- 2 0,1
-----UGGCUCAGUUCAGCAGGAACAGGu-- 2 0,1
-----GGCUCAGUUCAGCAGGAACA----- 9 1,-1
-----GGCUCAGUUCAGCAGGAACAa----- 2 1,-1
-----GGCUCAGUUCAGCAGGAACAG--- 36 1,0
```

-----GGCUCAGUUCAGCAGGAACAGa--	2	1,0
-----GGCUCAGUUCAGCAGGAACAGu--	64	1,0
-----GGCUCAGUUCAGCAGGAACAGuu-	16	1,0
-----GCUCAGUUCAGCAGGAACAG---	4	2,0
-----GCUCAGUUCAGCAGGAACAGa--	7	2,0
-----GCUCAGUUCAGCAGGAACAGu--	21	2,0
-----GCUCAGUUCAGCAGGAACAGuu-	9	2,0
-----GCUCAGUUCAGCAGGAACAGG--	4	2,1
-----GCUCAGUUCAGCAGGAACAGGA-	3	2,2

>hsa-mir-24-2 mi:13-34;MA:50-71 SRX018964

cucugccucccgUGCCUACUGAGCUGAAACACAGuugguuuguguacacUGGCUCAGUUCAGCAGGAACAGgg (((((((((...(((((((((((((...)))))))))...)))))))))...)))))))))		
-----GUGCCUACUGAGCUGAAACAC-----	14	
-1,-2		
-----GUGCCUACUGAGCUGAAACACA-----	6	
-1,-1		
-----GUGCCUACUGAGCUGAAACACAG-----	8	
-1,0		
-----GUGCCUACUGAGCUGAAACACAGU-----	3	
-1,1		
-----CUGGCUCAGUUCAGCAGGAACAGu-----	3	
-1,0		
-----UGGCUCAGUUCAGCAGGA-----	29	
0,-4		
-----UGGCUCAGUUCAGCAGGAA-----	72	
0,-3		
-----UGGCUCAGUUCAGCAGGAAa-----	16	
0,-3		
-----UGGCUCAGUUCAGCAGGAAu-----	5	
0,-3		
-----UGGCUCAGUUCAGCAGGAAC-----	107	
0,-2		
-----UGGCUCAGUUCAGCAGGAACu-----	3	
0,-2		
-----UGGCUCAGUUCAGCAGGAACA-----	235	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAa-----	58	

0, -1	-----UGGCUCAGUUCAGCAGGAACAaa-	6
0, -1	-----UGGCUCAGUUCAGCAGGAACAau-	4
0, -1	-----UGGCUCAGUUCAGCAGGAACAu--	35
0, -1	-----UGGCUCAGUUCAGCAGGAACAuu-	10
0, -1	-----UGGCUCAGUUCAGCAGGAACAG--	1337
0,0	-----UGGCUCAGUUCAGCAGGAACAGa-	47
0,0	-----UGGCUCAGUUCAGCAGGAACAGaa	3
0,0	-----UGGCUCAGUUCAGCAGGAACAGau	8
0,0	-----UGGCUCAGUUCAGCAGGAACAGu-	2418
0,0	-----UGGCUCAGUUCAGCAGGAACAGuu	448
0,0	-----UGGCUCAGUUCAGCAGGAACAGG-	2
0,1	-----UGGCUCAGUUCAGCAGGAACAGGu	2
0,1	-----GGCUCAGUUCAGCAGGAACA---	9
1, -1	-----GGCUCAGUUCAGCAGGAACAa--	2
1, -1	-----GGCUCAGUUCAGCAGGAACAG--	36
1,0	-----GGCUCAGUUCAGCAGGAACAGa-	2
1,0	-----GGCUCAGUUCAGCAGGAACAGu-	64
1,0	-----GGCUCAGUUCAGCAGGAACAGuu	16
1,0	-----GCUCAGUUCAGCAGGAACAG--	4

2,0	-----GCUCAGUUCAGCAGGAACAGa-	7
2,0	-----GCUCAGUUCAGCAGGAACAGu-	21
2,0	-----GCUCAGUUCAGCAGGAACAGuu	9
2,0	-----GCUCAGUUCAGCAGGAACAGG-	4
2,1		

>hsa-mir-25 mi:14-34;MA:52-73 SRX018964

ggccaguguugagAGGCGGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc

(((((.(.(((.((((.((((.((((.((((.(.....))..)))))))).)..))))).)))..)).
)))

-----AGGCGGAGACUUGGGCAAUU-----	
---- 3 0,-1	
-----AGGCGGAGACUUGGGCAAUUG-----	
---- 13 0,0	
-----AGGCGGAGACUUGGGCAAUUGu-----	
---- 3 0,0	
-----AGGCGGAGACUUGGGCAAUUGC-----	
---- 31 0,1	
-----AGGCGGAGACUUGGGCAAUUGCU-----	
---- 117 0,2	
-----AGGCGGAGACUUGGGCAAUUGCUa-----	
---- 3 0,2	
-----AGGCGGAGACUUGGGCAAUUGCUu-----	
---- 6 0,2	
-----CAUUGCACUUGUCUCGGU-----	
---- 547 0,-4	
-----CAUUGCACUUGUCUCGGUaa-----	
---- 2 0,-4	
-----CAUUGCACUUGUCUCGGUC-----	
---- 740 0,-3	
-----CAUUGCACUUGUCUCGGUCa-----	
---- 2 0,-3	
-----CAUUGCACUUGUCUCGGUCU-----	

```

----      761  0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
----      638  0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
----      147  0,-1
-----CAUUGCACUUGUCUCGGUCUGuu-----
----         6   0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
----     1599    0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----
----      26   0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
----      12   0,0
-----AUUGCACUUGUCUCGGUC-----
----         8   1,-3
-----AUUGCACUUGUCUCGGUCU-----
----      26   1,-2
-----AUUGCACUUGUCUCGGUCUG-----
----      29   1,-1
-----AUUGCACUUGUCUCGGUCUGu-----
----         3   1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
----      56   1,0

```

>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018964

```

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.(((((((.(((((((((.(((((((((.((.....))...)))))))))).)))))))).)))))))).)))
-----UUCAAGUAAUCCAGGAUA-----
      165  0,-4
-----UUCAAGUAAUCCAGGAUAa-----
      30   0,-4
-----UUCAAGUAAUCCAGGAUAu-----
         6   0,-4
-----UUCAAGUAAUCCAGGAUAG-----
      857  0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
         3   0,-3
-----UUCAAGUAAUCCAGGAUAGG-----

```

2297 0, -2
-----UUCAAGUAAUCCAGGAUAGGa-----
39 0, -2
-----UUCAAGUAAUCCAGGAUAGGaa-----
20 0, -2
-----UUCAAGUAAUCCAGGAUAGGau-----
5 0, -2
-----UUCAAGUAAUCCAGGAUAGGu-----
41 0, -2
-----UUCAAGUAAUCCAGGAUAGGuu-----
28 0, -2
-----UUCAAGUAAUCCAGGAUAGGC-----
3495 0, -1
-----UUCAAGUAAUCCAGGAUAGGCa-----
1438 0, -1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
480 0, -1
-----UUCAAGUAAUCCAGGAUAGGCau-----
275 0, -1
-----UUCAAGUAAUCCAGGAUAGGCU-----
15495 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
1079 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
180 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
856 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
606 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
3093 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
9 0, 2
-----UCAAGUAAUCCAGGAUAG-----
23 1, -3
-----UCAAGUAAUCCAGGAUAGG-----
36 1, -2
-----UCAAGUAAUCCAGGAUAGGC-----

))))

```
-----UUCAAGUAAUCCAGGAUA-----
---- 165 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 30 0,-4
-----UUCAAGUAAUCCAGGAUAu-----
---- 6 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 857 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
---- 3 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 2297 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 39 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 20 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
---- 5 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 41 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 28 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
---- 3495 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 1438 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 480 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 275 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 15495 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
---- 1079 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
---- 180 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
```

```

----      856 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
----      606 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
----      3093 0,0
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
----      9 0,2
-----UCAAGUAAUCCAGGAUAG-----
----      23 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
----      36 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
----      52 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
----      33 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
----      12 1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
----      7 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
----      264 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
----      16 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
----      5 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
----      24 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
----      15 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
----      21 1,0
-----CAAGUAAUCCAGGAUAGGC-----
----      8 2,-1
-----CAAGUAAUCCAGGAUAGGCa-----
----      3 2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
----      30 2,0
-----CAAGUAAUCCAGGAUAGGCUa-----

```

```
----      3      2,0
-----CAAGUAAUCCAGGAUAGGCUau-----
----      2      2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
----      4      2,0
```

>hsa-mir-26b MA:12-32;mi:47-68 SRX018964

```
ccgggaccagUUCAAGUAAUUCAGGAUAGGUgugugucguccagCCUGUUCUCAUACUUGGCUCggggaccgg
((((..((((((.(((((((..(((((((((((. ....)))))))))))).)))))))).))))))
```

```
-----UUCAAGUAAUUCAGGAUA-----
39  0,-3
-----UUCAAGUAAUUCAGGAUAa-----
5   0,-3
-----UUCAAGUAAUUCAGGAUAG-----
152 0,-2
-----UUCAAGUAAUUCAGGAUAGG-----
633 0,-1
-----UUCAAGUAAUUCAGGAUAGGa-----
10  0,-1
-----UUCAAGUAAUUCAGGAUAGGaa-----
5   0,-1
-----UUCAAGUAAUUCAGGAUAGGau-----
10  0,-1
-----UUCAAGUAAUUCAGGAUAGGU-----
1534  0,0
-----UUCAAGUAAUUCAGGAUAGGUa-----
725 0,0
-----UUCAAGUAAUUCAGGAUAGGUaa-----
463 0,0
-----UUCAAGUAAUUCAGGAUAGGUau-----
213 0,0
-----UUCAAGUAAUUCAGGAUAGGUU-----
8299  0,1
-----UUCAAGUAAUUCAGGAUAGGUUa-----
649 0,1
-----UUCAAGUAAUUCAGGAUAGGUUaa-----
23  0,1
-----UUCAAGUAAUUCAGGAUAGGUUau-----
```

9 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUu-----
 996 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUuu-----
 7 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUG-----
 33 0,2
 -----UUCAAGUAAUUCAGGAUAGGUUGa-----
 5 0,2
 -----UUCAAGUAAUUCAGGAUAGGUUGU-----
 4 0,3
 -----UCAAGUAAUUCAGGAUAG-----
 3 1,-2
 -----UCAAGUAAUUCAGGAUAGG-----
 7 1,-1
 -----UCAAGUAAUUCAGGAUAGGU-----
 10 1,0
 -----UCAAGUAAUUCAGGAUAGGUa-----
 2 1,0
 -----UCAAGUAAUUCAGGAUAGGUaa-----
 6 1,0
 -----UCAAGUAAUUCAGGAUAGGUau-----
 5 1,0
 -----UCAAGUAAUUCAGGAUAGGUU-----
 81 1,1
 -----UCAAGUAAUUCAGGAUAGGUUa-----
 7 1,1
 -----UCAAGUAAUUCAGGAUAGGUUu-----
 20 1,1
 -----UCAAGUAAUUCAGGAUAGGUUG-----
 3 1,2
 -----CAAGUAAUUCAGGAUAGGU-----
 4 2,0
 -----CAAGUAAUUCAGGAUAGGUa-----
 2 2,0
 -----CAAGUAAUUCAGGAUAGGUU-----
 20 2,1
 -----CAAGUAAUUCAGGAUAGGUUa-----


```

      8   0,-1
-----UUCACAGUGGCUAAGUUCCGau-----
      2   0,-1
-----UUCACAGUGGCUAAGUUCCGu-----
     110  0,-1
-----UUCACAGUGGCUAAGUUCCGuu-----
      8   0,-1
-----UUCACAGUGGCUAAGUUCCGC-----
      70  0,0
-----UUCACAGUGGCUAAGUUCCGCa-----
      2   0,0
-----UUCACAGUGGCUAAGUUCCGCaa-----
      9   0,0
-----UUCACAGUGGCUAAGUUCCGCau-----
      5   0,0
-----UCACAGUGGCUAAGUUCC-----
      2   1,-2
-----UCACAGUGGCUAAGUUCCG-----
      9   1,-1

```

>hsa-mir-27b mi:19-40;MA:61-81 SRX018964

accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug

(((((.....((((((((((((((((.....((((((((.....((.....))))..))))))))))..)))))))))))))
))))..))))..))))).

```

-----CAGAGCUUAGCUGAUUGGUGA-----
-----      2   -1,-2
-----CAGAGCUUAGCUGAUUGGUGAA-----
-----      6   -1,-1
-----AGAGCUUAGCUGAUUGGU-----
-----      4   0,-4
-----AGAGCUUAGCUGAUUGGUG-----
-----     25  0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
-----    177  0,-2
-----AGAGCUUAGCUGAUUGGUGAA-----
-----    352  0,-1
-----AGAGCUUAGCUGAUUGGUGAAa-----

```

```

----- 3 0,-1
-----AGAGCUUAGCUGAUUGGUGAAC-----
----- 19 0,0
-----AGAGCUUAGCUGAUUGGUGAACA-----
----- 14 0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
----- 5 0,2
-----UGUUCACAGUGGCUAAGUUC--
----- 2 -2,-3
-----GUUCACAGUGGCUAAGUU---
----- 18 -1,-4
-----GUUCACAGUGGCUAAGUUC--
----- 118 -1,-3
-----GUUCACAGUGGCUAAGUUCU-
----- 14 -1,-2
-----GUUCACAGUGGCUAAGUUCUG
CA----- 2 -1,1
-----UUCACAGUGGCUAAGUUC--
----- 29237 0,-3
-----UUCACAGUGGCUAAGUUCa-
----- 43 0,-3
-----UUCACAGUGGCUAAGUUCaa
----- 17 0,-3
-----UUCACAGUGGCUAAGUUCU-
----- 6100 0,-2
-----UUCACAGUGGCUAAGUUCUa
----- 36 0,-2
-----UUCACAGUGGCUAAGUUCUa
a----- 20 0,-2
-----UUCACAGUGGCUAAGUUCUa
u----- 3 0,-2
-----UUCACAGUGGCUAAGUUCUu
----- 23 0,-2
-----UUCACAGUGGCUAAGUUCUG
----- 176 0,-1
-----UUCACAGUGGCUAAGUUCUG
a----- 23 0,-1
-----UUCACAGUGGCUAAGUUCUG

```

aa-----	48	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
au-----	2	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
u-----	6	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
uu-----	8	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
C-----	296	0,0	
-----			-UUCACAGUGGCUAAGUUCUG
Cu-----	14	0,0	
-----			-UUCACAGUGGCUAAGUUCUG
Cuu-----	5	0,0	
-----			-UUCACAGUGGCUAAGUUCUG
CA-----	193	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAa-----	91	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAau-----	5	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAu-----	116	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAuu-----	4	0,1	
-----			-UCACAGUGGCUAAGUUCU-
-----	33	1,-2	
-----			-UCACAGUGGCUAAGUUCUG
CA-----	3	1,1	
-----			-UCACAGUGGCUAAGUUCUG
CAa-----	3	1,1	
-----			-UCACAGUGGCUAAGUUCUG
CAu-----	5	1,1	
-----			-CACAGUGGCUAAGUUCUG
CAuu-----	2	2,1	

>hsa-mir-28 5p:14-35;3p:54-75 SRX018964

gguccuugcccucAAGGAGCUCACAGUCAUUGAGUuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggcaggcacu

(((.(((((((((.(((((((((((((((((.((((((((.....))))).))))).))))).))))).))))))

)).)))

```
-----CAAGGAGCUCACAGUCUAUUG-----
----- 2   -1,-2
-----CAAGGAGCUCACAGUCUAUUGA-----
----- 4   -1,-1
-----AAGGAGCUCACAGUCUAU-----
----- 2   0,-4
-----AAGGAGCUCACAGUCUAU-----
----- 10  0,-3
-----AAGGAGCUCACAGUCUAUa-----
----- 2   0,-3
-----AAGGAGCUCACAGUCUAUUG-----
----- 83  0,-2
-----AAGGAGCUCACAGUCUAUUGu-----
----- 2   0,-2
-----AAGGAGCUCACAGUCUAUUGA-----
----- 135 0,-1
-----AAGGAGCUCACAGUCUAUUGAa-----
----- 8   0,-1
-----AAGGAGCUCACAGUCUAUUGAaa-----
----- 7   0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 111 0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 25  0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 8   0,1
-----AGGAGCUCACAGUCUAUUGAGa-----
----- 2   1,0
-----CCACUAGAUUGUGAGCUCCUGG-----
----- 5   -1,-1
-----CACUAGAUUGUGAGCUCC-----
----- 6   0,-4
-----CACUAGAUUGUGAGCUCCU-----
----- 3   0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 8   0,-2
-----CACUAGAUUGUGAGCUCCUGa-----
```

----- 4 0,-2	-----CACUAGAUUGUGAGCUCCUGaa-----
----- 2 0,-2	-----CACUAGAUUGUGAGCUCCUGG-----
----- 178 0,-1	-----CACUAGAUUGUGAGCUCCUGGu-----
----- 6 0,-1	-----CACUAGAUUGUGAGCUCCUGGuu-----
----- 3 0,-1	-----CACUAGAUUGUGAGCUCCUGGA-----
----- 1562 0,0	-----CACUAGAUUGUGAGCUCCUGGAa-----
----- 621 0,0	-----CACUAGAUUGUGAGCUCCUGGAaa-----
----- 53 0,0	-----CACUAGAUUGUGAGCUCCUGGAau-----
----- 18 0,0	-----CACUAGAUUGUGAGCUCCUGGAu-----
----- 24 0,0	-----CACUAGAUUGUGAGCUCCUGGAuu-----
----- 4 0,0	-----CACUAGAUUGUGAGCUCCUGGAG-----
----- 14 0,1	-----CACUAGAUUGUGAGCUCCUGGAGa-----
----- 8 0,1	-----CACUAGAUUGUGAGCUCCUGGAGu-----
----- 2 0,1	-----ACUAGAUUGUGAGCUCCUGaa-----
----- 2 1,-2	-----ACUAGAUUGUGAGCUCCUGGA-----
----- 45 1,0	-----ACUAGAUUGUGAGCUCCUGGAa-----
----- 26 1,0	-----ACUAGAUUGUGAGCUCCUGGAaa-----
----- 6 1,0	-----ACUAGAUUGUGAGCUCCUGGAG-----
----- 15 1,1	-----ACUAGAUUGUGAGCUCCUGGAGa-----

```

----- 14 1,1
-----ACUAGAUUGUGAGCUCCUGGAGaa--
----- 2 1,1
-----CUAGAUUGUGAGCUCCUGGA-----
----- 2 2,0
-----CUAGAUUGUGAGCUCCUGGAG----
----- 10 2,1
-----CUAGAUUGUGAGCUCCUGGAGa---
----- 6 2,1
-----CUAGAUUGUGAGCUCCUGGAGaa--
----- 5 2,1
-----CUAGAUUGUGAGCUCCUGGAGu---
----- 4 2,1

```

>hsa-mir-299 5p:7-28;3p:39-60 SRX018964

```

aagaaaUGGUUUACCGUCCCACAUACAUuuugaauaugUAUGUGGGAUGGUAAACCGCUUcuu
(((((((((.....)))))))))))))))))
-----AUGGUUUACCGUCCCACAUAC----- 2 -1,-2
-----AUGGUUUACCGUCCCACAUACA----- 6 -1,-1
-----UGGUUUACCGUCCCACAUAC----- 3 0,-2
-----UGGUUUACCGUCCCACAUACA----- 3 0,-1
-----UGGUUUACCGUCCCACAUACAU----- 7 0,0
-----UAUGUGGGAUGGUAAACC----- 3 0,-4
-----UAUGUGGGAUGGUAAACCGCUU--- 4 0,0

```

>hsa-mir-29a mi:4-25;MA:42-63 SRX018964

```

augACUGAUUUCUUUUGGUGUUCAGagucaauauauuuuucUAGCACCAUCUGAAAUCGGUUAu
((((((((((...(((((((.....)))))))))))))))))
---ACUGAUUUCUUUUGGUGUUCA----- 12 0,-1
---ACUGAUUUCUUUUGGUGUUCAGA----- 5 0,1
-----CUAGCACCAUCUGAAAUC----- 3 -1,-5
-----CUAGCACCAUCUGAAAUCa----- 4 -1,-5
-----CUAGCACCAUCUGAAAUCG----- 6 -1,-4
-----CUAGCACCAUCUGAAAUCGG----- 49 -1,-3
-----CUAGCACCAUCUGAAAUCGGa--- 2 -1,-3
-----CUAGCACCAUCUGAAAUCGGU--- 107 -1,-2
-----CUAGCACCAUCUGAAAUCGGUa-- 24 -1,-2
-----CUAGCACCAUCUGAAAUCGGUaa- 14 -1,-2

```

-----CUAGCACCAUCUGAAAUCGGUU--	857	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUu-	138	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUuu	3	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUA-	525	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAa	13	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAU	20	-1,1
-----UAGCACCAUCUGAAAUCG----	169	0,-4
-----UAGCACCAUCUGAAAUCGaa---	2	0,-4
-----UAGCACCAUCUGAAAUCGuu---	10	0,-4
-----UAGCACCAUCUGAAAUCGG----	829	0,-3
-----UAGCACCAUCUGAAAUCGGa---	5	0,-3
-----UAGCACCAUCUGAAAUCGGaa---	7	0,-3
-----UAGCACCAUCUGAAAUCGGau---	15	0,-3
-----UAGCACCAUCUGAAAUCGGU---	1250	0,-2
-----UAGCACCAUCUGAAAUCGGUa---	219	0,-2
-----UAGCACCAUCUGAAAUCGGUaa---	613	0,-2
-----UAGCACCAUCUGAAAUCGGUau---	69	0,-2
-----UAGCACCAUCUGAAAUCGGUU--	18075	0,-1
-----UAGCACCAUCUGAAAUCGGUUu-	4519	0,-1
-----UAGCACCAUCUGAAAUCGGUUuu	94	0,-1
-----UAGCACCAUCUGAAAUCGGUUA-	55813	0,0
-----UAGCACCAUCUGAAAUCGGUUAa	1313	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	17	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	4	0,0
-----UAGCACCAUCUGAAAUCGGUUAU	1047	0,1
-----UAGCACCAUCUGAAAUCGGUUAUa	3	0,1
-----UAGCACCAUCUGAAAUCGGUUAUu	5	0,1
-----AGCACCAUCUGAAAUCGG----	10	1,-3
-----AGCACCAUCUGAAAUCGGU---	12	1,-2
-----AGCACCAUCUGAAAUCGGUaa---	5	1,-2
-----AGCACCAUCUGAAAUCGGUU--	168	1,-1
-----AGCACCAUCUGAAAUCGGUUu-	50	1,-1
-----AGCACCAUCUGAAAUCGGUUA-	690	1,0
-----AGCACCAUCUGAAAUCGGUUAa	12	1,0
-----AGCACCAUCUGAAAUCGGUUAU	12	1,1
-----GCACCAUCUGAAAUCGGU---	2	2,-2
-----GCACCAUCUGAAAUCGGUU--	20	2,-1
-----GCACCAUCUGAAAUCGGUUu-	11	2,-1

- 2 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 281 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 10 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 90 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 38 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 71 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 2 0,0
-----AGCACCAUUUGAAAUCAGU-----
- 12 1,-3
-----AGCACCAUUUGAAAUCAGUG-----
- 5 1,-2
-----GCACCAUUUGAAAUCAGU-----
- 2 2,-3

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018964

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g

(((((((((((((((((((((((.(((((((((.((((((.....)))))))))))))).))))))))))
))

-----GCUGGUUUCACAUGGUGGCUUAG-----
- 3 -1,0
-----CUGGUUUCACAUGGUGGCUUA-----
- 3 0,-1
-----CUGGUUUCACAUGGUGGCUUAG-----
- 2 0,0
-----CUGGUUUCACAUGGUGGCUUAGA-----
- 2 0,1
-----CUAGCACCAUUUGAAAUCA-----
- 2 -1,-5
-----CUAGCACCAUUUGAAAUCAG-----
- 2 -1,-4
-----CUAGCACCAUUUGAAAUCAGU-----

- 6 -1,-3	-----CUAGCACCAUUUGAAAUCAGUu-----
- 2 -1,-3	-----CUAGCACCAUUUGAAAUCAGUG-----
- 6 -1,-2	-----CUAGCACCAUUUGAAAUCAGUGa-----
- 3 -1,-2	-----CUAGCACCAUUUGAAAUCAGUGU-----
- 2 -1,-1	-----UAGCACCAUUUGAAAUCA-----
- 24 0,-5	-----UAGCACCAUUUGAAAUCAG-----
- 116 0,-4	-----UAGCACCAUUUGAAAUCAGU-----
- 1478 0,-3	-----UAGCACCAUUUGAAAUCAGUa-----
- 2 0,-3	-----UAGCACCAUUUGAAAUCAGUaa-----
- 2 0,-3	-----UAGCACCAUUUGAAAUCAGUu-----
- 2 0,-3	-----UAGCACCAUUUGAAAUCAGUG-----
- 281 0,-2	-----UAGCACCAUUUGAAAUCAGUGa-----
- 10 0,-2	-----UAGCACCAUUUGAAAUCAGUGU-----
- 90 0,-1	-----UAGCACCAUUUGAAAUCAGUGUa-----
- 38 0,-1	-----UAGCACCAUUUGAAAUCAGUGUU-----
- 71 0,0	-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 2 0,0	-----UAGCACCAUUUGAAAUCAGUGUUU-----
- 12 0,1	-----AGCACCAUUUGAAAUCAGU-----
- 12 1,-3	-----AGCACCAUUUGAAAUCAGUG-----

- 5 1,-2
-----GCACCAUUUGAAAUCAGU-----
- 2 2,-3

>hsa-mir-29c mi:16-37;MA:54-75 SRX018964

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

.((((((((((((...((((((((((((...((((((((((((...))))))...))))))...)))))))).))
)))))).

-----UGACCGAUUUCUCCUGGUGU-----

----- 11 0,-2

-----UGACCGAUUUCUCCUGGUGUU-----

----- 35 0,-1

-----UGACCGAUUUCUCCUGGUGUUa-----

----- 6 0,-1

-----UGACCGAUUUCUCCUGGUGUUu-----

----- 3 0,-1

-----UGACCGAUUUCUCCUGGUGUUC-----

----- 4 0,0

-----UGACCGAUUUCUCCUGGUGUUCA-----

----- 2 0,1

-----GACCGAUUUCUCCUGGUGUU-----

----- 14 1,-1

-----GACCGAUUUCUCCUGGUGUU_a-----

----- 6 1,-1

-----GACCGAUUUCUCCUGGUGUUC-----

----- 4 1,0

-----GACCGAUUUCUCCUGGUGUUCA-----

----- 8 1,1

-----ACCGAUUUCUCCUGGUGUUCA-----

----- 3 2,1

-----ACCGAUUCUCCUGGUGUUCAG-----

----- 13 2,2

-----ACCGAUUUCUCCUGGUGUUCAGA-----

----- 8 2,3

-----CUAGCACCAUUUGAAAUCGGUU-----

----- 5 -1,-1

-----CUAGCACCAUUUGAAAUCGGUUA-----

-----	23	-1,0	-----UAGCACCAUUUGAAAUCG-----
-----	87	0,-4	-----UAGCACCAUUUGAAAUCGa-----
-----	2	0,-4	-----UAGCACCAUUUGAAAUCGuu-----
-----	2	0,-4	-----UAGCACCAUUUGAAAUCGG-----
-----	283	0,-3	-----UAGCACCAUUUGAAAUCGGa-----
-----	8	0,-3	-----UAGCACCAUUUGAAAUCGGaa-----
-----	4	0,-3	-----UAGCACCAUUUGAAAUCGGU-----
-----	182	0,-2	-----UAGCACCAUUUGAAAUCGGUa-----
-----	13	0,-2	-----UAGCACCAUUUGAAAUCGGUaa-----
-----	76	0,-2	-----UAGCACCAUUUGAAAUCGGUau-----
-----	5	0,-2	-----UAGCACCAUUUGAAAUCGGUU-----
-----	1123	0,-1	-----UAGCACCAUUUGAAAUCGGUUu-----
-----	646	0,-1	-----UAGCACCAUUUGAAAUCGGUUuu-----
-----	32	0,-1	-----UAGCACCAUUUGAAAUCGGUUA-----
-----	12141	0,0	-----UAGCACCAUUUGAAAUCGGUUAa-----
-----	218	0,0	-----UAGCACCAUUUGAAAUCGGUUUAU-----
-----	102	0,1	-----UAGCACCAUUUGAAAUCGGUUUAUu-----
-----	4	0,1	-----AGCACCAUUUGAAAUCGGUU-----
-----	6	1,-1	-----AGCACCAUUUGAAAUCGGUUu-----

```

-----      2      1,-1
-----AGCACCAUUUGAAAUCGGUUA-----
-----      80      1,0
-----GCACCAUUUGAAAUCGGUUu-----
-----      2      2,-1
-----GCACCAUUUGAAAUCGGUUA-----
-----      16      2,0
-----GCACCAUUUGAAAUCGGUUAUu---
-----      11      2,1

```

>hsa-mir-301a 3p:51-73 SRX018964

```

acugcuaacgaaugcucugacuuuauugcacuacuguacuuaacagcuagCAGUGCAAUAGUAUUGUCAAAAGCaucugaa
agcagg
.((((((..(((.(((((((((.(((((((((((.((((((...))))).))))).))))).))))).))))).
))))).
-----GCUCUGACUUUAUUGCACUACU-----
-----      3

```

>hsa-mir-3065 5p:10-32;3p:50-72 SRX018964

```

cugccucucuUCAACAAAAUCACUGAUGCUGGAgucgccugagucaucacUCAGCACCAGGAUAUUGUUGGAGaggacag
(((.(((((((((((.(((((((((.(((((((((((.((((((...))))).))))).))))).))))).))))).
-----UCAACAAAAUCACUGAUGC-----
      2      0,-4
-----UCAACAAAAUCACUGAUGCU-----
      13      0,-3
-----UCAACAAAAUCACUGAUGCUG-----
      5      0,-2
-----UCAACAAAAUCACUGAUGCUGG-----
      5      0,-1
-----UCAACAAAAUCACUGAUGCUGGA-----
      7      0,0
-----AACAAAAUCACUGAUGCUGGAG-----
      3      2,1
-----UCAGCACCAGGAUAUUGU-----
      2      0,-5
-----UCAGCACCAGGAUAUUGUUG-----
      2      0,-3
-----UCAGCACCAGGAUAUUGUUGGA-----

```

```

3    0,-1
-----UCAGCACCAGGAUAUUGUUGGAa-----
5    0,-1
-----UCAGCACCAGGAUAUUGUUGGAG-----
2    0,0

>hsa-mir-30a    MA:6-27;mi:47-68    SRX018964
gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc
(((.((((((((((((((..((((((((((((((((.....))).....)))))))))))))))))))))))).)))
----CUGUAAACAUCCUCGACUG----- 4
    -1,-4
----CUGUAAACAUCCUCGACUGGA----- 3
    -1,-2
----CUGUAAACAUCCUCGACUGGAA----- 8
    -1,-1
----CUGUAAACAUCCUCGACUGGAAa----- 9
    -1,-1
----CUGUAAACAUCCUCGACUGGAAG----- 27  -1,0
----CUGUAAACAUCCUCGACUGGAAGa----- 5   -1,0
----CUGUAAACAUCCUCGACUGGAAGC----- 57  -1,1
----CUGUAAACAUCCUCGACUGGAAGCa----- 4   -1,1
----CUGUAAACAUCCUCGACUGGAAGCU----- 52  -1,2
----UGUAAACAUCCUCGACUG----- 225  0,-4
----UGUAAACAUCCUCGACUGu----- 2    0,-4
----UGUAAACAUCCUCGACUGG----- 352  0,-3
----UGUAAACAUCCUCGACUGGu----- 13   0,-3
----UGUAAACAUCCUCGACUGGA----- 1167
    0,-2
----UGUAAACAUCCUCGACUGGAA----- 2099
    0,-1
----UGUAAACAUCCUCGACUGGAAa----- 795  0,-1
----UGUAAACAUCCUCGACUGGAAaa----- 50   0,-1
----UGUAAACAUCCUCGACUGGAAu----- 35   0,-1
----UGUAAACAUCCUCGACUGGAAG----- 8767
    0,0
----UGUAAACAUCCUCGACUGGAAGa----- 5053
    0,0
----UGUAAACAUCCUCGACUGGAAGaa----- 190  0,0

```

-----UGUAAACAUCCUCGACUGGAAGau-----	58	0,0
-----UGUAAACAUCCUCGACUGGAAGu-----	256	0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	9	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	15417	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCa-----	2146	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCaa-----	27	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	40	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	24468	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUa-----	139	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	848	0,2
-----UGUAAACAUCCUCGACUGGAAGCUG-----	3	0,3
-----GUAAACAUCCUCGACUGG-----	2	1,-3
-----GUAAACAUCCUCGACUGGA-----	3	1,-2
-----GUAAACAUCCUCGACUGGAA-----	8	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	121	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	15	1,0
-----GUAAACAUCCUCGACUGGAAGu-----	2	1,0
-----GUAAACAUCCUCGACUGGAAGC-----	140	1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	4	1,1
-----GUAAACAUCCUCGACUGGAAGCU-----	85	1,2
-----GUAAACAUCCUCGACUGGAAGCUa-----	4	1,2
-----UAAACAUCCUCGACUGGAAG-----	2	2,0
-----UAAACAUCCUCGACUGGAAGa-----	2	2,0
-----UAAACAUCCUCGACUGGAAGC-----	4	2,1
-----UAAACAUCCUCGACUGGAAGCU-----	4	2,2
-----CUUUCAGUCGGAUGUUUG-----	14	0,-4
-----CUUUCAGUCGGAUGUUUGa-----	2	0,-4
-----CUUUCAGUCGGAUGUUUUGC-----	6	0,-3
-----CUUUCAGUCGGAUGUUUGCA-----	25	0,-2
-----CUUUCAGUCGGAUGUUUGCAa-----	12	0,-2
-----CUUUCAGUCGGAUGUUUGCAaa-----	3	0,-2
-----CUUUCAGUCGGAUGUUUGCAu-----	6	0,-2
-----CUUUCAGUCGGAUGUUUGCAG-----	211	0,-1
-----CUUUCAGUCGGAUGUUUGCAGa-----	2	0,-1
-----CUUUCAGUCGGAUGUUUGCAGu-----	37	0,-1


```

-----CUUUCAGUCGGAUGUUUGCAGC--- 254 0,0
-----CUUUCAGUCGGAUGUUUGCAGCa-- 42 0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa- 3 0,0
-----CUUUCAGUCGGAUGUUUGCAGCau- 31 0,0
-----UUUCAGUCGGAUGUUUGC----- 3 1,-3
-----UUUCAGUCGGAUGUUUGCA----- 5 1,-2
-----UUUCAGUCGGAUGUUUGCAa---- 4 1,-2
-----UUUCAGUCGGAUGUUUGCAu---- 3 1,-2
-----UUUCAGUCGGAUGUUUGCAG---- 48 1,-1
-----UUUCAGUCGGAUGUUUGCAGu--- 34 1,-1
-----UUUCAGUCGGAUGUUUGCAGC--- 133 1,0
-----UUUCAGUCGGAUGUUUGCAGCa-- 14 1,0
-----UUUCAGUCGGAUGUUUGCAGCaa- 6 1,0
-----UUUCAGUCGGAUGUUUGCAGCau- 31 1,0
-----UUUCAGUCGGAUGUUUGCAGCU-- 6 1,1
-----UUCAGUCGGAUGUUUGCAG---- 2 2,-1
-----UUCAGUCGGAUGUUUGCAGC--- 2 2,0

```

>hsa-mir-30b MA:17-38;mi:55-76 SRX018964

accaaguucagucaUGUAAACAUCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
gacuugga

.((((((...((((((...((((((((((...((((((((((...)))))))).)))))))).)))))))).

```

-----UGUAAACAUCUACACUC-----
----- 81 0,-4
-----UGUAAACAUCUACACUCA-----
----- 6 0,-3
-----UGUAAACAUCUACACUCAG-----
----- 12 0,-2
-----UGUAAACAUCUACACUCAGC-----
----- 67 0,-1
-----UGUAAACAUCUACACUCAGCa-----
----- 16 0,-1
-----UGUAAACAUCUACACUCAGCaa-----
----- 3 0,-1
-----UGUAAACAUCUACACUCAGCau-----
----- 4 0,-1
-----UGUAAACAUCUACACUCAGCU-----

```

```

----- 493 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
----- 76 0,0
-----UGUAAACAUCCUACACUCAGCUaa-----
----- 2 0,0
-----UGUAAACAUCCUACACUCAGCUau-----
----- 10 0,0
-----UGUAAACAUCCUACACUCAGCUu-----
----- 31 0,0
-----UGUAAACAUCCUACACUCAGCUuu-----
----- 4 0,0
-----UGUAAACAUCCUACACUCAGCUG-----
----- 3 0,1
-----GUAAACAUCCUACACUCAGCU-----
----- 3 1,0
-----UAAACAUCCUACACUCAGCU-----
----- 2 2,0
-----CUGGGAGGUGGAUGUUUA-----
----- 8 0,-4
-----CUGGGAGGUGGAUGUUUAaa-----
----- 2 0,-4
-----CUGGGAGGUGGAUGUUUAu-----
----- 2 0,-4
-----CUGGGAGGUGGAUGUUUAC-----
----- 14 0,-3
-----CUGGGAGGUGGAUGUUUACa-----
----- 4 0,-3
-----CUGGGAGGUGGAUGUUUACU-----
----- 114 0,-2
-----CUGGGAGGUGGAUGUUUACUa-----
----- 8 0,-2
-----CUGGGAGGUGGAUGUUUACUaa-----
----- 8 0,-2
-----CUGGGAGGUGGAUGUUUACUau-----
----- 2 0,-2
-----CUGGGAGGUGGAUGUUUACUU-----
----- 239 0,-1
-----CUGGGAGGUGGAUGUUUACUUa-----

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```

----- 86 0,-2
-----UGUAAACAUCCUACACUCUCAG-----
----- 134 0,-1
-----UGUAAACAUCCUACACUCUCAGa-----
----- 35 0,-1
-----UGUAAACAUCCUACACUCUCAGaa-----
----- 6 0,-1
-----UGUAAACAUCCUACACUCUCAGu-----
----- 15 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 297 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 49 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 9 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 529 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 18 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 23 0,1
-----GUAAACAUCCUACACUCUCAGCU-----
----- 3 1,1
-----CUGGGAGAGGGUUGUUUA-----
----- 3 0,-4
-----CUGGGAGAGGGUUGUUUAC-----
----- 13 0,-3
-----CUGGGAGAGGGUUGUUUACa-----
----- 5 0,-3
-----CUGGGAGAGGGUUGUUUACaa-----
----- 2 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 228 0,-2
-----CUGGGAGAGGGUUGUUUACUa-----
----- 9 0,-2
-----CUGGGAGAGGGUUGUUUACUaa-----
----- 4 0,-2
-----CUGGGAGAGGGUUGUUUACUu-----

```

```

----- 3 0,-2
-----CUGGGAGAGGGUUGUUUACUC-----
----- 73 0,-1
-----CUGGGAGAGGGUUGUUUACUCa---
----- 5 0,-1
-----CUGGGAGAGGGUUGUUUACUCaa--
----- 3 0,-1
-----CUGGGAGAGGGUUGUUUACUCC---
----- 12 0,0
-----CUGGGAGAGGGUUGUUUACUCCa--
----- 5 0,0
-----CUGGGAGAGGGUUGUUUACUCCaa-
----- 2 0,0
-----CUGGGAGAGGGUUGUUUACUCCau-
----- 3 0,0
-----CUGGGAGAGGGUUGUUUACUCCU--
----- 11 0,1
-----UGGGAGAGGGUUGUUUACU-----
----- 39 1,-2
-----UGGGAGAGGGUUGUUUACUC-----
----- 14 1,-1
-----UGGGAGAGGGUUGUUUACUCC---
----- 7 1,0
-----UGGGAGAGGGUUGUUUACUCCa--
----- 2 1,0
-----UGGGAGAGGGUUGUUUACUCCau-
----- 3 1,0
-----UGGGAGAGGGUUGUUUACUCCU--
----- 3 1,1

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>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018964

```

agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
(((...(((((((...(((((((...)))))))))).))))))....)))
-----CUGUAAACAUCCUACACUC----- 2
-1,-5
-----CUGUAAACAUCCUACACUCUCAGCU----- 2
-1,1
-----UGUAAACAUCCUACACUC----- 81

```

0, -5		
-----UGUAAACAUCCUACACUCU-----		6
0, -4		
-----UGUAAACAUCCUACACUCUC-----		50
0, -3		
-----UGUAAACAUCCUACACUCUCA-----		86
0, -2		
-----UGUAAACAUCCUACACUCUCAG-----		134
0, -1		
-----UGUAAACAUCCUACACUCUCAGa-----		35
0, -1		
-----UGUAAACAUCCUACACUCUCAGaa-----		6
0, -1		
-----UGUAAACAUCCUACACUCUCAGu-----		15
0, -1		
-----UGUAAACAUCCUACACUCUCAGC-----		297
0, 0		
-----UGUAAACAUCCUACACUCUCAGCa-----		49
0, 0		
-----UGUAAACAUCCUACACUCUCAGCau-----		9
0, 0		
-----UGUAAACAUCCUACACUCUCAGCU-----		529
0, 1		
-----UGUAAACAUCCUACACUCUCAGCUa-----		18
0, 1		
-----UGUAAACAUCCUACACUCUCAGCUu-----		23
0, 1		
-----GUAAACAUCCUACACUCUCAGCU-----		3
1, 1		
-----CUGGGAGAAGGCUGUUUA-----		23
0, -4		
-----CUGGGAGAAGGCUGUUUAa-----		6
0, -4		
-----CUGGGAGAAGGCUGUUUAaa-----		2
0, -4		
-----CUGGGAGAAGGCUGUUUAC-----		41
0, -3		
-----CUGGGAGAAGGCUGUUUACa-----		10

0,-3	-----CUGGGAGAAGGCUGUUUACaa-----	3
0,-3	-----CUGGGAGAAGGCUGUUUACU-----	885
0,-2	-----CUGGGAGAAGGCUGUUUACUa-----	23
0,-2	-----CUGGGAGAAGGCUGUUUACUaa-----	11
0,-2	-----CUGGGAGAAGGCUGUUUACUau-----	3
0,-2	-----CUGGGAGAAGGCUGUUUACUu-----	7
0,-2	-----CUGGGAGAAGGCUGUUUACUC-----	972
0,-1	-----CUGGGAGAAGGCUGUUUACUCa-----	22
0,-1	-----CUGGGAGAAGGCUGUUUACUCU-----	131
0,0	-----CUGGGAGAAGGCUGUUUACUCUa-----	4
0,0	-----CUGGGAGAAGGCUGUUUACUCUU-----	16
0,1	-----UGGGAGAAGGCUGUUUACU-----	33
1,-2	-----UGGGAGAAGGCUGUUUACUC-----	76
1,-1	-----UGGGAGAAGGCUGUUUACUCa-----	5
1,-1	-----UGGGAGAAGGCUGUUUACUCaa-----	2
1,-1	-----UGGGAGAAGGCUGUUUACUCU-----	15
1,0	-----GGGAGAAGGCUGUUUACU-----	2
2,-2		

>hsa-mir-30d MA:6-27;mi:46-67 SRX018964

guuguUGUAAACAUCCCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUUUUGCUGCuac

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...(((.((((((((...((((((((((((...(((.....)).))))))))))))).)))))))).))...
----UGUAAAACAUCCCCGACUGGAA----- 2
    -1, -1
----UGUAAAACAUCCCCGACUGGAAGC----- 2  -1,1
----UGUAAAACAUCCCCGACUGGAAGCU----- 3  -1,2
----UGUAAAACAUCCCCGACUG----- 140 0,-4
----UGUAAAACAUCCCCGACUGaa----- 2  0,-4
----UGUAAAACAUCCCCGACUGG----- 299 0,-3
----UGUAAAACAUCCCCGACUGGu----- 2  0,-3
----UGUAAAACAUCCCCGACUGGuu----- 2  0,-3
----UGUAAAACAUCCCCGACUGGA----- 629 0,-2
----UGUAAAACAUCCCCGACUGGAA----- 2236
    0, -1
----UGUAAAACAUCCCCGACUGGAaA----- 904 0,-1
----UGUAAAACAUCCCCGACUGGAaAa----- 57  0,-1
----UGUAAAACAUCCCCGACUGGAaAu----- 12  0,-1
----UGUAAAACAUCCCCGACUGGAaAu----- 72  0,-1
----UGUAAAACAUCCCCGACUGGAaAu----- 2  0,-1
----UGUAAAACAUCCCCGACUGGAAG----- 3153
    0,0
----UGUAAAACAUCCCCGACUGGAAGa----- 1522
    0,0
----UGUAAAACAUCCCCGACUGGAAGaa----- 146 0,0
----UGUAAAACAUCCCCGACUGGAAGau----- 42  0,0
----UGUAAAACAUCCCCGACUGGAAGu----- 207 0,0
----UGUAAAACAUCCCCGACUGGAAGuu----- 14  0,0
----UGUAAAACAUCCCCGACUGGAAGC----- 6590
    0,1
----UGUAAAACAUCCCCGACUGGAAGCa----- 1097
    0,1
----UGUAAAACAUCCCCGACUGGAAGCaa----- 9  0,1
----UGUAAAACAUCCCCGACUGGAAGCau----- 25  0,1
----UGUAAAACAUCCCCGACUGGAAGCU----- 29834
    0,2
----UGUAAAACAUCCCCGACUGGAAGCUa----- 254 0,2
----UGUAAAACAUCCCCGACUGGAAGCUu----- 781 0,2
----UGUAAAACAUCCCCGACUGGAAGCUG----- 3  0,3
----GUAAAACAUCCCCGACUGGA----- 7  1,-2

```


-----GUAACAUCGGGACUGGAA-----	18	1,-1
-----GUAACAUCGGGACUGGAAa-----	7	1,-1
-----GUAACAUCGGGACUGGAAaa-----	2	1,-1
-----GUAACAUCGGGACUGGAAG-----	32	1,0
-----GUAACAUCGGGACUGGAAGa-----	18	1,0
-----GUAACAUCGGGACUGGAAGaa-----	3	1,0
-----GUAACAUCGGGACUGGAAGu-----	4	1,0
-----GUAACAUCGGGACUGGAAGC-----	63	1,1
-----GUAACAUCGGGACUGGAAGCa-----	17	1,1
-----GUAACAUCGGGACUGGAAGCU-----	294	1,2
-----GUAACAUCGGGACUGGAAGCUa-----	7	1,2
-----GUAACAUCGGGACUGGAAGCUau-----	5	1,2
-----GUAACAUCGGGACUGGAAGCUu-----	11	1,2
-----GUAACAUCGGGACUGGAAGCUuu-----	11	1,2
-----UAAACAUCGGGACUGGAAGC-----	3	2,1
-----UAAACAUCGGGACUGGAAGCU-----	6	2,2
-----CUUUCAGUCAGAUUUUGCU-----	3	0,-2
-----UUUCAGUCAGAUUUUGCUGCU-----	3	1,1

>hsa-mi r-30e MA:17-38;mi:59-80 SRX018964

gggcagucuuugcuacUGUAAACAUCUUGACUGGAAGcuguaagguguucagaggagCUUUCAGUCGGAUGUUACAGC
ggcaggcugcca

.((((((((((..((..((((((((((((((..((((((((((((((..((...((....)..).)))))))))))))))))))))))))).
 .)))))))))))).

-----CUGUAAACAUCCUUGACUGGAAGa-----
2 -1,0
-----CUGUAAACAUCCUUGACUGGAAGC-----
9 -1,1
-----CUGUAAACAUCCUUGACUGGAAGCU-----
6 -1,2
-----UGUAAACAUCCUUGACUG-----
15 0,-4
-----UGUAAACAUCCUUGACUGG-----
48 0,-3
-----UGUAAACAUCCUUGACUGG _u -----
3 0,-3
-----UGUAAACAUCCUUGACUGGA-----
50 0,-2

```

-----UGUAAACAUCCUUGACUGGAA-----
-----93 0,-1
-----UGUAAACAUCCUUGACUGGAa-----
-----32 0,-1
-----UGUAAACAUCCUUGACUGGAaa-----
-----4 0,-1
-----UGUAAACAUCCUUGACUGGAau-----
-----3 0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
-----326 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
-----331 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
-----43 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
-----10 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
-----5 0,0
-----UGUAAACAUCCUUGACUGGAAGuu-----
-----2 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
-----1064 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
-----131 0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
-----9 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
-----1500 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
-----11 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
-----211 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
-----5 0,3
-----GUAAACAUCCUUGACUGGAA-----
-----3 1,-1
-----GUAAACAUCCUUGACUGGAAG-----
-----17 1,0

```

```

-----GUAACAUCUUGACUGGAAGa-----
-----7 1,0
-----GUAACAUCUUGACUGGAAGaa-----
-----2 1,0
-----GUAACAUCUUGACUGGAAGC-----
-----55 1,1
-----GUAACAUCUUGACUGGAAGCa-----
-----18 1,1
-----GUAACAUCUUGACUGGAAGCU-----
-----66 1,2
-----GUAACAUCUUGACUGGAAGCUu-----
-----3 1,2
-----GUAACAUCUUGACUGGAAGCUuu-----
-----2 1,2
-----UAAACAUCUUGACUGGAAGC-----
-----2 2,1
-----UAAACAUCUUGACUGGAAGCU-----
-----3 2,2
-----CUUUCAGUCGGAUGUUUA-----
-----7 0,-4
-----CUUUCAGUCGGAUGUUUAa-----
-----6 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
-----28 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
-----17 0,-2
-----CUUUCAGUCGGAUGUUUACAa-----
-----5 0,-2
-----CUUUCAGUCGGAUGUUUACAG-----
-----98 0,-1
-----CUUUCAGUCGGAUGUUUACAGa
-----15 0,-1
-----CUUUCAGUCGGAUGUUUACAGu
-----142 0,-1
-----CUUUCAGUCGGAUGUUUACAGu
u-----3 0,-1
-----CUUUCAGUCGGAUGUUUACAGC
-----159 0,0

```

```

-----CUUUCAGUCGGAUGUUUACAGC
a-----      153  0,0
-----CUUUCAGUCGGAUGUUUACAGC
au-----      4    0,0
-----CUUUCAGUCGGAUGUUUACAGC
u-----      4    0,0
-----UUUCAGUCGGAUGUUUACA--
-----      2    1,-2
-----UUUCAGUCGGAUGUUUACAGu
-----      5    1,-1
-----UUUCAGUCGGAUGUUUACAGC
-----      21   1,0
-----UUUCAGUCGGAUGUUUACAGC
a-----      11   1,0
-----UUUCAGUCGGAUGUUUACAGC
aa-----      3    1,0
-----UUUCAGUCGGAUGUUUACAGC
au-----      6    1,0
-----UUUCAGUCGGAUGUUUACAGC
u-----      2    1,0

```

>hsa-mir-31 MA:8-28;mi:44-65 SRX018964

```

ggagaggAGGCAAGAUAGCUGGCAUAGCUguugaacugggaaccUGCUAUGCCAACAUAUUGCCAUcuuucc
(((((((.(((((((((.((((((((((.((((.....)))))))))))))).)))))).))))))
-----AGGCAAGAUAGCUGGCAUA-----      2    0,-3
-----AGGCAAGAUAGCUGGCAUAG-----      4    0,-2
-----AGGCAAGAUAGCUGGCAUAGC-----      2    0,-1
-----AGGCAAGAUAGCUGGCAUAGCU-----     12    0,0
-----AGGCAAGAUAGCUGGCAUAGCUG-----      5    0,1
-----AGGCAAGAUAGCUGGCAUAGCUGa-----      4    0,1
-----AGGCAAGAUAGCUGGCAUAGCUGU-----      3    0,2

```

>hsa-mir-3121 3p:47-68 SRX018964

```

aaauggguuauguccuuugccuauucuaauuuuagacacccuguaccuUAAAUAGAGUAGGCAAAGGACAgaaacauuu
(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAUAGAGUAGGCAAAGGACAaa-----
2    2,0

```

>hsa-mir-3124 5p:7-27 SRX018964

```
gcgggcUUCGCGGGCGAAGGCAAAGUCgauuuccaaaagugacuuccucacucccgugaagucggc
((.((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UUCGCGGGCGAAGGCAAAGUC----- 2 0,0
-----UUCGCGGGCGAAGGCAAAGUC----- 3 0,1
```

>hsa-mir-3129 5p:9-30 SRX018964

```
guacuuggGCAGUAGUGUAGAGAUUGGUUgucuguaaangaauucaaacuaaucucuacacugcugcccaagagc
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GCAGUAGUGUAGAGAUUGGUU-----
2 0,0
```

>hsa-mir-3130-1 5p:13-33;3p:44-64 SRX018964

```
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuguugucaagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GCUGCACCGGAGACUGGG----- 3
0,-3
-----GCUGCACCGGAGACUGGGUA----- 7
0,-1
-----GCUGCACCGGAGACUGGGUAA----- 42
0,0
```

>hsa-mir-3130-2 5p:13-33;3p:44-64 SRX018964

```
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GCUGCACCGGAGACUGGG----- 3
0,-3
-----GCUGCACCGGAGACUGGGUA----- 7
0,-1
-----GCUGCACCGGAGACUGGGUAA----- 42
0,0
```

>hsa-mir-3141 5p:10-28 SRX018964

```
ucacccgguGAGGGCGGGUGGAGGAGGAggguccccaccaucagccuucacugggacggga
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GAGGGCGGGUGGAGGAGGA----- 2 0,0
-----GAGGGCGGGUGGAGGAGGAa----- 3 0,0
```

```
>hsa-mir-3158-1 3p:50-71 SRX018964
auucaggccgguccugcagagaggaagcccuucugcuuacagguauuggAAGGGCUUCCUCUCUGCAGGACcggccugaa
u
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----AAGGGCUUCCUCUCUGCAGGAC-----
- 2 0,0
```

```
>hsa-mir-3158-2 3p:50-71 SRX018964
auucaggccgguccugcagagaggaagcccuuccaauaccuguaagcagAAGGGCUUCCUCUCUGCAGGACcggccugaa
u
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----AAGGGCUUCCUCUCUGCAGGAC-----
- 2 0,0
```

```
>hsa-mir-3163 5p:10-31 SRX018964
uuccucaucUAUAAAUGAGGGCAGUAAGACcuuccuuccuugucuuacuacccccauuuuauagaugaggaa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
-----UAUAAAUGAGGGCAGUAAGA----- 2
0,-1
```

```
>hsa-mir-3170 5p:10-31 SRX018964
cugguaacaCUGGGGUUCUGAGACAGACAGUguuagcuccagaagcauugccugucuuagaaccccuauguuaccag
((((((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
-----CUGGGGUUCUGAGACAGACAGU-----
4 0,0
```

```
>hsa-mir-3174 5p:10-32 SRX018964
guuaccuggUAGUGAGUUAGAGAUAGCAGAGCCcugggcuccucagcaaaccuacuggaucugcauuuuuauucacaugca
ugguaau
((((((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
.)))))
-----UAGUGAGUUAGAGAUAGCA-----
----- 2 0,-5
-----UAGUGAGUUAGAGAUAGCAG-----
----- 2 0,-4
```

uggccucuccagucugcagcucccgagccucggggccacacucccggaucucccagggACUGGCCUGGGACUACCGGgg
 guggcggccg

-----ACUGGCCUGGGACUACCGG-----
----- 3 0,0

caggauacagacguuuuuuacacuccuucugcugugccuacagcaguAGAAGGGGUGAAUUUAAACGUcugugau
ccug

-----AGAAGGGGUGAAAUUAAACGU-----
 --- 2 0,0

-----AGAAGGGGUGAAAUUUAAACGUa-----
 --- 2 0,0

caggauacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAUUUAAACGUcugugau
ccug

-----AGAAGGGGUGAAAUUUAAACGU-----
 --- 2 0,0

-----AGAAGGGGUGAAAUUAAACGUa-----
 ---- 2 0.0

caggauacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAUUUAAACGUcugugau
ccug

-----AGAAGGGGUGAAAUUUAAACGU-----
 --- 2 0,0

-----AGAAGGGGUGAAAUUUAAACGUa-----
 ---- 2 0,0

```
>hsa-mir-3190    3p:47-69    SRX018964
cuggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugacccccgg
(((((((((((((.(((((((..(((((.(((.((((((....)))..)))..)))..)))))).)))))))))
-----UGGAAGGUAGACGGCCAGAGAG-----
      2    2,1
```

```

>hsa-mir-32 MA:6-27;mi:47-68      SRX018964
ggagaUAUUGCACAUAACUAAGUUGCAuguugucacggccucaaugCAAUUUAGUGUGUGUGAUUUUuc
(((((((((((((.((((((.(((((((((((((((((((.((...))..).))))))))))))))))))..)))))))))
-----UAUUGCACAUAACUAAGUU----- 7    0,-3
-----UAUUGCACAUAACUAAGUUG----- 19   0,-2
-----UAUUGCACAUAACUAAGUUGC----- 19   0,-1
-----UAUUGCACAUAACUAAGUUGCa----- 2    0,0

```

```
>hsa-mir-3200    5p:13-34;3p:54-75    SRX018964
gguggucgagggAAUCUGAGAAGGCGCACAAAGGUuuguguccaauacaguccaCACCUUGCGCUACUCAGGUCUGcucgu
gcccu
(((.((((((.(.(((((((..((((((..((((..(((..(.....).)))))))))))))))).)))))).).))))).
))))))
-----AAUCUGAGAAGGCGCACAAAGGU-----
----- 2    0,1
-----CACCUUGCGCUACUCAGGUC-----
----- 2    0,-1
```

```

>hsa-mir-320a    3p:48-69    SRX018964
gcuucgcucucccuccgccuucucuucccggguucuucccggagucgggAAAAGCUGGGUUGAGAGGGCGAaaaaggaugag
gu
(((((((.(((....(((((((((.(((((((.(((((((....)))))).)))))).)))))).))))))....))))))
))
-----GAAAAGCUGGGUUGAGAGGG-----
--  4    -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
--  6    -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 22    -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 27    -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGuu-----

```

6 -1, -2

22 -1, -1

27 -1 -1


```
-- 2   -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 35  -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAA-----
-- 2   -1,1
-----AAAAGCUGGGUUGAGAGG-----
-- 140 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 132 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 8    0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 17   0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 4    0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 528 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 4    0,-2
-----AAAAGCUGGGUUGAGAGGGCuu-----
-- 2    0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 1286   0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 1171   0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 413 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 5949   0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 1502   0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 273 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 2238   0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 632 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
```

```

-- 59 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 602 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 148 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 56 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 5 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 25 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 65 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 28 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 19 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 255 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 68 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 15 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 219 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 109 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 8 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 114 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 42 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 21 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAA-----
-- 2 1,4
-----AAGCUGGGUUGAGAGGGCG-----

```

```

-- 5 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 15 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 3 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 25 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 7 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 5 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 42 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 18 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 6 2,3

```

>hsa-mir-320b-1 3p:39-60 SRX018964

```

aauuaaucccucucuucuaguucuuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).)))).....
-----GAAAAGCUGGGUUGAGAGGG-----
4 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
6 -1,-2
-----AAAAGCUGGGUUGAGAGG-----
140 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
132 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
8 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
17 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
4 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
528 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----

```


GUUGAGAGG-----	140	0,-4	-----AAAAGCUGG
GUUGAGAGGG-----	132	0,-3	-----AAAAGCUGG
GUUGAGAGGGa-----	8	0,-3	-----AAAAGCUGG
GUUGAGAGGGaa-----	17	0,-3	-----AAAAGCUGG
GUUGAGAGGGau-----	4	0,-3	-----AAAAGCUGG
GUUGAGAGGGC-----	528	0,-2	-----AAAAGCUGG
GUUGAGAGGGCu-----	4	0,-2	-----AAAAGCUGG
GUUGAGAGGGCuu-----	2	0,-2	-----AAAAGCUGG
GUUGAGAGGGCA-----	54	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAu-----	119	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAuu-----	31	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAA-----	118	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAu-----	36	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAA-----	7	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAAu-----	4	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAAA-----	6	0,2	-----AAAGCUGG
GUUGAGAGGG-----	5	1,-3	-----AAAGCUGG
GUUGAGAGGGC-----	25	1,-2	-----AAAGCUGG
GUUGAGAGGGCA-----	3	1,-1	-----AAAGCUGG

```

GUUGAGAGGGCAu----- 4 1,-1
-----AAAGCUGG
GUUGAGAGGGCAA----- 6 1,0

```

>hsa-mir-320c-1 3p:50-69 SRX018964

```

uuugcauuaaaaaugaggccuucucuuccaguucuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg

```

```

.((((((((.....((((((((.....((((((((.....)))))).)))))).)))))))).)))))))).
)))))))).

```

```

-----GAAAAGCUGGGUUGAGAGGG-----
----- 4 -1,-1
-----AAAAGCUGGGUUGAGAGG-----
----- 140 0,-2
-----AAAAGCUGGGUUGAGAGGG-----
----- 132 0,-1
-----AAAAGCUGGGUUGAGAGGGa-----
----- 8 0,-1
-----AAAAGCUGGGUUGAGAGGGaa-----
----- 17 0,-1
-----AAAAGCUGGGUUGAGAGGGau-----
----- 4 0,-1
-----AAAAGCUGGGUUGAGAGGGU-----
----- 13 0,0
-----AAAAGCUGGGUUGAGAGGGUu-----
----- 3 0,0
-----AAAAGCUGGGUUGAGAGGGUAa-----
----- 9 0,1
-----AAAAGCUGGGUUGAGAGGGUAaa-----
----- 2 0,1
-----AAAAGCUGGGUUGAGAGGGUAu-----
----- 8 0,1
-----AAAGCUGGGUUGAGAGGG-----
----- 5 1,-1
-----AAAGCUGGGUUGAGAGGGUAa-----
----- 4 1,1
-----AAAGCUGGGUUGAGAGGGUAu-----
----- 3 1,1

```

>hsa-mir-320c-2 3p:31-50 SRX018964

cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU

(((((...(((((((.(((((.)))))))).)))))))).))))))..

```
-----GAAAAGCUGGGUUGAGAGGG- 4 -1,-1
-----AAAAGCUGGGUUGAGAGG-- 140 0,-2
-----AAAAGCUGGGUUGAGAGGG- 132 0,-1
-----AAAAGCUGGGUUGAGAGGGa 8 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 17 0,-1
-----AAAAGCUGGGUUGAGAGGGau 4 0,-1
-----AAAAGCUGGGUUGAGAGGGU 13 0,0
-----AAAAGCUGGGUUGAGAGGGUu 3 0,0
-----AAAGCUGGGUUGAGAGGG- 5 1,-1
```

>hsa-mir-320d-1 3p:30-48 SRX018964

uucucguccaguucuccaaaguagAAAAGCUGGGUUGAGAGGA

(((((...(((((((.(((((.)))))))).)))))))).))))))..

```
-----AAAAGCUGGGUUGAGAGG- 140 0,-1
-----AAAAGCUGGGUUGAGAGGA 7 0,0
```

>hsa-mir-320d-2 3p:30-48 SRX018964

uucucuuccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA

(((((...(((((((.(((((.)))))))).)))))))).))))))..

```
-----AAAAGCUGGGUUGAGAGG- 140 0,-1
-----AAAAGCUGGGUUGAGAGGA 7 0,0
```

>hsa-mir-320e 3p:35-52 SRX018964

gccuucucuuccaguucuccaggagucggggaAAAGCUGGGUUGAGAAGGu

(((((...(((((((.(((((.)))))))).)))))))).))))))..

```
-----AAAAGCUGGGUUGAGAAGG- 2 -1,0
```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018964

uugguacuuggagagAGGUGGUCCGUGGCGGUUCGCUuuuuuuauuggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc

..(((((((.(((((((.(((((.)))))))).)))))))).))))))..

-----CACAUUACACGGUCGACC-----

----- 8 0,-3

-----CACAUUACACGGUCGACCU-----

```

----- 55 0,-2
-----CACAUAACACGGUCGACCUC-----
----- 9 0,-1
-----CACAUAACACGGUCGACCUC-----
----- 9 0,0

```

```

>hsa-mir-323b 5p:15-37;3p:51-72 SRX018964
ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuauuuauaugaugCCCAAUACACGGUCGACCUCUuucgguau
ca
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----CCCAAUACACGGUCGACCU-----
-- 17 0,-3
-----CCCAAUACACGGUCGACCUC-----
-- 6 0,-2

```

```

>hsa-mir-324 5p:16-38;3p:53-72 SRX018964
cugacuaugccucccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagaccACUGCCCCAGGUGCUGCUGGggguugua
guc
..((((((..((((((..((((((..((((((..((((((..((((((..((((((..((((((..((((((..
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----CGCAUCCCCUAGGGCAUU-----
--- 2 0,-5
-----CGCAUCCCCUAGGGCAUUG-----
--- 9 0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 11 0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 19 0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 19 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGa-----
--- 2 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 45 0,0
-----CGCAUCCCCUAGGGCAUUGGUGUu-----
--- 4 0,0
-----GCAUCCCCUAGGGCAUUGGU-----

```



```

--- 2    1,-2
-----CCACUGCCCCAGGUGCUGCU-----
--- 6    -2,-2
-----CCACUGCCCCAGGUGCUGCU-----
--- 18   -2,-1
-----CACUGCCCCAGGUGCUGCU-----
--- 2    -1,-1
-----ACUGCCCCAGGUGCUGCU-----
--- 3    0,-2
-----ACUGCCCCAGGUGCUGCU-----
--- 16   0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 26   0,0
-----ACUGCCCCAGGUGCUGCUGGu-----
--- 4    0,0

```

>hsa-mir-326 3p:60-79 SRX018964

```

cucaucugucuguugggcuggaggcagggccuuugugaaggcggguggugcucagaucgCCUCUGGGCCCUUCCUCCAGc
cccgaggcggaauca

```

```

...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))))))))))...

```

```

-----CCUCUGGGCCCUUCCUCCAG-
----- 2    0,0
-----CCUCUGGGCCCUUCCUCCAGa
----- 5    0,0
-----CCUCUGGGCCCUUCCUCCAGu
----- 5    0,0
-----CCUCUGGGCCCUUCCUCCAGu
u----- 3    0,0

```

>hsa-mir-328 3p:48-69 SRX018964

```

uggaguggggggggcaggaggggcucagggagaaaagugcauacagcccCUGGCCCUCUCUGCCCUUCCGUccccug
.((..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))))))))))...

```

```

-----CUGGCCCUCUCUGCCCUUCC----- 2
0,-2
-----CUGGCCCUCUCUGCCCUUCCG----- 3
0,-1
-----CUGGCCCUCUCUGCCCUUCCGU----- 12

```

```

0,0
-----CUGGCCCUCUCUGCCCUUCCGUaa---- 2
0,0
-----CUGGCCCUCUCUGCCCUUCCGUu----- 3
0,0
-----CUGGCCCUCUCUGCCCUUCCGUuu---- 4
0,0

>hsa-mir-330    5p:18-39;3p:57-79    SRX018964
cuuuggcgaucacugccUCUCUGGGCCUGUGUCUUAGGCucugcaagaucacaccgaGCAAAGCACACGGCCUGCAGAGAg
gcagcgcucugccc
....(((((((((.....)))))).))))).
))))).)).)).
-----GCAAAGCACACGGCCUGCAG-----
----- 5    0,-3
-----GCAAAGCACACGGCCUGCAGAG--
----- 9    0,-1
-----GCAAAGCACACGGCCUGCAGAGu-
----- 2    0,-1
-----GCAAAGCACACGGCCUGCAGAGA-
----- 18   0,0
-----GCAAAGCACACGGCCUGCAGAGAu
----- 2    0,0
-----GCAAAGCACACGGCCUGCAGAGAG
----- 3    0,1
-----GCAAAGCACACGGCCUGCAGAGAG
u----- 3    0,1
-----CAAAGCACACGGCCUGCAGAG--
----- 2    1,-1
-----CAAAGCACACGGCCUGCAGAGA-
----- 22   1,0
-----CAAAGCACACGGCCUGCAGAGaa
----- 5    1,0
-----CAAAGCACACGGCCUGCAGAGAG
----- 23   1,1
-----CAAAGCACACGGCCUGCAGAGAG
a----- 3    1,1
-----CAAAGCACACGGCCUGCAGAGAG

```

```

u----- 10 1,1
-----CAAAGCACACGGCCUGCAGAGAG
G----- 4 1,2
-----CAAAGCACACGGCCUGCAGAGAG
Gu----- 3 1,2
-----AAAGCACACGGCCUGCAGAGA-
----- 2 2,0
-----AAAGCACACGGCCUGCAGAGAG
----- 5 2,1
-----AAAGCACACGGCCUGCAGAGAG
u----- 2 2,1
-----AAAGCACACGGCCUGCAGAGAG
G----- 5 2,2
-----AAAGCACACGGCCUGCAGAGAG
Ga----- 3 2,2

```

>hsa-mi r-331 5p:26-47;3p:61-81 SRX018964

```

gaguuuugguuuuuguuuggguuuguuCUAGGUAUGGUCCCAGGGAUCCcagaucaaaccagGCCCCUGGGCCUAUCCUAGA
Accaaccuaagcuc

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..

```

```

-----UCUAGGUAUGGUCCCAGGGA-----
----- 2 -1,-3
-----GCCCCUGGGCCUAUCCUA--
----- 7 0,-3
-----GCCCCUGGGCCUAUCCUAG-
----- 6 0,-2
-----GCCCCUGGGCCUAUCCUAGA
----- 15 0,-1
-----GCCCCUGGGCCUAUCCUAGA
u----- 6 0,-1
-----GCCCCUGGGCCUAUCCUAGA
uu----- 2 0,-1
-----GCCCCUGGGCCUAUCCUAGA
A----- 80 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aa----- 34 0,0
-----GCCCCUGGGCCUAUCCUAGA

```

Au-----	20	0,0	
-----GCCCCUGGGCCUAUCCUAGA			
Auu-----	4	0,0	
-----CCCCUGGGCCUAUCCUAGA			
-----	2	1,-1	
-----CCCCUGGGCCUAUCCUAGA			
A-----	2	1,0	
-----CCCCUGGGCCUAUCCUAGA			
Au-----	3	1,0	

```

>hsa-mir-335      MA:16-38;mi:52-73      SRX018964
uguuuugagcgggggUCAAGAGCAAUACGAAAAAUGUuugucauaaacggUUUUUCAUUAUUGCUCUGACCuccucuc
auuugcuauauuca
.((.(((.(((((((.(((((((((.(((((((((.((.....)).)))))))).)))))))).)))))))).)))
)....)).....
-----UCAAGAGCAAUACGAAA-----
-----3    0,-5
-----UCAAGAGCAAUACGAAAA-----
-----3    0,-4
-----UCAAGAGCAAUACGAAAAA-----
-----8    0,-3
-----UCAAGAGCAAUACGAAAAAU-----
-----68   0,-2
-----UCAAGAGCAAUACGAAAAAUa-----
-----3    0,-2
-----UCAAGAGCAAUACGAAAAAUG-----
-----207  0,-1
-----UCAAGAGCAAUACGAAAAAUGU-----
-----48   0,0
-----AAGAGCAAUACGAAAAAUG-----
-----4    2,-1
-----GUUUUUCAUUAUUGCUCUGACC-----
-----2    -1,0
-----UUUUUCAUUAUUGCUCUGACC-----
-----3    0,0

```

>hsa-mir-337 5p:23-43;3p:61-82 SRX018964
guagucaguaguuggggggggGAACGGCUUCAUACAGGAGUUGaugcacaguuauccagCUCCUAUAUGAUGCCUUCU

```

UCaucccccuaa
.....(((((.....))))))..
))))))..
-----GAACGGCUUCAUACAGGA-----
----- 3 0,-3
-----GAACGGCUUCAUACAGGAG-----
----- 2 0,-2
-----GAACGGCUUCAUACAGGAGU-----
----- 2 0,-1

```

```

>hsa-mir-338 5p:6-27;3p:42-63 SRX018964
ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga
(((.....))))))..
-----UCCAGCAUCAGUGAUUUUG----- 2 0,-3
-----UCCAGCAUCAGUGAUUUUGU----- 7 0,-2
-----UCCAGCAUCAGUGAUUUUGUU----- 11 0,-1
-----UCCAGCAUCAGUGAUUUUGUUGA--- 2 0,1

```

```

>hsa-mir-339 5p:15-37;3p:50-72 SRX018964
cggggcggccgcucUCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGgcgccugc
cccagugucugcgc
.((((.....))))))..
))).....
-----CUCCUGUCCUCCAGGAGCU-----
----- 2 -1,-4
-----UCCUGUCCUCCAGGAGC-----
----- 12 0,-5
-----UCCUGUCCUCCAGGAGCU-----
----- 27 0,-4
-----UCCUGUCCUCCAGGAGCUC-----
----- 5 0,-3
-----UCCUGUCCUCCAGGAGCUCA-----
----- 35 0,-2
-----UCCUGUCCUCCAGGAGCUCa-----
----- 6 0,-2
-----UCCUGUCCUCCAGGAGCUCa-----
----- 2 0,-2
-----UCCUGUCCUCCAGGAGCUCa-----

```

```

----- 9 0,-2
-----UCCCUGUCCUCCAGGAGCUCAu-----
----- 2 0,-2
-----UCCCUGUCCUCCAGGAGCUCAC-----
----- 5 0,-1
-----UCCCUGUCCUCCAGGAGCUCACa-----
----- 3 0,-1
-----UCCCUGUCCUCCAGGAGCUCACaa-----
----- 2 0,-1
-----UCCCUGUCCUCCAGGAGCUCACu-----
----- 3 0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 38 0,0
-----UCCCUGUCCUCCAGGAGCUCACGa-----
----- 2 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 12 0,1
-----CCUGUCCUCCAGGAGCUCACG-----
----- 4 2,0
-----UGAGCGCCUCGACGACAG-----
----- 16 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 32 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 66 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 34 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 4 0,-2
-----UGAGCGCCUCGACGACAGAGCu-----
----- 17 0,-2
-----UGAGCGCCUCGACGACAGAGCC-----
----- 28 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 37 0,-1
-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 4 0,-1
-----UGAGCGCCUCGACGACAGAGCCau-----

```

```

----- 17 0,-1
-----UGAGCGCCUCGACGACAGAGCCu-----
----- 22 0,-1
-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 16 0,-1
-----UGAGCGCCUCGACGACAGAGCCG-----
----- 17 0,0
-----UGAGCGCCUCGACGACAGAGCCGa-----
----- 3 0,0
-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 4 0,0
-----GAGCGCCUCGACGACAGAG-----
----- 6 1,-3
-----GAGCGCCUCGACGACAGAGC-----
----- 2 1,-2
-----AGCGCCUCGACGACAGAG-----
----- 25 2,-3
-----AGCGCCUCGACGACAGAGC-----
----- 2 2,-2
-----AGCGCCUCGACGACAGAGCCGa-----
----- 2 2,0

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018964

```

cugugGUGCAUUGUAGUUGCAUUGCAuguucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((.(.((((((((((.....((((.....))))))))))))))))))..)).))))))))))))))
-----GUGCAUUGUAGUUGCAUU----- 192 0,-3
-----GUGCAUUGUAGUUGCAUUG----- 4 0,-2
-----GUGCAUUGUAGUUGCAUUGa----- 8 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 41 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 53 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 55 0,0
-----CAAUGUUUCCACAGUGCAU----- 3 0,-3
-----CAAUGUUUCCACAGUGCAUa----- 3 0,-3
-----CAAUGUUUCCACAGUGCAUC----- 2 0,-2
-----CAAUGUUUCCACAGUGCAUCA----- 2 0,-1
-----CAAUGUUUCCACAGUGCAUCAu----- 5 0,-1

```

>hsa-mir-33b MA:16-35;mi:54-75 SRX018964

```

gcgggcggccccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcgggugCAGUGCCUCGGCAGUGCAGCCCggagc
cgccccuggcaccac
(((((((((.(((.(((((((((((((.(((((((((.(((.....)))..))))))))).)))))))).))))))..
).))))).))).....
-----GUGCAUUGCUGUUGCAUU-----
-----29 0,-2
-----GUGCAUUGCUGUUGCAUUG-----
-----10 0,-1
-----GUGCAUUGCUGUUGCAUUGa-----
-----2 0,-1
-----GUGCAUUGCUGUUGCAUUGC-----
-----5 0,0
-----GUGCAUUGCUGUUGCAUUGCAa-----
-----4 0,1
-----AGUGCCUCGGCAGUGCAGCCa-----
-----2 1,-1

```

```

>hsa-mir-340 MA:16-37;mi:58-79 SRX018964
uuguaccuggugugaUUAUAAAGCAAUGAGACUGAUUgucauaugucguuuguggaUCCGUCUCAGUUACUUUAUAGCc
auaccugguaucuaa
..(((((.(((((.(((.(((((((((.(((((((((.(((.....)))..))))))))).)))))))).))))))..
).))))).))).....
-----UUAUAAAGCAAUGAGACU-----
-----34 0,-4
-----UUAUAAAGCAAUGAGACUGA-----
-----7 0,-2
-----UUAUAAAGCAAUGAGACUGAaa-----
-----3 0,-2
-----UUAUAAAGCAAUGAGACUGAU-----
-----24 0,-1
-----UUAUAAAGCAAUGAGACUGAUa-----
-----10 0,-1
-----UUAUAAAGCAAUGAGACUGAUaa-----
-----2 0,-1
-----UUAUAAAGCAAUGAGACUGAUU-----
-----82 0,0
-----UUAUAAAGCAAUGAGACUGAUUa-----
-----8 0,0

```



```

-----UUAUAAAGCAAUGAGACUGAUUu-----
----- 2 0,0

>hsa-mir-342 5p:19-39;3p:61-83 SRX018964
gaaacugggcucaaggugAGGGGUGCUAUCUGUGAUUGAgggacauggguuaauggaauugUCUCACACAGAAAUCGCACC
CGUcaccuuggccuacuua
.....((((((.(((((((.((((((..((((((.....((((((...((....)).)))))).)))))).))))))....))
).)))))))))....
-----AGGGGUGCUAUCUGUGAUU-----
----- 42 0,-2
-----AGGGGUGCUAUCUGUGAUUG-----
----- 16 0,-1
-----AGGGGUGCUAUCUGUGAUUGA-----
----- 44 0,0
-----AGGGGUGCUAUCUGUGAUUGAa-----
----- 4 0,0
-----AGGGGUGCUAUCUGUGAUUGAG-----
----- 58 0,1
-----AGGGGUGCUAUCUGUGAUUGAGu-----
----- 3 0,1
-----AGGGGUGCUAUCUGUGAUUGAGG-----
----- 20 0,2
-----AGGGGUGCUAUCUGUGAUUGAGGG-----
----- 2 0,3
-----AGGGGUGCUAUCUGUGAUUGAGGGA-----
----- 5 0,4
-----GGGGUGCUAUCUGUGAUUGAGG-----
----- 2 1,2
-----GGGGUGCUAUCUGUGAUUGAGGGAC-----
----- 2 1,5
-----UCUCACACAGAAAUCGCA-----
----- 29 0,-5
-----UCUCACACAGAAAUCGCAC-----
----- 58 0,-4
-----UCUCACACAGAAAUCGCACC-----
----- 82 0,-3
-----UCUCACACAGAAAUCGCACC-----
C----- 90 0,-2

```

-----				-----UCUCACACAGAAAUCGCACC
CG-----	236	0,-1		
-----				-----UCUCACACAGAAAUCGCACC
CGa-----	8	0,-1		
-----				-----UCUCACACAGAAAUCGCACC
CGU-----	574	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUa-----	18	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUaa-----	2	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUu-----	29	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUC-----	253	0,1		
-----				-----UCUCACACAGAAAUCGCACC
CGUCu-----	78	0,1		
-----				-----UCUCACACAGAAAUCGCACC
CGUCA-----	37	0,2		
-----				-----CUCACACAGAAAUCGCACC
CGU-----	2	1,0		
-----				-----CUCACACAGAAAUCGCACC
CGUC-----	3	1,1		
-----				-----UCACACAGAAAUCGCACC
-----	6	2,-3		
-----				-----UCACACAGAAAUCGCACC
C-----	3	2,-2		
-----				-----UCACACAGAAAUCGCACC
CG-----	2	2,-1		
-----				-----UCACACAGAAAUCGCACC
CGU-----	23	2,0		
-----				-----UCACACAGAAAUCGCACC
CGUaa-----	2	2,0		
-----				-----UCACACAGAAAUCGCACC
CGUC-----	20	2,1		
-----				-----UCACACAGAAAUCGCACC
CGUCu-----	17	2,1		
-----				-----UCACACAGAAAUCGCACC
CGUCA-----	78	2,2		

-----UCACACAGAAAUCGCACC
 CGUCA_a----- 2 2,2
 -----UCACACAGAAAUCGCACC
 CGUCA_u----- 6 2,2

```

>hsa-mir-345      5p:18-39      SRX018964
acccaaaccuaggucuGCUGACUCCUAGUCCAGGGCUCgugauggcuggugggcccugaacgaggggucuggaggccug
gguuugaauaucgacagc
...(((((((.((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----GCUGACUCCUAGUCCAGG-----
----- 33  0,-4
-----GCUGACUCCUAGUCCAGGG-----
----- 17  0,-3
-----GCUGACUCCUAGUCCAGGGC-----
----- 21  0,-2
-----GCUGACUCCUAGUCCAGGGCaa-----
----- 3   0,-2
-----GCUGACUCCUAGUCCAGGGCau-----
----- 3   0,-2
-----GCUGACUCCUAGUCCAGGGGCU-----
----- 41  0,-1
-----GCUGACUCCUAGUCCAGGGGCUa-----
----- 13  0,-1
-----GCUGACUCCUAGUCCAGGGGCUaa-----
----- 11  0,-1
-----GCUGACUCCUAGUCCAGGGGCUau-----
----- 31  0,-1
-----GCUGACUCCUAGUCCAGGGGCUu-----
----- 10  0,-1
-----GCUGACUCCUAGUCCAGGGGCUuu-----
----- 7   0,-1
-----GCUGACUCCUAGUCCAGGGGCUC-----
----- 37  0,0
-----GCUGACUCCUAGUCCAGGGGCUCa-----
----- 2   0,0
-----GCUGACUCCUAGUCCAGGGGCUCaa-----
----- 6   0,0

```

```

-----GCUGACUCCUAGUCCAGGGCUCau-----
----- 21  0,0
-----GCUGACUCCUAGUCCAGGGCUCu-----
----- 5   0,0
-----GCUGACUCCUAGUCCAGGGCUCuu-----
----- 12  0,0
-----GCCUGAACGAGGGGUCUGGAGa-----
----- 2

```

>hsa-mir-346 5p:20-42 SRX018964

ggucucuguguugggcgucUGUCUGCCCCGAUGCCUGCCUCUcuguugcucugaaggaggcaggggcugggccugcagcu
gccugggcagagcgg

$.(.(((((((.(..(((.((((..((((((...(((((((.(.....)))))))))..)).)))...))))).)$

-----UGUCUGCCCGCAUGCCUGCCUC-----

----- 3 0,-1

-----UGUCUGCCCGCAUGCCUGCCUCU-----

----- 3 0,0

>hsa-mi r-34a MA:22-43;mi :64-85 SRX018964

ggccagcugugaguguuuuuUGGCAGUGUCUUAGCUGGUUGUugugagcaauaguaaggaagCAAUCAGCAAGUAUACU
GCCCCUagaagugcugcacguuguggggccc

$$(((.((((((((..((((((((((((((((((((.(((((((((((....((....))....)))))))))))))))).)))))))))..))))))..))..))))..))..))))).$$

-----UGGCAGUGUCUUAGCUGGU-----

$$----- \quad 2 \quad 0, -3$$

-----UGGCAGUGUCUUAGCUGGUU-----

$$----- \quad 2 \quad 0, -2$$

-----UGGCAGUGUCUUAGCUGGUUG-----

----- 4 0, -1

-----UGGCAGUGUCUUAGCUGGUUGU-----

----- 17 0,0

-----UGGCAGUGUCUUAGCUGGUUGUU-----

----- 2 0,1

-----GGCAGUGUCUUAGCUGGUUG-----

----- 2 1, -1

-----CAAUCAGCAAGUAUACU

GCCCCUA----- 5 0,1

-----AUGAGGAUGGAUAGCAAGGAAG-----			
-----4-1,-2-----			
-----AUGAGGAUGGAUAGCAAGGAAGC-----			
-----2-1,-1-----			
-----AUGAGGAUGGAUAGCAAGGAAGCC-----			
-----3-1,0-----			
-----UGAGGAUGGAUAGCAAGGA-----			
-----20,-4-----			
-----UGAGGAUGGAUAGCAAGGAA-----			
-----20,-3-----			
-----UGAGGAUGGAUAGCAAGGAAG-----			
-----40,-2-----			
-----UGAGGAUGGAUAGCAAGGAAGC-----			
-----70,-1-----			
-----UGAGGAUGGAUAGCAAGGAAGCa-----			
-----20,-1-----			
-----UGAGGAUGGAUAGCAAGGAAGCC-----			
-----100,0-----			
-----CCUCCGUGUUACCUG			
UCCUC-----20,-3-----			
-----UCCGUGUUACCUG			
UCCUCUAGa-----22,0-----			

>hsa-mi r-361 5p:6-27;3p:45-67 SRX018964

-----CUUAUCAGAAUCUCCAGGG-----	3
-1, -4	
-----UUAUCAGAAUCUCCAGGG-----	8
0, -4	
-----UUAUCAGAAUCUCCAGGGG-----	19
0, -3	
-----UUAUCAGAAUCUCCAGGGGU-----	24
0, -2	
-----UUAUCAGAAUCUCCAGGGGUA-----	63
0, -1	
-----UUAUCAGAAUCUCCAGGGGUAa-----	41
0, -1	

-----UUAUCAGAAUCCAGGGGUAaa-----	5
0,-1	
-----UUAUCAGAAUCCAGGGGUAau-----	4
0,-1	
-----UUAUCAGAAUCCAGGGGUAu-----	91
0,-1	
-----UUAUCAGAAUCCAGGGGUAuu-----	3
0,-1	
-----UUAUCAGAAUCCAGGGGUAC-----	141
0,0	
-----UUAUCAGAAUCCAGGGGUACa-----	50
0,0	
-----UUAUCAGAAUCCAGGGGUACaa-----	4
0,0	
-----UUAUCAGAAUCCAGGGGUACau-----	3
0,0	
-----UUAUCAGAAUCCAGGGGUACU-----	13
0,1	
-----UAUCAGAAUCCAGGGGUAu-----	2
1,-1	
-----UAUCAGAAUCCAGGGGUAC-----	2
1,0	
-----UCCCCCAGGUGUGAUUCU-----	7
0,-5	
-----UCCCCCAGGUGUGAUUCUGA-----	7
0,-3	
-----UCCCCCAGGUGUGAUUCUGAa-----	4
0,-3	
-----UCCCCCAGGUGUGAUUCUGAaa-----	3
0,-3	
-----UCCCCCAGGUGUGAUUCUGAU-----	15
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUU-----	4
0,-1	
-----UCCCCCAGGUGUGAUUCUGAUUU-----	14
0,0	
-----UCCCCCAGGUGUGAUUCUGAUUUUG-----	2
0,1	

-----CCCCCAGGUGUGAUUCUGAUUUG----- 4
1,1

>hsa-mir-3613 5p:16-37;3p:53-76 SRX018964
ugguuggguuuggauUGUUGUACUUUUUUUUUGUUCguugcauuuuuaggaACAAAAAAAAAGCCCAACCCUUCacac
cacuuca
.(...(((.((((.((((.((((.((((.((((.((((.(.....).))))))))))))).))))).))))).))
).)).).

-----UGUUGUACUUUUUUUUUGUUC-----
----- 2 0,0
-----ACAAAAAAAAAGCCCAACCCU-----
----- 4 0,-2

>hsa-mir-3614 5p:15-37;3p:53-75 SRX018964
gguucugucuugggCCACUUGGAUCUGAAGGCUGCCCcuuugcucucuggggUAGCCUUCAGAUUUGGUGUUUgaaau
cuuacu
.....(..(..(((.((((.((((.((((.((((.(.....).))))))))))))).))))).))..)
.....

-----UAGCCUUCAGAUUUGGUGUUU-----
----- 12 0,-1

>hsa-mir-3615 3p:51-71 SRX018964
gacucugggacgcucagacgccgcgcggggcggggauuggucugugguccUCUCUCGGCUCUUCGCGGCUCgcggcgggcc
gacgguu
(((.(.(.(.(((.(.(((.(.(((.(.(((.(.(((.(.(((.(.....).))))))))).))))).))))).))
.)).)))

-----UCUCUCGGCUCUUCGCGG-----
----- 2 0,-3
-----UCUCUCGGCUCUUCGCGGC-----
----- 13 0,-2
-----UCUCUCGGCUCUUCGCGGCaa-----
----- 2 0,-2
-----UCUCUCGGCUCUUCGCGGCU-----
----- 56 0,-1
-----UCUCUCGGCUCUUCGCGGCUu-----
----- 4 0,-1
-----UCUCUCGGCUCUUCGCGGCUuu-----
----- 3 0,-1

-----UCUCUCGGCUCUCUCGGGCUC-----
----- 13 0,0
-----UCUCUCGGCUCUCUCGGGCUCGC-----
----- 3 0,2

>hsa-mi r-362 5p:5-28;3p:42-63 SRX018964

cuugAAUCCUUGGAACCUAGGUGUGAGUgcuaauuucagugcAACACACCUAUUCAAGGAUUCaaa

.((((((((((((((((((...((((((((((.(..((.....)).).).)))))))))))))))))))))).

---AAUCCUUGGAACCUAGGUGU-----	3	0,-4
---AAUCCUUGGAACCUAGGUGUG-----	3	0,-3
---AAUCCUUGGAACCUAGGUGUGA-----	2	0,-2
-----AACACACCUAUUCAAGGAUU---	6	0,-2
-----AACACACCUAUUCAAGGAUUC---	5	0,-1
-----AACACACCUAUUCAAGGAUUCA--	9	0,0

>hsa-mi r-363 mi:7-28;MA:50-71 SRX018964

uguuguCGGGUGGAUCACGAUGCAAUUUugaugagaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaacc

.(((..((((((((((..((.(((((((((((.((((.....)))).....)))))))).)))))).

0, -4	-----AAUUGCACGGUAUCCAUC-----	20
0, -3	-----AAUUGCACGGUAUCCAUCU-----	106
0, -2	-----AAUUGCACGGUAUCCAUCUG-----	12
0, -1	-----AAUUGCACGGUAUCCAUCUGU-----	31
0, -1	-----AAUUGCACGGUAUCCAUCUGUu-----	5
0, -1	-----AAUUGCACGGUAUCCAUCUGUuu-----	3
0, 0	-----AAUUGCACGGUAUCCAUCUGUA-----	87
0, 0	-----AAUUGCACGGUAUCCAUCUGUAu-----	7
0, 1	-----AAUUGCACGGUAUCCAUCUGUAA-----	51
1, -3	-----AUUGCACGGUAUCCAUCU-----	7

```

-----AUUGCACGGUAUCCAUCUGU----- 2
1,-1
-----AUUGCACGGUAUCCAUCUGUA---- 8
1,0
-----AUUGCACGGUAUCCAUCUGUAu--- 2
1,0
-----AUUGCACGGUAUCCAUCUGUAuu-- 2
1,0
-----AUUGCACGGUAUCCAUCUGUAA--- 8
1,1

```

>hsa-mir-365-1 3p:56-77 SRX018964

accgcagggaaaaugagggacuuuugggggcagauguguuuccauuccacuaucUAAUGCCCCUAAAAUCCUUAUugc
 ucuugca

...(((((((.....))))).))))).
)))))).

```

-----GAGGGACUUUUGGGGGCAGAUGU-----
----- 2
-----AGGGACUUUUGGGGGCAG-----
----- 6
-----AGGGACUUUUGGGGGCAGA-----
----- 5
-----AGGGACUUUUGGGGGCAGAU-----
----- 5
-----AGGGACUUUUGGGGGCAGAUG-----
----- 14
-----AGGGACUUUUGGGGGCAGAUGa-----
----- 3
-----AGGGACUUUUGGGGGCAGAUGU-----
----- 43
-----AGGGACUUUUGGGGGCAGAUGUa-----
----- 3
-----AGGGACUUUUGGGGGCAGAUGUu-----
----- 14
-----AGGGACUUUUGGGGGCAGAUGUuu-----
----- 4
-----AGGGACUUUUGGGGGCAGAUGUG-----
----- 88

```



```

-----GAGGGACUUUCAGGGGCAGC-----
----- 4  -1,-3
-----GAGGGACUUUCAGGGGCAGCU-----
----- 18  -1,-2
-----GAGGGACUUUCAGGGGCAGCUG-----
----- 8  -1,-1
-----GAGGGACUUUCAGGGGCAGCUGU-----
----- 11  -1,0
-----GAGGGACUUUCAGGGGCAGCUGUu-----
----- 2  -1,0
-----AGGGACUUUCAGGGGCAGC-----
----- 5  0,-3
-----AGGGACUUUCAGGGGCAGCU-----
----- 22  0,-2
-----AGGGACUUUCAGGGGCAGCUG-----
----- 8  0,-1
-----AGGGACUUUCAGGGGCAGCUGU-----
----- 18  0,0
-----AGGGACUUUCAGGGGCAGCUGUa-----
----- 3  0,0
-----AGGGACUUUCAGGGGCAGCUGUu-----
----- 5  0,0
-----AGGGACUUUCAGGGGCAGCUGUuu-----
----- 2  0,0
-----AGGGACUUUCAGGGGCAGCUGUG-----
----- 49  0,1
-----AGGGACUUUCAGGGGCAGCUGUGa-----
----- 4  0,1
-----AGGGACUUUCAGGGGCAGCUGUGU-----
----- 16  0,2
-----UAAUGCCCCUAAA
AAUCC----- 11  0,-4
-----UAAUGCCCCUAAA
AAUCCU----- 6  0,-3
-----UAAUGCCCCUAAA
AAUCCUU----- 49  0,-2
-----UAAUGCCCCUAAA
AAUCCUUu----- 2  0,-2

```

```

-----UAAUGCCCCUAAA
AAUCCUUA----- 62 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAa----- 13 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAU----- 132 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUU----- 3 0,1
-----UAAUGCCCCUAAA
AAUCCUUAUUa----- 2 0,1
-----AAUGCCCCUAAA
AAUCCUUAU----- 4 1,0

```

>hsa-mir-3656 3p:49-65 SRX018964

```

cuuucggccagcgggacggcauccgaggugggcuaggcucgggcccguGGCGGGUGCGGGGUGGgagg
(((((((((.....((((((((.....)))))))).)))))).))))))
-----GGCGGGUGCGGGGUGGG--- 2 0,1

```

>hsa-mir-3664 5p:21-42 SRX018964

```

cuguaaacuugaagguagggAACUCUGUCUUCACUCAUGAGUaccuuccaacacgagcucucaggaguaaagacagagu
ccuaccuucgauguggau
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))....
-----UCUCAGGAGUAAAGACAGAG--
----- 5
-----UCUCAGGAGUAAAGACAGAGUU
----- 15
-----UCUCAGGAGUAAAGACAGAGUU
a----- 2
-----UCUCAGGAGUAAAGACAGAGUU
u----- 3
-----UCAGGAGUAAAGACAGAG--
----- 2
-----UCAGGAGUAAAGACAGAGUU
----- 4
-----UCAGGAGUAAAGACAGAGUU
Cu----- 2

```

uugguuaaagcgccugucuaguaaacaggagauccuggguucgaauccagcggugccuCCGUGUUUCCCCACGCUUUu
gcaa

-----CCGUGUUUCCCCACGCUUU-----
----- 2 0,0

uaaguuauauaugucuacuucuaaccuguguuaucuaaauaaaggugucaUGAUGAUACAGGUGGAGGUAGaaauauauaa
cuua

-----AUGAUACAGGUGGAGGUA-----
 ---- 2 2,-1

cgcgcgugcgcccgagcgcggcccgguuggucccuCCCGACAGGCGUUCGUGCGACGUgug

(((((((.((((.((((((((.(.((((((..(..)..))))).)..)))))))).)))))))))

-----CCCGACAGGCGUUCGUGC-----	2	0, -5
-----CCGGACAGGCGUUCGUGCGA-----	3	1, -3
-----CCGGACAGGCGUUCGUGCGAC-----	2	1, -2
-----CGGACAGGCGUUCGUGCGA-----	2	2, -3
-----CGGACAGGCGUUCGUGCGAC-----	6	2, -2
-----CGGACAGGCGUUCGUGCGACG-----	3	2, -1
-----CGGACAGGCGUUCGUGCGACGU-----	3	2, 0

uugaaggggAGAUCGACCGUGUUAUAUUCGcuuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag

.(((..((((((((((((((((..((((((.....))))))..))))))))))))))..)).

-----AGAUCGACCGUGUUAUAUU-----	2	0,-3
-----AGAUCGACCGUGUUAUAUUC-----	19	0,-2
-----AGAUCGACCGUGUUAUAUUCG-----	4	0,-1
-----AGAUCGACCGUGUUAUAUUCGC-----	3	0,0
-----AGAUCGACCGUGUUAUAUUCGCU-----	4	0,1
-----AAUAAUACAUGGUUGAUCUUU-----	10	0,0
-----AAUAAUACAUGGUUGAUCUUUU-----	2	0,1

-----UUAUAAUACAACCUGAUAGUa-----	15
0,-1	
-----UUAUAAUACAACCUGAUAGUaa-----	6
0,-1	
-----UUAUAAUACAACCUGAUAGUG-----	490
0,0	
-----UUAUAAUACAACCUGAUAGUGa-----	108
0,0	
-----UUAUAAUACAACCUGAUAGUGU-----	21
0,1	
-----UAUAAUACAACCUGAUAGU-----	5
1,-1	
-----UAUAAUACAACCUGAUAGUG-----	7
1,0	
-----UAUAAUACAACCUGAUAGUGa-----	5
1,0	
-----AUAAUACAACCUGAUAGU-----	2
2,-1	
-----ACUUAUCAGAUUGUAUUGUAA-----	2
-1,-2	
-----CUUAUCAGAUUGUAUUGU-----	2
0,-4	
-----CUUAUCAGAUUGUAUUGUAA-----	7
0,-2	
-----CUUAUCAGAUUGUAUUGUAAa-----	3
0,-2	
-----CUUAUCAGAUUGUAUUGUAAaa-----	2
0,-2	
-----CUUAUCAGAUUGUAUUGUAAU-----	35
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUa-----	2
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUU-----	102
0,0	
-----CUUAUCAGAUUGUAUUGUAAUUa-----	43
0,0	
-----UUAUCAGAUUGUAUUGUAAU-----	2
1,-1	

-----AUCAUAGAGGAAAAUCCACGU----- 10 0,0

>hsa-mir-376a-2 3p:50-70 SRX018964

gguauuuaaaagguagauuuuccuucuaugguuacguguuugaugguuaAUCAUAGAGGAAAUCCACGUuuucaguauc

(((((.(((.(.(((((((.(((((((((((((.....)))..)))))))))))))))).)).)).)).)))))

-----AUCAUAGAGGAAAAUCCACG-----

 $2 \quad 0, -1$

-----AUCAUAGAGGAAAAUCCACGU-----

10 0.0

```
>hsa-mi r-376b      3p:62-83      SRX018964
```

caguccuucuuugguauuuaaaacguggauauuccuucuauguuuacgugauuccugguuaAUCAUAGAGGAAAAUCCAU

GUUuucaguaucaaaugcug

(((((.....(((((((((((.((((((((((((((((.(((((((.....((((.....))))).)))))))).)))))))).))))))

))))).)))))))).))))

-----AUCAUAGAGGAAAAUCCAU

----- 10 0,-3

-----AUCAUAGAGGAAAAUCCAU

G----- 4 0,-2

-----AUCAUAGAGGAAAAUCCAU

GU----- 4 0, -1

-----AUCAUAGAGGAAAAUCCAU

GUU----- 3 0,0

>hsa-mi r-376c 3p:43-63 SRX018964

aaaagguggauauuccuucuauguuuanguuauuuagguuaAACAUAGAGGAAAUCCACGUuuu

(((.((((.((((.((((.((((.(.....)))))))))).))))).)))

-----AACAUAGAGGAAAUCCA----- 3 0,-3

-----AACAUAGAGGAAAUCCAC----- 5 0,-2

-----AACAUAGAGGAAAUCCACG----- 12 0,-1

-----AACAUAGAGGAAAUCCACGU--- 90 0,0

-----AACAUAGAGGAAAUUCCACGUa-- 6 0,0

-----AACAUAGAGGAAAUUCCACGUU-- 8 0,1

-----AACAUAGAGGAAAUCCACGUUU- 4 0,2

>hsa-mir-377 mi:7-28;MA:45-66 SRX018964

uugagcAGAGGUUGCCCUUGGUGAAUUCgcuuuuuuuanguugaAUCACACAAAGGCAACUUUUGUuug

..(((((((((((((((((.(((((((((.(((((.).).))))) .)).).))))) .)).).))))) .)).

-----AGAGGUUGCCCUUGGUGAAU-----	2	0,-2
-----AGAGGUUGCCCUUGGUGAAUU-----	21	0,-1
-----AGAGGUUGCCCUUGGUGAAUUC-----	5	0,0
-----AUCACACAAAGGCAACUUUUG----	2	0,-1

>hsa-mir-378 mi:5-26;MA:43-63 SRX018964

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu

(((((((.....)))))).))))))

----CUCCUGACUCCAGGUCCUGU-----	3	0,-2
----CUCCUGACUCCAGGUCCUGUGU-----	18	0,0
----CUCCUGACUCCAGGUCCUGUGUau-----	2	0,0
----CUCCUGACUCCAGGUCCUGUGUu-----	4	0,0
----UCCUGACUCCAGGUCCUGUGU-----	20	1,0
----UCCUGACUCCAGGUCCUGUGUa-----	2	1,0
----UCCUGACUCCAGGUCCUGUGUau-----	2	1,0
----UCCUGACUCCAGGUCCUGUGUu-----	3	1,0
----UCCUGACUCCAGGUCCUGUGUGU-----	2	1,2
-----GCACUGGACUUGGAGUCAGAAG----	5	-2,-1
-----GCACUGGACUUGGAGUCAGAAGa----	4	-2,-1
-----CACUGGACUUGGAGUCAGAAGG----	25	-1,0
-----CACUGGACUUGGAGUCAGAAGGa----	2	-1,0
-----CACUGGACUUGGAGUCAGAAGGu----	2	-1,0
-----CACUGGACUUGGAGUCAGAAGGC----	19	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa----	9	-1,1
-----CACUGGACUUGGAGUCAGAAGGCau----	4	-1,1
-----CACUGGACUUGGAGUCAGAAGGCu----	7	-1,1
-----ACUGGACUUGGAGUCAGA-----	439	0,-3
-----ACUGGACUUGGAGUCAGAU-----	3	0,-3
-----ACUGGACUUGGAGUCAGAA-----	463	0,-2
-----ACUGGACUUGGAGUCAGAAa-----	45	0,-2
-----ACUGGACUUGGAGUCAGAAaa-----	19	0,-2
-----ACUGGACUUGGAGUCAGAAau-----	2	0,-2
-----ACUGGACUUGGAGUCAGAAu-----	3	0,-2
-----ACUGGACUUGGAGUCAGAAG-----	2495	0,-1
-----ACUGGACUUGGAGUCAGAAGu-----	125	0,-1
-----ACUGGACUUGGAGUCAGAAGuu-----	4	0,-1
-----ACUGGACUUGGAGUCAGAAGG-----	18077	0,0
-----ACUGGACUUGGAGUCAGAAGGa-----	3028	0,0

-----ACUGGACUUGGAGUCAGAAGGaa-	305	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	71	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	940	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	96	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	20164	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	15509	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	744	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	4385	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	6716	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	1168	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	114	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	14	0,2
-----ACUGGACUUGGAGUCAGAAGGCCau	3	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	49	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	6	0,3
-----CUGGACUUGGAGUCAGAA-----	7	1,-2
-----CUGGACUUGGAGUCAGAAG----	33	1,-1
-----CUGGACUUGGAGUCAGAAGG----	275	1,0
-----CUGGACUUGGAGUCAGAAGGa--	15	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	12	1,0
-----CUGGACUUGGAGUCAGAAGGu--	17	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	5	1,0
-----CUGGACUUGGAGUCAGAAGGC--	1069	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	704	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	103	1,1
-----CUGGACUUGGAGUCAGAAGGCau	199	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	598	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	290	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	9	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	7	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	4	1,2
-----CUGGACUUGGAGUCAGAAGGCCU	9	1,3
-----CUGGACUUGGAGUCAGAAGGCCUu	4	1,3
-----UGGACUUGGAGUCAGAAG-----	2	2,-1
-----UGGACUUGGAGUCAGAAGG----	17	2,0
-----UGGACUUGGAGUCAGAAGGa--	3	2,0
-----UGGACUUGGAGUCAGAAGGC--	67	2,1
-----UGGACUUGGAGUCAGAAGGCa-	29	2,1

```

-----UGGACUUGGAGUCAGAAGGCaa  4  2,1
-----UGGACUUGGAGUCAGAAGGCau  9  2,1
-----UGGACUUGGAGUCAGAAGGCu- 21  2,1
-----UGGACUUGGAGUCAGAAGGCuu 16  2,1

```

>hsa-mir-378b 3p:34-52 SRX018964

ggucauugagucucaaggcuaguggaaagagcACUGGACUUGGAGGCAGAAgacc

(((((.(.((((((((((((((((.....)))))).)))))))).))))))

-----ACUGGACUUGGAGGCAGAA----- 64 0,0

>hsa-mir-378c 5p:11-35 SRX018964

ggaggccaucACUGGACUUGGAGUCAGAAGAGUGGagucgggucagacuucaacucugacuuugaagguggugagugccu
c

.((((((((((((.....(((((((((((((((((.....)))))).)))))))).))))))

-----ACUGGACUUGGAGUCAGAAG-----

- 2495 0,-5

-----ACUGGACUUGGAGUCAGAAGu-----

- 125 0,-5

-----ACUGGACUUGGAGUCAGAAGuu-----

- 4 0,-5

-----ACUGGACUUGGAGUCAGAAGA-----

- 683 0,-4

-----ACUGGACUUGGAGUCAGAAGAa-----

- 38 0,-4

-----ACUGGACUUGGAGUCAGAAGAaa-----

- 11 0,-4

-----CUGGACUUGGAGUCAGAAG-----

- 33 1,-5

-----CUGGACUUGGAGUCAGAAGA-----

- 10 1,-4

-----UGGACUUGGAGUCAGAAG-----

- 2 2,-5

-----UGGACUUGGAGUCAGAAGA-----

- 2 2,-4

>hsa-mir-379 MA:6-26;mi:44-65 SRX018964

agagaUGGUAGACUAUGGAACGUAGGcguaugauuucugaccUAUGUAACAUGGUCCACUAACUcu

(((((.((((.(((((((.((((((((((.(...)).)))))))).)))))))).)))))))))		
-----UGGUAGACUAUGGAACGUA-----	5	0,-2
-----UGGUAGACUAUGGAACGUA _a -----	2	0,-2
-----UGGUAGACUAUGGAACGUAG-----	32	0,-1
-----UGGUAGACUAUGGAACGUAGG-----	125	0,0
-----UGGUAGACUAUGGAACGUAGG _a -----	31	0,0
-----UGGUAGACUAUGGAACGUAGG _{aa} -----	24	0,0
-----UGGUAGACUAUGGAACGUAGG _{au} -----	4	0,0
-----UGGUAGACUAUGGAACGUAGG _u -----	15	0,0
-----UGGUAGACUAUGGAACGUAGGC-----	8	0,1
-----UGGUAGACUAUGGAACGUAGGC _a -----	3	0,1
-----UGGUAGACUAUGGAACGUAGGC _{aa} -----	2	0,1
-----UGGUAGACUAUGGAACGUAGGC _{au} -----	2	0,1
-----UAUGUAAACAUGGUCCACUAAC---	2	0,-1

```
>hsa-mir-380      mi:5-26;MA:40-61      SRX018964
aagaUGGUUGACCAUAGAACAUGCGcaucucugugucgUAUGUAAUAUGGUCCACAUCUU
(((((((...(((((((...(((((((...(((((((...)))))))).)))))))).))))))
---AUGGUUGACCAUAGAACAUGC-----2      -1,-2
```

```

>hsa-mir-381      3p:49-70      SRX018964
uacuuaaagcgagguugcccuuguauauucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua
((((((.(.(.(((.((((((((.((((((((.((((...)))...)))))))))))))))).)).))))))
-----UAUACAAGGGCAAGCUCUC----- 2
0,-3

```

```

>hsa-mir-382      5p:11-32      SRX018964
uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuugacgaaucauucacggacaacacuuuuuucagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GAAGUUGUUCGUGGUGGAU-----
      4      0,-3
-----GAAGUUGUUCGUGGUGGAU-----
      11     0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
      5      0,-1
-----GAAGUUGUUCGUGGUGGAUUCG-----
      4      0,0
-----CGAAUCAUUCACGGACAACACU-----

```

```

2
-----AAUCAUUCACGGACAACAC-----
4
-----AAUCAUUCACGGACAACACU-----
34
-----AAUCAUUCACGGACAACACUU-----
14
-----AAUCAUUCACGGACAACACUUU-----
7

>hsa-mir-383    5p:7-28 SRX018964
cuccucAGAUCAGAAGGUGAUUGUGGCUuuggguggauauuaucagccacagcacugccuggucagaaagag
(((.(((.(((((.(((.((((((((...(((.....)))))))))))))))).)))))))).)))))
-----CAGAUCAAGAAGGUGAUUGUGGCU----- 2
-1,0
-----AGAUCAGAAGGUGAUUGUGG----- 2
0,-2
-----AGAUCAGAAGGUGAUUGUGGC----- 2
0,-1
-----AGAUCAGAAGGUGAUUGUGGCa----- 3
0,-1
-----AGAUCAGAAGGUGAUUGUGGCau----- 2
0,-1
-----AGAUCAGAAGGUGAUUGUGGCU----- 29
0,0
-----AGAUCAGAAGGUGAUUGUGGCUau----- 4
0,0
-----AGAUCAGAAGGUGAUUGUGGCUU----- 28
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUa----- 2
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUU----- 9
0,2
-----GAUCAGAAGGUGAUUGUGGCU----- 4
1,0
-----GAUCAGAAGGUGAUUGUGGCUU----- 6
1,1
-----GAUCAGAAGGUGAUUGUGGCUUa----- 2

```



```

1,1
-----GAUCAGAAGGUGAUUGUGGCUUU----- 2
1,2

>hsa-mir-3909    3p:71-92      SRX018964
gguaugcuguugcguguccuuccucuggggagcaggcuccgggggacagggaagcacacaaggaacuUGUCCUCUAG
GGCCUGCAGUCUcauggggagagugacaugcaccaggacc
((((...(((.((((.((((.((((.((((.((((.(.....)))))))))..))
)))))).))))).))))).)))))))).))))))
-----UGUCCUCUAG
GGCCUGCAGUCU----- 3    0,0

>hsa-mir-3910-1 3p:63-82      SRX018964
cuuuugcugucaguuuuucuguugcuugucuuggguuuuauucaaggcacauaAAAGGCAUAAAACCAAGA
CAagcaacaaaaaaaggauugaucacagaag
((((((..(((((((((((.((((((((((((((((((((((((((((((((((((.....)))))))))
)))))))).....)))))))).))))))
-----AAAAGGCAUAAAACCAAGA
CA----- 2    -1,0

>hsa-mir-3910-2 3p:50-69      SRX018964
uuuuuuuguugcuugucuuggguuuuauucaaggccuuuauaugugccuugauauaAAAGGCAUAAAACCAAGACAagcaacagaaa
aa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((.....)))))))))
)))))))).
-----AAAAGGCAUAAAACCAAGACA-----
-- 2    -1,0

>hsa-mir-3912    3p:63-83      SRX018964
agagaggaaugaacaguuaaaauuaaacauguccauuuauuggguuaguuguggacacauacUAACGCAUAAUAUGGACA
UGUuuaaauuaaacuguuccuuucu
((((((((....(((((((((((((((((((((((((((((((((((((((((.((((((.(.....))))))
)))))))))
-----AACGCAUAAUAUGGACA
UG----- 3    1,-1
-----AACGCAUAAUAUGGACA
UGUUA----- 2    1,2
```



```

>hsa-mir-3944    3p:63-85    SRX018964
uccaccagcaggcgagguccugugcagcaggccaaccgagaagcgccugcgucucccauuUUCGGGCUGGCCUGCUGC
UCCGGaccugugccugaucuuaaugcug
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))))))))))).....
-----UUCGGGCUGGCCUGCUGC
UCCGGuu-----      2    0,0

```

```

>hsa-mir-409     5p:15-37;3p:47-68    SRX018964
ugguacucggggagAGGUUACCCGAGCAACUUUGCAUcuggacgacGAAUGUUGCUCGGUGAACCCCUuuucggauca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.))))))))))).....)))))..)))))..)))))..)))))..)))))..)))))..)))))..)))))..)))))..
-----AGGUUACCCGAGCAACUU-----
      3    0,-5
-----AGGUUACCCGAGCAACUU-----
      7    0,-4
-----AGGUUACCCGAGCAACUUUG-----
      3    0,-3
-----AGGUUACCCGAGCAACUUUGC-----
      2    0,-2
-----AGGUUACCCGAGCAACUUUGCA-----
      62   0,-1
-----AGGUUACCCGAGCAACUUUGCAa-----
      2    0,-1
-----AGGUUACCCGAGCAACUUUGCAU-----
      71   0,0
-----AGGUUACCCGAGCAACUUUGCAUC-----
      7    0,1
-----CGAAUGUUGCUCGGUGAA-----
      23   -1,-5
-----CGAAUGUUGCUCGGUGAAC-----
      3    -1,-4
-----CGAAUGUUGCUCGGUGAACCC-----
      2    -1,-2
-----CGAAUGUUGCUCGGUGAACCCCU-----
      3    -1,1
-----GAAUGUUGCUCGGUGAAC-----
      10   0,-4
-----GAAUGUUGCUCGGUGAACCC-----

```

-----GAAUGUUGCUCGGUGAACCCC_a-----

-----GAAUGUUGCUCGGUGAACCCCU-----

gguaccugagaagagguugucugugaugaguucgcuuuuauuaaugacgAAUAUAACACAGAUGGCCUGUuuucaguacc

-----AAUAUAACACAGAUGGCCU-----

ugguacuuggagagaUAGUAGACCGUAUAGCGUACGcuuuaucugugacgUAUGUAACACGGUCCACUAACCcucaguau

(((((((((. ((((.(((((((((((.....).)))))))).).)))))))

-----AUAGUAGACCGUAUAGCG-----

----- 3 -1,-4

-----AUAGUAGACCGUAUAGCGU-----

----- 32 -1,-3

-----AUAGUAGACCGUAUAGCGUA-----

----- 37 -1,-2

-----AUAGUAGACCGUAUAGCGUAa-----

$$-----4 \quad -1, -2$$

-----AUAGUAGACCGUAUAGCGUAC-----

----- 100 -1,-1

-----AUAGUAGACCGUAUAGCGUACa-----

$$----- \quad 3 \quad -1, -1$$

-----AUAGUAGACCGUAUAGCGUACG-----

----- 48 -1,0

-----AUAGUAGACCGUAUAGCGUACGa-----

----- 5 -1,0

-----UAGUAGACCGUAUAGCGU-----

----- 27 0,-3

-----UAGUAGACCGUAUAGCGUA-----

----- 38 0,-2

-----UAGUAGACCGUAUAGCGUAC-----

----- 2 0,-1

>hsa-mir-423 5p:17-39;3p:53-75 SRX018964

auaaaggaaguuaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

....(((((((.((((((((((((((..(((.((((((.....)))))))))).)))...)))))))))))))).))
))))).))))).

-----UGAGGGGCAGAGAGCGAG-----

----- 102 0,-5

-----UGAGGGGCAGAGAGCGAGu-----

----- 9 0,-5

-----UGAGGGGCAGAGAGCGAGuu-----

----- 3 0,-5

-----UGAGGGGCAGAGAGCGAGA-----

----- 281 0,-4

-----UGAGGGGCAGAGAGCGAGa-----

----- 44 0,-4

-----UGAGGGGCAGAGAGCGAGaaa-----

----- 43 0,-4

-----UGAGGGGCAGAGAGCGAGau-----

----- 3 0,-4

-----UGAGGGGCAGAGAGCGAGAu-----

----- 7 0,-4

-----UGAGGGGCAGAGAGCGAGAC-----

----- 206 0,-3

-----UGAGGGGCAGAGAGCGAGACa-----

----- 26 0,-3

-----UGAGGGGCAGAGAGCGAGACaa-----

----- 8 0,-3

-----UGAGGGGCAGAGAGCGAGACau-----

----- 2 0,-3

-----UGAGGGGCAGAGAGCGAGACU-----

----- 276 0,-2

-----UGAGGGGCAGAGAGCGAGACUa-----

----- 8 0,-2

-----UGAGGGGCAGAGAGCGAGACUaa-----

----- 12 0,-2

-----UGAGGGGCAGAGAGCGAGACUau-----

```

----- 12 0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 425 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 133 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 24 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 29 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 2857 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 79 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 6 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 23 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 245 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUa-----
----- 5 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 2 0,1
-----GAGGGGCAGAGAGCGAGAAa-----
----- 2 1,-4
-----GAGGGGCAGAGAGCGAGAC-----
----- 3 1,-3
-----GAGGGGCAGAGAGCGAGACU-----
----- 5 1,-2
-----GAGGGGCAGAGAGCGAGACUU-----
----- 9 1,-1
-----GAGGGGCAGAGAGCGAGACUUa-----
----- 7 1,-1
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 53 1,0
-----GAGGGGCAGAGAGCGAGACUUUa-----
----- 2 1,0
-----GAGGGGCAGAGAGCGAGACUUUau-----

```

----- 2	1,0	
-----	-AGGGGCAGAGAGCGAGACUUU-	-----
----- 4	2,0	
-----	-AGGGGCAGAGAGCGAGACUUUa-	-----
----- 2	2,0	
-----	-AGGGGCAGAGAGCGAGACUUUU-	-----
----- 11	2,1	
-----		-AAGCUCGGUCUGAGGCCCC-
----- 9	-1,-5	
-----		-AAGCUCGGUCUGAGGCCCCU-
----- 3	-1,-4	
-----		-AAGCUCGGUCUGAGGCCCCUau-
----- 2	-1,-4	
-----		-AAGCUCGGUCUGAGGCCCCUu-
----- 3	-1,-4	
-----		-AAGCUCGGUCUGAGGCCCCUC-
----- 2	-1,-3	
-----		-AAGCUCGGUCUGAGGCCCCUCA-
----- 2	-1,-2	
-----		-AAGCUCGGUCUGAGGCCCCUCAG-
----- 6	-1,-1	
-----		-AAGCUCGGUCUGAGGCCCCUCAGU-
----- 18	-1,0	
-----		-AAGCUCGGUCUGAGGCCCCUCAGUu-
----- 2	-1,0	
-----		-AGCUCGGUCUGAGGCCCC-
----- 12	0,-5	
-----		-AGCUCGGUCUGAGGCCCCU-
----- 6	0,-4	
-----		-AGCUCGGUCUGAGGCCCCUC-
----- 7	0,-3	
-----		-AGCUCGGUCUGAGGCCCCUCu-
----- 2	0,-3	
-----		-AGCUCGGUCUGAGGCCCCUCA-
----- 19	0,-2	
-----		-AGCUCGGUCUGAGGCCCCUCAa-
----- 2	0,-2	
-----		-AGCUCGGUCUGAGGCCCCUCAaa-


```

----- 131 0,-3
-----CAGCAGCAAUUC AUGUUUa-----
----- 4 0,-3
-----CAGCAGCAAUUC AUGUUUG-----
----- 2691 0,-2
-----CAGCAGCAAUUC AUGUUUGA-----
----- 1935 0,-1
-----CAGCAGCAAUUC AUGUUUGAu-----
----- 4 0,-1
-----CAGCAGCAAUUC AUGUUUGAA-----
----- 416 0,0
-----CAGCAGCAAUUC AUGUUUGAAa-----
----- 38 0,0
-----CAGCAGCAAUUC AUGUUUGAAu-----
----- 7 0,0
-----AGCAGCAAUUC AUGUUU-----
----- 3 1,-3
-----AGCAGCAAUUC AUGUUUG-----
----- 58 1,-2
-----AGCAGCAAUUC AUGUUUGA-----
----- 31 1,-1
-----AGCAGCAAUUC AUGUUUGAA-----
----- 12 1,0
-----UCAAAACGUGAGGCGCUGCUAU-----
----- 2 -1,0
-----CAAAACGUGAGGCGCUGCa-----
----- 3 0,-3
-----CAAAACGUGAGGCGCUGCU-----
----- 17 0,-2
-----CAAAACGUGAGGCGCUGCUu-----
----- 4 0,-2
-----CAAAACGUGAGGCGCUGCUA-----
----- 57 0,-1
-----CAAAACGUGAGGCGCUGCUAa-----
----- 9 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 524 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----

```

Sequence	Length	GC Content
-----CAAAACGUGAGGCGCUGCUAUA-----	22	0,0
-----CAAAACGUGAGGCGCUGCUAUAa-----	266	0,1
-----CAAAACGUGAGGCGCUGCUAUAu-----	65	0,1
-----AAAACGUGAGGCGCUGCUAU-----	31	0,1
-----AAAACGUGAGGCGCUGCUAUA-----	18	1,0
-----AAAACGUGAGGCGCUGCUAUAu-----	13	1,1
-----	8	1,1

>hsa-mi r-425 MA:14-36;mi :55-76 SRX018964

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAUGUCGUGUCCGCCcagug
cucuuuc

(((((.(.(.(((...((((((.(.((((.(.((((...)).)...)))).).)))))).)...)))..)

).).....)

-----AAUGACACGAUCACUCCCG-----

----- 2 0, -4

-----AAUGACACGAUCACUCCCGU-----

----- 2 0, -3

-----AAUGACACGAUCACUCCCGUU-----

----- 6 0, -2

-----AAUGACACGAUCACUCCCGUUG-----

----- 27 0,-1

-----AAUGACACGAUCACUCCCGUUGu-----

----- 3 0,-1

-----AAUGACACGAUCACUCCCGUUGA-----

----- 123 0,0

-----AAUGACACGAUCACUCCCGUUGAa-----

----- 2 0,0

-----AAUGACACGAUCACUCCCGUUGAG-----

----- 20 0,1

-----AAUGACACGAUCACUCCCGUUGAGa-----

----- 2 0,1

-----AAUGACACGAUCACUCCCGUUGAGU-----

```

----- 4    0,2
-----AUGACACGAUCACUCCCGUUGA-----
----- 20   1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 21   1,1
-----AUGACACGAUCACUCCCGUUGAGU-----
----- 5    1,2
-----CAUCGGGAAUGUCGUGUC-----
----- 10   -1,-5
-----CAUCGGGAAUGUCGUGUCC-----
----- 8    -1,-4
-----CAUCGGGAAUGUCGUGUCCGa-----
----- 2    -1,-3
-----CAUCGGGAAUGUCGUGUCCGu-----
----- 3    -1,-3
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 4    -1,-2
-----CAUCGGGAAUGUCGUGUCCGCu-----
----- 3    -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 19   -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCu-----
----- 3    -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCC-----
----- 2    -1,0
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 8    0,-1
-----AUCGGGAAUGUCGUGUCCGCCC-----
----- 3    0,0
-----AUCGGGAAUGUCGUGUCCGCCCu-----
----- 3    0,0

```

>hsa-mir-4286 5p:11-27 SRX018964

```

uacuuauaggcACCCCACUCCUGGUACCAuagucuaaaguuaaggagauguuagagcugugaguaccaugacuuaagugugg
uggcuuuaaacaug
...(((.(.(((.((((.((((((((((....)))))).)))..)))))).)).....)))..))
)).)).)).....
-----ACCCCACUCCUGGUACCA-----

```

```

----- 66 0,1
-----ACCCACUCCUGGUACCAa-----
----- 17 0,1
-----ACCCACUCCUGGUACCAaa-----
----- 20 0,1
-----ACCCACUCCUGGUACCAau-----
----- 7 0,1
-----ACCCACUCCUGGUACCAU-----
----- 31 0,2
-----ACCCACUCCUGGUACCAUu-----
----- 8 0,2
-----ACCCACUCCUGGUACCAUAau-----
----- 2 0,3
-----ACCCACUCCUGGUACCAUAu-----
----- 3 0,3

```

>hsa-mir-429 3p:51-72 SRX018964

```

cgccggccgaugggcgucuaccagacaugguagaccugggccucugucUAAUACUGUCUGGUAAAACCGUccauccgc
ugc

```

```

...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))).

```

```

-----UAAUACUGUCUGGUAAAA-----
--- 7 0,-4
-----UAAUACUGUCUGGUAAAAC-----
--- 4 0,-3
-----UAAUACUGUCUGGUAAAACC-----
--- 7 0,-2
-----UAAUACUGUCUGGUAAAACCG-----
--- 52 0,-1
-----UAAUACUGUCUGGUAAAACCGa-----
--- 9 0,-1
-----UAAUACUGUCUGGUAAAACCGU-----
--- 115 0,0
-----UAAUACUGUCUGGUAAAACCGUa-----
--- 2 0,0
-----UAAUACUGUCUGGUAAAACCGUu-----
--- 3 0,0

```

```
>hsa-mir-431      MA:20-40;mi:63-84      SRX018964
uccugcuuguccugcgaggUGUCUUGCAGGCCGUAUGCAggccacacugacgguaacguugCAGGUCGUCUUGCAGGGC
UUCUcgcaagacgacauccucaucaccaacgacg
...((.(((((.((((((.(((((((((.((.(.((((((((.....)))....))))).)).))))))))))
.)))))..)))))).....
-----UGUCUUGCAGGCCGUAUGCA-----
-----2    0,0
```

```

----- 2 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 5 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGuu-----
----- 4 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 8 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGu-----
----- 2 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGuu-----
----- 2 0,0

```

>hsa-mir-433 3p:64-85 SRX018964

ccggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg

((..((((((...(((.(((((((((((.(((((((((.....)))))).)).....)))))).)))))))).))
)...)))))).))

```

-----AUCAUGAUGGGCUCCUC
GGU----- 3 0,-2
-----AUCAUGAUGGGCUCCUC
GGUG----- 2 0,-1
-----AUCAUGAUGGGCUCCUC
GGUGU----- 41 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUa----- 6 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUaa----- 2 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUau----- 3 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUU----- 2 0,1
-----UCAUGAUGGGCUCCUC
GGUGU----- 4 1,0

```

>hsa-mir-450a-1 5p:18-39 SRX018964

aaacgauacuaaacuguUUUUGCGAUGUGUCCUAAUAUgcacuaauaaauauauugggaacauuuugcauguauaguuuu
gauencauaua

....(((((.((((((...(((((.(((((((((((((((.(((((((((.....)))))))))))))).)))))).)))).)))).))

-----	UUUUGCGAUGUGUCCUAA-----
----- 2	0,-3
-----	UUUUGCGAUGUGUCCAAU-----
----- 10	0,-2
-----	UUUUGCGAUGUGUCCAAUA-----
----- 19	0,-1
-----	UUUUGCGAUGUGUCCAAUAU-----
----- 14	0,0

[illegible]

-----	UUUUGCGAUGUGUUCCUAA-----
-----	2 0,-3
-----	UUUUGCGAUGUGUUCCUAAU-----
-----	10 0,-2
-----	UUUUGCGAUGUGUUCCUAAUA-----
-----	19 0,-1
-----	UUUUGCGAUGUGUUCCUAAUAU-----
-----	14 0,0

-----		-----AUUGGGGACAUUUUGCAUU-----
-----	6	
-----		-----AUUGGGGACAUUUUGCAUUCA-----
-----	2	
-----		-----AUUGGGGACAUUUUGCAUUCAU-----
-----	14	
-----		-----AUUGGGGACAUUUUGCAUUCAUu-----
-----	2	
-----		-----UUGGGGACAUUUUGCAUU-----
-----	4	
-----		-----UUGGGGACAUUUUGCAUUCAU-----
-----	18	

gcagaauuauUUUGCAAUAUGUUCCUGAAUAuguaauauaaguguaUUGGAUCAUUUUGCAUCCAUAguuuuguau

[illegible]

.....(((.(((((((((((((((((((.(((((((.((((.(.....))))).)))..)))))))).)))))))).)))))).....))
))..))).....

```

-----GUAUGUGCCUUUGGACUAC-----
-----      2      -1,-4-----
-----GUAUGUGCCUUUGGACUACA-----
-----     10     -1,-3-----
-----GUAUGUGCCUUUGGACUACAU-----
-----     31     -1,-2-----
-----GUAUGUGCCUUUGGACUACAUu-----
-----      2      -1,-2-----
-----GUAUGUGCCUUUGGACUACAUC-----
-----      7      -1,-1-----
-----GUAUGUGCCUUUGGACUACAUCG-----
-----      7      -1,0-----
-----GUAUGUGCCUUUGGACUACAUCGU-----
-----     13     -1,1-----
-----UAUGUGCCUUUGGACUAC-----
-----      2      0,-4-----
-----UAUGUGCCUUUGGACUACA-----
-----     12     0,-3-----
-----UAUGUGCCUUUGGACUACAU-----
-----     14     0,-2-----
-----UAUGUGCCUUUGGACUACAUC-----
-----     64     0,-1-----
-----UAUGUGCCUUUGGACUACAUCG-----
-----    130     0,0-----
-----UAUGUGCCUUUGGACUACAUCGa-----
-----      4      0,0-----
-----UAUGUGCCUUUGGACUACAUCGU-----
-----     42     0,1-----
-----UAUGUGCCUUUGGACUACAUCGUG-----
-----      4      0,2-----
-----UAUGUGCCUUUGGACUACAUCGUGu-----
-----      2      0,2-----
-----AUGUGCCUUUGGACUACAUCG-----
-----      2      1,0-----
-----AUGUGCCUUUGGACUACAUCGU-----

```

-----	2	1,1	
-----	-UGUGCCUUUGGACUACAUC-----		
-----	3	2,-1	
-----	-UGUGCCUUUGGACUACAUCGU-----		
-----	5	2,1	
-----	-UGUGCCUUUGGACUACAUCGUG-----		
-----	9	2,2	
-----	-UGUGCCUUUGGACUACAUCGUGa-----		
-----	16	2,2	
-----	-UGUGCCUUUGGACUACAUCGUGu-----		
-----	10	2,2	
-----	-----AUGCAGUCCAUGGGCAUAU-----		
-----	2	-2,-4	
-----	-----AUGCAGUCCAUGGGCAUAUu-----		
-----	3	-2,-4	
-----	-----AUGCAGUCCAUGGGCAUAUA-----		
-----	5	-2,-3	
-----	-----AUGCAGUCCAUGGGCAUAUAa-----		
-----	3	-2,-3	
-----	-----AUGCAGUCCAUGGGCAUAUAu-----		
-----	6	-2,-3	
-----	-----AUGCAGUCCAUGGGCAUAUAC-----		
-----	33	-2,-2	
-----	-----AUGCAGUCCAUGGGCAUAUACA-----		
-----	68	-2,-1	
-----	-----AUGCAGUCCAUGGGCAUAUACAC-----		
-----	19	-2,0	
-----	-----UGCAGUCCAUGGGCAUAUAC-----		
-----	5	-1,-2	
-----	-----UGCAGUCCAUGGGCAUAUACA-----		
-----	39	-1,-1	
-----	-----UGCAGUCCAUGGGCAUAUACAa-----		
-----	2	-1,-1	
-----	-----UGCAGUCCAUGGGCAUAUACAC-----		
-----	29	-1,0	
-----	-----UGCAGUCCAUGGGCAUAUACACa-----		
-----	5	-1,0	
-----	-----UGCAGUCCAUGGGCAUAUACACU-----		

-----	7	-1,1	-----GCAGUCCAUGGGCAUAUA-----
-----	5	0,-3	-----GCAGUCCAUGGGCAUAUAa-----
-----	12	0,-3	-----GCAGUCCAUGGGCAUAUAu-----
-----	9	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	77	0,-2	-----GCAGUCCAUGGGCAUAUACu-----
-----	3	0,-2	-----GCAGUCCAUGGGCAUAUACA-----
-----	364	0,-1	-----GCAGUCCAUGGGCAUAUACa-----
-----	10	0,-1	-----GCAGUCCAUGGGCAUAUACau-----
-----	6	0,-1	-----GCAGUCCAUGGGCAUAUACauu-----
-----	13	0,-1	-----GCAGUCCAUGGGCAUAUACAC-----
-----	578	0,0	-----GCAGUCCAUGGGCAUAUACACa-----
-----	96	0,0	-----GCAGUCCAUGGGCAUAUACACU-----
-----	448	0,1	-----GCAGUCCAUGGGCAUAUACACUa-----
-----	4	0,1	-----GCAGUCCAUGGGCAUAUACACUU-----
-----	10	0,2	-----CAGUCCAUGGGCAUAUACA-----
-----	2	1,-1	-----CAGUCCAUGGGCAUAUACAC-----
-----	61	1,0	-----CAGUCCAUGGGCAUAUACACU-----
-----	53	1,1	-----CAGUCCAUGGGCAUAUACACUa-----
-----	6	1,1	-----CAGUCCAUGGGCAUAUACACUau-----

```

-----      2    1,1
-----CAGUCCAUGGGCAUAUACACUU-----
-----      42    1,2
-----CAGUCCAUGGGCAUAUACACUUa---
-----      15    1,2
-----CAGUCCAUGGGCAUAUACACUUu---
-----      32    1,2
-----CAGUCCAUGGGCAUAUACACUUuu--
-----      2    1,2
-----AGUCCAUGGGCAUAUACAC-----
-----      8    2,0
-----AGUCCAUGGGCAUAUACACa-----
-----      2    2,0
-----AGUCCAUGGGCAUAUACACUU-----
-----      4    2,2

```

>hsa-mir-483 5p:8-29;3p:48-68 SRX018964

```

gagggggAAGACGGGAGGAAAGAAGGGAGugguuccaucacgccuccUCACUCCUCUCCUCCCGUCUUcuccucuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGACGGGAGGAAAGAAG-----
102 0,-4
-----AAGACGGGAGGAAAGAAGu-----
2 0,-4
-----AAGACGGGAGGAAAGAAGG-----
228 0,-3
-----AAGACGGGAGGAAAGAAGGa-----
10 0,-3
-----AAGACGGGAGGAAAGAAGGaa-----
5 0,-3
-----AAGACGGGAGGAAAGAAGGu-----
3 0,-3
-----AAGACGGGAGGAAAGAAGGG-----
268 0,-2
-----AAGACGGGAGGAAAGAAGGGu-----
8 0,-2
-----AAGACGGGAGGAAAGAAGGGA-----
675 0,-1
-----AAGACGGGAGGAAAGAAGGGAa-----

```

232 0, -1
 -----AAGACGGGAGGAAAGAAGGGAaa-----
 110 0, -1
 -----AAGACGGGAGGAAAGAAGGGAau-----
 30 0, -1
 -----AAGACGGGAGGAAAGAAGGGAu-----
 63 0, -1
 -----AAGACGGGAGGAAAGAAGGGAuu-----
 14 0, -1
 -----AAGACGGGAGGAAAGAAGGGAG-----
 1204 0,0
 -----AAGACGGGAGGAAAGAAGGGAGa-----
 251 0,0
 -----AAGACGGGAGGAAAGAAGGGAGaa-----
 23 0,0
 -----AAGACGGGAGGAAAGAAGGGAGau-----
 14 0,0
 -----AAGACGGGAGGAAAGAAGGGAGU-----
 157 0,1
 -----AAGACGGGAGGAAAGAAGGGAGUa-----
 2 0,1
 -----AAGACGGGAGGAAAGAAGGGAGUaa-----
 2 0,1
 -----AAGACGGGAGGAAAGAAGGGAGUau-----
 3 0,1
 -----AAGACGGGAGGAAAGAAGGGAGUu-----
 11 0,1
 -----AAGACGGGAGGAAAGAAGGGAGUuu-----
 8 0,1
 -----AAGACGGGAGGAAAGAAGGGAGUG-----
 2 0,2
 -----AAGACGGGAGGAAAGAAGGGAGUGG-----
 8 0,3
 -----AGACGGGAGGAAAGAAGG-----
 6 1, -3
 -----AGACGGGAGGAAAGAAGGG-----
 13 1, -2
 -----AGACGGGAGGAAAGAAGGGA-----

```

21  1,-1
-----AGACGGGAGGAAAGAAGGGAG-----
30  1,0
-----AGACGGGAGGAAAGAAGGGAGa-----
2   1,0
-----AGACGGGAGGAAAGAAGGGAGU-----
23  1,1
-----AGACGGGAGGAAAGAAGGGAGUG-----
7   1,2
-----AGACGGGAGGAAAGAAGGGAGUGG-----
39  1,3
-----AGACGGGAGGAAAGAAGGGAGUGGU-----
8   1,4
-----UCACUCCUCUCCUCCCGUCU-----
2   0,-1
-----UCACUCCUCUCCUCCCGUCUU-----
3   0,0
-----UCACUCCUCUCCUCCCGUCUUa-----
5   0,0
-----UCACUCCUCUCCUCCCGUCUUaa-----
2   0,0
-----UCACUCCUCUCCUCCCGUCUUu-----
3   0,0
-----UCACUCCUCUCCUCCCGUCUUC-----
11  0,1
-----CACUCCUCUCCUCCCGUCUUC-----
4   1,1
-----CACUCCUCUCCUCCCGUCUUCU-----
10  1,2
-----CACUCCUCUCCUCCCGUCUUCUu-----
2   1,2

>hsa-mir-484      5p:8-29 SRX018964
agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccaaaaauagggacuuucccggggggugaccucggcuuuuuuggcg
.((((..(((((((....(((((((((((..((((((((....))))))..)))))))).)))))))).)))))).
-----UCAGGCUCAGUCCCCUCCCGuu-----
2   0,-2
-----UCAGGCUCAGUCCCCUCCCGA-----

```



```

11  0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
6   0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
4   0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
47  0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
15  0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
3   0,1
-----UCAGGCUCAGUCCCCUCCCGAUAu-----
2   0,1
-----CAGGCUCAGUCCCCUCCCGA-----
2   1,-1

```

>hsa-mi r-485 5p:9-30;3p:46-67 SRX018964

```

acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucauaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((...(((((((...(((((((((((...((((((((((((((((((((((((((((((((((((((((
-----AGAGGCUGGCCGUGAUGA----- 8
0,-4
-----AGAGGCUGGCCGUGAUGAA----- 6
0,-3
-----AGAGGCUGGCCGUGAUGAAU----- 10
0,-2
-----AGAGGCUGGCCGUGAUGAAUU----- 192
0,-1
-----AGAGGCUGGCCGUGAUGAAUUa----- 4
0,-1
-----AGAGGCUGGCCGUGAUGAAUUu----- 5
0,-1
-----AGAGGCUGGCCGUGAUGAAUUC----- 65
0,0
-----AGAGGCUGGCCGUGAUGAAUUCa----- 3
0,0
-----AGAGGCUGGCCGUGAUGAAUUCu----- 6
0,0
-----AGAGGCUGGCCGUGAUGAAUUCG----- 39

```

0,1	-----AGAGGCUGGCCGUGAUGAAUUCGu-----	7
0,1	-----AGAGGCUGGCCGUGAUGAAUUCGA-----	4
0,2	-----AGUCAUACACGGCUCUCCUCUCU-----	9
-1,0	-----GUCAUACACGGCUCUCCUC-----	2
0,-3	-----GUCAUACACGGCUCUCCUCU-----	3
0,-2	-----GUCAUACACGGCUCUCCUCUC-----	4
0,-1	-----GUCAUACACGGCUCUCCUCUCa-----	5
0,-1	-----GUCAUACACGGCUCUCCUCUCU-----	21
0,0		

```

-----CUGUACUGAGCUGCCCCGAG----- 21 2,0
-----CUGUACUGAGCUGCCCCGAGa----- 10 2,0
-----CGGGGCAGCUCAGUACAGG---- 2 0,-2
-----CGGGGCAGCUCAGUACAGGA--- 9 0,-1
-----CGGGGCAGCUCAGUACAGGAU-- 13 0,0
-----CGGGGCAGCUCAGUACAGGAUu- 3 0,0
-----CGGGGCAGCUCAGUACAGGAUA- 5 0,1

```

>hsa-mir-487a 3p:49-70 SRX018964

```

gguacuugaagagugguuaucuccugcuguguucgcuaauuuugacgAAUCAUACAGGGACAUCCAGUUuuucaguauc
(((((((.((((((.(((...((((((.(((((((((.(((.....)))))))).)))))))).)))))))).))))))
-----AAUCAUACAGGGACAUCCAGU-----
2 0,-1
-----AAUCAUACAGGGACAUCCAGUU-----
2 0,0

```

>hsa-mir-487b 3p:51-72 SRX018964

```

uugguacuuggagagugguuaucuccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
ucaa
.(((((((.((((((((.....((((((.((((((((.....)))))))).)))))))).)))))))).))))))
)))
-----AAUCGUACAGGGUCAUCCAC-----
---- 2 0,-2
-----AAUCGUACAGGGUCAUCCACU-----
---- 37 0,-1
-----AAUCGUACAGGGUCAUCCACUU-----
---- 54 0,0
-----AAUCGUACAGGGUCAUCCACUUU-----
---- 8 0,1
-----AUCGUACAGGGUCAUCCACUU-----
---- 3 1,0
-----AUCGUACAGGGUCAUCCACUUU-----
---- 2 1,1
-----UCGUACAGGGUCAUCCACUUU-----
---- 3 2,1

```

>hsa-mir-488 mi:14-34;MA:52-72 SRX018964

```

gagaaucaucucuCCCAGAUAAUGGCACUCUCAAAacaaguuuuccaaauuguUUGAAAGGCUAUUUUCUUGGUcagaugacu

```

(((.((((.(.(.(((.(.(((((((.....)))))).)))))).)).)).))

--- 2 0,-1

--- 5 0,0

uggaggccuugcugguuuggaaaguucuuuguucgacaCCAUGGAUCUCCAGGUGGGUcaaguuuagagaugcacCAACC
UGGAGGACUCCAUGCUGuugagcuguucacaagcagcggacacuucca

.((((..(((((.(((((.(((((((.(((((((((((((((((.((...((...)))..)))..)))
))))))...)))).).)))).))..))..)))).))..)))).).)))).).

UGGAGGACUCCAUG----- 3 0,-3

UGGAGGACUCCAUGC----- 3 0,-2

UGGAGGACUCCAUGCU-----4 0,-1

UGGAGGACUCCAUGCUu----- 3 0,-1

UGGAGGACUCCAUGCUuu----- 3 0,-1

UGGAGGACUCCAUGCUG----- 55 0,0

UGGAGGACUCCAUGCUGa----- 6 0,0

UGGAGGACUCCAUGCUGU----- 151 0,1

UGGAGGACUCCAUGCUGUa----- 7 0,1

UGGAGGACUCCAUGCUGUU----- 8 0,2

UGGAGGACUCCAUGCUGU----- 3 1,1

uugacuuagcuggguAGUGGGGAACCCUCCAUGAGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcuggcuggg

uugg
(..(((((((..(((((((((..(((..((((((((((.....)))))))))).)))..))))).))))))
)..)

-----AGUGGGGAACCCUCCAUGAGGA-----
---- 6 0,1

>hsa-mir-493 mi:16-37;MA:57-78 SRX018964
cuggccuccagggcuUUGUACAUGGUAGGCUUUCAUucauucguuugcacauucggUGAAGGUCUACUGUGUGCCAGGcc
cugugccag
(((((((..(((((((..((((((((((((((((((((.....((.....))....))))))))))))))))))..))))))
)))..))))))

-----UUGUACAUGGUAGGCUUUCAU-----
----- 4 0,-1
-----UUGUACAUGGUAGGCUUUCAU-----
----- 6 0,0
-----UGAAGGUCUACUGUGUGCCA-----
----- 2 0,-2
-----UGAAGGUCUACUGUGUGCCAG-----
----- 12 0,-1
-----UGAAGGUCUACUGUGUGCCAGa-----
----- 9 0,-1
-----UGAAGGUCUACUGUGUGCCAGG-----
----- 3 0,0
-----UGAAGGUCUACUGUGUGCCAGGa-----
----- 5 0,0

>hsa-mir-494 3p:48-69 SRX018964
gauacucgaaggagagguuguccguguugucuucucuuuauuuuangaUGAAACAUACACGGGAAACCUuuuuuuaguau
c
(((((((..(((((((..((((((((((((((((((((.....)))))))))).)))..))))).))))))
)

-----UGAAACAUACACGGGAAAC-----
- 2 0,-3
-----UGAAACAUACACGGGAAACCU-----
- 5 0,-1
-----UGAAACAUACACGGGAAACCUC-----
- 7 0,0
-----UGAAACAUACACGGGAAACCUCU-----

```

>hsa-mir-495      3p:50-71      SRX018964
ugguaccugaaaagaaguugcccauguuauuuuucgcuuuauaugugacgAAACAAACAUGGUGCACUUCUuuucggua
ca
.(((((((.(((((((((((.(((((((((((.(((((((((((.(((((((((((.(((((((((((.(((((((((((.
)).
-----AAACAAACAUGGUGCACUUCU-----
--  3    0,-1
-----AAACAAACAUGGUGCACUUCU-----
--  22   0,0
-----AAACAAACAUGGUGCACUUCUU-----
--  19   0,1
-----AACAAACAUGGUGCACUUCUU-----
--  6    1,1
-----ACAAACAUGGUGCACUUCUUa-----
--  2    2,1

```

```

----- 146 0,0
-----CAGCAGCACACUGUGGUUUGUA-----
----- 91 0,1
-----CAGCAGCACACUGUGGUUUGUAa-----
----- 18 0,1
-----CAGCAGCACACUGUGGUUUGUAu-----
----- 12 0,1
-----AGCAGCACACUGUGGUUU-----
----- 12 1,-2
-----AGCAGCACACUGUGGUUUG-----
----- 29 1,-1
-----AGCAGCACACUGUGGUUUGU-----
----- 12 1,0
-----AGCAGCACACUGUGGUUUGUA-----
----- 11 1,1
-----AGCAGCACACUGUGGUUUGUAa-----
----- 9 1,1
-----AGCAGCACACUGUGGUUUGUAu-----
----- 5 1,1
-----AGCAGCACACUGUGGUUUGUAC-----
----- 20 1,2

```

>hsa-mir-499 5p:33-53;3p:70-91 SRX018964

```

gccuguccccugugccuugggcgggcggcugUUAAGACUUGCAGUGAUGUUUaacuccucuccacgugAACAUACAGC
AAGUCUGUGCUgcuucccgucccuacgcugccugggcaggggu

```

```

((((((((.....((...(((((((.....((((((((.....)))))))))).))
))))))..)).)).)).)).)).)).)).)).)).)).))

```

```

-----UUAAGACUUGCAGUGAUGUU-----
----- 10 0,-1
-----UUAAGACUUGCAGUGAUGUUa-----
----- 6 0,-1
-----UUAAGACUUGCAGUGAUGUU-----
----- 366 0,0
-----UUAAGACUUGCAGUGAUGUUu-----
----- 4 0,0
-----UUAAGACUUGCAGUGAUGUUUA-----
----- 168 0,1
-----UUAAGACUUGCAGUGAUGUUUAu-----

```


-----UGCACCCAGGCAAGGAUU-----

>hsa-mir-501 5p:14-35;3p:51-72 SRX018964
gcucuuccucucuAAUCCUUUGUCCUGGGUGAGAgugcuuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagagggugagc

$$\begin{aligned} &(((((((.(((((((.(((((((.((((.((((((...(((.....))))...))))))))))))))))))..)))))))). \\ &)))) \end{aligned}$$

-----AAUGCACCCGGGCAAGGA-----

--- 9 0,-4

-----AAUGCACCCGGGCAAGGAU-----

--- 12 0, -3

-----AAUGCACCCGGGCAAGGAUU-----

--- 67 0,-2

-----AAUGCACCCGGGCAAGGAUUC-----

--- 5 0,-1

-----AAUGCACCCGGGCAAGGAUUCU-----

--- 2 0,0

-----AUGCACCCGGGCAAGGAUU-----

----- 2 1, -2

>hsa-mi r-502 5p:16-36;3p:52-73 SRX018964

ugcucccccucucuaAUCCUUGCUAUCUGGGUGCUAgugcuggcucaaugcAAUGCACCUGGGCAAGGAUUCAgagaggg
ggagcu

-----AAUGCACCUGGGCAAGGA-----

----- 17 0,-4

-----AAUGCACCUGGGCAAGGAU-----

----- 19 0,-3

-----AAUGCACCUGGGCAAGGAUU-----

----- 98 0,-2

-----AAUGCACCUGGGCAAGGAUUC-----

----- 11 0,-1

-----AAUGCACCUGGGCAAGGAUUCA-----

----- 5 0,0

-----AAUGCACCUGGGCAAGGAUUCau-----

```

----- 2 0,0
-----
-----
-----
----- 10 0,1
-----
-----
-----
----- 4 0,1
-----
-----
-----
----- 46 1,-3
-----
-----
-----
----- 252 1,-2
-----
-----
-----
----- 2 1,-2
-----
-----
-----
----- 36 1,-1
-----

```

>hsa-mir-503 5p:6-28 SRX018964

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgauccggugcucuggggguauuguuuuccgcugccagggua
(((((((.(((((((((((((((((.((.(.((((((((.....)))))))).)).)))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 533 0,-5
-----UAGCAGCGGGAACAGUUCa----- 30 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 21 0,-5
-----UAGCAGCGGGAACAGUUCU----- 692 0,-4
-----UAGCAGCGGGAACAGUUCUa----- 48 0,-4
-----UAGCAGCGGGAACAGUUCUaa----- 111 0,-4
-----UAGCAGCGGGAACAGUUCUau----- 4 0,-4
-----UAGCAGCGGGAACAGUUCUG----- 55 0,-3
-----UAGCAGCGGGAACAGUUCUGa----- 9 0,-3
-----UAGCAGCGGGAACAGUUCUGaa----- 12 0,-3
-----UAGCAGCGGGAACAGUUCUGC----- 3 0,-2
-----UAGCAGCGGGAACAGUUCUGCA----- 7 0,-1
-----UAGCAGCGGGAACAGUUCUGCAaa----- 2 0,-1
-----UAGCAGCGGGAACAGUUCUGCAu----- 4 0,-1
-----UAGCAGCGGGAACAGUUCUGCAuu----- 2 0,-1
-----UAGCAGCGGGAACAGUUCUGCAG----- 88 0,0
-----UAGCAGCGGGAACAGUUCUGCAGa----- 4 0,0
-----UAGCAGCGGGAACAGUUCUGCAGU----- 3 0,1
-----AGCAGCGGGAACAGUUCU----- 6 1,-4
-----AGCAGCGGGAACAGUUCUGCAG----- 4 1,0

```

>hsa-mir-504 5p:13-34 SRX018964

gcugcuguugggAGACCCUGGUCUGCACUCUAUCuguaauucuacugaagggagugcagggcaggguuucccauacagag
ggc

(((((((.....)))))))).)))..
)))

-----AGACCCUGGUCUGCACUCUAU-----

--- 23 0,-1

-----AGACCCUGGUCUGCACUCUAUC-----

--- 19 0,0

-----AGACCCUGGUCUGCACUCUAUCa-----

--- 2 0,0

-----GACCCUGGUCUGCACUCUAUC-----

--- 4 1,0

>hsa-mir-505 mi:15-36;MA:51-72 SRX018964

gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc

(((((.....)))))).)))..
)))

-----GGGAGCCAGGAAGUAUUGAUa-----

---- 2 0,-3

-----GGGAGCCAGGAAGUAUUGAU-----

---- 2 0,-2

-----GGGAGCCAGGAAGUAUUGAUa-----

---- 3 0,-2

-----GGGAGCCAGGAAGUAUUGAUG-----

---- 13 0,-1

-----GGGAGCCAGGAAGUAUUGAUGU-----

---- 63 0,0

-----GGGAGCCAGGAAGUAUUGAUGUa-----

---- 2 0,0

-----GGGAGCCAGGAAGUAUUGAUGUU-----

---- 96 0,1

-----GGGAGCCAGGAAGUAUUGAUGUUU-----

---- 13 0,2

-----CGUCAACACUUGCUGGUUU-----

---- 2 0,-3

-----CGUCAACACUUGCUGGUUUCC-----


```

----- 8
-----AAUGUGUAGCAAAAGACAGA-----
----- 92
-----AAUGUGUAGCAAAAGACAGAA-----
----- 48
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 6
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 14
-----AUGUGUAGCAAAAGACAGA-----
----- 2
-----AUGUGUAGCAAAAGACAGAA-----
----- 2

```

>hsa-mir-511-2 5p:16-36 SRX018964

```

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaauauuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

```

```

(((((((((.....)))))))).)))))
)))))

```

```

-----GUGUCUUUUGCUCUGCAGUCA-----
----- 12 0,0
-----GUGUCUUUUGCUCUGCAGUCAGa-----
----- 2 0,1
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 21
-----AAUGUGUAGCAAAAGACAG-----
----- 8
-----AAUGUGUAGCAAAAGACAGA-----
----- 92
-----AAUGUGUAGCAAAAGACAGAA-----
----- 48
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 6
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 14
-----AUGUGUAGCAAAAGACAGA-----
----- 2
-----AUGUGUAGCAAAAGACAGAA-----

```

----- 2

>hsa-mir-532 5p:20-41;3p:57-78 SRX018964

cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu

.(.((((((((.....((.((((((.(((.(.(((.....))..)))..))))..))))..))....
)))))))).).

-----CAUGCCUUGAGUGUAGGA-----

----- 4 0,-4

-----CAUGCCUUGAGUGUAGGAC-----

----- 4 0,-3

-----CAUGCCUUGAGUGUAGGACCG-----

----- 9 0,-1

-----CAUGCCUUGAGUGUAGGACCGa-----

----- 4 0,-1

-----CAUGCCUUGAGUGUAGGACCGU-----

----- 164 0,0

-----CAUGCCUUGAGUGUAGGACCGUa-----

----- 11 0,0

-----CAUGCCUUGAGUGUAGGACCGUU-----

----- 4 0,1

-----AUGCCUUGAGUGUAGGACCGU-----

----- 3 1,0

-----CCUCCCACACCCAAGGCU-----

----- 2 0,-4

-----CCUCCCACACCCAAGGCUU-----

----- 13 0,-3

-----CCUCCCACACCCAAGGCUUG-----

----- 18 0,-2

-----CCUCCCACACCCAAGGCUUGC-----

----- 36 0,-1

-----CCUCCCACACCCAAGGCUUGCA-----

----- 93 0,0

-----CCUCCCACACCCAAGGCUUGCAu-----

----- 18 0,0

-----CCUCCCACACCCAAGGCUUGCAA-----

----- 14 0,1

cuuuuuagucuggugcaaaagaaacugugguuuuugccauuacuuuuacaggcAAAAACCACAAUACUUUUGCACCAa

...(((((((..(((((((((((.(.(.((((((((((((((((.....)))))))))))).).)))))))).).
 .)))))).....

-----AAAGUAAUUGUGGUUUUGGCa-----
-----3 1,-1-----

`. ((((((((((((((((((.()))))))))..)))))))))
)))))))...)`

-----AAAAGUAAUUGCGGUUUU-----


```

-----      5      0,-1
-----
-----      20      0,0
-----
-----      5      0,0
-----

```

>hsa-mir-548f-2 3p:59-77 SRX018964

```

uaauaacuauuagguuggugcgaacauaaauugcaguuuuuaucauuacuuuaauggcAAAAACUGUAAUUACUUUgca
ccaaccuaauauuuuagu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CAAAAACUGUAAUUACUUUUGC-
-----      2      -1,2
-----

```

>hsa-mir-548f-3 3p:54-72 SRX018964

```

auuagguuggugcaaaccuaauugcauuuuugcaguuuuuuuagaaauugcAAAAACUGUAAUUACUUUgccaacac
cuaauac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))..
-----CAAAAACUGUAAUUACUUUUGC-
-----      2      -1,2
-----

```

>hsa-mir-548g 3p:54-75 SRX018964

```

aguuaauagauuagugcaaaagaaauugcaguuuuugcauuacguucuauggcAAAACUGUAAUUACUUUUGUACcaaca
uaauacuuc
...((((((..((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))....
-----CAAAGUAAUUGCAGUUU-
-----      2
-----

```

>hsa-mir-548h-3 5p:29-50 SRX018964

```

ucugauucugcauguauuagguuggugcAAAAGUAAUCGCGGUUUUUGUCauugaaagaaauagcaaaaacugcauuac
uuuugcaccaaccuaaaaguagucacugucuucagaua
((((((..((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----CAAAAACUGCAAUUAC
UUU-----      3
-----CAAAAACUGCAAUUAC
-----

```

```

UUUU----- 3
-----CAAAAACUGCAAUUAC
UUUUG----- 12
-----CAAAAACUGCAAUUAC
UUUUGa----- 6
-----CAAAAACUGCAAUUAC
UUUUGu----- 2
-----CAAAAACUGCAAUUAC
UUUUGC----- 3
-----AAAAACUGCAAUUAC
UUUU----- 4
-----AAAAACUGCAAUUAC
UUUUG----- 5

```

```

>hsa-mir-548h-4 5p:17-38 SRX018964
gcuauuagguuggugcAAAAGUAAUCGCGGUUUUGUCauuacuuaauuacuuuacguuucuuuauugacaaaaaccgc
aauuacuuuugcaccaaccuaauacuugcua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----AAAAACCGC
AAUACUUU----- 3

```

```

>hsa-mir-548i-1 5p:39-60 SRX018964
cagauggcucugaaguugcacccuauuagguuggugcAAAAGUAAUUGCGGAUUUUGCCauuaaaaguaauggcaaaaa
uagcaauuauuuuuguaccagccuaguaucuuuucuccuucuaacaaacuuguccugagccaucuca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----AAAAGUAAUUGCGGAUUUUGCC-----
----- 2 0,0

```

```

>hsa-mir-548i-2 5p:39-60 SRX018964
uagauggcuccgaaguugcauccuauuaguuggugcAAAAGUAAUUGCGGAUUUUGCCauuaaaaguaauggcaaaaa
uagcaauuauuuuuguaccagccuaguaucuuuucuccuucuaacaaaguucguccugauccaucuca
.((((((.((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----AAAAGUAAUUGCGGAUUUUGCC-----
----- 2 0,0

```

cagauggcuccgaaguuuacauccuauuagguuugugcAAAAGUAAUUGCGAUUUUGCCauuaaaaguaauggcaaaaa
uagcauuuuuuuuuguaccagccuaguaucuuuuucuccuucuaaccaaacuugucccugagccaucuca

agguuggugcAAAAGUAAUUGCGGAUUUUGCCauacuuuuacggcaaaaaccacaaauuuuugcaccaaccuau
(((((((((((((((((.((((.((((.((((((((.....))))))))).)).)).)).)).))))))))...

gggcagccagugaauaguagcuggugcAAAAGUAAUUGCGGUCUUUGGUauuacuuucaguggcaaaaacugcauuacu
uuugcaccagccuacuagaacgcugaguucag

cuuuucucaaguaauugcuguuagguuggugcAAAAGUACUUGCGGAUUUUGCUuuacuuuuauuggcaaaaaccgcauu
auuuuugcucucaaccuaauaugaugcaaaaugggu

-----AAAAGUACUUGC GGAUUUU-----

).))))).
 -----AAAAACCGCAAUUACUUU-----
 -----3 1,-4

```
>hsa-mir-551b    mi:22-43;MA:61-81    SRX018964  
agaugugcucuccuggcccauGAAAUCAAGCGUGGGUGAGACCuggugcagaacgggaagGCGACCCAUACUUGGUUUCA  
Gaggcugugagaauaa  
. . . . .(((((((.....))))).)))))  
..)))).)))....  
-----GCGACCCAUACUUGGUUUCA
```



```

-----      2    0,-1
-----GCGACCCAUACUUGGUUUA
G-----      3    0,0
-----GCGACCCAUACUUGGUUUA
Gu-----      6    0,0

```

```

>hsa-mir-556      5p:16-37;3p:55-76      SRX018964
gauaguaaauaagaaaGAUGAGCUCAUUGUAAUAUGAGGcuucauuuauacauuucAUAUUACCAUAGCUCACUUUuuua
uuacuaccuucaca
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).....
-----AUAUUACCAUAGCUCACUU-----
-----      3    0,-1
-----AUAUUACCAUAGCUCACUUa----
-----      4    0,-1

```

```

>hsa-mir-574      5p:25-47;3p:61-82      SRX018964
gggaccugcgugggugcgggcgugUGAGUGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUCAUGCACACACCCA
CAgccccacacucagg
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))
-----UGAGUGUGUGUGUGUGAG-----
-----      19    0,-5
-----UGAGUGUGUGUGUGUGAGU-----
-----      24    0,-4
-----UGAGUGUGUGUGUGUGAGU-----
-----      5     0,-3
-----UGAGUGUGUGUGUGUGAGUG-----
-----      4     0,-2
-----UGAGUGUGUGUGUGUGAGUG-----
-----      2     0,-1
-----UGAGUGUGUGUGUGUGAGUGa-----
-----      4     0,-1
-----UGAGUGUGUGUGUGUGAGUGUG-----
-----      10    0,0
-----UGAGUGUGUGUGUGUGAGUGUG-----
-----      4     0,1
-----UGAGUGUGUGUGUGUGAGUGUGU-----

```

-----	5	0,2	-----GAGUGUGUGUGUGAGUGUGUGU-----
-----	2	1,2	-----CACGCUCAUGCACACACC-----
-----	20	0,-4	-----CACGCUCAUGCACACACCC-----
-----	54	0,-3	-----CACGCUCAUGCACACACCCCA-----
-----	34	0,-2	-----CACGCUCAUGCACACACCCCA-----
a-----	4	0,-2	-----CACGCUCAUGCACACACCCCA-----
aa-----	2	0,-2	-----CACGCUCAUGCACACACCCCA-----
u-----	6	0,-2	-----CACGCUCAUGCACACACCCCA-----
C-----	61	0,-1	-----CACGCUCAUGCACACACCCCA-----
Cu-----	15	0,-1	-----CACGCUCAUGCACACACCCCA-----
CA-----	267	0,0	-----CACGCUCAUGCACACACCCCA-----
CAa-----	18	0,0	-----CACGCUCAUGCACACACCCCA-----
CAu-----	20	0,0	-----ACGCUCAUGCACACACCC-----
-----	5	1,-3	-----ACGCUCAUGCACACACCCCA-----
C-----	3	1,-1	-----ACGCUCAUGCACACACCCCA-----
CA-----	13	1,0	-----ACGCUCAUGCACACACCCCA-----
CAa-----	2	1,0	

```
>hsa-mir-576      5p:16-37;3p:55-76      SRX018964
uacaauccaacgaggAUUCUAAUUUCCACGUCUUUgguaauaagguuuggcaAAGAUGUGGAAAAAUUGGAUCCuca
uucgauugguuuaacca
..(((((((.(.(((((((((((((((((.(((((((((((((((((.((.....))).)))))))))))))).)))))))))))))).
```

```

))..))))).....
-----AUUCUAAUUUCUCCACGUCUU-----
----- 2 0,-1
-----AAGAUGUGGAAAAAUUGG-----
----- 3 0,-4
-----AAGAUGUGGAAAAAUUGGAA-----
----- 4 0,-2
-----AAGAUGUGGAAAAAUUGGAAUC-----
----- 2 0,0
-----AAGAUGUGGAAAAAUUGGAAUCC-----
----- 2 0,1

```

```

>hsa-mir-582 5p:16-38;3p:53-74 SRX018964
aucugugcucuugaUUACAGUUGUUCAACCAGUUACUaaucuaacuaauugUAACUGGUUGAACAACUGAACCCaaagg
gugcaaaguagaaacauu
...((..(((((((.....((((((((((((((((((((.....))))))))))))))))))....))))))
)..)).....
-----GUAACUGGUUGAACAACUGAA-----
----- 2 -1,-2
-----UAACUGGUUGAACAACUGA-----
----- 9 0,-3
-----UAACUGGUUGAACAACUGAA-----
----- 24 0,-2
-----UAACUGGUUGAACAACUGAAC-----
----- 9 0,-1
-----UAACUGGUUGAACAACUGAACCC-----
----- 3 0,0
-----AACUGGUUGAACAACUGAAC-----
----- 2 1,-1

```

```

>hsa-mir-584 5p:16-37 SRX018964
uagggugaccagccaUUAUGGUUUGCCUGGGACUGAGgaauuugcugggauaugucaguuccaggccaaccaggcugguu
ggucucccugaagcaac
((((..(((((((.....((((((((((((((((((((.....))))))))))))))))))....))))))
))))..))))).....
-----UUAUGGUUUGCCUGGGAC-----
----- 8 0,-4

```

```

>hsa-mir-589      MA:24-45;mi:61-84      SRX018964
uccagccugugcccagcagccccUGAGAACCACGUCUGCUCUGAGcuggguacugccuguUCAGAACAAAUGCCGGUUCC
CAGAcgcugccagcuggcc
....(((((((.....)))))))).
)))))))))).
-----UGAGAACCACGUCUGCUC-----
----- 2      0,-4
-----UGAGAACCACGUCUGCUCUGAGa-----
----- 2      0,0
-----UCAGAACAAAUGCCGGUUCC
CA----- 3      0,-2
-----UCAGAACAAAUGCCGGUUCC
CAGA----- 2      0,0

```

```

>hsa-mir-590      5p:16-37;3p:56-76      SRX018964
uagccagucagaaaauGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUUUAUGUAUAAGCUAGUcucu
gauugaaacaugcagca
...(((((((.(.(((((((.((((((((.(((((((.(((.....)))..)))))).)))))).))))))
))))).
-----GAGCUUAUUCAUAAAAGUG-----
-----      5      0,-3
-----GAGCUUAUUCAUAAAAGUGCA-----
-----      6      0,-1
-----GAGCUUAUUCAUAAAAGUGCAa-----
-----      2      0,-1
-----GAGCUUAUUCAUAAAAGUGCAG-----
-----      37      0,0
-----GUAUUUUUAUGUAUAAGCUAGU-----
-----      5      -1,0
-----UAAUUUUUAUGUAUAAGCU-----
-----      2      0,-3
-----UAAUUUUUAUGUAUAAGCUA-----
-----      4      0,-2

```

-----AGUGGUUCUCUUGUGGCUCAAG-----
----- 2 -----

gcuugaugaugcugcugaugcuggcggugaucgccgauggugugagcuggaaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag

-----UACGUCAUCGUUGUCAUC-----
----- 25 0,-4

-----UACGUCAUCGUUGUCAUCG-----
 ----- 7 0,-3 -----

-----UACGUCAUCGUUGUCAUCGU
----- 29 0,-2

-----UACGUCAUCGUUGUCAUCGU
C----- 13 0 -1

CA-----85 0 0-----UACGUCAUCGUUGUCAUCGU

-----UACGUCAUCGUUGUCAUCGU

-----UACGUCAUCGUUGUCAUCGU

-----UACGUCAUCGUUGUCAUCGU

aagucacgugcuguggcuccagcuuacauaggaaggcucuugucugucaggcaguggaguuACUUACAGACAAGAGCCUUG
CUCaggccagcccugccc

-----CAUAGGAAGGCUCUUGUCU-----
----- 3

cgcccaccucagccucccaaaaugcugggauuacaggcaugagccacugcggucgaccauGACCUGGACAUGUUUGUGCC
CAGUacugucaguuugcag

`.((.(.(.(.(.(.....(((((((..(((((((((.((....((((.....)))))))).)))))))`

```

))))))...))...
-----GCUGGGAUUACAGGCAUGAG-----
----- 8
-----CUGGGAUUACAGGCAUGAG-----
----- 4
-----UGGGAUUACAGGCAUGAG-----
----- 5
-----UGGGAUUACAGGCAUGAGu-----
----- 2
-----UGGGAUUACAGGCAUGAGCC-----
----- 2
-----UGGGAUUACAGGCAUGAGCCAC-----
----- 2
-----GGGAUUACAGGCAUGAGCCA-----
----- 2

```

```

>hsa-mir-624    mi:16-37;MA:54-74    SRX018964
aaugcuguuucaaggUAGUACCAGUACCUUGUGUUCAguggaaccaagguaaaCACAAGGUAUUGGUAUUACCUugagau
agcauuacaccuaagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).....
-----UAGUACCAGUACCUUGUGUUC-----
----- 7 0,-1
-----UAGUACCAGUACCUUGUGUUCA-----
----- 10 0,0

```

```

>hsa-mir-625    MA:15-35;mi:52-73    SRX018964
agggugaggggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUCAucccucu
gcccu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))
-----AGGGGGAAAGUUCUAUAGU-----
----- 2 0,-2
-----AGGGGGAAAGUUCUAUAGUC-----
----- 12 0,-1
-----AGGGGGAAAGUUCUAUAGUCa-----
----- 4 0,-1
-----AGGGGGAAAGUUCUAUAGUCC-----

```


-----ACACUUGUAUGCUAGCUCAG-----

----- 2 -2,-4

>hsa-mir-650 5p:16-36 SRX018964

cagugcuggggucucAGGAGGCAGCGCUCUCAGGACgucaccaccaugggcugggcucugcuccuccucacccuccucac
ucagggcacaggugau

..((((((((((...(((((((((...(((((((((...)))))))))...)))))))))...))))).....
....))))).....

-----AGGAGGCAGCGCUCUCAGGACGU-----

----- 2 0,2

>hsa-mir-652 3p:61-81 SRX018964

acgauggcuaugcacugcacaacccuaggagaggugccauucacauagacuauaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac

.....((...((((((((((((((((((((.....(((((((((((((((...)))))))))...)))))))))
)))))))))...)).....

-----AAUGGCGCCACUAGGGUUGU--

----- 25 0,-3

-----AAUGGCGCCACUAGGGUUGU-

----- 9 0,-2

-----AAUGGCGCCACUAGGGUUGU

----- 9 0,-1

-----AAUGGCGCCACUAGGGUUGU

G----- 8 0,0

-----AAUGGCGCCACUAGGGUUGU

Ga----- 12 0,0

-----AAUGGCGCCACUAGGGUUGU

Gu----- 23 0,0

-----AUGGCGCCACUAGGGUUG-

----- 2 1,-2

>hsa-mir-654 5p:16-37;3p:51-72 SRX018964

ggguaaguggaaagaUGGUGGGCCGCAGAACAUUGUCugaguucgugccaUAUGUCUGCUGACCAUCACCUUuagaagcc
c

(((((.....(((((((((...(((((((((...)))))))))...)))))))))...))))).....
)

-----UGGUGGGCCGCAGAACAUUGUC-----

- 2 0,0

-----UAUGUCUGCUGACCAUCACC-----

-	2	0,-2	-----UAUGUCUGCUGACCAUCACC <u>a</u> -----
-	4	0,-2	-----UAUGUCUGCUGACCAUCACC <u>au</u> -----
-	4	0,-2	-----UAUGUCUGCUGACCAUCACCU-----
-	10	0,-1	-----UAUGUCUGCUGACCAUCACCU <u>au</u> -----
-	2	0,-1	

```
>hsa-mir-655      3p:61-82      SRX018964
aacuaugcaaggauuuugaggagagguuauccguguuauguucgcuucauaucaugaAUAUACAUGGUUAACCCUCU
UUuugaauaucagacuc
.....(((((((.....(((((((.....(((((((.....(((((((.....(((((((.....(((((((.....
))))..)))))).....
-----AUAUACAUGGUUAACCCUCU
UU-----      2      0,0
```

```

>hsa-mir-656      3p:43-63      SRX018964
cugaaaauagguugccugugaggguucacuuucuaauaugaugAAUAUUAUACAGUCAACCUUuuccgauaucgauc
..(((.((((.((((.((((.(...((....))))))))).))))).))))).))))).))))).))))).))))).
-----AAUAUUAUACAGUCAACCU-----
      2      0,-2
-----AAUAUUAUACAGUCAACCU-----
      4      0,-1

```

```
>hsa-mir-659      3p:61-82      SRX018964
uaccgaccucgauuugguucaggaccuucccugaaccaaggaagagucacagucucuucCUUGGUUCAGGGAGGGUCCC
CAacaauguccucaugg
.....(((...(((...(((.....)))))))))))))))))))))))))))))))).
.)))...))).....
-----AGGACCUUCCCUGAACCAAGGA-----
-----4-----
```



```

-- 2   -1,-2
-----ACUGGCUAGGGAAAAUGAUUG-----
-- 3   0,-3
-----ACUGGCUAGGGAAAAUGAUUGG-----
-- 94  0,-2
-----ACUGGCUAGGGAAAAUGAUUGGu-----
-- 25  0,-2
-----ACUGGCUAGGGAAAAUGAUUGGA-----
-- 109 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAa-----
-- 6   0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAU-----
-- 5   0,0
-----CUGGCUAGGGAAAAUGAUU-----
-- 3   1,-4
-----CUGGCUAGGGAAAAUGAUUGG-----
-- 10  1,-2
-----CUGGCUAGGGAAAAUGAUUGGA-----
-- 44  1,-1
-----CUGGCUAGGGAAAAUGAUUGGAa-----
-- 4   1,-1
-----UGGCUAGGGAAAAUGAUUGGA-----
-- 8   2,-1
-----UGGCUAGGGAAAAUGAUUGGAa-----
-- 2   2,-1
-----UGGCUAGGGAAAAUGAUUGGAU-----
-- 2   2,0
-----UAUUCAUUUUAUCCCCAGC-----
-- 2   0,-5
-----UAUUCAUUUUAUCCCCAGCC-----
-- 3   0,-4
-----UAUUCAUUUUAUCCCCAGCCU-----
-- 4   0,-3
-----UAUUCAUUUUAUCCCCAGCCUA-----
-- 5   0,-2
-----UAUUCAUUUUAUCCCCAGCCUAa-----
-- 5   0,-2
-----UAUUCAUUUUAUCCCCAGCCUAu-----

```



```

0,-1
-----UGGUGCGGAGAGGGCCCACAGUG----- 7
0,0
-----UGGUGCGGAGAGGGCCCACAGUGa----- 2
0,0
-----UGGUGCGGAGAGGGCCCACAGUGu----- 19
0,0
-----CUGUAUGCCCUCACCGCUCA----- 2
0,0
-----CUGUAUGCCCUCACCGCUCAG----- 2
0,1
-----CUGUAUGCCCUCACCGCUCAGa----- 2
0,1
-----CUGUAUGCCCUCACCGCUCAGC----- 7
0,2

```

>hsa-mir-676 mi:8-28;MA:43-63 SRX018964

```

gcaugacUCUUCAACCUAGGACUUGCAgaauuauggaugCUGUCCUAAGGUUGUUGAGUUGugc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UCUUCAACCUAGGACUUGCA----- 2 0,0

```

>hsa-mir-7-1 MA:24-46;mi:66-87 SRX018964

```

uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucgaCAACAAAUCACAGUC
UGCCAUAuggcacaggccaugccucacag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).))))))))).))))))))).))))))))).))))))))).))))))))).))))))))
-----UGGAAGACUAGUGAUUUU-----
----- 16 0,-5
-----UGGAAGACUAGUGAUUUUG-----
----- 2 0,-4
-----UGGAAGACUAGUGAUUUUGUU-----
----- 5 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 19 0,-1
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 77 0,0
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 82 0,1

```

UGCCAUu	3	0, -1	CAACAAAUCACAGUC
UGCCAUa	14	0, 0	CAACAAAUCACAGUC
UGCCAUU	6	0, 1	CAACAAAUCACAGUC
UGCCAU	3	1, 0	AACAAAUCACAGUC

```

>hsa-mir-7-3      5p:31-53      SRX018964
agauuagaguggcuguggucuagugcugugUGGAAGACUAGUGAUUUUGUUGUucugauguacuacgacaacaagucaca
gccggccuacauagcgcagacucccuucgac
.....(((.(((....(((((.(((((((.(...((.(.(((((((.(((((((.(.....)).))))))))))))))
).).)).)))))))))))))))))).))...
-----UGGAAGACUAGUGAUUUU-----
-----16  0,-5
-----UGGAAGACUAGUGAUUUUG-----
-----2   0,-4
-----UGGAAGACUAGUGAUUUUGUU-----
-----5   0,-2

```


>hsa-mir-744 MA:11-32;mi:68-89 SRX018964

uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc

(((((.((((.((((.((((.((((.(.....)))))))))).)).).
))))).))))).))))).

-----UGCGGGGCUAGGGCUAAC-----
----- 4 0,-4
-----UGCGGGGCUAGGGCUAACA-----
----- 5 0,-3
-----UGCGGGGCUAGGGCUAACAA-----
----- 2 0,-3
-----UGCGGGGCUAGGGCUAACAG-----
----- 117 0,-2
-----UGCGGGGCUAGGGCUAACAGa-----
----- 19 0,-2
-----UGCGGGGCUAGGGCUAACAGaa-----
----- 4 0,-2
-----UGCGGGGCUAGGGCUAACAGu-----
----- 8 0,-2
-----UGCGGGGCUAGGGCUAACAGC-----
----- 224 0,-1
-----UGCGGGGCUAGGGCUAACAGCu-----
----- 5 0,-1
-----UGCGGGGCUAGGGCUAACAGCA-----
----- 701 0,0
-----UGCGGGGCUAGGGCUAACAGCAa-----
----- 151 0,0
-----UGCGGGGCUAGGGCUAACAGCAaa-----
----- 7 0,0
-----UGCGGGGCUAGGGCUAACAGCAau-----
----- 11 0,0
-----UGCGGGGCUAGGGCUAACAGCAu-----
----- 712 0,0
-----UGCGGGGCUAGGGCUAACAGCAuu-----
----- 57 0,0
-----UGCGGGGCUAGGGCUAACAGCAG-----
----- 11 0,1

```

-----GCGGGGCUAGGGCUAACAG-----
-----      8      1,-2
-----GCGGGGCUAGGGCUAACAGC-----
-----     10     1,-1
-----GCGGGGCUAGGGCUAACAGCA-----
-----     42     1,0
-----GCGGGGCUAGGGCUAACAGCAa-----
-----     17     1,0
-----GCGGGGCUAGGGCUAACAGCAu-----
-----     27     1,0
-----GCGGGGCUAGGGCUAACAGCAuu-----
-----      4      1,0
-----GCGGGGCUAGGGCUAACAGCAG-----
-----      2      1,1

```

>hsa-mir-758 3p:52-73 SRX018964

gccuggauacaugagauagguagaccagagagcacacgcuuuuuuugugccgUUUGUGACCUGGUCCACUAACCCucagua
ucuaaagc

...(((((((.((((.((((.((((((...(((.((((.....).)))..)))...))))))..))))))...)))))
))))....

-----AUGGUUGACCAGAGAGCACA-----
-----8-----

-----AUGGUUGACCAGAGAGCACAC-----
-----7-----

-----AUGGUUGACCAGAGAGCACACG-----
-----2-----

>hsa-mir-765 3p:69-89 SRX018964

uuuaggcgcgugaagaggguucaguagacagccuuucaaagcccuacgagaaacuggggguucUGGAGGAGAAGG
AAGGUGAUGaaggauucguucucgugagccugaa

$$\begin{aligned} & .(((((((\dots(((((((((\dots(((((((((((((((((\dots\dots)))))))))\dots\dots))))))))) \\ & \dots)))\dots)))\dots)))\dots))). \end{aligned}$$

-----CUGGAGGAGAAGG
AAGGUGAU----- 2 -1,-1

>hsa-mir-766 3p:65-86 SRX018964

gcauccucaggaccuggggcuugggugguaggaggaauuggugcuggucuuucauuuuggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaauugucauaggagc

-----AGGAGGAAUUGGUGCUGGUCUU-----		
-----10-----		
-----AGGAGGAAUUGGUGCUGGUCUUU-----		
-----6-----		
-----ACUCCAGCCCCACAGC-----		
CUCAG-----90,-1-----		
-----ACUCCAGCCCCACAGC-----		
CUCAGa-----20,-1-----		
-----ACUCCAGCCCCACAGC-----		
CUCAGC-----40,0-----		
-----ACUCCAGCCCCACAGC-----		
CUCAGCa-----50,0-----		

```

-----UGAGACCUCUGGGUUCUGAG-----
-----11 0,-2-----
-----UGAGACCUCUGGGUUCUGAGC-----
-----10 0,-1-----
-----UGAGACCUCUGGGUUCUGAGCau-----
-----3 0,-1-----
-----UGAGACCUCUGGGUUCUGAGCU-----
-----5 0,0-----
-----UGAGACCUCUGGGUUCUGAGCUa-----
-----6 0,0-----
-----UGAGACCUCUGGGUUCUGAGCUau-----
-----2 0,0-----
-----UGAGACCUCUGGGUUCUGAGCUu-----
-----3 0,0-----
-----GAGACCUCUGGGUUCUGAGC-----
-----2 1,-1-----

```

guucuguuauuugcaguCAGUAACAAAGAUUCAUCCUUGUguccaucaugcaacaaggagaaucuuugucacuuagugua
auuaauagcuggac

...(((((((.(((((.(((((.(((((((((((.(((((((((((.....)).))))))))))))))))).)).)).)))))
)..)))))).....

-----AGGAGAAUCUUUGUCACUUAGU-----
----- 3

>hsa-mir-874 3p:47-68 SRX018964

uuagcccugcggccccacgcaccaggguaagagagacucucgcuucCUGCCCUGGCCCAGGGACCGACucgggcugggc
(((((((...(((.(((.(((((.(((((((((((.(((((((((((.....)).))))))))))))))))).)).)).)))))..

-----CGGCCCCACGCACCAGGGUAAGA-----
3

-----CUGCCCUGGCCCAGGGACCGAC-----
5 0,1

-----CUGCCCUGGCCCAGGGACCGACU-----
2 0,2

>hsa-mir-877 MA:1-20;mi:66-86 SRX018964

GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggaccucagacgugugUCCUCUUCUCCUCC
UCCCAG

...(((((((.(((.(((.(((((((((((.(((((((((((.....(((((((((((.....)))))))))))))).)).)))))
)..)))))).....

GUAGAGGAGAUGGCGCAGG-----
----- 2 0,-2

GUAGAGGAGAUGGCGCAGG-----
----- 4 0,-1

GUAGAGGAGAUGGCGCAGGa-----
----- 2 0,-1

GUAGAGGAGAUGGCGCAGGaa-----
----- 3 0,-1

GUAGAGGAGAUGGCGCAGGG-----
----- 4 0,0

GUAGAGGAGAUGGCGCAGGGa-----
----- 2 0,0

GUAGAGGAGAUGGCGCAGGGG-----
----- 3 0,1

GUAGAGGAGAUGGCGCAGGGGA-----
----- 4 0,2

GUAGAGGAGAUGGCGCAGGGGAC-----
----- 5 0,3
GUAGAGGAGAUGGCGCAGGGGACu-----
----- 2 0,3
GUAGAGGAGAUGGCGCAGGGGACuu-----
----- 3 0,3
GUAGAGGAGAUGGCGCAGGGGACA-----
----- 11 0,4
GUAGAGGAGAUGGCGCAGGGGACAa-----
----- 4 0,4
-UAGAGGAGAUGGCGCAGGG-----
----- 2 1,0
-UAGAGGAGAUGGCGCAGGGG-----
----- 2 1,1
-UAGAGGAGAUGGCGCAGGGGAu-----
----- 2 1,2

>hsa-mir-885 5p:11-32;3p:43-64 SRX018964

ccgcacucucUCCAUAACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu
(((...(((.(.....)))))))).))))))..

-----UCCAUAACACUACCCUGC----- 6
0,-4
-----UCCAUAACACUACCCUGCC----- 5
0,-3
-----UCCAUAACACUACCCUGCCU----- 10
0,-2
-----UCCAUAACACUACCCUGCCUC----- 17
0,-1
-----UCCAUAACACUACCCUGCCUCa----- 3
0,-1
-----UCCAUAACACUACCCUGCCUCU----- 63
0,0
-----UCCAUAACACUACCCUGCCUCUa----- 2
0,0
-----CAUAACACUACCCUGCCU----- 3
2,-2
-----CAUAACACUACCCUGCCUCU----- 6
2,0

0,-4	AGGCAGCGGGGUGUAGUG-	4
0,-3	AGGCAGCGGGGUGUAGUGG-	63
0,-2	AGGCAGCGGGGUGUAGUGGA-	47
0,-2	AGGCAGCGGGGUGUAGUGGAa-	11
0,-2	AGGCAGCGGGGUGUAGUGGAaa-	12
0,-1	AGGCAGCGGGGUGUAGUGGAU-	41
0,-1	AGGCAGCGGGGUGUAGUGGAUu-	29
0,-1	AGGCAGCGGGGUGUAGUGGAUuu-	2
0,0	AGGCAGCGGGGUGUAGUGGAUA-	62
0,0	AGGCAGCGGGGUGUAGUGGAUAa-	41
0,0	AGGCAGCGGGGUGUAGUGGAUAaa-	29
0,0	AGGCAGCGGGGUGUAGUGGAUAau-	11
0,0	AGGCAGCGGGGUGUAGUGGAUAu-	33
0,0	AGGCAGCGGGGUGUAGUGGAUAuu-	4
1,0	GGCAGCGGGGUGUAGUGGAUAaa-	2
1,0	GGCAGCGGGGUGUAGUGGAUAau-	2

>hsa-mir-887 3p:48-69 SRX018964

gugcagauccuugggagcccuguuagacucuggauuuuacacuuggaGUGAACGGGCGCCAUCCCCAGGcuugcacag
 (((((((((((((((((((((((((((((((((..(((..(.....)..))))..)))))).))..)))))))).)))))..
 -----GUGAACGGGCGCCAUCCCCA-----
 3 0,-2

```

-----GUGAACGGGCGCCAUCCCGAG-----
9 0,-1
-----GUGAACGGGCGCCAUCCCGAGG-----
2 0,0
-----GUGAACGGGCGCCAUCCCGAGGC-----
2 0,1
-----GUGAACGGGCGCCAUCCCGAGGCUU-----
2 0,3

```

>hsa-mir-889 3p:49-69 SRX018964

```

gugcuuaaagaauaggcuguccguaguauggucucuauauuuauaugaUUAUAUCGGACAACCAUUGUuuuaguaucc
(((((((((.((((((.....((((((.....)).))))).))))).))))).))))).))))).))..
-----UUAUAUCGGACAACCAUU-----
5 0,-2
-----UUAUAUCGGACAACCAUUGU-----
3 0,0

```

>hsa-mir-92a-1 mi:11-33;MA:48-69 SRX018964

```

cuuucuacacAGGUUGGGAUCGGUUGCAAUGCUguguuucuguauggUUAUUGCACUUGUCCCGGCCUGUugaguuuugg
..(((...(((((((((((.(((.((((((((((((.....))))))))))))).))))))))).))))).))....
-----AGGUUGGGAUCGGUUGCA-----
2 0,-5
-----AGGUUGGGAUCGGUUGCAA-----
2 0,-4
-----AGGUUGGGAUCGGUUGCAAU-----
6 0,-3
-----AGGUUGGGAUCGGUUGCAAUG-----
12 0,-2
-----AGGUUGGGAUCGGUUGCAAUGau-----
2 0,-2
-----AGGUUGGGAUCGGUUGCAAUGC-----
22 0,-1
-----AGGUUGGGAUCGGUUGCAAUGCU-----
184 0,0
-----AGGUUGGGAUCGGUUGCAAUGCUu-----
3 0,0
-----GUAUUGCACUUGUCCCGGCCU-----
2 -1,-2

```

		-----UAUUGCACUUGUCCCCGGC-----
274	0, -4	
		-----UAUUGCACUUGUCCCCGGCa-----
2	0, -4	
		-----UAUUGCACUUGUCCCCGGCau-----
14	0, -4	
		-----UAUUGCACUUGUCCCCGGCuu-----
4	0, -4	
		-----UAUUGCACUUGUCCCCGGCC-----
786	0, -3	
		-----UAUUGCACUUGUCCCCGGCCa-----
8	0, -3	
		-----UAUUGCACUUGUCCCCGGCCU-----
13977	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUa-----
20	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUaa-----
19	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUau-----
15	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUu-----
15	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUuu-----
12	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUG-----
1918	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGa-----
38	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGaa-----
31	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGau-----
8	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGU-----
2291	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUa-----
259	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUaa-----
125	0, 0	

-----	UAUUGCACUUGUCCCGGCau-----	14
0,-4		
-----	UAUUGCACUUGUCCCGGCuu-----	4
0,-4		
-----	UAUUGCACUUGUCCCGGCC-----	786
0,-3		
-----	UAUUGCACUUGUCCCGGCCa-----	8
0,-3		
-----	UAUUGCACUUGUCCCGGCCU-----	
13977	0,-2	
-----	UAUUGCACUUGUCCCGGCCUa-----	20
0,-2		
-----	UAUUGCACUUGUCCCGGCCUaa-----	19
0,-2		
-----	UAUUGCACUUGUCCCGGCCUau-----	15
0,-2		
-----	UAUUGCACUUGUCCCGGCCUu-----	15
0,-2		
-----	UAUUGCACUUGUCCCGGCCUuu-----	12
0,-2		
-----	UAUUGCACUUGUCCCGGCCUG-----	1918
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGa-----	38
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGaa-----	31
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGau-----	8
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGU-----	2291
0,0		
-----	UAUUGCACUUGUCCCGGCCUGUa-----	259
0,0		
-----	UAUUGCACUUGUCCCGGCCUGUaa-----	125
0,0		
-----	UAUUGCACUUGUCCCGGCCUGUau-----	174
0,0		
-----	UAUUGCACUUGUCCCGGCCUGUG-----	7
0,1		


```

-----UAUUGCACUCGUCCCGGCCU
u-----      3    0,-2
-----UAUUGCACUCGUCCCGGCCU
C-----      76   0,-1
-----UAUUGCACUCGUCCCGGCCU
Ca-----      9    0,-1
-----UAUUGCACUCGUCCCGGCCU
Caa-----     19   0,-1
-----UAUUGCACUCGUCCCGGCCU
Cau-----      9    0,-1
-----UAUUGCACUCGUCCCGGCCU
CC-----     80   0,0
-----UAUUGCACUCGUCCCGGCCU
CCa-----     34   0,0
-----UAUUGCACUCGUCCCGGCCU
CCaa-----      9    0,0
-----UAUUGCACUCGUCCCGGCCU
CCau-----     30   0,0
-----UAUUGCACUCGUCCCGGCCU
CCu-----     25   0,0
-----UAUUGCACUCGUCCCGGCCU
CCuu-----      6    0,0
-----AUUGCACUCGUCCCGGCCU
CCa-----      2    1,0

```

>hsa-mir-93 MA:11-33;mi:50-71 SRX018964

```

cugggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagcccccg
((((((((((..((((((((((((((..((((..((((..))))))))))))))))))))))))))))))))))))))
-----CAAAGUGCUGUUCGUGCA-----
      49   0,-5
-----CAAAGUGCUGUUCGUGCAG-----
      78   0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
      63   0,-3
-----CAAAGUGCUGUUCGUGCAGGaa-----
      4    0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
      229  0,-2

```

```

-----CAAAGUGCUGUUCGUGCAGGUA-----
460 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAa-----
79 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAu-----
73 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
228 0,0
-----CAAAGUGCUGUUCGUGCAGGUAGU-----
2 0,1
-----AAAGUGCUGUUCGUGCAGGU-----
14 1,-2
-----AAAGUGCUGUUCGUGCAGGUA-----
17 1,-1
-----AAAGUGCUGUUCGUGCAGGUAa-----
3 1,-1
-----AAAGUGCUGUUCGUGCAGGUAu-----
4 1,-1
-----AAAGUGCUGUUCGUGCAGGUAG-----
9 1,0
-----ACUGCUGAGCUAGCACUUCCC-----
3 0,-1
-----ACUGCUGAGCUAGCACUUCCCCu-----
3 0,0
-----ACUGCUGAGCUAGCACUUCCCGA-----
2 0,1

```

```

>hsa-mir-935 3p:56-78 SRX018964
ggcggggggcgcgggcggcaguggcgggagcgggcccccucggccauccuccgucugcCCAGUUACCGCUUCCGCUACCGCcgcgcucccgcu
((((((((...((((((.((((((((((((((((...((.((((.....))))).))...))))))))))))))))))))))))))
))))))))))
-----CAGUUACCGCUUCCGCUACCG---
----- 5 1,-1

```

```

>hsa-mir-940 3p:60-80 SRX018964
gugagguguggggcccgccccaggagcggggcccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugacccac

```

-----			AAGGCAGGGCCCCCGCUC-----
-----	2	0,-3	
-----			AAGGCAGGGCCCCCGCUCCC-----
-----	2	0,-1	
-----			AAGGCAGGGCCCCCGCUCCCC-----
-----	6	0,0	
-----			AAGGCAGGGCCCCCGCUCCCC-----
uu-----	4	0,0	
-----			AAGGCAGGGCCCCCGCUCCCC-----
uu-----	2	0,0	

[illegible]

UGUGCACAUGU	3	0, -2
UGUGCACAUGUG	8	0, -1
UGUGCACAUGUG _a	10	0, -1
UGUGCACAUGUG _u	9	0, -1
UGUGCACAUGUGC	28	0, 0
UGUGCACAUGUGC _a	2	0, 0
UGUGCACAUGUGC _u	4	0, 0


```

-----CACCCGGCUGUGUGCACAUGUGC-----
-----                28
-----CACCCGGCUGUGUGCACAUGUGCa-----
-----                2
-----CACCCGGCUGUGUGCACAUGUGCu-----
-----                4
-----                                -----CACCCGGCUG
UGUGCACAUGU-----                3    0,-2
-----                                -----CACCCGGCUG
UGUGCACAUGUG-----                8    0,-1
-----                                -----CACCCGGCUG
UGUGCACAUGUGa-----               10    0,-1
-----                                -----CACCCGGCUG
UGUGCACAUGUGu-----                9    0,-1
-----                                -----CACCCGGCUG
UGUGCACAUGUGC-----               28    0,0
-----                                -----CACCCGGCUG
UGUGCACAUGUGCa-----                2    0,0
-----                                -----CACCCGGCUG
UGUGCACAUGUGCu-----                4    0,0

```

>hsa-mir-942 5p:13-34 SRX018964

```

auuaggagaguaUCUUCUCUGUUUUGGCCAUGUGuguacucacagccccucacacauggccgaaacagagaaguuaauuu
ccuaau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UUCUCUGUUUUGGCCAUGUGUG-----
-----    2    2,2

```

>hsa-mir-944 3p:54-75 SRX018964

```

guuccagacacaucaucugauauacaauuuuucuaaaauuguauaaagagAAAUUAUUGUACAUCGGAUGAGcugug
ucugggau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----                                -----AAAUUAUUGUACAUCGGAUGAG-----
-----                3    0,0
-----                                -----AAAUUAUUGUACAUCGGAUGAG-----
-----                3    1,0

```

aacacagugggcacucaaaaaugucuguugaauugaaaugcguuacaUUCAACGGGUUUUUAUGAGCAcccacucugu

- 196 0,-4

- 144 0,-3

- 2 0,-3

- 555 0,-2

$$-4] \cup [0, -1]$$

- 23 0 0

- 30 0.0

$$= 7 \times 10^{-3}$$
$$- \frac{9}{2} - 1 - 2$$
$$= \begin{pmatrix} 3 & 1 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$$
$$= \begin{pmatrix} 12 & 1 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$$
$$= \begin{pmatrix} 4 & 1 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$$
$$-4 \quad 2 \quad -2$$
$$- \frac{2}{3} \frac{2.0}{1.0} = -0.4$$

```

aggauucugcucaugccagggUGAGGUAGUAAGUUGUAUUGUguggggguagggauauuaggccccaauuagaagauaac
uauacaacuuacuacuuucccuggguguguggcatauauca
.((((..((((((((((((((((((.((((((((((((((((((.((((((((((((.....)))))).....))))))
.))))))))).....)))))))).))))).))))).
-----UGAGGUAGUAAGUUGUAU-----
----- 69  0,-4
-----UGAGGUAGUAAGUUGUAUa-----
----- 2   0,-4
-----UGAGGUAGUAAGUUGUAUU-----
----- 4   0,-3
-----UGAGGUAGUAAGUUGUAUUa-----
----- 2   0,-3
-----UGAGGUAGUAAGUUGUAUUG-----
----- 12  0,-2
-----UGAGGUAGUAAGUUGUAUUGU-----
----- 29  0,-1
-----UGAGGUAGUAAGUUGUAUUGUU-----
----- 15  0,0
-----C
UAUACAACUACUACUUCCu----- 2

```

```

>hsa-mir-99a      MA:13-34;mi:50-71      SRX018964
cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g
.(((((((((((.(((((((((.(((.((((((.(.....)))))))).)))).)))).)))).)))).)))).
.
-----AAACCCGUAGAUCCGAUC-----
-   2   -1,-5
-----AAACCCGUAGAUCCGAUCU-----
-   4   -1,-3
-----AAACCCGUAGAUCCGAUCUUG-----
-  36   -1,-2
-----AAACCCGUAGAUCCGAUCUUGa-----
-   2   -1,-2
-----AAACCCGUAGAUCCGAUCUUGU-----
-  225  -1,-1
-----AAACCCGUAGAUCCGAUCUUGUG-----
-   10  -1,0

```

```

-----AAACCCGUAGAUCCGAUCUUGUGa-----
- 2 -1,0
-----AAACCCGUAGAUCCGAUCUUGUGu-----
- 2 -1,0
-----AACCCGUAGAUCCGAUCU-----
- 526 0,-4
-----AACCCGUAGAUCCGAUCUa-----
- 6 0,-4
-----AACCCGUAGAUCCGAUCUaa-----
- 2 0,-4
-----AACCCGUAGAUCCGAUCUU-----
- 2481 0,-3
-----AACCCGUAGAUCCGAUCUua-----
- 52 0,-3
-----AACCCGUAGAUCCGAUCUuau-----
- 7 0,-3
-----AACCCGUAGAUCCGAUCUUu-----
- 32 0,-3
-----AACCCGUAGAUCCGAUCUUuu-----
- 16 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 9438 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
- 112 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
- 4 0,-2
-----AACCCGUAGAUCCGAUCUUGau-----
- 2 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 56795 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
- 461 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 81 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
- 27 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----
- 145 0,-1

```

```

-----AACCCGUAGAUCCGAUCUUGUuu-----
- 11 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 47447 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 9056 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 181 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----
- 29 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 11861 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----
- 44 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 12 0,1
-----ACCCGUAGAUCCGAUCUU-----
- 4 1,-3
-----ACCCGUAGAUCCGAUCUUG-----
- 6 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----
- 41 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 40 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 14 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----
- 24 1,0
-----CAAGCUCGCUUCUAUGGG-----
- 11 0,-4
-----CAAGCUCGCUUCUAUGGGU-----
- 4 0,-3
-----CAAGCUCGCUUCUAUGGGUC-----
- 3 0,-2
-----CAAGCUCGCUUCUAUGGGUCU-----
- 8 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 10 0,0

```

```

-----CAAGCUCGCUUCUAUGGGUCUGa-----
- 4 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 18 0,1
-----CAAGCUCGCUUCUAUGGGUCUGUa-----
- 2 0,1
-----AAGCUCGCUUCUAUGGGUC-----
- 2 1,-2
-----AAGCUCGCUUCUAUGGGUCU-----
- 2 1,-1

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018964

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCUU----- 5 0,-3
-----CACCCGUAGAACCGACCUUG----- 22 0,-2
-----CACCCGUAGAACCGACCUUGC----- 183 0,-1
-----CACCCGUAGAACCGACCUUGCa----- 17 0,-1
-----CACCCGUAGAACCGACCUUGCau----- 6 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 486 0,0
-----CACCCGUAGAACCGACCUUGCGa----- 179 0,0
-----CACCCGUAGAACCGACCUUGCGau----- 3 0,0
-----CACCCGUAGAACCGACCUUGCGu----- 134 0,0
-----CACCCGUAGAACCGACCUUGCGG----- 15 0,1
-----ACCCGUAGAACCGACCUUGC----- 3 1,-1
-----ACCCGUAGAACCGACCUUGCG----- 8 1,0
-----ACCCGUAGAACCGACCUUGCGa----- 2 1,0
-----ACCCGUAGAACCGACCUUGCGu----- 4 1,0
-----CAAGCUCGUGUCUGUGGGUC----- 4 0,-2
-----CAAGCUCGUGUCUGUGGGUCC----- 3 0,-1
-----CAAGCUCGUGUCUGUGGGUCCGa--- 3 0,0
-----CAAGCUCGUGUCUGUGGGUCCGU--- 4 0,1

```

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018965

```

ugggaUGAGGUAGUAGGUUGUAUAGUUuuaggguacacccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
(((((((((.....)))))))))))))
-----UGAGGUAGUAGGUUGUAU-----
771 0,-4

```

-----UGAGGUAGUAGGUUGUAUuu-----
 11 0, -4
 -----UGAGGUAGUAGGUUGUAUA-----
 414 0, -3
 -----UGAGGUAGUAGGUUGUAUAa-----
 26 0, -3
 -----UGAGGUAGUAGGUUGUAUAaa-----
 3 0, -3
 -----UGAGGUAGUAGGUUGUAUAau-----
 2 0, -3
 -----UGAGGUAGUAGGUUGUAUAu-----
 8 0, -3
 -----UGAGGUAGUAGGUUGUAUAG-----
 1186 0, -2
 -----UGAGGUAGUAGGUUGUAUAGa-----
 38 0, -2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 5 0, -2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 11 0, -2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 7521 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 152 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 102 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 20 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 20762 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 2092 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 168 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 51 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 637 0, 1

```

-----UGAGGUAGUAGGUUGUAUAGUUU-----
5    0,2
-----GAGGUAGUAGGUUGUAUAG-----
3    1,-2
-----GAGGUAGUAGGUUGUAUAGU-----
8    1,-1
-----GAGGUAGUAGGUUGUAUAGUU-----
23   1,0
-----GAGGUAGUAGGUUGUAUAGUua-----
3    1,0
-----AGGUAGUAGGUUGUAUAGUU-----
13   2,0
-----CUAUACAAUCUACUGUCUUUCu-----
3    0,0

```

>hsa-let-7a-2 MA:5-26;mi:50-71 SRX018965

agguUGAGGUAGUAGGUUGUAUAGUUuagaauuacaucaagggagauaaCUGUACAGCCUCCUAGCUUUCcu

---UUGAGGUAGUAGGUUGUAUAGU----- 2
-1,-1

---UGAGGUAGUAGGUUGUAU----- 771
0,-4

-----UGAGGUAGUAGGUUGUAUuu----- 11
0,-4

---UGAGGUAGUAGGUUGUAUA-----414
0,-3

-----UGAGGUAGUAGGUUGUAUAa----- 26
0,-3

---UGAGGUAGUAGGUUGUAUAaa----- 3
0,-3

-----UGAGGUAGUAGGUUGUAUAau----- 2
0,-3

---UGAGGUAGUAGGUUGUAUAu----- 8
0,-3

-----UGAGGUAGUAGGUUGUAUAG----- 1186
0,-2

-----UGAGGUAGUAGGUUGUAUAGa----- 38
0,-2

UGAGGUAGUAGGUUGUAUAGaa	5
0,-2	
UGAGGUAGUAGGUUGUAUAGau	11
0,-2	
UGAGGUAGUAGGUUGUAUAGU	7521
0,-1	
UGAGGUAGUAGGUUGUAUAGUa	152
0,-1	
UGAGGUAGUAGGUUGUAUAGUaa	102
0,-1	
UGAGGUAGUAGGUUGUAUAGUau	20
0,-1	
UGAGGUAGUAGGUUGUAUAGUU	
20762 0,0	
UGAGGUAGUAGGUUGUAUAGUUa	2092
0,0	
UGAGGUAGUAGGUUGUAUAGUUaa	168
0,0	
UGAGGUAGUAGGUUGUAUAGUUau	51
0,0	
UGAGGUAGUAGGUUGUAUAGUUU	637
0,1	
UGAGGUAGUAGGUUGUAUAGUUUA	7
0,2	
GAGGUAGUAGGUUGUAUAG	3
1,-2	
GAGGUAGUAGGUUGUAUAGU	8
1,-1	
GAGGUAGUAGGUUGUAUAGUU	23
1,0	
GAGGUAGUAGGUUGUAUAGUUa	3
1,0	
AGGUAGUAGGUUGUAUAGUU	13
2,0	

--GUGAGGUAGUAGGUUGUAUAG-----	2
-1,-2	
--GUGAGGUAGUAGGUUGUAUAGU-----	6
-1,-1	
--GUGAGGUAGUAGGUUGUAUAGUU-----	4
-1,0	
---UGAGGUAGUAGGUUGUAU-----	771
0,-4	
---UGAGGUAGUAGGUUGUAUuu-----	11
0,-4	
---UGAGGUAGUAGGUUGUAUA-----	414
0,-3	
---UGAGGUAGUAGGUUGUAUAa-----	26
0,-3	
---UGAGGUAGUAGGUUGUAUAaa-----	3
0,-3	
---UGAGGUAGUAGGUUGUAUAau-----	2
0,-3	
---UGAGGUAGUAGGUUGUAUAu-----	8
0,-3	
---UGAGGUAGUAGGUUGUAUAG-----	1186
0,-2	
---UGAGGUAGUAGGUUGUAUAGa-----	38
0,-2	
---UGAGGUAGUAGGUUGUAUAGaa-----	5
0,-2	
---UGAGGUAGUAGGUUGUAUAGau-----	11
0,-2	
---UGAGGUAGUAGGUUGUAUAGU-----	7521
0,-1	
---UGAGGUAGUAGGUUGUAUAGUa-----	152
0,-1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	102
0,-1	
---UGAGGUAGUAGGUUGUAUAGUau-----	20
0,-1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
20762 0,0	

-----UGAGGUAGUAGGUUGUGUGG-----
--- 876 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 19 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 5 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 5 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 1562 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 165 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 389 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 390 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 4166 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 1397 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 358 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 376 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 479 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 66 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 11 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 3 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 14 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 3 0,2
-----GAGGUAGUAGGUUGUGUG-----
--- 2 1,-3

```

-----GAGGUAGUAGGUUGUGUGGU-----
--- 4 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 2 1,-1
-----GAGGUAGUAGGUUGUGUGGU-----
--- 14 1,0
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 8 1,0
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 3 1,0
-----GAGGUAGUAGGUUGUGUGGU-----
--- 2 1,1
-----CUAUACAACCUACUGCCUCC
--- 5 0,-1
-----CUAUACAACCUACUGCCUCC
u-- 2 0,-1

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018965

```

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc
(((.((((((.(((.(((.((((((((((((((.(((.((.(.....).).))))))))))))))))).)).)).)))))
)))

```

```

-----GUUGAGGUAGUAGGUUGUAUGGU-----
---- 3 -2,-1
-----GUUGAGGUAGUAGGUUGUAUGGU-----
---- 4 -2,0
-----UUGAGGUAGUAGGUUGUAUGG-----
---- 3 -1,-2
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 28 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUa-----
---- 5 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 16 -1,0
-----UGAGGUAGUAGGUUGUAU-----
---- 771 0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
---- 11 0,-4

```

```

-----UGAGGUAGUAGGUUGUAUG-----
---- 303 0, -3
-----UGAGGUAGUAGGUUGUAUGu-----
---- 2 0, -3
-----UGAGGUAGUAGGUUGUAUGuu-----
---- 6 0, -3
-----UGAGGUAGUAGGUUGUAUGG-----
---- 566 0, -2
-----UGAGGUAGUAGGUUGUAUGGa-----
---- 14 0, -2
-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 4 0, -2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 5 0, -2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 2277 0, -1
-----UGAGGUAGUAGGUUGUAUGGUa-----
---- 225 0, -1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 73 0, -1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 41 0, -1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 12450 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 1051 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 101 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 48 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 329 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 10 0,2
-----GAGGUAGUAGGUUGUAUG-----
---- 2 1, -3
-----GAGGUAGUAGGUUGUAUGGU-----
---- 3 1, -1

```

```

-----GAGGUAGUAGGUUGUAUGGUa-----
---- 5 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----
---- 89 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 3 1,0
-----GAGGUAGUAGGUUGUAUGGUUU-----
---- 2 1,1
-----AGGUAGUAGGUUGUAUGGUU-----
---- 5 2,0

```

>hsa-let-7d MA:8-29;mi:62-83 SRX018965

ccuaggaAGAGGUAGUAGGUUGCAUAGUUuuagggcagggauuuugcccacaaggagguaaCUAUACGACCUGCUGCCUU
UCUuagg

```

(((((((.(((((((((((((((.((((((.....)))))).))))))))))))))
))))))

```

```

-----AAGAGGUAGUAGGUUGCAUAGU-----
----- 3 -1,-1
-----AAGAGGUAGUAGGUUGCAUAGUU-----
----- 2 -1,0
-----AGAGGUAGUAGGUUGCAU-----
----- 151 0,-4
-----AGAGGUAGUAGGUUGCAUu-----
----- 3 0,-4
-----AGAGGUAGUAGGUUGCAUuu-----
----- 7 0,-4
-----AGAGGUAGUAGGUUGCAUA-----
----- 84 0,-3
-----AGAGGUAGUAGGUUGCAUAa-----
----- 5 0,-3
-----AGAGGUAGUAGGUUGCAUAG-----
----- 278 0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 12 0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 4 0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 7 0,-2

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-----AGAGGUAGUAGGUUGCAUAGU-----
----- 509 0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 68 0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 16 0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 4 0,-1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 5633 0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 511 0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 31 0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 9 0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 414 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 4 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 6 0,2
-----GAGGUAGUAGGUUGCAUA-----
----- 2 1,-3
-----GAGGUAGUAGGUUGCAUAGU-----
----- 2 1,-1
-----GAGGUAGUAGGUUGCAUAGUa-----
----- 2 1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 12 1,0
-----GAGGUAGUAGGUUGCAUAGUUU-----
----- 3 1,1
-----AGGUAGUAGGUUGCAUAGUU-----
----- 3 2,0
-----CUAUACGACCUGCUGCCUU
U----- 4 0,-2
-----CUAUACGACCUGCUGCCUU
UC----- 2 0,-1

```


-----CUAUACGACCUGCUGCCUU
UCa---- 3 0,-1
-----CUAUACGACCUGCUGCCUU
UCU---- 2 0,0

>hsa-let-7e MA:8-29;mi:53-74 SRX018965

cccgggcUGAGGUAGGAGGUUGUAUAGUUgaggaggacaccaaggagaucaCUAUACGGCCUCCUAGCUUUCcagg
((.(((.((((.(((((((((((((((((.((...((...)).....)))))))))))))))))))).))..))..))

-----CUGAGGUAGGAGGUUGUAUAGU-----

 $2 \quad -1, -1$

-----UGAGGUAGGAGGUUGUAU-----

85 0,-4

-----UGAGGUAGGAGGUUGUAUA-----

103 0,-3

-----UGAGGUAGGAGGUUGUAUAa-----

5 0,-3

-----UGAGGUAGGAGGUUGUAUAG-----

211 0,-2

-----UGAGGUAGGAGGUUGUAUAGa-----

30 0, -2

-----UGAGGUAGGAGGUUGUAUAGaa-----

6 0, -2

-----UGAGGUAGGAGGUUGUAUAG_{au}-----

4 0, -2

-----UGAGGUAGGAGGUUGUAUAGU-----

685 0,-1

-----UGAGGUAGGAGGUUGUAUAGUa-----

31 0, -1

-----UGAGGUAGGAGGUUGUAUAGU_{aa}-----

71 0,-1

-----UGAGGUAGGAGGUUGUAUAGU_{au}-----

18 0, -1

-----UGAGGUAGGAGGUUGUAUAGUU-----

1155	0,0
------	-----

-----UGAGGUAGGAGGUUGUAUAGUU_a-----

452 0,0

-----UGAGGUAGGAGGUUGUAUAGUU_{aa}-----

54 0,0


```

-----UGAGGUAGUAGAUUGUAUAG-----
----- 716 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
----- 25 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
----- 3 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
----- 3 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
----- 4072 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
----- 87 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
----- 102 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 14 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 10701 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 3651 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 162 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 22 0,0
-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 219 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 6 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGU-----
----- 8 0,2
-----GAGGUAGUAGAUUGUAUA-----
----- 3 1,-3
-----GAGGUAGUAGAUUGUAUAGU-----
----- 10 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
----- 16 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
----- 9 1,0

```

```

-----AGGUAGUAGAUUGUAUAGUU-----
----- 5 2,0
-----AGGUAGUAGAUUGUAUAGUua-----
----- 3 2,0
-----AGGUAGUAGAUUGUAUAGUUGU-----
----- 3 2,2
-----CUAUACAAUCUAUUGCCU
UCC---- 2 0,-1

```

>hsa-let-7f-2 MA:8-29;mi:58-79 SRX018965

```

ugugggaUGAGGUAGUAGAUUGUAUAGUUuuagggucauaccccaucuuggagauaaCUAUACAGUCUACUGUCUUUCCc
acg

```

```

(((((((.....))))))))).))))))
)).

```

```

-----AUGAGGUAGUAGAUUGUAUAG-----
--- 2 -1,-2
-----AUGAGGUAGUAGAUUGUAUAGU-----
--- 11 -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUU-----
--- 8 -1,0
-----UGAGGUAGUAGAUUGUAU-----
--- 423 0,-4
-----UGAGGUAGUAGAUUGUAUu-----
--- 4 0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
--- 8 0,-4
-----UGAGGUAGUAGAUUGUAUA-----
--- 775 0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
--- 4 0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
--- 4 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 716 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 25 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 3 0,-2

```

```

-----UGAGGUAGUAGAUUGUAUAGau-----
--- 3 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 4072 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 87 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 102 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 14 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 10701 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 3651 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 162 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 22 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 542 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 2 0,2
-----GAGGUAGUAGAUUGUAUA-----
--- 3 1,-3
-----GAGGUAGUAGAUUGUAUAGU-----
--- 10 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 16 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
--- 9 1,0
-----GAGGUAGUAGAUUGUAUAGUUU-----
--- 2 1,1
-----AGGUAGUAGAUUGUAUAGUU-----
--- 5 2,0
-----AGGUAGUAGAUUGUAUAGUUa-----
--- 3 2,0

```

>hsa-let-7g MA:5-26;mi:62-82 SRX018965

aggcUGAGGUAGUAGUUUGUACAGUUugagggucuaugauaccacccgguacaggagauaaCUGUACAGGCCACUGCCUU
GCca

.(((.(((((((.((((((((((((.....(((((.(((((.....)))))).))))))))))))).))))))

---CUGAGGUAGUAGUUUGUACAGU-----

---- 4 -1,-1

---CUGAGGUAGUAGUUUGUACAGUU-----

---- 17 -1,0

---CUGAGGUAGUAGUUUGUACAGUa-----

---- 2 -1,0

---UGAGGUAGUAGUUUGUAC-----

---- 54 0,-4

---UGAGGUAGUAGUUUGUACA-----

---- 9 0,-3

---UGAGGUAGUAGUUUGUACAa-----

---- 6 0,-3

---UGAGGUAGUAGUUUGUACAG-----

---- 121 0,-2

---UGAGGUAGUAGUUUGUACAGa-----

---- 3 0,-2

---UGAGGUAGUAGUUUGUACAGaa-----

---- 3 0,-2

---UGAGGUAGUAGUUUGUACAGU-----

---- 625 0,-1

---UGAGGUAGUAGUUUGUACAGUa-----

---- 15 0,-1

---UGAGGUAGUAGUUUGUACAGUau-----

---- 3 0,-1

---UGAGGUAGUAGUUUGUACAGUU-----

---- 1651 0,0

---UGAGGUAGUAGUUUGUACAGUa-----

---- 117 0,0

---UGAGGUAGUAGUUUGUACAGUaa-----

---- 3 0,0

---UGAGGUAGUAGUUUGUACAGUau-----

---- 2 0,0

---UGAGGUAGUAGUUUGUACAGUUU-----

---- 92 0,1

```

----UGAGGUAGUAGUUUGUACAGUUu-----
----      2      0,1
----GAGGUAGUAGUUUGUACA-----
----      2      1,-3
----GAGGUAGUAGUUUGUACAGU-----
----      5      1,-1
----GAGGUAGUAGUUUGUACAGUU-----
----     26      1,0

```

>hsa-let-7i MA:6-27;mi:62-83 SRX018965

cuggcUGAGGUAGUAGUUUGUGCUGUUggucggguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUU
GCUa

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))

```

```

----UGAGGUAGUAGUUUGUGC-----
----    178      0,-4
----UGAGGUAGUAGUUUGUGCU-----
----    590      0,-3
----UGAGGUAGUAGUUUGUGCUu-----
----      4      0,-3
----UGAGGUAGUAGUUUGUGCUG-----
----    381      0,-2
----UGAGGUAGUAGUUUGUGCUGa-----
----      6      0,-2
----UGAGGUAGUAGUUUGUGCUGaa-----
----      2      0,-2
----UGAGGUAGUAGUUUGUGCUGU-----
----    205      0,-1
----UGAGGUAGUAGUUUGUGCUGUa-----
----      4      0,-1
----UGAGGUAGUAGUUUGUGCUGUaa-----
----      4      0,-1
----UGAGGUAGUAGUUUGUGCUGUU-----
----    241      0,0
----UGAGGUAGUAGUUUGUGCUGUUa-----
----     55      0,0
----UGAGGUAGUAGUUUGUGCUGUUaa-----
----     12      0,0

```

```

-----UGAGGUAGUAGUUUGUGCUGUau-----
----- 7 0,0
-----UGAGGUAGUAGUUUGUGCUGUu-----
----- 39 0,0
-----UGAGGUAGUAGUUUGUGCUGUGa-----
----- 2 0,1
-----GAGGUAGUAGUUUGUGCU-----
----- 6 1,-3
-----GAGGUAGUAGUUUGUGCUG-----
----- 5 1,-2
-----CUGCGCAAGCUACUGCCUU
----- 2 0,-3
-----CUGCGCAAGCUACUGCCUU
G--- 4 0,-2

```

>hsa-mir-1-1 3p:46-67 SRX018965

```

ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAGAAGUAUGUAUcuca
.(((((((.....)))))).))))).
-----UGGAAUGUAAAGAAGUAUG----- 100 0,-3
-----UGGAAUGUAAAGAAGUAUGU----- 3 0,-2
-----UGGAAUGUAAAGAAGUAUGUA----- 6 0,-1
-----UGGAAUGUAAAGAAGUAUGUAU---- 102 0,0
-----UGGAAUGUAAAGAAGUAUGUAUa--- 2 0,0

```

>hsa-mir-1-2 3p:53-74 SRX018965

```

accuacucagaguacauacuucuuuanguacccauaugaacauacaugcuaUGGAAUGUAAAGAAGUAUGUAUuuuugg
uaggc
.(((((((.....)))))).))))).
-----UGGAAUGUAAAGAAGUAUG-----
----- 100 0,-3
-----UGGAAUGUAAAGAAGUAUGU-----
----- 3 0,-2
-----UGGAAUGUAAAGAAGUAUGUA-----
----- 6 0,-1
-----UGGAAUGUAAAGAAGUAUGUAU-----
----- 102 0,0
-----UGGAAUGUAAAGAAGUAUGUAUa-----

```


----- 2 0,0

>hsa-mi r-100 MA:13-34;mi:48-69 SRX018965

ccguugccacaAACCCGUAUCCGAACUUGUGguaauaguccgcaCAAGCUUGUAUCUAUAGGUAUGugucuguuagg

-----AACCCGUAGAUCCGAACU-----

7 0,-4

-----AACCCGUAGAUCCGAACUUG-----

30 0, -2

-----AACCCGUAGAUCCGAACUUGa-----

$$2 \quad 0, -2$$

-----AACCCGUAGAUCCGAACUUGU-----

224 0, -1

-----AACCCGUAGAUCCGAACUUGUG-----

192 0,0

-----AACCCGUAGAUCCGAACUUGUGa-----

72 0,0

-----AACCCGUAGAUCCGAACUUGUGaa-----

2 0,0

-----AACCCGUAGAUCCGAACUUGUGu-----

93 0,0

```
>hsa-mi r-101-1  mi:11-32;MA:47-67  SRX018965
```

ugcccuuggcuCAGUAUCACAGUGCUGAUGCUGucuauucuaaaggUACAGUACUGUGAUAACUGAAGgauggca

-----GUACAGUACUGUGAUAAC----- 782

-1, -4

-----GUACAGUACUGUGAUAAc----- 3

-1, -4

-----GUACAGUACUGUGUAACU----- 6892

-1, -3

-----GUACAGUACUGUGAUAAcUa----- 6

-1, -3

-----GUACAGUACUGUGAUAAUaa----- 6

-1, -3

-----GUACAGUACUGUGAUAAUu----- 3

-1, -3

-----GUACAGUACUGUGUAACUG----- 3022

-1,-2		-GUACAGUACUGUGAUAAACUGu-----	4
-1,-2		-GUACAGUACUGUGAUAAACUGA-----	
16738	-1,-1	-GUACAGUACUGUGAUAAACUGAu-----	82
-1,-1		-GUACAGUACUGUGAUAAACUGAA-----	
35129	-1,0	-GUACAGUACUGUGAUAAACUGAAa-----	2670
-1,0		-GUACAGUACUGUGAUAAACUGAAaa-----	95
-1,0		-GUACAGUACUGUGAUAAACUGAAau-----	2
-1,0		-GUACAGUACUGUGAUAAACUGAAu-----	25
-1,0		-GUACAGUACUGUGAUAAACUGAAG-----	9
-1,1		-UACAGUACUGUGAUAAACU-----	5423
0,-3		-UACAGUACUGUGAUAAACUa-----	3
0,-3		-UACAGUACUGUGAUAAACUaa-----	8
0,-3		-UACAGUACUGUGAUAAACUG-----	1948
0,-2		-UACAGUACUGUGAUAAACUGu-----	3
0,-2		-UACAGUACUGUGAUAAACUGA-----	
18093	0,-1	-UACAGUACUGUGAUAAACUGAu-----	21
0,-1		-UACAGUACUGUGAUAAACUGAuu-----	11
0,-1		-UACAGUACUGUGAUAAACUGAA-----	
52875	0,0	-UACAGUACUGUGAUAAACUGAAa-----	6107

0,0	-----UACAGUACUGUGAUAAACUGAAaa-----	169
0,0	-----UACAGUACUGUGAUAAACUGAAau-----	13
0,0	-----UACAGUACUGUGAUAAACUGAAu-----	278
0,0	-----UACAGUACUGUGAUAAACUGAAuu-----	7
0,0	-----UACAGUACUGUGAUAAACUGAAG-----	4057
0,1	-----UACAGUACUGUGAUAAACUGAAGu-----	275
0,1	-----UACAGUACUGUGAUAAACUGAAGuu-----	3
0,1	-----UACAGUACUGUGAUAAACUGAAGG-----	5
0,2	-----ACAGUACUGUGAUAAACUG-----	10
1,-2	-----ACAGUACUGUGAUAAACUGA-----	83
1,-1	-----ACAGUACUGUGAUAAACUGAA-----	324
1,0	-----ACAGUACUGUGAUAAACUGAAa-----	50
1,0	-----ACAGUACUGUGAUAAACUGAAu-----	6
1,0	-----ACAGUACUGUGAUAAACUGAAG-----	42
1,1	-----ACAGUACUGUGAUAAACUGAAGu-----	5
1,1	-----CAGUACUGUGAUAAACUGA-----	25
2,-1	-----CAGUACUGUGAUAAACUGAA-----	51
2,0	-----CAGUACUGUGAUAAACUGAAa-----	8
2,0	-----CAGUACUGUGAUAAACUGAAaa-----	3

```

2,0
-----CAGUACUGUGAUAACUGAAG----- 9
2,1

>hsa-mir-101-2 3p:49-69 SRX018965
acuguccuuuuucgguaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGAUAACUGAAgaugguggu
((..((.(((((((((((((((((((((((.((((.....)))))).)))))))))))))))))))).))
-----GUACAGUACUGUGAUAAC-----
782 -1,-4
-----GUACAGUACUGUGAUAACa-----
3 -1,-4
-----GUACAGUACUGUGAUAACU-----
6892 -1,-3
-----GUACAGUACUGUGAUAACUa-----
6 -1,-3
-----GUACAGUACUGUGAUAACUaa-----
6 -1,-3
-----GUACAGUACUGUGAUAACUu-----
3 -1,-3
-----GUACAGUACUGUGAUAACUG-----
3022 -1,-2
-----GUACAGUACUGUGAUAACUGu-----
4 -1,-2
-----GUACAGUACUGUGAUAACUGA-----
16738 -1,-1
-----GUACAGUACUGUGAUAACUGAu-----
82 -1,-1
-----GUACAGUACUGUGAUAACUGAA-----
35129 -1,0
-----GUACAGUACUGUGAUAACUGAAa-----
2670 -1,0
-----GUACAGUACUGUGAUAACUGAAaa-----
95 -1,0
-----GUACAGUACUGUGAUAACUGAAau-----
2 -1,0
-----GUACAGUACUGUGAUAACUGAAu-----
25 -1,0
-----GUACAGUACUGUGAUAACUGAAG-----

```

9	-1,1	-UACAGUACUGUGAUAAcU-----
5423	0,-3	-UACAGUACUGUGAUAAcUa-----
3	0,-3	-UACAGUACUGUGAUAAcUaa-----
8	0,-3	-UACAGUACUGUGAUAAcUG-----
1948	0,-2	-UACAGUACUGUGAUAAcUGu-----
3	0,-2	-UACAGUACUGUGAUAAcUGA-----
18093	0,-1	-UACAGUACUGUGAUAAcUGAu-----
21	0,-1	-UACAGUACUGUGAUAAcUGAuu-----
11	0,-1	-UACAGUACUGUGAUAAcUGAA-----
52875	0,0	-UACAGUACUGUGAUAAcUGAAa-----
6107	0,0	-UACAGUACUGUGAUAAcUGAAaa-----
169	0,0	-UACAGUACUGUGAUAAcUGAAau-----
13	0,0	-UACAGUACUGUGAUAAcUGAAu-----
278	0,0	-UACAGUACUGUGAUAAcUGAAuu-----
7	0,0	-UACAGUACUGUGAUAAcUGAAG-----
4057	0,1	-UACAGUACUGUGAUAAcUGAAGu-----
275	0,1	-UACAGUACUGUGAUAAcUGAAGuu-----
3	0,1	-UACAGUACUGUGAUAAcUGAAGA-----
620	0,2	-UACAGUACUGUGAUAAcUGAAGAu-----

3	0,2	-----UACAGUACUGUGAUAAACUGAAGAA-----
21	0,3	-----ACAGUACUGUGAUAAACUG-----
10	1,-2	-----ACAGUACUGUGAUAAACUGA-----
83	1,-1	-----ACAGUACUGUGAUAAACUGAA-----
324	1,0	-----ACAGUACUGUGAUAAACUGAAa-----
50	1,0	-----ACAGUACUGUGAUAAACUGAAu-----
6	1,0	-----ACAGUACUGUGAUAAACUGAAG-----
42	1,1	-----ACAGUACUGUGAUAAACUGAAGu-----
5	1,1	-----ACAGUACUGUGAUAAACUGAAGA-----
10	1,2	-----CAGUACUGUGAUAAACUGA-----
25	2,-1	-----CAGUACUGUGAUAAACUGAA-----
51	2,0	-----CAGUACUGUGAUAAACUGAAa-----
8	2,0	-----CAGUACUGUGAUAAACUGAAaa-----
3	2,0	-----CAGUACUGUGAUAAACUGAAG-----
9	2,1	-----CAGUACUGUGAUAAACUGAAGA-----
6	2,2	-----CAGUACUGUGAUAAACUGAAGAA-----
2	2,3	-----CAGUACUGUGAUAAACUGAAGAAa-----
2	2,3	

>hsa-mir-103-1 3p:48-70 SRX018965

uacugcccucggcuucuuacagugcugccuuguugcauauuggaucaAGCAGCAUUGUACAGGGCUAUGAaggcauug

.....(((((((.....((.....((((((((((((.....(((.(.(.....).).)))))))).))))).))))).)))..		
-----GGCUUCUUUACAGUGCUGCCUUG-----		
3		-----AAGCAGCAUUGUACAGGGCUA-----
2	-1,-3	-----AGCAGCAUUGUACAGGGC-----
2914	0,-5	-----AGCAGCAUUGUACAGGGCa-----
5	0,-5	-----AGCAGCAUUGUACAGGGCaa-----
7	0,-5	-----AGCAGCAUUGUACAGGGCau-----
6	0,-5	-----AGCAGCAUUGUACAGGGCU-----
1302	0,-4	-----AGCAGCAUUGUACAGGGCUu-----
44	0,-4	-----AGCAGCAUUGUACAGGGCUuu-----
13	0,-4	-----AGCAGCAUUGUACAGGGCUA-----
4884	0,-3	-----AGCAGCAUUGUACAGGGCUAa-----
165	0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
27	0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
15	0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
21616	0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
398	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
187	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
55	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
506	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----

22	0,-2	-AGCAGCAUUGUACAGGGCUAUG-----
16534	0,-1	-AGCAGCAUUGUACAGGGCUAUGu-----
1316	0,-1	-AGCAGCAUUGUACAGGGCUAUGuu-----
35	0,-1	-AGCAGCAUUGUACAGGGCUAUGA-----
29232	0,0	-AGCAGCAUUGUACAGGGCUAUGAu-----
1380	0,0	-AGCAGCAUUGUACAGGGCUAUGAuu-----
15	0,0	-AGCAGCAUUGUACAGGGCUAUGAA-----
434	0,1	-AGCAGCAUUGUACAGGGCUAUGAAu-----
4	0,1	-GCAGCAUUGUACAGGGCU-----
13	1,-4	-GCAGCAUUGUACAGGGCUA-----
25	1,-3	-GCAGCAUUGUACAGGGCUAU-----
144	1,-2	-GCAGCAUUGUACAGGGCUAUau-----
2	1,-2	-GCAGCAUUGUACAGGGCUAUu-----
2	1,-2	-GCAGCAUUGUACAGGGCUAUG-----
86	1,-1	-GCAGCAUUGUACAGGGCUAUGu-----
8	1,-1	-GCAGCAUUGUACAGGGCUAUGA-----
252	1,0	-GCAGCAUUGUACAGGGCUAUGAu-----
14	1,0	-GCAGCAUUGUACAGGGCUAUGAA-----
8	1,1	-CAGCAUUGUACAGGGCUA-----


```

3    2,-3
-----CAGCAUUGUACAGGGCUAU-----
39   2,-2
-----CAGCAUUGUACAGGGCUAUG-----
48   2,-1
-----CAGCAUUGUACAGGGCUAUGu-----
6    2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
130  2,0

```

>hsa-mir-103-2 mi:11-33;MA:48-70 SRX018965

```

uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..((.((((((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGCUUCUUUACAGUGCUGCCUUG-----
3    0,0
-----AAGCAGCAUUGUACAGGGCUA-----
2    -1,-3
-----AGCAGCAUUGUACAGGGC-----
2914  0,-5
-----AGCAGCAUUGUACAGGGCa-----
5    0,-5
-----AGCAGCAUUGUACAGGGCaa-----
7    0,-5
-----AGCAGCAUUGUACAGGGCau-----
6    0,-5
-----AGCAGCAUUGUACAGGGCU-----
1302  0,-4
-----AGCAGCAUUGUACAGGGCUu-----
44   0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
13   0,-4
-----AGCAGCAUUGUACAGGGCUA-----
4884  0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
165  0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
27   0,-3
-----AGCAGCAUUGUACAGGGCUAau-----

```

15	0,-3	-AGCAGCAUUGUACAGGGCUAU-----
21616	0,-2	-AGCAGCAUUGUACAGGGCUAUa-----
398	0,-2	-AGCAGCAUUGUACAGGGCUAUaa-----
187	0,-2	-AGCAGCAUUGUACAGGGCUAUau-----
55	0,-2	-AGCAGCAUUGUACAGGGCUAUu-----
506	0,-2	-AGCAGCAUUGUACAGGGCUAUuu-----
22	0,-2	-AGCAGCAUUGUACAGGGCUAUG-----
16534	0,-1	-AGCAGCAUUGUACAGGGCUAUGu-----
1316	0,-1	-AGCAGCAUUGUACAGGGCUAUGuu-----
35	0,-1	-AGCAGCAUUGUACAGGGCUAUGA-----
29232	0,0	-AGCAGCAUUGUACAGGGCUAUGAu-----
1380	0,0	-AGCAGCAUUGUACAGGGCUAUGAuu-----
15	0,0	-AGCAGCAUUGUACAGGGCUAUGAA-----
434	0,1	-AGCAGCAUUGUACAGGGCUAUGAAu-----
4	0,1	-AGCAGCAUUGUACAGGGCUAUGAAA-----
110	0,2	-GCAGCAUUGUACAGGGCU-----
13	1,-4	-GCAGCAUUGUACAGGGCUA-----
25	1,-3	-GCAGCAUUGUACAGGGCUAU-----
144	1,-2	-GCAGCAUUGUACAGGGCUAUau-----

ugugcaucguggUCAA AUGCAGACUCCUGUGGUggcugcuaugcaccACGGAUGUUUGAGCAUGUGCUAuggugucu
a

- 4 2,1

$$-2, -3$$

- 19 -2,-3

$$-4 \quad -2 \quad -2$$

ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucuaCUGCAAUGUAAGCACUUCUACauuaccaug
g

- 18 0,-5

- 40 0.-4

- 49 0.-3

$$= \begin{pmatrix} 2 & 0 & -3 \end{pmatrix}$$
$$-173.0 \pm 2$$
$$= \begin{pmatrix} 212 & 0 & -1 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$$

30 0 1

15 0 1

[illegible]

```

- 208 0,0
-----AAAAGUGCUUACAGUGCAGGUAGa-----
- 2 0,0
-----AAAAGUGCUUACAGUGCAGGUAGu-----
- 7 0,0
-----AAAGUGCUUACAGUGCAG-----
- 12 1,-4
-----AAAGUGCUUACAGUGCAGG-----
- 16 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
- 52 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
- 29 1,-1
-----AAAGUGCUUACAGUGCAGGUAA-----
- 7 1,-1
-----AAAGUGCUUACAGUGCAGGUAU-----
- 16 1,-1
-----AAAGUGCUUACAGUGCAGGUAAU-----
- 2 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
- 87 1,0
-----AAGUGCUUACAGUGCAGGUAG-----
- 4 2,0

```

>hsa-mir-106b MA:12-32;mi:52-73 SRX018965

```

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))

```

```

-----UAAAGUGCUGACAGUGCA-----
-- 16 0,-3
-----UAAAGUGCUGACAGUGCAG-----
-- 64 0,-2
-----UAAAGUGCUGACAGUGCAGA-----
-- 51 0,-1
-----UAAAGUGCUGACAGUGCAGAA-----
-- 3 0,-1
-----UAAAGUGCUGACAGUGCAGAAA-----

```

```

-- 7 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 186 0,0
-----UAAAGUGCUGACAGUGCAGAU-----
-- 356 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 89 0,1
-----UAAAGUGCUGACAGUGCAGAUaa-----
-- 3 0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 34 0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
-- 14 0,2
-----UAAAGUGCUGACAGUGCAGAUAGU-----
-- 2 0,3
-----AAAGUGCUGACAGUGCAGAU-----
-- 4 1,1
-----UACCGCACUGUGGGUACUUGCU-----
-- 8 -2,-2
-----UACCGCACUGUGGGUACUUGCUG-----
-- 7 -2,-1
-----UACCGCACUGUGGGUACUUGCUGC-----
-- 4 -2,0
-----ACCGCACUGUGGGUACUUGCU-----
-- 2 -1,-2
-----ACCGCACUGUGGGUACUUGCUG-----
-- 6 -1,-1
-----ACCGCACUGUGGGUACUUGCUGC-----
-- 4 -1,0
-----CCGCACUGUGGGUACUUG-----
-- 11 0,-4
-----CCGCACUGUGGGUACUUGC-----
-- 9 0,-3
-----CCGCACUGUGGGUACUUGCU-----
-- 35 0,-2
-----CCGCACUGUGGGUACUUGCua-----
-- 2 0,-2
-----CCGCACUGUGGGUACUUGCUG-----

```

```

-- 222 0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 70 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 16 0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 6 0,-1
-----CCGCACUGUGGGUACUUGCUGC-----
-- 879 0,0
-----CCGCACUGUGGGUACUUGCUGCa-----
-- 6 0,0
-----CCGCACUGUGGGUACUUGCUGCau-----
-- 4 0,0
-----CGCACUGUGGGUACUUGCUG-----
-- 2 1,-1
-----CGCACUGUGGGUACUUGCUGa-----
-- 2 1,-1
-----CGCACUGUGGGUACUUGCUGC-----
-- 7 1,0

```

>hsa-mir-107 3p:50-72 SRX018965

```

cucucugcuuucagcuucuuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCaagcacag
a
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)
-----AAGCAGCAUUGUACAGGGCUA-----
- 2 -1,-3
-----AGCAGCAUUGUACAGGGC-----
- 2914 0,-5
-----AGCAGCAUUGUACAGGGCa-----
- 5 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 7 0,-5
-----AGCAGCAUUGUACAGGGCau-----
- 6 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 1302 0,-4
-----AGCAGCAUUGUACAGGGCUu-----

```

- 44 0,-4	-----AGCAGCAUUGUACAGGGCUuu-----
- 13 0,-4	-----AGCAGCAUUGUACAGGGCUA-----
- 4884 0,-3	-----AGCAGCAUUGUACAGGGCUAa-----
- 165 0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
- 27 0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
- 15 0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
- 21616 0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
- 398 0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
- 187 0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
- 55 0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
- 506 0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
- 22 0,-2	-----AGCAGCAUUGUACAGGGCUAUC-----
- 3482 0,-1	-----AGCAGCAUUGUACAGGGCUAUCu-----
- 262 0,-1	-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 3 0,-1	-----AGCAGCAUUGUACAGGGCUAUCA-----
- 4630 0,0	-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 119 0,0	-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 26 0,1	-----AGCAGCAUUGUACAGGGCUAUCAAA-----
- 2 0,2	-----GCAGCAUUGUACAGGGCU-----

----- 8 1,-1
-----ACCCUGUAGAUCCGAAUUUGUG-----
----- 13 1,0
-----ACCCUGUAGAUCCGAAUUUGUGa-----
----- 4 1,0
-----ACCCUGUAGAUCCGAAUUUGUGaa-----
----- 2 1,0
-----ACCCUGUAGAUCCGAAUUUGUGU-----
----- 6 1,1

>hsa-mi r-10b MA:27-49;mi :66-87 SRX018965

ccagagguuguaacguugucuauauaUACCCUGUAGAACCGAAUUUGUGugguauccguauagucACAGAUUCGAUUCUA
GGGGAAUauauggucgaugcaaaaacuuca

-----UACCCUGUAGAACCGAAUU-----

----- 2 0,-3

-----UACCCUGUAGAACCGAAUUUG-----

----- 16 0,-2

-----UACCCUGUAGAACCGAAUUUGU-----

----- 176 0,-1

-----UACCCUGUAGAACCGAAUUUGUG-----

----- 44 0,0

-----UACCCUGUAGAACCGAAUUUGUGa-----

----- 11 0,0

-----UACCCUGUAGAACCGAAUUUGUGU-----

----- 7 0,1

-----ACCCUGUAGAACCGAAUUUGU-----

----- 13 1,-1

-----ACCCUGUAGAACCGAAUUUGUG-----

----- 10 1,0

-----ACCCUGUAGAACCGAAUUUGUGa-----

----- 5 1,0

-----ACCCUGUAGAACCGAAUUUGUGaa-----

$$----- \quad 2 \quad 1,0$$

-----ACCCUGUAGAACCGAAUUUGUGU-----

----- 20 1,1

>hsa-mir-1180 3p:41-62 SRX018965

```
gcugcuggaccacccggccgggaauagugcuccugguugUUUCCGGCUCGCGUGGGUGUGUcggcggc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GGACCCACCCGGCCGGGAU----- 4
-----UUUCCGGCUCGCGUGGGU----- 5 0,-4
-----UUUCCGGCUCGCGUGGGUG----- 3 0,-3
-----UUUCCGGCUCGCGUGGGUGU----- 9 0,-2
-----UUUCCGGCUCGCGUGGGUGUG----- 3 0,-1
-----UUUCCGGCUCGCGUGGGUGUGU----- 7 0,0
```

>hsa-mir-1181 5p:14-34 SRX018965

```
uccacugcugccgCCGUCGCCGCCACCCGAGCCGgagcgggcuggggccgccaaggcaagaugguggacuacagcgugugg
g
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.
-----AGGCAAGAUGGUGGACUA-----
- 3
```

>hsa-mir-1185-1 5p:15-35 SRX018965

```
uuugguacuugaagAGAGGAUACCCUUGUAUGUUCacuugauuaauggcgaaauauacagggggagacucuauuuugcgu
aucaaa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).
-----AGAGGAUACCCUUGUAU-----
----- 4 0,-3
-----AGAGGAUACCCUUGUAUG-----
----- 2 0,-2
-----AGAGGAUACCCUUGUAUGU-----
----- 9 0,-1
-----AGAGGAUACCCUUGUAUGUU-----
----- 279 0,0
-----AGAGGAUACCCUUGUAUGUUa-----
----- 10 0,0
-----AGAGGAUACCCUUGUAUGUUu-----
----- 2 0,0
-----AGAGGAUACCCUUGUAUGUUC-----
----- 196 0,1
-----AGAGGAUACCCUUGUAUGUUCA-----
```

```

----- 21 0,2
-----AAUAUACAGGGGGAGACUCUUAU-----
----- 2
-----AUAUACAGGGGGAGACUC-----
----- 3
-----AUAUACAGGGGGAGACUCU-----
----- 10
-----AUAUACAGGGGGAGACUCUaa-----
----- 2
-----AUAUACAGGGGGAGACUCUU-----
----- 40
-----AUAUACAGGGGGAGACUCUUu-----
----- 7
-----AUAUACAGGGGGAGACUCUUuu-----
----- 3
-----AUAUACAGGGGGAGACUCUUA-----
----- 107
-----AUAUACAGGGGGAGACUCUUAa-----
----- 19
-----AUAUACAGGGGGAGACUCUUAaa-----
----- 3
-----AUAUACAGGGGGAGACUCUUAU-----
----- 327
-----AUAUACAGGGGGAGACUCUUAUa-----
----- 10
-----AUAUACAGGGGGAGACUCUUAUaa-----
----- 2
-----AUAUACAGGGGGAGACUCUUAUU-----
----- 17
-----UAUACAGGGGGAGACUCUUAU-----
----- 3

```

>hsa-mir-1185-2 5p:15-35 SRX018965

```

uuugguacuuaaagAGAGGAUACCCUUUGUAUGUUCacuugauuaauggcgaauauacagggggagacucucauuugcgu
aucaaa
.(((((((.(((((((..(.(((((((((((((((.(.....)).))))))))))))))..))))).)))
))))).
-----AGAGGAUACCCUUUGUAU-----

```

```

----- 4 0,-3
-----AGAGGAUACCCUUGUAUG-----
----- 2 0,-2
-----AGAGGAUACCCUUGUAUGU-----
----- 9 0,-1
-----AGAGGAUACCCUUGUAUGUU-----
----- 279 0,0
-----AGAGGAUACCCUUGUAUGUUa-----
----- 10 0,0
-----AGAGGAUACCCUUGUAUGUUu-----
----- 2 0,0
-----AGAGGAUACCCUUGUAUGUUC-----
----- 196 0,1
-----AGAGGAUACCCUUGUAUGUUCA-----
----- 21 0,2
-----AUAUACAGGGGGAGACUC-----
----- 3
-----AUAUACAGGGGGAGACUCU-----
----- 10
-----AUAUACAGGGGGAGACUCUaa-----
----- 2
-----AUAUACAGGGGGAGACUCUC-----
----- 5
-----AUAUACAGGGGGAGACUCUCA-----
----- 41
-----AUAUACAGGGGGAGACUCUCAa-----
----- 3
-----AUAUACAGGGGGAGACUCUCAU-----
----- 61
-----AUAUACAGGGGGAGACUCUCAUa-----
----- 5
-----AUAUACAGGGGGAGACUCUCAUaa-----
----- 2
-----AUAUACAGGGGGAGACUCUCAUU-----
----- 8
-----AUAUACAGGGGGAGACUCUCAUUa-----
----- 2
-----AUAUACAGGGGGAGACUCUCAUUU-----

```

```

ccuuaagcagagcugUGGAGUGUGACAAUGGUGUUUGugucuaaacuaucaAACGCCAUUAUCACACUAAAUAgcuaacugc
uaggc
.((((((((((((((..(((((((.((((((((((((.(....))...)))))))))))).)))))))).)))))))).))))
))))).
-----UGUGGAGUGUGACAAUGGU-----
----- 3 -2,-5
-----UGUGGAGUGUGACAAUGGUG-----
----- 15 -2,-4
-----UGUGGAGUGUGACAAUGGUGU-----
----- 225 -2,-3
-----UGUGGAGUGUGACAAUGGUGUU-----
----- 2126 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUa-----
----- 26 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUaa-----

```

```

----- 2  -2,-2
-----UGUGGAGUGUGACAAUGGUGUUau-----
----- 2  -2,-2
-----UGUGGAGUGUGACAAUGGUGUUU-----
----- 14 -2,-1
-----GUGGAGUGUGACAAUGGU-----
----- 2  -1,-5
-----GUGGAGUGUGACAAUGGUuu-----
----- 4  -1,-5
-----GUGGAGUGUGACAAUGGUG-----
----- 3  -1,-4
-----GUGGAGUGUGACAAUGGUGU-----
----- 44 -1,-3
-----GUGGAGUGUGACAAUGGUGUU-----
----- 83 -1,-2
-----GUGGAGUGUGACAAUGGUGUUU-----
----- 238 -1,-1
-----GUGGAGUGUGACAAUGGUGUUUG-----
----- 38 -1,0
-----GUGGAGUGUGACAAUGGUGUUUGa-----
----- 7  -1,0
-----GUGGAGUGUGACAAUGGUGUUUGU-----
----- 2  -1,1
-----UGGAGUGUGACAAUGGUG-----
----- 45186 0,-4
-----UGGAGUGUGACAAUGGUGa-----
----- 375 0,-4
-----UGGAGUGUGACAAUGGUGaa-----
----- 92 0,-4
-----UGGAGUGUGACAAUGGUGau-----
----- 27 0,-4
-----UGGAGUGUGACAAUGGUGU-----
----- 53086 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 1957 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 356 0,-3
-----UGGAGUGUGACAAUGGUGUau-----

```

```

----- 66 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 140459 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 3775 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 521 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 172 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 339356 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 18368 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 3935 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 2201 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 2822 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 172 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 2523763 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 397082 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 16757 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 9559 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 156096 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 1196 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 465 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 342 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----

```



```

----- 508 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 91 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 97 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 16 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 53 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 672 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 27 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 7 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 790 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 37 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 6 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 1095 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 88 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 52 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 4 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 9 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 20503 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 4482 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 206 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----

```

```

----- 94 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 425 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 6 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 4 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 4 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 2 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 2 1,1
-----GGAGUGUGACAAUGGUGUUUGUGa-----
----- 2 1,2
-----GAGUGUGACAAUGGUGUU-----
----- 318 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 4 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 765 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 32 2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 9 2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 4 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 10 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 4051 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 747 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 47 2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 19 2,0
-----GAGUGUGACAAUGGUGUUUGU-----

```

```

----- 418 2,1
-----GAGUGUGACAAUGGUGUUUGUa-----
----- 3 2,1
-----GAGUGUGACAAUGGUGUUUGUau-----
----- 2 2,1
-----GAGUGUGACAAUGGUGUUUGUu-----
----- 3 2,1
-----GAGUGUGACAAUGGUGUUUGUG-----
----- 3 2,2
-----AAACGCCAUUAUCACACU-----
----- 3 -1,-5
-----AAACGCCAUUAUCACACUA-----
----- 7 -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 11 -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 14 -1,-2
-----AAACGCCAUUAUCACACUAAAAU-----
----- 70 -1,-1
-----AACGCCAUUAUCACACUA-----
----- 21 0,-4
-----AACGCCAUUAUCACACUAA-----
----- 39 0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 38 0,-2
-----AACGCCAUUAUCACACUAAAAa-----
----- 2 0,-2
-----AACGCCAUUAUCACACUAAAAU-----
----- 522 0,-1
-----AACGCCAUUAUCACACUAAAAUu-----
----- 7 0,-1
-----AACGCCAUUAUCACACUAAAAUA-----
----- 171 0,0
-----AACGCCAUUAUCACACUAAAAUAa-----
----- 14 0,0
-----AACGCCAUUAUCACACUAAAAUAu-----
----- 29 0,0
-----ACGCCAUUAUCACACUAAAAU-----

```

----- 4 1,-1

>hsa-mir-1224 5p:1-19;3p:65-85 SRX018965

GUGAGGACUCGGGAGGUGGaggguggugccgccggggccgggcgcuguuucagcucgcuucuccCCCCACCUCCUCUCUC
CUCAG

.(((((((...(((((((((((((.((((.((((.....)))))).)))))).)))))))).))))))....))
)))).

GUGAGGACUCGGGAGGUGG-----

----- 9 0,0

GUGAGGACUCGGGAGGUGGA-----

----- 8 0,1

GUGAGGACUCGGGAGGUGGAaa-----

----- 4 0,1

GUGAGGACUCGGGAGGUGGAG-----

----- 7 0,2

GUGAGGACUCGGGAGGUGGAGa-----

----- 2 0,2

GUGAGGACUCGGGAGGUGGAGG-----

----- 12 0,3

GUGAGGACUCGGGAGGUGGAGGa-----

----- 4 0,3

GUGAGGACUCGGGAGGUGGAGGG-----

----- 4 0,4

GUGAGGACUCGGGAGGUGGAGGGa-----

----- 4 0,4

GUGAGGACUCGGGAGGUGGAGGGU-----

----- 13 0,5

GUGAGGACUCGGGAGGUGGAGGGUu-----

----- 10 0,5

>hsa-mir-1226 mi:1-26;MA:54-75 SRX018965

GUGAGGGCAUGCAGGCCUGGAUGGGGcagcugggaugguccaaaaggguggccUCACCAGCCCUGUGUUCCCUAG

...(((((((.(((((((((((((.((((.((((.....)))))).)))))).)))))))).))))))....))

-----UCACCAGCCCUGUGUUCCCUAG 4

0,0

>hsa-mir-1228 mi:1-21;MA:52-71 SRX018965

GUGGGCGGGGGCAGGUGUGUGguggguggguggccugcggugagcaggggccUCACACCUGCCUCGCCCCCag

$\dots(((((((\cdot(((((((((\dots((((((\dots(((((\dots)))))))))\cdot)))))))))\cdot\dots$

GUGGGCGGGGCGAGGUGUGUG----- 2

0,0

```

>hsa-mir-1246    5p:11-29    SRX018965
uguauccuugAAUGGAUUUUUGGAGCAGGaguggacaccugacccaaaggaaaaucauccauaggcuagcaau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAUGGAUUUUUGGAGCAGG-----86
0,0
-----AUGGAUUUUUGGAGCAGG-----27
1,0

```

```
>hsa-mir-1250    5p:24-44    SRX018965
cugucccgccugggccugggcaggugACGGUGCUGGAUGUGGCCUUUuugccuuuucuaaaggccacauuuuccagcccauuc
aaccuuccagagcccucugaagugggccacaggc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----ACGGUGCUGGAUGUGGCCUUU-----
-----2    0,0
```

```
>hsa-mir-1254    5p:18-41    SRX018965
ggugggaggauugcuugAGCCUGGAAGCUGGAGCCUGCAGUgaacuaucaugugccacuguacuccagccuaggcaaca
aaaugaaaauccugucua
```



```

-----CAUUAUUACUUUUGGUACGCGu-----
----- 77 0,0
-----CAUUAUUACUUUUGGUACGCGuu-----
----- 5 0,0
-----CAUUAUUACUUUUGGUACGCGC-----
----- 5 0,1
-----CAUUAUUACUUUUGGUACGCGCa-----
----- 3 0,1
-----CAUUAUUACUUUUGGUACGCGCU-----
----- 13 0,2
-----AUUAUUACUUUUGGUACGC-----
----- 2 1,-1
-----AUUAUUACUUUUGGUACGCG-----
----- 26 1,0
-----AUUAUUACUUUUGGUACGCGa-----
----- 3 1,0
-----AUUAUUACUUUUGGUACGCGCU-----
----- 12 1,2
-----CUCGUACCGUGAGUAAUAAU-----
----- 2 -1,-3
-----CUCGUACCGUGAGUAAUAAUG-----
----- 2 -1,-2
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 10 -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 10 -1,0
-----UCGUACCGUGAGUAAUAAU-----
----- 7 0,-3
-----UCGUACCGUGAGUAAUAAUG-----
----- 7 0,-2
-----UCGUACCGUGAGUAAUAAUGa-----
----- 2 0,-2
-----UCGUACCGUGAGUAAUAAUGC-----
----- 22 0,-1
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 31 0,0
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 6 0,0

```

```

-----CGUACCGUGAGUAAUAAUG-----
----- 6 1,-2
-----CGUACCGUGAGUAAUAAUGC-----
----- 11 1,-1
-----CGUACCGUGAGUAAUAAUGCG-----
----- 33 1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 12 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 3 1,0
-----GUACCGUGAGUAAUAAUGC-----
----- 4 2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 19 2,0
-----GUACCGUGAGUAAUAAUGCGa-----
----- 3 2,0

```

>hsa-mir-1260 5p:14-31 SRX018965

```

accuuuccagcucAUCCCACCUCUGCCACCAAaaacacucaucgcggggucagagggagugccaaaaaagguaa
(((((((...(((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
-----AUCCCACCUCUGCCACCA----- 7
0,0

```

>hsa-mir-1260b 5p:10-28 SRX018965

```

ucuccguuuAUCCCACCACUGCCACCAUuauugcuacuguucagcaggugcugcugguggugauggugauagucuggugg
gggcggugg
.(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
)))))))).).
-----AUCCCACCACUGCCACCA-----
----- 9 0,-1

```

>hsa-mir-1261 5p:5-23 SRX018965

```

ugcuAUGGAUAAGGCUUUGGCUUauggggauauugugguugaucuguucuauccagaugacugaaacuucuccauagca
gc
(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
..
----AUGGAUAAGGCUUUGGCUU-----
-- 6 0,0

```


- - - - -CUGGACUGAGCCGU

GCUAC- - - - - 7 0,-3

- - - - -CUGGACUGAGCCGU

GCUACU- - - - - 10 0,-2

ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucaUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucauaucauc

UGCUGAAGCUCAGAGGGCU	
4	-2, -5
UGCUGAAGCUCAGAGGGCUC	
12	-2, -4
UGCUGAAGCUCAGAGGGCUCU	
56	-2, -3
UGCUGAAGCUCAGAGGGCUCUuu	
2	-2, -3
GCUGAAGCUCAGAGGGCU	
4	-1, -5
GCUGAAGCUCAGAGGGCUCUGAU	
10	-1, 0
CUGAAGCUCAGAGGGCUC	
160	0, -4
CUGAAGCUCAGAGGGCUCaa	
3	0, -4
CUGAAGCUCAGAGGGCUCU	
205	0, -3
CUGAAGCUCAGAGGGCUCUa	
5	0, -3
CUGAAGCUCAGAGGGCUCUG	
8	0, -2
CUGAAGCUCAGAGGGCUCUGA	
123	0, -1
CUGAAGCUCAGAGGGCUCUGAa	
8	0, -1
CUGAAGCUCAGAGGGCUCUGAU	

```

----- 75 0,0
-----CUGAAGCUCAGAGGGCUCUGAUa-----
----- 8 0,0
-----CUGAAGCUCAGAGGGCUCUGAUU-----
----- 48 0,1
-----CUGAAGCUCAGAGGGCUCUGAUUa-----
----- 2 0,1
-----CUGAAGCUCAGAGGGCUCUGAUUu-----
----- 2 0,1
-----UGAAGCUCAGAGGGCUCU-----
----- 22 1,-3
-----UGAAGCUCAGAGGGCUCUG-----
----- 2 1,-2
-----UGAAGCUCAGAGGGCUCUGA-----
----- 8 1,-1
-----UGAAGCUCAGAGGGCUCUGAa-----
----- 2 1,-1
-----UGAAGCUCAGAGGGCUCUGAU-----
----- 17 1,0
-----UGAAGCUCAGAGGGCUCUGAUU-----
----- 31 1,1
-----UGAAGCUCAGAGGGCUCUGAUUu-----
----- 3 1,1
-----GAAGCUCAGAGGGCUCUGAUUC-----
----- 5 2,2
-----UCGGAUCCGUCUGAGCUU-----
----- 432 0,-4
-----UCGGAUCCGUCUGAGCUUG-----
----- 134 0,-3
-----UCGGAUCCGUCUGAGCUUGaa---
----- 2 0,-3
-----UCGGAUCCGUCUGAGCUUGG-----
----- 376 0,-2
-----UCGGAUCCGUCUGAGCUUGGa---
----- 59 0,-2
-----UCGGAUCCGUCUGAGCUUGGaa--
----- 45 0,-2
-----UCGGAUCCGUCUGAGCUUGGau--

```

-----	10	0,-2	-----UCGGAUCCGUCUGAGCUUGGu---
-----	23	0,-2	-----UCGGAUCCGUCUGAGCUUGGuu---
-----	22	0,-2	-----UCGGAUCCGUCUGAGCUUGGC---
-----	2993	0,-1	-----UCGGAUCCGUCUGAGCUUGGCa---
-----	2375	0,-1	-----UCGGAUCCGUCUGAGCUUGGCaa-
-----	1038	0,-1	-----UCGGAUCCGUCUGAGCUUGGCau-
-----	4598	0,-1	-----UCGGAUCCGUCUGAGCUUGGCU---
-----	18579	0,0	-----UCGGAUCCGUCUGAGCUUGGCUa-
-----	4233	0,0	-----UCGGAUCCGUCUGAGCUUGGCUaa
-----	594	0,0	-----UCGGAUCCGUCUGAGCUUGGCUau
-----	5196	0,0	-----UCGGAUCCGUCUGAGCUUGGCUu-
-----	4178	0,0	-----UCGGAUCCGUCUGAGCUUGGCUuu
-----	576	0,0	-----UCGGAUCCGUCUGAGCUUGGCUG-
-----	24	0,1	-----UCGGAUCCGUCUGAGCUUGGCUGa
-----	25	0,1	-----UCGGAUCCGUCUGAGCUUGGCUGu
-----	119	0,1	-----CGGAUCCGUCUGAGCUUG-----
-----	2	1,-3	-----CGGAUCCGUCUGAGCUUGG-----
-----	6	1,-2	-----CGGAUCCGUCUGAGCUUGGC---
-----	14	1,-1	-----CGGAUCCGUCUGAGCUUGGCa---

-----	20	1,-1	-----CGGAUCCGUCUGAGCUUGGCaa-
-----	4	1,-1	-----CGGAUCCGUCUGAGCUUGGCau-
-----	21	1,-1	-----CGGAUCCGUCUGAGCUUGGCU--
-----	107	1,0	-----CGGAUCCGUCUGAGCUUGGCUa-
-----	23	1,0	-----CGGAUCCGUCUGAGCUUGGCUaa
-----	13	1,0	-----CGGAUCCGUCUGAGCUUGGCUau
-----	52	1,0	-----CGGAUCCGUCUGAGCUUGGCUu-
-----	40	1,0	-----CGGAUCCGUCUGAGCUUGGCUuu
-----	4	1,0	-----CGGAUCCGUCUGAGCUUGGCUG-
-----	5	1,1	-----CGGAUCCGUCUGAGCUUGGCUgu
-----	8	1,1	-----GGAUCCGUCUGAGCUUGG-----
-----	25	2,-2	-----GGAUCCGUCUGAGCUUGGC----
-----	89	2,-1	-----GGAUCCGUCUGAGCUUGGCaa--
-----	76	2,-1	-----GGAUCCGUCUGAGCUUGGCaa-
-----	40	2,-1	-----GGAUCCGUCUGAGCUUGGCau-
-----	95	2,-1	-----GGAUCCGUCUGAGCUUGGCU--
-----	645	2,0	-----GGAUCCGUCUGAGCUUGGCUa-
-----	102	2,0	-----GGAUCCGUCUGAGCUUGGCUaa
-----	21	2,0	-----GGAUCCGUCUGAGCUUGGCUau


```

----- 132 2,0
-----GGAUCCGUCUGAGCUUGGCUu-
----- 146 2,0
-----GGAUCCGUCUGAGCUUGGCUuu
----- 17 2,0

```

>hsa-mir-1270-1 5p:13-35 SRX018965

```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuauucuucuauguggcucuuu
gca

```

```

((.((((((((..((((((.(((((((((.(((((.)))))))))..))))))..))))))..))
)..

```

```

-----ACUGGAGAU AUGGAAGAGCUG-----
--- 2 -1,-3
-----ACUGGAGAU AUGGAAGAGCUGUGU-----
--- 2 -1,0
-----CUGGAGAU AUGGAAGAGC-----
--- 7 0,-5
-----CUGGAGAU AUGGAAGAGCU-----
--- 9 0,-4
-----CUGGAGAU AUGGAAGAGCUG-----
--- 6 0,-3
-----CUGGAGAU AUGGAAGAGCUGU-----
--- 3 0,-2
-----CUGGAGAU AUGGAAGAGCUGUGa-----
--- 2 0,-1
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 10 0,0
-----UGGAGAU AUGGAAGAGCUGUGU-----
--- 3 1,0

```

>hsa-mir-1270-2 5p:13-35 SRX018965

```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuauucuucuauguggcucuuu
gca

```

```

((.((((((((..((((((.(((((((((.(((((.)))))))))..))))))..))))))..))
)..

```

```

-----ACUGGAGAU AUGGAAGAGCUG-----
--- 2 -1,-3
-----ACUGGAGAU AUGGAAGAGCUGUGU-----

```


>hsa-mir-1273 3p:76-100 SRX018965

ugaggcaggagaauugcuugaacccgggugguggagguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUCUUUCUgga

$$\begin{aligned}
 & .((((.(((((..((((((...(((((((..((((((..(((((((.((((...)).).))))))))))))))))))))).. \\
 & ...))))))..)))))))))...
 \end{aligned}$$

-----CAGGAGAAUUGCUUGAACC-----

----- 2

-----AGGAGAAUUGCUUGAACC-----

----- 4

```
>hsa-mir-1273c 5p:10-31 SRX018965
```

ugcagccugGGCGACAAACGAGACCCUGUCuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga

..((((.(((((((((.(((((((((.(((((((((.....)))))))).)))))))).))))).)))).

-----GGCGACAAAACGAGACCC-----

10 0,-4

-----GGCGACAAAACGAGACCCU-----

$$3 \quad 0, -3$$

-----GGCGACAAAACGAGACCCUGUCa-----

6 0.0

```
>hsa-mir-1273e 5p:14-35 SRX018965
```

ugaggcaggagaaUUGCUUGAAGGAGGAggcugcagugagccgagaucgagccacuguacuccagccugggug
acacagcgagacuccagucuca

-----UGGGUG

ACACAGCGAGAC----- 4

-----UGGGUG

ACACAGCGAGACU----- 9

```
>hsa-mir-1274b 5p:15-31 SRX018965
```

cuucuuacacucacgUCCCUGUUCGGGCGCCAcuuguggcugucggguucgggacugaaugaagaagga

-----GUCCCUGUUCGGGCGCCA----- 3 -1,0

```
>hsa-mir-1276    5p:12-31    SRX018965
```

ccccagcuaggUAAAGAGCCCUUGGAGACAccuggauucagagaacaugucuccacugagcacuugggccuugauggcg
gcu

(((((...(((.((((.(.(.((((((((((((((....)))..).)))..)))..)))..)))..)))..))..)

-----UAAAGAGCCCUGUGGAGACA-----

--- 3 0,0

-----UAAAGAGCCCUGUGGAGACACC-----

--- 2 0,2

>hsa-mir-1277 3p:47-68 SRX018965

accucccaauauauauauauauguacguauguguauauaaauguaUACGUAGAUUAUAUGUAUUUUugguggguuu
(((..(((((((.(((((((((((((.((((((((((..(.....).)))))))))..)))))))))..))))..))..)

-----UACGUAGAUUAUAUGUAUUU-----

2 0,-1

-----UACGUAGAUUAUAUGUAUUUU-----

10 0,0

>hsa-mir-1278 3p:50-71 SRX018965

auuugcucauagaugauaugcauaguacucccagaacucauuaaguuggUAGUACUGUGCAUAUCAUCUAUgagcgaaua
g

(((((((((((((((((((((((((((((((((((((((.(((..(((.....)))))))).)))))))))..)))))))))..
.

-----AGAUGAUUAUGCAUAGUACUCCC-----

- 2

-----GAUGAUUAUGCAUAGUACUCCCA-----

- 2

-----GUAGUACUGUGCAUAUCAUCUA-----

- 2 -1,-1

-----UAGUACUGUGCAUAUCAUCU-----

- 22 0,-2

-----UAGUACUGUGCAUAUCAUCUA-----

- 16 0,-1

-----UAGUACUGUGCAUAUCAUCUAU-----

- 164 0,0

>hsa-mir-128-1 3p:50-70 SRX018965

ugagcguuggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUUuucagcugcu
uc

.(((.(((((((...(((((((...(((((((...(((((((...)))))))))..)))))))))..))))))..))..)

```

-----UCACAGUGAACCGGUCUC-----
-- 55 0,-3
-----UCACAGUGAACCGGUCUCU-----
-- 68 0,-2
-----UCACAGUGAACCGGUCUCUa-----
-- 3 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
-- 3 0,-2
-----UCACAGUGAACCGGUCUCUU-----
-- 245 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
-- 77 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 16 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 15 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 1196 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 373 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 51 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 22 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 124 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 8 0,1
-----ACAGUGAACCGGUCUCUUU-----
-- 8 2,0
-----ACAGUGAACCGGUCUCUUUa-----
-- 3 2,0

```

>hsa-mir-128-2 3p:52-72 SRX018965

```

ugugcaguggggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(..(((((((.((((((((((...((((((..(((.(.....).))))))))))))....)))))))))).))))))
..).

```

-----			UCACAGUGAACCGGUCUC-	-----
----	55	0,-3		
-----			UCACAGUGAACCGGUCUCU-	-----
----	68	0,-2		
-----			UCACAGUGAACCGGUCUCUa-	-----
----	3	0,-2		
-----			UCACAGUGAACCGGUCUCUaa-	-----
----	3	0,-2		
-----			UCACAGUGAACCGGUCUCUU-	-----
----	245	0,-1		
-----			UCACAGUGAACCGGUCUCUUa-	-----
----	77	0,-1		
-----			UCACAGUGAACCGGUCUCUUaa-	-----
----	16	0,-1		
-----			UCACAGUGAACCGGUCUCUUau-	-----
----	15	0,-1		
-----			UCACAGUGAACCGGUCUCUUU-	-----
----	1196	0,0		
-----			UCACAGUGAACCGGUCUCUUUa-	-----
----	373	0,0		
-----			UCACAGUGAACCGGUCUCUUUaa-	-----
----	51	0,0		
-----			UCACAGUGAACCGGUCUCUUUau-	-----
----	22	0,0		
-----			UCACAGUGAACCGGUCUCUUUC-	-----
----	8	0,1		
-----			UCACAGUGAACCGGUCUCUUUCa-	-----
----	2	0,1		
-----			ACAGUGAACCGGUCUCUUU-	-----
----	8	2,0		
-----			ACAGUGAACCGGUCUCUUUa-	-----
----	3	2,0		

>hsa-mir-1284 5p:30-51 SRX018965

-----UCUAUACAGACCCUGGCUUUU-----
-----3 0,-1-----
-----UCUAUACAGACCCUGGCUUUUC-----
-----4 0,0-----

>hsa-mir-1285-1 3p:51-72 SRX018965

uguagagauaggaucucacuuuguugcccaggcuggucucaaacuccuggUCUGGGCAACAAGUGAGACCUuaucucua
caag

[illegible]

-----UCUGGGCAACAAAGUGAGA-----

----- 12 0, -3

-----UCUGGGCAACAAAGUGAGAC-----

--- 36 0,-2

-----UCUGGGCAACAAAGUGAGACa-----

----- 14 0,-2

-----UCUGGGCAACAAAGUGAGACaa-----

--- 2 0,-2

-----UCUGGGCAACAAAGUGAGACC-----

----- 15 0,-1

-----UCUGGGCAACAAAGUGAGACC_a-----

--- 4 0, -1

-----UCUGGGCAACAAAGUGAGACCU-----

--- 80 0,0

-----UCUGGGCAACAAAGUGAGACCUa-----

--- 80 0,0

-----UCUGGGCAACAAAGUGAGACCU_{aa}-----

--- 20 0,0

-----UCUGGGCAACAAAGUGAGACCU_{au}-----

--- 53 0,0

-----UCUGGGCAACAAAGUGAGACCUU-----

--- 29 0,1

-----UCUGGGCAACAAAGUGAGACCUUu-----

--- 8 0,1

-----UCUGGGCAACAAAGUGAGACCUA-----

--- 6 0,2

-----CUGGGCAACAAAGUGAGACCU-----

--- 3 1,0

>hsa-mir-1285-2 3p:52-73 SRX018965

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

(((((((((((((((.....(((((((.....((((.....)))))))).....)))))).....)))))).....
).)))))..

-----UCUGGGCAACAAAGUGAGA-----
-----12 0,-3-----
-----UCUGGGCAACAAAGUGAGAC-----
-----36 0,-2-----
-----UCUGGGCAACAAAGUGAGACa-----
-----14 0,-2-----
-----UCUGGGCAACAAAGUGAGACaa-----
-----2 0,-2-----
-----UCUGGGCAACAAAGUGAGACC-----
-----15 0,-1-----
-----UCUGGGCAACAAAGUGAGACCa-----
-----4 0,-1-----
-----UCUGGGCAACAAAGUGAGACCU-----
-----80 0,0-----
-----UCUGGGCAACAAAGUGAGACCUa-----
-----80 0,0-----
-----UCUGGGCAACAAAGUGAGACCUaa-----
-----20 0,0-----
-----UCUGGGCAACAAAGUGAGACCUau-----
-----53 0,0-----
-----UCUGGGCAACAAAGUGAGACCUC-----
-----2 0,1-----
-----CUGGGCAACAAAGUGAGACCU-----
-----3 1,0-----

>hsa-mir-1286 3p:47-67 SRX018965

uguccucuggggacucagcuugcucuggcugcuggauugaauuagcUGCAGGACCAAGAUGAGCCCUugguggagaca

..(((.(.(((.((((.((((.((((.(.....)))))))).....)))))).....))))..))....

-----UGCAGGACCAAGAUGAGCCCUaa-----
3 0,0

>hsa-mir-1287 5p:16-37 SRX018965

gguagaauuccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuucaagcagaggccuaaaggacugu
cuuccug

((.(((..(((..((((((..(((((((((..(((..)))..)))..)))..)))..)))..)))..)))..)))..))..))..

-----GUGGCCCUGACUGAAGACCAGCA-----
----- 31 -1,-2
-----UGGCCCUGACUGAAGACCAGC-----
----- 2 0,-3
-----UGGCCCUGACUGAAGACCAGCA-----
----- 13 0,-2
-----UGGCCCUGACUGAAGACCAGCAG-----
----- 2 0,-1

>hsa-mir-1292 5p:3-27 SRX018965

ccUGGGAACGGGUUCCGGCAGACGCUgagguugcguugacgcucgcgcgcccggcucccguuccagg

(((((..(((..(((..(((..(((..(((..(((..(((..)))..)))..)))..)))..)))..)))..)))..)))..)))..

--UGGGAACGGGUUCCGGCAGAC----- 2 0,-4
--UGGGAACGGGUUCCGGCAGACG----- 2 0,-3
--UGGGAACGGGUUCCGGCAGACGC----- 9 0,-2
--UGGGAACGGGUUCCGGCAGACGCU----- 18 0,-1
--UGGGAACGGGUUCCGGCAGACGCUg----- 2 0,0
---GGGAACGGGUUCCGGCAGACG----- 2 1,-3
---GGGAACGGGUUCCGGCAGACGCU----- 3 1,-1
---GGAACGGGUUCCGGCAGACGCU----- 2 2,-1

>hsa-mir-1294 5p:48-69 SRX018965

caccuaaugugugccaagaucuguucauuuaugaucucaccgaguccUGUGAGGUUGGCAUUGUUGUCUggcauugucug
auauacaacagugccaaccucacaggacucagugaggugaaacugaggauuaggaaggugua

(((((.....(((..(((..(((..(((..(((..(((..(((..(((..)))..)))..)))..)))..)))..)))..)))..)))..)))..

-----UGUGAGGUUGGCAUUGUUGU-----
----- 6 0,-2
-----UGUGAGGUUGGCAUUGUUGUCU-----
----- 5 0,0

>hsa-mir-1295 3p:49-69 SRX018965

aggacauuuugcccagauccguggccuauucagaaaaugggccugugaUUAGGCCGCAGAUUGGGUGAaauguccucc

(((((..(((..(((..(((..(((..(((..(((..(((..)))..)))..)))..)))..)))..)))..)))..)))..)))..

```
-----UUAGGCCGCAGAUCUGGGUGA-----
2    0,0

>hsa-mir-1296    5p:16-37    SRX018965
accuaccuaacugggUUAGGGCCCUGGCUCCAUCUCCuuuaggaaaaccuucuguggggaguggggcuucgaccuaacc
caggugggcugu
(((((((....(((((((((.(((((((((..(((.((((.....))))).)))..)))))))).)..))))))
))))))))....
-----UUAGGGCCCUGGCUCCAUCUCC-----
-----      5    0,0

>hsa-mir-1301    3p:48-71    SRX018965
ggauuguggggggucgcucuaggcacccgcagcacugugcugggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc
(((((((((.(((((((((((((((((((((.((((((((.....)).)))))).).)))))).)))))))).))))))
..
-----UUGCAGCUGCCUGGGAGUGAC-----
--   11    0,-3
-----UUGCAGCUGCCUGGGAGUGACa-----
--   6     0,-3
-----UUGCAGCUGCCUGGGAGUGACU-----
--   11    0,-2
-----UUGCAGCUGCCUGGGAGUGACUU-----
--   14    0,-1
-----UUGCAGCUGCCUGGGAGUGACUUC-----
--   10    0,0
-----UUGCAGCUGCCUGGGAGUGACUUCu-----
--   2     0,0
-----UGCAGCUGCCUGGGAGUGACU-----
--   9     1,-2
-----UGCAGCUGCCUGGGAGUGACUU-----
--   13    1,-1
-----UGCAGCUGCCUGGGAGUGACUUau-----
--   4     1,-1
-----UGCAGCUGCCUGGGAGUGACUUu-----
--   2     1,-1
-----UGCAGCUGCCUGGGAGUGACUUC-----
--   16    1,0
```



```

-----ACGUUGGCUCUGGUGGAUG-----
----- 2 0,3
-----ACGUUGGCUCUGGUGGAUGu-----
----- 9 0,3

```

>hsa-mir-1307 3p:80-101 SRX018965

```

caucaagaccagcugagucacugucacugccuaccaaucugaccggaccugaccggcucgucuguguugccaucgA
CUCGGCGUGGCGUCGGUCGUGguagauaggcggucaugcauacgaauuuucagcucuuguucuggugac

```

```

(((((((((.....))))))
..))))).))..))))))..))..))))))..))..))))))..))..))))))..

```

```

-----CUCGACCGGACCUCGACCGGCUC-----
----- 5
-----UCGACCGGACCUCGACCG-----
----- 190
-----UCGACCGGACCUCGACCG-----
----- 24
-----UCGACCGGACCUCGACCGa-----
----- 2
-----UCGACCGGACCUCGACCGaa-----
----- 3
-----UCGACCGGACCUCGACCGGC-----
----- 246
-----UCGACCGGACCUCGACCGGCa-----
----- 10
-----UCGACCGGACCUCGACCGGCaa-----
----- 16
-----UCGACCGGACCUCGACCGGCU-----
----- 2193
-----UCGACCGGACCUCGACCGGCUa-----
----- 41
-----UCGACCGGACCUCGACCGGCUaa-----
----- 23
-----UCGACCGGACCUCGACCGGCUau-----
----- 23
-----UCGACCGGACCUCGACCGGCUu-----
----- 161
-----UCGACCGGACCUCGACCGGCUuu-----
----- 32

```

-----UCGACCGGACCUCGACCGGCUC-----	
-----	2110
-----UCGACCGGACCUCGACCGGCUCa-----	
-----	103
-----UCGACCGGACCUCGACCGGCUCaa-----	
-----	2
-----UCGACCGGACCUCGACCGGCUCau-----	
-----	5
-----UCGACCGGACCUCGACCGGCUCu-----	
-----	19
-----UCGACCGGACCUCGACCGGCUCuu-----	
-----	3
-----UCGACCGGACCUCGACCGGCUCG-----	
-----	42
-----UCGACCGGACCUCGACCGGCUCGU-----	
-----	12
-----CGACCGGACCUCGACCGGCU-----	
-----	3
-----CGACCGGACCUCGACCGGCUC-----	
-----	7
-----GACCGGACCUCGACCGGC-----	
-----	4
-----GACCGGACCUCGACCGGCU-----	
-----	40
-----GACCGGACCUCGACCGGCUa-----	
-----	3
-----GACCGGACCUCGACCGGCUu-----	
-----	6
-----GACCGGACCUCGACCGGCUuu-----	
-----	2
-----GACCGGACCUCGACCGGCUC-----	
-----	47
-----GACCGGACCUCGACCGGCUCa-----	
-----	6
-----GACCGGACCUCGACCGGCUCG-----	
-----	5
-----A	
CUCGGCGUGGCGUCGGU-----	9 0,-4

-----A	
CUCGGCGUGGCGUCGGUC-----14 0,-3	
-----A	
CUCGGCGUGGCGUCGGUC-----27 0,-2	
-----A	
CUCGGCGUGGCGUCGGUCU-----45 0,-1	
-----A	
CUCGGCGUGGCGUCGGUCUu-----12 0,-1	
-----A	
CUCGGCGUGGCGUCGGUCUuu-----2 0,-1	
-----A	
CUCGGCGUGGCGUCGGUCGUG-----413 0,0	
-----A	
CUCGGCGUGGCGUCGGUCGUGa-----6 0,0	
-----A	
CUCGGCGUGGCGUCGGUCGUGu-----19 0,0	
-----A	
CUCGGCGUGGCGUCGGUCGUGG-----16 0,1	
-----A	
CUCGGCGUGGCGUCGGUCGUGGU-----2 0,2	

CUCGGCGUGGCGUCGGUC-----9 1,-3	

CUCGGCGUGGCGUCGGUCG-----17 1,-2	

CUCGGCGUGGCGUCGGUCGa-----2 1,-2	

CUCGGCGUGGCGUCGGUCGU-----12 1,-1	

CUCGGCGUGGCGUCGGUCGUu-----2 1,-1	

CUCGGCGUGGCGUCGGUCGUuu-----2 1,-1	

CUCGGCGUGGCGUCGGUCGUG-----413 1,0	

CUCGGCGUGGCGUCGGUCGUGa-----15 1,0	

CUCGGCGUGGCGUCGGUCGUGu-----8 1,0	

CUCGGCGUGGGGUCGGUCGUGG----- 18 1,1

CUCGGCGUGGCGUCGGUCGUGGU----- 3 1,2

-UCGGCGUGGCGUCGGUCGUG----- 8 2,0

>hsa-mi r-130a mi:21-42;MA:55-76 SRX018965

ugcugcuggccagagcucuuUUCACAUUGUGCUACUGUCUGCaccugucacuagCAGUGCAAUGUUAAGGGCAUuggc
cguguagug

$$\begin{aligned} & .(((((((((((((((.(((((((((.(((((((..(((.(((...((...))...)))..)))))..)))))))).)))))) \\ &))..))))). \end{aligned}$$

-----CAGUGCAAUGUUAAGG-----

----- 55 0,-4

-----CAGUGCAAUGUUAAGGG-----

----- 38 0, -3

-----CAGUGCAAUGUUAAGGGC-----

----- 65 0, -2

-----CAGUGCAAUGUUAAAAGGGCA-----

----- 14 0, -1

-----CAGUGCAAUGUUAAGGGCAa-----

----- 3 0, -1

-----CAGUGCAAUGUUAAAAGGGCAU-----

----- 111 0,0

-----CAGUGCAAUGUUAAGGGCAU_a-----

----- 13 0,0

-----CAGUGCAAUGUUAAAAGGGCAUU-----

----- 29 0,1

-----AGUGCAAUGUUAAAAGGGCA-----

----- 2 1, -1

>hsa-mi r-130b mi:13-33;MA:51-72 SRX018965

ggccugcccgacACUCUUCCCCUGUUGCACUACuauaggccgcugggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc

-----ACUCUUUCCCUGUUGCACUACU-----

-- 10 0,1

```

-----GCAGUGCAAUGAUGAAAG-----
-- 2 -1,-5
-----GCAGUGCAAUGAUGAAAGGG-----
-- 2 -1,-3
-----GCAGUGCAAUGAUGAAAGGGCAU-----
-- 3 -1,0
-----CAGUGCAAUGAUGAAAGG-----
-- 187 0,-4
-----CAGUGCAAUGAUGAAAGGG-----
-- 121 0,-3
-----CAGUGCAAUGAUGAAAGGGC-----
-- 255 0,-2
-----CAGUGCAAUGAUGAAAGGGCA-----
-- 150 0,-1
-----CAGUGCAAUGAUGAAAGGGCAa-----
-- 121 0,-1
-----CAGUGCAAUGAUGAAAGGGCAaa-----
-- 17 0,-1
-----CAGUGCAAUGAUGAAAGGGCAau-----
-- 11 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 1107 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 150 0,0
-----CAGUGCAAUGAUGAAAGGGCAUaa-----
-- 19 0,0
-----CAGUGCAAUGAUGAAAGGGCAUau-----
-- 3 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 122 0,0
-----CAGUGCAAUGAUGAAAGGGCAUuu-----
-- 15 0,0
-----CAGUGCAAUGAUGAAAGGGCAUCa-----
-- 2 0,1
-----AGUGCAAUGAUGAAAGGG-----
-- 2 1,-3
-----AGUGCAAUGAUGAAAGGGC-----
-- 7 1,-2

```

```

-----AGUGCAAUGAUGAAAGGGCA-----
-- 7 1,-1
-----AGUGCAAUGAUGAAAGGGCAU-----
-- 29 1,0
-----AGUGCAAUGAUGAAAGGGCAUu-----
-- 2 1,0

```

>hsa-mi r-132 mi:23-44;MA:59-80 SRX018965

ccgccccgcgucuccagggcaACCGUGGCUUUCGAUUGUACUgugggaacuggaggUAACAGUCUACAGCCAUGGUCG
ccccgcagcacgcccacgcgc

$$\begin{aligned} & .(((\dots((((((.(.(((.((((((((((\dots((((((((((..(\dots)\dots)))))))))\dots)))))))))\dots)) \\ &))).).)).)))).\dots)))). \end{aligned}$$

-----AACCGUGGCUUUCGAUUGUUA-----

----- 4 -1,-2

-----ACCGUGGCUUUCGAUUGUUA-----

----- 4 0, -2

-----ACCGUGGCUUUCGAUUGUUACU-----

----- 4 0,0

-----UAACAGUCUACAGCCAUG-----

----- 6 0, -4

-----UAACAGUCUACAGCCAUGG-----

----- 17 0,-3

-----UAACAGUCUACAGCCAUGGU-----

----- 23 0,-2

-----UAACAGUCUACAGCCAUGGUC-----

----- 12 0,-1

-----UAACAGUCUACAGCCAUGGUCG

----- 39 0,0

-----UAACAGUCUACAGCCAUGGUCG

a----- 8 0,0

-----UAACAGUCUACAGCCAUGGUCG

u----- 30 0,0

-----AACAGUCUACAGCCAUGG-----

$$----- \quad 3 \quad 1, -3$$

-----AACAGUCUACAGCCAUGGU-----

----- 5 1,-2

-----AACAGUCUACAGCCAUGGUCG

u----- 4 1,0

>hsa-mir-1323 5p:11-32 SRX018965

acugagguccUCAAACUGAGGGGCAUUUCUgugguuugaaaggaaagugcaccaguuuuggggaugucaa

$\dots(((\dots(((((((((\dots(((((\dots\dots\dots)))))))))\dots))))))\dots)\dots).$

-----UCAAAACUGAGGGGCAUUU----- 3

 $0, -2$

-----UCAAAACUGAGGGGCAUUUC----- 3

 $0, -1$

-----UCAAACUGAGGGGCAUUUCU----- 48

0,0

```
>hsa-mir-134      5p:8-29  SRX018965
```

cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguuacaccuguggggccaccuagucaccaaccuc

.((((((..(((((((((.((.((((.(((((((((.))))))..)))).)))))))).)))))).

-----GUGUGACUGGUUGACCAGAG----- 4

-1, -3

-----GUGUGACUGGUUGACCAGAGG_{aa}----- 2

-1,-2

-----GUGUGACUGGUUGACCAGAGGG----- 2

-1,-1

-----UGUGACUGGUUGACCAGA----- 299

0,-4

-----UGUGACUGGUUGACCAGAA----- 13

0,-4

-----UGUGACUGGUUGACCAGAAa----- 17

0,-4

-----UGUGACUGGUUGACCAGAG----- 577

0,-3

-----UGUGACUGGUUGACCAGAGa----- 235

0, -3

-----UGUGACUGGUUGACCAGAGaa----- 17

 $0, -3$

-----UGUGACUGGUUGACCAGAGu----- 6

0,-3

-----UGUGACUGGUUGACCAGAGG----- 481

 $0, -2$

-----UGUGACUGGUUGACCAGAGGa----- 137

0,-2

-----UGUGACUGGUUGACCAGAGGaa-----	52
0,-2	
-----UGUGACUGGUUGACCAGAGGau-----	8
0,-2	
-----UGUGACUGGUUGACCAGAGGu-----	58
0,-2	
-----UGUGACUGGUUGACCAGAGGG-----	1948
0,-1	
-----UGUGACUGGUUGACCAGAGGGa-----	493
0,-1	
-----UGUGACUGGUUGACCAGAGGGaa-----	212
0,-1	
-----UGUGACUGGUUGACCAGAGGGau-----	74
0,-1	
-----UGUGACUGGUUGACCAGAGGGu-----	118
0,-1	
-----UGUGACUGGUUGACCAGAGGGuu-----	23
0,-1	
-----UGUGACUGGUUGACCAGAGGGG-----	2495
0,0	
-----UGUGACUGGUUGACCAGAGGGGa-----	394
0,0	
-----UGUGACUGGUUGACCAGAGGGGaa-----	165
0,0	
-----UGUGACUGGUUGACCAGAGGGGau-----	143
0,0	
-----UGUGACUGGUUGACCAGAGGGGu-----	203
0,0	
-----UGUGACUGGUUGACCAGAGGGGuu-----	69
0,0	
-----UGUGACUGGUUGACCAGAGGGGC-----	5
0,1	
-----UGUGACUGGUUGACCAGAGGGGCu-----	2
0,1	
-----UGUGACUGGUUGACCAGAGGGGCA-----	5
0,2	
-----GUGACUGGUUGACCAGAG-----	7
1,-3	


```

-----ACUCCAUUUGUUUUGAUGA-----
-- 21 0,-4
-----ACUCCAUUUGUUUUGAUGAU-----
-- 68 0,-3
-----ACUCCAUUUGUUUUGAUGAUG-----
-- 4 0,-2
-----ACUCCAUUUGUUUUGAUGGA-----
-- 7 0,0
-----CUCCAUUUGUUUUGAUGAU-----
-- 2 1,-3
-----CAUCAUCGUCUCAAUGA-----
-- 110 0,-4
-----CAUCAUCGUCUCAAUGAa-----
-- 2 0,-4
-----CAUCAUCGUCUCAAUGAG-----
-- 224 0,-3
-----CAUCAUCGUCUCAAUGAGU-----
-- 40 0,-2
-----CAUCAUCGUCUCAAUGAGUC-----
-- 113 0,-1
-----CAUCAUCGUCUCAAUGAGUCU-----
-- 9 0,0
-----AUCAUCGUCUCAAUGAG-----
-- 14 1,-3
-----AUCAUCGUCUCAAUGAGU-----
-- 3 1,-2
-----AUCAUCGUCUCAAUGAGUC-----
-- 13 1,-1
-----AUCAUCGUCUCAAUGAGUCU-----
-- 2 1,0

```

>hsa-mir-139 5p:7-28;3p:44-65 SRX018965

guguauUCUACAGUGCACGUGUCUCCAGuguggcucggaggcuGGAGACGCGCCCUGUUGGAGUaac

...(((((((((((((.(((.((((((((((((((.(.....).))))))))))))))))).))))).))))))..

```

-----UCUACAGUGCACGUGUCUC----- 6 0,-3
-----UCUACAGUGCACGUGUCUCC----- 5 0,-2
-----UCUACAGUGCACGUGUCUCCA----- 10 0,-1
-----UCUACAGUGCACGUGUCUCCAu----- 3 0,-1

```


-----UCUACAGUGCACGUGUCUCCAG-----	24	0,0
-----UCUACAGUGCACGUGUCUCCAGa-----	2	0,0
-----UCUACAGUGCACGUGUCUCCAGU-----	17	0,1
-----UGGAGACGCGGCCCUGUU-----	3	
-1,-5		
-----UGGAGACGCGGCCCUGUUG-----	5	
-1,-4		
-----UGGAGACGCGGCCCUGUUGG-----	8	
-1,-3		
-----UGGAGACGCGGCCCUGUUGGA-----	8	
-1,-2		
-----UGGAGACGCGGCCCUGUUGGAG-----	27	
-1,-1		
-----UGGAGACGCGGCCCUGUUGGAGa---	4	
-1,-1		
-----UGGAGACGCGGCCCUGUUGGAGU---	35	-1,0
-----GGAGACGCGGCCCUGUUGGAG-----	2	0,-1

Gu-----	3	0,-1	-----UACCACAGGGUAGAACCAC
GG-----	8492	0,0	-----UACCACAGGGUAGAACCAC
GGu-----	60	0,0	-----UACCACAGGGUAGAACCAC
GGuu-----	9	0,0	-----UACCACAGGGUAGAACCAC
GGA-----	6985	0,1	-----UACCACAGGGUAGAACCAC
GGAA-----	561	0,1	-----UACCACAGGGUAGAACCAC
GGAAa-----	127	0,1	-----UACCACAGGGUAGAACCAC
GGAAu-----	68	0,1	-----UACCACAGGGUAGAACCAC
GGAu-----	77	0,1	-----UACCACAGGGUAGAACCAC
GGAC-----	1409	0,2	-----UACCACAGGGUAGAACCAC
GGACu-----	14	0,2	-----UACCACAGGGUAGAACCAC
GGACA-----	167	0,3	-----UACCACAGGGUAGAACCAC
GGACAa-----	6	0,3	-----ACCACAGGGUAGAACCAC
-----	361	1,-2	-----ACCACAGGGUAGAACCAC
G-----	43	1,-1	-----ACCACAGGGUAGAACCAC
Gaa-----	3	1,-1	-----ACCACAGGGUAGAACCAC
GG-----	1796	1,0	-----ACCACAGGGUAGAACCAC
GGu-----	90	1,0	-----ACCACAGGGUAGAACCAC
GGuu-----	28	1,0	-----ACCACAGGGUAGAACCAC

GGA-----	16869	1,1	-----ACCACAGGGUAGAACCAC
GGAA-----	2267	1,1	-----ACCACAGGGUAGAACCAC
GGAAA-----	447	1,1	-----ACCACAGGGUAGAACCAC
GGAAU-----	91	1,1	-----ACCACAGGGUAGAACCAC
GGAAU-----	950	1,1	-----ACCACAGGGUAGAACCAC
GGAAU-----	33	1,1	-----ACCACAGGGUAGAACCAC
GGAC-----	7085	1,2	-----ACCACAGGGUAGAACCAC
GGACU-----	96	1,2	-----ACCACAGGGUAGAACCAC
GGACUU-----	3	1,2	-----ACCACAGGGUAGAACCAC
GGACA-----	296	1,3	-----ACCACAGGGUAGAACCAC
GGACAA-----	179	1,3	-----ACCACAGGGUAGAACCAC
GGACAAA-----	7	1,3	-----ACCACAGGGUAGAACCAC
GGACAau-----	3	1,3	-----ACCACAGGGUAGAACCAC
GGACAu-----	10	1,3	-----ACCACAGGGUAGAACCAC
GGACAG-----	10	1,4	-----CCACAGGGUAGAACCAC
G-----	14	2,-1	-----CCACAGGGUAGAACCAC
GG-----	39	2,0	-----CCACAGGGUAGAACCAC
GGU-----	3	2,0	-----CCACAGGGUAGAACCAC
GGA-----	591	2,1	-----CCACAGGGUAGAACCAC

GGAA-----	77	2,1	
-----			-CCACAGGGUAGAACCAC
GGAAa-----	22	2,1	
-----			-CCACAGGGUAGAACCAC
GGAAu-----	4	2,1	
-----			-CCACAGGGUAGAACCAC
GGAAu-----	46	2,1	
-----			-CCACAGGGUAGAACCAC
GGAC-----	216	2,2	
-----			-CCACAGGGUAGAACCAC
GGACu-----	6	2,2	
-----			-CCACAGGGUAGAACCAC
GGACA-----	16	2,3	
-----			-CCACAGGGUAGAACCAC
GGACAA-----	24	2,3	

>hsa-mi r-142 5p:16-36;3p:52-74 SRX018965

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug

.(((((((.(((.(((((((((((.(((((((((((...((....).).).))))))))).))))))))).))))).))

-----	-CCCAUAAAGUAGAAAGCA-	-----
-----	11	-2,-5
-----	-CCCAUAAAGUAGAAAGCAa-	-----
-----	6	-2,-5
-----	-CCCAUAAAGUAGAAAGCAC-	-----
-----	8	-2,-4
-----	-CCCAUAAAGUAGAAAGCACU-	-----
-----	77	-2,-3
-----	-CCCAUAAAGUAGAAAGCACUA-	-----
-----	29	-2,-2
-----	-CCCAUAAAGUAGAAAGCACUAa-	-----
-----	2	-2,-2
-----	-CCCAUAAAGUAGAAAGCACUAu-	-----
-----	7	-2,-2
-----	-CCCAUAAAGUAGAAAGCACUAC-	-----
-----	11	-2,-1
-----	-CCAUAAAGUAGAAAGCACU-	-----

))))..).))))....)).))))...

```
-----AGGUGCAGUGCUGCAUCUCU-----
----- 5 -1,-3
-----GGUGCAGUGCUGCAUCUC-----
----- 91 0,-4
-----GGUGCAGUGCUGCAUCUC-----
----- 522 0,-3
-----GGUGCAGUGCUGCAUCUCUG-----
----- 8 0,-2
-----GGUGCAGUGCUGCAUCUCUGG-----
----- 6 0,-1
-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 4 0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 5 0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 4 0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 4 0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 3 0,0
-----GGUGCAGUGCUGCAUCUCUGGUu-----
----- 2 0,0
-----UCUGAGAUGAAGCACUGUAGCU
----- 2 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
a----- 2 -2,-1
-----CUGAGAUGAAGCACUGUAGCU
----- 9 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
u----- 3 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 18 -1,0
-----UGAGAUGAAGCACUGUAG--
----- 52 0,-3
-----UGAGAUGAAGCACUGUAGC-
----- 72 0,-2
-----UGAGAUGAAGCACUGUAGCa
```

-----	11	0,-2	-----UGAGAUGAAGCACUGUAGCa
a-----	10	0,-2	-----UGAGAUGAAGCACUGUAGCa
u-----	5	0,-2	-----UGAGAUGAAGCACUGUAGCU
-----	1408	0,-1	-----UGAGAUGAAGCACUGUAGCU
a-----	76	0,-1	-----UGAGAUGAAGCACUGUAGCU
aa-----	14	0,-1	-----UGAGAUGAAGCACUGUAGCU
au-----	6	0,-1	-----UGAGAUGAAGCACUGUAGCU
u-----	48	0,-1	-----UGAGAUGAAGCACUGUAGCU
uu-----	4	0,-1	-----UGAGAUGAAGCACUGUAGCU
C-----	1969	0,0	-----UGAGAUGAAGCACUGUAGCU
Cu-----	249	0,0	-----UGAGAUGAAGCACUGUAGCU
Cuu-----	28	0,0	-----UGAGAUGAAGCACUGUAGCU
CA-----	42	0,1	-----UGAGAUGAAGCACUGUAGCU
CAa-----	2	0,1	-----UGAGAUGAAGCACUGUAGCU
CAaa-----	2	0,1	-----GAGAUGAAGCACUGUAGCU
-----	2	1,-1	-----GAGAUGAAGCACUGUAGCU
C-----	15	1,0	-----GAGAUGAAGCACUGUAGCU
Cu-----	2	1,0	-----AGAUGAAGCACUGUAGCU
-----	3	2,-1	

```
>hsa-mi r-144      mi:15-36;MA:52-71      SRX018965
```

ugggggccuggcugGGAUAUCAUAUACUGAAGuuugcgaugagacacUACAGUAUAGAUGAUGUACUaguccgggc
accccc

.(((((((.(((((((.(((((((((.(((((((((.(((((.))))).)))))))).)))))))).))))).))))).))))).)))).

-----GGAUAUCAUAUACUG-----

----- 26 0, -4

-----GGAUAUCAUAUACUGU-----

----- 8 0, -3

-----GGAUAUCAUAUACUGA-----

----- 2 0, -2

-----GGAUAUCAUAUACUGUAA-----

----- 2 0, -1

-----GGAUAUCAUAUACUGUAAG-----

----- 32 0,0

-----GGAUAUCAUAUACUGUAAGU-----

----- 21 0,1

-----GAUAUCAUAUACUGUAAG-----

----- 2 1,0

-----GAUAUCAUAUACUGUAAGU-----

----- 2 1,1

-----CUACAGUAUAGAUGAUGU-----

----- 4 -1, -3

-----CUACAGUAUAGAUGAUGUA-----

----- 2 -1, -2

-----UACAGUAUAGAUGAUGUA-----

----- 9 0, -2

-----UACAGUAUAGAUGAUGUAC-----

----- 13 0, -1

-----UACAGUAUAGAUGAUGUACU-----

----- 6 0,0

-----ACAGUAUAGAUGAUGUAC-----

----- 2 1, -1

>hsa-mi r-145 MA:16-38;mi :54-75 SRX018965

caccuuguccucacgGUCCAGUUUCCCCAGGAUCCCUuagaugcuaagauggGGAUCCUGGAAUACUGUUCUugagg
ucaugguu

-----			-GUCCAGUUUUUCCCAGGAA-	-----
-----	20	0,-5		
-----			-GUCCAGUUUUUCCCAGGAa-	-----
-----	4	0,-5		
-----			-GUCCAGUUUUUCCCAGGAU-	-----
-----	99	0,-4		
-----			-GUCCAGUUUUUCCCAGGAUa-	-----
-----	2	0,-4		
-----			-GUCCAGUUUUUCCCAGGAUaa-	-----
-----	3	0,-4		
-----			-GUCCAGUUUUUCCCAGGAAUC-	-----
-----	35	0,-3		
-----			-GUCCAGUUUUUCCCAGGAAUCa-	-----
-----	14	0,-3		
-----			-GUCCAGUUUUUCCCAGGAAUCaa-	-----
-----	2	0,-3		
-----			-GUCCAGUUUUUCCCAGGAAUCC-	-----
-----	78	0,-2		
-----			-GUCCAGUUUUUCCCAGGAAUCCa-	-----
-----	8	0,-2		
-----			-GUCCAGUUUUUCCCAGGAAUCCC-	-----
-----	92	0,-1		
-----			-GUCCAGUUUUUCCCAGGAAUCCCa-	-----
-----	8	0,-1		
-----			-GUCCAGUUUUUCCCAGGAAUCCCU-	-----
-----	128	0,0		
-----			-GUCCAGUUUUUCCCAGGAAUCCCUU-	-----
-----	2	0,1		
-----				-AUUCCUGGAAAUACUGUUCU-
-----	4	2,0		

ccgauguguauccucagcuUGAGAACUGAAUCCAUGGGUUgugucagugucagaCCUCUGAAAUCAGUUCUUCAGcu
gggauaucucugucaucgu

-----UGAGAACUGAAUCCAUG-----

----- 17 0,-4
-----UGAGAACUGAAUCCAUGG-----
----- 36 0,-3
-----UGAGAACUGAAUCCAUGGG-----
----- 80 0,-2
-----UGAGAACUGAAUCCAUGGGU-----
----- 42 0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 8 0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 13 0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 26 0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 373 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 220 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 33 0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 54 0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 98 0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 4 0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 201 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 10 0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 46 0,2
-----GAGAACUGAAUCCAUGGGUU-----
----- 6 1,0
-----GAGAACUGAAUCCAUGGGUUa-----
----- 3 1,0
-----GAGAACUGAAUCCAUGGGUUG-----
----- 6 1,1
-----AGAACUGAAUCCAUGGGU-----

```

----- 3    2,-1
-----AGAACUGAAUCCAUGGGUU-----
----- 2    2,0
-----AGAACUGAAUCCAUGGGUa-----
----- 2    2,0
-----AGAACUGAAUCCAUGGGUUG-----
----- 3    2,1
-----AGAACUGAAUCCAUGGGUUGU-----
----- 2    2,2

```

>hsa-mi r-146b 5p:9-30;3p:45-66 SRX018965

ccuggcacUGAGAACUGAAUCCAUAAGGCUgugagcucuagcaaUGCCCUGUGGACUCAGUUCUGGugcccg
((.((((((.(((((((.(((((((.(((.((...)).))..)))))))).)))))

-----CUGAGAACUGAAUUCCAU-----	4
-1,-5	
-----CUGAGAACUGAAUUCCAUAGG-----	6
-1,-2	
-----CUGAGAACUGAAUUCCAUAGGC-----	13
-1,-1	
-----CUGAGAACUGAAUUCCAUAGGCU-----	282
-1,0	
-----CUGAGAACUGAAUUCCAUAGGCUau-----	2
-1,0	
-----CUGAGAACUGAAUUCCAUAGGCUu-----	2
-1,0	
-----CUGAGAACUGAAUUCCAUAGGCUG-----	5
-1,1	
-----CUGAGAACUGAAUUCCAUAGGCUGa-----	2
-1,1	
-----CUGAGAACUGAAUUCCAUAGGCUGU-----	17
-1,2	
-----UGAGAACUGAAUUCCAU-----	509
0,-4	
-----UGAGAACUGAAUUCCAUAG-----	209
0,-3	
-----UGAGAACUGAAUUCCAUAGG-----	734
0,-2	
-----UGAGAACUGAAUUCCAUAGGa-----	3

0, -2		
-----UGAGAACUGAAUCCAUAGG <u>uu</u> -----		2
0, -2		
-----UGAGAACUGAAUCCAUAGGC-----		2121
0, -1		
-----UGAGAACUGAAUCCAUAGGC <u>a</u> -----		217
0, -1		
-----UGAGAACUGAAUCCAUAGGC <u>aa</u> -----		56
0, -1		
-----UGAGAACUGAAUCCAUAGGC <u>au</u> -----		16
0, -1		
-----UGAGAACUGAAUCCAUAGGC <u>U</u> -----		
13363 0,0		
-----UGAGAACUGAAUCCAUAGGC <u>Ua</u> -----		532
0,0		
-----UGAGAACUGAAUCCAUAGGC <u>Uaa</u> -----		97
0,0		
-----UGAGAACUGAAUCCAUAGGC <u>Uau</u> -----		288
0,0		
-----UGAGAACUGAAUCCAUAGGC <u>Uu</u> -----		735
0,0		
-----UGAGAACUGAAUCCAUAGGC <u>Uuu</u> -----		92
0,0		
-----UGAGAACUGAAUCCAUAGGC <u>UG</u> -----		7034
0,1		
-----UGAGAACUGAAUCCAUAGGC <u>UGa</u> -----		1890
0,1		
-----UGAGAACUGAAUCCAUAGGC <u>UGaa</u> -----		57
0,1		
-----UGAGAACUGAAUCCAUAGGC <u>UGau</u> -----		48
0,1		
-----UGAGAACUGAAUCCAUAGGC <u>UGU</u> -----		
16489 0,2		
-----UGAGAACUGAAUCCAUAGGC <u>UGUa</u> -----		183
0,2		
-----UGAGAACUGAAUCCAUAGGC <u>UGUu</u> -----		2
0,2		
-----UGAGAACUGAAUCCAUAGGC <u>UGUG</u> -----		2

0,3		
-----GAGAACUGAAUCCAUAG-----	4	
1,-3		
-----GAGAACUGAAUCCAUAGG-----	5	
1,-2		
-----GAGAACUGAAUCCAUAGGC-----	31	
1,-1		
-----GAGAACUGAAUCCAUAGGCa-----	6	
1,-1		
-----GAGAACUGAAUCCAUAGGCaa-----	2	
1,-1		
-----GAGAACUGAAUCCAUAGGCU-----	156	
1,0		
-----GAGAACUGAAUCCAUAGGCUa-----	7	
1,0		
-----GAGAACUGAAUCCAUAGGCUau-----	9	
1,0		
-----GAGAACUGAAUCCAUAGGCUu-----	14	
1,0		
-----GAGAACUGAAUCCAUAGGCUuu-----	2	
1,0		
-----GAGAACUGAAUCCAUAGGCUG-----	98	
1,1		
-----GAGAACUGAAUCCAUAGGCUGa-----	28	
1,1		
-----GAGAACUGAAUCCAUAGGCUGU-----	111	
1,2		
-----AGAACUGAAUCCAUAGG-----	3	
2,-2		
-----AGAACUGAAUCCAUAGGC-----	5	
2,-1		
-----AGAACUGAAUCCAUAGGCU-----	39	
2,0		
-----AGAACUGAAUCCAUAGGCUu-----	2	
2,0		
-----AGAACUGAAUCCAUAGGCUG-----	8	
2,1		
-----AGAACUGAAUCCAUAGGCUGU-----	10	

2,2	-----UGCCCUGUGGACUCAGUUC-----	2
0,-3	-----UGCCCUGUGGACUCAGUUCUGG-----	24
0,0	-----UGCCCUGUGGACUCAGUUCUGGU-----	32
0,1	-----UGCCCUGUGGACUCAGUUCUGGUa-----	17
0,1	-----UGCCCUGUGGACUCAGUUCUGGUau-----	27
0,1	-----UGCCCUGUGGACUCAGUUCUGGUu-----	8
0,1	-----GCCCUGUGGACUCAGUUC-----	13
1,-3	-----GCCCUGUGGACUCAGUUCUG-----	2
1,-1	-----GCCCUGUGGACUCAGUUCUGG-----	127
1,0	-----GCCCUGUGGACUCAGUUCUGGa-----	3
1,0	-----GCCCUGUGGACUCAGUUCUGGU-----	128
1,1	-----GCCCUGUGGACUCAGUUCUGGUa-----	92
1,1	-----GCCCUGUGGACUCAGUUCUGGUaa-----	12
1,1	-----GCCCUGUGGACUCAGUUCUGGUau-----	158
1,1	-----GCCCUGUGGACUCAGUUCUGGUu-----	31
1,1	-----GCCCUGUGGACUCAGUUCUGGUuu-----	8
1,1	-----GCCCUGUGGACUCAGUUCUGGUG-----	2
1,2	-----GCCCUGUGGACUCAGUUCUGGUGu-----	4
1,2	-----CCCUGUGGACUCAGUUCUGG-----	2

2,0	-----CCCUGUGGACUCAGUUCUGGUa-----	2	
2,1	-----CCCUGUGGACUCAGUUCUGGUau----	10	
2,1	-----CCCUGUGGACUCAGUUCUGGUu-----	2	
2,1	-----CCCUGUGGACUCAGUUCUGGUG-----	3	
2,2	-----CCCUGUGGACUCAGUUCUGGUGu----	3	
2,2			
 >hsa-mir-148a mi:6-27;MA:44-65 SRX018965			
gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc			
((((((((((((((((((.(((((.(((((((.....)))..))))))))))..))))))))))))))))))			
	---CAAAGUUCUGAGACACUC-----	2	
-1,-5			
	---CAAAGUUCUGAGACACUCCGA-----	3	
-1,-2			
	----AAAGUUCUGAGACACUCC-----	3	0,-4
	----AAAGUUCUGAGACACUCCGA-----	65	0,-2
	----AAAGUUCUGAGACACUCCGAC-----	2	0,-1
	----AAAGUUCUGAGACACUCCGACU-----	5	0,0
	-----GUCAGUGCACUACAGAACUUUGU---	3	-1,0
	-----UCAGUGCACUACAGAACU-----	4565	
0,-4			
	-----UCAGUGCACUACAGAACUaa-----	2	0,-4
	-----UCAGUGCACUACAGAACUU-----	187	0,-3
	-----UCAGUGCACUACAGAACUUU-----	616	0,-2
	-----UCAGUGCACUACAGAACUUUa----	2	0,-2
	-----UCAGUGCACUACAGAACUUUau---	3	0,-2
	-----UCAGUGCACUACAGAACUUUu----	2	0,-2
	-----UCAGUGCACUACAGAACUUUuu---	2	0,-2
	-----UCAGUGCACUACAGAACUUUG-----	1681	
0,-1			
	-----UCAGUGCACUACAGAACUUUGa---	404	0,-1
	-----UCAGUGCACUACAGAACUUUGaa---	93	0,-1
	-----UCAGUGCACUACAGAACUUUGU---	18616	

-----UCAGUGCACUACAGAACUUUGUa--	38	0,0
-----UCAGUGCACUACAGAACUUUGUaa-	12	0,0
-----UCAGUGCACUACAGAACUUUGUu--	44	0,0
-----UCAGUGCACUACAGAACUUUGUC--	505	0,1
-----UCAGUGCACUACAGAACUUUGUCa-	9	0,1
-----UCAGUGCACUACAGAACUUUGUCU-	25	0,2
-----CAGUGCACUACAGAACUUUGU---	29	1,0
-----AGUGCACUACAGAACUUU-----	24	2,-2
-----AGUGCACUACAGAACUUUG----	35	2,-1
-----AGUGCACUACAGAACUUUGa----	9	2,-1
-----AGUGCACUACAGAACUUUGaa----	2	2,-1
-----AGUGCACUACAGAACUUUGU----	297	2,0
-----AGUGCACUACAGAACUUUGUu----	2	2,0
-----AGUGCACUACAGAACUUUGUC----	8	2,1

caagcacgauuagcauuaggugAAGUUCUGUUAUACACUCAGGCuguggcucucugaaagUCAGUGCAUCACAGAACU
UUGUcucgaaagcuuucua

-----	UGAAGUUCUGUUAUACACUC-----
-----	3 -2,-4
-----	GAAGUUCUGUUAUACACU-----
-----	10 -1,-5
-----	GAAGUUCUGUUAUACACUC-----
-----	14 -1,-4
-----	GAAGUUCUGUUAUACACUCAG-----
-----	4 -1,-2
-----	GAAGUUCUGUUAUACACUCAGG-----
-----	8 -1,-1
-----	GAAGUUCUGUUAUACACUCAGGCau-----
-----	2 -1,0
-----	GAAGUUCUGUUAUACACUCAGGCU-----
-----	46 -1,1
-----	GAAGUUCUGUUAUACACUCAGGCUa-----
-----	2 -1,1
-----	GAAGUUCUGUUAUACACUCAGGCUu-----


```

----- 2   -1,1
-----AAGUUCUGUUAUACACUCAGGCU-----
----- 2   0,1
-----UCAGUGCAUCACAGAACU
----- 4102   0,-4
-----UCAGUGCAUCACAGAACU
U----- 162 0,-3
-----UCAGUGCAUCACAGAACU
UU----- 654 0,-2
-----UCAGUGCAUCACAGAACU
UUau----- 2   0,-2
-----UCAGUGCAUCACAGAACU
UUG----- 100 0,-1
-----UCAGUGCAUCACAGAACU
UUGa----- 23  0,-1
-----UCAGUGCAUCACAGAACU
UUGaa----- 4   0,-1
-----UCAGUGCAUCACAGAACU
UUGU----- 1039   0,0
-----UCAGUGCAUCACAGAACU
UUGUa----- 13  0,0
-----UCAGUGCAUCACAGAACU
UUGUaa----- 2   0,0
-----UCAGUGCAUCACAGAACU
UUGUau----- 5   0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 139 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 15  0,0
-----CAGUGCAUCACAGAACU
UU----- 2   1,-2
-----AGUGCAUCACAGAACU
UU----- 9   2,-2
-----AGUGCAUCACAGAACU
UUGU----- 13  2,0

```

>hsa-mir-150 MA:16-37;mi:51-72 SRX018965

cuccccauggcccugUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg

$$\begin{aligned} & .(((((((.((((((((((((((((((.((.(((((((((.((((((\dots)))\cdot)\cdot)))))))).\cdot)))))))).\cdot)))))) \\ &))). \end{aligned}$$

>hsa-mir-151 5p:11-31;3p:47-67 SRX018965
uuuccugcccUCGAGGAGCUCACAGUCUAGUaugucucauccccuaCUAGACUGAAGCUCCUUGAGGacaggggaugguca
uacucaccuc

```

-----CUCGAGGAGCUCACAGUCUA-----
----- 2   -1,-2
-----CUCGAGGAGCUCACAGUCUAGU-----
----- 19  -1,0
-----CUCGAGGAGCUCACAGUCUAGUA-----
----- 11  -1,1
-----UCGAGGAGCUCACAGUCU-----
----- 20   0,-3
-----UCGAGGAGCUCACAGUCUA-----
----- 10   0,-2
-----UCGAGGAGCUCACAGUCUAG-----

```

```

----- 53 0,-1
-----UCGAGGAGCUCACAGUCUAGa-----
----- 2 0,-1
-----UCGAGGAGCUCACAGUCUAGU-----
----- 668 0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
----- 557 0,1
-----UCGAGGAGCUCACAGUCUAGUAa-----
----- 35 0,1
-----UCGAGGAGCUCACAGUCUAGUAaa-----
----- 2 0,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
----- 34 0,2
-----UCGAGGAGCUCACAGUCUAGUAUu-----
----- 2 0,2
-----CGAGGAGCUCACAGUCUAGUA-----
----- 6 1,1
-----CGAGGAGCUCACAGUCUAGUAUG-----
----- 2 1,3
-----GAGGAGCUCACAGUCUAGU-----
----- 33 2,0
-----GAGGAGCUCACAGUCUAGUA-----
----- 30 2,1
-----GAGGAGCUCACAGUCUAGUAU-----
----- 3 2,2
-----UACUAGACUGAAGCUCCU-----
----- 2 -2,-5
-----UACUAGACUGAAGCUCCUUG-----
----- 3 -2,-3
-----UACUAGACUGAAGCUCCUUGA-----
----- 52 -2,-2
-----UACUAGACUGAAGCUCCUUGAa-----
----- 10 -2,-2
-----UACUAGACUGAAGCUCCUUGAaa-----
----- 3 -2,-2
-----UACUAGACUGAAGCUCCUUGAu-----
----- 2 -2,-2
-----UACUAGACUGAAGCUCCUUGAG-----

```

-----	70	-2,-1	-----UACUAGACUGAAGCUCCUUGAGa-----
-----	13	-2,-1	-----UACUAGACUGAAGCUCCUUGAGu-----
-----	4	-2,-1	-----UACUAGACUGAAGCUCCUUGAGG-----
-----	60	-2,0	-----UACUAGACUGAAGCUCCUUGAGGu-----
-----	12	-2,0	-----UACUAGACUGAAGCUCCUUGAGGA-----
-----	20	-2,1	-----UACUAGACUGAAGCUCCUUGAGGAa-----
-----	3	-2,1	-----ACUAGACUGAAGCUCCUUGA-----
-----	5	-1,-2	-----ACUAGACUGAAGCUCCUUGAG-----
-----	9	-1,-1	-----ACUAGACUGAAGCUCCUUGAGa-----
-----	4	-1,-1	-----ACUAGACUGAAGCUCCUUGAGaa-----
-----	2	-1,-1	-----ACUAGACUGAAGCUCCUUGAGG-----
-----	31	-1,0	-----ACUAGACUGAAGCUCCUUGAGGA-----
-----	11	-1,1	-----CUAGACUGAAGCUCCUUG-----
-----	44	0,-3	-----CUAGACUGAAGCUCCUUGA-----
-----	84	0,-2	-----CUAGACUGAAGCUCCUUGAa-----
-----	13	0,-2	-----CUAGACUGAAGCUCCUUGAaa-----
-----	2	0,-2	-----CUAGACUGAAGCUCCUUGAG-----
-----	337	0,-1	-----CUAGACUGAAGCUCCUUGAGa-----
-----	49	0,-1	-----CUAGACUGAAGCUCCUUGAGaa-----

----- 12 0,-1	
-----	-CUAGACUGAAGCUCCUUGAG <u>au</u> ------
----- 2 0,-1	
-----	-CUAGACUGAAGCUCCUUGAG <u>u</u> ------
----- 19 0,-1	
-----	-CUAGACUGAAGCUCCUUGAGG------
----- 1121 0,0	
-----	-CUAGACUGAAGCUCCUUGAGG <u>u</u> ------
----- 109 0,0	
-----	-CUAGACUGAAGCUCCUUGAGG <u>uu</u> ------
----- 4 0,0	
-----	-CUAGACUGAAGCUCCUUGAGGA------
----- 2217 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGA <u>a</u> ------
----- 1000 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGA <u>aa</u> ------
----- 250 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGA <u>au</u> ------
----- 87 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGA <u>u</u> ------
----- 193 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGA <u>uu</u> ------
----- 26 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGAC------
----- 82 0,2	
-----	-CUAGACUGAAGCUCCUUGAGGAC <u>u</u> ------
----- 11 0,2	
-----	-CUAGACUGAAGCUCCUUGAGGACA------
----- 8 0,3	
-----	-UAGACUGAAGCUCCUUGAG------
----- 4 1,-1	
-----	-UAGACUGAAGCUCCUUGAGG------
----- 24 1,0	
-----	-UAGACUGAAGCUCCUUGAGG <u>u</u> ------
----- 5 1,0	
-----	-UAGACUGAAGCUCCUUGAGGA------
----- 65 1,1	
-----	-UAGACUGAAGCUCCUUGAGGA <u>a</u> ------

-----	41	1,1	-----UAGACUGAAGCUCCUUGAGGAaa-----
-----	3	1,1	-----UAGACUGAAGCUCCUUGAGGAu-----
-----	3	1,1	-----UAGACUGAAGCUCCUUGAGGAC-----
-----	21	1,2	-----UAGACUGAAGCUCCUUGAGGACA-----
-----	3	1,3	-----AGACUGAAGCUCCUUGAGGA-----
-----	2	2,1	-----AGACUGAAGCUCCUUGAGGAC-----
-----	9	2,2	-----AGACUGAAGCUCCUUGAGGACA-----
-----	3	2,3	

>hsa-mir-152 3p:54-74 SRX018965

ugcccccccgcccagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgccccggaaggacc

$$\begin{aligned} & .((((\dots(((\((((((((((((((((((\dots(((\dots((\dots)))))))))))).)))))\\ & \dots))))). \end{aligned}$$

Sequence	Count	Score
UCAGUGCAUGACAGAACU	426	0, -3
UCAGUGCAUGACAGAACU _{aa}	2	0, -3
UCAGUGCAUGACAGAACUU	20	0, -2
UCAGUGCAUGACAGAACUUG	56	0, -1
UCAGUGCAUGACAGAACUUGG	375	0, 0
UCAGUGCAUGACAGAACUUGG _a	20	0, 0
UCAGUGCAUGACAGAACUUGG _{aa}	2	0, 0
UCAGUGCAUGACAGAACUUGG _u	203	0, 0
UCAGUGCAUGACAGAACUUGG _{uu}		

```

----- 20 0,0
-----UCAGUGCAUGACAGAACUUGGG-----
----- 287 0,1
-----UCAGUGCAUGACAGAACUUGGGa-----
----- 60 0,1
-----UCAGUGCAUGACAGAACUUGGGaa-----
----- 4 0,1
-----UCAGUGCAUGACAGAACUUGGGu-----
----- 144 0,1
-----UCAGUGCAUGACAGAACUUGGGuu-----
----- 8 0,1
-----CAGUGCAUGACAGAACUUGGu-----
----- 2 1,0
-----AGUGCAUGACAGAACUUG-----
----- 3 2,-1
-----AGUGCAUGACAGAACUUG-----
----- 3 2,0
-----AGUGCAUGACAGAACUUGGu-----
----- 3 2,0
-----AGUGCAUGACAGAACUUGGG-----
----- 10 2,1

```

>hsa-mir-154 MA:15-36;mi:51-72 SRX018965

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuauuugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa

.(((((((.(((((((((((.((((((....((((((.....).))))....)))))).)))))))).))))).)))).

```

-----UAGGUUAUCCGUGUUGCC-----
---- 9 0,-4
-----UAGGUUAUCCGUGUUGCCU-----
---- 3 0,-3
-----UAGGUUAUCCGUGUUGCCUU-----
---- 8 0,-2
-----UAGGUUAUCCGUGUUGCCUUC-----
---- 4 0,-1
-----UAGGUUAUCCGUGUUGCCUUCG-----
---- 103 0,0
-----UAGGUUAUCCGUGUUGCCUUCGa-----

```

```

----- 2 0,0
-----UAGGUUAUCCGUGUUGCCUUCGu-----
----- 2 0,0
-----AGGUUAUCCGUGUUGCCUUCG-----
----- 5 1,0
-----AAUCAUACACGGUUGACC-----
----- 34 0,-4
-----AAUCAUACACGGUUGACCU-----
----- 19 0,-3
-----AAUCAUACACGGUUGACCUu-----
----- 2 0,-3
-----AAUCAUACACGGUUGACCUA-----
----- 3 0,-2
-----AAUCAUACACGGUUGACCUAU-----
----- 178 0,-1
-----AAUCAUACACGGUUGACCUAUa-----
----- 2 0,-1
-----AAUCAUACACGGUUGACCUAUU-----
----- 2993 0,0
-----AAUCAUACACGGUUGACCUAUUa-----
----- 47 0,0
-----AAUCAUACACGGUUGACCUAUUU-----
----- 256 0,1
-----AAUCAUACACGGUUGACCUAUUUU-----
----- 5 0,2
-----AUCAUACACGGUUGACCUA-----
----- 3 1,-2
-----AUCAUACACGGUUGACCUAU-----
----- 4 1,-1
-----AUCAUACACGGUUGACCUAUU-----
----- 40 1,0
-----AUCAUACACGGUUGACCUAUUa-----
----- 4 1,0
-----AUCAUACACGGUUGACCUAUUU-----
----- 3 1,1

```

>hsa-mir-155 MA:4-26;mi:43-64 SRX018965

cugUUA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUUAGCAUUAACAg

--- 2 1,-2
-----AGCAGCACAUAAUGGUUUGU-----
--- 2 1,-1
-----AGCAGCACAUAAUGGUUUGUG-----
--- 2 1,0
-----CAGGCCAUAUUGUGCUGC-----
--- 4 0,-4
-----CAGGCCAUAUUGUGCUGCC-----
--- 2 0,-3

>hsa-mi r-15b MA:20-41;mi:58-79 SRX018965

uugaggccuuaaguacugUAGCAGCACAUCAUGGUUACAugcuacagucaagaugCGAAUCAUUAUUUGCUGCUCUAg
aaauuuuaggaaauucau

$$\begin{aligned} & .(((((((\dots((((((((.(.((((((..(((.(.....))))))..)))))).).)))))))).) \\ & \dots)))))))). \end{aligned}$$

-----UAGCAGCACAUCAUGGUU-----

----- 62 0,-4

-----UAGCAGCACAUCAUGGUUa-----

----- 2 0, -4

-----UAGCAGCACAUCAUGGUUU-----

----- 189 0,-3

-----UAGCAGCACAUCAUGGUUA-----

----- 265 0,-2

-----UAGCAGCACAUCAUGGUUUAa-----

----- 13 0,-2

-----UAGCAGCACAUCAUGGUUUAaa-----

----- 3 0,-2

-----UAGCAGCACAUCAUGGUUAC-----

----- 534 0,-1

-----UAGCAGCACAUCAUGGUUUACA-----

----- 1806 0,0

-----UAGCAGCACAUCAUGGUUUACAa-----

----- 15 0,0

-----UAGCAGCACAUCAUGGUUUACAU-----

----- 10 0,1

-----AGCAGCACAUCAUGGUUU-----

----- 3 1,-3

-----AGCAGCACAUCAUGGUUA-----

```

----- 3 1,-2
-----AGCAGCACAUCAUGGUUUAC-----
----- 7 1,-1
-----AGCAGCACAUCAUGGUUUACA-----
----- 13 1,0
-----GCAGCACAUCAUGGUUUACA-----
----- 9 2,0
-----CGAAUCAUUAUUUGCUGC-----
----- 14 0,-4
-----CGAAUCAUUAUUUGCUGCU-----
----- 7 0,-3
-----CGAAUCAUUAUUUGCUGCUC-----
----- 6 0,-2
-----CGAAUCAUUAUUUGCUGCUCUA-----
----- 2 0,0

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018965

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuaaagauucuaaaauuauucuCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

(((((...(((.(((((((((((((.(((((((((.(((.....))))).))))))))).))))))))))

```

-----UAGCAGCACGUAAAUAUU-----
----- 311 0,-4
-----UAGCAGCACGUAAAUAUUa-----
----- 6 0,-4
-----UAGCAGCACGUAAAUAUUu-----
----- 2 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 876 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 2 0,-3
-----UAGCAGCACGUAAAUAUUGu-----
----- 3 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 1246 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 2 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----

```

```

----- 4 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 1641 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 85 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 28 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 7 0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----
----- 3 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 4383 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 219 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 13 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 5 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 808 0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 15 0,2
-----AGCAGCACGUAAAUAUUG-----
----- 5 1,-3
-----AGCAGCACGUAAAUAUUGG-----
----- 5 1,-2
-----AGCAGCACGUAAAUAUUGGC-----
----- 7 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
----- 25 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
----- 2 1,1
-----GCAGCACGUAAAUAUUGG-----
----- 2 2,-2
-----GCAGCACGUAAAUAUUGGC-----
----- 2 2,-1
-----GCAGCACGUAAAUAUUGGCG-----

```

```

----- 13 2,0
-----GCAGCACGUAAAUUUGGCGU-----
----- 2 2,1
-----CCAGUAUUAACUGUGCUGC-----
----- 3 0,-3
-----CCAGUAUUAACUGUGCUGCUGA---
----- 3 0,0

```

>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018965

```

guuccacucUAGCAGCACGUAAAUUUGGCGuagugaaauauauuuuaacaCCAAUUAUUACUGUGCUGCUUUAguuguga
c

```

```

((..(((..(((((((..(((((((..(((..(((.....))))..))))))))..))))))..))
)

```

```

-----CUAGCAGCACGUAAAUUUGGC-----
- 3 -1,-1
-----CUAGCAGCACGUAAAUUUGGCG-----
- 15 -1,0
-----CUAGCAGCACGUAAAUUUGGCGU-----
- 3 -1,1
-----UAGCAGCACGUAAAUUU-----
- 311 0,-4
-----UAGCAGCACGUAAAUUUa-----
- 6 0,-4
-----UAGCAGCACGUAAAUUUu-----
- 2 0,-4
-----UAGCAGCACGUAAAUUUG-----
- 876 0,-3
-----UAGCAGCACGUAAAUUUGa-----
- 2 0,-3
-----UAGCAGCACGUAAAUUUGu-----
- 3 0,-3
-----UAGCAGCACGUAAAUUUGG-----
- 1246 0,-2
-----UAGCAGCACGUAAAUUUGGa-----
- 2 0,-2
-----UAGCAGCACGUAAAUUUGGaa-----
- 4 0,-2
-----UAGCAGCACGUAAAUUUGGC-----

```

- 1641 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
- 85 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
- 28 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
- 7 0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----
- 3 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
- 4383 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
- 219 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
- 13 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
- 5 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
- 808 0,1
-----UAGCAGCACGUAAAUAUUGGCGUA-----
- 7 0,2
-----AGCAGCACGUAAAUAUUG-----
- 5 1,-3
-----AGCAGCACGUAAAUAUUGG-----
- 5 1,-2
-----AGCAGCACGUAAAUAUUGGC-----
- 7 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
- 25 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
- 2 1,1
-----GCAGCACGUAAAUAUUGG-----
- 2 2,-2
-----GCAGCACGUAAAUAUUGGC-----
- 2 2,-1
-----GCAGCACGUAAAUAUUGGCG-----
- 13 2,0
-----GCAGCACGUAAAUAUUGGCGU-----


```

----      4      0,-4
-----CAAAGUGCUUACAGUGCAGaa-----
----      4      0,-4
-----CAAAGUGCUUACAGUGCAGG-----
----    433      0,-3
-----CAAAGUGCUUACAGUGCAGGaa-----
----      7      0,-3
-----CAAAGUGCUUACAGUGCAGGU-----
----   588      0,-2
-----CAAAGUGCUUACAGUGCAGGUu-----
----      6      0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
----   806      0,-1
-----CAAAGUGCUUACAGUGCAGGUAa-----
----   170      0,-1
-----CAAAGUGCUUACAGUGCAGGUAau-----
----      2      0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
----   119      0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
----   1546      0,0
-----CAAAGUGCUUACAGUGCAGGUAGa-----
----      33      0,0
-----CAAAGUGCUUACAGUGCAGGUAGaa-----
----      2      0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
----      40      0,1
-----CAAAGUGCUUACAGUGCAGGUAGUa-----
----      2      0,1
-----AAAGUGCUUACAGUGCAG-----
----      12      1,-4
-----AAAGUGCUUACAGUGCAGG-----
----      16      1,-3
-----AAAGUGCUUACAGUGCAGGU-----
----      52      1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
----      29      1,-1
-----AAAGUGCUUACAGUGCAGGUAa-----

```



```

----      7      1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
----     16      1,-1
-----AAAGUGCUUACAGUGCAGGUAuu-----
----      2      1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
----     87      1,0
-----AAGUGCUUACAGUGCAGGUAG-----
----      4      2,0
-----ACUGCAGUGAAGGCACUU-----
----     99      0,-4
-----ACUGCAGUGAAGGCACUUG-----
----    323      0,-3
-----ACUGCAGUGAAGGCACUUGa-----
----      2      0,-3
-----ACUGCAGUGAAGGCACUUGU-----
----   558      0,-2
-----ACUGCAGUGAAGGCACUUGUA-----
----   281      0,-1
-----ACUGCAGUGAAGGCACUUGUAa-----
----      4      0,-1
-----ACUGCAGUGAAGGCACUUGUAu-----
----      3      0,-1
-----ACUGCAGUGAAGGCACUUGUAG-----
----     49      0,0
-----ACUGCAGUGAAGGCACUUGUAGa-----
----      7      0,0
-----ACUGCAGUGAAGGCACUUGUAGC-----
----     53      0,1
-----ACUGCAGUGAAGGCACUUGUAGCu-----
----     14      0,1
-----ACUGCAGUGAAGGCACUUGUAGCA-----
----     24      0,2
-----ACUGCAGUGAAGGCACUUGUAGCAU-----
----      2      0,3
-----CUGCAGUGAAGGCACUUG-----
----     18      1,-3
-----CUGCAGUGAAGGCACUUGU-----

```


-----	3	0,-3	
-----	-AACAUUCAACGCUGUCGGUGA-		
-----	65	0,-2	
-----	-AACAUUCAACGCUGUCGGUGAu-		
-----	2	0,-2	
-----	-AACAUUCAACGCUGUCGGUGAG-		
-----	347	0,-1	
-----	-AACAUUCAACGCUGUCGGUGAGa-		
-----	6	0,-1	
-----	-AACAUUCAACGCUGUCGGUGAGU-		
-----	116	0,0	
-----	-AACAUUCAACGCUGUCGGUGAGUa-		
-----	3	0,0	
-----	-AACAUUCAACGCUGUCGGUGAGUU-		
-----	183	0,1	
-----	-AACAUUCAACGCUGUCGGUGAGUUa-		
-----	2	0,1	
-----	-AACAUUCAACGCUGUCGGUGAGUUU-		
-----	37	0,2	
-----	-----ACCAUCGACCGUUGAUU		
G-----	6	0,-4	
-----	-----ACCAUCGACCGUUGAUU		
GUACC-----	2	0,0	

.....(((((((.(.(((((..((((((.((((.....))))))
)))))))))).)).))))))))))).


```

----- 20 0,-4
-----AACAUUCAUUGCUGUCGGUG-----
----- 66 0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
----- 2 0,-3
-----AACAUUCAUUGCUGUCGGUGG-----
----- 10 0,-2
-----AACAUUCAUUGCUGUCGGUGGu-----
----- 2 0,-2
-----AACAUUCAUUGCUGUCGGUGGG-----
----- 83 0,-1
-----AACAUUCAUUGCUGUCGGUGGGa-----
----- 8 0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
----- 37 0,0
-----AACAUUCAUUGCUGUCGGUGGGUa-----
----- 7 0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
----- 23 0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 79 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUa-----
----- 9 0,1
-----ACAUUCAUUGCUGUCGGUGGGUau-----
----- 2 1,0
-----ACAUUCAUUGCUGUCGGUGGGUU-----
----- 2 1,1
-----CUCAC
UGAACAAUGAUGCA----- 3
-----CUCAC
UGAACAAUGAUGCAA----- 2

```

>hsa-mir-181b-2 5p:16-38 SRX018965

```

cugauggcugcacucAACAUUCAUUGCUGUCGGUGGGUuugagucugaaucaacucacugaucaaugaaugcaaacugcg
gaccaaaca
....((((((((.....((((((((((..(((((((((((.(.....))))))))))))))))))))))))....)))
).)))....
-----AACAUUCAUUGCUGUCGG-----

```



```

----- 5 0,1
-----AACAUUCAACCGUGCGGUGAGUUU-----
----- 10 0,2
-----ACCAUCGACCGUUGA
GUG----- 8 1,-3
-----ACCAUCGACCGUUGA
GUGG----- 4 1,-2
-----ACCAUCGACCGUUGA
GUGGACCa----- 4 1,1

```

>hsa-mir-181d 5p:36-58 SRX018965

```

guccccucccuaggccacagccgaggucacaaucAACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accgggggaugaaugucacuguggcugggccagacacggcuuaaggggauggggac
((((((((((((((((((...(((...((((((((((((((((((((((...(((...)))...)))
))))))...))))))...))))))...))))...))))...))))))
-----AACAUUCAUUGUUGUCGGUG-----
----- 7 0,-3
-----AACAUUCAUUGUUGUCGGUGG-----
----- 17 0,-2
-----AACAUUCAUUGUUGUCGGUGGG-----
----- 11 0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----
----- 2 0,0
-----AACAUUCAUUGUUGUCGGUGGGUa-----
----- 3 0,0
-----AACAUUCAUUGUUGUCGGUGGGUU-----
----- 10 0,1
-----AACAUUCAUUGUUGUCGGUGGGUUa-----
----- 2 0,1
-----AACAUUCAUUGUUGUCGGUGGGUUu-----
----- 3 0,1

```

>hsa-mir-182 MA:23-46;mi:67-87 SRX018965

```

gagcugcuugccuccccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAuggggcgaggacucagccggcac
..((((((...(((...((((((((((((((((((((...((((((((...)))))))))...)))
))))...))))))...))))...))))..
-----UUUGGCAAUGGUAGAACUCA-----

```

```

----- 13 0,-4
-----UUUGGCAAUGGUAGAACUCAC-----
----- 26 0,-3
-----UUUGGCAAUGGUAGAACUCACA-----
----- 80 0,-2
-----UUUGGCAAUGGUAGAACUCACAa-----
----- 5 0,-2
-----UUUGGCAAUGGUAGAACUCACAC-----
----- 190 0,-1
-----UUUGGCAAUGGUAGAACUCACACa-----
----- 2 0,-1
-----UUUGGCAAUGGUAGAACUCACACU-----
----- 338 0,0
-----UUUGGCAAUGGUAGAACUCACACUG-----
----- 105 0,1
-----UUGGCAAUGGUAGAACUCACAC-----
----- 4 1,-1
-----UGGCAAUGGUAGAACUCACACU-----
----- 3 2,0
-----UGGUUCUAGACUUG
CCAACUA----- 2 0,0

```

```

>hsa-mir-183    MA:27-48;mi:66-87    SRX018965
ccgcagagugugacuccuguucugugUAUGGCACUGGUAGAAUUCACUgugaacagucucagucaGUGAAUUACCGAAGG
GCCAUAAacagagcagagacagauccacga
.....(((.(((.((((((((((.((((((..((((((.((((((((((((((((.....))))..))))))))))))))....
))))))..)))))))).))....))))))..
-----UAUGGCACUGGUAGAAUU-----
----- 2 0,-4
-----UAUGGCACUGGUAGAAUUC-----
----- 19 0,-3
-----UAUGGCACUGGUAGAAUUCA-----
----- 4 0,-2
-----UAUGGCACUGGUAGAAUUCAC-----
----- 10 0,-1
-----UAUGGCACUGGUAGAAUUCACU-----
----- 111 0,0
-----UAUGGCACUGGUAGAAUUCACUG-----

```



```

----- 70 0,1
-----UAUGGCACUGGUAGAAUUCACUGa-----
----- 25 0,1
-----UAUGGCACUGGUAGAAUUCACUGaa-----
----- 2 0,1
-----UAUGGCACUGGUAGAAUUCACUGU-----
----- 4 0,2
-----AUGGCACUGGUAGAAUUC-----
----- 2 1,-3
-----AUGGCACUGGUAGAAUUCAC-----
----- 2 1,-1
-----AUGGCACUGGUAGAAUUCACU-----
----- 18 1,0
-----AUGGCACUGGUAGAAUUCACUG-----
----- 52 1,1
-----AUGGCACUGGUAGAAUUCACUGa-----
----- 25 1,1
-----AUGGCACUGGUAGAAUUCACUGaa-----
----- 3 1,1
-----AUGGCACUGGUAGAAUUCACUGU-----
----- 15 1,2
-----GUGAAUUACCGAAGG
GCCAU----- 3 0,-2
-----GUGAAUUACCGAAGG
GCCAUA----- 10 0,-1
-----GUGAAUUACCGAAGG
GCCAUAA----- 6 0,0
-----GUGAAUUACCGAAGG
GCCAUAAu----- 3 0,0
-----UGAAUUACCGAAGG
GCCA----- 5 1,-3
-----UGAAUUACCGAAGG
GCCAU----- 9 1,-2
-----UGAAUUACCGAAGG
GCCAUu----- 3 1,-2
-----UGAAUUACCGAAGG
GCCAUA----- 50 1,-1
-----UGAAUUACCGAAGG

```

```

GCCAUAu----- 4 1,-1
-----UGAAUUACCGAAGG
GCCAUAuu----- 3 1,-1
-----UGAAUUACCGAAGG
GCCAUAA----- 43 1,0
-----UGAAUUACCGAAGG
GCCAUAAu----- 5 1,0
-----UGAAUUACCGAAGG
GCCAUAAA----- 9 1,1
-----UGAAUUACCGAAGG
GCCAUAAAC----- 2 1,2

```

```

>hsa-mir-184 3p:53-74 SRX018965
ccagucacguccccuaucacuuuuccagcccagcuugugacuguaaguguUGGACGGAGAACUGAUAAAGGGUagguga
uuga
.(((((((.(.((((((((((.((((((.(.((((((((((.....))))).))))).))))).))))).))))
)).
-----UGGACGGAGAACUGAUAAAGGGU-----
---- 5 0,0

```

```

>hsa-mir-185 MA:15-36;mi:50-71 SRX018965
agggggcgagggauUGGAGAGAAAGGCAGUUCCUGAuggucccccuccccAGGGGCUGGCUUCCUCUGGUCcuucccucc
ca
.(((((((.((((((((..(((.((((((.((((((((((..((.....))))).))))).))))).))))).))))
).
-----UUGGAGAGAAAGGCAGUUCCU-----
-- 2 -1,-2
-----UGGAGAGAAAGGCAGUUC-----
-- 317 0,-4
-----UGGAGAGAAAGGCAGUUCa-----
-- 6 0,-4
-----UGGAGAGAAAGGCAGUUCu-----
-- 2 0,-4
-----UGGAGAGAAAGGCAGUUCC-----
-- 298 0,-3
-----UGGAGAGAAAGGCAGUUCCU-----
-- 2499 0,-2
-----UGGAGAGAAAGGCAGUUCCUa-----

```

```
-- 6 0,-2
-----UGGAGAGAAAGGCAGUCCUau-----
-- 4 0,-2
-----UGGAGAGAAAGGCAGUCCUu-----
-- 3 0,-2
-----UGGAGAGAAAGGCAGUCCUG-----
-- 2716 0,-1
-----UGGAGAGAAAGGCAGUCCUGu-----
-- 96 0,-1
-----UGGAGAGAAAGGCAGUCCUGuu-----
-- 11 0,-1
-----UGGAGAGAAAGGCAGUCCUGA-----
-- 9727 0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 2011 0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 64 0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 75 0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 1480 0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 67 0,1
-----UGGAGAGAAAGGCAGUCCUGAUaa-----
-- 2 0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 2 0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 76 0,1
-----UGGAGAGAAAGGCAGUCCUGAUG-----
-- 4 0,2
-----GGAGAGAAAGGCAGUCC-----
-- 2 1,-3
-----GGAGAGAAAGGCAGUCCU-----
-- 10 1,-2
-----GGAGAGAAAGGCAGUCCUG-----
-- 19 1,-1
-----GGAGAGAAAGGCAGUCCUGu-----
```

```

-- 2 1,-1
-----GGAGAGAAAGGCAGUUCCUGA-----
-- 89 1,0
-----GGAGAGAAAGGCAGUUCCUGAa-----
-- 9 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 11 1,1
-----GAGAGAAAGGCAGUUCCU-----
-- 3 2,-2
-----GAGAGAAAGGCAGUUCCUG-----
-- 3 2,-1
-----GAGAGAAAGGCAGUUCCUGA-----
-- 9 2,0
-----GAGAGAAAGGCAGUUCCUGAa-----
-- 3 2,0
-----CAGGGGCUGGCUUCCUC-----
-- 88 -1,-5
-----CAGGGGCUGGCUUCCUCU-----
-- 16 -1,-4
-----AGGGGCUGGCUUCCUCU-----
-- 243 0,-4
-----AGGGGCUGGCUUCCUCUGGU-----
-- 8 0,-1
-----AGGGGCUGGCUUCCUCUGGUa-----
-- 2 0,-1
-----AGGGGCUGGCUUCCUCUGGUaa-----
-- 2 0,-1
-----AGGGGCUGGCUUCCUCUGGUu-----
-- 2 0,-1

```

>hsa-mi r-186 MA:15-36;mi :54-75 SRX018965

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuuuuuuuaGCCCAAAGGUGAAUUUUUGGGaagu
ugagcu

.((((.(((((((((((((((((((.((((.(((((.)))))))))..)))))))))
)))).

-----CAAAGAAUUCUCCUUUUG-----
----- 17 0,-4 -----
-----CAAAGAAUUCUCCUUUUG-----

```

----- 9 0,-3
-----CAAAGAAUUCUCCUUUUGGC-----
----- 20 0,-2
-----CAAAGAAUUCUCCUUUUGGC-----
----- 8 0,-1
-----CAAAGAAUUCUCCUUUUGGCa-----
----- 13 0,-1
-----CAAAGAAUUCUCCUUUUGGCau-----
----- 11 0,-1
-----CAAAGAAUUCUCCUUUUGGCU-----
----- 143 0,0
-----CAAAGAAUUCUCCUUUUGGCUa-----
----- 47 0,0
-----CAAAGAAUUCUCCUUUUGGCUaa-----
----- 3 0,0
-----CAAAGAAUUCUCCUUUUGGCUau-----
----- 12 0,0
-----CAAAGAAUUCUCCUUUUGGCUU-----
----- 618 0,1
-----CAAAGAAUUCUCCUUUUGGCUUa-----
----- 13 0,1
-----CAAAGAAUUCUCCUUUUGGCUUU-----
----- 8 0,2
-----CAAAGAAUUCUCCUUUUGGCUUUu-----
----- 2 0,2
-----AAAGAAUUCUCCUUUUGGCa-----
----- 3 1,-1
-----AAAGAAUUCUCCUUUUGGCU-----
----- 10 1,0
-----AAAGAAUUCUCCUUUUGGCUa-----
----- 3 1,0
-----AAAGAAUUCUCCUUUUGGCUU-----
----- 43 1,1
-----AAAGAAUUCUCCUUUUGGCUUa-----
----- 2 1,1

```

>hsa-mir-187 mi:35-56;MA:71-92 SRX018965

ggucgggcucaccaugacacagugagaccucgGGCUACAACACAGGACCCGGGCgcugcucugaccccUCGUGUCUUG

```

UGUUGCAGCCGGagggacgcagguccgca
.(.(((((((.....((((...(((.((((.((((((((((.((((.(.....).).)).)).))))))
))))).))))).))))).))))).))))).
-----GCUACAACACAGGACCCGGGCGa-----
----- 2 1,1
-----GCUACAACACAGGACCCGGGCGu-----
----- 2 1,1
-----CUCGUGUCUUG
UGUUGCAGCCGG----- 4 -1,0
-----UCGUGUCUUG
UGUUGCAG----- 4 0,-4
-----UCGUGUCUUG
UGUUGCAGC----- 20 0,-3
-----UCGUGUCUUG
UGUUGCAGCC----- 6 0,-2
-----UCGUGUCUUG
UGUUGCAGCCG----- 9 0,-1
-----UCGUGUCUUG
UGUUGCAGCCGu----- 4 0,-1
-----UCGUGUCUUG
UGUUGCAGCCGG----- 160 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGu----- 98 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGuu----- 69 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGA----- 11 0,1
-----UCGUGUCUUG
UGUUGCAGCCGGAa----- 3 0,1
-----UCGUGUCUUG
UGUUGCAGCCGGAu----- 2 0,1
-----CGUGUCUUG
UGUUGCAGCCGGuu----- 7 1,0
-----GUGUCUUG
UGUUGCAGCCGG----- 2 2,0

```

```

>hsa-mir-188 5p:15-35;3p:54-74 SRX018965
ugcucccucucucaCAUCCCUUGCAUGGUGGAGGGugagcuuucugaaaacccUCCCACAUGCAGGGUUUGCAggaugg

```

cgagcc

.(((((((.....)))))))).

-----CAUCCCUUGCAUGGUGGAGGaa-----

----- 2 0,-1

-----CAUCCCUUGCAUGGUGGAGGGU-----

----- 3 0,1

-----CAUCCCUUGCAUGGUGGAGGGUau-----

----- 2 0,1

>hsa-mir-18a MA:6-28;mi:47-69 SRX018965

uguucUAAGGUGCAUCUAGUGCAGAUAGugaaguagauuagcaucuACUGCCCUAAGUGCUCUUCUGGca

.(((((((.....)))))))).

-----UAAGGUGCAUCUAGUGCA----- 37 0,-5

-----UAAGGUGCAUCUAGUGCAG----- 26 0,-4

-----UAAGGUGCAUCUAGUGCAGA----- 133 0,-3

-----UAAGGUGCAUCUAGUGCAGaa----- 7 0,-3

-----UAAGGUGCAUCUAGUGCAGAU----- 403 0,-2

-----UAAGGUGCAUCUAGUGCAGAUa----- 63 0,-1

-----UAAGGUGCAUCUAGUGCAGAUau----- 2 0,-1

-----UAAGGUGCAUCUAGUGCAGAUAG----- 38 0,0

-----AAGGUGCAUCUAGUGCAGAU----- 5 1,-2

-----AAGGUGCAUCUAGUGCAGAUAG----- 2 1,0

-----ACUGCCCUAAGUGCUCUUC----- 3 0,-3

-----ACUGCCCUAAGUGCUCUUCU----- 2 0,-2

>hsa-mir-18b MA:6-28;mi:49-70 SRX018965

uguguUAAGGUGCAUCUAGUGCAGUUAGugaagcagcuagaauacuacUGCCCUAAAUGCCCUUCUGGCa

..(((((((.....)))))))).

-----UAAGGUGCAUCUAGUGCA----- 37 0,-5

-----UAAGGUGCAUCUAGUGCAG----- 26 0,-4

-----UAAGGUGCAUCUAGUGCAGU----- 29 0,-3

-----UAAGGUGCAUCUAGUGCAGUU----- 23 0,-2

-----UAAGGUGCAUCUAGUGCAGUUAG----- 2 0,0

-----AAGGUGCAUCUAGUGCAGUU----- 2 1,-2

>hsa-mir-1908 5p:12-32 SRX018965

cgggaaugccgCGGCGGGGACGGCGAUUGGUCcguauguguggugccaccggccgcccgcuccgccccggccccgcccc

((((((...(((.(((((((.(((((((.(((((((.(...)))))).)))))).)))))).))))).)))...
 -----CGGCGGGGACGGCGAUUGG-----
 4 0,-2
 -----CGGCGGGGACGGCGAUUGGU-----
 5 0,-1
 -----CGGCGGGGACGGCGAUUGGUC-----
 6 0,0
 -----CGGCGGGGACGGCGAUUGGUCu-----
 3 0,0

>hsa-mi r-191 MA:16-38;mi :58-79 SRX018965

cggcuggacagcgggCAACGGAAUCCCAAAAGCAGCUGuugucuccagagcauuccaGCUGCGCUUGGAUUCGUCCCCu
gcucuccugccu

```
.(((.(((.((((((.((((((((.((.((((((.((((....)).))..)))))))..)))))))).)))).  
-----CAACGGAAUCCCAAAAAGC-----  
-----11580,-5  
-----CAACGGAAUCCCAAAAAGCu-----  
-----40,-5  
-----CAACGGAAUCCCAAAAAGCA-----  
-----19110,-4  
-----CAACGGAAUCCCAAAAAGCAa-----  
-----20,-4  
-----CAACGGAAUCCCAAAAAGCAu-----  
-----90,-4  
-----CAACGGAAUCCCAAAAAGCAG-----  
-----45180,-3  
-----CAACGGAAUCCCAAAAAGCAGa-----  
-----110,-3  
-----CAACGGAAUCCCAAAAAGCAGaa-----  
-----40,-3  
-----CAACGGAAUCCCAAAAAGCAGau-----  
-----90,-3  
-----CAACGGAAUCCCAAAAAGCAGu-----  
-----140,-3  
-----CAACGGAAUCCCAAAAAGCAGuu-----  
-----50,-3  
-----CAACGGAAUCCCAAAAAGCAGC-----
```


----- 9341 0,-2
-----CAACGGAAUCCCAAAAGCAGCa-----
----- 98 0,-2
-----CAACGGAAUCCCAAAAGCAGCaa-----
----- 10 0,-2
-----CAACGGAAUCCCAAAAGCAGCU-----
----- 25101 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
----- 340 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
----- 25 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
----- 40 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
----- 195 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
----- 17 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
----- 14132 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
----- 169 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
----- 14 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
----- 2 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
----- 2310 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
----- 13 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
----- 48 0,2
-----AACGGAAUCCCAAAAGCA-----
----- 84 1,-4
-----AACGGAAUCCCAAAAGCAG-----
----- 216 1,-3
-----AACGGAAUCCCAAAAGCAGuu-----
----- 2 1,-3
-----AACGGAAUCCCAAAAGCAGC-----

```

----- 557 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
----- 3 1,-2
-----AACGGAAUCCCAAAAGCAGCaa-----
----- 2 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
----- 1483 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
----- 21 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
----- 3 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
----- 3 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
----- 14 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
----- 3 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
----- 716 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
----- 21 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
----- 211 1,1
-----AACGGAAUCCCAAAAGCAGCUGUa-----
----- 4 1,1
-----AACGGAAUCCCAAAAGCAGCUGUaa-----
----- 2 1,1
-----AACGGAAUCCCAAAAGCAGCUGUU-----
----- 5 1,2
-----ACGGAAUCCCAAAAGCAG-----
----- 4 2,-3
-----ACGGAAUCCCAAAAGCAGC-----
----- 2 2,-2
-----ACGGAAUCCCAAAAGCAGCU-----
----- 12 2,-1
-----ACGGAAUCCCAAAAGCAGCUu-----
----- 2 2,-1
-----ACGGAAUCCCAAAAGCAGCUGU-----

```

```

-----      2   2,1
-----GCUGCGCUUGGAUUUCGUCCC--
-----      2   0,-1
-----GCUGCGCUUGGAUUUCGUCCCC-
-----      3   0,0
-----CUGCGCUUGGAUUUCGUCCCC-
-----      2   1,0

```

```

>hsa-mir-1915   mi:12-33;MA:47-66   SRX018965
ugagaggccgcACCUUGCCUUGCUGCCCGGGCCgugcaccgugggCCCCAGGGCGACGCGGCGGGggcggcccuagcga
..((.((((((.((((((.((.((((((((((.((((....)))))))).)))))).)))))))).).....
-----CCCCAGGGCGACGCGGCGGG-----
      2   0,0

```

```

>hsa-mir-192    MA:24-44;mi:67-88   SRX018965
gccgagaccgagugcacaggguCUGACCUAUGAAUUGACAGCCagugcucucgucucccucuggCUGCCAAUCCAUA
GGUCACAGguauguugcccucaaugccagc
.....(((.((((((.((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).
-----CUCUGACCUAUGAAUUGACAGCa-----
-----      3   -2,-1
-----CUCUGACCUAUGAAUUGACAGCC-----
-----      3   -2,0
-----UCUGACCUAUGAAUUGAC-----
-----      19  -1,-4
-----UCUGACCUAUGAAUUGACA-----
-----      4   -1,-3
-----UCUGACCUAUGAAUUGACAG-----
-----      33  -1,-2
-----UCUGACCUAUGAAUUGACAGC-----
-----      257 -1,-1
-----UCUGACCUAUGAAUUGACAGCa-----
-----      6   -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
-----      3   -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
-----      1579 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----

```

----- 41 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 215 -1,1
-----UCUGACCUAUGAAUUGACAGCCAa-----
----- 6 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 21 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 4 -1,1
-----CUGACCUAUGAAUUGACA-----
----- 9578 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 14 0,-3
-----CUGACCUAUGAAUUGACAaa-----
----- 2 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 4873 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 44 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 6 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 39 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 79340 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 5749 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 495 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 110 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 890 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 46 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 510020 0,0
-----CUGACCUAUGAAUUGACAGCCu-----

```

----- 15116 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 1329 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 263571 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 3542 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 388 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
----- 548 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 38860 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 6264 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 3127 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 115 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 9 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 3 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 973 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 43 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 86 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 7 0,4
-----UGACCUAUGAAUUGACAG-----
----- 2995 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 10 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 26479 1,-1
-----UGACCUAUGAAUUGACAGCa-----

```

----- 377 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 53 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 5 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 48 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 32004 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 404 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 49 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 61854 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 1015 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 502 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 350 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 5088 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 994 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 23336 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 1715 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 71 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 23 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 9452 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 432 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----

----- 21 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 20 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 545 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 33 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 18 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 3 1,4
-----GACCUAUGAAUUGACAGC-----
----- 352 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 7 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 2 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 635 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 10 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 2 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 454 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 17 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 2 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 62 2,1
-----GACCUAUGAAUUGACAGCCAuu-----
----- 17 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 255 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 19 2,2
-----GACCUAUGAAUUGACAGCCAGU-----


```

--- 7  0,-2
-----CGGGGUUUUGAGGGCGAGAUG-----
--- 29  0,-1
-----CGGGGUUUUGAGGGCGAGAUGu-----
--- 12  0,-1
-----CGGGGUUUUGAGGGCGAGAUGA-----
--- 104 0,0
-----CGGGGUUUUGAGGGCGAGAUGAa-----
--- 4   0,0
-----CGGGGUUUUGAGGGCGAGAUGAu-----
--- 5   0,0
-----GGGGUUUUGAGGGCGAGA-----
--- 3   1,-3
-----GGGGUUUUGAGGGCGAGAUG-----
--- 5   1,-1
-----GGGGUUUUGAGGGCGAGAUGA-----
--- 8   1,0
-----AACUGGCCCUCAAAGUCC-----
--- 47  0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 60  0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 28  0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 43  0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 17  0,-1
-----AACUGGCCCUCAAAGUCCCGCaa-----
--- 6   0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----
--- 18  0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 99  0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 26  0,0
-----AACUGGCCCUCAAAGUCCCGCUaa-----
--- 2   0,0
-----AACUGGCCCUCAAAGUCCCGCUau-----

```


---- 5 0,-1
 -----UAGGUAGUUCCUGUUGUUGGG-----
 ---- 5 0,0

>hsa-mi r-197 3p:48-69 SRX018965

ggcugugccggguagagagggcaguggggagguaagagcucuucacccUUCACCACCUUCUCCACCCAGCauggcc
 (((((((((.((((((.(((((((.((((((.(((((((.)))..)))..))))).))))).))))).))))))
 -----UUCACCACCUUCUCCACCCAG----- 4
 0,-1
 -----UUCACCACCUUCUCCACCCAGC----- 12
 0,0

```
>hsa-mir-1972-1 3p:48-69 SRX018965
```

uauaggcaugugccaccacaccuggcuuaaaugugucauuuaaaaaauUCAGGCCAGGCACAGUGGCUCAugccugua
 ((((((((((.(((((....((((((((.((((.....))).))))))....)))))).)))))))))
 -----CAGGCCAGGCACAGUGGCUC-----
 2 1,-1

>hsa-mir-1972-2 3p:48-69 SRX018965

uaaggcgaugugccaccacaccugggcuaaaaugugucauuuaaaaaauUCAGGCCAGGCACAGUGGCUCAugccgua
 ((((((((((.(((((....((((((((.((((.....))).))))))....))))).)))))))))
 -----CAGGCCAGGCACAGUGGCUC-----
 2 1,-1

>hsa-mi r-199a-1 5p:6-28;3p:47-68 SRX018965

gcccacCCCAGUGUUCAGACUACCCUGUUCaggaggcucucacaauguguACAGUAGUCUGCACAUUGGUUAggc
(((...(((((((.(((((((.(((.(.(((...)))...)).)))))))))).)))))).))))))...)))
-----CCCAGUGUUCAGACUACCU----- 17 0, -4
-----CCCAGUGUUCAGACUACCCUGU----- 2 0, -1
-----UACAGUAGUCUGCACAUU----- 14
-1, -5
-----UACAGUAGUCUGCACAUUG----- 3
-1, -4
-----UACAGUAGUCUGCACAUUGG----- 9
-1, -3
-----UACAGUAGUCUGCACAUUGGau----- 4
-1, -3
-----UACAGUAGUCUGCACAUUGGU----- 48

-1,-2	-----UACAGUAGUCUGCACAUUGGUa----	22	
-1,-2	-----UACAGUAGUCUGCACAUUGGUaa---	3	
-1,-2	-----UACAGUAGUCUGCACAUUGGUau---	6	
-1,-2	-----UACAGUAGUCUGCACAUUGGUU----	827	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUu---	126	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUuu--	3	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUA---	119	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	14	-1,0
	-----ACAGUAGUCUGCACAUUG-----	77	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	71	0,-3
	-----ACAGUAGUCUGCACAUUGGau----	10	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	176	0,-2
	-----ACAGUAGUCUGCACAUUGGUa----	31	0,-2
	-----ACAGUAGUCUGCACAUUGGUaa---	9	0,-2
	-----ACAGUAGUCUGCACAUUGGUau---	9	0,-2
	-----ACAGUAGUCUGCACAUUGGUU----	3361	
0,-1	-----ACAGUAGUCUGCACAUUGGUUu---	274	0,-1
	-----ACAGUAGUCUGCACAUUGGUUuu--	12	0,-1
	-----ACAGUAGUCUGCACAUUGGUUA---	1726	
0,0	-----ACAGUAGUCUGCACAUUGGUUAa--	115	0,0
	-----ACAGUAGUCUGCACAUUGGUUAaa-	3	0,0
	-----ACAGUAGUCUGCACAUUGGUUAu--	93	0,0
	-----ACAGUAGUCUGCACAUUGGUUAG--	2	0,1
	-----CAGUAGUCUGCACAUUGG-----	6	1,-3
	-----CAGUAGUCUGCACAUUGGU-----	20	1,-2
	-----CAGUAGUCUGCACAUUGGUa----	5	1,-2
	-----CAGUAGUCUGCACAUUGGUaa---	4	1,-2
	-----CAGUAGUCUGCACAUUGGUU----	394	1,-1
	-----CAGUAGUCUGCACAUUGGUUu---	47	1,-1

```

-----CAGUAGUCUGCACAUUGGUUuu-- 2 1,-1
-----CAGUAGUCUGCACAUUGGUUA--- 399 1,0
-----CAGUAGUCUGCACAUUGGUUAa-- 30 1,0
-----CAGUAGUCUGCACAUUGGUUAu-- 18 1,0
-----CAGUAGUCUGCACAUUGGUUAG-- 2 1,1
-----AGUAGUCUGCACAUUGGUU---- 14 2,-1
-----AGUAGUCUGCACAUUGGUUA--- 13 2,0
-----AGUAGUCUGCACAUUGGUUAG-- 2 2,1

```

>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018965

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaaugccguuguACAGUAGUCUG
CACAUUGGUUAgacugggcaaggagagca

```

.....(((.(((.....(((((((.(((...(((((((.(((((((.((((...(((.....))).....)))))))))))))
.)))))...)))).)))))))).

```

```

-----CCCAGUGUUCAGACUACCU-----
----- 17 0,-4
-----CCCAGUGUUCAGACUACCUGUU-----
----- 2 0,-1
-----UACAGUAGUCUG
CACAUU----- 14 -1,-5
-----UACAGUAGUCUG
CACAUUG----- 3 -1,-4
-----UACAGUAGUCUG
CACAUUGG----- 9 -1,-3
-----UACAGUAGUCUG
CACAUUGGau----- 4 -1,-3
-----UACAGUAGUCUG
CACAUUGGU----- 48 -1,-2
-----UACAGUAGUCUG
CACAUUGGUa----- 22 -1,-2
-----UACAGUAGUCUG
CACAUUGGUaa----- 3 -1,-2
-----UACAGUAGUCUG
CACAUUGGUau----- 6 -1,-2
-----UACAGUAGUCUG
CACAUUGGUU----- 827 -1,-1
-----UACAGUAGUCUG
CACAUUGGUUu----- 126 -1,-1

```


-----				-----UACAGUAGUCUG
CACAUUGGUUuu-----	3	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUA-----	119	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAu-----	14	-1,0		
-----				-----ACAGUAGUCUG
CACAUUG-----	77	0,-4		
-----				-----ACAGUAGUCUG
CACAUUGG-----	71	0,-3		
-----				-----ACAGUAGUCUG
CACAUUGGau-----	10	0,-3		
-----				-----ACAGUAGUCUG
CACAUUGGU-----	176	0,-2		
-----				-----ACAGUAGUCUG
CACAUUGGUa-----	31	0,-2		
-----				-----ACAGUAGUCUG
CACAUUGGUaa-----	9	0,-2		
-----				-----ACAGUAGUCUG
CACAUUGGUau-----	9	0,-2		
-----				-----ACAGUAGUCUG
CACAUUGGUU-----	3361	0,-1		
-----				-----ACAGUAGUCUG
CACAUUGGUUu-----	274	0,-1		
-----				-----ACAGUAGUCUG
CACAUUGGUUuu-----	12	0,-1		
-----				-----ACAGUAGUCUG
CACAUUGGUUA-----	1726	0,0		
-----				-----ACAGUAGUCUG
CACAUUGGUUAa-----	115	0,0		
-----				-----ACAGUAGUCUG
CACAUUGGUUAaa-----	3	0,0		
-----				-----ACAGUAGUCUG
CACAUUGGUUAu-----	93	0,0		
-----				-----ACAGUAGUCUG
CACAUUGGUUAG-----	2	0,1		
-----				-----CAGUAGUCUG
CACAUUGG-----	6	1,-3		


```

-----CCCAGUGUUUAGACUAUCUGUUC-----
-----4 0,0-----
-----UACAGUAGUCUGCACAU
U-----14 -1,-5-----
-----UACAGUAGUCUGCACAU
UG-----3 -1,-4-----
-----UACAGUAGUCUGCACAU
UGG-----9 -1,-3-----
-----UACAGUAGUCUGCACAU
UGGau-----4 -1,-3-----
-----UACAGUAGUCUGCACAU
UGGU-----48 -1,-2-----
-----UACAGUAGUCUGCACAU
UGGUa-----22 -1,-2-----
-----UACAGUAGUCUGCACAU
UGGUaa-----3 -1,-2-----
-----UACAGUAGUCUGCACAU
UGGUau-----6 -1,-2-----
-----UACAGUAGUCUGCACAU
UGGUU-----827 -1,-1-----
-----UACAGUAGUCUGCACAU
UGGUUu-----126 -1,-1-----
-----UACAGUAGUCUGCACAU
UGGUUuu-----3 -1,-1-----
-----UACAGUAGUCUGCACAU
UGGUUA-----119 -1,0-----
-----UACAGUAGUCUGCACAU
UGGUUAu-----14 -1,0-----
-----ACAGUAGUCUGCACAU
UG-----77 0,-4-----
-----ACAGUAGUCUGCACAU
UGG-----71 0,-3-----
-----ACAGUAGUCUGCACAU
UGGau-----10 0,-3-----
-----ACAGUAGUCUGCACAU
UGGU-----176 0,-2-----
-----ACAGUAGUCUGCACAU
UGGUa-----31 0,-2-----

```

UGGUaa	9	0,-2	-ACAGUAGUCUGCACAU
UGGUau	9	0,-2	-ACAGUAGUCUGCACAU
UGGUU	3361	0,-1	-ACAGUAGUCUGCACAU
UGGUUu	274	0,-1	-ACAGUAGUCUGCACAU
UGGUUuu	12	0,-1	-ACAGUAGUCUGCACAU
UGGUUA	1726	0,0	-ACAGUAGUCUGCACAU
UGGUUAa	115	0,0	-ACAGUAGUCUGCACAU
UGGUUAaa	3	0,0	-ACAGUAGUCUGCACAU
UGGUUAu	93	0,0	-ACAGUAGUCUGCACAU
UGGUUAG	2	0,1	-CAGUAGUCUGCACAU
UGG	6	1,-3	-CAGUAGUCUGCACAU
UGGU	20	1,-2	-CAGUAGUCUGCACAU
UGGUa	5	1,-2	-CAGUAGUCUGCACAU
UGGUaa	4	1,-2	-CAGUAGUCUGCACAU
UGGUU	394	1,-1	-CAGUAGUCUGCACAU
UGGUUu	47	1,-1	-CAGUAGUCUGCACAU
UGGUUuu	2	1,-1	-CAGUAGUCUGCACAU
UGGUUA	399	1,0	-CAGUAGUCUGCACAU
UGGUUAa	30	1,0	-CAGUAGUCUGCACAU

UGGUUAu	18	1,0	-CAGUAGUCUGCACAU
UGGUUAG	2	1,1	-CAGUAGUCUGCACAU
UGGUU	14	2,-1	-AGUAGUCUGCACAU
UGGUUA	13	2,0	-AGUAGUCUGCACAU
UGGUUAG	2	2,1	-AGUAGUCUGCACAU

```

>hsa-mir-19a      mi:14-35;MA:49-71      SRX018965
gcaguccucuguuAGUUUUGCAUAGUUGCACUACAagaagaanguaguUGUGCAAUUCUAUGCAAACUGAugguggccu
gc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----AGUUUUGCAUAGUUGCACUA-----
-- 12  0,-2
-----UUGUGCAAUUCUAUGCAAACUG-----
-- 2   -1,-1
-----UGUGCAAUUCUAUGCAAACU-----
-- 2   0,-2
-----UUGUGCAAUUCUAUGCAAACUG-----
-- 8   0,-1

```

```

>hsa-mir-19b-1   mi:16-38;MA:54-76   SRX018965
cacuguucuaugguuAGUUUUGCAGGUUGCAUCCAGCugugugauauucugcUGUGCAAUCCAUGCAAAACUGAcugu
gguagug
((((((..((((((((((((((((((((((((((((((((..((((.....)))))))))).)).))))))))))))))
))))))
-----AGUUUUGCAGGUUGCAUCCAGC-----
----- 8    0,0
-----UGUGCAAUCCAUGCAAA-----
----- 10   0,-5
-----UGUGCAAUCCAUGCAAAAC-----
----- 7    0,-3
-----UGUGCAAUCCAUGCAAAACU-----
----- 310  0,-2

```

```

-----UGUGCAAAUCCAUGCAAAACUG-----
----- 373 0,-1
-----UGUGCAAAUCCAUGCAAAACUGu-----
----- 8 0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 85 0,0
-----GUGCAAAUCCAUGCAAAACU-----
----- 2 1,-2
-----GUGCAAAUCCAUGCAAAACUG-----
----- 4 1,-1

```

>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018965

acauugcuacuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguauauauguauauguggcUGUGCAAAUCCAUGCAAAA
CUGAuugugauaangu

```

(((((((.....((((((((((((((((((((((((((((((((.....((((((((.....))))))))))))))))))))))))))
))))))))))))))))))

```

```

-----UGUGCAAAUCCAUGCAAAA-----
----- 10 0,-5
-----UGUGCAAAUCCAUGCAAAA
C----- 7 0,-3
-----UGUGCAAAUCCAUGCAAAA
CU----- 310 0,-2
-----UGUGCAAAUCCAUGCAAAA
CUG----- 373 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGu----- 8 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGA----- 85 0,0
-----GUGCAAAUCCAUGCAAAA
CU----- 2 1,-2
-----GUGCAAAUCCAUGCAAAA
CUG----- 4 1,-1

```

>hsa-mir-200a mi:16-37;MA:54-75 SRX018965

ccgggccccugugagCAUCUUACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaa
ggugaccgc

```

.((((((.(((.((((((((((((((((((((((((((((((((.....))))))))))))))))))))))))))..)))))))).)
)).).))))).

```

			-UAACACUGUCUGGUAACG-
7	0,-4		
			-UAACACUGUCUGGUAACGA-
9	0,-3		
			-UAACACUGUCUGGUAACGAU-
188	0,-2		
			-UAACACUGUCUGGUAACGAUG-
44	0,-1		
			-UAACACUGUCUGGUAACGAUGU-
53	0,0		
			-UAACACUGUCUGGUAACGAUGU _a -
2	0,0		
			-UAACACUGUCUGGUAACGAUGUU-
212	0,1		
			-UAACACUGUCUGGUAACGAUGUU _a -
4	0,1		
			-UAACACUGUCUGGUAACGAUGUU _u -
45	0,1		
			-UAACACUGUCUGGUAACGAUGUUC-
2	0,2		
			-AACACUGUCUGGUAACGAUGUU-
8	1,1		
			-AACACUGUCUGGUAACGAUGUU _a -
5	1,1		

>hsa-mi r-200b mi:21-42;MA:57-78 SRX018965

ccagcucgggcagccguggcCAUCUACUGGGCAGCAUUGGAuggagucaggucucUAAUACUGCCUGGUAAUGAUGAcg
gcggagcccugcacg

$\dots(((\dots((((\dots(((((\dots(((((((\dots(((((((\dots(((((((\dots(\dots\dots)))))))))\dots)))\dots)))\dots)))\dots)))\dots)\dots$

-----	CAUCUUACUGGGCAGCAU-----
----- 2	0, -4
-----	CAUCUUACUGGGCAGCAUU-----
----- 25	0, -3
-----	CAUCUUACUGGGCAGCAUUG-----
----- 17	0, -2
-----	CAUCUUACUGGGCAGCAUUGG-----
----- 55	0, -1

```

-----CAUCUUACUGGGCAGCAUUGGu-----
----- 2 0,-1
-----CAUCUUACUGGGCAGCAUUGGA-----
----- 33 0,0
-----AUCUUACUGGGCAGCAUUGG-----
----- 3 1,-1
-----AUCUUACUGGGCAGCAUUGGA-----
----- 6 1,0
-----UAAUACUGCCUGGUAAUGAU-----
----- 16 0,-2
-----UAAUACUGCCUGGUAAUGAUG-----
----- 40 0,-1
-----UAAUACUGCCUGGUAAUGAUGu-----
----- 3 0,-1
-----UAAUACUGCCUGGUAAUGAUGA-----
----- 219 0,0
-----UAAUACUGCCUGGUAAUGAUGAa-----
----- 14 0,0
-----UAAUACUGCCUGGUAAUGAUGAu-----
----- 2 0,0
-----UAAUACUGCCUGGUAAUGAUGAC-----
----- 306 0,1
-----UAAUACUGCCUGGUAAUGAUGACa-----
----- 82 0,1
-----UAAUACUGCCUGGUAAUGAUGACa-----
u----- 3 0,1
-----UAAUACUGCCUGGUAAUGAUGACu-----
----- 71 0,1
-----UAAUACUGCCUGGUAAUGAUGACG-----
----- 3 0,2
-----AAUACUGCCUGGUAAUGAUGAC-----
----- 5 1,1
-----AAUACUGCCUGGUAAUGAUGACu-----
----- 12 1,1
-----AUACUGCCUGGUAAUGAUGAC-----
----- 4 2,1
-----AUACUGCCUGGUAAUGAUGACu-----
----- 8 2,1

```


-----AUACUGCCUGGUA AUGAUGACG
G----- 4 2,3

>hsa-mir-200c mi:5-26:MA:44-66 SRX018965

cccuCGUCUUAACCCAGCAGUGUUUGGgugcggguugggagucucUAAUACUGCCGGGUAAUGAUGGAagg

((..(((((((((((.((((((((.((((.(.....)))))).)))))).)))))).))))..))

-----UAAUACUGCCGGGUAAUGAUGG----- 15 0,-1

-----UAAUACUGCCGGGUAAUGAUGGA-- 8 0,0

>hsa-mir-203 3p:65-86 SRX018965

guguuggggacucgcgcgcuggguccagugguucuaaacaguucaacaguucuguagcgcauuGUGAAAUGUUUAGGAC

CACUAGaccg⁺ggcg⁺ggcg⁺cg⁺ggcg⁺acagcga

.(((((.(.(.(((.((((((((((.((((((((((.((((.((((.(((((((.(.....).)))))).)))))).))))))

))))).)))))))).))))).).).).))))).

-----GUGAAAUGUUUAGGAC

CACU----- 2 0,-2

-----GUGAAAUGUUUAGGAC

CACUA----- 2 0,-1

-----GUGAAAUGUUUAGGAC

CACUAu----- 2 0,-1

-----GUGAAAUGUUUAGGAC

CACUAG----- 13 0,0

-----UGAAAUGUUUAGGAC

CACUAG----- 5 1,0

-----UGAAAUGUUUAGGAC

CACUAGu----- 2 1,0

>hsa-mir-204 5p:33-54 SRX018965

ggcuacagucuuucuaugugacucguggacUCCCUUUGUCAUCCUAUGCCUgagaauauaugaaggaggcugggaag

gcaaagggacguucaauugucaucacuggc

.....((((((((.....((((((.(((((((((((((.(((((((.(((((.....)))))))))).)

)))))))).))))...))))).)).)))).

-----UCCCUUUGUCAUCCUAUGC-----

----- 5 0, -2

-----UCCCCUUGUCAUCCUAGCC-----

----- 4 0, -1

-----UCCCCUUGUCAUCCUAUGCCU-----

----- 12 0,0

-----		-----GCUCGGGAAG
GCAAAGGG-----	3	
-----		-----GCUCGGGAAG
GCAAAGGGA-----	5	
-----		-----GCUCGGGAAG
GCAAAGGGAC-----	5	
-----		-----GCUCGGGAAG
GCAAAGGGACGU-----	14	

>hsa-mir-206 3p:53-74 SRX018965

ugcuucccgaggccacaugcuucuuuauaucccauauaggauuacuugcuaUGGAAUGUAAGGAAGUGUGUGGuucgg
caagug

-----UGGAAUGUAAGGAAGUGUGUG-----
 ----- 2 0,-1
 -----UGGAAUGUAAGGAAGUGUGUGG-----
 ----- 7 0,0

>hsa-mi r-20a MA:8-30;mi:44-65 SRX018965

guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuaguuaucuACUGCAUUAUGAGCACUUAAGGuacugc

-----CUAAAGUGCUUAUAGUGCAGGUA----- 2
-1,-1

-----UAAAGUGCUUAUAGUGCA-----	54	0,-5
-----UAAAGUGCUUAUAGUGCAG-----	164	0,-4
-----UAAAGUGCUUAUAGUGCAGuu-----	2	0,-4
-----UAAAGUGCUUAUAGUGCAGG-----	161	0,-3
-----UAAAGUGCUUAUAGUGCAGGa-----	2	0,-3
-----UAAAGUGCUUAUAGUGCAGGaa-----	2	0,-3
-----UAAAGUGCUUAUAGUGCAGGU-----	211	0,-2
-----UAAAGUGCUUAUAGUGCAGGUA-----	656	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAa-----	132	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAau-----	3	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAu-----	146	0,-1
-----UAAAGUGCUUAUAGUGCAGGUuu-----	2	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG-----	417	0,0
-----UAAAGUGCUUAUAGUGCAGGUAGa-----	26	0,0

-----UAAAGUGCUUAUAGUGCAGGUAGaa-----	2	0,0
-----UAAAGUGCUUAUAGUGCAGGUAGU-----	14	0,1
-----AAAGUGCUUAUAGUGCAG-----	4	1,-4
-----AAAGUGCUUAUAGUGCAGG-----	2	1,-3
-----AAAGUGCUUAUAGUGCAGGU-----	4	1,-2
-----AAAGUGCUUAUAGUGCAGGUA-----	8	1,-1
-----AAAGUGCUUAUAGUGCAGGUau-----	2	1,-1
-----AAAGUGCUUAUAGUGCAGGUAG-----	4	1,0
-----AAGUGCUUAUAGUGCAGGUA-----	3	2,-1
-----ACUGCAUUAUGAGCACUU-----	5	0,-4
-----ACUGCAUUAUGAGCACUUAAGU-----	4	0,1
-----CUGCAUUAUGAGCACUUAAGU-----	3	1,1

>hsa-mi r-20b MA:6-28;mi:44-65 SRX018965

aguacCAAAGUGCUCAUAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGCACUUCCAGuacu

(((((...(((((((((((((((((...((((.....))))))...)))))).))))))))))...))))))

----CAAAGUGCUCAUAGUGCA-----	16	0,-5
----CAAAGUGCUCAUAGUGCAG-----	45	0,-4
----CAAAGUGCUCAUAGUGCAGG-----	23	0,-3
----CAAAGUGCUCAUAGUGCAGGU-----	21	0,-2
----CAAAGUGCUCAUAGUGCAGGUA-----	65	0,-1
----CAAAGUGCUCAUAGUGCAGGUaa-----	13	0,-1
----CAAAGUGCUCAUAGUGCAGGUau-----	24	0,-1
----CAAAGUGCUCAUAGUGCAGGUAG-----	114	0,0
----CAAAGUGCUCAUAGUGCAGGUAGU-----	4	0,1
----AAAGUGCUCAUAGUGCAGGUA-----	2	1,-1
----AAAGUGCUCAUAGUGCAGGUau-----	3	1,-1
----AAAGUGCUCAUAGUGCAGGUAG-----	10	1,0
----AAAGUGCUCAUAGUGCAGGUAGU-----	2	1,1
-----CUACUGUAGUAUGGGCACUUCC-----	2	
-2,-2		
-----UACUGUAGUAUGGGCACUUCC-----	3	
-1,-2		
-----UACUGUAGUAUGGGCACUUCCA-----	2	
-1,-1		
-----UACUGUAGUAUGGGCACUUCCAGU---	2	-1,1
-----ACUGUAGUAUGGGCACUU-----	5	0,-4
-----ACUGUAGUAUGGGCACUUC-----	3	0,-3

-----ACUGUAGUAUGGGCACUUCa-----	2	0,-3
-----ACUGUAGUAUGGGCACUUCu-----	2	0,-3
-----ACUGUAGUAUGGGCACUUCC-----	43	0,-2
-----ACUGUAGUAUGGGCACUUCCA-----	25	0,-1
-----ACUGUAGUAUGGGCACUUCCAau---	2	0,-1
-----ACUGUAGUAUGGGCACUUCCAuu---	2	0,-1
-----ACUGUAGUAUGGGCACUUCCAG---	52	0,0
-----ACUGUAGUAUGGGCACUUCCAGa---	3	0,0
-----ACUGUAGUAUGGGCACUUCCAGU---	146	0,1
-----ACUGUAGUAUGGGCACUUCCAGUA--	5	0,2
-----CUGUAGUAUGGGCACUUCCAGU---	2	1,1

>hsa-mir-21 MA:8-29;mi:46-66 SRX018965

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca

.((((((..((((((((((.((((((.((((((.((((((.....)))))))))).)))))))))))))).)))))).

-----GUAGCUUAUCAGACUGAU-----	3	
-1,-5		
-----GUAGCUUAUCAGACUGAUGU-----	2	
-1,-3		
-----GUAGCUUAUCAGACUGAUGUU-----	51	
-1,-2		
-----GUAGCUUAUCAGACUGAUGUUG-----	121	
-1,-1		
-----GUAGCUUAUCAGACUGAUGUUGA-----	103	
-1,0		
-----GUAGCUUAUCAGACUGAUGUUGAa-----	3	
-1,0		
-----GUAGCUUAUCAGACUGAUGUUGAC-----	32	
-1,1		
-----GUAGCUUAUCAGACUGAUGUUGACa-----	2	
-1,1		
-----GUAGCUUAUCAGACUGAUGUUGACU-----	7	
-1,2		
-----UAGCUUAUCAGACUGAUG-----	1617	
0,-4		
-----UAGCUUAUCAGACUGAUGa-----	4	
0,-4		
-----UAGCUUAUCAGACUGAUGau-----	11	

0, -4		
-----UAGCUUAUCAGACUGAUGU-----		2425
0, -3		
-----UAGCUUAUCAGACUGAUGUa-----		14
0, -3		
-----UAGCUUAUCAGACUGAUGUaa-----		2
0, -3		
-----UAGCUUAUCAGACUGAUGUU-----		
24984 0, -2		
-----UAGCUUAUCAGACUGAUGUUa-----		33
0, -2		
-----UAGCUUAUCAGACUGAUGUUaa-----		6
0, -2		
-----UAGCUUAUCAGACUGAUGUUu-----		33
0, -2		
-----UAGCUUAUCAGACUGAUGUUG-----		
38061 0, -1		
-----UAGCUUAUCAGACUGAUGUUGu-----		49
0, -1		
-----UAGCUUAUCAGACUGAUGUUGA-----		
20892 0, 0		
-----UAGCUUAUCAGACUGAUGUUGAa-----		429
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAaa-----		24
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAau-----		2
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAu-----		28
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAC-----		9724
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACa-----		3074
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACaa-----		10
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACU-----		2312
0, 2		
-----UAGCUUAUCAGACUGAUGUUGACUa-----		6

0,2		
-----AGCUUAUCAGACUGAUGU-----	24	
1,-3		
-----AGCUUAUCAGACUGAUGUU-----	85	
1,-2		
-----AGCUUAUCAGACUGAUGUUG-----	134	
1,-1		
-----AGCUUAUCAGACUGAUGUUGu-----	6	
1,-1		
-----AGCUUAUCAGACUGAUGUUGA-----	276	
1,0		
-----AGCUUAUCAGACUGAUGUUGAa-----	4	
1,0		
-----AGCUUAUCAGACUGAUGUUGAau-----	3	
1,0		
-----AGCUUAUCAGACUGAUGUUGAu-----	2	
1,0		
-----AGCUUAUCAGACUGAUGUUGAC-----	198	
1,1		
-----AGCUUAUCAGACUGAUGUUGACa-----	118	
1,1		
-----AGCUUAUCAGACUGAUGUUGACau-----	3	
1,1		
-----AGCUUAUCAGACUGAUGUUGACU-----	39	
1,2		
-----GCUUAUCAGACUGAUGUU-----	53	
2,-2		
-----GCUUAUCAGACUGAUGUUG-----	84	
2,-1		
-----GCUUAUCAGACUGAUGUUGA-----	54	
2,0		
-----GCUUAUCAGACUGAUGUUGAC-----	60	
2,1		
-----GCUUAUCAGACUGAUGUUGACa-----	3	
2,1		
-----GCUUAUCAGACUGAUGUUGACU-----	9	
2,2		
-----GCUUAUCAGACUGAUGUUGACUa-----	6	

2,2	-----GGCAACACCAGUCGAUGGGCUGU-----	2
-2,0	-----GCAACACCAGUCGAUGGGCUGU-----	2
-1,0	-----CAACACCAGUCGAUGGGC-----	108
0,-3	-----CAACACCAGUCGAUGGGCU-----	529
0,-2	-----CAACACCAGUCGAUGGGCUu-----	3
0,-2	-----CAACACCAGUCGAUGGGCUuu-----	5
0,-2	-----CAACACCAGUCGAUGGGCUG-----	155
0,-1	-----CAACACCAGUCGAUGGGCUGU-----	501
0,0	-----CAACACCAGUCGAUGGGCUGUa-----	36
0,0	-----CAACACCAGUCGAUGGGCUGUaa-----	537
0,0	-----CAACACCAGUCGAUGGGCUGUau-----	164
0,0	-----CAACACCAGUCGAUGGGCUGUu-----	10
0,0	-----CAACACCAGUCGAUGGGCUGUuu-----	45
0,0	-----CAACACCAGUCGAUGGGCUGUC-----	407
0,1	-----CAACACCAGUCGAUGGGCUGUCa-----	760
0,1	-----CAACACCAGUCGAUGGGCUGUCaa-----	20
0,1	-----CAACACCAGUCGAUGGGCUGUCau-----	35
0,1	-----CAACACCAGUCGAUGGGCUGUCU-----	296
0,2	-----CAACACCAGUCGAUGGGCUGUCUa-----	5

0,2	-----CAACACCAGUCGAUGGGCUGUCUau--	4
0,2	-----CAACACCAGUCGAUGGGCUGUCUu---	15
0,2	-----CAACACCAGUCGAUGGGCUGUCUuu--	8
0,2	-----AACACCAGUCGAUGGGCU-----	12
1,-2	-----AACACCAGUCGAUGGGCUG-----	2
1,-1	-----AACACCAGUCGAUGGGCUGU-----	4
1,0	-----AACACCAGUCGAUGGGCUGUaa----	11
1,0	-----AACACCAGUCGAUGGGCUGUuu----	3
1,0	-----AACACCAGUCGAUGGGCUGUC-----	6
1,1	-----AACACCAGUCGAUGGGCUGUCa----	26
1,1	-----AACACCAGUCGAUGGGCUGUCU-----	100
1,2	-----AACACCAGUCGAUGGGCUGUCUau--	4
1,2	-----AACACCAGUCGAUGGGCUGUCUu---	8
1,2	-----AACACCAGUCGAUGGGCUGUCUuu--	8
1,2	-----ACACCAGUCGAUGGGCUGUCU-----	13
2,2	-----ACACCAGUCGAUGGGCUGUCUuu--	3
2,2		

>hsa-mir-210 3p:66-87 SRX018965

accgggcagugccuccaggcgagggcagccccugcccaccgcacacugcgcugccccagacccaCUGUGCGUGUGACAG
CGGCUGAucugugccugggcagcgcgaccc

....((..(((.(((((((.....(((.(.....)))..)))..)))..)))..)))

.))))).)))))))))..))))..)).

-----	-ACUGUGCGUGUGACAG
CGG-----	14 -1,-4
-----	-ACUGUGCGUGUGACAG
CGGC-----	3 -1,-3
-----	-ACUGUGCGUGUGACAG
CGGCU-----	26 -1,-2
-----	-CUGUGCGUGUGACAG
CGG-----	59 0,-4
-----	-CUGUGCGUGUGACAG
CGGC-----	89 0,-3
-----	-CUGUGCGUGUGACAG
CGGCU-----	934 0,-2
-----	-CUGUGCGUGUGACAG
CGGCUaa-----	2 0,-2
-----	-CUGUGCGUGUGACAG
CGGCUG-----	18 0,-1
-----	-CUGUGCGUGUGACAG
CGGCUGu-----	2 0,-1
-----	-CUGUGCGUGUGACAG
CGGCUGA-----	301 0,0
-----	-CUGUGCGUGUGACAG
CGGCUGAa-----	41 0,0
-----	-CUGUGCGUGUGACAG
CGGCUGAaa-----	12 0,0
-----	-CUGUGCGUGUGACAG
CGGCUGAU-----	40 0,1
-----	-CUGUGCGUGUGACAG
CGGCUGAUa-----	13 0,1
-----	-CUGUGCGUGUGACAG
CGGCUGAUu-----	7 0,1
-----	-UGUGCGUGUGACAG
CGGCU-----	25 1,-2
-----	-UGUGCGUGUGACAG
CGGCUGA-----	2 1,0
-----	-GUGCGUGUGACAG
CGGCU-----	3 2,-2

cagggguUUGGGGAACGGCCGCUGAGUGaggcgucggcuguguuucucaccgcggucuuuuccuccacucuu
(((((((.(((((((.((((((((((.((.(((....))).)).)).)).)).)).)).)).)).)).)).))

>hsa-mir-212 3p:71-91 SRX018965

cggggcaccgccccggacagcgcgcggcaccuuggcucuagacugcuuacugcccgggcccgcuccagUAACAGUCUC
CAGUCACGGCCaccgacgccuaggccccgcc

.....(((.(((.((((.(((((((.(((((((.(((((((...(((...)).)))))))))))))).		
.)))).))...)).))))).....		
-----UAACAGUCUC		
CAGUCACG-----	3	0,-3
-----UAACAGUCUC		
CAGUCACGGCC-----	2	0,0
-----UAACAGUCUC		
CAGUCACGGCCA-----	11	0,1
-----UAACAGUCUC		
CAGUCACGGCCAAa-----	2	0,1
-----UAACAGUCUC		

CAGUCACGGCCAu----- 3 0,1
-----UAACAGUCUC
CAGUCACGGCCAuu----- 3 0,1

```

>hsa-mir-215      5p:27-47      SRX018965
aucauucagaaaugguauacaggaAUGACCUAUGAAUUGACAGACaauauagcugaguuuugucugucauuucuuuagg
ccaauauucuguaugacugugcuacucaa
.....(((.(((((((((((.(((.(((.((((((((((((.....)))))))))).)))..)))..)))..
.....)))))))).)))..
-----AUGACCUAUGAAUUGACA-----
-----17  0,-3
-----AUGACCUAUGAAUUGACAG-----
-----1125  0,-2
-----AUGACCUAUGAAUUGACAGAu-----
-----2  0,-1
-----AUGACCUAUGAAUUGACAGAC-----
-----17  0,0
-----AUGACCUAUGAAUUGACAGACA-----

```

```

----- 15 0,1
-----UGACCUAUGAAUUGACAG-----
----- 2995 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 10 1,-2
-----UGACCUAUGAAUUGACAGA-----
----- 10 1,-1
-----UGACCUAUGAAUUGACAGAA-----
----- 2 1,-1
-----UGACCUAUGAAUUGACAGAC-----
----- 11 1,0
-----UGACCUAUGAAUUGACAGACA-----
----- 17 1,1

```

>hsa-mir-217 5p:35-57 SRX018965

```

aguauaauuauuacauaguuuuugaugucgcagaUACUGCAUCAGGAACUGAUUGGAuaagaaucaugucaccaucaguuc
cuaaugcauugccuucagcaucuaaacaag
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))...
-----AUACUGCAUCAGGAACUGAUUG-----
----- 6 -1,-2

```

>hsa-mir-219-1 5p:21-41;3p:62-83 SRX018965

```

ccgccccgggcccgggcuccUGAUUGUCCAAACGCAAUUCUcgagucuauggcuccggccgAGAGUUGAGUCUGGACGUC
CCGagccgcccgcacccaaaccucgagcggg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGAUUGUCCAAACGCAAUU-----
----- 3 0,-2
-----UGAUUGUCCAAACGCAAUUC-----
----- 3 0,-1
-----UGAUUGUCCAAACGCAAUUC-----
----- 2 0,1
-----UGAUUGUCCAAACGCAAUUCG-----
----- 2 0,2
-----AGAGUUGAGUCUGGACGUC
CCG----- 4 0,0

```

```

>hsa-mir-219-2 5p:19-39;3p:62-83 SRX018965
acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCUuguacgagucugcgccaaccgAGAAUUGUGGCUGGACAUC
UGUggcugagcuccggg
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))))))
-----UGAUUGUCCAAACGCAAUU-----
----- 3 0,-2
-----UGAUUGUCCAAACGCAAUUC-----
----- 3 0,-1

```

```

>hsa-mir-22 mi:15-36;MA:53-74 SRX018965
ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))))))
-----AGUUCUUCAGUGGCAAGC-----
----- 5 0,-4
-----AGUUCUUCAGUGGCAAGCUU-----
----- 3 0,-2
-----AGUUCUUCAGUGGCAAGCUUU-----
----- 99 0,-1
-----AGUUCUUCAGUGGCAAGCUUUA-----
----- 116 0,0
-----AGUUCUUCAGUGGCAAGCUUUAa-----
----- 9 0,0
-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 3 0,1
-----AAGCUGCCAGUUGAAGAA-----
----- 233 0,-4
-----AAGCUGCCAGUUGAAGAAau-----
----- 2 0,-4
-----AAGCUGCCAGUUGAAGAAu-----
----- 2 0,-4
-----AAGCUGCCAGUUGAAGAAC-----
----- 92 0,-3
-----AAGCUGCCAGUUGAAGAACa-----
----- 20 0,-3
-----AAGCUGCCAGUUGAAGAACaa-----

```

```

----- 5 0,-3
-----AAGCUGCCAGUUGAAGAACU-----
----- 509 0,-2
-----AAGCUGCCAGUUGAAGAACUa-----
----- 13 0,-2
-----AAGCUGCCAGUUGAAGAACUaa-----
----- 2 0,-2
-----AAGCUGCCAGUUGAAGAACUu-----
----- 2 0,-2
-----AAGCUGCCAGUUGAAGAACUuu-----
----- 6 0,-2
-----AAGCUGCCAGUUGAAGAACUG-----
----- 80 0,-1
-----AAGCUGCCAGUUGAAGAACUGa-----
----- 6 0,-1
-----AAGCUGCCAGUUGAAGAACUGU-----
----- 667 0,0
-----AAGCUGCCAGUUGAAGAACUGUa-----
----- 3 0,0
-----AAGCUGCCAGUUGAAGAACUGUaa-----
----- 3 0,0
-----AAGCUGCCAGUUGAAGAACUGUau-----
----- 3 0,0
-----AAGCUGCCAGUUGAAGAACUGUU-----
----- 3 0,1
-----AAGCUGCCAGUUGAAGAACUGUUa-----
----- 5 0,1
-----AAGCUGCCAGUUGAAGAACUGUUu-----
----- 8 0,1
-----AGCUGCCAGUUGAAGAACU-----
----- 6 1,-2
-----AGCUGCCAGUUGAAGAACUG-----
----- 2 1,-1
-----AGCUGCCAGUUGAAGAACUGU-----
----- 7 1,0

```

>hsa-mir-221 mi:25-46;MA:65-87 SRX018965

ugaacauccaggucuggggcaugaACCUGGCAUACAAUGUAGAUUUcuguguucguuaggcaacAGCUACAUUGUCUGCU

----- 3 -1,0

----- 2 -1,1

----- 10 0,-4

----- 32 0,-1

----- 223 0,0

----- 5 0,0

----- 115 0,1

----- 3 0,1

----- 32 0,2

----- 2 1,0

GGGUUUC----- 2 -1,0

GG----- 17 0,-5

GGG----- 60 0,-4

GGGU----- 9 0,-3

GGGUa----- 2 0,-3

GGGUau----- 2 0,-3

GGGUU----- 68 0,-2

-----AGCUACAUUGUCUGCU

GGGUUa-----	37	0,-2	-----AGCUACAUUGUCUGCU
GGGUUaa-----	11	0,-2	-----AGCUACAUUGUCUGCU
GGGUUau-----	7	0,-2	-----AGCUACAUUGUCUGCU
GGGUUU-----	520	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUa-----	72	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUaa-----	3	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUau-----	3	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUu-----	18	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUuu-----	2	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUC-----	758	0,0	-----AGCUACAUUGUCUGCU
GGGUUUCu-----	8	0,0	-----AGCUACAUUGUCUGCU
GGGUUUCA-----	17	0,1	-----GCUACAUUGUCUGCU
GGG-----	2	1,-4	-----GCUACAUUGUCUGCU
GGGUU-----	3	1,-2	-----GCUACAUUGUCUGCU
GGGUUU-----	45	1,-1	-----GCUACAUUGUCUGCU
GGGUUUa-----	3	1,-1	-----GCUACAUUGUCUGCU
GGGUUUC-----	42	1,0	-----GCUACAUUGUCUGCU
GGGUUUCu-----	3	1,0	-----CUACAUUGUCUGCU
GGGUUUCAG-----	2	2,2	

>hsa-mir-222 mi:31-52;MA:69-89 SRX018965

gcugcuggaagguguagguaccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu

...((((((((((((.....(((((.....((((((((((((((((((((.....((((.....)))))))).))))))
)))))))))).))))).)))))))))))))).

-----AGCUACAUCUGG
CUACUG----- 188 0,-3
-----AGCUACAUCUGG
CUACUGG----- 185 0,-2
-----AGCUACAUCUGG
CUACUGGG----- 336 0,-1
-----AGCUACAUCUGG
CUACUGGGa----- 2 0,-1
-----AGCUACAUCUGG
CUACUGGGU----- 372 0,0
-----AGCUACAUCUGG
CUACUGGGUa----- 24 0,0
-----AGCUACAUCUGG
CUACUGGGUaa----- 22 0,0
-----AGCUACAUCUGG
CUACUGGGUau----- 7 0,0
-----AGCUACAUCUGG
CUACUGGGUu----- 8 0,0
-----AGCUACAUCUGG
CUACUGGGUuu----- 4 0,0
-----AGCUACAUCUGG
CUACUGGGGUC----- 1287 0,1
-----AGCUACAUCUGG
CUACUGGGGUCa----- 44 0,1
-----AGCUACAUCUGG
CUACUGGGGUCaa----- 8 0,1
-----AGCUACAUCUGG
CUACUGGGGUCau----- 6 0,1
-----AGCUACAUCUGG
CUACUGGGGUCU----- 1478 0,2
-----AGCUACAUCUGG
CUACUGGGGUCUa----- 17 0,2
-----AGCUACAUCUGG

CUACUGGGUCUaa-----	3	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUau-----	5	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUu-----	45	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUuu-----	8	0,2	
-----			-AGCUACAUCUGG
CUACUGGGUCUC-----	283	0,3	
-----			-AGCUACAUCUGG
CUACUGGGUCUCa-----	16	0,3	
-----			-AGCUACAUCUGG
CUACUGGGUCUCU-----	38	0,4	
-----			-GCUACAUCUGG
CUACUGG-----	6	1,-2	
-----			-GCUACAUCUGG
CUACUGGG-----	4	1,-1	
-----			-GCUACAUCUGG
CUACUGGGUC-----	13	1,1	
-----			-GCUACAUCUGG
CUACUGGGUCaa-----	2	1,1	
-----			-GCUACAUCUGG
CUACUGGGUCU-----	15	1,2	
-----			-GCUACAUCUGG
CUACUGGGUCUC-----	2	1,3	

>hsa-mir-223 mi:26-47;MA:68-89 SRX018965

```

ccuggccuccgagugccacgcucCGUGUAUUUGACAAGCUGAGUUGgacacuccaugugguagagUGUCAGUUUGUCA
AAUACCCCAagugcggcacaugcuuaccag
.((((.....(((((((.((((..((((((((((((((((.....(((((((.....))))))))))))))))))
))))).).))))).))))).))))).))))))
-----UGUCAGUUUGUCA
AAUAC-----2      0,-4
-----UGUCAGUUUGUCA
AAUACC-----4      0,-3
-----UGUCAGUUUGUCA
AAUACCC-----3      0,-2
-----UGUCAGUUUGUCA

```


-1,-2	-----AAUCACAUUGCCAGGGAUUU-----	5
-1,-2	-----AAUCACAUUGCCAGGGAUUUC-----	4
-1,-1	-----AAUCACAUUGCCAGGGAUUUCC-----	4
-1,0	-----AAUCACAUUGCCAGGGAUUUCCA-----	3
-1,1	-----AUCACAUUGCCAGGGAUU-----	294
0,-3	-----AUCACAUUGCCAGGGAUUU-----	734
0,-2	-----AUCACAUUGCCAGGGAUUUa-----	106
0,-2	-----AUCACAUUGCCAGGGAUUUaa-----	12
0,-2	-----AUCACAUUGCCAGGGAUUUu-----	26
0,-2	-----AUCACAUUGCCAGGGAUUUuu-----	2
0,-2	-----AUCACAUUGCCAGGGAUUUC-----	782
0,-1	-----AUCACAUUGCCAGGGAUUUCa-----	64
0,-1	-----AUCACAUUGCCAGGGAUUUCu-----	9
0,-1	-----AUCACAUUGCCAGGGAUUUCC-----	926
0,0	-----AUCACAUUGCCAGGGAUUUCCu-----	2
0,0	-----AUCACAUUGCCAGGGAUUUCCA-----	2111
0,1	-----AUCACAUUGCCAGGGAUUUCCAu-----	136
0,1	-----AUCACAUUGCCAGGGAUUUCCAuu-----	4
0,1	-----AUCACAUUGCCAGGGAUUUCCAA-----	284


```

----- 2 0,-4
-----UGGGUUCCUGGCAUGCUGAU-----
----- 17 0,-2
-----UGGGUUCCUGGCAUGCUGAUU-----
----- 23 0,-1
-----UGGGUUCCUGGCAUGCUGAUUaa-----
----- 3 0,-1
-----UGGGUUCCUGGCAUGCUGAUUU-----
----- 233 0,0
-----UGGGUUCCUGGCAUGCUGAUUUa-----
----- 24 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
----- 16 0,0
-----GGGUUCCUGGCAUGCUGAU-----
----- 16 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
----- 33 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
----- 180 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
----- 18 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----
----- 8 1,0
-----AAUCACAUUGCCAGGGAUUACC--
----- 9 -1,0
-----AAUCACAUUGCCAGGGAUUACCA-
----- 14 -1,1
-----AUCACAUUGCCAGGGAUU-----
----- 294 0,-3
-----AUCACAUUGCCAGGGAUUA-----
----- 303 0,-2
-----AUCACAUUGCCAGGGAUUAa-----
----- 46 0,-2
-----AUCACAUUGCCAGGGAUUAaa-----
----- 6 0,-2
-----AUCACAUUGCCAGGGAUUAu-----
----- 32 0,-2
-----AUCACAUUGCCAGGGAUUAuu-----

```

-----	3	0,-2	-----AUCACAUUGCCAGGGAUUAC---
-----	514	0,-1	-----AUCACAUUGCCAGGGAUUACa--
-----	66	0,-1	-----AUCACAUUGCCAGGGAUUACaa-
-----	7	0,-1	-----AUCACAUUGCCAGGGAUUACu--
-----	9	0,-1	-----AUCACAUUGCCAGGGAUUACC--
-----	1439	0,0	-----AUCACAUUGCCAGGGAUUACCu-
-----	19	0,0	-----AUCACAUUGCCAGGGAUUACCuu
-----	3	0,0	-----AUCACAUUGCCAGGGAUUACCA-
-----	4804	0,1	-----AUCACAUUGCCAGGGAUUACCAa
-----	56	0,1	-----AUCACAUUGCCAGGGAUUACCAa
u-----	4	0,1	-----AUCACAUUGCCAGGGAUUACCAu
-----	332	0,1	-----AUCACAUUGCCAGGGAUUACCAu
u-----	89	0,1	-----AUCACAUUGCCAGGGAUUACCAC
-----	1521	0,2	-----AUCACAUUGCCAGGGAUUACCAC
a-----	177	0,2	-----AUCACAUUGCCAGGGAUUACCAC
aa-----	2	0,2	-----AUCACAUUGCCAGGGAUUACCAC
au-----	3	0,2	-----AUCACAUUGCCAGGGAUUACCAC
u-----	1746	0,2	-----AUCACAUUGCCAGGGAUUACCAC
uu-----	7	0,2	-----AUCACAUUGCCAGGGAUUACCAC

AUUACC----- 7 0,-1
 -----AUCACAUUGCCAGUG
 AUUACCa----- 13 0,-1

>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018965

cuccggUGCCUACUGAGCUGAUUUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag
 ((((((((.....)))))).)))))))))
 -----GUGCCUACUGAGCUGAUUCA----- 7
 -1,-2
 -----GUGCCUACUGAGCUGAUUUCAG----- 2
 -1,-1
 -----UGCCUACUGAGCUGAUUCA----- 2 0,-2
 -----UGGCUCAGUUCAGCAGGA----- 40 0,-4
 -----UGGCUCAGUUCAGCAGGA----- 53 0,-3
 -----UGGCUCAGUUCAGCAGGAa----- 14 0,-3
 -----UGGCUCAGUUCAGCAGGAau----- 2 0,-3
 -----UGGCUCAGUUCAGCAGGAAC----- 67 0,-2
 -----UGGCUCAGUUCAGCAGGAACu----- 2 0,-2
 -----UGGCUCAGUUCAGCAGGAACA----- 143 0,-1
 -----UGGCUCAGUUCAGCAGGAACAa----- 37 0,-1
 -----UGGCUCAGUUCAGCAGGAACAaa----- 2 0,-1
 -----UGGCUCAGUUCAGCAGGAACAau----- 3 0,-1
 -----UGGCUCAGUUCAGCAGGAACAu----- 9 0,-1
 -----UGGCUCAGUUCAGCAGGAACAuu----- 3 0,-1
 -----UGGCUCAGUUCAGCAGGAACAG----- 914 0,0
 -----UGGCUCAGUUCAGCAGGAACAGa----- 20 0,0
 -----UGGCUCAGUUCAGCAGGAACAGu----- 1068
 0,0
 -----UGGCUCAGUUCAGCAGGAACAGuu----- 96 0,0
 -----UGGCUCAGUUCAGCAGGAACAGG----- 5 0,1
 -----GGCUCAGUUCAGCAGGA----- 4 1,-3
 -----GGCUCAGUUCAGCAGGAACA----- 2 1,-1
 -----GGCUCAGUUCAGCAGGAACAaa----- 2 1,-1
 -----GGCUCAGUUCAGCAGGAACAG----- 15 1,0
 -----GGCUCAGUUCAGCAGGAACAGa----- 3 1,0
 -----GGCUCAGUUCAGCAGGAACAGu----- 29 1,0
 -----GCUCAGUUCAGCAGGAACA----- 2 2,-1
 -----GCUCAGUUCAGCAGGAACAG----- 11 2,0

-----GCUCAGUUCAGCAGGAACAGu--	8	2,0
-----GCUCAGUUCAGCAGGAACAGuu-	4	2,0
-----GCUCAGUUCAGCAGGAACAGG--	4	2,1

>hsa-mir-24-2 mi:13-34;MA:50-71 SRX018965

cucugccucccgUGCCUACUGAGCUGAAACACAGuugguuuguguacacUGGCUCAGUUCAGCAGGAACAGgg (((((((((...(((((((((((...((((((((...))))))))))))))))))))))))))))))))))		
-----GUGCCUACUGAGCUGAAACACA-----	6	
-1,-1		
-----GUGCCUACUGAGCUGAAACACAG-----	3	
-1,0		
-----UGGCUCAGUUCAGCAGGA-----	40	
0,-4		
-----UGGCUCAGUUCAGCAGGAA-----	53	
0,-3		
-----UGGCUCAGUUCAGCAGGAaA-----	14	
0,-3		
-----UGGCUCAGUUCAGCAGGAaU-----	2	
0,-3		
-----UGGCUCAGUUCAGCAGGAAC-----	67	
0,-2		
-----UGGCUCAGUUCAGCAGGAACu-----	2	
0,-2		
-----UGGCUCAGUUCAGCAGGAACA-----	143	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAa-----	37	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAaa-----	2	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAau-----	3	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAu-----	9	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAuu-----	3	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAG-----	914	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGa-----	20	

0,0	-----UGGCUCAGUUCAGCAGGAACAGu-	1068
0,0	-----UGGCUCAGUUCAGCAGGAACAGuu	96
0,0	-----UGGCUCAGUUCAGCAGGAACAGG-	5
0,1	-----GGCUCAGUUCAGCAGGAA-----	4
1,-3	-----GGCUCAGUUCAGCAGGAACA---	2
1,-1	-----GGCUCAGUUCAGCAGGAACAaa-	2
1,-1	-----GGCUCAGUUCAGCAGGAACAG--	15
1,0	-----GGCUCAGUUCAGCAGGAACAGa-	3
1,0	-----GGCUCAGUUCAGCAGGAACAGu-	29
1,0	-----GCUCAGUUCAGCAGGAACA---	2
2,-1	-----GCUCAGUUCAGCAGGAACAG--	11
2,0	-----GCUCAGUUCAGCAGGAACAGu-	8
2,0	-----GCUCAGUUCAGCAGGAACAGuu	4
2,0	-----GCUCAGUUCAGCAGGAACAGG-	4
2,1		

>hsa-mir-25 mi:14-34;MA:52-73 SRX018965

ggccaguguugagAGGCGGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc

(((((.(.(((.((((.((((.((((.((((.(.....))..)))))))).).)))))).))))..).
))))

-----AGGCGGAGACUUGGGCAA-----	
---- 8 0,-3	
-----AGGCGGAGACUUGGGCAAUU-----	

```

----      6      0,-1
-----AGGCGGAGACUUGGGCAAUUG-----
----     39      0,0
-----AGGCGGAGACUUGGGCAAUGa-----
----      2      0,0
-----AGGCGGAGACUUGGGCAAUGu-----
----      3      0,0
-----AGGCGGAGACUUGGGCAAUUGC-----
----    138      0,1
-----AGGCGGAGACUUGGGCAAUUGC a-----
----      6      0,1
-----AGGCGGAGACUUGGGCAAUUGCU-----
----   490      0,2
-----AGGCGGAGACUUGGGCAAUUGCUa-----
----      5      0,2
-----AGGCGGAGACUUGGGCAAUUGCUu-----
----      3      0,2
-----GGCGGAGACUUGGGCAAUUGCU-----
----      9      1,2
-----CAUUGCACUUGUCUCGGU-----
----   1941      0,-4
-----CAUUGCACUUGUCUCGGUC-----
----   2296      0,-3
-----CAUUGCACUUGUCUCGGUCU-----
----   2020      0,-2
-----CAUUGCACUUGUCUCGGUCUaa-----
----      2      0,-2
-----CAUUGCACUUGUCUCGGUCUuu-----
----      2      0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
----   1726      0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
----   205      0,-1
-----CAUUGCACUUGUCUCGGUCUGuu-----
----      5      0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
----   4640      0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----

```

```

---- 65 0,0
-----CAUUGCACUUGUCUCGGUCUGAaa-----
---- 6 0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
---- 33 0,0
-----CAUUGCACUUGUCUCGGUCUGAC-----
---- 6 0,1
-----CAUUGCACUUGUCUCGGUCUGACA-----
---- 4 0,2
-----AUUGCACUUGUCUCGGUC-----
---- 25 1,-3
-----AUUGCACUUGUCUCGGUCU-----
---- 62 1,-2
-----AUUGCACUUGUCUCGGUCUG-----
---- 100 1,-1
-----AUUGCACUUGUCUCGGUCUGu-----
---- 6 1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
---- 168 1,0
-----AUUGCACUUGUCUCGGUCUGAa-----
---- 3 1,0

```

>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018965

```

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.(((((((.(((((((((.(((((((((.((.....))...)))))))))).)))))))).)))))))).)))
-----UUCAAGUAAUCCAGGAUA-----
245 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
381 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
1016 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
6 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
3 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
2 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----

```

9 0,-2
 -----UUCAAGUAAUCCAGGAUAGGC-----
 2236 0,-1
 -----UUCAAGUAAUCCAGGAUAGGCa-----
 260 0,-1
 -----UUCAAGUAAUCCAGGAUAGGCaa-----
 73 0,-1
 -----UUCAAGUAAUCCAGGAUAGGCau-----
 27 0,-1
 -----UUCAAGUAAUCCAGGAUAGGCU-----
 11804 0,0
 -----UUCAAGUAAUCCAGGAUAGGCUa-----
 664 0,0
 -----UUCAAGUAAUCCAGGAUAGGCUaa-----
 207 0,0
 -----UUCAAGUAAUCCAGGAUAGGCUau-----
 469 0,0
 -----UUCAAGUAAUCCAGGAUAGGCUu-----
 277 0,0
 -----UUCAAGUAAUCCAGGAUAGGCUuu-----
 1029 0,0
 -----UUCAAGUAAUCCAGGAUAGGCUGU-----
 5 0,2
 -----UCAAGUAAUCCAGGAUAG-----
 14 1,-3
 -----UCAAGUAAUCCAGGAUAGG-----
 14 1,-2
 -----UCAAGUAAUCCAGGAUAGGC-----
 29 1,-1
 -----UCAAGUAAUCCAGGAUAGGCa-----
 3 1,-1
 -----UCAAGUAAUCCAGGAUAGGCU-----
 174 1,0
 -----UCAAGUAAUCCAGGAUAGGCUa-----
 7 1,0
 -----UCAAGUAAUCCAGGAUAGGCUaa-----
 8 1,0
 -----UCAAGUAAUCCAGGAUAGGCUau-----

```

11  1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
13  1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
7   1,0
-----CAAGUAAUCCAGGAUAGG-----
4   2,-2
-----CAAGUAAUCCAGGAUAGGC-----
4   2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
27  2,0
-----CAAGUAAUCCAGGAUAGGCUa-----
4   2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
2   2,0
-----CCUAUUCUUGGUUACUUGCACG-----
2   0,0

```

>hsa-mi r-26a-2 MA:14-35;mi:52-73 SRX018965

```

ggcuguggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu

```

```

(((((((...((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))

```

```

-----UUCAAGUAAUCCAGGAUA-----
---- 245 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 381 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 1016 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 6 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 3 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
---- 2 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 9 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----

```



```

---- 2236 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 260 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 73 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 27 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 11804 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
---- 664 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
---- 207 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
---- 469 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
---- 277 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
---- 1029 0,0
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
---- 5 0,2
-----UCAAGUAAUCCAGGAUAG-----
---- 14 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
---- 14 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
---- 29 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
---- 3 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
---- 174 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
---- 7 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
---- 8 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
---- 11 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----

```


91	-1,-3	UUCACAGUGGCUAAGUUC
23875	0,-3	UUCACAGUGGCUAAGUUCa
12	0,-3	UUCACAGUGGCUAAGUUCaa
9	0,-3	UUCACAGUGGCUAAGUUC
353	0,-2	UUCACAGUGGCUAAGUUCa
3	0,-2	UUCACAGUGGCUAAGUUCu
8	0,-2	UUCACAGUGGCUAAGUUCuu
3	0,-2	UUCACAGUGGCUAAGUUCG
1464	0,-1	UUCACAGUGGCUAAGUUCGa
43	0,-1	UUCACAGUGGCUAAGUUCGaa
7	0,-1	UUCACAGUGGCUAAGUUCGau
5	0,-1	UUCACAGUGGCUAAGUUCGu
67	0,-1	UUCACAGUGGCUAAGUUCGuu
6	0,-1	UUCACAGUGGCUAAGUUCGC
65	0,0	UUCACAGUGGCUAAGUUCGCa
5	0,0	UUCACAGUGGCUAAGUUCGCaa
7	0,0	UUCACAGUGGCUAAGUUCGCau
4	0,0	UUCACAGUGGCUAAGUUCGCu
2	0,0	UUCACAGUGGCUAAGUUCGCC

```

6    0,1
-----UUCACAGUGGCUAAGUUCCGCCa-----
2    0,1
-----UCACAGUGGCUAAGUUCC-----
2    1,-2
-----UCACAGUGGCUAAGUUCCG-----
7    1,-1

>hsa-mir-27b    mi:19-40;MA:61-81    SRX018965
accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug
((((((((.....((((((((((((((((((((.....((((((((((((((((.....((.....)))..))))))))))..)))))))))))))
))))..))))..))))).
-----CAGAGCUUAGCUGAUUGGUG-----
-----3    -1,-3
-----CAGAGCUUAGCUGAUUGGUGAA-----
-----4    -1,-1
-----CAGAGCUUAGCUGAUUGGUGAAC-----
-----4    -1,0
-----CAGAGCUUAGCUGAUUGGUGAACA-----
-----5    -1,1
-----AGAGCUUAGCUGAUUGGU-----
-----13    0,-4
-----AGAGCUUAGCUGAUUGGUG-----
-----44    0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
-----334    0,-2
-----AGAGCUUAGCUGAUUGGUGAA-----
-----525    0,-1
-----AGAGCUUAGCUGAUUGGUGAAC-----
-----30    0,0
-----AGAGCUUAGCUGAUUGGUGAACA-----
-----14    0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
-----5    0,2
-----GAGCUUAGCUGAUUGGUGAACA-----
-----3    1,1
-----UGUUCACAGUGGCUAAGUUC-----

```

-----	3	-2,-3	-----GUUCACAGUGGCUAAGUU---
-----	6	-1,-4	-----GUUCACAGUGGCUAAGUUC--
-----	91	-1,-3	-----GUUCACAGUGGCUAAGUUCU-
-----	4	-1,-2	-----UUCACAGUGGCUAAGUUC--
-----	23875	0,-3	-----UUCACAGUGGCUAAGUUCa-
-----	12	0,-3	-----UUCACAGUGGCUAAGUUCaa
-----	9	0,-3	-----UUCACAGUGGCUAAGUUCU-
-----	4534	0,-2	-----UUCACAGUGGCUAAGUUCUa
-----	15	0,-2	-----UUCACAGUGGCUAAGUUCUa
a-----	2	0,-2	-----UUCACAGUGGCUAAGUUCUG
-----	152	0,-1	-----UUCACAGUGGCUAAGUUCUG
a-----	6	0,-1	-----UUCACAGUGGCUAAGUUCUG
aa-----	12	0,-1	-----UUCACAGUGGCUAAGUUCUG
u-----	6	0,-1	-----UUCACAGUGGCUAAGUUCUG
uu-----	3	0,-1	-----UUCACAGUGGCUAAGUUCUG
C-----	339	0,0	-----UUCACAGUGGCUAAGUUCUG
Cu-----	8	0,0	-----UUCACAGUGGCUAAGUUCUG
CA-----	122	0,1	-----UUCACAGUGGCUAAGUUCUG
CAa-----	21	0,1	-----UUCACAGUGGCUAAGUUCUG

```

CAau----- 4 0,1
-----UUCACAGUGGCUAAGUUCUG
CAu----- 26 0,1
-----UUCACAGUGGCUAAGUUCUG
CAuu----- 5 0,1
-----UCACAGUGGCUAAGUUCU-
----- 24 1,-2
-----UCACAGUGGCUAAGUUCUG
----- 3 1,-1
-----UCACAGUGGCUAAGUUCUG
CA----- 3 1,1

```

>hsa-mi r-28 5p:14-35;3p:54-75 SRX018965

```

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGGuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu

```

```

(((.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))..)))))))))..)))))))))..)))))))))..)))))))))..)))))))))..)))))))))..)))))))))
))..)))

```

```

-----AAGGAGCUCACAGUCUAU-----
----- 2 0,-4
-----AAGGAGCUCACAGUCUAUU-----
----- 2 0,-3
-----AAGGAGCUCACAGUCUAUUG-----
----- 19 0,-2
-----AAGGAGCUCACAGUCUAUUGA-----
----- 32 0,-1
-----AAGGAGCUCACAGUCUAUUGAa-----
----- 4 0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 61 0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 7 0,0
-----AAGGAGCUCACAGUCUAUUGAGaa-----
----- 2 0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 2 0,1
-----AGGAGCUCACAGUCUAUUGAG-----
----- 2 1,0
-----CACUAGAUUGUGAGCUCC-----

```

----- 6 0,-4	-----CACUAGAUUGUGAGCUCCU-----
----- 3 0,-3	-----CACUAGAUUGUGAGCUCCUG-----
----- 15 0,-2	-----CACUAGAUUGUGAGCUCCUGa-----
----- 7 0,-2	-----CACUAGAUUGUGAGCUCCUGu-----
----- 4 0,-2	-----CACUAGAUUGUGAGCUCCUGG-----
----- 170 0,-1	-----CACUAGAUUGUGAGCUCCUGGu-----
----- 6 0,-1	-----CACUAGAUUGUGAGCUCCUGGuu-----
----- 2 0,-1	-----CACUAGAUUGUGAGCUCCUGGA-----
----- 1235 0,0	-----CACUAGAUUGUGAGCUCCUGGAa-----
----- 306 0,0	-----CACUAGAUUGUGAGCUCCUGGAaa-----
----- 31 0,0	-----CACUAGAUUGUGAGCUCCUGGAau-----
----- 3 0,0	-----CACUAGAUUGUGAGCUCCUGGAu-----
----- 15 0,0	-----CACUAGAUUGUGAGCUCCUGGAG-----
----- 21 0,1	-----CACUAGAUUGUGAGCUCCUGGAGa-----
----- 3 0,1	-----CACUAGAUUGUGAGCUCCUGGAGu-----
----- 2 0,1	-----ACUAGAUUGUGAGCUCCUGGA-----
----- 35 1,0	-----ACUAGAUUGUGAGCUCCUGGAa-----
----- 10 1,0	-----ACUAGAUUGUGAGCUCCUGGAG-----
----- 8 1,1	-----ACUAGAUUGUGAGCUCCUGGAGa-----


```

----- 6 1,1
-----ACUAGAUUGUGAGCUCCUGGAGu---
----- 2 1,1
-----CUAGAUUGUGAGCUCCUGGA-----
----- 5 2,0
-----CUAGAUUGUGAGCUCCUGGAa---
----- 2 2,0
-----CUAGAUUGUGAGCUCCUGGAG---
----- 5 2,1
-----CUAGAUUGUGAGCUCCUGGAGa---
----- 7 2,1
-----CUAGAUUGUGAGCUCCUGGAGu---
----- 5 2,1

```

>hsa-mir-299 5p:7-28;3p:39-60 SRX018965

```

aagaaaUGGUUUACCGUCCCACAUACAUuuugaauaugUAUGUGGGAUGGUAAACCGCUUcuu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUGGUUUACCGUCCCACAU----- 2 -1,-4
-----AUGGUUUACCGUCCCACAUA----- 4 -1,-3
-----AUGGUUUACCGUCCCACAUAC----- 27 -1,-2
-----AUGGUUUACCGUCCCACAUACA----- 129 -1,-1
-----AUGGUUUACCGUCCCACAUACAa----- 4 -1,-1
-----UGGUUUACCGUCCCACAU----- 6 0,-4
-----UGGUUUACCGUCCCACAUA----- 6 0,-3
-----UGGUUUACCGUCCCACAUAC----- 36 0,-2
-----UGGUUUACCGUCCCACAUACA----- 135 0,-1
-----UGGUUUACCGUCCCACAUACAU----- 183 0,0
-----UGGUUUACCGUCCCACAUACAUU----- 2 0,1
-----GGUUUACCGUCCCACAUACA----- 6 1,-1
-----GGUUUACCGUCCCACAUACAU----- 3 1,0
-----GUAUGUGGGAUGGUAAACC----- 3 -1,-4
-----GUAUGUGGGAUGGUAAACCG----- 4 -1,-3
-----UAUGUGGGAUGGUAAACC----- 89 0,-4
-----UAUGUGGGAUGGUAAACCG----- 38 0,-3
-----UAUGUGGGAUGGUAAACCGC----- 4 0,-2
-----UAUGUGGGAUGGUAAACCGCU----- 24 0,-1
-----UAUGUGGGAUGGUAAACCGCUU----- 75 0,0
-----UAUGUGGGAUGGUAAACCGCUUa----- 7 0,0

```

```

-----UAUGUGGAUGGUAACCGCUUu-- 6 0,0
-----AUGUGGAUGGUAACCG----- 3 1,-3

```

>hsa-mir-29a mi:4-25;MA:42-63 SRX018965

augACUGAUUUCUUUUGGUGUUCAGagucaauauauuuuucUAGCACCAUCUGAAAUCGGUUAu

((((((((((((...(((((((.((((.....))))))))))))....)))))))))))))

```

---ACUGAUUUCUUUUGGUGUUC----- 6 0,-2
---ACUGAUUUCUUUUGGUGUUC----- 6 0,-1
---ACUGAUUUCUUUUGGUGUUCAG----- 8 0,0
---ACUGAUUUCUUUUGGUGUUCAG----- 5 0,1
-----CUAGCACCAUCUGAAAUC----- 27 -1,-5
-----CUAGCACCAUCUGAAAUCG----- 2 -1,-4
-----CUAGCACCAUCUGAAAUCGG----- 31 -1,-3
-----CUAGCACCAUCUGAAAUCGGU----- 63 -1,-2
-----CUAGCACCAUCUGAAAUCGGUaa----- 3 -1,-2
-----CUAGCACCAUCUGAAAUCGGUU----- 838 -1,-1
-----CUAGCACCAUCUGAAAUCGGUUu----- 63 -1,-1
-----CUAGCACCAUCUGAAAUCGGUUA----- 899 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAa----- 12 -1,0
-----CUAGCACCAUCUGAAAUCGGUUUA----- 24 -1,1
-----UAGCACCAUCUGAAAUCG----- 1071 0,-4
-----UAGCACCAUCUGAAAUCGuu----- 8 0,-4
-----UAGCACCAUCUGAAAUCGG----- 774 0,-3
-----UAGCACCAUCUGAAAUCGGa----- 4 0,-3
-----UAGCACCAUCUGAAAUCGGaa----- 3 0,-3
-----UAGCACCAUCUGAAAUCGGau----- 20 0,-3
-----UAGCACCAUCUGAAAUCGGU----- 1043 0,-2
-----UAGCACCAUCUGAAAUCGGUa----- 53 0,-2
-----UAGCACCAUCUGAAAUCGGUaa----- 80 0,-2
-----UAGCACCAUCUGAAAUCGGUau----- 9 0,-2
-----UAGCACCAUCUGAAAUCGGUU----- 19336 0,-1
-----UAGCACCAUCUGAAAUCGGUUu----- 866 0,-1
-----UAGCACCAUCUGAAAUCGGUUuu----- 10 0,-1
-----UAGCACCAUCUGAAAUCGGUUA----- 81116 0,0
-----UAGCACCAUCUGAAAUCGGUUAa----- 568 0,0
-----UAGCACCAUCUGAAAUCGGUUAaa----- 5 0,0
-----UAGCACCAUCUGAAAUCGGUUAau----- 2 0,0
-----UAGCACCAUCUGAAAUCGGUUUA----- 462 0,1

```

```

-----UAGCACCAUCUGAAAUCGGUUAUa 2 0,1
-----UAGCACCAUCUGAAAUCGGUUAUu 3 0,1
-----AGCACCAUCUGAAAUCGG---- 15 1,-3
-----AGCACCAUCUGAAAUCGGU--- 12 1,-2
-----AGCACCAUCUGAAAUCGGUU-- 223 1,-1
-----AGCACCAUCUGAAAUCGGUUu- 14 1,-1
-----AGCACCAUCUGAAAUCGGUUA- 1014 1,0
-----AGCACCAUCUGAAAUCGGUUAa 5 1,0
-----AGCACCAUCUGAAAUCGGUUAU 5 1,1
-----GCACCAUCUGAAAUCGGUU-- 27 2,-1
-----GCACCAUCUGAAAUCGGUUA- 130 2,0
-----GCACCAUCUGAAAUCGGUUAa 2 2,0

```

>hsa-mir-29b-1 mi:10-33;MA:51-73 SRX018965

```

cuucaggaaGCUGGUUUCAU AUGGUGGUUUAGAuuuuuauagugauugucUAGCACCAUUUGAAAUCAGUGUUCuuggggg
g

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((

```

.

```

-----GCUGGUUUCAU AUGGUGGUUUAGA-----

```

```

- 2 0,0

```

```

-----CUAGCACCAUUUGAAAUCAGU-----

```

```

- 5 -1,-3

```

```

-----UAGCACCAUUUGAAAUCA-----

```

```

- 44 0,-5

```

```

-----UAGCACCAUUUGAAAUCAuu-----

```

```

- 2 0,-5

```

```

-----UAGCACCAUUUGAAAUCAG-----

```

```

- 106 0,-4

```

```

-----UAGCACCAUUUGAAAUCAGa-----

```

```

- 2 0,-4

```

```

-----UAGCACCAUUUGAAAUCAGU-----

```

```

- 1815 0,-3

```

```

-----UAGCACCAUUUGAAAUCAGUa-----

```

```

- 4 0,-3

```

```

-----UAGCACCAUUUGAAAUCAGUu-----

```

```

- 2 0,-3

```

```

-----UAGCACCAUUUGAAAUCAGUG-----

```

```

- 245 0,-2

```

```

-----UAGCACCAUUUGAAAUCAGUGU-----
- 52 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 14 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 86 0,0
-----AGCACCAUUUGAAAUCAGU-----
- 32 1,-3
-----AGCACCAUUUGAAAUCAGUG-----
- 2 1,-2
-----AGCACCAUUUGAAAUCAGUGUU-----
- 2 1,0
-----GCACCAUUUGAAAUCAGU-----
- 2 2,-3

```

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018965

```

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----CUGGUUUCACAUGGUGGCUUA-----
- 4 0,-1
-----CUGGUUUCACAUGGUGGCUUAG-----
- 4 0,0
-----CUGGUUUCACAUGGUGGCUUAGA-----
- 2 0,1
-----UGGUUUCACAUGGUGGCUUA-----
- 2 1,-1
-----CUAGCACCAUUUGAAAUCAGU-----
- 5 -1,-3
-----UAGCACCAUUUGAAAUCA-----
- 44 0,-5
-----UAGCACCAUUUGAAAUCAuu-----
- 2 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 106 0,-4
-----UAGCACCAUUUGAAAUCAGa-----
- 2 0,-4

```

```

-----UAGCACCAUUUGAAAUCAGU-----
- 1815 0,-3
-----UAGCACCAUUUGAAAUCAGUa-----
- 4 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----
- 2 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 245 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 52 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 14 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 86 0,0
-----UAGCACCAUUUGAAAUCAGUGUUU-----
- 11 0,1
-----AGCACCAUUUGAAAUCAGU-----
- 32 1,-3
-----AGCACCAUUUGAAAUCAGUG-----
- 2 1,-2
-----AGCACCAUUUGAAAUCAGUGUU-----
- 2 1,0
-----GCACCAUUUGAAAUCAGU-----
- 2 2,-3

```

>hsa-mir-29c mi:16-37;MA:54-75 SRX018965

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUcagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

.((((((((((...((((((((((...((((((((((((.....))))))...))))))...)))))))).))
)))))))).

```

-----UGACCGAUUUCUCCUGGUGUU-----
-----7 0,-1
-----GACCGAUUUCUCCUGGUGUU-----
-----4 1,-1
-----GACCGAUUUCUCCUGGUGUUA-----
-----2 1,1
-----ACCGAUUUCUCCUGGUGUUCAGAu-----
-----2 2,3

```

-----			CUAGCACCAUUUGAAAUCGGUUA-----
-----	5	-1,0	
-----			UAGCACCAUUUGAAAUCG-----
-----	45	0,-4	
-----			UAGCACCAUUUGAAAUCGG-----
-----	39	0,-3	
-----			UAGCACCAUUUGAAAUCGGU-----
-----	33	0,-2	
-----			UAGCACCAUUUGAAAUCGGUaa-----
-----	5	0,-2	
-----			UAGCACCAUUUGAAAUCGGUU-----
-----	214	0,-1	
-----			UAGCACCAUUUGAAAUCGGUUu-----
-----	33	0,-1	
-----			UAGCACCAUUUGAAAUCGGUUuu-----
-----	4	0,-1	
-----			UAGCACCAUUUGAAAUCGGUUA-----
-----	3214	0,0	
-----			UAGCACCAUUUGAAAUCGGUUAa-----
-----	21	0,0	
-----			UAGCACCAUUUGAAAUCGGUUAU-----
-----	23	0,1	
-----			UAGCACCAUUUGAAAUCGGUUAUu-----
-----	2	0,1	
-----			AGCACCAUUUGAAAUCGGUU-----
-----	4	1,-1	
-----			AGCACCAUUUGAAAUCGGUUA-----
-----	27	1,0	
-----			GCACCAUUUGAAAUCGGUUA-----
-----	3	2,0	
-----			GCACCAUUUGAAAUCGGUUAUu-----
-----	6	2,1	

>hsa-mir-301a 3p:51-73 SRX018965

acugcuaacgaaugcucugacuuuauugcacuacuguacuuuacagcuagCAGUGCAAUAGUAUUGUCAAAAGCaucugaa
agcagg
((((((..((.((((.((((.((((((((((.((((...))))).)))...)))))))).)))...))))).))..
)))).).

>hsa-mir-30a MA:6-27;mi:47-68 SRX018965

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc

(((((.....))))))

----CUGUAAACAUCCUCGACUGGAA----- 2

-1, -1

----CUGUAAACAUCCUCGACUGGAAG----- 12 -1,0

----CUGUAAACAUCCUCGACUGGAAGC----- 9 -1,1

----CUGUAAACAUCCUCGACUGGAAGCU----- 18 -1,2

----UGUAAACAUCCUCGACUG----- 198 0,-4

----UGUAAACAUCCUCGACUGG----- 94 0,-3

----UGUAAACAUCCUCGACUGGu----- 2 0,-3

----UGUAAACAUCCUCGACUGGA----- 145 0,-2

----UGUAAACAUCCUCGACUGGAA----- 243 0,-1

----UGUAAACAUCCUCGACUGGAAa----- 41 0,-1

----UGUAAACAUCCUCGACUGGAAaa----- 2 0,-1

----UGUAAACAUCCUCGACUGGAAG----- 2080

0,0

----UGUAAACAUCCUCGACUGGAAGa----- 479 0,0

----UGUAAACAUCCUCGACUGGAAGaa----- 15 0,0

----UGUAAACAUCCUCGACUGGAAGau----- 11 0,0

----UGUAAACAUCCUCGACUGGAAGu----- 20 0,0

----UGUAAACAUCCUCGACUGGAAGuu----- 3 0,0

----UGUAAACAUCCUCGACUGGAAGC----- 5643

0,1

----UGUAAACAUCCUCGACUGGAAGCa----- 451 0,1

----UGUAAACAUCCUCGACUGGAAGCaa----- 5 0,1

----UGUAAACAUCCUCGACUGGAAGCau----- 6 0,1

----UGUAAACAUCCUCGACUGGAAGCU----- 8786

0,2

----UGUAAACAUCCUCGACUGGAAGCUa----- 60 0,2

----UGUAAACAUCCUCGACUGGAAGCUu----- 173 0,2

----GUAAACAUCCUCGACUGGA----- 4 1,-2

----GUAAACAUCCUCGACUGGAAG----- 24 1,0

----GUAAACAUCCUCGACUGGAAGC----- 53 1,1

----GUAAACAUCCUCGACUGGAAGCU----- 31 1,2

----UAAACAUCCUCGACUGGAAGC----- 3 2,1

-----CUUUCAGUCGGAUGUUUGCA----- 9 0,-2


```

-----CUUUCAGUCGGAUGUUUGCAG---- 26 0,-1
-----CUUUCAGUCGGAUGUUUGCAGu--- 11 0,-1
-----CUUUCAGUCGGAUGUUUGCAGC--- 65 0,0
-----CUUUCAGUCGGAUGUUUGCAGCa-- 5 0,0
-----CUUUCAGUCGGAUGUUUGCAGCau- 5 0,0
-----UUUCAGUCGGAUGUUUGC----- 3 1,-3
-----UUUCAGUCGGAUGUUUGCA----- 2 1,-2
-----UUUCAGUCGGAUGUUUGCAG---- 8 1,-1
-----UUUCAGUCGGAUGUUUGCAGu--- 2 1,-1
-----UUUCAGUCGGAUGUUUGCAGC--- 28 1,0
-----UUUCAGUCGGAUGUUUGCAGCa-- 4 1,0

```

>hsa-mir-30b MA:17-38;mi:55-76 SRX018965

accaaguucaguucaUGUAAACAUCCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
gacuugga

.((((((...((((((...((((((((((...((((((((((...)))))))).)))))))).)))))))).

```

-----UGUAAACAUCCUACACUC-----
----- 32 0,-4
-----UGUAAACAUCCUACACUCA-----
----- 3 0,-3
-----UGUAAACAUCCUACACUCAGC-----
----- 26 0,-1
-----UGUAAACAUCCUACACUCAGCaa-----
----- 2 0,-1
-----UGUAAACAUCCUACACUCAGCU-----
----- 174 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
----- 7 0,0
-----UGUAAACAUCCUACACUCAGCUu-----
----- 5 0,0
-----GUAAACAUCCUACACUCAGC-----
----- 2 1,-1
-----CUGGGAGGUGGAUGUUUA-----
----- 6 0,-4
-----CUGGGAGGUGGAUGUUUAa-----
----- 3 0,-4
-----CUGGGAGGUGGAUGUUUACU-----

```

```

----- 24 0,-2
-----CUGGGAGGUGGAUGUUUACUa-----
----- 3 0,-2
-----CUGGGAGGUGGAUGUUUACUU-----
----- 53 0,-1
-----CUGGGAGGUGGAUGUUUACUUa-----
----- 11 0,-1
-----CUGGGAGGUGGAUGUUUACUUaa-----
----- 6 0,-1
-----CUGGGAGGUGGAUGUUUACUUu-----
----- 2 0,-1
-----CUGGGAGGUGGAUGUUUACUUC-----
----- 17 0,0
-----CUGGGAGGUGGAUGUUUACUUCa-----
----- 2 0,1

```

>hsa-mir-30c-1 MA:17-39;mi:56-77 SRX018965

```

accaugcuguagugUGUAAACAUCCUACACUCUCAGCugugagcucaagguggCUGGGAGAGGGUUGUUUACUCCuuc
ugccaugga

```

```

.((((((...(((...((((((((...(((...(((((((((...(((...)))...)))))))).)))...))
)))))))).

```

```

-----UGUAAACAUCCUACACUC-----
----- 32 0,-5
-----UGUAAACAUCCUACACUCU-----
----- 2 0,-4
-----UGUAAACAUCCUACACUCUC-----
----- 5 0,-3
-----UGUAAACAUCCUACACUCUCA-----
----- 13 0,-2
-----UGUAAACAUCCUACACUCUCAG-----
----- 35 0,-1
-----UGUAAACAUCCUACACUCUCAGa-----
----- 9 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 133 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 9 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----

```

```

----- 2 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 154 0,1
-----GUAAACAUCCUACACUCUCAGC-----
----- 3 1,0
-----CUGGGAGAGGGUUGUUUA-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUACU-----
----- 93 0,-2
-----CUGGGAGAGGGUUGUUUACUC-----
----- 25 0,-1
-----CUGGGAGAGGGUUGUUUACUCaa--
----- 2 0,-1
-----CUGGGAGAGGGUUGUUUACUCC---
----- 3 0,0
-----CUGGGAGAGGGUUGUUUACUCCaa-
----- 2 0,0
-----CUGGGAGAGGGUUGUUUACUCCU--
----- 5 0,1
-----CUGGGAGAGGGUUGUUUACUCCUa-
----- 2 0,1
-----UGGGAGAGGGUUGUUUACU-----
----- 5 1,-2
-----UGGGAGAGGGUUGUUUACUC-----
----- 4 1,-1
-----UGGGAGAGGGUUGUUUACUCu---
----- 2 1,-1

```

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018965

```

agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
(((....(((((((....((((((((.....)))))))))).)).))))))....)))
-----CUGUAAACAUCCUACACUCUCAGC----- 2
-1,0
-----UGUAAACAUCCUACACUC----- 32
0,-5
-----UGUAAACAUCCUACACUCU----- 2
0,-4
-----UGUAAACAUCCUACACUC----- 5

```

0, -3		
-----UGUAAACAUCCUACACUCUCA-----		13
0, -2		
-----UGUAAACAUCCUACACUCUCAG-----		35
0, -1		
-----UGUAAACAUCCUACACUCUCAGa-----		9
0, -1		
-----UGUAAACAUCCUACACUCUCAGC-----		133
0, 0		
-----UGUAAACAUCCUACACUCUCAGCa-----		9
0, 0		
-----UGUAAACAUCCUACACUCUCAGCau-----		2
0, 0		
-----UGUAAACAUCCUACACUCUCAGCU-----		154
0, 1		
-----GUAAACAUCCUACACUCUCAGC-----		3
1, 0		
-----CUGGGAGAAGGCUGUUUA-----		10
0, -4		
-----CUGGGAGAAGGCUGUUUAuu-----		2
0, -4		
-----CUGGGAGAAGGCUGUUUAC-----		9
0, -3		
-----CUGGGAGAAGGCUGUUUACa-----		2
0, -3		
-----CUGGGAGAAGGCUGUUUACU-----		213
0, -2		
-----CUGGGAGAAGGCUGUUUACUC-----		212
0, -1		
-----CUGGGAGAAGGCUGUUUACUCU-----		21
0, 0		
-----UGGGAGAAGGCUGUUUACU-----		7
1, -2		
-----UGGGAGAAGGCUGUUUACUC-----		16
1, -1		
-----UGGGAGAAGGCUGUUUACUCU-----		3
1, 0		

>hsa-mir-30d MA:6-27;mi:46-67 SRX018965

guuguUGUAAACAUCCCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUGUUUGCUGCuac

...((.((((((((((...((((((((((((((...((.....)).))))))))))))).))))))))).))...

----UGUAAACAUCCCCGACUGGAAGC-----	4	-1,1
----UGUAAACAUCCCCGACUGGAAGCU-----	3	-1,2
-----UGUAAACAUCCCCGACUG-----	564	0,-4
-----UGUAAACAUCCCCGACUGG-----	260	0,-3
-----UGUAAACAUCCCCGACUGGA-----	348	0,-2
-----UGUAAACAUCCCCGACUGGAu-----	2	0,-2
-----UGUAAACAUCCCCGACUGGAa-----	982	0,-1
-----UGUAAACAUCCCCGACUGGAa-----	139	0,-1
-----UGUAAACAUCCCCGACUGGAa-----	3	0,-1
-----UGUAAACAUCCCCGACUGGAa-----	17	0,-1
-----UGUAAACAUCCCCGACUGGAAG-----	2159	

0,0

-----UGUAAACAUCCCCGACUGGAAGa-----	387	0,0
-----UGUAAACAUCCCCGACUGGAAGaa-----	27	0,0
-----UGUAAACAUCCCCGACUGGAAGau-----	35	0,0
-----UGUAAACAUCCCCGACUGGAAGu-----	47	0,0
-----UGUAAACAUCCCCGACUGGAAGuu-----	18	0,0
-----UGUAAACAUCCCCGACUGGAAGC-----	7806	

0,1

-----UGUAAACAUCCCCGACUGGAAGCa-----	743	0,1
-----UGUAAACAUCCCCGACUGGAAGCaa-----	20	0,1
-----UGUAAACAUCCCCGACUGGAAGCau-----	10	0,1
-----UGUAAACAUCCCCGACUGGAAGCU-----	38056	

0,2

-----UGUAAACAUCCCCGACUGGAAGCUa-----	416	0,2
-----UGUAAACAUCCCCGACUGGAAGCUu-----	569	0,2
-----UGUAAACAUCCCCGACUGGAAGCUG-----	7	0,3
-----GUAAACAUCCCCGACUGGA-----	2	1,-2
-----GUAAACAUCCCCGACUGGAa-----	10	1,-1
-----GUAAACAUCCCCGACUGGAaa-----	3	1,-1
-----GUAAACAUCCCCGACUGGAAG-----	21	1,0
-----GUAAACAUCCCCGACUGGAAGC-----	101	1,1
-----GUAAACAUCCCCGACUGGAAGCa-----	9	1,1
-----GUAAACAUCCCCGACUGGAAGCU-----	423	1,2
-----GUAAACAUCCCCGACUGGAAGCUa-----	5	1,2

-----GUAAACAUCCCCGACUGGAAGCUu-----	3	1,2
-----UAAACAUCCCCGACUGGAAGCU-----	5	2,2
-----CUUUCAGUCAGAUGUUUGCU-----	3	0,-2
-----UUUCAGUCAGAUGUUUGCU-----	2	1,-2

>hsa-mi r-30e MA:17-38;mi :59-80 SRX018965

gggcagucuuugcuacUGUAAACAUCUUGACUGGAAGcuguaagguguucagaggagCUUUCAGUCGGAUGUUACAGC
ggcaggcugcca

$$\begin{aligned} & .((((((((((..((..((((((((((((((..((((((((((((((..((...((...))...)))))...))))))...))))))...))))). \\ & .))))))))))). \end{aligned}$$

-----CUGUAAACAUCCUUGACUG-----

----- 4 -1, -4

-----CUGUAAACAUCCUUGACUGGAAG-----

----- 2 -1,0

-----CUGUAAACAUCCUUGACUGGAAGC-----

----- 8 -1,1

-----CUGUAAACAUCCUGACUGGAAGCU-----

----- 7 -1,2

-----UGUAAACAUCCUUGACUG-----

----- 25 0,-4

-----UGUAAACAUCCUUGACUGG-----

----- 17 0,-3

-----UGUAAACAUCCUUGACUGGA-----

----- 9 0, -2

-----UGUAAACAUCCUUGACUGGAA-----

----- 36 0, -1

-----UGUAAACAUCCUUGACUGGAAa-----

$$----- \quad 2 \quad 0, -1$$

-----UGUAAACAUCUUGACUGGAAG-----

----- 170 0,0

-----UGUAAACAUCCUUGACUGGAAGa-----

----- 61 0,0

-----UGUAAACAUCCUUGACUGGAAGaa-----

----- 3 0,0

-----UGUAAACAUCCUUGACUGGAAGC-----

----- 815 0,1

-----UGUAAACAUCCUUGACUGGAAGCa-----

----- 57 0,1

```

-----UGUAAACAUCCUUGACUGGAAGCU-----
-----964 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
-----13 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
-----56 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
-----3 0,3
-----GUAAACAUCCUUGACUGGAA-----
-----2 1,-1
-----GUAAACAUCCUUGACUGGAAG-----
-----8 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
-----4 1,0
-----GUAAACAUCCUUGACUGGAAGC-----
-----37 1,1
-----GUAAACAUCCUUGACUGGAAGCa-----
-----3 1,1
-----GUAAACAUCCUUGACUGGAAGCU-----
-----35 1,2
-----CUUUCAGUCGGAUGUUUA-----
-----2 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
-----2 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
-----2 0,-2
-----CUUUCAGUCGGAUGUUUACAG-----
-----22 0,-1
-----CUUUCAGUCGGAUGUUUACAGa
-----3 0,-1
-----CUUUCAGUCGGAUGUUUACAGu
-----39 0,-1
-----CUUUCAGUCGGAUGUUUACAGu
u-----2 0,-1
-----CUUUCAGUCGGAUGUUUACAGC
-----73 0,0
-----CUUUCAGUCGGAUGUUUACAGC
a-----26 0,0

```


6 2,2

```
>hsa-mi r-3130-1 5p:13-33;3p:44-64 SRX018965
```

[illegible]

-----GCUGCACCGGAGACUGGGUA----- 5

 $0, -1$

-----GCUGCACCGGAGACUGGGUAA----- 30

 $0,0$

>hsa-mi r-3130-2 5p:13-33;3p:44-64 SRX018965

[illegible]

-----GCUGCACCGGAGACUGGGUA----- 5

 $0, -1$

-----GCUGCACCGGAGACUGGGUAA----- 30

0,0

>hsa-mi r-3136 5p:10-32 SRX018965

aaauugaaaCUGACUGAAUAGGUAGGGUCAUuuucugugacugcacauggcccaaccuauucaguuaguuccauuu
((((((.(((((((((((((((((((.(((((((.....(((((...)))))))))).)))))))))))))).))))))

-----CUGACUGAAUAGGUAGGGUCAU-----

 $2 \quad 0, -1$

>hsa-mi r-3140 3p:60-81 SRX018965

ccucuugagguaccugaauuacaaaagcuuuanguauucugaaguuaauugaaaaaagAGCUUUUGGGAAUUCAGGUAG
Uucaggagug

.(((((((.(((((((((((.((((((((((((.(((.((((.....))).)))))))))))))).)))))))).
))))))))..

-----AGCUUUUGGGAAUUCAGGUAG

$$----- \quad 2 \quad 0, -1$$

-----AGCUUUUGGGAAUUCAGGUAG

U----- 2 0,0

>hsa-mir-3141 5p:10-28 SRX018965

ucacccgguGAGGGCGGUGGAGGAGAggguccccaccaucagccuucacugggacggga

...(((((((((((((((.(((((((.(.(.(.....))))).)))))))).)))))))).

-----GAGGGCGGGUGGAGGAGGA----- 2 0,0

aacuacacuuuaAGGGGACCAAAGAGAUUAUAGauaucagcuaccuAUAUACCUGUUCGGUCUCUUUAaaguguaguuu

-----AAGGGGACCAAAGAGAUUAU-----

-----AGGGGACCAAAGAGAUUAUAG-----

gcuaagucccuucuuucuauccuaguauaacuugaagaauucaaaauaguCAUGCUAGGAUAGAAAGAAUGGgacuuggc

-----CAUGCUAGGAUAGAAAGAAUGG-----

-----CAUGCUAGGAUAGAAGAAUGGG-----

ggccccuccuucucagccccagcucccgucacccugccacgucaaaggaggCAGAAGGGGAGUUGGGAGCAGAgaggg

-----CAGAAGGGGAGUUGGGAGCAG-----

auucaggccgguccugcagagaggaagcccuucugcuuacagguauuggAAGGGCUUCCUCUCUGCAGGACcggccugaa

-----AAGGGCUUCCUCUCUGCAGGA-----

-----AAGGGCUUCCUCUCUGCAGGAa-----

-----AAGGGCUUCCUCUCUGCAGGAC-----

-----AAGGGCUUCCUCUCUGCAGGACa-----

- 2 0,0

auucaggccgguccugcagagaggaagcccuuccaauaccuguaagcagAAGGGCUUCCUCUCUGCAGGACcggccugaa
u

-----AAGGGCUUCCUCUCUGCAGGA-----

-----AAGGGCUUCCUCUCUGCAGGAa-----

-----AAGGGCUUCCUCUCUGCAGGAC-----

-----AAGGGCUUCCUCUCUGCAGGACa-----

ggaccugcccugggcuuucuagucucagcucuccuccagcucagcuggucaggAGAGCUGAGACUAGAAAGCCCAgggca
gguuc

-----AGAGCUGAGACUAGAAAGCCC-----

accugcccugggcuuucuagucucagcucuccugaccagcugagcuggaggAGAGCUGAGACUAGAAAGCCCAgggcagg
u

-----AGAGCUGAGACUAGAAAGCCC-----

-----CUGAU AAGAACAGAGGCCCAuu-----

-----CUGAU AAGAACAGAGGCCAG-----

 $2 \quad 0, -2$

```

>hsa-mir-3162    5p:10-32    SRX018965
cugacuuuuUUAGGGAGUAGAAGGGUGGGGAGcaugaacauguuucucacucccuacccuccacuccccaaaaaaguc
ag
(((((((((((.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----UUAGGGAGUAGAAGGGUG-----
--  2    0,-5

```

```

>hsa-mir-3164    5p:10-31    SRX018965
cuuggaaacUGUGACUUUAAGGGAAAUGGCGcacagcagaccugcaaucaugccguuuugcuugaagucgcaguuuucc
agg
((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
)).
-----UGUGACUUUAAGGGAAAUGGCG-----
--- 12    0,0

```

```

>hsa-mir-3165    5p:10-31    SRX018965
ccgguggcaAGGUGGAUGCAAUGUGACCUCa cucuugguccucugaggucacauuguauccaccuuaccacugg
(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AGGUGGAUGCAAUGUGACCU----- 5
0,-2

```

```

>hsa-mir-3170    5p:10-31    SRX018965
cugguaacaCUGGGGUUCUGAGACAGACAGUguuagcuccagaagcauugccugucuuagaaccccuauuuaccag
(((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CUGGGGUUCUGAGACAGACAGU-----
15  0,0
-----CUGGGGUUCUGAGACAGACAGUa-----
2   0,0

```

```

>hsa-mir-3171    5p:10-33    SRX018965
uauauauagAGAUUAUGGAAUCUGUAUAUAUCuauauauauguguauauauagauuccauaaaucuaauauaug
(((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AGAUUAUGGAAUCUGUAUA----- 3
0,-4
-----AGAUUAUGGAAUCUGUAUAU----- 11
0,-3

```

-----AGAUGUAUGGAAUCUGUAUAUA----- 12
0,-2

>hsa-mir-3173 3p:43-64 SRX018965

ucccugcccugccuguuuucuccuuugugauuuuugagaacAAAGGAGGAAAUAGGCAGGCCAggga
(((((((.((((((((((((((((((((((((((..((....)).))))))))))))))))))))))))).))))))
-----AAGGAGGAAAUAGGCAGGCCA---- 2 1,0
-----AAGGAGGAAAUAGGCAGGCCAa--- 3 1,0
-----AGGAGGAAAUAGGCAGGCCA---- 2 2,0

>hsa-mir-3174 5p:10-32 SRX018965

guuaccuggUAGUGAGUUAGAGAUAGCAGAGCCcugggcuccucagcaaaccuacuggaucugcauuuuuauucacaugca
ugguaau
(((((((..((((((((((((((((((((((((((..(((((....)))....)).))))))))))))))))))))).)).
.))))))
-----UAGUGAGUUAGAGAUAGCA-----
----- 24 0,-5
-----UAGUGAGUUAGAGAUAGCAG-----
----- 18 0,-4
-----UAGUGAGUUAGAGAUAGCAGA-----
----- 4 0,-3
-----UAGUGAGUUAGAGAUAGCAGAG-----
----- 4 0,-2

>hsa-mir-3176 3p:60-78 SRX018965

uggccucuccagucugcagcucccggcagccucgggcccacacucccggaucucccagggACUGGCCUGGGACUACCGGgg
guggcggccg
..((((.....((.((((((((((.((.((((((((((...((((((((....)).))))).)))))))))).)).))))))
)).)))))).
-----ACUGGCCUGGGACUACCGG--
----- 3 0,0

>hsa-mir-3179-1 3p:52-73 SRX018965

caggaucacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAAUUUAAACGUcugugau
ccug
((.....))))))))))))))))))))))))))))))
))))
-----UAGAAGGGGUGAAAUUUAAACG-----

---- 3 -1,-1
 -----UAGAAGGGGUGAAAUUUAACGU-----
 ---- 10 -1,0
 -----AGAAGGGGUGAAAUUUAACGU-----
 ---- 7 0,0

```

>hsa-mir-3179-2 3p:52-73      SRX018965
caggaucaacagacguuuuuuuacacuccuucugcugugccuacagcaguAGAAGGGGUGAAAUUUAACGUcugugau
ccug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----UAGAAGGGGUGAAAUUUAACG-----
----      3      -1,-1
-----UAGAAGGGGUGAAAUUUAACGU-----
----      10     -1,0
-----AGAAGGGGUGAAAUUUAACGU-----
----      7      0,0

```

```

>hsa-mir-3179-3 3p:52-73      SRX018965
caggaucaacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAAUUUAACGUcugugau
ccug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))
-----UAGAAGGGGUGAAAUUUAACG-----
----      3      -1,-1
-----UAGAAGGGGUGAAAUUUAACGU-----
----      10     -1,0
-----AGAAGGGGUGAAAUUUAACGU-----
----      7      0,0

```

```
>hsa-mir-3187    3p:44-63    SRX018965
gcuggcccguggcagcguguggcgaaggucaccauguucuccUUGGCCAUGGGGCUGCGCGggccagc
(((((((((((.((((((.((((((.(((((.)))))))))))).)))))).)))))))))
-----UUGGCCAUGGGGCUGCGCG----- 2 0,-1
```

```
>hsa-mir-3190    3p:47-69    SRX018965
cuggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugacccccgg
(((((((((((((((.((((((((.((((.(((((((....)))..)))..))))..))))))..)))))))))
```


$$(((.(((((((.(.(((((((..((((((..((((((..((((..((..(.....)..)))))))))..)))))).).))).).))))).$$

----- 5 0,1

----- 3 0,2

----- 6 0, -4

----- 10 0, -1

gcuucgcuccccuccgcuucucuucccgguucuuuccggagucgggAAAAGCUGGGUUGAGAGGGCGAaaaagggaugag
gu

(((((.(((...(((((((..(((((.(((((...)))))).)))))..)))))....))))))
))

$$- - \quad 3 \quad -1, -3$$

-- 6 -1,-2

$$- - \quad 3 \quad -1, -1$$
$$-- \quad 6 \quad -1, -1$$
$$-2, -1, -1$$

-- 15 -1,0

-- 119 0,-4

-- 3 0,-4

-- 59 0,-3

-- 12 0,-3

-----AAAAGCUGGGUUGAGAGGGaa-----

```

-- 4 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 325 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 4 0,-2
-----AAAAGCUGGGUUGAGAGGGCuu-----
-- 2 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 511 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 370 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 91 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 2937 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 574 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 60 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 1105 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 208 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 15 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 209 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 29 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 19 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 10 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 17 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 32 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----

```

```

-- 19 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 2 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 163 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 41 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 6 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 149 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 31 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 3 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 56 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 12 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 8 1,3
-----AAGCUGGGUUGAGAGGGC-----
-- 7 2,-2
-----AAGCUGGGUUGAGAGGGCG-----
-- 2 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 17 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 9 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 26 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 17 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 45 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 7 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----

```

-- 7 2,3

>hsa-mir-320b-1 3p:39-60 SRX018965

aaauaaucccucucuucuaguucuuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).)))).....

-----GAAAAGCUGGGUUGAGAGGG-----

3 -1,-3

-----GAAAAGCUGGGUUGAGAGGGC-----

6 -1,-2

-----AAAAGCUGGGUUGAGAGG-----

119 0,-4

-----AAAAGCUGGGUUGAGAGGuu-----

3 0,-4

-----AAAAGCUGGGUUGAGAGGG-----

59 0,-3

-----AAAAGCUGGGUUGAGAGGGa-----

12 0,-3

-----AAAAGCUGGGUUGAGAGGGaa-----

4 0,-3

-----AAAAGCUGGGUUGAGAGGGC-----

325 0,-2

-----AAAAGCUGGGUUGAGAGGGCu-----

4 0,-2

-----AAAAGCUGGGUUGAGAGGGCu-----

2 0,-2

-----AAAAGCUGGGUUGAGAGGGCA-----

33 0,-1

-----AAAAGCUGGGUUGAGAGGGCAu-----

57 0,-1

-----AAAAGCUGGGUUGAGAGGGCAuu-----

19 0,-1

-----AAAAGCUGGGUUGAGAGGGCAA-----

70 0,0

-----AAAAGCUGGGUUGAGAGGGCAAu-----

9 0,0

-----AAAAGCUGGGUUGAGAGGGCAAA-----

5 0,1

-----AAAGCUGGGUUGAGAGGG-----

GUUGAGAGGGCAu-----	57	0,-1	
-----			AAAAGCUGG
GUUGAGAGGGCAuu-----	19	0,-1	
-----			AAAAGCUGG
GUUGAGAGGGCAA-----	70	0,0	
-----			AAAAGCUGG
GUUGAGAGGGCAAu-----	9	0,0	
-----			AAAAGCUGG
GUUGAGAGGGCAAA-----	5	0,1	
-----			AAAAGCUGG
GUUGAGAGGGCAAAA-----	6	0,2	
-----			AAAGCUGG
GUUGAGAGGG-----	10	1,-3	
-----			AAAGCUGG
GUUGAGAGGGC-----	17	1,-2	
-----			AAAGCUGG
GUUGAGAGGGCA-----	2	1,-1	
-----			AAAGCUGG
GUUGAGAGGGCAA-----	8	1,0	
-----			AAGCUGG
GUUGAGAGGGC-----	7	2,-2	

>hsa-mir-320c-1 3p:50-69 SRX018965

uuugcauuaaaaaugaggccuucucuuccaguucuuuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg

.((((((((.....((((((((.....((((((((.....))))).)))))))).)))))))).

-----			GAAAAGCUGGGUUGAGAGGG-----
-----	3	-1,-1	
-----			AAAAGCUGGGUUGAGAGG-----
-----	119	0,-2	
-----			AAAAGCUGGGUUGAGAGGuu-----
-----	3	0,-2	
-----			AAAAGCUGGGUUGAGAGGG-----
-----	59	0,-1	
-----			AAAAGCUGGGUUGAGAGGGa-----
-----	12	0,-1	
-----			AAAAGCUGGGUUGAGAGGGaa-----

```

-----      4      0,-1
-----
-----      2      0,0
-----
-----      2      0,1
-----
-----      4      0,1
-----
-----     10      1,-1
-----

```

>hsa-mir-320c-2 3p:31-50 SRX018965

```

cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU
(((((((..(((((((.((((((.....)))))).))))))..))))))..
-----GAAAAGCUGGGUUGAGAGGG-   3   -1,-1
-----AAAAGCUGGGUUGAGAGG--  119  0,-2
-----AAAAGCUGGGUUGAGAGGuu   3    0,-2
-----AAAAGCUGGGUUGAGAGGG-   59   0,-1
-----AAAAGCUGGGUUGAGAGGGa   12   0,-1
-----AAAAGCUGGGUUGAGAGGGaa  4    0,-1
-----AAAAGCUGGGUUGAGAGGGU   2    0,0
-----AAAGCUGGGUUGAGAGGG-   10   1,-1

```

>hsa-mir-320d-1 3p:30-48 SRX018965

```

uucucguccaguucuccaaaguugagAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.((((((.....)))))).))))))..))))))..
-----AAAAGCUGGGUUGAGAGG-   119  0,-1
-----AAAAGCUGGGUUGAGAGGuu   3    0,-1
-----AAAAGCUGGGUUGAGAGGAa   3    0,0

```

>hsa-mir-320d-2 3p:30-48 SRX018965

```

uucucuuccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.((((((.....)))))).))))))..))))))..
-----AAAAGCUGGGUUGAGAGG-   119  0,-1
-----AAAAGCUGGGUUGAGAGGuu   3    0,-1
-----AAAAGCUGGGUUGAGAGGAa   3    0,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018965

```

uugguacuuggagagAGGUUGUCCGUGGCGGUUCGCuuuauuuauuggcgCACAUUACACGGUCGACCUCUuugcaguau

```

$$\begin{aligned} & \dots(((((((\dots(((((\dots))))))\dots)))\dots))\dots) \\ &)\dots \end{aligned}$$

-----			AGGUGGUCCGUGGCGCGU-----
-----	2	0,-4	
-----			AGGUGGUCCGUGGCGCGUUC-----
-----	3	0,-2	
-----			AGGUGGUCCGUGGCGCGUUCG-----
-----	23	0,-1	
-----			AGGUGGUCCGUGGCGCGUUCGa-----
-----	3	0,-1	
-----			AGGUGGUCCGUGGCGCGUUCGuu-----
-----	2	0,-1	
-----			AGGUGGUCCGUGGCGCGUUCGC-----
-----	3	0,0	
-----			CGCACAUUACACGGUCGACCU-----
-----	3	-2,-2	
-----			GCACAUUACACGGUCGAC-----
-----	31	-1,-4	
-----			GCACAUUACACGGUCGACC-----
-----	57	-1,-3	
-----			GCACAUUACACGGUCGACCU-----
-----	268	-1,-2	
-----			GCACAUUACACGGUCGACCUC-----
-----	80	-1,-1	
-----			GCACAUUACACGGUCGACCUCU-----
-----	20	-1,0	
-----			CACAUUACACGGUCGACC-----
-----	746	0,-3	
-----			CACAUUACACGGUCGACC _a -----
-----	2	0,-3	
-----			CACAUUACACGGUCGACCU-----
-----	6611	0,-2	
-----			CACAUUACACGGUCGACCUC-----
-----	735	0,-1	
-----			CACAUUACACGGUCGACCUC _a -----
-----	33	0,-1	
-----			CACAUUACACGGUCGACCUC _{aa} -----


```

----- 2 0,-1
-----CACAUUACACGGUCGACCUCau-----
----- 2 0,-1
-----CACAUUACACGGUCGACCUCU-----
----- 374 0,0
-----CACAUUACACGGUCGACCUCUa-----
----- 36 0,0
-----CACAUUACACGGUCGACCUCUaa-----
----- 21 0,0
-----CACAUUACACGGUCGACCUCUau-----
----- 29 0,0
-----CACAUUACACGGUCGACCUCUU-----
----- 13 0,1
-----ACAUUACACGGUCGACCU-----
----- 82 1,-2
-----ACAUUACACGGUCGACCUC-----
----- 15 1,-1
-----ACAUUACACGGUCGACCUCU-----
----- 11 1,0

```

>hsa-mir-323b 5p:15-37;3p:51-72 SRX018965

```

ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuauuuuaugaugCCCAAUACACGGUCGACCUCUUuucgguauc
a

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).

```

```

-----CCCCAAUACACGGUCGACC-----
-- 176 0,-4
-----CCCCAAUACACGGUCGACCU-----
-- 1845 0,-3
-----CCCCAAUACACGGUCGACCUC-----
-- 138 0,-2
-----CCCCAAUACACGGUCGACCUCU-----
-- 77 0,-1
-----CCCCAAUACACGGUCGACCUCUU-----
-- 2 0,0
-----CCAAUACACGGUCGACCU-----
-- 34 1,-3
-----CAAUACACGGUCGACCUCU-----

```

```
>hsa-mir-324      5p:16-38;3p:53-72    SRX018965
cugacuaugccuccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagacctACUGCCCCAGGUGCUCUGGggguugna
guc
..(((((((...(((((.((((.((((.((((.((((.(.....)))))).)))).).))).)))
)))
-----CGCAUCCCCUAGGGCAUUG-----
--- 21   0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 12   0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 43   0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 22   0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 123  0,0
-----CGCAUCCCCUAGGGCAUUGGUGUu-----
--- 4     0,0
-----CGCAUCCCCUAGGGCAUUGGUGUA-----
--- 5     0,1
-----CGCAUCCCCUAGGGCAUUGGUGUAu-----
--- 2     0,1
-----GCAUCCCCUAGGGCAUUGG-----
--- 3     1,-3
-----GCAUCCCCUAGGGCAUUGGU-----
--- 2     1,-2
-----CCACUGCCCCAGGUGCUCGU-----
--- 7     -2,-2
-----CCACUGCCCCAGGUGCUCGu_a-----
--- 3     -2,-2
-----CCACUGCCCCAGGUGCUCUG-----
--- 24    -2,-1
-----CCACUGCCCCAGGUGCUCUGU-----
--- 3     -2,-1
-----CACUGCCCCAGGUGCUCUG-----
--- 3     -1,-1
-----ACUGCCCCAGGUGCUCGU-----
```

```

--- 4    0,-2
-----ACUGCCCCAGGUGCUGCUG-----
--- 17   0,-1
-----ACUGCCCCAGGUGCUGCUGu-----
--- 4    0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 15   0,0

```

>hsa-mir-326 3p:60-79 SRX018965

```

cucaucugucuguugggcuggaggcagggccuugugaaggcggguggugcucagaucgCCUCUGGGCCCUUCCUCCAGc
cccgaggcggaauca

```

```

...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))))))))))...

```

```

-----CCUCUGGGCCCUUCCUCCAG-
----- 4    0,0
-----CCUCUGGGCCCUUCCUCCAGa
----- 2    0,0
-----CCUCUGGGCCCUUCCUCCAGa
a----- 3    0,0
-----CCUCUGGGCCCUUCCUCCAGu
----- 2    0,0

```

>hsa-mir-328 3p:48-69 SRX018965

```

uggagugggggggcaggaggggcucagggagaaagugcauacagcccCUGGCCCUCUCUGCCCUUCCGUccccug

```

```

..(((..((((((((((((..((((..((((..(((..(((..(((..(((..(((..(((..(((..(((..(((..
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..)))...

```

```

-----CUGGCCCUCUCUGCCCUUCCGU----- 4
0,0
-----CUGGCCCUCUCUGCCCUUCCGUu----- 3
0,0

```

>hsa-mir-329-1 3p:50-71 SRX018965

```

gguaccugaagagagguuuucuggguuucuguuucuuuaaugaggacgaAACACACCUGGUUAACCUUUUuccaguauc
((((..((((((((((((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..)))...

```

```

-----AGAGGUUUUCUGGGUUUCUGUUU-----
2
-----AGAGGUUUUCUGGGUUUCUGUUUC-----
12
-----AACACACCUGGUUAACCU-----

```

23	0,-4	-----AACACACCUGGUUAACCUC-----
56	0,-3	-----AACACACCUGGUUAACCUCU-----
52	0,-2	-----AACACACCUGGUUAACCUCUa-----
14	0,-2	-----AACACACCUGGUUAACCUCUaa-----
11	0,-2	-----AACACACCUGGUUAACCUCUau-----
12	0,-2	-----AACACACCUGGUUAACCUCUU-----
40	0,-1	-----AACACACCUGGUUAACCUCUa-----
12	0,-1	-----AACACACCUGGUUAACCUCUU-----
9	0,0	-----ACACACCUGGUUAACCUC-----
5	1,-3	-----ACACACCUGGUUAACCUCU-----
2	1,-2	-----ACACACCUGGUUAACCUCUaa-----
2	1,-2	-----ACACACCUGGUUAACCUCUa-----
2	1,-1	-----ACACACCUGGUUAACCUCUaa-----
8	1,-1	-----ACACACCUGGUUAACCUCUau-----
3	1,-1	

>hsa-mir-329-2 3p:52-73 SRX018965

gugguaccugaagagagguuuucuggguuucuguuucuuuauugaggacgaAACACACCUGGUUAACCUCUUUuccagua
ucaa

.(((((((.....)))))))).

-----	AGAGGUUUUCUGGGUUUCUGUUU	-----
----	2	
-----	AGAGGUUUUCUGGGUUUCUGUUU	-----

```

----- 12
-----AACACACCUGGUUAACCU-----
----- 23 0,-4
-----AACACACCUGGUUAACCUC-----
----- 56 0,-3
-----AACACACCUGGUUAACCUCU-----
----- 52 0,-2
-----AACACACCUGGUUAACCUCUa-----
----- 14 0,-2
-----AACACACCUGGUUAACCUCUaa-----
----- 11 0,-2
-----AACACACCUGGUUAACCUCUau-----
----- 12 0,-2
-----AACACACCUGGUUAACCUCUU-----
----- 40 0,-1
-----AACACACCUGGUUAACCUCUUa-----
----- 12 0,-1
-----AACACACCUGGUUAACCUCUUU-----
----- 9 0,0
-----ACACACCUGGUUAACCUC-----
----- 5 1,-3
-----ACACACCUGGUUAACCUCU-----
----- 2 1,-2
-----ACACACCUGGUUAACCUCUaa-----
----- 2 1,-2
-----ACACACCUGGUUAACCUCUUa-----
----- 2 1,-1
-----ACACACCUGGUUAACCUCUUaa-----
----- 8 1,-1
-----ACACACCUGGUUAACCUCUUau-----
----- 3 1,-1

```

>hsa-mir-330 5p:18-39;3p:57-79 SRX018965

cuuuggcgaucaugccUCUCUGGGCCUGUGUCUUAGGCucugcaagaaucaaccgaGCAAAGCACACGGCCUGCAGAGag
gcagcgucugccc

```

....(((((((((.....))))).))))).))))).))))).
))))).))))).

```

```

-----GCAAAGCACACGGCCUGC-----

```

```

----- 2 0,-5
-----GCAAAGCACACGGCCUGCA-----
----- 3 0,-4
-----GCAAAGCACACGGCCUGCAGA---
----- 3 0,-2
-----GCAAAGCACACGGCCUGCAGAG--
----- 5 0,-1
-----GCAAAGCACACGGCCUGCAGAGA-
----- 17 0,0
-----GCAAAGCACACGGCCUGCAGAGAG
----- 5 0,1
-----CAAAGCACACGGCCUGCAG----
----- 2 1,-3
-----CAAAGCACACGGCCUGCAGAG--
----- 4 1,-1
-----CAAAGCACACGGCCUGCAGAGA-
----- 17 1,0
-----CAAAGCACACGGCCUGCAGAGAG
----- 25 1,1
-----CAAAGCACACGGCCUGCAGAGAG
u----- 9 1,1
-----CAAAGCACACGGCCUGCAGAGAG
G----- 3 1,2
-----CAAAGCACACGGCCUGCAGAGAG
Gu----- 5 1,2
-----AAAGCACACGGCCUGCAGAGA-
----- 6 2,0
-----AAAGCACACGGCCUGCAGAGAG
----- 4 2,1
-----AAAGCACACGGCCUGCAGAGAG
u----- 2 2,1

```

>hsa-mir-331 5p:26-47;3p:61-81 SRX018965

```

gaguuuugguuuuuguuuggguuuuguuCUAGGUAUGGUCCCAGGGAUCCcagaucaaaccagGCCCCUGGGCCUAUCCUAGA
Accaaccuaagcuc
.....((((((((((.((((((((((.(((.((((((((((.((((((((((.((((((((((.((((((((((.((((((((((.
)))..))))))))))..
-----GCCCCUGGGCCUAUCCUA--

```

```

----- 6 0,-3
-----GCCCCUGGGCCUAUCCUAG-
----- 10 0,-2
-----GCCCCUGGGCCUAUCCUAGA
----- 47 0,-1
-----GCCCCUGGGCCUAUCCUAGA
A----- 110 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aa----- 14 0,0
-----GCCCCUGGGCCUAUCCUAGA
Au----- 15 0,0
-----CCCCUGGGCCUAUCCUAGA
A----- 3 1,0

```

>hsa-mir-335 MA:16-38;mi:52-73 SRX018965

```

uguuuugagcgggggUCAAGAGCAUAACGAAAAAUGUuugucauaaacgUUUUUCAUUAUUGCUCUCCUGACCuccucuc
auuugcuauauuca

```

```

.((..(((.(((((((.(((((((.(((((((.(.....)).)))))))).)))))))).)))))))).)))
)...)).....

```

```

-----UCAAGAGCAUAACGAAA-----
----- 5 0,-5
-----UCAAGAGCAUAACGAAAA-----
----- 3 0,-4
-----UCAAGAGCAUAACGAAAAAU-----
----- 31 0,-2
-----UCAAGAGCAUAACGAAAAAUG-----
----- 177 0,-1
-----UCAAGAGCAUAACGAAAAAUGU-----
----- 57 0,0
-----AAGAGCAUAACGAAAAAUG-----
----- 4 2,-1
-----GUUUUUCAUUAUUGCUCUCCUGACC-----
----- 2 -1,0
-----UUUUUCAUUAUUGCUCUCCU-----
----- 7 0,-4
-----UUUUUCAUUAUUGCUCUCCUG-----
----- 3 0,-3
-----UUUUUCAUUAUUGCUCUCCUGA-----

```

```

----- 2 0,-2
-----UUUUUCAUUAUUGCUCUGAC-----
----- 5 0,-1
-----UUUUUCAUUAUUGCUCUGACa-----
----- 4 0,-1
-----UUUUUCAUUAUUGCUCUGACu-----
----- 2 0,-1
-----UUUUUCAUUAUUGCUCUGACC-----
----- 23 0,0
-----UUUUUCAUUAUUGCUCUGACCa-----
----- 2 0,0

```

>hsa-mir-337 5p:23-43;3p:61-82 SRX018965

guagucaguaguugggggggGAACGGCUUCAUACAGGAGUUGaugcacaguuauccagCUCCUAUAUGAUGCCUUUCU
UCaucccccuaa

```

.....(((((.....)))))).....
)))))))).

```

```

-----GAACGGCUUCAUACAGGA-----
----- 55 0,-3
-----GAACGGCUUCAUACAGGAG-----
----- 18 0,-2
-----GAACGGCUUCAUACAGGAGU-----
----- 8 0,-1
-----GAACGGCUUCAUACAGGAGUaa-----
----- 4 0,-1
-----GAACGGCUUCAUACAGGAGUU-----
----- 8 0,0
-----GAACGGCUUCAUACAGGAGUUa-----
----- 12 0,0
-----GAACGGCUUCAUACAGGAGUUaa-----
----- 11 0,0
-----GAACGGCUUCAUACAGGAGUUau-----
----- 3 0,0
-----GAACGGCUUCAUACAGGAGUUu-----
----- 2 0,0
-----AACGGCUUCAUACAGGAG-----
----- 7 1,-2
-----AACGGCUUCAUACAGGAGUU-----

```



```

-----UCCCUGUCCUCCAGGAGCUCA-----
----- 101 0,-2
-----UCCCUGUCCUCCAGGAGCUCAa-----
----- 8 0,-2
-----UCCCUGUCCUCCAGGAGCUCAaa-----
----- 4 0,-2
-----UCCCUGUCCUCCAGGAGCUCAau-----
----- 2 0,-2
-----UCCCUGUCCUCCAGGAGCUCAu-----
----- 30 0,-2
-----UCCCUGUCCUCCAGGAGCUCAuu-----
----- 37 0,-2
-----UCCCUGUCCUCCAGGAGCUCAC-----
----- 56 0,-1
-----UCCCUGUCCUCCAGGAGCUCACa-----
----- 17 0,-1
-----UCCCUGUCCUCCAGGAGCUCACaa-----
----- 2 0,-1
-----UCCCUGUCCUCCAGGAGCUCACau-----
----- 2 0,-1
-----UCCCUGUCCUCCAGGAGCUCACu-----
----- 12 0,-1
-----UCCCUGUCCUCCAGGAGCUCACuu-----
----- 3 0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 140 0,0
-----UCCCUGUCCUCCAGGAGCUCACGa-----
----- 20 0,0
-----UCCCUGUCCUCCAGGAGCUCACGau-----
----- 3 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 54 0,1
-----UCCCUGUCCUCCAGGAGCUCACGUa-----
----- 4 0,1
-----UCCCUGUCCUCCAGGAGCUCACGUu-----
----- 6 0,1
-----CCUGUCCUCCAGGAGCUC-----
----- 2 2,-3

```

```

-----CCUGUCCUCCAGGAGCUCA-----
----- 8 2,-2
-----CCUGUCCUCCAGGAGCUCAC-----
----- 13 2,-1
-----CCUGUCCUCCAGGAGCUCACu-----
----- 2 2,-1
-----CCUGUCCUCCAGGAGCUCACG-----
----- 51 2,0
-----CCUGUCCUCCAGGAGCUCACGa-----
----- 3 2,0
-----CCUGUCCUCCAGGAGCUCACGU-----
----- 16 2,1
-----CCUGUCCUCCAGGAGCUCACGUa-----
----- 3 2,1
-----UGAGCGCCUCGACGACAG-----
----- 49 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 81 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 173 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 72 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 2 0,-2
-----UGAGCGCCUCGACGACAGAGCu-----
----- 13 0,-2
-----UGAGCGCCUCGACGACAGAGCC-----
----- 92 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 124 0,-1
-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 10 0,-1
-----UGAGCGCCUCGACGACAGAGCCau-----
----- 42 0,-1
-----UGAGCGCCUCGACGACAGAGCCu-----
----- 43 0,-1
-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 16 0,-1

```

```

-----UGAGCGCCUCGACGACAGAGCCG-----
----- 151 0,0
-----UGAGCGCCUCGACGACAGAGCCGa-----
----- 14 0,0
-----UGAGCGCCUCGACGACAGAGCCGaa-----
----- 3 0,0
-----UGAGCGCCUCGACGACAGAGCCGau-----
----- 3 0,0
-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 16 0,0
-----UGAGCGCCUCGACGACAGAGCCGuu-----
----- 6 0,0
-----GAGCGCCUCGACGACAGA-----
----- 7 1,-4
-----GAGCGCCUCGACGACAGAG-----
----- 9 1,-3
-----AGCGCCUCGACGACAGAG-----
----- 126 2,-3
-----AGCGCCUCGACGACAGAGC-----
----- 9 2,-2
-----AGCGCCUCGACGACAGAGCC-----
----- 9 2,-1
-----AGCGCCUCGACGACAGAGCCG-----
----- 27 2,0
-----AGCGCCUCGACGACAGAGCCGa-----
----- 6 2,0
-----AGCGCCUCGACGACAGAGCCGG-----
----- 3 2,1
-----AGCGCCUCGACGACAGAGCCGGu-----
----- 2 2,1

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018965

```

cugugGUGCAUUGUAGUUGCAUUGCAUgucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((..((((((((((.....((((.....))))))))))..)).))))))))))))))
-----GUGCAUUGUAGUUGCAUU----- 897 0,-3
-----GUGCAUUGUAGUUGCAUUu----- 2 0,-3
-----GUGCAUUGUAGUUGCAUUG----- 23 0,-2
-----GUGCAUUGUAGUUGCAUUGa----- 6 0,-2

```

```

-----GUGCAUUGUAGUUGCAUUGC----- 193 0,-1
-----GUGCAUUGUAGUUGCAUUGCu----- 2 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 178 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 133 0,0
-----GUGCAUUGUAGUUGCAUUGCAaa----- 5 0,0
-----GUGCAUUGUAGUUGCAUUGCAU----- 5 0,1
-----CAAUGUUUCCACAGUGCAU----- 3 0,-3
-----CAAUGUUUCCACAGUGCAUC----- 2 0,-2

```

>hsa-mir-33b MA:16-35;mi:54-75 SRX018965

gcgggcgggcccccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcgggugCAGUGCCUCGGCAGUGCAGCCCggagc
cggccccuggcaccac

(((((((((.(((.((((((((((((((.(((((((((.(((.....))).)))))))))).)))))))))).)))))).))
(.))))).)))).))....

```

-----GUGCAUUGCUGUUGCAUU-----
----- 90 0,-2
-----GUGCAUUGCUGUUGCAUUG-----
----- 21 0,-1
-----GUGCAUUGCUGUUGCAUUGCA-----
----- 4 0,1
-----GUGCAUUGCUGUUGCAUUGCAa-----
----- 6 0,1

```

>hsa-mir-340 MA:16-37;mi:58-79 SRX018965

uuguaccuggugugaUUAUAAAGCAAUGAGACUGAUUgucauaugucguuugugggaUCCGUCUCAGUUACUUUAUAGCc
auaccugguaucuaa

..(((((((.(((((((.((((((((((((((.(((((((((.(((.....)))))))))).)))))))))).)))))).))
(.))))).)))).))....

```

-----UUAUAAAGCAAUGAGACU-----
----- 10 0,-4
-----UUAUAAAGCAAUGAGACUGA-----
----- 2 0,-2
-----UUAUAAAGCAAUGAGACUGAaa-----
----- 2 0,-2
-----UUAUAAAGCAAUGAGACUGAU-----
----- 3 0,-1
-----UUAUAAAGCAAUGAGACUGAUa-----
----- 2 0,-1

```

[illegible]

```

-----UCUCACACAGAAAUCGCACC
CGUa----- 16  0,0
-----UCUCACACAGAAAUCGCACC
CGUaa----- 10  0,0
-----UCUCACACAGAAAUCGCACC
CGUau----- 5   0,0
-----UCUCACACAGAAAUCGCACC
CGUu----- 9   0,0
-----UCUCACACAGAAAUCGCACC
CGUuu----- 2   0,0
-----UCUCACACAGAAAUCGCACC
CGUC----- 234 0,1
-----UCUCACACAGAAAUCGCACC
CGUCu----- 60  0,1
-----UCUCACACAGAAAUCGCACC
CGUCA----- 71  0,2
-----UCACACAGAAAUCGCACC
CG----- 3   2,-1
-----UCACACAGAAAUCGCACC
CGU----- 7   2,0
-----UCACACAGAAAUCGCACC
CGUaa----- 3   2,0
-----UCACACAGAAAUCGCACC
CGUC----- 12  2,1
-----UCACACAGAAAUCGCACC
CGUCu----- 4   2,1
-----UCACACAGAAAUCGCACC
CGUCA----- 62  2,2
-----UCACACAGAAAUCGCACC
CGUCAa----- 4   2,2
-----UCACACAGAAAUCGCACC
CGUCAau----- 2   2,2
-----UCACACAGAAAUCGCACC
CGUCAu----- 3   2,2

```

>hsa-mir-345 5p:18-39 SRX018965

acccaaacccuaggucUGCUGACUCCUAGUCCAGGGCUCgugauggcugguggggcccugaacgaggggucuggaggccug
 gguuugaauaucgacagc

...(((((((.((((((.(.(((((((.(.(((((((((((.(....).).)))))))).).).)))))).).).))))))
)))))).....

-----GCUGACUCCUAGUCCAGG-----
----- 108 0,-4
-----GCUGACUCCUAGUCCAGGG-----
----- 46 0,-3
-----GCUGACUCCUAGUCCAGGGC-----
----- 47 0,-2
-----GCUGACUCCUAGUCCAGGGCa-----
----- 8 0,-2
-----GCUGACUCCUAGUCCAGGGCaa-----
----- 14 0,-2
-----GCUGACUCCUAGUCCAGGGCau-----
----- 4 0,-2
-----GCUGACUCCUAGUCCAGGGCU-----
----- 170 0,-1
-----GCUGACUCCUAGUCCAGGGCUa-----
----- 72 0,-1
-----GCUGACUCCUAGUCCAGGGCUaa-----
----- 42 0,-1
-----GCUGACUCCUAGUCCAGGGCUau-----
----- 72 0,-1
-----GCUGACUCCUAGUCCAGGGCUu-----
----- 31 0,-1
-----GCUGACUCCUAGUCCAGGGCUuu-----
----- 9 0,-1
-----GCUGACUCCUAGUCCAGGGCUC-----
----- 125 0,0
-----GCUGACUCCUAGUCCAGGGCUCa-----
----- 19 0,0
-----GCUGACUCCUAGUCCAGGGCUCaa-----
----- 12 0,0
-----GCUGACUCCUAGUCCAGGGCUCau-----
----- 44 0,0
-----GCUGACUCCUAGUCCAGGGCUCu-----
----- 8 0,0
-----GCUGACUCCUAGUCCAGGGCUCuu-----
----- 15 0,0

-----GCUGACUCCUAGUCCAGGGCUCGa-----
----- 4 0,1
-----GCUGACUCCUAGUCCAGGGCUCGU-----
----- 2 0,2
-----GCCUGAACGAGGGGUCUG-----
----- 2
-----GCCUGAACGAGGGGUCUGGAG-----
----- 5
-----GCCUGAACGAGGGGUCUGGAGu-----
----- 3

>hsa-mi r-34a MA:22-43;mi :64-85 SRX018965

ggccagcugugaguguuuuuUGGCAGUGUCUUAGCUGGUUGUugugagcaauaguaaggaagCAAUCAGCAAGUAUACU
GCCCUagaagugcugcacguugggggccc

$$(((.(((((((..((((..((((((((((..((((((((((....((....))....)))))))))))))))).))))))$$

-----UGGCAGUGUCUUAGCUGGUU-----

----- 3 0,-2

-----UGGCAGUGUCUUAGCUGGUUG-----

----- 4 0,-1

-----UGGCAGUGUCUUAGCUGGUUGa-----

----- 3 0,-1

-----UGGCAGUGUCUUAGCUGGUUGU-----

----- 13 0,0

-----UGGCAGUGUCUUAGCUGGUUGUa-----

----- 4 0,0

-----UGGCAGUGUCUUAGCUGGUUGUU-----

----- 5 0,1

-----UGGCAGUGUCUUAGCUGGUUGUUuu-----

$$----- \quad 2 \quad 0,1$$

-----GGCAGUGUCUUAGCUGGUUGU-----

----- 2 1,0

-----CAAUCAGCAAGUAUACU

CCCCU----- 10 0,0

-----CAAUCAGCAAGUAUACU

CCCCUu----- 4 0,0

-----CAAUCAGCAAGUAUACU

GCCCUA----- 12 0,1

```

-----CAAUCAGCAAGUAUACU
GCCCCAu----- 4 0,1
-----AAUCAGCAAGUAUACU
GCCCCU----- 8 1,0
-----AAUCAGCAAGUAUACU
GCCCCA----- 40 1,1
-----AAUCAGCAAGUAUACU
GCCCCAa----- 2 1,1
-----AAUCAGCAAGUAUACU
GCCCCAu----- 3 1,1

```

```

>hsa-mir-34b    mi:13-35;MA:50-71    SRX018965
gugcucgguuugUAGGCAGUGUCAUUAGCUGAUUGuacuguggugguuaCAAUCACUAACUCCACUGCCAUcaaaacaag
gcac
(((((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))))))
))))
-----UAGGCAGUGUCAUUAGCU-----
---- 2 0,-5

```

```

>hsa-mir-34c    5p:13-35;3p:46-67    SRX018965
agucuaguuaacuAGGCAGUGUAGUUAGCUGAUUGCuaauaguaccAAUCACUAACCACACGCCAGGUaaaaagauu
(((((((((...(((((((...(((((((...))))))))))))))))))))))))))))))))))))))
-----AGGCAGUGUAGUUAGCUGA-----
2 0,-4
-----AGGCAGUGUAGUUAGCUGAUUGC-----
12 0,0

```

```

>hsa-mir-3605    5p:22-44;3p:66-88    SRX018965
acuuuauacguguaauugugaUGAGGAUGGAUAGCAAGGAAGCCgcucccaccugaccucacggCCUCCGUGUUACCUG
UCCUCUAGgugggacgcucg
.....((((.....(((((((...(((((((...))))))))))))))))))))))))))))))))))
)))))).....)))))...
-----GAUGAGGAUGGAUAGCAAGG-----
----- 3 -2,-5
-----GAUGAGGAUGGAUAGCAAGGA-----
----- 3 -2,-4
-----GAUGAGGAUGGAUAGCAAGGAA-----
----- 2 -2,-3

```


-----UUAUCAGAAUCCAGGGGUAC-----	513
0,0	
-----UUAUCAGAAUCCAGGGGUACa-----	108
0,0	
-----UUAUCAGAAUCCAGGGGUACaa-----	6
0,0	
-----UUAUCAGAAUCCAGGGGUACau-----	6
0,0	
-----UUAUCAGAAUCCAGGGGUACU-----	25
0,1	
-----UAUCAGAAUCCAGGGGUAAu-----	2
1,-1	
-----UAUCAGAAUCCAGGGGUAAuu-----	3
1,-1	
-----UAUCAGAAUCCAGGGGUAC-----	4
1,0	
-----UCCCCAGGUGUGAUUCUGA-----	2
0,-3	
-----UCCCCAGGUGUGAUUCUGAUU-----	6
0,-1	
-----UCCCCAGGUGUGAUUCUGAUUU-----	6
0,0	
-----CCCCAGGUGUGAUUCUGAUUUUG----	2
1,1	
-----CCCCAGGUGUGAUUCUGAUUUUGu---	3
1,1	
-----CCCCAGGUGUGAUUCUGAUUUUGC---	8
1,2	
 >hsa-mir-3610 3p:42-61 SRX018965	
aagagccgcggcguaacggcagccaucuuguuuuguuugaguGAAUCGGAAAGGAGGCGCCGgcuguggcggcg	
....(((((((((.....((((((.....)))))).))))))))).))))).))))).	
-----GUGAAUCGGAAAGGAGGCG-----	2
-2,-3	
-----AUCGGAAAGGAGGCGCCGG-----	2
2,1	

>hsa-mir-3613 5p:16-37;3p:53-76 SRX018965

[illegible]

>hsa-mi r-3615 3p:51-71 SRX018965

>hsa-mi r-362 5p:5-28;3p:42-63 SRX018965

.((((((((((((((((((...(((((((((.((...))..)).)))))))))))))))))))))).

---AAUCCUUGGAACCUAGGUGa-----	2	0,-5
---AAUCCUUGGAACCUAGGUGUG-----	9	0,-3
---AAUCCUUGGAACCUAGGUGUGA-----	8	0,-2
---AAUCCUUGGAACCUAGGUGUGAG-----	8	0,-1

```

----AAUCCUUGGAACCUAGGUGUGAGU----- 20 0,0
-----AACACACCUAUUCAAGGAUU---- 2 0,-2
-----AACACACCUAUUCAAGGAUUC--- 7 0,-1
-----AACACACCUAUUCAAGGAUUCA-- 22 0,0
-----AACACACCUAUUCAAGGAUUCAA- 2 0,1

```

>hsa-mir-363 mi:7-28;MA:50-71 SRX018965

uguuguCGGGUGGAUCACGAUGCAAUUUgugaugagaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaacc

.((((..((((((((((..((.((((((((((.((((.....))).....))))))))))..)))))))).

```

-----AAUUGCACGGUAUCCAUC----- 644
0,-4
-----AAUUGCACGGUAUCCAUCa----- 2
0,-4
-----AAUUGCACGGUAUCCAUCU----- 4594
0,-3
-----AAUUGCACGGUAUCCAUCUa----- 4
0,-3
-----AAUUGCACGGUAUCCAUCUu----- 7
0,-3
-----AAUUGCACGGUAUCCAUCUuu----- 14
0,-3
-----AAUUGCACGGUAUCCAUCUG----- 555
0,-2
-----AAUUGCACGGUAUCCAUCUGa----- 4
0,-2
-----AAUUGCACGGUAUCCAUCUGaa----- 6
0,-2
-----AAUUGCACGGUAUCCAUCUGU----- 3140
0,-1
-----AAUUGCACGGUAUCCAUCUGUu----- 73
0,-1
-----AAUUGCACGGUAUCCAUCUGUuu----- 75
0,-1
-----AAUUGCACGGUAUCCAUCUGUA----- 5989
0,0
-----AAUUGCACGGUAUCCAUCUGUAu----- 848
0,0
-----AAUUGCACGGUAUCCAUCUGUAuu----- 58

```

0,0	-----AAUUGCACGGUAUCCAUCUGUAA---	2122
0,1	-----AAUUGCACGGUAUCCAUCUGUAAu--	29
0,1	-----AAUUGCACGGUAUCCAUCUGUAAA--	33
0,2	-----AUUGCACGGUAUCCAUCU-----	649
1,-3	-----AUUGCACGGUAUCCAUCUG-----	94
1,-2	-----AUUGCACGGUAUCCAUCUGU-----	394
1,-1	-----AUUGCACGGUAUCCAUCUGUu----	8
1,-1	-----AUUGCACGGUAUCCAUCUGUuu---	22
1,-1	-----AUUGCACGGUAUCCAUCUGUA----	788
1,0	-----AUUGCACGGUAUCCAUCUGUAu---	239
1,0	-----AUUGCACGGUAUCCAUCUGUAuu--	241
1,0	-----AUUGCACGGUAUCCAUCUGUAA---	355
1,1	-----AUUGCACGGUAUCCAUCUGUAAu--	5
1,1	-----AUUGCACGGUAUCCAUCUGUAAA--	11
1,2	-----UUGCACGGUAUCCAUCUGUA----	3
2,0	-----UUGCACGGUAUCCAUCUGUAu---	3
2,0	-----UUGCACGGUAUCCAUCUGUAuu--	2
2,0		

>hsa-mir-3647 5p:15-37;3p:62-84 SRX018965

uugcuuucaucagcCUGAAGUGAUGAUUCACAUUCAUgucucuucucugauaaauucuugaAGAAAAUUUUUGUGUGUCU

$$\begin{aligned} & .(((((((\dots(((((((\dots\dots(((.((((\dots\dots\dots((((((\dots((\dots\dots))\dots))))\dots\dots\dots))))).))). \\ & \dots\dots\dots))))). \end{aligned}$$

>hsa-mi r-3648 5p:28-48 SRX018965

>hsa-mi r-365-1 3p:56-77 SRX018965

-----UGAGGGACUUUUGGGGGCAGAUGU-----
----- 4 -----
-----GAGGGACUUUUGGGGGCAGAUGU-----
----- 2 -----
-----AGGGACUUUUGGGGGCAG-----
----- 6 -----
-----AGGGACUUUUGGGGGCAGA-----
----- 2 -----
-----AGGGACUUUUGGGGGCAGAU-----
----- 6 -----
-----AGGGACUUUUGGGGGCAGAUG-----
----- 10 -----
-----AGGGACUUUUGGGGGCAGAUGa-----
----- 2 -----
-----AGGGACUUUUGGGGGCAGAUGU-----
----- 46 -----
-----AGGGACUUUUGGGGGCAGAUGUa-----
----- 3 -----
-----AGGGACUUUUGGGGGCAGAUGUu-----


```

----- 3   -1,-2
-----GAGGGACUUUCAGGGGCAGCUG-----
----- 17  -1,-1
-----GAGGGACUUUCAGGGGCAGCUGU-----
----- 41  -1,0
-----GAGGGACUUUCAGGGGCAGCUGUu-----
----- 2   -1,0
-----GAGGGACUUUCAGGGGCAGCUGUG-----
----- 2   -1,1
-----AGGGACUUUCAGGGGCAG-----
----- 3   0,-4
-----AGGGACUUUCAGGGGCAGC-----
----- 7   0,-3
-----AGGGACUUUCAGGGGCAGCU-----
----- 53  0,-2
-----AGGGACUUUCAGGGGCAGCUG-----
----- 17  0,-1
-----AGGGACUUUCAGGGGCAGCUGU-----
----- 44  0,0
-----AGGGACUUUCAGGGGCAGCUGUa-----
----- 3   0,0
-----AGGGACUUUCAGGGGCAGCUGUaa-----
----- 2   0,0
-----AGGGACUUUCAGGGGCAGCUGUu-----
----- 5   0,0
-----AGGGACUUUCAGGGGCAGCUGUG-----
----- 202 0,1
-----AGGGACUUUCAGGGGCAGCUGUGa-----
----- 4   0,1
-----AGGGACUUUCAGGGGCAGCUGUGU-----
----- 30  0,2
-----AGGGACUUUCAGGGGCAGCUGUGUU-----
----- 5   0,3
-----GGGACUUUCAGGGGCAGCU-----
----- 4   1,-2
-----UAAUGCCCCUAAA
AAUCC----- 2   0,-4
-----UAAUGCCCCUAAA

```

AAUCCUU-----	9	0,-2	
-----			UAAUGCCCCUAAA
AAUCCUUA-----	14	0,-1	
-----			UAAUGCCCCUAAA
AAUCCUUAU-----	49	0,0	

```

>hsa-mir-3661    5p:21-42    SRX018965
caccuucucgcagaggcucuUGACCUGGGACUCGGACAGCUGcuugcacucguucagcugcucgauccacugguccagcu
ccuuggugaacaccuu
.....(((((((((.....(((((((((.....(((((((((.....(((((((((.....(((((((((.....
))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----UGACCUGGGACUCGGACAGCUG-----
-----5    0,0

```

```

>hsa-mir-3664    5p:21-42    SRX018965
cuguaaacuugaagguagggAACUCUGUCUUCACUCAUGAGUaccuuccaacacgagcucucaggaguaaagacagaguu
cccuaccuucuauguggau
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUCAGGAGUAAAGACAG-----
----- 2 -----
-----UCUCAGGAGUAAAGACAGA-----
----- 8 -----
-----UCUCAGGAGUAAAGACAGAG-----
----- 3 -----
-----UCUCAGGAGUAAAGACAGAGU-----
----- 2 -----
-----UCUCAGGAGUAAAGACAGAGUU-----
----- 22 -----
-----UCAGGAGUAAAGACAGAGUU-----
----- 3 -----
-----UCAGGAGUAAAGACAGAGUU-----
Ca----- 2 -----
-----UCAGGAGUAAAGACAGAGUU-----
CC----- 2 -----
-----CAGGAGUAAAGACAGAGUU-----
----- 8 -----
-----CAGGAGUAAAGACAGAGUU-----

```

.))))..)))).))))))..)).))))..))))..))))....))))..)).)..))))))

```

-----UGUGAUAUCAUGGUUCCUGGA-----
----- 2 0,0

```

>hsa-mir-369 5p:9-30;3p:44-64 SRX018965

```

uugaagggAGAUCGACCGUGUUAUAUUCGCUuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.(((((((((.....))))))..)))))))).
-----AGAUCGACCGUGUUAUAU----- 9 0,-4
-----AGAUCGACCGUGUUAUAU----- 29 0,-3
-----AGAUCGACCGUGUUAUAUu----- 2 0,-3
-----AGAUCGACCGUGUUAUAUUC----- 267 0,-2
-----AGAUCGACCGUGUUAUAUUCG----- 91 0,-1
-----AGAUCGACCGUGUUAUAUUCGa----- 5 0,-1
-----AGAUCGACCGUGUUAUAUUCGC----- 15 0,0
-----AGAUCGACCGUGUUAUAUUCGCU----- 8 0,1
-----AGAUCGACCGUGUUAUAUUCGCUU----- 12 0,2
-----AGAUCGACCGUGUUAUAUUCGCUUU----- 2 0,3
-----GAAUAAUACAUGGUUGAUCUUU----- 2 -1,0
-----AAUAAUACAUGGUUGAUC----- 11 0,-3
-----AAUAAUACAUGGUUGAUCU----- 10 0,-2
-----AAUAAUACAUGGUUGAUCUU----- 57 0,-1
-----AAUAAUACAUGGUUGAUCUUa----- 6 0,-1
-----AAUAAUACAUGGUUGAUCUUU----- 996 0,0
-----AAUAAUACAUGGUUGAUCUUUa----- 3 0,0
-----AAUAAUACAUGGUUGAUCUUUaa----- 3 0,0
-----AAUAAUACAUGGUUGAUCUUUU----- 50 0,1
-----AUAAUACAUGGUUGAUCUU----- 2 1,-1
-----AUAAUACAUGGUUGAUCUUU----- 12 1,0

```

>hsa-mir-3690 5p:10-32 SRX018965

```

cccaucuccACCUGGACCCAGCGUAGACAAAGagguguuucuaucuccauaucuaccuggacccaguguagauggg
(((((((.....))))))..)))))))).
-----ACCUGGACCCAGCGUAGACA----- 3
0,-3
-----ACCUGGACCCAGCGUAGACAAAG----- 4
0,0
-----ACCUGGACCCAGCGUAGACAAAGA----- 2
0,1
-----ACCUGGACCCAGCGUAGACAAAGAG----- 2

```

0,2

>hsa-mi r-3691 5p:15-37 SRX018965

uuagggcacuggguAGUGGAUGAUGGAGACUCGGUACccacugcugaggguggggaccaagucugcgucauccucuccuc
agugccucaa

-----UAGUGGAUGAUGGAGACUCGGU-----

$$- - - - - 2 \quad -1, -2$$

-----ACCAAGUCUGCGUCAUCCUCUC-----

----- 2

>hsa-mi r-370 3p:48-69 SRX018965

agacagagaagccaggucacgucucugcaguacacagcucacgaguGCCUGCUGGGUGGAACCUGGUcugucu

(((((...((((((..(..(((.((((.((((.(.....).)).)).)).)).)).)).)).)).)).)).))

-----CAGGUCACGUCUCUGCAGUUA----- 3

-----CAGGUCACGUCUCUGCAGUAC----- 11

-----CAGGUCACGUCUCUGCAGUUACA----- 9

-----CAGGUCACGUCUCUGCAGUACAC----- 7

-----UGCCUGCUGGGGUGGAACa----- 2

-1, -5

-----UGCCUGCUGGGGUGGAACCUGa----- 2

-1, -2

-----GCCUGCUGGGGUGGAACC----- 12

0,-4

-----GCCUGCUGGGGUGGAACCU----- 63

 $0, -3$

-----GCCUGCUGGGGUGGAACCUG----- 46

 $0, -2$

-----GCCUGCUGGGGUGGAACCUGa----- 65

0,-2

-----GCCUGCUGGGGUGGAACCUGaa----- 41

0,-2

-----GCCUGCUGGGGUGGAACCUG_u----- 5

0,-2

-----GCCUGCUGGGGUGGAACCUAG----- 48

 $0, -1$

-----GCCUGCUGGGGUGGAACCUgga----- 14

```

0,-1
-----GCCUGCUGGGGUGGAACCUGGaa----- 26
0,-1
-----GCCUGCUGGGGUGGAACCUGGU----- 52
0,0
-----GCCUGCUGGGGUGGAACCUGGUa----- 14
0,0
-----GCCUGCUGGGGUGGAACCUGGUaa---- 33
0,0
-----GCCUGCUGGGGUGGAACCUGGUau---- 31
0,0
-----GCCUGCUGGGGUGGAACCUGGUu----- 2
0,0
-----GCCUGCUGGGGUGGAACCUGGUuu---- 4
0,0

```

>hsa-mir-371 5p:6-25;3p:42-64 SRX018965

```

guggcACUCAAACUGUGGGGGGCACUuucugcucucuggugaAAGUGCCGCCAUCUUUUGAGUGUuac
((((((((((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((
-----ACUCAAACUGUGGGGGGCaa----- 5 0,-2
-----ACUCAAACUGUGGGGGGCAC----- 2 0,-1
-----ACUCAAACUGUGGGGGGCACU----- 3 0,0
-----ACUCAAACUGUGGGGGGCACUau----- 2 0,0
-----ACUCAAACUGUGGGGGGCACUU----- 9 0,1
-----ACUCAAACUGUGGGGGGCACUa----- 5 0,1
-----ACUCAAACUGUGGGGGGCACUaa----- 2 0,1
-----ACUCAAACUGUGGGGGGCACUau----- 4 0,1
-----ACUCAAACUGUGGGGGGCACUU----- 6 0,2
-----ACUCAAACUGUGGGGGGCACUUC----- 2 0,3

```

>hsa-mir-372 3p:42-64 SRX018965

```

gugggccucaaauuggaggcacuauucugauguccaaguggAAAGUGCUGCGACAUUUGAGCGUcac
...((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAGUGCUGCGACAUUUG----- 3 0,-5
-----AAAGUGCUGCGACAUUUGA----- 11 0,-4
-----AAAGUGCUGCGACAUUUGAG----- 67 0,-3
-----AAAGUGCUGCGACAUUUGAGC----- 6 0,-2
-----AAAGUGCUGCGACAUUUGAGCG----- 3 0,-1

```

```

-----AAAGUGCUGCGACAUUUGAGCGU--- 12 0,0
-----AAGUGCUGCGACAUUUGAGCGa--- 2 1,-1
-----AAGUGCUGCGACAUUUGAGCGU--- 18 1,0

```

>hsa-mir-373 mi:6-27;MA:44-66 SRX018965

```

gggauACUCAAAAUAGGGGGCGCUUCCuuuuugucuguacuggGAAGUGCUCGAUUUUGGGGUGUccc
(((((((((((((((.(((((((((((((.))))))))))))))))))))))))))))))))))))
-----GAAGUGCUCGAUUUUGG----- 6 0,-5
-----GAAGUGCUCGAUUUUGGG----- 7 0,-4
-----GAAGUGCUCGAUUUUGGGG----- 9 0,-3
-----GAAGUGCUCGAUUUUGGGGU----- 9 0,-2

```

>hsa-mir-374a MA:12-33;mi:42-63 SRX018965

```

uacaucggccaUUAUAAUACAACCUGAUAGUGuuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((((.(((((((((((((((.(((((((((((((.))))))))))))))))))))))))))))))))))))
-----UUAUAAUACAACCUGAU----- 5
0,-4
-----UUAUAAUACAACCUGAUAA----- 78
0,-3
-----UUAUAAUACAACCUGAUAG----- 26
0,-2
-----UUAUAAUACAACCUGAUAGU----- 136
0,-1
-----UUAUAAUACAACCUGAUAGUa----- 4
0,-1
-----UUAUAAUACAACCUGAUAGUG----- 628
0,0
-----UUAUAAUACAACCUGAUAGUGa----- 56
0,0
-----UUAUAAUACAACCUGAUAGUGU----- 21
0,1
-----UAUAAUACAACCUGAUAGU----- 5
1,-1
-----UAUAAUACAACCUGAUAGUG----- 4
1,0
-----AUAAUACAACCUGAUAGUG----- 2
2,0
-----ACUUAUCAGAUUGUAUUGUAAU----- 2

```


-1,-1	-----CUUAUCAGAUUGUAUUGU-----	4
0,-4	-----CUUAUCAGAUUGUAUUGUAA-----	4
0,-2	-----CUUAUCAGAUUGUAUUGUAAU-----	27
0,-1	-----CUUAUCAGAUUGUAUUGUAAUU-----	86
0,0	-----CUUAUCAGAUUGUAUUGUAAUa-----	8
0,0	-----UUAUCAGAUUGUAUUGUAAUa-----	2
1,0	-----UAUCAGAUUGUAUUGUAAUa-----	2
2,0		

>hsa-mir-374b MA:11-32;mi:41-62 SRX018965

acucggaugg	AUAUAAUACAACCUGCUAAGUGuccuagcaCUUAGCAGGUUGUAUUAUCAUUGuccgugucu	
((.(((...(((((.....))))))))))))))..		
-----	AUAUAAUACAACCUGCUA-----	8
0,-4	-----AUAUAAUACAACCUGCUAA-----	2
0,-3	-----AUAUAAUACAACCUGCUAAG-----	11
0,-2	-----AUAUAAUACAACCUGCUAAGa-----	2
0,-2	-----AUAUAAUACAACCUGCUAAGU-----	71
0,-1	-----AUAUAAUACAACCUGCUAAGUG-----	718
0,0	-----AUAUAAUACAACCUGCUAAGUGa-----	55
0,0	-----AUAUAAUACAACCUGCUAAGUGU-----	32
0,1	-----UAUAAUACAACCUGCUAAGUG-----	4
1,0	-----AUAAUACAACCUGCUAAGUG-----	3

```

2,0
-----CUUAGCAGGUUGUAUUAUCAUU----- 4
0,0

>hsa-mir-374c 5p:13-34 SRX018965
acacggacaugAUAUACAACCUAGCUAAGUGCUaggacacuuagcagguuguauuuauauccaucaggagu
...((((.....((((((((((((((((((((((((.....))))))))))))))))))))....))....
-----AUAUACAACCUAGCUAAGUG----- 3 0,-2

>hsa-mir-375 3p:40-61 SRX018965
ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUGAggc
.((((((.(((((((...((.(((((((.....)))..))))..))..))))..))))..)).
-----UUUGUUCGUUCGGCUCGCGUGA--- 2 -1,0
-----UUUGUUCGUUCGGCUCGC----- 7 0,-4
-----UUUGUUCGUUCGGCUCGCG----- 6 0,-3
-----UUUGUUCGUUCGGCUCGCGU----- 52 0,-2
-----UUUGUUCGUUCGGCUCGCGUa----- 2 0,-2
-----UUUGUUCGUUCGGCUCGCGUG----- 170 0,-1
-----UUUGUUCGUUCGGCUCGCGUGu----- 2 0,-1
-----UUUGUUCGUUCGGCUCGCGUGA--- 170 0,0
-----UUUGUUCGUUCGGCUCGCGUGAu-- 6 0,0

>hsa-mir-376a-1 mi:7-28;MA:44-64 SRX018965
uaaaagGUAGAUUCUCCUUCUAUGAGUAcuuuuuuuanguuuuAUCAUAGAGGAAAAUCCACGUuuuc
.((((((.(((((((((((((((((((.....))))))))))))))))..))))..)).
---AGGUAGAUUCUCCUUCUAUGAGU----- 5
-2,-1
-----UAGAUUCUCCUUCUAUGAGUA----- 4 1,0
-----UAGAUUCUCCUUCUAUGAGUAC----- 7 1,1
-----AAUCAUAGAGGAAAAUCCACG----- 3
-1,-1
-----AAUCAUAGAGGAAAAUCCACGU----- 21 -1,0
-----AUCAUAGAGGAAAAUCCA----- 119 0,-3
-----AUCAUAGAGGAAAAUCCAC----- 78 0,-2
-----AUCAUAGAGGAAAAUCCACG----- 160 0,-1
-----AUCAUAGAGGAAAAUCCACGa----- 4 0,-1
-----AUCAUAGAGGAAAAUCCACGU----- 921 0,0
-----AUCAUAGAGGAAAAUCCACGUa----- 55 0,0

```



```

GUUuucaguaaucaaaugcug
((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).)))))))))).))))))
-----AUCAUAGAGGAAAAUCCA-
-----      119  0,-4
-----AUCAUAGAGGAAAAUCCA
-----      418  0,-3
-----AUCAUAGAGGAAAAUCCA
G-----      85   0,-2
-----AUCAUAGAGGAAAAUCCA
GU-----      74   0,-1
-----AUCAUAGAGGAAAAUCCA
GUa-----      9    0,-1
-----AUCAUAGAGGAAAAUCCA
GUaa-----      3    0,-1
-----AUCAUAGAGGAAAAUCCA
GUU-----      44   0,0
-----AUCAUAGAGGAAAAUCCA
GUUa-----      4    0,0
-----AUCAUAGAGGAAAAUCCA
GUUU-----      32   0,1
-----UCAUAGAGGAAAAUCCA
GUUU-----      7    1,1

```

>hsa-mir-376c 3p:43-63 SRX018965

```

aaaagguggauauuccuucuauguuuuanguuauuuuanguuuuAACAUAGAGGAAAUUCCACGUuuu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAAACAUAGAGGAAAUUCC----- 2   -2,-4
-----AAACAUAGAGGAAAUUCCAC----- 3   -1,-2
-----AAACAUAGAGGAAAUUCCACG----- 9   -1,-1
-----AAACAUAGAGGAAAUUCCACGa--- 2   -1,-1
-----AACAUAGAGGAAAUUCCA----- 119  0,-3
-----AACAUAGAGGAAAUUCCAC----- 166  0,-2
-----AACAUAGAGGAAAUUCCACau--- 2    0,-2
-----AACAUAGAGGAAAUUCCACG----- 420  0,-1
-----AACAUAGAGGAAAUUCCACGa--- 4    0,-1
-----AACAUAGAGGAAAUUCCACGU--- 2312  0,0
-----AACAUAGAGGAAAUUCCACGUa-- 84   0,0

```


(((((((.....)))))).))))))

----CUCCUGACUCCAGGUCCU-----	2	0,-4
----CUCCUGACUCCAGGUCCUGU-----	3	0,-2
----CUCCUGACUCCAGGUCCUGUG-----	3	0,-1
----CUCCUGACUCCAGGUCCUGUGU-----	2	0,0
-----UCCUGACUCCAGGUCCUGUGU-----	10	1,0
-----GCACUGGACUUGGAGUCAGAAG----	3	-2,-1
-----CACUGGACUUGGAGUCAGAA-----	2	-1,-2
-----CACUGGACUUGGAGUCAGAAGG----	8	-1,0
-----CACUGGACUUGGAGUCAGAAGGC--	13	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa-	5	-1,1
-----ACUGGACUUGGAGUCAGA-----	480	0,-3
-----ACUGGACUUGGAGUCAGAA-----	171	0,-2
-----ACUGGACUUGGAGUCAGAAa----	4	0,-2
-----ACUGGACUUGGAGUCAGAAau---	3	0,-2
-----ACUGGACUUGGAGUCAGAAu----	2	0,-2
-----ACUGGACUUGGAGUCAGAAG----	936	0,-1
-----ACUGGACUUGGAGUCAGAAGu---	22	0,-1
-----ACUGGACUUGGAGUCAGAAGG----	7443	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	643	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	64	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	6	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	150	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	10	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	12032	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	4654	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	266	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	674	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	1795	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	204	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	44	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	4	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	8	0,3
-----CUGGACUUGGAGUCAGAA-----	19	1,-2
-----CUGGACUUGGAGUCAGAAG----	13	1,-1
-----CUGGACUUGGAGUCAGAAGG----	143	1,0
-----CUGGACUUGGAGUCAGAAGGa--	4	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	5	1,0

```

-----CUGGACUUGGAGUCAGAAGGu-- 7 1,0
-----CUGGACUUGGAGUCAGAAGGC-- 643 1,1
-----CUGGACUUGGAGUCAGAAGGCa- 291 1,1
-----CUGGACUUGGAGUCAGAAGGCaa 76 1,1
-----CUGGACUUGGAGUCAGAAGGCau 50 1,1
-----CUGGACUUGGAGUCAGAAGGCu- 225 1,1
-----CUGGACUUGGAGUCAGAAGGCuu 76 1,1
-----CUGGACUUGGAGUCAGAAGGCC- 8 1,2
-----CUGGACUUGGAGUCAGAAGGCCa 4 1,2
-----UGGACUUGGAGUCAGAAGG--- 7 2,0
-----UGGACUUGGAGUCAGAAGGC-- 29 2,1
-----UGGACUUGGAGUCAGAAGGCa- 5 2,1
-----UGGACUUGGAGUCAGAAGGCau 4 2,1
-----UGGACUUGGAGUCAGAAGGCu- 5 2,1
-----UGGACUUGGAGUCAGAAGGCuu 6 2,1

```

>hsa-mir-378b 3p:34-52 SRX018965

ggucauugagucuucaaggcuaguggaaagagcACUGGACUUGGAGGCAGAAgacc

(((((.(.((((((((((.(((((.)))))))).)))))))).))))))

-----ACUGGACUUGGAGGCAGAA----- 28 0,0

>hsa-mir-378c 5p:11-35 SRX018965

ggaggccaucACUGGACUUGGAGUCAGAAGAGUGGagucgggucagacuucaacucugacuuugaagguggugagugccu
c

.((((((((((((....(((((((((....((((((((....)))))))).)))))))).))))))

-----ACUGGACUUGGAGUCAGAAG-----

- 936 0,-5

-----ACUGGACUUGGAGUCAGAAGu-----

- 22 0,-5

-----ACUGGACUUGGAGUCAGAAGA-----

- 117 0,-4

-----ACUGGACUUGGAGUCAGAAGaa-----

- 2 0,-4

-----CUGGACUUGGAGUCAGAAG-----

- 13 1,-5

-----CUGGACUUGGAGUCAGAAGA-----

- 4 1,-4

-----AUGGUAGACUAUGGAACGUAGG-----	2	-1,0
-----UGGUAGACUAUGGAACGU-----	67	0,-3
-----UGGUAGACUAUGGAACGUA-----	107	0,-2
-----UGGUAGACUAUGGAACGUAG-----	960	0,-1
-----UGGUAGACUAUGGAACGUAGa-----	5	0,-1
-----UGGUAGACUAUGGAACGUAGaa-----	4	0,-1
-----UGGUAGACUAUGGAACGUAGu-----	2	0,-1
-----UGGUAGACUAUGGAACGUAGG-----	2255	0,0
-----UGGUAGACUAUGGAACGUAGGa-----	415	0,0
-----UGGUAGACUAUGGAACGUAGGaa-----	175	0,0
-----UGGUAGACUAUGGAACGUAGGau-----	8	0,0
-----UGGUAGACUAUGGAACGUAGGu-----	186	0,0
-----UGGUAGACUAUGGAACGUAGGuu-----	17	0,0
-----UGGUAGACUAUGGAACGUAGGC-----	281	0,1
-----UGGUAGACUAUGGAACGUAGGCa-----	62	0,1
-----UGGUAGACUAUGGAACGUAGGCaa-----	38	0,1
-----UGGUAGACUAUGGAACGUAGGCau-----	24	0,1
-----UGGUAGACUAUGGAACGUAGGCu-----	5	0,1
-----UGGUAGACUAUGGAACGUAGGCuu-----	2	0,1
-----UGGUAGACUAUGGAACGUAGGCCG-----	5	0,2
-----UGGUAGACUAUGGAACGUAGGCCGU-----	5	0,3
-----UGGUAGACUAUGGAACGUAGGCCGUU-----	5	0,4
-----GGUAGACUAUGGAACGUAG-----	6	1,-1
-----GGUAGACUAUGGAACGUAGG-----	27	1,0
-----GGUAGACUAUGGAACGUAGGa-----	4	1,0
-----GGUAGACUAUGGAACGUAGGaa-----	3	1,0
-----GGUAGACUAUGGAACGUAGGC-----	3	1,1
-----UAUGUAACAUGGUCCACUA-----	4	0,-3
-----UAUGUAACAUGGUCCACUAA-----	19	0,-2
-----UAUGUAACAUGGUCCACUAAaa-----	2	0,-2
-----UAUGUAACAUGGUCCACUAAu-----	16	0,-2
-----UAUGUAACAUGGUCCACUAAC-----	138	0,-1
-----UAUGUAACAUGGUCCACUAACa-----	20	0,-1
-----UAUGUAACAUGGUCCACUAACU-----	12	0,0

>hsa-mir-380 mi:5-26;MA:40-61 SRX018965

aagaUGGUUGACCAUAGAACAUGCGCuaucucugugucgUAUGUAAUAUGGUCCACAUCUU

(((((...(((((((...(((((((...(((((((...))))))))))...))))))))))

---AUGGUUGACCAUAGAACAUG-----	3	-1,-3
---AUGGUUGACCAUAGAACAUGC-----	11	-1,-2
---AUGGUUGACCAUAGAACAUGCG-----	12	-1,-1
---AUGGUUGACCAUAGAACAUGCGa-----	3	-1,-1
---AUGGUUGACCAUAGAACAUGCGu-----	2	-1,-1
-----UAUGUAAUAUGGUCCACA----	5	0,-4
-----UAUGUAAUAUGGUCCACAUuu-----	2	0,-3
-----UAUGUAAUAUGGUCCACAUC--	9	0,-2
-----UAUGUAAUAUGGUCCACAUCU-	112	0,-1
-----UAUGUAAUAUGGUCCACAUCUa	3	0,-1

>hsa-mir-381 3p:49-70 SRX018965

uacuuaaagcgagguugcccuuguaauaucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua

(((((...(((((((...(((((((...(((((((...))))))))))...))))))))))

-----AGCGAGGUUGCCCUUUGUA-----	6	
-----AGCGAGGUUGCCCUUUGUAU-----	10	
-----AGCGAGGUUGCCCUUUGUAUA-----	4	
-----AGCGAGGUUGCCCUUUGUAUAU-----	11	
-----AGCGAGGUUGCCCUUUGUAUAUU-----	8	
-----AUAUACAAGGGCAAGCUCUC-----	2	-1,-3
-----AUAUACAAGGGCAAGCUCUCU-----	12	-1,-2
-----UAUACAAGGGCAAGCUCU-----	16	0,-4
-----UAUACAAGGGCAAGCUCUC-----	30	0,-3
-----UAUACAAGGGCAAGCUCUCU-----	116	0,-2
-----UAUACAAGGGCAAGCUCUCUG-----	3	0,-1
-----UAUACAAGGGCAAGCUCUCUGa-----	7	0,-1
-----UAUACAAGGGCAAGCUCUCUGaa-----	4	

0,-1	-----UAUACAAGGGCAAGCUCUCUGU-----	16
0,0	-----UAUACAAGGGCAAGCUCUCUGUu-----	4
0,0	-----AUACAAGGGCAAGCUCUC-----	3
1,-3	-----AUACAAGGGCAAGCUCUCU-----	41
1,-2	-----AUACAAGGGCAAGCUCUCUGU-----	4
1,0		

>hsa-mir-382 5p:11-32 SRX018965

```

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucauucacggacaacacuuuuuucagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAAGUUGUUCGUGGUGGAUU-----
3   -1,-2
-----AGAAGUUGUUCGUGGUGGAUUC-----
3   -1,-1
-----GAAGUUGUUCGUGGUGGA-----
82  0,-4
-----GAAGUUGUUCGUGGUGGAU-----
118 0,-3
-----GAAGUUGUUCGUGGUGGAUU-----
287 0,-2
-----GAAGUUGUUCGUGGUGGAUUaa-----
5   0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
335 0,-1
-----GAAGUUGUUCGUGGUGGAUUCa-----
6   0,-1
-----GAAGUUGUUCGUGGUGGAUUCG-----
71  0,0
-----GAAGUUGUUCGUGGUGGAUUCGa-----
4   0,0
-----GAAGUUGUUCGUGGUGGAUUCGu-----
3   0,0
-----AAGUUGUUCGUGGUGGAU-----

```

12	1, -3	
-----AAGUUGUUCGUGGUGGAUU-----		
49	1, -2	
-----AAGUUGUUCGUGGUGGAUUC-----		
32	1, -1	
-----AAGUUGUUCGUGGUGGAUUCG-----		
6	1, 0	
-----AGUUGUUCGUGGUGGAUU-----		
6	2, -2	
-----AGUUGUUCGUGGUGGAUUC-----		
6	2, -1	
-----AGUUGUUCGUGGUGGAUUCGC-----		
3	2, 1	
-----AGUUGUUCGUGGUGGAUUCGCU-----		
22	2, 2	
-----AAUCAUUCACGGACAACA-----		
30		
-----AAUCAUUCACGGACAACAC-----		
172		
-----AAUCAUUCACGGACAACACU-----		
983		
-----AAUCAUUCACGGACAACACUU-----		
203		
-----AAUCAUUCACGGACAACACUUa-----		
3		
-----AAUCAUUCACGGACAACACUUU-----		
426		
-----AAUCAUUCACGGACAACACUUUa-----		
4		
-----AAUCAUUCACGGACAACACUUUU-----		
3		
-----AUCAUUCACGGACAACAC-----		
6		
-----AUCAUUCACGGACAACACU-----		
11		
-----AUCAUUCACGGACAACACUU-----		
2		
-----AUUCACGGACAACACUUU-----		

>hsa-mi r-3909 3p:71-92 SRX018965

[illegible]

>hsa-mir-3911 5p:12-33 SRX018965

>hsa-mir-3912 3p:63-83 SRX018965

[illegible]

>hsa-mi r-3913-1 5p:23-44 SRX018965

[illegible]

>hsa-mir-3913-2 5p:22-43 SRX018965

ugucuauaauaacugaaauUUUGGGACUGAUCUUGAUGUCUgccaagguuuuggcagacaucaagaucagucccaau

cacagcccuuccugucccaguuUCAGGUGUGGAAACUGAGGCAGgaggcagugaaguaacuugcucagguugcacagc
ugggaaguggagcagggauuuugaaucc

-----UCAGGUGUGGAAACUGAGGCAGG-----
----- 2 0,1 -----

augauucagagcaucuguccagugucugcuguagaucccucaaauccguguuuggacgcuucuggUAAGGGGUGUAUGGC
AGAUGCAcccgcagagaugcacuuggcagca

-----UAAGGGGUGUAUGGC

AGAUGCAa----- 2 0,0

-----AAGGGGUGUAUGGC

AGAUGu----- 2 1,-2

ucucaguaugacaccucaaagAAGCAAUACUGUACCUGAAAUaggcugcgaaguaacaguuuucagauaacaguan
uacaucuuugaagugucanuucacugac

-----AGCAAUACUGUACCUGAAAU-----
-----31.0-----

-----AGCAAUACUGUUACCUGAAAUA-----
-----21.1-----

-----AGGUUACCCGAGCAACUU-----

81 0,-5

-----AGGUUACCCGAGCAACUU-----
184 0,-4

-----AGGUUACCCGAGCAACUUG-----
16 0,-3

-----AGGUUACCCGAGCAACUUGC-----

47	0, -2	-AGGUUACCCGAGCAACUUUGCA-
1269	0, -1	-AGGUUACCCGAGCAACUUUGCAa-
19	0, -1	-AGGUUACCCGAGCAACUUUGCAU-
1651	0, 0	-AGGUUACCCGAGCAACUUUGCAUa-
3	0, 0	-AGGUUACCCGAGCAACUUUGCAUu-
11	0, 0	-AGGUUACCCGAGCAACUUUGCAUC-
165	0, 1	-AGGUUACCCGAGCAACUUUGCAUCa-
16	0, 1	-AGGUUACCCGAGCAACUUUGCAUCU-
25	0, 2	-GGUUACCCGAGCAACUUUGCA-
5	1, -1	-GGUUACCCGAGCAACUUUGCAU-
11	1, 0	-GGUUACCCGAGCAACUUUGCAUC-
2	1, 1	-ACGAAUGUUGCUCGGUGAA-
3	-2, -5	-CGAAUGUUGCUCGGUGAA-
871	-1, -5	-CGAAUGUUGCUCGGUGAAa-
3	-1, -5	-CGAAUGUUGCUCGGUGAAaa-
3	-1, -5	-CGAAUGUUGCUCGGUGAAC-
234	-1, -4	-CGAAUGUUGCUCGGUGAACa-
2	-1, -4	-CGAAUGUUGCUCGGUGAACC-
51	-1, -3	-CGAAUGUUGCUCGGUGAACCa-

2	-1,-3	-CGAAUGUUGCUCGGUGAACCC-
19	-1,-2	-CGAAUGUUGCUCGGUGAACCCa-
2	-1,-2	-CGAAUGUUGCUCGGUGAACCCC-
54	-1,-1	-CGAAUGUUGCUCGGUGAACCCCa-
4	-1,-1	-CGAAUGUUGCUCGGUGAACCCCau-
4	-1,-1	-CGAAUGUUGCUCGGUGAACCCCU-
146	-1,0	-CGAAUGUUGCUCGGUGAACCCCUa-
5	-1,0	-CGAAUGUUGCUCGGUGAACCCCUau-
6	-1,0	-CGAAUGUUGCUCGGUGAACCCCUU-
84	-1,1	-CGAAUGUUGCUCGGUGAACCCCUUU-
5	-1,2	-GAAUGUUGCUCGGUGAAC-
249	0,-4	-GAAUGUUGCUCGGUGAACa-
2	0,-4	-GAAUGUUGCUCGGUGAACaa-
8	0,-4	-GAAUGUUGCUCGGUGAACC-
45	0,-3	-GAAUGUUGCUCGGUGAACCa-
3	0,-3	-GAAUGUUGCUCGGUGAACCC-
25	0,-2	-GAAUGUUGCUCGGUGAACCCa-
2	0,-2	-GAAUGUUGCUCGGUGAACCCC-
97	0,-1	-GAAUGUUGCUCGGUGAACCCCa-

2	0,-1	-GAAUGUUGCUCGGUGAACCCCa-
2	0,-1	-GAAUGUUGCUCGGUGAACCCCU-
178	0,0	-GAAUGUUGCUCGGUGAACCCCUa-
11	0,0	-GAAUGUUGCUCGGUGAACCCCUaa-
6	0,0	-GAAUGUUGCUCGGUGAACCCCUau-
18	0,0	-GAAUGUUGCUCGGUGAACCCCUU-
42	0,1	-GAAUGUUGCUCGGUGAACCCCUUa-
6	0,1	-GAAUGUUGCUCGGUGAACCCCUUU-
7	0,2	-AAUGUUGCUCGGUGAACCC-
4	1,-3	-AAUGUUGCUCGGUGAACCC-
11	1,-1	-AAUGUUGCUCGGUGAACCCCU-
23	1,0	-AAUGUUGCUCGGUGAACCCCUa-
2	1,0	-AAUGUUGCUCGGUGAACCCCUaa-
2	1,0	-AAUGUUGCUCGGUGAACCCCUau-
7	1,0	-AAUGUUGCUCGGUGAACCCCUU-
5	1,1	

>hsa-mir-410 3p:50-70 SRX018965

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gguaaccugagaagagguugucugugaugaguucgcuuuuauuaaugacgAAUAUAACACAGAUGGCCUGUuuucaguacc
(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.
-----AGGUUGUCUGUGAUGAGUU-----
2
-----AGGUUGUCUGUGAUGAGUUC-----

```

41	0,-3	-AAUAUAACACAGAUAGGCC-
610	0,-2	-AAUAUAACACAGAUAGGCCU-
116	0,-1	-AAUAUAACACAGAUAGGCCUG-
4	0,-1	-AAUAUAACACAGAUAGGCCUGa-
2	0,-1	-AAUAUAACACAGAUAGGCCUGaa-
2	0,-1	-AAUAUAACACAGAUAGGCCUGau-
705	0,0	-AAUAUAACACAGAUAGGCCUGU-
24	0,0	-AAUAUAACACAGAUAGGCCUGUa-
119	0,0	-AAUAUAACACAGAUAGGCCUGUaa-
21	0,0	-AAUAUAACACAGAUAGGCCUGUau-
16	0,1	-AAUAUAACACAGAUAGGCCUGUU-
2	0,1	-AAUAUAACACAGAUAGGCCUGUa-
5	1,-2	-AUAUAACACAGAUAGGCCU-
3	1,-1	-AUAUAACACAGAUAGGCCUG-
3	1,0	-AUAUAACACAGAUAGGCCUGU-

ugguacuuggagagaUAGUAGACCGUAUAGCGUACGcuuuauucugugacgUAUGUAAACACGGUCCACUAACCcucaguau
 caaauccaucccgag
 (((((((((..(((.(.((((.(((((((..)).)))))).).)))))).).))))))
)).....
 -----GAUAGUAGACCGUAUAGCGUAC-----

```

----- 2 -2,-1
-----AUAGUAGACCGUAUAGCG-----
----- 96 -1,-4
-----AUAGUAGACCGUAUAGCGa-----
----- 4 -1,-4
-----AUAGUAGACCGUAUAGCGU-----
----- 818 -1,-3
-----AUAGUAGACCGUAUAGCGUA-----
----- 736 -1,-2
-----AUAGUAGACCGUAUAGCGUAa-----
----- 32 -1,-2
-----AUAGUAGACCGUAUAGCGUAu-----
----- 2 -1,-2
-----AUAGUAGACCGUAUAGCGUAC-----
----- 2369 -1,-1
-----AUAGUAGACCGUAUAGCGUACa-----
----- 12 -1,-1
-----AUAGUAGACCGUAUAGCGUACu-----
----- 9 -1,-1
-----AUAGUAGACCGUAUAGCGUACG-----
----- 1432 -1,0
-----AUAGUAGACCGUAUAGCGUACGa-----
----- 21 -1,0
-----AUAGUAGACCGUAUAGCGUACGu-----
----- 6 -1,0
-----UAGUAGACCGUAUAGCGU-----
----- 1525 0,-3
-----UAGUAGACCGUAUAGCGUA-----
----- 1696 0,-2
-----UAGUAGACCGUAUAGCGUAa-----
----- 35 0,-2
-----UAGUAGACCGUAUAGCGUAu-----
----- 8 0,-2
-----UAGUAGACCGUAUAGCGUAC-----
----- 5418 0,-1
-----UAGUAGACCGUAUAGCGUACa-----
----- 33 0,-1
-----UAGUAGACCGUAUAGCGUACaa-----

```

```

----- 6 0,-1
-----UAGUAGACCGUAUAGCGUACu-----
----- 19 0,-1
-----UAGUAGACCGUAUAGCGUACG-----
----- 3025 0,0
-----UAGUAGACCGUAUAGCGUACGa-----
----- 29 0,0
-----UAGUAGACCGUAUAGCGUACGaa-----
----- 10 0,0
-----UAGUAGACCGUAUAGCGUACGu-----
----- 6 0,0
-----UAGUAGACCGUAUAGCGUACGC-----
----- 15 0,1
-----AGUAGACCGUAUAGCGUA-----
----- 4 1,-2
-----AGUAGACCGUAUAGCGUAC-----
----- 10 1,-1
-----AGUAGACCGUAUAGCGUACG-----
----- 4 1,0
-----AGUAGACCGUAUAGCGUACGC-----
----- 2 1,1
-----AGUAGACCGUAUAGCGUACGCU-----
----- 4 1,2
-----GUAGACCGUAUAGCGUAC-----
----- 2 2,-1
-----UAUGUAACACGGUCCACU-----
----- 14 0,-4
-----UAUGUAACACGGUCCACUA-----
----- 70 0,-3
-----UAUGUAACACGGUCCACUAu-----
----- 10 0,-3
-----UAUGUAACACGGUCCACUAuu-----
----- 6 0,-3
-----UAUGUAACACGGUCCACUAA-----
----- 226 0,-2
-----UAUGUAACACGGUCCACUAAa-----
----- 13 0,-2
-----UAUGUAACACGGUCCACUAAu-----

```


$\cdot((((\cdot((((((((((((\dots((((((((((((((\cdot(((\cdot\dots\dots\dots)))))))))\dots))))).\cdot))))).\cdot))))$

$\vdots$

Sequence	Count	Score
AUCAACAGACAUUAAUUG	94	0, -5
AUCAACAGACAUUAAUUGG	143	0, -4
AUCAACAGACAUUAAUUGGG	49	0, -3
AUCAACAGACAUUAAUUGGGC	14	0, -2
AUCAACAGACAUUAAUUGGGCG	9	0, -1
AUCAACAGACAUUAAUUGGGCG _a	2	0, -1
AUCAACAGACAUUAAUUGGGCG _u	2	0, -1
AUCAACAGACAUUAAUUGGGCGC	46	0, 0
AUCAACAGACAUUAAUUGGGCGC _a	2	0, 0
AUCAACAGACAUUAAUUGGGCGC _{au}	5	0, 0
UCAACAGACAUUAAUUGG	3	1, -4
UCAACAGACAUUAAUUGGGCGC	3	1, 0

auaaaaggaaguuaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

....(((((((.((((((((((((((..(((.((((.((((.....)))))))))).))...)))))))))))))).))
))))).....

```

-----CUGAGGGGCAGAGAGCGAGACUU-----
----- 3    -1,0
-----UGAGGGGCAGAGAGCGAG-----
----- 80   0,-5
-----UGAGGGGCAGAGAGCGAGu-----

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```

----- 2 0,-5
-----UGAGGGGCAGAGAGCGAGA-----
----- 107 0,-4
-----UGAGGGGCAGAGAGCGAGAA-----
----- 13 0,-4
-----UGAGGGGCAGAGAGCGAGAAa-----
----- 18 0,-4
-----UGAGGGGCAGAGAGCGAGAAu-----
----- 4 0,-4
-----UGAGGGGCAGAGAGCGAGAC-----
----- 103 0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 10 0,-3
-----UGAGGGGCAGAGAGCGAGACau-----
----- 2 0,-3
-----UGAGGGGCAGAGAGCGAGACU-----
----- 148 0,-2
-----UGAGGGGCAGAGAGCGAGACUa-----
----- 5 0,-2
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 13 0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 4 0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 298 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 71 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 13 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 9 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 2513 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 61 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 14 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----

```

```

----- 7 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 179 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUa-----
----- 2 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 2 0,1
-----GAGGGGCAGAGAGCGAGACU-----
----- 2 1,-2
-----GAGGGGCAGAGAGCGAGACUU-----
----- 11 1,-1
-----GAGGGGCAGAGAGCGAGACUUa-----
----- 3 1,-1
-----GAGGGGCAGAGAGCGAGACUU-----
----- 61 1,0
-----GAGGGGCAGAGAGCGAGACUUUU-----
----- 8 1,1
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 5 2,1
-----AAGCUCGGUCUGAGGCCCC-----
----- 12 -1,-5
-----AAGCUCGGUCUGAGGCCCCU-----
----- 14 -1,-4
-----AAGCUCGGUCUGAGGCCCCUa-----
----- 3 -1,-4
-----AAGCUCGGUCUGAGGCCCCUuu-----
----- 3 -1,-4
-----AAGCUCGGUCUGAGGCCCCUC-----
----- 9 -1,-3
-----AAGCUCGGUCUGAGGCCCCUCA-----
----- 10 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAa-----
----- 6 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAaa-----
----- 2 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAG-----
----- 8 -1,-1
-----AAGCUCGGUCUGAGGCCCCUCAGa-----

```


----- 2	-1, -1	-----AGCUCGGUCUGAGGCCCCUCAGU-----
----- 50	-1, 0	-----AGCUCGGUCUGAGGCCCC-----
----- 31	0, -5	-----AGCUCGGUCUGAGGCCCCU-----
----- 8	0, -4	-----AGCUCGGUCUGAGGCCCCUa-----
----- 5	0, -4	-----AGCUCGGUCUGAGGCCCCUaa-----
----- 3	0, -4	-----AGCUCGGUCUGAGGCCCCUu-----
----- 5	0, -4	-----AGCUCGGUCUGAGGCCCCUC-----
----- 27	0, -3	-----AGCUCGGUCUGAGGCCCCUCA-----
----- 35	0, -2	-----AGCUCGGUCUGAGGCCCCUCAa-----
----- 6	0, -2	-----AGCUCGGUCUGAGGCCCCUCAau-----
----- 2	0, -2	-----AGCUCGGUCUGAGGCCCCUCAu-----
----- 8	0, -2	-----AGCUCGGUCUGAGGCCCCUCAG-----
----- 52	0, -1	-----AGCUCGGUCUGAGGCCCCUCAGa-----
----- 6	0, -1	-----AGCUCGGUCUGAGGCCCCUCAGU-----
----- 280	0, 0	-----AGCUCGGUCUGAGGCCCCUCAGUa-----
----- 20	0, 0	-----AGCUCGGUCUGAGGCCCCUCAGUaa-----
----- 4	0, 0	-----AGCUCGGUCUGAGGCCCCUCAGUau-----
----- 17	0, 0	-----AGCUCGGUCUGAGGCCCCUCAGUu-----
----- 19	0, 0	-----AGCUCGGUCUGAGGCCCCUCAGUuu-----


```

----- 2 0,-3
-----CAAAACGUGAGGCGCUGCU-----
----- 4 0,-2
-----CAAAACGUGAGGCGCUGCUA-----
----- 11 0,-1
-----CAAAACGUGAGGCGCUGCUAa-----
----- 3 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 79 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 2 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 76 0,1
-----CAAAACGUGAGGCGCUGCUAUAa-----
----- 14 0,1
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 2 0,1
-----AAAACGUGAGGCGCUGCUA-----
----- 2 1,-1
-----AAAACGUGAGGCGCUGCUAU-----
----- 5 1,0
-----AAAACGUGAGGCGCUGCUAUA-----
----- 2 1,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018965

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAUGUCGUGUCCGCCCagug
cucuuc

(((((.(.(((...((((((.(.((((((.(.((((...)))....))))).))))).))))))....)))

```

-----AAUGACACGAUCACUCCC-----
----- 16 0,-5
-----AAUGACACGAUCACUCCCG-----
----- 8 0,-4
-----AAUGACACGAUCACUCCCGU-----
----- 9 0,-3
-----AAUGACACGAUCACUCCCGUU-----
----- 29 0,-2
-----AAUGACACGAUCACUCCCGUUG-----

```

```

----- 130 0,-1
-----AAUGACACGAUCACUCCCGUUGu-----
----- 16 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 986 0,0
-----AAUGACACGAUCACUCCCGUUGAa-----
----- 4 0,0
-----AAUGACACGAUCACUCCCGUUGAu-----
----- 3 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 84 0,1
-----AAUGACACGAUCACUCCCGUUGAGU-----
----- 29 0,2
-----AUGACACGAUCACUCCCGUU-----
----- 2 1,-2
-----AUGACACGAUCACUCCCGUUG-----
----- 13 1,-1
-----AUGACACGAUCACUCCCGUUGu-----
----- 2 1,-1
-----AUGACACGAUCACUCCCGUUGA-----
----- 54 1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 37 1,1
-----AUGACACGAUCACUCCCGUUGAGa-----
----- 2 1,1
-----AUGACACGAUCACUCCCGUUGAGU-----
----- 12 1,2
-----CAUCGGGAAUGUCGUGUC-----
----- 10 -1,-5
-----CAUCGGGAAUGUCGUGUCC-----
----- 7 -1,-4
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 10 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCa-----
----- 3 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCu-----
----- 2 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----

```

```

----- 34  -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCa-----
----- 3   -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCu-----
----- 2   -1,-1
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 4   -1,0
-----AUCGGGAAUGUCGUGUCC-----
----- 8   0,-4
-----AUCGGGAAUGUCGUGUCCGC-----
----- 6   0,-2
-----AUCGGGAAUGUCGUGUCCGCuu-----
----- 2   0,-2
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 28  0,-1
-----AUCGGGAAUGUCGUGUCCGCCa-----
----- 5   0,-1
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 7   0,0
-----AUCGGGAAUGUCGUGUCCGCCuu-----
----- 2   0,0

```

>hsa-mir-4286 5p:11-27 SRX018965

```

uacuuauaggcACCCCACUCCUGGUACCAuagucauaaguuaaggagauguuagagcugugaguaccaugacuuaagugugg
uggcuaaaacaug

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```

...(((.(.(((.((((.((((((((((....)))))).)))...)))))).)....))
))..))).....

```

```

-----ACCCCACUCCUGGUACCA-----
----- 90  0,1
-----ACCCCACUCCUGGUACCAa-----
----- 6   0,1
-----ACCCCACUCCUGGUACCAaa-----
----- 8   0,1
-----ACCCCACUCCUGGUACCAU-----
----- 17  0,2
-----ACCCCACUCCUGGUACCAUA-----
----- 2   0,3

```

>hsa-mir-429 3p:51-72 SRX018965

cgccggccgauggggcgcuuaccagacauggguagaccuggcccucugucUAAUACUGUCUGGUAACCGUccaucgc
ugc

$$\dots(((((((\dots(((((\dots(\dots\dots)))))))).\dots)))))))$$

))).

-----CUAAUACUGUCUGGUA AAAACCGU-----

--- 2 -1,0

-----UAAUACUGUCUGGUAAAA-----

--- 3 0, -4

-----UAAUACUGUCUGGUAAAAC-----

--- 6 0, -3

-----UAAUACUGUCUGGUA AAAACCG-----

--- 12 0,-1

-----UAAUACUGUCUGGUA AAAACCGU-----

--- 130 0,0

-----AAUACUGUCUGGUA AAAAC-----

--- 3 1, -3

-----AAUACUGUCUGGUA AAAACCGU-----

--- 3 1,0

>hsa-mi r-431 MA:20-40;mi :63-84 SRX018965

uccugcuuguccugcgaggUGUCUUGCAGGCCGUAUGCAggccacacugacgguaacguugCAGGUCGUCUUGCAGGGC
UUCUcgcaagacgacauccucaucaccaacgacg

$\dots((.((((.(((((((.(((((((((.((.(.(((((((((\dots)))\dots))))).).).)))))))))$
 $.)))))))).))))))\dots\dots\dots$

-----UGUCUUGCAGGCCGUCAU-----

----- 6 0,-3

-----UGUCUUGCAGGCCGUCAUG-----

----- 22 0, -2

-----UGUCUUGCAGGCCGUAUGa-----

----- 3 0, -2

-----UGUCUUGCAGGCCGUCAUG_u-----

----- 2 0, -2

-----UGUCUUGCAGGCCGUCAUGC-----

----- 45 0,-1

-----UGUCUUGCAGGCCGUAUGCA-----

----- 37 0,0

-----UGUCUUGCAGGCCGUGAUGCAa-----

----- 8082 0,-3
-----UCUUGGAGUAGGUCAUUGGGa-----
----- 232 0,-3
-----UCUUGGAGUAGGUCAUUGGGaa-----
----- 73 0,-3
-----UCUUGGAGUAGGUCAUUGGGau-----
----- 12 0,-3
-----UCUUGGAGUAGGUCAUUGGGU-----
----- 2272 0,-2
-----UCUUGGAGUAGGUCAUUGGGUa-----
----- 369 0,-2
-----UCUUGGAGUAGGUCAUUGGGUaa-----
----- 382 0,-2
-----UCUUGGAGUAGGUCAUUGGGUau-----
----- 340 0,-2
-----UCUUGGAGUAGGUCAUUGGGUu-----
----- 32 0,-2
-----UCUUGGAGUAGGUCAUUGGGUuu-----
----- 24 0,-2
-----UCUUGGAGUAGGUCAUUGGGUG-----
----- 1400 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGa-----
----- 688 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGaa-----
----- 81 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGau-----
----- 93 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 441 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGuu-----
----- 38 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 519 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGu-----
----- 116 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGuu-----
----- 14 0,0
-----UCUUGGAGUAGGUCAUUGGGUGGA-----


```

----- 19 0,1
-----UCUUGGAGUAGGUCAUUGGGUGGAa-----
----- 3 0,1
-----CUUGGAGUAGGUCAUUGG-----
----- 5 1,-4
-----CUUGGAGUAGGUCAUUGGG-----
----- 4 1,-3
-----CUUGGAGUAGGUCAUUGGGU-----
----- 6 1,-2
-----CUUGGAGUAGGUCAUUGGGUa-----
----- 2 1,-2
-----CUUGGAGUAGGUCAUUGGGUG-----
----- 4 1,-1
-----CUUGGAGUAGGUCAUUGGGUGu-----
----- 4 1,-1
-----CUUGGAGUAGGUCAUUGGGUGG-----
----- 2 1,0
-----CUUGGAGUAGGUCAUUGGGUGGu-----
----- 6 1,0
-----UUGGAGUAGGUCAUUGGG-----
----- 18 2,-3
-----UUGGAGUAGGUCAUUGGGU-----
----- 8 2,-2
-----UUGGAGUAGGUCAUUGGGUG-----
----- 8 2,-1
-----ACUGGAUGGCUCCUCCAUGU
CU----- 5 -1,0
-----CUGGAUGGCUCCUCCAUGU
CU----- 9 0,0

```

>hsa-mir-4326 5p:11-30 SRX018965

gcugcucugcUGUUCCUCUGUCUCCCAGACucugggguggauggagcaggucggggggcca

((((...((((((((...((((((((...)))))))))...))))))...))..

```

-----UGUUCCUCUGUCUCCCAGAC----- 7 0,0
-----UGUUCCUCUGUCUCCCAGACU----- 15 0,1
-----UGUUCCUCUGUCUCCCAGACUC----- 6 0,2
-----UGUUCCUCUGUCUCCCAGACUCU----- 6 0,3
-----UGUUCCUCUGUCUCCCAGACUCUGu----- 4 0,4

```

>hsa-mir-433 3p:64-85 SRX018965

ccggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg

((..(((((((...(((.(((((((((((.(((((((((.....)))))).).....))))).)))))))))))).))
)...)))))))).))

-----UACGGUGAGCCUGUCAUUAU-----

----- 2

-----UACGGUGAGCCUGUCAUUUU-----

----- 5

-----UACGGUGAGCCUGUCAUUUUC-----

----- 6

-----GAUCAUGAUGGGCUCCUC

GGUG----- 2 -1,-1

-----GAUCAUGAUGGGCUCCUC

GGUGU----- 12 -1,0

-----AUCAUGAUGGGCUCCUC

G----- 26 0,-4

-----AUCAUGAUGGGCUCCUC

Ga----- 4 0,-4

-----AUCAUGAUGGGCUCCUC

Gaa----- 3 0,-4

-----AUCAUGAUGGGCUCCUC

GG----- 51 0,-3

-----AUCAUGAUGGGCUCCUC

GGa----- 6 0,-3

-----AUCAUGAUGGGCUCCUC

GGU----- 65 0,-2

-----AUCAUGAUGGGCUCCUC

GGUa----- 11 0,-2

-----AUCAUGAUGGGCUCCUC

GGUaa----- 19 0,-2

-----AUCAUGAUGGGCUCCUC

GGUau----- 20 0,-2

-----AUCAUGAUGGGCUCCUC

GGUu----- 6 0,-2

-----AUCAUGAUGGGCUCCUC

GGUuu----- 3 0,-2

-----				-----AUCAUGAUGGGCUCCUC
GGUG-----	81	0,-1		
-----				-----AUCAUGAUGGGCUCCUC
GGUGa-----	39	0,-1		
-----				-----AUCAUGAUGGGCUCCUC
GGUGaa-----	7	0,-1		
-----				-----AUCAUGAUGGGCUCCUC
GGUGau-----	2	0,-1		
-----				-----AUCAUGAUGGGCUCCUC
GGUGU-----	1079	0,0		
-----				-----AUCAUGAUGGGCUCCUC
GGUGUa-----	136	0,0		
-----				-----AUCAUGAUGGGCUCCUC
GGUGUaa-----	18	0,0		
-----				-----AUCAUGAUGGGCUCCUC
GGUGUau-----	37	0,0		
-----				-----AUCAUGAUGGGCUCCUC
GGUGUU-----	41	0,1		
-----				-----AUCAUGAUGGGCUCCUC
GGUGUUa-----	7	0,1		
-----				-----AUCAUGAUGGGCUCCUC
GGUGUUu-----	6	0,1		
-----				-----UCAUGAUGGGCUCCUC
GG-----	2	1,-3		
-----				-----UCAUGAUGGGCUCCUC
GGU-----	5	1,-2		
-----				-----UCAUGAUGGGCUCCUC
GGUaa-----	2	1,-2		
-----				-----UCAUGAUGGGCUCCUC
GGUau-----	2	1,-2		
-----				-----UCAUGAUGGGCUCCUC
GGUG-----	17	1,-1		
-----				-----UCAUGAUGGGCUCCUC
GGUGa-----	4	1,-1		
-----				-----UCAUGAUGGGCUCCUC
GGUGU-----	100	1,0		
-----				-----UCAUGAUGGGCUCCUC
GGUGUaa-----	3	1,0		

-----UCAUGAUGGGCUCCUC
GGUGUU----- 3 1,1

>hsa-mir-450a-1 5p:18-39 SRX018965

aaacgauacuaaacuguUUUUGCGAUGUGUCCUAAUAUgcacuaauaaauauauugggaacauuuugcauguauaguuuu
gaucaauaua

$\dots(((((((\dots(((((\dots(((((((\dots)))))))))\dots)))))).))))).))))).$

-----UUUUGCGAUGUGUCCUAAU-----

----- 3 0, -2

-----UUUUGCGAUGUGUCCUAAUA-----

$$----- 2 \quad 0, -1$$

-----UUUUGCGAUGUGUCCUAAUAU-----

----- 4 0,0

>hsa-mir-450a-2 5p:23-44 SRX018965

ccaaagaaagaugcuaaacuauUUUUGCGAUGUGUCCUAAUAUguaauauaaauguauuggggacauuuugcauucuaa
guuuuguaucuuuuuuauagg

.....(((((((((.....(((((((((.....)))))))))..))))).)))).
)))).))))).

-----UUUUGCGAUGUGUUCCUAAU-----

----- 3 0,-2

-----UUUUGCGAUGUGUCCUAAUA-----

$$----- \quad 2 \quad 0, -1$$

-----UUUUGCGAUGUGUCCUAAUAU-----

----- 4 0.0

-----AUUGGGGACAUIIUUGCAUUCAU-----

----- 2

-----UUGGGGACAUUUUGCAUUC-----

----- 2

-----UUGGGGACAUUUUGCAUUCAU-----

----- 5

>hsa-mi r-450b 5p:11-32;3p:48-69 SRX018965

gcagaauuauUUUGCAAUAUGUCCUGAAUAuguaauauaaguguaUUGGAUCAUUUGCAUCCAUAguuuuguau
((((((((((((...(((((.(((.((((.((((.(...)).)))))))))).)).)).)).)).)).)).)).).

-----UUUUGCAAUAUGUCCUG-----

3 0,-4

```

-----UUUUGCAAUAUGUCCUGAA-----
9 0,-2
-----UUUUGCAAUAUGUCCUGAAUA-----
3 0,0

```

>hsa-mir-451 5p:17-38 SRX018965

```

cuugggauggcaaggAAACCGUUACCAUUACUGAGUUuaguaaugguaaugguucucuugcuaauaccaga
.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
-----AAACCGUUACCAUUACUG----- 82
0,-4
-----AAACCGUUACCAUUACUGA----- 21
0,-3
-----AAACCGUUACCAUUACUGAG----- 219
0,-2
-----AAACCGUUACCAUUACUGAGau----- 2
0,-2
-----AAACCGUUACCAUUACUGAGU----- 106
0,-1
-----AAACCGUUACCAUUACUGAGUU----- 941
0,0
-----AAACCGUUACCAUUACUGAGUUa----- 6
0,0
-----AAACCGUUACCAUUACUGAGUUU----- 170
0,1
-----AAACCGUUACCAUUACUGAGUUUA----- 17
0,2
-----AAACCGUUACCAUUACUGAGUUUAG----- 4
0,3
-----AACCGUUACCAUUACUGAGUU----- 2
1,0
-----AACCGUUACCAUUACUGAGUUUA----- 3
1,2

```

>hsa-mir-452 MA:14-35;mi:58-79 SRX018965

```

gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc
((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((
)).))

```


UAGGG	2	0,-1
UAGGGU	3	0,0
UAGGGUUU	3	0,2

```
>hsa-mir-455      5p:16-37;3p:54-74      SRX018965
ucccuggcgugagggUAUGUGCCUUGGACUACAUCGuggaagccagcaccauGCAGUCCAUGGGCAUUAACACuugccu
caaggccuaugucauc
```

.....(((.(((((((((((((((((.(((((.(((.(.....)))..)))..))))))..)))))).....))
))..))).....

-GUAUGGCCCUUUGGACUAC-	
2	-1,-4
-GUAUGUGCCCUUUGGACUACA-	
10	-1,-3
-GUAUGUGCCCUUUGGACUACAU-	
38	-1,-2
-GUAUGUGCCCUUUGGACUACAU _a -	
3	-1,-2
-GUAUGUGCCCUUUGGACUACAU _u -	
5	-1,-2
-GUAUGUGCCCUUUGGACUACAUC-	
3	-1,-1
-GUAUGUGCCCUUUGGACUACAUCG-	
10	-1,0
-GUAUGUGCCCUUUGGACUACAUCGU-	
11	-1,1
-UAUGUGCCCUUUGGACUAC-	
2	0,-4
-UAUGUGCCCUUUGGACUACA-	
12	0,-3
-UAUGUGCCCUUUGGACUACAU-	
9	0,-2
-UAUGUGCCCUUUGGACUACAU _a -	
2	0,-2
-UAUGUGCCCUUUGGACUACAUC-	
79	0,-1

-----UAUGUGCCUUUGGACUACAUCG-----	
-----137 0,0-----	
-----UAUGUGCCUUUGGACUACAUCGU-----	
-----47 0,1-----	
-----UAUGUGCCUUUGGACUACAUCGUG-----	
-----11 0,2-----	
-----AUGUGCCUUUGGACUACAUCGU-----	
-----2 1,1-----	
-----UGUGCCUUUGGACUACAUCGU-----	
-----2 2,1-----	
-----UGUGCCUUUGGACUACAUCGUG-----	
-----3 2,2-----	
-----UGUGCCUUUGGACUACAUCGUGa-----	
-----3 2,2-----	
-----UGUGCCUUUGGACUACAUCGUGu-----	
-----4 2,2-----	
-----AUGCAGUCCAUGGGCAUA-----	
-----12 -2,-5-----	
-----AUGCAGUCCAUGGGCAUAU-----	
-----15 -2,-4-----	
-----AUGCAGUCCAUGGGCAUAUu-----	
-----3 -2,-4-----	
-----AUGCAGUCCAUGGGCAUAUuu-----	
-----2 -2,-4-----	
-----AUGCAGUCCAUGGGCAUAUA-----	
-----8 -2,-3-----	
-----AUGCAGUCCAUGGGCAUAUAu-----	
-----2 -2,-3-----	
-----AUGCAGUCCAUGGGCAUAUAC-----	
-----53 -2,-2-----	
-----AUGCAGUCCAUGGGCAUAUACu-----	
-----2 -2,-2-----	
-----AUGCAGUCCAUGGGCAUAUACA-----	
-----112 -2,-1-----	
-----AUGCAGUCCAUGGGCAUAUACAa-----	
-----2 -2,-1-----	
-----AUGCAGUCCAUGGGCAUAUACAC-----	
-----62 -2,0-----	

-----			-----AUGCAGUCCAUGGGCAUAUACACa-----
-----	4	-2,0	
-----			-----AUGCAGUCCAUGGGCAUAUACACU-----
-----	7	-2,1	
-----			-----UGCAGUCCAUGGGCAUAUAC-----
-----	4	-1,-2	
-----			-----UGCAGUCCAUGGGCAUAUACA-----
-----	52	-1,-1	
-----			-----UGCAGUCCAUGGGCAUAUACAC-----
-----	33	-1,0	
-----			-----UGCAGUCCAUGGGCAUAUACACa-----
-----	8	-1,0	
-----			-----UGCAGUCCAUGGGCAUAUACACU-----
-----	2	-1,1	
-----			-----GCAGUCCAUGGGCAUAUA-----
-----	14	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAa-----
-----	2	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAaa-----
-----	3	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAu-----
-----	5	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAC-----
-----	66	0,-2	
-----			-----GCAGUCCAUGGGCAUAUACA-----
-----	348	0,-1	
-----			-----GCAGUCCAUGGGCAUAUACAa-----
-----	10	0,-1	
-----			-----GCAGUCCAUGGGCAUAUACAu-----
-----	5	0,-1	
-----			-----GCAGUCCAUGGGCAUAUACAuu-----
-----	3	0,-1	
-----			-----GCAGUCCAUGGGCAUAUACAC-----
-----	536	0,0	
-----			-----GCAGUCCAUGGGCAUAUACACa-----
-----	79	0,0	
-----			-----GCAGUCCAUGGGCAUAUACACaa-----
-----	5	0,0	


```

-----AAGACGGGAGGAAAGAAG-----
5   0, -4
-----AAGACGGGAGGAAAGAAGG-----
7   0, -3
-----AAGACGGGAGGAAAGAAGGG-----
2   0, -2
-----AAGACGGGAGGAAAGAAGGGA-----
16  0, -1
-----AAGACGGGAGGAAAGAAGGGAa-----
2   0, -1
-----AAGACGGGAGGAAAGAAGGGAaa-----
2   0, -1
-----AAGACGGGAGGAAAGAAGGGAG-----
33  0, 0
-----AAGACGGGAGGAAAGAAGGGAGa-----
6   0, 0
-----AGACGGGAGGAAAGAAGG-----
2   1, -3
-----AGACGGGAGGAAAGAAGGGAG-----
2   1, 0
-----AGACGGGAGGAAAGAAGGGAGUGG-----
3   1, 3
-----UCACUCCUCUCCUCCCGUCUUa-----
2   0, 0

```

>hsa-mir-484 5p:8-29 SRX018965

```

agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuuaauagggacuuuccgggggggugaccucggcuuuuuuggcg
.(((((((((.....(((.(((((((..(((.((((.....))))..)))))).)))))).))))).))))).
-----UCAGGCUCAGUCCCCUCCCG-----
2   0, -2
-----UCAGGCUCAGUCCCCUCCCGuu-----
4   0, -2
-----UCAGGCUCAGUCCCCUCCCGA-----
13  0, -1
-----UCAGGCUCAGUCCCCUCCCGAa-----
12  0, -1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
7   0, -1

```

```

-----UCAGGCUCAGUCCCCUCCCGAU-----
62  0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
5   0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
5   0,1
-----UCAGGCUCAGUCCCCUCCCGAUAu-----
2   0,1
-----AGGCUCAGUCCCCUCCCGAU-----
6   2,0

```

>hsa-mir-485 5p:9-30;3p:46-67 SRX018965

```

acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((...(((((((...(((((((((((...((((((((((((((((((((((((((((((((((((((((((((
-----AGAGGCUGGCCGUGAUGA----- 175
0,-4
-----AGAGGCUGGCCGUGAUGAAu----- 2
0,-4
-----AGAGGCUGGCCGUGAUGAA----- 146
0,-3
-----AGAGGCUGGCCGUGAUGAAa----- 12
0,-3
-----AGAGGCUGGCCGUGAUGAAaa----- 3
0,-3
-----AGAGGCUGGCCGUGAUGAAau----- 109
0,-3
-----AGAGGCUGGCCGUGAUGAAU----- 157
0,-2
-----AGAGGCUGGCCGUGAUGAAUa----- 5
0,-2
-----AGAGGCUGGCCGUGAUGAAUaa----- 2
0,-2
-----AGAGGCUGGCCGUGAUGAAUU----- 4938
0,-1
-----AGAGGCUGGCCGUGAUGAAUUa----- 32
0,-1
-----AGAGGCUGGCCGUGAUGAAUUaa----- 5
0,-1

```

-----AGAGGCUGGCCGUGAUGAAUau-----	2
0,-1	
-----AGAGGCUGGCCGUGAUGAAUu-----	43
0,-1	
-----AGAGGCUGGCCGUGAUGAAUuu-----	3
0,-1	
-----AGAGGCUGGCCGUGAUGAAUUC-----	1385
0,0	
-----AGAGGCUGGCCGUGAUGAAUUCa-----	28
0,0	
-----AGAGGCUGGCCGUGAUGAAUUCaa-----	5
0,0	
-----AGAGGCUGGCCGUGAUGAAUUCu-----	88
0,0	
-----AGAGGCUGGCCGUGAUGAAUUCuu-----	2
0,0	
-----AGAGGCUGGCCGUGAUGAAUUCG-----	1443
0,1	
-----AGAGGCUGGCCGUGAUGAAUUCGu-----	255
0,1	
-----AGAGGCUGGCCGUGAUGAAUUCGuu-----	7
0,1	
-----AGAGGCUGGCCGUGAUGAAUUCGA-----	182
0,2	
-----AGAGGCUGGCCGUGAUGAAUUCGAa-----	5
0,2	
-----AGAGGCUGGCCGUGAUGAAUUCGAU-----	4
0,3	
-----GAGGCUGGCCGUGAUGAAU-----	2
1,-2	
-----GAGGCUGGCCGUGAUGAAU-----	7
1,-1	
-----AGUCAUACACGGCUCUCC-----	37
-1,-5	
-----AGUCAUACACGGCUCUCCU-----	18
-1,-4	
-----AGUCAUACACGGCUCUCCUau-----	2
-1,-4	

-----AGUCAUACACGGCUCUCCUC-----	44
-1,-3	
-----AGUCAUACACGGCUCUCCUCa-----	2
-1,-3	
-----AGUCAUACACGGCUCUCCUCU-----	115
-1,-2	
-----AGUCAUACACGGCUCUCCUCUC-----	207
-1,-1	
-----AGUCAUACACGGCUCUCCUCUCa-----	146
-1,-1	
-----AGUCAUACACGGCUCUCCUCUCaa-----	37
-1,-1	
-----AGUCAUACACGGCUCUCCUCUCau-----	15
-1,-1	
-----AGUCAUACACGGCUCUCCUCUCU-----	1093
-1,0	
-----AGUCAUACACGGCUCUCCUCUCUa-----	89
-1,0	
-----AGUCAUACACGGCUCUCCUCUCUaa-----	31
-1,0	
-----AGUCAUACACGGCUCUCCUCUCUau-----	121
-1,0	
-----AGUCAUACACGGCUCUCCUCUCUU-----	24
-1,1	
-----GUCAUACACGGCUCUCCU-----	31
0,-4	
-----GUCAUACACGGCUCUCCUC-----	42
0,-3	
-----GUCAUACACGGCUCUCCUCaa-----	2
0,-3	
-----GUCAUACACGGCUCUCCUCU-----	144
0,-2	
-----GUCAUACACGGCUCUCCUCUa-----	2
0,-2	
-----GUCAUACACGGCUCUCCUCUaa-----	7
0,-2	
-----GUCAUACACGGCUCUCCUCUau-----	3
0,-2	

0,-2	-GUCAUACACGGCUCUCCUCUu-----	2
0,-2	-GUCAUACACGGCUCUCCUCUuu-----	4
0,-1	-GUCAUACACGGCUCUCCUCUC-----	293
0,-1	-GUCAUACACGGCUCUCCUCUCa-----	239
0,-1	-GUCAUACACGGCUCUCCUCUCaa-----	21
0,-1	-GUCAUACACGGCUCUCCUCUCau-----	29
0,0	-GUCAUACACGGCUCUCCUCUCU-----	1383
0,0	-GUCAUACACGGCUCUCCUCUCUa-----	107
0,0	-GUCAUACACGGCUCUCCUCUCUaa-----	34
0,0	-GUCAUACACGGCUCUCCUCUCUau-----	80
0,0	-GUCAUACACGGCUCUCCUCUCUU-----	33
0,1	-GUCAUACACGGCUCUCCUCUCUua-----	4
0,1	-GUCAUACACGGCUCUCCUCUCUuaa-----	2
0,1	-GUCAUACACGGCUCUCCUCUCUUU-----	5
1,-1	-UCAUACACGGCUCUCCUCUCau-----	2
1,0	-UCAUACACGGCUCUCCUCUCU-----	12
1,1	-UCAUACACGGCUCUCCUCUCUU-----	2

---UCCUGUACUGAGCUGCCCC-----	19	0,-4
---UCCUGUACUGAGCUGCCCC-----	47	0,-3
---UCCUGUACUGAGCUGCCCCCG-----	54	0,-2
---UCCUGUACUGAGCUGCCCCCGA-----	164	0,-1
---UCCUGUACUGAGCUGCCCCCGAa-----	9	0,-1
---UCCUGUACUGAGCUGCCCCCGAu-----	2	0,-1
---UCCUGUACUGAGCUGCCCCCGAG-----	295	0,0
---UCCUGUACUGAGCUGCCCCCGAGa-----	111	0,0
---UCCUGUACUGAGCUGCCCCCGAGaa-----	3	0,0
---UCCUGUACUGAGCUGCCCCCGAGau-----	2	0,0
---UCCUGUACUGAGCUGCCCCCGAGu-----	19	0,0
-----CUGUACUGAGCUGCCCCCGAG-----	12	2,0
-----CGGGGCAGCUCAGUACAGGAU--	5	0,0

>hsa-mir-487a 3p:49-70 SRX018965

gguacuugaagagugguauccugcuguguucgcuaauuuuugacgAAUCAUACAGGGACAUCCAGUUuuucaguauc
 ((((((.((((.((((...(((((((.((((((((.((((...))))))))).))))))))).))))).))))))

-----GUGGUUAUCCUGCUGUGUUCG-----		
6		
-----AAUCAUACAGGGACAUC-----		
6 0,-4		
-----AAUCAUACAGGGACAUCCAG-----		
7 0,-2		
-----AAUCAUACAGGGACAUCCAGU-----		
25 0,-1		
-----AAUCAUACAGGGACAUCCAGUU-----		
341 0,0		
-----AAUCAUACAGGGACAUCCAGUua-----		
21 0,0		
-----AAUCAUACAGGGACAUCCAGUUU-----		
36 0,1		
-----AAUCAUACAGGGACAUCCAGUUUU-----		
2 0,2		
-----AUCAUACAGGGACAUCCAGU-----		
2 1,-1		
-----AUCAUACAGGGACAUCCAGUU-----		
4 1,0		
-----AUCAUACAGGGACAUCCAGUUU-----		

3 1,1

>hsa-mir-487b 3p:51-72 SRX018965

uugguacuuggagagugguuaucuccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
ucaa

.(((((((...(((((((...(((((((...)))))).)))))).)))))).))))).
)))).

-----AGAGUGGUUAUCCCUGUCCU-----

---- 3

-----AAUCGUACAGGGUCAUCC-----

---- 39 0,-4

-----AAUCGUACAGGGUCAUCCA-----

---- 38 0,-3

-----AAUCGUACAGGGUCAUCCAC-----

---- 33 0,-2

-----AAUCGUACAGGGUCAUCCACa-----

---- 3 0,-2

-----AAUCGUACAGGGUCAUCCACU-----

---- 954 0,-1

-----AAUCGUACAGGGUCAUCCACUa-----

---- 14 0,-1

-----AAUCGUACAGGGUCAUCCACUaa-----

---- 2 0,-1

-----AAUCGUACAGGGUCAUCCACUau-----

---- 2 0,-1

-----AAUCGUACAGGGUCAUCCACUU-----

---- 2215 0,0

-----AAUCGUACAGGGUCAUCCACUUa-----

---- 52 0,0

-----AAUCGUACAGGGUCAUCCACUUaa-----

---- 4 0,0

-----AAUCGUACAGGGUCAUCCACUUU-----

---- 92 0,1

-----AUCGUACAGGGUCAUCCA-----

---- 5 1,-3

-----AUCGUACAGGGUCAUCCACU-----

---- 23 1,-1

-----AUCGUACAGGGUCAUCCACUU-----

```

----      109  1,0
-----AUCGUACAGGGUCAUCCACUUa-----
----      12   1,0
-----AUCGUACAGGGUCAUCCACUUU-----
----      81   1,1
-----AUCGUACAGGGUCAUCCACUUUa-----
----       7   1,1
-----UCGUACAGGGUCAUCCACU-----
----       5   2,-1
-----UCGUACAGGGUCAUCCACUU-----
----      31   2,0
-----UCGUACAGGGUCAUCCACUUa-----
----       9   2,0
-----UCGUACAGGGUCAUCCACUUaa-----
----       2   2,0
-----UCGUACAGGGUCAUCCACUUau-----
----       5   2,0
-----UCGUACAGGGUCAUCCACUUU-----
----     104   2,1
-----UCGUACAGGGUCAUCCACUUUa-----
----      12   2,1
-----UCGUACAGGGUCAUCCACUUUaa-----
----       5   2,1
-----UCGUACAGGGUCAUCCACUUUU-----
----      12   2,2

```

>hsa-mir-488 mi:14-34;MA:52-72 SRX018965

```

gagaaucaucucuCCCAGAUAAUGGCACUCUCAAacaaguuccaaauuguUUGAAAGGCUAUUUCUUGGUCagaugacu
cuc

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))

```

```

-----CCCAGAUAAUGGCACUCUCA-----
--- 43   0,-1
-----CCCAGAUAAUGGCACUCUCAu-----
---   3   0,-1
-----CCCAGAUAAUGGCACUCUCA-----
--- 43   0,0
-----CCCAGAUAAUGGCACUCUCAAA-----

```



```

----- 3   -1,-3
-----UUUGUACAUGGUAGGCUUUCA-----
----- 13  -1,-2
-----UUUGUACAUGGUAGGCUUUCAU-----
----- 66  -1,-1
-----UUUGUACAUGGUAGGCUUUCAUa-----
----- 2   -1,-1
-----UUUGUACAUGGUAGGCUUUCAUU-----
----- 2   -1,0
-----UUGUACAUGGUAGGCUUU-----
----- 7   0,-4
-----UUGUACAUGGUAGGCUUUa-----
----- 2   0,-4
-----UUGUACAUGGUAGGCUUUC-----
----- 9   0,-3
-----UUGUACAUGGUAGGCUUUCA-----
----- 24  0,-2
-----UUGUACAUGGUAGGCUUUCAU-----
----- 85  0,-1
-----UUGUACAUGGUAGGCUUUCAUU-----
----- 232 0,0
-----UUGUACAUGGUAGGCUUUCAUUa-----
----- 27  0,0
-----UUGUACAUGGUAGGCUUUCAUUu-----
----- 3   0,0
-----UGUACAUGGUAGGCUUUCAU-----
----- 6   1,-1
-----UGUACAUGGUAGGCUUUCAUU-----
----- 17  1,0
-----UGUACAUGGUAGGCUUUCAUUa-----
----- 2   1,0
-----UGUACAUGGUAGGCUUUCAUUC-----
----- 3   1,1
-----UGUACAUGGUAGGCUUUCAUUCA-----
----- 3   1,2
-----GUACAUGGUAGGCUUUCAU-----
----- 4   2,-1
-----GUACAUGGUAGGCUUUCAUU-----

```

-----	19	2,0	
-----	-GUACAUGGUAGGCUUUCAUa-		
-----	6	2,0	
-----			-UGAAGGUCUACUGUGUGC-----
-----	46	0,-4	
-----			-UGAAGGUCUACUGUGUGCC-----
-----	50	0,-3	
-----			-UGAAGGUCUACUGUGUGCCA-----
-----	54	0,-2	
-----			-UGAAGGUCUACUGUGUGCCAa-----
-----	6	0,-2	
-----			-UGAAGGUCUACUGUGUGCCAaa-----
-----	3	0,-2	
-----			-UGAAGGUCUACUGUGUGCCAau-----
-----	7	0,-2	
-----			-UGAAGGUCUACUGUGUGCCAu-----
-----	17	0,-2	
-----			-UGAAGGUCUACUGUGUGCCAuu-----
-----	6	0,-2	
-----			-UGAAGGUCUACUGUGUGCCAG-----
-----	245	0,-1	
-----			-UGAAGGUCUACUGUGUGCCAGa-----
-----	77	0,-1	
-----			-UGAAGGUCUACUGUGUGCCAGaa-----
-----	7	0,-1	
-----			-UGAAGGUCUACUGUGUGCCAGau-----
-----	5	0,-1	
-----			-UGAAGGUCUACUGUGUGCCAGu-----
-----	12	0,-1	
-----			-UGAAGGUCUACUGUGUGCCAGG-----
-----	121	0,0	
-----			-UGAAGGUCUACUGUGUGCCAGGa-----
-----	63	0,0	
-----			-UGAAGGUCUACUGUGUGCCAGGaa-----
-----	3	0,0	
-----			-UGAAGGUCUACUGUGUGCCAGGu-----
-----	37	0,0	
-----			-UGAAGGUCUACUGUGUGCCAGGuu-----

----- 5 0,0

>hsa-mir-494 3p:48-69 SRX018965

gauacucgaaggagagguuccguguugucuucucuuuuuuuugaUGAAACAUACACGGGAAACCUCuuuuuuaguau
c

$$(((((((.(((((((((((((((..(((((((((((.((((((.)).).)))))..))))).)))))))))$$

$$)$$

-----AGAGGUUGUCCGUGUUGUCUUC-----

- 3

-----AGGUUGUCCGUGUUGUCUUCUC-----

- 2

-----UGAAACAUACACGGGAAA-----

- 37 0,-4

-----UGAAACAUACACGGGAAAC-----

- 24 0,-3

-----UGAAACAUACACGGGAACa-----

- 2 0,-3

-----UGAAACAUACACGGGAAACC-----

- 26 0,-2

-----UGAAACAUACACGGGAAACCU-----

- 164 0,-1

-----UGAAACAUACACGGGAAACCUa-----

- 4 0, -1

-----UGAAACAUACACGGGAACCCUC-----

- 268 0,0

-----UGAAACAUACACGGGAAACCUCa-----

- 20 0,0

-----UGAAACAUACACGGGAAACCUC_{au}-----

- 2 0,0

-----UGAAACAUACACGGGAAACCUCU-----

- 1192 0,1

-----UGAAACAUACACGGGAAACCUCUa-----

- 13 0,1

-----UGAAACAUAACGGGAAACCUCUaa-----

- 5 0,1

-----UGAAACAUACACGGGAAACCUCUU-----

- 18 0,2

-----UGAAACAUACACGGGAAACCUCUUa-----

--	198	0,-1	-----AAACAAACAUGGUGCACUUCUU-----
--	1493	0,0	-----AAACAAACAUGGUGCACUUCUUa-----
--	156	0,0	-----AAACAAACAUGGUGCACUUCUUaa-----
--	7	0,0	-----AAACAAACAUGGUGCACUUCUUau-----
--	10	0,0	-----AAACAAACAUGGUGCACUUCUUU-----
--	917	0,1	-----AAACAAACAUGGUGCACUUCUUUa-----
--	18	0,1	-----AAACAAACAUGGUGCACUUCUUUU-----
--	12	0,2	-----AACAAACAUGGUGCACUU-----
--	2	1,-3	-----AACAAACAUGGUGCACUUCU-----
--	8	1,-1	-----AACAAACAUGGUGCACUUCUU-----
--	66	1,0	-----AACAAACAUGGUGCACUUCUUa-----
--	17	1,0	-----AACAAACAUGGUGCACUUCUUU-----
--	123	1,1	-----AACAAACAUGGUGCACUUCUUUa-----
--	6	1,1	-----ACAAACAUGGUGCACUUCUUUa-----
--	2	2,1	-----ACAAACAUGGUGCACUUCUUUU-----
--	2	2,2	

>hsa-mir-496 3p:56-77 SRX018965

```

cccaagucagguacucgaauggagguuguccauggguguguucauuuuuuuuugaUGAGUAUUACAUGGCCAAUCUCcuu
ucggguacucaauucucuuggg
(((((((...(((((.(((.((((((((.((((((.(((((((.....))))))))))..)))))).)))))))).)
)))))))).))))))
-CCAAGUCAGGUACUCGAAUGGA-----

```



```

----- 2
--CAAGUCAGGUACUCGAAUGGA-----
----- 5
--AAGUCAGGUACUCGAAUGG-----
----- 2
--AAGUCAGGUACUCGAAUGGA-----
----- 17
---AGUCAGGUACUCGAAUGGA-----
----- 4
-----UGAGUAUUACAUGGCCAAU-----
----- 4 0,-3
-----UGAGUAUUACAUGGCCAAUC-----
----- 6 0,-2
-----UGAGUAUUACAUGGCCAAUCa-----
----- 2 0,-2
-----UGAGUAUUACAUGGCCAAUCU-----
----- 73 0,-1
-----UGAGUAUUACAUGGCCAAUCUa-----
----- 2 0,-1
-----UGAGUAUUACAUGGCCAAUCUC-----
----- 44 0,0
-----UGAGUAUUACAUGGCCAAUCUCu-----
----- 2 0,0
-----GAGUAUUACAUGGCCAAUCU-----
----- 2 1,-1
-----AGUAUUACAUGGCCAAUCU-----
----- 3 2,-1
-----AGUAUUACAUGGCCAAUCUC-----
----- 7 2,0
-----AGUAUUACAUGGCCAAUCUCu-----
----- 7 2,0
-----AGUAUUACAUGGCCAAUCUCC-----
----- 16 2,1
-----AGUAUUACAUGGCCAAUCUCCa-----
----- 2 2,1

```

>hsa-mir-497 MA:24-44;mi:64-85 SRX018965

ccaccccgguccugcucccgcccCAGCAGCACACUGUGGUUUGUacggcacuguggccacgucCAAACCACACUGUGGUG

$$((.(.(((((((.((((((((((((((((.((((.((((((((((((.((((((.)))..)).)))))))).).)))..)))).).)))))))).)).)).).))$$
[illegible]

>hsa-mir-500a MA:13-35;mi:52-73 SRX018965
gcucuccucucUAAUCCUUGCUACCUAGGUGAGAgugcugucugaaugcaAUGCACCUAGGCAAGGAUUCUGagagcgca

(((.(((((.(((((((...(((((...(((.....))))...)))))).)))))).).
))))

```
>hsa-mir-500b    5p:11-28    SRX018965
ccccucucuAAUCCUUGCUACCUUGGUgagagugcuuucugaaugcagugcacccaggcaaggauucugcaaggggga
(((((((.(.((((((((((..(((((((.(.((.....))).).)))))))))))))))).).)))))).
-----UAAUCCUUGCUACCUUGG-----
```

Diagram illustrating a 5' to 3' RNA hairpin structure. The sequence is shown with dashes indicating the 5' and 3' ends. The structure consists of a stem-loop followed by a single-stranded tail. The stem is formed by base pairing between the sequence AGUGCACCCAGGCAAGGA (top) and AGUGCACCCAGGCAAGGAUUC (bottom). The loop is formed by the sequence AGUGCACCCAGGCAAGGAUUC. The single-stranded tail is UGCACCCAGGCAAGGAUUC. The sequence is: 5' AGUGCACCCAGGCAAGGA-3' (top strand), 3' AGUGCACCCAGGCAAGGAUUC-5' (bottom strand). The loop is AGUGCACCCAGGCAAGGAUUC. The tail is UGCACCCAGGCAAGGAUUC.

```

>hsa-mir-501      5p:14-35;3p:51-72      SRX018965
gcucuuccucucuAAUCCUUUGUCCCUUGGUGAGAgugcuuucugaugcAAUGCACCCGGGCAAGGAUUCUgagaggggu
gagc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----AAUGCACCCGGGCAAGGA-----
----      18      0,-4
-----AAUGCACCCGGGCAAGGAU-----
----      13      0,-3
-----AAUGCACCCGGGCAAGGAUU-----
----      77      0,-2
-----AAUGCACCCGGGCAAGGAUUC-----
----      8       0,-1
-----AAUGCACCCGGGCAAGGAUUCUG-----
----      3       0,1
-----AAUGCACCCGGGCAAGGAUUCUGu-----
----      2       0,1
-----AAUGCACCCGGGCAAGGAUUCUGA-----
----      3       0,2
-----AUGCACCCGGGCAAGGAU-----
----      2       1,-3
-----AUGCACCCGGGCAAGGAUU-----
----      2       1,-2

```

```
>hsa-mir-502      5p:16-36;3p:52-73      SRX018965
ugcuccccccucucuaAUCCUUGCUAUCUGGGUGCUAagugcuggcucaaugcAAUGCACCUGGGCAAGGAUUCagagaggg
```

Position	Count	Score	Sequence
3	-1	0	AAUCCUUGCUAUCUGGGUGCUA
34	0	-4	AAUGCACCUGGGCAAGGA
23	0	-3	AAUGCACCUGGGCAAGGAU
107	0	-2	AAUGCACCUGGGCAAGGAUU
12	0	-1	AAUGCACCUGGGCAAGGAUUC
8	0	0	AAUGCACCUGGGCAAGGAUUCA
2	0	0	AAUGCACCUGGGCAAGGAUUCAa
29	0	1	AAUGCACCUGGGCAAGGAUUCAG
6	0	1	AAUGCACCUGGGCAAGGAUUCAGu
4	0	2	AAUGCACCUGGGCAAGGAUUCAGA
96	1	-3	AUGCACCUGGGCAAGGAU
611	1	-2	AUGCACCUGGGCAAGGAUU
90	1	-1	AUGCACCUGGGCAAGGAUUC
3	2	-2	UGCACCUGGGCAAGGAUU

```

ugcccUAGCAGCGGGAACAGUUCUGCAGUgagcgauaggugcucugggguaauuguuuccgcugccagggua
(((((((.(((((((((((((((.((.(.((((((.....)))))).)).)))))))))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 223 0,-5
-----UAGCAGCGGGAACAGUUCa----- 11 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 7 0,-5

```

-----UAGCAGCGGGAACAGUUCU-----	293	0,-4
-----UAGCAGCGGGAACAGUUCU _a -----	10	0,-4
-----UAGCAGCGGGAACAGUUCU _{aa} -----	20	0,-4
-----UAGCAGCGGGAACAGUUCUG-----	2	0,-3
-----UAGCAGCGGGAACAGUUCUG _a -----	2	0,-3
-----UAGCAGCGGGAACAGUUCUG _{aa} -----	4	0,-3
-----UAGCAGCGGGAACAGUUCUGCA-----	16	0,-1
-----UAGCAGCGGGAACAGUUCUGCA _a -----	8	0,-1
-----UAGCAGCGGGAACAGUUCUGCA _{aa} -----	2	0,-1
-----UAGCAGCGGGAACAGUUCUGCA _u -----	4	0,-1
-----UAGCAGCGGGAACAGUUCUGCAG-----	60	0,0
-----UAGCAGCGGGAACAGUUCUGCAG _a -----	3	0,0

```

>hsa-mir-505      mi:15-36;MA:51-72      SRX018965
gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc
((((((..((((((.(((((((((((.((((((.(((((((((. . . . .))))))))).))))).)))))))).))))).
))))
-----GGGAGCCAGGAAGUAUUGAUGU-----
----      3      0,0
-----GGGAGCCAGGAAGUAUUGAUGUU-----
----     20      0,1
-----GGGAGCCAGGAAGUAUUGAUGUUU-----
----      4      0,2

```

```

-----CGUCAACACUUGCUGGUUCCUC-----
----      2      0,1
-----GUCAACACUUGCUGGUUUC-----
----      2      1,-2
-----UCAACACUUGCUGGUUCCU-----
----      4      2,0

```

>hsa-mir-511-1 5p:16-36 SRX018965

```

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug
(((((((((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 5
-----AAUGUGUAGCAAAAGACAGA-----
----- 10
-----AAUGUGUAGCAAAAGACAGAA-----
----- 10
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 2

```

>hsa-mir-511-2 5p:16-36 SRX018965

```

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug
(((((((((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 5
-----AAUGUGUAGCAAAAGACAGA-----
----- 10
-----AAUGUGUAGCAAAAGACAGAA-----
----- 10
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 2

```

>hsa-mir-532 5p:20-41;3p:57-78 SRX018965

```

cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu

```

.(.((((((((.....((.((((((.(((.((((.(.....))..)))..))))..)))).))....
)))))))).).

```
-----CCAUGCCUUGAGUGUAGGACCGU-----
----- 3   -1,0
-----CAUGCCUUGAGUGUAGGA-----
----- 5    0,-4
-----CAUGCCUUGAGUGUAGGAC-----
----- 8    0,-3
-----CAUGCCUUGAGUGUAGGACC-----
----- 2    0,-2
-----CAUGCCUUGAGUGUAGGACCG-----
-----23   0,-1
-----CAUGCCUUGAGUGUAGGACCGU-----
-----356  0,0
-----CAUGCCUUGAGUGUAGGACCGUa-----
-----28   0,0
-----CAUGCCUUGAGUGUAGGACCGUU-----
----- 7    0,1
-----AUGCCUUGAGUGUAGGAC-----
----- 3    1,-3
-----AUGCCUUGAGUGUAGGACCGU-----
----- 5    1,0
-----CCUCCCACACCCAAGGCUU-----
----- 6    0,-3
-----CCUCCCACACCCAAGGCUUG-----
-----10   0,-2
-----CCUCCCACACCCAAGGCUUGC-----
-----45   0,-1
-----CCUCCCACACCCAAGGCUUGCA-----
-----206  0,0
-----CCUCCCACACCCAAGGCUUGCAu-----
-----14   0,0
-----CCUCCCACACCCAAGGCUUGCAA-----
-----12   0,1
-----CUCCCACACCCAAGGCUUGCA-----
----- 4    1,0
```

>hsa-mir-539 5p:9-30 SRX018965

auacuugaGGAGAAAUUAUCCUUGGUGUGUucgcuuuuuuangaugaaucauacaaggacaauuucuuuuugaguau
 ((((((...(((((((((((.(((((((.((((((((((.....).))))).))))))))).))))))))).))))))
 -----AGGAGAAAUUAUCCUUGGUGUGU-----
 2 -1,0
 -----GGAGAAAUUAUCCUUGGUG-----
 2 0,-3
 -----GGAGAAAUUAUCCUUGGUGU-----
 2 0,-2
 -----GGAGAAAUUAUCCUUGGUGUG-----
 5 0,-1
 -----GGAGAAAUUAUCCUUGGUGUGU-----
 16 0,0
 -----GGAGAAAUUAUCCUUGGUGUGUU-----
 7 0,1
 -----AGAAAUUAUCCUUGGUGUG-----
 2 2,-1
 -----AGAAAUUAUCCUUGGUGUGUU-----
 2 2,1
 -----AGAAAUUAUCCUUGGUGUGUUC-----
 13 2,2
 -----AGAAAUUAUCCUUGGUGUGUUCu-----
 3 2,2
 -----AGAAAUUAUCCUUGGUGUGUUCuu-----
 2 2,2
 -----AAUCAUACAAGGACAAUUUCU-----
 3
 -----AAUCAUACAAGGACAAUUUCUU-----
 5
 -----AAUCAUACAAGGACAAUUUCUUU-----
 5
 -----AUCAUACAAGGACAAUUU-----
 14
 -----AUCAUACAAGGACAAUUUuu-----
 2
 -----AUCAUACAAGGACAAUUUC-----
 2
 -----AUCAUACAAGGACAAUUUCU-----
 26

```

-----AUCAUACAAGGACAAUUUCUU-----
35
-----AUCAUACAAGGACAAUUUCUUa-----
3
-----AUCAUACAAGGACAAUUUCUU-----
140
-----AUCAUACAAGGACAAUUUCUUUa-----
11
-----AUCAUACAAGGACAAUUUCUUUU-----
2
-----CAUACAAGGACAAUUUCUU-----
2
-----CAUACAAGGACAAUUUCUUUU-----
5
-----AUACAAGGACAAUUUCUU-----
3
-----AUACAAGGACAAUUUCUU-----
22
-----AUACAAGGACAAUUUCUUUU-----
2
-----AUACAAGGACAAUUUCUUUU-----
3
-----AUACAAGGACAAUUUCUUUUUG-----
62
-----AUACAAGGACAAUUUCUUUUUGu-----
30
-----AUACAAGGACAAUUUCUUUUUGA-----
2

```

>hsa-mir-541 mi:10-34;MA:54-75 SRX018965

acgucagggAAAGGAUUCUGCUGUCGGUCCACUccaaaguucacagaugggUGGUGGGCACAGAAUCUGGACUcugcu
ugug

(((.(((...(((((((.(((.(...(((((...(((...)))))))))).)))))))).)))).

```

-----AAAGGAUUCUGCUGUCGGUC-----
---- 7 0,-5
-----AAAGGAUUCUGCUGUCGGUCa-----
---- 5 0,-5

```

```

-----AAAGGAUUCUGCUGUCGGUCaa-----
---- 2 0,-5
-----AAAGGAUUCUGCUGUCGGUCC-----
---- 8 0,-4
-----AAAGGAUUCUGCUGUCGGUCCC-----
---- 15 0,-3
-----AAAGGAUUCUGCUGUCGGUCCCA-----
---- 10 0,-2
-----AAAGGAUUCUGCUGUCGGUCCCAu-----
---- 14 0,-2
-----AAAGGAUUCUGCUGUCGGUCCCAC-----
---- 17 0,-1
-----AAAGGAUUCUGCUGUCGGUCCCACU-----
---- 27 0,0
-----AAGGAUUCUGCUGUCGGUCCCACU-----
---- 2 1,0
-----GGUGGUGGGCACAGAAUCU-----
---- 2 -2,-5

```

>hsa-mir-542 5p:16-38;3p:53-74 SRX018965

cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAAACUGAAAaggucug
ggagccacucaucuca

....((((((((...((((...((((((((((((((((((((...))))))))))))))))))))))))))))))))))

```

-----UUGUGACAGAUUGAUAAACU-----
----- 3 -1,-4
-----UUGUGACAGAUUGAUAAACUGAA-----
----- 3 -1,-1
-----UGUGACAGAUUGAUAAACU-----
----- 11 0,-4
-----UGUGACAGAUUGAUAAACUG-----
----- 7 0,-3
-----UGUGACAGAUUGAUAAACUGA-----
----- 4 0,-2
-----UGUGACAGAUUGAUAAACUGAA-----
----- 12 0,-1
-----UGUGACAGAUUGAUAAACUGAAA-----
----- 6 0,0

```

uacuuaaugagaaguugcccguguuuuuuucgcuuuuuuugugacgAAACAUUCGCGGUGCACUUCUuuucaguauc

-----AAGUUGCCCGUGUUUUUUCG-----

-----GAAACAUUCGCGGUGCACU-----

-----AAACAUUCGCGGUGCACU-----

-----AAACAUUCGCGGUGCACUU-----

-----AAACAUUCGCGGUGCACUU_a-----

-----AAACAUUCGCGGUGCACUU_u-----

-----AAACAUUCGCGGUGCACUUuu-----

-----AAACAUUCGCGGUGCACUUC-----

-----AAACAUUCGCGGUGCACUUCU-----

-----AAACAUUCGCGGUGCACUUCUaa-----

-----AAACAUUCGCGGUGCACUUCU_{au}-----

-----AAACAUUCGCGGUGCACUUCUU-----

-----AAACAUUCGCGGUGCACUUCUU_a-----

-----AAACAUUCGCGGUGCACUUCUU_{aa}-----

-----AAACAUUCGCGGUGCACUUCU_{au}-----

-----AAACAUUCGCGGUGCACUUCUU-----

-----AAACAUUCGCGGUGCACUUCUUUa-----

9 0,1

```

-----AACAUUCGCGGUGCACUU-----
3   1,-3
-----AACAUUCGCGGUGCACUUCUU-----
4   1,0
-----AACAUUCGCGGUGCACUUCUUa-----
3   1,0

```

>hsa-mir-548a-1 3p:61-82 SRX018965

ugcagggagguauuaaguuggugcaaaaguaauugugauuuuugccauuaaaaguaacgaCAAAACUGGCAAUUACUUUU
GCaccaaaccugguauu

..((((.....(((((((((((((((((((((.(((((.((((.....))).).)))))).).))))))))))))))
)))))))).)))).....

```

-----CAAAACUGGCAAUUACUUU-
-----3   0,-3
-----CAAAACUGGCAAUUACUUUU
-----11  0,-2
-----CAAAACUGGCAAUUACUUUU
G-----57  0,-1
-----CAAAACUGGCAAUUACUUUU
Ga-----6   0,-1
-----CAAAACUGGCAAUUACUUUU
GC-----5   0,0
-----AAAACUGGCAAUUACUUUU
G-----4   1,-1

```

>hsa-mir-548a-2 3p:61-82 SRX018965

ugugauguguauuagguuugugcaaaaguaauugggguuuuugccguuaaaaguaauggCAAAACUGGCAAUUACUUUU
GCaccaaacuaauauaa

.....((((((((.....(((((((((((((((((((((.(((((.((((((((.....)))))))))))))).).))))))))))))
))))).)))))))))).

```

-----CAAAACUGGCAAUUACUUU-
-----3   0,-3
-----CAAAACUGGCAAUUACUUUU
-----11  0,-2
-----CAAAACUGGCAAUUACUUUU
G-----57  0,-1
-----CAAAACUGGCAAUUACUUUU
Ga-----6   0,-1

```

GC	5	0,0	-----C AAAACUGGCAAUUACUUUU
G	4	1,-1	-----A AAACUGGCAAUUACUUUU

```

>hsa-mir-548a-3 5p:25-46;3p:61-82 SRX018965
ccuagaauguuauuaggucggugcAAAAGUAAUUGCGAGUUUACCaauacuuccauggCAAAACUGGCAUUACUUU
GCaccaacguaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
-----CAAAACUGGCAUUACUUU-
-----3 0,-3
-----CAAAACUGGCAUUACUUU
-----11 0,-2
-----CAAAACUGGCAUUACUUU
G-----57 0,-1
-----CAAAACUGGCAUUACUUU
Ga-----6 0,-1
-----CAAAACUGGCAUUACUUU
GC-----5 0,0
-----AAAACUGGCAUUACUUU
G-----4 1,-1

```

```

>hsa-mir-548b    5p:25-46;3p:61-82    SRX018965
cagacuaauauuuuagguuggcgcaaaaGUAUUUGUGGUUUUGGCCuuuuuuuucauggCAAGAACCUAGUUGCUUUU
GUgcccaaccuaauacu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))))))).....
-----CAAAAGUAAUUGUGGUUUUGu-----
-----2    -1,-3
-----AAAAGUAAUUGUGGUUUUGGCa-----
-----5    0,-1

```

```
>hsa-mir-548c    5p:25-46;3p:61-82    SRX018965  
caugggcaucuaauuagguuggugcAAAAGUAAUUGCGGUUUUUGCCauuacuucaguagCAAAAAUCUCAAUUACUUUU  
GCaccaacuuauacu  
. . . . . ((((((((((((((((((((((.(. . . .))))))))) . )))))))) )  
)))))))))))). . .
```

```

-----AAAAGUAAUUGCGUUUUUG-----
-----12 0,-2
-----AAAAGUAAUUGCGUUUUUGC-----
-----7 0,-1
-----AAAAGUAAUUGCGUUUUUGCC-----
-----3 0,0

```

```

>hsa-mir-548d-1 5p:25-46;3p:61-82 SRX018965
aaacaaguauauuagguuggugcAAAAGUAAUUGGUUUUUUGCCuguaaaaguaauggCAAAAACCACAGUUUCUUUU
GCaccagacuaauaaag
.....(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))).))))))...
-----CAAAAGUAAUUGGUUUUUUGu-----
-----3 -1,-2
-----AAAAGUAAUUGGUUUUUUGa-----
-----3 0,-2
-----AAAAGUAAUUGGUUUUUUGCC-----
-----3 0,0

```

```

>hsa-mir-548d-2 5p:25-46;3p:61-82 SRX018965
gagaggggaagauuuagguuggugcAAAAGUAAUUGGUUUUUUGCCauugaaaguaauggCAAAAACCACAGUUUCUUUU
GCaccaaccuaauaaaa
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))).))))))...
-----CAAAAGUAAUUGGUUUUUUGu-----
-----3 -1,-2
-----AAAAGUAAUUGGUUUUUUGa-----
-----3 0,-2
-----AAAAGUAAUUGGUUUUUUGCC-----
-----3 0,0

```

```

>hsa-mir-548e 3p:53-74 SRX018965
uuauuagguugguacaaaagcaaucgcgguuuuugcuauuacuuuuaaaggcAAAAACUGAGACUACUUUUGCaccaacc
ugauagaa
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))).))))))...
))))))..
-----AAAAACUGAGACUACUUUUGC-----
-----8 0,-1

```

-----AAAAACUGAGACUACUUUUGCA-----
 -----8 0,0-----

-----AAAACUGUAAUACUUUUGGA-----
 --- 2 1,3

-----CAAAACUGUAAUACUUUUGC-----
 ----- 2 -1,2

-----CAAAAACUGAAUACUUUUGC-----
 ----- 2 -1,2

-----AAAACUGUAAUACUUU
UGGA----- 2 1,3


```

...((((((...(((.....))))))))))))))))))..
))))).
-----AAAAGUAAUUGCAGUUUU-----
----- 2

```

```

>hsa-mir-548h-3 5p:29-50 SRX018965
ucugauucugcauguauuagguuggugcAAAAGUAAUUGCGGUUUUUGUCauugaaaguaauagcaaaacugcaauuac
uuuugcaccaaccuaaaaguagucacugucuucagaua
((((((...(((.....))))))))))))))))))..
))))).
-----CAAAAACUGCAAUAC
UU----- 29
-----CAAAAACUGCAAUAC
UUU----- 2
-----CAAAAACUGCAAUAC
UUUU----- 3
-----CAAAAACUGCAAUAC
UUUUG----- 4
-----CAAAAACUGCAAUAC
UUUUGu----- 6
-----CAAAAACUGCAAUAC
UUUUGC----- 2
-----AAAAACUGCAAUAC
UUUUG----- 5

```

```

>hsa-mir-548i-1 5p:39-60 SRX018965
cagauggcucugaaguugcacccuauuagguuggugcAAAAGUAAUUGCGGAUUUUGCCauuaaaaguaauggcaaaaa
uagcaauuauuuuuguaccagccuagauucuuucuccuucuaacaaacuuguccugagccaucuca
.(((((((...(((.....))))))))))))))))))..
..))))))))))))))))))))))))))))))..
-----GCAAAAGUAAUUGCGGAUUUUG-----
----- 2
-2,-2

```

```

>hsa-mir-548i-2 5p:39-60 SRX018965
uagauggcuccgaaguugcauccuauuagguuggugcAAAAGUAAUUGCGGAUUUUGCCauuaaaaguaauggcaaaaa
uagcaauuauuuuuguaccagccuagauucuuucuccuucuaacaaaguucguccugauccaucuca
.((((((...(((.....))))))))))))))))))..

```

..)))))))))))))))))))).))))).)))) .))))) .)))) . .
-----GCAAAGUAAUUGCGGAUUUG-----
----- -2,-2 ----- 2

```
>hsa-mir-548i-4 5p:11-32      SRX018965
agguuggugcAAAAGUAAUUGCGGAUUUUGCCauacuuuuuacggcaaaaaccacaaaauuuauugcaccaaccuau
(((((((((((((.(((.(((.(.(((((((.....)))))))).)).)).)).)).)).)).)).)..
-----GCAAAAAGUAAUUGCGGAUUUUG-----
      2      -2,-2
```

-----	5	0,1	
-----			-CAAAAACUGCAUUACU
UUUG-----	4		
-----			-CAAAAACUGCAUUACU
UUUGC-----	4		

[illegible]

```
>hsa-mir-548o    3p:87-108    SRX018965
uggugaaaauguguugauuguaaugguuccuauucugaucaauaaacauggguugagccuaguuaacaugaucuaaaaau
cacgguCCAAAACUGCAGUUACUUUUGCaccaac
(((((((...(((...(((...(((...(((...(((...(((...(((...(((...(((...(((...(((...(((...
...)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).
-----
-----CCAAAACUGCAGUUACUUUUG-----    3    0,-1
-----
-----CCAAAACUGCAGUUACUUUUGC-----    7    0,0
```

```
>hsa-mir-548q    5p:8-29  SRX018965
auauuagGCUGGUGCAAAAGUAAUGGCGUuuuugccauuacuuuucauuuuuaccauuaaaaguaauggcaaaaagcau
gauuacuuuuucaccaaccu
.....(((.((((.((((((((.(.(((((((((((((((((((((((.(.....)).))))))))))))))))).).)
.)))))..)))).)))
-----AGGCUGGUGCAAAAGUAAUGG-----
-----
-----          2      -2,-3
```

```
>hsa-mir-548u    3p:49-71      SRX018965  
auuaggauggugcaaaaguaaugguguuuuuuuucuuuaacuuuuauaggCAAAGACUGCAAUUACUUUUGCGccaaccuaa  
u  
(((((((.(((((((((((((((((((..(((((((.(.(((.(...))).)).))))))..).)))))))))))))))..))))
```

```

)
-----CAAAGACUGCAAUUACUUUU-----
- 6 0,-3
-----CAAAGACUGCAAUUACUUUU-----
- 6 0,-2
-----CAAAGACUGCAAUUACUUUUGCG-----
- 8 0,0
-----AAAGACUGCAAUUACUUUU-----
- 3 1,-3
-----AAAGACUGCAAUUACUUUU-----
- 3 1,-2
-----AAAGACUGCAAUUACUUUUGCG-----
- 3 1,0

```

```

>hsa-mir-548v 3p:49-70 SRX018965
aauacuagguuugagcaaaaguaauugcgguuuugccaucaugccaaaAGCUACAGUUACUUUUGCACCAGccuaauuu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGCUACAGUUACUUUUGCACC-----
3 0,0

```

```

>hsa-mir-548w 5p:10-32 SRX018965
gguuggugcAAAAGUAAACUGCGGUUUUUGCCUuucaacauaauggcaaaaccacaaauacuauuugcaccaauc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAAGUAAACUGCGGUUUUUGC----- 2
0,-2
-----AAAAGUAAACUGCGGUUUUUGCC----- 2
0,-1

```

```

>hsa-mir-548x 3p:46-66 SRX018965
agguuagugcaaaaguaauugcaguuuuugcguuacuuucaaucGUAAAAACUGCAAUUACUUUCacaccaaucu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAAGUAAUUGCAGUUUU----- 2
-----UAAAAACUGCAAUUACUU----- 2
0,-3
-----UAAAAACUGCAAUUACUUUCA----- 56
0,0
-----UAAAAACUGCAAUUACUUUCAC----- 69
0,1

```



```

-----GUGCCUGAGGGAGUAAGAGC-----
-----2    1,-2
-----UGUCUUACUCCCUCAGGCAC
A-----9    0,-1
-----UGUCUUACUCCCUCAGGCAC
AU-----14   0,0

```

```

>hsa-mir-551b    mi:22-43;MA:61-81    SRX018965
agaugugcucuccugggcccauGAAAUCAAGCGUGGGUGAGACCuggugcagaacgggaagGCGACCCAUACUUGGUUUC
Gaggcugugagaauaa
.....(((((((((.....)))))).....))))))
..))))).))))....
-----GCGACCCAUACUUGGUUUC-
-----      2      0,-2
-----GCGACCCAUACUUGGUUUC
-----      13     0,-1

```

```

-----GCGACCCAUACUUGGUUUA
G-----      6    0,0
-----GCGACCCAUACUUGGUUUA
Gu-----     28    0,0

```

```

>hsa-mir-552    3p:61-81    SRX018965
aaccaucaaaauauaccacaguuguuuuaccuuugccuguugguugaagaugccuucAACAGGUGACUGGUUAGACA
Aacugugguauauaca
.....((((((((((((((((((((((..(((((.....)))))..)))))
)))))))))...
-----AACAGGUGACUGGUUAGACA
AA-----      3    0,1

```

```

>hsa-mir-556    5p:16-37;3p:55-76    SRX018965
gauaguaauaagaaaGAUGAGCUCAUUGUAAUAUGAGcuucauuuauacauuucAUAUUACCAUAGCUCAUCUUuuua
uuacuaccuucaca
..((((((((((((((((((((((..(((((.....)))))..)))))
)))))).....
-----AUAUUACCAUAGCUCAUCUU-----
-----      4    0,-1

```

```

>hsa-mir-561    3p:61-82    SRX018965
cuucauccaccaguccuccaggaacaucaaggauuuuacuuugccagagcuacaaaggCAAAGUUUAAGAUCUUGAA
GUuccugggggaaccu
.....((((((((((((((((((((((..(((((.....)))))..)))))
)))))))))....
-----AUCAAGGAUCUUAACUUUGCC-----
-----      2

```

```

>hsa-mir-566    5p:16-34    SRX018965
gcuaggcgugguggcGGGCGCCUGUGAUCCCAACuacucaggaggcuggggcagcagaaucguugaacccgggaggcga
agguugcagugagc
.....((..((..(((((..(((((..(((((.....)))))..)))))
)))))).....
-----UCGCUUGAACCCGGGAGG---
-----      2
-----CGCUUGAACCCGGGAGGC--
-----      3

```

```

>hsa-mir-570    3p:60-81    SRX018965
cuagauaaguauuuaggugggugcaaagguaauugcaguuuuucccauuuuuaauugCGAAAACAGCAAUUACCUUUG
Caccaaccugauggagu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAGGUA AUUGCAGUUUUUCCC-----
----- 3

```

```

>hsa-mir-574    5p:25-47;3p:61-82    SRX018965
gggaccugcguggggugcgggcgugUGAGUGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUCAUGCACACACCCA
Cagcccacacucagg
.....(.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----GUGAGUGUGUGUGUGUGAG-----
----- 3    -1,-5
-----UGAGUGUGUGUGUGUGAG-----
----- 46    0,-5
-----UGAGUGUGUGUGUGUGAGU-----
----- 57    0,-4
-----UGAGUGUGUGUGUGUGAGUG-----
----- 8    0,-3
-----UGAGUGUGUGUGUGUGAGUGa-----
----- 10    0,-3
-----UGAGUGUGUGUGUGUGAGUGaa-----
----- 2    0,-3
-----UGAGUGUGUGUGUGUGAGUGU-----
----- 10    0,-2
-----UGAGUGUGUGUGUGUGAGUGUG-----
----- 6    0,-1
-----UGAGUGUGUGUGUGUGAGUGUGa-----
----- 3    0,-1
-----UGAGUGUGUGUGUGUGAGUGUGaa-----
----- 2    0,-1
-----UGAGUGUGUGUGUGUGAGUGUGU-----
----- 14    0,0
-----UGAGUGUGUGUGUGUGAGUGUGUG-----
----- 5    0,1

```


Sequence	Length	Score	Sequence
UGAGUGUGUGUGUGUGAGUGUGUGa	4	0,1	CACGCUCAUGCACACACC
	3	0,-4	CACGCUCAUGCACACACCC
	11	0,-3	CACGCUCAUGCACACACCCA
	12	0,-2	CACGCUCAUGCACACACCCA
u	2	0,-2	CACGCUCAUGCACACACCCA
C	7	0,-1	CACGCUCAUGCACACACCCA
Cu	2	0,-1	CACGCUCAUGCACACACCCA
CA	64	0,0	CACGCUCAUGCACACACCCA
CAa	6	0,0	CACGCUCAUGCACACACCCA
CAu	4	0,0	ACGCUCAUGCACACACCCA
CA	5	1,0	

>hsa-mi r-578 3p:61-81 SRX018965
agauaaaucuaauagacaaaauacaaucccggaacaagaagcuccuauagcuccuguagCUUCUUGUGCUCUAGGAUUG
Uauuuuguuuauauau

>hsa-mir-579 3p:62-84 SRX018965

.....((..((((.....)))

>hsa-mi r-582 5p:16-38;3p:53-74 SRX018965

-----UUACAGUUGUUAACCAGUUACU-----
-----4 0,0-----

-----GUAACUGGUUGAACAAACUGAAC-----
-----2-1,-1-----

-----UACUGGUUGAACACUGA-----
----- 11 0,-3

-----UAACUGGUUGAACAAACUGAA-----
----- 72 0,-2

-----UACUGGUUGAACAAACUGAAa-----
 ----- 2 0,-2 -----

-----UAACUGGUUGAACAAACUGAAC-----
----- 21 0,-1

-----UACUGGUUGAACACUGAAC-----
 ----- 9 0,0

-----UACUGGUUGAACAAACUGAACCC-----
 ----- 18 0,1

-----AACUGGUUGAACAAACUGAACCC-----
 ----- 3 1,1
 -----ACUGGUUGAACAAACUGAACCC-----
 ----- 2 2,1


```

-----UAAUUUUAUGUAUAAGCUA-----
----- 9 0,-2
-----UAAUUUUAUGUAUAAGCUAGU-----
----- 7 0,0
-----UAAUUUUAUGUAUAAGCUAGUC-----
----- 3 0,1
-----UAAUUUUAUGUAUAAGCUAGUCa--
----- 2 0,1

```

>hsa-mir-598 3p:61-82 SRX018965

gcuugaugaugcugcugaugcuggcgugaugcccgauaggugugagcuggaaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag

```

.....(((((((((((((.....)))))).....)))))).....
).....

```

```

-----UACGUCAUCGUUGUCAUC--
----- 14 0,-4
-----UACGUCAUCGUUGUCAUCu-
----- 2 0,-4
-----UACGUCAUCGUUGUCAUCG-
----- 4 0,-3
-----UACGUCAUCGUUGUCAUCGU
----- 4 0,-2
-----UACGUCAUCGUUGUCAUCGU
C----- 11 0,-1
-----UACGUCAUCGUUGUCAUCGU
Cu----- 2 0,-1
-----UACGUCAUCGUUGUCAUCGU
CA----- 41 0,0
-----UACGUCAUCGUUGUCAUCGU
CAa----- 2 0,0
-----UACGUCAUCGUUGUCAUCGU
CAU----- 9 0,1
-----UACGUCAUCGUUGUCAUCGU
CAUu----- 3 0,1

```

>hsa-mir-609 5p:16-35 SRX018965

ugcucggcuguuccuAGGGUGUUUCUCUCAUCUCUggucuaauauggguuaauaguagagaugagggcaacaccuagg
aacagcagaggaacc

-----UAGUACCAGUACCUUGUGUUC-----
 -----2 0,-1-----
 -----UAGUACCAGUACCUUGUGUUCA-----
 -----14 0,0-----

Sequence	Count	Score
AGGGGGAAAGUUCUAUAG-	2	0,-3
AGGGGGAAAGUUCUAUAGU-	2	0,-2
AGGGGGAAAGUUCUAUAGUC-	28	0,-1
AGGGGGAAAGUUCUAUAGUCa-	2	0,-1
AGGGGGAAAGUUCUAUAGUCC-	3	0,0
AGGGGGAAAGUUCUAUAGUCCU-	9	0,1
GACUAUAGAACUUUCCCCCUC-	5	0,-1
GACUAUAGAACUUUCCCCCUCu-	2	0,-1
GACUAUAGAACUUUCCCCCUCA-	10	0,0
GACUAUAGAACUUUCCCCCUCAa-	6	0,0
GACUAUAGAACUUUCCCCCUCAaa-	2	0,0
GACUAUAGAACUUUCCCCCUCAU-	2	0,1
ACUAUAGAACUUUCCCCCUCA-	6	1,0

>hsa-mir-627 5p:16-37 SRX018965

uacuuuuacugguaGUGAGUCUCUAAGAAAAGAGGAaggugguuguuuuuccuccucuuuuucuugagacucacuaccaau
aauaagaaauacuacua

..(((((((.((((((((((((((((.(((((((((((((((((((..(...)..)))))))))))))))).)))))))))))))).
)))))).....

-----UCUUUUCUUUGAGACUCAC-----

----- 2

>hsa-mi r-628 5p:23-44;3p:61-81 SRX018965

auagcuguugugucacuuccucAUGCUGACAUUUUACUAGAGGguaaaauuaauaacuUCUAGUAAGAGUGGCAGUCG
Aaggaagggcucau

-----AUGCUGACAUUUUACUA-----

----- 2 0, -4

-----AUGCUGACAUUUUACUAGAG-----

----- 6 0,-1

-----AUGCUGACAUAUUUACUAGAGG-----

----- 8 0,0

-----AUGCUGACAUAUUUACUAGAGGa-----

----- 3 0,0

>hsa-mi r-629 MA:22-42;mi :61-82 SRX018965

uccuuucccaggggaggggcUGGGUUACGUUGGGAGAACUuuuacggugaaccaggagGUUCUCCCAACGUAAGCCCA
GCccuccccucugccu

-----CUGGGUUUACGUUGGGAG-----

----- 12 -1,-4

-----CUGGGUUUACGUUGGAGA-----

$$----- \quad 3 \quad -1, -3$$

-----CUGGGUUUACGUUGGGAGAA-----

$$----- \quad 2 \quad -1, -2$$

-----UGGGUUUACGUUGGGAGA-----

----- 1254 0,-3

-----UGGGUUUACGUUGGGAGAA-----

----- 552 0,-2


```

-----UGGGUUUACGUUGGGAGAAa-----
      2    0,-2
-----UGGGUUUACGUUGGGAGAAC-----
      8    0,-1
-----UGGGUUUACGUUGGGAGAACU-----
      2    0,0
-----UGGGUUUACGUUGGGAGAACUUaa-----
      2    0,1
-----GGGUUUACGUUGGGAGAA-----
      6    1,-2

```

>hsa-mir-641 5p:16-39 SRX018965

ugggugaaaggaaggAAAGACAUAGGAUAGAGUCACCUcuguccucuguccucuaccuauagaggugacuguccuaugc
uuuccuuccucuuaccccu

```

-----AAAGACAUAGGAUAGAGUC-----
----- 5    0,-5
-----AAAGACAUAGGAUAGAGUCA-----
----- 7    0,-4
-----AAAGACAUAGGAUAGAGUCAC-----
----- 18   0,-3
-----AAAGACAUAGGAUAGAGUCACC-----
----- 27   0,-2
-----AAAGACAUAGGAUAGAGUCACCU-----
----- 82   0,-1
-----AAAGACAUAGGAUAGAGUACCUu-----
----- 2    0,-1
-----AAAGACAUAGGAUAGAGUACCUc-----
----- 28   0,0
-----AAAGACAUAGGAUAGAGUACCUca-----
----- 3    0,0
-----AAGACAUAGGAUAGAGUACCUc-----
----- 2    1,0
-----AGGUGACUGUCCUAUGUC-----
UUUC----- 4

```

>hsa-mir-643 3p:61-82 SRX018965

accaagugauauucauugucuaccugagcuagaauacaaguaguuggcgucuucagagacACUUGUAUGCUAGCUCAGGU
AGauauugaaugaaaa

.....(((((((.(((((((((((((((((((.(((((((((((.(((.(.....).))))))))))))).))))))))))
))))).)))))).....

-----ACACUUGUAUGCUAGCUCAG--
----- 2 -2,-4
-----ACACUUGUAUGCUAGCUCAGG-
----- 2 -2,-3

>hsa-mir-652 3p:61-81 SRX018965

acgaugggcuaugcacugcacaacccuaggagagggugccauucacauagacuauaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac

.....(((...((((((((((((((((((((.....(((((((((((((((.(((.....).))))))))))))).))))))))))
))))))))).)))).

-----ACAACCCUAGGAGAGGGUGCCAU-----
----- 2
-----AAUGGCGCCACUAGGGUUG--
----- 82 0,-3
-----AAUGGCGCCACUAGGGUUG-
----- 18 0,-2
-----AAUGGCGCCACUAGGGUUGU
----- 42 0,-1
-----AAUGGCGCCACUAGGGUUGU
aa----- 2 0,-1
-----AAUGGCGCCACUAGGGUUGU
G----- 13 0,0
-----AAUGGCGCCACUAGGGUUGU
Ga----- 10 0,0
-----AAUGGCGCCACUAGGGUUGU
Gaa----- 2 0,0
-----AAUGGCGCCACUAGGGUUGU
Gu----- 58 0,0
-----AAUGGCGCCACUAGGGUUGU
Guu----- 4 0,0
-----AAUGGCGCCACUAGGGUUGU
GC----- 13 0,1

>hsa-mir-654 5p:16-37;3p:51-72 SRX018965

$$(((\dots(((((.(((((. (((((((((\dots)).).)))))))).).))))).))) \dots))$$

-			AUGGUGGGCCCGCAGAACAUGUG-	
-	2	-1,-1		
-			AUGGUGGGCCCGCAGAACAUGUGa	
-	3	-1,-1		
-			UGGUGGGCCCGCAGAACAU-	
-	3	0,-4		
-			UGGUGGGCCCGCAGAACAUGUG-	
-	4	0,-1		
-			UGGUGGGCCCGCAGAACAUGUGa	
-	5	0,-1		
-			UGGUGGGCCCGCAGAACAUGUGu	
-	4	0,-1		
-			UGGUGGGCCCGCAGAACAUGUGC-	
-	48	0,0		
-			UGGUGGGCCCGCAGAACAUGUGCU-	
-	10	0,1		
-				CAUAUGUCUGCUGACCAUC-
-	4	-2,-5		
-				CAUAUGUCUGCUGACCAUCA-
-	20	-2,-4		
-				CAUAUGUCUGCUGACCAUCAC-
-	15	-2,-3		
-				CAUAUGUCUGCUGACCAUCACa
-	6	-2,-3		
-				CAUAUGUCUGCUGACCAUCACu
-	7	-2,-3		
-				CAUAUGUCUGCUGACCAUCACC-
-	91	-2,-2		
-				CAUAUGUCUGCUGACCAUCACCa
-	12	-2,-2		
-				AUAUGUCUGCUGACCAUCA-
-	5	-1,-4		
-				AUAUGUCUGCUGACCAUCAu
-	2	-1,-4		

		-----AUAUGUCUGCUGACCAUCAC-----
-	8 -1,-3	
		-----AUAUGUCUGCUGACCAUCACa-----
-	2 -1,-3	
		-----AUAUGUCUGCUGACCAUCACC-----
-	40 -1,-2	
		-----AUAUGUCUGCUGACCAUCACCa-----
-	2 -1,-2	
		-----UAUGUCUGCUGACCAUCA-----
-	22 0,-4	
		-----UAUGUCUGCUGACCAUCAa-----
-	4 0,-4	
		-----UAUGUCUGCUGACCAUCAaa-----
-	7 0,-4	
		-----UAUGUCUGCUGACCAUCAC-----
-	37 0,-3	
		-----UAUGUCUGCUGACCAUCACa-----
-	17 0,-3	
		-----UAUGUCUGCUGACCAUCACaa-----
-	6 0,-3	
		-----UAUGUCUGCUGACCAUCACu-----
-	13 0,-3	
		-----UAUGUCUGCUGACCAUCACuu-----
-	3 0,-3	
		-----UAUGUCUGCUGACCAUCACC-----
-	232 0,-2	
		-----UAUGUCUGCUGACCAUCACCa-----
-	48 0,-2	
		-----UAUGUCUGCUGACCAUCACCaa-----
-	7 0,-2	
		-----UAUGUCUGCUGACCAUCACCau-----
-	11 0,-2	
		-----UAUGUCUGCUGACCAUCACCU-----
-	166 0,-1	
		-----UAUGUCUGCUGACCAUCACCUa-----
-	10 0,-1	
		-----UAUGUCUGCUGACCAUCACCUaa-----
-	16 0,-1	

```

-----UAUGUCUGCUGACCAUCACCUau-----
- 11 0,-1
-----UAUGUCUGCUGACCAUCACCUU-----
- 16 0,0
-----UAUGUCUGCUGACCAUCACCUUa-----
- 4 0,0
-----UAUGUCUGCUGACCAUCACCUUU-----
- 4 0,1
-----UAUGUCUGCUGACCAUCACCUUUA-----
- 2 0,2
-----AUGUCUGCUGACCAUCACC-----
- 2 1,-2

```

>hsa-mir-655 3p:61-82 SRX018965

aacuaugcaaggauauuugaggagagguuaucguguauguucgcuucauaucaugaAUAUACAUGGUUAACCUCU
UUuugaauaucagacuc

.....(((((((.(((((((((((.(((((((.(((((((.....)))))))).)))))))).)))))))).

```

-----AGAGGUUAUCCGUGUUAUGUU-----

```

```

----- 3

```

```

-----AGAGGUUAUCCGUGUUAUGUUC-----

```

```

----- 4

```

```

-----AUAUACAUGGUUAACCU--

```

```

----- 9 0,-4

```

```

-----AUAUACAUGGUUAACCUuu

```

```

----- 5 0,-4

```

```

-----AUAUACAUGGUUAACCUC-

```

```

----- 9 0,-3

```

```

-----AUAUACAUGGUUAACCUCU

```

```

----- 3 0,-2

```

```

-----AUAUACAUGGUUAACCUCU

```

```

U----- 29 0,-1

```

```

-----AUAUACAUGGUUAACCUCU

```

```

Ua----- 8 0,-1

```

```

-----AUAUACAUGGUUAACCUCU

```

```

UU----- 78 0,0

```

```

-----AUAUACAUGGUUAACCUCU

```

```

UUa----- 3 0,0

```

-----AUAUACAUGGUUAACCUCU		
UUU-----	6	0,1
-----UAAUACAUGGUUAACCUCU		
UU-----	3	1,0

```
>hsa-mir-659      3p:61-82      SRX018965
uaccgaccucgauuugguucaggaccuucccugaaccaaggaagagucacagucucuucCUUGGUUCAGGGAGGGUCCC
CAacaauguccucaugg
.....(((...(((...(((.....))))))))))))))))).
.)))...))).....
-----AGGACCUUCCUGAACCAAGGA-----
-----5
```

```

>hsa-mir-660      5p:16-37      SRX018965
cugcuccuucucccaUACCCAUUGCAUAUCGGAGUUGugaauucuaaaacaccuccugugugcauggauuacaggaggg
ugagccuugucaucgug
..(((.((((.(.....(((.((((.((((.(.....)))..))))))))))..))))))
.))).....
-----UACCCAUUGCAUAUCGGA-----
-----      25  0,-4
-----UACCCAUUGCAUAUCGGAG-----
-----      11  0,-3
-----UACCCAUUGCAUAUCGGAGU-----
-----      18  0,-2
-----UACCCAUUGCAUAUCGGAGUU-----
-----      71  0,-1

```

```

-----UACCCAUUGCAUAUCGGAGUa-----
-----      2      0,-1
-----UACCCAUUGCAUAUCGGAGUUG-----
-----      91     0,0
-----UACCCAUUGCAUAUCGGAGUUGU-----
-----      30     0,1
-----
-----ACCUCCUGUGUGCAUGGAU-----
-----      3
-----ACCUCCUGUGUGCAUGGAUUA-----
-----      5
-----ACCUCCUGUGUGCAUGGAUUACA-----
-----      2

```

-----GGUGGCCCGGCCGUGCCU----- 3 0, -4

```

-----ACUGGCUAGGGAAAAUGAUUGG-----
-- 29  0,-2
-----ACUGGCUAGGGAAAAUGAUUGGu-----
--  3  0,-2
-----ACUGGCUAGGGAAAAUGAUUGGA-----
-- 28  0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAU-----
--  2  0,0
-----CUGGCUAGGGAAAAUGAUUGG-----
--  2  1,-2
-----CUGGCUAGGGAAAAUGAUUGGA-----
-- 10  1,-1

```


0,0	-----ACCAGGAGGCUGAGGCCCCUaa-----	7
0,0	-----ACCAGGAGGCUGAGGCCCCUau-----	6
0,0	-----ACCAGGAGGCUGAGGCCCCUu-----	16
0,0	-----ACCAGGAGGCUGAGGCCCCUuu-----	4
0,0	-----ACCAGGAGGCUGAGGCCCCUC-----	41
0,1	-----ACCAGGAGGCUGAGGCCCCUCu-----	22
0,1	-----ACCAGGAGGCUGAGGCCCCUCA-----	53
0,2	-----ACCAGGAGGCUGAGGCCCCUCAa-----	3
0,2	-----ACCAGGAGGCUGAGGCCCCUCAu-----	13
0,2	-----ACCAGGAGGCUGAGGCCCCUCAC-----	3
0,3	-----CCAGGAGGCUGAGGCCCCUC-----	2
1,1	-----CCAGGAGGCUGAGGCCCCUCA-----	4
1,2		

$$\begin{aligned} & .(((.((((((.(.(.((((((.((((.(((((((.(((((((((((\dots))))))..))))))))))))))))) \\ &).)))))))).)))))))).)).))))\dots \end{aligned}$$

```

-----UGGAAGACUAGUGAUUUU-----
----- 76 0,-5-----
-----UGGAAGACUAGUGAUUUUG-----
----- 7 0,-4-----
-----UGGAAGACUAGUGAUUUUGU-----
----- 6 0,-3-----
-----UGGAAGACUAGUGAUUUUGUaa-----
----- 2 0,-3-----
-----UGGAAGACUAGUGAUUUUGUU-----
----- 48 0,-2-----
-----UGGAAGACUAGUGAUUUUGUUa-----
----- 2 0,-2-----
-----UGGAAGACUAGUGAUUUUGUUu-----
----- 2 0,-2-----
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 177 0,-1-----
-----UGGAAGACUAGUGAUUUUGUUGa-----
----- 4 0,-1-----
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 758 0,0-----
-----UGGAAGACUAGUGAUUUUGUUGUa-----
----- 11 0,0-----
-----UGGAAGACUAGUGAUUUUGUUGUaa-----
----- 2 0,0-----
-----UGGAAGACUAGUGAUUUUGUUGUau-----
----- 3 0,0-----
-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 620 0,1-----
-----UGGAAGACUAGUGAUUUUGUUGUUa-----
----- 22 0,1-----
-----UGGAAGACUAGUGAUUUUGUUGUUU-----
----- 5 0,2-----
-----GGAAGACUAGUGAUUUUGUUGU-----
----- 16 1,0-----
-----GGAAGACUAGUGAUUUUGUUGUU-----

```

-----	10	1,1
-----GAAGACUAGUGAUUUUGUUGU-----		
-----	2	2,0
-----CAACAAAUCACAGUC		
UGCCA-----	2	0,-2
-----CAACAAAUCACAGUC		
UGCCAU-----	3	0,-1
-----CAACAAAUCACAGUC		
UGCCAUA-----	28	0,0
-----CAACAAAUCACAGUC		
UGCCAUAU-----	2	0,1
-----AACAAAUCACAGUC		
UGCCAUA-----	7	1,0

```

>hsa-mir-7-2      MA:32-54;mi:72-93      SRX018965
cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuacugcgcucuaaCAACAAAUCC
CCAGUCUACCUAAuggugccagccaucgca
.....((((...(((((((.(((((.(((((.(((((.(((((((.....))))))))))))))
).))))).)).))))).))))).))))).
-----UGGAAGACUAGUGAUUUU-----
-----76  0,-5
-----UGGAAGACUAGUGAUUUUG-----
-----7  0,-4
-----UGGAAGACUAGUGAUUUUGU-----
-----6  0,-3
-----UGGAAGACUAGUGAUUUUGUaa-----
-----2  0,-3
-----UGGAAGACUAGUGAUUUUGUU-----
-----48  0,-2
-----UGGAAGACUAGUGAUUUUGUUa-----
-----2  0,-2
-----UGGAAGACUAGUGAUUUUGUUu-----
-----2  0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
-----177 0,-1
-----UGGAAGACUAGUGAUUUUGUUGa-----
-----4  0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----

```



```

----- 177 0,-1
-----UGGAAGACUAGUGAUUUUGUUGa-----
----- 4 0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 758 0,0
-----UGGAAGACUAGUGAUUUUGUUGUa-----
----- 11 0,0
-----UGGAAGACUAGUGAUUUUGUUGUaa-----
----- 2 0,0
-----UGGAAGACUAGUGAUUUUGUUGUau-----
----- 3 0,0
-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 620 0,1
-----UGGAAGACUAGUGAUUUUGUUGUa-----
----- 22 0,1
-----GGAAGACUAGUGAUUUUGUUGU-----
----- 16 1,0
-----GGAAGACUAGUGAUUUUGUUGUU-----
----- 10 1,1
-----GAAGACUAGUGAUUUUGUUGU-----
----- 2 2,0

```

>hsa-mir-720 5p:27-43 SRX018965

```

ccggaucucacacggugguguuaaauaUCUCGCUGGGGCCUCCAaaaanguugugcccagggguguuagagaaaacaccaca
cuuugagaugaauuaagaguccuuuauuag
....(((((((.....((((((((((((((((((((.....((((((.....).)).))))).))))))))).))))).
...)))))).....
-----AUCUCGCUGGGGCCUCCA-----
----- 10 -1,0

```

>hsa-mir-744 MA:11-32;mi:68-89 SRX018965

```

uugggcaaggUGCAGGGGCUAGGGCUAACAGCAgucuuaacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc
((((((.....((((((((((((((((((((.....))))))))))))).))))).
))))).))))).))))..
-----UGCAGGGGCUAGGGCUAAC-----
----- 9 0,-4
-----UGCAGGGGCUAGGGCUAACA-----

```



```

))))....
-----AUGGUUGACCAGAGAGCA-----
----- 9
-----AUGGUUGACCAGAGAGCAC-----
----- 15
-----AUGGUUGACCAGAGAGCACA-----
----- 188
-----AUGGUUGACCAGAGAGCACAu-----
----- 2
-----AUGGUUGACCAGAGAGCACAC-----
----- 304
-----AUGGUUGACCAGAGAGCACACG-----
----- 16
-----UGGUUGACCAGAGAGCACA-----
----- 23
-----UGGUUGACCAGAGAGCACAC-----
----- 57
-----UGGUUGACCAGAGAGCACACG-----
----- 7
-----UUUGUGACCUGGUCCACU-----
----- 2 0,-4
-----UUUGUGACCUGGUCCACUA-----
----- 5 0,-3
-----UUUGUGACCUGGUCCACUAA-----
----- 4 0,-2
-----UUUGUGACCUGGUCCACUAAa-----
----- 2 0,-2
-----UUUGUGACCUGGUCCACUAAC-----
----- 17 0,-1
-----UUUGUGACCUGGUCCACUAACa-----
----- 5 0,-1
-----UUUGUGACCUGGUCCACUAACu-----
----- 9 0,-1
-----UUUGUGACCUGGUCCACUAACC-----
----- 5 0,0

```

>hsa-mir-760 3p:49-68 SRX018965

ggcgcgucgccccccucaguccaccagagcccggauaccucagaaaauCGGCUCUGGGUCUGUGGGGAgcgaaaugcaac


```

----- 16 0,-2
-----UGAGACCUCUGGGUUCUGAGC-----
----- 17 0,-1
-----UGAGACCUCUGGGUUCUGAGCU-----
----- 12 0,0
-----UGAGACCUCUGGGUUCUGAGCUa-----
----- 10 0,0
-----UGAGACCUCUGGGUUCUGAGCUau-----
----- 3 0,0
-----UGAGACCUCUGGGUUCUGAGCUu-----
----- 4 0,0
-----CUGGGAUCUCCG
GGGUCUUGG----- 2 0,-2

```

>hsa-mir-770 5p:20-42 SRX018965

aggagccaccuuccgagccUCCAGUACCACGUGUCAGGGCCAcaugagcugggccucgugggccugauguggugcugggg
ccucaggggucugcucu

(((((.((((.(.((((((((((((.....(((.((((.....)))))))))).))))))))))
.))))))))))

```

-----UCCAGUACCACGUGUCAGG-----
----- 3 0,-4
-----UCCAGUACCACGUGUCAGGGC-----
----- 2 0,-2
-----UCCAGUACCACGUGUCAGGGCa-----
----- 2 0,-2
-----UCCAGUACCACGUGUCAGGGCCA-----
----- 2 0,0
-----UCCAGUACCACGUGUCAGGGCCAu-----
----- 7 0,0
-----UGGGCCUGAUGUGGUGCU-----
----- 5

```

>hsa-mir-877 MA:1-20;mi:66-86 SRX018965

GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggaccucagacgugugUCCUCUUCUCCUCC
UCCAG

...((((((.((((.(.((((((((((((.....(((.((((.....)))))))))).))))))))))
))....

```

GUAGAGGAGAUGGCGCAG-----

```

----- 14 0,-2
GUAGAGGAGAUGGCCGAGa-----
----- 3 0,-2
GUAGAGGAGAUGGCCGAGaa-----
----- 3 0,-2
GUAGAGGAGAUGGCCGAGG-----
----- 36 0,-1
GUAGAGGAGAUGGCCGAGGa-----
----- 9 0,-1
GUAGAGGAGAUGGCCGAGGaa-----
----- 4 0,-1
GUAGAGGAGAUGGCCGAGGau-----
----- 3 0,-1
GUAGAGGAGAUGGCCGAGGG-----
----- 37 0,0
GUAGAGGAGAUGGCCGAGGGa-----
----- 10 0,0
GUAGAGGAGAUGGCCGAGGGaa-----
----- 7 0,0
GUAGAGGAGAUGGCCGAGGGau-----
----- 3 0,0
GUAGAGGAGAUGGCCGAGGGu-----
----- 2 0,0
GUAGAGGAGAUGGCCGAGGGuu-----
----- 2 0,0
GUAGAGGAGAUGGCCGAGGGG-----
----- 17 0,1
GUAGAGGAGAUGGCCGAGGGGA-----
----- 22 0,2
GUAGAGGAGAUGGCCGAGGGGAa-----
----- 19 0,2
GUAGAGGAGAUGGCCGAGGGGAaa-----
----- 4 0,2
GUAGAGGAGAUGGCCGAGGGGAau-----
----- 5 0,2
GUAGAGGAGAUGGCCGAGGGGAuu-----
----- 2 0,2
GUAGAGGAGAUGGCCGAGGGGAC-----

```

----- 40 0,3
GUAGAGGAGAUGGCGCAGGGGACu-----
----- 9 0,3
GUAGAGGAGAUGGCGCAGGGGACA-----
----- 97 0,4
GUAGAGGAGAUGGCGCAGGGGACAa-----
----- 5 0,4
GUAGAGGAGAUGGCGCAGGGGACAu-----
----- 11 0,4
GUAGAGGAGAUGGCGCAGGGGACAC-----
----- 2 0,5
-UAGAGGAGAUGGCGCAGG-----
----- 3 1,-1
-UAGAGGAGAUGGCGCAGGa-----
----- 3 1,-1
-UAGAGGAGAUGGCGCAGGG-----
----- 5 1,0
-UAGAGGAGAUGGCGCAGGGG-----
----- 2 1,1
-UAGAGGAGAUGGCGCAGGGGA-----
----- 2 1,2
-UAGAGGAGAUGGCGCAGGGGAa-----
----- 3 1,2
-UAGAGGAGAUGGCGCAGGGGAC-----
----- 8 1,3
-UAGAGGAGAUGGCGCAGGGGACA-----
----- 15 1,4
-UAGAGGAGAUGGCGCAGGGGACAa-----
----- 4 1,4
-UAGAGGAGAUGGCGCAGGGGACAu-----
----- 3 1,4
-UAGAGGAGAUGGCGCAGGGGACAC-----
----- 7 1,5
-UAGAGGAGAUGGCGCAGGGGACACu-----
----- 5 1,5

```

>hsa-mir-885 5p:11-32;3p:43-64 SRX018965

ccgcacucucUCCAUUACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu


```

3    0,0
-----UAAUAUCGGACAACCAUUGUaa-----
5    0,0
-----UAAUAUCGGACAACCAUUGUU-----
3    0,1
-----UAAUAUCGGACAACCAUU-----
3    1,-2
-----UAAUAUCGGACAACCAUUG-----
4    1,-1
-----UAAUAUCGGACAACCAUUGU-----
3    1,0

```

```

>hsa-mir-9-1    MA:16-38;mi:55-76    SRX018965
cggggguugguuguuaUCUUUGGUUAUCUAGCUGUAUGAgugguguggagucuucAUAAGCUAGAUAAACCGAAAGUaaaa
auaacccca
.(((((((....(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))))).
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 2    0,0

```

```

>hsa-mir-9-2    MA:16-38;mi:53-74    SRX018965
ggaagcgaguuguuaUCUUUGGUUAUCUAGCUGUAUGAguguauuggucuucAUAAGCUAGAUAAACCGAAAGUaaaaac
uccuua
.(((((((.(((((((.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 2    0,0

```

```

>hsa-mir-9-3    MA:16-38;mi:55-76    SRX018965
ggaggcccguuucucUCUUUGGUUAUCUAGCUGUAUGAgugccacagagccgucAUAAGCUAGAUAAACCGAAAGUagaa
augauucua
.(((((((.(((((((.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))..))))).
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 2    0,0

```

```

>hsa-mir-92a-1  mi:11-33;MA:48-69    SRX018965
cuuucuacacAGGUUGGGAUCGGUUGCAAUGCUguguuucuguauggUAUUGCACUUGUCCCGGCCUGUugaguuuugg

```


42	0, -4	-----UAUUGCACUUGUCCCCGGCu-----
2	0, -4	-----UAUUGCACUUGUCCCCGGCuu-----
12	0, -4	-----UAUUGCACUUGUCCCCGGCC-----
4024	0, -3	-----UAUUGCACUUGUCCCCGGCCa-----
35	0, -3	-----UAUUGCACUUGUCCCCGGCCaa-----
8	0, -3	-----UAUUGCACUUGUCCCCGGCCau-----
11	0, -3	-----UAUUGCACUUGUCCCCGGCCU-----
60284	0, -2	-----UAUUGCACUUGUCCCCGGCCUa-----
114	0, -2	-----UAUUGCACUUGUCCCCGGCCUaa-----
128	0, -2	-----UAUUGCACUUGUCCCCGGCCUau-----
75	0, -2	-----UAUUGCACUUGUCCCCGGCCUu-----
81	0, -2	-----UAUUGCACUUGUCCCCGGCCUuu-----
15	0, -2	-----UAUUGCACUUGUCCCCGGCCUG-----
7894	0, -1	-----UAUUGCACUUGUCCCCGGCCUGa-----
163	0, -1	-----UAUUGCACUUGUCCCCGGCCUGaa-----
109	0, -1	-----UAUUGCACUUGUCCCCGGCCUGau-----
31	0, -1	-----UAUUGCACUUGUCCCCGGCCUGU-----
10526	0, 0	-----UAUUGCACUUGUCCCCGGCCUGUa-----
1084	0, 0	-----UAUUGCACUUGUCCCCGGCCUGUaa-----

367 0,0	-----UAUUGCACUUGUCCCCGGCCUGUau-----
277 0,0	-----UAUUGCACUUGUCCCCGGCCUGUU-----
400 0,1	-----UAUUGCACUUGUCCCCGGCCUGUua-----
53 0,1	-----UAUUGCACUUGUCCCCGGCCUGUuaa-----
4 0,1	-----UAUUGCACUUGUCCCCGGCCUGUau-----
2 0,1	-----UAUUGCACUUGUCCCCGGCCUGUuu-----
75 0,1	-----UAUUGCACUUGUCCCCGGCCUGUuuu-----
5 0,1	-----UAUUGCACUUGUCCCCGGCCUGUUG-----
12 0,2	-----AUUGCACUUGUCCCCGGCC-----
100 1,-3	-----AUUGCACUUGUCCCCGGCCU-----
792 1,-2	-----AUUGCACUUGUCCCCGGCCUa-----
3 1,-2	-----AUUGCACUUGUCCCCGGCCUG-----
136 1,-1	-----AUUGCACUUGUCCCCGGCCUGa-----
4 1,-1	-----AUUGCACUUGUCCCCGGCCUGU-----
191 1,0	-----AUUGCACUUGUCCCCGGCCUGUa-----
16 1,0	-----AUUGCACUUGUCCCCGGCCUGUaa-----
5 1,0	-----AUUGCACUUGUCCCCGGCCUGUau-----
4 1,0	-----AUUGCACUUGUCCCCGGCCUGUU-----
12 1,1	-----AUUGCACUUGUCCCCGGCCUGUuu-----

0,-2	-----UAUUGCACUUGUCCCCGGCCUaa-----	128
0,-2	-----UAUUGCACUUGUCCCCGGCCUau-----	75
0,-2	-----UAUUGCACUUGUCCCCGGCCUu-----	81
0,-2	-----UAUUGCACUUGUCCCCGGCCUuu-----	15
0,-2	-----UAUUGCACUUGUCCCCGGCCUG-----	7894
0,-1	-----UAUUGCACUUGUCCCCGGCCUGa-----	163
0,-1	-----UAUUGCACUUGUCCCCGGCCUGaa-----	109
0,-1	-----UAUUGCACUUGUCCCCGGCCUGau-----	31
0,-1	-----UAUUGCACUUGUCCCCGGCCUGU-----	
10526 0,0	-----UAUUGCACUUGUCCCCGGCCUGUa-----	1084
0,0	-----UAUUGCACUUGUCCCCGGCCUGUaa----	367
0,0	-----UAUUGCACUUGUCCCCGGCCUGUau----	277
0,0	-----UAUUGCACUUGUCCCCGGCCUGUG-----	39
0,1	-----UAUUGCACUUGUCCCCGGCCUGUGa----	2
0,1	-----UAUUGCACUUGUCCCCGGCCUGUGu----	4
0,1	-----AUUGCACUUGUCCCCGGCC-----	100
1,-3	-----AUUGCACUUGUCCCCGGCCU-----	792
1,-2	-----AUUGCACUUGUCCCCGGCCUa-----	3
1,-2	-----AUUGCACUUGUCCCCGGCCUG-----	136

```

1,-1
-----AUUGCACUUGUCCCGGCCUGa----- 4
1,-1
-----AUUGCACUUGUCCCGGCCUGU----- 191
1,0
-----AUUGCACUUGUCCCGGCCUGUa----- 16
1,0
-----AUUGCACUUGUCCCGGCCUGUaa----- 5
1,0
-----AUUGCACUUGUCCCGGCCUGUau----- 4
1,0
-----AUUGCACUUGUCCCGGCCUGUG----- 2
1,1
-----UUGCACUUGUCCCGGCCU----- 14
2,-2
-----UUGCACUUGUCCCGGCCUG----- 2
2,-1
-----UUGCACUUGUCCCGGCCUGU----- 4
2,0

```

>hsa-mir-92b mi:20-41;MA:61-82 SRX018965

```

cgggccccgggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuuccccgcgcaaUAUUGCACUCGUCCCGGCCU
CCggccccccccggccc

```

```

.((((((..(((.(((((((((..(((((((.((((((((((((((.....))))))))))))))))))))).)))
)).)))))))).))))))

```

```

-----AGGGACGGGACGCGGUGCAGUGU-----

```

```

----- 7 0,1

```

```

-----AGGGACGGGACGCGGUGCAGUGUU-----

```

```

----- 4 0,2

```

```

-----UAUUGCACUCGUCCCGGCC-

```

```

----- 11 0,-3

```

```

-----UAUUGCACUCGUCCCGGCCU

```

```

----- 48 0,-2

```

```

-----UAUUGCACUCGUCCCGGCCU

```

```

aa----- 3 0,-2

```

```

-----UAUUGCACUCGUCCCGGCCU

```

```

uu----- 2 0,-2

```

```

-----UAUUGCACUCGUCCCGGCCU

```

C-----	9	0,-1	
-----			-----UAUUGCACUCGUCCCGGCCU
Ca-----	2	0,-1	
-----			-----UAUUGCACUCGUCCCGGCCU
Caa-----	2	0,-1	
-----			-----UAUUGCACUCGUCCCGGCCU
Cau-----	3	0,-1	
-----			-----UAUUGCACUCGUCCCGGCCU
CC-----	11	0,0	
-----			-----UAUUGCACUCGUCCCGGCCU
CCa-----	2	0,0	
-----			-----UAUUGCACUCGUCCCGGCCU
CCaa-----	4	0,0	
-----			-----UAUUGCACUCGUCCCGGCCU
CCau-----	2	0,0	

>hsa-mi r-93 MA:11-33;mi:50-71 SRX018965

```

cugggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagcccccg
((((((((((..(((((((((((((((((..(((..((.....))..))))))))))))).))))))..)))))))))
-----CAAAGUGCUGUUCGUGCA-----
439 0,-5
-----CAAAGUGCUGUUCGUGCAa-----
3 0,-5
-----CAAAGUGCUGUUCGUGCAG-----
515 0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
422 0,-3
-----CAAAGUGCUGUUCGUGCAGGa-----
2 0,-3
-----CAAAGUGCUGUUCGUGCAGGaa-----
10 0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
1331 0,-2
-----CAAAGUGCUGUUCGUGCAGGUu-----
5 0,-2
-----CAAAGUGCUGUUCGUGCAGGUA-----
2541 0,-1
-----CAAAGUGCUGUUCGUGCAGGUaA-----

```

```

387 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAaa-----
10 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAu-----
199 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
1305 0,0
-----CAAAGUGCUGUUCGUGCAGGUAGa-----
12 0,0
-----CAAAGUGCUGUUCGUGCAGGUAGU-----
12 0,1
-----AAAGUGCUGUUCGUGCAG-----
13 1,-4
-----AAAGUGCUGUUCGUGCAGG-----
11 1,-3
-----AAAGUGCUGUUCGUGCAGGU-----
27 1,-2
-----AAAGUGCUGUUCGUGCAGGUA-----
68 1,-1
-----AAAGUGCUGUUCGUGCAGGUAa-----
5 1,-1
-----AAAGUGCUGUUCGUGCAGGUAu-----
3 1,-1
-----AAAGUGCUGUUCGUGCAGGUAG-----
29 1,0
-----ACUGCUGAGCUAGCACUUCC-----
6 0,-2
-----ACUGCUGAGCUAGCACUUCCC-----
4 0,-1
-----ACUGCUGAGCUAGCACUUCCCG-----
5 0,0
-----ACUGCUGAGCUAGCACUUCCCGA-----
20 0,1

```

>hsa-mir-935 3p:56-78 SRX018965

```

ggcggggggcgcgggcggcaguggcgggagcggcccccucggccauccuccgucugcCCAGUUACCGCUUCCGCUACCGCcg
ccgcucccgcu
((((((((...((((((.((((((((((((((((...((.(.((((.....))))).))...))))))))))))))))))

```


))))))))))
 -----CAGUUACCGCUUCCGCUACCG---
 ----- 2 1,-1

```
>hsa-mir-939      5p:15-38      SRX018965
ugugggcagggcccUGGGGAGCUGAGGCUCUGGGGUGgcccggggcugaccucggggccucugcuccccagugucugaccg
cg
.((((...(((.(((((((.(((((.((..((..((...)))..)))..))))).)))))))).))))).)))
).
-----UGGGGAGCUGAGGCUCUGGGGUGu-----
--  4    0.0
```

```
>hsa-mir-940      3p:60-80      SRX018965
gugagguguggggcccgccccaggagcggggccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugaccccac
(((.(((.((((((((((.....(((((((((((((.((..(((.....)))...)).)))).)))))))))))))
)))))))).)))
-----AAGGCAGGGCCCCCGCUCC--
----- 2    0,-2
-----AAGGCAGGGCCCCCGCUCCCC
----- 7    0,0
```

```
>hsa-mir-941-1   3p:71-93      SRX018965
cacggaagaggacacaccgggcuguguggacaugugcccagggccccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCc cagggccccgggacagcgccacgg
.....(((((((.(.((((((((((.(.(((((.(((...(((((.(...)).)).))).)).)).)).)).)).)).)).)).)).))....
-----CACCCGGCUGUGUGGACAUGUC-----
                                           2
-----CACCCGGCUG
UGUGCACAUGU-----          4    0,-2
-----CACCCGGCUG
UGUGCACAUGUG-----        15    0,-1
-----CACCCGGCUG
UGUGCACAUGUGa-----         6    0,-1
-----CACCCGGCUG
UGUGCACAUGUGu-----         5    0,-1
-----CACCCGGCUG
```



```

UGUGCACAUGUGCccagggccccgggacagcgccacgg
.....(((.(((.(((((.(((.(((((((((.(((.(((.(((...(((((.(((.(((.)))...)))...
)).)))))))))).)).))))))....
-----CACCCGGCUGUGUGCACAUGU-----
-----4
-----CACCCGGCUGUGUGCACAUGUG-----
-----15
-----CACCCGGCUGUGUGCACAUGUGa-----
-----6
-----CACCCGGCUGUGUGCACAUGUGu-----
-----5
-----CACCCGGCUGUGUGCACAUGUGC-----
-----82
-----CACCCGGCUGUGUGCACAUGUGCu-----
-----2
-----ACCCGGCUGUGUGCACAUGUGC-----
-----2
-----CACCCGGCUG
UGUGCACAUGU-----4 0,-2
-----CACCCGGCUG
UGUGCACAUGUG-----15 0,-1
-----CACCCGGCUG
UGUGCACAUGUGa-----6 0,-1
-----CACCCGGCUG
UGUGCACAUGUGu-----5 0,-1
-----CACCCGGCUG
UGUGCACAUGUGC-----82 0,0
-----CACCCGGCUG
UGUGCACAUGUGCu-----2 0,0
-----ACCCGGCUG
UGUGCACAUGUGC-----2 1,0

```

>hsa-mir-95 3p:49-70 SRX018965

```

aacacagugggcacucaauaaaugucuguugaauugaaaugcguuacaUUCAACGGGUUUUUUUGAGCAcccacucugu
g
.(((.(((((.(((.(((((((((.(((.(((.(((...(((((.(((.(((.)))...)))...)))...)))...)))...)))...))
.
-----UUUCAACGGGUUUUUUUG-----

```



```

----- 4 0,-1
-----UGAGGUAGUAAGUUGUAUUGUU-----
----- 5 0,0

```

>hsa-mir-99a MA:13-34;mi:50-71 SRX018965

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

```

..((((((((((.(((((((((.(((.((((((.(.....)))))))).)).)))))))).)))))))).).
.

```

```

-----AAACCCGUAGAUCCGAUCUU-----
- 2 -1,-3
-----AAACCCGUAGAUCCGAUCUUG-----
- 8 -1,-2
-----AAACCCGUAGAUCCGAUCUUGU-----
- 37 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUG-----
- 4 -1,0
-----AACCCGUAGAUCCGAUCU-----
- 486 0,-4
-----AACCCGUAGAUCCGAUCUU-----
- 377 0,-3
-----AACCCGUAGAUCCGAUCUUa-----
- 2 0,-3
-----AACCCGUAGAUCCGAUCUUau-----
- 4 0,-3
-----AACCCGUAGAUCCGAUCUUu-----
- 2 0,-3
-----AACCCGUAGAUCCGAUCUUuu-----
- 5 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 1851 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
- 23 0,-2
-----AACCCGUAGAUCCGAUCUUGau-----
- 4 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 12777 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----

```

```

- 47 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 8 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----
- 44 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 18404 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 1328 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 19 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 1810 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 2 0,1
-----ACCCGUAGAUCCGAUCUUGU-----
- 22 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 16 1,0
-----CAAGCUCGCUUCUAUGGG-----
- 2 0,-4
-----CAAGCUCGCUUCUAUGGGU-----
- 2 0,-3
-----CAAGCUCGCUUCUAUGGGUCU-----
- 5 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 3 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 2 0,1

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018965

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCU----- 6 0,-4
-----CACCCGUAGAACCGACCU----- 7 0,-3
-----CACCCGUAGAACCGACCUUG----- 20 0,-2
-----CACCCGUAGAACCGACCUUGC----- 104 0,-1
-----CACCCGUAGAACCGACCUUGC----- 3 0,-1

```

-----CACCCGUAGAACCGACCUUGCG-----	265	0,0
-----CACCCGUAGAACCGACCUUGCGa-----	53	0,0
-----CACCCGUAGAACCGACCUUGCGaa-----	2	0,0
-----CACCCGUAGAACCGACCUUGCGu-----	63	0,0
-----CACCCGUAGAACCGACCUUGCGG-----	15	0,1
-----CACCCGUAGAACCGACCUUGCGGa-----	2	0,1
-----ACCCGUAGAACCGACCUUGC-----	4	1,-1
-----ACCCGUAGAACCGACCUUGCG-----	7	1,0
-----CAAGCUCGUGUCUGUGGGUC-----	9	0,-2
-----CAAGCUCGUGUCUGUGGGUCC-----	5	0,-1
-----CAAGCUCGUGUCUGUGGGUCCG-----	4	0,0
-----CAAGCUCGUGUCUGUGGGUCCGa-----	21	0,0
-----CAAGCUCGUGUCUGUGGGUCCGU-----	10	0,1
-----AAGCUCGUGUCUGUGGGUCCGa-----	2	1,0

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018966

```

-----AUGAGGUAGUAGGUUGUAU-----
5      -1,-4
-----AUGAGGUAGUAGGUUGUAUAGU-----
7      -1,-1
-----AUGAGGUAGUAGGUUGUAUAGUa-----
3      -1,-1
-----AUGAGGUAGUAGGUUGUAUAGUU-----
10     -1,0
-----AUGAGGUAGUAGGUUGUAUAGUUa-----
3      -1,0
-----AUGAGGUAGUAGGUUGUAUAGUUU-----
3      -1,1
-----UGAGGUAGUAGGUUGUAU-----
1258   0,-4
-----UGAGGUAGUAGGUUGUAUu-----
64     0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
99     0,-4
-----UGAGGUAGUAGGUUGUAUA-----
5785   0,-3

```


-----UGAGGUAGUAGGUUGUAUAa-----
 358 0,-3
 -----UGAGGUAGUAGGUUGUAUAaa-----
 96 0,-3
 -----UGAGGUAGUAGGUUGUAUAau-----
 21 0,-3
 -----UGAGGUAGUAGGUUGUAUAu-----
 144 0,-3
 -----UGAGGUAGUAGGUUGUAUAuu-----
 42 0,-3
 -----UGAGGUAGUAGGUUGUAUAG-----
 15425 0,-2
 -----UGAGGUAGUAGGUUGUAUAGa-----
 437 0,-2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 75 0,-2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 107 0,-2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 61382 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 2208 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 3016 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 691 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 220915 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 29795 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 4027 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 1319 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 30789 0,1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 783 0,2

-----UGAGGUAGUAGGUUGUAUAGUUUUu-----
 32 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUA-----
 9 0,3
 -----GAGGUAGUAGGUUGUAUA-----
 3 1,-3
 -----GAGGUAGUAGGUUGUAUAa-----
 2 1,-3
 -----GAGGUAGUAGGUUGUAUAG-----
 36 1,-2
 -----GAGGUAGUAGGUUGUAUAGa-----
 2 1,-2
 -----GAGGUAGUAGGUUGUAUAGU-----
 138 1,-1
 -----GAGGUAGUAGGUUGUAUAGUa-----
 4 1,-1
 -----GAGGUAGUAGGUUGUAUAGUaa-----
 7 1,-1
 -----GAGGUAGUAGGUUGUAUAGUU-----
 499 1,0
 -----GAGGUAGUAGGUUGUAUAGUUa-----
 77 1,0
 -----GAGGUAGUAGGUUGUAUAGUUaa-----
 16 1,0
 -----GAGGUAGUAGGUUGUAUAGUUU-----
 86 1,1
 -----GAGGUAGUAGGUUGUAUAGUUUU-----
 4 1,2
 -----AGGUAGUAGGUUGUAUAGU-----
 2 2,-1
 -----AGGUAGUAGGUUGUAUAGUU-----
 60 2,0
 -----AGGUAGUAGGUUGUAUAGUUa-----
 5 2,0
 -----AGGUAGUAGGUUGUAUAGUUU-----
 26 2,1
 -----AGGUAGUAGGUUGUAUAGUUUU-----
 7 2,2

----UGAGGUAGUAGGUUGUAUAu-----	21
0,-3	
----UGAGGUAGUAGGUUGUAUAu-----	144
0,-3	
----UGAGGUAGUAGGUUGUAUAuu-----	42
0,-3	
----UGAGGUAGUAGGUUGUAUAG-----	
15425 0,-2	
----UGAGGUAGUAGGUUGUAUAGa-----	437
0,-2	
----UGAGGUAGUAGGUUGUAUAGaa-----	75
0,-2	
----UGAGGUAGUAGGUUGUAUAGau-----	107
0,-2	
----UGAGGUAGUAGGUUGUAUAGU-----	
61382 0,-1	
----UGAGGUAGUAGGUUGUAUAGUa-----	2208
0,-1	
----UGAGGUAGUAGGUUGUAUAGUaa-----	3016
0,-1	
----UGAGGUAGUAGGUUGUAUAGUau-----	691
0,-1	
----UGAGGUAGUAGGUUGUAUAGUU-----	
220915 0,0	
----UGAGGUAGUAGGUUGUAUAGUUa-----	
29795 0,0	
----UGAGGUAGUAGGUUGUAUAGUUaa-----	4027
0,0	
----UGAGGUAGUAGGUUGUAUAGUUau-----	1319
0,0	
----UGAGGUAGUAGGUUGUAUAGUUU-----	
30789 0,1	
----UGAGGUAGUAGGUUGUAUAGUUUA-----	357
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAa-----	17
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAu-----	13
0,2	

-----GAGGUAGUAGGUUGUAUA-----	3
1,-3	
-----GAGGUAGUAGGUUGUAUAa-----	2
1,-3	
-----GAGGUAGUAGGUUGUAUAG-----	36
1,-2	
-----GAGGUAGUAGGUUGUAUAGa-----	2
1,-2	
-----GAGGUAGUAGGUUGUAUAGU-----	138
1,-1	
-----GAGGUAGUAGGUUGUAUAGUa-----	4
1,-1	
-----GAGGUAGUAGGUUGUAUAGUaa-----	7
1,-1	
-----GAGGUAGUAGGUUGUAUAGUU-----	499
1,0	
-----GAGGUAGUAGGUUGUAUAGUUa-----	77
1,0	
-----GAGGUAGUAGGUUGUAUAGUUaa-----	16
1,0	
-----GAGGUAGUAGGUUGUAUAGUUU-----	86
1,1	
-----AGGUAGUAGGUUGUAUAGU-----	2
2,-1	
-----AGGUAGUAGGUUGUAUAGUU-----	60
2,0	
-----AGGUAGUAGGUUGUAUAGUUa-----	5
2,0	
-----AGGUAGUAGGUUGUAUAGUUU-----	26
2,1	
>hsa-let-7a-3 MA:4-25;mi:52-72 SRX018966	
gggUGAGGUAGUAGGUUGUAUAGUUuggggcucugcccugcuaugggauaaCUAUACAAUCUACUGUCUUUCcu	
(((((...((((((((((((((((((((((((((...)))))).....))))))))))))))))).)).)))	
-GGUGAGGUAGUAGGUUGUAUAGU-----	2
-2,-1	
--GUGAGGUAGUAGGUUGUAUAG-----	13
-1,-2	

--GUGAGGUAGUAGGUUGUAUAGU-----	32
-1, -1	
--GUGAGGUAGUAGGUUGUAUAGUU-----	17
-1, 0	
---UGAGGUAGUAGGUUGUAU-----	1258
0, -4	
---UGAGGUAGUAGGUUGUAUu-----	64
0, -4	
---UGAGGUAGUAGGUUGUAUuu-----	99
0, -4	
---UGAGGUAGUAGGUUGUAUA-----	5785
0, -3	
---UGAGGUAGUAGGUUGUAUAa-----	358
0, -3	
---UGAGGUAGUAGGUUGUAUAaa-----	96
0, -3	
---UGAGGUAGUAGGUUGUAUAau-----	21
0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	144
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	42
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	
15425 0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	437
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	75
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	107
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
61382 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	2208
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	3016
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	691
0, -1	

---UGAGGUAGUAGGUUGUAUAGUU-----	
220915 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	
29795 0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	4027
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	1319
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	
30789 0,1	
---UGAGGUAGUAGGUUGUAUAGUUUG-----	8
0,2	
---GAGGUAGUAGGUUGUAUA-----	3
1,-3	
---GAGGUAGUAGGUUGUAUAa-----	2
1,-3	
---GAGGUAGUAGGUUGUAUAG-----	36
1,-2	
---GAGGUAGUAGGUUGUAUAGa-----	2
1,-2	
---GAGGUAGUAGGUUGUAUAGU-----	138
1,-1	
---GAGGUAGUAGGUUGUAUAGUa-----	4
1,-1	
---GAGGUAGUAGGUUGUAUAGUaa-----	7
1,-1	
---GAGGUAGUAGGUUGUAUAGUU-----	499
1,0	
---GAGGUAGUAGGUUGUAUAGUUa-----	77
1,0	
---GAGGUAGUAGGUUGUAUAGUUaa-----	16
1,0	
---GAGGUAGUAGGUUGUAUAGUUU-----	86
1,1	
---AGGUAGUAGGUUGUAUAGU-----	2
2,-1	
---AGGUAGUAGGUUGUAUAGUU-----	60
2,0	

-----AGGUAGUAGGUUGUAUAGUUa-----	5
2,0	
-----AGGUAGUAGGUUGUAUAGUUU-----	26
2,1	
-----AGGUAGUAGGUUGUAUAGUUUG-----	6
2,2	
-----CUAUACAAUCUACUGUCUUU-----	12
0,-1	
-----CUAUACAAUCUACUGUCUUUC-----	6
0,0	
-----CUAUACAAUCUACUGUCUUUCu-----	19
0,0	
-----CUAUACAAUCUACUGUCUUUCC-----	2
0,1	
-----UAUACAAUCUACUGUCUUU-----	2
1,-1	
-----AUACAAUCUACUGUCUUUCCU-----	6
2,2	

>hsa-let-7b MA:6-27;mi:60-81 SRX018966

cggggUGAGGUAGUAGGUUGUGUGGUUucagggcagugauguugccccucggaagauaaCUAUACAACCUACUGCCUCC
Cug

```

-----UGAGGUAGUAGGUUGUGU-----
--- 3590    0,-4
-----UGAGGUAGUAGGUUGUGUa-----
--- 8    0,-4
-----UGAGGUAGUAGGUUGUGUaa-----
--- 149 0,-4
-----UGAGGUAGUAGGUUGUGUau-----
--- 15   0,-4
-----UGAGGUAGUAGGUUGUGUu-----
--- 12   0,-4
-----UGAGGUAGUAGGUUGUGUuu-----
--- 12   0,-4
-----UGAGGUAGUAGGUUGUGUG-----
--- 11875  0,-3

```


-----UGAGGUAGUAGGUUGUGUGa-----
--- 164 0,-3
-----UGAGGUAGUAGGUUGUGUGaa-----
--- 17 0,-3
-----UGAGGUAGUAGGUUGUGUGau-----
--- 4 0,-3
-----UGAGGUAGUAGGUUGUGUGu-----
--- 171 0,-3
-----UGAGGUAGUAGGUUGUGUGuu-----
--- 38 0,-3
-----UGAGGUAGUAGGUUGUGUGG-----
--- 3908 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 89 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 57 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 27 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 6669 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 1011 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 4023 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 3802 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 22459 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 7838 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 4310 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 7981 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 29416 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 1919 0,1

```

-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 352 0,1
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 416 0,1
-----UGAGGUAGUAGGUUGUGUGGUUu-----
--- 4930 0,1
-----UGAGGUAGUAGGUUGUGUGGUUuu-----
--- 228 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 42 0,2
-----UGAGGUAGUAGGUUGUGUGGUUUCu-----
--- 3 0,2
-----GAGGUAGUAGGUUGUGUG-----
--- 42 1,-3
-----GAGGUAGUAGGUUGUGUGu-----
--- 5 1,-3
-----GAGGUAGUAGGUUGUGUGG-----
--- 9 1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 20 1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 12 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 22 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 33 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 92 1,0
-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 51 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 13 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 50 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 144 1,1
-----GAGGUAGUAGGUUGUGUGGUUUa-----
--- 11 1,1

```

```

-----GAGGUAGUAGGUUGUGUGGUUUaa-----
--- 2 1,1
-----GAGGUAGUAGGUUGUGUGGUUUau-----
--- 2 1,1
-----GAGGUAGUAGGUUGUGUGGUUUu-----
--- 23 1,1
-----GAGGUAGUAGGUUGUGUGGUUUuu-----
--- 2 1,1
-----AGGUAGUAGGUUGUGUGGUU-----
--- 3 2,0
-----AGGUAGUAGGUUGUGUGGUUa-----
--- 7 2,0
-----AGGUAGUAGGUUGUGUGGUUau-----
--- 4 2,0
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 20 2,1
-----AGGUAGUAGGUUGUGUGGUUUu-----
--- 9 2,1
-----CUAUACAACCUACUGCCU-----
--- 11 0,-3
-----CUAUACAACCUACUGCCUUC-----
--- 16 0,-2
-----CUAUACAACCUACUGCCUUCu
u-- 7 0,-2
-----CUAUACAACCUACUGCCUUCu
u-- 2 0,-2
-----CUAUACAACCUACUGCCUUCC
--- 38 0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 5 0,-1
-----CUAUACAACCUACUGCCUUCC
au- 2 0,-1
-----CUAUACAACCUACUGCCUUCC
u-- 95 0,-1
-----CUAUACAACCUACUGCCUUCC
uu- 4 0,-1
-----UAUACAACCUACUGCCUUCu
--- 2 1,-2

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018966

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc

((.((((((.(((.(((.((((((((((((((.((.(.((.....)).).)))))))))))))).)).)).).)))))
))))

-----GUUGAGGUAGUAGGUUGUAUGGUU-----

---- 6 -2,0

-----UUGAGGUAGUAGGUUGUAUG-----

---- 9 -1,-3

-----UUGAGGUAGUAGGUUGUAUGG-----

---- 40 -1,-2

-----UUGAGGUAGUAGGUUGUAUGGa-----

---- 2 -1,-2

-----UUGAGGUAGUAGGUUGUAUGGU-----

---- 109 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUa-----

---- 39 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUaa-----

---- 6 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUau-----

---- 24 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUU-----

---- 259 -1,0

-----UUGAGGUAGUAGGUUGUAUGGUUa-----

---- 3 -1,0

-----UUGAGGUAGUAGGUUGUAUGGUUaa-----

---- 2 -1,0

-----UUGAGGUAGUAGGUUGUAUGGUUau-----

---- 5 -1,0

-----UUGAGGUAGUAGGUUGUAUGGUUU-----

---- 33 -1,1

-----UGAGGUAGUAGGUUGUAU-----

---- 1258 0,-4

-----UGAGGUAGUAGGUUGUAUu-----

---- 64 0,-4

-----UGAGGUAGUAGGUUGUAUuu-----

---- 99 0,-4

```

-----UGAGGUAGUAGGUUGUAUG-----
---- 2303 0,-3
-----UGAGGUAGUAGGUUGUAUGa-----
---- 20 0,-3
-----UGAGGUAGUAGGUUGUAUGaa-----
---- 3 0,-3
-----UGAGGUAGUAGGUUGUAUGau-----
---- 4 0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
---- 35 0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
---- 37 0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
---- 4893 0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
---- 80 0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 130 0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 58 0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 15522 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----
---- 3506 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 2614 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 2359 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 91322 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 6451 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 1789 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 1979 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 15839 0,1

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```

-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 1284 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUuu-----
---- 34 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 501 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUAa-----
---- 67 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUau-----
---- 41 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUAG-----
---- 4 0,3
-----GAGGUAGUAGGUUGUAUG-----
---- 17 1,-3
-----GAGGUAGUAGGUUGUAUGG-----
---- 36 1,-2
-----GAGGUAGUAGGUUGUAUGGU-----
---- 46 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 44 1,-1
-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 22 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 20 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----
---- 575 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 49 1,0
-----GAGGUAGUAGGUUGUAUGGUUaa-----
---- 17 1,0
-----GAGGUAGUAGGUUGUAUGGUUau-----
---- 8 1,0
-----GAGGUAGUAGGUUGUAUGGUUU-----
---- 110 1,1
-----GAGGUAGUAGGUUGUAUGGUUUu-----
---- 5 1,1
-----GAGGUAGUAGGUUGUAUGGUUUA-----
---- 4 1,2

```

```

-----AGGUAGUAGGUUGUAUGGUU-----
---- 18 2,0
-----AGGUAGUAGGUUGUAUGGUUau-----
---- 2 2,0
-----AGGUAGUAGGUUGUAUGGUUU-----
---- 12 2,1
-----AGGUAGUAGGUUGUAUGGUUUu-----
---- 8 2,1

```

>hsa-let-7d MA:8-29;mi:62-83 SRX018966

ccuaggaAGAGGUAGUAGGUUGCAUAGUUuuagggcagggauuuugcccacaaggagguaaCUAUACGACCUGCUGCCUU
UCUuagg

```

(((((((.(((((((((((((((.((((((.....)))))).))))))))))))))
))))))

```

```

-----AAGAGGUAGUAGGUUGCAUA-----
----- 4 -1,-3
-----AAGAGGUAGUAGGUUGCAUAG-----
----- 4 -1,-2
-----AAGAGGUAGUAGGUUGCAUAGU-----
----- 10 -1,-1
-----AAGAGGUAGUAGGUUGCAUAGUU-----
----- 10 -1,0
-----AGAGGUAGUAGGUUGCAU-----
----- 961 0,-4
-----AGAGGUAGUAGGUUGCAUu-----
----- 32 0,-4
-----AGAGGUAGUAGGUUGCAUuu-----
----- 43 0,-4
-----AGAGGUAGUAGGUUGCAUA-----
----- 823 0,-3
-----AGAGGUAGUAGGUUGCAUAa-----
----- 72 0,-3
-----AGAGGUAGUAGGUUGCAUAau-----
----- 2 0,-3
-----AGAGGUAGUAGGUUGCAUAu-----
----- 8 0,-3
-----AGAGGUAGUAGGUUGCAUAuu-----
----- 3 0,-3

```

```

-----AGAGGUAGUAGGUUGCAUAG-----
----- 2447    0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 135 0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 53  0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 73  0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 5262    0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 711 0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 234 0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 135 0,-1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 51826    0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 5060    0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 318 0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 185 0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 7625    0,1
-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 114 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUaa-----
----- 4  0,1
-----AGAGGUAGUAGGUUGCAUAGUUUau-----
----- 3  0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 403 0,2
-----AGAGGUAGUAGGUUGCAUAGUUUUu-----
----- 14  0,2
-----AGAGGUAGUAGGUUGCAUAGUUUUA-----
----- 4  0,3

```



```

-----GAGGUAGUAGGUUGCAUA-----
----- 3 1,-3
-----GAGGUAGUAGGUUGCAUAG-----
----- 9 1,-2
-----GAGGUAGUAGGUUGCAUAGU-----
----- 9 1,-1
-----GAGGUAGUAGGUUGCAUAGUa-----
----- 4 1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 155 1,0
-----GAGGUAGUAGGUUGCAUAGUUa-----
----- 41 1,0
-----GAGGUAGUAGGUUGCAUAGUUaa-----
----- 4 1,0
-----GAGGUAGUAGGUUGCAUAGUUU-----
----- 40 1,1
-----GAGGUAGUAGGUUGCAUAGUUUa-----
----- 2 1,1
-----GAGGUAGUAGGUUGCAUAGUUUU-----
----- 14 1,2
-----AGGUAGUAGGUUGCAUAGUU-----
----- 18 2,0
-----AGGUAGUAGGUUGCAUAGUUU-----
----- 4 2,1
-----AGGUAGUAGGUUGCAUAGUUUU-----
----- 2 2,2
-----AACUAUACGACCUGCUGCCUU
U----- 2 -2,-2
-----CUAUACGACCUGCUGCCUU
----- 7 0,-3
-----CUAUACGACCUGCUGCCUU
U----- 10 0,-2
-----CUAUACGACCUGCUGCCUU
UC----- 26 0,-1
-----CUAUACGACCUGCUGCCUU
UCa----- 10 0,-1
-----CUAUACGACCUGCUGCCUU
UCU----- 63 0,0

```


-----UGAGGUAGGAGGUUGUAUAu-----
 5 0, -3
 -----UGAGGUAGGAGGUUGUAUAG-----
 967 0, -2
 -----UGAGGUAGGAGGUUGUAUAGa-----
 56 0, -2
 -----UGAGGUAGGAGGUUGUAUAGaa-----
 20 0, -2
 -----UGAGGUAGGAGGUUGUAUAGau-----
 13 0, -2
 -----UGAGGUAGGAGGUUGUAUAGU-----
 2483 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUa-----
 167 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUaa-----
 584 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUau-----
 197 0, -1
 -----UGAGGUAGGAGGUUGUAUAGUU-----
 7497 0, 0
 -----UGAGGUAGGAGGUUGUAUAGUUa-----
 2877 0, 0
 -----UGAGGUAGGAGGUUGUAUAGUUaa-----
 532 0, 0
 -----UGAGGUAGGAGGUUGUAUAGUUau-----
 234 0, 0
 -----UGAGGUAGGAGGUUGUAUAGUUu-----
 2461 0, 0
 -----UGAGGUAGGAGGUUGUAUAGUUuu-----
 78 0, 0
 -----UGAGGUAGGAGGUUGUAUAGUUG-----
 415 0, 1
 -----UGAGGUAGGAGGUUGUAUAGUUGu-----
 69 0, 1
 -----UGAGGUAGGAGGUUGUAUAGUUGuu-----
 4 0, 1
 -----UGAGGUAGGAGGUUGUAUAGUUGA-----
 35 0, 2

-----UGAGGUAGUAGAUUGUAUAu-----
----- 12 0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
----- 46 0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
----- 20 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
----- 9642 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
----- 528 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
----- 94 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
----- 75 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
----- 58159 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
----- 1479 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
----- 5524 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 763 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 151564 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 58059 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 5810 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 1381 0,0
-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 1903 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 76 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGaa-----
----- 2 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGau-----
----- 3 0,1

-----UGAGGUAGUAGAUUGUAUAGUUGU-----
 ----- 126 0,2
 -----GAGGUAGUAGAUUGUAUA-----
 ----- 19 1,-3
 -----GAGGUAGUAGAUUGUAUAa-----
 ----- 2 1,-3
 -----GAGGUAGUAGAUUGUAUAG-----
 ----- 32 1,-2
 -----GAGGUAGUAGAUUGUAUAGau-----
 ----- 2 1,-2
 -----GAGGUAGUAGAUUGUAUAGU-----
 ----- 169 1,-1
 -----GAGGUAGUAGAUUGUAUAGUa-----
 ----- 4 1,-1
 -----GAGGUAGUAGAUUGUAUAGUaa-----
 ----- 31 1,-1
 -----GAGGUAGUAGAUUGUAUAGUau-----
 ----- 5 1,-1
 -----GAGGUAGUAGAUUGUAUAGUU-----
 ----- 619 1,0
 -----GAGGUAGUAGAUUGUAUAGUUa-----
 ----- 283 1,0
 -----GAGGUAGUAGAUUGUAUAGUUaa-----
 ----- 23 1,0
 -----GAGGUAGUAGAUUGUAUAGUUau-----
 ----- 15 1,0
 -----GAGGUAGUAGAUUGUAUAGUUG-----
 ----- 3 1,1
 -----GAGGUAGUAGAUUGUAUAGUUGU-----
 ----- 4 1,2
 -----AGGUAGUAGAUUGUAUAG-----
 ----- 10 2,-2
 -----AGGUAGUAGAUUGUAUAGU-----
 ----- 2 2,-1
 -----AGGUAGUAGAUUGUAUAGUaa-----
 ----- 2 2,-1
 -----AGGUAGUAGAUUGUAUAGUU-----
 ----- 29 2,0

-----UGAGGUAGUAGAUUGUAUAaa-----
--- 83 0,-3
-----UGAGGUAGUAGAUUGUAUAau-----
--- 12 0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
--- 46 0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
--- 20 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 9642 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 528 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 94 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
--- 75 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 58159 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 1479 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 5524 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 763 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 151564 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 58059 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 5810 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 1381 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 34305 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUa-----
--- 117 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUaa-----
--- 11 0,1


```

-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 386 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUu-----
--- 2 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUA-----
--- 4 0,3
-----GAGGUAGUAGAUUGUAUA-----
--- 19 1,-3
-----GAGGUAGUAGAUUGUAUAa-----
--- 2 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
--- 32 1,-2
-----GAGGUAGUAGAUUGUAUAGau-----
--- 2 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 169 1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----
--- 4 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
--- 31 1,-1
-----GAGGUAGUAGAUUGUAUAGUau-----
--- 5 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 619 1,0
-----GAGGUAGUAGAUUGUAUAGUua-----
--- 283 1,0
-----GAGGUAGUAGAUUGUAUAGUuaa-----
--- 23 1,0
-----GAGGUAGUAGAUUGUAUAGUuau-----
--- 15 1,0
-----GAGGUAGUAGAUUGUAUAGUUU-----
--- 198 1,1
-----AGGUAGUAGAUUGUAUAG-----
--- 10 2,-2
-----AGGUAGUAGAUUGUAUAGU-----
--- 2 2,-1
-----AGGUAGUAGAUUGUAUAGUaa-----
--- 2 2,-1

```



```

----UGAGGUAGUAGUUUGUACAGa-----
----    78    0,-2
----UGAGGUAGUAGUUUGUACAGaa-----
----    17    0,-2
----UGAGGUAGUAGUUUGUACAGau-----
----     4    0,-2
----UGAGGUAGUAGUUUGUACAGU-----
----   7817    0,-1
----UGAGGUAGUAGUUUGUACAGUa-----
----    92    0,-1
----UGAGGUAGUAGUUUGUACAGUaa-----
----   112    0,-1
----UGAGGUAGUAGUUUGUACAGUau-----
----    30    0,-1
----UGAGGUAGUAGUUUGUACAGUU-----
----  13692    0,0
----UGAGGUAGUAGUUUGUACAGUUa-----
----   2099    0,0
----UGAGGUAGUAGUUUGUACAGUUaa-----
----   190    0,0
----UGAGGUAGUAGUUUGUACAGUUau-----
----    95    0,0
----UGAGGUAGUAGUUUGUACAGUUU-----
----  1713    0,1
----UGAGGUAGUAGUUUGUACAGUUUa-----
----    24    0,1
----UGAGGUAGUAGUUUGUACAGUUUau-----
----     2    0,1
----UGAGGUAGUAGUUUGUACAGUUUu-----
----    62    0,1
----UGAGGUAGUAGUUUGUACAGUUUG-----
----     2    0,2
----GAGGUAGUAGUUUGUACA-----
----     2    1,-3
----GAGGUAGUAGUUUGUACAa-----
----     2    1,-3
----GAGGUAGUAGUUUGUACAG-----
----    11    1,-2

```

```

-----GAGGUAGUAGUUUGUACAGU-----
----      82   1,-1
-----GAGGUAGUAGUUUGUACAGUa-----
----      6    1,-1
-----GAGGUAGUAGUUUGUACAGUaa-----
----      3    1,-1
-----GAGGUAGUAGUUUGUACAGUU-----
----     176  1,0
-----GAGGUAGUAGUUUGUACAGUUa-----
----      20   1,0
-----GAGGUAGUAGUUUGUACAGUUaa-----
----      4    1,0
-----GAGGUAGUAGUUUGUACAGUUU-----
----     10   1,1
-----AGGUAGUAGUUUGUACAGUU-----
----      3    2,0
-----AGGUAGUAGUUUGUACAGUUUG-----
----      3    2,2
-----CUGUACAGGCCACUGCCUU
GCa-      2    0,0

```

>hsa-let-7i MA:6-27;mi:62-83 SRX018966

```

cuggcUGAGGUAGUAGUUUGUGCUGUUggucggguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUU
GCUa

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```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))

```

```

-----CUGAGGUAGUAGUUUGUGCU-----
----      4    -1,-3
-----CUGAGGUAGUAGUUUGUGCUG-----
----      3    -1,-2
-----CUGAGGUAGUAGUUUGUGCUGU-----
----      3    -1,-1
-----UGAGGUAGUAGUUUGUGC-----
----     744  0,-4
-----UGAGGUAGUAGUUUGUGCaa-----
----      2    0,-4
-----UGAGGUAGUAGUUUGUGCU-----
----    3035   0,-3

```

```

-----UGAGGUAGUAGUUUGUGCUu-----
----      4      0,-3
-----UGAGGUAGUAGUUUGUGCUG-----
----      577      0,-2
-----UGAGGUAGUAGUUUGUGCUGa-----
----      18      0,-2
-----UGAGGUAGUAGUUUGUGCUGaa-----
----      4      0,-2
-----UGAGGUAGUAGUUUGUGCUGU-----
----      437      0,-1
-----UGAGGUAGUAGUUUGUGCUGUa-----
----      5      0,-1
-----UGAGGUAGUAGUUUGUGCUGUaa-----
----      22      0,-1
-----UGAGGUAGUAGUUUGUGCUGUU-----
----      505      0,0
-----UGAGGUAGUAGUUUGUGCUGUUa-----
----      205      0,0
-----UGAGGUAGUAGUUUGUGCUGUUaa-----
----      30      0,0
-----UGAGGUAGUAGUUUGUGCUGUUau-----
----      6      0,0
-----UGAGGUAGUAGUUUGUGCUGUUu-----
----      374      0,0
-----UGAGGUAGUAGUUUGUGCUGUUuu-----
----      47      0,0
-----UGAGGUAGUAGUUUGUGCUGUUG-----
----      6      0,1
-----UGAGGUAGUAGUUUGUGCUGUUGa-----
----      4      0,1
-----UGAGGUAGUAGUUUGUGCUGUUGG-----
----      2      0,2
-----GAGGUAGUAGUUUGUGCU-----
----      15      1,-3
-----GAGGUAGUAGUUUGUGCUGUU-----
----      11      1,0
-----GAGGUAGUAGUUUGUGCUGUUa-----
----      2      1,0

```

```

-----GAGGUAGUAGUUUGUGCUGUUu-----
----      7      1,0
-----CUGCGCAAGCUACUGCCUU
----      3      0,-3
-----CUGCGCAAGCUACUGCCUU
G---      2      0,-2

```

>hsa-mir-1-1 3p:46-67 SRX018966

```

ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAGAAGUAUGUAUcuca
.(((((((.....)))))))).
-----UGGAAUGUAAAGAAGUAU----- 61 0,-4
-----UGGAAUGUAAAGAAGUAUa----- 2 0,-4
-----UGGAAUGUAAAGAAGUAUG----- 39 0,-3
-----UGGAAUGUAAAGAAGUAUGU----- 64 0,-2
-----UGGAAUGUAAAGAAGUAUGUu----- 3 0,-2
-----UGGAAUGUAAAGAAGUAUGUuu----- 2 0,-2
-----UGGAAUGUAAAGAAGUAUGUA----- 158 0,-1
-----UGGAAUGUAAAGAAGUAUGUAa----- 99 0,-1
-----UGGAAUGUAAAGAAGUAUGUAaa----- 8 0,-1
-----UGGAAUGUAAAGAAGUAUGUAU----- 2733
0,0
-----UGGAAUGUAAAGAAGUAUGUAUa--- 38 0,0
-----GGAAUGUAAAGAAGUAUGUAU----- 48 1,0
-----GAAUGUAAAGAAGUAUGUAU----- 4 2,0

```

>hsa-mir-1-2 3p:53-74 SRX018966

```

accuacucagaguacauacuucuuuanguacccauaugaacauacaauaucuaUGGAAUGUAAAGAAGUAUGUAUuuuugg
uaggc
.(((((((.....)))))))).
-----UGGAAUGUAAAGAAGUAU-----
----- 61 0,-4
-----UGGAAUGUAAAGAAGUAUa-----
----- 2 0,-4
-----UGGAAUGUAAAGAAGUAUG-----
----- 39 0,-3
-----UGGAAUGUAAAGAAGUAUGU-----
----- 64 0,-2

```



```

-----AACCCGUAGAUCCGAACUUGa-----
55  0,-2
-----AACCCGUAGAUCCGAACUUGaa-----
3   0,-2
-----AACCCGUAGAUCCGAACUUGU-----
16722  0,-1
-----AACCCGUAGAUCCGAACUUGUa-----
93  0,-1
-----AACCCGUAGAUCCGAACUUGUaa-----
91  0,-1
-----AACCCGUAGAUCCGAACUUGUau-----
15  0,-1
-----AACCCGUAGAUCCGAACUUGUu-----
84  0,-1
-----AACCCGUAGAUCCGAACUUGUuu-----
23  0,-1
-----AACCCGUAGAUCCGAACUUGUG-----
19072  0,0
-----AACCCGUAGAUCCGAACUUGUGa-----
14767  0,0
-----AACCCGUAGAUCCGAACUUGUGaa-----
826 0,0
-----AACCCGUAGAUCCGAACUUGUGau-----
45  0,0
-----AACCCGUAGAUCCGAACUUGUGu-----
10653  0,0
-----AACCCGUAGAUCCGAACUUGUGuu-----
72  0,0
-----AACCCGUAGAUCCGAACUUGUGG-----
45  0,1
-----AACCCGUAGAUCCGAACUUGUGGa-----
3   0,1
-----AACCCGUAGAUCCGAACUUGUGGU-----
2   0,2
-----ACCCGUAGAUCCGAACUUGU-----
19  1,-1
-----ACCCGUAGAUCCGAACUUGUG-----
18  1,0

```



```
-----ACCCGUAGAUCCGAACUUGUGa-----  
30   1,0  
-----ACCCGUAGAUCCGAACUUGUGaa-----  
7    1,0  
-----ACCCGUAGAUCCGAACUUGUGu-----  
9    1,0  
  
>hsa-mir-101-1 mi:11-32;MA:47-67 SRX018966  
ugcccuggcuCAGUUAUCACAGUGCUGAUGCUgucuaauucuaaaggUACAGUACUGUGAUAAACUGAAggauggca  
.(((.....(((((((((((((((((((((.....)))))))))((((((((((((((((((((.....))).  
-----GGUACAGUACUGUGAUAACT----- 2  
-2,-3  
-----GGUACAGUACUGUGAUAACTGAA----- 3  
-2,0  
-----GUACAGUACUGUGAUAACT----- 588  
-1,-4  
-----GUACAGUACUGUGAUAACTa----- 2  
-1,-4  
-----GUACAGUACUGUGAUAACTU-----  
25276 -1,-3  
-----GUACAGUACUGUGAUAACTua----- 7  
-1,-3  
-----GUACAGUACUGUGAUAACTuaa----- 24  
-1,-3  
-----GUACAGUACUGUGAUAACTuau----- 2  
-1,-3  
-----GUACAGUACUGUGAUAACTuu----- 10  
-1,-3  
-----GUACAGUACUGUGAUAACTUG----- 2492  
-1,-2  
-----GUACAGUACUGUGAUAACTUGu----- 65  
-1,-2  
-----GUACAGUACUGUGAUAACTUGuu----- 2  
-1,-2  
-----GUACAGUACUGUGAUAACTUGA-----  
35018 -1,-1  
-----GUACAGUACUGUGAUAACTUGAu----- 218  
-1,-1
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		-----GUACAGUACUGUGAUAAACUGAuu-----	4
-1,-1			
		-----GUACAGUACUGUGAUAAACUGAA-----	
46116	-1,0		
		-----GUACAGUACUGUGAUAAACUGAAa-----	9493
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAaa-----	283
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAau-----	12
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAu-----	95
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAG-----	41
-1,1			
		-----GUACAGUACUGUGAUAAACUGAAGu-----	3
-1,1			
		-----GUACAGUACUGUGAUAAACUGAAGG-----	5
-1,2			
		-----UACAGUACUGUGAUAAACU-----	
28735	0,-3		
		-----UACAGUACUGUGAUAAACUa-----	20
0,-3			
		-----UACAGUACUGUGAUAAACUaa-----	32
0,-3			
		-----UACAGUACUGUGAUAAACUu-----	11
0,-3			
		-----UACAGUACUGUGAUAAACUG-----	3840
0,-2			
		-----UACAGUACUGUGAUAAACUGu-----	70
0,-2			
		-----UACAGUACUGUGAUAAACUGuu-----	3
0,-2			
		-----UACAGUACUGUGAUAAACUGA-----	
63714	0,-1		
		-----UACAGUACUGUGAUAAACUGAu-----	319
0,-1			
		-----UACAGUACUGUGAUAAACUGAuu-----	214
0,-1			

-----	UACAGUACUGUGUAACUGAA-----	
140966 0,0		
-----	UACAGUACUGUGUAACUGAAa-----	
34635 0,0		
-----	UACAGUACUGUGUAACUGAAaa-----	973
0,0		
-----	UACAGUACUGUGUAACUGAAau-----	110
0,0		
-----	UACAGUACUGUGUAACUGAAu-----	3891
0,0		
-----	UACAGUACUGUGUAACUGAAuu-----	133
0,0		
-----	UACAGUACUGUGUAACUGAAG-----	8216
0,1		
-----	UACAGUACUGUGUAACUGAAGu-----	923
0,1		
-----	UACAGUACUGUGUAACUGAAGuu-----	8
0,1		
-----	UACAGUACUGUGUAACUGAAGG-----	12
0,2		
-----	UACAGUACUGUGUAACUGAAGGA-----	11
0,3		
-----	ACAGUACUGUGUAACUG-----	18
1,-2		
-----	ACAGUACUGUGUAACUGA-----	359
1,-1		
-----	ACAGUACUGUGUAACUGAu-----	4
1,-1		
-----	ACAGUACUGUGUAACUGAuu-----	4
1,-1		
-----	ACAGUACUGUGUAACUGAA-----	861
1,0		
-----	ACAGUACUGUGUAACUGAAa-----	350
1,0		
-----	ACAGUACUGUGUAACUGAAaa-----	21
1,0		
-----	ACAGUACUGUGUAACUGAAau-----	13
1,0		

-----ACAGUACUGUGAUAAACUGAAu-----	53
1,0	
-----ACAGUACUGUGAUAAACUGAAuu-----	3
1,0	
-----ACAGUACUGUGAUAAACUGAAG-----	103
1,1	
-----ACAGUACUGUGAUAAACUGAAGu-----	26
1,1	
-----ACAGUACUGUGAUAAACUGAAGuu-----	2
1,1	
-----CAGUACUGUGAUAAACUGA-----	18
2,-1	
-----CAGUACUGUGAUAAACUGAA-----	101
2,0	
-----CAGUACUGUGAUAAACUGAAa-----	29
2,0	
-----CAGUACUGUGAUAAACUGAAaa-----	3
2,0	
-----CAGUACUGUGAUAAACUGAAu-----	9
2,0	
-----CAGUACUGUGAUAAACUGAAuu-----	5
2,0	
-----CAGUACUGUGAUAAACUGAAG-----	8
2,1	
-----CAGUACUGUGAUAAACUGAAGu-----	7
2,1	
-----CAGUACUGUGAUAAACUGAAGuu-----	3
2,1	
-----CAGUACUGUGAUAAACUGAAGGA-----	3
2,3	

>hsa-mir-101-2 3p:49-69 SRX018966

acuguccuuuuucgguaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGAUAAACUGAAgaugguggu
 ((..((.((((((((((((((((((((((.(.((((.....)))))).))))))))))))))))))))))))))..))
 -----GGUACAGUACUGUGAUAAACU-----
 2 -2,-3
 -----GGUACAGUACUGUGAUAAACUGAA-----
 3 -2,0

		-----GUACAGUACUGUGAUAAC-----
588	-1,-4	
		-----GUACAGUACUGUGAUAACa-----
2	-1,-4	
		-----GUACAGUACUGUGAUAACU-----
25276	-1,-3	
		-----GUACAGUACUGUGAUAACUa-----
7	-1,-3	
		-----GUACAGUACUGUGAUAACUaa-----
24	-1,-3	
		-----GUACAGUACUGUGAUAACUau-----
2	-1,-3	
		-----GUACAGUACUGUGAUAACUu-----
10	-1,-3	
		-----GUACAGUACUGUGAUAACUG-----
2492	-1,-2	
		-----GUACAGUACUGUGAUAACUGu-----
65	-1,-2	
		-----GUACAGUACUGUGAUAACUGuu-----
2	-1,-2	
		-----GUACAGUACUGUGAUAACUGA-----
35018	-1,-1	
		-----GUACAGUACUGUGAUAACUGAu-----
218	-1,-1	
		-----GUACAGUACUGUGAUAACUGAuu-----
4	-1,-1	
		-----GUACAGUACUGUGAUAACUGAA-----
46116	-1,0	
		-----GUACAGUACUGUGAUAACUGAAa-----
9493	-1,0	
		-----GUACAGUACUGUGAUAACUGAAaa-----
283	-1,0	
		-----GUACAGUACUGUGAUAACUGAAau-----
12	-1,0	
		-----GUACAGUACUGUGAUAACUGAAu-----
95	-1,0	
		-----GUACAGUACUGUGAUAACUGAAG-----
41	-1,1	

		-GUACAGUACUGUGAUAAACUGAAGu-----
3	-1,1	
		-GUACAGUACUGUGAUAAACUGAAGA-----
13	-1,2	
		-GUACAGUACUGUGAUAAACUGAAGAA-----
2	-1,3	
		-UACAGUACUGUGAUAAACU-----
28735	0,-3	
		-UACAGUACUGUGAUAAACUa-----
20	0,-3	
		-UACAGUACUGUGAUAAACUaa-----
32	0,-3	
		-UACAGUACUGUGAUAAACUu-----
11	0,-3	
		-UACAGUACUGUGAUAAACUG-----
3840	0,-2	
		-UACAGUACUGUGAUAAACUGu-----
70	0,-2	
		-UACAGUACUGUGAUAAACUGuu-----
3	0,-2	
		-UACAGUACUGUGAUAAACUGA-----
63714	0,-1	
		-UACAGUACUGUGAUAAACUGAu-----
319	0,-1	
		-UACAGUACUGUGAUAAACUGAuu-----
214	0,-1	
		-UACAGUACUGUGAUAAACUGAA-----
140966	0,0	
		-UACAGUACUGUGAUAAACUGAAa-----
34635	0,0	
		-UACAGUACUGUGAUAAACUGAAaa-----
973	0,0	
		-UACAGUACUGUGAUAAACUGAAau-----
110	0,0	
		-UACAGUACUGUGAUAAACUGAAu-----
3891	0,0	
		-UACAGUACUGUGAUAAACUGAAuu-----
133	0,0	

		-UACAGUACUGUGAUAAACUGAAG-----
8216	0,1	
		-UACAGUACUGUGAUAAACUGAAGu-----
923	0,1	
		-UACAGUACUGUGAUAAACUGAAGuu-----
8	0,1	
		-UACAGUACUGUGAUAAACUGAAGA-----
1989	0,2	
		-UACAGUACUGUGAUAAACUGAAGAu-----
6	0,2	
		-UACAGUACUGUGAUAAACUGAAGAA-----
78	0,3	
		-UACAGUACUGUGAUAAACUGAAGAAa-----
20	0,3	
		-ACAGUACUGUGAUAAACUG-----
18	1,-2	
		-ACAGUACUGUGAUAAACUGA-----
359	1,-1	
		-ACAGUACUGUGAUAAACUGAu-----
4	1,-1	
		-ACAGUACUGUGAUAAACUGAuu-----
4	1,-1	
		-ACAGUACUGUGAUAAACUGAA-----
861	1,0	
		-ACAGUACUGUGAUAAACUGAAa-----
350	1,0	
		-ACAGUACUGUGAUAAACUGAAaa-----
21	1,0	
		-ACAGUACUGUGAUAAACUGAAau-----
13	1,0	
		-ACAGUACUGUGAUAAACUGAAu-----
53	1,0	
		-ACAGUACUGUGAUAAACUGAAuu-----
3	1,0	
		-ACAGUACUGUGAUAAACUGAAG-----
103	1,1	
		-ACAGUACUGUGAUAAACUGAAGu-----
26	1,1	

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-----ACAGUACUGUGAUAACUGAAGuu-----
2 1,1
-----ACAGUACUGUGAUAACUGAAGA-----
46 1,2
-----ACAGUACUGUGAUAACUGAAGAu-----
3 1,2
-----ACAGUACUGUGAUAACUGAAGAA-----
5 1,3
-----CAGUACUGUGAUAACUGA-----
18 2,-1
-----CAGUACUGUGAUAACUGAA-----
101 2,0
-----CAGUACUGUGAUAACUGAAa-----
29 2,0
-----CAGUACUGUGAUAACUGAAaa-----
3 2,0
-----CAGUACUGUGAUAACUGAAu-----
9 2,0
-----CAGUACUGUGAUAACUGAAuu-----
5 2,0
-----CAGUACUGUGAUAACUGAAG-----
8 2,1
-----CAGUACUGUGAUAACUGAAGu-----
7 2,1
-----CAGUACUGUGAUAACUGAAGuu-----
3 2,1
-----CAGUACUGUGAUAACUGAAGA-----
29 2,2
-----CAGUACUGUGAUAACUGAAGAA-----
13 2,3
-----CAGUACUGUGAUAACUGAAGAAa-----
21 2,3

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>hsa-mir-103-1 3p:48-70 SRX018966

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uacugcccucggcuucuuacagugcugccuuguugcauauuggaucAGCAGCAUUGUACAGGGCUAUGAaggcauug
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GGCUUCUUUACAGUGCUGCCUUG-----

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		-----AAGCAGCAUUGUACAGGGCUA-----
2	-1, -3	
		-----AAGCAGCAUUGUACAGGGCUAU-----
2	-1, -2	
		-----AAGCAGCAUUGUACAGGGCUAUG-----
2	-1, -1	
		-----AGCAGCAUUGUACAGGGC-----
2997	0, -5	
		-----AGCAGCAUUGUACAGGGCa-----
3	0, -5	
		-----AGCAGCAUUGUACAGGGCaa-----
4	0, -5	
		-----AGCAGCAUUGUACAGGGCau-----
9	0, -5	
		-----AGCAGCAUUGUACAGGGCU-----
1892	0, -4	
		-----AGCAGCAUUGUACAGGGCUu-----
54	0, -4	
		-----AGCAGCAUUGUACAGGGCUuu-----
66	0, -4	
		-----AGCAGCAUUGUACAGGGCUA-----
2789	0, -3	
		-----AGCAGCAUUGUACAGGGCUAa-----
347	0, -3	
		-----AGCAGCAUUGUACAGGGCUAaa-----
42	0, -3	
		-----AGCAGCAUUGUACAGGGCUAau-----
64	0, -3	
		-----AGCAGCAUUGUACAGGGCUAU-----
13715	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUa-----
3372	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUaa-----
323	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUau-----
289	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
1798	0, -2	

		-----AGCAGCAUUGUACAGGGCUAUuu-----
397	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
7403	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
1910	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
180	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
10224	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
755	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
41	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
182	0, 1	
		-----GCAGCAUUGUACAGGGCUA-----
8	1, -3	
		-----GCAGCAUUGUACAGGGCUAU-----
29	1, -2	
		-----GCAGCAUUGUACAGGGCUAUa-----
10	1, -2	
		-----GCAGCAUUGUACAGGGCUAUaa-----
2	1, -2	
		-----GCAGCAUUGUACAGGGCUAUau-----
2	1, -2	
		-----GCAGCAUUGUACAGGGCUAUu-----
2	1, -2	
		-----GCAGCAUUGUACAGGGCUAUG-----
26	1, -1	
		-----GCAGCAUUGUACAGGGCUAUGu-----
15	1, -1	
		-----GCAGCAUUGUACAGGGCUAUGA-----
65	1, 0	
		-----GCAGCAUUGUACAGGGCUAUGAu-----
2	1, 0	
		-----GCAGCAUUGUACAGGGCUAUGAA-----
3	1, 1	

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-----CAGCAUUGUACAGGGCUA-----
2 2,-3
-----CAGCAUUGUACAGGGCUAU-----
6 2,-2
-----CAGCAUUGUACAGGGCUAUG-----
6 2,-1
-----CAGCAUUGUACAGGGCUAUGu-----
3 2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
31 2,0

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>hsa-mir-103-2 mi:11-33;MA:48-70 SRX018966

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uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..((.((((((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGCUUCUUUACAGUGCUGCCUuu-----
2 0,-1
-----AGCUUCUUUACAGUGCUGCCUUGU-----
6 0,1
-----AAGCAGCAUUGUACAGGGCUA-----
2 -1,-3
-----AAGCAGCAUUGUACAGGGCUAU-----
2 -1,-2
-----AAGCAGCAUUGUACAGGGCUAUG-----
2 -1,-1
-----AGCAGCAUUGUACAGGGC-----
2997 0,-5
-----AGCAGCAUUGUACAGGGCa-----
3 0,-5
-----AGCAGCAUUGUACAGGGCa-----
4 0,-5
-----AGCAGCAUUGUACAGGGCau-----
9 0,-5
-----AGCAGCAUUGUACAGGGCU-----
1892 0,-4
-----AGCAGCAUUGUACAGGGCUu-----
54 0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
66 0,-4

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		-----AGCAGCAUUGUACAGGGCUA-----
2789	0,-3	
		-----AGCAGCAUUGUACAGGGCUAa-----
347	0,-3	
		-----AGCAGCAUUGUACAGGGCUAaa-----
42	0,-3	
		-----AGCAGCAUUGUACAGGGCUAau-----
64	0,-3	
		-----AGCAGCAUUGUACAGGGCUAU-----
13715	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUa-----
3372	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUaa-----
323	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUau-----
289	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
1798	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
397	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
7403	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
1910	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
180	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
10224	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
755	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
41	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
182	0,1	
		-----AGCAGCAUUGUACAGGGCUAUGAAA-----
32	0,2	
		-----GCAGCAUUGUACAGGGCUA-----
8	1,-3	

```

-----GCAGCAUUGUACAGGGCUAU-----
29  1,-2
-----GCAGCAUUGUACAGGGCUAUa-----
10  1,-2
-----GCAGCAUUGUACAGGGCUAUaa-----
2   1,-2
-----GCAGCAUUGUACAGGGCUAUau-----
2   1,-2
-----GCAGCAUUGUACAGGGCUAUu-----
2   1,-2
-----GCAGCAUUGUACAGGGCUAUG-----
26  1,-1
-----GCAGCAUUGUACAGGGCUAUGu-----
15  1,-1
-----GCAGCAUUGUACAGGGCUAUGA-----
65  1,0
-----GCAGCAUUGUACAGGGCUAUGAu-----
2   1,0
-----GCAGCAUUGUACAGGGCUAUGAA-----
3   1,1
-----CAGCAUUGUACAGGGCUA-----
2   2,-3
-----CAGCAUUGUACAGGGCUAU-----
6   2,-2
-----CAGCAUUGUACAGGGCUAUG-----
6   2,-1
-----CAGCAUUGUACAGGGCUAUGu-----
3   2,-1
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31  2,0
-----CAGCAUUGUACAGGGCUAUGAAA-----
2   2,2

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>hsa-mir-106a MA:13-35;mi:50-71 SRX018966

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ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucuaCUGCAAUGUAAGCACUUCUUACauuaccaug
g
((.(((..((((((((((((((((((.((((.((((.(.....)).)))))))).)))))))).)))))))).))))))
)

```

```

-----AAAAGUGCUUACAGUGCAGG-----
-   2   0,-3
-----AAAAGUGCUUACAGUGCAGGU-----
-   6   0,-2
-----AAAAGUGCUUACAGUGCAGGUA-----
-  15   0,-1
-----AAAAGUGCUUACAGUGCAGGUAa-----
-   2   0,-1
-----AAAAGUGCUUACAGUGCAGGUAu-----
-   4   0,-1
-----AAAGUGCUUACAGUGCAG-----
-   3   1,-4
-----AAAGUGCUUACAGUGCAGG-----
-   3   1,-3
-----AAAGUGCUUACAGUGCAGGU-----
-   5   1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
-   6   1,-1
-----AAAGUGCUUACAGUGCAGGUAa-----
-   4   1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
-   2   1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
-   7   1,0

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>hsa-mir-106b MA:12-32;mi:52-73 SRX018966

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

(((((.((((.(.((((((.(((((((.(.((((((.....)).)))))).)))))).)))))).)))))).))))))

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-----UAAAGUGCUGACAGUGCA-----
--   5   0,-3
-----UAAAGUGCUGACAGUGCAG-----
--  50   0,-2
-----UAAAGUGCUGACAGUGCAGA-----
--  23   0,-1
-----UAAAGUGCUGACAGUGCAGAAa-----
--   6   0,-1

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-----UAAAGUGCUGACAGUGCAGAU-----
-- 68 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 8 0,0
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 100 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 44 0,1
-----UAAAGUGCUGACAGUGCAGAUau-----
-- 18 0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
-- 8 0,2
-----AAAGUGCUGACAGUGCAGAUa-----
-- 3 1,1
-----UACCGCACUGUGGGUACUUGa-----
-- 5 -2,-4
-----UACCGCACUGUGGGUACUUGC-----
-- 3 -2,-3
-----UACCGCACUGUGGGUACUUGCU-----
-- 27 -2,-2
-----ACCGCACUGUGGGUACUUGCUG-----
-- 2 -1,-1
-----ACCGCACUGUGGGUACUUGCUGa-----
-- 3 -1,-1
-----CCGCACUGUGGGUACUUGCU-----
-- 32 0,-2
-----CCGCACUGUGGGUACUUGCUG-----
-- 49 0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 30 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 6 0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 9 0,-1
-----CCGCACUGUGGGUACUUGCUGC-----
-- 63 0,0
-----CCGCACUGUGGGUACUUGCUGCau-----
-- 2 0,0

```

cucucugcuuucagcuucuuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCAaagcacag
a

-----AAGCAGCAUUGUACAGGGCUA-----

-----AAGCAGCAUUGUACAGGGCUAU-----

-----AGCAGCAUGUACAGGGC-----

-----AGCAGCAUUGUACAGGGC_a-----

-----AGCAGCAUGUACAGGGCaa-----

-----AGCAGCAUGUACAGGGC_{au}-----

-----AGCAGCAUUGUACAGGGCU-----

-----AGCAGCAUUGUACAGGGCU_u-----

-----AGCAGCAUGUACAGGGCUuu-----

-----AGCAGCAUUGUACAGGGCUA-----

-----AGCAGCAUUGUACAGGGCUAa-----

-----AGCAGCAUUGUACAGGGCUAaa-----

-----AGCAGCAUUGUACAGGGCUA_{au}-----

-----AGCAGCAUUGUACAGGGCUAU-----

-----AGCAGCAUUGUACAGGGCUAUa-----

-----AGCAGCAUUGUACAGGGCUAU_{aa}-----


```

-----AGCAGCAUUGUACAGGGCUAUau-----
- 289 0,-2
-----AGCAGCAUUGUACAGGGCUAUu-----
- 1798 0,-2
-----AGCAGCAUUGUACAGGGCUAUuu-----
- 397 0,-2
-----AGCAGCAUUGUACAGGGCUAUC-----
- 890 0,-1
-----AGCAGCAUUGUACAGGGCUAUCu-----
- 619 0,-1
-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 22 0,-1
-----AGCAGCAUUGUACAGGGCUAUCA-----
- 1768 0,0
-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 46 0,0
-----AGCAGCAUUGUACAGGGCUAUCAuu-----
- 5 0,0
-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 15 0,1
-----GCAGCAUUGUACAGGGCUA-----
- 8 1,-3
-----GCAGCAUUGUACAGGGCUAU-----
- 29 1,-2
-----GCAGCAUUGUACAGGGCUAUa-----
- 10 1,-2
-----GCAGCAUUGUACAGGGCUAUaa-----
- 2 1,-2
-----GCAGCAUUGUACAGGGCUAUau-----
- 2 1,-2
-----GCAGCAUUGUACAGGGCUAUu-----
- 2 1,-2
-----CAGCAUUGUACAGGGCUA-----
- 2 2,-3
-----CAGCAUUGUACAGGGCUAU-----
- 6 2,-2

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>hsa-mir-10a MA:22-44;mi:63-84 SRX018966


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-----UACCCUGUAGAUCCGAAUUUGUG-----
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-----UACCCUGUAGAUCCGAAUUUGUGa-----
-----      143  0,0
-----UACCCUGUAGAUCCGAAUUUGUGU-----
-----      56   0,1
-----ACCCUGUAGAUCCGAAUUU-----
-----      9    1,-3
-----ACCCUGUAGAUCCGAAUUUG-----
-----      22   1,-2
-----ACCCUGUAGAUCCGAAUUUGU-----
-----      360  1,-1
-----ACCCUGUAGAUCCGAAUUUGUa-----
-----      6    1,-1
-----ACCCUGUAGAUCCGAAUUUGUaa-----
-----      2    1,-1
-----ACCCUGUAGAUCCGAAUUUGUu-----
-----      2    1,-1
-----ACCCUGUAGAUCCGAAUUUGUG-----
-----      219  1,0
-----ACCCUGUAGAUCCGAAUUUGUGa-----
-----      326  1,0
-----ACCCUGUAGAUCCGAAUUUGUGaa-----
-----      31   1,0
-----ACCCUGUAGAUCCGAAUUUGUGau-----
-----      3    1,0
-----ACCCUGUAGAUCCGAAUUUGUGU-----
-----      113  1,1
-----ACCCUGUAGAUCCGAAUUUGUGUA-----
-----      3    1,2
-----CCCUGUAGAUCCGAAUUUGU-----
-----      2    2,-1
-----CCCUGUAGAUCCGAAUUUGUGa-----
-----      4    2,0
-----CCCUGUAGAUCCGAAUUUGUGaa-----
-----      4    2,0
-----CCCUGUAGAUCCGAAUUUGUGU-----
-----      6    2,1

```

-----			-----CAAUUCGUAUCUAGGGG
-----	2	0,-4	
-----			-----CAAUUCGUAUCUAGGGG
AA-----	2	0,-2	
-----			-----AAUUCGUAUCUAGGGG
AAUAa-----	3	1,0	
-----			-----AAUUCGUAUCUAGGGG
AAUAU-----	3	1,1	

```

>hsa-mir-10b      MA:27-49;mi:66-87      SRX018966
ccagagguuguaacguugucuaauaUACCCUGUAGAACCGAAUUUGUGugguauccguauagucACAGAUUCGAUUCUA
GGGGAAUauauggucgaugcaaaaacuuca
...(((((((....(((((((((.....(((((((((.....((((.....))))....)))))))).))))))
))))).)))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----UACCCUGUAGAACCGAAUUU-----
-----      4      0,-3
-----UACCCUGUAGAACCGAAUUUG-----
-----      33     0,-2
-----UACCCUGUAGAACCGAAUUUGa-----
-----      8      0,-2
-----UACCCUGUAGAACCGAAUUUGU-----
-----     395    0,-1
-----UACCCUGUAGAACCGAAUUUGUa-----
-----      3      0,-1
-----UACCCUGUAGAACCGAAUUUGUaa-----
-----      2      0,-1
-----UACCCUGUAGAACCGAAUUUGUG-----
-----     30     0,0
-----UACCCUGUAGAACCGAAUUUGUGa-----
-----     19     0,0
-----UACCCUGUAGAACCGAAUUUGUGU-----
-----     10     0,1
-----ACCCUGUAGAACCGAAUUUGU-----
-----     21     1,-1
-----ACCCUGUAGAACCGAAUUUGUG-----
-----      5      1,0
-----ACCCUGUAGAACCGAAUUUGUGa-----
-----     22     1,0

```

-----ACCCUGUAGAACCGAAUUUGUGU-----
----- 32 1,1

```
>hsa-mir-1185-1 5p:15-35 SRX018966
```

uuugguacuugaagAGAGGAUACCCUUUGUAUGUUCacuuugauuaaugggcgaauauacagggggagacucuuaauuugcgu
aucaaa
(((((((.((((((((.(.(((((((((((((((.(.)).))))))))))))).))))).))))).))
))))).

```

-----AGAGGAUACCCUUUGUAUGUU-----
----- 8    0,0
-----AGAGGAUACCCUUUGUAUGUUa-----
----- 2    0,0
-----AGAGGAUACCCUUUGUAUGUUC-----
-----15    0,1
-----AGAGGAUACCCUUUGUAUGUUCa-----
----- 3    0,2
-----AUAUACAGGGGGAGACUCUUA-----
----- 5
-----AUAUACAGGGGGAGACUCUUUA-----
----- 2

```

```
>hsa-mir-1185-2 5p:15-35      SRX018966
```

uuugguacuuaaagAGAGGAUACCCUUUGUAUGUUCacacugauuaaugggcgaauauacagggggagacucucauuugcgu
aucaaa
(((((((.(((((((((..(.((((((((((((((((.(.....)).)))))))))))))).))))).))))).))
))))).

-----	AGAGGAUACCCUUUGUAUGUU-----
-----	8 0,0
-----	AGAGGAUACCCUUUGUAUGUUa-----
-----	2 0,0
-----	AGAGGAUACCCUUUGUAUGUUC-----
-----	15 0,1
-----	AGAGGAUACCCUUUGUAUGUUCA-----
-----	3 0,2

>hsa-mi r-122 MA:15-36;mi :51-72 SRX018966

ccuagcagagcugUGGAGUGUGACAAUGGUGUUUGugucuaaacuaucaAACGCCAUUAUCACACUAAAUAgcuacugc
uagggc


```

-----UGGAGUGUGACAAUGGUGUa-----
----- 1524 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 4443 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 592 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 131748 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 26137 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 10454 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 1733 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 762306 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 45320 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 33130 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 16610 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 22810 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 3070 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1377926 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 1189537 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 27832 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 17002 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 858587 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 3295 0,1

```

```

-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 2479 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 1794 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 4360 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 1322 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 254 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 43 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 154 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 321 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 8 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 34 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 1139 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 177 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 120 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 13 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 5087 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 489 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 394 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 154 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 165 1,-1

```



```

-----GGAGUGUGACAAUGGUGUUuu-----
----- 22 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 14988 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 12831 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 374 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 218 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 6936 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 44 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 34 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 23 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 79 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 22 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 5 1,2
-----GGAGUGUGACAAUGGUGUUUGUGa-----
----- 7 1,2
-----GGAGUGUGACAAUGGUGUUUGUGU-----
----- 13 1,3
-----GAGUGUGACAAUGGUGUU-----
----- 110 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 5 2,-2
-----GAGUGUGACAAUGGUGUUaa-----
----- 2 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 188 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 6 2,-1

```

```

-----GAGUGUGACAAUGGUGUUUaa-----
----- 16  2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 12  2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 13  2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 182 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 312 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 9   2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 14  2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 279 2,1
-----GAGUGUGACAAUGGUGUUUGUa-----
----- 2   2,1
-----GAGUGUGACAAUGGUGUUUGUu-----
----- 3   2,1
-----GAGUGUGACAAUGGUGUUUGUuu-----
----- 2   2,1
-----CAAACGCCAUUAUCACACUA-----
----- 2   -2,-4
-----CAAACGCCAUUAUCACACUAuu-----
----- 3   -2,-4
-----CAAACGCCAUUAUCACACUAAAU-----
----- 2   -2,-1
-----CAAACGCCAUUAUCACACUAAAUA-----
----- 2   -2,0
-----AAACGCCAUUAUCACACUA-----
----- 55  -1,-4
-----AAACGCCAUUAUCACACUAu-----
----- 12  -1,-4
-----AAACGCCAUUAUCACACUAuu-----
----- 15  -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 208 -1,-3

```

-----AAACGCCAUUAUCACACUAAu-----
----- 56 -1,-3
-----AAACGCCAUUAUCACACUAAuu-----
----- 50 -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 137 -1,-2
-----AAACGCCAUUAUCACACUAAAa-----
----- 15 -1,-2
-----AAACGCCAUUAUCACACUAAAU-----
----- 949 -1,-1
-----AAACGCCAUUAUCACACUAAAUu-----
----- 49 -1,-1
-----AAACGCCAUUAUCACACUAAAUuu-----
----- 4 -1,-1
-----AAACGCCAUUAUCACACUAAAUA-----
----- 18 -1,0
-----AACGCCAUUAUCACACUA-----
----- 121 0,-4
-----AACGCCAUUAUCACACUAu-----
----- 11 0,-4
-----AACGCCAUUAUCACACUAuu-----
----- 12 0,-4
-----AACGCCAUUAUCACACUAA-----
----- 542 0,-3
-----AACGCCAUUAUCACACUAAu-----
----- 58 0,-3
-----AACGCCAUUAUCACACUAAuu-----
----- 175 0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 570 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 125 0,-2
-----AACGCCAUUAUCACACUAAAaa-----
----- 24 0,-2
-----AACGCCAUUAUCACACUAAAau-----
----- 4 0,-2
-----AACGCCAUUAUCACACUAAAU-----
----- 6337 0,-1

```

-----AACGCCAUUAUCACACUAAAUu-----
----- 462 0,-1
-----AACGCCAUUAUCACACUAAAUuu-----
----- 40 0,-1
-----AACGCCAUUAUCACACUAAAUa-----
----- 1195 0,0
-----AACGCCAUUAUCACACUAAAUa-----
----- 215 0,0
-----AACGCCAUUAUCACACUAAAUaa-----
----- 3 0,0
-----AACGCCAUUAUCACACUAAAUau-----
----- 2 0,0
-----AACGCCAUUAUCACACUAAAUau-----
----- 579 0,0
-----AACGCCAUUAUCACACUAAAUuu-----
----- 12 0,0
-----AACGCCAUUAUCACACUAAAUAG-----
----- 3 0,1
-----ACGCCAUUAUCACACUAA-----
----- 3 1,-3
-----ACGCCAUUAUCACACUAAA-----
----- 2 1,-2
-----ACGCCAUUAUCACACUAAAa-----
----- 3 1,-2
-----ACGCCAUUAUCACACUAAAU-----
----- 18 1,-1
-----ACGCCAUUAUCACACUAAAUu-----
----- 4 1,-1
-----ACGCCAUUAUCACACUAAAUa-----
----- 8 1,0
-----ACGCCAUUAUCACACUAAAUa-----
----- 2 1,0

```

>hsa-mir-1228 mi:1-21;MA:52-71 SRX018966

```

GUGGGCGGGGGCAGGUGUGGuggggugggugccugcgugagcagggcccUCACACCUGCCUGCCCCCag
..((((((((((.((((((((.....((((.....((((.....)))))))))).)))))))))))))).....
GUGGGCGGGGGCAGGUGUG-----

```

0,-2

GUGGGCGGGGCGAGGUGUGUG----- 2
0,0

>hsa-mir-124-1 mi:14-35;MA:53-72 SRX018966
agggcucucucucCGUGUUCACAGCGGACCUUGAUuuuaauguccauacaauUAAGGCACGCGGUGAAUGCCaagaugg
ggcug
(((((((.....)))))))).
-----UUAAGGCACGCGGUGAAUGa-----
----- 2 -1,-2
-----UAAGGCACGCGGUGAAUGCCAA-----
----- 3 0,2

>hsa-mir-124-2 mi:25-46;MA:62-81 SRX018966
aucaagauagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuuaugucauacaauUAAGGCACGCGGUGAAUGC
Caagagcggagccuacggcugcacuugaa
(((((((.....)))))))).
-----UUAAGGCACGCGGUGAAUGa
----- 2 -1,-2
-----UAAGGCACGCGGUGAAUGC
CAA----- 3 0,2

>hsa-mir-124-3 mi:15-36;MA:53-72 SRX018966
ugagggcccccucugCGUGUUCACAGCGGACCUUGAUuuuaugucuauacaauUAAGGCACGCGGUGAAUGCCaagagagg
cgccucc
(((((((.....)))))))).
-----UUAAGGCACGCGGUGAAUGa-----
----- 2 -1,-2
-----UAAGGCACGCGGUGAAUGCCAA-----
----- 3 0,2

>hsa-mir-1244-1 3p:55-80 SRX018966
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....)))))))).
.....

-----AGUAGUUGGUUUGUAUGAGAUGGUU
----- 2 1,0

>hsa-mir-1244-2 3p:55-80 SRX018966

aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....((((((((((((.....((((((((.....)))))))))).....)))))))))).....
.....

-----AGUAGUUGGUUUGUAUGAGAUGGUU
----- 2 1,0

>hsa-mir-1244-3 3p:55-80 SRX018966

aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....((((((((((((.....((((((((.....)))))))))).....)))))))))).....
.....

-----AGUAGUUGGUUUGUAUGAGAUGGUU
----- 2 1,0

>hsa-mir-1245 3p:45-65 SRX018966

auuuauuguauaggccuuuagaucaucugauguugaauacucuuuAAGUGAUCUAAAGGCCUACAUauaaa
.((((((((.((((((((((((((((.....)))))))))).....)))))))))).....))
-----AAGUGAUCUAAAGGCCUACAU----- 3 0,0
-----AAGUGAUCUAAAGGCCUACAU----- 2 0,1
-----AAGUGAUCUAAAGGCCUACAU----- 3 0,2

>hsa-mir-1246 5p:11-29 SRX018966

uguauccuugAAUGGAUUUUUGGAGCAGGaguggacaccugacccaaaggaaaucauuccauaggcuaagcaau
(((..(((..((((((((((((.....)))))))))).....)))))).....))..
-----AAUGGAUUUUUGGAGCAG----- 3
0,-1
-----AAUGGAUUUUUGGAGCAG----- 233
0,0
-----AUGGAUUUUUGGAGCAG----- 315
1,0

>hsa-mir-1247 5p:40-61 SRX018966

ccgcuuugccucgcccagcgcagccccggccgcuggggcgcACCCGUCCCGUUCGUCCCCGGAcguugcucucuacccccggg

```

aacgucgagacuggagcgcccgaacugagccaccuucgcggacccccgagagcggcg
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----ACCCGUCCCCGUUCGUCCCCGAu-----
-----                2    0,0

```

```

>hsa-mir-1248    5p:4-30 SRX018966
uuuACCUUCUUGUAUAAGCACUGUGCUAAAauugcagacacuaggaccaugucuugguuuuugcaauaauugcuagcagag
uacacacaagaagaaaaguaacagca
.....((((((((((((((((((((((((((((((((((((((((((((((((((((
).))))))))))))))))))))))))))))))))))))))))))))))))))))))
---ACCUUCUUGUAUAAGCACUGUG-----
-----                5    0,-5

```

```

>hsa-mir-1249    3p:41-62 SRX018966
gggaggaggaggaggaugggccaaguucccucuggcuggaACGCCCUUCCCCCCCUCUUCuAccug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
---AGGAGGGAGGAGAUGGGCCAAGUU-----                2
-----ACGCCCUUCCCCCCCUCUUCu-----                2    0,-2
-----ACGCCCUUCCCCCCCUCUUC-----                2    0,-1
-----ACGCCCUUCCCCCCCUCUUCA-----                5    0,0

```

```

>hsa-mir-1254    5p:18-41 SRX018966
ggugggaggauugcuugAGCCUGGAAGCUGGAGCCUGCAGUgaacuaucuaugugccacuguacuccagccuaggcaaca
aaugaaauccugucua
...((((((((((((((((((((((((((((((((((((((((((((((((((((
).))))))))))))))))))))))))))))))))))))))))))))))))))))))
---AGCCUGGAAGCUGGAGCCUGCAGU-----
-----                2    0,0

```

```

>hsa-mir-1255a   5p:28-50 SRX018966
auuggaaauccuugaguugcuucucaAGGAUGAGCAAAGAAAGUAGAUUuuuuagauucuaaagaaacuaucuuuug
cucauccuugagaagcaacuccuuauccauuaa
..((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))
---AGGAUGAGCAAAGAAAGU-----
-----                8    0,-5
---AGGAUGAGCAAAGAAAGUA-----

```

```

----- 8 0,-4
-----AGGAUGAGCAAAGAAAGUAG-----
----- 4 0,-3
-----AGGAUGAGCAAAGAAAGUAGA-----
----- 8 0,-2
-----AGGAUGAGCAAAGAAAGUAGAU-----
----- 12 0,-1
-----AGGAUGAGCAAAGAAAGUAGAUa-----
----- 6 0,-1
-----AGGAUGAGCAAAGAAAGUAGAUU-----
----- 24 0,0

```

>hsa-mir-1255b-1 5p:3-24 SRX018966

```

uaCGGAUGAGCAAAGAAAGUGGUUucuuaaaauggaauacuacucuugugaagaugcugugaa
((((((..(((((((..((((((.....))))).))))))))))..))....))))).
--CGGAUGAGCAAAGAAAGUGGUa----- 2 0,-1
--CGGAUGAGCAAAGAAAGUGGUau----- 2 0,-1
--CGGAUGAGCAAAGAAAGUGGUU----- 8 0,0
--CGGAUGAGCAAAGAAAGUGGUUU----- 2 0,1

```

>hsa-mir-1255b-2 5p:6-27 SRX018966

```

ucuuaCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuucuuugcucauccauaagga
(((((((((.....))))))))))))))))))))))))))))).))))).
-----CGGAUGAGCAAAGAAAGUGGUa----- 2 0,-1
-----CGGAUGAGCAAAGAAAGUGGUau----- 2 0,-1
-----CGGAUGAGCAAAGAAAGUGGUU----- 8 0,0
-----CGGAUGAGCAAAGAAAGUGGUUU----- 2 0,1

```

>hsa-mir-1256 5p:35-56 SRX018966

```

agucagccuguugaagcuugaagcuugaugccAGGCAUUGACUUCUCACUAGCUgugaaaguccuagcuaaagagaag
ucaaugcaugacaucuuguucaaauagauggcuguuua
((((((..(((((((.....(((((((.....))))).))))))))))..))))))....
-----AGGCAUUGACUUCUCACUAGC-----
----- 2 0,-1
-----AGGCAUUGACUUCUCACUAGCU-----
----- 2 0,0

```



```

>hsa-mir-1258    3p:44-64    SRX018966
cuguggcuuccagaccuaauccuaacuccugcgaguccuggAGUUAGGAUUAGGUCGUGGAAGccacagga
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGUUAGGAUUAGGUCGUGGAa----- 2
0,0
-----UUAGGAUUAGGUCGUGGAAGCCa---- 2
2,4

```

```

----- 62 0,0
-----CCCUGAGACCCUUUAACCU-----
----- 2 1,-4
-----CCUGAGACCCUUUAACCU-----
----- 5 2,-4
-----CCUGAGACCCUUUAACCUGU-----
----- 26 2,-2
-----CCUGAGACCCUUUAACCUGUG-----
----- 12 2,-1
-----ACAGGUGAGGUUCUUGGGAG-----
----- 2 0,-2
-----ACAGGUGAGGUUCUUGGGAGCC-----
----- 2 0,0

```

>hsa-mir-125b-1 MA:15-36;mi:55-76 SRX018966

ugcgcuccucucagUCCCUGAGACCCUAACUUGUGAuguuuaccguuuuuauccACGGGUUAGGCUCUUGGGAGCUgcga
gucgugcu

.(((((((((.....)))))).))))).)))).

```

-----UCCCUGAGACCCUAACUU-----
----- 105 0,-4
-----UCCCUGAGACCCUAACUUa-----
----- 6 0,-4
-----UCCCUGAGACCCUAACUUaa-----
----- 4 0,-4
-----UCCCUGAGACCCUAACUUau-----
----- 2 0,-4
-----UCCCUGAGACCCUAACUUu-----
----- 4 0,-4
-----UCCCUGAGACCCUAACUUG-----
----- 397 0,-3
-----UCCCUGAGACCCUAACUUGa-----
----- 27 0,-3
-----UCCCUGAGACCCUAACUUGaa-----
----- 4 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 1416 0,-2
-----UCCCUGAGACCCUAACUUGUa-----

```

```

----- 11 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 20 0,-2
-----UCCCUGAGACCCUAACUUGUu-----
----- 12 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 2760 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 213 0,-1
-----UCCCUGAGACCCUAACUUGUGuu-----
----- 6 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 8524 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 1690 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 186 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 12 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
----- 118 0,1
-----UCCCUGAGACCCUAACUUGUGAUa-----
----- 21 0,1
-----UCCCUGAGACCCUAACUUGUGAUG-----
----- 2 0,2
-----CCUGAGACCCUAACUUGUGA-----
----- 5 1,0
-----CCUGAGACCCUAACUUGUGAau-----
----- 2 1,0
-----CCUGAGACCCUAACUUGUGAU-----
----- 5 1,1
-----CCUGAGACCCUAACUUGU-----
----- 12 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 9 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 53 2,0
-----CCUGAGACCCUAACUUGUGAa-----

```

-----	15	2,0	
-----			CCUGAGACCCUAACUUGUGAU-----
-----	2	2,1	
-----			-----ACGGGUUAGGCUCUUGGGAGu-----
-----	2	0,-2	
-----			-----ACGGGUUAGGCUCUUGGGAGuu-----
-----	3	0,-2	
-----			-----ACGGGUUAGGCUCUUGGGAGC-----
-----	9	0,-1	

>hsa-mi r-125b-2 MA:17-38;mi :54-75 SRX018966

accagacuuuuccuagUCCCUGAGACCCUAACUUGUGAgguauuuuaguaacaUCACAAGUCAGGCUCUUGGGACcuagg
cggagggga

[illegible]

-----UCCCUGAGACCCUAACUU-----

----- 105 0,-4

-----UCCCUGAGACCCUAACUUa-----

----- 6 0, -4

-----UCCCUGAGACCCUAACUUaa-----

----- 4 0, -4

-----UCCCUGAGACCCUAA CUUau-----

----- 2 0, -4

-----UCCCUGAGACCCUAA CUUu-----

----- 4 0, -4

-----UCCCUGAGACCCUAACUUG-----

----- 397 0,-3

-----UCCCUGAGACCCUAACUUGa-----

----- 27 0,-3

-----UCCCUGAGACCCUAACUUGaa-----

----- 4 0,-3

-----UCCCUGAGACCCUAACUUGU-----

----- 1416 0,-2

-----UCCCUGAGACCCUAACUUGU_a-----

----- 11 0,-2

-----UCCCUGAGACCCUAACUUGU_{aa}-----

----- 20 0,-2

-----UCCCUGAGACCCUAACUUGUu-----

```

----- 12 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 2760 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 213 0,-1
-----UCCCUGAGACCCUAACUUGUGuu-----
----- 6 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 8524 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 1690 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 186 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 12 0,0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 11 0,1
-----UCCCUGAGACCCUAACUUGUGAGa-----
----- 4 0,1
-----UCCCUGAGACCCUAACUUGUGAGGa-----
----- 2 0,2
-----CCUGAGACCCUAACUUGUGA-----
----- 5 1,0
-----CCUGAGACCCUAACUUGUGAau-----
----- 2 1,0
-----CCUGAGACCCUAACUUGU-----
----- 12 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 9 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 53 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 15 2,0
-----AUCACAAGUCAGGCUCUUG-----
----- 5 -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 11 -1,-3
-----UCACAAGUCAGGCUCUUG-----

```



```

----- 3 0,-1
-----CAUUAUUACUUUUGGUACGCG-----
----- 255 0,0
-----CAUUAUUACUUUUGGUACGCGa-----
----- 119 0,0
-----CAUUAUUACUUUUGGUACGCGaa-----
----- 9 0,0
-----CAUUAUUACUUUUGGUACGCGu-----
----- 67 0,0
-----CAUUAUUACUUUUGGUACGCGC-----
----- 7 0,1
-----CAUUAUUACUUUUGGUACGCGCU-----
----- 5 0,2
-----AUUAUUACUUUUGGUACGCG-----
----- 9 1,0
-----AUUAUUACUUUUGGUACGCGu-----
----- 3 1,0
-----AUUAUUACUUUUGGUACGCGC-----
----- 2 1,1
-----AUUAUUACUUUUGGUACGCGCU-----
----- 9 1,2
-----AUUAUUACUUUUGGUACGCGCUa-----
----- 2 1,2
-----CUCGUACCGUGAGUAAUAAU-----
----- 4 -1,-3
-----CUCGUACCGUGAGUAAUAAUG-----
----- 8 -1,-2
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 6 -1,-2
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 28 -1,-1
-----CUCGUACCGUGAGUAAUAAUGCa-----
----- 2 -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 18 -1,0
-----UCGUACCGUGAGUAAUAAU-----
----- 11 0,-3
-----UCGUACCGUGAGUAAUAAUa-----

```

-----	6	0,-3	-----UCGUACCGUGAGUAAUAAUG-----
-----	28	0,-2	-----UCGUACCGUGAGUAAUAAUGa-----
-----	18	0,-2	-----UCGUACCGUGAGUAAUAAUGaa-----
-----	12	0,-2	-----UCGUACCGUGAGUAAUAAUGC-----
-----	162	0,-1	-----UCGUACCGUGAGUAAUAAUGCa-----
-----	7	0,-1	-----UCGUACCGUGAGUAAUAAUGCu-----
-----	2	0,-1	-----UCGUACCGUGAGUAAUAAUGCG-----
-----	96	0,0	-----UCGUACCGUGAGUAAUAAUGCGa-----
-----	53	0,0	-----UCGUACCGUGAGUAAUAAUGCGu-----
-----	3	0,0	-----CGUACCGUGAGUAAUAAU-----
-----	2	1,-3	-----CGUACCGUGAGUAAUAAUG-----
-----	10	1,-2	-----CGUACCGUGAGUAAUAAUGC-----
-----	50	1,-1	-----CGUACCGUGAGUAAUAAUGCG-----
-----	53	1,0	-----CGUACCGUGAGUAAUAAUGCGa-----
-----	26	1,0	-----CGUACCGUGAGUAAUAAUGCGu-----
-----	15	1,0	-----GUACCGUGAGUAAUAAUG-----
-----	3	2,-2	-----GUACCGUGAGUAAUAAUGC-----
-----	11	2,-1	-----GUACCGUGAGUAAUAAUGCG-----
-----	5	2,0	-----GUACCGUGAGUAAUAAUGCGa-----


```

----- 16 2,0
-----GUACCGUGAGUAAUAAUGCGu-----
----- 4 2,0

```

```

>hsa-mir-1260 5p:14-31 SRX018966
accuuuccagcucAUCCCACCUCUGCCACCAAaaacacucaucgcggggucagagggagugccaaaaaagguaa
(((((((...(((...((((...((((((...((((...))))))...))))))...))))))...
-----AUCCCACCUCUGCCACCA----- 3
0,0

```

```

>hsa-mir-1260b 5p:10-28 SRX018966
ucuccguuuAUCCCACCACUGCCACCAUuaungcuacuguucagcaggugcugcugguggugauggugauagucuggugg
gggcggugg
.(.((((...(((((((((((...((((((((...((((...))))))...))))))...))))))...))
)))))).
-----AUCCCACCACUGCCACCA-----
----- 4 0,-1

```

```

>hsa-mir-1262 5p:14-35 SRX018966
aucuacaauuggugAUGGGUGAAUUUGUAGAAGGAUgaaagucaaagaauccuucugggaacuaauuuuuggccuacaaca
agaauugugauau
(((.((((...(((...((((...((((...((((...))))))...))))))...))))...)).
...)))))))).
-----UGAUGGGUGAAUUUGUAGAAGG-----
----- 2 -2,-2
-----AUGGGUGAAUUUGUAGAAGGAU-----
----- 2 0,0

```

```

>hsa-mir-1268 5p:5-22 SRX018966
uagcCGGGCGUGGUGGUGGGGGccugugguccagcuacuuggaggcugag
(((((((...(((...((((...((((...((((...))))))...))))))...))))))...
----CGGGCGUGGUGGUGGGGG----- 2 0,0

```

```

>hsa-mir-1269 3p:67-88 SRX018966
uggauugccuagaccagggaagccaguuggcauggcucaguccaagucugaccaccugaggaugcCUGGACUGAGCCGU
GCUACUGGcuucccuggucuccagc
((((...(((((((((((((((...((((((((...((((...))))))...))))))...))))))...))
)))))))).

```


Sequence	Count	Score
UCGGAUCCGUCUGAGCUUGGCUau	59	0,0
UCGGAUCCGUCUGAGCUUGGCUu-	46	0,0
UCGGAUCCGUCUGAGCUUGGCUuu	20	0,0
UCGGAUCCGUCUGAGCUUGGCUGa	2	0,1
CGGAUCCGUCUGAGCUUGGCau-	2	1,-1
CGGAUCCGUCUGAGCUUGGCUau	3	1,0
GGAUCCGUCUGAGCUUGGCa--	2	2,-1
GGAUCCGUCUGAGCUUGGCUu-	2	2,0

```
>hsa-mir-1270-1 5p:13-35 SRX018966
```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuucuuaucuaugugggcucuuu
 gca
 ((.(((((((..((((((.((((((((.((((.....)))))))))))).)))))).)))))))).)
)..

```

-----ACUGGAGAU AUGGAAGAGC-----
--- 2    -1,-5
-----CUGGAGAU AUGGAAGAGC-----
--- 2    0,-5
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 3    0,0

```

```
>hsa-mir-1270-2 5p:13-35      SRX018966
```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuucuuaucuaugugggcucuuu
gca
((.((((((((..(((((((.(((((((((.(((((.))))))))) .)))))) .)))))) .)))))) .))
) . .

```

-----ACUGGAGAU AUGGAAGAGC-----
--- 2    -1, -5
-----CUGGAGAU AUGGAAGAGC-----
--- 2    0, -5

```

-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 3 0,0

>hsa-mir-1271 5p:15-36 SRX018966

caccagaucagugCUUGGCACCUAGCAAGCACUCAguaaaauuuuguugagugccugcuaugugccaggcauugugcug
agggu
..((((((..((((((((((((((..((((((..((((((((((((((...))))))))))))))..))))))..))
..))...
-----CUUGGCACCUAGCAAGCA-----

----- 6 0,-4
-----CUUGGCACCUAGCAAGCAC-----
----- 24 0,-3
-----CUUGGCACCUAGCAAGCACU-----
----- 32 0,-2
-----CUUGGCACCUAGCAAGCACUC-----
----- 3 0,-1
-----AGUGCCUGCUAUGUGCCA-----
----- 4
-----AGUGCCUGCUAUGUGCCAG-----
----- 3

>hsa-mir-1273 3p:76-100 SRX018966

ugaggcaggagaaugcuugaacccgggugguggagguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUCUUCUUGga
..((((((..((((((((((((((..((((((..((((((((((((((..((((((..((((((((((((((...))))))))))))))..
...))))))..)))))))))...
-----CAGGAGAAUUGCUUGAACC-----

----- 3
-----AGGAGAAUUGCUUGAACC-----
----- 25
-----AGGAGAAUUGCUUGAACCu-----
----- 12
-----AGGAGAAUUGCUUGAACCC-----
----- 17
-----AGGAGAAUUGCUUGAACCCu-----
----- 2
-----AGGAGAAUUGCUUGAACCCG-----
----- 5

-----AGGAGAAUUGCUGAACCCCGG-----
----- 3
-----AGGAGAAUUGCUGAACCCCGGu-----
----- 2
-----AGGAGAAUUGCUGAACCCCGG-----
----- 22
-----GGAGAAUUGCUGAACCC-----
----- 3
-----GGAGAAUUGCUGAACCCCGG-----
----- 11
-----GAGAAUUGCUGAACCCCGG-----
----- 12
-----AGAAUUGCUGAACCCCGG-----
----- 6

ugcagccugGGCGACAAAACGAGACCCUGUCuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga
 ..((((.(((((((((.((((((((.(((((((.....)))))))).)))))).)))))))).))))).)))).
 -----GGCGACAAAACGAGACCC-----
 3 0.-4

>hsa-mir-1273e 5p:14-35 SRX018966

ugaggcaggagaaUUGCUUGAACCCAGGAAGUGGAggcugcagugagccgagaucgagccacuguacuccagccugggug
 acacagcgagacuccagucuca
 .(((((.(((..(((((((.(((((((...(((((.(((((((.((((...)).)))))))))))))).)))))).
 .)).))))).))))).))))).
 -----GGGUG
 ACACAGCGAGACUC----- 2

>hsa-mir-1277 3p:47-68 SRX018966

```

accucccaaaauauauauauaanguacguauguguaauauaaauguaUACGUAGAUAUUAUGUAUUUUuggguggguuu
(((..((((.(((((((((((.(((((((((..(.....)..)))))))).)))))))).))))..
-----AUACGUAGAUAUUAUGUAUUU-----
5    -1,-1
-----UACGUAGAUAUUAUGUAU-----
5    0,-3
-----UACGUAGAUAUUAUGUAUa-----
4    0,-3

```

		UACGUAGAUUAUAUGUAUU-
11	0, -2	
		UACGUAGAUUAUAUGUAUUU-
54	0, -1	
		UACGUAGAUUAUAUGUAUUUaa-
2	0, -1	
		UACGUAGAUUAUAUGUAUUUU-
112	0, 0	
		UACGUAGAUUAUAUGUAUUUUa-
3	0, 0	
		ACGUAGAUUAUAUGUAUUUU-
3	1, 0	
		CGUAGAUUAUAUGUAUUUU-
2	2, 0	

>hsa-mir-1278 3p:50-71 SRX018966

auuugccauagaugaugcauaguacucccagaacucauuaguuggUAGUACUGUGCAUAUCAUCUAUgagcgaaua

-			GUAGUACUGUGCAUAUCAUCU-
-	3	-1,-2	
-			UAGUACUGUGCAUAUCAU-
-	4	0,-4	
-			UAGUACUGUGCAUAUCAU _a -
-	6	0,-4	
-			UAGUACUGUGCAUAUCAUCU-
-	33	0,-2	
-			UAGUACUGUGCAUAUCAUCUA-
-	15	0,-1	
-			UAGUACUGUGCAUAUCAUCUA _a -
-	3	0,-1	
-			UAGUACUGUGCAUAUCAUCUAU-
-	84	0,0	
-			UAGUACUGUGCAUAUCAUCUAU _a -
-	2	0,0	

>hsa-mir-128-1 3p:50-70 SRX018966

.((((.(((((((...(((((((...(((((((..(((((((...))))))))))))))...)))))))).)))).
).

--	24	0,-3	UCACAGUGAACCGGUCUC
--	27	0,-2	UCACAGUGAACCGGUCUCU
--	3	0,-2	UCACAGUGAACCGGUCUCUa
--	4	0,-2	UCACAGUGAACCGGUCUCUaa
--	79	0,-1	UCACAGUGAACCGGUCUCUU
--	22	0,-1	UCACAGUGAACCGGUCUCUUa
--	19	0,-1	UCACAGUGAACCGGUCUCUUaa
--	17	0,-1	UCACAGUGAACCGGUCUCUUau
--	758	0,0	UCACAGUGAACCGGUCUCUUU
--	201	0,0	UCACAGUGAACCGGUCUCUUUa
--	44	0,0	UCACAGUGAACCGGUCUCUUUaa
--	50	0,0	UCACAGUGAACCGGUCUCUUUau
--	375	0,1	UCACAGUGAACCGGUCUCUUUU
--	23	0,1	UCACAGUGAACCGGUCUCUUUUa
--	4	0,1	UCACAGUGAACCGGUCUCUUUUau
--	26	0,2	UCACAGUGAACCGGUCUCUUUUU
--	5	0,2	UCACAGUGAACCGGUCUCUUUUUu

```

-----ACAGUGAACCGGUCUCUUaa-----
-- 2 2,-1
-----ACAGUGAACCGGUCUCUUU-----
-- 8 2,0
-----ACAGUGAACCGGUCUCUUUa-----
-- 2 2,0
-----ACAGUGAACCGGUCUCUUUaa-----
-- 2 2,0
-----ACAGUGAACCGGUCUCUUUU-----
-- 2 2,1
-----ACAGUGAACCGGUCUCUUUUa-----
-- 2 2,1

```

>hsa-mir-128-2 3p:52-72 SRX018966

```

ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(..(((((((.(((((((((((...(((((((.(((((. ....).))))))))))))....)))))))))).))))))
..).

```

```

-----UCACAGUGAACCGGUCUC-----
---- 24 0,-3
-----UCACAGUGAACCGGUCUCU-----
---- 27 0,-2
-----UCACAGUGAACCGGUCUCUa-----
---- 3 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
---- 4 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 79 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
---- 22 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
---- 19 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
---- 17 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
---- 758 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
---- 201 0,0

```



```

-----UCACAGUGAACCGGUCUCUUUaa-----
---- 44 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
---- 50 0,0
-----UCACAGUGAACCGGUCUCUUUC-----
---- 14 0,1
-----UCACAGUGAACCGGUCUCUUUCa-----
---- 8 0,1
-----UCACAGUGAACCGGUCUCUUUCu-----
---- 9 0,1
-----ACAGUGAACCGGUCUCUUaa-----
---- 2 2,-1
-----ACAGUGAACCGGUCUCUUU-----
---- 8 2,0
-----ACAGUGAACCGGUCUCUUUa-----
---- 2 2,0
-----ACAGUGAACCGGUCUCUUUaa-----
---- 2 2,0

```

>hsa-mir-1284 5p:30-51 SRX018966

```

auuuugauauauaagccaguuuauguuuUCUAUACAGACCCUGGCUUUUCuuaauuuuuauauauuggaaagcccaugu
uuguauuggaaacugcugguuucuucauacugaaaaucu
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUAUACAGACCCUGGCUUUUC-----
----- 2 0,0

```

>hsa-mir-1285-1 3p:51-72 SRX018966

```

uguagagauaggaucucacuuuguugcccaggcuggucuaaacuccuggUCUGGGCAACAAAGUGAGACCUaaucucua
caag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..
-----UCUGGGCAACAAAGUGAGAC-----
---- 18 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
---- 4 0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
---- 3 0,-2

```

```

-----UCUGGGCAACAAAGUGAGACuu-----
----   3   0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----   4   0,-1
-----UCUGGGCAACAAAGUGAGACCaa-----
----   2   0,-1
-----UCUGGGCAACAAAGUGAGACCau-----
----   3   0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----  40   0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----  18   0,0
-----UCUGGGCAACAAAGUGAGACCUaa-----
----   3   0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
----  15   0,0
-----UCUGGGCAACAAAGUGAGACCUU-----
----  24   0,1
-----UCUGGGCAACAAAGUGAGACCUUu-----
----  18   0,1
-----UCUGGGCAACAAAGUGAGACCUUuu-----
----   3   0,1
-----UCUGGGCAACAAAGUGAGACCUUA-----
----   3   0,2
-----CUGGGCAACAAAGUGAGACC-----
----   2   1,-1

```

>hsa-mir-1285-2 3p:52-73 SRX018966

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

(((((((((((((((.....(((((((.....(((((((.....(((((((.....)))))))).)))))))).)))))))).))))))..

```

-----UCUGGGCAACAAAGUGAGAC-----
----- 18   0,-2
-----UCUGGGCAACAAAGUGAGACa-----
-----   4   0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
-----   3   0,-2

```

-----			UCUGGGCAACAAAGUGAGACuu-----
-----	3	0,-2	
-----			UCUGGGCAACAAAGUGAGACC-----
-----	4	0,-1	
-----			UCUGGGCAACAAAGUGAGACCaa-----
-----	2	0,-1	
-----			UCUGGGCAACAAAGUGAGACCau-----
-----	3	0,-1	
-----			UCUGGGCAACAAAGUGAGACCU-----
-----	40	0,0	
-----			UCUGGGCAACAAAGUGAGACCUa-----
-----	18	0,0	
-----			UCUGGGCAACAAAGUGAGACCUaa-----
-----	3	0,0	
-----			UCUGGGCAACAAAGUGAGACCUau-----
-----	15	0,0	
-----			CUGGGCAACAAAGUGAGACC-----
-----	2	1,-1	

```
>hsa-mir-1287    5p:16-37    SRX018966
```

guugugcuguccaggUGCUGGAUCAGUGGUUCGAGUCugagccuuuaaaagccacucuagccacagaugcagugauugga
gccaugacaa

$$((\dots(((\dots((((\dots(((((\dots(((((\dots(((((\dots(((((\dots(((((\dots)))))))))\dots))))))\dots))))))\dots))))))\dots)$$

-----UGCUGGAUCAGUGGUUCGAG-----

----- 2 0,-2

-----UGCUGGAUCAGUGGUUCGAGUCa-----

----- 4 0,0

>hsa-mir-1291 5p:14-37 SRX018966

gguaaauuccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuucaagcagaggccuaaaggacugu
cuuccug

$$(((.((((..(((...(((((((.(..(((((((((((..(...)..))))))))))..))))).))))....)))...)))).)..$$

-----GUGGCCUGACUGAAGACCA-----

----- 4 -1,-5

-----GUGGCCUGACUGAAGACCAG-----

----- 6 -1,-4

```

-----GUGGCCCUGACUGAAGACCAGC-----
----- 12 -1,-3
-----GUGGCCCUGACUGAAGACCAGCA-----
----- 116 -1,-2
-----UGGCCCUGACUGAAGACCAGCA-----
----- 40 0,-2
-----AGAGGCCUAAAGGACUGU
CUUC--- 2
-----AGAGGCCUAAAGGACUGU
CUUCC-- 3
-----AGAGGCCUAAAGGACUGU
CUUCCU- 13

```

```

>hsa-mir-1294 5p:48-69 SRX018966
caccuaaugugugccaagaucuguucauuuaugaucucaccgaguccUGUGAGGUUGGCAUUGUUGUCUggcauugucug
auauacaacagugccaaccucacaggacucagugaggugaaacugaggauuaggaaggugua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)).))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----UGUGAGGUUGGCAUUGUUGU-----
----- 2 0,-2

```

```

>hsa-mir-1299 3p:62-83 SRX018966
ccucauggcaguguucuggaaucacuacgugagggacaaucuuacagaccacguagcagugUUCUGGAAUUCUGUGUGAG
GGA
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).)).))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----UUCUGGAAUUCUGUGUGAG
--- 4 0,-3
-----UUCUGGAAUUCUGUGUGAG
G-- 2 0,-2
-----UUCUGGAAUUCUGUGUGAG
GG- 2 0,-1
-----UUCUGGAAUUCUGUGUGAG
GGA 7 0,0
-----UUCUGGAAUUCUGUGUGAG
GGAu 4 0,0

```

```

>hsa-mir-1301 3p:48-71 SRX018966

```

```

ggauuguggggggucgcucuaggcaccgcagcacugugcugggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..
-----GGUCGCUCUAGGCACCGCAGCAu-----
-- 2
-----UUGCAGCUGCCUGGGAGUGA-----
-- 7 0,-4
-----UUGCAGCUGCCUGGGAGUGAC-----
-- 7 0,-3
-----UUGCAGCUGCCUGGGAGUGACU-----
-- 5 0,-2
-----UGCAGCUGCCUGGGAGUGAC-----
-- 2 1,-3
-----UGCAGCUGCCUGGGAGUGACU-----
-- 3 1,-2
-----UGCAGCUGCCUGGGAGUGACUU-----
-- 2 1,-1
-----UGCAGCUGCCUGGGAGUGACUUC-----
-- 3 1,0
-----UGCAGCUGCCUGGGAGUGACUUCA-----
-- 4 1,1

```

```

>hsa-mir-1302-1 3p:75-95 SRX018966
cagaaagcccaguuuuuugaauuucaaguuaaacaugaauuuuguguauguaagaauauuccauacaauauUUGGGA
CAUACUUAUGCUAAAAaauuauuccuugcuuauucugaaauucaaauguaacuaggauuccgua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..
-----UGGGA
CAUACUUAUGCUAAAA----- 2 1,1

```

```

>hsa-mir-1302-10 3p:73-93 SRX018966
ggaugcccagcuaguuuugaauuuuagauaaacaacgaauuuuucguagcauauuuuuguccaagcuuaguUUGGACA
UACUUAUGCUAAAAaacaauuauugguuguuuuauucugagauucagaauuaagcauuuuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))..))))))))..))))))))..))))))))..))))))))..))))))))..))))))))..))))))))..))))
-----UGGACA
UACUUAUGCUAAAA----- 2 1,1

```

[illegible]

ugcccggccucccauuaaaauugguuuuucagacaaaucacaaaauuguuuuagguauaaguauaucccanguaaucUUGG
GACAUACUUAUGCUAAAauaaauuguuccuuguugauuggaaaauuuuaauuuuagguuguccguauu
.....((((.....(((((((..((((..((((..((((..(((((((.....))))
)).)))))))))).))))))))).)))))....)))).))))))....))))).
.....

-----UCGACCGGACCUCGACCGGC-----		
-----	9	
-----UCGACCGGACCUCGACCGGCU-----		
-----	276	
-----UCGACCGGACCUCGACCGGCU _{aa} -----		
-----	13	
-----UCGACCGGACCUCGACCGGCU _{au} -----		
-----	4	
-----UCGACCGGACCUCGACCGGCU _u -----		
-----	36	
-----UCGACCGGACCUCGACCGGCU _{uu} -----		
-----	20	
-----UCGACCGGACCUCGACCGGCUC-----		
-----	60	
-----UCGACCGGACCUCGACCGGCUC _a -----		
-----	19	
-----UCGACCGGACCUCGACCGGCUC _u -----		
-----	8	
-----UCGACCGGACCUCGACCGGCUCG-----		
-----	5	
-----CGACCGGACCUCGACCGGCU-----		
-----	2	
-----GACCGGACCUCGACCGGCU-----		
-----	5	
-----GACCGGACCUCGACCGGCUC-----		
-----	4	
-----A		
CUCGGCGUGGCGUCGGUCG-----	26	0,-2
-----A		
CUCGGCGUGGCGUCGGUCGU-----	25	0,-1
-----A		
CUCGGCGUGGCGUCGGUCGU _u -----	13	0,-1
-----A		
CUCGGCGUGGCGUCGGUCGU _{uu} -----	3	0,-1
-----A		
CUCGGCGUGGCGUCGGUCGUG-----	77	0,0
-----A		
CUCGGCGUGGCGUCGGUCGUG _a -----	4	0,0

```

-----A
CUCGGCGUGGCGUCGGUCGUGu----- 9 0,0
-----
CUCGGCGUGGCGUCGGUCG----- 8 1,-2
-----
CUCGGCGUGGCGUCGGUCGU----- 7 1,-1
-----
CUCGGCGUGGCGUCGGUCGUG----- 73 1,0
-----
CUCGGCGUGGCGUCGGUCGUGu----- 8 1,0

```

>hsa-mir-130a mi:21-42;MA:55-76 SRX018966

```

ugcugcuggccagagcucuUUCACAUUGUGCUACUGUCUGCaccugucacuagCAGUGCAAUGUUAAAAGGGCAUuggc
cguguagug

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----CAGUGCAAUGUUAAAAGG-----
----- 1994 0,-4
-----CAGUGCAAUGUUAAAAGGu-----
----- 2 0,-4
-----CAGUGCAAUGUUAAAAGGG-----
----- 489 0,-3
-----CAGUGCAAUGUUAAAAGGGa-----
----- 4 0,-3
-----CAGUGCAAUGUUAAAAGGGaa-----
----- 2 0,-3
-----CAGUGCAAUGUUAAAAGGGC-----
----- 866 0,-2
-----CAGUGCAAUGUUAAAAGGGCA-----
----- 268 0,-1
-----CAGUGCAAUGUUAAAAGGGCAa-----
----- 47 0,-1
-----CAGUGCAAUGUUAAAAGGGCAaa-----
----- 5 0,-1
-----CAGUGCAAUGUUAAAAGGGCAau-----
----- 10 0,-1
-----CAGUGCAAUGUUAAAAGGGCAU-----
----- 1452 0,0

```

Sequence	Length	GC Content	GC Content (%)
CAGUGCAAUGUUAAAAGGGCAUa	269	0,0	
CAGUGCAAUGUUAAAAGGGCAUaa	22	0,0	
CAGUGCAAUGUUAAAAGGGCAUau	3	0,0	
CAGUGCAAUGUUAAAAGGGCAUU	448	0,1	
CAGUGCAAUGUUAAAAGGGCAUua	15	0,1	
CAGUGCAAUGUUAAAAGGGCAUuaa	4	0,1	
CAGUGCAAUGUUAAAAGGGCAUuau	2	0,1	
CAGUGCAAUGUUAAAAGGGCAUuu	15	0,1	
AGUGCAAUGUUAAAAGGG	11	1,-3	
AGUGCAAUGUUAAAAGGGC	15	1,-2	
AGUGCAAUGUUAAAAGGGCA	6	1,-1	
AGUGCAAUGUUAAAAGGGCAU	9	1,0	
AGUGCAAUGUUAAAAGGGCAUa	4	1,0	
AGUGCAAUGUUAAAAGGGCAUU	4	1,1	

>hsa-mi r-130b mi:13-33;MA:51-72 SRX018966

ggccugcccgaCACUCUUCCCUGUUGCACUACuauaggccgcugggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc

(((((.((((..((((((..(((((((((.((.(...)))...)).)))))))).)))))))).))))).)))
))

-----ACUCUUCCCUGUUGCACUAC-----

-- 4 0,0

-----ACUCUUCCCUGUUGCACUACU-----

-- 9 0,1

```

-----CAGUGCAAUGAUGAAAGG-----
-- 22 0,-4
-----CAGUGCAAUGAUGAAAGGG-----
-- 7 0,-3
-----CAGUGCAAUGAUGAAAGGGC-----
-- 15 0,-2
-----CAGUGCAAUGAUGAAAGGGCA-----
-- 12 0,-1
-----CAGUGCAAUGAUGAAAGGGCAa-----
-- 13 0,-1
-----CAGUGCAAUGAUGAAAGGGCAau-----
-- 2 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 224 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 21 0,0
-----CAGUGCAAUGAUGAAAGGGCAUau-----
-- 4 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 39 0,0
-----CAGUGCAAUGAUGAAAGGGCAUuu-----
-- 9 0,0
-----AGUGCAAUGAUGAAAGGGCAU-----
-- 12 1,0

```

>hsa-mir-132 mi:23-44;MA:59-80 SRX018966

```

ccgccccgcgucuccagggcaACCGUGGCUUUCGAUUGUUACUgugggaacuggaggUAACAGUCUACAGCCAUGGUCG
ccccgcagcacgccccacgcgc

```

```

.((((....((((((.((((((((((....(((((((((((....(....)....))))))))))....)))))))).)
)))..))..)))).)....)).

```

```

-----AACCGUGGCUUUCGAUUGUUA-----
-----10 -1,-2
-----AACCGUGGCUUUCGAUUGUUAa-----
-----4 -1,-2
-----ACCGUGGCUUUCGAUUGUUAC-----
-----8 0,-1
-----ACCGUGGCUUUCGAUUGUUACU-----
-----12 0,0

```

```

-----UAACAGUCUACAGCCAUG-----
-----      10   0,-4
-----UAACAGUCUACAGCCAUGG-----
-----      13   0,-3
-----UAACAGUCUACAGCCAUGGU--
-----      22   0,-2
-----UAACAGUCUACAGCCAUGGUC-
-----      14   0,-1
-----UAACAGUCUACAGCCAUGGUCG
-----      23   0,0
-----UAACAGUCUACAGCCAUGGUCG
a-----      5   0,0
-----UAACAGUCUACAGCCAUGGUCG
u-----      21  0,0
-----AACAGUCUACAGCCAUGG-----
-----      2    1,-3
-----AACAGUCUACAGCCAUGGUCG
a-----      2    1,0
-----ACAGUCUACAGCCAUGGU--
-----      3    2,-2

```

>hsa-mir-133a-1 3p:53-74 SRX018966

```

acaaugcuugcuagagcugguaaaauggaaccaaaucgccucucaauggaUUUGGUCCCCUUAACCAGCUGuagcua
ugcauga
.(((((((...((((((((((...(((...((((((((((.....))))))))).)).)).)))))))).)))..
.)))).)).
-----UUUGGUCCCCUUAACCAGCUGU-----
-----      2    0,1
-----UUUGGUCCCCUUAACCAGCUGU-----
-----      7    1,1

```

>hsa-mir-133a-2 3p:59-80 SRX018966

```

gggagccaaaugcuugcuagagcugguaaaauggaaccaaaucgacuguccaauggaUUUGGUCCCCUUAACCAGCUG
uagcugugcauugauggcgccg
.(((((((((((...((((((((((...(((...((((((((((.....).))))))))).)).)).)))))))).
))))...))))).))))).)).
-----UUUGGUCCCCUUAACCAGCUG
U-----      2    0,1

```

```

-----UUGGUCCCCUUAACCAGCUG
U----- 7 1,1

```

>hsa-mir-134 5p:8-29 SRX018966

```

cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguuacccugugggccaccuagucaccaaccuc
.(((((((((.(((.(((.(((((((.....))))).))))).))))).))))).
-----UGUGACUGGUUGACCAGAG----- 2
0,-3
-----UGUGACUGGUUGACCAGAGGG----- 20
0,-1
-----UGUGACUGGUUGACCAGAGGGa----- 4
0,-1
-----UGUGACUGGUUGACCAGAGGGaa----- 3
0,-1
-----UGUGACUGGUUGACCAGAGGGau----- 2
0,-1
-----UGUGACUGGUUGACCAGAGGGu----- 4
0,-1
-----UGUGACUGGUUGACCAGAGGGG----- 57
0,0
-----UGUGACUGGUUGACCAGAGGGGa----- 15
0,0
-----UGUGACUGGUUGACCAGAGGGGaa----- 6
0,0
-----UGUGACUGGUUGACCAGAGGGGau----- 10
0,0
-----UGUGACUGGUUGACCAGAGGGGu----- 6
0,0

```

>hsa-mir-135a-1 MA:17-39;mi:56-77 SRX018966

```

aggccucgcuguucucUAUGGCUUUUAUUCCUAUGUGAuucucacugcucacucaUAUAGGGAUUGGAGCCGUGGCGcac
ggcggggaca
.(((((((((((.(((.(((.(((((((.....))))).))))).))))).))))).
)))))).).
-----UAUGGCUUUUAUUCCUAUGU-----
----- 3 0,-2
-----UAUGGCUUUUAUUCCUAUGUG-----
----- 6 0,-1

```

-----UAUGGCUUUUUAUCCUAUGUGA-----
----- 3 0,0

>hsa-mir-135a-2 5p:23-45 SRX018966

agauaaaauccacucuaugugcuUAUGGCUUUUUAUCCUAUGUGAuaguaaaaagucucauguagggauuggaagccaug
aaauacauugugaaaaauca
(((((((.....(((.(((((((((((((.(((((((((((((.((.....).).))))))))))))))))))))))
)).))))..))))..)).

-----UAUGGCUUUUUAUCCUAUGU-----
----- 3 0,-2

-----UAUGGCUUUUUAUCCUAUGUG-----
----- 6 0,-1

-----UAUGGCUUUUUAUCCUAUGUGA-----
----- 3 0,0

-----UGUAGGGAUGGAAGCCAUG-----
----- 2

-----UGUAGGGAUGGAAGCCAUG-----
----- 2

-----UGUAGGGAUGGAAGCCAUG-----
A----- 5

-----UGUAGGGAUGGAAGCCAUG-----
AA----- 7

-----UGUAGGGAUGGAAGCCAUG-----
AAu----- 7

-----UGUAGGGAUGGAAGCCAUG-----
AAA----- 4

-----UGUAGGGAUGGAAGCCAUG-----
AAAa----- 2

>hsa-mir-136 MA:15-37;mi:49-70 SRX018966

ugagcccucggaggACUCCAUUUGUUUUGAUGAUGGAuucuaugcucCAUCAUCGUCUCAAUGAGUCUucagaggguu
cu
(((((((((.(((((((((.((((.....((((((((((((.....))))))))))))))))))))))))))
).)

-----ACUCCAUUUGUUUUGAUGA-----
-- 5 0,-4

-----ACUCCAUUUGUUUUGAUGAU-----
-- 19 0,-3

-1,-4	UGGAGACGCGGCCCUGUUGG	31	
-1,-3	UGGAGACGCGGCCCUGUUGGA	43	
-1,-2	UGGAGACGCGGCCCUGUUGGAa	12	
-1,-2	UGGAGACGCGGCCCUGUUGGAaa	14	
-1,-2	UGGAGACGCGGCCCUGUUGGAu	3	
-1,-2	UGGAGACGCGGCCCUGUUGGAG	121	
-1,-1	UGGAGACGCGGCCCUGUUGGAGa	36	
-1,-1	UGGAGACGCGGCCCUGUUGGAGaa	3	
-1,-1	UGGAGACGCGGCCCUGUUGGAGau	3	
-1,-1	UGGAGACGCGGCCCUGUUGGAGU	200	-1,0
	UGGAGACGCGGCCCUGUUGGAGUu	11	-1,0
	UGGAGACGCGGCCCUGUUGGAGUAA	3	-1,2
	GGAGACGCGGCCCUGUUGG	2	0,-3
	GGAGACGCGGCCCUGUUGGAG	3	0,-1
	GGAGACGCGGCCCUGUUGGAGU	19	0,0
	AGACGCGGCCCUGUUGGAGUu	2	2,0
	AGACGCGGCCCUGUUGGAGUuu	3	2,0
	AGACGCGGCCCUGUUGGAGUAu	2	2,1

-----	-CAGUGGUUUUACCCUAUGGUAG-	-----
-----	2 0,0	
-----	-CAGUGGUUUUACCCUAUGGUAGa-	-----
-----	2 0,0	
-----		-----CUACCACAGGGUAGAACCAC
G-----	4 -1,-1	
-----		-----CUACCACAGGGUAGAACCAC
GG-----	5 -1,0	
-----		-----CUACCACAGGGUAGAACCAC
GGA-----	7 -1,1	
-----		-----CUACCACAGGGUAGAACCAC
GGAa-----	5 -1,1	
-----		-----UACCACAGGGUAGAACCA-
-----	61 0,-3	
-----		-----UACCACAGGGUAGAACCAC
-----	120 0,-2	
-----		-----UACCACAGGGUAGAACCAC
G-----	1507 0,-1	
-----		-----UACCACAGGGUAGAACCAC
Ga-----	12 0,-1	
-----		-----UACCACAGGGUAGAACCAC
Gaa-----	5 0,-1	
-----		-----UACCACAGGGUAGAACCAC
GG-----	3303 0,0	
-----		-----UACCACAGGGUAGAACCAC
GGu-----	89 0,0	
-----		-----UACCACAGGGUAGAACCAC
GGuu-----	28 0,0	
-----		-----UACCACAGGGUAGAACCAC
GGA-----	3563 0,1	
-----		-----UACCACAGGGUAGAACCAC
GGAa-----	1732 0,1	
-----		-----UACCACAGGGUAGAACCAC
GGAaa-----	1199 0,1	
-----		-----UACCACAGGGUAGAACCAC
GGAAu-----	440 0,1	
-----		-----UACCACAGGGUAGAACCAC
GGAu-----	402 0,1	

-----				-----UACCACAGGGUAGAACCAC
GGAuu-----	22	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAC-----	1385	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACu-----	58	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACA-----	401	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAa-----	42	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAu-----	20	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAG-----	2	0,4		
-----				-----ACCACAGGGUAGAACCAC
-----	36	1,-2		
-----				-----ACCACAGGGUAGAACCAC
G-----	112	1,-1		
-----				-----ACCACAGGGUAGAACCAC
Gaa-----	5	1,-1		
-----				-----ACCACAGGGUAGAACCAC
GG-----	2081	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGu-----	154	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGuu-----	102	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGA-----	15864	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAa-----	5343	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAaa-----	1840	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAu-----	397	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAu-----	2824	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAu-----	156	1,1		

-----			-----ACCACAGGGUAGAACCAC
GGAC-----	4369	1,2	
-----			-----ACCACAGGGUAGAACCAC
GGACu-----	103	1,2	
-----			-----ACCACAGGGUAGAACCAC
GGACuu-----	4	1,2	
-----			-----ACCACAGGGUAGAACCAC
GGACA-----	319	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAa-----	212	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAaa-----	19	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAu-----	28	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAG-----	7	1,4	
-----			-----ACCACAGGGUAGAACCAC
GGACAGa-----	5	1,4	
-----			-----ACCACAGGGUAGAACCAC
GGACAGu-----	6	1,4	
-----			-----CCACAGGGUAGAACCAC
GG-----	32	2,0	
-----			-----CCACAGGGUAGAACCAC
GGu-----	3	2,0	
-----			-----CCACAGGGUAGAACCAC
GGuu-----	2	2,0	
-----			-----CCACAGGGUAGAACCAC
GGA-----	227	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAa-----	101	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAaa-----	41	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAau-----	14	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAu-----	67	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAuu-----	4	2,1	

```

-----CCACAGGGUAGAACCAC
GGAC-----      110  2,2
-----CCACAGGGUAGAACCAC
GGACu-----      7   2,2
-----CCACAGGGUAGAACCAC
GGACA-----     19   2,3
-----CCACAGGGUAGAACCAC
GGACAa-----    15   2,3
-----CCACAGGGUAGAACCAC
GGACAaa-----   3    2,3
-----CCACAGGGUAGAACCAC
GGACAu-----   3    2,3

```

```

>hsa-mir-141      mi:17-38;MA:59-80   SRX018966
cggccggcccugggucCAUCUCCAGUACAGUGUUGGAuggucuaauugugaagcuccU AACACUGUCUGGUAAAGAUGG
cucccggguggguuc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAACACUGUCUGGUAAAG-----
----- 2    0,-4
-----UAACACUGUCUGGUAAAGA-----
----- 2    0,-3
-----UAACACUGUCUGGUAAAGAUa-----
----- 2    0,-2
-----UAACACUGUCUGGUAAAGAUG-----
----- 5    0,-1
-----UAACACUGUCUGGUAAAGAUGu
u----- 4    0,-1

```

```

>hsa-mir-142      5p:16-36;3p:52-74   SRX018966
gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CCCAUAAAGUAGAAAGCA-----
----- 91   -2,-5
-----CCCAUAAAGUAGAAAGCAa-----
----- 76   -2,-5

```

-----CCCAUAAAGUAGAAAGCAaa-----
----- 2 -2, -5
-----CCCAUAAAGUAGAAAGCAu-----
----- 2 -2, -5
-----CCCAUAAAGUAGAAAGCAuu-----
----- 2 -2, -5
-----CCCAUAAAGUAGAAAGCAC-----
----- 159 -2, -4
-----CCCAUAAAGUAGAAAGCACa-----
----- 5 -2, -4
-----CCCAUAAAGUAGAAAGCACU-----
----- 881 -2, -3
-----CCCAUAAAGUAGAAAGCACUA-----
----- 464 -2, -2
-----CCCAUAAAGUAGAAAGCACUAa-----
----- 91 -2, -2
-----CCCAUAAAGUAGAAAGCACUAaa-----
----- 10 -2, -2
-----CCCAUAAAGUAGAAAGCACUAau-----
----- 2 -2, -2
-----CCCAUAAAGUAGAAAGCACUAu-----
----- 108 -2, -2
-----CCCAUAAAGUAGAAAGCACUAuu-----
----- 4 -2, -2
-----CCCAUAAAGUAGAAAGCACUAC-----
----- 56 -2, -1
-----CCCAUAAAGUAGAAAGCACUACa-----
----- 4 -2, -1
-----CCAUAAAGUAGAAAGCAC-----
----- 8 -1, -4
-----CCAUAAAGUAGAAAGCACU-----
----- 19 -1, -3
-----CCAUAAAGUAGAAAGCACUA-----
----- 9 -1, -2
-----CCAUAAAGUAGAAAGCACUAa-----
----- 5 -1, -2
-----CCAUAAAGUAGAAAGCACUAu-----
----- 4 -1, -2

```

-----CCAUAAAGUAGAAAGCACUAC-----
----- 3   -1,-1
-----CAUAAAGUAGAAAGCACU-----
----- 30  0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 277 0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 113 0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 79  0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 34  0,-2
-----CAUAAAGUAGAAAGCACUAuu-----
----- 3   0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 188 0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 12  0,-1
-----CAUAAAGUAGAAAGCACUACaa-----
----- 4   0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 284 0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 104 0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 26  0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 36  0,2
-----CAUAAAGUAGAAAGCACUACUAAa-----
----- 2   0,2
-----AUAAAGUAGAAAGCACUA-----
----- 16  1,-2
-----AUAAAGUAGAAAGCACUAa-----
----- 10  1,-2
-----AUAAAGUAGAAAGCACUAaa-----
----- 6   1,-2
-----AUAAAGUAGAAAGCACUAu-----
----- 3   1,-2

```



```

-----AUAAGUAGAAAGCACUAC-----
----- 10 1,-1
-----AUAAGUAGAAAGCACUACU-----
----- 18 1,0
-----AUAAGUAGAAAGCACUACUA-----
----- 50 1,1
-----AUAAGUAGAAAGCACUACUAu-----
----- 17 1,1
-----AUAAGUAGAAAGCACUACUAA-----
----- 374 1,2
-----AUAAGUAGAAAGCACUACUAAa-----
----- 9 1,2
-----AUAAGUAGAAAGCACUACUAAu-----
----- 4 1,2
-----UGUAGUGUUUCCUACUUUA-----
----- 2 0,-4
-----UGUAGUGUUUCCUACUUUAU-----
----- 4 0,-3
-----UGUAGUGUUUCCUACUUUAUa-----
----- 4 0,-3
-----UGUAGUGUUUCCUACUUUAUG-----
----- 12 0,-2
-----UGUAGUGUUUCCUACUUUAUGG-----
----- 16 0,-1
-----GUAGUGUUUCCUACUUUAU-----
----- 6 1,-3
-----GUAGUGUUUCCUACUUUAUa-----
----- 4 1,-3
-----GUAGUGUUUCCUACUUUAUG-----
----- 20 1,-2
-----GUAGUGUUUCCUACUUUAUGa-----
----- 4 1,-2
-----GUAGUGUUUCCUACUUUAUGu-----
----- 4 1,-2
-----GUAGUGUUUCCUACUUUAUGG-----
----- 97 1,-1
-----GUAGUGUUUCCUACUUUAUGGA-----
----- 17 1,0

```

-----GUAGUGUUCCUACUUUAUGGAU-----
 ----- 2 1,1
 -----UAGUGUUCCUACUUUAUGG-----
 ----- 4 2,-1

>hsa-mir-143 mi:27-48;MA:61-81 SRX018966
g'gcagcgc'ccugucucccagccugaGGUGCAGUGCUGCAUCUCUGGUcaguugggagucUGAGAUGAAGCACUGUAGCU
Caggaagagagaaguuguucugcagc

$$\begin{aligned} & \dots(((((((\dots(((((\dots(\dots)))))\dots)))))))).) \\ &))))\dots))\dots)\dots \end{aligned}$$

AGGUGCAGUGCUGCAUCUCU	6	-1,-3
GGUGCAGUGCUGCAUCUC	129	0,-4
GGUGCAGUGCUGCAUCUCU	1289	0,-3
GGUGCAGUGCUGCAUCUCUG	28	0,-2
GGUGCAGUGCUGCAUCUCUGa	8	0,-2
GGUGCAGUGCUGCAUCUCUGaa	5	0,-2
GGUGCAGUGCUGCAUCUCUGG	41	0,-1
GGUGCAGUGCUGCAUCUCUGGa	29	0,-1
GGUGCAGUGCUGCAUCUCUGGaa	16	0,-1
GGUGCAGUGCUGCAUCUCUGGU	9	0,0
GGUGCAGUGCUGCAUCUCUGGUa	8	0,0
GGUGCAGUGCUGCAUCUCUGGUaa	4	0,0
GGUGCAGUGCUGCAUCUCUGGUau	11	0,0
GGUGCAGUGCUGCAUCUCUGGUuu	3	0,0

```

-----GGUGCAGUGCUGCAUCUCUGGUC-----
----- 4 0,1
-----GGUGCAGUGCUGCAUCUCUGGUCu-----
----- 4 0,1
-----GGUGCAGUGCUGCAUCUCUGGUCAG-----
----- 2 0,3
-----GUGCAGUGCUGCAUCUCUGG-----
----- 2 1,-1
-----UCUGAGAUGAAGCACUGUAGC-----
----- 2 -2,-2
-----UCUGAGAUGAAGCACUGUAGCa
u----- 2 -2,-2
-----UCUGAGAUGAAGCACUGUAGCU
----- 7 -2,-1
-----CUGAGAUGAAGCACUGUA---
----- 5 -1,-4
-----CUGAGAUGAAGCACUGUAG--
----- 3 -1,-3
-----CUGAGAUGAAGCACUGUAGC-
----- 6 -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 75 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
a----- 3 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 63 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 13 -1,0
-----CUGAGAUGAAGCACUGUAGCU
CA----- 7 -1,1
-----UGAGAUGAAGCACUGUAG--
----- 513 0,-3
-----UGAGAUGAAGCACUGUAGa-
----- 7 0,-3
-----UGAGAUGAAGCACUGUAGaa
----- 5 0,-3
-----UGAGAUGAAGCACUGUAGau
----- 3 0,-3

```

			UGAGAUGAAGCACUGUAGuu
	14	0,-3	
			UGAGAUGAAGCACUGUAGC-
	382	0,-2	
			UGAGAUGAAGCACUGUAGCa
	69	0,-2	
			UGAGAUGAAGCACUGUAGCa
a-	82	0,-2	
			UGAGAUGAAGCACUGUAGCa
u-	5	0,-2	
			UGAGAUGAAGCACUGUAGCU
	6551	0,-1	
			UGAGAUGAAGCACUGUAGCU
a-	436	0,-1	
			UGAGAUGAAGCACUGUAGCU
aa-	107	0,-1	
			UGAGAUGAAGCACUGUAGCU
au-	49	0,-1	
			UGAGAUGAAGCACUGUAGCU
u-	186	0,-1	
			UGAGAUGAAGCACUGUAGCU
uu-	28	0,-1	
			UGAGAUGAAGCACUGUAGCU
C-	10045	0,0	
			UGAGAUGAAGCACUGUAGCU
Cu-	2704	0,0	
			UGAGAUGAAGCACUGUAGCU
Cuu-	318	0,0	
			UGAGAUGAAGCACUGUAGCU
CA-	751	0,1	
			UGAGAUGAAGCACUGUAGCU
CAa-	62	0,1	
			UGAGAUGAAGCACUGUAGCU
CAaa-	13	0,1	
			UGAGAUGAAGCACUGUAGCU
CAau-	3	0,1	
			UGAGAUGAAGCACUGUAGCU
CAu-	20	0,1	

Sequence	Count	Frequency
CAG	5	0,2
CAGa	5	0,2
CAGaa	2	0,2
	4	1,-2
	19	1,-1
C	59	1,0
Cu	29	1,0
Cuu	2	1,0
CA	6	1,1
	2	2,-1
C	7	2,0
Cu	2	2,0

```
>hsa-mir-144      mi:15-36;MA:52-71      SRX018966
uggggcccguggcugGGAUAUCAUCAUACUGUAGuuugcgaugagacacUACAGUAUAGAUGAUGUACUaguccgggc
accccc
(((((((.(((((((.((((((((.((((((((.((((.....))))).)))))))))((((((((((((((((((((
.)))))).)
-----GGAUAUCAUCAUACUG-----
-----   77    0,-4
-----GGAUAUCAUCAUACUGU-----
-----   23    0,-3
-----GGAUAUCAUCAUACUGUA-----
-----   13    0,-2
-----GGAUAUCAUCAUACUGUAA-----
-----   50    0,-1
```

```

-----GGUAUCAUCAUAUACUGUAAG-----
----- 184 0,0
-----GGUAUCAUCAUAUACUGUAAGU-----
----- 108 0,1
-----GGUAUCAUCAUAUACUGUAAGUa-----
----- 5 0,1
-----GGUAUCAUCAUAUACUGUAAGUU-----
----- 35 0,2
-----GAUAUCAUCAUAUACUGUAAGU-----
----- 3 1,1
-----GAUAUCAUCAUAUACUGUAAGUU-----
----- 3 1,2
-----CUACAGUAUAGAUGAUGU-----
----- 7 -1,-3
-----CUACAGUAUAGAUGAUGUA-----
----- 17 -1,-2
-----CUACAGUAUAGAUGAUGUAC-----
----- 2 -1,-1
-----UACAGUAUAGAUGAUGUA-----
----- 32 0,-2
-----UACAGUAUAGAUGAUGUAu-----
----- 2 0,-2
-----UACAGUAUAGAUGAUGUAC-----
----- 74 0,-1
-----UACAGUAUAGAUGAUGUACU-----
----- 43 0,0
-----UACAGUAUAGAUGAUGUACUu-----
----- 11 0,0
-----UACAGUAUAGAUGAUGUACUuu-----
----- 11 0,0
-----UACAGUAUAGAUGAUGUACUA-----
----- 18 0,1
-----UACAGUAUAGAUGAUGUACUAa-----
----- 28 0,1
-----UACAGUAUAGAUGAUGUACUAu-----
----- 13 0,1

```

>hsa-mir-145 MA:16-38;mi:54-75 SRX018966

$$\begin{aligned} & .(((.(.((((((.((. (((((.(.(((((((((((((. \dots)))))))))).).)).)).) \\ &).)).)). \end{aligned}$$

-----	-GUCCAGUUUUCCCAGGAA-	-----
-----	15 0, -5	
-----	-GUCCAGUUUUCCCAGGAa-	-----
-----	5 0, -5	
-----	-GUCCAGUUUUCCCAGGAU-	-----
-----	100 0, -4	
-----	-GUCCAGUUUUCCCAGGAUa-	-----
-----	78 0, -4	
-----	-GUCCAGUUUUCCCAGGAUaa-	-----
-----	13 0, -4	
-----	-GUCCAGUUUUCCCAGGAUu-	-----
-----	3 0, -4	
-----	-GUCCAGUUUUCCCAGGAUC-	-----
-----	38 0, -3	
-----	-GUCCAGUUUUCCCAGGAUCa-	-----
-----	52 0, -3	
-----	-GUCCAGUUUUCCCAGGAUCC-	-----
-----	160 0, -2	
-----	-GUCCAGUUUUCCCAGGAUCCa-	-----
-----	20 0, -2	
-----	-GUCCAGUUUUCCCAGGAUCCu-	-----
-----	2 0, -2	
-----	-GUCCAGUUUUCCCAGGAUCCuu-	-----
-----	4 0, -2	
-----	-GUCCAGUUUUCCCAGGAUCCC-	-----
-----	436 0, -1	
-----	-GUCCAGUUUUCCCAGGAUCCCa-	-----
-----	32 0, -1	
-----	-GUCCAGUUUUCCCAGGAUCCCU-	-----
-----	740 0, 0	
-----	-GUCCAGUUUUCCCAGGAUCCCUa-	-----
-----	11 0, 0	
-----	-GUCCAGUUUUCCCAGGAUCCCUaa-	-----
-----	5 0, 0	

```

-----GUCCAGUUUUCCCAGGAAUCCCUau-----
-----2 0,0
-----GUCCAGUUUUCCCAGGAAUCCCUU-----
-----88 0,1
-----GUCCAGUUUUCCCAGGAAUCCCUUA-----
-----3 0,2
-----GGAUUCCUGGAAAUACUGUUC-----
-----10 0,-1
-----GGAUUCCUGGAAAUACUGUUCa-----
-----3 0,-1
-----GGAUUCCUGGAAAUACUGUUCU-----
-----41 0,0
-----GAUUCCUGGAAAUACUGUUC-----
-----2 1,-1
-----GAUUCCUGGAAAUACUGUUCU-----
-----5 1,0
-----GAUUCCUGGAAAUACUGUUCUU-----
-----5 1,1
-----AUUCCUGGAAAUACUGUU-----
-----4 2,-2
-----AUUCCUGGAAAUACUGUUuu-----
-----2 2,-2
-----AUUCCUGGAAAUACUGUUC-----
-----11 2,-1
-----AUUCCUGGAAAUACUGUUCU-----
-----112 2,0
-----AUUCCUGGAAAUACUGUUCUa-----
-----16 2,0
-----AUUCCUGGAAAUACUGUUCUaa-----
-----5 2,0
-----AUUCCUGGAAAUACUGUUCUau-----
-----7 2,0
-----AUUCCUGGAAAUACUGUUCUU-----
-----107 2,1
-----AUUCCUGGAAAUACUGUUCUUa-----
-----10 2,1
-----AUUCCUGGAAAUACUGUUCUUu-----
-----13 2,1

```


gguggggugguuuCUCCGUUUGCCUGUUUCGCUGaugugcauucacucauucucagcaaaaauagcaaauggaaaauucg
uccauc

-----CUCCGUUUGCCUGUUUCGC-----

-----CUGCGUUUGCCUGUUUCGCU-----

-----CUGCGUUUGCCUGUUUCGCUGA-----

-----CUCCGUUUGCCUGUUUCGCUGAa-----

ccgauguguauccucagcuUGAGAACUGAAUCCAUGGGUugugucagugucagaCCUCUGAAAUUCAGUUCUUCAGcu
gggauaucucugucaucgu

-----UUGAGAACUGAAUCCAUGGGU_{aa}-----

-----UGAGAACUGAAUCCAUG-----

-----UGAGAACUGAAUCCAUGG-----

-----UGAGAACUGAAUCCAUGGa-----

-----UGAGAACUGAAUCCAUGGG-----

-----UGAGAACUGAAUCCAUGGGa-----

-----UGAGAACUGAAUCCAUGGGaa-----

-----UGAGAACUGAAUCCAUGGGU-----

-----UGAGAACUGAAUCCAUGGGUa-----

----- 24 0, -1

```

-----UGAGAACUGAAUCCAUGGGUaa-----
----- 43  0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 59  0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 483  0,0
-----UGAGAACUGAAUCCAUGGGUa-----
----- 356  0,0
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 81  0,0
-----UGAGAACUGAAUCCAUGGGUau-----
----- 97  0,0
-----UGAGAACUGAAUCCAUGGGUu-----
----- 200  0,0
-----UGAGAACUGAAUCCAUGGGUuu-----
----- 38  0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 76  0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 29  0,1
-----UGAGAACUGAAUCCAUGGGUUGau-----
----- 2  0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 26  0,2
-----GAGAACUGAAUCCAUGGGUU-----
----- 6  1,0
-----GAGAACUGAAUCCAUGGGUa-----
----- 7  1,0
-----GAGAACUGAAUCCAUGGGUaa-----
----- 6  1,0
-----GAGAACUGAAUCCAUGGGUu-----
----- 6  1,0
-----GAGAACUGAAUCCAUGGGUUG-----
----- 2  1,1
-----AGAACUGAAUCCAUGGGUU-----
----- 3  2,0
-----GACCUCUGAAAUUCAGUUCUU-----
----- 4  -2,-3

```

ccuggcacUGAGAACUGAAUCCAUAGGCUgugagcucuagcaaUGCCCUGUGGACUCAGUUCUGGugcccg
((.((((((.(((((((.(((((((.((.((...)).))..)))))).)))).)))).))

-----CUGAGAACUGAAUUCCAU-----	5
-1,-5	
-----CUGAGAACUGAAUUCCAUAGG-----	7
-1,-2	
-----CUGAGAACUGAAUUCCAUAGGCU-----	92
-1,0	
-----CUGAGAACUGAAUUCCAUAGGCUuu-----	2
-1,0	
-----UGAGAACUGAAUUCCAU-----	25
0,-4	
-----UGAGAACUGAAUUCCAUAG-----	83
0,-3	
-----UGAGAACUGAAUUCCAUAGG-----	410
0,-2	
-----UGAGAACUGAAUUCCAUAGGa-----	7
0,-2	
-----UGAGAACUGAAUUCCAUAGGau-----	2
0,-2	
-----UGAGAACUGAAUUCCAUAGGuu-----	3
0,-2	
-----UGAGAACUGAAUUCCAUAGGC-----	125
0,-1	
-----UGAGAACUGAAUUCCAUAGGCa-----	307
0,-1	
-----UGAGAACUGAAUUCCAUAGGCaa-----	139
0,-1	
-----UGAGAACUGAAUUCCAUAGGCau-----	120
0,-1	
-----UGAGAACUGAAUUCCAUAGGCU-----	3305
0,0	
-----UGAGAACUGAAUUCCAUAGGCUa-----	31
0,0	
-----UGAGAACUGAAUUCCAUAGGCUaa-----	77
0,0	

-----UGAGAACUGAAUCCAUAGGCUau-----	118
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	372
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	142
0,0	
-----UGAGAACUGAAUCCAUAGGCUG-----	84
0,1	
-----UGAGAACUGAAUCCAUAGGCUGa-----	416
0,1	
-----UGAGAACUGAAUCCAUAGGCUGaa-----	23
0,1	
-----UGAGAACUGAAUCCAUAGGCUGau-----	17
0,1	
-----UGAGAACUGAAUCCAUAGGCUGU-----	13
0,2	
-----UGAGAACUGAAUCCAUAGGCUGUa-----	3
0,2	
-----GAGAACUGAAUCCAUAGG-----	7
1,-2	
-----GAGAACUGAAUCCAUAGGCa-----	5
1,-1	
-----GAGAACUGAAUCCAUAGGCaa-----	3
1,-1	
-----GAGAACUGAAUCCAUAGGCU-----	21
1,0	
-----GAGAACUGAAUCCAUAGGCUu-----	6
1,0	
-----GAGAACUGAAUCCAUAGGCUuu-----	5
1,0	
-----GAGAACUGAAUCCAUAGGCUGa-----	5
1,1	
-----AGAACUGAAUCCAUAGG-----	2
2,-2	
-----AGAACUGAAUCCAUAGGCU-----	4
2,0	
-----UGCCCUGUGGACUCAGUUCUGG-----	2
0,0	

-----UGCCCUGUGGACUCAGUUCUGGU-----	4
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUaa----	2
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUau----	14
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUu-----	3
0,1	
-----GCCCUGUGGACUCAGUUC-----	2
1,-3	
-----GCCCUGUGGACUCAGUUCUG-----	8
1,-1	
-----GCCCUGUGGACUCAGUUCUGG-----	61
1,0	
-----GCCCUGUGGACUCAGUUCUGGaa-----	2
1,0	
-----GCCCUGUGGACUCAGUUCUGGU-----	51
1,1	
-----GCCCUGUGGACUCAGUUCUGGUa-----	23
1,1	
-----GCCCUGUGGACUCAGUUCUGGUaa-----	16
1,1	
-----GCCCUGUGGACUCAGUUCUGGUau----	144
1,1	
-----GCCCUGUGGACUCAGUUCUGGUu-----	26
1,1	
-----GCCCUGUGGACUCAGUUCUGGUuu-----	14
1,1	
-----GCCCUGUGGACUCAGUUCUGGUGu----	2
1,2	
-----CCCUGUGGACUCAGUUCUGGUau----	9
2,1	

>hsa-mir-148a mi:6-27;MA:44-65 SRX018966

gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc
 ((((((((((((((((((.(((((.((((((.....)))..)))))))).)).)))))))))

-----CAAAGUUCUGAGACACUC-----	2
-1,-5	

-----CAAAGUUCUGAGACACUCCGA-----	8	
-1, -2		
-----AAAGUUCUGAGACACUCC-----	3	0, -4
-----AAAGUUCUGAGACACUCCGu-----	3	0, -3
-----AAAGUUCUGAGACACUCCGA-----	109	0, -2
-----AAAGUUCUGAGACACUCCGAC-----	10	0, -1
-----AAAGUUCUGAGACACUCCGACa-----	4	0, -1
-----AAAGUUCUGAGACACUCCGACU-----	10	0, 0
-----AAAGUUCUGAGACACUCCGACUa-----	2	0, 0
-----AAAGUUCUGAGACACUCCGACUau-----	3	0, 0
-----AAAGUUCUGAGACACUCCGACUu-----	2	0, 0
-----AAGUUCUGAGACACUCCGA-----	2	1, -2
-----GUCAGUGCACUACAGAACUUUGa-----	7	
-1, -1		
-----GUCAGUGCACUACAGAACUUUGU-----	2	-1, 0
-----UCAGUGCACUACAGAACU-----	8030	
0, -4		
-----UCAGUGCACUACAGAACUa-----	10	0, -4
-----UCAGUGCACUACAGAACUaa-----	4	0, -4
-----UCAGUGCACUACAGAACUau-----	3	0, -4
-----UCAGUGCACUACAGAACUU-----	432	0, -3
-----UCAGUGCACUACAGAACUUa-----	20	0, -3
-----UCAGUGCACUACAGAACUUaa-----	2	0, -3
-----UCAGUGCACUACAGAACUUU-----	2823	
0, -2		
-----UCAGUGCACUACAGAACUUUa-----	87	0, -2
-----UCAGUGCACUACAGAACUUUaa-----	5	0, -2
-----UCAGUGCACUACAGAACUUUau-----	11	0, -2
-----UCAGUGCACUACAGAACUUUu-----	70	0, -2
-----UCAGUGCACUACAGAACUUUuu-----	9	0, -2
-----UCAGUGCACUACAGAACUUUG-----	4704	
0, -1		
-----UCAGUGCACUACAGAACUUUGa-----	5951	
0, -1		
-----UCAGUGCACUACAGAACUUUGaa-----	511	0, -1
-----UCAGUGCACUACAGAACUUUGau-----	2	0, -1
-----UCAGUGCACUACAGAACUUUGU-----	23022	
0, 0		

-----UCAGUGCACUACAGAACUUUGUa--	124	0,0
-----UCAGUGCACUACAGAACUUUGUaa-	34	0,0
-----UCAGUGCACUACAGAACUUUGUau-	5	0,0
-----UCAGUGCACUACAGAACUUUGUu--	232	0,0
-----UCAGUGCACUACAGAACUUUGUuu-	9	0,0
-----UCAGUGCACUACAGAACUUUGUC--	294	0,1
-----UCAGUGCACUACAGAACUUUGUCa-	16	0,1
-----UCAGUGCACUACAGAACUUUGUCU-	49	0,2
-----UCAGUGCACUACAGAACUUUGUCUu	2	0,2
-----CAGUGCACUACAGAACUUU-----	3	1,-2
-----CAGUGCACUACAGAACUUUGa---	3	1,-1
-----CAGUGCACUACAGAACUUUGU---	14	1,0
-----AGUGCACUACAGAACUUU-----	65	2,-2
-----AGUGCACUACAGAACUUUG-----	86	2,-1
-----AGUGCACUACAGAACUUUGa---	75	2,-1
-----AGUGCACUACAGAACUUUGaa---	18	2,-1
-----AGUGCACUACAGAACUUUGU---	363	2,0
-----AGUGCACUACAGAACUUUGUa---	3	2,0
-----AGUGCACUACAGAACUUUGUaa---	2	2,0
-----AGUGCACUACAGAACUUUGUu---	10	2,0

>hsa-mir-148b mi:25-46;MA:63-84 SRX018966

caagcacgauuagcauuugaggugAAGUUCUGUUAUACACUCAGGCugugggcucucugaaagUCAGUGCAUCACAGAACU
UUGUcucgaaagcuucua

.....((..(((.(((((((..((((((((((..(((.(((((((.((((.....(.....).)))))))))).)).))))))))))
(..)))))))))).)).)..

-----GAAGUUCUGUUAUACACU-----		
-----5-1,-5		
-----GAAGUUCUGUUAUACACUC-----		
-----4-1,-4		
-----GAAGUUCUGUUAUACACUCAG-----		
-----3-1,-2		
-----GAAGUUCUGUUAUACACUCAGGC-----		
-----3-1,0		
-----GAAGUUCUGUUAUACACUCAGGCa-----		
-----2-1,0		
-----GAAGUUCUGUUAUACACUCAGGCau-----		
-----3-1,0		

```

-----GAAGUUCUGUUAUACACUCAGGCU-----
----- 24 -1,1
-----GAAGUUCUGUUAUACACUCAGGCUa-----
----- 2 -1,1
-----UCAGUGCAUCACAGAACU
----- 1825 0,-4
-----UCAGUGCAUCACAGAACU
U----- 112 0,-3
-----UCAGUGCAUCACAGAACU
UU----- 673 0,-2
-----UCAGUGCAUCACAGAACU
Uua----- 6 0,-2
-----UCAGUGCAUCACAGAACU
Uuu----- 2 0,-2
-----UCAGUGCAUCACAGAACU
UUG----- 213 0,-1
-----UCAGUGCAUCACAGAACU
UUGa----- 145 0,-1
-----UCAGUGCAUCACAGAACU
UUGaa----- 18 0,-1
-----UCAGUGCAUCACAGAACU
UUGU----- 811 0,0
-----UCAGUGCAUCACAGAACU
UUGUa----- 30 0,0
-----UCAGUGCAUCACAGAACU
UUGUaa----- 2 0,0
-----UCAGUGCAUCACAGAACU
UUGUau----- 6 0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 248 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 20 0,0
-----AGUGCAUCACAGAACU
UU----- 12 2,-2
-----AGUGCAUCACAGAACU
UUGaa----- 2 2,-1
-----AGUGCAUCACAGAACU
UUGU----- 10 2,0

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-----AGUGCAUCACAGAACU
UUGUu----- 13 2,0

>hsa-mir-149 MA:15-37;mi:56-76 SRX018966
gccggcgccccgagcUCUGGCUCCGUGUCUACUCCGugcuuguccgaggaggAGGGAGGGACGGGGCUGUCuggg
gcagcugga
(((((((((((((.(.(.(.((((((.((((((.((((((.((((((....)))..))))))))))..))))))..))))).
)).))))).
-----UCUGGCUCCGUGUCUACUCC-----
----- 2 0,-1

>hsa-mir-150 MA:16-37;mi:51-72 SRX018966
cuccccauggcccugUCUCCCAACCCUUGUACCAGUGcugggucagaccCUGGUACAGGCCUGGGGACAGggaccugg
ggac
(((((((.((((((((((((((((((..(((.((((((((((.((((....)))..))))))))))..))))))))))..))))).
)).)).
-----UCUCCCAACCCUUGUACC-----
---- 64 0,-4
-----UCUCCCAACCCUUGUACCA-----
---- 175 0,-3
-----UCUCCCAACCCUUGUACCAG-----
---- 154 0,-2
-----UCUCCCAACCCUUGUACCAGU-----
---- 334 0,-1
-----UCUCCCAACCCUUGUACCAGUa-----
---- 48 0,-1
-----UCUCCCAACCCUUGUACCAGUaa-----
---- 13 0,-1
-----UCUCCCAACCCUUGUACCAGUu-----
---- 6 0,-1
-----UCUCCCAACCCUUGUACCAGUG-----
---- 1203 0,0
-----UCUCCCAACCCUUGUACCAGUGa-----
---- 490 0,0
-----UCUCCCAACCCUUGUACCAGUGaa-----
---- 11 0,0
-----UCUCCCAACCCUUGUACCAGUGu-----
---- 175 0,0

```

-----UCUCCCAACCCUUGUACCAGUGC-----
----    5    0,1
-----UCCCAACCCUUGUACCAG-----
----    2    2,-2
-----UCCCAACCCUUGUACCAGU-----
----    2    2,-1
-----UCCCAACCCUUGUACCAGUaa-----
----    2    2,-1
-----UCCCAACCCUUGUACCAGUG-----
----    2    2,0
-----CUGGUACAGGCCUGGGGGAC-----
----    2    0,-2
-----CUGGUACAGGCCUGGGGGACAa-----
----    4    0,-1

```

>hsa-mi r-151 5p:11-31;3p:47-67 SRX018966

```

uuuccugccccUCGAGGAGCUCACAGUCUAGUaugucucauccccuaCUAGACUGAAGCUCCUUGAGGacaggggaugguca
uacucaccuc

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.(((((((.((((((((((((((..(((((((((((.(.....).)))))))))).)))))))))).)))))).))))).
.....

```

```

-----CUCGAGGAGCUCACAGUCUA-----
-----    3    -1,-2
-----CUCGAGGAGCUCACAGUCUAG-----
-----    5    -1,-1
-----CUCGAGGAGCUCACAGUCUAGa-----
-----    3    -1,-1
-----CUCGAGGAGCUCACAGUCUAGU-----
-----   31    -1,0
-----CUCGAGGAGCUCACAGUCUAGUA-----
-----   19    -1,1
-----CUCGAGGAGCUCACAGUCUAGUAU-----
-----    3    -1,2
-----UCGAGGAGCUCACAGUCUA-----
-----   68    0,-2
-----UCGAGGAGCUCACAGUCUAu-----
-----    2    0,-2
-----UCGAGGAGCUCACAGUCUAuu-----
-----    2    0,-2

```

```

-----UCGAGGAGCUCACAGUCUAG-----
----- 92  0,-1
-----UCGAGGAGCUCACAGUCUAGa-----
----- 14  0,-1
-----UCGAGGAGCUCACAGUCUAGaa-----
----- 6   0,-1
-----UCGAGGAGCUCACAGUCUAGU-----
----- 684 0,0
-----UCGAGGAGCUCACAGUCUAGUu-----
----- 4   0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
----- 319 0,1
-----UCGAGGAGCUCACAGUCUAGUAa-----
----- 77  0,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
----- 27  0,2
-----UCGAGGAGCUCACAGUCUAGUAUa-----
----- 2   0,2
-----UCGAGGAGCUCACAGUCUAGUAUu-----
----- 3   0,2
-----GAGGAGCUCACAGUCUAGU-----
----- 17  2,0
-----GAGGAGCUCACAGUCUAGUA-----
----- 13  2,1
-----GAGGAGCUCACAGUCUAGUAa-----
----- 2   2,1
-----UACUAGACUGAAGCUCCUUGA-----
----- 54  -2,-2
-----UACUAGACUGAAGCUCCUUGAa-----
----- 8   -2,-2
-----UACUAGACUGAAGCUCCUUGAU-----
----- 3   -2,-2
-----UACUAGACUGAAGCUCCUUGAG-----
----- 105 -2,-1
-----UACUAGACUGAAGCUCCUUGAGa-----
----- 26  -2,-1
-----UACUAGACUGAAGCUCCUUGAGG-----
----- 51  -2,0

```

-----			-----UACUAGACUGAAGCUCCUUGAGGu-----
-----	2	-2,0	
-----			-----UACUAGACUGAAGCUCCUUGAGGA-----
-----	25	-2,1	
-----			-----UACUAGACUGAAGCUCCUUGAGGAa-----
-----	2	-2,1	
-----			-----ACUAGACUGAAGCUCCUUGA-----
-----	7	-1,-2	
-----			-----ACUAGACUGAAGCUCCUUGAG-----
-----	20	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGa-----
-----	2	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGaa-----
-----	4	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGu-----
-----	4	-1,-1	
-----			-----ACUAGACUGAAGCUCCUUGAGG-----
-----	13	-1,0	
-----			-----ACUAGACUGAAGCUCCUUGAGGu-----
-----	2	-1,0	
-----			-----ACUAGACUGAAGCUCCUUGAGGA-----
-----	20	-1,1	
-----			-----ACUAGACUGAAGCUCCUUGAGGAa-----
-----	7	-1,1	
-----			-----ACUAGACUGAAGCUCCUUGAGGAaa-----
-----	2	-1,1	
-----			-----CUAGACUGAAGCUCCUUG-----
-----	2	0,-3	
-----			-----CUAGACUGAAGCUCCUUGA-----
-----	57	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAa-----
-----	18	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAaa-----
-----	12	0,-2	
-----			-----CUAGACUGAAGCUCCUUGAG-----
-----	305	0,-1	
-----			-----CUAGACUGAAGCUCCUUGAGa-----
-----	99	0,-1	

			-CUAGACUGAAGCUCUUGAGaa-
-----	26	0,-1	
			-CUAGACUGAAGCUCUUGAGau-
-----	2	0,-1	
			-CUAGACUGAAGCUCUUGAGu-
-----	26	0,-1	
			-CUAGACUGAAGCUCUUGAGuu-
-----	2	0,-1	
			-CUAGACUGAAGCUCUUGAGG-
-----	573	0,0	
			-CUAGACUGAAGCUCUUGAGGu-
-----	55	0,0	
			-CUAGACUGAAGCUCUUGAGGuu-
-----	4	0,0	
			-CUAGACUGAAGCUCUUGAGGA-
-----	1284	0,1	
			-CUAGACUGAAGCUCUUGAGGAa-
-----	1233	0,1	
			-CUAGACUGAAGCUCUUGAGGAaa-
-----	619	0,1	
			-CUAGACUGAAGCUCUUGAGGAau-
-----	171	0,1	
			-CUAGACUGAAGCUCUUGAGGAu-
-----	219	0,1	
			-CUAGACUGAAGCUCUUGAGGAuu-
-----	32	0,1	
			-CUAGACUGAAGCUCUUGAGGAC-
-----	23	0,2	
			-CUAGACUGAAGCUCUUGAGGACu-
-----	12	0,2	
			-CUAGACUGAAGCUCUUGAGGACA-
-----	6	0,3	
			-UAGACUGAAGCUCUUGAG-
-----	3	1,-1	
			-UAGACUGAAGCUCUUGAGa-
-----	4	1,-1	
			-UAGACUGAAGCUCUUGAGG-
-----	18	1,0	

Number of nucleotides	Number of nucleotides in the tail	Sequence
2	1,0	UAGACUGAAGCUCCUUGAGG <u>u</u> -
33	1,1	UAGACUGAAGCUCCUUGAGGA-
35	1,1	UAGACUGAAGCUCCUUGAGGA <u>a</u> -
24	1,1	UAGACUGAAGCUCCUUGAGGA <u>aa</u> -
3	1,1	UAGACUGAAGCUCCUUGAGGA <u>au</u> -
10	1,1	UAGACUGAAGCUCCUUGAGGA <u>u</u> -
5	1,2	UAGACUGAAGCUCCUUGAGGAC-
5	1,2	UAGACUGAAGCUCCUUGAGGAC <u>u</u> -
3	2,0	AGACUGAAGCUCCUUGAGG-
2	2,1	AGACUGAAGCUCCUUGAGGA <u>a</u> -
13	2,2	AGACUGAAGCUCCUUGAGGAC-
4	2,2	AGACUGAAGCUCCUUGAGGAC <u>u</u> -

>hsa-mir-152 3p:54-74 SRX018966

ugcccccccgcccagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgccccggaaggacc

.((((..((.(((((((((((((((((.((.((((..(((...(((...)))))))))))).).).)))))))))))))).).
 ..))))).

-----GUCAGUGCAUGACAGAACU-----
 ----- 2 -1,-3
 -----GUCAGUGCAUGACAGAACUUGG-----
 ----- 3 -1,0
 -----UCAGUGCAUGACAGAACU-----
 ----- 519 0,-3
 -----UCAGUGCAUGACAGAACUU-----
 ----- 62 0,-2

-----			UCAGUGCAUGACAGAACUa-----
-----	4	0,-2	
-----			UCAGUGCAUGACAGAACUUG-----
-----	139	0,-1	
-----			UCAGUGCAUGACAGAACUUGa-----
-----	6	0,-1	
-----			UCAGUGCAUGACAGAACUUGu-----
-----	3	0,-1	
-----			UCAGUGCAUGACAGAACUUGuu-----
-----	2	0,-1	
-----			UCAGUGCAUGACAGAACUUGG-----
-----	893	0,0	
-----			UCAGUGCAUGACAGAACUUGGa-----
-----	174	0,0	
-----			UCAGUGCAUGACAGAACUUGGaa-----
-----	32	0,0	
-----			UCAGUGCAUGACAGAACUUGGau-----
-----	2	0,0	
-----			UCAGUGCAUGACAGAACUUGGu-----
-----	724	0,0	
-----			UCAGUGCAUGACAGAACUUGGuu-----
-----	72	0,0	
-----			UCAGUGCAUGACAGAACUUGGG-----
-----	573	0,1	
-----			UCAGUGCAUGACAGAACUUGGGa-----
-----	157	0,1	
-----			UCAGUGCAUGACAGAACUUGGGaa-----
-----	49	0,1	
-----			UCAGUGCAUGACAGAACUUGGGau-----
-----	6	0,1	
-----			UCAGUGCAUGACAGAACUUGGGu-----
-----	379	0,1	
-----			UCAGUGCAUGACAGAACUUGGGuu-----
-----	21	0,1	
-----			AGUGCAUGACAGAACUUG-----
-----	6	2,-1	
-----			AGUGCAUGACAGAACUUGG-----
-----	8	2,0	

```

-----AGUGCAUGACAGAACUUGGa-----
----- 4 2,0
-----AGUGCAUGACAGAACUUGGu-----
----- 15 2,0
-----AGUGCAUGACAGAACUUGGG-----
----- 3 2,1
-----AGUGCAUGACAGAACUUGGGa-----
----- 2 2,1
-----AGUGCAUGACAGAACUUGGGu-----
----- 2 2,1

```

>hsa-mir-1537 3p:40-61 SRX018966

```

acagcuguaauagucaguuucuguccuguccacacagAAAACCGUCUAGUUACAGUUGU
((((((((((((((.((((((((((.....)))))))))).))))))))))
-----AAAACCGUCUAGUUACAGU--- 4 0,-3

```

>hsa-mir-154 MA:15-36;mi:51-72 SRX018966

```

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuauuugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----UAGGUUAUCCGUGUUGCC-----
---- 7 0,-4
-----UAGGUUAUCCGUGUUGCCUUC-----
---- 7 0,-1
-----UAGGUUAUCCGUGUUGCCUUCG-----
---- 54 0,0
-----AAUCAUACACGGUUGACCUAU-----
---- 2 0,-1
-----AAUCAUACACGGUUGACCUAUU-----
---- 10 0,0

```

>hsa-mir-155 MA:4-26;mi:43-64 SRX018966

```

cugUUA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUUAGCAUUAACAg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
---UUA AUGCUAAUCGUGAU----- 243 0,-5
---UUA AUGCUAAUCGUGAUAG----- 37 0,-4
---UUA AUGCUAAUCGUGAUAGG----- 28 0,-3

```


---UAAUGCUAAUCGUGAUAGGa-----	2	0,-3
---UAAUGCUAAUCGUGAUAGGG-----	36	0,-2
---UAAUGCUAAUCGUGAUAGGGa-----	4	0,-2
---UAAUGCUAAUCGUGAUAGGGG-----	25	0,-1
---UAAUGCUAAUCGUGAUAGGGGa-----	2	0,-1
---UAAUGCUAAUCGUGAUAGGGGU-----	35	0,0
---UAAUGCUAAUCGUGAUAGGGGUa-----	2	0,0
---UAAUGCUAAUCGUGAUAGGGGUU-----	29	0,1
---UAAUGCUAAUCGUGAUAGGGGUUU-----	5	0,2
---UAAUGCUAAUCGUGAUAGGGGU-----	5	1,0

>hsa-mir-15a MA:14-35;mi:51-72 SRX018966

ccuuggaguaaagUAGCAGCACAUAAUGGUUUGGauuuugaaaaggugCAGGCCAUUUGUCUGCCUCAaaaauaca
agg

(((((.....(((((.....(((.....(((.....(((.....))).....))).....))).....))).....))).....)))

-----AGUAGCAGCACAUAAUGGUUU-----

--- 2 -2,-3

-----UAGCAGCACAUAAUGGUU-----

--- 123 0,-4

-----UAGCAGCACAUAAUGGUUa-----

--- 2 0,-4

-----UAGCAGCACAUAAUGGUUaa-----

--- 2 0,-4

-----UAGCAGCACAUAAUGGUUU-----

--- 1471 0,-3

-----UAGCAGCACAUAAUGGUUUa-----

--- 7 0,-3

-----UAGCAGCACAUAAUGGUUUaa-----

--- 2 0,-3

-----UAGCAGCACAUAAUGGUUUu-----

--- 12 0,-3

-----UAGCAGCACAUAAUGGUUUuu-----

--- 2 0,-3

-----UAGCAGCACAUAAUGGUUUG-----

--- 1140 0,-2

-----UAGCAGCACAUAAUGGUUUGa-----

--- 20 0,-2


```

-----UAGCAGCACAUCAUGGUUU-----
----- 280 0,-3
-----UAGCAGCACAUCAUGGUUUu-----
----- 36 0,-3
-----UAGCAGCACAUCAUGGUUUA-----
----- 926 0,-2
-----UAGCAGCACAUCAUGGUUUAa-----
----- 68 0,-2
-----UAGCAGCACAUCAUGGUUUAaa-----
----- 9 0,-2
-----UAGCAGCACAUCAUGGUUUu-----
----- 24 0,-2
-----UAGCAGCACAUCAUGGUUUAC-----
----- 280 0,-1
-----UAGCAGCACAUCAUGGUUUACu-----
----- 3 0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 1025 0,0
-----UAGCAGCACAUCAUGGUUUACAa-----
----- 25 0,0
-----UAGCAGCACAUCAUGGUUUACAU-----
----- 2 0,1
-----AGCAGCACAUCAUGGUUUA-----
----- 2 1,-2
-----AGCAGCACAUCAUGGUUUAa-----
----- 4 1,-2
-----AGCAGCACAUCAUGGUUUACA-----
----- 7 1,0
-----GCAGCACAUCAUGGUUUA-----
----- 3 2,-2
-----CGAAUCAUUUUUGCUGC-----
----- 2 0,-4
-----CGAAUCAUUUUUGCUGCU-----
----- 11 0,-3
-----CGAAUCAUUUUUGCUGCUaa-----
----- 2 0,-3
-----CGAAUCAUUUUUGCUGCUCUAa
----- 2 0,0

```

-----CGAAUCAUUAUUUGCUGCUCUAu
----- 2 0,0

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018966

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuaagauucuaaaauuauucuCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

(((((...(((.(((((((((((((.(((((((.(.((((.....)))..)))))))).))..)))))))).))
(..))))))

-----UAGCAGCACGUAAAUAUU-----

----- 511 0,-4

-----UAGCAGCACGUAAAUAUUa-----

----- 7 0,-4

-----UAGCAGCACGUAAAUAUUaa-----

----- 5 0,-4

-----UAGCAGCACGUAAAUAUUu-----

----- 3 0,-4

-----UAGCAGCACGUAAAUAUUG-----

----- 1528 0,-3

-----UAGCAGCACGUAAAUAUUGa-----

----- 18 0,-3

-----UAGCAGCACGUAAAUAUUGaa-----

----- 6 0,-3

-----UAGCAGCACGUAAAUAUUGu-----

----- 5 0,-3

-----UAGCAGCACGUAAAUAUUGG-----

----- 2368 0,-2

-----UAGCAGCACGUAAAUAUUGGa-----

----- 47 0,-2

-----UAGCAGCACGUAAAUAUUGGaa-----

----- 24 0,-2

-----UAGCAGCACGUAAAUAUUGGu-----

----- 23 0,-2

-----UAGCAGCACGUAAAUAUUGGuu-----

----- 4 0,-2

-----UAGCAGCACGUAAAUAUUGGC-----

----- 602 0,-1

-----UAGCAGCACGUAAAUAUUGGCa-----

----- 288 0,-1

```

-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 117 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 75 0,-1
-----UAGCAGCACGUAAAUAUUGGCU-----
----- 18 0,-1
-----UAGCAGCACGUAAAUAUUGGCUu-----
----- 4 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 5573 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 57 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 45 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 24 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 918 0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 43 0,2
-----UAGCAGCACGUAAAUAUUGGCGUu-----
----- 16 0,2
-----AGCAGCACGUAAAUAUUG-----
----- 9 1,-3
-----AGCAGCACGUAAAUAUUGG-----
----- 11 1,-2
-----AGCAGCACGUAAAUAUUGGC-----
----- 2 1,-1
-----AGCAGCACGUAAAUAUUGGCau-----
----- 2 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
----- 44 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
----- 4 1,1
-----GCAGCACGUAAAUAUUGG-----
----- 4 2,-2
-----GCAGCACGUAAAUAUUGGCG-----
----- 7 2,0

```

```
-----CCAGUAUUAACUGUGCUGCUGA---
----- 5 0,0
-----CCAGUAUUAACUGUGCUGCUGAA--
----- 3 0,1
```

>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018966

guuccacucUAGCAGCACGUAAAUAUUGGCGuagugaaauauauuuuacaCCAAUAUUACUGUGCUGCUUUAguuguga
c

((..(((..((((((((..(((((((..(((..(((.....))))..))))))))))..))))))..))

```
-----CUAGCAGCACGUAAAUAUUG-----
- 3 -1,-3
-----CUAGCAGCACGUAAAUAUUGG-----
- 3 -1,-2
-----CUAGCAGCACGUAAAUAUUGGC-----
- 2 -1,-1
-----CUAGCAGCACGUAAAUAUUGGCG-----
- 15 -1,0
-----UAGCAGCACGUAAAUAUU-----
- 511 0,-4
-----UAGCAGCACGUAAAUAUUa-----
- 7 0,-4
-----UAGCAGCACGUAAAUAUUaa-----
- 5 0,-4
-----UAGCAGCACGUAAAUAUUu-----
- 3 0,-4
-----UAGCAGCACGUAAAUAUUG-----
- 1528 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
- 18 0,-3
-----UAGCAGCACGUAAAUAUUGaa-----
- 6 0,-3
-----UAGCAGCACGUAAAUAUUGu-----
- 5 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
- 2368 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
- 47 0,-2
```

```

-----UAGCAGCACGUAAAUAUUGGaa-----
- 24 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
- 23 0,-2
-----UAGCAGCACGUAAAUAUUGGuu-----
- 4 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
- 602 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
- 288 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
- 117 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
- 75 0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----
- 18 0,-1
-----UAGCAGCACGUAAAUAUUGGCuu-----
- 4 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
- 5573 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
- 57 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
- 45 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
- 24 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
- 918 0,1
-----UAGCAGCACGUAAAUAUUGGCGUA-----
- 24 0,2
-----UAGCAGCACGUAAAUAUUGGCGUAa-----
- 5 0,2
-----AGCAGCACGUAAAUAUUG-----
- 9 1,-3
-----AGCAGCACGUAAAUAUUGG-----
- 11 1,-2
-----AGCAGCACGUAAAUAUUGGC-----
- 2 1,-1

```

```

-----AGCAGCACGUAAAUAUUGGCau-----
-   2   1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
-  44   1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
-   4   1,1
-----GCAGCACGUAAAUAUUGG-----
-   4   2,-2
-----GCAGCACGUAAAUAUUGGCG-----
-   7   2,0
-----ACCAUAUUACUGUGCUG-----
-   2  -1,-5
-----ACCAUAUUACUGUGCUGC-----
-   6  -1,-4
-----ACCAUAUUACUGUGCUGCU-----
-  16  -1,-3
-----ACCAUAUUACUGUGCUGCUU-----
-  25  -1,-2
-----ACCAUAUUACUGUGCUGCUUU-----
-  62  -1,-1
-----ACCAUAUUACUGUGCUGCUUUu-----
-  16  -1,-1
-----ACCAUAUUACUGUGCUGCUUUA-----
-  11  -1,0
-----ACCAUAUUACUGUGCUGCUUUu-----
-   2  -1,0
-----CCAUAUUACUGUGCUGCUUU-----
-   3   0,-1
-----CCAUAUUACUGUGCUGCUUUA-----
-   6   0,0
-----AAUAUUACUGUGCUGCUUUu-----
-   2   2,0

```

>hsa-mir-17 MA:14-36;mi:51-72 SRX018966

gucagaauaanguCAAAGUGCUUACAGUGCAGGUAGugauaugugcaucuACUGCAGUGAAGGCACUUGUAGcauuauagg
ugac

```

((((..(((((((..(((((((.(.((((((.((((.....)).)))))))))).)).))))))....))))))..
))))

```



```

-----UCAAAGUGCUUACAGUGCA-----
---- 2 -1,-5
-----UCAAAGUGCUUACAGUGCAG-----
---- 5 -1,-4
-----UCAAAGUGCUUACAGUGCAGG-----
---- 2 -1,-3
-----UCAAAGUGCUUACAGUGCAGGU-----
---- 2 -1,-2
-----UCAAAGUGCUUACAGUGCAGGUAu-----
---- 2 -1,-1
-----CAAAGUGCUUACAGUGCA-----
---- 17 0,-5
-----CAAAGUGCUUACAGUGCAG-----
---- 183 0,-4
-----CAAAGUGCUUACAGUGCAGG-----
---- 161 0,-3
-----CAAAGUGCUUACAGUGCAGGU-----
---- 103 0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
---- 188 0,-1
-----CAAAGUGCUUACAGUGCAGGUAa-----
---- 38 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 55 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 201 0,0
-----CAAAGUGCUUACAGUGCAGGUAGa-----
---- 6 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
---- 8 0,1
-----CAAAGUGCUUACAGUGCAGGUAGUu-----
---- 2 0,1
-----AAAGUGCUUACAGUGCAG-----
---- 3 1,-4
-----AAAGUGCUUACAGUGCAGG-----
---- 3 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
---- 5 1,-2

```

```

-----AAAGUGCUUACAGUGCAGGUA-----
---- 6 1,-1
-----AAAGUGCUUACAGUGCAGGUAa-----
---- 4 1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
---- 2 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
---- 7 1,0
-----UACUGCAGUGAAGGCACUUGU-----
---- 2 -1,-2
-----ACUGCAGUGAAGGCACUU-----
---- 100 0,-4
-----ACUGCAGUGAAGGCACUUu-----
---- 2 0,-4
-----ACUGCAGUGAAGGCACUUG-----
---- 162 0,-3
-----ACUGCAGUGAAGGCACUUGa-----
---- 2 0,-3
-----ACUGCAGUGAAGGCACUUGU-----
---- 350 0,-2
-----ACUGCAGUGAAGGCACUUGUA-----
---- 61 0,-1
-----ACUGCAGUGAAGGCACUUGUAa-----
---- 12 0,-1
-----ACUGCAGUGAAGGCACUUGUAu-----
---- 3 0,-1
-----ACUGCAGUGAAGGCACUUGUAG-----
---- 19 0,0
-----ACUGCAGUGAAGGCACUUGUAGa-----
---- 7 0,0
-----ACUGCAGUGAAGGCACUUGUAGaa-----
---- 3 0,0
-----ACUGCAGUGAAGGCACUUGUAGu-----
---- 2 0,0
-----ACUGCAGUGAAGGCACUUGUAGC-----
---- 9 0,1
-----ACUGCAGUGAAGGCACUUGUAGCu-----
---- 5 0,1

```

-----			ACUGCAGUGAAGGCACUUGUAGCA-----
----	2	0,2	
-----			CUGCAGUGAAGGCACUUG-----
----	2	1,-3	
-----			CUGCAGUGAAGGCACUUGU-----
----	12	1,-2	
-----			CUGCAGUGAAGGCACUUGUA-----
----	4	1,-1	
-----			UGCAGUGAAGGCACUUGU-----
----	2	2,-2	
-----			UGCAGUGAAGGCACUUGUA-----
----	2	2,-1	

>hsa-mir-181a-1 MA:24-46;mi:64-85 SRX018966

ugaguuuugagguugcuucagugAACAUUCAACGUGUCGGUGAGUuuggaauuuuuuucaaaACCAUCGACCGUUGAUU
GUACCcuauggcuaaccaucaucuacucca

```

-----AACAUUCAACGCUGUCGG-----
-----      234  0,-5
-----AACAUUCAACGCUGUCGGU-----
-----      12   0,-4
-----AACAUUCAACGCUGUCGGUaa-----
-----      4    0,-4
-----AACAUUCAACGCUGUCGGUau-----
-----      2    0,-4
-----AACAUUCAACGCUGUCGGUG-----
-----      44   0,-3
-----AACAUUCAACGCUGUCGGUGu-----
-----      3    0,-3
-----AACAUUCAACGCUGUCGGUGA-----
-----      155  0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
-----      8    0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
-----      1030   0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
-----      15    0,-1

```

```

-----AACAUUCAACGCUGUCGGUGAGU-----
-----122 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
-----3 0,0
-----AACAUUCAACGCUGUCGGUGAGUaa-----
-----3 0,0
-----AACAUUCAACGCUGUCGGUGAGUau-----
-----2 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
-----241 0,1
-----AACAUUCAACGCUGUCGGUGAGUua-----
-----10 0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
-----94 0,2
-----ACAUUCAACGCUGUCGGUGAG-----
-----6 1,-1
-----ACAUUCAACGCUGUCGGUGAGUU-----
-----2 1,1
-----AAACCAUCGACCGUUGAUU
-----3 -2,-5
-----ACCAUCGACCGUUGAUU
G-----12 0,-4
-----ACCAUCGACCGUUGAUU
GU-----5 0,-3
-----ACCAUCGACCGUUGAUU
GUAa-----9 0,-2
-----ACCAUCGACCGUUGAUU
GUAuu-----3 0,-2
-----ACCAUCGACCGUUGAUU
GUAC-----5 0,-1
-----ACCAUCGACCGUUGAUU
GUACa-----2 0,-1
-----ACCAUCGACCGUUGAUU
GUACC-----18 0,0

```

>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018966

agaagggcuaucaggccagccuucagaggacuccaaggAACAUUCAACGCUGUCGGUGAGUuugggauuugaaaaaACCA
CUGACCGUUGACUGUACCuugggguccuua

-----ACAUUCAACGCUGUCGGUGAGUU-----			
-----21,1-----			
-----AACCA			
CUGACCGUUGACU-----4-1,-5-----			
-----ACCA			
CUGACCGUUGACUG-----200,-4-----			
-----ACCA			
CUGACCGUUGACUGU-----130,-3-----			
-----ACCA			
CUGACCGUUGACUGUA-----130,-2-----			
-----ACCA			
CUGACCGUUGACUGUAa-----30,-2-----			
-----ACCA			
CUGACCGUUGACUGUAu-----20,-2-----			
-----ACCA			
CUGACCGUUGACUGUAC-----70,-1-----			
-----ACCA			
CUGACCGUUGACUGUACu-----40,-1-----			
-----ACCA			
CUGACCGUUGACUGUACC-----240,0-----			


```

-----AACAUUCAUUGCUGUCGGUGGGUaa-----
-----5    0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
-----12   0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
-----24   0,1
-----AACAUUCAUUGCUGUCGGUGGGUUa-----
-----5    0,1
-----AACAUUCAUUGCUGUCGGUGGGUUU-----
-----13   0,2
-----ACAUUCAUUGCUGUCGGUGGGUau-----
-----2    1,0
-----CUCACUGAUCAAUGAAUGCAuu-----
-----2

```

>hsa-mi r-181c MA:27-48;mi :65-86 SRX018966

cggaaaauuugccaaggguuugggggAACAUCAACCUGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaauugccauccu

.((((.....(((.(.(.(.(..(((...((((((((..(((((((.(((((.....)))))))))....))).)).).)).).)).).

```

-----AACAUUCAACCGUCGGUGAG-----
-----      30      0,-1
-----AACAUUCAACCGUCGGUGAGUU-----
-----      16      0,1
-----AACAUUCAACCGUCGGUGAGUUU-----
-----      5       0,2
-----ACCAUCGACCGUUGA
GUG-----      2       1,-3

```

>hsa-mir-181d 5p:36-58 SRX018966

gucuccuuccuaggccacagccgaggucacaaucaACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accggggggaugaaugucacuguggcugggccagacacggcuuaagggggauggggac

-----AACAUUCAUUGUUGUCGGUG-----		
-----	5	0, -3
-----AACAUUCAUUGUUGUCGGUGG-----		
-----	2	0, -2


```

.....(((.(.(.(((((((((((.(((((((..(((((.((((((((((((((.....)))..))))))))))))))....
)))))))).)))))))).))....))))...
-----UAUAGGCACUGGUAGAAUUC-----
-----60,-3-----
-----UAUAGGCACUGGUAGAAUUCAC-----
-----20,-1-----
-----UAUAGGCACUGGUAGAAUUCACU-----
-----50,0-----
-----UAUAGGCACUGGUAGAAUUCACUG-----
-----30,1-----
-----UAUAGGCACUGGUAGAAUUCACUGa-----
-----40,1-----
-----AUGGCACUGGUAGAAUUCACU-----
-----41,0-----
-----AUGGCACUGGUAGAAUUCACUGa-----
-----41,1-----
-----UGAAUUACCGAAGG
GCCAUAA-----21,0-----

```

```

-----UGGAGAGAAAGGCAGUCCUaa-----
-- 6 0,-2
-----UGGAGAGAAAGGCAGUCCUu-----
-- 4 0,-2
-----UGGAGAGAAAGGCAGUCCUG-----
-- 555 0,-1
-----UGGAGAGAAAGGCAGUCCUGu-----
-- 69 0,-1
-----UGGAGAGAAAGGCAGUCCUGuu-----
-- 11 0,-1
-----UGGAGAGAAAGGCAGUCCUGA-----
-- 4118 0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 817 0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 65 0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 66 0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 1164 0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 89 0,1
-----UGGAGAGAAAGGCAGUCCUGAUaa-----
-- 3 0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 7 0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 91 0,1
-----UGGAGAGAAAGGCAGUCCUGAUuu-----
-- 7 0,1
-----GGAGAGAAAGGCAGUCCU-----
-- 7 1,-2
-----GGAGAGAAAGGCAGUCCUGA-----
-- 35 1,0
-----GGAGAGAAAGGCAGUCCUGAa-----
-- 8 1,0
-----GGAGAGAAAGGCAGUCCUGAU-----
-- 3 1,1

```

```

-----AGGGGCUGGCUUCCUCU-----
-- 20 0,-4
-----AGGGGCUGGCUUCCUCUG-----
-- 2 0,-3
-----AGGGGCUGGCUUCCUCUGG-----
-- 4 0,-2
-----AGGGGCUGGCUUCCUCUGGU-----
-- 7 0,-1
-----AGGGGCUGGCUUCCUCUGGUau-----
-- 2 0,-1
-----AGGGGCUGGCUUCCUCUGGUu-----
-- 4 0,-1

```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018966

```

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuauuuuaGCCCAAAGGUGAAUUUUUUGGgauguu
ugagcu

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))

```

```

-----CCAAAGAAUUCUCCUUUUG-----
----- 2 -1,-4
-----CCAAAGAAUUCUCCUUUUGG-----
----- 2 -1,-3
-----CCAAAGAAUUCUCCUUUUGGga-----
----- 3 -1,-2
-----CCAAAGAAUUCUCCUUUUGGGCau-----
----- 2 -1,-1
-----CCAAAGAAUUCUCCUUUUGGGCU-----
----- 6 -1,0
-----CAAAGAAUUCUCCUUUUG-----
----- 4 0,-4
-----CAAAGAAUUCUCCUUUUGG-----
----- 7 0,-3
-----CAAAGAAUUCUCCUUUUGGa-----
----- 3 0,-3
-----CAAAGAAUUCUCCUUUUGGG-----
----- 44 0,-2
-----CAAAGAAUUCUCCUUUUGGGa-----
----- 2 0,-2

```

-----CAAAGAAUUCUCCUUUUGGGaa-----
----- 8 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 27 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 28 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 24 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 82 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 227 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 38 0,0
-----CAAAGAAUUCUCCUUUUGGGCUaa-----
----- 18 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 26 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 311 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 13 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUaa-----
----- 3 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUau-----
----- 2 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 11 0,2
-----CAAAGAAUUCUCCUUUUGGGCUUUa-----
----- 2 0,2
-----AAAGAAUUCUCCUUUUGGGC-----
----- 5 1,-1
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 2 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----
----- 3 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 18 1,0

```

-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 4 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 28 1,1
-----AAAGAAUUCUCCUUUUGGGCUUU-----
----- 5 1,2
-----AAAGAAUUCUCCUUUUGGGCUUUa-----
----- 4 1,2
-----GCCCAAAGGUGAAUUUUUUGGA-----
----- 4 0,1
-----CCCAAAGGUGAAUUUUUUG-----
----- 2 1,-2

```

```

>hsa-mir-187 mi:35-56;MA:71-92 SRX018966
ggucgggcucaccaugacacagugagaccucgGGCUACAACACAGGACCCGGGcgcugcucugaccccUCGUGUCUUG
UGUUGCAGCCGGagggacgcagguccgca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----GCUACAACACAGGACCCGGG-----
----- 3 1,-1
-----UCGUGUCUUG
UGUUGCAGCCGG----- 2 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGu----- 4 0,0

```

```

>hsa-mir-18a MA:6-28;mi:47-69 SRX018966
uguucUAAGGUGCAUCUAGUGCAGAUAGugaaguagauuagcaucuACUGCCCUAAGUGCUCUUCUGGca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAAGGUGCAUCUAGUGCA----- 5 0,-5
-----UAAGGUGCAUCUAGUGCAGA----- 11 0,-3
-----UAAGGUGCAUCUAGUGCAGAA----- 3 0,-3
-----UAAGGUGCAUCUAGUGCAGAU----- 24 0,-2
-----UAAGGUGCAUCUAGUGCAGAU----- 7 0,-1
-----UAAGGUGCAUCUAGUGCAGAUAGU----- 3 0,1
-----AAGGUGCAUCUAGUGCAGAU----- 2 1,-2

```

```

>hsa-mir-18b MA:6-28;mi:49-70 SRX018966
uguguUAAGGUGCAUCUAGUGCAGUUAGugaagcagcuuagaaucauacUGCCCUAAAUGCCCCUUCUGGCa

```



```

-----CAACGGAAUCCCAAAAGCAGa-----
-----15 0,-3
-----CAACGGAAUCCCAAAAGCAGaa-----
-----2 0,-3
-----CAACGGAAUCCCAAAAGCAGau-----
-----29 0,-3
-----CAACGGAAUCCCAAAAGCAGu-----
-----17 0,-3
-----CAACGGAAUCCCAAAAGCAGuu-----
-----22 0,-3
-----CAACGGAAUCCCAAAAGCAGC-----
-----7859 0,-2
-----CAACGGAAUCCCAAAAGCAGCa-----
-----189 0,-2
-----CAACGGAAUCCCAAAAGCAGCaa-----
-----27 0,-2
-----CAACGGAAUCCCAAAAGCAGCau-----
-----11 0,-2
-----CAACGGAAUCCCAAAAGCAGCU-----
-----22094 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
-----457 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
-----35 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
-----185 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
-----498 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
-----167 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
-----2419 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
-----249 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
-----17 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
-----9 0,0

```



```

-----CAACGGAAUCCCAAAAGCAGCUGU-----
-----2245 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
-----17 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
-----91 0,2
-----AACGGAAUCCCAAAAGCA-----
-----59 1,-4
-----AACGGAAUCCCAAAAGCAG-----
-----218 1,-3
-----AACGGAAUCCCAAAAGCAGau-----
-----2 1,-3
-----AACGGAAUCCCAAAAGCAGuu-----
-----4 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
-----808 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
-----9 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
-----2465 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
-----27 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
-----5 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
-----19 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
-----35 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
-----11 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
-----259 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
-----49 1,0
-----AACGGAAUCCCAAAAGCAGCUGaa-----
-----3 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
-----474 1,1

```

```

-----AACGGAAUCCCAAAAGCAGCUGUa-----
-----      4      1,1
-----AACGGAAUCCCAAAAGCAGCUGUaa-----
-----      4      1,1
-----AACGGAAUCCCAAAAGCAGCUGUau-----
-----      3      1,1
-----AACGGAAUCCCAAAAGCAGCUGUU-----
-----     13      1,2
-----AACGGAAUCCCAAAAGCAGCUGUUu-----
-----      8      1,2
-----ACGGAAUCCCAAAAGCAG-----
-----      3      2,-3
-----ACGGAAUCCCAAAAGCAGC-----
-----     13      2,-2
-----ACGGAAUCCCAAAAGCAGCU-----
-----     15      2,-1
-----ACGGAAUCCCAAAAGCAGCUG-----
-----      5      2,0
-----ACGGAAUCCCAAAAGCAGCUG-----
-----      6      2,1

```

>hsa-mi r-192 MA:24-44;mi:67-88 SRX018966

gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucucccucuggCUGCCAAUCCAUA
GGUCACAGguauguucgccucaauggcagc

```

.....(((.(((((.((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).

```

```

-----CUCUGACCUAUGAAUUGACAGC-----
-----      5      -2,-1
-----CUCUGACCUAUGAAUUGACAGCC-----
-----      7      -2,0
-----UCUGACCUAUGAAUUGACA-----
-----     24      -1,-3
-----UCUGACCUAUGAAUUGACAG-----
-----     61      -1,-2
-----UCUGACCUAUGAAUUGACAGa-----
-----      3      -1,-2
-----UCUGACCUAUGAAUUGACAGu-----
-----      6      -1,-2

```

```

-----UCUGACCUAUGAAUUGACAGC-----
----- 458 -1,-1
-----UCUGACCUAUGAAUUGACAGCa-----
----- 57 -1,-1
-----UCUGACCUAUGAAUUGACAGCaa-----
----- 7 -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
----- 17 -1,-1
-----UCUGACCUAUGAAUUGACAGCuu-----
----- 2 -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
----- 1702 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
----- 160 -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
----- 46 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 242 -1,1
-----UCUGACCUAUGAAUUGACAGCCAa-----
----- 11 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 110 -1,1
-----UCUGACCUAUGAAUUGACAGCCAuu-----
----- 33 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
----- 2 -1,2
-----UCUGACCUAUGAAUUGACAGCCAGU-----
----- 4 -1,3
-----CUGACCUAUGAAUUGACA-----
----- 4902 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 31 0,-3
-----CUGACCUAUGAAUUGACAaa-----
----- 23 0,-3
-----CUGACCUAUGAAUUGACAau-----
----- 3 0,-3
-----CUGACCUAUGAAUUGACAU-----
----- 6 0,-3

```

```

-----CUGACCUAUGAAUUGACAuu-----
-----      8      0,-3
-----CUGACCUAUGAAUUGACAG-----
-----    11031    0,-2
-----CUGACCUAUGAAUUGACAGa-----
-----    486 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
-----    95  0,-2
-----CUGACCUAUGAAUUGACAGau-----
-----    9   0,-2
-----CUGACCUAUGAAUUGACAGu-----
-----   515 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
-----    70  0,-2
-----CUGACCUAUGAAUUGACAGC-----
-----  117996  0,-1
-----CUGACCUAUGAAUUGACAGCa-----
-----   17064  0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
-----   2361   0,-1
-----CUGACCUAUGAAUUGACAGCau-----
-----   749 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
-----   3963   0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
-----   302 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
-----  368860  0,0
-----CUGACCUAUGAAUUGACAGCCu-----
-----   21706  0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
-----   5540   0,0
-----CUGACCUAUGAAUUGACAGCCA-----
-----  165401  0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
-----   6469   0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
-----   600 0,1

```

```

-----CUGACCUAUGAAUUGACAGCCAau-----
-----1232 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
-----69779 0,1
-----CUGACCUAUGAAUUGACAGCCAuu-----
-----35285 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
-----2335 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
-----147 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
-----10 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
-----5 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
-----2180 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
-----133 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
-----581 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
-----11 0,4
-----UGACCUAUGAAUUGACAG-----
-----3540 1,-2
-----UGACCUAUGAAUUGACAGu-----
-----42 1,-2
-----UGACCUAUGAAUUGACAGC-----
-----42212 1,-1
-----UGACCUAUGAAUUGACAGCa-----
-----1009 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
-----292 1,-1
-----UGACCUAUGAAUUGACAGCau-----
-----48 1,-1
-----UGACCUAUGAAUUGACAGCu-----
-----178 1,-1
-----UGACCUAUGAAUUGACAGCuu-----
-----8 1,-1

```

-----UGACCUAUGAAUUGACAGCC-----
----- 22312 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 773 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 176 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 45099 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 2915 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 1147 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 1428 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 12895 1,1
-----UGACCUAUGAAUUGACAGCCAuu-----
----- 9755 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 17210 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 2404 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 122 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 113 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 22504 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 2199 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 221 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 209 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 6546 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 760 1,3

-----UGACCUAUGAAUUGACAGCCAGUG-----
 ----- 108 1,4
 -----UGACCUAUGAAUUGACAGCCAGUGa-----
 ----- 3 1,4
 -----UGACCUAUGAAUUGACAGCCAGUGu-----
 ----- 14 1,4
 -----GACCUAUGAAUUGACAGC-----
 ----- 386 2,-1
 -----GACCUAUGAAUUGACAGCa-----
 ----- 11 2,-1
 -----GACCUAUGAAUUGACAGCu-----
 ----- 3 2,-1
 -----GACCUAUGAAUUGACAGCC-----
 ----- 278 2,0
 -----GACCUAUGAAUUGACAGCCu-----
 ----- 14 2,0
 -----GACCUAUGAAUUGACAGCCuu-----
 ----- 5 2,0
 -----GACCUAUGAAUUGACAGCCA-----
 ----- 286 2,1
 -----GACCUAUGAAUUGACAGCCAa-----
 ----- 40 2,1
 -----GACCUAUGAAUUGACAGCCAaa-----
 ----- 8 2,1
 -----GACCUAUGAAUUGACAGCCAu-----
 ----- 126 2,1
 -----GACCUAUGAAUUGACAGCCAuu-----
 ----- 96 2,1
 -----GACCUAUGAAUUGACAGCCAG-----
 ----- 202 2,2
 -----GACCUAUGAAUUGACAGCCAGa-----
 ----- 35 2,2
 -----GACCUAUGAAUUGACAGCCAGaa-----
 ----- 3 2,2
 -----GACCUAUGAAUUGACAGCCAGU-----
 ----- 284 2,3
 -----GACCUAUGAAUUGACAGCCAGUa-----
 ----- 36 2,3


```

-----UGGGUCUUUGCGGGCGAGAUGuu-----
----- 3 0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
----- 174 0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----
----- 4 0,0
-----UGGGUCUUUGCGGGCGAGAUGAu-----
----- 17 0,0
-----AACUGGCCUACAAAGUCC-----
----- 62 0,-4
-----AACUGGCCUACAAAGUCCa-----
----- 3 0,-4
-----AACUGGCCUACAAAGUCCC-----
----- 140 0,-3
-----AACUGGCCUACAAAGUCCCA-----
----- 1948 0,-2
-----AACUGGCCUACAAAGUCCCAa-----
----- 13 0,-2
-----AACUGGCCUACAAAGUCCCAu-----
----- 36 0,-2
-----AACUGGCCUACAAAGUCCCAuu-----
----- 10 0,-2
-----AACUGGCCUACAAAGUCCCAG-----
----- 77 0,-1
-----AACUGGCCUACAAAGUCCCAGa-----
----- 8 0,-1
-----AACUGGCCUACAAAGUCCCAGau-----
----- 3 0,-1
-----AACUGGCCUACAAAGUCCCAGU-----
----- 73 0,0
-----AACUGGCCUACAAAGUCCCAGUa-----
----- 10 0,0
-----AACUGGCCUACAAAGUCCCAGUau-----
----- 2 0,0
-----ACUGGCCUACAAAGUCCCA-----
----- 7 1,-2

```

>hsa-mir-193b mi:14-35;MA:51-72 SRX018966

(((.((((((.(((((((((.(.(.(.....).)).).)))))))).)).)).))))).
)))

```

-----UCGGGGUUUUGAGGGCGAGAAa-----
--- 2    -1,-3
-----UCGGGGUUUUGAGGGCGAGAU-----
--- 3    -1,-2
-----CGGGGUUUUGAGGGCGAG-----
--- 22   0,-4
-----CGGGGUUUUGAGGGCGAGA-----
--- 7    0,-3
-----CGGGGUUUUGAGGGCGAGAU-----
--- 17   0,-2
-----CGGGGUUUUGAGGGCGAGAUa-----
--- 19   0,-2
-----CGGGGUUUUGAGGGCGAGAUaa-----
--- 2    0,-2
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 9    0,-2
-----CGGGGUUUUGAGGGCGAGAUuu-----
--- 5    0,-2
-----CGGGGUUUUGAGGGCGAGAUG-----
--- 79   0,-1
-----CGGGGUUUUGAGGGCGAGAUGu-----
--- 72   0,-1
-----CGGGGUUUUGAGGGCGAGAUGuu-----
--- 6    0,-1
-----CGGGGUUUUGAGGGCGAGAUGA-----
--- 218  0,0
-----CGGGGUUUUGAGGGCGAGAUGAa-----
--- 10   0,0
-----CGGGGUUUUGAGGGCGAGAUGAu-----
--- 19   0,0
-----CGGGGUUUUGAGGGCGAGAUGAuu-----
--- 3    0,0
-----GGGGUUUUGAGGGCGAGAUa-----
--- 2    1,-2

```

```

-----GGGGUUUUGAGGGCGAGAUG-----
--- 5 1,-1
-----GGGGUUUUGAGGGCGAGAUGu-----
--- 2 1,-1
-----GGGGUUUUGAGGGCGAGAUGA-----
--- 15 1,0
-----CAACUGGCCCUCAAAGUCCCGC-----
--- 2 -1,-1
-----AACUGGCCCUCAAAGUCC-----
--- 70 0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 63 0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 35 0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 41 0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 7 0,-1
-----AACUGGCCCUCAAAGUCCCGCaa-----
--- 2 0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----
--- 11 0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 105 0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 3 0,0
-----AACUGGCCCUCAAAGUCCCGCUaa-----
--- 2 0,0
-----AACUGGCCCUCAAAGUCCCGCUau-----
--- 8 0,0
-----AACUGGCCCUCAAAGUCCCGCUU-----
--- 60 0,1
-----AACUGGCCCUCAAAGUCCCGCUUa-----
--- 3 0,1
-----AACUGGCCCUCAAAGUCCCGCUUU-----
--- 50 0,2
-----AACUGGCCCUCAAAGUCCCGCUUUa-----
--- 2 0,2

```

```

-----AACUGGCCCUCAAAGUCCCGCUUUU-----
--- 10 0,3
-----ACUGGCCCUCAAAGUCCC-----
--- 2 1,-3
-----ACUGGCCCUCAAAGUCCCG-----
--- 2 1,-2
-----ACUGGCCCUCAAAGUCCCGC-----
--- 2 1,-1
-----ACUGGCCCUCAAAGUCCCGCU-----
--- 5 1,0
-----ACUGGCCCUCAAAGUCCCGCUau-----
--- 2 1,0
-----ACUGGCCCUCAAAGUCCCGCUU-----
--- 7 1,1
-----ACUGGCCCUCAAAGUCCCGCUUU-----
--- 8 1,2

```

>hsa-mir-194-1 5p:15-36 SRX018966

augguguuaucaagUGUAAACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

.((((((...(((((((.((((((((((.(((((((.((((((...((.....)).)))))))))).))))))))).))))).)).
)))).

```

-----GUGUAAACAGCAACUCCAUGUGGAa-----
----- 2 -1,0
-----UGUAAACAGCAACUCCAUG-----
----- 11 0,-4
-----UGUAAACAGCAACUCCAUGa-----
----- 3 0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 14 0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 23 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 6 0,-2
-----UGUAAACAGCAACUCCAUGUGaa-----
----- 4 0,-2
-----UGUAAACAGCAACUCCAUGUGu-----
----- 3 0,-2

```



```

-----UGUAAACAGCAACUCCAUGa-----
----- 3 0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 14 0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 23 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 6 0,-2
-----UGUAAACAGCAACUCCAUGUGaa-----
----- 4 0,-2
-----UGUAAACAGCAACUCCAUGUGu-----
----- 3 0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 553 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 8 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1211 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 231 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 13 0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
----- 3161 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 472 0,1
-----UGUAAACAGCAACUCCAUGUGGAAaa-----
----- 26 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 23 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 264 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 27 0,1
-----UGUAAACAGCAACUCCAUGUGGAAG-----
----- 4 0,2
-----GUAACAGCAACUCCAUGUGGA-----
----- 6 1,0

```

```

-----GUAACAGCAACUCCAUGUGGAA-----
----- 5 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 2 1,1
-----CCAGUGGGGCUGCUGUUAU-----
----- 13 0,-3
-----CCAGUGGGGCUGCUGUUAUa-----
----- 12 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 7 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 63 0,-1
-----CCAGUGGGGCUGCUGUUAUCUG-----
----- 6 0,0
-----CCAGUGGGGCUGCUGUUAUCUGa-----
----- 5 0,0
-----CCAGUGGGGCUGCUGUUAUCUGu-----
----- 2 0,0
-----CAGUGGGGCUGCUGUUAUCU-----
----- 3 1,-1
-----CAGUGGGGCUGCUGUUAUCUGa-----
----- 2 1,0
-----AGUGGGGCUGCUGUUAUCU-----
----- 3 2,-1
-----AGUGGGGCUGCUGUUAUCUGG-----
----- 2 2,1

```

>hsa-mir-195 MA:15-35;mi:53-74 SRX018966

```

agcuucccuggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUAUUGGCUGUGCUGCUCCaggcag
gguggug

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.(((((((((((((.((((((((((((.....))))))))))..))))))))))..))))).
)))).

```

```

-----UAGCAGCACAGAAAUAU-----
----- 27 0,-3
-----UAGCAGCACAGAAAUAUa-----
----- 5 0,-3
-----UAGCAGCACAGAAAUAUaa-----
----- 2 0,-3

```

-----UAGCAGCACAGAAAUUUG-----
----- 117 0,-2
-----UAGCAGCACAGAAAUUUGa-----
----- 5 0,-2
-----UAGCAGCACAGAAAUUUGu-----
----- 2 0,-2
-----UAGCAGCACAGAAAUUUGG-----
----- 624 0,-1
-----UAGCAGCACAGAAAUUUGGa-----
----- 35 0,-1
-----UAGCAGCACAGAAAUUUGGaa-----
----- 19 0,-1
-----UAGCAGCACAGAAAUUUGGu-----
----- 12 0,-1
-----UAGCAGCACAGAAAUUUGGC-----
----- 48 0,0
-----UAGCAGCACAGAAAUUUGGCA-----
----- 1589 0,1
-----UAGCAGCACAGAAAUUUGGCAa-----
----- 763 0,1
-----UAGCAGCACAGAAAUUUGGCAaa-----
----- 2 0,1
-----UAGCAGCACAGAAAUUUGGCAau-----
----- 19 0,1
-----UAGCAGCACAGAAAUUUGGCAu-----
----- 442 0,1
-----UAGCAGCACAGAAAUUUGGCAuu-----
----- 44 0,1
-----UAGCAGCACAGAAAUUUGGCAC-----
----- 5 0,2
-----UAGCAGCACAGAAAUUUGGCACu-----
----- 2 0,2
-----UAGCAGCACAGAAAUUUGGCACA-----
----- 2 0,3
-----AGCAGCACAGAAAUUUGG-----
----- 8 1,-1
-----AGCAGCACAGAAAUUUGGCA-----
----- 13 1,1


```

-----AGCAGCACAGAAAUAUUGGCAa-----
----- 11 1,1
-----AGCAGCACAGAAAUAUUGGCAu-----
----- 7 1,1
-----GCAGCACAGAAAUAUUGGCA-----
----- 2 2,1
-----GCAGCACAGAAAUAUUGGCAa-----
----- 3 2,1

```

>hsa-mir-196a-1 5p:7-28 SRX018966

```

gugaauUAGGUAGUUUCAUGUUGUUGGGccugggguucugaacacaacaacauuaaaccacccgauucac
(((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAGGUAGUUUCAUGUUGUUGGG----- 2 0,0

```

>hsa-mir-196a-2 MA:25-46;mi:62-83 SRX018966

```

ugcucgcucagcugaucuguggcuUAGGUAGUUUCAUGUUGUUGGGauugaguuuugaacuCGGCAACAAGAAACUGCCU
GAGuuacaucagucgguuuucgucgagggc
..(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))).))))))))).))))))))).))))))))).))))))))).))))))))).))))))))
-----UAGGUAGUUUCAUGUUGUUGGG-----
----- 2 0,0

```

>hsa-mir-197 3p:48-69 SRX018966

```

ggcugugccggguagagagggcagugggagguaagagcucuucacccUUCACCACCUUCUCCACCCAGCauggcc
(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UUCACCACCUUCUCCACCCA----- 2
0,-2
-----UUCACCACCUUCUCCACCCAG----- 9
0,-1
-----UUCACCACCUUCUCCACCCAGa----- 2
0,-1
-----UUCACCACCUUCUCCACCCAGaa----- 3
0,-1
-----UUCACCACCUUCUCCACCCAGu----- 3
0,-1
-----UUCACCACCUUCUCCACCCAGC----- 20
0,0
-----UUCACCACCUUCUCCACCCAGCA----- 4

```

0,1

>hsa-mir-1973 3p:26-44 SRX018966

uanguucaacggccaugguauccugACCGUGCAAAGGUAGCAUA

((((((((.....((.((((((.....)))))).....).))))))

-----ACCGUGCAAAGGUAGCAUA 2 0,0

-----ACCGUGCAAAGGUAGCAUAa 5 0,0

-----CCGUGCAAAGGUAGCAUA 4 1,0

>hsa-mir-1976 3p:33-52 SRX018966

gcagcaaggaaggcagggguccuaagguguguCCUCCUGCCCUCUUGCUGU

((((((((((((.((((((((((.....).)))))))))).))))))))

-----CCUCCUGCCCUCUUGCUGU 2 0,0

>hsa-mir-199a-1 5p:6-28;3p:47-68 SRX018966

gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucaauguguACAGUAGUCUGCACAUUGGUUAggc

(((...((((((((((.((((((((((.((((((((((.....).))))))))))))).))))))))....))

---ACCCAGUGUUCAGACUACCU----- 2

-1,-4

-----CCCAGUGUUCAGACUACC----- 66 0,-5

-----CCCAGUGUUCAGACUACCU----- 1067

0,-4

-----CCCAGUGUUCAGACUACCUG----- 49 0,-3

-----CCCAGUGUUCAGACUACCUGU----- 51 0,-2

-----CCCAGUGUUCAGACUACCUGUU----- 471 0,-1

-----CCCAGUGUUCAGACUACCUGUua----- 37 0,-1

-----CCCAGUGUUCAGACUACCUGUuu----- 34 0,-1

-----CCCAGUGUUCAGACUACCUGUUC----- 166 0,0

-----CCCAGUGUUCAGACUACCUGUUCu----- 5 0,0

-----CCCAGUGUUCAGACUACCUGUUCA----- 4 0,1

-----CCAGUGUUCAGACUACCU----- 14 1,-4

-----CCAGUGUUCAGACUACCUG----- 2 1,-3

-----CCAGUGUUCAGACUACCUGUU----- 15 1,-1

-----CCAGUGUUCAGACUACCUGUUC----- 3 1,0

-----CAGUGUUCAGACUACCUGUU----- 2 2,-1

-----CAGUGUUCAGACUACCUGUUC----- 2 2,0

-----UACAGUAGUCUGCACAUU----- 47

-1,-5

	-----UACAGUAGUCUGCACAUUu-----	2	
-1,-5			
	-----UACAGUAGUCUGCACAUUG-----	185	
-1,-4			
	-----UACAGUAGUCUGCACAUUGa-----	2	
-1,-4			
	-----UACAGUAGUCUGCACAUUGaa-----	2	
-1,-4			
	-----UACAGUAGUCUGCACAUUGuu-----	3	
-1,-4			
	-----UACAGUAGUCUGCACAUUGG-----	347	
-1,-3			
	-----UACAGUAGUCUGCACAUUGGa-----	10	
-1,-3			
	-----UACAGUAGUCUGCACAUUGGaa-----	2	
-1,-3			
	-----UACAGUAGUCUGCACAUUGGau-----	24	
-1,-3			
	-----UACAGUAGUCUGCACAUUGGU-----	807	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUa-----	272	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUaa-----	228	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUau-----	179	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUU-----	8289	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUu-----	1038	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUuu-----	40	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUA-----	1112	
-1,0			
	-----UACAGUAGUCUGCACAUUGGUUAa--	155	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAaa--	3	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAau--	2	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	102	-1,0

-----	-ACAGUAGUCUGCACAUUG-----	670	0,-4
-----	-ACAGUAGUCUGCACAUUGa-----	32	0,-4
-----	-ACAGUAGUCUGCACAUUGaa-----	12	0,-4
-----	-ACAGUAGUCUGCACAUUGu-----	21	0,-4
-----	-ACAGUAGUCUGCACAUUGuu-----	6	0,-4
-----	-ACAGUAGUCUGCACAUUGG-----	2965	
0,-3			
-----	-ACAGUAGUCUGCACAUUGGa-----	10	0,-3
-----	-ACAGUAGUCUGCACAUUGGaa-----	24	0,-3
-----	-ACAGUAGUCUGCACAUUGGau-----	77	0,-3
-----	-ACAGUAGUCUGCACAUUGGU-----	2897	
0,-2			
-----	-ACAGUAGUCUGCACAUUGGUa-----	708	0,-2
-----	-ACAGUAGUCUGCACAUUGGUaa-----	1256	
0,-2			
-----	-ACAGUAGUCUGCACAUUGGUau-----	288	0,-2
-----	-ACAGUAGUCUGCACAUUGGUU-----	51791	
0,-1			
-----	-ACAGUAGUCUGCACAUUGGUUu-----	6268	
0,-1			
-----	-ACAGUAGUCUGCACAUUGGUUuu-----	256	0,-1
-----	-ACAGUAGUCUGCACAUUGGUUA-----	23897	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAa-----	14611	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAaa-----	81	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAau-----	68	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAu-----	2228	
0,0			
-----	-ACAGUAGUCUGCACAUUGGUUAuu-----	29	0,0
-----	-ACAGUAGUCUGCACAUUGGUUAG-----	71	0,1
-----	-ACAGUAGUCUGCACAUUGGUUAGu-----	4	0,1
-----	-ACAGUAGUCUGCACAUUGGUUAGGa-----	2	0,2
-----	-CAGUAGUCUGCACAUUGG-----	524	1,-3
-----	-CAGUAGUCUGCACAUUGGa-----	2	1,-3
-----	-CAGUAGUCUGCACAUUGGau-----	2	1,-3
-----	-CAGUAGUCUGCACAUUGGU-----	389	1,-2
-----	-CAGUAGUCUGCACAUUGGUa-----	95	1,-2

```

-----CAGUAGUCUGCACAUUGGUaa--- 205 1,-2
-----CAGUAGUCUGCACAUUGGUau--- 14 1,-2
-----CAGUAGUCUGCACAUUGGUU--- 5550
1,-1
-----CAGUAGUCUGCACAUUGGUUu--- 893 1,-1
-----CAGUAGUCUGCACAUUGGUUuu--- 66 1,-1
-----CAGUAGUCUGCACAUUGGUUA--- 7484
1,0
-----CAGUAGUCUGCACAUUGGUUAa-- 3581
1,0
-----CAGUAGUCUGCACAUUGGUUAaa- 74 1,0
-----CAGUAGUCUGCACAUUGGUUAau- 14 1,0
-----CAGUAGUCUGCACAUUGGUUAu-- 568 1,0
-----CAGUAGUCUGCACAUUGGUUAuu- 5 1,0
-----CAGUAGUCUGCACAUUGGUUAG-- 24 1,1
-----AGUAGUCUGCACAUUGGU----- 3 2,-2
-----AGUAGUCUGCACAUUGGUa---- 6 2,-2
-----AGUAGUCUGCACAUUGGUaa--- 5 2,-2
-----AGUAGUCUGCACAUUGGUU--- 96 2,-1
-----AGUAGUCUGCACAUUGGUUu--- 14 2,-1
-----AGUAGUCUGCACAUUGGUUuu-- 2 2,-1
-----AGUAGUCUGCACAUUGGUUA--- 57 2,0
-----AGUAGUCUGCACAUUGGUUAa-- 73 2,0
-----AGUAGUCUGCACAUUGGUUAu-- 16 2,0

```

>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018966

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaaugccguuguACAGUAGUCUG
CACAUUGGUUAgacugggcaagggagagca

.....(((.(((.....(((((((((((((...(((((((((((((...(((.....))).....)))))))))))))
.)))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).

```

-----CCCAGUGUUCAGACUACC-----
-----66 0,-5
-----CCCAGUGUUCAGACUACCU-----
-----1067 0,-4
-----CCCAGUGUUCAGACUACCUG-----
-----49 0,-3
-----CCCAGUGUUCAGACUACCUGU-----
-----51 0,-2

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-----CCCAGUGUUCAGACUACCUGUU-----
----- 471 0,-1
-----CCCAGUGUUCAGACUACCUGUUa-----
----- 37 0,-1
-----CCCAGUGUUCAGACUACCUGUUu-----
----- 34 0,-1
-----CCCAGUGUUCAGACUACCUGUUC-----
----- 166 0,0
-----CCCAGUGUUCAGACUACCUGUUCu-----
----- 5 0,0
-----CCCAGUGUUCAGACUACCUGUUCA-----
----- 4 0,1
-----CCAGUGUUCAGACUACCU-----
----- 14 1,-4
-----CCAGUGUUCAGACUACCUG-----
----- 2 1,-3
-----CCAGUGUUCAGACUACCUGUU-----
----- 15 1,-1
-----CCAGUGUUCAGACUACCUGUUC-----
----- 3 1,0
-----CAGUGUUCAGACUACCUGUU-----
----- 2 2,-1
-----CAGUGUUCAGACUACCUGUUC-----
----- 2 2,0
-----UACAGUAGUCUG
CACAUU----- 47 -1,-5
-----UACAGUAGUCUG
CACAUUu----- 2 -1,-5
-----UACAGUAGUCUG
CACAUG----- 185 -1,-4
-----UACAGUAGUCUG
CACAUGa----- 2 -1,-4
-----UACAGUAGUCUG
CACAUGaa----- 2 -1,-4
-----UACAGUAGUCUG
CACAUGuu----- 3 -1,-4
-----UACAGUAGUCUG
CACAUGG----- 347 -1,-3

```

-----				-----UACAGUAGUCUG
CACAUUGGa-----	10	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGaa-----	2	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGau-----	24	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGU-----	807	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUa-----	272	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUaa-----	228	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUau-----	179	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUU-----	8289	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUu-----	1038	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUuu-----	40	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUA-----	1112	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAa-----	155	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAaa-----	3	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAau-----	2	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAu-----	102	-1,0		
-----				-----ACAGUAGUCUG
CACAUUG-----	670	0,-4		
-----				-----ACAGUAGUCUG
CACAUUGa-----	32	0,-4		
-----				-----ACAGUAGUCUG
CACAUUGaa-----	12	0,-4		
-----				-----ACAGUAGUCUG
CACAUUGu-----	21	0,-4		

-----			ACAGUAGUCUG
CACAUUGuu-----	6	0,-4	
-----			ACAGUAGUCUG
CACAUUGG-----	2965	0,-3	
-----			ACAGUAGUCUG
CACAUUGGa-----	10	0,-3	
-----			ACAGUAGUCUG
CACAUUGGaa-----	24	0,-3	
-----			ACAGUAGUCUG
CACAUUGGau-----	77	0,-3	
-----			ACAGUAGUCUG
CACAUUGGU-----	2897	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUa-----	708	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUaa-----	1256	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUau-----	288	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUU-----	51791	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUu-----	6268	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUuu-----	256	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUA-----	23897	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	14611	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	81	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	68	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	2228	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	29	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	71	0,1	

-----				-----ACAGUAGUCUG
CACAUUGGUUAGu-----	4	0,1		
-----				-----ACAGUAGUCUG
CACAUUGGUUAGA-----	3	0,2		
-----				-----CAGUAGUCUG
CACAUUGG-----	524	1,-3		
-----				-----CAGUAGUCUG
CACAUUGGa-----	2	1,-3		
-----				-----CAGUAGUCUG
CACAUUGGau-----	2	1,-3		
-----				-----CAGUAGUCUG
CACAUUGGU-----	389	1,-2		
-----				-----CAGUAGUCUG
CACAUUGGUa-----	95	1,-2		
-----				-----CAGUAGUCUG
CACAUUGGUaa-----	205	1,-2		
-----				-----CAGUAGUCUG
CACAUUGGUau-----	14	1,-2		
-----				-----CAGUAGUCUG
CACAUUGGUU-----	5550	1,-1		
-----				-----CAGUAGUCUG
CACAUUGGUUu-----	893	1,-1		
-----				-----CAGUAGUCUG
CACAUUGGUUuu-----	66	1,-1		
-----				-----CAGUAGUCUG
CACAUUGGUUA-----	7484	1,0		
-----				-----CAGUAGUCUG
CACAUUGGUUAa-----	3581	1,0		
-----				-----CAGUAGUCUG
CACAUUGGUUAaa-----	74	1,0		
-----				-----CAGUAGUCUG
CACAUUGGUUAau-----	14	1,0		
-----				-----CAGUAGUCUG
CACAUUGGUUAu-----	568	1,0		
-----				-----CAGUAGUCUG
CACAUUGGUUAuu-----	5	1,0		
-----				-----CAGUAGUCUG
CACAUUGGUUAG-----	24	1,1		

```

-----AGUAGUCUG
CACAUUGGU----- 3 2,-2
-----AGUAGUCUG
CACAUUGGUa----- 6 2,-2
-----AGUAGUCUG
CACAUUGGUaa----- 5 2,-2
-----AGUAGUCUG
CACAUUGGUU----- 96 2,-1
-----AGUAGUCUG
CACAUUGGUUu----- 14 2,-1
-----AGUAGUCUG
CACAUUGGUUuu----- 2 2,-1
-----AGUAGUCUG
CACAUUGGUUA----- 57 2,0
-----AGUAGUCUG
CACAUUGGUUAa----- 73 2,0
-----AGUAGUCUG
CACAUUGGUUAu----- 16 2,0

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>hsa-mi r-199b 5p:26-48;3p:65-86 SRX018966

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ccagaggacaccuccacuccgucuaCCCAGUGUUUAGACUAUCUGUUCaggacucccaauuguACAGUAGUCUGCACAU
UGGUUAggcugggcuaggguagaccucgg

```

```

...((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----CCCAGUGUUUAGACUAUC-----
----- 8 0,-5
-----CCCAGUGUUUAGACUAUCU-----
----- 110 0,-4
-----CCCAGUGUUUAGACUAUCUGUU-----
----- 17 0,-1
-----CCCAGUGUUUAGACUAUCUGUUC-----
----- 5 0,0
-----CCAGUGUUUAGACUAUCUGUU-----
----- 2 1,-1
-----UACAGUAGUCUGCACAU
U----- 47 -1,-5
-----UACAGUAGUCUGCACAU
Uu----- 2 -1,-5

```

-----				-----UACAGUAGUCUGCACAU
UG-----	185	-1,-4		
-----				-----UACAGUAGUCUGCACAU
UGa-----	2	-1,-4		
-----				-----UACAGUAGUCUGCACAU
UGaa-----	2	-1,-4		
-----				-----UACAGUAGUCUGCACAU
UGuu-----	3	-1,-4		
-----				-----UACAGUAGUCUGCACAU
UGG-----	347	-1,-3		
-----				-----UACAGUAGUCUGCACAU
UGGa-----	10	-1,-3		
-----				-----UACAGUAGUCUGCACAU
UGGaa-----	2	-1,-3		
-----				-----UACAGUAGUCUGCACAU
UGGau-----	24	-1,-3		
-----				-----UACAGUAGUCUGCACAU
UGGU-----	807	-1,-2		
-----				-----UACAGUAGUCUGCACAU
UGGUa-----	272	-1,-2		
-----				-----UACAGUAGUCUGCACAU
UGGUaa-----	228	-1,-2		
-----				-----UACAGUAGUCUGCACAU
UGGUau-----	179	-1,-2		
-----				-----UACAGUAGUCUGCACAU
UGGUU-----	8289	-1,-1		
-----				-----UACAGUAGUCUGCACAU
UGGUUu-----	1038	-1,-1		
-----				-----UACAGUAGUCUGCACAU
UGGUUuu-----	40	-1,-1		
-----				-----UACAGUAGUCUGCACAU
UGGUUA-----	1112	-1,0		
-----				-----UACAGUAGUCUGCACAU
UGGUUAa-----	155	-1,0		
-----				-----UACAGUAGUCUGCACAU
UGGUUAaa-----	3	-1,0		
-----				-----UACAGUAGUCUGCACAU
UGGUUAau-----	2	-1,0		

-----	-----	UACAGUAGUCUGCACAU
UGGUUAu-----	102 -1,0	-----
-----	-----	ACAGUAGUCUGCACAU
UG-----	670 0,-4	-----
-----	-----	ACAGUAGUCUGCACAU
UGa-----	32 0,-4	-----
-----	-----	ACAGUAGUCUGCACAU
UGaa-----	12 0,-4	-----
-----	-----	ACAGUAGUCUGCACAU
UGu-----	21 0,-4	-----
-----	-----	ACAGUAGUCUGCACAU
UGuu-----	6 0,-4	-----
-----	-----	ACAGUAGUCUGCACAU
UGG-----	2965 0,-3	-----
-----	-----	ACAGUAGUCUGCACAU
UGGa-----	10 0,-3	-----
-----	-----	ACAGUAGUCUGCACAU
UGGaa-----	24 0,-3	-----
-----	-----	ACAGUAGUCUGCACAU
UGGau-----	77 0,-3	-----
-----	-----	ACAGUAGUCUGCACAU
UGGU-----	2897 0,-2	-----
-----	-----	ACAGUAGUCUGCACAU
UGGUa-----	708 0,-2	-----
-----	-----	ACAGUAGUCUGCACAU
UGGUaa-----	1256 0,-2	-----
-----	-----	ACAGUAGUCUGCACAU
UGGUau-----	288 0,-2	-----
-----	-----	ACAGUAGUCUGCACAU
UGGUU-----	51791 0,-1	-----
-----	-----	ACAGUAGUCUGCACAU
UGGUUu-----	6268 0,-1	-----
-----	-----	ACAGUAGUCUGCACAU
UGGUUuu-----	256 0,-1	-----
-----	-----	ACAGUAGUCUGCACAU
UGGUUA-----	23897 0,0	-----
-----	-----	ACAGUAGUCUGCACAU
UGGUUAa-----	14611 0,0	

UGGUUAaa	81	0,0	ACAGUAGUCUGCACAU
UGGUUAau	68	0,0	ACAGUAGUCUGCACAU
UGGUUAu	2228	0,0	ACAGUAGUCUGCACAU
UGGUUAuu	29	0,0	ACAGUAGUCUGCACAU
UGGUUAG	71	0,1	ACAGUAGUCUGCACAU
UGGUUAGu	4	0,1	ACAGUAGUCUGCACAU
UGGUUAGGa	2	0,2	CAGUAGUCUGCACAU
UGG	524	1,-3	CAGUAGUCUGCACAU
UGGa	2	1,-3	CAGUAGUCUGCACAU
UGGau	2	1,-3	CAGUAGUCUGCACAU
UGGU	389	1,-2	CAGUAGUCUGCACAU
UGGUa	95	1,-2	CAGUAGUCUGCACAU
UGGUaa	205	1,-2	CAGUAGUCUGCACAU
UGGUau	14	1,-2	CAGUAGUCUGCACAU
UGGUU	5550	1,-1	CAGUAGUCUGCACAU
UGGUUu	893	1,-1	CAGUAGUCUGCACAU
UGGUUuu	66	1,-1	CAGUAGUCUGCACAU
UGGUUA	7484	1,0	CAGUAGUCUGCACAU
UGGUUAa	3581	1,0	

-----GUGCAAUCUAUGCAAACUGAU-----
 -- 2 1,1

```
>hsa-mi r-19b-1  mi:16-38;MA:54-76  SRX018966
```

cacuguucuaugguuAGUUUUGCAGGUUUGCAUCCAGCugugugauauucugcUGUGCAAUCCAUGCAAAACUGAcugu
gguagug

((((((..((((((((((((((((((((((((((((((((..((((.....)))))))))).)).))))))))))))))
)))))))

-----AGUUUUGCAGGUUUGCAUCCAG-----
----- 4 0,-1

-----UGUGCAAUCCAUGCAAAC-----
----- 12 0,-3

-----UGUGCAAUCCAUGCAAACU-----
----- 227 0,-2

-----UGUGCAAUCCAUGCAAACUa-----
----- 3 0,-2

-----UGUGCAAUCCAUGCAAACUG-----
----- 47 0,-1

-----UGUGCAAUCCAUGCAAACUGu-----
----- 3 0,-1

-----UGUGCAAUCCAUGCAAACUGA-----
----- 23 0,0

-----GUGCAAUCCAUGCAAACU-----
----- 4 1,-2

>hsa-mi r-19b-2 mi:19-40;MA:62-84 SRX018966

acauugcuacuuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguauauauguauauguggcUGUGCAAUCCAUGCAAAA
CUGAuuugugauaauugu

$$\begin{aligned} &(((((((\dots(((\dots(((((((((\dots)))))))))\dots)))))))).))))) \\ &))))))))) \end{aligned}$$

-----UGUGCAAUCCAUGCAAAA
C----- 12 0,-3

-----UGUGCAAUCCAUGCAAAA
CU----- 227 0,-2

CUa-----3 0,-2-----UGUGCAAUCCAUGCAAAA

-----UGUGCAAUCCAUGCAAAA
CUG----- 47 0,-1

-----			-----UGUGCAAAUCCAUGCAAAA
CUGu-----	3	0,-1	
-----			-----UGUGCAAAUCCAUGCAAAA
CUGA-----	23	0,0	
-----			-----GUGCAAAUCCAUGCAAAA
CU-----	4	1,-2	

```
>hsa-mir-200a    mi:16-37;MA:54-75    SRX018966
ccggggccccugugagCAUCUUAACCGGACAGUGCUGGAuuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaa
ggugacccgc
```

-----			CUAACACUGUCUGGUAACGAUGUU-----
-----	2	-1,1	
-----			-----UAACACUGUCUGGUAACG-----
-----	3	0,-4	
-----			-----UAACACUGUCUGGUAACGA-----
-----	60	0,-3	
-----			-----UAACACUGUCUGGUAACGAaa-----
-----	2	0,-3	
-----			-----UAACACUGUCUGGUAACGAU-----
-----	415	0,-2	
-----			-----UAACACUGUCUGGUAACGAUa-----
-----	17	0,-2	
-----			-----UAACACUGUCUGGUAACGAUG-----
-----	111	0,-1	
-----			-----UAACACUGUCUGGUAACGAUGa-----
-----	31	0,-1	
-----			-----UAACACUGUCUGGUAACGAUGaa-----
-----	13	0,-1	
-----			-----UAACACUGUCUGGUAACGAUGU-----
-----	109	0,0	
-----			-----UAACACUGUCUGGUAACGAUGUa-----
-----	19	0,0	
-----			-----UAACACUGUCUGGUAACGAUGUaa-----
-----	16	0,0	
-----			-----UAACACUGUCUGGUAACGAUGUU-----
-----	554	0,1	


```

-----CAUCUUACUGGGCAGCAUU-----
----- 190 0,-3
-----CAUCUUACUGGGCAGCAUUG-----
----- 46 0,-2
-----CAUCUUACUGGGCAGCAUUGa-----
----- 6 0,-2
-----CAUCUUACUGGGCAGCAUUGG-----
----- 118 0,-1
-----CAUCUUACUGGGCAGCAUUGGu-----
----- 3 0,-1
-----CAUCUUACUGGGCAGCAUUGGA-----
----- 69 0,0
-----CAUCUUACUGGGCAGCAUUGGAa-----
----- 35 0,0
-----CAUCUUACUGGGCAGCAUUGGAaa-----
----- 10 0,0
-----CAUCUUACUGGGCAGCAUUGGAau-----
----- 2 0,0
-----CAUCUUACUGGGCAGCAUUGGAU-----
----- 3 0,1
-----CAUCUUACUGGGCAGCAUUGGAUa-----
----- 3 0,1
-----AUCUUACUGGGCAGCAUU-----
----- 11 1,-3
-----AUCUUACUGGGCAGCAUUG-----
----- 2 1,-2
-----AUCUUACUGGGCAGCAUUGG-----
----- 17 1,-1
-----AUCUUACUGGGCAGCAUUGGA-----
----- 13 1,0
-----AUCUUACUGGGCAGCAUUGGAa-----
----- 13 1,0
-----AUCUUACUGGGCAGCAUUGGAaa-----
----- 4 1,0
-----AUCUUACUGGGCAGCAUUGGAU-----
----- 5 1,1
-----UAAUACUGCCUGGUA AUG-----
----- 6 0,-4

```

```

-----UAAUACUGCCUGGUAAGA-----
----- 52  0,-3
-----UAAUACUGCCUGGUAAGaa-----
----- 5   0,-3
-----UAAUACUGCCUGGUAAGaaa-----
----- 8   0,-3
-----UAAUACUGCCUGGUAAGaa-----
----- 2   0,-3
-----UAAUACUGCCUGGUAAGAU-----
----- 89  0,-2
-----UAAUACUGCCUGGUAAGAUa-----
----- 59  0,-2
-----UAAUACUGCCUGGUAAGAUaa-----
----- 2   0,-2
-----UAAUACUGCCUGGUAAGAUG-----
----- 174 0,-1
-----UAAUACUGCCUGGUAAGAUGu-----
----- 21  0,-1
-----UAAUACUGCCUGGUAAGAUGuu-----
----- 5   0,-1
-----UAAUACUGCCUGGUAAGAUGA-----
----- 662 0,0
-----UAAUACUGCCUGGUAAGAUGAa-----
----- 109 0,0
-----UAAUACUGCCUGGUAAGAUGAaa
----- 20  0,0
-----UAAUACUGCCUGGUAAGAUGAau
----- 4   0,0
-----UAAUACUGCCUGGUAAGAUGAu-----
----- 40  0,0
-----UAAUACUGCCUGGUAAGAUGAuu
----- 4   0,0
-----UAAUACUGCCUGGUAAGAUGAC-----
----- 513 0,1
-----UAAUACUGCCUGGUAAGAUGACa
----- 191 0,1
-----UAAUACUGCCUGGUAAGAUGACa
a----- 8   0,1

```

```

-----UAAUACUGCCUGGUA AUGACa
u----- 10 0,1
-----UAAUACUGCCUGGUA AUGACu
----- 349 0,1
-----UAAUACUGCCUGGUA AUGACu
u----- 12 0,1
-----UAAUACUGCCUGGUA AUGACG
----- 3 0,2
-----UAAUACUGCCUGGUA AUGACG
u----- 3 0,2
-----AAUACUGCCUGGUA AUGAUa---
----- 4 1,-2
-----AAUACUGCCUGGUA AUGAUG---
----- 3 1,-1
-----AAUACUGCCUGGUA AUGAUGA--
----- 30 1,0
-----AAUACUGCCUGGUA AUGAUGAa-
----- 3 1,0
-----AAUACUGCCUGGUA AUGAUGAaa
----- 5 1,0
-----AAUACUGCCUGGUA AUGAUGAau
----- 2 1,0
-----AAUACUGCCUGGUA AUGAUGAuu
----- 2 1,0
-----AAUACUGCCUGGUA AUGAC-
----- 50 1,1
-----AAUACUGCCUGGUA AUGACa
----- 52 1,1
-----AAUACUGCCUGGUA AUGACu
----- 161 1,1
-----AAUACUGCCUGGUA AUGACu
u----- 2 1,1
-----AAUACUGCCUGGUA AUGACG
----- 7 1,2
-----AUACUGCCUGGUA AUGAUG---
----- 3 2,-1
-----AUACUGCCUGGUA AUGAUGA--
----- 21 2,0

```

```

-----AUACUGCCUGGUA AUGAUGAuu
----- 3 2,0
-----AUACUGCCUGGUA AUGAUGAu-
----- 3 2,0
-----AUACUGCCUGGUA AUGAUGAuu
----- 3 2,0
-----AUACUGCCUGGUA AUGAUGAC-
----- 141 2,1
-----AUACUGCCUGGUA AUGAUGACa
----- 36 2,1
-----AUACUGCCUGGUA AUGAUGACa
a----- 3 2,1
-----AUACUGCCUGGUA AUGAUGACa
u----- 5 2,1
-----AUACUGCCUGGUA AUGAUGACu
----- 186 2,1
-----AUACUGCCUGGUA AUGAUGACu
u----- 53 2,1
-----AUACUGCCUGGUA AUGAUGACG
----- 15 2,2
-----AUACUGCCUGGUA AUGAUGACG
u----- 3 2,2
-----AUACUGCCUGGUA AUGAUGACG
G----- 4 2,3
-----AUACUGCCUGGUA AUGAUGACG
Gu----- 2 2,3

```

>hsa-mir-200c mi:5-26;MA:44-66 SRX018966

cccuCGUCUUAACCCAGCAGUGUUUGGgugcggguugggagucucUAAUACUGCCGGGUA AUGAUGGAgg

((..(((((((((((.(((((((.(.((.....))))).)))))).)))))).))))..))

```

-----UAAUACUGCCGGGUA AUGA----- 2 0,-4
-----UAAUACUGCCGGGUA AUGAU----- 3 0,-3
-----UAAUACUGCCGGGUA AUGAUG----- 2 0,-2
-----UAAUACUGCCGGGUA AUGAUGa--- 2 0,-2
-----UAAUACUGCCGGGUA AUGAUGG--- 44 0,-1
-----UAAUACUGCCGGGUA AUGAUGGu-- 4 0,-1
-----UAAUACUGCCGGGUA AUGAUGGA-- 29 0,0
-----UAAUACUGCCGGGUA AUGAUGGAa- 3 0,0

```

-----UAAUACUGCCGGGUAAGAUGGAau	2	0,0
-----UAAUACUGCCGGGUAAGAUGGAu-	9	0,0

>hsa-mi r-202 mi:28-49;MA:64-83 SRX018966

cgccucagagccgcccgccguccuuuUCCUAUGCAUACUUCUUUGaggaucuggccuaaAGAGGUAUAGGGCAUGG
GAAaacggggcgguccggguccucccagcg

(((...(((..(((((((((((((.(((((((((((((.(((((((((((((.((.....))))))))))))))..))))))
)))))..))))))..))))..)))....)))

-----UUCCUAUGCAUAUACUUCUU-----

$$----- 2 \quad 0, -2$$

-----UUCCUAUGCAUAUACUUCUUU-----

----- 5 0,-1

>hsa-mir-203 3p:65-86 SRX018966

guguuggggacucgcgcgucggguccagugguucuaacaguucaacaguucuguagcgcaauuGUGAAAUGUUUAGGAC
CACUAGacccggcgggcgcggcgacagcga

-----GUGAAAUGUUUAGGAC

CACU----- 8 0,-2

-----GUGAAAUGUUUAGGAC

CACUA----- 21 0,-1

-----GUGAAAUGUUUAGGAC

CACUAu----- 5 0,-1

-----GUGAAAUGUUUAGGAC

CACUAG----- 87 0,0

-----GUGAAAUGUUUAGGAC

CACUAGu----- 11 0,0

-----GUGAAAUGUUUAGGAC

CACUAGA----- 8 0,1

-----UGAAAUGUUUAGGAC

CACUAG----- 23 1,0

-----UGAAAUGUUUAGGAC

CACUAGu----- 27 1,0

-----UGAAAUGUUUAGGAC

CACUAGuu----- 3 1,0

-----UGAAAUGUUUAGGAC

CACUAGA----- 4 1,1

ggcuacagucuuucuucaugugacucguggacUCCCUUUGUCAUCCU AUGCCUgagaauauaugaaggaggcugggaag
gcaaagggacguucaauugucaucacuggc

-----UCCCUUUGUCAUCCUAUGC-----

-----UUCCCUUGUCAUCCUAUGCC-----

-----UUCCCUUGUCAUCCUAUGCCU-----

-----GCUGGGAAG

-----GCUGGGAAG

-----GCUGGGAAG

ugcuucccgaggccacaugcuucuuuauauccccaauaggauuacuuugcuaUGGAAUGUAAGGAAGUGUGUGGuucgg
caagug

-----UGGAAUGUAAGGAAGUGUGUG-----

-----UGGAAUGUAAGGAAGUGUGUGG-----

guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuaguuaucuACUGCAUUAUGAGCACUUAAGGuacugc

-----UAAAGUGCUUAUAGUGCA----- 7 0,-5

-----UAAAGUGCUUAUAGUGCAG----- 107 0,-4

-----UAAAGUGCUUAUAGUGCAGG----- 50 0,-3

-----UAAAGUGCUUAUAGUGCAGGU----- 59 0,-2

-----UAAAGUGCUUAUAGUGCAGGUA----- 170 0,-1

-----UAAAGUGCUUAUAGUGCAGGUAa----- 41 0,-1

-----UAGCUUAUCAGACUGAUGa-----	7
0,-4	
-----UAGCUUAUCAGACUGAUGaa-----	3
0,-4	
-----UAGCUUAUCAGACUGAUGau-----	23
0,-4	
-----UAGCUUAUCAGACUGAUGU-----	8733
0,-3	
-----UAGCUUAUCAGACUGAUGUa-----	57
0,-3	
-----UAGCUUAUCAGACUGAUGUaa-----	37
0,-3	
-----UAGCUUAUCAGACUGAUGUau-----	2
0,-3	
-----UAGCUUAUCAGACUGAUGUU-----	
69894 0,-2	
-----UAGCUUAUCAGACUGAUGUUa-----	405
0,-2	
-----UAGCUUAUCAGACUGAUGUUaa-----	54
0,-2	
-----UAGCUUAUCAGACUGAUGUUau-----	2
0,-2	
-----UAGCUUAUCAGACUGAUGUUu-----	84
0,-2	
-----UAGCUUAUCAGACUGAUGUUuu-----	2
0,-2	
-----UAGCUUAUCAGACUGAUGUUG-----	
49258 0,-1	
-----UAGCUUAUCAGACUGAUGUUGu-----	72
0,-1	
-----UAGCUUAUCAGACUGAUGUUGuu-----	2
0,-1	
-----UAGCUUAUCAGACUGAUGUUGA-----	
30963 0,0	
-----UAGCUUAUCAGACUGAUGUUGAa-----	1688
0,0	
-----UAGCUUAUCAGACUGAUGUUGAaa-----	196
0,0	

-----UAGCUUAUCAGACUGAUGUUGAau-----	11
0,0	
-----UAGCUUAUCAGACUGAUGUUGAu-----	95
0,0	
-----UAGCUUAUCAGACUGAUGUUGAuu-----	19
0,0	
-----UAGCUUAUCAGACUGAUGUUGAC-----	
10180 0,1	
-----UAGCUUAUCAGACUGAUGUUGACa-----	4701
0,1	
-----UAGCUUAUCAGACUGAUGUUGACaa-----	25
0,1	
-----UAGCUUAUCAGACUGAUGUUGACau-----	22
0,1	
-----UAGCUUAUCAGACUGAUGUUGACU-----	2303
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUa-----	10
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUu-----	3
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUG-----	5
0,3	
-----AGCUUAUCAGACUGAUGU-----	25
1,-3	
-----AGCUUAUCAGACUGAUGUU-----	259
1,-2	
-----AGCUUAUCAGACUGAUGUUG-----	208
1,-1	
-----AGCUUAUCAGACUGAUGUUGu-----	28
1,-1	
-----AGCUUAUCAGACUGAUGUUGA-----	402
1,0	
-----AGCUUAUCAGACUGAUGUUGAa-----	21
1,0	
-----AGCUUAUCAGACUGAUGUUGAaa-----	2
1,0	
-----AGCUUAUCAGACUGAUGUUGAu-----	6
1,0	

-----AGCUUAUCAGACUGAUGUUGAC-----	168
1,1	
-----AGCUUAUCAGACUGAUGUUGACa-----	69
1,1	
-----AGCUUAUCAGACUGAUGUUGACaa-----	2
1,1	
-----AGCUUAUCAGACUGAUGUUGACau-----	4
1,1	
-----AGCUUAUCAGACUGAUGUUGACU-----	31
1,2	
-----GCUUAUCAGACUGAUGUU-----	84
2,-2	
-----GCUUAUCAGACUGAUGUUG-----	93
2,-1	
-----GCUUAUCAGACUGAUGUUGA-----	68
2,0	
-----GCUUAUCAGACUGAUGUUGAa-----	6
2,0	
-----GCUUAUCAGACUGAUGUUGAC-----	26
2,1	
-----GCUUAUCAGACUGAUGUUGACa-----	9
2,1	
-----GCUUAUCAGACUGAUGUUGACU-----	7
2,2	
-----CAACACCAGUCGAUGGGC-----	11
0,-3	
-----CAACACCAGUCGAUGGGCU-----	112
0,-2	
-----CAACACCAGUCGAUGGGCUuu-----	3
0,-2	
-----CAACACCAGUCGAUGGGCUG-----	15
0,-1	
-----CAACACCAGUCGAUGGGCUGU-----	108
0,0	
-----CAACACCAGUCGAUGGGCUGUa-----	9
0,0	
-----CAACACCAGUCGAUGGGCUGUaa-----	175
0,0	


```

-----AGCCCCUGCCCACCGCACACUGa-----
----- 2
-----ACUGUGCGUGUGACAG
CGGCU----- 15 -1,-2
-----CUGUGCGUGUGACAG
CGG----- 5 0,-4
-----CUGUGCGUGUGACAG
CGGCU----- 70 0,-2
-----CUGUGCGUGUGACAG
CGGCUGA----- 23 0,0
-----CUGUGCGUGUGACAG
CGGCUGAa----- 4 0,0
-----CUGUGCGUGUGACAG
CGGCUGAU----- 2 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUa----- 2 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUau----- 2 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUu----- 3 0,1

```

>hsa-mir-2110 5p:8-29 SRX018966

```

cagggguUUGGGGAAACGGCCGCUGAGUGaggcgucggcuguguuucucaccgcgguuuuccuccacucuug
(((((((...(((((((...(((((((...(((((((...))))))...))))))...))))))...))))))
-----UUGGGGAAACGGCCGCUGAG----- 7
0,-2
-----UUGGGGAAACGGCCGCUGAGa----- 3
0,-2
-----UUGGGGAAACGGCCGCUGAGU----- 7
0,-1
-----UUGGGGAAACGGCCGCUGAGUa----- 2
0,-1
-----UUGGGGAAACGGCCGCUGAGUaa----- 3
0,-1
-----UUGGGGAAACGGCCGCUGAGUG----- 21
0,0
-----UUGGGGAAACGGCCGCUGAGUGu----- 14
0,0

```

-----UUGGGGAAACGGCCGCUGAGUGuu-----	2
0,0	
-----UUGGGGAAACGGCCGCUGAGUGA-----	53
0,1	
-----UUGGGGAAACGGCCGCUGAGUGAu-----	7
0,1	
-----UUGGGGAAACGGCCGCUGAGUGAG-----	5
0,2	
-----UUGGGGAAACGGCCGCUGAGUGAGu-----	8
0,2	
-----UGGGGAAACGGCCGCUGAGUGA-----	3
1,1	

>hsa-mir-212 3p:71-91 SRX018966

cggggcaccggccgggacagcgcggccaccuuggcucuagacugcuuacugcccgggcccgcucagUAACAGUCUC
CAGUCACGGCCaccgacgccuggcccccgcc

-----UAACAGUCUC
CAGUCACGGCC----- 2 0,0

-----UAACAGUCUC
CAGUCACGGCCuu----- 2 0,0

-----UAACAGUCUC
CAGUCACGGCCA----- 6 0,1

-----UAACAGUCUC
CAGUCACGGCCA_a----- 4 0,1

-----UAACAGUCUC
CAGUCACGGCCAu----- 3 0,1

-----UAACAGUCUC
CAGUCACGGCCAuu----- 2 0,1

>hsa-mi r-214 mi:30-51;MA:71-92 SRX018966

ggccuggcuggacagaguugucaugugucUGCCUGUCUACACUUGCUGUGCagaacaucgcucaccuguACAGCAGGCA
CAGACAGGCAGUcacaugacaacccagccu

[illegible]

-----UGCCUGUCUACACUUGCUGUG-----
----- 2 0,-1 -----

-----UGCCUGUCUACACUUGCUGUGC-----			
-----	3	0,0	
-----GUACAGCAGGCA			
CAGACAGGCA-----	2	-2,-2	
-----GUACAGCAGGCA			
CAGACAGGCAu-----	3	-2,-2	
-----UACAGCAGGCA			
CAGACAG-----	8	-1,-5	
-----UACAGCAGGCA			
CAGACAGa-----	2	-1,-5	
-----UACAGCAGGCA			
CAGACAGaa-----	4	-1,-5	
-----UACAGCAGGCA			
CAGACAGG-----	38	-1,-4	
-----UACAGCAGGCA			
CAGACAGGa-----	2	-1,-4	
-----UACAGCAGGCA			
CAGACAGGaa-----	4	-1,-4	
-----UACAGCAGGCA			
CAGACAGGC-----	2	-1,-3	
-----UACAGCAGGCA			
CAGACAGGCA-----	38	-1,-2	
-----UACAGCAGGCA			
CAGACAGGCAa-----	43	-1,-2	
-----UACAGCAGGCA			
CAGACAGGCAaa-----	12	-1,-2	
-----UACAGCAGGCA			
CAGACAGGCAau-----	21	-1,-2	
-----UACAGCAGGCA			
CAGACAGGCAu-----	49	-1,-2	
-----UACAGCAGGCA			
CAGACAGGCAuu-----	13	-1,-2	
-----UACAGCAGGCA			
CAGACAGGCAG-----	4	-1,-1	
-----UACAGCAGGCA			
CAGACAGGCAGa-----	30	-1,-1	
-----ACAGCAGGCA			
CAGACAGG-----	36	0,-4	

```

-----ACAGCAGGCA
CAGACAGGaa----- 3 0,-4
-----ACAGCAGGCA
CAGACAGGC----- 2 0,-3
-----ACAGCAGGCA
CAGACAGGCA----- 108 0,-2
-----ACAGCAGGCA
CAGACAGGCAa----- 52 0,-2
-----ACAGCAGGCA
CAGACAGGCAaa----- 16 0,-2
-----ACAGCAGGCA
CAGACAGGCAau----- 22 0,-2
-----ACAGCAGGCA
CAGACAGGCAu----- 26 0,-2
-----ACAGCAGGCA
CAGACAGGCAuu----- 8 0,-2
-----ACAGCAGGCA
CAGACAGGCAG----- 30 0,-1
-----ACAGCAGGCA
CAGACAGGCAGa----- 44 0,-1
-----ACAGCAGGCA
CAGACAGGCAGaa----- 8 0,-1
-----ACAGCAGGCA
CAGACAGGCAGau----- 4 0,-1
-----ACAGCAGGCA
CAGACAGGCAGU----- 24 0,0
-----ACAGCAGGCA
CAGACAGGCAGUa----- 2 0,0

```

>hsa-mir-215 5p:27-47 SRX018966

aucauucagaaaugguauacaggaaaAUGACCUAUGAAUUGACAGACaauauagcugaguuuugucugucauuucuuuagg
ccaauauucuguaugacugugcuacucaa

```

.....(((.(((((((((((.((.(((.(((.((((((((((((.....)))))))))))).)))..)))
.)).).)))))).....)))))))).))..
-----AUGACCUAUGAAUUGACAG-----
----- 196 0,-2
-----AUGACCUAUGAAUUGACAGA-----
----- 2 0,-1

```



```

-----AUGACCUAUGAAUUGACAGAC-----
----- 3 0,0
-----AUGACCUAUGAAUUGACAGACA-----
----- 7 0,1
-----UGACCUAUGAAUUGACAG-----
----- 3540 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 42 1,-2
-----UGACCUAUGAAUUGACAGA-----
----- 108 1,-1
-----UGACCUAUGAAUUGACAGAA-----
----- 10 1,-1
-----UGACCUAUGAAUUGACAGAAa-----
----- 11 1,-1
-----UGACCUAUGAAUUGACAGAC-----
----- 19 1,0
-----UGACCUAUGAAUUGACAGACu-----
----- 2 1,0
-----UGACCUAUGAAUUGACAGACA-----
----- 98 1,1
-----UGACCUAUGAAUUGACAGACAu-----
----- 14 1,1
-----UGACCUAUGAAUUGACAGACAUu-----
----- 9 1,1
-----UGACCUAUGAAUUGACAGACAAa-----
----- 2 1,2
-----UGACCUAUGAAUUGACAGACAAaa-----
----- 2 1,2

```

>hsa-mir-216b 5p:11-32 SRX018966

```

gcagacuggaAAAUCUCUGCAGGCAAUGUGAugucacugaggaaucacacacuacccguagagauucuacagucuga
ca

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..
-----AAAAUCUCUGCAGGCAAUGUG-----
-- 3 -1,-1
-----AAAAUCUCUGCAGGCAAUGUGu-----
-- 2 -1,-1

```

```

-----AAAUCUCUGCAGGCAAUGUGA-----
-- 2 -1,0
-----AAAUCUCUGCAGGCAAUGU-----
-- 7 0,-2
-----AAAUCUCUGCAGGCAAUGUG-----
-- 4 0,-1
-----AAAUCUCUGCAGGCAAUGUGu-----
-- 2 0,-1
-----AAAUCUCUGCAGGCAAUGUGA-----
-- 17 0,0
-----AAAUCUCUGCAGGCAAUGUGAU-----
-- 2 0,1

```

>hsa-mir-217 5p:35-57 SRX018966

```

aguauaauuauuacauaguuuuugaugucgcagaUACUGCAUCAGGAACUGAUUGGAuaagaaucagucaccaucaguuc
cuaaugcauugccuucagcaucuaaacaag

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))...

```

```

-----AUACUGCAUCAGGAACUGAU-----
----- 3 -1,-4
-----AUACUGCAUCAGGAACUGAUa-----
----- 8 -1,-4
-----AUACUGCAUCAGGAACUGAUU-----
----- 32 -1,-3
-----AUACUGCAUCAGGAACUGAUUa-----
----- 3 -1,-3
-----AUACUGCAUCAGGAACUGAUUau-----
----- 2 -1,-3
-----AUACUGCAUCAGGAACUGAUUu-----
----- 4 -1,-3
-----AUACUGCAUCAGGAACUGAUUG-----
----- 53 -1,-2
-----AUACUGCAUCAGGAACUGAUUGa-----
----- 10 -1,-2
-----AUACUGCAUCAGGAACUGAUUGu-----
----- 3 -1,-2
-----AUACUGCAUCAGGAACUGAUUGG-----
----- 16 -1,-1

```

```

-----UACUGCAUCAGGAACUGAUUG-----
----- 4 0,-2
-----UACUGCAUCAGGAACUGAUUGG-----
----- 4 0,-1
-----UACUGCAUCAGGAACUGAUUGGA-----
----- 3 0,0

```

```

>hsa-mir-218-1 MA:25-45;mi:68-89 SRX018966
gugauaanguagcgagauuuucugUUGUGCUUGAUCUAACCAUGUggguugcgagguaugaguaaaacAUGGUUCCGUCAA
GCACCAUGGaacgucacgcagcuuucuaca
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UUGUGCUUGAUCUAACCAUGU-----
----- 4 0,0

```

```

>hsa-mir-218-2 MA:25-45;mi:67-88 SRX018966
gaccagucgcugcggggcuuuccuUUGUGCUUGAUCUAACCAUGUgguggaacgauggaaacggaaCAUGGUUCUGUCAA
GCACCGCGgaaagcaccgugcucuccugca
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----UUGUGCUUGAUCUAACCAUGU-----
----- 4 0,0

```

```

>hsa-mir-219-1 5p:21-41;3p:62-83 SRX018966
ccgccccgggcccgcggcuccUGAUUGUCCAAACGCAAUUCcgagucuauggcuccggccgAGAGUUGAGUCUGGACGUC
CCGagccgcccgcaccccaaacucgagcggg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----UGAUUGUCCAAACGCAAU-----
----- 8 0,-3
-----UGAUUGUCCAAACGCAAU-----
----- 5 0,-2
-----UGAUUGUCCAAACGCAAUUC-----
----- 2 0,-1
-----UGAUUGUCCAAACGCAAUUC-----
----- 2 0,0
-----UGAUUGUCCAAACGCAAUUC-----
----- 2 0,1

```

```

-----AGAGUUGAGUCUGGACGUC
CC----- 2 0,-1
-----AGAGUUGAGUCUGGACGUC
CCG----- 3 0,0
-----AGAGUUGAGUCUGGACGUC
CCGA----- 2 0,1

```

```

>hsa-mir-219-2 5p:19-39;3p:62-83 SRX018966
acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCUuguacgagucugcgccaaccgAGAAUUGUGGCUGGACAUC
UGUggcugagcuccggg
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))).))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGAUUGUCCAAACGCAAU-----
----- 8 0,-3
-----UGAUUGUCCAAACGCAAU-----
----- 5 0,-2
-----UGAUUGUCCAAACGCAAUUC-----
----- 2 0,-1
-----UGAUUGUCCAAACGCAAUUCU-----
----- 2 0,0

```

```

>hsa-mir-22 mi:15-36;MA:53-74 SRX018966
ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.)))
-----UAGUUCUUCAGUGGCAAGCUUA-----
----- 4 -1,0
-----AGUUCUUCAGUGGCAAGC-----
----- 8 0,-4
-----AGUUCUUCAGUGGCAAGCU-----
----- 37 0,-3
-----AGUUCUUCAGUGGCAAGCUU-----
----- 13 0,-2
-----AGUUCUUCAGUGGCAAGCUUU-----
----- 443 0,-1
-----AGUUCUUCAGUGGCAAGCUUUu-----
----- 28 0,-1

```

```

-----AGUUCUUCAGUGGCAAGCUUUA-----
----- 258 0,0
-----AGUUCUUCAGUGGCAAGCUUUAa-----
----- 25 0,0
-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 31 0,1
-----AGUUCUUCAGUGGCAAGCUUUAUu-----
----- 2 0,1
-----AAAGCUGCCAGUUGAAGAAC-----
----- 2 -1,-3
-----AAAGCUGCCAGUUGAAGAACU-----
----- 4 -1,-2
-----AAAGCUGCCAGUUGAAGAACUGU-----
----- 2 -1,0
-----AAGCUGCCAGUUGAAGAA-----
----- 2723 0,-4
-----AAGCUGCCAGUUGAAGAAa-----
----- 39 0,-4
-----AAGCUGCCAGUUGAAGAAaa-----
----- 4 0,-4
-----AAGCUGCCAGUUGAAGAAau-----
----- 10 0,-4
-----AAGCUGCCAGUUGAAGAAu-----
----- 9 0,-4
-----AAGCUGCCAGUUGAAGAAuu-----
----- 155 0,-4
-----AAGCUGCCAGUUGAAGAAC-----
----- 1700 0,-3
-----AAGCUGCCAGUUGAAGAACa-----
----- 308 0,-3
-----AAGCUGCCAGUUGAAGAACaa-----
----- 53 0,-3
-----AAGCUGCCAGUUGAAGAACau-----
----- 15 0,-3
-----AAGCUGCCAGUUGAAGAACU-----
----- 8355 0,-2
-----AAGCUGCCAGUUGAAGAACUa-----
----- 109 0,-2

```

		-AAGCUGCCAGUUGAAGAACUaa-----
62	0,-2	-----
		-AAGCUGCCAGUUGAAGAACUau-----
52	0,-2	-----
		-AAGCUGCCAGUUGAAGAACUu-----
91	0,-2	-----
		-AAGCUGCCAGUUGAAGAACUuu-----
170	0,-2	-----
		-AAGCUGCCAGUUGAAGAACUG-----
968	0,-1	-----
		-AAGCUGCCAGUUGAAGAACUGa-----
73	0,-1	-----
		-AAGCUGCCAGUUGAAGAACUGaa-----
4	0,-1	-----
		-AAGCUGCCAGUUGAAGAACUGau-----
2	0,-1	-----
		-AAGCUGCCAGUUGAAGAACUGU-----
4336	0,0	-----
		-AAGCUGCCAGUUGAAGAACUGUa-----
67	0,0	-----
		-AAGCUGCCAGUUGAAGAACUGUaa-----
25	0,0	-----
		-AAGCUGCCAGUUGAAGAACUGUau-----
59	0,0	-----
		-AAGCUGCCAGUUGAAGAACUGUU-----
160	0,1	-----
		-AAGCUGCCAGUUGAAGAACUGUUa-----
16	0,1	-----
		-AAGCUGCCAGUUGAAGAACUGUUaa-----
3	0,1	-----
		-AAGCUGCCAGUUGAAGAACUGUUau-----
2	0,1	-----
		-AAGCUGCCAGUUGAAGAACUGUUu-----
137	0,1	-----
		-AAGCUGCCAGUUGAAGAACUGUUuu-----
11	0,1	-----
		-AGCUGCCAGUUGAAGAAC-----
13	1,-3	-----

-----			AGCUGCCAGUUGAAGAACU-----
-----	35	1,-2	
-----			AGCUGCCAGUUGAAGAACU _u -----
-----	2	1,-2	
-----			AGCUGCCAGUUGAAGAACUG-----
-----	10	1,-1	
-----			AGCUGCCAGUUGAAGAACUGU-----
-----	38	1,0	
-----			AGCUGCCAGUUGAAGAACUGU _a -----
-----	2	1,0	
-----			AGCUGCCAGUUGAAGAACUGU _{au} -----
-----	2	1,0	
-----			AGCUGCCAGUUGAAGAACUGUU-----
-----	2	1,1	
-----			AGCUGCCAGUUGAAGAACUGUU _u -----
-----	4	1,1	

>hsa-mi r-221 mi:25-46;MA:65-87 SRX018966

ugaacauccagggucuggggcaugaACCUGGCAUACAAUGUAGAUUucuguguucguuaggcaacAGCUACAUUGUCUGCU
GGGUUUCaggcuaaccuggaaacauguucuc

```

-----AACCUGGCAUACAAUGUA-----
-----      2      -1,-5
-----AACCUGGCAUACAAUGUAGAU-----
-----      3      -1,-2
-----AACCUGGCAUACAAUGUAGAUa-----
-----      2      -1,-2
-----AACCUGGCAUACAAUGUAGAUU-----
-----     13     -1,-1
-----AACCUGGCAUACAAUGUAGAUUU-----
-----     14     -1,0
-----ACCUGGCAUACAAUGUAG-----
-----      8      0,-4
-----ACCUGGCAUACAAUGUAGA-----
-----     14      0,-3
-----ACCUGGCAUACAAUGUAGAa-----
-----      3      0,-3

```

```

-----ACCUGGCAUACAAUGUAGAU-----
-----78 0,-2-----
-----ACCUGGCAUACAAUGUAGAUa-----
-----97 0,-2-----
-----ACCUGGCAUACAAUGUAGAUaa-----
-----8 0,-2-----
-----ACCUGGCAUACAAUGUAGAUU-----
-----386 0,-1-----
-----ACCUGGCAUACAAUGUAGAUUa-----
-----27 0,-1-----
-----ACCUGGCAUACAAUGUAGAUUaa-----
-----2 0,-1-----
-----ACCUGGCAUACAAUGUAGAUUau-----
-----2 0,-1-----
-----ACCUGGCAUACAAUGUAGAUUU-----
-----1436 0,0-----
-----ACCUGGCAUACAAUGUAGAUUUa-----
-----16 0,0-----
-----ACCUGGCAUACAAUGUAGAUUUu-----
-----16 0,0-----
-----ACCUGGCAUACAAUGUAGAUUUC-----
-----157 0,1-----
-----ACCUGGCAUACAAUGUAGAUUUCa-----
-----5 0,1-----
-----ACCUGGCAUACAAUGUAGAUUUUCU-----
-----87 0,2-----
-----CCUGGCAUACAAUGUAGAUUU-----
-----10 1,0-----
-----CAGCUACAUUGUCUGCU
GGGUUau-----3 -1,-2-----
-----AGCUACAUUGUCUGCU
GG-----10 0,-5-----
-----AGCUACAUUGUCUGCU
GGG-----111 0,-4-----
-----AGCUACAUUGUCUGCU
GGGU-----22 0,-3-----
-----AGCUACAUUGUCUGCU
GGGUa-----2 0,-3-----

```


-----				-----AGCUACAUUGUCUGCU
GGGUaa-----	19	0,-3		-----AGCUACAUUGUCUGCU
GGGUau-----	44	0,-3		-----AGCUACAUUGUCUGCU
GGGUU-----	163	0,-2		-----AGCUACAUUGUCUGCU
GGGUUa-----	63	0,-2		-----AGCUACAUUGUCUGCU
GGGUUaa-----	44	0,-2		-----AGCUACAUUGUCUGCU
GGGUUau-----	75	0,-2		-----AGCUACAUUGUCUGCU
GGGUUU-----	1008	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUa-----	104	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUaa-----	29	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUau-----	22	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUu-----	223	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUuu-----	19	0,-1		-----AGCUACAUUGUCUGCU
GGGUUUC-----	282	0,0		-----AGCUACAUUGUCUGCU
GGGUUUCu-----	16	0,0		-----AGCUACAUUGUCUGCU
GGGUUUCA-----	6	0,1		-----AGCUACAUUGUCUGCU
GGGUUUCAu-----	2	0,1		-----GCUACAUUGUCUGCU
GGG-----	2	1,-4		-----GCUACAUUGUCUGCU
GGGUU-----	2	1,-2		-----GCUACAUUGUCUGCU
GGGUUa-----	2	1,-2		

```

-----GCUACAUUGUCUGCU
GGGUUaa----- 3 1,-2
-----GCUACAUUGUCUGCU
GGGUUau----- 3 1,-2
-----GCUACAUUGUCUGCU
GGGUUU----- 24 1,-1
-----GCUACAUUGUCUGCU
GGGUUUa----- 2 1,-1
-----GCUACAUUGUCUGCU
GGGUUUu----- 8 1,-1
-----GCUACAUUGUCUGCU
GGGUUUC----- 7 1,0

```

>hsa-mi r-222 mi:31-52;MA:69-89 SRX018966

```

gcugcuggaagguguagguaccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu
...((((((((((((.....((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))..)).))))))))))))))))).

```

```

-----AGCUACAUCUGG
CUACUG----- 225 0,-3
-----AGCUACAUCUGG
CUACUGG----- 431 0,-2
-----AGCUACAUCUGG
CUACUGGG----- 513 0,-1
-----AGCUACAUCUGG
CUACUGGGa----- 8 0,-1
-----AGCUACAUCUGG
CUACUGGGau----- 5 0,-1
-----AGCUACAUCUGG
CUACUGGGU----- 864 0,0
-----AGCUACAUCUGG
CUACUGGGUa----- 66 0,0
-----AGCUACAUCUGG
CUACUGGGUaa----- 114 0,0
-----AGCUACAUCUGG
CUACUGGGUau----- 90 0,0
-----AGCUACAUCUGG
CUACUGGGUu----- 60 0,0

```

-----	AGCUACAUCUGG
CUACUGGGUuu-----	34 0,0
-----	AGCUACAUCUGG
CUACUGGGUC-----	1891 0,1
-----	AGCUACAUCUGG
CUACUGGGUCa-----	102 0,1
-----	AGCUACAUCUGG
CUACUGGGUCaa-----	8 0,1
-----	AGCUACAUCUGG
CUACUGGGUCau-----	29 0,1
-----	AGCUACAUCUGG
CUACUGGGUCU-----	1797 0,2
-----	AGCUACAUCUGG
CUACUGGGUCUa-----	18 0,2
-----	AGCUACAUCUGG
CUACUGGGUCUaa-----	4 0,2
-----	AGCUACAUCUGG
CUACUGGGUCUau-----	13 0,2
-----	AGCUACAUCUGG
CUACUGGGUCUu-----	94 0,2
-----	AGCUACAUCUGG
CUACUGGGUCUuu-----	61 0,2
-----	AGCUACAUCUGG
CUACUGGGUCUC-----	226 0,3
-----	AGCUACAUCUGG
CUACUGGGUCUCa-----	27 0,3
-----	AGCUACAUCUGG
CUACUGGGUCUCU-----	98 0,4
-----	GCUACAUCUGG
CUACUGGG-----	3 1,-1
-----	GCUACAUCUGG
CUACUGGGU-----	2 1,0
-----	GCUACAUCUGG
CUACUGGGUC-----	13 1,1
-----	GCUACAUCUGG
CUACUGGGUCa-----	2 1,1
-----	GCUACAUCUGG
CUACUGGGUCU-----	6 1,2

>hsa-mir-223 mi:26-47;MA:68-89 SRX018966

ccuggccuccugcagugccacgcucCGUGUAUUUGACAAGCUGAGUUggacacuccaugugguagagUGUCAGUUUGUCA
AAUACCCCAagugcggcacaugcuaccag

.((((.....(((((((.(((((.((((((((((((((((.....(((((((.....))))))))))))))))))
))))).).))))).))))).))))).))))))

-----CGUGUAUUUGACAAGCUGAGU-----

----- 3 0,-1

-----CGUGUAUUUGACAAGCUGAGUUG-----

----- 5 0,1

-----UGUCAGUUUGUCA

AAUAC----- 16 0,-4

-----UGUCAGUUUGUCA

AAUACC----- 46 0,-3

-----UGUCAGUUUGUCA

AAUACCC----- 19 0,-2

-----UGUCAGUUUGUCA

AAUACCCC----- 20 0,-1

-----UGUCAGUUUGUCA

AAUACCCCA----- 66 0,0

-----UGUCAGUUUGUCA

AAUACCCCAu----- 36 0,0

-----UGUCAGUUUGUCA

AAUACCCCAuu----- 3 0,0

-----UGUCAGUUUGUCA

AAUACCCCAA----- 67 0,1

-----UGUCAGUUUGUCA

AAUACCCCAAa----- 6 0,1

-----UGUCAGUUUGUCA

AAUACCCCAAu----- 19 0,1

-----UGUCAGUUUGUCA

AAUACCCCAAG----- 2 0,2

-----GUCAGUUUGUCA

AAUACC----- 31 1,-3

-----GUCAGUUUGUCA

AAUACCC----- 27 1,-2

-----GUCAGUUUGUCA

AAUACCCC----- 5 1,-1

```

-----GUCAGUUUGUCA
AAUACCCCA----- 24 1,0
-----GUCAGUUUGUCA
AAUACCCCAu----- 7 1,0
-----GUCAGUUUGUCA
AAUACCCCAuu----- 2 1,0
-----GUCAGUUUGUCA
AAUACCCCAA----- 49 1,1
-----GUCAGUUUGUCA
AAUACCCCAAa----- 3 1,1
-----GUCAGUUUGUCA
AAUACCCCAAu----- 16 1,1

```

>hsa-mir-224 MA:8-28;mi:53-75 SRX018966

```

gggcuuuCAAGUCACUAGUGGUUCCGUUuaguagauugugcauuguuucAAAAUGGUGCCCUAGUGACUACAaagcc
c

```

```

(((((((...(((((((((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

```

```

-----CAAGUCACUAGUGGUUCCGUU-----
- 3 0,0
-----CAAGUCACUAGUGGUUCCGUUU-----
- 32 0,1
-----CAAGUCACUAGUGGUUCCGUUUu-----
- 3 0,1
-----CAAGUCACUAGUGGUUCCGUUUA-----
- 13 0,2
-----CAAGUCACUAGUGGUUCCGUUUAG-----
- 74 0,3
-----CAAGUCACUAGUGGUUCCGUUUAGa-----
- 2 0,3
-----CAAGUCACUAGUGGUUCCGUUUAGU-----
- 4 0,4
-----AAGUCACUAGUGGUUCCGUUUA-----
- 4 1,2
-----AAAUGGUGCCCUAGUGAC-----
- 7 1,-4
-----AAAUGGUGCCCUAGUGACUA-----
- 2 1,-2

```

```

-----AAAUGGUGCCCUAGUGACUAu-----
-   3   1,-2
-----AAAUGGUGCCCUAGUGACUACA-----
-   6   1,0

```

>hsa-mir-2355 5p:11-31;3p:54-75 SRX018966

```

cagacgugucAUCCCCAGAUACAAUGGACAUAaugcuauuauaaucguauggcAUUGUCCUUGCUGUUUGGAGAUaaauac
ugcugac

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))..

```

```

-----AUCCCCAGAUACAAUGGACAA-----
----- 2   0,0
-----AUCCCCAGAUACAAUGGACAAU-----
----- 2   0,1

```

>hsa-mir-23a mi:9-30;MA:45-65 SRX018966

```

ggccggcuGGGGUUCCUGGGGAUGGGAUUUgcuuccugucacaaAUCACAUUGCCAGGGAUUUCaaccgacc

```

```

(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.

```

```

-----GGGGUUCCUGGGGAUGGGAU----- 2
0,-2
-----GGGGUUCCUGGGGAUGGGAU----- 6
0,-1
-----GGGGUUCCUGGGGAUGGGAUUU----- 2
0,0
-----AAAUCACAUUGCCAGGGAUUUC----- 2
-2,-1
-----AAUCACAUUGCCAGGGAUU----- 10
-1,-3
-----AAUCACAUUGCCAGGGAUUU----- 30
-1,-2
-----AAUCACAUUGCCAGGGAUUUa----- 3
-1,-2
-----AAUCACAUUGCCAGGGAUUUaa----- 2
-1,-2
-----AAUCACAUUGCCAGGGAUUUu----- 3
-1,-2
-----AAUCACAUUGCCAGGGAUUUC----- 21
-1,-1

```

	-----AAUCACAUUGCCAGGGAUUUCa-----	8
-1,-1		
	-----AAUCACAUUGCCAGGGAUUUCC-----	19
-1,0		
	-----AAUCACAUUGCCAGGGAUUUCCA-----	17
-1,1		
	-----AAUCACAUUGCCAGGGAUUUCCAu-----	3
-1,1		
	-----AUCACAUUGCCAGGGAUU-----	330
0,-3		
	-----AUCACAUUGCCAGGGAUUU-----	3065
0,-2		
	-----AUCACAUUGCCAGGGAUUUa-----	630
0,-2		
	-----AUCACAUUGCCAGGGAUUUaa-----	138
0,-2		
	-----AUCACAUUGCCAGGGAUUUau-----	11
0,-2		
	-----AUCACAUUGCCAGGGAUUUu-----	367
0,-2		
	-----AUCACAUUGCCAGGGAUUUuu-----	8
0,-2		
	-----AUCACAUUGCCAGGGAUUUC-----	1940
0,-1		
	-----AUCACAUUGCCAGGGAUUUCa-----	375
0,-1		
	-----AUCACAUUGCCAGGGAUUUCaa-----	23
0,-1		
	-----AUCACAUUGCCAGGGAUUUCu-----	42
0,-1		
	-----AUCACAUUGCCAGGGAUUUCuu-----	2
0,-1		
	-----AUCACAUUGCCAGGGAUUUCC-----	1242
0,0		
	-----AUCACAUUGCCAGGGAUUUCCu-----	17
0,0		
	-----AUCACAUUGCCAGGGAUUUCCuu-----	2
0,0		

-----AUCACAUUGCCAGGGAUUUCCA-----	4142
0,1	
-----AUCACAUUGCCAGGGAUUUCCAu-----	469
0,1	
-----AUCACAUUGCCAGGGAUUUCCAuu-----	30
0,1	
-----AUCACAUUGCCAGGGAUUUCCAA-----	707
0,2	
-----AUCACAUUGCCAGGGAUUUCCAAa-----	16
0,2	
-----AUCACAUUGCCAGGGAUUUCCAAu-----	49
0,2	
-----AUCACAUUGCCAGGGAUUUCCAAuu-----	6
0,2	
-----UCACAUUGCCAGGGAUUU-----	2
1,-2	
-----UCACAUUGCCAGGGAUUUa-----	5
1,-2	
-----UCACAUUGCCAGGGAUUUC-----	13
1,-1	
-----UCACAUUGCCAGGGAUUUCa-----	2
1,-1	
-----UCACAUUGCCAGGGAUUUC-----	5
1,0	
-----UCACAUUGCCAGGGAUUUCCA-----	24
1,1	
-----UCACAUUGCCAGGGAUUUCCAu-----	7
1,1	
-----UCACAUUGCCAGGGAUUUCCAA-----	9
1,2	
-----UCACAUUGCCAGGGAUUUCCAAC-----	3
1,3	

>hsa-mir-23b mi:20-41;MA:58-78 SRX018966

cucaggugcucuggcugcuUGGGUUCCUGGCAUGCUGAUUUgugacuuaagauuaaaAUCACAUUGCCAGGGAUUACCAc
gcaaccagaccuuggc

.((((((.(.(((((((((.((((((((((((((((((.(((((((.....))))))))).))))))))).)).).
)))..)))..)))))))).


```

-----CUUGGUUCCUGGCAUGCUGAUU-----
----- 2 -2,-1
-----UUGGUUCCUGGCAUGCUGA-----
----- 2 -1,-3
-----UUGGUUCCUGGCAUGCUGAU-----
----- 6 -1,-2
-----UUGGUUCCUGGCAUGCUGAUa-----
----- 3 -1,-2
-----UUGGUUCCUGGCAUGCUGAUU-----
----- 16 -1,-1
-----UUGGUUCCUGGCAUGCUGAUUU-----
----- 22 -1,0
-----UUGGUUCCUGGCAUGCUGAUUUu-----
----- 5 -1,0
-----UGGUUCCUGGCAUGCUGA-----
----- 4 0,-3
-----UGGUUCCUGGCAUGCUGAU-----
----- 54 0,-2
-----UGGUUCCUGGCAUGCUGAUa-----
----- 47 0,-2
-----UGGUUCCUGGCAUGCUGAUaa-----
----- 4 0,-2
-----UGGUUCCUGGCAUGCUGAUau-----
----- 2 0,-2
-----UGGUUCCUGGCAUGCUGAUU-----
----- 203 0,-1
-----UGGUUCCUGGCAUGCUGAUUa-----
----- 20 0,-1
-----UGGUUCCUGGCAUGCUGAUUaa-----
----- 2 0,-1
-----UGGUUCCUGGCAUGCUGAUUU-----
----- 611 0,0
-----UGGUUCCUGGCAUGCUGAUUUa-----
----- 42 0,0
-----UGGUUCCUGGCAUGCUGAUUUaa-----
----- 3 0,0
-----UGGUUCCUGGCAUGCUGAUUUau-----
----- 3 0,0

```

```

-----UGGGUCCUGGCAUGCUGAUUUu-----
-----76 0,0
-----UGGGUCCUGGCAUGCUGAUUUuu-----
-----3 0,0
-----GGGUCCUGGCAUGCUGAU-----
-----8 1,-2
-----GGGUCCUGGCAUGCUGAUa-----
-----2 1,-2
-----GGGUCCUGGCAUGCUGAUau-----
-----2 1,-2
-----GGGUCCUGGCAUGCUGAUU-----
-----40 1,-1
-----GGGUCCUGGCAUGCUGAUUa-----
-----3 1,-1
-----GGGUCCUGGCAUGCUGAUUU-----
-----147 1,0
-----GGGUCCUGGCAUGCUGAUUUa-----
-----19 1,0
-----GGGUCCUGGCAUGCUGAUUUaa-----
-----2 1,0
-----GGGUCCUGGCAUGCUGAUUUau-----
-----8 1,0
-----GGGUCCUGGCAUGCUGAUUUu-----
-----43 1,0
-----GGGUCCUGGCAUGCUGAUUUuu-----
-----15 1,0
-----GGGUCCUGGCAUGCUGAUUUG-----
-----8 1,1
-----AAUCACAUUGCCAGGGAUU-----
-----10 -1,-3
-----AAUCACAUUGCCAGGGAUUA-----
-----17 -1,-2
-----AAUCACAUUGCCAGGGAUUAa-----
-----10 -1,-2
-----AAUCACAUUGCCAGGGAUUAu-----
-----5 -1,-2
-----AAUCACAUUGCCAGGGAUUAC-----
-----17 -1,-1

```

```

-----AAUCACAUUGCCAGGGAUUACa--
-----      3   -1,-1
-----AAUCACAUUGCCAGGGAUUACC--
-----     12   -1,0
-----AAUCACAUUGCCAGGGAUUACCu-
-----      2   -1,0
-----AAUCACAUUGCCAGGGAUUACCA-
-----     19   -1,1
-----AAUCACAUUGCCAGGGAUUACCAu
-----      2   -1,1
-----AAUCACAUUGCCAGGGAUUACCAC
a-----      2   -1,2
-----AUCACAUUGCCAGGGAUU-----
-----    330   0,-3
-----AUCACAUUGCCAGGGAUUA-----
-----   1610    0,-2
-----AUCACAUUGCCAGGGAUUAa---
-----    548   0,-2
-----AUCACAUUGCCAGGGAUUAaa--
-----     61    0,-2
-----AUCACAUUGCCAGGGAUUAau--
-----      8    0,-2
-----AUCACAUUGCCAGGGAUUAu---
-----   269   0,-2
-----AUCACAUUGCCAGGGAUUAuu--
-----      9    0,-2
-----AUCACAUUGCCAGGGAUUAC---
-----   1178    0,-1
-----AUCACAUUGCCAGGGAUUACa--
-----    331   0,-1
-----AUCACAUUGCCAGGGAUUACaa-
-----    27    0,-1
-----AUCACAUUGCCAGGGAUUACau-
-----      2    0,-1
-----AUCACAUUGCCAGGGAUUACu--
-----    56    0,-1
-----AUCACAUUGCCAGGGAUUACC--
-----   1201    0,0

```

-----				-----AUCACAUUGCCAGGGAUUACCu-
-----	23	0,0		
-----				-----AUCACAUUGCCAGGGAUUACCu
-----	12	0,0		
-----				-----AUCACAUUGCCAGGGAUUACCA-
-----	3733	0,1		
-----				-----AUCACAUUGCCAGGGAUUACCAa
-----	143	0,1		
-----				-----AUCACAUUGCCAGGGAUUACCAa
a-----	6	0,1		
-----				-----AUCACAUUGCCAGGGAUUACCAa
u-----	5	0,1		
-----				-----AUCACAUUGCCAGGGAUUACCAu
-----	631	0,1		
-----				-----AUCACAUUGCCAGGGAUUACCAu
u-----	263	0,1		
-----				-----AUCACAUUGCCAGGGAUUACCAC
-----	703	0,2		
-----				-----AUCACAUUGCCAGGGAUUACCAC
a-----	176	0,2		
-----				-----AUCACAUUGCCAGGGAUUACCAC
aa-----	8	0,2		
-----				-----AUCACAUUGCCAGGGAUUACCAC
au-----	5	0,2		
-----				-----AUCACAUUGCCAGGGAUUACCAC
u-----	2355	0,2		
-----				-----AUCACAUUGCCAGGGAUUACCAC
uu-----	26	0,2		
-----				-----AUCACAUUGCCAGGGAUUACCAC
G-----	17	0,3		
-----				-----UCACAUUGCCAGGGAUUA----
-----	5	1,-2		
-----				-----UCACAUUGCCAGGGAUUAa----
-----	3	1,-2		
-----				-----UCACAUUGCCAGGGAUUAaa----
-----	2	1,-2		
-----				-----UCACAUUGCCAGGGAUUAu----
-----	5	1,-2		

Sequence	Count	Label
UCACAUUGCCAGGGGAUUAC	9	1,-1
UCACAUUGCCAGGGGAUUACa	7	1,-1
UCACAUUGCCAGGGGAUUACu	2	1,-1
UCACAUUGCCAGGGGAUUACC	6	1,0
UCACAUUGCCAGGGGAUUACCA	73	1,1
UCACAUUGCCAGGGGAUUACCAa	9	1,1
UCACAUUGCCAGGGGAUUACCAa	2	1,1
UCACAUUGCCAGGGGAUUACCAu	11	1,1
UCACAUUGCCAGGGGAUUACCAu	33	1,1
UCACAUUGCCAGGGGAUUACCAC	16	1,2
UCACAUUGCCAGGGGAUUACCAC	19	1,2
UCACAUUGCCAGGGGAUUACCAC	5	1,2
UCACAUUGCCAGGGGAUUACCAC	163	1,2
UCACAUUGCCAGGGGAUUACCAC	21	1,2
CACAUUGCCAGGGGAUUACCAu	2	2,1
CACAUUGCCAGGGGAUUACCAC	2	2,2

>hsa-mir-23c 3p:66-87 SRX018966

agugacuuuccaggugucacacagugaguggcauaaucagaguacaauuugagucaugcccauacAUCACAUUGCCAGUG
AUUACCCaaggaaagugacg

$$.((.(((((((.(((((((.((((((((((((((..(((((.))))). . .))))). . .)). . .)))). . .)))). . .)))). . .)))). . .)))). . .)))). . .)).$$

```

-----AUCACAUUGCCAGUG
AUU-----      6    0,-4
-----AUCACAUUGCCAGUG
AUUACCa-----    3    0,-1

```

>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018966

```

cuccggUGCCUACUGAGCUGAUUAUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag
(((((((((.....)))))).))))))
----GGUGCCUACUGAGCUGAUUAUCA-----      5
-2,-2
----GGUGCCUACUGAGCUGAUUAUCAG-----      4
-2,-1
----GUGCCUACUGAGCUGAUUAUa-----      3
-1,-4
----GUGCCUACUGAGCUGAUUAUCA-----      20
-1,-2
----GUGCCUACUGAGCUGAUUAUCAG-----      2
-1,-1
-----UGCCUACUGAGCUGAUUAUCA-----      2    0,-2
-----CUGGCUCAGUUCAGCAGGAACAG---      5    -1,0
-----CUGGCUCAGUUCAGCAGGAACAGu--      2    -1,0
-----UGGCUCAGUUCAGCAGGA-----      22    0,-4
-----UGGCUCAGUUCAGCAGGA-----      123    0,-3
-----UGGCUCAGUUCAGCAGGAa-----      14    0,-3
-----UGGCUCAGUUCAGCAGGAaa-----      2    0,-3
-----UGGCUCAGUUCAGCAGGAau-----      7    0,-3
-----UGGCUCAGUUCAGCAGGAAC-----      99    0,-2
-----UGGCUCAGUUCAGCAGGAACu-----      3    0,-2
-----UGGCUCAGUUCAGCAGGAACA-----      259    0,-1
-----UGGCUCAGUUCAGCAGGAACAa---      64    0,-1
-----UGGCUCAGUUCAGCAGGAACAaa--      12    0,-1
-----UGGCUCAGUUCAGCAGGAACAau--      4    0,-1
-----UGGCUCAGUUCAGCAGGAACAu---      15    0,-1
-----UGGCUCAGUUCAGCAGGAACAuu--      20    0,-1
-----UGGCUCAGUUCAGCAGGAACAG---      1636
0,0
-----UGGCUCAGUUCAGCAGGAACAGa--      84    0,0
-----UGGCUCAGUUCAGCAGGAACAGaa-      4    0,0

```


-1,0	-----CUGGCUCAGUUCAGCAGGAACAGu-	2
-1,0	-----UGGCUCAGUUCAGCAGGA-----	22
0,-4	-----UGGCUCAGUUCAGCAGGAA-----	123
0,-3	-----UGGCUCAGUUCAGCAGGAaAa---	14
0,-3	-----UGGCUCAGUUCAGCAGGAaAa---	2
0,-3	-----UGGCUCAGUUCAGCAGGAaAu---	7
0,-3	-----UGGCUCAGUUCAGCAGGAAC---	99
0,-2	-----UGGCUCAGUUCAGCAGGAACu---	3
0,-2	-----UGGCUCAGUUCAGCAGGAACA---	259
0,-1	-----UGGCUCAGUUCAGCAGGAACAa--	64
0,-1	-----UGGCUCAGUUCAGCAGGAACAaAa-	12
0,-1	-----UGGCUCAGUUCAGCAGGAACAaAu-	4
0,-1	-----UGGCUCAGUUCAGCAGGAACAu--	15
0,-1	-----UGGCUCAGUUCAGCAGGAACAuu-	20
0,-1	-----UGGCUCAGUUCAGCAGGAACAG--	1636
0,0	-----UGGCUCAGUUCAGCAGGAACAGa-	84
0,0	-----UGGCUCAGUUCAGCAGGAACAGaa	4
0,0	-----UGGCUCAGUUCAGCAGGAACAGau	4
0,0	-----UGGCUCAGUUCAGCAGGAACAGu-	2802

0,0	-----UGGCUCAGUUCAGCAGGAACAGuu	432
0,0	-----UGGCUCAGUUCAGCAGGAACAGG-	6
0,1	-----UGGCUCAGUUCAGCAGGAACAGGu	3
0,1	-----GGCUCAGUUCAGCAGGAA-----	2
1,-3	-----GGCUCAGUUCAGCAGGAACA---	5
1,-1	-----GGCUCAGUUCAGCAGGAACAa--	2
1,-1	-----GGCUCAGUUCAGCAGGAACAG--	57
1,0	-----GGCUCAGUUCAGCAGGAACAGa-	4
1,0	-----GGCUCAGUUCAGCAGGAACAGu-	101
1,0	-----GGCUCAGUUCAGCAGGAACAGuu	19
1,0	-----GCUCAGUUCAGCAGGAACAG--	23
2,0	-----GCUCAGUUCAGCAGGAACAGa-	6
2,0	-----GCUCAGUUCAGCAGGAACAGu-	16
2,0	-----GCUCAGUUCAGCAGGAACAGuu	25
2,0	-----GCUCAGUUCAGCAGGAACAGG-	12
2,1	-----GCUCAGUUCAGCAGGAACAGGu	2
2,1		

>hsa-mir-25 mi:14-34;MA:52-73 SRX018966

ggccaguguugagAGGCGGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc

(((((.(..(((.((((.((((.((((.(.....))..)))))))).).)))))).))))..).

))))

```
-----AGGCGGAGACUUGGGCAAUUG-----
---- 14 0,0
-----AGGCGGAGACUUGGGCAAUGa-----
---- 3 0,0
-----AGGCGGAGACUUGGGCAAUUGC-----
---- 41 0,1
-----AGGCGGAGACUUGGGCAAUUGCU-----
---- 213 0,2
-----AGGCGGAGACUUGGGCAAUUGCUa-----
---- 2 0,2
-----AGGCGGAGACUUGGGCAAUUGCUu-----
---- 4 0,2
-----CAUUGCACUUGUCUCGGU-----
---- 66 0,-4
-----CAUUGCACUUGUCUCGGUa-----
---- 2 0,-4
-----CAUUGCACUUGUCUCGGUu-----
---- 2 0,-4
-----CAUUGCACUUGUCUCGGUC-----
---- 204 0,-3
-----CAUUGCACUUGUCUCGGUCU-----
---- 455 0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
---- 291 0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
---- 98 0,-1
-----CAUUGCACUUGUCUCGGUCUGuu-----
---- 13 0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
---- 1126 0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----
---- 40 0,0
-----CAUUGCACUUGUCUCGGUCUGAaa-----
---- 4 0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
---- 28 0,0
-----AUUGCACUUGUCUCGGUCU-----
```


1962 0, -1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
893 0, -1
-----UUCAAGUAAUCCAGGAUAGGCau-----
556 0, -1
-----UUCAAGUAAUCCAGGAUAGGCU-----
20450 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
320 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
516 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
1169 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
771 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
2013 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
2 0, 1
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
3 0, 1
-----UCAAGUAAUCCAGGAUAG-----
23 1, -3
-----UCAAGUAAUCCAGGAUAGG-----
32 1, -2
-----UCAAGUAAUCCAGGAUAGGC-----
3 1, -1
-----UCAAGUAAUCCAGGAUAGGCa-----
28 1, -1
-----UCAAGUAAUCCAGGAUAGGCaa-----
20 1, -1
-----UCAAGUAAUCCAGGAUAGGCau-----
12 1, -1
-----UCAAGUAAUCCAGGAUAGGCU-----
240 1, 0
-----UCAAGUAAUCCAGGAUAGGCUa-----
3 1, 0
-----UCAAGUAAUCCAGGAUAGGCUaa-----

```

12  1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
9   1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
7   1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
9   1,0
-----CAAGUAAUCCAGGAUAGG-----
3   2,-2
-----CAAGUAAUCCAGGAUAGGCaa-----
3   2,-1
-----CAAGUAAUCCAGGAUAGGCau-----
3   2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
8   2,0
-----CAAGUAAUCCAGGAUAGGCUu-----
2   2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
4   2,0
-----CCUAUUCUUGGUUACUUGCAC-----
4   0,-1

```

>hsa-mir-26a-2 MA:14-35;mi:52-73 SRX018966

ggcuguggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu

(((((...((...(((.....))))))))).))))))..))..))
)))

```

-----AUUCAAGUAAUCCAGGAUA-----
----  2   -1,-4
-----AUUCAAGUAAUCCAGGAUAG-----
----  3   -1,-3
-----AUUCAAGUAAUCCAGGAUAGG-----
----  3   -1,-2
-----AUUCAAGUAAUCCAGGAUAGGC-----
----  2   -1,-1
-----AUUCAAGUAAUCCAGGAUAGGCa-----
----  3   -1,-1
-----AUUCAAGUAAUCCAGGAUAGGCU-----

```

```

---- 18 -1,0
-----AUUCAAGUAAUCCAGGAUAGGCUaa-----
---- 3 -1,0
-----UUCAAGUAAUCCAGGAUA-----
---- 784 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 37 0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
---- 5 0,-4
-----UUCAAGUAAUCCAGGAUAu-----
---- 8 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 1991 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
---- 6 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 2751 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 14 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 5 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
---- 12 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 19 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 64 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
---- 1287 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 1962 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 893 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 556 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 20450 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----

```

```

----      320 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
----      516 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
----      1169 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
----      771 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
----      2013 0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
----      2 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
----      3 0,1
-----UCAAGUAAUCCAGGAUAG-----
----      23 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
----      32 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
----      3 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
----      28 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
----      20 1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
----      12 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
----      240 1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
----      3 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
----      12 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
----      9 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
----      7 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
----      9 1,0
-----CAAGUAAUCCAGGAUAGG-----

```


449 0,0
 -----UUCAAGUAAUUCAGGAUAGGUU-----
 6983 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUa-----
 809 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUaa-----
 68 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUau-----
 31 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUu-----
 1686 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUuu-----
 63 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUG-----
 22 0,2
 -----UUCAAGUAAUUCAGGAUAGGUUGU-----
 3 0,3
 -----UCAAGUAAUUCAGGAUAG-----
 11 1,-2
 -----UCAAGUAAUUCAGGAUAGG-----
 7 1,-1
 -----UCAAGUAAUUCAGGAUAGGU-----
 16 1,0
 -----UCAAGUAAUUCAGGAUAGGUa-----
 2 1,0
 -----UCAAGUAAUUCAGGAUAGGUaa-----
 5 1,0
 -----UCAAGUAAUUCAGGAUAGGUau-----
 2 1,0
 -----UCAAGUAAUUCAGGAUAGGUU-----
 89 1,1
 -----UCAAGUAAUUCAGGAUAGGUUaa-----
 4 1,1
 -----UCAAGUAAUUCAGGAUAGGUUu-----
 37 1,1
 -----UCAAGUAAUUCAGGAUAGGUUuu-----
 2 1,1
 -----UCAAGUAAUUCAGGAUAGGUUG-----

211	0, -2	-UUCACAGUGGCUAAGUUCCa-----
2	0, -2	-UUCACAGUGGCUAAGUUCCu-----
3	0, -2	-UUCACAGUGGCUAAGUUCCuu-----
3	0, -2	-UUCACAGUGGCUAAGUUCCG-----
741	0, -1	-UUCACAGUGGCUAAGUUCCGa-----
56	0, -1	-UUCACAGUGGCUAAGUUCCGaa-----
9	0, -1	-UUCACAGUGGCUAAGUUCCGau-----
8	0, -1	-UUCACAGUGGCUAAGUUCCGu-----
87	0, -1	-UUCACAGUGGCUAAGUUCCGuu-----
17	0, -1	-UUCACAGUGGCUAAGUUCCGC-----
52	0, 0	-UUCACAGUGGCUAAGUUCCGCa-----
5	0, 0	-UUCACAGUGGCUAAGUUCCGCaa-----
7	0, 0	-UUCACAGUGGCUAAGUUCCGCau-----
5	0, 0	-UUCACAGUGGCUAAGUUCCGCCa-----
2	0, 1	-UCACAGUGGCUAAGUUCCG-----
4	1, -1	

```

----- 2 -1,-2
-----CAGAGCUUAGCUGAUUGGUGAA-----
----- 8 -1,-1
-----CAGAGCUUAGCUGAUUGGUGAAC-----
----- 2 -1,0
-----CAGAGCUUAGCUGAUUGGUGAACA-----
----- 4 -1,1
-----AGAGCUUAGCUGAUUGGU-----
----- 2 0,-4
-----AGAGCUUAGCUGAUUGGUG-----
----- 21 0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
----- 306 0,-2
-----AGAGCUUAGCUGAUUGGUGAA-----
----- 262 0,-1
-----AGAGCUUAGCUGAUUGGUGAAa-----
----- 4 0,-1
-----AGAGCUUAGCUGAUUGGUGAAC-----
----- 19 0,0
-----AGAGCUUAGCUGAUUGGUGAACA-----
----- 21 0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
----- 4 0,2
-----AGAGCUUAGCUGAUUGGUGAACAGU-----
----- 4 0,3
-----GUUCACAGUGGCUAAGUU-----
----- 16 -1,-4
-----GUUCACAGUGGCUAAGUUC-----
----- 49 -1,-3
-----GUUCACAGUGGCUAAGUUCU-----
----- 5 -1,-2
-----UUCACAGUGGCUAAGUUC-----
----- 7781 0,-3
-----UUCACAGUGGCUAAGUUCa-----
----- 23 0,-3
-----UUCACAGUGGCUAAGUUCaa
----- 6 0,-3
-----UUCACAGUGGCUAAGUUCU-----

```

-----	2119	0,-2	-----UUCACAGUGGCUAAGUUCUa
-----	19	0,-2	-----UUCACAGUGGCUAAGUUCUa
a-----	22	0,-2	-----UUCACAGUGGCUAAGUUCUa
u-----	3	0,-2	-----UUCACAGUGGCUAAGUUCUa
-----	14	0,-2	-----UUCACAGUGGCUAAGUUCUu
u-----	18	0,-2	-----UUCACAGUGGCUAAGUUCUu
-----	191	0,-1	-----UUCACAGUGGCUAAGUUCUG
a-----	85	0,-1	-----UUCACAGUGGCUAAGUUCUG
aa-----	59	0,-1	-----UUCACAGUGGCUAAGUUCUG
au-----	4	0,-1	-----UUCACAGUGGCUAAGUUCUG
u-----	21	0,-1	-----UUCACAGUGGCUAAGUUCUG
uu-----	22	0,-1	-----UUCACAGUGGCUAAGUUCUG
C-----	326	0,0	-----UUCACAGUGGCUAAGUUCUG
Cu-----	8	0,0	-----UUCACAGUGGCUAAGUUCUG
CA-----	99	0,1	-----UUCACAGUGGCUAAGUUCUG
CAa-----	63	0,1	-----UUCACAGUGGCUAAGUUCUG
CAaa-----	5	0,1	-----UUCACAGUGGCUAAGUUCUG
CAu-----	93	0,1	-----UUCACAGUGGCUAAGUUCUG
CAuu-----	11	0,1	-----UUCACAGUGGCUAAGUUCU-

```

----- 10 1,-2
-----UCACAGUGGCUAAGUUCUG
aa----- 2 1,-1

```

>hsa-mi r-28 5p:14-35;3p:54-75 SRX018966

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGuuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu

(((.(((((((((.(((((((((((((((((.((((((.....))))).)).)))))))))))))))).))))))
)).)))

-----CAAGGAGCUCACAGUCUAUU-----

----- 5 -1,-3

-----CAAGGAGCUCACAGUCUAUUGAa-----

$$----- \quad 2 \quad -1, -1$$

-----AAGGAGCUCACAGUCUAU-----

----- 5 0,-4

-----AAGGAGCUCACAGUCUAUa-----

----- 10 0,-4

-----AAGGAGCUCACAGUCUAUU-----

----- 56 0,-3

-----AAGGAGCUCACAGUCUAUUa-----

----- 4 0, -3

-----AAGGAGCUCACAGUCUAUUu-----

$$- - - - - 2 \quad 0, -3$$

-----AAGGAGCUCACAGUCUAUUG-----

----- 83 0, -2

-----AAGGAGCUCACAGUCUAUUGu-----

----- 4 0,-2

-----AAGGAGCUCACAGUCUAUUGA-----

----- 283 0,-1

-----AAGGAGCUCACAGUCUAUUGAa-----

----- 8 0,-1

-----AAGGAGCUCACAGUCUAUUGAaa-----

----- 5 0, -1

-----AAGGAGCUCACAGUCUAUUGAG-----

----- 156 0,0

-----AAGGAGCUCACAGUCUAUUGAGa-----

----- 32 0,0

-----AAGGAGCUCACAGUCUAUUGAGU-----

```

----- 16 0,1
-----AGGAGCUCACAGUCUAUUGA-----
----- 2 1,-1
-----CCACUAGAUUGUGAGCUCCUGG-----
----- 2 -1,-1
-----CCACUAGAUUGUGAGCUCCUGGAa---
----- 2 -1,0
-----CACUAGAUUGUGAGCUCC-----
----- 2 0,-4
-----CACUAGAUUGUGAGCUCCU-----
----- 16 0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 17 0,-2
-----CACUAGAUUGUGAGCUCCUGa-----
----- 7 0,-2
-----CACUAGAUUGUGAGCUCCUGu-----
----- 3 0,-2
-----CACUAGAUUGUGAGCUCCUGG-----
----- 280 0,-1
-----CACUAGAUUGUGAGCUCCUGGu-----
----- 18 0,-1
-----CACUAGAUUGUGAGCUCCUGGuu-----
----- 3 0,-1
-----CACUAGAUUGUGAGCUCCUGGA-----
----- 2057 0,0
-----CACUAGAUUGUGAGCUCCUGGAa---
----- 1025 0,0
-----CACUAGAUUGUGAGCUCCUGGAaa---
----- 117 0,0
-----CACUAGAUUGUGAGCUCCUGGAau---
----- 33 0,0
-----CACUAGAUUGUGAGCUCCUGGAu---
----- 68 0,0
-----CACUAGAUUGUGAGCUCCUGGAuu---
----- 7 0,0
-----CACUAGAUUGUGAGCUCCUGGAG-----
----- 26 0,1
-----CACUAGAUUGUGAGCUCCUGGAGa---

```

----- 13 0,1	-----CACUAGAUUGUGAGCUCCUGGAGu---
----- 4 0,1	-----ACUAGAUUGUGAGCUCCUGG-----
----- 14 1,-1	-----ACUAGAUUGUGAGCUCCUGGu-----
----- 2 1,-1	-----ACUAGAUUGUGAGCUCCUGGA-----
----- 65 1,0	-----ACUAGAUUGUGAGCUCCUGGAa-----
----- 36 1,0	-----ACUAGAUUGUGAGCUCCUGGAaa-----
----- 11 1,0	-----ACUAGAUUGUGAGCUCCUGGAau-----
----- 2 1,0	-----ACUAGAUUGUGAGCUCCUGGAu-----
----- 4 1,0	-----ACUAGAUUGUGAGCUCCUGGAG-----
----- 46 1,1	-----ACUAGAUUGUGAGCUCCUGGAGa-----
----- 33 1,1	-----ACUAGAUUGUGAGCUCCUGGAGau-----
----- 5 1,1	-----ACUAGAUUGUGAGCUCCUGGAGu-----
----- 10 1,1	-----CUAGAUUGUGAGCUCCUGGAa-----
----- 4 2,0	-----CUAGAUUGUGAGCUCCUGGAaa-----
----- 2 2,0	-----CUAGAUUGUGAGCUCCUGGAG-----
----- 19 2,1	-----CUAGAUUGUGAGCUCCUGGAGa-----
----- 12 2,1	-----CUAGAUUGUGAGCUCCUGGAGaa-----
----- 5 2,1	-----CUAGAUUGUGAGCUCCUGGAGau-----
----- 3 2,1	-----CUAGAUUGUGAGCUCCUGGAGu-----

-----CUAGCACCAUCUGAAAUCGGUuu	3	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUA-	355	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAa	24	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAU	28	-1,1
-----UAGCACCAUCUGAAAUCG----	251	0,-4
-----UAGCACCAUCUGAAAUCGa----	3	0,-4
-----UAGCACCAUCUGAAAUCGuu---	4	0,-4
-----UAGCACCAUCUGAAAUCGG----	4440	0,-3
-----UAGCACCAUCUGAAAUCGGa---	10	0,-3
-----UAGCACCAUCUGAAAUCGGaa---	5	0,-3
-----UAGCACCAUCUGAAAUCGGau---	33	0,-3
-----UAGCACCAUCUGAAAUCGGU---	1063	0,-2
-----UAGCACCAUCUGAAAUCGGUa---	204	0,-2
-----UAGCACCAUCUGAAAUCGGUaa---	1711	0,-2
-----UAGCACCAUCUGAAAUCGGUau---	130	0,-2
-----UAGCACCAUCUGAAAUCGGUU---	17639	0,-1
-----UAGCACCAUCUGAAAUCGGUUu---	8646	0,-1
-----UAGCACCAUCUGAAAUCGGUUuu	217	0,-1
-----UAGCACCAUCUGAAAUCGGUUA-	63250	0,0
-----UAGCACCAUCUGAAAUCGGUUAa	4331	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	41	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	8	0,0
-----UAGCACCAUCUGAAAUCGGUUAU	2376	0,1
-----UAGCACCAUCUGAAAUCGGUUUAa	22	0,1
-----UAGCACCAUCUGAAAUCGGUUUAuu	13	0,1
-----AGCACCAUCUGAAAUCGG----	34	1,-3
-----AGCACCAUCUGAAAUCGGU---	4	1,-2
-----AGCACCAUCUGAAAUCGGUaa---	9	1,-2
-----AGCACCAUCUGAAAUCGGUau---	2	1,-2
-----AGCACCAUCUGAAAUCGGUU---	83	1,-1
-----AGCACCAUCUGAAAUCGGUUu---	42	1,-1
-----AGCACCAUCUGAAAUCGGUUA-	557	1,0
-----AGCACCAUCUGAAAUCGGUUAa	60	1,0
-----AGCACCAUCUGAAAUCGGUUAaa	2	1,0
-----AGCACCAUCUGAAAUCGGUUAU	20	1,1
-----GCACCAUCUGAAAUCGGU---	3	2,-2
-----GCACCAUCUGAAAUCGGUU---	10	2,-1
-----GCACCAUCUGAAAUCGGUUu---	3	2,-1

```

-----GCACCAUCUGAAAUCGGUUA-    24  2,0
-----GCACCAUCUGAAAUCGGUUAa    9   2,0

```

>hsa-mir-29b-1 mi:10-33;MA:51-73 SRX018966

```

cuucaggaaGCUGGUUUCAUAUGGUGGUUUAGAuuuuuauagugauugucUAGCACCAUUUGAAAUCAGUGUucuggggg
g

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((

```

```

-----CUGGUUUCAUAUGGUGGUUUAG-----

```

```

- 4 1,-1

```

```

-----CUAGCACCAUUUGAAAUCAG-----

```

```

- 2 -1,-4

```

```

-----CUAGCACCAUUUGAAAUCAGU-----

```

```

- 51 -1,-3

```

```

-----CUAGCACCAUUUGAAAUCAGUu-----

```

```

- 2 -1,-3

```

```

-----CUAGCACCAUUUGAAAUCAGUG-----

```

```

- 6 -1,-2

```

```

-----CUAGCACCAUUUGAAAUCAGUGU-----

```

```

- 3 -1,-1

```

```

-----UAGCACCAUUUGAAAUCA-----

```

```

- 103 0,-5

```

```

-----UAGCACCAUUUGAAAUCAG-----

```

```

- 282 0,-4

```

```

-----UAGCACCAUUUGAAAUCAGa-----

```

```

- 7 0,-4

```

```

-----UAGCACCAUUUGAAAUCAGaa-----

```

```

- 4 0,-4

```

```

-----UAGCACCAUUUGAAAUCAGU-----

```

```

- 7545 0,-3

```

```

-----UAGCACCAUUUGAAAUCAGUa-----

```

```

- 5 0,-3

```

```

-----UAGCACCAUUUGAAAUCAGUaa-----

```

```

- 8 0,-3

```

```

-----UAGCACCAUUUGAAAUCAGUu-----

```

```

- 17 0,-3

```

```

-----UAGCACCAUUUGAAAUCAGUuu-----

```

```

- 8 0,-3

```

```

-----UAGCACCAUUUGAAAUCAGUG-----
- 346 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 28 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 7 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 146 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 35 0,-1
-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 3 0,-1
-----UAGCACCAUUUGAAAUCAGUGUau-----
- 2 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 245 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 7 0,0
-----AGCACCAUUUGAAAUCAG-----
- 2 1,-4
-----AGCACCAUUUGAAAUCAGU-----
- 61 1,-3
-----AGCACCAUUUGAAAUCAGUG-----
- 6 1,-2
-----AGCACCAUUUGAAAUCAGUGUU-----
- 5 1,0
-----GCACCAUUUGAAAUCAGU-----
- 16 2,-3
-----GCACCAUUUGAAAUCAGUG-----
- 2 2,-2

```

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018966

```

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----GCUGGUUUCACAUGGUGGCUU-----
- 4 -1,-2

```

```

-----GCUGGUUUCACAUGGUGGCUUu-----
- 3 -1,-2
-----GCUGGUUUCACAUGGUGGCUUA-----
- 7 -1,-1
-----CUGGUUUCACAUGGUGGCUUA-----
- 4 0,-1
-----CUAGCACCAUUUGAAAUCAG-----
- 2 -1,-4
-----CUAGCACCAUUUGAAAUCAGU-----
- 51 -1,-3
-----CUAGCACCAUUUGAAAUCAGUu-----
- 2 -1,-3
-----CUAGCACCAUUUGAAAUCAGUG-----
- 6 -1,-2
-----CUAGCACCAUUUGAAAUCAGUGU-----
- 3 -1,-1
-----UAGCACCAUUUGAAAUCA-----
- 103 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 282 0,-4
-----UAGCACCAUUUGAAAUCAGa-----
- 7 0,-4
-----UAGCACCAUUUGAAAUCAGaa-----
- 4 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 7545 0,-3
-----UAGCACCAUUUGAAAUCAGUa-----
- 5 0,-3
-----UAGCACCAUUUGAAAUCAGUaa-----
- 8 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----
- 17 0,-3
-----UAGCACCAUUUGAAAUCAGUuu-----
- 8 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 346 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 28 0,-2

```

-				UAGCACCAUUUGAAAUCAGUGaa-----
-	7	0,-2		
-				UAGCACCAUUUGAAAUCAGUGU-----
-	146	0,-1		
-				UAGCACCAUUUGAAAUCAGUGUa-----
-	35	0,-1		
-				UAGCACCAUUUGAAAUCAGUGUaa-----
-	3	0,-1		
-				UAGCACCAUUUGAAAUCAGUGUau-----
-	2	0,-1		
-				UAGCACCAUUUGAAAUCAGUGUU-----
-	245	0,0		
-				UAGCACCAUUUGAAAUCAGUGUUa-----
-	7	0,0		
-				UAGCACCAUUUGAAAUCAGUGUUU-----
-	31	0,1		
-				AGCACCAUUUGAAAUCAG-----
-	2	1,-4		
-				AGCACCAUUUGAAAUCAGU-----
-	61	1,-3		
-				AGCACCAUUUGAAAUCAGUG-----
-	6	1,-2		
-				AGCACCAUUUGAAAUCAGUGUU-----
-	5	1,0		
-				GCACCAUUUGAAAUCAGU-----
-	16	2,-3		
-				GCACCAUUUGAAAUCAGUG-----
-	2	2,-2		

>hsa-mi r-29c mi:16-37;MA:54-75 SRX018966

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

$$\begin{aligned} & .(((((((((((\dots(((((((((((\dots(((((((((((\dots))))))\dots))))))\dots))))))\dots))))))\dots))))))\dots)) \\ &)))))). \end{aligned}$$

-----UGACCGAUUUCUCCUGGU-----

$$- - - - - \quad 2 \quad 0, -4$$

-----UGACCGAUUUCUCCUGGUGU-----

----- 4 0, -2

```

-----UGACCGAUUUCUCCUGGUGUU-----
----- 18 0,-1
-----UGACCGAUUUCUCCUGGUGUUa-----
----- 8 0,-1
-----UGACCGAUUUCUCCUGGUGUUu-----
----- 4 0,-1
-----GACCGAUUUCUCCUGGUGUU-----
----- 26 1,-1
-----GACCGAUUUCUCCUGGUGUUu-----
----- 5 1,-1
-----GACCGAUUUCUCCUGGUGUUC-----
----- 6 1,0
-----GACCGAUUUCUCCUGGUGUUCA-----
----- 8 1,1
-----ACCGAUUUCUCCUGGUGUU-----
----- 3 2,-1
-----ACCGAUUUCUCCUGGUGUUu-----
----- 2 2,-1
-----ACCGAUUUCUCCUGGUGUUCA-----
----- 2 2,1
-----ACCGAUUUCUCCUGGUGUUCAG-----
----- 8 2,2
-----ACCGAUUUCUCCUGGUGUUCAGA-----
----- 4 2,3
-----CUAGCACCAUUUGAAAUCGGUU-----
----- 5 -1,-1
-----CUAGCACCAUUUGAAAUCGGUUA-----
----- 5 -1,0
-----UAGCACCAUUUGAAAUCG-----
----- 99 0,-4
-----UAGCACCAUUUGAAAUCGuu-----
----- 2 0,-4
-----UAGCACCAUUUGAAAUCGG-----
----- 738 0,-3
-----UAGCACCAUUUGAAAUCGGau-----
----- 2 0,-3
-----UAGCACCAUUUGAAAUCGGU-----
----- 200 0,-2

```

-----				-UAGCACCAUUUGAAAUCGGUa-----
-----	13	0,-2		
-----				-UAGCACCAUUUGAAAUCGGUaa-----
-----	113	0,-2		
-----				-UAGCACCAUUUGAAAUCGGUau-----
-----	4	0,-2		
-----				-UAGCACCAUUUGAAAUCGGUU-----
-----	1073	0,-1		
-----				-UAGCACCAUUUGAAAUCGGUUu-----
-----	586	0,-1		
-----				-UAGCACCAUUUGAAAUCGGUUuu-----
-----	27	0,-1		
-----				-UAGCACCAUUUGAAAUCGGUUA-----
-----	6370	0,0		
-----				-UAGCACCAUUUGAAAUCGGUUAa-----
-----	466	0,0		
-----				-UAGCACCAUUUGAAAUCGGUUAaa-----
-----	6	0,0		
-----				-UAGCACCAUUUGAAAUCGGUUAau-----
-----	2	0,0		
-----				-UAGCACCAUUUGAAAUCGGUUAU-----
-----	204	0,1		
-----				-UAGCACCAUUUGAAAUCGGUUUAa-----
-----	2	0,1		
-----				-UAGCACCAUUUGAAAUCGGUUAUu-----
-----	5	0,1		
-----				-AGCACCAUUUGAAAUCGGUU-----
-----	7	1,-1		
-----				-AGCACCAUUUGAAAUCGGUUu-----
-----	11	1,-1		
-----				-AGCACCAUUUGAAAUCGGUUA-----
-----	39	1,0		
-----				-AGCACCAUUUGAAAUCGGUUAa-----
-----	8	1,0		
-----				-AGCACCAUUUGAAAUCGGUUAU-----
-----	2	1,1		
-----				-GCACCAUUUGAAAUCGGUUA-----
-----	2	2,0		

-----GCACCAUUUGAAAUCGGUUAUu-----
 -----2 2,1

>hsa-mir-301a 3p:51-73 SRX018966

-----GCUCUGACUUUAUUGCACUACU-----
----- 10

-----CAGUGCAAUAGUAUUGUCAAG-----

----- 2 0,-1

-----CAGUGCAAUAGUAUUGUCAAAAGC-----

----- 2 0,0

>hsa-mi r-3065 5p:10-32;3p:50-72 SRX018966

cugccucucuCAACAAAAUCACUGAUGCUGGAgucgccugagucacUCAGCACCAGGAUAUUGUUGGAGaggacag
(((.(((((((((((((((.((((.(((((((((((.(....)).))......)))).).)))))).)))))))).))

-----UCAACAAAAUCACUGAUGCU-----
50 0,-3

-----UCAACAAAAUCACUGAUGCUa-----
2 0,-3

-----UCAACAAAAUCACUGAUGCUG-----
9 0,-2

-----UCAACAAAAUCACUGAUGCUGa-----
2 0,-2

-----UCAACAAAAUCACUGAUGCUGG-----
7 0,-1

-----UCAACAAAAUCACUGAUGCUGGA-----
6 0,0

-----UCAACAAAAUCACUGAUGCUGGAaa-----
2 0,0

-----UCAGCACCAGGAUAUUGUUG-----
3 0,-3

-----UCAGCACCAGGAUAUUGUUGG-----

3 0,-2

>hsa-mi r-30a MA:6-27;mi:47-68 SRX018966

gcgacUGUAAACAUC CUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc			
(((((((.....)))))))))			
----CUGUAAACAUC CUCGACU-----	3		
-1,-5			
----CUGUAAACAUC CUCGACUGG-----	3		
-1,-3			
----CUGUAAACAUC CUCGACUGGAA-----	5		
-1,-1			
----CUGUAAACAUC CUCGACUGGAAa-----	3		
-1,-1			
----CUGUAAACAUC CUCGACUGGAAG-----	15	-1,0	
----CUGUAAACAUC CUCGACUGGAAGa-----	17	-1,0	
----CUGUAAACAUC CUCGACUGGAAGC-----	61	-1,1	
----CUGUAAACAUC CUCGACUGGAAGCa-----	2	-1,1	
----CUGUAAACAUC CUCGACUGGAAGCU-----	56	-1,2	
----UGUAAACAUC CUCGACUG-----	219	0,-4	
----UGUAAACAUC CUCGACUGG-----	175	0,-3	
----UGUAAACAUC CUCGACUGGu-----	4	0,-3	
----UGUAAACAUC CUCGACUGGA-----	520	0,-2	
----UGUAAACAUC CUCGACUGGAu-----	2	0,-2	
----UGUAAACAUC CUCGACUGGAA-----	1939		
0,-1			
----UGUAAACAUC CUCGACUGGAAa-----	888	0,-1	
----UGUAAACAUC CUCGACUGGAAaa-----	65	0,-1	
----UGUAAACAUC CUCGACUGGAAau-----	15	0,-1	
----UGUAAACAUC CUCGACUGGAAu-----	32	0,-1	
----UGUAAACAUC CUCGACUGGAAuu-----	3	0,-1	
----UGUAAACAUC CUCGACUGGAAG-----	4593		
0,0			
----UGUAAACAUC CUCGACUGGAAGa-----	4491		
0,0			
----UGUAAACAUC CUCGACUGGAAGaa-----	134	0,0	
----UGUAAACAUC CUCGACUGGAAGau-----	134	0,0	
----UGUAAACAUC CUCGACUGGAAGu-----	369	0,0	
----UGUAAACAUC CUCGACUGGAAGuu-----	31	0,0	
----UGUAAACAUC CUCGACUGGAAGC-----	20121		
0,1			
----UGUAAACAUC CUCGACUGGAAGCa-----	2466		

0,1

-----UGUAAACAUCCUCGACUGGAAGCaa-----	59	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	71	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	31413	

0,2

-----UGUAAACAUCCUCGACUGGAAGCUa-----	217	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	1178	

0,2

-----UGUAAACAUCCUCGACUGGAAGCUG-----	8	0,3
-----GUAAACAUCCUCGACUGG-----	2	1,-3
-----GUAAACAUCCUCGACUGGA-----	2	1,-2
-----GUAAACAUCCUCGACUGGAA-----	7	1,-1
-----GUAAACAUCCUCGACUGGAAa-----	3	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	53	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	8	1,0
-----GUAAACAUCCUCGACUGGAAGC-----	101	1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	12	1,1
-----GUAAACAUCCUCGACUGGAAGCU-----	48	1,2
-----UAAACAUCCUCGACUGGAAGC-----	6	2,1
-----UAAACAUCCUCGACUGGAAGCU-----	10	2,2
-----UAAACAUCCUCGACUGGAAGCUu-----	3	2,2
-----CUUUCAGUCGGAUGUUUG-----	4	0,-4
-----CUUUCAGUCGGAUGUUUGC-----	10	0,-3
-----CUUUCAGUCGGAUGUUUGCA-----	43	0,-2
-----CUUUCAGUCGGAUGUUUGCAa-----	20	0,-2
-----CUUUCAGUCGGAUGUUUGCAaa-----	2	0,-2
-----CUUUCAGUCGGAUGUUUGCAu-----	16	0,-2
-----CUUUCAGUCGGAUGUUUGCAuu-----	4	0,-2
-----CUUUCAGUCGGAUGUUUGCAG-----	271	0,-1
-----CUUUCAGUCGGAUGUUUGCAGu-----	46	0,-1
-----CUUUCAGUCGGAUGUUUGCAGuu-----	5	0,-1
-----CUUUCAGUCGGAUGUUUGCAGC-----	142	0,0
-----CUUUCAGUCGGAUGUUUGCAGCa-----	29	0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa-----	10	0,0
-----CUUUCAGUCGGAUGUUUGCAGCau-----	83	0,0
-----CUUUCAGUCGGAUGUUUGCAGCU-----	6	0,1
-----UUUCAGUCGGAUGUUUGCA-----	8	1,-2
-----UUUCAGUCGGAUGUUUGCAu-----	2	1,-2

-----UUUCAGUCGGAUGUUUGC <u>Auu</u> ---	2	1,-2
-----UUUCAGUCGGAUGUUUGCAG----	97	1,-1
-----UUUCAGUCGGAUGUUUGCAG <u>u</u> ---	12	1,-1
-----UUUCAGUCGGAUGUUUGCAG <u>uu</u> ---	4	1,-1
-----UUUCAGUCGGAUGUUUGCAGC---	67	1,0
-----UUUCAGUCGGAUGUUUGCAGC <u>a</u> ---	2	1,0
-----UUUCAGUCGGAUGUUUGCAGC <u>aa</u> ---	7	1,0
-----UUUCAGUCGGAUGUUUGCAGC <u>au</u> ---	25	1,0
-----UUUCAGUCGGAUGUUUGCAGC <u>U</u> ---	7	1,1
-----UUUCAGUCGGAUGUUUGCAGC <u>Uau</u>	2	1,1

[illegible]

```

-----UGUAAACAUCCUACACUCAGCUuu-----
-----      8      0,0
-----UGUAAACAUCCUACACUCAGCUGa-----
-----      4      0,1
-----GUAAACAUCCUACACUCAGC-----
-----      2      1,-1
-----GUAAACAUCCUACACUCAGCU-----
-----      2      1,0
-----CUGGGAGGUGGAUGUUUA-----
-----      3      0,-4
-----CUGGGAGGUGGAUGUUUAa-----
-----      3      0,-4
-----CUGGGAGGUGGAUGUUUAaa-----
-----      2      0,-4
-----CUGGGAGGUGGAUGUUUAu-----
-----      3      0,-4
-----CUGGGAGGUGGAUGUUUAC-----
-----     11      0,-3
-----CUGGGAGGUGGAUGUUUACa-----
-----      3      0,-3
-----CUGGGAGGUGGAUGUUUACaa-----
-----      7      0,-3
-----CUGGGAGGUGGAUGUUUACU-----
-----    147      0,-2
-----CUGGGAGGUGGAUGUUUACUa-----
-----      7      0,-2
-----CUGGGAGGUGGAUGUUUACUaa-----
-----     11      0,-2
-----CUGGGAGGUGGAUGUUUACUau-----
-----      3      0,-2
-----CUGGGAGGUGGAUGUUUACUU-----
-----    162      0,-1
-----CUGGGAGGUGGAUGUUUACUUa-----
-----     47      0,-1
-----CUGGGAGGUGGAUGUUUACUUaa-----
-----     36      0,-1
-----CUGGGAGGUGGAUGUUUACUUau-----
-----      6      0,-1

```

```

-----CUGGGAGGUGGAUGUUUACUUu-----
----- 26 0,-1
-----CUGGGAGGUGGAUGUUUACUUuu-----
----- 9 0,-1
-----CUGGGAGGUGGAUGUUUACUUC-----
----- 25 0,0
-----CUGGGAGGUGGAUGUUUACUUCu-----
----- 5 0,0
-----CUGGGAGGUGGAUGUUUACUUCA-----
----- 2 0,1
-----UGGGAGGUGGAUGUUUACUU-----
----- 4 1,-1
-----UGGGAGGUGGAUGUUUACUUu-----
----- 2 1,-1
-----UGGGAGGUGGAUGUUUACUUC-----
----- 2 1,0
-----UGGGAGGUGGAUGUUUACUUCA-----
----- 3 1,1

```

>hsa-mir-30c-1 MA:17-39;mi:56-77 SRX018966

accaugcuguagugugUGUAAACAUCCUACACUCUCAGCugugagcucaagguggCUGGGAGAGGGUUGUUUACUCCuuc
ugccaugga

.((((((...(((...((((((((...(((...(((((((((...(((...)))...)))))))).)))...)))))...)))))...)))).

```

-----UGUAAACAUCCUACACUC-----
----- 20 0,-5
-----UGUAAACAUCCUACACUCU-----
----- 14 0,-4
-----UGUAAACAUCCUACACUCUC-----
----- 16 0,-3
-----UGUAAACAUCCUACACUCUCA-----
----- 183 0,-2
-----UGUAAACAUCCUACACUCUCAa-----
----- 3 0,-2
-----UGUAAACAUCCUACACUCUCAG-----
----- 209 0,-1
-----UGUAAACAUCCUACACUCUCAGa-----
----- 43 0,-1

```

```

-----UGUAAACAUCCUACACUCUCAGaa-----
----- 6 0,-1
-----UGUAAACAUCCUACACUCUCAGu-----
----- 11 0,-1
-----UGUAAACAUCCUACACUCUCAGuu-----
----- 2 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 174 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 41 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 7 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 11 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 589 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 27 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 37 0,1
-----GUAAACAUCCUACACUCUCA-----
----- 2 1,-2
-----GUAAACAUCCUACACUCUCAGC-----
----- 2 1,0
-----GUAAACAUCCUACACUCUCAGCU-----
----- 7 1,1
-----CUGGGAGAGGGUUGUUUA-----
----- 4 0,-4
-----CUGGGAGAGGGUUGUUUAaa-----
----- 3 0,-4
-----CUGGGAGAGGGUUGUUUAC-----
----- 14 0,-3
-----CUGGGAGAGGGUUGUUUACa-----
----- 2 0,-3
-----CUGGGAGAGGGUUGUUUACaa-----
----- 2 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 143 0,-2

```

```

-----CUGGGAGAGGGUUGUUUACUa-----
----- 4 0,-2 -----
-----CUGGGAGAGGGUUGUUUACUaa-----
----- 7 0,-2 -----
-----CUGGGAGAGGGUUGUUUACUu-----
----- 2 0,-2 -----
-----CUGGGAGAGGGUUGUUUACUC-----
----- 44 0,-1 -----
-----CUGGGAGAGGGUUGUUUACUCa-----
----- 4 0,-1 -----
-----CUGGGAGAGGGUUGUUUACUCu-----
----- 3 0,-1 -----
-----CUGGGAGAGGGUUGUUUACUCC-----
----- 11 0,0 -----
-----CUGGGAGAGGGUUGUUUACUCCa-----
----- 4 0,0 -----
-----CUGGGAGAGGGUUGUUUACUCCau-----
----- 3 0,0 -----
-----CUGGGAGAGGGUUGUUUACUCCU-----
----- 6 0,1 -----
-----CUGGGAGAGGGUUGUUUACUCCUU-----
----- 2 0,2 -----
-----UGGGAGAGGGUUGUUUACU-----
----- 15 1,-2 -----
-----UGGGAGAGGGUUGUUUACUC-----
----- 4 1,-1 -----
-----UGGGAGAGGGUUGUUUACUCu-----
----- 2 1,-1 -----
-----UGGGAGAGGGUUGUUUACUCC-----
----- 5 1,0 -----
-----UGGGAGAGGGUUGUUUACUCCa-----
----- 3 1,0 -----
-----UGGGAGAGGGUUGUUUACUCCau-----
----- 5 1,0 -----
-----UGGGAGAGGGUUGUUUACUCCU-----
----- 5 1,1 -----

```

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018966

agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
 (((...(((((((...((((((((...)))))))).)))))).))))))...)))
 -----CUGUAAACAUCCUACACUC----- 2
 -1,-5
 -----CUGUAAACAUCCUACACUCUCAGC----- 2
 -1,0
 -----CUGUAAACAUCCUACACUCUCAGCU----- 2
 -1,1
 -----UGUAAACAUCCUACACUC----- 20
 0,-5
 -----UGUAAACAUCCUACACUCU----- 14
 0,-4
 -----UGUAAACAUCCUACACUCUC----- 16
 0,-3
 -----UGUAAACAUCCUACACUCUCA----- 183
 0,-2
 -----UGUAAACAUCCUACACUCUCAa----- 3
 0,-2
 -----UGUAAACAUCCUACACUCUCAG----- 209
 0,-1
 -----UGUAAACAUCCUACACUCUCAGa----- 43
 0,-1
 -----UGUAAACAUCCUACACUCUCAGaa----- 6
 0,-1
 -----UGUAAACAUCCUACACUCUCAGu----- 11
 0,-1
 -----UGUAAACAUCCUACACUCUCAGuu----- 2
 0,-1
 -----UGUAAACAUCCUACACUCUCAGC----- 174
 0,0
 -----UGUAAACAUCCUACACUCUCAGCa----- 41
 0,0
 -----UGUAAACAUCCUACACUCUCAGCaa----- 7
 0,0
 -----UGUAAACAUCCUACACUCUCAGCau----- 11
 0,0
 -----UGUAAACAUCCUACACUCUCAGCU----- 589
 0,1

-----UGUAAACAUCCUACACUCUCAGCUa-----	27
0,1	
-----UGUAAACAUCCUACACUCUCAGCUu-----	37
0,1	
-----GUAAACAUCCUACACUCUCA-----	2
1,-2	
-----GUAAACAUCCUACACUCUCAGC-----	2
1,0	
-----GUAAACAUCCUACACUCUCAGCU-----	7
1,1	
-----CUGGGAGAAGGCUGUUUA-----	26
0,-4	
-----CUGGGAGAAGGCUGUUUAa-----	5
0,-4	
-----CUGGGAGAAGGCUGUUUAaa-----	2
0,-4	
-----CUGGGAGAAGGCUGUUUAau-----	4
0,-4	
-----CUGGGAGAAGGCUGUUUAu-----	4
0,-4	
-----CUGGGAGAAGGCUGUUUAC-----	35
0,-3	
-----CUGGGAGAAGGCUGUUUACa-----	3
0,-3	
-----CUGGGAGAAGGCUGUUUACaa-----	2
0,-3	
-----CUGGGAGAAGGCUGUUUACU-----	1180
0,-2	
-----CUGGGAGAAGGCUGUUUACUa-----	24
0,-2	
-----CUGGGAGAAGGCUGUUUACUaa-----	15
0,-2	
-----CUGGGAGAAGGCUGUUUACUau-----	4
0,-2	
-----CUGGGAGAAGGCUGUUUACUu-----	15
0,-2	
-----CUGGGAGAAGGCUGUUUACUuu-----	8
0,-2	

-----CUGGGAGAAGGCUGUUUACUC-----	624
0,-1	
-----CUGGGAGAAGGCUGUUUACUCa----	17
0,-1	
-----CUGGGAGAAGGCUGUUUACUCU----	123
0,0	
-----CUGGGAGAAGGCUGUUUACUCUa---	4
0,0	
-----CUGGGAGAAGGCUGUUUACUCUU---	11
0,1	
-----UGGGAGAAGGCUGUUUAC-----	3
1,-3	
-----UGGGAGAAGGCUGUUUACU-----	20
1,-2	
-----UGGGAGAAGGCUGUUUACUC-----	48
1,-1	
-----UGGGAGAAGGCUGUUUACUCU----	13
1,0	
-----UGGGAGAAGGCUGUUUACUCUU---	3
1,1	
-----UGGGAGAAGGCUGUUUACUCUUa--	2
1,1	
-----GGGAGAAGGCUGUUUACUCU----	2
2,0	

>hsa-mir-30d MA:6-27;mi:46-67 SRX018966

guuguUGUAAACAUCCCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUUUUGCUGCuac

...(((.((((((((((...(((((((((((...((.....)).))))))))))))).))))))))).))...

----UUGUAAACAUCCCCGACUGGAAGC-----	2	-1,1
----UUGUAAACAUCCCCGACUGGAAGCU-----	5	-1,2
----UGUAAACAUCCCCGACUG-----	123	0,-4
----UGUAAACAUCCCCGACUGG-----	130	0,-3
----UGUAAACAUCCCCGACUGGu-----	3	0,-3
----UGUAAACAUCCCCGACUGGA-----	320	0,-2
----UGUAAACAUCCCCGACUGGAu-----	4	0,-2
----UGUAAACAUCCCCGACUGGAA-----	1412	
0,-1		
----UGUAAACAUCCCCGACUGGAa-----	921	0,-1

-----UGUAAACAUCCCCGACUGGAaAa-----	82	0,-1
-----UGUAAACAUCCCCGACUGGAaAu-----	20	0,-1
-----UGUAAACAUCCCCGACUGGAaAu-----	92	0,-1
-----UGUAAACAUCCCCGACUGGAaAuu-----	7	0,-1
-----UGUAAACAUCCCCGACUGGAAG-----	1849	
0,0		
-----UGUAAACAUCCCCGACUGGAAGa-----	2162	
0,0		
-----UGUAAACAUCCCCGACUGGAAGaAa-----	207	0,0
-----UGUAAACAUCCCCGACUGGAAGaAu-----	171	0,0
-----UGUAAACAUCCCCGACUGGAAGaGu-----	287	0,0
-----UGUAAACAUCCCCGACUGGAAGaGuu-----	48	0,0
-----UGUAAACAUCCCCGACUGGAAGC-----	5867	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCa-----	1349	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCaAa-----	36	0,1
-----UGUAAACAUCCCCGACUGGAAGCaAu-----	52	0,1
-----UGUAAACAUCCCCGACUGGAAGC-----	47058	
0,2		
-----UGUAAACAUCCCCGACUGGAAGC-----	662	0,2
-----UGUAAACAUCCCCGACUGGAAGC-----	2550	
0,2		
-----UGUAAACAUCCCCGACUGGAAGC-----	9	0,3
-----GUAAACAUCCCCGACUGGA-----	3	1,-2
-----GUAAACAUCCCCGACUGGA-----	14	1,-1
-----GUAAACAUCCCCGACUGGAaAa-----	10	1,-1
-----GUAAACAUCCCCGACUGGAAG-----	45	1,0
-----GUAAACAUCCCCGACUGGAAGa-----	34	1,0
-----GUAAACAUCCCCGACUGGAAGaAa-----	3	1,0
-----GUAAACAUCCCCGACUGGAAGaGu-----	2	1,0
-----GUAAACAUCCCCGACUGGAAGC-----	81	1,1
-----GUAAACAUCCCCGACUGGAAGCa-----	10	1,1
-----GUAAACAUCCCCGACUGGAAGC-----	505	1,2
-----GUAAACAUCCCCGACUGGAAGC-----	3	1,2
-----GUAAACAUCCCCGACUGGAAGC-----	3	1,2
-----GUAAACAUCCCCGACUGGAAGC-----	2	1,2
-----GUAAACAUCCCCGACUGGAAGC-----	39	1,2


```

----- 605 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
----- 112 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
----- 18 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
----- 10 0,0
-----UGUAAACAUCCUUGACUGGAAGuu-----
----- 2 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
----- 2091 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
----- 159 0,1
-----UGUAAACAUCCUUGACUGGAAGCaa-----
----- 6 0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
----- 11 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
----- 2583 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
----- 44 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
----- 410 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
----- 6 0,3
-----GUAAACAUCCUUGACUGGAA-----
----- 2 1,-1
-----GUAAACAUCCUUGACUGGAAG-----
----- 30 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
----- 8 1,0
-----GUAAACAUCCUUGACUGGAAGaa-----
----- 2 1,0
-----GUAAACAUCCUUGACUGGAAGu-----
----- 5 1,0
-----GUAAACAUCCUUGACUGGAAGC-----
----- 118 1,1
-----GUAAACAUCCUUGACUGGAAGCa-----

```

```

----- 21 1,1
-----GUAACAUCUUGACUGGAAGCU-----
----- 120 1,2
-----GUAACAUCUUGACUGGAAGCUa-----
----- 4 1,2
-----GUAACAUCUUGACUGGAAGCUu-----
----- 9 1,2
-----GUAACAUCUUGACUGGAAGCUG-----
----- 2 1,3
-----UAAACAUCUUGACUGGAAGC-----
----- 2 2,1
-----UAAACAUCUUGACUGGAAGCU-----
----- 7 2,2
-----CUUUCAGUCGGAUGUUUA-----
----- 22 0,-4
-----CUUUCAGUCGGAUGUUUAa-----
----- 2 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
----- 5 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
----- 38 0,-2
-----CUUUCAGUCGGAUGUUUACAa-----
----- 5 0,-2
-----CUUUCAGUCGGAUGUUUACAu-----
----- 2 0,-2
-----CUUUCAGUCGGAUGUUUACAuu-----
----- 2 0,-2
-----CUUUCAGUCGGAUGUUUACAG-----
----- 95 0,-1
-----CUUUCAGUCGGAUGUUUACAGa-----
----- 19 0,-1
-----CUUUCAGUCGGAUGUUUACAGa-----
a----- 3 0,-1
-----CUUUCAGUCGGAUGUUUACAGu-----
----- 217 0,-1
-----CUUUCAGUCGGAUGUUUACAGu-----
u----- 15 0,-1
-----CUUUCAGUCGGAUGUUUACAGC

```

```

----- 171 0,0
-----CUUUCAGUCGGAUGUUUACAGC
a----- 130 0,0
-----CUUUCAGUCGGAUGUUUACAGC
aa----- 9 0,0
-----CUUUCAGUCGGAUGUUUACAGC
au----- 15 0,0
-----CUUUCAGUCGGAUGUUUACAGC
u----- 2 0,0
-----CUUUCAGUCGGAUGUUUACAGC
G----- 2 0,1
-----UUUCAGUCGGAUGUUUACA--
----- 4 1,-2
-----UUUCAGUCGGAUGUUUACAG-
----- 2 1,-1
-----UUUCAGUCGGAUGUUUACAGu
----- 7 1,-1
-----UUUCAGUCGGAUGUUUACAGC
----- 8 1,0
-----UUUCAGUCGGAUGUUUACAGC
a----- 8 1,0
-----UUUCAGUCGGAUGUUUACAGC
u----- 3 1,0

```

>hsa-mir-31 MA:8-28;mi:44-65 SRX018966

```

ggagaggAGGCAAGAUGCUGGCAUAGCUguugaacugggaaccUGCUAUGCCAACAUAUUGCCAUcuuucc
(((((((.(((((.(((.(((((((((.(((.....))))).))))))))).))))).))))))
-----AGGCAAGAUGCUGGCAUA----- 2 0,-3
-----AGGCAAGAUGCUGGCAUAG----- 12 0,-2
-----AGGCAAGAUGCUGGCAUAGa----- 5 0,-2
-----AGGCAAGAUGCUGGCAUAGC----- 2 0,-1
-----AGGCAAGAUGCUGGCAUAGCa----- 3 0,-1
-----AGGCAAGAUGCUGGCAUAGCU----- 80 0,0
-----AGGCAAGAUGCUGGCAUAGCUa----- 4 0,0
-----AGGCAAGAUGCUGGCAUAGCUaa----- 3 0,0
-----AGGCAAGAUGCUGGCAUAGCUu----- 2 0,0
-----AGGCAAGAUGCUGGCAUAGCUuu----- 3 0,0
-----AGGCAAGAUGCUGGCAUAGCUG----- 21 0,1

```


-----AGGCAAGAUGCUGGCAUAGCUGa-----	6	0,1
-----AGGCAAGAUGCUGGCAUAGCUGU-----	23	0,2
-----AGGCAAGAUGCUGGCAUAGCUGUa-----	3	0,2
-----AGGCAAGAUGCUGGCAUAGCUGUU-----	3	0,3
-----GGCAAGAUGCUGGCAUAGCU-----	2	1,0

```
>hsa-mir-3117    3p:46-66    SRX018966
```

cccuaaagggccagacacuaauacgagucauauaagggaaggcauuAUAGGACUCAUAUAGUGCCAGguguuuuguggg
 (((((((((.(((.(.(((((((.(((((.(((((.)))))).)))))).)))))).)))))).)))))).)))
 -----AUAGGACUCAUAUAGUGC-----
 2 0,-3
 -----AUAGGACUCAUAUAGUGCC-----
 2 0,-2
 -----AUAGGACUCAUAUAGUGCCAG-----
 2 0,0

>hsa-mir-3121 3p:47-68 SRX018966

aaauugguuauguccuuugccuauucuaauuuuagacaccuguaccuUAAAUAGAGUAGGCAAAGGACgaaacauu
(((((((.....((((((((((((((((((((((((((((((((((((((.....))..))))))))))))))))))))))))))....)))
-----UAAAUAGAGUAGGCAAAG-----
9 0,-4
-----UAAAUAGAGUAGGCAAAG-----
5 0,-3

```
>hsa-mir-3129    5p:9-30  SRX018966
```

guacuuggGCAGUAGUGUAGAGAUAUGGUUUgcccuguuaaugaaauucaaacuaaucucuaacacugcugcccaagagc
...((...(((...)))...)))))))))...))))))...
-----GCAGUAGUGUAGAGAUAUGGUU-----
2 0,-1
-----CAGUAGUGUAGAGAUAUGGUUU-----
2 1,0
-----AGUAGUGUAGAGAUAUGGUUUGC-----
3 2,2

>hsa-mi r-3130-1 5p:13-33;3p:44-64 SRX018966

cuugucaugucuUACCCAGUCUCCGGUGCAGCCuguugucaagGCUGCACCGGAGACUGGGUAAGacaugacaag
((((((((((((((((((((((((((((((((((((((.....))))))))))))))))))))))))))
-----GCUGCACCGGAGACUGGGUAA----- 26

```
0,0
-----GCUGCACCGGAGACUGGGUAAG----- 4
0,1
>hsa-mir-3130-2 5p:13-33;3p:44-64 SRX018966
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAgacaugaagaag
((((((((((((((((((((((((((((((((((((((.....))))))))).....)))))))))
-----GCUGCACCGGAGACUGGGUAA----- 26
0,0
-----GCUGCACCGGAGACUGGGUAAG----- 4
0,1
>hsa-mir-3133 5p:10-31 SRX018966
cagaaaauugUAAAGAACUCUAAAAACCCAAUaguaaaaaagacaaccguugaguuuuaagaguucuuuauauauucug
((((..((((((((((((((((((((..(((((((.....)))))).))))))))).....))))).))))))
-----UAAAGAACUCUAAAAACCCAAU-----
2 0,0
-----AAAGAACUCUAAAAACCCAAU-----
4 1,0
>hsa-mir-3134 3p:45-67 SRX018966
uguauccaauguguagucuuuuauccucacauggaguaaaaauaUGAUGGAUAAAAGACUACAUAUUggguaca
.((((((((((((((((((((((((((((((((((((..(((.(.....)).))).))))))))).....))))).
-----UGAUGGAUAAAAGACUACAU----- 3
0,-3
>hsa-mir-3145 3p:49-72 SRX018966
uauaugaguucaacuiccaaacacucaaaacucauuguugauggaagAGAUUUUUGAGUGUUUGGAUUUGaacucgua
ua
((((((((((((((((((((((((((((((((((((..((((((((((((((((((((..(.....).))))))....))))))))).....))))).)))))))))
))
-----AACUCCAACACUCAAAACUCA-----
-- 2
>hsa-mir-3150 3p:49-70 SRX018966
gggaagcaggccaaccucgacgaucuccucagcaccugaacgccaaaggCUGGGGAGAUCCUCGAGGUUGGccugcuuucc
((((((((((((((((((((((((((((((((((((..((((((((((((((((((((..(.....).))))))....))))))))).....))))).)))))))))
-----AACUCGACGAUCUCCUCAGCAa-----
```

>hsa-mir-3154 3p:54-75 SRX018966

ggccccuccuucucagccccagcucccgucacccccugccacgucaaaggaggCAGAAGGGGAGUUGGGAGCAGAgaggg
gacc

((((((((..(((..((((((((((((((.....((((..(.....)..)))))).))))))))))))).))))))))))
)..))

-----CAGAAGGGGAGUUGGGAG-----
---- 2 0,-4

>hsa-mir-3158-1 3p:50-71 SRX018966

auucaggccgguccugcagagaggaagcccuucugcuuacagguauuggAAGGGCUUCCUCUCUGCAGGACcggccugaa
u

((((((((((((((((((((((((((((((((((((.....)))))).))))))))))))))))))))))))))))))
)

-----AAGGGCUUCCUCUCUGCAGGA-----
- 2 0,-1

>hsa-mir-3158-2 3p:50-71 SRX018966

auucaggccgguccugcagagaggaagcccuuccaauaccuguaagcagAAGGGCUUCCUCUCUGCAGGACcggccugaa
u

((((((((((((((((((((((((((((((((((((.....))))))))))))))))))))))))))))))))))
)

-----AAGGGCUUCCUCUCUGCAGGA-----
- 2 0,-1

>hsa-mir-3159 5p:10-31 SRX018966

ccaaaguccUAGGAUUACAAGUGUCGGCCACgggcugggcacaguggcucacgccuguaaucccagcauuuugg

((((((((..(((..((((((((((((((.....)))))).))))))))))))).))))))))))

-----ACGCCUGUAAUCCCAGCA----- 3

>hsa-mir-3165 5p:10-31 SRX018966

ccgguggcaAGGUGGAUGCAAUGUGACCUAacucuugguccucugaggucacauuguauccaccuuaccacugg

((((((((..(((..((((((((((((((.....)))))).))))))))))))).))))))))))

-----AGGUGGAUGCAAUGUGACCU----- 3

0,-2

>hsa-mir-3170 5p:10-31 SRX018966

cugguaacaCUGGGGUUCUGAGACAGACAGUguuagcuccagaagcauugccugucuuagaaccccuauuuaccag
 ((((((((((.(((((((((((((((.(((((((.....)))))).)))))))))))))).)))))))))
 -----CUGGGGUUCUGAGACAGACAGU-----
 2 0.0

```
>hsa-mir-3173    3p:43-64    SRX018966
ucccugcccugccuguuuucuccuuugugauuuuaugagaacAAAGGAGGAAAUAGGCAGGCCAggga
((((((.((((((((((((((((((((((((((..((...)).)))))))))))))))))))))))).))))))
-----AGGAGGAAAUAGGCAGGCCAG---      2    2.1
```

```
>hsa-mir-3179-1 3p:52-73 SRX018966
caggaucacagacguuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAUUUAAACGUcugugau
ccug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))
-----AGAAGGGGUGAAUUUAAACGU-----
---- 2 0.0
```

```
>hsa-mir-3179-2 3p:52-73      SRX018966
caggaucaacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAUUUAAACGUcugugau
ccug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))
-----AGAAGGGGUGAAUUUAAACGU-----
----      2      0.0
```

```
>hsa-mir-3179-3 3p:52-73      SRX018966  
caggauacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAAUUUAACGUcugugau  
ccug  
(((((((((((((((((((((((((((.(((((((((((((((((((.....)))))))))..)))))))))
```

-----AGAAGGGGUGAAAUUAAACGU-----
 --- 2 0,0

cuggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugaccccgg
 ((((((((((((((.((((((((.((((.((((.((((((...)))..)))..)))..)))))).)))))))))
 -----GUGGAAGGUAGACGGCCAGAGA-----

ggagaUAUUGCACAUUACUAAGUUGCAuguugucacggccucaaugCAAUUUAGUGUGUGUGAUUUUuc		
((((((((..((((.(((((((((((((((..((....)).)).))))))))))))))))..)))))))))		
----AUAUUGCACAUUACUAAGUUG-----	6	
-1,-2		
----AUAUUGCACAUUACUAAGUUGa-----	2	
-1,-2		
----UAUUGCACAUUACUAAGU-----	8	0,-4
----UAUUGCACAUUACUAAGUU-----	15	0,-3
----UAUUGCACAUUACUAAGUUG-----	85	0,-2
----UAUUGCACAUUACUAAGUUGC-----	24	0,-1
----UAUUGCACAUUACUAAGUUGCAa-----	3	0,0
----UAUUGCACAUUACUAAGUUGCAU-----	4	0,1
-----AUUGCACAUUACUAAGUUG-----	3	1,-2
-----GCAAUUUAGUGUGUGUGAUUU-----	4	
-1,-1		
-----CAAUUUAGUGUGUGUGAUUAa-----	2	0,-2
-----CAAUUUAGUGUGUGUGAUUU-----	7	0,-1
-----CAAUUUAGUGUGUGUGAUUUa-----	3	0,-1

>hsa-mi r-3200 5p:13-34;3p:54-75 SRX018966

gguggucgagggAAUCUGAGAAGGCGCACAAAGGUuuguguccaauacaguccaCACCUUGCGCUACUCAGGUCUGcucgu
gcccu

((.(((((((.(.(((((((..(((((((..(((((.(((.((.....).)).)))))))))..)))))).).))).
)))))

-----AAUCUGAGAAGGCGCACAAAGGUU-----

----- 3 0,1

-----CACCUUGCGCUACUCAGGUCU-----

----- 2 0,-1

>hsa-mir-320a 3p:48-69 SRX018966

gcuucgcuccccuccgccuucucuucccggauucuccggagucgggAAAAGCUGGGUUGAGAGGGCGAaaaaggaugag
gu

$$(((((((.(((\dots(((((((((.(((((((.(((((((\dots)))))))).)))))))).)))))))).\dots)))))))))$$

-----GAAAAGCUGGGUUGAGAGGGC-----

-- 11 -1,-2

-----GAAAAGCUGGGUUGAGAGGGCG-----

-- 13 -1,-1

-----GAAAAGCUGGGUUGAGAGGGCGu-----

-- 14 -1,-1

-----GAAAAGCUGGGUUGAGAGGGCGA-----

-- 21 -1,0

-----GAAAAGCUGGGUUGAGAGGGCGAA-----

-- 3 -1.1

-----AAAAGCUGGGUUGAGAGG-----

-- 116 0,-4

-----AAAAGCUGGGUUGAGAGGG-----

-- 94 0,-3

-----AAAAGCUGGGUUGAGAGGGa-----

-- 9 0,-3

-----AAAAGCUGGGUUGAGAGGGaa-----

-- 3 0, -3

-----AAAAGCUGGGUUGAGAGGGau-----

$$-- \quad 3 \quad 0, -3$$

-----AAAAGCUGGGUUGAGAGGGC-----

-- 365 0,-2

-----AAAAGCUGGGUUGAGAGGGC_u-----

```

-- 2 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 718 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 663 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 300 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 2793 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 1045 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 188 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 1368 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 343 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 40 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 387 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 94 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 40 0,3
-----AAAGCUGGGUUGAGAGGGC-----
-- 22 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 34 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 24 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 31 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 171 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 59 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----

```

```

-- 19 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 162 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 55 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 18 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 70 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 15 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 2 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 10 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAu-----
-- 2 1,3
-----AAGCUGGGUUGAGAGGGCGA-----
-- 13 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 2 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 10 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 10 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 2 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 15 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 7 2,2
-----AAGCUGGGUUGAGAGGGCGAAAuu-----
-- 2 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 2 2,3

```

>hsa-mir-320b-1 3p:39-60 SRX018966

aauuaaucccucucuucuaguucuuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu

.....((((.....((((.....)))))).)))).....
-----GAAAAGCUGGGUUGAGAGGGC-----
11 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCAu-----
7 -1,-1
-----AAAAGCUGGGUUGAGAGG-----
116 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
94 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
9 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
3 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
3 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
365 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
2 0,-2
-----AAAAGCUGGGUUGAGAGGGCA-----
81 0,-1
-----AAAAGCUGGGUUGAGAGGGCAu-----
83 0,-1
-----AAAAGCUGGGUUGAGAGGGCAuu-----
15 0,-1
-----AAAAGCUGGGUUGAGAGGGCAA-----
89 0,0
-----AAAAGCUGGGUUGAGAGGGCAAu-----
20 0,0
-----AAAAGCUGGGUUGAGAGGGCAAuu-----
3 0,0
-----AAAAGCUGGGUUGAGAGGGCAAA-----
9 0,1
-----AAAGCUGGGUUGAGAGGGC-----
22 1,-2
-----AAAGCUGGGUUGAGAGGGCAu-----
4 1,-1
-----AAAGCUGGGUUGAGAGGGCAuu-----


```

GUUGAGAGGGCAAuu----- 3 0,0
-----AAAAGCUGG
GUUGAGAGGGCAAA----- 9 0,1
-----AAAAGCUGG
GUUGAGAGGGCAAAA----- 2 0,2
-----AAAGCUGG
GUUGAGAGGGC----- 22 1,-2
-----AAAGCUGG
GUUGAGAGGGCAu----- 4 1,-1
-----AAAGCUGG
GUUGAGAGGGCAuu----- 2 1,-1
-----AAAGCUGG
GUUGAGAGGGCAA----- 9 1,0

```

>hsa-mir-320c-1 3p:50-69 SRX018966

```

uuugcauuaaaaaugaggccuucucuuccaguucuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg
.((((((((.....((((((((..((((((((..((((.....))))).)))))))).)))))))).
)))))))).

```

```

-----AAAAGCUGGGUUGAGAGG-----
----- 116 0,-2
-----AAAAGCUGGGUUGAGAGGG-----
----- 94 0,-1
-----AAAAGCUGGGUUGAGAGGGa-----
----- 9 0,-1
-----AAAAGCUGGGUUGAGAGGGaa-----
----- 3 0,-1
-----AAAAGCUGGGUUGAGAGGGau-----
----- 3 0,-1
-----AAAAGCUGGGUUGAGAGGGU-----
----- 58 0,0
-----AAAAGCUGGGUUGAGAGGGUu-----
----- 3 0,0
-----AAAAGCUGGGUUGAGAGGGUA-----
----- 2 0,1
-----AAAAGCUGGGUUGAGAGGGUAa-----
----- 6 0,1
-----AAAAGCUGGGUUGAGAGGGUAaa-----

```

```

-----      2      0,1
-----
-----AAAAGCUGGGUUGAGAGGGUAu-----
-----      7      0,1
-----

```

>hsa-mir-320c-2 3p:31-50 SRX018966

```

cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU
(((((((..(((((((..((((((.....)))))).))))))..))))))..
-----AAAAGCUGGGUUGAGAGG-- 116 0,-2
-----AAAAGCUGGGUUGAGAGGG- 94 0,-1
-----AAAAGCUGGGUUGAGAGGGa 9 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 3 0,-1
-----AAAAGCUGGGUUGAGAGGGau 3 0,-1
-----AAAAGCUGGGUUGAGAGGGU 58 0,0
-----AAAAGCUGGGUUGAGAGGGUu 3 0,0

```

>hsa-mir-320d-1 3p:30-48 SRX018966

```

uucucguccaguucuccaaaguugagAAAAGCUGGGUUGAGAGGA
(((((((..(((((((..((((((.....)))))).))))))..))))))..
-----AAAAGCUGGGUUGAGAGG- 116 0,-1
-----AAAAGCUGGGUUGAGAGGAaa 6 0,0

```

>hsa-mir-320d-2 3p:30-48 SRX018966

```

uucucuuccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA
(((((((..(((((((..((((((.....)))))).))))))..))))))..
-----AAAAGCUGGGUUGAGAGG- 116 0,-1
-----AAAAGCUGGGUUGAGAGGAaa 6 0,0

```

>hsa-mir-320e 3p:35-52 SRX018966

```

gccuucucuuccaguucuccaggagucggggaAAAGCUGGGUUGAGAAGGu
((((((((..(((((((..((((((.....)))))).))))))..))))))
-----AAAGCUGGGUUGAGAAGG- 2 0,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018966

```

uugguacuuggagagAGGUGGUCCGUGGCGGUUCGCuuuauuuauuggcgCACAUUACACGGUCGACCUUuugcaguau
cuaauc
..(((((((..(((((((..((((((.....)))))).))))))..))))))
).....
-----GCACAUUACACGGUCGACCU-----

```

```

----- 3   -1,-2
-----GCACAUUACACGGUCGACCUC-----
----- 2   -1,-1
-----GCACAUUACACGGUCGACCUCU-----
----- 3   -1,0
-----CACAUUACACGGUCGACC-----
----- 5   0,-3
-----CACAUUACACGGUCGACCU-----
----- 27  0,-2
-----CACAUUACACGGUCGACCUCU-----
----- 4   0,0

```

```

>hsa-mir-323b   5p:15-37;3p:51-72   SRX018966
ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuauuuauaugaugCCCAUACACGGUCGACCUCUuucgguauc
a
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----CCCAUACACGGUCGACCU-----
-- 10  0,-3
-----CCCAUACACGGUCGACCUCU-----
-- 5   0,-1

```

```

>hsa-mir-324    5p:16-38;3p:53-72   SRX018966
cugacuaugccuccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagacccACUGCCCCAGGUGCUGCUGGggguagua
guc
..(((((((..(((((((((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----CGCAUCCCCUAGGGCAUU-----
--- 6   0,-5
-----CGCAUCCCCUAGGGCAUUG-----
--- 13  0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 7   0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 11  0,-2
-----CGCAUCCCCUAGGGCAUUGGUa-----
--- 2   0,-2
-----CGCAUCCCCUAGGGCAUUGGUaa-----

```

```

--- 3   0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 11  0,-1
-----CGCAUCCCCUAGGGCAUUGGUGa-----
--- 3   0,-1
-----CGCAUCCCCUAGGGCAUUGGUGaa-----
--- 4   0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 34  0,0
-----CCACUGCCCCAGGUGCUGCU-----
--- 2   -2,-2
-----CCACUGCCCCAGGUGCUGCUG-----
--- 2   -2,-1
-----ACUGCCCCAGGUGCUGCU-----
--- 5   0,-2
-----ACUGCCCCAGGUGCUGCUG-----
--- 4   0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 7   0,0

```

>hsa-mir-326 3p:60-79 SRX018966

```

cucaucugucuguugggcuggaggcagggccuuugugaaggcggguggugcucagaucgCCUCUGGGCCCUUCCUCCAGc
cccgaggcggaauca
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))))))))))...
-----CCUCUGGGCCCUUCCUCCAGa
----- 5   0,0
-----CCUCUGGGCCCUUCCUCCAGa
a----- 2   0,0
-----CCUCUGGGCCCUUCCUCCAGu
----- 3   0,0
-----CUCUGGGCCCUUCCUCCAG-
----- 2   1,0

```

>hsa-mir-328 3p:48-69 SRX018966

```

uggaguggggggggcaggaggggcucagggagaaagugcauacagcccCUGGCCCUCUCUGCCCUUCCGUccccug
.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))))))))))...
-----CCUGGCCCUCUCUGCCCUUCCGUu----- 2

```

```

-1,0
-----CUGGCCCUCUCUGCCCUUCCGU----- 4
0,0
-----CUGGCCCUCUCUGCCCUUCCGUuu---- 2
0,0

>hsa-mir-329-1 3p:50-71 SRX018966
gguaccugaagagagguuuucuggguuucuguuucuuuaaugaggacgaAACACACCUGGUUAACCUCUUUuccaguauc
(((((((((.....)))))).)))..))))))..))))))..))))))..))))))..))))))..))))))..))))))
-----AGAGGUUUUCUGGGUUUCUGUU-----
5
-----AACACACCUGGUUAACCUC-----
2 0,-3
-----AACACACCUGGUUAACCUCUU-----
2 0,-1
-----AACACACCUGGUUAACCUCUU-----
4 0,0

>hsa-mir-329-2 3p:52-73 SRX018966
gugguaccugaagagagguuuucuggguuucuguuucuuuaauaggacgaAACACACCUGGUUAACCUCUUUuccagua
ucaa
(((((((((.....)))))).)))..))))))..))))))..))))))..))))))..))))))..))))))..))))))
)).
-----AGAGGUUUUCUGGGUUUCUGUU-----
5
-----AACACACCUGGUUAACCUC-----
2 0,-3
-----AACACACCUGGUUAACCUCUU-----
2 0,-1
-----AACACACCUGGUUAACCUCUU-----
4 0,0

>hsa-mir-330 5p:18-39;3p:57-79 SRX018966
cuuuggcgaucaugccUCUCUGGGCCUGUGUCUUAGGCucugcaagaauaccgaGCAAAGCACACGGCCUGCAGAGAg
gcagcgucugccc
....(((((((((.....)))))).)))..))))))..))))))..))))))..))))))..))))))..))))))..))))))
)).
-----UCUCUGGGCCUGUGUCUUAGaa-----

```

-----	2	0,-2	-----GCAAAGCACACGGCCUGCA-----
-----	4	0,-4	-----GCAAAGCACACGGCCUGCAGA---
-----	3	0,-2	-----GCAAAGCACACGGCCUGCAGAG--
-----	2	0,-1	-----GCAAAGCACACGGCCUGCAGAGA-
-----	18	0,0	-----GCAAAGCACACGGCCUGCAGAGAu
-----	2	0,0	-----GCAAAGCACACGGCCUGCAGAGAG
u-----	2	0,1	-----CAAAGCACACGGCCUGCAGAG--
-----	3	1,-1	-----CAAAGCACACGGCCUGCAGAGu-
-----	2	1,-1	-----CAAAGCACACGGCCUGCAGAGA-
-----	19	1,0	-----CAAAGCACACGGCCUGCAGAGAa
-----	2	1,0	-----CAAAGCACACGGCCUGCAGAGAu
-----	2	1,0	-----CAAAGCACACGGCCUGCAGAGAG
-----	8	1,1	-----CAAAGCACACGGCCUGCAGAGAG
a-----	4	1,1	-----CAAAGCACACGGCCUGCAGAGAG
u-----	7	1,1	-----CAAAGCACACGGCCUGCAGAGAG
G-----	3	1,2	-----AAAGCACACGGCCUGCAGAGA-
-----	13	2,0	-----AAAGCACACGGCCUGCAGAGAa
-----	4	2,0	-----AAAGCACACGGCCUGCAGAGAG
-----	13	2,1	-----AAAGCACACGGCCUGCAGAGAG


```

a----- 2 2,1
-----AAAGCACACGGCCUGCAGAGAG
u----- 6 2,1
-----AAAGCACACGGCCUGCAGAGAG
G----- 7 2,2

```

```

>hsa-mir-331 5p:26-47;3p:61-81 SRX018966
gaguuuugguuuuuguuuggguuuuguCUAGGUAUGGUCCCCAGGGAUCCcagaucaaaccagGCCCCUGGGCCUAUCCUAGA
Accaaccuaagcuc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----GCCCCUGGGCCUAUCCUA--
----- 4 0,-3
-----GCCCCUGGGCCUAUCCUAG-
----- 13 0,-2
-----GCCCCUGGGCCUAUCCUAGA
----- 31 0,-1
-----GCCCCUGGGCCUAUCCUAGA
u----- 6 0,-1
-----GCCCCUGGGCCUAUCCUAGA
uu----- 8 0,-1
-----GCCCCUGGGCCUAUCCUAGA
A----- 154 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aa----- 48 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aaa----- 6 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aau----- 2 0,0
-----GCCCCUGGGCCUAUCCUAGA
Au----- 37 0,0
-----GCCCCUGGGCCUAUCCUAGA
Auu----- 5 0,0
-----CCCUGGGCCUAUCCUAGA
Aa----- 2 2,0

```

```

>hsa-mir-335 MA:16-38;mi:52-73 SRX018966
uguuuugagcgggggUCAAGAGCAAUAACGAAAAAUGUuugucauaaaccgUUUUUCAUUAUUGCUCUCCUGACCuccucuc

```

auuugcuauauuca

.((..(((.(((((((.(((((((.(((((((.(.....)).)))))))).)))))))).)))))))).)))))
)...)).....

-----UCAAGAGCAAUACGAAA-----
----- 4 0,-5
-----UCAAGAGCAAUACGAAA-----
----- 11 0,-4
-----UCAAGAGCAAUACGAAAu-----
----- 2 0,-4
-----UCAAGAGCAAUACGAAAA-----
----- 36 0,-3
-----UCAAGAGCAAUACGAAAAa-----
----- 8 0,-3
-----UCAAGAGCAAUACGAAAAaa-----
----- 3 0,-3
-----UCAAGAGCAAUACGAAAAAU-----
----- 398 0,-2
-----UCAAGAGCAAUACGAAAAAUa-----
----- 168 0,-2
-----UCAAGAGCAAUACGAAAAAUG-----
----- 763 0,-1
-----UCAAGAGCAAUACGAAAAAUGa-----
----- 10 0,-1
-----UCAAGAGCAAUACGAAAAAUGU-----
----- 229 0,0
-----UCAAGAGCAAUACGAAAAAUGUa-----
----- 3 0,0
-----CAAGAGCAAUACGAAAAAUa-----
----- 2 1,-2
-----CAAGAGCAAUACGAAAAAUG-----
----- 5 1,-1
-----CAAGAGCAAUACGAAAAAUGU-----
----- 2 1,0
-----AAGAGCAAUACGAAAAAU-----
----- 4 2,-2
-----AAGAGCAAUACGAAAAAUa-----
----- 5 2,-2
-----AAGAGCAAUACGAAAAAUG-----

```

----- 11 2,-1
-----AAGAGCAAUAACGAAAAAUGU-----
----- 2 2,0
-----UUUUUCAUUAUUGCUCU-----
----- 2 0,-4
-----UUUUUCAUUAUUGCUCUGAC-----
----- 3 0,-1
-----UUUUUCAUUAUUGCUCUGACu-----
----- 2 0,-1

```

```

>hsa-mir-337 5p:23-43;3p:61-82 SRX018966
guagucaguaguugggggguggGAACGGCUUCAUACAGGAGUUGaugcacaguuaucagCUCCUAUAUGAUGCCUUUCU
UCaucccccuaa
.....(((((.....)))..)))..
)))))))).)..
-----GAACGGCUUCAUACAGGA-----
----- 2 0,-3
-----GAACGGCUUCAUACAGGAG-----
----- 3 0,-2
-----GAACGGCUUCAUACAGGAGUaa-----
----- 2 0,0
-----GAACGGCUUCAUACAGGAGUu-----
----- 2 0,0

```

```

>hsa-mir-338 5p:6-27;3p:42-63 SRX018966
ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga
(((.....)))..
-----UCCAGCAUCAGUGAUUUU----- 5 0,-4
-----UCCAGCAUCAGUGAUUUUG----- 12 0,-3
-----UCCAGCAUCAGUGAUUUUGUU----- 10 0,-1
-----UCCAGCAUCAGUGAUUUUGUUGA--- 2 0,1

```

```

>hsa-mir-339 5p:15-37;3p:50-72 SRX018966
cggggcggcgccgcucUCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGgcgccugc
cccagugucugcgc
..(((.....)))..
))).....
-----UCCUGUCCUCCAGGAGC-----

```

```

----- 2 0,-5
-----UCCCUGUCCUCCAGGAGCU-----
----- 14 0,-4
-----UCCCUGUCCUCCAGGAGCUCA-----
----- 22 0,-2
-----UCCCUGUCCUCCAGGAGCUCAa-----
----- 4 0,-2
-----UCCCUGUCCUCCAGGAGCUCAau-----
----- 2 0,-2
-----UCCCUGUCCUCCAGGAGCUCAu-----
----- 6 0,-2
-----UCCCUGUCCUCCAGGAGCUCAC-----
----- 10 0,-1
-----UCCCUGUCCUCCAGGAGCUCACa-----
----- 3 0,-1
-----UCCCUGUCCUCCAGGAGCUCACu-----
----- 3 0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 29 0,0
-----UCCCUGUCCUCCAGGAGCUCACGa-----
----- 4 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 7 0,1
-----CCUGUCCUCCAGGAGCUCACG-----
----- 6 2,0
-----CCUGUCCUCCAGGAGCUCACGU-----
----- 2 2,1
-----UGAGCGCCUCGACGACAG-----
----- 10 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 14 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 34 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 23 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 3 0,-2
-----UGAGCGCCUCGACGACAGAGCaa-----

```

----- 2 0,-2	-----UGAGCGCCUCGACGACAGAGCu-----
----- 14 0,-2	-----UGAGCGCCUCGACGACAGAGCuu-----
----- 11 0,-2	-----UGAGCGCCUCGACGACAGAGCC-----
----- 32 0,-1	-----UGAGCGCCUCGACGACAGAGCCa-----
----- 24 0,-1	-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 2 0,-1	-----UGAGCGCCUCGACGACAGAGCCau-----
----- 12 0,-1	-----UGAGCGCCUCGACGACAGAGCCu-----
----- 23 0,-1	-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 13 0,-1	-----UGAGCGCCUCGACGACAGAGCCG-----
----- 11 0,0	-----UGAGCGCCUCGACGACAGAGCCGau-----
----- 2 0,0	-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 3 0,0	-----UGAGCGCCUCGACGACAGAGCCGuu-----
----- 4 0,0	-----GAGCGCCUCGACGACAGA-----
----- 2 1,-4	-----GAGCGCCUCGACGACAGAGCCGu-----
----- 2 1,0	-----AGCGCCUCGACGACAGAG-----
----- 24 2,-3	-----AGCGCCUCGACGACAGAGC-----
----- 4 2,-2	-----AGCGCCUCGACGACAGAGCC-----
----- 2 2,-1	-----AGCGCCUCGACGACAGAGCCu-----
----- 2 2,-1	-----AGCGCCUCGACGACAGAGCCG-----

```

----- 15 2,0
-----AGCGCCUCGACGACAGAGCCGu-----
----- 3 2,0

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018966

```

cugugGUGCAUUGUAGUUGCAUUGCAuguucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((.((.((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GUGCAUUGUAGUUGCAUU----- 425 0,-3
-----GUGCAUUGUAGUUGCAUUG----- 12 0,-2
-----GUGCAUUGUAGUUGCAUUGa----- 10 0,-2
-----GUGCAUUGUAGUUGCAUUGu----- 5 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 112 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 299 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 58 0,0
-----GUGCAUUGUAGUUGCAUUGCAU----- 14 0,1
-----CAAUGUUUCCACAGUGCAU----- 9 0,-3
-----CAAUGUUUCCACAGUGCAUa----- 4 0,-3
-----CAAUGUUUCCACAGUGCAUC----- 4 0,-2
-----CAAUGUUUCCACAGUGCAUCA----- 3 0,-1
-----CAAUGUUUCCACAGUGCAUCAa----- 5 0,-1
-----CAAUGUUUCCACAGUGCAUCAu----- 5 0,-1
-----AAUGUUUCCACAGUGCAUCAu----- 3 1,-1

```

>hsa-mir-33b MA:16-35;mi:54-75 SRX018966

```

gcgggcgggcccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcggggugCAGUGCCUCGGCAGUGCAGCCCggagc
cggccccuggcaccac
((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
).....
-----GUGCAUUGCUGUUGCAUU-----
----- 11 0,-2
-----GUGCAUUGCUGUUGCAUUG-----
----- 11 0,-1
-----GUGCAUUGCUGUUGCAUUGa-----
----- 12 0,-1
-----GUGCAUUGCUGUUGCAUUGu-----
----- 9 0,-1
-----GUGCAUUGCUGUUGCAUUGCA-----
----- 3 0,1

```



```

-----AGGGGUGCUAUCUGUGAUU-----
----- 34 0,-2
-----AGGGGUGCUAUCUGUGAUUG-----
----- 4 0,-1
-----AGGGGUGCUAUCUGUGAUUGA-----
----- 72 0,0
-----AGGGGUGCUAUCUGUGAUUGAa-----
----- 13 0,0
-----AGGGGUGCUAUCUGUGAUUGAG-----
----- 51 0,1
-----AGGGGUGCUAUCUGUGAUUGAGa-----
----- 5 0,1
-----AGGGGUGCUAUCUGUGAUUGAGG-----
----- 12 0,2
-----AGGGGUGCUAUCUGUGAUUGAGGG-----
----- 5 0,3
-----GGGGUGCUAUCUGUGAUUGAGG-----
----- 2 1,2
-----GGGGUGCUAUCUGUGAUUGAGGGA-----
----- 3 1,4
-----UCUCACACAGAAAUCGCA-----
----- 210 0,-5
-----UCUCACACAGAAAUCGCAC-----
----- 365 0,-4
-----UCUCACACAGAAAUCGCACa
----- 2 0,-4
-----UCUCACACAGAAAUCGCACC
----- 413 0,-3
-----UCUCACACAGAAAUCGCACC
a----- 2 0,-3
-----UCUCACACAGAAAUCGCACC
u----- 2 0,-3
-----UCUCACACAGAAAUCGCACC
C----- 371 0,-2
-----UCUCACACAGAAAUCGCACC
CG----- 462 0,-1
-----UCUCACACAGAAAUCGCACC
CGa----- 14 0,-1

```


-----				-----UCUCACACAGAAAUCGCACC
CGaa-----	2	0,-1		-----UCUCACACAGAAAUCGCACC
CGU-----	1467	0,0		-----UCUCACACAGAAAUCGCACC
CGUa-----	21	0,0		-----UCUCACACAGAAAUCGCACC
CGUaa-----	7	0,0		-----UCUCACACAGAAAUCGCACC
CGUau-----	3	0,0		-----UCUCACACAGAAAUCGCACC
CGUu-----	55	0,0		-----UCUCACACAGAAAUCGCACC
CGUuu-----	3	0,0		-----UCUCACACAGAAAUCGCACC
CGUC-----	472	0,1		-----UCUCACACAGAAAUCGCACC
CGUCu-----	176	0,1		-----UCUCACACAGAAAUCGCACC
CGUCA-----	70	0,2		-----CUCACACAGAAAUCGCACC
-----	5	1,-3		-----CUCACACAGAAAUCGCACC
CGU-----	2	1,0		-----UCACACAGAAAUCGCACC
-----	3	2,-3		-----UCACACAGAAAUCGCACC
C-----	2	2,-2		-----UCACACAGAAAUCGCACC
CG-----	3	2,-1		-----UCACACAGAAAUCGCACC
CGU-----	21	2,0		-----UCACACAGAAAUCGCACC
CGUC-----	10	2,1		-----UCACACAGAAAUCGCACC
CGUCu-----	14	2,1		-----UCACACAGAAAUCGCACC
CGUCuu-----	2	2,1		

-----			-----UCACACAGAAAUCGCACC
CGUCA-----	67	2,2	
-----			-----UCACACAGAAAUCGCACC
CGUCAa-----	3	2,2	
-----			-----UCACACAGAAAUCGCACC
CGUCAu-----	4	2,2	

```

>hsa-mir-345      5p:18-39      SRX018966
acccaaaccuaggucuGCUGACUCCUAGUCCAGGGCUCgugauggcuggugggcccugaacgaggggucuggaggccug
gguuugaauaucgacagc
...(((((((.((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----GCUGACUCCUAGUCCAGG-----
----- 44 0,-4
-----GCUGACUCCUAGUCCAGGG-----
----- 22 0,-3
-----GCUGACUCCUAGUCCAGGGC-----
----- 19 0,-2
-----GCUGACUCCUAGUCCAGGGCa-----
----- 2 0,-2
-----GCUGACUCCUAGUCCAGGGCa-----
----- 8 0,-2
-----GCUGACUCCUAGUCCAGGGCa-----
----- 5 0,-2
-----GCUGACUCCUAGUCCAGGGCU-----
----- 86 0,-1
-----GCUGACUCCUAGUCCAGGGCUa-----
----- 17 0,-1
-----GCUGACUCCUAGUCCAGGGCUaa-----
----- 23 0,-1
-----GCUGACUCCUAGUCCAGGGCUau-----
----- 35 0,-1
-----GCUGACUCCUAGUCCAGGGCUu-----
----- 18 0,-1
-----GCUGACUCCUAGUCCAGGGCUuu-----
----- 25 0,-1
-----GCUGACUCCUAGUCCAGGGCUC-----
----- 74 0,0

```


>hsa-mir-3605 5p:22-44;3p:66-88 SRX018966

acuuuauacguguaauugugaUGAGGAUGGAUAGCAAGGAAGCCgcucccaccugaccucacggCCUCCGUGUUACCUG
UCCUCUAGgugggacgcucg

.....((((.....(((((((.(((((.(((.(((.....))))).)))..)))..)))
))))).))))....

-----GAUGAGGAUGGAUAGCAAGG-----
-----3 -2,-5-----
-----GAUGAGGAUGGAUAGCAAGGA-----
-----2 -2,-4-----
-----GAUGAGGAUGGAUAGCAAGGAA-----
-----2 -2,-3-----
-----GAUGAGGAUGGAUAGCAAGGAa-----
-----2 -2,-3-----
-----GAUGAGGAUGGAUAGCAAGGAAG-----
-----5 -2,-2-----
-----GAUGAGGAUGGAUAGCAAGGAAGa-----
-----3 -2,-2-----
-----GAUGAGGAUGGAUAGCAAGGAAGC-----
-----3 -2,-1-----
-----GAUGAGGAUGGAUAGCAAGGAAGCC-----
-----2 -2,0-----
-----AUGAGGAUGGAUAGCAAGGAAG-----
-----3 -1,-2-----
-----AUGAGGAUGGAUAGCAAGGAAGa-----
-----2 -1,-2-----
-----AUGAGGAUGGAUAGCAAGGAAGCa-----
-----2 -1,-1-----
-----AUGAGGAUGGAUAGCAAGGAAGCC-----
-----2 -1,0-----
-----UGAGGAUGGAUAGCAAGGAAG-----
-----3 0,-2-----
-----UGAGGAUGGAUAGCAAGGAAGC-----
-----5 0,-1-----
-----UGAGGAUGGAUAGCAAGGAAGCa-----
-----2 0,-1-----
-----UGAGGAUGGAUAGCAAGGAAGCC-----
-----3 0,0-----

aagguugcgguGCAUGUGAUGAAGCAAAUCAGUaugaaugaauucaugauACUGUAAACGCUUUCUGAUGGuacuacuca
(((((.....((((.....((((.....((((.....((((.....)))))).....)))))).....)))))).....))...
 -----GCAUGUGAUGAAGCAAAUa-----

guaacaguaacuuuuuauucucauuuuuccuuuuucucuaccuuguagagaagCAAAGUGAUGAGUAAUACUGGCUGgagccc
((.(((((.....((((((((((((((...((((((((((...)))))))))..))))))..))))))..))))))..))..
-----GCAAAGUGAUGAGUAAUACU-----

-----CAAAGUGAUGAGUAAUACU-----

-----CAAAGUGAUGAGUAAUACUGGCU-----

ggagcUUAUCAGAAUCUCCAGGGGUACuuuuaauuucaaaaagUCCCCAGGUGUGAUUCUGAUUUgcuuc
 ((((((..(((((((.(.(.(((.((((.....)))))).)).)).)).)).)).)).)).)).))
 -----UUAUCAGAAUCUCCAGGG-----

-----UUAUCAGAAUCUCCAGGGG----- 6

-----UUAUCAGAAUCUCCAGGGGU----- 56

-----UUAUCAGAAUCUCCAGGGGUA----- 79

-----UUAUCAGAAUCUCCAGGGGUAa----- 53

-----UUAUCAGAAUCUCCAGGGGUAaa----- 10

-----UUAUCAGAAUCUCCAGGGGUA_{au}----- 3

-----UUAUCAGAAUCUCCAGGGGUAu----- 118

-----UUAUCAGAAUCUCCAGGGGUAuu----- 9

 $0, -1$

-----UUAUCAGAAUCUCCAGGGGUAC-----	119
0,0	
-----UUAUCAGAAUCUCCAGGGGUACa-----	38
0,0	
-----UUAUCAGAAUCUCCAGGGGUACaa-----	8
0,0	
-----UUAUCAGAAUCUCCAGGGGUACau-----	10
0,0	
-----UUAUCAGAAUCUCCAGGGGUACU-----	8
0,1	
-----UAUCAGAAUCUCCAGGGGUAAu-----	2
1,-1	
-----UCCCCCAGGUGUGAUUCU-----	5
0,-5	
-----UCCCCCAGGUGUGAUUCUGA-----	5
0,-3	
-----UCCCCCAGGUGUGAUUCUGAa-----	2
0,-3	
-----UCCCCCAGGUGUGAUUCUGAaa-----	9
0,-3	
-----UCCCCCAGGUGUGAUUCUGAU-----	21
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUa-----	6
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUU-----	19
0,-1	
-----UCCCCCAGGUGUGAUUCUGAUUa-----	2
0,-1	
-----UCCCCCAGGUGUGAUUCUGAUUU-----	35
0,0	
-----UCCCCCAGGUGUGAUUCUGAUUUu-----	4
0,0	
-----UCCCCCAGGUGUGAUUCUGAUUUUG-----	8
0,1	
-----CCCCCAGGUGUGAUUCUGAUUUUGu-----	2
1,1	

-----AAUUGCACGGUAUCCAUCUGUuu----- 3

0, -1

))))).

-----UGAGGGACUUUUGGGGGCAGAUGU-----
----- 2
-----GAGGGACUUUUGGGGGCAGAUGUaa-----
----- 2
-----AGGGACUUUUGGGGGCAG-----
----- 5
-----AGGGACUUUUGGGGGCAGA-----
----- 4
-----AGGGACUUUUGGGGGCAGAU-----
----- 15
-----AGGGACUUUUGGGGGCAGAUaa-----
----- 2
-----AGGGACUUUUGGGGGCAGAUu-----
----- 5
-----AGGGACUUUUGGGGGCAGAUG-----
----- 7
-----AGGGACUUUUGGGGGCAGAUGU-----
----- 40
-----AGGGACUUUUGGGGGCAGAUGUa-----
----- 2
-----AGGGACUUUUGGGGGCAGAUGUaa-----
----- 2
-----AGGGACUUUUGGGGGCAGAUGUau-----
----- 6
-----AGGGACUUUUGGGGGCAGAUGUu-----
----- 6
-----AGGGACUUUUGGGGGCAGAUGUG-----
----- 74
-----AGGGACUUUUGGGGGCAGAUGUGa-----
----- 3
-----AGGGACUUUUGGGGGCAGAUGUGU-----
----- 36
-----AGGGACUUUUGGGGGCAGAUGUGUU-----
----- 3
-----GGGACUUUUGGGGGCAGAUGUG-----
----- 2
-----GGGACUUUUGGGGGCAGAUGUGU-----

```

----- 4
-----AUAUGCCCCUAAAAAUCCU-----
----- 3 -1,-2
-----UAAUGCCCCUAAAAAUCC-----
----- 22 0,-4
-----UAAUGCCCCUAAAAAUCCU-----
----- 13 0,-3
-----UAAUGCCCCUAAAAAUCCUau-----
----- 3 0,-3
-----UAAUGCCCCUAAAAAUCCU-----
----- 58 0,-2
-----UAAUGCCCCUAAAAAUCCUUu-----
----- 6 0,-2
-----UAAUGCCCCUAAAAAUCCUUA-----
----- 138 0,-1
-----UAAUGCCCCUAAAAAUCCUUAa-----
----- 60 0,-1
-----UAAUGCCCCUAAAAAUCCUUAaa-----
----- 8 0,-1
-----UAAUGCCCCUAAAAAUCCUUAau-----
----- 4 0,-1
-----UAAUGCCCCUAAAAAUCCUUAU-----
----- 681 0,0
-----UAAUGCCCCUAAAAAUCCUUAUa-----
----- 24 0,0
-----UAAUGCCCCUAAAAAUCCUUAUU-----
----- 56 0,1
-----UAAUGCCCCUAAAAAUCCUUAUUu-----
----- 6 0,1
-----AAUGCCCCUAAAAAUCCUUAa-----
----- 5 1,-1
-----AAUGCCCCUAAAAAUCCUUAU-----
----- 6 1,0
-----AAUGCCCCUAAAAAUCCUUAUU-----
----- 2 1,1

```

>hsa-mir-365-2 mi:29-50;MA:68-89 SRX018966

agaguguucaaggacagcaagaaaaaugAGGGACUUUCAGGGGCAGCUGUguuuucugacucagucaUAAUGCCCCUAAA

.....(.(((((((((((.(((((((((.(((.(((((((((((((.(((...)))..)))).....)))))))))
 ..)))))))).))))))..)).)......

	-GAGGGACUUUCAGGGGCAGCU-	
	17	-1,-2
	-GAGGGACUUUCAGGGGCAGCUG-	
	2	-1,-1
	-GAGGGACUUUCAGGGGCAGCUGU-	
	4	-1,0
	-AGGGACUUUCAGGGGCAG-	
	4	0,-4
	-AGGGACUUUCAGGGGCAGC-	
	7	0,-3
	-AGGGACUUUCAGGGGCAGCU-	
	34	0,-2
	-AGGGACUUUCAGGGGCAGCUGU-	
	12	0,0
	-AGGGACUUUCAGGGGCAGCUGUa-	
	3	0,0
	-AGGGACUUUCAGGGGCAGCUGUau-	
	2	0,0
	-AGGGACUUUCAGGGGCAGCUGUu-	
	2	0,0
	-AGGGACUUUCAGGGGCAGCUGUuu-	
	2	0,0
	-AGGGACUUUCAGGGGCAGCUGUG-	
	57	0,1
	-AGGGACUUUCAGGGGCAGCUGUGa-	
	2	0,1
	-AGGGACUUUCAGGGGCAGCUGUGU-	
	10	0,2
	-GGGACUUUCAGGGGCAGCU-	
	4	1,-2
	AUAAUGCCCCUAAA	
AAUCCU-	3	-1,-2
	UAAUGCCCCUAAA	
AAUCC-	22	0,-4
	UAAUGCCCCUAAA	

AAUCCU-----	13	0,-3	-----UAAUGCCCCUAAA
AAUCCUau-----	3	0,-3	-----UAAUGCCCCUAAA
AAUCCUU-----	58	0,-2	-----UAAUGCCCCUAAA
AAUCCUUu-----	6	0,-2	-----UAAUGCCCCUAAA
AAUCCUUA-----	138	0,-1	-----UAAUGCCCCUAAA
AAUCCUUAa-----	60	0,-1	-----UAAUGCCCCUAAA
AAUCCUUAaa-----	8	0,-1	-----UAAUGCCCCUAAA
AAUCCUUAau-----	4	0,-1	-----UAAUGCCCCUAAA
AAUCCUUAU-----	681	0,0	-----UAAUGCCCCUAAA
AAUCCUUAUa-----	24	0,0	-----UAAUGCCCCUAAA
AAUCCUUAUU-----	56	0,1	-----UAAUGCCCCUAAA
AAUCCUUAUUu-----	6	0,1	-----AAUGCCCCUAAA
AAUCCUUAa-----	5	1,-1	-----AAUGCCCCUAAA
AAUCCUUAU-----	6	1,0	-----AAUGCCCCUAAA
AAUCCUUAUU-----	2	1,1	

```
>hsa-mir-3652    5p:1-18 SRX018966
```

CGGCUGGAGGUGUGAGGAuccgaaccaggggugggggguggaggcgggcuccugcgaucgaaggggacuugagacucacc
ggcgcgacgccaugagggccugugggugcuggggccucugcugcguccugc
..((.(((.(((((((.((((.(((((((....(((...((((((..((.(.(((....)))..)))).))..
)))))).)))).....))))).))))).)))))))).)).)).)))).))

```
>hsa-mir-3654    3p:38-56    SRX018966
```

uucaugagcugcaaucucaucacuggaanguuccagcGACUGGACAAGCUGAGGAA

-----ACUGGACAAGCUGAGGAA 2 1,0

cuguaaacuugaagguagggAACUCUGUCUACUCAUGAGUaccuuccaacacgagcucucaggaguaaagacagaguu
cccuaccuucca auguggau

-----UCUCAGGAGUAAAGACAG-----

-----UCUCAGGAGUAAAGACAGA-----

-----UCUCAGGAGUAAAGACAGAG-----

-----UCUCAGGAGUAAAGACAGAGU-----

-----UCUCAGGAGUAAAGACAGAGUU

-----UCUCAGGAGUAAAGACAGAGUU

-----UCAGGAGUAAAGACAGAGUU

-----UCAGGAGUAAAAGACAGAGUU

-----UCAGGAGUAAGACAGAGU

CAGGAGUAAAGACAGAGUU

AGGAGUAAGACAGAGU

ugaggaugAAAGACCAUUGAGGAGAAGGUucugcuggcugagaACCUUCCUCUCCAUGGGUCUUUcauccuca

-----AAAGACCCAUGAGGAGAAGGU----- 2

>hsa-mir-3676 3p:60-79 SRX018966

>hsa-mir-3676 3p:60-79 SRX018966

.((((.(((((((..((....(.((((((((((((((((((((.....))))).)))..))))).))))).)))).

cgcgcgugcgcggcagcgcggcccgugguccuCCCGGACAGGCGUUCGUGCGACGUgug
(((((((.(.(((.(((((((.(.(((.(...)).)).)).)).)).)).)).)).)).))))))

-----UCCCGGACAGGCGUUCGUGC-----	2	-1, -5
-----CCCGGACAGGCGUUCGUGC-----	3	0, -5
-----CCCGGACAGGCGUUCGUGCGAC----	14	0, -2
-----CCCGGACAGGCGUUCGUGCGACG----	5	0, -1
-----CCCGGACAGGCGUUCGUGCGACGU----	5	0, 0
-----CCCGGACAGGCGUUCGUGCGACGUG--	2	0, 1
-----CCGGACAGGCGUUCGUGCGAC-----	11	1, -2
-----CCGGACAGGCGUUCGUGCGACG----	4	1, -1
-----CGGACAGGCGUUCGUGCGAC-----	21	2, -2
-----CGGACAGGCGUUCGUGCGACG----	16	2, -1

uugaagggAGAUCGACCGUGUUAUAUUCGcuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
 .(((.((((((((((((((((((.((((((.....)))))))).)))))))))))))))).

-----AGAUCGACCGUGUUAUAU-----	8	0,-3
-----AGAUCGACCGUGUUAUAUUC-----	28	0,-2
-----AGAUCGACCGUGUUAUAUUCG-----	11	0,-1
-----AGAUCGACCGUGUUAUAUUCGCU-----	3	0,1
-----AGAUCGACCGUGUUAUAUUCGCUU-----	4	0,2
-----AAUAAUACAUGGUUGAUCUU-----	3	0,-1
-----AAUAAUACAUGGUUGAUCUUU-----	28	0,0

```
cccaucccACCUGGACCCAGCGUAGACAAAGagguguuuucuacuccauaucuaccuggaccaguguagauggg
(((((((.(.((.(.(((.((((....(((.....)))....)))))))).)))))).))))))
```

-----ACCUGGACCCAGCGUAGACu----- 2
0, -4
-----ACCUGGACCCAGCGUAGACA----- 6
0, -3
-----ACCUGGACCCAGCGUAGACAA----- 11


```

0,-2
-----ACCUGGACCCAGCGUAGACAAA----- 8
0,-1
-----ACCUGGACCCAGCGUAGACAAAG----- 5
0,0
-----ACCUGGACCCAGCGUAGACAAAGA----- 7
0,1
-----ACCUGGACCCAGUGUAGA----- 3

```

```

>hsa-mir-370    3p:48-69    SRX018966
agacagagaagccaggucacgucucugcaguuacacagcucacgaguGCCUGCUGGGGUGGAACCUGGUcugucu
(((((((....(((((((...(((((....(((((.....)))))))).)))))).)))))))))
-----GCCUGCUGGGGUGGAACCUGG----- 3
0,-1

```

```

>hsa-mir-372    3p:42-64    SRX018966
gugggccucaaauuggagcacuaucugauguccaaguggAAAGUGCUGCGACAUUUGAGCGUcac
...(((((((((((((((....)))))))).)))))).)))))))))
-----AAAGUGCUGCGACAUUUGAG----- 2    0,-3

```

```

>hsa-mir-374a   MA:12-33;mi:42-63    SRX018966
uacaucggccaUUAUAAUACAACCUGAUAGUGuuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUUAUAAUACAACCUGAUAGU----- 6
-1,-1
-----AUUAUAAUACAACCUGAUAGUG----- 6
-1,0
-----UUAUAAUACAACCUGAU----- 20
0,-4
-----UUAUAAUACAACCUGAUAA----- 321
0,-3
-----UUAUAAUACAACCUGAUAAa----- 15
0,-3
-----UUAUAAUACAACCUGAUAG----- 155
0,-2
-----UUAUAAUACAACCUGAUAGa----- 11
0,-2
-----UUAUAAUACAACCUGAUAGU----- 1113

```

0, -1		
-----UUAUAAUACAACCUGUAAGUa-----	44	
0, -1		
-----UUAUAAUACAACCUGUAAGUaa-----	28	
0, -1		
-----UUAUAAUACAACCUGUAAGUau-----	2	
0, -1		
-----UUAUAAUACAACCUGUAAGUuu-----	3	
0, -1		
-----UUAUAAUACAACCUGUAAGUG-----	1048	
0,0		
-----UUAUAAUACAACCUGUAAGUGa-----	308	
0,0		
-----UUAUAAUACAACCUGUAAGUGaa-----	8	
0,0		
-----UUAUAAUACAACCUGUAAGUGU-----	66	
0,1		
-----UAUAAUACAACCUGUAAG-----	4	
1, -2		
-----UAUAAUACAACCUGUAAGU-----	8	
1, -1		
-----UAUAAUACAACCUGUAAGUa-----	2	
1, -1		
-----UAUAAUACAACCUGUAAGUG-----	8	
1,0		
-----UAUAAUACAACCUGUAAGUGa-----	10	
1,0		
-----UAUAAUACAACCUGUAAGUGU-----	2	
1,1		
-----AUAAUACAACCUGUAAGUG-----	2	
2,0		
-----ACUUAUCAGAUUGUAUUGUAAU-----	5	
-1, -1		
-----CUUAUCAGAUUGUAUUGU-----	14	
0, -4		
-----CUUAUCAGAUUGUAUUGUA-----	6	
0, -3		
-----CUUAUCAGAUUGUAUUGUAA-----	32	

0,-2	-----CUUAUCAGAUUGUAUUGUAAa-----	6
0,-2	-----CUUAUCAGAUUGUAUUGUAAU-----	370
0,-1	-----CUUAUCAGAUUGUAUUGUAAUa-----	149
0,-1	-----CUUAUCAGAUUGUAUUGUAAUaa-----	8
0,-1	-----CUUAUCAGAUUGUAUUGUAAUU-----	1007
0,0	-----CUUAUCAGAUUGUAUUGUAAUa-----	93
0,0	-----CUUAUCAGAUUGUAUUGUAAUu-----	11
0,0	-----CUUAUCAGAUUGUAUUGUAAUUG-----	3
0,1	-----UUAUCAGAUUGUAUUGUAA-----	2
1,-2	-----UUAUCAGAUUGUAUUGUAAU-----	4
1,-1	-----UUAUCAGAUUGUAUUGUAAUU-----	11
1,0	-----UUAUCAGAUUGUAUUGUAAUa-----	2
1,0	-----UAUCAGAUUGUAUUGUAAUa-----	2
2,-1	-----UAUCAGAUUGUAUUGUAAUU-----	5
2,0	-----UAUCAGAUUGUAUUGUAAUa-----	10
2,0	-----UAUCAGAUUGUAUUGUAAUau-----	2
2,0		

>hsa-mir-374b MA:11-32;mi:41-62 SRX018966

acucggauggAUUAUACAACCUAGCUAAGUGuccuagcaCUUAGCAGGUUGUAUUUCAUUGuccgugucu
 ((.(((((.((((((((((((((((((((.....))))))))))))))))))..))..))..))..
 -----AUUAUACAACCUAGCUAA-----

0, -3		
-----AUAUAAUACAACCUGCUAAG-----	59	
0, -2		
-----AUAUAAUACAACCUGCUAAGa-----	6	
0, -2		
-----AUAUAAUACAACCUGCUAAGU-----	623	
0, -1		
-----AUAUAAUACAACCUGCUAAGUa-----	27	
0, -1		
-----AUAUAAUACAACCUGCUAAGUaa-----	6	
0, -1		
-----AUAUAAUACAACCUGCUAAGUu-----	6	
0, -1		
-----AUAUAAUACAACCUGCUAAGUG-----	1400	
0,0		
-----AUAUAAUACAACCUGCUAAGUGa-----	326	
0,0		
-----AUAUAAUACAACCUGCUAAGUGaa-----	5	
0,0		
-----AUAUAAUACAACCUGCUAAGUGU-----	137	
0,1		
-----AUAUAAUACAACCUGCUAAGUGUaa-----	3	
0,1		
-----UAUAAUACAACCUGCUAAGUG-----	3	
1,0		
-----UAUAAUACAACCUGCUAAGUGaa-----	2	
1,0		
-----AUAAUACAACCUGCUAAGUGa-----	5	
2,0		
-----AUAAUACAACCUGCUAAGUGU-----	3	
2,1		
-----CUUAGCAGGUUGUAUUUCAU-----	2	
0, -1		
-----CUUAGCAGGUUGUAUUUCAUU-----	11	
0,0		
-----CUUAGCAGGUUGUAUUUCAUUa-----	2	
0,0		

>hsa-mir-374c 5p:13-34 SRX018966

acacggacaaugAUAUACAACCGCUAAGUGCUaggacacuuagcagguuguauuuauuccaucggagu

-----AUAUACAACCUAAGUGa----- 5 0,-2

>hsa-mir-375 3p:40-61 SRX018966

ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUAggc

.(((((((.(((((((...((.(((((((.(.....)).)))))).)...)))))...)).).

-----UUUUGUUCGUUCGGCUCGCGU----- 3 -1,-2

-----UUUUGUUCGUUCGGCUCGCGUG----- 11 -1,-1

-----UUUUGUUCGUUCGGCUCGCGUGu----- 5 -1,-1

-----UUUUGUUCGUUCGGCUCGCGUGA----- 8 -1.0

-----UUUGUUCGUUCGGCUCGC----- 16 0.-4

-----UUUGUUCGUUCGGCUCGCG----- 53 0.-3

-----UUUGUUCGUUCGGCUCGCGU----- 66 0.-2

-----UUUGUUCGUUCGGCUCGCGU_{aa}----- 2 0.2

-----UUUGUUCGUUCGGCUCGCGU₁₁----- 5' 0'-2

-----UUUUGUUUGUUUGGGUUGGUG----- 359 0 -1

-----UUUGUUCGUUCGGCUCCGGUG-- 40 0 -1

-----UUUGUUCGUUCGGCUUCGGUG₁₁₁----- 6 0 -1

-----UUUGUUCGUUCGGCUCGCGUGA----- 309 0 0

-----UUUGUUCGUUCGGCUCGCGUGAa-----	14	0	0
-----------------------------------	----	---	---

UUUGUUCGUUCGGCUCGGCGUGA ₃₃	7	0.0
---------------------------------------	---	-----

UUUGUUCGUUCGGGCUCCGGUGA ₃₁	4	0.0
---------------------------------------	---	-----

UUUUGUUCGUUCGGGCUCCGGUGA ₁₁	39	0.0
--	----	-----

[illegible]

	UUUUUUUUUUUUUUUUUUUUUUUuu	9	9,6
	UUUUUUUUUUUUUUUUUUUUUUU	3	1-2

UUUUUCCUUUUUUUUUUUU	9	1, 2
UUUUUUUUUUUUUUUUUUUU	3	1, 1

[illegible]

>hsa-mi r-376a-1 mi:7-28;MA:44-64 SRX018966

uaaaagGUAGAUUCUCCUUCUAUGAGUAcuuuuuuugauuaAUCAUAGAGGAAAAUCCACGUuuuc

.((((.(.(.((((.(.((((.(.(((((...((.....))).....)))))))))).))))).)))).).

-----GUAGAUUCUCCUUCUAUGAGUAa----- 2 0,0

-----AUCAUAGAGGAAAAUCCA----- 3 0,-3

-----AUCAUAGAGGAAAAUCCACGU----- 6 0,0

>hsa-mir-376a-2 3p:50-70 SRX018966

gguauuuuaaaagguagauuuuuccuucuaugguuacguguuugaugguuaAUCAUAGAGGAAAAUCCACGUuuucaguauc
 ((((((.((((.(.((((((((((.(((((((((((((.....)))..)))))))))))))))))))).)).))))))
 -----AUCAUAGAGGAAAAUCCA-----
 3 0,-3
 -----AUCAUAGAGGAAAAUCCACGU-----
 6 0,0

-----ACUGGACUUGGAGUCAGAAGG---	11080	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	2580	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	345	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	95	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	775	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	139	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	21492	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	12298	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	1372	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	5241	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	7744	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	2644	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	31	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	5	0,2
-----ACUGGACUUGGAGUCAGAAGGCCau	14	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	27	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	3	0,3
-----CUGGACUUGGAGUCAGAA-----	2	1,-2
-----CUGGACUUGGAGUCAGAAG----	14	1,-1
-----CUGGACUUGGAGUCAGAAGG---	197	1,0
-----CUGGACUUGGAGUCAGAAGGa--	45	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	23	1,0
-----CUGGACUUGGAGUCAGAAGGau-	3	1,0
-----CUGGACUUGGAGUCAGAAGGu--	29	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	6	1,0
-----CUGGACUUGGAGUCAGAAGGC--	1938	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	467	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	189	1,1
-----CUGGACUUGGAGUCAGAAGGCau	199	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	744	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	452	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	15	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	10	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	14	1,2
-----CUGGACUUGGAGUCAGAAGGCCU	7	1,3
-----CUGGACUUGGAGUCAGAAGGCCUa	3	1,3
-----CUGGACUUGGAGUCAGAAGGCCUuu	3	1,3
-----UGGACUUGGAGUCAGAAGGC--	47	2,1


```

-----CUGGACUUGGAGUCAGAAGA-----
- 19 1,-4
-----CUGGACUUGGAGUCAGAAGa-----
- 3 1,-4

```

>hsa-mir-379 MA:6-26;mi:44-65 SRX018966

```

agagaUGGUAGACUAUGGAACGUAGGcguuaugauuucugaccUAUGUAACAUGGUCCACUAACUcu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGUAGACUAUGGAACGUAaa----- 2 0,-2
-----UGGUAGACUAUGGAACGUAG----- 28 0,-1
-----UGGUAGACUAUGGAACGUAGa----- 4 0,-1
-----UGGUAGACUAUGGAACGUAGG----- 85 0,0
-----UGGUAGACUAUGGAACGUAGGa----- 33 0,0
-----UGGUAGACUAUGGAACGUAGGaa----- 19 0,0
-----UGGUAGACUAUGGAACGUAGGu----- 8 0,0
-----UGGUAGACUAUGGAACGUAGGuu----- 3 0,0
-----UGGUAGACUAUGGAACGUAGGCau----- 2 0,1

```

>hsa-mir-382 5p:11-32 SRX018966

```

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucuuucacggacaacacuuuuuucagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GAAGUUGUUCGUGGUGGAUa-----
2 0,-3
-----GAAGUUGUUCGUGGUGGAUU-----
9 0,-2
-----GAAGUUGUUCGUGGUGGAUUa-----
2 0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
16 0,-1
-----GAAGUUGUUCGUGGUGGAUUCG-----
2 0,0
-----AGUUGUUCGUGGUGGAUUCGCU-----
2 2,2
-----AAUCAUUCACGGACAACA-----
6
-----AAUCAUUCACGGACAACAC-----
49
-----AAUCAUUCACGGACAACACU-----

```

-----AAUCAUUCACGGACAACACUU-----

-----AAUCAUUCACGGACAACACUUU-----

cuccucAGAUCAGAAGGUGAUUGUGGCUuuggguggauauuaaucagccacagcacugccuggucagaaagag

(((.((.(((((((..(((.((((((((((...(((.....)))))))))))).)))))..)))))

-----CAGAUCAGAAGGUGAUUGUG----- 2

-----CAGAUCAGAAGGUGAUUGUGG----- 2

-----CAGAU CAGAAGGUGAUUGUGGCU----- 2

-----AGAUCAGAAGGUGAUUGUG----- 4

-----AGAUCAGAAGGUGAUUGUGG----- 9

-----AGAUCAGAAGGUGAUUGUGGau----- 2

-----AGAUCAGAAGGUGAUUGUGGC----- 5

-----AGAUCAGAAGGUGAUUGUGGCa----- 11

-----AGAUCAGAAGGUGAUUGUGGCaa----- 5

-----AGAUCAGAAGGUGAUUGUGGCU----- 60

-----AGAUCAGAAGGUGAUUGUGGCU_{aa}----- 2

-----AGAUCAGAAGGUGAUUGUGGCUU----- 18

-----AGAUCAGAAGGUGAUUGUGGCUUa----- 21

-----AGAUCAGAAGGUGAUUGUGGCUU_{au}----- 4

-----AGAUCAGAAGGUGAUUGUGGCUUU----- 32

```

0,2
-----AGAU CAGAAGGUGAUUGUGGCUUUu----- 2
0,2

>hsa-mir-3909    3p:71-92    SRX018966
gguaugcguugcgcguguccuuccucuggggagcaggcuccgggggacagggaagcacacaaggaacuUGUCCUCUAG
GGCCUGCAGUCUcauggggagagugacaugcaccaggacc
((((...(((.((((.(((((((((.((((.(((((((((..((((((((.....))))))))))..))
))))))..))))).))))).))..))))))..))))))..))))))..))))))..))))))..))))))..
-----UGUCCUCUAG
GGCCUGCAGUCUu----- 3    0,0

```

```
>hsa-mir-3910-2 3p:50-69      SRX018966
uuuuuuuguugcuugucuugguuuuauugccuuuuauugugccuugauuaAAAGGCAUAAAACCAAGACAagcaacagaaa
aa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).
-----AAAAGGCAUAAAACCAAGACA-----
-- 3      -1,0
-----AAAGGCAUAAAACCAAGACA-----
-- 2      0,0
```

```

UG----- 4 0,-1
-----UAACGCAUAAUAUGGACA
UGU----- 2 0,0

```

```

>hsa-mir-3913-1 5p:23-44 SRX018966
uuguuuauaauaaacugaaaauUUUGGGACUGAUCUUGAUGUCUgccaaaaccuuggcagacaucaagaucaguccaaa
uauuucaguuuauuauagacag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))))))))))))))))))).
-----AUUUGGGACUGAUCUUGAUGUCa-----
----- 2 -1,-1

```

```

>hsa-mir-3913-2 5p:22-43 SRX018966
ugucuauaauaaacugaaaauUUUGGGACUGAUCUUGAUGUCUgccaaagguuuuggcagacaucaagaucaguccaaaau
auuucaguuuauuauaaaca
.((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))))))))))))))).)).
-----AUUUGGGACUGAUCUUGAUGUCa-----
----- 2 -1,-1

```

```

>hsa-mir-3918 5p:19-39 SRX018966
aggcgguuaagccaugggACAGGGCCGCAGAUUGGAGACUgcucaaggucaaaggggucuccagcugggaccucgaccug
guucguagccccc
(((.(((((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.
))...))))))))))
-----ACAGGGCCGCAGAUUGGAGACU-----
----- 2 0,0

```

```

>hsa-mir-3928 3p:37-58 SRX018966
gcugaagcucuaagguuccgccugcgggcaggaagcGGAGGAACCUUGGAGCUUCGGC
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GGAGGAACCUUGGAGCUUCGG- 4 0,-1
-----GGAGGAACCUUGGAGCUUCGGCa 5 0,0
-----GGAGGAACCUUGGAGCUUCGGCau 3 0,0
-----GGAGGAACCUUGGAGCUUCGGCu 2 0,0
-----GAGGAACCUUGGAGCUUCGGCa 3 1,0

```

```

>hsa-mir-3942 5p:23-44 SRX018966

```

$$\dots(((((((.(.(((((.(.(((((((.(.(((((.(((((\dots)))))))))..)))))).))))).))))).))))).))))).))))).$$

	-AGGUUACCCGAGCAACUU-
17	0,-4
	-AGGUUACCCGAGCAACUUG-
4	0,-3
	-AGGUUACCCGAGCAACUUGC-
7	0,-2
	-AGGUUACCCGAGCAACUUGCA-
65	0,-1
	-AGGUUACCCGAGCAACUUGCAU-
61	0,0
	-AGGUUACCCGAGCAACUUGCAUC _a -
3	0,1
	-CGAAUGUUGCUCGGUGAA-
4	-1,-5
	-CGAAUGUUGCUCGGUGAAC-
3	-1,-4
	-CGAAUGUUGCUCGGUGAACCCC-
3	-1,-1
	-CGAAUGUUGCUCGGUGAACCCCU-
7	-1,0
	-CGAAUGUUGCUCGGUGAACCCCUU-
6	-1,1
	-GAAUGUUGCUCGGUGAAC-
4	0,-4
	-GAAUGUUGCUCGGUGAACCCC-
2	0,-1

UAGUAGACCGUAUAGCGU	100	0, -3
UAGUAGACCGUAUAGCGUA	65	0, -2
UAGUAGACCGUAUAGCGUaa	9	0, -2
UAGUAGACCGUAUAGCGUau	2	0, -2
UAGUAGACCGUAUAGCGUAC	192	0, -1
UAGUAGACCGUAUAGCGUACa	6	0, -1
UAGUAGACCGUAUAGCGUACG	49	0, 0
UAGUAGACCGUAUAGCGUACGa	2	0, 0
AGUAGACCGUAUAGCGUACGCUUU	2	1, 4
UAUGUAACACGGUCCACUAAC	2	0, -1
UAUGUAACACGGUCCACUAACa	3	0, -1
UAUGUAACACGGUCCACUAACaa	2	0, -1

>hsa-mir-412 3p:54-76 SRX018966

cuggggguacgggggaugggauggucgaccaguugggaaaguaauuguuucuaauguACUUCACCUGGUCCACUAGCCCGUccgu
auccgcugcag

-----UGGUCGACCAGUUGGAAAGU-----
----- 2

-----UGGUCGACCAGUUGGAAAGUAAU-----
----- 3

>hsa-mir-421 3p:48-70 SRX018966


```

(((((((.....)))))).....))
.....
-----AUCAACAGACAUUAAUUG-----
----- 32 0,-5
-----AUCAACAGACAUUAAUUGG-----
----- 32 0,-4
-----AUCAACAGACAUUAAUUGGG-----
----- 6 0,-3
-----AUCAACAGACAUUAAUUGGGCaa-----
----- 3 0,-2
-----AUCAACAGACAUUAAUUGGGCG-----
----- 3 0,-1
-----AUCAACAGACAUUAAUUGGGCGau-----
----- 2 0,-1
-----AUCAACAGACAUUAAUUGGGCGC-----
----- 5 0,0
-----AUCAACAGACAUUAAUUGGGCGCau-----
----- 4 0,0

```

>hsa-mir-423 5p:17-39;3p:53-75 SRX018966

```

auaaaggaaguaggcUGAGGGGCAGAGAGCGAGACUUUucuaauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaaccgcgc

```

```

.....(((((((.....)))))).....))
)))).....
-----CUGAGGGGCAGAGAGCGAGACUUU-----
----- 3 -1,0
-----CUGAGGGGCAGAGAGCGAGACUUU-----
----- 2 -1,1
-----UGAGGGGCAGAGAGCGAG-----
----- 13 0,-5
-----UGAGGGGCAGAGAGCGAGu-----
----- 3 0,-5
-----UGAGGGGCAGAGAGCGAGA-----
----- 76 0,-4
-----UGAGGGGCAGAGAGCGAGAA-----
----- 18 0,-4
-----UGAGGGGCAGAGAGCGAGAAa-----
----- 29 0,-4

```

```

-----UGAGGGGCAGAGAGCGAGAu-----
----- 2 0,-4
-----UGAGGGGCAGAGAGCGAGAC-----
----- 36 0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 11 0,-3
-----UGAGGGGCAGAGAGCGAGACaa-----
----- 3 0,-3
-----UGAGGGGCAGAGAGCGAGACU-----
----- 93 0,-2
-----UGAGGGGCAGAGAGCGAGACUa-----
----- 5 0,-2
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 2 0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 6 0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 123 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 47 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 11 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 7 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 985 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 24 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 3 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 12 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 175 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUa-----
----- 2 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 13 0,1

```

```

-----GAGGGGCAGAGAGCGAGAC-----
----- 2 1,-3
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 14 1,0
-----GAGGGGCAGAGAGCGAGACUUUU-----
----- 3 1,1
-----AGGGGCAGAGAGCGAGACUU-----
----- 2 2,-1
-----AGGGGCAGAGAGCGAGACUUU-----
----- 6 2,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 13 2,1
-----AAGCUCGGUCUGAGGCCCC-----
----- 7 -1,-5
-----AAGCUCGGUCUGAGGCCCCU-----
----- 3 -1,-4
-----AAGCUCGGUCUGAGGCCCCUu-----
----- 4 -1,-4
-----AAGCUCGGUCUGAGGCCCCUC-----
----- 3 -1,-3
-----AAGCUCGGUCUGAGGCCCCUCA-----
----- 10 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAu-----
----- 7 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAG-----
----- 10 -1,-1
-----AAGCUCGGUCUGAGGCCCCUCAGa-----
----- 4 -1,-1
-----AAGCUCGGUCUGAGGCCCCUCAGU-----
----- 54 -1,0
-----AAGCUCGGUCUGAGGCCCCUCAGUu-----
----- 6 -1,0
-----AGCUCGGUCUGAGGCCCC-----
----- 9 0,-5
-----AGCUCGGUCUGAGGCCCCU-----
----- 4 0,-4
-----AGCUCGGUCUGAGGCCCCUuu-----
----- 2 0,-4

```


-----ACAGCAGCAAUUC AUGUUU-----
-----16 -1,-3-----
-----ACAGCAGCAAUUC AUGUUUG-----
-----4 -1,-2-----
-----ACAGCAGCAAUUC AUGUUUGA-----
-----7 -1,-1-----
-----ACAGCAGCAAUUC AUGUUUGAA-----
-----5 -1,0-----
-----ACAGCAGCAAUUC AUGUUUGAAa-----
-----2 -1,0-----
-----CAGCAGCAAUUC AUGUU-----
-----57 0,-4-----
-----CAGCAGCAAUUC AUGUUU-----
-----259 0,-3-----
-----CAGCAGCAAUUC AUGUUUa-----
-----7 0,-3-----
-----CAGCAGCAAUUC AUGUUUaa-----
-----4 0,-3-----
-----CAGCAGCAAUUC AUGUUUu-----
-----4 0,-3-----
-----CAGCAGCAAUUC AUGUUUG-----
-----1087 0,-2-----
-----CAGCAGCAAUUC AUGUUUGu-----
-----6 0,-2-----
-----CAGCAGCAAUUC AUGUUUGA-----
-----3888 0,-1-----
-----CAGCAGCAAUUC AUGUUUGAu-----
-----16 0,-1-----
-----CAGCAGCAAUUC AUGUUUGAA-----
-----1611 0,0-----
-----CAGCAGCAAUUC AUGUUUGAAa-----
-----290 0,0-----
-----CAGCAGCAAUUC AUGUUUGAAaa-----
-----5 0,0-----
-----CAGCAGCAAUUC AUGUUUGAAu-----
-----54 0,0-----
-----CAGCAGCAAUUC AUGUUUGAAG-----
-----8 0,1-----

```

-----CAGCAGCAAUUC AUGUUUUGAAGU-----
----- 2 0,2
-----AGCAGCAAUUC AUGUUUU-----
----- 2 1,-3
-----AGCAGCAAUUC AUGUUUUG-----
----- 17 1,-2
-----AGCAGCAAUUC AUGUUUUGA-----
----- 51 1,-1
-----AGCAGCAAUUC AUGUUUUGAA-----
----- 44 1,0
-----AGCAGCAAUUC AUGUUUUGAAa-----
----- 7 1,0
-----CAAAACGUGAGGCGCUGCUA-----
----- 15 0,-1
-----CAAAACGUGAGGCGCUGCUAa-----
----- 12 0,-1
-----CAAAACGUGAGGCGCUGCUAaa-----
----- 4 0,-1
-----CAAAACGUGAGGCGCUGCUAau-----
----- 2 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 559 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 26 0,0
-----CAAAACGUGAGGCGCUGCUAUuu-----
----- 6 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 219 0,1
-----CAAAACGUGAGGCGCUGCUUAa-----
----- 74 0,1
-----CAAAACGUGAGGCGCUGCUUAu-----
----- 29 0,1
-----AAAACGUGAGGCGCUGCUAU-----
----- 17 1,0
-----AAAACGUGAGGCGCUGCUAUu-----
----- 2 1,0
-----AAAACGUGAGGCGCUGCUAUA-----
----- 12 1,1

```

```

-----AAAACGUGAGGCGCUGCUAUAA-----
----- 6 1,1
-----AAAACGUGAGGCGCUGCUAUAA-----
----- 21 1,1
-----AAACGUGAGGCGCUGCUAUAA-----
----- 7 2,1
-----AAACGUGAGGCGCUGCUAUACA-----
----- 2 2,2

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018966

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAAUGUCGUGUCCGCCAgug
cucuuc

(((((.(.(((...(((((((.(.(((((.(((((...))....))))).))))).))))).))))).))

```

-----AAUGACACGAUCACUCCCGU-----
----- 7 0,-3
-----AAUGACACGAUCACUCCCGUU-----
----- 5 0,-2
-----AAUGACACGAUCACUCCCGUUG-----
----- 16 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 86 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 25 0,1
-----AAUGACACGAUCACUCCCGUUGAGU-----
----- 2 0,2
-----AUGACACGAUCACUCCCGUUGA-----
----- 12 1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 6 1,1
-----CAUCGGGAAUGUCGUGUCC-----
----- 2 -1,-4
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 6 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCaa-----
----- 2 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 15 -1,-1

```

```

-----CAUCGGGAAUGUCGUGUCCGCCu-----
----- 2    -1,-1-----
-----AUCGGGAAUGUCGUGUCCGC-----
----- 2    0,-2-----
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 5    0,-1-----
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 2    0,0-----

```

```
>hsa-mir-4284    5p:11-28      SRX018966
guucugugagGGGCUCACAUCACCCCAUcaaaguggggacucauggggagaggggguaguuaaggagcuugauagaggcg
g
(((((((..(((((((..((.(((((.((...(((....))))).)))).)))).)))).)))).)))).)...)
.
-----GGGCUCACAUCACCCCAU-----
-   4   0.0
```

```

>hsa-mir-4286    5p:11-27    SRX018966
uacuuauaggcACCCACUCCUGGUACCAuagucuaaaguuaaggagauguuagagcugugaguaccaugacuuaagugugg
uggcuuaaacaug
...(((.(.((((.((((.((((((((((((((..((((((....))).)).)))))).)).)))))).)).....))).))
)).)).))).....
-----ACCCACUCCUGGUACCA-----
-----        6      0,1
-----ACCCACUCCUGGUACCAa-----
-----        4      0,1
-----ACCCACUCCUGGUACCAaa-----
-----        3      0,1
-----ACCCACUCCUGGUACCAau-----
-----        6      0,1
-----ACCCACUCCUGGUACCAU-----
-----        6      0,2
-----ACCCACUCCUGGUACCAUu-----
-----        4      0,2
-----ACCCACUCCUGGUACCAUuu-----
-----        3      0,2
-----ACCCACUCCUGGUACCAUA-----
-----        3      0,3

```


-----ACCCACUCCUGGUACCAUAu-----
-----2 0,3-----

>hsa-mir-429 3p:51-72 SRX018966

cgccggccgaugggcgucuuaccagacaugguuagaccuggcccucugucUAAUACUGUCUGGUAAAACCGUccaucgc
ugc

-----UAAUACUGUCUGGUA AAA-----
 --- 21 0,-4

-----UAAUACUGUCUGGUAAC-----
 --- 6 0.3

-----UAAUACUGUCUGGUAACACC-----
 --- 7 0,-2

-----UAAUACUGUCUGGUAACCG-----
 --- 112 0.-1

-----UAAUACUGUCUGGUA AAAACCGa-----
 --- 17 0.-1

-----UAAUACUGUCUGGUAACCGU-----
 --- 216 0.0

-----UAAUACUGUCUGGUAACCGUa-----
 --- 2 0.0

-----UAAUACUGUCUGGUAAAACCGUu-----
 --- 9 0.0

-----AAUACUGUCUGGUAACCGU-----
 --- 5' 1.0

-----AUACUGUCUGGUAACCGU-----
 --- 2 2.0

```
>hsa-mir-4315-1 5p:11-28      SRX018966
```

ugggcuuugcCCGCUUCUGAGCUGGACccucucucuaccucuggugcagaacuacagcggaaaggaucucug
 .((.((.(((.(((((((((.((.(.((.....)).)).))))).)))....)))).)).)..

-----UGGUGCAGAACUACAGCGGAAGGA----- 2

```
>hsa-mir-4315-2 5p:11-28      SRX018966
```

ugggcuuugcCCGCUUCUGAGCUGGACccucucucuaccucuggugcagaacuacagcggaaaggaucucug
 .((.(.(((.(((((((.(.((.(.....)).)).))))).)))....)))).)..)

-----UGGUGCAGAACUACAGCGGAAGGA----- 2

ugacuccuccaggUCUUGGAGUAGGUCAUUGGGUGGauccucuauuuccuuacgugggcccaCUGGAUGGCUCCUCCAUGU
CUuggaguagauca

-----UCUUGGAGUAGGUCAUUG-----

-----UCUUGGAGUAGGUCAUUGG-----

-----UCUUGGAGUAGGUCAUUGGa-----

-----UCUUGGAGUAGGUCAUUGGG-----

-----UCUUGGAGUAGGUCAUUGGga-----

-----UCUUGGAGUAGGUCAUUGGGU-----

-----UCUUGGAGUAGGUC AUUGGGUa-----

-----UCUUGGAGUAGGUCAUUGGGU_{aa}-----

-----UCUUGGAGUAGGUCAUUGGGU_{au}-----

-----UCUUGGAGUAGGUCAUUGGGUuu-----

-----UCUUGGAGUAGGUCAUUGGGUG-----

-----UCUUGGAGUAGGUCAUUGGGUGa-----

-----UCUUGGAGUAGGUCAUUGGGUGu-----

-----UCUUGGAGUAGGUCAUUGGGUGG-----

gcugcucugcUGUCCUCUGUCUCCAGACucugggguggauggagcaggucggggggcca

$$(((.(...((((((...((((((((((...)))))))).))))))...)).))..$$

-----UGUUCCUCUGUCUCCCAGACUCU----- 2 0,3

>hsa-mir-433 3p:64-85 SRX018966

ccggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg

((..((((((...(((.(((((((((((.(((((((((.....)))))).)).....)))))).)))))))).))
)...)))))).))

-----UACGGUGAGCCUGUCAUUAUU-----

----- 3

-----AUCAUGAUGGGCUCCUC

GGUGU----- 25 0,0

-----AUCAUGAUGGGCUCCUC

GGUGUUu----- 2 0,1

>hsa-mir-450a-1 5p:18-39 SRX018966

aaacgauacuaaacuguUUUUGCGAUGUGUUCCUAAUAUgcacuaauaaauauauugggaacauuuugcauguauaguuuu
guaucuuaua

....(((((.((((((...(((((.((((((((((((((((.....)))))))))))))).))))).)))))))).
)...))))))....

-----UUUUGCGAUGUGUUCCUAA-----

----- 2 0,-3

-----UUUUGCGAUGUGUUCCUAAU-----

----- 12 0,-2

-----UUUUGCGAUGUGUUCCUAAUA-----

----- 17 0,-1

-----UUUUGCGAUGUGUUCCUAAUAa-----

----- 3 0,-1

-----UUUUGCGAUGUGUUCCUAAUAU-----

----- 37 0,0

-----UUUUGCGAUGUGUUCCUAAUAUa-----

----- 2 0,0

>hsa-mir-450a-2 5p:23-44 SRX018966

ccaaagaaagaugcuaaacuauUUUUGCGAUGUGUUCCUAAUAUguaauauaaauguauuggggacauuuugcauucua
guuuuguaucuuauauugg

.....(((((.((((((...(((((.((((((((((((((((.....)))))))))))))).))))).))))))
)...))))))....

-----UUUUGCGAUGUGUUCCUAA-----

```

-----      2   0,-3
-----UUUUGCGAUGUGUCCUAAU-----
-----     12   0,-2
-----UUUUGCGAUGUGUCCUAAUA-----
-----     17   0,-1
-----UUUUGCGAUGUGUCCUAAUAa-----
-----      3   0,-1
-----UUUUGCGAUGUGUCCUAAUAU-----
-----     37   0,0
-----UUUUGCGAUGUGUCCUAAUAUa-----
-----      2   0,0
-----UAUUGGGGACAUUUUGCAUUCa--
-----      2
-----AUUGGGGACAUUUUGCAU-----
-----      3
-----AUUGGGGACAUUUUGCAUa----
-----      3
-----AUUGGGGACAUUUUGCAUU-----
-----     15
-----AUUGGGGACAUUUUGCAUUCa--
-----      7
-----AUUGGGGACAUUUUGCAUUCaA-
-----      2
-----AUUGGGGACAUUUUGCAUUCAU-
-----     26
-----UUGGGGACAUUUUGCAUU-----
-----      2
-----UUGGGGACAUUUUGCAUUCAU-
-----     22
-----UUGGGGACAUUUUGCAUUCAUA
-----      3
-----UUGGGGACAUUUUGCAUUCAUA
a-----      2

```

>hsa-mir-450b 5p:11-32;3p:48-69 SRX018966

```

gcagaauuauUUUUGCAAUAUGUUCCUGAAUAuguaauauaaguguaUUGGGAUCAUUUUGCAUCCAUAguuuugua
((((((((((...(((((((((((((((...(((...)))))))))))).))))))...)))))))))...
-----UUUUGCAAUAUGUUCCUG-----

```

```

4    0,-4
-----UUUUGCAAUAUGUUCCUGA-----
8    0,-3
-----UUUUGCAAUAUGUUCCUGAA-----
17   0,-2
-----UUUUGCAAUAUGUUCCUGAAa-----
2    0,-2
-----UUUUGCAAUAUGUUCCUGAAU-----
9    0,-1
-----UUUUGCAAUAUGUUCCUGAAUA-----
15   0,0
-----UUUUGCAAUAUGUUCCUGAAUAa-----
24   0,0
-----UUUUGCAAUAUGUUCCUGAAUAa-----
2    0,0

```

>hsa-mir-451 5p:17-38 SRX018966

```

cuugggauggcaaggAAACCGUUACCAUUACUGAGUUuaguaaugguaaugguucucuugcuauaccaga
.((((((.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAACCGUUACCAUUACUG----- 299
0,-4
-----AAACCGUUACCAUUACUGA----- 117
0,-3
-----AAACCGUUACCAUUACUGAG----- 883
0,-2
-----AAACCGUUACCAUUACUGAGa----- 3
0,-2
-----AAACCGUUACCAUUACUGAGau----- 14
0,-2
-----AAACCGUUACCAUUACUGAGU----- 1063
0,-1
-----AAACCGUUACCAUUACUGAGUa----- 10
0,-1
-----AAACCGUUACCAUUACUGAGUU----- 7931
0,0
-----AAACCGUUACCAUUACUGAGUUa----- 15
0,0
-----AAACCGUUACCAUUACUGAGUUaa----- 2

```

0,0	-----AAACCGUUACCAUUACUGAGUUU-----	2019
0,1	-----AAACCGUUACCAUUACUGAGUUUA-----	337
0,2	-----AAACCGUUACCAUUACUGAGUUUAa-----	4
0,2	-----AAACCGUUACCAUUACUGAGUUUAG-----	139
0,3	-----AACCGUUACCAUUACUGAG-----	6
1,-2	-----AACCGUUACCAUUACUGAGU-----	4
1,-1	-----AACCGUUACCAUUACUGAGUU-----	36
1,0	-----AACCGUUACCAUUACUGAGUUU-----	21
1,1	-----AACCGUUACCAUUACUGAGUUUA-----	4
1,2	-----AUGGUAAUGGUUCUCUUGCU-----	2

>hsa-mir-452 MA:14-35;mi:58-79 SRX018966

gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc

((.((((((((((...(.(((((((((.((.((((((((((.....)))))))))).)).)))))))).)).))))))

-----AACUGUUUGCAGAGGAAA-----	
----- 9 0,-4	
-----AACUGUUUGCAGAGGAAAC-----	
----- 60 0,-3	
-----AACUGUUUGCAGAGGAAACU-----	
----- 156 0,-2	
-----AACUGUUUGCAGAGGAAACUG-----	
----- 2 0,-1	
-----AACUGUUUGCAGAGGAAACUGA-----	
----- 10 0,0	
-----AACUGUUUGCAGAGGAAACUGAa-----	
----- 3 0,0	

```

-----AACUGUUUGCAGAGGAAACUGAG-----
----- 7 0,1
-----AACUGUUUGCAGAGGAAACUGAGu-----
----- 3 0,1
-----AACUGUUUGCAGAGGAAACUGAGA-----
----- 10 0,2

```

```

>hsa-mir-454    mi:24-45;MA:64-86    SRX018966
ucuguuuauccagauccuagaACCCUAUCAUAUUGUCUCUGCuguguaauaguucugagUAGUGCAAUAUUGCUUA
UAGGGUuuugguguuuggaaagaacaugggcagg
.((((((((((.((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----ACCCUAUCAUAUUGUCU-----
----- 2 0,-4
-----UAGUGCAAUAUUGCUUA
UA----- 6 0,-4
-----UAGUGCAAUAUUGCUUA
UAGGGU----- 3 0,0
-----UAGUGCAAUAUUGCUUA
UAGGGUU----- 2 0,1

```

```

>hsa-mir-455    5p:16-37;3p:54-74    SRX018966
uccugggcgugagggUAUGUGCCUUUGGACUACAUCGuggaagccagcaccauGCAGUCCAUGGGCAUAUACACuugccu
caaggccuangucauc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----GUAUGUGCCUUUGGACUACA-----
----- 5 -1,-3
-----GUAUGUGCCUUUGGACUACAaa-----
----- 3 -1,-3
-----GUAUGUGCCUUUGGACUACAU-----
----- 51 -1,-2
-----GUAUGUGCCUUUGGACUACAUa-----
----- 18 -1,-2
-----GUAUGUGCCUUUGGACUACAUu-----
----- 3 -1,-2
-----GUAUGUGCCUUUGGACUACAUC-----
----- 6 -1,-1

```

```

-----GUAUGGCCUUUGGACUACAUCG-----
-----      9      -1,0
-----GUAUGGCCUUUGGACUACAUCGU-----
-----     19     -1,1
-----UAUGUGCCUUUGGACUACA-----
-----      4      0,-3
-----UAUGUGCCUUUGGACUACAU-----
-----     10     0,-2
-----UAUGUGCCUUUGGACUACAUn-----
-----     73     0,-2
-----UAUGUGCCUUUGGACUACAUu-----
-----      3      0,-2
-----UAUGUGCCUUUGGACUACAUC-----
-----     60     0,-1
-----UAUGUGCCUUUGGACUACAUCG-----
-----    136     0,0
-----UAUGUGCCUUUGGACUACAUCGa-----
-----      8      0,0
-----UAUGUGCCUUUGGACUACAUCGU-----
-----     49     0,1
-----AUGUGCCUUUGGACUACAUCa-----
-----      2      1,-1
-----UGUGCCUUUGGACUACAUC-----
-----      2      2,-1
-----UGUGCCUUUGGACUACAUCGU-----
-----      7      2,1
-----UGUGCCUUUGGACUACAUCGUG-----
-----     15     2,2
-----UGUGCCUUUGGACUACAUCGUGa-----
-----      3      2,2
-----UGUGCCUUUGGACUACAUCGUGaa-----
-----      2      2,2
-----UGUGCCUUUGGACUACAUCGUGu-----
-----      7      2,2
-----AUGCAGUCCAUGGGCAUA-----
-----      2     -2,-5
-----AUGCAGUCCAUGGGCAUAU-----
-----      9     -2,-4

```


-----			-----AUGCAGUCCAUGGGCAUAUu-----
-----	7	-2,-4	-----AUGCAGUCCAUGGGCAUAUuu-----
-----	8	-2,-4	-----AUGCAGUCCAUGGGCAUAUA-----
-----	65	-2,-3	-----AUGCAGUCCAUGGGCAUAUAa-----
-----	10	-2,-3	-----AUGCAGUCCAUGGGCAUAUAaa-----
-----	2	-2,-3	-----AUGCAGUCCAUGGGCAUAUAu-----
-----	22	-2,-3	-----AUGCAGUCCAUGGGCAUAUuu-----
-----	2	-2,-3	-----AUGCAGUCCAUGGGCAUAUAC-----
-----	62	-2,-2	-----AUGCAGUCCAUGGGCAUAUACu-----
-----	6	-2,-2	-----AUGCAGUCCAUGGGCAUAUACA-----
-----	115	-2,-1	-----AUGCAGUCCAUGGGCAUAUACAa-----
-----	7	-2,-1	-----AUGCAGUCCAUGGGCAUAUACAC-----
-----	22	-2,0	-----AUGCAGUCCAUGGGCAUAUACACU-----
-----	6	-2,1	-----UGCAGUCCAUGGGCAUAUA-----
-----	4	-1,-3	-----UGCAGUCCAUGGGCAUAUACA-----
-----	32	-1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	6	-1,0	-----UGCAGUCCAUGGGCAUAUACACa-----
-----	3	-1,0	-----UGCAGUCCAUGGGCAUAUACACU-----
-----	5	-1,1	-----GCAGUCCAUGGGCAUAUA-----
-----	126	0,-3	

-----			-----GCAGUCCAUGGGCAUAUAa-----
-----	20	0,-3	-----GCAGUCCAUGGGCAUAUAaa-----
-----	4	0,-3	-----GCAGUCCAUGGGCAUAUAu-----
-----	14	0,-3	-----GCAGUCCAUGGGCAUAUAuu-----
-----	2	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	67	0,-2	-----GCAGUCCAUGGGCAUAUACu-----
-----	5	0,-2	-----GCAGUCCAUGGGCAUAUACA-----
-----	507	0,-1	-----GCAGUCCAUGGGCAUAUACAa-----
-----	44	0,-1	-----GCAGUCCAUGGGCAUAUACAaa-----
-----	3	0,-1	-----GCAGUCCAUGGGCAUAUACAau-----
-----	6	0,-1	-----GCAGUCCAUGGGCAUAUACAu-----
-----	11	0,-1	-----GCAGUCCAUGGGCAUAUACAuu-----
-----	25	0,-1	-----GCAGUCCAUGGGCAUAUACAC-----
-----	511	0,0	-----GCAGUCCAUGGGCAUAUACACa-----
-----	102	0,0	-----GCAGUCCAUGGGCAUAUACACaa-----
-----	4	0,0	-----GCAGUCCAUGGGCAUAUACACau-----
-----	2	0,0	-----GCAGUCCAUGGGCAUAUACACU-----
-----	742	0,1	-----GCAGUCCAUGGGCAUAUACACUa-----
-----	10	0,1	-----GCAGUCCAUGGGCAUAUACACUU-----
-----	26	0,2	

Sequence	Length	GC Content	GC Content (%)
GCAGUCCAUGGGCAUAUACACUUu	5	0,2	
CAGUCCAUGGGCAUAUACA	14	1,-1	
CAGUCCAUGGGCAUAUACAC	80	1,0	
CAGUCCAUGGGCAUAUACACa	3	1,0	
CAGUCCAUGGGCAUAUACACU	103	1,1	
CAGUCCAUGGGCAUAUACACUa	3	1,1	
CAGUCCAUGGGCAUAUACACUau	3	1,1	
CAGUCCAUGGGCAUAUACACUU	52	1,2	
CAGUCCAUGGGCAUAUACACUUa	10	1,2	
CAGUCCAUGGGCAUAUACACUUu	39	1,2	
CAGUCCAUGGGCAUAUACACUUuu	4	1,2	
AGUCCAUGGGCAUAUACA	4	2,-1	
AGUCCAUGGGCAUAUACAC	2	2,0	
AGUCCAUGGGCAUAUACACU	5	2,1	

>hsa-mir-466 3p:52-74 SRX018966

guguguguauauguguguugcauguguguauauguguguauauauguacacAUACACAUACACGCAACACACAUauauac
augc

(((((((((((((((((((((((((((.((((((((.((((((((.....)))))))).).)))))).).)))))))))
))))

-----AUACACAUACACGCAACACACA-----
 --- 3 0,-1

>hsa-mi r-483 5p:8-29;3p:48-68 SRX018966

gagggggAAGACGGGAGGAAAGAAGGGAGugguuccaucgcuccUCACUCCUCUCCUCCCGUCUUcuccucuc
(((((((((((((((((((((((.(.(.(.((.(.((.....)))..)).).)).)))))))).))).))))))
-----AAGACGGGAGGAAAGAAG------
35 0,-4
-----AAGACGGGAGGAAAGAAGG------
65 0,-3
-----AAGACGGGAGGAAAGAAGGa------
2 0,-3
-----AAGACGGGAGGAAAGAAGGaa------
2 0,-3
-----AAGACGGGAGGAAAGAAGGG------
158 0,-2
-----AAGACGGGAGGAAAGAAGGGGu------
8 0,-2
-----AAGACGGGAGGAAAGAAGGGGuu------
3 0,-2
-----AAGACGGGAGGAAAGAAGGGGA------
414 0,-1
-----AAGACGGGAGGAAAGAAGGGGAa------
181 0,-1
-----AAGACGGGAGGAAAGAAGGGGAaa------
93 0,-1
-----AAGACGGGAGGAAAGAAGGGGAau------
48 0,-1
-----AAGACGGGAGGAAAGAAGGGGAu------
65 0,-1
-----AAGACGGGAGGAAAGAAGGGGAuu------
32 0,-1
-----AAGACGGGAGGAAAGAAGGGGAG------
849 0,0
-----AAGACGGGAGGAAAGAAGGGGAGa------
207 0,0
-----AAGACGGGAGGAAAGAAGGGGAGaa------
19 0,0
-----AAGACGGGAGGAAAGAAGGGGAGau------
6 0,0
-----AAGACGGGAGGAAAGAAGGGGAGU------
190 0,1

```

-----AAGACGGGAGGAAAGAAGGGAGUau-----
9  0,1
-----AAGACGGGAGGAAAGAAGGGAGUu-----
13 0,1
-----AAGACGGGAGGAAAGAAGGGAGUuu-----
6  0,1
-----AAGACGGGAGGAAAGAAGGGAGUGG-----
4  0,3
-----AGACGGGAGGAAAGAAGG-----
6  1,-3
-----AGACGGGAGGAAAGAAGGG-----
4  1,-2
-----AGACGGGAGGAAAGAAGGGA-----
7  1,-1
-----AGACGGGAGGAAAGAAGGGAaa-----
2  1,-1
-----AGACGGGAGGAAAGAAGGGAG-----
23 1,0
-----AGACGGGAGGAAAGAAGGGAGU-----
12 1,1
-----AGACGGGAGGAAAGAAGGGAGUG-----
4  1,2
-----AGACGGGAGGAAAGAAGGGAGUGG-----
21 1,3
-----UCACUCCUCUCCUCCCGUC-----
2  0,-2
-----UCACUCCUCUCCUCCCGUCU-----
2  0,-1
-----UCACUCCUCUCCUCCCGUCUU-----
5  0,0
-----UCACUCCUCUCCUCCCGUCUUa-----
5  0,0
-----UCACUCCUCUCCUCCCGUCUUau-----
3  0,0
-----UCACUCCUCUCCUCCCGUCUUu-----
10 0,0
-----UCACUCCUCUCCUCCCGUCUUC-----
8  0,1

```

```

-----UCACUCCUCUCCUCCCGUCUUCa-----
2 0,1
-----UCACUCCUCUCCUCCCGUCUUCU-----
3 0,2
-----CACUCCUCUCCUCCCGUCUU-----
3 1,0
-----CACUCCUCUCCUCCCGUCUUC-----
4 1,1
-----CACUCCUCUCCUCCCGUCUUCU-----
17 1,2
-----ACUCCUCUCCUCCCGUCUUCU-----
2 2,2

```

>hsa-mir-484 5p:8-29 SRX018966

```

agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaaggagacuucccggggggugaccucggcuuuuuuggcg
.(((..((((((....(((.(((((((..(((.((((....))))..)))..)))))).))))))))......)).
-----UCAGGCUCAGUCCCCUCC-----
2 0,-4
-----UCAGGCUCAGUCCCCUCCC-----
4 0,-3
-----UCAGGCUCAGUCCCCUCCCG-----
4 0,-2
-----UCAGGCUCAGUCCCCUCCCGuu-----
2 0,-2
-----UCAGGCUCAGUCCCCUCCCGA-----
15 0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
9 0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
3 0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
62 0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
17 0,0
-----UCAGGCUCAGUCCCCUCCCGAUuu-----
4 0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
13 0,1

```

```

-----UCAGGCUCAGUCCCCUCCCGAUu-----
9 0,1
-----UCAGGCUCAGUCCCCUCCCGAUA-----
3 0,2

>hsa-mir-485 5p:9-30;3p:46-67 SRX018966
acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((...(((((((...(((((((((((...(((((((((((...))))))))...))))))))...)))
-----AGAGGCUGGCCGUGAUGAAu----- 4
0,-3
-----AGAGGCUGGCCGUGAUGAAU----- 3
0,-2
-----AGAGGCUGGCCGUGAUGAAUa----- 11
0,-2
-----AGAGGCUGGCCGUGAUGAAUU----- 67
0,-1
-----AGAGGCUGGCCGUGAUGAAUa----- 4
0,-1
-----AGAGGCUGGCCGUGAUGAAUu----- 9
0,-1
-----AGAGGCUGGCCGUGAUGAAUUC----- 25
0,0
-----AGAGGCUGGCCGUGAUGAAUUCG----- 34
0,1
-----AGAGGCUGGCCGUGAUGAAUUCGu----- 5
0,1
-----AGAGGCUGGCCGUGAUGAAUUCGA----- 3
0,2
-----AGUCAUACACGGCUCUCCUCUCU----- 4
-1,0
-----GUCAUACACGGCUCUCCUC----- 2
0,-3
-----GUCAUACACGGCUCUCCUCU----- 5
0,-2
-----GUCAUACACGGCUCUCCUCUC----- 11
0,-1
-----GUCAUACACGGCUCUCCUCUCa----- 8
0,-1

```

```

-----GUCAUACACGGCUCUCCUCUCU----- 75
0,0
-----GUCAUACACGGCUCUCCUCUCUa----- 2
0,0
-----GUCAUACACGGCUCUCCUCUCUaa----- 3
0,0

```

>hsa-mir-486 5p:4-25;3p:46-66 SRX018966

```

gcaUCCUGUACUGAGCUGCCCCGAGgcccucaugcugcccagcuCGGGGCAGCUCAGUACAGGAUac
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
--AUCCUGUACUGAGCUGCCCCGA----- 4
-1, -1
---UCCUGUACUGAGCUGCCC----- 73 0, -4
---UCCUGUACUGAGCUGCCCC----- 231 0, -3
---UCCUGUACUGAGCUGCCCCG----- 103 0, -2
---UCCUGUACUGAGCUGCCCCGA----- 916 0, -1
---UCCUGUACUGAGCUGCCCCGAa----- 49 0, -1
---UCCUGUACUGAGCUGCCCCGAaa----- 5 0, -1
---UCCUGUACUGAGCUGCCCCGAu----- 13 0, -1
---UCCUGUACUGAGCUGCCCCGAG----- 1553
0,0
---UCCUGUACUGAGCUGCCCCGAGa----- 473 0,0
---UCCUGUACUGAGCUGCCCCGAGaa----- 12 0,0
---UCCUGUACUGAGCUGCCCCGAGau----- 5 0,0
---UCCUGUACUGAGCUGCCCCGAGu----- 98 0,0
---UCCUGUACUGAGCUGCCCCGAGG----- 3 0,1
-----CUGUACUGAGCUGCCCCG----- 2 2, -2
-----CUGUACUGAGCUGCCCCGA----- 7 2, -1
-----CUGUACUGAGCUGCCCCGAG----- 21 2,0
-----CUGUACUGAGCUGCCCCGAGa----- 3 2,0
-----CUGUACUGAGCUGCCCCGAGu----- 2 2,0
-----CGGGGCAGCUCAGUACAGGAU----- 5 0,0
-----CGGGGCAGCUCAGUACAGGAUA----- 2 0,1

```

>hsa-mir-487a 3p:49-70 SRX018966

```

gguaucuugaagagugguuaucuccugcuguguucgcuaauuuuagacgAAUCAUACAGGGACAUCCAGUUuuucaguauc
(((((((.((((((.(((...((((((.((((((((((.((((((((((.((((((((((.((((((((((.((((((((((.
-----AAUCAUACAGGGACAUCCAGUU-----

```


4 0,0

>hsa-mir-487b 3p:51-72 SRX018966

uugguacuuggagagugguuaucuccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
ucaa

.(((((((..(((((((.....(((((((..(((((((.....)))))).)))))))).)))))))).))))))
))).

-----AAUCGUACAGGGUCAUCCA-----

---- 2 0,-3

-----AAUCGUACAGGGUCAUCCAC-----

---- 3 0,-2

-----AAUCGUACAGGGUCAUCCACU-----

---- 47 0,-1

-----AAUCGUACAGGGUCAUCCACUU-----

---- 29 0,0

-----AAUCGUACAGGGUCAUCCACUUa-----

---- 4 0,0

-----AAUCGUACAGGGUCAUCCACUUU-----

---- 2 0,1

-----AUCGUACAGGGUCAUCCACU-----

---- 2 1,-1

-----AUCGUACAGGGUCAUCCACUU-----

---- 3 1,0

-----AUCGUACAGGGUCAUCCACUUU-----

---- 2 1,1

>hsa-mir-488 mi:14-34;MA:52-72 SRX018966

gagaaucaucucuCCCAGAUAAUGGCACUCUCAAacaaguuuccaaauuguUUGAAAGGCUAUUUCUUGGUCagaugacu
cuc

(((((.(((((((..((.(((((((..(((((((.....)))))).)))))))).)))))))).)))))))).
)))

-----CCCAGAUAAUGGCACUCUCA-----

--- 4 0,-1

>hsa-mir-489 3p:52-73 SRX018966

guggcagcuugggugcguaugugugacgccauuuacuugaaccuuuaggaGUGACAUCACAUAUACGGCAGCuaaacug
cuac

((((((((.((((((.(((((((((((((((..(((((((.....)))))).)))))))).)))))))).)))))))).

-----GUGACAUCACAUAUACGGCAa-----
 --- 2 0,-2

uggaggccuugcugguuuoggaaaguucauuguucgacaCCAUGGAUCUCCAGGUGGGUcaaguuuagagaugcacCAACC
UGGAGGACUCCAUGCUGuugagcgauucacaaagcagcggacacuucca

.(((((.((((((.(((((((.....(((((((.(((((((((((((((((.((...(((...)))..))).))
)))))).))))).)))))))).))))).)))))))).)...)))).).

Sequence	Count	Frequency	Label
UGGAGGACUCCAUG	4	0, -3	-CAACC
UGGAGGACUCCAUGC	3	0, -2	-CAACC
UGGAGGACUCCAUGCU	13	0, -1	-CAACC
UGGAGGACUCCAUGCUG	20	0, 0	-CAACC
UGGAGGACUCCAUGCUGa	8	0, 0	-CAACC
UGGAGGACUCCAUGCUGU	79	0, 1	-CAACC
UGGAGGACUCCAUGCUGUa	3	0, 1	-CAACC
UGGAGGACUCCAUGCUGUU	4	0, 2	-AACC
UGGAGGACUCCAUGCUGU	2	1, 1	

uugacuuagcuggguAGUGGGGAACCCUCCAUGAGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcugggcuggg
uugg
(. . ((((((. . ((((. (((((. . ((((. ((((((((((.)))))))))))))))))))))
) . .)

```

-----AGUGGGGAACCCUCCAUGAG-----
----      3      0,-1
-----AGUGGGGAACCCUCCAUGAGG-----
----      4      0,0
-----AGUGGGGAACCCUCCAUGAGGA-----

```

```

>hsa-mir-493      mi:16-37;MA:57-78      SRX018966
cuggccuccaggguUUGUACAUGGUAGGCUUUCAUUcauucguuugcacauucggUGAAGGUCUACUGUGUGCCAGGcc
cugugccag
((((...(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))).))))))
-----UUUGUACAUGGUAGGCUUUCAU-----
----- 2    -1,-1
-----UUGUACAUGGUAGGCUUUCAU-----
----- 5    0,-1
-----UUGUACAUGGUAGGCUUUCAUa-----
----- 2    0,-1
-----UUGUACAUGGUAGGCUUUCAUU-----
----- 6    0,0
-----UGUACAUGGUAGGCUUUCAUUC-----
----- 2    1,1
-----GUACAUGGUAGGCUUUCAUU-----
----- 2    2,0
-----UGAAGGUCUACUGUGUGCCA-----
----- 2    0,-2
-----UGAAGGUCUACUGUGUGCCAG-----
----- 6    0,-1
-----UGAAGGUCUACUGUGUGCCAGa-----
----- 3    0,-1

```

```

>hsa-mir-494      3p:48-69      SRX018966
gauacucgaaggagagguuguccguguugucuucucuuaauuuugaUGAAACAUACACGGGAAACCUCuuuuuuaguau
c
(((((((.(((((((((((((((.(((((((((((.(((((. . . . .)).).))))).))))).).))))).))))))
)
-----UGAAACAUACACGGGAAACC-----
-   2   0,-2
-----UGAAACAUACACGGGAAACCU-----
-   8   0,-1
-----UGAAACAUACACGGGAAACCUC-----
-   2   0,0
-----UGAAACAUACACGGGAAACCUCa-----

```

- 3 0,0
-----UGAAACAUAACACGGGAAACCUCU-----

>hsa-mir-495 3p:50-71 SRX018966

-----AAACAAACAUGGUGCACUUC-----
 -- 5' 0,-2

-----AAACAAACAUGGUGCACUUCUU-----
 -- 90 0,0

-----AAACAAACAUGGUGCACUUCUa-----
 -- 15 0,0

-----AAACAAACAUGGUGCACUUCUU-----
 -- 79 0,1

-----AACAAACAUGGUGCACUUCU-----
 -- 2 1,-1

-----AACAAACAUGGUGCACUUCUU-----
 -- 5' 1,0

-----AACAAACAUGGUGCACUUCUUa-----
-- 3 1,0

-----AACAAACAUGGUGCACUUCUU-----
 -- 23 1,1

>hsa-mir-496 3p:56-77 SRX018966

(((((....((((.((((.(((((((.(((((. ..((((((((.....)))))))))..))))).)))))).))))))))).....)))))

ccaccccgguccugcucccgcccCAGCAGCACACUGUGGUUUGUacggcacuguggccacgucCAAACCACACUGUGGUG
UUAGAgcgagggugggggaggcaccgccgagg

-CAGCAGCACACUGUGGUUU-	
50	0,-2
-CAGCAGCACACUGUGGUUUG-	
28	0,-1
-CAGCAGCACACUGUGGUUUGU-	
164	0,0
-CAGCAGCACACUGUGGUUUGUA-	
76	0,1
-CAGCAGCACACUGUGGUUUGUAa-	
29	0,1
-CAGCAGCACACUGUGGUUUGUAu-	
15	0,1
-CAGCAGCACACUGUGGUUUGUAC-	
3	0,2
-AGCAGCACACUGUGGUUU-	
13	1,-2
-AGCAGCACACUGUGGUUUG-	
4	1,-1
-AGCAGCACACUGUGGUUUGU-	
18	1,0
-AGCAGCACACUGUGGUUUGUA-	
14	1,1
-AGCAGCACACUGUGGUUUGUAa-	
11	1,1
-AGCAGCACACUGUGGUUUGUAu-	
7	1,1
-AGCAGCACACUGUGGUUUGUAC-	
19	1,2
-AGCAGCACACUGUGGUUUGUACa-	
3	1,2

gcccgugccccugugccuuggggggggcgugUUAAGACUUGCAGUGAUGUUaacuccucuccacgugAACAUACAGC

(((((((((.....((...(((((((.(.((..(((((((((.((((((((((.....)))))))))..))
)))))).).)).)).)).)..)).....)))))))))

>hsa-mi r-500a MA:13-35;mi :52-73 SRX018966

-----	UAAUCCUUGCUACCUGGGUGAGAG-----
----	2 0,1
-----	AAUGCACCUGGGCAAGGA-----
----	13 -1,-5
-----	AAUGCACCUGGGCAAGGAU-----
----	11 -1,-4
-----	AAUGCACCUGGGCAAGGAUa-----
----	9 -1,-4
-----	AAUGCACCUGGGCAAGGAUU-----
----	53 -1,-3
-----	AAUGCACCUGGGCAAGGAUUa-----
----	2 -1,-3
-----	AAUGCACCUGGGCAAGGAUUC-----
----	8 -1,-2
-----	AAUGCACCUGGGCAAGGAUUCUGA-----

```

----      3      -1,1
-----AUGCACCUGGGCAAGGAU-----
----     36      0,-4
-----AUGCACCUGGGCAAGGAUa-----
----     27      0,-4
-----AUGCACCUGGGCAAGGAUU-----
----    178      0,-3
-----AUGCACCUGGGCAAGGAUUu-----
----      2      0,-3
-----AUGCACCUGGGCAAGGAUUC-----
----     19      0,-2
-----AUGCACCUGGGCAAGGAUUCU-----
----      8      0,-1
-----AUGCACCUGGGCAAGGAUUCUGu-----
----      6      0,0
-----AUGCACCUGGGCAAGGAUUCUGA-----
----     28      0,1
-----AUGCACCUGGGCAAGGAUUCUGAa-----
----      3      0,1
-----UGCACCUGGGCAAGGAUUCUGA-----
----      2      1,1

```

>hsa-mir-500b 5p:11-28 SRX018966

```

ccccucucuuAAUCCUUGCUACCUGGGUgagagugcuuucugaaugcagugcaccaggcaaggauucugcaaggggga
((((((..((((((((..(((((((..((((.....))))..))))))))))))))))..)))))).
-----UAAUCCUUGCUACCUGGGUGAGAG-----
      2      -1,5
-----AGUGCACCCAGGCAAGGAUa-----
      2

```

>hsa-mir-501 5p:14-35;3p:51-72 SRX018966

```

gcucuuccucuuAAUCCUUUGUCCCUGGGUGAGAgugcuuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagagggg
gagc
((((..(((((((..(((((((..(((((((..((((.....))))..))))))))))))))))..)))))).
))))
-----AAUGCACCCGGGCAAGGA-----
----      5      0,-4
-----AAUGCACCCGGGCAAGGAU-----

```

----- 3 0,-3
-----AAUGCACCCGGGCAAGGAUa-----
----- 4 0,-3
-----AAUGCACCCGGGCAAGGAUU-----
----- 38 0,-2
-----AAUGCACCCGGGCAAGGAUUC-----
----- 3 0,-1
-----AAUGCACCCGGGCAAGGAUUCU-----
----- 3 0,0
-----AUGCACCCGGGCAAGGAUU-----
----- 2 1,-2


```

----- 4 0,1
-----AUGCACCUGGGCAAGGAU-----
----- 36 1,-3
-----AUGCACCUGGGCAAGGAUa-----
----- 27 1,-3
-----AUGCACCUGGGCAAGGAUU-----
----- 178 1,-2
-----AUGCACCUGGGCAAGGAUUu-----
----- 2 1,-2
-----AUGCACCUGGGCAAGGAUUC-----
----- 19 1,-1

```

>hsa-mir-503 5p:6-28 SRX018966

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgauccggugcucugggguaauuguuuuccgcugccagggua
(((((((.(((((((((((((((((((.(((.(((.((((((.....)))))))).)).)))))))).))))))
----CUAGCAGCGGGAACAGUUCU----- 3
-1,-4
----UAGCAGCGGGAACAGUUC----- 467 0,-5
----UAGCAGCGGGAACAGUUCa----- 17 0,-5
----UAGCAGCGGGAACAGUUCaa----- 27 0,-5
----UAGCAGCGGGAACAGUUCU----- 487 0,-4
----UAGCAGCGGGAACAGUUCUa----- 7 0,-4
----UAGCAGCGGGAACAGUUCUaa----- 177 0,-4
----UAGCAGCGGGAACAGUUCUau----- 6 0,-4
----UAGCAGCGGGAACAGUUCUG----- 69 0,-3
----UAGCAGCGGGAACAGUUCUGa----- 7 0,-3
----UAGCAGCGGGAACAGUUCUGaa----- 11 0,-3
----UAGCAGCGGGAACAGUUCUGC----- 4 0,-2
----UAGCAGCGGGAACAGUUCUGCA----- 12 0,-1
----UAGCAGCGGGAACAGUUCUGCAa----- 2 0,-1
----UAGCAGCGGGAACAGUUCUGCAu----- 5 0,-1
----UAGCAGCGGGAACAGUUCUGCAG----- 48 0,0
----UAGCAGCGGGAACAGUUCUGCAGa----- 2 0,0
----AGCAGCGGGAACAGUUCU----- 10 1,-4
----AGCAGCGGGAACAGUUCUGa----- 2 1,-3
----AGCAGCGGGAACAGUUCUGaa----- 3 1,-3
----AGCAGCGGGAACAGUUCUGCAG----- 12 1,0
----AGCAGCGGGAACAGUUCUGCAGU----- 2 1,1

```

-----GGGGUAUUGUUUCCGCUGCCAGG--- 2

>hsa-mir-504 5p:13-34 SRX018966

gcugcuguugggAGACCCUGGUCUGCACUCUAUCguuauuucuuacugaagggagugcagggcaggguuucccauacagag
ggc

((((((((((((((((((((((((((.(((((((((((((.(((.(...)))..)))).)))))).))))).))))).))))).))))).

)))

-----AGACCCUGGUCUGCACUCUAU-----

--- 57 0, -1

-----AGACCCUGGUCUGCACUCUAU_a-----

--- 52 0,-1

-----AGACCCUGGUCUGCACUCUAU_u-----

--- 4 0,-1

-----AGACCCUGGUCUGCACUCUAUuu-----

--- 2 0,-1

-----AGACCCUGGUCUGCACUCUAUC-----

--- 22 0,0

-----AGACCCUGGUCUGCACUCUAUCa-----

--- 4 0,0

-----AGACCCUGGUCUGCACUCUAUCU-----

--- 12 0,1

-----AGACCCUGGUCUGCACUCUAUCUa-----

--- 2 0,1

-----GACCCUGGUCUGCACUCUAUa-----

--- 4 1, -1

-----GACCCUGGUCUGCACUCUAUC-----

--- 2 1,0

-----GACCCUGGUCUGCACUCUAUCa-----

--- 3 1,0

```
>hsa-mir-505      mi:15-36;MA:51-72      SRX018966
```

gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc

((((((.((((.((((((((((((.((((.((((((((((.)))))))).)))))).)))))).)))))).))))))

-----GGGAGCCAGGAAGUAUUGAU-----

----- 8 0,-2

-----GGGAGCCAGGAAGUAUUGAUa-----

----- 32

>hsa-mir-511-2 5p:16-36 SRX018966

caauagacaccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

(((((.((((..(((..(((((((((..(((.((((.(.....)))))))).)))..)))))))))..))))..))
)).)))

-----GUGUCUUUUGCUCUGCAGUCA-----

----- 22 0,0

-----GUGUCUUUUGCUCUGCAGUCAu-----

----- 2 0,0

-----GUGUCUUUUGCUCUGCAGUCAG-----

----- 2 0,1

-----GUGUCUUUUGCUCUGCAGUCAGa-----

----- 2 0,1

-----GUGUCUUUUGCUCUGCAGUCAGU-----

----- 3 0,2

-----UGAAUGUGUAGCAAAAGACAG-----

----- 3

-----UGAAUGUGUAGCAAAAGACAGu-----

----- 2

-----UGAAUGUGUAGCAAAAGACAGA-----

----- 14

-----GAAUGUGUAGCAAAAGACAGA-----

----- 2

-----AAUGUGUAGCAAAAGACA-----

----- 5

-----AAUGUGUAGCAAAAGACAG-----

----- 2

-----AAUGUGUAGCAAAAGACAGuu-----

----- 3

-----AAUGUGUAGCAAAAGACAGA-----

----- 95

-----AAUGUGUAGCAAAAGACAGAu-----

----- 3

-----AAUGUGUAGCAAAAGACAGAA-----

----- 65

-----AAUGUGUAGCAAAAGACAGAAa-----

----- 10
----- AAUGUGUAGCAAAAGACAGAAU-----
----- 32

```
>hsa-mir-516b-1 MA:16-37;mi:61-78 SRX018966
ucucaggcugugaccAUCUGGAGGUAAGAAGCACUUUcuguuuugugaaagaaaagaaagUGCUUCCUUUCAGAGGGUua
cucuuugaga
(((((((..((((((.(((((((...(((((((((((((.(((.....))))).))))))))))))))))))))).))))))
).)))))))))
-----CAUCUGGAGGUAAGAAGCACU-----
----- 2 -1,-2
```

```

>hsa-mir-516b-2 MA:16-37;mi:56-73 SRX018966
ucucaugaugugaccAUCUGGAGGUAAGAAGCACUUguguuuugugaaagaaagUGCUCUUUCAGAGGGUuacucuu
ugaga
(((((((((.(.((((((.((((((((...((((((((((.(.....).))))))))))))))))).))))))..
))))))
-----CAUCUGGAGGUAAGAAGCACU-----
----- 2 -1,-2

```

```

>hsa-mir-532      5p:20-41;3p:57-78      SRX018966
cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu
.(.((((((((.....((.((((((.((((.((((.(.....))..)).)).)).)).)).)).)).)).)...
)))))))).).
-----CAUGCCUUGAGUGUAGGA-----
----- 2      0,-4
-----CAUGCCUUGAGUGUAGGAC-----
----- 2      0,-3
-----CAUGCCUUGAGUGUAGGACC-----
----- 2      0,-2
-----CAUGCCUUGAGUGUAGGACCG-----
----- 3      0,-1
-----CAUGCCUUGAGUGUAGGACCGU-----
----- 119 0,0
-----CAUGCCUUGAGUGUAGGACCGUa-----
----- 8      0,0
-----CAUGCCUUGAGUGUAGGACCGUU-----

```


>hsa-mir-542 5p:16-38;3p:53-74 SRX018966

cagaucucagacaucUCGGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAAACUGAAAggucug
ggagccacucaucuca

....((((((((((...((((...((((((((((((((((((((...))))))...))))))...))))))...))))))
))).....

-----UCGGGGGAUCAUCAUGUCAC-----

----- 4 0,-4

-----UCGGGGGAUCAUCAUGUCACG-----

----- 2 0,-3

-----UCGGGGGAUCAUCAUGUCACGA-----

----- 3 0,-2

-----UCGGGGGAUCAUCAUGUCACGAG-----

----- 2 0,-1

-----UCGGGGGAUCAUCAUGUCACGAGA-----

----- 2 0,0

-----CUUGUGACAGAUUGAUAAACUGu-----

----- 2 -2,-3

-----UUGUGACAGAUUGAUAAAC-----

----- 9 -1,-5

-----UUGUGACAGAUUGAUAAACU-----

----- 6 -1,-4

-----UUGUGACAGAUUGAUAAACUGA-----

----- 3 -1,-2

-----UUGUGACAGAUUGAUAAACUGAA-----

----- 2 -1,-1

-----UGUGACAGAUUGAUAAACU-----

----- 28 0,-4

-----UGUGACAGAUUGAUAAACUG-----

----- 5 0,-3

-----UGUGACAGAUUGAUAAACUGA-----

----- 8 0,-2

-----UGUGACAGAUUGAUAAACUGAA-----

----- 49 0,-1

-----UGUGACAGAUUGAUAAACUGAAA-----

----- 31 0,0

-----UGUGACAGAUUGAUAAACUGAAAa-----

----- 3 0,0

-----UGUGACAGAUUGAUAAACUGAAAaa-----

----- 3 0,0
-----UGUGACAGAUUGAUAAACUGAAAu-----
----- 7 0,0
-----UGUGACAGAUUGAUAAACUGAAAG-----
----- 2 0,1

```

>hsa-mir-548a-1 3p:61-82      SRX018966
ugcagggagguaauuaaguuggugcaaaaguaauugugauuuuugccauuaaaaguaacgaCAAAACUGGCAAUUACUUUU
GCaccaaaccugguauu
..(((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))))))).....
-----CAAAACUGGCAAUUACUUU-
-----2    0,-3
-----CAAAACUGGCAAUUACUUUU
-----4    0,-2
-----CAAAACUGGCAAUUACUUUU
G-----6    0,-1

```

----- 2 0,-3
-----CAAACUGGCAAUUACUUUU
----- 4 0,-2
-----CAAACUGGCAAUUACUUUU
G----- 6 0,-1

```

>hsa-mir-548a-3 5p:25-46;3p:61-82 SRX018966
ccuagaauguuauuaggucggugcAAAAGUAAUUGCGAGUUUACCauuacuuucauggCAAAACUGGCAUUACUUUU
GCaccaacguaauacuu
.....(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))...
-----CAAAACUGGCAUUACUUUU-
-----2 0,-3-----CAAAACUGGCAUUACUUUU
-----4 0,-2-----CAAAACUGGCAUUACUUUU
-----6 0,-1-----CAAAACUGGCAUUACUUUU
G-----

```

```
>hsa-mir-548aa-1      3p:55-79      SRX018966
uuuuuuuuagucuggugcaaaagaacugugguuuuugccauuuacuuiuacaggcAAAAACCACAAUUACUUUUGCACCAa
ccuaauuaaacuuguuu
...(((((((..(((((((((((.(((((((((((((((.)))))))))..)).)))))))))..
.)))))..)))))).....
-----AAAACCACAAUUACUUUUGCA----
-----          2    0,-3
-----AAAACCACAAUUACUUUUGCA----
-----          3    1,-3
-----AAACCACAAUUACUUUUGCACa--
-----          2    2,-2
```

```

>hsa-mir-548aa-2      3p:55-79      SRX018966
uuuuuuuagguuggugcaaaagaaacugugguuuuugccauuacuuucaauggcAAAAACCACAAUUACUUUUGCACCAa
ccuaaaaucuucccucuc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).....
-----AAAACCACAAUUACUUUUGCA-----
-----2      0,-3
-----AAAACCACAAUUACUUUUGCA-----

```

```

----- 3 1,-3
-----AAACCACAAUACUUUUGCACa--
----- 2 2,-2

```

```

>hsa-mir-548b 5p:25-46;3p:61-82 SRX018966
cagacuauauuuuagguuggcgAAAAAGUAAUUGUGGUUUUGGCCuuuauuuucaauggCAAGAACCUCAGUUGCUUUU
GUgccaaccuaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAAGUAAUUGUGGUUUU-----
----- 4 0,-4
-----AAAAGUAAUUGUGGUUUUGGCaa-----
----- 2 0,-1
-----AAAAGUAAUUGUGGUUUUGGCau-----
----- 4 0,-1
-----AAAGUAAUUGUGGUUUUGGCau-----
----- 2 1,-1
-----CAAGAACCUCAGUUGCUUUU
GU----- 3 0,0

```

```

>hsa-mir-548c 5p:25-46;3p:61-82 SRX018966
cauuggcaucauuagguuggugcAAAAGUAAUUGCGGUUUUUGCCauuacuuucaguagCAAAAACUCUCAAUACUUUU
GCaccaacuuaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAAGUAAUUGCGGUUUU-----
----- 7 0,-3
-----AAAAGUAAUUGCGGUUUUUG-----
----- 4 0,-2
-----AAAGUAAUUGCGGUUUU-----
----- 2 1,-3
-----AAAGUAAUUGCGGUUUUUG-----
----- 2 1,-2
-----AAAGUAAUUGCGGUUUUUGCCA-----
----- 2 1,1

```

```

>hsa-mir-548d-1 5p:25-46;3p:61-82 SRX018966
aaacaaguauauuuagguuggugcAAAAGUAAUUGUGGUUUUUGCCuguaaaaguaauggCAAAAACACAGUUUCUUUU

```

>hsa-mi r-548d-2 5p:25-46;3p:61-82 SRX018966
gagagggaagauuuagguuggugcAAAAGUAAUUGUGGUUUUUGCCauugaaaguaauggCAAAAACCACAGUUUCUUUU
GCaccaaccuaauaaaa

>hsa-mir-548e 3p:53-74 SRX018966
uuauuagguugguacaaaagcaaucgcgguuuuugcuauuacuuuuaaaggcAAAAACUGAGACUACUUUUGCAccaacc
ugauagaa

(((((.....((.(.....(....((.(.....((((..(((...)))..)))))))).)..))....))))).))))))

```

))))))..
-----AAAAACUGAGACUACUUUU-----
----- 4 0,-3
-----AAAAACUGAGACUACUUUUUG-----
----- 7 0,-2
-----AAAAACUGAGACUACUUUUUGC-----
----- 12 0,-1
-----AAAAACUGAGACUACUUUUUGCA-----
----- 37 0,0
-----AAAAACUGAGACUACUUUUUGCAa-----
----- 8 0,0
-----AAAAACUGAGACUACUUUUUGCAu-----
----- 2 0,0

```

```

>hsa-mir-548f-2 3p:59-77 SRX018966
uaauaacuauuagguuggugcgaacauaaauugcaguuuuuaucauuacuuuaauggcAAAAACUGUAAUUACUUUUgca
ccaaccuaauuuuuagu
.....((((((((((((((((((..((((((((((((((((((..((((((....))))))..))))))))))))))))..))))))
)))))))))))).
-----CAAAAACUGUAAUUACUUUUUGC-----
----- 4 -1,2

```

```

>hsa-mir-548f-3 3p:54-72 SRX018966
auuagguuggugcaaaccuaauugcauuuuugcaguuuuuuuagaauugcAAAAACUGUAAUUACUUUUgcaccaac
cuaauac
((((((((((((((((((..((((((((((((((((((..((((((((((((((((.....))))))))))))))))..))))))))))
))))))..
-----CAAAAACUGUAAUUACUUUUUGC-----
----- 4 -1,2

```

```

>hsa-mir-548h-1 5p:21-42 SRX018966
ucuguccauuaggugggugcAAAAGUAAUCGCGGUUUUUGUCauuacuuuuuauugguaaaaacuggaauuacuuuugcac
ugaccuaauauuaagccagaua
(((.(.(((((((.((((((((((((((((((..((((((((((((((((((..((((((....))))))..))))))))))))))))
).)))))))).
-----CAAAGUAAUCGCGGUUUU-----
----- 2 -1,-3

```

guuuuagguuggugcAAAAGUAAUCGCGUUUUUGUCauuacuuaauggcaaaccacacaauuacuuuugcaccaacc
uaauauaa

-----CAAAGUAAUCGCGUUUU-----
 ----- 2 -1,-3

ucugauucugcauguaauagguuggugcAAAAGUAAUCGCGUUUUUGUCauugaaaguaauagcaaaaacugcauuac
uuuugcaccaaccuaaaaaguagucacugucuucagaua

-----CAAAGUAAUCGCGUUUU-----
----- 2 -1,-3

-----CAAAAACUGCAAUAC

-----CAAAAACUGCAAUAC

-----AAAAACUGCAAUAC

-----AAAAACUGCAAUAC

-----AAAAACUGCAAUAC

-----AAAAACUGCAAUAC

UUUUGa----- 6

gcuauuagguuggugcAAAAGUAAUCGCGGUUUUGUCauuacuuaauuacuuaacguuucauuaaugacaaaaaccgc

aauuacuuuugcaccaaccuaauacuugcua
(((((((((((((((((((((((((((((.....)))....))))))))))))))
..))))))))))))))))))))))...)).
-----CAAAGUAAUCGCGUUUU-----
----- 2 -1,-3

[illegible]

```

>hsa-mir-548i-3 5p:39-60      SRX018966
cagauggcuccgaaguuuacauccuauuagguuuugugcAAAAGUAAUUGCGGAUUUUGCCauuaaaaguaauggcaaaa
uagcaauuaauuuuguaccagccuaguaucuuucuccuucuaaccaaacuuugucccugagccaucuca
.((((((((((((((((.....(((((((((.((((((((((((((((...((((((((((((...)))))))))).
..))))))))))))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))..
-----AAAAGUAAUUGCGGAUUUUG-----
-----2 0,-2

```

```
>hsa-mir-548i-4 5p:11-32      SRX018966
agguuggugcAAAAGUAAUUGCGAUUUUGCCauacuuuuacggcaaaaaccacaaauuuauugcaccaaccuau
(((((((((((((.(((((((((.((((((((.....)))))))).)).)).)).)).)).)).)).)..
-----AAAAGUAAUUGCGAUUUUG-----
      2      0,-2
```

```
>hsa-mir-548j    5p:29-50    SRX018966
gggcagccagugaauguuagcuggugcAAAAGUAAUUGCGUCUUUGGUauuacuucaguggcaaaaacugcauuacu
```

[illegible]


```

----- 2 0,-4
-----AAAAGUACUUGCGGAUUU-----
----- 10 0,-3
-----AAAAGUACUUGCGGAUUUUG-----
----- 3 0,-2
-----AAAAGUACUUGCGGAUUUUGC-----
----- 4 0,-1
-----AAAAGUACUUGCGGAUUUUGCU-----
----- 24 0,0

```

>hsa-mir-548l 5p:15-36 SRX018966

```

uauuagguuggugcAAAAGUAUUUGCGGGUUUUGUCguagaaaguaauggcaaaacugcaguuacuugugcaccaacca
aaugcu
.....((((((((((.((((((.((((((.(((((((((.)))))))).)))))).)))))).))))).
.....
-----AAAAGUAUUUGCGGGUUUUGUC-----
----- 4 0,0
-----CAAAAACUGCAGUUACUU-----
----- 3

```

>hsa-mir-548n 5p:10-31 SRX018966

```

agguuggugCAAAAGUAAUUGUGGAUUUUGUcguuaaaaauagcaaaacccgcaauuacuuuugcaccaaccuaa
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAAGUAAUUGUGGAUUUUGU----- 2
1,0

```

>hsa-mir-548o 3p:87-108 SRX018966

```

uggugaaaauguguugaauuguaaugguuccuauucugaucaauaaacaugguuugagccuaguuaacaugaucuaaaaau
cacgguCCAAAACUGCAGUUACUUUUGCaccaac
((((((.(((...((.(((((((.(((...((.(((...((.(((...((.(((...((.(((...((.(((...
...)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).
-----
-----CCAAAACUGCAGUUACUUUU----- 2 0,-2
-----
-----CCAAAACUGCAGUUACUUUUG----- 6 0,-1
-----
-----CCAAAACUGCAGUUACUUUUGC----- 4 0,0

```


ugaugcuuugcugggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguugucagauagUGUCUUACUCCUCAGGCAC
AUCuccagcgagucucu

-----AGUGCCUGAGGGAGUAAG-----

-----GUCUUACUCCCUCAGGCAC

agaugugcucuccugggccauGAAAUCAAGCGUGGGUGAGACCuggugcagaacgggaagGCGACCCAUACUUGGUUUCAGaggcugugagaauaa

-----GCGACCCAUACUUGGUUUC

gauaguaauaagaaaGAUGAGCUCAUUGUAAUAUGAGcuucauuuauacauuucAUUUACCAUUAGCUCACUUUuuuu
uuacuaccuucaca

-----AUAUUACCAUUAGCUCAUCUU-----

-----AUAUUACCAUUAGCUCaucuu-----

-----AUAUUACCAUUAGCUCAUCUU-----

-----AUAUUACCAUUAGCUCAUCUUUa-----

gcuaggcgugguggcGGGCGCCUGUGAUCCCAACuacucaggaggcuggggcagcagaaucguugaacccgggagggcga
agguugcagugagc

```

>hsa-mir-570    3p:60-81    SRX018966
cuagauaaguauuuaggugggugcaaagguaauugcaguuuuuccauuauuuuaauugCGAAAACAGCAAUUACCUUUG
Caccaaccugauggagu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))...
-----AAAGGUAUUUGCAGUUUUUC-----
-----      2
-----AAAGGUAUUUGCAGUUUUUCC-----
-----      2
-----AAAGGUAUUUGCAGUUUUUCCCA-----
-----      5
-----CGAAAACAGCAAUUACCUUUG
-----      8      0,-1

```

```

>hsa-mir-574    5p:25-47;3p:61-82    SRX018966
gggaccugcgugggugcgggcgugUGAGUGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUCAUGCACACACCCA
CAgccccacacucagg
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))
-----UGAGUGUGUGUGUGUGAG-----
-----      15      0,-5
-----UGAGUGUGUGUGUGUGAGU-----
-----      26      0,-4
-----UGAGUGUGUGUGUGUGAGUG-----
-----      3      0,-3
-----UGAGUGUGUGUGUGUGAGUGU-----
-----      9      0,-2
-----UGAGUGUGUGUGUGUGAGUGUaa-----
-----      2      0,-2
-----UGAGUGUGUGUGUGUGAGUGUG-----
-----      2      0,-1
-----UGAGUGUGUGUGUGUGAGUGUGa-----
-----      2      0,-1
-----UGAGUGUGUGUGUGUGAGUGUGU-----
-----      3      0,0
-----UGAGUGUGUGUGUGUGAGUGUGUG-----
-----      2      0,1
-----UGAGUGUGUGUGUGUGAGUGUGUGU-----

```



```

----- 2 1,0
-----AAGAUGUGGAAAAAUUGG-----
----- 5 0,-4
-----AAGAUGUGGAAAAAUUGGAA-----
----- 3 0,-2
-----AAGAUGUGGAAAAAUUGGAAa-----
----- 5 0,-2
-----AAGAUGUGGAAAAAUUGGAAaa-----
----- 2 0,-2
-----AAGAUGUGGAAAAAUUGGAAU-----
----- 8 0,-1
-----AAGAUGUGGAAAAAUUGGAAUC-----
----- 2 0,0
-----AGAUGUGGAAAAAUUGGAAU-----
----- 2 1,-1
-----AGAUGUGGAAAAAUUGGAAUa-----
----- 2 1,-1
-----AGAUGUGGAAAAAUUGGAAUC-----
----- 2 1,0
-----AGAUGUGGAAAAAUUGGAAUCCaa-----
----- 2 1,1

```

>hsa-mir-582 5p:16-38;3p:53-74 SRX018966

aucugugcucuugaUUACAGUUGUUCAACCAGUUACUaaucuaacuaauugUAACUGGUUGAACAACUGAACCCaaagg
gugcaaaguagaaacauu

```

...(((.....((((((((((((((((((((.....)))))))))))))))))).....))))))
)).....

```

```

-----UUACAGUUGUUCAACCAGUUAC-----
----- 2 0,-1
-----UUACAGUUGUUCAACCAGUUACa-----
----- 2 0,-1
-----UUACAGUUGUUCAACCAGUUACU-----
----- 8 0,0
-----UACAGUUGUUCAACCAGUUAC-----
----- 2 1,-1
-----ACAGUUGUUCAACCAGUUACU-----
----- 2 2,0
-----UAACUGGUUGAACAACUGA-----

```


....(((((((.(.(.(((((((.((((((((.(((((((..(((.....)))..)))))).)))))).)))))).))))).)))))
)))))).

```
>hsa-mir-597      5p:16-37      SRX018966
uacuuacucuacgugUGUGUCACUCGAUGACCACUGUgaagacaguaaaauguacagugguucucuuguggcucaagcgu
aauguagaguacugguc
.(((((((((((((((.(((.((((((.(((.(((((((((((....((((.....)))))))))))))).))..)))))).)).....
```

.)))))))).))))).

-----AGUGGUUCUCUUGUGGCUAAG---
----- 2

>hsa-mir-598 3p:61-82 SRX018966

gcuugaugaugcugcugaugcuggcgugaugccgauggugugagcuggaaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag

.....((((((((.....((((.....)))))))).)))))))).
).....

-----UACGUCAUCGUUGUCAUC--
----- 11 0,-4

-----UACGUCAUCGUUGUCAUCGU
----- 16 0,-2

-----UACGUCAUCGUUGUCAUCGU
C----- 3 0,-1

-----UACGUCAUCGUUGUCAUCGU
CA----- 23 0,0

-----UACGUCAUCGUUGUCAUCGU
CAa----- 5 0,0

-----UACGUCAUCGUUGUCAUCGU
CAU----- 33 0,1

-----UACGUCAUCGUUGUCAUCGU
CAUu----- 7 0,1

>hsa-mir-618 5p:16-38 SRX018966

cucuuguucacagccAAACUCUACUUGUCCUUCUGAGUguaauuacguacaugcaguagcucaggagacaagcagguua
cccuguggaugagucuga

..((.....((((.....((((.....)))))))).)))))))).
..)))))))).)).....

-----AAACUCUACUUGUCCUUC-----
----- 2 0,-5

-----AAACUCUACUUGUCCUUCU-----
----- 14 0,-4

-----AAACUCUACUUGUCCUUCUGA-----
----- 3 0,-2

-----AAACUCUACUUGUCCUUCUGAG-----
----- 8 0,-1

-----AAACUCUACUUGUCCUUCUGAGU-----

----- 3 0,0

>hsa-mir-619 3p:61-84 SRX018966

cgcccaccucagccucccaaaugcugggauuacaggcaugagccacugcggucgaccauGACCUGGACAUGUUUGUGCC
CAGUacugucaguuugcag

.(((...(((.....(((((((.....(((((((.....((((.....)))))).)))))))))))))
)))))))).))..

-----UGCUGGGAUUACAGGCAUG-----

----- 2

-----UGCUGGGAUUACAGGCAUGAG-----

----- 3

-----UGCUGGGAUUACAGGCAUGAGCa-----

----- 3

-----UGCUGGGAUUACAGGCAUGAGCCA-----

----- 3

-----UGCUGGGAUUACAGGCAUGAGCCAC-----

----- 3

-----GCUGGGAUUACAGGCAUG-----

----- 12

-----GCUGGGAUUACAGGCAUGA-----

----- 2

-----GCUGGGAUUACAGGCAUGAa-----

----- 2

-----GCUGGGAUUACAGGCAUGAu-----

----- 2

-----GCUGGGAUUACAGGCAUGAG-----

----- 9

-----GCUGGGAUUACAGGCAUGAGC-----

----- 2

-----GCUGGGAUUACAGGCAUGAGCC-----

----- 3

-----GCUGGGAUUACAGGCAUGAGCCA-----

----- 2

-----GCUGGGAUUACAGGCAUGAGCCAC-----

----- 5

-----GCUGGGAUUACAGGCAUGAGCCACU-----

----- 3

-----CUGGGAUUACAGGCAUGAG-----

```

----- 9
-----CUGGGAUUACAGGCAUGAGC-----
----- 4
-----CUGGGAUUACAGGCAUGAGCCA-----
----- 3
-----CUGGGAUUACAGGCAUGAGCCACU-----
----- 2
-----UGGGAUUACAGGCAUGAG-----
----- 9
-----UGGGAUUACAGGCAUGAGCCA-----
----- 3
-----UGGGAUUACAGGCAUGAGCCAC-----
----- 5
-----GGGAUUACAGGCAUGAGCCA-----
----- 4
-----GGGAUUACAGGCAUGAGCCAC-----
----- 15
-----GGGAUUACAGGCAUGAGCCACU-----
----- 2

```

```

>hsa-mir-624    mi:16-37;MA:54-74    SRX018966
aaugcuguuucaaggUAGUACCAGUACCUUGUGUUCAguggaaccaagguaaaCACAAGGUAAUUGGUAAUACCUugagau
agcauuacaccuaagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----UAGUACCAGUACCUUGUGU-----
----- 2    0,-3
-----UAGUACCAGUACCUUGUGUUC-----
----- 6    0,-1
-----UAGUACCAGUACCUUGUGUUCA-----
----- 9    0,0

```

```

>hsa-mir-625    MA:15-35;mi:52-73    SRX018966
aggguaagagggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUCAucccucu
gcccu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----AGGGGGAAAGUUCUAUAGU-----

```


>hsa-mi r-651 5p:16-37 SRX018966

aaucuaucacugcuUUUAGGAUAAGCUUGACUUUGuucaaaaaaaugcaaaaggaaaguguauccuaaaaggcaau
gacaguuuaauguguuu

-----UUUAGGAUAAGCUUGACUUUGa-----

$$----- \quad 2 \quad 0,0$$

-----UUAGGAUAAGCUUGACUUU-----

$$- - - - - 2 \quad 1, -2$$

>hsa-mir-652 3p:61-81 SRX018966

acgaauggcuaugcacugcacaacccuaggagagggugccauucacauagacuauaaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac

$\dots\dots((\dots(((((((((((((((((\dots\dots(((((((((((\dots((\dots\dots))\dots)))))))))\dots)))))))))$

-----ACAACCCUAGGAGAGGGUGCCAU-----

----- 2

-----AAUGGCGCCACUAGGGUU-----

----- 43 0,-3

-----AAUGGCGCCACUAGGGUUG-----

----- 4 0,-2

-----AAUGGCGCCACUAGGGUUGU

----- 4 0,-1

-----AAUGGCGCCACUAGGGUUGU

$$uu \cdots \cdots \cdots \quad 2 \quad 0, -1$$

-----AAUGGCGCCACUAGGGUUGU

G----- 2 0,0

-----AAUGGCGCCACUAGGGUUGU

Ga----- 3 0,0

-----AAUGGCGCCACUAGGGUUGU

Gu----- 10 0,0

-----AAUGGCGCCACUAGGGUUGU

GC----- 3 0,1

```
>hsa-mir-653      5p:13-33      SRX018966
```

uucauuccuucagUGUGAAACAAUCUCUACUGaaccagcucaaacaaguucacuggaguuuuguuucaaauugcaaga
augauaagauggaagc

-----UUCACUGGAGUUUGUUCAAUA-----
-----4-----

ggguaaguggaaagaUGGUGGGCCG CAGAAC AUGUGCugaguucgugccaUAUGUCUGCUGACCAUCACCUUuagaagcc
c
(((.....(((.((((.(.(((.(((((((.....)).).)))))))).).))))).))).....))
)

-	3	0,0	-UGGUGGGCCGCGAGAACAUGUGC-
-	2	0,-3	-UAUGUCUGCUGACCAUCAC-
-	3	0,-2	-UAUGUCUGCUGACCAUCACC-
-	9	0,-2	-UAUGUCUGCUGACCAUCACC _a -
-	3	0,-2	-UAUGUCUGCUGACCAUCACC _{au} -
-	6	0,-1	-UAUGUCUGCUGACCAUCACCU-

aacuaugcaaggauauuugaggagagguuauccguguuauguucgcuucauucaugaAUAUAACAUGGUUAACCCUCU
UUuugaauaucagacuc
.....(((((((.....((((((((((((.....)))))))).)))))))).))))))
)))..)))))).....

UU	10	0,0	-----AUAUACAUGGUUAACCCUCU
UUa	2	0,0	-----AUAUACAUGGUUAACCCUCU

```

5      0,-2
-----AAUAUUUAUACAGUCAACCUC-----
5      0,-1
-----AAUAUUUAUACAGUCAACCUCU-----
2      0,0

>hsa-mir-659      3p:61-82      SRX018966
uaccgaccucgauuugguucaggaccuucccugaaccaaggaagagucacagucucuucCUUGGUUCAGGGAGGGUCCC
CAacaauguccucaugg
.....(((((((.....)))))))))))))))))))))))))))))))))))))))))))).
.)))...))).....
-----AGGACCUUCCCUGAACCAAGGA-----
-----3

```

```

----- 3
-----ACCUCCUGUGUGCAUGGAUU-----
----- 5
-----ACCUCCUGUGUGCAUGGAUUu-----
----- 2
-----ACCUCCUGUGUGCAUGGAUUA-----
----- 6

```

>hsa-mir-664 mi:11-34;MA:49-71 SRX018966

gaacauugaaACUGGCUAGGGAAAAUGAUUGGAUagaaacuauuauucUAUUCAUUUAUCCCCAGCCUACAaaaugaaaa
aa

```

...((((.....((((((((((((((((.....)))))))))).)))))).))))).))....
..

```

```

-----AACUGGCUAGGGAAAAUGAUUGG-----
-- 3 -1,-2
-----ACUGGCUAGGGAAAAUGAU-----
-- 2 0,-5
-----ACUGGCUAGGGAAAAUGAUU-----
-- 2 0,-4
-----ACUGGCUAGGGAAAAUGAUUG-----
-- 3 0,-3
-----ACUGGCUAGGGAAAAUGAUUGG-----
-- 92 0,-2
-----ACUGGCUAGGGAAAAUGAUUGGu-----
-- 17 0,-2
-----ACUGGCUAGGGAAAAUGAUUGGA-----
-- 90 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAa-----
-- 5 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAaa-----
-- 2 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAU-----
-- 2 0,0
-----CUGGCUAGGGAAAAUGAUU-----
-- 2 1,-4
-----CUGGCUAGGGAAAAUGAUUGG-----
-- 2 1,-2
-----CUGGCUAGGGAAAAUGAUUGGu-----

```


GCUCCA----- 2 0,-2
 -----UCCGGUUCUCAGG
 GCUCCACCU----- 2 0,1

```

>hsa-mir-676      mi:8-28;MA:43-63      SRX018966
gcaugacUCUUCAACCUCAGGACUUGCAGaauuaauggaugCUGUCCUAAGGUUGUUGAGUUgugc
(((...(((...((((((...(((...(((.....))))).))))).))))).))))).)))
-----UCUUCAACCUCAGGACUUGCA----- 5      0,0
-----CUGUCCUAAGGUUGUUGAGUUG--- 2      0,1

```

```

----- 8 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 20 0,-1
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 53 0,0
-----UGGAAGACUAGUGAUUUUGUUGa-----
----- 2 0,0
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 267 0,1
-----UGGAAGACUAGUGAUUUUGUUGUa-----
----- 2 0,1
-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 2 0,2
-----GGAAGACUAGUGAUUUUGUUGU-----
----- 2 1,0
-----GGAAGACUAGUGAUUUUGUUGU-----
----- 2 1,1
-----GAAGACUAGUGAUUUUGUUG-----
----- 2 2,-1
-----CAACAAAUCACAGUC
UGCCAU----- 6 0,-1
-----CAACAAAUCACAGUC
UGCCAUu----- 6 0,-1
-----CAACAAAUCACAGUC
UGCCAUa----- 23 0,0
-----AACAAAUCACAGUC
UGCCAUu----- 3 1,-1
-----AACAAAUCACAGUC
UGCCAUa----- 10 1,0
-----AACAAAUCACAGUC
UGCCAUaA----- 2 1,0
-----ACAAAUCACAGUC
UGCCAUuu----- 2 2,-1
-----ACAAAUCACAGUC
UGCCAUAU----- 3 2,1

```

>hsa-mir-7-2 MA:32-54;mi:72-93 SRX018966

cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuacugcgcucaaCAACAAAUC

CCAGUCUACCUAAuggugccagccaucgca

.....((((...(((((((.....(((((((.....))))))))))))))
(.)))).))..)))).)))).)))).

-----CUGGAAGACUAGUGAUUUUGUUG-----
----- 2 -1,-1
-----UGGAAGACUAGUGAUUUU-----
----- 9 0,-5
-----UGGAAGACUAGUGAUUUUGU-----
----- 3 0,-3
-----UGGAAGACUAGUGAUUUUGUU-----
----- 8 0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 20 0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 53 0,0
-----UGGAAGACUAGUGAUUUUGUUGUa-----
----- 2 0,0
-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 267 0,1
-----UGGAAGACUAGUGAUUUUGUUGUUa-----
----- 2 0,1
-----GGAAGACUAGUGAUUUUGUUGU-----
----- 2 1,0
-----GGAAGACUAGUGAUUUUGUUGUU-----
----- 2 1,1
-----GAAGACUAGUGAUUUUGUUG-----
----- 2 2,-1

>hsa-mir-7-3 5p:31-53 SRX018966

agauuagaguggcuguggucuagugcugugUGGAAGACUAGUGAUUUUGUUGUucugauguacuacgacaacaagucaca
gccggccuauagcgcagacucccuucgac

.....(((.....(((((((.....(((((((.....))))))))))))))
(.))..)))).)))).)))).)))).

-----UGGAAGACUAGUGAUUUU-----
----- 9 0,-5
-----UGGAAGACUAGUGAUUUUGU-----
----- 3 0,-3
-----UGGAAGACUAGUGAUUUUGUU-----

8	0,-2	UGGAAGACUAGUGAUUUUGUUG-
20	0,-1	UGGAAGACUAGUGAUUUUGUUGU-
53	0,0	UGGAAGACUAGUGAUUUUGUUGUa-
2	0,0	UGGAAGACUAGUGAUUUUGUUGUU-
267	0,1	UGGAAGACUAGUGAUUUUGUUGUUa-
2	0,1	GGAAGACUAGUGAUUUUGUUGU-
2	1,0	GGAAGACUAGUGAUUUUGUUGUU-
2	1,1	GAAGACUAGUGAUUUUGUUG-
2	2,-1	

>hsa-mir-708 MA:11-33;mi:57-78 SRX018966

aacugcccucAAGGAGCUUACAAUCUAGCUGGGgguaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcagggga

..(((((((((.(((((((((((((.(((((.((...((..(((.....)))..)).).))))).)))))))).)))))
)))))...

```

-----AAGGAGCUUACAAUCUAG-----
-----      5      0, -5
-----AAGGAGCUUACAAUCUAGC-----
-----     11     0, -4
-----AAGGAGCUUACAAUCUAGCU-----
-----     20     0, -3
-----AAGGAGCUUACAAUCUAGCUG-----
-----      2      0, -2
-----AAGGAGCUUACAAUCUAGCUGa-----
-----     11     0, -2
-----AAGGAGCUUACAAUCUAGCUGu-----
-----      4      0, -2
-----AAGGAGCUUACAAUCUAGCUGG-----
-----     56     0, -1
-----AAGGAGCUUACAAUCUAGCUGGa-----

```



```

----- 16 0,-1
-----AAGGAGCUUACAAUCUAGCUGGu-----
----- 7 0,-1
-----AAGGAGCUUACAAUCUAGCUGGG-----
----- 48 0,0
-----AAGGAGCUUACAAUCUAGCUGGGa-----
----- 3 0,0
-----AAGGAGCUUACAAUCUAGCUGGGu-----
----- 4 0,0
-----CAACUAGACUGUGAGCUUCUAGA-
----- 2 0,1
-----CAACUAGACUGUGAGCUUCUAGAA
----- 4 0,1
-----AACUAGACUGUGAGCUUCUAGA-
----- 5 1,1

```

>hsa-mir-720 5p:27-43 SRX018966

```

ccggaucucacacggugguguuaaauUCUCGCUGGGGCCUCCAaaauguugugcccagggguguuagagaaaacaccaca
cuuugagaugaauaagaguccuuuuuag
....(((((((.....((((((((((((((((.....((((((.....).)).))))).))))))))).))))).
...))))).....
-----AUCUCGCUGGGGCCUCCA-----
----- 15 -1,0

```

>hsa-mir-744 MA:11-32;mi:68-89 SRX018966

```

uugggcaaggUGCAGGGGCUAGGGCUAACAGCAgucuuacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc
(((((((((.....((((((((((((((((.....((((((.....))))))))).))))).
))))).))))).))))).
-----UGCAGGGGCUAGGGCUAACAA-----
----- 5 0,-3
-----UGCAGGGGCUAGGGCUAACAG-----
----- 9 0,-2
-----UGCAGGGGCUAGGGCUAACAGa-----
----- 8 0,-2
-----UGCAGGGGCUAGGGCUAACAGu-----
----- 5 0,-2
-----UGCAGGGGCUAGGGCUAACAGC-----

```


...(((((((..((.(.((((((((((.(.....((((((((((.....))))))))).).))))))))).).))))))
))....

----- 2 0, -1

----- 2 0,3

----- 8 0,4

----- 3 0,4

----- 4 0,4

$$- - - - - 2 \quad 1,2$$

----- 2 1,4

----- 2 1,4

ccgcacucucUCCAUAACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu

-----CUCCAUAACACUACCCUGCCUC----- 2

-1, -1

0,-4

-----UCCAUAACACUACCCUGCC----- 14

0,-3

-----UCCAUUACACUACCCUGCCU----- 24

0,-2

-----UCCAUUACACUACCCUGCCUC----- 26

0.-1

-----UCCAUAACACUACCCUGCCUCU----- 83

0.0

-----UCCAUAACACUACCCUGCCUCU_a----- 2

0.0

-----UCCAUUACACUACCCUGCCUCU_{au}----- 2

0,0		
-----	-UCCAUUACACUACCCUGCCUCU-	2
0,1		
-----	-CAUUACACUACCCUGCCUC-	2
2,-1		
-----	-CAUUACACUACCCUGCCUC-	6
2,0		
-----	-----AGGCAGCGGGGUGUAGUGau-----	2
0,-4		
-----	-----AGGCAGCGGGGUGUAGUGG-----	7
0,-3		
-----	-----AGGCAGCGGGGUGUAGUGGA-----	5
0,-2		
-----	-----AGGCAGCGGGGUGUAGUGGAa-----	5
0,-2		
-----	-----AGGCAGCGGGGUGUAGUGGAaa-----	12
0,-2		
-----	-----AGGCAGCGGGGUGUAGUGGAau-----	4
0,-2		
-----	-----AGGCAGCGGGGUGUAGUGGAU-----	33
0,-1		
-----	-----AGGCAGCGGGGUGUAGUGGAUu-----	14
0,-1		
-----	-----AGGCAGCGGGGUGUAGUGGAUA-----	10
0,0		
-----	-----AGGCAGCGGGGUGUAGUGGAUAa-----	14
0,0		
-----	-----AGGCAGCGGGGUGUAGUGGAUAaa-----	9
0,0		
-----	-----AGGCAGCGGGGUGUAGUGGAUAau-----	6
0,0		
-----	-----AGGCAGCGGGGUGUAGUGGAUAu-----	5
0,0		
-----	-----AGGCAGCGGGGUGUAGUGGAUAuu-----	2
0,0		

>hsa-mir-887 3p:48-69 SRX018966

gugcagauccuugggagcccuguuagacucuggauuuuacacuuggaGUGAACGGGCGCCAUCCCGAGGcuuugcacag

2	0,1	-----UAUUGCACUUGUCCCCGGC-----
42	0,-4	-----UAUUGCACUUGUCCCCGGCau-----
3	0,-4	-----UAUUGCACUUGUCCCCGGCC-----
290	0,-3	-----UAUUGCACUUGUCCCCGGCCa-----
5	0,-3	-----UAUUGCACUUGUCCCCGGCCU-----
4035	0,-2	-----UAUUGCACUUGUCCCCGGCCUa-----
6	0,-2	-----UAUUGCACUUGUCCCCGGCCUaa-----
15	0,-2	-----UAUUGCACUUGUCCCCGGCCUau-----
7	0,-2	-----UAUUGCACUUGUCCCCGGCCUu-----
9	0,-2	-----UAUUGCACUUGUCCCCGGCCUuu-----
16	0,-2	-----UAUUGCACUUGUCCCCGGCCUG-----
291	0,-1	-----UAUUGCACUUGUCCCCGGCCUGa-----
25	0,-1	-----UAUUGCACUUGUCCCCGGCCUGaa-----
19	0,-1	-----UAUUGCACUUGUCCCCGGCCUGau-----
6	0,-1	-----UAUUGCACUUGUCCCCGGCCUGU-----
600	0,0	-----UAUUGCACUUGUCCCCGGCCUGUa-----
84	0,0	-----UAUUGCACUUGUCCCCGGCCUGUaa-----
98	0,0	-----UAUUGCACUUGUCCCCGGCCUGUau-----
120	0,0	-----UAUUGCACUUGUCCCCGGCCUGUU-----

0,-2	-----UAUUGCACUUGUCCCCGGCCUa-----	6
0,-2	-----UAUUGCACUUGUCCCCGGCCUaa-----	15
0,-2	-----UAUUGCACUUGUCCCCGGCCUau-----	7
0,-2	-----UAUUGCACUUGUCCCCGGCCUu-----	9
0,-2	-----UAUUGCACUUGUCCCCGGCCUuu-----	16
0,-2	-----UAUUGCACUUGUCCCCGGCCUG-----	291
0,-1	-----UAUUGCACUUGUCCCCGGCCUGa-----	25
0,-1	-----UAUUGCACUUGUCCCCGGCCUGaa-----	19
0,-1	-----UAUUGCACUUGUCCCCGGCCUGau-----	6
0,-1	-----UAUUGCACUUGUCCCCGGCCUGU-----	600
0,0	-----UAUUGCACUUGUCCCCGGCCUGUa-----	84
0,0	-----UAUUGCACUUGUCCCCGGCCUGUaa-----	98
0,0	-----UAUUGCACUUGUCCCCGGCCUGUau-----	120
0,0	-----AUUGCACUUGUCCCCGGCC-----	8
1,-3	-----AUUGCACUUGUCCCCGGCCU-----	67
1,-2	-----AUUGCACUUGUCCCCGGCCUG-----	7
1,-1	-----AUUGCACUUGUCCCCGGCCUGU-----	14
1,0	-----AUUGCACUUGUCCCCGGCCUGUa-----	3
1,0	-----AUUGCACUUGUCCCCGGCCUGUaa-----	2

Ca-----	8	0,-1	-----UAUUGCACUCGUCCCGGCCU
Caa-----	12	0,-1	-----UAUUGCACUCGUCCCGGCCU
Cau-----	6	0,-1	-----UAUUGCACUCGUCCCGGCCU
Cuu-----	3	0,-1	-----UAUUGCACUCGUCCCGGCCU
CC-----	57	0,0	-----UAUUGCACUCGUCCCGGCCU
CCa-----	11	0,0	-----UAUUGCACUCGUCCCGGCCU
CCaa-----	2	0,0	-----UAUUGCACUCGUCCCGGCCU
CCau-----	26	0,0	-----UAUUGCACUCGUCCCGGCCU
CCu-----	22	0,0	-----UAUUGCACUCGUCCCGGCCU
CCuu-----	10	0,0	-----AUUGCACUCGUCCCGGCCU
CCuu-----	3	1,0	

>hsa-mir-93 MA:11-33;mi:50-71 SRX018966

cugggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagccccgg
 ((((((((((..(((((((((((.((((.((((.(.....)).)))))))))))))).))))))....))))))))))

-----CAAAGUGCUGUUCGUGCA-----

57 0,-5

-----CAAAGUGCUGUUCGUGCAG-----

175 0,-4

-----CAAAGUGCUGUUCGUGCAGG-----

81 0,-3

-----CAAAGUGCUGUUCGUGCAGGaa-----

5 0,-3

-----CAAAGUGCUGUUCGUGCAGGU-----

133 0,-2

-----CAAAGUGCUGUUCGUGCAGGUu-----

2 0,-2

-----CAAAGUGCUGUUCGUGCAGGUA-----

```

297 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAa-----
51 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAau-----
2 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAu-----
33 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
43 0,0
-----CAAAGUGCUGUUCGUGCAGGUAGU-----
3 0,1
-----AAAGUGCUGUUCGUGCAG-----
10 1,-4
-----AAAGUGCUGUUCGUGCAGG-----
5 1,-3
-----AAAGUGCUGUUCGUGCAGGU-----
10 1,-2
-----AAAGUGCUGUUCGUGCAGGUA-----
10 1,-1
-----AAAGUGCUGUUCGUGCAGGUAG-----
2 1,0
-----UACUGCUGAGCUAGCACUUCCCaa-----
2 -1,-1
-----ACUGCUGAGCUAGCACUU-----
2 0,-4
-----ACUGCUGAGCUAGCACUUCC-----
7 0,-2
-----ACUGCUGAGCUAGCACUUCCCG-----
2 0,0
-----ACUGCUGAGCUAGCACUUCCCGuu-----
2 0,0
-----ACUGCUGAGCUAGCACUUCCCGA-----
3 0,1

```

>hsa-mir-935 3p:56-78 SRX018966

```

ggcggggggcgcgggcggcaguggcgggagcggccccucggccauccuccgucugcCCAGUUACCGCUUCCGCUACCGCcg
ccgcucccgcu

```

```

((((((((...((((((.((((((((((((((((...((.(((.....))))).))...))))))))))))))))))

```

))))))))))
 -----CAGUUACCGCUUCCGCUACCG---
 ----- 2 1,-1

```

>hsa-mir-940      3p:60-80      SRX018966
gugagguguggggcccgccccaggagcgggggccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugaccccac
(((.(((.((((((((.....((((((((((((((..((..(((.....))..))...)).)))).)))))))))
)))))))).)))
-----AAGGCAGGGCCCCCGCUCCCC
-----7      0,0
-----AAGGCAGGGCCCCCGCUCCCC
aa-----2      0,0
-----AAGGCAGGGCCCCCGCUCCCC
u-----6      0,0

```

```
>hsa-mir-941-1    3p:71-93      SRX018966  
cacggaagaggacacacccggcuguguggacaugugcccagggccccgggacagcgccacggaagaggacgCACCCGGCUG  
UGUGCACAUGUGCcagggccccgggacagcgccacgg  
.....(((((((.(.((((( ((((. ((.( ((((. (...((( (. (...)..))).)).))))).)))).  
.)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)  
-----CACCCGGCUG  
UGUGCACAUGU-----          4       0,-2  
-----CACCCGGCUG  
UGUGCACAUGUG-----         6       0,-1  
-----CACCCGGCUG  
UGUGCACAUGUGa-----        5       0,-1  
-----CACCCGGCUG  
UGUGCACAUGUGC-----        5       0,0  
-----ACCCGGCUG  
UGUGCACAUGUG-----        2       1,-1
```


-----UUCUCUGUUUUGGCCAUGUGU-----
----- 3 2,1

(((((.....))))))

-----GAAUAUUGUACAUCGGAUGAG-----
 ----- 2 -1,0
 -----AAUAUUGUACAUCGGAUGAG-----
 ----- 2 1,0

.(((.((((.(.((((((.(.(((((((((.(.....)))..))))))))...))))))))...))))).))
 .

-----UCAAUAAAUGUCUGUUGAAUa-----

- 2

-----UCAAUAAAUGUCUGUUGAAUU-----

- 3

-----UCAAUAAAUGUCUGUUGAAUUa-----

- 4

-----UUCAACGGGUAUUUAUUG-----

- 439 0, -4

-----UUCAACGGGUAUUUAUUGA-----

- 446 0, -3

-----UUCAACGGGUAUUUAUUGAG-----

- 483 0, -2

-----UUCAACGGGUAUUUAUUGAGa-----

- 2 0, -2

-----UUCAACGGGUAUUUAUUGAGC-----

- 25 0,-1

-----UUCAACGGGUAUUUAUUGAGCA-----

- 50 0,0

-----UUCAACGGGUAUUUAUUGAGCAa-----


```

----- 9 0,-4
-----UGAGGUAGUAAGUUGUAUU-----
----- 26 0,-3
-----UGAGGUAGUAAGUUGUAUUG-----
----- 29 0,-2
-----UGAGGUAGUAAGUUGUAUUG-----
----- 55 0,-1
-----UGAGGUAGUAAGUUGUAUUGU-----
----- 75 0,0
-----UGAGGUAGUAAGUUGUAUUGUu-----
----- 5 0,0
-----GAGGUAGUAAGUUGUAUUGU-----
----- 2 1,0
-----C
UAUACAACUACUACUUC----- 2
-----C
UAUACAACUACUACUUCCu----- 5
-----
UAUACAACUACUACUUCCu----- 4
-----
UAUACAACUACUACUUCCuu----- 5

```

>hsa-mir-99a MA:13-34;mi:50-71 SRX018966

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

..((((((((((.(((((((((.(((.((((((.((.....))))))))).)))..))))))))).))))))))).
.

```

-----AAACCCGUAGAUCCGAUCU-----
- 7 -1,-4
-----AAACCCGUAGAUCCGAUCU-----
- 25 -1,-3
-----AAACCCGUAGAUCCGAUCUUG-----
- 94 -1,-2
-----AAACCCGUAGAUCCGAUCUUGa-----
- 3 -1,-2
-----AAACCCGUAGAUCCGAUCUUGU-----
- 457 -1,-1
-----AAACCCGUAGAUCCGAUCUUGUG-----

```

- 14 -1,0
-----AAACCCGUAGAUCCGAUCUUGUGa-----

- 4 -1,0
-----AAACCCGUAGAUCCGAUCUUGUGu-----

- 5 -1,0
-----AACCCGUAGAUCCGAUCU-----

- 668 0,-4
-----AACCCGUAGAUCCGAUCUa-----

- 2 0,-4
-----AACCCGUAGAUCCGAUCUU-----

- 2715 0,-3
-----AACCCGUAGAUCCGAUCUUa-----

- 49 0,-3
-----AACCCGUAGAUCCGAUCUUaa-----

- 2 0,-3
-----AACCCGUAGAUCCGAUCUUau-----

- 6 0,-3
-----AACCCGUAGAUCCGAUCUUu-----

- 77 0,-3
-----AACCCGUAGAUCCGAUCUUuu-----

- 58 0,-3
-----AACCCGUAGAUCCGAUCUUG-----

- 12216 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----

- 203 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----

- 9 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----

- 45534 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----

- 298 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----

- 109 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----

- 18 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----

- 371 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----

- 32 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 40862 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 13398 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 237 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----
- 48 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 5672 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----
- 77 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 25 0,1
-----ACCCGUAGAUCCGAUCUU-----
- 4 1,-3
-----ACCCGUAGAUCCGAUCUUG-----
- 5 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----
- 40 1,-1
-----ACCCGUAGAUCCGAUCUUGUa-----
- 2 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 35 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 19 1,0
-----ACCCGUAGAUCCGAUCUUGUGaa-----
- 6 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----
- 11 1,0
-----CAAGCUCGCUUCUAUGGGUC-----
- 3 0,-2
-----CAAGCUCGCUUCUAUGGGUCU-----
- 8 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 9 0,0
-----CAAGCUCGCUUCUAUGGGUCUGa-----

```

- 5 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 13 0,1
-----CAAGCUCGCUUCUAUGGGUCUGUu-----
- 2 0,1

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018966

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCU----- 2 0,-4
-----CACCCGUAGAACCGACCUU----- 33 0,-3
-----CACCCGUAGAACCGACCUu----- 2 0,-3
-----CACCCGUAGAACCGACCUUG----- 49 0,-2
-----CACCCGUAGAACCGACCUUGa----- 8 0,-2
-----CACCCGUAGAACCGACCUUGu----- 2 0,-2
-----CACCCGUAGAACCGACCUUGC----- 325 0,-1
-----CACCCGUAGAACCGACCUUGCa----- 10 0,-1
-----CACCCGUAGAACCGACCUUGCaa----- 7 0,-1
-----CACCCGUAGAACCGACCUUGCu----- 8 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 1176
0,0
-----CACCCGUAGAACCGACCUUGCGa----- 279 0,0
-----CACCCGUAGAACCGACCUUGCGaa----- 5 0,0
-----CACCCGUAGAACCGACCUUGCGu----- 191 0,0
-----CACCCGUAGAACCGACCUUGCGuu----- 2 0,0
-----CACCCGUAGAACCGACCUUGCGG----- 17 0,1
-----ACCCGUAGAACCGACCUUGC----- 5 1,-1
-----ACCCGUAGAACCGACCUUGCG----- 20 1,0
-----ACCCGUAGAACCGACCUUGCGa----- 13 1,0
-----ACCCGUAGAACCGACCUUGCGu----- 8 1,0
-----CAAGCUCGUGUCUGUGGGUC----- 4 0,-2
-----CAAGCUCGUGUCUGUGGGUCCGU--- 4 0,1

```

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018967

```

ugggaUGAGGUAGUAGGUUGUAUAGUUnuaggguacacccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
(((((((((.....)))))))))))))
---GAUGAGGUAGUAGGUUGUAU-----
2 -2,-4

```


----AUGAGGUAGUAGGUUGUAU-----
 9 -1, -4
 ----AUGAGGUAGUAGGUUGUAUAGU-----
 5 -1, -1
 ----AUGAGGUAGUAGGUUGUAUAGUU-----
 19 -1, 0
 ----AUGAGGUAGUAGGUUGUAUAGUUa-----
 6 -1, 0
 ----AUGAGGUAGUAGGUUGUAUAGUUaa-----
 5 -1, 0
 ----AUGAGGUAGUAGGUUGUAUAGUUU-----
 2 -1, 1
 ----UGAGGUAGUAGGUUGUAU-----
 845 0, -4
 ----UGAGGUAGUAGGUUGUAUu-----
 54 0, -4
 ----UGAGGUAGUAGGUUGUAUuu-----
 45 0, -4
 ----UGAGGUAGUAGGUUGUAUA-----
 5312 0, -3
 ----UGAGGUAGUAGGUUGUAUAa-----
 249 0, -3
 ----UGAGGUAGUAGGUUGUAUAaa-----
 55 0, -3
 ----UGAGGUAGUAGGUUGUAUAau-----
 15 0, -3
 ----UGAGGUAGUAGGUUGUAUAu-----
 99 0, -3
 ----UGAGGUAGUAGGUUGUAUAuu-----
 24 0, -3
 ----UGAGGUAGUAGGUUGUAUAG-----
 13775 0, -2
 ----UGAGGUAGUAGGUUGUAUAGa-----
 400 0, -2
 ----UGAGGUAGUAGGUUGUAUAGaa-----
 55 0, -2
 ----UGAGGUAGUAGGUUGUAUAGau-----
 110 0, -2

-----UGAGGUAGUAGGUUGUAUAGU-----
 56542 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 1908 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 2943 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 784 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 192565 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 29539 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 4443 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 1476 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 24697 0,1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 538 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUu-----
 6 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUA-----
 6 0,3
 -----GAGGUAGUAGGUUGUAUA-----
 4 1, -3
 -----GAGGUAGUAGGUUGUAUAG-----
 39 1, -2
 -----GAGGUAGUAGGUUGUAUAGa-----
 2 1, -2
 -----GAGGUAGUAGGUUGUAUAGU-----
 106 1, -1
 -----GAGGUAGUAGGUUGUAUAGUaa-----
 8 1, -1
 -----GAGGUAGUAGGUUGUAUAGUU-----
 377 1,0
 -----GAGGUAGUAGGUUGUAUAGUUa-----
 70 1,0

```

-----GAGGUAGUAGGUUGUAUAGUUaa-----
9   1,0
-----GAGGUAGUAGGUUGUAUAGUUau-----
7   1,0
-----GAGGUAGUAGGUUGUAUAGUUU-----
53  1,1
-----GAGGUAGUAGGUUGUAUAGUUUU-----
2   1,2
-----AGGUAGUAGGUUGUAUAGU-----
4   2,-1
-----AGGUAGUAGGUUGUAUAGUU-----
50  2,0
-----AGGUAGUAGGUUGUAUAGUUa-----
4   2,0
-----AGGUAGUAGGUUGUAUAGUUU-----
11  2,1
-----CUAUACAAUCUACUGUCUUU-----
6   0,-1
-----CUAUACAAUCUACUGUCUUUC-----
5   0,0
-----CUAUACAAUCUACUGUCUUUCu-----
16  0,0
-----CUAUACAAUCUACUGUCUUUCC-----
2   0,1
-----UAUACAAUCUACUGUCUUUC-----
5   1,0
-----UAUACAAUCUACUGUCUUUCC-----
2   1,1
-----AUACAAUCUACUGUCUUUCC-----
2   2,1
-----AUACAAUCUACUGUCUUUCCU-----
5   2,2

```

>hsa-let-7a-2 MA:5-26;mi:50-71 SRX018967

```

agguUGAGGUAGUAGGUUGUAUAGUUuagaauuacaucaagggagauaaCUGUACAGCCUCCUAGCUUUCcu
(((.(((.((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
---UUGAGGUAGUAGGUUGUAUAG-----
-1,-2

```

---UUGAGGUAGUAGGUUGUAUAGU-----	12
-1,-1	
---UUGAGGUAGUAGGUUGUAUAGUU-----	7
-1,0	
---UUGAGGUAGUAGGUUGUAUAGUUa-----	2
-1,0	
---UUGAGGUAGUAGGUUGUAUAGUUU-----	2
-1,1	
---UGAGGUAGUAGGUUGUAU-----	845
0,-4	
---UGAGGUAGUAGGUUGUAUu-----	54
0,-4	
---UGAGGUAGUAGGUUGUAUuu-----	45
0,-4	
---UGAGGUAGUAGGUUGUAUA-----	5312
0,-3	
---UGAGGUAGUAGGUUGUAUAa-----	249
0,-3	
---UGAGGUAGUAGGUUGUAUAaa-----	55
0,-3	
---UGAGGUAGUAGGUUGUAUAau-----	15
0,-3	
---UGAGGUAGUAGGUUGUAUAu-----	99
0,-3	
---UGAGGUAGUAGGUUGUAUAuu-----	24
0,-3	
---UGAGGUAGUAGGUUGUAUAG-----	
13775 0,-2	
---UGAGGUAGUAGGUUGUAUAGa-----	400
0,-2	
---UGAGGUAGUAGGUUGUAUAGaa-----	55
0,-2	
---UGAGGUAGUAGGUUGUAUAGau-----	110
0,-2	
---UGAGGUAGUAGGUUGUAUAGU-----	
56542 0,-1	
---UGAGGUAGUAGGUUGUAUAGUa-----	1908
0,-1	

----UGAGGUAGUAGGUUGUAUAGUaa-----	2943
0,-1	
----UGAGGUAGUAGGUUGUAUAGUau-----	784
0,-1	
----UGAGGUAGUAGGUUGUAUAGUU-----	
192565 0,0	
----UGAGGUAGUAGGUUGUAUAGUUa-----	
29539 0,0	
----UGAGGUAGUAGGUUGUAUAGUUaa-----	4443
0,0	
----UGAGGUAGUAGGUUGUAUAGUUau-----	1476
0,0	
----UGAGGUAGUAGGUUGUAUAGUUU-----	
24697 0,1	
----UGAGGUAGUAGGUUGUAUAGUUUA-----	325
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAa-----	35
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAu-----	10
0,2	
----GAGGUAGUAGGUUGUAUA-----	4
1,-3	
----GAGGUAGUAGGUUGUAUAG-----	39
1,-2	
----GAGGUAGUAGGUUGUAUAGa-----	2
1,-2	
----GAGGUAGUAGGUUGUAUAGU-----	106
1,-1	
----GAGGUAGUAGGUUGUAUAGUaa-----	8
1,-1	
----GAGGUAGUAGGUUGUAUAGUU-----	377
1,0	
----GAGGUAGUAGGUUGUAUAGUUa-----	70
1,0	
----GAGGUAGUAGGUUGUAUAGUUaa-----	9
1,0	
----GAGGUAGUAGGUUGUAUAGUUau-----	7
1,0	

---UGAGGUAGUAGGUUGUAUA-----	5312
0,-3	
---UGAGGUAGUAGGUUGUAUAa-----	249
0,-3	
---UGAGGUAGUAGGUUGUAUAaa-----	55
0,-3	
---UGAGGUAGUAGGUUGUAUAau-----	15
0,-3	
---UGAGGUAGUAGGUUGUAUAu-----	99
0,-3	
---UGAGGUAGUAGGUUGUAUAuu-----	24
0,-3	
---UGAGGUAGUAGGUUGUAUAG-----	
13775 0,-2	
---UGAGGUAGUAGGUUGUAUAGa-----	400
0,-2	
---UGAGGUAGUAGGUUGUAUAGaa-----	55
0,-2	
---UGAGGUAGUAGGUUGUAUAGau-----	110
0,-2	
---UGAGGUAGUAGGUUGUAUAGU-----	
56542 0,-1	
---UGAGGUAGUAGGUUGUAUAGUa-----	1908
0,-1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	2943
0,-1	
---UGAGGUAGUAGGUUGUAUAGUau-----	784
0,-1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
192565 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	
29539 0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	4443
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	1476
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	
24697 0,1	

---UGAGGUAGUAGGUUGUAUAGUUUG-----	7
0,2	
---GAGGUAGUAGGUUGUAUA-----	4
1,-3	
---GAGGUAGUAGGUUGUAUAG-----	39
1,-2	
---GAGGUAGUAGGUUGUAUAGa-----	2
1,-2	
---GAGGUAGUAGGUUGUAUAGU-----	106
1,-1	
---GAGGUAGUAGGUUGUAUAGUaa-----	8
1,-1	
---GAGGUAGUAGGUUGUAUAGUU-----	377
1,0	
---GAGGUAGUAGGUUGUAUAGUUa-----	70
1,0	
---GAGGUAGUAGGUUGUAUAGUUaa-----	9
1,0	
---GAGGUAGUAGGUUGUAUAGUUau-----	7
1,0	
---GAGGUAGUAGGUUGUAUAGUUU-----	53
1,1	
---AGGUAGUAGGUUGUAUAGU-----	4
2,-1	
---AGGUAGUAGGUUGUAUAGUU-----	50
2,0	
---AGGUAGUAGGUUGUAUAGUUa-----	4
2,0	
---AGGUAGUAGGUUGUAUAGUUU-----	11
2,1	
-----CUAUACAAUCUACUGUCUUU---	6
0,-1	
-----CUAUACAAUCUACUGUCUUUC--	5
0,0	
-----CUAUACAAUCUACUGUCUUUCu-	16
0,0	
-----CUAUACAAUCUACUGUCUUUCC-	2
0,1	

1,0	-UAUACAAUCUACUGUCUUUC--	5
1,1	-UAUACAAUCUACUGUCUUUCC-	2
2,1	-AUACAAUCUACUGUCUUUCC-	2
2,2	-AUACAAUCUACUGUCUUUCCU	5

>hsa-let-7b MA:6-27;mi:60-81 SRX018967

cggggUGAGGUAGUAGGUUGUGUGGUUucagggcagugauguugccccucggaagauaaCUAUACAACCUACUGCCUUC
Cug

```

-----UGAGGUAGUAGGUUGUGU-----
--- 1083      0, -4
-----UGAGGUAGUAGGUUGUGUa-----
--- 3      0, -4
-----UGAGGUAGUAGGUUGUGUaa-----
--- 23      0, -4
-----UGAGGUAGUAGGUUGUGUau-----
--- 6      0, -4
-----UGAGGUAGUAGGUUGUGUu-----
--- 5      0, -4
-----UGAGGUAGUAGGUUGUGUuu-----
--- 3      0, -4
-----UGAGGUAGUAGGUUGUGUG-----
--- 3808      0, -3
-----UGAGGUAGUAGGUUGUGUGa-----
--- 32      0, -3
-----UGAGGUAGUAGGUUGUGUGaa-----
--- 4      0, -3
-----UGAGGUAGUAGGUUGUGUGau-----
--- 3      0, -3
-----UGAGGUAGUAGGUUGUGUGu-----
--- 37      0, -3
-----UGAGGUAGUAGGUUGUGUGuu-----
--- 4      0, -3

```

-----UGAGGUAGUAGGUUGUGUGG-----
--- 1080 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 19 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 19 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 6 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 1902 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 262 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 1313 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 941 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 6119 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 2855 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 1948 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 2936 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 7006 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 602 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 174 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 153 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 1031 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 40 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 7 0,2

```

-----GAGGUAGUAGGUUGUGUG-----
--- 15 1,-3
-----GAGGUAGUAGGUUGUGUGGU-----
--- 4 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 7 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 9 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 28 1,0
-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 16 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 12 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 7 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 25 1,1
-----GAGGUAGUAGGUUGUGUGGUUUu-----
--- 6 1,1
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 3 2,1
-----CUAUACAACCUACUGCCUU--
--- 2 0,-3
-----CUAUACAACCUACUGCCUUC-
--- 8 0,-2
-----CUAUACAACCUACUGCCUUCu
--- 4 0,-2
-----CUAUACAACCUACUGCCUUCC
--- 19 0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 7 0,-1
-----CUAUACAACCUACUGCCUUCC
u-- 46 0,-1
-----CUAUACAACCUACUGCCUUCC
uu- 4 0,-1
-----CUAUACAACCUACUGCCUUCC
C-- 2 0,0

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>hsa-let-7c MA:11-32;mi:33-54 SRX018967

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc

((.((((((..(((.(((.((((((((((((((..((.(..(.....)..))))))))))))))))).)))..))))))
)))

-----GUUGAGGUAGUAGGUUGUAUGGU-----

---- 4 -2,-1

-----UUGAGGUAGUAGGUUGUAUG-----

---- 8 -1,-3

-----UUGAGGUAGUAGGUUGUAUGG-----

---- 24 -1,-2

-----UUGAGGUAGUAGGUUGUAUGGU-----

---- 59 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUa-----

---- 24 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUaa-----

---- 6 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUau-----

---- 17 -1,-1

-----UUGAGGUAGUAGGUUGUAUGGUU-----

---- 142 -1,0

-----UUGAGGUAGUAGGUUGUAUGGUUa-----

---- 4 -1,0

-----UUGAGGUAGUAGGUUGUAUGGUUau-----

---- 6 -1,0

-----UUGAGGUAGUAGGUUGUAUGGUUU-----

---- 8 -1,1

-----UUGAGGUAGUAGGUUGUAUGGUUUu-----

---- 2 -1,1

-----UGAGGUAGUAGGUUGUAU-----

---- 845 0,-4

-----UGAGGUAGUAGGUUGUAUu-----

---- 54 0,-4

-----UGAGGUAGUAGGUUGUAUuu-----

---- 45 0,-4

-----UGAGGUAGUAGGUUGUAUG-----

---- 1534 0,-3

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-----UGAGGUAGUAGGUUGUAUGa-----
---- 14 0,-3
-----UGAGGUAGUAGGUUGUAUGaa-----
---- 5 0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
---- 16 0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
---- 18 0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
---- 3206 0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
---- 62 0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 91 0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 34 0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 9031 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----
---- 2169 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 1646 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 1270 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 52123 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 4532 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 1530 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 1304 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 7029 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 364 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUuu-----
---- 3 0,1

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-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 245 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUAa-----
---- 36 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUAu-----
---- 25 0,2
-----GAGGUAGUAGGUUGUAUG-----
---- 14 1,-3
-----GAGGUAGUAGGUUGUAUGG-----
---- 12 1,-2
-----GAGGUAGUAGGUUGUAUGGU-----
---- 30 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 11 1,-1
-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 13 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 6 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----
---- 287 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 31 1,0
-----GAGGUAGUAGGUUGUAUGGUUaa-----
---- 9 1,0
-----GAGGUAGUAGGUUGUAUGGUUau-----
---- 7 1,0
-----GAGGUAGUAGGUUGUAUGGUUU-----
---- 37 1,1
-----AGGUAGUAGGUUGUAUGGUU-----
---- 3 2,0
-----AGGUAGUAGGUUGUAUGGUUU-----
---- 2 2,1

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>hsa-let-7d MA:8-29;mi:62-83 SRX018967

ccuaggaAGAGGUAGUAGGUUGCAUAGUUuuagggcagggauuuugcccacaaggagguaaCUAUACGACCUGCUGCCUU
UCUuagg

(((((.((((((((((((((.(((((.)))))).))))))))))))))
))))))

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-----AAGAGGUAGUAGGUUGCAUAGU-----
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-----AAGAGGUAGUAGGUUGCAUAGUU-----
----- 7   -1,0
-----AGAGGUAGUAGGUUGCAU-----
----- 342 0,-4
-----AGAGGUAGUAGGUUGCAUu-----
----- 11  0,-4
-----AGAGGUAGUAGGUUGCAUuu-----
----- 8   0,-4
-----AGAGGUAGUAGGUUGCAUA-----
----- 267 0,-3
-----AGAGGUAGUAGGUUGCAUAa-----
----- 20  0,-3
-----AGAGGUAGUAGGUUGCAUAaa-----
----- 2   0,-3
-----AGAGGUAGUAGGUUGCAUAau-----
----- 2   0,-3
-----AGAGGUAGUAGGUUGCAUAu-----
----- 2   0,-3
-----AGAGGUAGUAGGUUGCAUAuu-----
----- 2   0,-3
-----AGAGGUAGUAGGUUGCAUAG-----
----- 855 0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 38  0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 10  0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 23  0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 1717 0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 284 0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 71  0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 56  0,-1

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```

-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 18053    0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 2112     0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 136    0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 66     0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 2144     0,1
-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 42     0,1
-----AGAGGUAGUAGGUUGCAUAGUUUau-----
----- 2      0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 95     0,2
-----AGAGGUAGUAGGUUGCAUAGUUUUu-----
----- 3      0,2
-----GAGGUAGUAGGUUGCAUAGUaa-----
----- 2      1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 48     1,0
-----GAGGUAGUAGGUUGCAUAGUUa-----
----- 9      1,0
-----GAGGUAGUAGGUUGCAUAGUUU-----
----- 17     1,1
-----GAGGUAGUAGGUUGCAUAGUUUU-----
----- 4      1,2
-----AGGUAGUAGGUUGCAUAGUUa-----
----- 3      2,0
-----AGGUAGUAGGUUGCAUAGUUU-----
----- 3      2,1
-----CUAUACGACCUGCUGCCUU
----- 2      0,-3
-----CUAUACGACCUGCUGCCUU
U----- 2      0,-2
-----CUAUACGACCUGCUGCCUU
UC----- 3      0,-1

```



```

-----UGAGGUAGGAGGUUGUAUAGUaa-----
202 0, -1
-----UGAGGUAGGAGGUUGUAUAGUau-----
56 0, -1
-----UGAGGUAGGAGGUUGUAUAGUU-----
3552 0,0
-----UGAGGUAGGAGGUUGUAUAGUUa-----
1101 0,0
-----UGAGGUAGGAGGUUGUAUAGUUaa-----
242 0,0
-----UGAGGUAGGAGGUUGUAUAGUUau-----
63 0,0
-----UGAGGUAGGAGGUUGUAUAGUUu-----
798 0,0
-----UGAGGUAGGAGGUUGUAUAGUUuu-----
10 0,0
-----UGAGGUAGGAGGUUGUAUAGUUG-----
166 0,1
-----UGAGGUAGGAGGUUGUAUAGUUGu-----
20 0,1
-----UGAGGUAGGAGGUUGUAUAGUUGA-----
14 0,2
-----GAGGUAGGAGGUUGUAUAGU-----
2 1, -1
-----GAGGUAGGAGGUUGUAUAGUU-----
6 1,0
-----GAGGUAGGAGGUUGUAUAGUUa-----
2 1,0
-----GAGGUAGGAGGUUGUAUAGUUG-----
2 1,1
-----CUAUACGGCCUCCUAGCUUU-----
2 0, -2
-----CUAUACGGCCUCCUAGCUUUC-----
4 0, -1

```

>hsa-let-7f-1 MA:7-28;mi:63-84 SRX018967

ucagagUGAGGUAGUAGAUUGUAUAGUUGuggggguagugauuuuaccugucaggagauaaCUAUACAAUCUAUUGCCU
UCCCUga

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(((((.(..((((((((((((((((((((((((((((((((((.....)))))))))...)))))))).))))))
-----UGAGGUAGUAGAUUGUAU-----
----- 319 0,-4
-----UGAGGUAGUAGAUUGUAUu-----
----- 5 0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
----- 13 0,-4
-----UGAGGUAGUAGAUUGUAUA-----
----- 3173 0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
----- 46 0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
----- 18 0,-3
-----UGAGGUAGUAGAUUGUAUAau-----
----- 5 0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
----- 5 0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
----- 2 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
----- 3084 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
----- 149 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
----- 13 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
----- 23 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
----- 18982 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
----- 456 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
----- 1732 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 235 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 51677 0,0
```

```

-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 21769 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 2213 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 529 0,0
-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 765 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 33 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGU-----
----- 64 0,2
-----GAGGUAGUAGAUUGUAUA-----
----- 2 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
----- 17 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
----- 61 1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----
----- 2 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
----- 7 1,-1
-----GAGGUAGUAGAUUGUAUAGUau-----
----- 6 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
----- 190 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
----- 84 1,0
-----GAGGUAGUAGAUUGUAUAGUUaa-----
----- 20 1,0
-----GAGGUAGUAGAUUGUAUAGUUau-----
----- 5 1,0
-----AGGUAGUAGAUUGUAUAGU-----
----- 3 2,-1
-----AGGUAGUAGAUUGUAUAGUU-----
----- 16 2,0
-----AGGUAGUAGAUUGUAUAGUUa-----
----- 4 2,0

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```

-----UGAGGUAGUAGAUUGUAUAuu-----
--- 2 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 3084 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 149 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 13 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
--- 23 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 18982 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 456 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 1732 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 235 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 51677 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 21769 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 2213 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 529 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 9126 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUa-----
--- 41 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUaa-----
--- 4 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 83 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUu-----
--- 3 0,2
-----GAGGUAGUAGAUUGUAUA-----
--- 2 1,-3

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---CUGAGGUAGUAGUUUGUACAGUU-----
----    33   -1,0
---CUGAGGUAGUAGUUUGUACAGUUa-----
----     2   -1,0
---UGAGGUAGUAGUUUGUAC-----
----    24   0,-4
---UGAGGUAGUAGUUUGUACA-----
----    68   0,-3
---UGAGGUAGUAGUUUGUACAa-----
----     9   0,-3
---UGAGGUAGUAGUUUGUACAu-----
----     2   0,-3
---UGAGGUAGUAGUUUGUACAG-----
----   386   0,-2
---UGAGGUAGUAGUUUGUACAGa-----
----    24   0,-2
---UGAGGUAGUAGUUUGUACAGaa-----
----     3   0,-2
---UGAGGUAGUAGUUUGUACAGau-----
----     5   0,-2
---UGAGGUAGUAGUUUGUACAGU-----
----   2436   0,-1
---UGAGGUAGUAGUUUGUACAGUa-----
----    35   0,-1
---UGAGGUAGUAGUUUGUACAGUaa-----
----    48   0,-1
---UGAGGUAGUAGUUUGUACAGUau-----
----    12   0,-1
---UGAGGUAGUAGUUUGUACAGUU-----
----   5621   0,0
---UGAGGUAGUAGUUUGUACAGUUa-----
----    951   0,0
---UGAGGUAGUAGUUUGUACAGUUaa-----
----    84   0,0
---UGAGGUAGUAGUUUGUACAGUUau-----
----    36   0,0
---UGAGGUAGUAGUUUGUACAGUUU-----
----   597   0,1

```


-----UGGAAUGUAAAGAAGUAU-----	9	0,-4
-----UGGAAUGUAAAGAAGUAUG-----	9	0,-3
-----UGGAAUGUAAAGAAGUAUGU-----	13	0,-2
-----UGGAAUGUAAAGAAGUAUGUA-----	31	0,-1
-----UGGAAUGUAAAGAAGUAUGUAa---	20	0,-1
-----UGGAAUGUAAAGAAGUAUGUAU-----	435	0,0
-----UGGAAUGUAAAGAAGUAUGUAUa---	14	0,0
-----GGAAUGUAAAGAAGUAUGUAU-----	8	1,0

```

-----AACCCGUAGAUCCGAACUa-----
7 0,-4
-----AACCCGUAGAUCCGAACUaa-----
2 0,-4
-----AACCCGUAGAUCCGAACUU-----
853 0,-3
-----AACCCGUAGAUCCGAACUua-----
13 0,-3
-----AACCCGUAGAUCCGAACUuaa-----
4 0,-3
-----AACCCGUAGAUCCGAACUua-----
2 0,-3
-----AACCCGUAGAUCCGAACUuu-----
9 0,-3
-----AACCCGUAGAUCCGAACUUG-----
4250 0,-2
-----AACCCGUAGAUCCGAACUUGa-----
108 0,-2
-----AACCCGUAGAUCCGAACUUGau-----
3 0,-2
-----AACCCGUAGAUCCGAACUUGU-----
25089 0,-1
-----AACCCGUAGAUCCGAACUUGUa-----
206 0,-1
-----AACCCGUAGAUCCGAACUUGUaa-----
204 0,-1
-----AACCCGUAGAUCCGAACUUGUau-----
36 0,-1
-----AACCCGUAGAUCCGAACUUGUu-----
123 0,-1
-----AACCCGUAGAUCCGAACUUGUuu-----
23 0,-1
-----AACCCGUAGAUCCGAACUUGUG-----
24082 0,0
-----AACCCGUAGAUCCGAACUUGUGa-----
18959 0,0
-----AACCCGUAGAUCCGAACUUGUGaa-----
1044 0,0

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		-----GUACAGUACUGUGAUAAAC-----	321
-1,-4			
		-----GUACAGUACUGUGAUAAACa-----	3
-1,-4			
		-----GUACAGUACUGUGAUAAACU-----	
11690	-1,-3		
		-----GUACAGUACUGUGAUAAACUa-----	7
-1,-3			
		-----GUACAGUACUGUGAUAAACUaa-----	13
-1,-3			
		-----GUACAGUACUGUGAUAAACUu-----	5
-1,-3			
		-----GUACAGUACUGUGAUAAACUG-----	947
-1,-2			
		-----GUACAGUACUGUGAUAAACUGu-----	13
-1,-2			
		-----GUACAGUACUGUGAUAAACUGuu-----	2
-1,-2			
		-----GUACAGUACUGUGAUAAACUGA-----	
13037	-1,-1		
		-----GUACAGUACUGUGAUAAACUGAu-----	120
-1,-1			
		-----GUACAGUACUGUGAUAAACUGAA-----	
16671	-1,0		
		-----GUACAGUACUGUGAUAAACUGAAa-----	3188
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAaa-----	91
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAau-----	5
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAu-----	57
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAG-----	17
-1,1			
		-----UACAGUACUGUGAUAAACU-----	8750
0,-3			
		-----UACAGUACUGUGAUAAACUa-----	3
0,-3			

		-----UACAGUACUGUGAUAACUaa-----	6
0,-3			
		-----UACAGUACUGUGAUAACUu-----	5
0,-3			
		-----UACAGUACUGUGAUAAACUG-----	930
0,-2			
		-----UACAGUACUGUGAUAAACUGu-----	12
0,-2			
		-----UACAGUACUGUGAUAAACUGA-----	
14400	0,-1		
		-----UACAGUACUGUGAUAAACUGAu-----	73
0,-1			
		-----UACAGUACUGUGAUAAACUGAuu-----	65
0,-1			
		-----UACAGUACUGUGAUAAACUGAA-----	
31779	0,0		
		-----UACAGUACUGUGAUAAACUGAAa-----	7779
0,0			
		-----UACAGUACUGUGAUAAACUGAAaa-----	272
0,0			
		-----UACAGUACUGUGAUAAACUGAAau-----	46
0,0			
		-----UACAGUACUGUGAUAAACUGAAu-----	1240
0,0			
		-----UACAGUACUGUGAUAAACUGAAuu-----	35
0,0			
		-----UACAGUACUGUGAUAAACUGAAG-----	2234
0,1			
		-----UACAGUACUGUGAUAAACUGAAGu-----	245
0,1			
		-----UACAGUACUGUGAUAAACUGAAGuu-----	4
0,1			
		-----UACAGUACUGUGAUAAACUGAAGG-----	6
0,2			
		-----ACAGUACUGUGAUAAACUG-----	3
1,-2			
		-----ACAGUACUGUGAUAAACUGA-----	74
1,-1			

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-----ACAGUACUGUGUAACUGAA----- 203
1,0
-----ACAGUACUGUGUAACUGAAa----- 79
1,0
-----ACAGUACUGUGUAACUGAAaa----- 4
1,0
-----ACAGUACUGUGUAACUGAAu----- 14
1,0
-----ACAGUACUGUGUAACUGAAG----- 28
1,1
-----ACAGUACUGUGUAACUGAAGu----- 10
1,1
-----CAGUACUGUGUAACUGA----- 5
2,-1
-----CAGUACUGUGUAACUGAA----- 21
2,0
-----CAGUACUGUGUAACUGAAa----- 12
2,0
-----CAGUACUGUGUAACUGAAau----- 2
2,0
-----CAGUACUGUGUAACUGAAG----- 3
2,1

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>hsa-mir-101-2 3p:49-69 SRX018967

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acuguccuuuuucgguaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGUAACUGAAgaugguggu
((..(((.(((((((((((((((((((((.(((((.....)))))).)))))))))))))))))))).))
-----GGUACAGUACUGUGUAACUGA-----
4 -2,-1
-----GUACAGUACUGUGUAAC-----
321 -1,-4
-----GUACAGUACUGUGUAACa-----
3 -1,-4
-----GUACAGUACUGUGUAACU-----
11690 -1,-3
-----GUACAGUACUGUGUAACUa-----
7 -1,-3
-----GUACAGUACUGUGUAACUaa-----
13 -1,-3

```


		-GUACAGUACUGUGAUAACUu-----
5	-1,-3	
		-GUACAGUACUGUGAUAACUG-----
947	-1,-2	
		-GUACAGUACUGUGAUAACUGu-----
13	-1,-2	
		-GUACAGUACUGUGAUAACUGuu-----
2	-1,-2	
		-GUACAGUACUGUGAUAACUGA-----
13037	-1,-1	
		-GUACAGUACUGUGAUAACUGAu-----
120	-1,-1	
		-GUACAGUACUGUGAUAACUGAA-----
16671	-1,0	
		-GUACAGUACUGUGAUAACUGAAa-----
3188	-1,0	
		-GUACAGUACUGUGAUAACUGAAaa-----
91	-1,0	
		-GUACAGUACUGUGAUAACUGAAau-----
5	-1,0	
		-GUACAGUACUGUGAUAACUGAAu-----
57	-1,0	
		-GUACAGUACUGUGAUAACUGAAG-----
17	-1,1	
		-GUACAGUACUGUGAUAACUGAAGA-----
12	-1,2	
		-GUACAGUACUGUGAUAACUGAAGAu-----
2	-1,2	
		-GUACAGUACUGUGAUAACUGAAGAA-----
2	-1,3	
		-UACAGUACUGUGAUAACU-----
8750	0,-3	
		-UACAGUACUGUGAUAACUa-----
3	0,-3	
		-UACAGUACUGUGAUAACUaa-----
6	0,-3	
		-UACAGUACUGUGAUAACUu-----
5	0,-3	

		-UACAGUACUGUGAUAACUG-
930	0,-2	
		-UACAGUACUGUGAUAACUGu-
12	0,-2	
		-UACAGUACUGUGAUAACUGA-
14400	0,-1	
		-UACAGUACUGUGAUAACUGAu-
73	0,-1	
		-UACAGUACUGUGAUAACUGAuu-
65	0,-1	
		-UACAGUACUGUGAUAACUGAA-
31779	0,0	
		-UACAGUACUGUGAUAACUGAAa-
7779	0,0	
		-UACAGUACUGUGAUAACUGAAaa-
272	0,0	
		-UACAGUACUGUGAUAACUGAAau-
46	0,0	
		-UACAGUACUGUGAUAACUGAAu-
1240	0,0	
		-UACAGUACUGUGAUAACUGAAuu-
35	0,0	
		-UACAGUACUGUGAUAACUGAAG-
2234	0,1	
		-UACAGUACUGUGAUAACUGAAGu-
245	0,1	
		-UACAGUACUGUGAUAACUGAAGuu-
4	0,1	
		-UACAGUACUGUGAUAACUGAAGA-
465	0,2	
		-UACAGUACUGUGAUAACUGAAGAu-
3	0,2	
		-UACAGUACUGUGAUAACUGAAGAA-
33	0,3	
		-UACAGUACUGUGAUAACUGAAGAAa-
3	0,3	
		-ACAGUACUGUGAUAACUG-
3	1,-2	

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74  1,-1
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203 1,0
-----ACAGUACUGUGAUAAACUGAAa-----
79  1,0
-----ACAGUACUGUGAUAAACUGAAaa-----
4   1,0
-----ACAGUACUGUGAUAAACUGAAu-----
14  1,0
-----ACAGUACUGUGAUAAACUGAAG-----
28  1,1
-----ACAGUACUGUGAUAAACUGAAGu-----
10  1,1
-----ACAGUACUGUGAUAAACUGAAGA-----
8   1,2
-----CAGUACUGUGAUAAACUGA-----
5   2,-1
-----CAGUACUGUGAUAAACUGAA-----
21  2,0
-----CAGUACUGUGAUAAACUGAAa-----
12  2,0
-----CAGUACUGUGAUAAACUGAAau-----
2   2,0
-----CAGUACUGUGAUAAACUGAAG-----
3   2,1
-----CAGUACUGUGAUAAACUGAAGA-----
6   2,2
-----CAGUACUGUGAUAAACUGAAGAA-----
8   2,3
-----CAGUACUGUGAUAAACUGAAGAAa-----
4   2,3

```

>hsa-mir-103-1 3p:48-70 SRX018967

```

uacugcccucggcuucuuacagugcugccuuguugcauauaggaucaAGCAGCAUUGUACAGGGCUAUGAaggcauug
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGCAGCAUUGUACAGGGC-----
2   -1,-5

```

		-----AAGCAGCAUUGUACAGGGCU-----
2	-1, -4	
		-----AAGCAGCAUUGUACAGGGCUAU-----
2	-1, -2	
		-----AAGCAGCAUUGUACAGGGCUAUG-----
2	-1, -1	
		-----AGCAGCAUUGUACAGGGC-----
4152	0, -5	
		-----AGCAGCAUUGUACAGGGCa-----
4	0, -5	
		-----AGCAGCAUUGUACAGGGCa_a-----
7	0, -5	
		-----AGCAGCAUUGUACAGGGCau-----
5	0, -5	
		-----AGCAGCAUUGUACAGGGCU-----
2241	0, -4	
		-----AGCAGCAUUGUACAGGGCUu-----
34	0, -4	
		-----AGCAGCAUUGUACAGGGCUuu-----
20	0, -4	
		-----AGCAGCAUUGUACAGGGCUA-----
3196	0, -3	
		-----AGCAGCAUUGUACAGGGCUA_a-----
494	0, -3	
		-----AGCAGCAUUGUACAGGGCUA_a_a-----
110	0, -3	
		-----AGCAGCAUUGUACAGGGCUA_a_u-----
80	0, -3	
		-----AGCAGCAUUGUACAGGGCUAU-----
16770	0, -2	
		-----AGCAGCAUUGUACAGGGCUAU_a-----
4244	0, -2	
		-----AGCAGCAUUGUACAGGGCUAU_a_a-----
590	0, -2	
		-----AGCAGCAUUGUACAGGGCUAU_a_u-----
417	0, -2	
		-----AGCAGCAUUGUACAGGGCUAU_u-----
1438	0, -2	

		-----AGCAGCAUUGUACAGGGCUAUuu-----
266	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
10125	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
2183	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
173	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
13123	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
886	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
33	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
334	0, 1	
		-----AGCAGCAUUGUACAGGGCUAUGAAu-----
8	0, 1	
		-----AGCAGCAUUGUACAGGGCUAUGAAG-----
5	0, 2	
		-----GCAGCAUUGUACAGGGCU-----
6	1, -4	
		-----GCAGCAUUGUACAGGGCUA-----
4	1, -3	
		-----GCAGCAUUGUACAGGGCUAa-----
2	1, -3	
		-----GCAGCAUUGUACAGGGCUAU-----
33	1, -2	
		-----GCAGCAUUGUACAGGGCUAUa-----
3	1, -2	
		-----GCAGCAUUGUACAGGGCUAUuu-----
3	1, -2	
		-----GCAGCAUUGUACAGGGCUAUG-----
37	1, -1	
		-----GCAGCAUUGUACAGGGCUAUGu-----
6	1, -1	
		-----GCAGCAUUGUACAGGGCUAUGA-----
54	1, 0	

```

-----GCAGCAUUGUACAGGGCUAUGAu-----
6   1,0
-----GCAGCAUUGUACAGGGCUAUGAA-----
2   1,1
-----CAGCAUUGUACAGGGCUA-----
4   2,-3
-----CAGCAUUGUACAGGGCUAU-----
33  2,-2
-----CAGCAUUGUACAGGGCUAUa-----
7   2,-2
-----CAGCAUUGUACAGGGCUAUG-----
41  2,-1
-----CAGCAUUGUACAGGGCUAUGu-----
7   2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
73  2,0
-----CAGCAUUGUACAGGGCUAUGAu-----
2   2,0

```

>hsa-mir-103-2 mi:11-33;MA:48-70 SRX018967

```

uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..(((.((((((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGCUUCUUUACAGUGCUGCCUU-----
2   0,-1
-----AGCUUCUUUACAGUGCUGCCUUGa-----
3   0,0
-----AAGCAGCAUUGUACAGGGC-----
2   -1,-5
-----AAGCAGCAUUGUACAGGGCU-----
2   -1,-4
-----AAGCAGCAUUGUACAGGGCUAU-----
2   -1,-2
-----AAGCAGCAUUGUACAGGGCUAUG-----
2   -1,-1
-----AGCAGCAUUGUACAGGGC-----
4152  0,-5
-----AGCAGCAUUGUACAGGGCa-----
4   0,-5

```

		-----AGCAGCAUUGUACAGGGCaa-----
7	0, -5	
		-----AGCAGCAUUGUACAGGGCau-----
5	0, -5	
		-----AGCAGCAUUGUACAGGGCU-----
2241	0, -4	
		-----AGCAGCAUUGUACAGGGCUu-----
34	0, -4	
		-----AGCAGCAUUGUACAGGGCUuu-----
20	0, -4	
		-----AGCAGCAUUGUACAGGGCUA-----
3196	0, -3	
		-----AGCAGCAUUGUACAGGGCUAa-----
494	0, -3	
		-----AGCAGCAUUGUACAGGGCUAaa-----
110	0, -3	
		-----AGCAGCAUUGUACAGGGCUAau-----
80	0, -3	
		-----AGCAGCAUUGUACAGGGCUAU-----
16770	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUa-----
4244	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUaa-----
590	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUau-----
417	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
1438	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
266	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
10125	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
2183	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
173	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
13123	0, 0	

	-----AGCAGCAUUGUACAGGGCUAUGAu-----
886 0,0	
	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
33 0,0	
	-----AGCAGCAUUGUACAGGGCUAUGAA-----
334 0,1	
	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
8 0,1	
	-----AGCAGCAUUGUACAGGGCUAUGAAA-----
48 0,2	
	-----GCAGCAUUGUACAGGGCU-----
6 1,-4	
	-----GCAGCAUUGUACAGGGCUA-----
4 1,-3	
	-----GCAGCAUUGUACAGGGCUAa-----
2 1,-3	
	-----GCAGCAUUGUACAGGGCUAU-----
33 1,-2	
	-----GCAGCAUUGUACAGGGCUAUa-----
3 1,-2	
	-----GCAGCAUUGUACAGGGCUAUuu-----
3 1,-2	
	-----GCAGCAUUGUACAGGGCUAUG-----
37 1,-1	
	-----GCAGCAUUGUACAGGGCUAUGu-----
6 1,-1	
	-----GCAGCAUUGUACAGGGCUAUGA-----
54 1,0	
	-----GCAGCAUUGUACAGGGCUAUGAu-----
6 1,0	
	-----GCAGCAUUGUACAGGGCUAUGAA-----
2 1,1	
	-----CAGCAUUGUACAGGGCUA-----
4 2,-3	
	-----CAGCAUUGUACAGGGCUAU-----
33 2,-2	
	-----CAGCAUUGUACAGGGCUAUa-----
7 2,-2	

-----CCACGGAUGUUUGAGCAUGUGa-----
- 5 -2,-3
-----CCACGGAUGUUUGAGCAUGUGu-----
- 28 -2,-3
-----CCACGGAUGUUUGAGCAUGUGC-----
- 2 -2,-2

```
>hsa-mir-106a    MA:13-35;mi:50-71    SRX018967  
ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucuaCUGCAAUGUAAGCACUUCUUACauuaccaug  
g  
((.((((.((((((((((((((((((((((.(((((.(((.(.....)).)))))))).)))))))).))))).)))..)  
)
```

```

-----AAAAGUGCUUACAGUGCAG-----
-   3   0,-4
-----AAAAGUGCUUACAGUGCAGG-----
-   2   0,-3
-----AAAAGUGCUUACAGUGCAGGU-----
-  10   0,-2
-----AAAAGUGCUUACAGUGCAGGUA-----
-  10   0,-1
-----AAAGUGCUUACAGUGCAG-----
-   2   1,-4
-----AAAGUGCUUACAGUGCAGG-----
-   2   1,-3
-----AAAGUGCUUACAGUGCAGGU-----
-   9   1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
-   6   1,-1
-----AAAGUGCUUACAGUGCAGGUAa-----
-   2   1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
-   2   1,0

```

```
>hsa-mir-106b    MA:12-32;mi:52-73    SRX018967  
ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUCGuccagca  
gg  
(((((((((.....)))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))  
)
```

```

-----UAAAGUGCUGACAGUGCA-----
-- 15 0,-3
-----UAAAGUGCUGACAGUGCAG-----
-- 132 0,-2
-----UAAAGUGCUGACAGUGCAGA-----
-- 96 0,-1
-----UAAAGUGCUGACAGUGCAGAA-----
-- 10 0,-1
-----UAAAGUGCUGACAGUGCAGAAa-----
-- 7 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 217 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 15 0,0
-----UAAAGUGCUGACAGUGCAGAUuu-----
-- 5 0,0
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 292 0,1
-----UAAAGUGCUGACAGUGCAGAUAA-----
-- 83 0,1
-----UAAAGUGCUGACAGUGCAGAUAAa-----
-- 3 0,1
-----UAAAGUGCUGACAGUGCAGAUAAu-----
-- 2 0,1
-----UAAAGUGCUGACAGUGCAGAUAAu-----
-- 86 0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
-- 12 0,2
-----UAAAGUGCUGACAGUGCAGAUAGa-----
-- 3 0,2
-----UAAAGUGCUGACAGUGCAGAUAGU-----
-- 3 0,3
-----AAAGUGCUGACAGUGCAGAUa-----
-- 2 1,1
-----UACCGCACUGUGGGUACUUG-----
-- 2 -2,-4
-----UACCGCACUGUGGGUACUUGa-----
-- 4 -2,-4

```

```

-----UACCGCACUGUGGGUACUUGaa-----
-- 4 -2,-4
-----UACCGCACUGUGGGUACUUGC-----
-- 14 -2,-3
-----UACCGCACUGUGGGUACUUGCU-----
-- 76 -2,-2
-----UACCGCACUGUGGGUACUUGCUaa-----
-- 2 -2,-2
-----ACCGCACUGUGGGUACUUGCU-----
-- 7 -1,-2
-----ACCGCACUGUGGGUACUUGCUG-----
-- 6 -1,-1
-----ACCGCACUGUGGGUACUUGCUGa-----
-- 2 -1,-1
-----ACCGCACUGUGGGUACUUGCUGu-----
-- 2 -1,-1
-----CCGCACUGUGGGUACUUGaa-----
-- 2 0,-4
-----CCGCACUGUGGGUACUUGC-----
-- 9 0,-3
-----CCGCACUGUGGGUACUUGCU-----
-- 52 0,-2
-----CCGCACUGUGGGUACUUGCua-----
-- 5 0,-2
-----CCGCACUGUGGGUACUUGCuaa-----
-- 3 0,-2
-----CCGCACUGUGGGUACUUGCuu-----
-- 2 0,-2
-----CCGCACUGUGGGUACUUGCUG-----
-- 129 0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 101 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 11 0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 17 0,-1
-----CCGCACUGUGGGUACUUGCUGC-----
-- 158 0,0

```

```

-----CCGCACUGUGGGUACUUGCUGCa-----
-- 8 0,0
-----CCGCACUGUGGGUACUUGCUGCau-----
-- 2 0,0
-----CCGCACUGUGGGUACUUGCUGCU-----
-- 2 0,1

```

>hsa-mir-107 3p:50-72 SRX018967

```

cucucugcuuucagcuucuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCAaagcacag
a

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
)

```

```

-----AAGCAGCAUUGUACAGGGC-----
- 2 -1,-5
-----AAGCAGCAUUGUACAGGGCU-----
- 2 -1,-4
-----AAGCAGCAUUGUACAGGGCUAU-----
- 2 -1,-2
-----AGCAGCAUUGUACAGGGC-----
- 4152 0,-5
-----AGCAGCAUUGUACAGGGCa-----
- 4 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 7 0,-5
-----AGCAGCAUUGUACAGGGCau-----
- 5 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 2241 0,-4
-----AGCAGCAUUGUACAGGGCUu-----
- 34 0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
- 20 0,-4
-----AGCAGCAUUGUACAGGGCUA-----
- 3196 0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
- 494 0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
- 110 0,-3

```

```

-----AGCAGCAUUGUACAGGGCUAau-----
- 80 0,-3
-----AGCAGCAUUGUACAGGGCUAU-----
- 16770 0,-2
-----AGCAGCAUUGUACAGGGCUAUa-----
- 4244 0,-2
-----AGCAGCAUUGUACAGGGCUAUaa-----
- 590 0,-2
-----AGCAGCAUUGUACAGGGCUAUau-----
- 417 0,-2
-----AGCAGCAUUGUACAGGGCUAUu-----
- 1438 0,-2
-----AGCAGCAUUGUACAGGGCUAUuu-----
- 266 0,-2
-----AGCAGCAUUGUACAGGGCUAUC-----
- 1094 0,-1
-----AGCAGCAUUGUACAGGGCUAUCu-----
- 326 0,-1
-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 6 0,-1
-----AGCAGCAUUGUACAGGGCUAUCA-----
- 1911 0,0
-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 74 0,0
-----AGCAGCAUUGUACAGGGCUAUCAuu-----
- 7 0,0
-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 42 0,1
-----GCAGCAUUGUACAGGGCU-----
- 6 1,-4
-----GCAGCAUUGUACAGGGCUA-----
- 4 1,-3
-----GCAGCAUUGUACAGGGCUAa-----
- 2 1,-3
-----GCAGCAUUGUACAGGGCUAU-----
- 33 1,-2
-----GCAGCAUUGUACAGGGCUAUa-----
- 3 1,-2

```


-UACCCUGUAGAUCCGAAUUUGUGU-
3 0,1
-ACCCUGUAGAUCCGAAUUUG-
6 1,-2
-ACCCUGUAGAUCCGAAUUUGU-
57 1,-1
-ACCCUGUAGAUCCGAAUUUGUG-
60 1,0
-ACCCUGUAGAUCCGAAUUUGUGa-
64 1,0
-ACCCUGUAGAUCCGAAUUUGUGaa-
6 1,0
-ACCCUGUAGAUCCGAAUUUGUGU-
26 1,1
-ACCCUGUAGAUCCGAAUUUGUGUA-
3 1,2
-AAAUUCGUAUCUAGGGG
AAUAa- 2 1,0


```

-----UACCCUGUAGAACCGAAUUUGUa-----
----- 12 0,-1
-----UACCCUGUAGAACCGAAUUUGUaa-----
----- 4 0,-1
-----UACCCUGUAGAACCGAAUUUGUu-----
----- 17 0,-1
-----UACCCUGUAGAACCGAAUUUGUG-----
----- 272 0,0
-----UACCCUGUAGAACCGAAUUUGUGa-----
----- 79 0,0
-----UACCCUGUAGAACCGAAUUUGUGaa-----
----- 2 0,0
-----UACCCUGUAGAACCGAAUUUGUGau-----
----- 2 0,0
-----UACCCUGUAGAACCGAAUUUGUGU-----
----- 59 0,1
-----ACCCUGUAGAACCGAAUUU-----
----- 2 1,-3
-----ACCCUGUAGAACCGAAUUUG-----
----- 9 1,-2
-----ACCCUGUAGAACCGAAUUUGU-----
----- 69 1,-1
-----ACCCUGUAGAACCGAAUUUGUG-----
----- 89 1,0
-----ACCCUGUAGAACCGAAUUUGUGa-----
----- 73 1,0
-----ACCCUGUAGAACCGAAUUUGUGaa-----
----- 17 1,0
-----ACCCUGUAGAACCGAAUUUGUGau-----
----- 3 1,0
-----ACCCUGUAGAACCGAAUUUGUGU-----
----- 108 1,1
-----ACCCUGUAGAACCGAAUUUGUGUa-----
----- 2 1,1
-----CAGAUUCGAUUCUA
GGGGAAU----- 2 1,0

```

>hsa-mir-122 MA:15-36;mi:51-72 SRX018967

.(((((((((((((((((.((((((.((((((((((((((.(((...)))...)))))))))...))))))...))))))...)))).

-----	-UGUGGAGUGUGACAAUGGUGU-	-----
-----	13 -2,-3	-----
-----	-UGUGGAGUGUGACAAUGGUGUU-	-----
-----	88 -2,-2	-----
-----	-UGUGGAGUGUGACAAUGGUGUUa-	-----
-----	11 -2,-2	-----
-----	-UGUGGAGUGUGACAAUGGUGUUau-	-----
-----	2 -2,-2	-----
-----	-UGUGGAGUGUGACAAUGGUGUUU-	-----
-----	13 -2,-1	-----
-----	-UGUGGAGUGUGACAAUGGUGUUUG-	-----
-----	3 -2,0	-----
-----	-GUGGAGUGUGACAAUGGUGU-	-----
-----	10 -1,-3	-----
-----	-GUGGAGUGUGACAAUGGUGUU-	-----
-----	23 -1,-2	-----
-----	-GUGGAGUGUGACAAUGGUGUUau-	-----
-----	2 -1,-2	-----
-----	-GUGGAGUGUGACAAUGGUGUUU-	-----
-----	125 -1,-1	-----
-----	-GUGGAGUGUGACAAUGGUGUUUG-	-----
-----	4 -1,0	-----
-----	-GUGGAGUGUGACAAUGGUGUUUGa-	-----
-----	10 -1,0	-----
-----	-GUGGAGUGUGACAAUGGUGUUUGU-	-----
-----	8 -1,1	-----
-----	-UGGAGUGUGACAAUGGUG-	-----
-----	15809 0,-4	-----
-----	-UGGAGUGUGACAAUGGUGa-	-----
-----	414 0,-4	-----
-----	-UGGAGUGUGACAAUGGUGaa-	-----
-----	270 0,-4	-----
-----	-UGGAGUGUGACAAUGGUGau-	-----
-----	26 0,-4	-----

```

-----UGGAGUGUGACAAUGGUGU-----
----- 57259 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 1664 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 4689 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 513 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 145652 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 25869 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 12609 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 1597 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 1029027 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 79502 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 67526 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 22128 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 20119 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 1629 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1614304 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 1804052 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 46976 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 19194 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 774796 0,1

```

```

-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 3388 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 3951 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 1594 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 2127 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 531 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 248 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 110 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 220 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 501 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 16 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 34 1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 3 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 1376 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 230 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 145 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 24 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 6818 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 780 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 788 1,-1

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```

-----GGAGUGUGACAAUGGUGUUau-----
----- 193 1,-1
-----GGAGUGUGACAAUGGUGUUu-----
----- 132 1,-1
-----GGAGUGUGACAAUGGUGUUuu-----
----- 16 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 17673 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 19232 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 593 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 241 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 6062 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 43 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 40 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 22 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 29 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 9 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 8 1,2
-----GGAGUGUGACAAUGGUGUUUGUGa-----
----- 5 1,2
-----GGAGUGUGACAAUGGUGUUUGUGau-----
----- 2 1,2
-----GGAGUGUGACAAUGGUGUUUGUGU-----
----- 9 1,3
-----GAGUGUGACAAUGGUGUU-----
----- 80 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 3 2,-2

```

```

-----GAGUGUGACAAUGGUGUUaa-----
----- 2 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 131 2,-1
-----GAGUGUGACAAUGGUGUUUa-----
----- 7 2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 25 2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 4 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 4 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 98 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 230 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 10 2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 2 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 113 2,1
-----CAAACGCCAUUAUCACACUA-----
----- 3 -2,-4
-----CAAACGCCAUUAUCACACUAA-----
----- 5 -2,-3
-----CAAACGCCAUUAUCACACUAAu-----
----- 3 -2,-3
-----AAACGCCAUUAUCACACUA-----
----- 49 -1,-4
-----AAACGCCAUUAUCACACUAu-----
----- 14 -1,-4
-----AAACGCCAUUAUCACACUAuu-----
----- 14 -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 236 -1,-3
-----AAACGCCAUUAUCACACUAAu-----
----- 37 -1,-3

```

```

-----AAACGCCAUUAUCACACUAAuu-----
----- 16  -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 153 -1,-2
-----AAACGCCAUUAUCACACUAAAa-----
----- 22  -1,-2
-----AAACGCCAUUAUCACACUAAAaa-----
----- 4   -1,-2
-----AAACGCCAUUAUCACACUAAAU-----
----- 1148   -1,-1
-----AAACGCCAUUAUCACACUAAAUu-----
----- 16  -1,-1
-----AAACGCCAUUAUCACACUAAAUA-----
----- 19  -1,0
-----AACGCCAUUAUCACACUA-----
----- 77  0,-4
-----AACGCCAUUAUCACACUAu-----
----- 12  0,-4
-----AACGCCAUUAUCACACUAuu-----
----- 7   0,-4
-----AACGCCAUUAUCACACUAA-----
----- 445 0,-3
-----AACGCCAUUAUCACACUAAu-----
----- 31  0,-3
-----AACGCCAUUAUCACACUAAuu-----
----- 56  0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 551 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 100 0,-2
-----AACGCCAUUAUCACACUAAAaa-----
----- 9   0,-2
-----AACGCCAUUAUCACACUAAAau-----
----- 5   0,-2
-----AACGCCAUUAUCACACUAAAU-----
----- 7095   0,-1
-----AACGCCAUUAUCACACUAAAUu-----
----- 303 0,-1

```

			-AACGCCAUUAUCACACUAAAUuu-
-----	18	0,-1	
			-AACGCCAUUAUCACACUAAAUA-
-----	1112	0,0	
			-AACGCCAUUAUCACACUAAAUAa-
-----	174	0,0	
			-AACGCCAUUAUCACACUAAAUAaa-
-----	3	0,0	
			-AACGCCAUUAUCACACUAAAUAu-
-----	539	0,0	
			-AACGCCAUUAUCACACUAAAUAuu-
-----	11	0,0	
			-ACGCCAUUAUCACACUAAA-
-----	3	1,-2	
			-ACGCCAUUAUCACACUAAAU-
-----	25	1,-1	
			-ACGCCAUUAUCACACUAAAUu-
-----	3	1,-1	
			-ACGCCAUUAUCACACUAAAUA-
-----	4	1,0	

>hsa-mi r-1226 mi : 1-26;MA:54-75 SRX018967

GUGAGGGCAUGCAGGCCUGGAUGGGGcagcugggaugguccaaaaggguaggccUCACCAGCCCUGUGUUCCCUAG
...(((.(((((((.((((.((((((.(((.(.....)).....))).)))))))))..)))).
-----UCACCAGCCCUGUGUUCCCUAGa
2 0,0
-----UCACCAGCCCUGUGUUCCCUAGu
2 0,0

```
>hsa-mi r-1228    mi:1-21;MA:52-71    SRX018967
```

GUGGGCGGGGCGAGGUGUGUGguggguggguggccugcggugagcagggcccUCACACCUGCCUCGCCCCCag
 ..(((((((.((((((((....(((.....((((.....)))))))))).)))))))))))))).
 -----UCACACCUGCCUCGCCCCCA- 3

0,1

>hsa-mir-1229 3p:47-69 SRX018967

guggguagggguugggggagagcgugggcuggggguucaggacaccCUCUCACCACUGCCCCUCCCACAG
((((((.(((((.((((.((((.((((.((((.(....)))...)).)))).)).)).)).)).)).).

-----CUCUCACCACUGCCCUCCCACA- 2 0,-1

>hsa-mir-124-1 mi:14-35;MA:53-72 SRX018967

aggccucucucucCGUGUUCACAGCGGACCUUGAUuuuaauguccauacaauUAAGGCACGCGGUGAAUGCCaagaavgg
ggcug

$$.(((((((..(((..((((((((..(((..((((((((.....))))))))..)))..))))))))..)))..))\n\n))))).$$

-----UAAGGCACGCGGUGAAUGC-----

----- 3 0,-1

-----UAAGGCACGCGGUGAAUGCCA-----

----- 2 0,1

-----UAAGGCACGCGGUGAAUGCCAA-----

----- 4 0,2

>hsa-mir-124-2 mi:25-46;MA:62-81 SRX018967

aucaagauuagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuuaugucauacaauUAAGGCACGCGGUGAAUGC
Caagagcggagccuacggcugcacuugaa

$$\begin{aligned} & .((((..((((((((((((((..(((((((.(.((..(((((((.....)))))))))..)).))))))))) \\ & ..)))))))))....)))).) \end{aligned}$$

-----UAAGGCACGCGGUGAAUGC

----- 3 0,-1

-----UAAGGCACGCGGUGAAUGC

CA----- 2 0,1

-----UAAGGCACGCGGUGAAUGC

CAA----- 4 0.2

>hsa-mir-124-3 mi:15-36;MA:53-72 SRX018967

ugagggccccucugCGUGUUCACAGCGGACCUUGAUuuuaugucuauacaauUAAGGCACGCGGUGAAUGCCaagagagg
cgccucc

$$\begin{aligned} & .(((((((.(((((.(((((((.((..(((((((.....)))))))).))))).))))).)) \\ &).))))). \end{aligned}$$

-----UAAGGCACGCGGUGAAUGC-----

----- 3 0,-1

-----UAAGGCACGCGGUGAAUGCCA-----

----- 2 0,1

-----UAAGGCACGCGGUGAAUGCCAA-----

----- 4 0,2

```

>hsa-mir-1244-1 3p:55-80 SRX018967
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((.....(((.....(((.....(((.....)))))))))))))))))).....
.....
-----AAGUAGUUGGUUUGUAUGAGAUGGU-
----- 2 0,-1

```

```

>hsa-mir-1244-2 3p:55-80 SRX018967
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((.....(((.....(((.....(((.....)))))))))))))))))).....
.....
-----AAGUAGUUGGUUUGUAUGAGAUGGU-
----- 2 0,-1

```

```

>hsa-mir-1244-3 3p:55-80 SRX018967
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((.....(((.....(((.....(((.....)))))))))))))))))).....
.....
-----AAGUAGUUGGUUUGUAUGAGAUGGU-
----- 2 0,-1

```

```

>hsa-mir-1246 5p:11-29 SRX018967
uguauccuugAAUGGAUUUUUGGAGCAGGaguggacaccugacccaaaggaaaucaauccauaggcuagcaau
(((.....(((.....(((.....(((.....(((.....)))))))))))))).....))..
-----AAUGGAUUUUUGGAGCAG----- 2
0,-1
-----AAUGGAUUUUUGGAGCAG----- 101
0,0
-----AUGGAUUUUUGGAGCAG----- 69
1,0

```

```

>hsa-mir-1248 5p:4-30 SRX018967
uuuACCUUCUUGUAUAAGCACUGUGCUAAAauugcagacacuaggaccaugucuugguuuuugcaauaauugcuagcagag
uacacacaagaagaaaaguaacagca
.....(((((((.....(((.....(((.....(((.....(((.....)))))))))))))))))).....))..

```



```

-----AGGAUGAGCAAAGAAAGU-----
-----10 0,-5
-----AGGAUGAGCAAAGAAAGUA-----
-----11 0,-4
-----AGGAUGAGCAAAGAAAGUAG-----
-----14 0,-3
-----AGGAUGAGCAAAGAAAGUAGA-----
-----6 0,-2
-----AGGAUGAGCAAAGAAAGUAGa-----
-----2 0,-2
-----AGGAUGAGCAAAGAAAGUAGAU-----
-----19 0,-1
-----AGGAUGAGCAAAGAAAGUAGAUa-----
-----10 0,-1
-----AGGAUGAGCAAAGAAAGUAGAUaa-----
-----3 0,-1
-----AGGAUGAGCAAAGAAAGUAGAUU-----
-----54 0,0
-----AGGAUGAGCAAAGAAAGUAGAUUa-----
-----3 0,0
-----AGGAUGAGCAAAGAAAGUAGAUUU-----
-----3 0,1

```

>hsa-mir-1255b-1 5p:3-24 SRX018967

```

uaCGGAUGAGCAAAGAAAGUGGUUucuuaaaauggaauacuacuuugugaagaugcugugaa
((((((..((((((((..((((((((.....))))))))))))))))..))))))..
--CGGAUGAGCAAAGAAAGUGGU-----2 0,-1
--CGGAUGAGCAAAGAAAGUGGUa-----2 0,-1
--CGGAUGAGCAAAGAAAGUGGUaa-----2 0,-1
--CGGAUGAGCAAAGAAAGUGGUU-----19 0,0
--CGGAUGAGCAAAGAAAGUGGUUaa-----2 0,0
--CGGAUGAGCAAAGAAAGUGGUUU-----3 0,1

```

>hsa-mir-1255b-2 5p:6-27 SRX018967

```

ucuuaCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuuucuuugcucauccauaagga
((((((.((((((((((((((((((((((((.....))))))))))))))))))))))..))))).
-----CGGAUGAGCAAAGAAAGUGGU-----2 0,-1
-----CGGAUGAGCAAAGAAAGUGGUa-----2 0,-1

```

-----CGGAUGAGCAAAGAAAGUGGUaa-----	2	0,-1
-----CGGAUGAGCAAAGAAAGUGGUU-----	19	0,0
-----CGGAUGAGCAAAGAAAGUGGUUaa-----	2	0,0
-----CGGAUGAGCAAAGAAAGUGGUUU-----	3	0,1

>hsa-mi r-1256 5p:35-56 SRX018967

agucagccuguugaagcuugaagcuugaugccAGGCAUUGACUUCACUAGCUgugaaaguccuagcuaaagagaag
ucaaugcaugacaucuuguuucaauagauggcuguuuca

$$\begin{aligned} &(((((((((\dots\dots\dots(((.(.(((((((((((((.(((((.(\dots).))))))..)))))) \\ &)))))))).)))))..)))))))).))))).\dots \end{aligned}$$

-----AGGCAUUGACUUCUCACUAGCU-----
----- 2 0.0

-----CUAAAGAGAAG
UCAAUGCAUG----- 3

>hsa-mi r-125a 5p:15-38;3p:53-74 SRX018967

ugccagucucuaggUCCCUGAGACCCUUAACCUGUGAggacauccagggucACAGGUGAGGUUCUUGGGAGCCuggcgucuggcc

.((((.(.((((..((..(((.((((..((((((((((...))...)))))))))))).))..))..))))).).
)))).

-----UCCCUGAGACCCUUUAACC-----
----- 70 0,-5

-----UCCCUGAGACCCUUAACCU-----
----- 871 0,-4

-----UCCCUGAGACCCUUAACCUG-----
----- 115 0,-3

-----UCCCUGAGACCCUUUAACCUGa-----
----- 5 0,-3

-----UCCCUGAGACCCUUUAACCUGU-----
----- 105 0,-2

-----UCCCUGAGACCCUUUAACCUGUG-----
----- 49 0,-1

-----UCCCUGAGACCCUUUAACCUGUGu-----
----- 8 0,-1

-----UCCCUGAGACCCUUUAACCUGUGA-----
----- 30 0,0

-----CCUGAGACCCUUAACCU-----
----- 4 2,-4

```

-----CCUGAGACCCUUAACCGU-----
----- 2    2,-2
-----ACAGGUGAGGUUCUUGGGAG-----
----- 2    0,-2
-----CAGGUGAGGUUCUUGGGAaa-----
----- 2    1,-3
-----CAGGUGAGGUUCUUGGGAGCCau-----
----- 2    1,0

```

>hsa-mi r-125b-1 MA:15-36;mi :55-76 SRX018967

ugcgcuccucucagUCCCUGAGACCCUAACUUGUGAuguuuaccguuuaaauccACGGGUUAGGCUCUUGGGAGCUgcga
gucgugcu

$$\begin{aligned} & .((((..(((.((((..((..(((.(((((((((((((..(((((.)))))))).)))))))).))))).))) \\ &).))))). \end{aligned}$$

-----	-UCCCUGAGACCCUAACUU-	-----
-----	67 0, -4	
-----	-UCCCUGAGACCCUAACUUa-	-----
-----	4 0, -4	
-----	-UCCCUGAGACCCUAACUUaa-	-----
-----	4 0, -4	
-----	-UCCCUGAGACCCUAACUUG-	-----
-----	315 0, -3	
-----	-UCCCUGAGACCCUAACUUGa-	-----
-----	9 0, -3	
-----	-UCCCUGAGACCCUAACUUGU-	-----
-----	856 0, -2	
-----	-UCCCUGAGACCCUAACUUGUa-	-----
-----	6 0, -2	
-----	-UCCCUGAGACCCUAACUUGUaa-	-----
-----	15 0, -2	
-----	-UCCCUGAGACCCUAACUUGUu-	-----
-----	3 0, -2	
-----	-UCCCUGAGACCCUAACUUGUG-	-----
-----	1789 0, -1	
-----	-UCCCUGAGACCCUAACUUGUGu-	-----
-----	126 0, -1	
-----	-UCCCUGAGACCCUAACUUGUGA-	-----
-----	6070 0, 0	

```

-----UCCCUGAGACCCUAACUUGUGAa-----
-----1076 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
-----145 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
-----7 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
-----87 0,1
-----UCCCUGAGACCCUAACUUGUGAUa-----
-----23 0,1
-----CCCUGAGACCCUAACUUGUGA-----
-----2 1,0
-----CCCUGAGACCCUAACUUGUGAaa-----
-----2 1,0
-----CCCUGAGACCCUAACUUGUGAU-----
-----3 1,1
-----CCUGAGACCCUAACUUGU-----
-----10 2,-2
-----CCUGAGACCCUAACUUGUG-----
-----6 2,-1
-----CCUGAGACCCUAACUUGUGA-----
-----33 2,0
-----CCUGAGACCCUAACUUGUGAa-----
-----7 2,0
-----CCUGAGACCCUAACUUGUGAaa-----
-----2 2,0
-----ACGGGUUAGGCUCUUGGGAG-----
-----5 0,-2
-----ACGGGUUAGGCUCUUGGGAGa-----
-----11 0,-2
-----ACGGGUUAGGCUCUUGGGAGu-----
-----15 0,-2
-----ACGGGUUAGGCUCUUGGGAGC-----
-----8 0,-1

```

>hsa-mir-125b-2 MA:17-38;mi:54-75 SRX018967

```

accagacuuuuccuagUCCCUGAGACCCUAACUUGUGAgguauuuuaguaacaUCACAAGUCAGGCUCUUGGGACcuagg
cggagggga

```



```

-----CCCUGAGACCCUAACUUGUGAaa-----
----- 2 1,0
-----CCUGAGACCCUAACUUGU-----
----- 10 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 6 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 33 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 7 2,0
-----CCUGAGACCCUAACUUGUGAaa-----
----- 2 2,0
-----AUCACAAGUCAGGCUCUUG-----
----- 3 -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 6 -1,-3
-----AUCACAAGUCAGGCUCUUGGG-----
----- 4 -1,-2
-----UCACAAGUCAGGCUCUUG-----
----- 4 0,-4
-----UCACAAGUCAGGCUCUUGG-----
----- 3 0,-3
-----UCACAAGUCAGGCUCUUGGGA-----
----- 3 0,-1
-----ACAAGUCAGGCUCUUGGG-----
----- 25 2,-2
-----ACAAGUCAGGCUCUUGGGA-----
----- 15 2,-1
-----ACAAGUCAGGCUCUUGGGAu-----
----- 2 2,-1
-----ACAAGUCAGGCUCUUGGGAC-----
----- 19 2,0
-----ACAAGUCAGGCUCUUGGGACa-----
----- 2 2,0
-----ACAAGUCAGGCUCUUGGGACC-----
----- 5 2,1
-----ACAAGUCAGGCUCUUGGGACCa-----
----- 2 2,1

```

-----ACAAGUCAGGCUCUUGGGACCU-----
-----10 2,2-----
-----ACAAGUCAGGCUCUUGGGACCUuu-----
-----6 2,2-----
-----ACAAGUCAGGCUCUUGGGACCUAu-----
-----2 2,3-----

>hsa-mi r-126 mi:15-35;MA:52-73 SRX018967

cgcuggcgacgggaCAUUAUUACUUUUGGUACGCGcugugacacucaaacUCGUACCGUGAGUAAUAAUGCGccgucca
cggca

$$.((((..((((((.(((((((((((.(((((((.(...(((...)))..).)))))))).)))))))).))))).\\$$

Sequence	Count	Label
ACAUAUUACUUUUGGUAC	3	-1,-3
CAUAUUACUUUUGGUAC	67	0,-3
CAUAUUACUUUUGGUACG	26	0,-2
CAUAUUACUUUUGGUACGC	43	0,-1
CAUAUUACUUUUGGUACGCG	356	0,0
CAUAUUACUUUUGGUACGCGa	118	0,0
CAUAUUACUUUUGGUACGCGaa	6	0,0
CAUAUUACUUUUGGUACGCGau	2	0,0
CAUAUUACUUUUGGUACGCGu	75	0,0
CAUAUUACUUUUGGUACGCGC	3	0,1
AUAUUACUUUUGGUACG	3	1,-2
AUAUUACUUUUGGUACGCG	11	1,0
AUAUUACUUUUGGUACGCGa	6	1,0

```

-----AUAUUAUUUUUGGUACGCGu-----
----- 4 1,0
-----AUAUUAUUUUUGGUACGCGC-----
----- 7 1,1
-----AUAUUAUUUUUGGUACGCGCU-----
----- 14 1,2
-----AUAUUAUUUUUGGUACGCGCUa-----
----- 2 1,2
-----CUCGUACCGUGAGUAAUAAU-----
----- 2 -1,-3
-----CUCGUACCGUGAGUAAUAAUG-----
----- 6 -1,-2
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 9 -1,-2
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 17 -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 21 -1,0
-----UCGUACCGUGAGUAAUAAU-----
----- 10 0,-3
-----UCGUACCGUGAGUAAUAAUa-----
----- 5 0,-3
-----UCGUACCGUGAGUAAUAAUG-----
----- 33 0,-2
-----UCGUACCGUGAGUAAUAAUGa-----
----- 21 0,-2
-----UCGUACCGUGAGUAAUAAUGaa-----
----- 16 0,-2
-----UCGUACCGUGAGUAAUAAUGu-----
----- 5 0,-2
-----UCGUACCGUGAGUAAUAAUGC-----
----- 159 0,-1
-----UCGUACCGUGAGUAAUAAUGCa-----
----- 5 0,-1
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 173 0,0
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 61 0,0

```

```

-----UCGUACCGUGAGUAAUAAUGCGu-----
----- 4 0,0
-----CGUACCGUGAGUAAUAAU-----
----- 8 1,-3
-----CGUACCGUGAGUAAUAAUa-----
----- 2 1,-3
-----CGUACCGUGAGUAAUAAUG-----
----- 21 1,-2
-----CGUACCGUGAGUAAUAAUGa-----
----- 3 1,-2
-----CGUACCGUGAGUAAUAAUGaa-----
----- 2 1,-2
-----CGUACCGUGAGUAAUAAUGC-----
----- 43 1,-1
-----CGUACCGUGAGUAAUAAUGCaa-----
----- 2 1,-1
-----CGUACCGUGAGUAAUAAUGCG-----
----- 57 1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 21 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 8 1,0
-----GUACCGUGAGUAAUAAUG-----
----- 4 2,-2
-----GUACCGUGAGUAAUAAUGC-----
----- 13 2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 11 2,0
-----GUACCGUGAGUAAUAAUGCGa-----
----- 9 2,0

```

>hsa-mir-1262 5p:14-35 SRX018967

```

aucuacaugggugAUGGGUGAAUUUGUAGAAGGAUgaaagucaaagaauccuucugggaacuaauuuuuggccuucaca
agaauugugauau
(((.(((((.((...(((.(((((.(((((((.....)))))))))).)).....)).)))).
...)))))))).
-----UGAUGGGUGAAUUUGUAGAAGG-----
----- 2 -2,-2

```

cuacccccaaaauAUGGUACCCUGGCAUACUGAGUauuuuaauacugggcauacucaguaugccauguugccauuuuuggg
guagca

-----AUGGUACCCUGGCAUACUGAG-----

-----AUGGUACCCUGGCAUACUGAGU-----

agguccucaauaaguauuuuguugaaagaauaaaauaaaccaaCAAGUCUUAUUUGAGCACCUGUUaugug

-----CAAGUCUUAUUUGAGCACC----- 4 0,-4

-----CAAGUCUUAUUUGAGCACCUGU----- 2 0,-1

acagguagugucCCUCAGGGCUGUAGAACAGGGCUgggauuacuaaagcccuguucuaugcccugagggacacugagcau
guca

-----CCUCAGGGCUGUAGAACAGGGC-----

-----CCUCAGGGCUGUAGAACAGGGCU-----

-----CCUCAGGGCUGUAGAACAGGGCUau-----

-----CCUCAGGGCUGUAGAACAGGGCU₁₁-----

-----CCUCAGGGCUGUAGAACAGGGCUuu-----

-----CUCAGGGCUGUAGAACAGGGCUU-----

[illegible]

-----				-----CUGGACUGAGCCGU
GCUACa-----	20	0,-3		
-----				-----CUGGACUGAGCCGU
GCUACaa-----	32	0,-3		
-----				-----CUGGACUGAGCCGU
GCUACau-----	2	0,-3		
-----				-----CUGGACUGAGCCGU
GCUACU-----	4903	0,-2		
-----				-----CUGGACUGAGCCGU
GCUACUa-----	62	0,-2		
-----				-----CUGGACUGAGCCGU
GCUACUaa-----	140	0,-2		
-----				-----CUGGACUGAGCCGU
GCUACUau-----	69	0,-2		
-----				-----CUGGACUGAGCCGU
GCUACUu-----	24	0,-2		
-----				-----CUGGACUGAGCCGU
GCUACUuu-----	6	0,-2		
-----				-----CUGGACUGAGCCGU
GCUACUG-----	329	0,-1		
-----				-----CUGGACUGAGCCGU
GCUACUGa-----	81	0,-1		
-----				-----CUGGACUGAGCCGU
GCUACUGaa-----	25	0,-1		
-----				-----CUGGACUGAGCCGU
GCUACUGau-----	11	0,-1		
-----				-----CUGGACUGAGCCGU
GCUACUGu-----	135	0,-1		
-----				-----CUGGACUGAGCCGU
GCUACUGuu-----	23	0,-1		
-----				-----CUGGACUGAGCCGU
GCUACUGG-----	534	0,0		
-----				-----CUGGACUGAGCCGU
GCUACUGGa-----	55	0,0		
-----				-----CUGGACUGAGCCGU
GCUACUGGaa-----	56	0,0		
-----				-----CUGGACUGAGCCGU
GCUACUGGau-----	7	0,0		


```

-----ACUGGAGAU AUGGAAGAGCUGUGa-----
--- 2   -1,-1
-----ACUGGAGAU AUGGAAGAGCUGUGU-----
--- 2   -1,0
-----ACUGGAGAU AUGGAAGAGCUGUGUU-----
--- 2   -1,1
-----CUGGAGAU AUGGAAGAGC-----
--- 5    0,-5
-----CUGGAGAU AUGGAAGAGCU-----
--- 5    0,-4
-----CUGGAGAU AUGGAAGAGCUGU-----
--- 3    0,-2
-----CUGGAGAU AUGGAAGAGCUGUG-----
--- 2    0,-1
-----CUGGAGAU AUGGAAGAGCUGUGa-----
--- 2    0,-1
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 8    0,0

```

>hsa-mir-1270-2 5p:13-35 SRX018967

cacagaguaua CUGGAGAU AUGGAAGAGCUGUGU ugguauaaguaacaggcuuuuucuuaucuuucauguggcucuuu
gca

```

(((.(((((((..((((((.((((((((.((((((.)))))))))))))).)))))).)))))))).)
)..

```

```

-----ACUGGAGAU AUGGAAGAGCUGUGa-----
--- 2   -1,-1
-----ACUGGAGAU AUGGAAGAGCUGUGU-----
--- 2   -1,0
-----ACUGGAGAU AUGGAAGAGCUGUGUU-----
--- 2   -1,1
-----CUGGAGAU AUGGAAGAGC-----
--- 5    0,-5
-----CUGGAGAU AUGGAAGAGCU-----
--- 5    0,-4
-----CUGGAGAU AUGGAAGAGCUGU-----
--- 3    0,-2
-----CUGGAGAU AUGGAAGAGCUGUG-----
--- 2    0,-1

```

```

-----CUGGAGAU AUGGAAGAGCUGUGa-----
--- 2    0,-1
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 8    0,0

```

```
>hsa-mir-1271    5p:15-36    SRX018967
```

caccagaucagugCUUGGACCUAGCAAGCACUCAguaaaauuuuguugagugccugcuaugugccaggcauugugcug
agggcua

[illegible]

-----CUUGGCACCUAGCAAGCA-----
----- 3 0,-4

-----CUUGGACCUAGCAAGCAC-----
----- 36 0,-3

-----CUUGGACCUAGCAAGCACU-----
----- 24 0,-2

-----CUUGGACCUAGCAAGCACUCu-----
----- 2 0,-1 -----

-----CUUGGACCUAGCAAGCACUCA-----
----- 3 0,0

-----CUUGGACCUAGCAAGCACUCAu-----
----- 2 0,0

-----AGUGCCUGCUAUGUGCCA-----
----- 2

-----AGUGCCUGCUAUGUGCCAG-----
----- 10

```
>hsa-mir-1273    3p:76-100    SRX018967
```

ugaggcaggagaaugcuugaacccgggugguggagguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUCUUUCUgga

$$\begin{aligned} & .(((((((.....((((((.....((((((.....((((((.....((((((.....))))))))).... \\ & ...)))))).)))))))))... \end{aligned}$$

-----CAGGAGAAUUGCUUGAACCu-----
----- 2

-----AGGAGAAUUGCUUGAACCC-----
----- 16

-----AGGAGAAUUGCUUGAACCu-----
----- 4

```

-----AGGAGAAUUGCUUGAACCC-----
----- 2
-----AGGAGAAUUGCUUGAACCCGG-----
----- 2
-----AGGAGAAUUGCUUGAACCCGGG-----
----- 2

```

>hsa-mir-1276 5p:12-31 SRX018967

ccccagcuaggUAAAGAGCCCUGUGGAGACAccuggauucagagaacaugucuccacugagcacuuggggccuugauggcg
gcu

(((((...(((.((((.(.(.((((((((((((((....)))..).)))..)))..)))..)))..)))..))..)

```

-----UAAAGAGCCCUGUGGAGA-----
--- 4 0,-2
-----UAAAGAGCCCUGUGGAGACA-----
--- 2 0,0

```

>hsa-mir-1277 3p:47-68 SRX018967

accucccaauauauauauauauguacguauguguauauaaauguaUACGUAGAUUAUAUGUAUUUUugguggguuu
(((..(((((((.(((((((((((((.((((((((((..(.....).)))..)))..)))..)))..)))..)))..))..)

```

-----AUACGUAGAUUAUAUGUAUU-----
2 -1,-2
-----AUACGUAGAUUAUAUGUAUU-----
3 -1,-1
-----UACGUAGAUUAUAUGUAU-----
3 0,-3
-----UACGUAGAUUAUAUGUAUa-----
4 0,-3
-----UACGUAGAUUAUAUGUAUU-----
18 0,-2
-----UACGUAGAUUAUAUGUAUUU-----
51 0,-1
-----UACGUAGAUUAUAUGUAUUUU-----
158 0,0
-----UACGUAGAUUAUAUGUAUUUUa-----
4 0,0
-----UACGUAGAUUAUAUGUAUUUUU-----
2 0,1

```



```

-----CUCACAGUGAACCGGUCUCUUU-----
-- 10 -1,0
-----CUCACAGUGAACCGGUCUCUUUa-----
-- 2 -1,0
-----CUCACAGUGAACCGGUCUCUUUU-----
-- 4 -1,1
-----UCACAGUGAACCGGUCUC-----
-- 165 0,-3
-----UCACAGUGAACCGGUCUCa-----
-- 3 0,-3
-----UCACAGUGAACCGGUCUCaa-----
-- 3 0,-3
-----UCACAGUGAACCGGUCUCU-----
-- 401 0,-2
-----UCACAGUGAACCGGUCUCUa-----
-- 11 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
-- 50 0,-2
-----UCACAGUGAACCGGUCUCUau-----
-- 29 0,-2
-----UCACAGUGAACCGGUCUCUU-----
-- 898 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
-- 323 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 267 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 178 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 7104 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 2211 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 526 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 385 0,0

```

```

-----UCACAGUGAACCGGUCUCUUUU-----
-- 4768 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 320 0,1
-----UCACAGUGAACCGGUCUCUUUUaa-----
-- 40 0,1
-----UCACAGUGAACCGGUCUCUUUUau-----
-- 27 0,1
-----UCACAGUGAACCGGUCUCUUUUU-----
-- 225 0,2
-----UCACAGUGAACCGGUCUCUUUUUa-----
-- 15 0,2
-----UCACAGUGAACCGGUCUCUUUUUu-----
-- 7 0,2
-----UCACAGUGAACCGGUCUCUUUUUC-----
-- 3 0,3
-----CACAGUGAACCGGUCUCU-----
-- 3 1,-2
-----CACAGUGAACCGGUCUCUU-----
-- 7 1,0
-----ACAGUGAACCGGUCUCUU-----
-- 9 2,-1
-----ACAGUGAACCGGUCUCUa-----
-- 2 2,-1
-----ACAGUGAACCGGUCUCUaa-----
-- 3 2,-1
-----ACAGUGAACCGGUCUCUau-----
-- 3 2,-1
-----ACAGUGAACCGGUCUCUU-----
-- 49 2,0
-----ACAGUGAACCGGUCUCUUa-----
-- 15 2,0
-----ACAGUGAACCGGUCUCUUaa-----
-- 7 2,0
-----ACAGUGAACCGGUCUCUUau-----
-- 4 2,0
-----ACAGUGAACCGGUCUCUUU-----
-- 41 2,1

```

```

-----ACAGUGAACCGGUCUCUUUa-----
-- 5 2,1

>hsa-mir-128-2 3p:52-72 SRX018967
ugugcagugggaaggggggcccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc
.(.(((((((.((((((((((...((((((..(((.(.....).))))))))))....)))))))).))))))
..).
-----GGGGGCCGAUACACUGUACGAGA-----
---- 2
-----GGGGGCCGAUACACUGUACGAGAGU-----
---- 2
-----CUCACAGUGAACCGGUCUCUUU-----
---- 10 -1,0
-----CUCACAGUGAACCGGUCUCUUUa-----
---- 2 -1,0
-----UCACAGUGAACCGGUCUC-----
---- 165 0,-3
-----UCACAGUGAACCGGUCUCa-----
---- 3 0,-3
-----UCACAGUGAACCGGUCUCaa-----
---- 3 0,-3
-----UCACAGUGAACCGGUCUCU-----
---- 401 0,-2
-----UCACAGUGAACCGGUCUCUa-----
---- 11 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
---- 50 0,-2
-----UCACAGUGAACCGGUCUCUau-----
---- 29 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 898 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
---- 323 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
---- 267 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
---- 178 0,-1

```

-----			UCACAGUGAACCGGUCUCUUU-----
----	7104	0,0	
-----			UCACAGUGAACCGGUCUCUUUa-----
----	2211	0,0	
-----			UCACAGUGAACCGGUCUCUUUaa-----
----	526	0,0	
-----			UCACAGUGAACCGGUCUCUUUau-----
----	385	0,0	
-----			UCACAGUGAACCGGUCUCUUUC-----
----	387	0,1	
-----			UCACAGUGAACCGGUCUCUUUCa-----
----	155	0,1	
-----			UCACAGUGAACCGGUCUCUUUCaa-----
----	11	0,1	
-----			UCACAGUGAACCGGUCUCUUUCau-----
----	6	0,1	
-----			UCACAGUGAACCGGUCUCUUUCu-----
----	192	0,1	
-----			UCACAGUGAACCGGUCUCUUUCuu-----
----	9	0,1	
-----			CACAGUGAACCGGUCUCU-----
----	3	1,-2	
-----			CACAGUGAACCGGUCUCUUU-----
----	7	1,0	
-----			ACAGUGAACCGGUCUCUU-----
----	9	2,-1	
-----			ACAGUGAACCGGUCUCUUa-----
----	2	2,-1	
-----			ACAGUGAACCGGUCUCUUaa-----
----	3	2,-1	
-----			ACAGUGAACCGGUCUCUUau-----
----	3	2,-1	
-----			ACAGUGAACCGGUCUCUUU-----
----	49	2,0	
-----			ACAGUGAACCGGUCUCUUUa-----
----	15	2,0	
-----			ACAGUGAACCGGUCUCUUUaa-----
----	7	2,0	


```

-----ACAGUGAACCGGUCUCUUUau-----
---- 4 2,0
-----ACAGUGAACCGGUCUCUUUC-----
---- 3 2,1
-----ACAGUGAACCGGUCUCUUUCa-----
---- 2 2,1
-----ACAGUGAACCGGUCUCUUUCu-----
---- 4 2,1

```

>hsa-mir-1284 5p:30-51 SRX018967

```

auuuugauauauaagccaguuaauguuuUCUAUACAGACCCUGGCUUUUCuuuuuuuuuuuuuuuuggaaagcccaugu
uuguauuggaaacugcugguuucuucauacugaaaaucu
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUAUACAGACCCUGGCUUUU-----
----- 4 0,-1
-----UCUAUACAGACCCUGGCUUUUC-----
----- 3 0,0

```

>hsa-mir-1285-1 3p:51-72 SRX018967

```

uguagagauaggaucucacuuguugcccaggcuggucuaaacuccuggUCUGGGCAACAAAGUGAGACCUuauucua
caag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..
-----AUCUCACUUUGUUGCCCAG-----
---- 2
-----UCUGGGCAACAAAGUGAG-----
---- 3 0,-4
-----UCUGGGCAACAAAGUGAGA-----
---- 14 0,-3
-----UCUGGGCAACAAAGUGAGAC-----
---- 48 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
---- 22 0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
---- 22 0,-2
-----UCUGGGCAACAAAGUGAGACau-----
---- 3 0,-2

```

```

-----UCUGGGCAACAAAGUGAGACC-----
---- 27 0,-1
-----UCUGGGCAACAAAGUGAGACC-----
---- 2 0,-1
-----UCUGGGCAACAAAGUGAGACC-----
---- 15 0,-1
-----UCUGGGCAACAAAGUGAGACC-----
---- 10 0,-1
-----UCUGGGCAACAAAGUGAGACC-----
---- 85 0,0
-----UCUGGGCAACAAAGUGAGACC-----
---- 80 0,0
-----UCUGGGCAACAAAGUGAGACC-----
---- 31 0,0
-----UCUGGGCAACAAAGUGAGACC-----
---- 94 0,0
-----UCUGGGCAACAAAGUGAGACC-----
---- 47 0,1
-----UCUGGGCAACAAAGUGAGACC-----
---- 24 0,1
-----UCUGGGCAACAAAGUGAGACC-----
---- 19 0,2
-----UCUGGGCAACAAAGUGAGACC-----
---- 2 0,2
-----UCUGGGCAACAAAGUGAGACC-----
---- 2 0,3
-----CUGGGCAACAAAGUGAGACC-----
---- 2 1,0

```

>hsa-mir-1285-2 3p:52-73 SRX018967

```

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

```

```

(((((((((((.((((.....(((((((.(((((((.....(((.....))).)))))).)))))).))))).))))).
).))))).

```

```

-----UCUGGGCAACAAAGUGAG-----
----- 3 0,-4
-----UCUGGGCAACAAAGUGAGA-----
----- 14 0,-3

```


-----CUCUAGCCACAGAU GCAGUGAU-----
----- 3

```
>hsa-mir-1291    5p:14-37    SRX018967
```

ggua~~ga~~auccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuucaagcagaggccuaaaggacugu
cuuccug

$$(((.((((..(((...(((((((.(..(((((((((((..(...)..)))))))))))).)))))).))))....)))...)))).)..$$

-----GUGGCCUGACUGAAGACCAGC-----

----- 2 -1, -3

-----GUGGCCCUGACUGAAGACCAGCA-----

----- 10 -1,-2

-----UGGCCCUGACUGAAGACCAGCA-----

----- 2 0,-2

>hsa-mir-1292 5p:3-27 SRX018967

ccUGGGAACGGGUUCCGGCAGACGCUGagguugcguugacgcucgcgccccgggcucccguuccagg

--UGGGAACGGGUUCCGGCAGACGC----- 2 0,-2

---GGGAACGGGUUCCGGCAGACGC----- 2 1,-2

```
>hsa-mir-1294    5p:48-69    SRX018967
```

caccuaaugugugccaagaucuguucauuuauaucucaccgaguccUGUGAGGUUGGCAUUGUUGUCUggcauugucug
auauacaacagugccaaccucacaggacucagugaggugaaacugaggauuaggaaggugua

[illegible]

-----UGUGAGGUUGGCAUUGUUGUCU_n-----

----- 3 0,0

```
>hsa-mir-1295    3p:49-69    SRX018967
```

aggacauuuugcccagauccguggccuauucagaaauguggccugugaUUAGGCCGCAGAUUGGGUGAaauguccucc

-----UUAGGCCGCAGAU CUGGGUGA-----

8 0.0

>hsa-mir-1298 5p:18-39 SRX018967

agacgaggaguuagagUCAUUCGGCUGUCCAGAUGUAuccaaguaccuguguuuuuggcauuuuuacaucugggc
aacugacugaacuuuuacuuuucaugacuca

ggauuguggggggucgcucuaggcaccgcagcacugugcuggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc

• •

-- 6 0,-4

-- 13 0,-3

-- 3 0,-3

-- 13 0,-2

$$-- \quad 2 \quad 0, -1$$

-- 2 0,0

$$-- \quad 2 \quad 0,1$$

-- 6 1, -2

$$-- \quad 2 \quad 1, -1$$

-- 4 1,0

-- 4 1,1

$$-- \quad 2 \quad 1,1$$

ggcugggcaacauagcgagaccucaacucuaacaauuuuuuuuuuuuuuuuuuuuuUUUAGAGACGGGUCUUGCUCUguugcca
ggcuuu

----- 3

-----UCGACCGGACCUCGACCG-----		
-----7		
-----UCGACCGGACCUCGACCGG-----		
-----7		
-----UCGACCGGACCUCGACCGGC-----		
-----9		
-----UCGACCGGACCUCGACCGGCaa-----		
-----9		
-----UCGACCGGACCUCGACCGGCU-----		
-----368		
-----UCGACCGGACCUCGACCGGCUaa-----		
-----14		
-----UCGACCGGACCUCGACCGGCUau-----		
-----2		
-----UCGACCGGACCUCGACCGGCUu-----		
-----37		
-----UCGACCGGACCUCGACCGGCUuu-----		
-----15		
-----UCGACCGGACCUCGACCGGCUC-----		
-----91		
-----UCGACCGGACCUCGACCGGCUCa-----		
-----33		
-----UCGACCGGACCUCGACCGGCUCaa-----		
-----3		
-----UCGACCGGACCUCGACCGGCUCu-----		
-----4		
-----UCGACCGGACCUCGACCGGCUCG-----		
-----5		
-----GACCGGACCUCGACCGGCU-----		
-----7		
-----GACCGGACCUCGACCGGCUCa-----		
-----2		
-----A		
CUCGGCGUGGCGUCGGU-----2	0,-4	
-----A		
CUCGGCGUGGCGUCGGUCG-----38	0,-2	
-----A		
CUCGGCGUGGCGUCGGUCGa-----2	0,-2	

-----			-----CAGUGCAAUGUUAAAAGG-----
-----	2429	0,-4	-----CAGUGCAAUGUUAAAAGGG-----
-----	539	0,-3	-----CAGUGCAAUGUUAAAAGGGa-----
-----	3	0,-3	-----CAGUGCAAUGUUAAAAGGGu-----
-----	2	0,-3	-----CAGUGCAAUGUUAAAAGGGC-----
-----	874	0,-2	-----CAGUGCAAUGUUAAAAGGGCA-----
-----	244	0,-1	-----CAGUGCAAUGUUAAAAGGGCAa-----
-----	74	0,-1	-----CAGUGCAAUGUUAAAAGGGCAaa-----
-----	25	0,-1	-----CAGUGCAAUGUUAAAAGGGCAau-----
-----	18	0,-1	-----CAGUGCAAUGUUAAAAGGGCAU-----
-----	1740	0,0	-----CAGUGCAAUGUUAAAAGGGCAUa-----
-----	558	0,0	-----CAGUGCAAUGUUAAAAGGGCAUaa-----
-----	60	0,0	-----CAGUGCAAUGUUAAAAGGGCAUau-----
-----	6	0,0	-----CAGUGCAAUGUUAAAAGGGCAUU-----
-----	437	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUa-----
-----	35	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUaa-----
-----	3	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUau-----
-----	2	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUu-----
-----	21	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUuu-----
-----	2	0,1	

-----			AGUGCAAUGUUAAGGG-----
-----	13	1,-3	
-----			AGUGCAAUGUUAAGGGC-----
-----	19	1,-2	
-----			AGUGCAAUGUUAAGGGCA-----
-----	3	1,-1	
-----			AGUGCAAUGUUAAGGGCAaa-----
-----	2	1,-1	
-----			AGUGCAAUGUUAAGGGCAU-----
-----	23	1,0	
-----			AGUGCAAUGUUAAGGGCAUa-----
-----	9	1,0	
-----			AGUGCAAUGUUAAGGGCAUU-----
-----	9	1,1	

>hsa-mi r-130b mi:13-33;MA:51-72 SRX018967

ggccugcccgacACUCUUCCCUGUUGCACUACuauaggccgcugggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc

(((((.((((..((((((..(((((((((.((.(...)))...)).)))))))).)))))))).))))).)))
))

-----ACUCUUCCCUGUUGCACUAC-----

-- 5 0,0

-----ACUCUUCCCUGUUGCACUACU-----

-- 16 0,1

-----CAGUGCAAUGAUGAAAGG-----

-- 159 0,-4

-----CAGUGCAAUGAUGAAAGGG-----

-- 70 0,-3

-----CAGUGCAAUGAUGAAAGGGa-----

$$-- \quad 3 \quad 0, -3$$

-----CAGUGCAAUGAUGAAAGGGC-----

-- 73 0,-2

-----CAGUGCAAUGAUGAAAGGGCA-----

-- 60 0, -1

-----CAGUGCAAUGAUGAAAGGGCAa-----

-- 102 0, -1

-----CAGUGCAAUGAUGAAAGGGCAaa-----

-- 20 0, -1

```

-----CAGUGCAAUGAUGAAAGGGCAau-----
-- 22 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 1271 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 190 0,0
-----CAGUGCAAUGAUGAAAGGGCAUaa-----
-- 17 0,0
-----CAGUGCAAUGAUGAAAGGGCAUau-----
-- 2 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 158 0,0
-----CAGUGCAAUGAUGAAAGGGCAUuu-----
-- 20 0,0
-----CAGUGCAAUGAUGAAAGGGCAUC-----
-- 11 0,1
-----AGUGCAAUGAUGAAAGGGC-----
-- 3 1,-2
-----AGUGCAAUGAUGAAAGGGCAa-----
-- 2 1,-1
-----AGUGCAAUGAUGAAAGGGCAU-----
-- 24 1,0
-----AGUGCAAUGAUGAAAGGGCAUa-----
-- 7 1,0
-----AGUGCAAUGAUGAAAGGGCAUaa-----
-- 4 1,0
-----AGUGCAAUGAUGAAAGGGCAUu-----
-- 10 1,0

```

>hsa-mir-132 mi:23-44;MA:59-80 SRX018967

```

ccgccccgcgcuccagggaACCGUGGCUUUCGAUUGUUACUgugggaacuggaggUAACAGUCUACAGCCAUGGUCC
ccccgcagcacgcccacgcgc

```

```

.((((....((((((.(.(((((((((....(((((((((((....(....)....))))))))))))....)))))))).)
))))).)).))))....)).

```

```

-----AACCGUGGCUUUCGAUUGUUA-----
-----3 -1,-2
-----AACCGUGGCUUUCGAUUGUUAC-----
-----3 0,-1

```

```

-----ACCGUGGCUUUCGAUUGUUACU-----
-----      5      0,0
-----
-----UAACAGUCUACAGCCAUG-----
-----      9      0,-4
-----
-----UAACAGUCUACAGCCAUGG-----
-----     14      0,-3
-----
-----UAACAGUCUACAGCCAUGGU-----
-----     17      0,-2
-----
-----UAACAGUCUACAGCCAUGGUC-----
-----     14      0,-1
-----
-----UAACAGUCUACAGCCAUGGUCG
-----     14      0,0
-----
-----UAACAGUCUACAGCCAUGGUCG
a-----      3      0,0
-----
-----UAACAGUCUACAGCCAUGGUCG
u-----     16      0,0
-----
-----UAACAGUCUACAGCCAUGGUCG
uu-----      2      0,0
-----
-----AACAGUCUACAGCCAUGGU-----
-----      4      1,-2
-----
-----AACAGUCUACAGCCAUGGUCG
u-----      2      1,0
-----
-----ACAGUCUACAGCCAUGGUCG
u-----      2      2,0

```

>hsa-mir-1323 5p:11-32 SRX018967

```

acugagguccUCAAACUGAGGGGCAUUUCUgugguuugaaaggaaagugcaccaguuuuggggaugucaa
..(((.(((((((((((((.((.(((((((((.)))))))).)))))))).))))).)).).
-----UCAAACUGAGGGGCAUU-----      2
      0,-4
-----UCAAACUGAGGGGCAUU-----      11
      0,-3
-----UCAAACUGAGGGGCAUUa-----      2
      0,-3
-----UCAAACUGAGGGGCAUUau-----      2
      0,-3
-----UCAAACUGAGGGGCAUUU-----      39
      0,-2

```

```

-----UCAAACUGAGGGGCAUUUa----- 5
0,-2
-----UCAAACUGAGGGGCAUUUu----- 4
0,-2
-----UCAAACUGAGGGGCAUUUC----- 7
0,-1
-----UCAAACUGAGGGGCAUUUCa----- 3
0,-1
-----UCAAACUGAGGGGCAUUUCU----- 107
0,0

```

>hsa-mir-134 5p:8-29 SRX018967

```

cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguuacaccugugggccaccuagucaccaaccuc
.((((((.(((((((.(((((.(((((((.....))))).))))).))))).))))).
-----UGUGACUGGUUGACCAGAGGGG----- 2
0,0

```

>hsa-mir-135a-1 MA:17-39;mi:56-77 SRX018967

```

aggccucgcuguucucUAUGGCUUUUAUUCCUAUGUGAuucucacucacucaUAUAGGGAUUGGAGCCGUGGCGcac
ggcggggaca
.(((((((((((.(((((((((((.(((((((((((.....))))))))))))).))))))))).))
)))))))).
-----UAUGGCUUUUAUUCCUAU-----
----- 8 0,-4
-----UAUGGCUUUUAUUCCUAUG-----
----- 3 0,-3
-----UAUGGCUUUUAUUCCUAUGU-----
----- 20 0,-2
-----UAUGGCUUUUAUUCCUAUGUG-----
----- 11 0,-1
-----UAUGGCUUUUAUUCCUAUGUGA-----
----- 22 0,0
-----UAUGGCUUUUAUUCCUAUGUGAaa-----
----- 2 0,0

```

>hsa-mir-135a-2 5p:23-45 SRX018967

```

agauaaaauccacucucagugcuuUAUGGCUUUUAUUCCUAUGUGAuaguaaaaagucucauguagggauuggaagccaug
aaauacaauugugaaaaauca

```

Sequence	Count	Score
UAUGGCUUUUUUAUCCUAU	8	0,-4
UAUGGCUUUUUUAUCCUAUG	3	0,-3
UAUGGCUUUUUUAUCCUAUGU	20	0,-2
UAUGGCUUUUUUAUCCUAUGUG	11	0,-1
UAUGGCUUUUUUAUCCUAUGUGA	22	0,0
UAUGGCUUUUUUAUCCUAUGUGAaa	2	0,0
AUGUAGGGAUGGAAGCCAUG	3	
AUGUAGGGAUGGAAGCCAUG	2	
AUGUAGGGAUGGAAGCCAUG	3	
UGUAGGGAUGGAAGCCAUA	2	
UGUAGGGAUGGAAGCCAUG	27	
UGUAGGGAUGGAAGCCAUG	38	
UGUAGGGAUGGAAGCCAUG	13	
UGUAGGGAUGGAAGCCAUG	33	
UGUAGGGAUGGAAGCCAUG	4	

-----UCUACAGUGCACGUGUCUC-----	2	0,-3
-----UCUACAGUGCACGUGUCUCC-----	3	0,-2

-----UCUACAGUGCACGUGUCUCCA-----	18	0,-1
-----UCUACAGUGCACGUGUCUCCAa-----	7	0,-1
-----UCUACAGUGCACGUGUCUCCAu-----	5	0,-1
-----UCUACAGUGCACGUGUCUCCAG-----	29	0,0
-----UCUACAGUGCACGUGUCUCCAGa-----	5	0,0
-----UCUACAGUGCACGUGUCUCCAGU-----	43	0,1
-----UCUACAGUGCACGUGUCUCCAGUu-----	2	0,1
-----UGGAGACGCGGCCCUUU-----	2	
-1,-5		
-----UGGAGACGCGGCCCUUUG-----	5	
-1,-4		
-----UGGAGACGCGGCCCUUUGGA-----	6	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAa-----	2	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAaa-----	2	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAu-----	2	
-1,-2		
-----UGGAGACGCGGCCCUUUGGAG-----	18	
-1,-1		
-----UGGAGACGCGGCCCUUUGGAGa-----	7	
-1,-1		
-----UGGAGACGCGGCCCUUUGGAGU-----	23	-1,0
-----GGAGACGCGGCCCUUUGGAGU-----	3	0,0
-----AGACGCGGCCCUUUGGAGUA-----	2	2,1
-----AGACGCGGCCCUUUGGAGUAu-----	3	2,1

>hsa-mir-140 5p:23-44;3p:62-82 SRX018967

ugugucucucuguguccugcCAGUGGUUUUACCCUAUGGUAGguuacgucaugcuguucUACCACAGGGUAGAACCAC
GGacaggauaccggggcacc

.(((((((.....(((((((((((((.(((((((((((((((((.(((((((.....))))))))))))).))))))))))))))
)..))))))))).)))))))).

-----CAGUGGUUUUACCCUAUG-----		
-----4 0,-4		
-----CAGUGGUUUUACCCUAUGGUA-----		
-----14 0,-1		
-----CAGUGGUUUUACCCUAUGGUAa-----		

-----	6	0,-1	
-----	-CAGUGGUUUUACCCUAUGGU <u>Au</u> -----		
-----	3	0,-1	
-----	-CAGUGGUUUUACCCUAUGGU <u>AGu</u> -----		
-----	2	0,0	
-----	-----CUACCACAGGGUAGAACCAC		
G-----	8	-1,-1	
-----	-----CUACCACAGGGUAGAACCAC		
GG-----	2	-1,0	
-----	-----CUACCACAGGGUAGAACCAC		
GGA-----	8	-1,1	
-----	-----CUACCACAGGGUAGAACCAC		
GGAaa-----	3	-1,1	
-----	-----UACCACAGGGUAGAACCA-		
-----	66	0,-3	
-----	-----UACCACAGGGUAGAACCAC		
-----	94	0,-2	
-----	-----UACCACAGGGUAGAACCAC		
u-----	2	0,-2	
-----	-----UACCACAGGGUAGAACCAC		
G-----	1739	0,-1	
-----	-----UACCACAGGGUAGAACCAC		
Ga-----	17	0,-1	
-----	-----UACCACAGGGUAGAACCAC		
Gaa-----	2	0,-1	
-----	-----UACCACAGGGUAGAACCAC		
GG-----	4184	0,0	
-----	-----UACCACAGGGUAGAACCAC		
GGu-----	122	0,0	
-----	-----UACCACAGGGUAGAACCAC		
GGuu-----	30	0,0	
-----	-----UACCACAGGGUAGAACCAC		
GGA-----	4348	0,1	
-----	-----UACCACAGGGUAGAACCAC		
GGAa-----	1530	0,1	
-----	-----UACCACAGGGUAGAACCAC		
GGAaa-----	1240	0,1	
-----	-----UACCACAGGGUAGAACCAC		

GGAuu-----	455	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAu-----	328	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAuu-----	15	0,1	
-----			-UACCACAGGGUAGAACCAC
GGAC-----	2258	0,2	
-----			-UACCACAGGGUAGAACCAC
GGACu-----	58	0,2	
-----			-UACCACAGGGUAGAACCAC
GGACA-----	393	0,3	
-----			-UACCACAGGGUAGAACCAC
GGACAa-----	52	0,3	
-----			-UACCACAGGGUAGAACCAC
GGACAu-----	22	0,3	
-----			-ACCACAGGGUAGAACCAC
-----	72	1,-2	
-----			-ACCACAGGGUAGAACCAC
G-----	156	1,-1	
-----			-ACCACAGGGUAGAACCAC
Ga-----	6	1,-1	
-----			-ACCACAGGGUAGAACCAC
Gaa-----	10	1,-1	
-----			-ACCACAGGGUAGAACCAC
GG-----	3280	1,0	
-----			-ACCACAGGGUAGAACCAC
GGu-----	192	1,0	
-----			-ACCACAGGGUAGAACCAC
GGuu-----	73	1,0	
-----			-ACCACAGGGUAGAACCAC
GGA-----	22567	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAa-----	7294	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAAA-----	2312	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAau-----	577	1,1	
-----			-ACCACAGGGUAGAACCAC

GGAu-----	3335	1,1	-----ACCACAGGGUAGAACCAC
GGAu-----	149	1,1	-----ACCACAGGGUAGAACCAC
GGAC-----	7356	1,2	-----ACCACAGGGUAGAACCAC
GGACu-----	164	1,2	-----ACCACAGGGUAGAACCAC
GGACuu-----	6	1,2	-----ACCACAGGGUAGAACCAC
GGACA-----	656	1,3	-----ACCACAGGGUAGAACCAC
GGACa-----	345	1,3	-----ACCACAGGGUAGAACCAC
GGACaa-----	30	1,3	-----ACCACAGGGUAGAACCAC
GGACau-----	16	1,3	-----ACCACAGGGUAGAACCAC
GGACa-----	72	1,3	-----ACCACAGGGUAGAACCAC
GGACAG-----	40	1,4	-----ACCACAGGGUAGAACCAC
GGACAGa-----	4	1,4	-----ACCACAGGGUAGAACCAC
GGACAGu-----	5	1,4	-----CCACAGGGUAGAACCAC
GG-----	51	2,0	-----CCACAGGGUAGAACCAC
GGu-----	2	2,0	-----CCACAGGGUAGAACCAC
GGA-----	351	2,1	-----CCACAGGGUAGAACCAC
GGAa-----	126	2,1	-----CCACAGGGUAGAACCAC
GGAaa-----	56	2,1	-----CCACAGGGUAGAACCAC
GGAau-----	17	2,1	-----CCACAGGGUAGAACCAC

GGAu-----	74	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAu-----	4	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAC-----	169	2,2	
-----			-----CCACAGGGUAGAACCAC
GGACu-----	10	2,2	
-----			-----CCACAGGGUAGAACCAC
GGACA-----	24	2,3	
-----			-----CCACAGGGUAGAACCAC
GGACAa-----	32	2,3	
-----			-----CCACAGGGUAGAACCAC
GGACAaa-----	3	2,3	
-----			-----CCACAGGGUAGAACCAC
GGACAu-----	5	2,3	
-----			-----CCACAGGGUAGAACCAC
GGACAGa-----	3	2,4	

>hsa-mi r-142 5p:16-36;3p:52-74 SRX018967

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUUCCUACUUUAUGGAugagug
uacugug

.(((((((.(((.(((((((((((.(((((((((((...((....).).).))))))))).))))))))).))))).))
)))))).

-----	CCCAUAAAGUAGAAAGCA	-----
-----	18 -2,-5	
-----	CCCAUAAAGUAGAAAGCAa	-----
-----	7 -2,-5	
-----	CCCAUAAAGUAGAAAGCAC	-----
-----	16 -2,-4	
-----	CCCAUAAAGUAGAAAGCACU	-----
-----	130 -2,-3	
-----	CCCAUAAAGUAGAAAGCACUA	-----
-----	76 -2,-2	
-----	CCCAUAAAGUAGAAAGCACUAa	-----
-----	29 -2,-2	
-----	CCCAUAAAGUAGAAAGCACUAaa	-----
-----	3 -2,-2	
-----	CCCAUAAAGUAGAAAGCACUAu	-----

```

----- 17  -2,-2
-----CCCAUAAAGUAGAAAGCACUAC-----
----- 36  -2,-1
-----CCCAUAAAGUAGAAAGCACUACa-----
----- 3   -2,-1
-----CCAUAAAGUAGAAAGCACUA-----
----- 3   -1,-2
-----CAUAAAGUAGAAAGCACU-----
----- 4    0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 27   0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 6    0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 5    0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 4    0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 41   0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 3    0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 51   0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 41   0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 3    0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 18   0,2
-----AUAAAGUAGAAAGCACUA-----
----- 2    1,-2
-----AUAAAGUAGAAAGCACUAC-----
----- 2    1,-1
-----AUAAAGUAGAAAGCACUACU-----
----- 9    1,0
-----AUAAAGUAGAAAGCACUACUA-----
----- 9    1,1
-----AUAAAGUAGAAAGCACUACUAu-----

```

----- 8 1,1
-----AUAAGUAGAAAGCACUACUAA-----
----- 94 1,2
-----AUAAGUAGAAAGCACUACUAAa-----
----- 3 1,2
-----AUAAGUAGAAAGCACUACUAAu-----
----- 2 1,2
-----UGUAGUGUUCCUACUUUAUG-----
----- 2 0,-2
-----UGUAGUGUUCCUACUUUAUGG-----
----- 2 0,-1
-----GUAGUGUUCCUACUUUAUG-----
----- 3 1,-2
-----GUAGUGUUCCUACUUUAUGG-----
----- 34 1,-1
-----GUAGUGUUCCUACUUUAUGGA-----
----- 4 1,0
-----UAGUGUUCCUACUUUAUGG-----
----- 2 2,-1

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>hsa-mi r-143      mi:27-48;MA:61-81      SRX018967
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g c g c a g c g c c c u g u c u c c c a g c c u g a G G U G C A G U G C U G C A U C U C U G G U c a g u u g g g a g u c U G A G A U G A A G C A C U G U A G C U
C a g g a a g a g a g a a g u u g u u c u g c a g c

[illegible]

-----GGUGCAGUGCUGCAUCUC-----

----- 57 0,-4

-----GGUGCAGUGCUGCAUCUCU-----

----- 578 0,-3

-----GGUGCAGUGCUGCAUCUCUG-----

----- 9 0,-2

-----GGUGCAGUGCUGCAUCUCUGa-----

----- 3 0,-2

-----GGUGCAGUGCUGCAUCUCUGaa-----

$$----- \quad 2 \quad 0, -2$$

-----GGUGCAGUGCUGCAUCUCUGG-----

----- 29 0,-1

-----GGUGCAGUGCUGCAUCUCUGGa-----

```

----- 10  0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 17  0,-1
-----GGUGCAGUGCUGCAUCUCUGGau-----
----- 3   0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 6   0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 4   0,0
-----GGUGCAGUGCUGCAUCUCUGGUaa-----
----- 3   0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 11  0,0
-----GGUGCAGUGCUGCAUCUCUGGUu-----
----- 3   0,0
-----GGUGCAGUGCUGCAUCUCUGGUCA-----
----- 2   0,2
-----UCUGAGAUGAAGCACUGUAGCU
----- 5   -2,-1
-----CUGAGAUGAAGCACUGUAG--
----- 2   -1,-3
-----CUGAGAUGAAGCACUGUAGC-
----- 4   -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 36  -1,-1
-----CUGAGAUGAAGCACUGUAGCU
a----- 2   -1,-1
-----CUGAGAUGAAGCACUGUAGCU
u----- 2   -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 23  -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 4   -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cuu----- 2   -1,0
-----UGAGAUGAAGCACUGUAG--
----- 185 0,-3
-----UGAGAUGAAGCACUGUAGa-

```

-----	2	0,-3	-----	-UGAGAUGAAGCACUGUAGaa
-----	3	0,-3	-----	-UGAGAUGAAGCACUGUAGuu
-----	2	0,-3	-----	-UGAGAUGAAGCACUGUAGC-
-----	142	0,-2	-----	-UGAGAUGAAGCACUGUAGCa
-----	26	0,-2	-----	-UGAGAUGAAGCACUGUAGCa
a-----	31	0,-2	-----	-UGAGAUGAAGCACUGUAGCa
u-----	3	0,-2	-----	-UGAGAUGAAGCACUGUAGCU
-----	2849	0,-1	-----	-UGAGAUGAAGCACUGUAGCU
a-----	189	0,-1	-----	-UGAGAUGAAGCACUGUAGCU
aa-----	44	0,-1	-----	-UGAGAUGAAGCACUGUAGCU
au-----	22	0,-1	-----	-UGAGAUGAAGCACUGUAGCU
u-----	117	0,-1	-----	-UGAGAUGAAGCACUGUAGCU
uu-----	16	0,-1	-----	-UGAGAUGAAGCACUGUAGCU
C-----	3838	0,0	-----	-UGAGAUGAAGCACUGUAGCU
Cu-----	1192	0,0	-----	-UGAGAUGAAGCACUGUAGCU
Cuu-----	124	0,0	-----	-UGAGAUGAAGCACUGUAGCU
CA-----	263	0,1	-----	-UGAGAUGAAGCACUGUAGCU
CAa-----	20	0,1	-----	-UGAGAUGAAGCACUGUAGCU
CAaa-----	7	0,1	-----	-UGAGAUGAAGCACUGUAGCU

-----	2	0,1	-----	GGUAUCAUCAUAUACUGUAAGUU	-----
-----	9	0,2	-----	CUACAGUAUAGAUGAUGU	-----
-----	9	-1,-3	-----	CUACAGUAUAGAUGAUGUA	-----
-----	12	-1,-2	-----	UACAGUAUAGAUGAUGUA	-----
-----	18	0,-2	-----	UACAGUAUAGAUGAUGUAa	-----
-----	2	0,-2	-----	UACAGUAUAGAUGAUGUAC	-----
-----	24	0,-1	-----	UACAGUAUAGAUGAUGUACU	-----
-----	27	0,0	-----	UACAGUAUAGAUGAUGUACUu	-----
-----	4	0,0	-----	UACAGUAUAGAUGAUGUACUA	-----
-----	3	0,1	-----	UACAGUAUAGAUGAUGUACUAa	-----
-----	5	0,1	-----	UACAGUAUAGAUGAUGUACUAu	-----
-----	4	0,1	-----	ACAGUAUAGAUGAUGUACUAa	-----
-----	2	1,1			

>hsa-mir-145 MA:16-38;mi:54-75 SRX018967

caccuuguccucacgGUCCAGUUUCCCAGGAAUCCCUuagaugcuaagauggGGAUCCUGGAAUACUGUUCUugagg
ucaugguu

-----GUCCAGUUUCCCAGGAA-----

----- 16 0,-5

-----GUCCAGUUUCCCAGGAAa-----

----- 3 0,-5

-----GUCCAGUUUCCCCAGGAAU-----

----- 116 0,-4

-----GUCCAGUUUCCCCAGGAUA-----

```

----- 81 0,-4
-----GUCCAGUUUUCCCAGGAUaa-----
----- 6 0,-4
-----GUCCAGUUUUCCCAGGAUUC-----
----- 23 0,-3
-----GUCCAGUUUUCCCAGGAUCa-----
----- 53 0,-3
-----GUCCAGUUUUCCCAGGAUCu-----
----- 2 0,-3
-----GUCCAGUUUUCCCAGGAUCC-----
----- 89 0,-2
-----GUCCAGUUUUCCCAGGAUCCa-----
----- 17 0,-2
-----GUCCAGUUUUCCCAGGAUCCu-----
----- 2 0,-2
-----GUCCAGUUUUCCCAGGAUCCuu-----
----- 3 0,-2
-----GUCCAGUUUUCCCAGGAUCCC-----
----- 162 0,-1
-----GUCCAGUUUUCCCAGGAUCCCa-----
----- 14 0,-1
-----GUCCAGUUUUCCCAGGAUCCCau-----
----- 2 0,-1
-----GUCCAGUUUUCCCAGGAUCCCU-----
----- 359 0,0
-----GUCCAGUUUUCCCAGGAUCCCUa-----
----- 10 0,0
-----GUCCAGUUUUCCCAGGAUCCCUaa-----
----- 3 0,0
-----GUCCAGUUUUCCCAGGAUCCCUau-----
----- 2 0,0
-----GUCCAGUUUUCCCAGGAUCCCUU-----
----- 46 0,1
-----GUCCAGUUUUCCCAGGAUCCCUUu-----
----- 6 0,1
-----GGAUUCCUGGAAAUACUGUUC-----
----- 5 0,-1
-----GGAUUCCUGGAAAUACUGUUCU-----

```



```

----- 8 0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 6 0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 15 0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 12 0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 134 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 119 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 45 0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 27 0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 47 0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 5 0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 29 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 9 0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 8 0,2
-----GAGAACUGAAUCCAUGGGU-----
----- 2 1,-1
-----GAGAACUGAAUCCAUGGGUU-----
----- 3 1,0
-----GAGAACUGAAUCCAUGGGUUaa-----
----- 2 1,0
-----GAGAACUGAAUCCAUGGGUUG-----
----- 3 1,1
-----AGAACUGAAUCCAUGGGUUG-----
----- 3 2,1

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>hsa-mir-146b 5p:9-30;3p:45-66 SRX018967

ccuggcacUGAGAACUGAAUCCAUAGGCUgugagcucuagcaaUGCCUGUGGACUCAGUUCUGGugcccg

((.((((((.(((((((...(((((((...((...)).)).)))))))).)))))))).))	
-----CUGAGAACUGAAUCCAUAG-----	3
-1,-3	
-----CUGAGAACUGAAUCCAUAGGCU-----	41
-1,0	
-----CUGAGAACUGAAUCCAUAGGCUGa-----	2
-1,1	
-----UGAGAACUGAAUCCAU-----	8
0,-4	
-----UGAGAACUGAAUCCAUAG-----	22
0,-3	
-----UGAGAACUGAAUCCAUAGG-----	118
0,-2	
-----UGAGAACUGAAUCCAUAGGa-----	2
0,-2	
-----UGAGAACUGAAUCCAUAGGaa-----	2
0,-2	
-----UGAGAACUGAAUCCAUAGGau-----	3
0,-2	
-----UGAGAACUGAAUCCAUAGGC-----	31
0,-1	
-----UGAGAACUGAAUCCAUAGGCa-----	78
0,-1	
-----UGAGAACUGAAUCCAUAGGCaa-----	41
0,-1	
-----UGAGAACUGAAUCCAUAGGCau-----	42
0,-1	
-----UGAGAACUGAAUCCAUAGGCU-----	1001
0,0	
-----UGAGAACUGAAUCCAUAGGCUa-----	15
0,0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	55
0,0	
-----UGAGAACUGAAUCCAUAGGCUau-----	45
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	77
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	25

0,0		
-----	-UGAGAACUGAAUCCAUAGGCUG-----	29
0,1		
-----	-UGAGAACUGAAUCCAUAGGCUGa-----	295
0,1		
-----	-UGAGAACUGAAUCCAUAGGCUGaa-----	18
0,1		
-----	-UGAGAACUGAAUCCAUAGGCUGau-----	11
0,1		
-----	-UGAGAACUGAAUCCAUAGGCUGU-----	5
0,2		
-----	-GAGAACUGAAUCCAUAGGCU-----	14
1,0		
-----	-GAGAACUGAAUCCAUAGGCUGa-----	2
1,1		
-----	-----UGCCCUGUGGACUCAGUUCUGGUa-----	3
0,1		
-----	-----UGCCCUGUGGACUCAGUUCUGGUau-----	6
0,1		
-----	-----GCCCUGUGGACUCAGUUCUG-----	5
1,-1		
-----	-----GCCCUGUGGACUCAGUUCUGG-----	9
1,0		
-----	-----GCCCUGUGGACUCAGUUCUGGU-----	12
1,1		
-----	-----GCCCUGUGGACUCAGUUCUGGUa-----	10
1,1		
-----	-----GCCCUGUGGACUCAGUUCUGGUaa-----	9
1,1		
-----	-----GCCCUGUGGACUCAGUUCUGGUau-----	32
1,1		
-----	-----GCCCUGUGGACUCAGUUCUGGUu-----	2
1,1		
-----	-----CCCUGUGGACUCAGUUCUGGU-----	2
2,1		
-----	-----CCCUGUGGACUCAGUUCUGGUau-----	2
2,1		
-----	-----CCCUGUGGACUCAGUUCUGGUu-----	2

-----UCAGUGCACUACAGAACUUUu----	30	0,-2
-----UCAGUGCACUACAGAACUUUuu----	12	0,-2
-----UCAGUGCACUACAGAACUUUG----	3767	
0,-1		
-----UCAGUGCACUACAGAACUUUGa----	4500	
0,-1		
-----UCAGUGCACUACAGAACUUUGaa----	407	0,-1
-----UCAGUGCACUACAGAACUUUGau----	4	0,-1
-----UCAGUGCACUACAGAACUUUGU----	28085	
0,0		
-----UCAGUGCACUACAGAACUUUGUa----	219	0,0
-----UCAGUGCACUACAGAACUUUGUaa----	39	0,0
-----UCAGUGCACUACAGAACUUUGUau----	12	0,0
-----UCAGUGCACUACAGAACUUUGUu----	256	0,0
-----UCAGUGCACUACAGAACUUUGUuu----	16	0,0
-----UCAGUGCACUACAGAACUUUGUC----	447	0,1
-----UCAGUGCACUACAGAACUUUGUCa----	39	0,1
-----UCAGUGCACUACAGAACUUUGUCaa----	2	0,1
-----UCAGUGCACUACAGAACUUUGUCau----	5	0,1
-----UCAGUGCACUACAGAACUUUGUCU----	70	0,2
-----CAGUGCACUACAGAACUUU-----	2	1,-2
-----CAGUGCACUACAGAACUUUG-----	2	1,-1
-----CAGUGCACUACAGAACUUUGU----	12	1,0
-----AGUGCACUACAGAACUUU-----	53	2,-2
-----AGUGCACUACAGAACUUUa----	2	2,-2
-----AGUGCACUACAGAACUUUG-----	50	2,-1
-----AGUGCACUACAGAACUUUGa----	63	2,-1
-----AGUGCACUACAGAACUUUGU----	389	2,0
-----AGUGCACUACAGAACUUUGUa----	7	2,0
-----AGUGCACUACAGAACUUUGUu----	4	2,0
-----AGUGCACUACAGAACUUUGUC----	13	2,1
-----AGUGCACUACAGAACUUUGUCa----	2	2,1
-----AGUGCACUACAGAACUUUGUCU----	3	2,2

>hsa-mir-148b mi:25-46;MA:63-84 SRX018967

caagcacgauuagcauuugaggugAAGUUCUGUUAUACACUCAGGCugugggcucucugaaagUCAGUGCAUCACAGAACU
UUGUcucgaaagcuucua

.....((..(((.(((((((..((((((.(.((((((..(((.....(.....)..)))))))))).)).)))))))))

)..)))))).))))..

```
-----GAAGUUCUGUUAUACACU-----
----- 22  -1,-5
-----GAAGUUCUGUUAUACACUC-----
----- 10  -1,-4
-----GAAGUUCUGUUAUACACUCAG-----
----- 14  -1,-2
-----GAAGUUCUGUUAUACACUCAGG-----
----- 17  -1,-1
-----GAAGUUCUGUUAUACACUCAGGC-----
----- 2   -1,0
-----GAAGUUCUGUUAUACACUCAGGCa-----
----- 3   -1,0
-----GAAGUUCUGUUAUACACUCAGGCau-----
----- 5   -1,0
-----GAAGUUCUGUUAUACACUCAGGCU-----
----- 34  -1,1
-----GAAGUUCUGUUAUACACUCAGGCUa-----
----- 4   -1,1
-----GAAGUUCUGUUAUACACUCAGGCUu-----
----- 6   -1,1
-----AAGUUCUGUUAUACACUCAGG-----
----- 2   0,-1
-----AAGUUCUGUUAUACACUCAGGCU-----
----- 2   0,1
-----UCAGUGCAUCACAGAACU
----- 3591  0,-4
-----UCAGUGCAUCACAGAACU
aa----- 2   0,-4
-----UCAGUGCAUCACAGAACU
U----- 226 0,-3
-----UCAGUGCAUCACAGAACU
Ua----- 6   0,-3
-----UCAGUGCAUCACAGAACU
UU----- 1003 0,-2
-----UCAGUGCAUCACAGAACU
UUa----- 4   0,-2
-----UCAGUGCAUCACAGAACU
```

UUaa-----	3	0,-2	-----UCAGUGCAUCACAGAACU
UUau-----	3	0,-2	-----UCAGUGCAUCACAGAACU
UUu-----	7	0,-2	-----UCAGUGCAUCACAGAACU
UUG-----	319	0,-1	-----UCAGUGCAUCACAGAACU
UUGa-----	234	0,-1	-----UCAGUGCAUCACAGAACU
UUGaa-----	20	0,-1	-----UCAGUGCAUCACAGAACU
UUGU-----	1881	0,0	-----UCAGUGCAUCACAGAACU
UUGUa-----	57	0,0	-----UCAGUGCAUCACAGAACU
UUGUaa-----	16	0,0	-----UCAGUGCAUCACAGAACU
UUGUau-----	17	0,0	-----UCAGUGCAUCACAGAACU
UUGUu-----	544	0,0	-----UCAGUGCAUCACAGAACU
UUGUuu-----	45	0,0	-----CAGUGCAUCACAGAACU
UUGUu-----	2	1,0	-----AGUGCAUCACAGAACU
UU-----	17	2,-2	-----AGUGCAUCACAGAACU
UUG-----	4	2,-1	-----AGUGCAUCACAGAACU
UUGa-----	3	2,-1	-----AGUGCAUCACAGAACU
UUGU-----	26	2,0	-----AGUGCAUCACAGAACU
UUGUu-----	6	2,0	

>hsa-mir-149 MA:15-37;mi:56-76 SRX018967

gccggcgcccgagcUCUGGCUCCGUGUCUUCACUCCCgugcuuguccgaggagggAGGGAGGGACGGGGGCUGUGCuggg

$$.(((((((((.(((.(.(.((((((.(((((.(((((.(((((...)))..)))))))).)))))).).).)).).)))).).$$

```
>hsa-mir-150      MA:16-37;mi:51-72      SRX018967
cuccccauggccugUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac
```

.(((((((.((((((((((((((((((.((.((((((((.((((...)))..)))))))).).)))))))).).)))))))).).

>hsa-mir-151 5p:11-31;3p:47-67 SRX018967
uuuccugcccUCGAGGAGCUCACAGUCUAGUaugucucauccccuaCUAGACUGAAGCUCCUUGAGGacaggggaugguca

```
(((((.((((((((((((.((((((((((.(.....).)))))))).)))))).))))).
.....
-----CUCGAGGAGCUCACAGUCUA-----
-----   4    -1,-2
-----CUCGAGGAGCUCACAGUCUAG-----
-----   9    -1,-1
-----CUCGAGGAGCUCACAGUCUAGU-----
-----  41    -1,0
-----CUCGAGGAGCUCACAGUCUAGUA-----
-----  10    -1,1
-----CUCGAGGAGCUCACAGUCUAGUAa-----
-----   3    -1,1
-----UCGAGGAGCUCACAGUCUA-----
----- 107    0,-2
-----UCGAGGAGCUCACAGUCUAa-----
-----   2     0,-2
-----UCGAGGAGCUCACAGUCUAG-----
----- 107    0,-1
-----UCGAGGAGCUCACAGUCUAGa-----
-----  18     0,-1
-----UCGAGGAGCUCACAGUCUAGaa-----
-----   5     0,-1
-----UCGAGGAGCUCACAGUCUAGU-----
----- 923    0,0
-----UCGAGGAGCUCACAGUCUAGUu-----
-----   7     0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
----- 361    0,1
-----UCGAGGAGCUCACAGUCUAGUAa-----
-----  55     0,1
-----UCGAGGAGCUCACAGUCUAGUAaa-----
-----   3     0,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
-----  29     0,2
-----UCGAGGAGCUCACAGUCUAGUAUa-----
-----   6     0,2
-----UCGAGGAGCUCACAGUCUAGUAUGa-----
```

```

----- 2 0,3
-----CGAGGAGCUCACAGUCUAGU-----
----- 3 1,0
-----CGAGGAGCUCACAGUCUAGUAU-----
----- 2 1,2
-----CGAGGAGCUCACAGUCUAGUAUG-----
----- 4 1,3
-----GAGGAGCUCACAGUCUAG-----
----- 2 2,-1
-----GAGGAGCUCACAGUCUAGU-----
----- 17 2,0
-----GAGGAGCUCACAGUCUAGUA-----
----- 6 2,1
-----GAGGAGCUCACAGUCUAGUAa-----
----- 2 2,1
-----UACUAGACUGAAGCUCCUUGA-----
----- 75 -2,-2
-----UACUAGACUGAAGCUCCUUGAa-----
----- 33 -2,-2
-----UACUAGACUGAAGCUCCUUGAaa-----
----- 9 -2,-2
-----UACUAGACUGAAGCUCCUUGAu-----
----- 3 -2,-2
-----UACUAGACUGAAGCUCCUUGAG-----
----- 167 -2,-1
-----UACUAGACUGAAGCUCCUUGAGa-----
----- 42 -2,-1
-----UACUAGACUGAAGCUCCUUGAGau-----
----- 2 -2,-1
-----UACUAGACUGAAGCUCCUUGAGu-----
----- 15 -2,-1
-----UACUAGACUGAAGCUCCUUGAGG-----
----- 68 -2,0
-----UACUAGACUGAAGCUCCUUGAGGu-----
----- 7 -2,0
-----UACUAGACUGAAGCUCCUUGAGGuu-----
----- 2 -2,0
-----UACUAGACUGAAGCUCCUUGAGGA-----

```

-----	39	-2,1	-----UACUAGACUGAAGCUCCUUGAGGAa-----
-----	6	-2,1	-----UACUAGACUGAAGCUCCUUGAGGAu-----
-----	3	-2,1	-----UACUAGACUGAAGCUCCUUGAGGAC-----
-----	2	-2,2	-----ACUAGACUGAAGCUCCUUGA-----
-----	9	-1,-2	-----ACUAGACUGAAGCUCCUUGAaa-----
-----	3	-1,-2	-----ACUAGACUGAAGCUCCUUGAG-----
-----	19	-1,-1	-----ACUAGACUGAAGCUCCUUGAGa-----
-----	10	-1,-1	-----ACUAGACUGAAGCUCCUUGAGaa-----
-----	3	-1,-1	-----ACUAGACUGAAGCUCCUUGAGG-----
-----	35	-1,0	-----ACUAGACUGAAGCUCCUUGAGGu-----
-----	5	-1,0	-----ACUAGACUGAAGCUCCUUGAGGA-----
-----	28	-1,1	-----ACUAGACUGAAGCUCCUUGAGGAa-----
-----	6	-1,1	-----ACUAGACUGAAGCUCCUUGAGGAaa-----
-----	2	-1,1	-----ACUAGACUGAAGCUCCUUGAGGAu-----
-----	4	-1,1	-----CUAGACUGAAGCUCCUUGA-----
-----	53	0,-2	-----CUAGACUGAAGCUCCUUGAa-----
-----	31	0,-2	-----CUAGACUGAAGCUCCUUGAaa-----
-----	22	0,-2	-----CUAGACUGAAGCUCCUUGAau-----
-----	2	0,-2	-----CUAGACUGAAGCUCCUUGAG-----

----- 351 0,-1	-----CUAGACUGAAGCUCCUUGAGa-----
----- 113 0,-1	-----CUAGACUGAAGCUCCUUGAGaa-----
----- 38 0,-1	-----CUAGACUGAAGCUCCUUGAGau-----
----- 3 0,-1	-----CUAGACUGAAGCUCCUUGAGu-----
----- 30 0,-1	-----CUAGACUGAAGCUCCUUGAGuu-----
----- 2 0,-1	-----CUAGACUGAAGCUCCUUGAGG-----
----- 843 0,0	-----CUAGACUGAAGCUCCUUGAGGu-----
----- 75 0,0	-----CUAGACUGAAGCUCCUUGAGGuu-----
----- 5 0,0	-----CUAGACUGAAGCUCCUUGAGGA-----
----- 1827 0,1	-----CUAGACUGAAGCUCCUUGAGGAa-----
----- 1431 0,1	-----CUAGACUGAAGCUCCUUGAGGAaa-----
----- 782 0,1	-----CUAGACUGAAGCUCCUUGAGGAau-----
----- 217 0,1	-----CUAGACUGAAGCUCCUUGAGGAu-----
----- 256 0,1	-----CUAGACUGAAGCUCCUUGAGGAuu-----
----- 24 0,1	-----CUAGACUGAAGCUCCUUGAGGAC-----
----- 38 0,2	-----CUAGACUGAAGCUCCUUGAGGACu-----
----- 7 0,2	-----CUAGACUGAAGCUCCUUGAGGACA-----
----- 10 0,3	-----UAGACUGAAGCUCCUUGAG-----
----- 5 1,-1	-----UAGACUGAAGCUCCUUGAGaa-----

3	1,-1	UAGACUGAAGCUCUUGAGG
6	1,0	UAGACUGAAGCUCUUGAGGu
6	1,0	UAGACUGAAGCUCUUGAGGA
36	1,1	UAGACUGAAGCUCUUGAGGAa
43	1,1	UAGACUGAAGCUCUUGAGGAaa
25	1,1	UAGACUGAAGCUCUUGAGGAau
6	1,1	UAGACUGAAGCUCUUGAGGAu
6	1,1	UAGACUGAAGCUCUUGAGGAC
9	1,2	UAGACUGAAGCUCUUGAGGACu
4	1,2	UAGACUGAAGCUCUUGAGGACA
4	1,3	AGACUGAAGCUCUUGAGGA
3	2,1	AGACUGAAGCUCUUGAGGAaa
4	2,1	AGACUGAAGCUCUUGAGGAuu
3	2,1	AGACUGAAGCUCUUGAGGAC
5	2,2	AGACUGAAGCUCUUGAGGACu
2	2,2	

>hsa-mir-152 3p:54-74 SRX018967

ugcccccccgcccagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgcccgg
aaggacc

$$\begin{aligned} & .((((\dots(((\((((((((((((((((((\dots(((\dots((\dots)))))))))))).)))))\\ & \dots))))). \end{aligned}$$

-----GUCAGUGCAUGACAGAACUUGGa-----

----- 2 -1,0	-----UCAGUGCAUGACAGAACU-----
----- 524 0,-3	-----UCAGUGCAUGACAGAACUU-----
----- 55 0,-2	-----UCAGUGCAUGACAGAACUUG-----
----- 146 0,-1	-----UCAGUGCAUGACAGAACUUGa-----
----- 8 0,-1	-----UCAGUGCAUGACAGAACUUGu-----
----- 2 0,-1	-----UCAGUGCAUGACAGAACUUGG-----
----- 865 0,0	-----UCAGUGCAUGACAGAACUUGGa-----
----- 181 0,0	-----UCAGUGCAUGACAGAACUUGGaa-----
----- 58 0,0	-----UCAGUGCAUGACAGAACUUGGau-----
----- 5 0,0	-----UCAGUGCAUGACAGAACUUGGu-----
----- 595 0,0	-----UCAGUGCAUGACAGAACUUGGuu-----
----- 71 0,0	-----UCAGUGCAUGACAGAACUUGGG-----
----- 571 0,1	-----UCAGUGCAUGACAGAACUUGGGa-----
----- 135 0,1	-----UCAGUGCAUGACAGAACUUGGGaa-----
----- 67 0,1	-----UCAGUGCAUGACAGAACUUGGGau-----
----- 8 0,1	-----UCAGUGCAUGACAGAACUUGGGu-----
----- 302 0,1	-----UCAGUGCAUGACAGAACUUGGGuu-----
----- 17 0,1	-----AGUGCAUGACAGAACUUG-----
----- 4 2,-1	-----AGUGCAUGACAGAACUUGG-----

```

----- 14 2,0
-----AGUGCAUGACAGAACUUGGa-----
----- 2 2,0
-----AGUGCAUGACAGAACUUGGu-----
----- 11 2,0
-----AGUGCAUGACAGAACUUGGG-----
----- 10 2,1
-----AGUGCAUGACAGAACUUGGGa-----
----- 2 2,1
-----AGUGCAUGACAGAACUUGGGaa-----
----- 4 2,1
-----AGUGCAUGACAGAACUUGGGGu-----
----- 5 2,1

```

>hsa-mir-1537 3p:40-61 SRX018967

```

acagcuguaauagucaguuucuguccuguccacacagAAAACCGUCUAGUUACAGUUGU
(((((((((((((((.(.((((((((((.....)))))))))).).))))))))))))))
-----AAAACCGUCUAGUUACAG----- 4 0,-4
-----AAAACCGUCUAGUUACAGUUGU 2 0,0

```

>hsa-mir-155 MA:4-26;mi:43-64 SRX018967

```

cugUUA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUUAGCAUUAACAg
(((((((((((((((.(.((((((((((.....)))))))))).).))))))))))))))
---UUA AUGCUAAUCGUGAU----- 83 0,-5
---UUA AUGCUAAUCGUGAUAG----- 7 0,-4
---UUA AUGCUAAUCGUGAUAGG----- 8 0,-3
---UUA AUGCUAAUCGUGAUAGGG----- 11 0,-2
---UUA AUGCUAAUCGUGAUAGGGG----- 8 0,-1
---UUA AUGCUAAUCGUGAUAGGGGa----- 2 0,-1
---UUA AUGCUAAUCGUGAUAGGGGU----- 7 0,0
---UUA AUGCUAAUCGUGAUAGGGGUau----- 3 0,0
---UUA AUGCUAAUCGUGAUAGGGGUU----- 10 0,1
---UUA AUGCUAAUCGUGAUAGGGGUUU----- 2 0,2
---UUA AUGCUAAUCGUGAUAGGGGU----- 2 1,0

```

>hsa-mir-15a MA:14-35;mi:51-72 SRX018967

```

ccuuggaguaaagUAGCAGCACAUAAUGGUUUGUGgauuuugaaaaggugCAGGCCAUUUUGUGCUGCCUCAaaaauaca
agg

```

(((((.....(..((((((((.....((((((((.....((.....))..))))))))))..))))))..)).....))
)))

-----UAGCAGCACAUAAUGGUU-----
--- 59 0,-4
-----UAGCAGCACAUAAUGGUUU-----
--- 803 0,-3
-----UAGCAGCACAUAAUGGUUUa-----
--- 10 0,-3
-----UAGCAGCACAUAAUGGUUUG-----
--- 580 0,-2
-----UAGCAGCACAUAAUGGUUUGa-----
--- 8 0,-2
-----UAGCAGCACAUAAUGGUUUGU-----
--- 479 0,-1
-----UAGCAGCACAUAAUGGUUUGUa-----
--- 8 0,-1
-----UAGCAGCACAUAAUGGUUUGUaa-----
--- 9 0,-1
-----UAGCAGCACAUAAUGGUUUGUG-----
--- 36 0,0
-----UAGCAGCACAUAAUGGUUUGUGa-----
--- 4 0,0
-----UAGCAGCACAUAAUGGUUUGUGaa-----
--- 3 0,0
-----UAGCAGCACAUAAUGGUUUGUGu-----
--- 2 0,0
-----AGCAGCACAUAAUGGUUU-----
--- 4 1,-3
-----AGCAGCACAUAAUGGUUUG-----
--- 2 1,-2
-----AGCAGCACAUAAUGGUUUGU-----
--- 3 1,-1
-----CAGGCCAUUUUGUGCUGCCUCAu-----
--- 4 0,0

>hsa-mir-15b MA:20-41;mi:58-79 SRX018967
uugaggccuuaaaguacugUAGCAGCACAUCAUGGUUUACAugcuacagucaagaugCGAAUCAUUUUUGCUGCUCUAg
aaauuaaggaaucau

$$\begin{aligned} & .(((((((\dots((((((((.(.(((((\dots)))))).)))))..))))).)) \\ & \dots))))).\end{aligned}$$

-----UAGCAGCACAUCAUGGUU-----

----- 39 0,-4

-----UAGCAGCACAUCAUGGUUa-----

----- 3 0, -4

-----UAGCAGCACAUCAUGGUU_{aa}-----

----- 6 0, -4

-----UAGCAGCACAUCAUGGUUU-----

----- 485 0,-3

-----UAGCAGCACAUCAUGGUUUu-----

----- 26 0, -3

-----UAGCAGCACAUCAUGGUUA-----

----- 1286 0,-2

-----UAGCAGCACAUCAUGGUUUAa-----

----- 96 0, -2

-----UAGCAGCACAUCAUGGUUUAaa-----

----- 4 0, -2

-----UAGCAGCACAUCAUGGUUUAu-----

----- 29 0, -2

-----UAGCAGCACAUCAUGGUUUAC-----

----- 625 0,-1

-----UAGCAGCACAUCAUGGUUUACu-----

----- 5 0, -1

-----UAGCAGCACAUCAUGGUUACA-----

----- 1481 0,0

-----UAGCAGCACAUCAUGGUUUACAa-----

----- 45 0,0

-----UAGCAGCACAUCAUGGUUUACAaa-----

----- 5 0,0

-----UAGCAGCACAUCAUGGUUACAU-----

----- 8 0,1

-----AGCAGCACAUCAUGGUUA-----

----- 6 1, -2

-----AGCAGCACAUCAUGGUUAC-----

$$----- \quad 3 \quad 1, -1$$

-----AGCAGCACAUCAUGGUUUACA-----

----- 9 1,0

```

-----GCAGCACAUCAUGGUUUACA-----
----- 2 2,0
-----CGAAUCAUUAUUUGCUGC-----
----- 6 0,-4
-----CGAAUCAUUAUUUGCUGCU-----
----- 26 0,-3
-----CGAAUCAUUAUUUGCUGCUC-----
----- 7 0,-2
-----CGAAUCAUUAUUUGCUGCUCU-----
----- 2 0,-1
-----CGAAUCAUUAUUUGCUGCUCUA-----
----- 2 0,0
-----CGAAUCAUUAUUUGCUGCUCUAa
----- 5 0,0
-----CGAAUCAUUAUUUGCUGCUCUAu
----- 8 0,0

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018967

```

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuuaagauucuaaaauuauucCCAGUAUUAACUGUGCUGCUGAagu
aagguugac
(((((((.(((.(((((((((((((.(((((((.(.((((.....))))).))))))))).))))))))).))
)..))))))

```

```

-----UAGCAGCACGUAAAUAUU-----
----- 186 0,-4
-----UAGCAGCACGUAAAUAUUa-----
----- 2 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 677 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 3 0,-3
-----UAGCAGCACGUAAAUAUUGu-----
----- 2 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 1353 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 16 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
----- 16 0,-2

```

```

-----UAGCAGCACGUAAAUAUUGGu-----
----- 12  0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 426 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 201 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 100 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 59  0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----
----- 6   0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 3568   0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 56  0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 42  0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 15  0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 855 0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 32  0,2
-----UAGCAGCACGUAAAUAUUGGCGUu-----
----- 4   0,2
-----UAGCAGCACGUAAAUAUUGGCGUUA-----
----- 2   0,3
-----AGCAGCACGUAAAUAUUG-----
----- 3   1,-3
-----AGCAGCACGUAAAUAUUGG-----
----- 8   1,-2
-----AGCAGCACGUAAAUAUUGGC-----
----- 2   1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
----- 30  1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
----- 3   1,1

```

```

-----GCAGCACGUAAAUAUUGG-----
----- 2    2,-2
-----GCAGCACGUAAAUAUUGGCG-----
----- 2    2,0
-----GCAGCACGUAAAUAUUGGCGaa-----
----- 3    2,0

```

>hsa-mi r-16-2 MA:10-31;mi :53-74 SRX018967

guccacucUAGCAGCACGUAUUUUGGCGuagugaaauauauuuuuaacaCCAAUUAUACUGUGCUGCUUUAguuguga
C

$$((\dots(((\dots(((((((\dots(((((((\dots(((\dots(\dots\dots)))\dots))\dots))))\dots)\dots))))\dots)\dots))))\dots)$$

-----CUAGCAGCACGUAAAUAUUGGC-----

$$-2^{-1,-1}$$

-----CUAGCAGCACGUA^{AAU}AUUGGCG-----

- 4 -1,0

-----UAGCAGCACGUAAAUAUU-----

- 186 0,-4

-----UAGCAGCACGUAAAUAUUa-----

- 2 0,-4

-----UAGCAGCACGUAAAUAUUG-----

- 677 0,-3

-----UAGCAGCACGUAAAUAUUGa-----

- 3 0, -3

-----UAGCAGCACGUAAAUAUUGu-----

- 2 0, -3

-----UAGCAGCACGUAAAUAUUGG-----

- 1353 0,-2

-----UAGCAGCACGUAAAUAUUGGa-----

- 16 0,-2

-----UAGCAGCACGUAAAUAUUGGaa-----

- 16 0,-2

-----UAGCAGCACGUAAAUAUUGGu-----

- 12 0, -2

-----UAGCAGCACGUAAAUAUUGGC-----

- 426 0,-1

-----UAGCAGCACGUAAAUAUUGGCa-----

- 201 0,-1


```

-----UAGCAGCACGUAAAUAUUGGCaa-----
- 100 0, -1
-----UAGCAGCACGUAAAUAUUGGCau-----
- 59 0, -1
-----UAGCAGCACGUAAAUAUUGGCu-----
- 6 0, -1
-----UAGCAGCACGUAAAUAUUGGCG-----
- 3568 0, 0
-----UAGCAGCACGUAAAUAUUGGCGa-----
- 56 0, 0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
- 42 0, 0
-----UAGCAGCACGUAAAUAUUGGCGau-----
- 15 0, 0
-----UAGCAGCACGUAAAUAUUGGCGU-----
- 855 0, 1
-----UAGCAGCACGUAAAUAUUGGCGUA-----
- 21 0, 2
-----UAGCAGCACGUAAAUAUUGGCGUAa-----
- 8 0, 2
-----AGCAGCACGUAAAUAUUG-----
- 3 1, -3
-----AGCAGCACGUAAAUAUUGG-----
- 8 1, -2
-----AGCAGCACGUAAAUAUUGGC-----
- 2 1, -1
-----AGCAGCACGUAAAUAUUGGCG-----
- 30 1, 0
-----AGCAGCACGUAAAUAUUGGCGU-----
- 3 1, 1
-----GCAGCACGUAAAUAUUGG-----
- 2 2, -2
-----GCAGCACGUAAAUAUUGGCG-----
- 2 2, 0
-----GCAGCACGUAAAUAUUGGCGaa-----
- 3 2, 0
-----CACCAAUAAUACUGUGCUGCUUU-----
- 5 -2, -1

```



```

-----CAAAGUGCUUACAGUGCA-----
---- 10 0,-5
-----CAAAGUGCUUACAGUGCAG-----
---- 85 0,-4
-----CAAAGUGCUUACAGUGCAGu-----
---- 2 0,-4
-----CAAAGUGCUUACAGUGCAGG-----
---- 76 0,-3
-----CAAAGUGCUUACAGUGCAGGU-----
---- 70 0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
---- 92 0,-1
-----CAAAGUGCUUACAGUGCAGGUAa-----
---- 32 0,-1
-----CAAAGUGCUUACAGUGCAGGUAau-----
---- 3 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 20 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 80 0,0
-----CAAAGUGCUUACAGUGCAGGUAGa-----
---- 3 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
---- 7 0,1
-----AAAGUGCUUACAGUGCAG-----
---- 2 1,-4
-----AAAGUGCUUACAGUGCAGG-----
---- 2 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
---- 9 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
---- 6 1,-1
-----AAAGUGCUUACAGUGCAGGUAa-----
---- 2 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
---- 2 1,0
-----UACUGCAGUGAAGGCACUUGU-----
---- 4 -1,-2

```

26	0, -4	ACUGCAGUGAAGGCACUU-
66	0, -3	ACUGCAGUGAAGGCACUUG-
124	0, -2	ACUGCAGUGAAGGCACUUGU-
15	0, -1	ACUGCAGUGAAGGCACUUGUA-
5	0, -1	ACUGCAGUGAAGGCACUUGUAa-
2	0, 0	ACUGCAGUGAAGGCACUUGUAG-
3	0, 0	ACUGCAGUGAAGGCACUUGUAGa-
5	1, -2	CUGCAGUGAAGGCACUUGU-
2	1, -1	CUGCAGUGAAGGCACUUGUA-
2	1, 2	CUGCAGUGAAGGCACUUGUAGCA-
3	2, -2	UGCAGUGAAGGCACUUGU-

>hsa-mir-181a-1 MA:24-46;mi:64-85 SRX018967

ugaguuuugagguugcuucagugAACAUUCAACGUGUCGGUGAGUuuggaauuaaaaucaaaACCAUCGACCGUUGAUU
GUACCcuauggcuaaccaucaucuacucca

.((((..((((((((((..((.(.(((.(((((((..(((((((.((((.(.....)).)))))))))..)))).).)))).).)))).).)))).)..

```

-----AACAUUCAACGCUGUCGG-----
-----      134  0,-5
-----AACAUUCAACGCUGUCGGU-----
-----      4    0,-4
-----AACAUUCAACGCUGUCGGUaa-----
-----      3    0,-4
-----AACAUUCAACGCUGUCGGUau-----
-----      2    0,-4
-----AACAUUCAACGCUGUCGGUG-----
-----      15  0,-3

```

```

-----AACAUUCAACGCUGUCGGUGA-----
----- 96 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
----- 3 0,-2
-----AACAUUCAACGCUGUCGGUGAu-----
----- 2 0,-2
-----AACAUUCAACGCUGUCGGUGAuu-----
----- 2 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 577 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 7 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 52 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
----- 8 0,0
-----AACAUUCAACGCUGUCGGUGAGUaa-----
----- 2 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
----- 129 0,1
-----AACAUUCAACGCUGUCGGUGAGUUa-----
----- 3 0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
----- 93 0,2
-----ACAUUCAACGCUGUCGGUGAG-----
----- 7 1,-1
-----AACCAUCGACCGUUGAUU
GU----- 2 -1,-3
-----ACCAUCGACCGUUGAUU
G----- 6 0,-4
-----ACCAUCGACCGUUGAUU
GUA----- 2 0,-2
-----ACCAUCGACCGUUGAUU
GUAC----- 3 0,-1
-----ACCAUCGACCGUUGAUU
GUACC----- 7 0,0

```

>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018967

.....(((((((.(.(((((.((((.((((.....))))))
))))))))).)).))))))))))).

-----AACAUUCAACGCUGUCGG-----		
-----134 0,-5		
-----AACAUUCAACGCUGUCGGU-----		
-----4 0,-4		
-----AACAUUCAACGCUGUCGGUaa-----		
-----3 0,-4		
-----AACAUUCAACGCUGUCGGUau-----		
-----2 0,-4		
-----AACAUUCAACGCUGUCGGUG-----		
-----15 0,-3		
-----AACAUUCAACGCUGUCGGUGA-----		
-----96 0,-2		
-----AACAUUCAACGCUGUCGGUGAa-----		
-----3 0,-2		
-----AACAUUCAACGCUGUCGGUGAU-----		
-----2 0,-2		
-----AACAUUCAACGCUGUCGGUGAuu-----		
-----2 0,-2		
-----AACAUUCAACGCUGUCGGUGAG-----		
-----577 0,-1		
-----AACAUUCAACGCUGUCGGUGAGa-----		
-----7 0,-1		
-----AACAUUCAACGCUGUCGGUGAGU-----		
-----52 0,0		
-----AACAUUCAACGCUGUCGGUGAGUa-----		
-----8 0,0		
-----AACAUUCAACGCUGUCGGUGAGUaa-----		
-----2 0,0		
-----AACAUUCAACGCUGUCGGUGAGUU-----		
-----129 0,1		
-----AACAUUCAACGCUGUCGGUGAGUUa-----		
-----3 0,1		
-----AACAUUCAACGCUGUCGGUGAGUUU-----		
-----93 0,2		

-----CUCAC
UGAACAAUGAAUGCAA----- 2

>hsa-mir-181b-2 5p:16-38 SRX018967

cugauggcugcacucAACAUUCAUUGCUGUCGGUGGGUuugagucugaaucaacucacugaucaaugaaugcaaacugcg
gaccaaaca

....((((((((.....((((((((((..(((((((((((.(.....))))))))))))))))))))))))).))))))

-----AACAUUCAUUGCUGUCGG-----

----- 27 0,-5

-----AACAUUCAUUGCUGUCGGU-----

----- 3 0,-4

-----AACAUUCAUUGCUGUCGGUG-----

----- 8 0,-3

-----AACAUUCAUUGCUGUCGGUGGG-----

----- 48 0,-1

-----AACAUUCAUUGCUGUCGGUGGGU-----

----- 4 0,0

-----AACAUUCAUUGCUGUCGGUGGGUa-----

----- 2 0,0

-----AACAUUCAUUGCUGUCGGUGGGUaa-----

----- 2 0,0

-----AACAUUCAUUGCUGUCGGUGGGUau-----

----- 10 0,0

-----AACAUUCAUUGCUGUCGGUGGGUU-----

----- 15 0,1

-----AACAUUCAUUGCUGUCGGUGGGUUa-----

----- 10 0,1

-----AACAUUCAUUGCUGUCGGUGGGUUU-----

----- 10 0,2

>hsa-mir-181c MA:27-48;mi:65-86 SRX018967

cggaaaauugccaagggguugggggAACAUUCAACCUGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaauugccauccu

.((((.....(((.(.((...((((((((..(((((((.(.....))))))))))))))))).))))))
)))..)))..)))..))))).))))).))))).

-----AACAUUCAACCUGUCGGUGA-----

----- 2 0,-2


```

-----AACAUUCAACCGUGCGGUGAG-----
-----      8      0,-1
-----AACAUUCAACCGUGCGGUGAGUU-----
-----     11      0,1
-----AACAUUCAACCGUGCGGUGAGUUU-----
-----      7      0,2
-----
-----ACCAUCGACCGUUGA
GUG-----      2      1,-3

```

>hsa-mir-181d 5p:36-58 SRX018967

```

gucccccucccuaggccacagccgaggucacaaucAACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagaccc
accgggggaugaaugucacuguggcuggggccagacacggcuuaaggggauggggac
((((((((((((((((((...(((...((((((((...((((((((((...(((...)))...))))
))))))...))))))...))))))...))))))...))))))...))))))...))))))
-----AACAUUCAUUGUUGUCGGUGG-----
-----      2      0,-2
-----AACAUUCAUUGUUGUCGGUGGG-----
-----     13      0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----
-----      8      0,0
-----AACAUUCAUUGUUGUCGGUGGGUa-----
-----      2      0,0
-----AACAUUCAUUGUUGUCGGUGGGUau-----
-----      3      0,0
-----AACAUUCAUUGUUGUCGGUGGGUU-----
-----     23      0,1
-----AACAUUCAUUGUUGUCGGUGGGUUu-----
-----      5      0,1

```

>hsa-mir-182 MA:23-46;mi:67-87 SRX018967

```

gagcugcuugccuccccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAugggggcgaggacucagccggcac
..(((((((...((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))...))))))...))))))...))))))...))))))...))))))...))))))..
-----UUUGGCAAUGGUAGAACUC-----
-----     14      0,-5
-----UUUGGCAAUGGUAGAACUCA-----
-----    160      0,-4

```

```

-----UUUGGCAAUGGUAGAACUCAa-----
----- 4 0,-4
-----UUUGGCAAUGGUAGAACUCAaa-----
----- 9 0,-4
-----UUUGGCAAUGGUAGAACUCAC-----
----- 94 0,-3
-----UUUGGCAAUGGUAGAACUCACu-----
----- 5 0,-3
-----UUUGGCAAUGGUAGAACUCACA-----
----- 236 0,-2
-----UUUGGCAAUGGUAGAACUCACAa-----
----- 21 0,-2
-----UUUGGCAAUGGUAGAACUCACAaa-----
----- 5 0,-2
-----UUUGGCAAUGGUAGAACUCACAau-----
----- 6 0,-2
-----UUUGGCAAUGGUAGAACUCACAU-----
----- 2 0,-2
-----UUUGGCAAUGGUAGAACUCACAC-----
----- 203 0,-1
-----UUUGGCAAUGGUAGAACUCACACa-----
----- 5 0,-1
-----UUUGGCAAUGGUAGAACUCACACU-----
----- 472 0,0
-----UUUGGCAAUGGUAGAACUCACACUa-----
----- 5 0,0
-----UUUGGCAAUGGUAGAACUCACACUG-----
----- 85 0,1
-----UUGGCAAUGGUAGAACUCACA-----
----- 3 1,-2
-----UUGGCAAUGGUAGAACUCACACU-----
----- 3 1,0
-----UUGGCAAUGGUAGAACUCACACUGG-----
----- 3 1,2

```

>hsa-mir-183 MA:27-48;mi:66-87 SRX018967

ccgcagagugugacuccuguucugugUAUGGCACUGGUAGAAUUCACUgugaacagucucagucaGUGAAUUACCGAAGG
GCCAUAAacagagcagagacagauccagga


```

-----AUGGCACUGGUAGAAUUCACUG-----
----- 48 1,1
-----AUGGCACUGGUAGAAUUCACUGa-----
----- 66 1,1
-----AUGGCACUGGUAGAAUUCACUGaa-----
----- 6 1,1
-----AUGGCACUGGUAGAAUUCACUGU-----
----- 27 1,2
-----AUGGCACUGGUAGAAUUCACUGUaa-----
----- 2 1,2
-----GUGAAUUACCGAAGG
GCCAUA----- 6 0,-1
-----GUGAAUUACCGAAGG
GCCAUAA----- 2 0,0
-----UGAAUUACCGAAGG
GCCAU----- 16 1,-2
-----UGAAUUACCGAAGG
GCCAUu----- 2 1,-2
-----UGAAUUACCGAAGG
GCCAUuu----- 3 1,-2
-----UGAAUUACCGAAGG
GCCAUA----- 16 1,-1
-----UGAAUUACCGAAGG
GCCAUAu----- 3 1,-1
-----UGAAUUACCGAAGG
GCCAUAA----- 43 1,0
-----UGAAUUACCGAAGG
GCCAUAAu----- 4 1,0
-----UGAAUUACCGAAGG
GCCAUAAA----- 4 1,1
-----UGAAUUACCGAAGG
GCCAUAAAu----- 2 1,1

```

>hsa-mir-184 3p:53-74 SRX018967

ccagucacgucucccuauacacuuuuccagcccagcuuugugacuguaaguguUGGACGGAGAACUGAUAAAGGGUagguga
uuga

.(((((((.(.(((((((((.(((((.(.(((((((((.))))).))))).))))).))))).))))).))))).
))).

-----UGGACGGAGAACUGAUAAGGGa-----
---- 3 0,-1

>hsa-mir-185 MA:15-36;mi:50-71 SRX018967

agggggcgagggauUGGAGAGAAAGGCAGUUCCUGAuggucccccuccccAGGGGCUGGCUUCCUCUGGUCcuucccucc
ca

.((((((.(((((((.(((.(((((.(((((((((.((.....)).))))))))).)))))))).)))))))).))))
).

-----UUGGAGAGAAAGGCAGUUCCUGA-----

-- 2 -1,0

-----UGGAGAGAAAGGCAGUUC-----

-- 31 0,-4

-----UGGAGAGAAAGGCAGUUCC-----

-- 86 0,-3

-----UGGAGAGAAAGGCAGUUCCU-----

-- 1327 0,-2

-----UGGAGAGAAAGGCAGUUCCUa-----

-- 7 0,-2

-----UGGAGAGAAAGGCAGUUCCUaa-----

-- 7 0,-2

-----UGGAGAGAAAGGCAGUUCCUau-----

-- 7 0,-2

-----UGGAGAGAAAGGCAGUUCCUu-----

-- 3 0,-2

-----UGGAGAGAAAGGCAGUUCCUG-----

-- 765 0,-1

-----UGGAGAGAAAGGCAGUUCCUGu-----

-- 107 0,-1

-----UGGAGAGAAAGGCAGUUCCUGuu-----

-- 13 0,-1

-----UGGAGAGAAAGGCAGUUCCUGA-----

-- 6036 0,0

-----UGGAGAGAAAGGCAGUUCCUGAa-----

-- 1199 0,0

-----UGGAGAGAAAGGCAGUUCCUGAaa-----

-- 96 0,0

-----UGGAGAGAAAGGCAGUUCCUGAau-----

-- 85 0,0

```

-----UGGAGAGAAAGGCAGUUCCUGAU-----
-- 1550 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUa-----
-- 151 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUaa-----
-- 5 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUau-----
-- 13 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUu-----
-- 90 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUuu-----
-- 6 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUG-----
-- 6 0,2
-----GGAGAGAAAGGCAGUUCCU-----
-- 7 1,-2
-----GGAGAGAAAGGCAGUUCCUG-----
-- 5 1,-1
-----GGAGAGAAAGGCAGUUCCUGA-----
-- 58 1,0
-----GGAGAGAAAGGCAGUUCCUGAa-----
-- 7 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 15 1,1
-----CAGGGGCUGGCUUUCCUC-----
-- 3 -1,-5
-----CAGGGGCUGGCUUUCCUCU-----
-- 2 -1,-4
-----AGGGGCUGGCUUUCCUCU-----
-- 19 0,-4
-----AGGGGCUGGCUUUCCUCUGG-----
-- 4 0,-2
-----AGGGGCUGGCUUUCCUCUGGU-----
-- 5 0,-1
-----AGGGGCUGGCUUUCCUCUGGUa-----
-- 3 0,-1
-----AGGGGCUGGCUUUCCUCUGGUaa-----
-- 8 0,-1

```



```

-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 94 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 827 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 64 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUaa-----
----- 8 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUau-----
----- 10 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 38 0,2
-----CAAAGAAUUCUCCUUUUGGGCUUUa-----
----- 4 0,2
-----CAAAGAAUUCUCCUUUUGGGCUUUu-----
----- 2 0,2
-----AAAGAAUUCUCCUUUUGG-----
----- 3 1,-3
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 4 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----
----- 4 1,-1
-----AAAGAAUUCUCCUUUUGGGCau-----
----- 8 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 26 1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 3 1,0
-----AAAGAAUUCUCCUUUUGGGCUaa-----
----- 3 1,0
-----AAAGAAUUCUCCUUUUGGGCUau-----
----- 4 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 53 1,1
-----AAAGAAUUCUCCUUUUGGGCUUa-----
----- 7 1,1
-----AAAGAAUUCUCCUUUUGGGCUUaa-----
----- 2 1,1

```


-----GCCCAAAGGUGAAUUUUU-----
----- 4 0,-3

>hsa-mir-188 5p:15-35;3p:54-74 SRX018967

ugcucccucucucaCAUCCCUUGCAUGGUGGAGGGGugagcuuucugaaaaccCUGCCACAUGCAGGGUUUGCAggaugg
cgagcc

.(((((((.(((.(((.(((((((((.((((((....(....)....))))))..)))))))).))..))))..))
.)))).

-----CAUCCCUUGCAUGGUGGAGGG-----
----- 2 0,0

-----CAUCCCUUGCAUGGUGGAGGGU-----
----- 4 0,1

-----CAUCCCUUGCAUGGUGGAGGGUa-----
----- 4 0,1

>hsa-mir-18a MA:6-28;mi:47-69 SRX018967

uguucUAAGGUGCAUCUAGUGCAGAUAGugaaguagauuagcaucuACUGCCCUAAGUGCUCUUCUGGca

.(((((((.(((.(((.(((((((((.((((((....)....)....))))))..)))))))).))..))))..))
.)))).

-----UAAGGUGCAUCUAGUGCA----- 2 0,-5

-----UAAGGUGCAUCUAGUGCAG----- 3 0,-4

-----UAAGGUGCAUCUAGUGCAGA----- 6 0,-3

-----UAAGGUGCAUCUAGUGCAGAAa----- 2 0,-3

-----UAAGGUGCAUCUAGUGCAGAU----- 34 0,-2

-----UAAGGUGCAUCUAGUGCAGAU----- 4 0,-1

-----ACUGCCCUAAGUGCUCUUCU----- 3 0,-2

>hsa-mir-18b MA:6-28;mi:49-70 SRX018967

uguguUAAGGUGCAUCUAGUGCAGUUAGugaagcagcuuagaauacuacUGCCCUAAAUGCCCCUUCUGGCa

..(((((((.(((.(((.(((((((((.((((((....)....)....))))))..)))))))).))..))))..))
.)))).

-----UAAGGUGCAUCUAGUGCA----- 2 0,-5

-----UAAGGUGCAUCUAGUGCAG----- 3 0,-4

>hsa-mir-190b 5p:11-31 SRX018967

ugcuucugugUGAUUGUUUGAUAUUGGGUUGuuuaauuaggaaccaacuaaaugucaaacauauucuuacagcagcag

(((((.(((((((.(((((((((((((((((.((((((((....)....)....))))))..)))))))).))..))))..))
.)))).

-----UGAUUGUUUGAUAUUGGGUUG-----

5 0,1

-----UGAUUGUUUGAUAUUGGGUUGa-----


```

----- 43212 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
----- 1007 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
----- 134 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
----- 368 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
----- 869 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
----- 221 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
----- 4674 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
----- 472 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
----- 42 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
----- 21 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
----- 3294 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
----- 29 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
----- 117 0,2
-----AACGGAAUCCCAAAAGCA-----
----- 85 1,-4
-----AACGGAAUCCCAAAAGCAG-----
----- 340 1,-3
-----AACGGAAUCCCAAAAGCAGau-----
----- 4 1,-3
-----AACGGAAUCCCAAAAGCAGu-----
----- 2 1,-3
-----AACGGAAUCCCAAAAGCAGuu-----
----- 4 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
----- 1102 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----

```

```

----- 18 1,-2
-----AACGGAAUCCCAAAAGCAGCau-----
----- 2 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
----- 3359 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
----- 43 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
----- 11 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
----- 50 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
----- 37 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
----- 19 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
----- 456 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
----- 104 1,0
-----AACGGAAUCCCAAAAGCAGCUGaa-----
----- 4 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
----- 554 1,1
-----AACGGAAUCCCAAAAGCAGCUGUa-----
----- 7 1,1
-----AACGGAAUCCCAAAAGCAGCUGUaa-----
----- 3 1,1
-----AACGGAAUCCCAAAAGCAGCUGUU-----
----- 13 1,2
-----AACGGAAUCCCAAAAGCAGCUGUUu-----
----- 2 1,2
-----ACGGAAUCCCAAAAGCAGC-----
----- 12 2,-2
-----ACGGAAUCCCAAAAGCAGCU-----
----- 20 2,-1
-----ACGGAAUCCCAAAAGCAGCUa-----
----- 2 2,-1
-----ACGGAAUCCCAAAAGCAGCUG-----

```


----- 938 -1,-1
-----UCUGACCUAUGAAUUGACAGCa-----
----- 143 -1,-1
-----UCUGACCUAUGAAUUGACAGCaa-----
----- 18 -1,-1
-----UCUGACCUAUGAAUUGACAGCau-----
----- 6 -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
----- 27 -1,-1
-----UCUGACCUAUGAAUUGACAGCuu-----
----- 2 -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
----- 3552 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
----- 192 -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
----- 19 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 521 -1,1
-----UCUGACCUAUGAAUUGACAGCCAa-----
----- 17 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 4 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 140 -1,1
-----UCUGACCUAUGAAUUGACAGCCAuu-----
----- 29 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
----- 2 -1,2
-----UCUGACCUAUGAAUUGACAGCCAGU-----
----- 2 -1,3
-----CUGACCUAUGAAUUGACA-----
----- 8406 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 34 0,-3
-----CUGACCUAUGAAUUGACAaa-----
----- 47 0,-3
-----CUGACCUAUGAAUUGACAu-----

----- 3 0,-3
-----CUGACCUAUGAAUUGACAuu-----
----- 7 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 19203 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 892 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 154 0,-2
-----CUGACCUAUGAAUUGACAGau-----
----- 20 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 872 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 194 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 223265 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 33301 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 5775 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 1514 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 4471 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 201 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 690653 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 27794 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 4414 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 318302 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 16881 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----

----- 1913 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 2686 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 97758 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 28097 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 3429 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 366 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 13 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 10 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 2060 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 190 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 302 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 8 0,4
-----UGACCUAUGAAUUGACAG-----
----- 5744 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 75 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 74411 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 2237 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 750 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 97 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 254 1,-1
-----UGACCUAUGAAUUGACAGCuu-----

----- 16 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 45706 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 1273 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 185 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 82602 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 7540 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 2859 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 2705 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 19182 1,1
-----UGACCUAUGAAUUGACAGCCAuu-----
----- 8748 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 22803 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 4926 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 241 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 138 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 19291 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 2197 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 224 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 162 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 2812 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----

----- 210 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 129 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 11 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 10 1,4
-----UGACCUAUGAAUUGACAGCCAGUGC-----
----- 3 1,5
-----GACCUAUGAAUUGACAGC-----
----- 643 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 23 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 9 2,-1
-----GACCUAUGAAUUGACAGCau-----
----- 4 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 3 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 629 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 28 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 3 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 487 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 91 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 21 2,1
-----GACCUAUGAAUUGACAGCCAau-----
----- 27 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 146 2,1
-----GACCUAUGAAUUGACAGCCAuu-----
----- 80 2,1
-----GACCUAUGAAUUGACAGCCAG-----

```

----- 270 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 71 2,2
-----GACCUAUGAAUUGACAGCCAGaa-----
----- 7 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 281 2,3
-----GACCUAUGAAUUGACAGCCAGUa-----
----- 24 2,3
-----GACCUAUGAAUUGACAGCCAGUaa-----
----- 2 2,3
-----GACCUAUGAAUUGACAGCCAGUau-----
----- 2 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 34 2,3
-----GACCUAUGAAUUGACAGCCAGUuu-----
----- 3 2,3
-----GACCUAUGAAUUGACAGCCAGUG-----
----- 2 2,4
-----GACCUAUGAAUUGACAGCCAGUGa-----
----- 4 2,4
-----GGCUGCCAAUUCCAUA
GGUCACA----- 3 -2,-1
-----GCUGCCAAUUCCAUA
GGUC----- 2 -1,-4
-----GCUGCCAAUUCCAUA
GGUCA----- 5 -1,-3
-----GCUGCCAAUUCCAUA
GGUCAC----- 5 -1,-2
-----GCUGCCAAUUCCAUA
GGUCACA----- 6 -1,-1
-----GCUGCCAAUUCCAUA
GGUCACAG----- 3 -1,0
-----CUGCCAAUUCCAUA
GGUCA----- 3 0,-3
-----CUGCCAAUUCCAUA
GGUCAC----- 3 0,-2
-----CUGCCAAUUCCAUA

```

```

GGUCACA----- 15  0,-1
-----CUGCCAAUCCAUA
GGUCACAa----- 2   0,-1
-----CUGCCAAUCCAUA
GGUCACAUu----- 3   0,-1
-----CUGCCAAUCCAUA
GGUCACAG----- 11  0,0
-----CUGCCAAUCCAUA
GGUCACAGu----- 7   0,0
-----CUGCCAAUCCAUA
GGUCACAGuu----- 2   0,0

```

>hsa-mi r-193a 5p:21-42;3p:55-76 SRX018967

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cgaggauaggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

```

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.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))).

```

```

-----UGGGUCUUUGCGGGCGAG-----
----- 3   0,-4
-----UGGGUCUUUGCGGGCGAGA-----
----- 4   0,-3
-----UGGGUCUUUGCGGGCGAGAU-----
----- 6   0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
----- 14  0,-2
-----UGGGUCUUUGCGGGCGAGAUaa-----
----- 3   0,-2
-----UGGGUCUUUGCGGGCGAGAUau-----
----- 4   0,-2
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 3   0,-2
-----UGGGUCUUUGCGGGCGAGAUG-----
----- 70  0,-1
-----UGGGUCUUUGCGGGCGAGAUGu-----
----- 32  0,-1
-----UGGGUCUUUGCGGGCGAGAUGuu-----
----- 4   0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----

```

-----	297	0,0	-----UGGGUCUUUGCGGGCGAGAUGAa-----
-----	6	0,0	-----UGGGUCUUUGCGGGCGAGAUGAu-----
-----	28	0,0	-----GGGUCUUUGCGGGCGAGAUGA-----
-----	4	1,0	-----CAACUGGCCUACAAAGUCCC-----
-----	2	-1,-3	-----CAACUGGCCUACAAAGUCCCA-----
-----	4	-1,-2	-----AACUGGCCUACAAAGUCC-----
-----	188	0,-4	-----AACUGGCCUACAAAGUCCa-----
-----	5	0,-4	-----AACUGGCCUACAAAGUCCaa-----
-----	4	0,-4	-----AACUGGCCUACAAAGUCCC-----
-----	389	0,-3	-----AACUGGCCUACAAAGUCCCA-----
-----	5047	0,-2	-----AACUGGCCUACAAAGUCCCAa-----
-----	66	0,-2	-----AACUGGCCUACAAAGUCCCAaa-----
-----	8	0,-2	-----AACUGGCCUACAAAGUCCCAau-----
-----	15	0,-2	-----AACUGGCCUACAAAGUCCCAu-----
-----	129	0,-2	-----AACUGGCCUACAAAGUCCCAuu-----
-----	26	0,-2	-----AACUGGCCUACAAAGUCCCAG-----
-----	263	0,-1	-----AACUGGCCUACAAAGUCCCAGa-----
-----	46	0,-1	-----AACUGGCCUACAAAGUCCCAGaa-----
-----	12	0,-1	-----AACUGGCCUACAAAGUCCCAGau-----

12	0, -1	AACUGGCCUACAAAGUCCCAGU
224	0, 0	AACUGGCCUACAAAGUCCCAGUa
24	0, 0	AACUGGCCUACAAAGUCCCAGUaa
7	0, 0	AACUGGCCUACAAAGUCCCAGUau
5	0, 0	ACUGGCCUACAAAGUCCC
2	1, -3	ACUGGCCUACAAAGUCCCA
16	1, -2	ACUGGCCUACAAAGUCCCAGU
2	1, 0	

>hsa-mi r-193b mi:14-35;MA:51-72 SRX018967

guggucucagaauCGGGGUUUUGAGGGCGAGAUGaguuuanguuuuauccAACUGGCCCUCAAAGUCCCGCUuuuggggguc
cau

(((..(((((((.((((..(((((((((((.(.(.(..(.....).)).)).))))))))).)).)).))))).)))))..
)))

-----UCGGGGUUUGAGGGCGAG-----

--- 2 -1,-4

-----UCGGGGUUUUGAGGGCGAGAUa-----

--- 2 -1,-2

-----UCGGGGUUUUGAGGGCGAGAUu-----

--- 2 -1,-2

-----UCGGGGUUUUGAGGGCGAGAUG-----

--- 2 -1, -1

-----UCGGGGUUUUGAGGGCGAGAUG_u-----

--- 5 -1,-1

-----CGGGUUUUGAGGGCGAG-----

--- 39 0,-4

-----CGGGGUUUGAGGGCGAGA-----

--- 5 0,-3

-----CGGGGUUUUGAGGGCGAGAU-----

--- 31 0,-2

-----CGGGGUUUUGAGGGCGAGAUa-----

```

--- 34 0,-2
-----CGGGGUUUUGAGGGCGAGAUu-----
--- 14 0,-2
-----CGGGGUUUUGAGGGCGAGAUg-----
--- 97 0,-1
-----CGGGGUUUUGAGGGCGAGAUgu-----
--- 83 0,-1
-----CGGGGUUUUGAGGGCGAGAUguu-----
--- 6 0,-1
-----CGGGGUUUUGAGGGCGAGAUgA-----
--- 438 0,0
-----CGGGGUUUUGAGGGCGAGAUgAa-----
--- 22 0,0
-----CGGGGUUUUGAGGGCGAGAUgAaa-----
--- 5 0,0
-----CGGGGUUUUGAGGGCGAGAUgAu-----
--- 14 0,0
-----CGGGGUUUUGAGGGCGAGAUgAG-----
--- 2 0,1
-----GGGGUUUUUGAGGGCGAGAU-----
--- 2 1,-2
-----GGGGUUUUUGAGGGCGAGAUg-----
--- 3 1,-1
-----GGGGUUUUUGAGGGCGAGAUgu-----
--- 2 1,-1
-----GGGGUUUUUGAGGGCGAGAUgA-----
--- 13 1,0
-----GGGGUUUUUGAGGGCGAGAUgAa-----
--- 2 1,0
-----GGGGUUUUUGAGGGCGAGAUgAu-----
--- 3 1,0
-----AACUGGCCCCUCAAAGUCC-----
--- 276 0,-4
-----AACUGGCCCCUCAAAGUCCC-----
--- 215 0,-3
-----AACUGGCCCCUCAAAGUCCCG-----
--- 100 0,-2
-----AACUGGCCCCUCAAAGUCCCGa-----

```

---	4	0,-2	-----AACUGGCCCUCAAAGUCCCCGu-----
---	4	0,-2	-----AACUGGCCCUCAAAGUCCCCG-----
---	121	0,-1	-----AACUGGCCCUCAAAGUCCCCGa-----
---	30	0,-1	-----AACUGGCCCUCAAAGUCCCCGaa-----
---	19	0,-1	-----AACUGGCCCUCAAAGUCCCCGau-----
---	70	0,-1	-----AACUGGCCCUCAAAGUCCCCGCU-----
---	409	0,0	-----AACUGGCCCUCAAAGUCCCCGCUa-----
---	62	0,0	-----AACUGGCCCUCAAAGUCCCCGCUaa-----
---	14	0,0	-----AACUGGCCCUCAAAGUCCCCGCUau-----
---	65	0,0	-----AACUGGCCCUCAAAGUCCCCGCUU-----
---	154	0,1	-----AACUGGCCCUCAAAGUCCCCGCUUa-----
---	11	0,1	-----AACUGGCCCUCAAAGUCCCCGCUUaa-----
---	5	0,1	-----AACUGGCCCUCAAAGUCCCCGCUUau-----
---	6	0,1	-----AACUGGCCCUCAAAGUCCCCGCUUU-----
---	76	0,2	-----AACUGGCCCUCAAAGUCCCCGCUUUa-----
---	2	0,2	-----AACUGGCCCUCAAAGUCCCCGCUUUU-----
---	10	0,3	-----ACUGGCCCUCAAAGUCCCC-----
---	5	1,-3	-----ACUGGCCCUCAAAGUCCCCGCU-----
---	13	1,0	-----ACUGGCCCUCAAAGUCCCCGCUa-----


```

----- 368 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 11 0,0
-----UGUAAACAGCAACUCCAUGUGGAC-----
----- 28 0,1
-----UGUAAACAGCAACUCCAUGUGGACa-----
----- 8 0,1
-----GUAACAGCAACUCCAUGUGGA-----
----- 6 1,0
-----GUAACAGCAACUCCAUGUGGAu-----
----- 3 1,0

```

>hsa-mir-194-2 MA:15-36;mi:51-72 SRX018967

```

ugguucccgcccccUGUAAACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGGCUGCUGUUAUCUGgggcgagg
gccag

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(((((((.((((((..((((((((((.((((((.((((((..((((((..)))))))))))))))))))))))))))))))))))).

```

```

-----CCUGUAAACAGCAACUCCAUGUGG-----
----- 18 -2,-1
-----CUGUAAACAGCAACUCCAUGUGa-----
----- 3 -1,-2
-----CUGUAAACAGCAACUCCAUGUGG-----
----- 46 -1,-1
-----CUGUAAACAGCAACUCCAUGUGGA-----
----- 80 -1,0
-----CUGUAAACAGCAACUCCAUGUGGAu-----
----- 2 -1,0
-----CUGUAAACAGCAACUCCAUGUGGAA-----
----- 33 -1,1
-----CUGUAAACAGCAACUCCAUGUGGAAu-----
----- 3 -1,1
-----UGUAAACAGCAACUCCAUG-----
----- 26 0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 34 0,-3
-----UGUAAACAGCAACUCCAUGUaa-----
----- 3 0,-3
-----UGUAAACAGCAACUCCAUGUG-----

```

```

----- 67 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 9 0,-2
-----UGUAAACAGCAACUCCAUGUGu-----
----- 4 0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 1136 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 16 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 2262 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 368 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 11 0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
----- 5191 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 723 0,1
-----UGUAAACAGCAACUCCAUGUGGAAaa-----
----- 51 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 26 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 304 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 19 0,1
-----UGUAAACAGCAACUCCAUGUGGAAG-----
----- 8 0,2
-----GUAACAGCAACUCCAUGUGGA-----
----- 6 1,0
-----GUAACAGCAACUCCAUGUGGAu-----
----- 3 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 13 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 7 1,1
-----GUAACAGCAACUCCAUGUGGAAu-----

```

```

----- 7 1,1
-----GUAACAGCAACUCCAUGUGGAAuu-----
----- 2 1,1
-----UAACAGCAACUCCAUGUGGAA-----
----- 2 2,1
-----CCAGUGGGGCUGCUGUUAU-----
----- 6 0,-3
-----CCAGUGGGGCUGCUGUUAUa-----
----- 19 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 8 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 83 0,-1
-----CCAGUGGGGCUGCUGUUAUCUG-----
----- 8 0,0
-----CCAGUGGGGCUGCUGUUAUCUGa-----
----- 7 0,0
-----CCAGUGGGGCUGCUGUUAUCUGaa-----
----- 2 0,0
-----CCAGUGGGGCUGCUGUUAUCUGu-----
----- 10 0,0
-----CAGUGGGGCUGCUGUUAUCU-----
----- 9 1,-1
-----AGUGGGGCUGCUGUUAUCU-----
----- 2 2,-1

```

>hsa-mir-195 MA:15-35;mi:53-74 SRX018967

```

agcuucccuggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUUAUUGGCUGUGCUGCUCCaggcag
gguggug

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).))).

```

```

-----UAGCAGCACAGAAAUUU-----
----- 6 0,-3
-----UAGCAGCACAGAAAUUUaa-----
----- 2 0,-3
-----UAGCAGCACAGAAAUUUG-----
----- 28 0,-2
-----UAGCAGCACAGAAAUUUGa-----

```

```

----- 3    0,-2
-----UAGCAGCACAGAAAUAUUGG-----
----- 236 0,-1
-----UAGCAGCACAGAAAUAUUGGa-----
----- 10   0,-1
-----UAGCAGCACAGAAAUAUUGGaa-----
----- 9    0,-1
-----UAGCAGCACAGAAAUAUUGGu-----
----- 2    0,-1
-----UAGCAGCACAGAAAUAUUGGC-----
----- 8    0,0
-----UAGCAGCACAGAAAUAUUGGCA-----
----- 652 0,1
-----UAGCAGCACAGAAAUAUUGGCAa-----
----- 337 0,1
-----UAGCAGCACAGAAAUAUUGGCAaa-----
----- 5    0,1
-----UAGCAGCACAGAAAUAUUGGCAau-----
----- 13   0,1
-----UAGCAGCACAGAAAUAUUGGCAu-----
----- 292 0,1
-----UAGCAGCACAGAAAUAUUGGCAuu-----
----- 15   0,1
-----AGCAGCACAGAAAUAUUGGCA-----
----- 11   1,1
-----AGCAGCACAGAAAUAUUGGCAa-----
----- 5    1,1

```

>hsa-mir-197 3p:48-69 SRX018967

```

ggcugugccggguagagagggcagugggagguaagagcucuucacccUUCACCACCUUCUCCACCCAGCauggcc
(((((((((.(((.(((((((.((((.(((((((....))))))..))))..))))))..))))))..))))))
-----CGGGUAGAGAGGGCAGUGGGAGG----- 3
-----UUCACCACCUUCUCCACC----- 2
0,-4
-----UUCACCACCUUCUCCACCC----- 3
0,-3
-----UUCACCACCUUCUCCACCCA----- 3
0,-2

```

```

-----UUCACCACCUUCUCCACCCAG----- 9
0,-1
-----UUCACCACCUUCUCCACCCAGC----- 23
0,0
-----UUCACCACCUUCUCCACCCAGCu----- 3
0,0
-----UUCACCACCUUCUCCACCCAGCA----- 7
0,1
-----UCACCACCUUCUCCACCCAGCA----- 2
1,1

```

```

>hsa-mir-1973 3p:26-44 SRX018967
uauguucaacggccaugguauccugACCGUGCAAAGGUAGCAUA
(((((((.....((.((((.....)))))).....)).))))))
-----ACCGUGCAAAGGUAGCAUA 17 0,0
-----ACCGUGCAAAGGUAGCAUAa 6 0,0
-----ACCGUGCAAAGGUAGCAUAau 2 0,0

```

```

>hsa-mir-1976 3p:33-52 SRX018967
gcagcaaggaaggcagggguccuaagguguguCCUCCUGCCCUCUUGCUGU
(((((((((((.((((((((.....).)))))))))).)))))))))
-CAGCAAGGAAGGCAGGGGUCu----- 2

```

```

>hsa-mir-199a-1 5p:6-28;3p:47-68 SRX018967
gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucaauguguACAGUAGUCUGCACAUUGGUUAggc
(((...(((((((.(((((((((((.(((.((.....)).)))))))))))))).)))))))))
-----CCCAGUGUUCAGACUACC----- 8 0,-5
-----CCCAGUGUUCAGACUACCU----- 84 0,-4
-----CCCAGUGUUCAGACUACCUG----- 4 0,-3
-----CCCAGUGUUCAGACUACCUGU----- 6 0,-2
-----CCCAGUGUUCAGACUACCUGUU----- 17 0,-1
-----CCCAGUGUUCAGACUACCUGUUC----- 8 0,0
-----UACAGUAGUCUGCACAUU----- 4
-1,-5
-----UACAGUAGUCUGCACAUUG----- 12
-1,-4
-----UACAGUAGUCUGCACAUUGG----- 29
-1,-3

```

	-----UACAGUAGUCUGCACAUUGGau----	3	
-1,-3			
	-----UACAGUAGUCUGCACAUUGGU-----	67	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUa----	25	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUaa---	10	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUau---	7	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUU----	705	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUu---	64	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUuu--	5	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUA---	87	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAa--	18	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	13	-1,0
	-----ACAGUAGUCUGCACAUUG-----	30	0,-4
	-----ACAGUAGUCUGCACAUUGa-----	4	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	187	0,-3
	-----ACAGUAGUCUGCACAUUGGa-----	3	0,-3
	-----ACAGUAGUCUGCACAUUGGaa----	4	0,-3
	-----ACAGUAGUCUGCACAUUGGau----	6	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	163	0,-2
	-----ACAGUAGUCUGCACAUUGGUa----	21	0,-2
	-----ACAGUAGUCUGCACAUUGGUaa---	45	0,-2
	-----ACAGUAGUCUGCACAUUGGUau---	24	0,-2
	-----ACAGUAGUCUGCACAUUGGUU----	3114	
0,-1			
	-----ACAGUAGUCUGCACAUUGGUUu---	241	0,-1
	-----ACAGUAGUCUGCACAUUGGUUuu--	9	0,-1
	-----ACAGUAGUCUGCACAUUGGUUA---	1650	
0,0			
	-----ACAGUAGUCUGCACAUUGGUUAa--	769	0,0
	-----ACAGUAGUCUGCACAUUGGUUAaa--	8	0,0
	-----ACAGUAGUCUGCACAUUGGUUAau--	2	0,0

-----ACAGUAGUCUGCACAUUGGUUAu--	122	0,0
-----ACAGUAGUCUGCACAUUGGUUAuu-	2	0,0
-----ACAGUAGUCUGCACAUUGGUUAG--	3	0,1
-----CAGUAGUCUGCACAUUGG-----	15	1,-3
-----CAGUAGUCUGCACAUUGGU-----	14	1,-2
-----CAGUAGUCUGCACAUUGGUaa---	8	1,-2
-----CAGUAGUCUGCACAUUGGUU----	269	1,-1
-----CAGUAGUCUGCACAUUGGUUu---	29	1,-1
-----CAGUAGUCUGCACAUUGGUUA---	360	1,0
-----CAGUAGUCUGCACAUUGGUUAa---	154	1,0
-----CAGUAGUCUGCACAUUGGUUAaaa-	4	1,0
-----CAGUAGUCUGCACAUUGGUUAau-	3	1,0
-----CAGUAGUCUGCACAUUGGUUAu--	28	1,0
-----CAGUAGUCUGCACAUUGGUUAG--	3	1,1
-----AGUAGUCUGCACAUUGGUU----	7	2,-1
-----AGUAGUCUGCACAUUGGUUA---	2	2,0
-----AGUAGUCUGCACAUUGGUUAa---	4	2,0

CACAUUG-----	12	-1,-4	
-----			-UACAGUAGUCUG
CACAUUGG-----	29	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGau-----	3	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGU-----	67	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUa-----	25	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUaa-----	10	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUau-----	7	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUU-----	705	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUu-----	64	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUuu-----	5	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUA-----	87	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAa-----	18	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAu-----	13	-1,0	
-----			-ACAGUAGUCUG
CACAUUG-----	30	0,-4	
-----			-ACAGUAGUCUG
CACAUUGa-----	4	0,-4	
-----			-ACAGUAGUCUG
CACAUUGG-----	187	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGa-----	3	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGaa-----	4	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGau-----	6	0,-3	
-----			-ACAGUAGUCUG

CACAUUGGU-----	163	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUa-----	21	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUaa-----	45	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUau-----	24	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUU-----	3114	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUu-----	241	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUuu-----	9	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUA-----	1650	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	769	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	8	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	2	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	122	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	2	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	3	0,1	
-----			CAGUAGUCUG
CACAUUGG-----	15	1,-3	
-----			CAGUAGUCUG
CACAUUGGU-----	14	1,-2	
-----			CAGUAGUCUG
CACAUUGGUaa-----	8	1,-2	
-----			CAGUAGUCUG
CACAUUGGUU-----	269	1,-1	
-----			CAGUAGUCUG
CACAUUGGUUu-----	29	1,-1	
-----			CAGUAGUCUG

UGGUa-----	25	-1,-2	-----UACAGUAGUCUGCACAU
UGGUaa-----	10	-1,-2	-----UACAGUAGUCUGCACAU
UGGUau-----	7	-1,-2	-----UACAGUAGUCUGCACAU
UGGUU-----	705	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUu-----	64	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUuu-----	5	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUA-----	87	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAa-----	18	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAu-----	13	-1,0	-----ACAGUAGUCUGCACAU
UG-----	30	0,-4	-----ACAGUAGUCUGCACAU
UGa-----	4	0,-4	-----ACAGUAGUCUGCACAU
UGG-----	187	0,-3	-----ACAGUAGUCUGCACAU
UGGa-----	3	0,-3	-----ACAGUAGUCUGCACAU
UGGaa-----	4	0,-3	-----ACAGUAGUCUGCACAU
UGGau-----	6	0,-3	-----ACAGUAGUCUGCACAU
UGGU-----	163	0,-2	-----ACAGUAGUCUGCACAU
UGGUa-----	21	0,-2	-----ACAGUAGUCUGCACAU
UGGUaa-----	45	0,-2	-----ACAGUAGUCUGCACAU
UGGUau-----	24	0,-2	-----ACAGUAGUCUGCACAU

UGGUU-----	3114	0,-1	-----ACAGUAGUCUGCACAU
UGGUUu-----	241	0,-1	-----ACAGUAGUCUGCACAU
UGGUUuu-----	9	0,-1	-----ACAGUAGUCUGCACAU
UGGUUA-----	1650	0,0	-----ACAGUAGUCUGCACAU
UGGUUAa-----	769	0,0	-----ACAGUAGUCUGCACAU
UGGUUAaa-----	8	0,0	-----ACAGUAGUCUGCACAU
UGGUUAau-----	2	0,0	-----ACAGUAGUCUGCACAU
UGGUUAu-----	122	0,0	-----ACAGUAGUCUGCACAU
UGGUUAuu-----	2	0,0	-----ACAGUAGUCUGCACAU
UGGUUAG-----	3	0,1	-----CAGUAGUCUGCACAU
UGG-----	15	1,-3	-----CAGUAGUCUGCACAU
UGGU-----	14	1,-2	-----CAGUAGUCUGCACAU
UGGUaa-----	8	1,-2	-----CAGUAGUCUGCACAU
UGGUU-----	269	1,-1	-----CAGUAGUCUGCACAU
UGGUUu-----	29	1,-1	-----CAGUAGUCUGCACAU
UGGUUA-----	360	1,0	-----CAGUAGUCUGCACAU
UGGUUAa-----	154	1,0	-----CAGUAGUCUGCACAU
UGGUUAaa-----	4	1,0	-----CAGUAGUCUGCACAU
UGGUUAau-----	3	1,0	-----CAGUAGUCUGCACAU

```

UGGUUAu----- 28 1,0
-----CAGUAGUCUGCACAU
UGGUUAG----- 3 1,1
-----AGUAGUCUGCACAU
UGGUU----- 7 2,-1
-----AGUAGUCUGCACAU
UGGUUA----- 2 2,0
-----AGUAGUCUGCACAU
UGGUUAa----- 4 2,0

```

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>hsa-mir-19a mi:14-35;MA:49-71 SRX018967
gcaguccucuguuAGUUUUGCAUAGUUGCACUACAgaagaanguaguUGUGCAAAUCUAUGCAAAACUGAugguggccu
gc
(((((((((.....)))))))))..)))))))))..)))))))))..))
))
-----AGUUUUGCAUAGUUGCACUA-----
-- 3 0,-2
-----UGUGCAAAUCUAUGCAAAACU-----
-- 2 0,-2
-----UGUGCAAAUCUAUGCAAAACUG-----
-- 3 0,-1
-----UGUGCAAAUCUAUGCAAAACUGA-----
-- 3 0,0

```

```

>hsa-mir-19b-1 mi:16-38;MA:54-76 SRX018967
cacuguucuaugguuAGUUUUGCAGGUUUGCAUCCAGCugugugauauucugcUGUGCAAAUCCAUGCAAAACUGAcugu
gguagug
(((((((((.....)))))))))..)))))))))..)))))))))..))
)))))
-----UGUGCAAAUCCAUGCAAAAC-----
----- 6 0,-3
-----UGUGCAAAUCCAUGCAAAACU-----
----- 92 0,-2
-----UGUGCAAAUCCAUGCAAAACUG-----
----- 12 0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 12 0,0

```


-1, -3	
-----GUAGCUUAUCAGACUGAUGUaa-----	2
-1, -3	
-----GUAGCUUAUCAGACUGAUGUU-----	79
-1, -2	
-----GUAGCUUAUCAGACUGAUGUua-----	2
-1, -2	
-----GUAGCUUAUCAGACUGAUGUUG-----	145
-1, -1	
-----GUAGCUUAUCAGACUGAUGUUGA-----	149
-1, 0	
-----GUAGCUUAUCAGACUGAUGUUGAa-----	8
-1, 0	
-----GUAGCUUAUCAGACUGAUGUUGAC-----	19
-1, 1	
-----GUAGCUUAUCAGACUGAUGUUGACa-----	14
-1, 1	
-----GUAGCUUAUCAGACUGAUGUUGACU-----	7
-1, 2	
-----UAGCUUAUCAGACUGAUG-----	2538
0, -4	
-----UAGCUUAUCAGACUGAUGa-----	4
0, -4	
-----UAGCUUAUCAGACUGAUGaa-----	2
0, -4	
-----UAGCUUAUCAGACUGAUGau-----	20
0, -4	
-----UAGCUUAUCAGACUGAUGU-----	
10134 0, -3	
-----UAGCUUAUCAGACUGAUGUa-----	57
0, -3	
-----UAGCUUAUCAGACUGAUGUaa-----	18
0, -3	
-----UAGCUUAUCAGACUGAUGUU-----	
82457 0, -2	
-----UAGCUUAUCAGACUGAUGUua-----	275
0, -2	
-----UAGCUUAUCAGACUGAUGUuaa-----	32

0, -2		
-----UAGCUUAUCAGACUGAUGUUu-----	96	
0, -2		
-----UAGCUUAUCAGACUGAUGUUG-----		
45940 0, -1		
-----UAGCUUAUCAGACUGAUGUUGu-----	70	
0, -1		
-----UAGCUUAUCAGACUGAUGUUGA-----		
30876 0, 0		
-----UAGCUUAUCAGACUGAUGUUGAa-----	1441	
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAaa-----	207	
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAau-----	13	
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAu-----	77	
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAuu-----	7	
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAC-----		
12668 0, 1		
-----UAGCUUAUCAGACUGAUGUUGACa-----	5336	
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACaa-----	52	
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACau-----	21	
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACU-----	2318	
0, 2		
-----UAGCUUAUCAGACUGAUGUUGACUa-----	16	
0, 2		
-----UAGCUUAUCAGACUGAUGUUGACUu-----	5	
0, 2		
-----UAGCUUAUCAGACUGAUGUUGACUG-----	4	
0, 3		
-----AGCUUAUCAGACUGAUGU-----	27	
1, -3		
-----AGCUUAUCAGACUGAUGUU-----	312	

1, -2		
-----AGCUUAUCAGACUGAUGUUG-----		165
1, -1		
-----AGCUUAUCAGACUGAUGUUGu-----		29
1, -1		
-----AGCUUAUCAGACUGAUGUUGA-----		439
1, 0		
-----AGCUUAUCAGACUGAUGUUGAa-----		7
1, 0		
-----AGCUUAUCAGACUGAUGUUGAaa-----		3
1, 0		
-----AGCUUAUCAGACUGAUGUUGAau-----		3
1, 0		
-----AGCUUAUCAGACUGAUGUUGAu-----		6
1, 0		
-----AGCUUAUCAGACUGAUGUUGAC-----		189
1, 1		
-----AGCUUAUCAGACUGAUGUUGACa-----		106
1, 1		
-----AGCUUAUCAGACUGAUGUUGACau-----		7
1, 1		
-----AGCUUAUCAGACUGAUGUUGACU-----		35
1, 2		
-----AGCUUAUCAGACUGAUGUUGACUG-----		4
1, 3		
-----GCUUAUCAGACUGAUGUU-----		124
2, -2		
-----GCUUAUCAGACUGAUGUUG-----		101
2, -1		
-----GCUUAUCAGACUGAUGUUGu-----		2
2, -1		
-----GCUUAUCAGACUGAUGUUGA-----		73
2, 0		
-----GCUUAUCAGACUGAUGUUGAa-----		2
2, 0		
-----GCUUAUCAGACUGAUGUUGAC-----		52
2, 1		
-----GCUUAUCAGACUGAUGUUGACa-----		13

2,1	-----GCUUAUCAGACUGAUGUUGACU-----	4
2,2	-----CAACACCAGUCGAUGGGC-----	15
0,-3	-----CAACACCAGUCGAUGGGCU-----	100
0,-2	-----CAACACCAGUCGAUGGGCUu-----	2
0,-2	-----CAACACCAGUCGAUGGGCUG-----	42
0,-1	-----CAACACCAGUCGAUGGGCUGaa-----	2
0,-1	-----CAACACCAGUCGAUGGGCUGU-----	173
0,0	-----CAACACCAGUCGAUGGGCUGUa-----	9
0,0	-----CAACACCAGUCGAUGGGCUGUaa-----	387
0,0	-----CAACACCAGUCGAUGGGCUGUau-----	167
0,0	-----CAACACCAGUCGAUGGGCUGUuu-----	18
0,0	-----CAACACCAGUCGAUGGGCUGUC-----	54
0,1	-----CAACACCAGUCGAUGGGCUGUCa-----	244
0,1	-----CAACACCAGUCGAUGGGCUGUCaa-----	16
0,1	-----CAACACCAGUCGAUGGGCUGUCau-----	51
0,1	-----CAACACCAGUCGAUGGGCUGUCU-----	124
0,2	-----CAACACCAGUCGAUGGGCUGUCUa-----	3
0,2	-----CAACACCAGUCGAUGGGCUGUCUaa-----	3
0,2	-----CAACACCAGUCGAUGGGCUGUCUau-----	4

Count	Sequence	Count
0,2	-----CAACACCAGUCGAUGGGCUGUCUu---	14
0,2	-----CAACACCAGUCGAUGGGCUGUCUuu---	13
0,2	-----AACACCAGUCGAUGGGCUG-----	3
1,-1	-----AACACCAGUCGAUGGGCUGUaa---	6
1,0	-----AACACCAGUCGAUGGGCUGUau---	2
1,0	-----AACACCAGUCGAUGGGCUGUuu---	2
1,0	-----AACACCAGUCGAUGGGCUGUCa---	14
1,1	-----AACACCAGUCGAUGGGCUGUCU-----	45
1,2	-----AACACCAGUCGAUGGGCUGUCUaa--	2
1,2	-----AACACCAGUCGAUGGGCUGUCUu---	4
1,2	-----AACACCAGUCGAUGGGCUGUCUuu---	4
1,2	-----ACACCAGUCGAUGGGCUGUCU-----	6
2,2		

>hsa-mir-210 3p:66-87 SRX018967

accggcagugccuccaggcgagggcagccccugcccaccgcacacugcgcugccccagacccaCUGUGCGUGUGACAG
CGGCUGAucugugccugggcagcgcgaccc

....((..(((.(((((((((((..((((.((((..((((((((((.(.(((((...)))..)).)))))..)))..)))..)))).

-----AGCCCCUGCCCACCGCACACU-----

-----AGCCCCUGCCCACCGCACACUGu-----

----- 3

-----ACUGUGCGUGUGACAG

CG----- 2 -1,-5

-----ACUGUGCGUGUGACAG

CGG-----	4	-1,-4	
-----			-ACUGUGCGUGUGACAG
CGGCU-----	33	-1,-2	
-----			-ACUGUGCGUGUGACAG
CGGCUGA-----	4	-1,0	
-----			-CUGUGCGUGUGACAG
CGG-----	10	0,-4	
-----			-CUGUGCGUGUGACAG
CGGC-----	2	0,-3	
-----			-CUGUGCGUGUGACAG
CGGCU-----	238	0,-2	
-----			-CUGUGCGUGUGACAG
CGGCU _{aa} -----	5	0,-2	
-----			-CUGUGCGUGUGACAG
CGGCU _u -----	2	0,-2	
-----			-CUGUGCGUGUGACAG
CGGCUGA-----	82	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGA _a -----	24	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGA _{aa} -----	7	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGA _{au} -----	4	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAU-----	13	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAU _a -----	4	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAU _{aa} -----	2	0,1	
-----			-CUGUGCGUGUGACAG
CGGCUGAU _{au} -----	3	0,1	
-----			-UGUGCGUGUGACAG
CGGCU-----	2	1,-2	
-----			-UGUGCGUGUGACAG
CGGCUGA-----	4	1,0	
-----			-UGUGCGUGUGACAG
CGGCUGA _a -----	2	1,0	

cagggguUUGGGGAACGGCCGCUGAGUGaggcgucggcuguguuucucaccgcggucuuuuccuccacucuu
(((((((.(((((((.((((((((((.((.(((....))).)).)).)).)).)).)).)).)).)).)).))

>hsa-mi r-2116 MA:14-34;mi :51-71 SRX018967

>hsa-mir-212 3p:71-91 SRX018967


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>hsa-mi r-214      mi:30-51;MA:71-92      SRX018967
```

CAGACAGGCA----- 2 -1,-2

CAGACAGGCAa----- 2 -1,-2

CAGACAGGCAGa----- 2 -1, -1

CAGACAGGCA----- 2 0,-2

CAGACAGGCA_u----- 2 0,-2

CAGACAGGCAG----- 2 0, -1

-----ACAGCAGGCA

CAGACAGGCAGa----- 2 0, -1

>hsa-mir-215 5p:27-47 SRX018967

aucauucagaaaugguauacagggaaAUGACCUAUGAAUUGACAGACaaauagcugaguuugucugucauuucuuuagg
ccaauauucuguaugacugugcuacucaa

-----AAUGACCUAUGAAUUGACAG-----

----- 7 -1,-2

-----AUGACCUAUGAAUUGACAG-----

----- 363 0,-2

-----AUGACCUAUGAAUUGACAGA-----

----- 12 0,-1

-----AUGACCUAUGAAUUGACAGAC-----

----- 16 0,0

-----AUGACCUAUGAAUUGACAGACA-----

----- 16 0,1

-----UGACCUAUGAAUUGACAG-----

```

----- 5744 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 75 1,-2
-----UGACCUAUGAAUUGACAGA-----
----- 190 1,-1
-----UGACCUAUGAAUUGACAGAA-----
----- 12 1,-1
-----UGACCUAUGAAUUGACAGAAa-----
----- 6 1,-1
-----UGACCUAUGAAUUGACAGAAu-----
----- 4 1,-1
-----UGACCUAUGAAUUGACAGAC-----
----- 25 1,0
-----UGACCUAUGAAUUGACAGACA-----
----- 81 1,1
-----UGACCUAUGAAUUGACAGACAu-----
----- 15 1,1
-----UGACCUAUGAAUUGACAGACAAu-----
----- 11 1,1
-----UGACCUAUGAAUUGACAGACAA-----
----- 4 1,2
-----UGACCUAUGAAUUGACAGACAAa-----
----- 3 1,2
-----GACCUAUGAAUUGACAGA-----
----- 3 2,-1

```

```

>hsa-mir-216a 5p:19-40 SRX018967
gauggcugugaguuggcuUAAUCUCAGCUGGCAACUGUGAgauguucauacaauccucacaguggucucugggauuaug
cuaaacagagcaauuuccuagcccucacga
(((.((((((.(((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.
))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----UAAUCUCAGCUGGCAACU-----
----- 5 0,-4
-----UAAUCUCAGCUGGCAACUGU-----
----- 3 0,-2
-----UAAUCUCAGCUGGCAACUGUGA-----
----- 4 0,0
-----UAAUCUCAGCUGGCAACUGUGAA-----

```

```

----- 3 0,0
-----UAAUCUCAGCUGGCAACUGUGAG-----
----- 2 0,1
-----AAUCUCAGCUGGCAACUGU-----
----- 5 1,-2
-----AAUCUCAGCUGGCAACUGUGAG-----
----- 4 1,1
-----CACAGUGGUCUCUGGGAUUAU-
----- 2
-----CACAGUGGUCUCUGGGAUUAUG
----- 2
-----CACAGUGGUCUCUGGGAUUAUG
a----- 3

```

>hsa-mir-216b 5p:11-32 SRX018967

```

gcagacuggaAAAUCUCUGCAGGCAAUGUGAugucacugaggaaucacacacuacccguagagauucuacagucuga
ca

```

```

.(((((((...(((((((((((((.....((((((.....)))))).....)))))).....)))))).....))))).

```

```

..

```

```

-----GAAAUCUCUGCAGGCAAUGU-----

```

```

-- 2 -2,-2

```

```

-----AAAUCUCUGCAGGCAAUGa-----

```

```

-- 3 -1,-3

```

```

-----AAAUCUCUGCAGGCAAUGU-----

```

```

-- 68 -1,-2

```

```

-----AAAUCUCUGCAGGCAAUGUa-----

```

```

-- 5 -1,-2

```

```

-----AAAUCUCUGCAGGCAAUGUu-----

```

```

-- 5 -1,-2

```

```

-----AAAUCUCUGCAGGCAAUGUG-----

```

```

-- 107 -1,-1

```

```

-----AAAUCUCUGCAGGCAAUGUGu-----

```

```

-- 25 -1,-1

```

```

-----AAAUCUCUGCAGGCAAUGUGA-----

```

```

-- 22 -1,0

```

```

-----AAAUCUCUGCAGGCAAU-----

```

```

-- 4 0,-4

```

```

-----AAAUCUCUGCAGGCAAUG-----

```

```

-- 17 0,-3
-----AAAUCUCUGCAGGCAAUGa-----
-- 2 0,-3
-----AAAUCUCUGCAGGCAAUGU-----
-- 149 0,-2
-----AAAUCUCUGCAGGCAAUGUa-----
-- 3 0,-2
-----AAAUCUCUGCAGGCAAUGUaa-----
-- 6 0,-2
-----AAAUCUCUGCAGGCAAUGUau-----
-- 2 0,-2
-----AAAUCUCUGCAGGCAAUGUG-----
-- 465 0,-1
-----AAAUCUCUGCAGGCAAUGUGu-----
-- 120 0,-1
-----AAAUCUCUGCAGGCAAUGUGuu-----
-- 2 0,-1
-----AAAUCUCUGCAGGCAAUGUGA-----
-- 1087 0,0
-----AAAUCUCUGCAGGCAAUGUGAa-----
-- 75 0,0
-----AAAUCUCUGCAGGCAAUGUGAaa-----
-- 5 0,0
-----AAAUCUCUGCAGGCAAUGUGAU-----
-- 150 0,1
-----AAAUCUCUGCAGGCAAUGUGAUa-----
-- 7 0,1
-----AAAUCUCUGCAGGCAAUGUGAUG-----
-- 26 0,2
-----AAAUCUCUGCAGGCAAUGUGAUGU-----
-- 7 0,3
-----AAUCUCUGCAGGCAAUGUG-----
-- 3 1,-1
-----AAUCUCUGCAGGCAAUGUGA-----
-- 4 1,0
-----ACACUUACCCGUAGAGAUUC-----
-- 2

```



```

----- 11 -1,-2
-----AUACUGCAUCAGGAACUGAUUGau-----
----- 2 -1,-2
-----AUACUGCAUCAGGAACUGAUUGu-----
----- 146 -1,-2
-----AUACUGCAUCAGGAACUGAUUGG-----
----- 500 -1,-1
-----AUACUGCAUCAGGAACUGAUUGGu-----
----- 15 -1,-1
-----AUACUGCAUCAGGAACUGAUUGGA-----
----- 40 -1,0
-----AUACUGCAUCAGGAACUGAUUGGAa-----
----- 2 -1,0
-----AUACUGCAUCAGGAACUGAUUGGAU-----
----- 4 -1,1
-----UACUGCAUCAGGAACUGA-----
----- 5 0,-5
-----UACUGCAUCAGGAACUGAU-----
----- 2 0,-4
-----UACUGCAUCAGGAACUGAUa-----
----- 5 0,-4
-----UACUGCAUCAGGAACUGAUU-----
----- 31 0,-3
-----UACUGCAUCAGGAACUGAUUG-----
----- 112 0,-2
-----UACUGCAUCAGGAACUGAUUGa-----
----- 9 0,-2
-----UACUGCAUCAGGAACUGAUUGaa-----
----- 4 0,-2
-----UACUGCAUCAGGAACUGAUUGG-----
----- 270 0,-1
-----UACUGCAUCAGGAACUGAUUGGu-----
----- 15 0,-1
-----UACUGCAUCAGGAACUGAUUGGA-----
----- 198 0,0
-----UACUGCAUCAGGAACUGAUUGGAa-----
----- 8 0,0
-----UACUGCAUCAGGAACUGAUUGGAaa-----

```

-----	2	0,0	
-----UACUGCAUCAGGAACUGAUUGGAU-----			
-----	8	0,1	
-----CAUCAGUUC			
CUAAUGCAUU-----	3		
-----AUCAGUUC			
CUAAUGCAUUGCC-----	3		
-----AUCAGUUC			
CUAAUGCAUUGCCU-----	3		

```

>hsa-mir-219-1 5p:21-41;3p:62-83 SRX018967
ccgccccgggcccgcggcuccUGAUUGUCCAAACGCAAUUCUcgagucuauggcuccggccgAGAGUUGAGUCUGGACGUC
CCGagccgcgcgcccccaaccucgagcggg
(((((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
..))))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----UGAUUGUCCAAACGCAAU-----
-----12 0,-3
-----UGAUUGUCCAAACGCAAUa-----
-----2 0,-3
-----UGAUUGUCCAAACGCAAUU-----
-----8 0,-2
-----UGAUUGUCCAAACGCAAUUCU-----
-----2 0,0
-----UGAUUGUCCAAACGCAAUUCUC-----
-----2 0,1
-----UGAUUGUCCAAACGCAAUUCUCG-----
-----4 0,2
-----AGAGUUGAGUCUGGACGUC
CCG-----6 0,0
-----AGAGUUGAGUCUGGACGUC
CCGu-----4 0,0
-----AGAGUUGAGUCUGGACGUC
CCGA-----6 0,1

```

```

.)))))).)))))))))
-----UGAUUGUCCAAACGCAAU-----
----- 12 0,-3
-----UGAUUGUCCAAACGCAAUa-----
----- 2 0,-3
-----UGAUUGUCCAAACGCAAU-----
----- 8 0,-2
-----UGAUUGUCCAAACGCAAUUCU-----
----- 2 0,0

```

>hsa-mir-22 mi:15-36;MA:53-74 SRX018967

```

ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc

```

```

(((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).)))
-----AGUUCUUCAGUGGCAAGC-----
----- 20 0,-4
-----AGUUCUUCAGUGGCAAGCa-----
----- 2 0,-4
-----AGUUCUUCAGUGGCAAGCU-----
----- 67 0,-3
-----AGUUCUUCAGUGGCAAGCUU-----
----- 45 0,-2
-----AGUUCUUCAGUGGCAAGCUUa-----
----- 7 0,-2
-----AGUUCUUCAGUGGCAAGCUUU-----
----- 832 0,-1
-----AGUUCUUCAGUGGCAAGCUUUu-----
----- 27 0,-1
-----AGUUCUUCAGUGGCAAGCUUUA-----
----- 277 0,0
-----AGUUCUUCAGUGGCAAGCUUUAa-----
----- 39 0,0
-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 18 0,1
-----AAAGCUGCCAGUUGAAGAAC-----
----- 2 -1,-3
-----AAAGCUGCCAGUUGAAGAACU-----

```


-----	3	-1,-2	-----AAAGCUGCCAGUUGAAGAACUG-----
-----	2	-1,-1	-----AAGCUGCCAGUUGAAGAA-----
-----	1200	0,-4	-----AAGCUGCCAGUUGAAGAAa-----
-----	13	0,-4	-----AAGCUGCCAGUUGAAGAAaa-----
-----	3	0,-4	-----AAGCUGCCAGUUGAAGAAau-----
-----	9	0,-4	-----AAGCUGCCAGUUGAAGAAu-----
-----	3	0,-4	-----AAGCUGCCAGUUGAAGAAuu-----
-----	41	0,-4	-----AAGCUGCCAGUUGAAGAAC-----
-----	826	0,-3	-----AAGCUGCCAGUUGAAGAACa-----
-----	141	0,-3	-----AAGCUGCCAGUUGAAGAACaa-----
-----	34	0,-3	-----AAGCUGCCAGUUGAAGAACau-----
-----	9	0,-3	-----AAGCUGCCAGUUGAAGAACU-----
-----	3344	0,-2	-----AAGCUGCCAGUUGAAGAACUa-----
-----	74	0,-2	-----AAGCUGCCAGUUGAAGAACUaa-----
-----	36	0,-2	-----AAGCUGCCAGUUGAAGAACUau-----
-----	27	0,-2	-----AAGCUGCCAGUUGAAGAACUu-----
-----	23	0,-2	-----AAGCUGCCAGUUGAAGAACUuu-----
-----	44	0,-2	-----AAGCUGCCAGUUGAAGAACUG-----
-----	547	0,-1	-----AAGCUGCCAGUUGAAGAACUGa-----

```

----- 40 0,-1
-----AAGCUGCCAGUUGAAGAACUGaa-----
----- 2 0,-1
-----AAGCUGCCAGUUGAAGAACUGau-----
----- 2 0,-1
-----AAGCUGCCAGUUGAAGAACUGU-----
----- 2792 0,0
-----AAGCUGCCAGUUGAAGAACUGUa-----
----- 60 0,0
-----AAGCUGCCAGUUGAAGAACUGUaa-----
----- 31 0,0
-----AAGCUGCCAGUUGAAGAACUGUau-----
----- 20 0,0
-----AAGCUGCCAGUUGAAGAACUGUU-----
----- 53 0,1
-----AAGCUGCCAGUUGAAGAACUGUUa-----
----- 14 0,1
-----AAGCUGCCAGUUGAAGAACUGUUu-----
----- 32 0,1
-----AAGCUGCCAGUUGAAGAACUGUUuu-----
----- 2 0,1
-----AGCUGCCAGUUGAAGAAC-----
----- 5 1,-3
-----AGCUGCCAGUUGAAGAACa-----
----- 2 1,-3
-----AGCUGCCAGUUGAAGAACU-----
----- 23 1,-2
-----AGCUGCCAGUUGAAGAACUG-----
----- 5 1,-1
-----AGCUGCCAGUUGAAGAACUGU-----
----- 25 1,0
-----AGCUGCCAGUUGAAGAACUGUau-----
----- 2 1,0

```

>hsa-mir-221 mi:25-46;MA:65-87 SRX018967

ugaacauccaggucuggggcaugaACCUGGCAUACAAUGUAGAUUUcuguguucguuaggcaacAGCUACAUUGUCUGCU
GGGUUUCaggcuaccuggaacauguucuc

.((((((((((((.....(((.((((((..(((.((((((((((((.....((((((((.....))))).))))))))))))).)).).

.)).)))).)))))...))))...

-----AACCUGGCAUACAAUGUAGAUU-----
----- 3 -1,-1
-----AACCUGGCAUACAAUGUAGAUUU-----
----- 6 -1,0
-----AACCUGGCAUACAAUGUAGAUUUUCU-----
----- 2 -1,2
-----ACCUGGCAUACAAUGUAGAUa-----
----- 2 0,-3
-----ACCUGGCAUACAAUGUAGAU-----
----- 20 0,-2
-----ACCUGGCAUACAAUGUAGAUa-----
----- 21 0,-2
-----ACCUGGCAUACAAUGUAGAUU-----
----- 99 0,-1
-----ACCUGGCAUACAAUGUAGAUUa-----
----- 8 0,-1
-----ACCUGGCAUACAAUGUAGAUUU-----
----- 629 0,0
-----ACCUGGCAUACAAUGUAGAUUUa-----
----- 12 0,0
-----ACCUGGCAUACAAUGUAGAUUUau-----
----- 2 0,0
-----ACCUGGCAUACAAUGUAGAUUUu-----
----- 8 0,0
-----ACCUGGCAUACAAUGUAGAUUUC-----
----- 98 0,1
-----ACCUGGCAUACAAUGUAGAUUUCa-----
----- 3 0,1
-----ACCUGGCAUACAAUGUAGAUUUUCU-----
----- 60 0,2
-----CCUGGCAUACAAUGUAGAUUU-----
----- 3 1,0
-----CCUGGCAUACAAUGUAGAUUUC-----
----- 2 1,1
-----CUGGCAUACAAUGUAGAUUU-----
----- 2 2,0
-----AGCUACAUUGUCUGCU

GG-----	3	0,-5	-----AGCUACAUUGUCUGCU
GGG-----	70	0,-4	-----AGCUACAUUGUCUGCU
GGGU-----	18	0,-3	-----AGCUACAUUGUCUGCU
GGGUaa-----	2	0,-3	-----AGCUACAUUGUCUGCU
GGGUau-----	13	0,-3	-----AGCUACAUUGUCUGCU
GGGUU-----	105	0,-2	-----AGCUACAUUGUCUGCU
GGGUUa-----	43	0,-2	-----AGCUACAUUGUCUGCU
GGGUUaa-----	17	0,-2	-----AGCUACAUUGUCUGCU
GGGUUau-----	35	0,-2	-----AGCUACAUUGUCUGCU
GGGUUU-----	769	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUa-----	84	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUaa-----	19	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUau-----	28	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUu-----	136	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUuu-----	5	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUC-----	376	0,0	-----AGCUACAUUGUCUGCU
GGGUUUCu-----	33	0,0	-----AGCUACAUUGUCUGCU
GGGUUUCuu-----	2	0,0	-----AGCUACAUUGUCUGCU
GGGUUUCA-----	15	0,1	-----AGCUACAUUGUCUGCU

GGGUUCAa-----	5	0,1	
-----			-GCUACAUUGUCUGCU
GGGUUau-----	2	1,-2	
-----			-GCUACAUUGUCUGCU
GGGUUU-----	29	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUu-----	2	1,-1	
-----			-GCUACAUUGUCUGCU
GGGUUUC-----	5	1,0	

>hsa-mi r-222 mi:31-52;MA:69-89 SRX018967

gcugcuggaagguguagguaccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu

...((((((((((((.....((.((((((((((((((((((((((((((((((((.....)))))))).)))))))).)))))))).
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-----			-AGCUACAUCUGG
CUACUG-----	161	0,-3	
-----			-AGCUACAUCUGG
CUACUGG-----	343	0,-2	
-----			-AGCUACAUCUGG
CUACUGGG-----	373	0,-1	
-----			-AGCUACAUCUGG
CUACUGGGa-----	10	0,-1	
-----			-AGCUACAUCUGG
CUACUGGGau-----	3	0,-1	
-----			-AGCUACAUCUGG
CUACUGGGU-----	495	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUa-----	35	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUaa-----	70	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUau-----	45	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUu-----	30	0,0	
-----			-AGCUACAUCUGG
CUACUGGGUuu-----	13	0,0	
-----			-AGCUACAUCUGG

CUACUGGGUC-----	1516	0,1	
-----			--AGCUACAUCUGG
CUACUGGGUCa-----	75	0,1	
-----			--AGCUACAUCUGG
CUACUGGGUCaa-----	5	0,1	
-----			--AGCUACAUCUGG
CUACUGGGUCau-----	12	0,1	
-----			--AGCUACAUCUGG
CUACUGGGUCU-----	1633	0,2	
-----			--AGCUACAUCUGG
CUACUGGGUCUa-----	17	0,2	
-----			--AGCUACAUCUGG
CUACUGGGUCUaa-----	11	0,2	
-----			--AGCUACAUCUGG
CUACUGGGUCUau-----	28	0,2	
-----			--AGCUACAUCUGG
CUACUGGGUCUu-----	65	0,2	
-----			--AGCUACAUCUGG
CUACUGGGUCUuu-----	56	0,2	
-----			--AGCUACAUCUGG
CUACUGGGUCUC-----	179	0,3	
-----			--AGCUACAUCUGG
CUACUGGGUCUCa-----	53	0,3	
-----			--AGCUACAUCUGG
CUACUGGGUCUCU-----	75	0,4	
-----			--GCUACAUCUGG
CUACUGG-----	3	1,-2	
-----			--GCUACAUCUGG
CUACUGGGUC-----	6	1,1	
-----			--GCUACAUCUGG
CUACUGGGUCU-----	8	1,2	
-----			--GCUACAUCUGG
CUACUGGGUCUuu-----	2	1,2	

>hsa-mir-223 mi:26-47;MA:68-89 SRX018967

ccuggccuccgagugccacgcucCGUGUAUUUGACAAGCUGAGUUGgacacuccaugugguagagUGUCAGUUUGUCA
AAUACCCCAagugcggcacaugcuuaccag

.((((.....(((((((.((((.(.((((((((((((((((.....(((((((.....))))))))))))))))))))))

- 2 0,2
-----CAAGUCACUAGUGGUUCCGUUUAu-----

- 30 0,2
-----CAAGUCACUAGUGGUUCCGUUUAG-----

- 737 0,3
-----CAAGUCACUAGUGGUUCCGUUUAGa-----

- 25 0,3
-----CAAGUCACUAGUGGUUCCGUUUAGU-----

- 52 0,4
-----AAGUCACUAGUGGUUCCG-----

- 2 1,-2
-----AAGUCACUAGUGGUUCCGUU-----

- 3 1,0
-----AAGUCACUAGUGGUUCCGUUU-----

- 17 1,1
-----AAGUCACUAGUGGUUCCGUUUu-----

- 2 1,1
-----AAGUCACUAGUGGUUCCGUUUA-----

- 5 1,2
-----AAGUCACUAGUGGUUCCGUUUAG-----

- 7 1,3
-----AAAUGGUGCCCUAGUGAC-----

- 12 1,-4
-----AAAUGGUGCCCUAGUGACU-----

- 4 1,-3
-----AAAUGGUGCCCUAGUGACUA-----

- 10 1,-2
-----AAAUGGUGCCCUAGUGACUa-----

- 7 1,-2
-----AAAUGGUGCCCUAGUGACUu-----

- 4 1,-2
-----AAAUGGUGCCCUAGUGACUAC-----

- 11 1,-1
-----AAAUGGUGCCCUAGUGACUACA-----

- 27 1,0
-----AAUGGUGCCCUAGUGACUACAA-----

- 3 2,1

-1,1	-AUCACAUUGCCAGGGAUU-----	359
0,-3	-AUCACAUUGCCAGGGAUUU-----	1583
0,-2	-AUCACAUUGCCAGGGAUUUa-----	249
0,-2	-AUCACAUUGCCAGGGAUUUaa-----	70
0,-2	-AUCACAUUGCCAGGGAUUUau-----	6
0,-2	-AUCACAUUGCCAGGGAUUUu-----	157
0,-2	-AUCACAUUGCCAGGGAUUUuu-----	5
0,-2	-AUCACAUUGCCAGGGAUUUC-----	1086
0,-1	-AUCACAUUGCCAGGGAUUUCa-----	208
0,-1	-AUCACAUUGCCAGGGAUUUCaa-----	16
0,-1	-AUCACAUUGCCAGGGAUUUCu-----	25
0,-1	-AUCACAUUGCCAGGGAUUUCC-----	591
0,0	-AUCACAUUGCCAGGGAUUUCCu-----	5
0,0	-AUCACAUUGCCAGGGAUUUCCA-----	2554
0,1	-AUCACAUUGCCAGGGAUUUCCAu-----	318
0,1	-AUCACAUUGCCAGGGAUUUCCAuu-----	24
0,1	-AUCACAUUGCCAGGGAUUUCCAA-----	751
0,2	-AUCACAUUGCCAGGGAUUUCCAAa-----	23
0,2	-AUCACAUUGCCAGGGAUUUCCAAaa-----	3


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----- 35 0,-2
-----UGGGUUCCUGGCAUGCUGAUaa-----
----- 3 0,-2
-----UGGGUUCCUGGCAUGCUGAUU-----
----- 131 0,-1
-----UGGGUUCCUGGCAUGCUGAUUa-----
----- 20 0,-1
-----UGGGUUCCUGGCAUGCUGAUUaa-----
----- 3 0,-1
-----UGGGUUCCUGGCAUGCUGAUUau-----
----- 3 0,-1
-----UGGGUUCCUGGCAUGCUGAUUU-----
----- 586 0,0
-----UGGGUUCCUGGCAUGCUGAUUUa-----
----- 64 0,0
-----UGGGUUCCUGGCAUGCUGAUUUaa-----
----- 4 0,0
-----UGGGUUCCUGGCAUGCUGAUUUau-----
----- 3 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
----- 55 0,0
-----UGGGUUCCUGGCAUGCUGAUUUuu-----
----- 6 0,0
-----UGGGUUCCUGGCAUGCUGAUUUG-----
----- 8 0,1
-----GGGUUCCUGGCAUGCUGA-----
----- 2 1,-3
-----GGGUUCCUGGCAUGCUGAU-----
----- 6 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
----- 14 1,-1
-----GGGUUCCUGGCAUGCUGAUUa-----
----- 4 1,-1
-----GGGUUCCUGGCAUGCUGAUUaa-----
----- 2 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
----- 111 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----

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-----	20	1,0	
-----	-GGGUUCCUGGCAUGCUGAUUUaa-----		
-----	9	1,0	
-----	-GGGUUCCUGGCAUGCUGAUUUau-----		
-----	10	1,0	
-----	-GGGUUCCUGGCAUGCUGAUUUu-----		
-----	34	1,0	
-----	-GGGUUCCUGGCAUGCUGAUUUuu-----		
-----	11	1,0	
-----	-GGGUUCCUGGCAUGCUGAUUUUG-----		
-----	2	1,1	
-----	-GGGUUCCUGGCAUGCUGAUUUUGU-----		
-----	8	1,2	
-----	-----AAAUCACAUUGCCAGGGAa-----		
-----	2	-2,-5	
-----	-----AAAUCACAUUGCCAGGGAUUACCA-----		
-----	2	-2,1	
-----	-----AAUCACAUUGCCAGGGAUU-----		
-----	5	-1,-3	
-----	-----AAUCACAUUGCCAGGGAUUA-----		
-----	17	-1,-2	
-----	-----AAUCACAUUGCCAGGGAUUAa---		
-----	20	-1,-2	
-----	-----AAUCACAUUGCCAGGGAUUAu---		
-----	4	-1,-2	
-----	-----AAUCACAUUGCCAGGGAUUAC---		
-----	35	-1,-1	
-----	-----AAUCACAUUGCCAGGGAUUACa---		
-----	4	-1,-1	
-----	-----AAUCACAUUGCCAGGGAUUACu---		
-----	2	-1,-1	
-----	-----AAUCACAUUGCCAGGGAUUACC---		
-----	29	-1,0	
-----	-----AAUCACAUUGCCAGGGAUUACCA-----		
-----	21	-1,1	
-----	-----AAUCACAUUGCCAGGGAUUACCAu-----		
-----	3	-1,1	
-----	-----AAUCACAUUGCCAGGGAUUACCAC-----		

-----	2	-1,2	-----AUCACAUUGCCAGGGAUU-----
-----	359	0,-3	-----AUCACAUUGCCAGGGAUUA-----
-----	2052	0,-2	-----AUCACAUUGCCAGGGAUUAa-----
-----	654	0,-2	-----AUCACAUUGCCAGGGAUUAaa-----
-----	68	0,-2	-----AUCACAUUGCCAGGGAUUAau-----
-----	5	0,-2	-----AUCACAUUGCCAGGGAUUAu-----
-----	320	0,-2	-----AUCACAUUGCCAGGGAUUAuu-----
-----	25	0,-2	-----AUCACAUUGCCAGGGAUUAC-----
-----	1966	0,-1	-----AUCACAUUGCCAGGGAUUACa-----
-----	458	0,-1	-----AUCACAUUGCCAGGGAUUACaa-----
-----	37	0,-1	-----AUCACAUUGCCAGGGAUUACu-----
-----	68	0,-1	-----AUCACAUUGCCAGGGAUUACuu-----
-----	5	0,-1	-----AUCACAUUGCCAGGGAUUACC-----
-----	2313	0,0	-----AUCACAUUGCCAGGGAUUACCu-----
-----	56	0,0	-----AUCACAUUGCCAGGGAUUACCuu-----
-----	14	0,0	-----AUCACAUUGCCAGGGAUUACCA-----
-----	5439	0,1	-----AUCACAUUGCCAGGGAUUACCAa-----
-----	191	0,1	-----AUCACAUUGCCAGGGAUUACCAa-----
a-----	8	0,1	-----AUCACAUUGCCAGGGAUUACCAa-----

u-----	12	0,1	
-----			-AUCACAUUGCCAGGGAUUACCAu
-----	1039	0,1	
-----			-AUCACAUUGCCAGGGAUUACCAu
u-----	371	0,1	
-----			-AUCACAUUGCCAGGGAUUACCAC
-----	1111	0,2	
-----			-AUCACAUUGCCAGGGAUUACCAC
a-----	231	0,2	
-----			-AUCACAUUGCCAGGGAUUACCAC
aa-----	8	0,2	
-----			-AUCACAUUGCCAGGGAUUACCAC
au-----	13	0,2	
-----			-AUCACAUUGCCAGGGAUUACCAC
u-----	2875	0,2	
-----			-AUCACAUUGCCAGGGAUUACCAC
uu-----	38	0,2	
-----			-AUCACAUUGCCAGGGAUUACCAC
G-----	33	0,3	
-----			-UCACAUUGCCAGGGAUUA----
-----	14	1,-2	
-----			-UCACAUUGCCAGGGAUUAa----
-----	18	1,-2	
-----			-UCACAUUGCCAGGGAUUAaa----
-----	2	1,-2	
-----			-UCACAUUGCCAGGGAUUAau----
-----	2	1,-2	
-----			-UCACAUUGCCAGGGAUUAu----
-----	3	1,-2	
-----			-UCACAUUGCCAGGGAUUAC----
-----	18	1,-1	
-----			-UCACAUUGCCAGGGAUUACa----
-----	4	1,-1	
-----			-UCACAUUGCCAGGGAUUACaa----
-----	3	1,-1	
-----			-UCACAUUGCCAGGGAUUACC----
-----	18	1,0	
-----			-UCACAUUGCCAGGGAUUACCA----

-2, -2		
-----GUGCCUACUGAGCUGAUUAa-----	8	
-1, -4		
-----GUGCCUACUGAGCUGAUUAUC-----	3	
-1, -3		
-----GUGCCUACUGAGCUGAUUAUCA-----	26	
-1, -2		
-----GUGCCUACUGAGCUGAUUAUCAG-----	3	
-1, -1		
-----GUGCCUACUGAGCUGAUUAUCAGU-----	5	-1,0
-----UGCCUACUGAGCUGAUUAUCA-----	6	0,-2
-----CUGGCUCAGUUCAGCAGGAACA-----	2	
-1, -1		
-----CUGGCUCAGUUCAGCAGGAACAG---	3	-1,0
-----CUGGCUCAGUUCAGCAGGAACAGu--	3	-1,0
-----UGGCUCAGUUCAGCAGGA-----	23	0,-4
-----UGGCUCAGUUCAGCAGGA-----	155	0,-3
-----UGGCUCAGUUCAGCAGGAa-----	17	0,-3
-----UGGCUCAGUUCAGCAGGAaa-----	3	0,-3
-----UGGCUCAGUUCAGCAGGAau-----	5	0,-3
-----UGGCUCAGUUCAGCAGGAAC-----	128	0,-2
-----UGGCUCAGUUCAGCAGGAACu-----	3	0,-2
-----UGGCUCAGUUCAGCAGGAACA-----	224	0,-1
-----UGGCUCAGUUCAGCAGGAACAa---	105	0,-1
-----UGGCUCAGUUCAGCAGGAACAaa---	19	0,-1
-----UGGCUCAGUUCAGCAGGAACAau---	13	0,-1
-----UGGCUCAGUUCAGCAGGAACAu---	29	0,-1
-----UGGCUCAGUUCAGCAGGAACAuu---	11	0,-1
-----UGGCUCAGUUCAGCAGGAACAG---	2003	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGa---	105	0,0
-----UGGCUCAGUUCAGCAGGAACAGau---	4	0,0
-----UGGCUCAGUUCAGCAGGAACAGu---	3077	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGuu---	437	0,0
-----UGGCUCAGUUCAGCAGGAACAGG---	12	0,1
-----UGGCUCAGUUCAGCAGGAACAGGu---	3	0,1
-----UGGCUCAGUUCAGCAGGAACAGGuu---	2	0,1

-1,0	-----UGGCUCAGUUCAGCAGGA-----	23
0,-4	-----UGGCUCAGUUCAGCAGGAA-----	155
0,-3	-----UGGCUCAGUUCAGCAGGAa----	17
0,-3	-----UGGCUCAGUUCAGCAGGAaa---	3
0,-3	-----UGGCUCAGUUCAGCAGGAau---	5
0,-3	-----UGGCUCAGUUCAGCAGGAAC----	128
0,-2	-----UGGCUCAGUUCAGCAGGAACu---	3
0,-2	-----UGGCUCAGUUCAGCAGGAACA---	224
0,-1	-----UGGCUCAGUUCAGCAGGAACAa--	105
0,-1	-----UGGCUCAGUUCAGCAGGAACAaa-	19
0,-1	-----UGGCUCAGUUCAGCAGGAACAau-	13
0,-1	-----UGGCUCAGUUCAGCAGGAACAu--	29
0,-1	-----UGGCUCAGUUCAGCAGGAACAuu-	11
0,-1	-----UGGCUCAGUUCAGCAGGAACAG--	2003
0,0	-----UGGCUCAGUUCAGCAGGAACAGa-	105
0,0	-----UGGCUCAGUUCAGCAGGAACAGau	4
0,0	-----UGGCUCAGUUCAGCAGGAACAGu-	3077
0,0	-----UGGCUCAGUUCAGCAGGAACAGuu	437
0,0	-----UGGCUCAGUUCAGCAGGAACAGG-	12

0,1	-----UGGCUCAGUUCAGCAGGAACAGGu	3
0,1	-----UGGCUCAGUUCAGCAGGAACAGGuu	2
0,1	-----GGCUCAGUUCAGCAGGAA-----	8
1,-3	-----GGCUCAGUUCAGCAGGAACA---	8
1,-1	-----GGCUCAGUUCAGCAGGAACAa--	6
1,-1	-----GGCUCAGUUCAGCAGGAACAaa-	2
1,-1	-----GGCUCAGUUCAGCAGGAACAG--	58
1,0	-----GGCUCAGUUCAGCAGGAACAGa-	9
1,0	-----GGCUCAGUUCAGCAGGAACAGu-	101
1,0	-----GGCUCAGUUCAGCAGGAACAGuu	14
1,0	-----GCUCAGUUCAGCAGGAACAG--	28
2,0	-----GCUCAGUUCAGCAGGAACAGa-	5
2,0	-----GCUCAGUUCAGCAGGAACAGau	2
2,0	-----GCUCAGUUCAGCAGGAACAGu-	20
2,0	-----GCUCAGUUCAGCAGGAACAGuu	20
2,0	-----GCUCAGUUCAGCAGGAACAGG-	15
2,1	-----GCUCAGUUCAGCAGGAACAGGu	5
2,1		

>hsa-mir-25 mi:14-34;MA:52-73 SRX018967

ggccaguguugagAGGCGGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc

ggcc

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-----	-AGGCGGAGACUUGGGCAAU-	-----
----	2 0,-2	
-----	-AGGCGGAGACUUGGGCAAU-	-----
----	9 0,-1	
-----	-AGGCGGAGACUUGGGCAAUUG-	-----
----	38 0,0	
-----	-AGGCGGAGACUUGGGCAAUUGu-	-----
----	3 0,0	
-----	-AGGCGGAGACUUGGGCAAUUGC-	-----
----	84 0,1	
-----	-AGGCGGAGACUUGGGCAAUUGCU-	-----
----	248 0,2	
-----	-AGGCGGAGACUUGGGCAAUUGCUa-	-----
----	3 0,2	
-----	-AGGCGGAGACUUGGGCAAUUGCUau-	-----
----	2 0,2	
-----	-AGGCGGAGACUUGGGCAAUUGCUu-	-----
----	6 0,2	
-----	-CAUUGCACUUGUCUCGGU-	-----
----	219 0,-4	
-----	-CAUUGCACUUGUCUCGGUa-	-----
----	3 0,-4	
-----	-CAUUGCACUUGUCUCGGUu-	-----
----	2 0,-4	
-----	-CAUUGCACUUGUCUCGGUuu-	-----
----	7 0,-4	
-----	-CAUUGCACUUGUCUCGGUC-	-----
----	493 0,-3	
-----	-CAUUGCACUUGUCUCGGUCa-	-----
----	2 0,-3	
-----	-CAUUGCACUUGUCUCGGUCU-	-----
----	934 0,-2	
-----	-CAUUGCACUUGUCUCGGUCUa-	-----
----	4 0,-2	
-----	-CAUUGCACUUGUCUCGGUCUaa-	-----

----	4	0,-2	-----CAUUGCACUUGUCUCGGUCUau-----
----	2	0,-2	-----CAUUGCACUUGUCUCGGUCUu-----
----	4	0,-2	-----CAUUGCACUUGUCUCGGUCUG-----
----	631	0,-1	-----CAUUGCACUUGUCUCGGUCUGu-----
----	221	0,-1	-----CAUUGCACUUGUCUCGGUCUGuu-----
----	14	0,-1	-----CAUUGCACUUGUCUCGGUCUGA-----
----	2075	0,0	-----CAUUGCACUUGUCUCGGUCUGAa-----
----	78	0,0	-----CAUUGCACUUGUCUCGGUCUGAaa-----
----	11	0,0	-----CAUUGCACUUGUCUCGGUCUGAau-----
----	4	0,0	-----CAUUGCACUUGUCUCGGUCUGAu-----
----	69	0,0	-----CAUUGCACUUGUCUCGGUCUGAuu-----
----	2	0,0	-----AUUGCACUUGUCUCGGUC-----
----	13	1,-3	-----AUUGCACUUGUCUCGGUCU-----
----	49	1,-2	-----AUUGCACUUGUCUCGGUCUG-----
----	20	1,-1	-----AUUGCACUUGUCUCGGUCUGu-----
----	4	1,-1	-----AUUGCACUUGUCUCGGUCUGA-----
----	60	1,0	-----AUUGCACUUGUCUCGGUCUGAa-----
----	4	1,0	-----AUUGCACUUGUCUCGGUCUGAu-----
----	2	1,0	

>hsa-mi r-26a-1 MA:10-31;mi :49-70 SRX018967

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUACUUGCACGgggacgc

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-----UUCAAGUAAUCCAGGAUA-----

359 0,-4

-----UUCAAGUAAUCCAGGAUAa-----

8 0,-4

-----UUCAAGUAAUCCAGGAUAG-----

863 0.-3

-----UUCAAGUAAUCCAGGAUAGa-----

2 0,-3

-----UUCAAGUAAUCCAGGAUAGu-----

2 0.-3

-----UUCAAGUAAUCCAGGAUAGG-----

1086 0,-2

-----UUCAAGUAAUCCAGGAUAGGa-----

3 0,-2

-----UUCAAGUAAUCCAGGAUAGGaa-----

 $2 \quad 0, -2$

-----UUCAAGUAAUCCAGGAUAGG_{au}-----

7 0,-2

-----UUCAAGUAAUCCAGGAUAGGu-----

7 0, -2

-----UUCAAGUAAUCCAGGAUAGG_{uu}-----

25 0,-2

-----UUCAAGUAAUCCAGGAUAGGC-----

536 0, -1

-----UUCAAGUAAUCCAGGAUAGGCa-----

746 0, -1

-----UUCAAGUAAUCCAGGAUAGGCaa-----

389 0, -1

-----UUCAAGUAAUCCAGGAUAGGCau-----

234 0, -1

-----UUCAAGUAAUCCAGGAUAGGCU-----

7048	0,0
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-----UUCAAGUAAUCCAGGAUAGGCUa-----

143 0,0

-----UUCAAGUAAUCCAGGAUAGGCU_{aa}-----

---- 10 -1,0
-----AUUCAAGUAAUCCAGGAUAGGCUaa-----
---- 2 -1,0
-----AUUCAAGUAAUCCAGGAUAGGCUau-----
---- 2 -1,0
-----UUCAAGUAAUCCAGGAUA-----
---- 359 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 8 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 863 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
---- 2 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
---- 2 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 1086 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 3 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 2 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
---- 7 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 7 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 25 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
---- 536 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 746 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 389 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 234 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 7048 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----

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---- 143 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
---- 426 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
---- 688 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
---- 193 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
---- 606 0,0
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
---- 4 0,1
-----UCAAGUAAUCCAGGAUAG-----
---- 3 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
---- 19 1,-2
-----UCAAGUAAUCCAGGAUAGGCa-----
---- 9 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
---- 3 1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
---- 6 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
---- 71 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
---- 4 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
---- 4 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
---- 4 1,0
-----CAAGUAAUCCAGGAUAGGCU-----
---- 8 2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
---- 4 2,0
-----CCUAUUCUUGAUUACUUGUUUC-----
---- 2 0,0

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>hsa-mir-26b MA:12-32;mi:47-68 SRX018967

ccgggaccagUUCAAGUAAUUCAGGAUAGGUugugugcuguccagCCUGUUCUCCAUUACUUGGCUCggggaccgg

(((((...((((((.....)))))))).)))..)))
-----UUCAAGUAAUUCAGGAUA-----
106 0,-3
-----UUCAAGUAAUUCAGGAUAa-----
4 0,-3
-----UUCAAGUAAUUCAGGAUAG-----
778 0,-2
-----UUCAAGUAAUUCAGGAUAGa-----
6 0,-2
-----UUCAAGUAAUUCAGGAUAGuu-----
4 0,-2
-----UUCAAGUAAUUCAGGAUAGG-----
1178 0,-1
-----UUCAAGUAAUUCAGGAUAGGa-----
7 0,-1
-----UUCAAGUAAUUCAGGAUAGGaa-----
5 0,-1
-----UUCAAGUAAUUCAGGAUAGgau-----
12 0,-1
-----UUCAAGUAAUUCAGGAUAGGU-----
1579 0,0
-----UUCAAGUAAUUCAGGAUAGGUa-----
464 0,0
-----UUCAAGUAAUUCAGGAUAGGUaa-----
735 0,0
-----UUCAAGUAAUUCAGGAUAGGUau-----
437 0,0
-----UUCAAGUAAUUCAGGAUAGGUU-----
6299 0,1
-----UUCAAGUAAUUCAGGAUAGGUUa-----
948 0,1
-----UUCAAGUAAUUCAGGAUAGGUUaa-----
95 0,1
-----UUCAAGUAAUUCAGGAUAGGUUau-----
35 0,1
-----UUCAAGUAAUUCAGGAUAGGUUu-----
1455 0,1
-----UUCAAGUAAUUCAGGAUAGGUUuu-----

39 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUG-----
 39 0,2
 -----UUCAAGUAAUUCAGGAUAGGUUGU-----
 7 0,3
 -----UCAAGUAAUUCAGGAUAG-----
 5 1,-2
 -----UCAAGUAAUUCAGGAUAGG-----
 9 1,-1
 -----UCAAGUAAUUCAGGAUAGGU-----
 13 1,0
 -----UCAAGUAAUUCAGGAUAGGUa-----
 2 1,0
 -----UCAAGUAAUUCAGGAUAGGUaa-----
 4 1,0
 -----UCAAGUAAUUCAGGAUAGGUau-----
 3 1,0
 -----UCAAGUAAUUCAGGAUAGGUU-----
 79 1,1
 -----UCAAGUAAUUCAGGAUAGGUUa-----
 8 1,1
 -----UCAAGUAAUUCAGGAUAGGUUaa-----
 2 1,1
 -----UCAAGUAAUUCAGGAUAGGUUu-----
 18 1,1
 -----UCAAGUAAUUCAGGAUAGGUUG-----
 4 1,2
 -----CAAGUAAUUCAGGAUAGGUU-----
 5 2,1
 -----CAAGUAAUUCAGGAUAGGUUu-----
 2 2,1
 -----CCUGUUCUCCAUUACUUGGCUu-----
 3 0,-1
 -----CCUGUUCUCCAUUACUUGGCUC-----
 4 0,0

>hsa-mir-27a mi:10-31;MA:51-71 SRX018967

cugaggagcAGGGCUUAGCUGCUUGUGAGCAggguccacaccaagucgugUUCACAGUGGCUAAGUUCCGCccccag

2 0,1

>hsa-mir-27b mi:19-40;MA:61-81 SRX018967

accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug

(((((((((.....((((((((((((((((((((.....((((((((.....((.....)))..))))))))))..))))))))))))))
))))..))))..))))).

-----CAGAGCUUAGCUGAUUGGUGA-----

----- 4 -1,-2

-----CAGAGCUUAGCUGAUUGGUGAA-----

----- 6 -1,-1

-----CAGAGCUUAGCUGAUUGGUGAAC-----

----- 4 -1,0

-----CAGAGCUUAGCUGAUUGGUGAACA-----

----- 5 -1,1

-----AGAGCUUAGCUGAUUGGU-----

----- 4 0,-4

-----AGAGCUUAGCUGAUUGGUG-----

----- 38 0,-3

-----AGAGCUUAGCUGAUUGGUGA-----

----- 314 0,-2

-----AGAGCUUAGCUGAUUGGUGAA-----

----- 257 0,-1

-----AGAGCUUAGCUGAUUGGUGAAa-----

----- 3 0,-1

-----AGAGCUUAGCUGAUUGGUGAAC-----

----- 38 0,0

-----AGAGCUUAGCUGAUUGGUGAACA-----

----- 26 0,1

-----AGAGCUUAGCUGAUUGGUGAACAG-----

----- 14 0,2

-----AGAGCUUAGCUGAUUGGUGAACAGU-----

----- 5 0,3

-----GUUCACAGUGGCUAAGUU-----

----- 47 -1,-4

-----GUUCACAGUGGCUAAGUUu-----

----- 5 -1,-4

-----GUUCACAGUGGCUAAGUUC-----

-----	206	-1,-3	-----GUUCACAGUGGCUAAGUUCU-
-----	25	-1,-2	-----GUUCACAGUGGCUAAGUUCUa
-----	2	-1,-2	-----GUUCACAGUGGCUAAGUUCUG
-----	2	-1,-1	-----GUUCACAGUGGCUAAGUUCUG
aa-----	7	-1,-1	-----GUUCACAGUGGCUAAGUUCUG
C-----	2	-1,0	-----GUUCACAGUGGCUAAGUUCUG
CA-----	3	-1,1	-----GUUCACAGUGGCUAAGUUCUG
CAa-----	2	-1,1	-----UUCACAGUGGCUAAGUUC--
-----	13139	0,-3	-----UUCACAGUGGCUAAGUUCa-
-----	18	0,-3	-----UUCACAGUGGCUAAGUUCU-
-----	3056	0,-2	-----UUCACAGUGGCUAAGUUCUa
-----	35	0,-2	-----UUCACAGUGGCUAAGUUCUa
a-----	18	0,-2	-----UUCACAGUGGCUAAGUUCUa
u-----	8	0,-2	-----UUCACAGUGGCUAAGUUCUu
-----	23	0,-2	-----UUCACAGUGGCUAAGUUCUu
u-----	14	0,-2	-----UUCACAGUGGCUAAGUUCUG
-----	329	0,-1	-----UUCACAGUGGCUAAGUUCUG
a-----	128	0,-1	-----UUCACAGUGGCUAAGUUCUG
aa-----	134	0,-1	-----UUCACAGUGGCUAAGUUCUG

au-----	8	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
u-----	38	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
uu-----	22	0,-1	
-----			-UUCACAGUGGCUAAGUUCUG
C-----	521	0,0	
-----			-UUCACAGUGGCUAAGUUCUG
Cu-----	16	0,0	
-----			-UUCACAGUGGCUAAGUUCUG
Cuu-----	3	0,0	
-----			-UUCACAGUGGCUAAGUUCUG
CA-----	196	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAa-----	125	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAaa-----	11	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAau-----	2	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAu-----	120	0,1	
-----			-UUCACAGUGGCUAAGUUCUG
CAuu-----	9	0,1	
-----			-UCACAGUGGCUAAGUUCU-
-----	23	1,-2	
-----			-UCACAGUGGCUAAGUUCUG
-----	2	1,-1	
-----			-UCACAGUGGCUAAGUUCUG
C-----	4	1,0	
-----			-UCACAGUGGCUAAGUUCUG
CA-----	2	1,1	
-----			-UCACAGUGGCUAAGUUCUG
CAu-----	8	1,1	
-----			-UCACAGUGGCUAAGUUCUG
CAuu-----	2	1,1	

>hsa-mir-28 5p:14-35;3p:54-75 SRX018967

gguccuugcccucAAGGAGCUCACAGUCAUUGAGGuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca

$$(((.(((((((((((.((((((((((((((((((.((((((\dots))))))\dots)).)))))))))\dots))).))$$

		-CAAGGAGCUCACAGUCUAUU-
2	-1,-3	
		-CAAGGAGCUCACAGUCUAUUG-
3	-1,-2	
		-CAAGGAGCUCACAGUCUAUUGA-
7	-1,-1	
		-AAGGAGCUCACAGUCUAU-
9	0,-4	
		-AAGGAGCUCACAGUCUAUa-
11	0,-4	
		-AAGGAGCUCACAGUCUAUaa-
2	0,-4	
		-AAGGAGCUCACAGUCUAUU-
70	0,-3	
		-AAGGAGCUCACAGUCUAUUa-
4	0,-3	
		-AAGGAGCUCACAGUCUAUUu-
3	0,-3	
		-AAGGAGCUCACAGUCUAUUG-
85	0,-2	
		-AAGGAGCUCACAGUCUAUUGA-
437	0,-1	
		-AAGGAGCUCACAGUCUAUUGAa-
14	0,-1	
		-AAGGAGCUCACAGUCUAUUGAaa-
9	0,-1	
		-AAGGAGCUCACAGUCUAUUGAau-
2	0,-1	
		-AAGGAGCUCACAGUCUAUUGAG-
225	0,0	
		-AAGGAGCUCACAGUCUAUUGAGa-
50	0,0	
		-AAGGAGCUCACAGUCUAUUGAGU-
4	0,1	
		-AGGAGCUCACAGUCUAUUGA-

-----	2	1,-1	-----AGGAGCUCACAGUCUAUUGAGa-----
-----	3	1,0	-----CCACUAGAUUGUGAGCUCCUGGA-----
-----	4	-1,0	-----CACUAGAUUGUGAGCUCC-----
-----	8	0,-4	-----CACUAGAUUGUGAGCUCCU-----
-----	20	0,-3	-----CACUAGAUUGUGAGCUCCUu-----
-----	2	0,-3	-----CACUAGAUUGUGAGCUCCUG-----
-----	42	0,-2	-----CACUAGAUUGUGAGCUCCUGa-----
-----	13	0,-2	-----CACUAGAUUGUGAGCUCCUGaa-----
-----	9	0,-2	-----CACUAGAUUGUGAGCUCCUGu-----
-----	4	0,-2	-----CACUAGAUUGUGAGCUCCUGG-----
-----	591	0,-1	-----CACUAGAUUGUGAGCUCCUGGu-----
-----	28	0,-1	-----CACUAGAUUGUGAGCUCCUGGuu-----
-----	6	0,-1	-----CACUAGAUUGUGAGCUCCUGGA-----
-----	2782	0,0	-----CACUAGAUUGUGAGCUCCUGGAa-----
-----	1675	0,0	-----CACUAGAUUGUGAGCUCCUGGAaa-----
-----	221	0,0	-----CACUAGAUUGUGAGCUCCUGGAau-----
-----	56	0,0	-----CACUAGAUUGUGAGCUCCUGGAu-----
-----	102	0,0	-----CACUAGAUUGUGAGCUCCUGGAuu-----
-----	8	0,0	-----CACUAGAUUGUGAGCUCCUGGAG-----

----- 66 0,1	-----CACUAGAUUGUGAGCUCCUGGAGa---
----- 16 0,1	-----CACUAGAUUGUGAGCUCCUGGAGu---
----- 10 0,1	-----ACUAGAUUGUGAGCUCCU-----
----- 2 1,-3	-----ACUAGAUUGUGAGCUCCUG-----
----- 2 1,-2	-----ACUAGAUUGUGAGCUCCUGG-----
----- 12 1,-1	-----ACUAGAUUGUGAGCUCCUGGu---
----- 3 1,-1	-----ACUAGAUUGUGAGCUCCUGGA-----
----- 106 1,0	-----ACUAGAUUGUGAGCUCCUGGAa---
----- 87 1,0	-----ACUAGAUUGUGAGCUCCUGGAaa---
----- 26 1,0	-----ACUAGAUUGUGAGCUCCUGGAau---
----- 4 1,0	-----ACUAGAUUGUGAGCUCCUGGAu---
----- 6 1,0	-----ACUAGAUUGUGAGCUCCUGGAG-----
----- 78 1,1	-----ACUAGAUUGUGAGCUCCUGGAGa---
----- 60 1,1	-----ACUAGAUUGUGAGCUCCUGGAGaa---
----- 4 1,1	-----ACUAGAUUGUGAGCUCCUGGAGu---
----- 27 1,1	-----CUAGAUUGUGAGCUCCUGGA-----
----- 7 2,0	-----CUAGAUUGUGAGCUCCUGGAa---
----- 3 2,0	-----CUAGAUUGUGAGCUCCUGGAaa---
----- 8 2,0	-----CUAGAUUGUGAGCUCCUGGAG-----

```

----- 29 2,1
-----CUAGAUUGUGAGCUCCUGGAGa---
----- 19 2,1
-----CUAGAUUGUGAGCUCCUGGAGaa--
----- 7 2,1
-----CUAGAUUGUGAGCUCCUGGAGu---
----- 8 2,1
-----CUAGAUUGUGAGCUCCUGGAGG---
----- 2 2,2

```

>hsa-mir-29a mi:4-25;MA:42-63 SRX018967

```

augACUGAUUUUUUGGUGUUCAGagucaauauaauuuucUAGCACCAUCUGAAAUCGGUUAu
((((((((((((((...(((((((.((((.....))))))))))))))...))))))))))
---ACUGAUUUUUUUUGGUGUUC-----6 0,-1
---ACUGAUUUUUUUUGGUGUUCa-----2 0,-1
---ACUGAUUUUUUUUGGUGUUCAG-----14 0,0
---ACUGAUUUUUUUUGGUGUUCAGA-----11 0,1
-----UCUAGCACCAUCUGAAAUCGGUUA-2 -2,0
-----CUAGCACCAUCUGAAAUC-----2 -1,-5
-----CUAGCACCAUCUGAAAUCG-----13 -1,-4
-----CUAGCACCAUCUGAAAUCGG-----78 -1,-3
-----CUAGCACCAUCUGAAAUCGGa---2 -1,-3
-----CUAGCACCAUCUGAAAUCGGau--6 -1,-3
-----CUAGCACCAUCUGAAAUCGGU---123 -1,-2
-----CUAGCACCAUCUGAAAUCGGUa--19 -1,-2
-----CUAGCACCAUCUGAAAUCGGUaa-34 -1,-2
-----CUAGCACCAUCUGAAAUCGGUau-3 -1,-2
-----CUAGCACCAUCUGAAAUCGGUU--1156
-1,-1
-----CUAGCACCAUCUGAAAUCGGUUu-210 -1,-1
-----CUAGCACCAUCUGAAAUCGGUUA-517 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAa51 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAaa2 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAU27 -1,1
-----UAGCACCAUCUGAAAUCG-----268 0,-4
-----UAGCACCAUCUGAAAUCGa----4 0,-4
-----UAGCACCAUCUGAAAUCGuu---9 0,-4
-----UAGCACCAUCUGAAAUCGG-----5266 0,-3

```

UAGCACCAUCUGAAAUCGGa---	7	0,-3
UAGCACCAUCUGAAAUCGGaa--	2	0,-3
UAGCACCAUCUGAAAUCGGau--	29	0,-3
UAGCACCAUCUGAAAUCGGU---	1109	0,-2
UAGCACCAUCUGAAAUCGGUa--	109	0,-2
UAGCACCAUCUGAAAUCGGUaa-	1039	0,-2
UAGCACCAUCUGAAAUCGGUau-	87	0,-2
UAGCACCAUCUGAAAUCGGUU--	19393	0,-1
UAGCACCAUCUGAAAUCGGUUu-	6789	0,-1
UAGCACCAUCUGAAAUCGGUUuu	126	0,-1
UAGCACCAUCUGAAAUCGGUUA-	75243	0,0
UAGCACCAUCUGAAAUCGGUUAa	4886	0,0
UAGCACCAUCUGAAAUCGGUUAaa	47	0,0
UAGCACCAUCUGAAAUCGGUUAau	20	0,0
UAGCACCAUCUGAAAUCGGUUUAU	2137	0,1
UAGCACCAUCUGAAAUCGGUUUAUa	23	0,1
UAGCACCAUCUGAAAUCGGUUUAUaa	2	0,1
UAGCACCAUCUGAAAUCGGUUUAUu	9	0,1
AGCACCAUCUGAAAUCGG----	42	1,-3
AGCACCAUCUGAAAUCGGU---	5	1,-2
AGCACCAUCUGAAAUCGGUaa-	10	1,-2
AGCACCAUCUGAAAUCGGUU--	107	1,-1
AGCACCAUCUGAAAUCGGUUu-	44	1,-1
AGCACCAUCUGAAAUCGGUUA-	661	1,0
AGCACCAUCUGAAAUCGGUUAa	43	1,0
AGCACCAUCUGAAAUCGGUUUAU	27	1,1
GCACCAUCUGAAAUCGGU---	3	2,-2
GCACCAUCUGAAAUCGGUU--	7	2,-1
GCACCAUCUGAAAUCGGUUu-	2	2,-1
GCACCAUCUGAAAUCGGUUA-	37	2,0
GCACCAUCUGAAAUCGGUUAa	6	2,0
GCACCAUCUGAAAUCGGUUUAU	2	2,1

```

-----GCUGGUUUCAUAUGGUGGUUUAG-----
- 2 0,-1
-----CUAGCACCAUUUGAAAUCAG-----
- 5 -1,-4
-----CUAGCACCAUUUGAAAUCAGU-----
- 68 -1,-3
-----CUAGCACCAUUUGAAAUCAGUG-----
- 10 -1,-2
-----CUAGCACCAUUUGAAAUCAGUGa-----
- 2 -1,-2
-----UAGCACCAUUUGAAAUCA-----
- 169 0,-5
-----UAGCACCAUUUGAAAUCAa-----
- 2 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 317 0,-4
-----UAGCACCAUUUGAAAUCAGa-----
- 18 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 9094 0,-3
-----UAGCACCAUUUGAAAUCAGUa-----
- 3 0,-3
-----UAGCACCAUUUGAAAUCAGUaa-----
- 7 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----
- 15 0,-3
-----UAGCACCAUUUGAAAUCAGUuu-----
- 4 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 387 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 8 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 4 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 116 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 22 0,-1

```

```

-----UAGCACCAUUUGAAAUCAGUGUaa-----
-   3   0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
-  278  0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
-   16   0,0
-----AGCACCAUUUGAAAUCAGU-----
-  101  1,-3
-----AGCACCAUUUGAAAUCAGUG-----
-    5   1,-2
-----AGCACCAUUUGAAAUCAGUGa-----
-    2   1,-2
-----GCACCAUUUGAAAUCAGU-----
-   11   2,-3

```

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018967

```

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

```

```

-----GCUGGUUUCACAUGGUGGCUUA-----
-    3   -1,-1
-----GCUGGUUUCACAUGGUGGCUUAG-----
-    2   -1,0
-----CUGGUUUCACAUGGUGGCUUA-----
-    4    0,-1
-----CUGGUUUCACAUGGUGGCUUAG-----
-    3    0,0
-----CUAGCACCAUUUGAAAUCAG-----
-    5   -1,-4
-----CUAGCACCAUUUGAAAUCAGU-----
-   68   -1,-3
-----CUAGCACCAUUUGAAAUCAGUG-----
-   10   -1,-2
-----CUAGCACCAUUUGAAAUCAGUGa-----
-    2   -1,-2
-----UAGCACCAUUUGAAAUCA-----
-  169   0,-5

```



```

-----UAGCACCAUUUGAAAUCAa-----
- 2 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 317 0,-4
-----UAGCACCAUUUGAAAUCAGa-----
- 18 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 9094 0,-3
-----UAGCACCAUUUGAAAUCAGUa-----
- 3 0,-3
-----UAGCACCAUUUGAAAUCAGUaa-----
- 7 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----
- 15 0,-3
-----UAGCACCAUUUGAAAUCAGUuu-----
- 4 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 387 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 8 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 4 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 116 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 22 0,-1
-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 3 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 278 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 16 0,0
-----UAGCACCAUUUGAAAUCAGUGUUU-----
- 19 0,1
-----UAGCACCAUUUGAAAUCAGUGUUUU-----
- 2 0,2
-----AGCACCAUUUGAAAUCAGU-----
- 101 1,-3

```

```

-----AGCACCAUUUGAAAUCAGUG-----
-   5   1,-2
-----AGCACCAUUUGAAAUCAGUGa-----
-   2   1,-2
-----GCACCAUUUGAAAUCAGU-----
-  11   2,-3

```

>hsa-mir-29c mi:16-37;MA:54-75 SRX018967

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

.((((((((((((...((((((((((((...((((((((((((...)))))))))...)))))))))...)))))))).))
)))))))).

```

-----UGACCGAUUUCUCCUGGUGU-----
-----   2   0,-2
-----UGACCGAUUUCUCCUGGUGUU-----
-----   6   0,-1
-----UGACCGAUUUCUCCUGGUGUUa-----
-----   6   0,-1
-----UGACCGAUUUCUCCUGGUGUUu-----
-----   3   0,-1
-----GACCGAUUUCUCCUGGUGUU-----
-----  25   1,-1
-----GACCGAUUUCUCCUGGUGUUa-----
-----   5   1,-1
-----GACCGAUUUCUCCUGGUGUUC-----
-----   2   1,0
-----GACCGAUUUCUCCUGGUGUUCA-----
-----  12   1,1
-----GACCGAUUUCUCCUGGUGUUCAGA-----
-----   2   1,3
-----ACCGAUUUCUCCUGGUGUUCAGA-----
-----   5   2,3
-----CUAGCACCAUUUGAAAUCGGUU-----
-----   3   -1,-1
-----CUAGCACCAUUUGAAAUCGGUUA-----
-----   2   -1,0
-----UAGCACCAUUUGAAAUCG-----
-----  78   0,-4

```

```

-----UAGCACCAUUUGAAAUCGG-----
-----482 0,-3-----
-----UAGCACCAUUUGAAAUCGGa-----
-----2 0,-3-----
-----UAGCACCAUUUGAAAUCGGU-----
-----144 0,-2-----
-----UAGCACCAUUUGAAAUCGGUa-----
-----7 0,-2-----
-----UAGCACCAUUUGAAAUCGGUaa-----
-----38 0,-2-----
-----UAGCACCAUUUGAAAUCGGUau-----
-----8 0,-2-----
-----UAGCACCAUUUGAAAUCGGUU-----
-----678 0,-1-----
-----UAGCACCAUUUGAAAUCGGUUu-----
-----328 0,-1-----
-----UAGCACCAUUUGAAAUCGGUUuu-----
-----13 0,-1-----
-----UAGCACCAUUUGAAAUCGGUUA-----
-----4324 0,0-----
-----UAGCACCAUUUGAAAUCGGUUAa-----
-----246 0,0-----
-----UAGCACCAUUUGAAAUCGGUUAaa-----
-----9 0,0-----
-----UAGCACCAUUUGAAAUCGGUUAU-----
-----89 0,1-----
-----AGCACCAUUUGAAAUCGGUU-----
-----2 1,-1-----
-----AGCACCAUUUGAAAUCGGUUA-----
-----29 1,0-----
-----GCACCAUUUGAAAUCGGUUA-----
-----4 2,0-----
-----GCACCAUUUGAAAUCGGUUAa-----
-----2 2,0-----
-----GCACCAUUUGAAAUCGGUUAU-----
-----2 2,1-----
-----GCACCAUUUGAAAUCGGUUAUu-----
-----11 2,1-----

```

acugcuaacgaugcucugacuuuauugcacuacuguacuuuacagcuagCAGUGCAAUAGUAUUGUCAAAAGCaucugaa
agcagg

.(((((.((.((((((.(((((.(((((((((((((.(((((...))))).)))))))).))) .))))).) ..
)))).).

-----GCUCUGACUUUAUUGCACUAC-----

----- 5

-----GCUCUGACUUUAUUGCACUACU-----

----- 9

-----CAGUGCAAUAGUAUUGUCA-----

----- 3 0,-3

-----CAGUGCAAUAGUAUUGUCAAAAG-----

----- 8 0,-1

-----CAGUGCAAUAGUAUUGUCAAAAGC-----

----- 4 0,0

-----CAGUGCAAUAGUAUUGUCAAAAGCAU-----

----- 3 0.2

>hsa-mir-301b 3p:45-67 SRX018967

gccgcaggugcucugacgagguugcacuacugugcucugagaagCAGUGCAAUGAUUUGUCAAGCaucugggacca

-----CAGUGCAAUGAUUUGUCAAG-----

6 0,-1

-----CAGUGCAAUGAUUUGUCAAGCA-----

 $2 \quad 0,1$

>hsa-mi r-3065 5p:10-32;3p:50-72 SRX018967

cugccucucuCAACAAAUCACUGAUGCUGGAgucgccugagucaucacUCAGCACCAGGAUAUUGUUGGAGaggacag

-----UCAACAAAUCACUGAUGCU-----

10 0,-3

-----UCAACAAAAUCACUGAUGCUG-----

 $2 \quad 0, -2$

-----UCAACAAAAUCACUGAUGCUGG-----

3 0,-1

>hsa-mi r-30a MA:6-27;mi:47-68 SRX018967

```

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc
(((.((((((((((((((..((((((((((((((((((...)))....)))))))))))))))))))))))))).)))
----CUGUAAACAUCCUCGACU----- 2
    -1, -5
----CUGUAAACAUCCUCGACUG----- 2
    -1, -4
----CUGUAAACAUCCUCGACUGG----- 2
    -1, -3
----CUGUAAACAUCCUCGACUGGAA----- 4
    -1, -1
----CUGUAAACAUCCUCGACUGGAAG----- 4   -1,0
----CUGUAAACAUCCUCGACUGGAAGa----- 4   -1,0
----CUGUAAACAUCCUCGACUGGAAGC----- 32  -1,1
----CUGUAAACAUCCUCGACUGGAAGCU----- 37  -1,2
----UGUAAACAUCCUCGACUG----- 83   0,-4
----UGUAAACAUCCUCGACUGG----- 77   0,-3
----UGUAAACAUCCUCGACUGGu----- 3    0,-3
----UGUAAACAUCCUCGACUGGA----- 249  0,-2
----UGUAAACAUCCUCGACUGGAu----- 2    0,-2
----UGUAAACAUCCUCGACUGGAA----- 815  0,-1
----UGUAAACAUCCUCGACUGGAAa----- 334  0,-1
----UGUAAACAUCCUCGACUGGAAaa----- 20   0,-1
----UGUAAACAUCCUCGACUGGAAau----- 2    0,-1
----UGUAAACAUCCUCGACUGGAAu----- 20   0,-1
----UGUAAACAUCCUCGACUGGAAG----- 1901
    0,0
----UGUAAACAUCCUCGACUGGAAGa----- 1614
    0,0
----UGUAAACAUCCUCGACUGGAAGaa----- 70   0,0
----UGUAAACAUCCUCGACUGGAAGau----- 85   0,0
----UGUAAACAUCCUCGACUGGAAGu----- 128  0,0
----UGUAAACAUCCUCGACUGGAAGuu----- 22   0,0
----UGUAAACAUCCUCGACUGGAAGC----- 10386
    0,1
----UGUAAACAUCCUCGACUGGAAGCa----- 1460
    0,1
----UGUAAACAUCCUCGACUGGAAGCaa----- 36   0,1
----UGUAAACAUCCUCGACUGGAAGCau----- 36   0,1

```

-----UGUAAACAUCCUCGACUGGAAGCU-----	16037	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUa-----	161	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	496	0,2
-----UGUAAACAUCCUCGACUGGAAGCUG-----	2	0,3
-----GUAACAUCUCCUCGACUGGA-----	3	1,-2
-----GUAACAUCUCCUCGACUGGAA-----	4	1,-1
-----GUAACAUCUCCUCGACUGGAAG-----	40	1,0
-----GUAACAUCUCCUCGACUGGAAGa-----	4	1,0
-----GUAACAUCUCCUCGACUGGAAGaa-----	2	1,0
-----GUAACAUCUCCUCGACUGGAAGC-----	60	1,1
-----GUAACAUCUCCUCGACUGGAAGCa-----	3	1,1
-----GUAACAUCUCCUCGACUGGAAGCU-----	37	1,2
-----GUAACAUCUCCUCGACUGGAAGCUu-----	3	1,2
-----UAAACAUCUCCUCGACUGGAAG-----	2	2,0
-----UAAACAUCUCCUCGACUGGAAGCU-----	2	2,2
-----CUUUCAGUCGGAUGUUUG-----	2	0,-4
-----CUUUCAGUCGGAUGUUUGC-----	4	0,-3
-----CUUUCAGUCGGAUGUUUGCA-----	29	0,-2
-----CUUUCAGUCGGAUGUUUGCAa-----	7	0,-2
-----CUUUCAGUCGGAUGUUUGCAu-----	4	0,-2
-----CUUUCAGUCGGAUGUUUGCAG-----	142	0,-1
-----CUUUCAGUCGGAUGUUUGCAGa-----	3	0,-1
-----CUUUCAGUCGGAUGUUUGCAGu-----	20	0,-1
-----CUUUCAGUCGGAUGUUUGCAGuu-----	2	0,-1
-----CUUUCAGUCGGAUGUUUGCAGC-----	80	0,0
-----CUUUCAGUCGGAUGUUUGCAGCa-----	12	0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa-----	5	0,0
-----CUUUCAGUCGGAUGUUUGCAGCau-----	33	0,0
-----UUUCAGUCGGAUGUUUGCA-----	7	1,-2
-----UUUCAGUCGGAUGUUUGCAuu-----	2	1,-2
-----UUUCAGUCGGAUGUUUGCAG-----	36	1,-1
-----UUUCAGUCGGAUGUUUGCAGu-----	6	1,-1
-----UUUCAGUCGGAUGUUUGCAGuu-----	2	1,-1
-----UUUCAGUCGGAUGUUUGCAGC-----	24	1,0
-----UUUCAGUCGGAUGUUUGCAGCa-----	6	1,0
-----UUUCAGUCGGAUGUUUGCAGCau-----	3	1,0
-----UUUCAGUCGGAUGUUUGCAGCU-----	3	1,1

>hsa-mir-30b MA:17-38;mi:55-76 SRX018967

accaaguucaguucaUGUAAACAUCCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUACUUCagcu
gacuugga

.((((((...((((((...(((((((((((((.(((((((((((((.....))))))))).))))))))))))).)))))))).

-----AUGUAAACAUCCUACACUC-----
----- 3 -1,-4
-----AUGUAAACAUCCUACACUCAGC-----
----- 2 -1,-1
-----AUGUAAACAUCCUACACUCAGCU-----
----- 4 -1,0
-----UGUAAACAUCCUACACUC-----
----- 34 0,-4
-----UGUAAACAUCCUACACUCA-----
----- 8 0,-3
-----UGUAAACAUCCUACACUCAG-----
----- 52 0,-2
-----UGUAAACAUCCUACACUCAGa-----
----- 2 0,-2
-----UGUAAACAUCCUACACUCAGuu-----
----- 3 0,-2
-----UGUAAACAUCCUACACUCAGC-----
----- 134 0,-1
-----UGUAAACAUCCUACACUCAGCa-----
----- 12 0,-1
-----UGUAAACAUCCUACACUCAGCaa-----
----- 8 0,-1
-----UGUAAACAUCCUACACUCAGCau-----
----- 6 0,-1
-----UGUAAACAUCCUACACUCAGCU-----
----- 717 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
----- 50 0,0
-----UGUAAACAUCCUACACUCAGCUaa-----
----- 6 0,0
-----UGUAAACAUCCUACACUCAGCUau-----
----- 17 0,0

```

-----UGUAAACAUCCUACACUCAGCUu-----
----- 27 0,0
-----UGUAAACAUCCUACACUCAGCUuu-----
----- 7 0,0
-----UGUAAACAUCCUACACUCAGCUG-----
----- 4 0,1
-----GUAAACAUCCUACACUCAG-----
----- 3 1,-2
-----GUAAACAUCCUACACUCAGCU-----
----- 6 1,0
-----GUAAACAUCCUACACUCAGCUu-----
----- 2 1,0
-----CUGGGAGGUGGAUGUUUA-----
----- 2 0,-4
-----CUGGGAGGUGGAUGUUUAa-----
----- 3 0,-4
-----CUGGGAGGUGGAUGUUUAaa-----
----- 2 0,-4
-----CUGGGAGGUGGAUGUUUAC-----
----- 18 0,-3
-----CUGGGAGGUGGAUGUUUACU-----
----- 111 0,-2
-----CUGGGAGGUGGAUGUUUACUa-----
----- 2 0,-2
-----CUGGGAGGUGGAUGUUUACUaa-----
----- 13 0,-2
-----CUGGGAGGUGGAUGUUUACUU-----
----- 118 0,-1
-----CUGGGAGGUGGAUGUUUACUUa-----
----- 30 0,-1
-----CUGGGAGGUGGAUGUUUACUUaa-----
----- 17 0,-1
-----CUGGGAGGUGGAUGUUUACUUau-----
----- 5 0,-1
-----CUGGGAGGUGGAUGUUUACUUu-----
----- 13 0,-1
-----CUGGGAGGUGGAUGUUUACUUC-----
----- 11 0,0

```


-----			UGGGAGGUGGAUGUUUAC-----
-----	2	1,-3	
-----			UGGGAGGUGGAUGUUUACUua-----
-----	2	1,-1	
-----			UGGGAGGUGGAUGUUUACUUCu-----
-----	2	1,0	

>hsa-mi r-30c-1 MA:17-39;mi :56-77 SRX018967

accaucguguagugugUGUAAACAUCUACACUCUCAGCugugagcuaagguggCUGGGAGAGGGUUGUUUACUCCuuc
ugccaugga

.((((((..((((...((((((((.((((((((.(...(((((((((((.(...))...)))))...)))).)))).)))).))...))
)))))).)).

-----	UGUAAACAUCCUACACUC-----
-----	34 0, -5
-----	UGUAAACAUCCUACACUCU-----
-----	13 0, -4
-----	UGUAAACAUCCUACACUCUC-----
-----	27 0, -3
-----	UGUAAACAUCCUACACUCUCu-----
-----	2 0, -3
-----	UGUAAACAUCCUACACUCUCA-----
-----	238 0, -2
-----	UGUAAACAUCCUACACUCUCAa-----
-----	5 0, -2
-----	UGUAAACAUCCUACACUCUCAaa-----
-----	3 0, -2
-----	UGUAAACAUCCUACACUCUCAu-----
-----	4 0, -2
-----	UGUAAACAUCCUACACUCUCAG-----
-----	354 0, -1
-----	UGUAAACAUCCUACACUCUCAGa-----
-----	94 0, -1
-----	UGUAAACAUCCUACACUCUCAGaa-----
-----	15 0, -1
-----	UGUAAACAUCCUACACUCUCAGau-----
-----	6 0, -1
-----	UGUAAACAUCCUACACUCUCAGu-----
-----	20 0, -1

```

-----UGUAAACAUCCUACACUCUCAGC-----
----- 361 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 64 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 10 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 18 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 868 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 54 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 47 0,1
-----UGUAAACAUCCUACACUCUCAGCUG-----
----- 2 0,2
-----GUAAACAUCCUACACUCUCA-----
----- 3 1,-2
-----GUAAACAUCCUACACUCUCAG-----
----- 4 1,-1
-----GUAAACAUCCUACACUCUCAGC-----
----- 2 1,0
-----GUAAACAUCCUACACUCUCAGCU-----
----- 4 1,1
-----UAAACAUCCUACACUCUCAGCU-----
----- 2 2,1
-----CUGGGAGAGGGUUGUUUAC-----
----- 7 0,-3
-----CUGGGAGAGGGUUGUUUACa-----
----- 3 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 116 0,-2
-----CUGGGAGAGGGUUGUUUACUa-----
----- 5 0,-2
-----CUGGGAGAGGGUUGUUUACUaa-----
----- 3 0,-2
-----CUGGGAGAGGGUUGUUUACUuu-----
----- 2 0,-2

```

```

-----CUGGGAGAGGGUUGUUUACUC-----
----- 22  0,-1
-----CUGGGAGAGGGUUGUUUACUCa-----
----- 3   0,-1
-----CUGGGAGAGGGUUGUUUACUCaa-----
----- 3   0,-1
-----CUGGGAGAGGGUUGUUUACUCC-----
----- 4   0,0
-----CUGGGAGAGGGUUGUUUACUCCa-----
----- 2   0,0
-----CUGGGAGAGGGUUGUUUACUCCU-----
----- 3   0,1
-----UGGGAGAGGGUUGUUUACU-----
----- 11  1,-2
-----UGGGAGAGGGUUGUUUACUC-----
----- 2   1,-1
-----UGGGAGAGGGUUGUUUACUCCU-----
----- 4   1,1

```

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018967

```

agauacUGUAAACAUCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
(((....(((((((....(((((((.....)))))))))).)).))))))....)))
-----CUGUAAACAUCUACACUCUCA----- 2
-1,-2
-----CUGUAAACAUCUACACUCUCAGCU----- 3
-1,1
-----UGUAAACAUCUACACUC----- 34
0,-5
-----UGUAAACAUCUACACUCU----- 13
0,-4
-----UGUAAACAUCUACACUCUC----- 27
0,-3
-----UGUAAACAUCUACACUCUCu----- 2
0,-3
-----UGUAAACAUCUACACUCUCA----- 238
0,-2
-----UGUAAACAUCUACACUCUCAa----- 5
0,-2

```

-----UGUAAACAUCCUACACUCUCAaa-----	3
0,-2	
-----UGUAAACAUCCUACACUCUCAu-----	4
0,-2	
-----UGUAAACAUCCUACACUCUCAG-----	354
0,-1	
-----UGUAAACAUCCUACACUCUCAGa-----	94
0,-1	
-----UGUAAACAUCCUACACUCUCAGaa-----	15
0,-1	
-----UGUAAACAUCCUACACUCUCAGau-----	6
0,-1	
-----UGUAAACAUCCUACACUCUCAGu-----	20
0,-1	
-----UGUAAACAUCCUACACUCUCAGC-----	361
0,0	
-----UGUAAACAUCCUACACUCUCAGCa-----	64
0,0	
-----UGUAAACAUCCUACACUCUCAGCaa-----	10
0,0	
-----UGUAAACAUCCUACACUCUCAGCau-----	18
0,0	
-----UGUAAACAUCCUACACUCUCAGCU-----	868
0,1	
-----UGUAAACAUCCUACACUCUCAGCUa-----	54
0,1	
-----UGUAAACAUCCUACACUCUCAGCUu-----	47
0,1	
-----UGUAAACAUCCUACACUCUCAGCUG-----	2
0,2	
-----GUAAACAUCCUACACUCUCA-----	3
1,-2	
-----GUAAACAUCCUACACUCUCAG-----	4
1,-1	
-----GUAAACAUCCUACACUCUCAGC-----	2
1,0	
-----GUAAACAUCCUACACUCUCAGCU-----	4
1,1	

-----UAAACAUCCUACACUCUCAGCU-----	2
2,1	
-----CUGGGAGAAGGCUGUUUA-----	6
0,-4	
-----CUGGGAGAAGGCUGUUUAa-----	4
0,-4	
-----CUGGGAGAAGGCUGUUUAuu-----	4
0,-4	
-----CUGGGAGAAGGCUGUUUAC-----	29
0,-3	
-----CUGGGAGAAGGCUGUUUACaa-----	2
0,-3	
-----CUGGGAGAAGGCUGUUUACU-----	562
0,-2	
-----CUGGGAGAAGGCUGUUUACUa-----	6
0,-2	
-----CUGGGAGAAGGCUGUUUACUaa-----	9
0,-2	
-----CUGGGAGAAGGCUGUUUACUu-----	2
0,-2	
-----CUGGGAGAAGGCUGUUUACUC-----	258
0,-1	
-----CUGGGAGAAGGCUGUUUACUCa-----	3
0,-1	
-----CUGGGAGAAGGCUGUUUACUCU-----	66
0,0	
-----CUGGGAGAAGGCUGUUUACUCUa-----	3
0,0	
-----CUGGGAGAAGGCUGUUUACUCUU-----	6
0,1	
-----UGGGAGAAGGCUGUUUACU-----	16
1,-2	
-----UGGGAGAAGGCUGUUUACUC-----	21
1,-1	
-----UGGGAGAAGGCUGUUUACUCU-----	5
1,0	

```

guuguUGUAAACAUCCTCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUGUUUGCUGCuac
...((.((((((((((...((((((((((...((.....)).)))))))))).)))))))).)...
----UUGUAAACAUCCTCCGACUGGAAGC----- 4 -1,1
----UUGUAAACAUCCTCCGACUGGAAGCU----- 10 -1,2
----UGUAAACAUCCTCCGACUG----- 88 0,-4
----UGUAAACAUCCTCCGACUGG----- 87 0,-3
----UGUAAACAUCCTCCGACUGGu----- 5 0,-3
----UGUAAACAUCCTCCGACUGGA----- 348 0,-2
----UGUAAACAUCCTCCGACUGGAA----- 1372
0,-1
----UGUAAACAUCCTCCGACUGGAa----- 801 0,-1
----UGUAAACAUCCTCCGACUGGAaa----- 58 0,-1
----UGUAAACAUCCTCCGACUGGAau----- 13 0,-1
----UGUAAACAUCCTCCGACUGGAau----- 83 0,-1
----UGUAAACAUCCTCCGACUGGAau----- 4 0,-1
----UGUAAACAUCCTCCGACUGGAAG----- 1294
0,0
----UGUAAACAUCCTCCGACUGGAAGa----- 1536
0,0
----UGUAAACAUCCTCCGACUGGAAGaa----- 157 0,0
----UGUAAACAUCCTCCGACUGGAAGau----- 165 0,0
----UGUAAACAUCCTCCGACUGGAAGu----- 156 0,0
----UGUAAACAUCCTCCGACUGGAAGuu----- 27 0,0
----UGUAAACAUCCTCCGACUGGAAGC----- 5491
0,1
----UGUAAACAUCCTCCGACUGGAAGCa----- 1405
0,1
----UGUAAACAUCCTCCGACUGGAAGCaa----- 47 0,1
----UGUAAACAUCCTCCGACUGGAAGCau----- 46 0,1
----UGUAAACAUCCTCCGACUGGAAGCU----- 37495
0,2
----UGUAAACAUCCTCCGACUGGAAGCUa----- 564 0,2
----UGUAAACAUCCTCCGACUGGAAGCUu----- 1759
0,2
----UGUAAACAUCCTCCGACUGGAAGCUG----- 11 0,3
----GUAAACAUCCTCCGACUGGA----- 3 1,-2
----GUAAACAUCCTCCGACUGGAA----- 20 1,-1
----GUAAACAUCCTCCGACUGGAa----- 7 1,-1

```

-----GUAACAUCGGGACUGGAAG-----	30	1,0
-----GUAACAUCGGGACUGGAAGa-----	21	1,0
-----GUAACAUCGGGACUGGAAGu-----	3	1,0
-----GUAACAUCGGGACUGGAAGuu-----	2	1,0
-----GUAACAUCGGGACUGGAAGC-----	77	1,1
-----GUAACAUCGGGACUGGAAGCa-----	20	1,1
-----GUAACAUCGGGACUGGAAGCU-----	427	1,2
-----GUAACAUCGGGACUGGAAGCUa-----	8	1,2
-----GUAACAUCGGGACUGGAAGCUau-----	2	1,2
-----GUAACAUCGGGACUGGAAGCUu-----	23	1,2
-----GUAACAUCGGGACUGGAAGCUuu-----	5	1,2
-----UAAACAUCGGGACUGGAAGCU-----	7	2,2
-----CUUUCAGUCAGAUUUUGCU-----	9	0,-2
-----UUUCAGUCAGAUUUUGCUGCUuu-----	2	1,1

>hsa-mi r-30e MA:17-38;mi :59-80 SRX018967

gggcagucuuugcuacUGUAAACAUCCUUGACUGGAAGcuguaagguguucagaggagCUUUCAGUCGGAUGUUUACAGC
ggcaggcugcca

$$\begin{aligned} & .(((((((\dots((\dots(((((((((((((\dots(((((((((((((\dots(\dots(\dots)\dots).)))))))))\\ & \dots)))))))). \end{aligned}$$

-----CUGUAAACAUCUUGACUGGAAGC-----
 -----22 -1,1

-----CUGUAAACAUCCUUGACUGGAAGCa-----
 -----2 -1,1-----

-----CUGUAAACAUCUUGACUGGAAGCU-----
-----7-1,2-----

-----UGUAAACAUCUUGACUG-----
 -----32 0,-4-----

-----UGUAAACAUCCUUGACUGG-----
-----41 0,-3-----

-----UGUAAACAUCCUUGACUGGA-----
-----32 0,-2-----

-----UGUAAACAUCUUGACUGGAA-----
-----107 0,-1-----

-----UGUAAACAUCCUUGACUGGAAa-----
-----32 0, -1-----

-----UGUAAACAUCCUUGACUGGAAaa-----
-----5 0, -1-----

```

-----UGUAAACAUCCUUGACUGGAAau-----
-----2  0,-1
-----UGUAAACAUCCUUGACUGGAAu-----
-----8  0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
-----159 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
-----398 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
-----78  0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
-----24  0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
-----9  0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
-----1912  0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
-----179 0,1
-----UGUAAACAUCCUUGACUGGAAGCaa-----
-----3  0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
-----3  0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
-----2610  0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
-----67  0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
-----262 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
-----7  0,3
-----GUAAACAUCCUUGACUGGAA-----
-----4  1,-1
-----GUAAACAUCCUUGACUGGAAaa-----
-----2  1,-1
-----GUAAACAUCCUUGACUGGAAG-----
-----32  1,0
-----GUAAACAUCCUUGACUGGAAGa-----
-----16  1,0

```



```

-----GUAACAUCUUGACUGGAAGaa-----
-----3 1,0
-----GUAACAUCUUGACUGGAAGau-----
-----3 1,0
-----GUAACAUCUUGACUGGAAGC-----
-----161 1,1
-----GUAACAUCUUGACUGGAAGCa-----
-----24 1,1
-----GUAACAUCUUGACUGGAAGCU-----
-----151 1,2
-----GUAACAUCUUGACUGGAAGCUaa-----
-----2 1,2
-----GUAACAUCUUGACUGGAAGCUu-----
-----11 1,2
-----GUAACAUCUUGACUGGAAGCUG-----
-----6 1,3
-----UAAACAUCUUGACUGGAAGC-----
-----3 2,1
-----UAAACAUCUUGACUGGAAGCU-----
-----12 2,2
-----CUUUCAGUCGGAUGUUUA-----
-----23 0,-4
-----CUUUCAGUCGGAUGUUUAa-----
-----2 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
-----11 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
-----35 0,-2
-----CUUUCAGUCGGAUGUUUACAa-----
-----5 0,-2
-----CUUUCAGUCGGAUGUUUACAuu-----
-----2 0,-2
-----CUUUCAGUCGGAUGUUUACAG-----
-----152 0,-1
-----CUUUCAGUCGGAUGUUUACAGa-----
-----15 0,-1
-----CUUUCAGUCGGAUGUUUACAGa-----
a-----3 0,-1

```

```

-----CUUUCAGUCGGAUGUUUACAGu
-----      249  0,-1
-----CUUUCAGUCGGAUGUUUACAGu
u-----      32   0,-1
-----CUUUCAGUCGGAUGUUUACAGC
-----      163  0,0
-----CUUUCAGUCGGAUGUUUACAGC
a-----      157  0,0
-----CUUUCAGUCGGAUGUUUACAGC
aa-----      12   0,0
-----CUUUCAGUCGGAUGUUUACAGC
au-----      16   0,0
-----CUUUCAGUCGGAUGUUUACAGC
u-----       6    0,0
-----UUUCAGUCGGAUGUUUACAG-
-----       2    1,-1
-----UUUCAGUCGGAUGUUUACAGa
-----       2    1,-1
-----UUUCAGUCGGAUGUUUACAGu
-----       7    1,-1
-----UUUCAGUCGGAUGUUUACAGC
-----       7    1,0
-----UUUCAGUCGGAUGUUUACAGC
a-----       7    1,0
-----UUUCAGUCGGAUGUUUACAGC
aa-----       2    2,0

```

>hsa-mir-31 MA:8-28;mi:44-65 SRX018967

ggagaggAGGCAAGAUAGCUGGCAUAGCUguugaacugggaaccUGCUAUGCCAACAUAUUGCCAUcuuucc
 ((((((..(((((.(((.(((((((((.(((.....)))..)))))))))).)))..))))))

```

-----AGGCAAGAUAGCUGGCAUAGCU----- 11  0,0
-----AGGCAAGAUAGCUGGCAUAGCUu----- 3   0,0
-----AGGCAAGAUAGCUGGCAUAGCUG----- 4   0,1
-----AGGCAAGAUAGCUGGCAUAGCUGU----- 2   0,2
-----AGGCAAGAUAGCUGGCAUAGCUGUU----- 2   0,3

```

>hsa-mir-3117 3p:46-66 SRX018967

cccuaaagggccagacacauacgagucauauaagggaaggcauuAUAGGACUCAUAUAGUGCCAGguguuuuguggg


```

(((((((.(((.(((((((((((((((((.((((((.....)))))).)))))))))))))).))))))
-----UGUGACUGCAUUAUGAAAAUa----- 2
0,-3
-----UGUGACUGCAUUAUGAAAAUU----- 6
0,-2
-----UGUGACUGCAUUAUGAAAAUUC----- 2
0,-1

```

>hsa-mir-3118-5 3p:45-67 SRX018967

```

cacacauacaauaauuaucauaaugcaaucacacacaauccacUGUGACUGCAUUAUGAAAAUUCUucuagugug
(((((((.(((.(((((((((((((((((.((((((.....)))))).)))))))))))))).))))))
-----UGUGACUGCAUUAUGAAAAUa-----
2 0,-3
-----UGUGACUGCAUUAUGAAAAUU-----
6 0,-2
-----UGUGACUGCAUUAUGAAAAUUC-----
2 0,-1

```

>hsa-mir-3118-6 3p:44-66 SRX018967

```

cauacuacaauaauuuuaucauaaugcaaucacacacaauccgUGUGACUGCAUUAUGAAAAUUCUucuagugug
(((((((.(((.(((((((((((((((((.((((((.....)))))).)))))))))))))).))))))
-----UGUGACUGCAUUAUGAAAAUa----- 2
0,-3
-----UGUGACUGCAUUAUGAAAAUU----- 6
0,-2
-----UGUGACUGCAUUAUGAAAAUUC----- 2
0,-1

```

>hsa-mir-3120 3p:51-71 SRX018967

```

gucaugugacugccugucugugccugcuguacaggugagcggauguucugCACAGCAAGUGUAGACAGGCAGacacauga
c
(((((((.(((((((((((((((((.((((((.....)))))).)))))).))..))))))))))))))
)
-----CACAGCAAGUGUAGACAGGCau-----
- 3 0,0

```

>hsa-mir-3121 3p:47-68 SRX018967

```

aaauggguuauguccuuugccuauucuaauuuuagacacccuguaccuUAAAUAGAGUAGGCAAAGGACAgaaacauuu

```

(((((...((...)).)))))...)))))))))...))))))
-----UAAAUAGAGUAGGCAAAG-----

13 0,-4

-----AAUAGAGUAGGC AAAGGACAGA-----

 $2 \quad 2,2$

```
>hsa-mir-3124    5p:7-27 SRX018967
```

gcggggcUUCGCGGGCGAAGGCAAAGUCgauuuccaaaagugacuuuccucacucccgugaagucggc

$$(((.(((((((((((.(.((((.(((((((.((((((. . .))))))))) . .).)))))))).))$$

-----UUCGCGGGCGAAGGCAAAGU----- 2 0,-1

-----UUCGCGGGCGAAGGCAAAGUC----- 2 0,0

```
>hsa-mir-3127    5p:11-33    SRX018967
```

ggccaggcccAUCAGGGCUUGUGGAAUGGGAAGgagaagggaacgcuuuuuuuucugcaggccugcuggguguggc

-----AUCAGGGCUUGUGGAAUGGGAA-----

3 0, -1

-----AUCAGGGCUUGUGGAAUGGGAAGu-----

3 0.0

```
>hsa-mir-3128    5p:5-27 SRX018967
```

uuccUCUGGCAAGUAAAAACUCUCAUuuuccuuaaaaaaugagaguuuuuacuugcaauaggaa

-----UGGCAAGUAAAAACUCUCAUU----- 2 2,1

```
>hsa-mir-3129    5p:9-30  SRX018967
```

guacuuggGCAGUAGUGUAGAGAUUGGUUUgccuguuaaungaauucaaacuaaucucuacacugcugcccaagagc

-----AGUAGUGUAGAGAUUGGUUUGu-----

 $3 \quad 2,1$

>hsa-mi r-3130-1 5p:13-33;3p:44-64 SRX018967

cuugucaugucuUACCCAGUCUCCGGUGCAGCCuguugucaagGCUGCACCGGAGACUGGGUAAgacaugacaag

(((((.....))))))

-----GCUGCACCGGAGACUGGG----- 5

 $0, -3$

-----GCUGCACCGGAGACUGGGUAu----- 3

 $0, -1$

```

-----GCUGCACCGGAGACUGGGUAA----- 59
0,0
-----GCUGCACCGGAGACUGGGUAAG----- 3
0,1

```

>hsa-mir-3130-2 5p:13-33;3p:44-64 SRX018967

```

cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GCUGCACCGGAGACUGGG----- 5
0,-3
-----GCUGCACCGGAGACUGGGUAu----- 3
0,-1
-----GCUGCACCGGAGACUGGGUAA----- 59
0,0
-----GCUGCACCGGAGACUGGGUAAG----- 3
0,1

```

>hsa-mir-3131 5p:4-26 SRX018967

```

gagUCGAGGACUGGUGGAAGGGCCUuucccucagaccaaggcccugggcccagcuucuucuc
(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..
---UCGAGGACUGGUGGAAGGGCaa----- 2 0,-3
---UCGAGGACUGGUGGAAGGGCCU----- 2 0,-1
---UCGAGGACUGGUGGAAGGGCCUau----- 2 0,0

```

>hsa-mir-3136 5p:10-32 SRX018967

```

aauaugaaaCUGACUGAAUAGGUAGGGUCAUuuucugugacugcacauggcccaaccuauucaguauaguccauuu
((((((..((((((((((((((((((((..((((((((((((((((((((..((((((((((((((((((((..
-----CUGACUGAAUAGGUAGGGUCAUa-----
4 0,-1
-----CUGACUGAAUAGGUAGGGUCAU-----
3 0,0

```

>hsa-mir-3138 3p:48-71 SRX018967

```

cccuccuggcacuuccccaccucacugcccgggugcccacaagacUGUGGACAGUGAGGUAGAGGGAGUgcccaggag
gg
((((((((((((((((((((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((..(((
))
-----UGGACAGUGAGGUAGAGGGAGUGa-----

```

-- 2 2,1

>hsa-mir-3139 5p:10-32 SRX018967

ggcucagagUAGGAGCUC AACAGAU GCCUGUUgacugaauaauaacagguaucgcaggagcuuuuguuaugugcc
(((.(...((((((((....((((((((.....))))))))))....)))))))))...)).)))
-----UAGGAGCUC AACAGAU GCCUGU-----
3 0,-1

>hsa-mir-3141 5p:10-28 SRX018967

ucacccgguGAGGGCGGUGGAGGAGGAggguccccaccaucagccuucacugggacggga
...(((((((((((((.(((((.((.....))))).))))).))))))))).....
-----GAGGGCGGUGGAGGAGGA----- 2 0,0

>hsa-mir-3143 5p:4-28 SRX018967

uagAUAACAUUGUAAAGCGCUUCUUCGcgguugggucuggagcaacucuuuacauguuucua
(((((((((((((((((.((((.....))))).))))).))))))))).....)))))
---AUAACAUUGUAAAGCGCUUCU----- 2 0,-4
---AUAACAUUGUAAAGCGCUUCU----- 3 0,-3

>hsa-mir-3144 5p:13-34;3p:48-69 SRX018967

aacuacacuuuaAGGGGACCAAAGAGAUUAUAUAGauaucagcuaccuAUAUACCGUUCGUCUCUUUAaaguguagu
(((((((((((((((((((((.((((.....))))))))).)).)).))))))))).....)))))
-----AAGGGGACCAAAGAGAUUA-----
3 -1,-3
-----AAGGGGACCAAAGAGAUUAa-----
3 -1,-3
-----AAGGGGACCAAAGAGAUUAU-----
19 -1,-2
-----AAGGGGACCAAAGAGAUUAUA-----
10 -1,-1
-----AGGGGACCAAAGAGAUUA-----
4 0,-3
-----AGGGGACCAAAGAGAUUAU-----
18 0,-2
-----AGGGGACCAAAGAGAUUAUA-----
14 0,-1
-----AGGGGACCAAAGAGAUUAUAa-----
2 0,-1

```

-----AGGGGACCAAAGAGAUUAUUAUAG-----
35  0,0
-----AGGGGACCAAAGAGAUUAUUAUAGu-----
4   0,0
-----AGGGGACCAAAGAGAUUAUUAUAGA-----
9   0,1
-----AGGGGACCAAAGAGAUUAUUAUAGAU-----
2   0,3
-----UAUAUACCUGUUCGGUCUCUUU-----
3   -1,-1
-----AUAUACCUGUUCGGUCUCUUU-----
4   0,-1
-----AUAUACCUGUUCGGUCUCUUUA-----
2   0,0
-----AUAUACCUGUUCGGUCUCUUUAA-----
2   0,1

```

>hsa-mir-3145 3p:49-72 SRX018967

```

uauaugaguucaacuccaaacacucaaaaacucauunguugaauggaugAGAUUUUUGAGUGUUUGGAAUUGaacucgua
ua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----AGAUUUUUGAGUGUUUGGAAUU-----
-- 2   0,-1

```

>hsa-mir-3150 3p:49-70 SRX018967

```

gggaagcaggccaaccucgacgaucuccucagcaccugaacgccaaggCUGGGGAGAUCCUCGAGGUUGGccugcuuucc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AACCUCGACGAUCUCCUCAGCA-----
2

```

>hsa-mir-3157 5p:10-31 SRX018967

```

gggaagggcUUCAGCCAGGCUAGUGCAGUCUgcuuugugccaacacuggggugaugacugcccuagucuagcugaagcuu
uuccc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----UUCAGCCAGGCUAGUGCAGU-----
----- 2   0,-2

```


auucaggccgguccugcagagaggaagcccuucugcuuacagguauuggAAGGGCUUCCUCUCUGCAGGACcggcugaa
u

-----AAGGGCUUCCUCUCUGCAGGAC-----

auucaggccgguccugcagagaggaagcccuuccaauaccuguaagcagAAGGGCUCCUCUCUGCAGGACgggcugaa
u

-----AAGGGCUUCCUCUCUGCAGGAC-----

ccaaaguccUAGGAUACAAGUGUCGGCCACgggcugggcacaguggcucacgccuguaauccagcauuuugg
(((((((.(.(.(((((((.((((.(((((((..((...))....)))))..)))).)))))))).))..))))))

ggaccugcccugggcuuucuagucucagcucuccuccagcucagcuggucaggAGAGCUGAGACUAGAAAGCCCAgggca
gguuc

-----AGAGCUGAGACUAGAAAGCC-----

-----AGAGCUGAGACUAGAAAGCCC-----

accugcccugggcuuucuagucucagcucuccugaccagcugagcuggaggAGAGCUGAGACUAGAAAGCCCAgggcagg
u

-----AGAGCUGAGACUAGAAAGCC-----

0, -3
-----AGAUGUAUGGAAUCUGUAUAUA----- 97

>hsa-mi r-3173 3p:43-64 SRX018967

>hsa-mi r-3176 3p:60-78 SRX018967

>hsa-mi r-3179-1 3p:52-73 SRX018967

>hsa-mir-3179-2 3p:52-73 SRX018967

>hsa-mir-3179-3 3p:52-73 SRX018967

(((((((((((((((((((((((((.(((((((((((((((((((.....)))))))))..)))))))))
))))

$$- - - - 2 \quad -1, -1$$

-----UAGAAAGGGGUGAAAUUUAAACGU-----

--- 4 -1,0

>hsa-mir-3190 3p:47-69 SRX018967

cuggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugaccccg
(((((((((((((((.((((((((.((((.((((.(((((((....)))..)))..)))..)))))).))))))))))

-----GUGGAAGGUAGACGGCCAGAGA-----

3 1.0

-----UGGAAGGUAGACGGCCAGAGAG-----

 $2 \quad 2,1$

-----UGGAAGGUAGACGGCCAGAGAGG-----

 $2 \quad 2,2$

>hsa-mir-3192 5p:10-32 SRX018967

ggaagggauUCUGGGAGGUUGUAGCAGUGGAAaaaguucuuuucuuccucugaucgccucucagcucuuccuucu
(((((((...(((((((.(...(((.(((.(...)))..))).)).)).))))))....))))))

-----UCUGGGAGGUUGUAGCAGU-----

2 0,-4

>hsa-mir-32 MA:6-27;mi:47-68 SRX018967

ggagaUAUUGCACAUACUAAGUUGCAuguugucacggccucaaugCAAUUAGUGUGUGUGAUUUUuc
((((((((((..((((((..((((((((((((((((..((...))..)).))))))))))))))))..)))))))))

-----AUAUUGCACAUAUAAGUUG----- 11

-1,-2

-----UAUUGCACAUUACUAAGU----- 11 0,-4

-----UAUUGCACAUUACUAAGUU----- 27 0,-3

-----UAUUGCACAUUACUAAGUUG----- 76 0,-2

-----UAUUGCACAUAUACUAAGUUGC----- 33 0,-1

-----UAUUGCACAUAUACUAAGUUGCA----- 2 0,0

```

-----UAUUGCACAUUACUAAGUUGCAa----- 2 0,0
-----UAUUGCACAUUACUAAGUUGCAU----- 6 0,1
-----UAUUGCACAUUACUAAGUUGCAUa----- 2 0,1
-----GCAUUUUAGUGUGUGUGAUUU--- 2
-1,-1
-----CAAUUUUAGUGUGUGUGAUUU--- 3 0,-1

```

>hsa-mir-320a 3p:48-69 SRX018967

gcuucgcucucccuccgccuucucuucccgguucucccgagucgggAAAAGCUGGGUUGAGAGGGCGAaaaagggaugag
gu

```

(((((((.....((((((((.....((((((((.....)))))).)))))).)))))).....))))))
))

```

```

-----GAAAAGCUGGGUUGAGAGGG-----
-- 2 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
-- 25 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 20 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 39 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGuu-----
-- 2 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 39 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAu-----
-- 7 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAA-----
-- 4 -1,1
-----AAAAGCUGGGUUGAGAGG-----
-- 178 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 181 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 21 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 36 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 7 0,-3

```

```
-----AAAAGCUGGGUUGAGAGGGC-----
-- 830 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 3 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 1631 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 1204 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 564 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 6419 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 2116 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 376 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 3136 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 804 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 103 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 984 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 254 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 139 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 11 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 39 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 140 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 46 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 30 1,-1
```

```
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 367 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 130 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 34 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 394 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 138 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 25 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 156 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 67 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 2 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 42 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAu-----
-- 2 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAA-----
-- 2 1,4
-----AAGCUGGGUUGAGAGGGCG-----
-- 4 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 33 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 9 2,0
-----AAGCUGGGUUGAGAGGGCGAuu-----
-- 4 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 66 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 23 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 7 2,1
```

```

-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 41 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 30 2,2
-----AAGCUGGGUUGAGAGGGCGAAAuu-----
-- 5 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 12 2,3

```

>hsa-mir-320b-1 3p:39-60 SRX018967

```

aauuaauccucucuucuaguucuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).)))).....

```

```

-----GAAAAGCUGGGUUGAGAGGG-----
2 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
25 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCA-----
4 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAu-----
5 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAA-----
3 -1,0
-----AAAAGCUGGGUUGAGAGG-----
178 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
181 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
21 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
36 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
7 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
830 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
3 0,-2
-----AAAAGCUGGGUUGAGAGGGCA-----
234 0,-1

```


Count	Position	Sequence
248	0, -1	AAAAGCUGGGUUGAGAGGGCAu
54	0, -1	AAAAGCUGGGUUGAGAGGGCAuu
333	0, 0	AAAAGCUGGGUUGAGAGGGCAA
73	0, 0	AAAAGCUGGGUUGAGAGGGCAAu
10	0, 0	AAAAGCUGGGUUGAGAGGGCAAuu
35	0, 1	AAAAGCUGGGUUGAGAGGGCAAA
10	0, 1	AAAAGCUGGGUUGAGAGGGCAAAu
11	1, -3	AAAGCUGGGUUGAGAGGG
39	1, -2	AAAGCUGGGUUGAGAGGGC
7	1, -1	AAAGCUGGGUUGAGAGGGCA
13	1, -1	AAAGCUGGGUUGAGAGGGCAu
2	1, -1	AAAGCUGGGUUGAGAGGGCAuu
13	1, 0	AAAGCUGGGUUGAGAGGGCAA
6	1, 0	AAAGCUGGGUUGAGAGGGCAAu
2	1, 1	AAAGCUGGGUUGAGAGGGCAAAu

>hsa-mir-320b-2 3p:72-93 SRX018967

uuuuuuuuuugucuucuaccuaagaauucugucucuuaaggcuuucucuucccagauuucccaaaguugggAAAAGCUGG
 GUUGAGAGGGCAAaaggaaaaaaaagaauucugucucugacauaauuagauagggaa
(((((((.(.(.(((.(.(((((((.(.(((((((.(.(((((((....)))))))).))))))
).)))))))).)))))).....)))))))).)))))).....
 -----GAAAAGCUGG
 GUUGAGAGGG----- 2 -1,-3

-----GAAAAGCUGG			
GUUGAGAGGGC-----	25	-1,-2	
-----GAAAAGCUGG			
GUUGAGAGGGCA-----	4	-1,-1	
-----GAAAAGCUGG			
GUUGAGAGGGCAu-----	5	-1,-1	
-----GAAAAGCUGG			
GUUGAGAGGGCAA-----	3	-1,0	
-----AAAAGCUGG			
GUUGAGAGG-----	178	0,-4	
-----AAAAGCUGG			
GUUGAGAGGG-----	181	0,-3	
-----AAAAGCUGG			
GUUGAGAGGGa-----	21	0,-3	
-----AAAAGCUGG			
GUUGAGAGGGaa-----	36	0,-3	
-----AAAAGCUGG			
GUUGAGAGGGau-----	7	0,-3	
-----AAAAGCUGG			
GUUGAGAGGGC-----	830	0,-2	
-----AAAAGCUGG			
GUUGAGAGGGCu-----	3	0,-2	
-----AAAAGCUGG			
GUUGAGAGGGCA-----	234	0,-1	
-----AAAAGCUGG			
GUUGAGAGGGCAu-----	248	0,-1	
-----AAAAGCUGG			
GUUGAGAGGGCAuu-----	54	0,-1	
-----AAAAGCUGG			
GUUGAGAGGGCAA-----	333	0,0	
-----AAAAGCUGG			
GUUGAGAGGGCAAu-----	73	0,0	
-----AAAAGCUGG			
GUUGAGAGGGCAAuu-----	10	0,0	
-----AAAAGCUGG			
GUUGAGAGGGCAAA-----	35	0,1	
-----AAAAGCUGG			
GUUGAGAGGGCAAAu-----	10	0,1	

```

-----AAAAGCUGG
GUUGAGAGGGCAAAA-----18 0,2
-----AAAAGCUGG
GUUGAGAGGGCAAAAa-----4 0,2
-----AAAAGCUGG
GUUGAGAGGGCAAAAu-----3 0,2
-----AAAGCUGG
GUUGAGAGGG-----11 1,-3
-----AAAGCUGG
GUUGAGAGGGC-----39 1,-2
-----AAAGCUGG
GUUGAGAGGGCA-----7 1,-1
-----AAAGCUGG
GUUGAGAGGGCAu-----13 1,-1
-----AAAGCUGG
GUUGAGAGGGCAuu-----2 1,-1
-----AAAGCUGG
GUUGAGAGGGCAA-----13 1,0
-----AAAGCUGG
GUUGAGAGGGCAAu-----6 1,0
-----AAAGCUGG
GUUGAGAGGGCAAAu-----2 1,1

```

>hsa-mir-320c-1 3p:50-69 SRX018967

```

uuugcauuaaaaaugaggccuucucuuccaguucuuuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaaaau
gauguagg

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----GAAAAGCUGGGUUGAGAGGG-----
-----2 -1,-1
-----AAAAGCUGGGUUGAGAGG-----
-----178 0,-2
-----AAAAGCUGGGUUGAGAGGG-----
-----181 0,-1
-----AAAAGCUGGGUUGAGAGGGa-----
-----21 0,-1
-----AAAAGCUGGGUUGAGAGGGaa-----
-----36 0,-1

```

Number of nucleotides	Number of codons	Number of nucleotides	Number of codons
7	0,-1	AAAAGCUGGGUUGAGAGGGGau	
162	0,0	AAAAGCUGGGUUGAGAGGGGU	
5	0,0	AAAAGCUGGGUUGAGAGGGGu	
8	0,1	AAAAGCUGGGUUGAGAGGGGUA	
26	0,1	AAAAGCUGGGUUGAGAGGGGUAa	
4	0,1	AAAAGCUGGGUUGAGAGGGGUaa	
2	0,1	AAAAGCUGGGUUGAGAGGGGUAau	
12	0,1	AAAAGCUGGGUUGAGAGGGGUAu	
2	0,1	AAAAGCUGGGUUGAGAGGGGUauu	
3	0,2	AAAAGCUGGGUUGAGAGGGGUAG	
11	1,-1	AAAGCUGGGUUGAGAGGGG	
2	1,0	AAAGCUGGGUUGAGAGGGGU	
3	1,1	AAAGCUGGGUUGAGAGGGGUAa	
5	1,1	AAAGCUGGGUUGAGAGGGGUAu	
2	1,3	AAAGCUGGGUUGAGAGGGGUAGA	

>hsa-mir-320c-2 3p:31-50 SRX018967

cuucucuuuccaguucuuccagaauugggAAAAGCUGGGUUGAGAGGGU

((((((..(((((((.((((((.)))))).)))))). . .))))). .

-----GAAAAGCUGGGUUGAGAGGG- 2 -1,-1

-----AAAAGCUGGGUUGAGAGG-- 178 0,-2

-----AAAAGCUGGGUUGAGAGGG- 181 0,-1

-----AAAAGCUGGGUUGAGAGGGa 21 0,-1

```

-----AAAAGCUGGGUUGAGAGGGaa 36 0,-1
-----AAAAGCUGGGUUGAGAGGGau 7 0,-1
-----AAAAGCUGGGUUGAGAGGGU 162 0,0
-----AAAAGCUGGGUUGAGAGGGUu 5 0,0
-----AAAGCUGGGUUGAGAGGG- 11 1,-1
-----AAAGCUGGGUUGAGAGGGU 2 1,0

```

>hsa-mir-320d-1 3p:30-48 SRX018967

```

uucucguccagauucuucccaaaguagAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.(((.(....)).))).)))))).))))).
-----AAAAGCUGGGUUGAGAGG- 178 0,-1
-----AAAAGCUGGGUUGAGAGGA 5 0,0
-----AAAAGCUGGGUUGAGAGGAaa 4 0,0

```

>hsa-mir-320d-2 3p:30-48 SRX018967

```

uucucuuccagauucuucuggagucaggAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.(((((((....)))))).)))))).))))).
-----AAAAGCUGGGUUGAGAGG- 178 0,-1
-----AAAAGCUGGGUUGAGAGGA 5 0,0
-----AAAAGCUGGGUUGAGAGGAaa 4 0,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018967

```

uugguacuuggagagAGGUGGUCCGUGGCGGUUCGCUuuuuuuauaggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc
..(((((((.(((((((.(((((((....(((.((((.....)))))).)).)))))).))))).))))))
).....
-----CACAUUACACGGUCGACCU-----
----- 3 0,-2

```

>hsa-mir-324 5p:16-38;3p:53-72 SRX018967

```

cugacuaugccuccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagacccACUGCCCCAGGUGCUGCUGGggguugua
guc
..(((((((.(((((((.(((((((.(((((((....)))))).)))))).))))).))))).))))))
)))
-----CGCAUCCCCUAGGGCAUU-----
--- 7 0,-5
-----CGCAUCCCCUAGGGCAUUG-----
--- 54 0,-4

```

```

-----CGCAUCCCCUAGGGCAUUGG-----
--- 10 0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 35 0,-2
-----CGCAUCCCCUAGGGCAUUGGUaa-----
--- 2 0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 9 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGa-----
--- 7 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 48 0,0
-----CGCAUCCCCUAGGGCAUUGGUGUu-----
--- 2 0,0
-----CGCAUCCCCUAGGGCAUUGGUGUAu-----
--- 3 0,1
-----GCAUCCCCUAGGGCAUUGGUGU-----
--- 2 1,0
-----CCACUGCCCCAGGUGCUGCU-----
--- 2 -2,-2
-----CCACUGCCCCAGGUGCUGCUG-----
--- 3 -2,-1
-----ACUGCCCCAGGUGCUGCU-----
--- 9 0,-2
-----ACUGCCCCAGGUGCUGCUG-----
--- 3 0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 6 0,0
-----ACUGCCCCAGGUGCUGCUGGGau-----
--- 2 0,1

>hsa-mir-326 3p:60-79 SRX018967
cucaucugucuguugggcuggaggcagggccuuugugaaggcggguggugcucagauccgCCUCUGGGCCCUUCCUCCAGc
cccgaggcggauuca
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).))))))))))...
-----CCUCUGGGCCCUUCCUCCAG-----
----- 5 0,0

```


-----			-----GCAAAGCACACGGCCUGCA-----
-----	6	0,-4	
-----			-----GCAAAGCACACGGCCUGCAGA---
-----	4	0,-2	
-----			-----GCAAAGCACACGGCCUGCAGAG--
-----	5	0,-1	
-----			-----GCAAAGCACACGGCCUGCAGAGu-
-----	9	0,-1	
-----			-----GCAAAGCACACGGCCUGCAGAGA-
-----	51	0,0	
-----			-----GCAAAGCACACGGCCUGCAGAGAA
-----	3	0,0	
-----			-----GCAAAGCACACGGCCUGCAGAGAu
-----	2	0,0	
-----			-----GCAAAGCACACGGCCUGCAGAGAG
-----	5	0,1	
-----			-----GCAAAGCACACGGCCUGCAGAGAG
u-----	6	0,1	
-----			-----GCAAAGCACACGGCCUGCAGAGAG
G-----	3	0,2	
-----			-----CAAAGCACACGGCCUGCA-----
-----	2	1,-4	
-----			-----CAAAGCACACGGCCUGCAGAG--
-----	5	1,-1	
-----			-----CAAAGCACACGGCCUGCAGAGu-
-----	3	1,-1	
-----			-----CAAAGCACACGGCCUGCAGAGA-
-----	35	1,0	
-----			-----CAAAGCACACGGCCUGCAGAGAA
-----	2	1,0	
-----			-----CAAAGCACACGGCCUGCAGAGAA
a-----	2	1,0	
-----			-----CAAAGCACACGGCCUGCAGAGAu
-----	3	1,0	
-----			-----CAAAGCACACGGCCUGCAGAGAG
-----	13	1,1	
-----			-----CAAAGCACACGGCCUGCAGAGAG
a-----	7	1,1	

-----			CAAAGCACACGGCCUGCAGAGAG
u-----	11	1,1	
-----			CAAAGCACACGGCCUGCAGAGAG
G-----	9	1,2	
-----			CAAAGCACACGGCCUGCAGAGAG
Gu-----	4	1,2	
-----			AAAGCACACGGCCUGCAGAGu-
-----	2	2,-1	
-----			AAAGCACACGGCCUGCAGAGA-
-----	8	2,0	
-----			AAAGCACACGGCCUGCAGAGAG
-----	8	2,1	
-----			AAAGCACACGGCCUGCAGAGAG
a-----	3	2,1	
-----			AAAGCACACGGCCUGCAGAGAG
u-----	13	2,1	
-----			AAAGCACACGGCCUGCAGAGAG
G-----	6	2,2	
-----			AAAGCACACGGCCUGCAGAGAG
Gu-----	5	2,2	

>hsa-mi r-331 5p:26-47;3p:61-81 SRX018967

gaguuuugguuuuuguuuuggguuuuguuCUAGGUAUGGUCCCAGGGAUCCcagaucaaacagGCCCCUGGGCCUAUCCUAGA
Accaaccuaagcuc

.....(((((((.((((((((.((((.(((((((..(.....)..))))))).)))))
)).)))))))).

-----GCCCCUGGGCCUAUCCUA-----
 ----- 28 0,-3

-----GCCCCUGGGCCUAUCCUAG-
 ----- 39 0,-2

-----GCCCCUGGGCCUAUCCUAGA
----- 82 0,-1

-----GCCCCUGGGCCUAUCCUAGA
u----- 16 0,-1

uu----- 9 0,-1-----GCCCCUGGGCCUAUCCUAGA

-----GCCCCUGGGCCUAUCCUAGA
A----- 296 0,0

[illegible]

>hsa-mi r-335 MA:16-38;mi :52-73 SRX018967

uguuuugagcgggggUCAAGAGCAAUAACGAAAAAUGUuugucauaaaccgUUUUUCAUAUUGCUCUGACCuccucuc
auuugcuauuuca

$$\begin{aligned}
 & .(((.(((.((((((((.((((((((.((((((((.(.....)).)))))))).)))))))).)))))))).)) \\
 &)...)).....
 \end{aligned}$$

```

-----UCAAGAGCAAUAACGAAA-----
----- 2 0,-5
-----UCAAGAGCAAUAACGAAAA-----
----- 13 0,-4
-----UCAAGAGCAAUAACGAAAAA-----
----- 26 0,-3
-----UCAAGAGCAAUAACGAAAAAa-----
----- 6 0,-3
-----UCAAGAGCAAUAACGAAAAAaa-----
----- 3 0,-3
-----UCAAGAGCAAUAACGAAAAAU-----
----- 493 0,-2
-----UCAAGAGCAAUAACGAAAAAUa-----
----- 156 0,-2
-----UCAAGAGCAAUAACGAAAAAUu-----
----- 3 0,-2

```

```

-----UCAAGAGCAUAACGAAAAAUG-----
----- 730 0,-1
-----UCAAGAGCAUAACGAAAAAUGa-----
----- 31 0,-1
-----UCAAGAGCAUAACGAAAAAUGU-----
----- 284 0,0
-----UCAAGAGCAUAACGAAAAAUGUa-----
----- 2 0,0
-----CAAGAGCAUAACGAAAAAUG-----
----- 6 1,-1
-----AAGAGCAUAACGAAAAA-----
----- 2 2,-3
-----AAGAGCAUAACGAAAAAU-----
----- 5 2,-2
-----AAGAGCAUAACGAAAAAUG-----
----- 9 2,-1
-----AAGAGCAUAACGAAAAAUGU-----
----- 3 2,0
-----GUUUUCAUUAUUGCUCUGACa-----
----- 3 -1,-1
-----UUUUUCAUUAUUGCUCU-----
----- 5 0,-4
-----UUUUUCAUUAUUGCUCUGA-----
----- 3 0,-2
-----UUUUUCAUUAUUGCUCUGACa-----
----- 3 0,-1
-----UUUUUCAUUAUUGCUCUGACC-----
----- 8 0,0
-----UUUUUCAUUAUUGCUCUGACCa-----
----- 2 0,0

```

>hsa-mir-338 5p:6-27;3p:42-63 SRX018967

ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga

(((.((((((.((((((((((((((((.....)))))).)))))))))).))))))

```

-----UCCAGCAUCAGUGAUUUU----- 4 0,-4
-----UCCAGCAUCAGUGAUUUUG----- 8 0,-3
-----UCCAGCAUCAGUGAUUUUGU----- 2 0,-2
-----UCCAGCAUCAGUGAUUUUGUU----- 5 0,-1

```



```

----- 10 0,0
-----UCCCUGUCCUCCAGGAGCUCACGaa-----
----- 4 0,0
-----UCCCUGUCCUCCAGGAGCUCACGau-----
----- 3 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 16 0,1
-----UCCCUGUCCUCCAGGAGCUCACGUa-----
----- 2 0,1
-----UCCCUGUCCUCCAGGAGCUCACGUu-----
----- 4 0,1
-----CCUGUCCUCCAGGAGCUCAC-----
----- 2 2,-1
-----CCUGUCCUCCAGGAGCUCACG-----
----- 4 2,0
-----CCUGUCCUCCAGGAGCUCACGU-----
----- 2 2,1
-----UGAGCGCCUCGACGACAG-----
----- 15 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 17 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 18 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 11 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 5 0,-2
-----UGAGCGCCUCGACGACAGAGCu-----
----- 8 0,-2
-----UGAGCGCCUCGACGACAGAGCC-----
----- 31 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 32 0,-1
-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 2 0,-1
-----UGAGCGCCUCGACGACAGAGCCau-----
----- 27 0,-1
-----UGAGCGCCUCGACGACAGAGCCu-----

```

```

----- 10 0,-1
-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 7 0,-1
-----UGAGCGCCUCGACGACAGAGCCG-----
----- 18 0,0
-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 8 0,0
-----UGAGCGCCUCGACGACAGAGCCGuu-----
----- 3 0,0
-----GAGCGCCUCGACGACAGA-----
----- 3 1,-4
-----AGCGCCUCGACGACAGAG-----
----- 20 2,-3
-----AGCGCCUCGACGACAGAGC-----
----- 4 2,-2
-----AGCGCCUCGACGACAGAGCC-----
----- 2 2,-1
-----AGCGCCUCGACGACAGAGCCG-----
----- 6 2,0
-----AGCGCCUCGACGACAGAGCCGa-----
----- 5 2,0

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018967

```

cugugGUGCAUUGUAGUUGCAUUGCAuguucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((.(.((((((((((.....((((.....))))))))))))))))))..))))))))))))))
-----GUGCAUUGUAGUUGCAUU----- 1069
0,-3
-----GUGCAUUGUAGUUGCAUUG----- 17 0,-2
-----GUGCAUUGUAGUUGCAUUGa----- 30 0,-2
-----GUGCAUUGUAGUUGCAUUGaa----- 2 0,-2
-----GUGCAUUGUAGUUGCAUUGu----- 16 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 233 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 542 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 118 0,0
-----GUGCAUUGUAGUUGCAUUGCAU----- 12 0,1
-----CAAUGUUUCCACAGUGCAU----- 8 0,-3
-----CAAUGUUUCCACAGUGCAUa----- 4 0,-3
-----CAAUGUUUCCACAGUGCAUu----- 2 0,-3

```

-----CAAAGUUCCACAGUGCAUC----	2	0, -2
-----CAAAGUUCCACAGUGCAUCA--	10	0, -1
-----CAAAGUUCCACAGUGCAUCAa--	5	0, -1
-----CAAAGUUCCACAGUGCAUCAu--	9	0, -1

>hsa-mi r-33b MA:16-35;mi :54-75 SRX018967

g c g g g c g g c c c c g c g G U G C A U U G C U G U U G C A U U G C a c g u g u g a g g c g g g u g C A G U G C C U C G G C A G U G C A G C C C g g a g c
c g g c c c c u g g c a c c a c

$$(((((((((((((.((((.((((((((((((((((..(((((((((((((.(((.....)))..)))))))).)))))....).))))).))$$

-----GUGCAUUGCUGUUGCAUU-----

----- 7 0,-2

-----GUGCAUUGCUGUUGCAUUG-----

----- 5 0,-1

-----GUGCAUUGCUGUUGCAUUGa-----

----- 16 0,-1

-----GUGCAUUGCUGUUGCAUUG_u-----

----- 2 0,-1

>hsa-mi-r-340 MA:16-37;mi:58-79 SRX018967

uuguaccuggugugaUUAUAAAGCAAUGAGACUGAUUguc^aauaugucguuugugggaUCCGUCUCAGUUAUUAUAGCc
auaccugguaucuaa

-----AUUAUAAAGCAAUGAGACU-----

----- 2 -1,-4

-----UUAUAAAGCAAUGAGACU-----

----- 19 0,-4

-----UUAUAAAGCAAUGAGACUG-----

----- 2 0,-3

-----UUAUAAAGCAAUGAGACUGA-----

----- 22 0,-2

-----UUAUAAAGCAAUGAGACUGAaa-----

----- 2 0,-2

-----UUAUAAAGCAAUGAGACUGAU-----

----- 55 0,-1

-----UUAUAAAGCAAUGAGACUGAUa-----

----- 53 0,-1


```

-----UCUCACACAGAAAUCGCACC
CG----- 55 0,-1
-----UCUCACACAGAAAUCGCACC
CGa----- 2 0,-1
-----UCUCACACAGAAAUCGCACC
CGU----- 294 0,0
-----UCUCACACAGAAAUCGCACC
CGUa----- 6 0,0
-----UCUCACACAGAAAUCGCACC
CGUaa----- 4 0,0
-----UCUCACACAGAAAUCGCACC
CGUau----- 2 0,0
-----UCUCACACAGAAAUCGCACC
CGUu----- 11 0,0
-----UCUCACACAGAAAUCGCACC
CGUC----- 143 0,1
-----UCUCACACAGAAAUCGCACC
CGUCu----- 56 0,1
-----UCUCACACAGAAAUCGCACC
CGUCA----- 31 0,2
-----CUCACACAGAAAUCGCACC
CGU----- 2 1,0
-----UCACACAGAAAUCGCACC
CGU----- 5 2,0
-----UCACACAGAAAUCGCACC
CGUC----- 3 2,1
-----UCACACAGAAAUCGCACC
CGUCu----- 6 2,1
-----UCACACAGAAAUCGCACC
CGUCA----- 22 2,2
-----UCACACAGAAAUCGCACC
CGUCAu----- 2 2,2

```

>hsa-mir-345 5p:18-39 SRX018967

acccaaacccuaggucugcugacuccuaguccagggcucgugauggcuggugggcccguaacgaggggucuggaggccug
gguuugaauaucgacagc

...(((((((.((((((.(.(((((((.((.(((((((((((.((....).).))))))))).).).)))))).).).))))))
)))))).....

```

-----GCUGACUCCUAGUCCAGG-----
----- 125 0,-4
-----GCUGACUCCUAGUCCAGGG-----
----- 92 0,-3
-----GCUGACUCCUAGUCCAGGGC-----
----- 45 0,-2
-----GCUGACUCCUAGUCCAGGGCaa-----
----- 37 0,-2
-----GCUGACUCCUAGUCCAGGGCau-----
----- 15 0,-2
-----GCUGACUCCUAGUCCAGGGGCU-----
----- 216 0,-1
-----GCUGACUCCUAGUCCAGGGGCUa-----
----- 46 0,-1
-----GCUGACUCCUAGUCCAGGGGCUaa-----
----- 89 0,-1
-----GCUGACUCCUAGUCCAGGGGCUau-----
----- 143 0,-1
-----GCUGACUCCUAGUCCAGGGGCUu-----
----- 30 0,-1
-----GCUGACUCCUAGUCCAGGGGCUuu-----
----- 37 0,-1
-----GCUGACUCCUAGUCCAGGGGCUC-----
----- 152 0,0
-----GCUGACUCCUAGUCCAGGGGCUCa-----
----- 43 0,0
-----GCUGACUCCUAGUCCAGGGGCUCaa-----
----- 27 0,0
-----GCUGACUCCUAGUCCAGGGGCUCau-----
----- 77 0,0
-----GCUGACUCCUAGUCCAGGGGCUCu-----
----- 23 0,0
-----GCUGACUCCUAGUCCAGGGGCUCuu-----
----- 27 0,0
-----GCUGACUCCUAGUCCAGGGGCUCG-----
----- 3 0,1
-----GCUGACUCCUAGUCCAGGGGCUCGa-----
----- 3 0,1

```


acuuuauacguguaauugugaUGAGGAUGGAUAGCAAGGAAGCCgcucccaccugaccucacggCCUCCGUGUUACCUG
UCCUCUAGgugggacgcucg

.....((((.....(((((((.(((((.(((.....))))).)))..)))..)))
))))).))))..

-----GAUGAGGAUGGAUAGCAAGG-----

-----8 -2,-5

-----GAUGAGGAUGGAUAGCAAGGA-----

-----4 -2,-4

-----GAUGAGGAUGGAUAGCAAGGAA-----

-----5 -2,-3

-----GAUGAGGAUGGAUAGCAAGGAAG-----

-----7 -2,-2

-----GAUGAGGAUGGAUAGCAAGGAAGC-----

-----5 -2,-1

-----GAUGAGGAUGGAUAGCAAGGAAGCC-----

-----6 -2,0

-----AUGAGGAUGGAUAGCAAGGAAGC-----

-----3 -1,-1

-----UGAGGAUGGAUAGCAAGGAA-----

-----2 0,-3

-----UGAGGAUGGAUAGCAAGGAAG-----

-----5 0,-2

-----UGAGGAUGGAUAGCAAGGAAGC-----

-----5 0,-1

-----UGAGGAUGGAUAGCAAGGAAGCC-----

-----3 0,0

-----UCCGUGUUACCUG

UCCUCUAGa-----3 2,0

-----UCCGUGUUACCUG

UCCUCUAGu-----2 2,0

>hsa-mir-3607 5p:12-33;3p:51-70 SRX018967

aagguugcgguGCAUGUGAUGAAGCAAUCAGUaugaaugaauucaugauACUGUAAACGCUUUCUGAUGuacuacuca

.....(.((((((.....((((((.....))))).))))).))))).))))).))))..

-----GCAUGUGAUGAAGCAAUa-----

2 0,-4

-----ACUGUAAACGCUUUCUGA-----

3 0,-2

>hsa-mir-3609 3p:51-74 SRX018967

guaacaguaacuuuuauucucauuuuccuuuucucuaccuuguagagaagCAAAGUGAUGAGUAAUACUGGCUGgagccc

((..(((.....((((((((((((((...((((((((((...))))))))).)))))))).))))))....))))..

-----GCAAAGUGAUGAGUAAUACU-----

2 -1,-5

-----CAAAGUGAUGAGUAAUACU-----

9 0,-5

>hsa-mir-361 5p:6-27;3p:45-67 SRX018967

ggagcUUAUCAGAAUCUCCAGGGGUACuuuauaauuucaaaaagUCCCCCAGGUGUGAUUCUGAUUUgcuuc

(((((..((((((((((..(((..((((((((.....))))))))).))))).))..)))))))))..))))))

----CUUAUCAGAAUCUCCAGGGGU----- 4

-1,-2

----UUAUCAGAAUCUCCAGGG----- 31

0,-4

----UUAUCAGAAUCUCCAGGGG----- 20

0,-3

----UUAUCAGAAUCUCCAGGGGa----- 3

0,-3

----UUAUCAGAAUCUCCAGGGGaa----- 2

0,-3

----UUAUCAGAAUCUCCAGGGGU----- 55

0,-2

----UUAUCAGAAUCUCCAGGGGUA----- 124

0,-1

----UUAUCAGAAUCUCCAGGGGUAa----- 105

0,-1

----UUAUCAGAAUCUCCAGGGGUAaa----- 12

0,-1

----UUAUCAGAAUCUCCAGGGGUAau----- 11

0,-1

----UUAUCAGAAUCUCCAGGGGUAu----- 159

0,-1

----UUAUCAGAAUCUCCAGGGGUAuu----- 10

0,-1

----UUAUCAGAAUCUCCAGGGGUAC----- 179

0,0

-----UUAUCAGAAUCCAGGGGUACa-----	61
0,0	
-----UUAUCAGAAUCCAGGGGUACaa-----	7
0,0	
-----UUAUCAGAAUCCAGGGGUACau-----	14
0,0	
-----UUAUCAGAAUCCAGGGGUACU-----	12
0,1	
-----UUAUCAGAAUCCAGGGGUACUU-----	2
0,2	
-----UUAUCAGAAUCCAGGGGUACUUU-----	2
0,3	
-----UAUCAGAAUCCAGGGGUAU-----	3
1,-1	
-----UAUCAGAAUCCAGGGGUAC-----	2
1,0	
-----UAUCAGAAUCCAGGGGUACUUU-----	2
1,3	
-----UCCCCCAGGUGUGAUUCU-----	5
0,-5	
-----UCCCCCAGGUGUGAUUCUGA-----	5
0,-3	
-----UCCCCCAGGUGUGAUUCUGAaa-----	4
0,-3	
-----UCCCCCAGGUGUGAUUCUGAU-----	8
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUa-----	5
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUU-----	14
0,-1	
-----UCCCCCAGGUGUGAUUCUGAUUa-----	2
0,-1	
-----UCCCCCAGGUGUGAUUCUGAUUU-----	45
0,0	
-----UCCCCCAGGUGUGAUUCUGAUUUG-----	8
0,1	
-----UCCCCCAGGUGUGAUUCUGAUUUGu-----	2
0,1	

```

-----CCCCCAGGUGUGAUUCUGAUU----- 2
1,-1
-----CCCCCAGGUGUGAUUCUGAUUU----- 2
1,0
-----CCCCCAGGUGUGAUUCUGAUUUG---- 2
1,1
-----CCCCCAGGUGUGAUUCUGAUUUGC--- 2
1,2

```

>hsa-mir-3611 3p:52-72 SRX018967

```

agcaggucuaauaagaauuucuuuuucucacaauuaugaaagaaaagaaaUUGUGAAGAAAGAAAUUCUUAcuaguuuu
gcu
(((((((.(((.(((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----AAGAAUUCUUUUUCUUCACAAUU-----
--- 2

```

>hsa-mir-3613 5p:16-37;3p:53-76 SRX018967

```

ugguuggguuuggauUGUUGUACUUUUUUUUUGUUCguugcauuuuuaggaACAAAAAAAAAGCCCAACCCUUCacac
cacuuca
.(((((((.(((.(((((((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)...)).
-----UGUUGUACUUUUUUUUUGUU-----
----- 2 0,-1
-----UGUUGUACUUUUUUUUUGUUC-----
----- 3 0,0
-----ACAAAAAAAAAGCCCAAC-----
----- 2 0,-5
-----ACAAAAAAAAAGCCCAACCCUa-----
----- 2 0,-2

```

>hsa-mir-3614 5p:15-37;3p:53-75 SRX018967

```

gguucugucuggggCCACUUGGAUCUGAAGGCUGCCCcuuugcucucuggggUAGCCUUCAGAUUCUUGGUGUUUgaaau
cuuacu
.....((.((.(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
.....
-----UAGCCUUCAGAUUCUUGGUG-----
----- 2 0,-4

```



```

-----UAGCCUUCAGAUUCUUGGUGUU-----
----- 2 0,-2
-----UAGCCUUCAGAUUCUUGGUGUU-----
----- 7 0,-1

```

>hsa-mir-3615 3p:51-71 SRX018967

```

gacucugggacgcucagacgccgcgcggggcggggaugggucugugguccUCUCUCGGCUCUUCGCGGCUCgcggcggcc
gacgguu
(((((((((.....)))))))).))))))
.)))))
-----GCCGCGCGGGGCGGGGAUUGGUCU-----
----- 2
-----UCUCUCGGCUCUUCGCGGCU-----
----- 6 0,-1

```

>hsa-mir-362 5p:5-28;3p:42-63 SRX018967

```

cuugAAUCCUUGGAACCUAGGUGUGAGUgcuaauucagugcAACACACCUAUUCAAGGAUUCaaa
.((((((((((((.....)))))))).))))))
---AAUCCUUGGAACCUAGGUGU----- 11 0,-4
---AAUCCUUGGAACCUAGGUGUG----- 18 0,-3
---AAUCCUUGGAACCUAGGUGUGA----- 17 0,-2
---AAUCCUUGGAACCUAGGUGUGAG----- 16 0,-1
---AAUCCUUGGAACCUAGGUGUGAGU----- 8 0,0
-----AACACACCUAUUCAAGGA----- 2 0,-4
-----AACACACCUAUUCAAGGAUU----- 14 0,-2
-----AACACACCUAUUCAAGGAUUaa-- 2 0,-2
-----AACACACCUAUUCAAGGAUUC--- 35 0,-1
-----AACACACCUAUUCAAGGAUUCA-- 41 0,0

```

>hsa-mir-3622a 5p:14-35;3p:50-71 SRX018967

```

aauagagggugcaCAGGCACGGGAGCUCAGGUGAGgcaggagcugagcUCACCUGACCUCUCCAUGCCUGUgcacccucu
auu
((((((((((((((((.....)))))))).))))))
))
-----CAGGCACGGGAGCUCAGG-----
--- 2 0,-4
-----CAGGCACGGGAGCUCAGGUGAG-----
--- 2 0,0

```

-----CAGGCACGGGAGCUCAGGUGAGu-----
 --- 5 0,0

>hsa-mi r-363 mi:7-28;MA:50-71 SRX018967

uguuguCGGGUGGAUCACGAUGCAAUUUugaugaguaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaac
 .(((.(.(((((((((.((.(((((((((.(((.....))).....))))))))...))))))))...)).

-----AAUUGCACGGUAUCCAUC----- 3
0, -4

-----AAUUGCACGGUAUCCAUCU----- 59
0,-3

-----AAUUGCACGGUAUCCAUCUG----- 6
0,-2

-----AAUUGCACGGUAUCCAUCUGU----- 5
0,-1

-----AAUUGCACGGUAUCCAUCUGUA----- 15
0,0

-----AAUUGCACGGUAUCCAUCUGUAu----- 2

-----AAUUGCACGGUAUCCAUCUGUAA----- 15
0,1

-----AUUGCACGGUAUCCAUCU----- 6
1,-3

-----AUUGCACGGUAUCCAUCUGUA----- 4
1,0

-----AUUGCACGGUAUCCAUCUGUAA----- 2
1,1

>hsa-mir-365-1 3p:56-77 SRX018967

accgcagggaaaaugaggggacuuuugggggcagauguguuuccauuccacuaucUAAUGCCCCUAAAAUCCUUAUugc
ucuugca

$\dots(((((((\dots(((((((\dots((((((((((((((((((\dots)))))))))\dots))))))\dots))))))\dots))))))\dots)$

-----AGGGACUUUUGGGGGCAG-----
----- 6

-----AGGGACUUUUGGGGGCAGA-----
----- 28

-----AGGGACUUUUGGGGGCAGAU-----
----- 16

-----AGGGACUUUUGGGGGCAGAUa-----
----- 5 -----
-----AGGGACUUUUGGGGGCAGAUaa-----
----- 7 -----
-----AGGGACUUUUGGGGGCAGAUau-----
----- 2 -----
-----AGGGACUUUUGGGGGCAGAUu-----
----- 7 -----
-----AGGGACUUUUGGGGGCAGAUuu-----
----- 3 -----
-----AGGGACUUUUGGGGGCAGAUG-----
----- 9 -----
-----AGGGACUUUUGGGGGCAGAUGa-----
----- 3 -----
-----AGGGACUUUUGGGGGCAGAUGau-----
----- 2 -----
-----AGGGACUUUUGGGGGCAGAUGU-----
----- 77 -----
-----AGGGACUUUUGGGGGCAGAUGUa-----
----- 7 -----
-----AGGGACUUUUGGGGGCAGAUGUaa-----
----- 9 -----
-----AGGGACUUUUGGGGGCAGAUGUau-----
----- 9 -----
-----AGGGACUUUUGGGGGCAGAUGUu-----
----- 8 -----
-----AGGGACUUUUGGGGGCAGAUGUuu-----
----- 6 -----
-----AGGGACUUUUGGGGGCAGAUGUG-----
----- 116 -----
-----AGGGACUUUUGGGGGCAGAUGUGa-----
----- 7 -----
-----AGGGACUUUUGGGGGCAGAUGUGU-----
----- 79 -----
-----GGGACUUUUGGGGGCAGAUG-----
----- 3 -----
-----GGGACUUUUGGGGGCAGAUGUG-----
----- 3 -----

```

-----GGGACUUUUGGGGGCAGAUGUGa-----
----- 3
-----GGGACUUUUGGGGGCAGAUGUGU-----
----- 7
-----AUAUGCCCCUAAAAAUCCUUAU-----
----- 3 -1,0
-----UAAUGCCCCUAAAAAUCC-----
----- 52 0,-4
-----UAAUGCCCCUAAAAAUCCU-----
----- 45 0,-3
-----UAAUGCCCCUAAAAAUCCUa-----
----- 5 0,-3
-----UAAUGCCCCUAAAAAUCCUau-----
----- 7 0,-3
-----UAAUGCCCCUAAAAAUCCUU-----
----- 217 0,-2
-----UAAUGCCCCUAAAAAUCCUUu-----
----- 18 0,-2
-----UAAUGCCCCUAAAAAUCCUUuu-----
----- 11 0,-2
-----UAAUGCCCCUAAAAAUCCUUA-----
----- 334 0,-1
-----UAAUGCCCCUAAAAAUCCUUAa-----
----- 136 0,-1
-----UAAUGCCCCUAAAAAUCCUUAaa-----
----- 15 0,-1
-----UAAUGCCCCUAAAAAUCCUUAau-----
----- 8 0,-1
-----UAAUGCCCCUAAAAAUCCUUAU-----
----- 1767 0,0
-----UAAUGCCCCUAAAAAUCCUUAUa-----
----- 71 0,0
-----UAAUGCCCCUAAAAAUCCUUAUau-----
----- 2 0,0
-----UAAUGCCCCUAAAAAUCCUUAUU-----
----- 83 0,1
-----UAAUGCCCCUAAAAAUCCUUAUua-----
----- 2 0,1

```

-----UAAUGCCCCUAAAAAUCCUUAUU-----
----- 4 0,1
-----AAUGCCCCUAAAAAUCCUUAU-----
----- 13 1,0
-----AUGCCCCUAAAAAUCCUUA-----
----- 3 2,-1
-----AUGCCCCUAAAAAUCCUUAU-----
----- 5 2,0

```
>hsa-mi r-365-2  mi:29-50;MA:68-89  SRX018967
```

agaguguucaaggacagcaagaaaaaugAGGGACUUCAGGGGAGCUGUguuuucugacucagucaUAAUGCCCCUAAA
AAUCCUUAUuguuucugcagugugcaucggg

.....(.(((((((((((.(((((((((..(((.((((((((((((.(((...)))..)))))))))
..)))))))).))))))..)).).

-----GAGGGACUUUCAGGGGCAGCU-----
 ----- 40 -1,-2
 -----GAGGGACUUUCAGGGGCAGCUGa-----
 ----- 3 -1,-1
 -----GAGGGACUUUCAGGGGCAGCUGU-----
 ----- 6 -1,0
 -----GAGGGACUUUCAGGGGCAGCUGUaa-----
 ----- 2 -1,0
 -----GAGGGACUUUCAGGGGCAGCUGUau-----
 ----- 4 -1,0
 -----GAGGGACUUUCAGGGGCAGCUGUu-----
 ----- 2 -1,0
 -----AGGGACUUUCAGGGGCAG-----
 ----- 4 0,-4
 -----AGGGACUUUCAGGGGCAGC-----
 ----- 7 0,-3
 -----AGGGACUUUCAGGGGCAGCU-----
 ----- 45 0,-2
 -----AGGGACUUUCAGGGGCAGCUG-----
 ----- 3 0,-1
 -----AGGGACUUUCAGGGGCAGCUGU-----
 ----- 10 0,0
 -----AGGGACUUUCAGGGGCAGCUGUa-----
 ----- 2 0,0

-----AGGGACUUUCAGGGGCAGCUGUaa-----	
----- 7 0,0	
-----AGGGACUUUCAGGGGCAGCUGUau-----	
----- 5 0,0	
-----AGGGACUUUCAGGGGCAGCUGUu-----	
----- 5 0,0	
-----AGGGACUUUCAGGGGCAGCUGUuu-----	
----- 2 0,0	
-----AGGGACUUUCAGGGGCAGCUGUG-----	
----- 71 0,1	
-----AGGGACUUUCAGGGGCAGCUGUGa-----	
----- 5 0,1	
-----AGGGACUUUCAGGGGCAGCUGUGU-----	
----- 19 0,2	
-----GGGACUUUCAGGGGCAGCU-----	
----- 7 1,-2	
-----AUA AUGCCCCUAAA	
AAUCCUUAU----- 3 -1,0	
-----UAAUGCCCCUAAA	
AAUCC----- 52 0,-4	
-----UAAUGCCCCUAAA	
AAUCCU----- 45 0,-3	
-----UAAUGCCCCUAAA	
AAUCCUa----- 5 0,-3	
-----UAAUGCCCCUAAA	
AAUCCUau----- 7 0,-3	
-----UAAUGCCCCUAAA	
AAUCCUU----- 217 0,-2	
-----UAAUGCCCCUAAA	
AAUCCUUu----- 18 0,-2	
-----UAAUGCCCCUAAA	
AAUCCUUuu----- 11 0,-2	
-----UAAUGCCCCUAAA	
AAUCCUUA----- 334 0,-1	
-----UAAUGCCCCUAAA	
AAUCCUUAa----- 136 0,-1	
-----UAAUGCCCCUAAA	
AAUCCUUAaa----- 15 0,-1	

0, -3		
-----	-UUAUAAUACAACCUGAUAa-	3
0, -3		
-----	-UUAUAAUACAACCUGUAAG-	155
0, -2		
-----	-UUAUAAUACAACCUGUAAGa-	15
0, -2		
-----	-UUAUAAUACAACCUGUAAGU-	1281
0, -1		
-----	-UUAUAAUACAACCUGUAAGUa-	32
0, -1		
-----	-UUAUAAUACAACCUGUAAGUaa-	32
0, -1		
-----	-UUAUAAUACAACCUGUAAGUu-	2
0, -1		
-----	-UUAUAAUACAACCUGUAAGUG-	1164
0, 0		
-----	-UUAUAAUACAACCUGUAAGUGa-	318
0, 0		
-----	-UUAUAAUACAACCUGUAAGUGaa-	8
0, 0		
-----	-UUAUAAUACAACCUGUAAGUGU-	56
0, 1		
-----	-UAUAAUACAACCUGUAAGU-	16
1, -1		
-----	-UAUAAUACAACCUGUAAGUG-	10
1, 0		
-----	-UAUAAUACAACCUGUAAGUGa-	2
1, 0		
-----	-UAUAAUACAACCUGUAAGUGU-	2
1, 1		
-----	-AUAAUACAACCUGUAAGU-	2
2, -1		
-----	-AUAAUACAACCUGUAAGUG-	4
2, 0		
-----	-----ACUUAUCAGAUUGUAUUGAAU-----	2
-1, -1		
-----	-----CUUAUCAGAUUGUAUUGU-----	8

0, -4	-----CUUAUCAGAUUGUAUUGUA-----	4
0, -3	-----CUUAUCAGAUUGUAUUGUAA-----	41
0, -2	-----CUUAUCAGAUUGUAUUGUAAa-----	7
0, -2	-----CUUAUCAGAUUGUAUUGUAAaa-----	2
0, -2	-----CUUAUCAGAUUGUAUUGUAAU-----	424
0, -1	-----CUUAUCAGAUUGUAUUGUAAUa-----	173
0, -1	-----CUUAUCAGAUUGUAUUGUAAUaa-----	3
0, -1	-----CUUAUCAGAUUGUAUUGUAAUU-----	1038
0, 0	-----CUUAUCAGAUUGUAUUGUAAUUa-----	119
0, 0	-----CUUAUCAGAUUGUAUUGUAAUUaa-----	2
0, 0	-----CUUAUCAGAUUGUAUUGUAAUUu-----	18
0, 0	-----UUAUCAGAUUGUAUUGUAAU-----	4
1, -1	-----UUAUCAGAUUGUAUUGUAAUa-----	2
1, -1	-----UUAUCAGAUUGUAUUGUAAUU-----	10
1, 0	-----UUAUCAGAUUGUAUUGUAAUUa-----	5
1, 0	-----UUAUCAGAUUGUAUUGUAAUUu-----	2
1, 0	-----UAUCAGAUUGUAUUGUAAUa-----	2
2, -1	-----UAUCAGAUUGUAUUGUAAUU-----	12
2, 0	-----UAUCAGAUUGUAUUGUAAUUa-----	4

[illegible]

2,0	-----ACUUAGCAGGUUGUAUUAUCAU-----	2
-1,-1	-----CUUAGCAGGUUGUAUUAUCAU-----	6
0,-1	-----CUUAGCAGGUUGUAUUAUCAUU-----	19
0,0	-----UUAGCAGGUUGUAUUAUCAUU-----	4
1,0		

```

>hsa-mir-374c    5p:13-34    SRX018967
acacggacaauGUAUAACAACCUAGCUAAGUGCUaggacacuuagcagguuguauuuauauccaucgagu
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUAUAACAACCUAGCUAAGUG----- 4    0,-2
-----AUAUAACAACCUAGCUAAGUGa----- 3    0,-2
-----AAUAACAACCUAGCUAAGUG----- 3    2,-2

```

```

>hsa-mir-375      3p:40-61      SRX018967
ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUGAggc
.(((((((.((((((...((.((((((.(.....)).))))).))...)))))))).)).
-----UUUUGUUCGUUCGGCUCGCGU-----      2      -1,-2
-----UUUGUUCGUUCGGCUCGCG-----      3      0,-3
-----UUUGUUCGUUCGGCUCGCGU-----     10      0,-2
-----UUUGUUCGUUCGGCUCGCGUG-----    37      0,-1
-----UUUGUUCGUUCGGCUCGCGUGu-----   3      0,-1
-----UUUGUUCGUUCGGCUCGCGUGA-----  25      0,0

```

```
>hsa-mir-376a-2 3p:50-70      SRX018967
gguaauuuuuuagguagauuuuccuucuaugguuacguguuugaugguuaAUCAUAGAGGAAAAUCCACGUuuucaguauc
((((((.(((((.((.(((((((((.(((((((((((((.)))))))))((((((((((((((((((((((((((((((((
-----AUCAUAGAGGAAAAUCCACG-----
      2      0,-1
```

>hsa-mir-376c 3p:43-63 SRX018967

aaaagguggauauuccuucuauguuuuanguuauuuauugguuuAACAUAGAGGAAAUUCCACGUuuu

(((((.((((.(.(((.(.((((((.(.....))))))))))))))..))))).))))

-----AACAUAGAGGAAAUUCCACG----	2	0,-1
-----AACAUAGAGGAAAUUCCACGU---	10	0,0
-----AACAUAGAGGAAAUUCCACGUU--	2	0,1

>hsa-mir-377 mi:7-28;MA:45-66 SRX018967

uugagcAGAGGUUGCCCUUGGUGAAUUCgcuuuuuuanguugaAUCACACAAAGGCAACUUUUGUuug

..(((((((((((((((.(((((((.((((.(.....).))))))))).)).)))))))))))).

-----AGAGGUUGCCCUUGGUGAAUU-----	3	0,-1
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>hsa-mir-378 mi:5-26;MA:43-63 SRX018967

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu

(((.((.(((((((((((((.(.....))))))))).)))))))))))).))))

---CUCCUGACUCCAGGUCCU-----	14	0,-4
---CUCCUGACUCCAGGUCCUG-----	7	0,-3
---CUCCUGACUCCAGGUCCUGUa-----	2	0,-2
---CUCCUGACUCCAGGUCCUGUGa-----	2	0,-1
---CUCCUGACUCCAGGUCCUGUGU-----	18	0,0
---CUCCUGACUCCAGGUCCUGUGUa-----	6	0,0
---CUCCUGACUCCAGGUCCUGUGUu-----	3	0,0
----UCCUGACUCCAGGUCCUGU-----	2	1,-2
----UCCUGACUCCAGGUCCUGUGU-----	12	1,0
----UCCUGACUCCAGGUCCUGUGUa-----	2	1,0
----UCCUGACUCCAGGUCCUGUGUu-----	2	1,0
----UCCUGACUCCAGGUCCUGUGUG-----	3	1,1
----UCCUGACUCCAGGUCCUGUGUGU-----	3	1,2
----CCUGACUCCAGGUCCUGUGUGU-----	3	2,2
-----GCACUGGACUUGGAGUCAGAAG----	6	-2,-1
-----GCACUGGACUUGGAGUCAGAAGa---	5	-2,-1
-----GCACUGGACUUGGAGUCAGAAGu---	4	-2,-1
-----CACUGGACUUGGAGUCAGAA-----	2	-1,-2
-----CACUGGACUUGGAGUCAGAAG-----	6	-1,-1
-----CACUGGACUUGGAGUCAGAAGu---	2	-1,-1
-----CACUGGACUUGGAGUCAGAAGG---	39	-1,0
-----CACUGGACUUGGAGUCAGAAGGa--	7	-1,0
-----CACUGGACUUGGAGUCAGAAGGaa-	6	-1,0

-----CACUGGACUUGGAGUCAGAAGGu--	5	-1,0
-----CACUGGACUUGGAGUCAGAAGGC--	69	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa-	25	-1,1
-----CACUGGACUUGGAGUCAGAAGGCaa	3	-1,1
-----CACUGGACUUGGAGUCAGAAGGCau	9	-1,1
-----CACUGGACUUGGAGUCAGAAGGCu-	13	-1,1
-----CACUGGACUUGGAGUCAGAAGGCuu	7	-1,1
-----ACUGGACUUGGAGUCAGA-----	364	0,-3
-----ACUGGACUUGGAGUCAGAu-----	4	0,-3
-----ACUGGACUUGGAGUCAGAA-----	707	0,-2
-----ACUGGACUUGGAGUCAGAAa----	91	0,-2
-----ACUGGACUUGGAGUCAGAAaa----	40	0,-2
-----ACUGGACUUGGAGUCAGAAau----	2	0,-2
-----ACUGGACUUGGAGUCAGAAu-----	4	0,-2
-----ACUGGACUUGGAGUCAGAAG----	4604	0,-1
-----ACUGGACUUGGAGUCAGAAGu----	256	0,-1
-----ACUGGACUUGGAGUCAGAAGuu----	2	0,-1
-----ACUGGACUUGGAGUCAGAAGG----	29774	0,0
-----ACUGGACUUGGAGUCAGAAGGa----	8865	0,0
-----ACUGGACUUGGAGUCAGAAGGaa----	1007	0,0
-----ACUGGACUUGGAGUCAGAAGGau----	201	0,0
-----ACUGGACUUGGAGUCAGAAGGu----	1503	0,0
-----ACUGGACUUGGAGUCAGAAGGuu----	168	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	49367	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	26256	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	3789	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	9647	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	9377	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	2223	0,1
-----ACUGGACUUGGAGUCAGAAGGCC--	53	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa-	6	0,2
-----ACUGGACUUGGAGUCAGAAGGCCau	17	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	23	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	6	0,3
-----CUGGACUUGGAGUCAGAA-----	12	1,-2
-----CUGGACUUGGAGUCAGAAa----	3	1,-2
-----CUGGACUUGGAGUCAGAAG----	54	1,-1
-----CUGGACUUGGAGUCAGAAGu----	2	1,-1


```

-----CUGGACUUGGAGUCAGAAGG--- 610 1,0
-----CUGGACUUGGAGUCAGAAGGa-- 152 1,0
-----CUGGACUUGGAGUCAGAAGGaa- 69 1,0
-----CUGGACUUGGAGUCAGAAGGau- 7 1,0
-----CUGGACUUGGAGUCAGAAGGu-- 51 1,0
-----CUGGACUUGGAGUCAGAAGGuu- 9 1,0
-----CUGGACUUGGAGUCAGAAGGC-- 4338 1,1
-----CUGGACUUGGAGUCAGAAGGCa- 1672 1,1
-----CUGGACUUGGAGUCAGAAGGCaa 713 1,1
-----CUGGACUUGGAGUCAGAAGGCau 763 1,1
-----CUGGACUUGGAGUCAGAAGGCu- 1346 1,1
-----CUGGACUUGGAGUCAGAAGGCuu 815 1,1
-----CUGGACUUGGAGUCAGAAGGCC- 28 1,2
-----CUGGACUUGGAGUCAGAAGGCCa 23 1,2
-----CUGGACUUGGAGUCAGAAGGCCau 43 1,2
-----CUGGACUUGGAGUCAGAAGGCCU 21 1,3
-----CUGGACUUGGAGUCAGAAGGCCUa 2 1,3
-----CUGGACUUGGAGUCAGAAGGCCUau 3 1,3
-----CUGGACUUGGAGUCAGAAGGCCUu 7 1,3
-----CUGGACUUGGAGUCAGAAGGCCUuu 9 1,3
-----UGGACUUGGAGUCAGAAG---- 2 2,-1
-----UGGACUUGGAGUCAGAAGG--- 22 2,0
-----UGGACUUGGAGUCAGAAGGa-- 7 2,0
-----UGGACUUGGAGUCAGAAGGC-- 77 2,1
-----UGGACUUGGAGUCAGAAGGCa- 24 2,1
-----UGGACUUGGAGUCAGAAGGCaa 9 2,1
-----UGGACUUGGAGUCAGAAGGCau 13 2,1
-----UGGACUUGGAGUCAGAAGGCu- 30 2,1
-----UGGACUUGGAGUCAGAAGGCuu 28 2,1
-----UGGACUUGGAGUCAGAAGGCC- 3 2,2

```

>hsa-mir-378b 3p:34-52 SRX018967

ggucauugagucuucaaggcuaguggaaagagcACUGGACUUGGAGGCAGAAagacc

(((((.(.(((((((((((((.....)))))).)))))))))).))))))

```

-----ACUGGACUUGGAGGCAGAA----- 735 0,0

```

>hsa-mir-378c 5p:11-35 SRX018967

ggaggccaucACUGGACUUGGAGUCAGAAGAGUGGagucgggucagacuucaacucugacuuugaagguggugagugccu

c

.((((((((((((((((.....(..((((((((((((((((((((.....))))))))..))))))))..))))))))..))))))
)

-----CACUGGACUUGGAGUCAGAAG-----
- 6 -1,-5
-----CACUGGACUUGGAGUCAGAAGu-----
- 2 -1,-5
-----CACUGGACUUGGAGUCAGAAGA-----
- 6 -1,-4
-----ACUGGACUUGGAGUCAGAAG-----
- 4604 0,-5
-----ACUGGACUUGGAGUCAGAAGu-----
- 256 0,-5
-----ACUGGACUUGGAGUCAGAAGuu-----
- 2 0,-5
-----ACUGGACUUGGAGUCAGAAGA-----
- 1821 0,-4
-----ACUGGACUUGGAGUCAGAAGAa-----
- 137 0,-4
-----ACUGGACUUGGAGUCAGAAGAaa-----
- 27 0,-4
-----ACUGGACUUGGAGUCAGAAGAu-----
- 10 0,-4
-----ACUGGACUUGGAGUCAGAAGAu-----
- 2 0,-4
-----ACUGGACUUGGAGUCAGAAGAG-----
- 4 0,-3
-----ACUGGACUUGGAGUCAGAAGAGa-----
- 3 0,-3
-----CUGGACUUGGAGUCAGAAG-----
- 54 1,-5
-----CUGGACUUGGAGUCAGAAGu-----
- 2 1,-5
-----CUGGACUUGGAGUCAGAAGA-----
- 30 1,-4
-----CUGGACUUGGAGUCAGAAGAa-----
- 2 1,-4
-----CUGGACUUGGAGUCAGAAGAaa-----

```

- 2 1,-4
-----UGGACUUGGAGUCAGAAG-----
- 2 2,-5
-----UGGACUUGGAGUCAGAAGA-----
- 2 2,-4

```

```

>hsa-mir-379    MA:6-26;mi:44-65    SRX018967
agagaUGGUAGACUAUGGAACGUAGGcguaugauuucugaccUAUGUAACAUGGUCCACUAACUcu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGUAGACUAUGGAACGUAG----- 2 0,-1
-----UGGUAGACUAUGGAACGUAGG----- 2 0,0
-----UGGUAGACUAUGGAACGUAGGa----- 3 0,0

```

```

>hsa-mir-382    5p:11-32    SRX018967
uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucauucacggacaacacuuuuuucagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAUCAUUCACGGACAACAC-----
5
-----AAUCAUUCACGGACAACACU-----
11

```

```

>hsa-mir-383    5p:7-28 SRX018967
cuccucAGAUCAAGAAGGUGAUUGUGGCUuuggguggauauuaucagccacagcacugccuggucagaaagag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAUCAAGAAGGUGAUUGUGGCU----- 2
0,0

```

```

>hsa-mir-3909    3p:71-92    SRX018967
gguaugcuguugcgcuguccuuccucuggggagcaggcuccgggggacagggaaaagcacacaaggaacuUGUCCUCUAG
GGCCUGCAGUCUcaugggagagugacaugcaccaggacc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GAGCAGGCUCCGGGGGACAG-----
----- 2
-----UGUCCUCUAG
GGCCUGCAGUCUau----- 2 0,0

```

```

>hsa-mir-3912    3p:63-83    SRX018967

```

(((((.....((((((((((((((((((((((((((((((((((.((((((.(((.....)))))))).).)))))))))
))))))))))))))))))))))))))))

-----AACGCAUAAUAUGGACA

UG----- 2 1,-1

-----AACGCAUAAUAUGGACA

UGUUA----- 2 1,2

>hsa-mir-3923 3p:51-72 SRX018967

gguagagugagcucuaauccaauuuacuagcuucuuuauaagaagaggaAACUAGUAAUGUUGGAUUAGGGcucacucu
acu

-----AACUAGUAAUGUUGGAUUA-----

--- 216 0,-3

-----AACUAGUAAUGUUGGAUUAa-----

--- 2 0,-3

-----AACUAGUAAUGUUGGAUUAG-----

--- 70 0,-2

-----AACUAGUAAUGUUGGAUUAGG-----

--- 54 0,-1

-----AACUAGUAAUGUUGGAUUAGGG-----

--- 57 0,0

-----AACUAGUAAUGUUGGAUUAGGGa-----

--- 26 0,0

-----AACUAGUAAUGUUGGAUUAGGG_{aa}-----

--- 2 0,0

-----AACUAGUAAUGUUGGAUUAGGG_{au}-----

--- 3 0,0

-----AACUAGUAAUGUUGGAUUAGGGu-----

--- 19 0,0

-----AACUAGUAAUGUUGGAUUAGGG_{uu}-----

--- 6 0,0

-----ACUAGUAAUGUUGGAUUA-----

--- 4 1, -3

-----ACUAGUAAUGUUGGAUUAG-----

--- 2 1,-2

-----GGAGGAACCUUGGAGCUUCGG-	16	0,-1
-----GGAGGAACCUUGGAGCUUCGGa	2	0,-1
-----GGAGGAACCUUGGAGCUUCGGu	9	0,-1
-----GGAGGAACCUUGGAGCUUCGGuu	2	0,-1
-----GGAGGAACCUUGGAGCUUCGGC	7	0,0
-----GGAGGAACCUUGGAGCUUCGGCa	33	0,0
-----GGAGGAACCUUGGAGCUUCGGCaa	5	0,0
-----GGAGGAACCUUGGAGCUUCGGCau	5	0,0
-----GGAGGAACCUUGGAGCUUCGGCu	10	0,0
-----GAGGAACCUUGGAGCUUCGGCau	5	1,0

-----				-----UAAGGGGUGUAUGGC
AGAUGa-----	2	0,-2		
-----				-----UAAGGGGUGUAUGGC
AGAUGC-----	8	0,-1		
-----				-----UAAGGGGUGUAUGGC
AGAUGCA-----	4	0,0		

$$\begin{aligned} & \dots(((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((\\ &) .) .)))))))) .)))))))) \dots)))))). \end{aligned}$$

```

-----AGCAAUACUGUUACCUGAAAU-----
-----      6      1,0
-----AGCAAUACUGUUACCUGAAAUA-----
-----      3      1,1
-----AGCAAUACUGUUACCUGAAAUAa-----
-----      3      1,1

```

-----UUUCAGUAACAGUAU
UACAU----- 2

>hsa-mi r-409 5p:15-37;3p:47-68 SRX018967

ugguacucggggagAGGUUACCCGAGCAACUUUGCAUcuggacgacGAAUGUUGCUCGGUGAACCCUuuucgguauca
 .(((((.((..(((.((((((((((((((((((((.....).))))).))))))))).))))).))))).))))).
 -----AGGUUACCCGAGCAACUUUGCA-----
 5 0,-1
 -----AGGUUACCCGAGCAACUUUGCAU-----
 6 0,0

>hsa-mi r-411 MA:16-36;mi :51-72 SRX018967

```

ugguacuuggagagaUAGUAGACCGUAUAGCGUACGcuuuuauucugugacgUAUGUAACACGGUCCACUAACCCucaguau
caaauccaucccccag
(((((((..(((.(.((((.(((((.(.((((((((.....).)))))))).).)))))).).)))))))))
))......
-----AUAGUAGACCGUAUAGCGUAC-----
-----      6      -1,-1
-----UAGUAGACCGUAUAGCGU-----
-----      4      0,-3
-----UAGUAGACCGUAUAGCGUA-----
-----      3      0,-2
-----UAGUAGACCGUAUAGCGUAC-----
-----      6      0,-1
-----UAGUAGACCGUAUAGCGUACG-----
-----      2      0,0

```

>hsa-mir-421 3p:48-70 SRX018967

gcacauuguaggccucauuaaauguuuguugaaugaaaaaugaaucAUCAACAGACAUUAUUUGGGCGCcugcucugug
aucuc

.((((..(((((((.....)))))))))...)).))))).))))).

.....

-----AUCAACAGACAUUAUUUG-----
---- 111 0,-5

-----AUCAACAGACAUUAUUUGG-----
---- 68 0,-4

-----AUCAACAGACAUUAUUUGGG-----
---- 8 0,-3

```

-----AUCAACAGACAUUAAUUGGGC-----
----- 5 0,-2
-----AUCAACAGACAUUAAUUGGGCa-----
----- 2 0,-2
-----AUCAACAGACAUUAAUUGGGCG-----
----- 7 0,-1
-----AUCAACAGACAUUAAUUGGGCGa-----
----- 11 0,-1
-----AUCAACAGACAUUAAUUGGGCGu-----
----- 3 0,-1
-----AUCAACAGACAUUAAUUGGGCGC-----
----- 4 0,0
-----AUCAACAGACAUUAAUUGGGCGCa-----
----- 5 0,0

```

>hsa-mir-423 5p:17-39;3p:53-75 SRX018967

```

auaaaggaaguaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

```

```

....(((((((.((((((((((((((..(((.(((.((((((.....)))))))))).)))...)))))))))))).))
))))).

```

```

-----CUGAGGGGCAGAGAGCGAGACUU-----
----- 2 -1,-1
-----UGAGGGGCAGAGAGCGAG-----
----- 11 0,-5
-----UGAGGGGCAGAGAGCGAGA-----
----- 33 0,-4
-----UGAGGGGCAGAGAGCGAGa-----
----- 5 0,-4
-----UGAGGGGCAGAGAGCGAGa-----
----- 10 0,-4
-----UGAGGGGCAGAGAGCGAGa-----
----- 3 0,-4
-----UGAGGGGCAGAGAGCGAGAC-----
----- 47 0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 4 0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 2 0,-3

```

```

-----UGAGGGGCAGAGAGCGAGACU-----
----- 113 0,-2
-----UGAGGGGCAGAGAGCGAGACUa-----
----- 5 0,-2
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 12 0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 4 0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 155 0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 54 0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 14 0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 12 0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 1096 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 36 0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 8 0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 19 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 208 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUa-----
----- 4 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 14 0,1
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 34 1,0
-----GAGGGGCAGAGAGCGAGACUUUaa-----
----- 2 1,0
-----GAGGGGCAGAGAGCGAGACUUUU-----
----- 5 1,1
-----AGGGGCAGAGAGCGAGACUUU-----
----- 8 2,0

```


-----	-AGGGGCAGAGAGCGAGACUUU-	-----
-----	8 2,1	-----
-----		-----AAGCUCGGUCUGAGGCCCC-----
-----	2 -1,-5	-----
-----		-----AAGCUCGGUCUGAGGCCCCaa-----
-----	2 -1,-5	-----
-----		-----AAGCUCGGUCUGAGGCCCCU-----
-----	8 -1,-4	-----
-----		-----AAGCUCGGUCUGAGGCCCCUa-----
-----	3 -1,-4	-----
-----		-----AAGCUCGGUCUGAGGCCCCUuu-----
-----	2 -1,-4	-----
-----		-----AAGCUCGGUCUGAGGCCCCUC-----
-----	4 -1,-3	-----
-----		-----AAGCUCGGUCUGAGGCCCCUCu-----
-----	2 -1,-3	-----
-----		-----AAGCUCGGUCUGAGGCCCCUCA-----
-----	18 -1,-2	-----
-----		-----AAGCUCGGUCUGAGGCCCCUCAu-----
-----	2 -1,-2	-----
-----		-----AAGCUCGGUCUGAGGCCCCUCAG-----
-----	8 -1,-1	-----
-----		-----AAGCUCGGUCUGAGGCCCCUCAGa-----
-----	6 -1,-1	-----
-----		-----AAGCUCGGUCUGAGGCCCCUCAGU-----
-----	50 -1,0	-----
-----		-----AGCUCGGUCUGAGGCCCC-----
-----	10 0,-5	-----
-----		-----AGCUCGGUCUGAGGCCCCaa-----
-----	3 0,-5	-----
-----		-----AGCUCGGUCUGAGGCCCCU-----
-----	32 0,-4	-----
-----		-----AGCUCGGUCUGAGGCCCCUaa-----
-----	14 0,-4	-----
-----		-----AGCUCGGUCUGAGGCCCCUau-----
-----	4 0,-4	-----
-----		-----AGCUCGGUCUGAGGCCCCUu-----
-----	4 0,-4	-----

-----			-----AGCUCGGUCUGAGGCCCCUuu-----
-----	4	0,-4	
-----			-----AGCUCGGUCUGAGGCCCCUC-----
-----	10	0,-3	
-----			-----AGCUCGGUCUGAGGCCCCUCu-----
-----	3	0,-3	
-----			-----AGCUCGGUCUGAGGCCCCUCA-----
-----	49	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAa-----
-----	10	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAaa-----
-----	2	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAau-----
-----	3	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAu-----
-----	16	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAuu-----
-----	4	0,-2	
-----			-----AGCUCGGUCUGAGGCCCCUCAG-----
-----	73	0,-1	
-----			-----AGCUCGGUCUGAGGCCCCUCAGa-----
-----	20	0,-1	
-----			-----AGCUCGGUCUGAGGCCCCUCAGaa-----
-----	2	0,-1	
-----			-----AGCUCGGUCUGAGGCCCCUCAGau-----
-----	6	0,-1	
-----			-----AGCUCGGUCUGAGGCCCCUCAGU-----
-----	289	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUa-----
-----	30	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUaa-----
-----	26	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUau-----
-----	52	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUu-----
-----	47	0,0	
-----			-----AGCUCGGUCUGAGGCCCCUCAGUuu-----
-----	12	0,0	

```

-----GCUCGGUCUGAGGCCCCUCAG-----
----- 2 1,-1 -----
-----GCUCGGUCUGAGGCCCCUCAGU-----
----- 2 1,0 -----

>hsa-mir-424 MA:11-32;mi:48-68 SRX018967
cgaggggauaCAGCAGCAAUUC AUGUUUGAAguguucuaaaugguuCAAAACGUGAGGCGCUGCUAUacccccucgugg
ggaagguagaaggugggg
(((((((.(.(.(((((((.(((((((((((((((.(.((.....)))..))))))))))))..))))))..))))))..
.....
-----ACAGCAGCAAUUC AUGUUU-----
----- 3 -1,-3 -----
-----ACAGCAGCAAUUC AUGUUUG-----
----- 2 -1,-2 -----
-----CAGCAGCAAUUC AUGUU-----
----- 5 0,-4 -----
-----CAGCAGCAAUUC AUGUUU-----
----- 33 0,-3 -----
-----CAGCAGCAAUUC AUGUUUG-----
----- 117 0,-2 -----
-----CAGCAGCAAUUC AUGUUUGA-----
----- 351 0,-1 -----
-----CAGCAGCAAUUC AUGUUUGAA-----
----- 141 0,0 -----
-----CAGCAGCAAUUC AUGUUUGAAa-----
----- 13 0,0 -----
-----CAGCAGCAAUUC AUGUUUGAAaa-----
----- 2 0,0 -----
-----CAGCAGCAAUUC AUGUUUGAAu-----
----- 2 0,0 -----
-----AGCAGCAAUUC AUGUUUG-----
----- 4 1,-2 -----
-----AGCAGCAAUUC AUGUUUGA-----
----- 2 1,-1 -----
-----AGCAGCAAUUC AUGUUUGAA-----
----- 2 1,0 -----
-----CAAAACGUGAGGCGCUGCUA-----
----- 7 0,-1 -----

```

```

-----CAAAACGUGAGGCGCUGCUAa-----
----- 2 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 57 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 2 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 33 0,1
-----CAAAACGUGAGGCGCUGCUAUa-----
----- 8 0,1
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 6 0,1
-----AAAACGUGAGGCGCUGCUAUa-----
----- 2 1,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018967

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAUGUCGUGUCCGCCCagug
cucuuc

(((((.(.(((...(((((((.(.(((((.(((((...))....))))).))))).))))))....)))

```

-----AAUGACACGAUCACUCCC-----
----- 14 0,-5
-----AAUGACACGAUCACUCCCG-----
----- 6 0,-4
-----AAUGACACGAUCACUCCCGU-----
----- 33 0,-3
-----AAUGACACGAUCACUCCCGUU-----
----- 34 0,-2
-----AAUGACACGAUCACUCCCGUua-----
----- 2 0,-2
-----AAUGACACGAUCACUCCCGUUG-----
----- 47 0,-1
-----AAUGACACGAUCACUCCCGUUGu-----
----- 4 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 296 0,0
-----AAUGACACGAUCACUCCCGUUGAa-----
----- 2 0,0

```

-----AAUGACACGAUCACUCCCGUUGAG-----
 ----- 53 0,1
 -----AAUGACACGAUCACUCCCGUUGAGa-----
 ----- 2 0,1
 -----AAUGACACGAUCACUCCCGUUGAGU-----
 ----- 20 0,2
 -----AUGACACGAUCACUCCCGUU-----
 ----- 3 1,-2
 -----AUGACACGAUCACUCCCGUUG-----
 ----- 5 1,-1
 -----AUGACACGAUCACUCCCGUUGA-----
 ----- 53 1,0
 -----AUGACACGAUCACUCCCGUUGAa-----
 ----- 2 1,0
 -----AUGACACGAUCACUCCCGUUGAu-----
 ----- 3 1,0
 -----AUGACACGAUCACUCCCGUUGAG-----
 ----- 31 1,1
 -----AUGACACGAUCACUCCCGUUGAGa-----
 ----- 2 1,1
 -----AUGACACGAUCACUCCCGUUGAGU-----
 ----- 6 1,2
 -----AUGACACGAUCACUCCCGUUGAGUu-----
 ----- 2 1,2
 -----CCAUCGGGAAUGUCGUGUCCGC-----
 ----- 2 -2,-2
 -----CAUCGGGAAUGUCGUGUC-----
 ----- 2 -1,-5
 -----CAUCGGGAAUGUCGUGUCa-----
 ----- 2 -1,-5
 -----CAUCGGGAAUGUCGUGUCC-----
 ----- 4 -1,-4
 -----CAUCGGGAAUGUCGUGUCCGC-----
 ----- 15 -1,-2
 -----CAUCGGGAAUGUCGUGUCCGCa-----
 ----- 7 -1,-2
 -----CAUCGGGAAUGUCGUGUCCGCau-----
 ----- 2 -1,-2


```

-----ACCCACUCCUGGUACCAa-----
-----      13  0,1
-----ACCCACUCCUGGUACCAaa-----
-----      16  0,1
-----ACCCACUCCUGGUACCAau-----
-----      7   0,1
-----ACCCACUCCUGGUACCAU-----
-----      18  0,2
-----ACCCACUCCUGGUACCAUu-----
-----      6   0,2
-----ACCCACUCCUGGUACCAUA-----
-----      6   0,3
-----ACCCACUCCUGGUACCAUAa-----
-----      2   0,3

```

>hsa-mir-429 3p:51-72 SRX018967

```

cgccggccgaugggcgucuaccagacaugguagaccuggcccucugucUAAUACUGUCUGGUAAAACCGUccauccgc
ugc

```

```

...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).

```

```

-----UAAUACUGUCUGGUAAAA-----
--- 2   0,-4
-----UAAUACUGUCUGGUAAAACC-----
--- 2   0,-2
-----UAAUACUGUCUGGUAAAACCGU-----
--- 3   0,0

```

>hsa-mir-432 MA:14-36;mi:62-82 SRX018967

```

ugacuccuccaggUCUUGGAGUAGGUCAUUGGGUGGauccucuauuuccuuacguggggccaCUGGAUGGCUCCUCCAUGU
CUuggaguagauca

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))).

```

```

-----UCUUGGAGUAGGUCAUUG-----
-----      2   0,-5
-----UCUUGGAGUAGGUCAUUGG-----
-----      3   0,-4
-----UCUUGGAGUAGGUCAUUGGG-----
-----      5   0,-3

```

-----UCUUGGAGUAGGUCAUUGGGUGG-----
-----4 0,0-----

```
>hsa-mir-4326    5p:11-30    SRX018967
```

gcugcucugcUGUCCUCUGUCUCCCAGACucugggguggauggagcaggucggggggcca

(((.(...((((((...(((((((((...)))))).)))))))).)...)).)).)..

-----UGUUCCUCUGUCUCCCAGACUC----- 3 0,2

-----UGUUCCUCUGUCUCCCAGACUCU----- 10 0,3

>hsa-mir-448 3p:71-92 SRX018967

gccgggagguugaacaucugcauagugcugccaggaaaucccuauuucauauaagaggggggcuggcuggUUGCAUAUGU

AGGAUGUCCCAUcuccagcccacuucgua

-----UUGCAUAUGU

AGGAUGUCCuu----- 4 0,-3

-----UUGCAUAUGU

AGGAUGUCCC----- 4 0,-2

-----UUGCAUAUGU

AGGAUGUCCCu----- 13 0,-2

-----UUGCAUAUGU

AGGAUGUCCCA----- 21 0, -1

-----UUGCAUAUGU

AGGAUGUCCCAa----- 5 0, -1

-----UUGCAUAUGU

AGGAUGUCCCAU----- 9 0,0

>hsa-mi r-450a-1 5p:18-39 SRX018967

aaacgauacuaaacuguUUUUGCGAUGUGUUCCUAAUAUgcacuaauaaauauauuggggaacauuuugcauguauaguuuu

guaucaauaua

-----UUUUGCGAUGUGUCCUAAU-----

----- 2 0, -2

-----UUUUGCGAUGUGUCCUAAUA-----

----- 4 0, -1

-----UUUUGCGAUGUGUCCUAAUAU-----

----- 5 0,0


```

>hsa-mir-450a-2 5p:23-44 SRX018967
ccaaagaagaugcuaaacuauUUUUGCGAUGUGUCCUAAUAUguaauauaaauguauuggggacauuuugcauucuaa
guuuuguaucuaauaauugg
.....(((((((.....(((((((.....))))))))))))))..))))))..))))
))))))..))))
-----UUUUGCGAUGUGUCCUAAU-----
-----2 0,-2-----
-----UUUUGCGAUGUGUCCUAAUA-----
-----4 0,-1-----
-----UUUUGCGAUGUGUCCUAAUAU-----
-----5 0,0-----
-----AUUGGGGACAUUUUGCAUUCAU-----
-----3-----

```

```

>hsa-mir-450b 5p:11-32;3p:48-69 SRX018967
gcagaauuauUUUUGCAAUAUGUCCUGAAUAguuaauuaaguguaUUGGGAUCAUUUUGCAUCCAUAguuuuguau
((((((((.....(((((((.....))))))))))))))..))))))..))))))..))))))..
-----UUUUGCAAUAUGUCCUGAA-----
4 0,-2
-----UUUUGCAAUAUGUCCUGAAa-----
2 0,-2
-----UUUUGCAAUAUGUCCUGAAU-----
3 0,-1
-----UUUUGCAAUAUGUCCUGAAUA-----
3 0,0

```

```

>hsa-mir-451 5p:17-38 SRX018967
cuugggaugggaaggAAACCGUUACCAUACUGAGUUaguaaugguaauggguucucuugcuauaccaga
.(((((((.....(((((((.....))))))))))))))..))))))..))))))..))))))..
-----AAACCGUUACCAUACUG----- 307
0,-4
-----AAACCGUUACCAUACUGA----- 83
0,-3
-----AAACCGUUACCAUACUGAu----- 2
0,-3
-----AAACCGUUACCAUACUGAuu----- 2
0,-3

```

-----AAACCGUUACCAUUACUGAG-----	745
0,-2	
-----AAACCGUUACCAUUACUGAGa-----	5
0,-2	
-----AAACCGUUACCAUUACUGAGau-----	17
0,-2	
-----AAACCGUUACCAUUACUGAGU-----	698
0,-1	
-----AAACCGUUACCAUUACUGAGUa-----	3
0,-1	
-----AAACCGUUACCAUUACUGAGUaa-----	5
0,-1	
-----AAACCGUUACCAUUACUGAGUU-----	6137
0,0	
-----AAACCGUUACCAUUACUGAGUUa-----	19
0,0	
-----AAACCGUUACCAUUACUGAGUUaa-----	3
0,0	
-----AAACCGUUACCAUUACUGAGUUU-----	1628
0,1	
-----AAACCGUUACCAUUACUGAGUUUA-----	173
0,2	
-----AAACCGUUACCAUUACUGAGUUUAa-----	6
0,2	
-----AAACCGUUACCAUUACUGAGUUUAG-----	111
0,3	
-----AACCGUUACCAUUACUGAG-----	6
1,-2	
-----AACCGUUACCAUUACUGAGUU-----	35
1,0	
-----AACCGUUACCAUUACUGAGUUU-----	47
1,1	
-----AACCGUUACCAUUACUGAGUUUA-----	6
1,2	

>hsa-mir-452 MA:14-35;mi:58-79 SRX018967

gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc

-----	CAACUGUUUGCAGAGGAAACU-----
-----	2 -1, -2
-----	-AACUGUUUGCAGAGGAAA-----
-----	383 0, -4
-----	-AACUGUUUGCAGAGGAAAa-----
-----	14 0, -4
-----	-AACUGUUUGCAGAGGAAAau-----
-----	5 0, -4
-----	-AACUGUUUGCAGAGGAAAuu-----
-----	2 0, -4
-----	-AACUGUUUGCAGAGGAAAC-----
-----	1990 0, -3
-----	-AACUGUUUGCAGAGGAAACU-----
-----	3535 0, -2
-----	-AACUGUUUGCAGAGGAAACUau-----
-----	2 0, -2
-----	-AACUGUUUGCAGAGGAAACUG-----
-----	60 0, -1
-----	-AACUGUUUGCAGAGGAAACUGu-----
-----	6 0, -1
-----	-AACUGUUUGCAGAGGAAACUGA-----
-----	261 0, 0
-----	-AACUGUUUGCAGAGGAAACUGAa-----
-----	58 0, 0
-----	-AACUGUUUGCAGAGGAAACUGAaa-----
-----	13 0, 0
-----	-AACUGUUUGCAGAGGAAACUGAau-----
-----	2 0, 0
-----	-AACUGUUUGCAGAGGAAACUGAu-----
-----	6 0, 0
-----	-AACUGUUUGCAGAGGAAACUGAG-----
-----	232 0, 1
-----	-AACUGUUUGCAGAGGAAACUGAGu-----
-----	14 0, 1
-----	-AACUGUUUGCAGAGGAAACUGAGA-----
-----	116 0, 2

```

-----ACUGUUUGCAGAGGAAAC-----
----- 14 1,-3
-----ACUGUUUGCAGAGGAAACU-----
----- 24 1,-2
-----ACUGUUUGCAGAGGAAACUGAG-----
----- 9 1,1
-----CUGUUUGCAGAGGAAACU-----
----- 6 2,-2
-----CUGUUUGCAGAGGAAACUGAG-----
----- 7 2,1
-----CUGUUUGCAGAGGAAACUGAGA-----
----- 4 2,2
-----CUGUUUGCAGAGGAAACUGAGAaa-----
----- 2 2,2

```

```

>hsa-mir-454      mi:24-45;MA:64-86      SRX018967
ucuguuuuauccagauccuagaACCCUAUCAAUAUUGUCUCUGCuguguaaaauaguucugagUAGUGCAAUAUUGCUUA
UAGGGUuuugguguuuuggaaagaacaugggcagg
.(((((((((.(((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
)))))))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----ACCCUAUCAAUAUUGUCUC-----
-----7      0,-3
-----ACCCUAUCAAUAUUGUCUC-----
-----3      0,-2
-----UAGUGCAAUAUUGCUUA
UA-----12     0,-4
-----UAGUGCAAUAUUGCUUA
UAGG-----3      0,-2
-----UAGUGCAAUAUUGCUUA
UAGGGU-----2      0,0
-----AGUGCAAUAUUGCUUA
UAGG-----2      1,-2

```

```
>hsa-mir-455      5p:16-37;3p:54-74      SRX018967
ucccuggcgugagggUAUGUGCCUUGGACUACAUCGuggaagccagcaccauGCAGUCCAUGGGCAUAUACACuugccu
caaggccuaugucauc
.....(((.(((((((((((((((((.(((((.(((.(.....)))..)))..)))))).))))))))).....)))
))..))).....
```

```

-----GUAUGUGCCUUUGGACUA-----
-----      2   -1,-5
-----GUAUGUGCCUUUGGACUAC-----
-----      4   -1,-4
-----GUAUGUGCCUUUGGACUACA-----
-----      6   -1,-3
-----GUAUGUGCCUUUGGACUACAa-----
-----      7   -1,-3
-----GUAUGUGCCUUUGGACUACAaa-----
-----      3   -1,-3
-----GUAUGUGCCUUUGGACUACAU-----
-----     42   -1,-2
-----GUAUGUGCCUUUGGACUACAua-----
-----     21   -1,-2
-----GUAUGUGCCUUUGGACUACAuu-----
-----      4   -1,-2
-----GUAUGUGCCUUUGGACUACAuuu-----
-----      2   -1,-2
-----GUAUGUGCCUUUGGACUACAUC-----
-----      9   -1,-1
-----GUAUGUGCCUUUGGACUACAUCa-----
-----      2   -1,-1
-----GUAUGUGCCUUUGGACUACAUCG-----
-----     12   -1,0
-----GUAUGUGCCUUUGGACUACAUCGU-----
-----      7   -1,1
-----UAUGUGCCUUUGGACUACA-----
-----      5    0,-3
-----UAUGUGCCUUUGGACUACAa-----
-----      3    0,-3
-----UAUGUGCCUUUGGACUACAU-----
-----     15    0,-2
-----UAUGUGCCUUUGGACUACAua-----
-----     57    0,-2
-----UAUGUGCCUUUGGACUACAUC-----
-----     41    0,-1
-----UAUGUGCCUUUGGACUACAUCa-----
-----      3    0,-1

```

-----UAUGUGCCUUUGGACUACAUCG-----	
-----102 0,0-----	
-----UAUGUGCCUUUGGACUACAUCGa-----	
-----8 0,0-----	
-----UAUGUGCCUUUGGACUACAUCGU-----	
-----27 0,1-----	
-----UAUGUGCCUUUGGACUACAUCGUG-----	
-----3 0,2-----	
-----AUGUGCCUUUGGACUACAUCG-----	
-----4 1,0-----	
-----AUGUGCCUUUGGACUACAUCGU-----	
-----3 1,1-----	
-----UGUGCCUUUGGACUACAUAa-----	
-----2 2,-2-----	
-----UGUGCCUUUGGACUACAUCGU-----	
-----2 2,1-----	
-----UGUGCCUUUGGACUACAUCGUG-----	
-----3 2,2-----	
-----UGUGCCUUUGGACUACAUCGUGu-----	
-----2 2,2-----	
-----AUGCAGUCCAUGGGCAUA-----	
-----6 -2,-5-----	
-----AUGCAGUCCAUGGGCAUAa-----	
-----4 -2,-5-----	
-----AUGCAGUCCAUGGGCAUAU-----	
-----12 -2,-4-----	
-----AUGCAGUCCAUGGGCAUAUu-----	
-----10 -2,-4-----	
-----AUGCAGUCCAUGGGCAUAUuu-----	
-----5 -2,-4-----	
-----AUGCAGUCCAUGGGCAUAUA-----	
-----71 -2,-3-----	
-----AUGCAGUCCAUGGGCAUAUAa-----	
-----33 -2,-3-----	
-----AUGCAGUCCAUGGGCAUAUAu-----	
-----26 -2,-3-----	
-----AUGCAGUCCAUGGGCAUAUAC-----	
-----50 -2,-2-----	

-----		-----AUGCAGUCCAUGGGCAUAUACA-----
-----	106 -2,-1	-----AUGCAGUCCAUGGGCAUAUACAa-----
-----	3 -2,-1	-----AUGCAGUCCAUGGGCAUAUACAC-----
-----	20 -2,0	-----AUGCAGUCCAUGGGCAUAUACACa-----
-----	3 -2,0	-----UGCAGUCCAUGGGCAUAUA-----
-----	12 -1,-3	-----UGCAGUCCAUGGGCAUAUAa-----
-----	5 -1,-3	-----UGCAGUCCAUGGGCAUAUAu-----
-----	3 -1,-3	-----UGCAGUCCAUGGGCAUAUAC-----
-----	10 -1,-2	-----UGCAGUCCAUGGGCAUAUACA-----
-----	44 -1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	14 -1,0	-----UGCAGUCCAUGGGCAUAUACACa-----
-----	3 -1,0	-----UGCAGUCCAUGGGCAUAUACACU-----
-----	2 -1,1	-----GCAGUCCAUGGGCAUAUA-----
-----	132 0,-3	-----GCAGUCCAUGGGCAUAUAa-----
-----	15 0,-3	-----GCAGUCCAUGGGCAUAUAu-----
-----	10 0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	99 0,-2	-----GCAGUCCAUGGGCAUAUACA-----
-----	485 0,-1	-----GCAGUCCAUGGGCAUAUACAa-----
-----	31 0,-1	-----GCAGUCCAUGGGCAUAUACAu-----
-----	13 0,-1	

>hsa-mir-483 5p:8-29;3p:48-68 SRX018967

gagggggAAGACGGGAGGAAAGAAGGGAGugguuccaucagccuccUCACUCCUCUCCUCCCGUCUUcuccucuc

(((((((((((((((((((((((((((.(.((.(.(((.(.(((.....)))..)).)).)).)))))))))))))).))))))

-----AAGACGGGAGGAAAGAAGG-----

2 0,-3

-----AAGACGGGAGGAAAGAAGGa-----

3 0,-3

-----AAGACGGGAGGAAAGAAGGG-----

13 0,-2

-----AAGACGGGAGGAAAGAAGGGA-----

37 0,-1

-----AAGACGGGAGGAAAGAAGGGAa-----

14 0,-1

-----AAGACGGGAGGAAAGAAGGGAaa-----

10 0,-1

-----AAGACGGGAGGAAAGAAGGGAu-----

3 0,-1

-----AAGACGGGAGGAAAGAAGGGAG-----

49 0,0

-----AAGACGGGAGGAAAGAAGGGAGa-----

13 0,0

-----AAGACGGGAGGAAAGAAGGGAGU-----

3 0,1

-----AAGACGGGAGGAAAGAAGGGAGUG-----

2 0,2

-----AGACGGGAGGAAAGAAGGGA-----

2 1,-1

-----AGACGGGAGGAAAGAAGGGAG-----

3 1,0

-----AGACGGGAGGAAAGAAGGGAGU-----

2 1,1

-----UCACUCCUCUCCUCCCGUCU-----

2 0,-1

-----UCACUCCUCUCCUCCCGUCUUaa-----

2 0,0

-----UCACUCCUCUCCUCCCGUCUUC-----

2 0,1

```

-----CACUCCUCUCCUCCCGUCUU-----
2   1,0
-----CACUCCUCUCCUCCCGUCUUCU-----
5   1,2

>hsa-mir-484    5p:8-29 SRX018967
agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaaggagcuuuccgggggggugaccuggcuuuuuuggcg
.(((((((((.....(((.(((((((.(((.((((.....))))).)))))).)))))).))))).))))).))))).
-----UCAGGCUCAGUCCCCUCC-----
5   0,-4
-----UCAGGCUCAGUCCCCUCC-----
8   0,-3
-----UCAGGCUCAGUCCCCUCCCG-----
11  0,-2
-----UCAGGCUCAGUCCCCUCCCGuu-----
12  0,-2
-----UCAGGCUCAGUCCCCUCCCGA-----
61  0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
25  0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
18  0,-1
-----UCAGGCUCAGUCCCCUCCCGAau-----
11  0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
157 0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
55  0,0
-----UCAGGCUCAGUCCCCUCCCGAUuu-----
7   0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
38  0,1
-----UCAGGCUCAGUCCCCUCCCGAUAu-----
11  0,1
-----UCAGGCUCAGUCCCCUCCCGAUAuu-----
2   0,1
-----UCAGGCUCAGUCCCCUCCCGAUAA-----
12  0,2

```

-----AGGCUCAGUCCCCUCCCGA-----
3 2,-1
-----AGGCUCAGUCCCCUCCCGAU-----
5 2,0

```

>hsa-mir-486      5p:4-25;3p:46-66      SRX018967
gcaUCCUGUACUGAGCUGCCCCGAgcccucaugcugcccagcuCGGGGCAGCUCAGUACAGGAUac
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
---UCCUGUACUGAGCUGCCCC-----47  0,-4
---UCCUGUACUGAGCUGCCCC-----180 0,-3
---UCCUGUACUGAGCUGCCCCG-----79  0,-2
---UCCUGUACUGAGCUGCCCCGu-----2  0,-2
---UCCUGUACUGAGCUGCCCCGA-----544 0,-1
---UCCUGUACUGAGCUGCCCCGAa-----24 0,-1
---UCCUGUACUGAGCUGCCCCGAu-----10 0,-1
---UCCUGUACUGAGCUGCCCCGAG-----883 0,0
---UCCUGUACUGAGCUGCCCCGAGa-----325 0,0
---UCCUGUACUGAGCUGCCCCGAGaa-----4  0,0
---UCCUGUACUGAGCUGCCCCGAGau-----5  0,0
---UCCUGUACUGAGCUGCCCCGAGu-----50 0,0
---UCCUGUACUGAGCUGCCCCGAGG-----2  0,1
---UCCUGUACUGAGCUGCCCCGAGGa-----2  0,1
-----CUGUACUGAGCUGCCCCGA-----6  2,-1
-----CUGUACUGAGCUGCCCCGAG-----9  2,0
-----CGGGGCAGCUCAGUACAGGAU-----3  0,0

```

```

----      5      0,-1
-----
-----AAUCGUACAGGGUCAUCCACUU-----
----      4      0,0

```

```

>hsa-mir-491      5p:16-37;3p:50-71      SRX018967
uugacuuagcuggguAGUGGGGAACCCUCCAUGAGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcuggcuggg
uugg
(((((.....))))))
)...)
-----AGUGGGGAACCCUCCAUGAG-----
----      9      0,-1
-----AGUGGGGAACCCUCCAUGAGa-----
----      2      0,-1
-----AGUGGGGAACCCUCCAUGAGG-----
----      5      0,0
-----AGUGGGGAACCCUCCAUGAGGA-----
----     24      0,1
-----AGUGGGGAACCCUCCAUGAGGAa-----
----      2      0,1

```

```

>hsa-mir-495      3p:50-71      SRX018967
ugguaccugaaaagaaguugcccauguuauuuucgcuuuauaugugacgAAACAAACAUGGUGCACUUCUuuuucgguauc
a
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).
-----AAACAAACAUGGUGCACU-----
--      2      0,-4

```

```

>hsa-mir-497      MA:24-44;mi:64-85      SRX018967
ccaccccgguccugcucccgcccCAGCAGCACACUGUGGUUUGUacggcacuguggccacgucCAAACCACACUGUGGUG
UUAGAgcgagggugggggaggcaccgccgagg
(((.....))))))
)).....))))))
)...)
-----CAGCAGCACACUGUGGUU-----
-----24      0,-2
-----CAGCAGCACACUGUGGUUG-----
-----16      0,-1
-----CAGCAGCACACUGUGGUUGa-----

```

```

----- 2 0,-1
-----CAGCAGCACACUGUGGUUUGU-----
----- 75 0,0
-----CAGCAGCACACUGUGGUUUGUuu-----
----- 2 0,0
-----CAGCAGCACACUGUGGUUUGUA-----
----- 51 0,1
-----CAGCAGCACACUGUGGUUUGUAa-----
----- 27 0,1
-----CAGCAGCACACUGUGGUUUGUAu-----
----- 4 0,1
-----AGCAGCACACUGUGGUUU-----
----- 7 1,-2
-----AGCAGCACACUGUGGUUUGU-----
----- 3 1,0
-----AGCAGCACACUGUGGUUUGUA-----
----- 4 1,1
-----AGCAGCACACUGUGGUUUGUAa-----
----- 8 1,1
-----AGCAGCACACUGUGGUUUGUAu-----
----- 2 1,1

```

>hsa-mir-499 5p:33-53;3p:70-91 SRX018967

```

gccuguccccugugccuuggggcgggcggcugUUAAGACUUGCAGUGAUGUUaacuccucuccacgugAACAUACAGC
AAGUCUGUGCUgcuucccgucccuacgcugccuggggcaggggu

```

```

((((((((.....((...(((((((.....((((((((.....)))))))))).))
))))))..)).)).)).)).)).)).)).)).)).)).)).)).)).)).)).))

```

```

-----UUAAGACUUGCAGUGAUGU-----
----- 23 0,-2
-----UUAAGACUUGCAGUGAUGUU-----
----- 16 0,-1
-----UUAAGACUUGCAGUGAUGUa-----
----- 4 0,-1
-----UUAAGACUUGCAGUGAUGUU-----
----- 563 0,0
-----UUAAGACUUGCAGUGAUGUUu-----
----- 3 0,0
-----UUAAGACUUGCAGUGAUGUUUA-----

```



```

----- 2 0,-3
-----AUGCACCUGGGCAAGGAUUC-----
----- 35 0,-2
-----AUGCACCUGGGCAAGGAUUCU-----
----- 28 0,-1
-----AUGCACCUGGGCAAGGAUUCUa-----
----- 2 0,-1
-----AUGCACCUGGGCAAGGAUUCUG-----
----- 2 0,0
-----AUGCACCUGGGCAAGGAUUCUGu-----
----- 14 0,0
-----AUGCACCUGGGCAAGGAUUCUGA-----
----- 71 0,1
-----AUGCACCUGGGCAAGGAUUCUGAa-----
----- 4 0,1

```

>hsa-mir-500b 5p:11-28 SRX018967

```

ccccucucuuAAUCCUUGCUACCUGGGUgagagugcuuucugaaugcagugcaccaggcaaggauucugcaaggggga
((((((..((((((((..(((((((..((((.....)))..))))))))))))))))..)))))).
-----UAAUCCUUGCUACCUGGGUGAGA-----
2 -1,4
-----AGUGCACCCAGGCAAGGA-----
4
-----AGUGCACCCAGGCAAGGAUU-----
2
-----GUGCACCCAGGCAAGGAU-----
6
-----GUGCACCCAGGCAAGGAUU-----
3

```

>hsa-mir-501 5p:14-35;3p:51-72 SRX018967

```

gcucuuccucucuAAUCCUUUGUCCCUGGGUGAGAgugcuuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagagggg
gagc
((((..((((((((..(((((((..((((.....)))..))))))))))))))))..)))))).
)))
-----AAUCCUUUGUCCCUGGGUGAG-----
----- 2 0,-1
-----AAUCCUUUGUCCCUGGGUGAGAAa-----

```



```

----- 11 0,-3
-----AAUGCACCUGGGCAAGGAUU-----
----- 86 0,-2
-----AAUGCACCUGGGCAAGGAUUC-----
----- 7 0,-1
-----AAUGCACCUGGGCAAGGAUUCA-----
----- 17 0,0
-----AAUGCACCUGGGCAAGGAUUCa-----
----- 4 0,0
-----AAUGCACCUGGGCAAGGAUUCAG-----
----- 18 0,1
-----AAUGCACCUGGGCAAGGAUUCAGu-----
----- 10 0,1
-----AAUGCACCUGGGCAAGGAUUCAGA-----
----- 10 0,2
-----AUGCACCUGGGCAAGGAU-----
----- 100 1,-3
-----AUGCACCUGGGCAAGGAUa-----
----- 69 1,-3
-----AUGCACCUGGGCAAGGAUU-----
----- 531 1,-2
-----AUGCACCUGGGCAAGGAUUa-----
----- 2 1,-2
-----AUGCACCUGGGCAAGGAUUaa-----
----- 2 1,-2
-----AUGCACCUGGGCAAGGAUUC-----
----- 35 1,-1
-----AUGCACCUGGGCAAGGAUUCA-----
----- 2 1,0

```

>hsa-mir-503 5p:6-28 SRX018967

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgauccggugcucuggggauuuguuuuccgcugccagggua
(((((((.(((((((((((((((.((.(.(((.....)))))))).)).)))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 84 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 2 0,-5
-----UAGCAGCGGGAACAGUUCU----- 80 0,-4
-----UAGCAGCGGGAACAGUUCUaa----- 20 0,-4
-----UAGCAGCGGGAACAGUUCUG----- 10 0,-3

```



```

-----GGGAGCCAGGAAGUAUUGAUGa-----
---- 5 0,-1
-----GGGAGCCAGGAAGUAUUGAUGU-----
---- 136 0,0
-----GGGAGCCAGGAAGUAUUGAUGUa-----
---- 6 0,0
-----GGGAGCCAGGAAGUAUUGAUGUau-----
---- 2 0,0
-----GGGAGCCAGGAAGUAUUGAUGUU-----
---- 241 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUa-----
---- 16 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUU-----
---- 63 0,2
-----CGUCAACACUUGCUGGUUUC-----
---- 2 0,-2
-----CGUCAACACUUGCUGGUUUCC-----
---- 2 0,-1
-----CGUCAACACUUGCUGGUUUCCU-----
---- 11 0,0
-----CGUCAACACUUGCUGGUUUCCUC-----
---- 6 0,1
-----CGUCAACACUUGCUGGUUUCCUCU-----
---- 3 0,2
-----GUCAACACUUGCUGGUUUC-----
---- 3 1,-2
-----GUCAACACUUGCUGGUUUCC-----
---- 12 1,-1
-----GUCAACACUUGCUGGUUUCCU-----
---- 24 1,0
-----GUCAACACUUGCUGGUUUCCUC-----
---- 11 1,1
-----GUCAACACUUGCUGGUUUCCUCa-----
---- 3 1,1
-----GUCAACACUUGCUGGUUUCCUCU-----
---- 7 1,2
-----UCAACACUUGCUGGUUUCC-----
---- 3 2,-1

```

```
-----UCAACACUUGCUGGUUCCU-----
---- 12 2,0
-----UCAACACUUGCUGGUUCCUC-----
---- 6 2,1
-----UCAACACUUGCUGGUUCCUCU-----
---- 4 2,2
```

```
>hsa-mir-508 5p:26-48;3p:61-83 SRX018967
ccaccuucagcugaguguagugcccUACUCCAGAGGGCGUCACUCAUGuaaacuaaaacaUGAUUGUAGCCUUUUGGAGU
AGAguaauacacaucacguaacgcgauuuuggugg
((((....(((((((((((((....((((((((((((((((....((((((((((((((((....))))))))))))))))))
)))..))))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..))))
-----UGAUUGUAGCCUUUUGGAGU
AGA----- 3 0,0
```

```
>hsa-mir-509-3 5p:10-31;3p:44-65 SRX018967
gugguacccUACUGCAGACGUGGCAAUCAUGuaauauuuuuuuUGAUUGGUACGUCUGUGGGUAGaguacugcau
(..((((..((((..((((((((..((((((((..((((..))))))))))))..))))..))))..))))..))))..
-----UACUGCAGACGUGGCAAUCAU----- 3
0,-1
-----UACUGCAGACGUGGCAAUCAUu----- 2
0,-1
-----UACUGCAGACGUGGCAAUCAUG----- 10
0,0
```

```
>hsa-mir-511-1 5p:16-36 SRX018967
caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugauguguagcaaaagacagaauuggugg
uccauug
((((..((((..((((((((((((..((((((((..((((..))))))))))))..))))..))))..))))..))))..
)))..))))))
-----GUGUCUUUUGCUCUGCAGUCA-----
----- 8 0,0
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 9
-----AAUGUGUAGCAAAAGACAGA-----
----- 22
-----AAUGUGUAGCAAAAGACAGAA-----
----- 18
```

-----AAUGUGUAGCAAAAGACAGAAU-----
----- 4

>hsa-mir-511-2 5p:16-36 SRX018967

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug
(((((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...)))))))))
)))).)))

-----GUGUCUUUUGCUCUGCAGUCA-----
----- 8 0,0

-----UGAAUGUGUAGCAAAAGACAGA-----
----- 9

-----AAUGUGUAGCAAAAGACAGA-----
----- 22

-----AAUGUGUAGCAAAAGACAGAA-----
----- 18

-----AAUGUGUAGCAAAAGACAGAAU-----
----- 4

>hsa-mir-512-1 5p:14-36;3p:51-72 SRX018967

ucucagucuguggCACUCAGCCUUGAGGGCACUUUCuggugccagaaugaAAGUGCUGUCAUAGCUGAGGUCcaaugacu
gagg
(((((((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...)))))))))
)))

-----AAGUGCUGUCAUAGCUGAGG-----
---- 2 0,-2

>hsa-mir-512-2 5p:20-42;3p:57-78 SRX018967

gguacuucucagucuguggCACUCAGCCUUGAGGGCACUUUCuggugccagaaugaAAGUGCUGUCAUAGCUGAGGUCca
augacugaggcgagcacc
(((.(((((((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...)))))))))
..)))))))))

-----AAGUGCUGUCAUAGCUGAGG-----
----- 2 0,-2

>hsa-mir-513c 5p:14-35 SRX018967

gcguacagugccuUUCUCAAGGAGGUGUCGUUUUAUgugaacuaaaauuaaaauuucaccuuucugagaagaguaaanguac
agca

-----AUCUGGAGGUAAGAAGCACUUUa-----
 -----2 0,0-----
 -----AUCUGGAGGUAAGAAGCACUUUu-----
 -----2 0,0-----

```

>hsa-mir-519a-1 mi:15-36;MA:53-74 SRX018967
cucaggcugugacaCUCUAGAGGGAAGCGCUUUCUGuugucugaaagaaaggAAAGUGCAUCCUUUAGAGUGUuacugu
uugag
(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))..)))))))))..)))))))))..)))))))))..)))))))))..)))))))))..)))))))))..))))
))))))
-----AAAGUGCAUCCUUUAGAG-----
----- 2 0,-3

```

```
>hsa-mir-519a-2 3p:54-75      SRX018967
ucucaggcugugucccucacaggggaagcgcuuucuguugucugaaagaaaggAAAGUGCAUCCUUUAGAGUGUuacug
uuugaga
(((((((((.(((.(.(((((.(((((.(((((((((.(((.(.(((.(.(((.(.(((((.(((((.(((((.(((((.
)))))))))))))
))))))))
-----AAAGUGCAUCCUUUAGAG-----
----- 2    0,-3
```

```

>hsa-mir-525      5p:15-35;3p:52-73      SRX018967
cucaagcugugacuCUCCAGAGGGAUGCACUUUCucuaugugaaaaaaaaGAAGGCGCUUCCCUUUAGAGCGGuacgggu
uuggg
(((((((((((((((.((((.((((((((.(((((((.(.....)).)))))).)).)))))).)).))))))
))))))
-----CUCCAGAGGGAUGCACUUUa-----
-----      2      0,-2

```

>hsa-mi r-532 5p:20-41;3p:57-78 SRX018967

cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu

.(.(.((((((((.....((.((((((.(.(((.(.(((.....))..)))..))))..))))..))....
)))))))).).

-----CCAUGCCUUGAGUGUAGGACCGU-----
----- 2 -1,0
-----CAUGCCUUGAGUGUAGGAC-----
----- 3 0,-3
-----CAUGCCUUGAGUGUAGGACC-----
----- 8 0,-2
-----CAUGCCUUGAGUGUAGGACCG-----
----- 29 0,-1
-----CAUGCCUUGAGUGUAGGACCGa-----
----- 10 0,-1
-----CAUGCCUUGAGUGUAGGACCGU-----
----- 363 0,0
-----CAUGCCUUGAGUGUAGGACCGUa-----
----- 22 0,0
-----CAUGCCUUGAGUGUAGGACCGUau-----
----- 2 0,0
-----CAUGCCUUGAGUGUAGGACCGUU-----
----- 8 0,1
-----AUGCCUUGAGUGUAGGACCGU-----
----- 12 1,0
-----CCUCCCACACCCAAGGCUU-----
----- 12 0,-3
-----CCUCCCACACCCAAGGCUUG-----
----- 29 0,-2
-----CCUCCCACACCCAAGGCUUGu-----
----- 2 0,-2
-----CCUCCCACACCCAAGGCUUGC-----
----- 55 0,-1
-----CCUCCCACACCCAAGGCUUGCu-----
----- 2 0,-1
-----CCUCCCACACCCAAGGCUUGCA-----
----- 209 0,0
-----CCUCCCACACCCAAGGCUUGCAu-----
----- 33 0,0

```

-----CCUCCCACACCCAAGGCUUGCAuu
----- 2 0,0
-----CCUCCCACACCCAAGGCUUGCAA-
----- 40 0,1
-----CUCCCACACCCAAGGCUUGCA--
----- 2 1,0
-----UCCCACACCCAAGGCUUGCA--
----- 2 2,0

```

```

>hsa-mir-542 5p:16-38;3p:53-74 SRX018967
cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccaguggcacuUGUGACAGAUUGAUAAACUGAAAaggucug
ggagccacucaucuca
....((((((((...((((...((((((((((((((((((((...))))))...))))))...))))))
))).....
-----UUGUGACAGAUUGAUAAAC-----
----- 2 -1,-5
-----UUGUGACAGAUUGAUAAACU-----
----- 4 -1,-4
-----UUGUGACAGAUUGAUAAACUGAA-----
----- 2 -1,-1
-----UGUGACAGAUUGAUAAACU-----
----- 4 0,-4
-----UGUGACAGAUUGAUAAACUGA-----
----- 2 0,-2
-----UGUGACAGAUUGAUAAACUGAA-----
----- 5 0,-1
-----UGUGACAGAUUGAUAAACUGAAA-----
----- 7 0,0
-----UGUGACAGAUUGAUAAACUGAAAu-----
----- 5 0,0

```

```

>hsa-mir-544b 3p:48-69 SRX018967
ggaauuuuguuaaaaugcagaauccauuucuguagcucugagacuagACCUGAGGUUGUGCAUUUCUAAcaaagugcc
((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----ACCUGAGGUUGUGCAUUUCUAA-----
5 0,0

```

```

>hsa-mir-545 mi:25-46;MA:63-84 SRX018967

```

[illegible]

>hsa-mir-548a-2 3p:61-82 SRX018967
 ugugauguguaauagguuugugcaaaaguaauuggggguuuuugccguuaaaaguaauggCAAACUGGCAUUACUUUU
 GCaccaaacuauauaa

----- 74 0,-2

```

-----CAAACUGGCAAUACUUUU
G----- 73 0,-1
-----CAAACUGGCAAUACUUUU
Ga----- 16 0,-1
-----CAAACUGGCAAUACUUUU
Gaa----- 3 0,-1
-----CAAACUGGCAAUACUUUU
Gu----- 3 0,-1
-----CAAACUGGCAAUACUUUU
GC----- 7 0,0
-----AAACUGGCAAUACUUUU
----- 6 1,-2
-----AAACUGGCAAUACUUUU
G----- 2 1,-1

```

```

>hsa-mi r-548aa-1 3p:55-79 SRX018967
cuuuauuagucuggugcaaaagaaacugugguuuuugccauuacuuuacaggcAAAAACCACAAUACUUUUGCACCAa
ccuaauauaacuuguuu
...(((((((.(((((((((((.(((.((((((((((((((((.....)))))))))))))).)).)))))))))).
.))))).....
-----AAAAACCACAAUACUUUUG-----
----- 2 0,-5
-----AAAAACCACAAUACUUUUGCA-----
----- 9 0,-3
-----AAAACCACAAUACUUUUGCA-----
----- 2 1,-3
-----AAAACCACAAUACUUUUGCAC-----
----- 4 1,-2
-----AAACCACAAUACUUUUGCAC-----
----- 2 2,-2

```

```

>hsa-mi r-548aa-2 3p:55-79 SRX018967
uuuuauuagguuggugcaaaagaaacugugguuuuugccauuacuuucaauggcAAAAACCACAAUACUUUUGCACCAa
ccuaaaucuucccucuc
.....(((((((((((((((((((.(((.((((((((((((((((((((.....)))))))))))))))))).)).))))))))))))
))))).....
-----AAAAACCACAAUACUUUUG-----
----- 2 0,-5

```


-----	-AAAAGUAAUUGCGGUUUU-	-----
-----	6 0, -4	
-----	-AAAAGUAAUUGCGGUUUU-	-----
-----	12 0, -3	
-----	-AAAAGUAAUUGCGGUUUUUG-	-----
-----	9 0, -2	
-----	-AAAAGUAAUUGCGGUUUUUGC-	-----
-----	2 0, -1	
-----	-AAAGUAAUUGCGGUUUUUG-	-----
-----	5 1, -2	
-----	-AAAGUAAUUGCGGUUUUUGCC-	-----
-----	2 1, 0	
-----	-AAAGUAAUUGCGGUUUUUGCCA-	-----
-----	4 1, 1	

>hsa-mi r-548d-1 5p:25-46;3p:61-82 SRX018967

aaacaaguauauuagguuggugcAAAAGUAAUUGUGGUUUUUGCCuguaaaaguaauggCAAAAACCACAGUUUCUUU
GCaccagacuaauaaag

-----		CAAAAGUAAUUGUGGUUUU-	-----
-----	4	-1,-3	
-----		CAAAAGUAAUUGUGGUUUUG-	-----
-----	2	-1,-2	
-----		CAAAAGUAAUUGUGGUUUUGu-	-----
-----	5	-1,-2	
-----		AAAAGUAAUUGUGGUUUU-	-----
-----	17	0,-3	
-----		AAAAGUAAUUGUGGUUUUG-	-----
-----	8	0,-2	
-----		AAAAGUAAUUGUGGUUUUGa-	-----
-----	2	0,-2	
-----		AAAAGUAAUUGUGGUUUUGu-	-----
-----	2	0,-2	
-----		AAAAGUAAUUGUGGUUUUGuu-	-----
-----	8	0,-2	
-----		AAAGUAAUUGUGGUUUU-	-----
-----	2	1,-3	

gagaggggaagauuuagguuggugcAAAAGUAAUUGUGGUUUUUGCCauugaaaguaauggCAAAAACCACAGUUUCUUU
GCaccaaccuaauaaaa

-----		CAAAAGUAAUUGUGGUUUU-	-----
-----	4	-1,-3	
-----		CAAAAGUAAUUGUGGUUUUUG-	-----
-----	2	-1,-2	
-----		CAAAAGUAAUUGUGGUUUUUGu-	-----
-----	5	-1,-2	
-----		AAAAGUAAUUGUGGUUUU-	-----
-----	17	0,-3	
-----		AAAAGUAAUUGUGGUUUUUG-	-----
-----	8	0,-2	
-----		AAAAGUAAUUGUGGUUUUUGa-	-----
-----	2	0,-2	
-----		AAAAGUAAUUGUGGUUUUUGu-	-----
-----	2	0,-2	
-----		AAAAGUAAUUGUGGUUUUUGuu-	-----
-----	8	0,-2	
-----		AAAGUAAUUGUGGUUUU-	-----
-----	2	1,-3	

uuuuuagguugguacaaaagcaaucgcgguuuuugcuauuacuuuuaaaggcAAAAACUGAGACUACUUUUGCAccaacc
ugauagaa

-----			-----AAAAACUGAGACUACUUUU-----
-----	10	0,-3	
-----			-----AAAAACUGAGACUACUUUUUG-----
-----	6	0,-2	
-----			-----AAAAACUGAGACUACUUUUUGC-----
-----	22	0,-1	
-----			-----AAAAACUGAGACUACUUUUUGC-----
-----	2	0,-1	-----AAAAACUGAGACUACUUUUUGC-----

>hsa-mi r-548g 3p:54-75 SRX018967

aguuaauagauuagugcaaaaguaauugcaguuuuugcauuacguucuauggcAAAACUGUAAUACUUUUGUACcaaca
uaauacuuc

...((((((...(((.....))..
))))))....

-----CAAAGUAAUUGCAGUUUU-----

----- 5

-----AAAAGUAAUUGCAGUUUU-----

----- 7

-----AAAAGUAAUUGCAGUUUUU-----

----- 5

-----AAAGUAAUUGCAGUUUUU-----

----- 2

>hsa-mi r-548h-1 5p:21-42 SRX018967

ucuguccauuaggugggugcAAAAGUAAUCGCGUUUUUGUCauuacuuuaaugguaaaacuggaauuacuuuugcac
ugaccuaauauuaagccagaua

(((((...(((.....))..
))))))....))..

-----AAAAGUAAUCGCGUUUUU-----

----- 3 0,-3

-----AAGUAAUCGCGUUUUUG-----

----- 2 2,-2

>hsa-mi r-548h-2 5p:16-37 SRX018967

guauuagguuggugcAAAAGUAAUCGCGUUUUUGUCauuacuuucaauggcaaaccaccaauuacuuuugcaccaacc
uaauauaa

(((((.....))..
))))))....

-----AAAAGUAAUCGCGUUUUU-----

----- 3 0,-3

-----AAGUAAUCGCGUUUUUG-----

----- 2 2,-2

>hsa-mi r-548h-3 5p:29-50 SRX018967

ucugauucugcauguauuagguuggugcAAAAGUAAUCGCGUUUUUGUCauugaaaguaauagcaaaaacugcaauuac
uuuugcaccaaccuaaaaguagucacugucuucagaua

UUUUGC-----2

[illegible]

```

-----AAAAGUAAUCGCGGUUUU-----
----- 3 0,-3
-----AAGUAAUCGCGGUUUUG-----
----- 2 2,-2
-----CAAAAACCGC
AAUUACUUUU----- 2

```

[illegible][illegible]

```
>hsa-mir-548i-3 5p:39-60      SRX018967
cagauggcuccgaaguuuacauccuauuagguuuugugcAAAAGUAAUUGCGGAUUUUGCCauuaaaaguaauggcaaaa
uagcauuuauuuuuuguaccagccuaguaucuuuucuccuucuaaccaaacuuugucccugagccaucuca
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----AAAAGUAAUUGCGGAUUUUG-----
-----2 0,-2
```

```

>hsa-mir-548i-4 5p:11-32      SRX018967
agguuggugcAAAAGUAAUUGCGGAUUUUGCCauacuuaaagcgcaaaaaccacaaauuuauugcaccaaccuau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAAGUAAUUGCGGAUUUUG-----
      2      0,-2

```

>hsa-mir-548j 5p:29-50 SRX018967


```

-----CAAAAACUGCAUUACU
UUUG-----73
-----CAAAAACUGCAUUACU
UUUGa-----5
-----CAAAAACUGCAUUACU
UUUGu-----8
-----CAAAAACUGCAUUACU
UUUGC-----30
-----AAAAACUGCAUUACU
UUUG-----3

```

>hsa-mir-548k 5p:32-53 SRX018967

cuuuucucaaguauugcuguuagguuggugcAAAAGUACUUGCGGAUUUUGCUuuacuuuuuauggcaaaaaccgcaauu
auuuuugcuucaaccuaauaugaugcaaaaauuggcu

.....(((((((.(((((((((((.(((((((((((.(((((((.((((((((((((.....))))))))).)))))).)))))

```

-----AAAAGUACUUGCGGAUUU-----
-----8 0,-4
-----AAAAGUACUUGCGGAUUUU-----
-----19 0,-3
-----AAAAGUACUUGCGGAUUUUG-----
-----8 0,-2
-----AAAAGUACUUGCGGAUUUUGa-----
-----2 0,-2
-----AAAAGUACUUGCGGAUUUUGC-----
-----7 0,-1
-----AAAAGUACUUGCGGAUUUUGCU-----
-----45 0,0

```

>hsa-mir-548l 5p:15-36 SRX018967

uauuagguuggugcAAAAGUAUUUGCGGGUUUUGUCguagaaaguaauggcaaaaacugcaguuaacuugugcaccaacca
aaugcu

.....(((((((((((.(((((((.(((((((((((.((((((((((((.....))))))))).)))))).)))))

```

-----AAAAGUAUUUGCGGGUUUUG-----
-----5 0,-2
-----AAAAGUAUUUGCGGGUUUUGUC-----
-----2 0,0

```

(((((.....(((((.....(.....).)))))).))))))..

-----CAAAGUAAUUGUGGAUUUU----- 2

 $0, -2$

-----CAAAGUAAUUGUGGAUUUUG----- 2

 $0, -1$

-----CAAAGUAAUUGUGGAUUUUGU----- 4

0,0

-----AAAAGUAAUUGUGGAUUUUGU----- 3

1,0

-----CAAACCCGCAAUACUU----- 2

uggugaaaauguguugauuguaaugguuccuauucugaucaauaaacaugguuugagccuaguuacaaugaucuaaaaauu

cacgguCCAAAACUGCAGUUACUUUUGCaccaac

$$(((((((((.(((...(((.(((((((.(((...(((.((((...(((...)))...)))...))))...))))).((($$

...))..)))...)))))..)))..)))))..

-----CCAAAACUGCAGUUAUUUU----- 4 0,-2

-----CCAAACUGCAGUUAUUUG----- 7 0,-1

-----CCAAAACUGCAGUUACUUUUGa----- 4 0,-1

-----CCAAAACUGCAGUUACUUUUGC----- 16 0,0

-----CAAACUGCAGUUAUUUGa----- 2 1,-1

-----AAAACUGCAGUUACUUUU----- 2 2,-2

-----AAAACUGCAGUUAUUUGa----- 7 2,-1

-----AAAACUGCAGUUACUUUUGC----- 2 2,0

-----AAAACUGCAGUUACUUUUGCA----- 2 2,1

>hsa-mir-548s 3p:52-74 SRX018967

uugcugcaaaaaauaauugcaguuuuugccauuuuuuaauaaauaaauaAUGGCCAAACUGCAGUUAUUUUugcacc
aa

$$.(.(.(((((((((((((((((((((((((((((.((((((((((.)))))))).))) .)))))))).))))).)$$

-----AUAUUGCAGUUUUUGCCAU-----

-- 4

-----AUGGCCAAAACUGCAGUUAUU-----

$$-- \quad 2 \quad 0, -2$$

-----AUGGCCAAAACUGCAGUUAUU-----

-- 3 0,-1

>hsa-mir-548t 5p:10-30 SRX018967

aggguggugCAAAAGUGAUCGUGUUUUUGcauuuuuuuaugacaaaaaccacaauuacuuuugcaccaaccu

-----AAAAACCACAAUACUUUG----- 2

-----AAAAACCACAAUACUUUGCA----- 9

-----AAAACCACAAUACUUUGCA----- 2

-----AAAACCACAAUACUUUGCAC----- 4

-----AAACCACAAUACUUUGCAC----- 2

>hsa-mir-548u 3p:49-71 SRX018967

uuuaggauggugcaaaaguaaugugguuuuuuucuuuacuuuaauggCAAAGACUGCAAUACUUUUGCGccaaccuaa
u

-----CAAAGACUGCAAUACUUU-----

- 5 0,-3

-----AAAGACUGCAAUACUUU-----

- 5 1, -3

-----AAAGACUGCAAUACUUUG-----

- 2 1, -2

>hsa-mir-548v 3p:49-70 SRX018967

aauacuagguuugagcaaaaguaauugcgguuuugccaucaugccaaaAGCUACAGUUAUUUUGCACCAgcccuaauuu

(((.(((((.(((((((((((..((((((.....)).))))).))))).))))).))))).

-----GAGCAAAAGUAAUUGCGGUUU-----


```

-----AAAAGUAAUUGCGUUUU-----
6
-----AGCUACAGUUACUUUUGCA-----
2 0,-3
-----AGCUACAGUUACUUUUGCAC-----
3 0,-2
-----AGCUACAGUUACUUUUGCACC-----
2 0,-1
-----AGCUACAGUUACUUUUGCACCA-----
8 0,0

```

>hsa-mir-548w 5p:10-32 SRX018967

```

ggguuggugcAAAAGUAAUUGCGUUUUUGCCUuucaacauaauaggcaaaaccacaaauacuuuugcaccaauc
((((((((((((((((((.((.((.((((((.....)))))))).)).)).)))))))))
-----CAAAAGUAAUUGCGUUUU----- 4
-1,-4
-----AAAAGUAAUUGCGUUUU----- 21
0,-4
-----AAAAGUAAUUGCGUUUUUG----- 3
0,-3
-----AAAAGUAAUUGCGUUUUUGC----- 2
0,-2
-----AAAAGUAAUUGCGUUUUUGCC----- 4
0,-1

```

>hsa-mir-548x 3p:46-66 SRX018967

```

agguuagugcaaaaguaauugcaguuuuugcguuacuuucaaucGUAAAAACUGCAAUUACUUUAcaccaaucu
((((((.(((.((((((((((((((((((((((((.....))))))))).....)))))))).)).)))))
-----CAAAAGUAAUUGCAGUUUU----- 5
-----AAAAGUAAUUGCAGUUUU----- 7
-----AAAAGUAAUUGCAGUUUU----- 5
-----AAAGUAAUUGCAGUUUU----- 2
-----UAAAAACUGCAAUUACUU----- 15
0,-3
-----UAAAAACUGCAAUUACUU----- 32
0,-2
-----UAAAAACUGCAAUUACUUa----- 2
0,-2

```

```

-----UAAAAACUGCAAUUACUUUC----- 46
0,-1
-----UAAAAACUGCAAUUACUUUCA----- 395
0,0
-----UAAAAACUGCAAUUACUUUCAa----- 19
0,0
-----UAAAAACUGCAAUUACUUUCAu----- 2
0,0
-----UAAAAACUGCAAUUACUUUCAC----- 91
0,1
-----UAAAAACUGCAAUUACUUUCACu----- 6
0,1
-----UAAAAACUGCAAUUACUUUCACA----- 12
0,2
-----AAAAACUGCAAUUACUUU----- 7
1,-2
-----AAAAACUGCAAUUACUUUCA----- 5
1,0
-----AAAAACUGCAAUUACUUUCACA----- 3
1,2

```

>hsa-mir-548y 5p:23-44 SRX018967

```

gccuaaacuauuagguuggugcAAAAGUAAUCACUGUUUUUGCCauuacucucaguggcaaaaaccgugauuacuuuugc
accaaccuaguaacaccuucacuguggggg

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AAAAACCGUGAUUACUUUU-----
----- 2

```

```

-----AAAAACCGUGAUUACUUUUUGC
A----- 2

```

>hsa-mir-548z 3p:54-76 SRX018967

```

aaguaauaaguuggugcaaaaguaauugagauuuuugcuacugaaaguaauggCAAAAACCGCAAUUACUUUUUGCAccaa
ccuaauagaugccaug

```

```

...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----CAAAAACCGCAAUUACUUUU-----
----- 2 0,-3

```

agacaugcaacucaagaauauuugagagcuccauaguugucacugucucaaaucagUGACAACUAUGGAUGAGCUC
Uuaauauaucccaggc

>hsa-mi r-550a-1 MA:22-44;mi :61-82 SRX018967

-----UGUCUUACUCCCUCAGGCAC

-----UGUCUUACUCCCUCAGGCAC

-----UGUCUUACUCCCUCAGGCAC

-----GUCUUACUCCCUCAGGCAC

>hsa-mi r-550a-2 MA:22-44;mi :61-82 SRX018967

-----UGUCUUACUCCCUCAGGCAC

-----UGUCUUACUCCCUCAGGCAC

-----UGUCUUACUCCCUCAGGCAC

AUu----- 2 0,0

-----GUCUUACUCCCUCAGGCAC

AU----- 2 1,0

```
>hsa-mi r-551b    mi:22-43;MA:61-81    SRX018967
```

agaugugcucuccuggcccauGAAAUCAAGCGUGGGUGAGACCuggugcagaacgggaagGCGACCAUACUUGGUUUCAGaggcugugagaauaa

.....((((.(((((..((((((((((..((((((...((((.....))))).)...).))))).)))))))))
 ..))))).))))....

-----GCGACCCAUACUUGGUUU-----
 -----7 0,-3-----

-----GCGACCCAUACUUGGUUUa-

-----4 0,-3

-----GCGACCCAUACUUGGUUUC-----
 -----6 0,-2-----

-----GCGACCCAUACUUGGUUUCA
----- 17 0,-1

uu-----2 0,-1-----GCGACCCAUAUUGGUUUCA

-----GCGACCCAUAUUGGUUUA

G----- 15 0,0

-----GCGACCCAUACUUGGUUUCA

Gu----- 51 0,0

-----GCGACCCAUAUUGGUUUA

Guu----- 2 0,0

-----GCGACCCAUAUUGGUUUA
GA----- 2 0,1

>hsa-mi r-556 5p:16-37;3p:55-76 SRX018967

gauaguaauaagaaaGAUGAGCUCAUUGUAAUAUGAGcuucauuuauacauuucAUAAUACCAUUAGCUCACUUUuuua
uuacuaccuucaca

-----UCAUAUUACCAUUAGCUCAUCU-----
----- 5 -2,-2

-----AUAUUACCAUUAGCUCAU-----
----- 4 0,-4

-----AUAUUACCAUUAGCUCAUa-----
----- 2 0,-4

-----			AUAUUACCAUUAGCUCAUC-----
-----	3	0,-3	
-----			AUAUUACCAUUAGCUCAUCU-----
-----	11	0,-2	
-----			AUAUUACCAUUAGCUCAUCUa-----
-----	2	0,-2	
-----			AUAUUACCAUUAGCUCAUCUU-----
-----	62	0,-1	
-----			AUAUUACCAUUAGCUCAUCUUa-----
-----	21	0,-1	
-----			AUAUUACCAUUAGCUCAUCUUaa-----
-----	2	0,-1	
-----			AUAUUACCAUUAGCUCAUCUUau-----
-----	2	0,-1	
-----			AUAUUACCAUUAGCUCAUCUUU-----
-----	11	0,0	

>hsa-mir-561 3p:61-82 SRX018967

cucauccaccaguccuccaggaacaucaggauuuuacuuugccagagcuacaaaggCAAAGUUUAAGAUCCUUGAA
GUuccugggggaaccu

-----AUCAAGGAUCUAAAACUUU-----
-----3-----
-----AUCAAGGAUCUAAAACUUUG-----
-----4-----
-----AUCAAGGAUCUAAAACUUUGC-----
-----3-----
-----AUCAAGGAUCUAAAACUUUGCC-----
-----3-----

>hsa-mi r-570 3p:60-81 SRX018967

cuagauaaguauuuaggugggugcaaagguaauugcaguuuuuccauuauuuuaauugCGAAAACAGCAAUACCUUUG
Caccaaccugauggagu

.....(((((((.(((((((((((((((((((.((((((.(((((...)))..).)))))))))
)))).))))))))....

-----AAAGGUAUUGCAGUUUU-----
----- 3

```

-----AAAGGUAUUUGCAGUUUUUC-----
----- 6
-----AAAGGUAUUUGCAGUUUUUCC-----
----- 3
-----AAAGGUAUUUGCAGUUUUUCCCA-----
----- 9
-----CGAAAACAGCAAUUACCUUU-----
----- 6 0,-2
-----CGAAAACAGCAAUUACCUUUG
----- 8 0,-1

```

```

>hsa-mir-574 5p:25-47;3p:61-82 SRX018967
gggaccugcgugggugcgggcgugUGAGUGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUCAUGCACACACCCA
CAGccccacacucagg
.....(.(((((((.(((((((((.(.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))).)))))).)
-----UGAGUGUGUGUGUGUGAG-----
----- 26 0,-5
-----UGAGUGUGUGUGUGUGAGU-----
----- 56 0,-4
-----UGAGUGUGUGUGUGUGAGUG-----
----- 2 0,-3
-----UGAGUGUGUGUGUGUGAGUGaa-----
----- 2 0,-3
-----UGAGUGUGUGUGUGUGAGUGU-----
----- 11 0,-2
-----UGAGUGUGUGUGUGUGAGUGUGa-----
----- 8 0,-1
-----UGAGUGUGUGUGUGUGAGUGUGaa-----
----- 5 0,-1
-----UGAGUGUGUGUGUGUGAGUGUGU-----
----- 9 0,0
-----UGAGUGUGUGUGUGUGAGUGUGUau-----
----- 2 0,0
-----UGAGUGUGUGUGUGUGAGUGUGUG-----
----- 4 0,1
-----UGAGUGUGUGUGUGUGAGUGUGUGa-----
----- 4 0,1

```


-AUUCUAAUUUCUCCACGUCUU-			-AAGAUGUGGAAAAAUUGG-
4	0,0		
-			
3	0,-4		-AAGAUGUGGAAAAAUUGGAA-
-			
2	0,-2		-AAGAUGUGGAAAAAUUGGAU-
-			
7	0,-1		-AAGAUGUGGAAAAAUUGGAUa-
-			
4	0,-1		-AAGAUGUGGAAAAAUUGGAUCC-
-			
4	0,1		-AGAUGUGGAAAAAUUGGAU-
-			
3	1,-1		

>hsa-mir-577 5p:16-36 SRX018967

ugggggagugaagagUAGAUAAAAUAUUGGUACCUGauggaaucugaggccagguuucaaucuuuauucugcucuucuuu
ccccauaucuacuuac

(((((((((((((((((((((((((((((((((((((.(((((((.((((((.)))))).)))))..)))))))))))))))).

-----GUAGAUAAAAUAUUGGUAC-----
-----3-1,-3-----

>hsa-mir-579 3p:62-84 SRX018967

cauauuagguuaugcaaaaguaaucgcgguuuguccagaugacgauuugaauuaauaaaUUCAUUGGUAUAAACCGC
GAUuauuuuugcaucaac

.....(((.(((((((((((((((((((((((((((((((((((((..((((.....))))))))))))))))))))))
))))))))))))))).)))

-----UCGCGGUUUGUGCCAGAUGACG-----
----- 2

-----UCAUUUGGUAUAAACCGC
GAU----- 2 1,-1

>hsa-mi r-582 5p:16-38;3p:53-74 SRX018967

aucugugcucuugaUUACAGUUGUUAACAGUACUaaucuaacuaauugUACUGGUUGAACAAACUGAACCCaaagg
gugcaaaguagaaacauu


```

-----UUACAGUUGUUCAACCAGUUACU-----
----- 2 0,0
-----UACAGUUGUUCAACCAGUUACU-----
----- 4 1,0
-----GUAACUGGUUGAACAAACUGA-----
----- 2 -1,-3
-----UAACUGGUUGAACAAACUGA-----
----- 11 0,-3
-----UAACUGGUUGAACAAACUGAA-----
----- 33 0,-2
-----UAACUGGUUGAACAAACUGAAa-----
----- 7 0,-2
-----UAACUGGUUGAACAAACUGAAC-----
----- 10 0,-1
-----AACUGGUUGAACAAACUGAA-----
----- 3 1,-2

```

>hsa-mir-589 MA:24-45;mi:61-84 SRX018967

```

uccagccugugcccagcagccccUGAGAACCACGUCUGCUCUGAGcuggguacugccuguUCAGAACAAAUGCCGGUUC
CAGAcgcugccagcuggcc
....(((((((.....)))))))).
))).....)))

```

```

-----CUGAGAACCACGUCUGCU-----
----- 2 -1,-5
-----CUGAGAACCACGUCUGCUC-----
----- 2 -1,-4
-----UGAGAACCACGUCUGCUC-----
----- 9 0,-4
-----UGAGAACCACGUCUGCUCU-----
----- 5 0,-3
-----UGAGAACCACGUCUGCUCUGA-----
----- 14 0,-1
-----UGAGAACCACGUCUGCUCUGAa-----
----- 3 0,-1
-----UGAGAACCACGUCUGCUCUGAG-----
----- 2 0,0
-----UCAGAACAAAUGCCGGUUC
C----- 2 0,-3

```

CA	10	0, -2	UCAGAACAAAUGCCGGUUCC
CAu	5	0, -2	UCAGAACAAAUGCCGGUUCC
CAG	4	0, -1	UCAGAACAAAUGCCGGUUCC
CAGu	5	0, -1	UCAGAACAAAUGCCGGUUCC
CAGA	5	0, 0	UCAGAACAAAUGCCGGUUCC
a	2	2, -4	AGAACAAAUGCCGGUUCC
C	2	2, -3	AGAACAAAUGCCGGUUCC
CA	4	2, -2	AGAACAAAUGCCGGUUCC
CAG	4	2, -1	AGAACAAAUGCCGGUUCC

>hsa-mi r-590 5p:16-37;3p:56-76 SRX018967

uagccagucagaaaGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUAUGUAUAAGCUAGUcucu
gauugaaacaugcagca

...(((((((.(.(.(((((((.((((((((.(((((((.(.((((....))))..)))))).)))))))).)))))))).)))))))).)))))).....

```

-----UGAGCUUAUUCAUAAAAGUGCA-----
-----      3      -1,-1
-----GAGCUUAUUCAUAAAAGU-----
-----     13     0,-4
-----GAGCUUAUUCAUAAAAGUG-----
-----     15     0,-3
-----GAGCUUAUUCAUAAAAGUGC-----
-----      4      0,-2
-----GAGCUUAUUCAUAAAAGUGCA-----
-----     31     0,-1
-----GAGCUUAUUCAUAAAAGUGCAa-----
-----     11     0,-1
-----GAGCUUAUUCAUAAAAGUGCAG-----
-----    102    0,0

```

```

-----GAGCUUAUUCAUAAAAGUGCAGU-----
-----      2      0,1
-----GUAUUUUUAUGUAUAAGCU-----
-----      3      -1,-3
-----GUAUUUUUAUGUAUAAGCUAG-----
-----      9      -1,-1
-----GUAUUUUUAUGUAUAAGCUAGU-----
-----     18     -1,0
-----UAAUUUUUAUGUAUAAGCU-----
-----     39     0,-3
-----UAAUUUUUAUGUAUAAGCUA-----
-----      3      0,-2
-----UAAUUUUUAUGUAUAAGCUAGU-----
-----      9      0,0
-----UAAUUUUUAUGUAUAAGCUAGUC-----
-----      6      0,1
-----UAAUUUUUAUGUAUAAGCUAGUCa--
-----      4      0,1
-----AUUUUAUGUAUAAGCUAGU-----
-----      2      2,0

```

>hsa-mir-598 3p:61-82 SRX018967

gcuugaugaugcugcugaugcuggcgugaugccgaugggugagcuggaaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag

```

.....(((((((((((((.....)))))).....)))))).....
).....

```

```

-----UACGUCAUCGUUGUCAUC-----
-----      4      0,-4
-----UACGUCAUCGUUGUCAUCGU
-----     12     0,-2
-----UACGUCAUCGUUGUCAUCGU
C-----      2      0,-1
-----UACGUCAUCGUUGUCAUCGU
CA-----      8      0,0
-----UACGUCAUCGUUGUCAUCGU
CAU-----     17     0,1
-----UACGUCAUCGUUGUCAUCGU
CAUu-----      3      0,1

```

```

>hsa-mir-605      5p:16-38      SRX018967
gcccuagcuugguucUAAAUCCCAUGGUGCCUUCUCCUugggaaaaacagagaaggcacuaugagauuuagaaucaagu
agg
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----AGAAGGCACUAUGAGAUUUA-----
--- 2

```

```

>hsa-mir-616      mi:16-37;MA:56-77      SRX018967
uuagguaauuccuccACUCAAACCCUUCAGUGACUUCcaugacaugaaauaggaAGUCAUUGGAGGGUUUGAGCAGagg
aauaccuguuuuaaaa
.((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))..))))).
-----ACUCAAACCCUUCAGUGACUU-----
----- 4 0,0
-----AGUCAUUGGAGGGUUUGAGCAG---
----- 3 0,0

```

```

>hsa-mir-618      5p:16-38      SRX018967
cucuuguucacagccAAACUCUACUUGUCCUUCUGAGUguaauuacguacaugcaguagcucaggagacaagcagguua
cccuguggaugagucuga
..((..((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.((((((.
..))))))))))..))))).
-----AAACUCUACUUGUCCUUC-----
----- 2 0,-5
-----AAACUCUACUUGUCCUUCU-----
----- 9 0,-4
-----AAACUCUACUUGUCCUUCUGAG-----
----- 2 0,-1
-----AAACUCUACUUGUCCUUCUGAGa-----
----- 3 0,-1
-----AAACUCUACUUGUCCUUCUGAGU-----
----- 6 0,0

```

```

>hsa-mir-619      3p:61-84      SRX018967
cgcccaccucagccucccaaaaugcugggaauacagggaugagccacugcgguccgaccuGACCUGGACAUGUUUGUGCC
CAGUacugucaguungcag

```

-----	-GCUGGGAUUACAGGCAUGA-	-----
-----	5	
-----	-GCUGGGAUUACAGGCAUGAG-	-----
-----	10	
-----	-GCUGGGAUUACAGGCAUGAGC-	-----
-----	2	
-----	-GCUGGGAUUACAGGCAUGAGCCA-	-----
-----	2	
-----	-GCUGGGAUUACAGGCAUGAGCCAuuu-	-----
-----	4	
-----	-GCUGGGAUUACAGGCAUGAGCCAC-	-----
-----	4	
-----	-GCUGGGAUUACAGGCAUGAGCCACU-	-----
-----	2	
-----	-CUGGGAUUACAGGCAUGAG-	-----
-----	3	
-----	-UGGGAUUACAGGCAUGAG-	-----
-----	2	
-----	-UGGGAUUACAGGCAUGAGCCA-	-----
-----	2	
-----	-GGGAUUACAGGCAUGAGCCAC-	-----
-----	2	

aaugcuguuucaaggUAGUACCAGUACCUUGUGUUCaguggaaccaagguaaaCACAAGGUAUUGGUAUUACCUugagau
agcauuacaccuaagug

((..(....))..))))))))))))))))))))))))))))))
)))))).

```

-----UAGUACCAGUACCUUGUGUU-----
-----      4      0,-2
-----UAGUACCAGUACCUUGUGUUC-----
-----      3      0,-1
-----UAGUACCAGUACCUUGUGUUCA-----
-----      7      0,0

```

>hsa-mi r-625 MA:15-35;mi :52-73 SRX018967

aggguaagagggaugAGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCUCAucccucu
gccc

-----AGGGGGAAGUUCUAUAGU-----

----- 2 0, -2

-----AGGGGGAAGUUCUAUAGUC-----

----- 5 0,-1

-----AGGGGGAAGUUCUAUAGUCC-----

----- 5 0,0

-----AGGGGGAAGUUCUAUAGUCCU-----

----- 6 0,1

-----GACUAUAGAACUUUCCCCCUC-----

----- 4 0, -1

-----GACUAUAGAACUUUCCCCUCAa-----

----- 2 0,0

-----ACUAUAGAACUUUCCCCUCAa-----

$$----- \quad 2 \quad 1,0$$

>hsa-mi r-627 5p:16-37 SRX018967

uacuuuuacugguaGUGAGUCUCUAAGAAAAGAGGAggugguuguuuuccuccucuuuucuugagacucacuaccau
aauaagaaauacuacua

..(((((((.(((((((((((((((((((.(((((((((((((((((((.(...)).)))))))))))))).)))))))))))))))).
))))))).

-----UCUUUCUUUGAGACUCACU-----

----- 2

>hsa-mi r-628 5p:23-44;3p:61-81 SRX018967

auagcuguugugucacuuccucAUGCUGACAUUUACUAGAGGguaaaauuuaaaccuUCUAGUAAGAGUGGCAGUCG
Aaggggaagggcucau

.....((.(((.((((.((((.((((.((((.((((.((((.(.....)))))))))))))).)).)).)).
 ..)))))))))).)).

-----AUGCUGACAUAUUACUA-----

----- 6 0,-4

-----AUGCUGACAUAUUUACUAG-----

----- 6 0,-3

-----AUGCUGACAUAUUUACUAGA-----

----- 10 0,-2

-----	-AUGCUGACAUAUUUACUAGAG-	-----
-----	16	0, -1
-----	-AUGCUGACAUAUUUACUAGAGG-	-----
-----	16	0, 0
-----	-AUGCUGACAUAUUUACUAGAGGa-	-----
-----	12	0, 0
-----	-AUGCUGACAUAUUUACUAGAGGu-	-----
-----	2	0, 0
-----	-AUGCUGACAUAUUUACUAGAGGGU-	-----
-----	5	0, 2

>hsa-mi r-629 MA:22-42:mi :61-82 SRX018967

ucccuuucccaggggaggggcUGGGUUACGUUGGAGAACUuuuacggugaaccaggagGUUCUCCCAACGUAAGCCCA
GCcccuccccucugccu

.....((..((...)).))))))))))))))))))))))))))
))))))))))))))......

Sequence	Length	Score
-CUGGGUUUACGUUGGGAG-	3	-1, -4
-UGGGUUUACGUUGGGAGA-	124	0, -3
-UGGGUUUACGUUGGGAGAA-	74	0, -2
-UGGGUUUACGUUGGGAGAAa-	2	0, -2
-UGGGUUUACGUUGGGAGAAC-	6	0, -1
-UGGGUUUACGUUGGGAGAACU-	13	0, 0
-UGGGUUUACGUUGGGAGAACUaa-	3	0, 0
-UGGGUUUACGUUGGGAGAACUU-	9	0, 1
-UGGGUUUACGUUGGGAGAACUUa-	8	0, 1
-UGGGUUUACGUUGGGAGAACUUaa-	2	0, 1
-UGGGUUUACGUUGGGAGAACUUUU-	2	0, 3

ugggugaaaggaaggAAAGACAUAGGAUAGAGUCACCUcuguccucuguccucuaccuauagaggugacuguccuauguc
uuuccuuuccuuaccccu

-----AAAGACAUAGGAUAGAGUC-----

-----AAAGACAUAGGAUAGAGUCA-----

-----AAAGACAUAGGAUAGAGUCAa-----

-----AAAGACAUAGGAUAGAGUCAaa-----

-----AAAGACAUAGGAUAGAGUCAC-----

-----AAAGACAUAGGAUAGAGUCACC-----

-----AAAGACAUAGGAUAGAGUCACCU-----

-----AAAGACAUAGGAUAGAGUCACCUu-----

-----AAAGACAUAGGAUAGAGUCACCUuu-----

-----AAAGACAUAGGAUAGAGUCACCUC-----

aucugaguugggaggGUCCCUCUCCAAAUGUGUCUUGgggugggggaucaagacacauugggagagggaaccucccaacu
cgccucugccaauuu

-----AGACACAUUUGGAGAGGG-----

gaguugggagguucccucuccaaugugucuugaucceccaccccAGACACAUUGGAGAGGGACCCucccaacuc
(((((((((((.()))))))))(((((.....)))))))).))))))))


```

-----AGACACAUUUGGAGAGGG-----
2 0,-4

>hsa-mir-643 3p:61-82 SRX018967
accaagugauauucauugucuaccugagcuagaauacaaguaguuggcgucuucagagacACUUGUAUGCUAGCUCAGGU
AGauauugaaugaaaaa
.....(((((((.(((((((((((((((((((.(((((((((((.(((.((.....).))))))))))))).))))))))))
))))).))))).)....
-----CUGAGCUAGAAUACAAGUAG-----
----- 2
-----ACACUUGUAUGCUAGCUCAGG-
----- 2 -2,-3
-----CACUUGUAUGCUAGCUCAGGU
Au----- 2 -1,-1

>hsa-mir-651 5p:16-37 SRX018967
aaucuaucacugcuUUUAGGAUAAGCUUGACUUUGuucaaauaaaaaugcaaaaggaaaguguauccuaaaaggcaau
gacaguuaaauuguuu
...(((.(((.(((((((((((((((((((.(((((((((((.((((((((((((((((((((((((((((((((((((((((
))))))))))))))))).))))).))))))))))))))))).)
)).)).....
-----UUUAGGAUAAGCUUGACUUUU-----
----- 4 0,-1
-----UUUAGGAUAAGCUUGACUUUG-----
----- 7 0,0
-----UUUAGGAUAAGCUUGACUUUGa-----
----- 2 0,0
-----UUUAGGAUAAGCUUGACUUUGU-----
----- 2 0,1

>hsa-mir-652 3p:61-81 SRX018967
acgaauaggcuangcacugcacaacccuaggagagggugccauucacauagacuauaaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac
.....((...((((((((((((((((((((.....(((((((((((((((.(((((((((((.(((.((.....).))))))))))))
))))))))).))))).)....
-----ACAACCCUAGGAGAGGGUGCCA-----
----- 3
-----ACAACCCUAGGAGAGGGUGCCAU-----
----- 9

```



```

-----ACUGGCUAGGGAAAAUGAUUGGAa-----
-- 13 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAU-----
-- 7 0,0
-----ACUGGCUAGGGAAAAUGAUUGGAUA-----
-- 2 0,1
-----CUGGCUAGGGAAAAUGAUU-----
-- 2 1,-4
-----CUGGCUAGGGAAAAUGAUUGG-----
-- 8 1,-2
-----CUGGCUAGGGAAAAUGAUUGGA-----
-- 28 1,-1
-----UGGCUAGGGAAAAUGAUUGGA-----
-- 11 2,-1
-----UGGCUAGGGAAAAUGAUUGGAa-----
-- 2 2,-1
-----UAUUCAUUUAUCCCCAGC-----
-- 9 0,-5
-----UAUUCAUUUAUCCCCAGCCU-----
-- 7 0,-3
-----UAUUCAUUUAUCCCCAGCCUuu-----
-- 2 0,-3
-----UAUUCAUUUAUCCCCAGCCUA-----
-- 52 0,-2
-----UAUUCAUUUAUCCCCAGCCUAa-----
-- 3 0,-2
-----UAUUCAUUUAUCCCCAGCCUAaa-----
-- 2 0,-2
-----UAUUCAUUUAUCCCCAGCCUAu-----
-- 6 0,-2
-----UAUUCAUUUAUCCCCAGCCUAC-----
-- 39 0,-1
-----UAUUCAUUUAUCCCCAGCCUACu-----
-- 2 0,-1
-----UAUUCAUUUAUCCCCAGCCUACA-----
-- 85 0,0
-----UAUUCAUUUAUCCCCAGCCUACAu-----
-- 2 0,0

```


	-CAACAAU	CACAGUC
UGCCAU	AU-----	3 0,1
	-AACAAU	CACAGUC
UGCCA	U-----	2 1,-1
	-AACAAU	CACAGUC
UGCCAU	A-----	11 1,0
	-AACAAU	CACAGUC
UGCCAU	AU-----	3 1,1

```

>hsa-mir-7-2      MA:32-54;mi:72-93      SRX018967
cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUgugucuacugcgcucuaaCAACAAAUCC
CCAGUCUACCUAAuggugccagccaucgca
.....((((...(((((((.(.(((((.((((((.....))))))))))))))
).))))).))..))))).))))).))))).
-----UGGAAGACUAGUGAUUUU-----
-----8    0,-5
-----UGGAAGACUAGUGAUUUUG-----
-----3    0,-4
-----UGGAAGACUAGUGAUUUUGU-----
-----2    0,-3
-----UGGAAGACUAGUGAUUUUGUU-----
-----14   0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
-----25   0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----
-----107  0,0
-----UGGAAGACUAGUGAUUUUGUUGUU-----
-----384  0,1
-----UGGAAGACUAGUGAUUUUGUUGUa-----
-----5    0,1
-----GGAAGACUAGUGAUUUUGUUGU-----
-----9    1,0
-----GGAAGACUAGUGAUUUUGUUGU-----
-----7    1,1

```

>hsa-mir-7-3 5p:31-53 SRX018967
 agauuagaguggcuguggucuagugcugugUGGAAGACUAGUGAUUUUGUUGUucugauguacuacgacaacaagucaca
 gccggccucauagcgcagacucccuucgac

UGGAAGACUAGUGAUUUU-	8	0,-5
UGGAAGACUAGUGAUUUUG-	3	0,-4
UGGAAGACUAGUGAUUUUGU-	2	0,-3
UGGAAGACUAGUGAUUUUGUU-	14	0,-2
UGGAAGACUAGUGAUUUUGUUG-	25	0,-1
UGGAAGACUAGUGAUUUUGUUGU-	107	0,0
UGGAAGACUAGUGAUUUUGUUGUU-	384	0,1
UGGAAGACUAGUGAUUUUGUUGUa-	5	0,1
GGAAGACUAGUGAUUUUGUUGU-	9	1,0
GGAAGACUAGUGAUUUUGUUGUU-	7	1,1

```

..(((((((.(((((((((((.((((((.(...((..(((.....)))..)).)).)))))).)))))))).)))
))))).
-----AAGGAGCUUACAAUCUAGCU-----
-----      2      0,-3
-----AAGGAGCUUACAAUCUAGCUGGG-----
-----     12     0,0

```

...(((((((.....((((((((((((((((((((.....((((((..(.....)..).))))).))))))))......)))))).
 ...))))))......

-----AUCUCGCUGGGGCCUCCA-----
----- 12 -1,0

>hsa-mir-744 MA:11-32;mi:68-89 SRX018967

uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuacugaagguuuccuggaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc

(((((.((((.((((.((((.((((.(.....)))))))))).)).
))))).))))).)))).

-----UGCGGGGCUAGGGCUAACAAa-----
----- 3 0,-3

-----UGCGGGGCUAGGGCUAACAG-----
----- 14 0,-2

-----UGCGGGGCUAGGGCUAACAGa-----
----- 9 0,-2

-----UGCGGGGCUAGGGCUAACAGaa-----
----- 3 0,-2

-----UGCGGGGCUAGGGCUAACAGu-----
----- 2 0,-2

-----UGCGGGGCUAGGGCUAACAGC-----
----- 53 0,-1

-----UGCGGGGCUAGGGCUAACAGCA-----
----- 172 0,0

-----UGCGGGGCUAGGGCUAACAGCAa-----
----- 70 0,0

-----UGCGGGGCUAGGGCUAACAGCAaa-----
----- 4 0,0

-----UGCGGGGCUAGGGCUAACAGCAau-----
----- 6 0,0

-----UGCGGGGCUAGGGCUAACAGCAu-----
----- 161 0,0

-----UGCGGGGCUAGGGCUAACAGCAuu-----
----- 13 0,0

-----UGCGGGGCUAGGGCUAACAGCAG-----
----- 2 0,1

-----GCGGGGCUAGGGCUAACAGaa-----
----- 2 1,-2

-----GCGGGGCUAGGGCUAACAGCu-----
----- 2 1,-1

```

-----GCGGGGCUAGGGCUAACAGCA-----
-----      12   1,0
-----GCGGGGCUAGGGCUAACAGCAa-----
-----      5    1,0
-----GCGGGGCUAGGGCUAACAGCAu-----
-----      4    1,0

```

>hsa-mir-765 3p:69-89 SRX018967

```

uuuaggcgcgugaagaaaguggaguucaguagacagcccuuucaagcccuacgagaaacuggggguuucUGGAGGAGAAGG
AAGGUGAUGaaggauucugucgugagccugaa

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
...))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UCUGGAGGAGAAGG
AAGGUGAU-----      2   -2,-1
-----CUGGAGGAGAAGG
AAGGUGAUG-----      3   -1,0

```

>hsa-mir-766 3p:65-86 SRX018967

```

gcauccucaggaccugggcuugggugguaggaggaauuggugcuggucuuucauuuugggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaauugucauaggagc

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AGGAGGAAUUGGUGCUGGUaa-----
-----      5
-----AGGAGGAAUUGGUGCUGGUC-----
-----      8
-----AGGAGGAAUUGGUGCUGGUCa-----
-----      3
-----AGGAGGAAUUGGUGCUGGUCU-----
-----     11
-----AGGAGGAAUUGGUGCUGGUCUaa-----
-----      3
-----AGGAGGAAUUGGUGCUGGUCUau-----
-----      4
-----AGGAGGAAUUGGUGCUGGUCUU-----
-----     35
-----AGGAGGAAUUGGUGCUGGUCUUa-----
-----     21

```

```

-----AGGAGGAAUUGGUGCUGGUCUUaa-----
----- 6
-----AGGAGGAAUUGGUGCUGGUCUUau-----
----- 2
-----AGGAGGAAUUGGUGCUGGUCUUU-----
----- 122
-----AGGAGGAAUUGGUGCUGGUCUUUa-----
----- 6
-----AGGAGGAAUUGGUGCUGGUCUUUau-----
----- 3
-----AGGAGGAAUUGGUGCUGGUCUUUu-----
----- 7
-----AGGAGGAAUUGGUGCUGGUCUUUC-----
----- 4
-----GGAGGAAUUGGUGCUGGUCUUU-----
----- 6
-----ACUCCAGCCCCACAGC
CUCA----- 5 0,-2
-----ACUCCAGCCCCACAGC
CUCAG----- 26 0,-1
-----ACUCCAGCCCCACAGC
CUCAGa----- 15 0,-1
-----ACUCCAGCCCCACAGC
CUCAGu----- 6 0,-1
-----ACUCCAGCCCCACAGC
CUCAGC----- 27 0,0
-----ACUCCAGCCCCACAGC
CUCAGCa----- 11 0,0
-----ACUCCAGCCCCACAGC
CUCAGCaa----- 5 0,0
-----ACUCCAGCCCCACAGC
CUCAGCau----- 7 0,0
-----ACUCCAGCCCCACAGC
CUCAGCu----- 3 0,0

```

>hsa-mir-767 5p:27-49;3p:61-83 SRX018967

gcuuuuauauuguagguuuuugcucaUGCACCAUGGUUGUCUGAGCAUGcagcaugcuugUCUGCUCAUACCCCAUGGUU
UCUgagcaggaaccuucaugucuacugc

GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggacccucagacgugugUCCUCUUCUCCCUCC
UCCAG

...(((((((.((.(.((((((((((.(.....((((((((((.....))))))))).).))))))))).).))))))
))....

GUAGAGGAGAUGGCGCAG-----

----- 5 0,-2

GUAGAGGAGAUGGCGCAG-----

----- 8 0,-1

GUAGAGGAGAUGGCGCAGGa-----

----- 3 0,-1

GUAGAGGAGAUGGCGCAGGaa-----

----- 4 0,-1

GUAGAGGAGAUGGCGCAGGGaa-----

----- 6 0,0

GUAGAGGAGAUGGCGCAGGGGA-----

----- 2 0,2

GUAGAGGAGAUGGCGCAGGGGAaa-----

----- 4 0,2

GUAGAGGAGAUGGCGCAGGGGAC-----

----- 6 0,3

GUAGAGGAGAUGGCGCAGGGGACu-----

----- 3 0,3

GUAGAGGAGAUGGCGCAGGGGACA-----

----- 12 0,4

GUAGAGGAGAUGGCGCAGGGGACAa-----

----- 5 0,4

GUAGAGGAGAUGGCGCAGGGGACAu-----

----- 5 0,4

-UAGAGGAGAUGGCGCAGGGGACu-----

----- 3 1,3

-UAGAGGAGAUGGCGCAGGGGACA-----

----- 3 1,4

-UAGAGGAGAUGGCGCAGGGGACAa-----

----- 2 1,4

-UAGAGGAGAUGGCGCAGGGGACAau-----

----- 4 1,4

-UAGAGGAGAUGGCGCAGGGGACAu-----

----- 2 1,4

2,0	CAUUACACUACCCUGCCUCU	15
-2,-3	AGAGGCAGCGGGGUGUAGUGG	3
-2,-1	AGAGGCAGCGGGGUGUAGUGGAU	2
0,-4	AGGCAGCGGGGUGUAGUG	10
0,-3	AGGCAGCGGGGUGUAGUGG	37
0,-2	AGGCAGCGGGGUGUAGUGGA	21
0,-2	AGGCAGCGGGGUGUAGUGGAa	16
0,-2	AGGCAGCGGGGUGUAGUGGAaa	22
0,-2	AGGCAGCGGGGUGUAGUGGAau	3
0,-1	AGGCAGCGGGGUGUAGUGGAU	110
0,-1	AGGCAGCGGGGUGUAGUGGAUu	25
0,-1	AGGCAGCGGGGUGUAGUGGAUuu	2
0,0	AGGCAGCGGGGUGUAGUGGAUA	33
0,0	AGGCAGCGGGGUGUAGUGGAUAa	35
0,0	AGGCAGCGGGGUGUAGUGGAUAaa	27
0,0	AGGCAGCGGGGUGUAGUGGAUAau	11
0,0	AGGCAGCGGGGUGUAGUGGAUAu	9

2	0,-1	-GUGAACGGGCGCCAUCCCGAG-
6	0,0	-GUGAACGGGCGCCAUCCCGAGG-
3	0,2	-GUGAACGGGCGCCAUCCCGAGGCU-
2	0,3	-GUGAACGGGCGCCAUCCCGAGGCUU-

>hsa-mi r-9-1 MA:16-38;mi :55-76 SRX018967

cggggguuggguuguaUCUUUGGUUAUCUAGCUGUAUGagugguguggagucuucAUAAGCUAGAUACCGAAAGUaaaa
auaaccccca

.(((((((....(((..(((((((((((((((((.((((((.(.....)))))))).)))))))).))))))..
 .)))))))).

-----		UCUUUGGUUAUCUAGCUGUAUG-----
-----	4	0, -1
-----		UCUUUGGUUAUCUAGCUGUAUGu-----
-----	4	0, -1
-----		UCUUUGGUUAUCUAGCUGUAUGA-----
-----	5	0, 0
-----		UCUUUGGUUAUCUAGCUGUAUGAa-----
-----	4	0, 0
-----		-----AUAAGCUAGAUAAACCGAAAGU-----
-----	4	0, 0
-----		-----AUAAGCUAGAUAAACCGAAAGUA-----
-----	2	0, 1

>hsa-mi r-9-2 MA:16-38;mi :53-74 SRX018967

ggaagcgaguuguaUCUUUGGUUAUCUAGCUGUAUGaguguauuggucuucAUAAGCUAGAUACCGAAAGUaaaaac
uccuuc

$$.(((((((((.(((..(((((((((((((((((((((.((((((..(....)..)))))).))))))))))))))))).))))).))\n\n)))))).$$

```

-----UCUUUGGUUAUCUAGCUGUAUG-----
----- 4    0,-1
-----UCUUUGGUUAUCUAGCUGUAUGu-----
----- 4    0,-1
-----UCUUUGGUUAUCUAGCUGUAUGA-----
----- 5    0,0

```


		-----UAUUGCACUUGUCCCCGGC-----
19	0, -4	
		-----UAUUGCACUUGUCCCCGGCau-----
3	0, -4	
		-----UAUUGCACUUGUCCCCGGCC-----
163	0, -3	
		-----UAUUGCACUUGUCCCCGGCCU-----
2177	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUa-----
2	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUaa-----
5	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUau-----
5	0, -2	
		-----UAUUGCACUUGUCCCCGGCCUG-----
119	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGa-----
12	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGaa-----
6	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGau-----
3	0, -1	
		-----UAUUGCACUUGUCCCCGGCCUGU-----
206	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUa-----
44	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUaa-----
55	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUau-----
43	0, 0	
		-----UAUUGCACUUGUCCCCGGCCUGUU-----
21	0, 1	
		-----UAUUGCACUUGUCCCCGGCCUGUUa-----
7	0, 1	
		-----UAUUGCACUUGUCCCCGGCCUGUUaa-----
2	0, 1	
		-----UAUUGCACUUGUCCCCGGCCUGUUau-----
3	0, 1	


```

-----UAUUGCACUUGUCCCGGCCUGU----- 206
0,0
-----UAUUGCACUUGUCCCGGCCUGUa----- 44
0,0
-----UAUUGCACUUGUCCCGGCCUGUaa----- 55
0,0
-----UAUUGCACUUGUCCCGGCCUGUau----- 43
0,0
-----AUUGCACUUGUCCCGGCC----- 2
1,-3
-----AUUGCACUUGUCCCGGCCU----- 33
1,-2
-----AUUGCACUUGUCCCGGCCUGU----- 3
1,0
-----AUUGCACUUGUCCCGGCCUGUaa----- 3
1,0
-----AUUGCACUUGUCCCGGCCUGUau----- 3
1,0

```

>hsa-mir-92b mi:20-41;MA:61-82 SRX018967

cgggccccgggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuuccccgccaUAUUGCACUCGUCCCGGCCU
CCggccccccccggccc

.((((((..(((.(((((((((.(((((((.((((((((((((((((.....))))))))))))))))))))).)))
(.))))))))).))))))

```

-----AGGGACGGGACGCGGUGCAGUGa-----
-----2 0,0
-----AGGGACGGGACGCGGUGCAGUGU-----
-----5 0,1
-----UAUUGCACUCGUCCCGGCC-----
-----20 0,-3
-----UAUUGCACUCGUCCCGGCCa
a-----2 0,-3
-----UAUUGCACUCGUCCCGGCCa
u-----2 0,-3
-----UAUUGCACUCGUCCCGGCCU
-----28 0,-2
-----UAUUGCACUCGUCCCGGCCU
a-----8 0,-2

```

```

-----UAUUGCACUCGUCCCGGCCU
aa-----      4    0,-2
-----UAUUGCACUCGUCCCGGCCU
au-----      2    0,-2
-----UAUUGCACUCGUCCCGGCCU
u-----      5    0,-2
-----UAUUGCACUCGUCCCGGCCU
uu-----      3    0,-2
-----UAUUGCACUCGUCCCGGCCU
C-----     15    0,-1
-----UAUUGCACUCGUCCCGGCCU
Caa-----      5    0,-1
-----UAUUGCACUCGUCCCGGCCU
Cau-----      2    0,-1
-----UAUUGCACUCGUCCCGGCCU
CC-----     18    0,0
-----UAUUGCACUCGUCCCGGCCU
CCa-----      6    0,0
-----UAUUGCACUCGUCCCGGCCU
CCaa-----      4    0,0
-----UAUUGCACUCGUCCCGGCCU
CCau-----      5    0,0
-----UAUUGCACUCGUCCCGGCCU
CCu-----      5    0,0

```

>hsa-mir-93 MA:11-33;mi:50-71 SRX018967

```

cugggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUCCCCGagcccccg
((((((((((..((((((((((((((..((((..((((..))))))))))))))))))))))))))))))))))))
-----CAAAGUGCUGUUCGUGCA-----
      227 0,-5
-----CAAAGUGCUGUUCGUGCAG-----
      494 0,-4
-----CAAAGUGCUGUUCGUGCAGu-----
      3    0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
      216 0,-3
-----CAAAGUGCUGUUCGUGCAGGa-----
      2    0,-3

```

-----CAAAGUGCUGUUCGUGCAGGa-----
7 0,-3

-----CAAAGUGCUGUUCGUGCAGGU-----
293 0,-2

-----CAAAGUGCUGUUCGUGCAGGUu-----
5 0,-2

-----CAAAGUGCUGUUCGUGCAGGUuu-----
7 0,-2

-----CAAAGUGCUGUUCGUGCAGGUA-----
879 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAa-----
178 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAaa-----
4 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAau-----
3 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAu-----
137 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAuu-----
5 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAG-----
79 0,0

-----CAAAGUGCUGUUCGUGCAGGUAGa-----
6 0,0

-----CAAAGUGCUGUUCGUGCAGGUAGU-----
2 0,1

-----AAAGUGCUGUUCGUGCAG-----
10 1,-4

-----AAAGUGCUGUUCGUGCAGG-----
11 1,-3

-----AAAGUGCUGUUCGUGCAGGU-----
20 1,-2

-----AAAGUGCUGUUCGUGCAGGUA-----
36 1,-1

-----AAAGUGCUGUUCGUGCAGGUAa-----
7 1,-1

-----AAAGUGCUGUUCGUGCAGGUAu-----
7 1,-1

```

-----AAAGUGCUGUUCGUGCAGGUAG-----
6   1,0
-----ACUGCUGAGCUAGCACUUC-----
4   0,-3
-----ACUGCUGAGCUAGCACUUCCC-----
2   0,-1
-----ACUGCUGAGCUAGCACUUCCCG-----
2   0,0
-----ACUGCUGAGCUAGCACUUCCCGu-----
2   0,0
-----ACUGCUGAGCUAGCACUUCCCGA-----
5   0,1
-----ACUGCUGAGCUAGCACUUCCCGAa-----
3   0,1
-----ACUGCUGAGCUAGCACUUCCCGAaa-----
2   0,1
-----ACUGCUGAGCUAGCACUUCCCGAu-----
3   0,1

```

>hsa-mir-935 3p:56-78 SRX018967

```

ggcgggggcgcgggcggcaguggcgggagcgggccccucggccauccuccgucugcCCAGUUACCGCUUCCGCUACCGCcgcgcuccccgc
((((((((...(((((((...(((...))))))))))))))))))
))))))))))
-----CAGUUACCGCUUCCGCUACCG---
----- 2   1,-1

```

>hsa-mir-940 3p:60-80 SRX018967

```

gugagguguggggcccgccccaggagcggggcccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugacccac
(((.(((.((((((((...((((((((...(((...))))))))))))))))))
))))))))))
-----GAAGGCAGGGCCCCCGCUCCCC
----- 2   -1,0
-----AAGGCAGGGCCCCCGCUC---
----- 2   0,-3
-----AAGGCAGGGCCCCCGCUCCCC
----- 12  0,0

```


-----AAGGCAGGGCCCCCGCUCCCC
GG----- 2 0,2

>hsa-mir-941-1 3p:71-93 SRX018967

cacggaagaggacacacccggcgugugggacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg

-----CACCCGGCUG
UGUGCACAUGU----- 2 0,-2

-----CACCCGGCUG
UGUGCACAUGUG----- 8 0,-1

-----CACCCGGCUG
UGUGCACAUGUGa----- 12 0,-1

-----CACCCGGCUG
UGUGCACAUGUGu----- 13 0,-1

-----CACCCGGCUG
UGUGCACAUGUGC----- 21 0.0

-----ACCCGGCUG
UGUGCACAUGUG----- 2 1,-1

>hsa-mir-941-2 3p:71-93 SRX018967

cacggaagaggacgcacccggcgugugcacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg

-----CACCCGGCUGUGUGCACAUGU-----
----- 2 -----

-----CACCCGGCUGUGGCACAUGUG-----
-----8-----

-----CACCCGGCUGUGGCACAUGUGa-----
-----12-----

-----CACCCGGCUGUGGCACAUGUGu-----
-----13-----

-----CACCCGGCUGUGUGCAC AUGUGC-----
-----21-----

-----ACCCGGCUGUGGCACAUGUG-----
-----?-----


```

-----UCUUCUCUGUUUUGGCCA-----
----- 2 0,-4
-----UCUUCUCUGUUUUGGCCAUGU-----
----- 3 0,-1
-----UCUUCUCUGUUUUGGCCAUGUG-----
----- 4 0,0
-----UCUUCUCUGUUUUGGCCAUGUGU-----
----- 5 0,1
-----CUUCUCUGUUUUGGCCAUGUG-----
----- 2 1,0
-----UUCUCUGUUUUGGCCAUGUGU-----
----- 10 2,1
-----UUCUCUGUUUUGGCCAUGUGUG-----
----- 6 2,2
-----UUCUCUGUUUUGGCCAUGUGUGa-----
----- 2 2,2
-----CAUGGCCGAAACAGAGAAGUUA-----
----- 2

```

guuccagacacaucucaucugauauacaauuuuuucuuaaauguauaaagagAAAUAUUGUACAUCGGAUGAGcugug
ucugggau

-----AAAUAUUGUACAUCGGAUGAG-----
 -----4 0,0-----
 -----AAUAUUGUACAUCGGAUGAG-----
 -----2 1,0-----

aacacagugggcacucaauaaaugucuguugaauugaaugcguuacaUUCAACGGGUUUUUAUGAGCAcccacucugu
g

-----UCAAUAAAUGUCUGUUGAAUU-----
- 2

```

-----UUCAACGGGUUUUAUUG-----
- 132 0,-4
-----UUCAACGGGUUUUAUUGA-----
- 150 0,-3
-----UUCAACGGGUUUUAUUGAG-----
- 175 0,-2
-----UUCAACGGGUUUUAUUGAGC-----
- 10 0,-1
-----UUCAACGGGUUUUAUUGAGCA-----
- 12 0,0
-----UUCAACGGGUUUUAUUGAGCAa-----
- 18 0,0
-----UCAACGGGUUUUAUUGAGCAa-----
- 7 1,0
-----CAACGGGUUUUAUUGAGCAa-----
- 2 2,0

```

>hsa-mir-96 MA:9-31;mi:52-73 SRX018967

```

uggccgauUUUGGCACUAGCACAUUUUUGCUugugucucuccgcucugagcAAUCAUGUGCAGUGCCAAUAUGggaaa
...((.(((.(((((((.((((((..((((((((.....)))...))))))..)))))))).))...
-----UUUGGCACUAGCACAUUUU-----
3 0,-4
-----UUUGGCACUAGCACAUUUU-----
4 0,-3
-----UUUGGCACUAGCACAUUUUUG-----
32 0,-2
-----UUUGGCACUAGCACAUUUUUGa-----
3 0,-2
-----UUUGGCACUAGCACAUUUUUGC-----
46 0,-1
-----UUUGGCACUAGCACAUUUUUGCU-----
32 0,0
-----CAAUCAUGUGCAGUGCCAAUAU-----
3 -1,-1

```

>hsa-mir-98 5p:22-43 SRX018967

```

aggauucugcucaugccagggUGAGGUAGUAAGUUGUAUUGUUguggggguagggauuuaggccccaauuagaagauaac
uauacaacuacuacuucccugguguguggcauuuca

```

-GUGAGGUAGUAAGUUGUAU-		
	2	-1, -4
-UGAGGUAGUAAGUUGUAU-		
	71	0, -4
-UGAGGUAGUAAGUUGUAU _a -		
	7	0, -4
-UGAGGUAGUAAGUUGUAUU-		
	32	0, -3
-UGAGGUAGUAAGUUGUAUUG-		
	43	0, -2
-UGAGGUAGUAAGUUGUAUUGU-		
	33	0, -1
-UGAGGUAGUAAGUUGUAUUGUU-		
	55	0, 0
-UGAGGUAGUAAGUUGUAUUGUU _a -		
	3	0, 0
-UGAGGUAGUAAGUUGUAUUGUU _u -		
	3	0, 0
UAUACAACUACUACU _u UCC-		
	3	
UAUACAACUACUACU _u UCC-		
	3	

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCAUGGGUCUGugucagugu
gg

```

-----AAACCCGUAGAUCCGAUCU-----
- 4 -1,-4
-----AAACCCGUAGAUCCGAUCUU-----
- 8 -1,-3
-----AAACCCGUAGAUCCGAUCUUG-----
- 54 -1,-2
-----AAACCCGUAGAUCCGAUCUUGU-----
- 291 -1,-1

```

```

-----AAACCCGUAGAUCCGAUCUUGUa-----
-   3   -1,-1
-----AAACCCGUAGAUCCGAUCUUGUG-----
-   8   -1,0
-----AAACCCGUAGAUCCGAUCUUGUGa-----
-   2   -1,0
-----AACCCGUAGAUCCGAUCU-----
-  584  0,-4
-----AACCCGUAGAUCCGAUCUU-----
- 1680   0,-3
-----AACCCGUAGAUCCGAUCUUa-----
-   28  0,-3
-----AACCCGUAGAUCCGAUCUUau-----
-    8  0,-3
-----AACCCGUAGAUCCGAUCUUu-----
-   28  0,-3
-----AACCCGUAGAUCCGAUCUUuu-----
-   29  0,-3
-----AACCCGUAGAUCCGAUCUUG-----
-  7720   0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
-   152  0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
-   13  0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
-  36114   0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
-   225  0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
-    78  0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
-   14  0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----
-   185  0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----
-   19  0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 24108   0,0

```

```

-----AACCCGUAGAUC CGAUCUUGUGa-----
-   7545   0,0
-----AACCCGUAGAUC CGAUCUUGUGaa-----
-   114   0,0
-----AACCCGUAGAUC CGAUCUUGUGau-----
-    27   0,0
-----AACCCGUAGAUC CGAUCUUGUGu-----
-   2915   0,0
-----AACCCGUAGAUC CGAUCUUGUGuu-----
-    13   0,0
-----AACCCGUAGAUC CGAUCUUGUGG-----
-    16   0,1
-----ACCCGUAGAUC CGAUCUU-----
-     2    1,-3
-----ACCCGUAGAUC CGAUCUUGU-----
-    17    1,-1
-----ACCCGUAGAUC CGAUCUUGUG-----
-    28    1,0
-----ACCCGUAGAUC CGAUCUUGUGa-----
-    17    1,0
-----ACCCGUAGAUC CGAUCUUGUGu-----
-     6    1,0
-----CAAGCUCGCUUCUAUGGG-----
-     2    0,-4
-----CAAGCUCGCUUCUAUGGGUaa-----
-     3    0,-3
-----CAAGCUCGCUUCUAUGGGUC-----
-     5    0,-2
-----CAAGCUCGCUUCUAUGGGUCU-----
-     4    0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
-     6    0,0
-----CAAGCUCGCUUCUAUGGGUCUGa-----
-     7    0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
-     6    0,1

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018967


```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))..))))))
-----CACCCGUAGAACCGACCU----- 2 0,-4
-----CACCCGUAGAACCGACCU----- 8 0,-3
-----CACCCGUAGAACCGACCUUG----- 15 0,-2
-----CACCCGUAGAACCGACCUUGC----- 129 0,-1
-----CACCCGUAGAACCGACCUUGCa----- 8 0,-1
-----CACCCGUAGAACCGACCUUGCu----- 4 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 1004
0,0
-----CACCCGUAGAACCGACCUUGCGa----- 193 0,0
-----CACCCGUAGAACCGACCUUGCGaa----- 4 0,0
-----CACCCGUAGAACCGACCUUGCGau----- 5 0,0
-----CACCCGUAGAACCGACCUUGCGu----- 153 0,0
-----CACCCGUAGAACCGACCUUGCGuu----- 11 0,0
-----ACCCGUAGAACCGACCUUGC----- 2 1,-1
-----ACCCGUAGAACCGACCUUGCG----- 28 1,0
-----ACCCGUAGAACCGACCUUGCGa----- 7 1,0
-----ACCCGUAGAACCGACCUUGCGu----- 4 1,0
-----CAAGCUCGUGUCUGUGGGUCC----- 3 0,-1

```

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018968

```

ugggaUGAGGUAGUAGGUUGUAUAGUUuuaggguacaccccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
(((((((((.....)))))))))))))..))))))
----AUGAGGUAGUAGGUUGUAUAGU-----
2 -1,-1
----AUGAGGUAGUAGGUUGUAUAGUU-----
3 -1,0
----UGAGGUAGUAGGUUGUAU-----
883 0,-4
----UGAGGUAGUAGGUUGUAUu-----
43 0,-4
----UGAGGUAGUAGGUUGUAUuu-----
41 0,-4
----UGAGGUAGUAGGUUGUAUA-----
5803 0,-3
----UGAGGUAGUAGGUUGUAUAa-----
269 0,-3

```

-----UGAGGUAGUAGGUUGUAUAaa-----
 59 0,-3
 -----UGAGGUAGUAGGUUGUAUAau-----
 11 0,-3
 -----UGAGGUAGUAGGUUGUAUAu-----
 73 0,-3
 -----UGAGGUAGUAGGUUGUAUAuu-----
 11 0,-3
 -----UGAGGUAGUAGGUUGUAUAG-----
 10545 0,-2
 -----UGAGGUAGUAGGUUGUAUAGa-----
 326 0,-2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 46 0,-2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 35 0,-2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 33612 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 859 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 1288 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 213 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 84042 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 10027 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 1162 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 305 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 7215 0,1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 115 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUu-----
 2 0,2

```

-----UGAGGUAGUAGGUUGUAUAGUUUA-----
2    0,3
-----GAGGUAGUAGGUUGUAUA-----
8    1,-3
-----GAGGUAGUAGGUUGUAUAG-----
9    1,-2
-----GAGGUAGUAGGUUGUAUAGU-----
38   1,-1
-----GAGGUAGUAGGUUGUAUAGUaa-----
4    1,-1
-----GAGGUAGUAGGUUGUAUAGUU-----
153  1,0
-----GAGGUAGUAGGUUGUAUAGUua-----
21   1,0
-----GAGGUAGUAGGUUGUAUAGUuaa-----
3    1,0
-----GAGGUAGUAGGUUGUAUAGUUU-----
10   1,1
-----AGGUAGUAGGUUGUAUAGU-----
2    2,-1
-----AGGUAGUAGGUUGUAUAGUU-----
35   2,0
-----AGGUAGUAGGUUGUAUAGUUU-----
5    2,1
-----CUAUACAAUCUACUGUCUU-----
2    0,-2
-----CUAUACAAUCUACUGUCUUU-----
4    0,-1
-----CUAUACAAUCUACUGUCUUUC-----
6    0,0
-----CUAUACAAUCUACUGUCUUUCC-----
3    0,1
-----UAUACAAUCUACUGUCUUUCCU-----
3    1,2
-----AUACAAUCUACUGUCUUUCCU-----
3    2,2

```

Sequence	Count
aggguGAGGUAGUAGGUUGUAUAGUUuagaaauuacaucaagggagauaaCUGUACAGCCUCCUAGCUUCCu (((...(((.((((.(((((((((((((((((.....(..(.....)...)...))))))))))))))))).)))	
---UUGAGGUAGUAGGUUGUA----- -1, -5	2
---UUGAGGUAGUAGGUUGUAUAG----- -1, -2	6
---UUGAGGUAGUAGGUUGUAUAGU----- -1, -1	6
---UUGAGGUAGUAGGUUGUAUAGUU----- -1, 0	2
---UGAGGUAGUAGGUUGUAU----- 0, -4	883
---UGAGGUAGUAGGUUGUAUu----- 0, -4	43
---UGAGGUAGUAGGUUGUAUuu----- 0, -4	41
---UGAGGUAGUAGGUUGUAUA----- 0, -3	5803
---UGAGGUAGUAGGUUGUAUAa----- 0, -3	269
---UGAGGUAGUAGGUUGUAUAaa----- 0, -3	59
---UGAGGUAGUAGGUUGUAUAau----- 0, -3	11
---UGAGGUAGUAGGUUGUAUAu----- 0, -3	73
---UGAGGUAGUAGGUUGUAUAuu----- 0, -3	11
---UGAGGUAGUAGGUUGUAUAG----- 10545 0, -2	
---UGAGGUAGUAGGUUGUAUAGa----- 0, -2	326
---UGAGGUAGUAGGUUGUAUAGaa----- 0, -2	46
---UGAGGUAGUAGGUUGUAUAGau----- 0, -2	35
---UGAGGUAGUAGGUUGUAUAGU----- 33612 0, -1	

----UGAGGUAGUAGGUUGUAUAGUa-----	859
0, -1	
----UGAGGUAGUAGGUUGUAUAGUaa-----	1288
0, -1	
----UGAGGUAGUAGGUUGUAUAGUau-----	213
0, -1	
----UGAGGUAGUAGGUUGUAUAGUU-----	
84042 0,0	
----UGAGGUAGUAGGUUGUAUAGUUa-----	
10027 0,0	
----UGAGGUAGUAGGUUGUAUAGUUaa-----	1162
0,0	
----UGAGGUAGUAGGUUGUAUAGUUau-----	305
0,0	
----UGAGGUAGUAGGUUGUAUAGUUU-----	7215
0,1	
----UGAGGUAGUAGGUUGUAUAGUUUA-----	62
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAa-----	3
0,2	
----GAGGUAGUAGGUUGUAUA-----	8
1, -3	
----GAGGUAGUAGGUUGUAUAG-----	9
1, -2	
----GAGGUAGUAGGUUGUAUAGU-----	38
1, -1	
----GAGGUAGUAGGUUGUAUAGUaa-----	4
1, -1	
----GAGGUAGUAGGUUGUAUAGUU-----	153
1,0	
----GAGGUAGUAGGUUGUAUAGUUa-----	21
1,0	
----GAGGUAGUAGGUUGUAUAGUUaa-----	3
1,0	
----GAGGUAGUAGGUUGUAUAGUUU-----	10
1,1	
----AGGUAGUAGGUUGUAUAGU-----	2
2, -1	

-----AGGUAGUAGGUUGUAUAGUU-----	35
2,0	
-----AGGUAGUAGGUUGUAUAGUU-----	5
2,1	
>hsa-let-7a-3 MA:4-25;mi:52-72 SRX018968	
gggUGAGGUAGUAGGUUGUAUAGUUuggggcucugcccugcuaugggauaaCUAUACAAUCUACUGUCUUUCcu	
(((((...)))))).....)))))))))..)).))	
-GGUGAGGUAGUAGGUUGUAU-----	2
-2,-4	
--GUGAGGUAGUAGGUUGUAUAG-----	8
-1,-2	
--GUGAGGUAGUAGGUUGUAUAGU-----	17
-1,-1	
--GUGAGGUAGUAGGUUGUAUAGUU-----	12
-1,0	
---UGAGGUAGUAGGUUGUAU-----	883
0,-4	
---UGAGGUAGUAGGUUGUAUu-----	43
0,-4	
---UGAGGUAGUAGGUUGUAUuu-----	41
0,-4	
---UGAGGUAGUAGGUUGUAUA-----	5803
0,-3	
---UGAGGUAGUAGGUUGUAUAa-----	269
0,-3	
---UGAGGUAGUAGGUUGUAUAaa-----	59
0,-3	
---UGAGGUAGUAGGUUGUAUAau-----	11
0,-3	
---UGAGGUAGUAGGUUGUAUAu-----	73
0,-3	
---UGAGGUAGUAGGUUGUAUAuu-----	11
0,-3	
---UGAGGUAGUAGGUUGUAUAG-----	
10545 0,-2	
---UGAGGUAGUAGGUUGUAUAGa-----	326
0,-2	

---UGAGGUAGUAGGUUGUAUAGaa-----	46
0,-2	
---UGAGGUAGUAGGUUGUAUAGau-----	35
0,-2	
---UGAGGUAGUAGGUUGUAUAGU-----	
33612 0,-1	
---UGAGGUAGUAGGUUGUAUAGUa-----	859
0,-1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	1288
0,-1	
---UGAGGUAGUAGGUUGUAUAGUau-----	213
0,-1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
84042 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	
10027 0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	1162
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	305
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	7215
0,1	
---UGAGGUAGUAGGUUGUAUAGUUUG-----	2
0,2	
---UGAGGUAGUAGGUUGUAUAGUUUGG-----	2
0,3	
---GAGGUAGUAGGUUGUAUA-----	8
1,-3	
---GAGGUAGUAGGUUGUAUAG-----	9
1,-2	
---GAGGUAGUAGGUUGUAUAGU-----	38
1,-1	
---GAGGUAGUAGGUUGUAUAGUaa-----	4
1,-1	
---GAGGUAGUAGGUUGUAUAGUU-----	153
1,0	
---GAGGUAGUAGGUUGUAUAGUUa-----	21
1,0	


```

-----UGAGGUAGUAGGUUGUGUu-----
--- 8 0,-4
-----UGAGGUAGUAGGUUGUGUuu-----
--- 4 0,-4
-----UGAGGUAGUAGGUUGUGUG-----
--- 12533 0,-3
-----UGAGGUAGUAGGUUGUGUGa-----
--- 158 0,-3
-----UGAGGUAGUAGGUUGUGUGaa-----
--- 23 0,-3
-----UGAGGUAGUAGGUUGUGUGu-----
--- 91 0,-3
-----UGAGGUAGUAGGUUGUGUGuu-----
--- 19 0,-3
-----UGAGGUAGUAGGUUGUGUGG-----
--- 3924 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 136 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 74 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 31 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 5759 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 795 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 3113 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 2375 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 16442 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 5313 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 2729 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 4709 0,0

```

```

-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 16603 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 782 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 167 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 157 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 2197 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 73 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 20 0,2
-----UGAGGUAGUAGGUUGUGUGGUUUCA-----
--- 2 0,3
-----GAGGUAGUAGGUUGUGUG-----
--- 27 1,-3
-----GAGGUAGUAGGUUGUGUGG-----
--- 5 1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 10 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 11 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 5 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 35 1,0
-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 20 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 7 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 18 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 53 1,1
-----GAGGUAGUAGGUUGUGUGGUUUu-----
--- 6 1,1

```

```

-----AGGUAGUAGGUUGUGUGGUU-----
--- 3 2,0
-----AGGUAGUAGGUUGUGUGGUUa-----
--- 2 2,0
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 2 2,1
-----CUAUACAACCUACUGCCU---
--- 8 0,-4
-----CUAUACAACCUACUGCCU---
--- 20 0,-3
-----CUAUACAACCUACUGCCUau
--- 2 0,-3
-----CUAUACAACCUACUGCCUUC-
--- 46 0,-2
-----CUAUACAACCUACUGCCUUCa
--- 4 0,-2
-----CUAUACAACCUACUGCCUUCu
--- 51 0,-2
-----CUAUACAACCUACUGCCUUCu
u-- 11 0,-2
-----CUAUACAACCUACUGCCUUCC
--- 95 0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 20 0,-1
-----CUAUACAACCUACUGCCUUCC
u-- 159 0,-1
-----CUAUACAACCUACUGCCUUCC
uu- 5 0,-1
-----UAUACAACCUACUGCCUUCC
--- 2 1,-1
-----UAUACAACCUACUGCCUUCC
u-- 6 1,-1

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018968

```

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc
(((.((((((..(((.(((.((((((((((((((..(((.((..(.....).)).))))))))))))))))).)).)).)))))
))))

```

```

-----UUGAGGUAGUAGGUUGUA-----
---- 2 -1,-5
-----UUGAGGUAGUAGGUUGUAUG-----
---- 3 -1,-3
-----UUGAGGUAGUAGGUUGUAUGG-----
---- 23 -1,-2
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 51 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUa-----
---- 20 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUaa-----
---- 3 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUau-----
---- 6 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUU-----
---- 83 -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUa-----
---- 2 -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUU-----
---- 3 -1,1
-----UGAGGUAGUAGGUUGUAU-----
---- 883 0,-4
-----UGAGGUAGUAGGUUGUAUu-----
---- 43 0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
---- 41 0,-4
-----UGAGGUAGUAGGUUGUAUG-----
---- 1964 0,-3
-----UGAGGUAGUAGGUUGUAUGa-----
---- 29 0,-3
-----UGAGGUAGUAGGUUGUAUGaa-----
---- 6 0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
---- 29 0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
---- 13 0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
---- 3700 0,-2

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-----UGAGGUAGUAGGUUGUAUGGa-----
---- 104 0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 103 0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 22 0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 8567 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----
---- 2265 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 1508 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 974 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 39214 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 2478 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 562 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 422 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 3524 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 126 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUuu-----
---- 6 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 86 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUAa-----
---- 11 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUau-----
---- 8 0,2
-----GAGGUAGUAGGUUGUAUG-----
---- 11 1,-3
-----GAGGUAGUAGGUUGUAUGG-----
---- 6 1,-2

```

```

-----GAGGUAGUAGGUUGUAUGGU-----
---- 16 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 11 1,-1
-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 5 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 6 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----
---- 159 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 13 1,0
-----GAGGUAGUAGGUUGUAUGGUUau-----
---- 3 1,0
-----GAGGUAGUAGGUUGUAUGGUUU-----
---- 12 1,1
-----AGGUAGUAGGUUGUAUGGUU-----
---- 2 2,0
-----AGGUAGUAGGUUGUAUGGUUU-----
---- 3 2,1
-----AGGUAGUAGGUUGUAUGGUUUA-----
---- 2 2,2
-----UAGAGUUACACCCUGGGAGUUAu-----
---- 2 0,0

```

>hsa-let-7d MA:8-29;mi:62-83 SRX018968

ccuaggaAGAGGUAGUAGGUUGCAUAGUUuuagggcagggauuuugcccacaaggagguaaCUAUACGACCUGCUGCCUU
UCUuagg

```

(((((((.(((((((((((((((.((((((.....)))))).))))))))))))))
))))))

```

```

-----AAGAGGUAGUAGGUUGCAUAGU-----
----- 3 -1,-1
-----AAGAGGUAGUAGGUUGCAUAGUU-----
----- 11 -1,0
-----AGAGGUAGUAGGUUGCAU-----
----- 770 0,-4
-----AGAGGUAGUAGGUUGCAUu-----
----- 14 0,-4

```

```

-----AGAGGUAGUAGGUUGCAUuu-----
----- 12  0,-4
-----AGAGGUAGUAGGUUGCAUA-----
----- 423 0,-3
-----AGAGGUAGUAGGUUGCAUAa-----
----- 26  0,-3
-----AGAGGUAGUAGGUUGCAUAaa-----
----- 5   0,-3
-----AGAGGUAGUAGGUUGCAUAuu-----
----- 3   0,-3
-----AGAGGUAGUAGGUUGCAUAG-----
----- 1062   0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 69   0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 17   0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 11   0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 2603   0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 288 0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 100 0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 63   0,-1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 20535  0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 2023   0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 112 0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 64   0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 1914   0,1
-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 25   0,1

```

```

-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 96  0,2
-----AGAGGUAGUAGGUUGCAUAGUUUUu-----
----- 5   0,2
-----GAGGUAGUAGGUUGCAUA-----
----- 4   1,-3
-----GAGGUAGUAGGUUGCAUAG-----
----- 2   1,-2
-----GAGGUAGUAGGUUGCAUAGU-----
----- 8   1,-1
-----GAGGUAGUAGGUUGCAUAGUaa-----
----- 2   1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 66  1,0
-----GAGGUAGUAGGUUGCAUAGUUa-----
----- 10  1,0
-----GAGGUAGUAGGUUGCAUAGUUaa-----
----- 4   1,0
-----GAGGUAGUAGGUUGCAUAGUUU-----
----- 11  1,1
-----GAGGUAGUAGGUUGCAUAGUUUU-----
----- 2   1,2
-----AGGUAGUAGGUUGCAUAGUU-----
----- 9   2,0
-----CUAUACGACCUGCUGCCUU
----- 3   0,-3
-----CUAUACGACCUGCUGCCUU
U----- 22  0,-2
-----CUAUACGACCUGCUGCCUU
UC----- 27  0,-1
-----CUAUACGACCUGCUGCCUU
UCa----- 6   0,-1
-----CUAUACGACCUGCUGCCUU
UCU----- 45  0,0
-----UAUACGACCUGCUGCCUU
UCU----- 3   1,0

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>hsa-let-7e MA:8-29;mi:53-74 SRX018968


```

-----UGAGGUAGGAGGUUGUAUAGUa-----
93  0, -1
-----UGAGGUAGGAGGUUGUAUAGUaa-----
374 0, -1
-----UGAGGUAGGAGGUUGUAUAGUau-----
101 0, -1
-----UGAGGUAGGAGGUUGUAUAGUU-----
3857  0,0
-----UGAGGUAGGAGGUUGUAUAGUUa-----
1506  0,0
-----UGAGGUAGGAGGUUGUAUAGUUaa-----
302 0,0
-----UGAGGUAGGAGGUUGUAUAGUUau-----
114 0,0
-----UGAGGUAGGAGGUUGUAUAGUUu-----
1133  0,0
-----UGAGGUAGGAGGUUGUAUAGUUuu-----
27  0,0
-----UGAGGUAGGAGGUUGUAUAGUUG-----
237 0,1
-----UGAGGUAGGAGGUUGUAUAGUUGu-----
25  0,1
-----UGAGGUAGGAGGUUGUAUAGUUGA-----
23  0,2
-----GAGGUAGGAGGUUGUAUAGU-----
5  1, -1
-----GAGGUAGGAGGUUGUAUAGUU-----
5  1,0
-----GAGGUAGGAGGUUGUAUAGUUa-----
2  1,0
-----GAGGUAGGAGGUUGUAUAGUUaa-----
2  1,0
-----CUAUACGGCCUCCUAGCU-----
2  0, -4
-----CUAUACGGCCUCCUAGCUUU-----
2  0, -2
-----CUAUACGGCCUCCUAGCUUUC-----
6  0, -1

```



```

-----UGAGGUAGUAGAUUGUAUAGUa-----
----- 654 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
----- 1955 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 162 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 61050 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 17731 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 1507 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 293 0,0
-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 701 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 27 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGaa-----
----- 3 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGU-----
----- 51 0,2
-----UGAGGUAGUAGAUUGUAUAGUUGUG-----
----- 5 0,3
-----GAGGUAGUAGAUUGUAUA-----
----- 7 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
----- 12 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
----- 49 1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----
----- 4 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
----- 7 1,-1
-----GAGGUAGUAGAUUGUAUAGUau-----
----- 2 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
----- 173 1,0

```



```

-----AUGAGGUAGUAGAUUGUAUA-----
--- 4    -1,-3
-----AUGAGGUAGUAGAUUGUAUAGU-----
--- 11   -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUU-----
--- 8    -1,0
-----UGAGGUAGUAGAUUGUAU-----
--- 633  0,-4
-----UGAGGUAGUAGAUUGUAUu-----
--- 14   0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
--- 38   0,-4
-----UGAGGUAGUAGAUUGUAUA-----
--- 7295  0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
--- 159  0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
--- 51   0,-3
-----UGAGGUAGUAGAUUGUAUAau-----
--- 7    0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
--- 14   0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
--- 7    0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 6555  0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 306  0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 34   0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
--- 31   0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 31165 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 654  0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 1955  0,-1

```

```

-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 162 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 61050 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 17731 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 1507 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 293 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 7182 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUa-----
--- 15 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUaa-----
--- 2 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 50 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUA-----
--- 2 0,3
-----GAGGUAGUAGAUUGUAUA-----
--- 7 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
--- 12 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 49 1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----
--- 4 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
--- 7 1,-1
-----GAGGUAGUAGAUUGUAUAGUau-----
--- 2 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 173 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
--- 40 1,0
-----GAGGUAGUAGAUUGUAUAGUUaa-----
--- 7 1,0

```



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----CUGAGGUAGUAGUUUGUGC-----
----      2      -1,-4
----CUGAGGUAGUAGUUUGUCU-----
----      4      -1,-3
----UGAGGUAGUAGUUUGUGC-----
----    1078      0,-4
----UGAGGUAGUAGUUUGUCa-----
----      2      0,-4
----UGAGGUAGUAGUUUGUCU-----
----    3185      0,-3
----UGAGGUAGUAGUUUGUCUa-----
----      2      0,-3
----UGAGGUAGUAGUUUGUCUu-----
----      3      0,-3
----UGAGGUAGUAGUUUGUGCUG-----
----    474 0,-2
----UGAGGUAGUAGUUUGUGCUGa-----
----      8      0,-2
----UGAGGUAGUAGUUUGUGCUGU-----
----    315 0,-1
----UGAGGUAGUAGUUUGUGCUGUa-----
----      9      0,-1
----UGAGGUAGUAGUUUGUGCUGUaa-----
----    18 0,-1
----UGAGGUAGUAGUUUGUGCUGUau-----
----      2      0,-1
----UGAGGUAGUAGUUUGUGCUGUU-----
----    417 0,0
----UGAGGUAGUAGUUUGUGCUGUUa-----
----    143 0,0
----UGAGGUAGUAGUUUGUGCUGUUaa-----
----    13 0,0
----UGAGGUAGUAGUUUGUGCUGUUau-----
----      4      0,0
----UGAGGUAGUAGUUUGUGCUGUUu-----
----    219 0,0
----UGAGGUAGUAGUUUGUGCUGUUuu-----
----    18 0,0

```

```

-----UGAGGUAGUAGUUUGUGCUGUUG-----
---- 10 0,1
-----GAGGUAGUAGUUUGUGCU-----
---- 7 1,-3
-----GAGGUAGUAGUUUGUGCUGUU-----
---- 2 1,0
-----GAGGUAGUAGUUUGUGCUGUa-----
---- 2 1,0
-----CUGCGCAAGCUACUGCCUU
---- 3 0,-3
-----CUGCGCAAGCUACUGCCUU
G--- 5 0,-2

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>hsa-mir-1-1 3p:46-67 SRX018968

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ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAGAAGUAUGUAUcuca
.(((((((((.....)))))))).))))).
-----UGGAAUGUAAAGAAGUAU----- 43 0,-4
-----UGGAAUGUAAAGAAGUAUa----- 6 0,-4
-----UGGAAUGUAAAGAAGUAUG----- 55 0,-3
-----UGGAAUGUAAAGAAGUAUGU----- 37 0,-2
-----UGGAAUGUAAAGAAGUAUGUA----- 107 0,-1
-----UGGAAUGUAAAGAAGUAUGUAa---- 86 0,-1
-----UGGAAUGUAAAGAAGUAUGUAaa--- 5 0,-1
-----UGGAAUGUAAAGAAGUAUGUAU---- 1514
0,0
-----UGGAAUGUAAAGAAGUAUGUAUa--- 35 0,0
-----UGGAAUGUAAAGAAGUAUGUAUaa-- 2 0,0
-----UGGAAUGUAAAGAAGUAUGUAUC--- 2 0,1
-----GGAAUGUAAAGAAGUAUGUAU---- 7 1,0
-----GAAUGUAAAGAAGUAUGUAU---- 3 2,0

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>hsa-mir-1-2 3p:53-74 SRX018968

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accuacucagaguacauacuucuuuanguacccauaugaacauacaaugcuaUGGAAUGUAAAGAAGUAUGUAUuuuugg
uaggc
.(((((((((.....)))))))).))))).
-----UGGAAUGUAAAGAAGUAU-----
----- 43 0,-4

```


-----AACCCGUAGAUCCGAACUu-----
2 0,-3

-----AACCCGUAGAUCCGAACUuu-----
3 0,-3

-----AACCCGUAGAUCCGAACUUG-----
1300 0,-2

-----AACCCGUAGAUCCGAACUUGa-----
21 0,-2

-----AACCCGUAGAUCCGAACUUGaa-----
2 0,-2

-----AACCCGUAGAUCCGAACUUGU-----
5403 0,-1

-----AACCCGUAGAUCCGAACUUGUa-----
35 0,-1

-----AACCCGUAGAUCCGAACUUGUaa-----
45 0,-1

-----AACCCGUAGAUCCGAACUUGUau-----
5 0,-1

-----AACCCGUAGAUCCGAACUUGUu-----
6 0,-1

-----AACCCGUAGAUCCGAACUUGUG-----
6951 0,0

-----AACCCGUAGAUCCGAACUUGUGa-----
5412 0,0

-----AACCCGUAGAUCCGAACUUGUGaa-----
241 0,0

-----AACCCGUAGAUCCGAACUUGUGau-----
18 0,0

-----AACCCGUAGAUCCGAACUUGUGu-----
1925 0,0

-----AACCCGUAGAUCCGAACUUGUGuu-----
8 0,0

-----AACCCGUAGAUCCGAACUUGUGG-----
14 0,1

-----AACCCGUAGAUCCGAACUUG-----
2 1,-2

-----AACCCGUAGAUCCGAACUUGU-----
7 1,-1

```
-----ACCCGUAGAUCCGAACUUGUG-----  
7   1,0  
-----ACCCGUAGAUCCGAACUUGUGa-----  
11  1,0  
-----ACCCGUAGAUCCGAACUUGUGaa-----  
4   1,0  
  
>hsa-mir-101-1 mi:11-32;MA:47-67 SRX018968  
ugcccuggcuCAGUUAUCACAGUGCUGAUGCUgucuaauucuaaaggUACAGUACUGUGAUAAACUGAAgggauggca  
.(((.....((((((((((((((((((.((((.....)))))))))((((((((((((((((((((.....))).  
-----CAGUUAUCACAGUGCUGAUGCUGU----- 2  
0,2  
-----GGUACAGUACUGUGAUAACU----- 2  
-2,-3  
-----GUACAGUACUGUGAUAAC----- 303  
-1,-4  
-----GUACAGUACUGUGAUAACU----- 9776  
-1,-3  
-----GUACAGUACUGUGAUAACUa----- 3  
-1,-3  
-----GUACAGUACUGUGAUAACUaa----- 5  
-1,-3  
-----GUACAGUACUGUGAUAACUu----- 5  
-1,-3  
-----GUACAGUACUGUGAUAAACUG----- 629  
-1,-2  
-----GUACAGUACUGUGAUAAACUGu----- 11  
-1,-2  
-----GUACAGUACUGUGAUAAACUGuu----- 2  
-1,-2  
-----GUACAGUACUGUGAUAAACUGA----- 7141  
-1,-1  
-----GUACAGUACUGUGAUAAACUGAu----- 57  
-1,-1  
-----GUACAGUACUGUGAUAAACUGAA----- 9189  
-1,0  
-----GUACAGUACUGUGAUAAACUGAAa----- 1799  
-1,0
```

		-----GUACAGUACUGUGAUAAACUGAAaa-----	44
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAu-----	23
-1,0			
		-----GUACAGUACUGUGAUAAACUGAAG-----	9
-1,1			
		-----GUACAGUACUGUGAUAAACUGAAGG-----	3
-1,2			
		-----UACAGUACUGUGAUAAACU-----	
12131	0,-3		
		-----UACAGUACUGUGAUAAACUa-----	6
0,-3			
		-----UACAGUACUGUGAUAAACUaa-----	4
0,-3			
		-----UACAGUACUGUGAUAAACUu-----	4
0,-3			
		-----UACAGUACUGUGAUAAACUG-----	1036
0,-2			
		-----UACAGUACUGUGAUAAACUGu-----	11
0,-2			
		-----UACAGUACUGUGAUAAACUGA-----	
12362	0,-1		
		-----UACAGUACUGUGAUAAACUGAu-----	87
0,-1			
		-----UACAGUACUGUGAUAAACUGAuu-----	39
0,-1			
		-----UACAGUACUGUGAUAAACUGAA-----	
25209	0,0		
		-----UACAGUACUGUGAUAAACUGAAa-----	6102
0,0			
		-----UACAGUACUGUGAUAAACUGAAaa-----	203
0,0			
		-----UACAGUACUGUGAUAAACUGAAau-----	18
0,0			
		-----UACAGUACUGUGAUAAACUGAAu-----	566
0,0			
		-----UACAGUACUGUGAUAAACUGAAuu-----	14
0,0			

	-----UACAGUACUGUGAUAAACUGAAG-----	1510
0,1		
	-----UACAGUACUGUGAUAAACUGAAGu-----	168
0,1		
	-----UACAGUACUGUGAUAAACUGAAGG-----	6
0,2		
	-----UACAGUACUGUGAUAAACUGAAGGA-----	2
0,3		
	-----ACAGUACUGUGAUAAACUG-----	2
1,-2		
	-----ACAGUACUGUGAUAAACUGA-----	77
1,-1		
	-----ACAGUACUGUGAUAAACUGAA-----	148
1,0		
	-----ACAGUACUGUGAUAAACUGAAa-----	46
1,0		
	-----ACAGUACUGUGAUAAACUGAAaa-----	2
1,0		
	-----ACAGUACUGUGAUAAACUGAAau-----	2
1,0		
	-----ACAGUACUGUGAUAAACUGAAu-----	7
1,0		
	-----ACAGUACUGUGAUAAACUGAAG-----	16
1,1		
	-----ACAGUACUGUGAUAAACUGAAGu-----	3
1,1		
	-----CAGUACUGUGAUAAACUGA-----	9
2,-1		
	-----CAGUACUGUGAUAAACUGAA-----	8
2,0		
	-----CAGUACUGUGAUAAACUGAAa-----	6
2,0		
	-----CAGUACUGUGAUAAACUGAAaa-----	2
2,0		
	-----CAGUACUGUGAUAAACUGAAG-----	2
2,1		
	-----CAGUACUGUGAUAAACUGAAGu-----	2
2,1		

>hsa-mir-101-2 3p:49-69 SRX018968

acuguccuuuuucgguuaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGAUAAACUGAAgaugguggu

((..((.((((((((((((((((((((((((((.((((.....)))))).))))))))))))))))))))))))))..))

-----GGUACAGUACUGUGAUAAACU-----

2 -2,-3

-----GUACAGUACUGUGAUAAAC-----

303 -1,-4

-----GUACAGUACUGUGAUAAACU-----

9776 -1,-3

-----GUACAGUACUGUGAUAAACUa-----

3 -1,-3

-----GUACAGUACUGUGAUAAACUaa-----

5 -1,-3

-----GUACAGUACUGUGAUAAACUu-----

5 -1,-3

-----GUACAGUACUGUGAUAAACUG-----

629 -1,-2

-----GUACAGUACUGUGAUAAACUGu-----

11 -1,-2

-----GUACAGUACUGUGAUAAACUGuu-----

2 -1,-2

-----GUACAGUACUGUGAUAAACUGA-----

7141 -1,-1

-----GUACAGUACUGUGAUAAACUGAu-----

57 -1,-1

-----GUACAGUACUGUGAUAAACUGAA-----

9189 -1,0

-----GUACAGUACUGUGAUAAACUGAAa-----

1799 -1,0

-----GUACAGUACUGUGAUAAACUGAAaa-----

44 -1,0

-----GUACAGUACUGUGAUAAACUGAAu-----

23 -1,0

-----GUACAGUACUGUGAUAAACUGAAG-----

9 -1,1

-----UACAGUACUGUGAUAAACU-----

12131 0,-3

		-UACAGUACUGUGAUAACUa-----
6	0,-3	
		-UACAGUACUGUGAUAACUaa-----
4	0,-3	
		-UACAGUACUGUGAUAACUu-----
4	0,-3	
		-UACAGUACUGUGAUAAACUG-----
1036	0,-2	
		-UACAGUACUGUGAUAAACUGu-----
11	0,-2	
		-UACAGUACUGUGAUAAACUGA-----
12362	0,-1	
		-UACAGUACUGUGAUAAACUGAu-----
87	0,-1	
		-UACAGUACUGUGAUAAACUGAuu-----
39	0,-1	
		-UACAGUACUGUGAUAAACUGAA-----
25209	0,0	
		-UACAGUACUGUGAUAAACUGAAa-----
6102	0,0	
		-UACAGUACUGUGAUAAACUGAAaa-----
203	0,0	
		-UACAGUACUGUGAUAAACUGAAau-----
18	0,0	
		-UACAGUACUGUGAUAAACUGAAu-----
566	0,0	
		-UACAGUACUGUGAUAAACUGAAuu-----
14	0,0	
		-UACAGUACUGUGAUAAACUGAAG-----
1510	0,1	
		-UACAGUACUGUGAUAAACUGAAGu-----
168	0,1	
		-UACAGUACUGUGAUAAACUGAAGA-----
350	0,2	
		-UACAGUACUGUGAUAAACUGAAGAu-----
2	0,2	
		-UACAGUACUGUGAUAAACUGAAGAA-----
25	0,3	

		-----ACAGUACUGUGAUAAACUG-----
2	1,-2	
		-----ACAGUACUGUGAUAAACUGA-----
77	1,-1	
		-----ACAGUACUGUGAUAAACUGAA-----
148	1,0	
		-----ACAGUACUGUGAUAAACUGAAa-----
46	1,0	
		-----ACAGUACUGUGAUAAACUGAAaa-----
2	1,0	
		-----ACAGUACUGUGAUAAACUGAAau-----
2	1,0	
		-----ACAGUACUGUGAUAAACUGAAu-----
7	1,0	
		-----ACAGUACUGUGAUAAACUGAAG-----
16	1,1	
		-----ACAGUACUGUGAUAAACUGAAGu-----
3	1,1	
		-----ACAGUACUGUGAUAAACUGAAGA-----
5	1,2	
		-----CAGUACUGUGAUAAACUGA-----
9	2,-1	
		-----CAGUACUGUGAUAAACUGAA-----
8	2,0	
		-----CAGUACUGUGAUAAACUGAAa-----
6	2,0	
		-----CAGUACUGUGAUAAACUGAAaa-----
2	2,0	
		-----CAGUACUGUGAUAAACUGAAG-----
2	2,1	
		-----CAGUACUGUGAUAAACUGAAGu-----
2	2,1	
		-----CAGUACUGUGAUAAACUGAAGA-----
9	2,2	
		-----CAGUACUGUGAUAAACUGAAGAA-----
4	2,3	

uacugcccucggcuucuuuacagugcugccuuguugcauauggaucaAGCAGCAUUGUACAGGGCUAUGAaggcaaug ...((((((((((((((((((((((((((((((((((((((((((.(.....)).)))))))))))))))..))).)....
-GGCUUCUUUACAGUGCUGCCUUG-
4
AAGCAGCAUUGUACAGGGCUAUa-----
2 -1,-2
AGCAGCAUUGUACAGGGC-----
3793 0,-5
AGCAGCAUUGUACAGGGCa-----
3 0,-5
AGCAGCAUUGUACAGGGCau-----
3 0,-5
AGCAGCAUUGUACAGGGCU-----
1478 0,-4
AGCAGCAUUGUACAGGGCUu-----
46 0,-4
AGCAGCAUUGUACAGGGCUuu-----
26 0,-4
AGCAGCAUUGUACAGGGCUA-----
1953 0,-3
AGCAGCAUUGUACAGGGCUAa-----
360 0,-3
AGCAGCAUUGUACAGGGCUAaa-----
54 0,-3
AGCAGCAUUGUACAGGGCUAau-----
45 0,-3
AGCAGCAUUGUACAGGGCUAU-----
8011 0,-2
AGCAGCAUUGUACAGGGCUAUa-----
1623 0,-2
AGCAGCAUUGUACAGGGCUAUaa-----
207 0,-2
AGCAGCAUUGUACAGGGCUAUau-----
136 0,-2
AGCAGCAUUGUACAGGGCUAUu-----
971 0,-2
AGCAGCAUUGUACAGGGCUAUuu-----
165 0,-2

```

-----AGCAGCAUUGUACAGGGCUAUG-----
4454    0,-1
-----AGCAGCAUUGUACAGGGCUAUGu-----
876    0,-1
-----AGCAGCAUUGUACAGGGCUAUGuu-----
55     0,-1
-----AGCAGCAUUGUACAGGGCUAUGA-----
4860    0,0
-----AGCAGCAUUGUACAGGGCUAUGAu-----
208    0,0
-----AGCAGCAUUGUACAGGGCUAUGAuu-----
5      0,0
-----AGCAGCAUUGUACAGGGCUAUGAA-----
81     0,1
-----AGCAGCAUUGUACAGGGCUAUGAAu-----
2      0,1
-----GCAGCAUUGUACAGGGCU-----
4      1,-4
-----GCAGCAUUGUACAGGGCUA-----
4      1,-3
-----GCAGCAUUGUACAGGGCUAa-----
2      1,-3
-----GCAGCAUUGUACAGGGCUAU-----
12     1,-2
-----GCAGCAUUGUACAGGGCUAUa-----
2      1,-2
-----GCAGCAUUGUACAGGGCUAUG-----
11     1,-1
-----GCAGCAUUGUACAGGGCUAUGA-----
20     1,0
-----CAGCAUUGUACAGGGCUAU-----
3      2,-2
-----CAGCAUUGUACAGGGCUAUG-----
7      2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
20     2,0

```

>hsa-mir-103-2 mi:11-33;MA:48-70 SRX018968

```

uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..(((.((((((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGCUUCUUUACAGUGCUGCCUu-----
3    0,-1
-----AGCUUCUUUACAGUGCUGCCUUG-----
3    0,0
-----AGCUUCUUUACAGUGCUGCCUUGa-----
8    0,0
-----AGCUUCUUUACAGUGCUGCCUUGU-----
9    0,1
-----AAGCAGCAUUGUACAGGGCUAUa-----
2    -1,-2
-----AGCAGCAUUGUACAGGGC-----
3793    0,-5
-----AGCAGCAUUGUACAGGGCaa-----
3    0,-5
-----AGCAGCAUUGUACAGGGCau-----
3    0,-5
-----AGCAGCAUUGUACAGGGCU-----
1478    0,-4
-----AGCAGCAUUGUACAGGGCUu-----
46    0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
26    0,-4
-----AGCAGCAUUGUACAGGGCUA-----
1953    0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
360    0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
54    0,-3
-----AGCAGCAUUGUACAGGGCUAau-----
45    0,-3
-----AGCAGCAUUGUACAGGGCUAU-----
8011    0,-2
-----AGCAGCAUUGUACAGGGCUAUa-----
1623    0,-2
-----AGCAGCAUUGUACAGGGCUAUaa-----
207    0,-2

```

		-----AGCAGCAUUGUACAGGGCUAUau-----
136	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
971	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
165	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
4454	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
876	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
55	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
4860	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
208	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
5	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
81	0,1	
		-----AGCAGCAUUGUACAGGGCUAUGAAu-----
2	0,1	
		-----AGCAGCAUUGUACAGGGCUAUGAAA-----
18	0,2	
		-----GCAGCAUUGUACAGGGCU-----
4	1,-4	
		-----GCAGCAUUGUACAGGGCUA-----
4	1,-3	
		-----GCAGCAUUGUACAGGGCUAa-----
2	1,-3	
		-----GCAGCAUUGUACAGGGCUAU-----
12	1,-2	
		-----GCAGCAUUGUACAGGGCUAUa-----
2	1,-2	
		-----GCAGCAUUGUACAGGGCUAUG-----
11	1,-1	
		-----GCAGCAUUGUACAGGGCUAUGA-----
20	1,0	

```

-----CAGCAUUGUACAGGGCUAU-----
3 2,-2
-----CAGCAUUGUACAGGGCUAUG-----
7 2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
20 2,0

```

>hsa-mir-106a MA:13-35;mi:50-71 SRX018968

ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucuaCUGCAAUGUAAGCACUUCUUAcauuaccaug
g

((.(((..((((((((((((((((((.(((((.(((.(.....)).)))))))).)))))))).)))))))).))))))

```

-----AAAAGUGCUUACAGUGCAG-----
- 30 0,-4
-----AAAAGUGCUUACAGUGCAGG-----
- 13 0,-3
-----AAAAGUGCUUACAGUGCAGGU-----
- 35 0,-2
-----AAAAGUGCUUACAGUGCAGGUA-----
- 29 0,-1
-----AAAAGUGCUUACAGUGCAGGUau-----
- 2 0,-1
-----AAAAGUGCUUACAGUGCAGGUAG-----
- 7 0,0
-----AAAGUGCUUACAGUGCAG-----
- 7 1,-4
-----AAAGUGCUUACAGUGCAGG-----
- 4 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
- 6 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
- 4 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
- 4 1,0

```

>hsa-mir-106b MA:12-32;mi:52-73 SRX018968

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

(((((.((((.(((((((.(((((((.(((((((.(.....)).))))).))))).))))).))))).))))).))))))

-----UAAAGUGCUGACAGUGCA-----
-- 12 0,-3
-----UAAAGUGCUGACAGUGCAG-----
-- 80 0,-2
-----UAAAGUGCUGACAGUGCAGA-----
-- 48 0,-1
-----UAAAGUGCUGACAGUGCAGAAa-----
-- 2 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 90 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 5 0,0
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 113 0,1
-----UAAAGUGCUGACAGUGCAGAUAAa-----
-- 43 0,1
-----UAAAGUGCUGACAGUGCAGAUAAa-----
-- 2 0,1
-----UAAAGUGCUGACAGUGCAGAUAAu-----
-- 2 0,1
-----UAAAGUGCUGACAGUGCAGAUAAu-----
-- 13 0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
-- 5 0,2
-----UAAAGUGCUGACAGUGCAGAUAGa-----
-- 4 0,2
-----UAAAGUGCUGACAGUGCAGAUAGU-----
-- 3 0,3
-----AAGUGCUGACAGUGCAGAUAAu-----
-- 2 2,1
-----UACCGCACUGUGGGUACUUGa-----
-- 2 -2,-4
-----UACCGCACUGUGGGUACUUGu-----
-- 2 -2,-4
-----UACCGCACUGUGGGUACUUGC-----
-- 2 -2,-3

```

-----UACCGCACUGUGGGUACUUGCU-----
-- 21 -2,-2
-----CCGCACUGUGGGUACUUGCU-----
-- 18 0,-2
-----CCGCACUGUGGGUACUUGCUG-----
-- 12 0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 6 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 2 0,-1
-----CCGCACUGUGGGUACUUGCUGC-----
-- 19 0,0
-----CCGCACUGUGGGUACUUGCUGCU-----
-- 2 0,1

```

>hsa-mir-107 3p:50-72 SRX018968

```

cucucugcuuucagcuucuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCaagcacag
a

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
)

```

```

-----AGCUUCUUUACAGUGUUGCCUUG-----
- 2
-----AGCUUCUUUACAGUGUUGCCUUG-----
- 2
-----AAGCAGCAUUGUACAGGGCUAUa-----
- 2 -1,-2
-----AGCAGCAUUGUACAGGGC-----
- 3793 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 3 0,-5
-----AGCAGCAUUGUACAGGGCau-----
- 3 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 1478 0,-4
-----AGCAGCAUUGUACAGGGCUu-----
- 46 0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
- 26 0,-4

```

```

-----AGCAGCAUUGUACAGGGCUA-----
- 1953 0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
- 360 0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
- 54 0,-3
-----AGCAGCAUUGUACAGGGCUAau-----
- 45 0,-3
-----AGCAGCAUUGUACAGGGCUAU-----
- 8011 0,-2
-----AGCAGCAUUGUACAGGGCUAUa-----
- 1623 0,-2
-----AGCAGCAUUGUACAGGGCUAUaa-----
- 207 0,-2
-----AGCAGCAUUGUACAGGGCUAUau-----
- 136 0,-2
-----AGCAGCAUUGUACAGGGCUAUu-----
- 971 0,-2
-----AGCAGCAUUGUACAGGGCUAUuu-----
- 165 0,-2
-----AGCAGCAUUGUACAGGGCUAUC-----
- 324 0,-1
-----AGCAGCAUUGUACAGGGCUAUCu-----
- 83 0,-1
-----AGCAGCAUUGUACAGGGCUAUCA-----
- 452 0,0
-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 5 0,0
-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 3 0,1
-----GCAGCAUUGUACAGGGCU-----
- 4 1,-4
-----GCAGCAUUGUACAGGGCUA-----
- 4 1,-3
-----GCAGCAUUGUACAGGGCUAa-----
- 2 1,-3
-----GCAGCAUUGUACAGGGCUAU-----
- 12 1,-2

```


UACCCUGUAGAUCCGAAUUUGa	87	0,0
UACCCUGUAGAUCCGAAUUUGaa	2	0,0
UACCCUGUAGAUCCGAAUUUGUGU	20	0,1
ACCCUGUAGAUCCGAAUUUG	14	1,-2
ACCCUGUAGAUCCGAAUUUGa	3	1,-2
ACCCUGUAGAUCCGAAUUUGU	159	1,-1
ACCCUGUAGAUCCGAAUUUGUaa	3	1,-1
ACCCUGUAGAUCCGAAUUUGUG	110	1,0
ACCCUGUAGAUCCGAAUUUGUGa	172	1,0
ACCCUGUAGAUCCGAAUUUGUGaa	17	1,0
ACCCUGUAGAUCCGAAUUUGUGU	56	1,1
CCCUGUAGAUCCGAAUUUGUG	4	2,0
CAAAUUCGUAUCUAGGGG	3	0,-4
CAAAUUCGUAUCUAGGGG	2	0,0

uuugguacuuaaagAGAGGAUACCCUUUGUAUGUUCacuugauuaauggcgaauauacagggggagacucucauuugcgu
aucaaa

```

-----AGAGGAUACCCUUGUAUGUU-----
----- 4    0,0
-----AGAGGAUACCCUUGUAUGUUC-----
----- 2    0,1

```

ccuagcagagcugUGGAGUGUGACAAUGGUGUUUGugucuaaacuaucAACGCCAUUAUCACACUAAAUAgcuacugc
uaggc

-----	UGUGGAGUGUGACAAUGGUGU	-----
-----	7 -2,-3	
-----	UGUGGAGUGUGACAAUGGUGUU	-----
-----	33 -2,-2	
-----	UGUGGAGUGUGACAAUGGUGUUa	-----
-----	4 -2,-2	
-----	UGUGGAGUGUGACAAUGGUGUUU	-----
-----	5 -2,-1	
-----	GUGGAGUGUGACAAUGGUGU	-----
-----	2 -1,-3	
-----	GUGGAGUGUGACAAUGGUGUU	-----
-----	10 -1,-2	
-----	GUGGAGUGUGACAAUGGUGUUU	-----
-----	34 -1,-1	
-----	GUGGAGUGUGACAAUGGUGUUUG	-----
-----	2 -1,0	
-----	GUGGAGUGUGACAAUGGUGUUUGa	-----
-----	2 -1,0	
-----	UGGAGUGUGACAAUGGUG	-----
-----	10182 0,-4	
-----	UGGAGUGUGACAAUGGUGa	-----
-----	562 0,-4	

-----UGGAGUGUGACAAUGGUGaa-----
----- 275 0, -4
-----UGGAGUGUGACAAUGGUGau-----
----- 48 0, -4
-----UGGAGUGUGACAAUGGUGU-----
----- 30429 0, -3
-----UGGAGUGUGACAAUGGUGUa-----
----- 1255 0, -3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 2774 0, -3
-----UGGAGUGUGACAAUGGUGUau-----
----- 228 0, -3
-----UGGAGUGUGACAAUGGUGUU-----
----- 115915 0, -2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 23106 0, -2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 8351 0, -2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 916 0, -2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 452212 0, -1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 21009 0, -1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 13065 0, -1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 3007 0, -1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 6323 0, -1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 326 0, -1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 608952 0, 0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 378675 0, 0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 7623 0, 0


```

-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 3601 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 145384 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 464 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 358 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 209 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 455 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 101 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 107 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 14 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 96 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 130 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 5 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 11 1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 2 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 560 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 86 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 54 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 2 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 1592 1,-1

```

```

-----GGAGUGUGACAAUGGUGUUUa-----
----- 97  1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 91  1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
-----  9   1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 11  1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 3477  1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 2036  1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
-----  58  1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
-----  28  1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 564 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
-----  4   1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
-----  3   1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
-----  4   1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
-----  3   1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
-----  9   1,2
-----GGAGUGUGACAAUGGUGUUUGUGa-----
-----  2   1,2
-----GAGUGUGACAAUGGUGUU-----
----- 52  2,-2
-----GAGUGUGACAAUGGUGUUa-----
-----  6   2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 69  2,-1
-----GAGUGUGACAAUGGUGUUUa-----
-----  3   2,-1

```

```

-----GAGUGUGACAAUGGUGUUUaa-----
----- 3 2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 2 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 61 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 64 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 21 2,1
-----GAGUGUGACAAUGGUGUUUGUa-----
----- 2 2,1
-----CAAACGCCAUUAUCACACUA-----
----- 6 -2,-4
-----CAAACGCCAUUAUCACACUAA-----
----- 17 -2,-3
-----CAAACGCCAUUAUCACACUAAu-----
----- 5 -2,-3
-----CAAACGCCAUUAUCACACUAAA-----
----- 6 -2,-2
-----AAACGCCAUUAUCACACU-----
----- 9 -1,-5
-----AAACGCCAUUAUCACACUA-----
----- 111 -1,-4
-----AAACGCCAUUAUCACACUAu-----
----- 43 -1,-4
-----AAACGCCAUUAUCACACUAuu-----
----- 93 -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 453 -1,-3
-----AAACGCCAUUAUCACACUAAu-----
----- 106 -1,-3
-----AAACGCCAUUAUCACACUAAuu-----
----- 30 -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 343 -1,-2
-----AAACGCCAUUAUCACACUAAAa-----
----- 49 -1,-2

```

-----AAACGCCAUUAUCACACUAAAa-----
----- 4 -1,-2
-----AAACGCCAUUAUCACACUAAAau-----
----- 2 -1,-2
-----AAACGCCAUUAUCACACUAAAU-----
----- 1450 -1,-1
-----AAACGCCAUUAUCACACUAAAu-----
----- 24 -1,-1
-----AAACGCCAUUAUCACACUAAAUA-----
----- 31 -1,0
-----AAACGCCAUUAUCACACUAAAUAu-----
----- 2 -1,0
-----AACGCCAUUAUCACACUA-----
----- 180 0,-4
-----AACGCCAUUAUCACACUAu-----
----- 8 0,-4
-----AACGCCAUUAUCACACUAuu-----
----- 69 0,-4
-----AACGCCAUUAUCACACUAA-----
----- 337 0,-3
-----AACGCCAUUAUCACACUAAu-----
----- 63 0,-3
-----AACGCCAUUAUCACACUAAuu-----
----- 133 0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 936 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 179 0,-2
-----AACGCCAUUAUCACACUAAAaa-----
----- 22 0,-2
-----AACGCCAUUAUCACACUAAAau-----
----- 5 0,-2
-----AACGCCAUUAUCACACUAAAU-----
----- 7465 0,-1
-----AACGCCAUUAUCACACUAAAu-----
----- 311 0,-1
-----AACGCCAUUAUCACACUAAAuu-----
----- 6 0,-1

```

-----AACGCCAUUAUCACACUAAAUA-----
----- 1349 0,0
-----AACGCCAUUAUCACACUAAAUAa-----
----- 136 0,0
-----AACGCCAUUAUCACACUAAAUAu-----
----- 240 0,0
-----AACGCCAUUAUCACACUAAAUAuu-----
----- 9 0,0
-----AACGCCAUUAUCACACUAAAUAG-----
----- 2 0,1
-----AACGCCAUUAUCACACUAAAUAGC-----
----- 2 0,2
-----ACGCCAUUAUCACACUAAA-----
----- 2 1,-2
-----ACGCCAUUAUCACACUAAAa-----
----- 3 1,-2
-----ACGCCAUUAUCACACUAAAU-----
----- 19 1,-1
-----ACGCCAUUAUCACACUAAAUA-----
----- 8 1,0

```

>hsa-mir-1224 5p:1-19;3p:65-85 SRX018968

GUGAGGACUCGGGAGGUGGaggguggugccgccggggccgggcgcuguuucagcucgcucuccCCCCACCUCCUCUCUC
CUCAG

.(((((((...(((((((((((((.(.((.(.....)))))).)).))))))))))....))
))))).

```

GUGAGGACUCGGGAGGUGGA-----
----- 2 0,1

```

>hsa-mir-1228 mi:1-21;MA:52-71 SRX018968

GUGGGCGGGGGCAGGUGUGUGgugggugguggccugcgugagcagggcccUCACACCUGCCUGCCCCCag

..(((((((((((((((((((((.....((((.....)))))))))).)))))))))).....

```

GUGGGCGGGGGCAGGUGUGUG----- 4
0,0

```

```

GUGGGCGGGGGCAGGUGUGUG----- 2
0,1

```

>hsa-mir-124-1 mi:14-35;MA:53-72 SRX018968

.(((((((.((((.((((((((.((((.((((((((.....)))))))).)))))).)))))).))))).
)))).

```
>hsa-mir-124-2   mi:25-46;MA:62-81    SRX018968
aucaagauuagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuuaugucauacaauUAAGGCACGCGGUGAAUGC
Caagagcgggagccuacgggcugcacuugaa
(((((((.....)))))))).))))).))))).
))))))....)))..)))..
```

```
>hsa-mir-124-3    mi:15-36;MA:53-72    SRX018968
ugagggccccucugCGUGUUCACAGCGACCUUGAUuuaaugucuaauacaauUAAGGCACGCGUGAAUGCCaagagagg
cgccucc
.(((((((.(((((.(((((((.(((..(((((((.....)))))))).)).)).)))))).))))).
).))))).
```

>hsa-mir-1244-1 3p:55-80 SRX018968
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa


```

-----GAGCAUCCAGUAACUUUUUUG-----
----- 2
-----AGUAGUUGGUUUGUAUGAGAUGG--
----- 3 1,-2
-----AGUAGUUGGUUUGUAUGAGAUGGU-
----- 5 1,-1
-----AGUAGUUGGUUUGUAUGAGAUGGUU
----- 13 1,0
-----GUAGUUGGUUUGUAUGAGAUGGUU
----- 3 2,0
-----GUAGUUGGUUUGUAUGAGAUGGUU
A---- 5 2,1

```

```

>hsa-mir-1246 5p:11-29 SRX018968
uguauccuugAAUGGAUUUUUGGAGCAGGaguggacaccugacccaaaggaaaucaauccauaggcuagcaau
(((...(((...((((((((((((...(((...(((...)))...)))...)))...)))...)))...)))...
-----AAUGGAUUUUUGGAGCAG----- 23
0,-1
-----AAUGGAUUUUUGGAGCAG----- 1234
0,0
-----AUGGAUUUUUGGAGCAG----- 331
1,0

```

```

>hsa-mir-1247 5p:40-61 SRX018968
ccgcuugccucgcccagcgcagccccggccgcuggggcgcACCCGUCCCGUUCGUCCCCGGAaaguugcucucuaccccggg
aacgucgagacuggagcgcgccgaacugagccaccuucgcggacccccgagagcggcg
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).
-----ACCCGUCCCGUUCGUCCCCGGAa-----
----- 3 0,0

```

```

>hsa-mir-1249 3p:41-62 SRX018968
gggaggaggaggaggauggggccaaguucccucuggcuggaACGCCCUCUCCCCCCCCUUCUUAaccug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----ACGCCCUCUCCCCCCCCUUCU----- 2 0,-3
-----ACGCCCUCUCCCCCCCCUUCUaa----- 2 0,-3
-----ACGCCCUCUCCCCCCCCUUCUU----- 4 0,-2
-----ACGCCCUCUCCCCCCCCUUCUUC----- 2 0,-1

```


>hsa-mi r-125a 5p:15-38;3p:53-74 SRX018968

ugccagucucuaggUCCCUGAGACCCUUAACCUUGUGAggacauccaggguACAGGUGAGGUUCUUGGGAGCCuggcgu
cuggcc

.(((((.(((((.(((.((((.((((((((((...))...)))))))))))).)))).)))).).
)))).).

-----UCCCUGAGACCCUUUAACC-----

----- 209 0, -5

-----UCCCUGAGACCCUUUAACCU-----

----- 1799 0,-4

-----UCCCUGAGACCCUUUAACCUa-----

----- 2 0,-4

-----UCCUGAGACCCUUUAACCUG-----

----- 256 0,-3

-----UCCCUGAGACCCUUUAACCUGa-----

----- 19 0,-3

-----UCCCUGAGACCCUUUAACCUGU-----

----- 324 0,-2

-----UCCCUGAGACCCUUUAACCUGUG-----

----- 101 0,-1

-----UCCCUGAGACCCUUUAACCUGUGu-----

----- 8 0, -1

-----UCCCUGAGACCCUUUAACCUGUGA-----

----- 53 0,0

-----CCUGAGACCCUUUAACCU-----

----- 3 2, -4

-----CCUGAGACCCUUUAACCUGU-----

----- 5 2, -2

-----ACAGGUGAGGUUCUUGGGAG-----

----- 2 0, -2

>hsa-mi r-125b-1 MA:15-36;mi :55-76 SRX018968

ugcgcuccucucagUCCCUGAGACCCUAACUUGUGAuguuuaccguuuaaauccACGGGUUAGGCUCUUGGGAGCUgcga
gucgugcu

-----UCCCUGAGACCCUAAUU-----

----- 53 0,-4

-----UCCCUGAGACCCUAA CUUG-----

```

----- 151 0,-3
-----UCCCUGAGACCCUAACUUGa-----
----- 12 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 490 0,-2
-----UCCCUGAGACCCUAACUUGUa-----
----- 6 0,-2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 6 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 965 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 96 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 3075 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 589 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 70 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 5 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
----- 29 0,1
-----UCCCUGAGACCCUAACUUGUGAUa-----
----- 7 0,1
-----UCCCUGAGACCCUAACUUGUGAUG-----
----- 2 0,2
-----CCUGAGACCCUAACUUGUG-----
----- 3 1,-1
-----CCUGAGACCCUAACUUGUGAa-----
----- 2 1,0
-----CCUGAGACCCUAACUUGU-----
----- 2 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 3 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 2 2,-1
-----CCUGAGACCCUAACUUGUGA-----

```


))))).

```
-----CAUUAUUACUUUUGGUAC-----
----- 25  0,-3
-----CAUUAUUACUUUUGGUACG-----
----- 17  0,-2
-----CAUUAUUACUUUUGGUACGC-----
----- 14  0,-1
-----CAUUAUUACUUUUGGUACGCG-----
----- 128 0,0
-----CAUUAUUACUUUUGGUACGCGa-----
----- 75  0,0
-----CAUUAUUACUUUUGGUACGCGu-----
----- 24  0,0
-----CAUUAUUACUUUUGGUACGCGC-----
----- 2   0,1
-----CAUUAUUACUUUUGGUACGCGCU-----
----- 8   0,2
-----AUUAUUACUUUUGGUACG-----
----- 6   1,-2
-----AUUAUUACUUUUGGUACGC-----
----- 3   1,-1
-----AUUAUUACUUUUGGUACGCG-----
----- 8   1,0
-----AUUAUUACUUUUGGUACGCGu-----
----- 2   1,0
-----AUUAUUACUUUUGGUACGCGCU-----
----- 12  1,2
-----AUUAUUACUUUUGGUACGCGCUa-----
----- 2   1,2
-----CUCGUACCGUGAGUAAUAAU-----
----- 2   -1,-3
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 6   -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 5   -1,0
-----UCGUACCGUGAGUAAUAAU-----
----- 4   0,-3
-----UCGUACCGUGAGUAAUAAUa-----
```

```

----- 2 0,-3
-----UCGUACCGUGAGUAAUAAUG-----
----- 8 0,-2
-----UCGUACCGUGAGUAAUAAUGa-----
----- 8 0,-2
-----UCGUACCGUGAGUAAUAAUGaa-----
----- 3 0,-2
-----UCGUACCGUGAGUAAUAAUGC-----
----- 51 0,-1
-----UCGUACCGUGAGUAAUAAUGCa-----
----- 2 0,-1
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 29 0,0
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 20 0,0
-----CGUACCGUGAGUAAUAAU-----
----- 2 1,-3
-----CGUACCGUGAGUAAUAAUG-----
----- 15 1,-2
-----CGUACCGUGAGUAAUAAUGC-----
----- 24 1,-1
-----CGUACCGUGAGUAAUAAUGCG-----
----- 16 1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 13 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 4 1,0
-----GUACCGUGAGUAAUAAUGC-----
----- 4 2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 3 2,0

```

>hsa-mir-1260 5p:14-31 SRX018968

```

accuuuccagcucAUCCCACCUCUGCCACCAaaacacucaucgcggggucagagggagugccaaaaaagguaa
(((((((...(((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
-----AUCCCACCUCUGCCACCA-----

```

0,0

>hsa-mir-1260b 5p:10-28 SRX018968

ucuccguuuAUCCCACCACUGCCACCAUuaugcuacuguucagcaggugcugcugguggugauggugauagucuggugg
gggcggugg

.(.(((...(((((((((((.((((((((((...(((.....((((.....))))).)))..)))))))).))))).))))).)))).).

-----AUCCCACCACUGCCACCA-----

----- 3 0,-1

>hsa-mir-127 5p:23-44;3p:57-78 SRX018968

ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucaUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucaucauc

((.(((...(((...(((((((((((.((((((((((...(((.....((((.....))))).)))..)))))))).))))).))))).)))).).

-----CUGAAGCUCAGAGGGCUC-----

----- 4 0,-4

-----CUGAAGCUCAGAGGGCUCU-----

----- 3 0,-3

-----CUGAAGCUCAGAGGGCUCUGA-----

----- 2 0,-1

-----UCGGAUCCGUCUGAGCUUGG-----

----- 12 0,-2

-----UCGGAUCCGUCUGAGCUUGGC-----

----- 18 0,-1

-----UCGGAUCCGUCUGAGCUUGGCa--

----- 17 0,-1

-----UCGGAUCCGUCUGAGCUUGGCaa--

----- 17 0,-1

-----UCGGAUCCGUCUGAGCUUGGCau--

----- 71 0,-1

-----UCGGAUCCGUCUGAGCUUGGCU--

----- 129 0,0

-----UCGGAUCCGUCUGAGCUUGGCUa--

----- 8 0,0

-----UCGGAUCCGUCUGAGCUUGGCUaa

----- 9 0,0

-----UCGGAUCCGUCUGAGCUUGGCUau

----- 47 0,0

-----UCGGAUCCGUCUGAGCUUGGCUu--

-----	45	0,0	
-----			UCGGAUCCGUCUGAGCUUGGCUuu
-----	10	0,0	
-----			CGGAUCCGUCUGAGCUUGGCU--
-----	2	1,0	
-----			GGAUCCGUCUGAGCUUGGCUau
-----	2	2,0	

>hsa-mir-1270-1 5p:13-35 SRX018968

cacagaguuaaCUGGAGAUUGGAAGAGCUGUGUuggguuaaaguaacaggcuuuuuuuauucuuauguggcucuuu
gca

$$((.((((((((((..(((((((.((((((((((.((((((((((.....)))))))))))).)))))))).)))))))).))$$

-----CUGGAGAU AUGGAAGAGC-----

--- 2 0,-5

-----CUGGAGAU AUGGAAGAGCU-----

--- 2 0,-4

>hsa-mir-1270-2 5p:13-35 SRX018968

cacagaguuauaCUGGAGAUAUGGAAGAGCUGUGUUuggguuaaguaacaggcuuuucuuuaucuucuauguggcuuu
gca

$$((.(((((((((..((((((.(((((((((.(((((((((..)))))))))))).)))))))).)))))))).)$$

-----CUGGAGAU AUGGAAGAGC-----

--- 2 0,-5

-----CUGGAGAU AUGGAAGAGCU-----

--- 2 0,-4

>hsa-mir-1271 5p:15-36 SRX018968

caccagaucagugCUUGGCACCUAGCAAGCACUCAguaaauuuuguugagugccugcuaugugccaggcauugugcug
agggu

$$\begin{aligned} & \dots((((\dots(((\dots(((((\dots(\dots)))))))))\dots)\dots)\dots) \\ & \dots) \end{aligned}$$

-----CUUGGCACCUAGCAAGCAC-----

----- 9 0, -3

-----CUUGGCACCUAGCAAGCACU-----

----- 9 0,-2

ugaggcaggagaauugcuugaacccgggugguggagguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUCUUUCUgga

$$.((((.(((((..((((((...(((((((..((((((..((((((.((((...)).))))))))))))))))))..$$

$$...))))))..)))))))))...$$

---GCAGGAGAAUUGCUUGAA-----

----- 2

---GCAGGAGAAUUGCUUGAACCC-----

----- 2

---GCAGGAGAAUUGCUUGAACCCGG-----

----- 2

-----CAGGAGAAUUGCUGAACC-----

----- 7

-----CAGGAGAAUUGCUGAACCC₁₁-----

----- 4

-----AGGAGAAUUGCUGAACC-----

----- 10

-----AGGAGAAUUGCUGAACC_a-----

----- 2

-----AGGAGAAUUGCUGAACCU-----

----- 4

-----AGGAGAAUUGCUGAACCC-----

----- 11

-----AGGAGAAUUGCUGAACCC_U-----

----- 2

-----AGGAGAAUUGCUGAACCCG-----

----- 2

-----AGGAGAAUUGCUGAACCCGGG-----

----- 2

-----GGAGAAUUGCUGAACCCCG-----

----- 2

-----GGAGAAUUGCUGAACCCGGG-----

----- 7

-----GAGAAUUGCUGAACCCGGG-----

----- 2

-----AGAAUUGCUGAACCCGGG-----

----- 8

ugcagccugGGCGACAAAACGAGACCCUGUCuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga
 ..(((.((((((((.((((((((.((((((((.....)))))))).)))))).)))))).))))..
 -----GGCGACAAAACGAGACCCU-----

ugaggcaggagaaUUGCUUGAACCCAGGAAGUGGAggucgcagugagccgagaucgagccacuguacuccagccugggug
acacagcgagacuccagucuca

.(((((.(((..((((((.((((((...(((((.((((((.(((((.(((...)).)))))))))....).)))))).
.)).))))).)).)).))))).

accucccaaaauauauauauauguacguauguguauauaaauguaUACGUAGAUUAUAUGUAUUUguggggguuu
(((.(.(((((.((((((((((.((((((((((.(...).)).)))))))).)))))))).))))..
-----UACGUAGAUUAUAUAUGUAUU-----

-UACGUAGAUAAUAUGUAUUUU-----

uuuugcucauagauaugcauaguacucccagaacucauuaaguuggUAGUACUGUGCAUAUCAUCUAUgagcgaaua
g

-UAGUACUGUGCAUAUCAUCU-----

-UAGUACUGUGCAUAUCAUCUAa-----

-UAGUACUGUGCAUAUCAUCAU-----

-----UCACAGUGAACCGGUCUCUUUU-----

```

-- 11 0,2
-----ACAGUGAACCGGUCUCUU-----
-- 2 2,-1
-----ACAGUGAACCGGUCUCUU-----
-- 3 2,0

>hsa-mir-128-2 3p:52-72 SRX018968
ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..)).
-----UCACAGUGAACCGGUCUC-----
---- 17 0,-3
-----UCACAGUGAACCGGUCUC-----
---- 31 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
---- 3 0,-2
-----UCACAGUGAACCGGUCUCUau-----
---- 3 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 89 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
---- 43 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
---- 17 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
---- 14 0,-1
-----UCACAGUGAACCGGUCUCUU-----
---- 618 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
---- 119 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
---- 30 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
---- 17 0,0
-----UCACAGUGAACCGGUCUCUUUC-----
---- 15 0,1
-----UCACAGUGAACCGGUCUCUUUCu-----

```

```

----- 7 0,1
-----ACAGUGAACCGGUCUCUU-----
----- 2 2,-1
-----ACAGUGAACCGGUCUCUU-----
----- 3 2,0

>hsa-mir-1285-1 3p:51-72 SRX018968
uguagagauaggaucucacuuguugcccaggcuggucuaaacuccuggUCUGGGCAACAAAGUGAGACCUuaucucua
caag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..
-----UGUUGCCCAGGCUGGUCU-----
----- 8
-----GUUGCCCAGGCUGGUCUC-----
----- 2
-----UCUGGGCAACAAAGUGAGAC-----
----- 5 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----- 3 0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
----- 4 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----- 4 0,-1
-----UCUGGGCAACAAAGUGAGACCaa-----
----- 3 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----- 3 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----- 7 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
----- 8 0,0
-----UCUGGGCAACAAAGUGAGACCUUu-----
----- 2 0,1
-----UGGGCAACAAAGUGAGAC-----
----- 3 2,-2
-----UGGGCAACAAAGUGAGACCU-----
----- 3 2,0

```

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

-----UCUGGGCAACAAAGUGAGAC-----

-----UCUGGGCAACAAAGUGAGACa-----

-----UCUGGGCAACAAAGUGAGACaa-----

-----UCUGGGCAACAAAGUGAGACC-----

-----UCUGGGCAACAAAGUGAGACC_{aa}-----

-----UCUGGGCAACAAAGUGAGACCU-----

-----UCUGGGCAACAAAGUGAGACCUa-----

-----UCUGGGCAACAAAGUGAGACCUau-----

-----UGGGCAACAAAGUGAGAC-----

-----UGGGCAACAAAGUGAGACCU-----

guugugcuguccaggUGCUGGAUCAGUGGUUCGAGUCugagccuuuaaaagccacucuagccacagaugcagugauugga
gccaugacaa

-----UGCUGGAUCAGUGGUUCGAGU-----

-----UGCUGGAUCAGUGGUUCGAGUCa-----

uucucaauuuuuaguaggaauuaaaaaacaaaacugguaaaugcagacucuuugguuuccacccccagagaaucccuaaacc

gggggUGGAGUCCAGGAUCUGCAUUUagaaaguaccaggugauucugauaaauugggaaca
((((((((.....((((((((.....((...(((((((((((((.....)).....
)))))))))).)))))).))))))))).)))))).))))))))).))))))))).))..

-----UGGAGUCCAGGAUCUGCAUUU----- 2 0,-1

>hsa-mir-1289-2 3p:70-92 SRX018968
ccacgguccuaguuaaaaaggcacauuccuagaccugccucagaacuacugaacagagucacugggugUGGAGUCCAGG
AAUCUGCAUUUuaccccuauugcccccgcc
....(((...(((.....((((.....((...(((((((((((((.....)).....
)))))))))).)))))).))))))))).)))))).))))))))).))))))))).))..
-----UGGAGUCCAGG
AAUCUGCAUUU----- 2 0,-1

>hsa-mir-129-2 5p:15-35;3p:57-78 SRX018968
ugcccuucgcgaauCUUUUGCGGUCUGGGCUUGCuguacauaacucaauagccggAAGCCCUUACCCCAAAAAGCAUuu
gcggagggcg
.((((((((((((((((((((.....)))))).....)))).)))))).)))))).))))
)))))))).
-----AAGCCCUUACCCCAAAAAGCAU--
----- 2 0,0

>hsa-mir-1291 5p:14-37 SRX018968
gguaagaauuccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuuaagcagaggccuaaaggacugu
cuuccug
(((...(((...((((((((.....)))))).....)))).)))))).)))))).))))
)))).
-----GUGGCCCUGACUGAAGACCAGC-----
----- 6 -1,-3
-----GUGGCCCUGACUGAAGACCAGCA-----
----- 34 -1,-2
-----GUGGCCCUGACUGAAGACCAGCAG-----
----- 2 -1,-1
-----UGGCCCUGACUGAAGACCAGCA-----
----- 27 0,-2

>hsa-mir-1292 5p:3-27 SRX018968
ccUGGGAACGGGUUCCGGCAGACGCUGagguugcguugacgcucgcgccccggcucccguuccagg


```

(((((((.....)))))))))
--UGGGAACGGGUUCCGGCAGACG----- 2 0,-3
--UGGGAACGGGUUCCGGCAGACGCU----- 4 0,-1

```

>hsa-mir-1294 5p:48-69 SRX018968

```

caccuaaugugugccaagaucuguucauuuaugaucucaccgaguccUGUGAGGUUGGCAUUGUUGUCUggcauugucug
auauacaacagugccaaccucacaggacucagugaggugaaacugaggauuaggaaggugua

```

```

((((.....(((.....)))))))))
..
-----UGUGAGGUUGGCAUUGUU-----
----- 3 0,-4
-----UGUGAGGUUGGCAUUGUUG-----
----- 4 0,-3
-----UGUGAGGUUGGCAUUGUUGU-----
----- 2 0,-2
-----UGUGAGGUUGGCAUUGUUGUCU-----
----- 3 0,0

```

>hsa-mir-1296 5p:16-37 SRX018968

```

accuaccuaacugggUUAGGGCCCUGGCUCCAUCUCCuuuaggaaaaccuucuguggggaguggggcuucgaccuaacc
caggugggcugu

```

```

((((.....(((.....)))))))))
..
-----UUAGGGCCCUGGCUCCAUCUCCa-----
----- 2 0,0

```

>hsa-mir-1299 3p:62-83 SRX018968

```

ccucauggcaguguucuggaauccuacgugagggacaaucuuacagaccacguagcagugUUCUGGAAUUCUGUGUGAG
GGA

```

```

((((.....(((.....)))))))))
..
-----UUCUGGAAUUCUGUGUGAG
--- 7 0,-3
-----UUCUGGAAUUCUGUGUGAG
G-- 6 0,-2
-----UUCUGGAAUUCUGUGUGAG
GG- 4 0,-1
-----UUCUGGAAUUCUGUGUGAG

```

```

GGA 24 0,0
-----UUCUGGAAUUCUGUGUGAG
GGAA 7 0,0
-----UUCUGGAAUUCUGUGUGAG
GGAu 5 0,0

```

```

>hsa-mir-1301 3p:48-71 SRX018968
ggauugugggggucgcucuaggcaccgcagcacugucuggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..
-----UUGCAGCUGCCUGGGAGUGA-----
-- 4 0,-4
-----UUGCAGCUGCCUGGGAGUGAC-----
-- 7 0,-3
-----UUGCAGCUGCCUGGGAGUGACU-----
-- 9 0,-2
-----UUGCAGCUGCCUGGGAGUGACUU-----
-- 3 0,-1
-----UUGCAGCUGCCUGGGAGUGACUUA-----
-- 2 0,1
-----UGCAGCUGCCUGGGAGUGACU-----
-- 3 1,-2

```

```

>hsa-mir-1302-1 3p:75-95 SRX018968
cagaaagcccaguuuuuugaauuucaaguaaacaugaauuuuuguguauguaagaauaucccauacaauauUUGGGA
CAUACUUAUGCUAAaauuuuuccuugcuuauucugaaauucaaauguaacuaggauuccgua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..
-----UUGGGA
CAUACUUAUGCUAA----- 2 0,-1

```

```

>hsa-mir-1302-10 3p:73-93 SRX018968
ggaugcccagcuaguuuuugaauuuuagauaaacaacgaauuuuucguagcauaaaauaugucccaagcuuaguUUGGACA
UACUUAUGCUAAaauuuuugguuguuuuauucugagauucagaauuaagcauuuuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))..))))))))..))))))))..))))))))..))))))))..))))))))..))))))))..))))))))..
-----UUGGACA

```


-----	8		
-----UCGACCGGACCUCGACCGGCUu-----			
-----	6		
-----UCGACCGGACCUCGACCGGCUuu-----			
-----	9		
-----UCGACCGGACCUCGACCGGCUC-----			
-----	7		
-----UCGACCGGACCUCGACCGGCUCa-----			
-----	5		
-----UCGACCGGACCUCGACCGGCUCau-----			
-----	4		
-----GACCGGACCUCGACCGGCU-----			
-----	2		
-----A			
CUCGGCGUGGCGUCGGUC-----	3	0,-3	
-----A			
CUCGGCGUGGCGUCGGUCG-----	7	0,-2	
-----A			
CUCGGCGUGGCGUCGGUCGU-----	35	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUu-----	5	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUuu-----	2	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUG-----	68	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGa-----	3	0,0	
-----A			
CUCGGCGUGGCGUCGGUCGUGu-----	9	0,0	

CUCGGCGUGGCGUCGGUCG-----	5	1,-2	

CUCGGCGUGGCGUCGGUCGU-----	6	1,-1	

CUCGGCGUGGCGUCGGUCGUG-----	50	1,0	

CUCGGCGUGGCGUCGGUCGUGa-----	2	1,0	

```

>hsa-mir-130a    mi:21-42;MA:55-76    SRX018968
ugcugcugggccagagcucuuUUCACAUUGUGCUACUGUCUGCaccugucacuagCAGUGCAAUGUUAAAAGGGCAUuggc
cguguagug
.((((((((((((((.(((((((((.(((((((.(((...((....))...)).))..)))))).)))))))).))))))
)).)))))).
-----CAGUGCAAUGUUAAAAGG-----
-----1872    0,-4-----CAGUGCAAUGUUAAAAGGu-----
-----2    0,-4-----CAGUGCAAUGUUAAAAGGG-----
-----267 0,-3-----CAGUGCAAUGUUAAAAGGGaa-----
-----2    0,-3-----CAGUGCAAUGUUAAAAGGGC-----
-----440 0,-2-----CAGUGCAAUGUUAAAAGGGCA-----
-----141 0,-1-----CAGUGCAAUGUUAAAAGGGCAa-----
-----33    0,-1-----CAGUGCAAUGUUAAAAGGGCAaa-----
-----7    0,-1-----CAGUGCAAUGUUAAAAGGGCAau-----
-----7    0,-1-----CAGUGCAAUGUUAAAAGGGCAU-----
-----696 0,0-----CAGUGCAAUGUUAAAAGGGCAUa-----
-----116 0,0-----CAGUGCAAUGUUAAAAGGGCAUaa-----
-----16    0,0-----CAGUGCAAUGUUAAAAGGGCAUU-----
-----133 0,1-----CAGUGCAAUGUUAAAAGGGCAUUa-----
-----3    0,1-----CAGUGCAAUGUUAAAAGGGCAUUau-----
-----3    0,1-----CAGUGCAAUGUUAAAAGGGCAUUu-----

```

```

----- 5 0,1
-----AGUGCAAUGUUAAGGG-----
----- 12 1,-3
-----AGUGCAAUGUUAAGGGC-----
----- 6 1,-2
-----AGUGCAAUGUUAAGGGCA-----
----- 4 1,-1
-----AGUGCAAUGUUAAGGGCAU-----
----- 11 1,0
-----AGUGCAAUGUUAAGGGCAUa-----
----- 2 1,0

```

>hsa-mir-130b mi:13-33;MA:51-72 SRX018968

```

ggccugcccgacACUCUUCCCUGUUGCACUACuauaggccgcugggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc

```

```

(((((((.....)))))))))
))

```

```

-----CAGUGCAAUGAUGAAAGG-----
-- 46 0,-4
-----CAGUGCAAUGAUGAAAGGG-----
-- 4 0,-3
-----CAGUGCAAUGAUGAAAGGGC-----
-- 9 0,-2
-----CAGUGCAAUGAUGAAAGGGCA-----
-- 15 0,-1
-----CAGUGCAAUGAUGAAAGGGCAa-----
-- 15 0,-1
-----CAGUGCAAUGAUGAAAGGGCAaa-----
-- 2 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 175 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 20 0,0
-----CAGUGCAAUGAUGAAAGGGCAUaa-----
-- 2 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 15 0,0
-----AGUGCAAUGAUGAAAGGGCAU-----

```



```

>hsa-mir-132      mi:23-44;MA:59-80      SRX018968
ccgcccccgcgucuccagggcaACCGUGGCUUUCGAUUGUUAACUgugggaacuggaggUAACAGUCUACAGCCAUGGUCG
ccccgcagcacgccccacgcgc
.((((...((((((.(.(((((((((...(((((((((((...((...)))))...)))))...)))))...)))))...))
)))...))...))...)).
-----AACCGUGGCUUUCGAUUGUUA-----
-----      17   -1,-2
-----AACCGUGGCUUUCGAUUGUUAa-----
-----      9    -1,-2
-----UAACAGUCUACAGCCAUG-----
-----      32   0,-4
-----UAACAGUCUACAGCCAUGG---
-----      18   0,-3
-----UAACAGUCUACAGCCAUGGU--
-----      38   0,-2
-----UAACAGUCUACAGCCAUGGUa-
-----      2    0,-2
-----UAACAGUCUACAGCCAUGGUaa
-----      3    0,-2
-----UAACAGUCUACAGCCAUGGUC-
-----      20   0,-1
-----UAACAGUCUACAGCCAUGGUCa
-----      3    0,-1
-----UAACAGUCUACAGCCAUGGUCG
-----      26   0,0
-----UAACAGUCUACAGCCAUGGUCG
a-----      13   0,0
-----UAACAGUCUACAGCCAUGGUCG
u-----      12   0,0
-----AACAGUCUACAGCCAUGG---
-----      4    1,-3
-----AACAGUCUACAGCCAUGGU--
-----      3    1,-2

```

```
>hsa-mir-133a-1 3p:53-74      SRX018968
acaaugcuuugcuagagcugguaaaauggaaccaaucgccucuuauggaUUUGGUCCCCUUAACCAGCUGuagcua
```

```

ugcauuga
(((((((...(((((((((((...(((...((((((((((((...)))))))))))).)))))))).))))))..
.)))).)).
-----UUUGGUCCCCUUAACCAGCUG-----
-----4 0,0-----
-----UUUGGUCCCCUUAACCAGCUG-----
-----9 0,1-----
-----UUGGUCCCCUUAACCAGCU-----
-----2 1,-1-----
-----UUGGUCCCCUUAACCAGCUG-----
-----14 1,1-----

```

```

>hsa-mir-133a-2 3p:59-80 SRX018968
gggagccaaaugcuugcuagagcugguaaaauggaaccaaaucgacuguccauggaUUUGGUCCCCUUAACCAGCUG
uagcugugcauugauggcgccg
(((((((...(((((((((((...(((...((((((((((((...)))))))))))).)))))))).))))))..
.)))).)).
-----UUUGGUCCCCUUAACCAGCUG-----
-----4 0,0-----
-----UUUGGUCCCCUUAACCAGCUG-----
U-----9 0,1-----
-----UUGGUCCCCUUAACCAGCU-----
-----2 1,-1-----
-----UUGGUCCCCUUAACCAGCUG-----
U-----14 1,1-----

```

```

>hsa-mir-133b 3p:66-87 SRX018968
ccucagaagaagaugccccugcucuggcuggucaaacggaaccaaguccgucuuccugagaggUUUGGUCCCCUUAAC
CCAGCUAcagcagggcuggcaaugcccaguccuuggaga
(((((((...(((((((((((...(((...((((((((((((...)))))))))))).)))))))).))))))..
.)))).)).
-----UUGGUCCCCUUAAC
CCAGCU-----2 1,-1-----

```

```

>hsa-mir-134 5p:8-29 SRX018968
cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguucacccugugggccaccuagucaccaaccuc
(((((((...(((((((((((...(((...((((((((((((...)))))))))))).)))))))).))))))..
-----UGUGACUGGUUGACCAGAGGa-----

```

0,-2	UGUGACUGGUUGACCAGAGGG	20
0,-1	UGUGACUGGUUGACCAGAGGGa	9
0,-1	UGUGACUGGUUGACCAGAGGGaa	10
0,-1	UGUGACUGGUUGACCAGAGGGau	5
0,-1	UGUGACUGGUUGACCAGAGGGu	2
0,-1	UGUGACUGGUUGACCAGAGGGuu	2
0,-1	UGUGACUGGUUGACCAGAGGGG	60
0,0	UGUGACUGGUUGACCAGAGGGGa	16
0,0	UGUGACUGGUUGACCAGAGGGGaa	5
0,0	UGUGACUGGUUGACCAGAGGGGau	12
0,0	UGUGACUGGUUGACCAGAGGGGu	12
0,0	UGUGACUGGUUGACCAGAGGGGuu	2
0,0	GUGACUGGUUGACCAGAGGGG	2
1,0		

```

>hsa-mir-135b    MA:16-38;mi:55-76    SRX018968
cacucugcuguggccUAUGGCUUUUCAUCCUAUGUGAaugcugucccaaacucAUGUAGGGCUAAAAGCCAUGGGcuac
agugagggggcgagcucc
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))..))))).
-----UAUGGCUUUUCAUCCUAUGUG-----
-----      3      0,-1
-----UAUGGCUUUUCAUCCUAUGUGA-----
-----      2      0,0

```

```

>hsa-mir-136      MA:15-37;mi:49-70      SRX018968
ugagcccucggaggACUCCAUUUGUUUUGAUGGAuucuaugcucCAUCAUCGUCUCAAUGAGUCUucagaggguu
cu
.(((((((((.(((((((.(((((...((((((((((.....)))))))))).))))))))).))))))
).
-----ACUCCAUUUGUUUUGAUGA-----
--  6    0,-4
-----ACUCCAUUUGUUUUGAUGAU-----
--  6    0,-3
-----ACUCCAUUUGUUUUGAUGAUG-----
--  2    0,-2
-----CAUCAUCGUCUCAAUGA-----
--  5    0,-4
-----CAUCAUCGUCUCAAUGAGUC-----
--  2    0,-1

```

```

>hsa-mir-138-1  MA:23-45;mi:63-84    SRX018968
cccuggcauggugugguggggAGCUGGUGUUGUGAAUCAGGCCGuugccaaucaagagaacgGCUACUUCACAACACCAG
GGCCacaccacacuacagg
.((((...(((((((((.(((...((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))..))))))))))))))
-----AGCUGGUGUUGUGAAUCA-----
----- 8    0,-5
-----AGCUGGUGUUGUGAAUCAG-----
----- 3    0,-4
-----AGCUGGUGUUGUGAAUCAG-----

```


-----UCUACAGUGCACGUGUCUCCAu-----	4	0,-1
-----UCUACAGUGCACGUGUCUCCAG-----	112	0,0
-----UCUACAGUGCACGUGUCUCCAGa-----	14	0,0
-----UCUACAGUGCACGUGUCUCCAGU-----	202	0,1
-----UCUACAGUGCACGUGUCUCCAGUa-----	4	0,1
-----UCUACAGUGCACGUGUCUCCAGUu-----	6	0,1
-----UACAGUGCACGUGUCUCCAGU-----	3	2,1
-----UGGAGACGCGGCCCUGUU-----	34	
-1,-5		
-----UGGAGACGCGGCCCUGUUG-----	51	
-1,-4		
-----UGGAGACGCGGCCCUGUUGG-----	26	
-1,-3		
-----UGGAGACGCGGCCCUGUUGGA-----	32	
-1,-2		
-----UGGAGACGCGGCCCUGUUGGAa-----	17	
-1,-2		
-----UGGAGACGCGGCCCUGUUGGAaa-----	13	
-1,-2		
-----UGGAGACGCGGCCCUGUUGGAau-----	3	
-1,-2		
-----UGGAGACGCGGCCCUGUUGGAG-----	103	
-1,-1		
-----UGGAGACGCGGCCCUGUUGGAGa-----	28	
-1,-1		
-----UGGAGACGCGGCCCUGUUGGAGU-----	155	-1,0
-----UGGAGACGCGGCCCUGUUGGAGUu-----	5	-1,0
-----UGGAGACGCGGCCCUGUUGGAGUA-----	3	-1,1
-----UGGAGACGCGGCCCUGUUGGAGUAA-----	2	-1,2
-----GGAGACGCGGCCCUGUUGGAG-----	2	0,-1
-----GGAGACGCGGCCCUGUUGGAGU-----	14	0,0

```

-----      4    0,-4
-----CAGUGGUUUUACCCUAUGGUA-----
-----      5    0,-1
-----CUACCACAGGGUAGAACCAC
G-----      2    -1,-1
-----CUACCACAGGGUAGAACCAC
GGA-----      2    -1,1
-----CUACCACAGGGUAGAACCAC
GGAa-----      3    -1,1
-----UACCACAGGGUAGAACCA-
-----      47    0,-3
-----UACCACAGGGUAGAACCAC
-----      56    0,-2
-----UACCACAGGGUAGAACCAC
G-----      723    0,-1
-----UACCACAGGGUAGAACCAC
Ga-----      4    0,-1
-----UACCACAGGGUAGAACCAC
Gaa-----      3    0,-1
-----UACCACAGGGUAGAACCAC
GG-----      1268    0,0
-----UACCACAGGGUAGAACCAC
GGu-----      21    0,0
-----UACCACAGGGUAGAACCAC
GGuu-----      11    0,0
-----UACCACAGGGUAGAACCAC
GGA-----      1614    0,1
-----UACCACAGGGUAGAACCAC
GGAa-----      748    0,1
-----UACCACAGGGUAGAACCAC
GGAaa-----      684    0,1
-----UACCACAGGGUAGAACCAC
GGAau-----      152    0,1
-----UACCACAGGGUAGAACCAC
GGAu-----      117    0,1
-----UACCACAGGGUAGAACCAC
GGAuu-----      4    0,1
-----UACCACAGGGUAGAACCAC

```

GGAC-----	647	0,2		-----UACCACAGGGUAGAACCAC
GGACu-----	12	0,2		-----UACCACAGGGUAGAACCAC
GGACuu-----	2	0,2		-----UACCACAGGGUAGAACCAC
GGACA-----	140	0,3		-----UACCACAGGGUAGAACCAC
GGACaA-----	24	0,3		-----UACCACAGGGUAGAACCAC
GGACAu-----	8	0,3		-----ACCACAGGGUAGAACCAC
	36	1,-2		-----ACCACAGGGUAGAACCAC
G-----	53	1,-1		-----ACCACAGGGUAGAACCAC
Gaa-----	3	1,-1		-----ACCACAGGGUAGAACCAC
GG-----	1148	1,0		-----ACCACAGGGUAGAACCAC
GGu-----	51	1,0		-----ACCACAGGGUAGAACCAC
GGuu-----	32	1,0		-----ACCACAGGGUAGAACCAC
GGA-----	8531	1,1		-----ACCACAGGGUAGAACCAC
GGAa-----	2784	1,1		-----ACCACAGGGUAGAACCAC
GGAAa-----	995	1,1		-----ACCACAGGGUAGAACCAC
GGAAu-----	142	1,1		-----ACCACAGGGUAGAACCAC
GGAAu-----	1233	1,1		-----ACCACAGGGUAGAACCAC
GGAAuu-----	48	1,1		-----ACCACAGGGUAGAACCAC
GGAC-----	1963	1,2		-----ACCACAGGGUAGAACCAC

GGACu-----	47	1,2	
-----			-ACCACAGGGUAGAACCAC
GGACuu-----	4	1,2	
-----			-ACCACAGGGUAGAACCAC
GGACA-----	187	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAa-----	106	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAaa-----	13	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAau-----	6	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAu-----	8	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAG-----	6	1,4	
-----			-CCACAGGGUAGAACCAC
GG-----	20	2,0	
-----			-CCACAGGGUAGAACCAC
GGA-----	103	2,1	
-----			-CCACAGGGUAGAACCAC
GGAa-----	47	2,1	
-----			-CCACAGGGUAGAACCAC
GGAaa-----	34	2,1	
-----			-CCACAGGGUAGAACCAC
GGAu-----	25	2,1	
-----			-CCACAGGGUAGAACCAC
GGAC-----	55	2,2	
-----			-CCACAGGGUAGAACCAC
GGACu-----	2	2,2	
-----			-CCACAGGGUAGAACCAC
GGACA-----	5	2,3	
-----			-CCACAGGGUAGAACCAC
GGACAa-----	8	2,3	
-----			-CCACAGGGUAGAACCAC
GGACAaa-----	2	2,3	

>hsa-mir-141 mi:17-38;MA:59-80 SRX018968

cggccggcccugggucCAUCUCCAGUACAGUGUUGGAuggucuaauugugaagcuccUAACACUGUCUGGUAAAGAUGG

[illegible]

----- 2 0,-4

----- 2 0, -2

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug

$$\begin{aligned} & .(((((((.(((.(((((((((((.((((((((((\ldots(..(\ldots)..))))))))..)))))))).)))))))).)))).)) \\ &)))))). \end{aligned}$$

----- 57 -2, -5

----- 19 -2, -5

----- 2 -2, -5

----- 111 -2,-4

----- 3 -2, -4

----- 2 -2, -4

----- 611 -2, -3

----- 239 -2, -2

----- 48 -2, -2

----- 10 -2, -2

----- 56 -2,-2

----- 63 -2, -1

-----CCCAUAAAGUAGAAAGCACUACU-----

----- 4 -2,0
-----CCAUAAAGUAGAAAGCAC-----
----- 4 -1,-4
-----CCAUAAAGUAGAAAGCACU-----
----- 14 -1,-3
-----CCAUAAAGUAGAAAGCACUA-----
----- 2 -1,-2
-----CAUAAAGUAGAAAGCACU-----
----- 6 0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 139 0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 59 0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 28 0,-2
-----CAUAAAGUAGAAAGCACUAau-----
----- 2 0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 10 0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 123 0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 2 0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 140 0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 56 0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 13 0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 17 0,2
-----AUAAAGUAGAAAGCACUA-----
----- 7 1,-2
-----AUAAAGUAGAAAGCACUAa-----
----- 6 1,-2
-----AUAAAGUAGAAAGCACUAaa-----
----- 2 1,-2
-----AUAAAGUAGAAAGCACUAC-----

```

----- 16  1,-1
-----AUAAGUAGAAAGCACUACU-----
----- 10  1,0
-----AUAAGUAGAAAGCACUACUA-----
----- 18  1,1
-----AUAAGUAGAAAGCACUACUAu-----
----- 5   1,1
-----AUAAGUAGAAAGCACUACUAA-----
----- 192 1,2
-----AUAAGUAGAAAGCACUACUAAa-----
----- 2   1,2
-----UAAAGUAGAAAGCACUACUAA-----
----- 3   2,2
-----UGUAGUGUUUCCUACUUUA-----
----- 5   0,-4
-----UGUAGUGUUUCCUACUUUAU-----
----- 5   0,-3
-----UGUAGUGUUUCCUACUUUAUa-----
----- 4   0,-3
-----UGUAGUGUUUCCUACUUUAUG-----
----- 33  0,-2
-----UGUAGUGUUUCCUACUUUAUGa-----
----- 4   0,-2
-----UGUAGUGUUUCCUACUUUAUGaa-----
----- 2   0,-2
-----UGUAGUGUUUCCUACUUUAUGG-----
----- 25  0,-1
-----GUAGUGUUUCCUACUUUA-----
----- 10  1,-4
-----GUAGUGUUUCCUACUUUAa-----
----- 4   1,-4
-----GUAGUGUUUCCUACUUUAU-----
----- 29  1,-3
-----GUAGUGUUUCCUACUUUAUa-----
----- 18  1,-3
-----GUAGUGUUUCCUACUUUAUG-----
----- 97  1,-2
-----GUAGUGUUUCCUACUUUAUGa-----

```

```

----- 31 1,-2
-----GUAGUGUUCCUACUUUAUGaa-----
----- 3 1,-2
-----GUAGUGUUCCUACUUUAUGu-----
----- 25 1,-2
-----GUAGUGUUCCUACUUUAUGG-----
----- 479 1,-1
-----GUAGUGUUCCUACUUUAUGGu-----
----- 3 1,-1
-----GUAGUGUUCCUACUUUAUGGA-----
----- 20 1,0
-----GUAGUGUUCCUACUUUAUGGAa-----
----- 3 1,0
-----UAGUGUUCCUACUUUAUG-----
----- 4 2,-2
-----UAGUGUUCCUACUUUAUGG-----
----- 12 2,-1

```

>hsa-mir-143 mi:27-48;MA:61-81 SRX018968

g'gcgcagcgcgccugucucccagccugaGGUGCAGUGCUGCAUCUCUGGUcaguugggagucUGAGAUGAAGCACUGUAGCU
Caggaagagagaaguuguucugcagc

```

..((((((.....((((.....((((((((((((((((((((((((((((((((.....))))))))))))))))))))))))))
))))))..)))))).....))))))...

```

```

-----GGUGCAGUGCUGCAUCUC-----
----- 35 0,-4
-----GGUGCAGUGCUGCAUCUCU-----
----- 193 0,-3
-----GGUGCAGUGCUGCAUCUCUG-----
----- 7 0,-2
-----GGUGCAGUGCUGCAUCUCUGG-----
----- 11 0,-1
-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 10 0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 7 0,-1
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 3 0,0
-----GGUGCAGUGCUGCAUCUCUGGUaa-----

```

-----	2	0,0	
-----	-GGUGCAGUGCUGCAUCUCUGGUau-----		
-----	6	0,0	
-----			-UCUGAGAUGAAGCACUGUAGCU
-----	2	-2,-1	
-----			-CUGAGAUGAAGCACUGUA---
-----	5	-1,-4	
-----			-CUGAGAUGAAGCACUGUAGC-
-----	4	-1,-2	
-----			-CUGAGAUGAAGCACUGUAGCU
-----	48	-1,-1	
-----			-CUGAGAUGAAGCACUGUAGCU
au-----	2	-1,-1	
-----			-CUGAGAUGAAGCACUGUAGCU
C-----	32	-1,0	
-----			-CUGAGAUGAAGCACUGUAGCU
Cu-----	9	-1,0	
-----			-UGAGAUGAAGCACUGUAG--
-----	497	0,-3	
-----			-UGAGAUGAAGCACUGUAGa-
-----	10	0,-3	
-----			-UGAGAUGAAGCACUGUAGaa
-----	9	0,-3	
-----			-UGAGAUGAAGCACUGUAGau
-----	3	0,-3	
-----			-UGAGAUGAAGCACUGUAGuu
-----	5	0,-3	
-----			-UGAGAUGAAGCACUGUAGC-
-----	517	0,-2	
-----			-UGAGAUGAAGCACUGUAGCa
-----	89	0,-2	
-----			-UGAGAUGAAGCACUGUAGCa
a-----	92	0,-2	
-----			-UGAGAUGAAGCACUGUAGCa
u-----	14	0,-2	
-----			-UGAGAUGAAGCACUGUAGCU
-----	7385	0,-1	
-----			-UGAGAUGAAGCACUGUAGCU

a-----	431	0,-1	-----UGAGAUGAAGCACUGUAGCU
aa-----	94	0,-1	-----UGAGAUGAAGCACUGUAGCU
au-----	48	0,-1	-----UGAGAUGAAGCACUGUAGCU
u-----	139	0,-1	-----UGAGAUGAAGCACUGUAGCU
uu-----	21	0,-1	-----UGAGAUGAAGCACUGUAGCU
C-----	10029	0,0	-----UGAGAUGAAGCACUGUAGCU
Cu-----	2297	0,0	-----UGAGAUGAAGCACUGUAGCU
Cuu-----	284	0,0	-----UGAGAUGAAGCACUGUAGCU
CA-----	710	0,1	-----UGAGAUGAAGCACUGUAGCU
CAa-----	51	0,1	-----UGAGAUGAAGCACUGUAGCU
CAaa-----	4	0,1	-----UGAGAUGAAGCACUGUAGCU
CAau-----	2	0,1	-----UGAGAUGAAGCACUGUAGCU
CAu-----	14	0,1	-----UGAGAUGAAGCACUGUAGCU
CAG-----	4	0,2	-----UGAGAUGAAGCACUGUAGCU
CAGa-----	3	0,2	-----UGAGAUGAAGCACUGUAGCU
CAGu-----	3	0,2	-----GAGAUGAAGCACUGUAGCU
-----	17	1,-1	-----GAGAUGAAGCACUGUAGCU
C-----	38	1,0	-----GAGAUGAAGCACUGUAGCU
Cu-----	11	1,0	-----GAGAUGAAGCACUGUAGCU


```

----- 2 0,-4
-----GUCCAGUUUUCCCAGGAAUC-----
----- 84 0,-3
-----GUCCAGUUUUCCCAGGAAUCa-----
----- 57 0,-3
-----GUCCAGUUUUCCCAGGAAUCu-----
----- 3 0,-3
-----GUCCAGUUUUCCCAGGAAUCC-----
----- 277 0,-2
-----GUCCAGUUUUCCCAGGAAUCCa-----
----- 39 0,-2
-----GUCCAGUUUUCCCAGGAAUCCaa-----
----- 3 0,-2
-----GUCCAGUUUUCCCAGGAAUCCau-----
----- 4 0,-2
-----GUCCAGUUUUCCCAGGAAUCCC-----
----- 691 0,-1
-----GUCCAGUUUUCCCAGGAAUCCCa-----
----- 44 0,-1
-----GUCCAGUUUUCCCAGGAAUCCCau-----
----- 2 0,-1
-----GUCCAGUUUUCCCAGGAAUCCCU-----
----- 1176 0,0
-----GUCCAGUUUUCCCAGGAAUCCCUa-----
----- 11 0,0
-----GUCCAGUUUUCCCAGGAAUCCCUau-----
----- 2 0,0
-----GUCCAGUUUUCCCAGGAAUCCCUU-----
----- 88 0,1
-----GUCCAGUUUUCCCAGGAAUCCCUUu-----
----- 5 0,1
-----GUCCAGUUUUCCCAGGAAUCCCUUA-----
----- 2 0,2
-----UCCAGUUUUCCCAGGAAUCCCU-----
----- 5 1,0
-----GGAUUCCUGGAAAUACUGUUC-----
----- 3 0,-1
-----GGAUUCCUGGAAAUACUGUUCU-----

```



```

----- 2 0,-2
-----UGAGAACUGAAUCCAUGGGUau-----
----- 2 0,-2
-----UGAGAACUGAAUCCAUGGGU-----
----- 328 0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 68 0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 246 0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 232 0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 1747 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 891 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 228 0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 349 0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 624 0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 87 0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 285 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 59 0,1
-----UGAGAACUGAAUCCAUGGGUUGau-----
----- 4 0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 177 0,2
-----UGAGAACUGAAUCCAUGGGUUGUu-----
----- 4 0,2
-----GAGAACUGAAUCCAUGGGUau-----
----- 2 1,-1
-----GAGAACUGAAUCCAUGGGUU-----
----- 8 1,0
-----GAGAACUGAAUCCAUGGGUUa-----

```

4	1,0	-GAGAACUGAAUCCAUGGGUaa-
3	1,0	-GAGAACUGAAUCCAUGGGUau-
5	1,0	-GAGAACUGAAUCCAUGGGUu-
5	1,0	-GAGAACUGAAUCCAUGGGUUG-
8	1,1	-GAGAACUGAAUCCAUGGGUUGU-
2	1,2	-AGAACUGAAUCCAUGGGUU-
9	2,0	-AGAACUGAAUCCAUGGGUUG-
10	2,1	

>hsa-mi r-146b 5p:9-30;3p:45-66 SRX018968

ccuggcacUGAGAACUGAAUCCAUAGGCUgugagcucuagcaaUGCCCUGUGGACUCAGUUCUGGugcccgg

$$(((.(((((((.((((((((((..(((((((((..(((..((...)).)).)).)).)).)).)).)).)).)).)).)).)).)).))$$

-----CUGAGAACUGAAUCCA----- 9

-1, -5

-----CUGAGAACUGAAUCCAUAGG----- 2

-1, -2

-----CUGAGAACUGAAUCCAUAAGGC----- 2

-1, -1

-----CUGAGAACUGAAUCCAUGGC_a----- 4

-1,-1

-----CUGAGAACUGAAUCCAUAGGCU----- 52

-1,0

-----UGAGAACUGAAUCCAUA----- 33

0,-4

-----UGAGAACUGAAUUCCAUAG----- 123

 $0, -3$

-----UGAGAACUGAAUCCAUAGa----- 2

0,-3

-----UGAGAACUGAAUUCCAUAGG----- 583

0,-2

-----UGAGAACUGAAUCCAUAGGa----- 14

0, -2	
-----UGAGAACUGAAUCCAUAGGaa-----	16
0, -2	
-----UGAGAACUGAAUCCAUAGGau-----	4
0, -2	
-----UGAGAACUGAAUCCAUAGGu-----	3
0, -2	
-----UGAGAACUGAAUCCAUAGGuu-----	3
0, -2	
-----UGAGAACUGAAUCCAUAGGC-----	177
0, -1	
-----UGAGAACUGAAUCCAUAGGCa-----	611
0, -1	
-----UGAGAACUGAAUCCAUAGGCaa-----	292
0, -1	
-----UGAGAACUGAAUCCAUAGGCau-----	108
0, -1	
-----UGAGAACUGAAUCCAUAGGCU-----	7127
0, 0	
-----UGAGAACUGAAUCCAUAGGCUa-----	30
0, 0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	154
0, 0	
-----UGAGAACUGAAUCCAUAGGCUau-----	204
0, 0	
-----UGAGAACUGAAUCCAUAGGCUu-----	604
0, 0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	163
0, 0	
-----UGAGAACUGAAUCCAUAGGCUG-----	122
0, 1	
-----UGAGAACUGAAUCCAUAGGCUGa-----	689
0, 1	
-----UGAGAACUGAAUCCAUAGGCUGaa-----	27
0, 1	
-----UGAGAACUGAAUCCAUAGGCUGau-----	35
0, 1	
-----UGAGAACUGAAUCCAUAGGCUGU-----	16

0,2	-----GAGAACUGAAUCCAUAGG-----	6
1,-2	-----GAGAACUGAAUCCAUAGGCa-----	4
1,-1	-----GAGAACUGAAUCCAUAGGCU-----	52
1,0	-----GAGAACUGAAUCCAUAGGCUaa-----	2
1,0	-----GAGAACUGAAUCCAUAGGCUu-----	3
1,0	-----GAGAACUGAAUCCAUAGGCUGa-----	3
1,1	-----AGAACUGAAUCCAUAGGCU-----	8
2,0	-----UGCCCUGUGGACUCAGUUCUGG-----	3
0,0	-----UGCCCUGUGGACUCAGUUCUGGU-----	3
0,1	-----UGCCCUGUGGACUCAGUUCUGGUa-----	4
0,1	-----UGCCCUGUGGACUCAGUUCUGGUau-----	15
0,1	-----UGCCCUGUGGACUCAGUUCUGGUu-----	2
0,1	-----GCCCUGUGGACUCAGUUCUG-----	4
1,-1	-----GCCCUGUGGACUCAGUUCUGG-----	21
1,0	-----GCCCUGUGGACUCAGUUCUGGa-----	2
1,0	-----GCCCUGUGGACUCAGUUCUGGU-----	18
1,1	-----GCCCUGUGGACUCAGUUCUGGUa-----	12
1,1	-----GCCCUGUGGACUCAGUUCUGGUaa-----	3
1,1	-----GCCCUGUGGACUCAGUUCUGGUau-----	45

```

1,1
-----CCCUGUGGACUCAGUUCUGGUau---- 3
2,1

>hsa-mir-148a mi:6-27;MA:44-65 SRX018968
gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAGUUCUGAGACACUCCGA----- 53 0,-2
-----AAAGUUCUGAGACACUCCGAC----- 5 0,-1
-----AAAGUUCUGAGACACUCCGACU----- 4 0,0
-----GUCAGUGCACUACAGAACUUUGa--- 4
-1,-1
-----UCAGUGCACUACAGAACU----- 3942
0,-4
-----UCAGUGCACUACAGAACUaa----- 2 0,-4
-----UCAGUGCACUACAGAACUU----- 185 0,-3
-----UCAGUGCACUACAGAACUUa----- 4 0,-3
-----UCAGUGCACUACAGAACUUaa----- 3 0,-3
-----UCAGUGCACUACAGAACUUU----- 991 0,-2
-----UCAGUGCACUACAGAACUUUa----- 31 0,-2
-----UCAGUGCACUACAGAACUUUaa----- 6 0,-2
-----UCAGUGCACUACAGAACUUUau----- 3 0,-2
-----UCAGUGCACUACAGAACUUUu----- 15 0,-2
-----UCAGUGCACUACAGAACUUUG----- 1626
0,-1
-----UCAGUGCACUACAGAACUUUGa--- 2368
0,-1
-----UCAGUGCACUACAGAACUUUGaa-- 278 0,-1
-----UCAGUGCACUACAGAACUUUGau-- 3 0,-1
-----UCAGUGCACUACAGAACUUUGU--- 4818
0,0
-----UCAGUGCACUACAGAACUUUGUa-- 22 0,0
-----UCAGUGCACUACAGAACUUUGUaa-- 9 0,0
-----UCAGUGCACUACAGAACUUUGUu-- 36 0,0
-----UCAGUGCACUACAGAACUUUGUC-- 65 0,1
-----UCAGUGCACUACAGAACUUUGUCa-- 8 0,1
-----UCAGUGCACUACAGAACUUUGUCU-- 5 0,2
-----CAGUGCACUACAGAACUUUGU--- 7 1,0

```



```

UUGUau----- 2   0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 85  0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 4   0,0
-----UCAGUGCAUCACAGAACU
UUGUC----- 2   0,1
-----AGUGCAUCACAGAACU
UU----- 5   2,-2
-----AGUGCAUCACAGAACU
UUG----- 3   2,-1
-----AGUGCAUCACAGAACU
UUGU----- 3   2,0
-----AGUGCAUCACAGAACU
UUGUu----- 3   2,0

```

```

>hsa-mir-149    MA:15-37;mi:56-76    SRX018968
gccggcgcccgagcUCUGGCUCCGUGUCUUCACUCCCgugcuuguccgaggagggAGGGAGGGACGGGGGCUGUGCuggg
gcagcugga
.(((((((((((((.(.(((((.((((.((((.(.(....)))..)))))))))))).)))))).)))).))
)).))))).
-----UCUGGCUCCGUGUCUUCACUCCC-----
----- 4   0,0

```

```

>hsa-mir-150    MA:16-37;mi:51-72    SRX018968
cuccccauggcccgUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac
.(((((((((.(((((((((((((((..(((.(((((((.((((....)))..)))))))))))))).))))))
))).
-----UGUCUCCCAACCCUUGUACCA-----
----- 3   -2,-3
-----UGUCUCCCAACCCUUGUACCAG-----
----- 3   -2,-2
-----UGUCUCCCAACCCUUGUACCAGU-----
----- 5   -2,-1
-----UCUCCCAACCCUUGUACC-----
----- 159 0,-4
-----UCUCCCAACCCUUGUACCA-----

```

```

---- 425 0,-3
-----UCUCCCAACCCUUGUACCAG-----
---- 242 0,-2
-----UCUCCCAACCCUUGUACCAGa-----
---- 6 0,-2
-----UCUCCCAACCCUUGUACCAGU-----
---- 540 0,-1
-----UCUCCCAACCCUUGUACCAGUa-----
---- 66 0,-1
-----UCUCCCAACCCUUGUACCAGUaa-----
---- 29 0,-1
-----UCUCCCAACCCUUGUACCAGUu-----
---- 5 0,-1
-----UCUCCCAACCCUUGUACCAGUG-----
---- 1693 0,0
-----UCUCCCAACCCUUGUACCAGUGa-----
---- 949 0,0
-----UCUCCCAACCCUUGUACCAGUGaa-----
---- 11 0,0
-----UCUCCCAACCCUUGUACCAGUGau-----
---- 2 0,0
-----UCUCCCAACCCUUGUACCAGUGu-----
---- 356 0,0
-----UCUCCCAACCCUUGUACCAGUGC-----
---- 6 0,1
-----CUCCCAACCCUUGUACCAGUGa-----
---- 3 1,0
-----UCCCAACCCUUGUACCAGUG-----
---- 5 2,0
-----UCCCAACCCUUGUACCAGUGa-----
---- 4 2,0
-----UCCCAACCCUUGUACCAGUGu-----
---- 2 2,0
-----CUGGUACAGGCCUGGGGGAC-----
---- 4 0,-2
-----CUGGUACAGGCCUGGGGGACA-----
---- 2 0,-1

```

>hsa-mi r-151 5p:11-31;3p:47-67 SRX018968

uuuccugcccUCGAGGAGCUCACAGUCUAGUaugucucaucccuaCUAGACUGAAGCUCCUUGAGGacagggaugguca
uacucaccuc

• • • • •

-----CUCGAGGAGCUCACAGUCUAG-----

----- 4 -1, -1

-----CUCGAGGAGCUCACAGUCUAGU-----

----- 11 -1,0

-----CUCGAGGAGCUCACAGUCUAGUA-----

$$- - - - - 2 \quad -1, 1$$

-----CUCGAGGAGCUCACAGUCUAGUA_a-----

$$- - - - - 2 \quad -1, 1$$

-----UCGAGGAGCUCACAGUCUA-----

----- 41 0,-2

-----UCGAGGAGCUCACAGUCUAG-----

----- 49 0, -1

-----UCGAGGAGCUCACAGUCUAGa-----

----- 12 0,-1

-----UCGAGGAGCUCACAGUCUAGU-----

----- 327 0,0

-----UCGAGGAGCUCACAGUCUAGUA-----

----- 142 0,1

-----UCGAGGAGCUCACAGUCUAGUAa-----

----- 24 0,1

-----UCGAGGAGCUCACAGUCUAGUAU-----

----- 7 0,2

-----GAGGAGCUCACAGUCUAG-----

$$----- \quad 2 \quad 2, -1$$

-----GAGGAGCUCACAGUCUAGU-----

----- 10 2,0

-----GAGGAGCUCACAGUCUAGUA-----

$$- - - - - 2 \quad 2,1$$

-----UACUAGACUGAAGCUCCUUG-----

$$----- 2 \quad -2, -3$$

-----UACUAGACUGAAGCUCCUUGA-----

----- 16 -2,-2

-----UACUAGACUGAAGCUCCUUGAa-----

----- 5	-2,-2	-----UACUAGACUGAAGCUCCUUGAG-----
----- 34	-2,-1	-----UACUAGACUGAAGCUCCUUGAGa-----
----- 13	-2,-1	-----UACUAGACUGAAGCUCCUUGAGaa-----
----- 2	-2,-1	-----UACUAGACUGAAGCUCCUUGAGG-----
----- 18	-2,0	-----UACUAGACUGAAGCUCCUUGAGGA-----
----- 5	-2,1	-----ACUAGACUGAAGCUCCUUGA-----
----- 5	-1,-2	-----ACUAGACUGAAGCUCCUUGAG-----
----- 5	-1,-1	-----ACUAGACUGAAGCUCCUUGAGa-----
----- 4	-1,-1	-----ACUAGACUGAAGCUCCUUGAGG-----
----- 8	-1,0	-----ACUAGACUGAAGCUCCUUGAGGA-----
----- 10	-1,1	-----ACUAGACUGAAGCUCCUUGAGGAa-----
----- 3	-1,1	-----CUAGACUGAAGCUCCUUGA-----
----- 25	0,-2	-----CUAGACUGAAGCUCCUUGAa-----
----- 15	0,-2	-----CUAGACUGAAGCUCCUUGAaa-----
----- 4	0,-2	-----CUAGACUGAAGCUCCUUGAG-----
----- 151	0,-1	-----CUAGACUGAAGCUCCUUGAGa-----
----- 29	0,-1	-----CUAGACUGAAGCUCCUUGAGaa-----
----- 5	0,-1	-----CUAGACUGAAGCUCCUUGAGu-----
----- 10	0,-1	-----CUAGACUGAAGCUCCUUGAGG-----

----- 217 0,0	-----CUAGACUGAAGCUCCUUGAGGu-----
----- 16 0,0	-----CUAGACUGAAGCUCCUUGAGGA-----
----- 522 0,1	-----CUAGACUGAAGCUCCUUGAGGAa-----
----- 544 0,1	-----CUAGACUGAAGCUCCUUGAGGAaa-----
----- 230 0,1	-----CUAGACUGAAGCUCCUUGAGGAau-----
----- 39 0,1	-----CUAGACUGAAGCUCCUUGAGGAu-----
----- 66 0,1	-----CUAGACUGAAGCUCCUUGAGGAuu-----
----- 3 0,1	-----CUAGACUGAAGCUCCUUGAGGAC-----
----- 12 0,2	-----CUAGACUGAAGCUCCUUGAGGACu-----
----- 5 0,2	-----UAGACUGAAGCUCCUUGAG-----
----- 2 1,-1	-----UAGACUGAAGCUCCUUGAGG-----
----- 5 1,0	-----UAGACUGAAGCUCCUUGAGGA-----
----- 11 1,1	-----UAGACUGAAGCUCCUUGAGGAa-----
----- 14 1,1	-----UAGACUGAAGCUCCUUGAGGAaa-----
----- 5 1,1	-----UAGACUGAAGCUCCUUGAGGAau-----
----- 4 1,1	-----UAGACUGAAGCUCCUUGAGGACu-----
----- 2 1,2	-----UAGACUGAAGCUCCUUGAGGACA-----
----- 2 1,3	-----AGACUGAAGCUCCUUGAGGAC-----
----- 5 2,2	

ugcccccccgcccagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgcccgg
aaggacc

		-GUCAGUGCAUGACAGAACUUGGa-----
----- 2	-1,0	
		-----UCAGUGCAUGACAGAACU-----
----- 252	0,-3	
		-----UCAGUGCAUGACAGAACUU-----
----- 26	0,-2	
		-----UCAGUGCAUGACAGAACUUa-----
----- 2	0,-2	
		-----UCAGUGCAUGACAGAACUUG-----
----- 40	0,-1	
		-----UCAGUGCAUGACAGAACUUGG-----
----- 205	0,0	
		-----UCAGUGCAUGACAGAACUUGGa-----
----- 50	0,0	
		-----UCAGUGCAUGACAGAACUUGGaa-----
----- 17	0,0	
		-----UCAGUGCAUGACAGAACUUGGau-----
----- 2	0,0	
		-----UCAGUGCAUGACAGAACUUGGu-----
----- 191	0,0	
		-----UCAGUGCAUGACAGAACUUGGuu-----
----- 11	0,0	
		-----UCAGUGCAUGACAGAACUUGGG-----
----- 166	0,1	
		-----UCAGUGCAUGACAGAACUUGGGa-----
----- 43	0,1	
		-----UCAGUGCAUGACAGAACUUGGGaa-----
----- 13	0,1	
		-----UCAGUGCAUGACAGAACUUGGGu-----
----- 91	0,1	
		-----UCAGUGCAUGACAGAACUUGGGuu-----
----- 5	0,1	
		-----AGUGCAUGACAGAACUUG-----

```

----- 2 2,-1
-----AGUGCAUGACAGAACUUGGu-----
----- 3 2,0
-----AGUGCAUGACAGAACUUGGG-----
----- 2 2,1

```

>hsa-mir-1537 3p:40-61 SRX018968

```

acagcuguaauagucaguuuucuguccuguccacacagAAAACCGUCUAGUUACAGUUGU
(((((((((((((((.((((((((((.....)))))))))).))))))))))))))
-----AAAACCGUCUAGUUACAGU--- 3 0,-3

```

>hsa-mir-154 MA:15-36;mi:51-72 SRX018968

```

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuauuugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa
.(((((((((((((((.((((((((((.....)))))))))).))))))))))))))
)))
-----UAGGUUAUCCGUGUUGCCU-----
----- 2 0,-3
-----UAGGUUAUCCGUGUUGCCUUCG-----
----- 11 0,0
-----AAUCAUACACGGUUGACCUAU-----
----- 2 0,-1
-----AAUCAUACACGGUUGACCUAUU-----
----- 9 0,0

```

>hsa-mir-155 MA:4-26;mi:43-64 SRX018968

```

cugUUA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUUAGCAUUAACAg
(((((((((((((((.((((((((((.....)))))))))).))))))))))))))
---UUA AUGCUAAUCGUGAU----- 458 0,-5
---UUA AUGCUAAUCGUGAUAG----- 67 0,-4
---UUA AUGCUAAUCGUGAUAGG----- 36 0,-3
---UUA AUGCUAAUCGUGAUAGGa----- 4 0,-3
---UUA AUGCUAAUCGUGAUAGGaa----- 4 0,-3
---UUA AUGCUAAUCGUGAUAGGG----- 54 0,-2
---UUA AUGCUAAUCGUGAUAGGGa----- 11 0,-2
---UUA AUGCUAAUCGUGAUAGGGG----- 39 0,-1
---UUA AUGCUAAUCGUGAUAGGGGa----- 6 0,-1
---UUA AUGCUAAUCGUGAUAGGGGU----- 56 0,0

```


---UAAUGCUAAUCGUGAUAGGGGUa-----	2	0,0
---UAAUGCUAAUCGUGAUAGGGGUU-----	45	0,1
---UAAUGCUAAUCGUGAUAGGGGUUU-----	17	0,2
----UAAUGCUAAUCGUGAUAGG-----	2	1,-3
----UAAUGCUAAUCGUGAUAGGGGU-----	3	1,0
-----CUCCUACAUAUUAGCAUUAACA-	5	0,0

>hsa-mir-15a MA:14-35;mi:51-72 SRX018968

ccuuggaguaaagUAGCAGCACAUAAUGGUUUGUGgauuuugaaaaggugCAGGCCAUAUUGUGCCUCAaaaauaca
agg

(((((.....(..((((((((.....((((((((.....((.....))..))))))))))..))))))..)).....))
)))

-----UAGCAGCACAUAAUGGUU-----		
--- 147 0,-4		
-----UAGCAGCACAUAAUGGUUU-----		
--- 1478 0,-3		
-----UAGCAGCACAUAAUGGUUUa-----		
--- 5 0,-3		
-----UAGCAGCACAUAAUGGUUUu-----		
--- 5 0,-3		
-----UAGCAGCACAUAAUGGUUUG-----		
--- 944 0,-2		
-----UAGCAGCACAUAAUGGUUUGa-----		
--- 16 0,-2		
-----UAGCAGCACAUAAUGGUUUGU-----		
--- 473 0,-1		
-----UAGCAGCACAUAAUGGUUUGUa-----		
--- 6 0,-1		
-----UAGCAGCACAUAAUGGUUUGUaa-----		
--- 4 0,-1		
-----UAGCAGCACAUAAUGGUUUGUG-----		
--- 61 0,0		
-----UAGCAGCACAUAAUGGUUUGUGa-----		
--- 6 0,0		
-----UAGCAGCACAUAAUGGUUUGUGGA-----		
--- 5 0,2		
-----AGCAGCACAUAAUGGUUU-----		
--- 9 1,-3		


```

-----UAGCAGCACAUCAUGGUUUACAa-----
----- 32 0,0
-----UAGCAGCACAUCAUGGUUUACAU-----
----- 9 0,1
-----AGCAGCACAUCAUGGUUU-----
----- 5 1,-3
-----AGCAGCACAUCAUGGUUUA-----
----- 11 1,-2
-----AGCAGCACAUCAUGGUUUa-----
----- 2 1,-2
-----AGCAGCACAUCAUGGUUUACA-----
----- 13 1,0
-----GCAGCACAUCAUGGUUUACA-----
----- 2 2,0
-----CGAAUCAUUAUUUGCUGC-----
----- 5 0,-4
-----CGAAUCAUUAUUUGCUGCU-----
----- 8 0,-3
-----CGAAUCAUUAUUUGCUGCUC-----
----- 3 0,-2
-----CGAAUCAUUAUUUGCUGCUCUA-----
----- 2 0,0
-----CGAAUCAUUAUUUGCUGCUCUAu
----- 2 0,0

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018968

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuuaagauucuaaaauuauucCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

(((((...(((.....))))).)))))))))..)))))

```

-----UAGCAGCACGUAAAUAUU-----
----- 357 0,-4
-----UAGCAGCACGUAAAUAUUa-----
----- 4 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 1215 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 10 0,-3

```

```

-----UAGCAGCACGUAAAUAUUGu-----
----- 6 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 2178 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 47 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
----- 11 0,-2
-----UAGCAGCACGUAAAUAUUGGau-----
----- 2 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
----- 18 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 336 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 169 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 65 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 27 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 4098 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 46 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 17 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 15 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 432 0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 10 0,2
-----UAGCAGCACGUAAAUAUUGGCGUu-----
----- 6 0,2
-----AGCAGCACGUAAAUAUUG-----
----- 5 1,-3
-----AGCAGCACGUAAAUAUUGG-----
----- 7 1,-2

```

```

-----AGCAGCACGUAAAUAUUGGC-----
----- 3 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
----- 38 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
----- 4 1,1
-----GCAGCACGUAAAUAUUGG-----
----- 2 2,-2
-----GCAGCACGUAAAUAUUGGCG-----
----- 7 2,0

```

>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018968

guuccacucUAGCAGCACGUAAAUAUUGGCGuagugaaauauauuuuaacaCCAAUAAUACUGUGCUGCUUUAguuguga
c

((..(((..(((((((..(((((((..(((..(((.....))))..))))))))..))))))))..))))..))
)

```

-----CUAGCAGCACGUAAAUAUUG-----
- 3 -1,-3
-----CUAGCAGCACGUAAAUAUUGG-----
- 7 -1,-2
-----CUAGCAGCACGUAAAUAUUGGCG-----
- 4 -1,0
-----UAGCAGCACGUAAAUAUU-----
- 357 0,-4
-----UAGCAGCACGUAAAUAUUa-----
- 4 0,-4
-----UAGCAGCACGUAAAUAUUG-----
- 1215 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
- 10 0,-3
-----UAGCAGCACGUAAAUAUUGu-----
- 6 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
- 2178 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
- 47 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
- 11 0,-2

```

```

-----UAGCAGCACGUAAAUAUUGGau-----
- 2 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
- 18 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
- 336 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
- 169 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
- 65 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
- 27 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
- 4098 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
- 46 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
- 17 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
- 15 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
- 432 0,1
-----UAGCAGCACGUAAAUAUUGGCGUA-----
- 5 0,2
-----UAGCAGCACGUAAAUAUUGGCGUAa-----
- 3 0,2
-----AGCAGCACGUAAAUAUUG-----
- 5 1,-3
-----AGCAGCACGUAAAUAUUGG-----
- 7 1,-2
-----AGCAGCACGUAAAUAUUGGC-----
- 3 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
- 38 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
- 4 1,1
-----GCAGCACGUAAAUAUUGG-----
- 2 2,-2

```

```

-----GCAGCACGUAAAUUUGGCG-----
-   7   2,0
-----ACCAUAUUACUGUGCUG-----
-   6   -1,-5
-----ACCAUAUUACUGUGCUGCU-----
-  14   -1,-3
-----ACCAUAUUACUGUGCUGCUU-----
-  29   -1,-2
-----ACCAUAUUACUGUGCUGCUUU-----
-  42   -1,-1
-----ACCAUAUUACUGUGCUGCUUUu-----
-   2   -1,-1
-----ACCAUAUUACUGUGCUGCUUUA-----
-   5   -1,0

```

>hsa-mir-17 MA:14-36;mi:51-72 SRX018968

gucagaauaanguCAAAGUGCUUACAGUGCAGGUAGugauaugugcaucuACUGCAGUGAAGGCACUUGUAGcauuauagg
ugac

```

((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
))))))

```

```

-----UCAAGUGCUUACAGUGCAG-----
----   6   -1,-4
-----UCAAGUGCUUACAGUGCAGGU-----
----   4   -1,-2
-----CAAAGUGCUUACAGUGCA-----
----  19   0,-5
-----CAAAGUGCUUACAGUGCAG-----
---- 193   0,-4
-----CAAAGUGCUUACAGUGCAGa-----
----   2   0,-4
-----CAAAGUGCUUACAGUGCAGG-----
---- 162   0,-3
-----CAAAGUGCUUACAGUGCAGGU-----
---- 129   0,-2
-----CAAAGUGCUUACAGUGCAGGUu-----
----   6   0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
---- 147   0,-1

```

```

-----CAAAGUGCUUACAGUGCAGGUAa-----
---- 39 0,-1
-----CAAAGUGCUUACAGUGCAGGUAau-----
---- 2 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 34 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 128 0,0
-----CAAAGUGCUUACAGUGCAGGUAGa-----
---- 3 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
---- 3 0,1
-----AAAGUGCUUACAGUGCAG-----
---- 7 1,-4
-----AAAGUGCUUACAGUGCAGG-----
---- 4 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
---- 6 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
---- 4 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
---- 4 1,0
-----ACUGCAGUGAAGGCACUU-----
---- 45 0,-4
-----ACUGCAGUGAAGGCACUUG-----
---- 85 0,-3
-----ACUGCAGUGAAGGCACUUGU-----
---- 163 0,-2
-----ACUGCAGUGAAGGCACUUGUu-----
---- 2 0,-2
-----ACUGCAGUGAAGGCACUUGUA-----
---- 20 0,-1
-----ACUGCAGUGAAGGCACUUGUAa-----
---- 3 0,-1
-----ACUGCAGUGAAGGCACUUGUAu-----
---- 2 0,-1
-----ACUGCAGUGAAGGCACUUGUAG-----
---- 7 0,0

```


-----			ACUGCAGUGAAGGCACUUGUAGa-----
----	4	0,0	
-----			CUGCAGUGAAGGCACUUG-----
----	3	1,-3	
-----			CUGCAGUGAAGGCACUUGU-----
----	8	1,-2	
-----			UGCAGUGAAGGCACUUGU-----
----	2	2,-2	
-----			UGCAGUGAAGGCACUUGUA-----
----	2	2,-1	

```

-----AACAUUCAACGCUGUCGGUGAGUau-----
----- 2 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
----- 258 0,1
-----AACAUUCAACGCUGUCGGUGAGUUa-----
----- 5 0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
----- 150 0,2
-----ACAUUCAACGCUGUCGGUGAG-----
----- 6 1,-1
-----ACAUUCAACGCUGUCGGUGAGUUU-----
----- 3 1,2
-----AAACCAUCGACCGUUGAUU
GUA----- 3 -2,-2
-----AACCAUCGACCGUUGAUU
GUA----- 2 -1,-2
-----AACCAUCGACCGUUGAUU
GUAC----- 2 -1,-1
-----AACCAUCGACCGUUGAUU
GUACC----- 2 -1,0
-----ACCAUCGACCGUUGAUU
G----- 10 0,-4
-----ACCAUCGACCGUUGAUU
GU----- 11 0,-3
-----ACCAUCGACCGUUGAUU
GUA----- 6 0,-2
-----ACCAUCGACCGUUGAUU
GUAa----- 3 0,-2
-----ACCAUCGACCGUUGAUU
GUAu----- 2 0,-2
-----ACCAUCGACCGUUGAUU
GUAC----- 11 0,-1
-----ACCAUCGACCGUUGAUU
GUACaa----- 2 0,-1
-----ACCAUCGACCGUUGAUU
GUACC----- 7 0,0

```

>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018968

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))))).))))))))))))))))).
-----AACAUUCAACGCUGUCGG-----
-----179 0,-5-----
-----AACAUUCAACGCUGUCGGU-----
-----12 0,-4-----
-----AACAUUCAACGCUGUCGGUaa-----
-----4 0,-4-----
-----AACAUUCAACGCUGUCGGUG-----
-----43 0,-3-----
-----AACAUUCAACGCUGUCGGUGu-----
-----3 0,-3-----
-----AACAUUCAACGCUGUCGGUGA-----
-----163 0,-2-----
-----AACAUUCAACGCUGUCGGUGAa-----
-----2 0,-2-----
-----AACAUUCAACGCUGUCGGUGAG-----
-----988 0,-1-----
-----AACAUUCAACGCUGUCGGUGAGa-----
-----7 0,-1-----
-----AACAUUCAACGCUGUCGGUGAGU-----
-----106 0,0-----
-----AACAUUCAACGCUGUCGGUGAGUa-----
-----5 0,0-----
-----AACAUUCAACGCUGUCGGUGAGUau-----
-----2 0,0-----
-----AACAUUCAACGCUGUCGGUGAGUU-----
-----258 0,1-----
-----AACAUUCAACGCUGUCGGUGAGUUa-----
-----5 0,1-----
-----AACAUUCAACGCUGUCGGUGAGUUU-----
-----150 0,2-----
-----ACAUUCAACGCUGUCGGUGAG-----
-----6 1,-1-----
-----ACAUUCAACGCUGUCGGUGAGUUU-----
-----3 1,2-----

```


cugauggcugcacucAACAUUCAUUGCUGUCGGUGGGUuugagucugaaucaacucacugaucaaugaaugcaaacugcg
gaccaaaca

-----AACAUUCAUUGCUGUCGG-----

-----AACAUUCAUUGCUGUCGGU-----

-----AACAUUCAUUGCUGUCGGUG-----

-----AACAUUCAUUGCUGUCGGUGGG-----

-----AACAUUCAUUGCUGUCGGUGGGU-----

-----AACAUUCAUUGCUGUCGGUGGGU_a-----

-----AACAUUCAUUGCUGUCGGUGGGUau-----

-----AACAUUCAUUGCUUGUCGGUGGGUU-----

-----AACAUUCAUUGCUGUCGGUGGGUa-----

-----AACAUUCAUUGCUGUCGGUGGGUUU-----

cggaaaauuugccaaggguuugggggAACAUCAACCGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaaauugccauccu

-----AACAUUCAACCGUCGGUGA-----

-----AACAUUCAACCGUCGGUGAG-----

-----AACAUUCAACCGUCGGUGAGU-----

----- 2 0,0

```

-----AACAUUCAACCGUGCGGUGAGUU-----
----- 17 0,1
-----AACAUUCAACCGUGCGGUGAGUU-----
----- 7 0,2
-----AACCAUCGACCGUUGA
GU----- 2 0,-4

```

>hsa-mir-181d 5p:36-58 SRX018968

```

guccccuccccuagggcacagccgaggucacaaucAACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagaccc
accgggggaugaaugucacuguggcugggccagacacggcuuaaggggauggggac
((((((((((((((((((...(((...((((((((((((((((((((((...((...)))...)))
))))))...))))))...))))))...))))))...))))))...))))))...))))))
-----AACAUUCAUUGUUGUCGGUG-----
----- 3 0,-3
-----AACAUUCAUUGUUGUCGGUGGG-----
----- 19 0,-1
-----AACAUUCAUUGUUGUCGGUGGGa-----
----- 2 0,-1
-----AACAUUCAUUGUUGUCGGUGGGau-----
----- 2 0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----
----- 14 0,0
-----AACAUUCAUUGUUGUCGGUGGGUa-----
----- 3 0,0
-----AACAUUCAUUGUUGUCGGUGGGUaa-----
----- 3 0,0
-----AACAUUCAUUGUUGUCGGUGGGUau-----
----- 9 0,0
-----AACAUUCAUUGUUGUCGGUGGGUU-----
----- 34 0,1
-----AACAUUCAUUGUUGUCGGUGGGUUa-----
----- 2 0,1
-----AACAUUCAUUGUUGUCGGUGGGUUu-----
----- 8 0,1

```

>hsa-mir-182 MA:23-46;mi:67-87 SRX018968

```

gagcugcuugccucccccgguUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAugggggcgaggacucagccggcac

```



```

----- 2 1,1
-----UGAAUUACCGAAGG
GCCAUA----- 5 1,-1

```

>hsa-mir-184 3p:53-74 SRX018968

```

ccagucacgucccccuaucacuuuuccagcccagcuugugacuguaaguguUGGACGGAGAACUGAUAAGGGUagguga
uuga

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).

```

```

-----UGGACGGAGAACUGAUAAGGGU-----
---- 2 0,0

```

>hsa-mir-185 MA:15-36;mi:50-71 SRX018968

```

agggggcgagggauUGGAGAGAAAGGCAGUUCCUGAuggucccccuccccAGGGGCUGGCUUCCUCUGGUCcuucccucc
ca

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).

```

```

-----UUGGAGAGAAAGGCAGUUCCU-----

```

```

-- 5 -1,-2

```

```

-----UGGAGAGAAAGGCAGUUC-----

```

```

-- 70 0,-4

```

```

-----UGGAGAGAAAGGCAGUUCa-----

```

```

-- 4 0,-4

```

```

-----UGGAGAGAAAGGCAGUUCu-----

```

```

-- 3 0,-4

```

```

-----UGGAGAGAAAGGCAGUUCC-----

```

```

-- 128 0,-3

```

```

-----UGGAGAGAAAGGCAGUUCCaa-----

```

```

-- 2 0,-3

```

```

-----UGGAGAGAAAGGCAGUUCCU-----

```

```

-- 1902 0,-2

```

```

-----UGGAGAGAAAGGCAGUUCCUa-----

```

```

-- 7 0,-2

```

```

-----UGGAGAGAAAGGCAGUUCCUaa-----

```

```

-- 6 0,-2

```

```

-----UGGAGAGAAAGGCAGUUCCUau-----

```

```

-- 4 0,-2

```

```

-----UGGAGAGAAAGGCAGUUCCUu-----

```



```

-- 4 0,-2
-----UGGAGAGAAAGGCAGUUCCUG-----
-- 1218 0,-1
-----UGGAGAGAAAGGCAGUUCCUGu-----
-- 129 0,-1
-----UGGAGAGAAAGGCAGUUCCUGuu-----
-- 14 0,-1
-----UGGAGAGAAAGGCAGUUCCUGA-----
-- 5811 0,0
-----UGGAGAGAAAGGCAGUUCCUGAa-----
-- 807 0,0
-----UGGAGAGAAAGGCAGUUCCUGAaa-----
-- 52 0,0
-----UGGAGAGAAAGGCAGUUCCUGAau-----
-- 52 0,0
-----UGGAGAGAAAGGCAGUUCCUGAU-----
-- 867 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUa-----
-- 51 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUaa-----
-- 4 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUau-----
-- 2 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUu-----
-- 51 0,1
-----UGGAGAGAAAGGCAGUUCCUGAUuu-----
-- 4 0,1
-----GGAGAGAAAGGCAGUUCCU-----
-- 9 1,-2
-----GGAGAGAAAGGCAGUUCCUG-----
-- 5 1,-1
-----GGAGAGAAAGGCAGUUCCUGA-----
-- 34 1,0
-----GGAGAGAAAGGCAGUUCCUGAa-----
-- 5 1,0
-----GGAGAGAAAGGCAGUUCCUGAU-----
-- 2 1,1
-----AGGGGCUGGCUUCCUCU-----

```

```
-- 13 0,-4
-----AGGGGCUGGCUUCCUCUGGU-----
-- 3 0,-1
-----AGGGGCUGGCUUCCUCUGGUa-----
-- 3 0,-1
-----AGGGGCUGGCUUCCUCUGGUuu-----
-- 3 0,-1
```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018968

```
ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuuuuuaGCCCAAAGGUGAAUUUUUUGGgaagu
ugagcu
```

```
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).
```

```
-----CAAAGAAUUCUCCUUUUG-----
----- 7 0,-4
-----CAAAGAAUUCUCCUUUUGG-----
----- 6 0,-3
-----CAAAGAAUUCUCCUUUUGGG-----
----- 29 0,-2
-----CAAAGAAUUCUCCUUUUGGGaa-----
----- 2 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 10 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 26 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 9 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 42 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 108 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 17 0,0
-----CAAAGAAUUCUCCUUUUGGGCUaa-----
----- 2 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 8 0,0
-----CAAAGAAUUCUCCUUUUGGGCU-----
```



```

-----CAACGGAAUCCCAAAAGCAGau-----
-----37 0,-3
-----CAACGGAAUCCCAAAAGCAGu-----
-----14 0,-3
-----CAACGGAAUCCCAAAAGCAGuu-----
-----12 0,-3
-----CAACGGAAUCCCAAAAGCAGC-----
-----7518 0,-2
-----CAACGGAAUCCCAAAAGCAGCa-----
-----300 0,-2
-----CAACGGAAUCCCAAAAGCAGCaa-----
-----32 0,-2
-----CAACGGAAUCCCAAAAGCAGCau-----
-----14 0,-2
-----CAACGGAAUCCCAAAAGCAGCU-----
-----19879 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
-----458 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
-----45 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
-----124 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
-----314 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
-----53 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
-----1709 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
-----66 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
-----3 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
-----743 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
-----4 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
-----23 0,2

```

```

-----AACGGAAUCCCAAAAGCA-----
-----51 1,-4
-----AACGGAAUCCCAAAAGCAa-----
-----3 1,-4
-----AACGGAAUCCCAAAAGCAG-----
-----188 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
-----466 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
-----12 1,-2
-----AACGGAAUCCCAAAAGCAGCau-----
-----3 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
-----1313 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
-----19 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
-----4 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
-----19 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
-----18 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
-----5 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
-----164 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
-----11 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
-----103 1,1
-----ACGGAAUCCCAAAAGCAG-----
-----3 2,-3
-----ACGGAAUCCCAAAAGCAGC-----
-----3 2,-2
-----ACGGAAUCCCAAAAGCAGCU-----
-----5 2,-1
-----ACGGAAUCCCAAAAGCAGCUG-----
-----2 2,0

```

-----ACGGAAUCCCAAAAGCAGCUGU-----
-----2 2,1-----

>hsa-mi r-192 MA:24-44;mi :67-88 SRX018968

gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucuccccucuggCUGCCAAUCCAUA
GGUCACAGguauguucgccucaaugccagc

-----CUCUGACCUAUGAAUUGACAGCC-----
----- 3 -2,0

-----UCUGACCUAUGAAUUGACA-----
-----7-1,-3-----

-----UCUGACCUAUGAAUUGACAG-----
-----16 -1,-2-----

-----UCUGACCUAUGAAUUGACAGu-----
-----2-1,-2-----

-----UCUGACCUAUGAAUUGACAGC-----
----- 157 -1,-1

-----UCUGACCUAUGAAUUGACAGCa-----
-----16 -1,-1-----

-----UCUGACCUAUGAAUUGACAGCaa-----
-----3-1,-1-----

-----UCUGACCUAUGAAUUGACAGCu-----
----- 3 -1,-1

-----UCUGACCUAUGAAUUGACAGCC-----
----- 520 -1,0

-----UCUGACCUAUGAAUUGACAGCCu-----
-----12 -1,0-----

-----UCUGACCUAUGAAUUGACAGCCuu-----
-----4-1,0-----

-----UCUGACCUAUGAAUUGACAGCCA-----
-----49 -1,1-----

-----UCUGACCUAUGAAUUGACAGCCAau-----
-----3-1,1-----

-----UCUGACCUAUGAAUUGACAGCCAu-----
-----12 -1,1-----

-----UCUGACCUAUGAAUUGACAGCCAuu-----
 -----4-1,1-----

```

-----CUGACCUAUGAAUUGACA-----
-----1567 0,-3
-----CUGACCUAUGAAUUGACAa-----
-----19 0,-3
-----CUGACCUAUGAAUUGACAaa-----
-----7 0,-3
-----CUGACCUAUGAAUUGACAG-----
-----2765 0,-2
-----CUGACCUAUGAAUUGACAGa-----
-----231 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
-----14 0,-2
-----CUGACCUAUGAAUUGACAGau-----
-----3 0,-2
-----CUGACCUAUGAAUUGACAGu-----
-----115 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
-----3 0,-2
-----CUGACCUAUGAAUUGACAGC-----
-----37700 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
-----5320 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
-----591 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
-----114 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
-----810 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
-----36 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
-----101800 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
-----2916 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
-----453 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
-----43322 0,1

```



```

-----CUGACCUAUGAAUUGACAGCCAa-----
-----1353 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
-----191 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
-----208 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
-----9521 0,1
-----CUGACCUAUGAAUUGACAGCCAuu-----
-----4628 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
-----549 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
-----44 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
-----2 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
-----457 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
-----34 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
-----136 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
-----6 0,4
-----UGACCUAUGAAUUGACAG-----
-----2431 1,-2
-----UGACCUAUGAAUUGACAGu-----
-----24 1,-2
-----UGACCUAUGAAUUGACAGC-----
-----26535 1,-1
-----UGACCUAUGAAUUGACAGCa-----
-----902 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
-----200 1,-1
-----UGACCUAUGAAUUGACAGCau-----
-----12 1,-1
-----UGACCUAUGAAUUGACAGCu-----
-----80 1,-1

```

```

-----UGACCUAUGAAUUGACAGCuu-----
----- 2 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 18077 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 376 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 52 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 26008 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 1310 1,1
-----UGACCUAUGAAUUGACAGCCAAa-----
----- 576 1,1
-----UGACCUAUGAAUUGACAGCCAAu-----
----- 512 1,1
-----UGACCUAUGAAUUGACAGCCAU-----
----- 4431 1,1
-----UGACCUAUGAAUUGACAGCCAUu-----
----- 2982 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 6957 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 1287 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 64 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 53 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 6874 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 739 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 61 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 58 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 2015 1,3

```

```

-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 181 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 39 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 5 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 5 1,4
-----GACCUAUGAAUUGACAGC-----
----- 128 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 5 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 2 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 108 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 60 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 6 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 6 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 16 2,1
-----GACCUAUGAAUUGACAGCCAUu-----
----- 9 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 32 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 3 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 44 2,3
-----GACCUAUGAAUUGACAGCCAGUa-----
----- 3 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 11 2,3
-----GGCUGCCAAUUCCAUA
GGUCACA----- 4 -2,-1

```

```

-----GCUGCCAAUCCAUA
GGUCAC----- 6 -1,-2
-----GCUGCCAAUCCAUA
GGUCACA----- 11 -1,-1
-----CUGCCAAUCCAUA
GGUCA----- 11 0,-3
-----CUGCCAAUCCAUA
GGUCAC----- 7 0,-2
-----CUGCCAAUCCAUA
GGUCACA----- 22 0,-1
-----CUGCCAAUCCAUA
GGUCACAU----- 2 0,-1
-----CUGCCAAUCCAUA
GGUCACAG----- 24 0,0
-----CUGCCAAUCCAUA
GGUCACAGu----- 5 0,0

```

>hsa-mi r-193a 5p:21-42;3p:55-76 SRX018968

cgaggauaggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

.....(((.((((((((((((((.((((((..(((.(.(((.....))))).)).)))..))))).)))))))))

```

-----UGGGUCUUUGCGGGCGAG-----
----- 11 0,-4
-----UGGGUCUUUGCGGGCGAGA-----
----- 4 0,-3
-----UGGGUCUUUGCGGGCGAGAU-----
----- 16 0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
----- 16 0,-2
-----UGGGUCUUUGCGGGCGAGAUau-----
----- 2 0,-2
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 5 0,-2
-----UGGGUCUUUGCGGGCGAGAUG-----
----- 61 0,-1
-----UGGGUCUUUGCGGGCGAGAUgu-----
----- 25 0,-1

```

```

-----UGGGUCUUUGCGGGCGAGAUGuu-----
-----      3      0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
-----    204      0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----
-----      3      0,0
-----UGGGUCUUUGCGGGCGAGAUGAu-----
-----     10      0,0
-----GGGUCUUUGCGGGCGAGAUGA-----
-----      2      1,0
-----CAACUGGCCUACAAAGUCC-----
-----      2      -1,-4
-----CAACUGGCCUACAAAGUCCCA-----
-----      6      -1,-2
-----AACUGGCCUACAAAGUCC-----
-----    287      0,-4
-----AACUGGCCUACAAAGUCCa-----
-----      2      0,-4
-----AACUGGCCUACAAAGUCCaa-----
-----      5      0,-4
-----AACUGGCCUACAAAGUCCC-----
-----    485      0,-3
-----AACUGGCCUACAAAGUCCCu-----
-----      2      0,-3
-----AACUGGCCUACAAAGUCCCuu-----
-----      3      0,-3
-----AACUGGCCUACAAAGUCCCA-----
-----   4933      0,-2
-----AACUGGCCUACAAAGUCCCAa-----
-----     56      0,-2
-----AACUGGCCUACAAAGUCCCAaa-----
-----      9      0,-2
-----AACUGGCCUACAAAGUCCCAau-----
-----      5      0,-2
-----AACUGGCCUACAAAGUCCCAu-----
-----   116      0,-2
-----AACUGGCCUACAAAGUCCCAuu-----
-----     30      0,-2

```



```

-----CGGGGUUUUGAGGGCGAGAUGu-----
--- 12 0,-1
-----CGGGGUUUUGAGGGCGAGAUGA-----
--- 63 0,0
-----CGGGGUUUUGAGGGCGAGAUGAa-----
--- 5 0,0
-----GGGGUUUUGAGGGCGAGAUGA-----
--- 5 1,0
-----AACUGGCCCUCAAAGUCC-----
--- 202 0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 169 0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 60 0,-2
-----AACUGGCCCUCAAAGUCCCGa-----
--- 2 0,-2
-----AACUGGCCCUCAAAGUCCCGu-----
--- 3 0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 52 0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 11 0,-1
-----AACUGGCCCUCAAAGUCCCGCa a-----
--- 3 0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----
--- 12 0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 185 0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 17 0,0
-----AACUGGCCCUCAAAGUCCCGCUaa-----
--- 6 0,0
-----AACUGGCCCUCAAAGUCCCGCUau-----
--- 15 0,0
-----AACUGGCCCUCAAAGUCCCGCUU-----
--- 69 0,1
-----AACUGGCCCUCAAAGUCCCGCUUa-----
--- 3 0,1

```

```

-----AACUGGCCCUCAAAGUCCCGCUUau-----
--- 2 0,1
-----AACUGGCCCUCAAAGUCCCGCUUU-----
--- 30 0,2
-----AACUGGCCCUCAAAGUCCCGCUUUa-----
--- 2 0,2
-----AACUGGCCCUCAAAGUCCCGCUUUU-----
--- 4 0,3
-----ACUGGCCCUCAAAGUCCC-----
--- 3 1,-3
-----ACUGGCCCUCAAAGUCCCG-----
--- 2 1,-2
-----ACUGGCCCUCAAAGUCCCGC-----
--- 2 1,-1
-----ACUGGCCCUCAAAGUCCCGCU-----
--- 8 1,0
-----ACUGGCCCUCAAAGUCCCGCUa-----
--- 3 1,0
-----ACUGGCCCUCAAAGUCCCGCUau-----
--- 2 1,0
-----ACUGGCCCUCAAAGUCCCGCUU-----
--- 3 1,1
-----ACUGGCCCUCAAAGUCCCGCUUU-----
--- 3 1,2

```

>hsa-mir-194-1 5p:15-36 SRX018968

augguguaucaagUGUAAACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

.((((((..((((((.(((((((((.((((((.((((((..((.....)).)))))))))).))))))))).))))).
)))).

```

-----UGUAAACAGCAACUCCAUG-----
----- 12 0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 13 0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 42 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 4 0,-2

```



```

-----UGUAAACAGCAACUCCAUGUGu-----
----- 6 0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 467 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 14 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1093 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 108 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 7 0,0
-----UGUAAACAGCAACUCCAUGUGGAC-----
----- 11 0,1
-----UGUAAACAGCAACUCCAUGUGGACa-----
----- 2 0,1
-----GUAACAGCAACUCCAUGUGGu-----
----- 2 1,-1

```

>hsa-mir-194-2 MA:15-36;mi:51-72 SRX018968

ugguucccgcccccUGUAAACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGGCUGCUGUUAUCUGgggcgagg
gccag

(((((.(((((.(((((((.(((((.(((((...(((....)))))))))))))).)))))))).))))).))

```

-----CCUGUAAACAGCAACUCCAUGUGG-----
----- 3 -2,-1
-----CUGUAAACAGCAACUCCAUGUGG-----
----- 6 -1,-1
-----CUGUAAACAGCAACUCCAUGUGGA-----
----- 10 -1,0
-----CUGUAAACAGCAACUCCAUGUGGAu-----
----- 2 -1,0
-----CUGUAAACAGCAACUCCAUGUGGAA-----
----- 4 -1,1
-----UGUAAACAGCAACUCCAUG-----
----- 12 0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 13 0,-3

```

```

-----UGUAAACAGCAACUCCAUGUG-----
----- 42 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 4 0,-2
-----UGUAAACAGCAACUCCAUGUGu-----
----- 6 0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 467 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 14 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1093 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 108 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 7 0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
----- 2226 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 304 0,1
-----UGUAAACAGCAACUCCAUGUGGAAaa-----
----- 11 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 14 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 103 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 19 0,1
-----GUAACAGCAACUCCAUGUGGu-----
----- 2 1,-1
-----GUAACAGCAACUCCAUGUGGAA-----
----- 2 1,1
-----CCAGUGGGGCUGCUGUUAUa-----
----- 2 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 2 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 15 0,-1

```

-----CAGUGGGGCUGCUGUUAUCU-----
----- 2 1,-1

>hsa-mir-195 MA:15-35;mi:53-74 SRX018968

agcuucccugggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUAUUGGCUGUGCUGCUCCaggcag
gguggug

.(((.((((((.((.((((((((((.((((((((((.....))))))))))..))))))))..)))).

-----UAGCAGCACAGAAAUUU-----

----- 18 0,-3

-----UAGCAGCACAGAAAUUUa-----

----- 5 0,-3

-----UAGCAGCACAGAAAUUUG-----

----- 126 0,-2

-----UAGCAGCACAGAAAUUUGa-----

----- 6 0,-2

-----UAGCAGCACAGAAAUUUGaa-----

----- 2 0,-2

-----UAGCAGCACAGAAAUUUGG-----

----- 616 0,-1

-----UAGCAGCACAGAAAUUUGGa-----

----- 44 0,-1

-----UAGCAGCACAGAAAUUUGGaa-----

----- 11 0,-1

-----UAGCAGCACAGAAAUUUGGu-----

----- 6 0,-1

-----UAGCAGCACAGAAAUUUGGC-----

----- 36 0,0

-----UAGCAGCACAGAAAUUUGGCu-----

----- 4 0,0

-----UAGCAGCACAGAAAUUUGGCA-----

----- 1232 0,1

-----UAGCAGCACAGAAAUUUGGCAa-----

----- 568 0,1

-----UAGCAGCACAGAAAUUUGGCAaa-----

----- 8 0,1

-----UAGCAGCACAGAAAUUUGGCAau-----

----- 10 0,1

```

-----UAGCAGCACAGAAAUAUUGGCAu-----
----- 316 0,1
-----UAGCAGCACAGAAAUAUUGGCAuu-----
----- 13 0,1
-----UAGCAGCACAGAAAUAUUGGCAC-----
----- 3 0,2
-----AGCAGCACAGAAAUAUUG-----
----- 2 1,-2
-----AGCAGCACAGAAAUAUUGG-----
----- 5 1,-1
-----AGCAGCACAGAAAUAUUGGCA-----
----- 9 1,1
-----AGCAGCACAGAAAUAUUGGCAa-----
----- 3 1,1
-----GCAGCACAGAAAUAUUGG-----
----- 3 2,-1

```

>hsa-mir-196a-1 5p:7-28 SRX018968

```

gugaauUAGGUAGUUUCAUGUUGUUGGGccuggguuucugaacacaacaacauuaaaccacccgauucac
((((((..(((.((((((((((((((((((..(.....)..)))))))))).))))..))))))
-----UAGGUAGUUUCAUGUUGUUGG----- 2 0,-1

```

>hsa-mir-196a-2 MA:25-46;mi:62-83 SRX018968

```

ugcucgcucagcugaucuguggcuUAGGUAGUUUCAUGUUGUUGGGauugaguuugaacuCGGCAACAAGAAACUGCCU
GAGuuacaucagucgguuuucgucgagggc
..((((((..((((((.((((((((((((((((((.((((((((((.((..(....)..)))))))))).))))))))))
))))))))..))))))))..))))..
-----UAGGUAGUUUCAUGUUGUUGG-----
----- 2 0,-1
-----UAGGUAGUUUCAUGUUGUUGGGA-----
----- 2 0,1

```

>hsa-mir-196b MA:15-36;mi:50-71 SRX018968

```

acuggucgggugaauUAGGUAGUUUCCUGUUGUUGGGauccaccuuucucUCGACAGCACGACACUGCCUUCauuacuca
guug
((((((..((((((..((((((.((.((((((((((((((((..(.....))))))))))))..))))))))))
))..
-----UAGGUAGUUUCCUGUUGUUGGG-----

```

--- 2 0,0

>hsa-mir-197 3p:48-69 SRX018968

ggcugugccggguagagaggggcagugggagguaagagcucuucacccUUCACCACCUUCUCCACCCAGCauggcc

(((((.(((.(((((.(((((...)).)).)).)).)).)).)).)).)).))

-----UUCACCACCUUCUCCACC----- 6

0, -4

-----UUCACCACCUUCUCCACCC----- 13

0,-3

-----UUCACCACCUUCUCCACCCA----- 13

 $0, -2$

-----UUCACCACCUUCUCCACCCA_a----- 3

0,-2

-----UUCACCACCUUCUCCACCCAG----- 37

 $0, -1$

-----UUCACCACCUUCUCCACCCAGa----- 11

 $0, -1$

-----UUCACCACCUUCUCCACCCAGu----- 5

 $0, -1$

-----UUCACCACCUUCUCCACCCAGuu----- 2

 $0, -1$

-----UUCACCACCUUCUCCACCCAGC----- 92

 $0,0$

-----UUCACCACCUUCUCCACCCAGC_u----- 3

0,0

-----UUCACCACCUUCUCCACCCAGCA----- 8

 $0,1$

-----UUCACCACCUUCUCCACCCAGCAa----- 5

 $0,1$

-----UUCACCACCUUCUCCACCCAGCAU----- 6

 $0,2$

>hsa-mir-1973 3p:26-44 SRX018968

uauguucaaaggccaugguaucugACCGUGCAAAGGUAGCAUA

$$(((((((\dots((.(((((\dots..))))))\dots).))))))$$

-----ACCGUGCAAAGGUAGCAUA 25 0,0

-----ACCGUGCAAAGGUAGCAUAa 4 0,0

-----ACCGUGCAAAGGUAGCAUau 3 0.0

-----CCGUGCAAAGGUAGCAUA 2 1,0

>hsa-mir-199a-1 5p:6-28;3p:47-68 SRX018968

gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucaauguguACAGUAGUCUGCACAUUGGUUAggc

((...(((((((.(((((((.(((.(.(((...)))...)).)))))))))).))))))...)))

-----CCCAGUGUUCAGACUACC----- 55 0,-5

-----CCCAGUGUUCAGACUACCU----- 623 0,-4

-----CCCAGUGUUCAGACUACCUG----- 41 0,-3

-----CCCAGUGUUCAGACUACCUGU----- 53 0,-2

-----CCCAGUGUUCAGACUACCUGUa----- 3 0,-2

-----CCCAGUGUUCAGACUACCUGUU----- 250 0,-1

-----CCCAGUGUUCAGACUACCUGUUa----- 24 0,-1

-----CCCAGUGUUCAGACUACCUGUUu----- 33 0,-1

-----CCCAGUGUUCAGACUACCUGUUC----- 108 0,0

-----CCCAGUGUUCAGACUACCUGUUCu----- 3 0,0

-----CCAGUGUUCAGACUACCU----- 6 1,-4

-----CCAGUGUUCAGACUACCUGUU----- 2 1,-1

-----CCAGUGUUCAGACUACCUGUUC----- 2 1,0

-----GUACAGUAGUCUGCACAUUGGUU----- 2

-2,-1

-----UACAGUAGUCUGCACAUU----- 37

-1,-5

-----UACAGUAGUCUGCACAUUG----- 64

-1,-4

-----UACAGUAGUCUGCACAUUGG----- 119

-1,-3

-----UACAGUAGUCUGCACAUUGGa----- 2

-1,-3

-----UACAGUAGUCUGCACAUUGGaa----- 10

-1,-3

-----UACAGUAGUCUGCACAUUGGau----- 5

-1,-3

-----UACAGUAGUCUGCACAUUGGU----- 397

-1,-2

-----UACAGUAGUCUGCACAUUGGUa----- 118

-1,-2

-----UACAGUAGUCUGCACAUUGGUaa----- 125

-1,-2

	-----UACAGUAGUCUGCACAUUGGUau---	78	
-1,-2			
	-----UACAGUAGUCUGCACAUUGGUU----	3722	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUu---	434	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUuu--	13	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUA---	525	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAa--	69	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	48	-1,0
	-----ACAGUAGUCUGCACAUUG-----	366	0,-4
	-----ACAGUAGUCUGCACAUUGa-----	12	0,-4
	-----ACAGUAGUCUGCACAUUGaa-----	9	0,-4
	-----ACAGUAGUCUGCACAUUGu-----	9	0,-4
	-----ACAGUAGUCUGCACAUUGuu-----	8	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	1263	
0,-3			
	-----ACAGUAGUCUGCACAUUGGa-----	8	0,-3
	-----ACAGUAGUCUGCACAUUGGaa-----	12	0,-3
	-----ACAGUAGUCUGCACAUUGGau-----	21	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	1512	
0,-2			
	-----ACAGUAGUCUGCACAUUGGUa----	353	0,-2
	-----ACAGUAGUCUGCACAUUGGUaa----	609	0,-2
	-----ACAGUAGUCUGCACAUUGGUau----	151	0,-2
	-----ACAGUAGUCUGCACAUUGGUU----	22405	
0,-1			
	-----ACAGUAGUCUGCACAUUGGUUu---	2437	
0,-1			
	-----ACAGUAGUCUGCACAUUGGUUuu--	108	0,-1
	-----ACAGUAGUCUGCACAUUGGUUA---	9716	
0,0			
	-----ACAGUAGUCUGCACAUUGGUUAa--	5964	
0,0			
	-----ACAGUAGUCUGCACAUUGGUUAaa--	33	0,0
	-----ACAGUAGUCUGCACAUUGGUUAau--	20	0,0
	-----ACAGUAGUCUGCACAUUGGUUAu--	767	0,0


```

----- 41 0,-3
-----CCCAGUGUUCAGACUACCUGU-----
----- 53 0,-2
-----CCCAGUGUUCAGACUACCUGUa-----
----- 3 0,-2
-----CCCAGUGUUCAGACUACCUGUU-----
----- 250 0,-1
-----CCCAGUGUUCAGACUACCUGUUa-----
----- 24 0,-1
-----CCCAGUGUUCAGACUACCUGUUu-----
----- 33 0,-1
-----CCCAGUGUUCAGACUACCUGUUC-----
----- 108 0,0
-----CCCAGUGUUCAGACUACCUGUUCu-----
----- 3 0,0
-----CCAGUGUUCAGACUACCU-----
----- 6 1,-4
-----CCAGUGUUCAGACUACCUGUU-----
----- 2 1,-1
-----CCAGUGUUCAGACUACCUGUUC-----
----- 2 1,0
-----GUACAGUAGUCUG
CACAUUGGU----- 2 -2,-1
-----UACAGUAGUCUG
CACAUI----- 37 -1,-5
-----UACAGUAGUCUG
CACAUIG----- 64 -1,-4
-----UACAGUAGUCUG
CACAUIGG----- 119 -1,-3
-----UACAGUAGUCUG
CACAUIGGa----- 2 -1,-3
-----UACAGUAGUCUG
CACAUIGGaa----- 10 -1,-3
-----UACAGUAGUCUG
CACAUIGGau----- 5 -1,-3
-----UACAGUAGUCUG
CACAUIGGU----- 397 -1,-2
-----UACAGUAGUCUG

```

CACAUUGGUa-----	118	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUaa-----	125	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUau-----	78	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUU-----	3722	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUu-----	434	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUuu-----	13	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUA-----	525	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAa-----	69	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAu-----	48	-1,0	
-----			-ACAGUAGUCUG
CACAUUG-----	366	0,-4	
-----			-ACAGUAGUCUG
CACAUUGa-----	12	0,-4	
-----			-ACAGUAGUCUG
CACAUUGaa-----	9	0,-4	
-----			-ACAGUAGUCUG
CACAUUGu-----	9	0,-4	
-----			-ACAGUAGUCUG
CACAUUGuu-----	8	0,-4	
-----			-ACAGUAGUCUG
CACAUUGG-----	1263	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGa-----	8	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGaa-----	12	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGau-----	21	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGU-----	1512	0,-2	
-----			-ACAGUAGUCUG

CACAUUGGUa-----	353	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUaa-----	609	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUau-----	151	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUU-----	22405	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUu-----	2437	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUuu-----	108	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUA-----	9716	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	5964	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	33	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	20	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	767	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	5	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	26	0,1	
-----			CAGUAGUCUG
CACAUUGG-----	209	1,-3	
-----			CAGUAGUCUG
CACAUUGGau-----	2	1,-3	
-----			CAGUAGUCUG
CACAUUGGU-----	160	1,-2	
-----			CAGUAGUCUG
CACAUUGGUa-----	33	1,-2	
-----			CAGUAGUCUG
CACAUUGGUaa-----	70	1,-2	
-----			CAGUAGUCUG
CACAUUGGUau-----	10	1,-2	
-----			CAGUAGUCUG


```

----- 7 0,-5
-----CCCAGUGUUUAGACUAUCU-----
----- 51 0,-4
-----CCCAGUGUUUAGACUAUCUGUU-----
----- 7 0,-1
-----CCCAGUGUUUAGACUAUCUGUUC-----
----- 4 0,0
-----CCAGUGUUUAGACUAUCU-----
----- 3 1,-4
-----GUACAGUAGUCUGCACAU
UGGUU----- 2 -2,-1
-----UACAGUAGUCUGCACAU
U----- 37 -1,-5
-----UACAGUAGUCUGCACAU
UG----- 64 -1,-4
-----UACAGUAGUCUGCACAU
UGG----- 119 -1,-3
-----UACAGUAGUCUGCACAU
UGGa----- 2 -1,-3
-----UACAGUAGUCUGCACAU
UGGaa----- 10 -1,-3
-----UACAGUAGUCUGCACAU
UGGau----- 5 -1,-3
-----UACAGUAGUCUGCACAU
UGGU----- 397 -1,-2
-----UACAGUAGUCUGCACAU
UGGUa----- 118 -1,-2
-----UACAGUAGUCUGCACAU
UGGUaa----- 125 -1,-2
-----UACAGUAGUCUGCACAU
UGGUau----- 78 -1,-2
-----UACAGUAGUCUGCACAU
UGGUU----- 3722 -1,-1
-----UACAGUAGUCUGCACAU
UGGUUu----- 434 -1,-1
-----UACAGUAGUCUGCACAU
UGGUUuu----- 13 -1,-1
-----UACAGUAGUCUGCACAU

```

UGGUUA-----	525	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAa-----	69	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAu-----	48	-1,0	-----ACAGUAGUCUGCACAU
UG-----	366	0,-4	-----ACAGUAGUCUGCACAU
UGa-----	12	0,-4	-----ACAGUAGUCUGCACAU
UGaa-----	9	0,-4	-----ACAGUAGUCUGCACAU
UGu-----	9	0,-4	-----ACAGUAGUCUGCACAU
UGuu-----	8	0,-4	-----ACAGUAGUCUGCACAU
UGG-----	1263	0,-3	-----ACAGUAGUCUGCACAU
UGGa-----	8	0,-3	-----ACAGUAGUCUGCACAU
UGGaa-----	12	0,-3	-----ACAGUAGUCUGCACAU
UGGau-----	21	0,-3	-----ACAGUAGUCUGCACAU
UGGU-----	1512	0,-2	-----ACAGUAGUCUGCACAU
UGGUa-----	353	0,-2	-----ACAGUAGUCUGCACAU
UGGUaa-----	609	0,-2	-----ACAGUAGUCUGCACAU
UGGUau-----	151	0,-2	-----ACAGUAGUCUGCACAU
UGGUU-----	22405	0,-1	-----ACAGUAGUCUGCACAU
UGGUUu-----	2437	0,-1	-----ACAGUAGUCUGCACAU
UGGUUuu-----	108	0,-1	-----ACAGUAGUCUGCACAU

UGGUUA-----	9716	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAa-----	5964	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAaa-----	33	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAau-----	20	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAu-----	767	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAuu-----	5	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAG-----	26	0,1	
-----			-CAGUAGUCUGCACAU
UGG-----	209	1,-3	
-----			-CAGUAGUCUGCACAU
UGGau-----	2	1,-3	
-----			-CAGUAGUCUGCACAU
UGGU-----	160	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUa-----	33	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUaa-----	70	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUau-----	10	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUU-----	2132	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUu-----	285	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUuu-----	19	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUA-----	2876	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAa-----	1340	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAaa-----	32	1,0	
-----			-CAGUAGUCUGCACAU


```

----- 11 0,-3
-----UGUGCAAAUCCAUGCAAAACU-----
----- 378 0,-2
-----UGUGCAAAUCCAUGCAAAACUG-----
----- 62 0,-1
-----UGUGCAAAUCCAUGCAAAACUGu-----
----- 3 0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 26 0,0

```

>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018968

acauugcuacuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguauauauguauauguggcUGUGCAAAUCCAUGCAAAA
CUGAuugugauaangu

```

(((((((.....((((((((((((((((((((((((((((((((((((.....((((((((.....))))))))))))))))))))))))))))))))))))))
))))))))))))))))))

```

```

-----UGUGCAAAUCCAUGCAAAA
----- 2 0,-4
-----UGUGCAAAUCCAUGCAAAA
C----- 11 0,-3
-----UGUGCAAAUCCAUGCAAAA
CU----- 378 0,-2
-----UGUGCAAAUCCAUGCAAAA
CUG----- 62 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGu----- 3 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGA----- 26 0,0

```

>hsa-mir-200a mi:16-37;MA:54-75 SRX018968

ccgggccccugugagCAUCUUACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaaa
ggugaccgc

```

.(((((((.(((.((((((((((((((((((((((((((((((((((((.....))))))))))))))))))))))))))))))))))))))
)))..))))).

```

```

-----CAUCUUACCGGACAGUGCU-----
----- 3 0,-3
-----UAACACUGUCUGGUAACG-----
----- 6 0,-4
-----UAACACUGUCUGGUAACGA-----

```

```

----- 38 0,-3
-----UAACACUGUCUGGUAACGAU-----
----- 196 0,-2
-----UAACACUGUCUGGUAACGAUa-----
----- 8 0,-2
-----UAACACUGUCUGGUAACGAUG-----
----- 40 0,-1
-----UAACACUGUCUGGUAACGAUGa-----
----- 7 0,-1
-----UAACACUGUCUGGUAACGAUGaa-----
----- 4 0,-1
-----UAACACUGUCUGGUAACGAUGU-----
----- 43 0,0
-----UAACACUGUCUGGUAACGAUGUa-----
----- 8 0,0
-----UAACACUGUCUGGUAACGAUGUaa-----
----- 9 0,0
-----UAACACUGUCUGGUAACGAUGUU-----
----- 154 0,1
-----UAACACUGUCUGGUAACGAUGUUa-----
----- 6 0,1
-----UAACACUGUCUGGUAACGAUGUUu-----
----- 120 0,1
-----UAACACUGUCUGGUAACGAUGUUuu-----
----- 3 0,1
-----AACACUGUCUGGUAACGAUG-----
----- 2 1,-1
-----AACACUGUCUGGUAACGAUGUU-----
----- 3 1,1
-----AACACUGUCUGGUAACGAUGUUa-----
----- 2 1,1
-----AACACUGUCUGGUAACGAUGUUaa-----
----- 2 1,1
-----AACACUGUCUGGUAACGAUGUUu-----
----- 16 1,1

```

>hsa-mir-200b mi:21-42;MA:57-78 SRX018968

ccagcucgggcagccguggcCAUCUACUGGGCAGCAUUGGAuggagucaggucucUAAUACUGCCUGGUAAUGAUGAcg


```

----- 9 1,0
-----AUCUUACUGGGCAGCAUUGGAaa-----
----- 4 1,0
-----UAAUACUGCCUGGUA AUG-----
----- 2 0,-4
-----UAAUACUGCCUGGUA AUGA-----
----- 22 0,-3
-----UAAUACUGCCUGGUA AUGAU-----
----- 44 0,-2
-----UAAUACUGCCUGGUA AUGAUa-----
----- 23 0,-2
-----UAAUACUGCCUGGUA AUGAUaa-----
----- 2 0,-2
-----UAAUACUGCCUGGUA AUGAUG-----
----- 66 0,-1
-----UAAUACUGCCUGGUA AUGAUGu-----
----- 8 0,-1
-----UAAUACUGCCUGGUA AUGAUGuu-----
----- 2 0,-1
-----UAAUACUGCCUGGUA AUGAUGA-----
----- 183 0,0
-----UAAUACUGCCUGGUA AUGAUGAa-----
----- 32 0,0
-----UAAUACUGCCUGGUA AUGAUGAaa
----- 7 0,0
-----UAAUACUGCCUGGUA AUGAUGAu-----
----- 4 0,0
-----UAAUACUGCCUGGUA AUGAUGAC-----
----- 135 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
----- 53 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
u----- 3 0,1
-----UAAUACUGCCUGGUA AUGAUGACu
----- 81 0,1
-----UAAUACUGCCUGGUA AUGAUGACu
u----- 4 0,1
-----AAUACUGCCUGGUA AUGAUG-----

```

```

----- 2 1,-1
-----AAUACUGCCUGGUA AUGAUGAC-
----- 8 1,1
-----AAUACUGCCUGGUA AUGAUGACa
----- 10 1,1
-----AAUACUGCCUGGUA AUGAUGACu
----- 31 1,1
-----AAUACUGCCUGGUA AUGAUGACG
----- 2 1,2
-----AUACUGCCUGGUA AUGAUGA--
----- 3 2,0
-----AUACUGCCUGGUA AUGAUGAC-
----- 39 2,1
-----AUACUGCCUGGUA AUGAUGACa
----- 2 2,1
-----AUACUGCCUGGUA AUGAUGACa
a----- 2 2,1
-----AUACUGCCUGGUA AUGAUGACu
----- 36 2,1
-----AUACUGCCUGGUA AUGAUGACu
u----- 12 2,1
-----AUACUGCCUGGUA AUGAUGACG
----- 2 2,2
-----AUACUGCCUGGUA AUGAUGACG
G----- 4 2,3

```

>hsa-mir-200c mi:5-26;MA:44-66 SRX018968

cccuCGUCUUACCCAGCAGUGUUUGGgugcggguugggagucucUAAUACUGCCGGGUA AUGAUGGAgg

((..((((((((((.(((((((.(((.(.....)))))).)))))).))))).))))..))

```

-----UAAUACUGCCGGGUA AUGA----- 4 0,-4
-----UAAUACUGCCGGGUA AUGAU----- 5 0,-3
-----UAAUACUGCCGGGUA AUGAUGG--- 27 0,-1
-----UAAUACUGCCGGGUA AUGAUGGu-- 8 0,-1
-----UAAUACUGCCGGGUA AUGAUGGA-- 18 0,0

```

>hsa-mir-202 mi:28-49;MA:64-83 SRX018968

cgccucagagccgcccgcguuccuuuUCCUAUGCAUAUACUUCUUUGaggauaucuggccuaaAGAGGUUAUAGGGCAUGG

GAAaacggggcgguccggguccuccccagcg

((((...(((((((((.()))))))))....)))..))))
)))).).....).))....)
 -----UUCCUAUGCAUAUACUUUU-----
 ----- 5 0,-1

```

>hsa-mir-204      5p:33-54      SRX018968
ggcuacagucuuucuucaugugacucguggacUUCCCUUUGUCAUCCUAUGCCUgagaauauaugaaggaggcugggaag
gcaaaggggacguucaauugucaucacuggc
.....((((((((...(((((.(((((((((.(((((.((((.....)))))))))))).)
)))))))))).))))).)))).)).)).).
-----UUCCCUUUGUCAUCCUAU-----
-----7    0,-4
-----UUCCCUUUGUCAUCCUAUa-----
-----2    0,-4

```

```

-----UUCCCUUUGUCAUCCUAUG-----
----- 9 0,-3
-----UUCCCUUUGUCAUCCUAUGC-----
----- 25 0,-2
-----UUCCCUUUGUCAUCCUAUGCa-----
----- 2 0,-2
-----UUCCCUUUGUCAUCCUAUGCC-----
----- 34 0,-1
-----UUCCCUUUGUCAUCCUAUGCCa-----
----- 4 0,-1
-----UUCCCUUUGUCAUCCUAUGCCU-----
----- 83 0,0
-----UUCCCUUUGUCAUCCUAUGCCUu-----
----- 3 0,0
-----UCCCUUUGUCAUCCUAUGCCU-----
----- 2 1,0
-----GCUGGGAAG
GCAAAGGGA----- 4
-----GCUGGGAAG
GCAAAGGGAC----- 2
-----GCUGGGAAG
GCAAAGGGACGU----- 2

```

```

>hsa-mir-206 3p:53-74 SRX018968
ugcuucccgaggccacaugcuucuuuauauccccaauauggauuacuuugcuaUGGAAUGUAAGGAAGUGUGUGGuuucgg
caaug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))).
-----UGGAAUGUAAGGAAGUGUGUG-----
----- 2 0,-1
-----UGGAAUGUAAGGAAGUGUGUG-----
----- 2 0,0

```

```

>hsa-mir-20a MA:8-30;mi:44-65 SRX018968
guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuaguauaucuACUGCAUUAUGAGCACUAAAAGuacugc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))).
-----UAAAGUGCUUAUAGUGCA----- 4 0,-5
-----UAAAGUGCUUAUAGUGCAG----- 66 0,-4

```

-----UAAAGUGCUUAUAGUGCAGG-----	21	0,-3
-----UAAAGUGCUUAUAGUGCAGGa-----	2	0,-3
-----UAAAGUGCUUAUAGUGCAGGU-----	26	0,-2
-----UAAAGUGCUUAUAGUGCAGGUA-----	82	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAa-----	8	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAu-----	16	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG-----	23	0,0
-----UAAAGUGCUUAUAGUGCAGGUAGU-----	2	0,1

>hsa-mi r-20b MA:6-28;mi:44-65 SRX018968

aguacCAAAGUGCUCUAUAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGCACUCCAGuacu
 ((((((.....)))))).....
 -----CAAAGUGCUCUAUAGUGCA----- 2 0,-5
 -----CAAAGUGCUCUAUAGUGCAGGUA----- 8 0,-1

>hsa-mi r-21 MA:8-29;mi:46-66 SRX018968

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca
 .(((((((.....)))))).....).
 -----GUAGCUUAUCAGACUGAUGUU----- 22
 -1,-2
 -----GUAGCUUAUCAGACUGAUGUUG----- 51
 -1,-1
 -----GUAGCUUAUCAGACUGAUGUUGA----- 49
 -1,0
 -----GUAGCUUAUCAGACUGAUGUUGAC----- 3
 -1,1
 -----GUAGCUUAUCAGACUGAUGUUGACa----- 3
 -1,1
 -----GUAGCUUAUCAGACUGAUGUUGACU----- 3
 -1,2
 -----UAGCUUAUCAGACUGAUG----- 1856
 0,-4
 -----UAGCUUAUCAGACUGAUGa----- 4
 0,-4
 -----UAGCUUAUCAGACUGAUGau----- 14
 0,-4
 -----UAGCUUAUCAGACUGAUGU----- 7300
 0,-3

-----UAGCUUAUCAGACUGAUGUa-----	43
0,-3	
-----UAGCUUAUCAGACUGAUGUaa-----	22
0,-3	
-----UAGCUUAUCAGACUGAUGUU-----	
42509 0,-2	
-----UAGCUUAUCAGACUGAUGUa-----	257
0,-2	
-----UAGCUUAUCAGACUGAUGUaa-----	18
0,-2	
-----UAGCUUAUCAGACUGAUGUu-----	36
0,-2	
-----UAGCUUAUCAGACUGAUGUUG-----	
27695 0,-1	
-----UAGCUUAUCAGACUGAUGUUGu-----	39
0,-1	
-----UAGCUUAUCAGACUGAUGUUGuu-----	2
0,-1	
-----UAGCUUAUCAGACUGAUGUUGA-----	
12035 0,0	
-----UAGCUUAUCAGACUGAUGUUGAa-----	622
0,0	
-----UAGCUUAUCAGACUGAUGUUGAaa-----	48
0,0	
-----UAGCUUAUCAGACUGAUGUUGAau-----	8
0,0	
-----UAGCUUAUCAGACUGAUGUUGAu-----	26
0,0	
-----UAGCUUAUCAGACUGAUGUUGAC-----	2955
0,1	
-----UAGCUUAUCAGACUGAUGUUGACa-----	1472
0,1	
-----UAGCUUAUCAGACUGAUGUUGACaa-----	10
0,1	
-----UAGCUUAUCAGACUGAUGUUGACU-----	529
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUa-----	2
0,2	

-----UAGCUUAUCAGACUGAUGUUGACUG-----	4
0,3	
-----AGCUUAUCAGACUGAUGU-----	31
1,-3	
-----AGCUUAUCAGACUGAUGUU-----	170
1,-2	
-----AGCUUAUCAGACUGAUGUUG-----	101
1,-1	
-----AGCUUAUCAGACUGAUGUUGu-----	9
1,-1	
-----AGCUUAUCAGACUGAUGUUGA-----	155
1,0	
-----AGCUUAUCAGACUGAUGUUGAa-----	6
1,0	
-----AGCUUAUCAGACUGAUGUUGAu-----	2
1,0	
-----AGCUUAUCAGACUGAUGUUGAC-----	34
1,1	
-----AGCUUAUCAGACUGAUGUUGACa-----	11
1,1	
-----AGCUUAUCAGACUGAUGUUGACU-----	10
1,2	
-----GCUUAUCAGACUGAUGUU-----	86
2,-2	
-----GCUUAUCAGACUGAUGUUG-----	47
2,-1	
-----GCUUAUCAGACUGAUGUUGA-----	26
2,0	
-----GCUUAUCAGACUGAUGUUGAa-----	2
2,0	
-----GCUUAUCAGACUGAUGUUGAC-----	8
2,1	
-----GCUUAUCAGACUGAUGUUGACa-----	2
2,1	
-----CAACACCAGUCGAUGGGC-----	15
0,-3	
-----CAACACCAGUCGAUGGGCU-----	110
0,-2	

0,-1	-CAACACCAGUCGAUGGGGCUG-----	11
0,0	-----CAACACCAGUCGAUGGGGCUGU-----	62
0,0	-----CAACACCAGUCGAUGGGGCUGUa-----	2
0,0	-----CAACACCAGUCGAUGGGGCUGUaa-----	130
0,0	-----CAACACCAGUCGAUGGGGCUGUau-----	41
0,0	-----CAACACCAGUCGAUGGGGCUGUuu-----	13
0,1	-----CAACACCAGUCGAUGGGGCUGUC-----	26
0,1	-----CAACACCAGUCGAUGGGGCUGUCa-----	82
0,1	-----CAACACCAGUCGAUGGGGCUGUCaa-----	2
0,1	-----CAACACCAGUCGAUGGGGCUGUCau-----	21
0,2	-----CAACACCAGUCGAUGGGGCUGUCU-----	68
0,2	-----CAACACCAGUCGAUGGGGCUGUCUau-----	3
0,2	-----CAACACCAGUCGAUGGGGCUGUCUu-----	9
1,2	-----AACACCAGUCGAUGGGGCUGUCU-----	17
1,2	-----AACACCAGUCGAUGGGGCUGUCUu-----	2

CGGCU	3	-1, -2	-ACUGUGCGUGUGACAG
CGG	3	0, -4	-CUGUGCGUGUGACAG
CGGCU	27	0, -2	-CUGUGCGUGUGACAG
CGGCUGA	12	0, 0	-CUGUGCGUGUGACAG

```
>hsa-mir-2110    5p:8-29 SRX018968
```

cagggguUUGGGGAACGGCCGCGAGUGaggcgucggcuguguuucucaccgcggucuuuuccuccacucuug
(((((((.(((((((.(((((((((((.((.(((....))).)).)).)).)).)).)).)).)).)).)).))

UUGGGGAAAACGGCCGCUGA	2
0,-3	
UUGGGGAAAACGGCCGCUGAG	13
0,-2	
UUGGGGAAAACGGCCGCUGAGa	2
0,-2	
UUGGGGAAAACGGCCGCUGAGU	8
0,-1	
UUGGGGAAAACGGCCGCUGAGUaa	2
0,-1	
UUGGGGAAAACGGCCGCUGAGUau	4
0,-1	
UUGGGGAAAACGGCCGCUGAGUu	3
0,-1	
UUGGGGAAAACGGCCGCUGAGUG	18
0,0	
UUGGGGAAAACGGCCGCUGAGUGu	13
0,0	
UUGGGGAAAACGGCCGCUGAGUGA	30
0,1	
UUGGGGAAAACGGCCGCUGAGUGAa	2
0,1	
UUGGGGAAAACGGCCGCUGAGUGAG	13
0,2	
UUGGGGAAAACGGCCGCUGAGUGAGu	6
0,2	

-----				-----UACAGCAGGCA
CAGACAGu-----	2	-1,-5		
-----				-----UACAGCAGGCA
CAGACAGG-----	39	-1,-4		
-----				-----UACAGCAGGCA
CAGACAGGa-----	7	-1,-4		
-----				-----UACAGCAGGCA
CAGACAGGaa-----	2	-1,-4		
-----				-----UACAGCAGGCA
CAGACAGGu-----	3	-1,-4		
-----				-----UACAGCAGGCA
CAGACAGGCA-----	38	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAa-----	47	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAaa-----	11	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAau-----	23	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAu-----	38	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAuu-----	10	-1,-2		
-----				-----UACAGCAGGCA
CAGACAGGCAG-----	2	-1,-1		
-----				-----UACAGCAGGCA
CAGACAGGCAGa-----	33	-1,-1		
-----				-----UACAGCAGGCA
CAGACAGGCAGaa-----	2	-1,-1		
-----				-----ACAGCAGGCA
CAGACAGG-----	34	0,-4		
-----				-----ACAGCAGGCA
CAGACAGGaa-----	2	0,-4		
-----				-----ACAGCAGGCA
CAGACAGGCA-----	94	0,-2		
-----				-----ACAGCAGGCA
CAGACAGGCAa-----	44	0,-2		
-----				-----ACAGCAGGCA
CAGACAGGCAaa-----	24	0,-2		

```

-----ACAGCAGGCA
CAGACAGGCAuu----- 12 0,-2
-----ACAGCAGGCA
CAGACAGGCAu----- 22 0,-2
-----ACAGCAGGCA
CAGACAGGCAuu----- 3 0,-2
-----ACAGCAGGCA
CAGACAGGCAG----- 15 0,-1
-----ACAGCAGGCA
CAGACAGGCAGa----- 51 0,-1
-----ACAGCAGGCA
CAGACAGGCAGaa----- 13 0,-1
-----ACAGCAGGCA
CAGACAGGCAGau----- 2 0,-1
-----ACAGCAGGCA
CAGACAGGCAGU----- 4 0,0
-----ACAGCAGGCA
CAGACAGGCAGUa----- 4 0,0

```

>hsa-mi r-215 5p:27-47 SRX018968

```

aucuucagaaaugguauacaggaaaAUGACCUAUGAAUUGACAGACaauauagcugaguuuugucugucauuucuuuagg
ccaauauucuguaugacugugcuacucaa

```

```

.....(((.(((((((((((.((.(((.(((.((((((((((((.....)))))))))).)))..)))
.)).).)))))).....)))))).)))..

```

```

-----AUGACCUAUGAAUUGACAG-----
----- 56 0,-2
-----AUGACCUAUGAAUUGACAGACA-----
----- 4 0,1
-----UGACCUAUGAAUUGACAG-----
----- 2431 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 24 1,-2
-----UGACCUAUGAAUUGACAGA-----
----- 86 1,-1
-----UGACCUAUGAAUUGACAGAA-----
----- 2 1,-1
-----UGACCUAUGAAUUGACAGAAa-----
----- 6 1,-1

```

```

-----UGACCUAUGAAUUGACAGAC-----
----- 29 1,0
-----UGACCUAUGAAUUGACAGACu-----
----- 3 1,0
-----UGACCUAUGAAUUGACAGACA-----
----- 55 1,1
-----UGACCUAUGAAUUGACAGACAu-----
----- 8 1,1
-----UGACCUAUGAAUUGACAGACAu-----
----- 3 1,1
-----UGACCUAUGAAUUGACAGACAA-----
----- 3 1,2

```

>hsa-mir-216b 5p:11-32 SRX018968

gcagacuggaAAAUCUCUGCAGGCAAUGUGAugucacugaggaaucacacacuacccguagagauucuacagucuga
ca

.(((((((...(((((((((((((.....((((((.....)))))).....)))))).....)))))).....))))).
..

```

-----AAAUCUCUGCAGGCAAUGU-----
-- 4 -1,-2
-----AAAUCUCUGCAGGCAAUGUG-----
-- 7 -1,-1
-----AAAUCUCUGCAGGCAAUGU-----
-- 4 0,-2
-----AAAUCUCUGCAGGCAAUGUG-----
-- 25 0,-1
-----AAAUCUCUGCAGGCAAUGUGu-----
-- 6 0,-1
-----AAAUCUCUGCAGGCAAUGUGA-----
-- 16 0,0
-----AAAUCUCUGCAGGCAAUGUGAa-----
-- 2 0,0
-----AAAUCUCUGCAGGCAAUGUGAU-----
-- 3 0,1

```

>hsa-mir-217 5p:35-57 SRX018968

aguauaauuauuacauaguuuuugaugucgcagaUACUGCAUCAGGAACUGAUUGGAuaagaaucagucaccaucaguuc
cuaaugcauugccuucagcaucuaaacaag

3	-1,-5	-AUACUGCAUCAGGAACUGA-
6	-1,-4	-AUACUGCAUCAGGAACUGAU-
3	-1,-4	-AUACUGCAUCAGGAACUGAU _a -
19	-1,-3	-AUACUGCAUCAGGAACUGAUU-
42	-1,-2	-AUACUGCAUCAGGAACUGAUUG-
7	-1,-2	-AUACUGCAUCAGGAACUGAUUG _a -
4	-1,-2	-AUACUGCAUCAGGAACUGAUUG _u -
6	-1,-1	-AUACUGCAUCAGGAACUGAUUGG-
3	-1,-1	-AUACUGCAUCAGGAACUGAUUGG _u -
4	0,-2	-UACUGCAUCAGGAACUGAUUG-
7	0,0	-UACUGCAUCAGGAACUGAUUGGA-

gugauaauguagcgagaauuuucugUUGUGCUUGAUCUAACCAUGUGguugcggagguaugaguaaaaacAUGGUUCCGUCAA
GCACCAUGGaacgucacgcagcuuucuaca

((((..((.(.(((.((((.((((((((((((((((..(((((((((..(((.....))))).))))))).)))))
))))).)))))..))).)).)).)).).

-----UUGUGCUUGAUCUAACCAUGUGa-----

----- 2 0,1 -----

gaccagucgcugcggggcuuuccuUUGUGCUUGAUCUAACCAUGUgguggaacgauggaaacggaaCAUGGUUCUGUCA
GCACCGCGgaaagcaccgugcuccugca

...(((.(.(.(((.((((((...(((((((.(((((((.....((....)).)))))))).))))))
)))...)))))).))))).)))))...))..

			-AAGCUGCCAGUUGAAGAAau-
14	0,-4		-AAGCUGCCAGUUGAAGAAu-
6	0,-4		-AAGCUGCCAGUUGAAGAAuu-
45	0,-4		-AAGCUGCCAGUUGAAGAAC-
1894	0,-3		-AAGCUGCCAGUUGAAGAACa-
101	0,-3		-AAGCUGCCAGUUGAAGAACaa-
26	0,-3		-AAGCUGCCAGUUGAAGAACau-
3	0,-3		-AAGCUGCCAGUUGAAGAACU-
5964	0,-2		-AAGCUGCCAGUUGAAGAACUa-
51	0,-2		-AAGCUGCCAGUUGAAGAACUaa-
31	0,-2		-AAGCUGCCAGUUGAAGAACUau-
15	0,-2		-AAGCUGCCAGUUGAAGAACUu-
32	0,-2		-AAGCUGCCAGUUGAAGAACUuu-
43	0,-2		-AAGCUGCCAGUUGAAGAACUG-
1430	0,-1		-AAGCUGCCAGUUGAAGAACUGa-
125	0,-1		-AAGCUGCCAGUUGAAGAACUGaa-
12	0,-1		-AAGCUGCCAGUUGAAGAACUGU-
5120	0,0		-AAGCUGCCAGUUGAAGAACUGUa-
81	0,0		-AAGCUGCCAGUUGAAGAACUGUaa-
38	0,0		

-----	-ACCUGGCAUACAAUGUAGAU-	-----
-----	37 0,-2	
-----	-ACCUGGCAUACAAUGUAGAUa-	-----
-----	27 0,-2	
-----	-ACCUGGCAUACAAUGUAGAUaa-	-----
-----	3 0,-2	
-----	-ACCUGGCAUACAAUGUAGAUU-	-----
-----	201 0,-1	
-----	-ACCUGGCAUACAAUGUAGAUUa-	-----
-----	9 0,-1	
-----	-ACCUGGCAUACAAUGUAGAUUU-	-----
-----	485 0,0	
-----	-ACCUGGCAUACAAUGUAGAUUUa-	-----
-----	6 0,0	
-----	-ACCUGGCAUACAAUGUAGAUUUu-	-----
-----	4 0,0	
-----	-ACCUGGCAUACAAUGUAGAUUUC-	-----
-----	51 0,1	
-----	-ACCUGGCAUACAAUGUAGAUUUCa-	-----
-----	2 0,1	
-----	-ACCUGGCAUACAAUGUAGAUUUUCU-	-----
-----	43 0,2	
-----	-CCUGGCAUACAAUGUAGAUUU-	-----
-----	4 1,0	
		-----AGCUACAUUGUCUGCU
GG-----	6 0,-5	
		-----AGCUACAUUGUCUGCU
GGG-----	43 0,-4	
		-----AGCUACAUUGUCUGCU
GGGU-----	23 0,-3	
		-----AGCUACAUUGUCUGCU
GGGUa-----	3 0,-3	
		-----AGCUACAUUGUCUGCU
GGGUaa-----	8 0,-3	
		-----AGCUACAUUGUCUGCU
GGGUau-----	29 0,-3	
		-----AGCUACAUUGUCUGCU
GGGUU-----	131 0,-2	

```

-----AGCUACAUUGUCUGCU
GGGUUa----- 39 0,-2
-----AGCUACAUUGUCUGCU
GGGUUaa----- 47 0,-2
-----AGCUACAUUGUCUGCU
GGGUUau----- 78 0,-2
-----AGCUACAUUGUCUGCU
GGGUUU----- 719 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUa----- 69 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUaa----- 9 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUau----- 13 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUu----- 151 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUuu----- 6 0,-1
-----AGCUACAUUGUCUGCU
GGGUUUC----- 95 0,0
-----AGCUACAUUGUCUGCU
GGGUUUCa----- 3 0,1
-----GCUACAUUGUCUGCU
GGGUau----- 2 1,-3
-----GCUACAUUGUCUGCU
GGGUU----- 3 1,-2
-----GCUACAUUGUCUGCU
GGGUUa----- 2 1,-2
-----GCUACAUUGUCUGCU
GGGUUU----- 12 1,-1
-----GCUACAUUGUCUGCU
GGGUUUa----- 4 1,-1
-----GCUACAUUGUCUGCU
GGGUUUC----- 2 1,0

```

>hsa-mir-222 mi:31-52;MA:69-89 SRX018968

gcugcuggaagguguagguacccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUUGG
CUACUGGGUcucugauggcaucuucuagcu

$\dots(((((((\dots((.((((\dots(((((((((((((((((\dots(((\dots\dots\dots))))))\dots)))\dots))))))\dots)).$

-----AGCUACAUCUGG

CUACUG----- 327 0,-3

-----AGCUACAUCUGG

CUACUGG----- 467 0,-2

-----AGCUACAUCUGG

CUACUGGG----- 421 0,-1

-----AGCUACAUCUGG

CUACUGGGa----- 9 0, -1

-----AGCUACAUCUGG

CUACUGGGaa----- 3 0, -1

-----AGCUACAUCUGG

CUACUGGGU----- 968 0,0

-----AGCUACAUCUGG

CUACUGGGUa----- 121 0,0

-----AGCUACAUCUGG

CUACUGGGU_{aa}----- 226 0,0

-----AGCUACAUCUGG

CUACUGGGU_{au}----- 151 0,0

-----AGCUACAUCUGG

CUACUGGGU_u----- 148 0,0

-----AGCUACAUCUGG

CUACUGGGUuu----- 34 0,0

-----AGCUACAUCUGG

CUACUGGGUC----- 1364 0,1

-----AGCUACAUCUGG

CUACUGGGUCa----- 149 0,1

-----AGCUACAUCUGG

CUACUGGGUCaa----- 23 0,1

-----AGCUACAUCUGG

CUACUGGGUC_{au}----- 41 0,1

-----AGCUACAUCUGG

CUACUGGGUCU----- 1324 0,2

-----AGCUACAUCUGG

CUACUGGGUCU_a----- 24 0,2

-----AGCUACAUCUGG

CUACUGGGUCU_{aa}----- 9 0,2


```

-----AGCUACAUCUGG
CUACUGGGUCUau----- 23 0,2
-----AGCUACAUCUGG
CUACUGGGUCUu----- 104 0,2
-----AGCUACAUCUGG
CUACUGGGUCUuu----- 51 0,2
-----AGCUACAUCUGG
CUACUGGGUCUC----- 106 0,3
-----AGCUACAUCUGG
CUACUGGGUCUCa----- 10 0,3
-----AGCUACAUCUGG
CUACUGGGUCUCU----- 41 0,4
-----GCUACAUCUGG
CUACUGGG----- 3 1,-1
-----GCUACAUCUGG
CUACUGGGUC----- 10 1,1
-----GCUACAUCUGG
CUACUGGGUCa----- 2 1,1
-----GCUACAUCUGG
CUACUGGGUCU----- 5 1,2

```

>hsa-mi r-223 mi:26-47;MA:68-89 SRX018968

```

ccuggccuccugcagugccacgcucCGUGUAUUUGACAAGCUGAGUUggacacuccaugugguagagUGUCAGUUUGUCA
AAUACCCCAagugcggcacaugcuuaccag
.((((.....(((((((.(((((.((((((((((((((((.....(((((((.....))))))))))))))))))
))))).).))))).))))).))))).))))))
-----UGUCAGUUUGUCA
AAUAC----- 36 0,-4
-----UGUCAGUUUGUCA
AAUACC----- 73 0,-3
-----UGUCAGUUUGUCA
AAUACCC----- 45 0,-2
-----UGUCAGUUUGUCA
AAUACCCC----- 50 0,-1
-----UGUCAGUUUGUCA
AAUACCCCA----- 172 0,0
-----UGUCAGUUUGUCA
AAUACCCCAu----- 69 0,0

```

```

-----UGUCAGUUUGUCA
AAUACCCCAuu----- 9 0,0
-----UGUCAGUUUGUCA
AAUACCCCAA----- 203 0,1
-----UGUCAGUUUGUCA
AAUACCCCAAa----- 14 0,1
-----UGUCAGUUUGUCA
AAUACCCCAAu----- 40 0,1
-----UGUCAGUUUGUCA
AAUACCCCAAG----- 2 0,2
-----UGUCAGUUUGUCA
AAUACCCCAAGa----- 2 0,2
-----GUCAGUUUGUCA
AAUACC----- 22 1,-3
-----GUCAGUUUGUCA
AAUACCC----- 10 1,-2
-----GUCAGUUUGUCA
AAUACCCC----- 10 1,-1
-----GUCAGUUUGUCA
AAUACCCCA----- 19 1,0
-----GUCAGUUUGUCA
AAUACCCCAu----- 4 1,0
-----GUCAGUUUGUCA
AAUACCCCAA----- 49 1,1
-----GUCAGUUUGUCA
AAUACCCCAAa----- 4 1,1
-----GUCAGUUUGUCA
AAUACCCCAAu----- 9 1,1

```

>hsa-mir-224 MA:8-28;mi:53-75 SRX018968

gggcuuuCAAGUCACUAGUGGUUCCGUUuaguagaugauugugcauuguuucAAAAUGGUGCCCUAGUGACUACAaagcc
c

((((((((..(((((((((((((..(((((((..(((((((.....)))))).)))))).)))))).))))))..))))))
)

```

-----CAAGUCACUAGUGGUUCCGUU-----
- 4 0,0
-----CAAGUCACUAGUGGUUCCGUUU-----
- 35 0,1

```

```

-----CAAGUCACUAGUGGUUCCGUUUu-----
- 2 0,1
-----CAAGUCACUAGUGGUUCCGUUUA-----
- 19 0,2
-----CAAGUCACUAGUGGUUCCGUUUAG-----
- 56 0,3
-----CAAGUCACUAGUGGUUCCGUUUAGa-----
- 2 0,3
-----CAAGUCACUAGUGGUUCCGUUUAGU-----
- 2 0,4
-----AAAUGGUGCCCUAGUGAC-----
- 2 0,-4
-----AAAUGGUGCCCUAGUGACUAC-----
- 2 0,-1
-----AAAUGGUGCCCUAGUGAC-----
- 5 1,-4
-----AAAUGGUGCCCUAGUGACU-----
- 2 1,-3
-----AAAUGGUGCCCUAGUGACUA-----
- 2 1,-2
-----AAAUGGUGCCCUAGUGACUAa-----
- 4 1,-2
-----AAAUGGUGCCCUAGUGACUAu-----
- 2 1,-2
-----AAAUGGUGCCCUAGUGACUACA-----
- 7 1,0

```

>hsa-mir-2355 5p:11-31;3p:54-75 SRX018968

cagacgugucAUCCCCAGAUACAAUGGACAAnaugcuauuauaauaugcuauggcAUUGUCCUUGCUGUUUGGAGAUaauac
ugcugac

(((((((.(((.((((((((((.((((((.((((((.....))))))))))))))))).)))))).))))..))..))..

```

-----AUCCCCAGAUACAAUGGACAu-----
----- 8 0,1

```

>hsa-mir-23a mi:9-30;MA:45-65 SRX018968

ggccggcuGGGGUCCUGGGGAUGGGAUUUgcuuccugucacaaAUCACAUUGCCAGGGAUUUCaaccgacc

(((((.((((((((((((((.((((((.((((((.....))))))))))))).)))))).)))))).))))..))..))..

-----GGGGUCCUGGGGAUGGGAUU-----	2
0,0	
-----AAUCACAUUGCCAGGGAUUUCCA-----	3
-2,1	
-----AAUCACAUUGCCAGGGAUU-----	3
-1,-3	
-----AAUCACAUUGCCAGGGAUUU-----	16
-1,-2	
-----AAUCACAUUGCCAGGGAUUUa-----	5
-1,-2	
-----AAUCACAUUGCCAGGGAUUUu-----	2
-1,-2	
-----AAUCACAUUGCCAGGGAUUUC-----	16
-1,-1	
-----AAUCACAUUGCCAGGGAUUUCa-----	5
-1,-1	
-----AAUCACAUUGCCAGGGAUUUCC-----	18
-1,0	
-----AAUCACAUUGCCAGGGAUUUCCA-----	12
-1,1	
-----AUCACAUUGCCAGGGAUU-----	159
0,-3	
-----AUCACAUUGCCAGGGAUUU-----	2176
0,-2	
-----AUCACAUUGCCAGGGAUUUa-----	338
0,-2	
-----AUCACAUUGCCAGGGAUUUaa-----	94
0,-2	
-----AUCACAUUGCCAGGGAUUUau-----	12
0,-2	
-----AUCACAUUGCCAGGGAUUUu-----	187
0,-2	
-----AUCACAUUGCCAGGGAUUUuu-----	7
0,-2	
-----AUCACAUUGCCAGGGAUUUC-----	1768
0,-1	
-----AUCACAUUGCCAGGGAUUUCa-----	302
0,-1	

-----AUCACAUUGCCAGGGAUUUCaa-----	26
0,-1	
-----AUCACAUUGCCAGGGAUUUCu-----	28
0,-1	
-----AUCACAUUGCCAGGGAUUUCC-----	1529
0,0	
-----AUCACAUUGCCAGGGAUUUCCu-----	27
0,0	
-----AUCACAUUGCCAGGGAUUUCCuu-----	3
0,0	
-----AUCACAUUGCCAGGGAUUUCCA-----	5168
0,1	
-----AUCACAUUGCCAGGGAUUUCCAu-----	517
0,1	
-----AUCACAUUGCCAGGGAUUUCCAuu-----	17
0,1	
-----AUCACAUUGCCAGGGAUUUCCAA-----	760
0,2	
-----AUCACAUUGCCAGGGAUUUCCAAa-----	10
0,2	
-----AUCACAUUGCCAGGGAUUUCCAAu-----	80
0,2	
-----AUCACAUUGCCAGGGAUUUCCAAuu-----	7
0,2	
-----AUCACAUUGCCAGGGAUUUCCAAC-----	6
0,3	
-----UCACAUUGCCAGGGAUUUa-----	4
1,-2	
-----UCACAUUGCCAGGGAUUUu-----	2
1,-2	
-----UCACAUUGCCAGGGAUUUC-----	6
1,-1	
-----UCACAUUGCCAGGGAUUUCC-----	11
1,0	
-----UCACAUUGCCAGGGAUUUCCA-----	19
1,1	
-----UCACAUUGCCAGGGAUUUCCAA-----	11
1,2	

-----UCACAUUGCCAGGGAUUUCCAAu----- 2
1,2

-----UCACAUUGCCAGGGAUUUCCAAC----- 2
1,3

>hsa-mir-23b mi:20-41;MA:58-78 SRX018968

cucaggugcucuggcugcuUGGGUCCUGGCAUGCUGAUUgugacuuaagauuaaaAUCACAUGCCAGGGAUUACCac
gcaaccacgaccuuggc

.(((((.(((((((.((((((((((.((((((.....)))))).)))))..))).
)))..))))).

UUGGGUUCCUGGCAUGCUGAU	
3	-1,-2
UUGGGUUCCUGGCAUGCUGAUa	
2	-1,-2
UUGGGUUCCUGGCAUGCUGAUU	
6	-1,-1
UUGGGUUCCUGGCAUGCUGAUUU	
9	-1,0
UGGGUUCCUGGCAUGCUGA	
4	0,-3
UGGGUUCCUGGCAUGCUGAaa	
3	0,-3
UGGGUUCCUGGCAUGCUGAU	
40	0,-2
UGGGUUCCUGGCAUGCUGAUa	
32	0,-2
UGGGUUCCUGGCAUGCUGAUU	
96	0,-1
UGGGUUCCUGGCAUGCUGAUUa	
5	0,-1
UGGGUUCCUGGCAUGCUGAUUaa	
2	0,-1
UGGGUUCCUGGCAUGCUGAUUU	
206	0,0
UGGGUUCCUGGCAUGCUGAUUUa	
11	0,0
UGGGUUCCUGGCAUGCUGAUUUu	
16	0,0

```

-----GGGUUCCUGGCAUGCUGAU-----
-----6 1,-2-----
-----GGGUUCCUGGCAUGCUGAUa-----
-----3 1,-2-----
-----GGGUUCCUGGCAUGCUGAUU-----
-----15 1,-1-----
-----GGGUUCCUGGCAUGCUGAUUU-----
-----59 1,0-----
-----GGGUUCCUGGCAUGCUGAUUUu-----
-----11 1,0-----
-----GGGUUCCUGGCAUGCUGAUUUUG-----
-----6 1,1-----
-----GGGUUCCUGGCAUGCUGAUUUUGU-----
-----8 1,2-----
-----GGGUUCCUGGCAUGCUGAUUUUGUG-----
-----4 1,3-----
-----GGGUUCCUGGCAUGCUGAUUUUGUGA-----
-----2 1,4-----
-----AAUCACAUUGCCAGGGGAUU-----
-----3 -1,-3-----
-----AAUCACAUUGCCAGGGGAUUA-----
-----2 -1,-2-----
-----AAUCACAUUGCCAGGGGAUUAa-----
-----2 -1,-2-----
-----AAUCACAUUGCCAGGGGAUUAC-----
-----4 -1,-1-----
-----AAUCACAUUGCCAGGGGAUUACC-----
-----9 -1,0-----
-----AAUCACAUUGCCAGGGGAUUACCA-----
-----3 -1,1-----
-----AAUCACAUUGCCAGGGGAUUACCAC-----
-----2 -1,2-----
-----AAUCACAUUGCCAGGGGAUUACCAC-----
u-----2 -1,2-----
-----AUCACAUUGCCAGGGGAUU-----
-----159 0,-3-----
-----AUCACAUUGCCAGGGGAUUA-----
-----990 0,-2-----

```

-----			-----AUCACAUUGCCAGGGAUUAa---
-----	452	0,-2	
-----			-----AUCACAUUGCCAGGGAUUAaa---
-----	53	0,-2	
-----			-----AUCACAUUGCCAGGGAUUAau---
-----	4	0,-2	
-----			-----AUCACAUUGCCAGGGAUUAu---
-----	118	0,-2	
-----			-----AUCACAUUGCCAGGGAUUAuu---
-----	11	0,-2	
-----			-----AUCACAUUGCCAGGGAUUAC---
-----	700	0,-1	
-----			-----AUCACAUUGCCAGGGAUUACa---
-----	176	0,-1	
-----			-----AUCACAUUGCCAGGGAUUACaa---
-----	16	0,-1	
-----			-----AUCACAUUGCCAGGGAUUACu---
-----	24	0,-1	
-----			-----AUCACAUUGCCAGGGAUUACC---
-----	991	0,0	
-----			-----AUCACAUUGCCAGGGAUUACCu---
-----	25	0,0	
-----			-----AUCACAUUGCCAGGGAUUACCuu---
-----	7	0,0	
-----			-----AUCACAUUGCCAGGGAUUACCA---
-----	2352	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAa---
-----	60	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAa
u-----	3	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAu
-----	445	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAu
u-----	230	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAC
-----	499	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
a-----	123	0,2	

-----				-----AUCACAUUGCCAGGGGAUUACCAC
aa-----	5	0,2		
-----				-----AUCACAUUGCCAGGGGAUUACCAC
au-----	6	0,2		
-----				-----AUCACAUUGCCAGGGGAUUACCAC
u-----	1289	0,2		
-----				-----AUCACAUUGCCAGGGGAUUACCAC
uu-----	11	0,2		
-----				-----AUCACAUUGCCAGGGGAUUACCAC
G-----	12	0,3		
-----				-----AUCACAUUGCCAGGGGAUUACCAC
Gu-----	4	0,3		
-----				-----UCACAUUGCCAGGGGAUUA----
-----	3	1,-2		
-----				-----UCACAUUGCCAGGGGAUUAa---
-----	3	1,-2		
-----				-----UCACAUUGCCAGGGGAUUAu---
-----	3	1,-2		
-----				-----UCACAUUGCCAGGGGAUUAC---
-----	9	1,-1		
-----				-----UCACAUUGCCAGGGGAUUACa--
-----	4	1,-1		
-----				-----UCACAUUGCCAGGGGAUUACaa-
-----	2	1,-1		
-----				-----UCACAUUGCCAGGGGAUUACC--
-----	15	1,0		
-----				-----UCACAUUGCCAGGGGAUUACCA-
-----	33	1,1		
-----				-----UCACAUUGCCAGGGGAUUACCAa
-----	7	1,1		
-----				-----UCACAUUGCCAGGGGAUUACCAu
-----	4	1,1		
-----				-----UCACAUUGCCAGGGGAUUACCAu
u-----	36	1,1		
-----				-----UCACAUUGCCAGGGGAUUACCAC
-----	10	1,2		
-----				-----UCACAUUGCCAGGGGAUUACCAC
a-----	17	1,2		

-----			UCACAUUGCCAGGGAUUACCAC
u-----	107	1,2	
-----			UCACAUUGCCAGGGAUUACCAC
uu-----	10	1,2	
-----			UCACAUUGCCAGGGAUUACCAC
G-----	2	1,3	

```
>hsa-mir-23c      3p:66-87      SRX018968
agugacuuuccaggugucacacagugaguggcauaaucagaguacaauuugagucaugcccauacAUCACAUUGCCAGUG
AUUACCCaaggaaagugacg
.(((.((((((.((((((((((((((((((.((((((.....))))))...))))))...)).))))...))
).))))...)))))))).).
-----AUCACAUUGCCAGUG
AUU-----      2      0,-4
```

>hsa-mir-24-1	mi:7-28;MA:44-65	SRX018968		
cuccggUGCCUACUGAGCUGAUUUCAGU	UucucauuuuuacacacUGGCUCAGUUCAGCAGGAACAGgag			
(((((.(.(((.(((((((.(.(((.(.....)))))).)))))))))).)))				
-----GGUGCCUACUGAGCUGAUUUCAGU-----		2	-2,0	
-----GUGCCUACUGAGCUGAUUAa-----		3		
-1,-4				
-----GUGCCUACUGAGCUGAUUAUCA-----		10		
-1,-2				
-----GUGCCUACUGAGCUGAUUUCAG-----		2		
-1,-1				
-----GUGCCUACUGAGCUGAUUUCAGU-----		7	-1,0	
-----GUGCCUACUGAGCUGAUUUCAGUUC-----		2	-1,2	
-----UGCCUACUGAGCUGAUUAUCA-----		5	0,-2	
-----UGGCUCAGUUCAGCAGGA-----		31	0,-4	
-----UGGCUCAGUUCAGCAGGAA-----		149	0,-3	
-----UGGCUCAGUUCAGCAGGAAa-----		62	0,-3	
-----UGGCUCAGUUCAGCAGGAAaa-----		4	0,-3	
-----UGGCUCAGUUCAGCAGGAAau-----		7	0,-3	
-----UGGCUCAGUUCAGCAGGAAu-----		18	0,-3	
-----UGGCUCAGUUCAGCAGGAAC-----		160	0,-2	
-----UGGCUCAGUUCAGCAGGAACA-----		207	0,-1	
-----UGGCUCAGUUCAGCAGGAACAa-----		76	0,-1	
-----UGGCUCAGUUCAGCAGGAACAaa-----		11	0,-1	

-----UGGCUCAGUUCAGCAGGAaAa---	4
0,-3	
-----UGGCUCAGUUCAGCAGGAauAa---	7
0,-3	
-----UGGCUCAGUUCAGCAGGAuAa----	18
0,-3	
-----UGGCUCAGUUCAGCAGGAAC----	160
0,-2	
-----UGGCUCAGUUCAGCAGGAACA---	207
0,-1	
-----UGGCUCAGUUCAGCAGGAACAa--	76
0,-1	
-----UGGCUCAGUUCAGCAGGAACAaa-	11
0,-1	
-----UGGCUCAGUUCAGCAGGAACAau-	2
0,-1	
-----UGGCUCAGUUCAGCAGGAACAu--	22
0,-1	
-----UGGCUCAGUUCAGCAGGAACAuu-	5
0,-1	
-----UGGCUCAGUUCAGCAGGAACAG--	1627
0,0	
-----UGGCUCAGUUCAGCAGGAACAGa-	79
0,0	
-----UGGCUCAGUUCAGCAGGAACAGau	9
0,0	
-----UGGCUCAGUUCAGCAGGAACAGu-	2339
0,0	
-----UGGCUCAGUUCAGCAGGAACAGuu	183
0,0	
-----UGGCUCAGUUCAGCAGGAACAGG-	13
0,1	
-----UGGCUCAGUUCAGCAGGAACAGGu	2
0,1	
-----GGCUCAGUUCAGCAGGAACAG--	8
1,0	
-----GGCUCAGUUCAGCAGGAACAGu-	31
1,0	

```

-----GCUCAGUUCAGCAGGAACAG-- 13
2,0
-----GCUCAGUUCAGCAGGAACAGu- 6
2,0
-----GCUCAGUUCAGCAGGAACAGuu 4
2,0
-----GCUCAGUUCAGCAGGAACAGG- 2
2,1

```

>hsa-mir-25 mi:14-34;MA:52-73 SRX018968

ggccaguguugagAGGCGGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc

(((((.(.(((.((((.((((.((((.((((.(.....))..)))))))).)..))))).))))..)).
)))

```

-----AGGCGGAGACUUGGGCAAUU-----
---- 2 0,-1
-----AGGCGGAGACUUGGGCAAUUG-----
---- 10 0,0
-----AGGCGGAGACUUGGGCAAUUGC-----
---- 12 0,1
-----AGGCGGAGACUUGGGCAAUUGCU-----
---- 63 0,2
-----AGGCGGAGACUUGGGCAAUUGCUu-----
---- 2 0,2
-----CAUUGCACUUGUCUCGGU-----
---- 70 0,-4
-----CAUUGCACUUGUCUCGGUa-----
---- 2 0,-4
-----CAUUGCACUUGUCUCGGUC-----
---- 139 0,-3
-----CAUUGCACUUGUCUCGGUCU-----
---- 284 0,-2
-----CAUUGCACUUGUCUCGGUCUaa-----
---- 3 0,-2
-----CAUUGCACUUGUCUCGGUCUuu-----
---- 3 0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
---- 186 0,-1

```

```

-----CAUUGCACUUGUCUCGGUCUGu-----
---- 35 0,-1
-----CAUUGCACUUGUCUCGGUCUGuu-----
---- 4 0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
---- 500 0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----
---- 18 0,0
-----CAUUGCACUUGUCUCGGUCUGAaa-----
---- 3 0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
---- 11 0,0
-----AUUGCACUUGUCUCGGUCU-----
---- 13 1,-2
-----AUUGCACUUGUCUCGGUCUG-----
---- 3 1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
---- 20 1,0

```

>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018968

```

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.((((((.(((((((.(((((((.((.....))...)))))))))).)))))))).)))))))).)))
-----UUCAAGUAAUCCAGGAUA-----
894 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
43 0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
7 0,-4
-----UUCAAGUAAUCCAGGAUAu-----
5 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
2187 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
11 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
2372 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
17 0,-2

```

```

-----UUCAAGUAAUCCAGGAUAGGaa-----
12  0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
16  0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
17  0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
24  0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
950 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
1815  0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
695 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
350 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
12563  0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
128 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
178 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
451 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
231 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
350 0,0
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
2  0,1
-----UCAAGUAAUCCAGGAUAG-----
18  1,-3
-----UCAAGUAAUCCAGGAUAGG-----
25  1,-2
-----UCAAGUAAUCCAGGAUAGGaa-----
2  1,-2
-----UCAAGUAAUCCAGGAUAGGCa-----
17  1,-1

```

```

-----UCAAGUAAUCCAGGAUAGGCaa-----
9   1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
3   1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
81  1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
2   1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
3   1,0
-----CAAGUAAUCCAGGAUAGGCU-----
7   2,0

```

>hsa-mir-26a-2 MA:14-35;mi:52-73 SRX018968

```

ggcuguggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu

```

```

(((((((...(((((.....)))))))))).)))))))))
)))

```

```

-----AUUCAAGUAAUCCAGGAUAGGCa-----
---- 3   -1,-1
-----AUUCAAGUAAUCCAGGAUAGGCU-----
---- 4   -1,0
-----UUCAAGUAAUCCAGGAUA-----
---- 894 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 43  0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
---- 7   0,-4
-----UUCAAGUAAUCCAGGAUAu-----
---- 5   0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 2187 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
---- 11  0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 2372 0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
---- 17  0,-2

```



```

-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 12 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
---- 16 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 17 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 24 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
---- 950 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 1815 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 695 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 350 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 12563 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
---- 128 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
---- 178 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
---- 451 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
---- 231 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
---- 350 0,0
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
---- 2 0,1
-----UCAAGUAAUCCAGGAUAG-----
---- 18 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
---- 25 1,-2
-----UCAAGUAAUCCAGGAUAGGaa-----
---- 2 1,-2
-----UCAAGUAAUCCAGGAUAGGCa-----
---- 17 1,-1

```

```

-----UCAAGUAAUCCAGGAUAGGCaa-----
---- 9 1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
---- 3 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
---- 81 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
---- 2 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
---- 3 1,0
-----CAAGUAAUCCAGGAUAGGCU-----
---- 7 2,0
-----CCUAUUCUUGAUUACUUGUUUC-----
---- 2 0,0

```

>hsa-mir-26b MA:12-32;mi:47-68 SRX018968

```

ccgggaccagUUCAAGUAAUUCAGGAUAGGUgugugcuguccagCCUGUUCUCCAUUACUUGGCUCggggaccgg
((((..((((((.(((((((..(((((((((((. ....))))))))))..)))))))).))))))
-----UUCAAGUAAUUCAGGAUA-----
87 0,-3
-----UUCAAGUAAUUCAGGAUAa-----
3 0,-3
-----UUCAAGUAAUUCAGGAUAG-----
627 0,-2
-----UUCAAGUAAUUCAGGAUAGG-----
950 0,-1
-----UUCAAGUAAUUCAGGAUAGGa-----
8 0,-1
-----UUCAAGUAAUUCAGGAUAGGau-----
3 0,-1
-----UUCAAGUAAUUCAGGAUAGGU-----
1103 0,0
-----UUCAAGUAAUUCAGGAUAGGUa-----
296 0,0
-----UUCAAGUAAUUCAGGAUAGGUaa-----
427 0,0
-----UUCAAGUAAUUCAGGAUAGGUau-----
129 0,0

```

```

-----UUCAAGUAAUUCAGGAUAGGUU-----
4041    0,1
-----UUCAAGUAAUUCAGGAUAGGUUa-----
512    0,1
-----UUCAAGUAAUUCAGGAUAGGUUaa-----
37    0,1
-----UUCAAGUAAUUCAGGAUAGGUUau-----
15    0,1
-----UUCAAGUAAUUCAGGAUAGGUUu-----
506    0,1
-----UUCAAGUAAUUCAGGAUAGGUUuu-----
13    0,1
-----UUCAAGUAAUUCAGGAUAGGUUG-----
12    0,2
-----UUCAAGUAAUUCAGGAUAGGUUGU-----
4    0,3
-----UCAAGUAAUUCAGGAUAG-----
7    1,-2
-----UCAAGUAAUUCAGGAUAGG-----
5    1,-1
-----UCAAGUAAUUCAGGAUAGGU-----
6    1,0
-----UCAAGUAAUUCAGGAUAGGUaa-----
2    1,0
-----UCAAGUAAUUCAGGAUAGGUU-----
19    1,1
-----UCAAGUAAUUCAGGAUAGGUUa-----
3    1,1
-----UCAAGUAAUUCAGGAUAGGUUu-----
2    1,1
-----CCUGUUCUCCAUUACUUGGCU-----
2    0,-1
-----CCUGUUCUCCAUUACUUGGCUau-----
3    0,-1
-----CCUGUUCUCCAUUACUUGGCUC-----
2    0,0

```

>hsa-mir-27a mi:10-31;MA:51-71 SRX018968

```

cugaggagcAGGGCUUAGCUGCUUGUGAGCAAggguccacaccaagucgugUUCACAGUGGCUAAGUUCCGCccccag
(((.(((.(.(((((((((.((.(((((((.(.((.....))).)))))))).)))))))).))))))
-----AGGGCUUAGCUGCUUGUGAG-----
2   0,-2
-----AGGGCUUAGCUGCUUGUGAGCA-----
3   0,0
-----GUUCACAGUGGCUAAGUU-----
11  -1,-4
-----GUUCACAGUGGCUAAGUUC-----
16  -1,-3
-----UUCACAGUGGCUAAGUUC-----
5420  0,-3
-----UUCACAGUGGCUAAGUUCa-----
21   0,-3
-----UUCACAGUGGCUAAGUUCC-----
193  0,-2
-----UUCACAGUGGCUAAGUUCCu-----
3    0,-2
-----UUCACAGUGGCUAAGUUCCuu-----
2    0,-2
-----UUCACAGUGGCUAAGUUCCG-----
473  0,-1
-----UUCACAGUGGCUAAGUUCCGa-----
83   0,-1
-----UUCACAGUGGCUAAGUUCCGaa-----
6    0,-1
-----UUCACAGUGGCUAAGUUCCGau-----
4    0,-1
-----UUCACAGUGGCUAAGUUCCGu-----
101  0,-1
-----UUCACAGUGGCUAAGUUCCGuu-----
14   0,-1
-----UUCACAGUGGCUAAGUUCCGC-----
81   0,0
-----UUCACAGUGGCUAAGUUCCGCa-----
3    0,0
-----UUCACAGUGGCUAAGUUCCGCaa-----
16   0,0

```

```

-----UUCACAGUGGCUAAGUCCGCau-----
9    0,0
-----UCACAGUGGCUAAGUUC-----
2    1,-2

>hsa-mir-27b    mi:19-40;MA:61-81    SRX018968
accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug
((((((((.....((((((((((((((((((((.....((((((((.....((...)))..))))))))..)))))))))))))
))))..))))..))))).
-----AGAGCUUAGCUGAUUGGUG-----
-----2    0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
-----48    0,-2
-----AGAGCUUAGCUGAUUGGUGAA-----
-----36    0,-1
-----AGAGCUUAGCUGAUUGGUGAAa-----
-----3    0,-1
-----AGAGCUUAGCUGAUUGGUGAAC-----
-----4    0,0
-----AGAGCUUAGCUGAUUGGUGAACA-----
-----4    0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
-----3    0,2
-----GUUCACAGUGGCUAAGUU-----
-----11    -1,-4
-----GUUCACAGUGGCUAAGUUC-----
-----16    -1,-3
-----GUUCACAGUGGCUAAGUUCU-----
-----2    -1,-2
-----GUUCACAGUGGCUAAGUUCUG
-----2    -1,-1
-----UUCACAGUGGCUAAGUUC-----
-----5420    0,-3
-----UUCACAGUGGCUAAGUUCa-----
-----21    0,-3
-----UUCACAGUGGCUAAGUUCU-----
-----1032    0,-2

```

```

-----UUCACAGUGGCUAAGUUCUa
----- 5 0,-2
-----UUCACAGUGGCUAAGUUCUa
a----- 5 0,-2
-----UUCACAGUGGCUAAGUUCUu
----- 5 0,-2
-----UUCACAGUGGCUAAGUUCUu
u----- 7 0,-2
-----UUCACAGUGGCUAAGUUCUG
----- 103 0,-1
-----UUCACAGUGGCUAAGUUCUG
a----- 32 0,-1
-----UUCACAGUGGCUAAGUUCUG
aa----- 22 0,-1
-----UUCACAGUGGCUAAGUUCUG
u----- 13 0,-1
-----UUCACAGUGGCUAAGUUCUG
uu----- 8 0,-1
-----UUCACAGUGGCUAAGUUCUG
C----- 104 0,0
-----UUCACAGUGGCUAAGUUCUG
Cu----- 6 0,0
-----UUCACAGUGGCUAAGUUCUG
CA----- 34 0,1
-----UUCACAGUGGCUAAGUUCUG
CAa----- 22 0,1
-----UUCACAGUGGCUAAGUUCUG
CAu----- 10 0,1
-----UUCACAGUGGCUAAGUUCU-
----- 3 1,-2

```

>hsa-mir-28 5p:14-35;3p:54-75 SRX018968

```

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGUuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu
(((.(((((((((.(((((((((((((((((.((((((.....))))).))))).))))).))))).))))))
)).)))
-----CAAGGAGCUCACAGUCUAUUG-----
----- 2 -1,-2

```

```

-----AAGGAGCUCACAGUCUAUa-----
----- 10 0,-4
-----AAGGAGCUCACAGUCUAUU-----
----- 22 0,-3
-----AAGGAGCUCACAGUCUAUUa-----
----- 6 0,-3
-----AAGGAGCUCACAGUCUAUUG-----
----- 35 0,-2
-----AAGGAGCUCACAGUCUAUUGA-----
----- 94 0,-1
-----AAGGAGCUCACAGUCUAUUGAa-----
----- 4 0,-1
-----AAGGAGCUCACAGUCUAUUGAaa-----
----- 2 0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 66 0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 13 0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 3 0,1
-----CACUAGAUUGUGAGCUCCU-----
----- 2 0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 7 0,-2
-----CACUAGAUUGUGAGCUCCUGa-----
----- 3 0,-2
-----CACUAGAUUGUGAGCUCCUGaa-----
----- 6 0,-2
-----CACUAGAUUGUGAGCUCCUGG-----
----- 131 0,-1
-----CACUAGAUUGUGAGCUCCUGGu-----
----- 3 0,-1
-----CACUAGAUUGUGAGCUCCUGGA-----
----- 670 0,0
-----CACUAGAUUGUGAGCUCCUGGAa-----
----- 355 0,0
-----CACUAGAUUGUGAGCUCCUGGAaa-----
----- 30 0,0

```



```

aagaaaUGGUUUACCGUCCCACAUACAUnuugaauaugUAUGUGGGAUGGUAAACCGCUUcuu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUGGUUUACCGUCCCACAU----- 5 -1,-3
-----AUGGUUUACCGUCCCACAUAC----- 7 -1,-2
-----AUGGUUUACCGUCCCACAUACA----- 24 -1,-1
-----UGGUUUACCGUCCCACAU----- 8 0,-3
-----UGGUUUACCGUCCCACAUAC----- 12 0,-2
-----UGGUUUACCGUCCCACAUACA----- 22 0,-1
-----UGGUUUACCGUCCCACAUACA----- 52 0,0
-----UAUGUGGGAUGGUAAACCGCUU--- 2 0,0

```

>hsa-mir-29a mi:4-25;MA:42-63 SRX018968

```

augACUGAUUUUUUGGUGUUCAGagucaauauauuuuucUAGCACCAUCUGAAAUCGGUUAu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
---ACUGAUUUUUUGGUGUUCAG----- 10 0,0
---ACUGAUUUUUUGGUGUUCAGA----- 3 0,1
-----CUAGCACCAUCUGAAAUC----- 4 -1,-5
-----CUAGCACCAUCUGAAAUCG----- 9 -1,-4
-----CUAGCACCAUCUGAAAUCGu---- 3 -1,-4
-----CUAGCACCAUCUGAAAUCGG---- 30 -1,-3
-----CUAGCACCAUCUGAAAUCGGa--- 2 -1,-3
-----CUAGCACCAUCUGAAAUCGGU--- 57 -1,-2
-----CUAGCACCAUCUGAAAUCGGUa-- 12 -1,-2
-----CUAGCACCAUCUGAAAUCGGUaa- 16 -1,-2
-----CUAGCACCAUCUGAAAUCGGUU-- 436 -1,-1
-----CUAGCACCAUCUGAAAUCGGUUu- 76 -1,-1
-----CUAGCACCAUCUGAAAUCGGUUA- 140 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAa 15 -1,0
-----CUAGCACCAUCUGAAAUCGGUUAU 9 -1,1
-----UAGCACCAUCUGAAAUCG----- 103 0,-4
-----UAGCACCAUCUGAAAUCGu---- 2 0,-4
-----UAGCACCAUCUGAAAUCGG---- 2000 0,-3
-----UAGCACCAUCUGAAAUCGGa--- 14 0,-3
-----UAGCACCAUCUGAAAUCGGaa-- 4 0,-3
-----UAGCACCAUCUGAAAUCGGau-- 10 0,-3
-----UAGCACCAUCUGAAAUCGGU--- 621 0,-2
-----UAGCACCAUCUGAAAUCGGUa-- 114 0,-2
-----UAGCACCAUCUGAAAUCGGUaa- 913 0,-2

```

-----UAGCACCAUCUGAAAUCGGUau-	59	0,-2
-----UAGCACCAUCUGAAAUCGGUU--	9070	0,-1
-----UAGCACCAUCUGAAAUCGGUUu-	2646	0,-1
-----UAGCACCAUCUGAAAUCGGUUuu	49	0,-1
-----UAGCACCAUCUGAAAUCGGUUA-	27816	0,0
-----UAGCACCAUCUGAAAUCGGUUAa	2262	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	15	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	2	0,0
-----UAGCACCAUCUGAAAUCGGUUAU	780	0,1
-----UAGCACCAUCUGAAAUCGGUUAUa	11	0,1
-----UAGCACCAUCUGAAAUCGGUUAUu	5	0,1
-----AGCACCAUCUGAAAUCGG----	14	1,-3
-----AGCACCAUCUGAAAUCGGU---	2	1,-2
-----AGCACCAUCUGAAAUCGGUaa-	7	1,-2
-----AGCACCAUCUGAAAUCGGUau-	2	1,-2
-----AGCACCAUCUGAAAUCGGUU--	33	1,-1
-----AGCACCAUCUGAAAUCGGUUu-	19	1,-1
-----AGCACCAUCUGAAAUCGGUUA-	173	1,0
-----AGCACCAUCUGAAAUCGGUUAa	24	1,0
-----AGCACCAUCUGAAAUCGGUUAU	10	1,1
-----GCACCAUCUGAAAUCGGUU--	2	2,-1
-----GCACCAUCUGAAAUCGGUUu-	3	2,-1
-----GCACCAUCUGAAAUCGGUUA-	8	2,0

>hsa-mi r-29b-1 mi:10-33;MA:51-73 SRX018968

cuucaggaaGCUGGUUCAUAUGGUGGUUAGAuuuuauagugaauugucUAGCACCAUUUGAAUCAGUGUucuggggg

•

-----CUAGCACCAUUUGAAAUCAG-----

- 3 -1, -4

-----CUAGCACCAUUUGAAAUCAGU-----

- 63 -1,-3

-----CUAGCACCAUUUGAAAUCAGUu-----

- 2 -1,-3

-----CUAGCACCAUUUGAAAUCAGUG-----

- 9 -1,-2

-----CUAGCACCAUUUGAAAUCAGUGa-----

- 2 -1,-2	-----UAGCACCAUUUGAAAUCA-----
- 152 0,-5	-----UAGCACCAUUUGAAAUCAG-----
- 249 0,-4	-----UAGCACCAUUUGAAAUCAGa-----
- 6 0,-4	-----UAGCACCAUUUGAAAUCAGU-----
- 5057 0,-3	-----UAGCACCAUUUGAAAUCAGUa-----
- 7 0,-3	-----UAGCACCAUUUGAAAUCAGUaa-----
- 11 0,-3	-----UAGCACCAUUUGAAAUCAGUu-----
- 12 0,-3	-----UAGCACCAUUUGAAAUCAGUuu-----
- 7 0,-3	-----UAGCACCAUUUGAAAUCAGUG-----
- 269 0,-2	-----UAGCACCAUUUGAAAUCAGUGa-----
- 23 0,-2	-----UAGCACCAUUUGAAAUCAGUGaa-----
- 5 0,-2	-----UAGCACCAUUUGAAAUCAGUGU-----
- 111 0,-1	-----UAGCACCAUUUGAAAUCAGUGUa-----
- 14 0,-1	-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 3 0,-1	-----UAGCACCAUUUGAAAUCAGUGUU-----
- 112 0,0	-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 5 0,0	-----AGCACCAUUUGAAAUCAGU-----
- 74 1,-3	-----AGCACCAUUUGAAAUCAGUGU-----
- 2 1,-1	-----AGCACCAUUUGAAAUCAGUGUU-----

```

- 4 1,0
-----GCACCAUUUGAAAUCAGU-----
- 11 2,-3

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018968
cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----GCUGGUUUCACAUGGUGGCUU-----
- 2 -1,-2
-----CUGGUUUCACAUGGUGGCUU-----
- 2 0,-2
-----CUGGUUUCACAUGGUGGCUUA-----
- 2 0,-1
-----CUAGCACCAUUUGAAAUCAG-----
- 3 -1,-4
-----CUAGCACCAUUUGAAAUCAGU-----
- 63 -1,-3
-----CUAGCACCAUUUGAAAUCAGUu-----
- 2 -1,-3
-----CUAGCACCAUUUGAAAUCAGUG-----
- 9 -1,-2
-----CUAGCACCAUUUGAAAUCAGUGa-----
- 2 -1,-2
-----UAGCACCAUUUGAAAUCA-----
- 152 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 249 0,-4
-----UAGCACCAUUUGAAAUCAGa-----
- 6 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 5057 0,-3
-----UAGCACCAUUUGAAAUCAGUa-----
- 7 0,-3
-----UAGCACCAUUUGAAAUCAGUaa-----
- 11 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----

```

-	12	0,-3	UAGCACCAUUUGAAAUCAGUuu
-	7	0,-3	UAGCACCAUUUGAAAUCAGUG
-	269	0,-2	UAGCACCAUUUGAAAUCAGUGa
-	23	0,-2	UAGCACCAUUUGAAAUCAGUGaa
-	5	0,-2	UAGCACCAUUUGAAAUCAGUGU
-	111	0,-1	UAGCACCAUUUGAAAUCAGUGUa
-	14	0,-1	UAGCACCAUUUGAAAUCAGUGUaa
-	3	0,-1	UAGCACCAUUUGAAAUCAGUGUU
-	112	0,0	UAGCACCAUUUGAAAUCAGUGUUa
-	5	0,0	UAGCACCAUUUGAAAUCAGUGUUU
-	20	0,1	AGCACCAUUUGAAAUCAGU
-	74	1,-3	AGCACCAUUUGAAAUCAGUGU
-	2	1,-1	AGCACCAUUUGAAAUCAGUGUU
-	4	1,0	GCACCAUUUGAAAUCAGU
-	11	2,-3	

>hsa-mi r-29c mi:16-37;MA:54-75 SRX018968

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

.((((((((((...((((((((((...((((((((((...))))))...))))))...))))))...))))))...))
))))))).
 -----UGACCGAUUUCUCCUGGU-----
 -----2 0,-4-----
 -----UGACCGAUUUCUCCUGGUGU-----

```

----- 6 0,-2
-----UGACCGAUUUCUCCUGGUGUU-----
----- 44 0,-1
-----UGACCGAUUUCUCCUGGUGUUa-----
----- 20 0,-1
-----UGACCGAUUUCUCCUGGUGUUu-----
----- 3 0,-1
-----UGACCGAUUUCUCCUGGUGUUC-----
----- 6 0,0
-----UGACCGAUUUCUCCUGGUGUUA-----
----- 3 0,1
-----GACCGAUUUCUCCUGGUG-----
----- 2 1,-3
-----GACCGAUUUCUCCUGGUGU-----
----- 3 1,-2
-----GACCGAUUUCUCCUGGUGUU-----
----- 11 1,-1
-----GACCGAUUUCUCCUGGUGUUa-----
----- 3 1,-1
-----GACCGAUUUCUCCUGGUGUUC-----
----- 2 1,0
-----GACCGAUUUCUCCUGGUGUUA-----
----- 6 1,1
-----ACCGAUUUCUCCUGGUGUUCAG-----
----- 7 2,2
-----ACCGAUUUCUCCUGGUGUUCAGA-----
----- 2 2,3
-----CUAGCACCAUUUGAAAUCGGUU-----
----- 3 -1,-1
-----CUAGCACCAUUUGAAAUCGGUUA-----
----- 8 -1,0
-----UAGCACCAUUUGAAAUCG-----
----- 117 0,-4
-----UAGCACCAUUUGAAAUCGG-----
----- 686 0,-3
-----UAGCACCAUUUGAAAUCGGa-----
----- 2 0,-3
-----UAGCACCAUUUGAAAUCGGaa-----

```


))))).

-----GCUCUGACUUUAUUGCACUACU-----
----- 6

>hsa-mir-3065 5p:10-32;3p:50-72 SRX018968

cugcccucuUCAACAAAAUCACUGAUGCUGGAgucgccugagucaucacUCAGCACCAGGAUAUUGUUGGAGaggacag
(((.((((((((((((((.(((.(((.((((((((((.((...)).)).....))))).)))))).)))))).))))).)))

-----UCAACAAAAUCACUGAUGC-----
3 0,-4
-----UCAACAAAAUCACUGAUGCU-----
15 0,-3
-----UCAACAAAAUCACUGAUGCUGG-----
4 0,-1
-----UCAACAAAAUCACUGAUGCUGGA-----
7 0,0
-----UCAGCACCAGGAUAUUGU-----
4 0,-5
-----UCAGCACCAGGAUAUUGUU-----
4 0,-4
-----UCAGCACCAGGAUAUUGUUG-----
5 0,-3
-----UCAGCACCAGGAUAUUGUUGGA-----
5 0,-1

>hsa-mir-30a MA:6-27;mi:47-68 SRX018968

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc
(((.((((((((((((((.((((((((((((((((((.((...)).)).....)))))).)))))).)))))).))))).)))

----CUGUAAACAUCCUCGACU----- 8
-1,-5
----CUGUAAACAUCCUCGACUGGA----- 2
-1,-2
----CUGUAAACAUCCUCGACUGGAA----- 8
-1,-1
----CUGUAAACAUCCUCGACUGGAAG----- 3 -1,0
----CUGUAAACAUCCUCGACUGGAAGa----- 7 -1,0
----CUGUAAACAUCCUCGACUGGAAGC----- 13 -1,1
----CUGUAAACAUCCUCGACUGGAAGCU----- 31 -1,2
----UGUAAACAUCCUCGACUG----- 184 0,-4

-----UGUAAACAUCCUCGACUGG-----	127	0,-3
-----UGUAAACAUCCUCGACUGGA-----	425	0,-2
-----UGUAAACAUCCUCGACUGGAu-----	2	0,-2
-----UGUAAACAUCCUCGACUGGAA-----	1247	
0,-1		
-----UGUAAACAUCCUCGACUGGAAa-----	598	0,-1
-----UGUAAACAUCCUCGACUGGAAaa-----	58	0,-1
-----UGUAAACAUCCUCGACUGGAAau-----	4	0,-1
-----UGUAAACAUCCUCGACUGGAAu-----	11	0,-1
-----UGUAAACAUCCUCGACUGGAAG-----	3123	
0,0		
-----UGUAAACAUCCUCGACUGGAAGa-----	2989	
0,0		
-----UGUAAACAUCCUCGACUGGAAGaa-----	112	0,0
-----UGUAAACAUCCUCGACUGGAAGau-----	66	0,0
-----UGUAAACAUCCUCGACUGGAAGu-----	165	0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	11	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	12892	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCa-----	1110	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCaa-----	12	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	20	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	17923	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUa-----	52	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	421	0,2
-----GUAAACAUCCUCGACUGGAA-----	2	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	15	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	3	1,0
-----GUAAACAUCCUCGACUGGAAGC-----	37	1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	3	1,1
-----GUAAACAUCCUCGACUGGAAGCU-----	30	1,2
-----UAAACAUCCUCGACUGGAAGa-----	2	2,0
-----UAAACAUCCUCGACUGGAAGC-----	5	2,1
-----UAAACAUCCUCGACUGGAAGCU-----	2	2,2
-----CUUUCAGUCGGAUGUUUG-----	13	0,-4
-----CUUUCAGUCGGAUGUUUGa-----	2	0,-4

```

-----CUUUCAGUCGGAUGUUUGC----- 5 0,-3
-----CUUUCAGUCGGAUGUUUGCA----- 35 0,-2
-----CUUUCAGUCGGAUGUUUGCAa---- 12 0,-2
-----CUUUCAGUCGGAUGUUUGCAu---- 6 0,-2
-----CUUUCAGUCGGAUGUUUGCAG---- 165 0,-1
-----CUUUCAGUCGGAUGUUUGCAGa--- 3 0,-1
-----CUUUCAGUCGGAUGUUUGCAGaa-- 2 0,-1
-----CUUUCAGUCGGAUGUUUGCAGu--- 23 0,-1
-----CUUUCAGUCGGAUGUUUGCAGuu-- 3 0,-1
-----CUUUCAGUCGGAUGUUUGCAGC--- 65 0,0
-----CUUUCAGUCGGAUGUUUGCAGCa-- 13 0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa- 3 0,0
-----CUUUCAGUCGGAUGUUUGCAGCau- 23 0,0
-----CUUUCAGUCGGAUGUUUGCAGCU-- 2 0,1
-----UUUCAGUCGGAUGUUUGCA----- 7 1,-2
-----UUUCAGUCGGAUGUUUGCAu---- 2 1,-2
-----UUUCAGUCGGAUGUUUGCAuu--- 2 1,-2
-----UUUCAGUCGGAUGUUUGCAG---- 70 1,-1
-----UUUCAGUCGGAUGUUUGCAGu--- 11 1,-1
-----UUUCAGUCGGAUGUUUGCAGuu-- 6 1,-1
-----UUUCAGUCGGAUGUUUGCAGC--- 30 1,0
-----UUUCAGUCGGAUGUUUGCAGCa-- 5 1,0
-----UUUCAGUCGGAUGUUUGCAGCaa- 7 1,0
-----UUUCAGUCGGAUGUUUGCAGCau- 20 1,0
-----UUUCAGUCGGAUGUUUGCAGCU-- 2 1,1

```

>hsa-mir-30b MA:17-38;mi:55-76 SRX018968

accaaguucagucaUGUAAACAUCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
gacuugga

.((((((..((((((...((((((((((..((((((((.....))))))))..))))))))))))..))))))
)))))))).

```

-----UGUAAACAUCUACACUC-----
----- 64 0,-4
-----UGUAAACAUCUACACUCA-----
----- 38 0,-3
-----UGUAAACAUCUACACUCAG-----
----- 131 0,-2
-----UGUAAACAUCUACACUCAGa-----

```

```

----- 6 0,-2
-----UGUAAACAUCCUACACUCAGaa-----
----- 3 0,-2
-----UGUAAACAUCCUACACUCAGuu-----
----- 2 0,-2
-----UGUAAACAUCCUACACUCAGC-----
----- 313 0,-1
-----UGUAAACAUCCUACACUCAGCa-----
----- 19 0,-1
-----UGUAAACAUCCUACACUCAGCaa-----
----- 6 0,-1
-----UGUAAACAUCCUACACUCAGCU-----
----- 1567 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
----- 98 0,0
-----UGUAAACAUCCUACACUCAGCUaa-----
----- 5 0,0
-----UGUAAACAUCCUACACUCAGCUau-----
----- 20 0,0
-----UGUAAACAUCCUACACUCAGCUu-----
----- 35 0,0
-----UGUAAACAUCCUACACUCAGCUuu-----
----- 7 0,0
-----UGUAAACAUCCUACACUCAGCUG-----
----- 2 0,1
-----UGUAAACAUCCUACACUCAGCUGa-----
----- 3 0,1
-----GUAAACAUCCUACACUCAGCU-----
----- 8 1,0
-----UAAACAUCCUACACUCAGCU-----
----- 2 2,0
-----CUGGGAGGUGGAUGUUUA-----
----- 2 0,-4
-----CUGGGAGGUGGAUGUUUAC-----
----- 5 0,-3
-----CUGGGAGGUGGAUGUUUACU-----
----- 48 0,-2
-----CUGGGAGGUGGAUGUUUACUa-----

```

```

-----      3      0,-2
-----CUGGGAGGUGGAUGUUUACUU-----
-----     37      0,-1
-----CUGGGAGGUGGAUGUUUACUUa-----
-----      5      0,-1
-----CUGGGAGGUGGAUGUUUACUUaa-----
-----      5      0,-1
-----CUGGGAGGUGGAUGUUUACUUu-----
-----      4      0,-1
-----CUGGGAGGUGGAUGUUUACUUC-----
-----      4      0,0

```

>hsa-mir-30c-1 MA:17-39;mi:56-77 SRX018968

accaugcuguagugUGUAAACAUCCUACACUCUCAGCugugagcucaagguggCUGGGAGAGGGUUGUUUACUCCuuc
ugccaugga

.((((((...(((...((((((((...(((...(((((((((...(((...)))...)))))))).)))...)))))...)))))...)))).

```

-----UGUAAACAUCCUACACUC-----
-----     64      0,-5
-----UGUAAACAUCCUACACUCU-----
-----     22      0,-4
-----UGUAAACAUCCUACACUCUC-----
-----     75      0,-3
-----UGUAAACAUCCUACACUCUCA-----
-----    439      0,-2
-----UGUAAACAUCCUACACUCUCAa-----
-----      8      0,-2
-----UGUAAACAUCCUACACUCUCAaa-----
-----      4      0,-2
-----UGUAAACAUCCUACACUCUCAu-----
-----      3      0,-2
-----UGUAAACAUCCUACACUCUCAG-----
-----    510      0,-1
-----UGUAAACAUCCUACACUCUCAGa-----
-----    123      0,-1
-----UGUAAACAUCCUACACUCUCAGaa-----
-----     15      0,-1
-----UGUAAACAUCCUACACUCUCAGau-----

```

```

----- 2 0,-1
-----UGUAAACAUCCUACACUCUCAGu-----
----- 10 0,-1
-----UGUAAACAUCCUACACUCUCAGuu-----
----- 2 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 424 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 43 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 2 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 5 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 1175 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 21 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 33 0,1
-----UGUAAACAUCCUACACUCUCAGCUG-----
----- 3 0,2
-----GUAAACAUCCUACACUCUCA-----
----- 2 1,-2
-----GUAAACAUCCUACACUCUCAG-----
----- 2 1,-1
-----GUAAACAUCCUACACUCUCAGC-----
----- 3 1,0
-----GUAAACAUCCUACACUCUCAGCU-----
----- 4 1,1
-----CUGGGAGAGGGUUGUUUAa-----
----- 2 0,-4
-----CUGGGAGAGGGUUGUUUAC-----
----- 5 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 42 0,-2
-----CUGGGAGAGGGUUGUUUACUC-----
----- 12 0,-1
-----CUGGGAGAGGGUUGUUUACUCC---
```

----- 2 0,0
-----UGGGAGAGGGUUGUUUACU-----
----- 6 1,-2

0,0		
-----UGUAAACAUCCUACACUCUCAGCau-----		5
0,0		
-----UGUAAACAUCCUACACUCUCAGCU-----		1175
0,1		
-----UGUAAACAUCCUACACUCUCAGCUa-----		21
0,1		
-----UGUAAACAUCCUACACUCUCAGCUu-----		33
0,1		
-----UGUAAACAUCCUACACUCUCAGCUG-----		3
0,2		
-----GUAAACAUCCUACACUCUCA-----		2
1,-2		
-----GUAAACAUCCUACACUCUCAG-----		2
1,-1		
-----GUAAACAUCCUACACUCUCAGC-----		3
1,0		
-----GUAAACAUCCUACACUCUCAGCU-----		4
1,1		
-----CUGGGAGAAGGCUGUUUA-----		5
0,-4		
-----CUGGGAGAAGGCUGUUUAa-----		8
0,-4		
-----CUGGGAGAAGGCUGUUUAaa-----		3
0,-4		
-----CUGGGAGAAGGCUGUUUAC-----		21
0,-3		
-----CUGGGAGAAGGCUGUUUACa-----		5
0,-3		
-----CUGGGAGAAGGCUGUUUACU-----		506
0,-2		
-----CUGGGAGAAGGCUGUUUACUa-----		11
0,-2		
-----CUGGGAGAAGGCUGUUUACUaa-----		8
0,-2		
-----CUGGGAGAAGGCUGUUUACUau-----		2
0,-2		
-----CUGGGAGAAGGCUGUUUACUu-----		3

0,-2	-----CUGGGAGAAGGCUGUUUACUuu-----	3
0,-2	-----CUGGGAGAAGGCUGUUUACUC-----	133
0,-1	-----CUGGGAGAAGGCUGUUUACUCa-----	5
0,-1	-----CUGGGAGAAGGCUGUUUACUCU-----	21
0,0	-----CUGGGAGAAGGCUGUUUACUCUU-----	4
0,1	-----UGGGAGAAGGCUGUUUACU-----	14
1,-2	-----UGGGAGAAGGCUGUUUACUa-----	2
1,-2	-----UGGGAGAAGGCUGUUUACUC-----	14
1,-1	-----UGGGAGAAGGCUGUUUACUCU-----	3
1,0	-----GGGAGAAGGCUGUUUACU-----	2
2,-2		

>hsa-mir-30d MA:6-27;mi:46-67 SRX018968

guuguUGUAAACAUCCCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUUUUGCUGCuac
 ...(((.((((((((((...((((((((((((((...((.....)).))))))))))))).))))))))).))...

----UUGUAAACAUCCCCGACUGGAAGCU-----	2	-1,2
----UGUAAACAUCCCCGACUG-----	66	0,-4
----UGUAAACAUCCCCGACUGG-----	109	0,-3
----UGUAAACAUCCCCGACUGGA-----	310	0,-2
----UGUAAACAUCCCCGACUGGAA-----	1151	
0,-1		
----UGUAAACAUCCCCGACUGGAAa-----	656	0,-1
----UGUAAACAUCCCCGACUGGAAaa-----	41	0,-1
----UGUAAACAUCCCCGACUGGAAau-----	9	0,-1
----UGUAAACAUCCCCGACUGGAAu-----	34	0,-1
----UGUAAACAUCCCCGACUGGAAG-----	974	0,0
----UGUAAACAUCCCCGACUGGAAGa-----	1074	
0,0		


```

----- 16 0,-4
-----UGUAAACAUCCUUGACUGG-----
----- 33 0,-3
-----UGUAAACAUCCUUGACUGGA-----
----- 23 0,-2
-----UGUAAACAUCCUUGACUGGAA-----
----- 91 0,-1
-----UGUAAACAUCCUUGACUGGAa-----
----- 26 0,-1
-----UGUAAACAUCCUUGACUGGAu-----
----- 2 0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
----- 120 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
----- 332 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
----- 55 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
----- 7 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
----- 4 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
----- 1148 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
----- 56 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
----- 1454 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
----- 8 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
----- 118 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
----- 4 0,3
-----GUAAACAUCCUUGACUGGAAG-----
----- 6 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
----- 5 1,0
-----GUAAACAUCCUUGACUGGAAGaa-----

```

-----	2	1,0	
-----	-GUAAACAUCCUUGACUGGAAGC-----		
-----	48	1,1	
-----	-GUAAACAUCCUUGACUGGAAGCa-----		
-----	5	1,1	
-----	-GUAAACAUCCUUGACUGGAAGCU-----		
-----	45	1,2	
-----	-GUAAACAUCCUUGACUGGAAGCUu-----		
-----	3	1,2	
-----	-UAAACAUCCUUGACUGGAAGCU-----		
-----	2	2,2	
-----	-----CUUUCAGUCGGAUGUUUA-----		
-----	10	0,-4	
-----	-----CUUUCAGUCGGAUGUUUAa-----		
-----	3	0,-4	
-----	-----CUUUCAGUCGGAUGUUUAC-----		
-----	8	0,-3	
-----	-----CUUUCAGUCGGAUGUUUACA-----		
-----	25	0,-2	
-----	-----CUUUCAGUCGGAUGUUUACAG-----		
-----	62	0,-1	
-----	-----CUUUCAGUCGGAUGUUUACAGa-----		
-----	14	0,-1	
-----	-----CUUUCAGUCGGAUGUUUACAGu-----		
-----	101	0,-1	
-----	-----CUUUCAGUCGGAUGUUUACAGu-----		
u-----	5	0,-1	
-----	-----CUUUCAGUCGGAUGUUUACAGC-----		
-----	84	0,0	
-----	-----CUUUCAGUCGGAUGUUUACAGC-----		
a-----	40	0,0	
-----	-----CUUUCAGUCGGAUGUUUACAGC-----		
aa-----	3	0,0	
-----	-----CUUUCAGUCGGAUGUUUACAGC-----		
au-----	3	0,0	
-----	-----CUUUCAGUCGGAUGUUUACAGC-----		
G-----	2	0,1	
-----	-----UUUCAGUCGGAUGUUUACA-----		


```

ggccaggcccAUCAGGGCUUGUGGAAUGGGAAGgagaaggacgcuuccccuucugcaggccugcuggguguggcu
(((((((((...(((((((...(((((((...)))))))))...)))))))))...))))))
-----AUCAGGGCUUGUGGAAUGGGA-----
      2    0,-2
-----AUCAGGGCUUGUGGAAUGGGAAG-----
      2    0,0

```

```

>hsa-mir-3130-1 5p:13-33;3p:44-64 SRX018968
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuguugucaagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GCUGCACCGGAGACUGGGUAA----- 8
      0,0

```

```

>hsa-mir-3130-2 5p:13-33;3p:44-64 SRX018968
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAgacaugacaag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GCUGCACCGGAGACUGGGUAA----- 8
      0,0

```

```

>hsa-mir-3133 5p:10-31 SRX018968
cagaaauugUAAAGAACUCUUA AAAACCCAAUaguaaaaagacaaccuguugaguuuuaagaguucuuuauauauucug
(((((((((...(((((((...(((((((...)))))))))...)))))))))...))))))
-----UAAAGAACUCUUA AAAACCCAAU-----
      2    0,0

```

```

>hsa-mir-3140 3p:60-81 SRX018968
ccucuugagguaccugaauuaccaaagcuuuauguauucugaaguuaauugaaaauaagAGCUUUUGGGAUUCAGGUAG
Uucaggagug
.(((((((...(((((((...(((((((...)))))))))...)))))))))...))))))
))))))..
-----ACCUGAAUACCAAAGCUUU-----
----- 2

```

```

>hsa-mir-3159 5p:10-31 SRX018968
ccaaaguccUAGGAUUAACAAGUGUCGGCCACgggcugggcacaguggcucagccuguaaucccagcauuuugg
(((((((...(((((((...(((((((...)))))))))...)))))))))...))))))
-----GCUCACGCCUGUAAUCCCAGCA----- 2

```



```
>hsa-mir-3180-2 5p:14-38;3p:58-79 SRX018968
gcgacgggcgaggCUUCCAGACGCUCCGCCACGUCGcaugcgccccgggaaagcgUGGGGCGGAGCUUCCGGAGGCCc
cgcccugc
.....(((((((.(((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))...
-----UGGGGCGGAGCUUCCGGAGGCCa
u----- 2 0,0
```

[illegible]

```
>hsa-mir-3180-5 5p:36-54 SRX018968
gcuccgccccacgucgcaugcgccccgggaacgcgUGGGGCGGAGCUUCCGGAGgccccgccugcugccgacccugugg
agcggaggguagaagccuccggauccagucccucaucgcugggcccgucgcgcugugggcgaagggggcgaggc
```



```

))))
-----AAUCUGAGAAGGCGCACAAGGUU-----
----- 2 0,1
-----CACCUUGCGCUACUCAGGUCU-----
----- 5 0,-1

>hsa-mir-320a 3p:48-69 SRX018968
gcuucgcucucccuccgcuucucucccgguucucccgagucgggAAAAGCUGGGUUGAGAGGGCGAaaaagggaugag
gu
(((((((.....((((((((((.....((((((((.....)))))).)))))).)))))).)))))).....))))))
))
-----GAAAAGCUGGGUUGAGAG-----
-- 4 -1,-5
-----GAAAAGCUGGGUUGAGAGG-----
-- 2 -1,-4
-----GAAAAGCUGGGUUGAGAGGG-----
-- 3 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
-- 10 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 12 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 14 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 34 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAu-----
-- 6 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAA-----
-- 3 -1,1
-----AAAAGCUGGGUUGAGAGG-----
-- 100 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 130 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 7 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 4 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----

```

```

-- 2 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 431 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 658 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 489 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 288 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 2526 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 875 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 181 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 1035 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 234 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 24 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 334 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 77 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 46 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 2 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 10 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 27 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 21 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 20 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----

```

```

-- 140 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 58 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 14 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 130 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 32 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 11 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 63 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 13 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 2 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 7 1,3
-----AAGCUGGGUUGAGAGGGCGA-----
-- 8 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 2 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 6 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 11 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 8 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 3 2,3

```

>hsa-mir-320b-1 3p:39-60 SRX018968

```

aauuaaucccucucuucuaguucuuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).))).....
-----GAAAAGCUGGGUUGAGAG-----
4 -1,-5
-----GAAAAGCUGGGUUGAGAG-----

```

2	-1,-4	-GAAAAGCUGGGUUGAGAGGG-
3	-1,-3	-GAAAAGCUGGGUUGAGAGGGC-
10	-1,-2	-AAAAGCUGGGUUGAGAGG-
100	0,-4	-AAAAGCUGGGUUGAGAGGG-
130	0,-3	-AAAAGCUGGGUUGAGAGGGa-
7	0,-3	-AAAAGCUGGGUUGAGAGGGaa-
4	0,-3	-AAAAGCUGGGUUGAGAGGGau-
2	0,-3	-AAAAGCUGGGUUGAGAGGGC-
431	0,-2	-AAAAGCUGGGUUGAGAGGGCA-
54	0,-1	-AAAAGCUGGGUUGAGAGGGCAu-
80	0,-1	-AAAAGCUGGGUUGAGAGGGCAuu-
20	0,-1	-AAAAGCUGGGUUGAGAGGGCAA-
73	0,0	-AAAAGCUGGGUUGAGAGGGCAAu-
21	0,0	-AAAAGCUGGGUUGAGAGGGCAAA-
11	0,1	-AAAGCUGGGUUGAGAGGG-
2	1,-3	-AAAGCUGGGUUGAGAGGGC-
10	1,-2	-AAAGCUGGGUUGAGAGGGCA-
2	1,-1	-AAAGCUGGGUUGAGAGGGCAu-
7	1,-1	-AAAGCUGGGUUGAGAGGGCAA-

GUUGAGAGGGCAAu-----	21	0,0	
-----			AAAAGCUGG
GUUGAGAGGGCAAA-----	11	0,1	
-----			AAAAGCUGG
GUUGAGAGGGCAAAA-----	8	0,2	
-----			AAAAGCUGG
GUUGAGAGGGCAAAAu-----	2	0,2	
-----			AAAGCUGG
GUUGAGAGGG-----	2	1,-3	
-----			AAAGCUGG
GUUGAGAGGGC-----	10	1,-2	
-----			AAAGCUGG
GUUGAGAGGGCA-----	2	1,-1	
-----			AAAGCUGG
GUUGAGAGGGCAu-----	7	1,-1	
-----			AAAGCUGG
GUUGAGAGGGCAA-----	3	1,0	
-----			AAAGCUGG
GUUGAGAGGGCAAu-----	3	1,0	

>hsa-mir-320c-1 3p:50-69 SRX018968

uuugcauuaaaaaugaggccuucucuuccaguucuuuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg

.((((((((.....((((((((.....((((((((.....))))).)))))))).)))))))).

-----			GAAAAGCUGGGUUGAGAG-----
-----	4	-1,-3	
-----			GAAAAGCUGGGUUGAGAGG-----
-----	2	-1,-2	
-----			GAAAAGCUGGGUUGAGAGGG-----
-----	3	-1,-1	
-----			AAAAGCUGGGUUGAGAGG-----
-----	100	0,-2	
-----			AAAAGCUGGGUUGAGAGGG-----
-----	130	0,-1	
-----			AAAAGCUGGGUUGAGAGGGa-----
-----	7	0,-1	
-----			AAAAGCUGGGUUGAGAGGGaa-----

```

-----      4      0,-1
-----
-----AAAAGCUGGGUUGAGAGGGGau-----
-----      2      0,-1
-----
-----AAAAGCUGGGUUGAGAGGGU-----
-----     12      0,0
-----
-----AAAAGCUGGGUUGAGAGGGUu-----
-----      3      0,0
-----
-----AAAAGCUGGGUUGAGAGGGUuu-----
-----      2      0,0
-----
-----AAAAGCUGGGUUGAGAGGGUAa-----
-----     11      0,1
-----
-----AAAAGCUGGGUUGAGAGGGUAu-----
-----      5      0,1
-----
-----AAAGCUGGGUUGAGAGGG-----
-----      2      1,-1
-----

```

>hsa-mir-320c-2 3p:31-50 SRX018968

```

cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU
(((((((..(((((((..((((((.....)))))).)))))))).))))))..
-----GAAAAGCUGGGUUGAGAG---      4      -1,-3
-----GAAAAGCUGGGUUGAGAGG--      2      -1,-2
-----GAAAAGCUGGGUUGAGAGGG-      3      -1,-1
-----AAAAGCUGGGUUGAGAGG--    100      0,-2
-----AAAAGCUGGGUUGAGAGGG-    130      0,-1
-----AAAAGCUGGGUUGAGAGGGa      7      0,-1
-----AAAAGCUGGGUUGAGAGGGaa      4      0,-1
-----AAAAGCUGGGUUGAGAGGGau      2      0,-1
-----AAAAGCUGGGUUGAGAGGGU     12      0,0
-----AAAAGCUGGGUUGAGAGGGUu      3      0,0
-----AAAAGCUGGGUUGAGAGGGUuu      2      0,0
-----AAAGCUGGGUUGAGAGGG-      2      1,-1
-----

```

>hsa-mir-320d-1 3p:30-48 SRX018968

```

uucucguccaguucuccaaaguagAAAAGCUGGGUUGAGAGGA
(((((((..(((((((..((((((.....)))))).)))))))).))))))..
-----GAAAAGCUGGGUUGAGAG--      4      -1,-2
-----GAAAAGCUGGGUUGAGAGG--      2      -1,-1
-----AAAAGCUGGGUUGAGAGG-    100      0,-1
-----

```

```

-----AAAAGCUGGGUUGAGAGGA    3    0,0
-----AAAAGCUGGGUUGAGAGGAa    3    0,0

```

>hsa-mir-320d-2 3p:30-48 SRX018968

```

uucucuucccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA
((((((..(((((((.((((((....)))))).)))))).))))..
-----GAAAAGCUGGGUUGAGAG--    4    -1,-2
-----GAAAAGCUGGGUUGAGAGG-    2    -1,-1
-----AAAAGCUGGGUUGAGAGG-   100    0,-1
-----AAAAGCUGGGUUGAGAGGA    3    0,0
-----AAAAGCUGGGUUGAGAGGAa    3    0,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018968

```

uugguacuuggagagAGGUUGUCCGUGGCGCGUUCGCuuuauuuauggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc
..((((((..(((((((.((((((....((.((((.....)))))).)))))).))))..))))))
).....
-----CACAUUACACGGUCGACCU-----
----- 13    0,-2
-----CACAUUACACGGUCGACCUCU-----
----- 2     0,0

```

>hsa-mir-323b 5p:15-37;3p:51-72 SRX018968

```

ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuuauuuauaugaugCCCAAUACACGGUCGACCUCUuucgguauc
a
.((((((..(((((((.((((((....((.((((.....)))))).)))))).))))..))))))
).
-----CCCAAUACACGGUCGACCU-----
-- 9     0,-3

```

>hsa-mir-324 5p:16-38;3p:53-72 SRX018968

```

cugacuaugccucccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagacccACUGCCCCAGGUGCUGCUGGggguagua
guc
..((((((..(((((((.((((((....((.((((.....)))))).)))))).))))..))))))
)))
-----CGCAUCCCCUAGGGCAUU-----
--- 18    0,-5
-----CGCAUCCCCUAGGGCAUUG-----

```



```

--- 40  0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 12  0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 37  0,-2
-----CGCAUCCCCUAGGGCAUUGGUa-----
--- 2   0,-2
-----CGCAUCCCCUAGGGCAUUGGUu-----
--- 3   0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 15  0,-1
-----CGCAUCCCCUAGGGCAUUGGUGa-----
--- 2   0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 26  0,0
-----CGCAUCCCCUAGGGCAUUGGUGUAu-----
--- 2   0,1
-----CCACUGCCCCAGGUGCUGCU-----
--- 6   -2,-2
-----CCACUGCCCCAGGUGCUGCUG-----
--- 3   -2,-1
-----ACUGCCCCAGGUGCUGCU-----
--- 14  0,-2
-----ACUGCCCCAGGUGCUGCUG-----
--- 11  0,-1
-----ACUGCCCCAGGUGCUGCUGu-----
--- 2   0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 21  0,0
-----ACUGCCCCAGGUGCUGCUGGu-----
--- 3   0,0

```

>hsa-mir-326 3p:60-79 SRX018968

```

cucaucugucuguugggcuggaggcagggccuugugaaggcggguggugcucagaucgCCUCUGGGCCCUUCCUCCAGc
cccgaggcggaauca
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))))))))))...
-----CCUCUGGGCCCUUCCUCC-----

```



```

0,0
-----CUGGCCCUCUCUGCCCUUCCGUuu---- 5
0,0
-----UGGCCCUCUCUGCCCUUCCGUu---- 2
1,0

>hsa-mir-329-1 3p:50-71 SRX018968
gguaccugaagagagguuuucuggguuucuguuucuuuaaugaggacgaAACACACCUGGUUAACCUUUuccaguauc
(((((((((.....)))))).)))).)
-----AGAGGUUUUCUGGGUUUCU-----
2
-----AACACACCUGGUUAACCU-----
4 0,-4
-----AACACACCUGGUUAACCU-----
2 0,-2

>hsa-mir-329-2 3p:52-73 SRX018968
gugguaccugaagagagguuuucuggguuucuguuucuuuaauaggacgaAACACACCUGGUUAACCUUUuccagua
ucaa
.(((((((((.....)))))).)))).)
-----AGAGGUUUUCUGGGUUUCU-----
---- 2
-----AACACACCUGGUUAACCU-----
---- 4 0,-4
-----AACACACCUGGUUAACCU-----
---- 2 0,-2

>hsa-mir-330 5p:18-39;3p:57-79 SRX018968
cuuuggcgaucacugccUCUCUGGGCCUGUGUCUUAGGCucugcaagaucaaccgaGCAAAGCACACGGCCUGCAGAGag
gcagcgcucugccc
....(((((((((.....)))))).)))).)
-----GCAAAGCACACGGCCUGCA-----
----- 2 0,-4
-----GCAAAGCACACGGCCUGCAGAG--
----- 2 0,-1
-----GCAAAGCACACGGCCUGCAGAGA-

```

-----	6	0,0	-----CAAAGCACACGGCCUGCAGAGA-
-----	13	1,0	-----CAAAGCACACGGCCUGCAGAGAG
-----	8	1,1	-----CAAAGCACACGGCCUGCAGAGAG
u-----	4	1,1	-----CAAAGCACACGGCCUGCAGAGAG
G-----	3	1,2	-----AAAGCACACGGCCUGCAGAGA-
-----	4	2,0	-----AAAGCACACGGCCUGCAGAGAG
-----	8	2,1	-----AAAGCACACGGCCUGCAGAGAG
G-----	4	2,2	

```

>hsa-mi r-331      5p:26-47;3p:61-81      SRX018968
gaguuuugguuuuuguuuggguuuuguuCUAGGUAUGGUCCCAGGGAUCCcagaucaaaccagGCCCCUGGGCCUAUCCUAGA
Accaaccuaagcuc
.....(((((((((.(((((((((.(((.(((((((..(.....)..)))))).))))))))))
)).))))))))))..
-----GCCCCUGGGCCUAUCCUA--
----- 17  0,-3
-----GCCCCUGGGCCUAUCCUAG-
----- 17  0,-2
-----GCCCCUGGGCCUAUCCUAGA
----- 55  0,-1
-----GCCCCUGGGCCUAUCCUAGA
u----- 3  0,-1
-----GCCCCUGGGCCUAUCCUAGA
uu----- 3  0,-1
-----GCCCCUGGGCCUAUCCUAGA
A----- 93  0,0
-----GCCCCUGGGCCUAUCCUAGA
Aa----- 126 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aaa----- 16  0,0
-----GCCCCUGGGCCUAUCCUAGA

```

```

Aau----- 4 0,0
-----GCCCCUGGGCCUAUCCUAGA
Au----- 51 0,0
-----GCCCCUGGGCCUAUCCUAGA
Auu----- 5 0,0
-----CCCCUGGGCCUAUCCUAGA
----- 3 1,-1
-----CCCCUGGGCCUAUCCUAGA
A----- 4 1,0
-----CCCCUGGGCCUAUCCUAGA
Aa----- 3 1,0
-----CCCCUGGGCCUAUCCUAGA
Au----- 2 1,0
-----CCCCUGGGCCUAUCCUAGA
Auu----- 2 1,0

```

>hsa-mir-335 MA:16-38;mi:52-73 SRX018968

```

uguuuugagcgggggUCAAGAGCAUAACGAAAAAUGUuugucauaaacgUUUUUCAUUAUUGCUCUCCUGACCuccucuc
auuugcuauauuca

```

```

.((..(((.(((((((.(((((((.(((((((.(.....)).)))))))).)))))))).)))))))).)))
)....)

```

```

-----UCAAGAGCAUAACGAAAAA-----
----- 6 0,-3
-----UCAAGAGCAUAACGAAAAAU-----
----- 90 0,-2
-----UCAAGAGCAUAACGAAAAAUa-----
----- 37 0,-2
-----UCAAGAGCAUAACGAAAAAUG-----
----- 182 0,-1
-----UCAAGAGCAUAACGAAAAAUGa-----
----- 6 0,-1
-----UCAAGAGCAUAACGAAAAAUGU-----
----- 77 0,0
-----CAAGAGCAUAACGAAAAAUG-----
----- 2 1,-1
-----UUUUUCAUUAUUGCUCUCCUGA-----
----- 3 0,-2
-----UUUUUCAUUAUUGCUCUCCUGACa-----

```

```

----- 2 0,-1
-----UUUUUCAUUAUUGCUCUGACC-----
----- 2 0,0

```

>hsa-mir-337 5p:23-43;3p:61-82 SRX018968
guagucaguaguugggggggGAACGGCUUCAUACAGGAGUUGaugcacaguuauccagCUCCUAUAUGAUGCCUUUCU
UCAuuccccucaa

```

.....(((((.....)))))).....
)))))))).

```

```

-----GAACGGCUUCAUACAGGAG-----

```

```

----- 4 0,-2
-----CUCCUAUAUGAUGCCUUUCU

```

```

U----- 3 0,-1
-----CUCCUAUAUGAUGCCUUUCU

```

```

UC----- 9 0,0
-----UCCUAUAUGAUGCCUUUCU

```

```

U----- 2 1,-1
-----UCCUAUAUGAUGCCUUUCU

```

```

UC----- 5 1,0

```

>hsa-mir-338 5p:6-27;3p:42-63 SRX018968
ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga

```

(((.....)))))).....
)))))))).

```

```

-----UCCAGCAUCAGUGAUUUU----- 8 0,-4

```

```

-----UCCAGCAUCAGUGAUUUUG----- 24 0,-3

```

```

-----UCCAGCAUCAGUGAUUUUGU----- 6 0,-2

```

```

-----UCCAGCAUCAGUGAUUUUGUU----- 6 0,-1

```

```

-----UCCAGCAUCAGUGAUUUUGUUGA--- 2 0,1

```

```

-----CAGCAUCAGUGAUUUUGUU----- 5 2,-1

```

>hsa-mir-339 5p:15-37;3p:50-72 SRX018968
cggggcggccgcucUCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGgcgccugc
cccagugucugcgc

```

(((.....)))))).....
)))))))).

```

```

-----UCCUGUCCUCCAGGAGC-----

```

```

----- 4 0,-5

```

```

-----UCCUGUCCUCCAGGAGCU-----

```

```

----- 13 0,-4
-----UCCCUGUCCUCCAGGAGCUaa-----
----- 2 0,-4
-----UCCCUGUCCUCCAGGAGCUau-----
----- 2 0,-4
-----UCCCUGUCCUCCAGGAGCUC-----
----- 2 0,-3
-----UCCCUGUCCUCCAGGAGCUCA-----
----- 16 0,-2
-----UCCCUGUCCUCCAGGAGCUCa-----
----- 8 0,-2
-----UCCCUGUCCUCCAGGAGCUCaAa-----
----- 2 0,-2
-----UCCCUGUCCUCCAGGAGCUCaAu-----
----- 8 0,-2
-----UCCCUGUCCUCCAGGAGCUCaAuu-----
----- 2 0,-2
-----UCCCUGUCCUCCAGGAGCUCAC-----
----- 14 0,-1
-----UCCCUGUCCUCCAGGAGCUCACa-----
----- 2 0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 36 0,0
-----UCCCUGUCCUCCAGGAGCUCACGa-----
----- 3 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 8 0,1
-----UGAGCGCCUCGACGACAG-----
----- 21 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 25 0,-4
-----UGAGCGCCUCGACGACAGa-----
----- 2 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 35 0,-3
-----UGAGCGCCUCGACGACAGAGa-----
----- 6 0,-3
-----UGAGCGCCUCGACGACAGAGC-----

```

-----	14	0,-2	-----UGAGCGCCUCGACGACAGAGCa-----
-----	3	0,-2	-----UGAGCGCCUCGACGACAGAGCaa-----
-----	4	0,-2	-----UGAGCGCCUCGACGACAGAGCau-----
-----	3	0,-2	-----UGAGCGCCUCGACGACAGAGCu-----
-----	16	0,-2	-----UGAGCGCCUCGACGACAGAGCuu-----
-----	2	0,-2	-----UGAGCGCCUCGACGACAGAGCC-----
-----	25	0,-1	-----UGAGCGCCUCGACGACAGAGCCa-----
-----	20	0,-1	-----UGAGCGCCUCGACGACAGAGCCaa-----
-----	2	0,-1	-----UGAGCGCCUCGACGACAGAGCCau-----
-----	11	0,-1	-----UGAGCGCCUCGACGACAGAGCCu-----
-----	16	0,-1	-----UGAGCGCCUCGACGACAGAGCCuu-----
-----	3	0,-1	-----UGAGCGCCUCGACGACAGAGCCG-----
-----	20	0,0	-----UGAGCGCCUCGACGACAGAGCCGu-----
-----	4	0,0	-----UGAGCGCCUCGACGACAGAGCCGuu-----
-----	2	0,0	-----GAGCGCCUCGACGACAGA-----
-----	2	1,-4	-----AGCGCCUCGACGACAGAG-----
-----	19	2,-3	-----AGCGCCUCGACGACAGAGCCG-----
-----	6	2,0	-----AGCGCCUCGACGACAGAGCCGG-----
-----	3	2,1	


```

>hsa-mir-33a    MA:6-26;mi:46-67    SRX018968
cugugGUGCAUUGUAGUUGCAUUGCAUguucuggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((((((.(((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GUGCAUUGUAGUUGCAUU----- 101 0,-3
-----GUGCAUUGUAGUUGCAUUG----- 3 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 19 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 41 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 10 0,0
-----CAAUGUUUCCACAGUGCAU----- 3 0,-3
-----CAAUGUUUCCACAGUGCAUa----- 6 0,-3
-----CAAUGUUUCCACAGUGCAUCA----- 4 0,-1
-----CAAUGUUUCCACAGUGCAUCAa----- 3 0,-1
-----CAAUGUUUCCACAGUGCAUCAu----- 3 0,-1

```

```

>hsa-mir-33b    MA:16-35;mi:54-75    SRX018968
gcgggcgggcccccgcgGUGCAUUGCUGUUGCAUUGCacgugugugaggcggggugCAGUGCCUCGGCAGUGCAGCCCggagc
cggccccuggcaccac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))
).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))
-----GUGCAUUGCUGUUGCAUU-----
----- 7 0,-2
-----GUGCAUUGCUGUUGCAUUGu-----
----- 2 0,-1

```

```

>hsa-mir-340    MA:16-37;mi:58-79    SRX018968
uuguaccuggugugaUUAUAAAGCAAUGAGACUGAUUgucauaugucguuugugggaUCCGUCUCAGUUACUUUAUAGCc
auaccugguaucua
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))
))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))
-----UUAUAAAGCAAUGAGACU-----
----- 8 0,-4
-----UUAUAAAGCAAUGAGACUGA-----
----- 2 0,-2
-----UUAUAAAGCAAUGAGACUGAU-----
----- 16 0,-1
-----UUAUAAAGCAAUGAGACUGAUa-----
----- 16 0,-1
-----UUAUAAAGCAAUGAGACUGAUaa-----

```

```

----- 3    0,-1
-----UUAUAAAGCAAUGAGACUGAUU-----
----- 50   0,0

>hsa-mir-342    5p:19-39;3p:61-83    SRX018968
gaaacugggcucaaggugAGGGGUGCUAUCUGUGAUUGAgggacaugguuaauggaauugUCUCACACAGAAAUCGCACC
CGUcaccuuggccuacuua
.....((((((.(((((((.(((((((.(((((((.....(((((((...((.....)).)))))).)))))).))))))
).)))))))).))))).
-----AGGGGUGCUAUCUGUGAU-----
----- 3    0,-3
-----AGGGGUGCUAUCUGUGAUU-----
----- 26   0,-2
-----AGGGGUGCUAUCUGUGAUUG-----
----- 2    0,-1
-----AGGGGUGCUAUCUGUGAUUGA-----
----- 31   0,0
-----AGGGGUGCUAUCUGUGAUUGAG-----
----- 66   0,1
-----AGGGGUGCUAUCUGUGAUUGAGa-----
----- 5    0,1
-----AGGGGUGCUAUCUGUGAUUGAGu-----
----- 2    0,1
-----AGGGGUGCUAUCUGUGAUUGAGG-----
----- 23   0,2
-----AGGGGUGCUAUCUGUGAUUGAGGGA-----
----- 7    0,4
-----GGGUGCUAUCUGUGAUUGAG-----
----- 3    1,1
-----GGGUGCUAUCUGUGAUUGAGG-----
----- 2    1,2
-----GGGUGCUAUCUGUGAUUGAGGGA-----
----- 3    1,4
-----GGGUGCUAUCUGUGAUUGAGGGAC-----
----- 2    1,5
-----UCUCACACAGAAAUCGCA-----
----- 204 0,-5
-----UCUCACACAGAAAUCGCAC-----

```

-----	444	0,-4	-----	UCUCACACAGAAAUCGCACC
-----			-----	
-----	409	0,-3	-----	UCUCACACAGAAAUCGCACC
-----			-----	
a-----	4	0,-3	-----	UCUCACACAGAAAUCGCACC
-----			-----	
C-----	420	0,-2	-----	UCUCACACAGAAAUCGCACC
-----			-----	
Ca-----	2	0,-2	-----	UCUCACACAGAAAUCGCACC
-----			-----	
Caa-----	2	0,-2	-----	UCUCACACAGAAAUCGCACC
-----			-----	
Cuu-----	2	0,-2	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CG-----	685	0,-1	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGa-----	60	0,-1	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGaa-----	2	0,-1	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGau-----	2	0,-1	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGU-----	2191	0,0	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGUa-----	23	0,0	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGUaa-----	4	0,0	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGUau-----	5	0,0	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGUu-----	96	0,0	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGUuu-----	4	0,0	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGUC-----	724	0,1	-----	UCUCACACAGAAAUCGCACC
-----			-----	
CGUCu-----	258	0,1	-----	UCUCACACAGAAAUCGCACC
-----			-----	

CGUCA-----	123	0,2	
-----			-CUCACACAGAAAUCGCACC
CGU-----	4	1,0	
-----			-CUCACACAGAAAUCGCACC
CGUCu-----	2	1,1	
-----			-UCACACAGAAAUCGCACC
-----	5	2,-3	
-----			-UCACACAGAAAUCGCACC
C-----	8	2,-2	
-----			-UCACACAGAAAUCGCACC
CG-----	9	2,-1	
-----			-UCACACAGAAAUCGCACC
CGaa-----	2	2,-1	
-----			-UCACACAGAAAUCGCACC
CGU-----	20	2,0	
-----			-UCACACAGAAAUCGCACC
CGUC-----	15	2,1	
-----			-UCACACAGAAAUCGCACC
CGUCu-----	7	2,1	
-----			-UCACACAGAAAUCGCACC
CGUCA-----	56	2,2	
-----			-UCACACAGAAAUCGCACC
CGUCAa-----	2	2,2	
-----			-UCACACAGAAAUCGCACC
CGUCAu-----	5	2,2	
-----			-UCACACAGAAAUCGCACC
CGUCAuu-----	2	2,2	

>hsa-mir-345 5p:18-39 SRX018968

acccaaacccuaggucuGCUGACUCCUAGUCCAGGGCUCgugauggcugguggggccugaacgaggggucuggaggccug
 gguuugaauaucgacagc

...(((((((.((((((.((.(((((((.((.(((((((((((.((....).).))))))))).).)))))))).).))))))
))))))).))))).

-----	-GCUGACUCCUAGUCCAGG-	-----
-----	13	0,-4
-----	-GCUGACUCCUAGUCCAGGG-	-----
-----	8	0,-3
-----	-GCUGACUCCUAGUCCAGGGC-	-----

```

----- 10 0,-2
-----GCUGACUCCUAGUCCAGGGCaa-----
----- 10 0,-2
-----GCUGACUCCUAGUCCAGGGCau-----
----- 4 0,-2
-----GCUGACUCCUAGUCCAGGGCU-----
----- 62 0,-1
-----GCUGACUCCUAGUCCAGGGCUa-----
----- 14 0,-1
-----GCUGACUCCUAGUCCAGGGCUaa-----
----- 32 0,-1
-----GCUGACUCCUAGUCCAGGGCUau-----
----- 24 0,-1
-----GCUGACUCCUAGUCCAGGGCUu-----
----- 8 0,-1
-----GCUGACUCCUAGUCCAGGGCUuu-----
----- 3 0,-1
-----GCUGACUCCUAGUCCAGGGCUC-----
----- 16 0,0
-----GCUGACUCCUAGUCCAGGGCUCa-----
----- 6 0,0
-----GCUGACUCCUAGUCCAGGGCUCaa-----
----- 2 0,0
-----GCUGACUCCUAGUCCAGGGCUCau-----
----- 6 0,0
-----GCUGACUCCUAGUCCAGGGCUCu-----
----- 3 0,0

```

```

>hsa-mir-346 5p:20-42 SRX018968
ggucucuguguugggcgucUGUCUGCCCGCAUGCCUGCCUCUcuguugcucugaaggaggcaggggcugggccugcagcu
gccugggcagagcgg
.(.((((((.(..((((.((((..((((((...(((((((.(.....)))))))))))).)).))))..))..)))))..
-----UGUCUGCCCGCAUGCCUGCCUC-----
----- 2 0,-1

```

```

>hsa-mir-34a MA:22-43;mi:64-85 SRX018968
ggccagcugugaguguuucuuUGGCAGUGUCUUAGCUGGUUGUugugagcaauaguaaggaagCAAUCAGCAAGUAUACU

```

(((.(((((((..((((..((((((((((.(((((((((((...((...))....)))))))))))).))))))
))).))))).)).))))).)).))))).

----- 5 0,-3

----- 2 0,-3

-----UGGCAGUGUCUUAGCUGGUU-----

----- 13 0,-2

-----UGGCAGUGUCUUAGCUGGUU_{au}-----

----- 3 0.-2

-----UGGCAGUGUCUUAGCUGGUU_u-----

----- 2 0,-2

-----UGGCAGUGUCUUAGCUGGUUG-----

----- 28 0,-1

-----UGGCAGUGUCUUAGCUGGUUGa-----

----- 12 0,-1

-----UGGCAGUGUCUUAGCUGGUUGU-----

----- 62 0,0

-----UGGCAGUGUCUUAGCUGGUUGUU-----

----- 13 0,1

-----UGGCAGUGUCUUAGCUGGUUGUUa-----

----- 5 0,1

-----UGGCAGUGUCUUAGCUGGUUGUU_{au}-----

----- 3 0,1

-----UGGCAGUGUCUUAGCUGGUUGUUu-----

----- 5 0,1

-----CAAUCAGCAAGUAUACU

GCC----- 6 0,-2

-----CAAUCAGCAAGUAUACU

CCCC----- 2 0,-1

-----CAAUCAGCAAGUAUACU

GCCCU----- 5 0,0

-----CAAUCAGCAAGUAUACU

CCCCUu----- 15 0,0

-----CAAUCAGCAAGUAUACU

CCCCUuu----- 9 0,0

-----CAAUCAGCAAGUAUACU

>hsa-mir-3605 5p:22-44;3p:66-88 SRX018968
 acuuuauacguguaauugugaUGAGGAUGGAUAGCAAGGAAGCCgcucccaccugaccucacggCCUCCGUGUUACCUG
 UCCUCUAGgugggacgcucg
((((.....((((((((((((((((.....)))))).)))))).)))
))))).....)))))...
 -----GAUGAGGAUGGAUAGCAAGG-----
 ----- 2 -2,-5
 -----GAUGAGGAUGGAUAGCAAGGA-----
 ----- 3 -2,-4
 -----AUGAGGAUGGAUAGCAAGGAAG-----
 ----- 2 -1,-2
 -----UGAGGAUGGAUAGCAAGGAA-----
 ----- 2 0,-3
 -----UGAGGAUGGAUAGCAAGGAAG-----
 ----- 7 0,-2
 -----UGAGGAUGGAUAGCAAGGAAGCC-----
 ----- 5 0,0
 -----CCUCCGUGUUACCUG
 UCCUCUAG----- 2 0,0

>hsa-mir-3607 5p:12-33;3p:51-70 SRX018968
 aagguugcgguGCAUGUGAUGAAGCAAUCAGUaungaangaauucaugauACUGUAAACGCUUUCUGAUGuacuacuca
((.....((((((((((((.....)))))).)))))).)))
 -----AUACUGUAAACGCUUUCU-----
 4 -2,-4

>hsa-mir-3609 3p:51-74 SRX018968
 guaacaguaacuuuauucucauuuuccuuuucucuaccuuguagagaagCAAAGUGAUGAGUAAUACUGGCUGgagccc
 ((.....((((((((((((((((.....)))))).)))))).)))
 -----GCAAAGUGAUGAGUAAUACU-----
 52 -1,-5
 -----GCAAAGUGAUGAGUAAUACUGGCU-----
 5 -1,-1
 -----CAAAGUGAUGAGUAAUACU-----
 75 0,-5
 -----CAAAGUGAUGAGUAAUACUGG-----
 2 0,-3
 -----CAAAGUGAUGAGUAAUACUGGCU-----

$2 \quad 0, -1$

>hsa-mi r-361 5p:6-27;3p:45-67 SRX018968

ggagcUUAUCAGAAUCUCCAGGGUACuuuuaauuucaaaaagUCCCCAGGUGUGAUUCUGAUUUgcuuc

(((((.(((((((.(.((((.((((.(.....))))).))))).)).)))))))).))))))

-----UUAUCAGAAUCUCCAGGG----- 29

0,-4

-----UUAUCAGAAUCUCCAGGGG----- 42

0,-3

-----UUAUCAGAAUCUCCAGGGGU----- 77

0,-2

-----UUAUCAGAAUCUCCAGGGGUA----- 116

 $0, -1$

-----UUAUCAGAAUCUCCAGGGGUA_a----- 83

0,-1

-----UUAUCAGAAUCUCCAGGGGUAaa----- 5

0,-1

-----UUAUCAGAAUCUCCAGGGGUA_{au}----- 10

 $0,-1$

-----UUAUCAGAAUCUCCAGGGGUA_u----- 173

 $0, -1$

-----UUAUCAGAAUCUCCAGGGGUA_{uu}----- 8

 $0, -1$

-----UUAUCAGAAUCUCCAGGGGUAC----- 153

 $0,0$

-----UUAUCAGAAUCUCCAGGGGUACa----- 41

0.0

-----UUAUCAGAAUCUCCAGGGGUACaa----- 5

0,0

-----UUAUCAGAAUCUCCAGGGGUAC_{au}----- 3

 $0,0$

-----UUAUCAGAAUCUCCAGGGGUACU----- 9

 $0,1$

-----UCCCCAGGUGUGAUUCU----- 22

0,-5

-----UCCCCAGGUGUGAUUCUG----- 2

0,-4

-----UCCCCCAGGUGUGAUUCUGA----- 7

0,-3	-----UCCCCCAGGUGUGAUUCUGAa-----	8
0,-3	-----UCCCCCAGGUGUGAUUCUGAaa-----	5
0,-3	-----UCCCCCAGGUGUGAUUCUGAU-----	14
0,-2	-----UCCCCCAGGUGUGAUUCUGAUa-----	7
0,-2	-----UCCCCCAGGUGUGAUUCUGAUU-----	22
0,-1	-----UCCCCCAGGUGUGAUUCUGAUUU-----	31
0,0	-----UCCCCCAGGUGUGAUUCUGAUUUu----	2
0,0	-----UCCCCCAGGUGUGAUUCUGAUUUUG----	14
0,1	-----CCCCCAGGUGUGAUUCUGAUUUUGa---	2
1,1	-----CCCCCAGGUGUGAUUCUGAUUUUGu---	2
1,1		

>hsa-mir-3613 5p:16-37;3p:53-76 SRX018968

ugguuggguuggauUGUUGUACUUUUUUUUUGUUCguugcauuuuuaggaACAAAAAAAAAGCCCAACCCUUCacac
cacuca

.(((...(((.((((...(((.(((((((.(.....).))))))))))))).))))).))
)...)).

	-----UGUUGUACUUUUUUUUUGUa-----	
----- 2	0,-1	
	-----UGUUGUACUUUUUUUUUGUUC-----	
----- 2	0,0	
	-----ACAAAAAAAAAGCCCAAC-----	
----- 2	0,-5	
	-----ACAAAAAAAAAGCCCAACC-----	
----- 2	0,-4	
	-----ACAAAAAAAAAGCCCAACCC-----	
----- 3	0,-3	
	-----ACAAAAAAAAAGCCCAACCCU-----	

```

----- 7 0,-2
-----ACAAAAAAAAAGCCCAACCCUa-----
----- 3 0,-2

```

>hsa-mir-3614 5p:15-37;3p:53-75 SRX018968
 gguucugucugggCCACUUGGAUCUGAAGGCUGCCCcuuugcucucuggggUAGCCUUCAGAUUUGGUGUUUgaauu
 cuuacu

```

.....((..(((.((((((((((((((((((((.....)))))))))))))))).)))).)...)
.....
-----UAGCCUUCAGAUUUGGUG-----
----- 2 0,-4
-----UAGCCUUCAGAUUUGGUGUU-----
----- 3 0,-2
-----UAGCCUUCAGAUUUGGUGUU-----
----- 18 0,-1

```

>hsa-mir-3615 3p:51-71 SRX018968
 gacucugggacgcucagacgccgcgcggggcggggauuggucugugguccUCUCUCGGCUCUCCUCGCGGCUCgcggcggcc
 gacgguu

```

((((..(((.((((((((((((((((((((.....)))))))))))))))).)))).)
.)
-----UCUCUCGGCUCUCCUCGCGG-----
----- 2 0,-3
-----UCUCUCGGCUCUCCUCGCGGCU-----
----- 4 0,-1

```

>hsa-mir-362 5p:5-28;3p:42-63 SRX018968
 cuugAAUCCUUGGAACCUAGGUGUGAGUgcuauuucagugcAACACACCUAUUCAAGGAUUAaa

```

.((((((((((((((((.....((((((((((((((((.....)))))))))))))))).)
---AAUCCUUGGAACCUAGGUGU----- 6 0,-4
---AAUCCUUGGAACCUAGGUGUG----- 7 0,-3
---AAUCCUUGGAACCUAGGUGUGA----- 13 0,-2
---AAUCCUUGGAACCUAGGUGUGAG----- 8 0,-1
---AAUCCUUGGAACCUAGGUGUGAGU----- 2 0,0
-----AACACACCUAUUCAAGGAUa----- 2 0,-3
-----AACACACCUAUUCAAGGAUU----- 5 0,-2
-----AACACACCUAUUCAAGGAUUC--- 21 0,-1
-----AACACACCUAUUCAAGGAUUCA-- 14 0,0

```

```

>hsa-mir-3622a 5p:14-35;3p:50-71 SRX018968
aauagagggugcaCAGGCACGGGAGCUCAGGUGAGgcaggagcugagcUCACCUGACCUCCCAUGCCUGUgcacccucu
auu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----CAGGCACGGGAGCUCAGGUGAGu-----
--- 2 0,0

```

```

>hsa-mir-363 mi:7-28;MA:50-71 SRX018968
uguuguCGGGUGGAUCACGAUGCAAUUUugaugaguaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaacc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----AAUUGCACGGUAUCCAUC----- 8
0,-4
-----AAUUGCACGGUAUCCAUCU----- 128
0,-3
-----AAUUGCACGGUAUCCAUCUG----- 6
0,-2
-----AAUUGCACGGUAUCCAUCUGU----- 12
0,-1
-----AAUUGCACGGUAUCCAUCUGUA----- 25
0,0
-----AAUUGCACGGUAUCCAUCUGUAA--- 14
0,1
-----AUUGCACGGUAUCCAUCU----- 14
1,-3
-----AUUGCACGGUAUCCAUCUGUAu--- 2
1,0

```

```

>hsa-mir-3647 5p:15-37;3p:62-84 SRX018968
uugcuuucacagcCUGAAGUGAUGAUUCACAUUCAUgucucuucucugauaaaauucuugaAGAAAAUUUUUGUGUGUCU
GAUCaggccucuagagggcag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----GAAGAAAAUUUUUGUGUGUC-----
----- 10 -2,-5
-----GAAGAAAAUUUUUGUGUGUCU
----- 11 -2,-4

```



```

-----AGGGACUUUUGGGGGCAGAUu-----
----- 3
-----AGGGACUUUUGGGGGCAGAUg-----
----- 5
-----AGGGACUUUUGGGGGCAGAUgu-----
----- 9
-----AGGGACUUUUGGGGGCAGAUguu-----
----- 3
-----AGGGACUUUUGGGGGCAGAUguuu-----
----- 2
-----AGGGACUUUUGGGGGCAGAUgUG-----
----- 26
-----AGGGACUUUUGGGGGCAGAUgUGa-----
----- 4
-----AGGGACUUUUGGGGGCAGAUgUGU-----
----- 16
-----AGGGACUUUUGGGGGCAGAUgUGUU-----
----- 3
-----GGGACUUUUGGGGGCAGAUgUGU-----
----- 2
-----UAAUGCCCCUAAAAAUCC-----
----- 28 0,-4
-----UAAUGCCCCUAAAAAUCCU-----
----- 29 0,-3
-----UAAUGCCCCUAAAAAUCCUau-----
----- 4 0,-3
-----UAAUGCCCCUAAAAAUCCUU-----
----- 87 0,-2
-----UAAUGCCCCUAAAAAUCCUUu-----
----- 6 0,-2
-----UAAUGCCCCUAAAAAUCCUUuu-----
----- 2 0,-2
-----UAAUGCCCCUAAAAAUCCUUA-----
----- 122 0,-1
-----UAAUGCCCCUAAAAAUCCUUAa-----
----- 40 0,-1
-----UAAUGCCCCUAAAAAUCCUUAaa-----
----- 4 0,-1

```



```

-----UAAUGCCCCUAAA
AAUCCUU----- 87 0,-2
-----UAAUGCCCCUAAA
AAUCCUUu----- 6 0,-2
-----UAAUGCCCCUAAA
AAUCCUUuu----- 2 0,-2
-----UAAUGCCCCUAAA
AAUCCUUA----- 122 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAa----- 40 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAaa----- 4 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAU----- 408 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUa----- 13 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUU----- 22 0,1
-----AAUGCCCCUAAA
AAUCCUUA----- 3 1,-1
-----AUGCCCCUAAA
AAUCCUUAU----- 2 2,0

```

>hsa-mir-3653 3p:75-92 SRX018968

```

ucccuggggaccccuggcagccccuccugaugauucuuuccugagcacgcucaugaugagcaaacugagccuCUAAGA
AGUUGACUGAAGgggcugcuuccccaagga
(((.((((((.....((((((((((.....((((((.....)))))))))).)))
)).....).))))))))))))))))).)))
-----CCUCCUGAUGAUUCUUCUCCU-----
----- 4
-----UCAAGA
AGUUGACUGAA----- 2 -1,-1

```

>hsa-mir-3654 3p:38-56 SRX018968

```

uucaugagcugcaaucucaucacuggaanguuccagcGACUGGACAAGCUGAGGAA
.((.((.((((.....((((((.....)))))).))).....).)).).
-----GACUGGACAAGCUGAGGAA 8 0,0
-----ACUGGACAAGCUGAGGAA 6 1,0

```


cuguaaacuugaagguagggAACUCUGUCUACUCAUGAGUaccuuccaacacgagcucucaggaguaaagacagaguu
cccuaccuuccauguggau

[illegible]

-----UCUCAGGAGUAAAGACAGA-----

----- 4

-----UCUCAGGAGUAAAGACAGAG-----

----- 2

-----UCUCAGGAGUAAAGACAGAGUU

----- 2

-----UCAGGAGUAAAGACAGAGUU

----- 5

-----CAGGAGUAAAGACAGAGUU

----- 5

>hsa-mir-3676 3p:60-79 SRX018968

uugguuaaagcgccugucuaguaaacaggagauccuggguucgaauccagcggugccuCCGUGUUUCCCCACGCUUUu
gccaa

.((((.((((((.((...(.((((((((((((((((((((...)))))).)))).)))).)).)))).).
)))).

-----CCGUGUUUCCCCACGCUUU-----

----- 2 0,0

>hsa-mir-3687 3p:35-58 SRX018968

cgcgcgugcgcgccgagcgcggcccgguaggucccuCCCGACAGGCGUUCGUGCGACGUgug

((((((((.((((.(((((((.(.(((((..(..)..))))).(..)))))).).)))))))))

-----CUCCCGGACAGGCGUUCGUGC----- 2 -2,-5

-----UCCCGGACAGGCGUUCGUGC----- 2 -1,-5

-----CCCGGACAGGCGUUCGUGCGAC----- 5 0,-2

-----CCGGACAGGCGUUCGUGCGAC----- 3 1,-2

-----CCGGACAGGCGUUCGUGCGACGU----- 2 1.0

-----CGGACAGGCGUUCGUGCGAC----- 3 2,-2

-----CGGACAGGCGUUCGUGCGACG----- 6 2.-1

-----CGGACAGGCGUUCGUGCGACGU----- 5 2.0

-----CGGACAGGCGUUCGUGCGACGUGU- 2 2.2

```

>hsa-mir-369    5p:9-30;3p:44-64    SRX018968
uugaagggAGAUCGACCGUGUUAUAUUCGCUuuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.(((((((((.....)))))).))))).
-----AGAUCGACCGUGUUAUAU----- 6 0,-3
-----AGAUCGACCGUGUUAUAUUC----- 12 0,-2
-----AGAUCGACCGUGUUAUAUUCGCU----- 2 0,1
-----AGAUCGACCGUGUUAUAUUCGCUU----- 3 0,2
-----AGAUCGACCGUGUUAUAUUCGCUUU----- 2 0,3
-----AAUAAUACAUGGUUGAUCUU----- 3 0,-1
-----AAUAAUACAUGGUUGAUCUU----- 14 0,0

```

```

>hsa-mir-3690   5p:10-32    SRX018968
cccaucuccACCUGGACCCAGCGUAGACAAAGagguguuucuacuccauaucuaccuggacccaguguagauggg
(((((((((.....)))))).))))).
-----ACCUGGACCCAGCGUAGACA----- 3
0,-3
-----ACCUGGACCCAGCGUAGACAA----- 4
0,-2
-----ACCUGGACCCAGCGUAGACAAA----- 2
0,-1

```

```

>hsa-mir-370    3p:48-69    SRX018968
agacagagaagccaggucacgucucugcaguacacagcucacgaguGCCUCUGGGGUGGAACCUGGUcugucu
(((((((((.....)))))).))))).
-----GCCUCUGGGGUGGAACCUGG----- 2
0,-1

```

```

>hsa-mir-374a   MA:12-33;mi:42-63    SRX018968
uacaucggccaUUAUAAUACAACCUGAUAGUGuuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((((.....)))))).))))).
-----AUUAAUACAACCUGAUAGUG----- 2
-1,0
-----UUAUAAUACAACCUGAU----- 12
0,-4
-----UUAUAAUACAACCUGAUAA----- 180
0,-3
-----UUAUAAUACAACCUGAUAAa----- 2
0,-3

```

-----UUAUAAUACAACCUGAUAG-----	79
0,-2	
-----UUAUAAUACAACCUGAUAGa-----	4
0,-2	
-----UUAUAAUACAACCUGAUAGU-----	524
0,-1	
-----UUAUAAUACAACCUGAUAGUa-----	19
0,-1	
-----UUAUAAUACAACCUGAUAGUaa-----	10
0,-1	
-----UUAUAAUACAACCUGAUAGUu-----	2
0,-1	
-----UUAUAAUACAACCUGAUAGUG-----	609
0,0	
-----UUAUAAUACAACCUGAUAGUGa-----	162
0,0	
-----UUAUAAUACAACCUGAUAGUGaa-----	4
0,0	
-----UUAUAAUACAACCUGAUAGUGU-----	16
0,1	
-----UAUAAUACAACCUGAUAGU-----	6
1,-1	
-----UAUAAUACAACCUGAUAGUG-----	4
1,0	
-----ACUUAUCAGAUUGUAUUGAAU-----	2
-1,-1	
-----CUUAUCAGAUUGUAUUGU-----	5
0,-4	
-----CUUAUCAGAUUGUAUUGUA-----	2
0,-3	
-----CUUAUCAGAUUGUAUUGUAu-----	2
0,-3	
-----CUUAUCAGAUUGUAUUGUAA-----	15
0,-2	
-----CUUAUCAGAUUGUAUUGUAAa-----	4
0,-2	
-----CUUAUCAGAUUGUAUUGAAU-----	99
0,-1	

-----AUAUAAUACAACCUGCUAAGUGU-----	93
0,1	
-----AUAUAAUACAACCUGCUAAGUGUC-----	2
0,2	
-----AUAUAAUACAACCUGCUAAGUGUCC-----	4
0,3	
-----UAUAAUACAACCUGCUAAGUG-----	2
1,0	
-----UAUAAUACAACCUGCUAAGUGa-----	2
1,0	
-----AUAUACAACCUGCUAAGU-----	2
2,-1	
-----AUAUACAACCUGCUAAGUa-----	2
2,-1	
-----AUAUACAACCUGCUAAGUG-----	2
2,0	
-----AUAUACAACCUGCUAAGUGU-----	2
2,1	
-----ACUUAGCAGGUUGUAUUAUCAU-----	2
-1,-1	
-----CUUAGCAGGUUGUAUUAUCAUU-----	4
0,0	

>hsa-mir-374c 5p:13-34 SRX018968

acacggacaugAUAUACAACCUGCUAAGUGCUaggacacuuagcagguuguauuauauccaucgagu
 ...(((.....((((((((((((((((((((((((.....)))))))))))))))))))))))).....)))...

-----AUAUACAACCUGCUAAGU-----	2	0,-3
-----AUAUACAACCUGCUAAGUa-----	2	0,-3
-----AUAUACAACCUGCUAAGUG-----	2	0,-2

>hsa-mir-375 3p:40-61 SRX018968

ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUGAggc
 .((((((.((((((...((.(((((.((.....)).)))))).))...))))))))))))).)).

-----UUUGUUCGUUCGGCUCGCGU-----	3	-1,-2
-----UUUGUUCGUUCGGCUCGCGUG----	3	-1,-1
-----UUUGUUCGUUCGGCUCGCGUGu---	3	-1,-1
-----UUUGUUCGUUCGGCUCGC-----	11	0,-4
-----UUUGUUCGUUCGGCUCGCG-----	16	0,-3


```

-----AUCAUAGAGGAAAAUCCA
-----61 0,-3
-----AUCAUAGAGGAAAAUCCA
GU-----6 0,-1
-----AUCAUAGAGGAAAAUCCA
GUU-----4 0,0
-----AUCAUAGAGGAAAAUCCA
GUUU-----5 0,1

```

>hsa-mir-376c 3p:43-63 SRX018968

```

aaaagguggauauuccuucuauguuuauuguuauuuauugguuaAACAUAGAGGAAAUUCCACGUuuu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GUGGAUUAUCCUUCUAUGUUUA----- 3
-----UGGAUUAUCCUUCUAUGUUU----- 2
-----AACAUAGAGGAAAUUCCA----- 4 0,-3
-----AACAUAGAGGAAAUUCCAC----- 84 0,-2
-----AACAUAGAGGAAAUUCCACG----- 67 0,-1
-----AACAUAGAGGAAAUUCCACGU--- 365 0,0
-----AACAUAGAGGAAAUUCCACGUa-- 8 0,0
-----AACAUAGAGGAAAUUCCACGUaa- 2 0,0
-----AACAUAGAGGAAAUUCCACGUU-- 25 0,1
-----AACAUAGAGGAAAUUCCACGUUa- 3 0,1
-----AACAUAGAGGAAAUUCCACGUUU- 3 0,2
-----ACAUAGAGGAAAUUCCACGUUU- 4 1,2

```

>hsa-mir-377 mi:7-28;MA:45-66 SRX018968

```

uugagcAGAGGUUGCCCUUGGUGAAUUCgcuuuauuuauuguugaAUCACACAAAGGCAACUUUUGUuug
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAGGUUGCCCUUGGUGAAU----- 2 0,-2
-----AGAGGUUGCCCUUGGUGAAUa----- 4 0,-2
-----AGAGGUUGCCCUUGGUGAAUU----- 31 0,-1
-----AGAGGUUGCCCUUGGUGAAUa----- 3 0,-1
-----AGAGGUUGCCCUUGGUGAAUUC----- 5 0,0
-----AGAGGUUGCCCUUGGUGAAUUCG----- 3 0,1
-----AUCACACAAAGGCAACUUUU----- 2 0,-2
-----AUCACACAAAGGCAACUUUUG----- 4 0,-1
-----AUCACACAAAGGCAACUUUUGU--- 5 0,0

```

>hsa-mir-378 mi:5-26;MA:43-63 SRX018968

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu

(((((((.....)))))).)))))))))

----CUCCUGACUCCAGGUCCU-----	5	0,-4
----CUCCUGACUCCAGGUCCUGU-----	3	0,-2
----CUCCUGACUCCAGGUCCUGUGU-----	4	0,0
----UCCUGACUCCAGGUCCUGU-----	2	1,-2
----UCCUGACUCCAGGUCCUGUGU-----	4	1,0
-----GCACUGGACUUGGAGUCAGAAG----	2	-2,-1
-----CACUGGACUUGGAGUCAGAAGG---	8	-1,0
-----CACUGGACUUGGAGUCAGAAGGa--	2	-1,0
-----CACUGGACUUGGAGUCAGAAGGaa-	2	-1,0
-----CACUGGACUUGGAGUCAGAAGGC--	9	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa-	6	-1,1
-----CACUGGACUUGGAGUCAGAAGGCuu	2	-1,1
-----ACUGGACUUGGAGUCAGA-----	52	0,-3
-----ACUGGACUUGGAGUCAGAA-----	99	0,-2
-----ACUGGACUUGGAGUCAGAAa----	14	0,-2
-----ACUGGACUUGGAGUCAGAAaa---	3	0,-2
-----ACUGGACUUGGAGUCAGAAG----	488	0,-1
-----ACUGGACUUGGAGUCAGAAGu---	20	0,-1
-----ACUGGACUUGGAGUCAGAAGG---	4683	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	1722	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	217	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	41	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	271	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	38	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	6997	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	4341	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	471	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	1173	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	1735	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	325	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	9	0,2
-----ACUGGACUUGGAGUCAGAAGGCCau	2	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	4	0,3
-----CUGGACUUGGAGUCAGAAG----	6	1,-1
-----CUGGACUUGGAGUCAGAAGG---	91	1,0

-----CUGGACUUGGAGUCAGAAGGa--	41	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	12	1,0
-----CUGGACUUGGAGUCAGAAGGau-	2	1,0
-----CUGGACUUGGAGUCAGAAGGu--	15	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	2	1,0
-----CUGGACUUGGAGUCAGAAGGC--	478	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	222	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	82	1,1
-----CUGGACUUGGAGUCAGAAGGCau	72	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	197	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	88	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	2	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	10	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	9	1,2
-----CUGGACUUGGAGUCAGAAGGCCUau	2	1,3
-----CUGGACUUGGAGUCAGAAGGCCUu	4	1,3
-----CUGGACUUGGAGUCAGAAGGCCUuu	2	1,3
-----UGGACUUGGAGUCAGAAGG---	3	2,0
-----UGGACUUGGAGUCAGAAGGa--	5	2,0
-----UGGACUUGGAGUCAGAAGGu--	2	2,0
-----UGGACUUGGAGUCAGAAGGuu-	2	2,0
-----UGGACUUGGAGUCAGAAGGC--	8	2,1
-----UGGACUUGGAGUCAGAAGGCa-	8	2,1
-----UGGACUUGGAGUCAGAAGGCaa	2	2,1
-----UGGACUUGGAGUCAGAAGGCau	2	2,1
-----UGGACUUGGAGUCAGAAGGCu-	4	2,1
-----UGGACUUGGAGUCAGAAGGCuu	3	2,1

>hsa-mir-378b 3p:34-52 SRX018968

ggucauugagucuucaaggcuaguggaaagagcACUGGACUUGGAGGCAGAAagacc

(((((.(.(((((((((((((.....)))))).))))))))).))))))

-----ACUGGACUUGGAGGCAGAA----- 47 0,0

>hsa-mir-378c 5p:11-35 SRX018968

ggaggccaucACUGGACUUGGAGUCAGAAGAGUGGagucgggucagacuucaacucugacuuugaagguggugagugccu
c

.((((((((((((.....(((((((((.....((((((((.....)))))).))))))))).))))))
)

```

-----CACUGGACUUGGAGUCAGAAGA-----
-   2   -1,-4
-----ACUGGACUUGGAGUCAGAAG-----
-  488  0,-5
-----ACUGGACUUGGAGUCAGAAGu-----
-   20  0,-5
-----ACUGGACUUGGAGUCAGAAGA-----
-  306  0,-4
-----ACUGGACUUGGAGUCAGAAGAa-----
-   18  0,-4
-----ACUGGACUUGGAGUCAGAAGAaa-----
-    5  0,-4
-----CUGGACUUGGAGUCAGAAG-----
-    6  1,-5
-----CUGGACUUGGAGUCAGAAGA-----
-    6  1,-4

```

>hsa-mi r-379 MA:6-26;mi:44-65 SRX018968

agagaUGGUAGACUAUGGAACGUAGGcguuaugauuucugaccUAUGUAACAUGGUCCACUAACUcu

(((.(((.(((((((..((((((((..(....)..)).))))))..)))))))).))))).)))

-----UGGUAGACUAUGGAACGUAG-----	32	0,-1
-----UGGUAGACUAUGGAACGUAGG-----	73	0,0
-----UGGUAGACUAUGGAACGUAGGa-----	35	0,0
-----UGGUAGACUAUGGAACGUAGGaa-----	14	0,0
-----UGGUAGACUAUGGAACGUAGGu-----	10	0,0
-----UGGUAGACUAUGGAACGUAGGuu-----	2	0,0
-----UGGUAGACUAUGGAACGUAGGCau-----	2	0,1
-----UAUGUAACAUGGUCCACUAAC----	3	0,-1

>hsa-mir-381 3p:49-70 SRX018968

uacuuaaagcgagguugcccuuguauauucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua

(((((.((.(((((((.(((((((.((((...)))...)))))))))))).)).)).))))))

-----AGCGAGGUUGCCCUUGUA----- 3

```
>hsa-mir-382      5p:11-32      SRX018968
```

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuacuaugacgaaucauucacggacaacacuuuuucagua

(((.((((((.((((((((((..(((((((.....).))))).).)))))))).).)))))))))

-----GAAGUUGUUCGUGGUGGAU-----


```
>hsa-mir-3910-2 3p:50-69      SRX018968
uuuuuuugugcuugucuugguuuuuugccuuuuuugugccuugauauaAAAGGCAUAAAACCAAGACAagcaacagaaa
aa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).
-----AAAAGGCAUAAAACCAAGACAA-----
-- 2    -1,1
```

```

>hsa-mir-409      5p:15-37;3p:47-68      SRX018968
ugguacucggggagAGGUUACCCGAGCAACUUUGCAUcuggacgacGAAUGUUGCUCGGUGAACCCCUuuucgguauc
.(((((.((.(((.(((((((((((((((.....).))))).)))))))).))))).))))).))))).))))).
-----AGGUUACCCGAGCAACUU-----
19  0,-4
-----AGGUUACCCGAGCAACUUUG-----
5   0,-3
-----AGGUUACCCGAGCAACUUUGCA-----
39  0,-1
-----AGGUUACCCGAGCAACUUUGCAU-----
20  0,0
-----CGAAUGUUGCUCGGUGAA-----
4   -1,-5
-----CGAAUGUUGCUCGGUGAACCCC-----
2   -1,-1
-----CGAAUGUUGCUCGGUGAACCCCU-----
3   -1,0
-----GAAUGUUGCUCGGUGAAC-----
3   0,-4
-----GAAUGUUGCUCGGUGAACCCC-----
2   0,-1
-----GAAUGUUGCUCGGUGAACCCCU-----

```

```

6    0,0
-----GAAUGUUGCUCGGUGAACCCCUa-----
2    0,0
-----GAAUGUUGCUCGGUGAACCCCUau-----
2    0,0
-----GAAUGUUGCUCGGUGAACCCCUU-----
5    0,1

```

>hsa-mir-410 3p:50-70 SRX018968

```

gguaccugagaagagguugucugugaugaguucgcuuuuauuaugacgAAUAUAACACAGAUGGCCUGUuuucaguacc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAUAUAACACAGAUGGCCU-----
12   0,-2
-----AAUAUAACACAGAUGGCCUGU-----
2    0,0
-----AAUAUAACACAGAUGGCCUGUaa-----
2    0,0

```

>hsa-mir-411 MA:16-36;mi:51-72 SRX018968

```

ugguacuuggagagaUAGUAGACCGUAUAGCGUACGcuuuauucugugacgUAUGUAACACGGUCCACUAACCCcucaguau
caauccaucucccgag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)).....
-----AUAGUAGACCGUAUAGCG-----
-----2    -1,-4
-----AUAGUAGACCGUAUAGCGU-----
-----47   -1,-3
-----AUAGUAGACCGUAUAGCGUA-----
-----28   -1,-2
-----AUAGUAGACCGUAUAGCGUAa-----
-----8    -1,-2
-----AUAGUAGACCGUAUAGCGUAC-----
-----73   -1,-1
-----AUAGUAGACCGUAUAGCGUACaa-----
-----2    -1,-1
-----AUAGUAGACCGUAUAGCGUACG-----
-----5    -1,0
-----UAGUAGACCGUAUAGCGU-----

```

```

----- 51 0,-3
-----UAGUAGACCGUAUAGCGUA-----
----- 28 0,-2
-----UAGUAGACCGUAUAGCGUAa-----
----- 6 0,-2
-----UAGUAGACCGUAUAGCGUAC-----
----- 81 0,-1
-----UAGUAGACCGUAUAGCGUACG-----
----- 20 0,0

```

```

>hsa-mir-412 3p:54-76 SRX018968
cugggguacggggaugggucgaccaguuggaaaguaauuguuucuaauguACUUCACCUGGUCCACUAGCCGUccgu
auccgcugcag
...((((((...((((((...((((((...((((((...((((((...((((((...((((((...((((((...
)))))).....
-----UGGUCGACCAGUUGGAAAGU-----
----- 2

```

```

>hsa-mir-421 3p:48-70 SRX018968
gcacauuguaggccucauuaaauguuuguugaaugaaaaaaugaaucaUCAACAGACAUUAAUUGGGCGCcugcucugug
aucuc
.((((((...((((((((...((((((((((((...((((((((((((...((((((((((((...
.....
-----AUCAACAGACAUUAAUUG-----
----- 75 0,-5
-----AUCAACAGACAUUAAUUGG-----
----- 40 0,-4
-----AUCAACAGACAUUAAUUGGG-----
----- 7 0,-3
-----AUCAACAGACAUUAAUUGGGC-----
----- 4 0,-2
-----AUCAACAGACAUUAAUUGGGCau-----
----- 3 0,-2
-----AUCAACAGACAUUAAUUGGGCGa-----
----- 4 0,-1
-----AUCAACAGACAUUAAUUGGGCGu-----
----- 2 0,-1
-----AUCAACAGACAUUAAUUGGGCGCaa-----

```

----- 2 0,0

>hsa-mir-423 5p:17-39;3p:53-75 SRX018968

auaaaggaaguuaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcg

....(((((((.(((((((((((..(((.((((((.....)))))))))).)))...)))))))))))))).))
))))).))))).

-----CUGAGGGGCAGAGAGCGAGA-----

----- 3 -1,-4

-----CUGAGGGGCAGAGAGCGAGACUUU-----

----- 3 -1,0

-----UGAGGGGCAGAGAGCGAG-----

----- 30 0,-5

-----UGAGGGGCAGAGAGCGAGu-----

----- 2 0,-5

-----UGAGGGGCAGAGAGCGAGA-----

----- 102 0,-4

-----UGAGGGGCAGAGAGCGAGa-----

----- 13 0,-4

-----UGAGGGGCAGAGAGCGAGaaa-----

----- 17 0,-4

-----UGAGGGGCAGAGAGCGAGau-----

----- 4 0,-4

-----UGAGGGGCAGAGAGCGAGAC-----

----- 74 0,-3

-----UGAGGGGCAGAGAGCGAGACa-----

----- 7 0,-3

-----UGAGGGGCAGAGAGCGAGACU-----

----- 137 0,-2

-----UGAGGGGCAGAGAGCGAGACUa-----

----- 3 0,-2

-----UGAGGGGCAGAGAGCGAGACUaa-----

----- 13 0,-2

-----UGAGGGGCAGAGAGCGAGACUau-----

----- 7 0,-2

-----UGAGGGGCAGAGAGCGAGACUU-----

----- 141 0,-1

-----UGAGGGGCAGAGAGCGAGACUUa-----

```

----- 47 0,-1
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 10 0,-1
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 5 0,-1
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 920 0,0
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 16 0,0
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 6 0,0
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 6 0,0
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 149 0,1
-----UGAGGGGCAGAGAGCGAGACUUUu-----
----- 6 0,1
-----GAGGGGCAGAGAGCGAGACU-----
----- 3 1,-2
-----GAGGGGCAGAGAGCGAGACUU-----
----- 12 1,0
-----AGGGGCAGAGAGCGAGACUU-----
----- 2 2,0
-----AGGGGCAGAGAGCGAGACUUU-----
----- 6 2,1
-----AAGCUCGGUCUGAGGCCCCUau-----
----- 2 -1,-4
-----AAGCUCGGUCUGAGGCCCCUCA-----
----- 8 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAG-----
----- 7 -1,-1
-----AAGCUCGGUCUGAGGCCCCUCAGa-----
----- 6 -1,-1
-----AAGCUCGGUCUGAGGCCCCUCAGU-----
----- 12 -1,0
-----AGCUCGGUCUGAGGCCCC-----
----- 4 0,-5
-----AGCUCGGUCUGAGGCCCCU-----

```



```

----- 4 0,-4
-----AGCUCGGUCUGAGGCCCCUC-----
----- 6 0,-3
-----AGCUCGGUCUGAGGCCCCUCA-----
----- 20 0,-2
-----AGCUCGGUCUGAGGCCCCUCAG-----
----- 18 0,-1
-----AGCUCGGUCUGAGGCCCCUCAGa-----
----- 16 0,-1
-----AGCUCGGUCUGAGGCCCCUCAGU-----
----- 132 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUa-----
----- 6 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUaa-----
----- 8 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUau-----
----- 9 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUu-----
----- 21 0,0
-----AGCUCGGUCUGAGGCCCCUCAGUuu-----
----- 4 0,0

```

>hsa-mir-424 MA:11-32;mi:48-68 SRX018968

cgaggggauaCAGCAGCAAUUCAUGUUUUGAAguguucuaaaugguuCAAACGUGAGGCGCUGCUAUacccccucgugg
ggaagguagaaggugggg

((((((((.(.((((((.(.((((((((((((.(.(((.....))))))))))))))))))))))))))...
.....

```

-----ACAGCAGCAAUUCAUGUUU-----
----- 3 -1,-4
-----ACAGCAGCAAUUCAUGUUUU-----
----- 15 -1,-3
-----ACAGCAGCAAUUCAUGUUUUG-----
----- 12 -1,-2
-----ACAGCAGCAAUUCAUGUUUUGA-----
----- 13 -1,-1
-----ACAGCAGCAAUUCAUGUUUUGAA-----
----- 2 -1,0
-----ACAGCAGCAAUUCAUGUUUUGAAa-----

```

```

----- 2 -1,0
-----CAGCAGCAAUUC AUGUUU-----
----- 49 0,-4
-----CAGCAGCAAUUC AUGUUUU-----
----- 463 0,-3
-----CAGCAGCAAUUC AUGUUUUa-----
----- 19 0,-3
-----CAGCAGCAAUUC AUGUUUUaa-----
----- 3 0,-3
-----CAGCAGCAAUUC AUGUUUUUG-----
----- 1701 0,-2
-----CAGCAGCAAUUC AUGUUUUUGu-----
----- 7 0,-2
-----CAGCAGCAAUUC AUGUUUUUGA-----
----- 4517 0,-1
-----CAGCAGCAAUUC AUGUUUUUGAu-----
----- 14 0,-1
-----CAGCAGCAAUUC AUGUUUUUGAA-----
----- 1615 0,0
-----CAGCAGCAAUUC AUGUUUUUGAAa-----
----- 220 0,0
-----CAGCAGCAAUUC AUGUUUUUGAAaa-----
----- 9 0,0
-----CAGCAGCAAUUC AUGUUUUUGAAau-----
----- 3 0,0
-----CAGCAGCAAUUC AUGUUUUUGAAu-----
----- 41 0,0
-----CAGCAGCAAUUC AUGUUUUUGAAG-----
----- 9 0,1
-----AGCAGCAAUUC AUGUUUU-----
----- 7 1,-3
-----AGCAGCAAUUC AUGUUUUUG-----
----- 15 1,-2
-----AGCAGCAAUUC AUGUUUUUGA-----
----- 66 1,-1
-----AGCAGCAAUUC AUGUUUUUGAA-----
----- 32 1,0
-----AGCAGCAAUUC AUGUUUUUGAAa-----

```

```

----- 2 1,0
-----CAAAACGUGAGGCGCUGCUA-----
----- 6 0,-1
-----CAAAACGUGAGGCGCUGCUAa-----
----- 7 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 186 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 8 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 89 0,1
-----CAAAACGUGAGGCGCUGCUAUAa-----
----- 26 0,1
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 4 0,1
-----AAAACGUGAGGCGCUGCUAU-----
----- 5 1,0
-----AAAACGUGAGGCGCUGCUAUA-----
----- 7 1,1
-----AAAACGUGAGGCGCUGCUAUu-----
----- 8 1,1
-----AAACGUGAGGCGCUGCUAUu-----
----- 2 2,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018968

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAUGUCGUGUCCGCCcagug
cucuuc

(((((.(.(((...((((((.(.((((((.(.((((...)))....))))).))))).))))))....)))

```

-----AAUGACACGAUCACUCCC-----
----- 5 0,-5
-----AAUGACACGAUCACUCCCG-----
----- 3 0,-4
-----AAUGACACGAUCACUCCCGU-----
----- 8 0,-3
-----AAUGACACGAUCACUCCCGUU-----
----- 14 0,-2
-----AAUGACACGAUCACUCCCGUUG-----

```

```

----- 23  0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 115 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 19  0,1
-----AAUGACACGAUCACUCCCGUUGAGU-----
----- 9   0,2
-----AUGACACGAUCACUCCCGUU-----
----- 2   1,-2
-----AUGACACGAUCACUCCCGUUGA-----
----- 24  1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 7   1,1
-----UGACACGAUCACUCCCGUUGAG-----
----- 2   2,1
-----CCAUCGGGAAUGUCGUGUCCGC-----
----- 2   -2,-2
-----CAUCGGGAAUGUCGUGUC-----
----- 7   -1,-5
-----CAUCGGGAAUGUCGUGUCC-----
----- 7   -1,-4
-----CAUCGGGAAUGUCGUGUCCGu-----
----- 4   -1,-3
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 5   -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 10  -1,-1
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 6   0,-1
-----AUCGGGAAUGUCGUGUCCGCCau-----
----- 2   0,-1

```

>hsa-mir-4284 5p:11-28 SRX018968

guucugugagGGGCUCACAUCACCCCAUcaaaugggggacucaugggggagagggggguaguuaaggagcuuugauagaggcg
g
(((((((...(((((((...(((((...(((...))))))...))...))))))...))))))...
.
-----GGGCUCACAUCACCCCAU-----

)))))).)).)).

```
-----UCUUGGAGUAGGUCAUUG-----
----- 13 0,-5
-----UCUUGGAGUAGGUCAUUGG-----
----- 23 0,-4
-----UCUUGGAGUAGGUCAUUGGG-----
----- 30 0,-3
-----UCUUGGAGUAGGUCAUUGGGU-----
----- 15 0,-2
-----UCUUGGAGUAGGUCAUUGGGUa-----
----- 4 0,-2
-----UCUUGGAGUAGGUCAUUGGGUaa-----
----- 5 0,-2
-----UCUUGGAGUAGGUCAUUGGGUau-----
----- 4 0,-2
-----UCUUGGAGUAGGUCAUUGGGUu-----
----- 2 0,-2
-----UCUUGGAGUAGGUCAUUGGGUG-----
----- 13 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGa-----
----- 3 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGau-----
----- 2 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 3 0,-1
```

>hsa-mir-4326 5p:11-30 SRX018968

```
gcugcucugcUGUUCCUCUGUCUCCCAGACucugggguggauggagcaggucggggggcca
(((.(...((((((...((((((((...)))))).))))))))))...)).))..
-----UGUUCCUCUGUCUCCCAGACUC----- 3 0,2
-----UGUUCCUCUGUCUCCCAGACUC----- 2 0,3
```

>hsa-mir-433 3p:64-85 SRX018968

```
ccgggggagaaguacggugagccugucauuauucagagagggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg
((..((((((...(((.(((((((((((.((((((.....)))))).)).....)))))).)))))))).))
)...)))))).))
-----AUCAUGAUGGGCUCCUC
```

GGUGU-----	14	0,0	
-----			-AUCAUGAUGGGCUCCUC
GGUGU _a -----	2	0,0	
-----			-AUCAUGAUGGGCUCCUC
GGUGUU-----	3	0,1	

```

>hsa-mir-450a-1 5p:18-39 SRX018968
aaacgauacuaaacuguUUUUGCGAUGUGUUCCUAAUAUgcacuaauaaaauauauugggaacauuuugcauguauaguuuu
guaucaauaua
....((((((.(((((((...((((((.(((((((((((((((((.))))))))))))))))).))))).)))))))).
))))).
-----UUUUGCGAUGUGUUCCUAA-----
----- 4 0,-3
-----UUUUGCGAUGUGUUCCUAAU-----
----- 5 0,-2
-----UUUUGCGAUGUGUUCCUAAUA-----
----- 10 0,-1
-----UUUUGCGAUGUGUUCCUAAUAa-----
----- 2 0,-1
-----UUUUGCGAUGUGUUCCUAAUAU-----
----- 14 0,0
-----AUUGGGAACAUUUUGCAUGUAU-----
----- 4

```

```

>hsa-mir-450a-2 5p:23-44      SRX018968
ccaaagaaagaugcuaaacuauUUUUGCGAUGUGUCCUAAUAUguaauauaaaanguauuggggacauuuugcauucuaa
guuuuguaucaauaauaugg
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).))))))
)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).))))))
-----UUUUGCGAUGUGUCCUAA-----
-----4    0,-3
-----UUUUGCGAUGUGUCCUAAU-----
-----5    0,-2
-----UUUUGCGAUGUGUCCUAAUA-----
-----10   0,-1
-----UUUUGCGAUGUGUCCUAAUAa-----
-----2    0,-1
-----UUUUGCGAUGUGUCCUAAUAU-----

```

-----	14	0,0	
-----			-----AUUGGGGACAUUUUGCAUa-----
-----	2		
-----			-----AUUGGGGACAUUUUGCAUU-----
-----	7		
-----			-----AUUGGGGACAUUUUGCAUUCAU-----
-----	7		
-----			-----UUGGGGACAUUUUGCAUUCAU-----
-----	4		

>hsa-mi r-450b 5p:11-32;3p:48-69 SRX018968

>hsa-mir-451 5p:17-38 SRX018968

cuuggggauggcaaggAAACCGUUACCAUACUGAGUUuaguaaugguaauggguucucucuugcuauacccaga	
.((((.((((((((..((((((((((((((((((((((...))))))))))))))))).)))))).))))).	
-----AAACCGUUACCAUACUG-----	3099
0, -4	
-----AAACCGUUACCAUACUGuu-----	4
0, -4	
-----AAACCGUUACCAUACUGA-----	931
0, -3	
-----AAACCGUUACCAUACUGAa-----	6
0, -3	
-----AAACCGUUACCAUACUGAaa-----	4
0, -3	
-----AAACCGUUACCAUACUGAau-----	2
0, -3	
-----AAACCGUUACCAUACUGAu-----	3

0,-3	-----AAACCGUUACCAUUACUGAuu-----	10
0,-3	-----AAACCGUUACCAUUACUGAG-----	5847
0,-2	-----AAACCGUUACCAUUACUGAGa-----	6
0,-2	-----AAACCGUUACCAUUACUGAGaa-----	4
0,-2	-----AAACCGUUACCAUUACUGAGau-----	33
0,-2	-----AAACCGUUACCAUUACUGAGU-----	7199
0,-1	-----AAACCGUUACCAUUACUGAGUa-----	21
0,-1	-----AAACCGUUACCAUUACUGAGUau-----	3
0,-1	-----AAACCGUUACCAUUACUGAGUU-----	
47520 0,0	-----AAACCGUUACCAUUACUGAGUUa-----	162
0,0	-----AAACCGUUACCAUUACUGAGUUaa-----	16
0,0	-----AAACCGUUACCAUUACUGAGUUU-----	
16312 0,1	-----AAACCGUUACCAUUACUGAGUUUu-----	27
0,1	-----AAACCGUUACCAUUACUGAGUUUA-----	3246
0,2	-----AAACCGUUACCAUUACUGAGUUUAa-----	12
0,2	-----AAACCGUUACCAUUACUGAGUUUAu-----	5
0,2	-----AAACCGUUACCAUUACUGAGUUUAG-----	2221
0,3	-----AACCGUUACCAUUACUGA-----	5
1,-3	-----AACCGUUACCAUUACUGAG-----	24

1,-2	-----AACCGUUACCAUUACUGAGU-----	25
1,-1	-----AACCGUUACCAUUACUGAGUU-----	215
1,0	-----AACCGUUACCAUUACUGAGUUa-----	9
1,0	-----AACCGUUACCAUUACUGAGUUU-----	284
1,1	-----AACCGUUACCAUUACUGAGUUUA-----	48
1,2	-----AACCGUUACCAUUACUGAGUUUAG-----	8
1,3	-----AACCGUUACCAUUACUGAGUUUAGU-----	8
1,4	-----ACCGUUACCAUUACUGAGUU-----	2
2,0	-----AUGGUA AUGGUUCUCUUGCUA-----	2

>hsa-mir-452 MA:14-35;mi:58-79 SRX018968

gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc

((.((((((((((...(.((((((((((.((((((((((((.....)))))))))).)).)))))))))).))))))
)..))

	-----AACUGUUUGCAGAGGAAA-----	
----- 39	0,-4	
	-----AACUGUUUGCAGAGGAAAC-----	
----- 139	0,-3	
	-----AACUGUUUGCAGAGGAAACU-----	
----- 218	0,-2	
	-----AACUGUUUGCAGAGGAAACUG-----	
----- 3	0,-1	
	-----AACUGUUUGCAGAGGAAACUGA-----	
----- 14	0,0	
	-----AACUGUUUGCAGAGGAAACUGAG-----	
----- 20	0,1	
	-----AACUGUUUGCAGAGGAAACUGAGA-----	
----- 3	0,2	


```

-----UAUGUGCCUUUGGACUACA-----
-----4 0,-3-----
-----UAUGUGCCUUUGGACUACAU-----
-----7 0,-2-----
-----UAUGUGCCUUUGGACUACAUa-----
-----30 0,-2-----
-----UAUGUGCCUUUGGACUACAUC-----
-----10 0,-1-----
-----UAUGUGCCUUUGGACUACAUCG-----
-----40 0,0-----
-----UAUGUGCCUUUGGACUACAUCGU-----
-----11 0,1-----
-----UAUGUGCCUUUGGACUACAUCGUG-----
-----3 0,2-----
-----AUGUGCCUUUGGACUACAUCG-----
-----2 1,0-----
-----UGUGCCUUUGGACUACAUCGU-----
-----2 2,1-----
-----UGUGCCUUUGGACUACAUCGUG-----
-----7 2,2-----
-----UGUGCCUUUGGACUACAUCGUGa-----
-----6 2,2-----
-----UGUGCCUUUGGACUACAUCGUGu-----
-----3 2,2-----
-----AUGCAGUCCAUGGGCAUA-----
-----2 -2,-5-----
-----AUGCAGUCCAUGGGCAUAaa-----
-----2 -2,-5-----
-----AUGCAGUCCAUGGGCAUAU-----
-----3 -2,-4-----
-----AUGCAGUCCAUGGGCAUAUu-----
-----3 -2,-4-----
-----AUGCAGUCCAUGGGCAUAUuu-----
-----2 -2,-4-----
-----AUGCAGUCCAUGGGCAUAUA-----
-----29 -2,-3-----
-----AUGCAGUCCAUGGGCAUAUAa-----
-----2 -2,-3-----

```

-----			-----AUGCAGUCCAUGGGCAUAUAu-----
-----	11	-2,-3	-----AUGCAGUCCAUGGGCAUAUAC-----
-----	29	-2,-2	-----AUGCAGUCCAUGGGCAUAUACA-----
-----	79	-2,-1	-----AUGCAGUCCAUGGGCAUAUACa-----
-----	2	-2,-1	-----AUGCAGUCCAUGGGCAUAUACAC-----
-----	12	-2,0	-----AUGCAGUCCAUGGGCAUAUACACa-----
-----	2	-2,0	-----AUGCAGUCCAUGGGCAUAUACACU-----
-----	4	-2,1	-----UGCAGUCCAUGGGCAUAUA-----
-----	11	-1,-3	-----UGCAGUCCAUGGGCAUAUAC-----
-----	8	-1,-2	-----UGCAGUCCAUGGGCAUAUACA-----
-----	54	-1,-1	-----UGCAGUCCAUGGGCAUAUACa-----
-----	4	-1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	15	-1,0	-----UGCAGUCCAUGGGCAUAUACACa-----
-----	2	-1,0	-----UGCAGUCCAUGGGCAUAUACACU-----
-----	2	-1,1	-----GCAGUCCAUGGGCAUAUA-----
-----	140	0,-3	-----GCAGUCCAUGGGCAUAUAa-----
-----	18	0,-3	-----GCAGUCCAUGGGCAUAUAaa-----
-----	8	0,-3	-----GCAGUCCAUGGGCAUAUAu-----
-----	8	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	26	0,-2	

```

-----GCAGUCCAUGGGCAUAUACu-----
-----      4      0,-2
-----GCAGUCCAUGGGCAUAUACA-----
-----    721      0,-1
-----GCAGUCCAUGGGCAUAUACAa-----
-----    59      0,-1
-----GCAGUCCAUGGGCAUAUACAau-----
-----    2      0,-1
-----GCAGUCCAUGGGCAUAUACAu-----
-----    2      0,-1
-----GCAGUCCAUGGGCAUAUACAu-----
-----    7      0,-1
-----GCAGUCCAUGGGCAUAUACAC-----
-----   1084      0,0
-----GCAGUCCAUGGGCAUAUACACa-----
-----    80      0,0
-----GCAGUCCAUGGGCAUAUACACaa-----
-----    2      0,0
-----GCAGUCCAUGGGCAUAUACACU-----
-----   589      0,1
-----GCAGUCCAUGGGCAUAUACACUa-----
-----    7      0,1
-----GCAGUCCAUGGGCAUAUACACUU-----
-----    2      0,2
-----CAGUCCAUGGGCAUAUACA-----
-----   11      1,-1
-----CAGUCCAUGGGCAUAUACAC-----
-----    96      1,0
-----CAGUCCAUGGGCAUAUACACU-----
-----   26      1,1
-----CAGUCCAUGGGCAUAUACACUU-----
-----    3      1,2
-----CAGUCCAUGGGCAUAUACACUUu-----
-----    2      1,2
-----AGUCCAUGGGCAUAUACAC-----
-----    2      2,0

```

>hsa-mir-466 3p:52-74 SRX018968

(((((.....))))))

>hsa-mir-483 5p:8-29;3p:48-68 SRX018968
gaggggggAAGACGGGAGGAAAGAAGGGAGugguuccaucacgccuccUCACUCCUCUCCUCCCGUCUucuccucuc

84 0,-4
-----AAGACGGGAGGAAAGAAGa-----

2 0,-4
-----AAGACGGGAGGAAAGAAGG-----

14 0,-3
-----AAGACGGGAGGAAAGAAGGaa-----

5' 0, -3
-----AAGACGGGAGGAAAGAAGGG-----

2 0,-2
-----AAGACGGGAGGAAAGAAGGGA-----

214 0,-1
-----AAGACGGGAGGAAAGAAGGGAaa-----

23 0,-1
-----AAGACGGGACGAAAGAAGCGAII-----

46 0, -1

```

-----AAGACGGGAGGAAAGAAGGGAuu-----
11  0,-1
-----AAGACGGGAGGAAAGAAGGGAG-----
1366  0,0
-----AAGACGGGAGGAAAGAAGGGAGa-----
278  0,0
-----AAGACGGGAGGAAAGAAGGGAGaa-----
18  0,0
-----AAGACGGGAGGAAAGAAGGGAGau-----
12  0,0
-----AAGACGGGAGGAAAGAAGGGAGU-----
156  0,1
-----AAGACGGGAGGAAAGAAGGGAGUa-----
2  0,1
-----AAGACGGGAGGAAAGAAGGGAGUaa-----
2  0,1
-----AAGACGGGAGGAAAGAAGGGAGUu-----
10  0,1
-----AAGACGGGAGGAAAGAAGGGAGUuu-----
4  0,1
-----AAGACGGGAGGAAAGAAGGGAGUG-----
7  0,2
-----AAGACGGGAGGAAAGAAGGGAGUGG-----
12  0,3
-----AGACGGGAGGAAAGAAGG-----
16  1,-3
-----AGACGGGAGGAAAGAAGGG-----
26  1,-2
-----AGACGGGAGGAAAGAAGGGA-----
30  1,-1
-----AGACGGGAGGAAAGAAGGGGa-----
5  1,-1
-----AGACGGGAGGAAAGAAGGGAG-----
52  1,0
-----AGACGGGAGGAAAGAAGGGAGU-----
40  1,1
-----AGACGGGAGGAAAGAAGGGAGUG-----
12  1,2

```



```

-----AGACGGGAGGAAAGAAGGGAGUGG-----
37  1,3
-----AGACGGGAGGAAAGAAGGGAGUGGU-----
4   1,4
-----UCACUCCUCUCCUCCCGU-----
4   0,-3
-----UCACUCCUCUCCUCCCGUC-----
2   0,-2
-----UCACUCCUCUCCUCCCGUCU-----
13  0,-1
-----UCACUCCUCUCCUCCCGUCUaa-----
2   0,-1
-----UCACUCCUCUCCUCCCGUCUau-----
2   0,-1
-----UCACUCCUCUCCUCCCGUCUU-----
24  0,0
-----UCACUCCUCUCCUCCCGUCUUa-----
19  0,0
-----UCACUCCUCUCCUCCCGUCUUaa-----
10  0,0
-----UCACUCCUCUCCUCCCGUCUUau-----
6   0,0
-----UCACUCCUCUCCUCCCGUCUUu-----
22  0,0
-----UCACUCCUCUCCUCCCGUCUUC-----
18  0,1
-----UCACUCCUCUCCUCCCGUCUUCa-----
4   0,1
-----UCACUCCUCUCCUCCCGUCUUCU-----
2   0,2
-----CACUCCUCUCCUCCCGUC-----
2   1,-2
-----CACUCCUCUCCUCCCGUCU-----
3   1,-1
-----CACUCCUCUCCUCCCGUCUU-----
6   1,0
-----CACUCCUCUCCUCCCGUCUUuu-----
2   1,0

```

```

-----CACUCCUCUCCUCCCGUCUUC-----
29 1,1
-----CACUCCUCUCCUCCCGUCUUCa-----
3 1,1
-----CACUCCUCUCCUCCCGUCUUCU-----
35 1,2

>hsa-mir-484 5p:8-29 SRX018968
agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaaggagacuucccggggggugaccucggcuuuuuuggcg
.((((...((((((...(((.(((((((...(((.((((((...)))..)))..)))..)))..)))..)))..))).
-----UCAGGCUCAGUCCCCUCC-----
4 0,-4
-----UCAGGCUCAGUCCCCUCCC-----
8 0,-3
-----UCAGGCUCAGUCCCCUCCCG-----
12 0,-2
-----UCAGGCUCAGUCCCCUCCCGuu-----
10 0,-2
-----UCAGGCUCAGUCCCCUCCCGA-----
47 0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
19 0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
8 0,-1
-----UCAGGCUCAGUCCCCUCCCGAau-----
2 0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
115 0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
25 0,0
-----UCAGGCUCAGUCCCCUCCCGAUuu-----
4 0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
27 0,1
-----UCAGGCUCAGUCCCCUCCCGAUAu-----
8 0,1
-----UCAGGCUCAGUCCCCUCCCGAUAA-----
7 0,2

```

```

-----AGGCUCAGUCCCCUCCCGA-----
      2      2,-1
-----AGGCUCAGUCCCCUCCCGAU-----
      6      2,0
-----AGGCUCAGUCCCCUCCCGAUAA-----
      2      2,2

>hsa-mir-485      5p:9-30;3p:46-67      SRX018968
acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAGGCUGGCCGUGAUGAAU-----3
      0,-2
-----AGAGGCUGGCCGUGAUGAAUa-----5
      0,-2
-----AGAGGCUGGCCGUGAUGAAUU-----32
      0,-1
-----AGAGGCUGGCCGUGAUGAAUUu-----3
      0,-1
-----AGAGGCUGGCCGUGAUGAAUUC-----10
      0,0
-----AGAGGCUGGCCGUGAUGAAUUCG-----15
      0,1
-----AGAGGCUGGCCGUGAUGAAUUCGu-----2
      0,1
-----AGAGGCUGGCCGUGAUGAAUUCGA-----5
      0,2
-----GUCAUACACGGCUCUCCUCU-----4
      0,-2
-----GUCAUACACGGCUCUCCUCUC-----8
      0,-1
-----GUCAUACACGGCUCUCCUCUCa-----7
      0,-1
-----GUCAUACACGGCUCUCCUCUCU-----29
      0,0

```

--AUCCUGUACUGAGCUGCCCCGA-----	3
-1, -1	
---UCCUGUACUGAGCUGCCCC-----	258 0, -4
---UCCUGUACUGAGCUGCCCCu-----	4 0, -4
---UCCUGUACUGAGCUGCCCC-----	1018
0, -3	
---UCCUGUACUGAGCUGCCCCaa-----	3 0, -3
---UCCUGUACUGAGCUGCCCCG-----	327 0, -2
---UCCUGUACUGAGCUGCCCCGu-----	6 0, -2
---UCCUGUACUGAGCUGCCCCGA-----	1825
0, -1	
---UCCUGUACUGAGCUGCCCCGAa-----	117 0, -1
---UCCUGUACUGAGCUGCCCCGAaa-----	11 0, -1
---UCCUGUACUGAGCUGCCCCGAau-----	4 0, -1
---UCCUGUACUGAGCUGCCCCGAu-----	23 0, -1
---UCCUGUACUGAGCUGCCCCGAG-----	3026
0, 0	
---UCCUGUACUGAGCUGCCCCGAGa-----	1250
0, 0	
---UCCUGUACUGAGCUGCCCCGAGaa-----	31 0, 0
---UCCUGUACUGAGCUGCCCCGAGau-----	23 0, 0
---UCCUGUACUGAGCUGCCCCGAGu-----	281 0, 0
---UCCUGUACUGAGCUGCCCCGAGuu-----	5 0, 0
---UCCUGUACUGAGCUGCCCCGAGG-----	5 0, 1
---UCCUGUACUGAGCUGCCCCGAGGa-----	16 0, 1
---UCCUGUACUGAGCUGCCCCGAGGau-----	2 0, 1
-----CUGUACUGAGCUGCCCCG-----	10 2, -2
-----CUGUACUGAGCUGCCCCGA-----	22 2, -1
-----CUGUACUGAGCUGCCCCGAG-----	43 2, 0
-----CUGUACUGAGCUGCCCCGAGa-----	19 2, 0
-----CGGGGCAGCUCAGUACAGGA---	4 0, -1
-----CGGGGCAGCUCAGUACAGGAU--	10 0, 0
-----CGGGGCAGCUCAGUACAGGAUu--	3 0, 0
-----CGGGGCAGCUCAGUACAGGAUA-	2 0, 1

>hsa-mir-487a 3p:49-70 SRX018968

gguacuugaagagugguuaucuccugcuguguuucgcuaauuuuaugacgAAUCAUACAGGGACAUCCAGUUuuucaguauc
 ((((((.((((.((((...((((((.(((((((.((((.....)))))))).)))))))).)))))).))))))

```

-----AAUCAUACAGGGACAUCCAGUU-----
3    0,0
-----AAUCAUACAGGGACAUCCAGUUU-----
2    0,1

```

>hsa-mir-487b 3p:51-72 SRX018968

uugguacuuggagagugguuaucuccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
ucaa

.(((((((...(((((((.....(((((((.(.(((((((.....)))))))).)))))))).)))))))).)))))).

```

-----AAUCGUACAGGGUCAUCCA-----
---- 7    0,-3
-----AAUCGUACAGGGUCAUCCAC-----
---- 3    0,-2
-----AAUCGUACAGGGUCAUCCACU-----
---- 99   0,-1
-----AAUCGUACAGGGUCAUCCACUU-----
---- 51   0,0
-----AAUCGUACAGGGUCAUCCACUUU-----
---- 7    0,1
-----AUCGUACAGGGUCAUCCACU-----
---- 2    1,-1
-----AUCGUACAGGGUCAUCCACUUU-----
---- 7    1,1

```

>hsa-mir-490 5p:39-58;3p:76-97 SRX018968

uggaggccuugcugguuuggaaagucauuguucgacaCCAUGGAUCUCCAGGUGGGUcaaguuuagagaugcacCAACC
UGGAGGACUCCAUGCUGuugagcuguucacaagcagcgagacacuucca

.(((((((...(((((((.(((((((.....(((((((.(((((((.....)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).

```

-----CAACC
UGGAGGACUCCAUGC----- 2    0,-2
-----CAACC
UGGAGGACUCCAUGC----- 2    0,-1
-----CAACC
UGGAGGACUCCAUGC----- 13   0,0
-----CAACC
UGGAGGACUCCAUGC----- 26   0,1

```

-----CAACC
UGGAGGACUCCAUGCUGUUu----- 2 0,2

>hsa-mir-491 5p:16-37;3p:50-71 SRX018968
uugacuuagcuggguAGUGGGGAACCCUCCAUGAGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcuggcuggg
uugg
(..(((((((..(((((((((..(((.((((((((((.....)))))))))).)))..))))).))))))
)..)
-----AGUGGGGAACCCUCCAUGAGG-----
----- 5 0,0
-----AGUGGGGAACCCUCCAUGAGGA-----
----- 14 0,1
-----AGUGGGGAACCCUCCAUGAGGAa-----
----- 2 0,1

>hsa-mir-493 mi:16-37;MA:57-78 SRX018968
cuggccuccagggcuUGUACAUGGUAGGCUUUCAUuauucguuugcacauucggUGAAGGUCUACUGUGUGCCAGGcc
cugugccag
(((((((..(((((((((((((.((((((((((((((((((((((((((((((((((((.....((.....)).....))))))))))))))))))))).))))))
)))..))))))
-----UUGUACAUGGUAGGCUUUCAUa-----
----- 2 0,-1
-----UUGUACAUGGUAGGCUUUCAUU-----
----- 11 0,0
-----UUGUACAUGGUAGGCUUUCAUa-----
----- 2 0,0
-----UUGUACAUGGUAGGCUUUCAUau-----
----- 2 0,0
-----UGUACAUGGUAGGCUUUCAUU-----
----- 2 1,0
-----UGAAGGUCUACUGUGUGCC-----
----- 2 0,-3
-----UGAAGGUCUACUGUGUGCCAG-----
----- 8 0,-1
-----UGAAGGUCUACUGUGUGCCAGa-----
----- 2 0,-1
-----UGAAGGUCUACUGUGUGCCAGG-----
----- 4 0,0

-----UGAAGGUCUACUGUGGCCAGGa-
----- 2 0,0

>hsa-mir-494 3p:48-69 SRX018968

gauacucgaaggagagguuguccguguugucuucucuuuauuuauugaUGAAACAUCACGGGAAACCUuuuuuuaguau
c
(((((((.(((((((((((((.(((((((((.(((((.)))))))).)))))).)))))))).))))))

-----UGAAACAUCACGGGAAAC-----
- 2 0,-3
-----UGAAACAUCACGGGAAACC-----
- 2 0,-2
-----UGAAACAUCACGGGAAACCa-----
- 2 0,-2
-----UGAAACAUCACGGGAAACCU-----
- 23 0,-1
-----UGAAACAUCACGGGAAACCUa-----
- 3 0,-1
-----UGAAACAUCACGGGAAACCUC-----
- 36 0,0
-----UGAAACAUCACGGGAAACCUCU-----
- 101 0,1
-----UGAAACAUCACGGGAAACCUCUU-----
- 2 0,2
-----GAAACAUCACGGGAAACCU-----
- 2 1,-1
-----GAAACAUCACGGGAAACCUC-----
- 2 1,0

>hsa-mir-495 3p:50-71 SRX018968

ugguaccugaaaagaaguugcccauguuauuuucgcuuuaugugacgAAACAAACAUGGUGCACUUCUUuuucgguauc
a
.(((((((.(((((((((((((.(((((((((.(((((.)))))))).)))))).)))))))).))))))

-----AAACAAACAUGGUGCACU-----
-- 2 0,-4
-----AAACAAACAUGGUGCACUU-----
-- 2 0,-3

```

-----AAACAAACAUGGUGCACUu-----
-- 2 0,-3
-----AAACAAACAUGGUGCACUUC-----
-- 5 0,-2
-----AAACAAACAUGGUGCACUUCU-----
-- 28 0,-1
-----AAACAAACAUGGUGCACUUCU-----
-- 181 0,0
-----AAACAAACAUGGUGCACUUCUa-----
-- 17 0,0
-----AAACAAACAUGGUGCACUUCUU-----
-- 177 0,1
-----AAACAAACAUGGUGCACUUCUUa-----
-- 3 0,1
-----AAACAAACAUGGUGCACUUCUUU-----
-- 3 0,2
-----AACAAACAUGGUGCACUUCU-----
-- 14 1,0
-----AACAAACAUGGUGCACUUCUa-----
-- 2 1,0
-----AACAAACAUGGUGCACUUCUU-----
-- 23 1,1
-----ACAAACAUGGUGCACUUCU-----
-- 2 2,0
-----ACAAACAUGGUGCACUUCUa-----
-- 2 2,0
-----ACAAACAUGGUGCACUUCUU-----
-- 2 2,1
-----ACAAACAUGGUGCACUUCUUU-----
-- 2 2,2

```

>hsa-mir-496 3p:56-77 SRX018968

```

cccaagucagguacucgaauaggagguuguccaugguguguucauuuuuuuugaUGAGUAUUACAUGGCCAAUCUCcuu
ucgguacucaauucuucuuggg
(((((((...(((((((...(((((((...(((((((...(((((((...))))))))))...))))))...))))))...))
))))))...))))))
-----UGAGUAUUACAUGGCCAAUCU-----
----- 3 0,-1

```



```

>hsa-mir-497    MA:24-44;mi:64-85    SRX018968
ccaccccgguccugcucccgcccCAGCAGCACACUGUGUUUGUacggcacuguggccacgucCAAACCACACUGUGGUG
UUAGAgcgagggugggggagggcaccgcccagg
((.(.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).....))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CAGCAGCACACUGUGUUU-----
-----14  0,-2
-----CAGCAGCACACUGUGUUUG-----
-----14  0,-1
-----CAGCAGCACACUGUGUUUGa-----
-----2  0,-1
-----CAGCAGCACACUGUGUUUGU-----
-----79  0,0
-----CAGCAGCACACUGUGUUUGUA-----
-----33  0,1
-----CAGCAGCACACUGUGUUUGUAa-----
-----13  0,1
-----CAGCAGCACACUGUGUUUGUAu-----
-----4  0,1
-----AGCAGCACACUGUGUUU-----
-----2  1,-2
-----AGCAGCACACUGUGUUUG-----
-----8  1,-1
-----AGCAGCACACUGUGUUUGU-----
-----8  1,0
-----AGCAGCACACUGUGUUUGUA-----
-----5  1,1
-----AGCAGCACACUGUGUUUGUAa-----
-----3  1,1
-----AGCAGCACACUGUGUUUGUAu-----
-----4  1,1
-----AGCAGCACACUGUGUUUGUAC-----
-----2  1,2

```

```

>hsa-mir-499    5p:33-53;3p:70-91    SRX018968
gccuguccccugugccuugggcgggcggcgUUAAGACUUGCAGUGAUGUUUaacuccucuccacgugAACAUACAGC
AAGUCUGUGCUgcuucccguccuacgcugccugggcagggg

```

UUAAGACUUGCAGUGAUGUU	6	0,-1
UUAAGACUUGCAGUGAUGUUU	60	0,0
UUAAGACUUGCAGUGAUGUUUA	27	0,1
UUAAGACUUGCAGUGAUGUUUAA	4	0,2

Sequence	Length	Score	Sequence
AAUGCACCUGGGCAAGGA-	12	-1,-5	AAUGCACCUGGGCAAGGAU-
AAUGCACCUGGGCAAGGAU-	10	-1,-4	AAUGCACCUGGGCAAGGAUa-
AAUGCACCUGGGCAAGGAUa-	2	-1,-4	AAUGCACCUGGGCAAGGAUU-
AAUGCACCUGGGCAAGGAUU-	23	-1,-3	AAUGCACCUGGGCAAGGAUUC-
AAUGCACCUGGGCAAGGAUUC-	3	-1,-2	AUGCACCUGGGCAAGGAU-
AUGCACCUGGGCAAGGAU-	33	0,-4	AUGCACCUGGGCAAGGAUa-
AUGCACCUGGGCAAGGAUa-	13	0,-4	AUGCACCUGGGCAAGGAUU-
AUGCACCUGGGCAAGGAUU-	146	0,-3	AUGCACCUGGGCAAGGAUUC-
AUGCACCUGGGCAAGGAUUC-	10	0,-2	AUGCACCUGGGCAAGGAUUCU-
AUGCACCUGGGCAAGGAUUCU-	4	0,-1	AUGCACCUGGGCAAGGAUUCUa-
AUGCACCUGGGCAAGGAUUCUa-	2	0,-1	

-----AUGCACCUGGGCAAGGAUUCUGu-----		
---	3	0,0
-----AUGCACCUGGGCAAGGAUUCUGA-----		
---	9	0,1
-----AUGCACCUGGGCAAGGAUUCUGAa-----		
---	3	0,1

>hsa-mi r-501 5p:14-35;3p:51-72 SRX018968

gcucuuccucucuAAUCCUUGUCCCUGGGUGAGAgugcuuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagagggugagc

$$((((.(((((((.(((((((.(((((((.(((((((.(.....))) ...)))))))))))))) .)))))).$$

$$))))$$

-----			AAUGCACCCGGGCAAGGA-----
----	4	0,-4	
-----			AAUGCACCCGGGCAAGGAU-----
----	5	0,-3	
-----			AAUGCACCCGGGCAAGGAU _a -----
----	3	0,-3	
-----			AAUGCACCCGGGCAAGGAUU-----
----	13	0,-2	
-----			AAUGCACCCGGGCAAGGAUUCU-----
----	2	0,0	

>hsa-mi r-502 5p:16-36;3p:52-73 SRX018968

ugcuccccucucuaAUCCUUGCUAUCUGGGUGCUAagugcuggcucaaugcAAUGCACCUGGGCAAGGAUUCagagaggg
ggagcu

-----GCAAUGCACCUGGGCAAGGAUU-----
 ----- 2 -2,-2
 -----AAUGCACCUGGGCAAGGA-----
 ----- 12 0,-4
 -----AAUGCACCUGGGCAAGGAU-----
 ----- 10 0,-3
 -----AAUGCACCUGGGCAAGGAU_a-----
 ----- 2 0,-3
 -----AAUGCACCUGGGCAAGGAUU-----
 ----- 23 0,-2

```

-----AAUGCACCUGGGCAAGGAUUC-----
----- 3 0,-1
-----AAUGCACCUGGGCAAGGAUUCa-----
----- 4 0,0
-----AAUGCACCUGGGCAAGGAUUCAG-----
----- 2 0,1
-----AAUGCACCUGGGCAAGGAUUCAGu-----
----- 2 0,1
-----AUGCACCUGGGCAAGGAU-----
----- 33 1,-3
-----AUGCACCUGGGCAAGGAUa-----
----- 13 1,-3
-----AUGCACCUGGGCAAGGAUU-----
----- 146 1,-2
-----AUGCACCUGGGCAAGGAUUC-----
----- 10 1,-1

```

>hsa-mir-503 5p:6-28 SRX018968

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgaucggugcucugggguaauuguuuuccgcugccagggua
(((((((.(((((((((((((((.(((.(.((((((.....)))))))).)).)))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 293 0,-5
-----UAGCAGCGGGAACAGUUCa----- 4 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 13 0,-5
-----UAGCAGCGGGAACAGUUCU----- 241 0,-4
-----UAGCAGCGGGAACAGUUCUa----- 8 0,-4
-----UAGCAGCGGGAACAGUUCUaa----- 55 0,-4
-----UAGCAGCGGGAACAGUUCUG----- 42 0,-3
-----UAGCAGCGGGAACAGUUCUGa----- 3 0,-3
-----UAGCAGCGGGAACAGUUCUGaa----- 11 0,-3
-----UAGCAGCGGGAACAGUUCUGCA----- 2 0,-1
-----UAGCAGCGGGAACAGUUCUGCAG----- 28 0,0
-----UAGCAGCGGGAACAGUUCUGCAGU----- 4 0,1
-----AGCAGCGGGAACAGUUCUGCAG----- 3 1,0

```

>hsa-mir-504 5p:13-34 SRX018968

```

gcugcuguugggAGACCCUGGUCUGCACUCUAUCuguauucuuacugaaggagugcagggcagggguuucccauacagag
ggc
(((.(((((((((((((((((((.(((((((((((.(((.(.((((((.....)))))))).)).)))))))).))))))..

```

```

)))
-----AGACCCUGGUCUGCACUCUAUa-----
--- 2 0,-1
-----AGACCCUGGUCUGCACUCUAUC-----
--- 5 0,0
-----AGACCCUGGUCUGCACUCUAUCa-----
--- 2 0,0
-----GGGAGUGCAGGGCAGGGUUU-----
--- 2

```

>hsa-mir-505 mi:15-36;MA:51-72 SRX018968

```

gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc

```

```

(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))

```

```

-----GGGAGCCAGGAAGUAUUGA-----
---- 2 0,-3
-----GGGAGCCAGGAAGUAUUGAU-----
---- 5 0,-2
-----GGGAGCCAGGAAGUAUUGAUa-----
---- 2 0,-2
-----GGGAGCCAGGAAGUAUUGAUG-----
---- 13 0,-1
-----GGGAGCCAGGAAGUAUUGAUGU-----
---- 19 0,0
-----GGGAGCCAGGAAGUAUUGAUGUau-----
---- 2 0,0
-----GGGAGCCAGGAAGUAUUGAUGUU-----
---- 56 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUa-----
---- 2 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUU-----
---- 14 0,2
-----GGAGCCAGGAAGUAUUGAUGUU-----
---- 2 1,1
-----CGUCAACACUUGCUGGUUCCU-----
---- 3 0,0
-----GUCAACACUUGCUGGUUUC-----

```


>hsa-mir-511-2 5p:16-36 SRX018968

caauagacaccaucGUGUCUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

(((((.((((.((((.((((.((((.((((.(.....)))))))).)))))).)))))).))))))

-----GUGUCUUUGCUCUGCAGUCA-----

----- 6 0,0

-----UGAAUGUGUAGCAAAAGAC-----

----- 3

-----UGAAUGUGUAGCAAAAGACAGA-----

----- 29

-----AAUGUGUAGCAAAAGACAG-----

----- 4

-----AAUGUGUAGCAAAAGACAGA-----

----- 50

-----AAUGUGUAGCAAAAGACAGAA-----

----- 34

-----AAUGUGUAGCAAAAGACAGAAU-----

----- 9

>hsa-mir-513c 5p:14-35 SRX018968

gcguacagugccuUUCUCAAGGAGGUGUCGUUUAUgugaacuaaaaauaaaauuucaccuuucugagaagaguaaanguac
agca

(((((.((((.((((.((((.((((.((((.(.....)))))))).)))))).)))))).))))))
.)).

-----UUCUCAAGGAGGUGUCGUUUAU-----

---- 2 0,0

>hsa-mir-532 5p:20-41;3p:57-78 SRX018968

cgacuugcuuucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu

.(.(((((((.....((.((((((.((((.((((.(.....)))))))).)))))).)))))).))))))
)))))))).).

-----CAUGCCUUGAGUGUAGGACCG-----

----- 5 0,-1

-----CAUGCCUUGAGUGUAGGACCGU-----

----- 56 0,0

-----CAUGCCUUGAGUGUAGGACCGUa-----

```

----- 2    0,0
-----CCUCCCACACCCAAGGCUU-----
----- 16   0,-3
-----CCUCCCACACCCAAGGCUUG-----
----- 19   0,-2
-----CCUCCCACACCCAAGGCUUGC-----
----- 28   0,-1
-----CCUCCCACACCCAAGGCUUGCA--
----- 94   0,0
-----CCUCCCACACCCAAGGCUUGCAu-
----- 15   0,0
-----CCUCCCACACCCAAGGCUUGCAA-
----- 16   0,1
-----CUCCCACACCCAAGGCUUGCA--
----- 3    1,0

```

>hsa-mir-539 5p:9-30 SRX018968

```

auacuugaGGAGAAUUAUCCUUGGUGUGUucgcuuuuuuauugaugaucacauacaaggacaauuucuuuuugaguau
(((((((((.....)))))))).)))))))).)))))))).))))))
-----AGAAAUUAUCCUUGGUGUG-----
      2    2,-1
-----CAUACAAGGACAAUUCUUUUUG-----
      2
-----AUACAAGGACAAUUCUUUUUG-----
      4

```

>hsa-mir-542 5p:16-38;3p:53-74 SRX018968

```

cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAAACUGAAAaggucug
ggagccacucaucuca
....(((((((.....)))))))).)))))))).)))))))).))))))
))).....
-----UCGGGGAUCAUCAUGUCAC-----
----- 2    0,-4
-----UCGGGGAUCAUCAUGUCACG-----
----- 3    0,-3
-----UUGUGACAGAUUGAUAAAC-----
----- 6    -1,-5
-----UGUGACAGAUUGAUAAACU-----

```


-----	26	0, -4	-----UGUGACAGAUUGAUAAACUG-----
-----	5	0, -3	-----UGUGACAGAUUGAUAAACUGA-----
-----	6	0, -2	-----UGUGACAGAUUGAUAAACUGAA-----
-----	10	0, -1	-----UGUGACAGAUUGAUAAACUGAAA-----
-----	14	0, 0	

>hsa-mir-543 3p:47-68 SRX018968

3 0,0

>hsa-mir-545 mi:25-46;MA:63-84 SRX018968

-----UCAGCAAACAUUUAUUGU

GU----- 2 0,-2

>hsa-mir-548a-1 3p:61-82 SRX018968

ugcagggagguauuaaguuggugcaaaaguaauuugugauuuuugccauuaaaaguaacgaCAAAACUGGCAUUACUUU
GCaccaaaccugguauu
..((((.....(((((((((((((((((((((.(((((.(.(((...)).).))))).).))))))))))
)))))))).)))).....

-----CAAACUGGCAAUACUUU-----

----- 3 0, -3

-----CAAACUGGCAAUACUUUU

$$----- \quad 2 \quad 0, -2$$

-----CAAACUGGCAAUUACUUUU

$$G \text{-----} 4 \quad 0, -1$$

-----CAAACUGGCAAUACUUUU

$$\text{Ga} \text{-----} 3 \quad 0, -1$$

ugugauguguauuagguuugugcaaaaguaauugggguuuuuugccguuaaaaguaauggCAAAACUGGCAAUACUUU
GCaccaaacuauuuuu

-----CAAACUGGCAAUACUUU-----

-----CAAACUGGCAAUACUUU

-----CAAAACUGGCAAUUACUUUU

-----CAAAACUGGCAAUUACUUUU

ccuagaauguuuuaggucggugcAAAAGUAAUUGCGAGUUUACcauuacuuucauggCAAACUGGCAAUACUUU
GCaccaacguaauacuu

-----CAAAACUGGCAAUUACUUU-----

-----CAAACUGGCAAUACUUU

-----CAAACUGGCAAUACUUU

-----CAAACUGGCAAUACUUU

cuuuuuagucuggugcaaaagaaacugugguuuuugccauuacuuuacaggcAAAAACCACAAUACUUUUGCACCAa
ccuaauuaacuuguuu

-----AAAACCACAAUACUUUUGCA-----

uuuuuuuagguuggugcaaaagaaacugugguuuuugccauuacuuaauggcAAAAACCACAAUACUUUUGCACCAa

$$----- \quad 2 \quad 1, -3$$

cagacuaauauuuagguuggcgcaaaAGUAAUUGUGGUUUUGGCCuuuuuuuucaauggCAAGAACCUCAGUUGCuuu
GUgccaaccuaauacuu

$$----- \quad 2 \quad 0, -4$$

cauggcaucuauuagguuggugcAAAAGUAAUUGCGUUUUGCCauuacuuucaguagCAAAAUCUCAAUUACUUUUGCaccaacuuaauacuu

----- 6 0, -3

----- 6 0, -2

$$----- 2 \quad 1, -3$$
$$----- \quad 2 \quad 1, -2$$
$$----- \quad 2 \quad 1, -2$$

aaacaaguuaauuuagguuggugcAAAAGUAAUUGUGGUUUUUGCCuguaaaaguaauggCAAAAACCACAGUUUCUUUUGCaccagacuaauaaag

$$----- \quad 2 \quad 0, -4$$

-----AAAAGUAAUUGUGGUUUU-----

----- 8 0, -3

>hsa-mi r-548d-2 5p:25-46;3p:61-82 SRX018968

gagaggggaagauuuagguuggugcAAAAGUAAUUGUGGUUUUUGCCauugaaaguaauggCAAAAACCACAGUUUCUUUUGCaccaaccuaauaaaa

-----AAAAGUAAUUGUGGUUU-----

----- 2 0, -4

-----AAAAGUAAUUGUGGUUUU-----

----- 8 0, -3

>hsa-mir-548e 3p:53-74 SRX018968

uuauuagguugguacaaaagcaaucgcgguuuuugcuauuacuuuuaaaggcAAAAACUGAGACUACUUUUGCAccaacc
ugauagaa

$$\begin{aligned} &(((((((((((\cdot((((((\dots((\cdot(((((((((((\cdot(((((\dots)))\cdot)))))))))\cdot)\dots))))))\cdot)))))) \\ &))))))\cdot \end{aligned}$$

-----CAAAAACUGAGACUACUUUG-----

$$- - - - - 2 \quad -1, -2$$

-----AAAAACUGAGACUACUUUU-----

----- 2 0, -3

-----AAAAACUGAGACUACUUUG-----

----- 4 0, -2

-----AAAAACUGAGACUACUUUUGC-----

----- 5 0, -1

-----AAAAACUGAGACUACUUUUGCA-----

----- 28 0,0

-----AAAAACUGAGACUACUUUUGCAa-----

----- 7 0,0

>hsa-mir-548g 3p:54-75 SRX018968

aguauuuagauuagugcaaaaguaauugcaguuuuugcauuacguucuauggcAAAACUGUAAUACUUUUGUACcaaca
uaauacuuc

...((((((..((.(((((((((((((((((((((((((((((((((((((((.(.....)))))))))))))))))))))))))))).)..
))))))....

-----CAAAGUAAUUGCAGUUU-----

----- 2

-----AAAAGUAAUUGCAGUUU-----

(((((...((((((..((((((((((((((((((((((((.(((((. (((((.(((((. (...)))))))).)))) .))))).)))))))

aaguauuaaguuggugcaaaaguaauugagauuuuugcuacugaaaguaauggCAAAAACCGCAAUUACUUUUGCAccaa
ccuaauagaugccaag

-----AAAAACCGCAAUACUUUU-----
-----2 1,-3-----

ugaugcuuugcugggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguuguaagauagUGUCUUACUCCUCAGGCAC
AUcuccaacaagucucu

-----AGUGCCUGAGGGAGUAAG-----
-----2 0,-5-----

-----UGUCUUACUCCUCAGGCAC

AU-----4 0,0

ugaugcuuugcugggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguugucagauagUGUCUUACUCCUCAGGCAC
AUCuccagcgagucucu

-----AGUGCCUGAGGGAGUAAG-----
-----2 0,-5-----

-----UGUCUUACUCCUCAGGCAC

AU-----4 0,0

agaugugcucuccuggcccauGAAAUCAAGCGUGGGUGAGACCuggugcagaacgggaagGCGACCCAUACUUGGUUUCAGaggcugugagaauaa

.....((((.(((((.(((((((((((.(((((((...((((.....))))).)))..)))))))))
 ..)))))..)))).....


```

-----GCGACCCAUACUUGGUUU--
-----      11  0,-3
-----GCGACCCAUACUUGGUUUC-
-----      5  0,-2
-----GCGACCCAUACUUGGUUUA
-----      22  0,-1
-----GCGACCCAUACUUGGUUUA
G-----      6  0,0
-----GCGACCCAUACUUGGUUUA
Gu-----      36  0,0

```

```

>hsa-mir-556      5p:16-37;3p:55-76      SRX018968
gauaguaauaagaaaGAUGAGCUCAUUGUAAUAUGAGcuucauuuauacauuucAUAUUACCAUAGCUCUUCUUuuua
uuacuaccuucacaa
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).....
-----AUAUUACCAUAGCUCUUCU-----
-----      18  0,-1
-----AUAUUACCAUAGCUCUUCUa-----
-----      2  0,-1
-----AUAUUACCAUAGCUCUUCUU-----
-----      5  0,0

```

```

>hsa-mir-558      3p:61-79      SRX018968
gugugugugugugugugugugguuauuuugguauaguagcucuagacucuauuauaguuuuccUGAGCUGCUGUACCAAAAUa
ccacaaacgggcug
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))..))..

```

```

>hsa-mir-566      5p:16-34      SRX018968
gcuaggcguggugggcGGGCGCCUGUGAUCCCAACuacucaggaggcugggggcagcagaaucgcuugaacccgggaggcga
agguugcagugagc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).....
-----AGAAUCGCUUGAACCCGG-----
-----      2
-----AGAAUCGCUUGAACCCGGA-----
-----      2

```

-----AGAAUCGCUUGAACCCGGGAGGC-----
----- 2

>hsa-mir-570 3p:60-81 SRX018968

cuagauaaguauuuaggugggugcaaagguaauugcaguuuuucccauuuuuuuuuuuugCGAAAACAGCAAUACCUUUG
Caccaaccugauggagu

$$\begin{aligned} & \dots\dots\dots((((((((((.(((((((((((((((((((((.((((((.(.(((((\dots))))).).)))))).))))))))) \\ &)))).).)))))))).\dots \end{aligned}$$

-----CGAAAACAGCAAUACCUUU-----
----- 2 0,-2 -----

-----CGAAAACAGCAAUACCUUG

----- 9 0,-1

>hsa-mi r-574 5p:25-47;3p:61-82 SRX018968

gggaccugcgu~~gggugcgggcgug~~UGAGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUCAUGCACACACCCA
Cagcccacacucagg

-----UGAGUGUGUGUGUGAG-----
----- 69 0,-5 -----

-----UGAGUGUGUGUGUGUGAGU-----
----- 62 0, -4

-----UGAGUGUGUGUGUGUGAGUG-----
-----5 0,-3-----

-----UGAGUGUGUGUGUGUGAGUGU-----
-----18 0,-2-----

-----UGAGUGUGUGUGUGUGAGUGUG-----
----- 6 0,-1

-----UGAGUGUGUGUGUGUGAGUGUGaa-----
-----3 0,-1-----

-----UGAGUGUGUGUGUGUGAGUGUGU-----
----- 13 0,0

-----UGAGUGUGUGUGUGUGAGUGUGUau-----
-----2 0,0-----

-----UGAGUGUGUGUGUGUGAGUGUGUG-----
----- 6 0,1

-----UGAGUGUGUGUGUGUGAGUGUGUGa-----
----- 6 0,1


```

-----AUUCUAAUUUCUCCACGUCUU-----
----- 4 0,-1
-----AUUCUAAUUUCUCCACGUCUU-----
----- 12 0,0
-----AUUCUAAUUUCUCCACGUCUUUG-----
----- 8 0,1
-----AAGAUGUGGAAAAAUUGG-----
----- 3 0,-4
-----AAGAUGUGGAAAAAUUGGA-----
----- 2 0,-3
-----AAGAUGUGGAAAAAUUGGAA-----
----- 2 0,-2
-----AAGAUGUGGAAAAAUUGGAAU-----
----- 3 0,-1
-----AAGAUGUGGAAAAAUUGGAAUa-----
----- 4 0,-1

```

>hsa-mi r-577 5p:16-36 SRX018968

```

ugggggagugaagagUAGAUAAAAUUAUUGGUACCUGauggaauaucugaggccagguuucuuuauucugcucuucauuu
cccauaucauuuac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).....)))))).....)))))).....)))))).....)))))).....)))))).....)))))).....))))))
)))))).....
-----GUAGAUAAAAUUAUUGGUACCUG-----
----- 2 -1,0

```

>hsa-mi r-582 5p:16-38;3p:53-74 SRX018968

```

aucugugcucuuugaUUACAGUUGUUCAACCAGUUACUaaucuaacuaauugUAACUGGUUGAACAAACUGAACCCaaagg
gugcaaaguagaaacauu
...(((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).....)))))).....)))))).....)))))).....)))))).....)))))).....)))))).....))))))
...)).....
-----UUACAGUUGUUCAACCAGUU-----
----- 2 0,-3
-----UUACAGUUGUUCAACCAGUUA-----
----- 4 0,-2
-----UUACAGUUGUUCAACCAGUUAa-----
----- 4 0,-2
-----UUACAGUUGUUCAACCAGUUACU-----
----- 6 0,0

```

```

-----UACAGUUGUUCAACCAGUUA-----
----- 2 1,-2
-----UACAGUUGUUCAACCAGUUA-----
----- 3 1,-1
-----UACAGUUGUUCAACCAGUUA-----
----- 10 1,0
-----UAACUGGUUGAACAAACUGA-----
----- 6 0,-3
-----UAACUGGUUGAACAAACUGAA-----
----- 14 0,-2
-----UAACUGGUUGAACAAACUGAAa-----
----- 6 0,-2
-----UAACUGGUUGAACAAACUGAAC-----
----- 3 0,-1

```

```

>hsa-mir-584 5p:16-37 SRX018968
uaggugaccagccaUUAUGGUUUGCCUGGGACUGAGgaauuugcugggauaugucaguuccaggccaaccaggcugguu
ggucuccugaagcaac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UUAUGGUUUGCCUGGGACUGAa-----
----- 2 0,-1

```

```

>hsa-mir-589 MA:24-45;mi:61-84 SRX018968
uccagccugugcccagcagccccUGAGAACCACGUCUGCUCUGAGcuggguacugccuguUCAGAACAAAUGCCGGUUCC
CAGAcgcugccagcuggcc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
-----UGAGAACCACGUCUGCUCUGA-----
----- 5 0,-1
-----UGAGAACCACGUCUGCUCUGAG-----
----- 3 0,0
-----UCAGAACAAAUGCCGGUUCC
CA----- 4 0,-2

```

```

>hsa-mir-590 5p:16-37;3p:56-76 SRX018968
uagccagucagaaauGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUUUGUAUAAGCUAGUcucu
gauugaacaugcagca

```

UGAGCUUAUUCAUAAAAGUGCA	
2	-1,-1
GAGCUUAUUCAUAAAAGU	
12	0,-4
GAGCUUAUUCAUAAAAGUG	
12	0,-3
GAGCUUAUUCAUAAAAGUGC	
5	0,-2
GAGCUUAUUCAUAAAAGUGCA	
22	0,-1
GAGCUUAUUCAUAAAAGUGCAa	
2	0,-1
GAGCUUAUUCAUAAAAGUGCAG	
51	0,0
	GUAUUUUUAUGUAUAAGCU
2	-1,-3
	GUAUUUUUAUGUAUAAGCUAGU
4	-1,0
	GUAUUUUUAUGUAUAAGCUAGUa
2	-1,0
	UAAUUUUUAUGUAUAAGCU
11	0,-3
	UAAUUUUUAUGUAUAAGCUA
2	0,-2
	UAAUUUUUAUGUAUAAGCUAGUaa
2	0,0

-----UUGUGUCAAAUAUGCGAUGAU-----
 -----3 0,-2-----
 -----UUGUGUCAAAUAUGCGAUGAUGU-----
 -----3 0,0-----

gcuugaugaugcugcugaugcuggcgggugaucgccgauggugugagcugggaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag

-----UACGUCAUCGUUGUCAUC-----

-----UACGUCAUCGUUGUCAUCG-----

-----UACGUCAUCGUUGUCAUCGU

-----UACGUCAUCGUUGUCAUCGU

-----UACGUCAUCGUUGUCAUCGU

-----UACGUCAUCGUUGUCAUCGU

-----UACGUCAUCGUUGUCAUCGU

-----UACGUCAUCGUUGUCAUCGU

gcccuagcuugguucUAAAUCCCAUGGUGCCUUCUCCUugggaaaaacagagaaggcacuaugagauuuagaaucaaguu
agg

-----AGAAGGCACUAUGAGAUUUAG-----

cucuuguucacagccAAACUCUACUUGUCCUUCUGAGUguaauuacguacaugcaguagcucaggagacaagcagguuuu
cccuguggaugagucuga

-----AAACUCUACUUGUCCUUCU-----

----- 4 0, -4

-----AAACUCUACUUGUCCUUCUGAGa-----
----- 2 0,-1
-----AAACUCUACUUGUCCUUCUGAGU-----
----- 2 0,0

>hsa-mir-619 3p:61-84 SRX018968
cgcccaccucagccucccaaaaugcugggauuacaggcaugagccacugcggucgaccauGACCUGGACAUGUUUGUGCC
CAGUacugucaguuugcag

.(((.(((.(((.....(((((((.(((((((((((.(((.....((((.....)))))).)))))))))))))
)))))))).)))).)..

-----UGCUGGGAUUACAGGCAUG-----
----- 2
-----UGCUGGGAUUACAGGCAUGA-----
----- 2
-----UGCUGGGAUUACAGGCAUGAG-----
----- 16
-----UGCUGGGAUUACAGGCAUGAGCC-----
----- 4
-----UGCUGGGAUUACAGGCAUGAGCCA-----
----- 3
-----UGCUGGGAUUACAGGCAUGAGCCAC-----
----- 5
-----GCUGGGAUUACAGGCAUG-----
----- 9
-----GCUGGGAUUACAGGCAUGA-----
----- 4
-----GCUGGGAUUACAGGCAUGAG-----
----- 19
-----GCUGGGAUUACAGGCAUGAGCC-----
----- 4
-----GCUGGGAUUACAGGCAUGAGCCA-----
----- 4
-----GCUGGGAUUACAGGCAUGAGCCACU-----
----- 2
-----CUGGGAUUACAGGCAUGA-----
----- 5
-----CUGGGAUUACAGGCAUGAa-----
----- 2

-----AAAGGAAAGUGUAUCCUAAAA-----
----- 2 -----

-----ACAACCCUAGGAGAGGGUGCCAU-----
 -----4-----
 -----ACAACCCUAGGAGAGGGUGCCAU-----
 -----2-----

a-----	2	0,-1	
-----			AAUGGCGCCACUAGGGUUGU
G-----	8	0,0	
-----			AAUGGCGCCACUAGGGUUGU
Ga-----	11	0,0	
-----			AAUGGCGCCACUAGGGUUGU
Gu-----	21	0,0	
-----			AAUGGCGCCACUAGGGUUGU
Guu-----	3	0,0	
-----			AAUGGCGCCACUAGGGUUGU
GCu-----	3	0,1	

```

-----UAUGUCUGCUGACCAUACCa-----
-   5   0,-2
-----UAUGUCUGCUGACCAUACCa-----
-   2   0,-2
-----UAUGUCUGCUGACCAUACCa-----
-   3   0,-2
-----UAUGUCUGCUGACCAUACCU-----
-   6   0,-1
-----UAUGUCUGCUGACCAUACCUaa-----
-   6   0,-1
-----UAUGUCUGCUGACCAUACCUau-----
-   6   0,-1
-----UAUGUCUGCUGACCAUACCUUU-----
-   2   0,1

```

>hsa-mir-655 3p:61-82 SRX018968

aacuaugcaaggauauuugaggagagguuaucguguauguucgcucauucaugaAUAUAUGGUUAACCUCU
UUuugaauaucagacuc

```

.....(((((((.(((((((((((.(((((((.(((((((.....)))))))).)))))))).))))))
)))..)))))).....

```

```

-----AUAUAUGGUUAACCUCU
U----- 2   0,-1
-----AUAUAUGGUUAACCUCU
UU----- 10  0,0

```

>hsa-mir-656 3p:43-63 SRX018968

cugaaauagguugccugugagguguucacuuucuaauaugaugAAUAUUAUACAGUCAACCUCUuuccgauaucgauc

```

..(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
.....

```

```

-----AAUAUUAUACAGUCAACCUC-----
2   0,-1

```

>hsa-mir-660 5p:16-37 SRX018968

cugcuccuucucccaUACCCAUGCAUAUCGGAGUUGugaauucuaaaacaccuccugugugcauggauuacaggaggg
ugagccuugucaucgug

```

..(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))))))
.....

```

```

-----UACCCAUGCAUAUCGGAG-----
----- 7   0,-3

```

```

-----UACCCAUUGCAUAUCGGAGU-----
-----      18      0,-2
-----UACCCAUUGCAUAUCGGAGUU-----
-----      169     0,-1
-----UACCCAUUGCAUAUCGGAGUUa-----
-----      3      0,-1
-----UACCCAUUGCAUAUCGGAGUUG-----
-----      30     0,0
-----UACCCAUUGCAUAUCGGAGUUGU-----
-----      22     0,1
-----
-----ACCUCCUGUGUGCAUGGAUUA-----
-----      5

```

```
>hsa-mir-663b    3p:90-111    SRX018968
```

ggugccgagggccguccggcauccuaggggggucgcugcgguaaccuccuccugucuguggcggugggaucccguggccg
uuuuuuuccuGGUGGCCCCGCCGUGCCUGAGGuuuc

-----GGUGGCCCGGCCGUGCCU----- 2 0, -4

>hsa-mi r-664 mi:11-34;MA:49-71 SRX018968

gaacauugaaACUGGCUAGGGAAAAUGAUUGGAUagaaacuauuuuucUAUUCAUUUAUCCCCAGCCUACAaaaugaaaa
aa

$$\dots((((\dots(((((.((((\dots(((.((((((((((\dots)))))))).)))))).))))).))))).\dots)))\dots$$

-----ACUGGCUAGGGAAAAUGAUUGG-----

-- 36 0, -2

-----ACUGGCUAGGGAAAAUGAUUGG_u-----

-- 9 0, -2

-----ACUGGCUAGGGAAAAUGAUUGGA-----

-- 38 0, -1

-----ACUGGCUAGGGAAAAUGAUUGGAa-----

$$- - \quad 2 \quad 0, -1$$

-----ACUGGCUAGGGAAAAUGAUUGGAU-----

-- 3 0,0

-----CUGGCUAGGGAAAAUGAUUGGA-----

$$-- \quad 2 \quad 1, -1$$

```

-----CUGGCUAGGGAAAAUGAUUGGAa-----
-- 2 1,-1
-----UGGCUAGGGAAAAUGAUUGGA-----
-- 9 2,-1
-----UAUUCAUUUAUCCCCAGC-----
-- 17 0,-5
-----UAUUCAUUUAUCCCCAGCC-----
-- 4 0,-4
-----UAUUCAUUUAUCCCCAGCCU-----
-- 10 0,-3
-----UAUUCAUUUAUCCCCAGCCUu-----
-- 2 0,-3
-----UAUUCAUUUAUCCCCAGCCUA-----
-- 32 0,-2
-----UAUUCAUUUAUCCCCAGCCUAa-----
-- 4 0,-2
-----UAUUCAUUUAUCCCCAGCCUAu-----
-- 9 0,-2
-----UAUUCAUUUAUCCCCAGCCUAuu-----
-- 2 0,-2
-----UAUUCAUUUAUCCCCAGCCUAC-----
-- 33 0,-1
-----UAUUCAUUUAUCCCCAGCCUACu-----
-- 5 0,-1
-----UAUUCAUUUAUCCCCAGCCUACA-----
-- 131 0,0
-----UAUUCAUUUAUCCCCAGCCUACAA-----
-- 10 0,1
-----AUUCAUUUAUCCCCAGCCUA-----
-- 2 1,-2
-----AUUCAUUUAUCCCCAGCCUACA-----
-- 5 1,0
-----AUUCAUUUAUCCCCAGCCUACAAAA-----
-- 2 1,3

```

>hsa-mir-675 MA:10-32;mi:45-64 SRX018968

```

cccagggucUGGUGCGGAGAGGGCCCACAGUGgacuuggugacgCUGUAUGCCCUCACCGCUAgccccuggg
(((((((.(((((.(((.((((((..((((((.....))))))..)))))).)))))))).))))))

```


-----UGGUGCGGAGAGGGCCCACA-----	3
0,-3	
-----UGGUGCGGAGAGGGCCCACAG-----	7
0,-2	
-----UGGUGCGGAGAGGGCCCACAGU-----	28
0,-1	
-----UGGUGCGGAGAGGGCCCACAGUau-----	6
0,-1	
-----UGGUGCGGAGAGGGCCCACAGUu-----	5
0,-1	
-----UGGUGCGGAGAGGGCCCACAGUuu-----	2
0,-1	
-----UGGUGCGGAGAGGGCCCACAGUG-----	67
0,0	
-----UGGUGCGGAGAGGGCCCACAGUGa-----	13
0,0	
-----UGGUGCGGAGAGGGCCCACAGUGu-----	93
0,0	
-----UGGUGCGGAGAGGGCCCACAGUGuu-----	5
0,0	
-----UGGUGCGGAGAGGGCCCACAGUGG-----	3
0,1	
-----GGUGCGGAGAGGGCCCACAGU-----	2
1,-1	
-----GGUGCGGAGAGGGCCCACAGUG-----	2
1,0	
-----GGUGCGGAGAGGGCCCACAGUGa-----	3
1,0	
-----GGUGCGGAGAGGGCCCACAGUGu-----	2
1,0	
-----GGUGCGGAGAGGGCCCACAGUGG-----	2
1,1	
-----GUGCGGAGAGGGCCCACAGUGG-----	2
2,1	
-----CUGUAUGCCCUCACCGCUCA-----	5
0,0	
-----CUGUAUGCCCUCACCGCUCAG-----	16
0,1	

-----CUGUAUGCCCUCACCGCUCAGu----- 3
0,1

-----CUGUAUGCCCUCACCGCUCAGC----- 10
0,2

```

>hsa-mir-676      mi:8-28;MA:43-63      SRX018968
gcaugacUCUUCAACCCUCAGGACUUGCAgaauuaauggaugCUGUCCUAAGGUUGUUGAGUUgugc
(((...(((...((((...(((...(((...))))).))))).))))).))))).))))
-----UCUUCAACCCUCAGGACUUGCA----- 2      0.0

```

```

>hsa-mir-7-1      MA:24-46;mi:66-87      SRX018968
uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucgaCAACAAAUCACAGUC
UGCCAUAuggcacaggccaugccucuacag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).)))))))))).)))))))))).)).)))))...
-----UGGAAGACUAGUGAUUUU-----
-----12  0,-5
-----UGGAAGACUAGUGAUUUUGU-----
-----4   0,-3
-----UGGAAGACUAGUGAUUUUGUU-----
-----6   0,-2
-----UGGAAGACUAGUGAUUUUGUUa-----
-----2   0,-2
-----UGGAAGACUAGUGAUUUUGUUG-----
-----27  0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----
-----56  0,0
-----UGGAAGACUAGUGAUUUUGUUGUU-----
-----150 0,1
-----UGGAAGACUAGUGAUUUUGUUGUUa-----
-----2   0,1
-----UGGAAGACUAGUGAUUUUGUUGUUU-----
-----3   0,2
-----GGAAGACUAGUGAUUUUGUUG-----
-----2   1,-1
-----GGAAGACUAGUGAUUUUGUUGUU-----
-----2   1,1
-----CAACAAAUCACAGUC

```

```

UGC----- 3 0,-4
-----CAACAAAUCACAGUC
UGCCAU----- 3 0,-1
-----CAACAAAUCACAGUC
UGCCAUu----- 5 0,-1
-----CAACAAAUCACAGUC
UGCCAUuu----- 2 0,-1
-----CAACAAAUCACAGUC
UGCCAUa----- 26 0,0
-----CAACAAAUCACAGUC
UGCCAUaa----- 4 0,0
-----CAACAAAUCACAGUC
UGCCAUau----- 2 0,1
-----AACAAAUCACAGUC
UGCCAUu----- 6 1,-1
-----AACAAAUCACAGUC
UGCCAUa----- 11 1,0
-----AACAAAUCACAGUC
UGCCAUaa----- 2 1,0
-----ACAAAUCACAGUC
UGCCAUau----- 3 2,1

```

>hsa-mir-7-2 MA:32-54;mi:72-93 SRX018968

```

cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuaucugcgcucaaCAACAAAUC
CCAGUCUACCUAAuggugccagccaucgca

```

```

.....(((((((.....)))))))))
).))))).))..))))).))))).))))).

```

```

-----UGGAAGACUAGUGAUUUU-----
----- 12 0,-5
-----UGGAAGACUAGUGAUUUUGU-----
----- 4 0,-3
-----UGGAAGACUAGUGAUUUUGUU-----
----- 6 0,-2
-----UGGAAGACUAGUGAUUUUGUa-----
----- 2 0,-2
-----UGGAAGACUAGUGAUUUUGUG-----
----- 27 0,-1
-----UGGAAGACUAGUGAUUUUGUUG-----

```



```

>hsa-mir-708    MA:11-33;mi:57-78    SRX018968
aacugcccucAAGGAGCUUACAAUCUAGCUGGGgguaaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcaggga
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))...
-----AAGGAGCUUACAAUCUAG-----
-----      5      0,-5
-----AAGGAGCUUACAAUCUAGC-----
-----      3      0,-4
-----AAGGAGCUUACAAUCUAGCU-----
-----     12      0,-3
-----AAGGAGCUUACAAUCUAGCUG-----
-----      3      0,-2
-----AAGGAGCUUACAAUCUAGCUGa-----
-----      5      0,-2
-----AAGGAGCUUACAAUCUAGCUGG-----
-----     23      0,-1
-----AAGGAGCUUACAAUCUAGCUGGa-----
-----      7      0,-1
-----AAGGAGCUUACAAUCUAGCUGGu-----
-----      9      0,-1
-----AAGGAGCUUACAAUCUAGCUGGG-----
-----     31      0,0
-----AAGGAGCUUACAAUCUAGCUGGGa-----
-----      3      0,0
-----AGGAGCUUACAAUCUAGCUGGG-----
-----      2      1,0

```

```

>hsa-mir-720    5p:27-43    SRX018968
ccggaucucacacggugguguuaaauaUCUCGCUGGGGCCUCCAaaaanguugugcccagggguguuagagaaaacaccaca
cuuugagaugaauuaagaguccuuuuuag
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
...)))))))).
-----AUCUCGCUGGGGCCUCCA-----
-----      2      -1,0

```

```

>hsa-mir-744    MA:11-32;mi:68-89    SRX018968
uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuucugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA

```

```
>hsa-mir-758      3p:52-73      SRX018968
gccuggauacaugagaugguugaccagagagcacacgcuuuauuugugccgUUUGUGACCUGGUCCACUAACCcucagua
ucuaaugc
...(((((((.(((((.(((.((((((...(((.(((.....).)).)).)).)).)).)).)).)).)).)).)).)).
))))....
-----AUGGUUGACCAGAGAGCACA-----
-----5
-----AUGGUUGACCAGAGAGCACAC-----
```

>hsa-mi r-766 3p:65-86 SRX018968

gcauccucaggaccuggggcuugggugguaggaggaauugggucugggucuucacuuuugggaauugACUCCAGCCCCACAGC

CUCAGCcaccccagccaauugucauaggagc

$$(((.((((\dots(((((\dots(((((((((\dots(((((((((\dots(((((((((\dots)))))))))\dots))))))\dots))))))\dots))))))\dots))))))$$

-----AGGAGGAAUUGGUGCUGGuau-----

----- 3

-----AGGAGGAAUUGGUGCUGGUCU-----

----- 8

-----AGGAGGAAUUGGUGCUGGUCU_{au}-----

----- 2

-----AGGAGGAAUUGGUGCUGGUCUU-----

----- 13

-----AGGAGGAAUUGGUGCUGGUCUUa-----

----- 4

-----AGGAGGAAUUGGUGCUGGUCUUU-----

----- 17

-----AGGAGGAAUUGGUGCUGGUCUUUC-----

----- 3

-----AGGAGGAAUUGGUGCUGGUCUUCA-----

----- 4

-----ACUCCAGCCCCACAGC

CU----- 2 0,-4

-----ACUCCAGCCCCACAGC

CUC----- 2 0,-3

-----ACUCCAGCCCCACAGC

CUCA----- 4 0,-2

-----ACUCCAGCCCCACAGC

CUCAa----- 4 0,-2

-----ACUCCAGCCCCACAGC

CUCAG----- 27 0,-1

-----ACUCCAGCCCCACAGC

CUCAGa----- 17 0,-1

-----ACUCCAGCCCCACAGC

CUCAG_u----- 7 0, -1

-----ACUCCAGCCCCACAGC

```

CUCAGC----- 12 0,0
-----ACUCCAGCCCCACAGC
CUCAGCa----- 3 0,0
-----ACUCCAGCCCCACAGC
CUCAGCu----- 2 0,0

```

```

>hsa-mir-769 5p:30-51;3p:69-91 SRX018968
gccuuggugcugauuccugggcucugaccUGAGACCUCUGGGUUCUGAGCUgugauguugcucucgagCUGGGAUCUCCG
GGGUCUUGGUcagggccggggccucuggguccaagc
..(((((((((.....)))))))).)))).
)))))).)))).)))).)))).)))).
-----UGAGACCUCUGGGUUCUGAG-----
----- 3 0,-2
-----UGAGACCUCUGGGUUCUGAGC-----
----- 5 0,-1
-----UGAGACCUCUGGGUUCUGAGCU-----
----- 6 0,0
-----CUGGGAUCUCCG
GGGUCUUGG----- 2 0,-2

```

```

>hsa-mir-874 3p:47-68 SRX018968
uuagcccugcggccccacgcaccaggguaagagagacucucgcuucCUGCCCUGGCCCCGAGGGACCGAcuggcugggc
(((((((((.....)))))))).)))).
-----CGGCCCCACGCACCAGGGUAA-----
4
-----CGGCCCCACGCACCAGGGUAAG-----
3
-----CUGCCCUGGCCCCGAGGGAC-----
3 0,-3
-----CUGCCCUGGCCCCGAGGGACC-----
2 0,-2
-----CUGCCCUGGCCCCGAGGGACCG-----
2 0,-1
-----CUGCCCUGGCCCCGAGGGACCGA-----
6 0,0
-----CUGCCCUGGCCCCGAGGGACCGAC-----
9 0,1
-----CUGCCCUGGCCCCGAGGGACCGACU-----

```


4 0,2

>hsa-mir-877 MA:1-20;mi:66-86 SRX018968

GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggacccucagacgugugUCCUCUUCUCCUCC
UCCCAG

...((((((...((...(((.....((((((((.....))))))))).).))))))))).).))))))
)....

GUAGAGGAGAUGGCGCAG-----

----- 2 0,-2

GUAGAGGAGAUGGCGCAGG-----

----- 13 0,-1

GUAGAGGAGAUGGCGCAGGa-----

----- 3 0,-1

GUAGAGGAGAUGGCGCAGGG-----

----- 7 0,0

GUAGAGGAGAUGGCGCAGGGa-----

----- 3 0,0

GUAGAGGAGAUGGCGCAGGGGA-----

----- 6 0,2

GUAGAGGAGAUGGCGCAGGGGAa-----

----- 3 0,2

GUAGAGGAGAUGGCGCAGGGGAC-----

----- 3 0,3

GUAGAGGAGAUGGCGCAGGGGACu-----

----- 2 0,3

GUAGAGGAGAUGGCGCAGGGGACA-----

----- 3 0,4

-UAGAGGAGAUGGCGCAGGGGAC-----

----- 3 1,3

-UAGAGGAGAUGGCGCAGGGGACu-----

----- 2 1,3

-UAGAGGAGAUGGCGCAGGGGACA-----

----- 4 1,4

-UAGAGGAGAUGGCGCAGGGGACAu-----

----- 2 1,4

-UAGAGGAGAUGGCGCAGGGGACACu-----

----- 2 1,5

>hsa-mir-885 5p:11-32;3p:43-64 SRX018968

ccgcacucucUCCAUAACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu

((((...(((.((((((((((((.((((((((((((.....)))))))))).)))))))))))))).))))..

-----CUCCAUAACACUACCCUGC----- 2

-1,-4

-----CUCCAUAACACUACCCUGCCU----- 2

-1,-2

-----CUCCAUAACACUACCCUGCCUCU----- 2

-1,0

-----UCCAUAACACUACCCUGC----- 78

0,-4

-----UCCAUAACACUACCCUGCC----- 60

0,-3

-----UCCAUAACACUACCCUGCCU----- 173

0,-2

-----UCCAUAACACUACCCUGCCUa----- 2

0,-2

-----UCCAUAACACUACCCUGCCUaa----- 4

0,-2

-----UCCAUAACACUACCCUGCCUu----- 5

0,-2

-----UCCAUAACACUACCCUGCCUuu----- 5

0,-2

-----UCCAUAACACUACCCUGCCUC----- 218

0,-1

-----UCCAUAACACUACCCUGCCUCa----- 7

0,-1

-----UCCAUAACACUACCCUGCCUCaa----- 8

0,-1

-----UCCAUAACACUACCCUGCCUCU----- 616

0,0

-----UCCAUAACACUACCCUGCCUCUa----- 12

0,0

-----UCCAUAACACUACCCUGCCUCUaa----- 4

0,0

-----UCCAUAACACUACCCUGCCUCUau----- 2

0,0

-----UCCAUAACACUACCCUGCCUCUU----- 24

0,1	-----UCCAUUACACUACCCUGCCUCUa-----	2
0,1	-----UCCAUUACACUACCCUGCCUCUu-----	4
0,1	-----CAUUACACUACCCUGCCU-----	16
2,-2	-----CAUUACACUACCCUGCCUC-----	15
2,-1	-----CAUUACACUACCCUGCCUCU-----	14
2,0	-----AGGCAGCGGGGUGUAGUG-----	4
0,-4	-----AGGCAGCGGGGUGUAGUGG-----	16
0,-3	-----AGGCAGCGGGGUGUAGUGGA-----	6
0,-2	-----AGGCAGCGGGGUGUAGUGGAa-----	7
0,-2	-----AGGCAGCGGGGUGUAGUGGAaa-----	3
0,-2	-----AGGCAGCGGGGUGUAGUGGAU-----	19
0,-1	-----AGGCAGCGGGGUGUAGUGGAUu-----	11
0,-1	-----AGGCAGCGGGGUGUAGUGGAUA-----	7
0,0	-----AGGCAGCGGGGUGUAGUGGAUAa-----	7
0,0	-----AGGCAGCGGGGUGUAGUGGAUAaa-----	3
0,0	-----AGGCAGCGGGGUGUAGUGGAUAau-----	3
0,0	-----AGGCAGCGGGGUGUAGUGGAUAu-----	2
0,0		

>hsa-mir-887 3p:48-69 SRX018968

gugcagauccuugggagcccuguuagacucuggauuuuacacuuggaGUGAACGGGCGCCAUCCCGAGGcuuugcacag

```

(((((((.(((((((((((((((((((..((((((.....).))))).))))).))))).))))).))..
-----GUGAACGGGCGCCAUCCCGAGG-----
9 0,-1
-----GUGAACGGGCGCCAUCCCGAGG-----
19 0,0
-----GUGAACGGGCGCCAUCCCGAGGa-----
3 0,0
-----GUGAACGGGCGCCAUCCCGAGGC-----
2 0,1
-----GUGAACGGGCGCCAUCCCGAGGCU-----
15 0,2
-----GUGAACGGGCGCCAUCCCGAGGCUU-----
10 0,3
-----UGAACGGGCGCCAUCCCGAGGCUUU-----
2 1,4

```

>hsa-mir-889 3p:49-69 SRX018968

```

gugcuuaaagaauaggcuguccguaguauggucucuauauuuauaugaUUAUAUCGGACAACCAUUGUuuuaguaucc
(((((((.(((((((((((((((((((.....((((((((.....).))))).))))).))))).))))).))..
-----UUAUAUCGGACAACCAU-----
3 0,-3
-----UUAUAUCGGACAACCAUa-----
6 0,-3
-----UUAUAUCGGACAACCAU-----
22 0,-2
-----UUAUAUCGGACAACCAUUGU-----
14 0,0

```

>hsa-mir-9-1 MA:16-38;mi:55-76 SRX018968

```

cggggguugguuguuaUCUUUGGUUAUCUAGCUGUAUGAgugguguggagucuucAUAAGCUAGAUAAACCGAAAGUaaaa
aiaacccca
(((((((.....(((((((((((((((((((.((((((((.....).))))).))))).))))).))))).))..
.)))).)))).
-----UCUUUGGUUAUCUAGCUG-----
-----3 0,-5-----
-----AUAAGCUAGAUAAACCGAAAGU-----
-----2 0,0-----
-----UAAAGCUAGAUAAACCGAAAG-----

```



```
----- 3    1,0
-----UAAAGCUAGAUAACCGAAAGUA-----
----- 2    1,1

>hsa-mir-92a-1   mi:11-33;MA:48-69   SRX018968
cuuuucuacacAGGUUGGGAUCGGUUGCAAUGCUguguuuucuguauggUAUUGCACUUGUCCCCGCCUGUugaguuugg
..(((...((((((((((((((.(((.(((((((((((((.)))))))))....
-----AGGUUGGGAUCGGUUGCAAU-----
      9    0,-3
-----AGGUUGGGAUCGGUUGCAAUG-----
     24    0,-2
-----AGGUUGGGAUCGGUUGCAAUGa-----
      2    0,-2
-----AGGUUGGGAUCGGUUGCAAUGC-----
     12    0,-1
-----AGGUUGGGAUCGGUUGCAAUGC-----
     99    0,0
-----UAAAGCUAGAUAACCGAAAGUA-----
     84    0,-4
-----UAAAGCUAGAUAACCGAAAGUa-----
      2    0,-4
-----UAAAGCUAGAUAACCGAAAGUau-----
      3    0,-4
-----UAAAGCUAGAUAACCGAAAGUuu-----
      2    0,-4
-----UAAAGCUAGAUAACCGAAAGCC-----
    391    0,-3
-----UAAAGCUAGAUAACCGAAAGCa-----
      9    0,-3
-----UAAAGCUAGAUAACCGAAAGaa-----
      2    0,-3
-----UAAAGCUAGAUAACCGAAAGCU-----
    4545    0,-2
-----UAAAGCUAGAUAACCGAAAGCu-----
     11    0,-2
-----UAAAGCUAGAUAACCGAAAGaa-----
     21    0,-2
-----UAAAGCUAGAUAACCGAAAGau-----
```

20	0,-2	-----UAUUGCACUUGUCCCCGGCCUuu-----
8	0,-2	-----UAUUGCACUUGUCCCCGGCCUG-----
239	0,-1	-----UAUUGCACUUGUCCCCGGCCUGa-----
19	0,-1	-----UAUUGCACUUGUCCCCGGCCUGaa-----
15	0,-1	-----UAUUGCACUUGUCCCCGGCCUGau-----
7	0,-1	-----UAUUGCACUUGUCCCCGGCCUGU-----
344	0,0	-----UAUUGCACUUGUCCCCGGCCUGUa-----
51	0,0	-----UAUUGCACUUGUCCCCGGCCUGUaa-----
48	0,0	-----UAUUGCACUUGUCCCCGGCCUGUau-----
43	0,0	-----UAUUGCACUUGUCCCCGGCCUGUU-----
34	0,1	-----UAUUGCACUUGUCCCCGGCCUGUUa-----
7	0,1	-----UAUUGCACUUGUCCCCGGCCUGUUu-----
12	0,1	-----UAUUGCACUUGUCCCCGGCCUGUUuu-----
2	0,1	-----UAUUGCACUUGUCCCCGGCCUGUUG-----
2	0,2	-----AUUGCACUUGUCCCCGGCC-----
7	1,-3	-----AUUGCACUUGUCCCCGGCCU-----
112	1,-2	-----AUUGCACUUGUCCCCGGCCUu-----
2	1,-2	-----AUUGCACUUGUCCCCGGCCUG-----
7	1,-1	-----AUUGCACUUGUCCCCGGCCUGU-----

0,-1	-----UAUUGCACUUGUCCCGGCCUGU-----	344
0,0	-----UAUUGCACUUGUCCCGGCCUGUa-----	51
0,0	-----UAUUGCACUUGUCCCGGCCUGUaa----	48
0,0	-----UAUUGCACUUGUCCCGGCCUGUau----	43
0,0	-----AUUGCACUUGUCCCGGCC-----	7
1,-3	-----AUUGCACUUGUCCCGGCCU-----	112
1,-2	-----AUUGCACUUGUCCCGGCCUu-----	2
1,-2	-----AUUGCACUUGUCCCGGCCUG-----	7
1,-1	-----AUUGCACUUGUCCCGGCCUGU-----	6
1,0	-----UUGCACUUGUCCCGGCCU-----	2
2,-2		

>hsa-mir-92b mi:20-41;MA:61-82 SRX018968

cgggccccggggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuuccccgcgcaaUAUUGCACUCGUCCCGGCCU
CCggccccccccggccc

.((((((..(((.(((((((((..(((((((.((((((((((((((.....))))))))))))))))))))).)))
(.)))))))).))))))

-----AGGGACGGGACGCGGUGCAGU-----	
-----4 0,-1	
-----AGGGACGGGACGCGGUGCAGUGU-----	
-----7 0,1	
-----AGGGACGGGACGCGGUGCAGUGUU-----	
-----5 0,2	
-----UAUUGCACUCGUCCCGGCC-----	
-----3 0,-4	
-----UAUUGCACUCGUCCCGGCC-----	
-----33 0,-3	
-----UAUUGCACUCGUCCCGGCCa	

-----	2	0,-3	-----UAUUGCACUCGUCCCCGGCCa
a-----	2	0,-3	-----UAUUGCACUCGUCCCCGGCCU
-----	32	0,-2	-----UAUUGCACUCGUCCCCGGCCU
a-----	6	0,-2	-----UAUUGCACUCGUCCCCGGCCU
aa-----	15	0,-2	-----UAUUGCACUCGUCCCCGGCCU
u-----	3	0,-2	-----UAUUGCACUCGUCCCCGGCCU
uu-----	4	0,-2	-----UAUUGCACUCGUCCCCGGCCU
C-----	29	0,-1	-----UAUUGCACUCGUCCCCGGCCU
Ca-----	3	0,-1	-----UAUUGCACUCGUCCCCGGCCU
Caa-----	10	0,-1	-----UAUUGCACUCGUCCCCGGCCU
Cau-----	3	0,-1	-----UAUUGCACUCGUCCCCGGCCU
Cu-----	2	0,-1	-----UAUUGCACUCGUCCCCGGCCU
CC-----	28	0,0	-----UAUUGCACUCGUCCCCGGCCU
CCa-----	8	0,0	-----UAUUGCACUCGUCCCCGGCCU
CCaa-----	4	0,0	-----UAUUGCACUCGUCCCCGGCCU
CCau-----	22	0,0	-----UAUUGCACUCGUCCCCGGCCU
CCu-----	8	0,0	-----UAUUGCACUCGUCCCCGGCCU
CCuu-----	9	0,0	-----AUUGCACUCGUCCCCGGCCU
CCu-----	2	1,0	

>hsa-mir-93 MA:11-33;mi:50-71 SRX018968

cugggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagcccccg

((((((((((((..(((((((((((((((((..(((..((.....))..))))))))))))))..))))))..)))))))))

-----CAAAGUGCUGUUCGUGCA-----

99 0,-5

-----CAAAGUGCUGUUCGUGCAG-----

210 0,-4

-----CAAAGUGCUGUUCGUGCAGG-----

70 0,-3

-----CAAAGUGCUGUUCGUGCAGGa-----

2 0,-3

-----CAAAGUGCUGUUCGUGCAGGU-----

103 0,-2

-----CAAAGUGCUGUUCGUGCAGGUu-----

3 0,-2

-----CAAAGUGCUGUUCGUGCAGGUA-----

344 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAa-----

67 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAaa-----

4 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAu-----

72 0,-1

-----CAAAGUGCUGUUCGUGCAGGUAG-----

56 0,0

-----CAAAGUGCUGUUCGUGCAGGUAGa-----

2 0,0

-----AAAGUGCUGUUCGUGCAG-----

5 1,-4

-----AAAGUGCUGUUCGUGCAGGU-----

4 1,-2

-----AAAGUGCUGUUCGUGCAGGUA-----

16 1,-1

-----ACUGCUGAGCUAGCACUUC-----

5 0,-3

-----ACUGCUGAGCUAGCACUUCCC-----

4 0,-1

-----ACUGCUGAGCUAGCACUUCCCGA-----

13 0,1

>hsa-mir-935 3p:56-78 SRX018968

ggcgggggcgcgggcgggcaguggcgggagcggccccucggccauccuccgucugcCCAGUUAACCGCUUCCGCUACCGCcgcgcuccccgcu

((((((((((...((((((.(((((((((((((((((...((.(.....)))..))..))))))))))))..)))
))))))))))))

-----CAGUUACCGCUUCCGCUACCG-----

----- 2 1, -1

>hsa-mir-940 3p:60-80 SRX018968

gugaggugugggcccgccccaggagcggggccuaggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugaccccac

(((.(((.((((((((.....((((((((((((((..((..((((.....))..))...)).)))).))))))))))
)))))))))).)))

-----AAGGCAGGGCCCCCGCUCC-----

$$----- 2 \quad 0, -2$$

-----AAGGCAGGGCCCCCGCUCCC-----

----- 2 0,-1

-----AAGGCAGGGCCCCCGCUC

----- 4 0,0

-----AAGGCAGGGCCCCCGCUCCCC

aa----- 2 0,0

>hsa-mir-941-1 3p:71-93 SRX018968

cacggaagaggacacacccggcuguguggacaugugcccagggccccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggccccgggacagcgccacgg

-----CACCCGGCUG

UGUGCACAUGUG----- 3 0,-1

-----CACCCGGCUG

UGUGCACAUGUGa----- 5 0,-1

-----CACCCGGCUG

UGUGCACAUGUGu----- 2 0,-1

>hsa-mir-941-2 3p:71-93 SRX018968

cacggaagaggacgcacccggcugugugcacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG

```

UGUGCACAUGUGCccagggcccgggacagcgccacgg
.....((.(((.((((((.(((.((((((((((.(((.(((.(((...(((((.(...).)).))).)))))).).
)).)))))))).)).)).))))).)))).)...
-----CACCCGGCUGUGUGCACAUGUG-----
-----3
-----CACCCGGCUGUGUGCACAUGUGa-----
-----5
-----CACCCGGCUGUGUGCACAUGUGu-----
-----2
-----CACCCGGCUG
UGUGCACAUGUG-----3 0,-1
-----CACCCGGCUG
UGUGCACAUGUGa-----5 0,-1
-----CACCCGGCUG
UGUGCACAUGUGu-----2 0,-1

```

```

>hsa-mir-941-3 3p:71-93 SRX018968
cacggaagaggacgcacccggcugugugcacaugugccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccaugg
.....((.(((.((((((.(((.((((((((((.(((.(((.(((...(((((.(...).)).))).)))))).).
)).)))))))).)).)).))))).)))).)...
-----CACCCGGCUGUGUGCACAUGUG-----
-----3
-----CACCCGGCUGUGUGCACAUGUGa-----
-----5
-----CACCCGGCUGUGUGCACAUGUGu-----
-----2
-----CACCCGGCUG
UGUGCACAUGUG-----3 0,-1
-----CACCCGGCUG
UGUGCACAUGUGa-----5 0,-1
-----CACCCGGCUG
UGUGCACAUGUGu-----2 0,-1

```

```

>hsa-mir-941-4 3p:71-93 SRX018968
cauggaagaggacgcacccggcugugugcacaugugccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg
.....((.(((.((((((.(((.((((((((((.(((.(((.(((...(((((.(...).)).))).)))))).).

```

))).)))))))).)).)).))))).)))).)).
 -----CACCCGGCUGUGUGCACAUGUG-----
 ----- 3 -----
 -----CACCCGGCUGUGUGCACAUGUGa-----
 ----- 5 -----
 -----CACCCGGCUGUGUGCACAUGUGu-----
 ----- 2 -----
 -----CACCCGGCUGUGUGCACAUGUG-----
 UGUGCACAUGUG----- 3 0, -1 -----
 -----CACCCGGCUGUGUGCACAUGUGa-----
 ----- 5 0, -1 -----
 -----CACCCGGCUGUGUGCACAUGUGu-----
 UGUGCACAUGUGu----- 2 0, -1 -----

```

>hsa-mir-942      5p:13-34      SRX018968
auuaggagaguaUCUUCUCUGUUUUGGCCAUGUGuguacucacagccccucacacauggccgaaacagagaaguacuuc
ccuaau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----UCUUCUCUGUUUUGGCCAUGUu-----
----- 2    0,-1
-----UCUUCUCUGUUUUGGCCAUGUGUG-----
----- 2    0,2
-----UUCUCUGUUUUGGCCAUGUGUG-----
----- 4    2,2

```

```
>hsa-mir-944      3p:54-75      SRX018968
guuccagacacaucucaucugauauacaauauuuuucuuaaauguauaaagagAAUUAUUGUACAUCGGAUGAGcugug
ucugggau
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))
-----AAUUAUUGUACAUCGGAUGAG-----
-----      2      1,0
```

```
>hsa-mir-95 3p:49-70      SRX018968
aacacagugggcacucauaaaaugucuguugaauugaaugcguuacaUUCAACGGGUUUUUAUUGAGCAcccacucugu
g
.(((.(((((((..(((((((((((..(((((((((((((. . . . .)))..)))))))))..)))))))))..))))))..)))
```



```

----- 52 0,-4
-----UGAGGUAGUAAGUUGUAUa-----
----- 11 0,-4
-----UGAGGUAGUAAGUUGUAUU-----
----- 62 0,-3
-----UGAGGUAGUAAGUUGUAUUG-----
----- 87 0,-2
-----UGAGGUAGUAAGUUGUAUUGa-----
----- 6 0,-2
-----UGAGGUAGUAAGUUGUAUUGU-----
----- 82 0,-1
-----UGAGGUAGUAAGUUGUAUUGUU-----
----- 69 0,0
-----UGAGGUAGUAAGUUGUAUUGUUa-----
----- 3 0,0
-----UGAGGUAGUAAGUUGUAUUGUUu-----
----- 7 0,0
-----C
UAUACAACUACUACUUU----- 2
-----C
UAUACAACUACUACUUUC----- 4
-----C
UAUACAACUACUACUUUCC----- 3
-----C
UAUACAACUACUACUUUCCu----- 11
-----C
UAUACAACUACUACUUUCCuu----- 2
-----
UAUACAACUACUACUUUCC----- 5
-----
UAUACAACUACUACUUUCCa----- 2
-----
UAUACAACUACUACUUUCCau----- 3
-----
UAUACAACUACUACUUUCCu----- 6
-----
UAUACAACUACUACUUUCCuu----- 3

```


>hsa-mi r-99a MA:13-34;mi :50-71 SRX018968

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

..(((((((((((.(((((((((((..(((.((((((((.(.....))))))))).)))..))))))))).)))))))))).

•

-----AAACCCGUAGAUCGAUC-----

- 2 -1, -5

-----AAACCCGUAGAUCCGAUCU-----

- 4 -1, -4

-----AAACCCGUAGAUCCGAUCUU-----

- 8 -1, -3

-----AAACCCGUAGAUCCGAUCUUG-----

- 41 -1,-2

-----AAACCCGUAGAUCCGAUCUUGU-----

- 104 -1, -1

-----AAACCCGUAGAUCCGAUCUUGUa-----

$$-2^{-1,-1}$$

-----AAACCCGUAGAUCCGAUCUUGUG-----

- 8 -1,0

-----AACCCGUAGAUGCCGAUCU-----

- 375 0,-4

-----AACCCGUAGAUGCCGAUCUa-----

- 2 0,-4

-----AACCCGUAGAUCCGAUCUU-----

- 876 0,-3

-----AACCCGUAGAUCCGAUCUUa-----

- 13 0,-3

-----AACCCGUAGAUCCGAUCUUaa-----

- 2 0,-3

-----AACCCGUAGAUCCGAUCUuau-----

- 3 0,-3

-----AACCCGUAGAUCCGAUCUU-----

- 16 0,-3

-----AACCCGUAGAUCCGAUCUUuu-----

- 8 0,-3

-----AACCCGUAGAUCCGAUCUUG-----

- 5227 0,-2

-----AACCCGUAGAUCCGAUCUUGa-----

- 95 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----

- 6 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----

- 13677 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----

- 74 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----

- 29 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----

- 36 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----

- 3 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----

- 11364 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----

- 3609 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----

- 52 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----

- 9 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----

- 687 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----

- 3 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----

- 7 0,1
-----ACCCGUAGAUCCGAUCUU-----

- 2 1,-3
-----ACCCGUAGAUCCGAUCUUGU-----

- 15 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----

- 8 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----

- 2 1,0
-----CAAGCUCGCUUCUAUGGGU-----

- 2 0,-3
-----CAAGCUCGCUUCUAUGGGUCU-----

```

- 2 0,-1
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 2 0,1
-----AAGCUCGCUUCUAUGGGUCU-----
- 2 1,-1

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018968

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCU----- 4 0,-4
-----CACCCGUAGAACCGACCUU----- 12 0,-3
-----CACCCGUAGAACCGACCUUG----- 48 0,-2
-----CACCCGUAGAACCGACCUUGa----- 3 0,-2
-----CACCCGUAGAACCGACCUUGu----- 3 0,-2
-----CACCCGUAGAACCGACCUUGC----- 272 0,-1
-----CACCCGUAGAACCGACCUUGCa----- 5 0,-1
-----CACCCGUAGAACCGACCUUGCu----- 2 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 383 0,0
-----CACCCGUAGAACCGACCUUGCGa----- 144 0,0
-----CACCCGUAGAACCGACCUUGCGaa----- 5 0,0
-----CACCCGUAGAACCGACCUUGCGu----- 82 0,0
-----CACCCGUAGAACCGACCUUGCGG----- 6 0,1
-----ACCCGUAGAACCGACCUUGC----- 5 1,-1
-----ACCCGUAGAACCGACCUUGCG----- 8 1,0
-----CAAGCUCGUGUCUGUGGGUCC----- 4 0,-1
-----CAAGCUCGUGUCUGUGGGUCCGa--- 3 0,0
-----CAAGCUCGUGUCUGUGGGUCCGU--- 2 0,1

```

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018969

```

ugggaUGAGGUAGUAGGUUGUAUAGUUuuaggguacacccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
(((((((((.....)))))))))))))
----AUGAGGUAGUAGGUUGUAU-----
13 -1,-4
----AUGAGGUAGUAGGUUGUAUAGUU-----
4 -1,0
----UGAGGUAGUAGGUUGUAU-----
775 0,-4
----UGAGGUAGUAGGUUGUAUu-----

```

34 0, -4
 -----UGAGGUAGUAGGUUGUAUuu-----
 34 0, -4
 -----UGAGGUAGUAGGUUGUAUA-----
 3367 0, -3
 -----UGAGGUAGUAGGUUGUAUAa-----
 123 0, -3
 -----UGAGGUAGUAGGUUGUAUAaa-----
 20 0, -3
 -----UGAGGUAGUAGGUUGUAUAau-----
 2 0, -3
 -----UGAGGUAGUAGGUUGUAUAu-----
 85 0, -3
 -----UGAGGUAGUAGGUUGUAUAuu-----
 11 0, -3
 -----UGAGGUAGUAGGUUGUAUAG-----
 7799 0, -2
 -----UGAGGUAGUAGGUUGUAUAGa-----
 193 0, -2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 18 0, -2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 36 0, -2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 25162 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 538 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 583 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 150 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 70850 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUua-----
 6343 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUuaa-----
 670 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUuau-----

240 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 7841 0,1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 159 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUu-----
 3 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUA-----
 2 0,3
 -----GAGGUAGUAGGUUGUAUA-----
 8 1,-3
 -----GAGGUAGUAGGUUGUAUAG-----
 26 1,-2
 -----GAGGUAGUAGGUUGUAUAGU-----
 42 1,-1
 -----GAGGUAGUAGGUUGUAUAGUU-----
 155 1,0
 -----GAGGUAGUAGGUUGUAUAGUUa-----
 18 1,0
 -----GAGGUAGUAGGUUGUAUAGUUaa-----
 4 1,0
 -----GAGGUAGUAGGUUGUAUAGUUau-----
 4 1,0
 -----GAGGUAGUAGGUUGUAUAGUUU-----
 28 1,1
 -----AGGUAGUAGGUUGUAUAGU-----
 2 2,-1
 -----AGGUAGUAGGUUGUAUAGUU-----
 33 2,0
 -----AGGUAGUAGGUUGUAUAGUUa-----
 4 2,0
 -----AGGUAGUAGGUUGUAUAGUUU-----
 4 2,1
 -----CUAUACAAUCUACUGUCUUU-----
 12 0,-1
 -----CUAUACAAUCUACUGUCUUUC-----
 5 0,0
 -----CUAUACAAUCUACUGUCUUUCu-----

0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	7799
0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	193
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	18
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	36
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
25162 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	538
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	583
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	150
0, -1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
70850 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	6343
0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	670
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	240
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	7841
0,1	
---UGAGGUAGUAGGUUGUAUAGUUUA-----	44
0,2	
---UGAGGUAGUAGGUUGUAUAGUUUAa-----	2
0,2	
---UGAGGUAGUAGGUUGUAUAGUUUAG-----	2
0,3	
----GAGGUAGUAGGUUGUAUA-----	8
1, -3	
----GAGGUAGUAGGUUGUAUAG-----	26
1, -2	
----GAGGUAGUAGGUUGUAUAGU-----	42

1,-1	
-----GAGGUAGUAGGUUGUAUAGUU-----	155
1,0	
-----GAGGUAGUAGGUUGUAUAGUUa-----	18
1,0	
-----GAGGUAGUAGGUUGUAUAGUUaa-----	4
1,0	
-----GAGGUAGUAGGUUGUAUAGUUau-----	4
1,0	
-----GAGGUAGUAGGUUGUAUAGUUU-----	28
1,1	
-----AGGUAGUAGGUUGUAUAGU-----	2
2,-1	
-----AGGUAGUAGGUUGUAUAGUU-----	33
2,0	
-----AGGUAGUAGGUUGUAUAGUUa-----	4
2,0	
-----AGGUAGUAGGUUGUAUAGUUU-----	4
2,1	
 >hsa-let-7a-3 MA:4-25;mi:52-72 SRX018969	
gggUGAGGUAGUAGGUUGUAUAGUuuggggcucugcccugcuaugggauaaCUAUACAAUCUACUGUCUUUCcu	
(((.(((..((((((((((((((((((((((((((...)))))))).))))))))))))))))))))))))))))))	
--GUGAGGUAGUAGGUUGUAUAG-----	4
-1,-2	
--GUGAGGUAGUAGGUUGUAUAGU-----	8
-1,-1	
--GUGAGGUAGUAGGUUGUAUAGUU-----	5
-1,0	
--GUGAGGUAGUAGGUUGUAUAGUUU-----	2
-1,1	
---UGAGGUAGUAGGUUGUAU-----	775
0,-4	
---UGAGGUAGUAGGUUGUAUu-----	34
0,-4	
---UGAGGUAGUAGGUUGUAUuu-----	34
0,-4	
---UGAGGUAGUAGGUUGUAUA-----	3367

0, -3	
---UGAGGUAGUAGGUUGUAUAa-----	123
0, -3	
---UGAGGUAGUAGGUUGUAUAaa-----	20
0, -3	
---UGAGGUAGUAGGUUGUAUAau-----	2
0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	85
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	11
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	7799
0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	193
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	18
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	36
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
25162 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	538
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	583
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	150
0, -1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
70850 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	6343
0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	670
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	240
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	7841
0,1	
---UGAGGUAGUAGGUUGUAUAGUUUG-----	2

0,2		
----	-GAGGUAGUAGGUUGUAUA-	8
1,-3		
----	-GAGGUAGUAGGUUGUAUAG-	26
1,-2		
----	-GAGGUAGUAGGUUGUAUAGU-	42
1,-1		
----	-GAGGUAGUAGGUUGUAUAGUU-	155
1,0		
----	-GAGGUAGUAGGUUGUAUAGUUa-	18
1,0		
----	-GAGGUAGUAGGUUGUAUAGUUaa-	4
1,0		
----	-GAGGUAGUAGGUUGUAUAGUUau-	4
1,0		
----	-GAGGUAGUAGGUUGUAUAGUUU-	28
1,1		
----	-AGGUAGUAGGUUGUAUAGU-	2
2,-1		
----	-AGGUAGUAGGUUGUAUAGUU-	33
2,0		
----	-AGGUAGUAGGUUGUAUAGUUa-	4
2,0		
----	-AGGUAGUAGGUUGUAUAGUUU-	4
2,1		
-----	CUAUACAAUCUACUGUCUUU---	12
0,-1		
-----	CUAUACAAUCUACUGUCUUUC--	5
0,0		
-----	CUAUACAAUCUACUGUCUUUCu-	14
0,0		
-----	UAUACAAUCUACUGUCUUU---	4
1,-1		
-----	UAUACAAUCUACUGUCUUUCCU	3
1,2		
-----	AUACAAUCUACUGUCUUUCCU	3
2,2		

>hsa-let-7b MA:6-27;mi:60-81 SRX018969

cggggUGAGGUAGUAGGUUGUGUGGUUucagggcagugauguugccccucggaagauaaCUAUACAACCUACUGCCUUC

-----UGAGGUAGUAGGUUGUGU-----

--- 2270 0,-4

-----UGAGGUAGUAGGUUGUGUa-----

--- 8 0,-4

-----UGAGGUAGUAGGUUGUGUaa-----

--- 22 0,-4

-----UGAGGUAGUAGGUUGUGU_{au}-----

--- 3 0,-4

-----UGAGGUAGUAGGUUGUGUu-----

--- 8 0,-4

-----UGAGGUAGUAGGUUGUGUuu-----

--- 3 0, -4

-----UGAGGUAGUAGGUUGUGUG-----

--- 6933 0,-3

-----UGAGGUAGUAGGUUGUGUGa-----

--- 55 0,-3

-----UGAGGUAGUAGGUUGUGUGaa-----

--- 5 0,-3

-----UGAGGUAGUAGGUUGUGUGu-----

--- 79 0,-3

-----UGAGGUAGUAGGUUGUGUuu-----

--- 12 0, -3

-----UGAGGUAGUAGGUUGUGUGG-----

--- 2013 0,-2

-----UGAGGUAGUAGGUUGUGUGGa-----

--- 34 0, -2

-----UGAGGUAGUAGGUUGUGUGG_{aa}-----

--- 13 0,-2

-----UGAGGUAGUAGGUUGUGUGG_{au}-----

--- 12 0,-2

-----UGAGGUAGUAGGUUGUGUGGU-----

--- 3070 0,-1

-----UGAGGUAGUAGGUUGUGUGGUa-----

--- 313 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 903 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 1013 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 8322 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 2077 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 816 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 1965 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 11236 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 327 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 64 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 104 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 1928 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 101 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 10 0,2
-----GAGGUAGUAGGUUGUGUG-----
--- 22 1,-3
-----GAGGUAGUAGGUUGUGUGa-----
--- 2 1,-3
-----GAGGUAGUAGGUUGUGUGG-----
--- 11 1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 5 1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 2 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----

```

--- 6 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 5 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 32 1,0
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 4 1,0
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 3 1,0
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 2 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 50 1,1
-----GAGGUAGUAGGUUGUGUGGUUUu-----
--- 10 1,1
-----GAGGUAGUAGGUUGUGUGGUUUuu-----
--- 2 1,1
-----AGGUAGUAGGUUGUGUGGU-----
--- 2 2,-1
-----AGGUAGUAGGUUGUGUGGUaa-----
--- 3 2,-1
-----AGGUAGUAGGUUGUGUGGUau-----
--- 3 2,-1
-----AGGUAGUAGGUUGUGUGGUU-----
--- 9 2,0
-----AGGUAGUAGGUUGUGUGGUa-----
--- 3 2,0
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 11 2,1
-----AGGUAGUAGGUUGUGUGGUUUu-----
--- 4 2,1
-----AACUAUACAACCUACUGCCUUCC
--- 2 -2,-1
-----CUAUACAACCUACUGCCU---
--- 7 0,-4
-----CUAUACAACCUACUGCCUU--
--- 20 0,-3
-----CUAUACAACCUACUGCCUUu-
```

```

--- 2 0,-3
-----CUAUACAACCUACUGCCUUC-
--- 44 0,-2
-----CUAUACAACCUACUGCCUUCa
u-- 2 0,-2
-----CUAUACAACCUACUGCCUUCu
--- 43 0,-2
-----CUAUACAACCUACUGCCUUCu
u-- 11 0,-2
-----CUAUACAACCUACUGCCUUCC
--- 95 0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 9 0,-1
-----CUAUACAACCUACUGCCUUCC
u-- 124 0,-1
-----UAUACAACCUACUGCCUUC-
--- 2 1,-2
-----UAUACAACCUACUGCCUUCC
--- 3 1,-1
-----AUACAACCUACUGCCUUCC
--- 2 2,-1

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018969

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc

((.((((((..(((.(((.((((((((((((((..((.(..(.....).).))))))))))))))))).)).)).)))))

```

-----GUUGAGGUAGUAGGUUGUAUGGUU-----
---- 4 -2,0
-----UUGAGGUAGUAGGUUGUA-----
---- 2 -1,-5
-----UUGAGGUAGUAGGUUGUAU-----
---- 3 -1,-4
-----UUGAGGUAGUAGGUUGUAUG-----
---- 6 -1,-3
-----UUGAGGUAGUAGGUUGUAUGG-----
---- 13 -1,-2
-----UUGAGGUAGUAGGUUGUAUGGU-----

```

```

---- 46 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUa-----
---- 17 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUau-----
---- 13 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUU-----
---- 106 -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUa-----
---- 2 -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUU-----
---- 7 -1,1
-----UGAGGUAGUAGGUUGUAU-----
---- 775 0,-4
-----UGAGGUAGUAGGUUGUAUu-----
---- 34 0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
---- 34 0,-4
-----UGAGGUAGUAGGUUGUAUG-----
---- 2077 0,-3
-----UGAGGUAGUAGGUUGUAUGa-----
---- 6 0,-3
-----UGAGGUAGUAGGUUGUAUGau-----
---- 4 0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
---- 45 0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
---- 18 0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
---- 4138 0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
---- 79 0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 75 0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 34 0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 11363 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----

```

```

---- 2305 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 1217 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 1028 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 45889 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 1771 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 277 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 377 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 5043 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 301 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUuu-----
---- 6 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUUA-----
---- 71 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUUAa-----
---- 9 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUUAG-----
---- 3 0,3
-----GAGGUAGUAGGUUGUAUG-----
---- 13 1,-3
-----GAGGUAGUAGGUUGUAUGG-----
---- 14 1,-2
-----GAGGUAGUAGGUUGUAUGGU-----
---- 33 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 12 1,-1
-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 9 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 7 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----

```


----- 905 0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 37 0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 9 0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 21 0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 2108 0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 168 0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 69 0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 43 0,-1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 19184 0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 1540 0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 88 0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 70 0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 2440 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 28 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 101 0,2
-----AGAGGUAGUAGGUUGCAUAGUUUUu-----
----- 3 0,2
-----GAGGUAGUAGGUUGCAUAG-----
----- 2 1,-2
-----GAGGUAGUAGGUUGCAUAGU-----
----- 7 1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 44 1,0
-----GAGGUAGUAGGUUGCAUAGUUa-----

4 0,-2
 -----UGAGGUAGGAGGUUGUAUAGau-----
 4 0,-2
 -----UGAGGUAGGAGGUUGUAUAGU-----
 540 0,-1
 -----UGAGGUAGGAGGUUGUAUAGUa-----
 36 0,-1
 -----UGAGGUAGGAGGUUGUAUAGUaa-----
 137 0,-1
 -----UGAGGUAGGAGGUUGUAUAGUau-----
 31 0,-1
 -----UGAGGUAGGAGGUUGUAUAGUU-----
 1709 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUa-----
 646 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUaa-----
 106 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUau-----
 44 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUu-----
 438 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUuu-----
 8 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUG-----
 71 0,1
 -----UGAGGUAGGAGGUUGUAUAGUUGu-----
 13 0,1
 -----UGAGGUAGGAGGUUGUAUAGUUGA-----
 7 0,2
 -----GAGGUAGGAGGUUGUAUAGUU-----
 4 1,0
 -----GAGGUAGGAGGUUGUAUAGUUa-----
 3 1,0
 -----CUAUACGGCCUCCUAGCUU-----
 2 0,-3
 -----CUAUACGGCCUCCUAGCUUU-----
 4 0,-2
 -----CUAUACGGCCUCCUAGCUUUCCa-----

2 0,0

>hsa-let-7f-1 MA:7-28;mi:63-84 SRX018969

ucagagUGAGGUAGUAGAUUGUAUAGUUGuggggguagugauuuuaccuguucaggagauaaCUAUACAAUCUAUUGCCU
UCCCuga

(((.(((((.....)))))).....)))))))))
 ..))))))

-----UGAGGUAGUAGAUUGUAU-----

----- 485 0,-4

-----UGAGGUAGUAGAUUGUAUu-----

----- 24 0, -4

-----UGAGGUAGUAGAUUGUAUuu-----

----- 28 0,-4

-----UGAGGUAGUAGAUUGUAUA-----

----- 5460 0, -3

-----UGAGGUAGUAGAUUGUAUAa-----

----- 83 0, -3

-----UGAGGUAGUAGAUUGUAUAaa-----

----- 21 0,-3

-----UGAGGUAGUAGAUUGUAUAau-----

----- 4 0, -3

-----UGAGGUAGUAGAUUGUAUAu-----

----- 18 0, -3

-----UGAGGUAGUAGAUUGUAUAuu-----

----- 6 0, -3

-----UGAGGUAGUAGAUUGUAUAG-----

----- 4806 0,-2

-----UGAGGUAGUAGAUUGUAUAGa-----

----- 228 0,-2

-----UGAGGUAGUAGAUGUAUAGaa-----

----- 23 0, -2

-----UGAGGUAGUAGAUUGUAUAG_{au}-----

----- 33 0,-2

-----UGAGGUAGUAGAUUGUAUAGU-----

----- 23775 0,-1

-----UGAGGUAGUAGAUUGUAUAGUa-----

----- 468 0, -1

-----UGAGGUAGUAGAUUGUAUAGUaa-----

----- 1232 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 164 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 54418 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 13905 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 1063 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 252 0,0
-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 540 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 20 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGU-----
----- 54 0,2
-----UGAGGUAGUAGAUUGUAUAGUUGUG-----
----- 9 0,3
-----GAGGUAGUAGAUUGUAUA-----
----- 11 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
----- 13 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
----- 71 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
----- 13 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
----- 202 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
----- 56 1,0
-----GAGGUAGUAGAUUGUAUAGUUaa-----
----- 5 1,0
-----GAGGUAGUAGAUUGUAUAGUUau-----
----- 4 1,0
-----GAGGUAGUAGAUUGUAUAGUUG-----
----- 3 1,1
-----GAGGUAGUAGAUUGUAUAGUUGa-----

```

----- 2 1,1
-----AGGUAGUAGAUUGUAUAG-----
----- 2 2,-2
-----AGGUAGUAGAUUGUAUAGU-----
----- 2 2,-1
-----AGGUAGUAGAUUGUAUAGUU-----
----- 32 2,0
-----AGGUAGUAGAUUGUAUAGUa-----
----- 3 2,0
-----AGGUAGUAGAUUGUAUAGUUG-----
----- 11 2,1
-----AGGUAGUAGAUUGUAUAGUUGa-----
----- 2 2,1
-----AGGUAGUAGAUUGUAUAGUUGU-----
----- 15 2,2
-----CUAUACAAUCUAUUGCCU
U----- 5 0,-3
-----CUAUACAAUCUAUUGCCU
UC----- 6 0,-2
-----CUAUACAAUCUAUUGCCU
UCu---- 2 0,-2
-----CUAUACAAUCUAUUGCCU
UCuu--- 2 0,-2
-----CUAUACAAUCUAUUGCCU
UCC---- 2 0,-1
-----CUAUACAAUCUAUUGCCU
UCCu--- 9 0,-1
-----UAUACAAUCUAUUGCCU
UCCu--- 2 1,-1

```

>hsa-let-7f-2 MA:8-29;mi:58-79 SRX018969

```

ugugggaUGAGGUAGUAGAUUGUAUAGUUuuagggucauaccccaucuuggagauaaCUAUACAGUCUACUGUCUUUCCc
acg

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```

.((((((.(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).

```

```

-----AUGAGGUAGUAGAUUGUAUAG-----
--- 3 -1,-2
-----AUGAGGUAGUAGAUUGUAUAG-----

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--- 23 -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUU-----
--- 15 -1,0
-----UGAGGUAGUAGAUUGUAU-----
--- 485 0,-4
-----UGAGGUAGUAGAUUGUAUu-----
--- 24 0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
--- 28 0,-4
-----UGAGGUAGUAGAUUGUAUA-----
--- 5460 0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
--- 83 0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
--- 21 0,-3
-----UGAGGUAGUAGAUUGUAUAau-----
--- 4 0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
--- 18 0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
--- 6 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 4806 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 228 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 23 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
--- 33 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 23775 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 468 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 1232 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 164 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----

--- 54418 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 13905 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 1063 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 252 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 9442 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUa-----
--- 19 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 86 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUA-----
--- 3 0,3
-----GAGGUAGUAGAUUGUAUA-----
--- 11 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
--- 13 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 71 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----
--- 13 1,-1
-----GAGGUAGUAGAUUGUAUAGUU-----
--- 202 1,0
-----GAGGUAGUAGAUUGUAUAGUUa-----
--- 56 1,0
-----GAGGUAGUAGAUUGUAUAGUUaa-----
--- 5 1,0
-----GAGGUAGUAGAUUGUAUAGUUau-----
--- 4 1,0
-----GAGGUAGUAGAUUGUAUAGUUU-----
--- 42 1,1
-----AGGUAGUAGAUUGUAUAG-----
--- 2 2,-2
-----AGGUAGUAGAUUGUAUAGU-----
--- 2 2,-1
-----AGGUAGUAGAUUGUAUAGUU-----


```

----      3      0,-1
----UGAGGUAGUAGUUUGUACAGUU-----
----      4516      0,0
----UGAGGUAGUAGUUUGUACAGUUa-----
----      376 0,0
----UGAGGUAGUAGUUUGUACAGUUaa-----
----      32  0,0
----UGAGGUAGUAGUUUGUACAGUUau-----
----      18  0,0
----UGAGGUAGUAGUUUGUACAGUUU-----
----      432 0,1
----UGAGGUAGUAGUUUGUACAGUUUu-----
----      11  0,1
----GAGGUAGUAGUUUGUACAG-----
----      8      1,-2
----GAGGUAGUAGUUUGUACAGU-----
----      25      1,-1
----GAGGUAGUAGUUUGUACAGUU-----
----      53      1,0
----GAGGUAGUAGUUUGUACAGUUa-----
----      5      1,0
----GAGGUAGUAGUUUGUACAGUUU-----
----      4      1,1
----AGGUAGUAGUUUGUACAGUU-----
----      3      2,0
-----CUGUACAGGCCACUGCCUU
GCu-      2      0,0

```

>hsa-let-7i MA:6-27;mi:62-83 SRX018969

```

cuggcUGAGGUAGUAGUUUGUGCUGUUGgucgguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUU
GCUa

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```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
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))))

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----UGAGGUAGUAGUUUGUGC-----
----      395 0,-4
----UGAGGUAGUAGUUUGUGCU-----
----      1307      0,-3
----UGAGGUAGUAGUUUGUGCUG-----

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```

----      214 0,-2
-----UGAGGUAGUAGUUUGUGCUGU-----
----      154 0,-1
-----UGAGGUAGUAGUUUGUGCUGUa-----
----       5   0,-1
-----UGAGGUAGUAGUUUGUGCUGUaa-----
----       4   0,-1
-----UGAGGUAGUAGUUUGUGCUGUU-----
----      149 0,0
-----UGAGGUAGUAGUUUGUGCUGUUa-----
----      45   0,0
-----UGAGGUAGUAGUUUGUGCUGUUaa-----
----       5   0,0
-----UGAGGUAGUAGUUUGUGCUGUUu-----
----      109 0,0
-----UGAGGUAGUAGUUUGUGCUGUUuu-----
----       6   0,0
-----UGAGGUAGUAGUUUGUGCUGUUG-----
----       3   0,1
-----GAGGUAGUAGUUUGUGCU-----
----       6   1,-3
-----GAGGUAGUAGUUUGUGCUGUUu-----
----       2   1,0
-----AGGUAGUAGUUUGUGCUGUUa-----
----       2   2,0
-----CUGCGCAAGCUACUGCCUU
----       6   0,-3
-----CUGCGCAAGCUACUGCCUU
G---       6   0,-2

```

>hsa-mir-1-1 3p:46-67 SRX018969

```

ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAGAAGUAUGUAUcuca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGAAUGUAAAGAAGUAU----- 5   0,-4
-----UGGAAUGUAAAGAAGUAUa----- 2   0,-4
-----UGGAAUGUAAAGAAGUAUG----- 425 0,-3
-----UGGAAUGUAAAGAAGUAUGU----- 12  0,-2
-----UGGAAUGUAAAGAAGUAUGUA----- 21  0,-1

```

-----UGGAAUGUAAAGAAGUAUGUAa----	14	0,-1
-----UGGAAUGUAAAGAAGUAUGUAaa----	2	0,-1
-----UGGAAUGUAAAGAAGUAUGUAau----	3	0,-1
-----UGGAAUGUAAAGAAGUAUGUAU-----	284	0,0
-----UGGAAUGUAAAGAAGUAUGUAUa----	5	0,0
-----GGAAUGUAAAGAAGUAUG-----	2	1,-3
-----GGAAUGUAAAGAAGUAUGUAU-----	4	1,0

>hsa-mi r-100 MA:13-34;mi:48-69 SRX018969

-----AACCCGUAGAUCCGAACU-----

1462 0, -4

-----AACCCGUAGAUCCGAACUa-----

3 0,-4

-----AACCCGUAGAUCCGAACUU-----

674 0,-3

-----AACCCGUAGAUCCGAACUUa-----

4 0,-3

-----AACCCGUAGAUCCGAACUUau-----

3 0.-3

-----AACCCGUAGA UCCGAACUU₁₁-----

 $2 \quad 0, -3$

-----AACCCGUAGAUCCGAACUUuu-----

3 0,-3

-----AACCCGUAGA UCCGAACUUG-----

3208 0,-2

-----AACCCGUAGAUCCGAACUUGa-----

61 0,-2

-----AACCCGUAGAUCCGAACUUGaa-----

3 0, -2

-----AACCCGUAGAUCCGAACUUGU-----

12448 0,-1

-----AACCCGUAGAUCCGAACUUGUa-----

58 0,-1

-----AACCCGUAGAUCCGAACUUGUaa-----

41 0,-1

-----AACCCGUAGAUCCGAACUUGUau-----

4 0, -1

-----AACCCGUAGAUCCGAACUUGUu-----

63 0, -1

-----AACCCGUAGAUCCGAACUUGUuu-----

 $2 \quad 0, -1$

-----AACCCGUAGAUCCGAACUUGUG-----

13333 0,0

-----AACCCGUAGAUCCGAACUUGUGa-----

```

8891    0,0
-----AACCCGUAGAUCCGAACUUGUGaa-----
488 0,0
-----AACCCGUAGAUCCGAACUUGUGau-----
31  0,0
-----AACCCGUAGAUCCGAACUUGUGu-----
4348    0,0
-----AACCCGUAGAUCCGAACUUGUGuu-----
26  0,0
-----AACCCGUAGAUCCGAACUUGUGG-----
28  0,1
-----AACCCGUAGAUCCGAACUUGUGGU-----
3   0,2
-----ACCCGUAGAUCCGAACUUGU-----
13  1,-1
-----ACCCGUAGAUCCGAACUUGUG-----
11  1,0
-----ACCCGUAGAUCCGAACUUGUGa-----
7   1,0
-----ACCCGUAGAUCCGAACUUGUGu-----
4   1,0

```

>hsa-mir-101-1 mi:11-32;MA:47-67 SRX018969

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ugcccuggcuCAGUUAUCACAGUGCUGAUGCUgucuaauucuaaaggUACAGUACUGUGAUAAACUGAAggauggca
.((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GGUACAGUACUGUGAUAAACUGAA----- 3
-2,0
-----GUACAGUACUGUGAUAAAC----- 428
-1,-4
-----GUACAGUACUGUGAUAAACU-----
15317  -1,-3
-----GUACAGUACUGUGAUAAACUa----- 4
-1,-3
-----GUACAGUACUGUGAUAAACUaa----- 6
-1,-3
-----GUACAGUACUGUGAUAAACUu----- 11
-1,-3
-----GUACAGUACUGUGAUAAACUG----- 975

```

-1,-2		-GUACAGUACUGUGAUAAACUGu-----	13
-1,-2		-GUACAGUACUGUGAUAAACUGuu-----	5
-1,-2		-GUACAGUACUGUGAUAAACUGA-----	
11468	-1,-1	-GUACAGUACUGUGAUAAACUGAu-----	92
-1,-1		-GUACAGUACUGUGAUAAACUGAA-----	
14118	-1,0	-GUACAGUACUGUGAUAAACUGAAa-----	2617
-1,0		-GUACAGUACUGUGAUAAACUGAAaa-----	80
-1,0		-GUACAGUACUGUGAUAAACUGAAu-----	28
-1,0		-GUACAGUACUGUGAUAAACUGAAG-----	8
-1,1		-GUACAGUACUGUGAUAAACUGAAGu-----	2
-1,1		-UACAGUACUGUGAUAAACU-----	
26989	0,-3	-UACAGUACUGUGAUAAACUa-----	3
0,-3		-UACAGUACUGUGAUAAACUaa-----	15
0,-3		-UACAGUACUGUGAUAAACUu-----	11
0,-3		-UACAGUACUGUGAUAAACUG-----	2289
0,-2		-UACAGUACUGUGAUAAACUGu-----	35
0,-2		-UACAGUACUGUGAUAAACUGuu-----	3
0,-2		-UACAGUACUGUGAUAAACUGA-----	
28097	0,-1	-UACAGUACUGUGAUAAACUGAu-----	190

0,-1		UACAGUACUGUGAUAAACUGAuu-----	86
0,-1		UACAGUACUGUGAUAAACUGAA-----	
51193	0,0	UACAGUACUGUGAUAAACUGAAa-----	
10823	0,0	UACAGUACUGUGAUAAACUGAAaa-----	283
0,0		UACAGUACUGUGAUAAACUGAAau-----	24
0,0		UACAGUACUGUGAUAAACUGAAu-----	971
0,0		UACAGUACUGUGAUAAACUGAAuu-----	57
0,0		UACAGUACUGUGAUAAACUGAAG-----	2483
0,1		UACAGUACUGUGAUAAACUGAAGu-----	374
0,1		UACAGUACUGUGAUAAACUGAAGuu-----	5
0,1		UACAGUACUGUGAUAAACUGAAGG-----	7
0,2		UACAGUACUGUGAUAAACUGAAGGA-----	5
0,3		ACAGUACUGUGAUAAACUG-----	16
1,-2		ACAGUACUGUGAUAAACUGA-----	137
1,-1		ACAGUACUGUGAUAAACUGAu-----	2
1,-1		ACAGUACUGUGAUAAACUGAA-----	341
1,0		ACAGUACUGUGAUAAACUGAAa-----	112
1,0		ACAGUACUGUGAUAAACUGAAaa-----	9
1,0		ACAGUACUGUGAUAAACUGAAau-----	4

1,0	-----ACAGUACUGUGUAACUGAAu-----	16
1,0	-----ACAGUACUGUGUAACUGAAuu-----	2
1,0	-----ACAGUACUGUGUAACUGAAG-----	25
1,1	-----ACAGUACUGUGUAACUGAAGu-----	20
1,1	-----CAGUACUGUGUAACUGA-----	11
2,-1	-----CAGUACUGUGUAACUGAA-----	39
2,0	-----CAGUACUGUGUAACUGAAa-----	11
2,0	-----CAGUACUGUGUAACUGAAu-----	2
2,0	-----CAGUACUGUGUAACUGAAuu-----	2
2,0	-----CAGUACUGUGUAACUGAAG-----	5
2,1	-----CAGUACUGUGUAACUGAAGu-----	2
2,1		

>hsa-mir-101-2 3p:49-69 SRX018969

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acuguccuuuuucgguaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGUAACUGAAgaugguggu
((..((.((((((((((((((((((((((.(.((((.....)))))).)))))))))))))))))))).))..))
-----GGUACAGUACUGUGUAACUGAA-----
3   -2,0
-----GUACAGUACUGUGUAAC-----
428 -1,-4
-----GUACAGUACUGUGUAACU-----
15317 -1,-3
-----GUACAGUACUGUGUAACUa-----
4   -1,-3
-----GUACAGUACUGUGUAACUaa-----
6   -1,-3
-----GUACAGUACUGUGUAACUu-----

```

11	-1,-3	-GUACAGUACUGUGAUAACUG-
975	-1,-2	-GUACAGUACUGUGAUAACUGu-
13	-1,-2	-GUACAGUACUGUGAUAACUGuu-
5	-1,-2	-GUACAGUACUGUGAUAACUGA-
11468	-1,-1	-GUACAGUACUGUGAUAACUGAu-
92	-1,-1	-GUACAGUACUGUGAUAACUGAA-
14118	-1,0	-GUACAGUACUGUGAUAACUGAAa-
2617	-1,0	-GUACAGUACUGUGAUAACUGAAaa-
80	-1,0	-GUACAGUACUGUGAUAACUGAAu-
28	-1,0	-GUACAGUACUGUGAUAACUGAAG-
8	-1,1	-GUACAGUACUGUGAUAACUGAAGu-
2	-1,1	-GUACAGUACUGUGAUAACUGAAGA-
10	-1,2	-UACAGUACUGUGAUAACU-
26989	0,-3	-UACAGUACUGUGAUAACUa-
3	0,-3	-UACAGUACUGUGAUAACUaa-
15	0,-3	-UACAGUACUGUGAUAACUu-
11	0,-3	-UACAGUACUGUGAUAACUG-
2289	0,-2	-UACAGUACUGUGAUAACUGu-
35	0,-2	-UACAGUACUGUGAUAACUGuu-

3	0,-2	-UACAGUACUGUGAUAAACUGA-----
28097	0,-1	-UACAGUACUGUGAUAAACUGAu-----
190	0,-1	-UACAGUACUGUGAUAAACUGAuu-----
86	0,-1	-UACAGUACUGUGAUAAACUGAA-----
51193	0,0	-UACAGUACUGUGAUAAACUGAAa-----
10823	0,0	-UACAGUACUGUGAUAAACUGAAaa-----
283	0,0	-UACAGUACUGUGAUAAACUGAAau-----
24	0,0	-UACAGUACUGUGAUAAACUGAAu-----
971	0,0	-UACAGUACUGUGAUAAACUGAAuu-----
57	0,0	-UACAGUACUGUGAUAAACUGAAG-----
2483	0,1	-UACAGUACUGUGAUAAACUGAAGu-----
374	0,1	-UACAGUACUGUGAUAAACUGAAGuu-----
5	0,1	-UACAGUACUGUGAUAAACUGAAGA-----
533	0,2	-UACAGUACUGUGAUAAACUGAAGAu-----
2	0,2	-UACAGUACUGUGAUAAACUGAAGAA-----
25	0,3	-UACAGUACUGUGAUAAACUGAAGAAa-----
4	0,3	-ACAGUACUGUGAUAAACUG-----
16	1,-2	-ACAGUACUGUGAUAAACUGA-----
137	1,-1	-ACAGUACUGUGAUAAACUGAu-----

2	1,-1	-----ACAGUACUGUGAUAACUGAA-----
341	1,0	-----ACAGUACUGUGAUAACUGAAa-----
112	1,0	-----ACAGUACUGUGAUAACUGAAaa-----
9	1,0	-----ACAGUACUGUGAUAACUGAAau-----
4	1,0	-----ACAGUACUGUGAUAACUGAAu-----
16	1,0	-----ACAGUACUGUGAUAACUGAAuu-----
2	1,0	-----ACAGUACUGUGAUAACUGAAG-----
25	1,1	-----ACAGUACUGUGAUAACUGAAGu-----
20	1,1	-----ACAGUACUGUGAUAACUGAAGA-----
4	1,2	-----CAGUACUGUGAUAACUGA-----
11	2,-1	-----CAGUACUGUGAUAACUGAA-----
39	2,0	-----CAGUACUGUGAUAACUGAAa-----
11	2,0	-----CAGUACUGUGAUAACUGAAu-----
2	2,0	-----CAGUACUGUGAUAACUGAAuu-----
2	2,0	-----CAGUACUGUGAUAACUGAAG-----
5	2,1	-----CAGUACUGUGAUAACUGAAGu-----
2	2,1	-----CAGUACUGUGAUAACUGAAGA-----
8	2,2	-----CAGUACUGUGAUAACUGAAGAAa-----
4	2,3	

uacugcccucggcuucuuacagugcugccuuguugcauaggaucAGCAGCAUUGUACAGGGCUAUGAaggcauug
 ...(((((((((.(.((((((((((((((.(.((.(.(...).).)))))))))))))).))))).)).))))....

	-GGCUUCUUUACAGUGCUGCC-	
2		
	-GGCUUCUUUACAGUGCUGCCUUG-	
2		
	-GGCUUCUUUACAGUGCUGCCUUGU-	
2		
		-AAGCAGCAUUGUACAGGGC-
4	-1,-5	
		-AAGCAGCAUUGUACAGGGCUAUu-
4	-1,-2	
		-AGCAGCAUUGUACAGGGC-
3495	0,-5	
		-AGCAGCAUUGUACAGGGCa-
3	0,-5	
		-AGCAGCAUUGUACAGGGCaa-
3	0,-5	
		-AGCAGCAUUGUACAGGGCau-
9	0,-5	
		-AGCAGCAUUGUACAGGGCU-
1521	0,-4	
		-AGCAGCAUUGUACAGGGCUu-
95	0,-4	
		-AGCAGCAUUGUACAGGGCUuu-
61	0,-4	
		-AGCAGCAUUGUACAGGGCUA-
1936	0,-3	
		-AGCAGCAUUGUACAGGGCUAa-
237	0,-3	
		-AGCAGCAUUGUACAGGGCUAaa-
24	0,-3	
		-AGCAGCAUUGUACAGGGCUAau-
50	0,-3	
		-AGCAGCAUUGUACAGGGCUAU-
8643	0,-2	
		-AGCAGCAUUGUACAGGGCUAUa-

1886	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
116	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
107	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
1878	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
341	0,-2	-----AGCAGCAUUGUACAGGGCUAUG-----
3704	0,-1	-----AGCAGCAUUGUACAGGGCUAUGu-----
1016	0,-1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
71	0,-1	-----AGCAGCAUUGUACAGGGCUAUGA-----
3776	0,0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
248	0,0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
3	0,0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
72	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
2	0,1	-----GCAGCAUUGUACAGGGCU-----
2	1,-4	-----GCAGCAUUGUACAGGGCUA-----
5	1,-3	-----GCAGCAUUGUACAGGGCUAU-----
16	1,-2	-----GCAGCAUUGUACAGGGCUAUu-----
2	1,-2	-----GCAGCAUUGUACAGGGCUAUuu-----
2	1,-2	-----GCAGCAUUGUACAGGGCUAUG-----
4	1,-1	-----GCAGCAUUGUACAGGGCUAUGu-----

```

2    1,-1
-----GCAGCAUUGUACAGGGCUAUGA-----
18   1,0
-----CAGCAUUGUACAGGGCUAU-----
9    2,-2
-----CAGCAUUGUACAGGGCUAUG-----
7    2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
8    2,0

```

>hsa-mir-103-2 mi:11-33;MA:48-70 SRX018969

```

uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..((.((((((((((.((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGCUUCUUUACAGUGCUGCCUUG-----
3    0,0
-----AGCUUCUUUACAGUGCUGCCUUG-----
9    0,1
-----AAGCAGCAUUGUACAGGGC-----
4    -1,-5
-----AAGCAGCAUUGUACAGGGCUAUu-----
4    -1,-2
-----AGCAGCAUUGUACAGGGC-----
3495   0,-5
-----AGCAGCAUUGUACAGGGCa-----
3    0,-5
-----AGCAGCAUUGUACAGGGCaa-----
3    0,-5
-----AGCAGCAUUGUACAGGGCau-----
9    0,-5
-----AGCAGCAUUGUACAGGGCU-----
1521   0,-4
-----AGCAGCAUUGUACAGGGCUu-----
95    0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
61    0,-4
-----AGCAGCAUUGUACAGGGCUA-----
1936   0,-3
-----AGCAGCAUUGUACAGGGCUAa-----

```


237	0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
24	0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
50	0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
8643	0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
1886	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
116	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
107	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
1878	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
341	0,-2	-----AGCAGCAUUGUACAGGGCUAUG-----
3704	0,-1	-----AGCAGCAUUGUACAGGGCUAUGu-----
1016	0,-1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
71	0,-1	-----AGCAGCAUUGUACAGGGCUAUGA-----
3776	0,0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
248	0,0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
3	0,0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
72	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
2	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAA-----
5	0,2	-----GCAGCAUUGUACAGGGCU-----
2	1,-4	-----GCAGCAUUGUACAGGGCUA-----


```

- 4 1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
- 5 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
- 5 1,0

```

>hsa-mir-106b MA:12-32;mi:52-73 SRX018969

```

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))

```

```

-----UAAAGUGCUGACAGUGCA-----
-- 11 0,-3
-----UAAAGUGCUGACAGUGCAG-----
-- 63 0,-2
-----UAAAGUGCUGACAGUGCAGA-----
-- 32 0,-1
-----UAAAGUGCUGACAGUGCAGAA-----
-- 7 0,-1
-----UAAAGUGCUGACAGUGCAGAAa-----
-- 3 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 92 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 15 0,0
-----UAAAGUGCUGACAGUGCAGAU-----
-- 125 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 37 0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 20 0,1
-----UAAAGUGCUGACAGUGCAGAUuu-----
-- 2 0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
-- 6 0,2
-----AAAGUGCUGACAGUGCAG-----
-- 4 1,-2
-----AAAGUGCUGACAGUGCAGAU-----

```

```

-- 2 1,0
-----UACCGCACUGUGGGUACUUGC-----
-- 3 -2,-3
-----UACCGCACUGUGGGUACUUGC-----
-- 18 -2,-2
-----ACCGCACUGUGGGUACUUGC-----
-- 3 -1,-1
-----CCGCACUGUGGGUACUUGC-----
-- 4 0,-2
-----CCGCACUGUGGGUACUUGC-----
-- 26 0,-1
-----CCGCACUGUGGGUACUUGCaa-----
-- 8 0,-1
-----CCGCACUGUGGGUACUUGCaa-----
-- 2 0,-1
-----CCGCACUGUGGGUACUUGC-----
-- 8 0,0

```

>hsa-mir-107 3p:50-72 SRX018969

```

cucucugcuuucagcuucuuuacaguguugccuuguggcauggaguucaAGCAGCAUUGUACAGGGCUAUCaagcacag
a

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

```

```

-----AGCUUCUUUACAGUGUUGCCUUu-----
- 3
-----AGCUUCUUUACAGUGUUGCCUUG-----
- 4
-----AAGCAGCAUUGUACAGGGC-----
- 4 -1,-5
-----AAGCAGCAUUGUACAGGGCUAUu-----
- 4 -1,-2
-----AGCAGCAUUGUACAGGGC-----
- 3495 0,-5
-----AGCAGCAUUGUACAGGGCa-----
- 3 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 3 0,-5
-----AGCAGCAUUGUACAGGGCau-----

```

- 9	0,-5	-----AGCAGCAUUGUACAGGGCU-----
- 1521	0,-4	-----AGCAGCAUUGUACAGGGCUu-----
- 95	0,-4	-----AGCAGCAUUGUACAGGGCUuu-----
- 61	0,-4	-----AGCAGCAUUGUACAGGGCUA-----
- 1936	0,-3	-----AGCAGCAUUGUACAGGGCUAa-----
- 237	0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
- 24	0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
- 50	0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
- 8643	0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
- 1886	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
- 116	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
- 107	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
- 1878	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
- 341	0,-2	-----AGCAGCAUUGUACAGGGCUAUC-----
- 426	0,-1	-----AGCAGCAUUGUACAGGGCUAUCu-----
- 160	0,-1	-----AGCAGCAUUGUACAGGGCUAUCA-----
- 530	0,0	-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 8	0,0	-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 2	0,1	-----GCAGCAUUGUACAGGGCU-----

15	0,0	UACCCUGUAGAUCCGAAUUUGUGU
4	0,1	UACCCUGUAGAUCCGAAUUUGUGUu
2	0,1	ACCCUGUAGAUCCGAAUU
2	1,-4	ACCCUGUAGAUCCGAAUUUGU
70	1,-1	ACCCUGUAGAUCCGAAUUUGUG
33	1,0	ACCCUGUAGAUCCGAAUUUGUGa
53	1,0	ACCCUGUAGAUCCGAAUUUGUGaa
4	1,0	ACCCUGUAGAUCCGAAUUUGUGau
2	1,0	ACCCUGUAGAUCCGAAUUUGUGU
12	1,1	

[illegible]

```
>hsa-mir-1178    3p:56-76    SRX018969
gcguuggcuggcagaggaaggggaaggguccagggucagcugagcaugcccucaggUUGCUCACUGUUCUCCCUAGaaug
ucaggugaugu
(((((((.((((((.....(((((((.(.(((.(.((((.....)))))).).))))....))))))....))
))))).))))))
```

ggcuggaaaggaagAAGCAUUCUUUCAUUGGUUGGuguguaauugccuugucaaccauaagagggaugccauuuauccuuu
ucugacuagcu

-----AAGCAUUCUUUCAUUGGUUGGU-----
----- 2 0,1

uuugguacuugaagAGAGGAUACCCUUGUAUGUUcacuugauuauggcgaauauacaggggggagacucuuaauugcgu
aucaaa

-----AGAGGAUACCCUUUGUAUGUU-----
----- 7 0,0

-----AGAGGAUACCCUUUGUAUGUUa-----
----- 3 0,0

-----AGAGGAUACCCUUGUAUGUUC-----
----- 2 0,1

-----AUAUACAGGGGGAGACUCUUA-----
----- 2

uuugguacuuaaagAGAGGAUACCCUUGUAUGUUcacuugauuauggcgaaauacagggggagacucucuuugcgu
aucaaa

-----AGAGGAUACCCUUUGUAUGUU-----
----- 7 0,0

-----AGAGGAUACCCUUUGUAUGUUa-----
----- 3 0,0

-----AGAGGAUACCCUUGUAUGUUC-----
----- 2 0.1

acuuccugguauuugaagaugcggugaccaugguguguacgcuuuauuugugacgUAGGACACAUGGUCUACUUCUucu
caauauca

.)))))).

-----UAGGACACAUGGUCUACUUCU---

----- 2 0,0

>hsa-mir-122 MA:15-36;mi:51-72 SRX018969

ccuuagcagagcugUGGAGUGUGACAAUGGUGUUUGugucuaaacuaucaAACGCCAUUAUCACACUAAAUAguacuagc
uaggc

.((((((((((((((..(((((((.(((((((((((.((....))...)))))))))).)))))).))))))
))))).

-----UGUGGAGUGUGACAAUGGUG-----

----- 3 -2,-4

-----UGUGGAGUGUGACAAUGGUGU-----

----- 9 -2,-3

-----UGUGGAGUGUGACAAUGGUGUU-----

----- 72 -2,-2

-----UGUGGAGUGUGACAAUGGUGUUU-----

----- 6 -2,-1

-----GUGGAGUGUGACAAUGGUG-----

----- 4 -1,-4

-----GUGGAGUGUGACAAUGGUGU-----

----- 10 -1,-3

-----GUGGAGUGUGACAAUGGUGUU-----

----- 29 -1,-2

-----GUGGAGUGUGACAAUGGUGUUa-----

----- 3 -1,-2

-----GUGGAGUGUGACAAUGGUGUUU-----

----- 89 -1,-1

-----GUGGAGUGUGACAAUGGUGUUUG-----

----- 6 -1,0

-----UGGAGUGUGACAAUGGUG-----

----- 14564 0,-4

-----UGGAGUGUGACAAUGGUGa-----

----- 757 0,-4

-----UGGAGUGUGACAAUGGUGaa-----

----- 314 0,-4

-----UGGAGUGUGACAAUGGUGau-----

----- 60 0,-4

-----UGGAGUGUGACAAUGGUGU-----

----- 46231 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 1866 0,-3
-----UGGAGUGUGACAAUGGUGUaa-----
----- 3120 0,-3
-----UGGAGUGUGACAAUGGUGUau-----
----- 447 0,-3
-----UGGAGUGUGACAAUGGUGUU-----
----- 184417 0,-2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 25929 0,-2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 6742 0,-2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 1310 0,-2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 711196 0,-1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 18976 0,-1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 9479 0,-1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 3926 0,-1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 13896 0,-1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 1005 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 826144 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 378448 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 6212 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 3918 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 269793 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----

```

----- 529 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 322 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 218 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 974 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 185 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 139 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 8 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 163 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 317 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 16 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 15 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 1591 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 159 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 51 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 19 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 4121 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 150 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 84 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 18 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----

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----- 72 1,-1
-----GGAGUGUGACAAUGGUGUUuu-----
----- 8 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 7441 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 3218 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 50 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 45 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 2055 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 5 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 2 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 2 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 20 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 7 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 6 1,2
-----GGAGUGUGACAAUGGUGUUUGUGa-----
----- 3 1,2
-----GGAGUGUGACAAUGGUGUUUGUGU-----
----- 10 1,3
-----GGAGUGUGACAAUGGUGUUUGUGUC-----
----- 3 1,4
-----GAGUGUGACAAUGGUGUU-----
----- 121 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 3 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 115 2,-1
-----GAGUGUGACAAUGGUGUUUa-----

```

```

----- 3 2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 2 2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 60 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 23 2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 2 2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 41 2,1
-----GAGUGUGACAAUGGUGUUUGUau-----
----- 2 2,1
-----GAGUGUGACAAUGGUGUUUGUG-----
----- 4 2,2
-----GAGUGUGACAAUGGUGUUUGUGU-----
----- 7 2,3
-----CAAACGCCAUUAUCACACUA-----
----- 9 -2,-4
-----CAAACGCCAUUAUCACACUAu-----
----- 2 -2,-4
-----CAAACGCCAUUAUCACACUAuu-----
----- 8 -2,-4
-----CAAACGCCAUUAUCACACUAA-----
----- 10 -2,-3
-----CAAACGCCAUUAUCACACUAAu-----
----- 4 -2,-3
-----CAAACGCCAUUAUCACACUAAA-----
----- 7 -2,-2
-----CAAACGCCAUUAUCACACUAAAUA-----
----- 4 -2,0
-----AAACGCCAUUAUCACACU-----
----- 57 -1,-5
-----AAACGCCAUUAUCACACUu-----
----- 2 -1,-5
-----AAACGCCAUUAUCACACUA-----
----- 351 -1,-4
-----AAACGCCAUUAUCACACUAu-----

```

-----	78	-1,-4	-----AAACGCCAUUAUCACACUAuu-----
-----	135	-1,-4	-----AAACGCCAUUAUCACACUAA-----
-----	838	-1,-3	-----AAACGCCAUUAUCACACUAAu-----
-----	144	-1,-3	-----AAACGCCAUUAUCACACUAAuu-----
-----	85	-1,-3	-----AAACGCCAUUAUCACACUAAA-----
-----	544	-1,-2	-----AAACGCCAUUAUCACACUAAAa-----
-----	61	-1,-2	-----AAACGCCAUUAUCACACUAAAaa-----
-----	3	-1,-2	-----AAACGCCAUUAUCACACUAAAu-----
-----	2901	-1,-1	-----AAACGCCAUUAUCACACUAAAuu-----
-----	69	-1,-1	-----AAACGCCAUUAUCACACUAAAu-----
-----	5	-1,-1	-----AAACGCCAUUAUCACACUAAAua-----
-----	61	-1,0	-----AAACGCCAUUAUCACACUAAAu-----
-----	3	-1,0	-----AAACGCCAUUAUCACACUAAAuu-----
-----	2	-1,0	-----AAACGCCAUUAUCACACUAA-----
-----	747	0,-4	-----AAACGCCAUUAUCACACUAu-----
-----	87	0,-4	-----AAACGCCAUUAUCACACUAuu-----
-----	179	0,-4	-----AAACGCCAUUAUCACACUAA-----
-----	2219	0,-3	-----AAACGCCAUUAUCACACUAAu-----
-----	157	0,-3	-----AAACGCCAUUAUCACACUAAuu-----

```

----- 485 0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 2053 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 269 0,-2
-----AACGCCAUUAUCACACUAAAaa-----
----- 48 0,-2
-----AACGCCAUUAUCACACUAAAau-----
----- 7 0,-2
-----AACGCCAUUAUCACACUAAAU-----
----- 17450 0,-1
-----AACGCCAUUAUCACACUAAAUu-----
----- 767 0,-1
-----AACGCCAUUAUCACACUAAAUuu-----
----- 43 0,-1
-----AACGCCAUUAUCACACUAAAUA-----
----- 2441 0,0
-----AACGCCAUUAUCACACUAAAUAa-----
----- 287 0,0
-----AACGCCAUUAUCACACUAAAUAaa-----
----- 5 0,0
-----AACGCCAUUAUCACACUAAAUAau-----
----- 2 0,0
-----AACGCCAUUAUCACACUAAAUAu-----
----- 629 0,0
-----AACGCCAUUAUCACACUAAAUAuu-----
----- 28 0,0
-----AACGCCAUUAUCACACUAAAUAG-----
----- 3 0,1
-----ACGCCAUUAUCACACUAA-----
----- 2 1,-3
-----ACGCCAUUAUCACACUAAuu-----
----- 2 1,-3
-----ACGCCAUUAUCACACUAAA-----
----- 4 1,-2
-----ACGCCAUUAUCACACUAAAa-----
----- 2 1,-2
-----ACGCCAUUAUCACACUAAAU-----

```

----- 58 1,-1
-----ACGCCAUUAUCACACUAAAUA-----
----- 10 1,0
-----ACGCCAUUAUCACACUAAAUAa-----
----- 3 1,0
-----CGCCAUUAUCACACUAAAUA-----
----- 2 2,0

```

>hsa-mir-1228    mi:1-21;MA:52-71    SRX018969
GUGGGCGGGGCAGGUGUGUGguggguggguggccugcggugagcagggcccUCACACCUGCCUCGCCCCCag
..(((((((.((((((((.....((((.....((((.....))))))))).))))))))))))......
GUGGGCGGGGCAGGUGUGUG-----
      0,0
GUGGGCGGGGCAGGUGUGUG-----
      0,1
-----UCACACCUGCCUCGCCCCCA-
      0,1

```

```
>hsa-mir-124-1    mi:14-35;MA:53-72    SRX018969
agggcucucucucucCGUGUUCACAGCGGACCUUGAUuuuaaauGCCauacaauUAAGGCACGCGGUGAAUGCCaagaugg
ggcug
.(((((((..(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
)))))).
-----UAAGGCACGCGGUGAAUG-----
-----    2    0,-2
```

```

>hsa-mir-124-2   mi:25-46;MA:62-81   SRX018969
aucaagauuagaggcucugcucucCGUGUUCACAGCGACCUUGAUuuuaugucauacaauUAAGGCACGCGUGAAUGC
Caagagcggagccuacggcugcacuugaa
.((((((...((((((((((((((((((...((((((((((...((((((((((((((((((((((((((((((((
..))))))))))))))....)))..))))).
-----UAAGGCACGCGUGAAUG-
-----          2      0,-2

```


).)))).
 -----UAAGGCACGCGGUGAAUG-----
 ----- 2 0,-2

>hsa-mir-1244-1 3p:55-80 SRX018969
 aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
 aaaaa
 (((((((.....(((.....(((.....(((.....(((.....))))))))))))))..))))..)))))))))....

 -----GAGCAUCCAGUAACUUUUUUGUG-----
 ----- 2
 -----AGUAGUUGGUUUGUAUGAGAUGGUU
 ----- 2 1,0

>hsa-mir-1244-2 3p:55-80 SRX018969
 aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
 aaaaa
 (((((((.....(((.....(((.....(((.....(((.....))))))))))))))..))))..)))))))))....

 -----GAGCAUCCAGUAACUUUUUUGUG-----
 ----- 2
 -----AGUAGUUGGUUUGUAUGAGAUGGUU
 ----- 2 1,0

>hsa-mir-1244-3 3p:55-80 SRX018969
 aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
 aaaaa
 (((((((.....(((.....(((.....(((.....(((.....))))))))))))))..))))..)))))))))....

 -----GAGCAUCCAGUAACUUUUUUGUG-----
 ----- 2
 -----AGUAGUUGGUUUGUAUGAGAUGGUU
 ----- 2 1,0

>hsa-mir-1246 5p:11-29 SRX018969
 uguauccuugAAUGGAUUUUUGGAGCAGGaguggacaccugacccaaaggaaaucaauccauaggcuagcaau
 (((.....(((.....(((.....(((.....(((.....))))))))))))..))))..)))))))))....
 -----GAAUGGAUUUUUGGAGCAGG-----

-1,0	-----AAUGGAUUUUUGGAGCAG-----	69
0,-1	-----AAUGGAUUUUUGGAGCAGG-----	3595
0,0	-----AAUGGAUUUUUGGAGCAGGAG-----	2
0,2	-----AUGGAUUUUUGGAGCAGG-----	1001
1,0		

```
>hsa-mir-1248    5p:4-30 SRX018969
uuuACCUUCUUGUAUAAGCACUGUGCUGAAAauugcagacacuaggaccaugucuugguuuuugcauaaangcuagcagag
uacacacaagaagaaaaguaacagca
.....((((((((.....(((((.....((((((((.....((((((((.....))))))))).))))))))).
).).))))))))).))))))))).
-----AGCAGAG
UACACACAAGAAGAAAAG----- 3
```

```

>hsa-mir-1249    3p:41-62    SRX018969
gggaggaggaggaggaugggccaaguucccucuggcuggaACGCCCUCUCCCCCCCUCUUCACcug
.(((((((((.((.(.((((...(((((.)))))))).)).)))))))).).....
-----ACGCCCUCUCCCCCCCUCU----- 3    0,-3
-----ACGCCCUCUCCCCCCCUCU----- 2    0,-2
-----ACGCCCUCUCCCCCCCUCUUC----- 4    0,0

```

```
>hsa-mir-1255a 5p:28-50 SRX018969
auuggaaaucuuugaguugcuucucaAGGAUGAGCAAAGAAAGUAGAUUuuuuagauucuaaagaaacuaucuuuuug
cucauccuugagaagcaacuccuuauccauuaa
..((((.....((((((((((((((((((((((((((((((((..(((.(((((((((..)))))))))).)))..))))))
))))))))))))))))))))))))).....)))))....
```

```

-----AGGAUGAGCAAAGAAAGU-----
-----      5      0,-5
-----AGGAUGAGCAAAGAAAGUA-----
-----      7      0,-4
-----AGGAUGAGCAAAGAAAGUAG-----
-----      7      0,-3
-----AGGAUGAGCAAAGAAAGUAGA-----
-----      9      0,-2
-----AGGAUGAGCAAAGAAAGUAGAU-----
-----      2      0,-1
-----AGGAUGAGCAAAGAAAGUAGAUU-----
-----     22      0,0

```

>hsa-mir-1255b-1 5p:3-24 SRX018969

```

uaCGGAUGAGCAAAGAAAGUGGUUucuuaaaauggaauacuucuuugugaagaugcugugaa
((((((..(((((((..(((((((.....))))).))))))))))..))))))..
UACGGAUGAGCAAAGAAAGUGG----- 2      -2,-2
--CGGAUGAGCAAAGAAAGUGGUU----- 5      0,0
--CGGAUGAGCAAAGAAAGUGGUUU----- 6      0,1

```

>hsa-mir-1255b-2 5p:6-27 SRX018969

```

ucuuaCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuucuuugcucauccauaagga
((((((.((((((((((((((((((((((((((.....))))))))))))))))))))..))))).
---UACGGAUGAGCAAAGAAAGUGG----- 2      -2,-2
----CGGAUGAGCAAAGAAAGUGGUU----- 5      0,0
----CGGAUGAGCAAAGAAAGUGGUUU----- 6      0,1

```

>hsa-mir-1258 3p:44-64 SRX018969

```

cuguggcuccacgaccuaauccuaacuccugcgagucccuggAGUUAGGAUUAGGUCGUGGAAgccacagga
((((((((((((((((((((((((((((((((((((((((.....))))))))))))))))))))..
-----AGUUAGGAUUAGGUCGUGGu----- 2
0,-2
-----AGUUAGGAUUAGGUCGUGGA----- 2
0,-1

```

>hsa-mir-125a 5p:15-38;3p:53-74 SRX018969

```

ugccagucucuaggUCCCUGAGACCCUUUAACCUGUGAggacauccaggguacACAGGUGAGGUUCUUGGGAGCCuggcgu
cuggcc

```

.((((((.(.((((((..((..(((.(((((((((.....))....))))))))))))).)))..)))).).
)))).

-----UCCCUGAGACCCUUAACC-----
----- 54 0,-5
-----UCCCUGAGACCCUUAACCU-----
----- 514 0,-4
-----UCCCUGAGACCCUUAACCUG-----
----- 83 0,-3
-----UCCCUGAGACCCUUAACCUGU-----
----- 68 0,-2
-----UCCCUGAGACCCUUAACCUGUu-----
----- 2 0,-2
-----UCCCUGAGACCCUUAACCUGUG-----
----- 18 0,-1
-----UCCCUGAGACCCUUAACCUGUGu-----
----- 3 0,-1
-----UCCCUGAGACCCUUAACCUGUGA-----
----- 8 0,0
-----CCUGAGACCCUUAACCUGUGu-----
----- 2 2,-1

>hsa-mir-125b-1 MA:15-36;mi:55-76 SRX018969

ugcgcuccucucagUCCCUGAGACCCUAACUUGUGAuguuuaccguuuuuauccACGGGUUAGGCUCUUGGGAGCUgcga
gucgugcu

.((((((.(.((((((..((..(((.(((((((((.....))....))))))))))))).)))..)))).).
).)))).

-----UCCCUGAGACCCUAACUU-----
----- 67 0,-4
-----UCCCUGAGACCCUAACUUG-----
----- 264 0,-3
-----UCCCUGAGACCCUAACUUGa-----
----- 7 0,-3
-----UCCCUGAGACCCUAACUUGaa-----
----- 3 0,-3
-----UCCCUGAGACCCUAACUUGU-----
----- 683 0,-2
-----UCCCUGAGACCCUAACUUGUa-----
----- 4 0,-2

```

-----UCCCUGAGACCCUAACUUGUaa-----
----- 6 0,-2
-----UCCCUGAGACCCUAACUUGUG-----
----- 1329 0,-1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 135 0,-1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 3374 0,0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 524 0,0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 72 0,0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 6 0,0
-----UCCCUGAGACCCUAACUUGUGAU-----
----- 43 0,1
-----UCCCUGAGACCCUAACUUGUGAUa-----
----- 9 0,1
-----CCUGAGACCCUAACUUGUGA-----
----- 6 1,0
-----CCUGAGACCCUAACUUGU-----
----- 3 2,-2
-----CCUGAGACCCUAACUUGUG-----
----- 5 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 25 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 6 2,0
-----CCUGAGACCCUAACUUGUGAU-----
----- 2 2,1
-----ACGGGUUAGGCUCUUGGGAG-----
----- 6 0,-2
-----ACGGGUUAGGCUCUUGGGAGu-----
----- 4 0,-2
-----ACGGGUUAGGCUCUUGGGAGC-----
----- 6 0,-1

```

>hsa-mir-125b-2 MA:17-38;mi:54-75 SRX018969

$$.((...(((...(((((...((...(((....(((((((((...(((.....)))))))))..)))))).)))) .$$

-----	-UCCCUGAGACCCUAACUU-	-----
-----	67 0, -4	
-----	-UCCCUGAGACCCUAACUUG-	-----
-----	264 0, -3	
-----	-UCCCUGAGACCCUAACUUGa-	-----
-----	7 0, -3	
-----	-UCCCUGAGACCCUAACUUGaa-	-----
-----	3 0, -3	
-----	-UCCCUGAGACCCUAACUUGU-	-----
-----	683 0, -2	
-----	-UCCCUGAGACCCUAACUUGUa-	-----
-----	4 0, -2	
-----	-UCCCUGAGACCCUAACUUGUaa-	-----
-----	6 0, -2	
-----	-UCCCUGAGACCCUAACUUGUG-	-----
-----	1329 0, -1	
-----	-UCCCUGAGACCCUAACUUGUGu-	-----
-----	135 0, -1	
-----	-UCCCUGAGACCCUAACUUGUGA-	-----
-----	3374 0, 0	
-----	-UCCCUGAGACCCUAACUUGUGAa-	-----
-----	524 0, 0	
-----	-UCCCUGAGACCCUAACUUGUGAaa-	-----
-----	72 0, 0	
-----	-UCCCUGAGACCCUAACUUGUGAau-	-----
-----	6 0, 0	
-----	-UCCCUGAGACCCUAACUUGUGAG-	-----
-----	6 0, 1	
-----	-UCCCUGAGACCCUAACUUGUGAGa-	-----
-----	3 0, 1	
-----	-CCCUGAGACCCUAACUUGUGA-	-----
-----	6 1, 0	
-----	-CCUGAGACCCUAACUUGU-	-----
-----	3 2, -2	


```

-----CAUUAUUACUUUUGGUACG-----
----- 10 0,-2
-----CAUUAUUACUUUUGGUACGC-----
----- 10 0,-1
-----CAUUAUUACUUUUGGUACGCG-----
----- 75 0,0
-----CAUUAUUACUUUUGGUACGCGa-----
----- 24 0,0
-----CAUUAUUACUUUUGGUACGCGu-----
----- 22 0,0
-----CAUUAUUACUUUUGGUACGCGuu-----
----- 5 0,0
-----CAUUAUUACUUUUGGUACGCGCa-----
----- 2 0,1
-----CAUUAUUACUUUUGGUACGCGCU-----
----- 8 0,2
-----AUUAUUACUUUUGGUACG-----
----- 2 1,-2
-----AUUAUUACUUUUGGUACGCG-----
----- 3 1,0
-----AUUAUUACUUUUGGUACGCGC-----
----- 3 1,1
-----AUUAUUACUUUUGGUACGCGCU-----
----- 4 1,2
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 2 -1,-2
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 5 -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 4 -1,0
-----UCGUACCGUGAGUAAUAAU-----
----- 3 0,-3
-----UCGUACCGUGAGUAAUAAUGa-----
----- 2 0,-2
-----UCGUACCGUGAGUAAUAAUGaa-----
----- 5 0,-2
-----UCGUACCGUGAGUAAUAAUGC-----
----- 37 0,-1

```



```

-----UCGUACCGUGAGUAAUAAUGCG-----
----- 15 0,0
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 7 0,0
-----UCGUACCGUGAGUAAUAAUGCGu-----
----- 2 0,0
-----CGUACCGUGAGUAAUAAUG-----
----- 2 1,-2
-----CGUACCGUGAGUAAUAAUGC-----
----- 17 1,-1
-----CGUACCGUGAGUAAUAAUGCG-----
----- 10 1,0
-----CGUACCGUGAGUAAUAAUGCGa-----
----- 2 1,0
-----CGUACCGUGAGUAAUAAUGCGu-----
----- 4 1,0
-----GUACCGUGAGUAAUAAUGC-----
----- 5 2,-1
-----GUACCGUGAGUAAUAAUGCG-----
----- 4 2,0
-----GUACCGUGAGUAAUAAUGCGa-----
----- 3 2,0

```

>hsa-mir-1260b 5p:10-28 SRX018969

```

ucuccguuuAUCCCACCACUGCCACCAUuauugcuacuguucagcaggugcugcugguggugaugggugauagucuggugg
gggcggugg

```

```

.(.((((...(((((((((((((.(((((((((((...(((.....((((.....))))).))))).))))).))))).))))).
)))))).).

```

```

-----AUCCCACCACUGCCACCA-----
----- 4 0,-1

```

>hsa-mir-1269 3p:67-88 SRX018969

```

uggauugccuagaccaggggaagccaguuggcauggcucaguccaagucugaccaccugagggaugcCUGGACUGAGCCGU
GCUACUGGcuucccuggucuccagc

```

```

((((.....(((((((((((((((((((.(((((((((((((((((((((((...(((.....((((.....))))).))))).))))).))))).))))).
))))))))))))))))))))))))))..

```

```

-----CCUGGACUGAGCCGU
GCUAC----- 2 -1,-3

```

-----				-----CCUGGACUGAGCCGU
GCUACU-----	2	-1,-2		
-----				-----CUGGACUGAGCCGU
GCUA-----	2	0,-4		
-----				-----CUGGACUGAGCCGU
GCUA _u -----	4	0,-4		
-----				-----CUGGACUGAGCCGU
GCUAC-----	16	0,-3		
-----				-----CUGGACUGAGCCGU
GCUACU-----	71	0,-2		
-----				-----CUGGACUGAGCCGU
GCUACUG-----	4	0,-1		
-----				-----CUGGACUGAGCCGU
GCUACUGG-----	4	0,0		
-----				-----UGGACUGAGCCGU
GCUACU-----	2	1,-2		

>hsa-mi r-127 5p:23-44;3p:57-78 SRX018969

-----			UCGGAUCCGUCUGAGCUUGG-----
-----	2	0,-2	
-----			UCGGAUCCGUCUGAGCUUGGC-----
-----	10	0,-1	
-----			UCGGAUCCGUCUGAGCUUGGCaa--
-----	11	0,-1	
-----			UCGGAUCCGUCUGAGCUUGGCaaa-
-----	5	0,-1	
-----			UCGGAUCCGUCUGAGCUUGGCaaau-
-----	25	0,-1	
-----			UCGGAUCCGUCUGAGCUUGGCU-----
-----	64	0,0	
-----			UCGGAUCCGUCUGAGCUUGGCUaa--
-----	2	0,0	
-----			UCGGAUCCGUCUGAGCUUGGCUaaa-
-----	9	0,0	

-----AGGAGAAUUGCUGAACCCCGGG-----
----- 9
-----GGAGAAUUGCUGAACCCCGGG-----
----- 7
-----GAGAAUUGCUGAACCCCGGG-----
----- 2
-----AGAAUUGCUGAACCCCGGG-----
----- 6

>hsa-mir-1273c 5p:10-31 SRX018969

ugcagccugGGCGACAAAACGAGACCCUGUCuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga
 ..((((.((((((((.((((((((.((((((((.....)))))).)))))).)))))).))))).))))...
 -----GGCGACAAAACGAGACCC-----
 4 0, -4
 -----GGCGACAAAACGAGACCCU-----
 2 0, -3

>hsa-mir-1273d 5p:10-34 SRX018969

`gaaucgcuuGAACCCAUGAGGUUGAGGCUGCAGUgagccaagaucgugccacugcacuucagccuggggugacaagagcga
aacuuc`

`...((((((..(((((((.....)))))))))....))))
.....`

>hsa-mir-1273e 5p:14-35 SRX018969

ugaggcaggagaaUUGCUUGAACCCAGGAAGUGGAggcugcagugagccgagaucgagccacuguacuccagccugggug
 acacagcgagacuccagucuca
 .((((.((((.(((((((.((((((...(((((.((((((.((((...)).)))))))))))))).)))))).
 .)).))))).))))).))))).
 -----UGGGUG
 ACACAGCGAGACU----- 2

cuuucuacucacgUCCCUGUUCGGGCGCCAcuuguggcugucgguucgggacugaaugaagaagga
 ((((((((((((.((((.((((.(..((((((((....)))))).)).).).)))))))).).))))))))...
 -----GUCCCUGUUCGGGCGCCA----- 2 -1.0

>hsa-mir-1276 5p:12-31 SRX018969

ccccagcuaggUAAAGAGCCCUUGGAGACaccuggauucagagaacaugucuccacugagcacuuggggccuugauggcg


```

-- 2 0,-3
-----UCACAGUGAACCGGUCUCU-----
-- 110 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
-- 8 0,-2
-----UCACAGUGAACCGGUCUCUau-----
-- 7 0,-2
-----UCACAGUGAACCGGUCUCUU-----
-- 250 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
-- 36 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
-- 14 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 18 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 1503 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 134 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 17 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 7 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 722 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 24 0,1
-----UCACAGUGAACCGGUCUCUUUUau-----
-- 2 0,1
-----UCACAGUGAACCGGUCUCUUUUU-----
-- 41 0,2
-----UCACAGUGAACCGGUCUCUUUUUu-----
-- 3 0,2
-----ACAGUGAACCGGUCUCUU-----
-- 7 2,-1
-----ACAGUGAACCGGUCUCUU-----
-- 20 2,0
-----ACAGUGAACCGGUCUCUUUU-----

```

-- 9 2,1

>hsa-mir-128-2 3p:52-72 SRX018969

ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

.(..(((((((.((((((((((...((((((..(((((.(.).)))))))))))).)))))))).)))).
..).

-----GGGGGCCGAUACACUGUAC-----

---- 2

-----GGGGGCCGAUACACUGUACGA-----

---- 2

-----GGGGGCCGAUACACUGUACGAG-----

---- 3

-----GGGGGCCGAUACACUGUACGAGAG-----

---- 3

-----UCACAGUGAACCGGUCUC-----

---- 46 0,-3

-----UCACAGUGAACCGGUCUCaa-----

---- 2 0,-3

-----UCACAGUGAACCGGUCUCU-----

---- 110 0,-2

-----UCACAGUGAACCGGUCUCUaa-----

---- 8 0,-2

-----UCACAGUGAACCGGUCUCUau-----

---- 7 0,-2

-----UCACAGUGAACCGGUCUCUU-----

---- 250 0,-1

-----UCACAGUGAACCGGUCUCUUa-----

---- 36 0,-1

-----UCACAGUGAACCGGUCUCUUaa-----

---- 14 0,-1

-----UCACAGUGAACCGGUCUCUUau-----

---- 18 0,-1

-----UCACAGUGAACCGGUCUCUUU-----

---- 1503 0,0

-----UCACAGUGAACCGGUCUCUUUa-----

---- 134 0,0

-----UCACAGUGAACCGGUCUCUUUaa-----


```

----- 15 0,1
-----UCUGGGCAACAAAGUGAGACCUUu-----
----- 11 0,1
-----UCUGGGCAACAAAGUGAGACCUUuu-----
----- 4 0,1
-----UCUGGGCAACAAAGUGAGACCUUA-----
----- 2 0,2
-----CUGGGCAACAAAGUGAGACCa-----
----- 2 1,-1
-----UGGGCAACAAAGUGAGAC-----
----- 2 2,-2

```

>hsa-mir-1285-2 3p:52-73 SRX018969

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

```

(((((((((((.((((.....(((((((.(((((((.....((((.....))))).))))).))))).))))).))))).))))).)))).

```

```

-----UCUGGGCAACAAAGUGAGA-----
----- 3 0,-3
-----UCUGGGCAACAAAGUGAGAC-----
----- 11 0,-2
-----UCUGGGCAACAAAGUGAGACa-----
----- 5 0,-2
-----UCUGGGCAACAAAGUGAGACaa-----
----- 3 0,-2
-----UCUGGGCAACAAAGUGAGACC-----
----- 7 0,-1
-----UCUGGGCAACAAAGUGAGACCU-----
----- 7 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
----- 10 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
----- 3 0,0
-----CUGGGCAACAAAGUGAGACCa-----
----- 2 1,-1
-----UGGGCAACAAAGUGAGAC-----
----- 2 2,-2

```

>hsa-mir-1286 3p:47-67 SRX018969

uguccucuggggacucagcuugcucuggcugcuggauugaauuagcUGCAGGACCAAGAUGAGCCCUugguggagaca
..(((.(.(((.((((.((((.((((.((((.(.....)))))).)))..))))..))))..))....
-----UGCAGGACCAAGAUGAGCCCUu-----

2 0,1

>hsa-mir-1291 5p:14-37 SRX018969

gguaagaauuccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuuaagcagaggccuaaaggacugu
cuuccug

(((((.(.(((.((((.((((.((((.((((.(.....)))))).)))..))))..))))..))....))...
))..))..

-----GUGGCCCUGACUGAAGACCA-----

----- 4 -1,-5

-----GUGGCCCUGACUGAAGACCAGC-----

----- 17 -1,-3

-----GUGGCCCUGACUGAAGACCAGCA-----

----- 109 -1,-2

-----GUGGCCCUGACUGAAGACCAGCAGU-----

----- 2 -1,0

-----UGGCCCUGACUGAAGACCAGC-----

----- 7 0,-3

-----UGGCCCUGACUGAAGACCAGCA-----

----- 73 0,-2

>hsa-mir-1292 5p:3-27 SRX018969

ccUGGGAACGGGUUCCGGCAGACGCUGagguungcguugacgcucgcgccccggcucccguuccagg

(((((.(.(((.((((.((((.((((.((((.(.....)))))).)))..))))..))))..))....))...
))..))..

--UGGGAACGGGUUCCGGCAGACGCU----- 2 0,-1

>hsa-mir-1294 5p:48-69 SRX018969

caccuaaugugugccaagaucuguucauuuaugaucucaccgaguccUGUGAGGUUGGCAUUGUUGUCUggcauugucug
auauacaacagugccaaccucacaggacucagugaggugaaacugaggauuaggaaggugua

(((((.(.(((.((((.((((.((((.((((.(.....)))))).)))..))))..))))..))....))...
))..))..

-----UGUGAGGUUGGCAUUGUU-----

----- 3 0,-4

>hsa-mir-1299 3p:62-83 SRX018969

$$(((((((.(((.((((.((((.((((((((.(.....))))))))).)))..))))).)))))))).$$

--- 7 0,-3

G-- 7 0, -2

GGA 22 0,0

GGAa	4	0,0
------	---	-----

GGAaa 3 0,0

GGAu	9	0,0
------	---	-----

ggauugugggggucgcucuaggcaccgcagcacugugcugggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc

(((((.....)).))))).)))))

..

$$-2 \quad 0, -4$$
$$-2, -3$$
$$- - \quad 3 \quad 0, -2$$

-- 2 1,-3

-- 3 1,-2

-- 2 1,0

ggcugggcaacauagcgagaccucaacucuacaauuuuuuuuuuuuaaaUUUAGAGACGGGUCUUGCUCUguugcca
ggcuuu

```

--CUGGGCAACAUAGCGAGAC-----
----- 5
--CUGGGCAACAUAGCGAGACC-----
----- 26
--UGGGCAACAUAGCGAGAC-----
----- 91
--UGGGCAACAUAGCGAGACC-----
----- 567
--UGGGCAACAUAGCGAGACCUCA-----
----- 2
--GGGCAACAUAGCGAGACC-----
----- 116
-----AUUUUAGAGACGGGGUCUUGCU-----
----- 3 -2,-2
-----UUUUAGAGACGGGGUCUUGa-----
----- 2 -1,-4
-----UUUUAGAGACGGGGUCUUGC-----
----- 3 -1,-3
-----UUUUAGAGACGGGGUCUUGCU-----
----- 13 -1,-2
-----UUUAGAGACGGGGUCUUGC-----
----- 2 0,-3
-----UUUAGAGACGGGGUCUUGCU-----
----- 18 0,-2

```

gugagcagucuccaccaccuccccugcaaacguccaguggugcagagguaauggACGUUGGCUCUGGUGGUGauggacag
uccga

-----CCACCUCCCCUGCAAACGUCC-----
----- 2 -----

caucaagaccagcugagucacugucacugccuaccaaucucgaccggaccucgaccggcucgucuguguugccaaucGA
CUCGGCGUGGGCUCGGUCGUGguagauaggcggucaugcauacgaauuucagcucuuguucugggac

((((((..((..((((((((..(((.(((((((((.(.(((.(((((((((.(.(((.((((..(((..((.....)))..)))
..)))))).)..)))))))).)))..)))))))).))))..))))..))))..))))..))))..))))..))))..))))..))))..))..

-----CUCGACCGGACCUCGACCGGCU-----

 2

-----UCGACCGGACCUCGACCGG-----

 2

-----UCGACCGGACCUCGACCGGaa-----

 2

-----UCGACCGGACCUCGACCGGC-----

 2

-----UCGACCGGACCUCGACCGGCaa-----

4

-----UCGACCGGACCUCGACCGGCU-----

 132

-----UCGACCGGACCUCGACCGGCUu-----

 27

-----UCGACCGGACCUCGACCGGCUuu-----

 7

-----UCGACCGGACCUCGACCGGCUC-----

 26

-----UCGACCGGACCUCGACCGGCUCG-----

4

-----GACCGGACCUCGACCGGCU-----

 2

-----A

CUCGGCGUGGCGUCGGUC----- 3 0,-3

CUCGGCGUGGCGUCGGUCG----- 9 0,-2

CUCGGCGUGGCGUCGGUCGU----- 20 0,-1

-----A

CUCGGCGUGGCGUCGGUCGU_u----- 6 0,-1

-----A

CUCGGCGUGGCGUCGGUCGU_{uu}----- 2 0,-1

-----A

CUCGGCGUGGCGUCGGUCGUG----- 75 0,0

-----A

CUCGGCGUGGCGUCGGUCGUG_u----- 5 0,0

CUCGGCGUGGCGUCGGUCG----- 2 1,-2

CUCCGGCGUGGGCGUCGGUCGU----- 5 1,-1

CUCGGCGUGGCGUCGGUCGUuu----- 2 1,-1

CUCGGCGUGGGCGUCGGUCGUG----- 42 1.0

CUCGGCGUGGCGUCGGUCGUGa----- 2 1,0

CUCGGCGUGGGCGUCGGUCGUG₁₁----- 3 1.0

CUCGGCGUGGCGUCGGUCGUGG----- 2 1,1

>hsa-mi r-130a mi:21-42;MA:55-76 SRX018969

ugcugcuggccagagcucuuUUCACAUUGUGCUACUGUCUGCaccugucacuagCAGUGCAAUGUAAAAGGGCAUuggc
cguguagug

.(((((((((((((((.(((((((((((.((((((((((..(((.(((...((...))...)))..))..)))))).)))))))).)))))))).)))))))).)))))).

-----CAGUGCAAUGUUAAGG-----
----- 1019 0,-4

-----CAGUGCAAUGUUAAGGu-----
----- 2 0,-4 -----

-----CAGUGCAAUGUUAAGGG-----
-----198 0,-3-----

-----CAGUGCAAUGUUAAAAGGGC-----
----- 290 0,-2

-----CAGUGCAAUGUUAAAAGGGCu-----
----- 3 0,-2

-----CAGUGCAAUGUUAAAAGGGCA-----
----- 92 0, -1

-----CAGUGCAAUGUUAAAAGGGCAa-----
----- 26 0, -1

-----CAGUGCAAUGUUAAAAGGGCAaa-----
----- 2 0,-1

-----CAGUGCAAUGUUAAAAGGGCAau-----
----- 2 0, -1

```

-----CAGUGCAAUGUUAAAAGGGCAU-----
----- 526 0,0
-----CAGUGCAAUGUUAAAAGGGCAUa-----
----- 66 0,0
-----CAGUGCAAUGUUAAAAGGGCAUaa-----
----- 5 0,0
-----CAGUGCAAUGUUAAAAGGGCAUU-----
----- 139 0,1
-----CAGUGCAAUGUUAAAAGGGCAUUa-----
----- 5 0,1
-----CAGUGCAAUGUUAAAAGGGCAUUau-----
----- 3 0,1
-----CAGUGCAAUGUUAAAAGGGCAUUu-----
----- 5 0,1
-----AGUGCAAUGUUAAAAGGG-----
----- 9 1,-3
-----AGUGCAAUGUUAAAAGGGC-----
----- 4 1,-2
-----AGUGCAAUGUUAAAAGGGCAU-----
----- 8 1,0
-----AGUGCAAUGUUAAAAGGGCAUU-----
----- 4 1,1

```

>hsa-mir-130b mi:13-33;MA:51-72 SRX018969

ggccugcccgacACUCUUUCCCUGUUGCACUACuauaggccgcuggggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc

(((((.((((..(((((((..(((((((.(.(((.....)))...)).))))))))..))))))..))))..)))
)

```

-----ACUCUUUCCCUGUUGCACUAC-----
-- 4 0,0
-----ACUCUUUCCCUGUUGCACUACU-----
-- 3 0,1
-----CAGUGCAAUGAUGAAAGG-----
-- 59 0,-4
-----CAGUGCAAUGAUGAAAGGG-----
-- 23 0,-3
-----CAGUGCAAUGAUGAAAGGGC-----
-- 18 0,-2

```

```

-----CAGUGCAAUGAUGAAAGGGCuu-----
-- 2 0,-2
-----CAGUGCAAUGAUGAAAGGGCA-----
-- 29 0,-1
-----CAGUGCAAUGAUGAAAGGGCAa-----
-- 22 0,-1
-----CAGUGCAAUGAUGAAAGGGCAaa-----
-- 4 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 392 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 34 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 66 0,0
-----CAGUGCAAUGAUGAAAGGGCAUuu-----
-- 3 0,0
-----AGUGCAAUGAUGAAAGGG-----
-- 2 1,-3
-----AGUGCAAUGAUGAAAGGGCA-----
-- 2 1,-1
-----AGUGCAAUGAUGAAAGGGCAU-----
-- 5 1,0
-----AGUGCAAUGAUGAAAGGGCAUu-----
-- 5 1,0

```

>hsa-mir-132 mi:23-44;MA:59-80 SRX018969

```

ccgccccgcgucuccagggcaACCGUGGCUUUCGAUUGUUACUgugggaacuggaggUAACAGUCUACAGCCAUGGUCG
ccccgcagcacgcccacgcgc

```

```

.((((....((((((.((((((((((.....((((((((((..(....)....))))))))))....)))))))).)
)))..))..)))).....)))..

```

```

-----AACCGUGGCUUUCGAUUGUU-----
-----4 -1,-3
-----AACCGUGGCUUUCGAUUGUUA-----
-----3 -1,-2
-----ACCGUGGCUUUCGAUUGUUACU-----
-----2 0,0
-----UAACAGUCUACAGCCAUG-----
-----14 0,-4

```



```

-----UAACAGUCUACAGCCAUGG---
----- 15 0,-3
-----UAACAGUCUACAGCCAUGGU--
----- 23 0,-2
-----UAACAGUCUACAGCCAUGGUC-
----- 9 0,-1
-----UAACAGUCUACAGCCAUGGUCa
----- 3 0,-1
-----UAACAGUCUACAGCCAUGGUCa
u----- 5 0,-1
-----UAACAGUCUACAGCCAUGGUCG
----- 23 0,0
-----UAACAGUCUACAGCCAUGGUCG
a----- 7 0,0
-----UAACAGUCUACAGCCAUGGUCG
u----- 14 0,0
-----AACAGUCUACAGCCAUGGU--
----- 3 1,-2
-----AACAGUCUACAGCCAUGGUC-
----- 2 1,-1

```

>hsa-mir-134 5p:8-29 SRX018969

```

cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguuacaccugugggccaccuagucaccaaccuc
.((((((..(((((((.(((.(((.(((((((.....))))).))))).))))).))))).))))).
-----UGUGACUGGUUGACCAGAGGG----- 3
0,-1
-----UGUGACUGGUUGACCAGAGGGa----- 3
0,-1
-----UGUGACUGGUUGACCAGAGGGaa----- 2
0,-1
-----UGUGACUGGUUGACCAGAGGGu----- 4
0,-1
-----UGUGACUGGUUGACCAGAGGGuu----- 2
0,-1
-----UGUGACUGGUUGACCAGAGGGG----- 21
0,0
-----UGUGACUGGUUGACCAGAGGGGa----- 9
0,0

```

```

-----UGUGACUGGUUGACCAGAGGGGaa----- 5
0,0
-----UGUGACUGGUUGACCAGAGGGGau----- 2
0,0

```

>hsa-mir-136 MA:15-37;mi:49-70 SRX018969

```

ugagcccucggaggACUCCAUUUGUUUGAUGGAuucuaugcucCAUCAUCGUCUCAAUGAGUCUucagaggguu
cu

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
).

```

```

-----ACUCCAUUUGUUUGAUG-----

```

```

-- 2 0,-5

```

```

-----ACUCCAUUUGUUUGAUGA-----

```

```

-- 4 0,-4

```

```

-----ACUCCAUUUGUUUGAUGAU-----

```

```

-- 14 0,-3

```

```

-----CUCCAUUUGUUUGAUGAU-----

```

```

-- 2 1,-3

```

```

-----AUCAUCGUCUCAAUGAGUCU-----

```

```

-- 2 1,0

```

>hsa-mir-138-1 MA:23-45;mi:63-84 SRX018969

```

cccugggcaugguguggugggggcAGCUGGUGUUGUGAAUCAGGCCGuugccaucagagaacgGCUACUUCACAACACCAG
GGCCacaccacacuacagg

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).))

```

```

-----AGCUGGUGUUGUGAAUCAGGCa-----

```

```

----- 2 0,-2

```

>hsa-mir-138-2 MA:10-32;mi:57-78 SRX018969

```

cguugcugcAGCUGGUGUUGUGAAUCAGGCCGacgagcagcgcauccucuacccgGCUAUUUCACGACACCAGGGUugc
auca

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.)).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).)))).))

```

```

-----AGCUGGUGUUGUGAAUCAGGCa-----

```

```

---- 2 0,-2

```

>hsa-mir-139 5p:7-28;3p:44-65 SRX018969

```

guguauUCUACAGUGCACGUGUCUCCAGuguggcucggaggcuGGAGACGCGGCCCUUGUUGGAGUaac
...(((((((((((.(((.((((((((((((((. ....).)))))))))))))).)))))))).
-----UCUACAGUGCACGUGUCU----- 11 0,-4
-----UCUACAGUGCACGUGUCUC----- 26 0,-3
-----UCUACAGUGCACGUGUCUCC----- 18 0,-2
-----UCUACAGUGCACGUGUCUCCA----- 48 0,-1
-----UCUACAGUGCACGUGUCUCCAau----- 2 0,-1
-----UCUACAGUGCACGUGUCUCCAu----- 2 0,-1
-----UCUACAGUGCACGUGUCUCCAG----- 63 0,0
-----UCUACAGUGCACGUGUCUCCAGa----- 6 0,0
-----UCUACAGUGCACGUGUCUCCAGU----- 97 0,1
-----UCUACAGUGCACGUGUCUCCAGUu----- 2 0,1
-----CUACAGUGCACGUGUCUCCAGU----- 2 1,1
-----UGGAGACGCGGCCCUUGU----- 8
-1,-5
-----UGGAGACGCGGCCCUUGU----- 17
-1,-4
-----UGGAGACGCGGCCCUUGUUG----- 12
-1,-3
-----UGGAGACGCGGCCCUUGUUGGA----- 12
-1,-2
-----UGGAGACGCGGCCCUUGUUGGAa----- 3
-1,-2
-----UGGAGACGCGGCCCUUGUUGGAaa----- 9
-1,-2
-----UGGAGACGCGGCCCUUGUUGGAG----- 44
-1,-1
-----UGGAGACGCGGCCCUUGUUGGAGa----- 22
-1,-1
-----UGGAGACGCGGCCCUUGUUGGAGaa----- 2
-1,-1
-----UGGAGACGCGGCCCUUGUUGGAGU----- 58 -1,0
-----UGGAGACGCGGCCCUUGUUGGAGUu----- 3 -1,0
-----UGGAGACGCGGCCCUUGUUGGAGUAu----- 2 -1,1
-----GGAGACGCGGCCCUUGUUGGAGU----- 10 0,0
-----AGACGCGGCCCUUGUUGGAGUu----- 2 2,0

```

ugugucucucucuguguccugcCAGUGGUUUUACCCUAUGGUAGguuacgucaugcuguucUACCACAGGGUAGAACCAC			
GGacaggauaccggggcacc			
.(((((((.....(((((((((((.(((((((((((((((.(((((((((.(((.....)))))))))))).))))))))))))))			
)).)))))))))).)))))))).			
-----CAGUGGUUUUACCCUAUG-----			
-----20,-4			
-----CAGUGGUUUUACCCUAUGGUA-----			
-----70,-1			
-----CAGUGGUUUUACCCUAUGGUAG-----			
-----20,0			
-----CUACCACAGGGUAGAACCAC			
GG-----3-1,0			
-----CUACCACAGGGUAGAACCAC			
GGA-----6-1,1			
-----UACCACAGGGUAGAACCA-			
-----320,-3			
-----UACCACAGGGUAGAACCAC			
-----870,-2			
-----UACCACAGGGUAGAACCAC			
G-----7780,-1			
-----UACCACAGGGUAGAACCAC			
Ga-----60,-1			
-----UACCACAGGGUAGAACCAC			
Gu-----20,-1			
-----UACCACAGGGUAGAACCAC			
GG-----13670,0			
-----UACCACAGGGUAGAACCAC			
GGu-----380,0			
-----UACCACAGGGUAGAACCAC			
GGuu-----50,0			
-----UACCACAGGGUAGAACCAC			
GGA-----14450,1			
-----UACCACAGGGUAGAACCAC			
GGAA-----4960,1			
-----UACCACAGGGUAGAACCAC			
GGAAA-----2470,1			
-----UACCACAGGGUAGAACCAC			
GGAAu-----970,1			

-----				-----UACCACAGGGUAGAACCAC
GGAu-----	156	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAuu-----	5	0,1		
-----				-----UACCACAGGGUAGAACCAC
GGAC-----	403	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACu-----	13	0,2		
-----				-----UACCACAGGGUAGAACCAC
GGACA-----	50	0,3		
-----				-----UACCACAGGGUAGAACCAC
GGACAu-----	2	0,3		
-----				-----ACCACAGGGUAGAACCAC
-----	24	1,-2		
-----				-----ACCACAGGGUAGAACCAC
G-----	60	1,-1		
-----				-----ACCACAGGGUAGAACCAC
Gaa-----	3	1,-1		
-----				-----ACCACAGGGUAGAACCAC
Gu-----	2	1,-1		
-----				-----ACCACAGGGUAGAACCAC
GG-----	1130	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGu-----	83	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGuu-----	105	1,0		
-----				-----ACCACAGGGUAGAACCAC
GGA-----	7788	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAA-----	2388	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAAA-----	660	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAAu-----	147	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAu-----	1642	1,1		
-----				-----ACCACAGGGUAGAACCAC
GGAAuu-----	83	1,1		

-----			-----ACCACAGGGUAGAACCAC
GGAC-----	1281	1,2	
-----			-----ACCACAGGGUAGAACCAC
GGACu-----	35	1,2	
-----			-----ACCACAGGGUAGAACCAC
GGACuu-----	2	1,2	
-----			-----ACCACAGGGUAGAACCAC
GGACA-----	91	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAa-----	54	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAau-----	4	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAu-----	14	1,3	
-----			-----ACCACAGGGUAGAACCAC
GGACAG-----	3	1,4	
-----			-----CCACAGGGUAGAACCAC
GG-----	16	2,0	
-----			-----CCACAGGGUAGAACCAC
GGu-----	2	2,0	
-----			-----CCACAGGGUAGAACCAC
GGuu-----	4	2,0	
-----			-----CCACAGGGUAGAACCAC
GGA-----	99	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAa-----	35	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAAA-----	17	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAau-----	3	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAu-----	39	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAu-----	4	2,1	
-----			-----CCACAGGGUAGAACCAC
GGAC-----	34	2,2	
-----			-----CCACAGGGUAGAACCAC
GGACA-----	7	2,3	

```

-----CCACAGGGUAGAACCAC
GGACAa-----      4    2,3
-----CCACAGGGUAGAACCAC
GGACAaa-----      2    2,3
-----CCACAGGGUAGAACCAC
GGACAu-----      2    2,3

```

```

>hsa-mi r-141      mi:17-38;MA:59-80      SRX018969
cggccggcccugggucCAUCUCCAGUACAGUGUUGGAuggucuaauugugaagcuccUAACACUGUCUGGUAAAGAUGG
cucccggguggguuc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAACACUGUCUGGUAAAGAA--
-----      2    0,-3
-----UAACACUGUCUGGUAAAGAU--
-----      2    0,-2

```

```

>hsa-mi r-142      5p:16-36;3p:52-74      SRX018969
gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CCCAUAAAGUAGAAAGCA-----
-----      44    -2,-5
-----CCCAUAAAGUAGAAAGCAa-----
-----      13    -2,-5
-----CCCAUAAAGUAGAAAGCAaa-----
-----      3     -2,-5
-----CCCAUAAAGUAGAAAGCAu-----
-----      2     -2,-5
-----CCCAUAAAGUAGAAAGCAuu-----
-----      2     -2,-5
-----CCCAUAAAGUAGAAAGCAC-----
-----      50    -2,-4
-----CCCAUAAAGUAGAAAGCACU-----
-----      173   -2,-3
-----CCCAUAAAGUAGAAAGCACUA-----
-----      107   -2,-2

```

-----CCCAUAAAGUAGAAAGCACUAa-----
----- 22 -2,-2
-----CCCAUAAAGUAGAAAGCACUAaa-----
----- 5 -2,-2
-----CCCAUAAAGUAGAAAGCACUAu-----
----- 29 -2,-2
-----CCCAUAAAGUAGAAAGCACUAC-----
----- 45 -2,-1
-----CCCAUAAAGUAGAAAGCACUACa-----
----- 2 -2,-1
-----CCAUAAAGUAGAAAGCACU-----
----- 7 -1,-3
-----CCAUAAAGUAGAAAGCACUA-----
----- 2 -1,-2
-----CCAUAAAGUAGAAAGCACUAC-----
----- 2 -1,-1
-----CAUAAAGUAGAAAGCACU-----
----- 12 0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 70 0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 24 0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 6 0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 6 0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 57 0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 83 0,0
-----CAUAAAGUAGAAAGCACUACUu-----
----- 2 0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 18 0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 10 0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 8 0,2


```

-----AUAAGUAGAAAGCACUA-----
----- 2 1,-2
-----AUAAGUAGAAAGCACUAa-----
----- 3 1,-2
-----AUAAGUAGAAAGCACUAC-----
----- 4 1,-1
-----AUAAGUAGAAAGCACUACU-----
----- 6 1,0
-----AUAAGUAGAAAGCACUACUA-----
----- 8 1,1
-----AUAAGUAGAAAGCACUACUAu-----
----- 7 1,1
-----AUAAGUAGAAAGCACUACUAA-----
----- 73 1,2
-----AUAAGUAGAAAGCACUACUAAa-----
----- 2 1,2
-----UGUAGUGUUUCCUACUUU-----
----- 8 0,-5
-----UGUAGUGUUUCCUACUUUAU-----
----- 2 0,-3
-----UGUAGUGUUUCCUACUUUAUa-----
----- 5 0,-3
-----UGUAGUGUUUCCUACUUUAUG-----
----- 7 0,-2
-----UGUAGUGUUUCCUACUUUAUGG-----
----- 10 0,-1
-----GUAGUGUUUCCUACUUUA-----
----- 3 1,-4
-----GUAGUGUUUCCUACUUUAU-----
----- 10 1,-3
-----GUAGUGUUUCCUACUUUAUa-----
----- 4 1,-3
-----GUAGUGUUUCCUACUUUAUG-----
----- 21 1,-2
-----GUAGUGUUUCCUACUUUAUGa-----
----- 8 1,-2
-----GUAGUGUUUCCUACUUUAUGu-----
----- 3 1,-2

```

-----	GUAGUGUUCCUACUUUAUGG-----
----- 170	1,-1
-----	GUAGUGUUCCUACUUUAUGGu-----
----- 4	1,-1
-----	GUAGUGUUCCUACUUUAUGGA-----
----- 13	1,0
-----	GUAGUGUUCCUACUUUAUGGAa-----
----- 2	1,0
-----	UAGUGUUCCUACUUUAUGG-----
----- 6	2,-1

>hsa-mi r-143 mi:27-48:MA:61-81 SRX018969

g c g c a g c g c c c u g u c u c c c a g c c u g a G G U G C A G U G C U G C A U C U C U G G U c a g u u g g g a g u c U G A G A U G A A G C A C U G U A G C U
C a g g a a g a g a g a a g u u g u u c u g c a g c

[illegible]

GGUGCAGUGCUGCAUCUC-			
23	0,-4		
GGUGCAGUGCUGCAUCUCU-			
120	0,-3		
GGUGCAGUGCUGCAUCUCUGG-			
4	0,-1		
GGUGCAGUGCUGCAUCUCUGGa-			
5	0,-1		
GGUGCAGUGCUGCAUCUCUGGUa-			
2	0,0		
GGUGCAGUGCUGCAUCUCUGGUau-			
3	0,0		
CUGAGAUGAAGCACUGUA--			
2	-1,-4		
CUGAGAUGAAGCACUGUAGC-			
4	-1,-2		
CUGAGAUGAAGCACUGUAGCa			
3	-1,-2		
CUGAGAUGAAGCACUGUAGCU			
9	-1,-1		
CUGAGAUGAAGCACUGUAGCU			
a-	2	-1,-1	

C	8	-1,0	-CUGAGAUGAAGCACUGUAGCU
Cu	2	-1,0	-CUGAGAUGAAGCACUGUAGCU
	88	0,-3	-UGAGAUGAAGCACUGUAG--
	3	0,-3	-UGAGAUGAAGCACUGUAGaa
	95	0,-2	-UGAGAUGAAGCACUGUAGC-
	12	0,-2	-UGAGAUGAAGCACUGUAGCa
a	21	0,-2	-UGAGAUGAAGCACUGUAGCa
	1305	0,-1	-UGAGAUGAAGCACUGUAGCU
a	92	0,-1	-UGAGAUGAAGCACUGUAGCU
aa	8	0,-1	-UGAGAUGAAGCACUGUAGCU
au	7	0,-1	-UGAGAUGAAGCACUGUAGCU
u	46	0,-1	-UGAGAUGAAGCACUGUAGCU
uu	10	0,-1	-UGAGAUGAAGCACUGUAGCU
C	1525	0,0	-UGAGAUGAAGCACUGUAGCU
Cu	285	0,0	-UGAGAUGAAGCACUGUAGCU
Cuu	26	0,0	-UGAGAUGAAGCACUGUAGCU
CA	102	0,1	-UGAGAUGAAGCACUGUAGCU
CAa	5	0,1	-UGAGAUGAAGCACUGUAGCU
CAau	2	0,1	-UGAGAUGAAGCACUGUAGCU

Sequence	Count	Frequency
CAu	2	0,1
	4	1,-1
C	9	1,0
Cu	3	1,0
	3	2,-1
C	2	2,0

```
>hsa-mir-144      mi:15-36;MA:52-71      SRX018969  
uggggcccgucgGGAUAUCAUCAUACUGUAAGuuugcgaugagacacUACAGUAUAGAUGAUGUACUaguccgggc  
accccc  
.(((((((.(((((((.((((((((.((((((((.((((.....))))).)))))))).)))))).))))).)))  
.)))..  
-----GGAUAUCAUCAUACUG-----  
-----   7    0,-4  
-----GGAUAUCAUCAUACUGAA-----  
-----   3    0,-1  
-----GGAUAUCAUCAUACUGAAG-----  
-----  20    0,0  
-----GGAUAUCAUCAUACUGUAAGU-----  
-----  10    0,1  
  
-----UACAGUAUAGAUGAUGUA-----  
-----   4    0,-2  
  
-----UACAGUAUAGAUGAUGUAC-----  
-----  11    0,-1  
  
-----UACAGUAUAGAUGAUGUACU-----  
-----   5    0,0  
  
-----UACAGUAUAGAUGAUGUACUAa-----  
-----   2    0,1
```

>hsa-mir-145 MA:16-38;mi:54-75 SRX018969
caccuuguccucacgGUCCAGUUUCCCCAGGAUCCCUuagaucuaagauggGGAUCCUGGAAAUACUGUUCUugagg
ucaugguu

-----			-----GAUUCCUGGAAAUACUGUUCU-----
-----	2	1,0	
-----			-----AUUCCUGGAAAUACUGUUCU-----
-----	14	2,0	
-----			-----AUUCCUGGAAAUACUGUUCUau-----
-----	3	2,0	
-----			-----AUUCCUGGAAAUACUGUUCUU-----
-----	9	2,1	

>hsa-mir-1468 5p:13-33 SRX018969

gguggggugguuuCUCCGUUUGCCUGUUUCGCUGaugugcauucacucauucucagcaaaauaagcaaauggaaaauucg
uccauc

((((((.(.(.(((((((((.((((.((((.((((.....)))..))))).))))).))))).))))).)).)).
 .))))))

-----CUCCGUUGCCUGUUUCGCU-----
 ----- 2 0,-1
 -----CUCCGUUGCCUGUUUCGCUGA-----
 ----- 2 0,1

>hsa-mi r-146a MA:21-42:mi:57-78 SRX018969

ccgauguguauccucagcuUGAGAACUGAAUCCAUGGGUugugucagugucagaCCUCUGAAAUUCAGUUCUUCAGcu
gggauaucucugucaucgu

$$\begin{aligned} & .(((((((((\dots))))))))) \\ &)))))). \end{aligned}$$

```

-----UGAGAACUGAAUCCAUG-----
18  0, -4
-----UGAGAACUGAAUCCAUGG-----
32  0, -3
-----UGAGAACUGAAUCCAUGGG-----
44  0, -2
-----UGAGAACUGAAUCCAUGGGaa-----
3   0, -2
-----UGAGAACUGAAUCCAUGGGU-----
75  0, -1
-----UGAGAACUGAAUCCAUGGGUa-----
23  0, -1
-----UGAGAACUGAAUCCAUGGGUaa-----
37  0, -1

```

```

-----UGAGAACUGAAUCCAUGGGUau-----
----- 41  0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 516 0,0
-----UGAGAACUGAAUCCAUGGGUa-----
----- 307 0,0
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 52  0,0
-----UGAGAACUGAAUCCAUGGGUau-----
----- 73  0,0
-----UGAGAACUGAAUCCAUGGGUu-----
----- 201 0,0
-----UGAGAACUGAAUCCAUGGGUuu-----
----- 34  0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 109 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 29  0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 41  0,2
-----UGAGAACUGAAUCCAUGGGUUGUu-----
----- 2  0,2
-----GAGAACUGAAUCCAUGGGUau-----
----- 2  1,-1
-----GAGAACUGAAUCCAUGGGUU-----
----- 4  1,0
-----GAGAACUGAAUCCAUGGGUa-----
----- 2  1,0
-----GAGAACUGAAUCCAUGGGUu-----
----- 4  1,0
-----GAGAACUGAAUCCAUGGGUUG-----
----- 4  1,1
-----GAGAACUGAAUCCAUGGGUUGU-----
----- 3  1,2
-----AGAACUGAAUCCAUGGGUU-----
----- 14  2,0
-----AGAACUGAAUCCAUGGGUau-----
----- 2  2,0

```

-----AGAACUGAAUCCAUGGGUUG-----
----- 6 2,1
-----ACCUCUGAAAUUCAGUUCUUC-----
----- 2 -1,-2

>hsa-mi r-146b 5p:9-30;3p:45-66 SRX018969

ccuggcacUGAGAACUGAAUCCAUAGGCUgugagcucuagcaaUGCCCUGUGGACUCAGUUCUGGugcccg
((.(((((((.(((((((.(((((((.(((.((...)).))..)))))).)))))..))))))..))

-----CUGAGAACUGAAUUCCAUAAGG-----	5
-1,-2	
-----CUGAGAACUGAAUUCCAUAAGGCU-----	34
-1,0	
-----UGAGAACUGAAUUCCAUA-----	8
0,-4	
-----UGAGAACUGAAUUCCAUAAG-----	47
0,-3	
-----UGAGAACUGAAUUCCAUAAGG-----	229
0,-2	
-----UGAGAACUGAAUUCCAUAAGGa-----	7
0,-2	
-----UGAGAACUGAAUUCCAUAAGGaa-----	4
0,-2	
-----UGAGAACUGAAUUCCAUAAGGuu-----	4
0,-2	
-----UGAGAACUGAAUUCCAUAAGGC-----	81
0,-1	
-----UGAGAACUGAAUUCCAUAAGGCa-----	235
0,-1	
-----UGAGAACUGAAUUCCAUAAGGCaa-----	58
0,-1	
-----UGAGAACUGAAUUCCAUAAGGCau-----	84
0,-1	
-----UGAGAACUGAAUUCCAUAAGGCU-----	2153
0,0	
-----UGAGAACUGAAUUCCAUAAGGCUa-----	9
0,0	
-----UGAGAACUGAAUUCCAUAAGGCUaa-----	28
0,0	

-----UGAGAACUGAAUCCAUAGGCUau-----	62
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	279
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	92
0,0	
-----UGAGAACUGAAUCCAUAGGCUG-----	29
0,1	
-----UGAGAACUGAAUCCAUAGGCUGa-----	140
0,1	
-----UGAGAACUGAAUCCAUAGGCUGaa-----	4
0,1	
-----UGAGAACUGAAUCCAUAGGCUGau-----	8
0,1	
-----UGAGAACUGAAUCCAUAGGCUGU-----	8
0,2	
-----GAGAACUGAAUCCAUAG-----	2
1,-3	
-----GAGAACUGAAUCCAUAGG-----	4
1,-2	
-----GAGAACUGAAUCCAUAGGCa-----	2
1,-1	
-----GAGAACUGAAUCCAUAGGCau-----	2
1,-1	
-----GAGAACUGAAUCCAUAGGCU-----	15
1,0	
-----GAGAACUGAAUCCAUAGGCUu-----	5
1,0	
-----UGCCCUGUGGACUCAGUUCUGGU-----	2
0,1	
-----UGCCCUGUGGACUCAGUUCUGGUa-----	4
0,1	
-----GCCCUGUGGACUCAGUUCUGG-----	6
1,0	
-----GCCCUGUGGACUCAGUUCUGGa-----	2
1,0	
-----GCCCUGUGGACUCAGUUCUGGU-----	13
1,1	

Sequence	Count	Label
UCAGUGCACUACAGAACUUUuu---	6	0, -2
UCAGUGCACUACAGAACUUUG----	1791	
0, -1		
UCAGUGCACUACAGAACUUUGa---	2682	
0, -1		
UCAGUGCACUACAGAACUUUGaa--	287	0, -1
UCAGUGCACUACAGAACUUUGU---	6524	
0, 0		
UCAGUGCACUACAGAACUUUGUa--	27	0, 0
UCAGUGCACUACAGAACUUUGUaa--	4	0, 0
UCAGUGCACUACAGAACUUUGUu---	45	0, 0
UCAGUGCACUACAGAACUUUGUC---	84	0, 1
UCAGUGCACUACAGAACUUUGUCU--	4	0, 2
CAGUGCACUACAGAACUUU-----	4	1, -2
CAGUGCACUACAGAACUUUG----	2	1, -1
CAGUGCACUACAGAACUUUGa---	2	1, -1
CAGUGCACUACAGAACUUUGU---	12	1, 0
AGUGCACUACAGAACUUU-----	33	2, -2
AGUGCACUACAGAACUUUG----	40	2, -1
AGUGCACUACAGAACUUUGa---	36	2, -1
AGUGCACUACAGAACUUUGaa--	3	2, -1
AGUGCACUACAGAACUUUGU---	124	2, 0
AGUGCACUACAGAACUUUGUC---	8	2, 1

```

----- 864 0,-4
-----UCAGUGCAUCACAGAACU
U----- 43 0,-3
-----UCAGUGCAUCACAGAACU
UU----- 227 0,-2
-----UCAGUGCAUCACAGAACU
UUu----- 3 0,-2
-----UCAGUGCAUCACAGAACU
UUG----- 35 0,-1
-----UCAGUGCAUCACAGAACU
UUGa----- 64 0,-1
-----UCAGUGCAUCACAGAACU
UUGaa----- 6 0,-1
-----UCAGUGCAUCACAGAACU
UUGU----- 181 0,0
-----UCAGUGCAUCACAGAACU
UUGUa----- 7 0,0
-----UCAGUGCAUCACAGAACU
UUGUaa----- 2 0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 84 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 7 0,0
-----AGUGCAUCACAGAACU
UU----- 2 2,-2
-----AGUGCAUCACAGAACU
UUGU----- 8 2,0
-----AGUGCAUCACAGAACU
UUGUu----- 2 2,0

```

>hsa-mir-150 MA:16-37;mi:51-72 SRX018969

cuccccauggcccgUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGACAGggaccugg
ggac

.(((((((.((((((((((((((((((..(((.(((((((.((((((....)))..))))))))))))..))))))))))))..))))))
))).

```

-----UCUCCCAACCCUUGUACC-----
---- 33 0,-4
-----UCUCCCAACCCUUGUACCA-----

```



```

----- 387 0,0
-----UCGAGGAGCUCACAGUCUAGUu-----
----- 3 0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
----- 157 0,1
-----UCGAGGAGCUCACAGUCUAGUAa-----
----- 21 0,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
----- 15 0,2
-----CGAGGAGCUCACAGUCUAGU-----
----- 3 1,0
-----GAGGAGCUCACAGUCUAGU-----
----- 7 2,0
-----GAGGAGCUCACAGUCUAGUA-----
----- 3 2,1
-----UACUAGACUGAAGCUCCUUGA-----
----- 31 -2,-2
-----UACUAGACUGAAGCUCCUUGAa-----
----- 10 -2,-2
-----UACUAGACUGAAGCUCCUUGAG-----
----- 40 -2,-1
-----UACUAGACUGAAGCUCCUUGAGa-----
----- 6 -2,-1
-----UACUAGACUGAAGCUCCUUGAGG-----
----- 22 -2,0
-----UACUAGACUGAAGCUCCUUGAGGu-----
----- 2 -2,0
-----UACUAGACUGAAGCUCCUUGAGGA-----
----- 9 -2,1
-----ACUAGACUGAAGCUCCUUGA-----
----- 5 -1,-2
-----ACUAGACUGAAGCUCCUUGAG-----
----- 5 -1,-1
-----ACUAGACUGAAGCUCCUUGAGG-----
----- 12 -1,0
-----ACUAGACUGAAGCUCCUUGAGGA-----
----- 4 -1,1
-----CUAGACUGAAGCUCCUUG-----

```

----- 2 0,-3	
-----	-CUAGACUGAAGCUCCUUGA-----
----- 47 0,-2	
-----	-CUAGACUGAAGCUCCUUGAa-----
----- 12 0,-2	
-----	-CUAGACUGAAGCUCCUUGAaa-----
----- 4 0,-2	
-----	-CUAGACUGAAGCUCCUUGAG-----
----- 169 0,-1	
-----	-CUAGACUGAAGCUCCUUGAGa-----
----- 45 0,-1	
-----	-CUAGACUGAAGCUCCUUGAGaa-----
----- 4 0,-1	
-----	-CUAGACUGAAGCUCCUUGAGau-----
----- 2 0,-1	
-----	-CUAGACUGAAGCUCCUUGAGu-----
----- 19 0,-1	
-----	-CUAGACUGAAGCUCCUUGAGG-----
----- 256 0,0	
-----	-CUAGACUGAAGCUCCUUGAGGu-----
----- 36 0,0	
-----	-CUAGACUGAAGCUCCUUGAGGuu-----
----- 4 0,0	
-----	-CUAGACUGAAGCUCCUUGAGGA-----
----- 593 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGAa-----
----- 486 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGAaa-----
----- 183 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGAau-----
----- 57 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGAu-----
----- 104 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGAuu-----
----- 10 0,1	
-----	-CUAGACUGAAGCUCCUUGAGGAC-----
----- 10 0,2	
-----	-UAGACUGAAGCUCCUUGAGG-----

-----	5	1,0	-----UAGACUGAAGCUCCUUGAGGu-----
-----	2	1,0	-----UAGACUGAAGCUCCUUGAGGA-----
-----	13	1,1	-----UAGACUGAAGCUCCUUGAGGAa-----
-----	18	1,1	-----UAGACUGAAGCUCCUUGAGGAaa-----
-----	5	1,1	-----UAGACUGAAGCUCCUUGAGGAu-----
-----	2	1,1	-----UAGACUGAAGCUCCUUGAGGAC-----
-----	2	1,2	-----UAGACUGAAGCUCCUUGAGGACu-----
-----	3	1,2	-----AGACUGAAGCUCCUUGAG-----
-----	2	2,-1	-----AGACUGAAGCUCCUUGAGGAC-----
-----	3	2,2	-----AGACUGAAGCUCCUUGAGGACu-----
-----	3	2,2	-----AGACUGAAGCUCCUUGAGGACu-----

>hsa-mir-152 3p:54-74 SRX018969

ugcccccccgcccagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgccccggaaggacc

.((((..((.(((((((((((((((((.((.((((..((((...((((...)))))))))))).).).)))))))))))))).).
 ..))))).

-----AGGUUCUGUGAUACACUC-----

----- 2

-----UCAGUGCAUGACAGAACU-----

----- 238 0, -3

-----UCAGUGCAUGACAGAACUU-----

----- 25 0, -2

-----UCAGUGCAUGACAGAACUUa-----

----- 3 0, -2

-----UCAGUGCAUGACAGAACUUG-----

----- 55 0,-1

-----UCAGUGCAUGACAGAACUUG_u-----


```

----- 4   0,-1
-----UCAGUGCAUGACAGAACUUGuu-----
----- 2   0,-1
-----UCAGUGCAUGACAGAACUUGG-----
----- 175 0,0
-----UCAGUGCAUGACAGAACUUGGa-----
----- 30   0,0
-----UCAGUGCAUGACAGAACUUGGaa-----
----- 14   0,0
-----UCAGUGCAUGACAGAACUUGGau-----
----- 3    0,0
-----UCAGUGCAUGACAGAACUUGGu-----
----- 192 0,0
-----UCAGUGCAUGACAGAACUUGGuu-----
----- 18   0,0
-----UCAGUGCAUGACAGAACUUGGG-----
----- 152 0,1
-----UCAGUGCAUGACAGAACUUGGGa-----
----- 30   0,1
-----UCAGUGCAUGACAGAACUUGGGaa-----
----- 9    0,1
-----UCAGUGCAUGACAGAACUUGGGu-----
----- 103 0,1
-----UCAGUGCAUGACAGAACUUGGGuu-----
----- 8    0,1
-----AGUGCAUGACAGAACUUGG-----
----- 2    2,0
-----AGUGCAUGACAGAACUUGGu-----
----- 3    2,0
-----AGUGCAUGACAGAACUUGGuu-----
----- 2    2,0
-----AGUGCAUGACAGAACUUGGG-----
----- 9    2,1
-----AGUGCAUGACAGAACUUGGGu-----
----- 2    2,1

```

>hsa-mir-1537 3p:40-61 SRX018969

acagcuguaauagucaguuucuguccuguccacacagAAAACCGUCUAGUUACAGUUGU

-----AAAACCGUCUAGUUACAG----	2	0,-4
-----AAAACCGUCUAGUUACAGU---	3	0,-3

gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuuuugugacgAAUCAUACACGGUUGACCUAUUuuucagua
ccaa

-----UAGGUUAUCCGUGUUGCCUUCG-----
 --- 6 0,0
 -----AAUCAUACACGGUUGACCUAUU-----
 --- 2 0,0

--UAAAGCUAAUCGUGAUA-----	176	0,-5
--UAAAGCUAAUCGUGAUAG-----	30	0,-4
--UAAAGCUAAUCGUGAUAGG-----	14	0,-3
--UAAAGCUAAUCGUGAUAGGG-----	13	0,-2
--UAAAGCUAAUCGUGAUAGGGG-----	11	0,-1
--UAAAGCUAAUCGUGAUAGGGGa-----	4	0,-1
--UAAAGCUAAUCGUGAUAGGGGU-----	22	0,0
--UAAAGCUAAUCGUGAUAGGGGUau-----	3	0,0
--UAAAGCUAAUCGUGAUAGGGGUU-----	8	0,1
--UAAAGCUAAUCGUGAUAGGGGUUU-----	3	0,2
---UAAAGCUAAUCGUGAUAGGG-----	3	1,-2

-----UAGCAGCACAUAAUGGUU-----
 --- 150 0,-4
 -----UAGCAGCACAUAAUGGUUU-----
 --- 1388 0,-3

```

-----UAGCAGCACAUAAUGGUUUa-----
--- 3    0,-3
-----UAGCAGCACAUAAUGGUUUu-----
--- 7    0,-3
-----UAGCAGCACAUAAUGGUUUG-----
--- 913  0,-2
-----UAGCAGCACAUAAUGGUUUGa-----
--- 8    0,-2
-----UAGCAGCACAUAAUGGUUUGU-----
--- 600  0,-1
-----UAGCAGCACAUAAUGGUUUGUa-----
--- 6    0,-1
-----UAGCAGCACAUAAUGGUUUGUu-----
--- 5    0,-1
-----UAGCAGCACAUAAUGGUUUGUG-----
--- 64   0,0
-----UAGCAGCACAUAAUGGUUUGUGa-----
--- 2    0,0
-----UAGCAGCACAUAAUGGUUUGUGG-----
--- 3    0,1
-----UAGCAGCACAUAAUGGUUUGUGGA-----
--- 3    0,2
-----AGCAGCACAUAAUGGUUU-----
--- 5    1,-3
-----AGCAGCACAUAAUGGUUUG-----
--- 3    1,-2
-----AGCAGCACAUAAUGGUUUGU-----
--- 2    1,-1
-----AGCAGCACAUAAUGGUUUGUG-----
--- 3    1,0
-----GCAGCACAUAAUGGUUUGU-----
--- 2    2,-1

```

>hsa-mi r-15b MA:20-41;mi :58-79 SRX018969

uugaggccuuaaaguacugUAGCAGCACAUCAUGGUUACAugcuacagucaagaugCGAAUCAUUAUUUGCUGCUCUAg
 aaaaaaaggaaaucau
 .((((.(((((((...(((.(((((((.(.(((((((..(((.(.....))))).)))))).).)))))).))
 ...))))))))....)).).

```

-----UAGCAGCACAUCAUGGUU-----
----- 58 0,-4
-----UAGCAGCACAUCAUGGUUa-----
----- 8 0,-4
-----UAGCAGCACAUCAUGGUUaa-----
----- 7 0,-4
-----UAGCAGCACAUCAUGGUUau-----
----- 2 0,-4
-----UAGCAGCACAUCAUGGUUU-----
----- 381 0,-3
-----UAGCAGCACAUCAUGGUUUu-----
----- 27 0,-3
-----UAGCAGCACAUCAUGGUUUA-----
----- 926 0,-2
-----UAGCAGCACAUCAUGGUUUa-----
----- 66 0,-2
-----UAGCAGCACAUCAUGGUUUaa-----
----- 8 0,-2
-----UAGCAGCACAUCAUGGUUUau-----
----- 27 0,-2
-----UAGCAGCACAUCAUGGUUUAC-----
----- 280 0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 857 0,0
-----UAGCAGCACAUCAUGGUUUACAa-----
----- 26 0,0
-----UAGCAGCACAUCAUGGUUUACAau-----
----- 2 0,0
-----AGCAGCACAUCAUGGUUUA-----
----- 3 1,-2
-----AGCAGCACAUCAUGGUUUAC-----
----- 4 1,-1
-----AGCAGCACAUCAUGGUUUACA-----
----- 6 1,0
-----GCAGCACAUCAUGGUUUA-----
----- 3 2,-2
-----GCAGCACAUCAUGGUUUACA-----
----- 2 2,0

```

```

-----CGAAUCAUUAUUUGCUGC-----
----- 3 0,-4
-----CGAAUCAUUAUUUGCUGC-----
----- 3 0,-2
-----CGAAUCAUUAUUUGCUGC-----
----- 2 0,-1

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018969

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuaagauucuaaaauuauucCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

```

(((((((.(((.(((((((((((((.(((((((((.(((.....)))..)))))))))).))))))))))..))
))..))))))

```

```

-----UAGCAGCACGUAAAUAUU-----
----- 311 0,-4
-----UAGCAGCACGUAAAUAUUa-----
----- 8 0,-4
-----UAGCAGCACGUAAAUAUUu-----
----- 5 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 1002 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 8 0,-3
-----UAGCAGCACGUAAAUAUUGaa-----
----- 2 0,-3
-----UAGCAGCACGUAAAUAUUGu-----
----- 5 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 1731 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 38 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
----- 8 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
----- 21 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 402 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 173 0,-1

```

```

-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 66 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 42 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 3085 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 41 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 15 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 7 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 486 0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 27 0,2
-----AGCAGCACGUAAAUAUUG-----
----- 5 1,-3
-----AGCAGCACGUAAAUAUUGG-----
----- 12 1,-2
-----AGCAGCACGUAAAUAUUGGCG-----
----- 19 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
----- 3 1,1
-----GCAGCACGUAAAUAUUGG-----
----- 4 2,-2
-----GCAGCACGUAAAUAUUGGCG-----
----- 3 2,0

```

>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018969

guuccacucUAGCAGCACGUAAAUAUUGGCGuagugaaauauauauuaaacaCCAAUAUUACUGUGCUGCUUUAguuguga
c

((..(((..(((((((..(((((((..(((..(((.....))))..))))))))..))))))))..))))..))
)

```

-----CUAGCAGCACGUAAAUAUUGGCG-----
- 5 -1,0
-----UAGCAGCACGUAAAUAUU-----
- 311 0,-4

```

```

-----UAGCAGCACGUAAAUAUUa-----
- 8 0,-4
-----UAGCAGCACGUAAAUAUUu-----
- 5 0,-4
-----UAGCAGCACGUAAAUAUUG-----
- 1002 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
- 8 0,-3
-----UAGCAGCACGUAAAUAUUGaa-----
- 2 0,-3
-----UAGCAGCACGUAAAUAUUGu-----
- 5 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
- 1731 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
- 38 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
- 8 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
- 21 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
- 402 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
- 173 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
- 66 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
- 42 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
- 3085 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
- 41 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
- 15 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
- 7 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
- 486 0,1

```

```

-----UAGCAGCACGUAAAUAUUGGCGUA-----
-   6   0,2
-----AGCAGCACGUAAAUAUUG-----
-   5   1,-3
-----AGCAGCACGUAAAUAUUGG-----
-  12   1,-2
-----AGCAGCACGUAAAUAUUGGCG-----
-  19   1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
-   3   1,1
-----GCAGCACGUAAAUAUUGG-----
-   4   2,-2
-----GCAGCACGUAAAUAUUGGCG-----
-   3   2,0
-----CACCAUAUUACUGUGCUGCUU-----
-   2  -2,-2
-----ACCAUAUUACUGUGCUGCU-----
-  12  -1,-3
-----ACCAUAUUACUGUGCUGCUU-----
-  10  -1,-2
-----ACCAUAUUACUGUGCUGCUUa-----
-   3  -1,-2
-----ACCAUAUUACUGUGCUGCUUU-----
-  31  -1,-1
-----ACCAUAUUACUGUGCUGCUUUu-----
-   8  -1,-1
-----ACCAUAUUACUGUGCUGCUUUA-----
-   5  -1,0
-----CCAAUAUUACUGUGCUGCUUU-----
-   3   0,-1

```

>hsa-mir-17 MA:14-36;mi:51-72 SRX018969

gucagaauaanguCAAAGUGCUUACAGUGCAGGUAGugauaugugcaucuACUGCAGUGAAGGCACUUGUAGcauuaugg
ugac

```

((((..(((((((..(((((((.(.((((((.....)).))))))))).)).))))))....))))))
)))

```

```

-----UCAAAGUGCUUACAGUGCAG-----
----   3   -1,-4

```



```

-----UCAAAGUGCUUACAGUGCAGG-----
---- 5 -1,-3
-----UCAAAGUGCUUACAGUGCAGGU-----
---- 3 -1,-2
-----CAAAGUGCUUACAGUGCA-----
---- 16 0,-5
-----CAAAGUGCUUACAGUGCAG-----
---- 116 0,-4
-----CAAAGUGCUUACAGUGCAGG-----
---- 78 0,-3
-----CAAAGUGCUUACAGUGCAGGaa-----
---- 2 0,-3
-----CAAAGUGCUUACAGUGCAGGU-----
---- 86 0,-2
-----CAAAGUGCUUACAGUGCAGGUu-----
---- 2 0,-2
-----CAAAGUGCUUACAGUGCAGGUA-----
---- 98 0,-1
-----CAAAGUGCUUACAGUGCAGGUAa-----
---- 22 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 32 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 108 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
---- 8 0,1
-----AAAGUGCUUACAGUGCAG-----
---- 5 1,-4
-----AAAGUGCUUACAGUGCAGGUA-----
---- 4 1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
---- 5 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
---- 5 1,0
-----ACUGCAGUGAAGGCACUU-----
---- 48 0,-4
-----ACUGCAGUGAAGGCACUUu-----
---- 3 0,-4

```

```

-----ACUGCAGUGAAGGCACUUG-----
---- 80 0,-3
-----ACUGCAGUGAAGGCACUUGU-----
---- 161 0,-2
-----ACUGCAGUGAAGGCACUUGUu-----
---- 3 0,-2
-----ACUGCAGUGAAGGCACUUGUA-----
---- 25 0,-1
-----ACUGCAGUGAAGGCACUUGUAa-----
---- 8 0,-1
-----ACUGCAGUGAAGGCACUUGUAG-----
---- 9 0,0
-----CUGCAGUGAAGGCACUUGUA-----
---- 5 1,-1
-----UGCAGUGAAGGCACUUGU-----
---- 3 2,-2

```

>hsa-mir-181a-1 MA:24-46;mi:64-85 SRX018969

```

ugaguuuugagguugcuucagugAACAUUCAACGCUGUCGGUGAGUuuggaauuaaaaucaaaACCAUCGACCGUUGAUU
GUACCcuauggcuaaccaucaucaucucca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..)))..

```

```

-----AACAUUCAACGCUGUCGG-----
----- 94 0,-5
-----AACAUUCAACGCUGUCGGU-----
----- 11 0,-4
-----AACAUUCAACGCUGUCGGUG-----
----- 27 0,-3
-----AACAUUCAACGCUGUCGGUGu-----
----- 3 0,-3
-----AACAUUCAACGCUGUCGGUGA-----
----- 118 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 592 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 6 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 82 0,0

```


-----AACAUUCAACCGUGCGGUGAG-----
----- 6 0,-1
-----AACAUUCAACCGUGCGGUGAGUU-----
----- 7 0,1
-----AACAUUCAACCGUGCGGUGAGUUU-----
----- 3 0,2
-----ACCAUCGACCGUUGA
GUGG----- 2 1,-2

-----AACAUUCAUUGUUGUCGGUG-----	2	0,-3
-----AACAUUCAUUGUUGUCGGUGGG-----	3	0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----	4	0,0
-----AACAUUCAUUGUUGUCGGUGGGUU-----	7	0,1

-----UUUGGCAAUGGUAGAACUCACA-----
-----3 0,-2
-----UUUGGCAAUGGUAGAACUCACACU-----
-----7 0,0
-----UUUGGCAAUGGUAGAACUCACACUG-----
-----2 0,1

ucagcagcacagccuucagccuaaagcaaugagaagccucugaaaggcUGAGGCAGUAGAUUGAAU
(((((((((...((((((((...(((...))))))...)))))))).)).)).))...
-----UGAGGCAGUAGAUUGAAU 2 0,0

>hsa-mir-183 MA:27-48;mi:66-87 SRX018969
ccgcagagugugacuccuguucugugUAUGGCACUGGUAGAAUUCACUgugaacagucucagucaGUGAAUACCGAAGG
GCCAUAAacagagcagagacagauccacga
.....(((((((...((((((((...(((...))))))...)))))))).)).)).))...
)))))))).)))))))).)).)).))...
-----UAUGGCACUGGUAGAAUUC-----
----- 2 0,-3
-----UAUGGCACUGGUAGAAUUC-----
----- 2 0,-2
-----UAUGGCACUGGUAGAAUUCACU-----
----- 2 0,0

>hsa-mir-184 3p:53-74 SRX018969
ccagucacgucccccuaucacuuuuccagcccagcuugugacuguaaguguUGGACGGAGAACUGAUAAAGGGUagguga
uuga
(((((((...((((((((...(((...))))))...)))))))).)).)).))...
))).
-----UGGACGGAGAACUGAUAAAGG-----
---- 10 0,-2
-----UGGACGGAGAACUGAUAAAGG-----
---- 7 0,-1
-----UGGACGGAGAACUGAUAAAGG-----
---- 2 0,-1

>hsa-mir-185 MA:15-36;mi:50-71 SRX018969
agggggcgagggauUGGAGAGAAAGGCAGUUCCUGAuggucccccuccccAGGGGCUGGCUUCCUCUGGUCcuuccccucc
ca
(((((((...((((((((...(((...))))))...)))))))).)).)).))...
)).
-----UGGAGAGAAAGGCAGUUC-----
-- 36 0,-4
-----UGGAGAGAAAGGCAGUUCuu-----
-- 2 0,-4
-----UGGAGAGAAAGGCAGUUC-----

```

-- 45 0,-3
-----UGGAGAGAAAGGCAGUCCU-----
-- 694 0,-2
-----UGGAGAGAAAGGCAGUCCUa-----
-- 3 0,-2
-----UGGAGAGAAAGGCAGUCCUaa-----
-- 8 0,-2
-----UGGAGAGAAAGGCAGUCCUau-----
-- 4 0,-2
-----UGGAGAGAAAGGCAGUCCUu-----
-- 3 0,-2
-----UGGAGAGAAAGGCAGUCCUG-----
-- 380 0,-1
-----UGGAGAGAAAGGCAGUCCUGu-----
-- 70 0,-1
-----UGGAGAGAAAGGCAGUCCUGuu-----
-- 15 0,-1
-----UGGAGAGAAAGGCAGUCCUGA-----
-- 2712 0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 410 0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 18 0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 16 0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 563 0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 35 0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 5 0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 33 0,1
-----UGGAGAGAAAGGCAGUCCUGAUG-----
-- 2 0,2
-----GGAGAGAAAGGCAGUCCU-----
-- 8 1,-2
-----GGAGAGAAAGGCAGUCCUG-----

```


)))..)))..)))..

-----CAACGGAAUCCCAAAAGC-----
-----373 0,-5-----
-----CAACGGAAUCCCAAAAGCu-----
-----4 0,-5-----
-----CAACGGAAUCCCAAAAGCA-----
-----1003 0,-4-----
-----CAACGGAAUCCCAAAAGCAa-----
-----65 0,-4-----
-----CAACGGAAUCCCAAAAGCAu-----
-----4 0,-4-----
-----CAACGGAAUCCCAAAAGCAuu-----
-----3 0,-4-----
-----CAACGGAAUCCCAAAAGCAG-----
-----3331 0,-3-----
-----CAACGGAAUCCCAAAAGCAGa-----
-----32 0,-3-----
-----CAACGGAAUCCCAAAAGCAGaa-----
-----3 0,-3-----
-----CAACGGAAUCCCAAAAGCAGau-----
-----35 0,-3-----
-----CAACGGAAUCCCAAAAGCAGu-----
-----28 0,-3-----
-----CAACGGAAUCCCAAAAGCAGuu-----
-----23 0,-3-----
-----CAACGGAAUCCCAAAAGCAGC-----
-----7416 0,-2-----
-----CAACGGAAUCCCAAAAGCAGCa-----
-----244 0,-2-----
-----CAACGGAAUCCCAAAAGCAGCaa-----
-----14 0,-2-----
-----CAACGGAAUCCCAAAAGCAGCau-----
-----11 0,-2-----
-----CAACGGAAUCCCAAAAGCAGCU-----
-----21294 0,-1-----
-----CAACGGAAUCCCAAAAGCAGCUa-----
-----383 0,-1-----
-----CAACGGAAUCCCAAAAGCAGCUaa-----

----- 28 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
----- 132 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
----- 448 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
----- 80 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
----- 2069 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
----- 58 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
----- 4 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
----- 1166 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----
----- 2 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
----- 36 0,2
-----AACGGAAUCCCAAAAGCA-----
----- 44 1,-4
-----AACGGAAUCCCAAAAGCAG-----
----- 194 1,-3
-----AACGGAAUCCCAAAAGCAGa-----
----- 2 1,-3
-----AACGGAAUCCCAAAAGCAGau-----
----- 3 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
----- 403 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
----- 8 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
----- 1390 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
----- 24 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
----- 5 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----

----- 3 -2,-1
-----CUCUGACCUAUGAAUUGACAGCC-----
----- 3 -2,0
-----UCUGACCUAUGAAUUGAC-----
----- 4 -1,-4
-----UCUGACCUAUGAAUUGACA-----
----- 18 -1,-3
-----UCUGACCUAUGAAUUGACAG-----
----- 49 -1,-2
-----UCUGACCUAUGAAUUGACAGa-----
----- 3 -1,-2
-----UCUGACCUAUGAAUUGACAGu-----
----- 2 -1,-2
-----UCUGACCUAUGAAUUGACAGC-----
----- 274 -1,-1
-----UCUGACCUAUGAAUUGACAGCa-----
----- 23 -1,-1
-----UCUGACCUAUGAAUUGACAGCaa-----
----- 2 -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
----- 6 -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
----- 895 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
----- 46 -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
----- 10 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 85 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 29 -1,1
-----UCUGACCUAUGAAUUGACAGCCAuu-----
----- 7 -1,1
-----CUGACCUAUGAAUUGACA-----
----- 4877 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 50 0,-3
-----CUGACCUAUGAAUUGACAaa-----

----- 25 0,-3
-----CUGACCUAUGAAUUGACAau-----
----- 3 0,-3
-----CUGACCUAUGAAUUGACAu-----
----- 5 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 9630 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 466 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 45 0,-2
-----CUGACCUAUGAAUUGACAGau-----
----- 6 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 459 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 32 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 108747 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 11201 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 985 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 332 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 2766 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 129 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 277992 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 9916 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 1935 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 102759 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----

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----- 1686 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 178 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
----- 297 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 30579 0,1
-----CUGACCUAUGAAUUGACAGCCAuu-----
----- 16812 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 1520 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 97 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 5 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 3 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 1604 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 69 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 510 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 10 0,4
-----UGACCUAUGAAUUGACAG-----
----- 5064 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 79 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 53245 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 1400 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 247 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 41 1,-1
-----UGACCUAUGAAUUGACAGCu-----

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----- 207 1,-1
-----UGACCUAUGAAUUGACAGCuu-----
----- 16 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 33214 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 952 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 177 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 45198 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 1194 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 430 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 562 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 10775 1,1
-----UGACCUAUGAAUUGACAGCCAuu-----
----- 8783 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 11008 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 1236 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 66 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 39 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 14194 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 990 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 63 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 88 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----

```

----- 4821 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 358 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 51 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 4 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 6 1,4
-----UGACCUAUGAAUUGACAGCCAGUGC-----
----- 2 1,5
-----GACCUAUGAAUUGACAGC-----
----- 533 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 20 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 3 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 2 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 328 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 4 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 3 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 229 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 13 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 5 2,1
-----GACCUAUGAAUUGACAGCCAau-----
----- 4 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 74 2,1
-----GACCUAUGAAUUGACAGCCAuu-----
----- 60 2,1
-----GACCUAUGAAUUGACAGCCAG-----

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----- 127 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 15 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 135 2,3
-----GACCUAUGAAUUGACAGCCAGUa-----
----- 9 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 45 2,3
-----GACCUAUGAAUUGACAGCCAGUuu-----
----- 6 2,3
-----GGCUGCCAAUUCCAUA
GGUCA----- 6 -2,-3
-----GGCUGCCAAUUCCAUA
GGUCAC----- 2 -2,-2
-----GGCUGCCAAUUCCAUA
GGUCACA----- 4 -2,-1
-----GCUGCCAAUUCCAUA
GGUC----- 3 -1,-4
-----GCUGCCAAUUCCAUA
GGUCA----- 3 -1,-3
-----GCUGCCAAUUCCAUA
GGUCAC----- 4 -1,-2
-----GCUGCCAAUUCCAUA
GGUCACA----- 11 -1,-1
-----GCUGCCAAUUCCAUA
GGUCACAG----- 4 -1,0
-----CUGCCAAUUCCAUA
GGUC----- 2 0,-4
-----CUGCCAAUUCCAUA
GGUCA----- 30 0,-3
-----CUGCCAAUUCCAUA
GGUCAC----- 2 0,-2
-----CUGCCAAUUCCAUA
GGUCACu----- 2 0,-2
-----CUGCCAAUUCCAUA
GGUCACA----- 64 0,-1
-----CUGCCAAUUCCAUA

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```

GGUCACAu----- 5 0,-1
-----CUGCCAAUCCAUA
GGUCACAUu----- 2 0,-1
-----CUGCCAAUCCAUA
GGUCACAG----- 31 0,0
-----CUGCCAAUCCAUA
GGUCACAGa----- 10 0,0
-----CUGCCAAUCCAUA
GGUCACAGu----- 19 0,0

```

>hsa-mir-193a 5p:21-42;3p:55-76 SRX018969

```

cgaggauaggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

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.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))).)).

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```

-----UGGGUCUUUGCGGGCGAG-----
----- 13 0,-4
-----UGGGUCUUUGCGGGCGAGA-----
----- 3 0,-3
-----UGGGUCUUUGCGGGCGAGAU-----
----- 7 0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
----- 19 0,-2
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 3 0,-2
-----UGGGUCUUUGCGGGCGAGAUG-----
----- 68 0,-1
-----UGGGUCUUUGCGGGCGAGAUGu-----
----- 38 0,-1
-----UGGGUCUUUGCGGGCGAGAUGuu-----
----- 3 0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
----- 219 0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----
----- 4 0,0
-----UGGGUCUUUGCGGGCGAGAUGAu-----
----- 13 0,0
-----GGGUCUUUGCGGGCGAGAUGA-----

```

-----	2	1,0	
-----	-GGGUCUUUGCGGGCGAGAUGAu-----		
-----	2	1,0	
-----	-----CAACUGGCCUACAAAGUCCCA-----		
-----	5	-1,-2	
-----	-----AACUGGCCUACAAAGUCC-----		
-----	271	0,-4	
-----	-----AACUGGCCUACAAAGUCCaa-----		
-----	4	0,-4	
-----	-----AACUGGCCUACAAAGUCCC-----		
-----	497	0,-3	
-----	-----AACUGGCCUACAAAGUCCCu-----		
-----	3	0,-3	
-----	-----AACUGGCCUACAAAGUCCCuu-----		
-----	2	0,-3	
-----	-----AACUGGCCUACAAAGUCCCA-----		
-----	5249	0,-2	
-----	-----AACUGGCCUACAAAGUCCCAa-----		
-----	22	0,-2	
-----	-----AACUGGCCUACAAAGUCCCAaa-----		
-----	2	0,-2	
-----	-----AACUGGCCUACAAAGUCCCAu-----		
-----	168	0,-2	
-----	-----AACUGGCCUACAAAGUCCCAuu-----		
-----	68	0,-2	
-----	-----AACUGGCCUACAAAGUCCCAG-----		
-----	218	0,-1	
-----	-----AACUGGCCUACAAAGUCCCAGa-----		
-----	13	0,-1	
-----	-----AACUGGCCUACAAAGUCCCAGau-----		
-----	3	0,-1	
-----	-----AACUGGCCUACAAAGUCCCAGU-----		
-----	140	0,0	
-----	-----AACUGGCCUACAAAGUCCCAGUa-----		
-----	6	0,0	
-----	-----AACUGGCCUACAAAGUCCCAGUaa-----		
-----	3	0,0	
-----	-----ACUGGCCUACAAAGUCCCA-----		


```

--- 12 0,0
-----CGGGGUUUUGAGGGCGAGAUGAG-----
--- 3 0,1
-----GGGGUUUUGAGGGCGAGAU-----
--- 2 1,-2
-----GGGGUUUUGAGGGCGAGAUa-----
--- 3 1,-2
-----GGGGUUUUGAGGGCGAGAUG-----
--- 6 1,-1
-----GGGGUUUUGAGGGCGAGAUgu-----
--- 2 1,-1
-----GGGGUUUUGAGGGCGAGAUGA-----
--- 8 1,0
-----AACUGGCCCUCAAAGUCC-----
--- 468 0,-4
-----AACUGGCCCUCAAAGUCCu-----
--- 2 0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 367 0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 177 0,-2
-----AACUGGCCCUCAAAGUCCCGu-----
--- 4 0,-2
-----AACUGGCCCUCAAAGUCCCGuu-----
--- 2 0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 125 0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 14 0,-1
-----AACUGGCCCUCAAAGUCCCGCaa-----
--- 3 0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----
--- 14 0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 502 0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 27 0,0
-----AACUGGCCCUCAAAGUCCCGCUaa-----

```

```

--- 4   0,0
-----AACUGGCCCUCAAAGUCCCGCUau-----
--- 13  0,0
-----AACUGGCCCUCAAAGUCCCGCUU-----
--- 190 0,1
-----AACUGGCCCUCAAAGUCCCGCUUa-----
--- 10  0,1
-----AACUGGCCCUCAAAGUCCCGCUUau-----
--- 4   0,1
-----AACUGGCCCUCAAAGUCCCGCUUU-----
--- 116 0,2
-----AACUGGCCCUCAAAGUCCCGCUUUU-----
--- 17  0,3
-----ACUGGCCCUCAAAGUCCC-----
--- 5   1,-3
-----ACUGGCCCUCAAAGUCCCGCU-----
--- 12  1,0
-----ACUGGCCCUCAAAGUCCCGCUa-----
--- 5   1,0
-----ACUGGCCCUCAAAGUCCCGCUau-----
--- 3   1,0
-----ACUGGCCCUCAAAGUCCCGCUU-----
--- 23  1,1
-----ACUGGCCCUCAAAGUCCCGCUUau-----
--- 2   1,1
-----ACUGGCCCUCAAAGUCCCGCUUU-----
--- 13  1,2
-----ACUGGCCCUCAAAGUCCCGCUUUU-----
--- 4   1,3

```

>hsa-mir-194-1 5p:15-36 SRX018969

```

augguguuaucaagUGUAAACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

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(((((((.....)))))))).
))))).

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-----UGUAAACAGCAACUCCAUG-----
----- 22  0,-4
-----UGUAAACAGCAACUCCAUG-----

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```

----- 26 0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 67 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 14 0,-2
-----UGUAAACAGCAACUCCAUGUGaa-----
----- 3 0,-2
-----UGUAAACAGCAACUCCAUGUGu-----
----- 9 0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 1045 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 32 0,-1
-----UGUAAACAGCAACUCCAUGUGGuu-----
----- 2 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1892 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 231 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 6 0,0
-----UGUAAACAGCAACUCCAUGUGGAC-----
----- 10 0,1
-----GUAACAGCAACUCCAUGUGGA-----
----- 2 1,0

```

>hsa-mir-194-2 MA:15-36;mi:51-72 SRX018969

ugguucccgcccccUGUAAACAGCAACUCCAUGUGGAagugcccacugguuCCAGUGGGGCUGCUGUUAUCUGgggcgagg
gccag

(((((.(((((.(((((((.(((((.(((((.(((...((((...)))))))))))))).)))))))).))))).))
))))).

```

-----CCUGUAAACAGCAACUCCAUGUG-----
----- 2 -2,-2
-----CCUGUAAACAGCAACUCCAUGUGG-----
----- 2 -2,-1
-----CUGUAAACAGCAACUCCAUGUGa-----
----- 2 -1,-2
-----CUGUAAACAGCAACUCCAUGUGG-----

```

----- 14 -1,-1
-----CUGU AACAGCAACUCCAUGUGGA-----
----- 35 -1,0
-----CUGU AACAGCAACUCCAUGUGGAA-----
----- 10 -1,1
-----UGU AACAGCAACUCCAUG-----
----- 22 0,-4
-----UGU AACAGCAACUCCAUGU-----
----- 26 0,-3
-----UGU AACAGCAACUCCAUGUG-----
----- 67 0,-2
-----UGU AACAGCAACUCCAUGUGa-----
----- 14 0,-2
-----UGU AACAGCAACUCCAUGUGaa-----
----- 3 0,-2
-----UGU AACAGCAACUCCAUGUGu-----
----- 9 0,-2
-----UGU AACAGCAACUCCAUGUGG-----
----- 1045 0,-1
-----UGU AACAGCAACUCCAUGUGGu-----
----- 32 0,-1
-----UGU AACAGCAACUCCAUGUGGuu-----
----- 2 0,-1
-----UGU AACAGCAACUCCAUGUGGA-----
----- 1892 0,0
-----UGU AACAGCAACUCCAUGUGGAu-----
----- 231 0,0
-----UGU AACAGCAACUCCAUGUGGAuu-----
----- 6 0,0
-----UGU AACAGCAACUCCAUGUGGAA-----
----- 3437 0,1
-----UGU AACAGCAACUCCAUGUGGAAa-----
----- 387 0,1
-----UGU AACAGCAACUCCAUGUGGAAaa-----
----- 20 0,1
-----UGU AACAGCAACUCCAUGUGGAAau-----
----- 14 0,1
-----UGU AACAGCAACUCCAUGUGGAAu-----

```

----- 184 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 26 0,1
-----UGUAAACAGCAACUCCAUGUGGAAGU-----
----- 2 0,3
-----GUAACAGCAACUCCAUGUGGA-----
----- 2 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 7 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 4 1,1
-----CCAGUGGGGCUGCUGUUAU-----
----- 7 0,-3
-----CCAGUGGGGCUGCUGUUAUa-----
----- 16 0,-3
-----CCAGUGGGGCUGCUGUUAUu-----
----- 2 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 4 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----
----- 56 0,-1
-----CAGUGGGGCUGCUGUUAUCU-----
----- 2 1,-1

```

>hsa-mir-195 MA:15-35;mi:53-74 SRX018969

```

agcuucccuggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUAUUGGCUGUGCUGCUCCaggcag
gguggug

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).))).

```

```

-----UAGCAGCACAGAAAUAUU-----
----- 12 0,-3
-----UAGCAGCACAGAAAUAUUG-----
----- 64 0,-2
-----UAGCAGCACAGAAAUAUUGa-----
----- 7 0,-2
-----UAGCAGCACAGAAAUAUUGu-----
----- 5 0,-2
-----UAGCAGCACAGAAAUAUUGG-----

```

```

----- 249 0,-1
-----UAGCAGCACAGAAAUAUUGGa-----
----- 8 0,-1
-----UAGCAGCACAGAAAUAUUGGaa-----
----- 8 0,-1
-----UAGCAGCACAGAAAUAUUGGu-----
----- 3 0,-1
-----UAGCAGCACAGAAAUAUUGGC-----
----- 15 0,0
-----UAGCAGCACAGAAAUAUUGGCA-----
----- 475 0,1
-----UAGCAGCACAGAAAUAUUGGCAa-----
----- 174 0,1
-----UAGCAGCACAGAAAUAUUGGCAaa-----
----- 5 0,1
-----UAGCAGCACAGAAAUAUUGGCAau-----
----- 4 0,1
-----UAGCAGCACAGAAAUAUUGGCAu-----
----- 134 0,1
-----UAGCAGCACAGAAAUAUUGGCAuu-----
----- 13 0,1
-----UAGCAGCACAGAAAUAUUGGCAC-----
----- 2 0,2
-----AGCAGCACAGAAAUAUUGGCA-----
----- 4 1,1

```

>hsa-mir-196a-1 5p:7-28 SRX018969

```

gugaauUAGGUAGUUUCAUGUUGUUGGGccuggguuucugaacacaacaacauuaaaccacccgauucac
((((((..(((.(((.((((((((((..(.....).)).))))))))).))))).))))))
-----UAGGUAGUUUCAUGUUGU----- 2 0,-4

```

>hsa-mir-196a-2 MA:25-46;mi:62-83 SRX018969

```

ugcucgcucagcugaucuguggcuUAGGUAGUUUCAUGUUGUUGGGauugaguuuugaacuCGGCAACAAGAAACUGCCU
GAGuuacaucagucgguuuucgucgagggc
..((((((..(((((((.((((((((((((((((((.(((((((((((.((...)).)).))))))))).))))))))))
))))))))...))))))...)).))))...
-----UAGGUAGUUUCAUGUUGU-----
----- 2 0,-4

```

ggcugugccggguagagagggcagugggagguaagagcucuucacccUUCACCACCUUCUCCACCCAGCauggcc
(((((((((.(((((.(((((((.(((((.((((((...)).)).)).)).)).)).)).)).)).)).)).))

```
>hsa-mir-1972-1 3p:48-69 SRX018969
```

>hsa-mir-1972-2 3p:48-69 SRX018969

>hsa-mir-1973 3p:26-44 SRX018969

uanguucaacggccaugguauccugACCGUGCAAAGGUAGCAUA
(((((((...(((((.....))))))....)).))))

```

-----ACCGUGCAAAGGUAGCAU-      2   0,-1
-----ACCGUGCAAAGGUAGCAUA      83   0,0
-----ACCGUGCAAAGGUAGCAUAa    16   0,0
-----ACCGUGCAAAGGUAGCAUAu    10   0,0

```

>hsa-mir-1976 3p:33-52 SRX018969

```

gcagcaaggaaggcagggguccuaagguguguCCUCCUGCCCUCUUGCUGU
(((((((((((.(((((((..(.....).)))))))))).)))))))))
-----CCUCCUGCCCUCUUGCUG-      2   0,-1

```

>hsa-mir-199a-1 5p:6-28;3p:47-68 SRX018969

```

gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucuaauguguACAGUAGUCUGCACAUUGGUUAggc
(((...(((((((.(((((((.(((.(.(((...)))....)).)))))))))).))))))....)))
-----CCCAGUGUUCAGACUACC----- 19   0,-5
-----CCCAGUGUUCAGACUACCU----- 144  0,-4
-----CCCAGUGUUCAGACUACCUG----- 11   0,-3
-----CCCAGUGUUCAGACUACCUGU----- 19   0,-2
-----CCCAGUGUUCAGACUACCUGUU----- 65   0,-1
-----CCCAGUGUUCAGACUACCUGUUa----- 7    0,-1
-----CCCAGUGUUCAGACUACCUGUUu----- 10   0,-1
-----CCCAGUGUUCAGACUACCUGUUC----- 20   0,0
-----CCAGUGUUCAGACUACCU----- 3    1,-4
-----UACAGUAGUCUGCACAUU----- 7
-1,-5
-----UACAGUAGUCUGCACAUUG----- 16
-1,-4
-----UACAGUAGUCUGCACAUUGG----- 40
-1,-3
-----UACAGUAGUCUGCACAUUGGa----- 3
-1,-3
-----UACAGUAGUCUGCACAUUGGU----- 113
-1,-2
-----UACAGUAGUCUGCACAUUGGUa----- 22
-1,-2
-----UACAGUAGUCUGCACAUUGGUaa----- 24
-1,-2
-----UACAGUAGUCUGCACAUUGGUau----- 26
-1,-2

```

	-----UACAGUAGUCUGCACAUUGGUU-----	996	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUu---	113	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUuu--	6	
-1,-1			
	-----UACAGUAGUCUGCACAUUGGUUA---	148	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAa--	19	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	14	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAG--	5	-1,1
	-----ACAGUAGUCUGCACAUUG-----	91	0,-4
	-----ACAGUAGUCUGCACAUUGa-----	5	0,-4
	-----ACAGUAGUCUGCACAUUGaa-----	6	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	369	0,-3
	-----ACAGUAGUCUGCACAUUGGau----	8	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	460	0,-2
	-----ACAGUAGUCUGCACAUUGGUa----	109	0,-2
	-----ACAGUAGUCUGCACAUUGGUaa----	141	0,-2
	-----ACAGUAGUCUGCACAUUGGUau----	35	0,-2
	-----ACAGUAGUCUGCACAUUGGUU-----	6681	
0,-1			
	-----ACAGUAGUCUGCACAUUGGUUu---	507	0,-1
	-----ACAGUAGUCUGCACAUUGGUUuu--	21	0,-1
	-----ACAGUAGUCUGCACAUUGGUUA---	3171	
0,0			
	-----ACAGUAGUCUGCACAUUGGUUAa--	1686	
0,0			
	-----ACAGUAGUCUGCACAUUGGUUAaa--	12	0,0
	-----ACAGUAGUCUGCACAUUGGUUAau--	5	0,0
	-----ACAGUAGUCUGCACAUUGGUUAu--	248	0,0
	-----ACAGUAGUCUGCACAUUGGUUAuu--	2	0,0
	-----ACAGUAGUCUGCACAUUGGUUAG--	11	0,1
	-----CAGUAGUCUGCACAUUGG-----	49	1,-3
	-----CAGUAGUCUGCACAUUGGU-----	41	1,-2
	-----CAGUAGUCUGCACAUUGGUa----	12	1,-2
	-----CAGUAGUCUGCACAUUGGUaa----	12	1,-2
	-----CAGUAGUCUGCACAUUGGUU-----	503	1,-1
	-----CAGUAGUCUGCACAUUGGUUu---	59	1,-1

```

-----CAGUAGUCUGCACAUUGGUUuu-- 2 1,-1
-----CAGUAGUCUGCACAUUGGUUA--- 754 1,0
-----CAGUAGUCUGCACAUUGGUUAa-- 297 1,0
-----CAGUAGUCUGCACAUUGGUUAaa- 7 1,0
-----CAGUAGUCUGCACAUUGGUUAu-- 44 1,0
-----CAGUAGUCUGCACAUUGGUUAG-- 5 1,1
-----AGUAGUCUGCACAUUGGUU---- 20 2,-1
-----AGUAGUCUGCACAUUGGUUA--- 7 2,0
-----AGUAGUCUGCACAUUGGUUAa-- 5 2,0
-----AGUAGUCUGCACAUUGGUUAu-- 2 2,0

```

>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018969

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaaugccguuguACAGUAGUCUG
CACAUUGGUUAgacugggcaaggagagca

```

.....(((.(((.....(((((((((((((...(((((((((((((...(((.....))).....)))))))))))))
.)))))...)))).)))))))).

```

```

-----CCCAGUGUUCAGACUACC-----
----- 19 0,-5
-----CCCAGUGUUCAGACUACCU-----
----- 144 0,-4
-----CCCAGUGUUCAGACUACCUG-----
----- 11 0,-3
-----CCCAGUGUUCAGACUACCUGU-----
----- 19 0,-2
-----CCCAGUGUUCAGACUACCUGUU-----
----- 65 0,-1
-----CCCAGUGUUCAGACUACCUGUua-----
----- 7 0,-1
-----CCCAGUGUUCAGACUACCUGUuu-----
----- 10 0,-1
-----CCCAGUGUUCAGACUACCUGUUC-----
----- 20 0,0
-----CCAGUGUUCAGACUACCU-----
----- 3 1,-4
-----UACAGUAGUCUG
CACAUU----- 7 -1,-5
-----UACAGUAGUCUG
CACAUG----- 16 -1,-4

```


-----				-----UACAGUAGUCUG
CACAUUGG-----	40	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGa-----	3	-1,-3		
-----				-----UACAGUAGUCUG
CACAUUGGU-----	113	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUa-----	22	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUaa-----	24	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUau-----	26	-1,-2		
-----				-----UACAGUAGUCUG
CACAUUGGUU-----	996	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUu-----	113	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUuu-----	6	-1,-1		
-----				-----UACAGUAGUCUG
CACAUUGGUUA-----	148	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAa-----	19	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAu-----	14	-1,0		
-----				-----UACAGUAGUCUG
CACAUUGGUUAG-----	5	-1,1		
-----				-----ACAGUAGUCUG
CACAUUG-----	91	0,-4		
-----				-----ACAGUAGUCUG
CACAUUGa-----	5	0,-4		
-----				-----ACAGUAGUCUG
CACAUUGaa-----	6	0,-4		
-----				-----ACAGUAGUCUG
CACAUUGG-----	369	0,-3		
-----				-----ACAGUAGUCUG
CACAUUGGau-----	8	0,-3		
-----				-----ACAGUAGUCUG
CACAUUGGU-----	460	0,-2		

-----ACAGUAGUCUG			
CACAUUGGUa-----	109	0,-2	
-----ACAGUAGUCUG			
CACAUUGGUaa-----	141	0,-2	
-----ACAGUAGUCUG			
CACAUUGGUau-----	35	0,-2	
-----ACAGUAGUCUG			
CACAUUGGUU-----	6681	0,-1	
-----ACAGUAGUCUG			
CACAUUGGUUu-----	507	0,-1	
-----ACAGUAGUCUG			
CACAUUGGUUuu-----	21	0,-1	
-----ACAGUAGUCUG			
CACAUUGGUUA-----	3171	0,0	
-----ACAGUAGUCUG			
CACAUUGGUUAa-----	1686	0,0	
-----ACAGUAGUCUG			
CACAUUGGUUAaa-----	12	0,0	
-----ACAGUAGUCUG			
CACAUUGGUUAau-----	5	0,0	
-----ACAGUAGUCUG			
CACAUUGGUUAu-----	248	0,0	
-----ACAGUAGUCUG			
CACAUUGGUUAuu-----	2	0,0	
-----ACAGUAGUCUG			
CACAUUGGUUAG-----	11	0,1	
-----CAGUAGUCUG			
CACAUUGG-----	49	1,-3	
-----CAGUAGUCUG			
CACAUUGGU-----	41	1,-2	
-----CAGUAGUCUG			
CACAUUGGUa-----	12	1,-2	
-----CAGUAGUCUG			
CACAUUGGUaa-----	12	1,-2	
-----CAGUAGUCUG			
CACAUUGGUU-----	503	1,-1	
-----CAGUAGUCUG			
CACAUUGGUUu-----	59	1,-1	

```

-----CAGUAGUCUG
CACAUUGGUUuu----- 2 1,-1
-----CAGUAGUCUG
CACAUUGGUUA----- 754 1,0
-----CAGUAGUCUG
CACAUUGGUUAa----- 297 1,0
-----CAGUAGUCUG
CACAUUGGUUAaa----- 7 1,0
-----CAGUAGUCUG
CACAUUGGUUAu----- 44 1,0
-----CAGUAGUCUG
CACAUUGGUUAG----- 5 1,1
-----AGUAGUCUG
CACAUUGGUU----- 20 2,-1
-----AGUAGUCUG
CACAUUGGUUA----- 7 2,0
-----AGUAGUCUG
CACAUUGGUUAa----- 5 2,0
-----AGUAGUCUG
CACAUUGGUUAu----- 2 2,0

```

>hsa-mi r-199b 5p:26-48;3p:65-86 SRX018969

```

ccagaggacaccuccacuccgucuaCCCAGUGUUUAGACUAUCUGUUCaggacucccaauuguACAGUAGUCUGCACAU
UGGUUAggcugggcuggguagaccucgg

```

```

...((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----CCCAGUGUUUAGACUAUCU-----
----- 10 0,-4
-----CCCAGUGUUUAGACUAUCUGUU-----
----- 3 0,-1
-----UACAGUAGUCUGCACAU
U----- 7 -1,-5
-----UACAGUAGUCUGCACAU
UG----- 16 -1,-4
-----UACAGUAGUCUGCACAU
UGG----- 40 -1,-3
-----UACAGUAGUCUGCACAU
UGGa----- 3 -1,-3

```

UGGU	113	-1,-2	-UACAGUAGUCUGCACAU
UGGUa	22	-1,-2	-UACAGUAGUCUGCACAU
UGGUaa	24	-1,-2	-UACAGUAGUCUGCACAU
UGGUau	26	-1,-2	-UACAGUAGUCUGCACAU
UGGUU	996	-1,-1	-UACAGUAGUCUGCACAU
UGGUUu	113	-1,-1	-UACAGUAGUCUGCACAU
UGGUUuu	6	-1,-1	-UACAGUAGUCUGCACAU
UGGUUA	148	-1,0	-UACAGUAGUCUGCACAU
UGGUUAa	19	-1,0	-UACAGUAGUCUGCACAU
UGGUUAu	14	-1,0	-UACAGUAGUCUGCACAU
UGGUUAG	5	-1,1	-ACAGUAGUCUGCACAU
UG	91	0,-4	-ACAGUAGUCUGCACAU
UGa	5	0,-4	-ACAGUAGUCUGCACAU
UGaa	6	0,-4	-ACAGUAGUCUGCACAU
UGG	369	0,-3	-ACAGUAGUCUGCACAU
UGGau	8	0,-3	-ACAGUAGUCUGCACAU
UGGU	460	0,-2	-ACAGUAGUCUGCACAU
UGGUa	109	0,-2	-ACAGUAGUCUGCACAU
UGGUaa	141	0,-2	-ACAGUAGUCUGCACAU

UGGUau	35	0,-2	-ACAGUAGUCUGCACAU
UGGUU	6681	0,-1	-ACAGUAGUCUGCACAU
UGGUUu	507	0,-1	-ACAGUAGUCUGCACAU
UGGUUuu	21	0,-1	-ACAGUAGUCUGCACAU
UGGUUA	3171	0,0	-ACAGUAGUCUGCACAU
UGGUUAa	1686	0,0	-ACAGUAGUCUGCACAU
UGGUUAaa	12	0,0	-ACAGUAGUCUGCACAU
UGGUUAau	5	0,0	-ACAGUAGUCUGCACAU
UGGUUAu	248	0,0	-ACAGUAGUCUGCACAU
UGGUUAuu	2	0,0	-ACAGUAGUCUGCACAU
UGGUUAG	11	0,1	-CAGUAGUCUGCACAU
UGG	49	1,-3	-CAGUAGUCUGCACAU
UGGU	41	1,-2	-CAGUAGUCUGCACAU
UGGUa	12	1,-2	-CAGUAGUCUGCACAU
UGGUaa	12	1,-2	-CAGUAGUCUGCACAU
UGGUU	503	1,-1	-CAGUAGUCUGCACAU
UGGUUu	59	1,-1	-CAGUAGUCUGCACAU
UGGUUuu	2	1,-1	-CAGUAGUCUGCACAU
UGGUUA	754	1,0	


```

-----UGUGCAAAUCCAUGCAAAAC-----
----- 10  0,-3
-----UGUGCAAAUCCAUGCAAAACU-----
----- 218 0,-2
-----UGUGCAAAUCCAUGCAAAACUG-----
----- 53  0,-1
-----UGUGCAAAUCCAUGCAAAACUGu-----
----- 3   0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 20  0,0
-----GUGCAAAUCCAUGCAAAACU-----
----- 5   1,-2

```

>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018969

acauugcuacuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguauauauguauauguggcUGUGCAAAUCCAUGCAAAA
CUGAuugugauaangu

```

(((((((.....((((((((((((((((((((((((((((((((.....((((((((.....))))))))))))))))))))))))))
))))))))))))))))))

```

```

-----UGUGCAAAUCCAUGCAAAA-----
-----      3   0,-5
-----UGUGCAAAUCCAUGCAAAA
-----      2   0,-4
-----UGUGCAAAUCCAUGCAAAA
C-----      10  0,-3
-----UGUGCAAAUCCAUGCAAAA
CU-----      218 0,-2
-----UGUGCAAAUCCAUGCAAAA
CUG-----      53  0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGu-----      3   0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGA-----      20  0,0
-----GUGCAAAUCCAUGCAAAA
CU-----      5   1,-2

```

>hsa-mir-200a mi:16-37;MA:54-75 SRX018969

ccgggccccugugagCAUCUUACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaaa
ggugaccgcg

-----			-----UAACACUGUCUGGUAACGA-----
-----	2	0,-3	
-----			-----UAACACUGUCUGGUAACGAU-----
-----	13	0,-2	
-----			-----UAACACUGUCUGGUAACGAU _a -----
-----	2	0,-2	
-----			-----UAACACUGUCUGGUAACGAUG-----
-----	2	0,-1	
-----			-----UAACACUGUCUGGUAACGAUG _a -----
-----	2	0,-1	
-----			-----UAACACUGUCUGGUAACGAUGUU-----
-----	16	0,1	
-----			-----UAACACUGUCUGGUAACGAUGUU _u -----
-----	13	0,1	

ccagcucgggcagccguggcCAUCUUACUGGGCAGCAUUGGAugggagucaggucucUAAUACUGCCUGGUAAUGAUGAcg
gcggagcccugcacg
...((..(((..((((..(((((((..((((((..((((((..((((((..((((((..))))))..))))..))))..))))..)))...
))))..))))..)))...

-----	-CAUCUACUGGGCAGCAU-	-----
-----	11	0, -3
-----	-CAUCUACUGGGCAGCAUUG-	-----
-----	6	0, -2
-----	-CAUCUACUGGGCAGCAUUGG-	-----
-----	9	0, -1
-----	-CAUCUACUGGGCAGCAUUGGA-	-----
-----	3	0, 0
-----		-----UAAUACUGCCUGGUAAGA-----
-----	2	0, -3
-----		-----UAAUACUGCCUGGUAAGAU-----
-----	6	0, -2
-----		-----UAAUACUGCCUGGUAAGAUG-----
-----	10	0, -1
-----		-----UAAUACUGCCUGGUAAGAUGA-----
-----	14	0, 0


```

-----UAAUACUGCCUGGUAAGAUGAa-
----- 2 0,0
-----UAAUACUGCCUGGUAAGAUGAu-
----- 2 0,0
-----UAAUACUGCCUGGUAAGAUGAC-
----- 10 0,1
-----UAAUACUGCCUGGUAAGAUGACa
----- 4 0,1
-----UAAUACUGCCUGGUAAGAUGACu
----- 4 0,1
-----AAUACUGCCUGGUAAGAUGAC-
----- 3 1,1
-----AAUACUGCCUGGUAAGAUGACu
----- 3 1,1
-----AUACUGCCUGGUAAGAUGAC-
----- 4 2,1
-----AUACUGCCUGGUAAGAUGACu
----- 4 2,1
-----AUACUGCCUGGUAAGAUGACu
u----- 2 2,1

```

>hsa-mir-200c mi:5-26;MA:44-66 SRX018969

```

cccuCGUCUUACCCAGCAGUGUUUGGgugcggguugggagucucUAAUACUGCCGGGUAAGAUGGAagg
((..(((((((((((((.(((((((.(((.((.....))))).)))))).)))))).))))).)))
-----UAAUACUGCCGGGUAAGAUG---- 2 0,-2
-----UAAUACUGCCGGGUAAGAUGG--- 3 0,-1
-----UAAUACUGCCGGGUAAGAUGGA-- 2 0,0

```

>hsa-mir-203 3p:65-86 SRX018969

```

guguuggggacucgcgcgcuggguccagugguucuaacaguucaacaguucuguagcgcaauUGUAAAUGUUUAGGAC
CACUAGacccggcgggcgcggcgacagcga
.((((((..((..(((.(((((((((((((.(((((((.(((.((.....))))).)))))).)))))).))))).)))
))))).)))))))).))))).)))).)))).)))).
-----UUGUGAAAUGUUUAGGAC
CACU----- 5 -2,-2
-----UGUGAAAUGUUUAGGAC
CACU----- 6 -1,-2
-----UGUGAAAUGUUUAGGAC

```

CACUAG-----	6	-1,0	-----GUGAAAUGUUUAGGAC
CA-----	2	0,-4	-----GUGAAAUGUUUAGGAC
CAC-----	8	0,-3	-----GUGAAAUGUUUAGGAC
CACU-----	33	0,-2	-----GUGAAAUGUUUAGGAC
CACUA-----	37	0,-1	-----GUGAAAUGUUUAGGAC
CACUAu-----	5	0,-1	-----GUGAAAUGUUUAGGAC
CACUAG-----	192	0,0	-----GUGAAAUGUUUAGGAC
CACUAGu-----	18	0,0	-----GUGAAAUGUUUAGGAC
CACUAGA-----	16	0,1	-----GUGAAAUGUUUAGGAC
CACUAGAA-----	3	0,1	-----UGAAAUGUUUAGGAC
CAC-----	5	1,-3	-----UGAAAUGUUUAGGAC
CACU-----	3	1,-2	-----UGAAAUGUUUAGGAC
CACUA-----	17	1,-1	-----UGAAAUGUUUAGGAC
CACUAu-----	4	1,-1	-----UGAAAUGUUUAGGAC
CACUAuu-----	2	1,-1	-----UGAAAUGUUUAGGAC
CACUAG-----	84	1,0	-----UGAAAUGUUUAGGAC
CACUAGu-----	45	1,0	-----UGAAAUGUUUAGGAC
CACUAGuu-----	4	1,0	-----UGAAAUGUUUAGGAC
CACUAGA-----	3	1,1	

ggcuacagucuuucuucaugugacucguggacUCCCUUUGUCAUCCUAGCCUgagaauauaugaaggaggcugggaag
gcaaagggacguucaauugucaucacuggc

-		UCCCCUUUGUCAUCCUAUG-	-
-	3	0,-3	-
-		UCCCCUUUGUCAUCCUAUGC-	-
-	7	0,-2	-
-		UCCCCUUUGUCAUCCUAUGCC-	-
-	11	0,-1	-
-		UCCCCUUUGUCAUCCUAUGCCa-	-
-	3	0,-1	-
-		UCCCCUUUGUCAUCCUAUGCCCU-	-
-	26	0,0	-
-		UCCCCUUUGUCAUCCUAUGCCCuuu-	-
-	2	0,0	-

ugcuucccgaggccacaugcuucuuuauaucccauauaggauuacuugcuaUGGAAUGUAAGGAAGUGUGUGGuucgg
caagug

-----UGGAAUGUAAGGAAGUGUGUGG-----
----- 2 0.0

guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuaguuaucuACUGCAUUAUGAGCACUUAAGGuacugc
(((((((((.(.((((((((((((((((((((((.(.((((((.....)).)))))))))))))))))))))))))).)).)).))

-----UAAAGUGCUUAUAGUGCA-----	4	0,-5
-----UAAAGUGCUUAUAGUGCAG-----	58	0,-4
-----UAAAGUGCUUAUAGUGCAGG-----	16	0,-3
-----UAAAGUGCUUAUAGUGCAGGU-----	22	0,-2
-----UAAAGUGCUUAUAGUGCAGGUA-----	60	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAa-----	9	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAu-----	27	0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG-----	15	0,0
-----UAAAGUGCUUAUAGUGCAGGUAGU-----	3	0,1

-----AAAGUGCUUAUAGUGCAGGUA-----	3	1,-1
-----ACUGCAUUAUGAGCACUUA-----	2	0,-3
-----ACUGCAUUAUGAGCACUUA-----	2	0,-2

>hsa-mir-21 MA:8-29;mi:46-66 SRX018969

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca .((((((..((((((((((.((((((.((((((.((((((.....)))))))))).))))))))))))).)))))).		
-----GUAGCUUAUCAGACUGAUGU-----	7	
-1,-3		
-----GUAGCUUAUCAGACUGAUGUU-----	30	
-1,-2		
-----GUAGCUUAUCAGACUGAUGUUG-----	42	
-1,-1		
-----GUAGCUUAUCAGACUGAUGUUGA-----	38	
-1,0		
-----GUAGCUUAUCAGACUGAUGUUGAC-----	3	
-1,1		
-----GUAGCUUAUCAGACUGAUGUUGACU-----	4	
-1,2		
-----UAGCUUAUCAGACUGAUG-----	2366	
0,-4		
-----UAGCUUAUCAGACUGAUGa-----	11	
0,-4		
-----UAGCUUAUCAGACUGAUGau-----	21	
0,-4		
-----UAGCUUAUCAGACUGAUGU-----		
10045 0,-3		
-----UAGCUUAUCAGACUGAUGUa-----	59	
0,-3		
-----UAGCUUAUCAGACUGAUGUaa-----	13	
0,-3		
-----UAGCUUAUCAGACUGAUGUU-----		
58688 0,-2		
-----UAGCUUAUCAGACUGAUGUUa-----	316	
0,-2		
-----UAGCUUAUCAGACUGAUGUUaa-----	19	
0,-2		
-----UAGCUUAUCAGACUGAUGUUau-----	3	

0,-2		
-----UAGCUUAUCAGACUGAUGUUu-----	80	
0,-2		
-----UAGCUUAUCAGACUGAUGUUG-----		
39114 0,-1		
-----UAGCUUAUCAGACUGAUGUUGu-----	76	
0,-1		
-----UAGCUUAUCAGACUGAUGUUGA-----		
17558 0,0		
-----UAGCUUAUCAGACUGAUGUUGAa-----	714	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAaa-----	51	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAau-----	9	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAu-----	27	
0,0		
-----UAGCUUAUCAGACUGAUGUUGAC-----	4117	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACa-----	2046	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACaa-----	7	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACau-----	7	
0,1		
-----UAGCUUAUCAGACUGAUGUUGACU-----	946	
0,2		
-----UAGCUUAUCAGACUGAUGUUGACUG-----	2	
0,3		
-----AGCUUAUCAGACUGAUGU-----	32	
1,-3		
-----AGCUUAUCAGACUGAUGUU-----	246	
1,-2		
-----AGCUUAUCAGACUGAUGUUa-----	2	
1,-2		
-----AGCUUAUCAGACUGAUGUUG-----	121	
1,-1		
-----AGCUUAUCAGACUGAUGUUGu-----	8	

1, -1		
-----AGCUUAUCAGACUGAUGUUGA-----		162
1, 0		
-----AGCUUAUCAGACUGAUGUUGAaa-----		2
1, 0		
-----AGCUUAUCAGACUGAUGUUGAC-----		48
1, 1		
-----AGCUUAUCAGACUGAUGUUGACa-----		27
1, 1		
-----AGCUUAUCAGACUGAUGUUGACau-----		4
1, 1		
-----AGCUUAUCAGACUGAUGUUGACU-----		13
1, 2		
-----GCUUAUCAGACUGAUGUU-----		89
2, -2		
-----GCUUAUCAGACUGAUGUUG-----		61
2, -1		
-----GCUUAUCAGACUGAUGUUGA-----		34
2, 0		
-----GCUUAUCAGACUGAUGUUGAC-----		9
2, 1		
-----GCUUAUCAGACUGAUGUUGACa-----		2
2, 1		
-----GCAACACCAGUCGAUGGGCUGUCU-----		3
-1, 2		
-----CAACACCAGUCGAUGGGC-----		16
0, -3		
-----CAACACCAGUCGAUGGGCU-----		123
0, -2		
-----CAACACCAGUCGAUGGGCUG-----		15
0, -1		
-----CAACACCAGUCGAUGGGCUGU-----		54
0, 0		
-----CAACACCAGUCGAUGGGCUGUa-----		3
0, 0		
-----CAACACCAGUCGAUGGGCUGUaa-----		60
0, 0		
-----CAACACCAGUCGAUGGGCUGUau-----		25

0,0	-----CAACACCAGUCGAUGGGCUGUu-----	4
0,0	-----CAACACCAGUCGAUGGGCUGUuu-----	13
0,0	-----CAACACCAGUCGAUGGGCUGUC-----	27
0,1	-----CAACACCAGUCGAUGGGCUGUCa-----	59
0,1	-----CAACACCAGUCGAUGGGCUGUCaa-----	3
0,1	-----CAACACCAGUCGAUGGGCUGUCau-----	9
0,1	-----CAACACCAGUCGAUGGGCUGUCU-----	64
0,2	-----CAACACCAGUCGAUGGGCUGUCUu-----	8
0,2	-----CAACACCAGUCGAUGGGCUGUCUuu-----	2
0,2	-----AACACCAGUCGAUGGGCU-----	4
1,-2	-----AACACCAGUCGAUGGGCUGUCa-----	2
1,1	-----AACACCAGUCGAUGGGCUGUCU-----	13
1,2	-----AACACCAGUCGAUGGGCUGUCUu-----	4
1,2		

>hsa-mir-210 3p:66-87 SRX018969

acccggcagugccuccaggcgcagggcagccccugcccaccgcacacugcgcugccccagacccaCUGUGCGUGUGACAG
CGGCUGAucugugccugggcagcgcgaccc

....((..(((.((((((((((..(((((.(((..((((((((((..(((...)))..)).)))))).)))..)))
..))))..))))))))))))..))))..)).

-----AGCCCCUGCCCACCGCACACU-----

----- 11

-----AGCCCCUGCCCACCGCACACUG-----

----- 4

-----ACUGUGCGUGUGACAG

CG-----	4	-1,-5	
-----			-ACUGUGCGUGUGACAG
CGG-----	2	-1,-4	
-----			-ACUGUGCGUGUGACAG
CGGCU-----	6	-1,-2	
-----			-CUGUGCGUGUGACAG
CGG-----	5	0,-4	
-----			-CUGUGCGUGUGACAG
CGGCU-----	130	0,-2	
-----			-CUGUGCGUGUGACAG
CGGCUuu-----	2	0,-2	
-----			-CUGUGCGUGUGACAG
CGGCUGA-----	36	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAa-----	3	0,0	
-----			-CUGUGCGUGUGACAG
CGGCUGAU-----	5	0,1	
-----			-UGUGCGUGUGACAG
CGGCUGAUu-----	2	1,1	

>hsa-mir-2110 5p:8-29 SRX018969

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cagggguUUGGGGAAACGGCCGCUGAGUGaggcgucggcuguguuuucucaccgcgguuuuccuccacucuug
(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..(((((((..
-----UUGGGGAAACGGCCGCUGAG----- 4
0,-2
-----UUGGGGAAACGGCCGCUGAGU----- 3
0,-1
-----UUGGGGAAACGGCCGCUGAGUa----- 3
0,-1
-----UUGGGGAAACGGCCGCUGAGUG----- 13
0,0
-----UUGGGGAAACGGCCGCUGAGUGu----- 8
0,0
-----UUGGGGAAACGGCCGCUGAGUGA----- 28
0,1
-----UUGGGGAAACGGCCGCUGAGUGAG----- 5
0,2
-----UUGGGGAAACGGCCGCUGAGUGAGu----- 2

```



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.)).).))))).....)))))..
-----AUGACCUAUGAAUUGACA-----
----- 11 0,-3
-----AUGACCUAUGAAUUGACAG-----
----- 731 0,-2
-----AUGACCUAUGAAUUGACAGu-----
----- 3 0,-2
-----AUGACCUAUGAAUUGACAGAC-----
----- 2 0,0
-----AUGACCUAUGAAUUGACAGACA-----
----- 6 0,1
-----UGACCUAUGAAUUGACAG-----
----- 5064 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 79 1,-2
-----UGACCUAUGAAUUGACAGA-----
----- 143 1,-1
-----UGACCUAUGAAUUGACAGAA-----
----- 8 1,-1
-----UGACCUAUGAAUUGACAGAAa-----
----- 7 1,-1
-----UGACCUAUGAAUUGACAGAC-----
----- 40 1,0
-----UGACCUAUGAAUUGACAGACA-----
----- 101 1,1
-----UGACCUAUGAAUUGACAGACAu-----
----- 21 1,1
-----UGACCUAUGAAUUGACAGACAUu-----
----- 7 1,1
-----UGACCUAUGAAUUGACAGACAA-----
----- 2 1,2
-----UGACCUAUGAAUUGACAGACAAU-----
----- 2 1,3

```

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>hsa-mir-216b 5p:11-32 SRX018969
gcagacuggaAAAUUCUCUGCAGGCAAUGUGAugucacugaggaaucacacacuuacccguagagauucuacagucuga
ca
.(((((((...(((((((.((...((((((...)))...)))...)))...)))...)))...)))...

```

```

..
-----AAAUCUCUGCAGGCAAUGUG-----
-- 2   -1,-1
-----AAAUCUCUGCAGGCAAUGUGu-----
-- 3   -1,-1
-----AAAUCUCUGCAGGCAAUGU-----
-- 5    0,-2
-----AAAUCUCUGCAGGCAAUGUG-----
-- 20   0,-1
-----AAAUCUCUGCAGGCAAUGUGA-----
-- 26   0,0
-----AAAUCUCUGCAGGCAAUGUGAa-----
-- 3    0,0
-----AAAUCUCUGCAGGCAAUGUGAU-----
-- 3    0,1

```

>hsa-mir-217 5p:35-57 SRX018969

```

aguauaaauuacauaguuuuugaugucgcagaUACUGCAUCAGGAACUGAUUGGAuaagaaucagucaccaucaguuc
cuaaugcauugccuucagcaucuaaacaag

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))

```

```

-----AUACUGCAUCAGGAACUGAU-----
-----2   -1,-4
-----AUACUGCAUCAGGAACUGAUau-----
-----2   -1,-4
-----AUACUGCAUCAGGAACUGAUU-----
-----10  -1,-3
-----AUACUGCAUCAGGAACUGAUUu-----
-----2   -1,-3
-----AUACUGCAUCAGGAACUGAUUG-----
-----17  -1,-2
-----AUACUGCAUCAGGAACUGAUUGa-----
-----2   -1,-2
-----AUACUGCAUCAGGAACUGAUUGu-----
-----2   -1,-2
-----AUACUGCAUCAGGAACUGAUUGG-----
-----4   -1,-1
-----UACUGCAUCAGGAACUGAUUG-----

```



```

>hsa-mir-219-2 5p:19-39;3p:62-83 SRX018969
acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCUuguacgagucugcgccaaccgAGAAUUGUGGCUGGACAUC
UGUggcugagcuccggg
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))).))))))))))
-----UGAUUGUCCAAACGCAAU-----
----- 5 0,-3
-----UGAUUGUCCAAACGCAAUUCU-----
----- 2 0,0
-----AGAAUUGUGGCUGGACAUC
UGU----- 4 0,0

```

```

>hsa-mir-22 mi:15-36;MA:53-74 SRX018969
ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))).))))))))))
.)))).))
-----AGUUCUUCAGUGGCAAGC-----
----- 13 0,-4
-----AGUUCUUCAGUGGCAAGCU-----
----- 34 0,-3
-----AGUUCUUCAGUGGCAAGCUU-----
----- 19 0,-2
-----AGUUCUUCAGUGGCAAGCUUa-----
----- 2 0,-2
-----AGUUCUUCAGUGGCAAGCUUU-----
----- 472 0,-1
-----AGUUCUUCAGUGGCAAGCUUUu-----
----- 21 0,-1
-----AGUUCUUCAGUGGCAAGCUUUA-----
----- 184 0,0
-----AGUUCUUCAGUGGCAAGCUUUAa-----
----- 12 0,0
-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 12 0,1
-----AAAGCUGCCAGUUGAAGAAC-----
----- 6 -1,-3
-----AAAGCUGCCAGUUGAAGACU-----

```

-----	6	-1,-2	-----AAAGCUGCCAGUUGAAGAACUG-----
-----	2	-1,-1	-----AAGCUGCCAGUUGAAGAA-----
-----	3312	0,-4	-----AAGCUGCCAGUUGAAGAAa-----
-----	61	0,-4	-----AAGCUGCCAGUUGAAGAAaa-----
-----	3	0,-4	-----AAGCUGCCAGUUGAAGAAau-----
-----	19	0,-4	-----AAGCUGCCAGUUGAAGAAu-----
-----	10	0,-4	-----AAGCUGCCAGUUGAAGAAuu-----
-----	79	0,-4	-----AAGCUGCCAGUUGAAGAAC-----
-----	2010	0,-3	-----AAGCUGCCAGUUGAAGAACa-----
-----	133	0,-3	-----AAGCUGCCAGUUGAAGAACaa-----
-----	16	0,-3	-----AAGCUGCCAGUUGAAGAACau-----
-----	8	0,-3	-----AAGCUGCCAGUUGAAGAACU-----
-----	7303	0,-2	-----AAGCUGCCAGUUGAAGAACUa-----
-----	40	0,-2	-----AAGCUGCCAGUUGAAGAACUaa-----
-----	15	0,-2	-----AAGCUGCCAGUUGAAGAACUau-----
-----	13	0,-2	-----AAGCUGCCAGUUGAAGAACUu-----
-----	54	0,-2	-----AAGCUGCCAGUUGAAGAACUuu-----
-----	80	0,-2	-----AAGCUGCCAGUUGAAGAACUG-----
-----	1566	0,-1	-----AAGCUGCCAGUUGAAGAACUGa-----

```

----- 64 0,-1
-----AAGCUGCCAGUUGAAGAACUGaa-----
----- 8 0,-1
-----AAGCUGCCAGUUGAAGAACUGU-----
----- 5415 0,0
-----AAGCUGCCAGUUGAAGAACUGUa-----
----- 62 0,0
-----AAGCUGCCAGUUGAAGAACUGUaa-----
----- 24 0,0
-----AAGCUGCCAGUUGAAGAACUGUau-----
----- 23 0,0
-----AAGCUGCCAGUUGAAGAACUGUU-----
----- 168 0,1
-----AAGCUGCCAGUUGAAGAACUGUUa-----
----- 19 0,1
-----AAGCUGCCAGUUGAAGAACUGUUaa-----
----- 5 0,1
-----AAGCUGCCAGUUGAAGAACUGUUu-----
----- 93 0,1
-----AAGCUGCCAGUUGAAGAACUGUUuu-----
----- 8 0,1
-----AGCUGCCAGUUGAAGAAC-----
----- 11 1,-3
-----AGCUGCCAGUUGAAGAACU-----
----- 39 1,-2
-----AGCUGCCAGUUGAAGAACUG-----
----- 12 1,-1
-----AGCUGCCAGUUGAAGAACUGU-----
----- 24 1,0
-----AGCUGCCAGUUGAAGAACUGUUu-----
----- 3 1,1
-----GCUGCCAGUUGAAGAACUGUUu-----
----- 2 2,1

```

>hsa-mir-221 mi:25-46;MA:65-87 SRX018969

ugaacauccaggucuggggcaugaACCUGGCAUACAAUGUAGAUUUcuguguucguuaggcaacAGCUACAUUGUCUGCU
GGGUUUCaggcuaaccuggaacauguucuc

.((((((((((((.....(((.((((((..(((.((((((((((((.....((((((((.....))))).))))))))))))))))).)).).


```

.)).))))).)))))))).....))))).
-----AACCUGGCAUACAAUGUAG-----
----- 2  -1,-4
-----AACCUGGCAUACAAUGUAGAU-----
----- 2  -1,-2
-----AACCUGGCAUACAAUGUAGAUU-----
----- 4  -1,-1
-----AACCUGGCAUACAAUGUAGAUUU-----
----- 13 -1,0
-----ACCUGGCAUACAAUGUAG-----
----- 6  0,-4
-----ACCUGGCAUACAAUGUAGa-----
----- 2  0,-3
-----ACCUGGCAUACAAUGUAGAU-----
----- 20 0,-2
-----ACCUGGCAUACAAUGUAGAUa-----
----- 50 0,-2
-----ACCUGGCAUACAAUGUAGAUU-----
----- 132 0,-1
-----ACCUGGCAUACAAUGUAGAUUa-----
----- 7  0,-1
-----ACCUGGCAUACAAUGUAGAUUU-----
----- 356 0,0
-----ACCUGGCAUACAAUGUAGAUUUa-----
----- 3  0,0
-----ACCUGGCAUACAAUGUAGAUUUu-----
----- 2  0,0
-----ACCUGGCAUACAAUGUAGAUUUC-----
----- 33 0,1
-----ACCUGGCAUACAAUGUAGAUUUCa-----
----- 2  0,1
-----ACCUGGCAUACAAUGUAGAUUUUC-----
----- 27 0,2
-----CCUGGCAUACAAUGUAGAUUU-----
----- 2  1,0
-----CAGCUACAUUGUCUGCU
GGGUUUa----- 2  -1,-1
-----AGCUACAUUGUCUGCU

```

GG-----	9	0,-5	-----AGCUACAUUGUCUGCU
GGG-----	39	0,-4	-----AGCUACAUUGUCUGCU
GGGU-----	13	0,-3	-----AGCUACAUUGUCUGCU
GGGUaa-----	4	0,-3	-----AGCUACAUUGUCUGCU
GGGUau-----	16	0,-3	-----AGCUACAUUGUCUGCU
GGGUU-----	91	0,-2	-----AGCUACAUUGUCUGCU
GGGUUa-----	26	0,-2	-----AGCUACAUUGUCUGCU
GGGUUaa-----	9	0,-2	-----AGCUACAUUGUCUGCU
GGGUUau-----	43	0,-2	-----AGCUACAUUGUCUGCU
GGGUUU-----	484	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUa-----	24	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUau-----	2	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUu-----	129	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUuu-----	7	0,-1	-----AGCUACAUUGUCUGCU
GGGUUUC-----	47	0,0	-----AGCUACAUUGUCUGCU
GGGUUUCu-----	3	0,0	-----GCUACAUUGUCUGCU
GGGUU-----	2	1,-2	-----GCUACAUUGUCUGCU
GGGUUau-----	2	1,-2	-----GCUACAUUGUCUGCU
GGGUUU-----	8	1,-1	

>hsa-mir-222 mi:31-52;MA:69-89 SRX018969

gcugcuggaagguguagguaccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu

...((((((((((((.....(((((.....((((((((((((((((((((.....((((.....)))))))).))))))
)))))))))).))))).)))))))))))))).

-----AGCUACAUCUGG
CUACUG----- 158 0,-3
-----AGCUACAUCUGG
CUACUGG----- 258 0,-2
-----AGCUACAUCUGG
CUACUGGu----- 2 0,-2
-----AGCUACAUCUGG
CUACUGGG----- 286 0,-1
-----AGCUACAUCUGG
CUACUGGGa----- 6 0,-1
-----AGCUACAUCUGG
CUACUGGGaa----- 2 0,-1
-----AGCUACAUCUGG
CUACUGGGU----- 488 0,0
-----AGCUACAUCUGG
CUACUGGGUa----- 44 0,0
-----AGCUACAUCUGG
CUACUGGGUaa----- 55 0,0
-----AGCUACAUCUGG
CUACUGGGUau----- 62 0,0
-----AGCUACAUCUGG
CUACUGGGUu----- 78 0,0
-----AGCUACAUCUGG
CUACUGGGUuu----- 30 0,0
-----AGCUACAUCUGG
CUACUGGGUC----- 705 0,1
-----AGCUACAUCUGG
CUACUGGGUCa----- 60 0,1
-----AGCUACAUCUGG
CUACUGGGUCaa----- 5 0,1
-----AGCUACAUCUGG
CUACUGGGUCau----- 21 0,1
-----AGCUACAUCUGG

-1,-4	-----AAUCACAUUGCCAGGGAUUU-----	20
-1,-2	-----AAUCACAUUGCCAGGGAUUUu-----	2
-1,-2	-----AAUCACAUUGCCAGGGAUUUC-----	16
-1,-1	-----AAUCACAUUGCCAGGGAUUUCa-----	2
-1,-1	-----AAUCACAUUGCCAGGGAUUUCu-----	2
-1,-1	-----AAUCACAUUGCCAGGGAUUUCC-----	2
-1,0	-----AAUCACAUUGCCAGGGAUUUCCA-----	10
-1,1	-----AUCACAUUGCCAGGGAUU-----	356
0,-3	-----AUCACAUUGCCAGGGAUUU-----	1166
0,-2	-----AUCACAUUGCCAGGGAUUUa-----	176
0,-2	-----AUCACAUUGCCAGGGAUUUaa-----	49
0,-2	-----AUCACAUUGCCAGGGAUUUau-----	11
0,-2	-----AUCACAUUGCCAGGGAUUUu-----	95
0,-2	-----AUCACAUUGCCAGGGAUUUuu-----	3
0,-2	-----AUCACAUUGCCAGGGAUUUC-----	912
0,-1	-----AUCACAUUGCCAGGGAUUUCa-----	160
0,-1	-----AUCACAUUGCCAGGGAUUUCaa-----	14
0,-1	-----AUCACAUUGCCAGGGAUUUCu-----	21
0,-1	-----AUCACAUUGCCAGGGAUUUCC-----	609

0,0	-AUCACAUUGCCAGGGAUUUCCu-----	6
0,0	-AUCACAUUGCCAGGGAUUUCCuu-----	4
0,0	-AUCACAUUGCCAGGGAUUUCCA-----	2440
0,1	-AUCACAUUGCCAGGGAUUUCCAu-----	250
0,1	-AUCACAUUGCCAGGGAUUUCCAuu-----	23
0,1	-AUCACAUUGCCAGGGAUUUCCAA-----	392
0,2	-AUCACAUUGCCAGGGAUUUCCAAa-----	3
0,2	-AUCACAUUGCCAGGGAUUUCCAAu-----	25
0,2	-UCACAUUGCCAGGGAUUUa-----	2
1,-2	-UCACAUUGCCAGGGAUUUC-----	3
1,-1	-UCACAUUGCCAGGGAUUUCa-----	2
1,-1	-UCACAUUGCCAGGGAUUUCCA-----	5
1,1	-UCACAUUGCCAGGGAUUUCCAA-----	3
1,2	-UCACAUUGCCAGGGAUUUCCAACu-----	2
1,3		

```

----- 2 -1,-2
-----UGGGUUCCUGGCAUGCUGAUU-----
----- 4 -1,-1
-----UGGGUUCCUGGCAUGCUGA-----
----- 4 0,-3
-----UGGGUUCCUGGCAUGCUGAU-----
----- 30 0,-2
-----UGGGUUCCUGGCAUGCUGAUa-----
----- 26 0,-2
-----UGGGUUCCUGGCAUGCUGAUU-----
----- 60 0,-1
-----UGGGUUCCUGGCAUGCUGAUUa-----
----- 2 0,-1
-----UGGGUUCCUGGCAUGCUGAUUaa-----
----- 2 0,-1
-----UGGGUUCCUGGCAUGCUGAUUU-----
----- 152 0,0
-----UGGGUUCCUGGCAUGCUGAUUUa-----
----- 4 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
----- 19 0,0
-----GGGUUCCUGGCAUGCUGAU-----
----- 12 1,-2
-----GGGUUCCUGGCAUGCUGAUa-----
----- 2 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
----- 8 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
----- 65 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
----- 2 1,0
-----GGGUUCCUGGCAUGCUGAUUUaa-----
----- 2 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----
----- 14 1,0
-----GGGUUCCUGGCAUGCUGAUUUuu-----
----- 3 1,0
-----GGGUUCCUGGCAUGCUGAUUUUG-----

```


-----	15	1,1	
-----	-GGGUUCCUGGCAUGCUGAUUUUGa-----		
-----	2	1,1	
-----	-GGGUUCCUGGCAUGCUGAUUUUGU-----		
-----	12	1,2	
-----	-GGGUUCCUGGCAUGCUGAUUUUGUG-----		
-----	18	1,3	
-----	-GGGUUCCUGGCAUGCUGAUUUUGUGA-----		
-----	3	1,4	
-----	-----AAUCACAUUGCCAGGGAU-----		
-----	2	-1,-4	
-----	-----AAUCACAUUGCCAGGGAUa-----		
-----	2	-1,-4	
-----	-----AAUCACAUUGCCAGGGAUUA-----		
-----	7	-1,-2	
-----	-----AAUCACAUUGCCAGGGAUUAa---		
-----	8	-1,-2	
-----	-----AAUCACAUUGCCAGGGAUUAC---		
-----	7	-1,-1	
-----	-----AAUCACAUUGCCAGGGAUUACC---		
-----	3	-1,0	
-----	-----AAUCACAUUGCCAGGGAUUACCA-		
-----	10	-1,1	
-----	-----AUCACAUUGCCAGGGAUU-----		
-----	356	0,-3	
-----	-----AUCACAUUGCCAGGGAUUA-----		
-----	1516	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAa---		
-----	401	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAaa---		
-----	63	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAau---		
-----	4	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAu---		
-----	208	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAuu---		
-----	19	0,-2	
-----	-----AUCACAUUGCCAGGGAUUAC---		

-----	818	0,-1	-----AUCACAUUGCCAGGGGAUUACa--
-----	175	0,-1	-----AUCACAUUGCCAGGGGAUUACaa-
-----	10	0,-1	-----AUCACAUUGCCAGGGGAUUACu--
-----	39	0,-1	-----AUCACAUUGCCAGGGGAUUACC--
-----	962	0,0	-----AUCACAUUGCCAGGGGAUUACCu-
-----	18	0,0	-----AUCACAUUGCCAGGGGAUUACCu
-----	4	0,0	-----AUCACAUUGCCAGGGGAUUACCA-
-----	2530	0,1	-----AUCACAUUGCCAGGGGAUUACCAa
-----	35	0,1	-----AUCACAUUGCCAGGGGAUUACCAa
u-----	7	0,1	-----AUCACAUUGCCAGGGGAUUACCAu
-----	500	0,1	-----AUCACAUUGCCAGGGGAUUACCAu
u-----	324	0,1	-----AUCACAUUGCCAGGGGAUUACCAC
-----	458	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
a-----	76	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
au-----	5	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
u-----	2025	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
uu-----	27	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
G-----	5	0,3	-----UCACAUUGCCAGGGGAUUA----
-----	6	1,-2	-----UCACAUUGCCAGGGGAUUAa---

```

----- 4 1,-2
-----UCACAUUGCCAGGGAUUAC---
----- 7 1,-1
-----UCACAUUGCCAGGGAUUACa--
----- 3 1,-1
-----UCACAUUGCCAGGGAUUACC--
----- 9 1,0
-----UCACAUUGCCAGGGAUUACCA-
----- 40 1,1
-----UCACAUUGCCAGGGAUUACCAu
----- 7 1,1
-----UCACAUUGCCAGGGAUUACCAu
u----- 23 1,1
-----UCACAUUGCCAGGGAUUACCAC
----- 23 1,2
-----UCACAUUGCCAGGGAUUACCAC
a----- 13 1,2
-----UCACAUUGCCAGGGAUUACCAC
u----- 96 1,2
-----UCACAUUGCCAGGGAUUACCAC
uu----- 7 1,2

```

>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018969

```

cuccggUGCCUACUGAGCUGAUUUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag
(((((((((.....)))))).))))))
-----GUGCCUACUGAGCUGAUUAa----- 3
-1,-4
-----GUGCCUACUGAGCUGAUUAUC----- 2
-1,-3
-----GUGCCUACUGAGCUGAUUAUCA----- 10
-1,-2
-----GUGCCUACUGAGCUGAUUAUCAG----- 2
-1,-1
-----GUGCCUACUGAGCUGAUUAUCAGU----- 2 -1,0
-----CUGGCUCAGUUCAGCAGGAACAG----- 2 -1,0
-----UGGCUCAGUUCAGCAGGA----- 24 0,-4
-----UGGCUCAGUUCAGCAGGAA----- 97 0,-3
-----UGGCUCAGUUCAGCAGGAa----- 25 0,-3

```

-----UGGCUCAGUUCAGCAGGAaAa-----	3	0,-3
-----UGGCUCAGUUCAGCAGGAaAu-----	14	0,-3
-----UGGCUCAGUUCAGCAGGAAC-----	97	0,-2
-----UGGCUCAGUUCAGCAGGAACu-----	2	0,-2
-----UGGCUCAGUUCAGCAGGAACA-----	136	0,-1
-----UGGCUCAGUUCAGCAGGAACAa-----	21	0,-1
-----UGGCUCAGUUCAGCAGGAACAaAa-----	2	0,-1
-----UGGCUCAGUUCAGCAGGAACAaAu-----	4	0,-1
-----UGGCUCAGUUCAGCAGGAACAu-----	10	0,-1
-----UGGCUCAGUUCAGCAGGAACAuAu-----	5	0,-1
-----UGGCUCAGUUCAGCAGGAACAG-----	896	0,0
-----UGGCUCAGUUCAGCAGGAACAGa-----	40	0,0
-----UGGCUCAGUUCAGCAGGAACAGaAa-----	3	0,0
-----UGGCUCAGUUCAGCAGGAACAGaAu-----	5	0,0
-----UGGCUCAGUUCAGCAGGAACAGaGu-----	1213	

-----UGGCUCAGUUCAGCAGGAACAGuu-	136	0,0
-----UGGCUCAGUUCAGCAGGAACAGG--	8	0,1
-----GGCUCAGUUCAGCAGGAA-----	2	1,-3
-----GGCUCAGUUCAGCAGGAAC-----	2	1,-2
-----GGCUCAGUUCAGCAGGAACAG---	15	1,0
-----GGCUCAGUUCAGCAGGAACAGa--	2	1,0
-----GGCUCAGUUCAGCAGGAACAGu--	17	1,0
-----GGCUCAGUUCAGCAGGAACAGuu-	4	1,0
-----GGCUCAGUUCAGCAGGAACAGG--	3	1,1
-----GCUCAGUUCAGCAGGAACAG---	8	2,0
-----GCUCAGUUCAGCAGGAACAGu--	10	2,0
-----GCUCAGUUCAGCAGGAACAGuu-	14	2,0
-----GCUCAGUUCAGCAGGAACAGG--	4	2,1

cucugccucccgUGCCUACUGAGCUGAAACACAGuugguuguguacacUGGCUCAGUUCAGCAGGAACAGgg

-----GUGCCUACUGAGCUGAAACAC-----	4
-1,-2	
-----GUGCCUACUGAGCUGAAACACA-----	3
-1,-1	
-----GUGCCUACUGAGCUGAAACACAG-----	6

-1,0	-GUGCCUACUGAGCUGAAACACAGU-----	2
-1,1	-----CUGGCUCAGUUCAGCAGGAACAG--	2
-1,0	-----UGGCUCAGUUCAGCAGGA-----	24
0,-4	-----UGGCUCAGUUCAGCAGGAA-----	97
0,-3	-----UGGCUCAGUUCAGCAGGAaAa---	25
0,-3	-----UGGCUCAGUUCAGCAGGAaAa---	3
0,-3	-----UGGCUCAGUUCAGCAGGAaAu---	14
0,-3	-----UGGCUCAGUUCAGCAGGAAC---	97
0,-2	-----UGGCUCAGUUCAGCAGGAACu---	2
0,-2	-----UGGCUCAGUUCAGCAGGAACA---	136
0,-1	-----UGGCUCAGUUCAGCAGGAACAa--	21
0,-1	-----UGGCUCAGUUCAGCAGGAACAaAa-	2
0,-1	-----UGGCUCAGUUCAGCAGGAACAaAu-	4
0,-1	-----UGGCUCAGUUCAGCAGGAACAaAu--	10
0,-1	-----UGGCUCAGUUCAGCAGGAACAauu-	5
0,-1	-----UGGCUCAGUUCAGCAGGAACAG--	896
0,0	-----UGGCUCAGUUCAGCAGGAACAGa-	40
0,0	-----UGGCUCAGUUCAGCAGGAACAGaa	3
0,0	-----UGGCUCAGUUCAGCAGGAACAGau	5

0,0	-----UGGCUCAGUUCAGCAGGAACAGu-	1213
0,0	-----UGGCUCAGUUCAGCAGGAACAGuu	136
0,0	-----UGGCUCAGUUCAGCAGGAACAGG-	8
0,1	-----GGCUCAGUUCAGCAGGAA-----	2
1,-3	-----GGCUCAGUUCAGCAGGAAC----	2
1,-2	-----GGCUCAGUUCAGCAGGAACAG--	15
1,0	-----GGCUCAGUUCAGCAGGAACAGa-	2
1,0	-----GGCUCAGUUCAGCAGGAACAGu-	17
1,0	-----GGCUCAGUUCAGCAGGAACAGuu	4
1,0	-----GGCUCAGUUCAGCAGGAACAGG-	3
1,1	-----GCUCAGUUCAGCAGGAACAG--	8
2,0	-----GCUCAGUUCAGCAGGAACAGu-	10
2,0	-----GCUCAGUUCAGCAGGAACAGuu	14
2,0	-----GCUCAGUUCAGCAGGAACAGG-	4
2,1		

>hsa-mir-25 mi:14-34;MA:52-73 SRX018969

ggccaguguugagAGGCGGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc

(((((.(.(((.((((.((((.((((.((((.(.....))..)))))))).).)))))).))))..).
))))

-----AGGCGGAGACUUGGGCAAUU-----
---- 5 0,-1
-----AGGCGGAGACUUGGGCAAUUG-----

```

----      12  0,0
-----AGGCGGAGACUUGGGCAAUUGC-----
----      17  0,1
-----AGGCGGAGACUUGGGCAAUUGCU-----
----      65  0,2
-----GCGGAGACUUGGGCAAUUGCU-----
----      2   2,2
-----CAUUGCACUUGUCUCGGU-----
----      71  0,-4
-----CAUUGCACUUGUCUCGGUC-----
----     179  0,-3
-----CAUUGCACUUGUCUCGGUCU-----
----     253  0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
----     153  0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
----      49  0,-1
-----CAUUGCACUUGUCUCGGUCUGA-----
----     491  0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----
----      22  0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
----      17  0,0
-----AUUGCACUUGUCUCGGUC-----
----      2   1,-3
-----AUUGCACUUGUCUCGGUCU-----
----     13  1,-2
-----AUUGCACUUGUCUCGGUCUG-----
----     11  1,-1
-----AUUGCACUUGUCUCGGUCUGu-----
----      4   1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
----     17  1,0

```

>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018969

```

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.((((((.(((((((((.(((((((((.((.....))...)))))))))))).)))))))).)))))))).))
-----UUCAAGUAAUCCAGGAUA-----

```

583 0, -4
-----UUCAAGUAAUCCAGGAUAa-----
24 0, -4
-----UUCAAGUAAUCCAGGAUAaa-----
3 0, -4
-----UUCAAGUAAUCCAGGAUAau-----
2 0, -4
-----UUCAAGUAAUCCAGGAUAu-----
3 0, -4
-----UUCAAGUAAUCCAGGAUAG-----
1397 0, -3
-----UUCAAGUAAUCCAGGAUAGa-----
3 0, -3
-----UUCAAGUAAUCCAGGAUAGu-----
8 0, -3
-----UUCAAGUAAUCCAGGAUAGG-----
1539 0, -2
-----UUCAAGUAAUCCAGGAUAGGa-----
5 0, -2
-----UUCAAGUAAUCCAGGAUAGGaa-----
4 0, -2
-----UUCAAGUAAUCCAGGAUAGGau-----
14 0, -2
-----UUCAAGUAAUCCAGGAUAGGu-----
15 0, -2
-----UUCAAGUAAUCCAGGAUAGGuu-----
27 0, -2
-----UUCAAGUAAUCCAGGAUAGGC-----
703 0, -1
-----UUCAAGUAAUCCAGGAUAGGCa-----
891 0, -1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
251 0, -1
-----UUCAAGUAAUCCAGGAUAGGCau-----
193 0, -1
-----UUCAAGUAAUCCAGGAUAGGCU-----
8209 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUa-----

))))

```
-----AUUCAAGUAAUCCAGGAUA-----
----      2      -1,-4
-----AUUCAAGUAAUCCAGGAUAG-----
----      2      -1,-3
-----AUUCAAGUAAUCCAGGAUAGGC-----
----      3      -1,-1
-----AUUCAAGUAAUCCAGGAUAGGCa-----
----      3      -1,-1
-----AUUCAAGUAAUCCAGGAUAGGCU-----
----      4      -1,0
-----UUCAAGUAAUCCAGGAUA-----
----    583      0,-4
-----UUCAAGUAAUCCAGGAUAa-----
----     24      0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
----      3      0,-4
-----UUCAAGUAAUCCAGGAUAau-----
----      2      0,-4
-----UUCAAGUAAUCCAGGAUAu-----
----      3      0,-4
-----UUCAAGUAAUCCAGGAUAG-----
----    1397      0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
----      3      0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
----      8      0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
----    1539      0,-2
-----UUCAAGUAAUCCAGGAUAGGa-----
----      5      0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
----      4      0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
----     14      0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
----     15      0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
```

```

----      27  0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
----      703 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
----      891 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
----      251 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
----      193 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
----      8209  0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
----      56  0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
----      97  0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
----      226 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
----      151 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
----      333 0,0
-----UCAAGUAAUCCAGGAUAG-----
----      7   1,-3
-----UCAAGUAAUCCAGGAUAGG-----
----      11  1,-2
-----UCAAGUAAUCCAGGAUAGGCa-----
----      5   1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
----      3   1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
----      55  1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
----      2   1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
----      2   1,0
-----CAAGUAAUCCAGGAUAGGCa-----
----      2   2,-1
-----CAAGUAAUCCAGGAUAGGCU-----

```

----- 9 2,0
-----CAAGUAAUCCAGGAUAGGCUaa-----
----- 2 2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
----- 3 2,0

>hsa-mi r-26b MA:12-32;mi :47-68 SRX018969

ccgggaccagUUCAAGUAAUUCAGGAUAGGUugugugcuguccagCCUGUUCUCAUACUUGGCUCggggaccgg
(((((((((.((((((((.((((((((((((.(.(.....)))))))))))))).)))))))))))))).))))))

-----UUCAAGUAAUUCAGGAUA-----

95 0,-3

-----UUCAAGUAAUUCAGGAUAa-----

 $2 \quad 0, -3$

-----UUCAAGUAAUUCAGGAUAaa-----

 $2 \quad 0, -3$

-----UUCAAGUAAUUCAGGAUAG-----

618 0,-2

-----UUCAAGUAAUUCAGGAUAGa-----

 $2 \quad 0, -2$

-----UUCAAGUAAUUCAGGAUAGG-----

1103 0, -1

-----UUCAAGUAAUUCAGGAUAGGa-----

8 0, -1

-----UUCAAGUAAUUCAGGAUAGGau-----

7 0,-1

-----UUCAAGUAAUUCAGGAUAGGU-----

1213 0,0

-----UUCAAGUAAUUCAGGAUAGGUa-----

303 0,0

-----UUCAAGUAAUUCAGGAUAGGUaa-----

336 0,0

-----UUCAAGUAAUUCAGGAUAGGUau-----

199 0,0

-----UUCAAGUAAUUCAGGAUAGGUU-----

4690 0,1

-----UUCAAGUAAUUCAGGAUAGGUUa-----

422 0,1

-----UUCAAGUAAUUCAGGAUAGGUU_{aa}-----

30 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUau-----
 15 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUu-----
 686 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUuu-----
 14 0,1
 -----UUCAAGUAAUUCAGGAUAGGUUG-----
 21 0,2
 -----UUCAAGUAAUUCAGGAUAGGUUGU-----
 4 0,3
 -----UCAAGUAAUUCAGGAUAGG-----
 8 1,-1
 -----UCAAGUAAUUCAGGAUAGGU-----
 4 1,0
 -----UCAAGUAAUUCAGGAUAGGUaa-----
 2 1,0
 -----UCAAGUAAUUCAGGAUAGGUU-----
 31 1,1
 -----UCAAGUAAUUCAGGAUAGGUUa-----
 2 1,1
 -----UCAAGUAAUUCAGGAUAGGUUu-----
 12 1,1
 -----UCAAGUAAUUCAGGAUAGGUUG-----
 7 1,2
 -----CAAGUAAUUCAGGAUAGGUU-----
 3 2,1
 -----CAAGUAAUUCAGGAUAGGUUuu-----
 4 2,1
 -----CCUGUUCUCCAUUACUUGGCa-----
 3 0,-2
 -----CCUGUUCUCCAUUACUUGGCUau-----
 2 0,-1
 -----CCUGUUCUCCAUUACUUGGCUuu-----
 2 0,-1

>hsa-mir-27a mi:10-31;MA:51-71 SRX018969

cugaggagcAGGGCUUAGCUGCUUGUGAGCAggguccacaccaagucgugUUCACAGUGGCUAAGUUCCGCccccag

-----GUUCACAGUGGCUAAGUU-----

6 -1, -4

-----GUUCACAGUGGCUAAGUU_a-----

2 -1, -4

-----GUUCACAGUGGCUAAGUUC-----

19 -1, -3

-----UUCACAGUGGCUAAGUUC-----

4545 0,-3

-----UUCACAGUGGCUAAGUUC_a-----

9 0.-3

-----UUCACAGUGGCUAAGUUC_{aa}-----

$$3 \quad 0, -3$$

-----UUCACAGUGGCUAAGUCC-----

105 0,-2

-----UUCACAGUGGCUAAGUCCG-----

211 0,-1

-----UUCACAGUGGCUAAGUCCGa-----

24 0, -1

-----UUCACAGUGGCUAAGUCCGaa-----

5 0, -1

-----UUCACAGUGGCUAAGUCCGu-----

35 0, -1

-----UUCACAGUGGCUAAGUUCCG_{uu}-----

4 0, -1

-----UUCACAGUGGCUAAGUCCGC-----

24 0,0

-----UUCACAGUGGCUAAGUCCGC_{aa}-----

4 0,0

-----UUCACAGUGGCUAAGUCCGC_{au}-----

2 0,0

>hsa-mi r-27b mi:19-40;MA:61-81 SRX018969

accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugaauugguuuccgcuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug

$$((((((((\dots(((((((((((((((((((((\dots(((((((((\dots(((\dots)))\dots)))))))))\dots)))))))))$$

))))). .)))))).)))))).

-----CAGAGCUUAGCUGAUUGGUGAA-----

```

----- 3  -1,-1
-----AGAGCUUAGCUGAUUGGUG-----
----- 9  0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
----- 86 0,-2
-----AGAGCUUAGCUGAUUGGUGAA-----
----- 56 0,-1
-----AGAGCUUAGCUGAUUGGUGAAC-----
----- 6  0,0
-----AGAGCUUAGCUGAUUGGUGAACA-----
----- 7  0,1
-----AGAGCUUAGCUGAUUGGUGAACAG-----
----- 5  0,2
-----AGAGCUUAGCUGAUUGGUGAACAGU-----
----- 2  0,3
-----GUUCACAGUGGCUAAGUU-----
----- 6  -1,-4
-----GUUCACAGUGGCUAAGUUa-----
----- 2  -1,-4
-----GUUCACAGUGGCUAAGUUC-----
----- 19 -1,-3
-----UUCACAGUGGCUAAGUUC-----
----- 4545 0,-3
-----UUCACAGUGGCUAAGUUCa-----
----- 9  0,-3
-----UUCACAGUGGCUAAGUUCaa-----
----- 3  0,-3
-----UUCACAGUGGCUAAGUUCU-----
----- 1060 0,-2
-----UUCACAGUGGCUAAGUUCUa-----
----- 6  0,-2
-----UUCACAGUGGCUAAGUUCUu-----
----- 7  0,-2
-----UUCACAGUGGCUAAGUUCUu-----
u----- 15 0,-2
-----UUCACAGUGGCUAAGUUCUG-----
----- 75 0,-1
-----UUCACAGUGGCUAAGUUCUG-----

```



```

----- 2 0,-2
-----AAGGAGCUCACAGUCUAUUGA-----
----- 176 0,-1
-----AAGGAGCUCACAGUCUAUUGAa-----
----- 3 0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 114 0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 17 0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 6 0,1
-----AGGAGCUCACAGUCUAUUG-----
----- 3 1,-2
-----CCACUAGAUUGUGAGCUCCUGG-----
----- 2 -1,-1
-----CACUAGAUUGUGAGCUCC-----
----- 3 0,-4
-----CACUAGAUUGUGAGCUCCU-----
----- 4 0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 20 0,-2
-----CACUAGAUUGUGAGCUCCUGG-----
----- 278 0,-1
-----CACUAGAUUGUGAGCUCCUGGu-----
----- 7 0,-1
-----CACUAGAUUGUGAGCUCCUGGuu-----
----- 2 0,-1
-----CACUAGAUUGUGAGCUCCUGGA-----
----- 1165 0,0
-----CACUAGAUUGUGAGCUCCUGGAa-----
----- 436 0,0
-----CACUAGAUUGUGAGCUCCUGGAaa-----
----- 44 0,0
-----CACUAGAUUGUGAGCUCCUGGAau-----
----- 8 0,0
-----CACUAGAUUGUGAGCUCCUGGAu-----
----- 34 0,0
-----CACUAGAUUGUGAGCUCCUGGAG-----

```


2 0, -4

>hsa-mi r-299 5p:7-28;3p:39-60 SRX018969

aagaaaUGGUUUACCGUCCCACAUACAUnuugaauaugUAUGUGGGAUGGUAACCGCUUcuu

-----AUGGUUUACCGUCCCACAUA----- 2 -1,-3

-----AUGGUUUACCGUCCCACAUAC----- 5 -1,-2

-----AUGGUUUACCGUCCCAUACA----- 18 -1,-1

-----UGGUUUACCGUCCCACAUA----- 7 0,-3

-----UGGUUUACCGUCCCACAUAC----- 8 0,-2

-----UGGUUUACCGUCCCACAUACA----- 15 0,-1

-----UGGUUUACCGUCCCACAUACAU----- 17 0,0

>hsa-mi r-29a mi:4-25;MA:42-63 SRX018969

augACUGAUUUCUUUUGGUGUUCAGagucaauaaauuuucUAGCACCAUCUGAAAAUCGGUAAu

$$((((((((((((((\dots(((((((((.(((((\dots\dots\dots)))))))))\dots)))))))))$$

---ACUGAUUUCUUUGGUGUUCA----- 3 0,-1

---ACUGAUUUCUUUUGGUGUUCAG----- 8 0,0

---ACUGAUUUCUUUUGGUGUUCAGA----- 6 0,1

-----CUAGCACCAUCUGAAAUC----- 2 -1,-5

-----CUAGCACCAUCUGAAAUCG----- 9 -1,-4

-----CUAGCACCAUCUGAAAUCGG----- 40 -1,-3

-----CUAGCACCAUCUGAAAUCGGU----- 60 -1,-2

-----CUAGCACCAUCUGAAAUCGGUa----- 9 -1,-2

-----CUAGCACCAUCUGAAAUCGGUaa- 15 -1,-2

-----CUAGCACCAUCUGAAAUCGGUU-- 393 -1,-1

-----CUAGCACCAUCUGAAAUCGGUU- 72 -1,-1

-----CUAGCACCAUCUGAAAUCGGUUA- 159 -1,0

-----CUAGCACCAUCUGAAAUCGGUUAa 17 -1,0

-----CUAGCACCAUCUGAAAUCGGUUAU 9 -1,1

-----UAGCACCAUCUGAAAUCG----- 192 0, -4

-----UAGCACCAUCUGAAAUCG_{uu}----- 5 0, -4

-----UAGCACCAUCUGAAAUCGG----- 2797 0,-3

-----UAGCACCAUCUGAAAUCGGa--- 11 0,-3

-----UAGCACCAUCUGAAAUCGGaa-- 7 0,-3

-----UAGCACCAUCUGAAAUCGG_{au}----- 10 0,-3

-----UAGCACCAUCUGAAAUCGGU----- 906 0,-2

-----UAGCACCAUCUGAAAUCGGUa-- 134 0,-2

-----UAGCACCAUCUGAAAUCGGUaa-	907	0,-2
-----UAGCACCAUCUGAAAUCGGUau-	80	0,-2
-----UAGCACCAUCUGAAAUCGGUU--	13785	0,-1
-----UAGCACCAUCUGAAAUCGGUUu-	4987	0,-1
-----UAGCACCAUCUGAAAUCGGUUuu	120	0,-1
-----UAGCACCAUCUGAAAUCGGUUA-	36117	0,0
-----UAGCACCAUCUGAAAUCGGUUAa	1830	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	12	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	7	0,0
-----UAGCACCAUCUGAAAUCGGUUAU	1123	0,1
-----UAGCACCAUCUGAAAUCGGUUUAa	6	0,1
-----UAGCACCAUCUGAAAUCGGUUUAu	8	0,1
-----AGCACCAUCUGAAAUCGG-----	9	1,-3
-----AGCACCAUCUGAAAUCGGU---	2	1,-2
-----AGCACCAUCUGAAAUCGGUaa-	2	1,-2
-----AGCACCAUCUGAAAUCGGUU--	69	1,-1
-----AGCACCAUCUGAAAUCGGUUu-	41	1,-1
-----AGCACCAUCUGAAAUCGGUUA-	280	1,0
-----AGCACCAUCUGAAAUCGGUUAa	6	1,0
-----AGCACCAUCUGAAAUCGGUUAU	11	1,1
-----GCACCAUCUGAAAUCGGU---	3	2,-2
-----GCACCAUCUGAAAUCGGUU--	10	2,-1
-----GCACCAUCUGAAAUCGGUUu-	2	2,-1
-----GCACCAUCUGAAAUCGGUUA-	16	2,0
-----GCACCAUCUGAAAUCGGUUAa	4	2,0

- 3 -1,-2	-----UAGCACCAUUUGAAAUCA-----
- 153 0,-5	-----UAGCACCAUUUGAAAUCAG-----
- 236 0,-4	-----UAGCACCAUUUGAAAUCAGa-----
- 3 0,-4	-----UAGCACCAUUUGAAAUCAGU-----
- 4791 0,-3	-----UAGCACCAUUUGAAAUCAGUa-----
- 5 0,-3	-----UAGCACCAUUUGAAAUCAGUaa-----
- 4 0,-3	-----UAGCACCAUUUGAAAUCAGUu-----
- 15 0,-3	-----UAGCACCAUUUGAAAUCAGUuu-----
- 12 0,-3	-----UAGCACCAUUUGAAAUCAGUG-----
- 215 0,-2	-----UAGCACCAUUUGAAAUCAGUGa-----
- 17 0,-2	-----UAGCACCAUUUGAAAUCAGUGaa-----
- 2 0,-2	-----UAGCACCAUUUGAAAUCAGUGU-----
- 79 0,-1	-----UAGCACCAUUUGAAAUCAGUGUa-----
- 13 0,-1	-----UAGCACCAUUUGAAAUCAGUGUU-----
- 115 0,0	-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 7 0,0	-----AGCACCAUUUGAAAUCAG-----
- 3 1,-4	-----AGCACCAUUUGAAAUCAGU-----
- 74 1,-3	-----AGCACCAUUUGAAAUCAGUGU-----
- 2 1,-1	-----AGCACCAUUUGAAAUCAGUGUU-----

```

- 2 1,0
-----GCACCAUUUGAAAUCAGU-----
- 16 2,-3

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018969
cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----GCUGGUUUCACAUGGUGGCUU-----
- 4 -1,-2
-----GCUGGUUUCACAUGGUGGCUUA-----
- 2 -1,-1
-----CUGGUUUCACAUGGUGGCUUA-----
- 2 0,-1
-----CUAGCACCAUUUGAAAUCAGU-----
- 44 -1,-3
-----CUAGCACCAUUUGAAAUCAGUu-----
- 4 -1,-3
-----CUAGCACCAUUUGAAAUCAGUG-----
- 3 -1,-2
-----UAGCACCAUUUGAAAUCA-----
- 153 0,-5
-----UAGCACCAUUUGAAAUCAG-----
- 236 0,-4
-----UAGCACCAUUUGAAAUCAGa-----
- 3 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 4791 0,-3
-----UAGCACCAUUUGAAAUCAGUa-----
- 5 0,-3
-----UAGCACCAUUUGAAAUCAGUaa-----
- 4 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----
- 15 0,-3
-----UAGCACCAUUUGAAAUCAGUuu-----
- 12 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----

```

```

- 215 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 17 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 2 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 79 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 13 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 115 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 7 0,0
-----UAGCACCAUUUGAAAUCAGUGUUU-----
- 25 0,1
-----UAGCACCAUUUGAAAUCAGUGUUUU-----
- 2 0,2
-----AGCACCAUUUGAAAUCAG-----
- 3 1,-4
-----AGCACCAUUUGAAAUCAGU-----
- 74 1,-3
-----AGCACCAUUUGAAAUCAGUGU-----
- 2 1,-1
-----AGCACCAUUUGAAAUCAGUGUU-----
- 2 1,0
-----GCACCAUUUGAAAUCAGU-----
- 16 2,-3

```

>hsa-mir-29c mi:16-37;MA:54-75 SRX018969

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

```

.((((((((((((...((((((((((((...((((((((((((...))))))...))))))...))))))...))))))..
))))))..

```

```

-----UGACCGAUUUCUCCUGGUGU-----
-----5 0,-2
-----UGACCGAUUUCUCCUGGUGUU-----
-----29 0,-1
-----UGACCGAUUUCUCCUGGUGUUa-----

```

```

----- 6 0,-1
-----UGACCGAUUUCUCCUGGUGUUu-----
----- 2 0,-1
-----UGACCGAUUUCUCCUGGUGUUC-----
----- 4 0,0
-----UGACCGAUUUCUCCUGGUGUUA-----
----- 3 0,1
-----GACCGAUUUCUCCUGGUGUU-----
----- 7 1,-1
-----GACCGAUUUCUCCUGGUGUUa-----
----- 2 1,-1
-----GACCGAUUUCUCCUGGUGUUC-----
----- 4 1,0
-----GACCGAUUUCUCCUGGUGUUA-----
----- 2 1,1
-----ACCGAUUUCUCCUGGUGUUA-----
----- 2 2,1
-----ACCGAUUUCUCCUGGUGUUCAG-----
----- 9 2,2
-----ACCGAUUUCUCCUGGUGUUCAGA-----
----- 2 2,3
-----CUAGCACCAUUUGAAAUC-----
----- 3 -1,-5
-----CUAGCACCAUUUGAAAUCGGUU-----
----- 5 -1,-1
-----CUAGCACCAUUUGAAAUCGGUUu-----
----- 2 -1,-1
-----CUAGCACCAUUUGAAAUCGGUUA-----
----- 6 -1,0
-----UAGCACCAUUUGAAAUCG-----
----- 170 0,-4
-----UAGCACCAUUUGAAAUCGa-----
----- 2 0,-4
-----UAGCACCAUUUGAAAUCGuu-----
----- 2 0,-4
-----UAGCACCAUUUGAAAUCGG-----
----- 650 0,-3
-----UAGCACCAUUUGAAAUCGGU-----

```


-----	228	0,-2	-----UAGCACCAUUUGAAAUCGGUa-----
-----	13	0,-2	-----UAGCACCAUUUGAAAUCGGUaa-----
-----	89	0,-2	-----UAGCACCAUUUGAAAUCGGUau-----
-----	7	0,-2	-----UAGCACCAUUUGAAAUCGGUU-----
-----	867	0,-1	-----UAGCACCAUUUGAAAUCGGUUu-----
-----	462	0,-1	-----UAGCACCAUUUGAAAUCGGUUuu-----
-----	19	0,-1	-----UAGCACCAUUUGAAAUCGGUUA-----
-----	5057	0,0	-----UAGCACCAUUUGAAAUCGGUUAa-----
-----	208	0,0	-----UAGCACCAUUUGAAAUCGGUUAaa-----
-----	4	0,0	-----UAGCACCAUUUGAAAUCGGUUAau-----
-----	3	0,0	-----UAGCACCAUUUGAAAUCGGUUUA-----
-----	109	0,1	-----UAGCACCAUUUGAAAUCGGUUUAa-----
-----	3	0,1	-----AGCACCAUUUGAAAUCGG-----
-----	2	1,-3	-----AGCACCAUUUGAAAUCGGUU-----
-----	7	1,-1	-----AGCACCAUUUGAAAUCGGUUA-----
-----	31	1,0	-----GCACCAUUUGAAAUCGGU-----
-----	2	2,-2	-----GCACCAUUUGAAAUCGGUU-----
-----	2	2,-1	-----GCACCAUUUGAAAUCGGUUA-----
-----	2	2,0	-----GCACCAUUUGAAAUCGGUUUA-----

----- 6 2,1
-----GCACCAUUUGAAAUCGGUUAUa-----
----- 2 2,1
-----GCACCAUUUGAAAUCGGUUAUu-----
----- 6 2,1

```
>hsa-mir-301a    3p:51-73    SRX018969
acugcuaacgaugcucugacuuuauugcacuacuguacuuuacagcuagCAGUGCAAUAGUAUUGUCAAGCaucugaa
agcagg
(((((((.(((.(((((.(((.((((((((((.(((((...))))).(((.)))))))).(((.))))).))))).
))))).
-----GCUCUGACUUUAUUGCACUACU-----
----- 5
```

```

>hsa-mir-3065    5p:10-32;3p:50-72    SRX018969
cugcccccucUACAACAAAUCACUGAUGCUGGAgucgccugagucacUCAGCACCAGGAUAUUGUUGGAGaggacag
(((.(((((((((((((.(((.(((.(((((((((.((...)).))......))))).)))))).)))))))).))
-----UCAACAAAUCACUGAUGC-----
6    0, -4
-----UCAACAAAUCACUGAUGCU-----
8    0, -3
-----UCAACAAAUCACUGAUGCUG-----
2    0, -1
-----UCAGCACCAGGAUAUUGU-----
2    0, -4
-----UCAGCACCAGGAUAUUGU-----
4    0, -3
-----UCAGCACCAGGAUAUUGUUGA-----
2    0, -1

```

```
>hsa-mir-3074    3p:50-71    SRX018969
gcucgacuccuguuccugcugaacugagccaguguguaaaaugagaacuGAUAUCAGCUCAGUAGGCACCGgagggcgagg
u
(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----GAUAUCAGCUCAGUAGGCACC-----
-   3   0,-1
```

>hsa-mir-30a MA:6-27;mi:47-68 SRX018969

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc

(((.((((((((((((((..((((((((((((((((((....)))....)))

----CUGUAAACAUCCUCGACUGGA----- 2

-1, -2

----CUGUAAACAUCCUCGACUGGAA----- 3

-1, -1

----CUGUAAACAUCCUCGACUGGAAGC----- 10 -1,1

----CUGUAAACAUCCUCGACUGGAAGCU----- 11 -1,2

-----UGUAAACAUCCUCGACUG----- 134 0,-4

-----UGUAAACAUCCUCGACUGG----- 102 0,-3

-----UGUAAACAUCCUCGACUGGu----- 7 0,-3

-----UGUAAACAUCCUCGACUGGA----- 339 0,-2

-----UGUAAACAUCCUCGACUGGAA----- 887 0,-1

-----UGUAAACAUCCUCGACUGGAAa----- 353 0,-1

-----UGUAAACAUCCUCGACUGGAAaa----- 25 0,-1

-----UGUAAACAUCCUCGACUGGAAau----- 4 0,-1

-----UGUAAACAUCCUCGACUGGAAu----- 15 0,-1

-----UGUAAACAUCCUCGACUGGAAG----- 2223

0,0

-----UGUAAACAUCCUCGACUGGAAGa----- 1245

0,0

-----UGUAAACAUCCUCGACUGGAAGaa----- 38 0,0

-----UGUAAACAUCCUCGACUGGAAGau----- 44 0,0

-----UGUAAACAUCCUCGACUGGAAGu----- 123 0,0

-----UGUAAACAUCCUCGACUGGAAGuu----- 20 0,0

-----UGUAAACAUCCUCGACUGGAAGC----- 7626

0,1

-----UGUAAACAUCCUCGACUGGAAGCa----- 419 0,1

-----UGUAAACAUCCUCGACUGGAAGCaa----- 6 0,1

-----UGUAAACAUCCUCGACUGGAAGCau----- 5 0,1

-----UGUAAACAUCCUCGACUGGAAGCU----- 12311

0,2

-----UGUAAACAUCCUCGACUGGAAGCUa----- 30 0,2

-----UGUAAACAUCCUCGACUGGAAGCUu----- 332 0,2

-----GUAAACAUCCUCGACUGGAA----- 2 1,-1

-----GUAAACAUCCUCGACUGGAAa----- 3 1,-1

-----GUAAACAUCCUCGACUGGAAG----- 21 1,0

```

-----GUAACAUCUCCGACUGGAAGa----- 7 1,0
-----GUAACAUCUCCGACUGGAAGC----- 36 1,1
-----GUAACAUCUCCGACUGGAAGCU----- 20 1,2
-----GUAACAUCUCCGACUGGAAGCUa----- 2 1,2
-----UAAACAUCUCCGACUGGAAGC----- 2 2,1
-----UAAACAUCUCCGACUGGAAGCU----- 3 2,2
-----CUUUCAGUCGGAUGUUUG----- 17 0,-4
-----CUUUCAGUCGGAUGUUUGu----- 2 0,-4
-----CUUUCAGUCGGAUGUUUGC----- 11 0,-3
-----CUUUCAGUCGGAUGUUUGCA----- 32 0,-2
-----CUUUCAGUCGGAUGUUUGCAa----- 13 0,-2
-----CUUUCAGUCGGAUGUUUGCAu----- 4 0,-2
-----CUUUCAGUCGGAUGUUUGCAG----- 118 0,-1
-----CUUUCAGUCGGAUGUUUGCAGu----- 13 0,-1
-----CUUUCAGUCGGAUGUUUGCAGC----- 41 0,0
-----CUUUCAGUCGGAUGUUUGCAGCa----- 4 0,0
-----CUUUCAGUCGGAUGUUUGCAGCau----- 13 0,0
-----UUUCAGUCGGAUGUUUGCAu----- 2 1,-2
-----UUUCAGUCGGAUGUUUGCAuu----- 3 1,-2
-----UUUCAGUCGGAUGUUUGCAG----- 27 1,-1
-----UUUCAGUCGGAUGUUUGCAGu----- 7 1,-1
-----UUUCAGUCGGAUGUUUGCAGC----- 24 1,0
-----UUUCAGUCGGAUGUUUGCAGCa----- 2 1,0
-----UUUCAGUCGGAUGUUUGCAGCaa----- 2 1,0
-----UUUCAGUCGGAUGUUUGCAGCau----- 5 1,0
-----UUUCAGUCGGAUGUUUGCAGCU----- 2 1,1

```

>hsa-mir-30b MA:17-38;mi:55-76 SRX018969

accaaguuuucaguucaUGUAAACAUCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
gacuugga

.((((((...(((((((((((((.(((.((((((((.....))))))))).))))))))).))))).))))).))))).))))).

```

-----AUGUAAACAUCUACACUCAGCa-----
----- 2 -1,-1
-----UGUAAACAUCUACACUC-----
----- 64 0,-4
-----UGUAAACAUCUACACUCA-----
----- 42 0,-3

```

```

-----UGUAAACAUCCUACACUCAG-----
-----107 0,-2
-----UGUAAACAUCCUACACUCAGa-----
-----6 0,-2
-----UGUAAACAUCCUACACUCAGau-----
-----3 0,-2
-----UGUAAACAUCCUACACUCAGu-----
-----2 0,-2
-----UGUAAACAUCCUACACUCAGC-----
-----266 0,-1
-----UGUAAACAUCCUACACUCAGCa-----
-----18 0,-1
-----UGUAAACAUCCUACACUCAGCaa-----
-----6 0,-1
-----UGUAAACAUCCUACACUCAGCau-----
-----4 0,-1
-----UGUAAACAUCCUACACUCAGCU-----
-----1268 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
-----55 0,0
-----UGUAAACAUCCUACACUCAGCUau-----
-----13 0,0
-----UGUAAACAUCCUACACUCAGCUu-----
-----54 0,0
-----UGUAAACAUCCUACACUCAGCUuu-----
-----15 0,0
-----UGUAAACAUCCUACACUCAGCUG-----
-----3 0,1
-----GUAAACAUCCUACACUCAGCU-----
-----13 1,0
-----GUAAACAUCCUACACUCAGCUu-----
-----2 1,0
-----UAAACAUCCUACACUCAGC-----
-----2 2,-1
-----UAAACAUCCUACACUCAGCU-----
-----2 2,0
-----CUGGGAGGUGGAUGUUUA-----
-----4 0,-4

```



```

-----UGUAAACAUCCUACACUCUCA-----
----- 344 0,-2
-----UGUAAACAUCCUACACUCUCAa-----
----- 4 0,-2
-----UGUAAACAUCCUACACUCUCAaa-----
----- 2 0,-2
-----UGUAAACAUCCUACACUCUCAG-----
----- 368 0,-1
-----UGUAAACAUCCUACACUCUCAGa-----
----- 39 0,-1
-----UGUAAACAUCCUACACUCUCAGaa-----
----- 7 0,-1
-----UGUAAACAUCCUACACUCUCAGau-----
----- 3 0,-1
-----UGUAAACAUCCUACACUCUCAGu-----
----- 16 0,-1
-----UGUAAACAUCCUACACUCUCAGuu-----
----- 3 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 335 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 15 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 1034 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 21 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 33 0,1
-----UGUAAACAUCCUACACUCUCAGCUG-----
----- 3 0,2
-----GUAACAUCCUACACUCUCA-----
----- 4 1,-2
-----GUAACAUCCUACACUCUCAG-----
----- 3 1,-1
-----GUAACAUCCUACACUCUCAGC-----
----- 6 1,0
-----GUAACAUCCUACACUCUCAGCU-----
----- 4 1,1

```

```

-----UAAACAUCCUACACUCUCAGCU-----
----- 2 2,1 -----
-----GCUGGGAGAGGGUUGUUUACU-----
----- 2 -1,-2 -----
-----CUGGGAGAGGGUUGUUUAC-----
----- 4 0,-3 -----
-----CUGGGAGAGGGUUGUUUACU-----
----- 72 0,-2 -----
-----CUGGGAGAGGGUUGUUUACUC-----
----- 6 0,-1 -----
-----CUGGGAGAGGGUUGUUUACUCC-----
----- 4 0,0 -----
-----CUGGGAGAGGGUUGUUUACUCCa-----
----- 2 0,0 -----
-----UGGGAGAGGGUUGUUUACU-----
----- 6 1,-2 -----

```

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018969

```

agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
(((....(((((((....(((((((.....)))))))))).)))....)))
-----UGUAAACAUCCUACACUC----- 64
0,-5
-----UGUAAACAUCCUACACUCU----- 34
0,-4
-----UGUAAACAUCCUACACUCUC----- 49
0,-3
-----UGUAAACAUCCUACACUCUCu----- 3
0,-3
-----UGUAAACAUCCUACACUCUCA----- 344
0,-2
-----UGUAAACAUCCUACACUCUCAa----- 4
0,-2
-----UGUAAACAUCCUACACUCUCAaa----- 2
0,-2
-----UGUAAACAUCCUACACUCUCAG----- 368
0,-1
-----UGUAAACAUCCUACACUCUCAGa----- 39
0,-1

```


-----UGUAAACAUCCUACACUCUCAGaa-----	7
0,-1	
-----UGUAAACAUCCUACACUCUCAGau-----	3
0,-1	
-----UGUAAACAUCCUACACUCUCAGu-----	16
0,-1	
-----UGUAAACAUCCUACACUCUCAGuu-----	3
0,-1	
-----UGUAAACAUCCUACACUCUCAGC-----	335
0,0	
-----UGUAAACAUCCUACACUCUCAGCa-----	15
0,0	
-----UGUAAACAUCCUACACUCUCAGCU-----	1034
0,1	
-----UGUAAACAUCCUACACUCUCAGCUa-----	21
0,1	
-----UGUAAACAUCCUACACUCUCAGCUu-----	33
0,1	
-----UGUAAACAUCCUACACUCUCAGCUG-----	3
0,2	
-----GUAAACAUCCUACACUCUCA-----	4
1,-2	
-----GUAAACAUCCUACACUCUCAG-----	3
1,-1	
-----GUAAACAUCCUACACUCUCAGC-----	6
1,0	
-----GUAAACAUCCUACACUCUCAGCU-----	4
1,1	
-----UAAACAUCCUACACUCUCAGCU-----	2
2,1	
-----AGCUGGGAGAAGGCUGUUUACUC-----	2
-2,-1	
-----AGCUGGGAGAAGGCUGUUUACUCUU---	2
-2,1	
-----CUGGGAGAAGGCUGUUUA-----	8
0,-4	
-----CUGGGAGAAGGCUGUUUAau-----	3
0,-4	

-----CUGGGAGAAGGCUGUUUAu-----	3
0,-4	
-----CUGGGAGAAGGCUGUUUAC-----	27
0,-3	
-----CUGGGAGAAGGCUGUUUACa-----	3
0,-3	
-----CUGGGAGAAGGCUGUUUACU-----	405
0,-2	
-----CUGGGAGAAGGCUGUUUACUa-----	4
0,-2	
-----CUGGGAGAAGGCUGUUUACUuu-----	3
0,-2	
-----CUGGGAGAAGGCUGUUUACUC-----	115
0,-1	
-----CUGGGAGAAGGCUGUUUACUCU-----	29
0,0	
-----UGGGAGAAGGCUGUUUACU-----	9
1,-2	
-----UGGGAGAAGGCUGUUUACUC-----	6
1,-1	
-----UGGGAGAAGGCUGUUUACUCU-----	2
1,0	
-----GGGAGAAGGCUGUUUACU-----	4
2,-2	

>hsa-mir-30d MA:6-27;mi:46-67 SRX018969

guuguUGUAAACAUCCCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUGUUUGCUGCuac

...(((.....))).....

----UUGUAAACAUCCCCGACUGGAAGCU-----	3	-1,2
----UGUAAACAUCCCCGACUG-----	68	0,-4
----UGUAAACAUCCCCGACUGG-----	111	0,-3
----UGUAAACAUCCCCGACUGGA-----	333	0,-2
----UGUAAACAUCCCCGACUGGAu-----	2	0,-2
----UGUAAACAUCCCCGACUGGAA-----	994	0,-1
----UGUAAACAUCCCCGACUGGAAa-----	468	0,-1
----UGUAAACAUCCCCGACUGGAAaa-----	33	0,-1
----UGUAAACAUCCCCGACUGGAAau-----	4	0,-1
----UGUAAACAUCCCCGACUGGAau-----	38	0,-1

-----UGUAAACAUCCTCCGACUGGAAG-----	964	0,0
-----UGUAAACAUCCTCCGACUGGAAGa-----	666	0,0
-----UGUAAACAUCCTCCGACUGGAAGaa-----	64	0,0
-----UGUAAACAUCCTCCGACUGGAAGau-----	57	0,0
-----UGUAAACAUCCTCCGACUGGAAGu-----	116	0,0
-----UGUAAACAUCCTCCGACUGGAAGuu-----	28	0,0
-----UGUAAACAUCCTCCGACUGGAAGC-----	2192	
0,1		
-----UGUAAACAUCCTCCGACUGGAAGCa-----	264	0,1
-----UGUAAACAUCCTCCGACUGGAAGCau-----	8	0,1
-----UGUAAACAUCCTCCGACUGGAAGCU-----	19290	
0,2		
-----UGUAAACAUCCTCCGACUGGAAGCUa-----	65	0,2
-----UGUAAACAUCCTCCGACUGGAAGCUu-----	712	0,2
-----UGUAAACAUCCTCCGACUGGAAGCUG-----	2	0,3
-----GUAACAUCCTCCGACUGGA-----	3	1,-2
-----GUAACAUCCTCCGACUGGAa-----	6	1,-1
-----GUAACAUCCTCCGACUGGAAG-----	7	1,0
-----GUAACAUCCTCCGACUGGAAGa-----	12	1,0
-----GUAACAUCCTCCGACUGGAAGu-----	3	1,0
-----GUAACAUCCTCCGACUGGAAGC-----	26	1,1
-----GUAACAUCCTCCGACUGGAAGCU-----	155	1,2
-----GUAACAUCCTCCGACUGGAAGCUu-----	14	1,2
-----GUAACAUCCTCCGACUGGAAGCUuu-----	4	1,2
-----UAAACAUCCTCCGACUGGAAGCa-----	3	2,1
-----UAAACAUCCTCCGACUGGAAGCU-----	4	2,2
-----CUUUCAGUCAGAUUUUGC-----	2	0,-3
-----CUUUCAGUCAGAUUUUGC-----	7	0,-2

>hsa-mir-30e MA:17-38;mi:59-80 SRX018969

gggcagucuuugcuacUGUAAACAUCUUGACUGGAAGcuguaagguguucagaggagCUUUCAGUCGGAUGUUUACAGC
ggcaggcugcca

.((((((((((..(((..((((((((((((..((((((((((((..(((..(((..)))))))))))))))))))))))))).
.)))))))))).

-----CUGUAAACAUCUUGACU-----		
-----2-----	-1,-5	
-----CUGUAAACAUCUUGACUGGAAGC-----		
-----7-----	-1,1	

```

-----CUGUAAACAUCCUUGACUGGAAGCU-----
-----5   -1,2
-----UGUAAACAUCCUUGACUG-----
-----22  0,-4
-----UGUAAACAUCCUUGACUGG-----
-----48  0,-3
-----UGUAAACAUCCUUGACUGGA-----
-----26  0,-2
-----UGUAAACAUCCUUGACUGGAA-----
-----96  0,-1
-----UGUAAACAUCCUUGACUGGAa-----
-----28  0,-1
-----UGUAAACAUCCUUGACUGGAaa-----
-----2   0,-1
-----UGUAAACAUCCUUGACUGGAau-----
-----3   0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
-----148 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
-----292 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
-----28  0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
-----6   0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
-----4   0,0
-----UGUAAACAUCCUUGACUGGAAGuu-----
-----2   0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
-----1280  0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
-----33  0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
-----2   0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
-----1523  0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
-----2   0,2

```

```

-----UGUAAACAUCCUUGACUGGAAGCUu-----
-----144 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
-----2 0,3
-----GUAAACAUCCUUGACUGGAA-----
-----2 1,-1
-----GUAAACAUCCUUGACUGGAAG-----
-----5 1,0
-----GUAAACAUCCUUGACUGGAAGa-----
-----5 1,0
-----GUAAACAUCCUUGACUGGAAGau-----
-----2 1,0
-----GUAAACAUCCUUGACUGGAAGC-----
-----72 1,1
-----GUAAACAUCCUUGACUGGAAGCU-----
-----71 1,2
-----GUAAACAUCCUUGACUGGAAGCUu-----
-----6 1,2
-----GUAAACAUCCUUGACUGGAAGCUuu-----
-----2 1,2
-----UAAACAUCCUUGACUGGAAGCU-----
-----3 2,2
-----CUUUCAGUCGGAUGUUUA-----
-----20 0,-4
-----CUUUCAGUCGGAUGUUUAa-----
-----3 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
-----10 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
-----43 0,-2
-----CUUUCAGUCGGAUGUUUACAa-----
-----7 0,-2
-----CUUUCAGUCGGAUGUUUACAG-----
-----70 0,-1
-----CUUUCAGUCGGAUGUUUACAGa-----
-----10 0,-1
-----CUUUCAGUCGGAUGUUUACAGu-----
-----124 0,-1

```

Sequence	Count	Score
u	11	0, -1
a	39	0, 0
aa	2	0, 0
	4	1, -1
	7	1, -1
	7	1, 0
a	2	1, 0

```
>hsa-mir-31 MA:8-28;mi:44-65      SRX018969
ggagaggAGGCAAGAUgcUGGCAUAGCUguugaacugggaaccUGCUAUGCCAACAUAUUGCCAUcuuuucc
(((((((.(((((.(((.(((((((((.(((. ....)))..)))))))).)))..))))))
-----AGGCAAGAUgcUGGCAUAGCU----- 4    0,0
-----AGGCAAGAUgcUGGCAUAGCUG----- 2    0,1
```

```
>hsa-mir-3121    3p:47-68      SRX018969
aaauggguuauguccuuugccuauucuaauuuagacaccuguaccuUAAAUAGAGUAGGCAAAGGACAgaaacauuu
(((((((.....((((((((((((((((((((((((((((((((((((((.....))..))))))))))))))))))))))))).)))
-----UAAAUAGAGUAGGCAAAG-----
          3       0,-4
```

```
>hsa-mir-3124    5p:7-27 SRX018969
gcggggcUUCGCGGGCGAAGGCAAAGUCgauuuccaaaagugacuuuccucacucccgugaagucggc
((.((((((((((.((.(((.((((((.(((((. . . .)))))))))))))))).).))))) .))
-----UUCGCGGGCGAAGGCAAAGUC----- 2    0.0
```

```
>hsa-mir-3130-1 5p:13-33;3p:44-64 SRX018969  
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuguugucaagGCUGCACCGGAGACUGGGUAAGacaugacaag  
((((((((((((((((((((((((((((((((((((((((((.....))))))))) ))))))) ) ) ) ) )  
-----GCUGCACCGGAGACUGGGUAA----- 10
```

```
>hsa-mir-3130-2 5p:13-33;3p:44-64 SRX018969  
cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAGacaugacaag  
((((((((((((((((((((((((((((((((((((((((((.....)))))))))(((((((((((((((((((((((  
-----GCUGCACCGGAGACUGGGUA----- 10  
  
0,0
```

[illegible]

```
>hsa-mir-3150    3p:49-70      SRX018969
gggaagcaggccaaccucgacgaucuccucagcaccugaacgccaaaggCUGGGGAGAUCCUCGAGGUUGCcugcuuucc
(((((((((((((((((((((((.(.((((((((((((((.(.(.....)).)))))))))..)))))))))
-----CAACCUCGACGAUCCUCAGu-----
```

```
>hsa-mir-3154    3p:54-75    SRX018969
ggccccuccuucucagccccagcucccgcucaccccugccacgucaaaggaggCAGAAGGGGAGUUGGGAGCAGAgaggg
gacc
((((((((((..(((..((((((((((((((..((.....((((((..((.....).)))))).))))))))))))).))))))))))
).))
-----CAGAAGGGGAGUUGGGAGCAGA-----
----      2      0,0
```

```

>hsa-mir-3158-1 3p:50-71 SRX018969
auucaggccgguccugcagagaggaagcccuucugcuuacagguauuggAAGGGCUUCCUCUCUGCAGGACcggccugaa
u
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----AAGGGCUUCCUCUCUGCAGGA-----
- 3 0,-1

```

```

>hsa-mir-3158-2 3p:50-71 SRX018969
auucaggccgguccugcagagaggaagcccuuccaauaccuguaagcagAAGGGCUUCCUCUCUGCAGGACcggccugaa
u
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----AAGGGCUUCCUCUCUGCAGGA-----
- 3 0,-1

```

```

>hsa-mir-3159 5p:10-31 SRX018969
ccaaaguccUAGGAUUACAAGUGUCGGCCACgggcugggcacaguggcucacgccuguaaucccagcauuuugg
(((((((.((.(((((((((.((((((((((...(((...)))...)))))).)))))).)))))).))))))
-----GCUCACGCCUGUAAUCCCA----- 2
-----CACGCCUGUAAUCCCAGC----- 2
-----ACGCCUGUAAUCCCAGCA----- 2

```

```

>hsa-mir-3164 5p:10-31 SRX018969
cuuggaaacUGUGACUUUAAGGGAAAUGGCGcacagcagaccugcaaucaugccguuuugcuugaagucgcaguuuccc
agg
(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
)).
-----UGUGACUUUAAGGGAAAUGGCG-----
--- 2 0,0

```

```

>hsa-mir-3165 5p:10-31 SRX018969
ccgguggcaAGGUGGAUGCAAUGUGACCUCAacucuuggguccucugaggucacauuguauccaccuuaccacugg
(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
-----AGGUGGAUGCAAUGUGACCU----- 3
0,-2

```

```

>hsa-mir-3170 5p:10-31 SRX018969

```



```
>hsa-mir-3190    3p:47-69    SRX018969
cuggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugacccccgg
(((((((((((((.(((((((..(((((.(((.(((((((...)))..)))..)))..)))))).)))))))))
-----UGGAAGGUAGACGGCCAGAGAGa-----
      2    2,1
```

```
>hsa-mir-3194    5p:10-30    SRX018969
agguggcagGGCCAGCCACCAGGAGGGCUGcgugccacccgggcagcucugcugcucacuggcagugucaccu
(((((((((.((((((...(((.(((((((((.((...)).)))))))).)).)...))))....))))))
-----AGCUCUGCUGCUCACUGGCAu----- 2
```

```
>hsa-mir-3199-1 5p:10-32 SRX018969  
ggugacuccAGGGACUGCCUUAAGGAGAAAGUUucugggaaguucugacauuccagaaacuucuccuaaggcaguccugg  
gagucacu  
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((...)).))))))))) ) )))) ) )  
))))) ) )  
-----AGGGACUGCCUUAAGGAGAAAG-----  
----- 2 0,-2  
-----AACUUUCUCCAAGGCAGUCC---  
----- 2
```

```

>hsa-mir-3199-2 5p:10-32      SRX018969
gugacucccAGGGACUGCCUAGGAGAAAGUUucuggaugucagaacuuccagaaacuucuccuaaggcaguccugg
agucac
(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))
))))))
-----AGGGACUGCCUAGGAGAAAG-----
----- 2    0,-2
-----
-----AACUUUCUCCUAAGGCAGUCC-----
----- 2

```

```
>hsa-mir-32 MA:6-27;mi:47-68      SRX018969
ggagaUAUUGCACAUAACUAAGUUGCAuguugucacggccucaaugCAAUUUAGUGUGUGUGAUUUUuc
((((((((..((((.(((((((((((((((((..((...))..).))))))))))))))))..)))))))))
---AUAUUGCACAUAACUAAGUU-----3
    -1,-3
---AUAUUGCACAUAACUAAGUUG-----18
```

-1, -3

18

```

-1,-2
-----UAUUGCACAUUACUAAGU----- 23 0,-4
-----UAUUGCACAUUACUAAGUU----- 37 0,-3
-----UAUUGCACAUUACUAAGUUa----- 6 0,-3
-----UAUUGCACAUUACUAAGUUG----- 97 0,-2
-----UAUUGCACAUUACUAAGUUGa----- 2 0,-2
-----UAUUGCACAUUACUAAGUUGC----- 8 0,-1
-----UAUUGCACAUUACUAAGUUGCA----- 6 0,0
-----AUUGCACAUUACUAAGUUG----- 5 1,-2
-----AUUGCACAUUACUAAGUUGC----- 2 1,-1
-----CAAUUUAGUGUGUGUGAUUU--- 3 0,-1

```

>hsa-mir-320a 3p:48-69 SRX018969

```

gcuucgcuccccuccgccuucucuucccgguucuuucccgagucgggAAAAGCUGGGUUGAGAGGGCGAaaaagggaugag
gu

```

```

(((((((.....((((((((((.....)))))).)))))).)))))).....))))))
))

```

```

-----GAAAAGCUGGGUUGAGAG-----
-- 2 -1,-5
-----GAAAAGCUGGGUUGAGAGa-----
-- 2 -1,-5
-----GAAAAGCUGGGUUGAGAGG-----
-- 2 -1,-4
-----GAAAAGCUGGGUUGAGAGGG-----
-- 2 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
-- 16 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 9 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 13 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGuu-----
-- 3 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 26 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAu-----
-- 3 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAA-----

```

```

-- 4 -1,1
-----AAAAGCUGGGUUGAGAGG-----
-- 189 0,-4
-----AAAAGCUGGGUUGAGAGGu-----
-- 3 0,-4
-----AAAAGCUGGGUUGAGAGGuu-----
-- 3 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 232 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 11 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 5 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 6 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 714 0,-2
-----AAAAGCUGGGUUGAGAGGGCuu-----
-- 2 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 882 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 1072 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 490 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 3969 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 1423 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 341 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 1103 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 224 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 43 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----

```

```

-- 234 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 59 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 22 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 11 1,-3
-----AAAGCUGGGUUGAGAGGGa-----
-- 2 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 44 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 49 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 38 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 30 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 230 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 87 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----
-- 37 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 125 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 39 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 8 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 48 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 13 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 13 1,3
-----AAGCUGGGUUGAGAGGGC-----
-- 2 2,-2
-----AAGCUGGGUUGAGAGGGCGu-----

```

```

-- 2 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 12 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 16 2,0
-----AAGCUGGGUUGAGAGGGCGAuu-----
-- 3 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 15 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 9 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 15 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 7 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 5 2,3

```

>hsa-mir-320b-1 3p:39-60 SRX018969

```

aauuaaucccucucuucuaguucuuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).)))).....
-----GAAAAGCUGGGUUGAGAG-----
2 -1,-5
-----GAAAAGCUGGGUUGAGAGa-----
2 -1,-5
-----GAAAAGCUGGGUUGAGAGG-----
2 -1,-4
-----GAAAAGCUGGGUUGAGAGGG-----
2 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
16 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCAA-----
2 -1,0
-----AAAAGCUGGGUUGAGAGG-----
189 0,-4
-----AAAAGCUGGGUUGAGAGGu-----
3 0,-4
-----AAAAGCUGGGUUGAGAGGuu-----

```

3	0,-4	-----AAAAGCUGGGUUGAGAGGG-----
232	0,-3	-----AAAAGCUGGGUUGAGAGGGa-----
11	0,-3	-----AAAAGCUGGGUUGAGAGGGaa-----
5	0,-3	-----AAAAGCUGGGUUGAGAGGGau-----
6	0,-3	-----AAAAGCUGGGUUGAGAGGGC-----
714	0,-2	-----AAAAGCUGGGUUGAGAGGGCuu-----
2	0,-2	-----AAAAGCUGGGUUGAGAGGGCA-----
74	0,-1	-----AAAAGCUGGGUUGAGAGGGCAu-----
82	0,-1	-----AAAAGCUGGGUUGAGAGGGCAuu-----
30	0,-1	-----AAAAGCUGGGUUGAGAGGGCAA-----
44	0,0	-----AAAAGCUGGGUUGAGAGGGCAAu-----
23	0,0	-----AAAAGCUGGGUUGAGAGGGCAAA-----
9	0,1	-----AAAAGCUGGGUUGAGAGGGCAAAu-----
2	0,1	-----AAAGCUGGGUUGAGAGGG-----
11	1,-3	-----AAAGCUGGGUUGAGAGGGa-----
2	1,-3	-----AAAGCUGGGUUGAGAGGGC-----
44	1,-2	-----AAAGCUGGGUUGAGAGGGCA-----
5	1,-1	-----AAAGCUGGGUUGAGAGGGCAu-----
5	1,-1	-----AAAGCUGGGUUGAGAGGGCAA-----

GUUGAGAGGGau-----	6	0,-3	-----AAAAGCUGG
GUUGAGAGGGC-----	714	0,-2	-----AAAAGCUGG
GUUGAGAGGGCuu-----	2	0,-2	-----AAAAGCUGG
GUUGAGAGGGCA-----	74	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAu-----	82	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAuu-----	30	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAA-----	44	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAu-----	23	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAA-----	9	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAAu-----	2	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAAA-----	4	0,2	-----AAAGCUGG
GUUGAGAGGG-----	11	1,-3	-----AAAGCUGG
GUUGAGAGGGa-----	2	1,-3	-----AAAGCUGG
GUUGAGAGGGC-----	44	1,-2	-----AAAGCUGG
GUUGAGAGGGCA-----	5	1,-1	-----AAAGCUGG
GUUGAGAGGGCAu-----	5	1,-1	-----AAAGCUGG
GUUGAGAGGGCAA-----	6	1,0	-----AAAGCUGG
GUUGAGAGGGCAAu-----	2	1,0	-----AAAGCUGG
GUUGAGAGGGCAAA-----	3	1,1	-----AAGCUGG

GUUGAGAGGGC----- 2 2,-2

>hsa-mir-320c-1 3p:50-69 SRX018969

uuugcauuaaaaaugaggccuucucuuccaguucuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg

.((((((((.....((((((((.....((((((((.....))))).)))))))).)))))))).)))))))).

-----GAAAAGCUGGGUUGAGAG-----

----- 2 -1,-3

-----GAAAAGCUGGGUUGAGAGa-----

----- 2 -1,-3

-----GAAAAGCUGGGUUGAGAGG-----

----- 2 -1,-2

-----GAAAAGCUGGGUUGAGAGGG-----

----- 2 -1,-1

-----AAAAGCUGGGUUGAGAGG-----

----- 189 0,-2

-----AAAAGCUGGGUUGAGAGGu-----

----- 3 0,-2

-----AAAAGCUGGGUUGAGAGGuu-----

----- 3 0,-2

-----AAAAGCUGGGUUGAGAGGG-----

----- 232 0,-1

-----AAAAGCUGGGUUGAGAGGGa-----

----- 11 0,-1

-----AAAAGCUGGGUUGAGAGGGaa-----

----- 5 0,-1

-----AAAAGCUGGGUUGAGAGGGau-----

----- 6 0,-1

-----AAAAGCUGGGUUGAGAGGGU-----

----- 53 0,0

-----AAAAGCUGGGUUGAGAGGGUu-----

----- 8 0,0

-----AAAAGCUGGGUUGAGAGGGUuu-----

----- 6 0,0

-----AAAAGCUGGGUUGAGAGGGUA-----

----- 6 0,1

-----AAAAGCUGGGUUGAGAGGGUAa-----

```

-----      5      0,1
-----
-----AAAAGCUGGGUUGAGAGGGUAu-----
-----      7      0,1
-----
-----AAAGCUGGGUUGAGAGGG-----
-----      11     1,-1
-----
-----AAAGCUGGGUUGAGAGGGa-----
-----      2      1,-1
-----
-----AAAGCUGGGUUGAGAGGGU-----
-----      2      1,0
-----

```

>hsa-mir-320c-2 3p:31-50 SRX018969

```

cuucucuuuccaguucuuccagaaugggAAAAGCUGGGUUGAGAGGGU
(((((((...(((((((...(((((.....)))))).)))))))).))))))..
-----GAAAAGCUGGGUUGAGAG--- 2  -1,-3
-----GAAAAGCUGGGUUGAGAGa-- 2  -1,-3
-----GAAAAGCUGGGUUGAGAGG-- 2  -1,-2
-----GAAAAGCUGGGUUGAGAGGG- 2  -1,-1
-----AAAAGCUGGGUUGAGAGG-- 189 0,-2
-----AAAAGCUGGGUUGAGAGGu- 3  0,-2
-----AAAAGCUGGGUUGAGAGGuu 3  0,-2
-----AAAAGCUGGGUUGAGAGGG- 232 0,-1
-----AAAAGCUGGGUUGAGAGGGa 11 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 5  0,-1
-----AAAAGCUGGGUUGAGAGGGau 6  0,-1
-----AAAAGCUGGGUUGAGAGGGU 53 0,0
-----AAAAGCUGGGUUGAGAGGGUu 8  0,0
-----AAAAGCUGGGUUGAGAGGGUuu 6  0,0
-----AAAGCUGGGUUGAGAGGG- 11 1,-1
-----AAAGCUGGGUUGAGAGGGa 2  1,-1
-----AAAGCUGGGUUGAGAGGGU 2  1,0

```

>hsa-mir-320d-1 3p:30-48 SRX018969

```

uucucguuccaguucuuccaaaguagAAAAGCUGGGUUGAGAGGA
(((((((...(((((((...(((((.....)))))).)))))))).))))))..
-----GAAAAGCUGGGUUGAGAG-- 2  -1,-2
-----GAAAAGCUGGGUUGAGAGa- 2  -1,-2
-----GAAAAGCUGGGUUGAGAGG- 2  -1,-1
-----AAAAGCUGGGUUGAGAGG- 189 0,-1

```

```

-----AAAAGCUGGGUUGAGAGGu    3    0,-1
-----AAAAGCUGGGUUGAGAGGuu    3    0,-1
-----AAAAGCUGGGUUGAGAGGA    10    0,0

```

>hsa-mir-320d-2 3p:30-48 SRX018969

```

uucucuucccaguucuucuggagucaggAAAAGCUGGGUUGAGAGGA
((((((..(((((((..((((((....)))))).)))))).))))..
-----GAAAAGCUGGGUUGAGAG--    2    -1,-2
-----GAAAAGCUGGGUUGAGAGa-    2    -1,-2
-----GAAAAGCUGGGUUGAGAGG-    2    -1,-1
-----AAAAGCUGGGUUGAGAGG-   189    0,-1
-----AAAAGCUGGGUUGAGAGGu    3    0,-1
-----AAAAGCUGGGUUGAGAGGuu    3    0,-1
-----AAAAGCUGGGUUGAGAGGA    10    0,0

```

>hsa-mir-320e 3p:35-52 SRX018969

```

gccuucucuucccaguucuuccuggagucggggaAAAGCUGGGUUGAGAAGGu
((((((((..(((((((..((((((....)))))).)))))).))))))
-----AAAAGCUGGGUUGAGAAGG-    4    -1,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018969

```

uugguacuuggagagAGGUUGUCCGUGGCGCGUUCGCuuuauuuauuggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc
..((((((..(((((((..((((((....((..((((.....)))))).))....)))))).)))))
).....
-----GCACAUUACACGGUCGACCU-----
-----    2    -1,-2
-----CACAUUACACGGUCGACCU-----
-----   13    0,-2

```

>hsa-mir-323b 5p:15-37;3p:51-72 SRX018969

```

ugguacucggagggAGGUUGUCCGUGGUGAGUUCGCAuuuauuuauaugaugCCCAAUACACGGUCGACCUCUuucgguauc
a
.((((((..(((((((..((((((....((..((((.....)))))).))....)))))).)))))
).
-----CCCAAUACACGGUCGACCU-----
--    3    0,-3
-----CCCAAUACACGGUCGACCUCU-----

```


>hsa-mir-328 3p:48-69 SRX018969

.(((..((((((((((((..(((((.(((((.(...((...))..))))))))))..)))))))))..))..

>hsa-mir-329-1 3p:50-71 SRX018969

-----AACACACCUGGUUAACCUUUa-----
3 0,-1
-----AACACACCUGGUUAACCUUU-----
2 0,0

>hsa-mir-329-2 3p:52-73 SRX018969

gugguaccugaagagagguuuucuggguuucuguuuuuuauugaggacgaAACACACCUGGUUAACCUCUUUuccagua
ucaa

.(((((((.....)))))))).

-----AACACACCUGGUUAACCUCUUa-----
---- 3 0,-1
-----AACACACCUGGUUAACCUCUUU-----
---- 2 0,0

>hsa-mir-330 5p:18-39;3p:57-79 SRX018969

cuuuggcgaucacugccUCUCUGGGCCUGUGUCUUAGGCucugcaagaauaccgaGCAAAGCACACGGCCUGCAGAGag
gcagcgcucugccc

....(((((((.....)))))))).

-----GCAAAGCACACGGCCUGCAG---
----- 2 0,-3
-----GCAAAGCACACGGCCUGCAGAG--
----- 4 0,-1
-----GCAAAGCACACGGCCUGCAGAGA-
----- 8 0,0
-----GCAAAGCACACGGCCUGCAGAGAG
----- 3 0,1
-----CAAAGCACACGGCCUGCAGAG--
----- 4 1,-1
-----CAAAGCACACGGCCUGCAGAGA-
----- 6 1,0
-----CAAAGCACACGGCCUGCAGAGAA
----- 2 1,0
-----CAAAGCACACGGCCUGCAGAGAG
----- 7 1,1
-----AAAGCACACGGCCUGCAGAGA-
----- 2 2,0
-----AAAGCACACGGCCUGCAGAGAG
----- 6 2,1

>hsa-mir-331 5p:26-47;3p:61-81 SRX018969

gaguuuugguuuuuguuuggguuuguuCUAGGUAUGGUCCCAGGGAUCCcagaauaaaccagGCCCCUGGGCCUAUCCUAGA

.....(((((((.((((((((.((((.(((((((..(.....)..))))))).))))).)))))))).

			-GCCCCUGGGCCUAUCCUA-
	37	0,-3	
			-GCCCCUGGGCCUAUCCUAG-
	31	0,-2	
			-GCCCCUGGGCCUAUCCUAGu
	2	0,-2	
			-GCCCCUGGGCCUAUCCUAGA
	99	0,-1	
			-GCCCCUGGGCCUAUCCUAGA
u	24	0,-1	
			-GCCCCUGGGCCUAUCCUAGA
uu	8	0,-1	
			-GCCCCUGGGCCUAUCCUAGA
A	233	0,0	
			-GCCCCUGGGCCUAUCCUAGA
Aa	55	0,0	
			-GCCCCUGGGCCUAUCCUAGA
Aaa	11	0,0	
			-GCCCCUGGGCCUAUCCUAGA
Aau	4	0,0	
			-GCCCCUGGGCCUAUCCUAGA
Au	45	0,0	
			-GCCCCUGGGCCUAUCCUAGA
Auu	4	0,0	
			-CCCCUGGGCCUAUCCUAGA
A	6	1,0	
			-CCCCUGGGCCUAUCCUAGA
Aa	2	1,0	
			-CCCCUGGGCCUAUCCUAGA
Au	6	1,0	
			-CCCCUGGGCCUAUCCUAGA
Auu	3	1,0	

uguuuugagcgggggUCAAGAGCAAACGAAAAAUGUuugucauaaacggUUUUUCAUUAUUGCUCUGACCuccucuc

auuugcuauauuca

.((...(((.(((((((.(((((((.(((((((.(.....)).)))))))).)))))))).)))))))).))
)...)).....

-----UCAAGAGCAAUAACGAAAAA-----
----- 6 0,-3
-----UCAAGAGCAAUAACGAAAAAU-----
----- 90 0,-2
-----UCAAGAGCAAUAACGAAAAAUa-----
----- 32 0,-2
-----UCAAGAGCAAUAACGAAAAAUG-----
----- 188 0,-1
-----UCAAGAGCAAUAACGAAAAAUGa-----
----- 4 0,-1
-----UCAAGAGCAAUAACGAAAAAUGU-----
----- 55 0,0
-----CAAGAGCAAUAACGAAAAAUGU-----
----- 2 1,0
-----AAGAGCAAUAACGAAAAAU-----
----- 3 2,-2
-----AAGAGCAAUAACGAAAAAUG-----
----- 5 2,-1
-----UUUUUCAUUAUUGCUCUG-----
----- 2 0,-3
-----UUUCAUUAUUGCUCUGACCau-----
----- 2 2,0

>hsa-mir-337 5p:23-43;3p:61-82 SRX018969

guagucaguaguugggggguggGAACGGCUUCAUACAGGAGUUGaugcacaguuauccagCUCCUAUAUGAUGCCUUUCU
UCauccccucaa

.....((...(((((((((.(((((((.(((((((.(.....)).)))))))).)))))))).)))))))).))
)))))))).)..

-----GAACGGCUUCAUACAGGAGU-----
----- 3 0,-1
-----CUCCUAUAUGAUGCCUUUCU
----- 3 0,-2
-----CUCCUAUAUGAUGCCUUUCU
U----- 6 0,-1
-----CUCCUAUAUGAUGCCUUUCU

UC----- 4 0,0
-----UCCUAUAUGAUGCCUUUCU
UC----- 4 1,0

```

>hsa-mir-338      5p:6-27;3p:42-63      SRX018969
ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga
(((.((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UCCAGCAUCAGUGAUUUU----- 6    0, -4
-----UCCAGCAUCAGUGAUUUUG----- 14   0, -3
-----UCCAGCAUCAGUGAUUUUGU----- 3    0, -2
-----UCCAGCAUCAGUGAUUUUGUU----- 6    0, -1
-----CAGCAUCAGUGAUUUUGUU----- 2    2, -1

```

```

>hsa-mir-339      5p:15-37;3p:50-72      SRX018969
cgggggcgggccgcucUCCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGgcgccugc
cccagugucugcgc
.(((((((.(((((.(((((.(((((.(((((((.((....)).)))))).)))).)))).)))).)))).))
)))).
-----UCCCUGUCCUCCAGGAGC-----
----- 3    0,-5
-----UCCCUGUCCUCCAGGAGCU-----
----- 19   0,-4
-----UCCCUGUCCUCCAGGAGCUa-----
----- 2    0,-4
-----UCCCUGUCCUCCAGGAGCUu-----
----- 4    0,-4
-----UCCCUGUCCUCCAGGAGCUC-----
----- 4    0,-3
-----UCCCUGUCCUCCAGGAGCUCA-----
----- 14   0,-2
-----UCCCUGUCCUCCAGGAGCUCAa-----
----- 6    0,-2
-----UCCCUGUCCUCCAGGAGCUCAu-----
----- 6    0,-2
-----UCCCUGUCCUCCAGGAGCUCAC-----
----- 8    0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 15   0,0

```

```

-----UCCCUGUCCUCCAGGAGCUCACGa-----
----- 2 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 6 0,1
-----CCUGUCCUCCAGGAGCUCA-----
----- 2 2,-2
-----UGAGCGCCUCGACGACAG-----
----- 6 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 7 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 13 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 12 0,-2
-----UGAGCGCCUCGACGACAGAGCu-----
----- 5 0,-2
-----UGAGCGCCUCGACGACAGAGCuu-----
----- 2 0,-2
-----UGAGCGCCUCGACGACAGAGCC-----
----- 9 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 3 0,-1
-----UGAGCGCCUCGACGACAGAGCCau-----
----- 3 0,-1
-----UGAGCGCCUCGACGACAGAGCCu-----
----- 4 0,-1
-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 4 0,-1
-----UGAGCGCCUCGACGACAGAGCCG-----
----- 7 0,0
-----UGAGCGCCUCGACGACAGAGCCGu-----
----- 3 0,0
-----UGAGCGCCUCGACGACAGAGCCGuu-----
----- 2 0,0
-----AGCGCCUCGACGACAGAG-----
----- 9 2,-3
-----AGCGCCUCGACGACAGAGCCGu-----
----- 2 2,0

```

-----GUGCAUUGUAGUUGCAUU-----	145	0, -3
-----GUGCAUUGUAGUUGCAUUG-----	5	0, -2
-----GUGCAUUGUAGUUGCAUUGC-----	15	0, -1
-----GUGCAUUGUAGUUGCAUUGCA-----	47	0, 0
-----GUGCAUUGUAGUUGCAUUGCAa-----	7	0, 0
-----GUGCAUUGUAGUUGCAUUGCAUa-----	2	0, 1
-----CAAUGUUUCCACAGUGCAU-----	8	0, -3
-----CAAUGUUUCCACAGUGCAUa-----	4	0, -3
-----CAAUGUUUCCACAGUGCAUC-----	2	0, -2
-----CAAUGUUUCCACAGUGCAUCA-----	8	0, -1
-----CAAUGUUUCCACAGUGCAUCAu-----	2	0, -1

((((((((((.(((.((((((((((((((..((((((((((.((((.....)))..))))))))))..))))))))))..))))))..))
).))))).)))).

```

-----GUGCAUUGCUGUUGCAUU-----
-----      13      0,-2
-----GUGCAUUGCUGUUGCAUUG-----
-----      15      0,-1
-----GUGCAUUGCUGUUGCAUUGC-----
-----      3      0.0

```

[illegible]

```

-----UUAUAAAGCAAUGAGACU-----
----- 11  0, -4
-----UUAUAAAGCAAUGAGACUG-----
----- 2   0, -3
-----UUAUAAAGCAAUGAGACUGA-----

```



```

)))).....))))...
-----GAUGAGGAUGGAUAGCAAGGA-----
-----      2   -2,-4
-----UGAGGAUGGAUAGCAAGGAA-----
-----      2   0,-3
-----UGAGGAUGGAUAGCAAGGAAG-----
-----      2   0,-2

```

>hsa-mir-3607 5p:12-33;3p:51-70 SRX018969

```

aagguugcgguGCAUGUGAUGAAGCAAUCAGUaugaaugaauucaugauACUGUAAACGCUUUCUGAUGuacuacuca
.....((..((((((..((..((((.....((((((..((((.....))))..)))))).....))))))..))))))..))...
-----GCAUGUGAUGAAGCAAUCAGUA-----
      2   0,1
-----CAUGUGAUGAAGCAAUCAGUAU-----
      2   1,2
-----AUACUGUAAACGCUUUCU-----
      8   -2,-4
-----AUACUGUAAACGCUUUCUGAU-----
      4   -2,-1

```

>hsa-mir-3609 3p:51-74 SRX018969

```

guaacaguaacuuuuauucucauuuuccuuuucucuaccuuguagagaagCAAAGUGAUGAGUAAUACUGGCUGgagccc
((..((((.....((((((((((((.....((((((((.....))))))..))))))..))))))..))))))..))...
-----GCAAAGUGAUGAGUAAUACU-----
      44  -1,-5
-----GCAAAGUGAUGAGUAAUACUG-----
      2   -1,-4
-----GCAAAGUGAUGAGUAAUACUGGCU-----
      4   -1,-1
-----CAAAGUGAUGAGUAAUACU-----
      66  0,-5
-----CAAAGUGAUGAGUAAUACUG-----
      4   0,-4
-----CAAAGUGAUGAGUAAUACUGG-----
      4   0,-3
-----CAAAGUGAUGAGUAAUACUGGCU-----
      8   0,-1

```

```

>hsa-mir-361      5p:6-27;3p:45-67      SRX018969
ggagcUUAUCAGAAUCUCCAGGGGUACuuuauaauuucaaaaagUCCCCCAGGUGUGAUUCUGAUUUgcuuc
(((((((((.(((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UUAUCAGAAUCUCCAGGG-----12
      0,-4
-----UUAUCAGAAUCUCCAGGG-----17
      0,-3
-----UUAUCAGAAUCUCCAGGGGU-----53
      0,-2
-----UUAUCAGAAUCUCCAGGGGUA-----66
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAa-----42
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAaa-----4
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAau-----3
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAu-----143
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAuu-----10
      0,-1
-----UUAUCAGAAUCUCCAGGGGUAC-----79
      0,0
-----UUAUCAGAAUCUCCAGGGGUACa-----21
      0,0
-----UUAUCAGAAUCUCCAGGGGUACaa-----3
      0,0
-----UUAUCAGAAUCUCCAGGGGUACU-----15
      0,1
-----AGUCCCCCAGGUGUGAUUCU-----2
      -2,-5
-----UCCCCCAGGUGUGAUUCU-----12
      0,-5
-----UCCCCCAGGUGUGAUUCUGA-----6
      0,-3
-----UCCCCCAGGUGUGAUUCUGAa-----3
      0,-3
-----UCCCCCAGGUGUGAUUCUGAaa-----5

```


>hsa-mi r-3614 5p:15-37;3p:53-75 SRX018969

gguucugucugggCCACUUGGAUCUGAAGGCUGCCcuuugcucucuggggUAGCCUUCAGAUCUGGUGUUUgaau
cuuacu

.....(..(..((((..((((((((((((((((((((((((.....)))))))))))))))))))).))))..)..)..

• • • • •

-----CCACUUGGAUCUGAAGGCU-----

----- 2 0,-4

-----CCACUUGGAUCUGAAGGCUGCCu-----

----- 2 0,-1

-----UAGCCUUCAGAUUCUGGU-----

----- 2 0,-5

-----UAGCCUUCAGAUUCUGGUG-----

----- 10 0,-4

-----UAGCCUUCAGAUUCUUGGUGUU-----

----- 4 0, -2

-----UAGCCUUCAGAUUCUUGGUGUU-----

----- 21 0,-1

>hsa-mir-3615 3p:51-71 SRX018969

gacucugggacgcucagacgccgcgccccggggcggggauuggucugugguccUCUCUCGGCUCUUCGCGGCUCgcggcggcc
gacgguu

-----UCUCUCGGCUCUCGCGGCU-----

----- 6 0,-1

>hsa-mir-362 5p:5-28;3p:42-63 SRX018969

cuugAAUCCUUGGAACCUAGGUGUGAGUgcuauuucagugcAACACACCUAUUCAAGGAUUCaaa

.(((((((((((((((...((((((((((.(..(.....))..)..)))))))))))))))))).

---AAUCCUUGGAACCUAGGUG----- 4 0,-5

-----AAUCCUUGGAACCUAGGUGU----- 2 0,-4

-----AAUCCUUGGAACCUAGGUGUG----- 6 0,-3

-----AAUCCUUGGAACCUAGGUGUGA----- 9 0,-2

-----AAUCCUUGGAACCUAGGUGUGAG----- 10 0,-1

-----AAUCCUUGGAACCUAGGUGUGAGU----- 4 0,0

---AAUCCUUGGAACCUAGGUGUGAGUG----- 2 0,1

-----AACACACCUAUUCAAGGAUU----- 25 0,-2

-----AACACACCUAUUCAAGGAUUC----- 18 0,-1

```

-----AACACACCUAUUCAAGGAUUCA-- 29 0,0
-----AACACACCUAUUCAAGGAUUCau- 3 0,0

```

>hsa-mir-363 mi:7-28;MA:50-71 SRX018969

```

uguuguCGGGUGGAUCACGAUGCAAUUUugaugaguaucagaggagaaaAAUUGCACGGUAUCCAUCUGUAaacc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((

```

```

-----AAUUGCACGGUAUCCAUC----- 6
0,-4

```

```

-----AAUUGCACGGUAUCCAUCU----- 25
0,-3

```

```

-----AAUUGCACGGUAUCCAUCUGU----- 3
0,-1

```

```

-----AAUUGCACGGUAUCCAUCUGUA---- 4
0,0

```

```

-----AAUUGCACGGUAUCCAUCUGUAu--- 3
0,0

```

```

-----AAUUGCACGGUAUCCAUCUGUAA--- 8
0,1

```

```

-----AUUGCACGGUAUCCAUCU----- 2
1,-3

```

>hsa-mir-3647 5p:15-37;3p:62-84 SRX018969

```

uugcuuucacagcCUGAAGUGAUGAUUCACAUUCAUgucucuucucugauaaaauucuugaAGAAAAUUUUUGUGUGUCU
GAUCaggccucuagagggcag

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----GAAGAAAAUUUUUGUGUGUC-----
----- 39 -2,-5

```

```

-----GAAGAAAAUUUUUGUGUGUCU
----- 61 -2,-4

```

```

-----GAAGAAAAUUUUUGUGUGUCU
GAU----- 2 -2,-1

```

```

-----GAAGAAAAUUUUUGUGUGUCU
GAUa----- 5 -2,-1

```

```

-----GAAGAAAAUUUUUGUGUGUCU
GAUC----- 2 -2,0

```

```

-----AAGAAAAUUUUUGUGUGUC-----
----- 7 -1,-5

```

```

-----AAGAAAAUUUUUGUGUGUCU
----- 37 -1,-4
-----AAGAAAAUUUUUGUGUGUCU
GAU----- 12 -1,-1
-----AAGAAAAUUUUUGUGUGUCU
GAUa----- 3 -1,-1
-----AAGAAAAUUUUUGUGUGUCU
GAUC----- 3 -1,0
-----AAGAAAAUUUUUGUGUGUCU
GAUCA----- 2 -1,1
-----AGAAAAUUUUUGUGUGUC-
----- 16 0,-5
-----AGAAAAUUUUUGUGUGUCU
----- 19 0,-4
-----AGAAAAUUUUUGUGUGUCU
GAU----- 2 0,-1
-----GAAAAUUUUUGUGUGUCU
----- 10 1,-4
-----GAAAAUUUUUGUGUGUCU
GAUCAG----- 5 1,2
-----AAAAUUUUUGUGUGUCU
GA----- 6 2,-2
-----AAAAUUUUUGUGUGUCU
GAU----- 3 2,-1
-----AAAAUUUUUGUGUGUCU
GAUa----- 10 2,-1
-----AAAAUUUUUGUGUGUCU
GAUC----- 3 2,0
-----AAAAUUUUUGUGUGUCU
GAUCAG----- 5 2,2
-----AAAAUUUUUGUGUGUCU
GAUCAGG----- 2 2,3

```

>hsa-mir-3648 5p:28-48 SRX018969

```

cgcgacugcggcggcgguuggggggAGCCGCGGGGAUCGCCGAGGGcgggucggcccccgggugccgcgcggugcc
gccggcggcgguaggccccgcgcgugugucccgucggucggccgcgcucgaggggucccguggcgucucccuuccc
cgccggccgccuuucucgcg

```

```

((((..((((((((..((.((((..((((((((((((..((..((((((((((((..((((((((((((..(((

```

```
>hsa-mir-365-1   3p:56-77      SRX018969  
accgcaggggaaaaugaggggacuuuugggggcagauguguuuccauccacuaucaUAAUGCCCCUAAAAUCCUUAUgc  
ucuugca  
...(((((((..(((((((..((((((((((((((((((.....)))..))))).)))))))).))))))..  
)))))).
```

7	AGGGACUUUUGGGGGCAG
24	AGGGACUUUUGGGGGCAGA
33	AGGGACUUUUGGGGGCAGAU
9	AGGGACUUUUGGGGGCAGAUa
6	AGGGACUUUUGGGGGCAGAUu
7	AGGGACUUUUGGGGGCAGAUuu
31	AGGGACUUUUGGGGGCAGAUG
5	AGGGACUUUUGGGGGCAGAUGa
49	AGGGACUUUUGGGGGCAGAUGU
2	AGGGACUUUUGGGGGCAGAUGUa
2	AGGGACUUUUGGGGGCAGAUGUaa
3	AGGGACUUUUGGGGGCAGAUGUau
17	AGGGACUUUUGGGGGCAGAUGUu
3	AGGGACUUUUGGGGGCAGAUGUuu
48	AGGGACUUUUGGGGGCAGAUGUG

```

-----AGGGACUUUUGGGGGCAGAUGUGa-----
----- 4
-----AGGGACUUUUGGGGGCAGAUGUGU-----
----- 39
-----GGGACUUUUGGGGGCAGAUGUG-----
----- 5
-----GGGACUUUUGGGGGCAGAUGUGU-----
----- 7
-----AUAUGCCCCUAAAAAUCCUUAU-----
----- 2 -1,0
-----UAAUGCCCCUAAAAAUCC-----
----- 91 0,-4
-----UAAUGCCCCUAAAAAUCCU-----
----- 86 0,-3
-----UAAUGCCCCUAAAAAUCCUa-----
----- 2 0,-3
-----UAAUGCCCCUAAAAAUCCUaa-----
----- 3 0,-3
-----UAAUGCCCCUAAAAAUCCUau-----
----- 4 0,-3
-----UAAUGCCCCUAAAAAUCCUU-----
----- 295 0,-2
-----UAAUGCCCCUAAAAAUCCUUu-----
----- 37 0,-2
-----UAAUGCCCCUAAAAAUCCUUuu-----
----- 8 0,-2
-----UAAUGCCCCUAAAAAUCCUUA-----
----- 410 0,-1
-----UAAUGCCCCUAAAAAUCCUUAa-----
----- 101 0,-1
-----UAAUGCCCCUAAAAAUCCUUAaa-----
----- 5 0,-1
-----UAAUGCCCCUAAAAAUCCUUAU-----
----- 1313 0,0
-----UAAUGCCCCUAAAAAUCCUUAUa-----
----- 38 0,0
-----UAAUGCCCCUAAAAAUCCUUAUU-----
----- 106 0,1

```


-----			-----UAAUGCCCCUAAAAAUCCUUAUUa-
-----	2	0,1	
-----			-----UAAUGCCCCUAAAAAUCCUUAUUu
-----	3	0,1	
-----			-----UAAUGCCCCUAAAAAUCCUUAUUGa
-----	2	0,2	
-----			-----AAUGCCCCUAAAAAUCCU-----
-----	2	1,-3	
-----			-----AAUGCCCCUAAAAAUCCUUA-----
-----	2	1,-1	
-----			-----AAUGCCCCUAAAAAUCCUUAU-----
-----	18	1,0	
-----			-----AUGCCCCUAAAAAUCCUUAU-----
-----	5	2,0	

```
>hsa-mi r-365-2  mi:29-50;MA:68-89  SRX018969
```

agaguguucaaggacagcaagaaaaaugAGGGACUUCAGGGGAGCUGUguuuucugacucagucaUAAUGCCCCUAAA
AAUCCUUAUuguuucuugcagugugcaucggg

.....(.(((((((((((.((((((((..(((.((((((((((((.(((...)))..))).....))))))))))..)))))..)))).).....

```

-----GAGGGACUUUCAGGGGCAGCU-----
----- 16  -1,-2
-----GAGGGACUUUCAGGGGCAGCUau-----
----- 2   -1,-2
-----AGGGACUUUCAGGGGCAG-----
----- 3    0,-4
-----AGGGACUUUCAGGGGCAGC-----
----- 7    0,-3
-----AGGGACUUUCAGGGGCAGCU-----
----- 28   0,-2
-----AGGGACUUUCAGGGGCAGCUG-----
----- 2    0,-1
-----AGGGACUUUCAGGGGCAGCUGU-----
----- 2    0,0
-----AGGGACUUUCAGGGGCAGCUGUG-----
----- 26   0,1
-----AGGGACUUUCAGGGGCAGCUGUGU-----
----- 5    0,2

```

```

-----GGGACUUUCAGGGGCAGCUGUG-----
----- 2 1,1
-----GGGACUUUCAGGGGCAGCUGUG-----
----- 2 1,2
-----AUAUGCCCCUAAA
AAUCCUUAU----- 2 -1,0
-----UAAUGCCCCUAAA
AAUCC----- 91 0,-4
-----UAAUGCCCCUAAA
AAUCCU----- 86 0,-3
-----UAAUGCCCCUAAA
AAUCCUa----- 2 0,-3
-----UAAUGCCCCUAAA
AAUCCUaa----- 3 0,-3
-----UAAUGCCCCUAAA
AAUCCUau----- 4 0,-3
-----UAAUGCCCCUAAA
AAUCCUU----- 295 0,-2
-----UAAUGCCCCUAAA
AAUCCUUu----- 37 0,-2
-----UAAUGCCCCUAAA
AAUCCUUuu----- 8 0,-2
-----UAAUGCCCCUAAA
AAUCCUUA----- 410 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAa----- 101 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAaa----- 5 0,-1
-----UAAUGCCCCUAAA
AAUCCUUAU----- 1313 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUa----- 38 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUU----- 106 0,1
-----UAAUGCCCCUAAA
AAUCCUUAUUa----- 2 0,1
-----UAAUGCCCCUAAA
AAUCCUUAUUu----- 3 0,1

```

AAUCCUUAUUGa	2	0,2	UAAUGCCCCUAAA
AAUCCU-	2	1,-3	AAUGCCCCUAAA
AAUCCUUA-	2	1,-1	AAUGCCCCUAAA
AAUCCUUAU-	18	1,0	AAUGCCCCUAAA
AAUCCUUAU-	5	2,0	AUGCCCCUAAA

```

>hsa-mir-3653    3p:75-92    SRX018969
ucccugggggaccccuggcagccccuccugaugauucuuuccugagcacgcucaugaugagcaaacugagccuCUAAGA
AGUUGACUGAAGgggcugcuccccaagga
(((.((((((.....((((((((((.(.....((((((...(((...((((.....))))))))).))))
))......).))))))))))))))))).)))
-----CCCUCUGAUGAUUCUUCUUCU-----
-----4-----
-----CCUCUGAUGAUUCUUCUUCUG-----
-----2-----
-----UCUAAGA-----
AGUUGACUGAAGGG-----2-1,2-----
-----UCUAAGA-----
AGUUGACUGAAGGGG-----2-1,3-----

```

```

>hsa-mir-3654    3p:38-56    SRX018969
uucaugagcugcaaucucaucacuggauguuccagcGACUGGACAAGCUGAGGAA
.((.(.(((.....(((.(.(((.....)))))).)))).)))).).)).
-----GCGACUGGACAAGCUGAGGAA      2    -2,0
-----GACUGGACAAGCUGAGGA-      2    0,-1
-----GACUGGACAAGCUGAGGAA      6    0,0
-----ACUGGACAAGCUGAGGAA     12    1,0

```

```
>hsa-mir-3664    5p:21-42      SRX018969  
cuguaaacuugaagguagggAACUCUGUCUACUCAUGAGUaccuccaacacgagcucucaggaguaaaagacagagu  
cccuaccucaaugggau  
. . . . .(((((((((((((((((((((((((((.(.(((...((.....)))..))))).)))).)))))))))  
)))))))))..)).
```

```

-----UCUCAGGAGUAAAGACAG-----
----- 4
-----UCUCAGGAGUAAAGACAGA-----
----- 5
-----UCUCAGGAGUAAAGACAGAG--
----- 2
-----UCUCAGGAGUAAAGACAGAGUU
----- 8
-----UCUCAGGAGUAAAGACAGAGUU
a----- 5
-----UCUCAGGAGUAAAGACAGAGUU
u----- 2
-----UCAGGAGUAAAGACAGAGUU
----- 4
-----CAGGAGUAAAGACAGAGUU
----- 4
-----CAGGAGUAAAGACAGAGUU
CC----- 3
-----AGGAGUAAAGACAGAGUU
----- 4

```

```

>hsa-mir-3667 5p:9-30;3p:45-66 SRX018969
ugagggaugAAAGACCCAUUGAGGAGAAGGUucugcuggcugagaACCUUCCUCUCCAUGGGUCUUUcauccuca
.(((((((((((((((((((((..((((((((((.....))))))))))..)))..))))))))))))).
-----ACCUUCCUCUCCAUGGGUCUUUu----- 2
0,0

```

```

>hsa-mir-3676 3p:60-79 SRX018969
uugguuaaagcgccugucuaguaaacaggagauccuggguucgaaucccgagcgguccuCCGUGUUUUCCCCACGCUUUu
gcaa
.(((((((((..(((....(((((((((((((((((((((.....)))))).)))..))))).))))).))))).
))))).

```

```

>hsa-mir-3687 3p:35-58 SRX018969
cgcgcgugcgccccgagcgcgccccgguggucccuCCCGGACAGGCGUUCGUGCGACGUgug
(((((((..(((..(((((((..(((..((...))))).))))))))).))))))))).
-----CUCCCGGACAGGCGUUCGUGC----- 3 -2,-5
-----CUCCCGGACAGGCGUUCGUGCGAC----- 2 -2,-2

```

```

-----UCCCGGACAGGCGUUCGUGC----- 2 -1,-5
-----CCCGGACAGGCGUUCGUGC----- 4 0,-5
-----CCCGGACAGGCGUUCGUGCG----- 2 0,-4
-----CCCGGACAGGCGUUCGUGCGAC----- 8 0,-2
-----CCGGACAGGCGUUCGUGCGAC----- 4 1,-2
-----CGGACAGGCGUUCGUGCGAC----- 2 2,-2

```

>hsa-mir-369 5p:9-30;3p:44-64 SRX018969

```

uugaagggAGAU CGACCGUGUUAUAUUCGCUuuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.(((((((((.....)))))))).))))).
-----AGAU CGACCGUGUUAUAUU----- 4 0,-3
-----AGAU CGACCGUGUUAUAUUC----- 9 0,-2
-----AGAU CGACCGUGUUAUAUUCGC----- 2 0,0
-----AAUAAUACAUGGUUGAUCUUU----- 8 0,0

```

>hsa-mir-3690 5p:10-32 SRX018969

```

cccaucuccACCUGGACCCAGCGUAGACAAAGagguguuuucucuccauaucuaccuggacccaguguagauggg
(((((((.....)))))))).))))).
-----ACCUGGACCCAGCGUAGACA----- 3
0,-3
-----ACCUGGACCCAGCGUAGACAA----- 4
0,-2
-----ACCUGGACCCAGCGUAGACAAAG----- 4
0,0

```

>hsa-mir-374a MA:12-33;mi:42-63 SRX018969

```

uacaucggccaUUAUAAUACAACCUGAUAGUGuuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((.....)))))))).))))).
-----AUUAUAAUACAACCUGAUAGU----- 2
-1,-1
-----UUAUAAUACAACCUGAU----- 27
0,-4
-----UUAUAAUACAACCUGAUAA----- 223
0,-3
-----UUAUAAUACAACCUGAUAAa----- 4
0,-3
-----UUAUAAUACAACCUGAUAG----- 86
0,-2

```

-----UUAUAAUACAACCUGAUAGa-----	8
0,-2	
-----UUAUAAUACAACCUGAUAGU-----	532
0,-1	
-----UUAUAAUACAACCUGAUAGUa-----	13
0,-1	
-----UUAUAAUACAACCUGAUAGUaa-----	6
0,-1	
-----UUAUAAUACAACCUGAUAGUG-----	568
0,0	
-----UUAUAAUACAACCUGAUAGUGa-----	140
0,0	
-----UUAUAAUACAACCUGAUAGUGU-----	19
0,1	
-----UAUAAUACAACCUGAUAGU-----	5
1,-1	
-----UAUAAUACAACCUGAUAGUG-----	5
1,0	
-----AUAAUACAACCUGAUAGUG-----	2
2,0	
-----CACUUAUCAGAUUGUAUUGUAA-----	2
-2,-2	
-----ACUUAUCAGAUUGUAUUGUA-----	2
-1,-3	
-----ACUUAUCAGAUUGUAUUGUAuu-----	2
-1,-3	
-----CUUAUCAGAUUGUAUUGU-----	8
0,-4	
-----CUUAUCAGAUUGUAUUGUA-----	10
0,-3	
-----CUUAUCAGAUUGUAUUGUAA-----	25
0,-2	
-----CUUAUCAGAUUGUAUUGUAAU-----	152
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUa-----	71
0,-1	
-----CUUAUCAGAUUGUAUUGUAAUU-----	408
0,0	

	-CUUAUCAGAUUGUAUUGUAAUUa-----	19
0,0		
	-----CUUAUCAGAUUGUAUUGUAAUUu-----	8
0,0		
	-----UUAUCAGAUUGUAUUGUAAU-----	4
1,-1		
	-----UUAUCAGAUUGUAUUGUAAUU-----	4
1,0		
	-----UAUCAGAUUGUAUUGUAAUUaa-----	3
2,0		
>hsa-mir-374b	MA:11-32;mi:41-62	SRX018969
acucggauggAUAUAAUACAACCUUGC UAAGUGuccuagcaCUUAGCAGGUUGUAUUAUCAUUGucccgugucu		
(((((...(((((.....)))))))))..))..)		
	-----AUAUAAUACAACCUGCUA-----	7
0,-4		
	-----AUAUAAUACAACCUGCUAA-----	10
0,-3		
	-----AUAUAAUACAACCUGCUAAG-----	87
0,-2		
	-----AUAUAAUACAACCUGCUAAGa-----	7
0,-2		
	-----AUAUAAUACAACCUGCUAAGU-----	777
0,-1		
	-----AUAUAAUACAACCUGCUAAGUa-----	16
0,-1		
	-----AUAUAAUACAACCUGCUAAGUu-----	9
0,-1		
	-----AUAUAAUACAACCUGCUAAGUG-----	1301
0,0		
	-----AUAUAAUACAACCUGCUAAGUGa-----	265
0,0		
	-----AUAUAAUACAACCUGCUAAGUGaa-----	2
0,0		
	-----AUAUAAUACAACCUGCUAAGUGU-----	102
0,1		
	-----AUAUAAUACAACCUGCUAAGUGUa-----	2
0,1		

-----AUAUAAUACAACCUUGCUAAGUGUu-----	2
0,1	
-----AUAUUACAACCUUGCUAAG-----	2
2,-2	
-----AUAUUACAACCUUGCUAAGU-----	4
2,-1	
-----AUAUUACAACCUUGCUAAGUau-----	4
2,-1	
-----CUUAGCAGGUUGUAUUUAUCAUa-----	2
0,-1	
-----CUUAGCAGGUUGUAUUUAUCAUU-----	7
0,0	

>hsa-mir-374c 5p:13-34 SRX018969

acacggacaugAUAAUACAACCUGCUAAGUGCUaggacacuuagcagguuguauuuauuccaucgagu
...((((.....((((((((((((((((((((((.....))))))))).....))))). . .

-----AUAUACAACCGCUAAG-----	2	0, -4
-----AUAUACAACCGCUAAGU-----	4	0, -3
-----AUAUACAACCGCUAAGU _{au} -----	4	0, -3

>hsa-mi r-375 3p:40-61 SRX018969

ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUGAggc
 .(((((((.((((((...((.(((((.((.....)).))))).))...)))))))))))).).

-----UUUUGUUCGUUCGGCUCGCGU-----	2	-1,-2
-----UUUUGUUCGUUCGGCUCGCGUG----	4	-1,-1
-----UUUUGUUCGUUCGGCUCGCGUGu---	2	-1,-1
-----UUUGUUCGUUCGGCUCGCG-----	3	0,-4
-----UUUGUUCGUUCGGCUCGCG-----	6	0,-3
-----UUUGUUCGUUCGGCUCGCGU-----	15	0,-2
-----UUUGUUCGUUCGGCUCGCGUG----	78	0,-1
-----UUUGUUCGUUCGGCUCGCGUGu---	9	0,-1
-----UUUGUUCGUUCGGCUCGCGUGA----	44	0,0
-----UUUGUUCGUUCGGCUCGCGUGAaAa--	2	0,0

>hsa-mi r-376a-1 mi:7-28;MA:44-64 SRX018969

uaaaagGUAGAUCUCCUUCUAUGAGUAcuuuuuuugauuaAUCAUAGAGGAAAAUCCACGUuuuc
 .((((.(.(((.((((.((((((.(((((.(.(((((.)))))))).)))))).)))))).))))).

-----AUCAUAGAGGAAAAUCCA----- 5 0,-3

-----AUCAUAGAGGAAAAUCCACG-----	2	0, -1
-----AUCAUAGAGGAAAAUCCACGU-----	7	0, 0

>hsa-mir-376a-2 3p:50-70 SRX018969

gguaauuuuuagguagauuuuccuucuaugguuacguguugaugguuuAUCAUAGAGGAAAAUCCACGUuuucaguauc
(((((((.((((.(.((((((((((.((((((((((((.....)))..)))))))).))))).)))..))))).))))).
-----AUCAUAGAGGAAAAUCCA-----
5 0,-3
-----AUCAUAGAGGAAAAUCCACG-----
2 0,-1
-----AUCAUAGAGGAAAAUCCACGU-----
7 0,0

>hsa-mir-376b 3p:62-83 SRX018969

caguccucuuugguaauuaaaacguggauauuccuucuanguuuuacgugaauccugguuaAUCAUAGAGGAAAAUCCAU
GUUuucaguaucaaaaugcug

(((((.....((((((((((.((((((((((((.((((((.(((((...(((....))))).)))))...)).))).).....)).)))))
))))).)))))))).))))).

- - - - - AUCAUAGAGGAAAAUCCA-
----- 5 0,-4

- - - - - AUCAUAGAGGAAAAUCCAU
----- 55 0,-3

- - - - - AUCAUAGAGGAAAAUCCAU
GU- ----- 6 0,-1

- - - - - AUCAUAGAGGAAAAUCCAU
GUUa- ----- 3 0,0

- - - - - UCAUAGAGGAAAAUCCAU
GUUU- ----- 2 1,1

>hsa-mir-376c 3p:43-63 SRX018969

aaaagguggauauuccuucuauguuuuanguuuuuuanguuuuAACAUAAGAGGAAAUUCCACGUuuu			
(((((.((((.(.(((.(((((((.(.....)))))))))))))))).))))).))))			
-----AACAUAGAGGAAAUUCCA-----	3	0, -3	
-----AACAUAGAGGAAAUUCCAC-----	72	0, -2	
-----AACAUAGAGGAAAUUCCACG-----	51	0, -1	
-----AACAUAGAGGAAAUUCCACGU---	214	0, 0	
-----AACAUAGAGGAAAUUCCACGUa--	6	0, 0	
-----AACAUAGAGGAAAUUCCACGUaa-	2	0, 0	

-----AACAUAGAGGAAAUUCCACGUU--	19	0,1
-----AACAUAGAGGAAAUUCCACGUUU-	2	0,2
-----ACAUAGAGGAAAUUCCACGUU--	2	1,1

```
>hsa-mi r-377      mi:7-28;MA:45-66      SRX018969
```

uuagagcAGAGGUUGCCCUUGGUGAAUUCgcuuuuuuuanguugaAUCACACAAAGGCAACUUUUGUug		
..(((((((((((((((.(((((((.((((((.)))))))).))).)))))))).))))).)		
-----AGAGGUUGCCCUUGGUGA-----	2	0,-4
-----AGAGGUUGCCCUUGGUGAAUa-----	3	0,-2
-----AGAGGUUGCCCUUGGUGAAUU-----	19	0,-1
-----AGAGGUUGCCCUUGGUGAAUUC-----	5	0,0
-----AUCACACAAAGGCAACUUUU-----	3	0,-2
-----AUCACACAAAGGCAACUUUG----	2	0,-1

```
>hsa-mi r-378      mi:5-26;MA:43-63      SRX018969
```

Sequence	Count	Score
agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu (((.(.(.((((((((((((((((((...((((((.....)))))).)))))))))))))).)))))	15	0,-4
----CUCCUGACUCCAGGUCCU-----	3	0,-3
----CUCCUGACUCCAGGUCCUG-----	19	0,0
----CUCCUGACUCCAGGUCCUGUGU-----	8	0,0
----UCCUGACUCCAGGUCCUGU-----	2	1,-2
----UCCUGACUCCAGGUCCUGUG-----	2	1,-1
----UCCUGACUCCAGGUCCUGUGU-----	5	1,0
-----CACUGGACUUGGAGUCAGAAGu---	2	-1,-1
-----CACUGGACUUGGAGUCAGAAGG---	10	-1,0
-----CACUGGACUUGGAGUCAGAAGGa---	2	-1,0
-----CACUGGACUUGGAGUCAGAAGGC---	12	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa---	6	-1,1
-----CACUGGACUUGGAGUCAGAAGGCuu---	2	-1,1
-----ACUGGACUUGGAGUCAGA-----	223	0,-3
-----ACUGGACUUGGAGUCAGAu-----	2	0,-3
-----ACUGGACUUGGAGUCAGAA-----	379	0,-2
-----ACUGGACUUGGAGUCAGAAa-----	37	0,-2
-----ACUGGACUUGGAGUCAGAAaa-----	13	0,-2
-----ACUGGACUUGGAGUCAGAAG-----	1415	0,-1
-----ACUGGACUUGGAGUCAGAAGu-----	91	0,-1
-----ACUGGACUUGGAGUCAGAAGuu-----	5	0,-1

-----ACUGGACUUGGAGUCAGAAGG---	11629	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	3291	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	363	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	76	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	1060	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	154	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	14247	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	7374	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	512	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	2195	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	4224	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	819	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	14	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	2	0,3
-----CUGGACUUGGAGUCAGAA-----	3	1,-2
-----CUGGACUUGGAGUCAGAAG-----	21	1,-1
-----CUGGACUUGGAGUCAGAAGG---	244	1,0
-----CUGGACUUGGAGUCAGAAGGa--	21	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	18	1,0
-----CUGGACUUGGAGUCAGAAGGau-	3	1,0
-----CUGGACUUGGAGUCAGAAGGu--	35	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	11	1,0
-----CUGGACUUGGAGUCAGAAGGC--	937	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	284	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	69	1,1
-----CUGGACUUGGAGUCAGAAGGCau	127	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	527	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	254	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	7	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	6	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	4	1,2
-----CUGGACUUGGAGUCAGAAGGCCU	3	1,3
-----CUGGACUUGGAGUCAGAAGGCCUu	3	1,3
-----CUGGACUUGGAGUCAGAAGGCCUuu	4	1,3
-----UGGACUUGGAGUCAGAAGG---	11	2,0
-----UGGACUUGGAGUCAGAAGGa--	7	2,0
-----UGGACUUGGAGUCAGAAGGC--	54	2,1
-----UGGACUUGGAGUCAGAAGGCa-	3	2,1

>hsa-mir-383 5p:7-28 SRX018969

```
cuccucAGAUCAGAAGGUGAUUGUGGCUuuggguggauauuaucagccacagcacugccuggucagaaagag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CAGAUCAAGGUGAUUGUG----- 2
-1,-3
-----AGAUCAGAAGGUGAUUGUGGCU----- 13
0,0
-----AGAUCAGAAGGUGAUUGUGGCU----- 7
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUa----- 3
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUaa----- 2
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUU----- 12
0,2
```

>hsa-mir-3928 3p:37-58 SRX018969

```
gcugaagcucuaagguuccgccugcgggcaggaagcGGAGGAACCUUGGAGCUUCGGC
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GGAGGAACCUUGGAGCUUCGG- 2 0,-1
-----GGAGGAACCUUGGAGCUUCGGu 2 0,-1
-----GGAGGAACCUUGGAGCUUCGGCa 4 0,0
-----GGAGGAACCUUGGAGCUUCGGCaa 2 0,0
-----GAGGAACCUUGGAGCUUCGGCa 2 1,0
```

>hsa-mir-409 5p:15-37;3p:47-68 SRX018969

```
ugguacucggggagAGGUUACCCGAGCAACUUUGCAUcuggacgacGAAUGUUGCUCGGUGAACCCCUuuucgguauc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGGUUACCCGAGCAACUU-----
9 0,-4
-----AGGUUACCCGAGCAACUUUG-----
3 0,-3
-----AGGUUACCCGAGCAACUUUGCA-----
15 0,-1
-----AGGUUACCCGAGCAACUUUGCAU-----
19 0,0
```



```

-----UAGUAGACCGUAUAGCGUAC-----
-----      45      0,-1
-----UAGUAGACCGUAUAGCGUACG-----
-----      11      0,0
-----UAUGUAACACGGUCCACUAA-----
-----      2      0,-2
-----UAUGUAACACGGUCCACUAAu-----
-----      2      0,-2
-----UAUGUAACACGGUCCACUAAC-----
-----      3      0,-1

```

>hsa-mir-421 3p:48-70 SRX018969

gcacauuguaggccucauuaaauguuuuguugaaugaaaaauggaaucAUCAACAGACAUUAAUUGGGCGCugcucugug
aucuc

.((((..((((((((((...(((((((((((.((((.....)))))))))....))))).))))).))))).

.....

-----AUCAACAGACAUAUAAUUG-----

----- 91 0,-5

-----AUCAACAGACAUAUAAUUGG-----

----- 64 0,-4

-----AUCAACAGACAUAUAAUUGGG-----

----- 12 0, -3

-----AUCAACAGACAUAUAAUUGGGC-----

----- 3 0, -2

-----AUCAACAGACAUAUAAUUGGGCa-----

----- 2 0, -2

-----AUCAACAGACAUUAAUUGGGCG-----

----- 11 0, -1

-----AUCAACAGACAUAUAAUUGGGCGu-----

----- 2 0, -1

-----AUCAACAGACAUUAAUUGGGCGC-----

----- 5 0,0

>hsa-mi r-423 5p:17-39;3p:53-75 SRX018969

auaaaaggaaguaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

...(((((((.((((((((((((((..(((.((((.((((.....)))))))))).))...))))))))))))).))
)))))).


```

-----CUGAGGGGCAGAGAGCGAGACUUU-----
----- 2   -1,0
-----UGAGGGGCAGAGAGCGAG-----
----- 36   0,-5
-----UGAGGGGCAGAGAGCGAGA-----
----- 112  0,-4
-----UGAGGGGCAGAGAGCGAGAA-----
----- 7    0,-4
-----UGAGGGGCAGAGAGCGAGAAa-----
----- 23   0,-4
-----UGAGGGGCAGAGAGCGAGAU-----
----- 6    0,-4
-----UGAGGGGCAGAGAGCGAGAC-----
----- 76   0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 13   0,-3
-----UGAGGGGCAGAGAGCGAGACaa-----
----- 2    0,-3
-----UGAGGGGCAGAGAGCGAGACU-----
----- 105  0,-2
-----UGAGGGGCAGAGAGCGAGACUa-----
----- 2    0,-2
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 3    0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 4    0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 157  0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 28   0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 6    0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 4    0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 1028   0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 13   0,0

```

```

-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 4 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 171 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 5 0,1
-----GAGGGGCAGAGAGCGAGACUU-----
----- 3 1,-1
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 14 1,0
-----GAGGGGCAGAGAGCGAGACUUUU-----
----- 3 1,1
-----AGGGGCAGAGAGCGAGACU-----
----- 2 2,-2
-----AGGGGCAGAGAGCGAGACUU-----
----- 2 2,-1
-----AGGGGCAGAGAGCGAGACUUU-----
----- 6 2,0
-----AGGGGCAGAGAGCGAGACUUUa-----
----- 2 2,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 7 2,1
-----AAGCUCGGUCUGAGGCCCC-----
----- 3 -1,-5
-----AAGCUCGGUCUGAGGCCCCU-----
----- 11 -1,-4
-----AAGCUCGGUCUGAGGCCCCUu-----
----- 2 -1,-4
-----AAGCUCGGUCUGAGGCCCCUuu-----
----- 2 -1,-4
-----AAGCUCGGUCUGAGGCCCCUC-----
----- 9 -1,-3
-----AAGCUCGGUCUGAGGCCCCUCA-----
----- 3 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAG-----
----- 6 -1,-1
-----AAGCUCGGUCUGAGGCCCCUCAGU-----
----- 17 -1,0

```



```

-----ACAGCAGCAAUUC AUGUUU-----
-----      18  -1,-3
-----ACAGCAGCAAUUC AUGUUUG-----
-----      4   -1,-2
-----ACAGCAGCAAUUC AUGUUUGA-----
-----      5   -1,-1
-----ACAGCAGCAAUUC AUGUUUGAA-----
-----      3   -1,0
-----CAGCAGCAAUUC AUGUU-----
-----     50   0,-4
-----CAGCAGCAAUUC AUGUUU-----
-----    210   0,-3
-----CAGCAGCAAUUC AUGUUUa-----
-----      4    0,-3
-----CAGCAGCAAUUC AUGUUUaa-----
-----      3    0,-3
-----CAGCAGCAAUUC AUGUUUu-----
-----      2    0,-3
-----CAGCAGCAAUUC AUGUUUG-----
-----     951   0,-2
-----CAGCAGCAAUUC AUGUUUGu-----
-----      3    0,-2
-----CAGCAGCAAUUC AUGUUUGA-----
-----    2667    0,-1
-----CAGCAGCAAUUC AUGUUUGAu-----
-----      4    0,-1
-----CAGCAGCAAUUC AUGUUUGAA-----
-----     980   0,0
-----CAGCAGCAAUUC AUGUUUGAAa-----
-----     139   0,0
-----CAGCAGCAAUUC AUGUUUGAAaa-----
-----      5    0,0
-----CAGCAGCAAUUC AUGUUUGAAu-----
-----     28    0,0
-----CAGCAGCAAUUC AUGUUUGAAG-----
-----      6    0,1
-----AGCAGCAAUUC AUGUUU-----
-----      6    1,-3

```



```

-----AAUGACACGAUCACUCCCG-----
----- 3 0,-4
-----AAUGACACGAUCACUCCCGU-----
----- 7 0,-3
-----AAUGACACGAUCACUCCCGUU-----
----- 15 0,-2
-----AAUGACACGAUCACUCCCGUUG-----
----- 21 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 109 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 20 0,1
-----AAUGACACGAUCACUCCCGUUGAGa-----
----- 2 0,1
-----AAUGACACGAUCACUCCCGUUGAGU-----
----- 6 0,2
-----AUGACACGAUCACUCCCGUUGu-----
----- 3 1,-1
-----AUGACACGAUCACUCCCGUUGA-----
----- 22 1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 3 1,1
-----CAUCGGGAAUGUCGUGUC-----
----- 4 -1,-5
-----CAUCGGGAAUGUCGUGUCa-----
----- 2 -1,-5
-----CAUCGGGAAUGUCGUGUCC-----
----- 8 -1,-4
-----CAUCGGGAAUGUCGUGUCCGu-----
----- 2 -1,-3
-----CAUCGGGAAUGUCGUGUCCGuu-----
----- 2 -1,-3
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 3 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCu-----
----- 2 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 11 -1,-1

```

-----			-----AUCGGGAAUGUCGUGUCC-----
-----	3	0,-4	
-----			-----AUCGGGAAUGUCGUGUCCGC-----
-----	2	0,-2	
-----			-----AUCGGGAAUGUCGUGUCCGCC-----
-----	8	0,-1	
-----			-----AUCGGGAAUGUCGUGUCCGCCCA-----
-----	2	0,1	

>hsa-mir-4284 5p:11-28 SRX018969

guucugugagGGGCUCACAUCACCCCAUcaaaguggggacucauggggagaggggguguuuaggagcuuugauagaggcg
g

-----GGGCUCACAUCACCCCAU-----

- 233 0,0

-----GGGCUCACAUCACCCCAUa-----

- 3 0,0

-----GGGCUCACAACCCCAUaa-----

- 8 0,0

-----GGCUCACAUCACCCCAUC-----

- 18 1,1

-----GGCUCACAUCACCCCAUCAA-----

$$-2 \quad 1,3$$

>hsa-mir-4286 5p:11-27 SRX018969

uacuuauaggcACCCACUCCUGGUACCAuagucauaaguuaaggagauguuagagcugugaguaccaugacuuaagugugg
uggcuaaacaug

$$\begin{aligned} & \dots(((\cdot(\cdot((((\cdot((((\cdot(((((((((\cdot((((((\cdot\dots)))\cdot))\cdot))))\cdot))))))\cdot)\dots)))\cdot) \\ &))\cdot)\cdot)))\dots \end{aligned}$$

-----ACCCACUCCUGGUACCA-----

----- 43 0,1

-----ACCCACUCCUGGUACCAa-----

----- 12 0,1

-----ACCCACUCCUGGUACCAU-----

----- 32 0,2

-----ACCCACUCCUGGUACCAUu-----

----- 10 0,2

```

-----ACCCACUCCUGGUACCAUuu-----
-----      2      0,2
-----ACCCACUCCUGGUACCAUA-----
-----      6      0,3
-----ACCCACUCCUGGUACCAUAa-----
-----      3      0,3
-----ACCCACUCCUGGUACCAUAu-----
-----      2      0,3

```

>hsa-mir-429 3p:51-72 SRX018969

```

cgccggccgaugggcgucuaccagacaugguagaccuggcccucugucUAAUACUGUCUGGUAAAACCGUccauccgc
ugc

```

```

...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).

```

```

-----UAAUACUGUCUGGUAAAACCG-----
--- 4      0,-1
-----UAAUACUGUCUGGUAAAACCGU-----
--- 4      0,0

```

>hsa-mir-432 MA:14-36;mi:62-82 SRX018969

```

ugacuccuccaggUCUUGGAGUAGGUCAUUGGGUGGauccucuauuuccuuacguggggccaCUGGAUGGCUCCUCCAUGU
CUuggaguagauca

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))))))))).

```

```

-----UCUUGGAGUAGGUCAUUG-----
-----      8      0,-5
-----UCUUGGAGUAGGUCAUUGG-----
-----      9      0,-4
-----UCUUGGAGUAGGUCAUUGGG-----
-----     13      0,-3
-----UCUUGGAGUAGGUCAUUGGGU-----
-----      7      0,-2
-----UCUUGGAGUAGGUCAUUGGGUa-----
-----      2      0,-2
-----UCUUGGAGUAGGUCAUUGGGUaa-----
-----      6      0,-2
-----UCUUGGAGUAGGUCAUUGGGUG-----
-----      6      0,-1

```



```

-----UCUUGGAGUAGGUCAUUGGGUGa-----
----- 4 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGaa-----
----- 2 0,-1

```

```

>hsa-mir-4326 5p:11-30 SRX018969
gcugcucugcUGUUCCUCUGUCUCCCAGACucugggguggauggagcaggucgggggcca
(((.(...((((((...(((((((...))))).)))))))))...))..
-----UGUUCCUCUGUCUCCCAGACU----- 2 0,1

```

```

>hsa-mir-433 3p:64-85 SRX018969
ccgggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg
((..((((((...(((.(((((((((((.(((((((.....))))).)).....))))).)))))))))..))
)...)))))..))
-----AUCAUGAUGGGCUCCUC
GG----- 2 0,-3
-----AUCAUGAUGGGCUCCUC
GGUGaa----- 2 0,-1
-----AUCAUGAUGGGCUCCUC
GGUGU----- 6 0,0

```

```

>hsa-mir-450a-1 5p:18-39 SRX018969
aaacgauacuaaacuguUUUUGCGAUGUGUCCUAAUAUgcacuaauaaauauauugggaacauuuugcauguauaguuuu
guaucuuauua
....((((((.(((((((...((((((.(((((((((((((((((.....)))))))))...)))))))).
))))).
-----UUUUGCGAUGUGUCCUAAU-----
----- 2 0,-4
-----UUUUGCGAUGUGUCCUAAU-----
----- 5 0,-2
-----UUUUGCGAUGUGUCCUAAUA-----
----- 4 0,-1
-----UUUUGCGAUGUGUCCUAAUAU-----
----- 6 0,0

```

```

>hsa-mir-450a-2 5p:23-44 SRX018969
ccaaagaagaugcuaaacuauUUUUGCGAUGUGUCCUAAUAUguaauauaaauguauuggggacauuuugcauucuaa

```

```

guuuuguaucaauaauaugg
.....(((((((.....(((((((.....)))))))))))))).....
)))))).....
-----UUUUGCGAUGUGUCCUA-----
-----      2      0,-4
-----UUUUGCGAUGUGUCCUAAU-----
-----      5      0,-2
-----UUUUGCGAUGUGUCCUAAUA-----
-----      4      0,-1
-----UUUUGCGAUGUGUCCUAAUAU-----
-----      6      0,0
-----AUUGGGGACAUUUUGCAUa-----
-----      2
-----AUUGGGGACAUUUUGCAUU-----
-----      7
-----UUGGGGACAUUUUGCAUUCAU-----
-----      4

```

>hsa-mir-450b 5p:11-32;3p:48-69 SRX018969

```

gcagaauuauUUUUGCAAUAUGUCCUGAAUAuguaauaauaguguaUUGGGAUCAUUUUGCAUCCAUAguuuugua
((((((((.....(((((((.....)))))))))))))).....
-----UUUUGCAAUAUGUCCUGAAU-----
-----      3      0,-1
-----UUUUGCAAUAUGUCCUGAAUAa-----
-----      4      0,0

```

>hsa-mir-451 5p:17-38 SRX018969

```

cuugggauggcaaggAAACCGUUACCAUACUGAGUUuaguaaugguaaugguucucuugcuauaccaga
.(((((((.....(((((((.....)))))))))))))).....
-----AAACCGUUACCAUACUG----- 167
-----      0,-4
-----AAACCGUUACCAUACUGA----- 57
-----      0,-3
-----AAACCGUUACCAUACUGAa----- 2
-----      0,-3
-----AAACCGUUACCAUACUGAG----- 398
-----      0,-2
-----AAACCGUUACCAUACUGAGau----- 4

```

0,-2	-----AAACCGUUACCAUUACUGAGU-----	509
0,-1	-----AAACCGUUACCAUUACUGAGUa-----	2
0,-1	-----AAACCGUUACCAUUACUGAGUaa-----	2
0,-1	-----AAACCGUUACCAUUACUGAGUU-----	3302
0,0	-----AAACCGUUACCAUUACUGAGUUa-----	7
0,0	-----AAACCGUUACCAUUACUGAGUUaa-----	2
0,0	-----AAACCGUUACCAUUACUGAGUUU-----	1113
0,1	-----AAACCGUUACCAUUACUGAGUUUu-----	2
0,1	-----AAACCGUUACCAUUACUGAGUUUA-----	210
0,2	-----AAACCGUUACCAUUACUGAGUUUAG-----	103
0,3	-----AACCGUUACCAUUACUGAG-----	2
1,-2	-----AACCGUUACCAUUACUGAGU-----	2
1,-1	-----AACCGUUACCAUUACUGAGUU-----	28
1,0	-----AACCGUUACCAUUACUGAGUUU-----	18
1,1	-----ACCGUUACCAUUACUGAGUUU-----	3
2,1		

>hsa-mir-452 MA:14-35;mi:58-79 SRX018969

gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc

((.((((((((((...(.(((((((((.((((((((((.....)))))))))).)).)))))))).)).))))))
)..))

-----AACUGUUUGCAGAGGAAA-----

```

----- 3 0,-4
-----AACUGUUUGCAGAGGAAAC-----
----- 12 0,-3
-----AACUGUUUGCAGAGGAAACU-----
----- 5 0,-2
-----AACUGUUUGCAGAGGAAACUG-----
----- 2 0,-1

```

>hsa-mir-454 mi:24-45;MA:64-86 SRX018969

```

ucuguuuauccagauccuagaACCCUAUCAUAUUGUCUCUGCuguguaauaguucugagUAGUGCAAUAUUGCUUA
UAGGGUuuugguguuuggaaagaacaugggcagg
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----ACCCUAUCAUAUUGUCUC-----
----- 2 0,-3
-----UAGUGCAAUAUUGCUUA
UA----- 14 0,-4
-----UAGUGCAAUAUUGCUUA
UAGG----- 2 0,-2
-----UAGUGCAAUAUUGCUUA
UAGGGU----- 3 0,0

```

>hsa-mir-455 5p:16-37;3p:54-74 SRX018969

```

uccuggcgugagggUAUGUGCCUUUGGACUACAUcGuggaagccagcaccuGCAGUCCAUGGGCAUAUACACuugccu
caaggccuaucauc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----GUAUGUGCCUUUGGACUACAU-----
----- 12 -1,-2
-----GUAUGUGCCUUUGGACUACAUa-----
----- 5 -1,-2
-----GUAUGUGCCUUUGGACUACAUCG-----
----- 3 -1,0
-----GUAUGUGCCUUUGGACUACAUCGU-----
----- 5 -1,1
-----UAUGUGCCUUUGGACUACAU-----
----- 6 0,-2
-----UAUGUGCCUUUGGACUACAUa-----

```

-----	25	0,-2	
-----	-UAUGUGCCUUUGGACUACAUC-----		
-----	11	0,-1	
-----	-UAUGUGCCUUUGGACUACAUCG-----		
-----	37	0,0	
-----	-UAUGUGCCUUUGGACUACAUCGU-----		
-----	5	0,1	
-----	-UGUGCCUUUGGACUACAUCGUGa-----		
-----	4	2,2	
-----	-UGUGCCUUUGGACUACAUCGUGu-----		
-----	3	2,2	
-----	-----AUGCAGUCCAUGGGCAUA-----		
-----	6	-2,-5	
-----	-----AUGCAGUCCAUGGGCAUAU-----		
-----	17	-2,-4	
-----	-----AUGCAGUCCAUGGGCAUAUu-----		
-----	3	-2,-4	
-----	-----AUGCAGUCCAUGGGCAUAUuu-----		
-----	2	-2,-4	
-----	-----AUGCAGUCCAUGGGCAUAUA-----		
-----	24	-2,-3	
-----	-----AUGCAGUCCAUGGGCAUAUAa-----		
-----	6	-2,-3	
-----	-----AUGCAGUCCAUGGGCAUAUAu-----		
-----	8	-2,-3	
-----	-----AUGCAGUCCAUGGGCAUAUAC-----		
-----	22	-2,-2	
-----	-----AUGCAGUCCAUGGGCAUAUACu-----		
-----	2	-2,-2	
-----	-----AUGCAGUCCAUGGGCAUAUACA-----		
-----	52	-2,-1	
-----	-----AUGCAGUCCAUGGGCAUAUACAC-----		
-----	10	-2,0	
-----	-----AUGCAGUCCAUGGGCAUAUACACU-----		
-----	6	-2,1	
-----	-----UGCAGUCCAUGGGCAUAUA-----		
-----	4	-1,-3	
-----	-----UGCAGUCCAUGGGCAUAUACA-----		

-----	16	-1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	6	-1,0	-----UGCAGUCCAUGGGCAUAUACACU-----
-----	5	-1,1	-----GCAGUCCAUGGGCAUAUA-----
-----	82	0,-3	-----GCAGUCCAUGGGCAUAUAa-----
-----	10	0,-3	-----GCAGUCCAUGGGCAUAUAu-----
-----	9	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	46	0,-2	-----GCAGUCCAUGGGCAUAUACA-----
-----	440	0,-1	-----GCAGUCCAUGGGCAUAUACAa-----
-----	28	0,-1	-----GCAGUCCAUGGGCAUAUACAau-----
-----	2	0,-1	-----GCAGUCCAUGGGCAUAUACAu-----
-----	7	0,-1	-----GCAGUCCAUGGGCAUAUACAuu-----
-----	15	0,-1	-----GCAGUCCAUGGGCAUAUACAC-----
-----	467	0,0	-----GCAGUCCAUGGGCAUAUACACa-----
-----	40	0,0	-----GCAGUCCAUGGGCAUAUACACaa-----
-----	3	0,0	-----GCAGUCCAUGGGCAUAUACACU-----
-----	549	0,1	-----GCAGUCCAUGGGCAUAUACACUa-----
-----	2	0,1	-----GCAGUCCAUGGGCAUAUACACUU-----
-----	4	0,2	-----CAGUCCAUGGGCAUAUACA-----
-----	6	1,-1	-----CAGUCCAUGGGCAUAUACAC-----

```

-----      65   1,0
-----CAGUCCAUGGGCAUAUACACU-----
-----      14   1,1
-----CAGUCCAUGGGCAUAUACACUU-----
-----      9    1,2
-----CAGUCCAUGGGCAUAUACACUUu---
-----      2    1,2
-----AGUCCAUGGGCAUAUACAC-----
-----      2    2,0

```

>hsa-mir-483 5p:8-29;3p:48-68 SRX018969

```

gagggggAAGACGGGAGGAAAGAAGGGAGugguuccaucagccuccUCACUCCUCUCCUCCCGUCUUcuccucuc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGACGGGAGGAAAGAAG-----
128 0,-4
-----AAGACGGGAGGAAAGAAG-----
203 0,-3
-----AAGACGGGAGGAAAGAAGGa-----
9 0,-3
-----AAGACGGGAGGAAAGAAGGaa-----
11 0,-3
-----AAGACGGGAGGAAAGAAGGu-----
7 0,-3
-----AAGACGGGAGGAAAGAAGGG-----
419 0,-2
-----AAGACGGGAGGAAAGAAGGGu-----
14 0,-2
-----AAGACGGGAGGAAAGAAGGGA-----
1187 0,-1
-----AAGACGGGAGGAAAGAAGGGa-----
309 0,-1
-----AAGACGGGAGGAAAGAAGGGa-----
131 0,-1
-----AAGACGGGAGGAAAGAAGGGa-----
29 0,-1
-----AAGACGGGAGGAAAGAAGGGa-----
137 0,-1
-----AAGACGGGAGGAAAGAAGGGa-----

```

28 0,-1
-----AAGACGGGAGGAAAGAAGGGAG-----
2191 0,0
-----AAGACGGGAGGAAAGAAGGGAGa-----
375 0,0
-----AAGACGGGAGGAAAGAAGGGAGaa-----
12 0,0
-----AAGACGGGAGGAAAGAAGGGAGau-----
20 0,0
-----AAGACGGGAGGAAAGAAGGGAGU-----
290 0,1
-----AAGACGGGAGGAAAGAAGGGAGUa-----
2 0,1
-----AAGACGGGAGGAAAGAAGGGAGUaa-----
2 0,1
-----AAGACGGGAGGAAAGAAGGGAGUau-----
6 0,1
-----AAGACGGGAGGAAAGAAGGGAGUu-----
24 0,1
-----AAGACGGGAGGAAAGAAGGGAGUuu-----
7 0,1
-----AAGACGGGAGGAAAGAAGGGAGUG-----
3 0,2
-----AAGACGGGAGGAAAGAAGGGAGUGu-----
3 0,2
-----AAGACGGGAGGAAAGAAGGGAGUGG-----
2 0,3
-----AGACGGGAGGAAAGAAGG-----
13 1,-3
-----AGACGGGAGGAAAGAAGGG-----
19 1,-2
-----AGACGGGAGGAAAGAAGGGA-----
25 1,-1
-----AGACGGGAGGAAAGAAGGGAa-----
2 1,-1
-----AGACGGGAGGAAAGAAGGGAG-----
47 1,0
-----AGACGGGAGGAAAGAAGGGAGU-----

26	1,1	-AGACGGGAGGAAAGAAGGGAGUG-
19	1,2	-AGACGGGAGGAAAGAAGGGAGUGG-
34	1,3	-UCACUCCUCUCCUCCCGU-
3	0,-3	-UCACUCCUCUCCUCCCGUC-
2	0,-2	-UCACUCCUCUCCUCCCGUCU-
5	0,-1	-UCACUCCUCUCCUCCCGUCUU-
14	0,0	-UCACUCCUCUCCUCCCGUCUUa-
4	0,0	-UCACUCCUCUCCUCCCGUCUUu-
17	0,0	-UCACUCCUCUCCUCCCGUCUUuu-
2	0,0	-UCACUCCUCUCCUCCCGUCUUC-
9	0,1	-UCACUCCUCUCCUCCCGUCUUCa-
2	0,1	-CACUCCUCUCCUCCCGUC-
2	1,-2	-CACUCCUCUCCUCCCGUCU-
7	1,-1	-CACUCCUCUCCUCCCGUCUU-
6	1,0	-CACUCCUCUCCUCCCGUCUUa-
4	1,0	-CACUCCUCUCCUCCCGUCUUu-
4	1,0	-CACUCCUCUCCUCCCGUCUUuu-
2	1,0	-CACUCCUCUCCUCCCGUCUUC-
17	1,1	-CACUCCUCUCCUCCCGUCUUCU-

29 1,2

>hsa-mir-484 5p:8-29 SRX018969

```
agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaauagggacuucccggggggugaccucggcuuuuuuggcg
.(((..(((((((.....(((.(((((((..(((.((((.....))))..))))))))).))))))))......)).
-----UCAGGCUCAGUCCCCUCC-----
3 0,-4
-----UCAGGCUCAGUCCCCUCCC-----
2 0,-3
-----UCAGGCUCAGUCCCCUCCCGuu-----
2 0,-2
-----UCAGGCUCAGUCCCCUCCCGA-----
15 0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
6 0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
42 0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
8 0,0
-----UCAGGCUCAGUCCCCUCCCGAUuu-----
5 0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
7 0,1
-----UCAGGCUCAGUCCCCUCCCGAUAA-----
2 0,2
-----AGGCUCAGUCCCCUCCCGAU-----
2 2,0
```

>hsa-mir-485 5p:9-30;3p:46-67 SRX018969

```
acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((..(((((((..(((((((..((((.....))))))))).)))))))).)))))))).)))
-----AGAGGCUGGCCGUGAUGAAUa----- 5
0,-2
-----AGAGGCUGGCCGUGAUGAAUU----- 28
0,-1
-----AGAGGCUGGCCGUGAUGAAUUu----- 5
0,-1
-----AGAGGCUGGCCGUGAUGAAUUC----- 4
```

```

0,0
-----AGAGGCUGGCCGUGAUGAAUUCG----- 10
0,1
-----GUCAUACACGGCUCUCCUCUC----- 4
0,-1
-----GUCAUACACGGCUCUCCUCUCU----- 27
0,0

```

>hsa-mir-486 5p:4-25;3p:46-66 SRX018969

```

gcaUCCUGUACUGAGCUGCCCCGAGgcccucaugcugcccagcuCGGGGCAGCUCAGUACAGGAUac
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
---UCCUGUACUGAGCUGCCC----- 14 0,-4
---UCCUGUACUGAGCUGCCCC----- 51 0,-3
---UCCUGUACUGAGCUGCCCCG----- 21 0,-2
---UCCUGUACUGAGCUGCCCCGA----- 71 0,-1
---UCCUGUACUGAGCUGCCCCGAa----- 3 0,-1
---UCCUGUACUGAGCUGCCCCGAu----- 2 0,-1
---UCCUGUACUGAGCUGCCCCGAG----- 139 0,0
---UCCUGUACUGAGCUGCCCCGAGa----- 57 0,0
---UCCUGUACUGAGCUGCCCCGAGaa----- 2 0,0
---UCCUGUACUGAGCUGCCCCGAGu----- 18 0,0
----CUGUACUGAGCUGCCCCGAG----- 3 2,0
-----CGGGGCAGCUCAGUACAGGAU-- 2 0,0
-----CGGGGCAGCUCAGUACAGGAUA- 2 0,1

```

>hsa-mir-487a 3p:49-70 SRX018969

```

gguaucuagaagagugguuaucuccugcuguguuucgcuuaauuuuagacgAAUCAUACAGGGACAUCAGUUuuucaguauc
(((((((.((((((.(((...((((((.(((((((((.(((((((((.(((((((((.(((((((((.((((((((
-----AAUCAUACAGGGACAUCAGUU-----
4 0,0

```

>hsa-mir-487b 3p:51-72 SRX018969

```

uugguacuuggagagugguuaucuccuguccuguuucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
ucaa
.(((((((.((((((((...((((((.(((((((((.(((((((((.(((((((((.(((((((((.((((((((
)))
-----AAUCGUACAGGGUCAUCCA-----
---- 5 0,-3

```

-----				AAUCGUACAGGGUCAUCCAC-----
----	5	0,-2		
-----				AAUCGUACAGGGUCAUCCACU-----
----	57	0,-1		
-----				AAUCGUACAGGGUCAUCCACUU-----
----	40	0,0		
-----				AAUCGUACAGGGUCAUCCACUUa-----
----	6	0,0		
-----				AAUCGUACAGGGUCAUCCACUUU-----
----	5	0,1		
-----				AUCGUACAGGGUCAUCCACU-----
----	2	1,-1		
-----				AUCGUACAGGGUCAUCCACUU-----
----	2	1,0		
-----				UCGUACAGGGUCAUCCACUUUU-----
----	2	2,2		

>hsa-mi r-490 5p:39-58;3p:76-97 SRX018969

[illegible]

UGGAGGACUCCAUGCUGa	4	0,0	-----CAACC
UGGAGGACUCCAUGCUGU	15	0,1	-----CAACC
UGGAGGACUCCAUGCUGUU	2	0,2	-----CAACC

>hsa-mi r-491 5p:16-37;3p:50-71 SRX018969

uugacuuagcuggguAGUGGGGAACCCUUCCAUGAGGaguagaacacucCUUAUGCAAGAUUCCCUUCUACcugggcuggg
uugg
(..(((((((..((((((.(((((((..(((.((((((((((.....)))))))))))).)).)).))))).))))).))))))
) ..)
-----AGUGGGGAACCCUUCCAUGAG-----
---- 2 0, -1
-----AGUGGGGAACCCUUCCAUGAGGA-----
---- 3 0, 1

```

>hsa-mir-493    mi:16-37;MA:57-78    SRX018969
cuggccuccagggcUUGUACAUGGUAGGCUUUCAUcauucguuugcacauucggUGAAGGUCUACUGUGGCCAGGcc
cugugccag
(((((((.....((.....)).....)))))))))))))
)))
-----UUUGUACAUGGUAGGCUUUCAU-----
----- 4  -1,-1
-----UUGUACAUGGUAGGCUUUCAa-----
----- 2  0,-2
-----UGAAGGUCUACUGUGGCCA-----
----- 4  0,-2

```

```

>hsa-mir-494    3p:48-69    SRX018969
gauacucgaaggagagguuguccguguugucuucucuuuuuuuuugaUGAAACAUACACGGGAAACCUCuuuuuuuaguau
c
(((((((.....((.....)).....)))))))))))))
)
-----UGAAACAUACACGGGAAACCU-----
- 11  0,-1
-----UGAAACAUACACGGGAAACCUC-----
- 14  0,0
-----UGAAACAUACACGGGAAACCUCU-----
- 58  0,1
-----UGAAACAUACACGGGAAACCUCUU-----
- 2  0,2

```

```

>hsa-mir-495    3p:50-71    SRX018969
ugguaccugaaaagaaguugcccauguuauuuucgcuuuauaugugacgAAACAAAACAUGGUGCACUUCUUuuucgguau
ca
.(((((((.....((.....)).....)))))))))))))
).
-----AAACAAAACAUGGUGCACUU-----
-- 2  0,-3
-----AAACAAAACAUGGUGCACUUu-----
-- 2  0,-3
-----AAACAAAACAUGGUGCACUUC-----
-- 8  0,-2

```

--	33	0,-1	-----AAACAAACAUGGUGCACUUCU-----
--	143	0,0	-----AAACAAACAUGGUGCACUUCUU-----
--	16	0,0	-----AAACAAACAUGGUGCACUUCUUa-----
--	114	0,1	-----AAACAAACAUGGUGCACUUCUU-----
--	4	0,1	-----AAACAAACAUGGUGCACUUCUUUa-----
--	3	0,2	-----AAACAAACAUGGUGCACUUCUUU-----
--	3	1,0	-----AACAAACAUGGUGCACUUCUU-----
--	2	1,0	-----AACAAACAUGGUGCACUUCUUa-----
--	29	1,1	-----AACAAACAUGGUGCACUUCUU-----

>hsa-mir-497 MA:24-44;mi:64-85 SRX018969

ccaccccgguccugcucccgcccCAGCAGCACACUGUGGUUUGUacggcacuguggccacgucCAAACCACACUGUGGUG
UUAGAgcgagggugggggaggcaccgccgagg

$$(((.(..(((((((.((((((((((((((((.((((.((((((((((((.((((.....)))..)).)))))))))).)))))).)))).).....).)))))))))))))).))))..)).))$$

-----	CAGCAGCACACUGUGGUUU-----
-----	11 0,-2
-----	CAGCAGCACACUGUGGUUUG-----
-----	11 0,-1
-----	CAGCAGCACACUGUGGUUUUG-----
-----	31 0,0
-----	CAGCAGCACACUGUGGUUUUGu-----
-----	2 0,0
-----	CAGCAGCACACUGUGGUUUUGUA-----
-----	18 0,1
-----	CAGCAGCACACUGUGGUUUUGUAa-----
-----	7 0,1
-----	CAGCAGCACACUGUGGUUUUGUAu-----
-----	3 0,1

-----AGCAGCACACUGUGGUUU-----
 -----4 1,-2-----
 -----AGCAGCACACUGUGGUUUGU-----
 -----4 1,0-----
 -----AGCAGCACACUGUGGUUUGUA-----
 -----2 1,1-----
 -----AGCAGCACACUGUGGUUUGUAa-----
 -----2 1,1-----
 -----AGCAGCACACUGUGGUUUGUAC-----
 -----2 1,2-----

>hsa-mi r-499 5p:33-53;3p:70-91 SRX018969

gccuguccccugugccuugggcgggcggcugUUAAGACUUGCAGUGAUGUUaacuccucuccacgugACAUCACAGC
AAGUCUGUGCUgcuucccgucccuacgcugccugggcagggg

-----	UUAAGACUUGCAGUGAUGU-	-----
-----	2 0,-2	-----
-----	UUAAGACUUGCAGUGAUGUU-	-----
-----	2 0,-1	-----
-----	UUAAGACUUGCAGUGAUGUUa-	-----
-----	3 0,-1	-----
-----	UUAAGACUUGCAGUGAUGUUU-	-----
-----	60 0,0	-----
-----	UUAAGACUUGCAGUGAUGUUUA-	-----
-----	15 0,1	-----

>hsa-mi r-500a MA:13-35;mi :52-73 SRX018969

gccccccucucUAAUCCUUGCUACCUUGGGUGAGAgugcugucugaaugcaAUGCACCUUGGGCAAGGAUUCUGagagcga
gagc

(((.(.((((.(((((((((...(..((((...(((.....))))...))))..)))))))).).
))))

-----AAUGCACCUGGGCAAGGA-----
 ---- 7 -1,-5
 -----AAUGCACCUGGGCAAGGAU-----
 ---- 3 -1,-4
 -----AAUGCACCUGGGCAAGGAU_a-----
 ---- 4 -1,-4

-----			AAUGCACCUGGGCAAGGAUU-----
----	43	-1, -3	
-----			AAUGCACCUGGGCAAGGAUUC-----
----	5	-1, -2	
-----			AUGCACCUGGGCAAGGAU-----
----	32	0, -4	
-----			AUGCACCUGGGCAAGGAU _a -----
----	18	0, -4	
-----			AUGCACCUGGGCAAGGAUU-----
----	142	0, -3	
-----			AUGCACCUGGGCAAGGAUUC-----
----	7	0, -2	
-----			AUGCACCUGGGCAAGGAUUCU-----
----	4	0, -1	
-----			AUGCACCUGGGCAAGGAUUCUG-----
----	3	0, 0	
-----			AUGCACCUGGGCAAGGAUUCUGA-----
----	10	0, 1	

>hsa-mi r-501 5p:14-35;3p:51-72 SRX018969

gcucuuccucucuAAUCCUUGUCCCUGGGUGAGAgugcuuucugaaugcAAUGCACCCGGGCAAGGAUUCUgagagggugagc

((((((.(((((((.(((((((.(.(((.((((((. ...(((.....)))...)))))))))))))))).)))))))).
))))

-----			AAUGCACCCGGGCAAGGA-----
----	6	0,-4	
-----			AAUGCACCCGGGCAAGGAU-----
----	6	0,-3	
-----			AAUGCACCCGGGCAAGGAU _a -----
----	5	0,-3	
-----			AAUGCACCCGGGCAAGGAUU-----
----	18	0,-2	
-----			AAUGCACCCGGGCAAGGAUUC-----
----	3	0,-1	

>hsa-mi r-502 5p:16-36;3p:52-73 SRX018969

ugcuccccucucuaAUCCUUGCUAUCUGGGUGCUAgugcuggcucaaugcAAUGCACCUGGGCAAGGAUUCAgagaggg
ggagcu

Position	Sequence	Score
2	AAUCCUUGCUAUCUGGGUGCUA	-1,0
2	GCAAUGCACCUGGGCAAGG	-2,-5
6	GCAAUGCACCUGGGCAAGGAU	-2,-2
7	AAUGCACCUGGGCAAGGA	0,-4
3	AAUGCACCUGGGCAAGGAU	0,-3
4	AAUGCACCUGGGCAAGGAU _a	0,-3
43	AAUGCACCUGGGCAAGGAU	0,-2
5	AAUGCACCUGGGCAAGGAUUC	0,-1
6	AAUGCACCUGGGCAAGGAUUC _a	0,0
10	AAUGCACCUGGGCAAGGAUUCAG	0,1
32	AUGCACCUGGGCAAGGAU	1,-3
18	AUGCACCUGGGCAAGGAU _a	1,-3
142	AUGCACCUGGGCAAGGAU	1,-2
7	AUGCACCUGGGCAAGGAUUC	1,-1

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgaucggugcucuggggguauuguuuuccgcugccagggua
(((((((.(((((((((((((((((.((.(.(((.(((. ....)))))))).)).)))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 186 0,-5
-----UAGCAGCGGGAACAGUUCa----- 5 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 17 0,-5
-----UAGCAGCGGGAACAGUUCU----- 185 0,-4

```

----UAGCAGCGGGAACAGUUCUa-----	4	0,-4
----UAGCAGCGGGAACAGUUCUaa-----	59	0,-4
----UAGCAGCGGGAACAGUUCUG-----	19	0,-3
----UAGCAGCGGGAACAGUUCUGa-----	2	0,-3
----UAGCAGCGGGAACAGUUCUGaa-----	7	0,-3
----UAGCAGCGGGAACAGUUCUGC-----	7	0,-2
----UAGCAGCGGGAACAGUUCUGCA-----	2	0,-1
----UAGCAGCGGGAACAGUUCUGCAG-----	21	0,0

>hsa-mir-504 5p:13-34 SRX018969

gcugcuguugggAGACCCUGGUCUGCACUCUAUCguuauucuuacugaagggagugcagggcaggguuucccauacagag
ggc

((.(((((((((((((((((((.((((((((((.(((.(...)))..))))))))))))))).)))

)))

-----AGACCCUGGUCUGCACUCUA-----
 --- 2 0,-2

-----AGACCCUGGUCUGCACUCUAU-----
 --- 3 0,-1

-----AGACCCUGGUCUGCACUCUAUa-----
 --- 2 0,-1

-----AGACCCUGGUCUGCACUCUAUC-----
 --- 4 0,0

-----GACCCUGGUCUGCACUCUAU-----
 --- 3 1,-1

>hsa-mi r-505 mi:15-36;MA:51-72 SRX018969

gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc

((((((.((((.((((((((((((.((((.((((((((.....))))))))).))))).)))))))).))))).))))).))))))

-----GGGAGCCAGGAAGUAUUGAU-----
 --- 7 0,-2

-----GGGAGCCAGGAAGUAUUGAUa-----
 --- 4 0,-2

-----GGGAGCCAGGAAGUAUUGAUG-----
 --- 9 0,-1

-----GGGAGCCAGGAAGUAUUGAUGa-----
 --- 6 0,-1

```

-----GGGAGCCAGGAAGUAUUGAUGU-----
---- 28 0,0
-----GGGAGCCAGGAAGUAUUGAUGUU-----
---- 63 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUU-----
---- 25 0,2
-----CGUCAACACUUGCUGGUUUC-----
---- 2 0,-1
-----CGUCAACACUUGCUGGUUUCU-----
---- 7 0,0
-----CGUCAACACUUGCUGGUUUCUC-----
---- 5 0,1
-----GUCAACACUUGCUGGUUU-----
---- 9 1,-3
-----GUCAACACUUGCUGGUUUC-----
---- 5 1,-2
-----GUCAACACUUGCUGGUUUC-----
---- 2 1,-1
-----GUCAACACUUGCUGGUUUCU-----
---- 9 1,0
-----GUCAACACUUGCUGGUUUCUu-----
---- 2 1,0
-----GUCAACACUUGCUGGUUUCUC-----
---- 2 1,1
-----GUCAACACUUGCUGGUUUCUCU-----
---- 5 1,2
-----UCAACACUUGCUGGUUUC-----
---- 2 2,-1
-----UCAACACUUGCUGGUUUCU-----
---- 3 2,0
-----UCAACACUUGCUGGUUUCUC-----
---- 7 2,1
-----UCAACACUUGCUGGUUUCUCU-----
---- 2 2,2

```

>hsa-mir-509-3 5p:10-31;3p:44-65 SRX018969

```

gugguacccUACUGCAGACGUGGCAAUCAUGuauaauuaaaaaUGAUUGGUACGUCUGUGGGUAGaguacugcau
(..(((.((((..(((((((.(((((((.(.....))...)))))).)))))).)).)))...

```

```

-----UACUGCAGACGUGGCAAUCAU----- 3
0,-1
-----UACUGCAGACGUGGCAAUCAUG----- 4
0,0

```

>hsa-mir-511-1 5p:16-36 SRX018969

```

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

```

```

(((((((((.....)))))))).))))))
)))))

```

```

-----GUGUCUUUUGCUCUGCAGUCA-----
----- 4 0,0

```

```

-----GUGUCUUUUGCUCUGCAGUCAGa-----
----- 2 0,1

```

```

-----UGAAUGUGUAGCAAAAGACAGA-----
----- 13

```

```

-----AAUGUGUAGCAAAAGACA-----
----- 5

```

```

-----AAUGUGUAGCAAAAGACAG-----
----- 8

```

```

-----AAUGUGUAGCAAAAGACAGA-----
----- 55

```

```

-----AAUGUGUAGCAAAAGACAGAA-----
----- 17

```

```

-----AAUGUGUAGCAAAAGACAGAAa-----
----- 5

```

```

-----AAUGUGUAGCAAAAGACAGAAU-----
----- 20

```

>hsa-mir-511-2 5p:16-36 SRX018969

```

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

```

```

(((((((((.....)))))))).))))))
)))))

```

```

-----GUGUCUUUUGCUCUGCAGUCA-----
----- 4 0,0

```

```

-----GUGUCUUUUGCUCUGCAGUCAGa-----
----- 2 0,1

```

The diagram illustrates how the same nucleotide sequence can be interpreted differently depending on the starting point (reading frame). The sequence shown is: -UGAAUGUGUAGCAAAAAGACAGA-.

- Top row:** Shows the sequence starting at the first position. The start codon UGA is underlined, followed by AUGUGUAGCAAAAAGACAGA. A value of 13 is indicated below the sequence.
- Second row:** Shows the sequence starting at the second position. The start codon AAU is underlined, followed by GUGUAGCAAAAAGACA. A value of 5 is indicated below the sequence.
- Third row:** Shows the sequence starting at the third position. The start codon AUG is underlined, followed by GUAGCAAAAAGACAG. A value of 8 is indicated below the sequence.
- Fourth row:** Shows the sequence starting at the fourth position. The start codon UGC is underlined, followed by AAAAAAGACAGA. A value of 55 is indicated below the sequence.
- Fifth row:** Shows the sequence starting at the fifth position. The start codon AAA is underlined, followed by AAGACAGAA. A value of 17 is indicated below the sequence.
- Sixth row:** Shows the sequence starting at the sixth position. The start codon AAG is underlined, followed by ACAGAAa. A value of 5 is indicated below the sequence.
- Seventh row:** Shows the sequence starting at the seventh position. The start codon ACA is underlined, followed by AGAGAAU. A value of 20 is indicated below the sequence.

>hsa-mi r-513a-1 5p:37-54;3p:72-94 SRX018969

[illegible]

>hsa-mi r-513a-2 5p:36-53;3p:71-93 SRX018969

>hsa-mir-513b 5p:14-35 SRX018969

guguacagugccuUUCACAAGGAGGUGUCAUUUAUgugaacuaaaauuaaaugucaccuuuuugagaggaguaauguac
agca

```
.(((((((.(((.(((.(((((((((((.((((((((((((.....))))))))).))))))))).)))..))))).))))
)...
-----UUCACAAGGAGGUGUCAUU-----
----      2      0,-3
```

```
>hsa-mir-513c   5p:14-35   SRX018969
gcguacagugccuUUCUCAAGGAGGUGUCGUUUAUgugaacuaaaauaauuuuucaccuuucugagaagaguaauguac
agca
(((((((.(((.(((.(((((((((((.((((((((((((.....))))))))).))))))))).)))..))))).))))
.)).
-----UUCUCAAGGAGGUGUCGUUUAU-----
----      2      0,0
-----AAAUUUCACCUUUCUGAGAAGA-----
----      2
```

```
>hsa-mir-514-1  3p:59-79   SRX018969
aacauguugucugugguacccuacucuggagagugacaaucauguauaauuaauuuugAUUGACACUUCUGUGAGUAGAg
uaacgcaugacacguacg
...(((((((.(((.(((.(((((((((((.((((((((((((.....))))))))).))))))))).)))..))))).))))
)).))))).))))).))
-----UACUCUGGAGAGUGACAAU-----
-----      3
```

```
>hsa-mir-514-2  3p:54-74   SRX018969
guugucugugguacccuacucuggagagugacaaucauguauaauuaauuuugAUUGACACUUCUGUGAGUAGAguaacg
caugacac
..(((((((.(((.(((.(((((((((((.((((((((((((.....))))))))).))))))))).)))..))))).))))
)).))))).))
-----UACUCUGGAGAGUGACAAU-----
-----      3
```

```
>hsa-mir-514-3  3p:54-74   SRX018969
guugucugugguacccuacucuggagagugacaaucauguauaauuaauuuugAUUGACACUUCUGUGAGUAGAguaacg
caugacac
..(((((((.(((.(((.(((((((((((.((((((((((((.....))))))))).))))))))).)))..))))).))))
)).))))).))
-----UACUCUGGAGAGUGACAAU-----
-----      3
```

cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu

-----CAUGCCUUGAGUGUAGGAC-----

-----CAUGCCUUGAGUGUAGGACC-----

-----CAUGCCUUGAGUGUAGGACCG-----

-----CAUGCCUUGAGUGUAGGACCGU-----

-----CAUGCCUUGAGUGUAGGACCGU_a-----

-----ACCCUCCCACACCCAAGGCUUGCA-----

-----CCUCCCACACCCAAGGCUU-----

-----CCUCCCACACCCAAGGCUUG-----

-----CCUCCCACCCCAAGGCUUGu-----

-----CCUCCCACACCCAAGGCUUGC-----

-----CCUCCCACACCCAAGGCUUGCA-----

-----CCUCCCACCCCAAGGCUUGCAu-----

-----CCUCCCACACCCAAGGCUUGCAA-----

-----CUCCCACACCCAAGGCUUGC-----

auacuugaGGAGAAAUUAUCCUUGGUGUGUucgcuuuuuuauaugaaucauacaaggacaauuucuuuuugaguau
((((((.(((((((((((.((((((((.(.....).))))).)))))))))).))))))))).))))))

```

-----AUCAUACAAGGACAAUUCUUU-----
3
-----CAUACAAGGACAAUUCUUUU-----
2

```

```

>hsa-mir-542    5p:16-38;3p:53-74    SRX018969
cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAAACUGAAAggucug
ggagccacucaucuca
....((((((((((...((((...((((((((((...((((...))))))...))))))...))))))...))))))
)))).
-----UCGGGGAUCAUCAUGUCAC-----
-----3    0,-4
-----UCGGGGAUCAUCAUGUCACG-----
-----2    0,-3
-----UUGUGACAGAUUGAUAAAC-----
-----2    -1,-5
-----UGUGACAGAUUGAUAAACU-----
-----15   0,-4
-----UGUGACAGAUUGAUAAACUGA-----
-----2    0,-2
-----UGUGACAGAUUGAUAAACUGAA-----
-----12   0,-1
-----UGUGACAGAUUGAUAAACUGAAA-----
-----14   0,0

```

```

>hsa-mir-543    3p:47-68    SRX018969
uacuuaaugagaaguugcccguguuuuuuucgcuuuauuugugacgAAACAUUCGCGGUGCACUUCUuuucaguauc
((((((...((((((((...((((((((...((((((((...))))))...))))))...))))))...))))))..
-----AAACAUUCGCGGUGCACUUCUU-----
4    0,0
-----AAACAUUCGCGGUGCACUUCUU-----
4    0,1

```

```

>hsa-mir-548a-1 3p:61-82    SRX018969
ugcagggagguauuaaguuggugcaaaaguaauugugauuuuugccauuaaaaguaacgaCAAAACUGGCAAUUACUUUU
GCaccaaaccugguauu
..((((...((((((((((((((((((((...((((((((...))))))...))))))...))))))...))))))..
))))))..

```



```

-----CAAAACUGGCAAUACUUUU
G-----      2    0,-1
-----CAAAACUGGCAAUACUUUU
Ga-----      2    0,-1

```

```

>hsa-mir-548a-2 3p:61-82    SRX018969
ugugauguguauuagguugugcaaaaguaauugggguuuuuugccguuaaaaguaauggCAAAACUGGCAAUACUUUU
GCaccaaacuaauauaa
.....((((((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))....)))))))).
-----CAAAACUGGCAAUACUUUU
G-----      2    0,-1
-----CAAAACUGGCAAUACUUUU
Ga-----      2    0,-1

```

```

>hsa-mir-548a-3 5p:25-46;3p:61-82    SRX018969
ccuagaauguuauuaggucggugcAAAAGUAAUUGCGAGUUUUACCAuuacuucuaauggCAAAACUGGCAAUACUUUU
GCaccaacguaauacuu
.....(((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).)))).)))).
-----CAAAACUGGCAAUACUUUU
G-----      2    0,-1
-----CAAAACUGGCAAUACUUUU
Ga-----      2    0,-1

```

```

>hsa-mir-548b 5p:25-46;3p:61-82    SRX018969
cagacuauauauuagguuggcgcAAAAGUAAUUGUGGUUUUGGCCuuuauuuucaauggCAAGAACCUCAGUUGCuuuu
GUgccaaccuaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))).
-----GCAAAAGUAAUUGUGGUUUUGGu-----
-----      2    -2,-2
-----CAAGAACCUCAGUUGCuuuu
-----      4    0,-2

```

```

>hsa-mir-548c 5p:25-46;3p:61-82    SRX018969
cauugggcaucuauuagguuggugcAAAAGUAAUUGCGGUUUUUGCCauuacuucaguagCAAAAAUCUCAAUUACUUUU
GCaccaacuuaauacuu

```

-----		AAAAGUAAUUGCGUUUUU-	-----
-----	9	0, -3	
-----		AAAAGUAAUUGCGUUUUUG-	-----
-----	8	0, -2	
-----		AAAGUAAUUGCGUUUUUG-	-----
-----	6	1, -2	
-----		AAAGUAAUUGCGUUUUUGC-	-----
-----	2	1, -1	

-----AAAAGUAAUUGUGGUUUU-----
-----5 0,-3-----

-----AAAAGUAAUUGUGUUUU-----
-----5 0,-3-----

-----AAAAACUGAGACUACUUUU-----
-----4 0,-3-----

-----			-----AAAAACUGAGACUACUUUUG-----
-----	13	0,-2	
-----			-----AAAAACUGAGACUACUUUUGC-----
-----	7	0,-1	
-----			-----AAAAACUGAGACUACUUUUGCA-----
-----	34	0,0	
-----			-----AAAAACUGAGACUACUUUUGCAa-----
-----	8	0,0	
-----			-----AAACUGAGACUACUUUUGC-----
-----	2	2,-1	

>hsa-mir-548g 3p:54-75 SRX018969

aguuuuuaguuuagugcaaaaguaauugcaguuuuugcauuacguucuauggcAAAACUGUAAUACUUUUGUACcaaca
uaauacuuc

-----CAAAAGUAAUUGCAGUUU-----

----- 2

-----AAAAGUAAUUGCAGUUU-----

----- 5

-----AAAAGUAAUUGCAGUUUUG-----

----- 2

>hsa-mir-548h-1 5p:21-42 SRX018969

ucuguccauuaggugggugcAAAAGUAAUCGCGUUUUUGUCauuacuuuuuauugguaaaaacuggaauuacuuuugcac
ugaccuaauuuuagccagaua

$$\begin{aligned} &(((((((.(((((((.(((((((((((((((((.(((((((((.((((((...))))))..)))))))).)))))))).)))))))).)))))))).)))))).. \\ &).)))))))).)))).. \end{aligned}$$

-----AAAAGUAAUCGCGUUUU-----

----- 4 0, -3

-----AAAGUAAUCGCGUUUUUG-----

----- 3 1,-2

>hsa-mir-548h-2 5p:16-37 SRX018969

guauuagguuggugcAAAAGUAAUCGCGUUUUUGUCauuacuuaauggcaaaccacacaauuacuuuugcaccaacc
uauuauaa

[illegible]

```

-----AAAAGUAAUCGCGUUUUU-----
-----      4      0,-3
-----AAAGUAAUCGCGUUUUUG-----
-----      3      1,-2

```

>hsa-mir-548h-3 5p:29-50 SRX018969

```

ucugauucugcauguauuagguuggugcAAAAGUAAUCGCGUUUUUGUCauugaaaguaauagcaaaacugcaauuac
uuuugcaccaaccuaaaaguagucacugucuucagaua

```

```

(((((((((.....(((((((((((((((((((((((.(((((((((((.....))))).))))))))).))))))
))))))))))))))))).))))).))))).))))).

```

```

-----AAAAGUAAUCGCGUUUUU-----
-----      4      0,-3
-----AAAGUAAUCGCGUUUUUG-----
-----      3      1,-2
-----CAAAAACUGCAAUAC
UUU-----      19
-----CAAAAACUGCAAUAC
UUUU-----      66
-----CAAAAACUGCAAUAC
UUUUa-----      2
-----CAAAAACUGCAAUAC
UUUUG-----      21
-----CAAAAACUGCAAUAC
UUUUGa-----      3
-----AAAAACUGCAAUAC
UUU-----      8
-----AAAAACUGCAAUAC
UUUU-----      57
-----AAAAACUGCAAUAC
UUUUu-----      2
-----AAAAACUGCAAUAC
UUUUG-----      21
-----AAAAACUGCAAUAC
UUUUGaa-----      3
-----AAAAACUGCAAUAC
UUUU-----      2

```

>hsa-mir-548h-4 5p:17-38 SRX018969

```

gcuaauuagguuggugcAAAAGUAAUCGCGGUUUUUGUCauuacuuuaauuacuuuacguuucauuaaugacaaaaaccgc
aauuacuuuuugcaccaaccuaauacuugcua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAAGUAAUCGCGGUUUU-----
-----4    0,-3
-----AAAGUAAUCGCGGUUUUG-----
-----3    1,-2
-----AAAAACCGC
AAUUACUUU-----6

```

```
>hsa-mir-548i-2 5p:39-60      SRX018969
uagauggcuccgaaguugcauccuauuaguuuuggugcAAAAGUAAUUGCGGAUUUUGCCauuaaaaguaauggcaaaa
uagcauuuuuuuuuguaccagccuaguaucuuuucuccuucuaacaaaguucgucccugauccaucuca
.(((((((.(((((((.((((.....(((((((.((((((((((((((((((((.....((((((((((((((((.....)))))))))).
..)))))))))))))))))))))))).)))))).....)))))).))))).))))))..
-----AAAAGUAAUUGCGGAUUUU-----
-----2 0,-3
```

```
>hsa-mir-548i-4 5p:11-32      SRX018969
agguuggugcAAAAGUAAUUGCGGAUUUUGCCauacuuaaagcgcaaaaccacaaauuuauugcaccaaccuau
((((((((((((((.(((((.(((.(.(((((((.....)))))))).)).)).)).)).)).)).)).).
```



```

-----GAGCAAAGUAAUUGCGGU-----
3
-----AGCUACAGUUACUUUUGCA-----
3 0,-3

```

>hsa-mir-548w 5p:10-32 SRX018969

```

gguuuggugcAAAAGUACUGCGGUUUUUGCCUuucaacauauggcaaaaccacaauuacuuuugcaccaauc
((((((((((((((((((.((.((.((((((.....)))))))).)).)).)))))))))
-----CAAAAGUACUGCGGUUUU----- 2
-1,-5
-----CAAAAGUACUGCGGUUUU----- 2
-1,-4
-----AAAAGUACUGCGGUUUU----- 23
0,-4
-----AAAAGUACUGCGGUUUUG----- 7
0,-3
-----AAAAGUACUGCGGUUUUGCC----- 7
0,-1

```

>hsa-mir-548x 3p:46-66 SRX018969

```

agguuagugcaaaaguaauugcaguuuuugcguuacuuucaaucGUAAAAACUGCAAUUACUUUCacaccaauc
((((((.(((.((((((((((((((((((((((((((((((((.....)))))))))....))))))....)))).)))))
-----CAAAAGUAAUUGCAGUUUU----- 2
-----AAAAGUAAUUGCAGUUUU----- 5
-----AAAAGUAAUUGCAGUUUUUG----- 2
-----AAAAACUGCAAUUACUUU----- 8
1,-2

```

>hsa-mir-548z 3p:54-76 SRX018969

```

aaguaauaaguuggugcaaaaguaauugagauuuuugcuacugaaaguaauggCAAAAACCGCAAUUACUUUUGCAcaca
ccuaauagaugccaug
...((((((.((((((((((((((((((((((.((((((((((.((....)).)))))))).)).))))))....)))))
).))))).
-----AAAAACCGCAAUUACUUU-----
----- 6 1,-3

```

>hsa-mir-550a-1 MA:22-44;mi:61-82 SRX018969

```

ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguuguagauagUGUCUUACUCCCUAGGCAC

```


>hsa-mir-550a-2 MA:22-44;mi:61-82 SRX018969
ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguugucagauagUGUCUUACUCCCUCAGGCAC
AUcuccagcgagucucu

```

-----AGUGCCUGAGGGAGUAAG-----
-----      2      0,-5
-----AGUGCCUGAGGGAGUAAGAG-----
-----      2      0,-3

```

.....((((.((((.(((((((((((.((((((...(((.....))))).)))))))))
 ..))))).))))....

-----AUAUUACCAUUAGCUCAUa-----
 ----- 2 0,-4 -----
 -----AUAUUACCAUUAGCUCAUUCU-----
 ----- 4 0,-2 -----
 -----AUAUUACCAUUAGCUCAUUCUU-----
 ----- 28 0,-1 -----
 -----AUAUUACCAUUAGCUCAUUCUa-----

----- 10 0, -1

>hsa-mi r-574 5p:25-47;3p:61-82 SRX018969

gggaccugcguugggugcgggcgugUGAGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUCAUGCACACACCCA
Cacgcccacacucagg

.....(.((((((.(((((((((.(((((((((((((((((((((.((.....)).))))))))))))))))))
))))))).))))).)

-----UGAGUGUGUGUGUGAG-----

----- 53 0, -5

-----UGAGUGUGUGUGUGAGU-----

----- 39 0, -4

-----UGAGUGUGUGUGUGAGUG-----

$$----- \quad 2 \quad 0, -3$$

-----UGAGUGUGUGUGUGAGUGU-----

----- 13 0,-2

-----UGAGUGUGUGUGUGAGUGUG-----

$$----- \quad 2 \quad 0, -1$$

-----UGAGUGUGUGUGUGAGUGUGU-----

----- 16 0,0

-----UGAGUGUGUGUGUGAGUGUGUG-----

----- 6 0,1

-----UGAGUGUGUGUGUGAGUGUGUGU-----

----- 8 0,2

-----CACGCUCAUGCACACACC-----

----- 57 0, -4

-----CACGCUCAUGCACACACCC-----

----- 36 0, -3

-----CACGCUCAUGCACACACCCu

----- 2 0, -3

-----CACGCUCAUGCACACACCCu

u----- 3 0, -3

-----CACGCUCAUGCACACACCCA

----- 125 0, -2

-----CACGCUCAUGCACACACCCA

$$aa \text{-----} 2 \quad 0, -2$$

-----CACGCUCAUGCACACACCCA

u----- 13 0,-2

-----CACGCUCAUGCACACACCCA


```

>hsa-mir-582      5p:16-38;3p:53-74      SRX018969
aucugugcucuuugaUUACAGUUGUUAACAGUUAACUaaucuaacuaauugUAAUGGUUGAACAAACUGAACCCaaagg
gugcaaaguagaaacauu
...((..((((((.....((((((((((((((((((((.....))))))))))))))))))....))))))
)..)).....
-----UAAUGGUUGAACAAACUGA-----
----- 2    0,-3
-----UAAUGGUUGAACAAACUGAA-----
-----14   0,-2

```

....(((((((.(.(.(((((((.((((((((.(((((((..(((.....)))..)))))).)))))))).)))))))).)))))).....

>hsa-mi r-592 5p:16-37 SRX018969
uauuaugccaugacaUUGUGUCAUAUGCGAUGAUGUguugugauggcacagcgucaucacguggugacgcaacaucaug
acguaagacgucacaac

..((((.(((((..((((((((.((((.(((((((((..(((((...)))))))))))).))))).)))))))).))))))
.)))))......

-----UUGUGCAAUUGCGAUGA-----
----- 2 0,-3 -----

gcuugaugaugcugcugaugcuggcggugaucgccgauggugugagcuggaaauggggugcUACGUCAUCGUUGUCAUCGU

.....(((((((..(((((.((.(.....))))))..))))))
).....

----- 7 0, -4

$$----- \quad 2 \quad 0, -3$$

----- 16 0,-2

CA----- 13 0,0

CAa----- 5 0,0

CAU----- 11 0,1

ucccaucuggacccuGCUGGGCAGGGCUUCUGAGCUCCUagcacuagcaggaggggcuccaggggccuccuccaugg
cagccaggacaggacucuca

(((.(((((.((.(.(((.((((((((((((((((((((((.((...))..)))))))).)))))))).))..))
 ...))))).)))).

[illegible]

----- 3 -1, -5

----- 3 -1,0

cucuuguucacagccAAACUCUACUUGUCCUUCUGAGUguaauuacguacaugcaguagcucaggagacaagcagguuu
cccuguggaugagucuga

[illegible]

-----AAACUCUACUUGUCCUUCU-----

```

----- 8 0,-4
-----AAACUCUACUUGUCCUUCUGA-----
----- 3 0,-2
-----AAACUCUACUUGUCCUUCUGAG-----
----- 3 0,-1
-----AAACUCUACUUGUCCUUCUGAGa-----
----- 2 0,-1
-----AAACUCUACUUGUCCUUCUGAGU-----
----- 2 0,0

```

>hsa-mir-619 3p:61-84 SRX018969

cgcccaccucagccucccaaaugcugggauuacaggcaugagccacugcggucgaccuGACCUGGACAUGUUUGUGCC
CAGUacugucaguuugcag

.(((.(((.....(((((((.....(((((((.....((((.....)))))).))))))))))
)))))))).)))).

```

-----GCUGGGAUUACAGGCAUG-----
----- 11
-----GCUGGGAUUACAGGCAUGA-----
----- 7
-----GCUGGGAUUACAGGCAUGAG-----
----- 10
-----GCUGGGAUUACAGGCAUGAGCCA-----
----- 6
-----GCUGGGAUUACAGGCAUGAGCCAC-----
----- 6
-----CUGGGAUUACAGGCAUGA-----
----- 11
-----CUGGGAUUACAGGCAUGAG-----
----- 15
-----CUGGGAUUACAGGCAUGAGCCAC-----
----- 2
-----CUGGGAUUACAGGCAUGAGCCACU-----
----- 2
-----UGGGAUUACAGGCAUGAG-----
----- 31
-----UGGGAUUACAGGCAUGAGC-----
----- 5
-----UGGGAUUACAGGCAUGAGCC-----

```



```

----- 2
-----UGGGAUUACAGGCAUGAGCCA-----
----- 2
-----UGGGAUUACAGGCAUGAGCCAC-----
----- 12
-----UGGGAUUACAGGCAUGAGCCACU-----
----- 2
-----GGGAUUACAGGCAUGAGC-----
----- 56
-----GGGAUUACAGGCAUGAGCa-----
----- 2
-----GGGAUUACAGGCAUGAGCu-----
----- 11
-----GGGAUUACAGGCAUGAGCC-----
----- 26
-----GGGAUUACAGGCAUGAGCCA-----
----- 72
-----GGGAUUACAGGCAUGAGCCAC-----
----- 169
-----GGGAUUACAGGCAUGAGCCACa-----
----- 4
-----GGGAUUACAGGCAUGAGCCACU-----
----- 18
-----GGGAUUACAGGCAUGAGCCACUG-----
----- 4
-----GGGAUUACAGGCAUGAGCCACUGCa-----
----- 7
-----GGGAUUACAGGCAUGAGCCACUGCG-----
----- 3
-----GGAUUACAGGCAUGAGCCACUGCa-----
----- 3

```

```

>hsa-mir-624    mi:16-37;MA:54-74    SRX018969
aaugcuguuucaaggUAGUACCAGUACCUUGUGUUCAguggaaccaagguaaaCACAAGGUAAUUGGUAAUACCUugagau
agcauuacaccuaagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))).
-----UAGUACCAGUACCUUGUGUUC-----

```

----- 3 0,-1
-----UAGUACCAGUACCUUGUGUUCA-----
----- 3 0,0

>hsa-mir-625 MA:15-35;mi:52-73 SRX018969

aggguagaggggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCUCAucccucu
gcccuc

-----AGGGGGAAAGUUCUAUAGU-----

----- 3 0,-2

-----AGGGGGAAAGUUCUAUAGUa-----

----- 2 0,-2

-----AGGGGGAAAGUUCUAUAGUC-----

----- 7 0,-1

-----AGGGGGAAAGUUCUAUAGUCa-----

----- 5 0,-1

-----AGGGGGAAAGUUCUAUAGUCC-----

----- 4 0,0

-----AGGGGGAAAGUUCUAUAGUCCU-----

----- 9 0,1

-----GACUAUAGAACUUUCCCCCUC-----

----- 4 0, -1

-----GACUAUAGAACUUUCCCCUCA-----

----- 12 0,0

-----ACUAUAGAACUUUCCCCCUCA-----

----- 3 1.0

>hsa-mir-628 5p:23-44;3p:61-81 SRX018969

auagcuguugugucacuccucAUGCUGACAUUUACUAGAGGguaaaauuauaacuUCUAGUAAGAGUGGCAGUCG
Aaggaagggcucau

.....(((.(((.(((((((..((((.((((.(((((((((((((.....)))))))))))).)))..)))))

-----AUGCUGACAUAUUUACUA-----

----- 3 0,-4

-----AUGCUGACAUAUUUACUAGAG-----

----- 3 0,-1

-----AUGCUGACAUAUUUACUAGAGG-----

```

----- 4    0,0
-----AUGCUGACAUUUUACUAGAGGa-----
----- 6    0,0
-----AUGCUGACAUUUUACUAGAGGGU-----
----- 2    0,2

```

```

>hsa-mir-629    MA:22-42;mi:61-82    SRX018969
ucccuuucccaggggaggggcUGGGUUUACGUUGGGAGAACUuuuacggugaaccaggagGUUCUCCCAACGUAAGCCCA
GCccucccccucugccu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGGGUUUACGUUGGGAGA-----
----- 79    0,-3
-----UGGGUUUACGUUGGGAGAA-----
----- 50    0,-2
-----UGGGUUUACGUUGGGAGAAC-----
----- 2     0,-1
-----UGGGUUUACGUUGGGAGAACU-----
----- 3     0,0

```

```

>hsa-mir-641    5p:16-39    SRX018969
ugggugaaaggaaggAAAGACAUAGGAUAGAGUCACCUcuguccucuguccucuaccuauagaggugacuguccuauguc
uuuccuuccucuuaccccu
.((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAGACAUAGGAUAGAGUCA-----
----- 10    0,-4
-----AAAGACAUAGGAUAGAGUCAu-----
----- 2     0,-4
-----AAAGACAUAGGAUAGAGUCAC-----
----- 5     0,-3
-----AAAGACAUAGGAUAGAGUCACC-----
----- 16    0,-2
-----AAAGACAUAGGAUAGAGUCACCU-----
----- 21    0,-1
-----AAAGACAUAGGAUAGAGUCACCUC-----
----- 2     0,0

```

aucugaguugggaggGUCCCUCUCCAAAUGUGUCUUGgggugggggaucaagacacauuuggagagggaaccucccaacu
cggccucugccaauuu

-----AGACACAUUUGGAGAGGGA-----

-----AGACACAUUGGAGAGGGAAu-----

-----AGACACAUUUGGAGAGGGAACC-----

gaguugggagguucccucuccaaugugucuugaucceccaccccAGACACAUUGGAGAGGGACCCucccaacuc
(((((((((((.()))))))))(((((.....)))))))))(((((.....)))))))))

 $2 \quad 0, -3$

aaucuaucacugcuuUUUAGGAUAAGCUUGACUUUGuucaaaaaaaugcaaaaggaaaguguauccuaaaaggcaau
gacaguuuaauguguuu

-----UUUAGGAUAAGCUUGACUUUUGa-----

-----AAAGGAAAGUGUAUCCUAA-----

-----AAAGGAAAGUGUAUCCUAAA-----

acgaauggcuaugcacugcacaacccuaggagagggugccauucacauagacuauaaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac

-----AAUGGCGCCACUAGGGUU-----

-----AAUGGCGCCACUAGGGUUu-----

-----	2	0,-3	-----AAUGGCGCCACUAGGGUUG-
-----	12	0,-2	-----AAUGGCGCCACUAGGGUUGU
-----	31	0,-1	-----AAUGGCGCCACUAGGGUUGU
G-----	5	0,0	-----AAUGGCGCCACUAGGGUUGU
Ga-----	11	0,0	-----AAUGGCGCCACUAGGGUUGU
Gau-----	3	0,0	-----AAUGGCGCCACUAGGGUUGU
Gu-----	21	0,0	-----AAUGGCGCCACUAGGGUUGU
GC-----	2	0,1	

```

>hsa-mir-654      5p:16-37;3p:51-72      SRX018969
ggguaaguggaaagaUGGUGGGCCGCAGAACAUUGUCugaguucgugccaUAUGUCUGCUGACCAUCACCUuagaagcc
c
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))
-----AUAUGUCUGCUGACCAUCACC-----
-   2   -1,-2
-----UAUGUCUGCUGACCAUCACC-----
-   11  0,-2
-----UAUGUCUGCUGACCAUCACCU-----
-   8   0,-1
-----UAUGUCUGCUGACCAUCACCUa-----
-   3   0,-1
-----UAUGUCUGCUGACCAUCACCUa-----
-   3   0,0

```

```
>hsa-mir-655      3p:61-82      SRX018969
aacuaugcaaggauuuugaggagagguuaucgcguguuauguucgcuucaucaugaAUAUAACAUGGUUAACCCUCU
UUuugaauaucagacuc
.....(((((((..(((((((((((.(((((((..(((((((.....))))))..))))))..)))))))))
)))..)))))).....
-----AUAUAACAUGGUUAACCCUCU
```

>hsa-mir-656 3p:43-63 SRX018969

>hsa-mir-659 3p:61-82 SRX018969

>hsa-mir-660 5p:16-37 SRX018969

```

cugcuccuucucccaUACCCAUUGCAUAUCGGAGUUGugaauucuaaaacaccuccugugugcauggauuacaggaggg
ugagccuugucaucgug
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))).....
-----UACCCAUUGCAUAUCGGAG-----
-----          9      0,-3
-----UACCCAUUGCAUAUCGGAGU-----
-----         13      0,-2
-----UACCCAUUGCAUAUCGGAGUU-----
-----        148      0,-1
-----UACCCAUUGCAUAUCGGAGUUG-----
-----         44      0,0
-----UACCCAUUGCAUAUCGGAGUUGU-----
-----         12      0,1
-----ACCCAUUGCAUAUCGGAGU-----
-----          3      1,-2
-----ACCUCUGUGUGCAUGGA-----
-----          2
-----ACCUCUGUGUGCAUGGAUUA-----

```

>hsa-mir-664 mi:11-34;MA:49-71 SRX018969

gaacauugaaACUGGCUAGGGAAAAUGAUUGGAUagaaacuauuuucUAUUCAUUUAUCCCCAGCCUACAaaaugaaa
aa

...((((.....((((.((((.....((((((((((((.....)))))))).)))))))).)))).....

• •

-----AAACUGGCUAGGGAAAAUGAUUGG-----

-- 7 -2,-2

-----ACUGGCUAGGGAAAAUGAU-----

-- 3 0,-5

-----ACUGGCUAGGGAAAAUGAUUGG-----

-- 47 0,-2

-----ACUGGCUAGGGAAAAUGAUUGG_u-----

-- 14 0,-2

-----ACUGGCUAGGGAAAAUGAUUGGA-----

-- 66 0,-1

-----ACUGGCUAGGGAAAAUGAUUGGAa-----

-- 3 0,-1

-----ACUGGCUAGGGAAAAUGAUUGGAU-----

-- 2 0,0

-----CUGGCUAGGGAAAAUGAUU-----

-- 2 1, -4

-----CUGGCUAGGGAAAAUGAUUGG-----

$$-- \quad 2 \quad 1, -2$$

-----CUGGCUAGGGAAAAUGAUUGGA-----

-- 14 1,-1

-----CUGGCUAGGGAAAAUGAUUGGAa-----

$$-- \quad 2 \quad 1, -1$$

-----CUGGCUAGGGAAAAUGAUUGGAUAG-----

$$-- \quad 2 \quad 1,2$$

-----UGGCUAGGGAAAAUGAUUGGA-----

-- 5 2,-1

-----UAUUCAUUUAUCCCCAGC-----

-- 16 0,-5

-----UAUUCAUUUAUCCCCAGCC-----

-- 4 0, -4

-----UAUUCAUUUAUCCCCAGCCU-----

```

-- 14 0,-3
-----UAUUCAUUUAUCCCCAGCCUuu-----
-- 3 0,-3
-----UAUUCAUUUAUCCCCAGCCUA-----
-- 61 0,-2
-----UAUUCAUUUAUCCCCAGCCUAa-----
-- 6 0,-2
-----UAUUCAUUUAUCCCCAGCCUAu-----
-- 16 0,-2
-----UAUUCAUUUAUCCCCAGCCUAuu-----
-- 2 0,-2
-----UAUUCAUUUAUCCCCAGCCUAC-----
-- 43 0,-1
-----UAUUCAUUUAUCCCCAGCCUACu-----
-- 21 0,-1
-----UAUUCAUUUAUCCCCAGCCUACA-----
-- 219 0,0
-----UAUUCAUUUAUCCCCAGCCUACAA-----
-- 16 0,1
-----UAUUCAUUUAUCCCCAGCCUACAAA-----
-- 2 0,2
-----AUUCAUUUAUCCCCAGCCUAu-----
-- 3 1,-2
-----AUUCAUUUAUCCCCAGCCUACA-----
-- 6 1,0
-----AUUCAUUUAUCCCCAGCCUACAAAA-----
-- 7 1,3

```

>hsa-mir-675 MA:10-32;mi:45-64 SRX018969

```

cccagggucUGGUGCGGAGAGGGCCCACAGUGgacuuggugacgCUGUAUGCCCUCACCGCUCAgcccuggg
(((((((.(((((.(((.((((((..((((((.....))))))..)))))).)))))))).))))))
-----UGGUGCGGAGAGGGCCCACAGUGu----- 8
0,0
-----CUGUAUGCCCUCACCGCUCAG----- 3
0,1

```

>hsa-mir-7-1 MA:24-46;mi:66-87 SRX018969

```

uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucaCAACAAAUACAGUC

```


UGCCAUAuggcacaggccaugccucuacag

-----UGGAAGACUAGUGAUUUU-----

----- 5 0, -5

-----UGGAAGACUAGUGAUUUUG-----

----- 2 0, -4

-----UGGAAGACUAGUGAUUUUGUUG-----

----- 13 0,-1

-----UGGAAGACUAGUGAUUUUGUUGU-----

----- 19 0,0

-----UGGAAGACUAGUGAUUUUGUUGUU-----

----- 72 0,1

-----CAACAAAUACAGUC

UGCCA----- 2 0,-2

-----CAACAAUACAGUC

UGCCAU----- 5 0,-1

-----CAACAAUACAGUC

UGCCAUu----- 6 0,-1

-----CAACAAUACAGUC

UGCCAUuu----- 3 0,-1

-----CAACAAAUACAGUC

UGCCAUA----- 27 0,0

-----CAACAAAUACAGUC

UGCCAUAa----- 4 0,0

-----CAACAAUACAGUC

UGCCAUAU----- 2 0,1

-----AACAAAUCACAGUC

UGCCAU----- 4 1,-1

-----AACAAAUCACAGUC

UGCCAUu----- 5 1,-1

-----AACAAAUCACAGUC

UGCCAUA----- 17 1,0

-----AACAAAUCACAGUC

UGCCAUa----- 2 1,0

-----AACAAAUCACAGUC

UGCCAUAU----- 6 1,1

-----ACAAAUCACAGUC

```

>hsa-mir-7-2      MA:32-54;mi:72-93      SRX018969
cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuacugcgcucaaCAACAAAU
CCAGUCUACCUAAuggugccagccaucgca
.....((((...(((((((.(((((.(((((.(.(((((.(((((((.....))))))))))))))
).))))).))..))))).)))))).))))).
-----UGGAAGACUAGUGAUUUU-----
----- 5    0,-5
-----UGGAAGACUAGUGAUUUUG-----
----- 2    0,-4
-----UGGAAGACUAGUGAUUUUGUUG-----
----- 13   0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 19   0,0
-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 72   0,1

```

```
>hsa-mir-708      MA:11-33;mi:57-78      SRX018969
aacugcccucAAGGAGCUUACAAUCUAGCUGGGgguaaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcagga
..(((((((((.(((((((((((((.(((((.((...((..((((.....)))..)).)).))))).)))))))).)))
```

-----AAGGAGCUUACAAUCUAGCUGGu-----
-----2 0,-1-----

ccggaucucacacgggugguguuaaauaUCUCGCGUGGGGCCUCCAaaauguugugcccagggguguuagagaaaaacaccaca
cuuugagaugaauuaagaguccuuuuauag
....(((((((....((((((((((((((((((((....((((((..(.....)..))))).))))))))).)))))).
...))))).
-----AUCUCGCGUGGGGCCUCCA-----
-----10 -1,0

```

uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuuacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc
(((((((((...(((((((.....)))))))))).))).
)))))).)))..
-----UGCGGGGCUAGGGCUAAC-----
----- 2 0,-4
-----UGCGGGGCUAGGGCUAACA-----
----- 2 0,-3
-----UGCGGGGCUAGGGCUAACAG-----
----- 3 0,-2
-----UGCGGGGCUAGGGCUAACAGa-----
----- 2 0,-2
-----UGCGGGGCUAGGGCUAACAGC-----
----- 11 0,-1
-----UGCGGGGCUAGGGCUAACAGCA-----
----- 55 0,0
-----UGCGGGGCUAGGGCUAACAGCAa-----
----- 12 0,0
-----UGCGGGGCUAGGGCUAACAGCAu-----
----- 28 0,0
-----GCGGGGCUAGGGCUAACAGCA-----
----- 3 1,0

```

gccuggauacaugagaugguugaccagagagcacacgcuuuuuugugccgUUUGUGACCUGGUCCACUAACCcucagua

...(((((((.(((((.(((.(((((((...(((.((((.....).))).)).)...)))))).))))).)))))))))
))))....

----- 2

----- 2

ggcgcgucgccccccucaguccaccagagcccggauaccucagaaauCGGCUCUGGGUCUGUGGGGAgcgaaaugcaac
 .(((.(.(((.((((.((((....(((((((((.((((.....)))))))))...)))).))))).)))...)

 $2 \quad 0,1$

uuuaggcgcugaugaaaguggaguucaguagacagccuuuucagcccuacgagaaacuggggguuucUGGAGGAGAAGG
AAGGUGAUGaaggauucuguucucgugagccugaa

$$\begin{aligned} & .(((((((\dots(((((((((\dots(((((((((((((((((((((\dots)))))))))\dots))))))))) \\ & \dots))))))\dots))\dots))\dots))\dots))\dots))\dots). \end{aligned}$$

AAGGUGAUG----- 2 0,0

AAGGUGAUGA----- 2 0,1

gcauccucaggaccuggggcuugggugguaggaggaauuggugcugggucuucuuuuggauuugACUCCAGCCCCACAGC
CUCAGCcaccccagccaauugucauaggagc

[illegible]

----- 2

----- 10

----- 13

----- 36

-----AGGAGGAAUUGGUGCUGGUCUUU₄-----

```

----- 2
-----AGGAGGAAUUGGUGCUGGUCUUUC-----
----- 2
-----ACUCCAGCCCCACAGC
CUCA----- 3 0,-2
-----ACUCCAGCCCCACAGC
CUCAG----- 25 0,-1
-----ACUCCAGCCCCACAGC
CUCAGa----- 8 0,-1
-----ACUCCAGCCCCACAGC
CUCAGu----- 14 0,-1
-----ACUCCAGCCCCACAGC
CUCAGC----- 6 0,0
-----ACUCCAGCCCCACAGC
CUCAGCa----- 2 0,0

```

```

>hsa-mir-769 5p:30-51;3p:69-91 SRX018969
gccuuggugcugauuccugggcucugaccUGAGACCUCUGGGUUCUGAGCUgugauguugcucucgagCUGGGAUCUCCG
GGGUCUUGGUUcagggccggggccucugguuccaagc
..(((((((((.....)))))))).)))).
)))))).)))).)))).)))).)))).
-----UGAGACCUCUGGGUUCUGAG-----
----- 4 0,-2
-----UGAGACCUCUGGGUUCUGAGC-----
----- 2 0,-1
-----UGGGAUCUCCG
GGGUCUUGGUU----- 4 1,0

```

```

>hsa-mir-874 3p:47-68 SRX018969
uuagcccugcggccccacgcaccaggguaagagagacucucgcuucCUGCCCUGGCCCCGAGGGACCGAcuggcugggc
(((((((((.....)))))))).)))).
-----CGGCCCCACGCACCAGGGUAAG-----
2
-----CUGCCCUGGCCCCGAGGGA-----
3 0,-4
-----CUGCCCUGGCCCCGAGGGAC-----
3 0,-3
-----CUGCCCUGGCCCCGAGGGACCGA-----

```

```

4    0,0
-----CUGCCCUGGCCCAGGGACCGACU-----
2    0,2

>hsa-mir-877    MA:1-20;mi:66-86    SRX018969
GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggaccucagacgugugUCCUCUUCUCCCUCC
UCCCAG
...(((((((.((.(((.((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))....
GUAGAGGAGAUGGCGCAGG-----
----- 5    0,-1
GUAGAGGAGAUGGCGCAGGaa-----
----- 3    0,-1
GUAGAGGAGAUGGCGCAGGG-----
----- 7    0,0
GUAGAGGAGAUGGCGCAGGGa-----
----- 2    0,0
GUAGAGGAGAUGGCGCAGGGGA-----
----- 5    0,2
GUAGAGGAGAUGGCGCAGGGGAaa-----
----- 2    0,2
GUAGAGGAGAUGGCGCAGGGGACuu-----
----- 2    0,3
GUAGAGGAGAUGGCGCAGGGGACA-----
----- 7    0,4
GUAGAGGAGAUGGCGCAGGGGACaa-----
----- 3    0,4
-UAGAGGAGAUGGCGCAGGGGA-----
----- 3    1,2
-UAGAGGAGAUGGCGCAGGGGACu-----
----- 2    1,3

>hsa-mir-885    5p:11-32;3p:43-64    SRX018969
ccgcacucucUCCAUAACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu
(((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CUCCAUAACACUACCCUGCC----- 2
-1,-3
-----CUCCAUAACACUACCCUGCCU----- 3

```

-1,-2	
-----CUCCAUUACACUACCCUGCCUCU-----	2
-1,0	
-----UCCAUUACACUACCCUGC-----	183
0,-4	
-----UCCAUUACACUACCCUGCC-----	150
0,-3	
-----UCCAUUACACUACCCUGCCa-----	3
0,-3	
-----UCCAUUACACUACCCUGCCU-----	327
0,-2	
-----UCCAUUACACUACCCUGCCUa-----	2
0,-2	
-----UCCAUUACACUACCCUGCCUau-----	5
0,-2	
-----UCCAUUACACUACCCUGCCUu-----	15
0,-2	
-----UCCAUUACACUACCCUGCCUuu-----	5
0,-2	
-----UCCAUUACACUACCCUGCCUC-----	357
0,-1	
-----UCCAUUACACUACCCUGCCUCa-----	15
0,-1	
-----UCCAUUACACUACCCUGCCUCU-----	1266
0,0	
-----UCCAUUACACUACCCUGCCUCUa-----	22
0,0	
-----UCCAUUACACUACCCUGCCUCUau-----	5
0,0	
-----UCCAUUACACUACCCUGCCUCUU-----	62
0,1	
-----UCCAUUACACUACCCUGCCUCUa-----	2
0,1	
-----UCCAUUACACUACCCUGCCUCUu-----	9
0,1	
-----CAUUACACUACCCUGCCU-----	24
2,-2	
-----CAUUACACUACCCUGCCUC-----	21

2,-1		
-----CAUUACACUACCCUGCCUCU-----		40
2,0		
-----AGAGGCAGCGGGGUGUAGUGG-----		3
-2,-3		
-----AGGCAGCGGGGUGUAGUG-----		3
0,-4		
-----AGGCAGCGGGGUGUAGUGG-----		45
0,-3		
-----AGGCAGCGGGGUGUAGUGGA-----		14
0,-2		
-----AGGCAGCGGGGUGUAGUGGAa-----		21
0,-2		
-----AGGCAGCGGGGUGUAGUGGAaa-----		17
0,-2		
-----AGGCAGCGGGGUGUAGUGGAau-----		2
0,-2		
-----AGGCAGCGGGGUGUAGUGGAU-----		67
0,-1		
-----AGGCAGCGGGGUGUAGUGGAUu-----		31
0,-1		
-----AGGCAGCGGGGUGUAGUGGAUuu-----		5
0,-1		
-----AGGCAGCGGGGUGUAGUGGAUA-----		19
0,0		
-----AGGCAGCGGGGUGUAGUGGAUAa-----		20
0,0		
-----AGGCAGCGGGGUGUAGUGGAUAaa-----		10
0,0		
-----AGGCAGCGGGGUGUAGUGGAUAau-----		3
0,0		
-----AGGCAGCGGGGUGUAGUGGAUAu-----		6
0,0		
-----GGCAGCGGGGUGUAGUGGAU-----		2
1,-1		
-----GGCAGCGGGGUGUAGUGGAUAa-----		3
1,0		

>hsa-mir-887 3p:48-69 SRX018969

gugcagaucuuugggagcccuguuagacucuggauuuuacacuuggaGUGAACGGGCGCCAUCCCGAGGcuuugcacag

((((((((.....)))))))).))))))..

-----AGUGAACGGGCGCCAUCCCGAG-----

2 -1,-1

-----GUGAACGGGCGCCAUCCCGAG-----

2 0,-1

-----GUGAACGGGCGCCAUCCCGAGG-----

3 0,0

-----GUGAACGGGCGCCAUCCCGAGGCU-----

4 0,2

>hsa-mir-889 3p:49-69 SRX018969

gugcuuaaagaauaggcuguccguaguauggucucuauuuuauaugaUUAUAUCGGACAACCAUUGUuuuaguaucc

(((((.(((.....)))))).))))))..

-----UUAUAUCGGACAACCAUa-----

2 0,-3

-----UUAUAUCGGACAACCAU-----

22 0,-2

-----UUAUAUCGGACAACCAUUGU-----

16 0,0

>hsa-mir-9-1 MA:16-38;mi:55-76 SRX018969

cggggguugguuguuaUCUUUGGUUAUCUAGCUGUAUGAgugguguggagucuucAUAAGCUAGAUAAACCGAAAGUaaaa
auaacccca

.(((((((.....)))))))).))))))..
.))))))..

-----AUAAGCUAGAUAAACCGAAAGU-----

----- 8 0,0

>hsa-mir-9-2 MA:16-38;mi:53-74 SRX018969

ggaagcgaguuguuaUCUUUGGUUAUCUAGCUGUAUGAguguauuggucuucAUAAGCUAGAUAAACCGAAAGUaaaaac
uccuuc

.(((.(((.(((.....)))))).))))))..
))))))..

-----AUAAGCUAGAUAAACCGAAAGU-----

----- 8 0,0

-----AUAAGCUAGAUAACCGAAAGU-----
----- 8 0,0

-----UAUUGCACUUGUCCCGGCCU_a-----

6	0,-2	-----UAUUGCACUUGUCCCCGGCCUaa-----
10	0,-2	-----UAUUGCACUUGUCCCCGGCCUau-----
15	0,-2	-----UAUUGCACUUGUCCCCGGCCUu-----
10	0,-2	-----UAUUGCACUUGUCCCCGGCCUuu-----
18	0,-2	-----UAUUGCACUUGUCCCCGGCCUG-----
188	0,-1	-----UAUUGCACUUGUCCCCGGCCUGa-----
7	0,-1	-----UAUUGCACUUGUCCCCGGCCUGaa-----
6	0,-1	-----UAUUGCACUUGUCCCCGGCCUGU-----
322	0,0	-----UAUUGCACUUGUCCCCGGCCUGUa-----
31	0,0	-----UAUUGCACUUGUCCCCGGCCUGUaa-----
16	0,0	-----UAUUGCACUUGUCCCCGGCCUGUau-----
33	0,0	-----UAUUGCACUUGUCCCCGGCCUGUU-----
50	0,1	-----UAUUGCACUUGUCCCCGGCCUGUUa-----
5	0,1	-----UAUUGCACUUGUCCCCGGCCUGUUu-----
18	0,1	-----UAUUGCACUUGUCCCCGGCCUGUUuu-----
2	0,1	-----AUUGCACUUGUCCCCGGCC-----
9	1,-3	-----AUUGCACUUGUCCCCGGCCU-----
89	1,-2	-----AUUGCACUUGUCCCCGGCCUG-----
4	1,-1	-----AUUGCACUUGUCCCCGGCCUGUau-----

CCu----- 6 0,0
-----UAUUGCACUCGUCCCGCCU
CCuu----- 3 0,0

>hsa-mir-93 MA:11-33;mi:50-71 SRX018969

cugggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagccccgg
((((((((((..(((((((((((.(((((((((..(((..(((.....)))..))))))))))))..))))))..)))))))))
-----CAAAGUGCUGUUCGUGCA-----
79 0,-5
-----CAAAGUGCUGUUCGUGCAG-----
152 0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
37 0,-3
-----CAAAGUGCUGUUCGUGCAGGaa-----
3 0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
74 0,-2
-----CAAAGUGCUGUUCGUGCAGGUu-----
3 0,-2
-----CAAAGUGCUGUUCGUGCAGGUA-----
257 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAa-----
59 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAau-----
4 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAu-----
67 0,-1
-----CAAAGUGCUGUUCGUGCAGGUAG-----
44 0,0
-----AAAGUGCUGUUCGUGCAG-----
3 1,-4
-----AAAGUGCUGUUCGUGCAGG-----
3 1,-3
-----AAAGUGCUGUUCGUGCAGGU-----
6 1,-2
-----AAAGUGCUGUUCGUGCAGGUu-----
2 1,-2
-----AAAGUGCUGUUCGUGCAGGUA-----

```

      8   1,-1
-----AAAGUGCUGUUCGUGCAGGUAa-----
      3   1,-1
-----AAAGUGCUGUUCGUGCAGGUAu-----
      5   1,-1
-----AAAGUGCUGUUCGUGCAGGUAG-----
      2   1,0
-----ACUGCUGAGCUAGCACUUC-----
      2   0,-3
-----ACUGCUGAGCUAGCACUUCCC-----
      3   0,-1
-----ACUGCUGAGCUAGCACUUCCCGA-----
      11  0,1

```

>hsa-mir-938 5p:15-36 SRX018969

```

gaagguguaccaugUGCCCUAAAGGUGAACCCAGUgcaccuugaacacgugguacaccuuuaagaacuugguaugcc
uuc
(((((((((((((((((.....))))))))))))))))))
)))
-----AUGAACCGUGGUACACCUUUAAG-----
--- 2

```

>hsa-mir-940 3p:60-80 SRX018969

```

gugagguguggggcccgcccgaggagcggggccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGUCCCC
gggccugacccccac
(((.(((.((((((((.....(((((((((((((((((.....))))))))))))))))))
)))))))))))))
-----AAGGCAGGGCCCCCGUCCCCa
u----- 2 0,-1
-----AAGGCAGGGCCCCCGUCCCC
----- 5 0,0
-----AAGGCAGGGCCCCCGUCCCC
u----- 2 0,0
-----AAGGCAGGGCCCCCGUCCCC
Guu----- 2 0,1

```

>hsa-mir-941-1 3p:71-93 SRX018969

```

cacggaagaggacacacccggcuguguggacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG

```

UGUGCACAUGUG----- 2 0,-1

UGUGCACAUGUGa----- 4 0,-1

UGUGCACAUGUGu----- 2 0,-1

UGUGCACAUGUGC----- 5 0,0

UGUGCACAUGUGCccagggcccgggacagcgccacgg

 2

----- 4

----- 2

----- 5

UGUGCACAUGUG----- 2 0,-1

UGUGCACAUGUGa----- 4 0,-1

UGUGCACAUGUGu----- 2 0,-1

UGUGCACAUGUGC-----5 0,0

UGUGCACAUGUGCccagggcccgggacagcgccaugg

UGUGCACAUGUGC----- 5 0,0

>hsa-mir-944 3p:54-75 SRX018969

guuccagacacaucucaucugauauacaauuuuucuuaauuguauaaagagAAAUUAUUGUACAUCGGAUGAGcugug
ucugggau

(((((.....))))))

-----AAAUUAUUGUACAUCGGAUGAG-----

----- 11 0,0

-----AAAUUAUUGUACAUCGGAUGAG-----

----- 4 1,0

>hsa-mir-95 3p:49-70 SRX018969

aacacagugggcacucaauaaaugucuguugaauugaaaugcguuacaUUCAACGGGUUUUAUUGAGCAcccacucugu
g

.(((.....))))))

-----UCAAUAAAUGUCUGUUGAAU-----

- 2

-----UUCAACGGGUUUUAUUG-----

- 96 0,-4

-----UUCAACGGGUUUUAUUGA-----

- 84 0,-3

-----UUCAACGGGUUUUAUUGAG-----

- 61 0,-2

-----UUCAACGGGUUUUAUUGAGC-----

- 2 0,-1

-----UUCAACGGGUUUUAUUGAGCA-----

- 3 0,0

-----UUCAACGGGUUUUAUUGAGCAa-----

- 7 0,0

-----UCAACGGGUUUUAUUGA-----

- 3 1,-3

-----CAACGGGUUUUAUUGAG-----

- 2 2,-2

>hsa-mir-96 MA:9-31;mi:52-73 SRX018969

uggccgauUUUGGCACUAGCACAUUUUUGCUugugucucuccgcucugagcAAUCAUGUGCAGUGCCAAUUGggaaa

$\dots(((\dots(((((((((\dots(((\dots(((\dots(((\dots(\dots)))))))))\dots))))))\dots)))).\dots$

-----UUUGGCACUAGCACAUUUUUGC-----

2 0,0

UAUACAACUACUACUUUCCu----- 5

UAUACAACUACUACUUU----- 2

UAUACAACUACUACUUUC----- 3

UAUACAACUACUACUUUCC----- 3

UAUACAACUACUACUUUCCu----- 4

UAUACAACUACUACUUUCCuu----- 4

-AUACAACUACUACUUUCC----- 2

>hsa-mir-99a MA:13-34;mi:50-71 SRX018969

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

..((((((((((.(((((((((.(((.((((((.((.....))))))))).)))..))))))))).))))))))).
.

-----AAACCCGUAGAUCCGAUC-----

- 2 -1,-5

-----AAACCCGUAGAUCCGAUCU-----

- 11 -1,-4

-----AAACCCGUAGAUCCGAUCUU-----

- 25 -1,-3

-----AAACCCGUAGAUCCGAUCUUG-----

- 121 -1,-2

-----AAACCCGUAGAUCCGAUCUUGU-----

- 235 -1,-1

-----AAACCCGUAGAUCCGAUCUUGUG-----

- 9 -1,0

-----AAACCCGUAGAUCCGAUCUUGUGa-----

- 7 -1,0

-----AAACCCGUAGAUCCGAUCUUGUGu-----

- 2 -1,0

-----AACCCGUAGAUCCGAUCU-----

- 947 0,-4

-----AACCCGUAGAUCCGAUCUU-----

- 2766 0,-3
-----AACCCGUAGAUCCGAUCUa-----

- 37 0,-3
-----AACCCGUAGAUCCGAUCUau-----

- 4 0,-3
-----AACCCGUAGAUCCGAUCUu-----

- 58 0,-3
-----AACCCGUAGAUCCGAUCUuu-----

- 20 0,-3
-----AACCCGUAGAUCCGAUCUUG-----

- 12211 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----

- 161 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----

- 9 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----

- 25987 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----

- 75 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----

- 26 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----

- 4 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----

- 109 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----

- 5 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----

- 19431 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----

- 5094 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----

- 79 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----

- 12 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----

- 1402 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----

```

- 9 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 9 0,1
-----ACCCGUAGAUCCGAUCUU-----
- 3 1,-3
-----ACCCGUAGAUCCGAUCUUG-----
- 8 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----
- 25 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 11 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 6 1,0
-----CAAGCUCGCUUCUAUGGG-----
- 3 0,-4
-----CAAGCUCGCUUCUAUGGGU-----
- 3 0,-3
-----CAAGCUCGCUUCUAUGGGUC-----
- 3 0,-2
-----CAAGCUCGCUUCUAUGGGUCU-----
- 5 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 10 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 6 0,1
-----CAAGCUCGCUUCUAUGGGUCUGUuu-----
- 2 0,1
-----AAGCUCGCUUCUAUGGGU-----
- 3 1,-3

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018969

```

ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgcccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.....)))))).)).)))))))))
-----CACCCGUAGAACCGACCUU----- 11 0,-3
-----CACCCGUAGAACCGACCUUG----- 12 0,-2
-----CACCCGUAGAACCGACCUUGa----- 3 0,-2
-----CACCCGUAGAACCGACCUUGC----- 91 0,-1
-----CACCCGUAGAACCGACCUUGC a----- 3 0,-1

```

-----CACCCGUAGAACCGACCUUGCG-----	364	0,0
-----CACCCGUAGAACCGACCUUGCGa-----	97	0,0
-----CACCCGUAGAACCGACCUUGCGaa-----	2	0,0
-----CACCCGUAGAACCGACCUUGCGu-----	52	0,0
-----CACCCGUAGAACCGACCUUGCGuu-----	5	0,0
-----ACCCGUAGAACCGACCUUGCG-----	6	1,0
-----ACCCGUAGAACCGACCUUGCGa-----	2	1,0
-----CAAGCUCGUGUCUGUGGGUC-----	2	0,-2
-----CAAGCUCGUGUCUGUGGGUCCGU---	5	0,1

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018970

```

ugggaUGAGGUAGUAGGUUGUAUAGUUuuagggucacaccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
(((((((.....)))))))).)))))))
----AUGAGGUAGUAGGUUGUAU-----
      8    -1,-4
----AUGAGGUAGUAGGUUGUAUAGUU-----
      5    -1,0
----AUGAGGUAGUAGGUUGUAUAGUua-----
      2    -1,0
----AUGAGGUAGUAGGUUGUAUAGUUU-----
      2    -1,1
----UGAGGUAGUAGGUUGUAU-----
     736   0,-4
----UGAGGUAGUAGGUUGUAUu-----
     76    0,-4
----UGAGGUAGUAGGUUGUAUuu-----
     53    0,-4
----UGAGGUAGUAGGUUGUAUA-----
    2144    0,-3
----UGAGGUAGUAGGUUGUAUAa-----
    202    0,-3
----UGAGGUAGUAGGUUGUAUAaa-----
     30    0,-3
----UGAGGUAGUAGGUUGUAUAau-----
      7    0,-3
----UGAGGUAGUAGGUUGUAUAu-----
    126    0,-3
----UGAGGUAGUAGGUUGUAUAuu-----

```

27 0,-3
 -----UGAGGUAGUAGGUUGUAUAG-----
 5486 0,-2
 -----UGAGGUAGUAGGUUGUAUAGa-----
 188 0,-2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 30 0,-2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 37 0,-2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 26167 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 776 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 1316 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 523 0,-1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 78951 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 12384 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 2202 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 1091 0,0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 25228 0,1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 1284 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUu-----
 40 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUa-----
 9 0,3
 -----GAGGUAGUAGGUUGUAUA-----
 2 1,-3
 -----GAGGUAGUAGGUUGUAUAu-----
 2 1,-3
 -----GAGGUAGUAGGUUGUAUAG-----

14 1,-2
-----GAGGUAGUAGGUUGUAUAGa-----
2 1,-2
-----GAGGUAGUAGGUUGUAUAGU-----
58 1,-1
-----GAGGUAGUAGGUUGUAUAGUaa-----
6 1,-1
-----GAGGUAGUAGGUUGUAUAGUU-----
190 1,0
-----GAGGUAGUAGGUUGUAUAGUUa-----
41 1,0
-----GAGGUAGUAGGUUGUAUAGUUaa-----
4 1,0
-----GAGGUAGUAGGUUGUAUAGUUau-----
3 1,0
-----GAGGUAGUAGGUUGUAUAGUUU-----
75 1,1
-----GAGGUAGUAGGUUGUAUAGUUUU-----
2 1,2
-----AGGUAGUAGGUUGUAUAGU-----
5 2,-1
-----AGGUAGUAGGUUGUAUAGUU-----
14 2,0
-----AGGUAGUAGGUUGUAUAGUUa-----
3 2,0
-----AGGUAGUAGGUUGUAUAGUUU-----
9 2,1
-----AGGUAGUAGGUUGUAUAGUUUU-----
2 2,2
-----CUAUACAAUCUACUGUCUUUC-----
14 0,0
-----CUAUACAAUCUACUGUCUUUCu-----
10 0,0
-----CUAUACAAUCUACUGUCUUUCC-----
3 0,1
-----CUAUACAAUCUACUGUCUUUCCU-----
2 0,2
-----UAUACAAUCUACUGUCUUUCCU-----

-----AUACAAUCUACUGUCUUCCU-----

 $2 \quad 2,2$

>hsa-let-7a-2 MA:5-26;mi:50-71 SRX018970

--GUUGAGGUAGUAGGUUGUAUA-----4

-2, -3

---UUGAGGUAGUAGGUUGUAUAG----- 4

-1,-2

---UUGAGGUAGUAGGUUGUAUAGU-----4

-1, -1

---UUGAGGUAGUAGGUUGUAUAGUU----- 2

-1.0

---UGAGGUAGUAGGUUGUAU-----736

0,-4

---UGAGGUAGUAGGUUGUAUu-----76

0,-4

---UGAGGUAGUAGGUUGUAUuu----- 53

0,-4

---UGAGGUAGUAGGUUGUAUA-----2144

0,-3

---UGAGGUAGUAGGUUGUAUAa----- 202

0,-3

---UGAGGUAGUAGGUUGUAUAaa----- 30

0,-3

---UGAGGUAGUAGGUUGUAUAu-----7

0,-3

---UGAGGUAGUAGGUUGUAUAu----- 126

0,-3

---UGAGGUAGUAGGUUGUAUuu----- 27

0,-3

---UGAGGUAGUAGGUUGUAUAG-----5486

 $0, -2$

---UGAGGUAGUAGGUUGUAUAGa----- 188

 $0, -2$

---UGAGGUAGUAGGUUGUAUAGaa----- 30

0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	37
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
26167 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	776
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	1316
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	523
0, -1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
78951 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	
12384 0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	2202
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	1091
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	
25228 0,1	
---UGAGGUAGUAGGUUGUAUAGUUUA-----	265
0,2	
---UGAGGUAGUAGGUUGUAUAGUUUAa-----	14
0,2	
---UGAGGUAGUAGGUUGUAUAGUUUAu-----	19
0,2	
----GAGGUAGUAGGUUGUAUA-----	2
1, -3	
----GAGGUAGUAGGUUGUAUAu-----	2
1, -3	
----GAGGUAGUAGGUUGUAUAG-----	14
1, -2	
----GAGGUAGUAGGUUGUAUAGa-----	2
1, -2	
----GAGGUAGUAGGUUGUAUAGU-----	58
1, -1	
----GAGGUAGUAGGUUGUAUAGUaa-----	6

1,-1	
-----GAGGUAGUAGGUUGUAUAGUU-----	190
1,0	
-----GAGGUAGUAGGUUGUAUAGUUa-----	41
1,0	
-----GAGGUAGUAGGUUGUAUAGUUaa-----	4
1,0	
-----GAGGUAGUAGGUUGUAUAGUUau-----	3
1,0	
-----GAGGUAGUAGGUUGUAUAGUUU-----	75
1,1	
-----AGGUAGUAGGUUGUAUAGU-----	5
2,-1	
-----AGGUAGUAGGUUGUAUAGUU-----	14
2,0	
-----AGGUAGUAGGUUGUAUAGUUa-----	3
2,0	
-----AGGUAGUAGGUUGUAUAGUUU-----	9
2,1	
 >hsa-let-7a-3 MA:4-25;mi:52-72 SRX018970	
gggUGAGGUAGUAGGUUGUAUAGUuuggggcucugcccugcuaugggauaaCUAUACAAUCUACUGUCUUUCcu	
(((.(((..((((((((((((((((((((((((((...)))))))).)))))))).)))))))).))))))	
--GUGAGGUAGUAGGUUGUAUAG-----	6
-1,-2	
--GUGAGGUAGUAGGUUGUAUAGU-----	15
-1,-1	
--GUGAGGUAGUAGGUUGUAUAGUU-----	6
-1,0	
---UGAGGUAGUAGGUUGUAU-----	736
0,-4	
---UGAGGUAGUAGGUUGUAUu-----	76
0,-4	
---UGAGGUAGUAGGUUGUAUuu-----	53
0,-4	
---UGAGGUAGUAGGUUGUAUA-----	2144
0,-3	
---UGAGGUAGUAGGUUGUAUAa-----	202

0, -3	
---UGAGGUAGUAGGUUGUAUAaa-----	30
0, -3	
---UGAGGUAGUAGGUUGUAUAau-----	7
0, -3	
---UGAGGUAGUAGGUUGUAUAu-----	126
0, -3	
---UGAGGUAGUAGGUUGUAUAuu-----	27
0, -3	
---UGAGGUAGUAGGUUGUAUAG-----	5486
0, -2	
---UGAGGUAGUAGGUUGUAUAGa-----	188
0, -2	
---UGAGGUAGUAGGUUGUAUAGaa-----	30
0, -2	
---UGAGGUAGUAGGUUGUAUAGau-----	37
0, -2	
---UGAGGUAGUAGGUUGUAUAGU-----	
26167 0, -1	
---UGAGGUAGUAGGUUGUAUAGUa-----	776
0, -1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	1316
0, -1	
---UGAGGUAGUAGGUUGUAUAGUau-----	523
0, -1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
78951 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	
12384 0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	2202
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	1091
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	
25228 0,1	
---UGAGGUAGUAGGUUGUAUAGUUUG-----	8
0,2	
---GAGGUAGUAGGUUGUAUA-----	2

1, -3		
---GAGGUAGUAGGUUGUAUAu-----	2	
1, -3		
---GAGGUAGUAGGUUGUAUAG-----	14	
1, -2		
---GAGGUAGUAGGUUGUAUAGa-----	2	
1, -2		
---GAGGUAGUAGGUUGUAUAGU-----	58	
1, -1		
---GAGGUAGUAGGUUGUAUAGUaa-----	6	
1, -1		
---GAGGUAGUAGGUUGUAUAGUU-----	190	
1, 0		
---GAGGUAGUAGGUUGUAUAGUua-----	41	
1, 0		
---GAGGUAGUAGGUUGUAUAGUuaa-----	4	
1, 0		
---GAGGUAGUAGGUUGUAUAGUuaa-----	4	
1, 0		
---GAGGUAGUAGGUUGUAUAGUuaa-----	3	
1, 0		
---GAGGUAGUAGGUUGUAUAGUUU-----	75	
1, 1		
---AGGUAGUAGGUUGUAUAGU-----	5	
2, -1		
---AGGUAGUAGGUUGUAUAGUU-----	14	
2, 0		
---AGGUAGUAGGUUGUAUAGUua-----	3	
2, 0		
---AGGUAGUAGGUUGUAUAGUUU-----	9	
2, 1		
---AGGUAGUAGGUUGUAUAGUUUG-----	2	
2, 2		
-----CUAUACAAUCUACUGUCUUUC--	14	
0, 0		
-----CUAUACAAUCUACUGUCUUUCu-	10	
0, 0		
-----CUAUACAAUCUACUGUCUUUCC-	3	
0, 1		
-----CUAUACAAUCUACUGUCUUUCCU	2	

```

0,2
-----UAUACAAUCUACUGUCUUUCCU 3
1,2
-----AUACAAUCUACUGUCUUUCCU 2
2,2

```

>hsa-let-7b MA:6-27;mi:60-81 SRX018970

```

cggggUGAGGUAGUAGGUUGUGUGGUUucagggcagugauguugcccccucggaagauaaCUAUACAACCUACUGCCUUCC
Cug

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))

```

```

-----UGAGGUAGUAGGUUGUGU-----
--- 1762 0,-4
-----UGAGGUAGUAGGUUGUGUa-----
--- 7 0,-4
-----UGAGGUAGUAGGUUGUGUaa-----
--- 64 0,-4
-----UGAGGUAGUAGGUUGUGUau-----
--- 10 0,-4
-----UGAGGUAGUAGGUUGUGUu-----
--- 14 0,-4
-----UGAGGUAGUAGGUUGUGUuu-----
--- 13 0,-4
-----UGAGGUAGUAGGUUGUGUG-----
--- 4451 0,-3
-----UGAGGUAGUAGGUUGUGUGa-----
--- 51 0,-3
-----UGAGGUAGUAGGUUGUGUGaa-----
--- 6 0,-3
-----UGAGGUAGUAGGUUGUGUGau-----
--- 2 0,-3
-----UGAGGUAGUAGGUUGUGUGu-----
--- 74 0,-3
-----UGAGGUAGUAGGUUGUGUGuu-----
--- 15 0,-3
-----UGAGGUAGUAGGUUGUGUGG-----
--- 1645 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----

```

--- 31 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 23 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 17 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 2853 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 347 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 1537 0,-1
-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 1877 0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 11014 0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 2610 0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 2027 0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 5491 0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 18725 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 867 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 189 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 543 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 7347 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 840 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 45 0,2
-----GAGGUAGUAGGUUGUGUG-----
--- 16 1,-3
-----GAGGUAGUAGGUUGUGUGG-----


```

--- 8 1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 8 1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 2 1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 3 1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 13 1,-1
-----GAGGUAGUAGGUUGUGUGGUU-----
--- 36 1,0
-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 13 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 5 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 20 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 109 1,1
-----GAGGUAGUAGGUUGUGUGGUUUa-----
--- 2 1,1
-----GAGGUAGUAGGUUGUGUGGUUUau-----
--- 4 1,1
-----GAGGUAGUAGGUUGUGUGGUUUu-----
--- 26 1,1
-----GAGGUAGUAGGUUGUGUGGUUUuu-----
--- 6 1,1
-----AGGUAGUAGGUUGUGUGG-----
--- 2 2,-2
-----AGGUAGUAGGUUGUGUGGUaa-----
--- 4 2,-1
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 2 2,1
-----AGGUAGUAGGUUGUGUGGUUUu-----
--- 2 2,1
-----CUAUACAACCUACUGCCU---
--- 8 0,-4
-----CUAUACAACCUACUGCCUU--

```

```

--- 6   0,-3
-----CUAUACAACCUACUGCCUUC-
--- 15  0,-2
-----CUAUACAACCUACUGCCUUCu
--- 10  0,-2
-----CUAUACAACCUACUGCCUUCu
u-- 8   0,-2
-----CUAUACAACCUACUGCCUUCC
--- 81  0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 13  0,-1
-----CUAUACAACCUACUGCCUUCC
u-- 189 0,-1
-----CUAUACAACCUACUGCCUUCC
uu- 11  0,-1
-----UAUACAACCUACUGCCUUCC
u-- 3   1,-1

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018970

```

gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc

```

```

(((.((((((.(((.(((.((((((((((((((((((.(((.((.(.....)).)).)))))))))))))))))).)).)).))
)))

```

```

-----GUUGAGGUAGUAGGUUGUAUGGU-----
---- 3   -2,-1
-----GUUGAGGUAGUAGGUUGUAUGGU-----
---- 2   -2,0
-----UUGAGGUAGUAGGUUGUAUG-----
---- 10  -1,-3
-----UUGAGGUAGUAGGUUGUAUGG-----
---- 20  -1,-2
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 51  -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUa-----
---- 26  -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUaa-----
---- 3   -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUau-----

```

```

---- 19 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUU-----
---- 194 -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUa-----
---- 4 -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUau-----
---- 2 -1,0
-----UUGAGGUAGUAGGUUGUAUGGUUU-----
---- 39 -1,1
-----UUGAGGUAGUAGGUUGUAUGGUUUu-----
---- 3 -1,1
-----UGAGGUAGUAGGUUGUAU-----
---- 736 0,-4
-----UGAGGUAGUAGGUUGUAUu-----
---- 76 0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
---- 53 0,-4
-----UGAGGUAGUAGGUUGUAUG-----
---- 1408 0,-3
-----UGAGGUAGUAGGUUGUAUGa-----
---- 14 0,-3
-----UGAGGUAGUAGGUUGUAUGau-----
---- 3 0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
---- 32 0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
---- 19 0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
---- 3099 0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
---- 65 0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 95 0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 51 0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 8863 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----

```

```

---- 1870 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 1652 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 2797 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 64918 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 4098 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 1541 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 2751 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 24366 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 4129 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUuu-----
---- 249 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUUA-----
---- 627 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUUAa-----
---- 94 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUUAu-----
---- 108 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUUAG-----
---- 5 0,3
-----GAGGUAGUAGGUUGUAUG-----
---- 13 1,-3
-----GAGGUAGUAGGUUGUAUGG-----
---- 18 1,-2
-----GAGGUAGUAGGUUGUAUGGU-----
---- 28 1,-1
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 14 1,-1
-----GAGGUAGUAGGUUGUAUGGUaa-----
---- 12 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----

```


----- 7 -1,0
-----AAGAGGUAGUAGGUUGCAUAGUUaa-----
----- 3 -1,0
-----AGAGGUAGUAGGUUGCAU-----
----- 455 0, -4
-----AGAGGUAGUAGGUUGCAUu-----
----- 12 0, -4
-----AGAGGUAGUAGGUUGCAUuu-----
----- 29 0, -4
-----AGAGGUAGUAGGUUGCAUA-----
----- 289 0, -3
-----AGAGGUAGUAGGUUGCAUAa-----
----- 29 0, -3
-----AGAGGUAGUAGGUUGCAUAaa-----
----- 5 0, -3
-----AGAGGUAGUAGGUUGCAUAu-----
----- 4 0, -3
-----AGAGGUAGUAGGUUGCAUAuu-----
----- 2 0, -3
-----AGAGGUAGUAGGUUGCAUAG-----
----- 1150 0, -2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 37 0, -2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 14 0, -2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 45 0, -2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 2270 0, -1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 242 0, -1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 111 0, -1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 87 0, -1
-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 20296 0, 0
-----AGAGGUAGUAGGUUGCAUAGUUa-----

```

----- 2258    0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 183 0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 152 0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 6156    0,1
-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 74  0,1
-----AGAGGUAGUAGGUUGCAUAGUUUaa-----
----- 4   0,1
-----AGAGGUAGUAGGUUGCAUAGUUUau-----
----- 5   0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 591 0,2
-----AGAGGUAGUAGGUUGCAUAGUUUUu-----
----- 12  0,2
-----GAGGUAGUAGGUUGCAUAG-----
----- 2   1,-2
-----GAGGUAGUAGGUUGCAUAGU-----
----- 3   1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 43  1,0
-----GAGGUAGUAGGUUGCAUAGUUa-----
----- 12  1,0
-----GAGGUAGUAGGUUGCAUAGUUU-----
----- 26  1,1
-----GAGGUAGUAGGUUGCAUAGUUUU-----
----- 13  1,2
-----AGGUAGUAGGUUGCAUAGU-----
----- 2   2,-1
-----AGGUAGUAGGUUGCAUAGUU-----
----- 7   2,0
-----AGGUAGUAGGUUGCAUAGUUU-----
----- 2   2,1
-----CUAUACGACCUGCUGCCU-
----- 2   0,-4
-----CUAUACGACCUGCUGCCUU

```


4 0,-3
 -----UGAGGUAGGAGGUUGUAUAuu-----
 2 0,-3
 -----UGAGGUAGGAGGUUGUAUAG-----
 300 0,-2
 -----UGAGGUAGGAGGUUGUAUAGa-----
 13 0,-2
 -----UGAGGUAGGAGGUUGUAUAGaa-----
 4 0,-2
 -----UGAGGUAGGAGGUUGUAUAGau-----
 4 0,-2
 -----UGAGGUAGGAGGUUGUAUAGU-----
 968 0,-1
 -----UGAGGUAGGAGGUUGUAUAGUa-----
 50 0,-1
 -----UGAGGUAGGAGGUUGUAUAGUaa-----
 174 0,-1
 -----UGAGGUAGGAGGUUGUAUAGUau-----
 77 0,-1
 -----UGAGGUAGGAGGUUGUAUAGUU-----
 2382 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUa-----
 862 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUaa-----
 203 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUau-----
 93 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUu-----
 945 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUuu-----
 19 0,0
 -----UGAGGUAGGAGGUUGUAUAGUUG-----
 156 0,1
 -----UGAGGUAGGAGGUUGUAUAGUUGu-----
 24 0,1
 -----UGAGGUAGGAGGUUGUAUAGUUGA-----
 13 0,2
 -----GAGGUAGGAGGUUGUAUAGUU-----

----- 23 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
----- 24 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
----- 21070 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
----- 465 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
----- 2216 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 541 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 48125 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 22388 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 2936 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 1027 0,0
-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 901 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 31 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGU-----
----- 103 0,2
-----UGAGGUAGUAGAUUGUAUAGUUGUG-----
----- 5 0,3
-----GAGGUAGUAGAUUGUAUA-----
----- 6 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
----- 12 1,-2
-----GAGGUAGUAGAUUGUAUAGa-----
----- 2 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
----- 56 1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----
----- 2 1,-1
-----GAGGUAGUAGAUUGUAUAGUaa-----


```

--- 6   -1,-2
-----AUGAGGUAGUAGAUUGUAUAGU-----
--- 37  -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUa-----
--- 2   -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUaa-----
--- 2   -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUU-----
--- 14  -1,0
-----AUGAGGUAGUAGAUUGUAUAGUUa-----
--- 3   -1,0
-----AUGAGGUAGUAGAUUGUAUAGUUU-----
--- 3   -1,1
-----UGAGGUAGUAGAUUGUAU-----
--- 382 0,-4
-----UGAGGUAGUAGAUUGUAUu-----
--- 29  0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
--- 26  0,-4
-----UGAGGUAGUAGAUUGUAUA-----
--- 2591    0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
--- 84  0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
--- 35  0,-3
-----UGAGGUAGUAGAUUGUAUAau-----
--- 6   0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
--- 17  0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
--- 10  0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 3274    0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 196 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 23  0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----

```

--- 24 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 21070 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 465 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 2216 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 541 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 48125 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 22388 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 2936 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 1027 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 26463 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUa-----
--- 92 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUaa-----
--- 10 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 705 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUu-----
--- 16 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUA-----
--- 8 0,3
-----GAGGUAGUAGAUUGUAUA-----
--- 6 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
--- 12 1,-2
-----GAGGUAGUAGAUUGUAUAGa-----
--- 2 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 56 1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----


```

----      6   -1,1
----UGAGGUAGUAGUUUGUAC-----
----     30   0,-4
----UGAGGUAGUAGUUUGUACu-----
----      2    0,-4
----UGAGGUAGUAGUUUGUACA-----
----     76   0,-3
----UGAGGUAGUAGUUUGUACAa-----
----     16   0,-3
----UGAGGUAGUAGUUUGUACAaa-----
----      2    0,-3
----UGAGGUAGUAGUUUGUACAu-----
----      2    0,-3
----UGAGGUAGUAGUUUGUACAG-----
----    370  0,-2
----UGAGGUAGUAGUUUGUACAGa-----
----     29   0,-2
----UGAGGUAGUAGUUUGUACAGaa-----
----      5    0,-2
----UGAGGUAGUAGUUUGUACAGau-----
----      4    0,-2
----UGAGGUAGUAGUUUGUACAGU-----
----   2648   0,-1
----UGAGGUAGUAGUUUGUACAGUa-----
----     28   0,-1
----UGAGGUAGUAGUUUGUACAGUaa-----
----     50   0,-1
----UGAGGUAGUAGUUUGUACAGUau-----
----     14   0,-1
----UGAGGUAGUAGUUUGUACAGUU-----
----   4597   0,0
----UGAGGUAGUAGUUUGUACAGUUa-----
----     873  0,0
----UGAGGUAGUAGUUUGUACAGUUaa-----
----    129  0,0
----UGAGGUAGUAGUUUGUACAGUUau-----
----     70   0,0
----UGAGGUAGUAGUUUGUACAGUUU-----

```



```

---- 4 -1,0
----UGAGGUAGUAGUUUGUGC-----
---- 302 0,-4
----UGAGGUAGUAGUUUGUGCU-----
---- 1279 0,-3
----UGAGGUAGUAGUUUGUGCUG-----
---- 229 0,-2
----UGAGGUAGUAGUUUGUGCUGaa-----
---- 2 0,-2
----UGAGGUAGUAGUUUGUGCUGU-----
---- 222 0,-1
----UGAGGUAGUAGUUUGUGCUGUa-----
---- 5 0,-1
----UGAGGUAGUAGUUUGUGCUGUaa-----
---- 12 0,-1
----UGAGGUAGUAGUUUGUGCUGUau-----
---- 2 0,-1
----UGAGGUAGUAGUUUGUGCUGUU-----
---- 267 0,0
----UGAGGUAGUAGUUUGUGCUGUUa-----
---- 107 0,0
----UGAGGUAGUAGUUUGUGCUGUUaa-----
---- 10 0,0
----UGAGGUAGUAGUUUGUGCUGUUau-----
---- 11 0,0
----UGAGGUAGUAGUUUGUGCUGUUu-----
---- 222 0,0
----UGAGGUAGUAGUUUGUGCUGUUuu-----
---- 62 0,0
----UGAGGUAGUAGUUUGUGCUGUUG-----
---- 2 0,1
----GAGGUAGUAGUUUGUGCU-----
---- 4 1,-3
----GAGGUAGUAGUUUGUGCUG-----
---- 4 1,-2
----GAGGUAGUAGUUUGUGCUGUU-----
---- 5 1,0
----GAGGUAGUAGUUUGUGCUGUUa-----

```

```

----- 3 1,0
-----GAGGUAGUAGUUUGUGCUGUUu-----
----- 9 1,0
-----CUGCGCAAGCUACUGCCUU
----- 3 0,-3
-----CUGCGCAAGCUACUGCCUU
Ga-- 2 0,-2
-----CUGCGCAAGCUACUGCCUU
GCUAa 2 0,1

```

>hsa-mir-1-1 3p:46-67 SRX018970

```

ugggaaacauacuucuuuauaugcccauauaggaccugcuaagcuaUGGAAUGUAAAGAAGUAUGUAUcuca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGAAUGUAAAGAAGUAU----- 22 0,-4
-----UGGAAUGUAAAGAAGUAUG----- 44 0,-3
-----UGGAAUGUAAAGAAGUAUGU----- 37 0,-2
-----UGGAAUGUAAAGAAGUAUGUA----- 53 0,-1
-----UGGAAUGUAAAGAAGUAUGUAa----- 34 0,-1
-----UGGAAUGUAAAGAAGUAUGUAaa----- 4 0,-1
-----UGGAAUGUAAAGAAGUAUGUAU----- 745 0,0
-----UGGAAUGUAAAGAAGUAUGUAUa----- 15 0,0
-----GGAAUGUAAAGAAGUAUGUAU----- 18 1,0

```

>hsa-mir-1-2 3p:53-74 SRX018970

```

accuacucagaguacauacuucuuuanguacccauaugaacauacaaugcuaUGGAAUGUAAAGAAGUAUGUAUuuuugg
uaggc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))).
-----UGGAAUGUAAAGAAGUAU-----
----- 22 0,-4
-----UGGAAUGUAAAGAAGUAUG-----
----- 44 0,-3
-----UGGAAUGUAAAGAAGUAUGU-----
----- 37 0,-2
-----UGGAAUGUAAAGAAGUAUGUA-----
----- 53 0,-1
-----UGGAAUGUAAAGAAGUAUGUAa-----
----- 34 0,-1

```



```

-----AACCCGUAGAUCCGAACUUGUu-----
63  0,-1
-----AACCCGUAGAUCCGAACUUGUuu-----
13  0,-1
-----AACCCGUAGAUCCGAACUUGUG-----
6564  0,0
-----AACCCGUAGAUCCGAACUUGUGa-----
7201  0,0
-----AACCCGUAGAUCCGAACUUGUGaa-----
434 0,0
-----AACCCGUAGAUCCGAACUUGUGau-----
27  0,0
-----AACCCGUAGAUCCGAACUUGUGu-----
9308  0,0
-----AACCCGUAGAUCCGAACUUGUGuu-----
65  0,0
-----AACCCGUAGAUCCGAACUUGUGG-----
28  0,1
-----ACCCGUAGAUCCGAACUUGU-----
6  1,-1
-----ACCCGUAGAUCCGAACUUGUG-----
7  1,0
-----ACCCGUAGAUCCGAACUUGUGa-----
16  1,0
-----ACCCGUAGAUCCGAACUUGUGaa-----
7  1,0
-----ACCCGUAGAUCCGAACUUGUGu-----
15  1,0

```

>hsa-mir-101-1 mi:11-32;MA:47-67 SRX018970

```

ugcccuggcuCAGUUAUCACAGUGCUGAUGCUgucuaauucuaaaggUACAGUACUGUGAUAAACUGAAggauggca
.((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((

```

```

-----UCAGUUAUCACAGUGCUGAUGa----- 2
-1,-2
-----GGUACAGUACUGUGAUAAACUGAA----- 2
-2,0
-----GUACAGUACUGUGAUAAAC----- 470
-1,-4

```

		-----GUACAGUACUGUGAUAACa-----	3
-1,-4			
		-----GUACAGUACUGUGUAACU-----	
18435	-1,-3		
		-----GUACAGUACUGUGUAACUa-----	18
-1,-3			
		-----GUACAGUACUGUGUAACUaa-----	20
-1,-3			
		-----GUACAGUACUGUGUAACUu-----	2
-1,-3			
		-----GUACAGUACUGUGUAACUG-----	1544
-1,-2			
		-----GUACAGUACUGUGUAACUGu-----	67
-1,-2			
		-----GUACAGUACUGUGUAACUGuu-----	7
-1,-2			
		-----GUACAGUACUGUGUAACUGA-----	
23025	-1,-1		
		-----GUACAGUACUGUGUAACUGAu-----	133
-1,-1			
		-----GUACAGUACUGUGUAACUGAuu-----	5
-1,-1			
		-----GUACAGUACUGUGUAACUGAA-----	
30274	-1,0		
		-----GUACAGUACUGUGUAACUGAAa-----	8261
-1,0			
		-----GUACAGUACUGUGUAACUGAAaa-----	336
-1,0			
		-----GUACAGUACUGUGUAACUGAAau-----	21
-1,0			
		-----GUACAGUACUGUGUAACUGAAu-----	91
-1,0			
		-----GUACAGUACUGUGUAACUGAAuu-----	3
-1,0			
		-----GUACAGUACUGUGUAACUGAAG-----	32
-1,1			
		-----GUACAGUACUGUGUAACUGAAGu-----	3
-1,1			

		-----GUACAGUACUGUGAUAAACUGAAGG-----	4
-1,2			
		-----UACAGUACUGUGAUAAACU-----	
31318	0,-3		
		-----UACAGUACUGUGAUAAACUa-----	16
0,-3			
		-----UACAGUACUGUGAUAAACUaa-----	43
0,-3			
		-----UACAGUACUGUGAUAAACUau-----	2
0,-3			
		-----UACAGUACUGUGAUAAACUu-----	18
0,-3			
		-----UACAGUACUGUGAUAAACUG-----	3241
0,-2			
		-----UACAGUACUGUGAUAAACUGu-----	77
0,-2			
		-----UACAGUACUGUGAUAAACUGuu-----	2
0,-2			
		-----UACAGUACUGUGAUAAACUGA-----	
50764	0,-1		
		-----UACAGUACUGUGAUAAACUGAu-----	224
0,-1			
		-----UACAGUACUGUGAUAAACUGAuu-----	188
0,-1			
		-----UACAGUACUGUGAUAAACUGAA-----	
119700	0,0		
		-----UACAGUACUGUGAUAAACUGAAa-----	
31263	0,0		
		-----UACAGUACUGUGAUAAACUGAAaa-----	1130
0,0			
		-----UACAGUACUGUGAUAAACUGAAau-----	141
0,0			
		-----UACAGUACUGUGAUAAACUGAAu-----	3990
0,0			
		-----UACAGUACUGUGAUAAACUGAAuu-----	232
0,0			
		-----UACAGUACUGUGAUAAACUGAAG-----	7018
0,1			

-----	UACAGUACUGUGAUAAACUGAAGu-----	1425
0,1		
-----	UACAGUACUGUGAUAAACUGAAGuu-----	39
0,1		
-----	UACAGUACUGUGAUAAACUGAAGG-----	39
0,2		
-----	UACAGUACUGUGAUAAACUGAAGGu-----	4
0,2		
-----	UACAGUACUGUGAUAAACUGAAGGA-----	16
0,3		
-----	ACAGUACUGUGAUAAACUG-----	15
1,-2		
-----	ACAGUACUGUGAUAAACUGA-----	285
1,-1		
-----	ACAGUACUGUGAUAAACUGAA-----	754
1,0		
-----	ACAGUACUGUGAUAAACUGAAa-----	286
1,0		
-----	ACAGUACUGUGAUAAACUGAAaa-----	21
1,0		
-----	ACAGUACUGUGAUAAACUGAAau-----	9
1,0		
-----	ACAGUACUGUGAUAAACUGAAu-----	55
1,0		
-----	ACAGUACUGUGAUAAACUGAAuu-----	12
1,0		
-----	ACAGUACUGUGAUAAACUGAAG-----	98
1,1		
-----	ACAGUACUGUGAUAAACUGAAGu-----	33
1,1		
-----	CAGUACUGUGAUAAACUGA-----	16
2,-1		
-----	CAGUACUGUGAUAAACUGAA-----	101
2,0		
-----	CAGUACUGUGAUAAACUGAAa-----	21
2,0		
-----	CAGUACUGUGAUAAACUGAAaa-----	2
2,0		


```

-----CAGUACUGUGAUAAACUGAAau----- 7
2,0
-----CAGUACUGUGAUAAACUGAAuu----- 10
2,0
-----CAGUACUGUGAUAAACUGAAG----- 7
2,1
-----CAGUACUGUGAUAAACUGAAGu----- 5
2,1
-----CAGUACUGUGAUAAACUGAAGuu----- 3
2,1
-----CAGUACUGUGAUAAACUGAAGGu----- 2
2,2
-----CAGUACUGUGAUAAACUGAAGGAa---- 2
2,3

```

>hsa-mir-101-2 3p:49-69 SRX018970

```

acuguccuuuuucgguaucaugguaccgaucguguaauaucugaaaggUACAGUACUGUGAUAAACUGAAgaugguggu
((..(((.((((((((((((((((((((((.(((.....)))))).)))))))))))))))))))).))..))
-----CGGUUAUCAUGGUACCGAUGCU-----
2
-----GGUACAGUACUGUGAUAAACUGAA-----
2 -2,0
-----GUACAGUACUGUGAUAAAC-----
470 -1,-4
-----GUACAGUACUGUGAUAAACa-----
3 -1,-4
-----GUACAGUACUGUGAUAAACU-----
18435 -1,-3
-----GUACAGUACUGUGAUAAACUa-----
18 -1,-3
-----GUACAGUACUGUGAUAAACUaa-----
20 -1,-3
-----GUACAGUACUGUGAUAAACUu-----
2 -1,-3
-----GUACAGUACUGUGAUAAACUG-----
1544 -1,-2
-----GUACAGUACUGUGAUAAACUGu-----
67 -1,-2

```

		-----GUACAGUACUGUGAUAACUGuu-----
7	-1,-2	
		-----GUACAGUACUGUGAUAACUGA-----
23025	-1,-1	
		-----GUACAGUACUGUGAUAACUGAu-----
133	-1,-1	
		-----GUACAGUACUGUGAUAACUGAuu-----
5	-1,-1	
		-----GUACAGUACUGUGAUAACUGAA-----
30274	-1,0	
		-----GUACAGUACUGUGAUAACUGAAa-----
8261	-1,0	
		-----GUACAGUACUGUGAUAACUGAAaa-----
336	-1,0	
		-----GUACAGUACUGUGAUAACUGAAau-----
21	-1,0	
		-----GUACAGUACUGUGAUAACUGAAu-----
91	-1,0	
		-----GUACAGUACUGUGAUAACUGAAuu-----
3	-1,0	
		-----GUACAGUACUGUGAUAACUGAAG-----
32	-1,1	
		-----GUACAGUACUGUGAUAACUGAAGu-----
3	-1,1	
		-----GUACAGUACUGUGAUAACUGAAGA-----
12	-1,2	
		-----GUACAGUACUGUGAUAACUGAAGAA-----
2	-1,3	
		-----UACAGUACUGUGAUAACU-----
31318	0,-3	
		-----UACAGUACUGUGAUAACUa-----
16	0,-3	
		-----UACAGUACUGUGAUAACUaa-----
43	0,-3	
		-----UACAGUACUGUGAUAACUau-----
2	0,-3	
		-----UACAGUACUGUGAUAACUu-----
18	0,-3	

		-UACAGUACUGUGAUAAACUG-
3241	0,-2	
		-UACAGUACUGUGAUAAACUGu-
77	0,-2	
		-UACAGUACUGUGAUAAACUGuu-
2	0,-2	
		-UACAGUACUGUGAUAAACUGA-
50764	0,-1	
		-UACAGUACUGUGAUAAACUGAu-
224	0,-1	
		-UACAGUACUGUGAUAAACUGAuu-
188	0,-1	
		-UACAGUACUGUGAUAAACUGAA-
119700	0,0	
		-UACAGUACUGUGAUAAACUGAAa-
31263	0,0	
		-UACAGUACUGUGAUAAACUGAAaa-
1130	0,0	
		-UACAGUACUGUGAUAAACUGAAau-
141	0,0	
		-UACAGUACUGUGAUAAACUGAAu-
3990	0,0	
		-UACAGUACUGUGAUAAACUGAAuu-
232	0,0	
		-UACAGUACUGUGAUAAACUGAAG-
7018	0,1	
		-UACAGUACUGUGAUAAACUGAAGu-
1425	0,1	
		-UACAGUACUGUGAUAAACUGAAGuu-
39	0,1	
		-UACAGUACUGUGAUAAACUGAAGA-
2195	0,2	
		-UACAGUACUGUGAUAAACUGAAGAu-
6	0,2	
		-UACAGUACUGUGAUAAACUGAAGAA-
128	0,3	
		-UACAGUACUGUGAUAAACUGAAGAAa-
32	0,3	

		-----ACAGUACUGUGAUAACUG-----
15	1,-2	
		-----ACAGUACUGUGAUAACUGA-----
285	1,-1	
		-----ACAGUACUGUGAUAACUGAA-----
754	1,0	
		-----ACAGUACUGUGAUAACUGAAa-----
286	1,0	
		-----ACAGUACUGUGAUAACUGAAaa-----
21	1,0	
		-----ACAGUACUGUGAUAACUGAAau-----
9	1,0	
		-----ACAGUACUGUGAUAACUGAAu-----
55	1,0	
		-----ACAGUACUGUGAUAACUGAAuu-----
12	1,0	
		-----ACAGUACUGUGAUAACUGAAG-----
98	1,1	
		-----ACAGUACUGUGAUAACUGAAGu-----
33	1,1	
		-----ACAGUACUGUGAUAACUGAAGA-----
46	1,2	
		-----ACAGUACUGUGAUAACUGAAGAu-----
2	1,2	
		-----CAGUACUGUGAUAACUGA-----
16	2,-1	
		-----CAGUACUGUGAUAACUGAA-----
101	2,0	
		-----CAGUACUGUGAUAACUGAAa-----
21	2,0	
		-----CAGUACUGUGAUAACUGAAaa-----
2	2,0	
		-----CAGUACUGUGAUAACUGAAau-----
7	2,0	
		-----CAGUACUGUGAUAACUGAAuu-----
10	2,0	
		-----CAGUACUGUGAUAACUGAAG-----
7	2,1	

```

-----CAGUACUGUGAUAACUGAAGu-----
5    2,1
-----CAGUACUGUGAUAACUGAAGuu-----
3    2,1
-----CAGUACUGUGAUAACUGAAGA-----
36   2,2
-----CAGUACUGUGAUAACUGAAGAu-----
3    2,2
-----CAGUACUGUGAUAACUGAAGAA-----
17   2,3
-----CAGUACUGUGAUAACUGAAGAAa-----
22   2,3

```

>hsa-mir-103-1 3p:48-70 SRX018970

```

uacugcccucggcuucuuacagugcugccuuguugcauauggaucaAGCAGCAUUGUACAGGGCUAUGAaggcauug
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGCAGCAUUGUACAGGGC-----
2    -1,-5
-----AAGCAGCAUUGUACAGGGCUAUa-----
2    -1,-2
-----AAGCAGCAUUGUACAGGGCUAUGA-----
2    -1,0
-----AGCAGCAUUGUACAGGGC-----
1666  0,-5
-----AGCAGCAUUGUACAGGGCaa-----
6     0,-5
-----AGCAGCAUUGUACAGGGCau-----
5     0,-5
-----AGCAGCAUUGUACAGGGCU-----
942  0,-4
-----AGCAGCAUUGUACAGGGCUu-----
31   0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
19   0,-4
-----AGCAGCAUUGUACAGGGCUA-----
1480  0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
127  0,-3

```

		-----AGCAGCAUUGUACAGGGCUAaa-----
31	0,-3	
		-----AGCAGCAUUGUACAGGGCUAau-----
17	0,-3	
		-----AGCAGCAUUGUACAGGGCUAU-----
8852	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUa-----
2986	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUaa-----
168	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUau-----
248	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
905	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
537	0,-2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
5073	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
2024	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
266	0,-1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
8453	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
877	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
35	0,0	
		-----AGCAGCAUUGUACAGGGCUAUGAA-----
162	0,1	
		-----AGCAGCAUUGUACAGGGCUAUGAAu-----
9	0,1	
		-----GCAGCAUUGUACAGGGCUA-----
5	1,-3	
		-----GCAGCAUUGUACAGGGCUAU-----
14	1,-2	
		-----GCAGCAUUGUACAGGGCUAUuu-----
2	1,-2	

11	1, -1	GCAGCAUUGUACAGGGCUAUG
29	1, 0	GCAGCAUUGUACAGGGCUAUGA
3	1, 0	GCAGCAUUGUACAGGGCUAUGAu
2	1, 0	GCAGCAUUGUACAGGGCUAUGAuu
6	2, -2	CAGCAUUGUACAGGGCUAU
6	2, -1	CAGCAUUGUACAGGGCUAUG
20	2, 0	CAGCAUUGUACAGGGCUAUGA
3	2, 0	CAGCAUUGUACAGGGCUAUGAu

```

>hsa-mir-103-2   mi:11-33;MA:48-70   SRX018970
uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..((.(((((((((.((.(((((((((((((((((.)))))))).)))))))).))))).))))).))))).))..
-----AGCUUCUUUACAGUGCUGCCUUG-----
      2    0,0
-----AGCUUCUUUACAGUGCUGCCUUGa-----
      2    0,0
-----AGCUUCUUUACAGUGCUGCCUUGU-----
     12    0,1
-----AAGCAGCAUUGUACAGGGC-----
      2    -1,-5
-----AAGCAGCAUUGUACAGGGCUAUa-----
      2    -1,-2
-----AAGCAGCAUUGUACAGGGCUAUGA-----
      2    -1,0
-----AGCAGCAUUGUACAGGGC-----
     1666    0,-5
-----AGCAGCAUUGUACAGGGCaa-----
      6    0,-5
-----AGCAGCAUUGUACAGGGCau-----
      5    0,-5

```

		-----AGCAGCAUUGUACAGGGCU-----
942	0, -4	
		-----AGCAGCAUUGUACAGGGCUu-----
31	0, -4	
		-----AGCAGCAUUGUACAGGGCUuu-----
19	0, -4	
		-----AGCAGCAUUGUACAGGGCUA-----
1480	0, -3	
		-----AGCAGCAUUGUACAGGGCUAa-----
127	0, -3	
		-----AGCAGCAUUGUACAGGGCUAaa-----
31	0, -3	
		-----AGCAGCAUUGUACAGGGCUAau-----
17	0, -3	
		-----AGCAGCAUUGUACAGGGCUAU-----
8852	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUa-----
2986	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUaa-----
168	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUau-----
248	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUu-----
905	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUuu-----
537	0, -2	
		-----AGCAGCAUUGUACAGGGCUAUG-----
5073	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGu-----
2024	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGuu-----
266	0, -1	
		-----AGCAGCAUUGUACAGGGCUAUGA-----
8453	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAu-----
877	0, 0	
		-----AGCAGCAUUGUACAGGGCUAUGAuu-----
35	0, 0	


```

-----AGCAGCAUUGUACAGGGCUAUGAA-----
162 0,1
-----AGCAGCAUUGUACAGGGCUAUGAAu-----
9 0,1
-----AGCAGCAUUGUACAGGGCUAUGAAA-----
19 0,2
-----GCAGCAUUGUACAGGGCUA-----
5 1,-3
-----GCAGCAUUGUACAGGGCUAU-----
14 1,-2
-----GCAGCAUUGUACAGGGCUAUuu-----
2 1,-2
-----GCAGCAUUGUACAGGGCUAUG-----
11 1,-1
-----GCAGCAUUGUACAGGGCUAUGA-----
29 1,0
-----GCAGCAUUGUACAGGGCUAUGAu-----
3 1,0
-----GCAGCAUUGUACAGGGCUAUGAuu-----
2 1,0
-----CAGCAUUGUACAGGGCUAU-----
6 2,-2
-----CAGCAUUGUACAGGGCUAUG-----
6 2,-1
-----CAGCAUUGUACAGGGCUAUGA-----
20 2,0
-----CAGCAUUGUACAGGGCUAUGAu-----
3 2,0

```

>hsa-mir-106a MA:13-35;mi:50-71 SRX018970

```

ccuuggccauguAAAAGUGCUUACAGUGCAGGUAGcuuuuugagaucuaCUGCAAUGUAAGCACUUCUUAcauuaccaug
g

```

```

((.(((..((((((((((((((((((.(((((.(((.(.....)).)))))))).)))))))).)))))))).))))))
)

```

```

-----AAAAGUGCUUACAGUGCAG-----
- 11 0,-4
-----AAAAGUGCUUACAGUGCAGG-----
- 3 0,-3

```

```

-----AAAAGUGCUUACAGUGCAGGU-----
- 17 0,-2
-----AAAAGUGCUUACAGUGCAGGUA-----
- 9 0,-1
-----AAAAGUGCUUACAGUGCAGGUAa-----
- 2 0,-1
-----AAAAGUGCUUACAGUGCAGGUAG-----
- 7 0,0
-----AAAGUGCUUACAGUGCAG-----
- 3 1,-4
-----AAAGUGCUUACAGUGCAGG-----
- 4 1,-3
-----AAAGUGCUUACAGUGCAGGa-----
- 2 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
- 2 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
- 4 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
- 3 1,0

```

>hsa-mir-106b MA:12-32;mi:52-73 SRX018970

ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

(((((.((((.(.((((((.(((((((.(.((((((.....)).)))))).)))))).)))))).)))))).))))))

```

-----CUAAAGUGCUGACAGUGCAGAU-----
-- 2 -1,1
-----UAAAGUGCUGACAGUGCA-----
-- 2 0,-3
-----UAAAGUGCUGACAGUGCAu-----
-- 3 0,-3
-----UAAAGUGCUGACAGUGCAG-----
-- 24 0,-2
-----UAAAGUGCUGACAGUGCAGA-----
-- 33 0,-1
-----UAAAGUGCUGACAGUGCAGa-----
-- 2 0,-1

```

```

-----UAAAGUGCUGACAGUGCAGAAa-----
-- 2 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 45 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 7 0,0
-----UAAAGUGCUGACAGUGCAGAUuu-----
-- 2 0,0
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 60 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 48 0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 36 0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
-- 3 0,2
-----UACCGCACUGUGGGUACUUGa-----
-- 3 -2,-4
-----UACCGCACUGUGGGUACUUGu-----
-- 2 -2,-4
-----UACCGCACUGUGGGUACUUGC-----
-- 4 -2,-3
-----UACCGCACUGUGGGUACUUGCU-----
-- 13 -2,-2
-----ACCGCACUGUGGGUACUUGCUu-----
-- 2 -1,-2
-----ACCGCACUGUGGGUACUUGCUG-----
-- 2 -1,-1
-----CCGCACUGUGGGUACUUGCU-----
-- 13 0,-2
-----CCGCACUGUGGGUACUUGCUG-----
-- 20 0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 14 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 3 0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 3 0,-1

```

```

-----CCGCACUGUGGGUACUUGCUGC-----
-- 38 0,0
-----CCGCACUGUGGGUACUUGCUGCau-----
-- 3 0,0

>hsa-mir-107 3p:50-72 SRX018970
cucucugcuuucagcuucuuacaguguugccuugggcauggaguucaAGCAGCAUUGUACAGGGCUAUCAaagcacag
a
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)
-----AGCUUCUUUACAGUGUUGCCUUGU-----
- 3
-----AAGCAGCAUUGUACAGGGC-----
- 2 -1,-5
-----AAGCAGCAUUGUACAGGGCUAUa-----
- 2 -1,-2
-----AGCAGCAUUGUACAGGGC-----
- 1666 0,-5
-----AGCAGCAUUGUACAGGGCaa-----
- 6 0,-5
-----AGCAGCAUUGUACAGGGCau-----
- 5 0,-5
-----AGCAGCAUUGUACAGGGCU-----
- 942 0,-4
-----AGCAGCAUUGUACAGGGCUu-----
- 31 0,-4
-----AGCAGCAUUGUACAGGGCUuu-----
- 19 0,-4
-----AGCAGCAUUGUACAGGGCUA-----
- 1480 0,-3
-----AGCAGCAUUGUACAGGGCUAa-----
- 127 0,-3
-----AGCAGCAUUGUACAGGGCUAaa-----
- 31 0,-3
-----AGCAGCAUUGUACAGGGCUAau-----
- 17 0,-3
-----AGCAGCAUUGUACAGGGCUAU-----
- 8852 0,-2

```

```

-----AGCAGCAUUGUACAGGGCUAUa-----
- 2986 0,-2
-----AGCAGCAUUGUACAGGGCUAUaa-----
- 168 0,-2
-----AGCAGCAUUGUACAGGGCUAUau-----
- 248 0,-2
-----AGCAGCAUUGUACAGGGCUAUu-----
- 905 0,-2
-----AGCAGCAUUGUACAGGGCUAUuu-----
- 537 0,-2
-----AGCAGCAUUGUACAGGGCUAUC-----
- 1022 0,-1
-----AGCAGCAUUGUACAGGGCUAUCu-----
- 1335 0,-1
-----AGCAGCAUUGUACAGGGCUAUCuu-----
- 75 0,-1
-----AGCAGCAUUGUACAGGGCUAUCA-----
- 2332 0,0
-----AGCAGCAUUGUACAGGGCUAUCAu-----
- 168 0,0
-----AGCAGCAUUGUACAGGGCUAUCAuu-----
- 15 0,0
-----AGCAGCAUUGUACAGGGCUAUCAA-----
- 17 0,1
-----AGCAGCAUUGUACAGGGCUAUCAAu-----
- 2 0,1
-----AGCAGCAUUGUACAGGGCUAUCAAA-----
- 2 0,2
-----GCAGCAUUGUACAGGGCUA-----
- 5 1,-3
-----GCAGCAUUGUACAGGGCUAU-----
- 14 1,-2
-----GCAGCAUUGUACAGGGCUAUuu-----
- 2 1,-2
-----GCAGCAUUGUACAGGGCUAUCA-----
- 3 1,0
-----CAGCAUUGUACAGGGCUAU-----
- 6 2,-2

```



```

-----UACCCUGUAGAACCGAAUUUGUGU-----
----- 2 0,1
-----ACCCUGUAGAACCGAAUUUGU-----
----- 3 1,-1
-----ACCCUGUAGAACCGAAUUUGUGa-----
----- 2 1,0
-----ACCCUGUAGAACCGAAUUUGUGU-----
----- 3 1,1

```

>hsa-mir-1185-1 5p:15-35 SRX018970

uuugguacuugaagAGAGGAUACCCUUGUAUGUUcacuugauuaauggcgaaauauacagggggagacucuauuugcgu
aucaaa

.(((((((.((((((((((..(.((((((((((((((((((.(.....)).))))))))))))))))..))))).))))).))
))))).

```

-----AGAGGAUACCCUUGUAUGUU-----
----- 8 0,0
-----AGAGGAUACCCUUGUAUGUUa-----
----- 2 0,0
-----AGAGGAUACCCUUGUAUGUUC-----
----- 10 0,1
-----AUAUACAGGGGGAGACUCUUAUa-----
----- 2

```

>hsa-mir-1185-2 5p:15-35 SRX018970

uuugguacuuaaagAGAGGAUACCCUUGUAUGUUcacuugauuaauggcgaaauauacagggggagacucucauuugcgu
aucaaa

.(((((((.((((((((((..(.((((((((((((((((((.(.....)).))))))))))))))))..))))).))))).))
))))).

```

-----AGAGGAUACCCUUGUAUGUU-----
----- 8 0,0
-----AGAGGAUACCCUUGUAUGUUa-----
----- 2 0,0
-----AGAGGAUACCCUUGUAUGUUC-----
----- 10 0,1
-----AUAUACAGGGGGAGACUCUCAU-----
----- 3

```

>hsa-mir-122 MA:15-36;mi:51-72 SRX018970


```

-----UGUGGAGUGUGACAAUGGUGUU-----
----- 47 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUa-----
----- 8 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUau-----
----- 5 -2,-2
-----UGUGGAGUGUGACAAUGGUGUUU-----
----- 12 -2,-1
-----UGUGGAGUGUGACAAUGGUGUUUu-----
----- 2 -2,-1
-----GUGGAGUGUGACAAUGGUGU-----
----- 2 -1,-3
-----GUGGAGUGUGACAAUGGUGUU-----
----- 19 -1,-2
-----GUGGAGUGUGACAAUGGUGUUU-----
----- 65 -1,-1
-----GUGGAGUGUGACAAUGGUGUUUG-----
----- 5 -1,0
-----GUGGAGUGUGACAAUGGUGUUUGa-----
----- 7 -1,0
-----GUGGAGUGUGACAAUGGUGUUUGU-----
----- 9 -1,1
-----UGGAGUGUGACAAUGGUG-----
----- 13491 0,-4
-----UGGAGUGUGACAAUGGUGa-----
----- 337 0,-4
-----UGGAGUGUGACAAUGGUGaa-----
----- 293 0,-4
-----UGGAGUGUGACAAUGGUGau-----
----- 37 0,-4
-----UGGAGUGUGACAAUGGUGU-----
----- 40019 0,-3
-----UGGAGUGUGACAAUGGUGUa-----
----- 1153 0,-3

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-----UGGAGUGUGACAAUGGUGUaa-----
----- 4715    0, -3
-----UGGAGUGUGACAAUGGUGUau-----
----- 680    0, -3
-----UGGAGUGUGACAAUGGUGUU-----
----- 72679   0, -2
-----UGGAGUGUGACAAUGGUGUUa-----
----- 8212    0, -2
-----UGGAGUGUGACAAUGGUGUUaa-----
----- 5207    0, -2
-----UGGAGUGUGACAAUGGUGUUau-----
----- 1365    0, -2
-----UGGAGUGUGACAAUGGUGUUU-----
----- 456232  0, -1
-----UGGAGUGUGACAAUGGUGUUUa-----
----- 30342   0, -1
-----UGGAGUGUGACAAUGGUGUUUaa-----
----- 39179   0, -1
-----UGGAGUGUGACAAUGGUGUUUau-----
----- 33794   0, -1
-----UGGAGUGUGACAAUGGUGUUUu-----
----- 27597   0, -1
-----UGGAGUGUGACAAUGGUGUUUuu-----
----- 11948   0, -1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 1014835 0, 0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 1582920 0, 0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 41772   0, 0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 28034   0, 0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 1441249 0, 1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 4674    0, 1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 3757    0, 1

```

```

-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 4082 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 9344 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 3824 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 347 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 108 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 329 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 423 1,-3
-----GGAGUGUGACAAUGGUGUa-----
----- 7 1,-3
-----GGAGUGUGACAAUGGUGUaa-----
----- 53 1,-3
-----GGAGUGUGACAAUGGUGUau-----
----- 7 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 881 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 78 1,-2
-----GGAGUGUGACAAUGGUGUUaa-----
----- 67 1,-2
-----GGAGUGUGACAAUGGUGUUau-----
----- 19 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 4067 1,-1
-----GGAGUGUGACAAUGGUGUUUa-----
----- 380 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 469 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 413 1,-1
-----GGAGUGUGACAAUGGUGUUUu-----
----- 316 1,-1

```

```

-----GGAGUGUGACAAUGGUGUUuu-----
----- 75 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 12383 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 16540 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 514 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 301 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 15541 1,1
-----GGAGUGUGACAAUGGUGUUUGUa-----
----- 70 1,1
-----GGAGUGUGACAAUGGUGUUUGUaa-----
----- 60 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 75 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 152 1,1
-----GGAGUGUGACAAUGGUGUUUGUuu-----
----- 113 1,1
-----GGAGUGUGACAAUGGUGUUUGUG-----
----- 5 1,2
-----GGAGUGUGACAAUGGUGUUUGUGa-----
----- 2 1,2
-----GGAGUGUGACAAUGGUGUUUGUGU-----
----- 18 1,3
-----GGAGUGUGACAAUGGUGUUUGUGUa-----
----- 2 1,3
-----GAGUGUGACAAUGGUGUU-----
----- 120 2,-2
-----GAGUGUGACAAUGGUGUUa-----
----- 2 2,-2
-----GAGUGUGACAAUGGUGUUaa-----
----- 2 2,-2
-----GAGUGUGACAAUGGUGUUU-----
----- 140 2,-1

```

```

-----GAGUGUGACAAUGGUGUUUa-----
----- 10  2,-1
-----GAGUGUGACAAUGGUGUUUaa-----
----- 20  2,-1
-----GAGUGUGACAAUGGUGUUUau-----
----- 7   2,-1
-----GAGUGUGACAAUGGUGUUUu-----
----- 11  2,-1
-----GAGUGUGACAAUGGUGUUUuu-----
----- 4   2,-1
-----GAGUGUGACAAUGGUGUUUG-----
----- 105 2,0
-----GAGUGUGACAAUGGUGUUUGa-----
----- 381 2,0
-----GAGUGUGACAAUGGUGUUUGaa-----
----- 21  2,0
-----GAGUGUGACAAUGGUGUUUGau-----
----- 8   2,0
-----GAGUGUGACAAUGGUGUUUGU-----
----- 400 2,1
-----GAGUGUGACAAUGGUGUUUGUau-----
----- 3   2,1
-----GAGUGUGACAAUGGUGUUUGUu-----
----- 4   2,1
-----GAGUGUGACAAUGGUGUUUGUuu-----
----- 2   2,1
-----CAAACGCCAUUAUCACACUAA-----
----- 8   -2,-3
-----AAACGCCAUUAUCACACU-----
----- 5   -1,-5
-----AAACGCCAUUAUCACACUA-----
----- 82  -1,-4
-----AAACGCCAUUAUCACACUAu-----
----- 62  -1,-4
-----AAACGCCAUUAUCACACUAuu-----
----- 24  -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 418 -1,-3

```

-----AAACGCCAUUAUCACACUAAu-----
----- 113 -1,-3
-----AAACGCCAUUAUCACACUAAuu-----
----- 85 -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 327 -1,-2
-----AAACGCCAUUAUCACACUAAAa-----
----- 31 -1,-2
-----AAACGCCAUUAUCACACUAAAU-----
----- 1462 -1,-1
-----AAACGCCAUUAUCACACUAAAUu-----
----- 117 -1,-1
-----AAACGCCAUUAUCACACUAAAUuu-----
----- 11 -1,-1
-----AAACGCCAUUAUCACACUAAAUA-----
----- 65 -1,0
-----AAACGCCAUUAUCACACUAAAUAa-----
----- 6 -1,0
-----AAACGCCAUUAUCACACUAAAUAu-----
----- 10 -1,0
-----AACGCCAUUAUCACACUA-----
----- 228 0,-4
-----AACGCCAUUAUCACACUAu-----
----- 43 0,-4
-----AACGCCAUUAUCACACUAuu-----
----- 28 0,-4
-----AACGCCAUUAUCACACUAA-----
----- 641 0,-3
-----AACGCCAUUAUCACACUAAu-----
----- 152 0,-3
-----AACGCCAUUAUCACACUAAuu-----
----- 418 0,-3
-----AACGCCAUUAUCACACUAAA-----
----- 1328 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 289 0,-2
-----AACGCCAUUAUCACACUAAAaa-----
----- 53 0,-2

```

-----AACGCCAUUAUCACACUAAAau-----
----- 6 0,-2
-----AACGCCAUUAUCACACUAAAU-----
----- 13068 0,-1
-----AACGCCAUUAUCACACUAAAUu-----
----- 1069 0,-1
-----AACGCCAUUAUCACACUAAAUuu-----
----- 129 0,-1
-----AACGCCAUUAUCACACUAAAUA-----
----- 2814 0,0
-----AACGCCAUUAUCACACUAAAUAa-----
----- 643 0,0
-----AACGCCAUUAUCACACUAAAUAaa-----
----- 9 0,0
-----AACGCCAUUAUCACACUAAAUAu-----
----- 1699 0,0
-----AACGCCAUUAUCACACUAAAUAuu-----
----- 65 0,0
-----AACGCCAUUAUCACACUAAAUAG-----
----- 8 0,1
-----AACGCCAUUAUCACACUAAAUAGu-----
----- 2 0,1
-----ACGCCAUUAUCACACUAAAU-----
----- 47 1,-1
-----ACGCCAUUAUCACACUAAAUu-----
----- 2 1,-1
-----ACGCCAUUAUCACACUAAAUA-----
----- 9 1,0
-----ACGCCAUUAUCACACUAAAUAu-----
----- 7 1,0

```

>hsa-mir-1246 5p:11-29 SRX018970

```

uguauccuugAAUGGAUUUUUGGAGCAGGaguggacaccugacccaaaggaaaucaauccauagguagcaau
(((...(((...((((((((((((...(((...)))))...)))))))))...))))))...))...

```

```

-----AAUGGAUUUUUGGAGCAG----- 4
0,-1
-----AAUGGAUUUUUGGAGCAG----- 76
0,0

```

```
>hsa-mir-1252    5p:5-26 SRX018970
agaaAGAAGGAAAUUGAAUUCAUUUAgaaaagagaaauccaaugagcuuaauuuccuuuuuuucu
(((((((((((((((((((.((((((((.((((.....))).)))))).))))))))))))))
----AGAAGGAAAUUGAAUUCAUUU----- 4    0,-1
---AGAAGGAAAUUGAAUUCAUUUA----- 2    0,0
```


>hsa-mir-1255a 5p:28-50 SRX018970

auuggaaauccuugaguugcuucucaAGGAUGAGCAAAGAAAGUAGAUnuuuagauucuaaagaaacuaucucuug
cucauccuugagaagcaacuccuuauccauuaa

..((((.....((((((((((((((((((((((((((((((((((((..(((.((((((((((...)))))))))..)))))))))
)))))))))))..))))....

-----AGGAUGAGCAAAGAAAGU-----

----- 3 0, -5

-----AGGAUGAGCAAAGAAAGUA-----

----- 4 0, -4

-----AGGAUGAGCAAAGAAAGUAGA-----

----- 6 0, -2

-----AGGAUGAGCAAAGAAAGUAGAU-----

----- 16 0,-1

-----AGGAUGAGCAAAGAAAGUAGAUa-----

----- 7 0,-1

-----AGGAUGAGCAAAGAAAGUAGAUU-----

----- 31 0,0

-----AGGAUGAGCAAAGAAAGUAGAUUU-----

$$----- \quad 2 \quad 0,1$$

>hsa-mir-1255b-1 5p:3-24 SRX018970

uaCGGAUGAGCAAAGAAAGUGGUUucuuaaaauggaaucaucucuuuugugaagaugcugugaa

(((((.(..((((((.((((.((((.....))))).))))))))))).)..

UACGGAUGAGCAAAGAAAGUGGU----- 2 -2, -1

--CGGAUGAGCAAAGAAAGUGGUU----- 6 0,0

--CGGAUGAGCAAAGAAAGUGGUUU----- 4 0,1

>hsa-mi r-1255b-2 5p:6-27 SRX018970

ucuaCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuucuuugcucauccauaagga

(((((.((((((((((((((((((((((.(.....)))))))))))))))))).))))).

---UACGGAUGAGCAAAGAAAGUGGU----- 2 -2,-1

-----CGGAUGAGCAAAGAAAGUGGUU----- 6 0,0

-----CGGAUGAGCAAAGAAAGUGGUUU----- 4 0,1

>hsa-mir-1256 5p:35-56 SRX018970

agucagccuguugaagcuuugaagcuuugaugccAGGCAUUGACUUCACUAGCUgugaaaguccuagcuaaagagaag
ucaaugcaugacaucuuguuucuuuagaugggcuguuuca


```

-----UCCCUGAGACCCUAACUUa-----
----- 2 0, -4
-----UCCCUGAGACCCUAACUUaa-----
----- 2 0, -4
-----UCCCUGAGACCCUAACUUu-----
----- 4 0, -4
-----UCCCUGAGACCCUAACUUG-----
----- 177 0, -3
-----UCCCUGAGACCCUAACUUGa-----
----- 20 0, -3
-----UCCCUGAGACCCUAACUUGaa-----
----- 2 0, -3
-----UCCCUGAGACCCUAACUUGU-----
----- 630 0, -2
-----UCCCUGAGACCCUAACUUGUa-----
----- 6 0, -2
-----UCCCUGAGACCCUAACUUGUaa-----
----- 14 0, -2
-----UCCCUGAGACCCUAACUUGUu-----
----- 5 0, -2
-----UCCCUGAGACCCUAACUUGUuu-----
----- 3 0, -2
-----UCCCUGAGACCCUAACUUGUG-----
----- 1304 0, -1
-----UCCCUGAGACCCUAACUUGUGu-----
----- 256 0, -1
-----UCCCUGAGACCCUAACUUGUGuu-----
----- 2 0, -1
-----UCCCUGAGACCCUAACUUGUGA-----
----- 4919 0, 0
-----UCCCUGAGACCCUAACUUGUGAa-----
----- 1181 0, 0
-----UCCCUGAGACCCUAACUUGUGAaa-----
----- 156 0, 0
-----UCCCUGAGACCCUAACUUGUGAau-----
----- 18 0, 0
-----UCCCUGAGACCCUAACUUGUGAG-----
----- 14 0, 1

```

```

-----UCCCUGAGACCCUAACUUGUGAGa-----
----- 12 0,1
-----CCUGAGACCCUAACUUGUG-----
----- 8 2,-1
-----CCUGAGACCCUAACUUGUGu-----
----- 2 2,-1
-----CCUGAGACCCUAACUUGUGA-----
----- 28 2,0
-----CCUGAGACCCUAACUUGUGAa-----
----- 11 2,0
-----CCUGAGACCCUAACUUGUGAaa-----
----- 2 2,0
-----AUCACAAGUCAGGCUCUUG-----
----- 4 -1,-4
-----AUCACAAGUCAGGCUCUUGG-----
----- 2 -1,-3
-----UCACAAGUCAGGCUCUUG-----
----- 3 0,-4
-----UCACAAGUCAGGCUCUUGG-----
----- 4 0,-3
-----ACAAGUCAGGCUCUUGGG-----
----- 17 2,-2
-----ACAAGUCAGGCUCUUGGGA-----
----- 14 2,-1
-----ACAAGUCAGGCUCUUGGGAC-----
----- 9 2,0
-----ACAAGUCAGGCUCUUGGGACC-----
----- 2 2,1
-----ACAAGUCAGGCUCUUGGGACC a-----
----- 2 2,1
-----ACAAGUCAGGCUCUUGGGACCU-----
----- 3 2,2
-----ACAAGUCAGGCUCUUGGGACCUu-----
----- 5 2,2
-----ACAAGUCAGGCUCUUGGGACCUuu-----
----- 5 2,2

```

>hsa-mir-126 mi:15-35;MA:52-73 SRX018970

cgcuggcgcacgggaCAUUAUUACUUUUGGUACGCGcugugacacuucaaacUCGUACCGUGAGUAAUAAUGCGccgucca
cggca

.((((...(((((((.(((((((((((.(((((((.(...(((....)))..).)))))).)))))).))))).)))).

-----CAUUAUUACUUUUGGUAC-----

----- 23 0,-3

-----CAUUAUUACUUUUGGUACG-----

----- 22 0,-2

-----CAUUAUUACUUUUGGUACGa-----

----- 2 0,-2

-----CAUUAUUACUUUUGGUACGC-----

----- 28 0,-1

-----CAUUAUUACUUUUGGUACGCG-----

----- 226 0,0

-----CAUUAUUACUUUUGGUACGCGa-----

----- 77 0,0

-----CAUUAUUACUUUUGGUACGCGaa-----

----- 3 0,0

-----CAUUAUUACUUUUGGUACGCGu-----

----- 56 0,0

-----CAUUAUUACUUUUGGUACGCGuu-----

----- 3 0,0

-----CAUUAUUACUUUUGGUACGCGC-----

----- 9 0,1

-----CAUUAUUACUUUUGGUACGCGCU-----

----- 3 0,2

-----AUUAUUACUUUUGGUACG-----

----- 4 1,-2

-----AUUAUUACUUUUGGUACGCG-----

----- 6 1,0

-----AUUAUUACUUUUGGUACGCGa-----

----- 5 1,0

-----AUUAUUACUUUUGGUACGCGu-----

----- 6 1,0

-----AUUAUUACUUUUGGUACGCGC-----

----- 2 1,1

-----AUUAUUACUUUUGGUACGCGCU-----

----- 29 1,2

```

-----AUUAAUACUUUUGGUACGCGCUa-----
----- 6 1,2-----
-----CUCGUACCGUGAGUAAUAAU-----
----- 2 -1,-3-----
-----CUCGUACCGUGAGUAAUAAUG-----
----- 5 -1,-2-----
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 2 -1,-2-----
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 10 -1,-1-----
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 7 -1,0-----
-----UCGUACCGUGAGUAAUAAU-----
----- 10 0,-3-----
-----UCGUACCGUGAGUAAUAAUG-----
----- 8 0,-2-----
-----UCGUACCGUGAGUAAUAAUGa-----
----- 12 0,-2-----
-----UCGUACCGUGAGUAAUAAUGaa-----
----- 2 0,-2-----
-----UCGUACCGUGAGUAAUAAUGC-----
----- 93 0,-1-----
-----UCGUACCGUGAGUAAUAAUGCa-----
----- 5 0,-1-----
-----UCGUACCGUGAGUAAUAAUGCG-----
----- 56 0,0-----
-----UCGUACCGUGAGUAAUAAUGCGa-----
----- 47 0,0-----
-----UCGUACCGUGAGUAAUAAUGCGaa-----
----- 2 0,0-----
-----UCGUACCGUGAGUAAUAAUGCGu-----
----- 8 0,0-----
-----CGUACCGUGAGUAAUAAU-----
----- 8 1,-3-----
-----CGUACCGUGAGUAAUAAUG-----
----- 12 1,-2-----
-----CGUACCGUGAGUAAUAAUGaa-----
----- 2 1,-2-----

```


-----			CGUACCGUGAGUAAUAAUGC-----
-----	36	1, -1	
-----			CGUACCGUGAGUAAUAAUGCa-----
-----	3	1, -1	
-----			CGUACCGUGAGUAAUAAUGCG-----
-----	40	1, 0	
-----			CGUACCGUGAGUAAUAAUGCGa-----
-----	15	1, 0	
-----			CGUACCGUGAGUAAUAAUGCGu-----
-----	7	1, 0	
-----			GUACCGUGAGUAAUAAUGC-----
-----	15	2, -1	
-----			GUACCGUGAGUAAUAAUGCG-----
-----	7	2, 0	
-----			GUACCGUGAGUAAUAAUGCGa-----
-----	2	2, 0	

>hsa-mi r-127 5p:23-44;3p:57-78 SRX018970

ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucaUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucaucauc
((.(((.((...((((((.....(((((((((.((.((((((((.....)).)).)))))).)).)))))))))))))
.)))..)))..))......

-----CUGAAGCUCAGAGGGCUC-----		
-----11 0,-4		
-----CUGAAGCUCAGAGGGCUCU-----		
-----9 0,-3		
-----CUGAAGCUCAGAGGGCUCUGA-----		
-----7 0,-1		
-----UCGGAUCCGUCUGAGCUU-----		
-----2 0,-4		
-----UCGGAUCCGUCUGAGCUUGG-----		
-----4 0,-2		
-----UCGGAUCCGUCUGAGCUUGGaa-----		
-----2 0,-2		
-----UCGGAUCCGUCUGAGCUUGGC-----		
-----21 0,-1		
-----UCGGAUCCGUCUGAGCUUGGCa-----		
-----24 0,-1		

```

-----UCGGAUCCGUCUGAGCUUGGCaa-
----- 20 0,-1
-----UCGGAUCCGUCUGAGCUUGGCau-
----- 98 0,-1
-----UCGGAUCCGUCUGAGCUUGGCU--
----- 192 0,0
-----UCGGAUCCGUCUGAGCUUGGCUa-
----- 9 0,0
-----UCGGAUCCGUCUGAGCUUGGCUaa
----- 18 0,0
-----UCGGAUCCGUCUGAGCUUGGCUau
----- 52 0,0
-----UCGGAUCCGUCUGAGCUUGGCUu-
----- 78 0,0
-----UCGGAUCCGUCUGAGCUUGGCUuu
----- 36 0,0
-----GGAUCCGUCUGAGCUUGGCau-
----- 3 2,-1
-----GGAUCCGUCUGAGCUUGGCU--
----- 6 2,0
-----GGAUCCGUCUGAGCUUGGCUau
----- 2 2,0
-----GGAUCCGUCUGAGCUUGGCUu-
----- 4 2,0
-----GGAUCCGUCUGAGCUUGGCUuu
----- 2 2,0

```

>hsa-mir-1270-1 5p:13-35 SRX018970

```

cacagaguuaaCUGGAGAU AUGGAAGAGCUGUGUuggguuaaaguaacagggcuuuuuuauuuuauugggcucuuu
gca
((.((((((((..((((((.(((((((((.(((((.....))))))))))))))))).)))))))).)))))))).)
)..
-----ACUGGAGAU AUGGAAGAGCUGU-----
--- 2 -1,-2
-----CUGGAGAU AUGGAAGAGCUGUGU-----
--- 2 0,0

```

>hsa-mir-1270-2 5p:13-35 SRX018970

$$((.((((((((((..(((((((.((((((((((.((((((((((.....)))))))))))).)))))))).)))))))).))..$$

--- 2 -1, -2

cacccagaucagugCUUGGACCUAGCAAGCACUCAguaaaauuuuguugagugccugcuaugugccaggcauugugcug
agggcu

.)). . .

ugaggcaggagaaugcuugaacccgggugguggagguugcagugagccaagauugcgccacugcacuccagccuGGGCG
ACAAAGCAAGACUUUUCUgga

...))))).))))))...

----- 2

-----AGGAGAAUUGCUUGAACC-----

----- 7

-----AGGAGAAUUGCUGAACCC

----- 5

-----AGGAGAAUUGCUGAACCCCGG-----
----- 2
-----AGGAGAAUUGCUGAACCCGGG-----
----- 2
-----GGAGAAUUGCUGAACCCGGG-----
----- 4
-----AGAAUUGCUGAACCCGGG-----
----- 6

>hsa-mir-1273c 5p:10-31 SRX018970

```

ugcagccugGGCGACAAAACGAGACCCUGUCuuuuuuuuuuuucugagacagagucucguucuguugcccaagcugga
..((((.((((((((.((((((((.((((((((.....)))))).)))))).)))))).))))).))))).
-----GGCGACAAAACGAGACCC-----
4    0, -4
-----GGCGACAAAACGAGACCCUGU-----
3    0, -1
-----GGCGACAAAACGAGACCCUGUaa-----
3    0, -1
-----GGCGACAAAACGAGACCCUGUCa-----
2    0, 0

```

>hsa-mir-1273e 5p:14-35 SRX018970

ugaggcaggagaaUUGCUUGAACCCAGGAAGUGGAggcugcagugagccgagaucgagccacuguacuccagccugggug
 acacagcgagacuccagucuca
 .((((.((((.(((((((.((((((...(((((.((((((.((((...)).)))))))))))))).)))))).
 .)).))))).))))).))))).
 -----CACUGUACUCCAGCCUGGGUG
 A----- 2

>hsa-mir-1274b 5p:15-31 SRX018970

cuucucacucacgUCCCUGUUCGGGCGCCACuuguggcugucgguucgggacugaaugaagaagga
 (((((((((.(((.((((.(..(((((((...)))))).)).).)))))))))).))))))..
 -----GUCCCUGUUCGGGCGCCA----- 2 -1,0

```
>hsa-mir-1277    3p:47-68    SRX018970
```

```
accucccaauauauauauauauguacguauguguaauuaaauaugaUACGUAGAUUAUAUGUAUUUUuggguggguuu
(((..((((.(((((((((((.((((((((..(.....)..)))))))).)))))))).))))).))))..
-----UACGUAGAUUAUAUAUGUAUU-----
```

```

3    0,-2
-----UACGUAGAUUAUAUGUAUUU-----
14   0,-1
-----UACGUAGAUUAUAUGUAUUUU-----
40   0,0

```

>hsa-mir-1278 3p:50-71 SRX018970

```

auuugcucauagaugauaugcauaguacucccagaacucauuuaguuggUAGUACUGUGCAUAUCAUCUAUgagcgaaua
g

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.

```

```

-----UAGUACUGUGCAUAUCAUC-----
- 2    0,-3
-----UAGUACUGUGCAUAUCAUCU-----
- 13   0,-2
-----UAGUACUGUGCAUAUCAUCUA-----
- 4    0,-1
-----UAGUACUGUGCAUAUCAUCUAU-----
- 67   0,0
-----UAGUACUGUGCAUAUCAUCUAUa-----
- 5    0,0
-----UAGUACUGUGCAUAUCAUCUAUu-----
- 2    0,0

```

>hsa-mir-128-1 3p:50-70 SRX018970

```

ugagcuguuggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUUuucagcugcu
uc

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).

```

```

-----UCACAGUGAACCGGUCUC-----
-- 5    0,-3
-----UCACAGUGAACCGGUCUCU-----
-- 16   0,-2
-----UCACAGUGAACCGGUCUCUU-----
-- 51   0,-1
-----UCACAGUGAACCGGUCUCUUa-----
-- 19   0,-1
-----UCACAGUGAACCGGUCUCUUaa-----

```

```

-- 10 0,-1
-----UCACAGUGAACCGGUCUCUUau-----
-- 2 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
-- 468 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
-- 108 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 39 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 43 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 428 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 24 0,1
-----UCACAGUGAACCGGUCUCUUUUaa-----
-- 3 0,1
-----UCACAGUGAACCGGUCUCUUUUau-----
-- 5 0,1
-----UCACAGUGAACCGGUCUCUUUUU-----
-- 61 0,2
-----UCACAGUGAACCGGUCUCUUUUUu-----
-- 4 0,2
-----UCACAGUGAACCGGUCUCUUUUUuu-----
-- 2 0,2
-----CACAGUGAACCGGUCUCUUUaa-----
-- 2 1,0
-----ACAGUGAACCGGUCUCUU-----
-- 2 2,-1
-----ACAGUGAACCGGUCUCUUUau-----
-- 2 2,0
-----ACAGUGAACCGGUCUCUUUUa-----
-- 2 2,1

```

>hsa-mir-128-2 3p:52-72 SRX018970

```

ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc

```

```

.(..(((((((.((((((((((...((((((..(((.(.....).))))))))))))....)))))))))).))))))

```

..).

```
-----UCACAGUGAACCGGUCUC-----
---- 5 0,-3
-----UCACAGUGAACCGGUCUC-----
---- 16 0,-2
-----UCACAGUGAACCGGUCUCU-----
---- 51 0,-1
-----UCACAGUGAACCGGUCUCUa-----
---- 19 0,-1
-----UCACAGUGAACCGGUCUCUaa-----
---- 10 0,-1
-----UCACAGUGAACCGGUCUCUau-----
---- 2 0,-1
-----UCACAGUGAACCGGUCUCUU-----
---- 468 0,0
-----UCACAGUGAACCGGUCUCUUa-----
---- 108 0,0
-----UCACAGUGAACCGGUCUCUUaa-----
---- 39 0,0
-----UCACAGUGAACCGGUCUCUUau-----
---- 43 0,0
-----UCACAGUGAACCGGUCUCUUUC-----
---- 17 0,1
-----UCACAGUGAACCGGUCUCUUUCa-----
---- 6 0,1
-----UCACAGUGAACCGGUCUCUUUCu-----
---- 17 0,1
-----UCACAGUGAACCGGUCUCUUUCuu-----
---- 2 0,1
-----CACAGUGAACCGGUCUCUUUaa-----
---- 2 1,0
-----ACAGUGAACCGGUCUCUU-----
---- 2 2,-1
-----ACAGUGAACCGGUCUCUUUau-----
---- 2 2,0
```

>hsa-mir-1285-1 3p:51-72 SRX018970

uguagagauaggaucucacuuguugcccaggcuggucucuaaacuccuggUCUGGGCAACAAAGUGAGACCUuauucua

$$(((((((((((((((.(((((((((((((((((((((((((((..(.....)..)))))))))))))))))))))))).))))))))))$$

$$))..$$

```
>hsa-mir-1285-2 3p:52-73      SRX018970
uuuggggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga
(((((((((((.((((.....(((((((.(((((((.....(((.....)).)))))).)))))).)))))).))))))
```


-----			-----UCUGGGCAACAAAGUGAGAC-----
-----	12	0,-2	
-----			-----UCUGGGCAACAAAGUGAGACa-----
-----	2	0,-2	
-----			-----UCUGGGCAACAAAGUGAGACau-----
-----	2	0,-2	
-----			-----UCUGGGCAACAAAGUGAGACu-----
-----	2	0,-2	
-----			-----UCUGGGCAACAAAGUGAGACC-----
-----	5	0,-1	
-----			-----UCUGGGCAACAAAGUGAGACCau-----
-----	7	0,-1	
-----			-----UCUGGGCAACAAAGUGAGACCU-----
-----	19	0,0	
-----			-----UCUGGGCAACAAAGUGAGACCUa-----
-----	22	0,0	
-----			-----UCUGGGCAACAAAGUGAGACCUaa-----
-----	6	0,0	
-----			-----UCUGGGCAACAAAGUGAGACCUau-----
-----	17	0,0	

guugugcuguccaggUGCUGGAUCAGUGGUUCGAGUCugagccuuuaaaagccacucuagccacagaugcagugauugga
gccaugacaa

-----UGCUGGAUCAGUGGUUCGAGUC-----
----- 3 0,0 -----
-----UCUAGCCACAGAUa-----
----- 4 -----

gguagaauuccagUGGCCCUGACUGAAGACCAGCAGUuguacuguggcuguugguuucagcagaggccuaaaggacugu
cuuccug

-----GUGGCCUGACUGAAGACCA-----

```

----- 4   -1,-5
-----GUGGCCCUGACUGAAGACCAG-----
----- 3   -1,-4
-----GUGGCCCUGACUGAAGACCAGC-----
----- 3   -1,-3
-----GUGGCCCUGACUGAAGACCAGCA-----
----- 59  -1,-2
-----GUGGCCCUGACUGAAGACCAGCAGU-----
----- 4   -1,0
-----UGGCCCUGACUGAAGACCAGCA-----
----- 15  0,-2

```

```

>hsa-mir-1294   5p:48-69   SRX018970
caccuaaugugugccaagaucuguucauuuaugaucucaccgaguccUGUGAGGUUGGCAUUGUUGUCUggcauugucug
auauacaacagugccaaccucacaggacucagugaggugaaacugaggauuaggaaggugua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)).))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----UGUGAGGUUGGCAUUGUUGU-----
----- 2   0,-2

```

```

>hsa-mir-1296   5p:16-37   SRX018970
accuaccuaacugggUUAGGGCCCUGGCUCCAUCUCCuuuaggaaaaccuucuguggggaguggggcuucgaccuaacc
caggugggcugu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))....
-----UUAGGGCCCUGGCUCCAUCUCC-----
----- 4   0,0
-----UAGGGCCCUGGCUCCAUCUCCUU-----
----- 2   1,2

```

```

>hsa-mir-1301   3p:48-71   SRX018970
ggauuguggggggucgcucuaggcaccgcagcacugugcugggggaugUUGCAGCUGCCUGGGAGUGACUUCacacaguucc
uc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..
-----UUGCAGCUGCCUGGGAGUGA-----
-- 2   0,-4
-----UUGCAGCUGCCUGGGAGUGACU-----

```

```
-- 3 0,-2
-----UUGCAGCUGCCUGGGAGUGACUU-----
-- 2 0,-1
```

>hsa-mir-1303 3p:52-73 SRX018970

ggcugggcaacauagcgagaccucaacucuaacaauuuuuuuuuuuuuuuuuuuuuUUUAGAGACGGGGUCUUGCUCUguugcca
ggcuuu

(((.(((((((.(((((((((((..((((.(((((.....))))).))))).))))).))))).))))).
)))).

--CUGGGCAACAUAAGCGAGAC-----
----- 3

--CUGGGCAACAUA GCGAGACC-----
----- 2

---UGGGCAACAUAAGCGAGAC-----
----- 2

---UGGGCAACAUA GCGAGACC-----
----- 84

-----GGGCAACAUAGCGAGACC-----
----- 12 -----

-----UUUUAGAGACGGGGUCUUGCU-----

-----UUUAGAGACGGGGUCUUGCU-----

caucaagaccagcugagucacugucacugccuaccaaucuggaccggaccucgaccggcucgucuguguugccaaucGA
CUCGGCGUGGGGUCGGUCGUGguagauaggcggucaugcauacgaauuuucagcucuuguucugggac

[illegible]

-----UCGACCGGACCUUGACCGG-----
-----2-----

-----UCGACCGGACCUUGACCGGC-----
-----2-----

-----UCGACCGGACCUUGACCGGCU-----
-----168

-----UCGACCGGACCUUGACCGGCUaa-----
 3

-----UCGACCGGACCUUGACCGGCUau-----

-----	5		
-----UCGACCGGACCUCGACCGGCUu-----			
-----	10		
-----UCGACCGGACCUCGACCGGCUuu-----			
-----	30		
-----UCGACCGGACCUCGACCGGCUC-----			
-----	36		
-----UCGACCGGACCUCGACCGGCUCa-----			
-----	15		
-----UCGACCGGACCUCGACCGGCUCau-----			
-----	3		
-----UCGACCGGACCUCGACCGGCUCu-----			
-----	4		
-----UCGACCGGACCUCGACCGGCUCuu-----			
-----	2		
-----UCGACCGGACCUCGACCGGCUCG-----			
-----	3		
-----GACCGGACCUCGACCGGCUC-----			
-----	2		
-----A			
CUCGGCGUGGCGUCGGU-----	2	0,-4	
-----A			
CUCGGCGUGGCGUCGGUCG-----	7	0,-2	
-----A			
CUCGGCGUGGCGUCGGUCGU-----	9	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUu-----	8	0,-1	
-----A			
CUCGGCGUGGCGUCGGUCGUG-----	40	0,0	

CUCGGCGUGGCGUCGGUCG-----	2	1,-2	

CUCGGCGUGGCGUCGGUCGUG-----	43	1,0	

CUCGGCGUGGCGUCGGUCGUGu-----	4	1,0	

>hsa-mir-130a mi:21-42;MA:55-76 SRX018970

ugcugcuggccagagcucuuUUCACAUUGUGCUACUGUCUGCaccugucacuagCAGUGCAAUGUUAAAAGGGCAUuggc

$$.(((((((((((((((.(((((((((.(((((((..(((..(((...((....))...)))..))..)))))).)))))))).)))))))).)))))).$$

		-CAGUGCAAUGUUAAAAGG-
990	0,-4	
		-CAGUGCAAUGUUAAAAGGG-
259	0,-3	
		-CAGUGCAAUGUUAAAAGGGu-
2	0,-3	
		-CAGUGCAAUGUUAAAAGGGC-
474	0,-2	
		-CAGUGCAAUGUUAAAAGGGCA-
168	0,-1	
		-CAGUGCAAUGUUAAAAGGGCAa-
25	0,-1	
		-CAGUGCAAUGUUAAAAGGGCAaa-
7	0,-1	
		-CAGUGCAAUGUUAAAAGGGCAU-
993	0,0	
		-CAGUGCAAUGUUAAAAGGGCAUa-
206	0,0	
		-CAGUGCAAUGUUAAAAGGGCAUaa-
7	0,0	
		-CAGUGCAAUGUUAAAAGGGCAUU-
321	0,1	
		-CAGUGCAAUGUUAAAAGGGCAUUa-
10	0,1	
		-CAGUGCAAUGUUAAAAGGGCAUUaa-
2	0,1	
		-CAGUGCAAUGUUAAAAGGGCAUUu-
22	0,1	
		-CAGUGCAAUGUUAAAAGGGCAUUuu-
3	0,1	
		-AGUGCAAUGUUAAAAGGG-
9	1,-3	
		-AGUGCAAUGUUAAAAGGGC-
8	1,-2	
		-AGUGCAAUGUUAAAAGGGCAU-

```

----- 10 1,0
-----AGUGCAAUGUUAAGGGCAUa---
----- 5 1,0
-----AGUGCAAUGUUAAGGGCAUU---
----- 2 1,1

```

>hsa-mir-130b mi:13-33;MA:51-72 SRX018970

```

ggccugcccgacACUCUUUCCCUGUUGCACUACuauaggccgcugggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc

```

```

(((((((.....)))))).....))
))

```

```

-----ACUCUUUCCCUGUUGCACUA-----
-- 2 0,-1
-----ACUCUUUCCCUGUUGCACUACU-----
-- 7 0,1
-----CAGUGCAAUGAUGAAAGG-----
-- 16 0,-4
-----CAGUGCAAUGAUGAAAGGG-----
-- 9 0,-3
-----CAGUGCAAUGAUGAAAGGGC-----
-- 2 0,-2
-----CAGUGCAAUGAUGAAAGGGCA-----
-- 14 0,-1
-----CAGUGCAAUGAUGAAAGGGCAa-----
-- 3 0,-1
-----CAGUGCAAUGAUGAAAGGGCAaa-----
-- 4 0,-1
-----CAGUGCAAUGAUGAAAGGGCAau-----
-- 2 0,-1
-----CAGUGCAAUGAUGAAAGGGCAU-----
-- 214 0,0
-----CAGUGCAAUGAUGAAAGGGCAUa-----
-- 20 0,0
-----CAGUGCAAUGAUGAAAGGGCAUu-----
-- 65 0,0
-----CAGUGCAAUGAUGAAAGGGCAUuu-----
-- 15 0,0
-----CAGUGCAAUGAUGAAAGGGCAUC-----

```



```

(((((((.....)))))).))))).
-----UGUGACUGGUUGACCAGAGGG----- 23
0,-1
-----UGUGACUGGUUGACCAGAGGGa----- 8
0,-1
-----UGUGACUGGUUGACCAGAGGGaa----- 6
0,-1
-----UGUGACUGGUUGACCAGAGGGau----- 2
0,-1
-----UGUGACUGGUUGACCAGAGGGG----- 86
0,0
-----UGUGACUGGUUGACCAGAGGGGa----- 15
0,0
-----UGUGACUGGUUGACCAGAGGGGaa----- 6
0,0
-----UGUGACUGGUUGACCAGAGGGGau----- 18
0,0
-----UGUGACUGGUUGACCAGAGGGGu----- 7
0,0

```

>hsa-mir-135a-2 5p:23-45 SRX018970

```

agauaaaauccacucuaugugcuuUAUGGCUUUUUAUCCUAUGUGAuaguaauaaagucucauguagggauggaagccaug
aaauacauugugaaaaauca

```

```

(((((((.....)))))).))))).
)))).))))).

```

```

-----UGUAGGGAUGGAAGCCAUG
AAA----- 2

```

>hsa-mir-135b MA:16-38;mi:55-76 SRX018970

```

cacucugcuguggccUAUGGCUUUUCAUCCUAUGUGAuugcugucccaaacucAUGUAGGGCUAAAAGCCAUGGGcuac
agugaggggcgagcucc

```

```

..(((((((.....)))))).))))).
)))).))))).

```

```

-----UAUGGCUUUUCAUCCUAU-----
----- 4 0,-4
-----UAUGGCUUUUCAUCCUAUGUG-----
----- 3 0,-1
-----UAUGGCUUUUCAUCCUAUGUGA-----

```



```

>hsa-mir-136      MA:15-37;mi:49-70      SRX018970
ugagcccucggaggACUCCAUUUGUUUUGAUGAUGGAuucuuaugcucCAUCAUCGUCUCAAUGAGUCUucagagggguu
cu
.(((((((.(((((((.(((((...((((((((((.....))))))))))....))))))))).))))))
).
-----ACUCCAUUUGUUUUGAUGA-----
--  12  0,-4
-----ACUCCAUUUGUUUUGAUGAU-----
--  11  0,-3
-----ACUCCAUUUGUUUUGAUGAUGGA-----
--   5   0,0
-----ACUCCAUUUGUUUUGAUGAUGGAa-----
--   2   0,0
-----CUCCAUUUGUUUUGAUGA-----
--   4   1,-4
-----CAUCAUCGUCUCAAUGA-----
--   6   0,-4
-----CAUCAUCGUCUCAAUGAG-----
--   6   0,-3
-----CAUCAUCGUCUCAAUGAGUC-----
--   4   0,-1
-----AUCAUCGUCUCAAUGAG-----
--   2   1,-3

```

```

>hsa-mir-138-1  MA:23-45;mi:63-84  SRX018970
ccucggcaugguguggugggggcAGCUGGUGUUGUGAAUCAGGCCGuugccaaucaagagaacgGCUACUUCACAACACCAG
GGCCacaccacacuacagg
.((((...(((((((((.((..((((((((((((((...(((((((((..(.....).)))))))).)))))))))
.)).)))))))))
-----AGCUGGUGUUGUGAAUCAG-----
----- 5    0,-4
-----AGCUGGUGUUGUGAAUCAGGCC-----
----- 3    0,-1
-----AGCUGGUGUUGUGAAUCAGGCCG-----
----- 2    0,0

```


-1,-3	UGGAGACGCGGCCCUGUUGGA	13	
-1,-2	UGGAGACGCGGCCCUGUUGGAa	4	
-1,-2	UGGAGACGCGGCCCUGUUGGAaa	12	
-1,-2	UGGAGACGCGGCCCUGUUGGAG	51	
-1,-1	UGGAGACGCGGCCCUGUUGGAGa	14	
-1,-1	UGGAGACGCGGCCCUGUUGGAGau	3	
-1,-1	UGGAGACGCGGCCCUGUUGGAGU	94	-1,0
	UGGAGACGCGGCCCUGUUGGAGUu	8	-1,0
	GGAGACGCGGCCCUGUUG	3	0,-4
	GGAGACGCGGCCCUGUUGGA	2	0,-2
	GGAGACGCGGCCCUGUUGGAG	2	0,-1
	GGAGACGCGGCCCUGUUGGAGU	10	0,0
	AGACGCGGCCCUGUUGGAGUu	2	2,0
	AGACGCGGCCCUGUUGGAGUuu	3	2,0

-----	50	0,-3	-----UACCACAGGGUAGAACCAC
-----	75	0,-2	-----UACCACAGGGUAGAACCAC
G-----	805	0,-1	-----UACCACAGGGUAGAACCAC
Ga-----	5	0,-1	-----UACCACAGGGUAGAACCAC
Gaa-----	4	0,-1	-----UACCACAGGGUAGAACCAC
GG-----	1804	0,0	-----UACCACAGGGUAGAACCAC
GGu-----	48	0,0	-----UACCACAGGGUAGAACCAC
GGuu-----	18	0,0	-----UACCACAGGGUAGAACCAC
GGA-----	2025	0,1	-----UACCACAGGGUAGAACCAC
GGAa-----	845	0,1	-----UACCACAGGGUAGAACCAC
GGAaa-----	468	0,1	-----UACCACAGGGUAGAACCAC
GGAau-----	298	0,1	-----UACCACAGGGUAGAACCAC
GGAu-----	253	0,1	-----UACCACAGGGUAGAACCAC
GGAuu-----	30	0,1	-----UACCACAGGGUAGAACCAC
GGAC-----	837	0,2	-----UACCACAGGGUAGAACCAC
GGACu-----	32	0,2	-----UACCACAGGGUAGAACCAC
GGACuu-----	2	0,2	-----UACCACAGGGUAGAACCAC
GGACA-----	92	0,3	-----UACCACAGGGUAGAACCAC
GGACAa-----	7	0,3	-----UACCACAGGGUAGAACCAC

GGAC <u>Au</u> -----	12	0,3	
-----			-ACCACAGGGUAGAACCAC
-----	23	1,-2	
-----			-ACCACAGGGUAGAACCAC
G-----	57	1,-1	
-----			-ACCACAGGGUAGAACCAC
Gaa-----	3	1,-1	
-----			-ACCACAGGGUAGAACCAC
GG-----	1167	1,0	
-----			-ACCACAGGGUAGAACCAC
GGu-----	67	1,0	
-----			-ACCACAGGGUAGAACCAC
GGuu-----	58	1,0	
-----			-ACCACAGGGUAGAACCAC
GGA-----	9072	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAa-----	3081	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAaa-----	1051	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAau-----	363	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAu-----	2093	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAuu-----	174	1,1	
-----			-ACCACAGGGUAGAACCAC
GGAC-----	2422	1,2	
-----			-ACCACAGGGUAGAACCAC
GGACu-----	82	1,2	
-----			-ACCACAGGGUAGAACCAC
GGACuu-----	14	1,2	
-----			-ACCACAGGGUAGAACCAC
GGACA-----	147	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAa-----	122	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAaa-----	11	1,3	
-----			-ACCACAGGGUAGAACCAC

GGACAau-----	3	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAu-----	31	1,3	
-----			-ACCACAGGGUAGAACCAC
GGACAG-----	3	1,4	
-----			-ACCACAGGGUAGAACCAC
GGACAGu-----	4	1,4	
-----			-CCACAGGGUAGAACCAC
GG-----	20	2,0	
-----			-CCACAGGGUAGAACCAC
GGuu-----	2	2,0	
-----			-CCACAGGGUAGAACCAC
GGA-----	130	2,1	
-----			-CCACAGGGUAGAACCAC
GGAa-----	54	2,1	
-----			-CCACAGGGUAGAACCAC
GGAaa-----	36	2,1	
-----			-CCACAGGGUAGAACCAC
GGAau-----	5	2,1	
-----			-CCACAGGGUAGAACCAC
GGAu-----	41	2,1	
-----			-CCACAGGGUAGAACCAC
GGAuu-----	8	2,1	
-----			-CCACAGGGUAGAACCAC
GGAC-----	58	2,2	
-----			-CCACAGGGUAGAACCAC
GGACu-----	2	2,2	
-----			-CCACAGGGUAGAACCAC
GGACA-----	12	2,3	
-----			-CCACAGGGUAGAACCAC
GGACAa-----	7	2,3	
-----			-CCACAGGGUAGAACCAC
GGACAaa-----	2	2,3	
-----			-CCACAGGGUAGAACCAC
GGACAu-----	2	2,3	
-----			-CCACAGGGUAGAACCAC
GGACAu-----	5	2,3	

```
>hsa-mir-141    mi:17-38;MA:59-80    SRX018970
cggccggcccugggucCAUCUCCAGUACAGUGUUGGAuggucuaauugugaagcuccUAACACUGUCUGGUAAGAUGG
cucccggguggguuc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAACACUGUCUGGUAAGAUG-
----- 2    0,-1
```

```
>hsa-mir-142    5p:16-36;3p:52-74    SRX018970
gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggaggguGUAGUGUUCCUACUUUAUGGAugagug
uacugug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CCCAUAAAGUAGAAAGCA-----
----- 60    -2,-5
-----CCCAUAAAGUAGAAAGCAa-----
----- 27    -2,-5
-----CCCAUAAAGUAGAAAGCAaa-----
----- 6    -2,-5
-----CCCAUAAAGUAGAAAGCAuu-----
----- 2    -2,-5
-----CCCAUAAAGUAGAAAGCAC-----
----- 74    -2,-4
-----CCCAUAAAGUAGAAAGCACU-----
----- 496    -2,-3
-----CCCAUAAAGUAGAAAGCACUA-----
----- 246    -2,-2
-----CCCAUAAAGUAGAAAGCACUAa-----
----- 62    -2,-2
-----CCCAUAAAGUAGAAAGCACUAaa-----
----- 4    -2,-2
-----CCCAUAAAGUAGAAAGCACUAu-----
----- 50    -2,-2
-----CCCAUAAAGUAGAAAGCACUAC-----
----- 51    -2,-1
-----CCCAUAAAGUAGAAAGCACUACa-----
----- 5    -2,-1
-----CCCAUAAAGUAGAAAGCACUACU-----
```

----- 2 -2,0
-----CCAUAAAGUAGAAAGCACU-----
----- 9 -1,-3
-----CCAUAAAGUAGAAAGCACUA-----
----- 3 -1,-2
-----CCAUAAAGUAGAAAGCACUAa-----
----- 2 -1,-2
-----CAUAAAGUAGAAAGCACU-----
----- 6 0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 145 0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 47 0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 41 0,-2
-----CAUAAAGUAGAAAGCACUAau-----
----- 2 0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 4 0,-2
-----CAUAAAGUAGAAAGCACUAuu-----
----- 3 0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 94 0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 5 0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 161 0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 47 0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 14 0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 7 0,2
-----AUAAAGUAGAAAGCACUA-----
----- 2 1,-2
-----AUAAAGUAGAAAGCACUAa-----
----- 3 1,-2
-----AUAAAGUAGAAAGCACUAC-----


```

----- 214 0,-3
-----GGUGCAGUGCUGCAUCUCUG-----
----- 9 0,-2
-----GGUGCAGUGCUGCAUCUCUGG-----
----- 8 0,-1
-----GGUGCAGUGCUGCAUCUCUGGa-----
----- 14 0,-1
-----GGUGCAGUGCUGCAUCUCUGGaa-----
----- 3 0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 2 0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 2 0,0
-----GGUGCAGUGCUGCAUCUCUGGUC-----
----- 2 0,1
-----UCUGAGAUGAAGCACUGUAGCU
----- 3 -2,-1
-----CUGAGAUGAAGCACUGUA---
----- 2 -1,-4
-----CUGAGAUGAAGCACUGUAaa-
----- 2 -1,-4
-----CUGAGAUGAAGCACUGUAGCa
----- 2 -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 32 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
a----- 2 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 26 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 6 -1,0
-----UGAGAUGAAGCACUGUAG--
----- 220 0,-3
-----UGAGAUGAAGCACUGUAGa-
----- 4 0,-3
-----UGAGAUGAAGCACUGUAGaa
----- 2 0,-3
-----UGAGAUGAAGCACUGUAGuu

```

-----	3	0,-3	-----UGAGAUGAAGCACUGUAGC-
-----	111	0,-2	-----UGAGAUGAAGCACUGUAGCa
-----	28	0,-2	-----UGAGAUGAAGCACUGUAGCa
a-----	35	0,-2	-----UGAGAUGAAGCACUGUAGCa
u-----	2	0,-2	-----UGAGAUGAAGCACUGUAGCU
-----	2249	0,-1	-----UGAGAUGAAGCACUGUAGCU
a-----	147	0,-1	-----UGAGAUGAAGCACUGUAGCU
aa-----	40	0,-1	-----UGAGAUGAAGCACUGUAGCU
au-----	22	0,-1	-----UGAGAUGAAGCACUGUAGCU
u-----	63	0,-1	-----UGAGAUGAAGCACUGUAGCU
uu-----	12	0,-1	-----UGAGAUGAAGCACUGUAGCU
C-----	3983	0,0	-----UGAGAUGAAGCACUGUAGCU
Cu-----	1125	0,0	-----UGAGAUGAAGCACUGUAGCU
Cuu-----	123	0,0	-----UGAGAUGAAGCACUGUAGCU
CA-----	258	0,1	-----UGAGAUGAAGCACUGUAGCU
CAa-----	20	0,1	-----UGAGAUGAAGCACUGUAGCU
CAaa-----	5	0,1	-----UGAGAUGAAGCACUGUAGCU
CAau-----	3	0,1	-----UGAGAUGAAGCACUGUAGCU
CAu-----	12	0,1	-----UGAGAUGAAGCACUGUAGCU


```

----- 3 0,-4
-----GUCCAGUUUUCCCAGGAAUC-----
----- 47 0,-3
-----GUCCAGUUUUCCCAGGAAUCa-----
----- 47 0,-3
-----GUCCAGUUUUCCCAGGAAUCC-----
----- 184 0,-2
-----GUCCAGUUUUCCCAGGAAUCCa-----
----- 23 0,-2
-----GUCCAGUUUUCCCAGGAAUCCau-----
----- 3 0,-2
-----GUCCAGUUUUCCCAGGAAUCCC-----
----- 453 0,-1
-----GUCCAGUUUUCCCAGGAAUCCCa-----
----- 38 0,-1
-----GUCCAGUUUUCCCAGGAAUCCCau-----
----- 3 0,-1
-----GUCCAGUUUUCCCAGGAAUCCCU-----
----- 872 0,0
-----GUCCAGUUUUCCCAGGAAUCCCUa-----
----- 9 0,0
-----GUCCAGUUUUCCCAGGAAUCCCUau-----
----- 2 0,0
-----GUCCAGUUUUCCCAGGAAUCCCUU-----
----- 95 0,1
-----GUCCAGUUUUCCCAGGAAUCCCUUu-----
----- 9 0,1
-----GUCCAGUUUUCCCAGGAAUCCCUUA-----
----- 2 0,2
-----UCCAGUUUUCCCAGGAUA-----
----- 2 1,-4
-----UCCAGUUUUCCCAGGAAUCCC-----
----- 2 1,-1
-----GGAUUCCUGGAAAUACUGUUaa-----
----- 2 0,-2
-----GGAUUCCUGGAAAUACUGUUC-----
----- 6 0,-1
-----GGAUUCCUGGAAAUACUGUUCU-----

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)))))).....))))).

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-----UUGAGAACUGAAUCCAUGGGUU-----
----- 3   -1,0
-----UGAGAACUGAAUCCAUG-----
----- 4   0,-4
-----UGAGAACUGAAUCCAUGG-----
----- 21  0,-3
-----UGAGAACUGAAUCCAUGGG-----
----- 45  0,-2
-----UGAGAACUGAAUCCAUGGGa-----
----- 2   0,-2
-----UGAGAACUGAAUCCAUGGGaa-----
----- 4   0,-2
-----UGAGAACUGAAUCCAUGGGU-----
----- 62  0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 14  0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 27  0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 86  0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 455 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 250 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 94  0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 140 0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 220 0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 43  0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 82  0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 36  0,1
-----UGAGAACUGAAUCCAUGGGUUGaa-----
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2	0,1	UGAGAACUGAAUCCAUGGGUUGU
48	0,2	UGAGAACUGAAUCCAUGGGUUGUa
2	0,2	UGAGAACUGAAUCCAUGGGUUGUu
2	0,2	GAGAACUGAAUCCAUGGGUU
6	1,0	GAGAACUGAAUCCAUGGGUUa
6	1,0	GAGAACUGAAUCCAUGGGUUau
4	1,0	GAGAACUGAAUCCAUGGGUUu
4	1,0	GAGAACUGAAUCCAUGGGUUuu
2	1,0	GAGAACUGAAUCCAUGGGUUGU
2	1,2	AGAACUGAAUCCAUGGGUU
2	2,0	AGAACUGAAUCCAUGGGUUG
5	2,1	GACCUCUGAAAUUCAGUUCUUC
4	-2,-2	ACCUCUGAAAUUCAGUUCUU
4	-1,-3	

-1, -1	
-----CUGAGAACUGAAUCCAUAGGCau-----	2
-1, -1	
-----CUGAGAACUGAAUCCAUAGGCU-----	90
-1, 0	
-----UGAGAACUGAAUCCAU-----	18
0, -4	
-----UGAGAACUGAAUCCAUAG-----	40
0, -3	
-----UGAGAACUGAAUCCAUAGG-----	288
0, -2	
-----UGAGAACUGAAUCCAUAGGa-----	5
0, -2	
-----UGAGAACUGAAUCCAUAGGaa-----	4
0, -2	
-----UGAGAACUGAAUCCAUAGGuu-----	3
0, -2	
-----UGAGAACUGAAUCCAUAGGC-----	100
0, -1	
-----UGAGAACUGAAUCCAUAGGCa-----	144
0, -1	
-----UGAGAACUGAAUCCAUAGGCaa-----	84
0, -1	
-----UGAGAACUGAAUCCAUAGGCau-----	108
0, -1	
-----UGAGAACUGAAUCCAUAGGCU-----	2549
0, 0	
-----UGAGAACUGAAUCCAUAGGCUa-----	11
0, 0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	58
0, 0	
-----UGAGAACUGAAUCCAUAGGCUau-----	143
0, 0	
-----UGAGAACUGAAUCCAUAGGCUu-----	457
0, 0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	352
0, 0	
-----UGAGAACUGAAUCCAUAGGCUG-----	55

0,1	-----UGAGAACUGAAUCCAUAGGCUGa-----	522
0,1	-----UGAGAACUGAAUCCAUAGGCUGaa-----	21
0,1	-----UGAGAACUGAAUCCAUAGGCUGau-----	38
0,1	-----UGAGAACUGAAUCCAUAGGCUGU-----	17
0,2	-----UGAGAACUGAAUCCAUAGGCUGUa-----	5
0,2	-----GAGAACUGAAUCCAUAGGCa-----	3
1,-1	-----GAGAACUGAAUCCAUAGGCaa-----	2
1,-1	-----GAGAACUGAAUCCAUAGGCau-----	3
1,-1	-----GAGAACUGAAUCCAUAGGCU-----	32
1,0	-----GAGAACUGAAUCCAUAGGCUu-----	9
1,0	-----GAGAACUGAAUCCAUAGGCUuu-----	3
1,0	-----GAGAACUGAAUCCAUAGGCUG-----	4
1,1	-----AGAACUGAAUCCAUAGGCU-----	6
2,0	-----AGAACUGAAUCCAUAGGCUu-----	2
2,0	-----UGCCCUGUGGACUCAGUUCUGG-----	2
0,0	-----UGCCCUGUGGACUCAGUUCUGGUa-----	3
0,1	-----UGCCCUGUGGACUCAGUUCUGGUau-----	8
0,1	-----GCCCUGUGGACUCAGUUCUGG-----	16
1,0	-----GCCCUGUGGACUCAGUUCUGGa-----	2

1,0			
-----GCCCUGUGGACUCAGUUCUGGU-----			
1,1			36
-----GCCCUGUGGACUCAGUUCUGGUa-----			
1,1			12
-----GCCCUGUGGACUCAGUUCUGGUaa-----			
1,1			11
-----GCCCUGUGGACUCAGUUCUGGUau-----			
1,1			167
-----GCCCUGUGGACUCAGUUCUGGUu-----			
1,1			19
-----GCCCUGUGGACUCAGUUCUGGUuu-----			
1,1			5
-----CCCUGUGGACUCAGUUCUGGUau-----			
2,1			11
>hsa-mir-148a mi:6-27;MA:44-65 SRX018970			
gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc			
(((((((((((((((((((.(((((.(((((((.....))))).))))))))).))))))))))))))))))			
----	CAAAGUUCUGAGACACUCCGA-		2
-1,-2			
----	AAAGUUCUGAGACACUCCGA-	58	0,-2
----	AAAGUUCUGAGACACUCCGAC-	4	0,-1
----	AAAGUUCUGAGACACUCCGACa-	3	0,-1
----	AAAGUUCUGAGACACUCCGACU-	16	0,0
----	AAAGUUCUGAGACACUCCGACUau-	2	0,0
-----GUCAGUGCACUACAGAACUUUGU----			
-----UCAGUGCACUACAGAACU-----			
		5141	
0,-4			
-----UCAGUGCACUACAGAACUa-----			
-----UCAGUGCACUACAGAACUaa-----			
-----UCAGUGCACUACAGAACUau-----			
-----UCAGUGCACUACAGAACUU-----			
-----UCAGUGCACUACAGAACUa-----			
-----UCAGUGCACUACAGAACUaa-----			
-----UCAGUGCACUACAGAACUau-----			
-----UCAGUGCACUACAGAACUU-----			
		1619	
0,-2			

-----UCAGUGCACUACAGAACUUUa----	46	0,-2
-----UCAGUGCACUACAGAACUUUaa----	9	0,-2
-----UCAGUGCACUACAGAACUUUau----	7	0,-2
-----UCAGUGCACUACAGAACUUUu----	62	0,-2
-----UCAGUGCACUACAGAACUUUuu----	10	0,-2
-----UCAGUGCACUACAGAACUUUG----	2428	
0,-1		
-----UCAGUGCACUACAGAACUUUGa----	3067	
0,-1		
-----UCAGUGCACUACAGAACUUUGaa--	278	0,-1
-----UCAGUGCACUACAGAACUUUGau--	4	0,-1
-----UCAGUGCACUACAGAACUUUGU----	19428	
0,0		
-----UCAGUGCACUACAGAACUUUGUa--	170	0,0
-----UCAGUGCACUACAGAACUUUGUaa--	37	0,0
-----UCAGUGCACUACAGAACUUUGUau--	18	0,0
-----UCAGUGCACUACAGAACUUUGUu--	265	0,0
-----UCAGUGCACUACAGAACUUUGUuu--	26	0,0
-----UCAGUGCACUACAGAACUUUGUC--	275	0,1
-----UCAGUGCACUACAGAACUUUGUCa--	32	0,1
-----UCAGUGCACUACAGAACUUUGUCU--	119	0,2
-----UCAGUGCACUACAGAACUUUGUCUa	3	0,2
-----UCAGUGCACUACAGAACUUUGUCUu	2	0,2
-----CAGUGCACUACAGAACUUUGaa--	2	1,-1
-----CAGUGCACUACAGAACUUUGU----	10	1,0
-----AGUGCACUACAGAACUUU-----	64	2,-2
-----AGUGCACUACAGAACUUUa----	2	2,-2
-----AGUGCACUACAGAACUUUu----	3	2,-2
-----AGUGCACUACAGAACUUUG----	33	2,-1
-----AGUGCACUACAGAACUUUGa----	35	2,-1
-----AGUGCACUACAGAACUUUGaa--	7	2,-1
-----AGUGCACUACAGAACUUUGU----	320	2,0
-----AGUGCACUACAGAACUUUGUaa--	2	2,0
-----AGUGCACUACAGAACUUUGUu--	12	2,0
-----AGUGCACUACAGAACUUUGUuu--	2	2,0
-----AGUGCACUACAGAACUUUGUC--	3	2,1
-----AGUGCACUACAGAACUUUGUCU--	2	2,2


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UUGUa----- 13 0,0
-----UCAGUGCAUCACAGAACU
UUGUaa----- 4 0,0
-----UCAGUGCAUCACAGAACU
UUGUau----- 7 0,0
-----UCAGUGCAUCACAGAACU
UUGUu----- 204 0,0
-----UCAGUGCAUCACAGAACU
UUGUuu----- 29 0,0
-----AGUGCAUCACAGAACU
UU----- 2 2,-2
-----AGUGCAUCACAGAACU
UUG----- 2 2,-1
-----AGUGCAUCACAGAACU
UUGU----- 3 2,0
-----AGUGCAUCACAGAACU
UUGUa----- 3 2,0

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>hsa-mir-150    MA:16-37;mi:51-72    SRX018970
cuccccauggcccugUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac
.(((((((.((((((((((((((((((..(((.(((((((.((((((....)))..))))))))))))..))))))))))))..))))
))).
-----UGUCUCCCAACCCUUGUACCAGU-----
---- 2 -2,-1
-----UCUCCCAACCCUUGUACC-----
---- 20 0,-4
-----UCUCCCAACCCUUGUACCA-----
---- 66 0,-3
-----UCUCCCAACCCUUGUACCAG-----
---- 77 0,-2
-----UCUCCCAACCCUUGUACCAGU-----
---- 215 0,-1
-----UCUCCCAACCCUUGUACCAGUa-----
---- 16 0,-1
-----UCUCCCAACCCUUGUACCAGUaa-----
---- 12 0,-1
-----UCUCCCAACCCUUGUACCAGUG-----

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----- 3 0,1	
-----UCCGAGGAGCUCACAGUCUAGUAU-----	
----- 40 0,2	
-----UCCGAGGAGCUCACAGUCUAGUAUa-----	
----- 3 0,2	
-----GAGGAGCUCACAGUCUAGU-----	
----- 12 2,0	
-----GAGGAGCUCACAGUCUAGUAaa-----	
----- 2 2,1	
-----UACUAGACUGAAGCUCCUUGA-----	
----- 33 -2,-2	
-----UACUAGACUGAAGCUCCUUGAa-----	
----- 7 -2,-2	
-----UACUAGACUGAAGCUCCUUGAG-----	
----- 49 -2,-1	
-----UACUAGACUGAAGCUCCUUGAGa-----	
----- 20 -2,-1	
-----UACUAGACUGAAGCUCCUUGAGu-----	
----- 15 -2,-1	
-----UACUAGACUGAAGCUCCUUGAGG-----	
----- 28 -2,0	
-----UACUAGACUGAAGCUCCUUGAGGu-----	
----- 10 -2,0	
-----UACUAGACUGAAGCUCCUUGAGGA-----	
----- 18 -2,1	
-----ACUAGACUGAAGCUCCUUGA-----	
----- 2 -1,-2	
-----ACUAGACUGAAGCUCCUUGAG-----	
----- 4 -1,-1	
-----ACUAGACUGAAGCUCCUUGAGa-----	
----- 2 -1,-1	
-----ACUAGACUGAAGCUCCUUGAGG-----	
----- 15 -1,0	
-----ACUAGACUGAAGCUCCUUGAGGu-----	
----- 3 -1,0	
-----ACUAGACUGAAGCUCCUUGAGGA-----	
----- 12 -1,1	
-----ACUAGACUGAAGCUCCUUGAGGAa-----	

-----	4	-1,1	-----CUAGACUGAAGCUCCUUG-----
-----	3	0,-3	-----CUAGACUGAAGCUCCUUGA-----
-----	31	0,-2	-----CUAGACUGAAGCUCCUUGAa-----
-----	8	0,-2	-----CUAGACUGAAGCUCCUUGAaa-----
-----	2	0,-2	-----CUAGACUGAAGCUCCUUGAG-----
-----	181	0,-1	-----CUAGACUGAAGCUCCUUGAGa-----
-----	43	0,-1	-----CUAGACUGAAGCUCCUUGAGaa-----
-----	14	0,-1	-----CUAGACUGAAGCUCCUUGAGu-----
-----	9	0,-1	-----CUAGACUGAAGCUCCUUGAGG-----
-----	525	0,0	-----CUAGACUGAAGCUCCUUGAGGu-----
-----	24	0,0	-----CUAGACUGAAGCUCCUUGAGGuu-----
-----	4	0,0	-----CUAGACUGAAGCUCCUUGAGGA-----
-----	872	0,1	-----CUAGACUGAAGCUCCUUGAGGAa-----
-----	1006	0,1	-----CUAGACUGAAGCUCCUUGAGGAaa-----
-----	666	0,1	-----CUAGACUGAAGCUCCUUGAGGAau-----
-----	194	0,1	-----CUAGACUGAAGCUCCUUGAGGAu-----
-----	143	0,1	-----CUAGACUGAAGCUCCUUGAGGAuu-----
-----	32	0,1	-----CUAGACUGAAGCUCCUUGAGGAC-----
-----	14	0,2	-----CUAGACUGAAGCUCCUUGAGGACu-----

----- 2 0,-2	-----UCAGUGCAUGACAGAACUUG-----
----- 129 0,-1	-----UCAGUGCAUGACAGAACUUGu-----
----- 9 0,-1	-----UCAGUGCAUGACAGAACUUGuu-----
----- 2 0,-1	-----UCAGUGCAUGACAGAACUUGG-----
----- 644 0,0	-----UCAGUGCAUGACAGAACUUGGa-----
----- 91 0,0	-----UCAGUGCAUGACAGAACUUGGaa-----
----- 39 0,0	-----UCAGUGCAUGACAGAACUUGGau-----
----- 9 0,0	-----UCAGUGCAUGACAGAACUUGGu-----
----- 543 0,0	-----UCAGUGCAUGACAGAACUUGGuu-----
----- 91 0,0	-----UCAGUGCAUGACAGAACUUGGG-----
----- 358 0,1	-----UCAGUGCAUGACAGAACUUGGGa-----
----- 116 0,1	-----UCAGUGCAUGACAGAACUUGGGaa-----
----- 36 0,1	-----UCAGUGCAUGACAGAACUUGGGau-----
----- 3 0,1	-----UCAGUGCAUGACAGAACUUGGGu-----
----- 265 0,1	-----UCAGUGCAUGACAGAACUUGGGuu-----
----- 21 0,1	-----CAGUGCAUGACAGAACUUGGuu-----
----- 2 1,0	-----AGUGCAUGACAGAACUUG-----
----- 4 2,-1	-----AGUGCAUGACAGAACUUGG-----
----- 5 2,0	-----AGUGCAUGACAGAACUUGGu-----


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-----UAGCAGCACAUCAUGGUUU-----
----- 375 0,-3
-----UAGCAGCACAUCAUGGUUUu-----
----- 26 0,-3
-----UAGCAGCACAUCAUGGUUUuu-----
----- 3 0,-3
-----UAGCAGCACAUCAUGGUUUA-----
----- 890 0,-2
-----UAGCAGCACAUCAUGGUUUAa-----
----- 57 0,-2
-----UAGCAGCACAUCAUGGUUUAaa-----
----- 9 0,-2
-----UAGCAGCACAUCAUGGUUUu-----
----- 39 0,-2
-----UAGCAGCACAUCAUGGUUUAC-----
----- 425 0,-1
-----UAGCAGCACAUCAUGGUUUACu-----
----- 7 0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 1135 0,0
-----UAGCAGCACAUCAUGGUUUACAa-----
----- 27 0,0
-----UAGCAGCACAUCAUGGUUUACAU-----
----- 12 0,1
-----AGCAGCACAUCAUGGUUU-----
----- 3 1,-3
-----AGCAGCACAUCAUGGUUUu-----
----- 2 1,-3
-----AGCAGCACAUCAUGGUUUA-----
----- 4 1,-2
-----AGCAGCACAUCAUGGUUUACA-----
----- 15 1,0
-----GCAGCACAUCAUGGUUUA-----
----- 2 2,-2
-----GCAGCACAUCAUGGUUUACA-----
----- 2 2,0
-----CGAAUCAUUUUUGCUGC-----
----- 11 0,-4

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-----CGAAUCAUUAUUUGCUGCU-----
----- 21 0,-3
-----CGAAUCAUUAUUUGCUGCUC-----
----- 5 0,-2
-----CGAAUCAUUAUUUGCUGCUCUu-----
----- 2 0,-1
-----CGAAUCAUUAUUUGCUGCUCUA-----
----- 2 0,0
-----CGAAUCAUUAUUUGCUGCUCUAu-----
----- 10 0,0

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>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018970

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuuaagauucuaaaauuauucuCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

(((((...(((.(((((((((((((.(((((((((.((((.....))))).))))))))).))))))))).))
(..))))))

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-----UAGCAGCACGUAAAUAUU-----
----- 284 0,-4
-----UAGCAGCACGUAAAUAUUa-----
----- 8 0,-4
-----UAGCAGCACGUAAAUAUUaa-----
----- 3 0,-4
-----UAGCAGCACGUAAAUAUUu-----
----- 15 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 995 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 15 0,-3
-----UAGCAGCACGUAAAUAUUGaa-----
----- 3 0,-3
-----UAGCAGCACGUAAAUAUUGu-----
----- 5 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 1870 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 50 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
----- 21 0,-2

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```

-----UAGCAGCACGUAAAUAUUGGu-----
----- 24 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 455 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 240 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 90 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
----- 108 0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----
----- 12 0,-1
-----UAGCAGCACGUAAAUAUUGGCuu-----
----- 4 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 5384 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 81 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 40 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 37 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 1727 0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 115 0,2
-----UAGCAGCACGUAAAUAUUGGCGUu-----
----- 36 0,2
-----UAGCAGCACGUAAAUAUUGGCGUUA-----
----- 3 0,3
-----AGCAGCACGUAAAUAUUG-----
----- 9 1,-3
-----AGCAGCACGUAAAUAUUGG-----
----- 6 1,-2
-----AGCAGCACGUAAAUAUUGGC-----
----- 3 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
----- 54 1,0

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-----AGCAGCACGUAAAUAUUGGCGU-----
----- 13 1,1
-----AGCAGCACGUAAAUAUUGGCGUU-----
----- 2 1,2
-----GCAGCACGUAAAUAUUGG-----
----- 2 2,-2
-----GCAGCACGUAAAUAUUGGCau-----
----- 2 2,-1
-----GCAGCACGUAAAUAUUGGCG-----
----- 7 2,0
-----GCAGCACGUAAAUAUUGGCGU-----
----- 3 2,1

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>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018970

guuccacucUAGCAGCACGUAAAUAUUGGCGuagugaaauauauuuuaacaCCAAUAAUACUGUGCUGCUUUAguuguga
c

((..(((..(((((((..(((((((..(((..(((.....))))..))))))))..))))))))..))))..))
)

```

-----CUAGCAGCACGUAAAUAUUGG-----
- 3 -1,-2
-----CUAGCAGCACGUAAAUAUUGGC-----
- 2 -1,-1
-----CUAGCAGCACGUAAAUAUUGGCG-----
- 4 -1,0
-----UAGCAGCACGUAAAUAUU-----
- 284 0,-4
-----UAGCAGCACGUAAAUAUUa-----
- 8 0,-4
-----UAGCAGCACGUAAAUAUUaa-----
- 3 0,-4
-----UAGCAGCACGUAAAUAUUu-----
- 15 0,-4
-----UAGCAGCACGUAAAUAUUG-----
- 995 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
- 15 0,-3
-----UAGCAGCACGUAAAUAUUGaa-----
- 3 0,-3

```

```

-----UAGCAGCACGUAAAUAUUGu-----
-   5   0,-3
-----UAGCAGCACGUAAAUAUUGG-----
- 1870   0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
-   50   0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
-   21   0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
-   24   0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
-  455   0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
-   240   0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
-   90   0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
-  108   0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----
-   12   0,-1
-----UAGCAGCACGUAAAUAUUGGCuu-----
-    4   0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
- 5384   0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
-   81   0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
-   40   0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
-   37   0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
- 1727   0,1
-----UAGCAGCACGUAAAUAUUGGCGUA-----
-   36   0,2
-----UAGCAGCACGUAAAUAUUGGCGUAa-----
-    2   0,2
-----UAGCAGCACGUAAAUAUUGGCGUAu-----
-    4   0,2

```

```

-----AGCAGCACGUAAAUAUUG-----
- 9 1,-3
-----AGCAGCACGUAAAUAUUGG-----
- 6 1,-2
-----AGCAGCACGUAAAUAUUGGC-----
- 3 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
- 54 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
- 13 1,1
-----GCAGCACGUAAAUAUUGG-----
- 2 2,-2
-----GCAGCACGUAAAUAUUGGCau-----
- 2 2,-1
-----GCAGCACGUAAAUAUUGGCG-----
- 7 2,0
-----GCAGCACGUAAAUAUUGGCGU-----
- 3 2,1
-----CACCAUAUUACUGUGCUGCUUU-----
- 2 -2,-1
-----ACCAUAUUACUGUGCUGC-----
- 4 -1,-4
-----ACCAUAUUACUGUGCUGCU-----
- 8 -1,-3
-----ACCAUAUUACUGUGCUGCUU-----
- 11 -1,-2
-----ACCAUAUUACUGUGCUGCUUU-----
- 27 -1,-1
-----ACCAUAUUACUGUGCUGCUUUu-----
- 30 -1,-1
-----ACCAUAUUACUGUGCUGCUUUuu-----
- 2 -1,-1
-----ACCAUAUUACUGUGCUGCUUUA-----
- 8 -1,0
-----CCAUAUUACUGUGCUGCUUUu-----
- 3 0,0
-----AAUAUUACUGUGCUGCUUUu-----
- 2 2,-1

```

gucagaauaanguCAAAGUGCUUACAGUGCAGGUAGugauaugugcaucuACUGCAGUGAAGGCACUUGUAGcauaugg
ugac

(((.(((((((.((((((((.(.(((((.(((((.)).)))))))).).).)))))))). . .))))).))))))

-----UCAAAGUGCUUACAGUGCAG-----

--- 3 -1, -4

-----UCAAAGUGCUUACAGUGCAGG-----

--- 2 -1, -3

-----UCAAAGUGCUUACAGUGCAGGa-----

----- 2 -1, -3

-----UCAAAGUGCUUACAGUGCAGGU-----

--- 2 -1, -2

-----UCAAAGUGCUUACAGUGCAGGU₁₁-----

--- 2 -1, -2

-----UCAAAGUGCUUACAGUGCAGGUA-----

--- 4 -1, -1

-----UCAAAGUGCUUACAGUGCAGGUAU-----

----- 5 -1, -1

-----CAAAGUGCUUACAGUGCA-----

--- 27 0, -5

-----CAAAGUGCUUACAGUGCAG-----

--- 185 0,-4

-----CAAAGUGCUACAGUGCAGG-----

--- 135 0,-3

-----CAAAGUGCUUACAGUGCAGGa-----

--- 6 0, -3

-----CAAAGUGCUUACAGUGCAGGU-----

--- 145 0,-2

-----CAAAGUGCUUACAGUGCAGGU_u-----

--- 7 0, -2

-----CAAAGUGCUUACAGUGCAGGUuu-----

--- 2 0,-2

-----CAAAGUGCUUACAGUGCAGGUA-----

--- 170 0, -1

-----CAAAGUGCUUACAGUGCAGGUA_a-----

--- 60 0,-1

```

-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 4 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 127 0,-1
-----CAAAGUGCUUACAGUGCAGGUAuu-----
---- 2 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 220 0,0
-----CAAAGUGCUUACAGUGCAGGUAGa-----
---- 5 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
---- 30 0,1
-----AAAGUGCUUACAGUGCAG-----
---- 3 1,-4
-----AAAGUGCUUACAGUGCAGG-----
---- 4 1,-3
-----AAAGUGCUUACAGUGCAGGa-----
---- 2 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
---- 2 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
---- 4 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
---- 3 1,0
-----ACUGCAGUGAAGGCACUU-----
---- 51 0,-4
-----ACUGCAGUGAAGGCACUUG-----
---- 99 0,-3
-----ACUGCAGUGAAGGCACUUGU-----
---- 275 0,-2
-----ACUGCAGUGAAGGCACUUGUu-----
---- 3 0,-2
-----ACUGCAGUGAAGGCACUUGUA-----
---- 33 0,-1
-----ACUGCAGUGAAGGCACUUGUAa-----
---- 2 0,-1
-----ACUGCAGUGAAGGCACUUGUAu-----
---- 4 0,-1

```

-----			ACUGCAGUGAAGGCACUUGUAG-----
----	13	0,0	
-----			ACUGCAGUGAAGGCACUUGUAGau-----
----	2	0,0	
-----			ACUGCAGUGAAGGCACUUGUAGC-----
----	4	0,1	
-----			CUGCAGUGAAGGCACUUG-----
----	4	1,-3	
-----			CUGCAGUGAAGGCACUUGU-----
----	6	1,-2	
-----			CUGCAGUGAAGGCACUUGUA-----
----	3	1,-1	
-----			UGCAGUGAAGGCACUUGU-----
----	3	2,-2	

>hsa-mir-181a-1 MA:24-46;mi:64-85 SRX018970

ugaguuuugagguugcuucagugAACAUUCAACGCUGUCGGUGAGUuuggaauuaaaaucaaaACCAUCGACCGUUGAUU
GUACCcuauggcuaaccaucaucuacucca

.((((..((((((((((..((.(.(((.(((((((..(((((((.((((.(.....)).)))))))))))))))))))))..
))).).)).)))).)))).)))).)))).)))).))..

-----AACAUUCAACGCUGUCGG-----	
-----1620,-5-----	
-----AACAUUCAACGCUGUCGGU-----	
-----70,-4-----	
-----AACAUUCAACGCUGUCGGUaa-----	
-----30,-4-----	
-----AACAUUCAACGCUGUCGGUG-----	
-----300,-3-----	
-----AACAUUCAACGCUGUCGGUGu-----	
-----20,-3-----	
-----AACAUUCAACGCUGUCGGUGA-----	
-----1000,-2-----	
-----AACAUUCAACGCUGUCGGUGAuu-----	
-----20,-2-----	
-----AACAUUCAACGCUGUCGGUGAG-----	
-----7150,-1-----	
-----AACAUUCAACGCUGUCGGUGAGa-----	
-----70,-1-----	


```

-----AACAUUCAUUGCUGUCGGUG-----
-----      8      0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
-----      2      0,-3
-----AACAUUCAUUGCUGUCGGUGGG-----
-----     74      0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
-----      8      0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
-----     11      0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
-----     28      0,1
-----ACAUUCAUUGCUGUCGGUGGGUU-----
-----      2      1,1
-----CUCAC
UGAACAAUGAAUGCAu-----      2

```

>hsa-mir-181b-2 5p:16-38 SRX018970

```

cugauggcugcacucAACAUUCAUUGCUGUCGGUGGGUuugagucugaaucaacucacugaucaugaugcaaacugcg
gaccaaaca

```

```

....((((((((.....((((((((((..(((((((((((.(.....))))))))))))))))))))))))))....)))
).)))....

```

```

-----AACAUUCAUUGCUGUCGG-----
-----     45      0,-5
-----AACAUUCAUUGCUGUCGGU-----
-----      4      0,-4
-----AACAUUCAUUGCUGUCGGUG-----
-----      8      0,-3
-----AACAUUCAUUGCUGUCGGUGu-----
-----      2      0,-3
-----AACAUUCAUUGCUGUCGGUGGG-----
-----     74      0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
-----      8      0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
-----     11      0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
-----     28      0,1

```

```

-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 15 0,2
-----ACAUUCAUUGCUGUCGGUGGGUU-----
----- 2 1,1
-----ACUCACUGAUCAAUGAAUGCAA-----
----- 2
-----UCACUGAUCAAUGAAUGCA-----
----- 2

```

>hsa-mi r-181c MA:27-48;mi:65-86 SRX018970

cggaaaauuugccaaggguuugggggAACAUCAACCUGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaauugccauccu

-----AACAUUCAACCGUCGGUGA-----

----- 4 0,-2

-----AACAUUCAACCGUCGGUGAG-----

----- 15 0,-1

-----AACAUUCAACCGUCGGUGAGU-----

----- 2 0,0

-----AACAUUCAACCGUCGGUGAGUa-----

----- 2 0,0

-----AACAUUCAACCGUCGGUGAGUU-----

----- 8 0,1

-----AACAUUCAACCUGUCGGUGAGUUU-----

----- 6 0,2

-----ACCAUCGACCGUUGA

GUG----- 3 1,-3

gucuccuuccuaggccacagccgaggucacaaucaACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accggggggaugaaugucacuguggcugggccagacacggcuuaagggggauggggac

-----AACAUUCAUUGUUGUCGGUGGG-----

----- 16 0,-1

-----AACAUUCAUUGUUGUCGGUGGGa-----

----- 5 0,-1

-----AACAUUCAUUGUUGUCGGUGGGU-----		
-----5	0,0	
-----AACAUUCAUUGUUGUCGGUGGGUaa-----		
-----3	0,0	
-----AACAUUCAUUGUUGUCGGUGGGUau-----		
-----7	0,0	
-----AACAUUCAUUGUUGUCGGUGGGUU-----		
-----22	0,1	
-----AACAUUCAUUGUUGUCGGUGGGUUu-----		
-----6	0,1	

```
>hsa-mir-182      MA:23-46;mi:67-87    SRX018970
gagcugcuugccuccccccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAuggggcgaggacucagccggcac
..(((((((..((((((((((((....((((((.....)))))))))...))))))..))))).)))))).))))..
-----UUUGGCAAUGGUAGAACUCA-----
              4       0,-4
-----UUUGGCAAUGGUAGAACUCACA-----
              5       0,-2
-----UUUGGCAAUGGUAGAACUCACAC-----
              2       0,-1
-----UUUGGCAAUGGUAGAACUCACACU-----
              5       0,0
```

```
>hsa-mir-183      MA:27-48;mi:66-87      SRX018970
ccgcagagugugacuccuguucugugUAUGGCACUGGUAGAAUUCACUgugaacagucucagucaGUGAAUACCGAAGG
GCCAUAAacagagcagagacagauccacga
.....(((.(((.((((((((((.((((((..((((..((((((((((((.....)))..))))))))))))))....
)))))).)))))))))).))....)))))..
-----UAUGGCACUGGUAGAAUUC-----
-----3      0,-3
```

```
>hsa-mir-185      MA:15-36;mi:50-71      SRX018970
agggggcgagggauUGGAGAGAAAGGCAGUCCUGAuggucccccucuccAGGGGCUGGCUUCCUCUGGUCcuuccucc
ca
(((((((.(((((((..(((.((((.((((((((..((.....)).))))))))).)))))))).)))))))).)))
).
```

```

-----UGGAGAGAAAGGCAGUUC-----
-- 23 0,-4
-----UGGAGAGAAAGGCAGUUCC-----
-- 35 0,-3
-----UGGAGAGAAAGGCAGUCCU-----
-- 421 0,-2
-----UGGAGAGAAAGGCAGUCCUaa-----
-- 3 0,-2
-----UGGAGAGAAAGGCAGUCCUu-----
-- 4 0,-2
-----UGGAGAGAAAGGCAGUCCUG-----
-- 280 0,-1
-----UGGAGAGAAAGGCAGUCCUGu-----
-- 47 0,-1
-----UGGAGAGAAAGGCAGUCCUGuu-----
-- 12 0,-1
-----UGGAGAGAAAGGCAGUCCUGA-----
-- 2092 0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 508 0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 26 0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 33 0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 715 0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 33 0,1
-----UGGAGAGAAAGGCAGUCCUGAUaa-----
-- 3 0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 3 0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 66 0,1
-----UGGAGAGAAAGGCAGUCCUGAUuu-----
-- 7 0,1
-----GGAGAGAAAGGCAGUCCU-----
-- 2 1,-2

```

```

-----GGAGAGAAAGGCAGUCCUG-----
-- 2 1,-1
-----GGAGAGAAAGGCAGUCCUGA-----
-- 18 1,0
-----GGAGAGAAAGGCAGUCCUGAU-----
-- 8 1,1
-----AGGGGCUGGCUUCCUCU-----
-- 3 0,-4
-----AGGGGCUGGCUUCCUCUGG-----
-- 2 0,-2
-----AGGGGCUGGCUUCCUCUGGU-----
-- 5 0,-1
-----AGGGGCUGGCUUCCUCUGGUau-----
-- 4 0,-1

```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018970

```

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuauuuuaaGCCCAAAGUGAAUUUUUUGGgauguu
ugagcu

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))

```

```

-----CCAAAGAAUUCUCCUUUU-----
----- 2 -1,-5
-----CAAAGAAUUCUCCUUUUG-----
----- 10 0,-4
-----CAAAGAAUUCUCCUUUUGG-----
----- 5 0,-3
-----CAAAGAAUUCUCCUUUUGGaa-----
----- 2 0,-3
-----CAAAGAAUUCUCCUUUUGGG-----
----- 21 0,-2
-----CAAAGAAUUCUCCUUUUGGGa-----
----- 4 0,-2
-----CAAAGAAUUCUCCUUUUGGGaa-----
----- 5 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 19 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 28 0,-1

```



```

-----UCGUGUCUUG
UGUUGCAGCCGGu----- 7 0,0
-----UCGUGUCUUG
UGUUGCAGCCGGuu----- 4 0,0

```

```

>hsa-mir-18a MA:6-28;mi:47-69 SRX018970
uguucUAAGGUGCAUCUAGUGCAGAUAGugaaguagauuagcaucuACUGCCCUAAGUGCUCUUCUGGca
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAAGGUGCAUCUAGUGCAGA----- 5 0,-3
-----UAAGGUGCAUCUAGUGCAGAU----- 17 0,-2
-----UAAGGUGCAUCUAGUGCAGAU----- 6 0,-1
-----UAAGGUGCAUCUAGUGCAGAUa----- 3 0,-1
-----ACUGCCCUAAGUGCUCUUCU----- 2 0,-2

```

```

>hsa-mir-190b 5p:11-31 SRX018970
ugcuucugugUGAUUGUUUGAUAUUGGGUUGuuuaauuaggaaccaacuaaaugucaaacauauucuuacagcagcag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGAUUGUUUGAUAUUGGGUUGU-----
5 0,2

```

```

>hsa-mir-191 MA:16-38;mi:58-79 SRX018970
cggcuggacagcgggCAACGGAAUCCCAAAAGCAGCUGuugucuccagagcauuccaGCUGCGCUUGGAUUUCGUCCCCu
gcucuccugccu
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----CAACGGAAUCCCAAAAGC-----
-----220 0,-5
-----CAACGGAAUCCCAAAAGCA-----
-----778 0,-4
-----CAACGGAAUCCCAAAAGCAa-----
-----70 0,-4
-----CAACGGAAUCCCAAAAGCAu-----
-----5 0,-4
-----CAACGGAAUCCCAAAAGCAG-----
-----2609 0,-3
-----CAACGGAAUCCCAAAAGCAGa-----
-----33 0,-3
-----CAACGGAAUCCCAAAAGCAGaa-----

```

----- 5 0,-3
-----CAACGGAAUCCCAAAAGCAGau-----
----- 61 0,-3
-----CAACGGAAUCCCAAAAGCAGu-----
----- 22 0,-3
-----CAACGGAAUCCCAAAAGCAGuu-----
----- 31 0,-3
-----CAACGGAAUCCCAAAAGCAGC-----
----- 7199 0,-2
-----CAACGGAAUCCCAAAAGCAGCa-----
----- 284 0,-2
-----CAACGGAAUCCCAAAAGCAGCaa-----
----- 40 0,-2
-----CAACGGAAUCCCAAAAGCAGCau-----
----- 45 0,-2
-----CAACGGAAUCCCAAAAGCAGCU-----
----- 21228 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
----- 355 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
----- 43 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
----- 334 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
----- 1185 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
----- 474 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
----- 1924 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
----- 142 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
----- 12 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
----- 3 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
----- 2547 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----

----- 3 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
----- 93 0,2
-----AACGGAAUCCCAAAAGCA-----
----- 46 1,-4
-----AACGGAAUCCCAAAAGCAG-----
----- 145 1,-3
-----AACGGAAUCCCAAAAGCAGa-----
----- 3 1,-3
-----AACGGAAUCCCAAAAGCAGau-----
----- 2 1,-3
-----AACGGAAUCCCAAAAGCAGu-----
----- 3 1,-3
-----AACGGAAUCCCAAAAGCAGuu-----
----- 6 1,-3
-----AACGGAAUCCCAAAAGCAGC-----
----- 470 1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
----- 10 1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
----- 1903 1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
----- 12 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
----- 8 1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
----- 14 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----
----- 45 1,-1
-----AACGGAAUCCCAAAAGCAGCUuu-----
----- 28 1,-1
-----AACGGAAUCCCAAAAGCAGCUG-----
----- 190 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
----- 38 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
----- 482 1,1
-----AACGGAAUCCCAAAAGCAGCUGUa-----

```

----- 4 1,1
-----AACGGAUCCCAAAAGCAGCUGUaa-----
----- 2 1,1
-----AACGGAUCCCAAAAGCAGCUGUau-----
----- 2 1,1
-----AACGGAUCCCAAAAGCAGCUGUU-----
----- 15 1,2
-----AACGGAUCCCAAAAGCAGCUGUUa-----
----- 2 1,2
-----AACGGAUCCCAAAAGCAGCUGUUu-----
----- 15 1,2
-----ACGGAUCCCAAAAGCAGC-----
----- 4 2,-2
-----ACGGAUCCCAAAAGCAGCU-----
----- 13 2,-1
-----GCUGCGCUUGGAUUUCGUCC-----
----- 2 0,-2

```

>hsa-mir-192 MA:24-44;mi:67-88 SRX018970

gccgagaccgagugcacagggcuCUGACCUAUGAAUUGACAGCCagugcucucgucucccucuggCUGCCAAUCCAUA
GGUCACAGguauguucgccucaaugccagc

-----CUCUGACCUAUGAAUUGACAGC-----
 -----4-2,-1-----
 -----UCUGACCUAUGAAUUGACA-----
 -----4-1,-3-----
 -----UCUGACCUAUGAAUUGACAG-----
 -----32-1,-2-----
 -----UCUGACCUAUGAAUUGACAGa-----
 -----3-1,-2-----
 -----UCUGACCUAUGAAUUGACAGu-----
 -----8-1,-2-----
 -----UCUGACCUAUGAAUUGACAGC-----
 -----202-1,-1-----
 -----UCUGACCUAUGAAUUGACAGCa-----
 -----34-1,-1-----
 -----UCUGACCUAUGAAUUGACAGCaa-----

----- 4 -1,-1
-----UCUGACCUAUGAAUUGACAGCau-----
----- 2 -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
----- 5 -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
----- 873 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
----- 120 -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
----- 59 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 115 -1,1
-----UCUGACCUAUGAAUUGACAGCCAa-----
----- 2 -1,1
-----UCUGACCUAUGAAUUGACAGCCAau-----
----- 2 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 77 -1,1
-----UCUGACCUAUGAAUUGACAGCCAuu-----
----- 71 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
----- 3 -1,2
-----CUGACCUAUGAAUUGACA-----
----- 3385 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 20 0,-3
-----CUGACCUAUGAAUUGACAaa-----
----- 23 0,-3
-----CUGACCUAUGAAUUGACAau-----
----- 4 0,-3
-----CUGACCUAUGAAUUGACAU-----
----- 3 0,-3
-----CUGACCUAUGAAUUGACAUu-----
----- 4 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 8054 0,-2
-----CUGACCUAUGAAUUGACAGa-----

----- 256 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 66 0,-2
-----CUGACCUAUGAAUUGACAGau-----
----- 13 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 460 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 68 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 71845 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 10544 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 1680 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 972 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 3591 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 399 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 260781 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 19745 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 9980 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 108084 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----
----- 4240 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 497 0,1
-----CUGACCUAUGAAUUGACAGCCAau-----
----- 1726 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 75373 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----

```

----- 74849 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 1195 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 135 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 5 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 6 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 2145 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 95 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 804 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 2 0,4
-----UGACCUAUGAAUUGACAG-----
----- 2083 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 33 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 25483 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 305 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 127 1,-1
-----UGACCUAUGAAUUGACAGCau-----
----- 48 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 79 1,-1
-----UGACCUAUGAAUUGACAGCuu-----
----- 9 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 9832 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 440 1,0
-----UGACCUAUGAAUUGACAGCCuu-----

```

```

----- 130 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 25429 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 1153 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 698 1,1
-----UGACCUAUGAAUUGACAGCCAau-----
----- 1232 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 7422 1,1
-----UGACCUAUGAAUUGACAGCCAUu-----
----- 10126 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 7013 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 1658 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 95 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 105 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 15682 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 1565 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 137 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----
----- 293 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 7895 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 1430 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 62 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 2 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----

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----- 12 1,4
-----GACCUAUGAAUUGACAGC-----
----- 262 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 6 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 3 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 4 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 114 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 7 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 3 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 161 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 10 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 11 2,1
-----GACCUAUGAAUUGACAGCCAau-----
----- 10 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 80 2,1
-----GACCUAUGAAUUGACAGCCAuu-----
----- 107 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 103 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 35 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 221 2,3
-----GACCUAUGAAUUGACAGCCAGUa-----
----- 23 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 131 2,3
-----GACCUAUGAAUUGACAGCCAGUuu-----

```

----- 13 2,3
-----GGCUGCCAAUCCAUA
GGUCA----- 7 -2,-3
-----GGCUGCCAAUCCAUA
GGUCACu----- 4 -2,-2
-----GGCUGCCAAUCCAUA
GGUCACA----- 5 -2,-1
-----GCUGCCAAUCCAUA
GGUCA----- 7 -1,-3
-----GCUGCCAAUCCAUA
GGUCAC----- 6 -1,-2
-----GCUGCCAAUCCAUA
GGUCACA----- 11 -1,-1
-----GCUGCCAAUCCAUA
GGUCACAG----- 4 -1,0
-----CUGCCAAUCCAUA
GGUCA----- 3 0,-3
-----CUGCCAAUCCAUA
GGUCAC----- 6 0,-2
-----CUGCCAAUCCAUA
GGUCACA----- 19 0,-1
-----CUGCCAAUCCAUA
GGUCACAu----- 4 0,-1
-----CUGCCAAUCCAUA
GGUCACAuu----- 3 0,-1
-----CUGCCAAUCCAUA
GGUCACAG----- 11 0,0
-----CUGCCAAUCCAUA
GGUCACAGa----- 4 0,0
-----CUGCCAAUCCAUA
GGUCACAGu----- 9 0,0
-----CUGCCAAUCCAUA
GGUCACAGuu----- 5 0,0

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>hsa-mir-193a 5p:21-42;3p:55-76 SRX018970

cgaggauaggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

.....(((.((((((((((((((.(((((.(((.(((.....))))).)).)).)).)).))))))))))

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-----			-UGGGUCUUUGCGGGCGAGAUa-----
-----	4	0,-2	
-----			-UGGGUCUUUGCGGGCGAGAUg-----
-----	16	0,-1	
-----			-UGGGUCUUUGCGGGCGAGAUu-----
-----	21	0,-1	
-----			-UGGGUCUUUGCGGGCGAGAUuu-----
-----	2	0,-1	
-----			-UGGGUCUUUGCGGGCGAGAUg-----
-----	125	0,0	
-----			-UGGGUCUUUGCGGGCGAGAUg-----
-----	4	0,0	
-----			-UGGGUCUUUGCGGGCGAGAUu-----
-----	19	0,0	
-----			-UGGGUCUUUGCGGGCGAGAUuu-----
-----	2	0,0	
-----			-GGGUCUUUGCGGGCGAGAUg-----
-----	5	1,0	
-----			-----CAACUGGCCUACAAAGUCCCA-----
-----	2	-1,-2	
-----			-----AACUGGCCUACAAAGUCC-----
-----	72	0,-4	
-----			-----AACUGGCCUACAAAGUCCa-----
-----	4	0,-4	
-----			-----AACUGGCCUACAAAGUCCC-----
-----	125	0,-3	
-----			-----AACUGGCCUACAAAGUCCCA-----
-----	1600	0,-2	
-----			-----AACUGGCCUACAAAGUCCCAa-----
-----	11	0,-2	
-----			-----AACUGGCCUACAAAGUCCCAu-----
-----	33	0,-2	
-----			-----AACUGGCCUACAAAGUCCCAuu-----
-----	13	0,-2	
-----			-----AACUGGCCUACAAAGUCCCAG-----
-----	94	0,-1	
-----			-----AACUGGCCUACAAAGUCCCAGa-----


```

--- 53 0,-1
-----CGGGGUUUUGAGGGCGAGAUGuu-----
--- 3 0,-1
-----CGGGGUUUUGAGGGCGAGAUGA-----
--- 124 0,0
-----CGGGGUUUUGAGGGCGAGAUGAa-----
--- 6 0,0
-----CGGGGUUUUGAGGGCGAGAUGau-----
--- 13 0,0
-----CGGGGUUUUGAGGGCGAGAUGAG-----
--- 3 0,1
-----GGGGUUUUUGAGGGCGAGAUGu-----
--- 2 1,-1
-----GGGGUUUUUGAGGGCGAGAUGA-----
--- 7 1,0
-----AACUGGCCCUCAAAGUCC-----
--- 82 0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 109 0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 32 0,-2
-----AACUGGCCCUCAAAGUCCCGuu-----
--- 3 0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 89 0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 4 0,-1
-----AACUGGCCCUCAAAGUCCCGCaa-----
--- 6 0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----
--- 30 0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----
--- 194 0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 25 0,0
-----AACUGGCCCUCAAAGUCCCGCUaa-----
--- 2 0,0
-----AACUGGCCCUCAAAGUCCCGCUau-----

```

---	71	0,0	-----AACUGGCCCUCAAAGUCCCGCUU-----
---	148	0,1	-----AACUGGCCCUCAAAGUCCCGCUUa-----
---	6	0,1	-----AACUGGCCCUCAAAGUCCCGCUUau-----
---	9	0,1	-----AACUGGCCCUCAAAGUCCCGCUUU-----
---	223	0,2	-----AACUGGCCCUCAAAGUCCCGCUUUa-----
---	6	0,2	-----AACUGGCCCUCAAAGUCCCGCUUUU-----
---	85	0,3	-----ACUGGCCCUCAAAGUCCCG-----
---	2	1,-2	-----ACUGGCCCUCAAAGUCCCGCU-----
---	8	1,0	-----ACUGGCCCUCAAAGUCCCGCUa-----
---	3	1,0	-----ACUGGCCCUCAAAGUCCCGCUaa-----
---	4	1,0	-----ACUGGCCCUCAAAGUCCCGCUau-----
---	27	1,0	-----ACUGGCCCUCAAAGUCCCGCUU-----
---	8	1,1	-----ACUGGCCCUCAAAGUCCCGCUUU-----
---	10	1,2	-----ACUGGCCCUCAAAGUCCCGCUUUU-----
---	15	1,3	

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augguguuaucaagUGUAACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

.(((((.((((((.(((((((((.((((((.(((((.(((.....)).)))))))))))).)))))))).))))).
)))).

-----UGUAAACAGCAACUCCAUG-----
 -----6 0,-4-----
 -----UGUAAACAGCAACUCCAUGU-----

))))).

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-----CCUGUAAACAGCAACUCCAUGUGG-----
----- 5  -2,-1
-----CUGUAAACAGCAACUCCAUGUGG-----
----- 8  -1,-1
-----CUGUAAACAGCAACUCCAUGUGGu-----
----- 3  -1,-1
-----CUGUAAACAGCAACUCCAUGUGGA-----
----- 33 -1,0
-----CUGUAAACAGCAACUCCAUGUGGAu-----
----- 2  -1,0
-----CUGUAAACAGCAACUCCAUGUGGAA-----
----- 16 -1,1
-----CUGUAAACAGCAACUCCAUGUGGAAu-----
----- 2  -1,1
-----UGUAAACAGCAACUCCAUG-----
----- 6  0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 7  0,-3
-----UGUAAACAGCAACUCCAUGUaa-----
----- 2  0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 30 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 2  0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 578 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 20 0,-1
-----UGUAAACAGCAACUCCAUGUGGuu-----
----- 2  0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 1235 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 303 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 17 0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
```



```

----- 3032 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 416 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 32 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 23 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----
----- 263 0,1
-----UGUAAACAGCAACUCCAUGUGGAAuu-----
----- 57 0,1
-----UGUAAACAGCAACUCCAUGUGGAAG-----
----- 3 0,2
-----GUAACAGCAACUCCAUGUG-----
----- 2 1,-2
-----GUAACAGCAACUCCAUGUGG-----
----- 3 1,-1
-----GUAACAGCAACUCCAUGUGGA-----
----- 6 1,0
-----GUAACAGCAACUCCAUGUGGAu-----
----- 4 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 8 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 3 1,1
-----GUAACAGCAACUCCAUGUGGAAu-----
----- 2 1,1
-----UAACAGCAACUCCAUGUG-----
----- 3 2,-2
-----CCAGUGGGGCUGCUGUUAU-----
----- 3 0,-3
-----CCAGUGGGGCUGCUGUUAUa-----
----- 12 0,-3
-----CCAGUGGGGCUGCUGUUAUuu-----
----- 2 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 3 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----

```

```

----- 54 0,-1
-----CCAGUGGGGCUGCUGUUAUCUG-----
----- 2 0,0
-----CCAGUGGGGCUGCUGUUAUCUGa-----
----- 2 0,0
-----CCAGUGGGGCUGCUGUUAUCUGaa-----
----- 2 0,0
-----CCAGUGGGGCUGCUGUUAUCUGu-----
----- 4 0,0
-----CAGUGGGGCUGCUGUUAUCU-----
----- 4 1,-1

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>hsa-mir-195 MA:15-35;mi:53-74 SRX018970

agcuucccuggcucUAGCAGCACAGAAAUAUUGGCacaggggaagcgagucugCCAAUAUUGGCUGUGCUCUCCaggcaggugggug

```

.(((((((((((((.((((((((((((.....))))))))))..))))))))))..))))))
)).)).

```

```

-----UAGCAGCACAGAAAUAUU-----
----- 24 0,-3
-----UAGCAGCACAGAAAUAUUa-----
----- 7 0,-3
-----UAGCAGCACAGAAAUAUUaa-----
----- 2 0,-3
-----UAGCAGCACAGAAAUAUUu-----
----- 5 0,-3
-----UAGCAGCACAGAAAUAUUG-----
----- 83 0,-2
-----UAGCAGCACAGAAAUAUUGa-----
----- 4 0,-2
-----UAGCAGCACAGAAAUAUUGaa-----
----- 2 0,-2
-----UAGCAGCACAGAAAUAUUGu-----
----- 2 0,-2
-----UAGCAGCACAGAAAUAUUGG-----
----- 488 0,-1
-----UAGCAGCACAGAAAUAUUGGa-----
----- 28 0,-1
-----UAGCAGCACAGAAAUAUUGGaa-----

```

```

----- 27 0,-1
-----UAGCAGCACAGAAUAUUGGu-----
----- 13 0,-1
-----UAGCAGCACAGAAUAUUGGuu-----
----- 2 0,-1
-----UAGCAGCACAGAAUAUUGGC-----
----- 38 0,0
-----UAGCAGCACAGAAUAUUGGCu-----
----- 4 0,0
-----UAGCAGCACAGAAUAUUGGCA-----
----- 1302 0,1
-----UAGCAGCACAGAAUAUUGGCAa-----
----- 587 0,1
-----UAGCAGCACAGAAUAUUGGCAaa-----
----- 15 0,1
-----UAGCAGCACAGAAUAUUGGCAau-----
----- 27 0,1
-----UAGCAGCACAGAAUAUUGGCAu-----
----- 683 0,1
-----UAGCAGCACAGAAUAUUGGCAuu-----
----- 149 0,1
-----UAGCAGCACAGAAUAUUGGCAC-----
----- 4 0,2
-----AGCAGCACAGAAUAUUGG-----
----- 2 1,-1
-----AGCAGCACAGAAUAUUGGCA-----
----- 19 1,1
-----AGCAGCACAGAAUAUUGGCAa-----
----- 2 1,1
-----AGCAGCACAGAAUAUUGGCAuu-----
----- 5 1,1
-----GCAGCACAGAAUAUUGG-----
----- 2 2,-1

```

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```

gugaauUAGGUAGUUUCAUGUUGUUGGGccuggguuucugaacacaacaacauuaaaccacccgauucac
(((((((..(((.((((((((((((((.....)).)).))))))))).))))).))))))
-----UAGGUAGUUUCAUGUUGUUGG----- 2 0,-1

```


-----ACCGUGCAAAGGUAGCAUA 2 0,0

-1,-2

-----UACAGUAGUCUGCACAUUGGUa----- 125

-1,-2	-----UACAGUAGUCUGCACAUUGGUaa---	113	
-1,-2	-----UACAGUAGUCUGCACAUUGGUau---	99	
-1,-2	-----UACAGUAGUCUGCACAUUGGUU----	3576	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUu---	456	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUuu--	30	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUA---	404	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAa--	86	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	47	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAuu-	2	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAG--	3	-1,1
	-----ACAGUAGUCUGCACAUUG-----	293	0,-4
	-----ACAGUAGUCUGCACAUUGa-----	14	0,-4
	-----ACAGUAGUCUGCACAUUGaa-----	4	0,-4
	-----ACAGUAGUCUGCACAUUGau-----	3	0,-4
	-----ACAGUAGUCUGCACAUUGu-----	11	0,-4
	-----ACAGUAGUCUGCACAUUGuu-----	9	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	1246	
0,-3	-----ACAGUAGUCUGCACAUUGGa-----	10	0,-3
	-----ACAGUAGUCUGCACAUUGGaa-----	9	0,-3
	-----ACAGUAGUCUGCACAUUGGau-----	70	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	1208	
0,-2	-----ACAGUAGUCUGCACAUUGGUa----	344	0,-2
	-----ACAGUAGUCUGCACAUUGGUaa----	532	0,-2
	-----ACAGUAGUCUGCACAUUGGUau----	151	0,-2
	-----ACAGUAGUCUGCACAUUGGUU----	24025	
0,-1	-----ACAGUAGUCUGCACAUUGGUUu---	2109	
0,-1	-----ACAGUAGUCUGCACAUUGGUUuu--	128	0,-1
	-----ACAGUAGUCUGCACAUUGGUUA---	7950	

0,0	-----ACAGUAGUCUGCACAUUGGUUAa--	5943	
0,0	-----ACAGUAGUCUGCACAUUGGUUAaa-	32	0,0
	-----ACAGUAGUCUGCACAUUGGUUAau-	42	0,0
	-----ACAGUAGUCUGCACAUUGGUUAu--	1036	
0,0	-----ACAGUAGUCUGCACAUUGGUUAuu-	15	0,0
	-----ACAGUAGUCUGCACAUUGGUUAG--	28	0,1
	-----ACAGUAGUCUGCACAUUGGUUAGG-	3	0,2
	-----CAGUAGUCUGCACAUUGG-----	159	1,-3
	-----CAGUAGUCUGCACAUUGGU-----	129	1,-2
	-----CAGUAGUCUGCACAUUGGUa----	33	1,-2
	-----CAGUAGUCUGCACAUUGGUaa---	70	1,-2
	-----CAGUAGUCUGCACAUUGGUau---	9	1,-2
	-----CAGUAGUCUGCACAUUGGUU----	2091	
1,-1	-----CAGUAGUCUGCACAUUGGUUu---	329	1,-1
	-----CAGUAGUCUGCACAUUGGUUuu---	13	1,-1
	-----CAGUAGUCUGCACAUUGGUUA---	2204	
1,0	-----CAGUAGUCUGCACAUUGGUUAa--	1143	
1,0	-----CAGUAGUCUGCACAUUGGUUAaa-	34	1,0
	-----CAGUAGUCUGCACAUUGGUUAau-	8	1,0
	-----CAGUAGUCUGCACAUUGGUUAu--	189	1,0
	-----CAGUAGUCUGCACAUUGGUUAuu-	4	1,0
	-----CAGUAGUCUGCACAUUGGUUAG--	4	1,1
	-----AGUAGUCUGCACAUUGGUU-----	32	2,-1
	-----AGUAGUCUGCACAUUGGUUu---	3	2,-1
	-----AGUAGUCUGCACAUUGGUUA---	13	2,0
	-----AGUAGUCUGCACAUUGGUUAa--	28	2,0
	-----AGUAGUCUGCACAUUGGUUAu--	5	2,0

>hsa-mir-199a-2 5p:31-53;3p:70-91 SRX018970

aggaagcuucuggagauccugcuccgucgcCCCAGUGUUCAGACUACCUGUUCaggacaaugccguuguACAGUAGUCUG
CACAUUGGUUAgacugggcaaggagagca

.....(((.(((.....(((((((((((((...(((((((((((((...(((.....))).....))))))))))))))

.))))))...)).))))))))).

-----	-CCCAGUGUUCAGACUACC-	-----
-----	32 0,-5	-----
-----	-CCCAGUGUUCAGACUACCU-	-----
-----	287 0,-4	-----
-----	-CCCAGUGUUCAGACUACCUG-	-----
-----	12 0,-3	-----
-----	-CCCAGUGUUCAGACUACCUGU-	-----
-----	18 0,-2	-----
-----	-CCCAGUGUUCAGACUACCUGUU-	-----
-----	159 0,-1	-----
-----	-CCCAGUGUUCAGACUACCUGUUa-	-----
-----	10 0,-1	-----
-----	-CCCAGUGUUCAGACUACCUGUUu-	-----
-----	23 0,-1	-----
-----	-CCCAGUGUUCAGACUACCUGUUC-	-----
-----	62 0,0	-----
-----	-CCCAGUGUUCAGACUACCUGUUCu-	-----
-----	3 0,0	-----
-----	-CCAGUGUUCAGACUACCU-	-----
-----	5 1,-4	-----
-----	-CCAGUGUUCAGACUACCUGUU-	-----
-----	2 1,-1	-----
-----		-----UACAGUAGUCUG
CACAUU-----	17 -1,-5	
-----		-----UACAGUAGUCUG
CACAUUG-----	72 -1,-4	
-----		-----UACAGUAGUCUG
CACAUUGuu-----	2 -1,-4	
-----		-----UACAGUAGUCUG
CACAUUGG-----	146 -1,-3	
-----		-----UACAGUAGUCUG
CACAUUGGa-----	7 -1,-3	
-----		-----UACAGUAGUCUG
CACAUUGGaa-----	4 -1,-3	
-----		-----UACAGUAGUCUG
CACAUUGGau-----	11 -1,-3	
-----		-----UACAGUAGUCUG

CACAUUGGU-----	367	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUa-----	125	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUaa-----	113	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUau-----	99	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUU-----	3576	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUu-----	456	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUuu-----	30	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUA-----	404	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAa-----	86	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAu-----	47	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAuu-----	2	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAG-----	3	-1,1	
-----			-ACAGUAGUCUG
CACAUUG-----	293	0,-4	
-----			-ACAGUAGUCUG
CACAUUGa-----	14	0,-4	
-----			-ACAGUAGUCUG
CACAUUGaa-----	4	0,-4	
-----			-ACAGUAGUCUG
CACAUUGau-----	3	0,-4	
-----			-ACAGUAGUCUG
CACAUUGu-----	11	0,-4	
-----			-ACAGUAGUCUG
CACAUUGuu-----	9	0,-4	
-----			-ACAGUAGUCUG
CACAUUGG-----	1246	0,-3	
-----			-ACAGUAGUCUG

CACAUUGGa-----	10	0,-3	
-----			ACAGUAGUCUG
CACAUUGGaa-----	9	0,-3	
-----			ACAGUAGUCUG
CACAUUGGau-----	70	0,-3	
-----			ACAGUAGUCUG
CACAUUGGU-----	1208	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUa-----	344	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUaa-----	532	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUau-----	151	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUU-----	24025	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUu-----	2109	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUuu-----	128	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUA-----	7950	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	5943	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	32	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	42	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	1036	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	15	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	28	0,1	
-----			CAGUAGUCUG
CACAUUGG-----	159	1,-3	
-----			CAGUAGUCUG
CACAUUGGU-----	129	1,-2	
-----			CAGUAGUCUG

CACAUUGGUa-----	33	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUaa-----	70	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUau-----	9	1,-2	
-----			-CAGUAGUCUG
CACAUUGGUU-----	2091	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUu-----	329	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUuu-----	13	1,-1	
-----			-CAGUAGUCUG
CACAUUGGUUA-----	2204	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAa-----	1143	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAaa-----	34	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAau-----	8	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAu-----	189	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAuu-----	4	1,0	
-----			-CAGUAGUCUG
CACAUUGGUUAG-----	4	1,1	
-----			-AGUAGUCUG
CACAUUGGUU-----	32	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUu-----	3	2,-1	
-----			-AGUAGUCUG
CACAUUGGUUA-----	13	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAa-----	28	2,0	
-----			-AGUAGUCUG
CACAUUGGUUAu-----	5	2,0	

>hsa-mi r-199b 5p:26-48;3p:65-86 SRX018970

ccagaggacaccuccacuccgucuaCCCAGUGUUUAGACUAUCUGUUCaggacucccaauuguACAGUAGUCUGCACAU

...((((.....((((..(((((((.((((((((.((((((((.((((.((((.....))).....)))..))))))))))))..)))).))))).))..))))).))))..)))).

-----CCCAGUGUUUAGACUAUCU-----		
-----34 0,-4-----		
-----UACAGUAGUCUGCACAU-----		
U-----17 -1,-5-----		
-----UACAGUAGUCUGCACAU-----		
UG-----72 -1,-4-----		
-----UACAGUAGUCUGCACAU-----		
UGuu-----2 -1,-4-----		
-----UACAGUAGUCUGCACAU-----		
UGG-----146 -1,-3-----		
-----UACAGUAGUCUGCACAU-----		
UGGa-----7 -1,-3-----		
-----UACAGUAGUCUGCACAU-----		
UGGaa-----4 -1,-3-----		
-----UACAGUAGUCUGCACAU-----		
UGGau-----11 -1,-3-----		
-----UACAGUAGUCUGCACAU-----		
UGGU-----367 -1,-2-----		
-----UACAGUAGUCUGCACAU-----		
UGGUa-----125 -1,-2-----		
-----UACAGUAGUCUGCACAU-----		
UGGUaa-----113 -1,-2-----		
-----UACAGUAGUCUGCACAU-----		
UGGUau-----99 -1,-2-----		
-----UACAGUAGUCUGCACAU-----		
UGGUU-----3576 -1,-1-----		
-----UACAGUAGUCUGCACAU-----		
UGGUUu-----456 -1,-1-----		
-----UACAGUAGUCUGCACAU-----		
UGGUUuu-----30 -1,-1-----		
-----UACAGUAGUCUGCACAU-----		
UGGUUA-----404 -1,0-----		
-----UACAGUAGUCUGCACAU-----		
UGGUUAa-----86 -1,0-----		
-----UACAGUAGUCUGCACAU-----		

UGGUUAu-----	47	-1,0	
-----			-UACAGUAGUCUGCACAU
UGGUUAuu-----	2	-1,0	
-----			-UACAGUAGUCUGCACAU
UGGUUAG-----	3	-1,1	
-----			-ACAGUAGUCUGCACAU
UG-----	293	0,-4	
-----			-ACAGUAGUCUGCACAU
UGa-----	14	0,-4	
-----			-ACAGUAGUCUGCACAU
UGaa-----	4	0,-4	
-----			-ACAGUAGUCUGCACAU
UGau-----	3	0,-4	
-----			-ACAGUAGUCUGCACAU
UGu-----	11	0,-4	
-----			-ACAGUAGUCUGCACAU
UGuu-----	9	0,-4	
-----			-ACAGUAGUCUGCACAU
UGG-----	1246	0,-3	
-----			-ACAGUAGUCUGCACAU
UGGa-----	10	0,-3	
-----			-ACAGUAGUCUGCACAU
UGGaa-----	9	0,-3	
-----			-ACAGUAGUCUGCACAU
UGGau-----	70	0,-3	
-----			-ACAGUAGUCUGCACAU
UGGU-----	1208	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUa-----	344	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUaa-----	532	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUau-----	151	0,-2	
-----			-ACAGUAGUCUGCACAU
UGGUU-----	24025	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUu-----	2109	0,-1	
-----			-ACAGUAGUCUGCACAU

UGGUUuu-----	128	0,-1	
-----			-ACAGUAGUCUGCACAU
UGGUUA-----	7950	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAa-----	5943	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAaa-----	32	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAau-----	42	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAu-----	1036	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAuu-----	15	0,0	
-----			-ACAGUAGUCUGCACAU
UGGUUAG-----	28	0,1	
-----			-ACAGUAGUCUGCACAU
UGGUUAGG-----	3	0,2	
-----			-CAGUAGUCUGCACAU
UGG-----	159	1,-3	
-----			-CAGUAGUCUGCACAU
UGGU-----	129	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUa-----	33	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUaa-----	70	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUau-----	9	1,-2	
-----			-CAGUAGUCUGCACAU
UGGUU-----	2091	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUu-----	329	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUuu-----	13	1,-1	
-----			-CAGUAGUCUGCACAU
UGGUUA-----	2204	1,0	
-----			-CAGUAGUCUGCACAU
UGGUUAa-----	1143	1,0	
-----			-CAGUAGUCUGCACAU


```

----- 2 0,-5
-----UGUGCAAAUCCAUGCAAAAC-----
----- 7 0,-3
-----UGUGCAAAUCCAUGCAAAACU-----
----- 304 0,-2
-----UGUGCAAAUCCAUGCAAAACUG-----
----- 71 0,-1
-----UGUGCAAAUCCAUGCAAAACUGu-----
----- 4 0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 30 0,0
-----GUGCAAAUCCAUGCAAAACU-----
----- 4 1,-2
-----GUGCAAAUCCAUGCAAAACUG-----
----- 2 1,-1

```

>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018970

acauugcuacuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguauauauguauauguggcUGUGCAAAUCCAUGCAAAA
CUGAuugugauaangu

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(((((((.....((((((((((((((((((((((((((((((((.....(((((((.....)))))))).....))))))))).)).))))))
))))))))))))))))))

```

```

-----UGUGCAAAUCCAUGCAAAA-----
----- 2 0,-5
-----UGUGCAAAUCCAUGCAAAA
C----- 7 0,-3
-----UGUGCAAAUCCAUGCAAAA
CU----- 304 0,-2
-----UGUGCAAAUCCAUGCAAAA
CUG----- 71 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGu----- 4 0,-1
-----UGUGCAAAUCCAUGCAAAA
CUGA----- 30 0,0
-----GUGCAAAUCCAUGCAAAA
CU----- 4 1,-2
-----GUGCAAAUCCAUGCAAAA
CUG----- 2 1,-1

```


ccggggccccugugagCAUCUUACCGGACAGUGCUGGAuuucccagcuugacucUAACACUGUCUGGUAACGAUGUucaa
ggugacccgc

2	0,-4	UAACACUGUCUGGUAACG
5	0,-3	UAACACUGUCUGGUAACGA
33	0,-2	UAACACUGUCUGGUAACGAU
11	0,-1	UAACACUGUCUGGUAACGAUG
4	0,-1	UAACACUGUCUGGUAACGAUGaa
8	0,0	UAACACUGUCUGGUAACGAUGU
3	0,0	UAACACUGUCUGGUAACGAUGUaa
45	0,1	UAACACUGUCUGGUAACGAUGUU
3	0,1	UAACACUGUCUGGUAACGAUGUua
64	0,1	UAACACUGUCUGGUAACGAUGUuu
2	1,1	AACACUGUCUGGUAACGAUGUua
3	1,1	AACACUGUCUGGUAACGAUGUuu

ccagcucgggcagccguggcCAUCUACUGGGCAGCAUUGGAuggagucaggucucUAAUACUGCCUGGUAAGAUGAcg
gcggagcccugcacg

-----CAUCUUACUGGGCAGCAUU-----
 ----- 10 0,-3
 -----CAUCUUACUGGGCAGCAUUG-----

```

----- 4 0,-2
-----CAUCUUACUGGGCAGCAUUGG-----
----- 14 0,-1
-----CAUCUUACUGGGCAGCAUUGGA-----
----- 8 0,0
-----CAUCUUACUGGGCAGCAUUGGAa-----
----- 5 0,0
-----CAUCUUACUGGGCAGCAUUGGAaa-----
----- 2 0,0
-----AUCUUACUGGGCAGCAUUGGA-----
----- 2 1,0
-----AUCUUACUGGGCAGCAUUGGAa-----
----- 3 1,0
-----AUCUUACUGGGCAGCAUUGGAau-----
----- 3 1,0
-----UAAUACUGCCUGGUAUAUGA-----
----- 4 0,-3
-----UAAUACUGCCUGGUAUAUGAa-----
----- 3 0,-3
-----UAAUACUGCCUGGUAUAUGAU-----
----- 11 0,-2
-----UAAUACUGCCUGGUAUAUGAUa-----
----- 4 0,-2
-----UAAUACUGCCUGGUAUAUGAUG-----
----- 18 0,-1
-----UAAUACUGCCUGGUAUAUGAUgu-----
----- 3 0,-1
-----UAAUACUGCCUGGUAUAUGAUGA-----
----- 55 0,0
-----UAAUACUGCCUGGUAUAUGAUGAa-----
----- 11 0,0
-----UAAUACUGCCUGGUAUAUGAUGAC-----
----- 50 0,1
-----UAAUACUGCCUGGUAUAUGAUGACa-----
----- 20 0,1
-----UAAUACUGCCUGGUAUAUGAUGACu-----
----- 26 0,1
-----UAAUACUGCCUGGUAUAUGAUGACu-----

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u-----	4	0,1	-----AAUACUGCCUGGUA AUGAUGAC-
-----			-----AAUACUGCCUGGUA AUGAUGACa
-----	5	1,1	-----AAUACUGCCUGGUA AUGAUGACu
-----			-----AAUACUGCCUGGUA AUGAUGACu
-----	9	1,1	-----AAUACUGCCUGGUA AUGAUGACu
-----			-----AAUACUGCCUGGUA AUGAUGACu
-----	16	1,1	-----AAUACUGCCUGGUA AUGAUGACu
-----			-----AAUACUGCCUGGUA AUGAUGACu
-----	3	2,-2	-----AAUACUGCCUGGUA AUGAUGACu
-----			-----AAUACUGCCUGGUA AUGAUGACu
-----	2	2,0	-----AAUACUGCCUGGUA AUGAUGACu
-----			-----AAUACUGCCUGGUA AUGAUGACu
-----	31	2,1	-----AAUACUGCCUGGUA AUGAUGACu
-----			-----AAUACUGCCUGGUA AUGAUGACu
-----	4	2,1	-----AAUACUGCCUGGUA AUGAUGACu
-----			-----AAUACUGCCUGGUA AUGAUGACu
-----	32	2,1	-----AAUACUGCCUGGUA AUGAUGACu
-----			-----AAUACUGCCUGGUA AUGAUGACu
u-----	6	2,1	-----AAUACUGCCUGGUA AUGAUGACu

```

>hsa-mir-200c    mi:5-26;MA:44-66    SRX018970
cccuCGUCUUACCCCAGCAGUGUUUGGgugcggugggagucucUAAUACUGCCGGGUAAUGAUGGAgg
((..(((((((((((.(((((((((.(((.(.....)))))).)))))).)))))).)))
-----UAAUACUGCCGGGUAAUGAUG-----      2    0,-2
-----UAAUACUGCCGGGUAAUGAUGG-----    10    0,-1
-----UAAUACUGCCGGGUAAUGAUGGu-----    3    0,-1
-----UAAUACUGCCGGGUAAUGAUGGA-----    4    0,0

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>hsa-mir-202      mi:28-49;MA:64-83      SRX018970
cgccucagagccgcccgccguuccuuuUUCCUAUGCAUUAUACUUCUUUGagggaucuggccuaaAGAGGUUAUAGGGCAUGG
GAAaacggggcgggucggguccuccccagcg
(((...(((...(((.....))))))))))..))))))
))))).))))))..))))..)))....)))
-----UUCCUAUGCAUUAUACUUCUU-----
-----7    0,-1
-----UUCCUAUGCAUUAUACUUCUUa-----
-----2    0,-1

```

>hsa-mir-203 3p:65-86 SRX018970

guguuuggggacucgcgcgcuggguccagugguucuaaacaguucaacaguucuguagcgcauuGUGAAUGUUAGGAC

CACUAGacccggcgggcgcggcgacagcga

[illegible]

-----UUGUGAAAUGUUUAGGAC

CACU----- 4 -2,-2

-----UUGUGAAAUGUUUAGGAC

CACUA----- 2 -2, -1

-----UGUGAAAUGUUUAGGAC

CACUAG----- 2 -1,0

-----UGUGAAAUGUUUAGGAC

CACUAGA----- 2 -1,1

-----GUGAAAUGUUUAGGAC

CACU----- 4 0,-2

-----GUGAAAUGUUUAGGAC

CACUA----- 16 0,-1

-----GUGAAAUGUUUAGGAC

CACUAu----- 2 0,-1

-----GUGAAAUGUUUAGGAC

CACUAG----- 55 0,0

-----GUGAAAUGUUUAGGAC

CACUAG_u----- 18 0,0

-----GUGAAAUGUUUAGGAC

CACUAG_{uu}----- 3 0,0

-----GUGAAAUGUUUAGGAC

CACUAGA----- 14 0,1

-----UGAAAUGUUUAGGAC

CACUA----- 6 1,-1

-----UGAAAUGUUUAGGAC

CACUAG----- 19 1,0

-----UGAAAUGUUUAGGAC

CACUAG_u----- 16 1,0

-----UGAAAUGUUUAGGAC

CACUAGuu----- 5 1,0

>hsa-mir-204 5p:33-54 SRX018970

ggcuacagucuuucuucaugugacucguggacUCCCUUUGUCAUCCUAUGCCUgagaauauaugaaggaggcugggaag

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gcaaaggacguucaauugucaucacuggc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UUCCCUUUGUCAUCCUAUGCC-----
----- 22 0,-1
-----UUCCCUUUGUCAUCCUAUGCCU-----
----- 40 0,0
-----UUCCCUUUGUCAUCCUAUGCCUuu-----
----- 2 0,0
-----GCUGGGAAG
GCAAAGGGAC----- 2
-----GCUGGGAAG
GCAAAGGGACGU----- 3

```

```

>hsa-mir-206 3p:53-74 SRX018970
ugcuucccgaggccacaugcuucuuuauauccccaauauggauuacuuugcuaUGGAAUGUAAGGAAGUGUGUGGuuucgg
caugug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UGGAAUGUAAGGAAGUGUGUGG-----
----- 3 0,0

```

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>hsa-mir-20a MA:8-30;mi:44-65 SRX018970
guagcacUAAAGUGCUUAUAGUGCAGGUAGuguuuaguuaucuaACUGCAUUAUGAGCACUAAAGGuacugc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UAAAGUGCUUAUAGUGCA----- 13 0,-5
-----UAAAGUGCUUAUAGUGCAG----- 124 0,-4
-----UAAAGUGCUUAUAGUGCAGG----- 48 0,-3
-----UAAAGUGCUUAUAGUGCAGGaa----- 2 0,-3
-----UAAAGUGCUUAUAGUGCAGGU----- 100 0,-2
-----UAAAGUGCUUAUAGUGCAGGUu----- 4 0,-2
-----UAAAGUGCUUAUAGUGCAGGUA----- 194 0,-1
-----UAAAGUGCUUAUAGUGCAGGUa----- 56 0,-1
-----UAAAGUGCUUAUAGUGCAGGUa----- 7 0,-1
-----UAAAGUGCUUAUAGUGCAGGUa----- 132 0,-1
-----UAAAGUGCUUAUAGUGCAGGUau----- 3 0,-1
-----UAAAGUGCUUAUAGUGCAGGUAG----- 48 0,0
-----UAAAGUGCUUAUAGUGCAGGUAGa----- 11 0,0

```

-----UAAAGUGCUUAUAGUGCAGGUAGU-----	7	0,1
-----AAAGUGCUUAUAGUGCAG-----	3	1,-4
-----AAAGUGCUUAUAGUGCAGGUA-----	5	1,-1
-----AAGUGCUUAUAGUGCAGGUAa-----	3	2,-1
-----ACUGCAUUAUGAGCACUAAAGU-----	3	0,1

>hsa-mir-20b MA:6-28;mi:44-65 SRX018970

aguacCAAAGUGCUCAUAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGCACUUCCAGuacu		
(((((...(((((((((((.(((((.(((.....))))).)))))).)))))))).))))))		
-----ACUGUAGUAUGGGCACUUC-----	2	0,-3
-----ACUGUAGUAUGGGCACUCCAG----	2	0,0

>hsa-mir-21 MA:8-29;mi:46-66 SRX018970

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca		
.((((...(((((((((((.(((((.(((((.(((.....))))).)))))).)))))))).)))))).		
-----GUAGCUUAUCAGACUGAUGUU-----		13
-1,-2		
-----GUAGCUUAUCAGACUGAUGUUG-----		22
-1,-1		
-----GUAGCUUAUCAGACUGAUGUUGA-----		17
-1,0		
-----GUAGCUUAUCAGACUGAUGUUGACU-----		2
-1,2		
-----UAGCUUAUCAGACUGAUG-----		1123
0,-4		
-----UAGCUUAUCAGACUGAUGa-----		4
0,-4		
-----UAGCUUAUCAGACUGAUGau-----		10
0,-4		
-----UAGCUUAUCAGACUGAUGU-----		4721
0,-3		
-----UAGCUUAUCAGACUGAUGUa-----		48
0,-3		
-----UAGCUUAUCAGACUGAUGUaa-----		32
0,-3		
-----UAGCUUAUCAGACUGAUGUau-----		2
0,-3		
-----UAGCUUAUCAGACUGAUGUU-----		

35828	0, -2	
-----UAGCUUAUCAGACUGAUGUUa-----		281
0, -2		
-----UAGCUUAUCAGACUGAUGUUaa-----		32
0, -2		
-----UAGCUUAUCAGACUGAUGUUau-----		3
0, -2		
-----UAGCUUAUCAGACUGAUGUUu-----		76
0, -2		
-----UAGCUUAUCAGACUGAUGUUG-----		
25075	0, -1	
-----UAGCUUAUCAGACUGAUGUUGu-----		115
0, -1		
-----UAGCUUAUCAGACUGAUGUUGA-----		
15671	0, 0	
-----UAGCUUAUCAGACUGAUGUUGAa-----		1017
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAaa-----		96
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAau-----		14
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAu-----		55
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAuu-----		8
0, 0		
-----UAGCUUAUCAGACUGAUGUUGAC-----		5436
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACa-----		2747
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACaa-----		16
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACau-----		17
0, 1		
-----UAGCUUAUCAGACUGAUGUUGACU-----		2011
0, 2		
-----UAGCUUAUCAGACUGAUGUUGACUa-----		4
0, 2		
-----UAGCUUAUCAGACUGAUGUUGACUu-----		7

0,2	
-----UAGCUUAUCAGACUGAUGUUGACUG-----	4
0,3	
-----AGCUUAUCAGACUGAUGU-----	7
1,-3	
-----AGCUUAUCAGACUGAUGUaa-----	2
1,-3	
-----AGCUUAUCAGACUGAUGUU-----	110
1,-2	
-----AGCUUAUCAGACUGAUGUUu-----	2
1,-2	
-----AGCUUAUCAGACUGAUGUUG-----	81
1,-1	
-----AGCUUAUCAGACUGAUGUUGu-----	7
1,-1	
-----AGCUUAUCAGACUGAUGUUGA-----	179
1,0	
-----AGCUUAUCAGACUGAUGUUGAa-----	11
1,0	
-----AGCUUAUCAGACUGAUGUUGAau-----	2
1,0	
-----AGCUUAUCAGACUGAUGUUGAC-----	58
1,1	
-----AGCUUAUCAGACUGAUGUUGACa-----	29
1,1	
-----AGCUUAUCAGACUGAUGUUGACau-----	8
1,1	
-----AGCUUAUCAGACUGAUGUUGACU-----	22
1,2	
-----AGCUUAUCAGACUGAUGUUGACUa-----	2
1,2	
-----GCUUAUCAGACUGAUGUU-----	47
2,-2	
-----GCUUAUCAGACUGAUGUUG-----	26
2,-1	
-----GCUUAUCAGACUGAUGUUGA-----	29
2,0	
-----GCUUAUCAGACUGAUGUUGAC-----	7

2,1	-----GCUUAUCAGACUGAUGUUGACa-----	4
2,1	-----GCUUAUCAGACUGAUGUUGACU-----	5
2,2	-----GCUUAUCAGACUGAUGUUGACUa-----	2
2,2	-----CAACACCAGUCGAUGGGC-----	5
0,-3	-----CAACACCAGUCGAUGGGCU-----	55
0,-2	-----CAACACCAGUCGAUGGGCUG-----	14
0,-1	-----CAACACCAGUCGAUGGGCUGU-----	50
0,0	-----CAACACCAGUCGAUGGGCUGUaa-----	44
0,0	-----CAACACCAGUCGAUGGGCUGUau-----	30
0,0	-----CAACACCAGUCGAUGGGCUGUu-----	3
0,0	-----CAACACCAGUCGAUGGGCUGUuu-----	10
0,0	-----CAACACCAGUCGAUGGGCUGUC-----	34
0,1	-----CAACACCAGUCGAUGGGCUGUCa-----	38
0,1	-----CAACACCAGUCGAUGGGCUGUCaa-----	2
0,1	-----CAACACCAGUCGAUGGGCUGUCau-----	17
0,1	-----CAACACCAGUCGAUGGGCUGUCU-----	52
0,2	-----CAACACCAGUCGAUGGGCUGUCUau-----	2
0,2	-----CAACACCAGUCGAUGGGCUGUCUu-----	12
0,2	-----CAACACCAGUCGAUGGGCUGUCUuu-----	21

CAGACAGGa-----	2	-2,-4	
-----			-UACAGCAGGCA
CAGACAG-----	4	-1,-5	
-----			-UACAGCAGGCA
CAGACAGG-----	21	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGa-----	4	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGaa-----	5	-1,-4	
-----			-UACAGCAGGCA
CAGACAGGCA-----	39	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAa-----	40	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAaa-----	5	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAau-----	20	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAu-----	31	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAuu-----	7	-1,-2	
-----			-UACAGCAGGCA
CAGACAGGCAG-----	3	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGa-----	19	-1,-1	
-----			-UACAGCAGGCA
CAGACAGGCAGU-----	6	-1,0	
-----			-ACAGCAGGCA
CAGACAGG-----	13	0,-4	
-----			-ACAGCAGGCA
CAGACAGGaa-----	4	0,-4	
-----			-ACAGCAGGCA
CAGACAGGCA-----	47	0,-2	
-----			-ACAGCAGGCA
CAGACAGGCAa-----	21	0,-2	
-----			-ACAGCAGGCA
CAGACAGGCAaa-----	22	0,-2	
-----			-ACAGCAGGCA

----- 3 0,-1

>hsa-mir-22 mi:15-36;MA:53-74 SRX018970

ggcugagccgcaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc

(((((((.....)))))))).)))))))))

-----AGUUCUUCAGUGGCAAGC-----

----- 6 0,-4

-----AGUUCUUCAGUGGCAAGCU-----

----- 30 0,-3

-----AGUUCUUCAGUGGCAAGCUU-----

----- 9 0,-2

-----AGUUCUUCAGUGGCAAGCUUU-----

----- 327 0,-1

-----AGUUCUUCAGUGGCAAGCUUUu-----

----- 21 0,-1

-----AGUUCUUCAGUGGCAAGCUUUuu-----

----- 4 0,-1

-----AGUUCUUCAGUGGCAAGCUUUA-----

----- 134 0,0

-----AGUUCUUCAGUGGCAAGCUUUAa-----

----- 30 0,0

-----AGUUCUUCAGUGGCAAGCUUUAU-----

----- 35 0,1

-----AAAGCUGCCAGUUGAAGAACU-----

----- 7 -1,-2

-----AAGCUGCCAGUUGAAGAA-----

----- 1393 0,-4

-----AAGCUGCCAGUUGAAGAAa-----

----- 10 0,-4

-----AAGCUGCCAGUUGAAGAAaa-----

----- 4 0,-4

-----AAGCUGCCAGUUGAAGAAau-----

----- 7 0,-4

-----AAGCUGCCAGUUGAAGAAu-----

----- 5 0,-4

-----AAGCUGCCAGUUGAAGAAuu-----

-----	25	0,-4	-----AAGCUGCCAGUUGAAGAAC-----
-----	967	0,-3	-----AAGCUGCCAGUUGAAGAACa-----
-----	83	0,-3	-----AAGCUGCCAGUUGAAGAACaa-----
-----	23	0,-3	-----AAGCUGCCAGUUGAAGAACau-----
-----	9	0,-3	-----AAGCUGCCAGUUGAAGAACU-----
-----	3501	0,-2	-----AAGCUGCCAGUUGAAGAACUa-----
-----	44	0,-2	-----AAGCUGCCAGUUGAAGAACUaa-----
-----	19	0,-2	-----AAGCUGCCAGUUGAAGAACUau-----
-----	36	0,-2	-----AAGCUGCCAGUUGAAGAACUu-----
-----	61	0,-2	-----AAGCUGCCAGUUGAAGAACUuu-----
-----	116	0,-2	-----AAGCUGCCAGUUGAAGAACUG-----
-----	804	0,-1	-----AAGCUGCCAGUUGAAGAACUGa-----
-----	80	0,-1	-----AAGCUGCCAGUUGAAGAACUGaa-----
-----	2	0,-1	-----AAGCUGCCAGUUGAAGAACUGU-----
-----	5241	0,0	-----AAGCUGCCAGUUGAAGAACUGUa-----
-----	86	0,0	-----AAGCUGCCAGUUGAAGAACUGUaa-----
-----	45	0,0	-----AAGCUGCCAGUUGAAGAACUGUau-----
-----	82	0,0	-----AAGCUGCCAGUUGAAGAACUGUU-----
-----	277	0,1	-----AAGCUGCCAGUUGAAGAACUGUua-----

-----	14	0,1	-----AAGCUGCCAGUUGAAGAACUGUUau-----
-----	7	0,1	-----AAGCUGCCAGUUGAAGAACUGUUu-----
-----	403	0,1	-----AAGCUGCCAGUUGAAGAACUGUUuu-----
-----	52	0,1	-----AAGCUGCCAGUUGAAGAACUGUUGC-----
-----	2	0,3	-----AGCUGCCAGUUGAAGAAC-----
-----	4	1,-3	-----AGCUGCCAGUUGAAGAACU-----
-----	14	1,-2	-----AGCUGCCAGUUGAAGAACUG-----
-----	6	1,-1	-----AGCUGCCAGUUGAAGAACUGU-----
-----	23	1,0	-----AGCUGCCAGUUGAAGAACUGUau-----
-----	2	1,0	-----AGCUGCCAGUUGAAGAACUGUUu-----
-----	2	1,1	

>hsa-mi r-221 mi:25-46;MA:65-87 SRX018970

ugaacauccaggucuggggcaugaACCUGGCAUACAAUGAUAUUcuguguucguuaggcaacAGCUACAUUGUCUGCU
GGGUUUCaggcuaaccuggaaacauguucuc

-----AACCUGGCAUACAAUGUAGAUa-----
 -----2-1,-2-----
 -----AACCUGGCAUACAAUGUAGAUUU-----
 -----5-1,0-----
 -----AACCUGGCAUACAAUGUAGAUUUu-----
 -----2-1,0-----
 -----ACCUGGCAUACAAUGUAGA-----
 -----30,-3-----
 -----ACCUGGCAUACAAUGUAGAU-----
 -----220,-2-----
 -----ACCUGGCAUACAAUGUAGAUa-----

```

----- 24 0,-2
-----ACCUGGCAUACAAUGUAGAUaa-----
----- 2 0,-2
-----ACCUGGCAUACAAUGUAGAUau-----
----- 2 0,-2
-----ACCUGGCAUACAAUGUAGAUU-----
----- 115 0,-1
-----ACCUGGCAUACAAUGUAGAUUa-----
----- 6 0,-1
-----ACCUGGCAUACAAUGUAGAUUU-----
----- 419 0,0
-----ACCUGGCAUACAAUGUAGAUUUa-----
----- 9 0,0
-----ACCUGGCAUACAAUGUAGAUUUu-----
----- 19 0,0
-----ACCUGGCAUACAAUGUAGAUUUC-----
----- 83 0,1
-----ACCUGGCAUACAAUGUAGAUUUCa-----
----- 3 0,1
-----ACCUGGCAUACAAUGUAGAUUUCU-----
----- 47 0,2
-----ACCUGGCAUACAAUGUAGAUUUCUG-----
----- 2 0,3
-----AGCUACAUUGUCUGCU
GG----- 6 0,-5
-----AGCUACAUUGUCUGCU
GGG----- 82 0,-4
-----AGCUACAUUGUCUGCU
GGGU----- 9 0,-3
-----AGCUACAUUGUCUGCU
GGGUau----- 12 0,-3
-----AGCUACAUUGUCUGCU
GGGUU----- 50 0,-2
-----AGCUACAUUGUCUGCU
GGGUUa----- 30 0,-2
-----AGCUACAUUGUCUGCU
GGGUUaa----- 20 0,-2
-----AGCUACAUUGUCUGCU

```


CUACUG	127	0,-3	AGCUACAUCUGG
CUACUGG	202	0,-2	AGCUACAUCUGG
CUACUGGG	248	0,-1	AGCUACAUCUGG
CUACUGGGa	3	0,-1	AGCUACAUCUGG
CUACUGGGaa	3	0,-1	AGCUACAUCUGG
CUACUGGGU	409	0,0	AGCUACAUCUGG
CUACUGGGUa	25	0,0	AGCUACAUCUGG
CUACUGGGUaa	46	0,0	AGCUACAUCUGG
CUACUGGGUau	30	0,0	AGCUACAUCUGG
CUACUGGGUu	43	0,0	AGCUACAUCUGG
CUACUGGGUuu	13	0,0	AGCUACAUCUGG
CUACUGGGUC	1030	0,1	AGCUACAUCUGG
CUACUGGGUCa	45	0,1	AGCUACAUCUGG
CUACUGGGUCaa	2	0,1	AGCUACAUCUGG
CUACUGGGUCau	14	0,1	AGCUACAUCUGG
CUACUGGGUCU	986	0,2	AGCUACAUCUGG
CUACUGGGUCUa	5	0,2	AGCUACAUCUGG
CUACUGGGUCUaa	3	0,2	AGCUACAUCUGG

CUACUGGGUCU _{au} -----	9	0,2	-----AGCUACAUCUGG
CUACUGGGUCU _u -----	55	0,2	-----AGCUACAUCUGG
CUACUGGGUCU _{uu} -----	50	0,2	-----AGCUACAUCUGG
CUACUGGGGUC-----	162	0,3	-----AGCUACAUCUGG
CUACUGGGGUC _a -----	14	0,3	-----AGCUACAUCUGG
CUACUGGGGUCU-----	52	0,4	-----GCUACAUCUGG
CUACUGGGGU _u -----	2	1,0	-----GCUACAUCUGG
CUACUGGGGUC-----	3	1,1	-----GCUACAUCUGG
CUACUGGGGUCU-----	4	1,2	-----GCUACAUCUGG
CUACUGGGGUCU _{uu} -----	2	1,2	

- 4 0,2
-----CAAGUCACUAGUGGUUCCGUUAG-----
- 14 0,3
-----AAAUGGUGCCCUAGUGACUACA-----
- 4 1,0

>hsa-mi r-2355 5p:11-31;3p:54-75 SRX018970

cagacgugucAUCCCCAGAUACAAUGGACAAuaugcuauuuuaaucguauggcAUUGUCCUUGCUGUUUGGAGAUaauc
ugcugac

$$(((\dots(((((((((\dots)))))))))\dots)))\dots$$

-----AUGGGGAGUACAAUGGACAUA-----

----- 9 0,1

-----AUUGUCCUUGCUGUUUGGAGA-----

----- 2 0, -1

>hsa-mi r-23a mi:9-30;MA:45-65 SRX018970

ggccggcuGGGGUCCUGGGGAUGGGAUUUgcuuccugucacaaAUCACAUUGCCAGGGAUUUCCaaccgacc

$$(((.(((.(((((((((((((.((((.(((((((.....)))))))).)))))).)))))).))))).$$

-----AAAUCACAUUGCCAGGGAUUUaa----- 2

-2, -2

-----AAAUCACAUUGCCAGGGAUUUCCA----- 3

-2,1

-----AAUCACAUGCCAGGGAUU----- 18

-1, -2

-----AAUCACAUUGCCAGGGAUUUa----- 3

-1,-2

-----AAUCACAUGCCAGGGAUUUC----- 11

-1,-1

-----AAUCACAUUGCCAGGGAUUUCa----- 3

-1,-1

-----AAUCACAUGCCAGGGAUUUCC----- 16

-1,0

-----AAUCACAUGCCAGGGAUUUCCA----- 10

-1,1

-----AUCACAUUGCCAGGGAUU----- 153

0,-3

-----AUCACAUUGCCAGGGAUUU----- 1394

0,-2	-AUCACAUUGCCAGGGAUUUa-----	259
0,-2	-AUCACAUUGCCAGGGAUUUaa-----	69
0,-2	-AUCACAUUGCCAGGGAUUUau-----	10
0,-2	-AUCACAUUGCCAGGGAUUUu-----	204
0,-2	-AUCACAUUGCCAGGGAUUUuu-----	10
0,-2	-AUCACAUUGCCAGGGAUUUC-----	1143
0,-1	-AUCACAUUGCCAGGGAUUUCa-----	282
0,-1	-AUCACAUUGCCAGGGAUUUCaa-----	28
0,-1	-AUCACAUUGCCAGGGAUUUCau-----	3
0,-1	-AUCACAUUGCCAGGGAUUUCu-----	41
0,-1	-AUCACAUUGCCAGGGAUUUCC-----	1315
0,0	-AUCACAUUGCCAGGGAUUUCCu-----	25
0,0	-AUCACAUUGCCAGGGAUUUCCuu-----	2
0,0	-AUCACAUUGCCAGGGAUUUCCA-----	4017
0,1	-AUCACAUUGCCAGGGAUUUCCAu-----	487
0,1	-AUCACAUUGCCAGGGAUUUCCAuu-----	43
0,1	-AUCACAUUGCCAGGGAUUUCCAA-----	625
0,2	-AUCACAUUGCCAGGGAUUUCCAAa-----	8
0,2	-AUCACAUUGCCAGGGAUUUCCAAu-----	75

0,2	-----AUCACAUUGCCAGGGAUUUCCAAuu-----	4
0,2	-----UCACAUUGCCAGGGAUUUa-----	3
1,-2	-----UCACAUUGCCAGGGAUUUu-----	3
1,-2	-----UCACAUUGCCAGGGAUUUCC-----	6
1,0	-----UCACAUUGCCAGGGAUUUCCA-----	11
1,1	-----UCACAUUGCCAGGGAUUUCCAA-----	7
1,2	-----UCACAUUGCCAGGGAUUUCCAAu-----	4
1,2	-----UCACAUUGCCAGGGAUUUCCAAC-----	5
1,3		

>hsa-mi r-23b mi:20-41;MA:58-78 SRX018970

cucaggugcucuggcugcuUGGGUCCUGGCAUGCUGAUUgugacuuaagauuaaaAUCACAUGCCAGGGAUUACCac
gcaaccacgaccuuggc

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-----UUGGGUUCCUGGCAUGCUGAU-----
----- 2   -1,-2
-----UUGGGUUCCUGGCAUGCUGAUU-----
----- 7   -1,-1
-----UUGGGUUCCUGGCAUGCUGAUUau-----
----- 2   -1,-1
-----UUGGGUUCCUGGCAUGCUGAUUU-----
-----10  -1,0
-----UUGGGUUCCUGGCAUGCUGAUUUu-----
----- 6   -1,0
-----UGGGUUCCUGGCAUGCUGAU-----
----- 9   0,-2
-----UGGGUUCCUGGCAUGCUGAUa-----
-----13  0,-2
-----UGGGUUCCUGGCAUGCUGAUU-----

```

```

----- 57 0,-1
-----UGGGUUCCUGGCAUGCUGAUUa-----
----- 6 0,-1
-----UGGGUUCCUGGCAUGCUGAUUau-----
----- 2 0,-1
-----UGGGUUCCUGGCAUGCUGAUUU-----
----- 227 0,0
-----UGGGUUCCUGGCAUGCUGAUUUa-----
----- 32 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
----- 86 0,0
-----UGGGUUCCUGGCAUGCUGAUUUuu-----
----- 12 0,0
-----GGGUUCCUGGCAUGCUGAU-----
----- 2 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
----- 14 1,-1
-----GGGUUCCUGGCAUGCUGAUUU-----
----- 26 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
----- 6 1,0
-----GGGUUCCUGGCAUGCUGAUUUaa-----
----- 9 1,0
-----GGGUUCCUGGCAUGCUGAUUUau-----
----- 2 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----
----- 8 1,0
-----GGGUUCCUGGCAUGCUGAUUUuu-----
----- 4 1,0
-----GGGUUCCUGGCAUGCUGAUUUUG-----
----- 3 1,1
-----GGGUUCCUGGCAUGCUGAUUUUGU-----
----- 11 1,2
-----AAUCACAUUGCCAGGGAUUA-----
----- 7 -1,-2
-----AAUCACAUUGCCAGGGAUUAu-----
----- 2 -1,-2
-----AAUCACAUUGCCAGGGAUUAC-----

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-----	13	-1,-1	-----AAUCACAUUGCCAGGGAUUACa--
-----	4	-1,-1	-----AAUCACAUUGCCAGGGAUUACC--
-----	23	-1,0	-----AAUCACAUUGCCAGGGAUUACCA-
-----	14	-1,1	-----AAUCACAUUGCCAGGGAUUACCAu
-----	2	-1,1	-----AAUCACAUUGCCAGGGAUUACCAC
-----	3	-1,2	-----AUCACAUUGCCAGGGAUU-----
-----	153	0,-3	-----AUCACAUUGCCAGGGAUUA-----
-----	949	0,-2	-----AUCACAUUGCCAGGGAUUAa-----
-----	243	0,-2	-----AUCACAUUGCCAGGGAUUAaa-----
-----	51	0,-2	-----AUCACAUUGCCAGGGAUUAau-----
-----	5	0,-2	-----AUCACAUUGCCAGGGAUUAu-----
-----	177	0,-2	-----AUCACAUUGCCAGGGAUUAuu-----
-----	15	0,-2	-----AUCACAUUGCCAGGGAUUAC-----
-----	935	0,-1	-----AUCACAUUGCCAGGGAUUACa-----
-----	349	0,-1	-----AUCACAUUGCCAGGGAUUACaa-----
-----	45	0,-1	-----AUCACAUUGCCAGGGAUUACau-----
-----	2	0,-1	-----AUCACAUUGCCAGGGAUUACu-----
-----	108	0,-1	-----AUCACAUUGCCAGGGAUUACC-----
-----	1996	0,0	-----AUCACAUUGCCAGGGAUUACCu-----

-----	56	0,0	-----AUCACAUUGCCAGGGGAUUACCUu
-----	19	0,0	-----AUCACAUUGCCAGGGGAUUACCA-
-----	5165	0,1	-----AUCACAUUGCCAGGGGAUUACCAa
-----	191	0,1	-----AUCACAUUGCCAGGGGAUUACCAa
a-----	2	0,1	-----AUCACAUUGCCAGGGGAUUACCAa
u-----	28	0,1	-----AUCACAUUGCCAGGGGAUUACCAu
-----	926	0,1	-----AUCACAUUGCCAGGGGAUUACCAu
u-----	245	0,1	-----AUCACAUUGCCAGGGGAUUACCAC
-----	1032	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
a-----	217	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
aa-----	4	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
au-----	9	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
u-----	3717	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
uu-----	67	0,2	-----AUCACAUUGCCAGGGGAUUACCAC
G-----	14	0,3	-----UCACAUUGCCAGGGGAUUA----
-----	3	1,-2	-----UCACAUUGCCAGGGGAUUAa--
-----	2	1,-2	-----UCACAUUGCCAGGGGAUUAC----
-----	9	1,-1	-----UCACAUUGCCAGGGGAUUACaa-
-----	2	1,-1	-----UCACAUUGCCAGGGGAUUACu--

AUUACC----- 2 0,-1
 -----AUCACAUUGCCAGUG

AUUACCa----- 3 0,-1

>hsa-mir-24-1 mi:7-28;MA:44-65 SRX018970

cuccggUGCCUACUGAGCUGAUUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag

(((((.(.(((.(((((((.(.(((.(.....)))))).)))))).))))))

-----GUGCCUACUGAGCUGAUUCA----- 10

-1,-2

-----GUGCCUACUGAGCUGAUUCAG----- 4

-1,-1

-----UGGCUCAGUUCAGCAGGA----- 4 0,-4

-----UGGCUCAGUUCAGCAGGAA----- 63 0,-3

-----UGGCUCAGUUCAGCAGGAa----- 8 0,-3

-----UGGCUCAGUUCAGCAGGAaa----- 2 0,-3

-----UGGCUCAGUUCAGCAGGAau----- 3 0,-3

-----UGGCUCAGUUCAGCAGGAAC----- 58 0,-2

-----UGGCUCAGUUCAGCAGGAACA----- 113 0,-1

-----UGGCUCAGUUCAGCAGGAACAa----- 38 0,-1

-----UGGCUCAGUUCAGCAGGAACAaa----- 8 0,-1

-----UGGCUCAGUUCAGCAGGAACAau----- 5 0,-1

-----UGGCUCAGUUCAGCAGGAACAu----- 16 0,-1

-----UGGCUCAGUUCAGCAGGAACAuu----- 12 0,-1

-----UGGCUCAGUUCAGCAGGAACAG----- 899 0,0

-----UGGCUCAGUUCAGCAGGAACAGa----- 47 0,0

-----UGGCUCAGUUCAGCAGGAACAGaa----- 2 0,0

-----UGGCUCAGUUCAGCAGGAACAGau----- 2 0,0

-----UGGCUCAGUUCAGCAGGAACAGu----- 1643

0,0

-----UGGCUCAGUUCAGCAGGAACAGuu----- 268 0,0

-----UGGCUCAGUUCAGCAGGAACAGG----- 6 0,1

-----UGGCUCAGUUCAGCAGGAACAGGA----- 3 0,2

-----GGCUCAGUUCAGCAGGAACA----- 4 1,-1

-----GGCUCAGUUCAGCAGGAACAG----- 22 1,0

-----GGCUCAGUUCAGCAGGAACAGa----- 6 1,0

-----GGCUCAGUUCAGCAGGAACAGu----- 62 1,0

-----GGCUCAGUUCAGCAGGAACAGuu----- 12 1,0

-----GCUCAGUUCAGCAGGAACAG----- 13 2,0

-----GCUCAGUUCAGCAGGAACAGa--	3	2,0
-----GCUCAGUUCAGCAGGAACAGu--	12	2,0
-----GCUCAGUUCAGCAGGAACAGuu-	22	2,0
-----GCUCAGUUCAGCAGGAACAGG--	16	2,1
-----GCUCAGUUCAGCAGGAACAGGu-	2	2,1
-----GCUCAGUUCAGCAGGAACAGGA-	4	2,2

>hsa-mir-24-2 mi:13-34;MA:50-71 SRX018970

cucugccucccgUGCCUACUGAGCUGAAACACAGuugguuuguguacacUGGCUCAGUUCAGCAGGAACAGgg (((((((((...((((((((((...((((((((...))))))))))))))))))))))))))))))))))		
-----GUGCCUACUGAGCUGAAAC-----	2	
-1,-4		
-----GUGCCUACUGAGCUGAAACAC-----	9	
-1,-2		
-----GUGCCUACUGAGCUGAAACACA-----	11	
-1,-1		
-----GUGCCUACUGAGCUGAAACACAGU-----	2	
-1,1		
-----UGGCUCAGUUCAGCAGGA-----	4	
0,-4		
-----UGGCUCAGUUCAGCAGGAA-----	63	
0,-3		
-----UGGCUCAGUUCAGCAGGAaA-----	8	
0,-3		
-----UGGCUCAGUUCAGCAGGAaAa-----	2	
0,-3		
-----UGGCUCAGUUCAGCAGGAaAu-----	3	
0,-3		
-----UGGCUCAGUUCAGCAGGAAC-----	58	
0,-2		
-----UGGCUCAGUUCAGCAGGAACA-----	113	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAa-----	38	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAaA-----	8	
0,-1		
-----UGGCUCAGUUCAGCAGGAACAaAu-----	5	
0,-1		

-----UGGCUCAGUUCAGCAGGAACAu--	16
0,-1	
-----UGGCUCAGUUCAGCAGGAACAuu-	12
0,-1	
-----UGGCUCAGUUCAGCAGGAACAG--	899
0,0	
-----UGGCUCAGUUCAGCAGGAACAGa-	47
0,0	
-----UGGCUCAGUUCAGCAGGAACAGaa	2
0,0	
-----UGGCUCAGUUCAGCAGGAACAGau	2
0,0	
-----UGGCUCAGUUCAGCAGGAACAGu-	1643
0,0	
-----UGGCUCAGUUCAGCAGGAACAGuu	268
0,0	
-----UGGCUCAGUUCAGCAGGAACAGG-	6
0,1	
-----GGCUCAGUUCAGCAGGAACA---	4
1,-1	
-----GGCUCAGUUCAGCAGGAACAG--	22
1,0	
-----GGCUCAGUUCAGCAGGAACAGa-	6
1,0	
-----GGCUCAGUUCAGCAGGAACAGu-	62
1,0	
-----GGCUCAGUUCAGCAGGAACAGuu	12
1,0	
-----GCUCAGUUCAGCAGGAACAG--	13
2,0	
-----GCUCAGUUCAGCAGGAACAGa-	3
2,0	
-----GCUCAGUUCAGCAGGAACAGu-	12
2,0	
-----GCUCAGUUCAGCAGGAACAGuu	22
2,0	
-----GCUCAGUUCAGCAGGAACAGG-	16
2,1	

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>hsa-mir-25 mi:14-34;MA:52-73 SRX018970
ggccaguguugagAGGCCGAGACUUGGGCAAUUGcuggacgcugcccugggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc
(((((((((.....)))))))).)))))
-----AGGCCGAGACUUGGGCAAUUG-----
---- 5 0,0
-----AGGCCGAGACUUGGGCAAUUGa-----
---- 2 0,0
-----AGGCCGAGACUUGGGCAAUUGau-----
---- 2 0,0
-----AGGCCGAGACUUGGGCAAUUGC-----
---- 16 0,1
-----AGGCCGAGACUUGGGCAAUUGCU-----
---- 48 0,2
-----AGGCCGAGACUUGGGCAAUUGCUa-----
---- 3 0,2
-----AGGCCGAGACUUGGGCAAUUGCUu-----
---- 5 0,2
-----CAUUGCACUUGUCUCGGU-----
---- 65 0,-4
-----CAUUGCACUUGUCUCGGUC-----
---- 164 0,-3
-----CAUUGCACUUGUCUCGGUCU-----
---- 370 0,-2
-----CAUUGCACUUGUCUCGGUCUaa-----
---- 2 0,-2
-----CAUUGCACUUGUCUCGGUCUuu-----
---- 2 0,-2
-----CAUUGCACUUGUCUCGGUCUG-----
---- 262 0,-1
-----CAUUGCACUUGUCUCGGUCUGu-----
---- 75 0,-1
-----CAUUGCACUUGUCUCGGUCUGuu-----
---- 15 0,-1

```

```

-----CAUUGCACUUGUCUCGGUCUGA-----
---- 865 0,0
-----CAUUGCACUUGUCUCGGUCUGAa-----
---- 32 0,0
-----CAUUGCACUUGUCUCGGUCUGAaa-----
---- 2 0,0
-----CAUUGCACUUGUCUCGGUCUGAau-----
---- 3 0,0
-----CAUUGCACUUGUCUCGGUCUGAu-----
---- 47 0,0
-----CAUUGCACUUGUCUCGGUCUGAuu-----
---- 7 0,0
-----CAUUGCACUUGUCUCGGUCUGAC-----
---- 3 0,1
-----AUUGCACUUGUCUCGGUC-----
---- 6 1,-3
-----AUUGCACUUGUCUCGGUCU-----
---- 12 1,-2
-----AUUGCACUUGUCUCGGUCUG-----
---- 3 1,-1
-----AUUGCACUUGUCUCGGUCUGu-----
---- 2 1,-1
-----AUUGCACUUGUCUCGGUCUGA-----
---- 35 1,0
-----AUUGCACUUGUCUCGGUCUGAu-----
---- 4 1,0

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>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018970

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guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.((((((.(((((((((.(((((((((.((.....))...)))))))))).)))))))).)))))))).)))
-----UUCAAGUAAUCCAGGAUA-----
499 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
27 0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
5 0,-4
-----UUCAAGUAAUCCAGGAUAu-----
12 0,-4

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-----UUCAAGUAAUCCAGGAUAG-----
1461 0, -3
-----UUCAAGUAAUCCAGGAUAGa-----
5 0, -3
-----UUCAAGUAAUCCAGGAUAGaa-----
2 0, -3
-----UUCAAGUAAUCCAGGAUAGu-----
7 0, -3
-----UUCAAGUAAUCCAGGAUAGG-----
2206 0, -2
-----UUCAAGUAAUCCAGGAUAGGa-----
11 0, -2
-----UUCAAGUAAUCCAGGAUAGGaa-----
5 0, -2
-----UUCAAGUAAUCCAGGAUAGGau-----
17 0, -2
-----UUCAAGUAAUCCAGGAUAGGu-----
22 0, -2
-----UUCAAGUAAUCCAGGAUAGGuu-----
52 0, -2
-----UUCAAGUAAUCCAGGAUAGGC-----
999 0, -1
-----UUCAAGUAAUCCAGGAUAGGCa-----
1157 0, -1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
651 0, -1
-----UUCAAGUAAUCCAGGAUAGGCau-----
765 0, -1
-----UUCAAGUAAUCCAGGAUAGGCU-----
14718 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
104 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
289 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
1211 0, 0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
869 0, 0

```

-----UUCAAGUAAUCCAGGAUAGGCUuu-----
3406    0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
2      0,1
-----UUCAAGUAAUCCAGGAUAGGCUG-----
2      0,2
-----UCAAGUAAUCCAGGAUAG-----
18     1,-3
-----UCAAGUAAUCCAGGAUAGG-----
16     1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
6      1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
15     1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
7      1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
16     1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
159    1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
2      1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
6      1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
9      1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
10     1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
20     1,0
-----UCAAGUAAUCCAGGAUAGGCUG-----
2      1,1
-----CAAGUAAUCCAGGAUAGG-----
4      2,-2
-----CAAGUAAUCCAGGAUAGGCaa-----
2      2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
7      2,0

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>hsa-mir-26a-2 MA:14-35;mi:52-73 SRX018970

ggcuguggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu

(((((...((...(((.....))))))))).))))))..))..))
)))

-----AUUCAAGUAAUCCAGGAUA-----

---- 3 -1,-4

-----AUUCAAGUAAUCCAGGAUAGG-----

---- 2 -1,-2

-----AUUCAAGUAAUCCAGGAUAGGC-----

---- 2 -1,-1

-----AUUCAAGUAAUCCAGGAUAGGCU-----

---- 7 -1,0

-----AUUCAAGUAAUCCAGGAUAGGCUau-----

---- 2 -1,0

-----UUCAAGUAAUCCAGGAUA-----

---- 499 0,-4

-----UUCAAGUAAUCCAGGAUAa-----

---- 27 0,-4

-----UUCAAGUAAUCCAGGAUAaa-----

---- 5 0,-4

-----UUCAAGUAAUCCAGGAUAu-----

---- 12 0,-4

-----UUCAAGUAAUCCAGGAUAG-----

---- 1461 0,-3

-----UUCAAGUAAUCCAGGAUAGa-----

---- 5 0,-3

-----UUCAAGUAAUCCAGGAUAGaa-----

---- 2 0,-3

-----UUCAAGUAAUCCAGGAUAGu-----

---- 7 0,-3

-----UUCAAGUAAUCCAGGAUAGG-----

---- 2206 0,-2

-----UUCAAGUAAUCCAGGAUAGGa-----

---- 11 0,-2

-----UUCAAGUAAUCCAGGAUAGGaa-----

---- 5 0,-2

```

-----UUCAAGUAAUCCAGGAUAGGau-----
---- 17 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 22 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 52 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
---- 999 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 1157 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 651 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 765 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 14718 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
---- 104 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
---- 289 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
---- 1211 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
---- 869 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
---- 3406 0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
---- 2 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGU-----
---- 2 0,2
-----UCAAGUAAUCCAGGAUAG-----
---- 18 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
---- 16 1,-2
-----UCAAGUAAUCCAGGAUAGGC-----
---- 6 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
---- 15 1,-1

```

```

-----UCAAGUAAUCCAGGAUAGGCaa-----
----   7   1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
----  16   1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
---- 159   1,0
-----UCAAGUAAUCCAGGAUAGGCUa-----
----   2   1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
----   6   1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
----   9   1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
----  10   1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
----  20   1,0
-----UCAAGUAAUCCAGGAUAGGCUG-----
----   2   1,1
-----CAAGUAAUCCAGGAUAGG-----
----   4   2,-2
-----CAAGUAAUCCAGGAUAGGCaa-----
----   2   2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
----   7   2,0
-----CCUAUUCUUGAUUACUUGUUU-----
----   4   0,-1

```

>hsa-mir-26b MA:12-32;mi:47-68 SRX018970

```

ccgggaccagUUCAAGUAAUUCAGGAUAGGUgugugucguccagCCUGUUCUCCAUUACUUGGCUCggggaccgg
((((..((((((.(((((((..(((((((((((. ....)))))))))))).)))))))).))))))
-----UUCAAGUAAUUCAGGAUA-----
    59   0,-3
-----UUCAAGUAAUUCAGGAUAa-----
    7    0,-3
-----UUCAAGUAAUUCAGGAUAaa-----
    3    0,-3
-----UUCAAGUAAUUCAGGAUAG-----
   485   0,-2

```



```

-----UUCAAGUAAUUCAGGAUAGa-----
2  0,-2
-----UUCAAGUAAUUCAGGAUAGuu-----
3  0,-2
-----UUCAAGUAAUUCAGGAUAGG-----
914 0,-1
-----UUCAAGUAAUUCAGGAUAGGa-----
13  0,-1
-----UUCAAGUAAUUCAGGAUAGGaa-----
6  0,-1
-----UUCAAGUAAUUCAGGAUAGGau-----
9  0,-1
-----UUCAAGUAAUUCAGGAUAGGU-----
1219  0,0
-----UUCAAGUAAUUCAGGAUAGGUa-----
380 0,0
-----UUCAAGUAAUUCAGGAUAGGUaa-----
732 0,0
-----UUCAAGUAAUUCAGGAUAGGUau-----
592 0,0
-----UUCAAGUAAUUCAGGAUAGGUU-----
5418  0,1
-----UUCAAGUAAUUCAGGAUAGGUUa-----
753 0,1
-----UUCAAGUAAUUCAGGAUAGGUUaa-----
77  0,1
-----UUCAAGUAAUUCAGGAUAGGUUau-----
46  0,1
-----UUCAAGUAAUUCAGGAUAGGUUu-----
2853  0,1
-----UUCAAGUAAUUCAGGAUAGGUUuu-----
155 0,1
-----UUCAAGUAAUUCAGGAUAGGUUG-----
17  0,2
-----UUCAAGUAAUUCAGGAUAGGUUGU-----
2  0,3
-----UCAAGUAAUUCAGGAUAG-----
4  1,-2

```

```

-----UCAAGUAAUUCAGGAUAGG-----
5   1,-1
-----UCAAGUAAUUCAGGAUAGGU-----
3   1,0
-----UCAAGUAAUUCAGGAUAGGUaa-----
2   1,0
-----UCAAGUAAUUCAGGAUAGGUau-----
4   1,0
-----UCAAGUAAUUCAGGAUAGGUU-----
50  1,1
-----UCAAGUAAUUCAGGAUAGGUUa-----
4   1,1
-----UCAAGUAAUUCAGGAUAGGUUaa-----
2   1,1
-----UCAAGUAAUUCAGGAUAGGUUu-----
21  1,1
-----UCAAGUAAUUCAGGAUAGGUUG-----
5   1,2
-----UCAAGUAAUUCAGGAUAGGUUGU-----
2   1,3
-----CAAGUAAUUCAGGAUAGGUU-----
2   2,1
-----CAAGUAAUUCAGGAUAGGUUu-----
5   2,1
-----CCUGUUCUCCAUUACUUGGCUau-----
2   0,-1
-----CCUGUUCUCCAUUACUUGGCUCuu-----
2   0,0

```

>hsa-mir-27a mi:10-31;MA:51-71 SRX018970

```

cugaggagcAGGGCUUAGCUGCUUGUGAGCAggguccacaccaagucgugUUCACAGUGGCUAAGUUCCGCccccag
(((.((.((.((((((((((.((.(((((((.((.(.....))).)))))))).)))))))).))))))
-----AGGGCUUAGCUGCUUGUGAGCAG-----
2   0,1
-----GUUCACAGUGGCUAAGUU-----
5   -1,-4
-----GUUCACAGUGGCUAAGUUC-----
13  -1,-3

```

```

-----UUCACAGUGGCUAAGUUC-----
3250 0,-3
-----UUCACAGUGGCUAAGUUCa-----
6 0,-3
-----UUCACAGUGGCUAAGUUC-----
65 0,-2
-----UUCACAGUGGCUAAGUUCcu-----
5 0,-2
-----UUCACAGUGGCUAAGUUCCG-----
167 0,-1
-----UUCACAGUGGCUAAGUUCCGa-----
27 0,-1
-----UUCACAGUGGCUAAGUUCCGaa-----
3 0,-1
-----UUCACAGUGGCUAAGUUCCGu-----
35 0,-1
-----UUCACAGUGGCUAAGUUCCGuu-----
3 0,-1
-----UUCACAGUGGCUAAGUUCCGC-----
19 0,0
-----UUCACAGUGGCUAAGUUCCGCaa-----
11 0,0
-----UUCACAGUGGCUAAGUUCCGCau-----
2 0,0
-----UCACAGUGGCUAAGUUCCG-----
2 1,-1

```

>hsa-mir-27b mi:19-40;MA:61-81 SRX018970

accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG
Caccugaagagaaggug

((((((((.....((((((((((((((((((((.....((((((((.....((.....)))..))))))))))..))))))))))))))
))))..))))..))))).

```

-----CAGAGCUUAGCUGAUUGGUGA-----
-----2 -1,-2
-----AGAGCUUAGCUGAUUGGUG-----
-----5 0,-3
-----AGAGCUUAGCUGAUUGGUGA-----
-----46 0,-2

```

```

-----AGAGCUUAGCUGAUUGGUGAA-----
-----73 0,-1-----
-----AGAGCUUAGCUGAUUGGUGAAC-----
-----3 0,0-----
-----AGAGCUUAGCUGAUUGGUGAACA-----
-----4 0,1-----
-----AGAGCUUAGCUGAUUGGUGAACAG-----
-----3 0,2-----
-----GUUCACAGUGGCUAAGUU-----
-----5 -1,-4-----
-----GUUCACAGUGGCUAAGUUC-----
-----13 -1,-3-----
-----GUUCACAGUGGCUAAGUUCU-----
-----3 -1,-2-----
-----UUCACAGUGGCUAAGUUC-----
-----3250 0,-3-----
-----UUCACAGUGGCUAAGUUCa-----
-----6 0,-3-----
-----UUCACAGUGGCUAAGUUCU-----
-----758 0,-2-----
-----UUCACAGUGGCUAAGUUCUa-----
-----4 0,-2-----
-----UUCACAGUGGCUAAGUUCUa-----
a-----10 0,-2-----
-----UUCACAGUGGCUAAGUUCUa-----
u-----2 0,-2-----
-----UUCACAGUGGCUAAGUUCUu-----
-----9 0,-2-----
-----UUCACAGUGGCUAAGUUCUu-----
u-----12 0,-2-----
-----UUCACAGUGGCUAAGUUCUG-----
-----92 0,-1-----
-----UUCACAGUGGCUAAGUUCUG-----
a-----31 0,-1-----
-----UUCACAGUGGCUAAGUUCUG-----
aa-----19 0,-1-----
-----UUCACAGUGGCUAAGUUCUG-----
au-----2 0,-1-----

```

```

-----UUCACAGUGGCUAAGUUCUG
u----- 15 0,-1
-----UUCACAGUGGCUAAGUUCUG
uu----- 13 0,-1
-----UUCACAGUGGCUAAGUUCUG
C----- 226 0,0
-----UUCACAGUGGCUAAGUUCUG
Cu----- 3 0,0
-----UUCACAGUGGCUAAGUUCUG
Cuu----- 2 0,0
-----UUCACAGUGGCUAAGUUCUG
CA----- 43 0,1
-----UUCACAGUGGCUAAGUUCUG
CAa----- 38 0,1
-----UUCACAGUGGCUAAGUUCUG
CAau----- 3 0,1
-----UUCACAGUGGCUAAGUUCUG
CAu----- 84 0,1
-----UUCACAGUGGCUAAGUUCUG
CAuu----- 16 0,1
-----UCACAGUGGCUAAGUUCU-
----- 10 1,-2
-----UCACAGUGGCUAAGUUCUG
CA----- 2 1,1
-----UCACAGUGGCUAAGUUCUG
CAu----- 4 1,1
-----UCACAGUGGCUAAGUUCUG
CAuu----- 3 1,1

```

>hsa-mir-28 5p:14-35;3p:54-75 SRX018970

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGUuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu

(((.(((((((((.(((((((((((((((((.((((((((.....))))).))))).))))).))))).))))))
)..)))

```

-----UCAAGGAGCUCACAGUCUA-----
----- 2 -2,-5
-----CAAGGAGCUCACAGUCUAUUGA-----
----- 4 -1,-1

```

```

-----AAGGAGCUCACAGUCUAU-----
----- 4 0,-4
-----AAGGAGCUCACAGUCUAUa-----
----- 8 0,-4
-----AAGGAGCUCACAGUCUAUU-----
----- 37 0,-3
-----AAGGAGCUCACAGUCUAUUu-----
----- 2 0,-3
-----AAGGAGCUCACAGUCUAUUG-----
----- 21 0,-2
-----AAGGAGCUCACAGUCUAUUGu-----
----- 3 0,-2
-----AAGGAGCUCACAGUCUAUUGA-----
----- 188 0,-1
-----AAGGAGCUCACAGUCUAUUGAa-----
----- 8 0,-1
-----AAGGAGCUCACAGUCUAUUGAaa-----
----- 7 0,-1
-----AAGGAGCUCACAGUCUAUUGAu-----
----- 2 0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 139 0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 29 0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 12 0,1
-----CACUAGAUUGUGAGCUCC-----
----- 6 0,-4
-----CACUAGAUUGUGAGCUCCU-----
----- 11 0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 14 0,-2
-----CACUAGAUUGUGAGCUCCUGa-----
----- 4 0,-2
-----CACUAGAUUGUGAGCUCCUGG-----
----- 260 0,-1
-----CACUAGAUUGUGAGCUCCUGGu-----
----- 12 0,-1

```

-----			-----CACUAGAUUGUGAGCUCCUGGuu-----
-----	6	0,-1	
-----			-----CACUAGAUUGUGAGCUCCUGGA-----
-----	1543	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAa-----
-----	795	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAaa-----
-----	102	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAau-----
-----	51	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAu-----
-----	57	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAuu-----
-----	13	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAG-----
-----	13	0,1	
-----			-----CACUAGAUUGUGAGCUCCUGGAGa-----
-----	2	0,1	
-----			-----CACUAGAUUGUGAGCUCCUGGAGu-----
-----	11	0,1	
-----			-----ACUAGAUUGUGAGCUCCUGG-----
-----	5	1,-1	
-----			-----ACUAGAUUGUGAGCUCCUGGA-----
-----	44	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAa-----
-----	36	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAaa-----
-----	8	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAau-----
-----	4	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAu-----
-----	5	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAG-----
-----	17	1,1	
-----			-----ACUAGAUUGUGAGCUCCUGGAGa-----
-----	19	1,1	
-----			-----ACUAGAUUGUGAGCUCCUGGAGaa-----
-----	5	1,1	

-----			-----ACUAGAUUGUGAGCUCCUGGAGu-----
-----	10	1,1	
-----			-----CUAGAUUGUGAGCUCCUGGA-----
-----	3	2,0	
-----			-----CUAGAUUGUGAGCUCCUGGAa-----
-----	2	2,0	
-----			-----CUAGAUUGUGAGCUCCUGGAG-----
-----	2	2,1	
-----			-----CUAGAUUGUGAGCUCCUGGAGa-----
-----	6	2,1	
-----			-----CUAGAUUGUGAGCUCCUGGAGaa-----
-----	2	2,1	

```
>hsa-mir-296      5p:14-34;3p:48-69      SRX018970
aggaccuuccagAGGGCCCCCUCAAUCCUGUugugccuaauucaGAGGGUUGGGUGGAGGCUCUCCugaagggcucu
((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.(((((((.
-----AGGGCCCCCUCAAUCCU-----
      2      0,-2
```

```

>hsa-mir-299      5p:7-28;3p:39-60      SRX018970
aagaaaUGGUUUACCGUCCCACAUACAUuuugaauaugUAUGUGGGAUGGUAACCGCUUcuu
((((.(((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUGGUUUACCGUCCCACAU----- 3    -1,-3
-----AUGGUUUACCGUCCCACAUAC----- 5    -1,-2
-----AUGGUUUACCGUCCCACAUACA----- 16   -1,-1
-----AUGGUUUACCGUCCCACAUACAa----- 2    -1,-1
-----UGGUUUACCGUCCCACAU----- 8     0,-3
-----UGGUUUACCGUCCCACAUAC----- 4     0,-2
-----UGGUUUACCGUCCCACAUACA----- 10    0,-1
-----UGGUUUACCGUCCCACAUACAU----- 12    0,0
-----UAUGUGGGAUGGUAACCGCUU----- 9     0,0

```

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>hsa-mir-29a      mi:4-25;MA:42-63      SRX018970
augACUGAUUUCUUUUGGUGUUCAGagucaauaauuuuucUAGCACCAUCUGAAAUCGGUUAu
(((((((((((((((...(((((((.((((.....))))))))))))))...))))))))))
---ACUGAUUUCUUUUGGUGUUC-----                2    0,-2
---ACUGAUUUCUUUUGGUGUUC-----                6    0,-1
---ACUGAUUUCUUUUGGUGUUCa-----                2    0,-1

```


---ACUGAUUUCUUUUGGUGUUCAG-----	11	0,0
---ACUGAUUUCUUUUGGUGUUCAGA-----	11	0,1
-----CUAGCACCAUCUGAAAUC-----	3	-1,-5
-----CUAGCACCAUCUGAAAUCG-----	6	-1,-4
-----CUAGCACCAUCUGAAAUCGG-----	62	-1,-3
-----CUAGCACCAUCUGAAAUCGGau--	6	-1,-3
-----CUAGCACCAUCUGAAAUCGGU---	77	-1,-2
-----CUAGCACCAUCUGAAAUCGGUa--	19	-1,-2
-----CUAGCACCAUCUGAAAUCGGUaa-	32	-1,-2
-----CUAGCACCAUCUGAAAUCGGUau-	4	-1,-2
-----CUAGCACCAUCUGAAAUCGGUU--	707	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUu-	231	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUuu	13	-1,-1
-----CUAGCACCAUCUGAAAUCGGUUA-	255	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAa	41	-1,0
-----CUAGCACCAUCUGAAAUCGGUUAU	43	-1,1
-----UAGCACCAUCUGAAAUCG-----	285	0,-4
-----UAGCACCAUCUGAAAUCGa----	7	0,-4
-----UAGCACCAUCUGAAAUCGuu---	3	0,-4
-----UAGCACCAUCUGAAAUCGG-----	4132	0,-3
-----UAGCACCAUCUGAAAUCGGa---	3	0,-3
-----UAGCACCAUCUGAAAUCGGaa--	6	0,-3
-----UAGCACCAUCUGAAAUCGGau--	51	0,-3
-----UAGCACCAUCUGAAAUCGGU---	987	0,-2
-----UAGCACCAUCUGAAAUCGGUa--	107	0,-2
-----UAGCACCAUCUGAAAUCGGUaa-	1157	0,-2
-----UAGCACCAUCUGAAAUCGGUau-	204	0,-2
-----UAGCACCAUCUGAAAUCGGUU--	16211	0,-1
-----UAGCACCAUCUGAAAUCGGUUu-	13429	0,-1
-----UAGCACCAUCUGAAAUCGGUUuu	815	0,-1
-----UAGCACCAUCUGAAAUCGGUUA-	48816	0,0
-----UAGCACCAUCUGAAAUCGGUUAa	6000	0,0
-----UAGCACCAUCUGAAAUCGGUUAaa	40	0,0
-----UAGCACCAUCUGAAAUCGGUUAau	44	0,0
-----UAGCACCAUCUGAAAUCGGUUUAU	4614	0,1
-----UAGCACCAUCUGAAAUCGGUUUAu	43	0,1
-----UAGCACCAUCUGAAAUCGGUUUAaa	2	0,1
-----UAGCACCAUCUGAAAUCGGUUUAUu	40	0,1

-----UAGCACCAUUUGAAAUCAG-----
- 284 0,-4

```

-----UAGCACCAUUUGAAAUCAGa-----
- 13 0,-4
-----UAGCACCAUUUGAAAUCAGU-----
- 6623 0,-3
-----UAGCACCAUUUGAAAUCAGUaa-----
- 11 0,-3
-----UAGCACCAUUUGAAAUCAGUau-----
- 3 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----
- 20 0,-3
-----UAGCACCAUUUGAAAUCAGUuu-----
- 26 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 340 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 21 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 6 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 202 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 30 0,-1
-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 3 0,-1
-----UAGCACCAUUUGAAAUCAGUGUau-----
- 3 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 273 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 10 0,0
-----AGCACCAUUUGAAAUCAGU-----
- 76 1,-3
-----AGCACCAUUUGAAAUCAGUG-----
- 4 1,-2
-----AGCACCAUUUGAAAUCAGUGUU-----
- 3 1,0
-----GCACCAUUUGAAAUCAGU-----
- 7 2,-3

```

cuucuggaagCUGGUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g

-----GCUGGUUUCACAUGGUGGCUU-----

-----GCUGGUUUCACAUGGUGGCUUAG-----

-----CUGGUUUCACAUGGUGGCUU-----

-----CUAGCACCAUUUGAAAUCA-----

-----CUAGCACCAUUUGAAAUCAG-----

-----CUAGCACCAUUUGAAAUCAGU-----

-----CUAGCACCAUUUGAAAUCAGUG-----

-----CUAGCACCAUUUGAAAUCAGUGU-----

-----UAGCACCAUUUGAAAUCA-----

-----UAGCACCAUUUGAAAUCA_{au}-----

-----UAGACCAUUUGAAAUCAuu-----

-----UAGCACCAUUUGAAAUCAG-----

-----UAGCACCAUUUGAAAUCAGa-----

-----UAGCACCAUUUGAAAUCAGU-----

-----UAGCACCAUUUGAAAUCAGU_{aa}-----

-----UAGCACCAUUUGAAAUCAGU_{au}-----

```

-----UAGCACCAUUUGAAAUCAGUu-----
- 20 0,-3
-----UAGCACCAUUUGAAAUCAGUuu-----
- 26 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 340 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 21 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 6 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 202 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 30 0,-1
-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 3 0,-1
-----UAGCACCAUUUGAAAUCAGUGUau-----
- 3 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 273 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 10 0,0
-----UAGCACCAUUUGAAAUCAGUGUUU-----
- 66 0,1
-----UAGCACCAUUUGAAAUCAGUGUUUU-----
- 3 0,2
-----AGCACCAUUUGAAAUCAGU-----
- 76 1,-3
-----AGCACCAUUUGAAAUCAGUG-----
- 4 1,-2
-----AGCACCAUUUGAAAUCAGUGUU-----
- 3 1,0
-----GCACCAUUUGAAAUCAGU-----
- 7 2,-3

```

>hsa-mir-29c mi:16-37;MA:54-75 SRX018970

aucucuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug
uaggggga

-----			-----CUAGCACCAUUUGAAAUCGGUUA-----
-----	13	-1,0	
-----			-----UAGCACCAUUUGAAAUCG-----
-----	185	0,-4	
-----			-----UAGCACCAUUUGAAAUCGu-----
-----	2	0,-4	
-----			-----UAGCACCAUUUGAAAUCGuu-----
-----	4	0,-4	
-----			-----UAGCACCAUUUGAAAUCGG-----
-----	1095	0,-3	
-----			-----UAGCACCAUUUGAAAUCGGa-----
-----	2	0,-3	
-----			-----UAGCACCAUUUGAAAUCGGau-----
-----	5	0,-3	
-----			-----UAGCACCAUUUGAAAUCGGU-----
-----	309	0,-2	
-----			-----UAGCACCAUUUGAAAUCGGUa-----
-----	9	0,-2	
-----			-----UAGCACCAUUUGAAAUCGGUaa-----
-----	121	0,-2	
-----			-----UAGCACCAUUUGAAAUCGGUau-----
-----	10	0,-2	
-----			-----UAGCACCAUUUGAAAUCGGUU-----
-----	1657	0,-1	
-----			-----UAGCACCAUUUGAAAUCGGUUu-----
-----	1536	0,-1	
-----			-----UAGCACCAUUUGAAAUCGGUUuu-----
-----	82	0,-1	
-----			-----UAGCACCAUUUGAAAUCGGUUA-----
-----	8442	0,0	
-----			-----UAGCACCAUUUGAAAUCGGUUAa-----
-----	667	0,0	
-----			-----UAGCACCAUUUGAAAUCGGUUAaa-----
-----	4	0,0	
-----			-----UAGCACCAUUUGAAAUCGGUUAau-----
-----	8	0,0	
-----			-----UAGCACCAUUUGAAAUCGGUUAU-----
-----	474	0,1	

```

-----UAGCACCAUUUGAAAUCGGUUAUa---
----- 6 0,1
-----UAGCACCAUUUGAAAUCGGUUAUu---
----- 4 0,1
-----AGCACCAUUUGAAAUCGG-----
----- 3 1,-3
-----AGCACCAUUUGAAAUCGGUaa-----
----- 2 1,-2
-----AGCACCAUUUGAAAUCGGUU-----
----- 8 1,-1
-----AGCACCAUUUGAAAUCGGUUu-----
----- 11 1,-1
-----AGCACCAUUUGAAAUCGGUUA-----
----- 33 1,0
-----AGCACCAUUUGAAAUCGGUUAa-----
----- 6 1,0
-----AGCACCAUUUGAAAUCGGUUAU-----
----- 5 1,1
-----GCACCAUUUGAAAUCGGUUA-----
----- 2 2,0
-----GCACCAUUUGAAAUCGGUUAU-----
----- 2 2,1
-----GCACCAUUUGAAAUCGGUUAUu-----
----- 3 2,1

```

>hsa-mir-301a 3p:51-73 SRX018970

acugcuaacgaaugcucugacuuuauugcacuacuguacuuaacagcuagCAGUGCAAUAGUAUUGUCAAAAGCaucugaa
agcagg

.((((((..(((.(((((((((.(((((((((((.((((((...))))).))))))))))))).))))).))..
))))).

-----GCUCUGACUUUAUUGCACUACU-----

----- 4

-----CAGUGCAAUAGUAUUGUCA-----

----- 2 0,-3

>hsa-mir-3065 5p:10-32;3p:50-72 SRX018970

cugcccucuUCAACAAAAUCACUGAUGCUGGAgucgccugagucaucacUCAGCACCAGGAUUAUUGUUGGAGaggacag

(((.(((((((((((.(((.(((.(((((((((((.((((((...))))).))))))))))))).))))).))..


```

-----UCAACAAAAUCACUGAUG-----
4    0,-5
-----UCAACAAAAUCACUGAUGC-----
19   0,-4
-----UCAACAAAAUCACUGAUGCU-----
131  0,-3
-----UCAACAAAAUCACUGAUGCUG-----
34   0,-2
-----UCAACAAAAUCACUGAUGCUGG-----
33   0,-1
-----UCAACAAAAUCACUGAUGCUGGA-----
32   0,0
-----UCAACAAAAUCACUGAUGCUGGAGU-----
4    0,2
-----UCAGCACCAGGAUAUUGU-----
3    0,-5
-----UCAGCACCAGGAUAUUGUUGG-----
2    0,-2
-----UCAGCACCAGGAUAUUGUUGGA-----
3    0,-1
-----UCAGCACCAGGAUAUUGUUGGAa-----
2    0,-1

```

>hsa-mir-30a MA:6-27;mi:47-68 SRX018970

```

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc
(((.((((((((((((((..((((((((((((((((.....)))).....)))))))))))))))))))))))))).)))
----CUGUAAACAUCCUCGACU----- 4
-1,-5
----CUGUAAACAUCCUCGACUGGAA----- 6
-1,-1
----CUGUAAACAUCCUCGACUGGAAG----- 8 -1,0
----CUGUAAACAUCCUCGACUGGAAGa----- 3 -1,0
----CUGUAAACAUCCUCGACUGGAAGC----- 41 -1,1
----CUGUAAACAUCCUCGACUGGAAGCa----- 5 -1,1
----CUGUAAACAUCCUCGACUGGAAGCU----- 35 -1,2
----UGUAAACAUCCUCGACUG----- 82 0,-4
----UGUAAACAUCCUCGACUGG----- 82 0,-3
----UGUAAACAUCCUCGACUGGu----- 2 0,-3

```

-----UGUAAACAUCCUCGACUGGA-----	222	0,-2
-----UGUAAACAUCCUCGACUGGAu-----	3	0,-2
-----UGUAAACAUCCUCGACUGGAA-----	881	0,-1
-----UGUAAACAUCCUCGACUGGAAa-----	383	0,-1
-----UGUAAACAUCCUCGACUGGAAaa-----	26	0,-1
-----UGUAAACAUCCUCGACUGGAAau-----	5	0,-1
-----UGUAAACAUCCUCGACUGGAAu-----	17	0,-1
-----UGUAAACAUCCUCGACUGGAAG-----	1276	
0,0		
-----UGUAAACAUCCUCGACUGGAAGa-----	2000	
0,0		
-----UGUAAACAUCCUCGACUGGAAGaa-----	103	0,0
-----UGUAAACAUCCUCGACUGGAAGau-----	100	0,0
-----UGUAAACAUCCUCGACUGGAAGu-----	174	0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	26	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	7762	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCa-----	1289	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCaa-----	15	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	71	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	14715	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUa-----	61	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	854	0,2
-----UGUAAACAUCCUCGACUGGAAGCUG-----	3	0,3
-----GUAAACAUCCUCGACUGGAA-----	3	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	13	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	3	1,0
-----GUAAACAUCCUCGACUGGAAGC-----	29	1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	2	1,1
-----GUAAACAUCCUCGACUGGAAGCU-----	26	1,2
-----GUAAACAUCCUCGACUGGAAGCUu-----	3	1,2
-----UAAACAUCCUCGACUGGAAGC-----	3	2,1
-----UAAACAUCCUCGACUGGAAGCU-----	5	2,2
-----CUUUCAGUCGGAUGUUUG-----	6	0,-4
-----CUUUCAGUCGGAUGUUUGC-----	5	0,-3
-----CUUUCAGUCGGAUGUUUGCA-----	34	0,-2

>hsa-mir-30b MA:17-38;mi:55-76 SRX018970
 accaaguucaguucaUGUAAACAUCCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUUACUUCagcu
 gacuugga

-----	-CAUGUAAACAUCCUACACUCAGCU-	-----
-----	2 -2,0	
-----	-UGUAAACAUCCUACACUC-	-----
-----	26 0,-4	
-----	-UGUAAACAUCCUACACUCA-	-----
-----	22 0,-3	
-----	-UGUAAACAUCCUACACUCAG-	-----
-----	74 0,-2	
-----	-UGUAAACAUCCUACACUCAGa-	-----
-----	7 0,-2	
-----	-UGUAAACAUCCUACACUCAGC-	-----
-----	144 0,-1	

```

-----UGUAAACAUCCUACACUCAGCa-----
-----12 0,-1
-----UGUAAACAUCCUACACUCAGCaa-----
-----4 0,-1
-----UGUAAACAUCCUACACUCAGCau-----
-----7 0,-1
-----UGUAAACAUCCUACACUCAGCU-----
-----647 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
-----61 0,0
-----UGUAAACAUCCUACACUCAGCUaa-----
-----10 0,0
-----UGUAAACAUCCUACACUCAGCUau-----
-----50 0,0
-----UGUAAACAUCCUACACUCAGCUu-----
-----119 0,0
-----UGUAAACAUCCUACACUCAGCUuu-----
-----50 0,0
-----UGUAAACAUCCUACACUCAGCUG-----
-----3 0,1
-----GUAAACAUCCUACACUCAGCU-----
-----11 1,0
-----GUAAACAUCCUACACUCAGCUu-----
-----3 1,0
-----GUAAACAUCCUACACUCAGCUuu-----
-----3 1,0
-----CUGGGAGGUGGAUGUUUA-----
-----4 0,-4
-----CUGGGAGGUGGAUGUUUAa-----
-----5 0,-4
-----CUGGGAGGUGGAUGUUUAaa-----
-----2 0,-4
-----CUGGGAGGUGGAUGUUUAC-----
-----15 0,-3
-----CUGGGAGGUGGAUGUUUACU-----
-----77 0,-2
-----CUGGGAGGUGGAUGUUUACUa-----
-----4 0,-2

```



```

-----UGUAAACAUCCUACACUCUC-----
----- 23 0,-3
-----UGUAAACAUCCUACACUCUCA-----
----- 120 0,-2
-----UGUAAACAUCCUACACUCUCAa-----
----- 6 0,-2
-----UGUAAACAUCCUACACUCUCAau-----
----- 2 0,-2
-----UGUAAACAUCCUACACUCUCAG-----
----- 175 0,-1
-----UGUAAACAUCCUACACUCUCAGa-----
----- 42 0,-1
-----UGUAAACAUCCUACACUCUCAGaa-----
----- 6 0,-1
-----UGUAAACAUCCUACACUCUCAGau-----
----- 2 0,-1
-----UGUAAACAUCCUACACUCUCAGu-----
----- 11 0,-1
-----UGUAAACAUCCUACACUCUCAGuu-----
----- 3 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 192 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 25 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 4 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 8 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 355 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 11 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 25 0,1
-----GUAACAUCCUACACUCUCAGC-----
----- 5 1,0
-----GUAACAUCCUACACUCUCAGCU-----
----- 5 1,1

```

-----			-----CUGGGAGAGGGUUGUUUAa-----
-----	2	0,-4	-----CUGGGAGAGGGUUGUUUAC-----
-----	3	0,-3	-----CUGGGAGAGGGUUGUUUACU-----
-----	73	0,-2	-----CUGGGAGAGGGUUGUUUACUa-----
-----	4	0,-2	-----CUGGGAGAGGGUUGUUUACUaa-----
-----	6	0,-2	-----CUGGGAGAGGGUUGUUUACUu-----
-----	3	0,-2	-----CUGGGAGAGGGUUGUUUACUC-----
-----	20	0,-1	-----CUGGGAGAGGGUUGUUUACUCa-----
-----	4	0,-1	-----CUGGGAGAGGGUUGUUUACUCaa-----
-----	5	0,-1	-----CUGGGAGAGGGUUGUUUACUCC-----
-----	9	0,0	-----CUGGGAGAGGGUUGUUUACUCCa-----
-----	4	0,0	-----CUGGGAGAGGGUUGUUUACUCCaa-----
-----	2	0,0	-----CUGGGAGAGGGUUGUUUACUCCau-----
-----	9	0,0	-----CUGGGAGAGGGUUGUUUACUCCU-----
-----	5	0,1	-----CUGGGAGAGGGUUGUUUACUCCUu-----
-----	4	0,2	-----UGGGAGAGGGUUGUUUACU-----
-----	15	1,-2	-----UGGGAGAGGGUUGUUUACUC-----
-----	2	1,-1	-----UGGGAGAGGGUUGUUUACUCCa-----
-----	3	1,0	-----UGGGAGAGGGUUGUUUACUCCU-----
-----	5	1,1	

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018970

agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu

(((((.....(((((((.....((((((((.....)))))))))).)))))).))))))

-----CUGUAAACAUCCUACACUC----- 2

-1, -5

-----UGUAAACAUCCUACACUC----- 26

0, -5

-----UGUAAACAUCCUACACUCU----- 6

0, -4

-----UGUAAACAUCCUACACUCUC----- 23

0, -3

-----UGUAAACAUCCUACACUCUCA----- 120

0, -2

-----UGUAAACAUCCUACACUCUCAa----- 6

0, -2

-----UGUAAACAUCCUACACUCUCAau----- 2

0, -2

-----UGUAAACAUCCUACACUCUCAG----- 175

0, -1

-----UGUAAACAUCCUACACUCUCAGa----- 42

0, -1

-----UGUAAACAUCCUACACUCUCAGaa----- 6

0, -1

-----UGUAAACAUCCUACACUCUCAGau----- 2

0, -1

-----UGUAAACAUCCUACACUCUCAGu----- 11

0, -1

-----UGUAAACAUCCUACACUCUCAGuu----- 3

0, -1

-----UGUAAACAUCCUACACUCUCAGC----- 192

0, 0

-----UGUAAACAUCCUACACUCUCAGCa----- 25

0, 0

-----UGUAAACAUCCUACACUCUCAGCaa----- 4

0, 0

-----UGUAAACAUCCUACACUCUCAGCau----- 8

0, 0

-----UGUAAACAUCCUACACUCUCAGCU-----	355
0,1	
-----UGUAAACAUCCUACACUCUCAGCUa-----	11
0,1	
-----UGUAAACAUCCUACACUCUCAGCUu-----	25
0,1	
-----GUAAACAUCCUACACUCUCAGC-----	5
1,0	
-----GUAAACAUCCUACACUCUCAGCU-----	5
1,1	
-----CUGGGAGAAGGCUGUUUA-----	10
0,-4	
-----CUGGGAGAAGGCUGUUUAa-----	2
0,-4	
-----CUGGGAGAAGGCUGUUUAau-----	5
0,-4	
-----CUGGGAGAAGGCUGUUUAC-----	14
0,-3	
-----CUGGGAGAAGGCUGUUUACa-----	4
0,-3	
-----CUGGGAGAAGGCUGUUUACU-----	418
0,-2	
-----CUGGGAGAAGGCUGUUUACUa-----	10
0,-2	
-----CUGGGAGAAGGCUGUUUACUu-----	4
0,-2	
-----CUGGGAGAAGGCUGUUUACUuu-----	2
0,-2	
-----CUGGGAGAAGGCUGUUUACUC-----	272
0,-1	
-----CUGGGAGAAGGCUGUUUACUCa-----	12
0,-1	
-----CUGGGAGAAGGCUGUUUACUCU-----	53
0,0	
-----CUGGGAGAAGGCUGUUUACUCUU-----	4
0,1	
-----UGGGAGAAGGCUGUUUACU-----	9
1,-2	

```

-----UGGGAGAAGGCUGUUUACUC----- 18
1,-1
-----UGGGAGAAGGCUGUUUACUCU----- 9
1,0

```

>hsa-mir-30d MA:6-27;mi:46-67 SRX018970

```

guuguUGUAAACAUCCTCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUGUUUGCUGCuac
...((.((((((((...((((((((((...((.....)).)))))))))).)))))))).)...

```

```

-----UUGUAAACAUCCTCCGACUGGAAGa----- 2 -1,0
-----UUGUAAACAUCCTCCGACUGGAAGC----- 5 -1,1
-----UUGUAAACAUCCTCCGACUGGAAGCU----- 4 -1,2
-----UGUAAACAUCCTCCGACUG----- 93 0,-4
-----UGUAAACAUCCTCCGACUGu----- 3 0,-4
-----UGUAAACAUCCTCCGACUGG----- 110 0,-3
-----UGUAAACAUCCTCCGACUGGu----- 2 0,-3
-----UGUAAACAUCCTCCGACUGGA----- 293 0,-2
-----UGUAAACAUCCTCCGACUGGAu----- 3 0,-2
-----UGUAAACAUCCTCCGACUGGAA----- 1196

```

0,-1

```

-----UGUAAACAUCCTCCGACUGGAa----- 747 0,-1
-----UGUAAACAUCCTCCGACUGGAaa----- 70 0,-1
-----UGUAAACAUCCTCCGACUGGAau----- 18 0,-1
-----UGUAAACAUCCTCCGACUGGAu----- 81 0,-1
-----UGUAAACAUCCTCCGACUGGAuu----- 5 0,-1
-----UGUAAACAUCCTCCGACUGGAAG----- 957 0,0
-----UGUAAACAUCCTCCGACUGGAAGa----- 1347

```

0,0

```

-----UGUAAACAUCCTCCGACUGGAAGaa----- 150 0,0
-----UGUAAACAUCCTCCGACUGGAAGau----- 188 0,0
-----UGUAAACAUCCTCCGACUGGAAGu----- 213 0,0
-----UGUAAACAUCCTCCGACUGGAAGuu----- 37 0,0
-----UGUAAACAUCCTCCGACUGGAAGC----- 3563

```

0,1

```

-----UGUAAACAUCCTCCGACUGGAAGCa----- 878 0,1
-----UGUAAACAUCCTCCGACUGGAAGCaa----- 15 0,1
-----UGUAAACAUCCTCCGACUGGAAGCau----- 50 0,1
-----UGUAAACAUCCTCCGACUGGAAGCU----- 29154

```

0,2

-----UGUAAACAUCCCCGACUGGAAGCUa-----	121	0,2
-----UGUAAACAUCCCCGACUGGAAGCUu-----	2359	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUG-----	6	0,3
-----GUAAACAUCCCCGACUGGAA-----	9	1,-1
-----GUAAACAUCCCCGACUGGAAa-----	9	1,-1
-----GUAAACAUCCCCGACUGGAAG-----	21	1,0
-----GUAAACAUCCCCGACUGGAAGa-----	16	1,0
-----GUAAACAUCCCCGACUGGAAGu-----	6	1,0
-----GUAAACAUCCCCGACUGGAAGC-----	43	1,1
-----GUAAACAUCCCCGACUGGAAGCa-----	7	1,1
-----GUAAACAUCCCCGACUGGAAGCU-----	294	1,2
-----GUAAACAUCCCCGACUGGAAGCUau-----	7	1,2
-----GUAAACAUCCCCGACUGGAAGCUu-----	33	1,2
-----GUAAACAUCCCCGACUGGAAGCUuu-----	8	1,2
-----UAAACAUCCCCGACUGGAAGC-----	2	2,1
-----UAAACAUCCCCGACUGGAAGCU-----	4	2,2
-----CUUUCAGUCAGAUUUUGCU-----	11	0,-2

```

-----UGUAAACAUCCUUGACUGGAA-----
-----126 0,-1
-----UGUAAACAUCCUUGACUGGAa-----
-----32 0,-1
-----UGUAAACAUCCUUGACUGGAaa-----
-----3 0,-1
-----UGUAAACAUCCUUGACUGGAau-----
-----5 0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
-----120 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
-----467 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
-----94 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
-----22 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
-----11 0,0
-----UGUAAACAUCCUUGACUGGAAGuu-----
-----4 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
-----1241 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
-----157 0,1
-----UGUAAACAUCCUUGACUGGAAGCaa-----
-----4 0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
-----8 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
-----1972 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
-----4 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
-----470 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
-----3 0,3
-----GUAAACAUCCUUGACUGGAAG-----
-----25 1,0

```

```

-----GUAACAUCUUGACUGGAAGa-----
-----7 1,0
-----GUAACAUCUUGACUGGAAGaa-----
-----4 1,0
-----GUAACAUCUUGACUGGAAGC-----
-----75 1,1
-----GUAACAUCUUGACUGGAAGCa-----
-----15 1,1
-----GUAACAUCUUGACUGGAAGCU-----
-----84 1,2
-----GUAACAUCUUGACUGGAAGCUu-----
-----16 1,2
-----GUAACAUCUUGACUGGAAGCUuu-----
-----6 1,2
-----UAAACAUCUUGACUGGAAGCU-----
-----9 2,2
-----CUUUCAGUCGGAUGUUUA-----
-----19 0,-4
-----CUUUCAGUCGGAUGUUUAa-----
-----4 0,-4
-----CUUUCAGUCGGAUGUUUAu-----
-----6 0,-4
-----CUUUCAGUCGGAUGUUUAC-----
-----9 0,-3
-----CUUUCAGUCGGAUGUUUACA-----
-----19 0,-2
-----CUUUCAGUCGGAUGUUUACAa-----
-----4 0,-2
-----CUUUCAGUCGGAUGUUUACAG-----
-----106 0,-1
-----CUUUCAGUCGGAUGUUUACAGa
-----8 0,-1
-----CUUUCAGUCGGAUGUUUACAGa
a-----2 0,-1
-----CUUUCAGUCGGAUGUUUACAGu
-----138 0,-1
-----CUUUCAGUCGGAUGUUUACAGu
u-----25 0,-1

```

-----				-----CUUUCAGUCGGAUGUUUACAGC
-----	111	0,0		
-----				-----CUUUCAGUCGGAUGUUUACAGC
a-----	118	0,0		
-----				-----CUUUCAGUCGGAUGUUUACAGC
aa-----	7	0,0		
-----				-----CUUUCAGUCGGAUGUUUACAGC
au-----	34	0,0		
-----				-----CUUUCAGUCGGAUGUUUACAGC
u-----	12	0,0		
-----				-----UUUCAGUCGGAUGUUUACAGu
-----	7	1,-1		
-----				-----UUUCAGUCGGAUGUUUACAGu
u-----	2	1,-1		
-----				-----UUUCAGUCGGAUGUUUACAGC
-----	5	1,0		
-----				-----UUUCAGUCGGAUGUUUACAGC
a-----	5	1,0		
-----				-----UUUCAGUCGGAUGUUUACAGC
aa-----	3	1,0		
-----				-----UUUCAGUCGGAUGUUUACAGC
au-----	2	1,0		

>hsa-mir-31 MA:8-28;mi:44-65 SRX018970

```
ggagaggAGGCAAGAUGCUGGCAUAGCUguugaacugggaaccUGCUAUGCCAACAUAUUGCCAUcuuucc  
((((((..((((.((((.(((((((((.(((.....)))..)))))))).))).))))).))))))  
-----AGGCAAGAUGCUGGCAUAGCU----- 21    0,0  
-----AGGCAAGAUGCUGGCAUAGCUG----- 7     0,1  
-----AGGCAAGAUGCUGGCAUAGCUGU----- 4     0,2
```

>hsa-mir-3117 3p:46-66 SRX018970

cccuaaaggccagacacuaacgagucauauaagggaaggcauuAUAGGACUCAUAUAGUGCCAGguguuuuguggg
 ((((((((.(((.(.((((((.(((((.(((((.)))))).)))))).)))))).)))))).)))
 -----AUAGGACUCAUAUAGUGCCAGu-----
 2 0.0

>hsa-mir-3129 5p:9-30 SRX018970

guacuuggGCAGUAGUGUAGAGAUUGGUUUGccuguaaaugaauucaaaacuaauncucuacacugcugcccaagagc

caggaucacagacguuuuuuacacuccuucugcugugccuacagcaguAGAAGGGGUGAAUUUAAACGUcugugau
ccug

(((((((((((((((((((((((((.(((((((((((((((((((.....))))))))))))..)))))))))

))))

-----AGAAGGGGUGAAAUUUAACGU-----

--- 3 0,0

>hsa-mir-3190 3p:47-69 SRX018970

cuggggucaccugucuggccagcuacgucccccacggcccuugucagUGUGGAAGGUAGACGGCCAGAGAggugacccccgg

(((((((((((((((.(((((((.((((.((((.((((((...)))..)))..))))..)))))))).)))))))))))))

-----UGGAAGGUAGACGGCCAGAGAGu-----

$$4 \quad 2,1$$

>hsa-mir-3194 5p:10-30 SRX018970

agguggcagGGCCAGCCACCAGGAGGGCUGcgugccacccgggcagcucugcugcucacuggcagugucaccu

(((((((((..(((((((....((((.((((((((.((.....)).))))))))) .)))))))) ..))))))

-----AGCUCUGCUGCUCACUGGCA----- 2

>hsa-mi r-32 MA:6-27;mi:47-68 SRX018970

ggagaUAUUGCACAUAACUAAGUUGCAuguugucacggccucaaugCAAUUUAGUGUGUGUGAUUUUuc

((((((((((..(((((.((((((((((((((((((..((...)).)..).))))))))))))))))))..)))))))))

-----AUAUUGCACAUAUAAGUUG----- 3

-1, -2

-----UAUUGCACAUUACUAAGU----- 4 0,-4

-----UAUUGCACAUUACUAAGUU----- 15 0,-3

-----UAUUGCACAUUACUAAGUUG----- 28 0,-2

-----UAUUGCACAUUACUAAGUUGC----- 27 0,-1

-----UAUUGCACAUAUAAGUUGCA----- 5 0,0

-----UAUUGCACAUAUACUAAGUUGCAU----- 5 0,1

-----AUUGCACAUAUAAGUUG----- 2 1,-2

-----CAAUUAGUGUGUGUGAUUU----- 2 0,-1

>hsa-mi r-3200 5p:13-34;3p:54-75 SRX018970

gguggucgagggAAUCUGAGAAGGCGCACAAAGGUuuguguccaauacaguccaCACCUUGCGCUACUCAGGUCUGcucgu
gccc

```

))))
-----AAUCUGAGAAGGCGCACAAGGUU-----
----- 3 0,1
-----AAUCUGAGAAGGCGCACAAGGUU-----
----- 4 0,2
-----CACCUUGCGCUACUCAGGUC-----
----- 2 0,-2

```

>hsa-mir-320a 3p:48-69 SRX018970

gcuucgcuccccuccgcuucucuucccgguucucccgagucgggAAAAGCUGGGUUGAGAGGGCGAaaaagggaugag
gu

```

(((((((.....((((((((((..(((((((.....)))))).)))))).)))))).....))))))
))

```

```

-----GAAAAGCUGGGUUGAGAGGGC-----
-- 8 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 15 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 18 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAu-----
-- 3 -1,0
-----AAAAGCUGGGUUGAGAGG-----
-- 60 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 74 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 2 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 5 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 240 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 3 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 377 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----
-- 299 0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----

```

```

-- 144 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 2309 0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 710 0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 213 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 1255 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 452 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 120 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 398 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 180 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 42 0,3
-----AAAGCUGGGUUGAGAGGGGa-----
-- 2 1,-3
-----AAAGCUGGGUUGAGAGGGGa a-----
-- 2 1,-3
-----AAAGCUGGGUUGAGAGGGGC-----
-- 14 1,-2
-----AAAGCUGGGUUGAGAGGGGCG-----
-- 21 1,-1
-----AAAGCUGGGUUGAGAGGGGCGu-----
-- 5 1,-1
-----AAAGCUGGGUUGAGAGGGGCGuu-----
-- 7 1,-1
-----AAAGCUGGGUUGAGAGGGGCGA-----
-- 121 1,0
-----AAAGCUGGGUUGAGAGGGGCGAu-----
-- 41 1,0
-----AAAGCUGGGUUGAGAGGGGCGAuu-----
-- 10 1,0
-----AAAGCUGGGUUGAGAGGGGCGAA-----

```

```

-- 131 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 62 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 24 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 60 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 40 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 5 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 18 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAu-----
-- 2 1,3
-----AAGCUGGGUUGAGAGGGCG-----
-- 2 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 7 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 6 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 8 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 8 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 4 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----
-- 17 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 14 2,2
-----AAGCUGGGUUGAGAGGGCGAAAuu-----
-- 4 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 2 2,3
-----AAGCUGGGUUGAGAGGGCGAAAAu-----
-- 2 2,3

```

>hsa-mir-320b-1 3p:39-60 SRX018970

aaauaaucccucucuucuaguucuuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaaauaacuaauuaauu

.....((((...((((((.....)))))).)))).....

-----GAAAAGCUGGGUUGAGAGGGC-----

8 -1,-2

-----GAAAAGCUGGGUUGAGAGGGCAu-----

2 -1,-1

-----AAAAGCUGGGUUGAGAGG-----

60 0,-4

-----AAAAGCUGGGUUGAGAGGG-----

74 0,-3

-----AAAAGCUGGGUUGAGAGGGaa-----

2 0,-3

-----AAAAGCUGGGUUGAGAGGGau-----

5 0,-3

-----AAAAGCUGGGUUGAGAGGGC-----

240 0,-2

-----AAAAGCUGGGUUGAGAGGGCu-----

3 0,-2

-----AAAAGCUGGGUUGAGAGGGCA-----

26 0,-1

-----AAAAGCUGGGUUGAGAGGGCAu-----

33 0,-1

-----AAAAGCUGGGUUGAGAGGGCAuu-----

17 0,-1

-----AAAAGCUGGGUUGAGAGGGCAA-----

32 0,0

-----AAAAGCUGGGUUGAGAGGGCAAu-----

15 0,0

-----AAAAGCUGGGUUGAGAGGGCAAA-----

9 0,1

-----AAAAGCUGGGUUGAGAGGGCAAAu-----

2 0,1

-----AAAGCUGGGUUGAGAGGGa-----

2 1,-3

-----AAAGCUGGGUUGAGAGGGaa-----

2 1,-3

-----AAAGCUGGGUUGAGAGGGC-----

14 1,-2

-----AAAGCUGGGUUGAGAGGGCAu-----

2 1,-1

-----AAAGCUGGGUUGAGAGGGCAA-----

3 1,0

>hsa-mir-320b-2 3p:72-93 SRX018970

uguuauuuuuugucuucuaccuaagaauucugucucuagguuucucuucccagauuuuccaaaguugggAAAAGCUGG
GUUGAGAGGGCAAaaggaaaaaaaaagaauucugucucugacauaauagauaggga

.....(((((((.(.(((.(.(((((((.(.(((((.(((((((.....)))))))).))))))
)..)))))))).)))))).....)))))))).)))))).....

-----GAAAAGCUGG
GUUGAGAGGGC----- 8 -1,-2

-----GAAAAGCUGG
GUUGAGAGGGCAu----- 2 -1,-1

-----AAAAGCUGG
GUUGAGAGG----- 60 0,-4

-----AAAAGCUGG
GUUGAGAGGG----- 74 0,-3

-----AAAAGCUGG
GUUGAGAGGGaa----- 2 0,-3

-----AAAAGCUGG
GUUGAGAGGGau----- 5 0,-3

-----AAAAGCUGG
GUUGAGAGGGC----- 240 0,-2

-----AAAAGCUGG
GUUGAGAGGGCu----- 3 0,-2

-----AAAAGCUGG
GUUGAGAGGGCA----- 26 0,-1

-----AAAAGCUGG
GUUGAGAGGGCAu----- 33 0,-1

-----AAAAGCUGG
GUUGAGAGGGCAuu----- 17 0,-1

-----AAAAGCUGG
GUUGAGAGGGCAA----- 32 0,0

-----AAAAGCUGG
GUUGAGAGGGCAAu----- 15 0,0

-----AAAAGCUGG

```

GUUGAGAGGGCAA----- 9 0,1
-----AAAAGCUGG
GUUGAGAGGGCAAu----- 2 0,1
-----AAAGCUGG
GUUGAGAGGGa----- 2 1,-3
-----AAAGCUGG
GUUGAGAGGGaa----- 2 1,-3
-----AAAGCUGG
GUUGAGAGGGC----- 14 1,-2
-----AAAGCUGG
GUUGAGAGGGCAu----- 2 1,-1
-----AAAGCUGG
GUUGAGAGGGCAA----- 3 1,0

```

>hsa-mir-320c-1 3p:50-69 SRX018970

```

uuugcauuaaaaaugaggccuucucuuccaguucuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))).

```

```

-----AAAAGCUGGGUUGAGAGG-----
----- 60 0,-2
-----AAAAGCUGGGUUGAGAGGG-----
----- 74 0,-1
-----AAAAGCUGGGUUGAGAGGGaa-----
----- 2 0,-1
-----AAAAGCUGGGUUGAGAGGGau-----
----- 5 0,-1
-----AAAAGCUGGGUUGAGAGGGU-----
----- 81 0,0
-----AAAAGCUGGGUUGAGAGGGUu-----
----- 2 0,0
-----AAAAGCUGGGUUGAGAGGGUAa-----
----- 8 0,1
-----AAAAGCUGGGUUGAGAGGGUAu-----
----- 2 0,1
-----AAAGCUGGGUUGAGAGGGa-----
----- 2 1,-1
-----AAAGCUGGGUUGAGAGGGaa-----

```

----- 2 1,-1

>hsa-mir-320c-2 3p:31-50 SRX018970

```
cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU
((((((..(((((((.(((((.)))))))).))))))..))))))..
-----AAAAGCUGGGUUGAGAGG-- 60 0,-2
-----AAAAGCUGGGUUGAGAGGG- 74 0,-1
-----AAAAGCUGGGUUGAGAGGGaa 2 0,-1
-----AAAAGCUGGGUUGAGAGGGau 5 0,-1
-----AAAAGCUGGGUUGAGAGGGU 81 0,0
-----AAAAGCUGGGUUGAGAGGGUu 2 0,0
-----AAAGCUGGGUUGAGAGGGa 2 1,-1
-----AAAGCUGGGUUGAGAGGGaa 2 1,-1
```

>hsa-mir-320d-1 3p:30-48 SRX018970

```
uucucguccaguucuccaaaguagAAAAGCUGGGUUGAGAGGA
((((((..(((((((.(((((.)))))))).))))))..))))))..
-----AAAAGCUGGGUUGAGAGG- 60 0,-1
-----AAAAGCUGGGUUGAGAGGAa 2 0,0
-----AAAAGCUGGGUUGAGAGGAaa 2 0,0
```

>hsa-mir-320d-2 3p:30-48 SRX018970

```
uucucuuccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA
((((((..(((((((.(((((.)))))))).))))))..))))))..
-----AAAAGCUGGGUUGAGAGG- 60 0,-1
-----AAAAGCUGGGUUGAGAGGAa 2 0,0
-----AAAAGCUGGGUUGAGAGGAaa 2 0,0
```

>hsa-mir-320e 3p:35-52 SRX018970

```
gccuucucuuccaguucuccaggagucggggaAAAGCUGGGUUGAGAAGGu
((((((((..(((((((.(((((.)))))))).))))))..))))))..
-----AAAAGCUGGGUUGAGAAGG- 4 -1,0
```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018970

```
uugguacuuggagagAGGUGGUCCGUGGCGGUUCGCUuuuuuuuaggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc
..((((((..(((((((.(((((.)))))))).))))))..))))))..
).....
```



```

-----GCACAUUACACGGUCGACCU-----
----- 3 -1,-2
-----CACAUUACACGGUCGACCU-----
----- 24 0,-2
-----CACAUUACACGGUCGACCUCU-----
----- 2 0,0

```

>hsa-mir-323b 5p:15-37;3p:51-72 SRX018970

```

ugguacucggaggAGGUUGUCCGUGGUGAGUUCGCAuuuuuaugaugCCCAUACACGGUCGACCUCUuucgguauc
a
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----CCCAUACACGGUCGACCU-----
-- 2 0,-3

```

>hsa-mir-324 5p:16-38;3p:53-72 SRX018970

```

cugacuaugccuccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagaccACUGCCCCAGGUGCUGCUGGggguugua
guc
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----CGCAUCCCCUAGGGCAUU-----
--- 6 0,-5
-----CGCAUCCCCUAGGGCAUUG-----
--- 14 0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 5 0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 17 0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 7 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 30 0,0
-----CGCAUCCCCUAGGGCAUUGGUGUu-----
--- 3 0,0
-----CGCAUCCCCUAGGGCAUUGGUGUuu-----
--- 2 0,0
-----CGCAUCCCCUAGGGCAUUGGUGUA-----
--- 2 0,1

```

```

-----GCAUCCCCUAGGGCAUUGGU-----
--- 2   1,-2
-----CCACUGCCCCAGGUGCUGCUG-----
--- 4   -2,-1
-----ACUGCCCCAGGUGCUGCU-----
--- 4   0,-2
-----ACUGCCCCAGGUGCUGCUG-----
--- 4   0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 26  0,0
-----ACUGCCCCAGGUGCUGCUGGGau-----
--- 2   0,1

```

>hsa-mir-326 3p:60-79 SRX018970

```

cucaucugucuguugggcuggagggcagggccuugugaaggcggguggugcucagaucgCCUCUGGGCCCUUCCUCCAGc
cccgaggcggaauca

```

```

...((((((((...((((((((((.((((((((...((.((((((.((....))..)))))))).)))))))).))))))
))..))))))))....

```

```

-----CCUCUGGGCCCUUCCUCCA--
----- 4   0,-1
-----CCUCUGGGCCCUUCCUCCAG-
----- 11  0,0
-----CCUCUGGGCCCUUCCUCCAGa
----- 6   0,0
-----CCUCUGGGCCCUUCCUCCAGu
----- 5   0,0
-----CCUCUGGGCCCUUCCUCCAGu
u----- 6   0,0

```

>hsa-mir-328 3p:48-69 SRX018970

```

uggaguggggggggcaggagggggcucaggagagaaagugcauacagcccCUGGCCCUCUCUGCCCUUCCGUccccug

```

```

.((..((((((((((((..((((((.((((((.((...((....))..)))))))).)))))))).)))))))).)...

```

```

-----CUGGCCCUCUCUGCCCUUCC----- 6
0,-2
-----CUGGCCCUCUCUGCCCUUCCG----- 2
0,-1
-----CUGGCCCUCUCUGCCCUUCCGU----- 9
0,0

```


....(((((((((.....)))))).))))))
))))).)))).

-----GCAAAGCACACGGCCUGCAGAG--
----- 2 0,-1
-----GCAAAGCACACGGCCUGCAGAGA-
----- 5 0,0
-----CAAAGCACACGGCCUGCAGAGA-
----- 8 1,0
-----CAAAGCACACGGCCUGCAGAGAG
-----CAAAGCACACGGCCUGCAGAGAG
a----- 3 1,1
-----CAAAGCACACGGCCUGCAGAGAG
u----- 5 1,1
-----AAAGCACACGGCCUGCAGAGA-
----- 7 2,0
-----AAAGCACACGGCCUGCAGAGAG
a----- 2 2,1

>hsa-mi r-331 5p:26-47;3p:61-81 SRX018970
gaguuuugguuuuuguuuggguuuguuCUAGGUAUGGUCCCAGGGAUCCcagaucaaaccagGCCCCUGGGCCUAUCCUAGA
Accaaccuaagcuc

.....(((((((((((.....)))))).))))))
)).)))))))).

-----GCCCCUGGGCCUAUCCUA--
----- 7 0,-3
-----GCCCCUGGGCCUAUCCUAG-
----- 4 0,-2
-----GCCCCUGGGCCUAUCCUAGA
----- 8 0,-1
-----GCCCCUGGGCCUAUCCUAGA
A----- 39 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aa----- 30 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aaa----- 3 0,0
-----GCCCCUGGGCCUAUCCUAGA
Aau----- 3 0,0


```

-----AAGAGCAAUAACGAAAAAUG-----
----- 5 2,-1
-----GUUUUUCAUUAUUGCUCU-----
----- 2 -1,-4
-----UUUUUUCAUUAUUGCUCU-----
----- 2 0,-4
-----UUUUUUCAUUAUUGCUCUGACC-----
----- 5 0,0

```

>hsa-mir-337 5p:23-43;3p:61-82 SRX018970

guagucaguaguugggggguggGAACGGCUUCAUACAGGAGUUGaugcacaguuaucagCUCCUAUAUGAUGCCUUUCU
UCaucccccuaa

```

.....((.((((((((((.(((.(((((((((.....)))..)))))).))))).))..
)))))))).)..

```

```

-----GAACGGCUUCAUACAGGAG-----
----- 3 0,-2
-----GAACGGCUUCAUACAGGAGUaa-----
----- 2 0,-1
-----GAACGGCUUCAUACAGGAGUa-----
----- 2 0,0
-----CUCCUAUAUGAUGCCUUUCU
U----- 6 0,-1
-----CUCCUAUAUGAUGCCUUUCU
UC----- 3 0,0
-----UCCUAUAUGAUGCCUUUCU
U----- 5 1,-1
-----UCCUAUAUGAUGCCUUUCU
UC----- 7 1,0

```

>hsa-mir-338 5p:6-27;3p:42-63 SRX018970

ucuccAACAAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga

```

(((.((((((.((((((((((((.....)))..)))))).))))).))..
)))))))).)..

```

```

-----UCCAGCAUCAGUGAUUUU----- 8 0,-4
-----UCCAGCAUCAGUGAUUUUG----- 9 0,-3
-----UCCAGCAUCAGUGAUUUUGU----- 6 0,-2
-----UCCAGCAUCAGUGAUUUUGUU----- 7 0,-1
-----UCCAGCAUCAGUGAUUUUGUUGA--- 4 0,1

```

>hsa-mi r-339 5p:15-37;3p:50-72 SRX018970

cggggcgggccgcucUCCCUGUCCUCCAGGAGCUCACGugugccugccugUGAGCGCCUCGACGACAGAGCCGgcgccugc
cccagugucugcgc

.(((((((.(((((.(((((.(((((((((((((.(((...)).)))))))).)))))).)))))).))))))
))).....

-----CUCCUGUCCUCCAGGAGCUCAaa-----

$$- - - - - 2 \quad -1, -2$$

-----UCCCUGUCCUCCAGGAGCU-----

----- 9 0,-4

-----UCCUGUCCUCCAGGAGCUC-----

----- 2 0,-3

-----UCCUGUCCUCCAGGAGCUCA-----

----- 18 0,-2

-----UCCUGUCCUCCAGGAGCUCAa-----

----- 3 0,-2

-----UCCUGUCCUCCAGGAGCUCAaa-----

----- 4 0,-2

-----UCCCUGUCCUCCAGGAGCUCA_{au}-----

----- 3 0,-2

-----UCCUGUCCUCCAGGAGCUCAu-----

----- 19 0,-2

-----UCCUGUCCUCCAGGAGCUCAuu-----

$$----- \quad 2 \quad 0, -2$$

-----UCCUGUCCUCCAGGAGCUCAC-----

----- 7 0, -1

-----UCCCUGUCCUCCAGGAGCUCACa-----

----- 2 0, -1

-----UCCCUGUCCUCCAGGAGCUCACu-----

----- 6 0, -1

-----UCCCUGUCCUCCAGGAGCUCACG-----

----- 14 0,0

-----UCCCUGUCCUCCAGGAGCUCACGa-----

$$----- 2 \quad 0,0$$

-----UCCCUGUCCUCCAGGAGCUCACGU-----

----- 5 0,1

-----UGAGCGCCUCGACGACAG-----

----- 6 0, -5

-----UGAGCGCCUCGACGACAGA-----

```

----- 10 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 2 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 12 0,-2
-----UGAGCGCCUCGACGACAGAGCu-----
----- 9 0,-2
-----UGAGCGCCUCGACGACAGAGCC-----
----- 19 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 6 0,-1
-----UGAGCGCCUCGACGACAGAGCCau-----
----- 12 0,-1
-----UGAGCGCCUCGACGACAGAGCCu-----
----- 10 0,-1
-----UGAGCGCCUCGACGACAGAGCCuu-----
----- 13 0,-1
-----UGAGCGCCUCGACGACAGAGCCG-----
----- 8 0,0
-----AGCGCCUCGACGACAGAG-----
----- 10 2,-3
-----AGCGCCUCGACGACAGAGCCG-----
----- 6 2,0
-----AGCGCCUCGACGACAGAGCCGa-----
----- 4 2,0

```

>hsa-mir-33a MA:6-26;mi:46-67 SRX018970

```

cugugGUGCAUUGUAGUUGCAUUGCAUguucugggugguacccaugCAAUGUUUCCACAGUGCAUCACag
((((((((((((((.(.((((((((((.....((.....))))))))))))))..).))))))))))))))
-----GUGCAUUGUAGUUGCAUU----- 159 0,-3
-----GUGCAUUGUAGUUGCAUUGu----- 2 0,-2
-----GUGCAUUGUAGUUGCAUUGC----- 36 0,-1
-----GUGCAUUGUAGUUGCAUUGCA----- 81 0,0
-----GUGCAUUGUAGUUGCAUUGCAa----- 37 0,0
-----GUGCAUUGUAGUUGCAUUGCAU----- 9 0,1
-----CAAUGUUUCCACAGUGCA----- 3 0,-4
-----CAAUGUUUCCACAGUGCAU----- 24 0,-3
-----CAAUGUUUCCACAGUGCAUa----- 18 0,-3

```


-----CAAUGUUCCACAGUGCAUC----	8	0, -2
-----CAAUGUUCCACAGUGCAUCA--	45	0, -1
-----CAAUGUUCCACAGUGCAUCAa--	10	0, -1
-----CAAUGUUCCACAGUGCAUCAau-	2	0, -1
-----CAAUGUUCCACAGUGCAUCAu--	36	0, -1
-----CAAUGUUCCACAGUGCAUCAuu-	2	0, -1
-----AAUGUUCCACAGUGCAUC----	2	1, -2
-----AAUGUUCCACAGUGCAUCA--	2	1, -1

>hsa-mi r-340 MA:16-37;mi :58-79 SRX018970

uuguaccuggugugaUUAUAAAAGCAAUGAGACUGAUUgucauaugucguuugugggaUCCGUCUCAGUUACUUAUAGCc
auaccugguaucua

[illegible]

-----UUAUAAAGCAAUGAGACU-----

----- 7 0,-4

-----UUAUAAAAGCAAUGAGACUGA-----

----- 9 0,-2

-----UUAUAAAGCAAUGAGACUGA_{aa}-----

----- 2 0,-2

-----UUAUAAAGCAAUGAGACUGAU-----

----- 19 0,-1

-----UUAUAAAGCAAUGAGACUGAUa-----

----- 18 0,-1

-----UUAUAAAGCAAUGAGACUGAUaa-----

$$\text{-----} 2 \quad 0, -1$$

-----UUAUAAAGCAAUGAGACUGAUU-----

----- 91 0,0

-----UUAUAAAGCAAUGAGACUGAUUa-----

----- 2 0,0

-----UUAUAAAGCAAUGAGACUGAUU_u-----

----- 3 0,0

>hsa-mi r-342 5p:19-39;3p:61-83 SRX018970

gaaacugggcucaaggugAGGGGUGCUAUCUGUGAUUGagggacaugguuaugggaauugUCUCACACAGAAAUCGCACC
CGUcaccuuggccuacuaa

$$\begin{aligned} & \dots(((((((.(((((((.(((((((..(((((((\dots(((((((\dots((\dots))..)))))).))))))\dots))))))\dots \\ &).)))))))).\dots \end{aligned}$$

```

-----AGGGGUGCUAUCUGUGAU-----
----- 2 0,-3
-----AGGGGUGCUAUCUGUGAUa-----
----- 2 0,-3
-----AGGGGUGCUAUCUGUGAUU-----
----- 21 0,-2
-----AGGGGUGCUAUCUGUGAUUG-----
----- 2 0,-1
-----AGGGGUGCUAUCUGUGAUUGA-----
----- 21 0,0
-----AGGGGUGCUAUCUGUGAUUGAa-----
----- 5 0,0
-----AGGGGUGCUAUCUGUGAUUGAG-----
----- 38 0,1
-----AGGGGUGCUAUCUGUGAUUGAGa-----
----- 3 0,1
-----AGGGGUGCUAUCUGUGAUUGAGG-----
----- 21 0,2
-----AGGGGUGCUAUCUGUGAUUGAGGa-----
----- 2 0,2
-----AGGGGUGCUAUCUGUGAUUGAGGGA-----
----- 4 0,4
-----GGGGUGCUAUCUGUGAUUGAGG-----
----- 5 1,2
-----GGGGUGCUAUCUGUGAUUGAGGGA-----
----- 2 1,4
-----UCUCACACAGAAAUCGCA-----
----- 125 0,-5
-----UCUCACACAGAAAUCGCAC-----
----- 235 0,-4
-----UCUCACACAGAAAUCGCACC
----- 231 0,-3
-----UCUCACACAGAAAUCGCACC
u----- 2 0,-3
-----UCUCACACAGAAAUCGCACC
C----- 243 0,-2
-----UCUCACACAGAAAUCGCACC
Cuu----- 2 0,-2

```

-----				-----UCUCACACAGAAAUCGCACC
CG-----	357	0,-1		
-----				-----UCUCACACAGAAAUCGCACC
CGa-----	29	0,-1		
-----				-----UCUCACACAGAAAUCGCACC
CGU-----	1151	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUa-----	18	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUaa-----	3	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUau-----	3	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUu-----	89	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUuu-----	7	0,0		
-----				-----UCUCACACAGAAAUCGCACC
CGUC-----	469	0,1		
-----				-----UCUCACACAGAAAUCGCACC
CGUCu-----	215	0,1		
-----				-----UCUCACACAGAAAUCGCACC
CGUCA-----	103	0,2		
-----				-----CUCACACAGAAAUCGCACC
CGUC-----	2	1,1		
-----				-----CUCACACAGAAAUCGCACC
CGUCA-----	2	1,2		
-----				-----UCACACAGAAAUCGCACC
-----	7	2,-3		
-----				-----UCACACAGAAAUCGCACC
C-----	3	2,-2		
-----				-----UCACACAGAAAUCGCACC
CG-----	3	2,-1		
-----				-----UCACACAGAAAUCGCACC
CGU-----	10	2,0		
-----				-----UCACACAGAAAUCGCACC
CGUaa-----	2	2,0		
-----				-----UCACACAGAAAUCGCACC
CGUC-----	13	2,1		

CGUCu	7	2,1	UCACACAGAAAUCGCACC
CGUCuu	4	2,1	UCACACAGAAAUCGCACC
CGUCA	60	2,2	UCACACAGAAAUCGCACC
CGUCAa	6	2,2	UCACACAGAAAUCGCACC
CGUCAu	10	2,2	UCACACAGAAAUCGCACC
CGUCAuu	2	2,2	UCACACAGAAAUCGCACC

```

-----GCUGACUCCUAGUCCAGGGCUC-----
----- 52  0,0
-----GCUGACUCCUAGUCCAGGGCUCa-----
----- 7   0,0
-----GCUGACUCCUAGUCCAGGGCUCaa-----
----- 4   0,0
-----GCUGACUCCUAGUCCAGGGCUCau-----
----- 30  0,0
-----GCUGACUCCUAGUCCAGGGCUCu-----
----- 7   0,0
-----GCUGACUCCUAGUCCAGGGCUCuu-----
----- 12  0,0

```

>hsa-mir-34a MA:22-43;mi:64-85 SRX018970

```

ggccagcugugaguguuucuuUGGCAGUGUCUUAGCUGGUUGUugugagcaauaguaaggaagCAAUCAGCAAGUAUACU
GCCCUagaagugcugcacguuguggggccc

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UGGCAGUGUCUUAGCUGGUUGU-----
----- 10  0,0
-----UGGCAGUGUCUUAGCUGGUUGUaa-----
----- 2   0,1
-----UGGCAGUGUCUUAGCUGGUUGUu-----
----- 7   0,1
-----UGGCAGUGUCUUAGCUGGUUGUuu-----
----- 6   0,1

```

```

-----CAAUCAGCAAGUAUACU
GCCCU----- 9   0,0

```

```

-----CAAUCAGCAAGUAUACU
GCCCUu----- 7   0,0

```

```

-----CAAUCAGCAAGUAUACU
GCCCCA----- 3   0,1

```

```

-----CAAUCAGCAAGUAUACU
GCCCCAu----- 3   0,1

```

```

-----AAUCAGCAAGUAUACU
GCC----- 10  1,-2

```

```

-----AAUCAGCAAGUAUACU
GCCCU----- 8   1,0

```

```

-----AAUCAGCAAGUAUACU
GCCCUu----- 8 1,0
-----AAUCAGCAAGUAUACU
GCCCUuu----- 3 1,0
-----AAUCAGCAAGUAUACU
GCCCCA----- 34 1,1
-----AAUCAGCAAGUAUACU
GCCCCAa----- 4 1,1
-----AAUCAGCAAGUAUACU
GCCCCAu----- 23 1,1

```

```

>hsa-mir-3605 5p:22-44;3p:66-88 SRX018970
acuuuauacguguaauugugaUGAGGAUGGAUAGCAAGGAAGCCgcucccaccugaccucacggCCUCCGUGUUACCUG
UCCUCUAGgugggacgcucg
.....((((.....(((((((.(((((.(((.....))))).)))..)))..)))
))))).))....))....
-----GAUGAGGAUGGAUAGCAAGGA-----
----- 4 -2,-4
-----GAUGAGGAUGGAUAGCAAGGAAG-----
----- 2 -2,-2
-----AUGAGGAUGGAUAGCAAGGAAG-----
----- 2 -1,-2
-----UGAGGAUGGAUAGCAAGGAAG-----
----- 2 0,-2
-----UGAGGAUGGAUAGCAAGGAAGC-----
----- 4 0,-1
-----UGAGGAUGGAUAGCAAGGAAGCC-----
----- 3 0,0

```

```

>hsa-mir-3609 3p:51-74 SRX018970
guaacaguaacuuuauucucauuuuccuuuucucuaccuuguagagaagCAAAGUGAUGAGUAAUACUGGCUGgagccc
((..(((.....(((((((((((...((((((((.....))))))))).))))).))))).))....))....))....
-----GCAAAGUGAUGAGUAAUACU-----
168 -1,-5
-----GCAAAGUGAUGAGUAAUACUG-----
7 -1,-4
-----GCAAAGUGAUGAGUAAUACUGG-----
8 -1,-3

```

```

-----GCAAAGUGAUGAGUAAUACUGGCU-----
18  -1,-1
-----CAAAGUGAUGAGUAAUACU-----
66  0,-5
-----CAAAGUGAUGAGUAAUACUG-----
2   0,-4
-----CAAAGUGAUGAGUAAUACUGG-----
3   0,-3
-----CAAAGUGAUGAGUAAUACUGGCU-----
8   0,-1

```

>hsa-mir-361 5p:6-27;3p:45-67 SRX018970

```

ggagcUUAUCAGAAUCUCCAGGGGUACuuuauaauuucaaaaagUCCCCCAGGUGUGAUUCUGAUUUgcuuc
(((((((((.....)))))).)))))).....))))))
-----UUAUCAGAAUCUCCAGGG----- 21
0,-4
-----UUAUCAGAAUCUCCAGGGG----- 16
0,-3
-----UUAUCAGAAUCUCCAGGGGU----- 42
0,-2
-----UUAUCAGAAUCUCCAGGGGUA----- 85
0,-1
-----UUAUCAGAAUCUCCAGGGGUAa----- 59
0,-1
-----UUAUCAGAAUCUCCAGGGGUAaa----- 3
0,-1
-----UUAUCAGAAUCUCCAGGGGUAau----- 5
0,-1
-----UUAUCAGAAUCUCCAGGGGUAu----- 114
0,-1
-----UUAUCAGAAUCUCCAGGGGUAuu----- 15
0,-1
-----UUAUCAGAAUCUCCAGGGGUAAC----- 181
0,0
-----UUAUCAGAAUCUCCAGGGGUAACa----- 55
0,0
-----UUAUCAGAAUCUCCAGGGGUAACaa----- 9
0,0

```

-----UUAUCAGAAUCCAGGGGUACau-----	12
0,0	
-----UUAUCAGAAUCCAGGGGUACU-----	17
0,1	
-----UAUCAGAAUCCAGGGGUAAu-----	2
1,-1	
-----UAUCAGAAUCCAGGGGUACU-----	4
1,1	
-----UCCCCCAGGUGUGAUUCU-----	4
0,-5	
-----UCCCCCAGGUGUGAUUCUG-----	4
0,-4	
-----UCCCCCAGGUGUGAUUCUGA-----	6
0,-3	
-----UCCCCCAGGUGUGAUUCUGAaa-----	3
0,-3	
-----UCCCCCAGGUGUGAUUCUGAU-----	6
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUa-----	2
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUaa-----	3
0,-2	
-----UCCCCCAGGUGUGAUUCUGAUU-----	7
0,-1	
-----UCCCCCAGGUGUGAUUCUGAUUU-----	28
0,0	
-----UCCCCCAGGUGUGAUUCUGAUUUu-----	2
0,0	
-----UCCCCCAGGUGUGAUUCUGAUUUUGC-----	3
0,2	
-----CCCCCAGGUGUGAUUCUGAUUUUG-----	6
1,1	
-----CCCCCAGGUGUGAUUCUGAUUUUGu-----	2
1,1	
-----CCCCCAGGUGUGAUUCUGAUUUUGC-----	4
1,2	

.((...(((.((((..(((((.((((((((((((((((((.(.....).)))))))))....)).))).)).)

)...)).

>hsa-mi r-3614 5p:15-37;3p:53-75 SRX018970
gguucugucuuaggCCACUUGGAUCUGAAGGCUGCCCCuuuugcucucuggggUAGCCUUCAGAUCUUGGUGUUUgaaau
cuuacu

```

>hsa-mir-362      5p:5-28;3p:42-63      SRX018970
cuugAAUCCUUGGAACCUAGGUGUGAGUgcuauuucagugcAACACACCUAUUCAAGGAUUCa
.((((((((((((((((...(((((((((.((...))..)))))((((((((((((((((((((
----AAUCCUUGGAACCUAGGUGUG-----                2    0,-3
----AAUCCUUGGAACCUAGGUGUGA-----                6    0,-2
----AAUCCUUGGAACCUAGGUGUGAG-----                3    0,-1
----AAUCCUUGGAACCUAGGUGUGAGa-----               2    0,-1

```

```

----AAUCCUUGGAACCUAGGUGUGAGU----- 5 0,0
-----AACACACCUAUUCAAGGAU----- 4 0,-3
-----AACACACCUAUUCAAGGAUU----- 9 0,-2
-----AACACACCUAUUCAAGGAUUC--- 18 0,-1
-----AACACACCUAUUCAAGGAUUCA-- 22 0,0
-----AACACACCUAUUCAAGGAUUCAA- 3 0,1

```

>hsa-mir-363 mi:7-28;MA:50-71 SRX018970

```

uguuguCGGGUGGAUCACGAUGCAAUUUugaugagaucauaggagaaaAAUUGCACGGUAUCCAUCUGUAaacc
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CGGGUGGAUCACGAUGCAAUUUU----- 2
0,1
-----AAUUGCACGGUAUCCAUC----- 3
0,-4
-----AAUUGCACGGUAUCCAUCU----- 66
0,-3
-----AAUUGCACGGUAUCCAUCUG----- 7
0,-2
-----AAUUGCACGGUAUCCAUCUGU----- 9
0,-1
-----AAUUGCACGGUAUCCAUCUGUA----- 9
0,0
-----AAUUGCACGGUAUCCAUCUGUAA--- 27
0,1
-----AUUGCACGGUAUCCAUCU----- 4
1,-3

```

>hsa-mir-3647 5p:15-37;3p:62-84 SRX018970

```

uugcuuucacagcCUGAAGUGAUGAUUCACAUUCAUgucucuucucugauaaaauucuugaAGAAAAUUUUUGUGUGUCU
GAUCaggccucuagagggcag
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))..))))))))..))))))))..))))))))..))))))))..))))))))..))))))))..
-----GAAGAAAAUUUUUGUGUGUCU
----- 2 -2,-4

```

>hsa-mir-3648 5p:28-48 SRX018970

```

cgcgacugcggcgggcgggugggggggAGCCGCGGGGAUCGCCGAGGGcgggucggccgccccgggugccgcgcgggugcc
gccggcgggcgggugaggccccgcgcgugugucccggcugcgguccgcccgcgcucgaggggucccgugggcguccccuuccc

```

cgccggccgcccuuucucgcg
(((((((((.....)))))))))
)))))).....))))))

>hsa-mir-365-1 3p:56-77 SRX018970
accgcagggaaaaugagggacuuuugggggcagauguguuuccauuccacuaUAAUGCCCCUAAAAAUCCUUAUugc
ucuugca

...(((((((.....)))))))))
)))))).
-----AGGGACUUUUGGGGGCAG-----
----- 3
-----AGGGACUUUUGGGGGCAGA-----
----- 26
-----AGGGACUUUUGGGGGCAGAUGU-----
----- 9
-----AGGGACUUUUGGGGGCAGAUGUaa-----
----- 2
-----AGGGACUUUUGGGGGCAGAUGUu-----
----- 2
-----AGGGACUUUUGGGGGCAGAUGUuu-----
----- 6
-----AGGGACUUUUGGGGGCAGAUGUG-----
----- 11
-----AGGGACUUUUGGGGGCAGAUGUGa-----
----- 5
-----AGGGACUUUUGGGGGCAGAUGUGU-----
----- 35
-----AGGGACUUUUGGGGGCAGAUGUGUU-----
----- 3
-----UAAUGCCCCUAAAAAUCC-----
----- 43 0,-4
-----UAAUGCCCCUAAAAAUCCU-----
----- 23 0,-3
-----UAAUGCCCCUAAAAAUCCUau-----
----- 2 0,-3
-----UAAUGCCCCUAAAAAUCCUU-----
----- 146 0,-2

```

-----UAAUGCCCCUAAAAAUCCUUu-----
----- 24 0,-2
-----UAAUGCCCCUAAAAAUCCUUuu-----
----- 19 0,-2
-----UAAUGCCCCUAAAAAUCCUUA-----
----- 213 0,-1
-----UAAUGCCCCUAAAAAUCCUUAa-----
----- 99 0,-1
-----UAAUGCCCCUAAAAAUCCUUAaa-----
----- 9 0,-1
-----UAAUGCCCCUAAAAAUCCUUAau-----
----- 10 0,-1
-----UAAUGCCCCUAAAAAUCCUUAU-----
----- 1588 0,0
-----UAAUGCCCCUAAAAAUCCUUAUa-----
----- 72 0,0
-----UAAUGCCCCUAAAAAUCCUUAUaa-----
----- 3 0,0
-----UAAUGCCCCUAAAAAUCCUUAUU-----
----- 208 0,1
-----UAAUGCCCCUAAAAAUCCUUAUa-----
----- 6 0,1
-----UAAUGCCCCUAAAAAUCCUUAUUu-----
----- 11 0,1
-----AAUGCCCCUAAAAAUCCUU-----
----- 2 1,-2
-----AAUGCCCCUAAAAAUCCUUA-----
----- 3 1,-1
-----AAUGCCCCUAAAAAUCCUUAU-----
----- 10 1,0
-----AAUGCCCCUAAAAAUCCUUAUU-----
----- 3 1,1
-----AUGCCCCUAAAAAUCCUUAU-----
----- 5 2,0

```

>hsa-mir-365-2 mi:29-50;MA:68-89 SRX018970

agaguguucaaggacagcaagaaaaaugAGGGACUUUCAGGGGCAGCUGUguuuucugacucagucaUAAUGCCCCUAAA
AAUCCUUAUuguucuugcagugugcaucggg

.....(.(((((((((((.(((((((((.(((.((((((((((((((.(((...)))..)))))).....))))).....)))))..)))).).....

-----GAGGGACUUUCAGGGGCAGCU-----

----- 14 -1,-2

-----AGGGACUUUCAGGGGCAGCU-----

----- 21 0,-2

-----AGGGACUUUCAGGGGCAGCUGU-----

----- 3 0,0

-----AGGGACUUUCAGGGGCAGCUGUG-----

----- 4 0,1

-----AGGGACUUUCAGGGGCAGCUGUGU-----

----- 8 0,2

-----GGGACUUUCAGGGGCAGCU-----

----- 2 1,-2

-----UAAUGCCCCUAAA

AAUCC----- 43 0,-4

-----UAAUGCCCCUAAA

AAUCCU----- 23 0,-3

-----UAAUGCCCCUAAA

AAUCCU_{au}----- 2 0,-3

-----UAAUGCCCCUAAA

AAUCCUU----- 146 0,-2

-----UAAUGCCCCUAAA

AAUCCUUu----- 24 0,-2

-----UAAUGCCCCUAAA

AAUCCUuu----- 19 0,-2

-----UAAUGCCCCUAAA

AAUCCUUA----- 213 0,-1

-----UAAUGCCCCUAAA

AAUCCUUAa----- 99 0,-1

-----UAAUGCCCCUAAA

AAUCCUUAaa----- 9 0,-1

-----UAAUGCCCCUAAA

AAUCCUUA_{au}----- 10 0,-1

-----UAAUGCCCCUAAA

AAUCCUUAU----- 1588 0,0

-----UAAUGCCCCUAAA

AAUCCUUAUa----- 72 0,0

```

-----UAAUGCCCCUAAA
AAUCCUUAUaa----- 3 0,0
-----UAAUGCCCCUAAA
AAUCCUUAUU----- 208 0,1
-----UAAUGCCCCUAAA
AAUCCUUAUa----- 6 0,1
-----UAAUGCCCCUAAA
AAUCCUUAUUu----- 11 0,1
-----AAUGCCCCUAAA
AAUCCUU----- 2 1,-2
-----AAUGCCCCUAAA
AAUCCUUA----- 3 1,-1
-----AAUGCCCCUAAA
AAUCCUUAU----- 10 1,0
-----AAUGCCCCUAAA
AAUCCUUAUU----- 3 1,1
-----AUGCCCCUAAA
AAUCCUUAU----- 5 2,0

```

```

>hsa-mir-3653 3p:75-92 SRX018970
ucccuggggaccccuggcagccccuccugaugauucuuuccugagcacgcucaugaugagcaaacugagccuCUAAGA
AGUUGACUGAAGgggcugcuuccccaagga
(((.((((((.....((((((((((.....((((((.....((((((.....))))))))).))))
))......).))))))))))))))))))))))))))
-----CCUCCUGAUGAUUCUUCUU-----
----- 3

```

```

>hsa-mir-3660 3p:60-80 SRX018970
gaaagaagaacuggacaaaauaaaaugcucuucugucauuguaauagucauaugggcACUGACAGGAGAGCAUUUUGA
cuuugucaagugugucugcu
...(((...(((.((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))
-----CACUGACAGGAGAGCAUUUUGA
----- 3 -1,0

```

```

>hsa-mir-3664 5p:21-42 SRX018970
cuguaaacuugaagguagggAACUCUGUCUUCACUCAUGAGUaccuuccaacacgagcucucaggaguaaagacagagu
cccuaccuuccaauugggau

```



```

>hsa-mir-369    5p:9-30;3p:44-64    SRX018970
uugaagggAGAUCGACCGUGUUAUAUUCGCuuuauugacuucgAAUAAUACAUGGUUGAUCUUUucucag
.(((((((((.....)))))))).))))).
-----AGAUCGACCGUGUUAUAUU----- 10  0,-3
-----AGAUCGACCGUGUUAUAUUC----- 21  0,-2
-----AGAUCGACCGUGUUAUAUUCG----- 7   0,-1
-----AGAUCGACCGUGUUAUAUUCGCU----- 3   0,1
-----AAUAAUACAUGGUUGAUCUUU----- 42  0,0
-----AUAAUACAUGGUUGAUCUUU----- 3   1,0

```

```

>hsa-mir-3690   5p:10-32    SRX018970
cccauccACCUGGACCCAGCGUAGACAAAGagguguuucuacuccauaucuaccuggaccaguguagauggg
(((((((((.....)))))))).))))).
-----ACCUGGACCCAGCGUAGACA----- 5
0,-3
-----ACCUGGACCCAGCGUAGACAA----- 2
0,-2
-----ACCUGGACCCAGCGUAGACAAA----- 2
0,-1

```

```

>hsa-mir-370    3p:48-69    SRX018970
agacagagaagccaggucacgucucugcaguacacagcucacgaguGCCUGCUGGGGUGGAACCUUGUcugucu
(((((((((.....)))))))).))))).
-----GCCUGCUGGGGUGGAACCUUGUaa---- 2
0,0

```

```

>hsa-mir-372    3p:42-64    SRX018970
gugggccucaaauuggagcacuauucugauguccaaguggAAAGUGCUGCGACAUUUGAGCGUcac
...(((((((((.....)))))))).))))).
-----AAAGUGCUGCGACAUUUGAG----- 2   0,-3

```

```

>hsa-mir-374a   MA:12-33;mi:42-63    SRX018970
uacaucggccaUUAUAAUACAACCUGAUAGUGuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((((.....)))))))).))))).
-----AUUAUAAUACAACCUGAUAGUGa----- 2
-1,0
-----UUAUAAUACAACCUGAU----- 9
0,-4

```


-----UUAUAAUACAACCUGAUAA-----	107
0,-3	
-----UUAUAAUACAACCUGAUAAa-----	9
0,-3	
-----UUAUAAUACAACCUGAUAAaa-----	4
0,-3	
-----UUAUAAUACAACCUGAUAAuu-----	2
0,-3	
-----UUAUAAUACAACCUGAUAAAG-----	42
0,-2	
-----UUAUAAUACAACCUGAUAAAGa-----	11
0,-2	
-----UUAUAAUACAACCUGAUAAAGU-----	438
0,-1	
-----UUAUAAUACAACCUGAUAAAGUa-----	21
0,-1	
-----UUAUAAUACAACCUGAUAAAGUaa-----	6
0,-1	
-----UUAUAAUACAACCUGAUAAAGUu-----	3
0,-1	
-----UUAUAAUACAACCUGAUAAAGUG-----	459
0,0	
-----UUAUAAUACAACCUGAUAAAGUGa-----	187
0,0	
-----UUAUAAUACAACCUGAUAAAGUGaa-----	6
0,0	
-----UUAUAAUACAACCUGAUAAAGUGU-----	36
0,1	
-----UAUAAUACAACCUGAUAAAG-----	2
1,-2	
-----UAUAAUACAACCUGAUAAAGUG-----	2
1,0	
-----UAUAAUACAACCUGAUAAAGUGa-----	5
1,0	
-----AUAAUACAACCUGAUAAAGUGa-----	2
2,0	
-----ACUUAUCAGAUUGUAUUGUAA-----	3
-1,-2	


```

-----AUAUAAUACAACCUGCUAAGU----- 405
0,-1
-----AUAUAAUACAACCUGCUAAGUa----- 16
0,-1
-----AUAUAAUACAACCUGCUAAGUu----- 4
0,-1
-----AUAUAAUACAACCUGCUAAGUG----- 1044
0,0
-----AUAUAAUACAACCUGCUAAGUGa----- 258
0,0
-----AUAUAAUACAACCUGCUAAGUGaa----- 3
0,0
-----AUAUAAUACAACCUGCUAAGUGU----- 153
0,1
-----AUAUACAACCUGCUAAGUG----- 2
2,0
-----CUUAGCAGGUUGUAUUAUCAUU----- 11
0,0

```

>hsa-mir-374c 5p:13-34 SRX018970

```

acacggacaugAUAUAAUACAACCUGCUAAGUGCUaggacacuuagcagguuguauuauauccaucaggagu
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUAUACAACCUGCUAAGUG----- 2 0,-2

```

>hsa-mir-375 3p:40-61 SRX018970

```

ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUGAggc
.(((((((.(((((((...((.((((((.((.....)).)))))).))....))))).)).
-----UUUGUUCGUUCGGCUCGCGUG---- 7 -1,-1
-----UUUGUUCGUUCGGCUCGCGUGu--- 3 -1,-1
-----UUUGUUCGUUCGGCUCGC----- 7 0,-4
-----UUUGUUCGUUCGGCUCGCG----- 16 0,-3
-----UUUGUUCGUUCGGCUCGCGU----- 20 0,-2
-----UUUGUUCGUUCGGCUCGCGUuu--- 3 0,-2
-----UUUGUUCGUUCGGCUCGCGUG---- 114 0,-1
-----UUUGUUCGUUCGGCUCGCGUGu--- 11 0,-1
-----UUUGUUCGUUCGGCUCGCGUGuu-- 4 0,-1
-----UUUGUUCGUUCGGCUCGCGUGA--- 106 0,0
-----UUUGUUCGUUCGGCUCGCGUGAa-- 5 0,0

```



```

----- 50 0,-3
-----AUCAUAGAGGAAAAUCCA
GU----- 5 0,-1
-----AUCAUAGAGGAAAAUCCA
GUU----- 6 0,0
-----AUCAUAGAGGAAAAUCCA
GUUU----- 5 0,1

```

>hsa-mir-376c 3p:43-63 SRX018970

```

aaaagguggauauuccuucuauguuuuanguuauuuauugguuaAACAUAGAGGAAAUUCCACGUuuu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GUGGAUUAUCCUUCUAUGU----- 2
-----GUGGAUUAUCCUUCUAUGUUU----- 2
-----AACAUAGAGGAAAUUCCA----- 5 0,-3
-----AACAUAGAGGAAAUUCCAC----- 72 0,-2
-----AACAUAGAGGAAAUUCCACuu--- 2 0,-2
-----AACAUAGAGGAAAUUCCACG--- 70 0,-1
-----AACAUAGAGGAAAUUCCACGa--- 2 0,-1
-----AACAUAGAGGAAAUUCCACGU--- 457 0,0
-----AACAUAGAGGAAAUUCCACGUa-- 10 0,0
-----AACAUAGAGGAAAUUCCACGUaa- 2 0,0
-----AACAUAGAGGAAAUUCCACGUau- 3 0,0
-----AACAUAGAGGAAAUUCCACGUU-- 50 0,1
-----AACAUAGAGGAAAUUCCACGUUU- 3 0,2
-----ACAUAGAGGAAAUUCCACGUU-- 4 1,1
-----ACAUAGAGGAAAUUCCACGUUU- 5 1,2
-----ACAUAGAGGAAAUUCCACGUUUU 2 1,3

```

>hsa-mir-377 mi:7-28;MA:45-66 SRX018970

```

uugagcAGAGGUUGCCCUUGGUGAAUUCgcuuuauuuanguugaAUCACACAAAGGCAACUUUUGUuug
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAGGUUGCCCUUGGUGA----- 2 0,-4
-----AGAGGUUGCCCUUGGUGAA----- 2 0,-3
-----AGAGGUUGCCCUUGGUGAAU----- 2 0,-2
-----AGAGGUUGCCCUUGGUGAAUU----- 49 0,-1
-----AGAGGUUGCCCUUGGUGAAUUC----- 6 0,0
-----AAUCACACAAAGGCAACUUUUGU--- 2 -1,0
-----AUCACACAAAGGCAACUUUU----- 2 0,-2

```

```

-----AUCACACAAAGGCAACUUUUG---- 3 0,-1
-----AUCACACAAAGGCAACUUUUGU--- 2 0,0

```

>hsa-mir-378 mi:5-26;MA:43-63 SRX018970

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu

(((((((.....)))))).)))))))))

```

----CUCCUGACUCCAGGUCCU----- 3 0,-4
----CUCCUGACUCCAGGUCCUGU----- 4 0,-2
----CUCCUGACUCCAGGUCCUGUGU----- 12 0,0
----CUCCUGACUCCAGGUCCUGUGUa----- 3 0,0
----CUCCUGACUCCAGGUCCUGUGUau----- 3 0,0
----CUCCUGACUCCAGGUCCUGUGUu----- 3 0,0
----UCCUGACUCCAGGUCCUGUGU----- 12 1,0
----UCCUGACUCCAGGUCCUGUGUau----- 2 1,0
----UCCUGACUCCAGGUCCUGUGUuu----- 2 1,0
----UCCUGACUCCAGGUCCUGUGUGU----- 2 1,2
-----GCACUGGACUUGGAGUCAGAAGu--- 2 -2,-1
-----GCACUGGACUUGGAGUCAGAAGGC-- 3 -2,1
-----CACUGGACUUGGAGUCAGAAGG--- 10 -1,0
-----CACUGGACUUGGAGUCAGAAGGaa- 5 -1,0
-----CACUGGACUUGGAGUCAGAAGGu-- 2 -1,0
-----CACUGGACUUGGAGUCAGAAGGC-- 17 -1,1
-----CACUGGACUUGGAGUCAGAAGGCa- 7 -1,1
-----CACUGGACUUGGAGUCAGAAGGCau 9 -1,1
-----CACUGGACUUGGAGUCAGAAGGCu- 11 -1,1
-----CACUGGACUUGGAGUCAGAAGGCuu 7 -1,1
-----ACUGGACUUGGAGUCAGA----- 103 0,-3
-----ACUGGACUUGGAGUCAGAA----- 243 0,-2
-----ACUGGACUUGGAGUCAGAAa---- 17 0,-2
-----ACUGGACUUGGAGUCAGAAaa--- 12 0,-2
-----ACUGGACUUGGAGUCAGAAG---- 1066 0,-1
-----ACUGGACUUGGAGUCAGAAGu--- 130 0,-1
-----ACUGGACUUGGAGUCAGAAGuu-- 2 0,-1
-----ACUGGACUUGGAGUCAGAAGG--- 11239 0,0
-----ACUGGACUUGGAGUCAGAAGGa-- 3263 0,0
-----ACUGGACUUGGAGUCAGAAGGaa- 494 0,0
-----ACUGGACUUGGAGUCAGAAGGau- 175 0,0
-----ACUGGACUUGGAGUCAGAAGGu-- 980 0,0

```

-----ACUGGACUUGGAGUCAGAAGGuu-	309	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	22878	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	11720	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	1513	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	8875	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	8040	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	4783	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	27	0,2
-----ACUGGACUUGGAGUCAGAAGGCCa	5	0,2
-----ACUGGACUUGGAGUCAGAAGGCCau	6	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	20	0,3
-----ACUGGACUUGGAGUCAGAAGGCCUu	4	0,3
-----CUGGACUUGGAGUCAGAA-----	6	1,-2
-----CUGGACUUGGAGUCAGAAG----	9	1,-1
-----CUGGACUUGGAGUCAGAAGu---	2	1,-1
-----CUGGACUUGGAGUCAGAAGG---	182	1,0
-----CUGGACUUGGAGUCAGAAGGa--	27	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	21	1,0
-----CUGGACUUGGAGUCAGAAGGu--	26	1,0
-----CUGGACUUGGAGUCAGAAGGuu-	9	1,0
-----CUGGACUUGGAGUCAGAAGGC--	2071	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	316	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	117	1,1
-----CUGGACUUGGAGUCAGAAGGCau	205	1,1
-----CUGGACUUGGAGUCAGAAGGCu-	413	1,1
-----CUGGACUUGGAGUCAGAAGGCuu	397	1,1
-----CUGGACUUGGAGUCAGAAGGCC-	5	1,2
-----CUGGACUUGGAGUCAGAAGGCCa	2	1,2
-----CUGGACUUGGAGUCAGAAGGCCau	5	1,2
-----CUGGACUUGGAGUCAGAAGGCCU	3	1,3
-----CUGGACUUGGAGUCAGAAGGCCUuu	5	1,3
-----UGGACUUGGAGUCAGAAGG---	2	2,0
-----UGGACUUGGAGUCAGAAGGC--	53	2,1
-----UGGACUUGGAGUCAGAAGGCa-	5	2,1
-----UGGACUUGGAGUCAGAAGGCau	8	2,1
-----UGGACUUGGAGUCAGAAGGCu-	13	2,1
-----UGGACUUGGAGUCAGAAGGCuu	20	2,1


```

-----UGGUAGACUAUGGAACGUAG----- 24 0,-1
-----UGGUAGACUAUGGAACGUAGG----- 72 0,0
-----UGGUAGACUAUGGAACGUAGGa----- 29 0,0
-----UGGUAGACUAUGGAACGUAGGaa----- 19 0,0
-----UGGUAGACUAUGGAACGUAGGau----- 3 0,0
-----UGGUAGACUAUGGAACGUAGGu----- 16 0,0

```

>hsa-mir-382 5p:11-32 SRX018970

```

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucauucacggacaacacuuuuuucagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GAAGUUGUUCGUGGUGGAUU-----
6 0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
3 0,-1
-----GAAGUUGUUCGUGGUGGAUUCG-----
2 0,0
-----AAGUUGUUCGUGGUGGAUU-----
2 1,-2
-----AAUCAUUCACGGACAACAC-----
43
-----AAUCAUUCACGGACAACACU-----
84
-----AAUCAUUCACGGACAACACUU-----
11
-----AAUCAUUCACGGACAACACUUU-----
19

```

>hsa-mir-383 5p:7-28 SRX018970

```

cuccucAGAUCAAGGUGAUUGUGGCUuuggguggauauuaucagccacagcacugccuggucagaaagag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAUCAAGGUGAUUGUGG----- 2
0,-2
-----AGAUCAAGGUGAUUGUGGC----- 4
0,-1
-----AGAUCAAGGUGAUUGUGGCau----- 4
0,-1
-----AGAUCAAGGUGAUUGUGGCU----- 19
0,0

```

```

-----AGAUCAGAAGGUGAUUGUGGCUU----- 15
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUa----- 3
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUau----- 2
0,1
-----AGAUCAGAAGGUGAUUGUGGCUUU----- 13
0,2

```

```

>hsa-mi r-3910-1 3p:63-82 SRX018970
cuuuugcugucaguuuuucuguugcuugucuugguuuuangccuuuuauaucaaggcacauaAAAGGCAUAAAACCAAGA
CAagcaacaaaaaaaggauugaucacagaag
(((((((..(((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))....))))))))))..))))))
-----AAAAGGCAUAAAACCAAGA
CA----- 2 -1,0

```

```

>hsa-mi r-3910-2 3p:50-69 SRX018970
uuuuuuuguugcuugucuugguuuuangccuuuuangugccuugauauaAAAGGCAUAAAACCAAGACAagcaacagaaa
aa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))....))))))))))..))))))
).
-----AAAAGGCAUAAAACCAAGACA-----
-- 2 -1,0

```

```

>hsa-mi r-3912 3p:63-83 SRX018970
agagaggaugaacaguuaaaauuaaacauguccauauuauggguuaguuguggacacauacUAACGCAUAAUAUGGACA
UGUuauaauuuuacuguuccuuucu
(((((((....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))....))))))))))..))))))
-----UAACGCAUAAUAUGGACA
UG----- 2 0,-1

```

```

>hsa-mi r-3928 3p:37-58 SRX018970
gcugaagcucuaagguuccgccugcgggcgaggaagcGGAGGAACCUUGGAGCUUCGGC
(((((((((((((((((((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))....))))))))))..))))))
-----GGAGGAACCUUGGAGCUUCGGCu 2 0,0
-----AGGAACCUUGGAGCUUCGG- 2 2,-1

```

```

-----AGGAACCUUGGAGCUUCGGC  2    2,0

>hsa-mir-3942    5p:23-44    SRX018970
ucuucaguaugacaccucaagAAGCAAUACUGUUACCUGAAAUaggcugcgaagauaacagauuuucagauaacagauu
uacaucuuugaagugucauauucacugac
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
).).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----AGCAAUACUGUUACCUGAAa-----
-----      2    1,-1

```

```

>hsa-mir-409    5p:15-37;3p:47-68    SRX018970
ugguacucggggagAGGUUACCCGAGCAACUUUGCAUcuggacgacGAAUGUUGCUCGGUGAACCCCUuuucggauca
.(((((((((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.
).).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).
-----AGGUUACCCGAGCAACUUU-----
10  0,-4
-----AGGUUACCCGAGCAACUUUGC-----
3   0,-2
-----AGGUUACCCGAGCAACUUUGCA-----
56  0,-1
-----AGGUUACCCGAGCAACUUUGCAU-----
71  0,0
-----AGGUUACCCGAGCAACUUUGCAUa-----
5   0,0
-----CGAAUGUUGCUCGGUGAA-----
10  -1,-5
-----CGAAUGUUGCUCGGUGAAC-----
3   -1,-4
-----CGAAUGUUGCUCGGUGAACCC-----
3   -1,-1
-----CGAAUGUUGCUCGGUGAACCCCU-----
3   -1,1
-----GAAUGUUGCUCGGUGAACCC-----
2   0,-1
-----GAAUGUUGCUCGGUGAACCCCU-----
10  0,0
-----GAAUGUUGCUCGGUGAACCCCUau-----
3   0,0
-----GAAUGUUGCUCGGUGAACCCCU-----

```

-----AAUGUUGCUCGGUGAACCC-----

>hsa-mir-410 3p:50-70 SRX018970

6 0,-2

-----AAUAUAACACAGAUGGCCUGU-----

-----AAUAUAACACAGAUGGCCUGUUU-----

>hsa-mi-r-411 MA:16-36;mi:51-72 SRX018970

-----AUAGUAGACCGUAUAGCG-----

----- 4 -1,-4

-----AUAGUAGACCGUAUAGCGU-----

----- 83 -1,-3

-----AUAGUAGACCGUAUAGCGUA-----

----- 39 -1,-2

-----AUAGUAGACCGUAUAGCGUAa-----

----- 18 -1, -2

-----AUAGUAGACCGUAUAGCGUAC-----

----- 113 -1 -1

-----AUAGUAGACCGUAUAGCGUACG-----

----- 13 -1 0

-----UAGUAGACCGUAAUAGCGU-----

----- 87 0 -3

UAGUAGACCGUAAUAGCGUA

53 0 2

UAGUAGACCGUAUAGCCGUA₂

6 0 2

UAGUAGACGGUAAUACGGUAG

```

----- 135 0,-1
-----UAGUAGACCGUAUAGCGUACG-----
----- 27 0,0
-----UAGUAGACCGUAUAGCGUACGu-----
----- 2 0,0
-----UAUGUAACACGGUCCACUAAuu-----
----- 2 0,-2
-----UAUGUAACACGGUCCACUAAC-----
----- 4 0,-1
-----UAUGUAACACGGUCCACUAACu-----
----- 2 0,-1

```

>hsa-mir-421 3p:48-70 SRX018970

gcacauuguaggccucauuaaanguuuguugaugaaaaaaugaaucaUCAACAGACAUUAAUUGGGCGCcugcucugug
aucuc

.(((((((((.....)))))))))).....
.....

```

-----AUCAACAGACAUUAAUUG-----
----- 10 0,-5
-----AUCAACAGACAUUAAUUGG-----
----- 15 0,-4
-----AUCAACAGACAUUAAUUGGG-----
----- 2 0,-3
-----AUCAACAGACAUUAAUUGGGCGa-----
----- 2 0,-1
-----AUCAACAGACAUUAAUUGGGCGu-----
----- 3 0,-1
-----AUCAACAGACAUUAAUUGGGCGC-----
----- 2 0,0
-----AUCAACAGACAUUAAUUGGGCGCau-----
----- 2 0,0

```

>hsa-mir-423 5p:17-39;3p:53-75 SRX018970

auaaaggaaguaggcUGAGGGGCAGAGAGCGAGACUUUucuaauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

.....(((((((.....)))))))).....
))))).
-----CUGAGGGGCAGAGAGCGAGACUU-----

```

----- 2   -1,0
-----UGAGGGGCAGAGAGCGAG-----
----- 4   0,-5
-----UGAGGGGCAGAGAGCGAGA-----
----- 12  0,-4
-----UGAGGGGCAGAGAGCGAGAAa-----
----- 5   0,-4
-----UGAGGGGCAGAGAGCGAGAC-----
----- 15  0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 3   0,-3
-----UGAGGGGCAGAGAGCGAGACaa-----
----- 3   0,-3
-----UGAGGGGCAGAGAGCGAGACU-----
----- 40  0,-2
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 2   0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 3   0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 42  0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 13  0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 3   0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 8   0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 482 0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 10  0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 8   0,0
-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 12  0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 121 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----

```

```

----- 12 0,1
-----GAGGGGCAGAGAGCGAGACU-----
----- 2 1,-2
-----GAGGGGCAGAGAGCGAGACUUU-----
----- 12 1,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 6 2,1
-----AAGCUCGGUCUGAGGCCCCU-----
----- 6 -1,-4
-----AAGCUCGGUCUGAGGCCCCUC-----
----- 6 -1,-3
-----AAGCUCGGUCUGAGGCCCCUCA-----
----- 5 -1,-2
-----AAGCUCGGUCUGAGGCCCCUCAG-----
----- 3 -1,-1
-----AAGCUCGGUCUGAGGCCCCUCAGU-----
----- 23 -1,0
-----AAGCUCGGUCUGAGGCCCCUCAGUa-----
----- 3 -1,0
-----AGCUCGGUCUGAGGCCCC-----
----- 2 0,-5
-----AGCUCGGUCUGAGGCCCCU-----
----- 2 0,-4
-----AGCUCGGUCUGAGGCCCCUC-----
----- 3 0,-3
-----AGCUCGGUCUGAGGCCCCUCA-----
----- 14 0,-2
-----AGCUCGGUCUGAGGCCCCUCAa-----
----- 3 0,-2
-----AGCUCGGUCUGAGGCCCCUCAau-----
----- 3 0,-2
-----AGCUCGGUCUGAGGCCCCUCAu-----
----- 2 0,-2
-----AGCUCGGUCUGAGGCCCCUCAG-----
----- 31 0,-1
-----AGCUCGGUCUGAGGCCCCUCAGa-----
----- 5 0,-1
-----AGCUCGGUCUGAGGCCCCUCAGaa-----

```


----- 425 0,-3
-----CAGCAGCAAUUC AUGUUUa-----
----- 11 0,-3
-----CAGCAGCAAUUC AUGUUUaa-----
----- 3 0,-3
-----CAGCAGCAAUUC AUGUUUu-----
----- 4 0,-3
-----CAGCAGCAAUUC AUGUUUG-----
----- 1443 0,-2
-----CAGCAGCAAUUC AUGUUUGu-----
----- 10 0,-2
-----CAGCAGCAAUUC AUGUUUGA-----
----- 5291 0,-1
-----CAGCAGCAAUUC AUGUUUGAu-----
----- 7 0,-1
-----CAGCAGCAAUUC AUGUUUGAA-----
----- 1927 0,0
-----CAGCAGCAAUUC AUGUUUGAAa-----
----- 305 0,0
-----CAGCAGCAAUUC AUGUUUGAAaa-----
----- 12 0,0
-----CAGCAGCAAUUC AUGUUUGAAau-----
----- 2 0,0
-----CAGCAGCAAUUC AUGUUUGAAu-----
----- 53 0,0
-----CAGCAGCAAUUC AUGUUUGAAG-----
----- 11 0,1
-----CAGCAGCAAUUC AUGUUUGAAGU-----
----- 5 0,2
-----AGCAGCAAUUC AUGUUU-----
----- 4 1,-3
-----AGCAGCAAUUC AUGUUUG-----
----- 11 1,-2
-----AGCAGCAAUUC AUGUUUGA-----
----- 71 1,-1
-----AGCAGCAAUUC AUGUUUGAA-----
----- 35 1,0
-----AGCAGCAAUUC AUGUUUGAAa-----

```

----- 3 1,0
-----AGCAGCAAUUC AUGUUUUGAAu-----
----- 2 1,0
-----CAAAACGUGAGGCGCUGCUA-----
----- 10 0,-1
-----CAAAACGUGAGGCGCUGCUAa-----
----- 6 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 303 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 21 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 111 0,1
-----CAAAACGUGAGGCGCUGCUAUAa-----
----- 27 0,1
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 18 0,1
-----AAAACGUGAGGCGCUGCUAU-----
----- 15 1,0
-----AAAACGUGAGGCGCUGCUAUA-----
----- 9 1,1
-----AAAACGUGAGGCGCUGCUAUAa-----
----- 2 1,1
-----AAAACGUGAGGCGCUGCUAUu-----
----- 16 1,1
-----AAACGUGAGGCGCUGCUAUu-----
----- 2 2,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018970

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAUGUCGUGUCCGCCCagug
cucuuc

(((((.(.(((...(((((((.(.(((((.(((((...))....))))).))))).))))))....)))

```

-----AAUGACACGAUCACUCCCG-----
----- 2 0,-4
-----AAUGACACGAUCACUCCCGU-----
----- 4 0,-3
-----AAUGACACGAUCACUCCCGUU-----

```

```

----- 5 0,-2
-----AAUGACACGAUCACUCCCGUUG-----
----- 15 0,-1
-----AAUGACACGAUCACUCCCGUUGu-----
----- 7 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 104 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 29 0,1
-----AAUGACACGAUCACUCCCGUUGAGU-----
----- 7 0,2
-----AUGACACGAUCACUCCCGUUGA-----
----- 16 1,0
-----AUGACACGAUCACUCCCGUUGAG-----
----- 16 1,1
-----AUGACACGAUCACUCCCGUUGAGU-----
----- 2 1,2
-----UGACACGAUCACUCCCGUUGAGU-----
----- 2 2,2
-----CAUCGGGAAUGUCGUGUC-----
----- 2 -1,-5
-----CAUCGGGAAUGUCGUGUCC-----
----- 4 -1,-4
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 3 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 7 -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCu-----
----- 3 -1,-1
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 7 0,-1
-----AUCGGGAAUGUCGUGUCCGCCuu-----
----- 2 0,-1
-----AUCGGGAAUGUCGUGUCCGCCCC-----
----- 3 0,0
-----AUCGGGAAUGUCGUGUCCGCCCAu-----
----- 2 0,1
-----AUCGGGAAUGUCGUGUCCGCCCAuu-----

```

----- 2 0,1

>hsa-mir-4284 5p:11-28 SRX018970

guucugugagGGGCUCACAUCACCCCAUcaaaguggggacucauggggagaggggguaguuaaggagcuuugauagaggcg
g

.(((((((...(((((((...(((...(((...(((...))))))...))...))))))...))))))...
.

-----GGGCUCACAUCACCCCAU-----

- 6 0,0

>hsa-mir-4286 5p:11-27 SRX018970

uacuuauggcACCCACUCCUGGUACCAuagucauaaguuaaggagauguuagagcugugaguaccaugacuuaagugugg
uggcuaaacaug

...(((.(.(((((.((((((((((((((((...((((((((...))))))...))))))...))))))...))
)).)).))....

-----ACCCACUCCUGGUACCA-----

----- 21 0,1

-----ACCCACUCCUGGUACCAa-----

----- 3 0,1

-----ACCCACUCCUGGUACCAU-----

----- 7 0,2

-----ACCCACUCCUGGUACCAUu-----

----- 9 0,2

-----ACCCACUCCUGGUACCAUuu-----

----- 7 0,2

-----ACCCACUCCUGGUACCAUA-----

----- 3 0,3

-----ACCCACUCCUGGUACCAUAa-----

----- 3 0,3

>hsa-mir-429 3p:51-72 SRX018970

cgccggccgaugggcgucuuaccagacauggguagaccugggccucugucUAAUACUGUCUGGUAAAAACCGUccauccgc
ugc

...(((((((...(((((((...((((((((((((((((...((((((((...))))))...))))))...))))))...))
)).).

-----UAAUACUGUCUGGUAAAA-----

--- 3 0,-4

-----UAAUACUGUCUGGUAAAAACCG-----

--- 9 0,-1
-----UAAUACUGUCUGGUAAAACCGa-----

--- 36 0,0

$$\begin{aligned} & .(((((((.(.((((((.(((((((.((((((.((.(.....)).).)))))))).)))))))).))))).) \\ &)))))))..)), \end{aligned}$$

-----UCUUGGAGUAGGUCAUUG-----
----- 30 0.-4

-----UCUUGGAGUAGGUCAUUGGG-----
----- 45 0 -3

-----UCUUGGAGUAGGUCAUUGGGa-----
 ----- 3 0 -3 -----

-----UCUUGGAGUAGGUC AUUGGGU-----
 -----10 0 -2-----

-----UCUUGGAGUAGGUC AUUGGGUa-----
 5' 0' 2'

-----UCUUGGAGUAGGUCAUUGGGUaa-----
5' 0' 2'

-----UCUUGGAGUAGGUC AUUGGGUau-----

-----UCUUGGAGUAGGUC AUUGGGUu-----

-----UCUUGGAGUAGGUC AUUGGGUG-----

-----15' 0, 1
-----UCUUGGAGUAGGUC AUUGGGUGa-----
-----13' 0, 1

-----15 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGau-----
-----5 0 -1

----- 5' 3' -1
-----UCUUGGAGUAGGUCAUUGGGUGu-----
----- 5' 3' -1

-----UCUUGGAGUAGGUCAUUGGGUGuu-----

```

----- 3 0,-1
-----UCUUGGAGUAGGUCAUUGGGUGG-----
----- 3 0,0

```

>hsa-mir-4326 5p:11-30 SRX018970

```

gcugcucugcUGUUCCUCUGUCUCCCAGACucuggguggauggagcaggucgggggcca
(((.(...(((((((...(((((((...))))).))))))))))...))..
-----UGUUCCUCUGUCUCCCAGACU----- 2 0,1
-----UGUUCCUCUGUCUCCCAGACUC----- 3 0,2

```

>hsa-mir-433 3p:64-85 SRX018970

```

ccggggagaaguacggugagccugucauuauucagagaggcuagauccucuguguugagaaggAUCAUGAUGGGCUCCUC
GGUGUucuccagg
((..(((((((...(((.(((((((...(((.(((((((...))))).))))))))))..))))))..))
).)))))..))
-----AUCAUGAUGGGCUCCUC
GGUG----- 3 0,-1
-----AUCAUGAUGGGCUCCUC
GGUGU----- 25 0,0
-----AUCAUGAUGGGCUCCUC
GGUGUau----- 3 0,0

```

>hsa-mir-450a-1 5p:18-39 SRX018970

```

aaacgauacuaaacuguUUUUGCGAUGUGUUCCUAAUUAUgcacuaauaaauauauugggaacauuuugcauguauaguuuu
guaucuuaua
....(((((((...(((((((...(((((((...(((((((...))))).))))))))))..))))))..))..
))))).....
-----UUUUGCGAUGUGUUCCUAA-----
----- 5 0,-3
-----UUUUGCGAUGUGUUCCUAAU-----
----- 11 0,-2
-----UUUUGCGAUGUGUUCCUAAUA-----
----- 14 0,-1
-----UUUUGCGAUGUGUUCCUAAUUA-----
----- 25 0,0
-----AUUGGGAACAUUUUGCAUGUAU-----
----- 3

```

>hsa-mir-450a-2 5p:23-44 SRX018970

[illegible]

.....(((((.((((((...(((((.(((((((((((((((((.)))))))))...)))
))))).))))).)))).....

-----UUUUGCGAUGUGUCCUAA-----

----- 5 0,-3

-----UUUUGCGAUGUGUCCUAAU-----

----- 11 0,-2

-----UUUUGCGAUGUGUCCUAAUA-----

----- 14 0,-1

-----UUUUGCGAUGUGUCCUAAU-----

----- 25 0,0

-----AUUGGGGACAUUUUGCAUU-----

----- 11

-----AUUGGGGACAUUUUGCAUUC-----

----- 3

-----AUUGGGGACAUUUUGCAUUCAU-----

----- 14

-----UUGGGGACAUUUUGCAUU-----

----- 3

-----UUGGGGACAUUUUGCAUUCAU-----

----- 19

>hsa-mi r-450b 5p:11-32;3p:48-69 SRX018970

gcagaauuauUUUGCAAUAUGUCCUGAAUAuguaauaauaguguaUUGGGAUCAUUUGCAUCCAUAguuuuguau

-----UUUGCAAUAUGUCCUG-----

3 0,-4

-----UUUGCAAUAUGUCCUGA-----

8 0, -3

-----UUUGCAAUAUGUCCUGAA-----

8 0, -2

-----UUUGCAAUAUGUCCUGAAU-----

8 0, -1

-----UUUGCAAUAUGUCCUGAAUA-----

17 0,0

-----UUUGCAAUAUGUCCUGAAUAa-----

9 0,0

>hsa-mir-451 5p:17-38 SRX018970

cuugggauggcaaggAAACCGUACCAUACUGAGUUuaguaaugguaaugguucucuugcuauaccaga

-----AAACCGUUACCAUUACUG----- 403

0,-4

-----AAACCGUUACCAUACUGu----- 3

0,-4

-----AAACCGUUACCAUUACUGA----- 154

0,-3

-----AAACCGUUAACCAUACUGAu----- 2

0,-3

-----AAACCGUACCAUACUGAG----- 1122

0,-2

-----AAACCGUUAACCAUACUGAGau----- 25

0,-2

-----AAACCGUUACCAUUACUGAGU----- 1238

 $0, -1$

-----AAACCGUUAACCAUUACUGAGUa----- 6

 $0, -1$

-----AAACCGUUAACCAUACUGAGUU----- 9092

 $0,0$

-----AAACCGUUAACCAUACUGAGUUa----- 27

 $0,0$

-----AAACCGUUAACCAUACUGAGUUU----- 2778

 $0,1$

-----AAACCGUACCAUACUGAGUUu----- 7

 $0,1$

-----AAACCGUACCAUACUGAGUUA----- 455

0,2

-----AAACCGUACCAUACUGAGUUAa----- 6

0,2

-----AAACCGUACCAUACUGAGUUAG----- 267

0,3

-----AACCGUACCAUACUGA----- 3

1,-3

-----AACCGUUACCAUACUGAG----- 21


```

UA----- 2 0,-4
-----UAGUGCAAUAUUGCUUA
UAGG----- 4 0,-2
-----UAGUGCAAUAUUGCUUA
UAGGGa----- 3 0,-1
-----UAGUGCAAUAUUGCUUA
UAGGGU----- 3 0,0

```

>hsa-mi r-455 5p:16-37;3p:54-74 SRX018970

```

ucccuggcgugagggUAUGUGCCUUUGGACUACAUCGuggaagccagcaccuGCAGUCCAUGGGCAUAUACACuugccu
caaggccuaugucauc

```

```

.....(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))).....

```

```

-----GUAUGUGCCUUUGGACUACAU-----
----- 35 -1,-2
-----GUAUGUGCCUUUGGACUACAUa-----
----- 6 -1,-2
-----GUAUGUGCCUUUGGACUACAUu-----
----- 10 -1,-2
-----GUAUGUGCCUUUGGACUACAUC-----
----- 4 -1,-1
-----GUAUGUGCCUUUGGACUACAUCG-----
----- 10 -1,0
-----GUAUGUGCCUUUGGACUACAUCGU-----
----- 13 -1,1
-----UAUGUGCCUUUGGACUACA-----
----- 3 0,-3
-----UAUGUGCCUUUGGACUACAU-----
----- 8 0,-2
-----UAUGUGCCUUUGGACUACAUa-----
----- 45 0,-2
-----UAUGUGCCUUUGGACUACAUu-----
----- 2 0,-2
-----UAUGUGCCUUUGGACUACAUC-----
----- 34 0,-1
-----UAUGUGCCUUUGGACUACAUCG-----
----- 76 0,0
-----UAUGUGCCUUUGGACUACAUCGa-----

```

-----	3	0,0	
-----	-UAUGUGCCUUUGGACUACAUCGaa-----		
-----	2	0,0	
-----	-UAUGUGCCUUUGGACUACAUCGU-----		
-----	46	0,1	
-----	-UAUGUGCCUUUGGACUACAUCGUG-----		
-----	2	0,2	
-----	-AUGUGCCUUUGGACUACAUCGU-----		
-----	5	1,1	
-----	-UGUGCCUUUGGACUACAUCGU-----		
-----	3	2,1	
-----	-UGUGCCUUUGGACUACAUCGUG-----		
-----	3	2,2	
-----	-UGUGCCUUUGGACUACAUCGUGa-----		
-----	4	2,2	
-----	-UGUGCCUUUGGACUACAUCGUGu-----		
-----	2	2,2	
-----	-----AUGCAGUCCAUGGGCAUA-----		
-----	4	-2,-5	
-----	-----AUGCAGUCCAUGGGCAUAU-----		
-----	10	-2,-4	
-----	-----AUGCAGUCCAUGGGCAUAUu-----		
-----	6	-2,-4	
-----	-----AUGCAGUCCAUGGGCAUAUuu-----		
-----	13	-2,-4	
-----	-----AUGCAGUCCAUGGGCAUAUA-----		
-----	41	-2,-3	
-----	-----AUGCAGUCCAUGGGCAUAUAa-----		
-----	12	-2,-3	
-----	-----AUGCAGUCCAUGGGCAUAUAu-----		
-----	26	-2,-3	
-----	-----AUGCAGUCCAUGGGCAUAUAC-----		
-----	68	-2,-2	
-----	-----AUGCAGUCCAUGGGCAUAUACu-----		
-----	4	-2,-2	
-----	-----AUGCAGUCCAUGGGCAUAUACA-----		
-----	115	-2,-1	
-----	-----AUGCAGUCCAUGGGCAUAUACAa-----		

-----	2	-2,-1	-----AUGCAGUCCAUGGGCAUAUACa-----
-----	6	-2,-1	-----AUGCAGUCCAUGGGCAUAUACAC-----
-----	29	-2,0	-----AUGCAGUCCAUGGGCAUAUACACa-----
-----	4	-2,0	-----AUGCAGUCCAUGGGCAUAUACACU-----
-----	17	-2,1	-----UGCAGUCCAUGGGCAUAUA-----
-----	8	-1,-3	-----UGCAGUCCAUGGGCAUAUAC-----
-----	4	-1,-2	-----UGCAGUCCAUGGGCAUAUACu-----
-----	2	-1,-2	-----UGCAGUCCAUGGGCAUAUACA-----
-----	28	-1,-1	-----UGCAGUCCAUGGGCAUAUACAa-----
-----	4	-1,-1	-----UGCAGUCCAUGGGCAUAUACAuu-----
-----	2	-1,-1	-----UGCAGUCCAUGGGCAUAUACAC-----
-----	16	-1,0	-----UGCAGUCCAUGGGCAUAUACACa-----
-----	4	-1,0	-----UGCAGUCCAUGGGCAUAUACACU-----
-----	10	-1,1	-----GCAGUCCAUGGGCAUAUA-----
-----	163	0,-3	-----GCAGUCCAUGGGCAUAUAa-----
-----	10	0,-3	-----GCAGUCCAUGGGCAUAUAaa-----
-----	3	0,-3	-----GCAGUCCAUGGGCAUAUAu-----
-----	12	0,-3	-----GCAGUCCAUGGGCAUAUAC-----
-----	57	0,-2	-----GCAGUCCAUGGGCAUAUACu-----

-----	13	0,-2	-----GCAGUCCAUGGGCAUAUACA-----
-----	666	0,-1	-----GCAGUCCAUGGGCAUAUACAa-----
-----	69	0,-1	-----GCAGUCCAUGGGCAUAUACAaa-----
-----	5	0,-1	-----GCAGUCCAUGGGCAUAUACAaaa-----
-----	28	0,-1	-----GCAGUCCAUGGGCAUAUACAau-----
-----	25	0,-1	-----GCAGUCCAUGGGCAUAUACAau-----
-----	21	0,-1	-----GCAGUCCAUGGGCAUAUACAuu-----
-----	1482	0,0	-----GCAGUCCAUGGGCAUAUACAC-----
-----	176	0,0	-----GCAGUCCAUGGGCAUAUACACa-----
-----	4	0,0	-----GCAGUCCAUGGGCAUAUACACaa-----
-----	3	0,0	-----GCAGUCCAUGGGCAUAUACACau-----
-----	1888	0,1	-----GCAGUCCAUGGGCAUAUACACU-----
-----	8	0,1	-----GCAGUCCAUGGGCAUAUACACUa-----
-----	3	0,1	-----GCAGUCCAUGGGCAUAUACACUau-----
-----	51	0,2	-----GCAGUCCAUGGGCAUAUACACUU-----
-----	2	0,2	-----GCAGUCCAUGGGCAUAUACACUUa-----
-----	20	0,2	-----GCAGUCCAUGGGCAUAUACACUUu-----
-----	25	1,-1	-----CAGUCCAUGGGCAUAUACA-----
-----	3	1,-1	-----CAGUCCAUGGGCAUAUACAa-----
-----			-----CAGUCCAUGGGCAUAUACAuu-----

```

-----      3      1,-1
-----CAGUCCAUGGGCAUAUACAC-----
-----      184      1,0
-----CAGUCCAUGGGCAUAUACACa-----
-----      4      1,0
-----CAGUCCAUGGGCAUAUACACU-----
-----      189      1,1
-----CAGUCCAUGGGCAUAUACACUa-----
-----      8      1,1
-----CAGUCCAUGGGCAUAUACACUaa-----
-----      3      1,1
-----CAGUCCAUGGGCAUAUACACUU-----
-----      103      1,2
-----CAGUCCAUGGGCAUAUACACUUa-----
-----      40      1,2
-----CAGUCCAUGGGCAUAUACACUUaa-----
-----      2      1,2
-----CAGUCCAUGGGCAUAUACACUUu-----
-----      87      1,2
-----CAGUCCAUGGGCAUAUACACUUuu-----
-----      4      1,2
-----AGUCCAUGGGCAUAUACAC-----
-----      2      2,0
-----AGUCCAUGGGCAUAUACACU-----
-----      3      2,1
-----AGUCCAUGGGCAUAUACACUU-----
-----      3      2,2

```

>hsa-mir-483 5p:8-29;3p:48-68 SRX018970

```

gagggggAAGACGGGAGGAAAGAAGGGAGugguuccaucacgccuccUCACUCCUCUCCUCCCGUCUUcuccucuc
(((((((((((((((((((((((((.(.(.(.(.(.(.....)))..)))..)).)).))))))))))))).))))))
-----AAGACGGGAGGAAAGAAG-----
      31      0,-4
-----AAGACGGGAGGAAAGAAGG-----
      108      0,-3
-----AAGACGGGAGGAAAGAAGGa-----
      6      0,-3
-----AAGACGGGAGGAAAGAAGGaa-----

```

7 0,-3
-----AAGACGGGAGGAAAGAAGGu-----
4 0,-3
-----AAGACGGGAGGAAAGAAGGG-----
193 0,-2
-----AAGACGGGAGGAAAGAAGGGu-----
7 0,-2
-----AAGACGGGAGGAAAGAAGGGuu-----
8 0,-2
-----AAGACGGGAGGAAAGAAGGGA-----
628 0,-1
-----AAGACGGGAGGAAAGAAGGGAA-----
190 0,-1
-----AAGACGGGAGGAAAGAAGGGAAa-----
90 0,-1
-----AAGACGGGAGGAAAGAAGGGAAu-----
41 0,-1
-----AAGACGGGAGGAAAGAAGGGAAu-----
71 0,-1
-----AAGACGGGAGGAAAGAAGGGAAuu-----
60 0,-1
-----AAGACGGGAGGAAAGAAGGGAG-----
1181 0,0
-----AAGACGGGAGGAAAGAAGGGAGa-----
280 0,0
-----AAGACGGGAGGAAAGAAGGGAGaa-----
18 0,0
-----AAGACGGGAGGAAAGAAGGGAGau-----
21 0,0
-----AAGACGGGAGGAAAGAAGGGAGU-----
350 0,1
-----AAGACGGGAGGAAAGAAGGGAGUa-----
2 0,1
-----AAGACGGGAGGAAAGAAGGGAGUaa-----
4 0,1
-----AAGACGGGAGGAAAGAAGGGAGUau-----
27 0,1
-----AAGACGGGAGGAAAGAAGGGAGUu-----

39 0,1
 -----AAGACGGGAGGAAAGAAGGGAGUuu-----
 31 0,1
 -----AGACGGGAGGAAAGAAGG-----
 4 1,-3
 -----AGACGGGAGGAAAGAAGGG-----
 13 1,-2
 -----AGACGGGAGGAAAGAAGGGA-----
 12 1,-1
 -----AGACGGGAGGAAAGAAGGGAa-----
 4 1,-1
 -----AGACGGGAGGAAAGAAGGGAG-----
 25 1,0
 -----AGACGGGAGGAAAGAAGGGAGU-----
 24 1,1
 -----AGACGGGAGGAAAGAAGGGAGUau-----
 2 1,1
 -----AGACGGGAGGAAAGAAGGGAGUG-----
 6 1,2
 -----AGACGGGAGGAAAGAAGGGAGUGG-----
 25 1,3
 -----AGACGGGAGGAAAGAAGGGAGUGGU-----
 2 1,4
 -----UCACUCCUCUCCUCCCGUC-----
 2 0,-2
 -----UCACUCCUCUCCUCCCGUCU-----
 5 0,-1
 -----UCACUCCUCUCCUCCCGUCUU-----
 10 0,0
 -----UCACUCCUCUCCUCCCGUCUUa-----
 10 0,0
 -----UCACUCCUCUCCUCCCGUCUUaa-----
 9 0,0
 -----UCACUCCUCUCCUCCCGUCUUau-----
 6 0,0
 -----UCACUCCUCUCCUCCCGUCUUu-----
 14 0,0
 -----UCACUCCUCUCCUCCCGUCUUuu-----


```

2    0,0
-----UCACUCCUCUCCUCCCGUCUUC-----
20   0,1
-----UCACUCCUCUCCUCCCGUCUUCa-----
4    0,1
-----UCACUCCUCUCCUCCCGUCUUCU-----
6    0,2
-----UCACUCCUCUCCUCCCGUCUUCUa-----
3    0,2
-----UCACUCCUCUCCUCCCGUCUUCUu-----
2    0,2
-----CACUCCUCUCCUCCCGUCUU-----
4    1,0
-----CACUCCUCUCCUCCCGUCUUa-----
2    1,0
-----CACUCCUCUCCUCCCGUCUUu-----
3    1,0
-----CACUCCUCUCCUCCCGUCUUC-----
13   1,1
-----CACUCCUCUCCUCCCGUCUUCa-----
4    1,1
-----CACUCCUCUCCUCCCGUCUUCU-----
41   1,2
-----CACUCCUCUCCUCCCGUCUUCUau-----
3    1,2

```

>hsa-mir-484 5p:8-29 SRX018970

```

agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaauagggacuuucccggggggugaccucggcuuuuuuggcg
.((((..((((((.....(((.(((((((..(((.((((.....))))..))))..)))))))).))))))))......)).
-----UCAGGCUCAGUCCCCUCCC-----
8    0,-3
-----UCAGGCUCAGUCCCCUCCCGuu-----
3    0,-2
-----UCAGGCUCAGUCCCCUCCCGA-----
27   0,-1
-----UCAGGCUCAGUCCCCUCCCGAa-----
16   0,-1
-----UCAGGCUCAGUCCCCUCCCGAaa-----

```

```

7   0,-1
-----UCAGGCUCAGUCCCCUCCCGAu-----
3   0,-1
-----UCAGGCUCAGUCCCCUCCCGAU-----
76  0,0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
13  0,0
-----UCAGGCUCAGUCCCCUCCCGAUuu-----
8   0,0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
11  0,1
-----UCAGGCUCAGUCCCCUCCCGAUAu-----
13  0,1
-----UCAGGCUCAGUCCCCUCCCGAUA-----
5   0,2
-----CAGGCUCAGUCCCCUCCCGAaa-----
3   1,-1

```

>hsa-mi r-485 5p:9-30;3p:46-67 SRX018970

```

acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((...((((((((...((((((((((((...((((...))))))))))...))))))...))))))
-----AGAGGCUGGCCGUGAUGAAU----- 3
0,-2
-----AGAGGCUGGCCGUGAUGAAU----- 39
0,-1
-----AGAGGCUGGCCGUGAUGAAUu----- 5
0,-1
-----AGAGGCUGGCCGUGAUGAAUUC----- 16
0,0
-----AGAGGCUGGCCGUGAUGAAUUCu----- 3
0,0
-----AGAGGCUGGCCGUGAUGAAUUCG----- 19
0,1
-----AGAGGCUGGCCGUGAUGAAUUCGu----- 5
0,1
-----AGAGGCUGGCCGUGAUGAAUUCGA----- 2
0,2
-----AGUCAUACACGGCUCUCCUCUCU----- 4

```

[illegible]

```

-----CUGUACUGAGCUGCCCCGAGa----- 7 2,0
-----CUGUACUGAGCUGCCCCGAGu----- 2 2,0
-----CGGGGCAGCUCAGUACAGGAU-- 7 0,0

```

>hsa-mir-487a 3p:49-70 SRX018970

```

ggguacuugaagagugguuaucuccugcuguguucgcuuaauuuugacgAAUCAUACAGGGACAUCCAGUUuuucaguauc
(((((((.((((((.(((...((((((.(((((((((.(((.....)))))))).)))))))).)))))))).))))))
-----AAUCAUACAGGGACAUCCAGUU-----
9 0,0

```

>hsa-mir-487b 3p:51-72 SRX018970

```

uugguacuuggagagugguuaucuccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
ucaa
.(((((((.((((((((.....((((((.((((((((.....)))))))).)))))))).)))))))).))))))
)))
-----AAUCGUACAGGGUCAUCC-----
---- 2 0,-4 -----AAUCGUACAGGGUCAUCCA-----
-----AAUCGUACAGGGUCAUCCAC-----
---- 3 0,-3 -----AAUCGUACAGGGUCAUCCACU-----
---- 4 0,-2 -----AAUCGUACAGGGUCAUCCACU-----
-----AAUCGUACAGGGUCAUCCACUU-----
---- 108 0,-1 -----AAUCGUACAGGGUCAUCCACUU-----
---- 58 0,0 -----AAUCGUACAGGGUCAUCCACUUU-----
-----AAUCGUACAGGGUCAUCCACUUU-----
---- 10 0,1 -----AAUCGUACAGGGUCAUCCACUUUaa-----
---- 2 0,1 -----AUCGUACAGGGUCAUCCACU-----
-----AUCGUACAGGGUCAUCCACUU-----
---- 3 1,-1 -----AUCGUACAGGGUCAUCCACUU-----
-----AUCGUACAGGGUCAUCCACUUU-----
---- 6 1,0 -----AUCGUACAGGGUCAUCCACUUU-----
-----AUCGUACAGGGUCAUCCACUUU-----
---- 10 1,1 -----UCGUACAGGGUCAUCCACUUU-----
-----UCGUACAGGGUCAUCCACUUU-----
---- 3 2,1 -----UCGUACAGGGUCAUCCACUUUU-----
-----UCGUACAGGGUCAUCCACUUUU-----

```



```

)))..))))
-----UUGUACAUGGUAGGCUUUCAU-----
----- 5 0,-1
-----UUGUACAUGGUAGGCUUUCAUa-----
----- 2 0,-1
-----UUGUACAUGGUAGGCUUUCAUU-----
----- 11 0,0
-----UUGUACAUGGUAGGCUUUCAUUu-----
----- 2 0,0
-----UGAAGGUCUACUGUGUGCC-----
----- 2 0,-3
-----UGAAGGUCUACUGUGUGCCA-----
----- 2 0,-2
-----UGAAGGUCUACUGUGUGCCAGG--
----- 2 0,0

```

>hsa-mir-494 3p:48-69 SRX018970

gauacucgaaggagagguuguccguguugucuucucuuuuuuuugaUGAAACAUAACACGGGAAACCUuuuuuuaguau
c

(((((.(((((((((((.(((((((((.(((((.)))))).)))))).)))))).))))))

```

-----UGAAACAUAACACGGGAAACC-----
- 2 0,-2
-----UGAAACAUAACACGGGAAACCU-----
- 4 0,-1
-----UGAAACAUAACACGGGAAACCUC-----
- 11 0,0
-----UGAAACAUAACACGGGAAACCUa-----
- 2 0,0
-----UGAAACAUAACACGGGAAACCUCU-----
- 52 0,1

```

>hsa-mir-495 3p:50-71 SRX018970

ugguaccugaaaagaaguugcccauguuauuuucgcuuuauaugugacgAAACAAACAUGGUGCACUUCUuuuucggua
ca

.(((((.(((((((((((.(((((((((.(((((.)))))).)))))).)))))).))))))

```

-----GAAGUUGCCCAUGUUAUU-----

```

--	2		-AAACAAACAUGGUGCACUU-
--	6	0,-3	-AAACAAACAUGGUGCACUU _u -
--	4	0,-3	-AAACAAACAUGGUGCACUUCU-
--	23	0,-1	-AAACAAACAUGGUGCACUUCUU-
--	226	0,0	-AAACAAACAUGGUGCACUUCUU _a -
--	13	0,0	-AAACAAACAUGGUGCACUUCUUU-
--	268	0,1	-AAACAAACAUGGUGCACUUCUUU _a -
--	2	0,1	-AAACAAACAUGGUGCACUUCUUUU-
--	4	0,2	-AACAAACAUGGUGCACUUC-
--	3	1,-2	-AACAAACAUGGUGCACUUCU-
--	3	1,-1	-AACAAACAUGGUGCACUUCUU-
--	7	1,0	-AACAAACAUGGUGCACUUCUU _a -
--	6	1,0	-AACAAACAUGGUGCACUUCUUU-
--	62	1,1	-AACAAACAUGGUGCACUUCUUU _a -
--	5	1,1	-ACAAACAUGGUGCACUUCUUUU-
--	2	2,2	

>hsa-mir-496 3p:56-77 SRX018970

```

cccaagucagguacucgaauaggagguuguccauggguguguucauuuuuuuugaUGAGUAUUACAUGGCCAAUCUCcuu
ucgguacucaauucucucuggg
(((((((...(((((.(((.((((((((.((((((.(((((((.....))))))))))..))))).)))))))).)
))))))))......))))))
-----AGUAUUACAUGGCCAAUCUCC-----

```

$$----- \quad 2 \quad 2,1$$

>hsa-mi r-497 MA:24-44;mi :64-85 SRX018970

ccacccgguccugcucccgcccCAGCAGCACACUGUGGUUGUacggcacuguggccacgucCAAACCACACUGUGGUG

UUAGAgcgagggugggggaggcaccgccgagg

-----CAGCAGCACACUGUGGUUU-----

----- 13 0,-2

-----CAGCAGCACACUGUGGUUUG-----

----- 13 0,-1

-----CAGCAGCACACUGUGGUUUGU-----

----- 95 0,0

-----CAGCAGCACACUGUGGUUUGUA-----

----- 29 0,1

-----CAGCAGCACACUGUGGUUUGUAa-----

----- 23 0,1

-----CAGCAGCACACUGUGGUUUGUAu-----

----- 16 0,1

-----CAGCAGCACACUGUGGUUUGUAuu-----

----- 3 0,1

-----AGCAGCACACUGUGGUUU-----

----- 6 1, -2

-----AGCAGCACACUGUGGUUUGU-----

$$----- \quad 4 \quad 1,0$$

-----AGCAGCACACUGUGGUUUGUA-----

----- 4 1,1

-----AGCAGCACACUGUGGUUUGUAa-----

----- 6 1,1

-----AGCAGCACACUGUGGUUUGUAu-----

----- 7 1,1

-----AGCAGCACACUGUGGUUUGUAC-----

----- 3 1,2

>hsa-mi r-499 5p:33-53;3p:70-91 SRX018970

gccuguccccugugccuuggggcgggcggcgUUAAGACUUGCAGUGAUUUaacuccucuccacgugAACAUCACAGC

AAGUCUGUGCUgcuucccgucccuacgcugccuggggcagggu


```

))))))..)).)).)).)).)).)).)).)).)).))
-----UUAAGACUUGCAGUGAUGU-----
-----      2      0,-2
-----UUAAGACUUGCAGUGAUGUU-----
-----      4      0,-1
-----UUAAGACUUGCAGUGAUGUua-----
-----      2      0,-1
-----UUAAGACUUGCAGUGAUGUUU-----
-----      205    0,0
-----UUAAGACUUGCAGUGAUGUUUu-----
-----      5      0,0
-----UUAAGACUUGCAGUGAUGUUUA-----
-----      78     0,1
-----UUAAGACUUGCAGUGAUGUUUAu-----
-----      2      0,1
-----UUAAGACUUGCAGUGAUGUUUAA-----
-----      5      0,2

```

>hsa-mir-500a MA:13-35;mi:52-73 SRX018970
gcucccccucucUAAUCCUUGCUACCUAGGUGAGAgugcugucugaaugcaAUGCACCUAGGCAAGGAUUCUGagagcga
gagc

-----			AAUGCACCUGGGCAAGGA-----
----	11	-1, -5	
-----			AAUGCACCUGGGCAAGGAU-----
----	6	-1, -4	
-----			AAUGCACCUGGGCAAGGAU _a -----
----	4	-1, -4	
-----			AAUGCACCUGGGCAAGGAUU-----
----	24	-1, -3	
-----			AAUGCACCUGGGCAAGGAUUC-----
----	6	-1, -2	
-----			AUGCACCUGGGCAAGGAU-----
----	41	0, -4	
-----			AUGCACCUGGGCAAGGAU _a -----
----	11	0, -4	
-----			AUGCACCUGGGCAAGGAUU-----


```

----- 2   -1,0
-----
----- 11  0,-4
-----
----- 6   0,-3
-----
----- 4   0,-3
-----
----- 24  0,-2
-----
----- 6   0,-1
-----
----- 4   0,0
-----
----- 10  0,1
-----
----- 4   0,1
-----
----- 41  1,-3
-----
----- 11  1,-3
-----
----- 149 1,-2
-----
----- 7   1,-1
-----

```

>hsa-mir-503 5p:6-28 SRX018970

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgauccggugcucuggggguauuguuuuccgcugccagggua
(((((((.(((((((((((((((.((.(.(((((.....)))))))).)).)))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 256 0,-5
-----UAGCAGCGGGAACAGUUCa----- 3 0,-5
-----UAGCAGCGGGAACAGUUCaa----- 15 0,-5
-----UAGCAGCGGGAACAGUUCU----- 251 0,-4
-----UAGCAGCGGGAACAGUUCUa----- 3 0,-4
-----UAGCAGCGGGAACAGUUCUaa----- 79 0,-4
-----UAGCAGCGGGAACAGUUCUau----- 2 0,-4
-----UAGCAGCGGGAACAGUUCUu----- 2 0,-4
-----UAGCAGCGGGAACAGUUCUG----- 47 0,-3

```

-----UAGCAGCGGGAACAGUUCUGa-----	8	0,-3
-----UAGCAGCGGGAACAGUUCUGaa-----	8	0,-3
-----UAGCAGCGGGAACAGUUCUGCA-----	6	0,-1
-----UAGCAGCGGGAACAGUUCUGCAaa-----	2	0,-1
-----UAGCAGCGGGAACAGUUCUCGAG-----	36	0,0
-----UAGCAGCGGGAACAGUUCUCGAGa-----	4	0,0
-----AGCAGCGGGAACAGUUCUCGAG-----	2	1,0
-----GCAGCGGGAACAGUUCUG-----	2	2,-3

>hsa-mir-504 5p:13-34 SRX018970

gcugcuguugggAGACCCUGGUCUGCACUCUAUCguuauucuuacugaagggagugcagggcaggguuucccauacagag
ggc

-----AGACCCUGGUCUGCACUCUAU-----

--- 6 0,-1

-----AGACCCUGGUCUGCACUCUAUa-----

--- 7 0,-1

-----AGACCCUGGUCUGCACUCUAUu-----

--- 2 0,-1

-----AGACCCUGGUCUGCACUCUAUC-----

--- 3 0,0

-----AGACCCUGGUCUGCACUCUAUCa-----

--- 2 0,0

-----GACCCUGGUCUGCACUCUAUC-----

--- 2 1,0

-----GGGAGUGCAGGGCAGGGUUUu-----

--- 2

>hsa-mi r-505 mi:15-36;MA:51-72 SRX018970

gaugcaccaguggGGGAGCCAGGAAGUAUUGAUGUuucugccaguuuagCGUCAACACUUGCUGGUUCCUcucuggag
cauc

-----GGGAGCCAGGAAGUAUUGAU_{aa}-----

----- 2 0, -2

-----GGGAGCCAGGAAGUAUUGAUG-----

--- 10 0,-1

```

-----GGGAGCCAGGAAGUAUUGAUGU-----
---- 48 0,0
-----GGGAGCCAGGAAGUAUUGAUGUa-----
---- 2 0,0
-----GGGAGCCAGGAAGUAUUGAUGUaa-----
---- 3 0,0
-----GGGAGCCAGGAAGUAUUGAUGUU-----
---- 85 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUa-----
---- 4 0,1
-----GGGAGCCAGGAAGUAUUGAUGUUU-----
---- 33 0,2
-----GGGAGCCAGGAAGUAUUGAUGUUUC-----
---- 2 0,3
-----CGUCAACACUUGCUGGUUCCU-----
---- 3 0,0
-----CGUCAACACUUGCUGGUUCCUau-----
---- 2 0,0
-----CGUCAACACUUGCUGGUUCCUC-----
---- 3 0,1
-----GUCAACACUUGCUGGUUCC-----
---- 2 1,-1
-----GUCAACACUUGCUGGUUCCU-----
---- 11 1,0
-----GUCAACACUUGCUGGUUCCUC-----
---- 14 1,1
-----GUCAACACUUGCUGGUUCCUCU-----
---- 9 1,2
-----UCAACACUUGCUGGUUCCU-----
---- 5 2,0
-----UCAACACUUGCUGGUUCCUC-----
---- 12 2,1
-----UCAACACUUGCUGGUUCCUCU-----
---- 2 2,2

```

>hsa-mir-509-3 5p:10-31;3p:44-65 SRX018970

gugguacccUACUGCAGACGUGGCAAUCAUGuauaauuaaaaaUGAUUGGUACGUCUGUGGGUAGaguacugcau
 (..(((.(((..(((((((.(((((((.((....))...)))))).)))))).)).)))).))..

-----UACUGCAGACGUGGCAAUCAUGa----- 2
0,0

>hsa-mir-511-1 5p:16-36 SRX018970

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

(((((.((((..(((..(((((((((((..(((.((((.((((.....)))))))).)))..)))))))).)))..)))))

-----GUGUCUUUUGCUCUGCAGUCA-----
----- 6 0,0

-----UGAAUGUGUAGCAAAAGACAGA-----
----- 4

-----AAUGUGUAGCAAAAGACA-----
----- 6

-----AAUGUGUAGCAAAAGACAG-----
----- 5

-----AAUGUGUAGCAAAAGACAGu-----
----- 3

-----AAUGUGUAGCAAAAGACAGA-----
----- 46

-----AAUGUGUAGCAAAAGACAGAA-----
----- 45

-----AAUGUGUAGCAAAAGACAGAAa-----
----- 6

-----AAUGUGUAGCAAAAGACAGAAU-----
----- 26

-----AAUGUGUAGCAAAAGACAGAAUa-----
----- 3

>hsa-mir-511-2 5p:16-36 SRX018970

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAguaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

(((((.((((..(((..(((((((((((..(((.((((.((((.....)))))))).)))..)))))))).)))..)))))

-----GUGUCUUUUGCUCUGCAGUCA-----
----- 6 0,0

-----UGAAUGUGUAGCAAAAGACAGA-----
----- 4

```

-----AAUGUGUAGCAAAAGACA-----
----- 6
-----AAUGUGUAGCAAAAGACAG-----
----- 5
-----AAUGUGUAGCAAAAGACAGu-----
----- 3
-----AAUGUGUAGCAAAAGACAGA-----
----- 46
-----AAUGUGUAGCAAAAGACAGAA-----
----- 45
-----AAUGUGUAGCAAAAGACAGAAa-----
----- 6
-----AAUGUGUAGCAAAAGACAGAAU-----
----- 26
-----AAUGUGUAGCAAAAGACAGAAUa-----
----- 3

```

>hsa-mi r-532 5p:20-41;3p:57-78 SRX018970

```

cgacuugcuuucucuccucCAUGCCUUGAGUGUAGGACCGUuggcaucuuaauuacCCUCCCACACCCAAGGCUUGCAaa
aaagcgagccu
.(.((((((((.....((.((((((.(((.(((.(((.....)))..)))..))))..))))..))....
)))))))).).

```

```

-----CAUGCCUUGAGUGUAGGA-----
----- 4 0,-4
-----CAUGCCUUGAGUGUAGGACC-----
----- 3 0,-2
-----CAUGCCUUGAGUGUAGGACCG-----
----- 6 0,-1
-----CAUGCCUUGAGUGUAGGACCGU-----
----- 96 0,0
-----CAUGCCUUGAGUGUAGGACCGUa-----
----- 7 0,0
-----CAUGCCUUGAGUGUAGGACCGUau-----
----- 2 0,0
-----CAUGCCUUGAGUGUAGGACCGUU-----
----- 3 0,1
-----AUGCCUUGAGUGUAGGACCGU-----
----- 5 1,0

```

```

-----CCUCCCACACCCAAGGCUU-----
----- 6 0,-3
-----CCUCCCACACCCAAGGCUUG-----
----- 8 0,-2
-----CCUCCCACACCCAAGGCUUGC-----
----- 15 0,-1
-----CCUCCCACACCCAAGGCUUGCA--
----- 81 0,0
-----CCUCCCACACCCAAGGCUUGCAu-
----- 30 0,0
-----CCUCCCACACCCAAGGCUUGCAuu
----- 4 0,0
-----CCUCCCACACCCAAGGCUUGCAA-
----- 18 0,1

```

>hsa-mir-539 5p:9-30 SRX018970

```

auacuugaGGAGAAUUAUCCUUGGUGUGUucgcuuuuuuauugaaucauacaaggacaauuucuuuuugaguau
(((((((((.....))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AUCAUACAAGGACAAUUUC-----
2
-----AUCAUACAAGGACAAUUUCUU-----
2
-----AUCAUACAAGGACAAUUUCUUU-----
17
-----AUACAAGGACAAUUUCUUUUU-----
4
-----AUACAAGGACAAUUUCUUUUUG-----
10

```

>hsa-mir-542 5p:16-38;3p:53-74 SRX018970

```

cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAAACUGAAAggucug
ggagccacucaucuca
....(((((((.....(((((((.....(((((((.....))))))))))))))))))))))))))))))))))))
))).....
-----UCGGGGAUCAUCAUGUCAC-----
----- 10 0,-4
-----UCGGGGAUCAUCAUGUCACGA-----
----- 2 0,-2

```


-----			UUGUGACAGAUUGAUAAAC-----
-----	4	-1, -5	
-----			UUGUGACAGAUUGAUAAACU-----
-----	3	-1, -4	
-----			UGUGACAGAUUGAUAAACU-----
-----	30	0, -4	
-----			UGUGACAGAUUGAUAAACUG-----
-----	4	0, -3	
-----			UGUGACAGAUUGAUAAACUGA-----
-----	2	0, -2	
-----			UGUGACAGAUUGAUAAACUGAA-----
-----	22	0, -1	
-----			UGUGACAGAUUGAUAAACUGAAA-----
-----	27	0, 0	
-----			UGUGACAGAUUGAUAAACUGAAAa-----
-----	4	0, 0	
-----			GUGACAGAUUGAUAAACUGA-----
-----	2	1, -2	

>hsa-mir-543 3p:47-68 SRX018970

uacuuuaaugagaaguugcccguguuuuuuuucgcuuuauuugugacgAAACAUUCGGGUGCACUUCUUuuucaguauc
((((.(.(((.((((((.(.((((((.(.(((.(.(((.....))))).)))....)))).)))).)))).)))).
-----AAACAUUCGGGUGCACUUC-----
6 0,-2
-----AAACAUUCGGGUGCACUUCUU-----
14 0,0
-----AAACAUUCGGGUGCACUUCUUa-----
4 0,0
-----AAACAUUCGGGUGCACUUCUU-----
29 0,1

>hsa-mir-545 mi:25-46;MA:63-84 SRX018970

```

cccagccugggcacauuaguaggccUCAGUAAAUGUUUAUUAGAUGAauaaaugaugacucaUCAGCAAACAUUUAUUGU
GUGCCugcuaaagugagcuccacagg
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
).)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))).
-----UCAGUAAAUGUUUAUUAGAUG-----
-----30,-1-----

```

>hsa-mir-548a-1 3p:61-82 SRX018970

ugcaggaggagguauuaaguuggugcaaaaguaauugugauuuuugccauuaaaaguaacgaCAAAACUGGCAAUUACUUUU
GCaccaaaccugguauu

..((((.....(((((((((((((((((((((.(((((.((((.....)).)).)))))).)).))))))))))))))
)))))))).)))).....

-----CAAAACUGGCAAUUACUUUU
----- 4 0,-2

>hsa-mir-548a-2 3p:61-82 SRX018970

ugugauguguaauagguuugugcaaaaguaauugggguuuuugccguuaaaaguaauggCAAAACUGGCAAUUACUUUU
GCaccaaacuaauauaa

.....((((((((.....(((((((((((((((((((((.(((((.((((((((.....)))))))))))))).)).))))))))))
))))).)).)))))))).

-----CAAAACUGGCAAUUACUUUU
----- 4 0,-2

>hsa-mir-548a-3 5p:25-46;3p:61-82 SRX018970

ccuagaauguauuaggucggugcAAAAGUAAUUGCGAGUUUUACCAuuacuuaauggCAAAACUGGCAAUUACUUUU
GCaccaacguaauacuu

.....(((((.(((((((((((((((((((((.(((((.((((.....)))))))))))))).)).))))))))))
))))).)).))))))....

-----CAAAACUGGCAAUUACUUUU
----- 4 0,-2

>hsa-mir-548aa-1 3p:55-79 SRX018970

cuuuauuagucuggugcaaaagaaacugugguuuuugccauuacuuuacaggcAAAAACCACAAUUACUUUUGCACCAa
ccuaauauaacuuguuu

...(((((.(((((((((((((((((((((.(((((.((((.....)))))))))))))).)).))))))))))
).)))))).....

-----AAAAACCACAAUUACUUUUGCA----
----- 8 0,-3

-----AAAAACCACAAUUACUUUUGCAu---
----- 2 0,-3

-----AAAACCACAAUUACUUUUGCA----
----- 5 1,-3

-----AAAACCACAAUUACUUUUGCAa---
----- 5 1,-3

```

-----AAACCACAAUACUUUUGCAu--
----- 11 2,-3
-----AAACCACAAUACUUUUGCAuu--
----- 5 2,-3
-----AAACCACAAUACUUUUGCACu--
----- 2 2,-2
-----AAACCACAAUACUUUUGCACC--
----- 2 2,-1

```

>hsa-mir-548aa-2 3p:55-79 SRX018970

```

uuuuuuuagguuggugcaaaagaaacugugguuuugccauuacuuucaauggcAAAAACCACAAUACUUUUGCACCAa
ccuaaaucuucccucuc

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).....

```

```

-----AAAAACCACAAUACUUUUGCA-----
----- 8 0,-3
-----AAAAACCACAAUACUUUUGCAu-----
----- 2 0,-3
-----AAAACCACAAUACUUUUGCA-----
----- 5 1,-3
-----AAAACCACAAUACUUUUGCAa-----
----- 5 1,-3
-----AAACCACAAUACUUUUGCAu-----
----- 11 2,-3
-----AAACCACAAUACUUUUGCAuu-----
----- 5 2,-3
-----AAACCACAAUACUUUUGCACu-----
----- 2 2,-2
-----AAACCACAAUACUUUUGCACC-----
----- 2 2,-1

```

>hsa-mir-548b 5p:25-46;3p:61-82 SRX018970

```

cagacuauauuuuagguuggcgcaAAAGUAAUUGUGGUUUUGGCCuuuauuuucaauggCAAGAACCUCAGUUGCUUUU
GUgccaaccuaauacuu

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).....

```

```

-----AAAAGUAAUUGUGGUUU-----
----- 2 0,-4

```

cauggcaucuauuagguuggugcAAAAGUAAUUGCGUUUUGCCauuacuuucaguagCAAAAUCUCAAUUACUUUUGCaccaacuuaauacuu

-----AAAAGUAAUUGCGGUUUU-----

-----AAAAGUAAUUGCGGUUUUUG-----

-----AAAAGUAAUUGCGGUUUUUGCCA-----

-----AAAGUAAUUGCGGUUUUU-----

-----AAAGUAAUUGCGGUUUUUG-----

-----AAAGUAAUUGCGGUUUUGa-----

aaacaaguauauuagguuggugcAAAAGUAAUUGUGGUUUUUGCCuguaaaaguaauggCAAAAACCACAGUUUCUUUUGCaccagacuaauaaag

-----CAAAGUAAUUGUGGUUUUGu-----

-----AAAAGUAAUUGUGGUUU-----

-----AAAAGUAAUUGUGGUUUU-----

-----AAAAGUAAUUGUGGUUUUGu-----

-----AAAAGUAAUUGUGGUUUUGC-----

-----AAAAGUAAUUGUGGUUUUUGCau-----

>hsa-mi r-548d-2 5p:25-46;3p:61-82 SRX018970

```
>hsa-mir-548e    3p:53-74    SRX018970
uuauuagguugguacaaaagcaaucgcgguuuuugcuauuacuuuuuaaggcAAAAACUGAGACUACUUUUGCAccaacc
ugauagaa
((((((((((((((.((((((...((.((((((((((((((.((((...)).).)))))))))))).).).)))))))).))))))
))))))..
```

>hsa-mir-548f-2 3p:59-77 SRX018970
uaauaacuauuagguuggugcgaacauaaauugcaguuuuaucauuacuuuuuauggcAAAACUGUAAUUACUUUgca
ccaaccuaauauuuuagu

.....((((((((((((((((((..((((((((((((((((..((((((....))))))..))))))))))))..))))))
)))))))))))).
-----CAAAAACUGUAAUUACUUUUGC-
----- 3 -1,2

>hsa-mir-548f-3 3p:54-72 SRX018970
auuagguuggugcaaaccuaauugcauuuuugcaguuuuuuuaguaauugcAAAAACUGUAAUUACUUUgaccaac
cuaauac
((((((((((((((((((..((((((((((((((((..((((((....))))))..))))))))))))..))))))
))))))..
-----CAAAAACUGUAAUUACUUUUGC-----
----- 3 -1,2

>hsa-mir-548g 3p:54-75 SRX018970
aguuaauagauagugcaaaaguaauugcaguuuuugcauuacguucuauggcAAAACUGUAAUUACUUUUGUACcaaca
uaauacuuc
...((((..((.((((((((((((((((((((((((..((((((....))))))..))))))))))))..))..
))))).
-----AAAAGUAAUUGCAGUUUU-----
----- 2

>hsa-mir-548h-1 5p:21-42 SRX018970
ucuguccauuaggugggugcAAAAGUAAUCGCGUUUUUGUCauuacuuuuauugguaaaaacuggaauuacuuuugcac
ugaccuaauauuaagccagaua
(((.(.((((((.((((((((((((((((..((((((((..((((((....))))))..))))))))))))..))))))
).))))))..
-----AAGUAAUCGCGUUUUUG-----
----- 3 2,-2

>hsa-mir-548h-2 5p:16-37 SRX018970
guauuagguuggugcAAAAGUAAUCGCGUUUUUGUCauuacuuucaauuggcaaaccaccaauuacuuuugcaccaacc
uaauauaa
((((((((((((((((((.((.((.((((((((((((..((((((....))))))..))))))))))))..))))))
))))))..
-----AAGUAAUCGCGUUUUUG-----
----- 3 2,-2

>hsa-mir-548h-3 5p:29-50 SRX018970

[illegible]

-----AAGUAAUCGCGUUUUUG-----
----- 3 2,-2

>hsa-mir-548i-1 5p:39-60 SRX018970

[illegible]

>hsa-mir-548i-2 5p:39-60 SRX018970

uagauggcuccgaaguugcauccuauuaguuuuggugcAAAAGUAAUUGCGGAUUUUGCCauuaaaaguaauggcaaaa
uagcauuuuuuuguaccagccuaguaucuuuucuccuucuaacaaaguucgucccugauccaucua
..((((((.((((((.((((.....((((((.((((((((((((((((((((.....((((((((((((((((.....)))))))))).
..))))))))))))))))))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))
-----AAAAGUAAUUGCGGAUUUUG-----
-----4 0,-2

>hsa-mir-548i-3 5p:39-60 SRX018970

cagauggcuccgaaguuuacauccuauuagguuuugugcAAAAGUAAUUGCGGAUUUUGCCauuaaaaguaauggcaaaa
uagcauuuuuuuguaccagccuaguaucuuuucuccuucuaaccaaacuuuguccugagccaucuca
((((((((((((((((.....(((((((((.((((((((((((((((.....((((((((((((.....)))))))))).
..))))))))))))))))).))))))))).))))))))).))))))))).))))))))).))))))))).))..
-----AAAAGUAAUUGCGGAUUUUG-----
-----4 0,-2

>hsa-mir-548i-4 5p:11-32 SRX018970

agguuggugcAAAAGUAAUUGCGGAUUUUGCCauacuuaaagcgcaaaaccacaaauuuauugcaccaaccuau
 ((((((((((((((.(((((((.(((.(.(((((((.....)))))).)).)).)).)).)).)).)).)).).
 -----AAAAGUAAUUGCGGAUUUUG-----
 4 0,-2

>hsa-mir-548j 5p:29-50 SRX018970


```

-----AAACCACAAUACUUUUGCAu----- 11
-----AAACCACAAUACUUUUGCAuu----- 5
-----AAACCACAAUACUUUUGCACu----- 2
-----AAACCACAAUACUUUUGCACC----- 2
-----AACCACAAUACUUUUGCA----- 3
-----AACCACAAUACUUUUGCACC----- 3

```

>hsa-mir-548u 3p:49-71 SRX018970

auuaggauggugcaaaaguaaugugguuuuuuucuuuacuuuaauggCAAAGACUGCAAUUACUUUUGCGccaaccuaa
u

(((((.(((((((((((((((((.(((((.(((((....))).)).)))))).)).)))))).)).))))))

-----CAAAGACUGCAAUUACUUUU-----

- 2 0,-3

-----AAAGACUGCAAUUACUUUUG-----

- 2 1,-2

>hsa-mir-548v 3p:49-70 SRX018970

aauacuagguugagcaaaaguaauugcgguuuugccaucaugccaaaAGCUACAGUUACUUUUGCACCAgccaauauuu
(((.(((((.(((((((((((((((.((((((((.....))).)).)))))).)))))).)).))))))

-----AGCUACAGUUACUUUUGCACCA-----

2 0,0

>hsa-mir-548w 5p:10-32 SRX018970

gguuggugcAAAAGUACUGCGGUUUUUGCCUuucacauaauggcaaaaccacaaauuacuuuugcaccaauc
(((((((((((((((((.(((((.((((((((.....)))))).)).)))))).))))))

-----AAAAGUACUGCGGUUUU----- 11

0,-4

-----AAAAGUACUGCGGUUUUUG----- 6

0,-3

-----AAAAGUACUGCGGUUUUUGC----- 2

0,-2

-----AAAAGUACUGCGGUUUUUGCC----- 4

0,-1

>hsa-mir-548x 3p:46-66 SRX018970

agguuagugcaaaaguaauugcaguuuuugcguuacuuucaaucGUAAAAACUGCAAUUACUUUACaccaaucu
(((.(((.((((((((((((((((((((.....))))))))))))))))))

-----AACAGGUGACUGGUUAGACA
AAaa----- 2 0,1

gauaguaauaagaaaGAUGAGCUCAUUGUAAUAUGAGcuucauuuaauacauuucAUAUUACCAUUAGCUCaucuuuuuuuu
uuacuaccuucuaca

.(((((((((((((((((((.(.((((((((((.....)))))))).).)))))))))
))))),,,,,,,,,,

- - - - - GAUGAGCUCAUUGUAAUAa - - - - -		
- - - - - 2 0,-4		
- - - - - AUAUUACCAUUAGCUCAU - - - - -		
- - - - - 4 0,-4		
- - - - - AUAUUACCAUUAGCUCAUa - - - - -		
- - - - - 4 0,-4		
- - - - - AUAUUACCAUUAGCUCAUC - - - - -		
- - - - - 4 0,-3		
- - - - - AUAUUACCAUUAGCUCAUCU - - - - -		
- - - - - 2 0,-2		
- - - - - AUAUUACCAUUAGCUCAUCUU - - - - -		
- - - - - 31 0,-1		
- - - - - AUAUUACCAUUAGCUCAUCUUa - - - - -		
- - - - - 10 0,-1		
- - - - - AUAUUACCAUUAGCUCAUCUUU - - - - -		
- - - - - 22 0,0		
- - - - - AUAUUACCAUUAGCUCAUCUUUU - - - - -		
- - - - - 2 0,1		

gcuaggcgugguggcGGGCGCCUGUGAUCCCAACuacucaggaggcugggggcagcagaaucgcuugaacccgggaggcga
agguugcagugagc

-----CACGCUCAUGCACACACC-----

-----	53	0,-4	-----CACGCUCAUGCACACACCCC-----
-----	60	0,-3	-----CACGCUCAUGCACACACCCCA
-----	155	0,-2	-----CACGCUCAUGCACACACCCCA
a-----	11	0,-2	-----CACGCUCAUGCACACACCCCA
aa-----	3	0,-2	-----CACGCUCAUGCACACACCCCA
au-----	5	0,-2	-----CACGCUCAUGCACACACCCCA
u-----	32	0,-2	-----CACGCUCAUGCACACACCCCA
uu-----	7	0,-2	-----CACGCUCAUGCACACACCCCA
C-----	126	0,-1	-----CACGCUCAUGCACACACCCCA
Cu-----	39	0,-1	-----CACGCUCAUGCACACACCCCA
CA-----	359	0,0	-----CACGCUCAUGCACACACCCCA
CAa-----	48	0,0	-----CACGCUCAUGCACACACCCCA
CAaa-----	6	0,0	-----CACGCUCAUGCACACACCCCA
CAau-----	3	0,0	-----CACGCUCAUGCACACACCCCA
CAu-----	60	0,0	-----CACGCUCAUGCACACACCCCA
CAuu-----	3	0,0	-----ACGCUCAUGCACACACCCCA
-----	5	1,-2	-----ACGCUCAUGCACACACCCCA
C-----	4	1,-1	-----ACGCUCAUGCACACACCCCA
CA-----	7	1,0	-----ACGCUCAUGCACACACCCCA

```
CAa-----      5    1,0
-----ACGCUCAUGCACACACCCA
CAu-----      2    1,0
-----ACGCUCAUGCACACACCCA
CAuu-----     2    1,0

>hsa-mir-576      5p:16-37;3p:55-76   SRX018970
uacaauccaacgaggAUUCUAAUUUCUCCACGUCUUUgguaauaagguuuggcaAAGAUGUGGAAAAAUUGGAUUCuca
uucgauugguuuaacca
..((((((.(.(((((((((((((((.(((((((((((((((.((((.....)).)))))))))....).)))))))).)))))).....
-----AUUCUAAUUUCUCCACGUCUU-----
-----      19    0,-1
-----AUUCUAAUUUCUCCACGUCUU-----
-----      35    0,0
-----AUUCUAAUUUCUCCACGUCUUUG-----
-----      11    0,1
-----AAGAUGUGGAAAAAUUGG-----
-----      3    0,-4
-----AAGAUGUGGAAAAAUUGGA-----
-----      2    0,-3
-----AAGAUGUGGAAAAAUUGGAA-----
-----      2    0,-2
-----AAGAUGUGGAAAAAUUGGAU-----
-----      8    0,-1
-----AAGAUGUGGAAAAAUUGGAUa-----
-----      8    0,-1
-----AAGAUGUGGAAAAAUUGGAUUC-----
-----      5    0,0
-----AAGAUGUGGAAAAAUUGGAUUCa-----
-----      2    0,0
-----AAGAUGUGGAAAAAUUGGAUCC-----
-----      5    0,1
-----AGAUGUGGAAAAAUUGGAUa-----
-----      2    1,-1
-----AGAUGUGGAAAAAUUGGAUCC-----
-----      2    1,1
```


CA----- 2 0, -2
-----UCAGAACAA AUGCCGGUUC
CAG----- 2 0, -1

>hsa-mi r-590 5p:16-37;3p:56-76 SRX018970
uagccagucagaaauGAGCUUAUUCAUAAAAGUGCAGuauggugaagucaaucugUAAUUUAUGUAUAAGCUAGUcucu
gauugaaacaugcagca

$\dots(((((((.(.(.((((((.(((((((.((((((.(((. \dots)))..)))))..)))))).))))))..)))))\dots\dots\dots$

-----GAGCUUAUUCAUAAAAGU-----

----- 3 0,-4

-----GAGCUUAUUCAUAAAAGUG-----

----- 6 0,-3

-----GAGCUUAUUCAUAAAAGUGCA-----

----- 14 0,-1

-----GAGCUUAUUCAUAAAAGUGCAa-----

----- 6 0,-1

-----GAGCUUAUUCAUAAAAGUGCAG-----

----- 51 0,0

-----GUAUUUUAUGUAUAAGCUA-----

$$----- \quad 2 \quad -1, -2$$

-----GUAUUUUAUGUAUAAGCUAG-----

$$----- \quad 2 \quad -1, -1$$

-----GUAUUUAUGUAUAAGCUAGU-----

----- 6 -1,0

-----UAAUUUUAUGUAUAAGCU-----

----- 9 0,-3

-----UAAUUUAUGUAUAAGCUAGU-----

----- 4 0,0

-----UAAUUUAUGUAUAAGCUAGUCaa-

$$----- \quad 2 \quad 0,1$$

```
>hsa-mi r-597      5p:16-37      SRX018970
uacuuacucucacgugUGUGUCACUCGAUGACCACUGUgaagacaguaaaauguacagugguucucuuguggcucaagcgu
aauguagaguuacugguc
```

.(((((((((((((((.(.(((((.(.(((((((((((....((((.....)))))))))))))))).))..))))).))....
 .))))))))))))...)))..

-----AGUGGUUCUCUUGUGGCUCAAG-----

$$----- \quad 2 \quad -1, 0$$

>hsa-mi r-625 MA:15-35;mi :52-73 SRX018970

aggguagagggauGAGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUCCCCCUCAucccucu
gcccu

-----AGGGGAAAGUUCUAUAGU-----

----- 3 0, -2

-----AGGGGGAAGUUCUAUAGUaa-----

----- 3 0,-2

-----AGGGGGAAAGUUCUAUAGUC-----

----- 11 0,-1

-----AGGGGGAAAGUUCUAUAGUCa-----

----- 3 0,-1

-----AGGGGGAAGUUCUAUAGUCC-----

----- 4 0,0

-----AGGGGGAAGUUCUAUAGUCCa-----

----- 2 0,0

-----AGGGGGAAGUUCUAUAGUCCU-----

----- 10 0,1

-----AGGGGAAAGUUCUAUAGUCCUu-----

----- 3 0,1

-----GACUAUAGAACUUUCCCC-----

----- 4 0, -3

-----GACUAUAGAACUUUCCCCCU-----

----- 2 0, -2

-----GACUAUAGAACUUUCCCCCUC-----

----- 8 0, -1

-----GACUAUAGAACUUUCCCCCUC_u-----

----- 6 0, -1

-----GACUAUAGAACUUUCCCCCUCA-----

----- 24 0,0

-----GACUAUAGAACUUUCCCCUCAau-----

----- 2 0,0

-----GACUAUAGAACUUUCCCCUCAU-----

----- 6 0,1

-----ACUAUAGAACUUUCCCCCUC-----

----- 4 1, -1

-----ACUAUAGAACUUUCCCCUCA-----


```

))))))))......
-----UGGGUUUACGUUGGGAGA-----
----- 18 0,-3
-----UGGGUUUACGUUGGGAGAA-----
----- 16 0,-2
-----UGGGUUUACGUUGGGAGAAC-----
----- 2 0,-1

```

```

>hsa-mir-641 5p:16-39 SRX018970
ugggugaaaggaaggAAAGACAUAGGAUAGAGUCACCUcuguccucuguccucuaccuauagaggugacuguccuauguc
uuuccuuccucuuaaccccu
.((((((.((((((((((((((((((((((..((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))).))))))..
-----GAAAGACAUAGGAUAGAGUCACC-----
----- 2 -1,-2
-----AAAGACAUAGGAUAGAGUCA-----
----- 5 0,-4
-----AAAGACAUAGGAUAGAGUCAC-----
----- 10 0,-3
-----AAAGACAUAGGAUAGAGUCACC-----
----- 11 0,-2
-----AAAGACAUAGGAUAGAGUCACCU-----
----- 30 0,-1
-----AAAGACAUAGGAUAGAGUCACCUu-----
----- 7 0,-1
-----AAAGACAUAGGAUAGAGUCACCUC-----
----- 4 0,0
-----AAAGACAUAGGAUAGAGUCACCUCU-----
----- 2 0,1

```

```

>hsa-mir-651 5p:16-37 SRX018970
aaucuaucacugcuuUUUAGGAUAAGCUUGACUUUUGuucuaaauaaaaaugcaaaaggaaaguguauccuaaaaggcaau
gacaguuuuauguguuu
...((.(((.((((((((((((((((((((((.(((.(((.((((((((((((((((((((((((((((((((((((
)))..)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).)))))))).))
))..)).....
-----UUUAGGAUAAGCUUGACUUUUG-----
----- 2 0,0
-----UUUAGGAUAAGCUUGACUUUUGa-----

```

```

----- 4 0,0
-----AAAGGAAAGUGUAUCCUAAA-----
----- 2

```

>hsa-mir-652 3p:61-81 SRX018970

```

acgauggcuaugcacugcacaacccuaggagagggugccauucacauagacuauaaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----ACAACCCUAGGAGAGGGUGCCAU-----
----- 2

```

```

-----ACAACCCUAGGAGAGGGUGCCAU-----
----- 2

```

```

-----AAUGGCGCCACUAGGGUUG-----
----- 43 0,-3

```

```

-----AAUGGCGCCACUAGGGUUG-----
----- 3 0,-2

```

```

-----AAUGGCGCCACUAGGGUUG-----
----- 13 0,-1

```

```

-----AAUGGCGCCACUAGGGUUG-----
aa----- 2 0,-1

```

```

-----AAUGGCGCCACUAGGGUUG-----
G----- 2 0,0

```

```

-----AAUGGCGCCACUAGGGUUG-----
Ga----- 14 0,0

```

```

-----AAUGGCGCCACUAGGGUUG-----
Gu----- 16 0,0

```

```

-----AAUGGCGCCACUAGGGUUG-----
GC----- 4 0,1

```

>hsa-mir-654 5p:16-37;3p:51-72 SRX018970

```

ggguaaguggaaagaUGGUGGGCCGCGAGAACAUUGUCugaguucgugccaUAUGUCUGCUGACCAUCACCUUuagaagcc
c

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)

```

```

-----CAUAUGUCUGCUGACCAUCACu-----
- 2 -2,-3

```

```

-----UAUGUCUGCUGACCAUCAC-----

```



```

- 6 0,-3
-----UAUGUCUGCUGACCAUCACC-----
- 11 0,-2
-----UAUGUCUGCUGACCAUCACCa-----
- 4 0,-2
-----UAUGUCUGCUGACCAUCACCau-----
- 3 0,-2
-----UAUGUCUGCUGACCAUCACCU-----
- 10 0,-1
-----UAUGUCUGCUGACCAUCACCUU-----
- 2 0,0

```

```

>hsa-mir-655 3p:61-82 SRX018970
aacuaugcaaggauauuugaggagagguuauccguguuanguucgcuucauaucaugaAUAUACAUGGUUAACCUCU
UUuugaauaucagacuc
.....(((((((.....))))))..))))).))))))
)))..))))).
-----AUAUACAUGGUUAACCU--
----- 2 0,-4
-----AUAUACAUGGUUAACCUCU
UU----- 15 0,0

```

```

>hsa-mir-656 3p:43-63 SRX018970
cugaaauagguugccugugagguguucacuucuaauaugaugAAUAUUAUACAGUCAACCUCUuuccgauaucgauc
..(((((((.....))))))..))))).))))).))))).
-----AAUAUUAUACAGUCAACCU-----
5 0,-2

```

```

>hsa-mir-659 3p:61-82 SRX018970
uaccgaccucgauuugguucaggaccuucccugaaccaaggaagagucacagucucuucCUUGGUUCAGGGAGGGUCCC
CAacauguccucaugg
.....(((((((.....))))))..))))).))))).))))).
)))..))))).
-----AGGACCUUCCCUGAACCAAGGA-----
----- 2

```

```

>hsa-mir-660 5p:16-37 SRX018970
cuguccuucuccaUACCAUUGCAUAUCGGAGUUGugaauucuaaaacaccuccugugugcauggauuacaggaggg

```

..((((.(((((((.....((((.(((((((.(((((.((((.....))))).)))))))).))))).))))))
.)...)))).

```
>hsa-mir-664      mi:11-34;MA:49-71      SRX018970
gaacauugaaACUGGCUAGGGAAAUGAUUGGAUagaaacuauuauucUAUUCAUUUAUCCCCAGCCUACAaaaugaaaa
aa
```

-----AACUGGCUAGGGAAAAUGAUUGGA-----
 -- 2 -1,-1

-----ACUGGCUAGGGAAAUGAUUGG-----
 -- 53 0,-2

-----ACUGGCUAGGGAAAUGAUUGGu-----
 -- 31 0,-2

-----ACUGGCUAGGGAAAUGAUUGGA-----
 -- 60 0.-1

-----ACUGGCUAGGGAAAAUGAUUGGAa-----
 -- 7 0 -1

-----ACUGGCUAGGGAAAAUGAUUGGAU-----
 -- 3 0 0

-----CUGGCUAGGGAAAUGAUUG-----

```

-- 2 1,-3
-----CUGGCUAGGGAAAAUGAUUGG-----
-- 7 1,-2
-----CUGGCUAGGGAAAAUGAUUGGA-----
-- 12 1,-1
-----UGGCUAGGGAAAAUGAUUGGA-----
-- 3 2,-1
-----UAUUCAUUUUAUCCCCAGC-----
-- 4 0,-5
-----UAUUCAUUUUAUCCCCAGCC-----
-- 2 0,-4
-----UAUUCAUUUUAUCCCCAGCCU-----
-- 2 0,-3
-----UAUUCAUUUUAUCCCCAGCCUA-----
-- 15 0,-2
-----UAUUCAUUUUAUCCCCAGCCUAa-----
-- 3 0,-2
-----UAUUCAUUUUAUCCCCAGCCUAu-----
-- 2 0,-2
-----UAUUCAUUUUAUCCCCAGCCUAC-----
-- 23 0,-1
-----UAUUCAUUUUAUCCCCAGCCUACu-----
-- 5 0,-1
-----UAUUCAUUUUAUCCCCAGCCUACA-----
-- 60 0,0
-----UAUUCAUUUUAUCCCCAGCCUACAu-----
-- 2 0,0
-----UAUUCAUUUUAUCCCCAGCCUACAA-----
-- 9 0,1

```

>hsa-mir-665 3p:43-62 SRX018970

```

ucuccucgaggggucucugccucuacccaggacucuaucaugACCAGGAGGCUGAGGCCCCUcacagggcgc
(((.(((.(((((((((.((((((...((.(.....)).))....)))))).)))))))).)).).
-----ACCAGGAGGCUGAGGCCCCUC-----

```

3

0,1

>hsa-mir-671 5p:29-51;3p:68-88 SRX018970

```

gcaggugaacuggcaggccaggaagaggAGGAAGCCCUGGAGGGGCUGGAGgugauggauguuuuccUCCGGUUCUCAGG

```



```

----- 7 0,-1
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 34 0,0
-----UGGAAGACUAGUGAUUUUGUUGU-----
----- 192 0,1
-----UGGAAGACUAGUGAUUUUGUUGUU-----
----- 3 0,2
-----GGAAGACUAGUGAUUUUGUUGUU-----
----- 2 1,1
-----CAACAAAUCACAGUC
UGCCAU----- 5 0,-1
-----CAACAAAUCACAGUC
UGCCAUu----- 4 0,-1
-----CAACAAAUCACAGUC
UGCCAUa----- 38 0,0
-----CAACAAAUCACAGUC
UGCCAUAU----- 5 0,1
-----AACAAAUCACAGUC
UGCCAU----- 2 1,-1
-----AACAAAUCACAGUC
UGCCAUu----- 3 1,-1
-----AACAAAUCACAGUC
UGCCAUa----- 16 1,0
-----AACAAAUCACAGUC
UGCCAUaA----- 5 1,0
-----AACAAAUCACAGUC
UGCCAUAU----- 4 1,1
-----ACAAAUCACAGUC
UGCCAUAU----- 2 2,1

```

>hsa-mir-7-2 MA:32-54;mi:72-93 SRX018970

```

cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuacugcgcucaaCAACAAAUC
CCAGUCUACCUAAuggugccagccaucgca
.....(((((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.
).))))).))..))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----UGGAAGACUAGUGAUUUU-----
----- 8 0,-5
-----UGGAAGACUAGUGAUUUUGUU-----

```



```

----- 30 0,-1
-----AAGGAGCUUACAAUCUAGCUGGa-----
----- 3 0,-1
-----AAGGAGCUUACAAUCUAGCUGGaa-----
----- 2 0,-1
-----AAGGAGCUUACAAUCUAGCUGGu-----
----- 5 0,-1
-----AAGGAGCUUACAAUCUAGCUGGG-----
----- 24 0,0
-----AAGGAGCUUACAAUCUAGCUGGGa-----
----- 2 0,0
-----AACUAGACUGUGAGCUUCUAGA-
----- 4 1,1

```

>hsa-mir-744 MA:11-32;mi:68-89 SRX018970

uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuacugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc

(((((.((((.((((.((((.(.....)))))))))).))).)).)).)).)).)).)).).

```

-----UGCGGGGCUAGGGCUAACAG-----
----- 3 0,-2
-----UGCGGGGCUAGGGCUAACAGa-----
----- 4 0,-2
-----UGCGGGGCUAGGGCUAACAGu-----
----- 2 0,-2
-----UGCGGGGCUAGGGCUAACAGC-----
----- 20 0,-1
-----UGCGGGGCUAGGGCUAACAGCA-----
----- 66 0,0
-----UGCGGGGCUAGGGCUAACAGCAa-----
----- 24 0,0
-----UGCGGGGCUAGGGCUAACAGCAaa-----
----- 2 0,0
-----UGCGGGGCUAGGGCUAACAGCAau-----
----- 2 0,0
-----UGCGGGGCUAGGGCUAACAGCAu-----
----- 115 0,0
-----UGCGGGGCUAGGGCUAACAGCAuu-----

```



```

CUCAG----- 10 0,-1
-----ACUCCAGCCCCACAGC
CUCAGa----- 4 0,-1
-----ACUCCAGCCCCACAGC
CUCAGC----- 11 0,0
-----ACUCCAGCCCCACAGC
CUCAGCa----- 4 0,0
-----ACUCCAGCCCCACAGC
CUCAGCaa----- 2 0,0
-----ACUCCAGCCCCACAGC
CUCAGCau----- 2 0,0
-----ACUCCAGCCCCACAGC
CUCAGCu----- 2 0,0

```

```

>hsa-mir-769    5p:30-51;3p:69-91    SRX018970
gccuuggugcugauuccugggcucugaccUGAGACCUCUGGGUUCUGAGCUgugauguugcucucgagCUGGGAUCUCCG
GGGUCUUGGUUcagggccggggccucuggguccaagc
..(((((((((.....)))))))).)))).
)))))).)))).)))).)))).)))).
-----UGAGACCUCUGGGUUCUGAG-----
----- 5 0,-2
-----UGAGACCUCUGGGUUCUGAGC-----
----- 3 0,-1
-----UGAGACCUCUGGGUUCUGAGCau-----
----- 2 0,-1
-----UGAGACCUCUGGGUUCUGAGCU-----
----- 2 0,0
-----UGAGACCUCUGGGUUCUGAGCUu-----
----- 2 0,0

```

```

>hsa-mir-874    3p:47-68    SRX018970
uuagcccugcggccccacgcaccaggguaagagagacucucgcuucCUGCCCUGGCCCAGGGACCGAcuggcugggc
(((((((((.....)))))))).)))).
-----CUGCCCUGGCCCAGGGAC-----
2 0,-3
-----CUGCCCUGGCCCAGGGACCGAC-----
3 0,1
-----CUGCCCUGGCCCAGGGACCGACU-----

```

3 0,2

>hsa-mir-877 MA:1-20:mi:66-86 SRX018970

GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggaccucagacgugugUCCUCUUCUCCCCUCC
UCCCAG

$\dots(((((((\dots((\dots(((((\dots(((\dots\dots\dots(((\dots(((\dots\dots\dots)))))))))\dots)\dots)))))))).\dots))\dots))\dots)$

GUAGAGGAGAUGGCCGACG-----

----- 3 0, -2

GUAGAGGAGAUGGCGCAGGGGAa-----

----- 2 0,2

GUAGAGGAGAUGGCGCAGGGGACA-----

----- 4 0,4

>hsa-mi r-885 5p:11-32;3p:43-64 SRX018970

ccgcacucucUCCAUAACACUACCCUGCCUCUucuccaugagAGGCAGCGGGGUGUAGUGGAUAgagcacgggu

-----UCCAUAACACUACCCUGC----- 14

0,-4

-----UCCAUUACACUACCCUGCC----- 12

0,-3

-----UCCAUUACACUACCCUGCCU----- 31

0,-2

-----UCCAUAACACUACCCUGCCUC----- 65

 $0, -1$

-----UCCAUUACACUACCCUGCCUCa----- 3

 $0,-1$

-----UCCAUAACACUACCCUGCCUCU----- 179

0,0

-----UCCAUAACACUACCCUGCCUCUa----- 10

0,0

-----UCCAUUACACUACCCUGCCUCU_{au}----- 7

0,0

-----UCCAUAACACUACCCUGCCUCUU----- 14

 $0,1$

-----UCCAUAACACUACCCUGCCUCUa----- 4

 $0,1$

-----UCCAUAACACUACCCUGCCUCUUu----- 11

0,1	-CAUUACACUACCCUGCCU-	2
2,-2	-CAUUACACUACCCUGCCUC-	2
2,-1	-CAUUACACUACCCUGCCUCU-	6
2,0	-AGGCAGCGGGUGUAGUG-	2
0,-4	-AGGCAGCGGGUGUAGUGG-	2
0,-3	-AGGCAGCGGGUGUAGUGGA-	3
0,-2	-AGGCAGCGGGUGUAGUGGAa-	2
0,-2	-AGGCAGCGGGUGUAGUGGAaa-	3
0,-2	-AGGCAGCGGGUGUAGUGGAU-	21
0,-1	-AGGCAGCGGGUGUAGUGGAUu-	6
0,-1	-AGGCAGCGGGUGUAGUGGAUA-	9
0,0	-AGGCAGCGGGUGUAGUGGAUAa-	8
0,0	-AGGCAGCGGGUGUAGUGGAUAaa-	5
0,0	-AGGCAGCGGGUGUAGUGGAUAau-	7
0,0		

>hsa-mir-887 3p:48-69 SRX018970

gugcagauccuugggagcccuguuagacucuggauuuuacacuuggaGUGAACGGGCGCCAUCCCGAGGcuuugcacag
 (((((((((.((((((((((((((((((..((((((.....).)))))).)))))).)))))).))))))..
 -----GUGAACGGGCGCCAUCCCGA-----
 2 0,-2
 -----GUGAACGGGCGCCAUCCCGAG-----
 3 0,-1
 -----GUGAACGGGCGCCAUCCCGAGG-----

ggaagcgaguuguuaUCUUUGGUUAUCUAGCUGUAUGAguguauugggucuucAUAAAGCUAGAUAACCGAAAGUaaaaac
uccuuc

-----UCUUUGGUUAUCUAGCUGAUG-----

-----AUAAGCUAGAUACCGAAAGU-----

-----UAAAGCUAGAUAAACCGAAAGUAA-----

ggaggcccguuucucUCUUUGGUUAUCUAGCUGUAUGAgugccacagagccgucAUAAAGCUAGAUAACCGAAAGUagaa
augauucuca

-----UCUUUGGUUAUCUAGCUGAUG-----

-----AUAAGCUAGAUAAACCGAAAGU-----

cuuucuacacAGGUUGGGAUCGGUUGCAAUGCuguguuucugnaaggUAUUGCACUUGUCCCGGCCUGUugaguuuugg
..(((...(((((((((((((.(((.(((((((((((.....)))))))))....)).)))))))).

3 0,-3

-----AGGUUGGGAUCGGUUGCAAUG-----

20 0,-2

-----AGGUUGGGAUCGGUUGCAAUGuu-----

 $2 \quad 0, -2$

-----AGGUUGGGAUCGGUUGCAAUC-----

24 0,-1

-----AGGUUGGGAUCGGUUGCAAUGCau-----

 $2 \quad 0, -1$

-----AGGUUGGGAUCGGUUGCAAUGCU-----

96 0.0

-----AGGUUGGGAUCGGUUGCAAUGCUu-----

2	0,0	
-----AGGUUGGGAUCGGUUGCAAUGCUuu-----		
3	0,0	
-----UAUUGCACUUGUCCCCGGC-----		
68	0,-4	
-----UAUUGCACUUGUCCCCGGCau-----		
7	0,-4	
-----UAUUGCACUUGUCCCCGGCuu-----		
3	0,-4	
-----UAUUGCACUUGUCCCCGGCC-----		
365	0,-3	
-----UAUUGCACUUGUCCCCGGCCaa-----		
2	0,-3	
-----UAUUGCACUUGUCCCCGGCCU-----		
4891	0,-2	
-----UAUUGCACUUGUCCCCGGCCUa-----		
4	0,-2	
-----UAUUGCACUUGUCCCCGGCCUaa-----		
14	0,-2	
-----UAUUGCACUUGUCCCCGGCCUau-----		
18	0,-2	
-----UAUUGCACUUGUCCCCGGCCUu-----		
5	0,-2	
-----UAUUGCACUUGUCCCCGGCCUuu-----		
16	0,-2	
-----UAUUGCACUUGUCCCCGGCCUG-----		
330	0,-1	
-----UAUUGCACUUGUCCCCGGCCUGa-----		
15	0,-1	
-----UAUUGCACUUGUCCCCGGCCUGaa-----		
14	0,-1	
-----UAUUGCACUUGUCCCCGGCCUGau-----		
4	0,-1	
-----UAUUGCACUUGUCCCCGGCCUGU-----		
656	0,0	
-----UAUUGCACUUGUCCCCGGCCUGUa-----		
77	0,0	
-----UAUUGCACUUGUCCCCGGCCUGUaa-----		

0, -4	-----UAUUGCACUUGUCCCCGGCau-----	7
0, -4	-----UAUUGCACUUGUCCCCGGCuu-----	3
0, -4	-----UAUUGCACUUGUCCCCGGCC-----	365
0, -3	-----UAUUGCACUUGUCCCCGGCCaa-----	2
0, -3	-----UAUUGCACUUGUCCCCGGCCU-----	4891
0, -2	-----UAUUGCACUUGUCCCCGGCCUa-----	4
0, -2	-----UAUUGCACUUGUCCCCGGCCUaa-----	14
0, -2	-----UAUUGCACUUGUCCCCGGCCUau-----	18
0, -2	-----UAUUGCACUUGUCCCCGGCCUu-----	5
0, -2	-----UAUUGCACUUGUCCCCGGCCUuu-----	16
0, -2	-----UAUUGCACUUGUCCCCGGCCUG-----	330
0, -1	-----UAUUGCACUUGUCCCCGGCCUGa-----	15
0, -1	-----UAUUGCACUUGUCCCCGGCCUGaa-----	14
0, -1	-----UAUUGCACUUGUCCCCGGCCUGau-----	4
0, -1	-----UAUUGCACUUGUCCCCGGCCUGU-----	656
0, 0	-----UAUUGCACUUGUCCCCGGCCUGUa-----	77
0, 0	-----UAUUGCACUUGUCCCCGGCCUGUaa-----	109
0, 0	-----UAUUGCACUUGUCCCCGGCCUGUau-----	338
0, 0	-----AUUGCACUUGUCCCCGGCC-----	12


```

1,-3
-----AUUGCACUUGUCCCGGCCU----- 81
1,-2
-----AUUGCACUUGUCCCGGCCUG----- 2
1,-1
-----AUUGCACUUGUCCCGGCCUGa----- 3
1,-1
-----AUUGCACUUGUCCCGGCCUGU----- 16
1,0
-----AUUGCACUUGUCCCGGCCUGUau---- 6
1,0

```

>hsa-mir-92b mi:20-41;MA:61-82 SRX018970

```

cgggccccgggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuuccccgcaaUAUUGCACUCGUCCCGGCCU
CCggccccccccggccc

```

```

.((((((..(((.(((((((((..(((((((.((((((((((((((.....))))))))))))))))))))).)))
))..)))))))).))))))

```

```

-----AGGGACGGGACGCGGUGCAGU-----
----- 2 0,-1
-----AGGGACGGGACGCGGUGCAGUGU-----
----- 12 0,1
-----UAUUGCACUCGUCCCGGCC-
----- 7 0,-3
-----UAUUGCACUCGUCCCGGCCU
----- 17 0,-2
-----UAUUGCACUCGUCCCGGCCU
aa----- 6 0,-2
-----UAUUGCACUCGUCCCGGCCU
u----- 3 0,-2
-----UAUUGCACUCGUCCCGGCCU
C----- 7 0,-1
-----UAUUGCACUCGUCCCGGCCU
Ca----- 3 0,-1
-----UAUUGCACUCGUCCCGGCCU
Caa----- 5 0,-1
-----UAUUGCACUCGUCCCGGCCU
Cau----- 4 0,-1
-----UAUUGCACUCGUCCCGGCCU

```

```

CC-----      28  0,0
-----UAUUGCACUCGUCCCGGCCU
CCa-----      5  0,0
-----UAUUGCACUCGUCCCGGCCU
CCaa-----      3  0,0
-----UAUUGCACUCGUCCCGGCCU
CCau-----     13  0,0
-----UAUUGCACUCGUCCCGGCCU
CCu-----     10  0,0
-----UAUUGCACUCGUCCCGGCCU
CCuu-----      5  0,0
-----AUUGCACUCGUCCCGGCC-
-----      2   1,-3

```

>hsa-mi r-93 MA:11-33;mi:50-71 SRX018970

```

cugggggcucCAAAGUGCUGUUCGUGCAGGUAGugugauuacccaaccuACUGCUGAGCUAGCACUUCCCGagccccgg
((((((((((..(((((((((((.(((((((((.....))..))))))))))))).))))))....)))))))))
-----CAAAGUGCUGUUCGUGCA-----
67  0,-5
-----CAAAGUGCUGUUCGUGCAG-----
192 0,-4
-----CAAAGUGCUGUUCGUGCAGG-----
67  0,-3
-----CAAAGUGCUGUUCGUGCAGGaa-----
2   0,-3
-----CAAAGUGCUGUUCGUGCAGGU-----
122 0,-2
-----CAAAGUGCUGUUCGUGCAGGUuu-----
8   0,-2
-----CAAAGUGCUGUUCGUGCAGGUA-----
364 0,-1
-----CAAAGUGCUGUUCGUGCAGGUa-----
73  0,-1
-----CAAAGUGCUGUUCGUGCAGGUaau-----
6   0,-1
-----CAAAGUGCUGUUCGUGCAGGUau-----
115 0,-1
-----CAAAGUGCUGUUCGUGCAGGUauu-----

```


UAUACAACUACUACUUUCCu----- 9

UAUACAACUACUACUUUC----- 3

UAUACAACUACUACUUUCCu----- 9

UAUACAACUACUACUUUCCuu----- 13

>hsa-mir-99a MA:13-34;mi:50-71 SRX018970

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

..((((((((((.(((((((((.(((.((((((.((.....))))))))).)))..))))))))).)))))))))).

.

-----AAACCCGUAGAUCCGAUCU-----

- 5 -1,-4

-----AAACCCGUAGAUCCGAUCUU-----

- 7 -1,-3

-----AAACCCGUAGAUCCGAUCUUG-----

- 53 -1,-2

-----AAACCCGUAGAUCCGAUCUUGa-----

- 2 -1,-2

-----AAACCCGUAGAUCCGAUCUUGU-----

- 346 -1,-1

-----AAACCCGUAGAUCCGAUCUUGUaa-----

- 2 -1,-1

-----AAACCCGUAGAUCCGAUCUUGUu-----

- 2 -1,-1

-----AAACCCGUAGAUCCGAUCUUGUuu-----

- 2 -1,-1

-----AAACCCGUAGAUCCGAUCUUGUG-----

- 9 -1,0

-----AAACCCGUAGAUCCGAUCUUGUGa-----

- 13 -1,0

-----AAACCCGUAGAUCCGAUCUUGUGu-----

- 4 -1,0

-----AACCCGUAGAUCCGAUCU-----

- 478 0,-4

-----AACCCGUAGAUCCGAUCUau-----

- 2 0,-4
-----AACCCGUAGAUCCGAUCUU-----
- 1479 0,-3
-----AACCCGUAGAUCCGAUCUua-----
- 36 0,-3
-----AACCCGUAGAUCCGAUCUuaa-----
- 3 0,-3
-----AACCCGUAGAUCCGAUCUuaa-----
- 5 0,-3
-----AACCCGUAGAUCCGAUCUuu-----
- 92 0,-3
-----AACCCGUAGAUCCGAUCUuuu-----
- 50 0,-3
-----AACCCGUAGAUCCGAUCUUG-----
- 6351 0,-2
-----AACCCGUAGAUCCGAUCUUGa-----
- 175 0,-2
-----AACCCGUAGAUCCGAUCUUGaa-----
- 7 0,-2
-----AACCCGUAGAUCCGAUCUUGU-----
- 31292 0,-1
-----AACCCGUAGAUCCGAUCUUGUa-----
- 168 0,-1
-----AACCCGUAGAUCCGAUCUUGUaa-----
- 79 0,-1
-----AACCCGUAGAUCCGAUCUUGUau-----
- 11 0,-1
-----AACCCGUAGAUCCGAUCUUGUu-----
- 380 0,-1
-----AACCCGUAGAUCCGAUCUUGUuu-----
- 74 0,-1
-----AACCCGUAGAUCCGAUCUUGUG-----
- 25660 0,0
-----AACCCGUAGAUCCGAUCUUGUGa-----
- 10877 0,0
-----AACCCGUAGAUCCGAUCUUGUGaa-----
- 262 0,0
-----AACCCGUAGAUCCGAUCUUGUGau-----


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- 58 0,0
-----AACCCGUAGAUCCGAUCUUGUGu-----
- 7250 0,0
-----AACCCGUAGAUCCGAUCUUGUGuu-----
- 67 0,0
-----AACCCGUAGAUCCGAUCUUGUGG-----
- 14 0,1
-----AACCCGUAGAUCCGAUCUUGUGGa-----
- 2 0,1
-----ACCCGUAGAUCCGAUCUUG-----
- 2 1,-2
-----ACCCGUAGAUCCGAUCUUGU-----
- 20 1,-1
-----ACCCGUAGAUCCGAUCUUGUG-----
- 29 1,0
-----ACCCGUAGAUCCGAUCUUGUGa-----
- 22 1,0
-----ACCCGUAGAUCCGAUCUUGUGu-----
- 12 1,0
-----CAAGCUCGCUUCUAUGGG-----
- 4 0,-4
-----CAAGCUCGCUUCUAUGGGU-----
- 2 0,-3
-----CAAGCUCGCUUCUAUGGGUCU-----
- 5 0,-1
-----CAAGCUCGCUUCUAUGGGUCUG-----
- 7 0,0
-----CAAGCUCGCUUCUAUGGGUCUGaa-----
- 3 0,0
-----CAAGCUCGCUUCUAUGGGUCUGU-----
- 12 0,1
-----CAAGCUCGCUUCUAUGGGUCUGUu-----
- 3 0,1

```

>hsa-mir-99b MA:7-28;mi:45-66 SRX018970

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ggcaccCACCCGUAGAACCGACCUUGCGgggccuucgcccgcacaCAAGCUCGUGUCUGUGGGUCCGuguc
(((((((((.(((((((.(((.(((((.(((.((....)))..)).))))..)))))))).))))))
-----CACCCGUAGAACCGACCU----- 4 0,-4

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-----CACCCGUAGAACCGACCUU-----	17	0,-3
-----CACCCGUAGAACCGACCUUG-----	21	0,-2
-----CACCCGUAGAACCGACCUUGa-----	3	0,-2
-----CACCCGUAGAACCGACCUUGC-----	236	0,-1
-----CACCCGUAGAACCGACCUUGCaa-----	3	0,-1
-----CACCCGUAGAACCGACCUUGCG-----	385	0,0
-----CACCCGUAGAACCGACCUUGCGa-----	120	0,0
-----CACCCGUAGAACCGACCUUGCGu-----	78	0,0
-----CACCCGUAGAACCGACCUUGCGuu-----	4	0,0
-----CACCCGUAGAACCGACCUUGCGG-----	9	0,1
-----ACCCGUAGAACCGACCUUGC-----	3	1,-1
-----ACCCGUAGAACCGACCUUGCG-----	11	1,0
-----CAAGCUCGUGUCUGUGGGUCC-----	2	0,-1
-----CAAGCUCGUGUCUGUGGGUCCGU---	3	0,1

>hsa-let-7a-1 MA:6-27;mi:57-77 SRX018971

```

ugggaUGAGGUAGUAGGUUGUAUAGUUuuaggguacaccccaccacugggagauaaCUAUACAAUCUACUGUCUUUCcua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AUGAGGUAGUAGGUUGUAUAG-----
      2    -1,-2
-----AUGAGGUAGUAGGUUGUAUAGU-----
      9    -1,-1
-----AUGAGGUAGUAGGUUGUAUAGUa-----
      3    -1,-1
-----AUGAGGUAGUAGGUUGUAUAGUU-----
     63   -1,0
-----AUGAGGUAGUAGGUUGUAUAGUua-----
     13   -1,0
-----AUGAGGUAGUAGGUUGUAUAGUUaa-----
     10   -1,0
-----UGAGGUAGUAGGUUGUAU-----
    1755    0,-4
-----UGAGGUAGUAGGUUGUAUu-----
     55    0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
     58    0,-4
-----UGAGGUAGUAGGUUGUAUA-----
    9249    0,-3

```

-----UGAGGUAGUAGGUUGUAUAa-----
 283 0, -3
 -----UGAGGUAGUAGGUUGUAUAaa-----
 56 0, -3
 -----UGAGGUAGUAGGUUGUAUAau-----
 20 0, -3
 -----UGAGGUAGUAGGUUGUAUAu-----
 85 0, -3
 -----UGAGGUAGUAGGUUGUAUAuu-----
 39 0, -3
 -----UGAGGUAGUAGGUUGUAUAG-----
 22826 0, -2
 -----UGAGGUAGUAGGUUGUAUAGa-----
 476 0, -2
 -----UGAGGUAGUAGGUUGUAUAGaa-----
 44 0, -2
 -----UGAGGUAGUAGGUUGUAUAGau-----
 278 0, -2
 -----UGAGGUAGUAGGUUGUAUAGU-----
 89648 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUa-----
 1701 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUaa-----
 3363 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUau-----
 559 0, -1
 -----UGAGGUAGUAGGUUGUAUAGUU-----
 564239 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUa-----
 50914 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUaa-----
 8926 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUau-----
 1853 0, 0
 -----UGAGGUAGUAGGUUGUAUAGUUU-----
 21946 0, 1
 -----UGAGGUAGUAGGUUGUAUAGUUUU-----
 261 0, 2

-----UGAGGUAGUAGGUUGUAUAGUUUUu-----
 6 0,2
 -----UGAGGUAGUAGGUUGUAUAGUUUUA-----
 18 0,3
 -----GAGGUAGUAGGUUGUAUA-----
 8 1,-3
 -----GAGGUAGUAGGUUGUAUAG-----
 69 1,-2
 -----GAGGUAGUAGGUUGUAUAGa-----
 3 1,-2
 -----GAGGUAGUAGGUUGUAUAGU-----
 143 1,-1
 -----GAGGUAGUAGGUUGUAUAGUa-----
 7 1,-1
 -----GAGGUAGUAGGUUGUAUAGUaa-----
 10 1,-1
 -----GAGGUAGUAGGUUGUAUAGUU-----
 1099 1,0
 -----GAGGUAGUAGGUUGUAUAGUUa-----
 152 1,0
 -----GAGGUAGUAGGUUGUAUAGUUaa-----
 47 1,0
 -----GAGGUAGUAGGUUGUAUAGUUau-----
 7 1,0
 -----GAGGUAGUAGGUUGUAUAGUUU-----
 70 1,1
 -----AGGUAGUAGGUUGUAUAG-----
 2 2,-2
 -----AGGUAGUAGGUUGUAUAGUU-----
 45 2,0
 -----AGGUAGUAGGUUGUAUAGUUa-----
 3 2,0
 -----AGGUAGUAGGUUGUAUAGUUU-----
 13 2,1
 -----AGGUAGUAGGUUGUAUAGUUUU-----
 4 2,2
 -----CUAUACAAUCUACUGUCUU-----
 4 0,-2

9	0,-1	-CUAUACAAUCUACUGUCUUU-----
29	0,0	-CUAUACAAUCUACUGUCUUUC-----
36	0,0	-CUAUACAAUCUACUGUCUUUCu-----
10	0,1	-CUAUACAAUCUACUGUCUUUCC-----
2	0,1	-CUAUACAAUCUACUGUCUUUCCa-----
2	0,2	-CUAUACAAUCUACUGUCUUUCCU-----
3	1,-1	-UAUACAAUCUACUGUCUUU-----
3	1,0	-UAUACAAUCUACUGUCUUUC-----
2	1,1	-UAUACAAUCUACUGUCUUUCC-----
10	1,2	-UAUACAAUCUACUGUCUUUCCU-----
5	2,-1	-AUACAAUCUACUGUCUUU-----
3	2,0	-AUACAAUCUACUGUCUUUC-----
3	2,1	-AUACAAUCUACUGUCUUUCC-----
4	2,1	-AUACAAUCUACUGUCUUUCCa-----
100	2,2	-AUACAAUCUACUGUCUUUCCU-----

>hsa-let-7a-2 MA:5-26;mi:50-71 SRX018971

agguUGAGGUAGUAGGUUGUAUAGUUuagaauuacaucaagggagauaaCUGUACAGCCUCCUAGCUUUCCu

(((((.(.(((.(((.(((((((((((((.....(..(.....)..)....)))))))).).)).)).)))

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-1,-2

---UUGAGGUAGUAGGUUGUAUAGU----- 8
-1,-1

---UUGAGGUAGUAGGUUGUAUAGUU-----	11
-1,0	
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---UGAGGUAGUAGGUUGUAUu-----	55
0,-4	
---UGAGGUAGUAGGUUGUAUuu-----	58
0,-4	
---UGAGGUAGUAGGUUGUAUA-----	9249
0,-3	
---UGAGGUAGUAGGUUGUAUAa-----	283
0,-3	
---UGAGGUAGUAGGUUGUAUAaa-----	56
0,-3	
---UGAGGUAGUAGGUUGUAUAau-----	20
0,-3	
---UGAGGUAGUAGGUUGUAUAu-----	85
0,-3	
---UGAGGUAGUAGGUUGUAUAuu-----	39
0,-3	
---UGAGGUAGUAGGUUGUAUAG-----	
22826 0,-2	
---UGAGGUAGUAGGUUGUAUAGa-----	476
0,-2	
---UGAGGUAGUAGGUUGUAUAGaa-----	44
0,-2	
---UGAGGUAGUAGGUUGUAUAGau-----	278
0,-2	
---UGAGGUAGUAGGUUGUAUAGU-----	
89648 0,-1	
---UGAGGUAGUAGGUUGUAUAGUa-----	1701
0,-1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	3363
0,-1	
---UGAGGUAGUAGGUUGUAUAGUau-----	559
0,-1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
564239 0,0	

----UGAGGUAGUAGGUUGUAUAGUUa-----	
50914 0,0	
----UGAGGUAGUAGGUUGUAUAGUUaa-----	8926
0,0	
----UGAGGUAGUAGGUUGUAUAGUUau-----	1853
0,0	
----UGAGGUAGUAGGUUGUAUAGUUU-----	
21946 0,1	
----UGAGGUAGUAGGUUGUAUAGUUUA-----	151
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAa-----	43
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAu-----	8
0,2	
----UGAGGUAGUAGGUUGUAUAGUUUAG-----	7
0,3	
----GAGGUAGUAGGUUGUAUA-----	8
1,-3	
----GAGGUAGUAGGUUGUAUAG-----	69
1,-2	
----GAGGUAGUAGGUUGUAUAGa-----	3
1,-2	
----GAGGUAGUAGGUUGUAUAGU-----	143
1,-1	
----GAGGUAGUAGGUUGUAUAGUa-----	7
1,-1	
----GAGGUAGUAGGUUGUAUAGUaa-----	10
1,-1	
----GAGGUAGUAGGUUGUAUAGUU-----	1099
1,0	
----GAGGUAGUAGGUUGUAUAGUUa-----	152
1,0	
----GAGGUAGUAGGUUGUAUAGUUaa-----	47
1,0	
----GAGGUAGUAGGUUGUAUAGUUau-----	7
1,0	
----GAGGUAGUAGGUUGUAUAGUUU-----	70
1,1	

-----AGGUAGUAGGUUGUAUAG-----	2
2,-2	
-----AGGUAGUAGGUUGUAUAGUU-----	45
2,0	
-----AGGUAGUAGGUUGUAUAGUUa-----	3
2,0	
-----AGGUAGUAGGUUGUAUAGUUU-----	13
2,1	
 >hsa-let-7a-3 MA:4-25;mi:52-72 SRX018971	
gggUGAGGUAGUAGGUUGUAUAGUuuggggcucugcccugcuaugggauaaCUAUACAAUCUACUGUCUUUCcu	
(((((...)))))).....)))))))).)))	
-GGUGAGGUAGUAGGUUGUAUAGUU-----	3
-2,0	
--GUGAGGUAGUAGGUUGUAUA-----	9
-1,-3	
--GUGAGGUAGUAGGUUGUAUAG-----	62
-1,-2	
--GUGAGGUAGUAGGUUGUAUAGU-----	172
-1,-1	
--GUGAGGUAGUAGGUUGUAUAGUaa-----	5
-1,-1	
--GUGAGGUAGUAGGUUGUAUAGUau-----	2
-1,-1	
--GUGAGGUAGUAGGUUGUAUAGUU-----	265
-1,0	
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-1,0	
--GUGAGGUAGUAGGUUGUAUAGUUU-----	7
-1,1	
---UGAGGUAGUAGGUUGUAU-----	1755
0,-4	
---UGAGGUAGUAGGUUGUAUu-----	55
0,-4	
---UGAGGUAGUAGGUUGUAUuu-----	58
0,-4	

---UGAGGUAGUAGGUUGUAUA-----	9249
0,-3	
---UGAGGUAGUAGGUUGUAUAa-----	283
0,-3	
---UGAGGUAGUAGGUUGUAUAaa-----	56
0,-3	
---UGAGGUAGUAGGUUGUAUAau-----	20
0,-3	
---UGAGGUAGUAGGUUGUAUAu-----	85
0,-3	
---UGAGGUAGUAGGUUGUAUAuu-----	39
0,-3	
---UGAGGUAGUAGGUUGUAUAG-----	
22826 0,-2	
---UGAGGUAGUAGGUUGUAUAGa-----	476
0,-2	
---UGAGGUAGUAGGUUGUAUAGaa-----	44
0,-2	
---UGAGGUAGUAGGUUGUAUAGau-----	278
0,-2	
---UGAGGUAGUAGGUUGUAUAGU-----	
89648 0,-1	
---UGAGGUAGUAGGUUGUAUAGUa-----	1701
0,-1	
---UGAGGUAGUAGGUUGUAUAGUaa-----	3363
0,-1	
---UGAGGUAGUAGGUUGUAUAGUau-----	559
0,-1	
---UGAGGUAGUAGGUUGUAUAGUU-----	
564239 0,0	
---UGAGGUAGUAGGUUGUAUAGUUa-----	
50914 0,0	
---UGAGGUAGUAGGUUGUAUAGUUaa-----	8926
0,0	
---UGAGGUAGUAGGUUGUAUAGUUau-----	1853
0,0	
---UGAGGUAGUAGGUUGUAUAGUUU-----	
21946 0,1	

---UGAGGUAGUAGGUUGUAUAGUUUG-----	4
0,2	
---UGAGGUAGUAGGUUGUAUAGUUUGa-----	2
0,2	
---UGAGGUAGUAGGUUGUAUAGUUUGG-----	3
0,3	
----GAGGUAGUAGGUUGUAUA-----	8
1,-3	
----GAGGUAGUAGGUUGUAUAG-----	69
1,-2	
----GAGGUAGUAGGUUGUAUAGa-----	3
1,-2	
----GAGGUAGUAGGUUGUAUAGU-----	143
1,-1	
----GAGGUAGUAGGUUGUAUAGUa-----	7
1,-1	
----GAGGUAGUAGGUUGUAUAGUaa-----	10
1,-1	
----GAGGUAGUAGGUUGUAUAGUU-----	1099
1,0	
----GAGGUAGUAGGUUGUAUAGUUa-----	152
1,0	
----GAGGUAGUAGGUUGUAUAGUUaa-----	47
1,0	
----GAGGUAGUAGGUUGUAUAGUUau-----	7
1,0	
----GAGGUAGUAGGUUGUAUAGUUU-----	70
1,1	
----GAGGUAGUAGGUUGUAUAGUUUGaa-----	2
1,2	
----AGGUAGUAGGUUGUAUAG-----	2
2,-2	
----AGGUAGUAGGUUGUAUAGUU-----	45
2,0	
----AGGUAGUAGGUUGUAUAGUUa-----	3
2,0	
----AGGUAGUAGGUUGUAUAGUUU-----	13
2,1	

-----UGAGGUAGUAGGUUGUGU-----
--- 7281 0,-4
-----UGAGGUAGUAGGUUGUGUa-----
--- 12 0,-4
-----UGAGGUAGUAGGUUGUGUaa-----
--- 93 0,-4
-----UGAGGUAGUAGGUUGUGUau-----
--- 4 0,-4
-----UGAGGUAGUAGGUUGUGUu-----
--- 61 0,-4
-----UGAGGUAGUAGGUUGUGUuu-----
--- 5 0,-4
-----UGAGGUAGUAGGUUGUGUG-----
--- 18194 0,-3
-----UGAGGUAGUAGGUUGUGUGa-----
--- 106 0,-3
-----UGAGGUAGUAGGUUGUGUGaa-----
--- 28 0,-3
-----UGAGGUAGUAGGUUGUGUGau-----
--- 5 0,-3
-----UGAGGUAGUAGGUUGUGUGu-----
--- 94 0,-3
-----UGAGGUAGUAGGUUGUGUGuu-----
--- 32 0,-3
-----UGAGGUAGUAGGUUGUGUGG-----
--- 5536 0,-2
-----UGAGGUAGUAGGUUGUGUGGa-----
--- 78 0,-2
-----UGAGGUAGUAGGUUGUGUGGaa-----
--- 65 0,-2
-----UGAGGUAGUAGGUUGUGUGGau-----
--- 52 0,-2
-----UGAGGUAGUAGGUUGUGUGGU-----
--- 9029 0,-1
-----UGAGGUAGUAGGUUGUGUGGUa-----
--- 699 0,-1
-----UGAGGUAGUAGGUUGUGUGGUaa-----
--- 3806 0,-1

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-----UGAGGUAGUAGGUUGUGUGGUau-----
--- 1821    0,-1
-----UGAGGUAGUAGGUUGUGUGGUU-----
--- 60272   0,0
-----UGAGGUAGUAGGUUGUGUGGUUa-----
--- 3046    0,0
-----UGAGGUAGUAGGUUGUGUGGUUaa-----
--- 5650    0,0
-----UGAGGUAGUAGGUUGUGUGGUUau-----
--- 3493    0,0
-----UGAGGUAGUAGGUUGUGUGGUUU-----
--- 11490   0,1
-----UGAGGUAGUAGGUUGUGUGGUUUa-----
--- 578 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUaa-----
--- 186 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUau-----
--- 149 0,1
-----UGAGGUAGUAGGUUGUGUGGUUUu-----
--- 1072    0,1
-----UGAGGUAGUAGGUUGUGUGGUUUuu-----
--- 36  0,1
-----UGAGGUAGUAGGUUGUGUGGUUUC-----
--- 24  0,2
-----UGAGGUAGUAGGUUGUGUGGUUUCA-----
--- 29  0,3
-----GAGGUAGUAGGUUGUGUG-----
--- 47  1,-3
-----GAGGUAGUAGGUUGUGUGG-----
--- 23  1,-2
-----GAGGUAGUAGGUUGUGUGGU-----
--- 10  1,-1
-----GAGGUAGUAGGUUGUGUGGUa-----
--- 5   1,-1
-----GAGGUAGUAGGUUGUGUGGUaa-----
--- 14  1,-1
-----GAGGUAGUAGGUUGUGUGGUau-----
--- 5   1,-1

```

```

-----GAGGUAGUAGGUUGUGUGGUU-----
--- 251 1,0
-----GAGGUAGUAGGUUGUGUGGUUa-----
--- 13 1,0
-----GAGGUAGUAGGUUGUGUGGUUaa-----
--- 17 1,0
-----GAGGUAGUAGGUUGUGUGGUUau-----
--- 18 1,0
-----GAGGUAGUAGGUUGUGUGGUUU-----
--- 64 1,1
-----GAGGUAGUAGGUUGUGUGGUUUa-----
--- 6 1,1
-----GAGGUAGUAGGUUGUGUGGUUUaa-----
--- 4 1,1
-----GAGGUAGUAGGUUGUGUGGUUUu-----
--- 2 1,1
-----AGGUAGUAGGUUGUGUGGUU-----
--- 5 2,0
-----AGGUAGUAGGUUGUGUGGUUU-----
--- 4 2,1
-----AACUAUACAACCUACUGCCUUCu
--- 2 -2,-2
-----CUAUACAACCUACUGCCU---
--- 3 0,-4
-----CUAUACAACCUACUGCCUU--
--- 5 0,-3
-----CUAUACAACCUACUGCCUUC-
--- 29 0,-2
-----CUAUACAACCUACUGCCUUCa
--- 8 0,-2
-----CUAUACAACCUACUGCCUUCu
--- 27 0,-2
-----CUAUACAACCUACUGCCUUCu
u-- 18 0,-2
-----CUAUACAACCUACUGCCUUCC
--- 103 0,-1
-----CUAUACAACCUACUGCCUUCC
a-- 13 0,-1

```

```

-----CUAUACAACCUACUGCCUUC
au- 2 0,-1
-----CUAUACAACCUACUGCCUUC
u-- 190 0,-1
-----CUAUACAACCUACUGCCUUC
uu- 2 0,-1
-----UAUACAACCUACUGCCUUC-
--- 2 1,-2
-----UAUACAACCUACUGCCUUC
--- 3 1,-1
-----UAUACAACCUACUGCCUUC
u-- 15 1,-1

```

>hsa-let-7c MA:11-32;mi:33-54 SRX018971

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gcauccggguUGAGGUAGUAGGUUGUAUGGUUUAGAGUUACACCCUGGGAGUUAacuguacaaccuucuagcuuuccuug
gagc

```

```

(((.(((((.(((.(((.(((((((((((((((((.(((.((.(.....)).).)))))))))))))))))).)).)).)))))
)))

```

```

-----UUGAGGUAGUAGGUUGUAUGG-----
---- 2 -1,-2
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 7 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUa-----
---- 2 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGUau-----
---- 2 -1,-1
-----UUGAGGUAGUAGGUUGUAUGGU-----
---- 34 -1,0
-----UGAGGUAGUAGGUUGUAU-----
---- 1755 0,-4
-----UGAGGUAGUAGGUUGUAUu-----
---- 55 0,-4
-----UGAGGUAGUAGGUUGUAUuu-----
---- 58 0,-4
-----UGAGGUAGUAGGUUGUAUG-----
---- 217 0,-3
-----UGAGGUAGUAGGUUGUAUGa-----
---- 4 0,-3

```

```

-----UGAGGUAGUAGGUUGUAUGaa-----
---- 2 0,-3
-----UGAGGUAGUAGGUUGUAUGu-----
---- 2 0,-3
-----UGAGGUAGUAGGUUGUAUGuu-----
---- 3 0,-3
-----UGAGGUAGUAGGUUGUAUGG-----
---- 434 0,-2
-----UGAGGUAGUAGGUUGUAUGGa-----
---- 14 0,-2
-----UGAGGUAGUAGGUUGUAUGGaa-----
---- 12 0,-2
-----UGAGGUAGUAGGUUGUAUGGau-----
---- 10 0,-2
-----UGAGGUAGUAGGUUGUAUGGU-----
---- 1174 0,-1
-----UGAGGUAGUAGGUUGUAUGGUa-----
---- 260 0,-1
-----UGAGGUAGUAGGUUGUAUGGUaa-----
---- 292 0,-1
-----UGAGGUAGUAGGUUGUAUGGUau-----
---- 90 0,-1
-----UGAGGUAGUAGGUUGUAUGGUU-----
---- 8940 0,0
-----UGAGGUAGUAGGUUGUAUGGUUa-----
---- 327 0,0
-----UGAGGUAGUAGGUUGUAUGGUUaa-----
---- 171 0,0
-----UGAGGUAGUAGGUUGUAUGGUUau-----
---- 96 0,0
-----UGAGGUAGUAGGUUGUAUGGUUU-----
---- 637 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUu-----
---- 28 0,1
-----UGAGGUAGUAGGUUGUAUGGUUUA-----
---- 16 0,2
-----UGAGGUAGUAGGUUGUAUGGUUUAa-----
---- 3 0,2

```



```

-----GAGGUAGUAGGUUGUAUG-----
---- 4 1,-3
-----GAGGUAGUAGGUUGUAUGG-----
---- 4 1,-2
-----GAGGUAGUAGGUUGUAUGGUa-----
---- 3 1,-1
-----GAGGUAGUAGGUUGUAUGGUau-----
---- 2 1,-1
-----GAGGUAGUAGGUUGUAUGGUU-----
---- 66 1,0
-----GAGGUAGUAGGUUGUAUGGUUa-----
---- 3 1,0
-----GAGGUAGUAGGUUGUAUGGUUaa-----
---- 5 1,0

```

>hsa-let-7d MA:8-29;mi:62-83 SRX018971

```

ccuaggaAGAGGUAGUAGGUUGCAUAGUUuuagggcagggauuuugcccacaaggagguaaCUAUACGACCUGCUGCCUU
UCUuagg

```

```

(((((((.(((((((((((((((.((((((.....)))))).))))))))))))))
))))))

```

```

-----AAGAGGUAGUAGGUUGCA-----
----- 2 -1,-5
-----AAGAGGUAGUAGGUUGCAU-----
----- 19 -1,-4
-----AAGAGGUAGUAGGUUGCAUA-----
----- 18 -1,-3
-----AAGAGGUAGUAGGUUGCAUAG-----
----- 43 -1,-2
-----AAGAGGUAGUAGGUUGCAUAGU-----
----- 104 -1,-1
-----AAGAGGUAGUAGGUUGCAUAGUa-----
----- 6 -1,-1
-----AAGAGGUAGUAGGUUGCAUAGUaa-----
----- 3 -1,-1
-----AAGAGGUAGUAGGUUGCAUAGUU-----
----- 243 -1,0
-----AAGAGGUAGUAGGUUGCAUAGUUa-----
----- 20 -1,0

```

```

-----AAGAGGUAGUAGGUUGCAUAGUUaa-----
----- 4   -1,0
-----AAGAGGUAGUAGGUUGCAUAGUUU-----
----- 16  -1,1
-----AGAGGUAGUAGGUUGCAU-----
----- 2764    0,-4
-----AGAGGUAGUAGGUUGCAUu-----
----- 28   0,-4
-----AGAGGUAGUAGGUUGCAUuu-----
----- 78   0,-4
-----AGAGGUAGUAGGUUGCAUA-----
----- 1709    0,-3
-----AGAGGUAGUAGGUUGCAUAa-----
----- 84   0,-3
-----AGAGGUAGUAGGUUGCAUAaa-----
----- 18   0,-3
-----AGAGGUAGUAGGUUGCAUAau-----
----- 7    0,-3
-----AGAGGUAGUAGGUUGCAUAu-----
----- 9    0,-3
-----AGAGGUAGUAGGUUGCAUAuu-----
----- 15   0,-3
-----AGAGGUAGUAGGUUGCAUAG-----
----- 5833    0,-2
-----AGAGGUAGUAGGUUGCAUAGa-----
----- 250  0,-2
-----AGAGGUAGUAGGUUGCAUAGaa-----
----- 79   0,-2
-----AGAGGUAGUAGGUUGCAUAGau-----
----- 221  0,-2
-----AGAGGUAGUAGGUUGCAUAGU-----
----- 17050   0,-1
-----AGAGGUAGUAGGUUGCAUAGUa-----
----- 933  0,-1
-----AGAGGUAGUAGGUUGCAUAGUaa-----
----- 856  0,-1
-----AGAGGUAGUAGGUUGCAUAGUau-----
----- 262  0,-1

```

```

-----AGAGGUAGUAGGUUGCAUAGUU-----
----- 294999 0,0
-----AGAGGUAGUAGGUUGCAUAGUUa-----
----- 18279 0,0
-----AGAGGUAGUAGGUUGCAUAGUUaa-----
----- 1821 0,0
-----AGAGGUAGUAGGUUGCAUAGUUau-----
----- 768 0,0
-----AGAGGUAGUAGGUUGCAUAGUUU-----
----- 14816 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUa-----
----- 79 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUaa-----
----- 15 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUau-----
----- 2 0,1
-----AGAGGUAGUAGGUUGCAUAGUUUU-----
----- 326 0,2
-----AGAGGUAGUAGGUUGCAUAGUUUUu-----
----- 13 0,2
-----AGAGGUAGUAGGUUGCAUAGUUUUA-----
----- 6 0,3
-----GAGGUAGUAGGUUGCAUA-----
----- 21 1,-3
-----GAGGUAGUAGGUUGCAUAG-----
----- 26 1,-2
-----GAGGUAGUAGGUUGCAUAGU-----
----- 42 1,-1
-----GAGGUAGUAGGUUGCAUAGUa-----
----- 4 1,-1
-----GAGGUAGUAGGUUGCAUAGUaa-----
----- 12 1,-1
-----GAGGUAGUAGGUUGCAUAGUU-----
----- 998 1,0
-----GAGGUAGUAGGUUGCAUAGUUa-----
----- 190 1,0
-----GAGGUAGUAGGUUGCAUAGUUaa-----
----- 22 1,0

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```

-----GAGGUAGUAGGUUGCAUAGUUau-----
----- 3 1,0
-----GAGGUAGUAGGUUGCAUAGUUU-----
----- 203 1,1
-----GAGGUAGUAGGUUGCAUAGUUUU-----
----- 12 1,2
-----GAGGUAGUAGGUUGCAUAGUUUUA-----
----- 8 1,3
-----AGGUAGUAGGUUGCAUAGU-----
----- 2 2,-1
-----AGGUAGUAGGUUGCAUAGUU-----
----- 81 2,0
-----AGGUAGUAGGUUGCAUAGUUa-----
----- 7 2,0
-----AGGUAGUAGGUUGCAUAGUUU-----
----- 6 2,1
-----CUAUACGACCUGCUGCCU-
----- 9 0,-4
-----CUAUACGACCUGCUGCCUU
----- 22 0,-3
-----CUAUACGACCUGCUGCCUU
U----- 62 0,-2
-----CUAUACGACCUGCUGCCUU
Ua----- 4 0,-2
-----CUAUACGACCUGCUGCCUU
Uaa----- 2 0,-2
-----CUAUACGACCUGCUGCCUU
Uau----- 3 0,-2
-----CUAUACGACCUGCUGCCUU
Uu----- 4 0,-2
-----CUAUACGACCUGCUGCCUU
Uuu----- 4 0,-2
-----CUAUACGACCUGCUGCCUU
UC----- 185 0,-1
-----CUAUACGACCUGCUGCCUU
UCa----- 44 0,-1
-----CUAUACGACCUGCUGCCUU
UCU----- 586 0,0

```

```

-----CUAUACGACCUGCUGCCUU
UCUa--- 7 0,0
-----CUAUACGACCUGCUGCCUU
UCUaa-- 2 0,0
-----CUAUACGACCUGCUGCCUU
UCUU--- 2 0,1
-----UAUACGACCUGCUGCCUU
U----- 4 1,-2
-----UAUACGACCUGCUGCCUU
UC----- 11 1,-1
-----UAUACGACCUGCUGCCUU
UCa---- 9 1,-1
-----UAUACGACCUGCUGCCUU
UCU---- 78 1,0
-----UAUACGACCUGCUGCCUU
UCUUu-- 3 1,1

```

>hsa-let-7e MA:8-29;mi:53-74 SRX018971

```

ccccgggcUGAGGUAGGAGGUUGUAUAGUUGaggaggacaccaaggagaucaCUAUACGGCCUCCUAGCUUUCcagg
((.(((..(((.((((((((((((((((((..(((..(((..)))))))))))))))))))))))).)))..))
-----CUGAGGUAGGAGGUUGUAUAGU-----
3 -1,-1
-----CUGAGGUAGGAGGUUGUAUAGUU-----
16 -1,0
-----CUGAGGUAGGAGGUUGUAUAGUUa-----
2 -1,0
-----CUGAGGUAGGAGGUUGUAUAGUUu-----
2 -1,0
-----UGAGGUAGGAGGUUGUAU-----
79 0,-4
-----UGAGGUAGGAGGUUGUAUA-----
166 0,-3
-----UGAGGUAGGAGGUUGUAUAa-----
17 0,-3
-----UGAGGUAGGAGGUUGUAUAaa-----
9 0,-3
-----UGAGGUAGGAGGUUGUAUAuu-----
2 0,-3

```

```

-----UGAGGUAGGAGGUUGUAUAG-----
617 0,-2
-----UGAGGUAGGAGGUUGUAUAGa-----
34 0,-2
-----UGAGGUAGGAGGUUGUAUAGaa-----
8 0,-2
-----UGAGGUAGGAGGUUGUAUAGau-----
56 0,-2
-----UGAGGUAGGAGGUUGUAUAGU-----
1418 0,-1
-----UGAGGUAGGAGGUUGUAUAGUa-----
76 0,-1
-----UGAGGUAGGAGGUUGUAUAGUaa-----
280 0,-1
-----UGAGGUAGGAGGUUGUAUAGUau-----
57 0,-1
-----UGAGGUAGGAGGUUGUAUAGUU-----
5535 0,0
-----UGAGGUAGGAGGUUGUAUAGUUa-----
1032 0,0
-----UGAGGUAGGAGGUUGUAUAGUUaa-----
271 0,0
-----UGAGGUAGGAGGUUGUAUAGUUau-----
96 0,0
-----UGAGGUAGGAGGUUGUAUAGUUu-----
755 0,0
-----UGAGGUAGGAGGUUGUAUAGUUuu-----
15 0,0
-----UGAGGUAGGAGGUUGUAUAGUUG-----
233 0,1
-----UGAGGUAGGAGGUUGUAUAGUUGu-----
31 0,1
-----UGAGGUAGGAGGUUGUAUAGUUGA-----
35 0,2
-----GAGGUAGGAGGUUGUAUAGUU-----
3 1,0
-----GAGGUAGGAGGUUGUAUAGUUu-----
3 1,0

```

```

-----AGGUAGGAGGUUGUAUAGUU-----
      2    2,0
-----CUAUACGGCCUCCUAGCUUU-----
     13    0,-2
-----CUAUACGGCCUCCUAGCUUUC-----
      6    0,-1
-----CUAUACGGCCUCCUAGCUUUC-----
      3    0,0

```

>hsa-let-7f-1 MA:7-28;mi:63-84 SRX018971

ucagagUGAGGUAGUAGAUUGUAUAGUUGugggguagugauuuuaccugucaggagauaaCUAUACAAUCUAUUGCCU
UCCCUga

```

((((((..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))

```

```

----AGUGAGGUAGUAGAUUGUAU-----
----- 2    -2,-4
----AGUGAGGUAGUAGAUUGUAUAGUU-----
----- 2    -2,0
----GUGAGGUAGUAGAUUGUAUA-----
----- 2    -1,-3
----GUGAGGUAGUAGAUUGUAUAGUUG-----
----- 3    -1,1
----UGAGGUAGUAGAUUGUAU-----
----- 3112    0,-4
----UGAGGUAGUAGAUUGUAUu-----
----- 43    0,-4
----UGAGGUAGUAGAUUGUAUuu-----
----- 107    0,-4
----UGAGGUAGUAGAUUGUAUA-----
----- 21474    0,-3
----UGAGGUAGUAGAUUGUAUAa-----
----- 286    0,-3
----UGAGGUAGUAGAUUGUAUAaa-----
----- 76    0,-3
----UGAGGUAGUAGAUUGUAUAau-----
----- 49    0,-3
----UGAGGUAGUAGAUUGUAUAu-----
----- 41    0,-3

```

-----UGAGGUAGUAGAUUGUAUAuu-----
----- 47 0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
----- 24439 0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
----- 675 0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
----- 85 0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
----- 340 0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
----- 136246 0,-1
-----UGAGGUAGUAGAUUGUAUAGUa-----
----- 1539 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
----- 8309 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
----- 789 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
----- 594379 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
----- 127015 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
----- 13842 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
----- 3219 0,0
-----UGAGGUAGUAGAUUGUAUAGUUG-----
----- 5313 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGa-----
----- 144 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGaa-----
----- 12 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGau-----
----- 5 0,1
-----UGAGGUAGUAGAUUGUAUAGUUGU-----
----- 448 0,2
-----UGAGGUAGUAGAUUGUAUAGUUGUG-----
----- 6 0,3

-----GAGGUAGUAGAUUGUAUA-----
 ----- 39 1,-3
 -----GAGGUAGUAGAUUGUAUAG-----
 ----- 92 1,-2
 -----GAGGUAGUAGAUUGUAUAGa-----
 ----- 2 1,-2
 -----GAGGUAGUAGAUUGUAUAGU-----
 ----- 223 1,-1
 -----GAGGUAGUAGAUUGUAUAGUa-----
 ----- 2 1,-1
 -----GAGGUAGUAGAUUGUAUAGUaa-----
 ----- 68 1,-1
 -----GAGGUAGUAGAUUGUAUAGUau-----
 ----- 2 1,-1
 -----GAGGUAGUAGAUUGUAUAGUU-----
 ----- 2095 1,0
 -----GAGGUAGUAGAUUGUAUAGUUa-----
 ----- 567 1,0
 -----GAGGUAGUAGAUUGUAUAGUUaa-----
 ----- 146 1,0
 -----GAGGUAGUAGAUUGUAUAGUUau-----
 ----- 21 1,0
 -----GAGGUAGUAGAUUGUAUAGUUG-----
 ----- 26 1,1
 -----AGGUAGUAGAUUGUAUAGU-----
 ----- 4 2,-1
 -----AGGUAGUAGAUUGUAUAGUU-----
 ----- 45 2,0
 -----AGGUAGUAGAUUGUAUAGUUa-----
 ----- 15 2,0
 -----AGGUAGUAGAUUGUAUAGUUau-----
 ----- 3 2,0
 -----AGGUAGUAGAUUGUAUAGUUG-----
 ----- 94 2,1
 -----AGGUAGUAGAUUGUAUAGUUGU-----
 ----- 189 2,2
 -----AGGUAGUAGAUUGUAUAGUUGUu-----
 ----- 2 2,2


```

-----AUGAGGUAGUAGAUUGUAUAGUa-----
--- 8   -1,-1
-----AUGAGGUAGUAGAUUGUAUAGUU-----
--- 262 -1,0
-----AUGAGGUAGUAGAUUGUAUAGUUa-----
--- 34   -1,0
-----AUGAGGUAGUAGAUUGUAUAGUUau-----
--- 2     -1,0
-----AUGAGGUAGUAGAUUGUAUAGUUU-----
--- 36   -1,1
-----UGAGGUAGUAGAUUGUAU-----
--- 3112   0,-4
-----UGAGGUAGUAGAUUGUAUu-----
--- 43     0,-4
-----UGAGGUAGUAGAUUGUAUuu-----
--- 107    0,-4
-----UGAGGUAGUAGAUUGUAUA-----
--- 21474   0,-3
-----UGAGGUAGUAGAUUGUAUAa-----
--- 286     0,-3
-----UGAGGUAGUAGAUUGUAUAaa-----
--- 76      0,-3
-----UGAGGUAGUAGAUUGUAUAau-----
--- 49      0,-3
-----UGAGGUAGUAGAUUGUAUAu-----
--- 41      0,-3
-----UGAGGUAGUAGAUUGUAUAuu-----
--- 47      0,-3
-----UGAGGUAGUAGAUUGUAUAG-----
--- 24439   0,-2
-----UGAGGUAGUAGAUUGUAUAGa-----
--- 675     0,-2
-----UGAGGUAGUAGAUUGUAUAGaa-----
--- 85      0,-2
-----UGAGGUAGUAGAUUGUAUAGau-----
--- 340     0,-2
-----UGAGGUAGUAGAUUGUAUAGU-----
--- 136246  0,-1

```

```

-----UGAGGUAGUAGAUUGUAUAGUa-----
--- 1539 0,-1
-----UGAGGUAGUAGAUUGUAUAGUaa-----
--- 8309 0,-1
-----UGAGGUAGUAGAUUGUAUAGUau-----
--- 789 0,-1
-----UGAGGUAGUAGAUUGUAUAGUU-----
--- 594379 0,0
-----UGAGGUAGUAGAUUGUAUAGUUa-----
--- 127015 0,0
-----UGAGGUAGUAGAUUGUAUAGUUaa-----
--- 13842 0,0
-----UGAGGUAGUAGAUUGUAUAGUUau-----
--- 3219 0,0
-----UGAGGUAGUAGAUUGUAUAGUUU-----
--- 52040 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUa-----
--- 64 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUaa-----
--- 21 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUau-----
--- 6 0,1
-----UGAGGUAGUAGAUUGUAUAGUUUU-----
--- 310 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUu-----
--- 2 0,2
-----UGAGGUAGUAGAUUGUAUAGUUUUA-----
--- 14 0,3
-----GAGGUAGUAGAUUGUAUA-----
--- 39 1,-3
-----GAGGUAGUAGAUUGUAUAG-----
--- 92 1,-2
-----GAGGUAGUAGAUUGUAUAGa-----
--- 2 1,-2
-----GAGGUAGUAGAUUGUAUAGU-----
--- 223 1,-1
-----GAGGUAGUAGAUUGUAUAGUa-----
--- 2 1,-1

```



```

---CUGAGGUAGUAGUUUGUAuu-----
----      2   -1,-5
---CUGAGGUAGUAGUUUGUAC-----
----      2   -1,-4
---CUGAGGUAGUAGUUUGUACAG-----
----     33   -1,-2
---CUGAGGUAGUAGUUUGUACAGU-----
----    118   -1,-1
---CUGAGGUAGUAGUUUGUACAGUU-----
----    221   -1,0
---CUGAGGUAGUAGUUUGUACAGUua-----
----      9   -1,0
---CUGAGGUAGUAGUUUGUACAGUUU-----
----      9   -1,1
---UGAGGUAGUAGUUUGUAC-----
----    332   0,-4
---UGAGGUAGUAGUUUGUACu-----
----      6    0,-4
---UGAGGUAGUAGUUUGUACA-----
----    559   0,-3
---UGAGGUAGUAGUUUGUACAa-----
----     68    0,-3
---UGAGGUAGUAGUUUGUACAaa-----
----     12    0,-3
---UGAGGUAGUAGUUUGUACAau-----
----      3    0,-3
---UGAGGUAGUAGUUUGUACAu-----
----      5    0,-3
---UGAGGUAGUAGUUUGUACAUu-----
----      8    0,-3
---UGAGGUAGUAGUUUGUACAG-----
----   3142    0,-2
---UGAGGUAGUAGUUUGUACAGa-----
----     79    0,-2
---UGAGGUAGUAGUUUGUACAGaa-----
----     15    0,-2
---UGAGGUAGUAGUUUGUACAGau-----
----     24    0,-2

```

```

----UGAGGUAGUAGUUUGUACAGU-----
----    19099    0,-1
----UGAGGUAGUAGUUUGUACAGUa-----
----    102    0,-1
----UGAGGUAGUAGUUUGUACAGUaa-----
----    215    0,-1
----UGAGGUAGUAGUUUGUACAGUau-----
----    34    0,-1
----UGAGGUAGUAGUUUGUACAGUU-----
----    55144    0,0
----UGAGGUAGUAGUUUGUACAGUUa-----
----    4678    0,0
----UGAGGUAGUAGUUUGUACAGUUaa-----
----    445    0,0
----UGAGGUAGUAGUUUGUACAGUUau-----
----    126    0,0
----UGAGGUAGUAGUUUGUACAGUUU-----
----    2433    0,1
----UGAGGUAGUAGUUUGUACAGUUUa-----
----    12    0,1
----UGAGGUAGUAGUUUGUACAGUUUaa-----
----    2    0,1
----UGAGGUAGUAGUUUGUACAGUUUu-----
----    42    0,1
----UGAGGUAGUAGUUUGUACAGUUUG-----
----    6    0,2
----UGAGGUAGUAGUUUGUACAGUUUGA-----
----    2    0,3
----GAGGUAGUAGUUUGUACA-----
----    3    1,-3
----GAGGUAGUAGUUUGUACAa-----
----    4    1,-3
----GAGGUAGUAGUUUGUACAG-----
----    10    1,-2
----GAGGUAGUAGUUUGUACAGU-----
----    99    1,-1
----GAGGUAGUAGUUUGUACAGUaa-----
----    2    1,-1

```

```

-----GAGGUAGUAGUUUGUACAGUau-----
----      3      1,-1
-----GAGGUAGUAGUUUGUACAGUU-----
----     525     1,0
-----GAGGUAGUAGUUUGUACAGUUa-----
----      27      1,0
-----GAGGUAGUAGUUUGUACAGUUaa-----
----       7       1,0
-----GAGGUAGUAGUUUGUACAGUUU-----
----      22      1,1
-----AGGUAGUAGUUUGUACAGUU-----
----      10      2,0
-----AGGUAGUAGUUUGUACAGUUU-----
----       5       2,1
-----AACUGUACAGGCCACUGCCUU
u---      4      -2,-2
-----ACUGUACAGGCCACUGCCUU
GC--      2      -1,0
-----CUGUACAGGCCACUGCCUU
GCu-     10      0,0

```

>hsa-let-7i MA:6-27;mi:62-83 SRX018971

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cuggcUGAGGUAGUAGUUUGUGCUGUUGgucgguugugacauugcccguguggagauaaCUGCGCAAGCUACUGCCUU
GCUa

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.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

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```

-----CUGAGGUAGUAGUUUGUGC-----
----      3      -1,-4
-----CUGAGGUAGUAGUUUGUGCU-----
----     19     -1,-3
-----CUGAGGUAGUAGUUUGUGCUG-----
----       3       -1,-2
-----CUGAGGUAGUAGUUUGUGCUGU-----
----       2       -1,-1
-----CUGAGGUAGUAGUUUGUGCUGUU-----
----       2       -1,0
-----UGAGGUAGUAGUUUGUGC-----
----    4464      0,-4

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```

-----UGAGGUAGUAGUUUGUGCa-----
----      5      0,-4
-----UGAGGUAGUAGUUUGUGCaa-----
----      4      0,-4
-----UGAGGUAGUAGUUUGUGCau-----
----      2      0,-4
-----UGAGGUAGUAGUUUGUGCU-----
----    16498      0,-3
-----UGAGGUAGUAGUUUGUGCUau-----
----      2      0,-3
-----UGAGGUAGUAGUUUGUGCUu-----
----      7      0,-3
-----UGAGGUAGUAGUUUGUGCUuu-----
----      4      0,-3
-----UGAGGUAGUAGUUUGUGCUG-----
----    2403      0,-2
-----UGAGGUAGUAGUUUGUGCUGa-----
----     18      0,-2
-----UGAGGUAGUAGUUUGUGCUGaa-----
----      8      0,-2
-----UGAGGUAGUAGUUUGUGCUGU-----
----    2318      0,-1
-----UGAGGUAGUAGUUUGUGCUGUa-----
----     14      0,-1
-----UGAGGUAGUAGUUUGUGCUGUaa-----
----     43      0,-1
-----UGAGGUAGUAGUUUGUGCUGUau-----
----      4      0,-1
-----UGAGGUAGUAGUUUGUGCUGUU-----
----    2829      0,0
-----UGAGGUAGUAGUUUGUGCUGUUa-----
----     482      0,0
-----UGAGGUAGUAGUUUGUGCUGUUaa-----
----     135      0,0
-----UGAGGUAGUAGUUUGUGCUGUUau-----
----     17      0,0
-----UGAGGUAGUAGUUUGUGCUGUUu-----
----    682      0,0

```


86 0,-3
 -----AACCCGUAGAUCCGAACUuu-----
 2 0,-3
 -----AACCCGUAGAUCCGAACUUG-----
 385 0,-2
 -----AACCCGUAGAUCCGAACUUGa-----
 13 0,-2
 -----AACCCGUAGAUCCGAACUUGU-----
 2833 0,-1
 -----AACCCGUAGAUCCGAACUUGUa-----
 8 0,-1
 -----AACCCGUAGAUCCGAACUUGUaa-----
 21 0,-1
 -----AACCCGUAGAUCCGAACUUGUu-----
 8 0,-1
 -----AACCCGUAGAUCCGAACUUGUG-----
 3206 0,0
 -----AACCCGUAGAUCCGAACUUGUGa-----
 2876 0,0
 -----AACCCGUAGAUCCGAACUUGUGaa-----
 185 0,0
 -----AACCCGUAGAUCCGAACUUGUGau-----
 12 0,0
 -----AACCCGUAGAUCCGAACUUGUGu-----
 1384 0,0
 -----AACCCGUAGAUCCGAACUUGUGuu-----
 7 0,0
 -----AACCCGUAGAUCCGAACUUGUGG-----
 11 0,1
 -----ACCCGUAGAUCCGAACUUGU-----
 2 1,-1
 -----ACCCGUAGAUCCGAACUUGUG-----
 3 1,0
 -----ACCCGUAGAUCCGAACUUGUGa-----
 6 1,0
 -----ACCCGUAGAUCCGAACUUGUGaa-----
 3 1,0
 -----ACCCGUAGAUCCGAACUUGUGu-----

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>hsa-mir-101-1   mi:11-32;MA:47-67    SRX018971
ugcccuggcuCAGUUAUCACAGUGCUGAUGCUgucuauucuaaaaggUACAGUACUGUGAUAAACUGAAAggauggca
(((((((.....((((((((((((((((((((((.((((.....))))))))).....))).
-----GGUACAGUACUGUGAUAAACUGAA----- 2
-2,0
-----GUACAGUACUGUGAUAAC----- 516
-1,-4
-----GUACAGUACUGUGAUAACa----- 5
-1,-4
-----GUACAGUACUGUGAUAACU-----
18911      -1,-3
-----GUACAGUACUGUGAUAACUa----- 13
-1,-3
-----GUACAGUACUGUGAUAACUaa----- 42
-1,-3
-----GUACAGUACUGUGAUAACUu----- 4
-1,-3
-----GUACAGUACUGUGAUAAACUG----- 1377
-1,-2
-----GUACAGUACUGUGAUAAACUGu----- 49
-1,-2
-----GUACAGUACUGUGAUAAACUGuu----- 4
-1,-2
-----GUACAGUACUGUGAUAAACUGA-----
21869      -1,-1
-----GUACAGUACUGUGAUAAACUGAu----- 160
-1,-1
-----GUACAGUACUGUGAUAAACUGAA-----
27990      -1,0
-----GUACAGUACUGUGAUAAACUGAAa----- 5900
-1,0
-----GUACAGUACUGUGAUAAACUGAAaa----- 207
-1,0
-----GUACAGUACUGUGAUAAACUGAAau----- 10
-1,0
-----GUACAGUACUGUGAUAAACUGAAu----- 45
```

-1,0			
-----	-GUACAGUACUGUGAUAAACUGAAG-----	14	
-1,1			
-----	-GUACAGUACUGUGAUAAACUGAAGu-----	5	
-1,1			
-----	-GUACAGUACUGUGAUAAACUGAAGG-----	2	
-1,2			
-----	-GUACAGUACUGUGAUAAACUGAAGGA-----	6	
-1,3			
-----	-UACAGUACUGUGAUAAACU-----		
19168	0,-3		
-----	-UACAGUACUGUGAUAAACUa-----	5	
0,-3			
-----	-UACAGUACUGUGAUAAACUaa-----	7	
0,-3			
-----	-UACAGUACUGUGAUAAACUau-----	2	
0,-3			
-----	-UACAGUACUGUGAUAAACUu-----	10	
0,-3			
-----	-UACAGUACUGUGAUAAACUG-----	1738	
0,-2			
-----	-UACAGUACUGUGAUAAACUGu-----	19	
0,-2			
-----	-UACAGUACUGUGAUAAACUGA-----		
25317	0,-1		
-----	-UACAGUACUGUGAUAAACUGAu-----	82	
0,-1			
-----	-UACAGUACUGUGAUAAACUGAuu-----	16	
0,-1			
-----	-UACAGUACUGUGAUAAACUGAA-----		
62216	0,0		
-----	-UACAGUACUGUGAUAAACUGAAa-----		
13709	0,0		
-----	-UACAGUACUGUGAUAAACUGAAaa-----	439	
0,0			
-----	-UACAGUACUGUGAUAAACUGAAau-----	43	
0,0			
-----	-UACAGUACUGUGAUAAACUGAAu-----	468	

0,0	-----UACAGUACUGUGAUAAACUGAAuu-----	10
0,0	-----UACAGUACUGUGAUAAACUGAAG-----	5771
0,1	-----UACAGUACUGUGAUAAACUGAAGu-----	575
0,1	-----UACAGUACUGUGAUAAACUGAAGuu-----	6
0,1	-----UACAGUACUGUGAUAAACUGAAGG-----	32
0,2	-----UACAGUACUGUGAUAAACUGAAGGA-----	5
0,3	-----UACAGUACUGUGAUAAACUGAAGGAU----	3
0,4	-----ACAGUACUGUGAUAAACUG-----	18
1,-2	-----ACAGUACUGUGAUAAACUGA-----	157
1,-1	-----ACAGUACUGUGAUAAACUGAA-----	337
1,0	-----ACAGUACUGUGAUAAACUGAAa-----	122
1,0	-----ACAGUACUGUGAUAAACUGAAaa-----	9
1,0	-----ACAGUACUGUGAUAAACUGAAau-----	4
1,0	-----ACAGUACUGUGAUAAACUGAAu-----	7
1,0	-----ACAGUACUGUGAUAAACUGAAG-----	92
1,1	-----ACAGUACUGUGAUAAACUGAAGu-----	12
1,1	-----CAGUACUGUGAUAAACUGA-----	11
2,-1	-----CAGUACUGUGAUAAACUGAA-----	42
2,0	-----CAGUACUGUGAUAAACUGAAa-----	21

```

2,0
-----CAGUACUGUGUAACUGAAaa----- 2
2,0
-----CAGUACUGUGUAACUGAAG----- 2
2,1
-----CAGUACUGUGUAACUGAAGu----- 5
2,1

>hsa-mir-101-2 3p:49-69 SRX018971
acuguccuuuuucgguaucaugguaccgaugcuguauaucugaaaggUACAGUACUGUGUAACUGAAgaugguggu
((..((.((((((((((((((((((((((.((((.....)))))).)))))))))))))))))))).))..))
-----GGUACAGUACUGUGUAACUGAA-----
2 -2,0
-----GUACAGUACUGUGUAAC-----
516 -1,-4
-----GUACAGUACUGUGUAACa-----
5 -1,-4
-----GUACAGUACUGUGUAACU-----
18911 -1,-3
-----GUACAGUACUGUGUAACUa-----
13 -1,-3
-----GUACAGUACUGUGUAACUaa-----
42 -1,-3
-----GUACAGUACUGUGUAACUu-----
4 -1,-3
-----GUACAGUACUGUGUAACUG-----
1377 -1,-2
-----GUACAGUACUGUGUAACUGu-----
49 -1,-2
-----GUACAGUACUGUGUAACUGuu-----
4 -1,-2
-----GUACAGUACUGUGUAACUGA-----
21869 -1,-1
-----GUACAGUACUGUGUAACUGAu-----
160 -1,-1
-----GUACAGUACUGUGUAACUGAA-----
27990 -1,0
-----GUACAGUACUGUGUAACUGAAa-----

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5900	-1,0	-GUACAGUACUGUGAUAAACUGAAa-
207	-1,0	-GUACAGUACUGUGAUAAACUGAAau-
10	-1,0	-GUACAGUACUGUGAUAAACUGAAu-
45	-1,0	-GUACAGUACUGUGAUAAACUGAAG-
14	-1,1	-GUACAGUACUGUGAUAAACUGAAGu-
5	-1,1	-GUACAGUACUGUGAUAAACUGAAGA-
16	-1,2	-UACAGUACUGUGAUAAACU-
19168	0,-3	-UACAGUACUGUGAUAAACUa-
5	0,-3	-UACAGUACUGUGAUAAACUaa-
7	0,-3	-UACAGUACUGUGAUAAACUau-
2	0,-3	-UACAGUACUGUGAUAAACUu-
10	0,-3	-UACAGUACUGUGAUAAACUG-
1738	0,-2	-UACAGUACUGUGAUAAACUGu-
19	0,-2	-UACAGUACUGUGAUAAACUGA-
25317	0,-1	-UACAGUACUGUGAUAAACUGAu-
82	0,-1	-UACAGUACUGUGAUAAACUGAuu-
16	0,-1	-UACAGUACUGUGAUAAACUGAA-
62216	0,0	-UACAGUACUGUGAUAAACUGAAa-
13709	0,0	-UACAGUACUGUGAUAAACUGAAaa-

439	0,0	-UACAGUACUGUGAUAAACUGAAau-----
43	0,0	-UACAGUACUGUGAUAAACUGAAu-----
468	0,0	-UACAGUACUGUGAUAAACUGAAuu-----
10	0,0	-UACAGUACUGUGAUAAACUGAAG-----
5771	0,1	-UACAGUACUGUGAUAAACUGAAGu-----
575	0,1	-UACAGUACUGUGAUAAACUGAAGuu-----
6	0,1	-UACAGUACUGUGAUAAACUGAAGA-----
1447	0,2	-UACAGUACUGUGAUAAACUGAAGAu-----
12	0,2	-UACAGUACUGUGAUAAACUGAAGAA-----
114	0,3	-UACAGUACUGUGAUAAACUGAAGAAa-----
36	0,3	-ACAGUACUGUGAUAAACUG-----
18	1,-2	-ACAGUACUGUGAUAAACUGA-----
157	1,-1	-ACAGUACUGUGAUAAACUGAA-----
337	1,0	-ACAGUACUGUGAUAAACUGAAa-----
122	1,0	-ACAGUACUGUGAUAAACUGAAaa-----
9	1,0	-ACAGUACUGUGAUAAACUGAAau-----
4	1,0	-ACAGUACUGUGAUAAACUGAAu-----
7	1,0	-ACAGUACUGUGAUAAACUGAAG-----
92	1,1	-ACAGUACUGUGAUAAACUGAAGu-----

12	1,1	-----ACAGUACUGUGAUAAACUGAAGA-----
26	1,2	-----CAGUACUGUGAUAAACUGA-----
11	2,-1	-----CAGUACUGUGAUAAACUGAA-----
42	2,0	-----CAGUACUGUGAUAAACUGAAa-----
21	2,0	-----CAGUACUGUGAUAAACUGAAaa-----
2	2,0	-----CAGUACUGUGAUAAACUGAAG-----
2	2,1	-----CAGUACUGUGAUAAACUGAAGu-----
5	2,1	-----CAGUACUGUGAUAAACUGAAGA-----
24	2,2	-----CAGUACUGUGAUAAACUGAAGAA-----
16	2,3	-----CAGUACUGUGAUAAACUGAAGAAa-----
21	2,3	-----CAGUACUGUGAUAAACUGAAGAAU-----
3	2,4	

>hsa-mir-103-1 3p:48-70 SRX018971

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uacugcccucggcuucuuuacagugcugccuuguugcauauuggaucaAGCAGCAUUGUACAGGGCUAUGAaggcauug
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-----GGCUUCUUUACAGUGCUGCCUUu-----
4
-----GGCUUCUUUACAGUGCUGCCUUG-----
9
-----GGCUUCUUUACAGUGCUGCCUUGa-----
9
-----GGCUUCUUUACAGUGCUGCCUUGU-----
23
-----GCUUCUUUACAGUGCUGCCUUGU-----
2
-----AAGCAGCAUUGUACAGGGCUA-----

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2	-1,-3	-AAGCAGCAUUGUACAGGGCUAU-----
8	-1,-2	-AAGCAGCAUUGUACAGGGCUAUa-----
2	-1,-2	-AAGCAGCAUUGUACAGGGCUAUu-----
2	-1,-2	-AAGCAGCAUUGUACAGGGCUAUG-----
9	-1,-1	-AAGCAGCAUUGUACAGGGCUAUGA-----
7	-1,0	-AGCAGCAUUGUACAGGGC-----
8539	0,-5	-AGCAGCAUUGUACAGGGCa-----
8	0,-5	-AGCAGCAUUGUACAGGGCaa-----
19	0,-5	-AGCAGCAUUGUACAGGGCau-----
10	0,-5	-AGCAGCAUUGUACAGGGCU-----
4851	0,-4	-AGCAGCAUUGUACAGGGCUu-----
53	0,-4	-AGCAGCAUUGUACAGGGCUuu-----
23	0,-4	-AGCAGCAUUGUACAGGGCUA-----
6868	0,-3	-AGCAGCAUUGUACAGGGCUAa-----
1004	0,-3	-AGCAGCAUUGUACAGGGCUAaa-----
209	0,-3	-AGCAGCAUUGUACAGGGCUAau-----
64	0,-3	-AGCAGCAUUGUACAGGGCUAU-----
51305	0,-2	-AGCAGCAUUGUACAGGGCUAUa-----
10012	0,-2	-AGCAGCAUUGUACAGGGCUAUaa-----

1076	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
298	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
1393	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
147	0,-2	-----AGCAGCAUUGUACAGGGCUAUG-----
36434	0,-1	-----AGCAGCAUUGUACAGGGCUAUGu-----
3230	0,-1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
167	0,-1	-----AGCAGCAUUGUACAGGGCUAUGA-----
51142	0,0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
2858	0,0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
78	0,0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
1295	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
55	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAG-----
6	0,2	-----GCAGCAUUGUACAGGGCU-----
4	1,-4	-----GCAGCAUUGUACAGGGCUA-----
16	1,-3	-----GCAGCAUUGUACAGGGCUAU-----
95	1,-2	-----GCAGCAUUGUACAGGGCUAUa-----
17	1,-2	-----GCAGCAUUGUACAGGGCUAUaa-----
4	1,-2	-----GCAGCAUUGUACAGGGCUAUG-----
70	1,-1	-----GCAGCAUUGUACAGGGCUAUGu-----

3	1,-1	-----GCAGCAUUGUACAGGGCUAUGA-----
201	1,0	-----GCAGCAUUGUACAGGGCUAUGAu-----
5	1,0	-----GCAGCAUUGUACAGGGCUAUGAuu-----
5	1,0	-----GCAGCAUUGUACAGGGCUAUGAA-----
9	1,1	-----CAGCAUUGUACAGGGCUA-----
14	2,-3	-----CAGCAUUGUACAGGGCUAU-----
151	2,-2	-----CAGCAUUGUACAGGGCUAUa-----
20	2,-2	-----CAGCAUUGUACAGGGCUAUaa-----
2	2,-2	-----CAGCAUUGUACAGGGCUAUu-----
2	2,-2	-----CAGCAUUGUACAGGGCUAUG-----
156	2,-1	-----CAGCAUUGUACAGGGCUAUGu-----
15	2,-1	-----CAGCAUUGUACAGGGCUAUGA-----
391	2,0	-----CAGCAUUGUACAGGGCUAUGAu-----
8	2,0	-----CAGCAUUGUACAGGGCUAUGAA-----
8	2,1	

>hsa-mir-103-2 mi:11-33;MA:48-70 SRX018971

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uugugcuuucAGCUUCUUUACAGUGCUGCCUUGuagcauucaggucaAGCAGCAUUGUACAGGGCUAUGAaagaacca
..((.((((((((((.((.((((((((((((((((((.....))))).))))))))))))).))))).))))).))..
-----AGCUUCUUUACAGUGCUGC-----
2    0,-4
-----AGCUUCUUUACAGUGCUGCCUUu-----
5    0,-1
-----AGCUUCUUUACAGUGCUGCCUUG-----

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17	0,0	-AGCUUCUUUACAGUGCUGCCUUGa-
22	0,0	-AGCUUCUUUACAGUGCUGCCUUGU-
65	0,1	-GCUUCUUUACAGUGCUGCCUUGU-
2	1,1	-AAGCAGCAUUGUACAGGGCUA-
2	-1,-3	-AAGCAGCAUUGUACAGGGCUAU-
8	-1,-2	-AAGCAGCAUUGUACAGGGCUAUa-
2	-1,-2	-AAGCAGCAUUGUACAGGGCUAUu-
2	-1,-2	-AAGCAGCAUUGUACAGGGCUAUG-
9	-1,-1	-AAGCAGCAUUGUACAGGGCUAUGA-
7	-1,0	-AGCAGCAUUGUACAGGGC-
8539	0,-5	-AGCAGCAUUGUACAGGGCa-
8	0,-5	-AGCAGCAUUGUACAGGGCaa-
19	0,-5	-AGCAGCAUUGUACAGGGCau-
10	0,-5	-AGCAGCAUUGUACAGGGCU-
4851	0,-4	-AGCAGCAUUGUACAGGGCUu-
53	0,-4	-AGCAGCAUUGUACAGGGCUuu-
23	0,-4	-AGCAGCAUUGUACAGGGCUA-
6868	0,-3	-AGCAGCAUUGUACAGGGCUAa-
1004	0,-3	-AGCAGCAUUGUACAGGGCUAaa-

209	0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
64	0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
51305	0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
10012	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
1076	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
298	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
1393	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
147	0,-2	-----AGCAGCAUUGUACAGGGCUAUG-----
36434	0,-1	-----AGCAGCAUUGUACAGGGCUAUGu-----
3230	0,-1	-----AGCAGCAUUGUACAGGGCUAUGuu-----
167	0,-1	-----AGCAGCAUUGUACAGGGCUAUGA-----
51142	0,0	-----AGCAGCAUUGUACAGGGCUAUGAu-----
2858	0,0	-----AGCAGCAUUGUACAGGGCUAUGAuu-----
78	0,0	-----AGCAGCAUUGUACAGGGCUAUGAA-----
1295	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAu-----
55	0,1	-----AGCAGCAUUGUACAGGGCUAUGAAA-----
269	0,2	-----GCAGCAUUGUACAGGGCU-----
4	1,-4	-----GCAGCAUUGUACAGGGCUA-----
16	1,-3	-----GCAGCAUUGUACAGGGCUAU-----

95	1,-2	-GCAGCAUUGUACAGGGCUAUa-----
17	1,-2	-GCAGCAUUGUACAGGGCUAUaa-----
4	1,-2	-GCAGCAUUGUACAGGGCUAUG-----
70	1,-1	-GCAGCAUUGUACAGGGCUAUGu-----
3	1,-1	-GCAGCAUUGUACAGGGCUAUGA-----
201	1,0	-GCAGCAUUGUACAGGGCUAUGAu-----
5	1,0	-GCAGCAUUGUACAGGGCUAUGAuu-----
5	1,0	-GCAGCAUUGUACAGGGCUAUGAA-----
9	1,1	-GCAGCAUUGUACAGGGCUAUGAAA-----
5	1,2	-CAGCAUUGUACAGGGCUA-----
14	2,-3	-CAGCAUUGUACAGGGCUAU-----
151	2,-2	-CAGCAUUGUACAGGGCUAUa-----
20	2,-2	-CAGCAUUGUACAGGGCUAUaa-----
2	2,-2	-CAGCAUUGUACAGGGCUAUu-----
2	2,-2	-CAGCAUUGUACAGGGCUAUG-----
156	2,-1	-CAGCAUUGUACAGGGCUAUGu-----
15	2,-1	-CAGCAUUGUACAGGGCUAUGA-----
391	2,0	-CAGCAUUGUACAGGGCUAUGAu-----
8	2,0	-CAGCAUUGUACAGGGCUAUGAA-----

-----CAGCAUUGUACAGGGCUAUGAAA-----

9 2,2

>hsa-mi r-106a MA:13-35;mi:50-71 SRX018971

ccuuggccauguAAAAGUGCUACAGUGCAGGUAGcuuuugagaucuaCUGCAAUGUAAGCACUUCUACauuaccaug
g

$$((.((((..(((((((((((((((((((((((((.(((((.(((.(.....)).)))))))))..)))))))))..))))).)$$

-----AAAAGUGCUUACAGUGCAG-----

- 8 0,-4

-----AAAAGUGCUUACAGUGCAGG-----

- 6 0,-3

-----AAAAGUGCUUACAGUGCAGGU-----

- 26 0,-2

-----AAAAGUGCUUACAGUGCAGGUA-----

- 30 0,-1

-----AAAAGUGCUUACAGUGCAGGUAa-----

- 5 0, -1

-----AAAAGUGCUUACAGUGCAGGUAu-----

- 4 0, -1

-----AAAAGUGCUUACAGUGCAGGUAG-----

- 11 0,0

-----AAAGUGCUACAGUGCAG-----

- 42 1, -4

-----AAAGUGCUUACAGUGCAGG-----

- 28 1, -3

-----AAAGUGCUUACAGUGCAGGU-----

- 68 1, -2

-----AAAGUGCUUACAGUGCAGGUu-----

- 2 1, -2

-----AAAGUGCUUACAGUGCAGGUA-----

- 73 1, -1

-----AAAGUGCUUACAGUGCAGGUAa-----

- 36 1, -1

-----AAAGUGCUUACAGUGCAGGUAaa-----

- 3 1, -1

-----AAAGUGCUUACAGUGCAGGUAu-----

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- 26 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
- 58 1,0
-----AAAGUGCUUACAGUGCAGGUAGa-----
- 2 1,0

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>hsa-mir-106b MA:12-32;mi:52-73 SRX018971

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ccugccggggcUAAAGUGCUGACAGUGCAGAUagugguccucuccgugcuaCCGCACUGUGGGUACUUGCUGCuccagca
gg

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((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
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-----CUAAAGUGCUGACAGUGCAGAU-----
-- 2 -1,0
-----CUAAAGUGCUGACAGUGCAGAU-----
-- 3 -1,1
-----UAAAGUGCUGACAGUGCA-----
-- 118 0,-3
-----UAAAGUGCUGACAGUGCAa-----
-- 9 0,-3
-----UAAAGUGCUGACAGUGCAu-----
-- 2 0,-3
-----UAAAGUGCUGACAGUGCAG-----
-- 774 0,-2
-----UAAAGUGCUGACAGUGCAGu-----
-- 2 0,-2
-----UAAAGUGCUGACAGUGCAGA-----
-- 396 0,-1
-----UAAAGUGCUGACAGUGCAGAA-----
-- 43 0,-1
-----UAAAGUGCUGACAGUGCAGAAa-----
-- 63 0,-1
-----UAAAGUGCUGACAGUGCAGAAu-----
-- 2 0,-1
-----UAAAGUGCUGACAGUGCAGAU-----
-- 1276 0,0
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 88 0,0
-----UAAAGUGCUGACAGUGCAGAUuu-----

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-- 9 0,0
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-- 1287 0,1
-----UAAAGUGCUGACAGUGCAGAUa-----
-- 670 0,1
-----UAAAGUGCUGACAGUGCAGAUaa-----
-- 17 0,1
-----UAAAGUGCUGACAGUGCAGAUau-----
-- 7 0,1
-----UAAAGUGCUGACAGUGCAGAUu-----
-- 232 0,1
-----UAAAGUGCUGACAGUGCAGAUAG-----
-- 57 0,2
-----UAAAGUGCUGACAGUGCAGAUAGa-----
-- 10 0,2
-----UAAAGUGCUGACAGUGCAGAUAGU-----
-- 11 0,3
-----AAAGUGCUGACAGUGCAG-----
-- 3 1,-2
-----AAAGUGCUGACAGUGCAGA-----
-- 2 1,-1
-----AAAGUGCUGACAGUGCAGAU-----
-- 9 1,1
-----AAAGUGCUGACAGUGCAGAUa-----
-- 2 1,1
-----AAAGUGCUGACAGUGCAGAUau-----
-- 2 1,1
-----AAAGUGCUGACAGUGCAGAUAG-----
-- 4 1,2
-----AAGUGCUGACAGUGCAGAU-----
-- 3 2,1
-----UACCGCACUGUGGGUACUUG-----
-- 2 -2,-4
-----UACCGCACUGUGGGUACUUGa-----
-- 6 -2,-4
-----UACCGCACUGUGGGUACUUGu-----
-- 2 -2,-4
-----UACCGCACUGUGGGUACUUGC-----

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-- 13  -2,-3
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-- 41  -2,-2
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-- 2   -2,-1
-----UACCGCACUGUGGGUACUUGCUGa-----
-- 2   -2,-1
-----UACCGCACUGUGGGUACUUGCUGC-----
-- 6   -2,0
-----ACCGCACUGUGGGUACUUGCUG-----
-- 4   -1,-2
-----ACCGCACUGUGGGUACUUGCUG-----
-- 2   -1,-1
-----ACCGCACUGUGGGUACUUGCUGa-----
-- 2   -1,-1
-----ACCGCACUGUGGGUACUUGCUGC-----
-- 3   -1,0
-----CCGCACUGUGGGUACUUG-----
-- 10  0,-4
-----CCGCACUGUGGGUACUUGC-----
-- 9   0,-3
-----CCGCACUGUGGGUACUUGCUG-----
-- 47  0,-2
-----CCGCACUGUGGGUACUUGCUGa-----
-- 6   0,-2
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 2   0,-2
-----CCGCACUGUGGGUACUUGCUGau-----
-- 3   0,-2
-----CCGCACUGUGGGUACUUGCUG-----
-- 77  0,-1
-----CCGCACUGUGGGUACUUGCUGa-----
-- 158 0,-1
-----CCGCACUGUGGGUACUUGCUGaa-----
-- 30  0,-1
-----CCGCACUGUGGGUACUUGCUGu-----
-- 18  0,-1
-----CCGCACUGUGGGUACUUGCUGC-----

```


- 2	-1,-2	-----AGCAGCAUUGUACAGGGC-----
- 8539	0,-5	-----AGCAGCAUUGUACAGGGCa-----
- 8	0,-5	-----AGCAGCAUUGUACAGGGCaa-----
- 19	0,-5	-----AGCAGCAUUGUACAGGGCau-----
- 10	0,-5	-----AGCAGCAUUGUACAGGGCU-----
- 4851	0,-4	-----AGCAGCAUUGUACAGGGCUu-----
- 53	0,-4	-----AGCAGCAUUGUACAGGGCUuu-----
- 23	0,-4	-----AGCAGCAUUGUACAGGGCUA-----
- 6868	0,-3	-----AGCAGCAUUGUACAGGGCUAa-----
- 1004	0,-3	-----AGCAGCAUUGUACAGGGCUAaa-----
- 209	0,-3	-----AGCAGCAUUGUACAGGGCUAau-----
- 64	0,-3	-----AGCAGCAUUGUACAGGGCUAU-----
- 51305	0,-2	-----AGCAGCAUUGUACAGGGCUAUa-----
- 10012	0,-2	-----AGCAGCAUUGUACAGGGCUAUaa-----
- 1076	0,-2	-----AGCAGCAUUGUACAGGGCUAUau-----
- 298	0,-2	-----AGCAGCAUUGUACAGGGCUAUu-----
- 1393	0,-2	-----AGCAGCAUUGUACAGGGCUAUuu-----
- 147	0,-2	-----AGCAGCAUUGUACAGGGCUAUC-----
- 1774	0,-1	-----AGCAGCAUUGUACAGGGCUAUCu-----

-	136	0,-1	-----AGCAGCAUUGUACAGGGCUAUC-----
-	5926	0,0	-----AGCAGCAUUGUACAGGGCUAUCau-----
-	159	0,0	-----AGCAGCAUUGUACAGGGCUAUCauu-----
-	6	0,0	-----AGCAGCAUUGUACAGGGCUAUCAA-----
-	123	0,1	-----AGCAGCAUUGUACAGGGCUAUCAAu-----
-	2	0,1	-----AGCAGCAUUGUACAGGGCUAUCAAA-----
-	8	0,2	-----GCAGCAUUGUACAGGGCU-----
-	4	1,-4	-----GCAGCAUUGUACAGGGCUA-----
-	16	1,-3	-----GCAGCAUUGUACAGGGCUAU-----
-	95	1,-2	-----GCAGCAUUGUACAGGGCUAUa-----
-	17	1,-2	-----GCAGCAUUGUACAGGGCUAUaa-----
-	4	1,-2	-----GCAGCAUUGUACAGGGCUAUC-----
-	4	1,-1	-----GCAGCAUUGUACAGGGCUAUCA-----
-	2	1,0	-----GCAGCAUUGUACAGGGCUAUCAA-----
-	4	1,1	-----CAGCAUUGUACAGGGCUA-----
-	14	2,-3	-----CAGCAUUGUACAGGGCUAU-----
-	151	2,-2	-----CAGCAUUGUACAGGGCUAUa-----
-	20	2,-2	-----CAGCAUUGUACAGGGCUAUaa-----
-	2	2,-2	-----CAGCAUUGUACAGGGCUAUu-----


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----- 4 0,-1
-----UACCCUGUAGAUCCGAAUUUGUG-----
----- 149 0,0
-----UACCCUGUAGAUCCGAAUUUGUGa-----
----- 74 0,0
-----UACCCUGUAGAUCCGAAUUUGUGU-----
----- 17 0,1
-----ACCCUGUAGAUCCGAAUU-----
----- 2 1,-4
-----ACCCUGUAGAUCCGAAUUU-----
----- 8 1,-3
-----ACCCUGUAGAUCCGAAUUUG-----
----- 19 1,-2
-----ACCCUGUAGAUCCGAAUUUGU-----
----- 233 1,-1
-----ACCCUGUAGAUCCGAAUUUGUu-----
----- 3 1,-1
-----ACCCUGUAGAUCCGAAUUUGUG-----
----- 163 1,0
-----ACCCUGUAGAUCCGAAUUUGUGa-----
----- 241 1,0
-----ACCCUGUAGAUCCGAAUUUGUGaa-----
----- 28 1,0
-----ACCCUGUAGAUCCGAAUUUGUGU-----
----- 87 1,1
-----ACCCUGUAGAUCCGAAUUUGUGUA-----
----- 6 1,2
-----CCCUGUAGAUCCGAAUUUGUGa-----
----- 3 2,0
-----CCCUGUAGAUCCGAAUUUGUGaa-----
----- 4 2,0
-----ACAAUUCGUAUCUAGGGG
AAU----- 3 -1,-1
-----CAAUUCGUAUCUAGGGG
----- 2 0,-4
-----AAAUUCGUAUCUAGGGG
AA----- 2 1,-2
-----AAAUUCGUAUCUAGGGG

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[illegible]

----- 82 0,-1
-----UACCCUGUAGAACCGAAUUUGUau-----
----- 10 0,-1
-----UACCCUGUAGAACCGAAUUUGUu-----
----- 39 0,-1
-----UACCCUGUAGAACCGAAUUUGUG-----
----- 1399 0,0
-----UACCCUGUAGAACCGAAUUUGUGa-----
----- 898 0,0
-----UACCCUGUAGAACCGAAUUUGUGaa-----
----- 79 0,0
-----UACCCUGUAGAACCGAAUUUGUGau-----
----- 7 0,0
-----UACCCUGUAGAACCGAAUUUGUGU-----
----- 848 0,1
-----UACCCUGUAGAACCGAAUUUGUGUa-----
----- 6 0,1
-----UACCCUGUAGAACCGAAUUUGUGUu-----
----- 4 0,1
-----UACCCUGUAGAACCGAAUUUGUGUG-----
----- 11 0,2
-----ACCCUGUAGAACCGAAUU-----
----- 12 1,-4
-----ACCCUGUAGAACCGAAUUU-----
----- 17 1,-3
-----ACCCUGUAGAACCGAAUUUG-----
----- 61 1,-2
-----ACCCUGUAGAACCGAAUUUGa-----
----- 13 1,-2
-----ACCCUGUAGAACCGAAUUUGaa-----
----- 3 1,-2
-----ACCCUGUAGAACCGAAUUUGU-----
----- 735 1,-1
-----ACCCUGUAGAACCGAAUUUGUaa-----
----- 5 1,-1
-----ACCCUGUAGAACCGAAUUUGUG-----
----- 519 1,0
-----ACCCUGUAGAACCGAAUUUGUGa-----

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----- 506 1,0
-----ACCCUGUAGAACCGAAUUUGUGaa-----
----- 75 1,0
-----ACCCUGUAGAACCGAAUUUGUGau-----
----- 7 1,0
-----ACCCUGUAGAACCGAAUUUGUGU-----
----- 955 1,1
-----ACCCUGUAGAACCGAAUUUGUGUa-----
----- 18 1,1
-----ACCCUGUAGAACCGAAUUUGUGUaa-----
----- 2 1,1
-----ACCCUGUAGAACCGAAUUUGUGUu-----
----- 3 1,1
-----ACCCUGUAGAACCGAAUUUGUGUG-----
----- 9 1,2
-----ACCCUGUAGAACCGAAUUUGUGUGu-----
----- 5 1,2
-----CCCUGUAGAACCGAAUUUGU-----
----- 3 2,-1
-----CCCUGUAGAACCGAAUUUGUGa-----
----- 2 2,0
-----ACAGAUUCGAUUCUA
GGGGAA----- 2 0,-1
-----CAGAUUCGAUUCUA
GGGGAA----- 6 1,-1
-----CAGAUUCGAUUCUA
GGGGAAaa----- 2 1,-1
-----CAGAUUCGAUUCUA
GGGGAAU----- 6 1,0
-----AGAUUCGAUUCUA
GGGGA----- 2 2,-2
-----AGAUUCGAUUCUA
GGGGAA----- 2 2,-1
-----AGAUUCGAUUCUA
GGGGAAU----- 8 2,0
-----AGAUUCGAUUCUA
GGGGAAUAU----- 7 2,2

```

```
>hsa-mir-1179 5p:15-35 SRX018971
ggcuggaaaggaagAAGCAUUCUUUCAUUGGUUGGuguguauugccuugucaaccaauaagaggauGCCAUUUauccuuu
ucugacuagcu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.....))))))
-----AAGCAUUCUUUCAUUGGUUGGU-----
----- 3 0,1
```

```
>hsa-mir-1180 3p:41-62 SRX018971
gCugcuggaccaccggcggcgggaauagucuccugguugUUUCCGGCUCGCGUGGGUGUGUcggcggc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GGACCCACCCGGCCGGGAUAG----- 2
```

```
>hsa-mir-1185-1 5p:15-35 SRX018971
uuugguacuugaagAGAGGAUACCCUUGUAUGUUCacuugauuaauggcgaauauacagggggagacucuauuuugcgu
aucaaa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).
-----AGAGGAUACCCUUGUAUGUU-----
----- 3 0,0
-----AGAGGAUACCCUUGUAUGUUC-----
----- 20 0,1
-----AUAUACAGGGGGAGACUCUUAU-----
----- 9
```

```
>hsa-mir-1185-2 5p:15-35 SRX018971
uuugguacuuaaagAGAGGAUACCCUUGUAUGUUCacuugauuaauggcgaauauacagggggagacucuaauuugcgu
aucaaa
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).
-----AGAGGAUACCCUUGUAUGUU-----
----- 3 0,0
-----AGAGGAUACCCUUGUAUGUUC-----
----- 20 0,1
```

```
>hsa-mir-122 MA:15-36;mi:51-72 SRX018971
ccuuagcagagcugUGGAGUGUGACAAUGGUGUUUGugucuaaacuaucaAACGCCAUUAUCACACUAAAUAgcucugc
uaggc
```

-----	UGUGGAGUGUGACAAUGGUGUU	-----
-----	6 -2,-2	
-----	UGUGGAGUGUGACAAUGGUGUUa	-----
-----	4 -2,-2	
-----	UGGAGUGUGACAAUGGUG	-----
-----	664 0,-4	
-----	UGGAGUGUGACAAUGGUGa	-----
-----	9 0,-4	
-----	UGGAGUGUGACAAUGGUGaa	-----
-----	6 0,-4	
-----	UGGAGUGUGACAAUGGUGau	-----
-----	3 0,-4	
-----	UGGAGUGUGACAAUGGUGU	-----
-----	1661 0,-3	
-----	UGGAGUGUGACAAUGGUGUa	-----
-----	49 0,-3	
-----	UGGAGUGUGACAAUGGUGUaa	-----
-----	135 0,-3	
-----	UGGAGUGUGACAAUGGUGUau	-----
-----	17 0,-3	
-----	UGGAGUGUGACAAUGGUGUU	-----
-----	3922 0,-2	
-----	UGGAGUGUGACAAUGGUGUUa	-----
-----	569 0,-2	
-----	UGGAGUGUGACAAUGGUGUUaa	-----
-----	431 0,-2	
-----	UGGAGUGUGACAAUGGUGUUau	-----
-----	35 0,-2	
-----	UGGAGUGUGACAAUGGUGUUU	-----
-----	30463 0,-1	
-----	UGGAGUGUGACAAUGGUGUUUa	-----
-----	1823 0,-1	
-----	UGGAGUGUGACAAUGGUGUUUaa	-----
-----	2348 0,-1	
-----	UGGAGUGUGACAAUGGUGUUUau	-----
-----	601 0,-1	

```

-----UGGAGUGUGACAAUGGUGUUu-----
----- 564 0,-1
-----UGGAGUGUGACAAUGGUGUUuu-----
----- 58 0,-1
-----UGGAGUGUGACAAUGGUGUUUG-----
----- 53550 0,0
-----UGGAGUGUGACAAUGGUGUUUGa-----
----- 59577 0,0
-----UGGAGUGUGACAAUGGUGUUUGaa-----
----- 2412 0,0
-----UGGAGUGUGACAAUGGUGUUUGau-----
----- 879 0,0
-----UGGAGUGUGACAAUGGUGUUUGU-----
----- 24768 0,1
-----UGGAGUGUGACAAUGGUGUUUGUa-----
----- 139 0,1
-----UGGAGUGUGACAAUGGUGUUUGUaa-----
----- 127 0,1
-----UGGAGUGUGACAAUGGUGUUUGUau-----
----- 69 0,1
-----UGGAGUGUGACAAUGGUGUUUGUu-----
----- 106 0,1
-----UGGAGUGUGACAAUGGUGUUUGUuu-----
----- 33 0,1
-----UGGAGUGUGACAAUGGUGUUUGUG-----
----- 30 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGa-----
----- 6 0,2
-----UGGAGUGUGACAAUGGUGUUUGUGU-----
----- 14 0,3
-----GGAGUGUGACAAUGGUGU-----
----- 5 1,-3
-----GGAGUGUGACAAUGGUGUU-----
----- 23 1,-2
-----GGAGUGUGACAAUGGUGUUa-----
----- 2 1,-2
-----GGAGUGUGACAAUGGUGUUU-----
----- 177 1,-1

```



```

-----GGAGUGUGACAAUGGUGUUUa-----
----- 18 1,-1
-----GGAGUGUGACAAUGGUGUUUaa-----
----- 38 1,-1
-----GGAGUGUGACAAUGGUGUUUau-----
----- 2 1,-1
-----GGAGUGUGACAAUGGUGUUUG-----
----- 539 1,0
-----GGAGUGUGACAAUGGUGUUUGa-----
----- 630 1,0
-----GGAGUGUGACAAUGGUGUUUGaa-----
----- 18 1,0
-----GGAGUGUGACAAUGGUGUUUGau-----
----- 14 1,0
-----GGAGUGUGACAAUGGUGUUUGU-----
----- 194 1,1
-----GGAGUGUGACAAUGGUGUUUGUau-----
----- 4 1,1
-----GGAGUGUGACAAUGGUGUUUGUu-----
----- 3 1,1
-----GAGUGUGACAAUGGUGUUUGa-----
----- 5 2,0
-----AAACGCCAUUAUCACACUA-----
----- 2 -1,-4
-----AAACGCCAUUAUCACACUAA-----
----- 12 -1,-3
-----AAACGCCAUUAUCACACUAAu-----
----- 2 -1,-3
-----AAACGCCAUUAUCACACUAAA-----
----- 10 -1,-2
-----AAACGCCAUUAUCACACUAAAU-----
----- 67 -1,-1
-----AAACGCCAUUAUCACACUAAAUA-----
----- 4 -1,0
-----AACGCCAUUAUCACACUAA-----
----- 29 0,-3
-----AACGCCAUUAUCACACUAAuu-----
----- 3 0,-3

```

```

-----AACGCCAUUAUCACACUAAA-----
----- 31 0,-2
-----AACGCCAUUAUCACACUAAAa-----
----- 3 0,-2
-----AACGCCAUUAUCACACUAAAaa-----
----- 3 0,-2
-----AACGCCAUUAUCACACUAAAu-----
----- 358 0,-1
-----AACGCCAUUAUCACACUAAAuu-----
----- 17 0,-1
-----AACGCCAUUAUCACACUAAAuuu-----
----- 2 0,-1
-----AACGCCAUUAUCACACUAAAUA-----
----- 66 0,0
-----AACGCCAUUAUCACACUAAAUAa-----
----- 17 0,0
-----AACGCCAUUAUCACACUAAAUAu-----
----- 28 0,0
-----ACGCCAUUAUCACACUAAAU-----
----- 2 1,-1

```

>hsa-mir-1224 5p:1-19;3p:65-85 SRX018971

GUGAGGACUCGGGAGGUGGagggguggugccgccggggccgggcgcuguuucagcucgcucuccCCCCACCUCCUCUCUC
CUCAG

.(((((((...((((((((((((((((.....)))))).))))))))))....))
))))).

```

GUGAGGACUCGGGAGGUGGAa-----
----- 3 0,1
GUGAGGACUCGGGAGGUGGAaa-----
----- 3 0,1
GUGAGGACUCGGGAGGUGGAG-----
----- 2 0,2
GUGAGGACUCGGGAGGUGGAGa-----
----- 5 0,2

```

>hsa-mir-1226 mi:1-26;MA:54-75 SRX018971

GUGAGGGCAUGCAGGCCUGGAUGGGGcagcugggaugguccaaaaggguggccUCACCAGCCCUGUGUCCCCUAG
...(((((((.((((((((((((((((.....)))))).))))))))))....))..

```

-----UCACCAGCCCUGUGUUCC---- 3
0,-4
-----UCACCAGCCCUGUGUUCCC--- 5
0,-3
-----UCACCAGCCCUGUGUUCCCU-- 6
0,-2
-----UCACCAGCCCUGUGUUCCCUAau
3 0,-1
-----UCACCAGCCCUGUGUUCCCUAG 12
0,0
-----UCACCAGCCCUGUGUUCCCUAGa
4 0,0
-----UCACCAGCCCUGUGUUCCCUAGaa
2 0,0
-----UCACCAGCCCUGUGUUCCCUAGu
20 0,0

```

>hsa-mir-1227 3p:69-88 SRX018971

guggggccaggcgugggggacugcugggggugggcacagcagccaugcagagcgggcauuugaccCGUGCCACCCUU
UCCCCAG

```

.....(((((((.....)))))))))..
.....

```

```

-----CGUGCCACCCUU
UCCCC-- 3 0,-2
-----CGUGCCACCCUU
UCCCCAG 7 0,0
-----CGUGCCACCCUU
UCCCCAGa 5 0,0
-----CGUGCCACCCUU
UCCCCAGu 2 0,0

```

>hsa-mir-1228 mi:1-21;MA:52-71 SRX018971

GUGGGCGGGGCGAGGUGUGUGgugggguggggccugcgugagcagggcccUCACACCUGCCUGCCCCCag

```

..(((((((.....)))))))))..

```

```

-----UCACACCUGCCUGCCCCCA- 2
0,1

```

>hsa-mir-1229 3p:47-69 SRX018971

guggguaggguuugggggagagcgugggcuggggguucagggacacCUCUACCACUGCCCUCCCACAG			
(((((.((((.((((.((((.((((.((((.(.....)))...)))...)))...)))...)))...)))...))..			
-----CUCUACCACUGCCCUCCCA---	3	0,-3	
-----CUCUACCACUGCCCUCCCAC--	5	0,-2	
-----CUCUACCACUGCCCUCCCACA-	7	0,-1	
-----CUCUACCACUGCCCUCCCACAa	3	0,-1	
-----CUCUACCACUGCCCUCCCACAG	8	0,0	
-----CUCUACCACUGCCCUCCCACAGa	4	0,0	
-----CUCUACCACUGCCCUCCCACAGu	4	0,0	
-----UCUACCACUGCCCUCCCA---	2	1,-3	
-----UCUACCACUGCCCUCCCACAG	2	1,0	

>hsa-mir-1236 3p:81-102 SRX018971

gugagugacaggggaaaugggggauggacuggaagugggcagcauggagcugaccuucacauaggcuuggccaacauaaug
CCUCUUCCCCUUGUCUCUCCAG
(.(((.(((((((((.(((.....
)))))))).)))).))..
-UGAGUGACAGGGGAAAUG-----
----- 2
-UGAGUGACAGGGGAAAUGGaa-----
----- 2
-UGAGUGACAGGGGAAAUGGGGAUa-----
----- 2

>hsa-mi r-124-1 mi:14-35;MA:53-72 SRX018971

agggccucucucucCGUGUUCACAGCGGACCUUGAUuuaaauguccauacaauUAAGGCACGCGGUGAAUGCCaagaagg
ggcug
(((((((..(((..(((((((.((((..(((((((.....))))))))..))).)))))))).))))).
))).).
-----UAAGGCACGCGGUGAAUG-----
----- 2 0,-2
-----UAAGGCACGCGGUGAAUGCCAA-----
----- 3 0,2

>hsa-mi r-124-2 mi:25-46;MA:62-81 SRX018971

aucaagauuagaggcucugcucucCGUGUUCACAGCGGACCUUGAUuuaaugucauacaauUAAGGCACGCGGUGAAUGC
Caagagcggagccuacggcugcacuugaa
(((((((.....)))))))).))))))

```

..))))))))))....)))).))))).
-----UAAGGCACGCGGUGAAUG-
----- 2 0,-2
-----UAAGGCACGCGGUGAAUGC
CAA----- 3 0,2

```

```

>hsa-mir-124-3 mi:15-36;MA:53-72 SRX018971
ugagggccccucugCGUGUUCACAGCGGACCUUGAUuuuaugucuauacaauUAAGGCACGCGGUGAAUGCCaagagagg
cgccucc
.(((((((.(((((.(((((((.(((.(((((((.....)))))))).))))).))))).))))).
).))))).
-----UAAGGCACGCGGUGAAUG-----
----- 2 0,-2
-----UAAGGCACGCGGUGAAUGCCAA-----
----- 3 0,2

```

```

>hsa-mir-1243 5p:5-26 SRX018971
cuaaAACUGGAUCAUUAUAGGAGUGaaauaaagguccaucuccugccuauuuuuuuacuuugcuuugguaauaaaucau
uuuuuuuagaacc
.(((((((.(((((.(((((((.(((.(((((((.....)))))))).))))).))))).))))).
))))).
---AAACUGGAUCAUUAUAGGAG-----
----- 4 -1,-2

```

```

>hsa-mir-1244-1 3p:55-80 SRX018971
aucuuauuccgagcauuccaguaacuuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((((((.(((((((.(((((((.....)))))))).))))).))))).))))).
.....
---UUAUUCCGAGCAUUCAGUAA-----
----- 3

```

```

>hsa-mir-1244-2 3p:55-80 SRX018971
aucuuauuccgagcauuccaguaacuuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((((((.(((((((.(((((((.....)))))))).))))).))))).))))).
.....
---UUAUUCCGAGCAUUCAGUAA-----

```

```
>hsa-mir-1244-3 3p:55-80      SRX018971
aucuuauuccgagcauuccaguaacuuuuuuguguauguacuagcuguacuauAAGUAGUUGGUUUGUAUGAGAUGGUU
aaaaa
(((((((.....(((..(((..(((.....(((.((((.....)))))))))))).))))).)))))))).....
.....
---UUAUUCGAGCAUCCAGUAA-----
----- 3
```

```

>hsa-mir-1248    5p:4-30 SRX018971
uuuACCUUCUUGUAUAAGCACUGUGCUAAaauugcagacacuaggaccaugucuugguuuuugcaauaauugcuagcagag
uacacacaagaagaaaaguaacagca
.....((((((((((.....(.(((.(((((((.....((((((((((.....)))))))))).))))))))).))
).).)))))))))).))))))))).))))))))).))))))))).))))))))).))))))))).))))))))).))))
--UACCUUCUUGUAUAAGCACUGUGC-----
-----          3      -1,-4
--ACCUUCUUGUAUAAGCACUGUG-----
-----          4      0,-5
--ACCUUCUUGUAUAAGCACUGUGC-----
-----          4      0,-4
--ACCUUCUUGUAUAAGCACUGUGCa-----
-----          2      0,-4
--ACCUUCUUGUAUAAGCACUGUGCU-----
-----          9      0,-3
--ACCUUCUUGUAUAAGCACUGUGCUA-----
-----         18      0,-2
--CCUUCUUGUAUAAGCACUGUGCUAA-----
-----          2      1,-1
-----CUUCUUGUAUAAGCACUGUGCUAAA-----

```

----- 5 2,0

>hsa-mir-1249 3p:41-62 SRX018971

gggaggagggaggagauggggccaaguuccucuggcuggaACGCCCUCCCCCCCUCUUCAccug

.(((((((((((.(.((.((((...(((((.)))))))))..)).)))))))))...)

-----ACGCCCUUCCCCCCCUCU----- 2 0,-3

-----ACGCCCUUCCCCCCCUCUU----- 2 0,-2

-----ACGCCCUUCCCCCCCUCUUC----- 5 0, -1

-----ACGCCCUCCCCCCCUCUUC_u----- 2 0, -1

-----ACGCCC UCCCCCCC UCUUCA----- 18 0,0

-----ACGCCCUCCCCCCCUCUUCaA--- 4 0,0

>hsa-mir-1250 5p:24-44 SRX018971

cugucccgcuaggccuggcaggugACGGUGCUGGAUGUGGCCUUUuugccuuuucuaaaggccacauuuuccagcccauuc

aaccuuccagagcccucugaaguggccacaggc

.)))).)))).)))).)))).)))). .

-----ACGGUGCUGGAUGUGGCCU-----

----- 5 0,-2

-----ACGGUGCUGGAUGUGGCCUa-----

----- 3 0,-1

-----ACGGUGCUGGAUGUGGCCUUU-----

----- 5 0,0

-----ACGGUGCUGGAUGUGGCCUUU_{aa}-----

----- 2 0,0

-----ACGGUGCUGGAUGUGGCCUUU-----

----- 4 0,1

-----AGGCCACAUUUCCAGCCCAU-----

----- 2

-----AGGCCACAUUUCCAGCCCAUa-

----- 2

-----AGGCCACAUUUCCAGCCCAUU-----

 16

>hsa-mir-1251 5p:5-25 SRX018971

guggACUCUAGCUGCCAAAGGCGCUucuccuucugaacagagcgcuuugcucagccaguguagacauggc

$$(((\dots((\dots(((\dots(((\dots((((\dots(((\dots(\dots))\dots)))\dots))))\dots)\dots))\dots))\dots)\dots)\dots)$$

---ACUCUAGCUGCCAAAGGCGCUU----- 2 0,1

---AGAAGGAAAUUGAAUUCAU-----	3	0,-3
---AGAAGGAAAUUGAAUUCAUU-----	6	0,-2
---AGAAGGAAAUUGAAUUCAUUU-----	36	0,-1
---AGAAGGAAAUUGAAUUCAUUUA-----	9	0,0
----AGAAGGAAAUUGAAUUCAUUUAa-----	3	0,0

-----AGCCUGGAAGCUGGAGCCU-----
 -----2 0,-5
 -----AGCCUGGAAGCUGGAGCCUGCAGU-----
 -----2 0.0

-----AGGAUGAGCAAAGAAAGU-----
 -----37 0,-5-----
 -----AGGAUGAGCAAAGAAAGUA-----
 -----30 0,-4-----
 -----AGGAUGAGCAAAGAAAGUAG-----
 -----45 0,-3-----
 -----AGGAUGAGCAAAGAAAGUAGA-----
 -----32 0,-2-----
 -----AGGAUGAGCAAAGAAAGUAGaa-----
 -----7 0,-2-----
 -----AGGAUGAGCAAAGAAAGUAGaaa-----
 -----7 0,-2-----
 -----AGGAUGAGCAAAGAAAGUAGAU-----


```

----- 94 0,-1
-----AGGAUGAGCAAAGAAAGUAGAUa-----
----- 40 0,-1
-----AGGAUGAGCAAAGAAAGUAGAUaa-----
----- 2 0,-1
-----AGGAUGAGCAAAGAAAGUAGAUU-----
----- 184 0,0
-----AGGAUGAGCAAAGAAAGUAGAUUa-----
----- 7 0,0
-----AGGAUGAGCAAAGAAAGUAGAUUU-----
----- 7 0,1
-----AACUAUCUUCUUUG
CUCAUCCUU----- 3

```

>hsa-mir-1255b-1 5p:3-24 SRX018971

```

uaCGGAUGAGCAAAGAAAGUGGUUucuuaaaauggaauacuucuuugugaagaugcugugaa
(((((((((.....)))))))))..
--CGGAUGAGCAAAGAAAGU----- 3 0,-4
--CGGAUGAGCAAAGAAAGUGGU----- 15 0,-1
--CGGAUGAGCAAAGAAAGUGGUa----- 9 0,-1
--CGGAUGAGCAAAGAAAGUGGUaa----- 5 0,-1
--CGGAUGAGCAAAGAAAGUGGUau----- 2 0,-1
--CGGAUGAGCAAAGAAAGUGGUU----- 121 0,0
--CGGAUGAGCAAAGAAAGUGGUUaa----- 10 0,0
--CGGAUGAGCAAAGAAAGUGGUUU----- 7 0,1
---GGAUGAGCAAAGAAAGUGGUU----- 2 1,0

```

>hsa-mir-1255b-2 5p:6-27 SRX018971

```

ucuuaCGGAUGAGCAAAGAAAGUGGUUugcgccucaagaaaccacuucuuugcucauccauaagga
(((((((((.....)))))))))..
-----CGGAUGAGCAAAGAAAGU----- 3 0,-4
-----CGGAUGAGCAAAGAAAGUGGU----- 15 0,-1
-----CGGAUGAGCAAAGAAAGUGGUa----- 9 0,-1
-----CGGAUGAGCAAAGAAAGUGGUaa----- 5 0,-1
-----CGGAUGAGCAAAGAAAGUGGUau----- 2 0,-1
-----CGGAUGAGCAAAGAAAGUGGUU----- 121 0,0
-----CGGAUGAGCAAAGAAAGUGGUUaa----- 10 0,0
-----CGGAUGAGCAAAGAAAGUGGUUU----- 7 0,1

```

-----GGAUGAGCAAAGAAAGUGGUU----- 2 1,0

>hsa-mir-1256 5p:35-56 SRX018971

agucagccuguugaagcuugaagcuugaugccAGGCAUUGACUUCACUAGCUgugaaaguccuagcuaaagagaag
ucaaugcaugacaucuuguuucaauagauggcuguuuca

((((((..((((((((((.....((((.(.(.((((((((((((((..((((((.(.....).))))))..))))))
))))))).)).))))...)))))))).)).))))......

-----AGGCAUUGACUUCUCACUAGCU-----

----- 3 0,0

-----CUAAAGAGAAG

UCAAUGCAU_a----- 3

-----CUAAAGAGAAG

UCAAUGCAUG----- 4

-----CUAAAGAGAAG

UCAAUGCAUGA----- 4

>hsa-mi r-125a 5p:15-38;3p:53-74 SRX018971

ugccagucucuaggUCCCUGAGACCCUUAACCUGUGAggacauccaggguACAGGUGAGGUUCUUGGGAGCCuggcgu
cuggcc

$$\begin{aligned} & .(((((.(((((..((.((((..((((((((((\dots))\dots)))))))))..))..))))).) \\ &)))). \end{aligned}$$

-----UCCCUGAGACCCUUUAACC-----

----- 146 0,-5

-----UCCCUGAGACCCUUUAACCU-----

----- 1527 0,-4

-----UCCCUGAGACCCUUUAACCU_a-----

----- 4 0, -4

-----UCCCUGAGACCCUUUAACCUG-----

----- 187 0,-3

-----UCCCUGAGACCCUUUAACCUGa-----

----- 4 0, -3

-----UCCCUGAGACCCUUAACCUGU-----

----- 184 0, -2

-----UCCCUGAGACCCUUAACCUGUa-----

----- 3 0, -2

-----UCCCUGAGACCCUUAACCUGUu-----

----- 5 0, -2

-----UCCCUGAGACCCUUAACCUGUG-----

.((((..((((((.((((((((((((.((((((((.(...(((....)))..).)))))))).)))))))).))))).
)))).

-----	ACAUAUUACUUUUGGUACGCG-----	
-----	5	-1,0
-----	ACAUAUUACUUUUGGUACGCGa-----	
-----	3	-1,0
-----	CAUAUUACUUUUGGUAC-----	
-----	66	0,-3
-----	CAUAUUACUUUUGGUACG-----	
-----	32	0,-2
-----	CAUAUUACUUUUGGUACGa-----	
-----	6	0,-2
-----	CAUAUUACUUUUGGUACGCG-----	
-----	50	0,-1
-----	CAUAUUACUUUUGGUACGCGa-----	
-----	4	0,-1
-----	CAUAUUACUUUUGGUACGCGau-----	
-----	3	0,-1
-----	CAUAUUACUUUUGGUACGCG-----	
-----	446	0,0
-----	CAUAUUACUUUUGGUACGCGGa-----	
-----	195	0,0
-----	CAUAUUACUUUUGGUACGCGGaa-----	
-----	6	0,0
-----	CAUAUUACUUUUGGUACGCGGu-----	
-----	86	0,0
-----	CAUAUUACUUUUGGUACGCGCG-----	
-----	20	0,1
-----	CAUAUUACUUUUGGUACGCGCU-----	
-----	9	0,2
-----	AUAUUACUUUUGGUACG-----	
-----	5	1,-2
-----	AUAUUACUUUUGGUACGCG-----	
-----	4	1,-1
-----	AUAUUACUUUUGGUACGCG-----	
-----	20	1,0
-----	AUAUUACUUUUGGUACGCGGa-----	

```

----- 14 1,0
-----AUAUUACUUUUGGUACGCGu-----
----- 11 1,0
-----AUAUUACUUUUGGUACGCGC-----
----- 3 1,1
-----AUAUUACUUUUGGUACGCGCU-----
----- 60 1,2
-----AUAUUACUUUUGGUACGCGCUa-----
----- 6 1,2
-----AUAUUACUUUUGGUACGCGCUu-----
----- 5 1,2
-----UAUUACUUUUGGUACGCGCUau-----
----- 2 2,2
-----CUCGUACCGUGAGUAAUAAU-----
----- 4 -1,-3
-----CUCGUACCGUGAGUAAUAAUa-----
----- 2 -1,-3
-----CUCGUACCGUGAGUAAUAAUG-----
----- 6 -1,-2
-----CUCGUACCGUGAGUAAUAAUGa-----
----- 2 -1,-2
-----CUCGUACCGUGAGUAAUAAUGC-----
----- 23 -1,-1
-----CUCGUACCGUGAGUAAUAAUGCG-----
----- 3 -1,0
-----UCGUACCGUGAGUAAUAA-----
----- 6 0,-4
-----UCGUACCGUGAGUAAUAAU-----
----- 25 0,-3
-----UCGUACCGUGAGUAAUAAUa-----
----- 6 0,-3
-----UCGUACCGUGAGUAAUAAUG-----
----- 38 0,-2
-----UCGUACCGUGAGUAAUAAUGa-----
----- 27 0,-2
-----UCGUACCGUGAGUAAUAAUGaa-----
----- 15 0,-2
-----UCGUACCGUGAGUAAUAAUGC-----

```

-----	80	0,-1	-----UCGUACCGUGAGUAAUAAUGCG-----
-----	75	0,0	-----UCGUACCGUGAGUAAUAAUGCGa-----
-----	36	0,0	-----UCGUACCGUGAGUAAUAAUGCGu-----
-----	10	0,0	-----CGUACCGUGAGUAAUAAU-----
-----	4	1,-3	-----CGUACCGUGAGUAAUAAUa-----
-----	6	1,-3	-----CGUACCGUGAGUAAUAAUG-----
-----	32	1,-2	-----CGUACCGUGAGUAAUAAUGa-----
-----	3	1,-2	-----CGUACCGUGAGUAAUAAUGaa-----
-----	4	1,-2	-----CGUACCGUGAGUAAUAAUGC-----
-----	68	1,-1	-----CGUACCGUGAGUAAUAAUGCG-----
-----	83	1,0	-----CGUACCGUGAGUAAUAAUGCGa-----
-----	34	1,0	-----CGUACCGUGAGUAAUAAUGCGaa-----
-----	5	1,0	-----CGUACCGUGAGUAAUAAUGCGu-----
-----	13	1,0	-----CGUACCGUGAGUAAUAAUGCGuu-----
-----	2	1,0	-----GUACCGUGAGUAAUAAUG-----
-----	6	2,-2	-----GUACCGUGAGUAAUAAUGC-----
-----	14	2,-1	-----GUACCGUGAGUAAUAAUGCG-----
-----	14	2,0	-----GUACCGUGAGUAAUAAUGCGa-----
-----	7	2,0	

>hsa-mir-1260b 5p:10-28 SRX018971

ucuccguuuAUCCCACCACUGCCACCAUuauugcuacuguucagcaggugcugcugguggugaugggugauagucuggugg
gggcggugg

.(.(((...(((((((((((.((((((((((...(((.....((((.....))))).)))..)))))))).))))).))))))
)))))).).

-----AUCCCACCACUGCCACCA-----
----- 5 0,-1
-----AUCCCACCACUGCCACCAUa-----
----- 3 0,0

>hsa-mir-1266 5p:13-35 SRX018971

acagguagugucCCUCAGGGCUGUAGAACAGGGCUgggauuacuaaagcccuguucuaugcccugagggacacugagcau
guca

(((.(((((((((((((((((((.((((((((((((((((((((.....))..)))))))))..)))))))))..))))))..))..
))..

-----CCUCAGGGCUGUAGAACAGG-----
---- 4 0,-3
-----CCUCAGGGCUGUAGAACAGGG-----
---- 5 0,-2
-----CCUCAGGGCUGUAGAACAGGGaa-----
---- 4 0,-2
-----CCUCAGGGCUGUAGAACAGGGC-----
---- 4 0,-1
-----CCUCAGGGCUGUAGAACAGGGCa-----
---- 2 0,-1
-----CCUCAGGGCUGUAGAACAGGGCaa-----
---- 4 0,-1
-----CCUCAGGGCUGUAGAACAGGGCau-----
---- 9 0,-1
-----CCUCAGGGCUGUAGAACAGGGCU-----
---- 16 0,0
-----CCUCAGGGCUGUAGAACAGGGCUa-----
---- 2 0,0
-----CCUCAGGGCUGUAGAACAGGGCUaa-----
---- 4 0,0
-----CCUCAGGGCUGUAGAACAGGGCUau-----
---- 11 0,0
-----CCUCAGGGCUGUAGAACAGGGCUu-----


```

----      12   0,0
-----CCUCAGGGCUGUAGAACAGGGCUuu-----
----      4   0,0
-----CUCAGGGCUGUAGAACAGGGCUu-----
----      2   1,0

```

>hsa-mir-1269 3p:67-88 SRX018971

```

uggauugccuagaccaggaagccaguuggcauggcucaguccaagucugaccaccugaggaaugcCUGGACUGAGCCGU
GCUACUGGcuucccuggucuccagc
((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))..
-----AGUUGGCAUGGCUCAGUCCAAG-----
-----      2

```

>hsa-mir-127 5p:23-44;3p:57-78 SRX018971

```

ugugaucacugucuccagccugCUGAAGCUCAGAGGGCUCUGAUucagaaagaucaUCGGAUCCGUCUGAGCUUGGCUgg
ucggaagucucaucauc
((.(((...(((...((((.....((((((((((((((((((((((((((((((((((((((((((((
.))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..))))..
-----UGCUGAAGCUCAGAGGGCUCU-----
-----      2   -2,-3
-----CUGAAGCUCAGAGGGCUC-----
-----      6   0,-4
-----CUGAAGCUCAGAGGGCUCU-----
-----      8   0,-3
-----CUGAAGCUCAGAGGGCUCUGA-----
-----      6   0,-1
-----UCGGAUCCGUCUGAGCUUGGaa--
-----      4   0,-2
-----UCGGAUCCGUCUGAGCUUGGC--
-----     10   0,-1
-----UCGGAUCCGUCUGAGCUUGGCa--
-----     10   0,-1
-----UCGGAUCCGUCUGAGCUUGGCaa-
-----      5   0,-1
-----UCGGAUCCGUCUGAGCUUGGCau-
-----     31   0,-1
-----UCGGAUCCGUCUGAGCUUGGCU--

```


(((((...(((.(((.(.(.((((((((((((((((...)))..).)))..)))..)))..)))..)))..))..)

-----UAAAGAGCCCUGUGGAGA-----
--- 4 0,-2
-----UAAAGAGCCCUGUGGAGAC-----
--- 3 0,-1
-----UAAAGAGCCCUGUGGAGACA-----
--- 20 0,0
-----UAAAGAGCCCUGUGGAGACAa-----
--- 4 0,0
-----UAAAGAGCCCUGUGGAGACAC-----
--- 10 0,1
-----UAAAGAGCCCUGUGGAGACACaa-----
--- 2 0,1
-----UAAAGAGCCCUGUGGAGACACC-----
--- 20 0,2
-----UAAAGAGCCCUGUGGAGACACCau-----
--- 2 0,2
-----UAAAGAGCCCUGUGGAGACACCU-----
--- 2 0,3

>hsa-mir-1277 3p:47-68 SRX018971

accucccaauauauauauauauguacguauguguauauaaauguaUACGUAGAUUAUAUGUAUUUUugguggguuu
(((...(((.(((((((((((((.((((((((...(.)))))))).)))))))).))))))..))..)

-----AUACGUAGAUUAUAUGU-----
3 -1,-5
-----AUACGUAGAUUAUAUGUAU-----
2 -1,-3
-----AUACGUAGAUUAUAUGUAUU-----
2 -1,-2
-----AUACGUAGAUUAUAUGUAUUU-----
2 -1,-1
-----UACGUAGAUUAUAUGUA-----
2 0,-4
-----UACGUAGAUUAUAUGUAU-----
5 0,-3
-----UACGUAGAUUAUAUGUAUa-----
3 0,-3


```

-----GUAGUACUGUGCAUAUCAUa-----
- 2 -1,-4
-----GUAGUACUGUGCAUAUCAUCU-----
- 14 -1,-2
-----GUAGUACUGUGCAUAUCAUCUA-----
- 9 -1,-1
-----GUAGUACUGUGCAUAUCAUCUAU-----
- 2 -1,0
-----UAGUACUGUGCAUAUCAU-----
- 12 0,-4
-----UAGUACUGUGCAUAUCAUa-----
- 27 0,-4
-----UAGUACUGUGCAUAUCAUC-----
- 6 0,-3
-----UAGUACUGUGCAUAUCAUCU-----
- 161 0,-2
-----UAGUACUGUGCAUAUCAUCUA-----
- 58 0,-1
-----UAGUACUGUGCAUAUCAUCUAa-----
- 17 0,-1
-----UAGUACUGUGCAUAUCAUCUAU-----
- 851 0,0
-----UAGUACUGUGCAUAUCAUCUAUa-----
- 16 0,0
-----UAGUACUGUGCAUAUCAUCUAUaa-----
- 6 0,0
-----UAGUACUGUGCAUAUCAUCUAUau-----
- 2 0,0
-----UAGUACUGUGCAUAUCAUCUAUu-----
- 17 0,0
-----AGUACUGUGCAUAUCAUCU-----
- 2 1,-2
-----AGUACUGUGCAUAUCAUCUAU-----
- 2 1,0

```

>hsa-mir-128-1 3p:50-70 SRX018971

ugagcguugggauucggggccguagcacugucugagagguuuacauuucUCACAGUGAACCGGUCUCUUUuucagcugcu
uc


```

-----UCACAGUGAACCGGUCUCUUUa-----
-- 1655 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
-- 994 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
-- 329 0,0
-----UCACAGUGAACCGGUCUCUUUU-----
-- 1050 0,1
-----UCACAGUGAACCGGUCUCUUUUa-----
-- 80 0,1
-----UCACAGUGAACCGGUCUCUUUUaa-----
-- 18 0,1
-----UCACAGUGAACCGGUCUCUUUUau-----
-- 21 0,1
-----UCACAGUGAACCGGUCUCUUUUU-----
-- 47 0,2
-----UCACAGUGAACCGGUCUCUUUUUa-----
-- 4 0,2
-----UCACAGUGAACCGGUCUCUUUUUaa-----
-- 3 0,2
-----CACAGUGAACCGGUCUCUUU-----
-- 2 1,0
-----CACAGUGAACCGGUCUCUUUaa-----
-- 2 1,0
-----ACAGUGAACCGGUCUCUU-----
-- 7 2,-1
-----ACAGUGAACCGGUCUCUUaa-----
-- 2 2,-1
-----ACAGUGAACCGGUCUCUUau-----
-- 3 2,-1
-----ACAGUGAACCGGUCUCUUU-----
-- 81 2,0
-----ACAGUGAACCGGUCUCUUUa-----
-- 20 2,0
-----ACAGUGAACCGGUCUCUUUaa-----
-- 17 2,0
-----ACAGUGAACCGGUCUCUUUau-----
-- 4 2,0

```

```

-----ACAGUGAACCGGUCUCUUUU-----
-- 21 2,1
-----ACAGUGAACCGGUCUCUUUUa-----
-- 4 2,1

>hsa-mir-128-2 3p:52-72 SRX018971
ugugcagugggaagggggccgauacacuguacgagagugaguagcaggucUCACAGUGAACCGGUCUCUUUcccuacug
uguc
.(..(((((((.(((((((((((...(((((((.(((((. ....).)))))))))))).)))))))).))))))
..).
-----UCUCACAGUGAACCGGUCUCUUUa-----
---- 2 -2,0
-----CUCACAGUGAACCGGUCUCU-----
---- 2 -1,-2
-----CUCACAGUGAACCGGUCUCUUU-----
---- 10 -1,0
-----CUCACAGUGAACCGGUCUCUUUa-----
---- 6 -1,0
-----UCACAGUGAACCGGUCUC-----
---- 100 0,-3
-----UCACAGUGAACCGGUCUCa-----
---- 5 0,-3
-----UCACAGUGAACCGGUCUCaa-----
---- 2 0,-3
-----UCACAGUGAACCGGUCUCU-----
---- 357 0,-2
-----UCACAGUGAACCGGUCUCUa-----
---- 7 0,-2
-----UCACAGUGAACCGGUCUCUaa-----
---- 53 0,-2
-----UCACAGUGAACCGGUCUCUau-----
---- 24 0,-2
-----UCACAGUGAACCGGUCUCUU-----
---- 701 0,-1
-----UCACAGUGAACCGGUCUCUUa-----
---- 254 0,-1
-----UCACAGUGAACCGGUCUCUUaa-----
---- 366 0,-1

```

```

-----UCACAGUGAACCGGUCUCUUau-----
---- 134 0,-1
-----UCACAGUGAACCGGUCUCUUU-----
---- 6223 0,0
-----UCACAGUGAACCGGUCUCUUUa-----
---- 1655 0,0
-----UCACAGUGAACCGGUCUCUUUaa-----
---- 994 0,0
-----UCACAGUGAACCGGUCUCUUUau-----
---- 329 0,0
-----UCACAGUGAACCGGUCUCUUUC-----
---- 16 0,1
-----CACAGUGAACCGGUCUCUUU-----
---- 2 1,0
-----CACAGUGAACCGGUCUCUUUaa-----
---- 2 1,0
-----ACAGUGAACCGGUCUCUU-----
---- 7 2,-1
-----ACAGUGAACCGGUCUCUUaa-----
---- 2 2,-1
-----ACAGUGAACCGGUCUCUUau-----
---- 3 2,-1
-----ACAGUGAACCGGUCUCUUU-----
---- 81 2,0
-----ACAGUGAACCGGUCUCUUUa-----
---- 20 2,0
-----ACAGUGAACCGGUCUCUUUaa-----
---- 17 2,0
-----ACAGUGAACCGGUCUCUUUau-----
---- 4 2,0

```

>hsa-mir-1284 5p:30-51 SRX018971

```

auuuugauauauaagccaguuaaanguuuUCUAUACAGACCCUGGCUUUUCuuaaaauuuuauauauuggaaagcccaugu
uuguauuggaaacugcugguuucuuuacauacugaaaaucu
....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----UCUAUACAGACCCUGGCUU-----
----- 2 0,-3

```

```

-----UCUAUACAGACCCUGGCUUUU-----
-----20 0,-1
-----UCUAUACAGACCCUGGCUUUUC-----
-----17 0,0

```

>hsa-mir-1285-1 3p:51-72 SRX018971

```

uguagagauaggaucucacuuguugcccaggcuggucuaaacuccuggUCUGGGCAACAAAGUGAGACCUuauucua
caag

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..

```

```

-----AUCUCACUUUGUUGCCCAG-----
-----4

```

```

-----AUCUCACUUUGUUGCCCAGGCau-----
-----3

```

```

-----AUCUCACUUUGUUGCCCAGGCUaa-----
-----7

```

```

-----AUCUCACUUUGUUGCCCAGGCUau-----
-----7

```

```

-----UCUGGGCAACAAAGUGAG-----
-----5 0,-4

```

```

-----UCUGGGCAACAAAGUGAGA-----
-----23 0,-3

```

```

-----UCUGGGCAACAAAGUGAGAAa-----
-----2 0,-3

```

```

-----UCUGGGCAACAAAGUGAGAC-----
-----30 0,-2

```

```

-----UCUGGGCAACAAAGUGAGACa-----
-----15 0,-2

```

```

-----UCUGGGCAACAAAGUGAGACaa-----
-----10 0,-2

```

```

-----UCUGGGCAACAAAGUGAGACau-----
-----5 0,-2

```

```

-----UCUGGGCAACAAAGUGAGACC-----
-----22 0,-1

```

```

-----UCUGGGCAACAAAGUGAGACCaa-----
-----8 0,-1

```

```

-----UCUGGGCAACAAAGUGAGACCau-----
-----4 0,-1

```

```

-----UCUGGGCAACAAAGUGAGACCU-----
---- 130 0,0
-----UCUGGGCAACAAAGUGAGACCUa-----
---- 44 0,0
-----UCUGGGCAACAAAGUGAGACCUaa-----
---- 35 0,0
-----UCUGGGCAACAAAGUGAGACCUau-----
---- 84 0,0
-----UCUGGGCAACAAAGUGAGACCUU-----
---- 33 0,1
-----UCUGGGCAACAAAGUGAGACCUUu-----
---- 4 0,1
-----UCUGGGCAACAAAGUGAGACCUUuu-----
---- 4 0,1
-----UCUGGGCAACAAAGUGAGACCUUA-----
---- 3 0,2
-----UCUGGGCAACAAAGUGAGACCUUAa-----
---- 6 0,2
-----UCUGGGCAACAAAGUGAGACCUUAU-----
---- 5 0,3
-----CUGGGCAACAAAGUGAGACau-----
---- 2 1,-2
-----CUGGGCAACAAAGUGAGACCU-----
---- 3 1,0

```

>hsa-mir-1285-2 3p:52-73 SRX018971

uuugggaggccgaggcuggugcaucacuugagcccagcaauuugagaccaaUCUGGGCAACAAAGUGAGACCUccgucuc
uacaaaga

(((((((((((((((.....(((((((.....((((.....))))).)))))).....))))))..))))).))))..

```

UUUGGGAGGCCGAGGCUGG-----
----- 2
-----UCUGGGCAACAAAGUGAG-----
----- 5 0,-4
-----UCUGGGCAACAAAGUGAGA-----
----- 23 0,-3
-----UCUGGGCAACAAAGUGAGAAa-----
----- 2 0,-3

```

```

-----UCUGGGCAACAAAGUGAGAC-----
----- 30 0,-2 -----UCUGGGCAACAAAGUGAGACa-----
----- 15 0,-2 -----UCUGGGCAACAAAGUGAGACaa-----
----- 10 0,-2 -----UCUGGGCAACAAAGUGAGACau-----
----- 5 0,-2 -----UCUGGGCAACAAAGUGAGACC-----
----- 22 0,-1 -----UCUGGGCAACAAAGUGAGACCaa-----
----- 8 0,-1 -----UCUGGGCAACAAAGUGAGACCau-----
----- 4 0,-1 -----UCUGGGCAACAAAGUGAGACCU-----
----- 130 0,0 -----UCUGGGCAACAAAGUGAGACCUa-----
----- 44 0,0 -----UCUGGGCAACAAAGUGAGACCUaa-----
----- 35 0,0 -----UCUGGGCAACAAAGUGAGACCUau-----
----- 84 0,0 -----CUGGGCAACAAAGUGAGACau-----
----- 2 1,-2 -----CUGGGCAACAAAGUGAGACCU-----
----- 3 1,0 -----

```

>hsa-mir-1286 3p:47-67 SRX018971

```

uguccucuggggacucagcuugcucuggcugcuggauugaauuagcUGCAGGACCAAGAUGAGCCCUugguggagaca
..(((.(..(((.(((.((((.((((.((((.....)))))).)).)).)).)).)).)).)).)).)).)).).))....
-----UGCAGGACCAAGAUGAGCCCU-----
3 0,0 -----UGCAGGACCAAGAUGAGCCCUau-----
5 0,0 -----UGCAGGACCAAGAUGAGCCCUUu-----
2 0,1 -----

```

>hsa-mir-1287 5p:16-37 SRX018971

$$((\dots(((\dots((((\dots(((\dots(((\dots(((\dots(((\dots(((\dots(\dots\dots\dots)))))))).)))..))))).)))..))))).$$

```
>hsa-mi r-1289-1 3p:86-108 SRX018971
uuuucuaauuuuuaguaggaauuaaaacaaaacugguaaaugcagacucuugguuuccacccccagagaaucccuaaacc
gggggUGGAGUCCAGGAUAUCUGCAUUUUagaaaguaccaggggugauucugauaaauugggaaca
```



```

----- 2 0,-1
-----
---ACAACAGUGCCAACCUCACAGG----- 5

```

>hsa-mir-1295 3p:49-69 SRX018971

```

aggacauuuugcccagaucgggcuauucagaaaugggccugugaUUAGGCCGCAGAUUCUGGGUGAaauguccucc
((((((((((..(((((((((((((((((((((((..))))))))))..))))))))..))))))))..
-----AUUAGGCCGCAGAUUCUGGGUGAAu-----
2 -1,1
-----UUAGGCCGCAGAUUCUGGGUGA-----
21 0,0
-----UUAGGCCGCAGAUUCUGGGUGAA-----
7 0,1
-----UUAGGCCGCAGAUUCUGGGUGAAAa-----
2 0,2

```

>hsa-mir-1296 5p:16-37 SRX018971

```

accuaccuaacugggUUAGGGCCCUGGCUCCAUCUCCuuuaggaaaaccuucuguggggaguggggcuucgaccuaacc
caggugggcugu
((((((((((..(((((((((((((((((((((((..))))))))))..))))))))..))))))))..
))))))))....
-----UUAGGGCCCUGGCUCCAUA-----
----- 2 0,-4
-----UUAGGGCCCUGGCUCCAUCU-----
----- 3 0,-2
-----UUAGGGCCCUGGCUCCAUCUC-----
----- 11 0,-1
-----UUAGGGCCCUGGCUCCAUCUCa-----
----- 2 0,-1
-----UUAGGGCCCUGGCUCCAUCUCu-----
----- 4 0,-1
-----UUAGGGCCCUGGCUCCAUCUCC-----
----- 26 0,0
-----UUAGGGCCCUGGCUCCAUCUCCa-----
----- 5 0,0
-----UUAGGGCCCUGGCUCCAUCUCCU-----
----- 4 0,1
-----UAGGGCCCUGGCUCCAUCUCCUU-----

```

----- 2 1,2
-----UAGGGCCCUGGCUCCAUCUCCUUU-----
----- 4 1,3

```
>hsa-mi r-1299      3p:62-83      SRX018971
```

ccucauggcaguguuucuggaauccuacgugagggacaaucauucagaccacguagcagugUUCUGGAAUUCUGUGUGAG
GGA

$$(((((((.((((.((((.((((.(((((((.(.(.....))))))))).)))..))))).)))))))))$$

-----UUCUGGAAUUCUGUGAG

GGAa 2 0,0

>hsa-mir-1301 3p:48-71 SRX018971

ggauuguggggggucgcucuaggcaccgcagcacugugcuggggaugUUGCAGCUGCCUGGGAGUGACUUCacacagucc
uc

$$\begin{aligned} & ((((((((((.(((((((((((((((((((((((.((((((((((.)).).))))).).)))))..)))))))).)))))))).) \\ & \vdots \end{aligned}$$

-----UUGCAGCUGCCUGGGAGUG-----

-- 12 0,-5

-----UUGCAGCUGCCUGGGAGUGA-----

-- 100 0,-4

-----UUGCAGCUGCCUGGGAGUGAa-----

-- 4 0, -4

-----UUGCAGCUGCCUGGGAGUGAaa-----

-- 2 0,-4

-----UUGCAGCUGCCUGGGAGUGAC-----

-- 74 0,-3

-----UUGCAGCUGCCUGGGAGUGACa-----

-- 15 0,-3

-----UUGCAGCUGCCUGGGAGUGACaa-----

$$-- \quad 2 \quad 0, -3$$

-----UUGCAGCUGCCUGGGAGUGACU-----

-- 104 0,-2

-----UUGCAGCUGCCUGGGAGUGACUU-----

-- 39 0,-1

-----UUGCAGCUGCCUGGGAGUGACUUa-----

-- 13 0,-1

-----UUGCAGCUGCCUGGGAGUGACUUu-----

ggcuuu

(((((.((((((((.((((((((((((.((((((((((((.(.....)))))).)))))).)))))).)))))).
))))..

---UGGGCAACAUAGCGAGACC-----

----- 67

---GGGCAACAUAGCGAGACC-----

----- 11

-----AUUUUAGAGACGGGGUCUUG-----

----- 7 -2,-4

-----AUUUUAGAGACGGGGUCUUGa-----

----- 5 -2,-4

-----AUUUUAGAGACGGGGUCUUGC-----

----- 2 -2,-3

-----AUUUUAGAGACGGGGUCUUGC-----

----- 23 -2,-2

-----AUUUUAGAGACGGGGUCUUGCuu-----

----- 2 -2,-2

-----AUUUUAGAGACGGGGUCUUGC-----

----- 3 -2,-1

-----UUUUAGAGACGGGGUCUUGu-----

----- 4 -1,-4

-----UUUUAGAGACGGGGUCUUGC-----

----- 3 -1,-3

-----UUUUAGAGACGGGGUCUUGC-----

----- 57 -1,-2

-----UUUAGAGACGGGGUCUUG-----

----- 7 0,-4

-----UUUAGAGACGGGGUCUUGC-----

----- 5 0,-3

-----UUUAGAGACGGGGUCUUGC-----

----- 86 0,-2

-----UUUAGAGACGGGGUCUUGCuaa-----

----- 5 0,-2

-----UUUAGAGACGGGGUCUUGCUCUau-----

----- 5 0,0

-----UUUAGAGACGGGGUCUUGCUCUuu-----

----- 3 0,0

-----UUAGAGACGGGGUCUUGC-----

caucaagaccagcugagucacugucacugccuaccaaucucgaccggaccucgaccggcucgucuguguugccaaucgA

CUCGGCGUGGCGUCGGUCGU	Gguagauaggcggucaugcauacgaauuuucagcucuuguucuggugac
(((((...((...((((((((...(((.((((((((...(((.((((((((...(((...((...((...)))).)))	
..))))).))..)))))))).)))..)))))))).)))).)))).)))).)))).)))).)..	
-UCGACCGGACCUCGACCG-	
-UCGACCGGACCUCGACCGa-	4
-UCGACCGGACCUCGACCGG-	2
-UCGACCGGACCUCGACCGGC-	8
-UCGACCGGACCUCGACCGGCa-	2
-UCGACCGGACCUCGACCGGCCa-	9
-UCGACCGGACCUCGACCGGCCU-	243
-UCGACCGGACCUCGACCGGCCUaa-	15
-UCGACCGGACCUCGACCGGCCUu-	12
-UCGACCGGACCUCGACCGGCCUC-	62
-UCGACCGGACCUCGACCGGCCUCa-	25
-UCGACCGGACCUCGACCGGCCUCau-	2
-UCGACCGGACCUCGACCGGCCUCu-	4
-GACCGGACCUCGACCGGCCU-	3
-GACCGGACCUCGACCGGCCUCa-	4
CUCGGCGUGGCGUCGGU	12 0,-4
CUCGGCGUGGCGUCGGUC	9 0,-3
CUCGGCGUGGCGUCGGUCAu	2 0,-3

-----	9	-1,-3	-----GCAGUGCAAUGUUAAAAGGGa-----
-----	2	-1,-3	-----GCAGUGCAAUGUUAAAAGGGC-----
-----	5	-1,-2	-----GCAGUGCAAUGUUAAAAGGGCA-----
-----	3	-1,-1	-----GCAGUGCAAUGUUAAAAGGGCAa-----
-----	3	-1,-1	-----GCAGUGCAAUGUUAAAAGGGCAaa-----
-----	2	-1,-1	-----GCAGUGCAAUGUUAAAAGGGCAU-----
-----	9	-1,0	-----GCAGUGCAAUGUUAAAAGGGCAUa-----
-----	2	-1,1	-----CAGUGCAAUGUUAAAAGG-----
-----	13383	0,-4	-----CAGUGCAAUGUUAAAAGGa-----
-----	7	0,-4	-----CAGUGCAAUGUUAAAAGGaa-----
-----	2	0,-4	-----CAGUGCAAUGUUAAAAGGu-----
-----	10	0,-4	-----CAGUGCAAUGUUAAAAGGG-----
-----	3244	0,-3	-----CAGUGCAAUGUUAAAAGGGa-----
-----	18	0,-3	-----CAGUGCAAUGUUAAAAGGGaa-----
-----	27	0,-3	-----CAGUGCAAUGUUAAAAGGGu-----
-----	9	0,-3	-----CAGUGCAAUGUUAAAAGGGC-----
-----	4922	0,-2	-----CAGUGCAAUGUUAAAAGGGCu-----
-----	7	0,-2	-----CAGUGCAAUGUUAAAAGGGCuu-----
-----	2	0,-2	-----CAGUGCAAUGUUAAAAGGGCA-----

-----	1781	0,-1	-----CAGUGCAAUGUUAAAAGGGCAa-----
-----	859	0,-1	-----CAGUGCAAUGUUAAAAGGGCAaa-----
-----	196	0,-1	-----CAGUGCAAUGUUAAAAGGGCAau-----
-----	103	0,-1	-----CAGUGCAAUGUUAAAAGGGCAU-----
-----	18260	0,0	-----CAGUGCAAUGUUAAAAGGGCAUa-----
-----	2029	0,0	-----CAGUGCAAUGUUAAAAGGGCAUaa-----
-----	357	0,0	-----CAGUGCAAUGUUAAAAGGGCAUau-----
-----	20	0,0	-----CAGUGCAAUGUUAAAAGGGCAUU-----
-----	1187	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUa-----
-----	54	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUaa-----
-----	18	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUau-----
-----	10	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUu-----
-----	39	0,1	-----CAGUGCAAUGUUAAAAGGGCAUUuu-----
-----	2	0,1	-----AGUGCAAUGUUAAAAGGG-----
-----	95	1,-3	-----AGUGCAAUGUUAAAAGGGC-----
-----	89	1,-2	-----AGUGCAAUGUUAAAAGGGCA-----
-----	19	1,-1	-----AGUGCAAUGUUAAAAGGGCAa-----
-----	10	1,-1	-----AGUGCAAUGUUAAAAGGGCAau-----
-----	6	1,-1	-----AGUGCAAUGUUAAAAGGGCAU-----

-----	308	1,0		-----AGUGCAAUGUUAAAAGGGCAUa-----
-----	25	1,0		-----AGUGCAAUGUUAAAAGGGCAUaa-----
-----	3	1,0		-----AGUGCAAUGUUAAAAGGGCAUU-----
-----	19	1,1		-----GUGCAAUGUUAAAAGGGCA-----
-----	2	2,-1		

>hsa-mir-130b mi:13-33;MA:51-72 SRX018971

ggccugcccgacACUCUUCCCUGUUGCACUACuauaggccgcugggaagCAGUGCAAUGAUGAAAGGGCAUcggucagg
uc

(((((.((((..((((((..(((((((.(.(((...)))...)).)))))))).)))))))).))))).)))
))

-----ACUCUUCCCUGUUGCACU-----

-- 4 0, -2

-----ACUCUUCCCUGUUGCACUAC-----

-- 2 0,0

-----ACUCUUCCCUGUUGCACUACU-----

-- 6 0,1

-----GCAGUGCAAUGAUGAAAGGGCAa-----

$$-- \quad 2 \quad -1, -1$$

-----CAGUGCAAUGAUGAAAGG-----

-- 299 0,-4

-----CAGUGCAAUGAUGAAAGGG-----

-- 156 0,-3

-----CAGUGCAAUGAUGAAAGGGa-----

$$-- \quad 3 \quad 0, -3$$

-----CAGUGCAAUGAUGAAAGGGC-----

-- 127 0,-2

-----CAGUGCAAUGAUGAAAGGGCA-----

-- 177 0,-1

-----CAGUGCAAUGAUGAAAGGGCAa-----

-- 267 0,-1

-----CAGUGCAAUGAUGAAAGGGCAaa-----

-- 18 0,-1

-----CAGUGCAAUGAUGAAAGGGCA_{au}-----

--	46	0,-1	-CAGUGCAAUGAUGAAAGGGCAU-
--	3563	0,0	-CAGUGCAAUGAUGAAAGGGCAUa-
--	211	0,0	-CAGUGCAAUGAUGAAAGGGCAUaa-
--	29	0,0	-CAGUGCAAUGAUGAAAGGGCAUau-
--	10	0,0	-CAGUGCAAUGAUGAAAGGGCAUu-
--	203	0,0	-CAGUGCAAUGAUGAAAGGGCAUuu-
--	18	0,0	-CAGUGCAAUGAUGAAAGGGCAUC-
--	9	0,1	-AGUGCAAUGAUGAAAGGG-
--	2	1,-3	-AGUGCAAUGAUGAAAGGGC-
--	3	1,-2	-AGUGCAAUGAUGAAAGGGCA-
--	4	1,-1	-AGUGCAAUGAUGAAAGGGCAa-
--	8	1,-1	-AGUGCAAUGAUGAAAGGGCAU-
--	80	1,0	-AGUGCAAUGAUGAAAGGGCAUa-
--	5	1,0	-AGUGCAAUGAUGAAAGGGCAUu-
--	7	1,0	-AGUGCAAUGAUGAAAGGGCAUC-
--	2	1,1	

>hsa-mi r-132 mi:23-44;MA:59-80 SRX018971

```

----- 4 -1,-2
-----AACCGUGGCUUUCGAUUGUUAa-----
----- 2 -1,-2
-----ACCGUGGCUUUCGAUUGUUAAC-----
----- 3 0,-1
-----ACCGUGGCUUUCGAUUGUUACU-----
----- 3 0,0
-----UAACAGUCUACAGCCAUG-----
----- 16 0,-4
-----UAACAGUCUACAGCCAUGG-----
----- 37 0,-3
-----UAACAGUCUACAGCCAUGGU-----
----- 55 0,-2
-----UAACAGUCUACAGCCAUGGUa-----
----- 6 0,-2
-----UAACAGUCUACAGCCAUGGUaa-----
----- 12 0,-2
-----UAACAGUCUACAGCCAUGGUu-----
----- 2 0,-2
-----UAACAGUCUACAGCCAUGGUC-----
----- 32 0,-1
-----UAACAGUCUACAGCCAUGGUCG-----
----- 32 0,0
-----UAACAGUCUACAGCCAUGGUCG-----
a----- 5 0,0
-----UAACAGUCUACAGCCAUGGUCG-----
u----- 33 0,0
-----AACAGUCUACAGCCAUGG-----
----- 3 1,-3
-----AACAGUCUACAGCCAUGGU-----
----- 5 1,-2
-----AACAGUCUACAGCCAUGGUC-----
----- 2 1,-1
-----AACAGUCUACAGCCAUGGUCG-----
----- 3 1,0
-----ACAGUCUACAGCCAUGGUCG-----
u----- 4 2,0

```

>hsa-mir-133a-1 3p:53-74 SRX018971

acaaugcuuugcuagagcugguaaaauggaaccaaauccgcucuucaauggaUUUGGUCCCCUUAACCAGCUGuagcua
ugcauuga

.(((((((...((((.((((((((...)))))))).)).)).))))).)))).
 .)))))).

-----UUUGGUCCCCUUCAACCAGCU-----

$$- - - - - \quad 2 \quad 0, -1$$

-----UUGGUCCCCUUAACCAGCUGU-----

----- 5 1,1

>hsa-mir-133a-2 3p:59-80 SRX018971

gggagccaaugcuuugcuagagcugguaaauggaaccaaucgacuguccaauggaUUUGGUCCCCUUAACCAGCUG
uagcugugcauugauggcgccg

$$\begin{aligned} & .((.(((((((((\dots(((((.(((((((\dots(((.((((((((((.(\dots\dots\dots).)))))\dots)))).)))).)))).)))).) \\ &))))\dots)))))\dots)))).)). \end{aligned}$$

-----UUUGGUCCCCUUCAACCAGCU-----

----- 2 0, -1

-----UUGGUCCCCUUAACCAGCUG

U----- 5 1,1

>hsa-mir-133b 3p:66-87 SRX018971

ccucagaagaaagaugccccugcucuggcuggucaaacggaaccaaguccgucuuccugagaggUUUGGUCCCCUCAA
CCAGCUAcagcagggcuggcaaugcccaguccuuggaga

-----UUUGGUCCCCUCAA

CCAGCU----- 2 0,-1

>hsa-mir-134 5p:8-29 SRX018971

cagggugUGUGACUGGUUGACCAGAGGGGcaugcacuguguucacccugugggccaccuagucaccaaccuc

-----UGUGACUGGUUGACCAGAGGG----- 15

 $0, -1$

-----UGUGACUGGUUGACCAGAGGGa----- 13

 $0,-1$

-----UGUGACUGGUUGACCAGAGGGaa----- 6

0,-1

-----UGUGACUGGUUGACCAGAGGGG----- 60

```

0,0
-----UGUGACUGGUUGACCAGAGGGGa----- 9
0,0
-----UGUGACUGGUUGACCAGAGGGGau----- 4
0,0
-----UGUGACUGGUUGACCAGAGGGGu----- 8
0,0

```

>hsa-mir-135a-1 MA:17-39;mi:56-77 SRX018971

```

aggccucgcuguucucUAUGGCUUUUUAUCCUAUGUGAuucucugcucacucaUAUAGGGAUUGGAGCCGUGGCgcac
ggcgggggaca

```

```

.(.(((((((((.((((((((((.....))))))))))))).)))))))).)
)))))))).

```

```

-----UAUGGCUUUUUAUCCUA-----
----- 2 0,-5
-----UAUGGCUUUUUAUCCUAU-----
----- 13 0,-4
-----UAUGGCUUUUUAUCCUAUG-----
----- 4 0,-3
-----UAUGGCUUUUUAUCCUAUGa-----
----- 3 0,-3
-----UAUGGCUUUUUAUCCUAUGU-----
----- 42 0,-2
-----UAUGGCUUUUUAUCCUAUGUaa-----
----- 2 0,-2
-----UAUGGCUUUUUAUCCUAUGUG-----
----- 44 0,-1
-----UAUGGCUUUUUAUCCUAUGUGu-----
----- 4 0,-1
-----UAUGGCUUUUUAUCCUAUGUGA-----
----- 95 0,0
-----UAUGGCUUUUUAUCCUAUGUGAa-----
----- 6 0,0
-----AUAUAGGGAUUGGAGCCGUGGCaa--
----- 3 -1,-1
-----UUAUAGGGAUUGGAGCCGUGGCaa--
----- 2 0,-1

```

>hsa-mir-135a-2 5p:23-45 SRX018971

agauaaaauucacucuagugcuuUAUGGCUUUUUAUUCCUAUGUGAuaguaauaaagucucauguaggggauggaagccaug
aaauacauugugaaaaauca

.(((...((((...(((.(((((((((((((.(((((((((((((.(.(...).).))))))))))))))))))))))))))
)..)))...))))..))).

-----UAUGGCUUUUUAUUCCUA-----

-----2 0,-5

-----UAUGGCUUUUUAUUCCUAU-----

-----13 0,-4

-----UAUGGCUUUUUAUUCCUAUG-----

-----4 0,-3

-----UAUGGCUUUUUAUUCCUAUGa-----

-----3 0,-3

-----UAUGGCUUUUUAUUCCUAUGU-----

-----42 0,-2

-----UAUGGCUUUUUAUUCCUAUGUaa-----

-----2 0,-2

-----UAUGGCUUUUUAUUCCUAUGUG-----

-----44 0,-1

-----UAUGGCUUUUUAUUCCUAUGUGu-----

-----4 0,-1

-----UAUGGCUUUUUAUUCCUAUGUGA-----

-----95 0,0

-----UAUGGCUUUUUAUUCCUAUGUGAa-----

-----6 0,0

-----AUGUAGGGAUGGAAGCCAUG

AA-----2

-----UGUAGGGAUGGAAGCCAUG

-----4

-----UGUAGGGAUGGAAGCCAUG

A-----6

-----UGUAGGGAUGGAAGCCAUG

AA-----13

-----UGUAGGGAUGGAAGCCAUG

AAu-----4

-----UGUAGGGAUGGAAGCCAUG

AAA-----21

-----UGUAGGGAUGGAAGCCAUG

AAAa-----5
-----UGUAGGGAUGGAAGCCAUG

>hsa-mi r-135b MA:16-38;mi:55-76 SRX018971

----- 3 0,0

-- 10 0,-3

-- 4 0,0

-- 2 0,-3

-- 3 0, -1

----- 15 0,-5

----- 5 0, -4

-----	13	0,-1	
-----	-CAGUGGUUUUACCCUAUGGUAu-----		
-----	4	0,-1	
-----	-CAGUGGUUUUACCCUAUGGUAG-----		
-----	2	0,0	
-----			-----CUACCACAGGGUAGAACCAC
-----	2	-1,-2	
-----			-----CUACCACAGGGUAGAACCAC
G-----	4	-1,-1	
-----			-----CUACCACAGGGUAGAACCAC
GG-----	5	-1,0	
-----			-----CUACCACAGGGUAGAACCAC
GGAa-----	7	-1,1	
-----			-----CUACCACAGGGUAGAACCAC
GGAaa-----	3	-1,1	
-----			-----CUACCACAGGGUAGAACCAC
GGAau-----	3	-1,1	
-----			-----UACCACAGGGUAGAACCA-
-----	227	0,-3	
-----			-----UACCACAGGGUAGAACCAC
-----	130	0,-2	
-----			-----UACCACAGGGUAGAACCAC
a-----	2	0,-2	
-----			-----UACCACAGGGUAGAACCAC
G-----	2058	0,-1	
-----			-----UACCACAGGGUAGAACCAC
Ga-----	16	0,-1	
-----			-----UACCACAGGGUAGAACCAC
Gaa-----	4	0,-1	
-----			-----UACCACAGGGUAGAACCAC
Gu-----	2	0,-1	
-----			-----UACCACAGGGUAGAACCAC
GG-----	3283	0,0	
-----			-----UACCACAGGGUAGAACCAC
GGu-----	56	0,0	
-----			-----UACCACAGGGUAGAACCAC
GGuu-----	19	0,0	
-----			-----UACCACAGGGUAGAACCAC

GGA-----	2958	0,1	-----UACCACAGGGUAGAACCAC
GGAA-----	1591	0,1	-----UACCACAGGGUAGAACCAC
GGAAa-----	1223	0,1	-----UACCACAGGGUAGAACCAC
GGAAu-----	391	0,1	-----UACCACAGGGUAGAACCAC
GGAAu-----	273	0,1	-----UACCACAGGGUAGAACCAC
GGAAuu-----	8	0,1	-----UACCACAGGGUAGAACCAC
GGAC-----	2421	0,2	-----UACCACAGGGUAGAACCAC
GGACu-----	56	0,2	-----UACCACAGGGUAGAACCAC
GGACA-----	488	0,3	-----UACCACAGGGUAGAACCAC
GGACAa-----	112	0,3	-----UACCACAGGGUAGAACCAC
GGACAu-----	30	0,3	-----UACCACAGGGUAGAACCAC
GGACAG-----	5	0,4	-----ACCACAGGGUAGAACCAC
-----	140	1,-2	-----ACCACAGGGUAGAACCAC
G-----	230	1,-1	-----ACCACAGGGUAGAACCAC
Gaa-----	19	1,-1	-----ACCACAGGGUAGAACCAC
GG-----	2855	1,0	-----ACCACAGGGUAGAACCAC
GGu-----	144	1,0	-----ACCACAGGGUAGAACCAC
GGuu-----	88	1,0	-----ACCACAGGGUAGAACCAC
GGA-----	22180	1,1	-----ACCACAGGGUAGAACCAC

GGAA-----	7982	1,1	-----ACCACAGGGUAGAACCAC
GGAAa-----	2552	1,1	-----ACCACAGGGUAGAACCAC
GGAAu-----	748	1,1	-----ACCACAGGGUAGAACCAC
GGAAu-----	3582	1,1	-----ACCACAGGGUAGAACCAC
GGAAu-----	178	1,1	-----ACCACAGGGUAGAACCAC
GGAC-----	10602	1,2	-----ACCACAGGGUAGAACCAC
GGACu-----	224	1,2	-----ACCACAGGGUAGAACCAC
GGACuu-----	7	1,2	-----ACCACAGGGUAGAACCAC
GGACA-----	764	1,3	-----ACCACAGGGUAGAACCAC
GGACAa-----	758	1,3	-----ACCACAGGGUAGAACCAC
GGACAaa-----	76	1,3	-----ACCACAGGGUAGAACCAC
GGACAau-----	38	1,3	-----ACCACAGGGUAGAACCAC
GGACAu-----	75	1,3	-----ACCACAGGGUAGAACCAC
GGACAG-----	44	1,4	-----ACCACAGGGUAGAACCAC
GGACAGa-----	8	1,4	-----ACCACAGGGUAGAACCAC
GGACAGu-----	3	1,4	-----CCACAGGGUAGAACCAC
GG-----	39	2,0	-----CCACAGGGUAGAACCAC
GGuu-----	4	2,0	-----CCACAGGGUAGAACCAC
GGA-----	230	2,1	-----CCACAGGGUAGAACCAC

GGAAa-----	128	2,1	
-----			CCACAGGGUAGAACCAC
GGAAa-----	80	2,1	
-----			CCACAGGGUAGAACCAC
GGAAu-----	10	2,1	
-----			CCACAGGGUAGAACCAC
GGAAu-----	60	2,1	
-----			CCACAGGGUAGAACCAC
GGAAuu-----	3	2,1	
-----			CCACAGGGUAGAACCAC
GGAC-----	207	2,2	
-----			CCACAGGGUAGAACCAC
GGACu-----	9	2,2	
-----			CCACAGGGUAGAACCAC
GGACA-----	37	2,3	
-----			CCACAGGGUAGAACCAC
GGACAa-----	36	2,3	
-----			CCACAGGGUAGAACCAC
GGACAaa-----	7	2,3	
-----			CCACAGGGUAGAACCAC
GGACAau-----	2	2,3	
-----			CCACAGGGUAGAACCAC
GGACAu-----	2	2,3	
-----			CCACAGGGUAGAACCAC
GGACAG-----	3	2,4	
-----			CCACAGGGUAGAACCAC
GGACAGa-----	3	2,4	
-----			CCACAGGGUAGAACCAC
GGACAGu-----	2	2,4	

```
>hsa-mir-141      mi:17-38;MA:59-80      SRX018971
cggccgggccugggucCAUCUCCAGUACAGUGUUGGAuggucuaauugugaagcuccUAACACUGUCUGGUAAAGAUGG
cucccgggugggguuc
.((((.((((.(((.(((((((((((.(((((((((((...((.....))...)).))))))))))))).))))))
..)))))))).))))).
-----UAACACUGUCUGGUAAAGA---
----- 2    0,-3
-----UAACACUGUCUGGUAAAGAU-----
```

```

----- 15  0,-2
-----UAACACUGUCUGGUAAAGAUG-
----- 12  0,-1
-----UAACACUGUCUGGUAAAGAUGu
----- 8   0,-1
-----UAACACUGUCUGGUAAAGAUGu
u----- 20  0,-1
-----UAACACUGUCUGGUAAAGAUGG
----- 2   0,0
-----AACACUGUCUGGUAAAGAUGu
u----- 2   1,-1

```

>hsa-mir-142 5p:16-36;3p:52-74 SRX018971

```

gacagugcagucaccCAUAAAGUAGAAAGCACUACUaacagcacuggagggUGUAGUGUUCCUACUUUAUGGAugagug
uacugug

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))))))).

```

```

-----CCCAUAAAGUAGAAAGCA-----
----- 69  -2,-5
-----CCCAUAAAGUAGAAAGCAa-----
----- 24  -2,-5
-----CCCAUAAAGUAGAAAGCAaa-----
----- 3   -2,-5
-----CCCAUAAAGUAGAAAGCAu-----
----- 2   -2,-5
-----CCCAUAAAGUAGAAAGCAC-----
----- 89  -2,-4
-----CCCAUAAAGUAGAAAGCACa-----
----- 2   -2,-4
-----CCCAUAAAGUAGAAAGCACU-----
----- 488 -2,-3
-----CCCAUAAAGUAGAAAGCACUA-----
----- 241 -2,-2
-----CCCAUAAAGUAGAAAGCACUAa-----
----- 33  -2,-2
-----CCCAUAAAGUAGAAAGCACUAaa-----
----- 5   -2,-2
-----CCCAUAAAGUAGAAAGCACUAu-----

```

----- 46 -2,-2
-----CCCAUAAAGUAGAAAGCACUAC-----
----- 45 -2,-1
-----CCCAUAAAGUAGAAAGCACUACa-----
----- 6 -2,-1
-----CCAUAAAGUAGAAAGCACU-----
----- 3 -1,-3
-----CCAUAAAGUAGAAAGCACUA-----
----- 3 -1,-2
-----CCAUAAAGUAGAAAGCACUAC-----
----- 3 -1,-1
-----CAUAAAGUAGAAAGCACU-----
----- 64 0,-3
-----CAUAAAGUAGAAAGCACUu-----
----- 2 0,-3
-----CAUAAAGUAGAAAGCACUA-----
----- 275 0,-2
-----CAUAAAGUAGAAAGCACUAa-----
----- 74 0,-2
-----CAUAAAGUAGAAAGCACUAaa-----
----- 49 0,-2
-----CAUAAAGUAGAAAGCACUAu-----
----- 13 0,-2
-----CAUAAAGUAGAAAGCACUAC-----
----- 174 0,-1
-----CAUAAAGUAGAAAGCACUACa-----
----- 15 0,-1
-----CAUAAAGUAGAAAGCACUACaa-----
----- 2 0,-1
-----CAUAAAGUAGAAAGCACUACU-----
----- 304 0,0
-----CAUAAAGUAGAAAGCACUACUA-----
----- 203 0,1
-----CAUAAAGUAGAAAGCACUACUAu-----
----- 32 0,1
-----CAUAAAGUAGAAAGCACUACUAA-----
----- 45 0,2
-----AUAAAGUAGAAAGCACUA-----


```

----- 16 1,-2
-----AUAAGUAGAAAGCACUAa-----
----- 8 1,-2
-----AUAAGUAGAAAGCACUAa-----
----- 3 1,-2
-----AUAAGUAGAAAGCACUAC-----
----- 11 1,-1
-----AUAAGUAGAAAGCACUACaa-----
----- 4 1,-1
-----AUAAGUAGAAAGCACUACU-----
----- 36 1,0
-----AUAAGUAGAAAGCACUACUA-----
----- 31 1,1
-----AUAAGUAGAAAGCACUACUAu-----
----- 28 1,1
-----AUAAGUAGAAAGCACUACUAA-----
----- 352 1,2
-----AUAAGUAGAAAGCACUACUAAa-----
----- 5 1,2
-----AUAAGUAGAAAGCACUACUAAu-----
----- 10 1,2
-----UAAAGUAGAAAGCACUACUA-----
----- 3 2,1
-----UGUAGUGUUUCCUACUUU-----
----- 2 0,-5
-----UGUAGUGUUUCCUACUUUAU-----
----- 8 0,-3
-----UGUAGUGUUUCCUACUUUAUa-----
----- 3 0,-3
-----UGUAGUGUUUCCUACUUUAUG-----
----- 12 0,-2
-----UGUAGUGUUUCCUACUUUAUGa-----
----- 3 0,-2
-----UGUAGUGUUUCCUACUUUAUGG-----
----- 16 0,-1
-----GUAGUGUUUCCUACUUUAa-----
----- 2 1,-4
-----GUAGUGUUUCCUACUUUAU-----

```



```

----- 3 0,-1
-----GGUGCAGUGCUGCAUCUCUGGU-----
----- 7 0,0
-----GGUGCAGUGCUGCAUCUCUGGUa-----
----- 10 0,0
-----GGUGCAGUGCUGCAUCUCUGGUau-----
----- 14 0,0
-----GGUGCAGUGCUGCAUCUCUGGUCA-----
----- 6 0,2
-----UCUGAGAUGAAGCACUGUAGCU
----- 17 -2,-1
-----UCUGAGAUGAAGCACUGUAGCU
C----- 3 -2,0
-----CUGAGAUGAAGCACUGUA---
----- 2 -1,-4
-----CUGAGAUGAAGCACUGUAG--
----- 3 -1,-3
-----CUGAGAUGAAGCACUGUAGC-
----- 9 -1,-2
-----CUGAGAUGAAGCACUGUAGCa
a----- 3 -1,-2
-----CUGAGAUGAAGCACUGUAGCa
u----- 2 -1,-2
-----CUGAGAUGAAGCACUGUAGCU
----- 108 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
a----- 12 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
aa----- 5 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
au----- 3 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
u----- 4 -1,-1
-----CUGAGAUGAAGCACUGUAGCU
C----- 113 -1,0
-----CUGAGAUGAAGCACUGUAGCU
Cu----- 33 -1,0
-----CUGAGAUGAAGCACUGUAGCU

```

Cuu-----	7	-1,0	-----CUGAGAUGAAGCACUGUAGCU
CA-----	5	-1,1	-----UGAGAUGAAGCACUGUAG--
-----	912	0,-3	-----UGAGAUGAAGCACUGUAGa-
-----	7	0,-3	-----UGAGAUGAAGCACUGUAGaa
-----	5	0,-3	-----UGAGAUGAAGCACUGUAGau
-----	15	0,-3	-----UGAGAUGAAGCACUGUAGuu
-----	4	0,-3	-----UGAGAUGAAGCACUGUAGC-
-----	503	0,-2	-----UGAGAUGAAGCACUGUAGCa
-----	85	0,-2	-----UGAGAUGAAGCACUGUAGCa
a-----	102	0,-2	-----UGAGAUGAAGCACUGUAGCa
u-----	16	0,-2	-----UGAGAUGAAGCACUGUAGCU
-----	9850	0,-1	-----UGAGAUGAAGCACUGUAGCU
a-----	487	0,-1	-----UGAGAUGAAGCACUGUAGCU
aa-----	144	0,-1	-----UGAGAUGAAGCACUGUAGCU
au-----	68	0,-1	-----UGAGAUGAAGCACUGUAGCU
u-----	290	0,-1	-----UGAGAUGAAGCACUGUAGCU
uu-----	18	0,-1	-----UGAGAUGAAGCACUGUAGCU
C-----	18588	0,0	-----UGAGAUGAAGCACUGUAGCU
Cu-----	3631	0,0	-----UGAGAUGAAGCACUGUAGCU

-----	9	0, -4	
-----			GGUAUCAUCAUAUACUGUA-----
-----	4	0, -2	
-----			GGUAUCAUCAUAUACUGUAA-----
-----	5	0, -1	
-----			GGUAUCAUCAUAUACUGUAAG-----
-----	28	0, 0	
-----			GGUAUCAUCAUAUACUGUAAGU-----
-----	27	0, 1	
-----			GAUAUCAUCAUAUACUGUAAGUU-----
-----	2	1, 2	
-----			CUACAGUAUAGAUGAUGUA-----
-----	6	-1, -2	
-----			UACAGUAUAGAUGAUGUA-----
-----	14	0, -2	
-----			UACAGUAUAGAUGAUGUAa-----
-----	2	0, -2	
-----			UACAGUAUAGAUGAUGUAC-----
-----	14	0, -1	
-----			UACAGUAUAGAUGAUGUACU-----
-----	9	0, 0	
-----			UACAGUAUAGAUGAUGUACUA-----
-----	2	0, 1	
-----			UACAGUAUAGAUGAUGUACUAa-----
-----	2	0, 1	
-----			UACAGUAUAGAUGAUGUACUAu-----
-----	2	0, 1	

>hsa-mir-145 MA:16-38;mi:54-75 SRX018971

caccuuguccucacgGUCCAGUUUCCCAGGAAUCCCUuagaugcuaagauggGGAUCCUGGAAUACUGUUCUugagg
ucaugguu

```

-----GGUCCAGUUUUCCCAGGAAU-----
-----3    -1,-4
-----GGUCCAGUUUUCCCAGGAAUCCCU-----
-----3    -1,0
-----GUCCAGUUUUCCCAGGAA-----

```

```

----- 66 0,-5
-----GUCCAGUUUUCCCAGGAaAa-----
----- 28 0,-5
-----GUCCAGUUUUCCCAGGAaAa-----
----- 4 0,-5
-----GUCCAGUUUUCCCAGGAU-----
----- 265 0,-4
-----GUCCAGUUUUCCCAGGAUa-----
----- 198 0,-4
-----GUCCAGUUUUCCCAGGAUaa-----
----- 23 0,-4
-----GUCCAGUUUUCCCAGGAUau-----
----- 2 0,-4
-----GUCCAGUUUUCCCAGGAUC-----
----- 105 0,-3
-----GUCCAGUUUUCCCAGGAUCa-----
----- 135 0,-3
-----GUCCAGUUUUCCCAGGAUCaa-----
----- 7 0,-3
-----GUCCAGUUUUCCCAGGAUCu-----
----- 4 0,-3
-----GUCCAGUUUUCCCAGGAUCC-----
----- 431 0,-2
-----GUCCAGUUUUCCCAGGAUCCa-----
----- 71 0,-2
-----GUCCAGUUUUCCCAGGAUCCaa-----
----- 6 0,-2
-----GUCCAGUUUUCCCAGGAUCCau-----
----- 10 0,-2
-----GUCCAGUUUUCCCAGGAUCCu-----
----- 6 0,-2
-----GUCCAGUUUUCCCAGGAUCCuu-----
----- 3 0,-2
-----GUCCAGUUUUCCCAGGAUCCC-----
----- 823 0,-1
-----GUCCAGUUUUCCCAGGAUCCCa-----
----- 66 0,-1
-----GUCCAGUUUUCCCAGGAUCCCau-----

```

```

----- 12  0,-1
-----GUCCAGUUUUCCCAGGAAUCCCU-----
----- 1421  0,0
-----GUCCAGUUUUCCCAGGAAUCCCUa-----
----- 6  0,0
-----GUCCAGUUUUCCCAGGAAUCCCUaa-----
----- 3  0,0
-----GUCCAGUUUUCCCAGGAAUCCCUau-----
----- 3  0,0
-----GUCCAGUUUUCCCAGGAAUCCCUU-----
----- 164 0,1
-----GUCCAGUUUUCCCAGGAAUCCCUUu-----
----- 7  0,1
-----UCCAGUUUUCCCAGGAAUCCCU-----
----- 12  1,0
-----GGAUUCCUGGAAAACUGUUC-----
----- 3  0,-1
-----GGAUUCCUGGAAAACUGUUCa-----
----- 2  0,-1
-----GGAUUCCUGGAAAACUGUUCU-----
----- 16 0,0
-----GGAUUCCUGGAAAACUGUUCUU-----
----- 2  0,1
-----GAUUCCUGGAAAACUGU-----
----- 3  1,-3
-----GAUUCCUGGAAAACUGUUCU-----
----- 3  1,0
-----GAUUCCUGGAAAACUGUUCUa-----
----- 3  1,0
-----GAUUCCUGGAAAACUGUUCUU-----
----- 3  1,1
-----AUUCCUGGAAAACUGUU-----
----- 6  2,-2
-----AUUCCUGGAAAACUGUUC-----
----- 6  2,-1
-----AUUCCUGGAAAACUGUUCU-----
----- 84  2,0
-----AUUCCUGGAAAACUGUUCUa-----

```


----- 92 0,-3
-----UGAGAACUGAAUCCAUGGaa-----
----- 3 0,-3
-----UGAGAACUGAAUCCAUGGau-----
----- 2 0,-3
-----UGAGAACUGAAUCCAUGGG-----
----- 177 0,-2
-----UGAGAACUGAAUCCAUGGGa-----
----- 5 0,-2
-----UGAGAACUGAAUCCAUGGGaa-----
----- 4 0,-2
-----UGAGAACUGAAUCCAUGGGau-----
----- 7 0,-2
-----UGAGAACUGAAUCCAUGGGU-----
----- 285 0,-1
-----UGAGAACUGAAUCCAUGGGUa-----
----- 59 0,-1
-----UGAGAACUGAAUCCAUGGGUaa-----
----- 182 0,-1
-----UGAGAACUGAAUCCAUGGGUau-----
----- 127 0,-1
-----UGAGAACUGAAUCCAUGGGUU-----
----- 2041 0,0
-----UGAGAACUGAAUCCAUGGGUUa-----
----- 1515 0,0
-----UGAGAACUGAAUCCAUGGGUUaa-----
----- 396 0,0
-----UGAGAACUGAAUCCAUGGGUUau-----
----- 367 0,0
-----UGAGAACUGAAUCCAUGGGUUu-----
----- 707 0,0
-----UGAGAACUGAAUCCAUGGGUUuu-----
----- 90 0,0
-----UGAGAACUGAAUCCAUGGGUUG-----
----- 380 0,1
-----UGAGAACUGAAUCCAUGGGUUGa-----
----- 58 0,1
-----UGAGAACUGAAUCCAUGGGUUGaa-----

```

----- 4 0,1
-----UGAGAACUGAAUCCAUGGGUUGU-----
----- 116 0,2
-----UGAGAACUGAAUCCAUGGGUUGUu-----
----- 5 0,2
-----GAGAACUGAAUCCAUGG-----
----- 2 1,-3
-----GAGAACUGAAUCCAUGGGUU-----
----- 28 1,0
-----GAGAACUGAAUCCAUGGGUUa-----
----- 13 1,0
-----GAGAACUGAAUCCAUGGGUUaa-----
----- 2 1,0
-----GAGAACUGAAUCCAUGGGUUu-----
----- 8 1,0
-----GAGAACUGAAUCCAUGGGUUG-----
----- 9 1,1
-----GAGAACUGAAUCCAUGGGUUGa-----
----- 2 1,1
-----AGAACUGAAUCCAUGGG-----
----- 3 2,-2
-----AGAACUGAAUCCAUGGGUU-----
----- 22 2,0
-----AGAACUGAAUCCAUGGGUUG-----
----- 5 2,1
-----ACCUCUGAAAUUCAGUUCUU-----
----- 2 -1,-3

```

>hsa-mir-146b 5p:9-30;3p:45-66 SRX018971

```

ccuggcacUGAGAACUGAAUCCAUAGGCUgugagcucuagcaaUGCCUGUGGACUCAGUUCUGGugcccg
((.(((((((.(((((((..(((((((..((.....)).)).)))))))).)))))))).))
-----CUGAGAACUGAAUCCAU----- 4
-1,-5
-----CUGAGAACUGAAUCCAUAGG----- 4
-1,-2
-----CUGAGAACUGAAUCCAUAGGCU----- 25
-1,0
-----CUGAGAACUGAAUCCAUAGGCUGa----- 2

```

-1,1	
-----UGAGAACUGAAUCCAUUA-----	13
0,-4	
-----UGAGAACUGAAUCCAUAG-----	52
0,-3	
-----UGAGAACUGAAUCCAUAGaa-----	2
0,-3	
-----UGAGAACUGAAUCCAUAGG-----	390
0,-2	
-----UGAGAACUGAAUCCAUAGGaa-----	3
0,-2	
-----UGAGAACUGAAUCCAUAGGau-----	4
0,-2	
-----UGAGAACUGAAUCCAUAGGu-----	3
0,-2	
-----UGAGAACUGAAUCCAUAGGC-----	58
0,-1	
-----UGAGAACUGAAUCCAUAGGCa-----	239
0,-1	
-----UGAGAACUGAAUCCAUAGGCaa-----	156
0,-1	
-----UGAGAACUGAAUCCAUAGGCau-----	49
0,-1	
-----UGAGAACUGAAUCCAUAGGCU-----	2796
0,0	
-----UGAGAACUGAAUCCAUAGGCUa-----	3
0,0	
-----UGAGAACUGAAUCCAUAGGCUaa-----	121
0,0	
-----UGAGAACUGAAUCCAUAGGCUau-----	36
0,0	
-----UGAGAACUGAAUCCAUAGGCUu-----	116
0,0	
-----UGAGAACUGAAUCCAUAGGCUuu-----	34
0,0	
-----UGAGAACUGAAUCCAUAGGCUG-----	8
0,1	
-----UGAGAACUGAAUCCAUAGGCUGa-----	437

0,1		
-----	-UGAGAACUGAAUCCAUAGGCUGaa-----	31
0,1		
-----	-UGAGAACUGAAUCCAUAGGCUGau-----	23
0,1		
-----	-UGAGAACUGAAUCCAUAGGCUGU-----	2
0,2		
-----	-GAGAACUGAAUCCAUAGGCau-----	4
1,-1		
-----	-GAGAACUGAAUCCAUAGGCU-----	37
1,0		
-----	-GAGAACUGAAUCCAUAGGCUau-----	2
1,0		
-----	-GAGAACUGAAUCCAUAGGCUu-----	5
1,0		
-----	-GAGAACUGAAUCCAUAGGCUGa-----	5
1,1		
-----	-----UGCCCUGUGGACUCAGUUCUGG-----	2
0,0		
-----	-----UGCCCUGUGGACUCAGUUCUGGUau-----	4
0,1		
-----	-----GCCCUGUGGACUCAGUUCUG-----	2
1,-1		
-----	-----GCCCUGUGGACUCAGUUCUGG-----	10
1,0		
-----	-----GCCCUGUGGACUCAGUUCUGGU-----	11
1,1		
-----	-----GCCCUGUGGACUCAGUUCUGGUa-----	22
1,1		
-----	-----GCCCUGUGGACUCAGUUCUGGUaa-----	3
1,1		
-----	-----GCCCUGUGGACUCAGUUCUGGUau-----	23
1,1		
-----	-----GCCCUGUGGACUCAGUUCUGGUu-----	4
1,1		
-----	-----CCCUGUGGACUCAGUUCUGGUau-----	5
2,1		

$$2 \quad 0, -2$$

4 0,0

gaggcAAAGUUCUGAGACACUCCGACUcugaguaugauagaagUCAGUGCACUACAGAACUUUGUcuc
((((((((((((((((((.(.((((((.(.....)).).)))))))).).).)))))))))

-1, -2

-----AAAGUUCUGAGACACUCCGa----- 8 0,-2

-----AAAGUUCUGAGACACUCCGAC----- 10 0,-1

-----GUCAGUGCACUACAGAACUUUGU----- 4 -1,0

0,-4

-----UCAGUGCACUACAGAACUUa----- 6 0,-3

-----UCAGUGCACUACAGAACUUaa----- 2 0,-3

-----UCAGUGCACUACAGAACUUU----- 1715

 $0, -2$

-----UCAGUGCACUACAGAACUUUa----- 41 0,-2

-----UCAGUGCACUACAGAACUUUaa--- 16 0,-2

-----UCAGUGCACUACAGAACUUU_{au}----- 6 0,-2

-----UCAGUGCACUACAGAACUUUu----- 13 0,-2

-----UCAGUGCACUACAGAACUUUuu----- 4 0,-2

-----UCAGUGCACUACAGAACUUUG----- 2335

 $0, -1$

-----UCAGUGCACUACAGAACUUUGa--- 4144

0,-1

-----UCAGUGCACUACAGAACUUUGaa-- 403 0, -1

-----UCAGUGCACUACAGAACUUUG_{au}----- 7 0,-1

-----UCAGUGCACUACAGAACUUUGU----- 20093

-----UCAGUGCACUACAGAACUUUGUa--	130	0,0
-----UCAGUGCACUACAGAACUUUGUaa-	36	0,0
-----UCAGUGCACUACAGAACUUUGUau-	6	0,0
-----UCAGUGCACUACAGAACUUUGUu--	24	0,0
-----UCAGUGCACUACAGAACUUUGUuu-	6	0,0
-----UCAGUGCACUACAGAACUUUGUC--	396	0,1
-----UCAGUGCACUACAGAACUUUGUCa-	26	0,1
-----UCAGUGCACUACAGAACUUUGUCaa	3	0,1
-----UCAGUGCACUACAGAACUUUGUCau	3	0,1
-----UCAGUGCACUACAGAACUUUGUCU-	14	0,2
-----CAGUGCACUACAGAACUUU-----	2	1,-2
-----CAGUGCACUACAGAACUUUGU---	10	1,0
-----AGUGCACUACAGAACUUU-----	61	2,-2
-----AGUGCACUACAGAACUUUa----	3	2,-2
-----AGUGCACUACAGAACUUUG-----	40	2,-1
-----AGUGCACUACAGAACUUUGa----	55	2,-1
-----AGUGCACUACAGAACUUUGaa----	9	2,-1
-----AGUGCACUACAGAACUUUGU---	341	2,0
-----AGUGCACUACAGAACUUUGUa----	5	2,0
-----AGUGCACUACAGAACUUUGUaa----	4	2,0
-----AGUGCACUACAGAACUUUGUC----	17	2,1

caagcagcauuagcauuugaggugAAGUUCUGUUAUACACUCAGGCuguggcucucugaaagUCAGUGCAUCACAGAACU
UUGUcucgaaagcuuucua

.....((..(((.(((((((..((((((((.(.((((..(((....(.....)..)))))))).)).)))))))).
)..)))))))).)).)..

-----	UGAAGUUCUGUUAUACACU-----
-----	2 -2,-5
-----	UGAAGUUCUGUUAUACACUC-----
-----	3 -2,-4
-----	UGAAGUUCUGUUAUACACUCA-----
-----	2 -2,-3
-----	GAAGUUCUGUUAUACACU-----
-----	75 -1,-5
-----	GAAGUUCUGUUAUACACUC-----
-----	11 -1,-4

```

-----GAAGUUCUGUUAUACACUCA-----
----- 12  -1,-3
-----GAAGUUCUGUUAUACACUCAa-----
----- 5  -1,-3
-----GAAGUUCUGUUAUACACUCAG-----
----- 22  -1,-2
-----GAAGUUCUGUUAUACACUCAGG-----
----- 59  -1,-1
-----GAAGUUCUGUUAUACACUCAGGau-----
----- 3  -1,-1
-----GAAGUUCUGUUAUACACUCAGGC-----
----- 6  -1,0
-----GAAGUUCUGUUAUACACUCAGGCa-----
----- 4  -1,0
-----GAAGUUCUGUUAUACACUCAGGCaa-----
----- 2  -1,0
-----GAAGUUCUGUUAUACACUCAGGCau-----
----- 15  -1,0
-----GAAGUUCUGUUAUACACUCAGGCU-----
----- 154  -1,1
-----GAAGUUCUGUUAUACACUCAGGCUa-----
----- 3  -1,1
-----GAAGUUCUGUUAUACACUCAGGCUu-----
----- 8  -1,1
-----AAGUUCUGUUAUACACUCA-----
----- 3  0,-3
-----AAGUUCUGUUAUACACUCAGGCa-----
----- 3  0,0
-----AAGUUCUGUUAUACACUCAGGCaa-----
----- 3  0,0
-----AAGUUCUGUUAUACACUCAGGCU-----
----- 7  0,1
-----GUCAGUGCAUCACAGAACU
UUGU----- 3  -1,0
-----UCAGUGCAUCACAGAACU
----- 9553  0,-4
-----UCAGUGCAUCACAGAACU
U----- 520 0,-3

```


-----				UCAGUGCAUCACAGAACU
Ua-----	4	0,-3		
-----				UCAGUGCAUCACAGAACU
Uaa-----	2	0,-3		
-----				UCAGUGCAUCACAGAACU
UU-----	2777	0,-2		
-----				UCAGUGCAUCACAGAACU
Uua-----	10	0,-2		
-----				UCAGUGCAUCACAGAACU
Uuaa-----	4	0,-2		
-----				UCAGUGCAUCACAGAACU
Uuu-----	7	0,-2		
-----				UCAGUGCAUCACAGAACU
UUG-----	679	0,-1		
-----				UCAGUGCAUCACAGAACU
UUGa-----	803	0,-1		
-----				UCAGUGCAUCACAGAACU
UUGaa-----	94	0,-1		
-----				UCAGUGCAUCACAGAACU
UUGU-----	5042	0,0		
-----				UCAGUGCAUCACAGAACU
UUGUa-----	86	0,0		
-----				UCAGUGCAUCACAGAACU
UUGUaa-----	28	0,0		
-----				UCAGUGCAUCACAGAACU
UUGUau-----	19	0,0		
-----				UCAGUGCAUCACAGAACU
UUGUu-----	466	0,0		
-----				UCAGUGCAUCACAGAACU
UUGUuu-----	39	0,0		
-----				UCAGUGCAUCACAGAACU
UUGUC-----	2	0,1		
-----				CAGUGCAUCACAGAACU
UUGU-----	6	1,0		
-----				AGUGCAUCACAGAACU
UU-----	57	2,-2		
-----				AGUGCAUCACAGAACU
UUG-----	10	2,-1		

```

-----AGUGCAUCACAGAACU
UUGa----- 9 2,-1
-----AGUGCAUCACAGAACU
UUGU----- 109 2,0
-----AGUGCAUCACAGAACU
UUGUa----- 3 2,0
-----AGUGCAUCACAGAACU
UUGUaa----- 3 2,0
-----AGUGCAUCACAGAACU
UUGUu----- 10 2,0

```

>hsa-mir-149 MA:15-37;mi:56-76 SRX018971

```

gccggcgccccgagcUCUGGCUCCGUGUCUUCACUCCcgugcuuguccgaggaggAGGGAGGGACGGGGGCUUGUCuggg
gcagcugga

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UCUGGCUCCGUGUCUUCAC-----
----- 2 0,-4
-----UCUGGCUCCGUGUCUUCACU-----
----- 3 0,-3
-----UCUGGCUCCGUGUCUUCACUC-----
----- 5 0,-2
-----UCUGGCUCCGUGUCUUCACUCC-----
----- 15 0,-1
-----UCUGGCUCCGUGUCUUCACUCCC-----
----- 15 0,0
-----UCUGGCUCCGUGUCUUCACUCCCau-----
----- 3 0,0

```

>hsa-mir-150 MA:16-37;mi:51-72 SRX018971

```

cuccccauggcccugUCUCCCAACCCUUGUACCAGUGcugggcucagaccCUGGUACAGGCCUGGGGGACAGggaccugg
ggac

```

```

((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UGUCUCCCAACCCUUGUACCAG-----
----- 3 -2,-2
-----UCUCCCAACCCUUGUACC-----
----- 61 0,-4

```



```

-----CUCGAGGAGCUCACAGUCUAGUA-----
----- 22 -1,1
-----CUCGAGGAGCUCACAGUCUAGUAa-----
----- 8 -1,1
-----CUCGAGGAGCUCACAGUCUAGUAU-----
----- 4 -1,2
-----UCGAGGAGCUCACAGUCU-----
----- 19 0,-3
-----UCGAGGAGCUCACAGUCUA-----
----- 317 0,-2
-----UCGAGGAGCUCACAGUCUAa-----
----- 6 0,-2
-----UCGAGGAGCUCACAGUCUAaa-----
----- 2 0,-2
-----UCGAGGAGCUCACAGUCUAu-----
----- 3 0,-2
-----UCGAGGAGCUCACAGUCUAuu-----
----- 5 0,-2
-----UCGAGGAGCUCACAGUCUAG-----
----- 280 0,-1
-----UCGAGGAGCUCACAGUCUAGa-----
----- 55 0,-1
-----UCGAGGAGCUCACAGUCUAGaa-----
----- 19 0,-1
-----UCGAGGAGCUCACAGUCUAGU-----
----- 3922 0,0
-----UCGAGGAGCUCACAGUCUAGUu-----
----- 17 0,0
-----UCGAGGAGCUCACAGUCUAGUA-----
----- 1221 0,1
-----UCGAGGAGCUCACAGUCUAGUAa-----
----- 509 0,1
-----UCGAGGAGCUCACAGUCUAGUAaa-----
----- 24 0,1
-----UCGAGGAGCUCACAGUCUAGUAU-----
----- 129 0,2
-----UCGAGGAGCUCACAGUCUAGUAUa-----
----- 4 0,2

```

```

-----UCGAGGAGCUCACAGUCUAGUAUu-----
----- 4 0,2
-----UCGAGGAGCUCACAGUCUAGUAUG-----
----- 8 0,3
-----CGAGGAGCUCACAGUCUA-----
----- 2 1,-2
-----CGAGGAGCUCACAGUCUAGU-----
----- 7 1,0
-----CGAGGAGCUCACAGUCUAGUu-----
----- 3 1,0
-----CGAGGAGCUCACAGUCUAGUA-----
----- 5 1,1
-----CGAGGAGCUCACAGUCUAGUAau-----
----- 2 1,1
-----CGAGGAGCUCACAGUCUAGUAU-----
----- 3 1,2
-----CGAGGAGCUCACAGUCUAGUAUG-----
----- 2 1,3
-----GAGGAGCUCACAGUCUAG-----
----- 7 2,-1
-----GAGGAGCUCACAGUCUAGU-----
----- 84 2,0
-----GAGGAGCUCACAGUCUAGUu-----
----- 4 2,0
-----GAGGAGCUCACAGUCUAGUA-----
----- 30 2,1
-----GAGGAGCUCACAGUCUAGUAa-----
----- 17 2,1
-----GAGGAGCUCACAGUCUAGUAU-----
----- 10 2,2
-----GAGGAGCUCACAGUCUAGUAUu-----
----- 2 2,2
-----UACUAGACUGAAGCUCCUU-----
----- 2 -2,-4
-----UACUAGACUGAAGCUCCUUG-----
----- 7 -2,-3
-----UACUAGACUGAAGCUCCUUGu-----
----- 4 -2,-3

```

-----		-UACUAGACUGAAGCUCCUUGA-----
-----	368 -2,-2	
-----		-UACUAGACUGAAGCUCCUUGAa-----
-----	192 -2,-2	
-----		-UACUAGACUGAAGCUCCUUGAaa-----
-----	42 -2,-2	
-----		-UACUAGACUGAAGCUCCUUGAu-----
-----	10 -2,-2	
-----		-UACUAGACUGAAGCUCCUUGAG-----
-----	784 -2,-1	
-----		-UACUAGACUGAAGCUCCUUGAGa-----
-----	216 -2,-1	
-----		-UACUAGACUGAAGCUCCUUGAGaa-----
-----	18 -2,-1	
-----		-UACUAGACUGAAGCUCCUUGAGau-----
-----	6 -2,-1	
-----		-UACUAGACUGAAGCUCCUUGAGu-----
-----	48 -2,-1	
-----		-UACUAGACUGAAGCUCCUUGAGG-----
-----	297 -2,0	
-----		-UACUAGACUGAAGCUCCUUGAGGu-----
-----	43 -2,0	
-----		-UACUAGACUGAAGCUCCUUGAGGA-----
-----	142 -2,1	
-----		-UACUAGACUGAAGCUCCUUGAGGAa-----
-----	41 -2,1	
-----		-UACUAGACUGAAGCUCCUUGAGGAu-----
-----	5 -2,1	
-----		-ACUAGACUGAAGCUCCUUG-----
-----	3 -1,-3	
-----		-ACUAGACUGAAGCUCCUUGu-----
-----	2 -1,-3	
-----		-ACUAGACUGAAGCUCCUUGA-----
-----	28 -1,-2	
-----		-ACUAGACUGAAGCUCCUUGAa-----
-----	27 -1,-2	
-----		-ACUAGACUGAAGCUCCUUGAaa-----
-----	13 -1,-2	

```

-----ACUAGACUGAAGCUCCUUGAG-----
----- 102 -1,-1
-----ACUAGACUGAAGCUCCUUGAGa-----
----- 25 -1,-1
-----ACUAGACUGAAGCUCCUUGAGaa-----
----- 6 -1,-1
-----ACUAGACUGAAGCUCCUUGAGau-----
----- 5 -1,-1
-----ACUAGACUGAAGCUCCUUGAGu-----
----- 9 -1,-1
-----ACUAGACUGAAGCUCCUUGAGG-----
----- 127 -1,0
-----ACUAGACUGAAGCUCCUUGAGGu-----
----- 26 -1,0
-----ACUAGACUGAAGCUCCUUGAGGuu-----
----- 3 -1,0
-----ACUAGACUGAAGCUCCUUGAGGA-----
----- 105 -1,1
-----ACUAGACUGAAGCUCCUUGAGGAa-----
----- 30 -1,1
-----ACUAGACUGAAGCUCCUUGAGGAaa-----
----- 8 -1,1
-----CUAGACUGAAGCUCCUUG-----
----- 17 0,-3
-----CUAGACUGAAGCUCCUUGu-----
----- 3 0,-3
-----CUAGACUGAAGCUCCUUGA-----
----- 570 0,-2
-----CUAGACUGAAGCUCCUUGAa-----
----- 204 0,-2
-----CUAGACUGAAGCUCCUUGAaa-----
----- 138 0,-2
-----CUAGACUGAAGCUCCUUGAau-----
----- 3 0,-2
-----CUAGACUGAAGCUCCUUGAu-----
----- 20 0,-2
-----CUAGACUGAAGCUCCUUGAG-----
----- 2187 0,-1

```

-----				-CUAGACUGAAGCUCCUUGAGa-----
-----	628	0,-1		
-----				-CUAGACUGAAGCUCCUUGAGaa-----
-----	172	0,-1		
-----				-CUAGACUGAAGCUCCUUGAGau-----
-----	21	0,-1		
-----				-CUAGACUGAAGCUCCUUGAGu-----
-----	222	0,-1		
-----				-CUAGACUGAAGCUCCUUGAGuu-----
-----	8	0,-1		
-----				-CUAGACUGAAGCUCCUUGAGG-----
-----	3268	0,0		
-----				-CUAGACUGAAGCUCCUUGAGGu-----
-----	243	0,0		
-----				-CUAGACUGAAGCUCCUUGAGGuu-----
-----	27	0,0		
-----				-CUAGACUGAAGCUCCUUGAGGA-----
-----	1991	0,1		
-----				-CUAGACUGAAGCUCCUUGAGGAa-----
-----	1754	0,1		
-----				-CUAGACUGAAGCUCCUUGAGGAaa-----
-----	1555	0,1		
-----				-CUAGACUGAAGCUCCUUGAGGAau-----
-----	631	0,1		
-----				-CUAGACUGAAGCUCCUUGAGGAu-----
-----	405	0,1		
-----				-CUAGACUGAAGCUCCUUGAGGAuu-----
-----	69	0,1		
-----				-CUAGACUGAAGCUCCUUGAGGAC-----
-----	94	0,2		
-----				-CUAGACUGAAGCUCCUUGAGGACu-----
-----	29	0,2		
-----				-CUAGACUGAAGCUCCUUGAGGACA-----
-----	27	0,3		
-----				-CUAGACUGAAGCUCCUUGAGGACAa-----
-----	2	0,3		
-----				-UAGACUGAAGCUCCUUGA-----
-----	10	1,-2		


```

-----UAGACUGAAGCUCCUUGAa-----
----- 3 1,-2-----
-----UAGACUGAAGCUCCUUGAG-----
----- 41 1,-1-----
-----UAGACUGAAGCUCCUUGAGa-----
----- 10 1,-1-----
-----UAGACUGAAGCUCCUUGAGaa-----
----- 5 1,-1-----
-----UAGACUGAAGCUCCUUGAGu-----
----- 2 1,-1-----
-----UAGACUGAAGCUCCUUGAGG-----
----- 90 1,0-----
-----UAGACUGAAGCUCCUUGAGGu-----
----- 8 1,0-----
-----UAGACUGAAGCUCCUUGAGGA-----
----- 129 1,1-----
-----UAGACUGAAGCUCCUUGAGGAa-----
----- 106 1,1-----
-----UAGACUGAAGCUCCUUGAGGAaa-----
----- 83 1,1-----
-----UAGACUGAAGCUCCUUGAGGAau-----
----- 21 1,1-----
-----UAGACUGAAGCUCCUUGAGGAu-----
----- 39 1,1-----
-----UAGACUGAAGCUCCUUGAGGAuu-----
----- 3 1,1-----
-----UAGACUGAAGCUCCUUGAGGAC-----
----- 51 1,2-----
-----UAGACUGAAGCUCCUUGAGGACu-----
----- 5 1,2-----
-----UAGACUGAAGCUCCUUGAGGACA-----
----- 15 1,3-----
-----AGACUGAAGCUCCUUGAGGA-----
----- 3 2,1-----
-----AGACUGAAGCUCCUUGAGGAaa-----
----- 4 2,1-----
-----AGACUGAAGCUCCUUGAGGAuu-----
----- 5 2,1-----

```

```

-----AGACUGAAGCUCCUUGAGGAC-----
----- 26 2,2
-----AGACUGAAGCUCCUUGAGGACu-----
----- 3 2,2
-----AGACUGAAGCUCCUUGAGGACA-----
----- 10 2,3

```

>hsa-mir-152 3p:54-74 SRX018971

```

ugucggggggggggcagguucugugauacacuccgacucgggcucuggagcagUCAGUGCAUGACAGAACUUGGgcccgg
aaggacc

```

```

(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))).

```

```

-----AGGUUCUGUGAUACACUCCGAC-----
----- 2
-----GUCAGUGCAUGACAGAAC-----
----- 3 -1,-4
-----GUCAGUGCAUGACAGAACUUGGa-----
----- 4 -1,0
-----GUCAGUGCAUGACAGAACUUGGaa-----
----- 2 -1,0
-----UCAGUGCAUGACAGAACU-----
----- 2361 0,-3
-----UCAGUGCAUGACAGAACUaa-----
----- 3 0,-3
-----UCAGUGCAUGACAGAACUU-----
----- 223 0,-2
-----UCAGUGCAUGACAGAACUUa-----
----- 7 0,-2
-----UCAGUGCAUGACAGAACUUu-----
----- 2 0,-2
-----UCAGUGCAUGACAGAACUUG-----
----- 482 0,-1
-----UCAGUGCAUGACAGAACUUGa-----
----- 37 0,-1
-----UCAGUGCAUGACAGAACUUGaa-----
----- 9 0,-1
-----UCAGUGCAUGACAGAACUUGu-----
----- 6 0,-1

```

-----			-----UCAGUGCAUGACAGAACUUGG-----
-----	2885	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGa-----
-----	765	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGaa-----
-----	264	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGau-----
-----	15	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGu-----
-----	1011	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGuu-----
-----	61	0,0	
-----			-----UCAGUGCAUGACAGAACUUGGG-----
-----	2206	0,1	
-----			-----UCAGUGCAUGACAGAACUUGGGa-----
-----	570	0,1	
-----			-----UCAGUGCAUGACAGAACUUGGGaa-----
-----	447	0,1	
-----			-----UCAGUGCAUGACAGAACUUGGGau-----
-----	39	0,1	
-----			-----UCAGUGCAUGACAGAACUUGGGu-----
-----	589	0,1	
-----			-----UCAGUGCAUGACAGAACUUGGGuu-----
-----	37	0,1	
-----			-----CAGUGCAUGACAGAACUUGGa-----
-----	2	1,0	
-----			-----AGUGCAUGACAGAACUUG-----
-----	13	2,-1	
-----			-----AGUGCAUGACAGAACUUGG-----
-----	64	2,0	
-----			-----AGUGCAUGACAGAACUUGGa-----
-----	11	2,0	
-----			-----AGUGCAUGACAGAACUUGGaa-----
-----	7	2,0	
-----			-----AGUGCAUGACAGAACUUGGu-----
-----	19	2,0	
-----			-----AGUGCAUGACAGAACUUGGuu-----
-----	2	2,0	

-----AGUGCAUGACAGAACUUGGG-----
 ----- 44 2,1 -----
 -----AGUGCAUGACAGAACUUGGGa-----
 ----- 23 2,1 -----
 -----AGUGCAUGACAGAACUUGGGu-----
 ----- 8 2,1 -----

```

>hsa-mir-153-1 3p:54-75 SRX018971
cucacagcugccagugucauuuuuugugaucugcagcuaguauucucacuccagUUGCAUAGUCACAAAAGUGAUCauugg
cagguguggc
.(((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).)))))).))))))
)))))).)))))).
-----GUCAUUUUUGUGAUCUGCA-----
----- 2 -----
-----UUGCAUAGUCACAAAAGUG-----
----- 2 0,-3 -----
-----UUGCAUAGUCACAAAAGUGAUC-----
----- 6 0,1 -----

```

```
>hsa-mir-153-2 3p:53-74 SRX018971
agcggguggccagugucauuuuugugauguugcagcuagaaauaugagcccagUUGCAUAGUCACAAAAGUGAUCauugga
aacugug
.((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))).))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
.)))))).
-----UUGCAUAGUCACAAAAGUG-----
----- 2 0,-3
-----UUGCAUAGUCACAAAAGUGAUC-----
----- 6 0,1
```

```

>hsa-mir-1537    3p:40-61    SRX018971
acagcuguaaauagucaguuuucuguccuguccacacagAAAACCGUCUAGUUACAGUUGU
(((((((((((((((((.((((((((.....)))))))))).).)))))))))))))
-----AAAACCGUCUAGUUACAG----- 22  0,-4
-----AAAACCGUCUAGUUACAGU--- 22  0,-3
-----AAAACCGUCUAGUUACAGUU-- 4  0,-2
-----AAAACCGUCUAGUUACAGUUGU 5  0,0
-----AAACCGUCUAGUUACAGUUGU 2  1,0

```

>hsa-mir-1538 3p:39-61 SRX018971
 gggaacagcagcaacaugggccucgcuuccugccggcgCGGCCCCGGGCUGCUGCUGUCCU
 ((((((((((((((.(.(((((((.(.....))))).)))))).).)))))))))
 ---AACAGCAGCAACAUGGGCCUC----- 2

>hsa-mir-154 MA:15-36;mi:51-72 SRX018971
 gugguacuugaagaUAGGUUAUCCGUGUUGCCUUCGcuuuauugugacgAAUCAUACACGGUUGACCUAUuuucagua
 ccaa
 .(((((((.(((((((((((((((.(.(((((((.(.....))))).)))))).).)))))))))
)))
 -----UAGGUUAUCCGUGUUGCCU-----
 ---- 3 0,-2
 -----UAGGUUAUCCGUGUUGCCUUC-----
 ---- 2 0,-1
 -----UAGGUUAUCCGUGUUGCCUUCG-----
 ---- 66 0,0
 -----UAGGUUAUCCGUGUUGCCUUCGu-----
 ---- 4 0,0
 -----AAUCAUACACGGUUGACCUAUU-----
 ---- 3 0,0

>hsa-mir-155 MA:4-26;mi:43-64 SRX018971
 cugUUA AUGCUAAUCGUGAUAGGGGUuuuugccuccaacugaCUCCUACAUAUUAGCAUUAACAg
 ((((((((((((((.(.(((((((((((.(.....))))).)))))).).)))))))))
 ---UUA AUGCUAAUCGUGAU----- 267 0,-5
 ---UUA AUGCUAAUCGUGAUAG----- 46 0,-4
 ---UUA AUGCUAAUCGUGAUAGG----- 24 0,-3
 ---UUA AUGCUAAUCGUGAUAGGG----- 62 0,-2
 ---UUA AUGCUAAUCGUGAUAGGGa----- 6 0,-2
 ---UUA AUGCUAAUCGUGAUAGGGau----- 2 0,-2
 ---UUA AUGCUAAUCGUGAUAGGGG----- 31 0,-1
 ---UUA AUGCUAAUCGUGAUAGGGGU----- 57 0,0
 ---UUA AUGCUAAUCGUGAUAGGGGUau----- 9 0,0
 ---UUA AUGCUAAUCGUGAUAGGGGUU----- 38 0,1
 ---UUA AUGCUAAUCGUGAUAGGGGUUa----- 5 0,1
 ---UUA AUGCUAAUCGUGAUAGGGGUUU----- 15 0,2
 ---UUA AUGCUAAUCGUGAUAGGGGU----- 4 1,0
 ---UUA AUGCUAAUCGUGAUAGGGGUU----- 2 1,1

>hsa-mir-15a MA:14-35;mi:51-72 SRX018971

ccuuggaguaaagUAGCAGCACAUAAUGGUUUGGgauuuugaaaaggugCAGGCCAUAUUGUGCCUCAaaaauaca
agg

(((((.....(..((((((((.....((((((((.....((.....))..))))))))))..))))))..)).....))
)))

-----UAGCAGCACAUAAUGGUU-----

--- 172 0,-4

-----UAGCAGCACAUAAUGGUUaa-----

--- 5 0,-4

-----UAGCAGCACAUAAUGGUUU-----

--- 2629 0,-3

-----UAGCAGCACAUAAUGGUUUa-----

--- 20 0,-3

-----UAGCAGCACAUAAUGGUUUau-----

--- 2 0,-3

-----UAGCAGCACAUAAUGGUUUu-----

--- 10 0,-3

-----UAGCAGCACAUAAUGGUUUuu-----

--- 4 0,-3

-----UAGCAGCACAUAAUGGUUUG-----

--- 1592 0,-2

-----UAGCAGCACAUAAUGGUUUGa-----

--- 27 0,-2

-----UAGCAGCACAUAAUGGUUUGaa-----

--- 3 0,-2

-----UAGCAGCACAUAAUGGUUUGU-----

--- 1501 0,-1

-----UAGCAGCACAUAAUGGUUUGUa-----

--- 6 0,-1

-----UAGCAGCACAUAAUGGUUUGUaa-----

--- 4 0,-1

-----UAGCAGCACAUAAUGGUUUGUau-----

--- 2 0,-1

-----UAGCAGCACAUAAUGGUUUGUu-----

--- 2 0,-1

-----UAGCAGCACAUAAUGGUUUGUG-----

--- 236 0,0


```

-----UAGCAGCACAUCAUGGUUUu-----
----- 10 0,-3
-----UAGCAGCACAUCAUGGUUUA-----
----- 2568 0,-2
-----UAGCAGCACAUCAUGGUUUAa-----
----- 146 0,-2
-----UAGCAGCACAUCAUGGUUUAaa-----
----- 68 0,-2
-----UAGCAGCACAUCAUGGUUUu-----
----- 12 0,-2
-----UAGCAGCACAUCAUGGUUUuu-----
----- 9 0,-2
-----UAGCAGCACAUCAUGGUUUAC-----
----- 1619 0,-1
-----UAGCAGCACAUCAUGGUUUACu-----
----- 14 0,-1
-----UAGCAGCACAUCAUGGUUUACA-----
----- 7091 0,0
-----UAGCAGCACAUCAUGGUUUACAa-----
----- 167 0,0
-----UAGCAGCACAUCAUGGUUUACAaa-----
----- 12 0,0
-----UAGCAGCACAUCAUGGUUUACAU-----
----- 28 0,1
-----UAGCAGCACAUCAUGGUUUACAUa-----
----- 3 0,1
-----UAGCAGCACAUCAUGGUUUACAUu-----
----- 10 0,1
-----UAGCAGCACAUCAUGGUUUACAUuu-----
----- 2 0,1
-----AGCAGCACAUCAUGGUUU-----
----- 3 1,-3
-----AGCAGCACAUCAUGGUUUA-----
----- 28 1,-2
-----AGCAGCACAUCAUGGUUUAC-----
----- 9 1,-1
-----AGCAGCACAUCAUGGUUUACA-----
----- 54 1,0

```



```

-----AGCAGCACAUCAUGGUUUACAa-----
----- 2 1,0
-----GCAGCACAUCAUGGUUUAC-----
----- 4 2,-1
-----GCAGCACAUCAUGGUUUACA-----
----- 7 2,0
-----GCAGCACAUCAUGGUUUACAa-----
----- 3 2,0
-----CGAAUCAUUUUUGCUGC-----
----- 69 0,-4
-----CGAAUCAUUUUUGCUGCU-----
----- 134 0,-3
-----CGAAUCAUUUUUGCUGCUC-----
----- 43 0,-2
-----CGAAUCAUUUUUGCUGCUCau-----
----- 2 0,-2
-----CGAAUCAUUUUUGCUGCUCU-----
----- 24 0,-1
-----CGAAUCAUUUUUGCUGCUCUu-----
----- 4 0,-1
-----CGAAUCAUUUUUGCUGCUCUA-----
----- 20 0,0
-----CGAAUCAUUUUUGCUGCUCUAa-----
----- 26 0,0
-----CGAAUCAUUUUUGCUGCUCUAa-----
a----- 6 0,0
-----CGAAUCAUUUUUGCUGCUCUAa-----
u----- 6 0,0
-----CGAAUCAUUUUUGCUGCUCUAu-----
----- 66 0,0
-----CGAAUCAUUUUUGCUGCUCUAG-----
----- 7 0,1
-----GAAUCAUUUUUGCUGCUCUAa-----
----- 2 1,0
-----GAAUCAUUUUUGCUGCUCUAu-----
----- 6 1,0

```

>hsa-mir-16-1 MA:14-35;mi:56-77 SRX018971

gucagcagugccuUAGCAGCACGUAAAUAUUGGCGuuaagauucuaaaauuauucuCCAGUAUUAACUGUGCUGCUGAagu
aagguugac

(((((...(((.((((((((((((((.(((((((((.(((((.....))))).)))))(((()).)))))(((()).))
)).))))))

-----UUAGCAGCACGUAAAUAUUGG-----
----- 5 -1,-2
-----UUAGCAGCACGUAAAUAUUGGCG-----
----- 4 -1,0
-----UAGCAGCACGUAAAUAUU-----
----- 990 0,-4
-----UAGCAGCACGUAAAUAUUa-----
----- 9 0,-4
-----UAGCAGCACGUAAAUAUUaa-----
----- 4 0,-4
-----UAGCAGCACGUAAAUAUUu-----
----- 2 0,-4
-----UAGCAGCACGUAAAUAUUG-----
----- 3119 0,-3
-----UAGCAGCACGUAAAUAUUGa-----
----- 16 0,-3
-----UAGCAGCACGUAAAUAUUGaa-----
----- 2 0,-3
-----UAGCAGCACGUAAAUAUUGu-----
----- 11 0,-3
-----UAGCAGCACGUAAAUAUUGG-----
----- 6318 0,-2
-----UAGCAGCACGUAAAUAUUGGa-----
----- 96 0,-2
-----UAGCAGCACGUAAAUAUUGGaa-----
----- 49 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
----- 24 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
----- 1172 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
----- 592 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
----- 209 0,-1

```

-----UAGCAGCACGUAAAUAUUGGCau-----
----- 74  0, -1
-----UAGCAGCACGUAAAUAUUGGCu-----
----- 26  0, -1
-----UAGCAGCACGUAAAUAUUGGCG-----
----- 22109  0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
----- 31  0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
----- 93  0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
----- 46  0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
----- 3688  0,1
-----UAGCAGCACGUAAAUAUUGGCGUU-----
----- 122  0,2
-----UAGCAGCACGUAAAUAUUGGCGUu-----
----- 19  0,2
-----AGCAGCACGUAAAUAUUG-----
----- 28  1, -3
-----AGCAGCACGUAAAUAUUGG-----
----- 19  1, -2
-----AGCAGCACGUAAAUAUUGGC-----
----- 2  1, -1
-----AGCAGCACGUAAAUAUUGGCaa-----
----- 5  1, -1
-----AGCAGCACGUAAAUAUUGGCau-----
----- 3  1, -1
-----AGCAGCACGUAAAUAUUGGCG-----
----- 209  1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
----- 60  1,1
-----GCAGCACGUAAAUAUUGG-----
----- 2  2, -2
-----GCAGCACGUAAAUAUUGGCG-----
----- 10  2,0
-----GCAGCACGUAAAUAUUGGCGU-----
----- 2  2,1

```

-----CCAGUAUUAACUGUGCUGCUG-----
----- 4 0,-1

>hsa-mir-16-2 MA:10-31;mi:53-74 SRX018971

guuccacucUAGCAGCACGUAAAUAUUGGCGuagugaaauauauuuuuaacaCCAAUAUUACUGUGCUGCUUUAguuguga
c

((..(((..((((((((..(((((((..((..((.....)))..))..))))))..))))))..))))..))
)

-----CUAGCAGCACGUAAAUAUU-----

- 4 -1,-4

-----CUAGCAGCACGUAAAUAUUGG-----

- 4 -1,-2

-----CUAGCAGCACGUAAAUAUUGGCau-----

- 2 -1,-1

-----CUAGCAGCACGUAAAUAUUGGCG-----

- 29 -1,0

-----CUAGCAGCACGUAAAUAUUGGCGU-----

- 2 -1,1

-----UAGCAGCACGUAAAUAUU-----

- 990 0,-4

-----UAGCAGCACGUAAAUAUUa-----

- 9 0,-4

-----UAGCAGCACGUAAAUAUUaa-----

- 4 0,-4

-----UAGCAGCACGUAAAUAUUu-----

- 2 0,-4

-----UAGCAGCACGUAAAUAUUG-----

- 3119 0,-3

-----UAGCAGCACGUAAAUAUUGa-----

- 16 0,-3

-----UAGCAGCACGUAAAUAUUGaa-----

- 2 0,-3

-----UAGCAGCACGUAAAUAUUGu-----

- 11 0,-3

-----UAGCAGCACGUAAAUAUUGG-----

- 6318 0,-2

-----UAGCAGCACGUAAAUAUUGGa-----

- 96 0,-2

```

-----UAGCAGCACGUAAAUAUUGGaa-----
- 49 0,-2
-----UAGCAGCACGUAAAUAUUGGu-----
- 24 0,-2
-----UAGCAGCACGUAAAUAUUGGC-----
- 1172 0,-1
-----UAGCAGCACGUAAAUAUUGGCa-----
- 592 0,-1
-----UAGCAGCACGUAAAUAUUGGCaa-----
- 209 0,-1
-----UAGCAGCACGUAAAUAUUGGCau-----
- 74 0,-1
-----UAGCAGCACGUAAAUAUUGGCu-----
- 26 0,-1
-----UAGCAGCACGUAAAUAUUGGCG-----
- 22109 0,0
-----UAGCAGCACGUAAAUAUUGGCGa-----
- 31 0,0
-----UAGCAGCACGUAAAUAUUGGCGaa-----
- 93 0,0
-----UAGCAGCACGUAAAUAUUGGCGau-----
- 46 0,0
-----UAGCAGCACGUAAAUAUUGGCGU-----
- 3688 0,1
-----UAGCAGCACGUAAAUAUUGGCGUA-----
- 97 0,2
-----UAGCAGCACGUAAAUAUUGGCGUAa-----
- 17 0,2
-----UAGCAGCACGUAAAUAUUGGCGUAu-----
- 5 0,2
-----UAGCAGCACGUAAAUAUUGGCGUAG-----
- 2 0,3
-----AGCAGCACGUAAAUAUUG-----
- 28 1,-3
-----AGCAGCACGUAAAUAUUGG-----
- 19 1,-2
-----AGCAGCACGUAAAUAUUGGC-----
- 2 1,-1

```

```

-----AGCAGCACGUAAAUAUUGGCaa-----
- 5 1,-1
-----AGCAGCACGUAAAUAUUGGCau-----
- 3 1,-1
-----AGCAGCACGUAAAUAUUGGCG-----
- 209 1,0
-----AGCAGCACGUAAAUAUUGGCGU-----
- 60 1,1
-----AGCAGCACGUAAAUAUUGGCGUA-----
- 3 1,2
-----GCAGCACGUAAAUAUUGG-----
- 2 2,-2
-----GCAGCACGUAAAUAUUGGCG-----
- 10 2,0
-----GCAGCACGUAAAUAUUGGCGU-----
- 2 2,1
-----CACCAUAUUACUGUGCUGCUau-----
- 2 -2,-3
-----CACCAUAUUACUGUGCUGCUU-----
- 3 -2,-2
-----ACCAUAUUACUGUGCUG-----
- 7 -1,-5
-----ACCAUAUUACUGUGCUGC-----
- 4 -1,-4
-----ACCAUAUUACUGUGCUGCU-----
- 34 -1,-3
-----ACCAUAUUACUGUGCUGCUau-----
- 4 -1,-3
-----ACCAUAUUACUGUGCUGCUU-----
- 62 -1,-2
-----ACCAUAUUACUGUGCUGCUUa-----
- 3 -1,-2
-----ACCAUAUUACUGUGCUGCUUaa-----
- 3 -1,-2
-----ACCAUAUUACUGUGCUGCUUau-----
- 8 -1,-2
-----ACCAUAUUACUGUGCUGCUUU-----
- 272 -1,-1

```



```

-----UCAAAGUGCUUACAGUGCAGGUA-----
---- 25 -1, -1
-----UCAAAGUGCUUACAGUGCAGGUAu-----
---- 16 -1, -1
-----UCAAAGUGCUUACAGUGCAGGUAG-----
---- 4 -1, 0
-----CAAAGUGCUUACAGUGCA-----
---- 250 0, -5
-----CAAAGUGCUUACAGUGCAa-----
---- 20 0, -5
-----CAAAGUGCUUACAGUGCAu-----
---- 3 0, -5
-----CAAAGUGCUUACAGUGCAG-----
---- 2247 0, -4
-----CAAAGUGCUUACAGUGCAGa-----
---- 8 0, -4
-----CAAAGUGCUUACAGUGCAGau-----
---- 3 0, -4
-----CAAAGUGCUUACAGUGCAGu-----
---- 14 0, -4
-----CAAAGUGCUUACAGUGCAGuu-----
---- 2 0, -4
-----CAAAGUGCUUACAGUGCAGG-----
---- 1782 0, -3
-----CAAAGUGCUUACAGUGCAGGa-----
---- 32 0, -3
-----CAAAGUGCUUACAGUGCAGGaa-----
---- 41 0, -3
-----CAAAGUGCUUACAGUGCAGGU-----
---- 1688 0, -2
-----CAAAGUGCUUACAGUGCAGGUu-----
---- 23 0, -2
-----CAAAGUGCUUACAGUGCAGGUuu-----
---- 5 0, -2
-----CAAAGUGCUUACAGUGCAGGUA-----
---- 2208 0, -1
-----CAAAGUGCUUACAGUGCAGGUAa-----
---- 990 0, -1

```



```

-----CAAAGUGCUUACAGUGCAGGUAaa-----
---- 40 0,-1
-----CAAAGUGCUUACAGUGCAGGUAau-----
---- 20 0,-1
-----CAAAGUGCUUACAGUGCAGGUAu-----
---- 667 0,-1
-----CAAAGUGCUUACAGUGCAGGUAuu-----
---- 2 0,-1
-----CAAAGUGCUUACAGUGCAGGUAG-----
---- 1545 0,0
-----CAAAGUGCUUACAGUGCAGGUAga-----
---- 59 0,0
-----CAAAGUGCUUACAGUGCAGGUAGU-----
---- 137 0,1
-----AAAGUGCUUACAGUGCAG-----
---- 42 1,-4
-----AAAGUGCUUACAGUGCAGG-----
---- 28 1,-3
-----AAAGUGCUUACAGUGCAGGU-----
---- 68 1,-2
-----AAAGUGCUUACAGUGCAGGUu-----
---- 2 1,-2
-----AAAGUGCUUACAGUGCAGGUA-----
---- 73 1,-1
-----AAAGUGCUUACAGUGCAGGUAa-----
---- 36 1,-1
-----AAAGUGCUUACAGUGCAGGUAaa-----
---- 3 1,-1
-----AAAGUGCUUACAGUGCAGGUAu-----
---- 26 1,-1
-----AAAGUGCUUACAGUGCAGGUAG-----
---- 58 1,0
-----AAAGUGCUUACAGUGCAGGUAga-----
---- 2 1,0
-----AAAGUGCUUACAGUGCAGGUAGU-----
---- 3 1,1
-----UACUGCAGUGAAGGCACUUGU-----
---- 12 -1,-2

```

		-ACUGCAGUGAAGGCACUU-
----	186 0,-4	
		-ACUGCAGUGAAGGCACUUG-
----	357 0,-3	
		-ACUGCAGUGAAGGCACUUGU-
----	805 0,-2	
		-ACUGCAGUGAAGGCACUUGUA-
----	139 0,-1	
		-ACUGCAGUGAAGGCACUUGUAa-
----	18 0,-1	
		-ACUGCAGUGAAGGCACUUGUAu-
----	5 0,-1	
		-ACUGCAGUGAAGGCACUUGUAG-
----	42 0,0	
		-ACUGCAGUGAAGGCACUUGUAGa-
----	7 0,0	
		-ACUGCAGUGAAGGCACUUGUAGau-
----	2 0,0	
		-ACUGCAGUGAAGGCACUUGUAGC-
----	4 0,1	
		-ACUGCAGUGAAGGCACUUGUAGCu-
----	4 0,1	
		-ACUGCAGUGAAGGCACUUGUAGCA-
----	9 0,2	
		-CUGCAGUGAAGGCACUUG-
----	20 1,-3	
		-CUGCAGUGAAGGCACUUGU-
----	20 1,-2	
		-CUGCAGUGAAGGCACUUGUA-
----	5 1,-1	
		-CUGCAGUGAAGGCACUUGUAGC-
----	2 1,1	
		-CUGCAGUGAAGGCACUUGUAGCA-
----	7 1,2	
		-UGCAGUGAAGGCACUUGU-
----	6 2,-2	
		-UGCAGUGAAGGCACUUGUAG-
----	2 2,0	

>hsa-mir-181a-1 MA:24-46;mi:64-85 SRX018971

ugaguuuugagguugcuucagugAACAUUCAACGCUGUCGGUGAGUuuggaauuaaaaucaaaACCAUCGACCGUUGAUU
GUACCcuauggcuaaccaucaucuacucca

.((((..((((((((((((..((..(((..((((((..((((((..((((..((.....)).)))))))))))))))))))).)
)).)).)).)).)).)).)).)).)).)).).

-----GAACAUUCAACGCUGUCGGU-----

----- 2 -1,-4

-----GAACAUUCAACGCUGUCGGUG-----

----- 2 -1,-3

-----GAACAUUCAACGCUGUCGGUGAG-----

----- 4 -1,-1

-----AACAUUCAACGCUGUCGG-----

----- 3000 0,-5

-----AACAUUCAACGCUGUCGGU-----

----- 155 0,-4

-----AACAUUCAACGCUGUCGGUa-----

----- 7 0,-4

-----AACAUUCAACGCUGUCGGUaa-----

----- 67 0,-4

-----AACAUUCAACGCUGUCGGUau-----

----- 30 0,-4

-----AACAUUCAACGCUGUCGGUu-----

----- 4 0,-4

-----AACAUUCAACGCUGUCGGUG-----

----- 654 0,-3

-----AACAUUCAACGCUGUCGGUGu-----

----- 22 0,-3

-----AACAUUCAACGCUGUCGGUGuu-----

----- 2 0,-3

-----AACAUUCAACGCUGUCGGUGA-----

----- 631 0,-2

-----AACAUUCAACGCUGUCGGUGAa-----

----- 15 0,-2

-----AACAUUCAACGCUGUCGGUGAaa-----

----- 5 0,-2

-----AACAUUCAACGCUGUCGGUGAu-----

----- 10 0,-2

-----	-AACAUUCAACGCUGUCGGUGAuu-	-----
-----	4 0,-2	
-----	-AACAUUCAACGCUGUCGGUGAG-	-----
-----	8682 0,-1	
-----	-AACAUUCAACGCUGUCGGUGAGa-	-----
-----	24 0,-1	
-----	-AACAUUCAACGCUGUCGGUGAGau-	-----
-----	9 0,-1	
-----	-AACAUUCAACGCUGUCGGUGAGU-	-----
-----	763 0,0	
-----	-AACAUUCAACGCUGUCGGUGAGUa-	-----
-----	4 0,0	
-----	-AACAUUCAACGCUGUCGGUGAGUaa-	-----
-----	25 0,0	
-----	-AACAUUCAACGCUGUCGGUGAGUau-	-----
-----	7 0,0	
-----	-AACAUUCAACGCUGUCGGUGAGUU-	-----
-----	770 0,1	
-----	-AACAUUCAACGCUGUCGGUGAGUUa-	-----
-----	33 0,1	
-----	-AACAUUCAACGCUGUCGGUGAGUUU-	-----
-----	742 0,2	
-----	-ACAUUCAACGCUGUCGGUGAG-	-----
-----	29 1,-1	
-----	-ACAUUCAACGCUGUCGGUGAGU-	-----
-----	2 1,0	
-----	-ACAUUCAACGCUGUCGGUGAGUU-	-----
-----	2 1,1	
-----	-ACAUUCAACGCUGUCGGUGAGUUU-	-----
-----	2 1,2	
-----		-----AAACCAUCGACCGUUGAUU
-----	2 -2,-5	
-----		-----AACCAUCGACCGUUGAUU
GUAC-----	5 -1,-1	
-----		-----ACCAUCGACCGUUGAUU
G-----	16 0,-4	
-----		-----ACCAUCGACCGUUGAUU
GU-----	10 0,-3	

```

-----ACCAUCGACCGUUGAUU
GUA----- 2 0,-2
-----ACCAUCGACCGUUGAUU
GUAa----- 5 0,-2
-----ACCAUCGACCGUUGAUU
GUAu----- 2 0,-2
-----ACCAUCGACCGUUGAUU
GUAC----- 6 0,-1
-----ACCAUCGACCGUUGAUU
GUACu----- 5 0,-1
-----ACCAUCGACCGUUGAUU
GUACC----- 10 0,0

```

>hsa-mir-181a-2 MA:39-61;mi:77-98 SRX018971

```

agaagggcuaucaggccagccuucagaggacuccaaggAACAUUCAACGCUGUCGGUGAGUuugggauuugaaaaaACCA
CUGACCGUUGACUGUACCuugggguccuua

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----GAACAUUCAACGCUGUCGGU-----
----- 2 -1,-4
-----GAACAUUCAACGCUGUCGGUG-----
----- 2 -1,-3
-----GAACAUUCAACGCUGUCGGUGAG-----
----- 4 -1,-1
-----AACAUUCAACGCUGUCGG-----
----- 3000 0,-5
-----AACAUUCAACGCUGUCGGU-----
----- 155 0,-4
-----AACAUUCAACGCUGUCGGUa-----
----- 7 0,-4
-----AACAUUCAACGCUGUCGGUaa-----
----- 67 0,-4
-----AACAUUCAACGCUGUCGGUau-----
----- 30 0,-4
-----AACAUUCAACGCUGUCGGUu-----
----- 4 0,-4
-----AACAUUCAACGCUGUCGGUG-----
----- 654 0,-3

```

```

-----AACAUUCAACGCUGUCGGUGu-----
----- 22 0,-3
-----AACAUUCAACGCUGUCGGUGuu-----
----- 2 0,-3
-----AACAUUCAACGCUGUCGGUGA-----
----- 631 0,-2
-----AACAUUCAACGCUGUCGGUGAa-----
----- 15 0,-2
-----AACAUUCAACGCUGUCGGUGAaa-----
----- 5 0,-2
-----AACAUUCAACGCUGUCGGUGAu-----
----- 10 0,-2
-----AACAUUCAACGCUGUCGGUGAuu-----
----- 4 0,-2
-----AACAUUCAACGCUGUCGGUGAG-----
----- 8682 0,-1
-----AACAUUCAACGCUGUCGGUGAGa-----
----- 24 0,-1
-----AACAUUCAACGCUGUCGGUGAGau-----
----- 9 0,-1
-----AACAUUCAACGCUGUCGGUGAGU-----
----- 763 0,0
-----AACAUUCAACGCUGUCGGUGAGUa-----
----- 4 0,0
-----AACAUUCAACGCUGUCGGUGAGUaa-----
----- 25 0,0
-----AACAUUCAACGCUGUCGGUGAGUau-----
----- 7 0,0
-----AACAUUCAACGCUGUCGGUGAGUU-----
----- 770 0,1
-----AACAUUCAACGCUGUCGGUGAGUUa-----
----- 33 0,1
-----AACAUUCAACGCUGUCGGUGAGUUU-----
----- 742 0,2
-----ACAUUCAACGCUGUCGGUGAG-----
----- 29 1,-1
-----ACAUUCAACGCUGUCGGUGAGU-----
----- 2 1,0

```

```

-----ACAUUCAACGCUGUCGGUGAGUU-----
----- 2 1,1
-----ACAUUCAACGCUGUCGGUGAGUU-----
----- 2 1,2
-----AACCA
CUGACCGUUGACU----- 36 -1,-5
-----AACCA
CUGACCGUUGACUG----- 2 -1,-4
-----AACCA
CUGACCGUUGACUGU----- 2 -1,-3
-----AACCA
CUGACCGUUGACUGUA----- 5 -1,-2
-----AACCA
CUGACCGUUGACUGUAC----- 4 -1,-1
-----ACCA
CUGACCGUUGACUG----- 179 0,-4
-----ACCA
CUGACCGUUGACUGU----- 73 0,-3
-----ACCA
CUGACCGUUGACUGUA----- 57 0,-2
-----ACCA
CUGACCGUUGACUGUAa----- 17 0,-2
-----ACCA
CUGACCGUUGACUGUAC----- 141 0,-1
-----ACCA
CUGACCGUUGACUGUACa----- 4 0,-1
-----ACCA
CUGACCGUUGACUGUACaa----- 3 0,-1
-----ACCA
CUGACCGUUGACUGUACu----- 7 0,-1
-----ACCA
CUGACCGUUGACUGUACC----- 155 0,0
-----ACCA
CUGACCGUUGACUGUACCa----- 15 0,0
-----ACCA
CUGACCGUUGACUGUACCU----- 16 0,1
-----CA
CUGACCGUUGACUGUAC----- 4 2,-1

```



```

-----AACAUUCAUUGCUGUCGGUGGGa-----
----- 3 0,-1
-----AACAUUCAUUGCUGUCGGUGGGU-----
----- 28 0,0
-----AACAUUCAUUGCUGUCGGUGGGUaa-----
----- 11 0,0
-----AACAUUCAUUGCUGUCGGUGGGUau-----
----- 20 0,0
-----AACAUUCAUUGCUGUCGGUGGGUU-----
----- 21 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUa-----
----- 7 0,1
-----AACAUUCAUUGCUGUCGGUGGGUUU-----
----- 16 0,2
-----ACAUUCAUUGCUGUCGGUG-----
----- 2 1,-3
-----ACAUUCAUUGCUGUCGGUGGG-----
----- 14 1,-1
-----ACAUUCAUUGCUGUCGGUGGGU-----
----- 3 1,0
-----ACUCACUGAUCAAUGAAU-----
----- 4
-----ACUCACUGAUCAAUGAAUGC-----
----- 2
-----ACUCACUGAUCAAUGAAUGCA-----
----- 11
-----ACUCACUGAUCAAUGAAUGCAA-----
----- 7
-----CUCACUGAUCAAUGAAUGC-----
----- 5
-----CUCACUGAUCAAUGAAUGCA-----
----- 13
-----CUCACUGAUCAAUGAAUGCAA-----
----- 16
-----CUCACUGAUCAAUGAAUGCAAA-----
----- 4

```

>hsa-mir-181c MA:27-48;mi:65-86 SRX018971

```

cggaaaauugccaaggguuuggggAACAUUCAACCUGUCGGUGAGUuugggcagcucaggcaAACCAUCGACCGUUGA
GUGGACccugaggccuggaauugccauccu
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AACAUUCAACCUGUCGGUGA-----
----- 5 0,-2
-----AACAUUCAACCUGUCGGUGAG-----
----- 26 0,-1
-----AACAUUCAACCUGUCGGUGAGU-----
----- 2 0,0
-----AACAUUCAACCUGUCGGUGAGUU-----
----- 28 0,1
-----AACAUUCAACCUGUCGGUGAGUUU-----
----- 11 0,2
-----ACCAUCGACCGUUGA
GUG----- 2 1,-3

```

```

>hsa-mir-181d 5p:36-58 SRX018971
gucccccucccuaggccacagccgaggucacaaucAACAUUCAUUGUUGUCGGUGGGUugugaggacugaggccagacc
accgggggaugaaugucacugugggcugggccagacacggcuuaaggggaauuggggac
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AACAUUCAUUGUUGUCGG-----
----- 2 0,-5
-----AACAUUCAUUGUUGUCGGUG-----
----- 5 0,-3
-----AACAUUCAUUGUUGUCGGUGGG-----
----- 37 0,-1
-----AACAUUCAUUGUUGUCGGUGGGa-----
----- 8 0,-1
-----AACAUUCAUUGUUGUCGGUGGGaa-----
----- 3 0,-1
-----AACAUUCAUUGUUGUCGGUGGGU-----
----- 5 0,0
-----AACAUUCAUUGUUGUCGGUGGGUaa-----
----- 2 0,0
-----AACAUUCAUUGUUGUCGGUGGGUau-----
----- 6 0,0

```

-----AACAUUCAUUGUUGUCGGUGGGUU-----		
-----20	0,1	
-----AACAUUCAUUGUUGUCGGUGGGUUa-----		
-----2	0,1	
-----AACAUUCAUUGUUGUCGGUGGGUUu-----		
-----5	0,1	

>hsa-mi r-182 MA:23-46;mi :67-87 SRX018971

gagcugcuugccucccccguuUUUGGCAAUGGUAGAACUCACACUggugagguaacaggauccggUGGUUCUAGACUUG
CCAACUAuggggcgaggacucagccggcac

[illegible]

UUUGGCAAUGGUAGAACUCA-	69	0,-4
UUUGGCAAUGGUAGAACUCAa-	2	0,-4
UUUGGCAAUGGUAGAACUCAaa-	4	0,-4
UUUGGCAAUGGUAGAACUCAC-	46	0,-3
UUUGGCAAUGGUAGAACUCACu-	2	0,-3
UUUGGCAAUGGUAGAACUCACA-	80	0,-2
UUUGGCAAUGGUAGAACUCACAa-	14	0,-2
UUUGGCAAUGGUAGAACUCACAaa-	6	0,-2
UUUGGCAAUGGUAGAACUCACAau-	2	0,-2
UUUGGCAAUGGUAGAACUCACAuu-	2	0,-2
UUUGGCAAUGGUAGAACUCACAC-	132	0,-1
UUUGGCAAUGGUAGAACUCACACa-	3	0,-1
UUUGGCAAUGGUAGAACUCACACU-	271	0,0

```

-----UUUGGCAAUGGUAGAACUCACACUG-----
-----100 0,1
-----UUGGCAAUGGUAGAACUCACACU-----
-----2 1,0

```

>hsa-mir-183 MA:27-48;mi:66-87 SRX018971

ccgcagagugugacuccuguucugugUAUGGCACUGGUAGAAUUCACUgugaacagucucagucaGUGAAUACCGAAGG
GCCAUAAacagagcagagacagaucacga

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.....(((.(((.(((((((((((.((((((..((((((.((((((((((((.....)))..))))))))))))))....
))))))..)))))))).))....))))))..

```

```

-----UAUGGCACUGGUAGAAUU-----
-----12 0,-4
-----UAUGGCACUGGUAGAAUa-----
-----4 0,-4
-----UAUGGCACUGGUAGAAUUC-----
-----90 0,-3
-----UAUGGCACUGGUAGAAUUCa-----
-----37 0,-2
-----UAUGGCACUGGUAGAAUUCa-----
-----2 0,-2
-----UAUGGCACUGGUAGAAUUCaau-----
-----6 0,-2
-----UAUGGCACUGGUAGAAUUCAC-----
-----25 0,-1
-----UAUGGCACUGGUAGAAUUCACa-----
-----3 0,-1
-----UAUGGCACUGGUAGAAUUCACU-----
-----236 0,0
-----UAUGGCACUGGUAGAAUUCACUa-----
-----3 0,0
-----UAUGGCACUGGUAGAAUUCACUG-----
-----78 0,1
-----UAUGGCACUGGUAGAAUUCACUGa-----
-----64 0,1
-----UAUGGCACUGGUAGAAUUCACUGU-----
-----13 0,2
-----AUGGCACUGGUAGAAUUC-----
-----9 1,-3

```



```

-----UGGACGGAGAACUGAUAAG-----
----  94  0,-3
-----UGGACGGAGAACUGAUAAGa-----
----  10  0,-3
-----UGGACGGAGAACUGAUAAGaa-----
----   3  0,-3
-----UGGACGGAGAACUGAUAAGu-----
----   3  0,-3
-----UGGACGGAGAACUGAUAAGG-----
---- 279 0,-2
-----UGGACGGAGAACUGAUAAGGa-----
----  50  0,-2
-----UGGACGGAGAACUGAUAAGGaa-----
----  75  0,-2
-----UGGACGGAGAACUGAUAAGGu-----
----   7  0,-2
-----UGGACGGAGAACUGAUAAGGG-----
---- 210 0,-1
-----UGGACGGAGAACUGAUAAGGGa-----
---- 132 0,-1
-----UGGACGGAGAACUGAUAAGGGaa-----
----  87  0,-1
-----UGGACGGAGAACUGAUAAGGGau-----
----   8  0,-1
-----UGGACGGAGAACUGAUAAGGGU-----
---- 875 0,0
-----UGGACGGAGAACUGAUAAGGGUu-----
----  68  0,0
-----UGGACGGAGAACUGAUAAGGGUuu-----
----  14  0,0
-----UGGACGGAGAACUGAUAAGGGUA-----
---- 122 0,1
-----UGGACGGAGAACUGAUAAGGGUAa-----
----  93  0,1
-----UGGACGGAGAACUGAUAAGGGUAaa-----
----   5  0,1
-----UGGACGGAGAACUGAUAAGGGUAau-----
----   2  0,1

```

-----			UGGACGGAGAACUGAUAAGGGUAu-----
----	386	0,1	
-----			UGGACGGAGAACUGAUAAGGGUAuu-----
----	8	0,1	
-----			UGGACGGAGAACUGAUAAGGGUAG-----
----	9	0,2	
-----			GGACGGAGAACUGAUAAG-----
----	4	1,-3	
-----			GGACGGAGAACUGAUAAGGGU-----
----	5	1,0	
-----			GGACGGAGAACUGAUAAGGGUu-----
----	2	1,0	
-----			GACGGAGAACUGAUAAGGGUA-----
----	2	2,1	
-----			GACGGAGAACUGAUAAGGGUAG-----
----	5	2,2	

>hsa-mi r-185 MA:15-36;mi :50-71 SRX018971

```

-----UGGAGAGAAAGGCAGUUC-----
-- 55 0,-4
-----UGGAGAGAAAGGCAGUUCa-----
-- 2 0,-4
-----UGGAGAGAAAGGCAGUUCau-----
-- 4 0,-4
-----UGGAGAGAAAGGCAGUUCC-----
-- 67 0,-3
-----UGGAGAGAAAGGCAGUUCCa-----
-- 4 0,-3
-----UGGAGAGAAAGGCAGUUCCaa-----
-- 2 0,-3
-----UGGAGAGAAAGGCAGUUCCU-----
-- 1449 0,-2
-----UGGAGAGAAAGGCAGUUCCUa-----
-- 14 0,-2

```


-----UGGAGAGAAAGGCAGUCCUaa-----
-- 37 0,-2
-----UGGAGAGAAAGGCAGUCCUau-----
-- 15 0,-2
-----UGGAGAGAAAGGCAGUCCUu-----
-- 18 0,-2
-----UGGAGAGAAAGGCAGUCCUG-----
-- 426 0,-1
-----UGGAGAGAAAGGCAGUCCUGu-----
-- 67 0,-1
-----UGGAGAGAAAGGCAGUCCUGuu-----
-- 6 0,-1
-----UGGAGAGAAAGGCAGUCCUGA-----
-- 3668 0,0
-----UGGAGAGAAAGGCAGUCCUGAa-----
-- 668 0,0
-----UGGAGAGAAAGGCAGUCCUGAaa-----
-- 102 0,0
-----UGGAGAGAAAGGCAGUCCUGAau-----
-- 114 0,0
-----UGGAGAGAAAGGCAGUCCUGAU-----
-- 724 0,1
-----UGGAGAGAAAGGCAGUCCUGAUa-----
-- 40 0,1
-----UGGAGAGAAAGGCAGUCCUGAUaa-----
-- 9 0,1
-----UGGAGAGAAAGGCAGUCCUGAUau-----
-- 3 0,1
-----UGGAGAGAAAGGCAGUCCUGAUu-----
-- 42 0,1
-----UGGAGAGAAAGGCAGUCCUGAUuu-----
-- 5 0,1
-----UGGAGAGAAAGGCAGUCCUGAUG-----
-- 2 0,2
-----GGAGAGAAAGGCAGUCCU-----
-- 14 1,-2
-----GGAGAGAAAGGCAGUCCUGu-----
-- 4 1,-1

```

-----GGAGAGAAAGGCAGUCCUGA-----
-- 37 1,0
-----GGAGAGAAAGGCAGUCCUGAa-----
-- 3 1,0
-----GGAGAGAAAGGCAGUCCUGAU-----
-- 3 1,1
-----AGGGGCUGGCUUCCUCU-----
-- 29 0,-4
-----AGGGGCUGGCUUCCUCUGG-----
-- 3 0,-2
-----AGGGGCUGGCUUCCUCUGGU-----
-- 7 0,-1
-----AGGGGCUGGCUUCCUCUGGUaa-----
-- 6 0,-1
-----AGGGGCUGGCUUCCUCUGGUau-----
-- 4 0,-1
-----AGGGGCUGGCUUCCUCUGGUu-----
-- 3 0,-1

```

>hsa-mir-186 MA:15-36;mi:54-75 SRX018971

```

ugcuuguaacuuucCAAAGAAUUCUCCUUUUGGGCUuucugguuuuauuuuaaGCCCAAAGGUGAAUUUUUUGGgaagu
ugagcu

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((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))

```

```

-----CCAAAGAAUUCUCCUUUUGGG-----
----- 2 -1,-2
-----CCAAAGAAUUCUCCUUUUGGGa-----
----- 2 -1,-2
-----CCAAAGAAUUCUCCUUUUGGGCU-----
----- 15 -1,0
-----CCAAAGAAUUCUCCUUUUGGGCUau-----
----- 3 -1,0
-----CCAAAGAAUUCUCCUUUUGGGCU-----
----- 6 -1,1
-----CAAAGAAUUCUCCUUUUG-----
----- 29 0,-4
-----CAAAGAAUUCUCCUUUUGG-----
----- 32 0,-3

```

-----CAAAGAAUUCUCCUUUUGGa-----
----- 5 0,-3
-----CAAAGAAUUCUCCUUUUGGG-----
----- 151 0,-2
-----CAAAGAAUUCUCCUUUUGGGa-----
----- 16 0,-2
-----CAAAGAAUUCUCCUUUUGGGaa-----
----- 15 0,-2
-----CAAAGAAUUCUCCUUUUGGGau-----
----- 2 0,-2
-----CAAAGAAUUCUCCUUUUGGGuu-----
----- 2 0,-2
-----CAAAGAAUUCUCCUUUUGGGC-----
----- 141 0,-1
-----CAAAGAAUUCUCCUUUUGGGCa-----
----- 297 0,-1
-----CAAAGAAUUCUCCUUUUGGGCaa-----
----- 213 0,-1
-----CAAAGAAUUCUCCUUUUGGGCau-----
----- 308 0,-1
-----CAAAGAAUUCUCCUUUUGGGCU-----
----- 1238 0,0
-----CAAAGAAUUCUCCUUUUGGGCUa-----
----- 294 0,0
-----CAAAGAAUUCUCCUUUUGGGCUaa-----
----- 81 0,0
-----CAAAGAAUUCUCCUUUUGGGCUau-----
----- 147 0,0
-----CAAAGAAUUCUCCUUUUGGGCUU-----
----- 2203 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 132 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUaa-----
----- 14 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUau-----
----- 10 0,1
-----CAAAGAAUUCUCCUUUUGGGCUUU-----
----- 143 0,2

```

-----CAAAGAAUUCUCCUUUUGGGCUUa-----
----- 3 0,2
-----CAAAGAAUUCUCCUUUUGGGCUUu-----
----- 4 0,2
-----AAAGAAUUCUCCUUUUGGG-----
----- 5 1,-2
-----AAAGAAUUCUCCUUUUGGGC-----
----- 10 1,-1
-----AAAGAAUUCUCCUUUUGGGCa-----
----- 22 1,-1
-----AAAGAAUUCUCCUUUUGGGCaa-----
----- 10 1,-1
-----AAAGAAUUCUCCUUUUGGGCau-----
----- 17 1,-1
-----AAAGAAUUCUCCUUUUGGGCU-----
----- 110 1,0
-----AAAGAAUUCUCCUUUUGGGCUa-----
----- 10 1,0
-----AAAGAAUUCUCCUUUUGGGCUaa-----
----- 8 1,0
-----AAAGAAUUCUCCUUUUGGGCUau-----
----- 4 1,0
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 183 1,1
-----AAAGAAUUCUCCUUUUGGGCUUa-----
----- 14 1,1
-----AAAGAAUUCUCCUUUUGGGCUUau-----
----- 5 1,1
-----AAAGAAUUCUCCUUUUGGGCUU-----
----- 17 1,2
-----AAGAAUUCUCCUUUUGGGCUU-----
----- 5 2,1
-----GCCCAAAGGUGAAUUUUUU-----
----- 3 0,-3
-----GCCCAAAGGUGAAUUUUUUUG-----
----- 5 0,-2
-----GCCCAAAGGUGAAUUUUUUUG-----
----- 3 0,-1

```

-----CCCAAAGGUGAAUUUUUUG-----
----- 2 1,-2

>hsa-mir-187 mi:35-56;MA:71-92 SRX018971

ggucgggcucaccaugacacagugagaccucgGCUACAACACAGGACCCGGGCgcugcucugaccccUCGUGUCUUG
UGUUGCAGCCGGagggacgcagguccgca

.(.((((((.....((((...(((.((((.((((((((((.((((.(.....).).).).).))))))
))))).))))).))))).))))).))))).

-----GCUACAACACAGGACCCGG-----

----- 3 1,-2

-----GCUACAACACAGGACCCGGGCau-----

----- 3 1,0

-----GCUACAACACAGGACCCGGGCu-----

----- 2 1,0

-----GCUACAACACAGGACCCGGGCG-----

----- 7 1,1

-----GCUACAACACAGGACCCGGGCGu-----

----- 6 1,1

-----CUCGUGUCUUG

UGUUGCAGCC----- 6 -1,-2

-----CUCGUGUCUUG

UGUUGCAGCCGGuu----- 2 -1,0

-----UCGUGUCUUG

UGUUGCAG----- 9 0,-4

-----UCGUGUCUUG

UGUUGCAGC----- 6 0,-3

-----UCGUGUCUUG

UGUUGCAGCC----- 9 0,-2

-----UCGUGUCUUG

UGUUGCAGCCG----- 10 0,-1

-----UCGUGUCUUG

UGUUGCAGCCGa----- 3 0,-1

-----UCGUGUCUUG

UGUUGCAGCCGG----- 191 0,0

-----UCGUGUCUUG

UGUUGCAGCCGGu----- 65 0,0

-----UCGUGUCUUG

UGUUGCAGCCGGuu----- 49 0,0

-----			-----UCGUGUCUUG
UGUUGCAGCCGGA-----	13	0,1	
-----			-----UCGUGUCUUG
UGUUGCAGCCGGAa-----	6	0,1	
-----			-----UCGUGUCUUG
UGUUGCAGCCGGAaa-----	3	0,1	
-----			-----CGUGUCUUG
UGUUGCAGCCGG-----	3	1,0	
-----			-----CGUGUCUUG
UGUUGCAGCCGGuu-----	2	1,0	

>hsa-mi r-188 5p:15-35;3p:54-74 SRX018971

ugcucccucucucaCAUCCCUUGCAUGGUGGAGGGugagcuuucugaaaaccCUGCCACAUGCAGGGUUUGCAggaugg
cgagcc

.(((((((..(((..((..((((((((((..(((((((....(.....).....))))))..)))))))))..))..)))..))
 .))))).

```

-----CAUCCCUUGCAUGGUGGA-----
----- 2    0,-3
-----CAUCCCUUGCAUGGUGGAaa-----
----- 2    0,-3
-----CAUCCCUUGCAUGGUGGAGG-----
----- 7    0,-1
-----CAUCCCUUGCAUGGUGGAGGG-----
----- 9    0,0
-----CAUCCCUUGCAUGGUGGAGGGaa-----
----- 5    0,0
-----CAUCCCUUGCAUGGUGGAGGGU-----
----- 6    0,1
-----CAUCCCUUGCAUGGUGGAGGGUaa-----
----- 16   0,1
-----CAUCCCUUGCAUGGUGGAGGGUau-----
----- 9    0,1
-----CAUCCCUUGCAUGGUGGAGGGUu-----
----- 3    0,1
-----CCUCCCACAUGCAGGGUUUGC-----
----- 2    -1,-1
-----CUCCCACAUGCAGGGUUUG-----
----- 3    0,-2

```


))))).

```
-----UGAUAUGUUUGAUAUAUU-----
----- 6 0,-4
-----UGAUAUGUUUGAUAUAUUA-----
----- 7 0,-3
-----UGAUAUGUUUGAUAUAUUAGGa-----
----- 4 0,-1
-----UGAUAUGUUUGAUAUAUUAGGU-----
----- 4 0,0
-----UGAUAUGUUUGAUAUAUUAGGUa-----
----- 7 0,0
-----UGAUAUGUUUGAUAUAUUAGGUaa-----
----- 4 0,0
-----UGAUAUGUUUGAUAUAUUAGGUU-----
----- 2 0,1
-----UGAUAUGUUUGAUAUAUUAGGUUG-----
----- 19 0,2
-----UGAUAUGUUUGAUAUAUUAGGUUGU-----
----- 15 0,3
-----GAUAUGUUUGAUAUAUUAGGU-----
----- 4 1,0
-----GAUAUGUUUGAUAUAUUAGGUaa-----
----- 2 1,0
-----GAUAUGUUUGAUAUAUUAGGUU-----
----- 3 1,1
-----AUAUGUUUGAUAUAUUAGG-----
----- 2 2,-1
-----ACUAUAUAUCAAACAUAUUCaa-----
----- 2
-----ACUAUAUAUCAAACAUAUUCCU-----
----- 21
-----ACUAUAUAUCAAACAUAUUCCUA-----
----- 2
-----CUAUAUAUCAAACAUAUUCCU-----
----- 5
```

>hsa-mir-190b 5p:11-31 SRX018971

ugcuucugugUGAUAUGUUUGAUAUUGGGUUGuuuaauuaggaaccaacuaaaugucaaacauauucuuacagcagcag

(((((.(((((.(((((((((((((((.((((((((((.)))))).)))))..))))).))))).))))).

-----UGAUAUGUUUGAUAUUGGGU-----

4 0,0

-----UGAUAUGUUUGAUAUUGGGUaa-----

3 0,0

-----UGAUAUGUUUGAUAUUGGGUUG-----

58 0,1

-----UGAUAUGUUUGAUAUUGGGUUGa-----

62 0,1

-----UGAUAUGUUUGAUAUUGGGUUG-----

137 0,2

-----GAUAUGUUUGAUAUUGGGU-----

3 1,0

>hsa-mi r-191 MA:16-38;mi :58-79 SRX018971

cggcuggacagcgggCAACGGAAUCCCAAAAGCAGCUGuugucuccagagcauuccaGCUGCGCUUGGAUUCGUCCCCu
gcucuccugccu

.(((.((((.(((((((..(((((((((.(.((((((((..(((((...)).)).)).))))))..)))))))))..))
)))..)).)).).

CAACGGAAUCCCAAAAGC	2137	0, -5
CAACGGAAUCCCAAAAGCu	12	0, -5
CAACGGAAUCCCAAAAGCA	7796	0, -4
CAACGGAAUCCCAAAAGCAa	566	0, -4
CAACGGAAUCCCAAAAGCAaa	14	0, -4
CAACGGAAUCCCAAAAGCAau	3	0, -4
CAACGGAAUCCCAAAAGCAu	68	0, -4
CAACGGAAUCCCAAAAGCAG	24504	0, -3
CAACGGAAUCCCAAAAGCAGa	368	0, -3
CAACGGAAUCCCAAAAGCAGaa		

----- 19 0,-3
-----CAACGGAAUCCCAAAAGCAGau-----
----- 1031 0,-3
-----CAACGGAAUCCCAAAAGCAGu-----
----- 133 0,-3
-----CAACGGAAUCCCAAAAGCAGuu-----
----- 150 0,-3
-----CAACGGAAUCCCAAAAGCAGC-----
----- 64255 0,-2
-----CAACGGAAUCCCAAAAGCAGCa-----
----- 3284 0,-2
-----CAACGGAAUCCCAAAAGCAGCaa-----
----- 555 0,-2
-----CAACGGAAUCCCAAAAGCAGCau-----
----- 335 0,-2
-----CAACGGAAUCCCAAAAGCAGCU-----
----- 213189 0,-1
-----CAACGGAAUCCCAAAAGCAGCUa-----
----- 5238 0,-1
-----CAACGGAAUCCCAAAAGCAGCUaa-----
----- 1312 0,-1
-----CAACGGAAUCCCAAAAGCAGCUau-----
----- 3660 0,-1
-----CAACGGAAUCCCAAAAGCAGCUu-----
----- 4694 0,-1
-----CAACGGAAUCCCAAAAGCAGCUuu-----
----- 1342 0,-1
-----CAACGGAAUCCCAAAAGCAGCUG-----
----- 8186 0,0
-----CAACGGAAUCCCAAAAGCAGCUGa-----
----- 956 0,0
-----CAACGGAAUCCCAAAAGCAGCUGaa-----
----- 91 0,0
-----CAACGGAAUCCCAAAAGCAGCUGau-----
----- 30 0,0
-----CAACGGAAUCCCAAAAGCAGCUGU-----
----- 11444 0,1
-----CAACGGAAUCCCAAAAGCAGCUGUa-----

```

-----      81  0,1
-----CAACGGAAUCCCAAAAGCAGCUGUU-----
-----      390 0,2
-----AACGGAAUCCCAAAAGCA-----
-----      220 1,-4
-----AACGGAAUCCCAAAAGCAa-----
-----      20  1,-4
-----AACGGAAUCCCAAAAGCAaa-----
-----      2   1,-4
-----AACGGAAUCCCAAAAGCAu-----
-----      4   1,-4
-----AACGGAAUCCCAAAAGCAG-----
-----      833 1,-3
-----AACGGAAUCCCAAAAGCAGa-----
-----      8   1,-3
-----AACGGAAUCCCAAAAGCAGau-----
-----      27  1,-3
-----AACGGAAUCCCAAAAGCAGu-----
-----      9   1,-3
-----AACGGAAUCCCAAAAGCAGuu-----
-----      7   1,-3
-----AACGGAAUCCCAAAAGCAGC-----
-----      2096   1,-2
-----AACGGAAUCCCAAAAGCAGCa-----
-----      99  1,-2
-----AACGGAAUCCCAAAAGCAGCaa-----
-----      16  1,-2
-----AACGGAAUCCCAAAAGCAGCau-----
-----      6   1,-2
-----AACGGAAUCCCAAAAGCAGCU-----
-----      9370   1,-1
-----AACGGAAUCCCAAAAGCAGCUa-----
-----      232 1,-1
-----AACGGAAUCCCAAAAGCAGCUaa-----
-----      49  1,-1
-----AACGGAAUCCCAAAAGCAGCUau-----
-----      160 1,-1
-----AACGGAAUCCCAAAAGCAGCUu-----

```

```

----- 156 1, -1
-----AACGGAAUCCCAAAAGCAGCUuu-----
----- 46 1, -1
-----AACGGAAUCCCAAAAGCAGCUG-----
----- 574 1,0
-----AACGGAAUCCCAAAAGCAGCUGa-----
----- 167 1,0
-----AACGGAAUCCCAAAAGCAGCUGaa-----
----- 12 1,0
-----AACGGAAUCCCAAAAGCAGCUGU-----
----- 888 1,1
-----AACGGAAUCCCAAAAGCAGCUGUa-----
----- 5 1,1
-----AACGGAAUCCCAAAAGCAGCUGUaa-----
----- 4 1,1
-----AACGGAAUCCCAAAAGCAGCUGUau-----
----- 5 1,1
-----AACGGAAUCCCAAAAGCAGCUGUU-----
----- 10 1,2
-----AACGGAAUCCCAAAAGCAGCUGUUa-----
----- 2 1,2
-----AACGGAAUCCCAAAAGCAGCUGUUu-----
----- 5 1,2
-----ACGGAAUCCCAAAAGCAG-----
----- 7 2, -3
-----ACGGAAUCCCAAAAGCAGC-----
----- 12 2, -2
-----ACGGAAUCCCAAAAGCAGCU-----
----- 50 2, -1
-----ACGGAAUCCCAAAAGCAGCUau-----
----- 4 2, -1
-----ACGGAAUCCCAAAAGCAGCUG-----
----- 4 2,0
-----ACGGAAUCCCAAAAGCAGCUGU-----
----- 11 2,1
-----GCUGCGCUUGGAUUUCGUC-----
----- 2 0, -3
-----GCUGCGCUUGGAUUUCGUCCC-----

```


----- 83 -1,-2
-----UCUGACCUAUGAAUUGACAGa-----
----- 7 -1,-2
-----UCUGACCUAUGAAUUGACAGaa-----
----- 2 -1,-2
-----UCUGACCUAUGAAUUGACAGC-----
----- 435 -1,-1
-----UCUGACCUAUGAAUUGACAGCa-----
----- 113 -1,-1
-----UCUGACCUAUGAAUUGACAGCaa-----
----- 12 -1,-1
-----UCUGACCUAUGAAUUGACAGCau-----
----- 2 -1,-1
-----UCUGACCUAUGAAUUGACAGCu-----
----- 14 -1,-1
-----UCUGACCUAUGAAUUGACAGCC-----
----- 1890 -1,0
-----UCUGACCUAUGAAUUGACAGCCu-----
----- 46 -1,0
-----UCUGACCUAUGAAUUGACAGCCuu-----
----- 4 -1,0
-----UCUGACCUAUGAAUUGACAGCCA-----
----- 192 -1,1
-----UCUGACCUAUGAAUUGACAGCCAa-----
----- 11 -1,1
-----UCUGACCUAUGAAUUGACAGCCAau-----
----- 7 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 16 -1,1
-----UCUGACCUAUGAAUUGACAGCCAu-----
----- 7 -1,1
-----UCUGACCUAUGAAUUGACAGCCAG-----
----- 5 -1,2
-----CUGACCUAUGAAUUGACA-----
----- 7692 0,-3
-----CUGACCUAUGAAUUGACAa-----
----- 99 0,-3
-----CUGACCUAUGAAUUGACAaa-----

----- 74 0,-3
-----CUGACCUAUGAAUUGACAu-----
----- 6 0,-3
-----CUGACCUAUGAAUUGACAuu-----
----- 4 0,-3
-----CUGACCUAUGAAUUGACAG-----
----- 14596 0,-2
-----CUGACCUAUGAAUUGACAGa-----
----- 1314 0,-2
-----CUGACCUAUGAAUUGACAGaa-----
----- 447 0,-2
-----CUGACCUAUGAAUUGACAGau-----
----- 23 0,-2
-----CUGACCUAUGAAUUGACAGu-----
----- 473 0,-2
-----CUGACCUAUGAAUUGACAGuu-----
----- 20 0,-2
-----CUGACCUAUGAAUUGACAGC-----
----- 155807 0,-1
-----CUGACCUAUGAAUUGACAGCa-----
----- 50005 0,-1
-----CUGACCUAUGAAUUGACAGCaa-----
----- 8200 0,-1
-----CUGACCUAUGAAUUGACAGCau-----
----- 1729 0,-1
-----CUGACCUAUGAAUUGACAGCu-----
----- 3235 0,-1
-----CUGACCUAUGAAUUGACAGCuu-----
----- 119 0,-1
-----CUGACCUAUGAAUUGACAGCC-----
----- 519273 0,0
-----CUGACCUAUGAAUUGACAGCCu-----
----- 13956 0,0
-----CUGACCUAUGAAUUGACAGCCuu-----
----- 1523 0,0
-----CUGACCUAUGAAUUGACAGCCA-----
----- 167267 0,1
-----CUGACCUAUGAAUUGACAGCCAa-----

```

----- 9860 0,1
-----CUGACCUAUGAAUUGACAGCCAaa-----
----- 2002 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 2151 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 40440 0,1
-----CUGACCUAUGAAUUGACAGCCAu-----
----- 11676 0,1
-----CUGACCUAUGAAUUGACAGCCAG-----
----- 2081 0,2
-----CUGACCUAUGAAUUGACAGCCAGa-----
----- 266 0,2
-----CUGACCUAUGAAUUGACAGCCAGaa-----
----- 16 0,2
-----CUGACCUAUGAAUUGACAGCCAGau-----
----- 9 0,2
-----CUGACCUAUGAAUUGACAGCCAGU-----
----- 1339 0,3
-----CUGACCUAUGAAUUGACAGCCAGUa-----
----- 96 0,3
-----CUGACCUAUGAAUUGACAGCCAGUu-----
----- 182 0,3
-----CUGACCUAUGAAUUGACAGCCAGUG-----
----- 11 0,4
-----UGACCUAUGAAUUGACAG-----
----- 2610 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 43 1,-2
-----UGACCUAUGAAUUGACAGuu-----
----- 2 1,-2
-----UGACCUAUGAAUUGACAGC-----
----- 36973 1,-1
-----UGACCUAUGAAUUGACAGCa-----
----- 4061 1,-1
-----UGACCUAUGAAUUGACAGCaa-----
----- 1467 1,-1
-----UGACCUAUGAAUUGACAGCau-----

```


----- 116 1,-1
-----UGACCUAUGAAUUGACAGCu-----
----- 175 1,-1
-----UGACCUAUGAAUUGACAGCuu-----
----- 5 1,-1
-----UGACCUAUGAAUUGACAGCC-----
----- 31480 1,0
-----UGACCUAUGAAUUGACAGCCu-----
----- 706 1,0
-----UGACCUAUGAAUUGACAGCCuu-----
----- 73 1,0
-----UGACCUAUGAAUUGACAGCCA-----
----- 44406 1,1
-----UGACCUAUGAAUUGACAGCCAa-----
----- 4103 1,1
-----UGACCUAUGAAUUGACAGCCAaa-----
----- 2237 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 1358 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 7124 1,1
-----UGACCUAUGAAUUGACAGCCAu-----
----- 2063 1,1
-----UGACCUAUGAAUUGACAGCCAG-----
----- 15093 1,2
-----UGACCUAUGAAUUGACAGCCAGa-----
----- 2557 1,2
-----UGACCUAUGAAUUGACAGCCAGaa-----
----- 228 1,2
-----UGACCUAUGAAUUGACAGCCAGau-----
----- 116 1,2
-----UGACCUAUGAAUUGACAGCCAGU-----
----- 9009 1,3
-----UGACCUAUGAAUUGACAGCCAGUa-----
----- 721 1,3
-----UGACCUAUGAAUUGACAGCCAGUaa-----
----- 126 1,3
-----UGACCUAUGAAUUGACAGCCAGUau-----

```

----- 60 1,3
-----UGACCUAUGAAUUGACAGCCAGUu-----
----- 1052 1,3
-----UGACCUAUGAAUUGACAGCCAGUuu-----
----- 54 1,3
-----UGACCUAUGAAUUGACAGCCAGUG-----
----- 86 1,4
-----UGACCUAUGAAUUGACAGCCAGUGa-----
----- 7 1,4
-----UGACCUAUGAAUUGACAGCCAGUGu-----
----- 9 1,4
-----UGACCUAUGAAUUGACAGCCAGUGC-----
----- 10 1,5
-----GACCUAUGAAUUGACAGC-----
----- 326 2,-1
-----GACCUAUGAAUUGACAGCa-----
----- 45 2,-1
-----GACCUAUGAAUUGACAGCaa-----
----- 14 2,-1
-----GACCUAUGAAUUGACAGCu-----
----- 5 2,-1
-----GACCUAUGAAUUGACAGCC-----
----- 262 2,0
-----GACCUAUGAAUUGACAGCCu-----
----- 4 2,0
-----GACCUAUGAAUUGACAGCCuu-----
----- 4 2,0
-----GACCUAUGAAUUGACAGCCA-----
----- 160 2,1
-----GACCUAUGAAUUGACAGCCAa-----
----- 31 2,1
-----GACCUAUGAAUUGACAGCCAaa-----
----- 17 2,1
-----GACCUAUGAAUUGACAGCCAau-----
----- 8 2,1
-----GACCUAUGAAUUGACAGCCAu-----
----- 54 2,1
-----GACCUAUGAAUUGACAGCCAuu-----

```

```

----- 18 2,1
-----GACCUAUGAAUUGACAGCCAG-----
----- 174 2,2
-----GACCUAUGAAUUGACAGCCAGa-----
----- 28 2,2
-----GACCUAUGAAUUGACAGCCAGU-----
----- 104 2,3
-----GACCUAUGAAUUGACAGCCAGUa-----
----- 3 2,3
-----GACCUAUGAAUUGACAGCCAGUaa-----
----- 3 2,3
-----GACCUAUGAAUUGACAGCCAGUu-----
----- 8 2,3
-----GGCUGCCAAUUCCAUA
GGUCAC----- 2 -2,-2
-----GGCUGCCAAUUCCAUA
GGUCACA----- 5 -2,-1
-----GCUGCCAAUUCCAUA
GGUCA----- 2 -1,-3
-----GCUGCCAAUUCCAUA
GGUCAC----- 3 -1,-2
-----GCUGCCAAUUCCAUA
GGUCACA----- 9 -1,-1
-----GCUGCCAAUUCCAUA
GGUCACAG----- 6 -1,0
-----CUGCCAAUUCCAUA
GGUC----- 2 0,-4
-----CUGCCAAUUCCAUA
GGUCA----- 11 0,-3
-----CUGCCAAUUCCAUA
GGUCAC----- 10 0,-2
-----CUGCCAAUUCCAUA
GGUCACA----- 62 0,-1
-----CUGCCAAUUCCAUA
GGUCACAa----- 5 0,-1
-----CUGCCAAUUCCAUA
GGUCACAu----- 4 0,-1
-----CUGCCAAUUCCAUA

```

```

GGUCACAG----- 38 0,0
-----CUGCCAAUCCAUA
GGUCACAGa----- 7 0,0
-----CUGCCAAUCCAUA
GGUCACAGu----- 6 0,0

```

>hsa-mir-193a 5p:21-42;3p:55-76 SRX018971

```

cgaggauaggagcugagggcUGGGUCUUUGCGGGCGAGAUGAgggugucggaucAACUGGCCUACAAAGUCCCAGUucuc
ggcccccg

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))).)).

```

```

-----CUGGGUCUUUGCGGGCGAGAUG-----
----- 4 -1,-1
-----CUGGGUCUUUGCGGGCGAGAUGA-----
----- 2 -1,0
-----UGGGUCUUUGCGGGCGAG-----
----- 27 0,-4
-----UGGGUCUUUGCGGGCGAGA-----
----- 12 0,-3
-----UGGGUCUUUGCGGGCGAGAU-----
----- 47 0,-2
-----UGGGUCUUUGCGGGCGAGAUa-----
----- 57 0,-2
-----UGGGUCUUUGCGGGCGAGAUaa-----
----- 14 0,-2
-----UGGGUCUUUGCGGGCGAGAUau-----
----- 5 0,-2
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 18 0,-2
-----UGGGUCUUUGCGGGCGAGAUG-----
----- 216 0,-1
-----UGGGUCUUUGCGGGCGAGAUu-----
----- 80 0,-1
-----UGGGUCUUUGCGGGCGAGAUuu-----
----- 3 0,-1
-----UGGGUCUUUGCGGGCGAGAUGA-----
----- 996 0,0
-----UGGGUCUUUGCGGGCGAGAUGAa-----

```

```

----- 33 0,0
-----UGGGUCUUUGCGGGCGAGAUGAaa-----
----- 2 0,0
-----UGGGUCUUUGCGGGCGAGAUGAau-----
----- 2 0,0
-----UGGGUCUUUGCGGGCGAGAUGAu-----
----- 63 0,0
-----UGGGUCUUUGCGGGCGAGAUGAuu-----
----- 3 0,0
-----UGGGUCUUUGCGGGCGAGAUGAG-----
----- 3 0,1
-----UGGGUCUUUGCGGGCGAGAUGAGa-----
----- 3 0,1
-----UGGGUCUUUGCGGGCGAGAUGAGGG-----
----- 2 0,3
-----GGGUCUUUGCGGGCGAGAUG-----
----- 2 1,-1
-----GGGUCUUUGCGGGCGAGAUGu-----
----- 3 1,-1
-----GGGUCUUUGCGGGCGAGAUGA-----
----- 11 1,0
-----CAACUGGCCUACAAAGUCCCA-----
----- 14 -1,-2
-----AACUGGCCUACAAAGUCC-----
----- 437 0,-4
-----AACUGGCCUACAAAGUCCa-----
----- 4 0,-4
-----AACUGGCCUACAAAGUCCaa-----
----- 15 0,-4
-----AACUGGCCUACAAAGUCCC-----
----- 811 0,-3
-----AACUGGCCUACAAAGUCCCu-----
----- 4 0,-3
-----AACUGGCCUACAAAGUCCCA-----
----- 10237 0,-2
-----AACUGGCCUACAAAGUCCCAa-----
----- 351 0,-2
-----AACUGGCCUACAAAGUCCCAaa-----

```

```

-----      89  0,-2
-----AACUGGCCUACAAAGUCCCAuu-----
-----     109  0,-2
-----AACUGGCCUACAAAGUCCCAu-----
-----     284  0,-2
-----AACUGGCCUACAAAGUCCCAuu-----
-----      40  0,-2
-----AACUGGCCUACAAAGUCCCAG-----
-----     496  0,-1
-----AACUGGCCUACAAAGUCCCAGa-----
-----      82  0,-1
-----AACUGGCCUACAAAGUCCCAGaa-----
-----      69  0,-1
-----AACUGGCCUACAAAGUCCCAGau-----
-----     16  0,-1
-----AACUGGCCUACAAAGUCCCAGU-----
-----     412  0,0
-----AACUGGCCUACAAAGUCCCAGUa-----
-----      45  0,0
-----AACUGGCCUACAAAGUCCCAGUaa-----
-----      47  0,0
-----AACUGGCCUACAAAGUCCCAGUau-----
-----      33  0,0
-----AACUGGCCUACAAAGUCCCAGUU-----
-----       3  0,1
-----ACUGGCCUACAAAGUCCCA-----
-----      48  1,-2
-----ACUGGCCUACAAAGUCCCAa-----
-----       2  1,-2
-----ACUGGCCUACAAAGUCCCAGU-----
-----       2  1,0
-----ACUGGCCUACAAAGUCCCAGUa-----
-----       2  1,0
-----ACUGGCCUACAAAGUCCCAGUUau-----
-----       4  1,1

```

>hsa-mir-193b mi:14-35;MA:51-72 SRX018971

guggucucagaauCGGGGUUUUGAGGGCGAGAUGAguuuauguuuuauccAACUGGCCCUACAAAGUCCCGCUuuugggggu

(((..(((((((.((((..(((((((((((.(.((..(.....).)).)).))))))))..))))).))))))..
)))

```

-----CGGGGUUUUGAGGGCGAG-----
--- 2 0,-4
-----CGGGGUUUUGAGGGCGAGAU-----
--- 3 0,-2
-----CGGGGUUUUGAGGGCGAGAUa-----
--- 2 0,-2
-----CGGGGUUUUGAGGGCGAGAUG-----
--- 10 0,-1
-----CGGGGUUUUGAGGGCGAGAUGu-----
--- 7 0,-1
-----CGGGGUUUUGAGGGCGAGAUGA-----
--- 29 0,0
-----CGGGGUUUUGAGGGCGAGAUGAa-----
--- 5 0,0
-----CGGGGUUUUGAGGGCGAGAUGAu-----
--- 3 0,0
-----GGGGUUUUGAGGGCGAGAUGA-----
--- 3 1,0
-----AACUGGCCCUCAAAGUCC-----
--- 136 0,-4
-----AACUGGCCCUCAAAGUCCC-----
--- 119 0,-3
-----AACUGGCCCUCAAAGUCCCG-----
--- 70 0,-2
-----AACUGGCCCUCAAAGUCCCGa-----
--- 5 0,-2
-----AACUGGCCCUCAAAGUCCCGC-----
--- 115 0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 21 0,-1
-----AACUGGCCCUCAAAGUCCCGCa-----
--- 25 0,-1
-----AACUGGCCCUCAAAGUCCCGCau-----
--- 43 0,-1
-----AACUGGCCCUCAAAGUCCCGCU-----

```

```

--- 257 0,0
-----AACUGGCCCUCAAAGUCCCGCUa-----
--- 17 0,0
-----AACUGGCCCUCAAAGUCCCGCUaa-----
--- 12 0,0
-----AACUGGCCCUCAAAGUCCCGCUau-----
--- 38 0,0
-----AACUGGCCCUCAAAGUCCCGCUU-----
--- 109 0,1
-----AACUGGCCCUCAAAGUCCCGCUUa-----
--- 5 0,1
-----AACUGGCCCUCAAAGUCCCGCUUau-----
--- 6 0,1
-----AACUGGCCCUCAAAGUCCCGCUUU-----
--- 38 0,2
-----AACUGGCCCUCAAAGUCCCGCUUUU-----
--- 12 0,3
-----ACUGGCCCUCAAAGUCCC-----
--- 6 1,-3
-----ACUGGCCCUCAAAGUCCCGCUa-----
--- 2 1,0
-----ACUGGCCCUCAAAGUCCCGCUau-----
--- 4 1,0
-----ACUGGCCCUCAAAGUCCCGCUU-----
--- 9 1,1
-----ACUGGCCCUCAAAGUCCCGCUUa-----
--- 2 1,1

```

>hsa-mir-194-1 5p:15-36 SRX018971

augguguuaucaagUGUAAACAGCAACUCCAUGUGGAcuguguaccaauuuccaguggagaugcuguuacuuuugaugguu
accaa

.((((((..((((((.(((((((((.((((((.((((((..((.....)).)))))))))).))))))))).))))).)).
)))).

```

-----AGUGUAAACAGCAACUCCAUG-----
----- 3 -2,-4
-----GUGUAAACAGCAACUCCAUGUG-----
----- 3 -1,-2
-----GUGUAAACAGCAACUCCAUGUG-----

```



```

----- 4   -1,-1
-----UGUAAACAGCAACUCCAUG-----
----- 134 0,-4
-----UGUAAACAGCAACUCCAUGaa-----
----- 5   0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 94  0,-3
-----UGUAAACAGCAACUCCAUGUaa-----
----- 10  0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 200 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 66  0,-2
-----UGUAAACAGCAACUCCAUGUGaa-----
----- 26  0,-2
-----UGUAAACAGCAACUCCAUGUGu-----
----- 12  0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 5146   0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 110 0,-1
-----UGUAAACAGCAACUCCAUGUGGuu-----
----- 2   0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 7965   0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 1203   0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 28  0,0
-----UGUAAACAGCAACUCCAUGUGGAC-----
----- 77  0,1
-----UGUAAACAGCAACUCCAUGUGGACa-----
----- 13  0,1
-----GUAACAGCAACUCCAUGUG-----
----- 3   1,-2
-----GUAACAGCAACUCCAUGUGG-----
----- 13  1,-1
-----GUAACAGCAACUCCAUGUGGu-----

```


----- 6 -1,1
-----UGUAAACAGCAACUCCAUG-----
----- 134 0,-4
-----UGUAAACAGCAACUCCAUGaa-----
----- 5 0,-4
-----UGUAAACAGCAACUCCAUGU-----
----- 94 0,-3
-----UGUAAACAGCAACUCCAUGUaa-----
----- 10 0,-3
-----UGUAAACAGCAACUCCAUGUG-----
----- 200 0,-2
-----UGUAAACAGCAACUCCAUGUGa-----
----- 66 0,-2
-----UGUAAACAGCAACUCCAUGUGaa-----
----- 26 0,-2
-----UGUAAACAGCAACUCCAUGUGu-----
----- 12 0,-2
-----UGUAAACAGCAACUCCAUGUGG-----
----- 5146 0,-1
-----UGUAAACAGCAACUCCAUGUGGu-----
----- 110 0,-1
-----UGUAAACAGCAACUCCAUGUGGuu-----
----- 2 0,-1
-----UGUAAACAGCAACUCCAUGUGGA-----
----- 7965 0,0
-----UGUAAACAGCAACUCCAUGUGGAu-----
----- 1203 0,0
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 28 0,0
-----UGUAAACAGCAACUCCAUGUGGAA-----
----- 21147 0,1
-----UGUAAACAGCAACUCCAUGUGGAAa-----
----- 2349 0,1
-----UGUAAACAGCAACUCCAUGUGGAAaa-----
----- 124 0,1
-----UGUAAACAGCAACUCCAUGUGGAAau-----
----- 70 0,1
-----UGUAAACAGCAACUCCAUGUGGAAu-----

```

----- 947 0,1
-----UGUAAACAGCAACUCCAUGUGGAuu-----
----- 23 0,1
-----UGUAAACAGCAACUCCAUGUGGAAG-----
----- 13 0,2
-----UGUAAACAGCAACUCCAUGUGGAAGa-----
----- 18 0,2
-----UGUAAACAGCAACUCCAUGUGGAAGU-----
----- 4 0,3
-----GUAACAGCAACUCCAUGUG-----
----- 3 1,-2
-----GUAACAGCAACUCCAUGUGG-----
----- 13 1,-1
-----GUAACAGCAACUCCAUGUGGu-----
----- 3 1,-1
-----GUAACAGCAACUCCAUGUGGA-----
----- 16 1,0
-----GUAACAGCAACUCCAUGUGGAu-----
----- 9 1,0
-----GUAACAGCAACUCCAUGUGGAA-----
----- 67 1,1
-----GUAACAGCAACUCCAUGUGGAAa-----
----- 5 1,1
-----GUAACAGCAACUCCAUGUGGAAau-----
----- 4 1,1
-----GUAACAGCAACUCCAUGUGGAAu-----
----- 10 1,1
-----UAACAGCAACUCCAUGUGG-----
----- 2 2,-1
-----UAACAGCAACUCCAUGUGGAA-----
----- 3 2,1
-----CCAGUGGGGCUGCUGUUAU-----
----- 4 0,-3
-----CCAGUGGGGCUGCUGUUAUa-----
----- 9 0,-3
-----CCAGUGGGGCUGCUGUUAUC-----
----- 2 0,-2
-----CCAGUGGGGCUGCUGUUAUCU-----

```

----- 44 0,-1
-----CCAGUGGGGCUGCUGUUAUCUGa-----
----- 4 0,0

>hsa-mir-195 MA:15-35;mi:53-74 SRX018971

agcuucccuggcucUAGCAGCACAGAAAUAUUGGCacagggaagcgagucugCCAAUAUUGGCUGUGCUGCUCCaggcag
gguggug

.(((.(((((((((.((((((((((.....))))))))).)))))))).)))).

-----UAGCAGCACAGAAAUAUU-----

----- 23 0,-3

-----UAGCAGCACAGAAAUAUUG-----

----- 57 0,-2

-----UAGCAGCACAGAAAUAUUGa-----

----- 4 0,-2

-----UAGCAGCACAGAAAUAUUGG-----

----- 419 0,-1

-----UAGCAGCACAGAAAUAUUGGa-----

----- 15 0,-1

-----UAGCAGCACAGAAAUAUUGGaa-----

----- 11 0,-1

-----UAGCAGCACAGAAAUAUUGGu-----

----- 8 0,-1

-----UAGCAGCACAGAAAUAUUGGC-----

----- 21 0,0

-----UAGCAGCACAGAAAUAUUGGCA-----

----- 1364 0,1

-----UAGCAGCACAGAAAUAUUGGCAa-----

----- 388 0,1

-----UAGCAGCACAGAAAUAUUGGCAaa-----

----- 22 0,1

-----UAGCAGCACAGAAAUAUUGGCAau-----

----- 17 0,1

-----UAGCAGCACAGAAAUAUUGGCAu-----

----- 352 0,1

-----UAGCAGCACAGAAAUAUUGGCAuu-----

----- 16 0,1

-----AGCAGCACAGAAAUAUUG-----

```

----- 3    1,-2
-----AGCAGCACAGAAAUAUUGG-----
----- 3    1,-1
-----AGCAGCACAGAAAUAUUGGCA-----
----- 9    1,1
-----AGCAGCACAGAAAUAUUGGCAa-----
----- 6    1,1
-----AGCAGCACAGAAAUAUUGGCAu-----
----- 3    1,1

```

>hsa-mir-196a-1 5p:7-28 SRX018971

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gugaauUAGGUAGUUUCAUGUUGUUGGGccuggguucugaacacaacaacauuaaaccacccgauucac
(((((((...(((.((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAGGUAGUUUCAUGUUGU----- 1176
      0,-4
-----UAGGUAGUUUCAUGUUGUaa----- 4    0,-4
-----UAGGUAGUUUCAUGUUGUU----- 216 0,-3
-----UAGGUAGUUUCAUGUUGUUaa----- 4    0,-3
-----UAGGUAGUUUCAUGUUGUUG----- 252 0,-2
-----UAGGUAGUUUCAUGUUGUUGa----- 11   0,-2
-----UAGGUAGUUUCAUGUUGUUGaa----- 3    0,-2
-----UAGGUAGUUUCAUGUUGUUGu----- 9    0,-2
-----UAGGUAGUUUCAUGUUGUUGG----- 840 0,-1
-----UAGGUAGUUUCAUGUUGUUGGa----- 231 0,-1
-----UAGGUAGUUUCAUGUUGUUGGaa----- 37   0,-1
-----UAGGUAGUUUCAUGUUGUUGGau----- 14   0,-1
-----UAGGUAGUUUCAUGUUGUUGGu----- 31   0,-1
-----UAGGUAGUUUCAUGUUGUUGGG----- 1791
      0,0
-----UAGGUAGUUUCAUGUUGUUGGGu----- 245 0,0
-----UAGGUAGUUUCAUGUUGUUGGGuu----- 13   0,0
-----UAGGUAGUUUCAUGUUGUUGGGC----- 5    0,1
-----AGGUAGUUUCAUGUUGUU----- 5    1,-3
-----AGGUAGUUUCAUGUUGUUG----- 8    1,-2
-----AGGUAGUUUCAUGUUGUUGG----- 11   1,-1
-----AGGUAGUUUCAUGUUGUUGGa----- 4    1,-1
-----AGGUAGUUUCAUGUUGUUGGG----- 36   1,0
-----AGGUAGUUUCAUGUUGUUGGGu----- 10   1,0

```

ugcucgcucagcugaucuguggcuUAGGUAGUUCAUGUUGUUGGGauugaguuugaacuCGGCAACAAGAAACUGCCU
GAGuuacaucagucgguuuucgucgagggc

[illegible]

-----UAGGUAGUUUCAUGUUGU-----

----- 1176 0,-4

-----UAGGUAGUUUCAUGUUGU_{aa}-----

----- 4 0,-4

-----UAGGUAGUUUCAUGUUGUU-----

----- 216 0,-3

-----UAGGUAGUUUCAUGUUGUU_{aa}-----

----- 4 0,-3

-----UAGGUAGUUUCAUGUUGUUG-----

----- 252 0,-2

-----UAGGUAGUUUCAUGUUGUUGa-----

----- 11 0,-2

-----UAGGUAGUUUCAUGUUGUUG_{aa}-----

----- 3 0,-2

-----UAGGUAGUUUCAUGUUGUUG_u-----

----- 9 0, -2

-----UAGGUAGUUUCAUGUUGUUGG-----

----- 840 0,-1

-----UAGGUAGUUUCAUGUUGUUGGa-----

----- 231 0,-1

-----UAGGUAGUUUCAUGUUGUUGG_{aa}-----

----- 37 0,-1

-----UAGGUAGUUUCAUGUUGUUGGau-----

----- 14 0,-1

-----UAGGUAGUUUCAUGUUGUUGG_u-----

----- 31 0,-1

-----UAGGUAGUUUCAUGUUGUUGGG-----

----- 1791 0,0

-----UAGGUAGUUUCAUGUUGUUGGGu-----

----- 245 0,0

-----UAGGUAGUUUCAUGUUGUUGGG_{uu}-----

----- 13 0,0

```

-----UAGGUAGUUUCAUGUUGUUGGGA-----
----- 476 0,1
-----UAGGUAGUUUCAUGUUGUUGGGAa-----
----- 145 0,1
-----UAGGUAGUUUCAUGUUGUUGGGAaa-----
----- 38 0,1
-----UAGGUAGUUUCAUGUUGUUGGGAau-----
----- 3 0,1
-----UAGGUAGUUUCAUGUUGUUGGGAU-----
----- 20 0,2
-----UAGGUAGUUUCAUGUUGUUGGGAUa-----
----- 2 0,2
-----AGGUAGUUUCAUGUUGUU-----
----- 5 1,-3
-----AGGUAGUUUCAUGUUGUUG-----
----- 8 1,-2
-----AGGUAGUUUCAUGUUGUUGG-----
----- 11 1,-1
-----AGGUAGUUUCAUGUUGUUGGa-----
----- 4 1,-1
-----AGGUAGUUUCAUGUUGUUGGG-----
----- 36 1,0
-----AGGUAGUUUCAUGUUGUUGGGu-----
----- 10 1,0
-----AGGUAGUUUCAUGUUGUUGGGA-----
----- 16 1,1
-----AGGUAGUUUCAUGUUGUUGGGAa-----
----- 5 1,1
-----UCGGCAACAAGAAACUGC-----
----- 3 -1,-5
-----UCGGCAACAAGAAACUGCCU
----- 4 -1,-3
-----UCGGCAACAAGAAACUGCCU
G----- 2 -1,-2
-----UCGGCAACAAGAAACUGCCU
GA----- 39 -1,-1
-----UCGGCAACAAGAAACUGCCU
GAG----- 2 -1,0

```



```

-----CGGCAACAAGAAACUGCCU
GA----- 4 0,-1
-----GGCAACAAGAAACUGCCU
----- 3 1,-3

```

>hsa-mir-196b MA:15-36;mi:50-71 SRX018971

```

acuggucggugauuUAGGUAGUUUCCUGUUGUUGGGauccaccuuucucUCGACAGCACGACACUGCCUUCauuacuuca
guug

```

```

(((((((((.....))))))))).)).))))))..))))))
))..

```

```

-----UAGGUAGUUUCCUGUUGU-----
---- 31 0,-4
-----UAGGUAGUUUCCUGUUGUU-----
---- 5 0,-3
-----UAGGUAGUUUCCUGUUGUGa-----
---- 3 0,-2
-----UAGGUAGUUUCCUGUUGUUGG-----
---- 75 0,-1
-----UAGGUAGUUUCCUGUUGUUGGa-----
---- 17 0,-1
-----UAGGUAGUUUCCUGUUGUUGGaa-----
---- 3 0,-1
-----UAGGUAGUUUCCUGUUGUUGGau-----
---- 2 0,-1
-----UAGGUAGUUUCCUGUUGUUGGG-----
---- 87 0,0
-----UAGGUAGUUUCCUGUUGUUGGGu-----
---- 20 0,0
-----UAGGUAGUUUCCUGUUGUUGGGuu-----
---- 4 0,0
-----UAGGUAGUUUCCUGUUGUUGGGA-----
---- 17 0,1
-----UAGGUAGUUUCCUGUUGUUGGGa-----
---- 2 0,1
-----UAGGUAGUUUCCUGUUGUUGGGAU-----
---- 3 0,2
-----AGGUAGUUUCCUGUUGUUGGG-----
---- 2 1,0

```

```

-----AGGUAGUUUCCUGUUGUUGGGuu-----
----    2    1,0
-----UCGACAGCACGACACUGCCUUA-----
----    2    0,1

```

>hsa-mir-197 3p:48-69 SRX018971

```

ggcugugccggguagagagggcagugggagguaagagcucuucacccUUCACCACCUUUCUCCACCCAGCauggcc
(((((((((((((.((((.(((((((.((((.(((((((....)))))).)))))).)))))).)))))).))))))

```

```

-----UUCACCACCUUUCUCCACC----- 7
0,-4
-----UUCACCACCUUUCUCCACCC----- 9
0,-3
-----UUCACCACCUUUCUCCACCCA----- 19
0,-2
-----UUCACCACCUUUCUCCACCCAaa----- 2
0,-2
-----UUCACCACCUUUCUCCACCCAG----- 67
0,-1
-----UUCACCACCUUUCUCCACCCAGa----- 42
0,-1
-----UUCACCACCUUUCUCCACCCAGaa----- 8
0,-1
-----UUCACCACCUUUCUCCACCCAGC----- 152
0,0
-----UUCACCACCUUUCUCCACCCAGCu----- 3
0,0
-----UUCACCACCUUUCUCCACCCAGCA----- 47
0,1
-----UUCACCACCUUUCUCCACCCAGCAa----- 14
0,1
-----UUCACCACCUUUCUCCACCCAGCAau--- 2
0,1
-----UUCACCACCUUUCUCCACCCAGCAU--- 10
0,2
-----UUCACCACCUUUCUCCACCCAGCAUa--- 2
0,2
-----UUCACCACCUUUCUCCACCCAGCAUu--- 2
0,2

```

>hsa-mir-1973 3p:26-44 SRX018971

uauguucaacggccaugguauccugACCGUGCAAAGGUAGCAUA

((((((((.....((.((((((.....)))))))).)).))))))

-----ACCGUGCAAAGGUAGCAUA 3 0,0

-----ACCGUGCAAAGGUAGCAUAu 3 0,0

>hsa-mir-1976 3p:33-52 SRX018971

gcagcaaggaaggcagggguccuaagguguguCCUCCUGCCCUCUUGCUGU

((((((((((((.((((((((((.....).)))))))).)))))))))

-----CCUCCUGCCCUCUUGCUG- 2 0,-1

-----CCUCCUGCCCUCUUGCUGU 4 0,0

>hsa-mir-199a-1 5p:6-28;3p:47-68 SRX018971

gccaaCCCAGUGUUCAGACUACCUGUUCaggaggcucucaauguguACAGUAGUCUGCACAUUGGUUAggc

((...((((((((((.((((((((((.((((((((((.....).)))))))).)))))))).))))))

-----CCCAGUGUUCAGACUACC----- 8 0,-5

-----CCCAGUGUUCAGACUACCU----- 132 0,-4

-----CCCAGUGUUCAGACUACCUG----- 9 0,-3

-----CCCAGUGUUCAGACUACCUGU----- 5 0,-2

-----CCCAGUGUUCAGACUACCUGUU----- 68 0,-1

-----CCCAGUGUUCAGACUACCUGUUa----- 3 0,-1

-----CCCAGUGUUCAGACUACCUGUUu----- 4 0,-1

-----CCCAGUGUUCAGACUACCUGUUC----- 11 0,0

-----CCAGUGUUCAGACUACCUGUU----- 2 1,-1

-----UACAGUAGUCUGCACAUUG----- 16

-1,-4

-----UACAGUAGUCUGCACAUUGG----- 33

-1,-3

-----UACAGUAGUCUGCACAUUGGU----- 129

-1,-2

-----UACAGUAGUCUGCACAUUGGUa----- 29

-1,-2

-----UACAGUAGUCUGCACAUUGGUaa----- 21

-1,-2

-----UACAGUAGUCUGCACAUUGGUau----- 28

-1,-2

-----UACAGUAGUCUGCACAUUGGUU----- 1814

-1,-1	-----UACAGUAGUCUGCACAUUGGUUu---	199	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUuu--	5	
-1,-1	-----UACAGUAGUCUGCACAUUGGUUA---	113	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAa--	37	-1,0
	-----UACAGUAGUCUGCACAUUGGUUAu--	29	-1,0
	-----ACAGUAGUCUGCACAUUG-----	85	0,-4
	-----ACAGUAGUCUGCACAUUGa-----	2	0,-4
	-----ACAGUAGUCUGCACAUUGaa-----	2	0,-4
	-----ACAGUAGUCUGCACAUUGu-----	3	0,-4
	-----ACAGUAGUCUGCACAUUGuu-----	4	0,-4
	-----ACAGUAGUCUGCACAUUGG-----	314	0,-3
	-----ACAGUAGUCUGCACAUUGGau---	3	0,-3
	-----ACAGUAGUCUGCACAUUGGU-----	241	0,-2
	-----ACAGUAGUCUGCACAUUGGUa---	91	0,-2
	-----ACAGUAGUCUGCACAUUGGUaa---	150	0,-2
	-----ACAGUAGUCUGCACAUUGGUau---	39	0,-2
	-----ACAGUAGUCUGCACAUUGGUU----	7827	
0,-1	-----ACAGUAGUCUGCACAUUGGUUu---	634	0,-1
	-----ACAGUAGUCUGCACAUUGGUUuu--	20	0,-1
	-----ACAGUAGUCUGCACAUUGGUUA---	1419	
0,0	-----ACAGUAGUCUGCACAUUGGUUAa--	1425	
0,0	-----ACAGUAGUCUGCACAUUGGUUAaa--	6	0,0
	-----ACAGUAGUCUGCACAUUGGUUAau--	14	0,0
	-----ACAGUAGUCUGCACAUUGGUUAu--	277	0,0
	-----ACAGUAGUCUGCACAUUGGUUAuu--	2	0,0
	-----ACAGUAGUCUGCACAUUGGUUAG--	16	0,1
	-----CAGUAGUCUGCACAUUGG-----	56	1,-3
	-----CAGUAGUCUGCACAUUGGU-----	24	1,-2
	-----CAGUAGUCUGCACAUUGGUa-----	7	1,-2
	-----CAGUAGUCUGCACAUUGGUaa---	19	1,-2
	-----CAGUAGUCUGCACAUUGGUU----	634	1,-1
	-----CAGUAGUCUGCACAUUGGUUu---	102	1,-1

-----CAGUAGUCUGCACAUUGGUUuu--	11	1,-1
-----CAGUAGUCUGCACAUUGGUUA---	534	1,0
-----CAGUAGUCUGCACAUUGGUUAa--	265	1,0
-----CAGUAGUCUGCACAUUGGUUAaa-	8	1,0
-----CAGUAGUCUGCACAUUGGUUAu--	49	1,0
-----CAGUAGUCUGCACAUUGGUUAuu-	2	1,0
-----AGUAGUCUGCACAUUGGUaa---	3	2,-2
-----AGUAGUCUGCACAUUGGUU---	10	2,-1
-----AGUAGUCUGCACAUUGGUUA---	2	2,0
-----AGUAGUCUGCACAUUGGUUAa--	7	2,0
-----AGUAGUCUGCACAUUGGUUAu--	4	2,0

CACAUUGG-----	33	-1,-3	
-----			-UACAGUAGUCUG
CACAUUGGU-----	129	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUa-----	29	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUaa-----	21	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUau-----	28	-1,-2	
-----			-UACAGUAGUCUG
CACAUUGGUU-----	1814	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUu-----	199	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUuu-----	5	-1,-1	
-----			-UACAGUAGUCUG
CACAUUGGUUA-----	113	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAa-----	37	-1,0	
-----			-UACAGUAGUCUG
CACAUUGGUUAu-----	29	-1,0	
-----			-ACAGUAGUCUG
CACAUUG-----	85	0,-4	
-----			-ACAGUAGUCUG
CACAUUGa-----	2	0,-4	
-----			-ACAGUAGUCUG
CACAUUGaa-----	2	0,-4	
-----			-ACAGUAGUCUG
CACAUUGu-----	3	0,-4	
-----			-ACAGUAGUCUG
CACAUUGuu-----	4	0,-4	
-----			-ACAGUAGUCUG
CACAUUGG-----	314	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGau-----	3	0,-3	
-----			-ACAGUAGUCUG
CACAUUGGU-----	241	0,-2	
-----			-ACAGUAGUCUG

CACAUUGGUa-----	91	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUaa-----	150	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUau-----	39	0,-2	
-----			ACAGUAGUCUG
CACAUUGGUU-----	7827	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUu-----	634	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUuu-----	20	0,-1	
-----			ACAGUAGUCUG
CACAUUGGUUA-----	1419	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAa-----	1425	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAaa-----	6	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAau-----	14	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAu-----	277	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAuu-----	2	0,0	
-----			ACAGUAGUCUG
CACAUUGGUUAG-----	16	0,1	
-----			ACAGUAGUCUG
CACAUUGGUUAGA-----	2	0,2	
-----			CAGUAGUCUG
CACAUUGG-----	56	1,-3	
-----			CAGUAGUCUG
CACAUUGGU-----	24	1,-2	
-----			CAGUAGUCUG
CACAUUGGUa-----	7	1,-2	
-----			CAGUAGUCUG
CACAUUGGUaa-----	19	1,-2	
-----			CAGUAGUCUG
CACAUUGGUU-----	634	1,-1	
-----			CAGUAGUCUG

UGGUa-----	29	-1,-2	-----UACAGUAGUCUGCACAU
UGGUaa-----	21	-1,-2	-----UACAGUAGUCUGCACAU
UGGUau-----	28	-1,-2	-----UACAGUAGUCUGCACAU
UGGUU-----	1814	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUu-----	199	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUuu-----	5	-1,-1	-----UACAGUAGUCUGCACAU
UGGUUA-----	113	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAa-----	37	-1,0	-----UACAGUAGUCUGCACAU
UGGUUAu-----	29	-1,0	-----ACAGUAGUCUGCACAU
UG-----	85	0,-4	-----ACAGUAGUCUGCACAU
UGa-----	2	0,-4	-----ACAGUAGUCUGCACAU
UGaa-----	2	0,-4	-----ACAGUAGUCUGCACAU
UGu-----	3	0,-4	-----ACAGUAGUCUGCACAU
UGuu-----	4	0,-4	-----ACAGUAGUCUGCACAU
UGG-----	314	0,-3	-----ACAGUAGUCUGCACAU
UGGau-----	3	0,-3	-----ACAGUAGUCUGCACAU
UGGU-----	241	0,-2	-----ACAGUAGUCUGCACAU
UGGUa-----	91	0,-2	-----ACAGUAGUCUGCACAU
UGGUaa-----	150	0,-2	-----ACAGUAGUCUGCACAU

UGGUau-----	39	0,-2	-----ACAGUAGUCUGCACAU
UGGUU-----	7827	0,-1	-----ACAGUAGUCUGCACAU
UGGUUu-----	634	0,-1	-----ACAGUAGUCUGCACAU
UGGUUuu-----	20	0,-1	-----ACAGUAGUCUGCACAU
UGGUUA-----	1419	0,0	-----ACAGUAGUCUGCACAU
UGGUUAa-----	1425	0,0	-----ACAGUAGUCUGCACAU
UGGUUAaa-----	6	0,0	-----ACAGUAGUCUGCACAU
UGGUUAau-----	14	0,0	-----ACAGUAGUCUGCACAU
UGGUUAu-----	277	0,0	-----ACAGUAGUCUGCACAU
UGGUUAuu-----	2	0,0	-----ACAGUAGUCUGCACAU
UGGUUAG-----	16	0,1	-----CAGUAGUCUGCACAU
UGG-----	56	1,-3	-----CAGUAGUCUGCACAU
UGGU-----	24	1,-2	-----CAGUAGUCUGCACAU
UGGUa-----	7	1,-2	-----CAGUAGUCUGCACAU
UGGUaa-----	19	1,-2	-----CAGUAGUCUGCACAU
UGGUU-----	634	1,-1	-----CAGUAGUCUGCACAU
UGGUUu-----	102	1,-1	-----CAGUAGUCUGCACAU
UGGUUuu-----	11	1,-1	-----CAGUAGUCUGCACAU
UGGUUA-----	534	1,0	-----CAGUAGUCUGCACAU


```

-- 66 0,-2
-----UGUGCAAAUCUAUGCAAAACUG-----
-- 24 0,-1
-----UGUGCAAAUCUAUGCAAAACUGA-----
-- 16 0,0
-----UGUGCAAAUCUAUGCAAAACUGAa-----
-- 4 0,0
-----UGUGCAAAUCUAUGCAAAACUGAU-----
-- 2 0,1
-----GUGCAAAUCUAUGCAAAAC-----
-- 2 1,-3
-----GUGCAAAUCUAUGCAAAACU-----
-- 7 1,-2
-----GUGCAAAUCUAUGCAAAACUGA-----
-- 2 1,0

```

>hsa-mir-19b-1 mi:16-38;MA:54-76 SRX018971

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cacuguucuaugguuAGUUUUGCAGGUUUGCAUCCAGCugugugauauucugcUGUGCAAAUCCAUGCAAAACUGAcugu
gguagug

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(((((((((.....))))))))))
))))))

```

```

-----AGUUUUGCAGGUUUGCAUCCAG-----
----- 4 0,-1
-----CUGUGCAAAUCCAUGCAAAACU-----
----- 5 -1,-2
-----CUGUGCAAAUCCAUGCAAAACUG-----
----- 4 -1,-1
-----UGUGCAAAUCCAUGCAAAA-----
----- 21 0,-4
-----UGUGCAAAUCCAUGCAAAAa-----
----- 4 0,-4
-----UGUGCAAAUCCAUGCAAAAau-----
----- 2 0,-4
-----UGUGCAAAUCCAUGCAAAAuu-----
----- 2 0,-4
-----UGUGCAAAUCCAUGCAAAAC-----
----- 103 0,-3
-----UGUGCAAAUCCAUGCAAAACa-----

```

```

----- 8 0,-3
-----UGUGCAAAUCCAUGCAAAACU-----
----- 2208 0,-2
-----UGUGCAAAUCCAUGCAAAACUa-----
----- 10 0,-2
-----UGUGCAAAUCCAUGCAAAACUaa-----
----- 2 0,-2
-----UGUGCAAAUCCAUGCAAAACUu-----
----- 3 0,-2
-----UGUGCAAAUCCAUGCAAAACUG-----
----- 395 0,-1
-----UGUGCAAAUCCAUGCAAAACUGu-----
----- 7 0,-1
-----UGUGCAAAUCCAUGCAAAACUGA-----
----- 171 0,0
-----UGUGCAAAUCCAUGCAAAACUGAa-----
----- 3 0,0
-----UGUGCAAAUCCAUGCAAAACUGAaa-----
----- 2 0,0
-----GUGCAAAUCCAUGCAAAA-----
----- 2 1,-4
-----GUGCAAAUCCAUGCAAAACU-----
----- 10 1,-2
-----GUGCAAAUCCAUGCAAAACUG-----
----- 6 1,-1

```

>hsa-mir-19b-2 mi:19-40;MA:62-84 SRX018971

acauugcuacuacaauuAGUUUUGCAGGUUUGCAUUUCAgcguauauauguauauguggcUGUGCAAAUCCAUGCAAAA
CUGAuugugauaangu

```

(((((((.....((((((((((((((((((((((((((((((((.....(((((((.....)))))))).)))))))).)))))))))
))))))))))))))))))

```

```

-----CUGUGCAAAUCCAUGCAAAA
CU----- 5 -1,-2
-----CUGUGCAAAUCCAUGCAAAA
CUG----- 4 -1,-1
-----UGUGCAAAUCCAUGCAAAA
----- 21 0,-4
-----UGUGCAAAUCCAUGCAAAA

```

a-----	4	0,-4	UGUGCAAAUCCAUGCAAAA
au-----	2	0,-4	UGUGCAAAUCCAUGCAAAA
uu-----	2	0,-4	UGUGCAAAUCCAUGCAAAA
C-----	103	0,-3	UGUGCAAAUCCAUGCAAAA
Ca-----	8	0,-3	UGUGCAAAUCCAUGCAAAA
CU-----	2208	0,-2	UGUGCAAAUCCAUGCAAAA
CUa-----	10	0,-2	UGUGCAAAUCCAUGCAAAA
CUaa-----	2	0,-2	UGUGCAAAUCCAUGCAAAA
CUu-----	3	0,-2	UGUGCAAAUCCAUGCAAAA
CUG-----	395	0,-1	UGUGCAAAUCCAUGCAAAA
CUGu-----	7	0,-1	UGUGCAAAUCCAUGCAAAA
CUGA-----	171	0,0	UGUGCAAAUCCAUGCAAAA
CUGAa-----	3	0,0	UGUGCAAAUCCAUGCAAAA
CUGAaa-----	2	0,0	GUGCAAAUCCAUGCAAAA
-----	2	1,-4	GUGCAAAUCCAUGCAAAA
CU-----	10	1,-2	GUGCAAAUCCAUGCAAAA
CUG-----	6	1,-1	

)).).)))).

```
-----CAUCUUACCGGACAGUGC-----
----- 5 0,-4
-----CUAACACUGUCUGGUAACGAUGUUu---
----- 2 -1,1
-----UAACACUGUCUGGUAACG-----
----- 7 0,-4
-----UAACACUGUCUGGUAACGA-----
----- 51 0,-3
-----UAACACUGUCUGGUAACGAU-----
----- 526 0,-2
-----UAACACUGUCUGGUAACGAUa-----
----- 11 0,-2
-----UAACACUGUCUGGUAACGAUG-----
----- 109 0,-1
-----UAACACUGUCUGGUAACGAUGa-----
----- 5 0,-1
-----UAACACUGUCUGGUAACGAUGaa-----
----- 6 0,-1
-----UAACACUGUCUGGUAACGAUGU-----
----- 161 0,0
-----UAACACUGUCUGGUAACGAUGUa-----
----- 6 0,0
-----UAACACUGUCUGGUAACGAUGUaa-----
----- 8 0,0
-----UAACACUGUCUGGUAACGAUGUU-----
----- 905 0,1
-----UAACACUGUCUGGUAACGAUGUUa-----
----- 39 0,1
-----UAACACUGUCUGGUAACGAUGUUaa-----
----- 14 0,1
-----UAACACUGUCUGGUAACGAUGUUau-----
----- 4 0,1
-----UAACACUGUCUGGUAACGAUGUUu-----
----- 363 0,1
-----AACACUGUCUGGUAACGAU-----
----- 3 1,-2
-----AACACUGUCUGGUAACGAUGUU-----
```


----- 4 1,0	-----CUAAUACUGCCUGGUA AUGACa
----- 2 -1,1	-----UAAUACUGCCUGGUA AUG-----
----- 20 0,-4	-----UAAUACUGCCUGGUA AUGA-----
----- 68 0,-3	-----UAAUACUGCCUGGUA AUGAa-----
----- 15 0,-3	-----UAAUACUGCCUGGUA AUGAaa-----
----- 7 0,-3	-----UAAUACUGCCUGGUA AUGAU-----
----- 145 0,-2	-----UAAUACUGCCUGGUA AUGAUa-----
----- 68 0,-2	-----UAAUACUGCCUGGUA AUGAUaa-----
----- 3 0,-2	-----UAAUACUGCCUGGUA AUGAUu-----
----- 5 0,-2	-----UAAUACUGCCUGGUA AUGAUG-----
----- 255 0,-1	-----UAAUACUGCCUGGUA AUGAUGu-----
----- 33 0,-1	-----UAAUACUGCCUGGUA AUGAUGA-----
----- 780 0,0	-----UAAUACUGCCUGGUA AUGAUGAa-----
----- 134 0,0	-----UAAUACUGCCUGGUA AUGAUGAaa-----
----- 32 0,0	-----UAAUACUGCCUGGUA AUGAUGAau-----
----- 3 0,0	-----UAAUACUGCCUGGUA AUGAUGAu-----
----- 12 0,0	-----UAAUACUGCCUGGUA AUGAUGAuu-----
----- 2 0,0	-----UAAUACUGCCUGGUA AUGAUGAC-----
----- 629 0,1	-----UAAUACUGCCUGGUA AUGAUGACa-----

```

----- 326 0,1
-----UAAUACUGCCUGGUA AUGAUGACa
u----- 24 0,1
-----UAAUACUGCCUGGUA AUGAUGACu
----- 116 0,1
-----UAAUACUGCCUGGUA AUGAUGACG
----- 19 0,2
-----UAAUACUGCCUGGUA AUGAUGACG
a----- 2 0,2
-----UAAUACUGCCUGGUA AUGAUGACG
u----- 3 0,2
-----AAUACUGCCUGGUA AUGA-----
----- 2 1,-3
-----AAUACUGCCUGGUA AUGAUGA--
----- 11 1,0
-----AAUACUGCCUGGUA AUGAUGACa
----- 15 1,1
-----AAUACUGCCUGGUA AUGAUGACa
a----- 4 1,1
-----AAUACUGCCUGGUA AUGAUGACu
----- 13 1,1
-----AAUACUGCCUGGUA AUGAUGACG
u----- 4 1,2
-----AUACUGCCUGGUA AUGAU-----
----- 6 2,-2
-----AUACUGCCUGGUA AUGAUG---
----- 3 2,-1
-----AUACUGCCUGGUA AUGAUGAC-
----- 17 2,1
-----AUACUGCCUGGUA AUGAUGACa
----- 10 2,1
-----AUACUGCCUGGUA AUGAUGACa
u----- 2 2,1
-----AUACUGCCUGGUA AUGAUGACu
----- 18 2,1
-----AUACUGCCUGGUA AUGAUGACu
u----- 2 2,1
-----AUACUGCCUGGUA AUGAUGACG

```

----- 19 2,2
-----AUACUGCCUGGUA AUGAUGACG
a----- 2 2,2
-----AUACUGCCUGGUA AUGAUGACG
u----- 5 2,2
-----AUACUGCCUGGUA AUGAUGACG
G----- 18 2,3

```

>hsa-mir-200c    mi:5-26;MA:44-66    SRX018971
cccuCGUCUUACCCAGCAGUGUUUGGgugcggguugggagucucUAAUACUGCCGGGUAAUGAUGGAagg
(((..(((((((((((.(((((((((.(((.(.....)))))).)))))).)))))).))))..))
-----UAAUACUGCCGGGUAAUGA----- 5    0,-4
-----UAAUACUGCCGGGUAAUGAUa---- 3    0,-3
-----UAAUACUGCCGGGUAAUGAUG---- 18   0,-2
-----UAAUACUGCCGGGUAAUGAUGG--- 101  0,-1
-----UAAUACUGCCGGGUAAUGAUGGu-- 7    0,-1
-----UAAUACUGCCGGGUAAUGAUGGA-- 53   0,0
-----UAAUACUGCCGGGUAAUGAUGGAa- 4    0,0
-----UAAUACUGCCGGGUAAUGAUGGAu- 3    0,0
-----UAAUACUGCCGGGUAAUGAUGGAGa 3    0,1
-----AAUACUGCCGGGUAAUGAUGGA-- 3    1,0

```

```
>hsa-mir-202      mi:28-49;MA:64-83      SRX018971
cgccucagagccgccccgccguuccuuuUUCCUAUGCAUAUACUUCUUUGaggaucugggccuaaAGAGGUAUAGGGCAUGG
GAAaacggggcgguccggguccuccccagcg
(((...(((..(((((((((((.((((((((((((.((((((((((((.(.....)))))))))))))))).))))))
))))).)))))))).))))).)))....)))
-----UUCCUAUGCAUAUACUUCUU-----
-----      2      0,-2
-----UUCCUAUGCAUAUACUUCUU-----
-----      16      0,-1
-----UUCCUAUGCAUAUACUUCUUUG-----
-----      4      0,0
```

```
>hsa-mir-203      3p:65-86      SRX018971
guguugggggacucgcgcgcuggguccagugguucuaacaguucaacaguucuguagcgcaauuGUGAAAUGUUUAGGAC
CACUAGacccggcgggcgcggcgacagcga
(((((((.(.(.(((.(((((((((.(((((((((.(((((.(((.(((((((.....).)))))))))).))))).))))))
```

))))).)))))))).))))).).).))))).

-----	UUGUGAAAUGUUUAGGAC
CACU-----	4 -2,-2
-----	UGUGAAAUGUUUAGGAC
CACU-----	2 -1,-2
-----	UGUGAAAUGUUUAGGAC
CACUAG-----	10 -1,0
-----	UGUGAAAUGUUUAGGAC
CACUAGu-----	2 -1,0
-----	GUGAAAUGUUUAGGAC
CA-----	5 0,-4
-----	GUGAAAUGUUUAGGAC
CAaa-----	2 0,-4
-----	GUGAAAUGUUUAGGAC
CAC-----	6 0,-3
-----	GUGAAAUGUUUAGGAC
CACa-----	2 0,-3
-----	GUGAAAUGUUUAGGAC
CACU-----	26 0,-2
-----	GUGAAAUGUUUAGGAC
CACUA-----	60 0,-1
-----	GUGAAAUGUUUAGGAC
CACUAa-----	9 0,-1
-----	GUGAAAUGUUUAGGAC
CACUAu-----	7 0,-1
-----	GUGAAAUGUUUAGGAC
CACUAG-----	263 0,0
-----	GUGAAAUGUUUAGGAC
CACUAGu-----	28 0,0
-----	GUGAAAUGUUUAGGAC
CACUAGA-----	87 0,1
-----	GUGAAAUGUUUAGGAC
CACUAGAa-----	6 0,1
-----	UGAAAUGUUUAGGAC
CAC-----	3 1,-3
-----	UGAAAUGUUUAGGAC
CACU-----	3 1,-2
-----	UGAAAUGUUUAGGAC

CACUA-----	17	1,-1	-----UGAAAUGUUUAGGAC
CACUAu-----	6	1,-1	-----UGAAAUGUUUAGGAC
CACUAG-----	72	1,0	-----UGAAAUGUUUAGGAC
CACUAGu-----	16	1,0	-----UGAAAUGUUUAGGAC
CACUAGuu-----	6	1,0	-----UGAAAUGUUUAGGAC
CACUAGA-----	30	1,1	-----UGAAAUGUUUAGGAC
CACUAGAa-----	2	1,1	-----GAAAUGUUUAGGAC
CACUAGu-----	2	2,0	

```
>hsa-mir-204      5p:33-54      SRX018971
ggcuacagucuuucuaugugacucguggacUCCCCUUGUCAUCCU AUGCCUgagaauauaugaaggaggcugggaag
gcaaagggacguucaauugucaucacuggc
.....((((((((...(((((.(((((((((.(((((.((((.....)))))))))))).)
)))))))))).))))).)))).).)).).
-----UCCCCUUGUCAUCCU AUGCCU-----
-----12  0,0
```

```

>hsa-mir-206      3p:53-74      SRX018971
ugcuucccgaggccacaugcuucuuuauaucccauauaggauuacuuugcuaUGGAAUGUAAGGAAGUGUGUGG
uuucgg
caagug
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))).
-----UGGAAUGUAAGGAAGUGUGUG-----
----- 3    0,-1
-----UGGAAUGUAAGGAAGUGUGUG-----
----- 11   0,0
-----UGGAAUGUAAGGAAGUGUGUGGa-----
----- 2    0,0
-----UGGAAUGUAAGGAAGUGUGUGGU-----
----- 2    0,1
-----UGGAAUGUAAGGAAGUGUGUGGUau-----

```

-----AAAGUGCUUAUAGUGCAGGU----- 8 1,-2

-----AAAGUGCUUAUAGUGCAGGUA-----	25	1,-1
-----AAAGUGCUUAUAGUGCAGGUAa-----	5	1,-1
-----AAAGUGCUUAUAGUGCAGGUAu-----	2	1,-1
-----AAAGUGCUUAUAGUGCAGGUAuu-----	3	1,-1
-----AAAGUGCUUAUAGUGCAGGUAG-----	3	1,0
-----AAAGUGCUUAUAGUGCAGGUAGU-----	2	1,1
-----AAGUGCUUAUAGUGCAGGU-----	2	2,-2
-----AAGUGCUUAUAGUGCAGGUAa-----	6	2,-1
-----ACUGCAUUAUGAGCACUUA-----	2	0,-3
-----ACUGCAUUAUGAGCACUUAa-----	3	0,-2
-----ACUGCAUUAUGAGCACUUAAGU-----	16	0,1
-----CUGCAUUAUGAGCACUUAa-----	2	1,-1
-----CUGCAUUAUGAGCACUUAAGU-----	2	1,1

>hsa-mir-20b MA:6-28;mi:44-65 SRX018971

aguacCAAAGUGCUCUAGUGCAGGUAGuuuuggcaugacucuACUGUAGUAUGGGCACUUCCAGuacu
 ((((((.....)))))).....
 -----CAAAGUGCUCUAGUGCAG----- 2 0,-4
 -----CAAAGUGCUCUAGUGCAGG----- 2 0,-3
 -----ACUGUAGUAUGGGCACUUCCA----- 3 0,-1

>hsa-mir-21 MA:8-29;mi:46-66 SRX018971

ugucgggUAGCUUAUCAGACUGAUGUUGAcuguugaaucucauggCAACACCAGUCGAUGGGCUGUcugaca
 .((((.....)))).....
 -----GUAGCUUAUCAGACUGAU----- 2
 -1,-5
 -----GUAGCUUAUCAGACUGAUG----- 8
 -1,-4
 -----GUAGCUUAUCAGACUGAUGU----- 18
 -1,-3
 -----GUAGCUUAUCAGACUGAUGUU----- 248
 -1,-2
 -----GUAGCUUAUCAGACUGAUGUa----- 7
 -1,-2
 -----GUAGCUUAUCAGACUGAUGUUG----- 424
 -1,-1
 -----GUAGCUUAUCAGACUGAUGUUGu----- 4
 -1,-1

-----GUAGCUUAUCAGACUGAUGUUGA-----	443
-1,0	
-----GUAGCUUAUCAGACUGAUGUUGAa-----	12
-1,0	
-----GUAGCUUAUCAGACUGAUGUUGAC-----	61
-1,1	
-----GUAGCUUAUCAGACUGAUGUUGACa-----	10
-1,1	
-----GUAGCUUAUCAGACUGAUGUUGACU-----	16
-1,2	
-----UAGCUUAUCAGACUGAUG-----	8991
0,-4	
-----UAGCUUAUCAGACUGAUGa-----	17
0,-4	
-----UAGCUUAUCAGACUGAUGaa-----	3
0,-4	
-----UAGCUUAUCAGACUGAUGau-----	66
0,-4	
-----UAGCUUAUCAGACUGAUGU-----	
38505 0,-3	
-----UAGCUUAUCAGACUGAUGUa-----	235
0,-3	
-----UAGCUUAUCAGACUGAUGUaa-----	134
0,-3	
-----UAGCUUAUCAGACUGAUGUU-----	
278671 0,-2	
-----UAGCUUAUCAGACUGAUGUUa-----	1405
0,-2	
-----UAGCUUAUCAGACUGAUGUUaa-----	129
0,-2	
-----UAGCUUAUCAGACUGAUGUUu-----	265
0,-2	
-----UAGCUUAUCAGACUGAUGUUuu-----	3
0,-2	
-----UAGCUUAUCAGACUGAUGUUG-----	
189047 0,-1	
-----UAGCUUAUCAGACUGAUGUUGu-----	280
0,-1	

-----UAGCUUAUCAGACUGAUGUUGA-----	
92668 0,0	
-----UAGCUUAUCAGACUGAUGUUGAa-----	5046
0,0	
-----UAGCUUAUCAGACUGAUGUUGAaa-----	582
0,0	
-----UAGCUUAUCAGACUGAUGUUGAau-----	52
0,0	
-----UAGCUUAUCAGACUGAUGUUGAu-----	249
0,0	
-----UAGCUUAUCAGACUGAUGUUGAuu-----	38
0,0	
-----UAGCUUAUCAGACUGAUGUUGAC-----	
31539 0,1	
-----UAGCUUAUCAGACUGAUGUUGACa-----	
14602 0,1	
-----UAGCUUAUCAGACUGAUGUUGACaa-----	152
0,1	
-----UAGCUUAUCAGACUGAUGUUGACau-----	48
0,1	
-----UAGCUUAUCAGACUGAUGUUGACU-----	5479
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUa-----	9
0,2	
-----UAGCUUAUCAGACUGAUGUUGACUG-----	12
0,3	
-----AGCUUAUCAGACUGAUGU-----	126
1,-3	
-----AGCUUAUCAGACUGAUGUaa-----	2
1,-3	
-----AGCUUAUCAGACUGAUGUU-----	1188
1,-2	
-----AGCUUAUCAGACUGAUGUUa-----	9
1,-2	
-----AGCUUAUCAGACUGAUGUUaa-----	2
1,-2	
-----AGCUUAUCAGACUGAUGUUu-----	3
1,-2	

-----AGCUUAUCAGACUGAUGUUG-----	645
1,-1	
-----AGCUUAUCAGACUGAUGUUGu-----	83
1,-1	
-----AGCUUAUCAGACUGAUGUUGA-----	1220
1,0	
-----AGCUUAUCAGACUGAUGUUGAa-----	74
1,0	
-----AGCUUAUCAGACUGAUGUUGAaa-----	10
1,0	
-----AGCUUAUCAGACUGAUGUUGAau-----	3
1,0	
-----AGCUUAUCAGACUGAUGUUGAu-----	21
1,0	
-----AGCUUAUCAGACUGAUGUUGAC-----	446
1,1	
-----AGCUUAUCAGACUGAUGUUGACa-----	252
1,1	
-----AGCUUAUCAGACUGAUGUUGACaa-----	18
1,1	
-----AGCUUAUCAGACUGAUGUUGACau-----	9
1,1	
-----AGCUUAUCAGACUGAUGUUGACU-----	66
1,2	
-----AGCUUAUCAGACUGAUGUUGACUa-----	3
1,2	
-----GCUUAUCAGACUGAUGUU-----	423
2,-2	
-----GCUUAUCAGACUGAUGUUG-----	243
2,-1	
-----GCUUAUCAGACUGAUGUUGA-----	136
2,0	
-----GCUUAUCAGACUGAUGUUGAa-----	5
2,0	
-----GCUUAUCAGACUGAUGUUGAC-----	50
2,1	
-----GCUUAUCAGACUGAUGUUGACa-----	20
2,1	

-----GCUUAUCAGACUGAUGUUGACU-----	13
2,2	
-----GCUUAUCAGACUGAUGUUGACUa-----	2
2,2	
-----CAACACCAGUCGAUGGGC-----	14
0,-3	
-----CAACACCAGUCGAUGGGCU-----	122
0,-2	
-----CAACACCAGUCGAUGGGCUG-----	77
0,-1	
-----CAACACCAGUCGAUGGGCUGaa-----	6
0,-1	
-----CAACACCAGUCGAUGGGCUGU-----	176
0,0	
-----CAACACCAGUCGAUGGGCUGUa-----	4
0,0	
-----CAACACCAGUCGAUGGGCUGUaa-----	304
0,0	
-----CAACACCAGUCGAUGGGCUGUau-----	107
0,0	
-----CAACACCAGUCGAUGGGCUGUuu-----	17
0,0	
-----CAACACCAGUCGAUGGGCUGUC-----	49
0,1	
-----CAACACCAGUCGAUGGGCUGUCa-----	205
0,1	
-----CAACACCAGUCGAUGGGCUGUCaa-----	33
0,1	
-----CAACACCAGUCGAUGGGCUGUCau-----	80
0,1	
-----CAACACCAGUCGAUGGGCUGUCU-----	80
0,2	
-----CAACACCAGUCGAUGGGCUGUCUau-----	6
0,2	
-----CAACACCAGUCGAUGGGCUGUCUu-----	12
0,2	
-----CAACACCAGUCGAUGGGCUGUCUuu-----	31
0,2	

-----AACACCAGUCGAUGGGCUG-----	9
1,-1	
-----AACACCAGUCGAUGGGCUGUaa----	4
1,0	
-----AACACCAGUCGAUGGGCUGUuu----	6
1,0	
-----AACACCAGUCGAUGGGCUGUC-----	2
1,1	
-----AACACCAGUCGAUGGGCUGUCa----	14
1,1	
-----AACACCAGUCGAUGGGCUGUCU-----	75
1,2	
-----AACACCAGUCGAUGGGCUGUCUa----	2
1,2	
-----AACACCAGUCGAUGGGCUGUCUaa--	5
1,2	
-----AACACCAGUCGAUGGGCUGUCUau--	12
1,2	
-----AACACCAGUCGAUGGGCUGUCUu----	8
1,2	
-----AACACCAGUCGAUGGGCUGUCUuu--	20
1,2	
-----ACACCAGUCGAUGGGCUGUCU-----	6
2,2	
-----ACACCAGUCGAUGGGCUGUCUau--	3
2,2	
-----ACACCAGUCGAUGGGCUGUCUuu--	3
2,2	

>hsa-mir-210 3p:66-87 SRX018971

acccggcagugccuccaggcgcagggcagccccugcccaccgcacacugcgcugccccagacccaCUGUGCGUGUGACAG
CGGCUGAucugugccugggcagcgcgaccc

....((..(((.(((((((.....(((.(.....)))..)).)))))).)))
..))))..))))))))..))))..)).

-----ACUGUGCGUGUGACAG
CGGCU----- 4 -1,-2

-----CUGUGCGUGUGACAG
CGG----- 2 0,-4

```

-----CUGUGCGUGUGACAG
CGGCU----- 107 0,-2
-----CUGUGCGUGUGACAG
CGGCUaa----- 4 0,-2
-----CUGUGCGUGUGACAG
CGGCUG----- 2 0,-1
-----CUGUGCGUGUGACAG
CGGCUGA----- 52 0,0
-----CUGUGCGUGUGACAG
CGGCUGAa----- 14 0,0
-----CUGUGCGUGUGACAG
CGGCUGAaa----- 6 0,0
-----CUGUGCGUGUGACAG
CGGCUGAU----- 7 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUaa----- 2 0,1
-----CUGUGCGUGUGACAG
CGGCUGAUu----- 2 0,1
-----UGUGCGUGUGACAG
CGGCU----- 2 1,-2
-----UGUGCGUGUGACAG
CGGCUGA----- 2 1,0

```

>hsa-mir-211 5p:26-47 SRX018971

```

ucaccuggccaugugacuugugggcUCCCCUUGUCAUCCUUCGCCUagggcucugagcagggcagggacagcaaagggg
ugcucaguugucacuuccacagcacggag
((..(((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....
.))))))...)))))).....))))).)))))))))
-----UCCCCUUGUCAUCCUUCGC-----
----- 2 0,-2

```

>hsa-mir-2110 5p:8-29 SRX018971

```

cagggguUUGGGGAAACGGCCGCUGAGUGagggcugcguguguuuucacacgggucuuuuccuccacucuuug
(((((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....((((.....
-----UUGGGGAAACGGCCGCUGAG----- 5
0,-2
-----UUGGGGAAACGGCCGCUGAGU----- 9
0,-1

```

```

-----UUGGGGAAACGGCCGCUGAGUaa----- 4
0,-1
-----UUGGGGAAACGGCCGCUGAGUu----- 2
0,-1
-----UUGGGGAAACGGCCGCUGAGUG----- 9
0,0
-----UUGGGGAAACGGCCGCUGAGUGu----- 3
0,0
-----UUGGGGAAACGGCCGCUGAGUGA----- 60
0,1
-----UUGGGGAAACGGCCGCUGAGUGAa----- 3
0,1
-----UUGGGGAAACGGCCGCUGAGUGAu----- 5
0,1
-----UUGGGGAAACGGCCGCUGAGUGAG----- 15
0,2
-----UUGGGGAAACGGCCGCUGAGUGAGu----- 11
0,2

```

>hsa-mir-2114 MA:13-34;mi:49-69 SRX018971

```

ccuccaugcuccUAGUCCCUUCCUUGAAGCGGUCggaauaaucaugaCGAGCCUCAAGCAAGGGACUUcaagcuggugg
(((((.(((...(((((((.(((((.(((.....)))))).)).)))))).))))))....)))))))).))
-----UAGUCCCUUCCUUGAAGCG-----
3 0,-3
-----UAGUCCCUUCCUUGAAGCGG-----
2 0,-2
-----UAGUCCCUUCCUUGAAGCGGU-----
3 0,-1

```

>hsa-mir-2116 MA:14-34;mi:51-71 SRX018971

```

gaccuaggcuaggGGUUCUAGCAUAGGAGGUCUucccaugcuaagaaguCCUCCCAUGCCAAGAACUCCcagacuagga
..(((((.(((.(((((((.(((((.((((.....)))))).)))))).)))))).))))))....)))))))).
-----CCUCCCAUGCCAAGAACUCCCA-----
2 0,1

```

>hsa-mir-212 3p:71-91 SRX018971

```

cggggcaccgcccggacagcgcgccggcaccuugggcucuagacugcuaacugcccgggccgcccucagUAACAGUCUC
CAGUCACGGCCaccgacgccuggcccccgcc

```



```

-----ACAGCAGGCA
CAGACAGG----- 11 0,-4
-----ACAGCAGGCA
CAGACAGGCA----- 28 0,-2
-----ACAGCAGGCA
CAGACAGGCAa----- 4 0,-2
-----ACAGCAGGCA
CAGACAGGCAaa----- 6 0,-2
-----ACAGCAGGCA
CAGACAGGCAau----- 2 0,-2
-----ACAGCAGGCA
CAGACAGGCAu----- 5 0,-2
-----ACAGCAGGCA
CAGACAGGCAuu----- 2 0,-2
-----ACAGCAGGCA
CAGACAGGCAG----- 2 0,-1
-----ACAGCAGGCA
CAGACAGGCAGa----- 10 0,-1
-----ACAGCAGGCA
CAGACAGGCAGaa----- 3 0,-1
-----ACAGCAGGCA
CAGACAGGCAGau----- 2 0,-1

```

>hsa-mi r-215 5p:27-47 SRX018971

```

aucuucagaaaugguauacaggaauAUGACCUAUGAAUUGACAGACaauauagcugaguuuugucugucauuucuuuagg
ccaauauucuguaugacugugcuacucaa

```

```

.....(((.(((((((((((.((.(((.(((.((((((((((((.....)))))))))).)))..)))
.)).).)))))).....)))))).)))..

```

```

-----AAUGACCUAUGAAUUGACAG-----
----- 7 -1,-2
-----AUGACCUAUGAAUUGACA-----
----- 6 0,-3
-----AUGACCUAUGAAUUGACAG-----
----- 471 0,-2
-----AUGACCUAUGAAUUGACAGA-----
----- 17 0,-1
-----AUGACCUAUGAAUUGACAGAA-----
----- 4 0,-1

```



```

-----AUGACCUAUGAAUUGACAGAC-----
----- 33 0,0
-----AUGACCUAUGAAUUGACAGACu-----
----- 5 0,0
-----AUGACCUAUGAAUUGACAGACA-----
----- 21 0,1
-----UGACCUAUGAAUUGACAG-----
----- 2610 1,-2
-----UGACCUAUGAAUUGACAGu-----
----- 43 1,-2
-----UGACCUAUGAAUUGACAGuu-----
----- 2 1,-2
-----UGACCUAUGAAUUGACAGA-----
----- 267 1,-1
-----UGACCUAUGAAUUGACAGAA-----
----- 44 1,-1
-----UGACCUAUGAAUUGACAGAAa-----
----- 59 1,-1
-----UGACCUAUGAAUUGACAGAC-----
----- 91 1,0
-----UGACCUAUGAAUUGACAGACu-----
----- 3 1,0
-----UGACCUAUGAAUUGACAGACA-----
----- 208 1,1
-----UGACCUAUGAAUUGACAGACAu-----
----- 23 1,1
-----UGACCUAUGAAUUGACAGACAUu-----
----- 4 1,1
-----UGACCUAUGAAUUGACAGACAA-----
----- 15 1,2
-----UGACCUAUGAAUUGACAGACAAa-----
----- 15 1,2
-----UGACCUAUGAAUUGACAGACAAau-----
----- 2 1,2
-----UGACCUAUGAAUUGACAGACAAU-----
----- 2 1,3
-----GACCUAUGAAUUGACAGA-----
----- 2 2,-1

```



```

-----AAAUCUCUGCAGGCAAUGUa-----
-- 2 0,-2
-----AAAUCUCUGCAGGCAAUGUaa-----
-- 2 0,-2
-----AAAUCUCUGCAGGCAAUGUau-----
-- 2 0,-2
-----AAAUCUCUGCAGGCAAUGUG-----
-- 78 0,-1
-----AAAUCUCUGCAGGCAAUGUGu-----
-- 19 0,-1
-----AAAUCUCUGCAGGCAAUGUGA-----
-- 336 0,0
-----AAAUCUCUGCAGGCAAUGUGAa-----
-- 15 0,0
-----AAAUCUCUGCAGGCAAUGUGAU-----
-- 31 0,1
-----AAAUCUCUGCAGGCAAUGUGAUa-----
-- 6 0,1
-----AAAUCUCUGCAGGCAAUGUGAUG-----
-- 7 0,2

```

>hsa-mir-217 5p:35-57 SRX018971

aguauaauuauuacauaguuuuugaugucgcagaUACUGCAUCAGGAACUGAUUGGAuaagaaucagucaccaucaguuc
cuaaugcauugccuucagcaucuaaacaag

.....(((((((.(.(((.(.(((((((.(((((((((((.((((.....))))).).)))))))))
)..))))).)).)).).))))).))))..

```

-----AUACUGCAUCAGGAACUGAU-----
-----20 -1,-4
-----AUACUGCAUCAGGAACUGAUa-----
-----36 -1,-4
-----AUACUGCAUCAGGAACUGAUaa-----
-----11 -1,-4
-----AUACUGCAUCAGGAACUGAUau-----
-----4 -1,-4
-----AUACUGCAUCAGGAACUGAUU-----
-----167 -1,-3
-----AUACUGCAUCAGGAACUGAUUa-----
-----12 -1,-3

```


-----UUGUGCUUGAUCUAACCAUGUG-----
-----8 0,1
-----UUGUGCUUGAUCUAACCAUGUGa-----
-----4 0,1

>hsa-mir-218-2 MA:25-45;mi:67-88 SRX018971

gaccagucgcugcggggcuuuccuUUGUGCUUGAUCUAACCAUGUgguggaacgauggaaacggaaCAUGGUUCUGCAA
GCACCGCGgaaagcaccgugcucuccugca

$\dots(((\dots((\dots(((((((((\dots(((((((((\dots(((((((((\dots\dots\dots((\dots))..)))))))..\))))))\dots)))))).)\dots))\dots)$

-----UUGUGCUUGAUCUAACCAU-----
-----4 0,-2-----

-----UUGUGCUUGAUCUAACCAUa-----
----- 2 0,-2 -----

-----UUGUGCUUGAUCUAACCAUG-----
----- 3 0,-1-----

-----UUGUGCUUGAUCUAACCAUGU-----
-----4 0,0-----

-----UUGUGCUUGAUCUAACCAUGUG-----
----- 8 0,1 -----

-----UUGUGCUUGAUCUAACCAUGUGa-----
----- 4 0,1 -----

>hsa-mi r-219-1 5p:21-41;3p:62-83 SRX018971

ccgccccgggccgggcuccUGAUUGUCCAAACGCAAUUCcgagucuauggcuccggccgAGAGUUGAGUCUGGACGUC
CCGagccgccgcccccaaacuccgagcggg

$$\begin{aligned} &((((.((((.((((((.(((((.(((((((((.(((((\dots)))))))))))).))))))))) \\ &..)))))))) , \dots , .)))), \end{aligned}$$

-----UGAUUGUCCAAACGCAAU-----
----- 95 0,-3

-----UGAUUGUCCAAACGCAAUa-----
-----5 0,-3-----

-----UGAUUGUCCAAACGCAAUU-----
----- 45 0,-2

-----UGAUUGUCCAAACGCAAUUC-----
----- 23 0,-1

-----UGAUUGUCCAAACGCAAUUCU-----
-----20 0,0-----

```

-----UGAUUGUCCAAACGCAAUUCUC-----
-----17 0,1
-----UGAUUGUCCAAACGCAAUUCUCG-----
-----22 0,2
-----AGAGUUGAGUCUGGACGUC
u-----2 0,-3
-----AGAGUUGAGUCUGGACGUC
C-----8 0,-2
-----AGAGUUGAGUCUGGACGUC
CC-----8 0,-1
-----AGAGUUGAGUCUGGACGUC
CCG-----30 0,0
-----AGAGUUGAGUCUGGACGUC
CCGu-----13 0,0
-----AGAGUUGAGUCUGGACGUC
CCGA-----20 0,1
-----AGAGUUGAGUCUGGACGUC
CCGAa-----4 0,1

```

>hsa-mir-219-2 5p:19-39;3p:62-83 SRX018971

```

acucaggggcuucgccacUGAUUGUCCAAACGCAAUUCUuguacgagucugcggccaaccgAGAAUUGUGGCUGGACAUC
UGUggcugagcuccggg

```

```

.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.)))))).))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----UGAUUGUCCAAACGCAAU-----
-----95 0,-3
-----UGAUUGUCCAAACGCAAUa-----
-----5 0,-3
-----UGAUUGUCCAAACGCAAUU-----
-----45 0,-2
-----UGAUUGUCCAAACGCAAUUC-----
-----23 0,-1
-----UGAUUGUCCAAACGCAAUUCU-----
-----20 0,0

```

>hsa-mir-22 mi:15-36;MA:53-74 SRX018971

```

ggcugagccgcagaguAGUUCUUCAGUGGCAAGCUUUAuguccugaccagcuaAAGCUGCCAGUUGAAGAACUGUugcccu
cugcc

```

(((((((.....)))))))))))))..)))))))))..))

-----AGUUCUUCAGUGGCAAGC-----
----- 41 0,-4
-----AGUUCUUCAGUGGCAAGCa-----
----- 2 0,-4
-----AGUUCUUCAGUGGCAAGCU-----
----- 165 0,-3
-----AGUUCUUCAGUGGCAAGCUa-----
----- 2 0,-3
-----AGUUCUUCAGUGGCAAGCUU-----
----- 106 0,-2
-----AGUUCUUCAGUGGCAAGCUUa-----
----- 18 0,-2
-----AGUUCUUCAGUGGCAAGCUUU-----
----- 2399 0,-1
-----AGUUCUUCAGUGGCAAGCUUUu-----
----- 64 0,-1
-----AGUUCUUCAGUGGCAAGCUUUA-----
----- 992 0,0
-----AGUUCUUCAGUGGCAAGCUUUAa-----
----- 184 0,0
-----AGUUCUUCAGUGGCAAGCUUUAaa-----
----- 5 0,0
-----AGUUCUUCAGUGGCAAGCUUUAU-----
----- 56 0,1
-----AGUUCUUCAGUGGCAAGCUUUAUu-----
----- 3 0,1
-----GUUCUUCAGUGGCAAGCUUU-----
----- 3 1,-1
-----GUUCUUCAGUGGCAAGCUUUA-----
----- 7 1,0
-----AAAGCUGCCAGUUGAAGAA-----
----- 7 -1,-4
-----AAAGCUGCCAGUUGAAGAAC-----
----- 5 -1,-3
-----AAAGCUGCCAGUUGAAGAACaa-----
----- 2 -1,-3

-----			-----AAAGCUGCCAGUUGAAGAACU-----
-----	13	-1,-2	
-----			-----AAAGCUGCCAGUUGAAGAACUGU-----
-----	3	-1,0	
-----			-----AAGCUGCCAGUUGAAGAA-----
-----	2418	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAa-----
-----	46	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAaa-----
-----	3	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAau-----
-----	43	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAu-----
-----	9	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAuu-----
-----	29	0,-4	
-----			-----AAGCUGCCAGUUGAAGAAC-----
-----	1680	0,-3	
-----			-----AAGCUGCCAGUUGAAGAACa-----
-----	133	0,-3	
-----			-----AAGCUGCCAGUUGAAGAACaa-----
-----	68	0,-3	
-----			-----AAGCUGCCAGUUGAAGAACau-----
-----	4	0,-3	
-----			-----AAGCUGCCAGUUGAAGAACU-----
-----	5978	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUa-----
-----	95	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUaa-----
-----	74	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUau-----
-----	25	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUu-----
-----	30	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUuu-----
-----	59	0,-2	
-----			-----AAGCUGCCAGUUGAAGAACUG-----
-----	1573	0,-1	


```

-----AACCUGGCAUACAAUGUAGAU-----
-----      24  -1,-2
-----AACCUGGCAUACAAUGUAGAUa-----
-----      16  -1,-2
-----AACCUGGCAUACAAUGUAGAUU-----
-----     101  -1,-1
-----AACCUGGCAUACAAUGUAGAUUa-----
-----       3   -1,-1
-----AACCUGGCAUACAAUGUAGAUUU-----
-----     172  -1,0
-----AACCUGGCAUACAAUGUAGAUUUa-----
-----       4   -1,0
-----AACCUGGCAUACAAUGUAGAUUUC-----
-----     29   -1,1
-----AACCUGGCAUACAAUGUAGAUUUCU-----
-----     28   -1,2
-----ACCUGGCAUACAAUGUAG-----
-----     29   0,-4
-----ACCUGGCAUACAAUGUAGA-----
-----     25   0,-3
-----ACCUGGCAUACAAUGUAGAAa-----
-----       5    0,-3
-----ACCUGGCAUACAAUGUAGAU-----
-----     82   0,-2
-----ACCUGGCAUACAAUGUAGAUa-----
-----    112  0,-2
-----ACCUGGCAUACAAUGUAGAUaa-----
-----       9    0,-2
-----ACCUGGCAUACAAUGUAGAUau-----
-----       5    0,-2
-----ACCUGGCAUACAAUGUAGAUU-----
-----    634  0,-1
-----ACCUGGCAUACAAUGUAGAUUa-----
-----     30   0,-1
-----ACCUGGCAUACAAUGUAGAUUaa-----
-----       5    0,-1
-----ACCUGGCAUACAAUGUAGAUUU-----
-----    3526   0,0

```

-----	-ACCUGGCAUACAAUGUAGAUUUa-	-----
-----	96 0,0	
-----	-ACCUGGCAUACAAUGUAGAUUUau-	-----
-----	6 0,0	
-----	-ACCUGGCAUACAAUGUAGAUUUu-	-----
-----	27 0,0	
-----	-ACCUGGCAUACAAUGUAGAUUUuu-	-----
-----	3 0,0	
-----	-ACCUGGCAUACAAUGUAGAUUUC-	-----
-----	803 0,1	
-----	-ACCUGGCAUACAAUGUAGAUUUCa-	-----
-----	20 0,1	
-----	-ACCUGGCAUACAAUGUAGAUUUUCU-	-----
-----	855 0,2	
-----	-ACCUGGCAUACAAUGUAGAUUUUCUa-	-----
-----	4 0,2	
-----	-ACCUGGCAUACAAUGUAGAUUUUCUG-	-----
-----	22 0,3	
-----	-CCUGGCAUACAAUGUAGAUU-	-----
-----	2 1,-1	
-----	-CCUGGCAUACAAUGUAGAUUU-	-----
-----	14 1,0	
-----	-CCUGGCAUACAAUGUAGAUUUUCU-	-----
-----	7 1,2	
-----	-CUGGCAUACAAUGUAGAUUUC-	-----
-----	2 2,1	
-----	-CUGGCAUACAAUGUAGAUUUUCU-	-----
-----	2 2,2	
-----		-----CAGCUACAUUGUCUGCU
GGGU-----	2 -1,-3	
-----		-----AGCUACAUUGUCUGCU
GG-----	20 0,-5	
-----		-----AGCUACAUUGUCUGCU
GGG-----	512 0,-4	
-----		-----AGCUACAUUGUCUGCU
GGGau-----	3 0,-4	
-----		-----AGCUACAUUGUCUGCU
GGGU-----	71 0,-3	

-----				-----AGCUACAUUGUCUGCU
GGGUa-----	8	0,-3		
-----				-----AGCUACAUUGUCUGCU
GGGUaa-----	59	0,-3		
-----				-----AGCUACAUUGUCUGCU
GGGUau-----	142	0,-3		
-----				-----AGCUACAUUGUCUGCU
GGGUU-----	424	0,-2		
-----				-----AGCUACAUUGUCUGCU
GGGUUa-----	155	0,-2		
-----				-----AGCUACAUUGUCUGCU
GGGUUaa-----	133	0,-2		
-----				-----AGCUACAUUGUCUGCU
GGGUUau-----	155	0,-2		
-----				-----AGCUACAUUGUCUGCU
GGGUUU-----	2872	0,-1		
-----				-----AGCUACAUUGUCUGCU
GGGUUUa-----	247	0,-1		
-----				-----AGCUACAUUGUCUGCU
GGGUUUaa-----	119	0,-1		
-----				-----AGCUACAUUGUCUGCU
GGGUUUau-----	146	0,-1		
-----				-----AGCUACAUUGUCUGCU
GGGUUUu-----	353	0,-1		
-----				-----AGCUACAUUGUCUGCU
GGGUUUuu-----	13	0,-1		
-----				-----AGCUACAUUGUCUGCU
GGGUUUC-----	1804	0,0		
-----				-----AGCUACAUUGUCUGCU
GGGUUUCu-----	59	0,0		
-----				-----AGCUACAUUGUCUGCU
GGGUUUCuu-----	3	0,0		
-----				-----AGCUACAUUGUCUGCU
GGGUUUCA-----	92	0,1		
-----				-----AGCUACAUUGUCUGCU
GGGUUUCAa-----	10	0,1		
-----				-----AGCUACAUUGUCUGCU
GGGUUUCAu-----	10	0,1		

```

-----GCUACAUUGUCUGCU
GGG----- 12 1,-4
-----GCUACAUUGUCUGCU
GGGUU----- 7 1,-2
-----GCUACAUUGUCUGCU
GGGUUa----- 4 1,-2
-----GCUACAUUGUCUGCU
GGGUUaa----- 2 1,-2
-----GCUACAUUGUCUGCU
GGGUUau----- 4 1,-2
-----GCUACAUUGUCUGCU
GGGUUU----- 105 1,-1
-----GCUACAUUGUCUGCU
GGGUUUa----- 3 1,-1
-----GCUACAUUGUCUGCU
GGGUUUu----- 6 1,-1
-----GCUACAUUGUCUGCU
GGGUUUuu----- 2 1,-1
-----GCUACAUUGUCUGCU
GGGUUUC----- 31 1,0
-----GCUACAUUGUCUGCU
GGGUUUCu----- 2 1,0

```

>hsa-mi r-222 mi:31-52;MA:69-89 SRX018971

```

gcugcuggaagguguagguaccucaauggCUCAGUAGCCAGUGUAGAUCUgucuuucguaaucagcAGCUACAUCUGG
CUACUGGGUcucugauggcaucuucuagcu

```

```

...((((((((((((.....((.((((((((((((((((((((((((((((((((.....(((.....))))).))))))
))))))))))..)).)))))))))))))))).

```

```

-----UCAGUAGCCAGUGUAGAUCUGU-----
----- 2 1,2
-----CAGCUACAUCUGG
CUACU----- 2 -1,-4
-----CAGCUACAUCUGG
CUACUGGGUCU----- 2 -1,2
-----AGCUACAUCUGG
CUACUG----- 612 0,-3
-----AGCUACAUCUGG
CUACUGu----- 3 0,-3

```

-----				-----AGCUACAUCUGG
CUACUGG-----	1107	0,-2		
-----				-----AGCUACAUCUGG
CUACUGGa-----	6	0,-2		
-----				-----AGCUACAUCUGG
CUACUGGaa-----	9	0,-2		
-----				-----AGCUACAUCUGG
CUACUGGu-----	8	0,-2		
-----				-----AGCUACAUCUGG
CUACUGGuu-----	2	0,-2		
-----				-----AGCUACAUCUGG
CUACUGGG-----	1249	0,-1		
-----				-----AGCUACAUCUGG
CUACUGGGa-----	82	0,-1		
-----				-----AGCUACAUCUGG
CUACUGGGaa-----	18	0,-1		
-----				-----AGCUACAUCUGG
CUACUGGGau-----	14	0,-1		
-----				-----AGCUACAUCUGG
CUACUGGGU-----	3325	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUa-----	131	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUaa-----	536	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUau-----	285	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUu-----	236	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUuu-----	103	0,0		
-----				-----AGCUACAUCUGG
CUACUGGGUC-----	5405	0,1		
-----				-----AGCUACAUCUGG
CUACUGGGUCa-----	571	0,1		
-----				-----AGCUACAUCUGG
CUACUGGGUCaa-----	75	0,1		
-----				-----AGCUACAUCUGG
CUACUGGGUCau-----	127	0,1		

```

-----AGCUACAUCUGG
CUACUGGGUCU----- 7401 0,2
-----AGCUACAUCUGG
CUACUGGGUCUa----- 79 0,2
-----AGCUACAUCUGG
CUACUGGGUCUaa----- 72 0,2
-----AGCUACAUCUGG
CUACUGGGUCUau----- 134 0,2
-----AGCUACAUCUGG
CUACUGGGUCUu----- 299 0,2
-----AGCUACAUCUGG
CUACUGGGUCUuu----- 217 0,2
-----AGCUACAUCUGG
CUACUGGGUCUC----- 753 0,3
-----AGCUACAUCUGG
CUACUGGGUCUCa----- 157 0,3
-----AGCUACAUCUGG
CUACUGGGUCUCU----- 310 0,4
-----GCUACAUCUGG
CUACUGG----- 3 1,-2
-----GCUACAUCUGG
CUACUGGG----- 6 1,-1
-----GCUACAUCUGG
CUACUGGGUC----- 22 1,1
-----GCUACAUCUGG
CUACUGGGUCU----- 24 1,2
-----GCUACAUCUGG
CUACUGGGUCUC----- 8 1,3

```

>hsa-mir-223 mi:26-47;MA:68-89 SRX018971

```

ccuggccuccugcagugccacgcucCGUGUAUUUGACAAGCUGAGUUGgacacuccaugugguagagUGUCAGUUUGUCA
AAUACCCCAagugcggcacaugcuuaccag
.((((.....(((((((.(((((.((((((((((((((((.....(((((((.....))))))))))))))))))
))))).).))))).))))).))))).))))))
-----GUGUCAGUUUGUCA
AAUACC----- 2 -1,-3
-----GUGUCAGUUUGUCA
AAUACCC----- 3 -1,-2

```

-----				UGUCAGUUUGUCA
AAUAC-----	10	0,-4		
-----				UGUCAGUUUGUCA
AAUACC-----	24	0,-3		
-----				UGUCAGUUUGUCA
AAUACCC-----	18	0,-2		
-----				UGUCAGUUUGUCA
AAUACCCau-----	2	0,-2		
-----				UGUCAGUUUGUCA
AAUACCCC-----	16	0,-1		
-----				UGUCAGUUUGUCA
AAUACCCCA-----	71	0,0		
-----				UGUCAGUUUGUCA
AAUACCCCAu-----	38	0,0		
-----				UGUCAGUUUGUCA
AAUACCCCAuu-----	2	0,0		
-----				UGUCAGUUUGUCA
AAUACCCCAA-----	78	0,1		
-----				UGUCAGUUUGUCA
AAUACCCCAAa-----	14	0,1		
-----				UGUCAGUUUGUCA
AAUACCCCAAaa-----	4	0,1		
-----				UGUCAGUUUGUCA
AAUACCCCAAu-----	18	0,1		
-----				UGUCAGUUUGUCA
AAUACCCCAAG-----	4	0,2		
-----				GUCAGUUUGUCA
AAUACC-----	9	1,-3		
-----				GUCAGUUUGUCA
AAUACCC-----	2	1,-2		
-----				GUCAGUUUGUCA
AAUACCCCA-----	2	1,0		
-----				GUCAGUUUGUCA
AAUACCCCAu-----	7	1,0		
-----				GUCAGUUUGUCA
AAUACCCCAA-----	35	1,1		
-----				GUCAGUUUGUCA
AAUACCCCAAa-----	4	1,1		

-----GUCAGUUUGUCA
AAUACCCCAAu----- 3 1,1

>hsa-mir-224 MA:8-28;mi:53-75 SRX018971

gggcuuuCAAGUCACUAGUGGUUCCGUUuaguagaugauugugcauuguuucAAAAUGGUGCCCUAGUGACUACAaagcc
c

((((((((.....)))))).))))))

-----UCAAGUCACUAGUGGUUCCGUUU-----

- 5 -1,1

-----UCAAGUCACUAGUGGUUCCGUUUAG-----

- 4 -1,3

-----CAAGUCACUAGUGGUUCC-----

- 8 0,-3

-----CAAGUCACUAGUGGUUCCG-----

- 17 0,-2

-----CAAGUCACUAGUGGUUCCGU-----

- 53 0,-1

-----CAAGUCACUAGUGGUUCCGUaa-----

- 3 0,-1

-----CAAGUCACUAGUGGUUCCGU-----

- 64 0,0

-----CAAGUCACUAGUGGUUCCGUa-----

- 12 0,0

-----CAAGUCACUAGUGGUUCCGUaa-----

- 11 0,0

-----CAAGUCACUAGUGGUUCCGUau-----

- 4 0,0

-----CAAGUCACUAGUGGUUCCGUUU-----

- 1222 0,1

-----CAAGUCACUAGUGGUUCCGUUUu-----

- 57 0,1

-----CAAGUCACUAGUGGUUCCGUUUA-----

- 372 0,2

-----CAAGUCACUAGUGGUUCCGUUUAa-----

- 69 0,2

-----CAAGUCACUAGUGGUUCCGUUUAaa-----

- 8 0,2

-----CAAGUCACUAGUGGUUCCGUUUAu-----

- 47 0,2

-----CAAGUCACUAGUGGUUCCGUUUAG-----

- 2303 0,3

-----CAAGUCACUAGUGGUUCCGUUUAGa-----

- 54 0,3

-----CAAGUCACUAGUGGUUCCGUUUAGU-----

- 126 0,4

-----AAGUCACUAGUGGUUCCGUUU-----

- 23 1,1

-----AAGUCACUAGUGGUUCCGUUUA-----

- 5 1,2

-----AAGUCACUAGUGGUUCCGUUUAG-----

- 49 1,3

-----AAGUCACUAGUGGUUCCGUUUAGU-----

- 3 1,4

-----CAAAAUGGUGCCCUAGUGACUAu-----

- 3 -1,-2

-----AAAAUGGUGCCCUAGUGA-----

- 7 0,-5

-----AAAAUGGUGCCCUAGUGAC-----

- 4 0,-4

-----AAAAUGGUGCCCUAGUGACUAu-----

- 2 0,-2

-----AAAAUGGUGCCCUAGUGACUACA-----

- 2 0,0

-----AAAUGGUGCCCUAGUGAC-----

- 14 1,-4

-----AAAUGGUGCCCUAGUGACa-----

- 5 1,-4

-----AAAUGGUGCCCUAGUGACaa-----

- 2 1,-4

-----AAAUGGUGCCCUAGUGACU-----

- 6 1,-3

-----AAAUGGUGCCCUAGUGACUA-----

- 11 1,-2

-----AAAUGGUGCCCUAGUGACUAa-----

- 46 1,-2

```

-----AAAUGGUGCCCUAGUGACUAaa-----
- 2 1,-2
-----AAAUGGUGCCCUAGUGACUAu-----
- 3 1,-2
-----AAAUGGUGCCCUAGUGACUAuu-----
- 3 1,-2
-----AAAUGGUGCCCUAGUGACUAC-----
- 17 1,-1
-----AAAUGGUGCCCUAGUGACUACA-----
- 83 1,0
-----AAAUGGUGCCCUAGUGACUACAA-----
- 12 1,1
-----AAUGGUGCCCUAGUGACUAa-----
- 4 2,-2
-----AAUGGUGCCCUAGUGACUAC-----
- 2 2,-1
-----AAUGGUGCCCUAGUGACUACA-----
- 25 2,0
-----AAUGGUGCCCUAGUGACUACAu-----
- 4 2,0
-----AAUGGUGCCCUAGUGACUACAA-----
- 12 2,1

```

>hsa-mir-2276 3p:54-75 SRX018971

guguuuccaguccgcccucugucaccuugcagacggcuuucucuccgaugUCUGCAAGUGUCAGAGGCGAGGagugg
cagcugcau

(((((.(.(((.((((.((((.((((.((((.((((.(...(((.....)))))))))))))))))).)))))).)))).)))))

```

-----UCUGCAAGUGUCAGAGGCGAG-----
----- 5 0,-1
-----UCUGCAAGUGUCAGAGGCGAGa-----
----- 2 0,-1
-----CUGCAAGUGUCAGAGGCGAG-----
----- 2 1,-1
-----UGCAAGUGUCAGAGGCGAG-----
----- 2 2,-1

```

>hsa-mir-2277 5p:18-41;3p:59-79 SRX018971

$$\begin{aligned} & \dots(((\dots((\dots((((((\dots(((((\dots((\dots((((((\dots(((((\dots(\dots\dots\dots\dots)))))))).))))))) \\ &)))).))))). \end{aligned}$$

>hsa-mi-r-2355 5p:11-31;3p:54-75 SRX018971
cagacgugucAUCCCCAGAUACAAUGGACAAuaugcuauuaaauaucguauggcAUUGUCCUUGCUGUUUGGAGAUaaauac
ugcugac

$$(((\dots(((\dots(((\dots(((\dots(((\dots(((\dots(((\dots((\dots\dots\dots)))))))))))))))).))))))\dots))\dots$$

```
>hsa-mir-23a      mi:9-30;MA:45-65      SRX018971
ggccggcuGGGGUCCUGGGGAUGGGAUUUGcuuccugucacaaAUCACAUGCCAGGGAUUCCAaccgacc
```

$$(((.((((.((((((((((((((.(((((. ((((((((.))))))).)))) .)))))).)))))).)))).)$$

-2,-3	-----AAAUCACAUUGCCAGGGAAU-----	2
-2,-2	-----AAAUCACAUUGCCAGGGAAUU-----	5
-1,-4	-----AAUCACAUUGCCAGGGAAUa-----	6
-1,-4	-----AAUCACAUUGCCAGGGAAUaa-----	2

-----AAUCACAUUGCCAGGGAUU-----	22
-1,-3	
-----AAUCACAUUGCCAGGGAUUU-----	68
-1,-2	
-----AAUCACAUUGCCAGGGAUUUa-----	5
-1,-2	
-----AAUCACAUUGCCAGGGAUUUC-----	39
-1,-1	
-----AAUCACAUUGCCAGGGAUUUCa-----	15
-1,-1	
-----AAUCACAUUGCCAGGGAUUUCC-----	21
-1,0	
-----AAUCACAUUGCCAGGGAUUUCCA-----	36
-1,1	
-----AAUCACAUUGCCAGGGAUUUCCAA-----	4
-1,2	
-----AUCACAUUGCCAGGGAUU-----	2052
0,-3	
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-----AUCACAUUGCCAGGGAUUUa-----	1052
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0,-2	
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0,-2	
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0,-2	
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0,-2	
-----AUCACAUUGCCAGGGAUUUC-----	2553
0,-1	
-----AUCACAUUGCCAGGGAUUUCa-----	632
0,-1	
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0,-1	
-----AUCACAUUGCCAGGGAUUUCu-----	75
0,-1	

-----AUCACAUUGCCAGGGAUUCC-----	2320
0,0	
-----AUCACAUUGCCAGGGAUUCCu-----	51
0,0	
-----AUCACAUUGCCAGGGAUUCCuu-----	8
0,0	
-----AUCACAUUGCCAGGGAUUCCA-----	7434
0,1	
-----AUCACAUUGCCAGGGAUUCCAu-----	852
0,1	
-----AUCACAUUGCCAGGGAUUCCAuu-----	37
0,1	
-----AUCACAUUGCCAGGGAUUCCAA-----	1694
0,2	
-----AUCACAUUGCCAGGGAUUCCAAa-----	33
0,2	
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0,2	
-----AUCACAUUGCCAGGGAUUCCAAu-----	166
0,2	
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0,2	
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0,3	
-----UCACAUUGCCAGGGAUUU-----	2
1,-2	
-----UCACAUUGCCAGGGAUUUa-----	6
1,-2	
-----UCACAUUGCCAGGGAUUUaa-----	2
1,-2	
-----UCACAUUGCCAGGGAUUUC-----	6
1,-1	
-----UCACAUUGCCAGGGAUUUCa-----	3
1,-1	
-----UCACAUUGCCAGGGAUUUCaa-----	3
1,-1	
-----UCACAUUGCCAGGGAUUUC-----	2
1,0	


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-----UGGGUUCCUGGCAUGCUGAUUa-----
-----11 0,-1
-----UGGGUUCCUGGCAUGCUGAUUaa-----
-----16 0,-1
-----UGGGUUCCUGGCAUGCUGAUUau-----
-----2 0,-1
-----UGGGUUCCUGGCAUGCUGAUUU-----
-----612 0,0
-----UGGGUUCCUGGCAUGCUGAUUUa-----
-----72 0,0
-----UGGGUUCCUGGCAUGCUGAUUUaa-----
-----12 0,0
-----UGGGUUCCUGGCAUGCUGAUUUu-----
-----55 0,0
-----UGGGUUCCUGGCAUGCUGAUUUUG-----
-----3 0,1
-----GGGUUCCUGGCAUGCUGAU-----
-----2 1,-2
-----GGGUUCCUGGCAUGCUGAUU-----
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-----GGGUUCCUGGCAUGCUGAUUU-----
-----47 1,0
-----GGGUUCCUGGCAUGCUGAUUUa-----
-----15 1,0
-----GGGUUCCUGGCAUGCUGAUUUaa-----
-----6 1,0
-----GGGUUCCUGGCAUGCUGAUUUu-----
-----13 1,0
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-----4 1,1
-----GGGUUCCUGGCAUGCUGAUUUUGU-----
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-----2 -2,-3
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-----3 -2,-2

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-----			-----AAAUCACAUUGCCAGGGAUUACa--
-----	5	-2,-1	
-----			-----AAAUCACAUUGCCAGGGAUUACCA-
-----	8	-2,1	
-----			-----AAAUCACAUUGCCAGGGAUUACCAa
-----	5	-2,1	
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-----	2	-2,1	
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-----	6	-1,-4	
-----			-----AAUCACAUUGCCAGGGAUaa-----
-----	2	-1,-4	
-----			-----AAUCACAUUGCCAGGGAUU-----
-----	22	-1,-3	
-----			-----AAUCACAUUGCCAGGGAUUA-----
-----	77	-1,-2	
-----			-----AAUCACAUUGCCAGGGAUUAa-----
-----	56	-1,-2	
-----			-----AAUCACAUUGCCAGGGAUUAaa-----
-----	5	-1,-2	
-----			-----AAUCACAUUGCCAGGGAUUAu-----
-----	10	-1,-2	
-----			-----AAUCACAUUGCCAGGGAUUAuu-----
-----	2	-1,-2	
-----			-----AAUCACAUUGCCAGGGAUUAC-----
-----	164	-1,-1	
-----			-----AAUCACAUUGCCAGGGAUUACa--
-----	18	-1,-1	
-----			-----AAUCACAUUGCCAGGGAUUACu--
-----	8	-1,-1	
-----			-----AAUCACAUUGCCAGGGAUUACC--
-----	138	-1,0	
-----			-----AAUCACAUUGCCAGGGAUUACCA-
-----	114	-1,1	
-----			-----AAUCACAUUGCCAGGGAUUACCAa
-----	2	-1,1	
-----			-----AAUCACAUUGCCAGGGAUUACCAu
-----	18	-1,1	

-----			-----AAUCACAUUGCCAGGGAUUACCAu
u-----	3	-1,1	-----AAUCACAUUGCCAGGGAUUACCAC
-----	12	-1,2	-----AAUCACAUUGCCAGGGAUUACCAC
a-----	2	-1,2	-----AAUCACAUUGCCAGGGAUUACCAC
u-----	7	-1,2	-----AUCACAUUGCCAGGGAUU-----
-----	2052	0,-3	-----AUCACAUUGCCAGGGAUUA-----
-----	8406	0,-2	-----AUCACAUUGCCAGGGAUUAa---
-----	3185	0,-2	-----AUCACAUUGCCAGGGAUUAaa--
-----	405	0,-2	-----AUCACAUUGCCAGGGAUUAau--
-----	53	0,-2	-----AUCACAUUGCCAGGGAUUAu---
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-----	55	0,-2	-----AUCACAUUGCCAGGGAUUAC---
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-----	3342	0,-1	-----AUCACAUUGCCAGGGAUUACaa-
-----	445	0,-1	-----AUCACAUUGCCAGGGAUUACau-
-----	21	0,-1	-----AUCACAUUGCCAGGGAUUACu--
-----	264	0,-1	-----AUCACAUUGCCAGGGAUUACC--
-----	12654	0,0	-----AUCACAUUGCCAGGGAUUACCu-
-----	185	0,0	-----AUCACAUUGCCAGGGAUUACCuu
-----	83	0,0	

-----			-----AUCACAUUGCCAGGGAUUACCA-
-----	22694	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAa
-----	1077	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAa
a-----	39	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAa
u-----	83	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAu
-----	3565	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAu
u-----	743	0,1	
-----			-----AUCACAUUGCCAGGGAUUACCAC
-----	6683	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
a-----	1156	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
aa-----	52	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
au-----	42	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
u-----	6863	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
uu-----	79	0,2	
-----			-----AUCACAUUGCCAGGGAUUACCAC
G-----	118	0,3	
-----			-----AUCACAUUGCCAGGGAUUACCAC
Gu-----	9	0,3	
-----			-----UCACAUUGCCAGGGAUUA----
-----	15	1,-2	
-----			-----UCACAUUGCCAGGGAUUAa----
-----	4	1,-2	
-----			-----UCACAUUGCCAGGGAUUAaa----
-----	3	1,-2	
-----			-----UCACAUUGCCAGGGAUUAu----
-----	2	1,-2	
-----			-----UCACAUUGCCAGGGAUUAC----
-----	29	1,-1	

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-----UCACAUUGCCAGGGGAUUACa--
-----      8      1,-1
-----UCACAUUGCCAGGGGAUUACaa-
-----      7      1,-1
-----UCACAUUGCCAGGGGAUUACC--
-----     25      1,0
-----UCACAUUGCCAGGGGAUUACCA-
-----     68      1,1
-----UCACAUUGCCAGGGGAUUACCAa
-----      7      1,1
-----UCACAUUGCCAGGGGAUUACCAu
-----      8      1,1
-----UCACAUUGCCAGGGGAUUACCAu
u-----     10      1,1
-----UCACAUUGCCAGGGGAUUACCAC
-----     33      1,2
-----UCACAUUGCCAGGGGAUUACCAC
a-----     36      1,2
-----UCACAUUGCCAGGGGAUUACCAC
aa-----      9      1,2
-----UCACAUUGCCAGGGGAUUACCAC
au-----      5      1,2
-----UCACAUUGCCAGGGGAUUACCAC
u-----    122      1,2
-----UCACAUUGCCAGGGGAUUACCAC
uu-----     16      1,2
-----UCACAUUGCCAGGGGAUUACCAC
G-----      6      1,3
-----CACAUUGCCAGGGGAUUACCA-
-----      2      2,1
-----CACAUUGCCAGGGGAUUACCAa
u-----      4      2,1
-----CACAUUGCCAGGGGAUUACCAu
-----      5      2,1
-----CACAUUGCCAGGGGAUUACCAC
-----      2      2,2

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>hsa-mir-23c 3p:66-87 SRX018971

$$\begin{aligned} & .((.(((((((.((((((((((((((((((((((..(((((.)))))) . . .)))) . . .)).)).)). . .))) \\ &).)))) . . .)))))).)). \end{aligned}$$

-----AUCACAUUGCCAGUG

AUU----- 6 0,-4

-----AUCACAUUGCCAGUG

AUUAa----- 2 0,-3

-----AUCACAUGCCAGUG

AUUAC----- 7 0,-2

-----AUCACAUUGCCAGUG

AUUACC----- 15 0,-1

-----AUCACAUUGCCAGUG

AUUACCa----- 10 0,-1

>hsa-mi r-24-1 mi:7-28;MA:44-65 SRX018971

cuccggUGCCUACUGAGCUGAUAUCAGUucucauuuuacacacUGGCUCAGUUCAGCAGGAACAGgag

$(((((.(.(.((.((((((((((.(((((.)))))))).)))))).))).)))$

-----GGUGCCUACUGAGCUGAUUCA----- 4
-2,-2

-----GGUGCCUACUGAGCUGAUAUCAG----- 3
-2,-1

-----GUGCCUACUGAGCUGAUA----- 3
-1,-5

-----GUGCCUACUGAGCUGAUAUa----- 4
-1,-4

-----GUGCCUACUGAGCUGAUAUC----- 4
-1,-3

-----GUGCCUACUGAGCUGAUAUCA----- 26
-1,-2

-----GUGCCUACUGAGCUGAUAUCAG----- 4
-1,-1

-----GUGCCUACUGAGCUGAUAUCAGU----- 19 -1,0

-----GUGCCUACUGAGCUGAU AUCAGUUC----- 2 -1,2

-----UGCCUACUGAGCUGAUUCAG----- 3 0,-1

-----UGCCUACUGAGCUGAUUUCAGU----- 2 0,0

-----ACUGGCUCAGUUCAGCAGGAAu----- 2

-2, -3

-----CUGGCUCAGUUCAGCAGGAA-----	2	
-1,-3		
-----CUGGCUCAGUUCAGCAGGAACA-----	5	
-1,-1		
-----CUGGCUCAGUUCAGCAGGAACAaa--	2	
-1,-1		
-----CUGGCUCAGUUCAGCAGGAACAG---	7	-1,0
-----CUGGCUCAGUUCAGCAGGAACAGu--	5	-1,0
-----UGGCUCAGUUCAGCAGGA-----	102	0,-4
-----UGGCUCAGUUCAGCAGGAu-----	2	0,-4
-----UGGCUCAGUUCAGCAGGAA-----	721	0,-3
-----UGGCUCAGUUCAGCAGGAaAa-----	205	0,-3
-----UGGCUCAGUUCAGCAGGAaAaAa---	36	0,-3
-----UGGCUCAGUUCAGCAGGAaAaau---	10	0,-3
-----UGGCUCAGUUCAGCAGGAaAaAu---	31	0,-3
-----UGGCUCAGUUCAGCAGGAAC-----	802	0,-2
-----UGGCUCAGUUCAGCAGGAACu---	12	0,-2
-----UGGCUCAGUUCAGCAGGAACA-----	862	0,-1
-----UGGCUCAGUUCAGCAGGAACAaAa---	455	0,-1
-----UGGCUCAGUUCAGCAGGAACAaAaAa---	60	0,-1
-----UGGCUCAGUUCAGCAGGAACAaAaau---	42	0,-1
-----UGGCUCAGUUCAGCAGGAACAaAu---	67	0,-1
-----UGGCUCAGUUCAGCAGGAACAaAuu---	10	0,-1
-----UGGCUCAGUUCAGCAGGAACAG---	7619	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGaAa---	348	0,0
-----UGGCUCAGUUCAGCAGGAACAGaAaAa---	12	0,0
-----UGGCUCAGUUCAGCAGGAACAGaAaau---	16	0,0
-----UGGCUCAGUUCAGCAGGAACAGaAaGu---	5451	
0,0		
-----UGGCUCAGUUCAGCAGGAACAGGuu---	427	0,0
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-----UGGCUCAGUUCAGCAGGAACAGGu---	13	0,1
-----UGGCUCAGUUCAGCAGGAACAGGA---	3	0,2
-----GGCUCAGUUCAGCAGGAA-----	12	1,-3
-----GGCUCAGUUCAGCAGGAAaAa-----	2	1,-3
-----GGCUCAGUUCAGCAGGAAaAaau---	4	1,-3
-----GGCUCAGUUCAGCAGGAAC-----	4	1,-2

-----GGCUCAGUUCAGCAGGAACu----	2	1,-2
-----GGCUCAGUUCAGCAGGAACA----	5	1,-1
-----GGCUCAGUUCAGCAGGAACAa----	7	1,-1
-----GGCUCAGUUCAGCAGGAACAaa----	6	1,-1
-----GGCUCAGUUCAGCAGGAACAu----	2	1,-1
-----GGCUCAGUUCAGCAGGAACAG----	129	1,0
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-----GGCUCAGUUCAGCAGGAACAGu----	113	1,0
-----GGCUCAGUUCAGCAGGAACAGuu----	2	1,0
-----GGCUCAGUUCAGCAGGAACAGG----	4	1,1
-----GCUCAGUUCAGCAGGAAC-----	3	2,-2
-----GCUCAGUUCAGCAGGAACAG----	20	2,0
-----GCUCAGUUCAGCAGGAACAGa----	9	2,0
-----GCUCAGUUCAGCAGGAACAGu----	18	2,0
-----GCUCAGUUCAGCAGGAACAGuu----	20	2,0
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-----GCUCAGUUCAGCAGGAACAGGu----	3	2,1
-----GCUCAGUUCAGCAGGAACAGGA----	3	2,2

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-1,-1	GUGCCUACUGAGCUGAAACACA-	4
-1,0	GUGCCUACUGAGCUGAAACACAG-	13
-1,0	GUGCCUACUGAGCUGAAACACAGa-	2
-1,1	GUGCCUACUGAGCUGAAACACAGU-	8
-2,-3	-ACUGGCUCAGUUCAGCAGGAAu-	2
-1,-3	-CUGGCUCAGUUCAGCAGGAA-	2
-1,-1	-CUGGCUCAGUUCAGCAGGAACA-	5

-----CUGGCUCAGUUCAGCAGGAACAaa-	2
-1,-1	
-----CUGGCUCAGUUCAGCAGGAACAG--	7
-1,0	
-----CUGGCUCAGUUCAGCAGGAACAGu-	5
-1,0	
-----UGGCUCAGUUCAGCAGGA-----	102
0,-4	
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0,-4	
-----UGGCUCAGUUCAGCAGGAA-----	721
0,-3	
-----UGGCUCAGUUCAGCAGGAAa----	205
0,-3	
-----UGGCUCAGUUCAGCAGGAAaa---	36
0,-3	
-----UGGCUCAGUUCAGCAGGAAau---	10
0,-3	
-----UGGCUCAGUUCAGCAGGAAu----	31
0,-3	
-----UGGCUCAGUUCAGCAGGAAC----	802
0,-2	
-----UGGCUCAGUUCAGCAGGAACu---	12
0,-2	
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-----UGGCUCAGUUCAGCAGGAACAa--	455
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0,-1	
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0,-1	
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0,-1	
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0,-1	
-----UGGCUCAGUUCAGCAGGAACAG--	7619
0,0	

-----UGGCUCAGUUCAGCAGGAACAGa-	348
0,0	
-----UGGCUCAGUUCAGCAGGAACAGaa	12
0,0	
-----UGGCUCAGUUCAGCAGGAACAGau	16
0,0	
-----UGGCUCAGUUCAGCAGGAACAGu-	5451
0,0	
-----UGGCUCAGUUCAGCAGGAACAGuu	427
0,0	
-----UGGCUCAGUUCAGCAGGAACAGG-	32
0,1	
-----UGGCUCAGUUCAGCAGGAACAGGu	13
0,1	
-----GGCUCAGUUCAGCAGGAA-----	12
1,-3	
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1,-3	
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1,-3	
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1,-2	
-----GGCUCAGUUCAGCAGGAACu---	2
1,-2	
-----GGCUCAGUUCAGCAGGAACA---	5
1,-1	
-----GGCUCAGUUCAGCAGGAACAa--	7
1,-1	
-----GGCUCAGUUCAGCAGGAACAaa-	6
1,-1	
-----GGCUCAGUUCAGCAGGAACAu--	2
1,-1	
-----GGCUCAGUUCAGCAGGAACAG--	129
1,0	
-----GGCUCAGUUCAGCAGGAACAGa-	7
1,0	
-----GGCUCAGUUCAGCAGGAACAGu-	113
1,0	

1,0	GGCUCAGUUCAGCAGGAACAGuu	2
1,1	GGCUCAGUUCAGCAGGAACAGG-	4
2,-2	GCUCAGUUCAGCAGGAAC----	3
2,0	GCUCAGUUCAGCAGGAACAG--	20
2,0	GCUCAGUUCAGCAGGAACAGa-	9
2,0	GCUCAGUUCAGCAGGAACAGu-	18
2,0	GCUCAGUUCAGCAGGAACAGuu	20
2,1	GCUCAGUUCAGCAGGAACAGG-	27
2,1	GCUCAGUUCAGCAGGAACAGGu	3

>hsa-mi r-25 mi:14-34;MA:52-73 SRX018971

ggccaguguugagAGGCCGAGACUUGGGCAAUUGcuggacgcugcccguggCAUUGCACUUGUCUCGGUCUGAcagugcc
ggcc

((((((.(.(((.((((.((((.((((.((((.(.....))..)))))))).)..))))).)))..)).
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-----AGGCCGGAGACUUGGGCAAUUG-----
---- 44 0,0
-----AGGCCGGAGACUUGGGCAAUUGa-----
---- 5 0,0
-----AGGCCGGAGACUUGGGCAAUUGaa-----
---- 3 0,0
-----AGGCCGGAGACUUGGGCAAUUGu-----
---- 5 0,0
-----AGGCCGGAGACUUGGGCAAUUGuu-----
---- 2 0,0
-----AGGCCGGAGACUUGGGCAAUUGC-----
---- 122 0,1
-----AGGCCGGAGACUUGGGCAAUUGCa-----
---- 3 0,1

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-----AGGCGGAGACUUGGGCAAUUGCU-----
---- 247 0,2
-----AGGCGGAGACUUGGGCAAUUGCUaa-----
---- 6 0,2
-----AGGCGGAGACUUGGGCAAUUGCUu-----
---- 3 0,2
-----GCAUUGCACUUGUCUCGGUCU-----
---- 2 -1,-2
-----CAUUGCACUUGUCUCGGU-----
---- 600 0,-4
-----CAUUGCACUUGUCUCGGUa-----
---- 10 0,-4
-----CAUUGCACUUGUCUCGGUaa-----
---- 2 0,-4
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---- 5 0,-4
-----CAUUGCACUUGUCUCGGUu-----
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-----CAUUGCACUUGUCUCGGUuu-----
---- 15 0,-4
-----CAUUGCACUUGUCUCGGUC-----
---- 1226 0,-3
-----CAUUGCACUUGUCUCGGUCa-----
---- 2 0,-3
-----CAUUGCACUUGUCUCGGUCaa-----
---- 14 0,-3
-----CAUUGCACUUGUCUCGGUCU-----
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-----CAUUGCACUUGUCUCGGUCUau-----
---- 18 0,-2
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---- 26 0,-2
-----CAUUGCACUUGUCUCGGUCUuu-----
---- 9 0,-2

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-----			-CAUUGCACUUGUCUCGGUCUGu-----
----	581	0,-1	
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----	37	0,-1	
-----			-CAUUGCACUUGUCUCGGUCUGA-----
----	7881	0,0	
-----			-CAUUGCACUUGUCUCGGUCUGAa-----
----	292	0,0	
-----			-CAUUGCACUUGUCUCGGUCUGAaa-----
----	39	0,0	
-----			-CAUUGCACUUGUCUCGGUCUGAau-----
----	9	0,0	
-----			-CAUUGCACUUGUCUCGGUCUGAu-----
----	174	0,0	
-----			-CAUUGCACUUGUCUCGGUCUGAuu-----
----	7	0,0	
-----			-CAUUGCACUUGUCUCGGUCUGAC-----
----	8	0,1	
-----			-AUUGCACUUGUCUCGGUC-----
----	29	1,-3	
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----	141	1,-2	
-----			-AUUGCACUUGUCUCGGUCUau-----
----	3	1,-2	
-----			-AUUGCACUUGUCUCGGUCUG-----
----	91	1,-1	
-----			-AUUGCACUUGUCUCGGUCUGu-----
----	20	1,-1	
-----			-AUUGCACUUGUCUCGGUCUGuu-----
----	2	1,-1	
-----			-AUUGCACUUGUCUCGGUCUGA-----
----	310	1,0	
-----			-AUUGCACUUGUCUCGGUCUGAa-----
----	8	1,0	
-----			-AUUGCACUUGUCUCGGUCUGAaa-----
----	2	1,0	

-----AUUGCACUUGUCUCGGUCUGAu-----
---- 3 1,0

>hsa-mir-26a-1 MA:10-31;mi:49-70 SRX018971

guggccucgUUCAAGUAAUCCAGGAUAGGCUgugcaggucccaugggCCUAUUCUUGGUUACUUGCACGgggacgc
(((.(((((((.(((((((((.(((((((((.((.....))...)))))))))))).)))))))).)))))))).)))))))).))))))

-----GUUCAAGUAAUCCAGGAUAG-----
2 -1,-3

-----GUUCAAGUAAUCCAGGAUAGGCau-----
2 -1,-1

-----UUCAAGUAAUCCAGGAUA-----
2771 0,-4

-----UUCAAGUAAUCCAGGAUAa-----
133 0,-4

-----UUCAAGUAAUCCAGGAUAaa-----
7 0,-4

-----UUCAAGUAAUCCAGGAUAu-----
20 0,-4

-----UUCAAGUAAUCCAGGAUAG-----
8649 0,-3

-----UUCAAGUAAUCCAGGAUAGa-----
21 0,-3

-----UUCAAGUAAUCCAGGAUAGaa-----
5 0,-3

-----UUCAAGUAAUCCAGGAUAGu-----
20 0,-3

-----UUCAAGUAAUCCAGGAUAGG-----
11329 0,-2

-----UUCAAGUAAUCCAGGAUAGGa-----
152 0,-2

-----UUCAAGUAAUCCAGGAUAGGaa-----
99 0,-2

-----UUCAAGUAAUCCAGGAUAGGau-----
188 0,-2

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97 0,-2

-----UUCAAGUAAUCCAGGAUAGGuu-----
82 0,-2

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-----UUCAAGUAAUCCAGGAUAGGC-----
3587    0, -1
-----UUCAAGUAAUCCAGGAUAGGCa-----
8183    0, -1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
4253    0, -1
-----UUCAAGUAAUCCAGGAUAGGCau-----
3378    0, -1
-----UUCAAGUAAUCCAGGAUAGGCU-----
65644   0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
121    0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
3356    0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
3018    0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
1380    0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
3699    0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
2      0,1
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
19     0,1
-----UCAAGUAAUCCAGGAUAG-----
43     1, -3
-----UCAAGUAAUCCAGGAUAGG-----
43     1, -2
-----UCAAGUAAUCCAGGAUAGGC-----
2      1, -1
-----UCAAGUAAUCCAGGAUAGGCa-----
41     1, -1
-----UCAAGUAAUCCAGGAUAGGCaa-----
11     1, -1
-----UCAAGUAAUCCAGGAUAGGCau-----
25     1, -1
-----UCAAGUAAUCCAGGAUAGGCU-----
276    1,0

```

```

-----UCAAGUAAUCCAGGAUAGGCUaa-----
17 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
10 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
3 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
6 1,0
-----UCAAGUAAUCCAGGAUAGGCUGa-----
2 1,1
-----CAAGUAAUCCAGGAUAGGGu-----
2 2,-2
-----CAAGUAAUCCAGGAUAGGCa-----
4 2,-1
-----CAAGUAAUCCAGGAUAGGCaa-----
3 2,-1
-----CAAGUAAUCCAGGAUAGGCau-----
3 2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
30 2,0
-----CAAGUAAUCCAGGAUAGGCUaa-----
4 2,0
-----CAAGUAAUCCAGGAUAGGCUau-----
3 2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
6 2,0
-----CCUAUUCUUGGUUACUUGCAC-----
5 0,-1

```

>hsa-mir-26a-2 MA:14-35;mi:52-73 SRX018971

```

ggcuguggcuggaUUCAAGUAAUCCAGGAUAGGCUguuuccaucugugaggCCUAUUCUUGAUUACUUGUUUCuggaggc
agcu

```

```

(((((((...((...((((((((((...)))))))))).)))))))))...))...))
))))
-----AUUCAAGUAAUCCAGGAUA-----
---- 7 -1,-4
-----AUUCAAGUAAUCCAGGAUAG-----
---- 8 -1,-3

```

```

-----AUUCAAGUAAUCCAGGAUAGG-----
---- 13 -1,-2
-----AUUCAAGUAAUCCAGGAUAGGa-----
---- 2 -1,-2
-----AUUCAAGUAAUCCAGGAUAGGC-----
---- 2 -1,-1
-----AUUCAAGUAAUCCAGGAUAGGCa-----
---- 11 -1,-1
-----AUUCAAGUAAUCCAGGAUAGGCaa-----
---- 3 -1,-1
-----AUUCAAGUAAUCCAGGAUAGGCau-----
---- 2 -1,-1
-----AUUCAAGUAAUCCAGGAUAGGCU-----
---- 61 -1,0
-----AUUCAAGUAAUCCAGGAUAGGCUaa-----
---- 6 -1,0
-----AUUCAAGUAAUCCAGGAUAGGCUau-----
---- 7 -1,0
-----AUUCAAGUAAUCCAGGAUAGGCUuu-----
---- 8 -1,0
-----UUCAAGUAAUCCAGGAUA-----
---- 2771 0,-4
-----UUCAAGUAAUCCAGGAUAa-----
---- 133 0,-4
-----UUCAAGUAAUCCAGGAUAaa-----
---- 7 0,-4
-----UUCAAGUAAUCCAGGAUAu-----
---- 20 0,-4
-----UUCAAGUAAUCCAGGAUAG-----
---- 8649 0,-3
-----UUCAAGUAAUCCAGGAUAGa-----
---- 21 0,-3
-----UUCAAGUAAUCCAGGAUAGaa-----
---- 5 0,-3
-----UUCAAGUAAUCCAGGAUAGu-----
---- 20 0,-3
-----UUCAAGUAAUCCAGGAUAGG-----
---- 11329 0,-2

```



```

-----UUCAAGUAAUCCAGGAUAGGa-----
---- 152 0,-2
-----UUCAAGUAAUCCAGGAUAGGaa-----
---- 99 0,-2
-----UUCAAGUAAUCCAGGAUAGGau-----
---- 188 0,-2
-----UUCAAGUAAUCCAGGAUAGGu-----
---- 97 0,-2
-----UUCAAGUAAUCCAGGAUAGGuu-----
---- 82 0,-2
-----UUCAAGUAAUCCAGGAUAGGC-----
---- 3587 0,-1
-----UUCAAGUAAUCCAGGAUAGGCa-----
---- 8183 0,-1
-----UUCAAGUAAUCCAGGAUAGGCaa-----
---- 4253 0,-1
-----UUCAAGUAAUCCAGGAUAGGCau-----
---- 3378 0,-1
-----UUCAAGUAAUCCAGGAUAGGCU-----
---- 65644 0,0
-----UUCAAGUAAUCCAGGAUAGGCUa-----
---- 121 0,0
-----UUCAAGUAAUCCAGGAUAGGCUaa-----
---- 3356 0,0
-----UUCAAGUAAUCCAGGAUAGGCUau-----
---- 3018 0,0
-----UUCAAGUAAUCCAGGAUAGGCUu-----
---- 1380 0,0
-----UUCAAGUAAUCCAGGAUAGGCUuu-----
---- 3699 0,0
-----UUCAAGUAAUCCAGGAUAGGCUG-----
---- 2 0,1
-----UUCAAGUAAUCCAGGAUAGGCUGa-----
---- 19 0,1
-----UCAAGUAAUCCAGGAUAG-----
---- 43 1,-3
-----UCAAGUAAUCCAGGAUAGG-----
---- 43 1,-2

```

```

-----UCAAGUAAUCCAGGAUAGGC-----
---- 2 1,-1
-----UCAAGUAAUCCAGGAUAGGCa-----
---- 41 1,-1
-----UCAAGUAAUCCAGGAUAGGCaa-----
---- 11 1,-1
-----UCAAGUAAUCCAGGAUAGGCau-----
---- 25 1,-1
-----UCAAGUAAUCCAGGAUAGGCU-----
---- 276 1,0
-----UCAAGUAAUCCAGGAUAGGCUaa-----
---- 17 1,0
-----UCAAGUAAUCCAGGAUAGGCUau-----
---- 10 1,0
-----UCAAGUAAUCCAGGAUAGGCUu-----
---- 3 1,0
-----UCAAGUAAUCCAGGAUAGGCUuu-----
---- 6 1,0
-----UCAAGUAAUCCAGGAUAGGCUGa-----
---- 2 1,1
-----CAAGUAAUCCAGGAUAGGuu-----
---- 2 2,-2
-----CAAGUAAUCCAGGAUAGGCa-----
---- 4 2,-1
-----CAAGUAAUCCAGGAUAGGCaa-----
---- 3 2,-1
-----CAAGUAAUCCAGGAUAGGCau-----
---- 3 2,-1
-----CAAGUAAUCCAGGAUAGGCU-----
---- 30 2,0
-----CAAGUAAUCCAGGAUAGGCUaa-----
---- 4 2,0
-----CAAGUAAUCCAGGAUAGGCUau-----
---- 3 2,0
-----CAAGUAAUCCAGGAUAGGCUuu-----
---- 6 2,0
-----CCUAUUCUUGAUUACUUGUUU-----
---- 8 0,-1

```

-----CCUAUUCUUGAUUACUUGUUUC-----
 --- 3 0,0

-----UUCAAGUAAUUCAGGAUAGGUUa-----
3023 0,1

-----UUCAAGUAAUUCAGGAUAGGUUaa-----
584 0,1

-----UUCAAGUAAUUCAGGAUAGGUUau-----
232 0,1

-----UUCAAGUAAUUCAGGAUAGGUUu-----
3913 0,1

-----UUCAAGUAAUUCAGGAUAGGUUuu-----
151 0,1

-----UUCAAGUAAUUCAGGAUAGGUUG-----
21 0,2

-----UUCAAGUAAUUCAGGAUAGGUUGa-----
6 0,2

-----UUCAAGUAAUUCAGGAUAGGUUGU-----
13 0,3

-----UCAAGUAAUUCAGGAUAG-----
12 1,-2

-----UCAAGUAAUUCAGGAUAGG-----
15 1,-1

-----UCAAGUAAUUCAGGAUAGGU-----
12 1,0

-----UCAAGUAAUUCAGGAUAGGUaa-----
5 1,0

-----UCAAGUAAUUCAGGAUAGGUau-----
7 1,0

-----UCAAGUAAUUCAGGAUAGGUU-----
69 1,1

-----UCAAGUAAUUCAGGAUAGGUUa-----
6 1,1

-----UCAAGUAAUUCAGGAUAGGUUaa-----
3 1,1

-----UCAAGUAAUUCAGGAUAGGUUu-----
16 1,1

-----UCAAGUAAUUCAGGAUAGGUUuu-----
3 1,1

-----UCAAGUAAUUCAGGAUAGGUUG-----
3 1,2

```

-----CAAGUAAUUCAGGAUAGG-----
5  2,-1
-----CAAGUAAUUCAGGAUAGGU-----
2  2,0
-----CAAGUAAUUCAGGAUAGGUaa-----
3  2,0
-----CAAGUAAUUCAGGAUAGGUau-----
4  2,0
-----CAAGUAAUUCAGGAUAGGUU-----
14 2,1
-----CAAGUAAUUCAGGAUAGGUUa-----
2  2,1
-----CAAGUAAUUCAGGAUAGGUUau-----
4  2,1
-----CAAGUAAUUCAGGAUAGGUUu-----
8  2,1
-----CCUGUUCUCCAUAUACUUGG-----
2  0,-3
-----CCUGUUCUCCAUAUACUUGGCU-----
3  0,-1
-----CCUGUUCUCCAUAUACUUGGCUC-----
3  0,0

```

>hsa-mir-27a mi:10-31;MA:51-71 SRX018971

```

cugaggagcAGGGCUUAGCUGCUUGUGAGCAggguccacaccaagucgugUUCACAGUGGCUAAGUCCGCccccag
(((.((.((.(((((((((.((.((((((.((.(.....))).)))))))).)))))))).))))))
-----AGGGCUUAGCUGCUUGUGAGC-----
2  0,-1
-----AGGGCUUAGCUGCUUGUGAGCAG-----
3  0,1
-----AGGGCUUAGCUGCUUGUGAGCAGGG-----
2  0,3
-----GUUCACAGUGGCUAAGUU-----
42 -1,-4
-----GUUCACAGUGGCUAAGUUa-----
2  -1,-4
-----GUUCACAGUGGCUAAGUUu-----
2  -1,-4

```

		-----GUUCACAGUGGCUAAGUuu-----
2	-1, -4	
		-----GUUCACAGUGGCUAAGUUC-----
184	-1, -3	
		-----UUCACAGUGGCUAAGUUC-----
21349	0, -3	
		-----UUCACAGUGGCUAAGUUCa-----
48	0, -3	
		-----UUCACAGUGGCUAAGUUCaa-----
15	0, -3	
		-----UUCACAGUGGCUAAGUUCau-----
3	0, -3	
		-----UUCACAGUGGCUAAGUUCc-----
164	0, -2	
		-----UUCACAGUGGCUAAGUUCcu-----
3	0, -2	
		-----UUCACAGUGGCUAAGUUCcuu-----
7	0, -2	
		-----UUCACAGUGGCUAAGUUCcG-----
428	0, -1	
		-----UUCACAGUGGCUAAGUUCcGa-----
54	0, -1	
		-----UUCACAGUGGCUAAGUUCcGaa-----
2	0, -1	
		-----UUCACAGUGGCUAAGUUCcGau-----
7	0, -1	
		-----UUCACAGUGGCUAAGUUCcGu-----
111	0, -1	
		-----UUCACAGUGGCUAAGUUCcGuu-----
21	0, -1	
		-----UUCACAGUGGCUAAGUUCcGC-----
64	0, 0	
		-----UUCACAGUGGCUAAGUUCcGCa-----
4	0, 0	
		-----UUCACAGUGGCUAAGUUCcGCaa-----
22	0, 0	
		-----UUCACAGUGGCUAAGUUCcGCau-----
9	0, 0	

```
-----UUCACAGUGGCUAAGUCCGCC-----  
3    0,1  
  
>hsa-mir-27b      mi:19-40;MA:61-81   SRX018971  
accucucuaacaaggugcAGAGCUUAGCUGAUUGGUGAACagugauugguuuccgcuuugUUCACAGUGGCUAAGUUCUG  
Caccugaagagaaggug  
(((((((....((((((((((((((((((((....((((((((....((...)))..)))))))).)))))))).))))).  
-----CAGAGCUUAGCUGAUUGGUGu-----  
-----4    -1,-3-----  
-----CAGAGCUUAGCUGAUUGGUGAA-----  
-----2    -1,-1-----  
-----AGAGCUUAGCUGAUUGGUG-----  
-----20   0,-3-----  
-----AGAGCUUAGCUGAUUGGUGA-----  
-----166  0,-2-----  
-----AGAGCUUAGCUGAUUGGUGAA-----  
-----210  0,-1-----  
-----AGAGCUUAGCUGAUUGGUGAAa-----  
-----6    0,-1-----  
-----AGAGCUUAGCUGAUUGGUGAAC-----  
-----19   0,0-----  
-----AGAGCUUAGCUGAUUGGUGAACA-----  
-----22   0,1-----  
-----AGAGCUUAGCUGAUUGGUGAACAu-----  
-----3    0,1-----  
-----AGAGCUUAGCUGAUUGGUGAACAG-----  
-----23   0,2-----  
-----AGAGCUUAGCUGAUUGGUGAACAGa-----  
-----4    0,2-----  
-----AGAGCUUAGCUGAUUGGUGAACAGU-----  
-----26   0,3-----  
-----AGCUUAGCUGAUUGGUGAACAG-----  
-----2    2,2-----  
-----GUUCACAGUGGCUAAGUU-----  
-----42   -1,-4-----  
-----GUUCACAGUGGCUAAGUUa-----  
-----2    -1,-4-----
```

			-GUUCACAGUGGCUAAGUUu -
	2	-1,-4	
			-GUUCACAGUGGCUAAGUUuu -
	2	-1,-4	
			-GUUCACAGUGGCUAAGUUC -
	184	-1,-3	
			-GUUCACAGUGGCUAAGUUCU
	31	-1,-2	
			-GUUCACAGUGGCUAAGUUCUG
	4	-1,-1	
			-GUUCACAGUGGCUAAGUUCUG
a-	2	-1,-1	
			-GUUCACAGUGGCUAAGUUCUG
aa-	5	-1,-1	
			-GUUCACAGUGGCUAAGUUCUG
C-	6	-1,0	
			-GUUCACAGUGGCUAAGUUCUG
CA-	6	-1,1	
			-GUUCACAGUGGCUAAGUUCUG
CAu-	3	-1,1	
			-UUCACAGUGGCUAAGUUC -
	21349	0,-3	
			-UUCACAGUGGCUAAGUUCa -
	48	0,-3	
			-UUCACAGUGGCUAAGUUCaa
	15	0,-3	
			-UUCACAGUGGCUAAGUUCau
	3	0,-3	
			-UUCACAGUGGCUAAGUUCU -
	5322	0,-2	
			-UUCACAGUGGCUAAGUUCUa
	35	0,-2	
			-UUCACAGUGGCUAAGUUCUa
a-	69	0,-2	
			-UUCACAGUGGCUAAGUUCUa
u-	24	0,-2	
			-UUCACAGUGGCUAAGUUCUu
	10	0,-2	

-----				-UUCACAGUGGCUAAGUUCUu
u-----	24	0,-2		
-----				-UUCACAGUGGCUAAGUUCUG
-----	476	0,-1		
-----				-UUCACAGUGGCUAAGUUCUG
a-----	204	0,-1		
-----				-UUCACAGUGGCUAAGUUCUG
aa-----	178	0,-1		
-----				-UUCACAGUGGCUAAGUUCUG
au-----	7	0,-1		
-----				-UUCACAGUGGCUAAGUUCUG
u-----	44	0,-1		
-----				-UUCACAGUGGCUAAGUUCUG
uu-----	14	0,-1		
-----				-UUCACAGUGGCUAAGUUCUG
C-----	1261	0,0		
-----				-UUCACAGUGGCUAAGUUCUG
Cu-----	11	0,0		
-----				-UUCACAGUGGCUAAGUUCUG
Cuu-----	6	0,0		
-----				-UUCACAGUGGCUAAGUUCUG
CA-----	292	0,1		
-----				-UUCACAGUGGCUAAGUUCUG
CAa-----	217	0,1		
-----				-UUCACAGUGGCUAAGUUCUG
CAaa-----	13	0,1		
-----				-UUCACAGUGGCUAAGUUCUG
CAau-----	9	0,1		
-----				-UUCACAGUGGCUAAGUUCUG
CAu-----	206	0,1		
-----				-UUCACAGUGGCUAAGUUCUG
CAuu-----	12	0,1		
-----				-UCACAGUGGCUAAGUUCU-
-----	14	1,-2		
-----				-UCACAGUGGCUAAGUUCUG
CA-----	3	1,1		
-----				-UCACAGUGGCUAAGUUCUG
CAu-----	3	1,1		

gguccuugcccucAAGGAGCUCACAGUCUAUUGAGuuaccuuucugacuuuccCACUAGAUUGUGAGCUCCUGGAgggca
ggcacu

(((.(((((((((.(((((((((((((((((.((((((.....))))).)).))))))))))))).))))))
)).)))

-----CAAGGAGCUCACAGUCUAUU-----

----- 2 -1, -3

-----CAAGGAGCUCACAGUCUAUUG-----

----- 4 -1,-2

-----CAAGGAGCUCACAGUCUAUUGA-----

----- 10 -1,-1

-----CAAGGAGCUCACAGUCUAUUGAG-----

----- 7 -1,0

-----AAGGAGCUCACAGUCUAU-----

----- 15 0,-4

-----AAGGAGCUCACAGUCUAUa-----

----- 14 0,-4

-----AAGGAGCUCACAGUCUAU_{aa}-----

----- 3 0, -4

-----AAGGAGCUCACAGUCUAUU-----

----- 150 0,-3

-----AAGGAGCUCACAGUCUAUUa-----

----- 8 0, -3

-----AAGGAGCUCACAGUCUAUUaa-----

----- 12 0, -3

-----AAGGAGCUCACAGUCAUUG-----

----- 124 0, -2

-----AAGGAGCUCACAGUCUAUUGu-----

----- 7 0, -2

-----AAGGAGCUCACAGUCUAUUGA-----

----- 1141 0,-1

-----AAGGAGCUCACAGUCUAUUGAa-----

----- 42 0,-1

-----AAGGAGCUCACAGUCUAUUGAaa-----

----- 49 0,-1

-----AAGGAGCUCACAGUCUAUUGAau-----

----- 3 0, -1

```

-----AAGGAGCUCACAGUCUAUUGAu-----
----- 4 0,-1
-----AAGGAGCUCACAGUCUAUUGAG-----
----- 945 0,0
-----AAGGAGCUCACAGUCUAUUGAGa-----
----- 215 0,0
-----AAGGAGCUCACAGUCUAUUGAGaa-----
----- 9 0,0
-----AAGGAGCUCACAGUCUAUUGAGU-----
----- 41 0,1
-----AGGAGCUCACAGUCUAUUGA-----
----- 2 1,-1
-----AGGAGCUCACAGUCUAUUGAGa-----
----- 6 1,0
-----CCACUAGAUUGUGAGCUCCUGG-----
----- 6 -1,-1
-----CCACUAGAUUGUGAGCUCCUGGu-----
----- 2 -1,-1
-----CCACUAGAUUGUGAGCUCCUGGA-----
----- 3 -1,0
-----CACUAGAUUGUGAGCUCC-----
----- 8 0,-4
-----CACUAGAUUGUGAGCUCCU-----
----- 17 0,-3
-----CACUAGAUUGUGAGCUCCUG-----
----- 48 0,-2
-----CACUAGAUUGUGAGCUCCUGa-----
----- 18 0,-2
-----CACUAGAUUGUGAGCUCCUGaa-----
----- 11 0,-2
-----CACUAGAUUGUGAGCUCCUGu-----
----- 2 0,-2
-----CACUAGAUUGUGAGCUCCUGG-----
----- 540 0,-1
-----CACUAGAUUGUGAGCUCCUGGu-----
----- 7 0,-1
-----CACUAGAUUGUGAGCUCCUGGA-----
----- 3665 0,0

```

-----			-----CACUAGAUUGUGAGCUCCUGGAa----
-----	2549	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAaa----
-----	463	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAau----
-----	130	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAu----
-----	83	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAuu----
-----	10	0,0	
-----			-----CACUAGAUUGUGAGCUCCUGGAG----
-----	98	0,1	
-----			-----CACUAGAUUGUGAGCUCCUGGAGa----
-----	63	0,1	
-----			-----CACUAGAUUGUGAGCUCCUGGAGaa----
-----	9	0,1	
-----			-----CACUAGAUUGUGAGCUCCUGGAGu----
-----	27	0,1	
-----			-----ACUAGAUUGUGAGCUCCU-----
-----	4	1,-3	
-----			-----ACUAGAUUGUGAGCUCCUG-----
-----	3	1,-2	
-----			-----ACUAGAUUGUGAGCUCCUGG-----
-----	22	1,-1	
-----			-----ACUAGAUUGUGAGCUCCUGGA----
-----	244	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAa----
-----	186	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAaa----
-----	80	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAau----
-----	21	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAu----
-----	10	1,0	
-----			-----ACUAGAUUGUGAGCUCCUGGAG----
-----	268	1,1	
-----			-----ACUAGAUUGUGAGCUCCUGGAGa----
-----	185	1,1	

Sequence	Length	Count
ACUAGAUUGUGAGCUCCUGGAGaa	22	1,1
ACUAGAUUGUGAGCUCCUGGAGau	6	1,1
ACUAGAUUGUGAGCUCCUGGAGu	36	1,1
CUAGAUUGUGAGCUCCUGGA	31	2,0
CUAGAUUGUGAGCUCCUGGAa	25	2,0
CUAGAUUGUGAGCUCCUGGAaa	17	2,0
CUAGAUUGUGAGCUCCUGGAG	105	2,1
CUAGAUUGUGAGCUCCUGGAGa	54	2,1
CUAGAUUGUGAGCUCCUGGAGaa	20	2,1
CUAGAUUGUGAGCUCCUGGAGau	3	2,1
CUAGAUUGUGAGCUCCUGGAGu	24	2,1

>hsa-mi r-296 5p:14-34;3p:48-69 SRX018971

```

aggacccuuccagAGGGCCCCCCCCUCAAUCCUGUugugccuaauucaGAGGGUUGGGUGGAGGCUCUCCugaagggcucu
((..(((((((..(((((((..((((((((((..((((.....)))))))))))))).)).))))))..)))))..))
-----GAGGGCCCCCCCCUCAAUCCUG-----
6    -1,-1
-----GAGGGCCCCCCCCUCAAUCCUGU-----
10   -1,0
-----AGGGCCCCCCCCUCAAUCC-----
15   0,-3
-----AGGGCCCCCCCCUCAAUCCU-----
60   0,-2
-----AGGGCCCCCCCCUCAAUCCUG-----
10   0,-1
-----AGGGCCCCCCCCUCAAUCCUGaa-----
2    0,-1

```

```

-----AGGGCCCCCCCCUCAAUCCUGU-----
61  0,0
-----AGGGCCCCCCCCUCAAUCCUGUaa-----
3   0,0
-----AGGGCCCCCCCCUCAAUCCUGUUa-----
3   0,1
-----GGGCCCCCCCCUCAAUCCU-----
2   1,-2
-----GAGGGUUGGGUGGAGGCU-----
3   0,-4

```

>hsa-mir-299 5p:7-28;3p:39-60 SRX018971

```

aagaaaUGGUUUACCGUCCCACAUACAUuuugaauaugUAUGUGGAUGGUAAACCGCUUcuu
(((((((((.....)))))))))))))))))
-----AUGGUUUACCGUCCCACAUAC----- 7   -1,-2
-----AUGGUUUACCGUCCCACAUACu----- 2   -1,-2
-----AUGGUUUACCGUCCCACAUACA----- 2   -1,-1
-----UGGUUUACCGUCCCACAUAA----- 3    0,-3
-----UGGUUUACCGUCCCACAUAC----- 3    0,-2
-----UGGUUUACCGUCCCACAUACA----- 4    0,-1
-----UGGUUUACCGUCCCACAUACAU----- 28   0,0

```

>hsa-mir-29a mi:4-25;MA:42-63 SRX018971

```

augACUGAUUUCUUUUGGUGUUCAGagucaauauauuuuucUAGCACCAUCUGAAAUCGGUUAu
(((((((((((.....)))))))))))))))))
---ACUGAUUUCUUUUGGUGUUCA----- 7    0,-1
---ACUGAUUUCUUUUGGUGUUCAG----- 20   0,0
---ACUGAUUUCUUUUGGUGUUCAGA----- 6    0,1
-----CUAGCACCAUCUGAAAUCG----- 2    -1,-4
-----CUAGCACCAUCUGAAAUCGG----- 11   -1,-3
-----CUAGCACCAUCUGAAAUCGGU--- 49   -1,-2
-----CUAGCACCAUCUGAAAUCGGUa-- 9    -1,-2
-----CUAGCACCAUCUGAAAUCGGUaa- 5    -1,-2
-----CUAGCACCAUCUGAAAUCGGUU-- 234  -1,-1
-----CUAGCACCAUCUGAAAUCGGUUu- 35   -1,-1
-----CUAGCACCAUCUGAAAUCGGUUuu 4    -1,-1
-----CUAGCACCAUCUGAAAUCGGUUA- 44   -1,0
-----CUAGCACCAUCUGAAAUCGGUUAa 6    -1,0

```


- 95 -1,-3	-----CUAGCACCAUUUGAAAUCAGUa-----
- 5 -1,-3	-----CUAGCACCAUUUGAAAUCAGUu-----
- 2 -1,-3	-----CUAGCACCAUUUGAAAUCAGUG-----
- 8 -1,-2	-----CUAGCACCAUUUGAAAUCAGUGU-----
- 5 -1,-1	-----UAGCACCAUUUGAAAUCA-----
- 116 0,-5	-----UAGCACCAUUUGAAAUCAG-----
- 184 0,-4	-----UAGCACCAUUUGAAAUCAGa-----
- 4 0,-4	-----UAGCACCAUUUGAAAUCAGU-----
- 5516 0,-3	-----UAGCACCAUUUGAAAUCAGUa-----
- 3 0,-3	-----UAGCACCAUUUGAAAUCAGUaa-----
- 12 0,-3	-----UAGCACCAUUUGAAAUCAGUu-----
- 7 0,-3	-----UAGCACCAUUUGAAAUCAGUuu-----
- 5 0,-3	-----UAGCACCAUUUGAAAUCAGUG-----
- 267 0,-2	-----UAGCACCAUUUGAAAUCAGUGa-----
- 13 0,-2	-----UAGCACCAUUUGAAAUCAGUGaa-----
- 6 0,-2	-----UAGCACCAUUUGAAAUCAGUGU-----
- 179 0,-1	-----UAGCACCAUUUGAAAUCAGUGUa-----
- 27 0,-1	-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 8 0,-1	-----UAGCACCAUUUGAAAUCAGUGUau-----


```

- 6 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 164 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 5 0,0
-----AGCACCAUUUGAAAUCAGU-----
- 97 1,-3
-----AGCACCAUUUGAAAUCAGUGU-----
- 4 1,-1
-----AGCACCAUUUGAAAUCAGUGUaa-----
- 2 1,-1
-----AGCACCAUUUGAAAUCAGUGUU-----
- 2 1,0
-----GCACCAUUUGAAAUCAGU-----
- 3 2,-3

```

>hsa-mir-29b-2 mi:11-32;MA:52-74 SRX018971

```

cuucuggaagCUGGUUUCACAUGGUGGCUUAGauuuuuccaucuuuguaucUAGCACCAUUUGAAAUCAGUGUUuuagga
g
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----GCUGGUUUCACAUGGUGGCUU-----
- 3 -1,-2
-----GCUGGUUUCACAUGGUGGCUUA-----
- 5 -1,-1
-----GCUGGUUUCACAUGGUGGCUUAa-----
- 4 -1,-1
-----GCUGGUUUCACAUGGUGGCUUAu-----
- 5 -1,-1
-----GCUGGUUUCACAUGGUGGCUUAGAU-----
- 2 -1,2
-----CUGGUUUCACAUGGUGGC-----
- 11 0,-4
-----CUGGUUUCACAUGGUGGCUU-----
- 4 0,-2
-----CUGGUUUCACAUGGUGGCUUu-----
- 2 0,-2
-----CUGGUUUCACAUGGUGGCUUA-----

```

- 26	0, -1	-CUGGUUUCACAUGGUGGCUUAa-----
- 7	0, -1	-CUGGUUUCACAUGGUGGCUUAaa-----
- 2	0, -1	-CUGGUUUCACAUGGUGGCUUAu-----
- 5	0, -1	-CUGGUUUCACAUGGUGGCUUAG-----
- 20	0, 0	-CUGGUUUCACAUGGUGGCUUAGA-----
- 2	0, 1	-UGGUUUCACAUGGUGGCUUAa-----
- 2	1, -1	-----CUAGCACCAUUUGAAAUCAG-----
- 5	-1, -4	-----CUAGCACCAUUUGAAAUCAGa-----
- 6	-1, -4	-----CUAGCACCAUUUGAAAUCAGU-----
- 95	-1, -3	-----CUAGCACCAUUUGAAAUCAGUa-----
- 5	-1, -3	-----CUAGCACCAUUUGAAAUCAGUu-----
- 2	-1, -3	-----CUAGCACCAUUUGAAAUCAGUG-----
- 8	-1, -2	-----CUAGCACCAUUUGAAAUCAGUGU-----
- 5	-1, -1	-----UAGCACCAUUUGAAAUCA-----
- 116	0, -5	-----UAGCACCAUUUGAAAUCAG-----
- 184	0, -4	-----UAGCACCAUUUGAAAUCAGa-----
- 4	0, -4	-----UAGCACCAUUUGAAAUCAGU-----
- 5516	0, -3	-----UAGCACCAUUUGAAAUCAGUa-----
- 3	0, -3	-----UAGCACCAUUUGAAAUCAGUaa-----

```

- 12 0,-3
-----UAGCACCAUUUGAAAUCAGUu-----
- 7 0,-3
-----UAGCACCAUUUGAAAUCAGUuu-----
- 5 0,-3
-----UAGCACCAUUUGAAAUCAGUG-----
- 267 0,-2
-----UAGCACCAUUUGAAAUCAGUGa-----
- 13 0,-2
-----UAGCACCAUUUGAAAUCAGUGaa-----
- 6 0,-2
-----UAGCACCAUUUGAAAUCAGUGU-----
- 179 0,-1
-----UAGCACCAUUUGAAAUCAGUGUa-----
- 27 0,-1
-----UAGCACCAUUUGAAAUCAGUGUaa-----
- 8 0,-1
-----UAGCACCAUUUGAAAUCAGUGUau-----
- 6 0,-1
-----UAGCACCAUUUGAAAUCAGUGUU-----
- 164 0,0
-----UAGCACCAUUUGAAAUCAGUGUUa-----
- 5 0,0
-----UAGCACCAUUUGAAAUCAGUGUUU-----
- 27 0,1
-----AGCACCAUUUGAAAUCAGU-----
- 97 1,-3
-----AGCACCAUUUGAAAUCAGUGU-----
- 4 1,-1
-----AGCACCAUUUGAAAUCAGUGUaa-----
- 2 1,-1
-----AGCACCAUUUGAAAUCAGUGUU-----
- 2 1,0
-----GCACCAUUUGAAAUCAGU-----
- 3 2,-3

```

>hsa-mir-29c mi:16-37;MA:54-75 SRX018971

aucucuuacacaggcUGACCGAUUUCUCCUGGUGUUCagagucuguuuuugucUAGCACCAUUUGAAAUCGGUUAugaug

.(((((((((((...(((((((((((...((((((((((((((...))))))...))))))...))))))...)))))

-----		UGACCGAUUUCUCCUGGU-----
-----	6	0,-4
-----		UGACCGAUUUCUCCUGGUG-----
-----	5	0,-3
-----		UGACCGAUUUCUCCUGGUGU-----
-----	16	0,-2
-----		UGACCGAUUUCUCCUGGUGUU-----
-----	57	0,-1
-----		UGACCGAUUUCUCCUGGUGUUa-----
-----	29	0,-1
-----		UGACCGAUUUCUCCUGGUGUUaa-----
-----	4	0,-1
-----		UGACCGAUUUCUCCUGGUGUUu-----
-----	3	0,-1
-----		UGACCGAUUUCUCCUGGUGUUC-----
-----	25	0,0
-----		UGACCGAUUUCUCCUGGUGUUCA-----
-----	18	0,1
-----		GACCGAUUUCUCCUGGUG-----
-----	2	1,-3
-----		GACCGAUUUCUCCUGGUGU-----
-----	3	1,-2
-----		GACCGAUUUCUCCUGGUGUa-----
-----	2	1,-2
-----		GACCGAUUUCUCCUGGUGUU-----
-----	64	1,-1
-----		GACCGAUUUCUCCUGGUGUUa-----
-----	22	1,-1
-----		GACCGAUUUCUCCUGGUGUUaa-----
-----	6	1,-1
-----		GACCGAUUUCUCCUGGUGUUC-----
-----	16	1,0
-----		GACCGAUUUCUCCUGGUGUUCA-----
-----	58	1,1
-----		GACCGAUUUCUCCUGGUGUUCAGu-----

```

----- 2 1,2
-----GACCGAUUUCUCCUGGUGUUCAGA-----
----- 2 1,3
-----GACCGAUUUCUCCUGGUGUUCAGAG-----
----- 2 1,4
-----ACCGAUUUCUCCUGGUGUUCA-----
----- 7 2,1
-----ACCGAUUUCUCCUGGUGUUCAG-----
----- 10 2,2
-----ACCGAUUUCUCCUGGUGUUCAGA-----
----- 5 2,3
-----CUAGCACCAUUUGAAAUCGG-----
----- 3 -1,-3
-----CUAGCACCAUUUGAAAUCGGU-----
----- 2 -1,-2
-----CUAGCACCAUUUGAAAUCGGUU-----
----- 2 -1,-1
-----CUAGCACCAUUUGAAAUCGGUUA-----
----- 6 -1,0
-----CUAGCACCAUUUGAAAUCGGUUAU-----
----- 2 -1,1
-----UAGCACCAUUUGAAAUCG-----
----- 238 0,-4
-----UAGCACCAUUUGAAAUCGa-----
----- 2 0,-4
-----UAGCACCAUUUGAAAUCGuu-----
----- 3 0,-4
-----UAGCACCAUUUGAAAUCGG-----
----- 1301 0,-3
-----UAGCACCAUUUGAAAUCGGa-----
----- 2 0,-3
-----UAGCACCAUUUGAAAUCGGaa-----
----- 2 0,-3
-----UAGCACCAUUUGAAAUCGGU-----
----- 324 0,-2
-----UAGCACCAUUUGAAAUCGGUa-----
----- 18 0,-2
-----UAGCACCAUUUGAAAUCGGUaa-----

```

-----	169	0,-2	-----UAGCACCAUUUGAAAUCGGUau-----
-----	9	0,-2	-----UAGCACCAUUUGAAAUCGGUU-----
-----	2044	0,-1	-----UAGCACCAUUUGAAAUCGGUUu-----
-----	587	0,-1	-----UAGCACCAUUUGAAAUCGGUUuu-----
-----	44	0,-1	-----UAGCACCAUUUGAAAUCGGUUA-----
-----	5596	0,0	-----UAGCACCAUUUGAAAUCGGUUAa-----
-----	1187	0,0	-----UAGCACCAUUUGAAAUCGGUUAaa-----
-----	19	0,0	-----UAGCACCAUUUGAAAUCGGUUAau-----
-----	2	0,0	-----UAGCACCAUUUGAAAUCGGUUAU-----
-----	351	0,1	-----UAGCACCAUUUGAAAUCGGUUAUa-----
-----	7	0,1	-----UAGCACCAUUUGAAAUCGGUUAUu-----
-----	6	0,1	-----AGCACCAUUUGAAAUCGGUaa-----
-----	2	1,-2	-----AGCACCAUUUGAAAUCGGUU-----
-----	8	1,-1	-----AGCACCAUUUGAAAUCGGUUu-----
-----	5	1,-1	-----AGCACCAUUUGAAAUCGGUUA-----
-----	38	1,0	-----AGCACCAUUUGAAAUCGGUUAa-----
-----	3	1,0	-----GCACCAUUUGAAAUCGGUUAU-----
-----	7	2,1	-----GCACCAUUUGAAAUCGGUUAUa-----
-----	2	2,1	-----GCACCAUUUGAAAUCGGUUAUu-----

```

-----      8      2,1
-----GCACCAUUUGAAAUCGGUUAUG-----
-----      2      2,2

>hsa-mir-301a      3p:51-73      SRX018971
acugcuaacgaaugcucugacuuuauugcacuacuguacuuuacagcuagCAGUGCAAUAGUAUUGUCAAAAGCaucugaa
agcagg
(((((((.(((.((((((.((((((((((.((((((...))))).))))).))))).))))).))))).
))))).
-----GCUCUGACUUUAUUGCACUA-----
-----      7
-----GCUCUGACUUUAUUGCACUAu-----
-----      4
-----GCUCUGACUUUAUUGCACUAC-----
-----      5
-----GCUCUGACUUUAUUGCACUACU-----
-----     32
-----GCAGUGCAAUAGUAUUGUCAAA-----
-----      2      -1,-2
-----CAGUGCAAUAGUAUUGUC-----
-----      3      0,-5
-----CAGUGCAAUAGUAUUGUCA-----
-----     25      0,-4
-----CAGUGCAAUAGUAUUGUCA-----
-----     42      0,-3
-----CAGUGCAAUAGUAUUGUCAAA-----
-----     27      0,-2
-----CAGUGCAAUAGUAUUGUCAAAAG-----
-----    150      0,-1
-----CAGUGCAAUAGUAUUGUCAAAAGa-----
-----      4      0,-1
-----CAGUGCAAUAGUAUUGUCAAAAGC-----
-----    212      0,0
-----CAGUGCAAUAGUAUUGUCAAAAGCu-----
-----      5      0,0
-----CAGUGCAAUAGUAUUGUCAAAAGCA-----
-----     79      0,1
-----CAGUGCAAUAGUAUUGUCAAAAGCAa-----

```

```

----- 9 0,1
-----CAGUGCAAUAGUAUUGUCAAAAGCAU-----
----- 399 0,2
-----AGUGCAAUAGUAUUGUCA-----
----- 2 1,-4
-----AGUGCAAUAGUAUUGUCAAAAG-----
----- 7 1,-1
-----AGUGCAAUAGUAUUGUCAAAAGC-----
----- 13 1,0
-----AGUGCAAUAGUAUUGUCAAAAGCA-----
----- 5 1,1
-----AGUGCAAUAGUAUUGUCAAAAGCAU-----
----- 12 1,2
-----AGUGCAAUAGUAUUGUCAAAAGCAUa-----
----- 2 1,2
-----AGUGCAAUAGUAUUGUCAAAAGCAUu-----
----- 2 1,2

```

>hsa-mir-301b 3p:45-67 SRX018971

```

gccgcaggugcucugacgagguugcacuacugugcucugagaagCAGUGCAAUGAUUUGUCAAAAGCaucugggacca
.(((.(((((((.(((((((.(((((((.((...(.)).)).)))))))).)))))))).)))))))).)...
-----GCUCUGACGAGGUUGCACUACU-----
3
-----CAGUGCAAUGAUUUGUCA-----
2 0,-4
-----CAGUGCAAUGAUUUGUCA-----
4 0,-3
-----CAGUGCAAUGAUUUGUCAAA-----
3 0,-2
-----CAGUGCAAUGAUUUGUCAAAAG-----
10 0,-1
-----CAGUGCAAUGAUUUGUCAAAAGC-----
20 0,0
-----CAGUGCAAUGAUUUGUCAAAAGCA-----
3 0,1
-----CAGUGCAAUGAUUUGUCAAAAGCAU-----
7 0,2
-----AGUGCAAUGAUUUGUCA-----

```



```

6    1,-4
-----AGUGCAAUGAUUUGUCAA-----
2    1,-2

>hsa-mir-3065    5p:10-32;3p:50-72    SRX018971
cugccucucuCAACAAAAUCACUGAUGCUGGAgucgccugagucaucacUCAGCACCAGGAUUAUUGUUGGAGaggacag
(((.(((((((((((.(((.(((.(((((((.((...)).)).....))))).))))).))))).))))).)))
-----UCAACAAAAUCACUGAUG-----
27   0,-5
-----UCAACAAAAUCACUGAUGau-----
2    0,-5
-----UCAACAAAAUCACUGAUGuu-----
3    0,-5
-----UCAACAAAAUCACUGAUGC-----
242  0,-4
-----UCAACAAAAUCACUGAUGCa-----
12   0,-4
-----UCAACAAAAUCACUGAUGCaa-----
4    0,-4
-----UCAACAAAAUCACUGAUGCU-----
2693 0,-3
-----UCAACAAAAUCACUGAUGCUa-----
16   0,-3
-----UCAACAAAAUCACUGAUGCUG-----
751  0,-2
-----UCAACAAAAUCACUGAUGCUGG-----
709  0,-1
-----UCAACAAAAUCACUGAUGCUGGu-----
11   0,-1
-----UCAACAAAAUCACUGAUGCUGGA-----
578  0,0
-----UCAACAAAAUCACUGAUGCUGGAa-----
44   0,0
-----UCAACAAAAUCACUGAUGCUGGAaa-----
7    0,0
-----UCAACAAAAUCACUGAUGCUGGAuu-----
2    0,0
-----UCAACAAAAUCACUGAUGCUGGAG-----

```

49	0,1	-UCAACAAAAUCACUGAUGCUGGAGU-
98	0,2	-CAACAAAAUCACUGAUGCU-
3	1,-3	-AACAAAAUCACUGAUGCU-
36	2,-3	-AACAAAAUCACUGAUGCUG-
5	2,-2	-AACAAAAUCACUGAUGCUGG-
9	2,-1	-AACAAAAUCACUGAUGCUGGA-
4	2,0	-AACAAAAUCACUGAUGCUGGAG-
3	2,1	-AACAAAAUCACUGAUGCUGGAGU-
2	2,2	-UCAGCACCAGGAUAUUGU-
15	0,-5	-UCAGCACCAGGAUAUUGUU-
13	0,-4	-UCAGCACCAGGAUAUUGUUG-
16	0,-3	-UCAGCACCAGGAUAUUGUUGG-
10	0,-2	-UCAGCACCAGGAUAUUGUUGGA-
23	0,-1	-UCAGCACCAGGAUAUUGUUGGAa-
6	0,-1	-UCAGCACCAGGAUAUUGUUGGAaa-
3	0,-1	-UCAGCACCAGGAUAUUGUUGGAG-
16	0,0	-UCAGCACCAGGAUAUUGUUGGAGu-
5	0,0	-UCAGCACCAGGAUAUUGUUGGAGA-
5	0,1	-AGCACCAGGAUAUUGUUG-

3 2,-3

>hsa-mir-3074 3p:50-71 SRX018971

gcucgacuccuguuuccugcugaacugagccaguguguaaaaugagaacuGAUAUCAGCUCAGUAGGCACCGgagggcggg
u

(((((.((((.(.(((((((.((((.((((.....))))))....))))).)))))))).))))))..))))
)

-----GUUCCUGCUGAACUGAGCCAG-----

- 3

-----GAUAUCAGCUCAGUAGGCACC-----

- 3 0,-1

>hsa-mir-30a MA:6-27;mi:47-68 SRX018971

gcgacUGUAAACAUCCUCGACUGGAAGcugugaagccacagaugggCUUUCAGUCGGAUGUUUGCAGCugc

(((.((((((((((((((..((((((((((((((((.....))))....))))))))).....)))))))).)))

---CUGUAAACAUCCUCGACU----- 10

-1,-5

---CUGUAAACAUCCUCGACUGGA----- 7

-1,-2

---CUGUAAACAUCCUCGACUGGAA----- 26

-1,-1

---CUGUAAACAUCCUCGACUGGAAa----- 7

-1,-1

---CUGUAAACAUCCUCGACUGGAAG----- 27 -1,0

---CUGUAAACAUCCUCGACUGGAAGa----- 16 -1,0

---CUGUAAACAUCCUCGACUGGAAGuu----- 2 -1,0

---CUGUAAACAUCCUCGACUGGAAGC----- 84 -1,1

---CUGUAAACAUCCUCGACUGGAAGCa----- 10 -1,1

---CUGUAAACAUCCUCGACUGGAAGCU----- 114 -1,2

----UGUAAACAUCCUCGACUG----- 522 0,-4

----UGUAAACAUCCUCGACUGa----- 2 0,-4

----UGUAAACAUCCUCGACUGG----- 495 0,-3

----UGUAAACAUCCUCGACUGGu----- 20 0,-3

----UGUAAACAUCCUCGACUGGA----- 976 0,-2

----UGUAAACAUCCUCGACUGGAA----- 4431

0,-1

----UGUAAACAUCCUCGACUGGAAa----- 1878

0,-1

-----UGUAAACAUCCUCGACUGGAaAa-----	97	0,-1
-----UGUAAACAUCCUCGACUGGAaAu-----	14	0,-1
-----UGUAAACAUCCUCGACUGGAaAu-----	77	0,-1
-----UGUAAACAUCCUCGACUGGAaAu-----	5	0,-1
-----UGUAAACAUCCUCGACUGGAAG-----	5776	
0,0		
-----UGUAAACAUCCUCGACUGGAAGa-----	7579	
0,0		
-----UGUAAACAUCCUCGACUGGAAGaa-----	439	0,0
-----UGUAAACAUCCUCGACUGGAAGau-----	595	0,0
-----UGUAAACAUCCUCGACUGGAAGu-----	389	0,0
-----UGUAAACAUCCUCGACUGGAAGuu-----	196	0,0
-----UGUAAACAUCCUCGACUGGAAGC-----	35410	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCa-----	5379	
0,1		
-----UGUAAACAUCCUCGACUGGAAGCaa-----	131	0,1
-----UGUAAACAUCCUCGACUGGAAGCau-----	139	0,1
-----UGUAAACAUCCUCGACUGGAAGCU-----	78391	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUa-----	253	0,2
-----UGUAAACAUCCUCGACUGGAAGCUu-----	1774	
0,2		
-----UGUAAACAUCCUCGACUGGAAGCUG-----	9	0,3
-----GUAAACAUCCUCGACUGG-----	3	1,-3
-----GUAAACAUCCUCGACUGGAA-----	16	1,-1
-----GUAAACAUCCUCGACUGGAAa-----	2	1,-1
-----GUAAACAUCCUCGACUGGAAG-----	29	1,0
-----GUAAACAUCCUCGACUGGAAGa-----	32	1,0
-----GUAAACAUCCUCGACUGGAAGaa-----	2	1,0
-----GUAAACAUCCUCGACUGGAAGuu-----	2	1,0
-----GUAAACAUCCUCGACUGGAAGC-----	189	1,1
-----GUAAACAUCCUCGACUGGAAGCa-----	18	1,1
-----GUAAACAUCCUCGACUGGAAGCau-----	6	1,1
-----GUAAACAUCCUCGACUGGAAGCU-----	172	1,2
-----GUAAACAUCCUCGACUGGAAGCUa-----	4	1,2
-----GUAAACAUCCUCGACUGGAAGCUu-----	4	1,2
-----GUAAACAUCCUCGACUGGAAGCUGa-----	3	1,3

-----UAAACAUCCUCGACUGGAAGa-----	2	2,0
-----UAAACAUCCUCGACUGGAAGC-----	15	2,1
-----UAAACAUCCUCGACUGGAAGCU-----	6	2,2
-----GCUUUCAGUCGGAUGUUUGCA-----	3	
-1,-2		
-----CUUUCAGUCGGAUGUUUG-----	15	0,-4
-----CUUUCAGUCGGAUGUUUGu-----	2	0,-4
-----CUUUCAGUCGGAUGUUUUGC-----	15	0,-3
-----CUUUCAGUCGGAUGUUUGCA-----	66	0,-2
-----CUUUCAGUCGGAUGUUUGCAa----	35	0,-2
-----CUUUCAGUCGGAUGUUUGCAaa---	3	0,-2
-----CUUUCAGUCGGAUGUUUGCAu----	15	0,-2
-----CUUUCAGUCGGAUGUUUGCAuu---	10	0,-2
-----CUUUCAGUCGGAUGUUUGCAG-----	533	0,-1
-----CUUUCAGUCGGAUGUUUGCAGa---	2	0,-1
-----CUUUCAGUCGGAUGUUUGCAGaa--	2	0,-1
-----CUUUCAGUCGGAUGUUUGCAGu---	71	0,-1
-----CUUUCAGUCGGAUGUUUGCAGuu--	7	0,-1
-----CUUUCAGUCGGAUGUUUGCAGC---	204	0,0
-----CUUUCAGUCGGAUGUUUGCAGCa--	61	0,0
-----CUUUCAGUCGGAUGUUUGCAGCaa-	22	0,0
-----CUUUCAGUCGGAUGUUUGCAGCau-	142	0,0
-----UUUCAGUCGGAUGUUUUGC-----	3	1,-3
-----UUUCAGUCGGAUGUUUUGCA-----	16	1,-2
-----UUUCAGUCGGAUGUUUUGCAa----	2	1,-2
-----UUUCAGUCGGAUGUUUUGCAaa---	2	1,-2
-----UUUCAGUCGGAUGUUUUGCAu----	2	1,-2
-----UUUCAGUCGGAUGUUUUGCAuu---	11	1,-2
-----UUUCAGUCGGAUGUUUUGCAG-----	148	1,-1
-----UUUCAGUCGGAUGUUUUGCAGa---	2	1,-1
-----UUUCAGUCGGAUGUUUUGCAGu---	28	1,-1
-----UUUCAGUCGGAUGUUUUGCAGuu--	4	1,-1
-----UUUCAGUCGGAUGUUUUGCAGC---	82	1,0
-----UUUCAGUCGGAUGUUUUGCAGCa--	27	1,0
-----UUUCAGUCGGAUGUUUUGCAGCaa-	19	1,0
-----UUUCAGUCGGAUGUUUUGCAGCau-	50	1,0

accaaguuucaguucaUGUAAACAUCCUACACUCAGCUguaauacauggauuggCUGGGAGGUGGAUGUUACUUCagcu
gacuugga

.((((((...(((((((...((((((((((...((((((((((...))))))))...))))))))...))))))

-----AUGUAAACAUCCUACACUC-----
-----19 -1,-4
-----AUGUAAACAUCCUACACUCAG-----
-----2 -1,-2
-----AUGUAAACAUCCUACACUCAGCU-----
-----5 -1,0
-----UGUAAACAUCCUACACUC-----
-----47 0,-4
-----UGUAAACAUCCUACACUCA-----
-----69 0,-3
-----UGUAAACAUCCUACACUCAG-----
-----132 0,-2
-----UGUAAACAUCCUACACUCAGa-----
-----12 0,-2
-----UGUAAACAUCCUACACUCAGau-----
-----4 0,-2
-----UGUAAACAUCCUACACUCAGuu-----
-----4 0,-2
-----UGUAAACAUCCUACACUCAGC-----
-----351 0,-1
-----UGUAAACAUCCUACACUCAGCa-----
-----26 0,-1
-----UGUAAACAUCCUACACUCAGCaa-----
-----13 0,-1
-----UGUAAACAUCCUACACUCAGCU-----
-----2242 0,0
-----UGUAAACAUCCUACACUCAGCUa-----
-----104 0,0
-----UGUAAACAUCCUACACUCAGCUaa-----
-----12 0,0
-----UGUAAACAUCCUACACUCAGCUau-----
-----20 0,0
-----UGUAAACAUCCUACACUCAGCUu-----
-----67 0,0

UGUAAACAUCCUACACUCAGCUuu		
8	0,0	
UGUAAACAUCCUACACUCAGCUG		
2	0,1	
UGUAAACAUCCUACACUCAGCUGa		
2	0,1	
GUAAACAUCCUACACUCAGC		
4	1,-1	
GUAAACAUCCUACACUCAGCU		
14	1,0	
CUGGGAGGUGGAUGUUUAC		
5	0,-3	
CUGGGAGGUGGAUGUUUACU		
30	0,-2	
CUGGGAGGUGGAUGUUUACUaa		
3	0,-2	
CUGGGAGGUGGAUGUUUACUU		
51	0,-1	
CUGGGAGGUGGAUGUUUACUUa		
13	0,-1	
CUGGGAGGUGGAUGUUUACUUaa		
9	0,-1	
CUGGGAGGUGGAUGUUUACUUu		
9	0,-1	
CUGGGAGGUGGAUGUUUACUUC		
5	0,0	
CUGGGAGGUGGAUGUUUACUUCA		
6	0,1	

>hsa-mi r-30c-1 MA:17-39;mi :56-77 SRX018971

accaucguguagugugUGUAAACAUCCUACACUCUCAGCugugagcuaagguggCUGGGAGAGGGUUGUUUACUCCuuc
ugccaugga

$$.((((((..((((...((((((((.((((...((((((((((.(....))....)))))))).)))).)))).))....)))).)).$$

```

-----UGUGUAAACAUCCUACACUCUa-----
----- 2    -2,-2
-----UGUAAACAUCCUACACUC-----
-----47   0,-5

```

```

-----UGUAAACAUCCUACACUCU-----
----- 59 0,-4
-----UGUAAACAUCCUACACUCUC-----
----- 45 0,-3
-----UGUAAACAUCCUACACUCUCu-----
----- 3 0,-3
-----UGUAAACAUCCUACACUCUCA-----
----- 415 0,-2
-----UGUAAACAUCCUACACUCUCAa-----
----- 21 0,-2
-----UGUAAACAUCCUACACUCUCAu-----
----- 6 0,-2
-----UGUAAACAUCCUACACUCUCAG-----
----- 851 0,-1
-----UGUAAACAUCCUACACUCUCAGa-----
----- 162 0,-1
-----UGUAAACAUCCUACACUCUCAGaa-----
----- 44 0,-1
-----UGUAAACAUCCUACACUCUCAGau-----
----- 8 0,-1
-----UGUAAACAUCCUACACUCUCAGu-----
----- 37 0,-1
-----UGUAAACAUCCUACACUCUCAGuu-----
----- 7 0,-1
-----UGUAAACAUCCUACACUCUCAGC-----
----- 884 0,0
-----UGUAAACAUCCUACACUCUCAGCa-----
----- 102 0,0
-----UGUAAACAUCCUACACUCUCAGCaa-----
----- 16 0,0
-----UGUAAACAUCCUACACUCUCAGCau-----
----- 16 0,0
-----UGUAAACAUCCUACACUCUCAGCU-----
----- 2450 0,1
-----UGUAAACAUCCUACACUCUCAGCUa-----
----- 75 0,1
-----UGUAAACAUCCUACACUCUCAGCUu-----
----- 64 0,1

```



```

-----UGUAAACAUCCUACACUCUCAGCUG-----
----- 6 0,2
-----GUAAACAUCCUACACUCU-----
----- 3 1,-4
-----GUAAACAUCCUACACUCUCA-----
----- 3 1,-2
-----GUAAACAUCCUACACUCUCAGCU-----
----- 20 1,1
-----GUAAACAUCCUACACUCUCAGCUa-----
----- 2 1,1
-----CUGGGAGAGGGUUGUUUA-----
----- 5 0,-4
-----CUGGGAGAGGGUUGUUUAC-----
----- 5 0,-3
-----CUGGGAGAGGGUUGUUUACU-----
----- 49 0,-2
-----CUGGGAGAGGGUUGUUUACUa-----
----- 5 0,-2
-----CUGGGAGAGGGUUGUUUACUaa-----
----- 2 0,-2
-----CUGGGAGAGGGUUGUUUACUC-----
----- 26 0,-1
-----CUGGGAGAGGGUUGUUUACUCC-----
----- 7 0,0
-----CUGGGAGAGGGUUGUUUACUCCa-----
----- 4 0,0
-----CUGGGAGAGGGUUGUUUACUCCau-----
----- 3 0,0
-----CUGGGAGAGGGUUGUUUACUCCU-----
----- 4 0,1
-----UGGGAGAGGGUUGUUUACU-----
----- 2 1,-2
-----UGGGAGAGGGUUGUUUACUC-----
----- 3 1,-1
-----UGGGAGAGGGUUGUUUACUCu-----
----- 2 1,-1

```

>hsa-mir-30c-2 MA:7-29;mi:47-68 SRX018971

agauacUGUAAACAUCCUACACUCUCAGCuguggaaaguaagaaagCUGGGAGAAGGCUGUUUACUCUuucu
 (((...(((((((...((((((((...)))))))).)))))).))))))...)))
 -----CUGUAAACAUCCUACACUC----- 3
 -1, -5
 -----CUGUAAACAUCCUACACUCUCA----- 3
 -1, -2
 -----CUGUAAACAUCCUACACUCUCAGC----- 3
 -1, 0
 -----CUGUAAACAUCCUACACUCUCAGCU----- 5
 -1, 1
 -----UGUAAACAUCCUACACUC----- 47
 0, -5
 -----UGUAAACAUCCUACACUCU----- 59
 0, -4
 -----UGUAAACAUCCUACACUCUC----- 45
 0, -3
 -----UGUAAACAUCCUACACUCUCu----- 3
 0, -3
 -----UGUAAACAUCCUACACUCUCA----- 415
 0, -2
 -----UGUAAACAUCCUACACUCUCAa----- 21
 0, -2
 -----UGUAAACAUCCUACACUCUCAu----- 6
 0, -2
 -----UGUAAACAUCCUACACUCUCAG----- 851
 0, -1
 -----UGUAAACAUCCUACACUCUCAGa----- 162
 0, -1
 -----UGUAAACAUCCUACACUCUCAGaa----- 44
 0, -1
 -----UGUAAACAUCCUACACUCUCAGau----- 8
 0, -1
 -----UGUAAACAUCCUACACUCUCAGu----- 37
 0, -1
 -----UGUAAACAUCCUACACUCUCAGuu----- 7
 0, -1
 -----UGUAAACAUCCUACACUCUCAGC----- 884
 0, 0

-----UGUAAACAUCCUACACUCUCAGCa-----	102
0,0	
-----UGUAAACAUCCUACACUCUCAGCaa-----	16
0,0	
-----UGUAAACAUCCUACACUCUCAGCau-----	16
0,0	
-----UGUAAACAUCCUACACUCUCAGCU-----	2450
0,1	
-----UGUAAACAUCCUACACUCUCAGCUa-----	75
0,1	
-----UGUAAACAUCCUACACUCUCAGCUu-----	64
0,1	
-----UGUAAACAUCCUACACUCUCAGCUG-----	6
0,2	
-----GUAAACAUCCUACACUCU-----	3
1,-4	
-----GUAAACAUCCUACACUCUCA-----	3
1,-2	
-----GUAAACAUCCUACACUCUCAGCU-----	20
1,1	
-----GUAAACAUCCUACACUCUCAGCUa-----	2
1,1	
-----CUGGGAGAAGGCUGUUUA-----	69
0,-4	
-----CUGGGAGAAGGCUGUUUAa-----	9
0,-4	
-----CUGGGAGAAGGCUGUUUAau-----	27
0,-4	
-----CUGGGAGAAGGCUGUUUAu-----	2
0,-4	
-----CUGGGAGAAGGCUGUUUAuu-----	3
0,-4	
-----CUGGGAGAAGGCUGUUUAC-----	60
0,-3	
-----CUGGGAGAAGGCUGUUUACa-----	5
0,-3	
-----CUGGGAGAAGGCUGUUUACU-----	1358
0,-2	

-----CUGGGAGAAGGCUGUUUACUa-----	18
0,-2	
-----CUGGGAGAAGGCUGUUUACUaa-----	24
0,-2	
-----CUGGGAGAAGGCUGUUUACUau-----	4
0,-2	
-----CUGGGAGAAGGCUGUUUACUuu-----	2
0,-2	
-----CUGGGAGAAGGCUGUUUACUC-----	888
0,-1	
-----CUGGGAGAAGGCUGUUUACUCa-----	22
0,-1	
-----CUGGGAGAAGGCUGUUUACUCaa-----	5
0,-1	
-----CUGGGAGAAGGCUGUUUACUCU-----	158
0,0	
-----CUGGGAGAAGGCUGUUUACUCUa-----	2
0,0	
-----CUGGGAGAAGGCUGUUUACUCUU-----	3
0,1	
-----UGGGAGAAGGCUGUUUACU-----	18
1,-2	
-----UGGGAGAAGGCUGUUUACUC-----	25
1,-1	
-----UGGGAGAAGGCUGUUUACUCU-----	11
1,0	
-----GGGAGAAGGCUGUUUACU-----	3
2,-2	

>hsa-mir-30d MA:6-27;mi:46-67 SRX018971

guuguUGUAAACAUCCCCGACUGGAAGcuguaagacacagcuaagCUUUCAGUCAGAUUUUGCUGCuac

...((.((((((((...((((((((((...((.....)).)))))))))).)))))))).)...

----UUGUAAACAUCCCCGACUGGAAGC-----	4	-1,1
----UUGUAAACAUCCCCGACUGGAAGCU-----	7	-1,2
----UGUAAACAUCCCCGACUG-----	325	0,-4
----UGUAAACAUCCCCGACUGaa-----	2	0,-4
----UGUAAACAUCCCCGACUGG-----	417	0,-3
----UGUAAACAUCCCCGACUGGu-----	7	0,-3

-----UGUAAACAUCCCCGACUGGA-----	878	0,-2
-----UGUAAACAUCCCCGACUGGAu-----	5	0,-2
-----UGUAAACAUCCCCGACUGGAA-----	4749	
0,-1		
-----UGUAAACAUCCCCGACUGGAa-----	2393	
0,-1		
-----UGUAAACAUCCCCGACUGGAaa-----	179	0,-1
-----UGUAAACAUCCCCGACUGGAau-----	21	0,-1
-----UGUAAACAUCCCCGACUGGAu-----	295	0,-1
-----UGUAAACAUCCCCGACUGGAuu-----	8	0,-1
-----UGUAAACAUCCCCGACUGGAAG-----	3605	
0,0		
-----UGUAAACAUCCCCGACUGGAAGa-----	4115	
0,0		
-----UGUAAACAUCCCCGACUGGAAGaa-----	479	0,0
-----UGUAAACAUCCCCGACUGGAAGau-----	521	0,0
-----UGUAAACAUCCCCGACUGGAAGu-----	294	0,0
-----UGUAAACAUCCCCGACUGGAAGuu-----	199	0,0
-----UGUAAACAUCCCCGACUGGAAGC-----	9909	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCa-----	2275	
0,1		
-----UGUAAACAUCCCCGACUGGAAGCaa-----	53	0,1
-----UGUAAACAUCCCCGACUGGAAGCau-----	55	0,1
-----UGUAAACAUCCCCGACUGGAAGCU-----	81161	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUa-----	364	0,2
-----UGUAAACAUCCCCGACUGGAAGCUu-----	2746	
0,2		
-----UGUAAACAUCCCCGACUGGAAGCUG-----	9	0,3
-----GUAAACAUCCCCGACUGGA-----	4	1,-2
-----GUAAACAUCCCCGACUGGAA-----	37	1,-1
-----GUAAACAUCCCCGACUGGAAa-----	6	1,-1
-----GUAAACAUCCCCGACUGGAAG-----	36	1,0
-----GUAAACAUCCCCGACUGGAAGa-----	38	1,0
-----GUAAACAUCCCCGACUGGAAGaa-----	11	1,0
-----GUAAACAUCCCCGACUGGAAGau-----	5	1,0
-----GUAAACAUCCCCGACUGGAAGu-----	14	1,0


```

-----UGUAAACAUCCUUGACUGGAA-----
-----323 0,-1
-----UGUAAACAUCCUUGACUGGAa-----
-----81 0,-1
-----UGUAAACAUCCUUGACUGGAaa-----
-----15 0,-1
-----UGUAAACAUCCUUGACUGGAau-----
-----11 0,-1
-----UGUAAACAUCCUUGACUGGAAG-----
-----435 0,0
-----UGUAAACAUCCUUGACUGGAAGa-----
-----1172 0,0
-----UGUAAACAUCCUUGACUGGAAGaa-----
-----189 0,0
-----UGUAAACAUCCUUGACUGGAAGau-----
-----30 0,0
-----UGUAAACAUCCUUGACUGGAAGu-----
-----25 0,0
-----UGUAAACAUCCUUGACUGGAAGuu-----
-----9 0,0
-----UGUAAACAUCCUUGACUGGAAGC-----
-----3076 0,1
-----UGUAAACAUCCUUGACUGGAAGCa-----
-----278 0,1
-----UGUAAACAUCCUUGACUGGAAGCaa-----
-----5 0,1
-----UGUAAACAUCCUUGACUGGAAGCau-----
-----3 0,1
-----UGUAAACAUCCUUGACUGGAAGCU-----
-----4622 0,2
-----UGUAAACAUCCUUGACUGGAAGCUa-----
-----30 0,2
-----UGUAAACAUCCUUGACUGGAAGCUu-----
-----303 0,2
-----UGUAAACAUCCUUGACUGGAAGCUG-----
-----2 0,3
-----GUAAACAUCCUUGACUGG-----
-----4 1,-3

```

```

-----GUAACAUCUUGACUGGAA-----
-----9 1,-1-----
-----GUAACAUCUUGACUGGAa-----
-----2 1,-1-----
-----GUAACAUCUUGACUGGAAG-----
-----41 1,0-----
-----GUAACAUCUUGACUGGAAGa-----
-----64 1,0-----
-----GUAACAUCUUGACUGGAAGaa-----
-----15 1,0-----
-----GUAACAUCUUGACUGGAAGau-----
-----3 1,0-----
-----GUAACAUCUUGACUGGAAGu-----
-----9 1,0-----
-----GUAACAUCUUGACUGGAAGC-----
-----229 1,1-----
-----GUAACAUCUUGACUGGAAGCa-----
-----30 1,1-----
-----GUAACAUCUUGACUGGAAGCU-----
-----201 1,2-----
-----GUAACAUCUUGACUGGAAGCUa-----
-----2 1,2-----
-----GUAACAUCUUGACUGGAAGCUaa-----
-----6 1,2-----
-----GUAACAUCUUGACUGGAAGCUu-----
-----4 1,2-----
-----UAAACAUCUUGACUGGAAGC-----
-----6 2,1-----
-----UAAACAUCUUGACUGGAAGCU-----
-----13 2,2-----
-----GCUUCAGUCGGAUGUUUACA--
-----2 -1,-2-----
-----GCUUCAGUCGGAUGUUUACAG-
-----2 -1,-1-----
-----GCUUCAGUCGGAUGUUUACAGu
-----3 -1,-1-----
-----CUUCAGUCGGAUGUUUA---
-----46 0,-4-----

```


-----			-----CUUUCAGUCGGAUGUUUAa---
-----	9	0,-4	-----CUUUCAGUCGGAUGUUUAa--
-----	2	0,-4	-----CUUUCAGUCGGAUGUUUAC---
-----	22	0,-3	-----CUUUCAGUCGGAUGUUUACA--
-----	65	0,-2	-----CUUUCAGUCGGAUGUUUACAa-
-----	10	0,-2	-----CUUUCAGUCGGAUGUUUACAaa
-----	3	0,-2	-----CUUUCAGUCGGAUGUUUACAG-
-----	173	0,-1	-----CUUUCAGUCGGAUGUUUACAGa
-----	24	0,-1	-----CUUUCAGUCGGAUGUUUACAGu
-----	345	0,-1	-----CUUUCAGUCGGAUGUUUACAGu
u-----	28	0,-1	-----CUUUCAGUCGGAUGUUUACAGC
-----	119	0,0	-----CUUUCAGUCGGAUGUUUACAGC
a-----	174	0,0	-----CUUUCAGUCGGAUGUUUACAGC
aa-----	18	0,0	-----CUUUCAGUCGGAUGUUUACAGC
au-----	13	0,0	-----CUUUCAGUCGGAUGUUUACAGC
u-----	2	0,0	-----UUUCAGUCGGAUGUUUACAG-
-----	5	1,-1	-----UUUCAGUCGGAUGUUUACAGa
-----	2	1,-1	-----UUUCAGUCGGAUGUUUACAGu
-----	12	1,-1	-----UUUCAGUCGGAUGUUUACAGu
u-----	3	1,-1	

```

-----UUUCAGUCGGAUGUUUACAGC
-----      5      1,0
-----UUUCAGUCGGAUGUUUACAGC
a-----      19      1,0
-----UUUCAGUCGGAUGUUUACAGC
aa-----      5      1,0
-----UUUCAGUCGGAUGUUUACAGC
au-----      5      1,0

```

>hsa-mir-31 MA:8-28;mi:44-65 SRX018971

```

ggagaggAGGCAAGAUAGCUGGCAUAGCUguungaacugggaaccUGCUAUGCCAACAUAUUGCCAUcuuucc
(((((((.(((((.(((((((((.(((.....)))))))).)))))).))))))
-----AGGCAAGAUAGCUGGCAUA----- 2      0,-3
-----AGGCAAGAUAGCUGGCAUAG----- 5      0,-2
-----AGGCAAGAUAGCUGGCAUAGCU----- 38      0,0
-----AGGCAAGAUAGCUGGCAUAGCUa----- 3      0,0
-----AGGCAAGAUAGCUGGCAUAGCUu----- 2      0,0
-----AGGCAAGAUAGCUGGCAUAGCUG----- 6      0,1
-----AGGCAAGAUAGCUGGCAUAGCUGa----- 2      0,1
-----AGGCAAGAUAGCUGGCAUAGCUGU----- 10      0,2

```

>hsa-mir-3115 5p:6-25 SRX018971

```

ucugaAUAUGGGUUUACUAGUUGGUggugaaaucaugagucgccaacuauuaggccuuuauguccaga
(((((((.(((((((((.((((((((((((.....)))))))).)))))).))))))
-----AUAUGGGUUUACUAGUUGGUaa----- 2      0,0

```

>hsa-mir-3117 3p:46-66 SRX018971

```

cccuaaaagggccagacacauacgagucauauaagggaaggcauuAUAGGACUCAUAUAGUGCCAGguguuuuguggg
(((((((.(((((.(((((((((.((((((((((((.....)))))))).)))))).))))))
-----AUAGGACUCAUAUAGUGC-----
3      0,-3

```

>hsa-mir-3118-1 3p:44-66 SRX018971

```

cacacuacaauaauuuucauaaugcaaucacacauaaucaucuaUGUGACUGCAUUAUGAAAAUUCUuguagugug
(((((((.(((((((((.((((((((((((.....)))))))).)))))).))))))
-----UGUGACUGCAUUAUGAAAAUUC----- 5
0,-1

```

```
>hsa-mir-3118-2 3p:43-65 SRX018971
acacuacaauaauuuucauaaugcaaucacacauaaucauaUGUGACUGCAUUAUGAAAAUUCUuguagugu
(((((((((.(((((((((((((((((.(((((((((((((((((.(((((((((((((((((.(((((((((((((((((.
-----UGUGACUGCAUUAUGAAAAUUC----- 5
0,-1
```

```
>hsa-mir-3118-3 3p:44-66 SRX018971
cacacuacaauaauuuucauaaugcaaucacacauaaucauaUGUGACUGCAUUAUGAAAAUUCUuguagugug
(((((((((.(((((((((((((((((.(((((((((((((((((.(((((((((((((((((.(((((((((((((((((.
-----UGUGACUGCAUUAUGAAAAUUC----- 5
0,-1
```

```
>hsa-mir-3118-4 3p:44-66 SRX018971
cauacuacaauaauuuucauaaugcaaucacacacaucauccgUGUGACUGCAUUAUGAAAAUUCUucuagugug
(((((((((.(((((((((((((((((.(((((((((((((((((.(((((((((((((((((.(((((((((((((((((.
-----UGUGACUGCAUUAUGAAAAUUC----- 5
0,-1
```

```
>hsa-mir-3118-5 3p:45-67 SRX018971
cacacauacaauaauuuucauaaugcaaucacacacaucauccaUGUGACUGCAUUAUGAAAAUUCUucuagugug
(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.
-----UGUGACUGCAUUAUGAAAAUUC-----
5 0,-1
```

```
>hsa-mir-3118-6 3p:44-66 SRX018971
cauacuacaauaauuuucauaaugcaaucacacacaucauccgUGUGACUGCAUUAUGAAAAUUCUucuagugug
(((((((((.(((((((((((((((((.(((((((((((((((((.(((((((((((((((((.(((((((((((((((((.
-----UGUGACUGCAUUAUGAAAAUUC----- 5
0,-1
```

```
>hsa-mir-3120 3p:51-71 SRX018971
gucaugugacugccugucugugccugcuguacaggugagcggauguucugCACAGCAAGUGUAGACAGGCagacacauga
c
(((((((((.(((((((((((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.(((((.
)
-----CACAGCAAGUGUAGACAGGCaa-----
- 5 0,0
```

```
>hsa-mir-3121 3p:47-68 SRX018971
aaaugguuauguccuuugccuauucuaauuaagacaccuguaccuUAAAUAGAGUAGGCAAAGGACAgaaacauuu
((((((....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAAAUAGAGUAGGCAAAG-----
25 0,-4
-----UAAAUAGAGUAGGCAAAG-----
18 0,-3
```

```
>hsa-mir-3122 5p:10-31 SRX018971
accagcucuGUUGGGACAAGAGGACGGUCUUCuuuuggaaggaagaccucaucucuuguccgaagagagcuggu
(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.(((((((((((((.((((((((
-----GUUGGGACAAGAGGACGGUCUUC----- 2
0,1
```

```
>hsa-mir-3124 5p:7-27 SRX018971
gcggggcUUCGCGGGCGAAGGCAAAGUCgauuuccaaaagugacuuccucacucccgugaagucggc
(((.(((((((((((((((.(((((((((((((((.(((((((((((((((.(((((((((((((((.((((((((
-----UUCGCGGGCGAAGGCAAAGU----- 5 0,-1
-----UUCGCGGGCGAAGGCAAAGUC----- 5 0,0
-----UUCGCGGGCGAAGGCAAAGUCa----- 2 0,0
-----UUCGCGGGCGAAGGCAAAGUCG----- 4 0,1
```

```
>hsa-mir-3127 5p:11-33 SRX018971
ggccaggcccAUCAGGGCUUGUGGAAUGGGAAGgagaaggagcgcuuccccuucugcaggccugcuggguguggcu
(((((((((.(((((((((((((.(((((((((((((((.(((((((((((((((.(((((((((((((((.((((
-----AUCAGGGCUUGUGGAAUGGGAu-----
2 0,-2
-----AUCAGGGCUUGUGGAAUGGGA-----
7 0,-1
-----AUCAGGGCUUGUGGAAUGGGAa-----
9 0,-1
-----AUCAGGGCUUGUGGAAUGGGAAG-----
10 0,0
-----AUCAGGGCUUGUGGAAUGGGAAGa-----
3 0,0
-----AUCAGGGCUUGUGGAAUGGGAAGaa-----
2 0,0
```

`guacuuggGCAGUAGUGUAGAGAUGGUUUgccuguuaaugaauucaaacuaaucucuacacugcugcccaagagc
...(((((((((((((((((((((((((((...((...)))..))))))))).....)))))).
-----GCAGUAGUGUAGAGAUGGUU-----`

>hsa-mi r-3130-1 5p:13-33;3p:44-64 SRX018971

>hsa-mi r-3130-2 5p:13-33;3p:44-64 SRX018971

cuugucaugucuUACCCAGUCUCCGGUGCAGCCuugacaacagGCUGCACCGGAGACUGGGUAAGacaugacaag
(((.....)))))))))(((((.....)))))))))
-----UACCCAGUCUCCGGUGCA----- 3
0,-3
-----UACCCAGUCUCCGGUGCAGCCa----- 3
0,0
-----UACCCAGUCUCCGGUGCAGCCU----- 7
0,1
-----GCUGCACCGGAGACUGGGUAA----- 4

-----GCUGCACCGGAGACUGGGUAAG----- 2

 $0,1$

>hsa-mi r-3131 5p:4-26 SRX018971

gagUCGAGGACUGGUGAAGGGCCUuucccucagaccaaggcccuggccccagcuucucuc

$$(((\dots(((((((((\dots\dots))\dots)))))).\dots))))))$$

---UCGAGGACUGGUGGAAGGG----- 5 0,-4

---UCGAGGACUGGUGGAAGGGC----- 7 0,-3

---UCGAGGACUGGUGGAAGGGCaa----- 8 0,-3

---UCGAGGACUGGUGGAAGGGC_{au}----- 2 0,-3

---UCGAGGACUGGUGGAAGGGCC----- 24 0,-2

---UCGAGGACUGGUGGAAGGGCCa----- 2 0,-2

---UCGAGGACUGGUGGAAGGGCCaa----- 2 0,-2

---UCGAGGACUGGUGGAAGGGCCU----- 18 0,-1

---UCGAGGACUGGUGGAAGGGCCU_{aa}----- 5 0,-1

---UCGAGGACUGGUGGAAGGGCCU_{au}----- 5 0,-1

---UCGAGGACUGGUGGAAGGGCCUU----- 16 0.0

---UCGAGGACUGGUGGAAGGGCCUUa----- 2 0.0

---UCGAGGACUGGUUGGAAGGGCCUaa----- 4 0.0

---UCGAGGACUGGUGGAAGGGCCUUau----- 12 0.0

---UCGAGGACUGGUGGAAGGGCCUUU----- 13 0.1

---UCGAGGACUGGUGGAAGGGCCUUUa----- 3 0.1

---UCGAGGACUGGUGGAAGGGCCUUU--- 5 0.1

-----CGAGGACUGGUUGGAAGGGCCUU----- 5 1.0

>hsa-mir-3133 5p:10-31 SRX018971

cagaaauugUAAAGAACUCUAAAACCCAAUaguaaaaagacaaccuguugaguuuuaagaguucuuuauauauucug

-----UAAAGAACUCUAAAACCCAAU-----

11 0,0

-----AAAGAACUCUUA AAAACCCAAU-----

5 1.0

>hsa-mir-3134 3p:45-67 SRX018971

uguauc caauguguagucuuuuauccucacauggaguaaaaauaUGAUGGAUAAAAGACUACAUAUUggguaca

[illegible]

-----AUGGAUAAAAGACUACAUAUUG----- 2

----- 9 0,-1

>hsa-mir-3143 5p:4-28 SRX018971

```
uagAUAACAUGUAAAGCGCUUCUUCGcgguugggcuggagcaacucuuuacauguuucua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-AGAUACAUGUAAAGCGCUUCU----- 2 -2,-4
---AUAACAUGUAAAGCGCUUC----- 2 0,-5
---AUAACAUGUAAAGCGCUUC----- 5 0,-4
---AUAACAUGUAAAGCGCUUCU----- 2 0,-3
```

>hsa-mir-3144 5p:13-34;3p:48-69 SRX018971

```
aacuacacuuuaAGGGGACCAAAGAGAUUAUAUAGGauaucagcuaccuAUAUACCUGUUCGGUCUCUUUAaaguguagu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAGGGGACCAAAGAGAUUA-----
4 -1,-3
-----AGGGGACCAAAGAGAUUAUAG-----
12 0,0
-----AUAUACCUGUUCGGUCUCUUUA-----
2 0,0
-----UAUACCUGUUCGGUCUCUUU-----
5 1,-1
-----UAUACCUGUUCGGUCUCUUUAA-----
5 1,1
```

>hsa-mir-3145 3p:49-72 SRX018971

```
uauaugaguucaacuccaaacacucaaaaacucauuguugaauggaugAGAUUUUUGAGUGUUUGGAAUUGaacucgua
ua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))
-----AACUCCAAACACUCAAAC-----
-- 3
-----AACUCCAAACACUCAAACU-----
-- 17
-----AACUCCAAACACUCAAACUC-----
-- 2
-----AACUCCAAACACUCAAACUCA-----
-- 3
-----AGAUUUUUGAGUGUUUGGA-----
-- 2 0,-4
-----AGAUUUUUGAGUGUUUGGAA-----
```


auucaggccgguccugcagagaggaagcccuucugcuuacagguauuggAAGGGCUUCCUCUCUGCAGGACcggccugaa
u

-----AAGGGCUUCCUCUCUGCAGGAaa-----

-----AAGGGCUUCCUCUCUGCAGGAC-----

-----AAGGGCUUCCUCUCUGCAGGACa-----

auucaggccgguccugcagagaggaagcccuuccaauaccuguaagcagAAGGGCUUCCUCUCUGCAGGACcggccugaa
u

-----AAGGGCUUCCUCUCUGCAGGAaa-----

-----AAGGGCUUCCUCUCUGCAGGAC-----

-----AAGGGCUUCCUCUCUGCAGGACa-----

ccaaaguccUAGGAUACAAGUGUCGGCCACgggucgggacaguggcucacgccuguaaucccagcauuuugg

-----UAGGAUACAAGUGUCGGCCA----- 2

-----UAGGAUACAAGUGUCGGCCAa----- 4

ggaccugcccugggcuuucuagucucagcucuccuccagcucagcuggucaggAGAGCUGAGACUAGAAAGCCCAgggca
gguuc

-----AGAGCUGAGACUAGAAAGCC-----

-----CGCAGACAAUGCCUACUGGCC
UAAa----- 3 0,1

cugguaacaCUGGGGUUCUGAGACAGACAGUguuagcuccagaagcauugccugucuuaagaaccccuauuuaccag
((((((((((.(((((((((((((((((.(((((((.....)))))).)))))))))))))).))))))))))

 $2 \quad 0, -1$

6 0.0

uauauauagAGAUGUAUGGAUCUGUAUAUAUCuauauauauguguauauauagauuccauaaaucuauauag
(((((((((((...(((((((((((((((((((.((((...)))..))))))))))))))))..))))))))))

0,-5

0,-4

0, -4

0, -3

0, -3

0, -2

0, -2

 $0, -1$

ucccugcccugcccguuuucuccuuugauuuuugagaacAAAGGAGGAAUAGGCAGGCCAggga
((((((.(((((((((((((((((((((((..(....)).)))))))))))))))))).))))))

-----AAGGAGGAAAUAGGCAGGCC----- 2 1,-1

```

>hsa-mir-3174    5p:10-32    SRX018971
guuaccuggUAGUGAGUUAGAGAUUGCAGAGCCcugggcuccucagcaaaccuacuggaucugcauuuuuauucacaugca
ugguaau
(((((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----UAGUGAGUUAGAGAUGCA-----
----- 26  0,-5
-----UAGUGAGUUAGAGAUGCAG-----
----- 9   0,-4
-----UAGUGAGUUAGAGAUGCAGAG-----
----- 16  0,-2
-----UAGUGAGUUAGAGAUGCAGAGa-----
----- 5   0,-2
-----UAGUGAGUUAGAGAUGCAGAGaa-----
----- 3   0,-2
-----UAGUGAGUUAGAGAUGCAGAGCCuu-----
----- 2   0,0
-----AUCUGCAUUUUAAUUCACAU-----
----- 3

```

```

>hsa-mir-3176    3p:60-78    SRX018971
uggccucuccagucugcagcucccgccagccucgggccacacucccggaucgggagggACUGGCCUGGGACUACCGGgg
guggcggccg
(((((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----ACUGGCCUGGGACUACCGa--
----- 2   0,-1
-----ACUGGCCUGGGACUACCGG--
----- 2   0,0
-----ACUGGCCUGGGACUACCGGaa
----- 3   0,0

```

```

>hsa-mir-3179-1  3p:52-73    SRX018971
caggaucacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAAUUUAAACGUcugugau
ccug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))
-----UAGAAGGGGUGAAAUUUAAACa-----

```

----- 2 -1,-2
-----UAGAAGGGGUGAAAUUUAAACG-----
----- 5 -1,-1
-----UAGAAGGGGUGAAAUUUAAACGU-----
----- 5 -1,0
-----AGAAGGGGUGAAAUUUAAACGU-----
----- 6 0,0

>hsa-mir-3179-2 3p:52-73 SRX018971

caggauacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAAUUAAACGUcugugau
ccug

(((((((((((((((((((((((((.(((((((((((((((((((.....)))))))))..)))))))))
))))

-----UAGAAGGGGUGAAAUUUAAACa-----

----- 2 -1, -2

-----UAGAAGGGGUGAAAUUUAAACG-----

----- 5 -1,-1

-----UAGAAGGGGUGAAAUUUAAACGU-----

--- 5 -1,0

-----AGAAGGGGUGAAAUUUAAACGU-----

--- 6 0,0

>hsa-mir-3179-3 3p:52-73 SRX018971

caggaucacagacguuuuuuuacacuccuucugcugugccuuacagcaguAGAAGGGGUGAAAUUAAACGUcugugau
ccug

(((((((((((((((((((((((((.(((((((((((((((((((.....)))))))))..)))))))))
))))

-----UAGAAGGGGUGAAAUUAAACa-----

----- 2 -1, -2

-----UAGAAGGGGUGAAAUUUAAACG-----

----- 5 -1,-1

-----UAGAAGGGGUGAAAUUUAAACGU-----

--- 5 -1,0

-----AGAAGGGGUGAAAUUUAAACGU-----

--- 6 0,0

>hsa-mi r-3180-1 5p:18-42;3p:62-83 SRX018971

cagugcgacggggcggagCUUCCAGACGCUCCGCCCCACGUCGcaugcgccccgggaaagcgUGGGGCGGAGCUUCCGGAG

$$\dots(((\dots(((((((\dots(((\dots(((((((\dots((\dots)))))))))\dots))))))\dots))\dots))\dots$$

GCC----- 4 0,0

gcgacgggaggagCUUCCAGACGCUCCGCCCCACGUCGcaugcgccccgggaaagcgUGGGGCGGAGCUUCCGGAGGCCc
cgcccugc

$$\dots(((((((.(((((((.(.(((((((((((((((((((\dots)).\dots\dots\dots)))))))))\dots)).\dots\dots\dots))))))\dots$$

----- 4 0,0

cagugcgacgggaggagCUUCCAGACGCUCCGCCCCACGUCGcaugcgccccgggaaagcgUGGGGCGGAGCUUCCGGAG
GCCcggcccugcug

...(((.(.((((((.(((((((.(.((((((((((((((((((((((...)).....)))))))))))))))).)))))
)).))))))))...

GCC----- 4 0,0

gcuccgccccacgucgcaugcgccccgggaacgcgUGGGGCGGAGCUUCCGGAGgccccgcucugcugccgaccucugg
agcggagggugaagccuccggaugccagucccucaucgcugggccuggucgcgcugugggcgaagggggcgaggc

(((((((((.(((((((((.(((((.(((((.(((.(((((.(((.(((((((((((((.(((((((((.(((.....)))
)))))))))).)..)))))))).)).)).))))).....))))).))))))))...)))))))))

----- 4

0,3

gcuccgccccacgucgaugcgccccgggaacgcgUGGGGCGGAGCUUCCGGAGgccccgccucgucgcccgaaccugugg
agcggaggggugaagccuccggauccagucccucaucgcuggccccggucgcgcugugggcgaagggggcgaggc

4


```

-----UGCAAUUUAGUGUGUGUGAUA----- 2
-2,-3
-----UGCAAUUUAGUGUGUGUGAUAU---- 2
-2,-2
-----CAAUUUAGUGUGUGUGAUUAa--- 6 0,-2
-----CAAUUUAGUGUGUGUGAUAAU--- 44 0,-1
-----CAAUUUAGUGUGUGUGAUUAa-- 8 0,-1

```

>hsa-mir-3200 5p:13-34;3p:54-75 SRX018971

gguggucgagggAAUCUGAGAAGGCGCACAAGGUuuguguccaauacaguccaCACCUUGCGCUACUCAGGUCUGcucgu
gcccu

((.(((((((.(((((((...(((((((...(((((((...((...((...)).)))))))))))))).)))))).
))))))

```

-----GAAUCUGAGAAGGCGCACAAG-----
----- 2 -1,-2
-----GAAUCUGAGAAGGCGCACAAG-----
----- 5 -1,-1
-----GAAUCUGAGAAGGCGCACAAGGa-----
----- 3 -1,-1
-----GAAUCUGAGAAGGCGCACAAGGU-----
----- 31 -1,0
-----GAAUCUGAGAAGGCGCACAAGGUa-----
----- 2 -1,0
-----GAAUCUGAGAAGGCGCACAAGGUU-----
----- 11 -1,1
-----GAAUCUGAGAAGGCGCACAAGGUUU-----
----- 9 -1,2
-----AAUCUGAGAAGGCGCACAAG-----
----- 14 0,-1
-----AAUCUGAGAAGGCGCACAAGGU-----
----- 24 0,0
-----AAUCUGAGAAGGCGCACAAGGUa-----
----- 4 0,0
-----AAUCUGAGAAGGCGCACAAGGUU-----
----- 189 0,1
-----AAUCUGAGAAGGCGCACAAGGUUa-----
----- 6 0,1
-----AAUCUGAGAAGGCGCACAAGGUUU-----

```

```

----- 226 0,2
-----AAUCUGAGAAGGCGCACAAAGGUUUu-----
----- 7 0,2
-----AAUCUGAGAAGGCGCACAAAGGUUUG-----
----- 26 0,3
-----CACCUUGCGCUACUCAGG-----
----- 78 0,-4
-----CACCUUGCGCUACUCAGGU-----
----- 21 0,-3
-----CACCUUGCGCUACUCAGGUC-----
----- 36 0,-2
-----CACCUUGCGCUACUCAGGUCU-----
----- 223 0,-1
-----CACCUUGCGCUACUCAGGUCUa-----
----- 2 0,-1
-----CACCUUGCGCUACUCAGGUCUaa-----
----- 3 0,-1
-----CACCUUGCGCUACUCAGGUCUG-----
----- 7 0,0
-----CACCUUGCGCUACUCAGGUCUGa-----
----- 6 0,0
-----CACCUUGCGCUACUCAGGUCUGu-----
----- 7 0,0
-----CACCUUGCGCUACUCAGGUCUGC-----
----- 13 0,1
-----CACCUUGCGCUACUCAGGUCUGCa-----
----- 13 0,1
-----CACCUUGCGCUACUCAGGUCUGCau-----
----- 2 0,1
-----CACCUUGCGCUACUCAGGUCUGCUa-----
----- 2 0,2

```

>hsa-mir-320a 3p:48-69 SRX018971

```

gcuucgcuccccuccgccuucucuucccgguucuuucccgagucgggAAAAGCUGGGUUGAGAGGGCGAaaaaggaugag
gu
(((((((.....((((((((.....((((((((.....)))))).)))))).)))))).))))))
))
-----GCCUUCUCUUCCCGGUUCUUC-----

```

```

-- 3
-----GCCUUCUCUCCCCGGUUCUCCC-----
-- 2
-----GGAAAAGCUGGGUUGAGAGGGCGA-----
-- 2 -2,0
-----GGAAAAGCUGGGUUGAGAGGGCGAu-----
-- 2 -2,0
-----GAAAAGCUGGGUUGAGAGGG-----
-- 2 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
-- 10 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCG-----
-- 16 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGu-----
-- 11 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCGA-----
-- 14 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAuu-----
-- 3 -1,0
-----GAAAAGCUGGGUUGAGAGGGCGAA-----
-- 3 -1,1
-----AAAAGCUGGGUUGAGAGG-----
-- 326 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
-- 485 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
-- 50 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
-- 52 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
-- 10 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----
-- 1013 0,-2
-----AAAAGCUGGGUUGAGAGGGCu-----
-- 10 0,-2
-----AAAAGCUGGGUUGAGAGGGCG-----
-- 1590 0,-1
-----AAAAGCUGGGUUGAGAGGGCGu-----

```

```

-- 1095    0,-1
-----AAAAGCUGGGUUGAGAGGGCGuu-----
-- 245 0,-1
-----AAAAGCUGGGUUGAGAGGGCGA-----
-- 7527    0,0
-----AAAAGCUGGGUUGAGAGGGCGAu-----
-- 1640    0,0
-----AAAAGCUGGGUUGAGAGGGCGAuu-----
-- 262 0,0
-----AAAAGCUGGGUUGAGAGGGCGAA-----
-- 4415    0,1
-----AAAAGCUGGGUUGAGAGGGCGAAu-----
-- 1149    0,1
-----AAAAGCUGGGUUGAGAGGGCGAAuu-----
-- 38 0,1
-----AAAAGCUGGGUUGAGAGGGCGAAA-----
-- 2317    0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAu-----
-- 402 0,2
-----AAAAGCUGGGUUGAGAGGGCGAAAA-----
-- 424 0,3
-----AAAGCUGGGUUGAGAGGG-----
-- 44 1,-3
-----AAAGCUGGGUUGAGAGGGa-----
-- 8 1,-3
-----AAAGCUGGGUUGAGAGGGC-----
-- 46 1,-2
-----AAAGCUGGGUUGAGAGGGCG-----
-- 105 1,-1
-----AAAGCUGGGUUGAGAGGGCGu-----
-- 51 1,-1
-----AAAGCUGGGUUGAGAGGGCGuu-----
-- 13 1,-1
-----AAAGCUGGGUUGAGAGGGCGA-----
-- 453 1,0
-----AAAGCUGGGUUGAGAGGGCGAu-----
-- 86 1,0
-----AAAGCUGGGUUGAGAGGGCGAuu-----

```

```

-- 33 1,0
-----AAAGCUGGGUUGAGAGGGCGAA-----
-- 415 1,1
-----AAAGCUGGGUUGAGAGGGCGAAu-----
-- 168 1,1
-----AAAGCUGGGUUGAGAGGGCGAAuu-----
-- 9 1,1
-----AAAGCUGGGUUGAGAGGGCGAAA-----
-- 370 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAu-----
-- 59 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAuu-----
-- 4 1,2
-----AAAGCUGGGUUGAGAGGGCGAAAA-----
-- 108 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAu-----
-- 15 1,3
-----AAAGCUGGGUUGAGAGGGCGAAAAA-----
-- 13 1,4
-----AAGCUGGGUUGAGAGGGC-----
-- 3 2,-2
-----AAGCUGGGUUGAGAGGGCG-----
-- 10 2,-1
-----AAGCUGGGUUGAGAGGGCGu-----
-- 3 2,-1
-----AAGCUGGGUUGAGAGGGCGA-----
-- 62 2,0
-----AAGCUGGGUUGAGAGGGCGAu-----
-- 22 2,0
-----AAGCUGGGUUGAGAGGGCGAuu-----
-- 3 2,0
-----AAGCUGGGUUGAGAGGGCGAA-----
-- 119 2,1
-----AAGCUGGGUUGAGAGGGCGAAu-----
-- 48 2,1
-----AAGCUGGGUUGAGAGGGCGAAuu-----
-- 3 2,1
-----AAGCUGGGUUGAGAGGGCGAAA-----

```

```

-- 145 2,2
-----AAGCUGGGUUGAGAGGGCGAAAu-----
-- 78 2,2
-----AAGCUGGGUUGAGAGGGCGAAAuu-----
-- 5 2,2
-----AAGCUGGGUUGAGAGGGCGAAAA-----
-- 46 2,3
-----AAGCUGGGUUGAGAGGGCGAAAau-----
-- 2 2,3
-----AAGCUGGGUUGAGAGGGCGAAAAA-----
-- 15 2,4
-----AAGCUGGGUUGAGAGGGCGAAAAAa-----
-- 4 2,4
-----AAGCUGGGUUGAGAGGGCGAAAAAu-----
-- 4 2,4

```

>hsa-mir-320b-1 3p:39-60 SRX018971

```

aauuaaucccucucuucuaguucuuccuagagugaggAAAAGCUGGGUUGAGAGGGCAAacaaauuaacuaauuaauu
.....((((...((((((.....)))))).)))).....
-----GAAAAGCUGGGUUGAGAGGG-----
2 -1,-3
-----GAAAAGCUGGGUUGAGAGGGC-----
10 -1,-2
-----GAAAAGCUGGGUUGAGAGGGCAu-----
5 -1,-1
-----GAAAAGCUGGGUUGAGAGGGCAA-----
7 -1,0
-----AAAAGCUGGGUUGAGAGG-----
326 0,-4
-----AAAAGCUGGGUUGAGAGGG-----
485 0,-3
-----AAAAGCUGGGUUGAGAGGGa-----
50 0,-3
-----AAAAGCUGGGUUGAGAGGGaa-----
52 0,-3
-----AAAAGCUGGGUUGAGAGGGau-----
10 0,-3
-----AAAAGCUGGGUUGAGAGGGC-----

```


1013	0,-2	-AAAAGCUGGGUUGAGAGGGCu-----
10	0,-2	-AAAAGCUGGGUUGAGAGGGCA-----
308	0,-1	-AAAAGCUGGGUUGAGAGGGCAu-----
314	0,-1	-AAAAGCUGGGUUGAGAGGGCAuu-----
46	0,-1	-AAAAGCUGGGUUGAGAGGGCAA-----
569	0,0	-AAAAGCUGGGUUGAGAGGGCAAu-----
110	0,0	-AAAAGCUGGGUUGAGAGGGCAAuu-----
5	0,0	-AAAAGCUGGGUUGAGAGGGCAAA-----
104	0,1	-AAAAGCUGGGUUGAGAGGGCAAAu-----
17	0,1	-AAAGCUGGGUUGAGAGGG-----
44	1,-3	-AAAGCUGGGUUGAGAGGGa-----
8	1,-3	-AAAGCUGGGUUGAGAGGGC-----
46	1,-2	-AAAGCUGGGUUGAGAGGGCA-----
11	1,-1	-AAAGCUGGGUUGAGAGGGCAu-----
20	1,-1	-AAAGCUGGGUUGAGAGGGCAuu-----
3	1,-1	-AAAGCUGGGUUGAGAGGGCAA-----
51	1,0	-AAAGCUGGGUUGAGAGGGCAAu-----
8	1,0	-AAAGCUGGGUUGAGAGGGCAAA-----
10	1,1	-AAGCUGGGUUGAGAGGGC-----

GUUGAGAGGGCAu-----	314	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAuu-----	46	0,-1	-----AAAAGCUGG
GUUGAGAGGGCAA-----	569	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAu-----	110	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAuu-----	5	0,0	-----AAAAGCUGG
GUUGAGAGGGCAAA-----	104	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAAu-----	17	0,1	-----AAAAGCUGG
GUUGAGAGGGCAAAA-----	43	0,2	-----AAAAGCUGG
GUUGAGAGGGCAAAAa-----	12	0,2	-----AAAGCUGG
GUUGAGAGGG-----	44	1,-3	-----AAAGCUGG
GUUGAGAGGGa-----	8	1,-3	-----AAAGCUGG
GUUGAGAGGGC-----	46	1,-2	-----AAAGCUGG
GUUGAGAGGGCA-----	11	1,-1	-----AAAGCUGG
GUUGAGAGGGCAu-----	20	1,-1	-----AAAGCUGG
GUUGAGAGGGCAuu-----	3	1,-1	-----AAAGCUGG
GUUGAGAGGGCAA-----	51	1,0	-----AAAGCUGG
GUUGAGAGGGCAAu-----	8	1,0	-----AAAGCUGG
GUUGAGAGGGCAAA-----	10	1,1	-----AAAGCUGG
GUUGAGAGGGCAAAA-----	9	1,2	-----AAAGCUGG

```

GUUGAGAGGGCAAAAu----- 2 1,2
-----AAAGCUGG
GUUGAGAGGGCAAAAGu----- 2 1,3
-----AAGCUGG
GUUGAGAGGGC----- 3 2,-2
-----AAGCUGG
GUUGAGAGGGCA----- 4 2,-1
-----AAGCUGG
GUUGAGAGGGCAAu----- 2 2,0
-----AAGCUGG
GUUGAGAGGGCAAA----- 2 2,1
-----AAGCUGG
GUUGAGAGGGCAAAA----- 2 2,2

```

>hsa-mir-320c-1 3p:50-69 SRX018971

```

uuugcauuaaaaaugaggccuucucuuccaguucuccagagucaggAAAAGCUGGGUUGAGAGGGUagaaaaaaau
gauguagg

```

```

.(((((((.....(((((((.....(((((((.....))))).)))))).)))))).))))).
)))))))).

```

```

-----GAAAAGCUGGGUUGAGAGGG-----
----- 2 -1,-1
-----AAAAGCUGGGUUGAGAGG-----
----- 326 0,-2
-----AAAAGCUGGGUUGAGAGGG-----
----- 485 0,-1
-----AAAAGCUGGGUUGAGAGGGa-----
----- 50 0,-1
-----AAAAGCUGGGUUGAGAGGGaa-----
----- 52 0,-1
-----AAAAGCUGGGUUGAGAGGGau-----
----- 10 0,-1
-----AAAAGCUGGGUUGAGAGGGU-----
----- 72 0,0
-----AAAAGCUGGGUUGAGAGGGUu-----
----- 2 0,0
-----AAAAGCUGGGUUGAGAGGGUuu-----
----- 9 0,0
-----AAAAGCUGGGUUGAGAGGGUA-----

```

```

-----      3      0,1
-----AAAAGCUGGGUUGAGAGGGUAa-----
-----     21      0,1
-----AAAAGCUGGGUUGAGAGGGUAaa-----
-----      4      0,1
-----AAAAGCUGGGUUGAGAGGGUAau-----
-----      5      0,1
-----AAAAGCUGGGUUGAGAGGGUAu-----
-----     25      0,1
-----AAAAGCUGGGUUGAGAGGGUAG-----
-----      2      0,2
-----AAAGCUGGGUUGAGAGGG-----
-----     44      1,-1
-----AAAGCUGGGUUGAGAGGGa-----
-----      8      1,-1
-----AAAGCUGGGUUGAGAGGGUu-----
-----      4      1,0
-----AAAGCUGGGUUGAGAGGGUAa-----
-----      2      1,1

```

>hsa-mir-320c-2 3p:31-50 SRX018971

```

cuucucuuccaguucuccagaauugggAAAAGCUGGGUUGAGAGGGU
(((((((..(((((((.(((((.))))))..))))))..))))))..
-----GAAAAGCUGGGUUGAGAGGG-   2   -1,-1
-----AAAAGCUGGGUUGAGAGG--  326  0,-2
-----AAAAGCUGGGUUGAGAGGG-  485  0,-1
-----AAAAGCUGGGUUGAGAGGGa   50   0,-1
-----AAAAGCUGGGUUGAGAGGGaa  52   0,-1
-----AAAAGCUGGGUUGAGAGGGau  10   0,-1
-----AAAAGCUGGGUUGAGAGGGU   72   0,0
-----AAAAGCUGGGUUGAGAGGGUu    2   0,0
-----AAAAGCUGGGUUGAGAGGGUuu   9   0,0
-----AAAGCUGGGUUGAGAGGG-   44   1,-1
-----AAAGCUGGGUUGAGAGGGa    8   1,-1
-----AAAGCUGGGUUGAGAGGGUu    4   1,0

```

>hsa-mir-320d-1 3p:30-48 SRX018971

```

uucucguccaguucuccaaaguagAAAAGCUGGGUUGAGAGGA

```

```

(((((((.(((((((.(((.(....)).))).)))))).))))).
-----AAAAGCUGGGUUGAGAGG- 326 0,-1
-----AAAAGCUGGGUUGAGAGGA 44 0,0
-----AAAAGCUGGGUUGAGAGGAa 27 0,0
-----AAAAGCUGGGUUGAGAGGAaa 26 0,0
-----AAAAGCUGGGUUGAGAGGAau 11 0,0
-----AAAAGCUGGGUUGAGAGGAu 3 0,0
-----AAAGCUGGGUUGAGAGGA 11 1,0
-----AAAGCUGGGUUGAGAGGAa 5 1,0
-----AAAGCUGGGUUGAGAGGAaa 6 1,0
-----AAAGCUGGGUUGAGAGGAau 3 1,0

```

>hsa-mir-320d-2 3p:30-48 SRX018971

```

uucucuucccaguucucuuggagucaggAAAAGCUGGGUUGAGAGGA
(((((((.(((((((.(((((((....)))))).)))))).))))).
-----AAAAGCUGGGUUGAGAGG- 326 0,-1
-----AAAAGCUGGGUUGAGAGGA 44 0,0
-----AAAAGCUGGGUUGAGAGGAa 27 0,0
-----AAAAGCUGGGUUGAGAGGAaa 26 0,0
-----AAAAGCUGGGUUGAGAGGAau 11 0,0
-----AAAAGCUGGGUUGAGAGGAu 3 0,0
-----AAAGCUGGGUUGAGAGGA 11 1,0
-----AAAGCUGGGUUGAGAGGAa 5 1,0
-----AAAGCUGGGUUGAGAGGAaa 6 1,0
-----AAAGCUGGGUUGAGAGGAau 3 1,0

```

>hsa-mir-323 5p:16-37;3p:51-71 SRX018971

```

uugguacuuggagagAGGUGGUCCGUGGCGGUUCGCuuuauuuauggcgCACAUUACACGGUCGACCUCUuugcaguau
cuaauc
..(((((((.(((((((.(((((((....(((((.....)))))).)).....)))))).))))))
).....
-----CACAUUACACGGUCGACCU-----
----- 14 0,-2
-----CACAUUACACGGUCGACCUCU-----
----- 2 0,0

```

>hsa-mir-324 5p:16-38;3p:53-72 SRX018971

```

cugacuauggccucccCGCAUCCCCUAGGGCAUUGGUGUaaagcuggagacccACUGCCCCAGGUGCUGCUGGggguagua

```

guc

..(((((((..(((((((((.(.(((.((((.((((.((((.(.....)))))).)))))).)).)).))))))..))

-----CGCAUCCCCUAGGGCAUU-----
--- 140 0,-5
-----CGCAUCCCCUAGGGCAUUG-----
--- 447 0,-4
-----CGCAUCCCCUAGGGCAUUGa-----
--- 4 0,-4
-----CGCAUCCCCUAGGGCAUUGG-----
--- 116 0,-3
-----CGCAUCCCCUAGGGCAUUGGU-----
--- 339 0,-2
-----CGCAUCCCCUAGGGCAUUGGUa-----
--- 20 0,-2
-----CGCAUCCCCUAGGGCAUUGGUaa-----
--- 26 0,-2
-----CGCAUCCCCUAGGGCAUUGGUau-----
--- 4 0,-2
-----CGCAUCCCCUAGGGCAUUGGUu-----
--- 5 0,-2
-----CGCAUCCCCUAGGGCAUUGGUuu-----
--- 6 0,-2
-----CGCAUCCCCUAGGGCAUUGGUG-----
--- 136 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGa-----
--- 55 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGaa-----
--- 3 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGau-----
--- 3 0,-1
-----CGCAUCCCCUAGGGCAUUGGUGU-----
--- 694 0,0
-----CGCAUCCCCUAGGGCAUUGGUGUu-----
--- 49 0,0
-----CGCAUCCCCUAGGGCAUUGGUGUuu-----
--- 10 0,0
-----CGCAUCCCCUAGGGCAUUGGUGUA-----

```

--- 32  0,1
-----CGCAUCCCCUAGGGCAUUGGUGUAu-----
--- 4   0,1
-----CGCAUCCCCUAGGGCAUUGGUGUAA-----
--- 14  0,2
-----GCAUCCCCUAGGGCAUUG-----
--- 9   1,-4
-----GCAUCCCCUAGGGCAUUGG-----
--- 3   1,-3
-----GCAUCCCCUAGGGCAUUGGU-----
--- 7   1,-2
-----GCAUCCCCUAGGGCAUUGGUG-----
--- 2   1,-1
-----GCAUCCCCUAGGGCAUUGGUGa-----
--- 3   1,-1
-----GCAUCCCCUAGGGCAUUGGUGU-----
--- 6   1,0
-----CCACUGCCCCAGGUGCUGC-----
--- 3   -2,-3
-----CCACUGCCCCAGGUGCUGCU-----
--- 19  -2,-2
-----CCACUGCCCCAGGUGCUGCUaa-----
--- 2   -2,-2
-----CCACUGCCCCAGGUGCUGCUu-----
--- 2   -2,-2
-----CCACUGCCCCAGGUGCUGCUuu-----
--- 5   -2,-2
-----CCACUGCCCCAGGUGCUGCUG-----
--- 18  -2,-1
-----CCACUGCCCCAGGUGCUGCUGa-----
--- 2   -2,-1
-----CCACUGCCCCAGGUGCUGCUGu-----
--- 4   -2,-1
-----CCACUGCCCCAGGUGCUGCUGG-----
--- 3   -2,0
-----CCACUGCCCCAGGUGCUGCUGGa-----
--- 5   -2,0
-----CCACUGCCCCAGGUGCUGCUGGu-----

```



```

--- 4   -2,0
-----ACUGCCCCAGGUGCUGCU-----
--- 32  0,-2
-----ACUGCCCCAGGUGCUGCUG-----
--- 13  0,-1
-----ACUGCCCCAGGUGCUGCUGa-----
--- 5   0,-1
-----ACUGCCCCAGGUGCUGCUGG-----
--- 64  0,0
-----ACUGCCCCAGGUGCUGCUGGa-----
--- 6   0,0
-----ACUGCCCCAGGUGCUGCUGGu-----
--- 4   0,0
-----ACUGCCCCAGGUGCUGCUGGuu-----
--- 2   0,0
-----ACUGCCCCAGGUGCUGCUGGGa-----
--- 2   0,1
-----CUGCCCCAGGUGCUGCUGG-----
--- 2   1,0

```

>hsa-mir-326 3p:60-79 SRX018971

```

cucaucugucuguugggcuggaggcagggccuuugugaaggcggguggugcucagaucgCCUCUGGGCCCUUCCUCCAGc
cccgaggcggauuca

```

```

...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))..))))))))))...

```

```

-----CCUCUGGGCCCUUCCUCC---
----- 2   0,-2
-----CCUCUGGGCCCUUCCUCCA--
----- 4   0,-1
-----CCUCUGGGCCCUUCCUCCAuu
----- 2   0,-1
-----CCUCUGGGCCCUUCCUCCAG-
----- 17  0,0
-----CCUCUGGGCCCUUCCUCCAGa
----- 3   0,0
-----CCUCUGGGCCCUUCCUCCAGa
a----- 7   0,0
-----CCUCUGGGCCCUUCCUCCAGu

```


gcagcgcucugccc

....(((((((((.....))))).))))).))))).))))).

-----			-GCAAAGCACACGGCCUGCA-----
-----	3	0,-4	
-----			-GCAAAGCACACGGCCUGCAG----
-----	2	0,-3	
-----			-GCAAAGCACACGGCCUGCAGA----
-----	8	0,-2	
-----			-GCAAAGCACACGGCCUGCAGAA--
-----	3	0,-2	
-----			-GCAAAGCACACGGCCUGCAGAAa--
-----	5	0,-2	
-----			-GCAAAGCACACGGCCUGCAGAG--
-----	14	0,-1	
-----			-GCAAAGCACACGGCCUGCAGAGu-
-----	15	0,-1	
-----			-GCAAAGCACACGGCCUGCAGAGA-
-----	57	0,0	
-----			-GCAAAGCACACGGCCUGCAGAGAA
-----	2	0,0	
-----			-GCAAAGCACACGGCCUGCAGAGAA
a-----	2	0,0	
-----			-GCAAAGCACACGGCCUGCAGAGAu
-----	3	0,0	
-----			-GCAAAGCACACGGCCUGCAGAGAG
-----	11	0,1	
-----			-GCAAAGCACACGGCCUGCAGAGAG
u-----	2	0,1	
-----			-GCAAAGCACACGGCCUGCAGAGAG
G-----	2	0,2	
-----			-CAAAGCACACGGCCUGCA-----
-----	6	1,-4	
-----			-CAAAGCACACGGCCUGCAG----
-----	6	1,-3	
-----			-CAAAGCACACGGCCUGCAGA----
-----	2	1,-2	
-----			-CAAAGCACACGGCCUGCAGAG--

```

----- 12 1,-1
-----CAAAGCACACGGCCUGCAGAGu-
----- 2 1,-1
-----CAAAGCACACGGCCUGCAGAGA-
----- 88 1,0
-----CAAAGCACACGGCCUGCAGAGa
----- 9 1,0
-----CAAAGCACACGGCCUGCAGAGa
u----- 2 1,0
-----CAAAGCACACGGCCUGCAGAGu
----- 5 1,0
-----CAAAGCACACGGCCUGCAGAG
----- 46 1,1
-----CAAAGCACACGGCCUGCAGAG
a----- 12 1,1
-----CAAAGCACACGGCCUGCAGAG
u----- 15 1,1
-----CAAAGCACACGGCCUGCAGAG
G----- 29 1,2
-----CAAAGCACACGGCCUGCAGAG
Gu----- 7 1,2
-----AAAGCACACGGCCUGCAGAGA-
----- 17 2,0
-----AAAGCACACGGCCUGCAGAGu
----- 2 2,0
-----AAAGCACACGGCCUGCAGAG
----- 21 2,1
-----AAAGCACACGGCCUGCAGAG
a----- 10 2,1
-----AAAGCACACGGCCUGCAGAG
u----- 13 2,1
-----AAAGCACACGGCCUGCAGAG
G----- 23 2,2
-----AAAGCACACGGCCUGCAGAG
Gu----- 6 2,2

```

>hsa-mir-331 5p:26-47;3p:61-81 SRX018971

gaguuuugguuuuuguuuggguuuguuCUAGGUAUGGUCCCAGGGAUCCcagaucaaaccagGCCCCUGGGCCUAUCCUAGA

`. . . . . ((((((((((.(((((((((.(((.(((((((..(.....)..) )))))).))) )).)))))))).`

UUCUAGGUAUGGUCCCAGGGAAa	3	-2, -3	
UCUAGGUAUGGUCCCAGGGAUa	2	-1, -2	
CUAGGUAUGGUCCCAGGGAUa	2	0, -2	
CUAGGUAUGGUCCCAGGGAUaa	3	0, -2	
-----GCCCCUGGGCCUAUCCUA-----	32	0, -3	
-----GCCCCUGGGCCUAUCCUAG-----	40	0, -2	
-----GCCCCUGGGCCUAUCCUAGA-----	102	0, -1	
u-----GCCCCUGGGCCUAUCCUAGA-----	14	0, -1	
uu-----GCCCCUGGGCCUAUCCUAGA-----	5	0, -1	
A-----GCCCCUGGGCCUAUCCUAGA-----	259	0, 0	
Aa-----GCCCCUGGGCCUAUCCUAGA-----	180	0, 0	
Aaa-----GCCCCUGGGCCUAUCCUAGA-----	51	0, 0	
Aau-----GCCCCUGGGCCUAUCCUAGA-----	8	0, 0	
Au-----GCCCCUGGGCCUAUCCUAGA-----	67	0, 0	
Auu-----GCCCCUGGGCCUAUCCUAGA-----	5	0, 0	
-----CCCCUGGGCCUAUCCUAG-----	3	1, -2	
-----CCCCUGGGCCUAUCCUAGA-----	4	1, -1	
-----CCCCUGGGCCUAUCCUAGA-----			

u-----	2	1,-1	
			-----CCCCUGGGCCUAUCCUAGA
A-----	5	1,0	
			-----CCCCUGGGCCUAUCCUAGA
Au-----	9	1,0	
			-----CCCCUGGGCCUAUCCUAGA
Auu-----	13	1,0	

```

>hsa-mir-335      MA:16-38;mi:52-73      SRX018971
uguuuugagcgggggUCAAGAGCAUAACGAAAAAUGUuugucaaaaaccgUUUUUCAUUAUUGCUCUGACCuccucuc
auuugcuauauuca
.((..(((.(((((((.(((((((.(((((((.((.....)).)))))))).)))))))).)))))))).)))
)...))......
-----GUCAAGAGCAUAACGAAAAAU-----
----- 2    -1,-2
-----UCAAGAGCAUAACGAAA-----
----- 15   0,-5
-----UCAAGAGCAUAACGAAAA-----
----- 20   0,-4
-----UCAAGAGCAUAACGAAAA-----
----- 83   0,-3
-----UCAAGAGCAUAACGAAAAAa-----
----- 28   0,-3
-----UCAAGAGCAUAACGAAAAAaa-----
----- 4    0,-3
-----UCAAGAGCAUAACGAAAAAU-----
----- 1054   0,-2
-----UCAAGAGCAUAACGAAAAAUa-----
----- 367  0,-2
-----UCAAGAGCAUAACGAAAAAUaa-----
----- 4    0,-2
-----UCAAGAGCAUAACGAAAAAUu-----
----- 4    0,-2
-----UCAAGAGCAUAACGAAAAAUG-----
----- 1879   0,-1
-----UCAAGAGCAUAACGAAAAAUGa-----
----- 133  0,-1
-----UCAAGAGCAUAACGAAAAAUGaa-----

```

```

----- 4 0,-1
-----UCAAGAGCAUAACGAAAAAUGU-----
----- 1038 0,0
-----UCAAGAGCAUAACGAAAAAUGUa-----
----- 8 0,0
-----UCAAGAGCAUAACGAAAAAUGUaa-----
----- 3 0,0
-----UCAAGAGCAUAACGAAAAAUGUU-----
----- 4 0,1
-----CAAGAGCAUAACGAAAAAa-----
----- 2 1,-3
-----CAAGAGCAUAACGAAAAAUu-----
----- 2 1,-2
-----CAAGAGCAUAACGAAAAAUG-----
----- 5 1,-1
-----CAAGAGCAUAACGAAAAAUGa-----
----- 2 1,-1
-----CAAGAGCAUAACGAAAAAUGau-----
----- 2 1,-1
-----CAAGAGCAUAACGAAAAAUGU-----
----- 4 1,0
-----AAGAGCAUAACGAAAAAU-----
----- 20 2,-2
-----AAGAGCAUAACGAAAAAUa-----
----- 6 2,-2
-----AAGAGCAUAACGAAAAAUG-----
----- 31 2,-1
-----AAGAGCAUAACGAAAAAUGU-----
----- 23 2,0
-----GUUUUUCAUUAUUGCUCU-----
----- 8 -1,-4
-----GUUUUUCAUUAUUGCUCUGA-----
----- 4 -1,-2
-----GUUUUUCAUUAUUGCUCUGACC-----
----- 2 -1,0
-----UUUUUUCAUUAUUGCUCU-----
----- 24 0,-4
-----UUUUUUCAUUAUUGCUCUGA-----

```

```

----- 15 0,-2
-----UUUUUCAUUAUUGCUCUGAC-----
----- 13 0,-1
-----UUUUUCAUUAUUGCUCUGACa-----
----- 11 0,-1
-----UUUUUCAUUAUUGCUCUGACu-----
----- 2 0,-1
-----UUUUUCAUUAUUGCUCUGACC-----
----- 59 0,0
-----UUUUUCAUUAUUGCUCUGACCa-----
----- 2 0,0
-----UUUUUCAUUAUUGCUCUGACCaa-----
----- 2 0,0
-----UUUUUCAUUAUUGCUCUGACCUa-----
----- 2 0,1

```

>hsa-mir-337 5p:23-43;3p:61-82 SRX018971

guagucaguaguuggggguggGAACGGCUUCAUACAGGAGUUGaugcacaguuaucagCUCCUAUAUGAUGCCUUUCU
UCAuucccuucaa

```

.....((.((((((((((.(((.((((((.((((((((((.....))))).)))))).))))).))))).
)))))))).)..

```

```

-----GAACGGCUUCAUACAGGAG-----
----- 3 0,-2
-----GAACGGCUUCAUACAGGAGUaa-----
----- 3 0,0
-----CUCCUAUAUGAUGCCUUUCU
UC----- 6 0,0
-----UCCUAUAUGAUGCCUUUCU
UC----- 4 1,0

```

>hsa-mir-338 5p:6-27;3p:42-63 SRX018971

ucuccAACAUAUCCUGGUGCUGAGUGaugacucaggcgacUCCAGCAUCAGUGAUUUUGUUGaaga

```

(((.((((((.((((((((((((.....))))).)))))).))))).))))).

```

```

---CCAACAUAUCCUGGUGCU----- 3 -2,-5
---CCAACAUAUCCUGGUGCUGAG----- 2 -2,-2
----AACAUAUCCUGGUGCUGA----- 3 0,-3
----AACAUAUCCUGGUGCUGAG----- 7 0,-2
----AACAUAUCCUGGUGCUGAGU----- 8 0,-1

```



```

----- 31 0,-4
-----UCCCUGUCCUCCAGGAGCUa-----
----- 3 0,-4
-----UCCCUGUCCUCCAGGAGCUaa-----
----- 6 0,-4
-----UCCCUGUCCUCCAGGAGCUau-----
----- 2 0,-4
-----UCCCUGUCCUCCAGGAGCUC-----
----- 19 0,-3
-----UCCCUGUCCUCCAGGAGCUCa-----
----- 63 0,-2
-----UCCCUGUCCUCCAGGAGCUCaAa-----
----- 18 0,-2
-----UCCCUGUCCUCCAGGAGCUCaAaa-----
----- 4 0,-2
-----UCCCUGUCCUCCAGGAGCUCaAu-----
----- 5 0,-2
-----UCCCUGUCCUCCAGGAGCUCaAu-----
----- 18 0,-2
-----UCCCUGUCCUCCAGGAGCUCaAuu-----
----- 2 0,-2
-----UCCCUGUCCUCCAGGAGCUCAC-----
----- 48 0,-1
-----UCCCUGUCCUCCAGGAGCUCACa-----
----- 9 0,-1
-----UCCCUGUCCUCCAGGAGCUCACaAa-----
----- 2 0,-1
-----UCCCUGUCCUCCAGGAGCUCACu-----
----- 3 0,-1
-----UCCCUGUCCUCCAGGAGCUCACG-----
----- 81 0,0
-----UCCCUGUCCUCCAGGAGCUCACGa-----
----- 16 0,0
-----UCCCUGUCCUCCAGGAGCUCACGU-----
----- 16 0,1
-----CCUGUCCUCCAGGAGCUCa-----
----- 2 2,-2
-----CCUGUCCUCCAGGAGCUCAC-----

```

```

----- 7 2,-1
-----CCUGUCCUCCAGGAGCUCACa-----
----- 3 2,-1
-----CCUGUCCUCCAGGAGCUCAG-----
----- 18 2,0
-----CCUGUCCUCCAGGAGCUCACGa-----
----- 2 2,0
-----CCUGUCCUCCAGGAGCUCACGU-----
----- 7 2,1
-----UGAGCGCCUCGACGACAG-----
----- 25 0,-5
-----UGAGCGCCUCGACGACAGA-----
----- 50 0,-4
-----UGAGCGCCUCGACGACAGAG-----
----- 107 0,-3
-----UGAGCGCCUCGACGACAGAGa-----
----- 11 0,-3
-----UGAGCGCCUCGACGACAGAGu-----
----- 2 0,-3
-----UGAGCGCCUCGACGACAGAGC-----
----- 114 0,-2
-----UGAGCGCCUCGACGACAGAGCa-----
----- 27 0,-2
-----UGAGCGCCUCGACGACAGAGCaa-----
----- 22 0,-2
-----UGAGCGCCUCGACGACAGAGCau-----
----- 7 0,-2
-----UGAGCGCCUCGACGACAGAGCu-----
----- 13 0,-2
-----UGAGCGCCUCGACGACAGAGCuu-----
----- 2 0,-2
-----UGAGCGCCUCGACGACAGAGCC-----
----- 166 0,-1
-----UGAGCGCCUCGACGACAGAGCCa-----
----- 117 0,-1
-----UGAGCGCCUCGACGACAGAGCCaa-----
----- 10 0,-1
-----UGAGCGCCUCGACGACAGAGCCau-----

```

-----	56	0,-1	-----UGAGCGCCUCGACGACAGAGCCu-----
-----	74	0,-1	-----UGAGCGCCUCGACGACAGAGCCuu-----
-----	13	0,-1	-----UGAGCGCCUCGACGACAGAGCCG-----
-----	215	0,0	-----UGAGCGCCUCGACGACAGAGCCGa-----
-----	28	0,0	-----UGAGCGCCUCGACGACAGAGCCGaa-----
-----	9	0,0	-----UGAGCGCCUCGACGACAGAGCCGau-----
-----	6	0,0	-----UGAGCGCCUCGACGACAGAGCCGu-----
-----	40	0,0	-----UGAGCGCCUCGACGACAGAGCCGuu-----
-----	14	0,0	-----GAGCGCCUCGACGACAGA-----
-----	6	1,-4	-----GAGCGCCUCGACGACAGAG-----
-----	6	1,-3	-----GAGCGCCUCGACGACAGAGCaa-----
-----	2	1,-2	-----GAGCGCCUCGACGACAGAGCCGu-----
-----	3	1,0	-----AGCGCCUCGACGACAGAG-----
-----	50	2,-3	-----AGCGCCUCGACGACAGAGC-----
-----	5	2,-2	-----AGCGCCUCGACGACAGAGCC-----
-----	10	2,-1	-----AGCGCCUCGACGACAGAGCCG-----
-----	16	2,0	-----AGCGCCUCGACGACAGAGCCGa-----
-----	8	2,0	-----AGCGCCUCGACGACAGAGCCGu-----
-----	2	2,0	-----AGCGCCUCGACGACAGAGCCGG-----

-----GUGCAUUGCUGUUGCAUU-----


```

----- 260 0,-1
-----UUAUAAAGCAAUGAGACUGAUaa-----
----- 41 0,-1
-----UUAUAAAGCAAUGAGACUGAUau-----
----- 4 0,-1
-----UUAUAAAGCAAUGAGACUGAUU-----
----- 1185 0,0
-----UUAUAAAGCAAUGAGACUGAUUa-----
----- 66 0,0
-----UUAUAAAGCAAUGAGACUGAUUaa-----
----- 9 0,0
-----UUAUAAAGCAAUGAGACUGAUUau-----
----- 5 0,0
-----UUAUAAAGCAAUGAGACUGAUUu-----
----- 8 0,0
-----UUAUAAAGCAAUGAGACUGAUUG-----
----- 6 0,1
-----UAUAAAGCAAUGAGACUGA-----
----- 2 1,-2
-----UAUAAAGCAAUGAGACUGAU-----
----- 3 1,-1
-----UAUAAAGCAAUGAGACUGAUU-----
----- 12 1,0
-----AUAAGCAAUGAGACUGAU-----
----- 2 2,-1
-----AUAAGCAAUGAGACUGAUU-----
----- 2 2,0
-----AUAAGCAAUGAGACUGAUUa-----
----- 2 2,0
-----UCCGUCUCAGUUACUUUAUAG--
----- 2 0,-1
-----UCCGUCUCAGUUACUUUAUAGC-
----- 2 0,0
-----UCCGUCUCAGUUACUUUAUAGCC
----- 4 0,1

```

>hsa-mir-342 5p:19-39;3p:61-83 SRX018971

gaaacugggcuaaggugAGGGGUGCUAUCUGUGAUUGAgggacauggguuaauggaauugUCUCACACAGAAAUCGCACC

.....(((((.(((((((.((((((.(((((.(((.....((((((...((...)).)))))).)))))).))))))....)))))
).)))))))))....

```

-----AGGGGUGCUAUCUGUGAU-----
----- 5 0,-3
-----AGGGGUGCUAUCUGUGAUa-----
----- 7 0,-3
-----AGGGGUGCUAUCUGUGAUU-----
----- 29 0,-2
-----AGGGGUGCUAUCUGUGAUUGA-----
----- 46 0,0
-----AGGGGUGCUAUCUGUGAUUGAa-----
----- 8 0,0
-----AGGGGUGCUAUCUGUGAUUGAG-----
----- 86 0,1
-----AGGGGUGCUAUCUGUGAUUGAGa-----
----- 4 0,1
-----AGGGGUGCUAUCUGUGAUUGAGG-----
----- 33 0,2
-----AGGGGUGCUAUCUGUGAUUGAGGu-----
----- 3 0,2
-----AGGGGUGCUAUCUGUGAUUGAGGG-----
----- 8 0,3
-----AGGGGUGCUAUCUGUGAUUGAGGGA-----
----- 7 0,4
-----UCUCACACAGAAAUCGCA-----
----- 211 0,-5
-----UCUCACACAGAAAUCGCAa-----
----- 2 0,-5
-----UCUCACACAGAAAUCGCAC-----
----- 347 0,-4
-----UCUCACACAGAAAUCGCACC-----
----- 331 0,-3
-----UCUCACACAGAAAUCGCACC
a----- 2 0,-3
-----UCUCACACAGAAAUCGCACC
u----- 2 0,-3
-----UCUCACACAGAAAUCGCACC

```


C-----	517	0,-2	-----UCUCACACAGAAAUCGCACC
Ca-----	4	0,-2	-----UCUCACACAGAAAUCGCACC
Cuu-----	2	0,-2	-----UCUCACACAGAAAUCGCACC
CG-----	615	0,-1	-----UCUCACACAGAAAUCGCACC
CGa-----	47	0,-1	-----UCUCACACAGAAAUCGCACC
CGau-----	2	0,-1	-----UCUCACACAGAAAUCGCACC
CGU-----	2811	0,0	-----UCUCACACAGAAAUCGCACC
CGUa-----	53	0,0	-----UCUCACACAGAAAUCGCACC
CGUaa-----	17	0,0	-----UCUCACACAGAAAUCGCACC
CGUau-----	10	0,0	-----UCUCACACAGAAAUCGCACC
CGUu-----	116	0,0	-----UCUCACACAGAAAUCGCACC
CGUuu-----	14	0,0	-----UCUCACACAGAAAUCGCACC
CGUC-----	1297	0,1	-----UCUCACACAGAAAUCGCACC
CGUCu-----	566	0,1	-----UCUCACACAGAAAUCGCACC
CGUCA-----	488	0,2	-----CUCACACAGAAAUCGCAC-
-----	2	1,-4	-----CUCACACAGAAAUCGCACC
C-----	4	1,-2	-----CUCACACAGAAAUCGCACC
CG-----	2	1,-1	-----CUCACACAGAAAUCGCACC
CGU-----	14	1,0	-----CUCACACAGAAAUCGCACC

----- 295 0,-4
-----GCUGACUCCUAGUCCAGGG-----
----- 182 0,-3
-----GCUGACUCCUAGUCCAGGGa-----
----- 5 0,-3
-----GCUGACUCCUAGUCCAGGGaa-----
----- 6 0,-3
-----GCUGACUCCUAGUCCAGGGau-----
----- 3 0,-3
-----GCUGACUCCUAGUCCAGGGC-----
----- 165 0,-2
-----GCUGACUCCUAGUCCAGGGCa-----
----- 67 0,-2
-----GCUGACUCCUAGUCCAGGGCaa-----
----- 231 0,-2
-----GCUGACUCCUAGUCCAGGGCau-----
----- 84 0,-2
-----GCUGACUCCUAGUCCAGGGCU-----
----- 1114 0,-1
-----GCUGACUCCUAGUCCAGGGCUa-----
----- 269 0,-1
-----GCUGACUCCUAGUCCAGGGCUaa-----
----- 678 0,-1
-----GCUGACUCCUAGUCCAGGGCUau-----
----- 616 0,-1
-----GCUGACUCCUAGUCCAGGGCUu-----
----- 143 0,-1
-----GCUGACUCCUAGUCCAGGGCUuu-----
----- 85 0,-1
-----GCUGACUCCUAGUCCAGGGCUC-----
----- 327 0,0
-----GCUGACUCCUAGUCCAGGGCUCa-----
----- 80 0,0
-----GCUGACUCCUAGUCCAGGGCUCaa-----
----- 76 0,0
-----GCUGACUCCUAGUCCAGGGCUCau-----
----- 133 0,0
-----GCUGACUCCUAGUCCAGGGCUCu-----

```

----- 47 0,0
-----GCUGACUCCUAGUCCAGGGCUCuu-----
----- 22 0,0
-----GCUGACUCCUAGUCCAGGGCUCG-----
----- 2 0,1
-----GCUGACUCCUAGUCCAGGGCUCGa-----
----- 10 0,1
-----GCUGACUCCUAGUCCAGGGCUCGU-----
----- 2 0,2
-----CUGACUCCUAGUCCAGGGCU-----
----- 2 1,-1
-----UGACUCCUAGUCCAGGGCaa-----
----- 2 2,-2
-----UGACUCCUAGUCCAGGGCUCau-----
----- 4 2,0
-----GCCUGAACGAGGGGUCU-----
----- 4
-----GCCUGAACGAGGGGUCUG-----
----- 3
-----GCCUGAACGAGGGGUCUGG-----
----- 7
-----GCCUGAACGAGGGGUCUGGA-----
----- 4
-----GCCUGAACGAGGGGUCUGGAa-----
----- 2
-----GCCUGAACGAGGGGUCUGGAG-----
----- 11
-----GCCUGAACGAGGGGUCUGGAGa-----
----- 5
-----GCCUGAACGAGGGGUCUGGAGu-----
----- 7
-----CCCUGAACGAGGGGUCUGGAG-----
----- 3

```

>hsa-mir-346 5p:20-42 SRX018971

ggucucuguguugggcgucUGUCUGCCCGAUGCCUGCCUCUcuguugcucugaaggaggcaggggcugggccugcagcu
gccugggcagagcgg

.(.(((((((.(.(((.((((.((((.((((.((((.((((.((((.(.....)))))))))).)).)))))).))

-----	UGUCUGCCCCGCAUGCCUGC-----
-----	3 0,-4
-----	UGUCUGCCCCGCAUGCCUGCCU-----
-----	8 0,-2
-----	UGUCUGCCCCGCAUGCCUGCCUC-----
-----	24 0,-1
-----	UGUCUGCCCCGCAUGCCUGCCUCa-----
-----	3 0,-1
-----	UGUCUGCCCCGCAUGCCUGCCUCU-----
-----	32 0,0
-----	UGUCUGCCCCGCAUGCCUGCCUCUau-----
-----	2 0,0
-----	UGUCUGCCCCGCAUGCCUGCCUCUu-----
-----	3 0,0

ggccagcugugaguguuucuuUGGCAGUGUCUUAGCUGGUUGUugugagcaauaguaaggaagCAUUCAGCAAGUAUACU
GCCCUagaagugcugcacguuguggggcc
((((.((((((((.((((((((.((((((((.((((((((.(....((....)).....)))))))))))))).))))
)))..))))).)).))))).)).))))).

UGGCAGUGUCUUAGCUGG	3	0, -4
UGGCAGUGUCUUAGCUGGU	4	0, -3
UGGCAGUGUCUUAGCUGGU ^{aa}	2	0, -3
UGGCAGUGUCUUAGCUGGU ^{au}	2	0, -3
UGGCAGUGUCUUAGCUGGUU	23	0, -2
UGGCAGUGUCUUAGCUGGUU ^a	2	0, -2
UGGCAGUGUCUUAGCUGGUU ^{uu}	2	0, -2
UGGCAGUGUCUUAGCUGGUUG	45	0, -1
UGGCAGUGUCUUAGCUGGUUG ^a		

```

----- 20 0,-1
-----UGGCAGUGUCUUAGCUGGUUGaa-----
----- 4 0,-1
-----UGGCAGUGUCUUAGCUGGUUGU-----
----- 265 0,0
-----UGGCAGUGUCUUAGCUGGUUGUa-----
----- 3 0,0
-----UGGCAGUGUCUUAGCUGGUUGUaa-----
----- 13 0,0
-----UGGCAGUGUCUUAGCUGGUUGUau-----
----- 4 0,0
-----UGGCAGUGUCUUAGCUGGUUGUU-----
----- 31 0,1
-----UGGCAGUGUCUUAGCUGGUUGUa-----
----- 5 0,1
-----UGGCAGUGUCUUAGCUGGUUGUaa-----
----- 2 0,1
-----UGGCAGUGUCUUAGCUGGUUGUu-----
----- 11 0,1
-----UGGCAGUGUCUUAGCUGGUUGUuu-----
----- 2 0,1
-----GGCAGUGUCUUAGCUGGUUGU-----
----- 6 1,0
-----GGCAGUGUCUUAGCUGGUUGUU-----
----- 4 1,1
-----CAAUCAGCAAGUAUACU
GC----- 2 0,-3
-----CAAUCAGCAAGUAUACU
GCC----- 15 0,-2
-----CAAUCAGCAAGUAUACU
GCCa----- 3 0,-2
-----CAAUCAGCAAGUAUACU
GCCC----- 3 0,-1
-----CAAUCAGCAAGUAUACU
GCCCCU----- 26 0,0
-----CAAUCAGCAAGUAUACU
GCCCCUu----- 53 0,0
-----CAAUCAGCAAGUAUACU

```


-----GAUGAGGAUGGAUAGCAAGG-----


```

----- 4 -2,-5
-----GAUGAGGAUGGAUAGCAAGGA-----
----- 3 -2,-4
-----GAUGAGGAUGGAUAGCAAGGAA-----
----- 8 -2,-3
-----GAUGAGGAUGGAUAGCAAGGAa-----
----- 2 -2,-3
-----GAUGAGGAUGGAUAGCAAGGAaa-----
----- 2 -2,-3
-----GAUGAGGAUGGAUAGCAAGGAAG-----
----- 11 -2,-2
-----GAUGAGGAUGGAUAGCAAGGAAGC-----
----- 5 -2,-1
-----GAUGAGGAUGGAUAGCAAGGAAGCC-----
----- 2 -2,0
-----AUGAGGAUGGAUAGCAAGGAA-----
----- 2 -1,-3
-----AUGAGGAUGGAUAGCAAGGAa-----
----- 2 -1,-3
-----AUGAGGAUGGAUAGCAAGGAAGC-----
----- 2 -1,-1
-----UGAGGAUGGAUAGCAAGGAA-----
----- 2 0,-3
-----UGAGGAUGGAUAGCAAGGAAG-----
----- 5 0,-2
-----UGAGGAUGGAUAGCAAGGAAGC-----
----- 9 0,-1
-----UGAGGAUGGAUAGCAAGGAAGCau-----
----- 2 0,-1
-----UGAGGAUGGAUAGCAAGGAAGCC-----
----- 13 0,0
-----UGAGGAUGGAUAGCAAGGAAGCCa-----
----- 3 0,0
-----UGAGGAUGGAUAGCAAGGAAGCCu-----
----- 5 0,0
-----CCUCCGUGUUACCUg
UCCUCUAG----- 3 0,0
-----UCCGUGUUACCUg

```

UCCUCUAGa----- 3 2,0

>hsa-mir-3607 5p:12-33;3p:51-70 SRX018971

aagguugcgguGCAUGUGAUGAAGCAAUCAGUaugaaugaauucaugauACUGUAAACGCUUUCUGAUGuacuacuca
.....(((((.....((((.....((((.....((((.....)))))).....)))))).....)))))).....))...
-----UGCAUGUGAUGAAGCAAUCAGUA-----
2 -1,1
-----GCAUGUGAUGAAGCAAU-----
2 0,-4
-----GCAUGUGAUGAAGCAAUCAGUAU-----
4 0,2

>hsa-mir-3609 3p:51-74 SRX018971

guaacaguaacuuuuauucucauuuuccuuuucucuaccuuguagagaagCAAAGUGAUGAGUAAUACUGGCUGgagccc
(((.....((((.....((((.....((((.....((((.....)))))).....)))))).....)))))).....))...
-----GCAAAGUGAUGAGUAAUACU-----
30 -1,-5
-----GCAAAGUGAUGAGUAAUACUGG-----
5 -1,-3
-----GCAAAGUGAUGAGUAAUACUGGCU-----
4 -1,-1
-----CAAAGUGAUGAGUAAUACU-----
63 0,-5
-----CAAAGUGAUGAGUAAUACUGGCU-----
3 0,-1

>hsa-mir-361 5p:6-27;3p:45-67 SRX018971

ggagcUUAUCAGAAUCUCCAGGGGUACuuuauaauuucaaaaagUCCCCAGGUGUGAUUCUGAUUUgcuuc
((((.....((((.....((((.....((((.....)))))).....)))))).....)))))).....))...
----CUUAUCAGAAUCUCCAGG----- 3
-1,-5
----CUUAUCAGAAUCUCCAGGG----- 7
-1,-4
----CUUAUCAGAAUCUCCAGGGGa----- 2
-1,-3
----CUUAUCAGAAUCUCCAGGGGU----- 5
-1,-2
----CUUAUCAGAAUCUCCAGGGGUAC----- 4

-1,0	
-----UUAUCAGAAUCCAGGG-----	159
0,-4	
-----UUAUCAGAAUCCAGGGG-----	148
0,-3	
-----UUAUCAGAAUCCAGGGGa-----	13
0,-3	
-----UUAUCAGAAUCCAGGGGaa-----	8
0,-3	
-----UUAUCAGAAUCCAGGGGau-----	3
0,-3	
-----UUAUCAGAAUCCAGGGGU-----	367
0,-2	
-----UUAUCAGAAUCCAGGGGUA-----	659
0,-1	
-----UUAUCAGAAUCCAGGGGUAa-----	586
0,-1	
-----UUAUCAGAAUCCAGGGGUaaa-----	63
0,-1	
-----UUAUCAGAAUCCAGGGGUau-----	40
0,-1	
-----UUAUCAGAAUCCAGGGGUau-----	849
0,-1	
-----UUAUCAGAAUCCAGGGGUau-----	28
0,-1	
-----UUAUCAGAAUCCAGGGGUAC-----	1693
0,0	
-----UUAUCAGAAUCCAGGGGUACa-----	377
0,0	
-----UUAUCAGAAUCCAGGGGUACaa-----	76
0,0	
-----UUAUCAGAAUCCAGGGGUACau-----	31
0,0	
-----UUAUCAGAAUCCAGGGGUACU-----	56
0,1	
-----UUAUCAGAAUCCAGGGGUACUau-----	5
0,1	
-----UUAUCAGAAUCCAGGGGUACUU-----	3

0,3		
-----UAUCAGAAUCCAGGGGU-----		2
1,-2		
-----UAUCAGAAUCCAGGGGUAa-----		8
1,-1		
-----UAUCAGAAUCCAGGGGUAau-----		3
1,-1		
-----UAUCAGAAUCCAGGGGUAu-----		5
1,-1		
-----UAUCAGAAUCCAGGGGUAuu-----		4
1,-1		
-----UAUCAGAAUCCAGGGGUAC-----		10
1,0		
-----UAUCAGAAUCCAGGGGUACa-----		4
1,0		
-----UAUCAGAAUCCAGGGGUACU-----		6
1,1		
-----AGUCCCCCAGGUGUGAUUCUGAU-----		2
-2,-2		
-----UCCCCCAGGUGUGAUUCU-----		11
0,-5		
-----UCCCCCAGGUGUGAUUCUGA-----		12
0,-3		
-----UCCCCCAGGUGUGAUUCUGAa-----		3
0,-3		
-----UCCCCCAGGUGUGAUUCUGAaa-----		6
0,-3		
-----UCCCCCAGGUGUGAUUCUGAU-----		16
0,-2		
-----UCCCCCAGGUGUGAUUCUGAUa-----		6
0,-2		
-----UCCCCCAGGUGUGAUUCUGAUU-----		41
0,-1		
-----UCCCCCAGGUGUGAUUCUGAUUU-----		51
0,0		
-----UCCCCCAGGUGUGAUUCUGAUUUUG-----		19
0,1		
-----UCCCCCAGGUGUGAUUCUGAUUUUGC-----		18

0,2	-----CCCCCAGGUGUGAUUCUGAUUU-----	2
1,0	-----CCCCCAGGUGUGAUUCUGAUUUUG----	16
1,1	-----CCCCCAGGUGUGAUUCUGAUUUUGC---	17
1,2	-----CCCCCAGGUGUGAUUCUGAUUU-----	2
2,0		

>hsa-mir-3611 3p:52-72 SRX018971

```

agcaggucuaauaagaauuucuuuuucucacaauuaugaaagaaaagaaaUUGUGAAGAAAGAAAUUCUUAcuaguuuu
gcu
(((((((.(((.(((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----AAGAAUUCUUUUUCUUCACAAU-----
--- 3

```

>hsa-mir-3613 5p:16-37;3p:53-76 SRX018971

```

ugguuggguuuggauUGUUGUACUUUUUUUUUUGUUCguugcauuuuuaggaACAAAAAAAAAGCCCAACCCUUCacac
cacuuca
.(((((((.(((.(((((((((((((((((((.((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
-----UGUUGUACUUUUUUUUU-----
----- 4 0,-4
-----UGUUGUACUUUUUUUUUUG-----
----- 4 0,-3
-----UGUUGUACUUUUUUUUUUG-----
----- 8 0,-2
-----UGUUGUACUUUUUUUUUUGUaa-----
----- 5 0,-2
-----UGUUGUACUUUUUUUUUUGUU-----
----- 13 0,-1
-----UGUUGUACUUUUUUUUUUGUua-----
----- 3 0,-1
-----UGUUGUACUUUUUUUUUUGUuaa-----
----- 5 0,-1
-----UGUUGUACUUUUUUUUUUGUUu-----

```

```

----- 3   0,-1
-----UGUUGUACUUUUUUUUUGUUC-----
----- 47  0,0
-----UGUUGUACUUUUUUUUUGUUCu-----
----- 3   0,0
-----ACAAAAAAAAAGCCCAAC-----
----- 18  0,-5
-----ACAAAAAAAAAGCCCAACa-----
----- 2   0,-5
-----ACAAAAAAAAAGCCCAACC-----
----- 15  0,-4
-----ACAAAAAAAAAGCCCAACCC-----
----- 3   0,-3
-----ACAAAAAAAAAGCCCAACCCU-----
----- 44  0,-2
-----ACAAAAAAAAAGCCCAACCCUU-----
----- 12  0,-1
-----ACAAAAAAAAAGCCCAACCCUUu-----
----- 8   0,-1

```

>hsa-mir-3614 5p:15-37;3p:53-75 SRX018971

```

gguucugucuugggCCACUUGGAUCUGAAGGCUGCCCcuuugcucucuggggUAGCCUUCAGAUUCUUGGUGUUUugaauu
cuuacu

```

```

.....(..(..(((.((((((((((((((((((((.....))))))))))))))))))..))..))...
.....
-----UAGCCUUCAGAUUCUUGGUGU-----
----- 2   0,-3
-----UAGCCUUCAGAUUCUUGGUGUU-----
----- 3   0,-2
-----UAGCCUUCAGAUUCUUGGUGUUU-----
----- 10  0,-1
-----UAGCCUUCAGAUUCUUGGUGUUUa-----
----- 3   0,-1
-----UAGCCUUCAGAUUCUUGGUGUUUU-----
----- 3   0,0
-----AGCCUUCAGAUUCUUGGUGUU-----
----- 2   1,-2

```



```

-----AAUUGCACGGUAUCCAUCUGUA---- 38
0,0
-----AAUUGCACGGUAUCCAUCUGUAu--- 6
0,0
-----AAUUGCACGGUAUCCAUCUGUAA--- 34
0,1
-----AUUGCACGGUAUCCAUCU----- 10
1,-3
-----AUUGCACGGUAUCCAUCUGUAA--- 5
1,1

```

>hsa-mir-3646 3p:58-79 SRX018971

```

uucaguagguuggguucauuucauuucaugacaacccuauauggggaaauguugugAAAAUGAAAUGAGCCCAGCCCAu
ugaa
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----UUCAUUUCAUUUUAUGACAA-----
---- 2

```

>hsa-mir-3647 5p:15-37;3p:62-84 SRX018971

```

uugcuuucacagcCUGAAGUGAUGAUUCACAUUCAUgucucuucucugauaaaauucuugaAGAAAAUUUUUGUGUGUCU
GAUCaggccucuagagggcag
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
..))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----AGAAAAUUUUUGUGUGUCU
----- 2 0,-4

```

>hsa-mir-365-1 3p:56-77 SRX018971

```

accgcagggaaaaugagggacuuuuggggggcagauguguuuccauuccacuaucAUAAUGCCCCUAAAAAUCCUUAUugc
ucuugca
...((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)).
-----GAGGGACUUUUGGGGGCAGAUGUGU-----
----- 2
-----AGGGACUUUUGGGGGCAGA-----
----- 17
-----AGGGACUUUUGGGGGCAGAU-----
----- 6

```

```

-----AGGGACUUUUGGGGGCAGAUaa-----
----- 3
-----AGGGACUUUUGGGGGCAGAU-----
----- 4
-----AGGGACUUUUGGGGGCAGAU-----
----- 32
-----AGGGACUUUUGGGGGCAGAUa-----
----- 5
-----AGGGACUUUUGGGGGCAGAUaa-----
----- 2
-----AGGGACUUUUGGGGGCAGAUau-----
----- 4
-----AGGGACUUUUGGGGGCAGAUu-----
----- 4
-----AGGGACUUUUGGGGGCAGAU-----
----- 7
-----AGGGACUUUUGGGGGCAGAUga-----
----- 4
-----AGGGACUUUUGGGGGCAGAU-----
----- 17
-----GGGACUUUUGGGGGCAGAUga-----
----- 2
-----AUA AUGCCCCUAAAAAUCC-----
----- 2 -1,-4
-----AUA AUGCCCCUAAAAAUCCUUA-----
----- 5 -1,-1
-----AUA AUGCCCCUAAAAAUCCUUAU-----
----- 2 -1,0
-----UAAUGCCCCUAAAAAUCC-----
----- 143 0,-4
-----UAAUGCCCCUAAAAAUCCa-----
----- 2 0,-4
-----UAAUGCCCCUAAAAAUCCU-----
----- 153 0,-3
-----UAAUGCCCCUAAAAAUCCUa-----
----- 3 0,-3
-----UAAUGCCCCUAAAAAUCCUaa-----
----- 2 0,-3

```

```

-----UAAUGCCCCUAAAAAUCCUau-----
----- 13  0,-3
-----UAAUGCCCCUAAAAAUCCUU-----
----- 591 0,-2
-----UAAUGCCCCUAAAAAUCCUUu-----
----- 71  0,-2
-----UAAUGCCCCUAAAAAUCCUUuu-----
----- 22  0,-2
-----UAAUGCCCCUAAAAAUCCUUA-----
----- 685 0,-1
-----UAAUGCCCCUAAAAAUCCUUAa-----
----- 243 0,-1
-----UAAUGCCCCUAAAAAUCCUUAaa-----
----- 19  0,-1
-----UAAUGCCCCUAAAAAUCCUUAau-----
----- 3   0,-1
-----UAAUGCCCCUAAAAAUCCUUAU-----
----- 6675   0,0
-----UAAUGCCCCUAAAAAUCCUUAUa-----
----- 139 0,0
-----UAAUGCCCCUAAAAAUCCUUAUaa-----
----- 10  0,0
-----UAAUGCCCCUAAAAAUCCUUAUau-----
----- 4   0,0
-----UAAUGCCCCUAAAAAUCCUUAUU-----
----- 118 0,1
-----UAAUGCCCCUAAAAAUCCUUAUua-----
----- 9   0,1
-----AAUGCCCCUAAAAAUCCUU-----
----- 4   1,-2
-----AAUGCCCCUAAAAAUCCUUA-----
----- 5   1,-1
-----AAUGCCCCUAAAAAUCCUUAa-----
----- 3   1,-1
-----AAUGCCCCUAAAAAUCCUUAU-----
----- 39  1,0
-----AAUGCCCCUAAAAAUCCUUAUa-----
----- 2   1,0

```

-----AAUGCCCCUAAAAAUCCUUAUU-----
----- 9 1,1
-----AUGCCCCUAAAAAUCCUUA-----
----- 2 2,-1
-----AUGCCCCUAAAAAUCCUUAU-----
----- 15 2,0
-----AUGCCCCUAAAAAUCCUUAUUG-----
----- 5 2,2

>hsa-mi r-365-2 mi:29-50;MA:68-89 SRX018971

agaguguucaaggacagcaagaaaaaugAGGGACUUCAGGGGCAGCUGUguuuucugacucagucaUAAUGCCCCUAAA
AAUCCUUAUuguuucuugcagugugcaucggg

.....(.(((((((((((.(((((((((..(((.((((((((((((.(((...)))..)))))))))
..)))))))))..))))))..)))..).....

-----GAGGGACUUUCAGGGGCAG-----
 ----- 19 -1,-4
 -----GAGGGACUUUCAGGGGCAGa-----
 ----- 2 -1,-4
 -----GAGGGACUUUCAGGGGCAGC-----
 ----- 17 -1,-3
 -----GAGGGACUUUCAGGGGCAGCU-----
 ----- 75 -1,-2
 -----GAGGGACUUUCAGGGGCAGCUaa-----
 ----- 5 -1,-2
 -----GAGGGACUUUCAGGGGCAGCUGu-----
 ----- 4 -1,0
 -----GAGGGACUUUCAGGGGCAGCUGUG-----
 ----- 2 -1,1
 -----GAGGGACUUUCAGGGGCAGCUGUGU-----
 ----- 2 -1,2
 -----AGGGACUUUCAGGGGCAG-----
 ----- 4 0,-4
 -----AGGGACUUUCAGGGGCAGC-----
 ----- 5 0,-3
 -----AGGGACUUUCAGGGGCAGCU-----
 ----- 18 0,-2
 -----AGGGACUUUCAGGGGCAGCUu-----
 ----- 2 0,-2

```

-----AGGGACUUUCAGGGGCAGCUGU-----
----- 6 0,0
-----AGGGACUUUCAGGGGCAGCUGUaa-----
----- 3 0,0
-----AGGGACUUUCAGGGGCAGCUGUau-----
----- 3 0,0
-----AGGGACUUUCAGGGGCAGCUGUu-----
----- 4 0,0
-----AGGGACUUUCAGGGGCAGCUGUuu-----
----- 2 0,0
-----AGGGACUUUCAGGGGCAGCUGUG-----
----- 8 0,1
-----AGGGACUUUCAGGGGCAGCUGUGU-----
----- 9 0,2
-----GGGACUUUCAGGGGCAGC-----
----- 3 1,-3
-----GGGACUUUCAGGGGCAGCa-----
----- 2 1,-3
-----GGGACUUUCAGGGGCAGCU-----
----- 2 1,-2
-----AUA AUGCCCCUAAA
AAUCC----- 2 -1,-4
-----AUA AUGCCCCUAAA
AAUCCUUA----- 5 -1,-1
-----AUA AUGCCCCUAAA
AAUCCUUAU----- 2 -1,0
-----UA AUGCCCCUAAA
AAUCC----- 143 0,-4
-----UA AUGCCCCUAAA
AAUCCa----- 2 0,-4
-----UA AUGCCCCUAAA
AAUCCU----- 153 0,-3
-----UA AUGCCCCUAAA
AAUCCUa----- 3 0,-3
-----UA AUGCCCCUAAA
AAUCCUaa----- 2 0,-3
-----UA AUGCCCCUAAA
AAUCCUau----- 13 0,-3

```

-----	UAAUGCCCCUAAA
AAUCCUU----- 591 0,-2	
-----	UAAUGCCCCUAAA
AAUCCUUu----- 71 0,-2	
-----	UAAUGCCCCUAAA
AAUCCUUuu----- 22 0,-2	
-----	UAAUGCCCCUAAA
AAUCCUUA----- 685 0,-1	
-----	UAAUGCCCCUAAA
AAUCCUUAa----- 243 0,-1	
-----	UAAUGCCCCUAAA
AAUCCUUAaa----- 19 0,-1	
-----	UAAUGCCCCUAAA
AAUCCUUAau----- 3 0,-1	
-----	UAAUGCCCCUAAA
AAUCCUUAU----- 6675 0,0	
-----	UAAUGCCCCUAAA
AAUCCUUAUa----- 139 0,0	
-----	UAAUGCCCCUAAA
AAUCCUUAUaa----- 10 0,0	
-----	UAAUGCCCCUAAA
AAUCCUUAUau----- 4 0,0	
-----	UAAUGCCCCUAAA
AAUCCUUAUU----- 118 0,1	
-----	UAAUGCCCCUAAA
AAUCCUUAUUa----- 9 0,1	
-----	AAUGCCCCUAAA
AAUCCUU----- 4 1,-2	
-----	AAUGCCCCUAAA
AAUCCUUA----- 5 1,-1	
-----	AAUGCCCCUAAA
AAUCCUUAa----- 3 1,-1	
-----	AAUGCCCCUAAA
AAUCCUUAU----- 39 1,0	
-----	AAUGCCCCUAAA
AAUCCUUAUa----- 2 1,0	
-----	AAUGCCCCUAAA
AAUCCUUAUU----- 9 1,1	

```

-----AUGCCCCUAAA
AAUCCUUA----- 2 2,-1
-----AUGCCCCUAAA
AAUCCUUAU----- 15 2,0
-----AUGCCCCUAAA
AAUCCUUAUUG----- 5 2,2

```

```

>hsa-mir-3653 3p:75-92 SRX018971
ucccuggggaccccuggcagccccuccugaugauucuuuccugagcacgcucaugaugagcaaacugagccuCUAAGA
AGUUGACUGAAGgggcugcuuccccaagga
(((.((((((.....((((((((((.....((((((.....((((((.....)))))))))).)))
)).....).))))))))))))))))))))))
-----CCUCCUGAUGAUUCUUCU-----
----- 3
-----CCUCCUGAUGAUUCUUCUCCU-----
----- 4
-----CCUCCUGAUGAUUCUUCUCCUGA-----
----- 4
-----CCUCCUGAUGAUUCUUCUCCUGAG-----
----- 3

```

```

>hsa-mir-3660 3p:60-80 SRX018971
gaaagaagaacuggacaaaauaaaaugcucucucugucauuguaauagucauaugggcACUGACAGGAGAGCAUUUUGA
cuuugucaagugugucugcu
...(((...(((.((((((.((((((((((((((((((((((.(((.(((.....)))..)))..))))))))))))))
.)))).)))).)))).))..
-----ACUGACAGGAGAGCAUUUUGA
----- 6 0,0

```

```

>hsa-mir-3661 5p:21-42 SRX018971
caccuucucgcagaggcucuUGACCUGGGACUCGGACAGCUGcuugcacucguucagcugcugauccacugguccagcu
ccuuggugaacaccuu
.....((((((.((((((.((((((.((((((.((((((.((((((.....)))..)))..))))))))))))))..
))))..)))).)))).
-----UGACCUGGGACUCGGACAGCUGu-----
----- 2 0,0

```

```

>hsa-mir-3664 5p:21-42 SRX018971

```

[illegible]

Sequence	Length	Score
AACUCUGUCUUCACUCAUGA	14	0, -2
AACUCUGUCUUCACUCAUGAGU	15	0, 0
UCUCAGGAGUAAAGACAG	12	
UCUCAGGAGUAAAGACAGA	13	
UCUCAGGAGUAAAGACAGAG	14	
UCUCAGGAGUAAAGACAGAGU	15	
UCUCAGGAGUAAAGACAGAGUa	16	
UCUCAGGAGUAAAGACAGAGUa	16	
UCUCAGGAGUAAAGACAGAGUU	16	
UCUCAGGAGUAAAGACAGAGUU	16	
UCAGGAGUAAAGACAGAG	13	
UCAGGAGUAAAGACAGAGUU	15	
UCAGGAGUAAAGACAGAGUU	15	
CAGGAGUAAAGACAGAGUU	14	
CAGGAGUAAAGACAGAGUU	14	
AGGAGUAAAGACAGAGUU	13	

>hsa-mir-3672 5p:15-37 SRX018971
 uuuuugugauuaccAUGAGACUCAUGUAAAACAUCUuagacuauuacaagauguuuuauagagucucaugauaaucaaaa
 ga
 (((((((((((((.(((((((((((.(((((((((((.....))))))))))))))))))))))))))))))))))
))
 -----AUGAGACUCAUGUAAAACAUa-----
 -- 2 0,-3
 -----AUGAGACUCAUGUAAAACAUCU-----
 -- 3 0,-1

>hsa-mir-3676 3p:60-79 SRX018971
 uugguuaaagcgccugucuaguuacaggagauccuggguucgaauccagcgugccuCCGUGUUUCCCCACGCUUu
 gccaa
 .((((((((((((((.(((((((((((.(((((((((((.....))))))))))))))))))))))))))))))))))
)))))).

>hsa-mir-3679 5p:6-28;3p:44-65 SRX018971
 cguggUGAGGAUAUGGCAGGGAAGGGGAguuucccucuaauuccCUUCCCCCAGUAAUCUUAUCaug
 (((((((((((((((((.(((((((((((.(((((((((((.....))))))))))))))))))))))))))))))))))
 -----CUUCCCCCAGUAAUCUUAUa--- 2 0,-1

>hsa-mir-3687 3p:35-58 SRX018971
 cgcgcgugcgcccgagcgcgcccgugguccuCCCGGACAGGCGUUCGUGCGACUgug
 (((((((((((((((((.(((((((((((.(((((((((((.....))))))))))))))))))))))))))))))))))
 -----CUCCCGGACAGGCGUUCGUGCGAC----- 2 -2,-2
 -----CUCCCGGACAGGCGUUCGUGCGAC---- 2 -2,-1
 -----CCCGGACAGGCGUUCGUGC----- 2 0,-5
 -----CCCGGACAGGCGUUCGUGCGAC----- 3 0,-2
 -----CCCGGACAGGCGUUCGUGCGAC---- 3 0,-1
 -----CCGGACAGGCGUUCGUGCGAC----- 4 1,-2

>hsa-mir-3688 3p:60-81 SRX018971
 ucuucacuuucaaagaguggcaaagucuuuccauauguauguauguaugucuguuacacaUAUGGAAAGACUUUGCCACUC
 Uuuaaagugaaga
 (((.(((((((((((.(((((((((((.....))))))))))))))))))))))))))))))))))
))).))))))))))
 -----UAUGGAAAGACUUUGCCACU-----

0,-2

```

>hsa-mir-374a    MA:12-33;mi:42-63    SRX018971
uacaucggccaUUAUAAUACAACCUGAUAGUGuuauagcaCUUAUCAGAUUGUAUUGUAAUUGucugugua
(((((((((.((((((((((((((.((((((((((((((...))))))))))))).)))))))))))).))))))
-----AUUAUAAUACAACCUGAUAGU----- 2
    -1,-1
-----AUUAUAAUACAACCUGAUAGUG----- 16
    -1,0
-----AUUAUAAUACAACCUGAUAGUGa----- 11
    -1,0
-----UUAUAAUACAACCUGAU----- 61
    0,-4
-----UUAUAAUACAACCUGAUAA----- 648
    0,-3
-----UUAUAAUACAACCUGAUAAa----- 26
    0,-3
-----UUAUAAUACAACCUGAUAAaa----- 3
    0,-3
-----UUAUAAUACAACCUGAUAG----- 294
    0,-2
-----UUAUAAUACAACCUGAUAGa----- 35
    0,-2
-----UUAUAAUACAACCUGAUAGaa----- 3
    0,-2
-----UUAUAAUACAACCUGAUAGU----- 2371
    0,-1
-----UUAUAAUACAACCUGAUAGUa----- 76
    0,-1
-----UUAUAAUACAACCUGAUAGUaa----- 49
    0,-1
-----UUAUAAUACAACCUGAUAGUuu----- 3
    0,-1
-----UUAUAAUACAACCUGAUAGUG----- 2526
    0,0
-----UUAUAAUACAACCUGAUAGUGa----- 923
    0,0
-----UUAUAAUACAACCUGAUAGUGaa----- 24
    0,0
-----UUAUAAUACAACCUGAUAGUGU----- 164

```

0,1	-----UAUAAUACAACCUGAUAA-----	2
1,-3	-----UAUAAUACAACCUGAUAAa-----	2
1,-3	-----UAUAAUACAACCUGAUAG-----	2
1,-2	-----UAUAAUACAACCUGAUAGU-----	16
1,-1	-----UAUAAUACAACCUGAUAGUu-----	4
1,-1	-----UAUAAUACAACCUGAUAGUG-----	16
1,0	-----UAUAAUACAACCUGAUAGUGa-----	12
1,0	-----AUAAUACAACCUGAUAG-----	2
2,-2	-----AUAAUACAACCUGAUAGU-----	4
2,-1	-----AUAAUACAACCUGAUAGUG-----	8
2,0	-----ACUUAUCAGAUUGUAUUGUAAU-----	10
-1,-1	-----CUUAUCAGAUUGUAUUGU-----	20
0,-4	-----CUUAUCAGAUUGUAUUGUA-----	2
0,-3	-----CUUAUCAGAUUGUAUUGUAA-----	25
0,-2	-----CUUAUCAGAUUGUAUUGUAAa-----	5
0,-2	-----CUUAUCAGAUUGUAUUGUAAaa-----	7
0,-2	-----CUUAUCAGAUUGUAUUGUAAU-----	431
0,-1	-----CUUAUCAGAUUGUAUUGUAAUa-----	181
0,-1	-----CUUAUCAGAUUGUAUUGUAAUaa-----	5

0,-1	-----CUUAUCAGAUUGUAUUGUAAUU-----	1145
0,0	-----CUUAUCAGAUUGUAUUGUAAUUa-----	94
0,0	-----CUUAUCAGAUUGUAUUGUAAUUu-----	5
0,0	-----UUAUCAGAUUGUAUUGUAAU-----	4
1,-1	-----UUAUCAGAUUGUAUUGUAAUa-----	3
1,-1	-----UUAUCAGAUUGUAUUGUAAUU-----	10
1,0	-----UUAUCAGAUUGUAUUGUAAUUa-----	5
1,0	-----UAUCAGAUUGUAUUGUAAU-----	2
2,-1	-----UAUCAGAUUGUAUUGUAAUa-----	2
2,-1	-----UAUCAGAUUGUAUUGUAAUU-----	5
2,0	-----UAUCAGAUUGUAUUGUAAUUa-----	4
2,0	-----UAUCAGAUUGUAUUGUAAUUaa-----	2
2,0	-----UAUCAGAUUGUAUUGUAAUUu-----	2
2,0	-----UAUCAGAUUGUAUUGUAAUUuu-----	2
2,0		

>hsa-mir-374b MA:11-32;mi:41-62 SRX018971

acucggauggAUAUAAUACAACCUGCUAAGUGuccuagcaCUUAGCAGGUUGUAUUAUCAUUGuccgugucu (((.(((..(((((((((((((((((.....))))))))))))))))))..))..))..))..		
-----AUAUAAUACAACCUGCUA-----		25
0,-4	-----AUAUAAUACAACCUGCUAu-----	5
0,-4	-----AUAUAAUACAACCUGCUAA-----	95

0, -3		
-----AUAUAAUACAACCUGCUAAa-----	9	
0, -3		
-----AUAUAAUACAACCUGCUAAG-----	354	
0, -2		
-----AUAUAAUACAACCUGCUAAGa-----	23	
0, -2		
-----AUAUAAUACAACCUGCUAAGau-----	2	
0, -2		
-----AUAUAAUACAACCUGCUAAGU-----	3962	
0, -1		
-----AUAUAAUACAACCUGCUAAGUa-----	117	
0, -1		
-----AUAUAAUACAACCUGCUAAGUaa-----	43	
0, -1		
-----AUAUAAUACAACCUGCUAAGUu-----	27	
0, -1		
-----AUAUAAUACAACCUGCUAAGUuu-----	4	
0, -1		
-----AUAUAAUACAACCUGCUAAGUG-----	6696	
0, 0		
-----AUAUAAUACAACCUGCUAAGUGa-----	2207	
0, 0		
-----AUAUAAUACAACCUGCUAAGUGaa-----	50	
0, 0		
-----AUAUAAUACAACCUGCUAAGUGau-----	15	
0, 0		
-----AUAUAAUACAACCUGCUAAGUGU-----	904	
0, 1		
-----AUAUAAUACAACCUGCUAAGUGUa-----	3	
0, 1		
-----AUAUAAUACAACCUGCUAAGUGUaa-----	5	
0, 1		
-----AUAUAAUACAACCUGCUAAGUGUu-----	4	
0, 1		
-----AUAUAAUACAACCUGCUAAGUGUC-----	6	
0, 2		
-----UAUAAUACAACCUGCUAAGUGa-----	2	

1,0	-----UAUAAUACAACCUGCUAAGUGUCC-----	3
1,3	-----AUAAUACAACCUGCUAAGU-----	9
2,-1	-----AUAAUACAACCUGCUAAGUG-----	18
2,0	-----AUAAUACAACCUGCUAAGUGa-----	3
2,0	-----CUUAGCAGGUUGUAUUUAUCAU-----	6
0,-1	-----CUUAGCAGGUUGUAUUUAUCAUU-----	4
0,0	-----UUAGCAGGUUGUAUUUAUCAUU-----	3
1,0		

>hsa-mir-374c 5p:13-34 SRX018971

acacggacaugAUAUACAACCUGCUAAGUGCUaggcacuuagcagguuguauuuauauccauccgagu
...(((.....((((((((((((((((((((((.....))))))))).....))))).
-----AUAUACAACCUGCUAAGU----- 9 0,-3
-----AUAUACAACCUGCUAAGUG----- 18 0,-2
-----AUAUACAACCUGCUAAGUGa----- 3 0,-2

>hsa-mir-375 3p:40-61 SRX018971

ccccgcgacgagccccucgcacaaaccggaccugagcguUUUGUUCGUUCGGCUCGCGUGAggc		
.(((((((.(((((((...((.((((((.(.....)).)))))).))...)))))))))).).		
-----UUUUGUUCGUUCGGCUCGCGU-----	5	-1, -2
-----UUUUGUUCGUUCGGCUCGCGUG----	14	-1, -1
-----UUUUGUUCGUUCGGCUCGCGUGu---	2	-1, -1
-----UUUUGUUCGUUCGGCUCGCGUGA---	7	-1, 0
-----UUUGUUCGUUCGGCUCGCG-----	13	0, -4
-----UUUGUUCGUUCGGCUCGCGaa----	2	0, -4
-----UUUGUUCGUUCGGCUCGCG-----	52	0, -3
-----UUUGUUCGUUCGGCUCGCGU-----	63	0, -2
-----UUUGUUCGUUCGGCUCGCGUa---	3	0, -2
-----UUUGUUCGUUCGGCUCGCGUu---	4	0, -2
-----UUUGUUCGUUCGGCUCGCGUG-----	693	0, -1
-----UUUGUUCGUUCGGCUCGCGUGu---	24	0, -1


```

GUU-----          9    0,0
-----AUCAUAGAGGAAAAUCCA
UUUU-----          8    0,1
-----UCAUAGAGGAAAAUCCA
UUUU-----          2    1,2

```

>hsa-mir-376c 3p:43-63 SRX018971

```

aaaagguggauauuccuucuauguuuauuguuauuuauugguuAACAUAGAGGAAAUUCCACGUuuu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAACAUAGAGGAAAUUCCACG---- 2    -1,-1
-----AACAUAGAGGAAAUUCCA----- 7    0,-3
-----AACAUAGAGGAAAUUCCAC----- 49   0,-2
-----AACAUAGAGGAAAUUCCACG---- 43   0,-1
-----AACAUAGAGGAAAUUCCACGU--- 207  0,0
-----AACAUAGAGGAAAUUCCACGUa-- 14   0,0
-----AACAUAGAGGAAAUUCCACGUU-- 19   0,1
-----AACAUAGAGGAAAUUCCACGUUa- 4    0,1
-----AACAUAGAGGAAAUUCCACGUUU- 5    0,2
-----ACAUAGAGGAAAUUCCAC----- 3    1,-2
-----CAUAGAGGAAAUUCCACGUUU- 2    2,2

```

>hsa-mir-377 mi:7-28;MA:45-66 SRX018971

```

uugagcAGAGGUUGCCCUUGGUGAAUUCgcuuuauuuauuguuAUCACACAAAGGCAACUUUUGUuug
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGAGGUUGCCCUUGGUGAAUU----- 2    0,-1
-----AGAGGUUGCCCUUGGUGAAUa----- 2    0,-1
-----AUCACACAAAGGCAACUUUU----- 6    0,-2
-----AUCACACAAAGGCAACUUUUG---- 2    0,-1
-----AUCACACAAAGGCAACUUUUGU--- 4    0,0

```

>hsa-mir-378 mi:5-26;MA:43-63 SRX018971

```

agggCUCCUGACUCCAGGUCCUGUGUguuaccuagaaauagcACUGGACUUGGAGUCAGAAGGccu
(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.(((.
----CUCCUGACUCCAGGUCCU----- 2    0,-4
----CUCCUGACUCCAGGUCCUGUGU----- 9    0,0
----UCCUGACUCCAGGUCCUGUGU----- 3    1,0
----UCCUGACUCCAGGUCCUGUGUGU----- 2    1,2
-----GCACUGGACUUGGAGUCAGAA----- 2    -2,-2

```

-----CACUGGACUUGGAGUCAGAAGG---	3	-1,0
-----CACUGGACUUGGAGUCAGAAGGa--	3	-1,0
-----CACUGGACUUGGAGUCAGAAGGaa-	3	-1,0
-----CACUGGACUUGGAGUCAGAAGGC--	16	-1,1
-----CACUGGACUUGGAGUCAGAAGGCa-	17	-1,1
-----CACUGGACUUGGAGUCAGAAGGCaa	3	-1,1
-----CACUGGACUUGGAGUCAGAAGGCau	2	-1,1
-----ACUGGACUUGGAGUCAGA-----	76	0,-3
-----ACUGGACUUGGAGUCAGAA-----	162	0,-2
-----ACUGGACUUGGAGUCAGAAa----	22	0,-2
-----ACUGGACUUGGAGUCAGAAaaa---	7	0,-2
-----ACUGGACUUGGAGUCAGAAG----	499	0,-1
-----ACUGGACUUGGAGUCAGAAGu---	19	0,-1
-----ACUGGACUUGGAGUCAGAAGuu---	2	0,-1
-----ACUGGACUUGGAGUCAGAAGG---	5041	0,0
-----ACUGGACUUGGAGUCAGAAGGa--	2850	0,0
-----ACUGGACUUGGAGUCAGAAGGaa-	501	0,0
-----ACUGGACUUGGAGUCAGAAGGau-	61	0,0
-----ACUGGACUUGGAGUCAGAAGGu--	344	0,0
-----ACUGGACUUGGAGUCAGAAGGuu-	27	0,0
-----ACUGGACUUGGAGUCAGAAGGC--	13572	0,1
-----ACUGGACUUGGAGUCAGAAGGCa-	8606	0,1
-----ACUGGACUUGGAGUCAGAAGGCaa	1508	0,1
-----ACUGGACUUGGAGUCAGAAGGCau	2723	0,1
-----ACUGGACUUGGAGUCAGAAGGCu-	1501	0,1
-----ACUGGACUUGGAGUCAGAAGGCuu	285	0,1
-----ACUGGACUUGGAGUCAGAAGGCC-	24	0,2
-----ACUGGACUUGGAGUCAGAAGGCCU	3	0,3
-----CUGGACUUGGAGUCAGAA-----	2	1,-2
-----CUGGACUUGGAGUCAGAAG----	4	1,-1
-----CUGGACUUGGAGUCAGAAGG---	104	1,0
-----CUGGACUUGGAGUCAGAAGGa--	79	1,0
-----CUGGACUUGGAGUCAGAAGGaa-	21	1,0
-----CUGGACUUGGAGUCAGAAGGau-	4	1,0
-----CUGGACUUGGAGUCAGAAGGu--	13	1,0
-----CUGGACUUGGAGUCAGAAGGC--	834	1,1
-----CUGGACUUGGAGUCAGAAGGCa-	472	1,1
-----CUGGACUUGGAGUCAGAAGGCaa	248	1,1

```

-----CUGGACUUGGAGUCAGAAGGCau 159 1,1
-----CUGGACUUGGAGUCAGAAGGCu- 209 1,1
-----CUGGACUUGGAGUCAGAAGGCuu 65 1,1
-----CUGGACUUGGAGUCAGAAGGCC- 13 1,2
-----CUGGACUUGGAGUCAGAAGGCCa 11 1,2
-----CUGGACUUGGAGUCAGAAGGCCau 17 1,2
-----CUGGACUUGGAGUCAGAAGGCCU 5 1,3
-----CUGGACUUGGAGUCAGAAGGCCUau 2 1,3
-----CUGGACUUGGAGUCAGAAGGCCUuu 2 1,3
-----UGGACUUGGAGUCAGAAGG--- 4 2,0
-----UGGACUUGGAGUCAGAAGGC-- 8 2,1
-----UGGACUUGGAGUCAGAAGGCa- 2 2,1
-----UGGACUUGGAGUCAGAAGGCaa 8 2,1
-----UGGACUUGGAGUCAGAAGGCau 3 2,1
-----UGGACUUGGAGUCAGAAGGCu- 4 2,1

```

>hsa-mir-378b 3p:34-52 SRX018971

```

ggucauugagucucaaggcuaguggaaagagcACUGGACUUGGAGGCAGAAgacc
(((((((((.....)))))).))))))
-----ACUGGACUUGGAGGCAGAA----- 142 0,0
-----CUGGACUUGGAGGCAGAA----- 2 1,0

```

>hsa-mir-378c 5p:11-35 SRX018971

```

ggaggccaucACUGGACUUGGAGUCAGAAGAGUGGagucgggucagacucucaacucugacuuugaagguggugagugccu
c
((((((((((.....(((.....)))))).))))))
)
-----ACUGGACUUGGAGUCAGAAG-----
- 499 0,-5
-----ACUGGACUUGGAGUCAGAAGu-----
- 19 0,-5
-----ACUGGACUUGGAGUCAGAAGuu-----
- 2 0,-5
-----ACUGGACUUGGAGUCAGAAGA-----
- 201 0,-4
-----ACUGGACUUGGAGUCAGAAGaa-----
- 26 0,-4
-----CUGGACUUGGAGUCAGAAG-----

```

```

- 4 1,-5
-----CUGGACUUGGAGUCAGAAGA-----
- 5 1,-4

```

>hsa-mir-379 MA:6-26;mi:44-65 SRX018971

```

agagaUGGUAGACUAUGGAACGUAGGcguaugauuucugaccUAUGUAACAUGGUCCACUAACUcu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UGGUAGACUAUGGAACGUAG----- 10 0,-1
-----UGGUAGACUAUGGAACGUAGa----- 2 0,-1
-----UGGUAGACUAUGGAACGUAGG----- 57 0,0
-----UGGUAGACUAUGGAACGUAGGa----- 10 0,0
-----UGGUAGACUAUGGAACGUAGGaa----- 5 0,0
-----UGGUAGACUAUGGAACGUAGGu----- 4 0,0
-----UGGUAGACUAUGGAACGUAGGCa----- 4 0,1

```

>hsa-mir-381 3p:49-70 SRX018971

```

uacuuaaagcgagguugcccuuuguaauuucgguuuauugacauggaaUAUACAAGGGCAAGCUCUCUGUgagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----UAUACAAGGGCAAGCUCUCU----- 2
0,-2

```

>hsa-mir-382 5p:11-32 SRX018971

```

uacuugaagaGAAGUUGUUCGUGGUGGAUUCGcuuuacuuaugacgaaucauucacggacaacacuuuuuucagua
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----GAAGUUGUUCGUGGUGGAUU-----
8 0,-2
-----GAAGUUGUUCGUGGUGGAUUC-----
4 0,-1
-----AAUCAUUCACGGACAACAC-----
45
-----AAUCAUUCACGGACAACACU-----
59
-----AAUCAUUCACGGACAACACUU-----
23
-----AAUCAUUCACGGACAACACUUU-----
27

```

>hsa-mir-3909 3p:71-92 SRX018971

-----UGGGACUGAUCUUGAUGUC-----
----- 3 2,-1 -----

```
>hsa-mir-3913-2 5p:22-43      SRX018971
```

ugucuaauaaacugaaaUUUGGGACUGAUCUUGAUGUCUgccaagguuuuggcagacaucaagaucagucccaau
auuucaguuuuuuuuaaca

.(((((.....)))))))))
)))))).).

-----UGGGACUGAUCUUGAUGUC-----
 -----3 2,-1-----

>hsa-mir-3928 3p:37-58 SRX018971

gcugaagcucuaagguuccgccugcgggcaggaagcGGAGGAACCUUGGAGCUUCGGC

(((.....))..)).....

-----GGAGGAACCUUGGAGCUUCG--	4	0,-2
-----GGAGGAACCUUGGAGCUUCGG-	12	0,-1
-----GGAGGAACCUUGGAGCUUCGGa	4	0,-1
-----GGAGGAACCUUGGAGCUUCGGu	5	0,-1
-----GGAGGAACCUUGGAGCUUCGGC	22	0,0
-----GGAGGAACCUUGGAGCUUCGGCa	104	0,0
-----GGAGGAACCUUGGAGCUUCGGCaa	31	0,0
-----GGAGGAACCUUGGAGCUUCGGCau	47	0,0
-----GGAGGAACCUUGGAGCUUCGGCu	5	0,0
-----GAGGAACCUUGGAGCUUCGGCa	5	1,0
-----GAGGAACCUUGGAGCUUCGGCaa	7	1,0
-----GAGGAACCUUGGAGCUUCGGCau	3	1,0
-----AGGAACCUUGGAGCUUCGG-	2	2,-1
-----AGGAACCUUGGAGCUUCGGC	36	2,0
-----AGGAACCUUGGAGCUUCGGCa	2	2,0
-----AGGAACCUUGGAGCUUCGGCaa	2	2,0

>hsa-mi r-3936 3p:66-87 SRX018971

augauucagagcaucuguccagugucugcuguagaucccuaaauccguguuuggacgcuucuggUAAGGGGUGUAUGGC
AGAUGCacccgacagaugcacuuggcagca

.((.(..(((.....((((.....))))....))...)))...
))))))....)))).)..))...

-----UAAGGGGUGUAUGGC
AGAUaa----- 2 0,-3

AGAUGC	5	0, -1
AGAUGCA	6	0, 0
AGAUGCA _a	13	0, 0
AGAUGCA _u	3	0, 0

```
>hsa-mir-3939    3p:62-83    SRX018971
cuggcuuccaaaggccucuguguguuccuguaugugggcgugcacguaccugucacaugugUACGCGCAGACCACAGGAU
GUCcacacuggcuuccaaacacaucu
.((((.....((((((...((((((...((((((...((((((...((((((...((((((...((((((...((((((...
...)))))).))))))))).))))))))).))))))))).))))))))).))))))))).))))))))).))))))))).
-----UACGCGCAGACCACAGGAU
a-----2    0,-3
-----UACGCGCAGACCACAGGAU
GUC-----3    0,0
```

```
>hsa-mir-3940    3p:57-78    SRX018971
gcuuaucgagggaaagaucgagguggguuggggcgggcucuggggauuuggucucaCAGCCCGGAUCCCAGCCCACUUac
cuuggguuacucuccuuccuucu
.....(((((((.....)))))).....))
)))))).....))))).
-----CAGCCCGGAUCCCAGCCCACU-----
----- 2    0,-1
```

```

-----AGCAAUACUGUUACCUGAAAU-----
              11   1,0
-----AGCAAUACUGUUACCUGAAAUA-----
              9    1,1
-----UUUCAGAUAACAGUAU
UACAU-----3

```

```
>hsa-mir-3944    3p:63-85    SRX018971
uccaccagcaggcgaggucgucgagcaggccaaccgagaagcgccugcgucucccauuUUCGGGCUGGCCUGCUGC
UCCGGaccugugccugaucuuuaugcug
.....((((((((((((((.(((((((((((((((.(((((((((((((((.....))))))))))))))..)))))))))))))
.).)))))))))))))))).
-----UGUGCAGCAGGCCAACCGAGA-----
-----2-----
```

```

>hsa-mir-409      5p:15-37;3p:47-68      SRX018971
ugguacucggggagAGGUUACCCGAGCAACUUGCAUcuggacgacGAAUGUUGCUCGGUGAACCCCUuuucgguauca
.(((((.((.(((.(((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AGGUUACCCGAGCAACUUU-----
    7    0,-4
-----AGGUUACCCGAGCAACUUGC-----
    7    0,-2
-----AGGUUACCCGAGCAACUUGCA-----
   31    0,-1
-----AGGUUACCCGAGCAACUUGCAa-----
    6    0,-1
-----AGGUUACCCGAGCAACUUGCAU-----
   68    0,0
-----AGGUUACCCGAGCAACUUGCAUa-----
    3    0,0
-----AGGUUACCCGAGCAACUUGCAUC-----
    3    0,1
-----CGAAUGUUGCUCGGUGAA-----
    5    -1,-5
-----CGAAUGUUGCUCGGUGAAC-----
    5    -1,-4
-----CGAAUGUUGCUCGGUGAACC-----
    2    -1,-3

```



```

-----CGAAUGUUGCUCGGUGAACCCCU-----
3   -1,0
-----GAAUGUUGCUCGGUGAACCCCU-----
6   0,0
-----GAAUGUUGCUCGGUGAACCCCUau-----
3   0,0
-----GAAUGUUGCUCGGUGAACCCCUUU-----
2   0,2

```

>hsa-mir-410 3p:50-70 SRX018971

```

gguaccugagaagagguugucugugaugaguucgcuuuuauuaugacgAAUAUAACACAGAUGGCCUGUuuucaguacc
(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.
-----AAUAUAACACAGAUGGCCU-----
10  0,-2
-----AAUAUAACACAGAUGGCCUGa-----
4   0,-1
-----AAUAUAACACAGAUGGCCUGU-----
19  0,0
-----AAUAUAACACAGAUGGCCUGUaa-----
2   0,0

```

>hsa-mir-411 MA:16-36;mi:51-72 SRX018971

```

ugguacuuggagagaUAGUAGACCGUAUAGCGUACGcuuuauucugugacgUAUGUAACACGGUCCACUAACCCucaguau
caauuccaucccgag
(((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.(((((((((.
)).....
-----AUAGUAGACCGUAUAGCGU-----
-----16  -1,-3
-----AUAGUAGACCGUAUAGCGUA-----
-----10  -1,-2
-----AUAGUAGACCGUAUAGCGUAa-----
-----17  -1,-2
-----AUAGUAGACCGUAUAGCGUAaa-----
-----3   -1,-2
-----AUAGUAGACCGUAUAGCGUAC-----
-----53  -1,-1
-----AUAGUAGACCGUAUAGCGUACG-----
-----2   -1,0

```



```

-----AUCAACAGACAUUAAUUGG-----
----- 415 0,-4
-----AUCAACAGACAUUAAUUGGG-----
----- 69 0,-3
-----AUCAACAGACAUUAAUUGGGa-----
----- 4 0,-3
-----AUCAACAGACAUUAAUUGGGC-----
----- 40 0,-2
-----AUCAACAGACAUUAAUUGGGCa-----
----- 2 0,-2
-----AUCAACAGACAUUAAUUGGGCaa-----
----- 40 0,-2
-----AUCAACAGACAUUAAUUGGGCau-----
----- 3 0,-2
-----AUCAACAGACAUUAAUUGGGCG-----
----- 43 0,-1
-----AUCAACAGACAUUAAUUGGGCGa-----
----- 29 0,-1
-----AUCAACAGACAUUAAUUGGGCGu-----
----- 16 0,-1
-----AUCAACAGACAUUAAUUGGGCGC-----
----- 52 0,0
-----AUCAACAGACAUUAAUUGGGCGCa-----
----- 27 0,0
-----AUCAACAGACAUUAAUUGGGCGCaa-----
----- 4 0,0
-----AUCAACAGACAUUAAUUGGGCGCau-----
----- 24 0,0
-----UCAACAGACAUUAAUUGGGCGC-----
----- 2 1,0
-----UCAACAGACAUUAAUUGGGCGCu-----
----- 3 1,0

```

>hsa-mir-423 5p:17-39;3p:53-75 SRX018971

auaaaggaaguuaggcUGAGGGGCAGAGAGCGAGACUUUucuauuuuccaaaAGCUCGGUCUGAGGCCCCUCAGUcuugc
uuccuaacccgcgc

```

.....(((((((.((((((((((((((..(((.((((((((.....)))))))))).)))...)))))))))))))).))
)))))).....

```

```

-----CUGAGGGGCAGAGAGCGAGACUUU-----
----- 2   -1,0
-----UGAGGGGCAGAGAGCGAG-----
----- 20   0,-5
-----UGAGGGGCAGAGAGCGAGA-----
----- 55   0,-4
-----UGAGGGGCAGAGAGCGAGAA-----
----- 6    0,-4
-----UGAGGGGCAGAGAGCGAGAAa-----
----- 20   0,-4
-----UGAGGGGCAGAGAGCGAGAAu-----
----- 4    0,-4
-----UGAGGGGCAGAGAGCGAGAC-----
----- 64   0,-3
-----UGAGGGGCAGAGAGCGAGACa-----
----- 13   0,-3
-----UGAGGGGCAGAGAGCGAGACaa-----
----- 3    0,-3
-----UGAGGGGCAGAGAGCGAGACU-----
----- 105  0,-2
-----UGAGGGGCAGAGAGCGAGACUaa-----
----- 17   0,-2
-----UGAGGGGCAGAGAGCGAGACUau-----
----- 3    0,-2
-----UGAGGGGCAGAGAGCGAGACUU-----
----- 166  0,-1
-----UGAGGGGCAGAGAGCGAGACUUa-----
----- 55   0,-1
-----UGAGGGGCAGAGAGCGAGACUUaa-----
----- 24   0,-1
-----UGAGGGGCAGAGAGCGAGACUUau-----
----- 13   0,-1
-----UGAGGGGCAGAGAGCGAGACUUU-----
----- 1284   0,0
-----UGAGGGGCAGAGAGCGAGACUUUa-----
----- 33   0,0
-----UGAGGGGCAGAGAGCGAGACUUUaa-----
----- 13   0,0

```

```

-----UGAGGGGCAGAGAGCGAGACUUUau-----
----- 12 0,0
-----UGAGGGGCAGAGAGCGAGACUUUU-----
----- 187 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUa-----
----- 2 0,1
-----UGAGGGGCAGAGAGCGAGACUUUUu-----
----- 4 0,1
-----GAGGGGCAGAGAGCGAGACUU-----
----- 5 1,-1
-----GAGGGGCAGAGAGCGAGACUU-----
----- 26 1,0
-----GAGGGGCAGAGAGCGAGACUUUa-----
----- 2 1,0
-----GAGGGGCAGAGAGCGAGACUUUU-----
----- 6 1,1
-----AGGGGCAGAGAGCGAGACUU-----
----- 5 2,0
-----AGGGGCAGAGAGCGAGACUUUU-----
----- 4 2,1
-----AAAGCUCGGUCUGAGGCCCCU-----
----- 2 -2,-4
-----AAAGCUCGGUCUGAGGCCCCUCAu-----
----- 2 -2,-2
-----AAGCUCGGUCUGAGGCCCC-----
----- 16 -1,-5
-----AAGCUCGGUCUGAGGCCCCCa-----
----- 2 -1,-5
-----AAGCUCGGUCUGAGGCCCCCU-----
----- 64 -1,-4
-----AAGCUCGGUCUGAGGCCCCCUaa-----
----- 17 -1,-4
-----AAGCUCGGUCUGAGGCCCCCUau-----
----- 14 -1,-4
-----AAGCUCGGUCUGAGGCCCCCUu-----
----- 2 -1,-4
-----AAGCUCGGUCUGAGGCCCCCUuu-----
----- 5 -1,-4

```

-----			-----AAGCUCGGUCUGAGGCCCCUC-----
-----	24	-1,-3	
-----			-----AAGCUCGGUCUGAGGCCCCUCu-----
-----	7	-1,-3	
-----			-----AAGCUCGGUCUGAGGCCCCUCA-----
-----	55	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAa-----
-----	13	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAaa-----
-----	6	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAu-----
-----	18	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAuu-----
-----	3	-1,-2	
-----			-----AAGCUCGGUCUGAGGCCCCUCAG-----
-----	113	-1,-1	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGa-----
-----	52	-1,-1	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGaa-----
-----	5	-1,-1	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGau-----
-----	2	-1,-1	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGU-----
-----	357	-1,0	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGUa-----
-----	25	-1,0	
-----			-----AAGCUCGGUCUGAGGCCCCUCAGUu-----
-----	20	-1,0	
-----			-----AGCUCGGUCUGAGGCCCC-----
-----	64	0,-5	
-----			-----AGCUCGGUCUGAGGCCCCa-----
-----	2	0,-5	
-----			-----AGCUCGGUCUGAGGCCCCaa-----
-----	2	0,-5	
-----			-----AGCUCGGUCUGAGGCCCCU-----
-----	212	0,-4	
-----			-----AGCUCGGUCUGAGGCCCCUaa-----
-----	26	0,-4	

-----			-----AGCUCGGUCUGAGGCCCCUau-----
-----	19	0,-4	-----AGCUCGGUCUGAGGCCCCUu-----
-----	7	0,-4	-----AGCUCGGUCUGAGGCCCCUuu-----
-----	7	0,-4	-----AGCUCGGUCUGAGGCCCCUC-----
-----	60	0,-3	-----AGCUCGGUCUGAGGCCCCUCu-----
-----	6	0,-3	-----AGCUCGGUCUGAGGCCCCUCuu-----
-----	3	0,-3	-----AGCUCGGUCUGAGGCCCCUCA-----
-----	268	0,-2	-----AGCUCGGUCUGAGGCCCCUCAa-----
-----	80	0,-2	-----AGCUCGGUCUGAGGCCCCUCAaa-----
-----	43	0,-2	-----AGCUCGGUCUGAGGCCCCUCAau-----
-----	17	0,-2	-----AGCUCGGUCUGAGGCCCCUCAu-----
-----	21	0,-2	-----AGCUCGGUCUGAGGCCCCUCAuu-----
-----	8	0,-2	-----AGCUCGGUCUGAGGCCCCUCAG-----
-----	399	0,-1	-----AGCUCGGUCUGAGGCCCCUCAGa-----
-----	288	0,-1	-----AGCUCGGUCUGAGGCCCCUCAGaa-----
-----	27	0,-1	-----AGCUCGGUCUGAGGCCCCUCAGau-----
-----	11	0,-1	-----AGCUCGGUCUGAGGCCCCUCAGU-----
-----	2226	0,0	-----AGCUCGGUCUGAGGCCCCUCAGUa-----
-----	230	0,0	-----AGCUCGGUCUGAGGCCCCUCAGUaa-----
-----	223	0,0	

281	0,0	AGCUCGGUCUGAGGCCCCUCAGUau
265	0,0	AGCUCGGUCUGAGGCCCCUCAGUu
67	0,0	AGCUCGGUCUGAGGCCCCUCAGUuu
4	1,-1	GCUCGGUCUGAGGCCCCUCAG-
11	1,0	GCUCGGUCUGAGGCCCCUCAGU-
5	1,0	GCUCGGUCUGAGGCCCCUCAGUa
3	1,0	GCUCGGUCUGAGGCCCCUCAGUaa
4	1,0	GCUCGGUCUGAGGCCCCUCAGUau
2	1,0	GCUCGGUCUGAGGCCCCUCAGUu

>hsa-mi r-424 MA:11-32;mi :48-68 SRX018971

cgagggggaacAGCAGCAAUUAUGUUUUGAAguguucuaauggguCAAACGUGAGGCGCUGCUAUaccccucgugg
ggaagguaagaaggugggg

$((((((((.(.(((((((.(((((((((((((.((((.(.....)))..))))))))))))..))))))..))..))))))\dots$
 $\dots\dots\dots$

```

-----ACAGCAGCAAUUCAUGUUU-----
-----      11   -1,-3
-----ACAGCAGCAAUUCAUGUUUa-----
-----      4    -1,-3
-----ACAGCAGCAAUUCAUGUUUUG-----
-----      5    -1,-2
-----ACAGCAGCAAUUCAUGUUUUGA-----
-----      6    -1,-1
-----ACAGCAGCAAUUCAUGUUUUGAA-----
-----      9    -1,0
-----CAGCAGCAAUUCAUGUU-----
-----     55    0,-4
-----CAGCAGCAAUUCAUGUUa-----
-----      7    0,-4

```



```

-----CAGCAGCAAUCAUGUUUU-----
-----      271  0,-3
-----CAGCAGCAAUCAUGUUUUa-----
-----      4   0,-3
-----CAGCAGCAAUCAUGUUUUu-----
-----      2   0,-3
-----CAGCAGCAAUCAUGUUUUG-----
-----     1258   0,-2
-----CAGCAGCAAUCAUGUUUUGu-----
-----      3   0,-2
-----CAGCAGCAAUCAUGUUUUGA-----
-----     2430   0,-1
-----CAGCAGCAAUCAUGUUUUGAu-----
-----      6   0,-1
-----CAGCAGCAAUCAUGUUUUGAA-----
-----     801  0,0
-----CAGCAGCAAUCAUGUUUUGAAa-----
-----     72   0,0
-----CAGCAGCAAUCAUGUUUUGAAaa-----
-----      2   0,0
-----CAGCAGCAAUCAUGUUUUGAAau-----
-----      3   0,0
-----CAGCAGCAAUCAUGUUUUGAAu-----
-----     12   0,0
-----AGCAGCAAUCAUGUUUU-----
-----      3   1,-3
-----AGCAGCAAUCAUGUUUUG-----
-----     19   1,-2
-----AGCAGCAAUCAUGUUUUGA-----
-----     28   1,-1
-----AGCAGCAAUCAUGUUUUGAA-----
-----     17   1,0
-----AGCAGCAAUCAUGUUUUGAAu-----
-----      5   1,0
-----GCAGCAAUCAUGUUUUGAA-----
-----      2   2,0
-----
-----CAAACGUGAGGCGCUGCU-----
-----      5   0,-2

```

```

-----CAAAACGUGAGGCGCUGCUA-----
----- 2 0,-1
-----CAAAACGUGAGGCGCUGCUAa-----
----- 4 0,-1
-----CAAAACGUGAGGCGCUGCUAau-----
----- 4 0,-1
-----CAAAACGUGAGGCGCUGCUAU-----
----- 62 0,0
-----CAAAACGUGAGGCGCUGCUAUu-----
----- 10 0,0
-----CAAAACGUGAGGCGCUGCUAUA-----
----- 30 0,1
-----CAAAACGUGAGGCGCUGCUAUa-----
----- 12 0,1
-----CAAAACGUGAGGCGCUGCUAUau-----
----- 5 0,1
-----AAAACGUGAGGCGCUGCUAUa-----
----- 4 1,1
-----AAAACGUGAGGCGCUGCUAUau-----
----- 2 1,1

```

>hsa-mir-425 MA:14-36;mi:55-76 SRX018971

gaaagcgcuuuggAAUGACACGAUCACUCCCGUUGAgugggcacccgagaagccAUCGGGAUGUCGUGUCCGCCcagug
cucuuc

(((((.(.(((...((((((.(.((((((.(.((((....))....)))).)))))).)))))).))))))

```

-----AAUGACACGAUCACUCCC-----
----- 95 0,-5
-----AAUGACACGAUCACUCCCG-----
----- 55 0,-4
-----AAUGACACGAUCACUCCCGU-----
----- 114 0,-3
-----AAUGACACGAUCACUCCCGUa-----
----- 3 0,-3
-----AAUGACACGAUCACUCCCGUU-----
----- 266 0,-2
-----AAUGACACGAUCACUCCCGUUa-----
----- 9 0,-2

```

-----AAUGACACGAUCACUCCCGUUaa-----
----- 5 0,-2
-----AAUGACACGAUCACUCCCGUUu-----
----- 9 0,-2
-----AAUGACACGAUCACUCCCGUUG-----
----- 489 0,-1
-----AAUGACACGAUCACUCCCGUUGu-----
----- 35 0,-1
-----AAUGACACGAUCACUCCCGUUGA-----
----- 1995 0,0
-----AAUGACACGAUCACUCCCGUUGAa-----
----- 21 0,0
-----AAUGACACGAUCACUCCCGUUGAaa-----
----- 4 0,0
-----AAUGACACGAUCACUCCCGUUGAu-----
----- 8 0,0
-----AAUGACACGAUCACUCCCGUUGAG-----
----- 448 0,1
-----AAUGACACGAUCACUCCCGUUGAGa-----
----- 8 0,1
-----AAUGACACGAUCACUCCCGUUGAGU-----
----- 186 0,2
-----AUGACACGAUCACUCCCGU-----
----- 15 1,-3
-----AUGACACGAUCACUCCCGUU-----
----- 18 1,-2
-----AUGACACGAUCACUCCCGUUa-----
----- 2 1,-2
-----AUGACACGAUCACUCCCGUUG-----
----- 13 1,-1
-----AUGACACGAUCACUCCCGUUGA-----
----- 299 1,0
-----AUGACACGAUCACUCCCGUUGAa-----
----- 8 1,0
-----AUGACACGAUCACUCCCGUUGAaa-----
----- 2 1,0
-----AUGACACGAUCACUCCCGUUGAu-----
----- 3 1,0

```

-----AUGACACGAUCACUCCCGUUGAG-----
----- 202 1,1
-----AUGACACGAUCACUCCCGUUGAGa-----
----- 8 1,1
-----AUGACACGAUCACUCCCGUUGAGU-----
----- 51 1,2
-----UGACACGAUCACUCCCGUUGA-----
----- 6 2,0
-----UGACACGAUCACUCCCGUUGAG-----
----- 7 2,1
-----UGACACGAUCACUCCCGUUGAGU-----
----- 2 2,2
-----CAUCGGGAAUGUCGUGUC-----
----- 2 -1,-5
-----CAUCGGGAAUGUCGUGUCa-----
----- 3 -1,-5
-----CAUCGGGAAUGUCGUGUCC-----
----- 21 -1,-4
-----CAUCGGGAAUGUCGUGUCCGC-----
----- 16 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCa-----
----- 3 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCau-----
----- 3 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCu-----
----- 4 -1,-2
-----CAUCGGGAAUGUCGUGUCCGCC-----
----- 52 -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCa-----
----- 21 -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCau-----
----- 12 -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCu-----
----- 2 -1,-1
-----CAUCGGGAAUGUCGUGUCCGCCc-----
----- 9 -1,0
-----CAUCGGGAAUGUCGUGUCCGCCcu-----
----- 2 -1,0

```

```

-----CAUCGGGAAUGUCGUGUCCGCCCAu--
----- 2   -1,1
-----AUCGGGAAUGUCGUGUCC-----
----- 32  0,-4
-----AUCGGGAAUGUCGUGUCCG-----
----- 2   0,-3
-----AUCGGGAAUGUCGUGUCCGC-----
----- 17  0,-2
-----AUCGGGAAUGUCGUGUCCGCC-----
----- 86  0,-1
-----AUCGGGAAUGUCGUGUCCGCCa---
----- 17  0,-1
-----AUCGGGAAUGUCGUGUCCGCCau--
----- 20  0,-1
-----AUCGGGAAUGUCGUGUCCGCCu---
----- 3   0,-1
-----AUCGGGAAUGUCGUGUCCGCCC-----
----- 35  0,0
-----AUCGGGAAUGUCGUGUCCGCCCu---
----- 4   0,0
-----AUCGGGAAUGUCGUGUCCGCCCuu--
----- 4   0,0
-----AUCGGGAAUGUCGUGUCCGCCCA-----
----- 7   0,1
-----AUCGGGAAUGUCGUGUCCGCCCAa--
----- 12  0,1
-----AUCGGGAAUGUCGUGUCCGCCCAau-
----- 2   0,1
-----AUCGGGAAUGUCGUGUCCGCCCAu--
----- 15  0,1
-----UCGGGAAUGUCGUGUCCGCCCAu--
----- 2   1,1

```

>hsa-mir-4284 5p:11-28 SRX018971

guucugugagGGGCUCACAUCACCCCAUcaaaguggggacucauggggagagggggguaguuaaggagcuuugauagaggcg
g

.(((((((..(((((((..(((.((((((..(((.....))))).))..)))))).))))).))....
.

```

-----GGGCUCACAUCACCCCAU-----
-   5   0,0
-----GGGCUCACAUCACCCCAUaa-----
-   5   0,0
-----GGCUCACAUCACCCCAUC-----
-   2   1,1

```

>hsa-mir-4286 5p:11-27 SRX018971

uacuuauaggcACCCACUCCUGGUACCAuagucuaaguuaggagauuuagagcugugaguaccaugacuuaagugugg
 uggcuuaaacaug

...(((.(.((((.((((.(((((((((((..((((((.....)))))).)))))).)))))).)).....))))).))
))).))).....

```

-----ACCCACUCCUGGUACCA-----
-----   68   0,1
-----ACCCACUCCUGGUACCAa-----
-----   36   0,1
-----ACCCACUCCUGGUACCAaa-----
-----    6   0,1
-----ACCCACUCCUGGUACCAau-----
-----   12   0,1
-----ACCCACUCCUGGUACCAU-----
-----   21   0,2
-----ACCCACUCCUGGUACCAUu-----
-----    2   0,2
-----ACCCACUCCUGGUACCAUA-----
-----    4   0,3
-----ACCCACUCCUGGUACCAUAa-----
-----    3   0,3

```

>hsa-mir-429 3p:51-72 SRX018971

cgccggccgaugggcgucuuaccagacaugguuagaccugggccucugucUAAUACUGUCUGGUAAAACCGUccaucgcg
 ugc

...(((.(.((((((((..((((((((((((..((((((((.....)))))))))).)))))))))).)).....))))).))
))).

```

-----CUAAUACUGUCUGGUAAAA-----
---  2   -1,-4
-----CUAAUACUGUCUGGUAAAACCGU-----
---  7   -1,0

```

```

-----UAAUACUGUCUGGUAAAA-----
--- 176 0,-4
-----UAAUACUGUCUGGUAAAAa-----
--- 2 0,-4
-----UAAUACUGUCUGGUAAAAC-----
--- 16 0,-3
-----UAAUACUGUCUGGUAAAACC-----
--- 25 0,-2
-----UAAUACUGUCUGGUAAAACCG-----
--- 148 0,-1
-----UAAUACUGUCUGGUAAAACCGa-----
--- 16 0,-1
-----UAAUACUGUCUGGUAAAACCGU-----
--- 703 0,0
-----UAAUACUGUCUGGUAAAACCGUa-----
--- 5 0,0
-----UAAUACUGUCUGGUAAAACCGUu-----
--- 7 0,0
-----AAUACUGUCUGGUAAAACCGU-----
--- 5 1,0

```

>hsa-mir-4306 3p:65-81 SRX018971

aagcugcuuaguguccuagagucuccagaggcaucccuaaccagaaucuuugacuguccucUGGAGAGAAAGGCAGU
 Aggucuguacc

```

..(((.(((((.(((.....((((((((((((((((.....))))))))))))..))))))..
))))..))...

```

```

-----UGGAGAGAAAGGCAGU
AG----- 4 0,1

```

>hsa-mir-432 MA:14-36;mi:62-82 SRX018971

ugacuccuccaggUCUUGGAGUAGGUCAUUGGGUGGauccucuauuuccuuacguggggccaCUGGAUGGCUCCUCCAUGU
 CUuggaguagauca

```

.((((.((((((.(((.....((((((((((((((((.....))))))))))))..))))))..
))))))..))..).

```

```

-----UCUUGGAGUAGGUCAUUG-----
----- 4 0,-5
-----UCUUGGAGUAGGUCAUUG-----
----- 11 0,-4

```



```

-----UUUUGCGAUGUGUCCUAAU-----
-----      6      0,0
-----
-----AUUGGGGACAUUUUGCAUUC-----
-----      2
-----
-----AUUGGGGACAUUUUGCAUUC-----
-----      4
-----
-----UUGGGGACAUUUUGCAUUC-----
-----      3
-----
-----UUGGGGACAUUUUGCAUUC-----
-----      2
-----

```

>hsa-mir-450b 5p:11-32;3p:48-69 SRX018971

```

gcagaauuauUUUUGCAAUAUGUCCUGAAUAuguaauuaaguguaUUGGGAUCAUUUGCAUCCAUAguuuuguau
((((((((((...(((((((((.(((((((((...((...)))))...))))))...))))))...))))))...
-----UUUUGCAAUAUGUCCUG-----
      2      0,-4
-----UUUUGCAAUAUGUCCUGA-----
      4      0,-3
-----UUUUGCAAUAUGUCCUGAA-----
      6      0,-2
-----UUUUGCAAUAUGUCCUGAAUA-----
      2      0,0
-----UUUUGCAAUAUGUCCUGAAUAa-----
      2      0,0
-----

```

>hsa-mir-451 5p:17-38 SRX018971

```

cuugggauggcaaggAAACCGUUACCAUACUGAGUUuaguaaugguaauggguucucuugcuauaccaga
.(((((((((.(((((((((((((.((((((((((((((((((((((...)))))))))...)))))))))...))))).
-----AAACCGUUACCAUACUG----- 117
      0,-4
-----AAACCGUUACCAUACUGA----- 25
      0,-3
-----AAACCGUUACCAUACUGAG----- 220
      0,-2
-----AAACCGUUACCAUACUGAGau----- 2
      0,-2
-----AAACCGUUACCAUACUGAGU----- 327
      0,-1
-----

```

-----AAACCGUUACCAUUACUGAGUU-----	2286
0,0	
-----AAACCGUUACCAUUACUGAGUUa-----	3
0,0	
-----AAACCGUUACCAUUACUGAGUUU-----	546
0,1	
-----AAACCGUUACCAUUACUGAGUUUA-----	65
0,2	
-----AAACCGUUACCAUUACUGAGUUUAG-----	106
0,3	
-----AACCGUUACCAUUACUGAGUU-----	9
1,0	
-----AACCGUUACCAUUACUGAGUUU-----	6
1,1	

>hsa-mir-452 MA:14-35;mi:58-79 SRX018971

gcuaagcacuuacAACUGUUUGCAGAGGAAACUGAgacuuuguaacuaugucucaguCUCAUCUGCAAAGAAGUAAGUGc
uuugc

((.((((((((((...(.((((((((((.((((((((((((.....)))))))))).)).))))))))).)).))))))
)..))

-----CAACUGUUUGCAGAGGAAAC-----	
----- 2 -1,-3	
-----CAACUGUUUGCAGAGGAAACU-----	
----- 4 -1,-2	
-----AACUGUUUGCAGAGGAAA-----	
----- 817 0,-4	
-----AACUGUUUGCAGAGGAAAa-----	
----- 29 0,-4	
-----AACUGUUUGCAGAGGAAAaa-----	
----- 2 0,-4	
-----AACUGUUUGCAGAGGAAAau-----	
----- 39 0,-4	
-----AACUGUUUGCAGAGGAAAu-----	
----- 2 0,-4	
-----AACUGUUUGCAGAGGAAAuu-----	
----- 8 0,-4	
-----AACUGUUUGCAGAGGAAAC-----	
----- 4347 0,-3	

-----AACUGUUUGCAGAGGAAACa-----
----- 3 0, -3
-----AACUGUUUGCAGAGGAAACau-----
----- 2 0, -3
-----AACUGUUUGCAGAGGAAACU-----
----- 7403 0, -2
-----AACUGUUUGCAGAGGAAACUa-----
----- 4 0, -2
-----AACUGUUUGCAGAGGAAACUaa-----
----- 10 0, -2
-----AACUGUUUGCAGAGGAAACUau-----
----- 5 0, -2
-----AACUGUUUGCAGAGGAAACUu-----
----- 2 0, -2
-----AACUGUUUGCAGAGGAAACUG-----
----- 136 0, -1
-----AACUGUUUGCAGAGGAAACUGu-----
----- 27 0, -1
-----AACUGUUUGCAGAGGAAACUGuu-----
----- 2 0, -1
-----AACUGUUUGCAGAGGAAACUGA-----
----- 639 0, 0
-----AACUGUUUGCAGAGGAAACUGAa-----
----- 157 0, 0
-----AACUGUUUGCAGAGGAAACUGAaa-----
----- 51 0, 0
-----AACUGUUUGCAGAGGAAACUGAu-----
----- 6 0, 0
-----AACUGUUUGCAGAGGAAACUGAG-----
----- 561 0, 1
-----AACUGUUUGCAGAGGAAACUGAGu-----
----- 21 0, 1
-----AACUGUUUGCAGAGGAAACUGAGA-----
----- 334 0, 2
-----AACUGUUUGCAGAGGAAACUGAGAa-----
----- 13 0, 2
-----AACUGUUUGCAGAGGAAACUGAGAu-----
----- 7 0, 2

-----	-----	UAGUGCAAUAUUGCUUA
UAG-----	3 0,-3	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGG-----	60 0,-2	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGa-----	7 0,-2	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGG-----	46 0,-1	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGGa-----	14 0,-1	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGGaa-----	3 0,-1	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGGau-----	3 0,-1	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGGU-----	102 0,0	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGGUa-----	3 0,0	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGGUaa-----	2 0,0	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGGUau-----	6 0,0	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGGUU-----	35 0,1	-----
-----	-----	UAGUGCAAUAUUGCUUA
UAGGGUUU-----	49 0,2	-----
-----	-----	AGUGCAAUAUUGCUUA
UAGG-----	28 1,-2	-----
-----	-----	AGUGCAAUAUUGCUUA
UAGGG-----	9 1,-1	-----
-----	-----	AGUGCAAUAUUGCUUA
UAGGGU-----	6 1,0	-----
-----	-----	AGUGCAAUAUUGCUUA
UAGGGUU-----	2 1,1	-----
-----	-----	AGUGCAAUAUUGCUUA
UAGGGUUa-----	2 1,1	-----
-----	-----	AGUGCAAUAUUGCUUA
UAGGGUUU-----	10 1,2	

ucccuggcgugagggUAUGGCCUUGGACUACAUCGuggaagccagcaccauGCAGUCCAUGGGCAUUAACACuugccu
caaggccuaugucauc

$\dots(((\cdot(((((((((((((((\cdot((((((\cdot(((\cdot(\dots)))))))))\cdot))))))\dots)))$

-----GUAUGUGCCUUUGGACUA-----

----- 17 -1,-5

-----GUAUGUGCCUUUGGACUAa-----

----- 4 -1,-5

-----GUAUGUGCCUUUGGACUAaa-----

----- 9 -1,-5

-----GUAUGGCCUUUGGACUAu-----

----- 2 -1,-5

-----GUAUGGCCUUUGGACUAC-----

----- 19 -1,-4

-----GUAUGGCCUUUGGACUACA-----

----- 47 -1,-3

-----GUAUGUGCCUUGGACUACAa-----

----- 8 -1,-3

-----GUAUGUGCCUUGGACUACAaa-----

----- 35 -1,-3

-----GUAUGUGCCUUUGGACUACAau-----

----- 6 -1,-3

-----GUAUGUGCCUUUGGACUACAU-----

----- 314 -1,-2

-----GUAUGUGCCUUUGGACUACAUa-----

----- 92 -1,-2

-----GUAUGUGCCUUUGGACUACAUaa-----

----- 15 -1,-2

-----GUAUGUGCCUUUGGACUACAU_u-----

----- 35 -1,-2

-----GUAUGUGCCUUUGGACUACAUuu-----

----- 3 -1,-2

-----GUAUGUGCCUUUGGACUACAUC-----

----- 24 -1,-1

-----GUAUGUGCCUUUGGACUACAUCG-----

----- 61 -1,0

```

-----GUAUGUGCCUUUGGACUACAUCGa-----
-----      2      -1,0
-----GUAUGUGCCUUUGGACUACAUCGU-----
-----      74      -1,1
-----GUAUGUGCCUUUGGACUACAUCGUG-----
-----      9      -1,2
-----UAUGUGCCUUUGGACUAC-----
-----      6      0,-4
-----UAUGUGCCUUUGGACUACu-----
-----      2      0,-4
-----UAUGUGCCUUUGGACUACA-----
-----      65      0,-3
-----UAUGUGCCUUUGGACUACAa-----
-----      2      0,-3
-----UAUGUGCCUUUGGACUACAU-----
-----     151      0,-2
-----UAUGUGCCUUUGGACUACAUa-----
-----     977      0,-2
-----UAUGUGCCUUUGGACUACAUaa-----
-----      2      0,-2
-----UAUGUGCCUUUGGACUACAUau-----
-----      8      0,-2
-----UAUGUGCCUUUGGACUACAUu-----
-----      9      0,-2
-----UAUGUGCCUUUGGACUACAUC-----
-----     489      0,-1
-----UAUGUGCCUUUGGACUACAUCa-----
-----     28      0,-1
-----UAUGUGCCUUUGGACUACAUCaa-----
-----      2      0,-1
-----UAUGUGCCUUUGGACUACAUCu-----
-----      3      0,-1
-----UAUGUGCCUUUGGACUACAUCG-----
-----    1359      0,0
-----UAUGUGCCUUUGGACUACAUCGa-----
-----     95      0,0
-----UAUGUGCCUUUGGACUACAUCGaa-----
-----      8      0,0

```



```

-----UAUGUGCCUUUGGACUACAUCGU-----
-----418 0,1
-----UAUGUGCCUUUGGACUACAUCGUu-----
-----4 0,1
-----UAUGUGCCUUUGGACUACAUCGUG-----
-----21 0,2
-----UAUGUGCCUUUGGACUACAUCGUGa-----
-----3 0,2
-----UAUGUGCCUUUGGACUACAUCGUGu-----
-----7 0,2
-----AUGUGCCUUUGGACUACA-----
-----4 1,-3
-----AUGUGCCUUUGGACUACAU-----
-----3 1,-2
-----AUGUGCCUUUGGACUACAUa-----
-----5 1,-2
-----AUGUGCCUUUGGACUACAUCG-----
-----20 1,0
-----AUGUGCCUUUGGACUACAUCGau-----
-----4 1,0
-----AUGUGCCUUUGGACUACAUCGU-----
-----31 1,1
-----AUGUGCCUUUGGACUACAUCGUau-----
-----2 1,1
-----AUGUGCCUUUGGACUACAUCGUu-----
-----3 1,1
-----AUGUGCCUUUGGACUACAUCGUG-----
-----2 1,2
-----UGUGCCUUUGGACUACAUa-----
-----3 2,-2
-----UGUGCCUUUGGACUACAUCGU-----
-----16 2,1
-----UGUGCCUUUGGACUACAUCGUaa-----
-----3 2,1
-----UGUGCCUUUGGACUACAUCGUG-----
-----30 2,2
-----UGUGCCUUUGGACUACAUCGUGa-----
-----48 2,2

```

UGUGCCUUUGGACUACAUCGUGaa			
8	2,2		
UGUGCCUUUGGACUACAUCGUGu			
19	2,2		
		AUGCAGUCCAUGGGCAUA	
442	-2,-5		
		AUGCAGUCCAUGGGCAUAa	
89	-2,-5		
		AUGCAGUCCAUGGGCAUAaa	
21	-2,-5		
		AUGCAGUCCAUGGGCAUAau	
19	-2,-5		
		AUGCAGUCCAUGGGCAUAU	
985	-2,-4		
		AUGCAGUCCAUGGGCAUAUu	
172	-2,-4		
		AUGCAGUCCAUGGGCAUAUuu	
143	-2,-4		
		AUGCAGUCCAUGGGCAUAUA	
2107	-2,-3		
		AUGCAGUCCAUGGGCAUAUAa	
1561	-2,-3		
		AUGCAGUCCAUGGGCAUAUAaa	
119	-2,-3		
		AUGCAGUCCAUGGGCAUAUAau	
9	-2,-3		
		AUGCAGUCCAUGGGCAUAUAu	
975	-2,-3		
		AUGCAGUCCAUGGGCAUAUAuu	
37	-2,-3		
		AUGCAGUCCAUGGGCAUAUAC	
6517	-2,-2		
		AUGCAGUCCAUGGGCAUAUACu	
171	-2,-2		
		AUGCAGUCCAUGGGCAUAUACA	
5889	-2,-1		
		AUGCAGUCCAUGGGCAUAUACAa	
436	-2,-1		

```

-----AUGCAGUCCAUGGGCAUAUACAaa-----
-----12 -2,-1-----
-----AUGCAGUCCAUGGGCAUAUACAau-----
-----3 -2,-1-----
-----AUGCAGUCCAUGGGCAUAUACAu-----
-----107 -2,-1-----
-----AUGCAGUCCAUGGGCAUAUACAuu-----
-----2 -2,-1-----
-----AUGCAGUCCAUGGGCAUAUACAC-----
-----2561 -2,0-----
-----AUGCAGUCCAUGGGCAUAUACACa-----
-----197 -2,0-----
-----AUGCAGUCCAUGGGCAUAUACACaa-----
-----12 -2,0-----
-----AUGCAGUCCAUGGGCAUAUACACau-----
-----3 -2,0-----
-----AUGCAGUCCAUGGGCAUAUACACU-----
-----166 -2,1-----
-----UGCAGUCCAUGGGCAUAU-----
-----15 -1,-4-----
-----UGCAGUCCAUGGGCAUAUA-----
-----351 -1,-3-----
-----UGCAGUCCAUGGGCAUAUAa-----
-----48 -1,-3-----
-----UGCAGUCCAUGGGCAUAUAaa-----
-----7 -1,-3-----
-----UGCAGUCCAUGGGCAUAUAu-----
-----34 -1,-3-----
-----UGCAGUCCAUGGGCAUAUAC-----
-----288 -1,-2-----
-----UGCAGUCCAUGGGCAUAUACu-----
-----9 -1,-2-----
-----UGCAGUCCAUGGGCAUAUACA-----
-----1457 -1,-1-----
-----UGCAGUCCAUGGGCAUAUACAa-----
-----108 -1,-1-----
-----UGCAGUCCAUGGGCAUAUACAaa-----
-----2 -1,-1-----

```

-----			-----UGCAGUCCAUGGGCAUAUACAu-----
-----	14	-1,-1	
-----			-----UGCAGUCCAUGGGCAUAUACAC-----
-----	562	-1,0	
-----			-----UGCAGUCCAUGGGCAUAUACACa-----
-----	159	-1,0	
-----			-----UGCAGUCCAUGGGCAUAUACACaa-----
-----	6	-1,0	
-----			-----UGCAGUCCAUGGGCAUAUACACau-----
-----	2	-1,0	
-----			-----UGCAGUCCAUGGGCAUAUACACU-----
-----	34	-1,1	
-----			-----UGCAGUCCAUGGGCAUAUACACUu-----
-----	2	-1,2	
-----			-----GCAGUCCAUGGGCAUAUA-----
-----	3209	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAa-----
-----	1564	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAaa-----
-----	173	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAau-----
-----	7	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAu-----
-----	369	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAuu-----
-----	9	0,-3	
-----			-----GCAGUCCAUGGGCAUAUAC-----
-----	6055	0,-2	
-----			-----GCAGUCCAUGGGCAUAUACu-----
-----	79	0,-2	
-----			-----GCAGUCCAUGGGCAUAUACA-----
-----	11605	0,-1	
-----			-----GCAGUCCAUGGGCAUAUACAa-----
-----	1993	0,-1	
-----			-----GCAGUCCAUGGGCAUAUACAaa-----
-----	62	0,-1	
-----			-----GCAGUCCAUGGGCAUAUACAau-----
-----	81	0,-1	

-----			-----GCAGUCCAUGGGCAUAUACAu-----
-----	199	0,-1	
-----			-----GCAGUCCAUGGGCAUAUACAuu-----
-----	46	0,-1	
-----			-----GCAGUCCAUGGGCAUAUACAC-----
-----	10400	0,0	
-----			-----GCAGUCCAUGGGCAUAUACACa-----
-----	1724	0,0	
-----			-----GCAGUCCAUGGGCAUAUACACaa-----
-----	148	0,0	
-----			-----GCAGUCCAUGGGCAUAUACACau-----
-----	27	0,0	
-----			-----GCAGUCCAUGGGCAUAUACACU-----
-----	3199	0,1	
-----			-----GCAGUCCAUGGGCAUAUACACUa-----
-----	4	0,1	
-----			-----GCAGUCCAUGGGCAUAUACACUaa-----
-----	2	0,1	
-----			-----GCAGUCCAUGGGCAUAUACACUU-----
-----	28	0,2	
-----			-----CAGUCCAUGGGCAUAUAC-----
-----	2	1,-2	
-----			-----CAGUCCAUGGGCAUAUACA-----
-----	11	1,-1	
-----			-----CAGUCCAUGGGCAUAUACAC-----
-----	83	1,0	
-----			-----CAGUCCAUGGGCAUAUACACa-----
-----	13	1,0	
-----			-----CAGUCCAUGGGCAUAUACACaa-----
-----	5	1,0	
-----			-----CAGUCCAUGGGCAUAUACACau-----
-----	6	1,0	
-----			-----CAGUCCAUGGGCAUAUACACU-----
-----	57	1,1	
-----			-----CAGUCCAUGGGCAUAUACACUa-----
-----	3	1,1	
-----			-----CAGUCCAUGGGCAUAUACACUU-----
-----	22	1,2	

-----AAGACGGGAGGAAAGAAGa-----
154 0, -4
-----AAGACGGGAGGAAAGAAGaa-----
195 0, -4
-----AAGACGGGAGGAAAGAAGau-----
16 0, -4
-----AAGACGGGAGGAAAGAAGu-----
53 0, -4
-----AAGACGGGAGGAAAGAAGuu-----
7 0, -4
-----AAGACGGGAGGAAAGAAGG-----
13733 0, -3
-----AAGACGGGAGGAAAGAAGGa-----
2946 0, -3
-----AAGACGGGAGGAAAGAAGGaa-----
3311 0, -3
-----AAGACGGGAGGAAAGAAGGau-----
157 0, -3
-----AAGACGGGAGGAAAGAAGGu-----
230 0, -3
-----AAGACGGGAGGAAAGAAGGuu-----
12 0, -3
-----AAGACGGGAGGAAAGAAGGG-----
16650 0, -2
-----AAGACGGGAGGAAAGAAGGGu-----
197 0, -2
-----AAGACGGGAGGAAAGAAGGGuu-----
19 0, -2
-----AAGACGGGAGGAAAGAAGGGA-----
47732 0, -1
-----AAGACGGGAGGAAAGAAGGGAa-----
18231 0, -1
-----AAGACGGGAGGAAAGAAGGGAaa-----
13489 0, -1
-----AAGACGGGAGGAAAGAAGGGAu-----
1638 0, -1
-----AAGACGGGAGGAAAGAAGGGAu-----
1614 0, -1

-----AAGACGGGAGGAAAGAAGGGAuu-----
266 0, -1

-----AAGACGGGAGGAAAGAAGGGAG-----
95019 0,0

-----AAGACGGGAGGAAAGAAGGGAGa-----
14193 0,0

-----AAGACGGGAGGAAAGAAGGGAGaa-----
1995 0,0

-----AAGACGGGAGGAAAGAAGGGAGau-----
505 0,0

-----AAGACGGGAGGAAAGAAGGGAGU-----
11283 0,1

-----AAGACGGGAGGAAAGAAGGGAGUa-----
194 0,1

-----AAGACGGGAGGAAAGAAGGGAGUaa-----
420 0,1

-----AAGACGGGAGGAAAGAAGGGAGUau-----
306 0,1

-----AAGACGGGAGGAAAGAAGGGAGUu-----
345 0,1

-----AAGACGGGAGGAAAGAAGGGAGUuu-----
172 0,1

-----AAGACGGGAGGAAAGAAGGGAGUG-----
903 0,2

-----AAGACGGGAGGAAAGAAGGGAGUGa-----
28 0,2

-----AAGACGGGAGGAAAGAAGGGAGUGu-----
44 0,2

-----AAGACGGGAGGAAAGAAGGGAGUGG-----
3810 0,3

-----AGACGGGAGGAAAGAAGG-----
1096 1, -3

-----AGACGGGAGGAAAGAAGGa-----
55 1, -3

-----AGACGGGAGGAAAGAAGGaa-----
51 1, -3

-----AGACGGGAGGAAAGAAGGau-----
10 1, -3


```

-----AGACGGGAGGAAAGAAGGu-----
7    1, -3
-----AGACGGGAGGAAAGAAGGG-----
1464    1, -2
-----AGACGGGAGGAAAGAAGGGu-----
6    1, -2
-----AGACGGGAGGAAAGAAGGGA-----
2142    1, -1
-----AGACGGGAGGAAAGAAGGGAa-----
136    1, -1
-----AGACGGGAGGAAAGAAGGGAaa-----
206    1, -1
-----AGACGGGAGGAAAGAAGGGAau-----
8    1, -1
-----AGACGGGAGGAAAGAAGGGAu-----
9    1, -1
-----AGACGGGAGGAAAGAAGGGAuu-----
2    1, -1
-----AGACGGGAGGAAAGAAGGGAG-----
4664    1, 0
-----AGACGGGAGGAAAGAAGGGAGa-----
124    1, 0
-----AGACGGGAGGAAAGAAGGGAGaa-----
40    1, 0
-----AGACGGGAGGAAAGAAGGGAGau-----
5    1, 0
-----AGACGGGAGGAAAGAAGGGAGU-----
4938    1, 1
-----AGACGGGAGGAAAGAAGGGAGUa-----
39    1, 1
-----AGACGGGAGGAAAGAAGGGAGUaa-----
223    1, 1
-----AGACGGGAGGAAAGAAGGGAGUau-----
107    1, 1
-----AGACGGGAGGAAAGAAGGGAGUu-----
67    1, 1
-----AGACGGGAGGAAAGAAGGGAGUuu-----
41    1, 1

```

-----AGACGGGAGGAAAGAAGGGAGUG-----
 1084 1,2
 -----AGACGGGAGGAAAGAAGGGAGUGa-----
 13 1,2
 -----AGACGGGAGGAAAGAAGGGAGUGu-----
 8 1,2
 -----AGACGGGAGGAAAGAAGGGAGUGG-----
 4823 1,3
 -----AGACGGGAGGAAAGAAGGGAGUGGa-----
 8 1,3
 -----AGACGGGAGGAAAGAAGGGAGUGGU-----
 187 1,4
 -----GACGGGAGGAAAGAAGGG-----
 5 2,-2
 -----GACGGGAGGAAAGAAGGGA-----
 5 2,-1
 -----GACGGGAGGAAAGAAGGGAG-----
 12 2,0
 -----GACGGGAGGAAAGAAGGGAGU-----
 22 2,1
 -----GACGGGAGGAAAGAAGGGAGUG-----
 10 2,2
 -----GACGGGAGGAAAGAAGGGAGUGG-----
 30 2,3
 -----GACGGGAGGAAAGAAGGGAGUGGU-----
 4 2,5
 -----CCUCACUCCUCUCCUCCCGUCU-----
 7 -2,-1
 -----CUCACUCCUCUCCUCCCGUC-----
 3 -1,-2
 -----CUCACUCCUCUCCUCCCGUCU-----
 11 -1,-1
 -----CUCACUCCUCUCCUCCCGUCUU-----
 26 -1,0
 -----CUCACUCCUCUCCUCCCGUCUUa-----
 10 -1,0
 -----CUCACUCCUCUCCUCCCGUCUUu-----
 8 -1,0

		-----CUCACUCCUCUCCUCCCGUCUUC-----
20	-1,1	
		-----CUCACUCCUCUCCUCCCGUCUUCa-----
2	-1,1	
		-----CUCACUCCUCUCCUCCCGUCUUCU-----
5	-1,2	
		-----UCACUCCUCUCCUCCCGU-----
446	0,-3	
		-----UCACUCCUCUCCUCCCGUa-----
35	0,-3	
		-----UCACUCCUCUCCUCCCGUaa-----
238	0,-3	
		-----UCACUCCUCUCCUCCCGUau-----
28	0,-3	
		-----UCACUCCUCUCCUCCCGUu-----
17	0,-3	
		-----UCACUCCUCUCCUCCCGUuu-----
3	0,-3	
		-----UCACUCCUCUCCUCCCGUC-----
890	0,-2	
		-----UCACUCCUCUCCUCCCGUCa-----
83	0,-2	
		-----UCACUCCUCUCCUCCCGUCaa-----
52	0,-2	
		-----UCACUCCUCUCCUCCCGUCau-----
19	0,-2	
		-----UCACUCCUCUCCUCCCGUCU-----
1583	0,-1	
		-----UCACUCCUCUCCUCCCGUCUa-----
58	0,-1	
		-----UCACUCCUCUCCUCCCGUCUaa-----
288	0,-1	
		-----UCACUCCUCUCCUCCCGUCUau-----
89	0,-1	
		-----UCACUCCUCUCCUCCCGUCUU-----
4339	0,0	
		-----UCACUCCUCUCCUCCCGUCUUa-----
2505	0,0	

		-----UCACUCCUCUCCUCCCGUCUUaa-----
1811	0,0	
		-----UCACUCCUCUCCUCCCGUCUUau-----
530	0,0	
		-----UCACUCCUCUCCUCCCGUCUUu-----
2779	0,0	
		-----UCACUCCUCUCCUCCCGUCUUuu-----
71	0,0	
		-----UCACUCCUCUCCUCCCGUCUUC-----
5116	0,1	
		-----UCACUCCUCUCCUCCCGUCUUCa-----
1683	0,1	
		-----UCACUCCUCUCCUCCCGUCUUCaa-----
154	0,1	
		-----UCACUCCUCUCCUCCCGUCUUCau-----
65	0,1	
		-----UCACUCCUCUCCUCCCGUCUUCU-----
702	0,2	
		-----UCACUCCUCUCCUCCCGUCUUCUa-----
10	0,2	
		-----UCACUCCUCUCCUCCCGUCUUCUaa-----
3	0,2	
		-----UCACUCCUCUCCUCCCGUCUUCUau-----
2	0,2	
		-----UCACUCCUCUCCUCCCGUCUUCUu-----
5	0,2	
		-----UCACUCCUCUCCUCCCGUCUUCUC-----
2	0,3	
		-----CACUCCUCUCCUCCCGUC-----
193	1,-2	
		-----CACUCCUCUCCUCCCGUCa-----
3	1,-2	
		-----CACUCCUCUCCUCCCGUCaa-----
2	1,-2	
		-----CACUCCUCUCCUCCCGUCU-----
441	1,-1	
		-----CACUCCUCUCCUCCCGUCUaa-----
9	1,-1	

		-----CACUCCUCUCCUCCCGUCUU-----
1245	1,0	
		-----CACUCCUCUCCUCCCGUCUUa-----
220	1,0	
		-----CACUCCUCUCCUCCCGUCUUaa-----
90	1,0	
		-----CACUCCUCUCCUCCCGUCUUau-----
54	1,0	
		-----CACUCCUCUCCUCCCGUCUUu-----
198	1,0	
		-----CACUCCUCUCCUCCCGUCUUuu-----
106	1,0	
		-----CACUCCUCUCCUCCCGUCUUC-----
4453	1,1	
		-----CACUCCUCUCCUCCCGUCUUCa-----
738	1,1	
		-----CACUCCUCUCCUCCCGUCUUCaa-----
58	1,1	
		-----CACUCCUCUCCUCCCGUCUUCau-----
16	1,1	
		-----CACUCCUCUCCUCCCGUCUUCU-----
14174	1,2	
		-----CACUCCUCUCCUCCCGUCUUCUa-----
171	1,2	
		-----CACUCCUCUCCUCCCGUCUUCUaa-----
46	1,2	
		-----CACUCCUCUCCUCCCGUCUUCUau-----
37	1,2	
		-----CACUCCUCUCCUCCCGUCUUCUu-----
78	1,2	
		-----CACUCCUCUCCUCCCGUCUUCUuu-----
9	1,2	
		-----CACUCCUCUCCUCCCGUCUUCUC-----
17	1,3	
		-----CACUCCUCUCCUCCCGUCUUCUCCa-----
3	1,4	
		-----ACUCCUCUCCUCCCGUCU-----
54	2,-1	

```

-----ACUCCUCUCCUCCCGUCUaa-----
4 2,-1
-----ACUCCUCUCCUCCCGUCUau-----
6 2,-1
-----ACUCCUCUCCUCCCGUCUU-----
147 2,0
-----ACUCCUCUCCUCCCGUCUua-----
48 2,0
-----ACUCCUCUCCUCCCGUCUua-----
102 2,0
-----ACUCCUCUCCUCCCGUCUau-----
20 2,0
-----ACUCCUCUCCUCCCGUCUuu-----
89 2,0
-----ACUCCUCUCCUCCCGUCUuu-----
5 2,0
-----ACUCCUCUCCUCCCGUCUUC-----
234 2,1
-----ACUCCUCUCCUCCCGUCUUCa-----
71 2,1
-----ACUCCUCUCCUCCCGUCUUCaa-----
9 2,1
-----ACUCCUCUCCUCCCGUCUUCau-----
8 2,1
-----ACUCCUCUCCUCCCGUCUUCU-----
300 2,2
-----ACUCCUCUCCUCCCGUCUUCUaa-----
5 2,2
-----ACUCCUCUCCUCCCGUCUUCUu-----
5 2,2
-----ACUCCUCUCCUCCCGUCUUCUC-----
2 2,3

```

>hsa-mir-484 5p:8-29 SRX018971

```

agccucgUCAGGCUCAGUCCCCUCCCGAUaaaccccuaaaauagggacuuucccggggggugaccuggcuuuuuuggcg
.((((..((((((....(((.(((((((..(((.((((....))))..)))))).)))))).))))).))))).
-----UCAGGCUCAGUCCCCUCC-----
9 0,-4

```

```

-----UCAGGCUCAGUCCCCUCCC-----
13  0, -3
-----UCAGGCUCAGUCCCCUCCCau-----
2   0, -3
-----UCAGGCUCAGUCCCCUCCCG-----
43  0, -2
-----UCAGGCUCAGUCCCCUCCCGu-----
18  0, -2
-----UCAGGCUCAGUCCCCUCCCGuu-----
14  0, -2
-----UCAGGCUCAGUCCCCUCCCGA-----
157 0, -1
-----UCAGGCUCAGUCCCCUCCCGAa-----
69  0, -1
-----UCAGGCUCAGUCCCCUCCCGAaa-----
55  0, -1
-----UCAGGCUCAGUCCCCUCCCGAau-----
10  0, -1
-----UCAGGCUCAGUCCCCUCCCGAU-----
507 0, 0
-----UCAGGCUCAGUCCCCUCCCGAUu-----
78  0, 0
-----UCAGGCUCAGUCCCCUCCCGAUuu-----
29  0, 0
-----UCAGGCUCAGUCCCCUCCCGAUA-----
103 0, 1
-----UCAGGCUCAGUCCCCUCCCGAUAu-----
92  0, 1
-----UCAGGCUCAGUCCCCUCCCGAUAuu-----
2   0, 1
-----UCAGGCUCAGUCCCCUCCCGAUAA-----
74  0, 2
-----UCAGGCUCAGUCCCCUCCCGAUAAu-----
2   0, 2
-----UCAGGCUCAGUCCCCUCCCGAUAAA-----
7   0, 3
-----CAGGCUCAGUCCCCUCCCGA-----
2   1, -1

```

8	1,0	-CAGGCUCAGUCCCCUCCCGAU-
3	1,1	-CAGGCUCAGUCCCCUCCCGAU <u>u</u> -
4	2,-1	-AGGCUCAGUCCCCUCCCGA-
3	2,-1	-AGGCUCAGUCCCCUCCCGA <u>aa</u> -
13	2,0	-AGGCUCAGUCCCCUCCCGAU-
2	2,1	-AGGCUCAGUCCCCUCCCGAU <u>u</u> -
4	2,2	-AGGCUCAGUCCCCUCCCGAU <u>AA</u> -

```

>hsa-mir-485      5p:9-30;3p:46-67      SRX018971
acuuggagAGAGGCUGGCCGUGAUGAAUUCgauucaucaaaagcgaGUCAUACACGGCUCUCCUCUCUuuuagu
(((..((((((((..(((((((((((.((((.....))))))))).)))))).))))))
-----AGUCAUACACGGCUCUCCUCU----- 3
-1,-2
-----AGUCAUACACGGCUCUCCUCUC----- 5
-1,-1
-----AGUCAUACACGGCUCUCCUCUCU----- 2
-1,0
-----GUCAUACACGGCUCUCCUCUC----- 2
0,-1
-----GUCAUACACGGCUCUCCUCUCU----- 14
0,0

```

```

>hsa-mir-486      5p:4-25;3p:46-66      SRX018971
gcaUCCUGUACUGAGCUGCCCCGAGgcccuucaugcugcccagcuCGGGGCAGCUCAGUACAGGAUac
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
---UCCUGUACUGAGCUGCCC-----17  0,-4
---UCCUGUACUGAGCUGCCCC-----62  0,-3
---UCCUGUACUGAGCUGCCCCG-----22  0,-2
---UCCUGUACUGAGCUGCCCCGA-----165 0,-1
---UCCUGUACUGAGCUGCCCCGAa-----7  0,-1
---UCCUGUACUGAGCUGCCCCGAaa-----2  0,-1

```



```

---UCCUGUACUGAGCUGCCCCGAu----- 2 0,-1
---UCCUGUACUGAGCUGCCCCGAG----- 307 0,0
---UCCUGUACUGAGCUGCCCCGAGa----- 233 0,0
---UCCUGUACUGAGCUGCCCCGAGaa----- 8 0,0
---UCCUGUACUGAGCUGCCCCGAGau----- 3 0,0
---UCCUGUACUGAGCUGCCCCGAGu----- 37 0,0
---UCCUGUACUGAGCUGCCCCGAGuu----- 3 0,0
-----CUGUACUGAGCUGCCCCGA----- 4 2,-1
-----CUGUACUGAGCUGCCCCGAG----- 2 2,0
-----CUGUACUGAGCUGCCCCGAGa----- 3 2,0
-----CGGGGCAGCUCAGUACAGGAU-- 2 0,0

```

>hsa-mir-487a 3p:49-70 SRX018971

```

gguacuugaagagugguauccugcuguguucgcuuaauuuugacgAAUCAUACAGGGACAUCCAGUUuuucaguauc
(((((((.((((((.(((...((((((.(((((((((.(((.....)))))))).)))))))).))))).))))))
-----AAUCAUACAGGGACAUCCAGU-----
4 0,-1
-----AAUCAUACAGGGACAUCCAGUU-----
7 0,0

```

>hsa-mir-487b 3p:51-72 SRX018971

```

uugguacuuggagagugguauccuguccuguucguuuugcucaugucgAAUCGUACAGGGUCAUCCACUUuuucagua
ucaa
.(((((((.((((((((.....((((((.((((((((.....)))))))).)))))))).))))).))))))
)))
-----AAUCGUACAGGGUCAUCCAa-----
---- 2 0,-3
-----AAUCGUACAGGGUCAUCCAau-----
---- 2 0,-3
-----AAUCGUACAGGGUCAUCCAC-----
---- 3 0,-2
-----AAUCGUACAGGGUCAUCCACU-----
---- 55 0,-1
-----AAUCGUACAGGGUCAUCCACUU-----
---- 49 0,0
-----AAUCGUACAGGGUCAUCCACUUa-----
---- 2 0,0
-----AAUCGUACAGGGUCAUCCACUUU-----

```



```

----- 8 0,-1
-----UGAAGGUCUACUGUGGCCAGa--
----- 4 0,-1
-----UGAAGGUCUACUGUGGCCAGG--
----- 2 0,0

```

>hsa-mir-494 3p:48-69 SRX018971

gauacucgaaggagagguuguccguguugucucuuuuuuuugaUGAAACAUACACGGGAAACCUuuuuuuaguau
c

(((((.(((((((((((.(((((((((.(((((.)))))).)))))).)))))).))))))

)
-----UGAAACAUACACGGGAAACCU-----

- 2 0,-1
-----UGAAACAUACACGGGAAACCUC-----

- 2 0,0
-----UGAAACAUACACGGGAAACCUCU-----

- 16 0,1

>hsa-mir-495 3p:50-71 SRX018971

ugguaccugaaaagaaguugcccauguuuuuuucgcuuuauaugugacgAAACAAACAUGGUGCACUUCUuuuucgguauc
a

.(((((.(((((((((((.(((((((((.(((((.)))))).)))))).)))))).))))))
)

-----AAACAAACAUGGUGCACUUC-----

-- 6 0,-2
-----AAACAAACAUGGUGCACUUCU-----

-- 11 0,-1
-----AAACAAACAUGGUGCACUUCU-----

-- 80 0,0
-----AAACAAACAUGGUGCACUUCUa-----

-- 9 0,0
-----AAACAAACAUGGUGCACUUCUU-----

-- 79 0,1
-----AAACAAACAUGGUGCACUUCUUU-----

-- 6 0,2
-----AACAAACAUGGUGCACUUCU-----

-- 2 1,-1
-----AACAAACAUGGUGCACUUCU-----

```
-- 5 1,0
-----AACAAACAUGGUGCACUUCUUa-----
-- 2 1,0
-----AACAAACAUGGUGCACUUCUUaa-----
-- 2 1,0
-----AACAAACAUGGUGCACUUCUUU-----
-- 14 1,1
```

>hsa-mir-496 3p:56-77 SRX018971

```
cccaagucagguacucgaauaggagguuguccaugguguguucauuuuuuuugaUGAGUAUUACAUGGCCAAUCUCcuu
ucgguacucaaucuucuuggg
(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
))))))))))...))))))))))...))))))))))...))))))))))...))))))))))...))))))))))...
-----AGUAUUACAUGGCCAAUCUCu--
----- 3 2,0
```

>hsa-mir-497 MA:24-44;mi:64-85 SRX018971

```
ccaccccgguccugcucccgcccCAGCAGCACACUGUGGUUUGUacggcacuguggccacgucCAAACCACACUGUGGUG
UUAGAgcgagggugggggagggcaccgccgagg
((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...(((((((...
)))...)))...)))...)))...)))...)))...)))...)))...)))...)))...)))...)))...)))
-----CAGCAGCACACUGUGGUUU-----
----- 22 0,-2
-----CAGCAGCACACUGUGGUUUG-----
----- 12 0,-1
-----CAGCAGCACACUGUGGUUUGU-----
----- 63 0,0
-----CAGCAGCACACUGUGGUUUGUA-----
----- 49 0,1
-----CAGCAGCACACUGUGGUUUGUAa-----
----- 17 0,1
-----CAGCAGCACACUGUGGUUUGUAaa-----
----- 3 0,1
-----CAGCAGCACACUGUGGUUUGUAau-----
----- 2 0,1
-----CAGCAGCACACUGUGGUUUGUAu-----
----- 4 0,1
-----CAGCAGCACACUGUGGUUUGUACu-----
```

```

----- 2 0,2
-----AGCAGCACACUGUGGUU-----
----- 2 1,-2
-----AGCAGCACACUGUGGUUGUA-----
----- 6 1,1
-----AGCAGCACACUGUGGUUGUAa-----
----- 5 1,1
-----AGCAGCACACUGUGGUUGUAC-----
----- 7 1,2
-----AGCAGCACACUGUGGUUGUACa-----
----- 2 1,2

```

```

>hsa-mir-499 5p:33-53;3p:70-91 SRX018971
gccucugucccugugccuugggcgggcggcugUUAAGACUUGCAGUGAUGUUaacuccucuccacgugAACAUACAGC
AAGUCUGUGCUgcuucccgucccuacgcugccugggcagggg
((((((((.....((...(((((((.....((((((((.....))))))))))))))))))
))))))..)).)).)).)).)).)).)).)).)).)).)).)).)).)).))
-----UUAAGACUUGCAGUGAUGU-----
----- 7 0,-2
-----UUAAGACUUGCAGUGAUGUU-----
----- 16 0,-1
-----UUAAGACUUGCAGUGAUGUUa-----
----- 6 0,-1
-----UUAAGACUUGCAGUGAUGUUaa-----
----- 2 0,-1
-----UUAAGACUUGCAGUGAUGUUau-----
----- 2 0,-1
-----UUAAGACUUGCAGUGAUGUUU-----
----- 510 0,0
-----UUAAGACUUGCAGUGAUGUUUu-----
----- 3 0,0
-----UUAAGACUUGCAGUGAUGUUUA-----
----- 155 0,1
-----UUAAGACUUGCAGUGAUGUUUA-----
----- 22 0,2

```

```

>hsa-mir-500a MA:13-35;mi:52-73 SRX018971
gcucccccucucUAAUCCUUGCUACCUGGGUGAGAgugcugucugaaugcaAUGCACCUGGGCAAGGAUUCUGagagcga

```

(((((.((((((((((...(..(((....(((.....))))...)))..)))))..)))).).
))))

-----	UAAUCCUUGCUACCUGGG-----	
----	9	0, -5
-----	UAAUCCUUGCUACCUGGGUau-----	
----	5	0, -4
-----	UAAUCCUUGCUACCUGGGUGA-----	
----	8	0, -2
-----	UAAUCCUUGCUACCUGGGUGAa-----	
----	2	0, -2
-----	UAAUCCUUGCUACCUGGGUGAG-----	
----	2	0, -1
-----	UAAUCCUUGCUACCUGGGUGAGA-----	
----	9	0, 0
-----	UAAUCCUUGCUACCUGGGUGAGAG-----	
----	3	0, 1
-----	UAAUCCUUGCUACCUGGGUGAGAGU-----	
----	5	0, 2
-----	AAUGCACCUGGGCAAGGA-----	
----	72	-1, -5
-----	AAUGCACCUGGGCAAGGAU-----	
----	33	-1, -4
-----	AAUGCACCUGGGCAAGGAUa-----	
----	21	-1, -4
-----	AAUGCACCUGGGCAAGGAUU-----	
----	192	-1, -3
-----	AAUGCACCUGGGCAAGGAUUa-----	
----	7	-1, -3
-----	AAUGCACCUGGGCAAGGAUUC-----	
----	31	-1, -2
-----	AAUGCACCUGGGCAAGGAUUCUGu-----	
----	2	-1, 0
-----	AAUGCACCUGGGCAAGGAUUCUGA-----	
----	8	-1, 1
-----	AUGCACCUGGGCAAGGAU-----	
----	263	0, -4
-----	AUGCACCUGGGCAAGGAUa-----	

-----	3	-1,0	-----AAUCCUUGCUAUCUGGGUGCUAu-----
-----	17	-1,0	-----AAUCCUUGCUAUCUGGGUGCUAG-----
-----	14	-1,1	-----AAUCCUUGCUAUCUGGGUGCUAGUG-----
-----	2	-1,3	-----AAUGCACCUGGGCAAGGA-----
-----	72	0,-4	-----AAUGCACCUGGGCAAGGAU-----
-----	33	0,-3	-----AAUGCACCUGGGCAAGGAUa-----
-----	21	0,-3	-----AAUGCACCUGGGCAAGGAUU-----
-----	192	0,-2	-----AAUGCACCUGGGCAAGGAUUa-----
-----	7	0,-2	-----AAUGCACCUGGGCAAGGAUUC-----
-----	31	0,-1	-----AAUGCACCUGGGCAAGGAUUCA-----
-----	48	0,0	-----AAUGCACCUGGGCAAGGAUUCAa-----
-----	14	0,0	-----AAUGCACCUGGGCAAGGAUUCAau-----
-----	4	0,0	-----AAUGCACCUGGGCAAGGAUUCAG-----
-----	49	0,1	-----AAUGCACCUGGGCAAGGAUUCAGu-----
-----	15	0,1	-----AAUGCACCUGGGCAAGGAUUCAGA-----
-----	2	0,2	-----AAUGCACCUGGGCAAGGAUUCAGAa-----
-----	4	0,2	-----AUGCACCUGGGCAAGGAU-----
-----	263	1,-3	-----AUGCACCUGGGCAAGGAUa-----
-----	165	1,-3	-----AUGCACCUGGGCAAGGAUaa-----

```

----- 3 1,-3
-----AUGCACCUGGGCAAGGAUU-----
----- 1269 1,-2
-----AUGCACCUGGGCAAGGAUUa-----
----- 3 1,-2
-----AUGCACCUGGGCAAGGAUUaa-----
----- 3 1,-2
-----AUGCACCUGGGCAAGGAUUC-----
----- 88 1,-1
-----AUGCACCUGGGCAAGGAUUCA-----
----- 2 1,0
-----AUGCACCUGGGCAAGGAUUCa-----
----- 2 1,0

```

>hsa-mir-503 5p:6-28 SRX018971

```

ugcccUAGCAGCGGGAACAGUUCUGCAGugagcgauccggugcucuggggguauuguuuuccgcugccagggua
(((((((.(((((((((((((((.(((.(((.((((((.....)))))))).)).)))))))).)))))))).))))))
-----UAGCAGCGGGAACAGUUC----- 103 0,-5
-----UAGCAGCGGGAACAGUUCa----- 2 0,-5
-----UAGCAGCGGGAACAGUUCU----- 121 0,-4
-----UAGCAGCGGGAACAGUUCUa----- 2 0,-4
-----UAGCAGCGGGAACAGUUCUaa----- 24 0,-4
-----UAGCAGCGGGAACAGUUCUG----- 29 0,-3
-----UAGCAGCGGGAACAGUUCUGa----- 3 0,-3
-----UAGCAGCGGGAACAGUUCUGC----- 2 0,-2
-----UAGCAGCGGGAACAGUUCUGCA----- 13 0,-1
-----UAGCAGCGGGAACAGUUCUGCAa----- 2 0,-1
-----UAGCAGCGGGAACAGUUCUGCAG----- 30 0,0
-----UAGCAGCGGGAACAGUUCUGCAGU----- 4 0,1
-----AGCAGCGGGAACAGUUCU----- 3 1,-4

```

>hsa-mir-504 5p:13-34 SRX018971

```

gcugcuguugggAGACCCUGGUCUGCACUCUAUCuguauuucuacugaagggagugcagggcagggguuucccauacagag
ggc
(((.(((((((((((((((((((.(((((((((((.(((.(((.((((((.....)))))))).)).)))))))).)))))))).))))..
)))
-----AGACCCUGGUCUGCACUCUAU-----
--- 47 0,-1

```



```

-----GUCAACACUUGCUGGUUCCUC-----
---- 7 1,1
-----GUCAACACUUGCUGGUUCCUCU-----
---- 3 1,2
-----UCAACACUUGCUGGUUCC-----
---- 2 2,-1
-----UCAACACUUGCUGGUUCCU-----
---- 3 2,0
-----UCAACACUUGCUGGUUCCUC-----
---- 3 2,1

```

>hsa-mir-511-1 5p:16-36 SRX018971

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAGuaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

(((((.(((..(((..(((((((((((..(((.((((.((((.....)))))))).)))..)))))))).)))..)))))

```

-----GUGUCUUUUGCUCUGCAGUCAGa-----
----- 4 0,1
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 6
-----AAUGUGUAGCAAAAGACA-----
----- 2
-----AAUGUGUAGCAAAAGACAG-----
----- 3
-----AAUGUGUAGCAAAAGACAGA-----
----- 24
-----AAUGUGUAGCAAAAGACAGAA-----
----- 16

```

>hsa-mir-511-2 5p:16-36 SRX018971

caauagacacccaucGUGUCUUUUGCUCUGCAGUCAGuaaaauuuuuuuugugaauguguagcaaaagacagaauuggugg
uccauug

(((((.(((..(((..(((((((((((..(((.((((.((((.....)))))))).)))..)))))))).)))..)))))

```

-----GUGUCUUUUGCUCUGCAGUCAGa-----
----- 4 0,1
-----UGAAUGUGUAGCAAAAGACAGA-----
----- 6

```

-----AAUGUGUAGCAAAAAGACA-----
----- 2 -----
-----AAUGUGUAGCAAAAAGACAG-----
----- 3 -----
-----AAUGUGUAGCAAAAAGACAGA-----
----- 24 -----
-----AAUGUGUAGCAAAAAGACAGAA-----
----- 16 -----

```
>hsa-mir-516b-1 MA:16-37;mi:61-78 SRX018971
ucucaggcugugaccAUCUGGAGGUAAGAAGCACUUUcuguuuugugaaagaaaagaaagUGCUUCCUUUCAGAGGGUua
cucuugaga
(((((((..((((((.(((((((...(((((((((((((.(((.....))))).))))))))))))))))))))))))).))))
).)))))))))
-----AUCUGGAGGUAAGAAGCACUUU-----
----- 3 0.0
```

```
>hsa-mir-516b-2 MA:16-37;mi:56-73 SRX018971
ucucaugaugugaccAUCUGGAGGUAAGAAGCACUUUguguuuugugaaagaaagUGCUUCCUUUCAGAGGGUuacucuu
ugaga
(((((((((.(.((((((.((((((((...((((((((((.(.....).))))))))))))))))).))))))..
))))))
-----AUCUGGAGGUAAGAAGCACUUU-----
----- 3 0.0
```

```

>hsa-mir-519a-1 mi:15-36;MA:53-74 SRX018971
cucaggcugugacaCUCUAGAGGGAAGCGCUUCUGuugucugaaagaaaggAAAGUGCAUCCUUUAGAGUGUuacugu
uugag
(((((((.(((((((((((((((((((((.(((((((((. . . . ((. . . . )) . )))))))))). . )))))))))). . ))
))))))
-----AAAGUGCAUCCUUUAGAG-----
----- 2 0,-3

```

```
>hsa-mir-519a-2 3p:54-75      SRX018971
ucucaggcugugucccucuacaggggaagcgcuuucuguugucugaaagaaaggAAAGUGCAUCCUUUAGAGUGUuacug
uuugaga
(((((((.(.((.(.((((.((((.((((((((...((....))..))))))))).))))).))))).)).)))).)
)))))))
```


-----			-CAUGCCUUGAGUGUAGGACCGUau-----
-----	8	0,0	
-----			-CAUGCCUUGAGUGUAGGACCGUU-----
-----	22	0,1	
-----			-CAUGCCUUGAGUGUAGGACCGUUaa-----
-----	2	0,1	
-----			-CAUGCCUUGAGUGUAGGACCGUUu-----
-----	5	0,1	
-----			-AUGCCUUGAGUGUAGGACCGU-----
-----	23	1,0	
-----			-AUGCCUUGAGUGUAGGACCGUaa-----
-----	2	1,0	
-----			-AUGCCUUGAGUGUAGGACCGUau-----
-----	2	1,0	
-----			-----CCUCCCACACCCAAGGCU-----
-----	7	0,-4	
-----			-----CCUCCCACACCCAAGGCUU-----
-----	44	0,-3	
-----			-----CCUCCCACACCCAAGGCUUu-----
-----	3	0,-3	
-----			-----CCUCCCACACCCAAGGCUUG-----
-----	89	0,-2	
-----			-----CCUCCCACACCCAAGGCUUGa-----
-----	12	0,-2	
-----			-----CCUCCCACACCCAAGGCUUGaa-----
-----	3	0,-2	
-----			-----CCUCCCACACCCAAGGCUUGu-----
-----	9	0,-2	
-----			-----CCUCCCACACCCAAGGCUUGC-----
-----	255	0,-1	
-----			-----CCUCCCACACCCAAGGCUUGC <u>u</u> -----
-----	7	0,-1	
-----			-----CCUCCCACACCCAAGGCUUGC <u>uu</u> -----
-----	3	0,-1	
-----			-----CCUCCCACACCCAAGGCUUGCA-----
-----	745	0,0	
-----			-----CCUCCCACACCCAAGGCUUGCA <u>u</u> -----
-----	68	0,0	


```

-----CCUCCCACACCCAAGGCUUGCAuu
----- 5 0,0
-----CCUCCCACACCCAAGGCUUGCAA-
----- 160 0,1
-----CCUCCCACACCCAAGGCUUGCAAu
----- 2 0,1
-----CCUCCCACACCCAAGGCUUGCAAA
----- 3 0,2
-----CUCCCACACCCAAGGCUUG----
----- 2 1,-2
-----CUCCCACACCCAAGGCUUGCA--
----- 6 1,0

```

>hsa-mir-539 5p:9-30 SRX018971

```

auacuugaGGAGAAAUUAUCCUUGGUGUGUucgcuuuuuuauugaugaucauacaaggacaauuucuuuuugaguau
(((((((((.....)))))).))))))..))))))
-----AUCAUACAAGGACAAUUCUUUa-----
2
-----AUACAAGGACAAUUCUUUUUG-----
10

```

>hsa-mir-542 5p:16-38;3p:53-74 SRX018971

```

cagaucucagacaucUCGGGGAUCAUCAUGUCACGAGAuaccagugugcacuUGUGACAGAUUGAUAAACUGAAAggucug
ggagccacucaucuca
....(((((((.....)))))).))))))..))))))..))))))..))))))
))).....
-----UCGGGGAUCAUCAUGUCAC-----
----- 4 0,-4
-----UCGGGGAUCAUCAUGUCACGA-----
----- 4 0,-2
-----UCGGGGAUCAUCAUGUCACGAGA-----
----- 3 0,0
-----UUGUGACAGAUUGAUAAAC-----
----- 6 -1,-5
-----UUGUGACAGAUUGAUAAACU-----
----- 2 -1,-4
-----UUGUGACAGAUUGAUAAACUGA-----
----- 3 -1,-2

```

-----			UUGUGACAGAUUGAUAAACUGAA-----
-----	2	-1,-1	
-----			UUGUGACAGAUUGAUAAACU-----
-----	19	0,-4	
-----			UUGUGACAGAUUGAUAAACUGA-----
-----	3	0,-2	
-----			UUGUGACAGAUUGAUAAACUGAA-----
-----	21	0,-1	
-----			UUGUGACAGAUUGAUAAACUGAAA-----
-----	11	0,0	
-----			UUGUGACAGAUUGAUAAACUGAAAAaa-----
-----	3	0,0	
-----			UUGUGACAGAUUGAUAAACUGAAAG-----
-----	2	0,1	

>hsa-mir-543 3p:47-68 SRX018971

[illegible]

>hsa-mir-544 3p:55-76 SRX018971

>hsa-mi r-545 mi:25-46;MA:63-84 SRX018971

cccagccuggcacauuaguaggccUCAGUAAAUGUUUAUAGAUGAauaaugaaugacucaUCAGCAAACAUUUAUUGU
GUGCcugcuaaagugagcuccacagg

.....(((((((((((((((((((((((((((((((((((((((((.....)))))))).))))))))) .
).)))))))).))....)))

-----AUCAGCAAACAUUUAUGU

GU----- 2 -1,-2

```

>hsa-mir-548a-2 3p:61-82      SRX018971
ugugauguguauuagguuugugcaaaaguaauugggguuuuuugccguuaaaaguaauggCAAAACUGGCAUUACUUUU
GCaccaaacuauauaa
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))....)))))))).
-----CAAAACUGGCAUUACUUUU
-----11 0,-2
-----CAAAACUGGCAUUACUUUU
G-----9 0,-1
-----CAAAACUGGCAUUACUUUU
Ga-----3 0,-1
-----CAAAACUGGCAUUACUUUU
Gaa-----3 0,-1

```

-----AAAACUGGCAUUACUUUU
-----3 1,-2

-----			AAAAGUAAUUGCGAGUUUA-----
-----	2	0,-2	
-----			-----CAAAACUGGCAAUUACUUUU
-----	11	0,-2	
-----			-----CAAAACUGGCAAUUACUUUU
G-----	9	0,-1	
-----			-----CAAAACUGGCAAUUACUUUU
Ga-----	3	0,-1	
-----			-----CAAAACUGGCAAUUACUUUU
Gaa-----	3	0,-1	
-----			-----AAAACUGGCAAUUACUUUU
-----	3	1,-2	

-----			CAAAAACCAAAUACUUUUGC-----
-----	8	-1,-4	
-----			CAAAAACCAAAUACUUUUGCA-----
-----	42	-1,-3	
-----			CAAAAACCAAAUACUUUUGCAa-----
-----	9	-1,-3	
-----			AAAAACCAAAUACUUUUGC-----
-----	3	0,-4	
-----			AAAAACCAAAUACUUUUGCA-----
-----	59	0,-3	
-----			AAAAACCAAAUACUUUUGCAa-----
-----	19	0,-3	

```

-----AAAACCACAAUACUUUUGCAu---
----- 7 0,-3
-----AAAACCACAAUACUUUUGCAC---
----- 4 0,-2
-----AAAACCACAAUACUUUUGC-----
----- 12 1,-4
-----AAAACCACAAUACUUUUGCA---
----- 23 1,-3
-----AAAACCACAAUACUUUUGCAa---
----- 17 1,-3
-----AAAACCACAAUACUUUUGCAu---
----- 4 1,-3
-----AAAACCACAAUACUUUUGCAC---
----- 54 1,-2
-----AAACCACAAUACUUUUG-----
----- 2 2,-5
-----AAACCACAAUACUUUUGCA---
----- 10 2,-3
-----AAACCACAAUACUUUUGCAu---
----- 5 2,-3
-----AAACCACAAUACUUUUGCAC---
----- 20 2,-2
-----AAACCACAAUACUUUUGCACC---
----- 9 2,-1

```

>hsa-mi r-548aa-2 3p:55-79 SRX018971

```

uuuuauuagguuggugcaaaagaaacugugguuuugccauuacuuucaauggcAAAACCACAAUACUUUUGCACCAa
ccuaaaucuucccucuc

```

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))).....)))))))))
)))))).....

```

```

-----CAAAAACCACAAUACUUUUGC-----
----- 8 -1,-4
-----CAAAAACCACAAUACUUUUGCA---
----- 42 -1,-3
-----CAAAAACCACAAUACUUUUGCAa---
----- 9 -1,-3
-----AAAAACCACAAUACUUUUGC-----
----- 3 0,-4

```

```

-----AAAACCACAAUACUUUUGCA-----
-----59  0,-3-----
-----AAAACCACAAUACUUUUGCAa-----
-----19  0,-3-----
-----AAAACCACAAUACUUUUGCAu-----
-----7   0,-3-----
-----AAAACCACAAUACUUUUGCAC-----
-----4   0,-2-----
-----AAAACCACAAUACUUUUGC-----
-----12  1,-4-----
-----AAAACCACAAUACUUUUGCA-----
-----23  1,-3-----
-----AAAACCACAAUACUUUUGCAa-----
-----17  1,-3-----
-----AAAACCACAAUACUUUUGCAu-----
-----4   1,-3-----
-----AAAACCACAAUACUUUUGCAC-----
-----54  1,-2-----
-----AAACCACAAUACUUUUG-----
-----2   2,-5-----
-----AAACCACAAUACUUUUGCA-----
-----10  2,-3-----
-----AAACCACAAUACUUUUGCAu-----
-----5   2,-3-----
-----AAACCACAAUACUUUUGCAC-----
-----20  2,-2-----
-----AAACCACAAUACUUUUGCACC-----
-----9   2,-1-----

```

>hsa-mir-548b 5p:25-46;3p:61-82 SRX018971

cagacuauauauuuagguuggcgcAAAAGUAAUUGUGGUUUUGGCCuuuauuuucaauggCAAGAACCUCAGUUGCUIUUU
GUgccaaccuaauacuu

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
-----AAAAGUAAUUGUGGUUUU-----
-----3   0,-4-----
-----AAAAGUAAUUGUGGUUUUGGaa-----
-----2   0,-2-----

```

```

-----AAAAGUAAUUGUGGUUUUGGCa-----
-----      3      0,-1
-----AAAAGUAAUUGUGGUUUUGGCC-----
-----      2      0,0
-----AAAGUAAUUGUGGUUUUGGCau-----
-----      2      1,-1
-----CAAGAACCUCAGUUGCUUUU
-----      3      0,-2
-----CAAGAACCUCAGUUGCUUUU
G-----      5      0,-1
-----CAAGAACCUCAGUUGCUUUU
GU-----      4      0,0
-----CAAGAACCUCAGUUGCUUUU
GUu-----      2      0,0

```

```

>hsa-mi r-548c    5p:25-46;3p:61-82    SRX018971
cauuggcaucauuagguuggugcAAAAGUAAUUGCGGUUUUUGCCauuacuuucaguagCAAAAUCUCAAUUACUUUU
GCaccaacuuaauacuu
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))...
-----CAAAAGUAAUUGCGGUUUUUG-----
-----      3      -1,-2
-----AAAAGUAAUUGCGGUUUU-----
-----      8      0,-4
-----AAAAGUAAUUGCGGUUUUa-----
-----      2      0,-4
-----AAAAGUAAUUGCGGUUUU-----
-----      28     0,-3
-----AAAAGUAAUUGCGGUUUUa-----
-----      2      0,-3
-----AAAAGUAAUUGCGGUUUUUG-----
-----      25     0,-2
-----AAAAGUAAUUGCGGUUUUUGa-----
-----      3      0,-2
-----AAAAGUAAUUGCGGUUUUUGC-----
-----      7      0,-1
-----AAAAGUAAUUGCGGUUUUUGCa-----
-----      3      0,-1

```

```

-----AAAAGUAAUUGCGUUUUUGCu-----
-----      3      0,-1
-----AAAAGUAAUUGCGUUUUUGCC-----
-----      6      0,0
-----AAAAGUAAUUGCGUUUUUGCCA-----
-----      2      0,1
-----AAAGUAAUUGCGUUUUU-----
-----      5      1,-3
-----AAAGUAAUUGCGUUUUUGC-----
-----      5      1,-1
-----AAAGUAAUUGCGUUUUUGCC-----
-----      2      1,0
-----AAAGUAAUUGCGUUUUUGCCu-----
-----      3      1,0
-----AAAGUAAUUGCGUUUUUGCCA-----
-----      4      1,1
-----AAGUAAUUGCGUUUUUGCCA-----
-----      2      2,1
-----CAAAAAUCUCAAUUACUUUU
G-----      4      0,-1

```

>hsa-mir-548d-1 5p:25-46;3p:61-82 SRX018971

```

aaacaaguauauuagguuggugcAAAAGUAAUUGUGUUUUUGCCuguaaaaguauggCAAAAACCACAGUUUCUUUU
GCaccagacuaauaaag

```

```

.....(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))...

```

```

-----CAAAGUAAUUGUGUUUU-----
-----      4      -1,-3
-----CAAAGUAAUUGUGUUUUUGCa-----
-----      4      -1,-1
-----AAAAGUAAUUGUGUUUU-----
-----      3      0,-4
-----AAAAGUAAUUGUGUUUU-----
-----     11      0,-3
-----AAAAGUAAUUGUGUUUUUG-----
-----     12      0,-2
-----AAAAGUAAUUGUGUUUUUGa-----
-----      3      0,-2

```



```

-----AAAAGUAAUUGUGGUUUUUGCC-----
-----      4      0,0
-----AAAGUAAUUGUGGUUUUUGC-----
-----      2      1,-1
-----AAAGUAAUUGUGGUUUUUGCu-----
-----      5      1,-1
-----AAAAACCACAGUUUCUUUU
GCA-----      2      1,1

```

>hsa-mir-548e 3p:53-74 SRX018971

```

uuauuagguugguacaaaagcaaucgcgguuuuugcuauuacuuuaaaggcAAAAACUGAGACUACUUUUGCAccaacc
ugauagaa

```

```

((((((((((((((.((((((...((.((((((((((((((.((((...)))..))))))))))..))))))..
))))))..

```

```

-----CAAAAACUGAGACUACUUUUG-----
-----      3      -1,-2
-----CAAAAACUGAGACUACUUUUGu-----
-----      2      -1,-2
-----CAAAAACUGAGACUACUUUUGC-----
-----      4      -1,-1
-----AAAAACUGAGACUACUUUU-----
-----     20      0,-3
-----AAAAACUGAGACUACUUUUG-----
-----     13      0,-2
-----AAAAACUGAGACUACUUUUGC-----
-----     74      0,-1
-----AAAAACUGAGACUACUUUUGCA-----
-----    131      0,0
-----AAAAACUGAGACUACUUUUGCAa-----
-----     70      0,0
-----AAAAACUGAGACUACUUUUGCAu-----
-----      2      0,0
-----AAAACUGAGACUACUUUUGC-----
-----      4      1,-1
-----AAAACUGAGACUACUUUUGCAa-----
-----      3      1,0

```

>hsa-mir-548f-1 3p:51-69 SRX018971

```

auuagguuggugcaaaaguaaucaguuuuugacauuacuuucaaaagacAAAAACUGUAAUACUUUUggaccaaccua
auag
(((((((((((.(((((((((((.(((((((((((.....)))))))))).))))))))).))))))))))
))..
--UAGGUUGGUGCAAAAGUAAU-----
----      2
-----CAAAAACUGUAAUACUUUU-----
----      4      -1,0

```

```

>hsa-mir-548f-2 3p:59-77      SRX018971
uaauaacuaauagguuggugcgaacauaaauugcaguuuuuaucauacuuuuuauuggcAAAAACUGUAAUACUUUUgca
ccaaccuaauauuuuagu
.....(((((((((((((((((((.(((((((((((((((((((.((((.....)))))).))))))))))))).))))))
)))))))))))).
-----CAAAAACUGUAAUACUUUU---
-----      4      -1,0
-----CAAAAACUGUAAUACUUUUGC-
-----      29      -1,2

```

```

>hsa-mir-548f-3 3p:54-72      SRX018971
auuagguuggugcaaaccuaauugcauuuuugcaguuuuuuuaguaauugcAAAAACUGUAAUACUUUUgcaccaac
cuaauac
(((((((((((((((((((.(((((((((((((((((((.((((.....)))))))))).))))))))).))))))))))
)))))).
-----CAAAAACUGUAAUACUUUU-----
-----      4      -1,0
-----CAAAAACUGUAAUACUUUUGC-----
-----      29      -1,2

```

```

>hsa-mir-548f-4 3p:63-81      SRX018971
gaguucuaacguauuagguuggugcaaaaguaauagugguuuuugccauuaaaaguaaugacAAAAACUGUAAUACUUU
Uggaacaauauuaauagaauuucag
(((((((((((...(((...(((.(((((((((((.(((((((((((.((((.....)))))).))))))))).))))))
)).).))))).)).)))))))).
-----UAGGUUGGUGCAAAAGUAAU-----
-----      2
-----CAAAAACUGUAAUACUUU
U-----      4      -1,0

```


-----AAAAGUAAUUGCGGAUUUUG-----
-----3 0,-2-----

```
>hsa-mir-548i-4 5p:11-32      SRX018971
agguuggugcAAAAGUAAUUGCGGAUUUUGCCauacuuuuuacggcaaaaaccacaaauuuauugcaccaaccuau
((((((((((((((.(((((((((.(((.((((((((((.....))))))))).)).)).)).)).))))))))...
-----AAAAGUAAUUGCGGAUUUUG-----
      3      0,-2
```

```

-----AAAAGUAAUUGCGGUCUUUGG-----
-----21 0,-1-----
-----AAAAGUAAUUGCGGUCUUUGGa-----
-----5 0,-1-----
-----AAAAGUAAUUGCGGUCUUUGGaa-----
-----6 0,-1-----
-----AAAAGUAAUUGCGGUCUUUGGU-----
-----56 0,0-----
-----AAAAGUAAUUGCGGUCUUUGGUA-----
-----5 0,1-----
-----CAAAAACUGCAUUACU
UUU-----6-----
-----CAAAAACUGCAUUACU
UUUG-----12-----
-----CAAAAACUGCAUUACU
UUUGa-----2-----
-----CAAAAACUGCAUUACU
UUUGC-----6-----

```

>hsa-mi r-548k 5p:32-53 SRX018971

cuuuucucaaguuugcuguuagguuggugcAAAAGUACUUGCGGAUUUUGCUuuacuuuuuauuggcaaaaaccgcauu
auuuuugcuucaaccuaauaugaugcaaaauuggcu

.....(((((((.(((((((((((.(((((((((((.(((((((.((((((((((((.....))))))))).)))))).)))))

```

-----AAAAGUACUUGCGGAUUU-----
-----16 0,-4-----
-----AAAAGUACUUGCGGAUUUU-----
-----36 0,-3-----
-----AAAAGUACUUGCGGAUUUUG-----
-----10 0,-2-----
-----AAAAGUACUUGCGGAUUUUGa-----
-----9 0,-2-----
-----AAAAGUACUUGCGGAUUUUGC-----
-----48 0,-1-----
-----AAAAGUACUUGCGGAUUUUGCa-----
-----2 0,-1-----
-----AAAAGUACUUGCGGAUUUUGCU-----
-----103 0,0-----

```

uuuagguuggucAAAAGUAUUUGCGGUUUUGUCguagaaaguaauggcaaaaacugcaguuacuugucaccaacca
augcu

>hsa-mir-548n 5p:10-31 SRX018971

>hsa-mi r-548o 3p:87-108 SRX018971

```

uggugaaaauguguugauuguaaugguuccuauucugaucaauuaaacauggguugagccuaguuacaugaucuaaaaau
cacgguCCAAAACUGCAGUUACUUUUGCaccaac
(((((((((...(((...(((...(((...(((...(((...(((...(((...(((...(((...(((...(((...
...)))...)))...)))...)))...)))...)))...)))...)))...)))...)))...)))...)))...))
-----
-----CCAAAACUGCAGUUACUUU----- 9 0,-2
-----
-----CCAAAACUGCAGUUACUUUG----- 25 0,-1

```


-----CCAAAACUGCAGUUAUUUGa----- 17 0,-1

-----CCAAACUGCAGUUACUUUUGC----- 35 0,0

-----CAAACUGCAGUACUUUGa----- 2 1,-1

>hsa-mir-548g 5p:8-29 SRX018971

auuuagGCUGGUGCAAAGUAAUGGCGuuuuugccauuacuuucuuuuuaccuuaaaaguaauggcaaaagcau
gauuacuuuuucaccaaccu

$\dots(((.((((((((((.(.(((((((((((((((((((((. (...)).).)))))))))...))).).)$

----- 5 -2, -4

----- 2 -2, -3

$$-----2 \quad -2, -3$$

----- 9 -2, -2

$$----- \quad 2 \quad -2, -2$$
$$----- \quad 2 \quad 1, -2$$

----- 3 1,-1

>hsa-mir-548s 3p:52-74 SRX018971

uugcugcaaaaaaauugcaguuuuugccauuuuuuaauaauuaaauAUGGCCAAAACUGCAGUUAUUUugcacc
aa

$$\begin{aligned} & .((.(((((((((((((((((((((((((((.(((((((((((((. \dots)))))))))).))))))))))) \\ &). \end{aligned}$$

-- 5

-- 9 -2, -3

-- 3 0,-3

```
-- 2 0,-2
-----AUGGCCAAAACUGCAGUUAUU-----
-- 10 0,-1
```

>hsa-mir-548t 5p:10-30 SRX018971

```
aggguggugCAAAAGUGAUCGUGGUUUUUGcaauuuuuuaugacaaaaaccacaauuacuuuugcaccaaccu
(((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CAAAAACCACAAUACUUUU----- 3
-----CAAAAACCACAAUACUUUUGC----- 8
-----CAAAAACCACAAUACUUUUGCA----- 42
-----CAAAAACCACAAUACUUUUGCAa----- 9
-----AAAAACCACAAUACUUUU----- 10
-----AAAAACCACAAUACUUUUGC----- 3
-----AAAAACCACAAUACUUUUGCA----- 59
-----AAAAACCACAAUACUUUUGCAa----- 19
-----AAAAACCACAAUACUUUUGCAu----- 7
-----AAAAACCACAAUACUUUUGCAC----- 4
-----AAAACCACAAUACUUUUGC----- 12
-----AAAACCACAAUACUUUUGCA----- 23
-----AAAACCACAAUACUUUUGCAa----- 17
-----AAAACCACAAUACUUUUGCAu----- 4
-----AAAACCACAAUACUUUUGCAC----- 54
-----AAACCACAAUACUUUUG----- 2
-----AAACCACAAUACUUUUGCA----- 10
-----AAACCACAAUACUUUUGCAu----- 5
-----AAACCACAAUACUUUUGCAC----- 20
-----AAACCACAAUACUUUUGCACC----- 9
-----AACCACAAUACUUUUGC----- 2
-----AACCACAAUACUUUUGCA----- 10
-----AACCACAAUACUUUUGCAa----- 2
-----AACCACAAUACUUUUGCAC----- 16
-----AACCACAAUACUUUUGCACC----- 18
-----AACCACAAUACUUUUGCACCA----- 35
-----AACCACAAUACUUUUGCACCAu----- 7
-----AACCACAAUACUUUUGCACCAA----- 7
```

>hsa-mir-548u 3p:49-71 SRX018971

```
auuaggauggugcaaaaguaaugugguuuuuuucuuuacuuuuauuggCAAAGACUGCAAUUACUUUUGCGccaaccuaa
```

(((((.(((((((((((((((((.(((((.(((.)))..)).))))..)).)))))))).)))))

```
>hsa-mi r-548v    3p:49-70    SRX018971
aaauacuagguuugagcaaaaguauuugcgguuuugccaucaugccaaaAGCUACAGUUACUUUUGCACCAgccuaauuu
((((.(((((((.(.(((((((((((((((((.(((((((.....)).)))))).)))))))))))))).)))))).))))
```

[illegible]

6 0,0

>hsa-mir-548w 5p:10-32 SRX018971

```
gguuggugcAAAAGUAAACUGCGUUUUUGCCUuucacauaauggcaaaaccacaaauacuuiuugcaccaauc
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----CAAAAGUAAACUGCGUUUUUG----- 3
-1,-3
-----AAAAGUAAACUGCGUUUUU----- 9
0,-4
-----AAAAGUAAACUGCGUUUUUG----- 7
0,-3
-----AAAAGUAAACUGCGUUUUUGC----- 5
0,-2
-----AAAAGUAAACUGCGUUUUUGCC----- 6
0,-1
-----AAAAGUAAACUGCGUUUUUGCCa----- 7
0,-1
```

>hsa-mir-548x 3p:46-66 SRX018971

```
agguuagugcaaaaguaaungcaguuuuugcguuacuuucaaucGUAAAAACUGCAAUUACUUUCacaccaaucu
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
-----AAAAGUAAUUGCAGUUUU----- 9
-----AAAAGUAAUUGCAGUUUU----- 4
-----AAAAGUAAUUGCAGUUUUUG----- 2
-----AAAAGUAAUUGCAGUUUUUGu----- 3
-----AAAAACUGCAAUUACUUU----- 2
1,-2
```

>hsa-mir-548y 5p:23-44 SRX018971

```
gccuaaacuauuagguuggugcAAAAGUAAUCACUGUUUUUGCCauuacucucaguggcaaaaaccgugauuacuuiuugc
accaaccuaguaacaccuucacuguggggg
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))))))).....
-----AUUACUUUUGC
ACCAACC----- 2
```

>hsa-mir-548z 3p:54-76 SRX018971

```
aaguaauaaguuggugcaaaaguaaungagauuuuugcuacugaaaguaauggCAAAAACCGCAAUUACUUUUGCaccaa
```

$\dots(((((((\dots)))))))).)))))$

-----			-----GCAAAAACCGCAAUUACUUU-----
-----	2	-1,-4	
-----			-----CAAAAACCGCAAUUACUUUU-----
-----	10	0,-3	
-----			-----CAAAAACCGCAAUUACUUUUG-----
-----	2	0,-2	
-----			-----AAAAACCGCAAUUACUUUUGa-----
-----	2	1,-2	

ugaugcuuugcuggcuggugcAGUGCCUGAGGGAGUAAGAGCCCuguuguuguaagauagUGUCUACUCCUCAGGCAC
AUcuccaacaagucucu

-----	AGUGCCUGAGGGAGUAAG-----	
-----	5 0, -5	
-----	AGUGCCUGAGGGAGUAAGA-----	
-----	2 0, -4	
-----	AGUGCCUGAGGGAGUAAGAG-----	
-----	12 0, -3	
-----	AGUGCCUGAGGGAGUAAGAGa-----	
-----	2 0, -3	
-----	AGUGCCUGAGGGAGUAAGAGCaa-----	
-----	2 0, -2	
-----	AGUGCCUGAGGGAGUAAGAGCCaa-----	
-----	2 0, -1	
-----		UGUCUUACUCCCUCAGGCAC
-----	2 0, -2	
-----		UGUCUUACUCCCUCAGGCAC
A-----	10 0, -1	
-----		UGUCUUACUCCCUCAGGCAC
Aa-----	3 0, -1	
-----		UGUCUUACUCCCUCAGGCAC
AU-----	31 0, 0	
-----		GUCUUACUCCCUCAGGCAC

-----GCGACCCAUACUUGGUUUC


```

----- 2 0,-2
-----CGAAAACAGCAAUUACCUUUG
----- 147 0,-1
-----CGAAAACAGCAAUUACCUUUG
a----- 8 0,-1
-----CGAAAACAGCAAUUACCUUUG
C----- 42 0,0
-----CGAAAACAGCAAUUACCUUUG
CAa----- 2 0,1
-----GAAAACAGCAAUUACCUU-
----- 4 1,-2
-----GAAAACAGCAAUUACCUUUG
----- 19 1,-1
-----GAAAACAGCAAUUACCUUUG
C----- 27 1,0
-----GAAAACAGCAAUUACCUUUG
CA----- 2 1,1
-----GAAAACAGCAAUUACCUUUG
CAa----- 3 1,1
-----GAAAACAGCAAUUACCUUUG
CAu----- 6 1,1
-----AAAACAGCAAUUACCUU-
----- 6 2,-2
-----AAAACAGCAAUUACCUUUG
C----- 3 2,0
-----AAAACAGCAAUUACCUUUG
CAa----- 2 2,1

```

>hsa-mir-574 5p:25-47;3p:61-82 SRX018971

```

gggaccugcgugggugcgggugUGAGUGUGUGUGUGAGUGUGUgucgcuccgggucCACGCUCAUGCACACACCCA
CAgcccacacucagg

```

```

.....(.((((.(((((((.(.((((((((((((((((.(.....))..))))))))))))))))))
))))))..))))))

```

```

-----GUGAGUGUGUGUGUGAG-----
----- 2 -1,-5
-----UGAGUGUGUGUGUGAG-----
----- 65 0,-5
-----UGAGUGUGUGUGUGAGa-----

```

```

-----      3   0,-5
-----UGAGUGUGUGUGUGUGAGU-----
-----     91   0,-4
-----UGAGUGUGUGUGUGUGAGUaa-----
-----      4   0,-4
-----UGAGUGUGUGUGUGUGAGUG-----
-----     12   0,-3
-----UGAGUGUGUGUGUGUGAGUGa-----
-----      8   0,-3
-----UGAGUGUGUGUGUGUGAGUGU-----
-----     39   0,-2
-----UGAGUGUGUGUGUGUGAGUGUG-----
-----      6   0,-1
-----UGAGUGUGUGUGUGUGAGUGUGa-----
-----      3   0,-1
-----UGAGUGUGUGUGUGUGAGUGUGaa-----
-----      2   0,-1
-----UGAGUGUGUGUGUGUGAGUGUGau-----
-----      2   0,-1
-----UGAGUGUGUGUGUGUGAGUGUGU-----
-----     28   0,0
-----UGAGUGUGUGUGUGUGAGUGUGUau-----
-----      4   0,0
-----UGAGUGUGUGUGUGUGAGUGUGUG-----
-----      9   0,1
-----UGAGUGUGUGUGUGUGAGUGUGUGa-----
-----      9   0,1
-----UGAGUGUGUGUGUGUGAGUGUGUGU-----
-----     13   0,2
-----GAGUGUGUGUGUGUGAGUGU-----
-----      2   1,-2
-----AGUGUGUGUGUGUGAGUGUGUGUaa-----
-----      2   2,2
-----CACGCUCAUGCACACACC-----
-----    129   0,-4
-----CACGCUCAUGCACACACCCC-----
-----    105   0,-3
-----CACGCUCAUGCACACACCCCu

```

-----	2	0,-3	-----CACGCUCAUGCACACACCCA
-----	406	0,-2	-----CACGCUCAUGCACACACCCA
a-----	60	0,-2	-----CACGCUCAUGCACACACCCA
aa-----	29	0,-2	-----CACGCUCAUGCACACACCCA
au-----	5	0,-2	-----CACGCUCAUGCACACACCCA
u-----	30	0,-2	-----CACGCUCAUGCACACACCCA
uu-----	3	0,-2	-----CACGCUCAUGCACACACCCA
C-----	336	0,-1	-----CACGCUCAUGCACACACCCA
Cu-----	33	0,-1	-----CACGCUCAUGCACACACCCA
Cuu-----	2	0,-1	-----CACGCUCAUGCACACACCCA
CA-----	1033	0,0	-----CACGCUCAUGCACACACCCA
CAa-----	157	0,0	-----CACGCUCAUGCACACACCCA
CAaa-----	5	0,0	-----CACGCUCAUGCACACACCCA
CAau-----	10	0,0	-----CACGCUCAUGCACACACCCA
CAu-----	112	0,0	-----CACGCUCAUGCACACACCCA
CAuu-----	4	0,0	-----CACGCUCAUGCACACACCCA
CAC-----	6	0,1	-----CACGCUCAUGCACACACCCA
CACu-----	4	0,1	-----ACGCUCAUGCACACACCC-
-----	6	1,-3	-----ACGCUCAUGCACACACCCA

Number of nucleotides	Number of nucleotides in the subset	Number of nucleotides in the subset that are not in the subset	Number of nucleotides in the subset that are not in the subset
19	0,1		AAGAUGUGGAAAAAUUGG-
14	0,-4		AAGAUGUGGAAAAAUUGGA-
6	0,-3		AAGAUGUGGAAAAAUUGGAA-
7	0,-2		AAGAUGUGGAAAAAUUGGAAa-
4	0,-2		AAGAUGUGGAAAAAUUGGAAU-
11	0,-1		AAGAUGUGGAAAAAUUGGAAUa-
15	0,-1		AAGAUGUGGAAAAAUUGGAAUaa-
3	0,-1		AAGAUGUGGAAAAAUUGGAAUu-
2	0,-1		AAGAUGUGGAAAAAUUGGAAUC-
6	0,0		AAGAUGUGGAAAAAUUGGAAUCC-
6	0,1		AGAUGUGGAAAAAUUGGAAUCC-
3	1,1		

>hsa-mir-577 5p:16-36 SRX018971

ugggggagugaagagUAGAUAAAAUAUUGGUACCUGauggaaucugaggccagguuucaaucuuuauucugcucuucuuu
ccccauaucuacuuac

[illegible]

-----GUAGAUAAAAUAUUGGUACCU-----
-----4-1,-1-----

>hsa-mir-579 3p:62-84 SRX018971

cauuuagguuaugcaaaaguaaucgcgguuuguccagaugacgauuugaauuaauaaUUCAUUUGGUAUAAACCGC
GAUUuuuuuugcaucaac

.....((..((((.....))

-----AUCGCGGUUGUGCCAGAUGA-----


```

----- 3 -1,-3
-----UGAGCUAUUCAUAAAAGUGCA-----
----- 11 -1,-1
-----GAGCUAUUCAUAAAAGU-----
----- 36 0,-4
-----GAGCUAUUCAUAAAAGUaa-----
----- 2 0,-4
-----GAGCUAUUCAUAAAAGUG-----
----- 93 0,-3
-----GAGCUAUUCAUAAAAGUGC-----
----- 39 0,-2
-----GAGCUAUUCAUAAAAGUGCA-----
----- 110 0,-1
-----GAGCUAUUCAUAAAAGUGCAa-----
----- 40 0,-1
-----GAGCUAUUCAUAAAAGUGCAaa-----
----- 2 0,-1
-----GAGCUAUUCAUAAAAGUGCAu-----
----- 4 0,-1
-----GAGCUAUUCAUAAAAGUGCAuu-----
----- 2 0,-1
-----GAGCUAUUCAUAAAAGUGCAG-----
----- 922 0,0
-----GAGCUAUUCAUAAAAGUGCAGa-----
----- 4 0,0
-----GAGCUAUUCAUAAAAGUGCAGU-----
----- 8 0,1
-----GUAUUUUUAUGUAUAAGCU-----
----- 17 -1,-3
-----GUAUUUUUAUGUAUAAGCUAu-----
----- 2 -1,-2
-----GUAUUUUUAUGUAUAAGCUAG-----
----- 14 -1,-1
-----GUAUUUUUAUGUAUAAGCUAGU-----
----- 66 -1,0
-----UAAUUUUUAUGUAUAAGCU-----
----- 231 0,-3
-----UAAUUUUUAUGUAUAAGCUA-----

```


-----	35	0,-2	-----UAAUUUUUAUGUAUAAGCUAG-----
-----	3	0,-1	-----UAAUUUUUAUGUAUAAGCUAGU-----
-----	27	0,0	-----UAAUUUUUAUGUAUAAGCUAGUa-----
-----	21	0,0	-----UAAUUUUUAUGUAUAAGCUAGUaa-----
-----	3	0,0	-----UAAUUUUUAUGUAUAAGCUAGUu-----
-----	7	0,0	-----UAAUUUUUAUGUAUAAGCUAGUC-----
-----	10	0,1	-----UAAUUUUUAUGUAUAAGCUAGUCa-----
-----	10	0,1	-----AAUUUUUAUGUAUAAGCUAGU-----
-----	4	1,0	-----AAUUUUUAUGUAUAAGCUAGUaa-----
-----	2	1,0	-----AUUUUAUGUAUAAGCUAGU-----
-----	2	2,0	

>hsa-mir-597 5p:16-37 SRX018971

uacuuacucucacgugUGUGUCACUCGAUGACACUGUgaagacaguaaaauguacagugguucucuuguggcucuaagcgu
aauguagaguacugguc

.(((((((((((((((.(.((((((.(.(((((((((((....(((.....)))))))))))))).))..)))))).)).....
 .))))))))))))..)).).

-----AGUGGUUCUCUUGUGGCUCAAu-----

----- 3

-----AGUGGUUCUCUUGUGGCUCAAGa-----

----- 2

>hsa-mir-598 3p:61-82 SRX018971

gcuugaugaugcugcugaugcuggcgggugaucccgauaggugugagcugggaaauggggugcUACGUCAUCGUUGUCAUCGU
CAucaucaucauccgag

.....((((((((..((((..((.(.....))))).))))).))))))
).....

-----UACGUCAUCGUUGUCAUC-----

-----	20	0,-4	-----UACGUCAUCGUUGUCAUCG-
-----	3	0,-3	-----UACGUCAUCGUUGUCAUCGU
-----	26	0,-2	-----UACGUCAUCGUUGUCAUCGU
C-----	6	0,-1	-----UACGUCAUCGUUGUCAUCGU
CA-----	36	0,0	-----UACGUCAUCGUUGUCAUCGU
CAa-----	10	0,0	-----UACGUCAUCGUUGUCAUCGU
CAU-----	39	0,1	-----UACGUCAUCGUUGUCAUCGU
CAUu-----	7	0,1	-----UACGUCAUCGUUGUCAUCGU
CAUuu-----	2	0,1	

```
>hsa-mir-600      3p:61-83      SRX018971
aagucacgugcugugggcuccagcuucauaggaaggcucucugucaggcaguggaguuACUUACAGACAAGAGCCUUG
CUCaggccagcccugccc
.....((.(.(((...(((...((.(((((((((((((((((((.(.....)).)))))))))))))).
)).))))).))))).))..
-----CAUAGGAAGGCUCUUGUC-----
----- 2
-----CAUAGGAAGGCUCUUGUC-----
----- 2
```

```
>hsa-mir-605      5p:16-38      SRX018971
gcccuagcuugguucUAAAUCCCAUGGUGCCUUCUCCUugggaaaaacagagaaggcacuaugagauuuagaaucaagu
agg
..(((((((((((((((((((((((.(((((((((((((((((((..((.....)))))))))((((((((((((((((
)))
-----GAAGGCACUAUGAGAUUUAG-----
--- 2
```

>hsa-mir-615 5p:18-39;3p:61-82 SRX018971
cucggggaggggcgggagGGGGGUCCCCGGUCUCGGAUCucgagggugcuuauuguucggUCCGAGCCUGGGUCUCCCUC

$\dots(((\dots((((((((((((((\dots((((((((((((((((((((\dots(.\dots\dots).)))))))))\dots))))))\dots))))))\dots$

-----GGGGGUCCCCGGUGCUCGGAU-----			
-----50,-1-----			
-----GGGGGUCCCCGGUGCUCGGAUaa-----			
-----30,-1-----			
-----GGGGGUCCCCGGUGCUCGGAUCa-----			
-----20,0-----			
-----UCCGAGCCUGGGUCUCCC-----			
-----20,-4-----			
-----UCCGAGCCUGGGUCUCCCU-----			
-----80,-3-----			
-----UCCGAGCCUGGGUCUCCCUu-----			
-----20,-3-----			
-----UCCGAGCCUGGGUCUCCCUC-----			
a-----20,-2-----			
-----UCCGAGCCUGGGUCUCCCUC-----			
U-----500,-1-----			
-----UCCGAGCCUGGGUCUCCCUC-----			
Ua-----70,-1-----			
-----UCCGAGCCUGGGUCUCCCUC-----			
Uaa-----120,-1-----			
-----UCCGAGCCUGGGUCUCCCUC-----			
Uau-----40,-1-----			
-----UCCGAGCCUGGGUCUCCCUC-----			
UU-----280,0-----			
-----UCCGAGCCUGGGUCUCCCUC-----			
UUa-----60,0-----			
-----UCCGAGCCUGGGUCUCCCUC-----			
UUaa-----100,0-----			
-----UCCGAGCCUGGGUCUCCCUC-----			
UUu-----100,0-----			
-----CGAGCCUGGGUCUCCCUC-----			
U-----32,-1-----			
-----CGAGCCUGGGUCUCCCUC-----			
UU-----32,0-----			

```

>hsa-mir-616    mi:16-37;MA:56-77    SRX018971
uuagguaauuccuccACUCAAACCCUUCAGUGACUucaugacaugaaauaggaAGUCAUUGGAGGGUUUGAGCAGagg
aauaccuguuuuuaaaa
.(((((((((.....)))))))))))))..)))
))).....
-----ACUCAAACCCUUCAGUGAC-----
-----    2    0,-2
-----ACUCAAACCCUUCAGUGACUU-----
-----    5    0,0
-----AAGUCAUUGGAGGGUUUGAGCAu---
-----    2    -1,-1

```

```

>hsa-mir-618    5p:16-38    SRX018971
cucuuguucacagccAAACUCUACUUGUCCUUCUGAGUguaauuacguacaugcaguagcucaggagacaagcagguuaa
cccuguggaugagucuga
..((..(((.....)))))))))..)))..
..))))))..)).....
-----AAACUCUACUUGUCCUUC-----
-----    7    0,-5
-----AAACUCUACUUGUCCUUCU-----
-----   54    0,-4
-----AAACUCUACUUGUCCUUCUG-----
-----    2    0,-3
-----AAACUCUACUUGUCCUUCUGA-----
-----    6    0,-2
-----AAACUCUACUUGUCCUUCUGAaa-----
-----    2    0,-2
-----AAACUCUACUUGUCCUUCUGAG-----
-----   18    0,-1
-----AAACUCUACUUGUCCUUCUGAGU-----
-----   24    0,0
-----AAACUCUACUUGUCCUUCUGAGUau-----
-----    2    0,0

```

```

>hsa-mir-619    3p:61-84    SRX018971
cgcccaccucagccuccaaaaugcugggauuacaggcaugagccacugcggucgaccauGACCUGGACAUGUUUGUGCC
CAGUacugucaguugcag
.(((..(((.....)))))))))..)))..

```

```

))))))...))...
-----CUGGGAUUACAGGCAUGA-----
----- 5
-----CUGGGAUUACAGGCAUGAG-----
----- 2
-----CUGGGAUUACAGGCAUGAGCCAau-----
----- 2
-----UGGGAUUACAGGCAUGAG-----
----- 6
-----UGGGAUUACAGGCAUGAGCCA-----
----- 3
-----UGGGAUUACAGGCAUGAGCCAC-----
----- 5
-----GGGAUUACAGGCAUGAGCCA-----
----- 3

```

```

>hsa-mir-624    mi:16-37;MA:54-74    SRX018971
aaugcuguuuaaggUAGUACCAGUACCUUGUGUUCauggaaccaagguaaaCACAAGGUAUUGGUAUUACCUugagau
agcauuacaccuaagug
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))).....
-----UAGUACCAGUACCUUGUGU-----
----- 4 0,-3
-----UAGUACCAGUACCUUGUGUU-----
----- 11 0,-2
-----UAGUACCAGUACCUUGUGUUC-----
----- 22 0,-1
-----UAGUACCAGUACCUUGUGUUCA-----
----- 56 0,0
-----AACACAAGGUAUUGGUAUU-----
----- 3 -2,-4
-----AACACAAGGUAUUGGUAUUA-----
----- 7 -2,-3
-----AACACAAGGUAUUGGUAUUa-----
----- 2 -2,-3
-----AACACAAGGUAUUGGUAUUAC-----
----- 2 -2,-2
-----CACAAGGUAUUGGUAUUACC-----

```

$$----- \quad 3 \quad 0, -1$$

>hsa-mi r-625 MA:15-35;mi :52-73 SRX018971

agggguagaggggaugAGGGGGAAAGUUCUAUAGUCCuguaauuagaucucagGACUAUAGAACUUUCCCCCUAucccucu
gCCCU

-----AGGGGGAAGUUCUAUAG-----

----- 4 0, -3

-----AGGGGAAAGUUCUAUAGU-----

----- 19 0,-2

-----AGGGGGAAGUUCUAUAGU_{aa}-----

----- 3 0, -2

-----AGGGGGAAGUUCUAUAGUC-----

----- 23 0,-1

-----AGGGGGAAGUUCUAUAGUCa-----

----- 18 0,-1

-----AGGGGGAAGUUCUAUAGUCC-----

----- 71 0,0

-----AGGGGGAAGUUCUAUAGUCCa-----

----- 3 0,0

-----AGGGGGAAGUUCUAUAGUCCU-----

----- 69 0,1

-----GGACUAUAGAACUUUCCCCCUC-----

----- 3 -1, -1

-----GACUAUAGAACUUUCCCC-----

----- 2 0, -3

-----GACUAUAGAACUUUCCCCCU-----

----- 19 0,-2

-----GACUAUAGAACUUUCCCCUaa-----

----- 3 0, -2

-----GACUAUAGAACUUUCCCCUau-----

----- 2 0, -2

-----GACUAUAGAACUUUCCCCCUC-----

----- 45 0,-1

-----GACUAUAGAACUUUCCCCCUCu-----

----- 9 0,-1

-----GACUAUAGAACUUUCCCCUCuu-----


```

----- 2 2,3
-----GUUCUCCCAACGUAAGCCCA
GC----- 7 0,0
-----GUUCUCCCAACGUAAGCCCA
GCaa----- 2 0,0
-----UUCUCCCAACGUAAGCCCA
GCau----- 2 1,0
-----UCUCCCAACGUAAGCCCA
GCC----- 2 2,1

```

>hsa-mir-641 5p:16-39 SRX018971

```

ugggugaaaggaaggAAAGACAUAGGAUAGAGUACCCUCuguccucuguccucuaccuauagaggugacuguccuauguc
uuuccuuccucuuaacccu

```

```

(((((((.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----AAAGACAUAGGAUAGAGUCA-----
----- 45 0,-4
-----AAAGACAUAGGAUAGAGUCAC-----
----- 37 0,-3
-----AAAGACAUAGGAUAGAGUCACa-----
----- 5 0,-3
-----AAAGACAUAGGAUAGAGUACCC-----
----- 50 0,-2
-----AAAGACAUAGGAUAGAGUACCCa-----
----- 3 0,-2
-----AAAGACAUAGGAUAGAGUACCCU-----
----- 129 0,-1
-----AAAGACAUAGGAUAGAGUACCCUa-----
----- 3 0,-1
-----AAAGACAUAGGAUAGAGUACCCUC-----
----- 27 0,0
-----AAAGACAUAGGAUAGAGUACCCUCa-----
----- 5 0,0
-----AAGACAUAGGAUAGAGUACCCU-----
----- 5 1,-1
-----AGACAUAGGAUAGAGUACCCUC-----
----- 2 2,1
-----AGGUGACUGUCCUAUGUC

```



```

----- 3 0,-1
-----UUUAGGAUAAGCUUGACUUUUG-----
----- 3 0,0
-----UUUAGGAUAAGCUUGACUUUUGa-----
----- 7 0,0
-----UUAGGAUAAGCUUGACUUUUG-----
----- 2 1,0
-----AAAGGAAAGUGUAUCCUAAA-----
----- 4

```

>hsa-mir-652 3p:61-81 SRX018971

acgaauaggcuaugcacugcacaacccuaggagagggugccauucacauagacuauaauugAAUGGCGCCACUAGGGUUGU
Gcagugcacaaccuacac

```

.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))

```

```

-----ACAACCCUAGGAGAGGGUGCCA-----
----- 25
-----ACAACCCUAGGAGAGGGUGCCAa-----
----- 2
-----ACAACCCUAGGAGAGGGUGCCAU-----
----- 72
-----ACAACCCUAGGAGAGGGUGCCAUa-----
----- 5
-----ACAACCCUAGGAGAGGGUGCCAUU-----
----- 54
-----ACAACCCUAGGAGAGGGUGCCAUUa-----
----- 4
-----ACAACCCUAGGAGAGGGUGCCAUUu-----
----- 3
-----ACAACCCUAGGAGAGGGUGCCAUUC-----
----- 17
-----CAACCCUAGGAGAGGGUGCCAUUC-----
----- 3
-----UGAAUGGCGCCACUAGGGUU-----
----- 11 -2,-3
-----UGAAUGGCGCCACUAGGGUUGU
----- 3 -2,-1
-----GAAUGGCGCCACUAGGGUUGU

```

-----	2	-1,-1	-----AAUGGCGCCACUAGGGUU--
-----	1324	0,-3	-----AAUGGCGCCACUAGGGUUa-
-----	7	0,-3	-----AAUGGCGCCACUAGGGUUaa
-----	14	0,-3	-----AAUGGCGCCACUAGGGUUau
-----	3	0,-3	-----AAUGGCGCCACUAGGGUUu-
-----	5	0,-3	-----AAUGGCGCCACUAGGGUUG-
-----	151	0,-2	-----AAUGGCGCCACUAGGGUUGa
-----	28	0,-2	-----AAUGGCGCCACUAGGGUUGU
-----	543	0,-1	-----AAUGGCGCCACUAGGGUUGU
a-----	10	0,-1	-----AAUGGCGCCACUAGGGUUGU
aa-----	20	0,-1	-----AAUGGCGCCACUAGGGUUGU
au-----	5	0,-1	-----AAUGGCGCCACUAGGGUUGU
u-----	2	0,-1	-----AAUGGCGCCACUAGGGUUGU
uu-----	3	0,-1	-----AAUGGCGCCACUAGGGUUGU
G-----	128	0,0	-----AAUGGCGCCACUAGGGUUGU
Ga-----	113	0,0	-----AAUGGCGCCACUAGGGUUGU
Gaa-----	9	0,0	-----AAUGGCGCCACUAGGGUUGU
Gau-----	6	0,0	-----AAUGGCGCCACUAGGGUUGU
Gu-----	366	0,0	-----AAUGGCGCCACUAGGGUUGU
-----			-----AAUGGCGCCACUAGGGUUGU

```

Guu----- 15 0,0
-----AAUGGCGCCACUAGGGUUGU
GC----- 20 0,1
-----AAUGGCGCCACUAGGGUUGU
GCA----- 4 0,2
-----AUGGCGCCACUAGGGUUGU
G----- 6 1,0
-----AUGGCGCCACUAGGGUUGU
Gu----- 4 1,0
-----AUGGCGCCACUAGGGUUGU
GC----- 2 1,1

```

```

>hsa-mir-654 5p:16-37;3p:51-72 SRX018971
ggguaaguggaaagaUGGUGGGCCGCAGAACAUUGUCugaguucgugccaUAUGUCUGCUGACCAUCACCUUuagaagcc
c
((((.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)
-----CAUAUGUCUGCUGACCAUCACu-----
- 2 -2,-3
-----UAUGUCUGCUGACCAUCACC-----
- 2 0,-2
-----UAUGUCUGCUGACCAUCACCu-----
- 5 0,-2
-----UAUGUCUGCUGACCAUCACCau-----
- 2 0,-2
-----UAUGUCUGCUGACCAUCACCU-----
- 4 0,-1

```

```

>hsa-mir-655 3p:61-82 SRX018971
aacuaugcaaggauauuugaggagagguuaucguguuanguucgcuucaucaucaugaAUAUACAUGGUUAACCUCU
UUuugaauaucagacuc
.....((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))).)))))))).
-----AUAUACAUGGUUAACCUC-----
----- 4 0,-3
-----AUAUACAUGGUUAACCUCU
----- 3 0,-2
-----AUAUACAUGGUUAACCUCU

```

-----UACCCAUGCAUAUCGGAaa-----

```

----- 2 0,-4
-----UACCCAUGCAUAUCGGAG-----
----- 66 0,-3
-----UACCCAUGCAUAUCGGAGU-----
----- 126 0,-2
-----UACCCAUGCAUAUCGGAGUU-----
----- 1557 0,-1
-----UACCCAUGCAUAUCGGAGUUa-----
----- 28 0,-1
-----UACCCAUGCAUAUCGGAGUUaa-----
----- 7 0,-1
-----UACCCAUGCAUAUCGGAGUUu-----
----- 21 0,-1
-----UACCCAUGCAUAUCGGAGUUG-----
----- 457 0,0
-----UACCCAUGCAUAUCGGAGUUGa-----
----- 14 0,0
-----UACCCAUGCAUAUCGGAGUUGU-----
----- 179 0,1
-----UACCCAUGCAUAUCGGAGUUGUa-----
----- 6 0,1
-----ACCCAUGCAUAUCGGAGUU-----
----- 14 1,-1
-----ACCCAUGCAUAUCGGAGUUG-----
----- 4 1,0
-----ACCCAUGCAUAUCGGAGUUGU-----
----- 4 1,1
-----ACCUCCUGUGUGCAUGGAU-----
----- 3
-----ACCUCCUGUGUGCAUGGAUa-----
----- 5
-----ACCUCCUGUGUGCAUGGAUaa-----
----- 8
-----ACCUCCUGUGUGCAUGGAUU-----
----- 15
-----ACCUCCUGUGUGCAUGGAUUA-----
----- 29
-----ACCUCCUGUGUGCAUGGAUUAaa-----

```


----- 4 ----- ACCUCCUGUGUGCAUGGAUUAAC-----
----- 3 ----- ACCUCCUGUGUGCAUGGAUUAACu-----
----- 2 ----- ACCUCCUGUGUGCAUGGAUUAACA-----
----- 13 -----

>hsa-mir-664 mi:11-34;MA:49-71 SRX018971

gaacauugaaACUGGCUAGGGAAAAUGAUUGGAUagaaacuauuauucUAUUCAUUUAUCCCCAGCCUACAaaaugaaa
aa

...((((.....((((.((((.....)))))))).))))).)))).....

• •

-----AACUGGCUAGGGAAAAUGAUUGa-----

$$-2, -1, -3$$

-----AACUGGCUAGGGAAAAUGAUUGG-----

-- 13 -1,-2

-----AACUGGCUAGGGAAAAUGAUUGG-----

$$-2 \quad -1, -2$$

-----AACUGGCUAGGGAAAAUGAUUGGA-----

$$-- \quad 2 \quad -1, -1$$

-----ACUGGCUAGGGAAAAUGAU-----

-- 9 0,-5

-----ACUGGCUAGGGAAAAUGAUU-----

-- 8 0,-4

-----ACUGGCUAGGGAAAAUGAUUG-----

-- 19 0,-3

-----ACUGGCUAGGGAAAAUGAUUGa-----

$$-- \quad 3 \quad 0, -3$$

-----ACUGGCUAGGGAAAAUGAUUGG-----

-- 595 0,-2

-----ACUGGCUAGGGAAAAUGAUUGGu-----

-- 74 0,-2

-----ACUGGCUAGGGAAAAUGAUUGGuu-----

-- 4 0, -2

-----ACUGGCUAGGGAAAAUGAUUGGA-----

-- 197 0,-1

-----ACUGGCUAGGGAAAAUGAUUGGAa-----

```

-- 22 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAaa-----
-- 4 0,-1
-----ACUGGCUAGGGAAAAUGAUUGGAU-----
-- 21 0,0
-----CUGGCUAGGGAAAAUGAUa-----
-- 2 1,-5
-----CUGGCUAGGGAAAAUGAUU-----
-- 11 1,-4
-----CUGGCUAGGGAAAAUGAUUG-----
-- 9 1,-3
-----CUGGCUAGGGAAAAUGAUUGG-----
-- 32 1,-2
-----CUGGCUAGGGAAAAUGAUUGGu-----
-- 3 1,-2
-----CUGGCUAGGGAAAAUGAUUGGA-----
-- 108 1,-1
-----CUGGCUAGGGAAAAUGAUUGGAa-----
-- 13 1,-1
-----CUGGCUAGGGAAAAUGAUUGGAaa-----
-- 4 1,-1
-----CUGGCUAGGGAAAAUGAUUGGAU-----
-- 5 1,0
-----UGGCUAGGGAAAAUGAUUGG-----
-- 8 2,-2
-----UGGCUAGGGAAAAUGAUUGGu-----
-- 3 2,-2
-----UGGCUAGGGAAAAUGAUUGGA-----
-- 73 2,-1
-----UGGCUAGGGAAAAUGAUUGGAa-----
-- 23 2,-1
-----UGGCUAGGGAAAAUGAUUGGAaa-----
-- 4 2,-1
-----UGGCUAGGGAAAAUGAUUGGAU-----
-- 4 2,0
-----CUAUUCAUUUAUCCCCAGCCUACAA-----
-- 2 -1,1
-----UAUUCAUUUAUCCCCAGC-----

```

```

-- 103 0,-5
-----UAUUCAUUUUAUCCCCAGCC-----
-- 41 0,-4
-----UAUUCAUUUUAUCCCCAGCCaa-----
-- 3 0,-4
-----UAUUCAUUUUAUCCCCAGCCU-----
-- 54 0,-3
-----UAUUCAUUUUAUCCCCAGCCUu-----
-- 5 0,-3
-----UAUUCAUUUUAUCCCCAGCCUuu-----
-- 5 0,-3
-----UAUUCAUUUUAUCCCCAGCCUA-----
-- 403 0,-2
-----UAUUCAUUUUAUCCCCAGCCUAa-----
-- 67 0,-2
-----UAUUCAUUUUAUCCCCAGCCUAaa-----
-- 16 0,-2
-----UAUUCAUUUUAUCCCCAGCCUAau-----
-- 5 0,-2
-----UAUUCAUUUUAUCCCCAGCCUAu-----
-- 56 0,-2
-----UAUUCAUUUUAUCCCCAGCCUAC-----
-- 562 0,-1
-----UAUUCAUUUUAUCCCCAGCCUACu-----
-- 11 0,-1
-----UAUUCAUUUUAUCCCCAGCCUACA-----
-- 965 0,0
-----UAUUCAUUUUAUCCCCAGCCUACAu-----
-- 8 0,0
-----UAUUCAUUUUAUCCCCAGCCUACAA-----
-- 176 0,1
-----UAUUCAUUUUAUCCCCAGCCUACAAu-----
-- 6 0,1
-----UAUUCAUUUUAUCCCCAGCCUACAAA-----
-- 14 0,2
-----AUUCAUUUUAUCCCCAGCCUA-----
-- 11 1,-2
-----AUUCAUUUUAUCCCCAGCCUAa-----

```


-----CUGUAUGCCCUCACCGCUCAGC----- 3

0,2

```
>hsa-mi r-676      mi:8-28;MA:43-63      SRX018971
```

gcaugacUCUUCAACCUCAAGGACUUGCagaauuaauggaugCUGUCCUAAGGUUGUUGAGUUgugc

$$(((\dots((((\dots((((((\dots(((((\dots\dots\dots)))\dots))\dots))\dots))\dots))\dots))\dots))$$

-----CUGUCCUAAGGUUGUUGAGUU----- 2 0,0

>hsa-mi r-7-1 MA:24-46;mi:66-87 SRX018971

uuggauguuggccuaguucugugUGGAAGACUAGUGAUUUUGUUGUuuuuagauaacuaaaucgaCAACAAAUACAGUC

UGCCAUAuggcacaggccaugccucuacag

) .)))))))) .)))))))) .)) .)))) . . .

-----UGGAAGACUAGUGAUUUU-----

----- 19 0,-5

-----UGGAAGACUAGUGAUUUUG-----

----- 4 0, -4

-----UGGAAGACUAGUGAUUUUGU-----

----- 5 0,-3

-----UGGAAGACUAGUGAUUUUGUU-----

----- 14 0,-2

-----UGGAAGACUAGUGAUUUUGUUG-----

----- 9 0,-1

-----UGGAAGACUAGUGAUUUUGUUGa-----

----- 2 0,-1

-----UGGAAGACUAGUGAUUUUGUUGU-----

----- 114 0,0

-----UGGAAGACUAGUGAUUUUGUUGUU-----

----- 715 0,1

-----UGGAAGACUAGUGAUUUUGUUGUUa-----

----- 6 0,1

-----UGGAAGACUAGUGAUUUUGUUGUU-----

----- 7 0,2

-----GGAAGACUAGUGAUUUUGUUGU-----

----- 5 1,0

-----GGAAGACUAGUGAUUUUGUUGUU-----

----- 9 1,1

```

-----CAACAAAUCACAGUC
UGCCAU-----14 0,-1
-----CAACAAAUCACAGUC
UGCCAUu-----23 0,-1
-----CAACAAAUCACAGUC
UGCCAUuu-----2 0,-1
-----CAACAAAUCACAGUC
UGCCAUa-----73 0,0
-----CAACAAAUCACAGUC
UGCCAUaa-----17 0,0
-----CAACAAAUCACAGUC
UGCCAUau-----2 0,1
-----AACAAAUCACAGUC
UGCCAU-----3 1,-1
-----AACAAAUCACAGUC
UGCCAUa-----34 1,0
-----AACAAAUCACAGUC
UGCCAUaa-----7 1,0
-----AACAAAUCACAGUC
UGCCAUau-----8 1,1
-----ACAAAUCACAGUC
UGCCAUa-----2 2,0
-----ACAAAUCACAGUC
UGCCAUaa-----5 2,0
-----ACAAAUCACAGUC
UGCCAUau-----3 2,1

```

>hsa-mir-7-2 MA:32-54;mi:72-93 SRX018971

cuggauacagaguggaccggcuggccccaucUGGAAGACUAGUGAUUUUGUUGUugucuuacugcgcucaaCAACAAAUC
CCAGUCUACCUAAuggugccagccaucgca

.....((((...(((((((.((((...(((((.(((((((.(((((((.....)))))))))))))))))
(.)))))).))..))))).)))))))).))))).

```

-----UGGAAGACUAGUGAUUUU-----
-----19 0,-5
-----UGGAAGACUAGUGAUUUUG-----
-----4 0,-4
-----UGGAAGACUAGUGAUUUUG-----
-----5 0,-3

```



```

-----UGGAAGACUAGUGAUUUUGUUGUa-----
----- 6 0,1
-----GGAAGACUAGUGAUUUUGUUGU-----
----- 5 1,0
-----GGAAGACUAGUGAUUUUGUUGU-----
----- 9 1,1

```

>hsa-mir-708 MA:11-33;mi:57-78 SRX018971

aacugccucAAGGAGCUUACAAUCUAGCUGGGgguaaugacuugcacaugaacaCAACUAGACUGUGAGCUUCUAGag
ggcaggga

```

..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
)))))))))...

```

```

-----AAGGAGCUUACAAUCUAG-----
----- 8 0,-5
-----AAGGAGCUUACAAUCUAGaa-----
----- 3 0,-5
-----AAGGAGCUUACAAUCUAGC-----
----- 4 0,-4
-----AAGGAGCUUACAAUCUAGCU-----
----- 27 0,-3
-----AAGGAGCUUACAAUCUAGCUaa-----
----- 3 0,-3
-----AAGGAGCUUACAAUCUAGCUG-----
----- 10 0,-2
-----AAGGAGCUUACAAUCUAGCUGa-----
----- 2 0,-2
-----AAGGAGCUUACAAUCUAGCUGG-----
----- 84 0,-1
-----AAGGAGCUUACAAUCUAGCUGGa-----
----- 18 0,-1
-----AAGGAGCUUACAAUCUAGCUGGaa-----
----- 2 0,-1
-----AAGGAGCUUACAAUCUAGCUGGu-----
----- 17 0,-1
-----AAGGAGCUUACAAUCUAGCUGGG-----
----- 95 0,0
-----AAGGAGCUUACAAUCUAGCUGGGa-----
----- 5 0,0

```



```

-----AAGGAGCUUACAAUCUAGCUGGGaa-----
-----      3      0,0
-----AAGGAGCUUACAAUCUAGCUGGGu-----
-----     16     0,0
-----AAGGAGCUUACAAUCUAGCUGGGuu-----
-----      3      0,0
-----AGGAGCUUACAAUCUAGCUGGu-----
-----      2      1,-1
-----AACUAGACUGUGAGCUUCUAGA-----
-----      4      1,1

```

>hsa-mi r-744 MA:11-32;mi :68-89 SRX018971

uugggcaaggUGCGGGGCUAGGGCUAACAGCAgucuucugaagguuuccuggaaaccacgcacaugCUGUUGCCACUAA
CCUCAACCUuacucgguc

((((((.((((.((((.((((.(.....)))))))))).)).
)))).))))).))))..

```

-----UGCGGGGCUAGGGCUAACA-----
-----      6      0,-3
-----UGCGGGGCUAGGGCUAACa-----
-----      2      0,-3
-----UGCGGGGCUAGGGCUAACAG-----
-----     19      0,-2
-----UGCGGGGCUAGGGCUAACAGa-----
-----      5      0,-2
-----UGCGGGGCUAGGGCUAACAGaa-----
-----      4      0,-2
-----UGCGGGGCUAGGGCUAACAGu-----
-----      5      0,-2
-----UGCGGGGCUAGGGCUAACAGC-----
-----     63      0,-1
-----UGCGGGGCUAGGGCUAACAGCu-----
-----      4      0,-1
-----UGCGGGGCUAGGGCUAACAGCA-----
-----    222      0,0
-----UGCGGGGCUAGGGCUAACAGCAa-----
-----   103      0,0
-----UGCGGGGCUAGGGCUAACAGCAaa-----
-----      7      0,0

```

```

-----UGCGGGGCUAGGGCUAACAGCAu-----
----- 9 0,0
-----UGCGGGGCUAGGGCUAACAGCAu-----
----- 137 0,0
-----UGCGGGGCUAGGGCUAACAGCAuu-----
----- 8 0,0
-----UGCGGGGCUAGGGCUAACAGCAG-----
----- 7 0,1
-----GCGGGGCUAGGGCUAACAGC-----
----- 3 1,-1
-----GCGGGGCUAGGGCUAACAGCA-----
----- 8 1,0
-----GCGGGGCUAGGGCUAACAGCAa-----
----- 2 1,0
-----GCGGGGCUAGGGCUAACAGCAu-----
----- 2 1,0

```

>hsa-mir-760 3p:49-68 SRX018971

```

ggcgcgucgccccccucaguccaccagagcccggauaccucagaaaauCGGCUCUGGGUCUGUGGGGAgcgaaugcaac
.(((((((((.(((.(((....(((((((.((((.....)))))))))))).))))).))))).))))...
-----CGGCUCUGGGUCUGUGGGGA-----
2 0,0
-----CGGCUCUGGGUCUGUGGGGAa-----
2 0,0
-----CGGCUCUGGGUCUGUGGGGAG-----
4 0,1
-----CGGCUCUGGGUCUGUGGGGAGu-----
3 0,1

```

>hsa-mir-765 3p:69-89 SRX018971

```

uuuaggcgugaugaaaguggaguucaguagacagcccuuucaagcccuacgagaaacuggggguuucUGGAGGAGAAGG
AAGGUGAUGaaggaucuguucucgugagccugaa
.(((((((....(((.(((.(((....(((....(((((((.((((.....)))))))))))).))))).))))...
...)))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).))))).
-----UCUGGAGGAGAAGG
AAGGUGA----- 4 -2,-2
-----UCUGGAGGAGAAGG
AAGGUGAU----- 6 -2,-1

```

AAGGUGAUG	6	-2,0	UCUGGAGGAGAAGG
AAGGUGAUGA	3	-2,1	UCUGGAGGAGAAGG
AAGGUGA	2	-1,-2	CUGGAGGAGAAGG
AAGGUGAU	11	-1,-1	CUGGAGGAGAAGG
AAGGUGAU ^{aa}	3	-1,-1	CUGGAGGAGAAGG
AAGGUGAU ^{au}	2	-1,-1	CUGGAGGAGAAGG
AAGGUGAUG	5	-1,0	CUGGAGGAGAAGG
AAGGUGAUG ^u	3	-1,0	UGGAGGAGAAGG
AAGGUGAU	6	0,-1	UGGAGGAGAAGG
AAGGUGAUG	6	0,0	UGGAGGAGAAGG
AAGGUGAUGA	9	0,1	UGGAGGAGAAGG
AAGGUGAUGAA	5	0,2	

>hsa-mir-766 3p:65-86 SRX018971

gcauccucaggaccuggggcuugggugguaggaggaauugggucugggucuucacuuuugggauuugACUCCAGCCCCACAGC

CUCAGCcaccccagccaauugucauaggagc

$$(((.((((\dots(((((\dots(((((((((\dots(((((((((\dots(((((((((\dots)))))))))\dots))))))\dots))))))\dots))))))\dots))))))$$

-----AGGAGGAAUUGGUGCUGGU-----

----- 2

-----AGGAGGAAUUGGUGCUGGU_{aa}-----

----- 4

-----AGGAGGAAUUGGUGCUGGUC-----

----- 2

-----AGGAGGAAUUGGUGCUGGUCaa-----

----- 2

-----	-AGGAGGAAUUGGUGCUGGUCU-	-----
-----	15	
-----	-AGGAGGAAUUGGUGCUGGUCUa-	-----
-----	3	
-----	-AGGAGGAAUUGGUGCUGGUCUaa-	-----
-----	3	
-----	-AGGAGGAAUUGGUGCUGGUCUU-	-----
-----	28	
-----	-AGGAGGAAUUGGUGCUGGUCUUa-	-----
-----	15	
-----	-AGGAGGAAUUGGUGCUGGUCUUaa-	-----
-----	8	
-----	-AGGAGGAAUUGGUGCUGGUCUUau-	-----
-----	3	
-----	-AGGAGGAAUUGGUGCUGGUCUUU-	-----
-----	71	
-----	-AGGAGGAAUUGGUGCUGGUCUUUa-	-----
-----	3	
-----	-AGGAGGAAUUGGUGCUGGUCUUUu-	-----
-----	4	
-----	-AGGAGGAAUUGGUGCUGGUCUUUC-	-----
-----	13	
-----	-AGGAGGAAUUGGUGCUGGUCUUUCA-	-----
-----	2	
-----	-GGAGGAAUUGGUGCUGGUCUU-	-----
-----	2	
-----	-GGAGGAAUUGGUGCUGGUCUUU-	-----
-----	3	
-----	-GGAGGAAUUGGUGCUGGUCUUUC-	-----
-----	2	
-----		-----ACUCCAGCCCCACAGC
CU-----	6 0,-4	
-----		-----ACUCCAGCCCCACAGC
CUaa-----	2 0,-4	
-----		-----ACUCCAGCCCCACAGC
CUau-----	2 0,-4	
-----		-----ACUCCAGCCCCACAGC
CUC-----	5 0,-3	


```

-----UGAGACCUCUGGGUUCUGAGa-----
-----10 0,-2-----
-----UGAGACCUCUGGGUUCUGAGaa-----
-----3 0,-2-----
-----UGAGACCUCUGGGUUCUGAGC-----
-----60 0,-1-----
-----UGAGACCUCUGGGUUCUGAGCa-----
-----8 0,-1-----
-----UGAGACCUCUGGGUUCUGAGCaa-----
-----20 0,-1-----
-----UGAGACCUCUGGGUUCUGAGCau-----
-----4 0,-1-----
-----UGAGACCUCUGGGUUCUGAGCU-----
-----77 0,0-----
-----UGAGACCUCUGGGUUCUGAGCUa-----
-----11 0,0-----
-----UGAGACCUCUGGGUUCUGAGCUaa-----
-----12 0,0-----
-----UGAGACCUCUGGGUUCUGAGCUau-----
-----8 0,0-----
-----UGAGACCUCUGGGUUCUGAGCUu-----
-----20 0,0-----
-----UGAGACCUCUGGGUUCUGAGCUuu-----
-----11 0,0-----
-----UGAGACCUCUGGGUUCUGAGCUG-----
-----3 0,1-----
-----GAGACCUCUGGGUUCUGAG-----
-----3 1,-2-----
-----CUGGGAUCUCCG
GGGUCUUGG-----11 0,-2-----CUGGGAUCUCCG
-----CUGGGAUCUCCG
GGGUCUUGGa-----3 0,-2-----CUGGGAUCUCCG
-----CUGGGAUCUCCG
GGGUCUUGGU-----5 0,-1-----CUGGGAUCUCCG
-----CUGGGAUCUCCG
GGGUCUUGGUa-----5 0,-1-----CUGGGAUCUCCG
-----CUGGGAUCUCCG
GGGUCUUGGUaa-----3 0,-1-----

```



```

-----CUGCCCUGGCCCAGGGGA-----
10  0,-4
-----CUGCCCUGGCCCAGGGAA-----
2   0,-4
-----CUGCCCUGGCCCAGGGAC-----
10  0,-3
-----CUGCCCUGGCCCAGGGACC-----
12  0,-2
-----CUGCCCUGGCCCAGGGACCa-----
2   0,-2
-----CUGCCCUGGCCCAGGGACCG-----
16  0,-1
-----CUGCCCUGGCCCAGGGACCGu-----
2   0,-1
-----CUGCCCUGGCCCAGGGACCGA-----
49  0,0
-----CUGCCCUGGCCCAGGGACCGAA-----
12  0,0
-----CUGCCCUGGCCCAGGGACCGAAa-----
4   0,0
-----CUGCCCUGGCCCAGGGACCGAAu-----
2   0,0
-----CUGCCCUGGCCCAGGGACCGAu-----
16  0,0
-----CUGCCCUGGCCCAGGGACCGAuu-----
2   0,0
-----CUGCCCUGGCCCAGGGACCGAC-----
40  0,1
-----CUGCCCUGGCCCAGGGACCGACa-----
10  0,1
-----CUGCCCUGGCCCAGGGACCGACU-----
10  0,2

```

>hsa-mir-875 5p:11-32;3p:45-65 SRX018971

```

uuagugguacUAUACCUCAGUUUAUCAGGUGuucuuaaaaucaCCUGGAAACACUGAGGUUGUGucucacugaac
((((((..((...(((((((..(((((.....)))))))).)).))))))....))..)))))..
-----UAUACCUCAGUUUAUCAG-----
2   0,-3

```


GUAGAGGAGAUGGCGCAGGGgacacgggcaaagacuuggggguuccugggaccucagacgugugUCCUCUUCUCCCUCC
UCCCAG

GUAGAGGAGAUGGCCAG-----
----- 45 0,-2

GUAGAGGAGAUGGCCAGau-----
----- 2 0,-2

GUAGAGGAGAUGGCCAGG-----
----- 85 0,-1

GUAGAGGAGAUGGCCAGGa-----
----- 6 0,-1

GUAGAGGAGAUGGCCAGGaa-----
----- 35 0,-1

GUAGAGGAGAUGGCCAGGG-----
----- 49 0,0

GUAGAGGAGAUGGCCAGGGa-----
----- 21 0,0

GUAGAGGAGAUGGCCAGGGaa-----
----- 30 0,0

GUAGAGGAGAUGGCCAGGGau-----
----- 10 0,0

GUAGAGGAGAUGGCCAGGGG-----
----- 6 0,1

GUAGAGGAGAUGGCCAGGGGA-----
----- 50 0,2

GUAGAGGAGAUGGCCAGGGGAa-----
----- 16 0,2

GUAGAGGAGAUGGCCGAGGGGAaa-----
----- 16 0,2

GUAGAGGAGAUGGCGCAGGGGAau-----
----- 8 0,2

GUAGAGGAGAUGGCGCAGGGGAu-----
----- 5 0,2

GUAGAGGAGAUGGCGCAGGGGAC-----
 ----- 49 0,3
 GUAGAGGAGAUGGCGCAGGGGACu-----
 ----- 33 0,3
 GUAGAGGAGAUGGCGCAGGGGACA-----
 ----- 70 0,4
 GUAGAGGAGAUGGCGCAGGGGACAa-----
 ----- 23 0,4
 GUAGAGGAGAUGGCGCAGGGGACAu-----
 ----- 25 0,4
 -UAGAGGAGAUGGCGCAGG-----
 ----- 4 1,-1
 -UAGAGGAGAUGGCGCAGGG-----
 ----- 6 1,0
 -UAGAGGAGAUGGCGCAGGGaa-----
 ----- 2 1,0
 -UAGAGGAGAUGGCGCAGGGau-----
 ----- 3 1,0
 -UAGAGGAGAUGGCGCAGGGGA-----
 ----- 15 1,2
 -UAGAGGAGAUGGCGCAGGGGAa-----
 ----- 2 1,2
 -UAGAGGAGAUGGCGCAGGGGAaa-----
 ----- 2 1,2
 -UAGAGGAGAUGGCGCAGGGGAu-----
 ----- 3 1,2
 -UAGAGGAGAUGGCGCAGGGGAuu-----
 ----- 2 1,2
 -UAGAGGAGAUGGCGCAGGGGAC-----
 ----- 22 1,3
 -UAGAGGAGAUGGCGCAGGGGACu-----
 ----- 7 1,3
 -UAGAGGAGAUGGCGCAGGGGACuu-----
 ----- 2 1,3
 -UAGAGGAGAUGGCGCAGGGGACA-----
 ----- 20 1,4
 -UAGAGGAGAUGGCGCAGGGGACAa-----
 ----- 4 1,4

```

-UAGAGGAGAUGGCGCAGGGGACAu-----
----- 5 1,4
-UAGAGGAGAUGGCGCAGGGGACAu-----
----- 6 1,4
-UAGAGGAGAUGGCGCAGGGGACAu-----
----- 2 1,4
-UAGAGGAGAUGGCGCAGGGGACAC-----
----- 11 1,5
-UAGAGGAGAUGGCGCAGGGGACACa-----
----- 3 1,5
-UAGAGGAGAUGGCGCAGGGGACACu-----
----- 3 1,5
--AGAGGAGAUGGCGCAGGGGACu-----
----- 2 2,3
-----UGUCCUCUUCUCCCUCC
UCCCAu 2 -2,-1
-----UCCUCUUCUCCCUCC
UCCCA- 2 0,-1
-----UCCUCUUCUCCCUCC
UCCCAGa 4 0,0
-----UCCUCUUCUCCCUCC
UCCCAGu 3 0,0

```

>hsa-mir-885 5p:11-32;3p:43-64 SRX018971

ccgcacucucUCCAUAACACUACCCUGCCUCUucuccaugagAGGCAGCGGGUGUAGUGGAUAgagcacgggu
 (((...(((.(((((((((((.(((((((((((.....))))))))).))))))))))))).))))..

```

-----CUCCAUAACACUACCCUGCCU----- 3
-1,-2
-----CUCCAUAACACUACCCUGCCUC----- 4
-1,-1
-----CUCCAUAACACUACCCUGCCUCU----- 6
-1,0
-----UCCAUAACACUACCCUGC----- 19
0,-4
-----UCCAUAACACUACCCUGCC----- 18
0,-3
-----UCCAUAACACUACCCUGCCU----- 45
0,-2

```

-----UCCAUUACACUACCCUGCCUaa-----	4
0,-2	
-----UCCAUUACACUACCCUGCCUC-----	98
0,-1	
-----UCCAUUACACUACCCUGCCUCU-----	221
0,0	
-----UCCAUUACACUACCCUGCCUCUa-----	6
0,0	
-----UCCAUUACACUACCCUGCCUCUaa-----	3
0,0	
-----UCCAUUACACUACCCUGCCUCUU-----	6
0,1	
-----CAUUACACUACCCUGCCU-----	9
2,-2	
-----CAUUACACUACCCUGCCUC-----	8
2,-1	
-----CAUUACACUACCCUGCCUCU-----	7
2,0	
-----CAUUACACUACCCUGCCUCUa-----	2
2,0	
-----AGGCAGCGGGGUGUAGUGG-----	10
0,-3	
-----AGGCAGCGGGGUGUAGUGGA-----	23
0,-2	
-----AGGCAGCGGGGUGUAGUGGAa-----	6
0,-2	
-----AGGCAGCGGGGUGUAGUGGAaa-----	9
0,-2	
-----AGGCAGCGGGGUGUAGUGGAU-----	35
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUu-----	2
0,-1	
-----AGGCAGCGGGGUGUAGUGGAUA-----	10
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAa-----	15
0,0	
-----AGGCAGCGGGGUGUAGUGGAUAaa-----	6
0,0	

```

-----AGGCAGCGGGGUGUAGUGGAUAau----- 3
0,0

>hsa-mir-887 3p:48-69 SRX018971
gugcagauccuugggagcccuguuagacucuggauuuuacacuuggaGUGAACGGGCGCCAUCCCGAGGcuuugcacag
(((((((.((((((((((((((((((..((((..(.....).))))).))))).))..)))))))).))))))..
-----UCCUUGGGAGCCCUGUUAGACa-----
2
-----CCUUGGGAGCCCUGUUAGACUCUGG-----
4
-----GUGAACGGGCGCCAUCCCGA-----
4 0,-2
-----GUGAACGGGCGCCAUCCCGAG-----
32 0,-1
-----GUGAACGGGCGCCAUCCCGAGG-----
32 0,0
-----GUGAACGGGCGCCAUCCCGAGGa-----
4 0,0
-----GUGAACGGGCGCCAUCCCGAGGaa-----
2 0,0
-----GUGAACGGGCGCCAUCCCGAGGuu-----
3 0,0
-----GUGAACGGGCGCCAUCCCGAGGC-----
6 0,1
-----GUGAACGGGCGCCAUCCCGAGGCa-----
11 0,1
-----GUGAACGGGCGCCAUCCCGAGGCau-----
3 0,1
-----GUGAACGGGCGCCAUCCCGAGGCU-----
52 0,2
-----GUGAACGGGCGCCAUCCCGAGGCUU-----
39 0,3
-----UGAACGGGCGCCAUCCCGAGGaa-----
2 1,0
-----UGAACGGGCGCCAUCCCGAGGCUU-----
2 1,3

```

>hsa-mir-889 3p:49-69 SRX018971

-----UCUUUGGUUAUCUAGCUGUAUGA-----
 ----- 2 0,0
 -----AUAAGCUAGAUAACCGAAAGU-----
 ----- 3 0,0

		-----UAUUGCACUUGUCCCCGGCCU-----
19630	0,-2	
		-----UAUUGCACUUGUCCCCGGCCUa-----
45	0,-2	
		-----UAUUGCACUUGUCCCCGGCCUaa-----
238	0,-2	
		-----UAUUGCACUUGUCCCCGGCCUau-----
97	0,-2	
		-----UAUUGCACUUGUCCCCGGCCUu-----
55	0,-2	
		-----UAUUGCACUUGUCCCCGGCCUuu-----
42	0,-2	
		-----UAUUGCACUUGUCCCCGGCCUG-----
1058	0,-1	
		-----UAUUGCACUUGUCCCCGGCCUGa-----
91	0,-1	
		-----UAUUGCACUUGUCCCCGGCCUGaa-----
56	0,-1	
		-----UAUUGCACUUGUCCCCGGCCUGau-----
22	0,-1	
		-----UAUUGCACUUGUCCCCGGCCUGU-----
2103	0,0	
		-----UAUUGCACUUGUCCCCGGCCUGUa-----
247	0,0	
		-----UAUUGCACUUGUCCCCGGCCUGUaa-----
326	0,0	
		-----UAUUGCACUUGUCCCCGGCCUGUau-----
262	0,0	
		-----UAUUGCACUUGUCCCCGGCCUGUU-----
121	0,1	
		-----UAUUGCACUUGUCCCCGGCCUGUUa-----
27	0,1	
		-----UAUUGCACUUGUCCCCGGCCUGUUaa-----
9	0,1	
		-----UAUUGCACUUGUCCCCGGCCUGUUau-----
16	0,1	
		-----UAUUGCACUUGUCCCCGGCCUGUUu-----
22	0,1	

-----	UAUUGCACUUGUCCCGGCu-----	4
0,-4		
-----	UAUUGCACUUGUCCCGGCuu-----	11
0,-4		
-----	UAUUGCACUUGUCCCGGCC-----	1512
0,-3		
-----	UAUUGCACUUGUCCCGGCCa-----	6
0,-3		
-----	UAUUGCACUUGUCCCGGCCaa-----	16
0,-3		
-----	UAUUGCACUUGUCCCGGCCau-----	9
0,-3		
-----	UAUUGCACUUGUCCCGGCCU-----	
19630	0,-2	
-----	UAUUGCACUUGUCCCGGCCUa-----	45
0,-2		
-----	UAUUGCACUUGUCCCGGCCUaa-----	238
0,-2		
-----	UAUUGCACUUGUCCCGGCCUau-----	97
0,-2		
-----	UAUUGCACUUGUCCCGGCCUu-----	55
0,-2		
-----	UAUUGCACUUGUCCCGGCCUuu-----	42
0,-2		
-----	UAUUGCACUUGUCCCGGCCUG-----	1058
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGa-----	91
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGaa-----	56
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGau-----	22
0,-1		
-----	UAUUGCACUUGUCCCGGCCUGU-----	2103
0,0		
-----	UAUUGCACUUGUCCCGGCCUGUa-----	247
0,0		
-----	UAUUGCACUUGUCCCGGCCUGUaa-----	326
0,0		

```

-----UAUUGCACUUGUCCCGGCCUGUau---- 262
0,0
-----UAUUGCACUUGUCCCGGCCUGUG----- 4
0,1
-----UAUUGCACUUGUCCCGGCCUGUGG---- 4
0,2
-----AUUGCACUUGUCCCGGCC----- 35
1,-3
-----AUUGCACUUGUCCCGGCCU----- 486
1,-2
-----AUUGCACUUGUCCCGGCCUaa----- 2
1,-2
-----AUUGCACUUGUCCCGGCCUau----- 5
1,-2
-----AUUGCACUUGUCCCGGCCUG----- 24
1,-1
-----AUUGCACUUGUCCCGGCCUGU----- 78
1,0
-----AUUGCACUUGUCCCGGCCUGUa----- 2
1,0
-----AUUGCACUUGUCCCGGCCUGUaa---- 13
1,0
-----AUUGCACUUGUCCCGGCCUGUau---- 5
1,0
-----UUGCACUUGUCCCGGCCU----- 2
2,-2

```

>hsa-mir-92b mi:20-41;MA:61-82 SRX018971

cgggccccggggcgggcgggAGGGACGGGACGCGGUGCAGUGuuguuuuuucccccgcgcaaUAUUGCACUCGUCCCGGCCU
CCggccccccccggccc

.((((((..(((.(((((((((.((((((((((((((((.....))))))))))))))))))))).)))
)..)))))))).))))))

```

-----AGGGACGGGACGCGGUGCAGUGU-----
-----10 0,1
-----AGGGACGGGACGCGGUGCAGUGUu-----
-----2 0,2
-----AUAUUGCACUCGUCCCGGCCU
Cau-----2 -1,-1

```

-----			-----UAUUGCACUCGUCCCCGGC--
-----	4	0,-4	
-----			-----UAUUGCACUCGUCCCCGGCC-
-----	22	0,-3	
-----			-----UAUUGCACUCGUCCCCGGCCU
-----	49	0,-2	
-----			-----UAUUGCACUCGUCCCCGGCCU
a-----	11	0,-2	
-----			-----UAUUGCACUCGUCCCCGGCCU
aa-----	8	0,-2	
-----			-----UAUUGCACUCGUCCCCGGCCU
au-----	2	0,-2	
-----			-----UAUUGCACUCGUCCCCGGCCU
u-----	6	0,-2	
-----			-----UAUUGCACUCGUCCCCGGCCU
uu-----	4	0,-2	
-----			-----UAUUGCACUCGUCCCCGGCCU
C-----	28	0,-1	
-----			-----UAUUGCACUCGUCCCCGGCCU
Ca-----	9	0,-1	
-----			-----UAUUGCACUCGUCCCCGGCCU
Caa-----	15	0,-1	
-----			-----UAUUGCACUCGUCCCCGGCCU
Cau-----	10	0,-1	
-----			-----UAUUGCACUCGUCCCCGGCCU
CC-----	49	0,0	
-----			-----UAUUGCACUCGUCCCCGGCCU
CCa-----	19	0,0	
-----			-----UAUUGCACUCGUCCCCGGCCU
CCaa-----	5	0,0	
-----			-----UAUUGCACUCGUCCCCGGCCU
CCau-----	10	0,0	
-----			-----UAUUGCACUCGUCCCCGGCCU
CCu-----	26	0,0	
-----			-----UAUUGCACUCGUCCCCGGCCU
CCuu-----	5	0,0	
-----			-----UAUUGCACUCGUCCCCGGCCU
CCG-----	2	0,1	

11024 0, -1

-----CAAAGUGCUGUUCGUGCAGGUAa-----
3440 0, -1

-----CAAAGUGCUGUUCGUGCAGGUAaa-----
80 0, -1

-----CAAAGUGCUGUUCGUGCAGGUAau-----
83 0, -1

-----CAAAGUGCUGUUCGUGCAGGUAu-----
2563 0, -1

-----CAAAGUGCUGUUCGUGCAGGUAuu-----
16 0, -1

-----CAAAGUGCUGUUCGUGCAGGUAG-----
1119 0, 0

-----CAAAGUGCUGUUCGUGCAGGUAGa-----
25 0, 0

-----CAAAGUGCUGUUCGUGCAGGUAGaa-----
10 0, 0

-----CAAAGUGCUGUUCGUGCAGGUAGU-----
36 0, 1

-----AAAGUGCUGUUCGUGCAG-----
118 1, -4

-----AAAGUGCUGUUCGUGCAGG-----
64 1, -3

-----AAAGUGCUGUUCGUGCAGGU-----
107 1, -2

-----AAAGUGCUGUUCGUGCAGGUA-----
258 1, -1

-----AAAGUGCUGUUCGUGCAGGUAa-----
84 1, -1

-----AAAGUGCUGUUCGUGCAGGUAu-----
63 1, -1

-----AAAGUGCUGUUCGUGCAGGUAG-----
28 1, 0

-----AAAGUGCUGUUCGUGCAGGUAGa-----
4 1, 0

-----AAGUGCUGUUCGUGCAGGU-----
2 2, -2

-----AAGUGCUGUUCGUGCAGGUA-----
2 2, -1

```

-----CUACUGCUGAGCUAGCACUUCa-----
2   -2,-3
-----UACUGCUGAGCUAGCACUUCCCG-----
2   -1,0
-----ACUGCUGAGCUAGCACUUC-----
2   0,-3
-----ACUGCUGAGCUAGCACUUC-----
13  0,-2
-----ACUGCUGAGCUAGCACUUCCC-----
2   0,-1
-----ACUGCUGAGCUAGCACUUCCCG-----
3   0,0
-----ACUGCUGAGCUAGCACUUCCCGu-----
3   0,0
-----ACUGCUGAGCUAGCACUUCCCGA-----
21  0,1
-----ACUGCUGAGCUAGCACUUCCCGAa-----
4   0,1
-----ACUGCUGAGCUAGCACUUCCCGAaa-----
3   0,1
-----ACUGCUGAGCUAGCACUUCCCGAu-----
2   0,1
-----CUGCUGAGCUAGCACUUCCCGA-----
2   1,1

```

>hsa-mir-935 3p:56-78 SRX018971

```

ggcgggggcgcgggcggcaguggcgggagcgggcccccucggccauccuccgucugcCCAGUUACCGCUUCCGCUACCGCcg
ccgcucccgcu
((((((((((...((((((.((((((((((((((((((...((.(((.....))))).))...))))))))))))).)))
))))))))))
-----CAGUUACCGCUUCCGCUACCG---
----- 3   1,-1

```

>hsa-mir-938 5p:15-36 SRX018971

```

gaagguguaccaugUGCCCUUAAAGGUGAACCCAGUgcaccuugaaccgugguacaccuuuaagaacuugguaugcc
uuc
((((((((((((((.((...((((((((((((((((((.(((.....))))).))...))))))))))))).))...))))))
)))

```

-----CGUGGUACACCUUAAGA-----
 --- 2

>hsa-mir-940 3p:60-80 SRX018971

gugaggugugggcccgccccaggagcggggccugggcagccccguguguugaggaaggAAGGCAGGGCCCCCGCUCCCC
gggccugaccccac

((((((((.....((((((((((((..((..((((.....))..))...)).)))..))))))))))
)))))))))).)))

-----AAGGCAGGGCCCCCGCUCC-----

----- 3 0,-2

-----AAGGCAGGGCCCCCGCUC

----- 7 0,-1

-----AAGGCAGGGCCCCCGCUCCCa

$$----- \quad 2 \quad 0, -1$$

-----AAGGCAGGGCCCCCGCUCCC_a

$$a \text{-----} 2 \quad 0, -1$$

-----AAGGCAGGGCCCCCGCUCCCa

u----- 6 0,-1

-----AAGGCAGGGCCCCCGCUCCCC

----- 20 0,0

-----AAGGCAGGGCCCCCGCUCCCC

$$a \text{-----} 2 \quad 0,0$$

-----AAGGCAGGGCCCCCGCUCCCC

$$u_{-} \dots\dots\dots 2 \quad 0,0$$

-----AAGGCAGGGCCCCCGCUCCCC

GG----- 3 0,2

-----AAGGCAGGGCCCCCGCUCCCC

GGu----- 2 0,2

>hsa-mir-941-1 3p:71-93 SRX018971

cacggaagaggacacacccggcuguguggacaugugcccagggcccgggacagcgccacggaagaggacgCACCCGGCUG
UGUGCACAUGUGCccagggcccgggacagcgccacgg

.....(((((((.(.((((((((((.(.((((.((.(...(((((.(...).)).))).)))))).
)).)))))))).))))).)).))))).))....

-----CACCCGGCUGUGUGGACAUGUGa-----

 3

-----CACCCGGCUGUGUGGACAUGUGC-----

----- 2


```

-----ACUCAUAAAUGUCUGUUGAAaa-----
- 2
-----UCAUAAAUGUCUGUUGAAUU-----
- 2
-----UCAUAAAUGUCUGUUGAAUUa-----
- 2
-----CAUUCAACGGGUUUUAUUGAG-----
- 4 -2,-2
-----AUUCAACGGGUUUUAUUGA-----
- 3 -1,-3
-----UUCAACGGGUUUUAUUG-----
- 236 0,-4
-----UUCAACGGGUUUUAUUGA-----
- 254 0,-3
-----UUCAACGGGUUUUAUUGAG-----
- 265 0,-2
-----UUCAACGGGUUUUAUUGAGa-----
- 5 0,-2
-----UUCAACGGGUUUUAUUGAGC-----
- 18 0,-1
-----UUCAACGGGUUUUAUUGAGCA-----
- 17 0,0
-----UUCAACGGGUUUUAUUGAGCAa-----
- 35 0,0
-----UUCAACGGGUUUUAUUGAGCAu-----
- 3 0,0
-----UUCAACGGGUUUUAUUGAGCAuu-----
- 2 0,0
-----UCAACGGGUUUUAUUGA-----
- 7 1,-3
-----UCAACGGGUUUUAUUGAG-----
- 5 1,-2
-----UCAACGGGUUUUAUUGAGCAa-----
- 8 1,0
-----UCAACGGGUUUUAUUGAGCAu-----
- 2 1,0
-----CAACGGGUUUUAUUGAGCAa-----
- 10 2,0

```



```

-----UGAGGUAGUAAGUUGUAUUuu-----
-----3 0,-3
-----UGAGGUAGUAAGUUGUAUUG-----
-----1633 0,-2
-----UGAGGUAGUAAGUUGUAUUGa-----
-----6 0,-2
-----UGAGGUAGUAAGUUGUAUUGU-----
-----2218 0,-1
-----UGAGGUAGUAAGUUGUAUUGUa-----
-----11 0,-1
-----UGAGGUAGUAAGUUGUAUUGUaa-----
-----6 0,-1
-----UGAGGUAGUAAGUUGUAUUGUau-----
-----5 0,-1
-----UGAGGUAGUAAGUUGUAUUGUU-----
-----4012 0,0
-----UGAGGUAGUAAGUUGUAUUGUUa-----
-----270 0,0
-----UGAGGUAGUAAGUUGUAUUGUUaa-----
-----26 0,0
-----UGAGGUAGUAAGUUGUAUUGUUau-----
-----4 0,0
-----UGAGGUAGUAAGUUGUAUUGUUu-----
-----159 0,0
-----UGAGGUAGUAAGUUGUAUUGUUuu-----
-----2 0,0
-----UGAGGUAGUAAGUUGUAUUGUUG-----
-----51 0,1
-----GAGGUAGUAAGUUGUAUU-----
-----10 1,-3
-----GAGGUAGUAAGUUGUAUUG-----
-----10 1,-2
-----GAGGUAGUAAGUUGUAUUGU-----
-----10 1,-1
-----GAGGUAGUAAGUUGUAUUGUU-----
-----31 1,0
-----AGGUAGUAAGUUGUAUUG-----
-----2 2,-2

```

```

-----AGGUAGUAAGUUGUAUUGUUG-----
-----2 2,1
-----AGGUAGUAAGUUGUAUUGUUG-----
-----11 2,2
-----AC
UAUACAACUACUACUUUCC-----3
-----C
UAUACAACUACUACUUU-----5
-----C
UAUACAACUACUACUUUC-----15
-----C
UAUACAACUACUACUUUCa-----2
-----C
UAUACAACUACUACUUUCuu-----7
-----C
UAUACAACUACUACUUUCC-----63
-----C
UAUACAACUACUACUUUCCa-----3
-----C
UAUACAACUACUACUUUCCu-----121
-----C
UAUACAACUACUACUUUCCuu-----9
-----
UAUACAACUACUACUUU-----4
-----
UAUACAACUACUACUUUC-----17
-----
UAUACAACUACUACUUUCu-----2
-----
UAUACAACUACUACUUUCC-----25
-----
UAUACAACUACUACUUUCCa-----2
-----
UAUACAACUACUACUUUCCaa-----2
-----
UAUACAACUACUACUUUCCau-----4
-----
UAUACAACUACUACUUUCCu-----54

```

UAUACAACUUACUACUUUCCuu----- 61

>hsa-mir-99a MA:13-34;mi:50-71 SRX018971

cccauuggcauaAACCCGUAGAUCCGAUCUUGUGgugaaguggaccgcaCAAGCUCGCUUCUAUGGGUCUGugucagugu
g

..(((((((((((.((((((((((..(((.(((((((.((.....)))))))).)))..)))))))).)))))))).
.

-----AAACCCGUAGAUCCGAUCU-----

- 3 -1,-4

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- 2 -1,-2

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- 23 -1,-1

-----AACCCGUAGAUCCGAUCU-----

- 49 0,-4

-----AACCCGUAGAUCCGAUCUU-----

- 140 0,-3

-----AACCCGUAGAUCCGAUCUUu-----

- 2 0,-3

-----AACCCGUAGAUCCGAUCUUuu-----

- 12 0,-3

-----AACCCGUAGAUCCGAUCUUG-----

- 484 0,-2

-----AACCCGUAGAUCCGAUCUUGa-----

- 3 0,-2

-----AACCCGUAGAUCCGAUCUUGU-----

- 3141 0,-1

-----AACCCGUAGAUCCGAUCUUGUa-----

- 23 0,-1

-----AACCCGUAGAUCCGAUCUUGUaa-----

- 4 0,-1

-----AACCCGUAGAUCCGAUCUUGUu-----

- 14 0,-1

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- 2561 0,0

-----AACCCGUAGAUCCGAUCUUGUGa-----

- 976 0,0


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- 315 0,0
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- 4 0,0
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- 6 1,0

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>hsa-mir-99b MA:7-28;mi:45-66 SRX018971

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-----CACCCGUAGAACCGACCUUG----- 118 0,-2
-----CACCCGUAGAACCGACCUUGa----- 24 0,-2
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-----CACCCGUAGAACCGACCUUGu----- 3 0,-2
-----CACCCGUAGAACCGACCUUGC----- 731 0,-1
-----CACCCGUAGAACCGACCUUGCa----- 26 0,-1
-----CACCCGUAGAACCGACCUUGCau----- 3 0,-1
-----CACCCGUAGAACCGACCUUGCu----- 13 0,-1
-----CACCCGUAGAACCGACCUUGCG----- 2071
0,0
-----CACCCGUAGAACCGACCUUGCGa----- 348 0,0
-----CACCCGUAGAACCGACCUUGCGaa----- 10 0,0
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-----CACCCGUAGAACCGACCUUGCGGu----- 2 0,1
-----ACCCGUAGAACCGACCUUGa----- 2 1,-2
-----ACCCGUAGAACCGACCUUGC----- 6 1,-1
-----ACCCGUAGAACCGACCUUGCG----- 51 1,0
-----ACCCGUAGAACCGACCUUGCGa----- 8 1,0
-----ACCCGUAGAACCGACCUUGCGu----- 5 1,0
-----CAAGCUCGUGUCUGUGGGUau----- 2 0,-3
-----CAAGCUCGUGUCUGUGGGUCC----- 2 0,-1

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-----CAAGCUCGUGUCUGUGGGUCCGU--- 3 0,1