

Supplementary Table 1. Predicted secondary structure of new miRNAs

1.	>bomir-22*/22-5p:Btau_4.0:19:22901896:22901976:1(10-31) dG = -31.40 kcal/mol CAGAGGGCAacaguucuucaacugggcagcguuUAGCUGGGUCAGGACAuaaagcuugccacugaagaacuACUGCGGCUCAG CA G- ac - ac - GC GGU GAG GCA aguucuuca uggca gcuuUA UG C CUC CGU ucaagaagu accgu cgaaau AC A GA GG CA c- u -- AGG
2.	>bomir-140*/140-5p:Btau_4.0:18:35987036:35987127:1(17-38) dG = -51.10 kcal/mol UCUCUCUGUGUCUGCcagugguuuacccuaugguagGUUACGUCAGCUGUUCuaccacagguagaaccacggACAGGAUACCGGGGCA UC U - a a UU UC UCUC GUGUCCUG Cc gugguuuacccu ugguagG ACG A GGGG CAUAGGAC gg caccaagauggga accauCU UGU U AC C A - c -- CG
3.	>bomir-143-3p:Btau_4.0:7:60268810:60268888:1(57-78) dG = -48.50 kcal/mol UCUCCCAGCCUGAGGUGCAGUGCUGCAUCUCUGGUCAGUUGGGAGUCugagaugaagcacuguagcucgGGAAGGGAGA AG G G U - AG UCUCCC CCUGAG UGCAGUGCU CAUCUC GG UC U AGAGgg gggcuc augucacga guagag CU AG U aa g a u G GG
4.	>bomir-152-5p:Btau_4.0:19:39650354:39650424:-1(6-26) dG = -38.00 kcal/mol CGGGCccaaguucugucaugcacugaCUGCUCCAGAGCCGAGUCGGAGUGUAUCACAGAACCUGGGCCGG CG a c -- --- C GGCcca guucugu augcacu gaCU GCU C CCGGGU CAAGACA UAUGUGA CUGA CGA A GG C C C GG GCC G
5.	>bomir-193a-2-3p:Btau_4.0:14:889826:889878:-1(32-50) dG = -17.80 kcal/mol AUGGCUGCCUCACAAGGUUUGGAGCUGUGCCUgggacuuuguaggccaguuCA AU - C - UG A U GGCU GCCU ACAAGGU U G GC \ G uuga cgga uguuuca g C CG / AC c - g gU - U
6.	>bomir-378-1-3p:Btau_4.0:7:60536464:60536541:1(49-69) dG = -47.70 kcal/mol CCACCCAGGGCUCUCUGACUCCAGGUCCUGUGUGUUACCUCAAUAAGCAcuggacuuggagucagaaggcCUGAGUGG C G C UGU CCU CCAC CAGG CU CUGACUCCAGGUCC GUGUUA C GGUG GUCc ga gacugagguucagg cACGAU G A g a u-- AAA
7.	> bomir-378-2-5p:Btau_4.0:4:11116890:11116965:1(9-29) dG = -14.80 kcal/mol GGAGAGCacuggacuuggagucagaaggcUGGAGCUUACAGGGCAGCACCCGUCAUCUACUGGUGGAGAACUACGCC AG- CA gg ugg c a U A UAC GG AG cu acu agu aga ggc GG GCU A CC UC GA UGG UCA UCU CUG CC CGA G GCA AA GG --- - A - A CGG
8.	>bomir-382-3p:Btau_4.0:21:66031742:66031827:-1(51-71)dG = -28.30 kcal/mol UUUGGUACUGAAAAAGUGUUGCCGUGAAUGAUUCGUCUAUAAGUAAAGCgaauccaccacgaacaacucUCUUAAGUACCACA UU - AAAAGU C AAU CAUA UGGUAC UGAA GUUGU CGUG GAUUCGU A ACCAUG ACUU caaca gcac cuaagCG G AC A CUcuu- a cac AAAU
9.	>bomir-409-5p:Btau_4.0:21:66042116:66042194:-1(13-33) dG = -33.60 kcal/mol UGAUACCGAAAAAgggguucaccgagcaacaauucGUCGUCCAGAUAGCAAGGUUGCUGGGUAACCCUCUCCCGCGUACCA U A - AAA ca a - GU G UAC CG Agggguu ccgagcaac uu cGUC \ C C AUG GC UCUCCA GGCUCGUUG AA GUAG / A C C CCC UG A C AC
10.	>bomir-424-3p:Btau_4.0:Un.004.53:446853:446952:-1(59-79) dG = -46.20 kcal/mol UUCGUUGACUCCGAGGGGAUGCAGCAGCAAUUCAUGUUUUGAAGUGCUUUAAACGGUUcaaaacgugagcgcgucguauACCCCUUGCGAGGAAGUAGG U CG GA - A C AA G CUU U UU CUC CGAGGGG UG AGCAGC UUCAUGUUUUGAA UG \ U G GA GAG GUUCCCC Au ucgucg gagugcaaaacUU GC / G AU AG C C a cg G AAA
12.	>bomir-542-3p:Btau_4.0:Un.004.53:441560:441637:1(45-67) dG = -25.80 kcal/mol CCCAGACCUUUCAGUUUAUCAUCUGUCACAAGUGGACAGUGGUaucucgugacaugaugaucccccgaGAUGUCUGAGG - C A--- AUC A - AC CC CAGAC UUUC GUUAUCA UGUCAC AG UGC A GG GUCUG AGag uaguagu acagug uc AUG G A U cccc --- c u GU

13. >bomir-574-5p:Btau_4.0:16:5937061:59370704:-1(7-28) dG = -25.20 kcal/mol
AGAGUGugugggugugugcaugugcgugUGUGCACAUGCAUAUGUGUGUGGCUAUCUUAGCUGU
AG Gu-- g ug G
AGU gugg ug ugcaugugcgug U U
||| |||| || ||||| ||||| |
UCG UAUC GU GUGUAUACGUACA G
UG AUUC G GU C

14. >bomir-652-3p: hsa:X:109185213-109185310:-1, dG = -50.10 kcal/mol
CACAUCCAACACGUGAGcuguuugggaucaccgcgguaaGUUAAUAUCAGAUACACUUACCGUGGGAGAGGAUCCCAACACGUCACGUUACGGUAAGCA
CACAU- AAC a---- UAAUUAU
CC ACUGAGCguguugggauc cgcgguaaGU \
|| ||||| ||||| ||||| ||||| ||||| C
GG UGCACUGCACAACCCUAG GGUGCCAUUCA /
ACGAU CUA GAGAG CAUAGA

15. >bomir-940-5p:Btau_4.0:20:75274429:75274494:-1(3-20) dG = -39.80 kcal/mol
CCgaggggccccgcuccccGUGGCCACACAGAGUGCCUGUGGGGAGGCGGGGAGCCACCUGGGG
g g---- - UG C- C
CC cagg ccccg cuccccG G CAC A
|| |||| ||||| ||||| ||||| |||||
GG GUCC GGGGCG GAGGGGU C GUG G
G ACCGA G GU CC A

16. >bomir-F0131-5p:Btau_4.0:7:10905950:10906020:1(16-33) dG = -29.40 kcal/mol
UGUGUUUGGGAGUUGggggcgggggcggggugGAUUCCAGCUGUCUCCCCUCGUGGACACUGUGACAUA
UG A Gg- c g A
UGUGUU GG GUU ggg gggggggcgg ugG \
||||| || ||| ||| ||||| ||||| ||| U
AUACAG UC CAG CUC CCCUUCUGUC ACC /
UG A GUG - G U

17. >bomir_F0132-5p:Btau_4.0:7:13891717:13891774:1(2-20) dG = -23.40 kcal/mol
CagcccgggccccuccccugGCUCCGCCACAGCAUCAUGGGACCCAGCCAGGGCCU
Ca - ccc- c -- CCG
gccc gggc uccc ug GCU C
|||| |||| |||| || ||| |
CGGG CCCG AGGG AC CGA C
UC A ACCC U UA CAC

18. >bomir-H0121-3p:Btau_4.0:18:7202568:7202632:1(43-60) dG = -27.60 kcal/mol
GAGGCGGCCAGACCAGCAGGGCGCAGGGGACCAUGUGUCCUcuccccguguguugagccGCGUG
GAG CA CA - CGC - CA
GCGGC GAC GCA GGG AGG GGAC \
|||| ||| ||| ||| ||| |||| U
CGccg uug ugu ccc ucC CCUG /
GUG ag -- g u-- U UG

19. >bomir-F0244-5p:Btau_4.0:12:45758242:45758332:-1(15-33) dG = -20.10 kcal/mol
GCCACUGCCCCAUUgcuacuaccgauuggaugUUUAGUGUUGCCCUUGGAUAAUCCAUAAGUAGAAUUAUAGGUGAAAAGUUGUGAGC
- U ----- C cua cg g UGU
GC CAC GC CC AUUg cuac auuggau gUUUAG U
|| ||| || || |||| |||| ||||| ||||| |
CG GUG UG GG UAAU GAUG UAACCUA UAGGUU G
A U AAAAGU A UAA AA A CCC

20. >bomir-H0222-3p:Btau_4.0:29:41706131:41706188:-1(30-48) dG = -31.50 kcal/mol
UCUGGGGCGCCCCGCACCGCGGGCAGGACggcgcgcgagcgccggggcgCGGUCUCGGA
--- - A--- G GGC
UCUGG GCGGCCCC GC CCG CG \
|||| ||||| || ||| || A
AGGCU CCgcgggg cg ggc gc /
CUG c cgac g AGG

21. >bomir-A0321-3p:Btau_4.0:19:39110468:39110542:1(40-57) dG = -20.40 kcal/mol
CCGGCCUACUUGGGGCUCCGAGCCGUGCCGCAUACAUUagcgcgcgcgccgcaccGCCGUCACCUUCAGCGCU
CC - ACU-- - UC-- A C C AUA
GGC CU UGG GGC CG GCCG UG CGC C
||| || ||| ||| || |||| ||||| |
UCG GA ACU CCG gc cggc gc gcg A
-- C CUUCC G ccac - c c aUU

22. >bomir-C0533-1-5p:Btau_4.0:18:59928730:59928786:1(4-23) dG = -26.70 kcal/mol
CGUcgggaccgggguccggugcgGAGAGCCCUUCGUCCCGGACACGGGGCGCGGCC
C gga- ggg ug A
GUcg ccg uccgg cgGAG G
|||| ||| |||| ||||| |
CGGC GGC GGGCC GCUUC C
C GCGG ACA CU C

23. >bomir-C0533-2-5p:Btau_4.0:21:52041884:52041940:-1(4-23) dG = -26.70 kcal/mol
CGUcgggaccgggguccggugcgGAGAGCCCUUCGUCCCGGACACGGGGCGCGGCC
C gga- ggg ug A
GUcg ccg uccgg cgGAG G
|||| ||| |||| ||||| |
CGGC GGC GGGCC GCUUC C
C GCGG ACA CU C

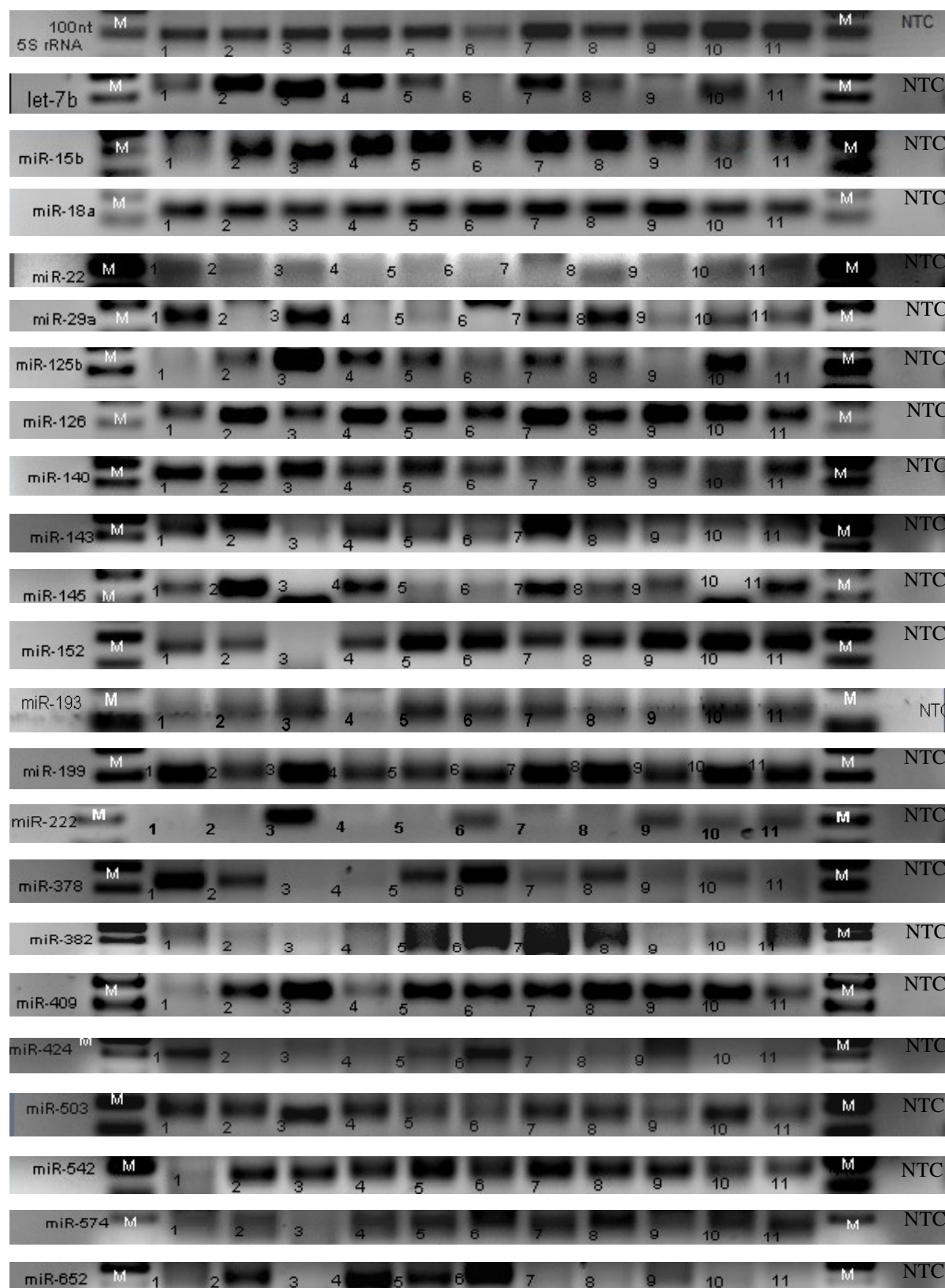
24.	>bomir-F0522-1-3p:Btau_4.0:21:35870333:35870398:1(47-65) dG = -27.40 kcal/mol CCUCUCUCCUGCAGCAUCUCAGGGCACUGUGACUUGGGUCGGGgguugggggguuggu - UC UC AG AG A UGU CC UCUCCC C CAUCUC GGC CUG \ G gg gggggg g guggG CUG GGU / U uu gu gg G- - UCA
25.	>bomir-F0522-2-3p:Btau_4.0:22:59347353:59347420:1(43-61) dG = -34.40 kcal/mol GGAGGGUGCCUCUAAGCCUCACUUGUCCUGCCUGUCAAUUGGgguugggggguuggCCUUUCC U UCUA A UG UG GUC GGAGGG GCC AGCCUC CU UCC CCU A CCUUUC Cgg uugggg gg ggg ggG A - ---- - gu gu GUA
26.	>bomir-B0821-5p:Btau_4.0:20:19373708:19373768:-1(3-23) dG = -32.60 kcal/mol GCgucuccgggggucuccgcgcggcGGAGUUCGGUUGCACCAGGGAGGGGCCGGGAUCGG G - gg g gg A UCG Cg ucccc ggcucc cc cGG GU \ G GC AGGGG CCGGGG GG GCC CG / G U -- A G- A UUU
27.	>bomir-F1351-3p:Btau_4.0:25:41129445:41129520:1(53-72) dG = -44.20 kcal/mol CGGCGCCGGGAAAGGUGGGCUGGGCUCGCGGCCCCCGCCCGGUGCUGccccggcgucuccggccuUGUG CGGC- AA -- UG U G CCC GGCCGGGA GGU GGC GGC CCGG C U ccggcccu ccg ccg UCG GGCC G C GUGUu cg gc -- U - CCC
28.	>bomir-F1353-5p:Btau_4.0:28:27885032:27885119:1(5-24) dG = -18.30 kcal/mol AAAAaucuuugggcuagguaguCUAUUUUAUGAUCUGUUAUGAAUUGGUUAAGGAAAAGGAUCCAUGUGGAAGA AAGAUCAGAGA AAAA- ggg g ua A UA A auuuu cua gu guuCU UUU UGAUCUGUU U UAGAAA GGU UA UAGGA AAG AUUGGUAA G AGAGAC GAA G CC A GA A
29.	>bomir-D1431-5p:Btau_4.0:12:75101950:75102053:-1(3-24) dG = -44.60 kcal/mol GUggcgagggaggcgagcccccCCCCCCCCCCCCCGCCCGUCCGACGGUGCGACCCGCCAGGGGCGCUC UGGGGACAGUCCGCCCGCCCGCCC GU a-- a c cc- CCCC-- CCCCCCCC C GU ggcg cgg ggcg gac ccc CCCC CGC CCG C CCGC GCC CCGC CUG GGGG GGGG GCG GGC C C- CCC - - ACA UCUCGC ACCGCCCA U AG
30.	>bomir-C1511-5p:Btau_4.0:Un.004.1059:20638:20698:1(2-21) dG = -32.00 kcal/mol CguggagagaugccggggCGUGCGGGCGUGCGGGCUGGGCUGGCAGCUCCUCCUC Cgu aa- - - gg UG G ggaggag gcccgg CG CU G CCUCCUC CGGGUC GC GG G CUC GACGGU GG GU C
31.	>bomir-F1821-3p:Btau_4.0:Un.004.152:123132:123213:1(60-80) dG = -31.60 kcal/mol CGCAACGAGGGCUCGGGACACAGCCUGCUUCCUGGCCACGUCACCCGUCGUGGCCAGagccugggccuggccaucgugUC C A G UC ACA CCCU UC C UCA GC ACGA GGC GGG CAG GCU CUGGCC ACG C Ug ugcu ccg ccc guc cga GACCGG UGC C C - a u- g-- c--- -- - UGC
32.	>bomir-C1931-5p:Btau_4.0:26:12405822:12405907:1(17-39) dG = -11.60 kcal/mol CCUGAGUUGCAAUUCccugcugaucucacauuaauucaUCUUUGCUAGAGAAAUAUCUGAGUGUCUGUUUUGGUUCAAUAAAGCC CC GA C Cccu u - cau a a UU CU GUUG AAUU gc gau cuca ua uuc UCU \ G GA UAAC UUGG UG CUG GAGU AU AAG AGA / CC AA - UUU- U U CU- A - UC
33.	>bomir-A2143-3p:Btau_4.0:16:47801303:47801359:1(34-51) dG = -18.50 kcal/mol ACACCCGGCUGGCGUCAACUCUGAACAGAUUCcggcagaugaaguccaucGGGAAG ACA C - G A - ACA CCCGG UGG C UCA CU CUGA G GGGcu acc g agu ga ggcU A GAA - u a a c CUU
34.	>bomir-F2422-5p:Btau_4.0:18:53584142:53584210:1(1-20) dG = -35.50 kcal/mol gguugggguuccaccgagCACCCUGUCGGCUGGCAGCCCCGCCAGGUAGUGGGUGCUCUGCCACA g g - cgagCAC UC CA gugg aggggu cccac CCUG GGCUGG \ G CACC UCUCG GGGUG GGAC CCGGCC / A G U AU----- -- CC

35.	>bomir-F2531-3p:Btau_4.0:8:77307612:77307688:1(50-67) dG = -13.80 kcal/mol GGUUUAAUGCUCUGCUGCAGCGCUUUGAAAUUCUUACUAAUCUUUUUugguggagaugccggggaCGUAAUAAUU GGUUUA- - CU AG UU UUCUUA AUG CUCUG GUC CGCU GAAA \ C UGC ggggc uag gugg UUUU / UUAAUAA a cg ag uU UCUAUU
36.	>bomir-G2511-3p:Btau_4.0:18:41190497:41190564:1(40-57) dG = -21.10 kcal/mol AGGGGGAGAGUUGCGGCUAUGAACUGGGUCCAGGUGGAaggcgggcgggguuggaAGGUUCCAGCU AGGG AG G A AA GG- A GGAG UU CGGCUC UG CUG UCC G CCUU Aa guuggg gc ggc AGG G UCGA GG g - cg gga U
37.	>bomir-E2664-3p:Btau_4.0:18:64360999:64361052:-1(33-52) dG = -21.10 kcal/mol AGUCAAGUGAGCGGCCGACCGGCUCUCCGAgggcgggcgggcgacuggaaAG AG- A GAGCG A G C UC AGU GCCGC CCG CUCUC \ C ag uca cggcg ggc gggaG / GAa g g---- - - G
38.	>bomir-D3011-3p:Btau_4.0:18:39424877:39424959:1(62-82) dG = -47.50 kcal/mol ACGCGUUCUCGCGCUCACUCGCGGCCACACUGCCGCAAUGCGGCUUCGUGGUCUGCGccgagugcucccgcgagcgcuU AC U U CGCU GC- U-- A GCGC UC CGG CACUCGGCG ACCAC GCCGC A cgcg ag gcc gugagccGC UGGUG CGGC Uu - c cuc- GUC CUU U
39.	>bomir-A3341-1-3p:Btau_4.0:3:124987968:124988032:1(41-61) dG = -28.00 kcal/mol UCACCCAGUCUCUAGUGAGAGGCCAUGGCGGCAGGGGcguggcugucccugaggugggACUG UCAC G UGA G G GGC CCCA UCUCUAG GA AGCCAUG C \ A gggu ggagguc cu ucggugC G / GUCA - c-- g - GGG
40.	>bomir-A3341-2-3p:Btau_4.0:Un.004.4799:1295:1359:1(41-61) dG = -28.00 kcal/mol UCACCCAGUCUCUAGUGAGAGGCCAUGGCGGCAGGGGcguggcugucccugaggugggACUG UCAC G UGA G G GGC CCCA UCUCUAG GA AGCCAUG C \ A gggu ggagguc cu ucggugC G / GUCA - c-- g - GGG
41.	>bomir-A3711-5p:Btau_4.0:9:63475787:63475874:1(18-36) dG = -64.40 kcal/mol CGCCGCUCCGCUCCCGGuuccgcgcucuaagccagcCCGUGCCUGCCGGGCGUGGUGCAGGCCGCGGAGCCGGGCGGCCCGCAGGCA C - CC - cu a - UG GCC GCU GCU CCCGGuuccgcg cu cgccagcCC GC \ C CGG CGG CGG GGGCCGAGGCGC GA GUGGUCGGG CG / A A CC C CG C C UC
42.	>bomir-A4052-1-5p:Btau_4.0:18:59928617:59928686:1(14-32) dG = -38.20 kcal/mol ACGGCAGCGCCGcgggagccucgguuggccucGGAUAGCCGUGCCCCGCCGUGCCCCGCCGGGGCCGU AG - ag cu uu cc A ACGGC CGCCG Cggg c cgg gg ucGG U UGCCG GCGGC GCCC G GCC CC GGCC A G- C CU CC -- CU G
43.	>bomir-A4052-2-5p:Btau_4.0:21:52041984:52042053:-1(14-32) dG = -38.20 kcal/mol ACGGCAGCGCCGcgggagccucgguuggccucGGAUAGCCGUGCCCCGCCGUGCCCCGCCGGGGCCGU AG - ag cu uu cc A ACGGC CGCCG Cggg c cgg gg ucGG U UGCCG GCGGC GCCC G GCC CC GGCC A G- C CU CC -- CU G
44.	>bomir-A4052-3-5p:Btau_4.0:Un.004.2732:16031:16100:-1(14-32) dG = -38.20 kcal/mol ACGGCAGCGCCGcgggagccucgguuggccucGGAUAGCCGUGCCCCGCCGUGCCCCGCCGGGGCCGU AG - ag cu uu cc A ACGGC CGCCG Cggg c cgg gg ucGG U UGCCG GCGGC GCCC G GCC CC GGCC A G- C CU CC -- CU G
45.	> bomir-106-2-5p:Btau_4.0:Un.004.53:181658:181738:-1(14-34) dG = -30.10 kcal/mol CCUUGGCCAUGUAaaagugcuuacagugcagguagCUUUUUGAGAUCUACUGCAAGCAAGCACUUCUUAUAUACCAUGG U CC - a g g C UU CC UGG AUGUAa aagugcuu ca ugcag uaG UU \ U GG ACC UACAUU UUCACGAA GU ACGUC AUC AG / U AU C C A - U AG

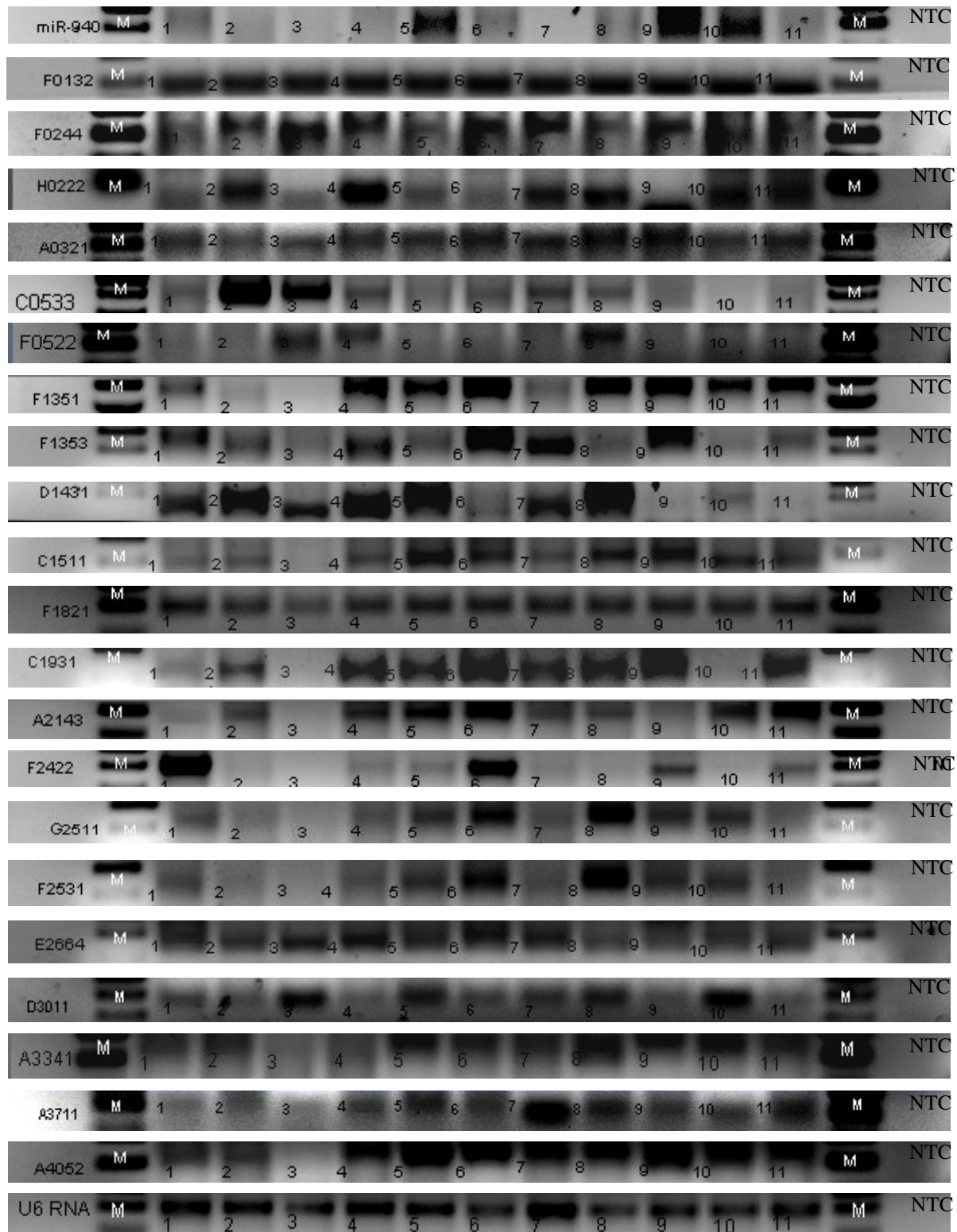
46.	>bomir-24-3-3p:Btau_4.0:8:85962803:85962876:1(47-71) dG = -27.20 kcal/mol CCCCUCCGGUGCCUACUGAGCUGAUACAGUUCUCAUUUUACACACuggcucaguucagcaggaacaggagUCG <pre> GCC G G A UA UCUCAU CUCC GU CCU CUGAGCUGA UCAGU \ U gagg ca gga gacuugacu gguCA / GCU a a c c- CACAUU </pre>
47.	>bomir-26-2-3p:Btau_4.0:22:11464097:11464186:-1(54-75) dG = -34.00 kcal/mol CAGGCCCGCGUCCGCGUGCAAGUAACCGAGAAUAGGCCCUUGGGACCGGCACagccuauccuggauuacuugaaCGAGGCCACGGCCUU <pre> C CGC U G G - G A ----- C AGGCC G CC CGU CAAGUAA CC AG AUAGGC CC U UCCGG C GG GcA guucauu gg uc uauccg GG U U CAC - A a a - c aCACGUCCA G </pre>
48.	>bomir-199a-2-5p:Btau_4.0:7:13733556:13733633:1(8-29) dG = -33.50 kcal/mol CCCAGCCuaaccaaugugcagacuacuguACACAUUCAGAGCCCCUGAACAGGUAGUCUGAACACUGGGUUGGCGGG <pre> A uaa a g guACACA AG CCC GCC cca ugu cagacuacu UUCAG C GGG CGG GGU ACA GUCUGAUGG AAGUC C - UUG C A AC----- CC </pre>
49.	>bomir-199a-3-5p:Btau_4.0:11:102419020:102419092:1(6-27) dG = -21.00 kcal/mol CAGCCuaaccaaugugcagacuacuguACAAUUUGGGAGUCCUGAACAGAUAGUCUAAACACUGGGUAGACGG <pre> CAGC a a gc - ACAAU UG A Cua cca ugu agacua cugu U GG \ G GAU GGU ACA UCUGAU GACA A CC / GGCA G C AA A ----- GU U </pre>
50.	>bta-let-7b-2-3p:Btau_4.0:5:123308015:123308097:-1(60-81) dG = -22.90 kcal/mol CUCGAGGAAGGCAGUAGGUUGUAGUUAUCUUCGAGGGGGCAACAUCACUACCCUGAaaccacacaaccuacuaccucaCC <pre> GAC AAGGC AUA A UUCCG G GC GAGG AGUAGGUUGU GUU UC AG GG A cucc ucauccaaca caa AG UC CU A CCa a----- cac - UCCCA A AC </pre>

Secondary structure for new miRNAs and new loci of annoated miRNAs predicted by mfold web server. First line started with the name of the miRNA followed by database (Ensemble 52; Btau_4.0), genomic location (chromosome number: start: end: sense or antisense orientationand orientation, (position of the mature sequence in the precursor) and minimum free energy. Position of the mature sequence in the hairpin precursor is indicated as lower case and by the red color.

Supplementary figure 2. Detection and expression analysis of selected miRNAs in multiple tissues by PCR approach.



Figures Continued



Expression profiles of 44 miRNAs including new miRNAs in multiple tissues by PCR approach.

Amplicons were analyzed on 2% agarose gel. 5S rRNAs and U6 RNA were used as a loading control.

A DNA ladder (M) indicating the size of the fragments (50-100-150 nt) on each side. (NTC) Non-

template control. The number 1-11 denote different tissues and cells where, 1-Ovarian cortex corpus

luteum, 2 – Fetal ovary, 3 – Cumulus cells, 4 – Corpus luteum, 5 – Oviduct, 6 – Uterus, 7 – Placenta, 8

– Heart, 9 – Liver, 10 – Lung, 11 – Spleen.