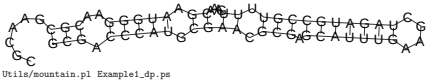
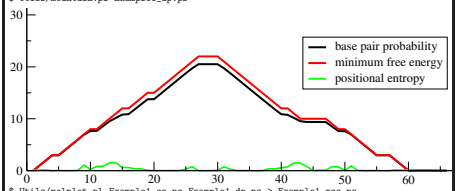
A

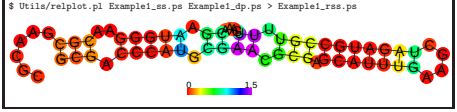
```
$ RNAfold -p < Example.fa
>Example1
GCGACCCAUGCCGAGCGCGAGCAUUUGAAGCUAGAUGCCGUUUUGAAACGAAUGGGAACGCGAACGC
((.(((((.(((((.(((.(((((((.....)))))))))))).)).....)).)))))..)))..... (-19.50)
((.(((((.(((((.(((.(((((((.....)))))))))))).)}.....)).)))))..)))..... [-20.45]
((.(((((.(((((.(((.(((((((.....)))))))))))).)}.....)).)))))..)))..... {-19.50 d=2.85}
 frequency of mfe structure in ensemble 0.212986; ensemble diversity 4.22
```



```
$ Utils/mountain.pl Example1_dp.ps
```




```
$ Utils/relplot.pl Example1_ss.ps Example1_dp.ps > Example1_rss.ps
```

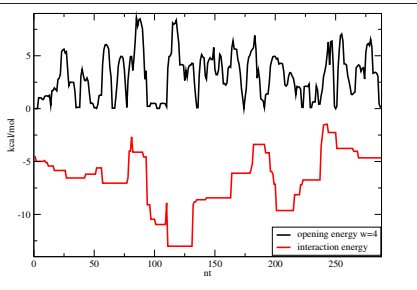


B

```
$ RNAplfold -W 32 -L 30  < allseamp.seq
```

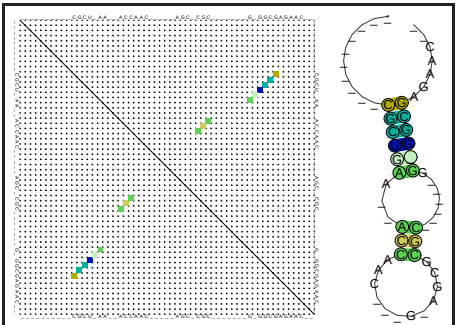
```
$ RNALfold -L 30  < allexample.fa
.(((.((...)).))). ( -0.80)  100
.((((((........)).))))..( -7.10)    96
.(((((.(((.........))))))). ( -9.50)   80
.(((.....))).. ( -2.60)   74
.(((((((.....))).))))..( -5.80)   70
.(((((((.....((((...))))...)))))). ( -6.60)   57
.(((.((((((.....)))))).))). ( -6.40)   52
.(((((.(.........).))))). ( -5.10)   36
.(((.((((.(.........).)))))). ( -7.50)   33
.(((.........))). ( -2.60)   21
.(((.....))).. ( -1.00)   19
.(((.....))). ( -3.30)   12
.((((.(((.......))).).)). ( -5.80)    7
ccggaaaccgaacgcagcaccgcggaucuggaacgccgcuaGaacaacuaucuguaGcgcgaaaacauuguguAGcau
UAGuuugcgugcaaagaacgcagcaccgaaccgcaugcgaacuGagaa
 (-26.20)
```

C

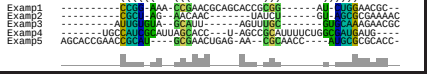



```
$ RNAup --interaction_pairwise < inputup
(((((((((((((.(((((((&))))))....)))))))))))))) 111,131 :    2,24  (-13.01 = -24.85 + 11.84)
gcaugcgaacuGagaacgcaaAuugugugagcauuguuugcgugc
RNAup output in file: RNA_w25_u1.out
```

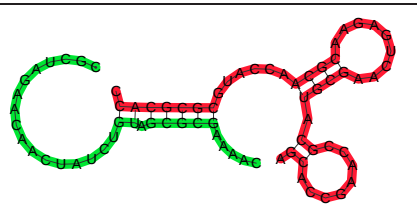
D



```
$ RNAalifold -p --aln --color < samples.aln
5 sequences; length of alignment 57.
_________CGCUGAA__ACCAAC___G_AGCGCGC_____GG_GGCGAGAAC_
.........(((((...(((.............)))..)))))..... ( -9.71 +  -6.50 +  -3.21)
.........(((((...(((.............)))..)))))..... [ -9.99]
 frequency of mfe structure in ensemble 0.636366
.........(((((...(((.............)))..)))))..... -9.79 { -6.50 +  -3.29}
```

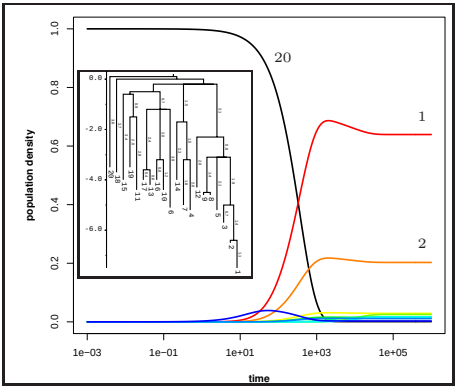


E



```
$ RNAcofold -p < Examplecofold
>Examplecofold
CGCUAGAACAACUAUCUGUAGCGCGAAAACAAGCACCGAACCGCAUGCGAACUGAGAACGCAACCAUGCGCGCACC
.....................((.(((((.....&.((.........)).(((.........))))).....)))))). (-14.00)
.{{{{.,.........}!},!|(((.....&.........{!|(((((.........))))...}}}))))).... [-16.00]
 frequency of mfe structure in ensemble 0.039241 , delta G binding= -2.19
```

F



G

```
$ RNAsubopt -s -e 1 < berni.fa
> berni [100]
AGCACCGAACCGCAUGCGAACUGAGAACGCAACCAUGCGCGCACC    -700
.........(((((((.........)))).....))))......   -7.00
.........(((((((.........)))).....))).).....   -6.90
.........(((((((.(...(.....).)))))))).......   -6.70
.........(((((((.(...(.....).)))))))).).....   -6.60
.((.........)).(((.........(((.....)))))))..   -6.50
.........(((((((.........)))).....)))).....    -6.50
.....(((.(((((((.........)))).....)))))).....  -6.20
.........(((((((.........)))).....)))).).....  -6.40
.....(((.(((((((.........)))).....)))))).....  -6.00
```

```
$ RNAsubopt -z < peter.fa
> peter [100]
.(((.(...))).....  [-1.30]
.((.(.......)).  [0.40]
.(((.(...))).....  [1.80]
.(((.(...))).....  [1.90]
.(((.(...))).....  [2.10]
...(((...))).....  [2.70]
...(((...))).....  [3.00]
...(((...))).....  [3.00]
.....(((...))).....  [3.10]
.....(((...))).....  [4.00]
...(((...))).....  [4.10]
...(((...))).....  [5.00]
```

```
$ RNAsubopt -p 10 < xtof.fa
> Xtof [100]
...(((((((...(((.........)))..)))))))...
...(((((((...(...(.....)..)...)))))))...
...(((((((...(((.....)))..)))))))...
...(((((((...(((.....)))..)))))))...
...(((((((.....(((.....)))..)))))))...
(((....)))....(((...(((.........)))..)))...
...(((((((.....(((.....)))..)))))))...
.(.(((((((...(((.....)))..)))))))...).
...(((((((...(((.....)))..)))))))...
...(((((((...(((.....)))..)))))))...
.(.(((((((...(((.....)))..)))))))...).
```