```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.271 C 0.229 G 0.229 T 0.271
MOTIF A-Box width = 21 sites = 116 llr = 1480 E-value = 5.4e-213
BL MOTIF A-Box width=21 seqs=116
log-odds matrix: alength= 4 w= 21 n= 36080 bayes= 10.2502 E= 5.4e-213
  -97
        -27
              -373
                     128
              -156
  120
        -215
                     -11
             -215
  128
         -9
                    -180
 -1350
         211 -1350
                    -497
 -127
        171
             -127
                    -265
       -156
  160
              -115 -1350
 -1350
        188
             -1350
                     -80
 -1350 -1350
             -315
                     185
        -83
              115
                    -397
-265
   35
   67
        31
                7
   24 -1350
              157 -1350
 -1350
         212 -1350 -1350
  -397
         115
              -473
                      78
  189 -1350
             -1350
                    -1350
              -173
         97
 -151
                    52
   -7
          85
               12
                    -180
  -65
         55
               85
                    -180
   2.8
         35
               12
                    -107
  -51
         -15
               112
                    -139
  -65
         99
               62
                    -397
         177
 -239
              -193
                    -139
letter-probability matrix: alength= 4 w= 21 nsites= 116 E= 5.4e-213
 0.137931 0.189655 0.017241 0.655172
 0.620690 0.051724 0.077586 0.250000
 0.655172 0.215517 0.051724 0.077586
 0.000000 0.991379 0.000000 0.008621
 0.112069 0.750000 0.094828 0.043103
 0.818966 0.077586 0.103448 0.000000
 0.000000 0.844828 0.000000 0.155172
 0.344828 0.129310 0.508621 0.017241
 0.431034 0.284483 0.241379 0.043103
 0.318966 0.000000 0.681034 0.000000
 0.000000 1.000000 0.000000 0.000000
 0.017241 0.508621 0.008621 0.465517
 1.000000 0.000000 0.000000 0.000000
 0.094828 0.448276 0.068966 0.387931
 0.258621 0.413793 0.250000 0.077586
 0.172414 0.336207 0.413793 0.077586
 0.327586 0.293103 0.250000 0.129310
 0.189655 0.206897 0.500000 0.103448
```

0.172414 0.456897 0.353448 0.017241 0.051724 0.784483 0.060345 0.103448

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.260 C 0.240 G 0.240 T 0.260
MOTIF AP1
            width = 14 sites = 475 llr = 4487 E-value = 3.1e-778
BL MOTIF AP1 width=14 seqs=475
log-odds matrix: alength= 4 w= 14 n= 43500 bayes= 7.77719 E= 3.1e-778
   37
        -53
                5
                     -6
         19
                    -190
  -11
                    -86
  58
               30
        -46
                    -72
  -42
         -7
               80
   20
       -175
               91
                    -54
               64
                   -295
   34
        13
 -1554 -1554 -1554
                     194
                   -495
 -1554 -1554
             205
 194 -1554 -1554 -1554
 -219
        45
             127
                   -286
 -536 -1554 -1554
                   194
       199 -1554 -1554
 -249
  194 -1554 -1554 -1554
 -495
        31
              -26
                     93
letter-probability matrix: alength= 4 w= 14 nsites= 475 E= 3.1e-778
0.336842 0.166316 0.248421 0.248421
0.240000 0.273684 0.416842 0.069474
0.387368 0.174737 0.294737 0.143158
0.193684 0.229474 0.418947 0.157895
0.298947 0.071579 0.450526 0.178947
0.328421 0.263158 0.374737 0.033684
0.000000 0.000000 0.000000 1.000000
0.000000 0.000000 0.991579 0.008421
0.006316 0.000000 0.000000 0.993684
0.046316 0.953684 0.000000 0.000000
1.000000 0.000000 0.000000 0.000000
```

0.008421 0.296842 0.200000 0.494737

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.204 C 0.296 G 0.296 T 0.204
MOTIF AP2
             width = 15 sites = 491 llr = 3871 E-value = 7.0e-490
BL MOTIF AP2 width=15 seqs=491
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.43602 E= 7.0e-490
  -35
         24
               -39
                     36
         39
               -29
   12
                     -46
                     35
   42
         20
             -123
   55
         -7
              -22
                     -31
   -2
       -348
              -209
                    178
             111
  -50
       -145
                     -89
 -433
        102
               30
                    -306
-1558
        176 -1558 -1558
                   -95
-1558
        160 -1558
 -274
         18
             -197
                     145
              49
 -129
        57
                   -174
 176
       -372
               -4 -1558
 -365 -1558
              173 -1558
-1558 -1558
             176 -1558
              17 -306
 -506 111
letter-probability matrix: alength= 4 w= 15 nsites= 491 E= 7.0e-490
0.160896 0.350305 0.226069 0.262729
0.221996 0.386965 0.242363 0.148676
0.272912 0.340122 0.126273 0.260692
0.299389 0.281059 0.254582 0.164969
0.201629 0.026477 0.069246 0.702648
0.144603 0.107943 0.637475 0.109980
0.010183 0.600815 0.364562 0.024440
0.000000 1.000000 0.000000 0.000000
0.000000 0.894094 0.000000 0.105906
0.030550 0.336049 0.075356 0.558045
0.083503 0.439919 0.415479 0.061100
0.690428 0.022403 0.287169 0.000000
0.016293 0.000000 0.983707 0.000000
```

0.006110 0.637475 0.331976 0.024440

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.260 C 0.240 G 0.240 T 0.260
MOTIF BARHL2 width = 11 sites = 92 llr = 807 E-value = 6.8e-010
BL MOTIF BARHL2 width=11 seqs=92
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 10.4932 E= 6.8e-010
 -158
        -88
               6
                    104
-1317
        85
               74
                    -67
-1317 74 -1317
-1317 -1317 -1317
                   120
195
 128 -1317
             62 -1317
  195 -1317 -1317 -1317
             23
49
                   147
133
-1317 -1317
 -457 -1317
-177 -1317
-1317 146
             194 -1317
       146
              29 -258
                   149
-1317
        18 -1317
letter-probability matrix: alength= 4 w= 11 nsites= 92 E= 6.8e-010
0.086957 0.130435 0.250000 0.532609
0.000000 0.434783 0.402174 0.163043
0.630435 0.000000 0.369565 0.000000
1.000000 0.000000 0.000000 0.000000
0.000000 0.000000 0.282609 0.717391
0.010870 0.000000 0.336957 0.652174
0.000000 0.663043 0.293478 0.043478
0.000000 0.271739 0.000000 0.728261
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.226 C 0.274 G 0.274 T 0.226
MOTIF B-Box width = 16 sites = 404 llr = 5093 E-value = 5.9e-1137
BL MOTIF B-Box width=16 seqs=404
log-odds matrix: alength= 4 w= 16 n= 42500 bayes= 8.6382 E= 5.9e-1137
                     -19
 -130
       -124
               112
       -679
               171
                     -419
 -138
 -551 -1530
127 -362
              186 -1530
                       -7
               -33
  -19
        26
              -333
                      98
              -479
                    212
 -1530
       -521
 -1530
        156
             -1530
                      -23
 -493 -1530
              186 -1530
  215 -1530 -1530 -1530
       -679 -1530 -234
  208
 -651
        186 -1530 -1530
 -351
        142
              -521
                     9
  -99
        130
              -166
                      -87
   20
        -62
               80
                    -142
 -293
         61
                57
                     -63
                    -293
  -26
       -347
               147
letter-probability matrix: alength= 4 w= 16 nsites= 404 E= 5.9e-1137
 0.091584 \quad 0.116337 \quad 0.594059 \quad 0.198020
 0.086634 0.002475 0.898515 0.012376
0.004950 0.000000 0.995050 0.000000
0.544554 \quad 0.022277 \quad 0.217822 \quad 0.215347
 0.198020 0.329208 0.027228 0.445545
0.000000 0.007426 0.009901 0.982673
 0.000000 0.806931 0.000000 0.193069
 0.007426 0.000000 0.992574 0.000000
1.000000 0.000000 0.000000 0.000000
 0.952970 0.002475 0.000000 0.044554
 0.002475 0.997525 0.000000 0.000000
 0.019802 0.732673 0.007426 0.240099
 0.259901 0.178218 0.477723 0.084158
 0.029703 0.418317 0.405941 0.146040
```

0.188119 0.024752 0.757426 0.029703

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.205 C 0.295 G 0.295 T 0.205
MOTIF BHLHE40 width = 10 sites = 481 llr = 3700 E-value = 6.6e-438
BL MOTIF BHLHE40 width=10 seqs=481
log-odds matrix: alength= 4 w= 10 n= 45500 bayes= 7.23038 E= 6.6e-438
    -8 -556
                    87
                            36
    -87
           159 -1555 -1555
   229 -1555 -1555 -1555
1555 168 -306 -362
 -1555
  -187
          -515
                  166 -1555
          -334
                  -269
  -158
                           207
 -1555 -1555
                   176 -1555
          32
   137
                  -187 -316
            98
13
   -39
                   -61
                          -162
   -39
                    -38
                            53
letter-probability matrix: alength= 4 w= 10 nsites= 481 E= 6.6e-438
 0.193347 0.006237 0.538462 0.261954
0.112266 0.887734 0.000000 0.000000
 1.000000 0.000000 0.000000 0.000000

      0.000000
      0.948025
      0.035343
      0.016632

      0.056133
      0.008316
      0.935551
      0.000000

 0.068607 0.029106 0.045738 0.856549
 0.000000 0.000000 1.000000 0.000000
 \begin{array}{cccccccccc} 0.528067 & 0.367983 & 0.081081 & 0.022869 \\ 0.155925 & 0.584200 & 0.193347 & 0.066528 \end{array}
 0.155925 0.322245 0.226611 0.295218
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.242 C 0.258 G 0.258 T 0.242
MOTIF CEBPB width = 14 sites = 498 llr = 4536 E-value = 3.5e-784
BL MOTIF CEBPB width=14 seqs=498
log-odds matrix: alength= 4 w= 14 n= 43500 bayes= 7.7438 E= 3.5e-784
 -110
         -48
                39
                       60
  101
         -76
                 47
                      -591
                     205
-1560 -1560 -1560
        -600 -1560
 -1560
                      204
 -459 -1560
              186
                     -227
 -1560
        195 -1560 -1560
  99
        -276
               64
                     -163
        84 -1560
   -87
                       75
          43 -1560 -1560
  143
  205 -1560 -1560 -1560
 -333
        59
              -84
                      87
              -158
   27
          64
                      -13
   -39
          50
               -32
                        1
  -23
          39
                -58
                       23
letter-probability matrix: alength= 4 w= 14 nsites= 498 E= 3.5e-784
 0.112450 0.184739 0.337349 0.365462
0.485944 0.152610 0.357430 0.004016
0.000000 0.000000 0.000000 1.000000
 0.000000 0.004016 0.000000 0.995984
0.010040 0.000000 0.939759 0.050201
0.000000 1.000000 0.000000 0.000000
 0.479920 0.038153 0.403614 0.078313
0.132530 0.461847 0.000000 0.405622
  \tt 0.652610 \quad 0.347390 \quad 0.000000 \quad 0.000000 
 1.000000 0.000000 0.000000 0.000000
0.024096 0.389558 0.144578 0.441767
 0.291165 \quad 0.401606 \quad 0.086345 \quad 0.220884
 0.184739 0.365462 0.206827 0.242972
 0.206827 0.337349 0.172691 0.283133
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.172 C 0.328 G 0.328 T 0.172
MOTIF CREB
              width = 11 sites = 110 llr = 1038 E-value = 1.9e-057
BL MOTIF CREB width=11 seqs=110
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 9.26152 E= 1.9e-057
  125 -100
                 -4
                       -66
 -1343
        -236
                -171
                        228
-1343
        -259
               -22
119
                      195
-92
   -7 -1343
        161 -1343 -1343
 -1343
               100 -1343
   76
        -259
 -1343
        -517 -1343
                      252
 -324
        158 -1343 -1343
   254 -1343 -1343 -1343
        15
83
 -1343
               -159
                      161
  -78
               -185
                        40
letter-probability matrix: alength= 4 w= 11 nsites= 110 E= 1.9e-057
 0.409091 0.163636 0.318182 0.109091
0.000000 0.063636 0.100000 0.836364
0.000000 0.054545 0.281818 0.663636
0.163636 0.000000 0.745455 0.090909
0.000000 1.000000 0.000000 0.000000
0.290909 \quad 0.054545 \quad 0.654545 \quad 0.000000
 0.000000 0.009091 0.000000 0.990909
0.018182 0.981818 0.000000 0.000000
1.000000 0.000000 0.000000 0.000000
0.000000 0.363636 0.109091 0.527273 0.100000 0.581818 0.090909 0.227273
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.170 C 0.330 G 0.330 T 0.170
MOTIF CREB-ext
                    width = 18 sites = 84 llr = 915 E-value = 8.6e-066
BL MOTIF CREB-ext width=18 seqs=84
log-odds matrix: alength= 4 w= 18 n= 41500 bayes= 9.251 E= 8.6e-066
              -379
-1304
        153
                    -283
 -125
       -1304
               149
                    -1304
       -147 -1304
127 -1304
                    234
 -283
  -13
                     -183
  241 -1304
              -479
                     -103
 -151
        -79
                    192
              -162
   34
         67
              -279
                       34
  145
         -79
               -71
                      -25
                    -51
  -13
         -27
               4.5
   -3
         -4
               -27
                      49
  -37
         21
               53
                    -383
   25
         25
               -71
                      2.5
 -1304 -1304
               155
                    -225
 -383
        158 -1304 -1304
 -383 -1304
              158 -1304
   49
        104 -1304
                    -103
 -283
        145
             -247
                    -383
  -37
        -89
               93
                    -151
letter-probability matrix: alength= 4 w= 18 nsites= 84 E= 8.6e-066
0.000000 \quad 0.952381 \quad 0.023810 \quad 0.023810
 0.023810 0.119048 0.000000 0.857143
 0.154762 0.797619 0.000000 0.047619
 0.904762 0.000000 0.011905 0.083333
 0.059524 0.190476 0.107143 0.642857
0.214286 0.523810 0.047619 0.214286
 0.464286 0.190476 0.202381 0.142857
 0.154762 0.273810 0.452381 0.119048
 0.166667 0.321429 0.273810 0.238095
 0.130952 \quad 0.380952 \quad 0.476190 \quad 0.011905
 0.202381 0.392857 0.202381 0.202381
 0.000000 0.000000 0.964286 0.035714
 0.011905 0.988095 0.000000 0.000000
 0.011905 0.000000 0.988095 0.000000
 0.238095 0.678571 0.000000 0.083333
 0.023810 0.904762 0.059524 0.011905
```

0.130952 0.178571 0.630952 0.059524

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.179 C 0.321 G 0.321 T 0.179
MOTIF CTCF
             width = 15 sites = 500 llr = 4685 E-value = 1.5e-835
BL MOTIF CTCF width=15 seqs=500
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 6.40939 E= 1.5e-835
 -173
         -2
                82
                     -153
 -289
         101
               -374
                      78
 -139
        -294
              130
                      -87
                      -75
 -209
         130
              -237
 -1561
         163 -1561
                     -489
         105
  55
              -280
                    -278
  -548
         94
              -732
                      107
 -1561
        163
              -732 -1561
        -233
                    233
-116
 -248
              -533
               81
95
  58
        -184
 -316
        10
                    -348
         -73
               -287
 -116
                     193
                    -389
 -416
        -732
               160
 -278
       -228
              139
                    -139
              -212
  -50
         89
                      21
letter-probability matrix: alength= 4 w= 15 nsites= 500 E= 1.5e-835
 0.054000 0.318000 0.566000 0.062000
 0.068000 0.042000 0.792000 0.098000
0.042000 0.790000 0.062000 0.106000
 0.000000 \quad 0.994000 \quad 0.000000 \quad 0.006000
 0.262000 0.666000 0.046000 0.026000
0.004000 0.618000 0.002000 0.376000
 0.000000 \quad 0.998000 \quad 0.002000 \quad 0.000000
 0.032000 0.064000 0.008000 0.896000
0.266000 0.090000 0.564000 0.080000
 0.020000 0.344000 0.620000 0.016000
 0.080000 0.194000 0.044000 0.682000
 0.010000 0.002000 0.976000 0.012000
 0.026000 \quad 0.066000 \quad 0.840000 \quad 0.068000
```

0.126000 0.594000 0.074000 0.206000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.213 C 0.287 G 0.287 T 0.213
MOTIF CTCF-ext
                     width = 15 sites = 244 llr = 1972 E-value = 3.4e-108
BL MOTIF CTCF-ext width=15 seqs=244
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.74483 E= 3.4e-108
   23
         -92
                 4
                       51
   -70
         -48
                 72
                       -15
        -117
   -3
                36
                       47
                145
   -66
        -513
                      -153
   -66
        -154
               133
                     -224
   105
               -204
         6
                      -18
   201
        -354
               -160
                     -312
 -312
        118
               -174
                      16
               -454
                      214
 -224 -1457
 -270 -1457
               175 -1457
 -1457
        180
               -612 -1457
  200
        -281
               -313 -153
  -179
        -132
               129
                       -79
 -145
         73
                39
                     -161
          65
                -92
   -3
                      -18
letter-probability matrix: alength= 4 w= 15 nsites= 244 E= 3.4e-108
 0.250000 \quad 0.1516\overline{39} \quad 0.295082 \quad 0.303279
 0.131148 \quad 0.204918 \quad 0.471311 \quad 0.192623
 0.209016 0.127049 0.368852 0.295082
 0.135246 0.008197 0.782787 0.073770
 0.135246 0.098361 0.721311 0.045082
 0.442623 0.299180 0.069672 0.188525
 0.856557 0.024590 0.094262 0.024590
 0.024590 0.651639 0.086066 0.237705
 0.045082 0.000000 0.012295 0.942623
 0.032787 0.000000 0.967213 0.000000
 0.000000 \quad 0.995902 \quad 0.004098 \quad 0.000000
 0.852459 0.040984 0.032787 0.073770
 0.061475 0.114754 0.700820 0.122951
 0.077869 0.475410 0.377049 0.069672
```

0.209016 0.450820 0.151639 0.188525

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.128 C 0.372 G 0.372 T 0.128
MOTIF E2F1
            width = 15 sites = 498 llr = 2940 E-value = 2.6e-072
BL MOTIF E2F1 width=15 seqs=498
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.72704 E= 2.6e-072
  103
        -34
                8
                   -130
  125
        -153
                55
                    -254
                   -175
  114
       -175
               61
                   -1560
   93
        -2
               6
                    59
  189
        -155
               -86
   87
       -653
               87
                     -64
   69
         -2
               20 -1560
 -500
       -753
              142 -1560
 -209
       138 -1560 -1560
 -283 -1560
              140 -1560
 -600
       93
              -35 -1560
        -59
-1560
              102 -1560
             -121
  103
        48
                    -114
              37
  100
       -151
                     3
                    -51
  -51 -39
               53
letter-probability matrix: alength= 4 w= 15 nsites= 498 E= 2.6e-072
0.261044 0.293173 0.393574 0.052209
0.305221 \quad 0.128514 \quad 0.544177 \quad 0.022088
0.283133 0.110442 0.568273 0.038153
0.244980 0.367470 0.387550 0.000000
0.475904 0.126506 0.204819 0.192771
0.234940 0.004016 0.678715 0.082329
0.206827 0.365462 0.427711 0.000000
0.004016 0.002008 0.993976 0.000000
0.030120 0.969880 0.000000 0.000000
0.018072 0.000000 0.981928 0.000000
0.000000 0.246988 0.753012 0.000000
0.261044 0.520080 0.160643 0.058233
0.257028 0.130522 0.481928 0.130522
```

0.090361 0.283133 0.536145 0.090361

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.180 C 0.320 G 0.320 T 0.180
MOTIF E2F4
             width = 20 sites = 493 llr = 3559 E-value = 2.9e-340
BL MOTIF E2F4 width=20 seqs=493
log-odds matrix: alength= 4 w= 20 n= 40500 bayes= 7.04971 E= 2.9e-340
   46
          8
                -46
                        1
   40
                       58
         -31
                -43
  -34
         -25
               -83
                      118
  -94
         -10
                -88
                      127
   -45
         27
               -69
                       65
   92
               -10
         -17
                     -118
  130
         -56
               -78
                      -22
  117
         -91
               -102
  -34
         -23
               -160
                      141
 -194
         -28
               -322
                      187
 -266
        -163
               -147
                     207
               -86
 -415
         131
                     -330
 -1559
         108
                0 -1559
 -647
         164 -1559
                     -647
              162
 -1559 -1559
                     -347
 -1559
         155
               -235
                    -1559
 -447
         93
               -16
                     -91
                      12
   57
          16
                -83
   35
          -7
                -31
                       20
          42
  -40
                -6
                      -51
letter-probability matrix: alength= 4 w= 20 nsites= 493 E= 2.9e-340
 0.247465 0.338742 0.233266 0.180527
 0.237323 0.257606 0.237323 0.267748
 0.141988 0.269777 0.180527 0.407708
 0.093306 0.298174 0.174442 0.434077
0.131846 0.387424 0.198783 0.281947
 0.338742 \quad 0.283976 \quad 0.298174 \quad 0.079108
 0.442191 0.217039 0.186613 0.154158
 0.403651 0.170385 0.158215 0.267748
 0.141988 0.273834 0.105477 0.478702
 0.046653 0.263692 0.034483 0.655172
 0.028398 0.103448 0.115619 0.752535
 0.010142 0.795132 0.176471 0.018256
 0.000000 0.679513 0.320487 0.000000
 0.002028 0.995943 0.000000 0.002028
 0.000000 0.000000 0.983773 0.016227
 0.000000 0.937120 0.062880 0.000000
 0.008114 0.610548 0.286004 0.095335
 0.265720 0.359026 0.180527 0.194726
 0.229209 0.306288 0.257606 0.206897
```

0.135903 0.430020 0.308316 0.125761

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.230 C 0.270 G 0.270 T 0.230
MOTIF EBF1
              width = 15 sites = 495 llr = 4646 E-value = 2.3e-826
BL MOTIF EBF1 width=15 seqs=495
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.73136 E= 2.3e-826
   70
        -113
                 6
                        -5
  -100
                  63
                        -22
          1
 -219
          43
               -211
                       118
 -1560
               -706
         189
                      -1560
 -351
        146 -1560
        187 -1560
                      -403
 -1560
  104
        -506
               -360
                       111
  -23
        -389
               134
                      -116
 -293 -1560
-75 -1560
               184
                     -583
-383
                165
 -1560 -1560
               189 -1560
        -425
               -115
   187
                      -351
   -13
         58
                 16
                      -141
   -5
         25
               -167
                       69
                -54
   -7
         -27
                        68
letter-probability matrix: alength= 4 w= 15 nsites= 495 E= 2.3e-826
0.373737 0.123232 0.280808 0.222222
\begin{array}{ccccc} 0.115152 & 0.270707 & 0.416162 & 0.197980 \\ 0.050505 & 0.363636 & 0.062626 & 0.523232 \end{array}
0.000000 0.997980 0.002020 0.000000
0.020202 0.743434 0.000000 0.236364
 0.000000 0.985859 0.000000 0.014141
0.472727 0.008081 0.022222 0.496970
 0.195960 0.018182 0.682828 0.103030
 0.030303 0.000000 0.965657 0.004040
0.137374 0.000000 0.846465 0.016162
 0.000000 0.000000 1.000000 0.000000
 0.844444 0.014141 0.121212 0.020202
 0.210101 0.402020 0.301010 0.086869
 0.222222 0.321212 0.084848 0.371717
```

0.220202 0.224242 0.185859 0.369697

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.154 C 0.346 G 0.346 T 0.154
MOTIF EGR1
             width = 22 sites = 487 llr = 4363 E-value = 4.6e-688
BL MOTIF EGR1 width=22 seqs=487
log-odds matrix: alength= 4 w= 22 n= 39500 bayes= 7.01913 E= 4.6e-688
  -10
        -22
                47
                     -94
         -42
                16
                     -12
        -48
               40
   31
                     -58
        -95
   -4
               -31
                     135
 -214
       -300
               141 -1557
  -94
        131 -1557
                    -127
 -1557 -1557
               153
                   -1557
-1557
       -581
               65
                    155
 -153 -1557
               145 -1557
-1557 -1557
               153 -1557
-1557 -1557
              153 -1557
       105 -1557
  -83
                     37
 -523 -1557
               151
                     -390
 -170
       -408
               116
                     4
        -77
   66
                32
                     -34
   55
        -101
                45
                     -25
   15
        -77
                53
                     -27
   1.3
        -12
                9
                      -8
   25
        -78
                39
                       8
   25
        -48
                38
                     -37
        -58
  -45
               51
                      8
    6
        -56
               47
                      -27
letter-probability matrix: alength= 4 w= 22 nsites= 487 E= 4.6e-688
0.143737 0.297741 0.478439 0.080082
0.213552 0.258727 0.386037 0.141684
0.190965 0.248460 0.457906 0.102669
0.149897 \quad 0.178645 \quad 0.279261 \quad 0.392197
0.034908 0.043121 0.921971 0.000000
0.080082 0.856263 0.000000 0.063655
0.000000 0.006160 0.542094 0.451745
0.053388 0.000000 0.946612 0.000000
0.000000 0.000000 1.000000 0.000000
0.000000 0.000000 1.000000 0.000000
0.086242 0.714579 0.000000 0.199179
0.004107 0.000000 0.985626 0.010267
0.047228 0.020534 0.774127
                           0.158111
0.242300 0.203285 0.433265 0.121150
0.225873 0.172485 0.472279 0.129363
0.170431 0.203285 0.498973 0.127310
0.182752 0.201232 0.453799 0.162218
0.182752 0.248460 0.449692 0.119097
0.112936 0.232033 0.492813 0.162218
```

0.160164 0.234086 0.478439 0.127310

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.177 C 0.323 G 0.323 T 0.177
MOTIF ELF1
           width = 11 sites = 500 llr = 4417 E-value = 3.3e-735
BL MOTIF ELF1 width=11 seqs=500
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 6.47573 E= 3.3e-735
  107
        -58
               16
                    -177
 -201
         132
              -113
                    -547
 -142 152
-1561 -1561
             -575 -547
163 -1561
        152
              163 -1561
 -1561 -1561
  250 -1561 -1561 -1561
  248 -1561
              -733
                    -415
 -111
       -263
              142 -1561
                    192
        -31
 -266
              -301
               78
47
       -136
   12
                     -47
   18
        -29
                    -98
letter-probability matrix: alength= 4 w= 11 nsites= 500 E= 3.3e-735
 0.372000 0.216000 0.360000 0.052000
 0.044000 0.804000 0.148000 0.004000
 0.000000 0.000000 1.000000 0.000000
 1.000000 0.000000 0.000000 0.000000
 0.988000 0.000000 0.002000 0.010000
 0.082000 0.052000 0.866000 0.000000
 0.028000 0.260000 0.040000 0.672000
 0.192000 0.126000 0.554000 0.128000
 0.200000 0.264000 0.446000 0.090000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.177 C 0.323 G 0.323 T 0.177
MOTIF ELK4
             width = 11 sites = 500 llr = 4417 E-value = 3.3e-735
BL MOTIF ELK4 width=11 seqs=500
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 6.47573 E= 3.3e-735
  107
        -58
               16
                    -177
 -201
         132
              -113
                    -547
-142 152
-1561 -1561
             -575 -547
163 -1561
        152
             163 -1561
 -1561 -1561
  250 -1561 -1561 -1561
  248 -1561
              -733
                    -415
 -111
       -263
              142 -1561
                    192
        -31
 -266
              -301
       -136
               78
   12
                     -47
   18
        -29
               47
                    -98
letter-probability matrix: alength= 4 w= 11 nsites= 500 E= 3.3e-735
 0.372000 0.216000 0.360000 0.052000
0.044000 0.804000 0.148000 0.004000
0.000000 0.000000 1.000000 0.000000
1.000000 0.000000 0.000000 0.000000
 0.988000 0.000000 0.002000 0.010000
0.082000 0.052000 0.866000 0.000000
0.028000 0.260000 0.040000 0.672000
 0.192000 0.126000 0.554000 0.128000
 0.200000 0.264000 0.446000 0.090000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.257 C 0.243 G 0.243 T 0.257
MOTIF ESR1
             width = 20 sites = 457 llr = 4630 E-value = 3.0e-845
BL MOTIF ESR1 width=20 seqs=457
log-odds matrix: alength= 4 w= 20 n= 40500 bayes= 8.76316 E= 3.0e-845
   19
         -66
                45
                      -21
    0
         -35
                17
                      11
          0
  -31
               -12
                       34
  -54
          89
               -51
                      -34
   -22
         88
               -121
                      -18
  140
        -247
               -24
                     -188
  -488
        -679
               177
                      -69
 -1548 -1548
              202
                     -407
 -307 -1548
              -112
                     174
 -1548
         193
              -215
                     -388
  188
        -521
              -333
                     -356
 -104
         89
               10
                     -65
  -14
          56
               -15
                      -43
  -32
         63
                7
                     -65
              -521
 -175
         -89
                      161
 -110 -1548
              185
                     -588
  110
        -12
              -158
                     -83
 -263
         173
              -279
                     -110
 -183
         173 -1548
                     -110
 -297
          59
              -184
                     105
letter-probability matrix: alength= 4 w= 20 nsites= 457 E= 3.0e-845
 0.293217 0.153173 0.330416 0.223195
 0.258206 0.190372 0.273523 0.277899
 0.207877 0.242888 0.223195 0.326039
 0.177243 0.448578 0.170678 0.203501
0.221007 0.446389 0.105033 0.227571
 0.680525 0.043764 0.205689 0.070022
 0.008753 0.002188 0.829322 0.159737
 0.000000 0.000000 0.984683 0.015317
 0.030635 0.000000 0.111597 0.857768
 0.000000 0.927790 0.054705 0.017505
 0.947484 0.006565 0.024070 0.021882
 0.124726 0.450766 0.260394 0.164114
 0.234136 0.356674 0.218818 0.190372
 0.205689 0.376368 0.253829 0.164114
 0.076586 0.131291 0.006565 0.785558
 0.120350 0.000000 0.875274 0.004376
 0.551422 0.223195 0.080963 0.144420
 0.041575 0.803063 0.035011 0.120350
 0.072210 0.807440 0.000000 0.120350
```

0.032823 0.365427 0.067834 0.533917

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.213 C 0.287 G 0.287 T 0.213
MOTIF ESRRA width = 11 sites = 500 llr = 3846 E-value = 3.8e-487
BL MOTIF ESRRA width=11 seqs=500
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 6.47573 E= 3.8e-487
   -31
         -72
                  70
                        -19
          40
                 29
                        -50
          99
               -164
-117
  -141
                        28
    9
         112
                       -327
   203 -300
               -161
                      -573
  209
        -716
               -174
                       -515
  -327 -1561
                 176
                       -515
  -515 -1561
                172
                      -215
 -149 -258
               -79
-221
                       174
 -1561
         169
                       -393
   207
        -292
               -264
                      -315
letter-probability matrix: alength= 4 w= 11 nsites= 500 E= 3.8e-487
 0.172000 0.174000 0.468000 0.186000
 0.122000 0.378000 0.350000 0.150000
 \begin{array}{cccccccc} 0.080000 & 0.570000 & 0.092000 & 0.258000 \\ 0.226000 & 0.624000 & 0.128000 & 0.022000 \end{array}
 0.866000 0.036000 0.094000 0.004000
 0.906000 0.002000 0.086000 0.006000
 0.022000 0.000000 0.972000 0.006000
 0.006000 0.000000 0.946000 0.048000
 0.076000 0.048000 0.166000 0.710000
 0.000000 0.924000 0.062000 0.014000
 0.892000 0.038000 0.046000 0.024000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.269 C 0.231 G 0.231 T 0.269
MOTIF ETS1
            width = 11 sites = 256 llr = 2060 E-value = 4.1e-131
BL MOTIF ETS1 width=11 seqs=256
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 9.69036 E= 4.1e-131
                7
  -90
         65
                      -11
         -33
                      -111
 -1464 110 -1464
-165 -1464 -1464
 -1464
                      90
                      176
 -1464 -1464 -1464
                     189
       211 -1464 -1464
 -1464
 -1464
         211 -1464 -1464
 -1464 -1464 -1464
                     189
 -1464
              118
         5
                      -18
  -82
          62
              -136
                       58
  -43
          44
               -64
                      34
letter-probability matrix: alength= 4 w= 11 nsites= 256 E= 4.1e-131
 0.144531 0.363281 0.242188 0.250000
 0.457031 0.183594 0.234375 0.125000
 0.000000 0.000000 0.000000 1.000000
 0.000000 1.000000 0.000000 0.000000
 0.000000 1.000000 0.000000 0.000000
 0.000000 0.000000 0.000000 1.000000
 0.000000 0.238281 0.523438 0.238281
 0.152344 0.355469 0.089844 0.402344 0.199219 0.312500 0.148438 0.339844
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.263 C 0.237 G 0.237 T 0.263
MOTIF FOXA
             width = 17 sites = 500
                                       BL MOTIF FOXA width=17 seqs=500
log-odds matrix: alength= 4 w= 17 n= 42000 bayes= 6.37504 E= 1.3e-713
  -23
         -15
               -21
                      44
         40
                      -25
   -63
                32
                     -74
    8
         43
                6
  -126
        126
               -96
                     -40
   73
        -372
              -389
                     101
   91
               64
        -153
                    -229
   83
        -530
               -60
                      49
 -106
        -430
              183
                    -387
 -1561
              -688
        2.5
                    144
  175
       -108 -1561
                    -1561
  185
       -219 -1561
                   -1561
              -688
  192 -1561
                    -604
 -1561
        174
              -688
                     -34
  189
        -688
              -530
                    -404
                     -41
-76
   5.0
        -35
                4
   35
         -15
                31
   -1
          4
               60
                     -95
letter-probability matrix: alength= 4 w= 17 nsites= 500 E= 1.3e-713
 0.224000 0.214000 0.204000 0.358000
 0.170000 0.312000 0.296000 0.222000
0.278000 0.318000 0.246000 0.158000
 0.110000 0.568000 0.122000 0.200000
 0.436000 0.018000 0.016000 0.530000
 0.496000 0.082000 0.368000 0.054000
 0.468000 0.006000 0.156000 0.370000
 0.126000 0.012000 0.844000 0.018000
 0.000000 0.282000 0.002000 0.716000
 0.888000 0.112000 0.000000 0.000000
 0.948000 0.052000 0.000000 0.000000
 0.994000 0.000000 0.002000 0.004000
 0.000000 0.790000 0.002000 0.208000
 0.976000 0.002000 0.006000 0.016000
 0.372000 0.186000 0.244000 0.198000
 0.336000 0.214000 0.294000 0.156000
```

0.262000 0.244000 0.358000 0.136000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.177 C 0.323 G 0.323 T 0.177
MOTIF GABP
             width = 11 sites = 500 llr = 4417 E-value = 3.3e-735
BL MOTIF GABP width=11 seqs=500
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 6.47573 E= 3.3e-735
  107
        -58
               16
                    -177
 -201
        132
              -113
                    -547
-142 152
-1561 -1561
             -575 -547
163 -1561
        152
             163 -1561
-1561 -1561
  250 -1561 -1561 -1561
  248 -1561
              -733
                    -415
 -111
       -263
              142 -1561
        -31
                   192
 -266
              -301
       -136
              78
   12
                     -47
   18
        -29
               47
                    -98
letter-probability matrix: alength= 4 w= 11 nsites= 500 E= 3.3e-735
0.372000 0.216000 0.360000 0.052000
0.044000 0.804000 0.148000 0.004000
0.000000 0.000000 1.000000 0.000000
1.000000 0.000000 0.000000 0.000000
0.988000 0.000000 0.002000 0.010000
0.082000 0.052000 0.866000 0.000000
0.028000 0.260000 0.040000 0.672000
0.192000 0.126000 0.554000 0.128000
0.200000 0.264000 0.446000 0.090000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.264 C 0.236 G 0.236 T 0.264
MOTIF GATA1 width = 10 sites = 453 llr = 3450 E-value = 5.8e-364
BL MOTIF GATA1 width=10 seqs=453
log-odds matrix: alength= 4 w= 10 n= 45500 bayes= 7.87499 E= 5.8e-364
 -173
         50
               -13
                       49
 -186
         135
                -68
                       -58
 -373 -138 -1547 175
-244 -1547 -1547 185
192 -1547 -1547 -1547
                     175
185
 -1547 -1547 -1547
                     192
 -1547
        208 -1547 -1547
  17 -1547 -1547
                     142
 -232
        34
                90
                      -33
37
  -46
          30
                -42
letter-probability matrix: alength= 4 w= 10 nsites= 453 E= 5.8e-364
 0.079470 0.333333 0.216336 0.370861
0.072848 0.602649 0.147903 0.176600
 0.019868 0.090508 0.000000 0.889625
 0.000000 0.000000 0.000000 1.000000
 0.000000 1.000000 0.000000 0.000000
 0.295806 0.000000 0.000000 0.704194
 0.052980 0.298013 0.439294 0.209713
 0.192053 0.291391 0.176600 0.339956
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.255 C 0.245 G 0.245 T 0.255
MOTIF GATA1-ext
                     width = 20 sites = 499 llr = 3927 E-value = 1.4e-511
BL MOTIF GATA1-ext width=20 seqs=499
log-odds matrix: alength= 4 w= 20 n= 40500 bayes= 8.33077 E= 1.4e-511
 -121
         88
                17
                       -65
          -48
                -85
  -118
                       118
 -167
        -203
                131
                       -2
                       -29
   -86
          4
                 70
   -9
         -28
                 16
                       16
   -2
          -7
                       -20
                 25
   -2
         -19
                 39
                       -25
   -11
         -2
                36
                       -30
   -43
          1
                 12
                       2.3
   9
         -22
                 37
                       -33
   -63
          77
                37
                     -135
   143
        -324
               -435
                       11
 -1561 -1561
               203
                     -1561
  197 -1561 -1561 -1561
                     196
 -1561
        -494 -1561
  183 -1561
               -593
                     -153
   165
        -348
               -73
                     -308
   -33
         -58
               117
                      -163
   33
          2
                47
                      -147
   39
         -15
                 4
                      -40
letter-probability matrix: alength= 4 w= 20 nsites= 499 E= 1.4e-511
 0.110220 0.450902 0.276553 0.162325
 0.112224 0.176353 0.136273 0.575150
 0.080160 0.060120 0.609218 0.250501
 0.140281 0.252505 0.398798 0.208417
0.238477 0.202405 0.274549 0.284569
 0.250501 \quad 0.234469 \quad 0.292585 \quad 0.222445
 0.250501 0.214429 0.320641 0.214429
 0.236473 0.242485 0.314629 0.206413
 0.188377 0.246493 0.266533 0.298597
 0.270541 0.210421 0.316633 0.202405
 0.164329 0.418838 0.316633 0.100200
 0.687375 0.026052 0.012024 0.274549
 0.000000 0.000000 1.000000 0.000000
1.000000 0.000000 0.000000 0.000000
 0.000000 0.008016 0.000000 0.991984
 0.907816 0.000000 0.004008 0.088176
 0.799599 0.022044 0.148297 0.030060
 0.202405 0.164329 0.551102 0.082164
0.320641 0.248497 0.338677 0.092184
0.334669 0.220441 0.252505 0.192385
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.275 C 0.225 G 0.225 T 0.275
MOTIF GATA3 width = 15 sites = 137 llr = 1192 E-value = 5.3e-041
BL MOTIF GATA3 width=15 seqs=137
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 9.09295 E= 5.3e-041
 -223
        112
               -14
                      -15
        -236
              -1374
   12
                      126
              210
 -1374
        -395
                     -365
  144
        -336
              -263
                      -48
 -1374
        -336
              -178
                      173
         14
               1
    9
                      -23
        -36
83
                      16
44
   26
              -25
   -71
             -195
  185 -1374 -1374
                    -523
 -1374
        -395
              -125
                      170
 -1374
        204
              -295
                    -265
        -336 -1374
  -38
                     148
  -143
        101
               54
                     -123
                     98
  -59
         30 -1374
       -104
 -206
              118
                      19
letter-probability matrix: alength= 4 w= 15 nsites= 137 E= 5.3e-041
 0.058394 0.489051 0.204380 0.248175
 0.299270 0.043796 0.000000 0.656934
 0.000000 0.014599 0.963504 0.021898
 0.744526 0.021898 0.036496 0.197080
 0.000000 0.021898 0.065693 0.912409
 0.291971 0.248175 0.226277 0.233577
 0.328467 0.175182 0.189781 0.306569
 0.167883 0.401460 0.058394 0.372263
 0.992701 0.000000 0.000000 0.007299
 0.000000 0.014599 0.094891 0.890511
 0.000000 0.927007 0.029197 0.043796
 0.211679 0.021898 0.000000 0.766423
 0.102190 0.452555 0.328467 0.116788
 0.182482 0.277372 0.000000 0.540146
```

0.065693 0.109489 0.510949 0.313869

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.233 C 0.267 G 0.267 T 0.233
MOTIF GFI1
                width = 8 sites = 134 llr = 1167 E-value = 1.2e-055
BL MOTIF GFI1 width=8 seqs=134
log-odds matrix: alength= \overline{4} w= 8 n= 46500 bayes= 10.5971 E= 1.2e-055
    210 -1371 -1371 -1371
   210 -1371 -1371 -1371
 -1371 16 -1371
-1371 190 -1371
                            159
                            -1371
143 -1371
-1371 142 8 -1371
153 -1371 -1371 50
-771 -1371 190 -1371
letter-probability matrix: alength= 4 w= 8 nsites= 134 E= 1.2e-055
 1.000000 0.000000 0.000000 0.000000
 1.000000 0.000000 0.000000 0.000000

      0.000000
      0.298507
      0.000000
      0.701493

      0.000000
      1.000000
      0.000000
      0.000000

 0.626866 0.000000 0.000000 0.373134
 \begin{array}{cccccc} 0.000000 & 0.716418 & 0.283582 & 0.000000 \\ 0.671642 & 0.000000 & 0.000000 & 0.328358 \end{array}
 0.000000 0.000000 1.000000 0.000000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.249 C 0.251 G 0.251 T 0.249
MOTIF HNF4
              width = 14 sites = 490 llr = 4400 E-value = 2.4e-723
BL MOTIF HNF4 width=14 seqs=490
log-odds matrix: alength= 4 w= 14 n= 43500 bayes= 7.15643 E= 2.4e-723
   87
        -324
                 74
                      -135
  -147
        -294
                 168
                      -176
                18
                      90
18
  -54
        -162
  -95
         55
                 -17
  -376
        186
               -536
                      -193
        -377
  191
               -313
                      -376
  167
        -436
                -48
                      -412
  186
        -694
               -142 -1558
               193
                     -335
 -593
        -394
 -254
        -394
                -57
                       163
 -218
        121
               -145
                       12
               -494
                      -168
         183
 -347
  162
        -213
               -185
                      -123
   12
         -42
                 54
                       -50
letter-probability matrix: alength= 4 w= 14 nsites= 490 E= 2.4e-723
 0.455102 0.026531 0.420408 0.097959
0.089796 0.032653 0.804082 0.073469
0.171429 0.081633 0.283673 0.463265
 0.128571 0.367347 0.222449 0.281633
0.018367 0.910204 0.006122 0.065306
0.934694 0.018367 0.028571 0.018367
 0.793878 0.012245 0.179592 0.014286
0.904082 0.002041 0.093878 0.000000
\begin{array}{ccccc} 0.004082 & 0.016327 & 0.955102 & 0.024490 \\ 0.042857 & 0.016327 & 0.169388 & 0.771429 \end{array}
0.055102 0.581633 0.091837 0.271429
0.022449 0.891837 0.008163 0.077551
 0.767347 0.057143 0.069388 0.106122
```

0.271429 0.187755 0.365306 0.175510

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.222 C 0.278 G 0.278 T 0.222
MOTIF HSF1
            width = 15 sites = 174 llr = 1862 E-value = 1.5e-233
BL MOTIF HSF1 width=15 seqs=174
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.9629 E= 1.5e-233
  120
       -169
               49
                   -427
 -1409
       -459
               183
                   -1409
                   -247
             -559
  206
       -327
                   -181
  189
       -242
             -214
        21
  -3
              5
                    -37
   34
              -31
         21
                     -37
 -169
       -214
             -227
                     187
                   191
 -247
       -301
             -159
-1409
       185 -1409 -1409
-1409
        61
             -279
                    127
 157
       -259
               5 -527
       -401
              182 -1409
-1409
  198
       -279
              -242
                   -295
  178
       -214
             -114
                   -227
  45
              34
        -17
                   -119
letter-probability matrix: alength= 4 w= 15 nsites= 174 E= 1.5e-233
0.511494 0.086207 0.390805 0.011494
0.925287 0.028736 0.005747 0.040230
0.821839 0.051724 0.063218 0.063218
0.218391 0.321839 0.287356 0.172414
0.281609 0.321839 0.224138 0.172414
0.068966 0.063218 0.057471 0.810345
0.040230 0.034483 0.091954 0.833333
0.000000 1.000000 0.000000 0.000000
0.000000 0.425287 0.040230 0.534483
0.660920 0.045977 0.287356 0.005747
0.000000 0.017241 0.982759 0.000000
0.879310 0.040230 0.051724 0.028736
0.764368 0.063218 0.126437 0.045977
```

0.304598 0.247126 0.350575 0.097701

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.197 C 0.303 G 0.303 T 0.197
MOTIF MAX
               width = 14 sites = 493 llr = 4359 E-value = 1.4e-708
BL MOTIF MAX width=14 seqs=493
log-odds matrix: alength= 4 w= 14 n= 43500 bayes= 7.75099 E= 1.4e-708
                 43
   10
         -20
                       -75
    99
          -29
                 -47
                        -47
                      -243
   -43
          96
                -40
 -1559
         172 -1559 -1559
  234 -1559
               -722 -1559
 -1559
        162 -1559
                      -147
 -1559 -1559
                172
                      -1559
 -1559 -622 -1559
                      234
               172
 -1559 -1559
                      -1559
   77
         -39
                -28
                       -11
  -328
          80
               -158
                        83
          62
               -252
  -63
                         85
   -8
           8
                -54
                         53
   -96
          33
                  4
                          7
letter-probability matrix: alength= 4 w= 14 nsites= 493 E= 1.4e-708
 0.210953 0.263692 0.407708 0.117647
0.391481 0.247465 0.219067 0.141988
0.146045 0.588235 0.229209 0.036511
 0.000000 1.000000 0.000000 0.000000
0.997972 0.000000 0.002028 0.000000
0.000000 \quad 0.929006 \quad 0.000000 \quad 0.070994
 0.000000 0.000000 1.000000 0.000000
0.000000 0.004057 0.000000 0.995943
\begin{array}{ccccccc} 0.000000 & 0.000000 & 1.000000 & 0.000000 \\ 0.336714 & 0.231237 & 0.249493 & 0.182556 \end{array}
0.020284 0.527383 0.101420 0.350913
 0.127789 \quad 0.464503 \quad 0.052738 \quad 0.354970
 0.186613 0.320487 0.208925 0.283976
 0.101420 0.381339 0.310345 0.206897
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.298 C 0.202 G 0.202 T 0.298
MOTIF MEF2
              width = 15 sites = 472 llr = 3754 E-value = 4.2e-456
BL MOTIF MEF2 width=15 seqs=472
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.76484 E= 4.2e-456
   -2
         -32
                 58
                      -29
         -93
                 36
                       21
  -82
         -90
                85
                       27
 -103
         166
              -199
                       -83
 -713
        134 -1553
                       71
        -55
                     -109
  122
              -276
   128
        -376
               -67
                     -114
  166 -1553
              -211
                     -482
  161 -499
163 -1553
              -557
-557
                     -197
                     -205
 -323
        -499 -1553
                     169
  168 -1553
              -211 -1553
   -58
        -193
               184
                     -344
   42
         90
              -115
                     -114
   35
          37
              -153
                      -5
letter-probability matrix: alength= 4 w= 15 nsites= 472 E= 4.2e-456
0.294492 0.1610\overline{17} 0.300847 0.243644
0.290254 \quad 0.105932 \quad 0.258475 \quad 0.345339
 0.169492 0.108051 0.362288 0.360169
0.146186 0.635593 0.050847 0.167373
0.002119 0.510593 0.000000 0.487288
 0.692797 0.137712 0.029661 0.139831
0.722458 0.014831 0.127119 0.135593
 0.942797 0.000000 0.046610 0.010593
 0.913136 0.006356 0.004237 0.076271
0.923729 0.000000 0.004237 0.072034
 0.031780 0.006356 0.000000 0.961864
 0.953390 0.000000 0.046610 0.000000
 0.199153 0.052966 0.720339 0.027542
 0.398305 0.375000 0.091102 0.135593
```

0.381356 0.260593 0.069915 0.288136

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.194 C 0.306 G 0.306 T 0.194
MOTIF MYC
              width = 14 sites = 399
                                           BL MOTIF MYC width=14 seqs=399
log-odds matrix: alength= 4 w= 14 n= 43500 bayes= 7.89329 E= 8.2e-310
   -32
          -5
                 39
                       -39
                -118
                        20
        43 55 -210
171 -1528 -1528
 -106
 -1528
  230 -1528
               -276 -1528
 -1528
        167 -1528
                      -281
  -30 -1528
               146
                     -1528
 -132
        -247
               -1528
                      216
               171
 -1528 -1528
                      -1528
 -1528
        -241
                127
  -85
         62
                -61
                         19
   -3
                -74
         -16
                         87
   -47
           0
                16
                         14
   -60
          51
                -42
                        10
letter-probability matrix: alength= 4 w= 14 nsites= 399 E= 8.2e-310
 0.155388 0.295739 0.401003 0.147870
0.345865 0.295739 0.135338 0.223058
0.092732 \quad 0.413534 \quad 0.448622 \quad 0.045113
 0.000000 1.000000 0.000000 0.000000
0.954887 0.000000 0.045113 0.000000
0.000000 0.972431 0.000000 0.027569
 0.157895 0.000000 0.842105 0.000000
0.077694 0.055138 0.000000 0.867168
\begin{array}{cccccccccc} 0.000000 & 0.000000 & 1.000000 & 0.000000 \\ 0.000000 & 0.057644 & 0.739348 & 0.203008 \end{array}
0.107769 0.471178 0.200501 0.220551
0.190476 0.273183 0.182957 0.353383
 0.140351 0.305764 0.340852 0.213033
```

0.127820 0.436090 0.228070 0.208020

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.233 C 0.267 G 0.267 T 0.233
MOTIF NFE2
             width = 19 sites = 383
                                       BL MOTIF NFE2 width=19 seqs=383
log-odds matrix: alength= 4 w= 19 n= 41000 bayes= 8.32109 E= 3.5e-1103
   75
        -65
                18
                      -78
   102
        -187
                -6
                      -23
  122
        -154
              -163
                       25
   95
        -100
              -187
                       55
  -25
        12
               -65
                      56
 -209
        -167
              -509
                      187
 -1523
        -435
               189
                    -1523
 -268
        183
              -667
                    -448
              -567
 -216
        -243
                     194
 -268
        -321
              171
                     -196
 194
       -409 -1523
                    -140
        -106
 -316
              163
                    -367
 -1523 -1523 -1523
                      210
 -548
        190 -1523
                    -648
              -667
  209 -1523
                    -1523
 -1523
          28
              -509
                     152
 -135
          23
               29
                      20
               12
  -81
         56
                      -35
  -13
         -17
               -84
                       77
letter-probability matrix: alength= 4 w= 19 nsites= 383 E= 3.5e-1103
0.391645 0.169713 0.302872 0.135770 0.472585 0.073107 0.255875 0.198433
0.545692 0.091384 0.086162 0.276762
 0.451697 0.133159 0.073107 0.342037
 0.195822 0.289817 0.169713 0.344648
0.054830 0.083551 0.007833 0.853786
 0.036554 0.950392 0.002611 0.010444
 0.052219 0.049608 0.005222 0.892950
 0.036554 \quad 0.028721 \quad 0.874674 \quad 0.060052
 0.895561 0.015666 0.000000 0.088773
 0.026110 0.127937 0.827676 0.018277
 0.000000 0.000000 0.000000 1.000000
 0.005222 0.992167 0.000000 0.002611
 0.997389 0.000000 0.002611 0.000000
 0.000000 0.323760 0.007833 0.668407
 0.091384 0.313316 0.326371 0.268930
```

0.133159 0.394256 0.289817 0.182768 0.214099 0.237598 0.148825 0.399478

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.240 C 0.260 G 0.260 T 0.240
MOTIF NFKB1 width = 15 sites = 483 llr = 4782 E-value = 1.7e-893
BL MOTIF NFKB1 width=15 seqs=483
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.14637 E= 1.7e-893
   79 –233
                 22
                        -5
 -1556 -1556
                 191
                       -327
               194
-1556 -1556
-1556 -1556
                     -1556
                186
                      -210
   79
        -538
               105
                      -254
   94
         21
               -111
                      -103
   -40
        -339
               -697
                       172
 -405
        -288
               -288
                      193
              -397
 -1556
         -56
                       175
                      -240
          186 -1556
 -427
 -486
         186 -1556
                      -240
          62
               -197
   78
                       -98
                      -108
   52
          -23
                31
   28
         -45
                39
                      -43
                51
          -8
                       -45
  -21
letter-probability matrix: alength= 4 w= 15 nsites= 483 E= 1.7e-893
0.414079 0.051760 0.302277 0.231884
0.000000 \quad 0.000000 \quad 0.975155 \quad 0.024845
 0.000000 0.000000 1.000000 0.000000
0.000000 0.000000 0.944099 0.055901
0.414079 0.006211 0.538302 0.041408
 0.461698 0.300207 0.120083 0.118012
0.182195 0.024845 0.002070 0.790890
\begin{array}{ccccc} 0.014493 & 0.035197 & 0.035197 & 0.915114 \\ 0.000000 & 0.175983 & 0.016563 & 0.807453 \end{array}
0.012422 0.942029 0.000000 0.045549
 0.008282 0.946170 0.000000 0.045549
 0.412008 0.399586 0.066253 0.122153
 0.343685 0.221532 0.320911 0.113872
 0.291925 0.190476 0.339545 0.178054
```

0.207039 0.246377 0.370600 0.175983

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.202 C 0.298 G 0.298 T 0.202
MOTIF NFY
             width = 15 sites = 500 llr = 4666 E-value = 1.1e-834
BL MOTIF NFY width=15 seqs=500
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 6.40939 E= 1.1e-834
  -53
         59
               -23
                     -37
         48
              -158
 -120
              -43
                    120
         -40
 -249
         121
              -101
                      -70
 -566
         31
              -283
                    153
 -333
               80
         15
                     -66
  227
       -722
              -363 -1561
 -665
       -441
              -522
                    227
 -366 -1561 -1561
                     229
 -1561
       -722
              174 -1561
 -665 -1561
              174 -1561
  -70
        88
              -313
                     54
 -296
         39
              -205
                      134
              35
                    -161
   78
         -52
   48
        -68
               47
                     -75
letter-probability matrix: alength= 4 w= 15 nsites= 500 E= 1.1e-834
0.140000 0.450000 0.254000 0.156000
 0.088000 0.226000 0.222000 0.464000
0.036000 0.692000 0.148000 0.124000
  0.004000 \quad 0.370000 \quad 0.042000 \quad 0.584000 
 0.020000 0.332000 0.520000 0.128000
0.974000 0.002000 0.024000 0.000000
 0.002000 \quad 0.014000 \quad 0.008000 \quad 0.976000
 0.016000 0.000000 0.000000 0.984000
0.000000 0.002000 0.998000 0.000000
 0.002000 0.000000 0.998000 0.000000
 0.124000 0.548000 0.034000 0.294000
 0.026000 0.392000 0.072000 0.510000
 0.346000 0.208000 0.380000 0.066000
```

0.282000 0.186000 0.412000 0.120000

```
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.178 C 0.322 G 0.322 T 0.178
MOTIF NFY-UA2 width = 24 sites = 46 llr = 581 E-value = 2.0e-031
BL MOTIF NFY-UA2 width=24 seqs=46
log-odds matrix: alength= 4 w= 24 n= 38500 bayes= 10.1103 E= 2.0e-031
  218 -1217
               -72 -1217
        -72
              -1217
                     210
  -45 -1217
              -388
                      225
 -303
        -230
               150
                    -1217
 -203
        -289
              150 -1217
        102
   -3
              -388
                     -23
  -303
         20
              -157
                      149
   77
         -72
               20
                      -45
   77
        -157
                36
                      -3
   29
         36
               -57
                      -23
   87
         -72
               -19
                      14
   -3
         -19
               -57
                       87
   77
         -72
               11
                      -23
  -71
               28
         11
                      -23
         102
              -157
  -45
                      -71
 -145
         20 -1217
                      167
  -45 -1217
              143 -1217
 -1217
         36
              -388
                    167
 -1217
         157
              -1217
                     -203
   97
         28
              -130
                     -45
   77
        -30
               11
                     -103
 -1217 -1217
              -388
                     246
 -1217
       150
              -388
                    -145
  167
       -130
              -130
                      -3
letter-probability matrix: alength= 4 w= 24 nsites= 46 E= 2.0e-031
0.804348 0.000000 0.195652 0.000000
 0.043478 0.195652 0.000000 0.760870
 0.130435 0.000000 0.021739 0.847826
 0.021739 0.065217 0.913043 0.000000
 0.043478 0.043478 0.913043 0.000000
 0.173913 0.652174 0.021739 0.152174
 0.021739 0.369565 0.108696 0.500000
 0.304348 0.195652 0.369565 0.130435
 0.304348 0.108696 0.413043 0.173913
 0.217391 0.413043 0.217391 0.152174
 0.326087 0.195652 0.282609 0.195652
 0.173913 0.282609 0.217391 0.326087
 0.304348 0.195652 0.347826 0.152174
 0.108696 0.347826 0.391304 0.152174
 0.130435 0.652174 0.108696 0.108696
 0.065217 0.369565 0.000000 0.565217
 0.130435 0.000000 0.869565 0.000000
 0.000000 0.413043 0.021739 0.565217
 0.000000 0.956522 0.000000 0.043478
 0.347826 0.391304 0.130435 0.130435
 0.304348 0.260870 0.347826 0.086957
 0.000000 0.000000 0.021739 0.978261
 0.000000 0.913043 0.021739 0.065217
```

0.565217 0.130435 0.130435 0.173913

MEME version 4.6.0 (Release date: Thu Jan 20 14:06:48 PST 2011)

ALPHABET= ACGT

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.195 C 0.305 G 0.305 T 0.195
MOTIF NR2C2 width = 15 sites = 182 llr = 2192 E-value = 6.4e-353
BL MOTIF NR2C2 width=15 seqs=182
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 9.43577 E= 6.4e-353
                        -39
    78
          -2
                  -51
           -71
                  86
                        -169
                       -1415
  130 -1415
-215 -1415
                  77
                 163
                       -414
  -514
        -579
                165
                       -256
        -321
                       211
-145
 -1415
                -127
  -414
         144
                 -180
  220 -1415
                 -155 -1415
  141 -1415
214 -1415
                       -514
                 65
                 -110 -1415
  -282 -1415
                166
                       -514
        -579
                156
 -414
                       -124
 -1415
         -299
                 -94
                        204
 -514
        143
                -234
                         -82
                 -47
                        -315
   195 -579
letter-probability matrix: alength= 4 w= 15 nsites= 182 E= 6.4e-353
 0.335165 0.302198 0.214286 0.148352
 \begin{array}{cccccccc} 0.197802 & 0.186813 & 0.554945 & 0.060440 \\ 0.478022 & 0.000000 & 0.521978 & 0.000000 \end{array}
 0.043956 0.000000 0.945055 0.010989
 0.005495 0.005495 0.956044 0.032967
 0.000000 0.032967 0.126374 0.840659
 0.010989 0.829670 0.087912 0.071429
 \begin{array}{cccccc} 0.895604 & 0.000000 & 0.104396 & 0.000000 \\ 0.516484 & 0.000000 & 0.478022 & 0.005495 \end{array}
 0.857143 0.000000 0.142857 0.000000
 0.027473 \quad 0.000000 \quad 0.967033 \quad 0.005495
 0.010989 0.005495 0.901099 0.082418
 0.000000 0.038462 0.159341 0.802198
```

0.752747 0.005495 0.219780 0.021978

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.217 C 0.283 G 0.283 T 0.217
MOTIF NR3C1 width = 15 sites = 479 llr = 4112 E-value = 9.7e-603
BL MOTIF NR3C1 width=15 seqs=479
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.15023 E= 9.7e-603
   64
       -317
               97
                    -149
  -145
        -508
               162
                    -231
   98
        -91
                    -64
-166
               0
  194
       -327
              -208
              -427 -1555
 -438
       179
  184 -1555
              -227
                    -40
  -145
               110
                    -280
               13
  79
       -108
                    -26
  109
       -122
               18
                   -115
158
 -135
        -42
              -244
 -438
       -362
              177 -1555
 -338
                    207
       -362
              -269
  -40
         21
               -30
                      35
 -170
        159
             -427
                    -170
        10
  -18
              -362
                    115
letter-probability matrix: alength= 4 w= 15 nsites= 479 E= 9.7e-603
 0.338205 0.031315 0.553236 0.077244
0.079332 0.008351 0.868476 0.043841 0.427975 0.150313 0.281837 0.139875
0.835073 0.029228 0.066806 0.068894
0.010438 0.974948 0.014614 0.000000
 0.776618 0.000000 0.058455 0.164927
0.079332 0.283925 0.605428 0.031315
0.085595 0.210856 0.052192 0.651357
 0.010438 0.022965 0.966597 0.000000
 0.020877 0.022965 0.043841 0.912317
 0.164927 0.327766 0.229645 0.277662
 0.066806 0.851775 0.014614 0.066806
```

0.192067 0.302714 0.022965 0.482255

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.158 C 0.342 G 0.342 T 0.158
MOTIF NRF1
            width = 15 sites = 500 llr = 5597 E-value = 5.5e-1231
BL MOTIF NRF1 width=15 seqs=500
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.14665 E= 5.5e-1231
  -98
        -3
              -57
                    117
  -63
        -483
              137
                   -1561
 -122
       143
             -461 -1561
 -285 -1561
             151
                   -472
       153
             -583 -1561
 -472
        -69
             -217
                   -285
 213
 -222
       -351
             -137
                    235
                   -630
 -530 -1561
             154
-1561
       155 -1561 -1561
-1561
       -641
             150
                   -260
-1561
       151 -1561
                   -272
       -325
             -189
  241
                    -231
  -37
        -29
               72
                   -222
  20
        -53
              -74
                    126
              93
       -144
   -6
                   -118
letter-probability matrix: alength= 4 w= 15 nsites= 500 E= 5.5e-1231
0.080000 0.334000 0.230000 0.356000
0.068000 0.918000 0.014000 0.000000
0.022000 0.000000 0.972000 0.006000
0.006000 0.988000 0.006000 0.000000
0.690000 0.212000 0.076000 0.022000
0.034000 0.030000 0.132000 0.804000
0.004000 0.000000 0.994000 0.002000
0.000000 1.000000 0.000000 0.000000
0.000000 0.004000 0.970000 0.026000
0.000000 0.976000 0.000000 0.024000
0.840000 0.036000 0.092000 0.032000
0.122000 0.280000 0.564000 0.034000
0.182000 0.236000 0.204000 0.378000
```

0.152000 0.126000 0.652000 0.070000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.170 C 0.330 G 0.330 T 0.170
MOTIF PAX5
             width = 16 sites = 490 llr = 3217 E-value = 1.7e-199
BL MOTIF PAX5 width=16 seqs=490
log-odds matrix: alength= 4 w= 16 n= 42500 bayes= 6.39817 E= 1.7e-199
   34
         -57
                28
                       -6
  -379
         -43
                 68
                       32
 -192
        128
              -234
                      -99
  187
        -125
               -81
                     -173
  -42
        -62
               82
                    -113
        81
 -338
               -98
                      48
  -45
         42
                27
                     -229
  145
       -325
               52
                    -257
       -188
               -56
  167
                     -21
  -538
         -8
               104
                     -538
 -538
        141
              -434
                     -73
                     -321
              127
   -2
        -417
  -142
        -158
               -36
                      175
   88
       -417
              100
                    -438
  192
       -295
               -47
                     -117
                    -268
  -21
        123
              -264
letter-probability matrix: alength= 4 w= 16 nsites= 490 E= 1.7e-199
 0.214286 \quad 0.222449 \quad 0.400000 \quad 0.163265
 0.012245 0.244898 0.530612 0.212245
0.044898 0.804082 0.065306 0.085714
0.622449 0.138776 0.187755 0.051020
 0.126531 0.214286 0.581633 0.077551
0.016327 0.579592 0.167347 0.236735
 0.124490 0.442857 0.397959 0.034694
 0.463265 0.034694 0.473469 0.028571
0.538776 0.089796 0.224490 0.146939
0.004082 0.312245 0.679592 0.004082
 0.004082 0.877551 0.016327 0.102041
 0.167347 0.018367 0.795918 0.018367
 0.063265 0.110204 0.257143 0.569388
 0.312245 0.018367 0.661224 0.008163
 0.642857 0.042857 0.238776 0.075510
```

0.146939 0.773469 0.053061 0.026531

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.235 C 0.265 G 0.265 T 0.235
MOTIF POU2F2 width = 13 sites = 382 llr = 3743 E-value = 4.1e-603
BL MOTIF POU2F2 width=13 seqs=382
log-odds matrix: alength= 4 w= 13 n= 44000 bayes= 7.28051 E= 4.1e-603
   -61
          50
                -53
                        29
         -71
                -6
   -11
                       64
               -36
   13
         33
                      -20
              -185
   167
        -138
                      -163
 -1522
        -666 -1522
        -266 -1522
                       179
  -68
  -303 -1522 -1522
                       205
 -203 -1522
              177
                     -258
        187 -1522
-566 -1522
 -317
                     -648
  208
                     -1522
 -490 -1522 -1522
                     208
                     -100
  131 -296
               0
   24
         -55
               -114
                       84
letter-probability matrix: alength= 4 w= 13 nsites= 382 E= 4.1e-603
 0.154450 0.374346 0.183246 0.287958
0.217277 0.162304 0.253927 0.366492
 0.256545 0.332461 0.206806 0.204188
 0.748691 0.102094 0.073298 0.075916
 0.000000 0.002618 0.000000 0.997382
 0.146597 0.041885 0.000000 0.811518
 0.028796 0.000000 0.000000 0.971204
 0.057592 0.000000 0.903141 0.039267
 0.026178 0.971204 0.000000 0.002618
 0.994764 0.005236 0.000000 0.000000
 0.007853 0.000000 0.000000 0.992147
 0.583770 0.034031 0.264398 0.117801
```

0.277487 0.180628 0.120419 0.421466

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.284 C 0.216 G 0.216 T 0.284
MOTIF PRDM1 width = 15 sites = 495 llr = 5042 E-value = 3.9e-997
BL MOTIF PRDM1 width=15 seqs=495
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.73136 E= 3.9e-997
                     53
  -66
         3
              -18
   -36
         117
              -109
                      -58
  156
       -174
             -125
-304
                    -613
 -333
        212
                     -481
 -433
       -674 -1560
                    179
       -178 -1560
 -1560
                     172
 -1560 -1560
              -515
                     181
 -1560
        216 -1560
                    -289
  115
             -374
-574
                     -64
         -35
 -368
         210
                     -249
 -397
         -88 -1560
                    160
 -209
         -91
              -91
                     131
  -78
         -67
              -128
                     110
 -144
         95
              -88
                     34
         -4
               -63
                      26
   13
letter-probability matrix: alength= 4 w= 15 nsites= 495 E= 3.9e-997
0.179798 0.220202 0.189899 0.410101
0.222222 \quad 0.486869 \quad 0.101010 \quad 0.189899
 0.840404 0.064646 0.090909 0.004040
0.028283 0.935354 0.026263 0.010101
 0.014141 0.002020 0.000000 0.983838
 0.000000 0.062626 0.000000 0.937374
0.000000 0.000000 0.006061 0.993939
 0.000000 0.961616 0.000000 0.038384
 0.632323 0.169697 0.016162 0.181818
0.022222 0.923232 0.004040 0.050505
 0.018182 0.117172 0.000000 0.864646
 0.066667 0.115152 0.115152 0.703030
 0.165657 0.135354 0.088889 0.610101
```

0.311111 0.210101 0.139394 0.339394

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.262 C 0.238 G 0.238 T 0.262
MOTIF PU1
            width = 15 sites = 500 llr = 6325 E-value = 5.2e-1555
BL MOTIF PU1 width=15 seqs=500
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.69928 E= 5.2e-1555
             -122
  141
       -250
                    -69
  143
       -265
              -90
                    -103
 128
       -431
             -147
                    1
                   -445
 -103
       -273
              179
 129
       -177
               25
                   -603
 -178 -1561
              196 -1561
 -1561 -1561
              207
                   -703
  193 -1561 -1561 -1561
  191 -1561 -1561
                   -422
 -386
        52
             143 -1561
 -445 -1561
              -589
                   191
       -390
              204 -1561
 -703
  152
       -181
              -59
                   -345
  111 -194
               29
                   -171
  156 -128
             -220
                   -175
letter-probability matrix: alength= 4 w= 15 nsites= 500 E= 5.2e-1555
0.694000 0.042000 0.102000 0.162000
0.638000 0.012000 0.086000 0.264000
0.128000 0.036000 0.824000 0.012000
0.642000 0.070000 0.284000 0.004000
0.076000 0.000000 0.924000 0.000000
0.000000 0.000000 0.998000 0.002000
1.000000 0.000000 0.000000 0.000000
0.986000 0.000000 0.000000 0.014000
0.018000 0.342000 0.640000 0.000000
0.012000 0.000000 0.004000 0.984000
0.002000 0.016000 0.982000 0.000000
0.750000 0.068000 0.158000 0.024000
0.566000 0.062000 0.292000 0.080000
```

0.772000 0.098000 0.052000 0.078000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.182 C 0.318 G 0.318 T 0.182
MOTIF REST
              width = 21 sites = 408 llr = 7222 E-value = 3.9e-2032
BL MOTIF REST width=21 seqs=408
log-odds matrix: alength= 4 w= 21 n= 40000 bayes= 7.11546 E= 3.9e-2032
  -46
        -421
                125
                       -93
         -53
                102
  -182
                      -113
   54
          80
               -421
                      -15
  -117
        -156
               118
                       -97
 -521
        162
               -602
                      -363
 -389 -1532 -1532
                       244
 -305
        -181
               148
                     -1532
 -222
        -470
               -232
                      228
        163 -1532
 -1532
                      -363
         162 -1532
  -621
                      -341
  135
        -166
               13
                     -105
        -100
               -170
                      161
    3
 -305
        -502
               160
                      -463
 -1532 -1532
               165 -1532
                      244
 -421 -1532 -1532
 -197
        -124
               127
                      -176
 -1532
        161
               -443
                      -363
 -463
        -356 -1532
                      241
  -222
        -443
               156
                      -421
        -232
               -114
  210
                      -421
  160
               -181
         -32
                      -86
letter-probability matrix: alength= 4 w= 21 nsites= 408 E= 3.9e-2032
 0.132353 0.0171\overline{57} 0.754902 0.095588
\begin{array}{cccccc} 0.051471 & 0.220588 & 0.644608 & 0.083333 \\ 0.264706 & 0.553922 & 0.017157 & 0.164216 \end{array}
 0.080882 0.107843 0.718137 0.093137
 0.004902 0.975490 0.004902 0.014706
 0.012255 0.000000 0.000000 0.987745
 0.022059 0.090686 0.887255 0.000000
 0.039216 0.012255 0.063725 0.884804
 0.000000 0.985294 0.000000 0.014706
 0.002451 0.980392 0.000000 0.017157
 0.463235 0.100490 0.348039 0.088235
 0.186275 0.159314 0.098039 0.556373
 0.022059 0.009804 0.960784 0.007353
 0.000000 0.000000 1.000000 0.000000
 0.009804 0.000000 0.000000 0.990196
 0.046569 0.134804 0.764706 0.053922
 0.000000 0.970588 0.014706 0.014706
 0.007353 0.026961 0.000000 0.965686
 0.039216 0.014706 0.936275 0.009804
```

0.781863 0.063725 0.144608 0.009804 0.553922 0.254902 0.090686 0.100490

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.229 C 0.271 G 0.271 T 0.229
MOTIF RFX5
              width = 15 sites = 485
                                           llr = 4131 E-value = 4.9e-605
BL MOTIF RFX5 width=15 seqs=485
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.14444 E= 4.9e-605
 -115
        -102
                 -75
                       140
                 -93
                        -94
         118
  125
               -79
          -52
                      -104
                 10
  -118
          20
                        38
                        18
 -194
         107
                -131
        -279
                -48
   26
                        111
  -321 -1557
                 183
                       -479
 -1557
        -334
               -387
                       206
                      177
 -175
         -91
               -545
  -33
        -345
                131
                        -94
        178
 -421
               -604
                      -215
               -504
 -1557
         67
                       129
  161
        -445
                 -2
                       -333
  -64 -313
                119
                       -18
 -255 -204
                      -255
                166
letter-probability matrix: alength= 4 w= 15 nsites= 485 E= 4.9e-605
0.103093 0.134021 0.160825 0.602062
0.123711 \quad 0.614433 \quad 0.142268 \quad 0.119588
 0.542268 0.189691 0.156701 0.111340
0.101031 0.311340 0.290722 0.296907
0.059794 0.571134 0.109278 0.259794
 0.274227 0.039175 0.193814 0.492784
0.024742 0.000000 0.967010 0.008247
\begin{array}{cccccc} 0.000000 & 0.026804 & 0.018557 & 0.954639 \\ 0.068041 & 0.144330 & 0.006186 & 0.781443 \end{array}
0.181443 0.024742 0.674227 0.119588
 0.012371 \quad 0.931959 \quad 0.004124 \quad 0.051546
 0.000000 0.430928 0.008247 0.560825
 0.696907 0.012371 0.268041 0.022680
 0.146392 0.030928 0.620619 0.202062
```

0.039175 0.065979 0.855670 0.039175

```
MEME version 4.6.0 (Release date: Thu Jan 20 14:06:48 PST 2011)
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.265 C 0.235 G 0.235 T 0.265
MOTIF RUNX1 width = 8 sites = 200 llr = 1580 E-value = 1.5e-062
BL MOTIF RUNX1 width=8 seqs=200
log-odds matrix: alength= 4 w= 8 n= 46500 bayes= 9.46728 E= 1.5e-062
                       34
   86
          -35 -1429
          -75 9 -241
-75 -85 -1429
209 -1429 -1429
   108
        -75
200
  146
 -1429
        209 -1429 -1429
 -1429
  192 -1429 -1429 -1429
 -1429
         209 -1429 -1429
  179 -1429 -1429 -164
letter-probability matrix: alength= 4 w= 8 nsites= 200 E= 1.5e-062
 0.480000 0.185000 0.000000 0.335000
 0.560000 0.140000 0.250000 0.050000

      0.730000
      0.140000
      0.130000
      0.000000

      0.000000
      1.000000
      0.000000
      0.000000

 0.000000 1.000000 0.000000 0.000000
 0.915000 0.000000 0.000000 0.085000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.242 C 0.258 G 0.258 T 0.242
MOTIF RXRA
             width = 15 sites = 500 llr = 3333 E-value = 6.9e-256
BL MOTIF RXRA width=15 seqs=500
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 6.40939 E= 6.9e-256
   -9
        -90
                83
                    -46
        -108
                85
                     -13
  -55
        -22
               55
                     -5
                   -114
       114
  -63
               -63
  137
        -13
              -269
                   -134
              37
  119
       -172
                    -283
  158 -1561
                9
                   -1561
 -222 -1561
             188
                   -692
             161
 -275 -1561
                    -46
 -283
       -137
             -110
                     162
 -322
       170
             -184
                   -197
  192
       -601
             -401
                   -197
   27
        -37
               41
                    -55
       -101
               55
                     -4
  -90
              97
                    -25
        -67
letter-probability matrix: alength= 4 w= 15 nsites= 500 E= 6.9e-256
0.228000 0.138000 0.458000 0.176000
0.166000 0.222000 0.378000 0.234000
0.156000 0.568000 0.166000 0.110000
0.628000 0.236000 0.040000 0.096000
0.554000 0.078000 0.334000 0.034000
0.726000 0.000000 0.274000 0.000000
0.052000 0.000000 0.946000 0.002000
0.036000 0.000000 0.788000 0.176000
0.034000 0.100000 0.120000 0.746000
0.026000 0.840000 0.072000 0.062000
0.918000 0.004000 0.016000 0.062000
0.292000 0.200000 0.342000 0.166000
0.258000 0.128000 0.378000 0.236000
```

0.130000 0.162000 0.504000 0.204000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.260 C 0.240 G 0.240 T 0.260
MOTIF SOX2
                 width = 8 sites = 148 llr = 1219 E-value = 1.7e-039
BL MOTIF SOX2 width=8 seqs=148
log-odds matrix: alength= 4 w= 8 n= 46500 bayes= 9.71663 E= 1.7e-039
    89
           -7
                   27 -1385
   195 -1385 -1385 -1385
 -1385 206 -1385 -1385
195 -1385 -1385 -1385
   195 -1385 -1385 -1385
 104 -1385 -1385
-1385 -1385 206
                          84
                  206 -1385
   -2 24
                    93 -1385
letter-probability matrix: alength= 4 w= 8 nsites= 148 E= 1.7e-039
 0.479730 0.229730 0.290541 0.000000
 1.000000 0.000000 0.000000 0.000000

      0.000000
      1.000000
      0.000000
      0.000000

      1.000000
      0.000000
      0.000000

 1.000000 0.000000 0.000000 0.000000
 \begin{array}{ccccccccc} 0.533784 & 0.000000 & 0.000000 & 0.466216 \\ 0.000000 & 0.000000 & 1.000000 & 0.000000 \end{array}
 0.256757 0.283784 0.459459 0.000000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.274 C 0.226 G 0.226 T 0.274
MOTIF SOX2-OCT4
                     width = 15 sites = 439 llr = 4569 E-value = 1.5e-850
BL MOTIF SOX2-OCT4 width=15 seqs=439
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.18941 E= 1.5e-850
 -215
         114
               -57
         146
               -193
 -221
              -505
       -293
  69
                       93
 -532
        -431
              -383
                      182
 -321
        -663
              -231
                      175
              149
 -166
         9
                     -300
  -25
        -563
              -383
                      145
 -105
         58
              -143
                      70
                    -532
  186 -1542
              -663
 -690
       -563
              -663
                      186
 -1542 -1542
              204
                    -205
        172
                     -89
 -532
              -118
                     -121
  159
        -431
              -224
   94 -178
               25
                     -98
  147 -188
              -124
                     -170
letter-probability matrix: alength= 4 w= 15 nsites= 439 E= 1.5e-850
0.061503 0.498861 0.152620 0.287016
0.059226 \quad 0.624146 \quad 0.059226 \quad 0.257403
 0.441913 0.029613 0.006834 0.521640
0.006834 0.011390 0.015945 0.965831
0.029613 0.002278 0.045558 0.922551
 0.086560 0.241458 0.637813 0.034169
0.230068 0.004556 0.015945 0.749431
 0.132118 0.339408 0.084282 0.444191
 0.990888 0.000000 0.002278 0.006834
0.002278 0.004556 0.002278 0.990888
 0.000000 \quad 0.000000 \quad 0.933941 \quad 0.066059
 0.006834 0.744875 0.100228 0.148064
 0.822323 0.011390 0.047836 0.118451
 0.526196 0.066059 0.268793 0.138952
 0.758542 0.061503 0.095672 0.084282
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.192 C 0.308 G 0.308 T 0.192
MOTIF SP1
               width = 15 sites = 232 llr = 1883 E-value = 1.1e-095
BL MOTIF SP1 width=15 seqs=232
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.16982 E= 1.1e-095
   113
        -107
                  3
                        -67
        -207
                  80
                       -267
   5 -1450
55 -1450
                      -43
                 110
                 122 -1450
                 167 -1450
 -315 -1450
 -1450
        -384
                167 -1450
 -201
         140 -1450
                        -47
 -230 -1450
                164 -1450
-1450 -1450
-52 -1450
                      -115
-267
                 157
                 144
   -19
         -67
                 85
                       -123
         116
                -358
   -62
                       -26
   -83
          57
                 -58
                         25
   41
        -125
                 -23
                        88
                 73
         -84
                        -95
   17
letter-probability matrix: alength= 4 w= 15 nsites= 232 E= 1.1e-095
0.418103 0.146552 0.314655 0.120690
0.357759 \quad 0.073276 \quad 0.538793 \quad 0.030172
 0.198276 0.000000 0.659483 0.142241
0.280172 0.000000 0.719828 0.000000
0.021552 0.000000 0.978448 0.000000
 0.000000 0.021552 0.978448 0.000000
0.047414 0.814655 0.000000 0.137931
\begin{array}{cccccccc} 0.038793 & 0.000000 & 0.961207 & 0.000000 \\ 0.000000 & 0.000000 & 0.913793 & 0.086207 \end{array}
0.133621 0.000000 0.836207 0.030172
 0.168103 \quad 0.193966 \quad 0.556034 \quad 0.081897
 0.125000 0.689655 0.025862 0.159483
 0.107759 0.456897 0.206897 0.228448
 0.254310 0.129310 0.262931 0.353448
```

0.215517 0.172414 0.512931 0.099138

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.218 C 0.282 G 0.282 T 0.218
MOTIF SREBF1 width = 10 sites = 111 llr = 960 E-value = 4.7e-078
BL MOTIF SREBF1 width=10 seqs=111
log-odds matrix: alength= 4 w= 10 n= 18564 bayes= 9.04821 E= 4.7e-078
   83
        -51
               55 -1344
 -1344 -1344
             -1344
                    220
             146 -1344
-1344 -33
36 -1344
       -33
               135 -1344
 -301
        3
               98
 -259
        -97
              154 -1344
 -1344
       -297 -1344
                     215
 -1344 -1344
              183 -1344
 219 -1344 -1344 -459
-259 32 -88 108
 -259
letter-probability matrix: alength= 4 w= 10 nsites= 111 E= 4.7e-078
0.387387 0.198198 0.414414 0.000000
0.000000 0.000000 0.000000 1.000000
0.000000 0.225225 0.774775 0.000000
0.036036 0.144144 0.819820 0.000000
0.000000 0.000000 1.000000 0.000000
0.990991 0.000000 0.000000 0.009009
0.036036 0.351351 0.153153 0.459459
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.227 C 0.273 G 0.273 T 0.227
MOTIF SRF
              width = 14 sites = 390 llr = 4780 E-value = 7.0e-1033
BL MOTIF SRF width=14 seqs=390
log-odds matrix: alength= 4 w= 14 n= 43500 bayes= 7.90768 E= 7.0e-1033
   18
          4
              -115
                       58
  -161
        -112
               -315
                       176
 -346
               -9
41
                     150
        -174
  -28
         -69
                       30
 -1525
        187 -1525 -1525
        185 -1525
 -1525
                     -414
  -13
        -293 -1525
                      174
 -176 -1525 -1525
                     204
  190
       -474
              -283
                     -107
        -474 -1525
 -288
                      208
  136 -1525
              -673
                      88
              -515
                      179
        -515
  -16
 -314 -1525
               183 -1525
 -1525 -673
               187 -1525
letter-probability matrix: alength= 4 w= 14 nsites= 390 E= 7.0e-1033
 0.256410 0.282051 0.123077 0.338462
0.074359 0.125641 0.030769 0.769231
0.020513 0.082051 0.256410 0.641026
 0.187179 0.169231 0.364103 0.279487
0.000000 1.000000 0.000000 0.000000
0.000000 0.987179 0.000000 0.012821
 0.207692 0.035897 0.000000 0.756410
0.066667 0.000000 0.000000 0.933333
\begin{array}{ccccc} 0.843590 & 0.010256 & 0.038462 & 0.107692 \\ 0.030769 & 0.010256 & 0.000000 & 0.958974 \end{array}
0.579487 0.000000 0.002564 0.417949
 0.025641 0.000000 0.974359 0.000000
```

0.000000 0.002564 0.997436 0.000000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.244 C 0.256 G 0.256 T 0.244
MOTIF STAT1 width = 15 sites = 470 llr = 4967 E-value = 3.6e-989
BL MOTIF STAT1 width=15 seqs=470
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.15895 E= 3.6e-989
 -114
         53
               66
                    -109
  55
                -8
                      1
 -194
             -135
-691
         6
                     122
 -1552 -1552
                     203
 -404
       -591
             -282
                     195
       171
  -89
              -459
                    -367
  -284
        138
              -391
                      22
  94 -1552
              102
                    -452
  -99 -1552
             177
188
                   -684
-260
 -384 -1552
  203
       -691 -1552 -1552
  203 -1552 -1552 -1552
  124
       -124
              -21
                    -138
 -106
        -17
               -24
                     84
               83
 -109
         45
                    -160
letter-probability matrix: alength= 4 w= 15 nsites= 470 E= 3.6e-989
0.110638 0.370213 0.404255 0.114894
 0.357447 \quad 0.153191 \quad 0.242553 \quad 0.246809
 0.063830 0.265957 0.100000 0.570213
0.000000 0.000000 0.002128 0.997872
 0.014894 0.004255 0.036170 0.944681
 0.131915 0.838298 0.010638 0.019149
0.034043 0.663830 0.017021 0.285106
 0.470213 0.000000 0.519149 0.010638
 0.123404 0.000000 0.874468 0.002128
0.017021 0.000000 0.942553 0.040426
 0.997872 0.002128 0.000000 0.000000
 1.000000 0.000000 0.000000 0.000000
 0.576596 0.108511 0.221277 0.093617
```

0.114894 0.348936 0.455319 0.080851

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.263 C 0.237 G 0.237 T 0.263
MOTIF STAT2 width = 15 sites = 462 llr = 5230 E-value = 1.1e-1108
BL MOTIF STAT2 width=15 seqs=462
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.77965 E= 1.1e-1108
 -153
         -89
                -89
                      131
                -67
  -10
                       -21
  144
        -445
                -12
                      -217
              164
  -592
          7
                      -492
 -1550
        -519 -1550
                      192
        -477 -1550
 -534
                       191
  -692
        -319
               -519
                       188
 -1550
        200 -1550
                     -234
               54
                     -79
        -132
   64
  -42
         -37
                 13
                       45
 -460
        -477
               -519
                      189
 -692 -1550 -1550
                       192
 -592
         30
               -577
                       141
 -302
         175
              -519
                       -70
 -246
         131
               -202
                       23
letter-probability matrix: alength= 4 w= 15 nsites= 462 E= 1.1e-1108
0.090909 0.127706 0.127706 0.653680
 0.244589 \quad 0.378788 \quad 0.149351 \quad 0.227273
 0.712121 0.010823 0.218615 0.058442
0.004329 0.248918 0.738095 0.008658
 0.000000 0.006494 0.000000 0.993506
 0.006494 0.008658 0.000000 0.984848
0.002165 0.025974 0.006494 0.965368
 0.000000 \quad 0.948052 \quad 0.000000 \quad 0.051948
 0.409091 0.095238 0.344156 0.151515
0.196970 0.183983 0.259740 0.359307
 0.010823 \quad 0.008658 \quad 0.006494 \quad 0.974026
 0.002165 0.000000 0.000000 0.997835
 0.004329 0.292208 0.004329 0.699134
 0.032468 \quad 0.798701 \quad 0.006494 \quad 0.162338
```

0.047619 0.586580 0.058442 0.307359

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.261 C 0.239 G 0.239 T 0.261
MOTIF TAL1
              width = 8 sites = 101 llr = 829 E-value = 7.2e-002
BL MOTIF TAL1 width=8 seqs=101
log-odds matrix: alength= 4 w= 8 n= 46500 bayes= 9.34487 E= 7.2e-002
                 41 -91
   106 -1330
          31
                   80 -1330
   14
 194 -1330 -1330 -1330
-1330 -1330 207 -1330
194 -1330 -1330 -1330
 -1330 -1330
                22
                       147
   191 -1330 -359 -1330
194 -1330 -1330 -1330
letter-probability matrix: alength= 4 w= 8 nsites= 101 E= 7.2e-002
 0.544554 0.000000 0.316832 0.138614
 0.287129 0.297030 0.415842 0.000000
 1.000000 0.000000 0.000000 0.000000
 \begin{array}{cccccccc} 0.000000 & 0.000000 & 0.277228 & 0.722772 \\ 0.980198 & 0.000000 & 0.019802 & 0.000000 \end{array}
 1.000000 0.000000 0.000000 0.000000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.208 C 0.292 G 0.292 T 0.208
MOTIF TBP
             width = 20 sites = 158 llr = 1524 E-value = 1.2e-120
BL MOTIF TBP width=20 seqs=158
log-odds matrix: alength= 4 w= 20 n= 40500 bayes= 8.23476 E= 1.2e-120
                      -79
 -123
          95
                -36
          56
                      -79
  -13
                -17
          12
                      -79
   -4
                31
  -58
          47
                40
                     -158
   -58
          28
                54
                     -134
  -13
          81
               -44
                     -134
   -9
          50
                -24
                      -52
  -87
          15
               52
                      -52
 -134
          78
                      -58
                -7
  -52
          17
                28
                      -29
 -223
          52
                60
                    -113
              -253
 -246
         124
                       9
  -72
         -77 -1395
                      175
 -404
       -172 -1395
                      211
   60 -1395 -1395
                      171
  -272 -1395 -1395
                      222
  220
       -394 -1395
                    -304
                     217
 -187
        -552 -1395
  211
        -320
              -253
                     -346
  -29
               85
                    -158
        -32
letter-probability matrix: alength= 4 w= 20 nsites= 158 E= 1.2e-120
 0.088608 0.563291 0.227848 0.120253
 0.189873 0.430380 0.259494 0.120253
0.202532 0.316456 0.360759 0.120253
0.139241 0.405063 0.386076 0.069620
0.139241 0.354430 0.424051 0.082278
 0.189873 0.512658 0.215190 0.082278
 0.196203 0.411392 0.246835 0.145570
 0.113924 0.322785 0.417722 0.145570
 0.145570 0.329114 0.354430 0.170886
 0.044304 0.417722 0.443038 0.094937
 0.037975 0.689873 0.050633 0.221519
 0.126582 0.170886 0.000000 0.702532
 0.012658 0.088608 0.000000 0.898734
 0.316456 0.000000 0.000000 0.683544
 0.031646 0.000000 0.000000 0.968354
 0.955696 0.018987 0.000000 0.025316
 0.056962 0.006329 0.000000 0.936709
```

0.898734 0.031646 0.050633 0.018987 0.170886 0.234177 0.525316 0.069620

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.215 C 0.285 G 0.285 T 0.215
MOTIF TCF12 width = 11 sites = 470 llr = 3850 E-value = 3.6e-514
BL MOTIF TCF12 width=11 seqs=470
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 7.22499 E= 3.6e-514
                     -71
  66
        -49
               19
   -34
         67
               13
                    -175
       -171
                   17
  123
               -78
              126 -1552
  -88
        -49
       181 -1552 -1552
 -1552
  222 -1552 -1552 -1552
              170 -1552
 -1552
       -198
 -241
        122
                6 -1552
-1552 -1552 -1552
-1552 -1552 181
                   222
             181 -1552
 -296
        -18
               14
                    92
letter-probability matrix: alength= 4 w= 11 nsites= 470 E= 3.6e-514
 0.340426 0.202128 0.325532 0.131915
0.170213 0.453191 0.312766 0.063830
0.000000 1.000000 0.000000 0.000000
1.000000 0.000000 0.000000 0.000000
 0.000000 0.072340 0.927660 0.000000
0.040426 0.661702 0.297872 0.000000
0.000000 0.000000 0.000000 1.000000
 0.000000 0.000000 1.000000 0.000000
 0.027660 0.251064 0.314894 0.406383
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.254 C 0.246 G 0.246 T 0.254
MOTIF TCF7L2 width = 11 sites = 473 llr = 4093 E-value = 2.6e-613
BL MOTIF TCF7L2 width=11 seqs=473
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 7.22208 E= 2.6e-613
                  37
   43
           -2
                         -139
   145
          -254
                   -35
                         -182
                104
-686
  -391
          86
                        -300
         -428
  150
                           8
                        187
  -205 -1553
                -454
  -300
         168
                 -54
                         -432
   198 -1553 -1553 -1553
  193 -586
                -328 -1553
  192 -1553
-215 -428
                 -316 -459
191 -491
                 191
         -428
  -39
           -2
                  97
                        -166
letter-probability matrix: alength= 4 w= 11 nsites= 473 E= 2.6e-613
 0.342495 0.243129 0.317125 0.097252
 0.693446 0.042283 0.192389 0.071882
 \begin{array}{cccccc} 0.016913 & 0.446089 & 0.505285 & 0.031712 \\ 0.716702 & 0.012685 & 0.002114 & 0.268499 \end{array}
 0.061311 0.000000 0.010571 0.928118
 0.031712 0.786469 0.169133 0.012685
 1.000000 0.000000 0.000000 0.000000
 0.970402 0.004228 0.025370 0.000000
 0.961945 0.000000 0.027484 0.010571
 \begin{array}{cccccc} 0.057082 & 0.012685 & 0.921776 & 0.008457 \\ 0.194503 & 0.243129 & 0.482030 & 0.080338 \end{array}
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.242 C 0.258 G 0.258 T 0.242
MOTIF TEAD1 width = 8 sites = 52 llr = 510 E-value = 5.7e-014
BL MOTIF TEAD1 width=8 seqs=52
log-odds matrix: alength= 4 w= 8 n= 46500 bayes= 10.9682 E= 5.7e-014
  144 -1234
                 42 -1234
 -1234
         195 -1234 -1234
 205 -1234 -1234 -1234
-1234 -1234 -1234 205
-1234 -1234 -1234 205
 -1234 195 -1234 -1234
-1234 195 -1234 -1234
  110 -1234 -1234
letter-probability matrix: alength= 4 w= 8 nsites= 52 E= 5.7e-014
 0.653846 0.000000 0.346154 0.000000
 0.000000 1.000000 0.000000 0.000000

      1.000000
      0.000000
      0.000000
      0.000000

      0.000000
      0.000000
      1.000000

 0.000000 0.000000 0.000000 1.000000
 0.519231 0.000000 0.000000 0.480769
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.301 C 0.199 G 0.199 T 0.301
MOTIF UA10
             width = 15 sites = 268 llr = 4055 E-value = 3.4e-1009
BL MOTIF UA10 width=15 seqs=268
log-odds matrix: alength= 4 w= 15 n= 32336 bayes= 6.95582 E= 3.4e-1009
             -273
 -288
                    150
       -134
        233 -1471
                    -1471
 -1471
       -573 -1471 -1471
  172
 -1471
        55
              -573
                    123
 166
        -573
              -315
                    -401
        228
                    -633
 -533
              -293
 -105
        -215
              -293
                     138
 -353
       -573
              227
                    -475
              220
                    -401
-101
 -288
        -293
  129
        -315
              -109
 -334
       -373
              227 -1471
              -373
                    -401
-353
  167
        -473
  -23
       -293
              180
  168 -373
             -315 -1471
  159 -415
              -141 -633
letter-probability matrix: alength= 4 w= 15 nsites= 268 E= 3.4e-1009
0.041045 0.078358 0.029851 0.850746
0.000000 1.000000 0.000000 0.000000
 0.996269 0.003731 0.000000 0.000000
0.000000 0.291045 0.003731 0.705224
 0.955224 0.003731 0.022388 0.018657
 0.007463 0.962687 0.026119 0.003731
0.145522 0.044776 0.026119 0.783582
 0.041045 0.026119 0.914179 0.018657
0.735075 0.022388 0.093284 0.149254
 0.029851 \quad 0.014925 \quad 0.955224 \quad 0.000000
 0.958955 0.007463 0.014925 0.018657
 0.257463 0.026119 0.690299 0.026119
 0.962687 \quad 0.014925 \quad 0.022388 \quad 0.000000
```

0.910448 0.011194 0.074627 0.003731

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.280 C 0.220 G 0.220 T 0.280
MOTIF UA11
               width = 18 sites = 302 llr = 4424 E-value = 2.6e-1033
BL MOTIF UA11 width=18 seqs=302
log-odds matrix: alength= 4 w= 18 n= 41500 bayes= 6.47799 E= 2.6e-1033
  -25
        -235
                 155
                       -188
  -194
         -247
                 199
                        -440
               -447
-405
 -145
         179
                       -112
 -482
          -1
                        144
 -540
         -173
                -605
                       172
 -1488
         -505
                -288
                       178
 -194
          83
                  46
                         -25
 -640
          208
               -373
                       -240
               -447 -260
-205 -1488
 -482
          209
  176 -1488
 -1488
        217 -1488
                      -440
  181 -1488
               -405
                       -640
  -294
         -17
                -197
                        135
 -232
         -324
               -347
                        168
 -482
         193
                -101
                       -270
               -180
   50
           1
                         18
 -208
          -97
               -247
                        148
 -382
          41
               -188
                        117
letter-probability matrix: alength= 4 w= 18 nsites= 302 E= 2.6e-1033
0.235099 0.043046 0.645695 0.076159
 0.072848 0.039735 0.874172 0.013245
 0.102649 0.758278 0.009934 0.129139
0.009934 0.218543 0.013245 0.758278
\begin{array}{ccccc} 0.006623 & 0.066225 & 0.003311 & 0.923841 \\ 0.000000 & 0.006623 & 0.029801 & 0.963576 \end{array}
 0.072848 0.390728 0.301325 0.235099
 0.003311 \quad 0.927152 \quad 0.016556 \quad 0.052980
 0.009934 0.933775 0.009934 0.046358
 0.947020 0.000000 0.052980 0.000000
 0.000000 0.986755 0.000000 0.013245
 0.983444 0.000000 0.013245 0.003311
 0.036424 0.195364 0.056291 0.711921
 0.056291 0.023179 0.019868 0.900662
0.009934 0.837748 0.109272 0.043046
0.397351 0.221854 0.062914 0.317881
 0.066225 0.112583 0.039735 0.781457
```

0.019868 0.291391 0.059603 0.629139

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.240 C 0.260 G 0.260 T 0.240
MOTIF UA12
               width = 8 sites = 122 llr = 996 E-value = 9.1e-015
BL MOTIF UA12 width=8 seqs=122
log-odds matrix: alength= \hat{4} w= 8 n= 46500 bayes= 9.85953 E= 9.1e-015
 -1357 195 -1357 -1357
  115 -1357 -1357
                       96
-1357 -1357
-1357 178
               184 -170
-128 -1357
        110 -1357
  37
                       -87
         195 -1357 -1357
 -1357
    8 -1357 -1357
                       163
 -1357 -1357
                195 -1357
letter-probability matrix: alength= 4 w= 8 nsites= 122 E= 9.1e-015
 0.000000 1.000000 0.000000 0.000000
 0.532787 0.000000 0.000000 0.467213
 0.000000 0.000000 0.926230 0.073770 0.000000 0.893443 0.106557 0.000000
 0.311475 0.557377 0.000000 0.131148
 0.000000 1.000000 0.000000 0.000000
0.254098 0.000000 0.000000 0.745902
 0.000000 0.000000 1.000000 0.000000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.184 C 0.316 G 0.316 T 0.184
MOTIF UA1
              width = 15 sites = 451 llr = 4716 E-value = 2.2e-898
BL MOTIF UA1 width=15 seqs=451
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.24366 E= 2.2e-898
  -24
         12
                -62
                        68
  -379
         -120
                -283
                        213
        137
  -42
               -346
                      -357
227
 -357
        -199
               -416
 -1546
        166 -1546 -1546
               163 -1546
 -291 -1546
 -637
         166
               -1546 -1546
 -1546 -1546
               166 -1546
  207
               -137
        -230
                      -220
  -405
        -246
                121
                        10
  198
        -283
                -97
                      -142
         -16
                -57
   -9
                        8.5
  -437
          22
               -211
                        158
  -70
         -71
               -143
                      165
 -137
          10
                53
                       -47
letter-probability matrix: alength= 4 w= 15 nsites= 451 E= 2.2e-898
0.155211 0.343681 0.206208 0.294900
0.013304 \quad 0.137472 \quad 0.044346 \quad 0.804878
 0.137472 0.818182 0.028825 0.015521
0.015521 0.079823 0.017738 0.886918
0.000000 1.000000 0.000000 0.000000
 0.024390 0.000000 0.975610 0.000000
0.002217 0.997783 0.000000 0.000000
\begin{array}{cccccccc} 0.000000 & 0.000000 & 1.000000 & 0.000000 \\ 0.773836 & 0.064302 & 0.121951 & 0.039911 \end{array}
0.011086 0.057650 0.733925 0.197339
 0.725055 \quad 0.044346 \quad 0.161863 \quad 0.068736
 0.172949 0.283814 0.212860 0.330377
 0.008869 0.368071 0.073171 0.549889
 0.113082 0.192905 0.117517 0.576497
```

0.070953 0.339246 0.456763 0.133038

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.187 C 0.313 G 0.313 T 0.187
MOTIF UA2
              width = 13 sites = 496 llr = 3743 E-value = 6.1e-438
BL MOTIF UA2 width=13 seqs=496
log-odds matrix: alength= \frac{1}{4} w= 13 n= 44000 bayes= 8.18762 E= 6.1e-438
   -89
         28
                 -8
                       25
         -51
                 37
                       -19
  -95
          39
                 22
                      -53
  -56
         124
               -211
                      -158
  -70
              -337
                      152
 -201 -1560
               157
                     -295
 -653
         39 -1560
                       166
 -1560
         165 -1560
                     -372
                     -121
  173
         -70
              -158
         18
   99
               -22
                      -495
 -1560 -1560
              -728
                      242
        162 -1560
 -453
                     -283
  168
        -119
               -137
                       -36
letter-probability matrix: alength= 4 w= 13 nsites= 496 E= 6.1e-438
0.100806 0.381048 0.296371 0.221774
0.211694 0.219758 0.405242 0.163306
0.096774 0.409274 0.364919 0.129032
0.127016 0.737903 0.072581 0.062500
 0.114919 0.320565 0.030242 0.534274
0.046371 0.000000 0.929435 0.024194
0.002016 0.409274 0.000000 0.588710
 0.000000 0.985887 0.000000 0.014113
0.620968 0.193548 0.104839 0.080645
 0.370968 0.354839 0.268145 0.006048
 0.000000 0.000000 0.002016 0.997984
 0.008065 0.965726 0.000000 0.026210
```

0.596774 0.137097 0.120968 0.145161

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.140 C 0.360 G 0.360 T 0.140
MOTIF UA3
             width = 15 sites = 500 llr = 3184 E-value = 1.1e-184
BL MOTIF UA3 width=15 seqs=500
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 6.40939 E= 1.1e-184
 -123
         80
               -68
                     -67
   36
         12
               -35
                       8
   54
               34
         -28
                    -161
  170
        -28
               -72
                    -222
 -313
        -590
             144
                    -513
  212
         12 -1561
                   -1561
 -1561
         147 -1561
                   -1561
 -1561
         147 -1561
                    -613
                   -1561
         140 -1561
 -149
 -1561
         86
             -549
                    128
  -13
         17
              -136
                    123
   10
               4
                     -13
         -3
               -79
  -40
          67
                     -30
  -64
         62
              -72
                     -2
                     -18
  -15
         50
              -57
letter-probability matrix: alength= 4 w= 15 nsites= 500 E= 1.1e-184
0.060000 0.628000 0.224000 0.088000
 0.204000 0.296000 0.454000 0.046000
0.456000 0.296000 0.218000 0.030000
 0.016000 0.006000 0.974000 0.004000
 0.608000 0.392000 0.000000 0.000000
0.000000 1.000000 0.000000 0.000000
 0.000000 \quad 0.998000 \quad 0.000000 \quad 0.002000
 0.050000 0.950000 0.000000 0.000000
0.000000 0.652000 0.008000 0.340000
 0.128000 0.404000 0.140000 0.328000
 0.150000 0.352000 0.370000 0.128000
 0.106000 0.572000 0.208000 0.114000
 0.090000 0.554000 0.218000 0.138000
```

0.126000 0.508000 0.242000 0.124000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.180 C 0.320 G 0.320 T 0.180
MOTIF UA4
             width = 15 sites = 206 llr = 2496 E-value = 1.2e-425
BL MOTIF UA4 width=15 seqs=206
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.22131 E= 1.2e-425
 -363
         161 -1433
                    -421
         164 -1433
                    -1433
 -1433
       -446 -1433 -1433
-504 -1433 246
  245
 -1433
 -204
        82
              -43
                      -21
 -421
        -446 -1433
                     244
 -1433
        -346 -1433
                      243
  -89
        -346
                      123
        -195
   72
                82
                    -163
   90
         -95
              -109
                      96
   -8
        -287
              -100
                    180
   90
        -55
               13
                      -89
  100
         11
              -187
                      21
 -363 -1433
              122
                      40
                    -521
 -321 -446
               159
letter-probability matrix: alength= 4 w= 15 nsites= 206 E= 1.2e-425
0.014563 0.975728 0.000000 0.009709
 0.985437 0.014563 0.000000 0.000000
0.000000 0.009709 0.000000 0.990291
 0.009709 0.014563 0.000000 0.975728
0.000000 0.029126 0.000000 0.970874
\begin{array}{ccccc} 0.097087 & 0.029126 & 0.451456 & 0.422330 \\ 0.296117 & 0.082524 & 0.563107 & 0.058252 \end{array}
0.334951 0.165049 0.150485 0.349515
 0.169903 0.043689 0.160194 0.626214
 0.334951 0.218447 0.349515 0.097087
 0.359223 0.344660 0.087379 0.208738
 0.014563 0.000000 0.747573 0.237864
```

0.019417 0.014563 0.961165 0.004854

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.180 C 0.320 G 0.320 T 0.180
MOTIF UA5
              width = 15 sites = 121 llr = 1294 E-value = 8.4e-130
BL MOTIF UA5 width=15 seqs=121
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 9.7523 E= 8.4e-130
  136 -247
               -11
                        1
 -1356
         153
               -427
                      -164
                     235
-244 -1356
-1356 -1356
              -269
-427
                       245
        163 -1356
-1356
                     -444
-1356
                     -186
         157 -1356
               161
 -1356 -1356
                      -286
 -444
        158
              -527
                     -286
         163 -1356
126 -1356
 -1356
                     -444
   1
                      -186
               85
   -64
        -327
                      60
  -44
        -19
                40
                       -12
  126
          1
               -169
                       -27
  -99
          43
                -3
                      -12
                -95
                       84
 -127
          45
letter-probability matrix: alength= 4 w= 15 nsites= 121 E= 8.4e-130
0.462810 0.057851 0.297521 0.181818
 0.033058 0.000000 0.049587 0.917355
0.000000 0.000000 0.016529 0.983471
0.000000 0.991736 0.000000 0.008264
 0.000000 0.950413 0.000000 0.049587
0.000000 0.000000 0.975207 0.024793
\begin{array}{cccccc} 0.008264 & 0.958678 & 0.008264 & 0.024793 \\ 0.000000 & 0.991736 & 0.000000 & 0.008264 \end{array}
0.181818 0.768595 0.000000 0.049587
0.115702 0.033058 0.578512 0.272727
 0.132231 0.280992 0.421488 0.165289
 0.429752 0.322314 0.099174 0.148760
 0.090909 0.429752 0.314050 0.165289
```

0.074380 0.438017 0.165289 0.322314

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.195 C 0.305 G 0.305 T 0.195
MOTIF UA6
             width = 15 sites = 70 llr = 729 E-value = 1.1e-033
BL MOTIF UA6 width=15 seqs=70
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.52519 E= 1.1e-033
   14
        63
               -51
                     -96
   188
        -283
               -72
                     -177
       -342
   62
              114 -1277
  -60
         44
              -210
                      99
  -45
        101
              -61
                    -218
 -1277 -1277
              171 -1277
  234 -1277
              -441
                   -1277
  -45
       -342
               97
               -51
                    -218
-177
 -218
        120
   -7
        -125
               104
 -377
       167
              -441 -1277
              -242 -1277
171 -1277
   -7
        131
 -1277 -1277
  230 -342
              -441 -1277
 -145 -342
              146 -177
letter-probability matrix: alength= 4 w= 15 nsites= 70 E= 1.1e-033
0.214286 0.471429 0.214286 0.100000
0.714286 \quad 0.042857 \quad 0.185714 \quad 0.057143
 0.300000 0.028571 0.671429 0.000000
0.128571 0.414286 0.071429 0.385714
0.142857 0.614286 0.200000 0.042857
 0.000000 0.000000 1.000000 0.000000
0.985714 0.000000 0.014286 0.000000
 0.142857 0.028571 0.600000 0.228571
 0.042857 0.700000 0.214286 0.042857
0.185714 0.128571 0.628571 0.057143
 0.185714 0.757143 0.057143 0.000000
 0.000000 0.000000 1.000000 0.000000
 0.957143 0.028571 0.014286 0.000000
 0.071429 0.028571 0.842857 0.057143
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.192 C 0.308 G 0.308 T 0.192
MOTIF UA7
             width = 21 sites = 178 llr = 1985 E-value = 1.9e-260
BL MOTIF UA7 width=21 seqs=178
log-odds matrix: alength= 4 w= 21 n= 40000 bayes= 8.84496 E= 1.9e-260
  -14
         -22
                 73
                     -192
          -5
                 81
                      -77
  -192
        -378
  231
              -346
                    -1412
  237
        -577
              -1412
                     -509
  216
        -378
              -132
                    -1412
        -378
  198
              -102
                     -151
 -309
         139
               -146
                      -177
 -139
         145
               -197
                     -509
               -577
 -128
         95
                      74
 -1412 -1412
               169
                      -509
 -409
        -378
               161
                      -309
  175
         -57
               -132
                     -309
  -23
         10
                58
                     -209
  27
         33
               -297
                      84
              108
        -146
  -28
                     -128
  -192
        -87
                123
                      -177
  135
        -139
               -19
                      -63
                65
                      55
  -14
        -232
   30
         -73
                -22
                       72
   49
         -5
              -119
                       64
  -19
          3
               -57
                       69
letter-probability matrix: alength= 4 w= 21 nsites= 178 E= 1.9e-260
 0.174157 0.264045 0.511236 0.050562
 0.050562 0.297753 0.539326 0.112360
 0.949438 \quad 0.022472 \quad 0.028090 \quad 0.000000
0.988764 0.005618 0.000000 0.005618
 0.853933 0.022472 0.123596 0.000000
 0.758427 0.022472 0.151685 0.067416
 0.022472 0.808989 0.112360 0.056180
 0.073034 0.842697 0.078652 0.005618
 0.078652 0.595506 0.005618 0.320225
 0.000000 0.000000 0.994382 0.005618
 0.011236 0.022472 0.943820 0.022472
 0.646067 0.207865 0.123596 0.022472
 0.162921 0.331461 0.460674 0.044944
 0.230337 0.387640 0.039326 0.342697
 0.157303 0.112360 0.651685 0.078652
 0.050562 0.168539 0.724719 0.056180
 0.488764 0.117978 0.269663 0.123596
 0.174157
         0.061798 0.483146 0.280899
 0.235955 0.185393 0.264045 0.314607
```

0.269663 0.297753 0.134831 0.297753 0.168539 0.314607 0.207865 0.308989

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.272 C 0.228 G 0.228 T 0.272
MOTIF UA8
             width = 14 sites = 255 llr = 2073 E-value = 5.3e-131
BL MOTIF UA8 width=14 seqs=255
log-odds matrix: alength= 4 w= 14 n= 43500 bayes= 9.14691 E= 5.3e-131
              -140
  -26 -1464
                     133
  -166 -1464
               199
                     -512
  183 -1464 -1464
                     -295
  -153
         31
                7
                      50
   96
        -305
                41
                      -95
                      -1
13
   -9
        -19
                2.7
   77
        -116
                -73
                      13
   73
       -177
               -31
               5
5
        -91
                      -26
   61
                    -266
        109
  -21
        213 -1464 -1464
 -1464
  187 -1464 -1464
                    -611
 -1464
       -240
              207 -1464
  112
       -134
                14
                    -203
letter-probability matrix: alength= 4 w= 14 nsites= 255 E= 5.3e-131
 0.227451 0.000000 0.086275 0.686275
0.086275 0.000000 0.905882 0.007843
0.964706 0.000000 0.000000 0.035294
 0.094118 0.282353 0.239216 0.384314
0.529412 0.027451 0.301961 0.141176
0.254902 0.200000 0.274510 0.270588
 0.462745 0.101961 0.137255 0.298039
0.450980 0.066667 0.184314 0.298039
 0.415686 0.121569 0.235294 0.227451
 0.235294 0.486275 0.235294 0.043137
0.000000 1.000000 0.000000 0.000000
 0.996078 0.000000 0.000000 0.003922
 0.000000 0.043137 0.956863 0.000000
 0.592157 0.090196 0.250980 0.066667
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.272 C 0.228 G 0.228 T 0.272
MOTIF UA9
              width = 11 sites = 329 llr = 2537 E-value = 8.9e-180
BL MOTIF UA9 width=11 seqs=329
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 8.0582 E= 8.9e-180
   -33
        -102
                 56
                       30
         178
               -253
                      -368
        6 -253
212 -1501
   71
  -490
                     -1501
  154 -1501 -1501
                      -40
  -648 -423
               211 -1501
 -1501
        169
                -77
                      -106
  136 -1501
                -23
                     -131
  -248 -1501
                     -63
-190
                176
 -1501
        -291
                197
   41
         -30
                18
                      -48
letter-probability matrix: alength= 4 w= 11 nsites= 329 E= 8.9e-180
 0.215805 0.112462 0.337386 0.334347
 0.155015 0.784195 0.039514 0.021277
 \begin{array}{cccccc} 0.443769 & 0.237082 & 0.039514 & 0.279635 \\ 0.009119 & 0.990881 & 0.000000 & 0.000000 \end{array}
 0.793313 0.000000 0.000000 0.206687
 0.003040 0.012158 0.984802 0.000000
 0.000000 0.735562 0.133739 0.130699
 0.696049 0.000000 0.194529 0.109422
 0.361702 0.185410 0.258359 0.194529
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.178 C 0.322 G 0.322 T 0.178
MOTIF USF
             width = 11 sites = 500 llr = 4948 E-value = 4.0e-967
BL MOTIF USF width=11 seqs=500
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 8.48091 E= 4.0e-967
 -123
         6
               73
                    -172
         -14
               48
                    -139
 -148
        43 -150
164 -1561
                   113
 -1561
                   -1561
                   -648
 247
       -633 -574
       143
             -574
 -1561
                     -48
 -448
       -574
              162 -1561
 -1561 -1561 -1561
                    249
-1561 -1561
232 -263
             164 -1561
-242 -1561
-1561
       139
             -374
                    -43
letter-probability matrix: alength= 4 w= 11 nsites= 500 E= 4.0e-967
 0.076000 0.336000 0.534000 0.054000
0.190000 0.292000 0.450000 0.068000
0.988000 0.004000 0.006000 0.002000
0.000000 0.866000 0.006000 0.128000
 0.008000 0.006000 0.986000 0.000000
0.000000 0.000000 0.000000 1.000000
 0.000000 0.000000 1.000000 0.000000
 0.888000 0.052000 0.060000 0.000000
 0.000000 0.844000 0.024000 0.132000
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.270 C 0.230 G 0.230 T 0.270
MOTIF v-JUN width = 15 sites = 329 llr = 3669 E-value = 3.2e-662
BL MOTIF v-JUN width=15 seqs=329
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.87486 E= 3.2e-662
                     -59
   11
         -1
                39
   27
         -82
                 49
                      -28
        -38
                    -41
-389
  -10
                68
   49
        -134
               115
  141 -1501
               30 -1501
 -1501 -1501 -1501
                    189
 -1501 -1501
               212
                    -1501
  189 -1501 -1501 -1501
 -1501
        160
             -243
198
                     -5
                    -389
 -647
        -166
 -1501
       -172 -1501
                     178
        183
              -624 -1501
  -61
  189 -1501 -1501 -1501
             -120
 -489
                     128
         4
  -28
         112
               -63
                     -105
letter-probability matrix: alength= 4 w= 15 nsites= 329 E= 3.2e-662
 0.291793 0.227964 0.300912 0.179331
 0.325228 0.130699 0.322188 0.221884
 0.252280 0.176292 0.367781 0.203647
0.379939 0.091185 0.510638 0.018237
 0.717325 \quad 0.000000 \quad 0.282675 \quad 0.000000
 0.000000 0.000000 0.000000 1.000000
0.000000 0.000000 1.000000 0.000000
1.000000 0.000000 0.000000 0.000000
 0.000000 0.696049 0.042553 0.261398
0.003040 0.072948 0.905775 0.018237
 0.000000 0.069909 0.000000 0.930091
 0.176292 0.820669 0.003040 0.000000
1.000000 0.000000 0.000000 0.000000
 0.009119 0.237082 0.100304 0.653495
```

0.221884 0.498480 0.148936 0.130699

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.290 C 0.210 G 0.210 T 0.290
MOTIF v-Maf width = 17 sites = 500 llr = 5894 E-value = 2.3e-1362
BL MOTIF v-Maf width=17 seqs=500
log-odds matrix: alength= 4 w= 17 n= 42000 bayes= 6.37504 E= 2.3e-1362
   -6
        -11
               -71
                      46
                -29
  -118
        -154
                      111
              184
-390
                     -327
 -254
        -32
        168
  -63
                     -118
 -132
       -113
              -143
                     129
              161
  -43
        -271
                     -140
  132
        -158
              -129
                     -130
 -182
         71
              140
                    -372
 -1561 -1561
              -671
                    178
 -386
        222 -1561
                    -1561
  178 -1561 -1561 -1561
              214
 -1561 -1561
                    -190
 -1561
        225
              -671
                    -1561
  168 -1561
              -239
                    -327
        -39
                     -12
74
   43
              -22
       -207
   56
              -254
   22
       -219
              -339
                      104
letter-probability matrix: alength= 4 w= 17 nsites= 500 E= 2.3e-1362
 0.278000 0.194000 0.128000 0.400000
 0.128000 0.072000 0.172000 0.628000
 0.050000 0.168000 0.752000 0.030000
 0.188000 0.670000 0.014000 0.128000
 0.116000 0.096000 0.078000 0.710000
 0.216000 0.032000 0.642000 0.110000
 0.726000 0.070000 0.086000 0.118000
 0.082000 0.344000 0.552000 0.022000
 0.000000 0.000000 0.002000 0.998000
 0.020000 0.980000 0.000000 0.000000
1.000000 0.000000 0.000000 0.000000
 0.000000 0.000000 0.922000 0.078000
 0.000000 0.998000 0.002000 0.000000
 0.930000 0.000000 0.040000 0.030000
 0.392000 0.160000 0.180000 0.268000
 0.428000 0.050000 0.036000 0.486000
```

0.338000 0.046000 0.020000 0.596000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.191 C 0.309 G 0.309 T 0.191
MOTIF YY1
              width = 15 sites = 479 llr = 5078 E-value = 3.2e-1026
BL MOTIF YY1 width=15 seqs=479
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 8.46435 E= 3.2e-1026
 -112
          -5
                 61
                      -43
         -58
                       -71
  -63
                24
  -17
          -5
                      -19
          22
  -23
                       -79
                 25
 -156
        -263
              139
                     -134
        125
 -181
              -143
                      -99
  -71
         105
               -67
                     -193
 -271 -1555
              162
                     -334
 -1555
       169 -1555 -1555
169 -1555 -1555
 -1555
  238
        -521 -721 -1555
 -1555 -1555 -1555
                     239
 -193
         70
               -28
                        3
 -147
        -312
              -421
                      220
-1555 -189 -1555
                      227
letter-probability matrix: alength= 4 w= 15 nsites= 479 E= 3.2e-1026
0.087683 0.298539 0.471816 0.141962
0.123173 \quad 0.206681 \quad 0.553236 \quad 0.116910
 0.169102 0.298539 0.365344 0.167015
0.162839 0.359081 0.367432 0.110647
0.064718 0.050104 0.810021 0.075157
 0.054280 0.734864 0.114823 0.096033
0.116910 0.638831 0.194154 0.050104
 0.029228 0.000000 0.951983 0.018789
 0.000000 1.000000 0.000000 0.000000
0.000000 1.000000 0.000000 0.000000
 0.989562 \quad 0.008351 \quad 0.002088 \quad 0.000000
 0.000000 0.000000 0.000000 1.000000
 0.050104 0.501044 0.254697 0.194154
 0.068894 \quad 0.035491 \quad 0.016701 \quad 0.878914
```

0.000000 0.083507 0.000000 0.916493

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.236 C 0.264 G 0.264 T 0.236
MOTIF ZEB1
                width = 8 sites = 426 llr = 3405 E-value = 1.7e-392
BL MOTIF ZEB1 width=8 seqs=426
log-odds matrix: alength= 4 w= 8 n= 46500 bayes= 8.40901 E= 1.7e-392
    86
           -51
                   41 -275
 -1538
            192 -1538 -1538
  208 -1538 -1538 -1538
1538 145 -40 -153
          145 -40 -153
192 -1538 -1538
 -1538
 -1538
 -1538 -1538 -1538
                           208
 -1538 -1538
                   192 -1538
  -507
             6
                     98 –26
letter-probability matrix: alength= 4 w= 8 nsites= 426 E= 1.7e-392
 0.429577 0.185446 0.349765 0.035211
 0.000000 1.000000 0.000000 0.000000

      1.000000
      0.000000
      0.000000
      0.000000

      0.000000
      0.718310
      0.199531
      0.082160

 0.000000 1.000000 0.000000 0.000000

      0.000000
      0.000000
      0.000000
      1.000000

      0.000000
      0.000000
      1.000000
      0.000000

 0.007042 0.274648 0.521127 0.197183
```

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.196 C 0.304 G 0.304 T 0.196
MOTIF ZNF143 width = 15 sites = 43 llr = 486 E-value = 8.8e-017
BL MOTIF ZNF143 width=15 seqs=43
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 10.295 E= 8.8e-017
 -308
        154
             -270
                    -208
   51
        -370
              115
                    -308
               46
                   -27
131
   62
       -138
 -108
       -370
               38
              172 -1207
-1207 -1207
 -208
       125
              -90
                   -149
  138
        29
              -212
                    -208
        -54 -1207
 -1207
                    201
 -208 -1207
             129
                      9
       150
 -208
             -171 -1207
 -308
        -12
             -370
                   178
       -370
             169 -1207
-1207
-1207 -1207
              172 -1207
 -149 -1207
             162 -1207
  217 -1207
             -138 -1207
letter-probability matrix: alength= 4 w= 15 nsites= 43 E= 8.8e-017
0.023256 0.883721 0.046512 0.046512
0.279070 \quad 0.023256 \quad 0.674419 \quad 0.023256
0.302326 0.116279 0.418605 0.162791
0.093023 0.023256 0.395349 0.488372
0.046512 0.720930 0.162791 0.069767
0.511628 0.372093 0.069767 0.046512
0.000000 \quad 0.209302 \quad 0.000000 \quad 0.790698
0.046512 0.000000 0.744186 0.209302
0.046512 0.860465 0.093023 0.000000
0.000000 0.023256 0.976744 0.000000
0.000000 0.000000 1.000000 0.000000
0.069767 0.000000 0.930233 0.000000
```

0.883721 0.000000 0.116279 0.000000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.194 C 0.306 G 0.306 T 0.194
MOTIF ZNF143-ext
                    width = 21 sites = 160 llr = 2832 E-value = 2.6e-673
BL MOTIF ZNF143-ext width=21 seqs=160
log-odds matrix: alength= 4 w= 21 n= 40000 bayes= 8.21247 E= 2.6e-673
       -329
   80
               100
                    -337
   155
                41
                     -496
        -403
       -403 -1397
                    -1397
  234
 -496
        170 -1397
                    -1397
 -496
        -329 -1397
                    231
              -329
  222
       -244
                    -496
 -1397
        168
              -461
                     -496
  218
        -303
              -229
                    -337
       -144
              -136
  131
                      56
  -96
        -15
              -103
                      129
 -296
        -229
              -361
                     219
        163 -1397
 -396
                    -215
 -1397
        171 -1397 -1397
 -1397
        171 -1397 -1397
  201
        -461
               -57 -1397
  -96
        -161
               125
                    -137
  102
        32
               -57
                    -337
  191
        -403
               -29 -1397
 -126
        -303
                67
                     102
 -137
        -80
              120
                    -196
         160
              -329
 -337
                    -296
letter-probability matrix: alength= 4 w= 21 nsites= 160 E= 2.6e-673
 0.337500 0.031250 0.612500 0.018750
 0.568750 0.018750 0.406250 0.006250
 0.981250 0.018750 0.000000 0.000000
 0.006250 0.993750 0.000000 0.000000
 0.006250 0.031250 0.000000 0.962500
 0.906250 0.056250 0.031250 0.006250
 0.000000 0.981250 0.012500 0.006250
 0.881250 0.037500 0.062500 0.018750
 0.481250 0.112500 0.118750 0.287500
 0.100000 0.275000 0.150000 0.475000
 0.025000 0.062500 0.025000 0.887500
 0.012500 0.943750 0.000000 0.043750
 0.000000 1.000000 0.000000 0.000000
 0.000000 1.000000 0.000000 0.000000
 0.781250 0.012500 0.206250 0.000000
 0.100000 0.100000 0.725000 0.075000
 0.393750 0.381250 0.206250 0.018750
 0.731250 0.018750 0.250000 0.000000
 0.081250 0.037500 0.487500 0.393750
 0.075000 0.175000 0.700000 0.050000
```

0.018750 0.925000 0.031250 0.025000

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.188 C 0.312 G 0.312 T 0.188
MOTIF ZNF263 width = 15 sites = 461 llr = 4293 E-value = 1.0e-701
BL MOTIF ZNF263 width=15 seqs=461
log-odds matrix: alength= 4 w= 15 n= 43000 bayes= 7.16773 E= 1.0e-701
 -135
         101
              -119
                     -22
  -60
              -168
                     126
  -91
         106
              -83
                    -135
               -73
  -31
         -38
                     116
 -191
         54
              -66
                      66
  24
         93
              -106
                    -253
 -311
         90
               5
                    -135
 -543 -1549 -1549
                     241
       136
 -1549
             -66 -1549
 -253
         162 -1549
                    -443
 -1549
       -617
             -717
                    240
 -1549
             -617
-717
        165
                    -363
 -643
         165
                    -363
 -235
        117
             -517
                     41
  -46
         50
              -165
                      78
letter-probability matrix: alength= 4 w= 15 nsites= 461 E= 1.0e-701
0.073753 0.629067 0.136659 0.160521
 0.123644 \quad 0.329718 \quad 0.097614 \quad 0.449024
 0.099783 0.650759 0.175705 0.073753
0.151844 0.240781 0.188720 0.418655
0.049892 0.455531 0.197397 0.297180
 0.221258 0.596529 0.149675 0.032538
0.021692 0.581345 0.323210 0.073753
 0.004338 0.000000 0.000000 0.995662
 0.032538 0.958785 0.000000 0.008677
 0.000000 0.004338 0.002169 0.993492
 0.000000 0.980477 0.004338 0.015184
 0.002169 0.980477 0.002169 0.015184
 0.036876 0.704989 0.008677 0.249458
```

0.136659 0.442516 0.099783 0.321041

```
ALPHABET= ACGT
strands: + -
Background letter frequencies (from dataset with add-one prior applied):
A 0.192 C 0.308 G 0.308 T 0.192
MOTIF ZNF281 width = 11 sites = 122 llr = 1050 E-value = 3.8e-028
BL MOTIF ZNF281 width=11 seqs=122
log-odds matrix: alength= 4 w= 11 n= 45000 bayes= 9.81218 E= 3.8e-028
   -30 -1357
                  141
                        -296
   -46 -1357
                  147
                        -454
  62 -1357
-196 -1357
                112 -255
162 -1357
                170 -1357
 -1357 -1357
                        -38
-123
  162
         -23 -1357
  -138 -1357
                 145
 -1357 -1357
                  170 -1357
                141 -296
151 -1357
   -38 -523
   -64 -1357
   134
         -28
                 -33 -355
letter-probability matrix: alength= 4 w= 11 nsites= 122 E= 3.8e-028
 0.155738 0.000000 0.819672 0.024590
 0.139344 0.000000 0.852459 0.008197

    0.295082
    0.000000
    0.672131
    0.032787

    0.049180
    0.000000
    0.950820
    0.000000

 0.000000 0.000000 1.000000 0.000000
 0.590164 0.262295 0.000000 0.147541
 0.073770 0.000000 0.844262 0.081967
 0.000000 0.000000 1.000000 0.000000
 0.147541 \quad 0.008197 \quad 0.819672 \quad 0.024590
 0.122951 0.000000 0.877049 0.000000
0.483607 0.254098 0.245902 0.016393
```