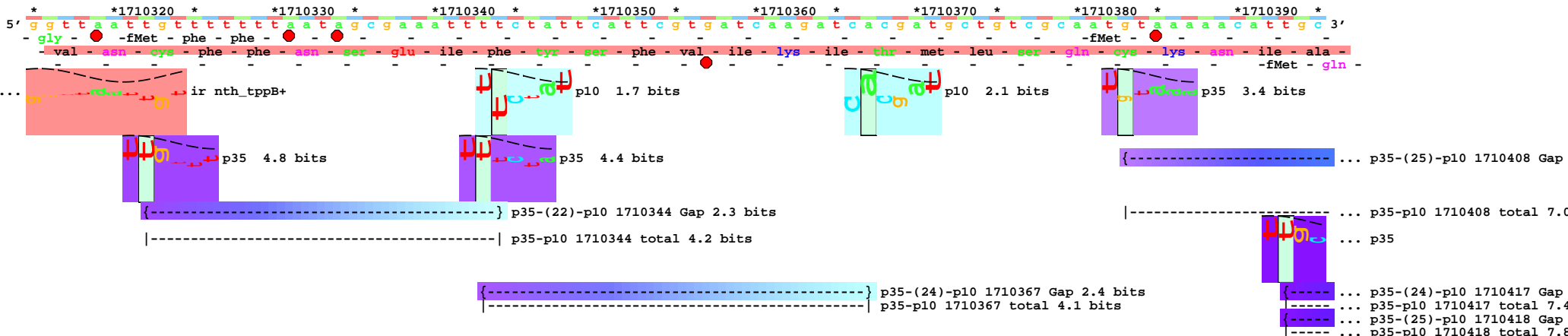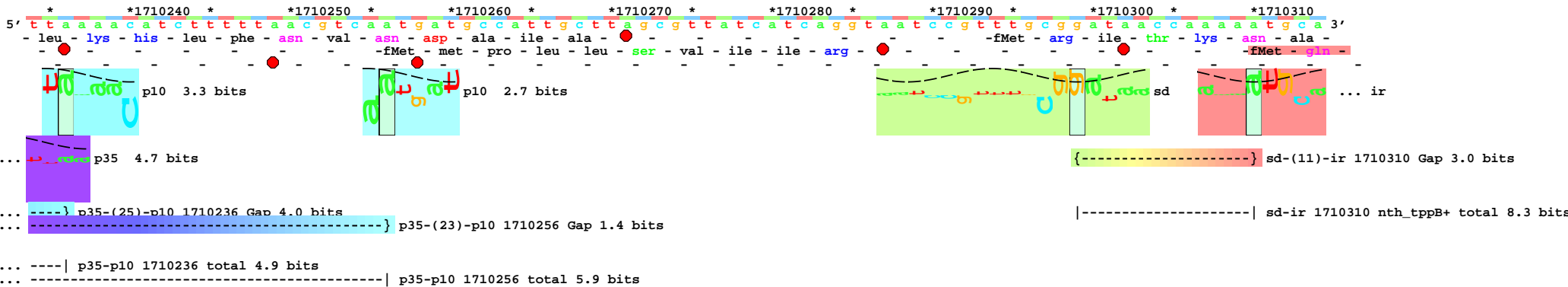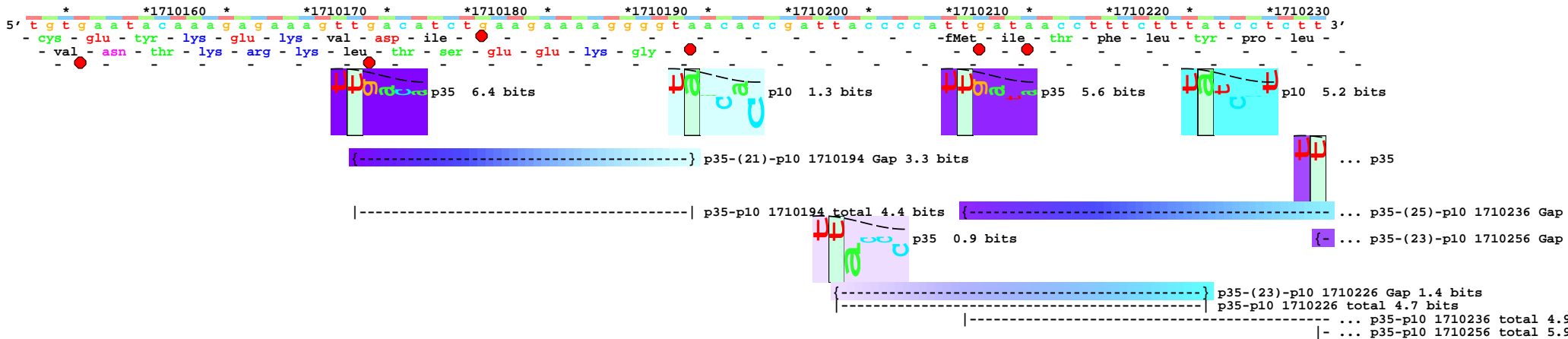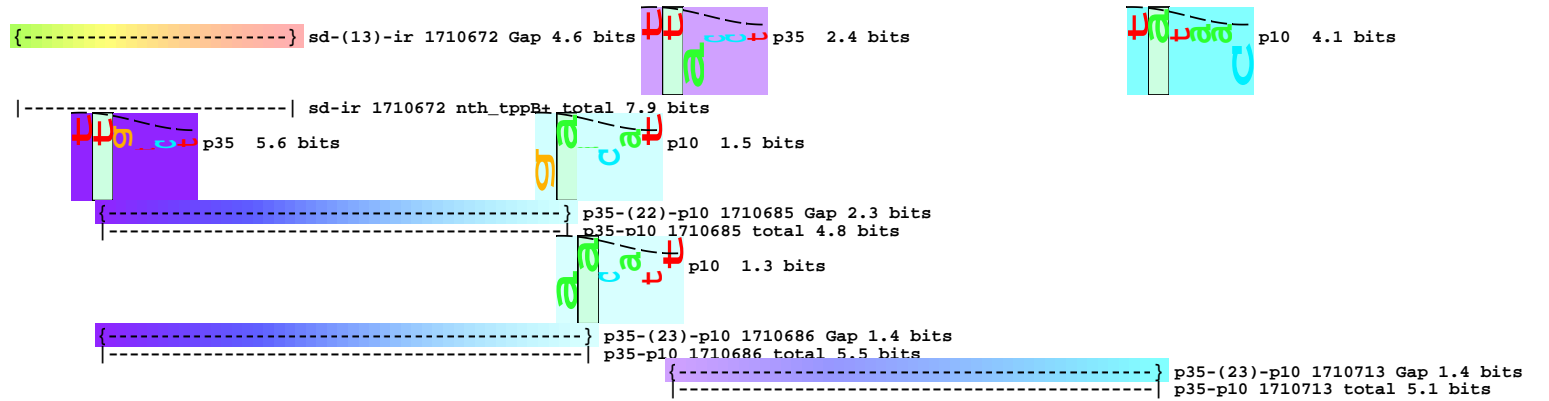piece 1, NC_000913, nth_tppB+, config: linear, direction: +, begin: 1710153, end: 1710812

```
        *        *1710160  *        *1710170  *        *1710180  *        *1710190  *        *1710200  *        *1710210  *        *1710220  *        *1710230
5' t g t g a a t a c a a a g a g a a a g t t g a c a t c t g a a g a a a a g g g g t a a c a c c g a t t a c c c c a t t g a t a a c c t t t c t t t a t c c t c t t 3'
    - cys - glu - tyr - lys - glu - lys - val - asp - ile -        -        -        -        -        -        - fMet - ile - thr - phe - leu - tyr - pro - leu -
    - val - asn - thr - lys - arg - lys - leu - thr - ser - glu - glu - lys - gly -        -        -        -        -        -        -        -        -        -
```

p35 6.4 bits   p10 1.3 bits   p35 5.6 bits   p10 5.2 bits

{------------------------------} p35-(21)-p10 1710194 Gap 3.3 bits   ... p35

|---| p35-p10 1710194 total 4.4 bits   {----------------------------- ... p35-(25)-p10 1710236 Gap

p35 0.9 bits   {- ... p35-(23)-p10 1710256 Gap

{-----------------------------} p35-(23)-p10 1710226 Gap 1.4 bits
|-----------------------------| p35-p10 1710226 total 4.7 bits
|----------------- ... p35-p10 1710236 total 4.9
|- ... p35-p10 1710256 total 5.9

```
        *        *1710240  *        *1710250  *        *1710260  *        *1710270  *        *1710280  *        *1710290  *        *1710300  *        *1710310
5' t t a a a a c a t c t t t t a a c g t c a a t g a t g c c a t t g c t t a g c g t t a t c a t c a g g t a a t c c g t t t g c g g a t a a c c a a a a a t g c a 3'
    - leu - lys - his - leu - phe - asn - val - asn - asp - ala - ile - ala -        -        -        -        -        - fMet - arg - ile - thr - lys - asn - ala -
                                                - fMet - met - pro - leu - leu - ser - val - ile - ile - arg -        -        -        -        -        - fMet - gln -
```

p10 3.3 bits   p10 2.7 bits   sd   ... ir

... p35 4.7 bits   {-----------------} sd-(11)-ir 1710310 Gap 3.0 bits

... ----} p35-(25)-p10 1710236 Gap 4.0 bits |-----------------| sd-ir 1710310 nth_tppB+ total 8.3 bits
... -------------------------------------} p35-(23)-p10 1710256 Gap 1.4 bits

... ----| p35-p10 1710236 total 4.9 bits
... -------------------------------------| p35-p10 1710256 total 5.9 bits

```
        *        *1710320  *        *1710330  *        *1710340  *        *1710350  *        *1710360  *        *1710370  *        *1710380  *        *1710390  *
5' g g t t a a t t g t t t t t t t a a t a g c g a a a t t t t c t a t t c a t t c g t g a t c a a g a t c a c g a t g c t g t c g c a a t g t a a a a a c a t t g c 3'
    - gly -        - fMet - phe - phe -        -        -        -        -        -        -        -        -        -        -        - fMet -        -        -
    - val - asn - cys - phe - phe - asn - ser - glu - ile - phe - tyr - ser - phe - val - ile - lys - ile - thr - met - leu - ser - gln - cys - lys - asn - ile - ala -
                                                                                                                                        - fMet - gln -
```

... ir nth_tppB+   p10 1.7 bits   p10 2.1 bits   p35 3.4 bits

... p35 4.8 bits   p35 4.4 bits   {----------------------- ... p35-(25)-p10 1710408 Gap

|----------------------- ... p35-p10 1710408 total 7.0

{-------------------------------------} p35-(22)-p10 1710344 Gap 2.3 bits   ... p35

|-------------------------------------| p35-p10 1710344 total 4.2 bits   {----- ... p35-(24)-p10 1710417 Gap

{-------------------------------} p35-(24)-p10 1710367 Gap 2.4 bits |----- ... p35-p10 1710417 total 7.4
|-------------------------------| p35-p10 1710367 total 4.1 bits   {----- ... p35-(25)-p10 1710418 Gap
|----- ... p35-p10 1710418 total 7.8

```
        *1710400  *        *1710410  *        *1710420  *        *1710430  *        *1710440  *        *1710450  *        *1710460  *        *1710470  *
5' a a g a a t c a g g t t a a a a t c a t t t a a a t t t a c a c a c g c a a c a a t a t t g a c c t a c a a a a c a t t a c a c t g g c t a t t t t t c a g a a 3'
    - arg - ile - arg - leu - lys - ser - phe - lys - phe - thr - his - ala - thr - asn - ile - asp - leu - gln - asn - ile - thr - leu - ala - ile - phe - gln - lys -
    - glu - ser - gly -        -        -        -        -        -        -        -        -        -        -        - fMet - thr - tyr - lys - thr - leu - his - trp - leu - phe - phe - arg - asn -
```

p10 7.6 bits   p10 2.7 bits   p10 5.2 bits

... ------------------------} p35-(25)-p10 1710408 Gap 4.0 bits

p35 5.0 bits

... ----------------------| p35-p10 1710408 total 7.0 bits
{--} p35-(25)-p10 1710466 Gap 4.0 bits

... p35 6.1 bits   p10 3.7 bits
|--| p35-p10 1710466 total 6.2 bits

... -------------------------------} p35-(24)-p10 1710417 Gap 2.4 bits
... -------------------------------| p35-p10 1710417 total 7.4 bits
... -------------------------------} p35-(25)-p10 1710418 Gap 4.0 bits
... -------------------------------| p35-p10 1710418 total 7.8 bits

p10 5.7 bits

p35 5.6 bits

{--------------------------------} p35-(21)-p10 1710437 Gap 3.3 bits
|--------------------------------| p35-p10 1710437 total 5.0 bits

```
       *1710480  *       *1710490  *       *1710500  *       *1710510  *       *1710520  *       *1710530  *       *1710540  *       *1710550  *
5' actggactatctcactagtaaaacgctaaatagcagaacatatcgccgttaagccatcacccccctctcagtgcagtgaa 3'
   leu - asp - tyr - leu - thr - ser - lys - asn - ala - lys -  -   -   -   -   -   -   -   -   -   -   -  -fMet - lys -
   - trp - thr - ile - ser - leu - val - lys - thr - leu - asn - ser - arg - thr - tyr - arg - arg -  -   -   -  -fMet - gln -  -   -
                                                 [###> orf 67 codons
```

```
       *1710560  *       *1710570  *       *1710580  *       *1710590  *       *1710600  *       *1710610  *       *1710620  *       *1710630  *
5' aaaatctgccgttacgttttttgaaaaatttaacgctggataacatttcccggaatggttgaattccccgcctcagttata 3'
                                                                        -fMet - val - glu - phe - pro - ala - ser - val - ile -
   - lys - ser - ala - val - thr - phe - phe - glu - lys - phe - asn - ala - gly -  -   -   -   -  -fMet - asn - ser - pro - pro - gln - leu - tyr -
   -  -fMet - lys - asn - leu - thr - leu - asp - asn - ile - ser - arg - asn - gly -  -   -  -fMet -
                                        sd                              ir nth_tppB+
```

p35 3.9 bits

{-----------------------------------} sd-(16)-ir 1710612 Gap 6.4 bits

p35 6.4 bits

|-----------------------------| sd-ir 1710612 nth_tppB+ total 5.1 bits

p10 5.6 bits

{----------------------------------} p35-(24)-p10 1710599 Gap 2.4 bits
|----------------------------------| p35-p10 1710599 total 7.1 bits

p10 1.3 bits

{----------------------------------} p35-(21)-p10 1710600 Gap 3.3 bits
|----------------------------------| p35-p10 1710600 total 4.4 bits

```
       *1710640  *       *1710650  *       *1710660  *       *1710670  *       *1710680  *       *1710690  *       *1710700  *       *1710710  *
5' tgtaacagattattacaaaggacttgtctgaaagtgcaagatagtgaacattacctgccgtttcccctccactataacaa 3'
   - cys - asn - arg - leu - leu - gln - arg - thr - cys - leu - lys - val - gln - asp - ser - glu - his - tyr - leu - pro - phe - pro - leu - pro - leu -
   - val - thr - asp - tyr - tyr - lys - gly - leu - val -  -  -fMet - asn - ile - thr - cys - arg - phe - pro - ser - his - tyr - asn - asn -
   -  -fMet - ser - glu - ser - ala - arg -  -  -fMet -
                        sd                        ir nth_tppB+                                              [###> orf 35 codons
```

sd-(13)-ir 1710672 Gap 4.6 bits   p35   2.4 bits

p10   4.1 bits

|--------------------------------| sd-ir 1710672 nth_tppB+ total 7.9 bits

p35   5.6 bits   p10   1.5 bits

{-------------------------------------} p35-(22)-p10 1710685 Gap 2.3 bits
|-------------------------------------| p35-p10 1710685 total 4.8 bits

p10   1.3 bits

{-------------------------------------} p35-(23)-p10 1710686 Gap 1.4 bits
|-------------------------------------| p35-p10 1710686 total 5.5 bits   {-----------------------------------} p35-(23)-p10 1710713 Gap 1.4 bits
                                                                           |-----------------------------------| p35-p10 1710713 total 5.1 bits

```
     *1710720  *      *1710730  *      *1710740  *      *1710750  *      *1710760  *      *1710770  *      *1710780  *      *1710790  *      *1710800
5' t t g c g c g t a t g t t t t t t a t a c a t a a c g c g a g a a a g c a c c c c c g t t a a t a t g g g a t g t a a a a a a a a g a g g t a a a a g t g t c c a c 3'
   -fMet - arg - val - cys - phe - leu - tyr - ile - thr - arg - glu - ser - thr - pro - val - asn - met - gly - cys - lys - lys - arg - gly - lys - ser - val - his -
     -    -   cys - ala - tyr - val - phe - tyr - thr -  ●  -  thr - arg - glu - ser - thr - pro - val - asn - met - gly - cys - lys - lys - arg - gly - lys - -fMet - ser - thr -
     -    -    -    -fMet - phe - phe - ile - his - asn - ala - arg - lys - his - pro - arg -  ●  -    -    -fMet -  ●  -    -    -    -    ●    -    -    -    -
```

... NC_000913.tppB

... ir

sd

{-----------} sd-(6)-ir 1710793 Gap 4.3 bits
|-----------| sd-ir 1710793 nth_tppB+ total 7.7 bits
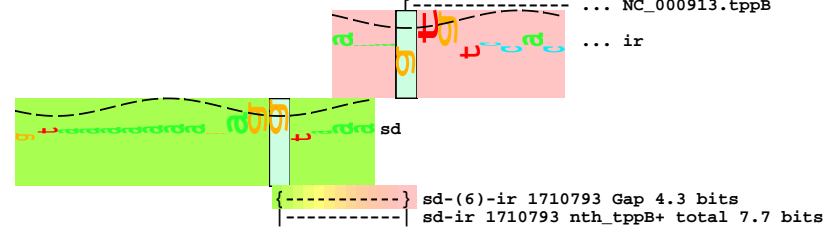
```
          *      *1710810
5' t g c a a a c c a a a a 3'
   -  cys - lys - pro - lys -
   -  ala - asn - gln -
   -    -    -    -fMet
... ----------------------- ... NC_000913.tppB
```

... ir nth_tppB+