- 1 -

piece 1, NC_000913, ydeO_ydeP+, config: linear, direction: +, begin: 1581682, end: 1582250

```
       *      *1581690  *      *1581700  *      *1581710  *      *1581720  *      *1581730  *      *1581740  *      *1581750  *      *1581760
5' aataaatataacagaacaaacgagcgacattttatctccttaaaacaataaagttttatcgatactttttaacattca 3'
    -  asn - lys - tyr - asn - arg - thr - asn - glu - arg - his - phe - ile - ser - leu - lys - gln -    -    -    -    -    -    -    -    -
    -    -  ile - asn - ile - thr - glu - gln - thr - ser - asp - ile - leu - ser - pro -    -    -    -    -    -    -    -    -    -    -
```

... --] NC_000913.ydeO

p10   3.2 bits

p35   3.3 bits   p35   4.8 bits   ... p10

... p10

{--} p35-(24)-p10 1581737 Gap 2.4 bits
|--| p35-p10 1581737 total 4.0 bits

{------------------------------------} p35-(22)-p10 1581759 Gap 2.3 bits
|------------------------------------| p35-p10 1581759 total 4.9 bits

p35   3.3 bits

{--} p35-(24)-p10 1581762 Gap 2.4 b
|--| p35-p10 1581762 total 4.5 bits

p35   3.9 bits

{------------------------------ ... p35-(21)-p10 1581770 Gap
|------------------------------ ... p35-p10 1581770 total 5.1
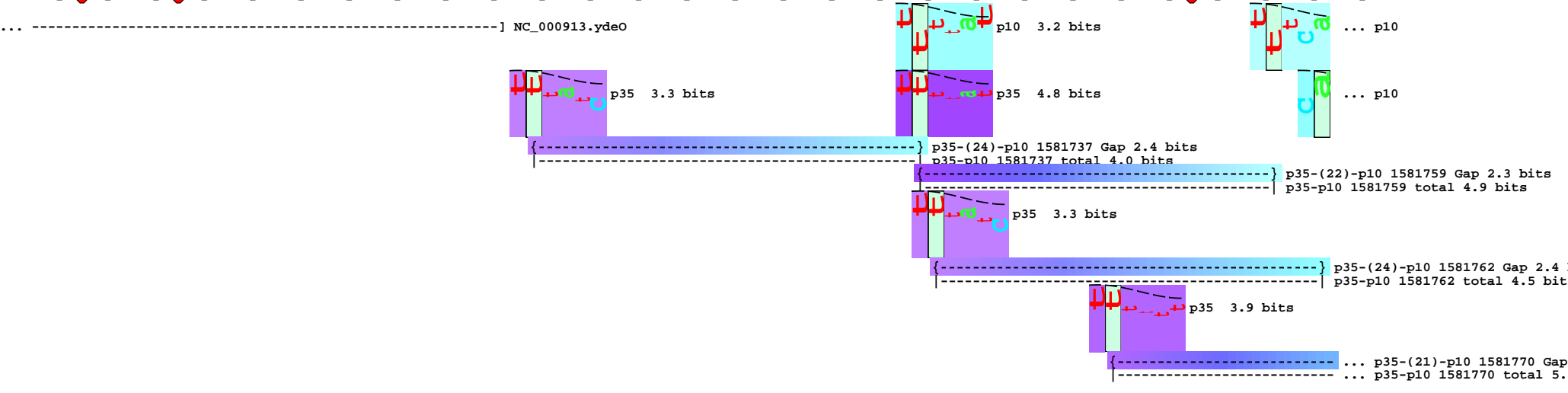
```
       *      *1581770  *      *1581780  *      *1581790  *      *1581800  *      *1581810  *      *1581820  *      *1581830  *      *1581840
5' tatttataatttgctgtttgttttcagccttgcaaactattgataatgaaatgtgtaagatctcttgcaatgcgaccatt 3'
    -    -    -    -  -fMet - leu - phe - val - phe - ser - leu - ala - asn -   -fMet - ile - met - lys - cys - val - arg - ser - leu - ala - met - arg - pro - ile -
    -    -    -    -    -  -fMet - phe - ser - ala - leu - gln - thr - ile - asp - asn - glu -   met - cys - lys - ile - ser - cys - asn - ala - thr - his - phe -
```

... p10   2.4 bits   p35   4.3 bits   p10   3.6 bits   ir ydeO_ydeP+

... p10   3.6 bits   sd   p10   5.7 bits

{------------------------} sd-(9)-ir 1581813 Gap 2.3 bits

p10   4.4 bits

p35   4.8 bits |------------------| sd-ir 1581813 ydeO_ydeP+ total 6.8 bits

{------------------------------------} p35-(22)-p10 1581796 Gap 2.3 bits   p35   6.1 bits

|------------------------------------| p35-p10 1581796 total 5.6 bits   {----------------------- ... p35-(22)-p10 1581850 Gap

p10   4.3 bits |----------------------- ... p35-p10 1581850 total 7.2

{------------------------------} p35-(24)-p10 1581805 Gap 2.4 bits
|------------------------------| p35-p10 1581805 total 6.7 bits

p35   6.1 bits

... {----------------------} p35-(21)-p10 1581770 Gap 3.3 bits   {------------------------------------} p35-(26)-p10 1581819 Gap 3.7 bits
... |----------------------| p35-p10 1581770 total 5.1 bits |------------------------------------| p35-p10 1581819 total 8.0 bits

* *1581850 * *1581860 * *1581870 * *1581880 * *1581890 * *1581900 * *1581910 * *1581920 *

5' tctgaaatactcagctgatcaattgccgaaaaaatggctatcaacgtaagtgtcagtaataagacaaccacaattgcagac 3'

- ser - glu - ile - leu - ser - - - - - - -fMet - ala - ile - asn - val - ser - val - ser - asn - lys - thr - thr - thr - ile - ala - asp -
- leu - lys - tyr - ser - ala - asp - gln - leu - pro - lys - lys - trp - leu - ser - thr - -fMet - ser - val - ile - arg - gln - pro - gln - leu - gln - thr -

[###> orf 12 codons

ir ydeO_ydeP+

sd

p10   3.5 bits
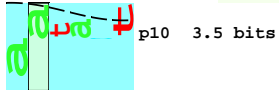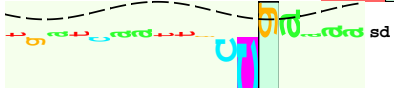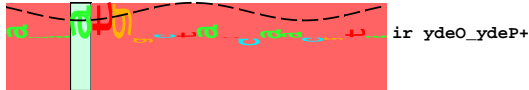
{-----------} sd-(6)-ir 1581877 Gap 4.3 bits

|-----------| sd-ir 1581877 ydeO_ydeP+ total 5.2 bits

... {-----------} p35-(22)-p10 1581850 Gap 2.3 bits
... |-----------| p35-p10 1581850 total 7.2 bits

* *1581930 * *1581940 * *1581950 * *1581960 * *1581970 * *1581980 * *1581990 * *1582000 *

5' atgatttctttatagttgtctctttgcgtgatttgtttttcactgtggtcgcatgcatttcaaatatgtttatttagcgg 3'

- met - ile - ser - leu - -fMet - ser - leu - cys - val - ile - leu - phe - phe - thr - val - val - ala - cys - ile - ser - asn - met - phe - ile - - -
- - - - - - -fMet - arg - asp - phe - val - phe - his - cys - gly - arg - met - his - phe - lys - tyr - val - tyr - leu - ala - asp -
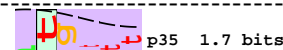
[###> orf 21 codons

p10   1.9 bits

p35   5.2 bits

p35   5.6 bits
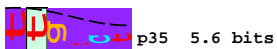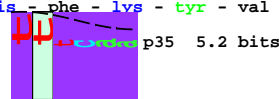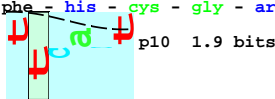
{----------------------------} ... p35-(24)-p10 1582008 Gap

{-------------------------------} p35-(24)-p10 1581965 Gap 2.4 bits

|----------------------------| ... p35-p10 1582008 total 5.8

|---------------------------------| p35-p10 1581965 total 5.1 bits

p35   1.7 bits

{-------------------------} ... p35-(23)-p10 1582015 Gap
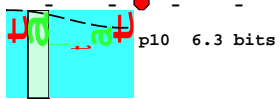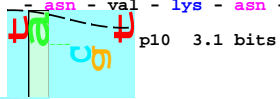|-------------------------| ... p35-p10 1582015 total 4.1

* *1582010 * *1582020 * *1582030 * *1582040 * *1582050 * *1582060 * *1582070 * *1582080 *

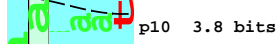5' ataacgttaaaaatcgttaatcagtatgcttaatataacaggctggagaaaagaggaaataggactggtgcttcagtactg 3'

- - - - - - - - - - -fMet - leu - asn - ile - thr - gly - trp - arg - lys - glu - glu - ile - gly - leu - val - leu - gln - tyr - - -
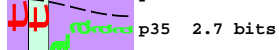- asn - val - lys - asn - arg - - - - - - - - - - - - - - - - - - -

p10   3.1 bits

p10   6.3 bits

... {----} p35-(24)-p10 1582008 Gap 2.4 bits
... |----| p35-p10 1582008 total 5.8 bits

p10   3.8 bits

... {-----------------} p35-(23)-p10 1582015 Gap 1.4 bits
... |-----------------| p35-p10 1582015 total 4.1 bits

p35   2.7 bits

{------------------------------------} p35-(24)-p10 1582037 Gap 2.4 bits
|------------------------------------| p35-p10 1582037 total 6.5 bits

*1582090 * *1582100 * *1582110 * *1582120 * *1582130 * *1582140 * *1582150 * *1582160 *

5' agcggagtttcttacagctgtaggcagaagtttatatcttatagtatgtagttaatttaatccatgtgagcaaattgcga 3'

- - - - - - - - - - -fMet - - - - - - - -fMet - ser - lys - leu - arg -
- - - - - - - - - - - - - - - - - - -fMet - - - - - -

p35 4.5 bits

p10 2.4 bits

p10 4.5 bits

p35 4.2 bits

p10 1.8 bits

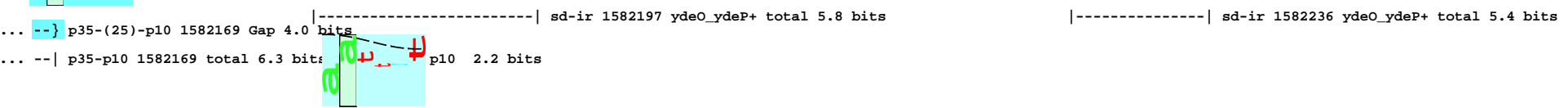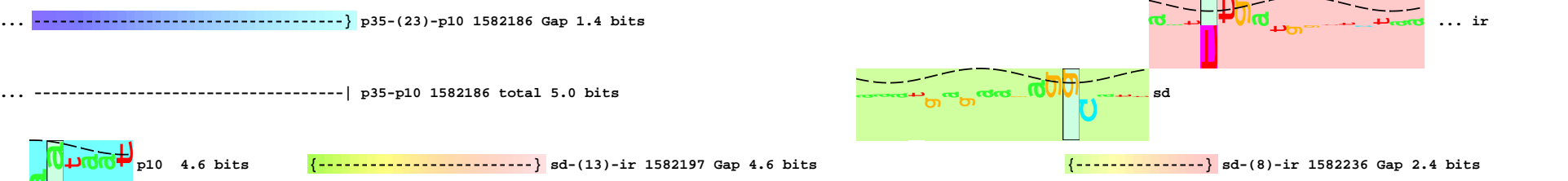{---------------------------------------} p35-(24)-p10 1582119 Gap 2.4 bits

{-------- ... p35-(23)-p10 1582186 Gap

p10 4.4 bits

|-------------------------------------| p35-p10 1582119 total 4.4 bits

|-------- ... p35-p10 1582186 total 5.0

p35 1.4 bits

p10 4.5 bits

p10 4.5 bits

{-------------------------------------} p35-(23)-p10 1582122 Gap 1.4 bits

p35 5.7 bits

|-------------------------------------| p35-p10 1582122 total 4.4 bits

{-------------------------------------- ... p35-(25)-p10 1582169 Gap

p35 0.7 bits

p10 5.3 bits

|-------------------------------------- ... p35-p10 1582169 total 6.3

{-------------------------------------} p35-(23)-p10 1582129 Gap 1.4 bits

|-------------------------------------| p35-p10 1582129 total 4.5 bits

p35 4.7 bits

{-------------------------------------} p35-(21)-p10 1582139 Gap 3.3 bits

|-------------------------------------| p35-p10 1582139 total 5.9 bits

}-------------------------------------| p35-(22)-p10 1582140 Gap 2.3 bits

|-------------------------------------| p35-p10 1582140 total 4.2 bits

{-------------------------------------} p35-(23)-p10 1582141 Gap 1.4 bits

|-------------------------------------| p35-p10 1582141 total 7.7 bits

}-------------------------------------} p35-(26)-p10 1582144 Gap 3.7 bits

|-------------------------------------| p35-p10 1582144 total 5.5 bits

```
   *1582170  *      *1582180  *      *1582190  *      *1582200  *      *1582210  *      *1582220  *      *1582230  *      *1582240  *
5' aataatagtcaatgaggaattctcttctgctgtgcggatgcacagcagaagaaatgagaagaggcattaatttgatggttctaa 3'
 -  asn - asn - ser - gln -
     -   asn - asn - ser - ser - ala - val - arg - met - thr - ala - glu - glu - met - arg - arg - gly - ile - asn - leu - met - val - leu - ile -
      - fMet - arg - asn - ser - ser - ala -
```

sd

ir ydeO_ydeP+

<-------------------------------- ... NC_000913.ydeP

... {-------------------------------} p35-(23)-p10 1582186 Gap 1.4 bits

... ir

... |-------------------------------| p35-p10 1582186 total 5.0 bits

sd

p10 4.6 bits

{-------------------} sd-(13)-ir 1582197 Gap 4.6 bits

{---------------} sd-(8)-ir 1582236 Gap 2.4 bits

|-------------------| sd-ir 1582197 ydeO_ydeP+ total 5.8 bits

|---------------| sd-ir 1582236 ydeO_ydeP+ total 5.4 bits

... --} p35-(25)-p10 1582169 Gap 4.0 bits

... --| p35-p10 1582169 total 6.3 bits

p10 2.2 bits

```
       *1582250
 5' t t 3'
    -
       -
         -
... ---- ...  NC_000913.ydeP

... ↵↵ir ydeO_ydeP+
```