piece 1, NC_000913, ptsA_frwC-, config: linear, direction: -, begin: 4140582, end: 4140225

```
      *4140580  *        *4140570  *        *4140560  *        *4140550  *        *4140540  *        *4140530  *        *4140520  *        *4140510  *
5' attttcaggatctgcaccaactcattcataagctgctcccgggcttgcgaaagcccatgtccatatttttgatggaggaa 3'
 - ile - phe - gln - asp - leu - his - lys - leu - ile - his - lys - leu - leu - pro - gly - leu - arg - lys - pro - met - ser - ile - phe - leu - met - glu - glu -
   - phe - phe - arg - ile - cys - thr - asn - ser - phe - ile - ser - cys - ser - arg - ala - cys - glu - ser - pro - cys - pro - tyr - phe - ●
   - phe - ser - gly - ser - ala - pro - thr - his - ser - ●
```
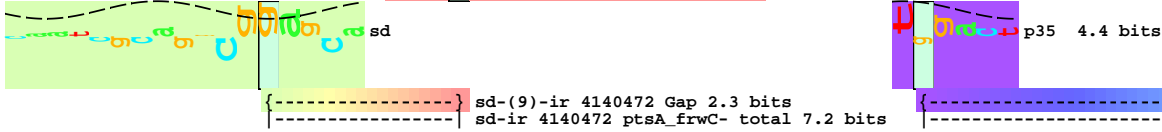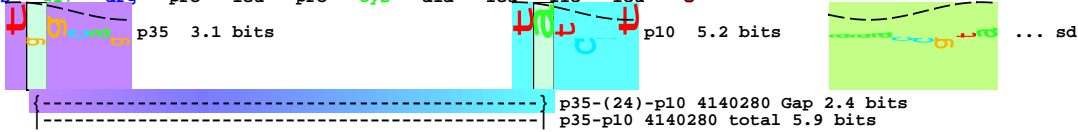
... --] NC_000913.frwC   p35 4.2 bits   p10 2.5 bits

p35 4.3 bits   p10 4.6 bits   {---} p35-(23)-p10 4140513 Gap 1.4 bits

{---} p35-(26)-p10 4140552 Gap 3.7 bits
|---| p35-p10 4140552 total 5.2 bits|---| p35-p10 4140513 total 5.4 bits
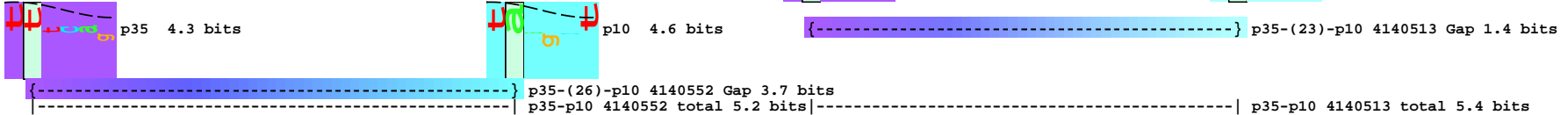
```
      *4140500  *        *4140490  *        *4140480  *        *4140470  *        *4140460  *        *4140450  *        *4140440  *        *4140430  *
5' acaataggcaatcgcaggcggagcaaacagtggataaaaaggccatttactggactttgtaatatcagtacaaaaatgcg 3'
 - thr - ile - gly - asn - arg - arg - arg - ser - lys - gln - trp - ile - lys - arg - pro - phe - thr - gly - leu - leu - ●                     - fMet - arg -
   - ●                                                    - fMet - asp - lys - lys - ala - ile - tyr - trp - thr - phe - val - ile - ser - val - gln - lys - cys - asp -
```

ir ptsA_frwC-   p10 3.8 bits

sd   p35 4.4 bits

{-------------------} sd-(9)-ir 4140472 Gap 2.3 bits   {---} p35-(22)-p10 4140428 Gap 2.3 bits
|-------------------| sd-ir 4140472 ptsA_frwC- total 7.2 bits|---| p35-p10 4140428 total 5.9 bits

```
      *4140420  *        *4140410  *        *4140400  *        *4140390  *        *4140380  *        *4140370  *        *4140360  *        *4140350  *        *4140340
5' atccgcctcataacttcgatataaccggaagcaatgccgcaaaacagcgtcttgtgagacgcgtcgcaaattgacggttaca 3'
   - ser - ala - ser - ●                                                         - fMet - arg - arg - val - ala - asn - ●        - thr - val - thr -
 - pro - pro - his - asn - leu - arg - ●                        - fMet - pro - gln - asn - ser - val - leu - ●
                                        [###> orf 25 codons
```

```
      *        *4140330  *        *4140320  *        *4140310  *        *4140300  *        *4140290  *        *4140280  *        *4140270  *        *4140260
5' ttacatttgtccagcttttggcagatttgtcacatggcaggccgttgccgtgcgctcttatcctgtaaacagaaaccgta 3'
 - leu - his - leu - ser - ser - phe - trp - gln - ile - cys - his - met - ala - gly - arg - cys - leu - leu - ser - cys - lys - gln - lys - thr - val -
               - fMet - ala - asp - leu - ser - his - gly - arg - pro - leu - pro - cys - ala - leu - ile - leu - ●
                                                                                  - fMet - arg - ser - tyr - pro - val - asn - arg - lys - pro - tyr -
```

p35 3.1 bits   p10 5.2 bits   ... sd

{---} p35-(24)-p10 4140280 Gap 2.4 bits
|---| p35-p10 4140280 total 5.9 bits

```
      *        *4140250  *        *4140240  *        *4140230  *
5' ccgggagagaggcaatggccctgattgtggaatt 3'
 - pro - gly - glu - arg - gln - trp - pro - ●       - fMet - trp - asn -
   - arg - glu - arg - gly - asn - gly - pro - asp - cys - gly - ile -
                          - fMet - ala - leu - ile - val - glu -
```

... sd   [-------------------------------------- ... NC_000913.ptsA

ir ptsA_frwC-

{-------------------} sd-(10)-ir 4140244 Gap 2.7 bits
|-------------------| sd-ir 4140244 ptsA_frwC- total 9.7 bits