piece 1, NC_000913, chiA_tufA+, config: linear, direction: +, begin: 3467846, end: 3468186

```
       *3467850  *       *3467860  *       *3467870  *       *3467880  *       *3467890  *       *3467900  *       *3467910  *       *3467920  *
5' c a t a g a t t t a g t a a a t a t a t t t a a t t t c a t t a t a a t c c c t t g t g a c g t a a a a a c t g c a a a a c a a a g t c c t a c g c a g g a a t 3'
   - his - arg - phe - ser - lys - tyr - ile -         -fMet -   -   -   -   -   -   -   -   -   -
     - ile - asp - leu - val - asn - ile - phe - asn - phe - ile - ile - ile - pro - cys - asp - val - lys - thr - ala - lys - gln - lys - ser - tyr - ala - gly - ile -
       -     -     -     -     -     -     -     -     -     -     -     -        -fMet - thr -   -   -   -   -   -   -   -   -   -   -
... ------------------------------------------------------------] NC_000913.chiA
```
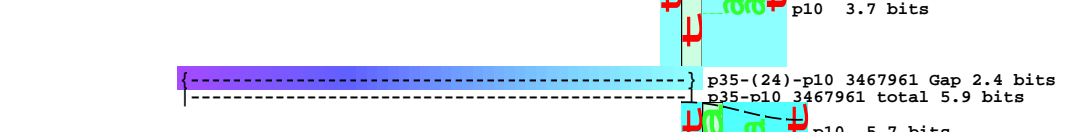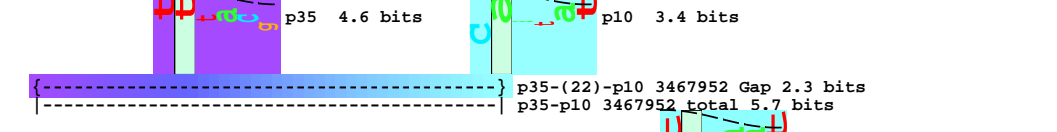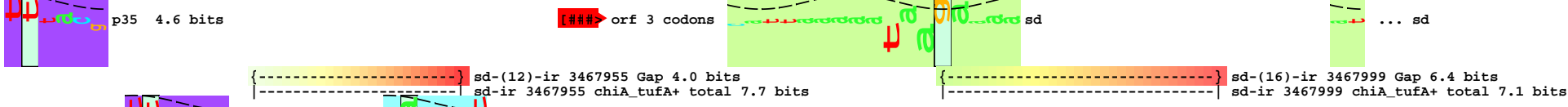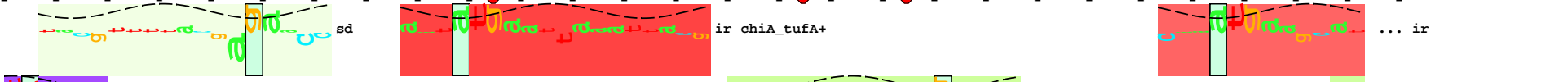
p10   2.7 bits

p35   3.8 bits

p10   4.2 bits

p35-(21)-p10 3467874 Gap 3.3 bits
p35-p10 3467874 total 4.7 bits

p10   8.4 bits

p35-(24)-p10 3467877 Gap 2.4 bits
p35-p10 3467877 total 9.8 bits

p35   5.3 bits

p35-(25)-p10 3467896 Gap 4.0 bits
p35-p10 3467896 total 4.0 bits
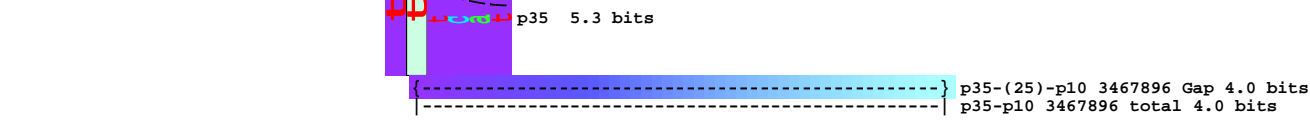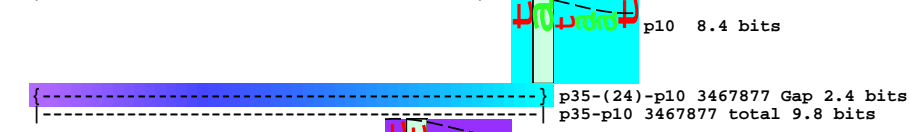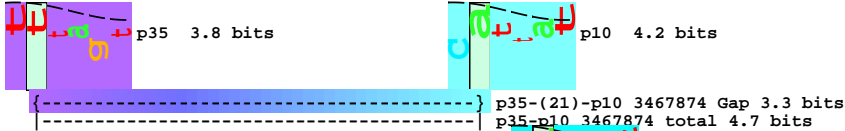
```
       *3467930  *       *3467940  *       *3467950  *       *3467960  *       *3467970  *       *3467980  *       *3467990  *       *3468000  *
5' t a t t t a c g t t t t a c g a g a a c c c t t c a a t a t g a a t t a a a t t a c g g c a t t a a a a a t a a g a a a a a a g c c t g a c a a a t g a a g c a t 3'
   - ile - tyr - val - leu - arg - glu - pro - phe - asn - met - asn -   -   -   -   -   -   -   -   -   -   -   -   -   -   -fMet - lys - his -
```

sd

ir chiA_tufA+

... ir

p35   4.6 bits

[###> orf 3 codons

sd

... sd

sd-(12)-ir 3467955 Gap 4.0 bits
sd-ir 3467955 chiA_tufA+ total 7.7 bits

sd-(16)-ir 3467999 Gap 6.4 bits
sd-ir 3467999 chiA_tufA+ total 7.1 bits

p35   4.6 bits

p10   3.4 bits

p35-(22)-p10 3467952 Gap 2.3 bits
p35-p10 3467952 total 5.7 bits

p10   3.7 bits

p35-(24)-p10 3467961 Gap 2.4 bits
p35-p10 3467961 total 5.9 bits

p10   5.7 bits

p35-(25)-p10 3467962 Gap 4.0 bits
p35-p10 3467962 total 6.4 bits

```
       *3468010  *       *3468020  *       *3468030  *       *3468040  *       *3468050  *       *3468060  *       *3468070  *       *3468080  *
5' t t t a a a a a c a g a a c a t t c a t a t t t a a a a t g a a t t g a a t t g a t a t t t a a a t a t g a a t a a t t t a t t c g t t c t g a c a g t 3'
   - phe - lys - asn - arg - asn - ile - his - ile -   -   -   -   -   -   -   -   -   -   -
     -     -     -     -     -     -     -     -     -fMet - leu - asn -   -   -   -fMet - asn -   -   -   -   -fMet - asn - asn - leu - phe - val - leu - thr - val -
       -     -     -     -     -     -     -        -fMet - ile - phe -   -   -   -   -   -   -   -   -   -   -   -   -
```

... ir chiA_tufA+

[###> orf 12 codons

[###> orf 4 codons

ir chiA_tufA+

... sd

ir chiA_tufA+

p10   4.6 bits

{------------------------------} sd-(18)-ir 3468036 Gap 6.9 bits

p10   5.2 bits

p10   4.4 bits

|-------------------------------| sd-ir 3468036 chiA_tufA+ total 6.0 bits

p10   2.6 bits

p35   5.6 bits

sd

p10   0.9 bits

p10   7.6 bits

{---------------------------} sd-(12)-ir 3468063 Gap 4.0 bits

{---} p35-(24)-p10 3468033 Gap 2.4 bits |-----------------------| sd-ir 3468063 chiA_tufA+ total 10.1 bits

|---| p35-p10 3468033 total 10.7 bits

p10   2.4 bits

p35   4.8 bits

p35   5.6 bits   p35   6.5 bits

{-- ... p35-(23)-p10 3468095 Gap

{----------------------------------} p35-(21)-p10 3468052 Gap 3.3 bits |-------------------------------- ... p35-p10 3468095 total 9.1

|----------------------------------| p35-p10 3468052 total 4.7 bits

{-----------------------------------} p35-(23)-p10 3468054 Gap 1.4 bits

|-----------------------------------| p35-p10 3468054 total 9.3 bits

{--} p35-(22)-p10 3468067 Gap 2.3 bits

|--| p35-p10 3468067 total 8.8 bits

{--} p35-(24)-p10 3468069 Gap 2.4 bits

|--| p35-p10 3468069 total 8.5 bits

p35   5.6 bits

{--} p35-(22)-p10 3468072 Gap 2.3 bits

|--| p35-p10 3468072 total 5.8 bits

{--} p35-(24)-p10 3468074 Gap 2.4 bits

|--| p35-p10 3468074 total 4.0 bits

```
      *3468090   *        *3468100   *        *3468110   *        *3468120   *        *3468130   *        *3468140   *        *3468150   *        *3468160   *
5'  a c g a a t a a g a t a t g c c g t c a a c a a a t g c a a a a a g g g c g c c g a a g c g c c c t t t t c a a t t c a a a a c t a a t t a a c g t g t a a t t a  3'
     -   -   -   -   -   -   -  -fMet- gln - lys - gly - arg - arg - ser - ala - leu - phe - asn - ser - lys - leu - ile - asn - val -   -   -   -
     -   -   - arg - ile - arg - lys - ala - val - asn - lys - lys - gly - ala - glu - ala - pro - phe - ser - ile - glu - leu -   -   -   -   -
     -   -   -   -   -   -  -fMet- pro - ser - thr - asn - ala - lys - arg - ala - pro - lys - arg - pro - phe - gln - phe - lys - thr - asn -   -   -   -   -   -
```

p10   5.7 bits

p35   5.2 bits   [###> orf 31 codons   <----- ... NC_000913.tufA

p10   1.4 bits

{---} p35-(23)-p10 3468163 Gap 1.4 bits

|---| p35-p10 3468163 total 5.2 bits

... {-------------------} p35-(23)-p10 3468095 Gap 1.4 bits

... |-------------------| p35-p10 3468095 total 9.1 bits

```
      *3468170   *        *3468180   *
5'  g c c c a g a a c t t t a g c a a  3'
```

```
   _      _      _      _      _    _     _
       _      _      _      _    ●   _      _
...  ------------------------------------  ...  NC_000913.tufA
```