- 1 -

piece 1, NC_000913, hemG_rrsA+, config: linear, direction: +, begin: 4033147, end: 4033573

```
           *4033150  *       *4033160  *       *4033170  *       *4033180  *       *4033190  *       *4033200  *       *4033210  *       *4033220  *
5' catttaaccgacaaaccgacgctgaaataagcataaagaataaaaaatgcgcggtcagaaaattatttaaatttcctctt 3'
   - his - leu - thr - asp - lys - pro - thr - leu - lys -   -   -   -   -   -   -   -   -   -   -   -   -   -   -
       - ile -   -   -   -   -   -   -   -   -   -   -   -   - fMet - arg - gly - gln - lys - ile - ile - leu - asn - phe - leu - leu
       - phe - asn - arg - gln - thr - asp - ala - glu - ile - ser - ile - lys - asn - lys - lys - cys - ala - val - arg - lys - leu - phe -   -   -
```

ir hemG_rrsA+

... p35

sd

{- ... p35-(22)-p10 4033249 Gap
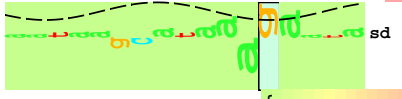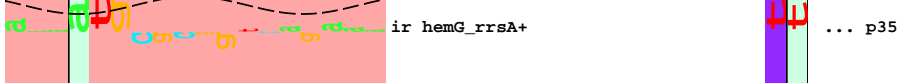
{----------------} sd-(9)-ir 4033193 Gap 2.3 bits

|---------------| sd-ir 4033193 hemG_rrsA+ total 8.2 bits

|- ... p35-p10 4033249 total 11.

```
           *4033230  *       *4033240  *       *4033250  *       *4033260  *       *4033270  *       *4033280  *       *4033290  *       *4033300  *
5' gtcaggccggaataactccctataatgcgccaccactgacacggaacaacgcaaacacgccgccgggtcagcggggttct 3'
   -   -   -   -   -   -   -   - fMet - arg - his - his -   -   -   -   -   -   -   -   -   -   -   -   -   -
   - ser - gly - arg - asn - asn - ser - leu -   -   -   -   -   -   -   -   -   -   -   -   -
```

... p35 5.5 bits

[###> orf 20 codons

... {----------------------} p35-(22)-p10 4033249 Gap 2.3 bits
... |-----------------------| p35-p10 4033249 total 11.6 bits

p10 8.4 bits

```
         *4033310  *       *4033320  *       *4033330  *       *4033340  *       *4033350  *       *4033360  *       *4033370  *       *4033380  *
5' cctgagaactccggcagagagaacaaataatgcttgactctgtagcagcggaaggcgtattatgcacacccgcgccgct 3'
   -   -   -   -   -   -   -   -   -   -   -   -   - fMet - thr - leu -   -   -   -   -   -   -   -
   -   -   -   -   -   -   -   -   - fMet - leu - asp - ser - val - ala - gly - arg - arg - ile - met - his - thr - pro - arg - arg -   -   -
```

sd

ir hemG_rrsA+

p35 6.5 bits

{----------------------} sd-(11)-ir 4033371 Gap 3.0 bits   [# ... orf

|----------------------| sd-ir 4033371 hemG_rrsA+ total 5.9 bits

p10 7.1 bits

{----------------------------} p35-(22)-p10 4033368 Gap 2.3 bits
|-----------------------------| p35-p10 4033368 total 11.3 bits

```
         *4033390  *       *4033400  *       *4033410  *       *4033420  *       *4033430  *       *4033440  *       *4033450  *       *4033460  *       *4033470
5' gagaaaagcgaagcggcactgctctttaacaatttatcagacaactctgtgtggcactgaactgataacggattcttaacgt 3'
   -   -   -   -   -   -   -   -   -   -   -   -   -   - fMet - trp - ala - leu - glu - asp - thr - asp - ser -   -
   -   -   -   -   -   -   -   - fMet - gly - thr - arg - arg - tyr - gly - phe - leu - thr - ser -
```
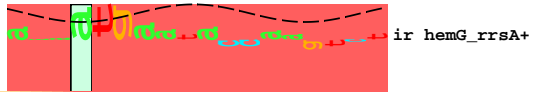
... sd

... ##> orf 7 codons

```
            *       *4033480  *       *4033490  *       *4033500  *       *4033510  *       *4033520  *       *4033530  *       *4033540  *       *4033550
5' cgcaagacgaaaaatgaataccaagtctcaagagtgaacacgtaattcattacgaagtttaattctttgagcgtcaaactt 3'
   -   -   -   -   -   -   -   -   -   -   -   -   - fMet - asn - thr -   -   -   -   -   -   - fMet - ser - val - lys - leu -
   - gln - asp - glu - lys - fMet - asn - thr - lys - ser - gln - glu -   -   -   -   -   -   -   -   -   -
```

... sd
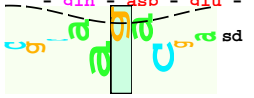
[###> orf 8 codons

p35 5.7 bits

ir hemG_rrsA+

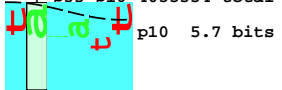{ -------------- } sd-(8)-ir 4033484 Gap 2.4 bits
| -------------- | sd-ir 4033484 hemG_rrsA+ total 7.1 bits

```
          *        *4033560  *       *4033570
5' t t a a a t t g a a g a g t t t g a t c a t 3'
   - leu -  asn  -  -   -   -   -   -   -   -   -
      -           -   -   -   -fMet - lys - ser - leu - ile -
```

p10   3.7 bits
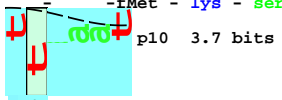
... --} p35-(24)-p10 4033553 Gap 2.4 bits
... --| p35-p10 4033553 total 7.0 bits
... ----} p35-(25)-p10 4033554 Gap 4.0 bits
... ----| p35-p10 4033554 total 7.4 bits

p10   5.7 bits

{ --- ... p35-(24)-p10 4033553 Gap

| --- ... p35-p10 4033553 total 7.0
| --- ... p35-(25)-p10 4033554 Gap
| --- ... p35-p10 4033554 total 7.4