- 1 -

piece 1, NC_000913, arpA_iclR+, config: linear, direction: +, begin: 4220481, end: 4220846

```
        *        *4220490  *        *4220500  *        *4220510  *        *4220520  *        *4220530  *        *4220540  *        *4220550  *        *4220560
5' gaaagaactacgaggaatacgagtaatcatttaaatatctcattgtttattgatgtcttgaatttttaactatcagaacagt 3'
   - glu - arg - thr - thr - arg - asn - thr - ser - asn - his - leu - asn - ile - ser - leu - phe - ile - asp - val - leu - asn - phe - asn - tyr - gln - asn - ser -
      - lys - glu - leu - arg - gly - ile - arg - val - ile - ile -   -   -   -   - -fMet - met - ser -   -   -   - -fMet -
         - lys - asn - tyr - glu - glu - tyr - glu -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -
... --------------------------------------------------] NC_000913.arpA                                                                                    ... sd
```
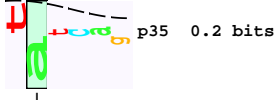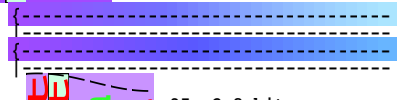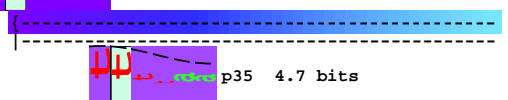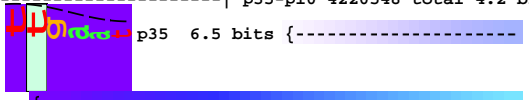
p35   4.8 bits

p10   2.6 bits
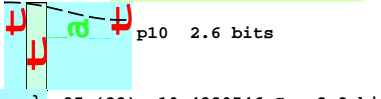
{--------------------------} p35-(22)-p10 4220546 Gap 2.3 bits
|--------------------------| p35-p10 4220546 total 5.1 bits

p10   1.9 bits
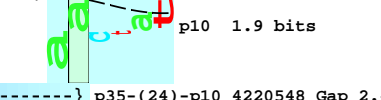
{------------------------------} p35-(24)-p10 4220548 Gap 2.4 bits
|------------------------------| p35-p10 4220548 total 4.2 bits

p35   6.5 bits {----------------------- ... p35-(24)-p10 4220575 Gap

... p35-(26)-p10 4220565 Gap
... p35-p10 4220565 total 6.7

p35   4.7 bits

{--------------------------------- ... p35-(22)-p10 4220566 Gap
... p35-p10 4220566 total 4.3
{--------------------------------- ... p35-(26)-p10 4220570 Gap
... p35-p10 4220570 total 5.4

p35   2.8 bits

{--------------------------------- ... p35-(26)-p10 4220572 Gap
... p35-p10 4220572 total 5.4

p35   0.2 bits

|--------------------------------- ... p35-p10 4220575 total 4.2

```
        *        *4220570  *        *4220580  *        *4220590  *        *4220600  *        *4220610  *        *4220620  *        *4220630  *        *4220640
5' gaaaatttaatatgattacaactaaagaaatatcataaatcgctcaatctcataatgcagccgtaaagtttcggtgga 3'
   - glu - lys - ile -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -fMet - glu -
      - lys - lys - phe - asn - met - ile - thr - thr - lys - glu - ile - ser -   -   -   -   -   -   -   -   -   -fMet - gln - pro -   -   -   -   -
```
... sd   ir arpA_iclR+   [###> orf 9 codons   ... p35

{-------------------------} sd-(13)-ir 4220575 Gap 4.6 bits   p10   6.3 bits   {----- ... p35-(25)-p10 4220665 Gap
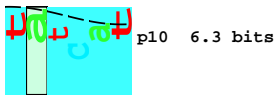
|-------------------------| sd-ir 4220575 arpA_iclR+ total 8.7 bits |----- ... p35-p10 4220665 total 5.0

p10   3.8 bits   p10   2.5 bits

p10   1.9 bits
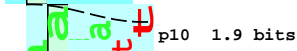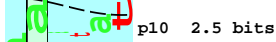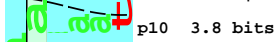
p10   4.5 bits

p10   6.3 bits

... -------------------------} p35-(24)-p10 4220575 Gap 2.4 bits
... ----------} p35-(26)-p10 4220565 Gap 3.7 bits
... ------| p35-p10 4220565 total 6.7 bits

p10   6.4 bits

... -------------} p35-(22)-p10 4220566 Gap 2.3 bits
... ------------| p35-p10 4220566 total 4.3 bits
... -------------------} p35-(26)-p10 4220570 Gap 3.7 bits
... ------------------| p35-p10 4220570 total 5.4 bits

p35   5.7 bits

... -----------------} p35-(26)-p10 4220572 Gap 3.7 bits
... -----------------| p35-p10 4220572 total 5.4 bits
... {-----------------------------------} p35-(22)-p10 4220592 Gap 2.3 bits
... ----------------------| p35-p10 4220575 total 4.2 bits|-----| p35-p10 4220592 total 5.9 bits
... {---} p35-(25)-p10 4220595 Gap 4.0 bits
... |--| p35-p10 4220595 total 8.0 bits

```
       *       *4220650  *        *4220660  *        *4220670  *        *4220680  *        *4220690  *        *4220700  *        *4220710  *        *4220720
5' atgagatcttgcgatttgttaataataagtgtttgatgtttaaaaataatgctgagttaataaaagtgtgtgaagtgt 3'
  -fMet - arg - ser - cys - asp - phe - val - asn - asn -  ● - -fMet - val -  ● -  ● -  ● - -fMet - leu - ser -  ● -  ● - -fMet - lys - cys -
   -  ● -  -  -  -  -  -  -  -fMet - leu - ile - ile - lys - trp - phe - asp - val -  ● -  ● - -fMet -  ● -
   -  -  -  - -fMet - arg - phe - cys -  ● -  -  -  - -fMet - met - phe - lys - asn - asn - ala - glu - leu - ile - lys - val - cys - glu - val - tyr -
```

... p35   4.4 bits

p10   4.6 bits

ir arpA_iclR+

... ir

... -------------------------------} p35-(25)-p10 4220665 Gap 4.0 bits

p35   5.6 bits
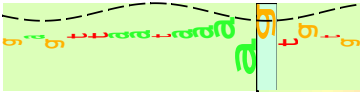
sd

... ir

... ---------------------------------| p35-p10 4220665 total 5.0 bits

sd

{-------------} sd-(9)-ir 4220720 Gap 2.3 bits

|-------------------| sd-ir 4220720 arpA_iclR+ total 5.5 b

{-------} sd-(5)-ir 4220681 Gap 5.4 bits

sd

|---------| sd-ir 4220681 arpA_iclR+ total 7.5 bits

{-----------------} ... sd-(11)-ir 4220724 Gap
-------------------- ... sd-ir 4220724 arpA_iclR+

p10   2.5 bits

{-----------------------------} p35-(22)-p10 4220707 Gap 2.3 bits
|------------------------------| p35-p10 4220707 total 5.8 bits

p10   1.3 bits

{-----------------------------} p35-(23)-p10 4220708 Gap 1.4 bits
|------------------------------| p35-p10 4220708 total 5.4 bits

```
       *       *4220730  *        *4220740  *        *4220750  *        *4220760  *        *4220770  *        *4220780  *        *4220790  *        *4220800
5' atgacattaagttattttggcgtcaatatgcgattaacagacaccttattctattgccactcaggtatgatgggcagaatat 3'
  - met - thr - leu - ser - tyr - phe - gly - val - asn - ala - ile - asn - arg - his - pro - tyr - ser - ile - ala - thr - gln - val -  ● -  -  -  -  -  -
```

- - - - - -fMet - ala - ser - met - arg - leu - thr - asp - thr - leu - ile - leu - leu - pro - leu - arg - tyr - asp - gly - gln - asn - ile -
- -asp - ile - lys - leu - phe - trp - arg - gln - cys - asp - - - - - - -fMet - met - gly - arg - ile - leu -

[###> orf 26 codons

p35 6.1 bits   [###> orf 23 codons   ... p10

... ir arpA_iclR+

... ir arpA_iclR+   ... ir

sd   p10 3.7 bits

{---------} sd-(5)-ir 4220792 Gap 5.4 bits
---------- sd-ir 4220792 arpA_iclR+ total 5.4 bits
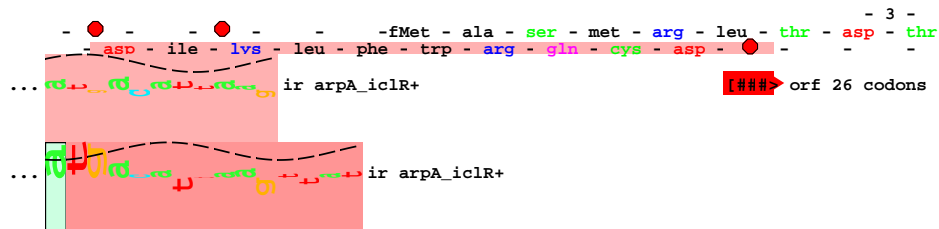
... } sd-(11)-ir 4220724 Gap 3.0 bits
... | sd-ir 4220724 arpA_iclR+ total 5.2 bits

{----------------------------------} p35-(21)-p10 4220798 Gap 3.3 bits
|----------------------------------| p35-p10 4220798 total 6.4 bits

p10 2.2 bits

{-------------------------------------} p35-(23)-p10 4220800 Gap 1.4 bits
|-------------------------------------| p35-p10 4220800 total 6.9 bits
{-------------------------------------} p35-(24)-p10 4220801 Gap 2.4 bits
|-------------------------------------| p35-p10 4220801 total 6.3 bits

*   *4220810 *   *4220820 *   *4220830 *   *4220840 *
5' t g c c t c t g c c c g c c a g a a a a a g t c a g c g c a t t c c a c c g t a c g 3'
- - - - - - - - - - - -
- ala - ser - ala - arg - gln - lys - lys - ser - ala - his - ser - thr - val -
- pro - leu - pro - ala - arg - lys - ser - gln - arg - ile - pro - pro - tyr -

... p10 2.7 bits   <------------------------------------ ... NC_000913.iclR

... ir arpA_iclR+