```
                                ((.(((((..((((........)))).(((((.......)))))).....(((((.....
chr-04.trna109-Ala-AGC    GG-GGUUGUUGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUAAAGGGAUCAAU 59
chr-08.trna21-Ala-AGC     GG-GGAUGUAGCUCAGAUCGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACAGGGAUCGAU 59
chr-04.trna108-Ala-AGC    GG-GGAUGUAGCUCAGAUGGAAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUUGAU 59
chr-05.trna93-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUAUGGGGAUCGAU 59
chr-14.trna30-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUAUGGGGAUCGAU 59
chr-10.trna21-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-10.trna74-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-09.trna97-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-11.trna3-Ala-AGC      GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-09.trna95-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-09.trna56-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-09.trna49-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-09.trna43-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-09.trna42-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-09.trna41-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-13.trna127-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-06.trna251-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-06.trna250-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-06.trna58-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-06.trna57-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-05.trna135-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-05.trna134-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-14.trna10-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-14.trna29-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna182-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna180-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-15.trna47-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna129-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-15.trna48-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-02.trna104-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-02.trna192-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna125-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-03.trna30-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-03.trna31-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-03.trna36-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-03.trna54-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-03.trna102-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-09.trna108-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-10.trna20-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-03.trna117-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna102-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna104-Ala-AGC    GG-GGAUGUAGCUUAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna107-Ala-AGC    GG-GGAUGUAGCUUAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna113-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCCUGCGAGAGGUACGGGGAUCGAU 59
chr-09.trna98-Ala-AGC     GG-GGAUGUAGCUCAAAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna110-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUUGCUUAGCAUGCGAGAGGUACGGGGAUCAAU 59
chr-04.trna118-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAUGUACGGGGAUUGAU 59
chr-02.trna97-Ala-AGC     GG-GGAUGUAGCGCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna117-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUUGAU 59
chr-04.trna121-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGUGAUUGAU 59
chr-04.trna215-Ala-AGC    GG-GGAUGUAGCUCAAAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGCACGGGGAUCAAU 59
chr-04.trna130-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGUGCUCGCUUAGCAUGCGAGAGGUACGGGGAUUGAU 59
chr-04.trna112-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGUUACGGGUAUCGAU 59
chr-09.trna96-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUAUGGGAAUCGAU 59
chr-04.trna111-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGAUUCGAU 59
chr-04.trna103-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCAAGAGGUACGGGGAUCGAU 59
chr-04.trna120-Ala-AGC    GA-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUAGAU 59
chr-03.trna53-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-03.trna56-Ala-AGC     GG-GGAUGUAGCUCAGAUGGUAGAGUGCUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-03.trna119-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGGUCGCUCGCUUAGCAUACGAGAGGUACGGGGAUCGAU 59
chr-04.trna128-Ala-AGC    GG-AGAUGUAGCUUAGAUGGUAGAGUAGGAGCUUAGCAUGUGAGAGGUACGGGGAUCGAU 59
chr-04.trna114-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGUGAGAGGUACGGGGAUCGAU 59
chr-04.trna115-Ala-AGC    GG-GGAUGUAGCUCAGAUGGUAGAGCGCUCGCUUAGCAUGUGAGAGGUACGGGGAUCGAU 59
chr-02.trna244-Ala-AGC    GG-GGAUGUAGCUCAAAUGGUAGAGCGCUUGCUUAGCAUGCGAGAGGCACGGGGUUUGAU 59
chr-04.trna127-Ala-AGC    GG-GGAUGUAGCUUAGAUGGUAGAGCGCUCGCUUAGCAUGGGAGAGGUUAGGGGAUCUAU 59
chr-04.trna106-Ala-AGC    UGGGGAUGUAGCUCAGAUGGAAGAGCGCUCGCUUAGCAUGCGAGAGGUACAGGGAUCAAA 60
chr-04.trna105-Ala-AGC    GG-GGAUGUAGCUCAGAUGGAAGAGCGCUCGCUUAGCAUGCGAGAGGUACAGGGAUCAAU 59
chr-04.trna126-Ala-AGC    GG-GGAUGUAGCUUAGAUGGUAGAGCACUCGCUUAGCAAGUUAGAGGUACGGGGAUCAAU 59
chr-04.trna119-Ala-AGC    GG-GGAUGUAUCUCAGAUGGUAGAGCACUCGCUUAGCAUGCGAGAGGUACGGGGAUCGAU 59
chr-04.trna97-Ala-AGC     GG-GAAUGUAGCUCAAAUGGUAGAGUGCUUGCUUAGCACGAGAGAGGUACAGGGUUCAAU 59
                                .........10........20........30........40........50.........
```

```
                                .)))))).)))))).
chr-04.trna109-Ala-AGC    ACCCUGC-AUCUCCA 73
chr-08.trna21-Ala-AGC     ACCACGC-AUCUCCA 73
chr-04.trna108-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-05.trna93-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-14.trna30-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-10.trna21-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-10.trna74-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-09.trna97-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-11.trna3-Ala-AGC      ACCCCGC-AUCUCCA 73
chr-09.trna95-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-09.trna56-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-09.trna49-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-09.trna43-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-09.trna42-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-09.trna41-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-13.trna127-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-06.trna251-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-06.trna250-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-06.trna58-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-06.trna57-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-05.trna135-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-05.trna134-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-14.trna10-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-14.trna29-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-04.trna182-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna180-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-15.trna47-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-04.trna129-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-15.trna48-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-02.trna104-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-02.trna192-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna125-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-03.trna30-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-03.trna31-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-03.trna36-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-03.trna54-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-03.trna102-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-09.trna108-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-10.trna20-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-03.trna117-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna102-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna104-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna107-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna113-Ala-AGC    ACCCCAC-AUCUCCA 73
chr-09.trna98-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-04.trna110-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna118-Ala-AGC    ACCUCGC-AUCUCCA 73
chr-02.trna97-Ala-AGC     ACCCCGC-AUCUCCA 73
chr-04.trna117-Ala-AGC    ACCUCGC-AUCUCCA 73
chr-04.trna121-Ala-AGC    ACCUCGC-AUCUCUA 73
chr-04.trna215-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna130-Ala-AGC    ACCCAGC-AUCUCCA 73
chr-04.trna112-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-09.trna96-Ala-AGC     ACCCUGC-AUCUCCA 73
chr-04.trna111-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna103-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna120-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-03.trna53-Ala-AGC     A-CCCGC-AUCUCCA 72
chr-03.trna56-Ala-AGC     A-CCCGC-AUCUCCU 72
chr-03.trna119-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna128-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna114-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna115-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-02.trna244-Ala-AGC    CCCCCGC-AUCUCCA 73
chr-04.trna127-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna106-Ala-AGC    ACCCCGC-AUCUCAA 74
chr-04.trna105-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna126-Ala-AGC    ACCCCGC-AUCUCCA 73
chr-04.trna119-Ala-AGC    ACACCGCAAUCUUCA 74
chr-04.trna97-Ala-AGC     ACCCCGC-AUCUCCA 73
                          .........70....
```