```
                          ((((.((..((((.............)))).(((((....).)))))).....(((((
chr-2C.trna87-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCU--AGGUCGCGUG 51
chr-5D.trna53-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2D.trna90-Phe-GAA     GAGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-1D.trna7-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-1D.trna8-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-1D.trna118-Phe-GAA    GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-7D.trna73-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-7D.trna72-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-1D.trna119-Phe-GAA    GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-7B.trna7-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-7A.trna101-Phe-GAA    GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-6D.trna23-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-6D.trna1-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-6C.trna48-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-6C.trna4-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-6B.trna51-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-6B.trna4-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-6A.trna74-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2A.trna26-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-5D.trna45-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-5C.trna55-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-5C.trna48-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-5B.trna66-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-5B.trna14-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-5B.trna13-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-5A.trna59-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2B.trna68-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-4D.trna17-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-4C.trna58-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-4C.trna16-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-4B.trna64-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-4B.trna60-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-4A.trna60-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-4A.trna50-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-3D.trna72-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2B.trna80-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-3D.trna19-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2C.trna21-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2C.trna88-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2D.trna14-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2D.trna24-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-3C.trna12-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-3B.trna56-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2D.trna76-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-3B.trna6-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-3B.trna4-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-3A.trna48-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-1B.trna4-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-3A.trna10-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-3A.trna1-Phe-GAA      GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2D.trna91-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-2A.trna61-Phe-GAA     GCGGGGAUAGCUCAGUUAG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 53
chr-4D.trna22-Phe-GAA     GCGGGGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUCAAGGUCGCGUG 53
chr-2D.trna13-Phe-GAA     GCGGGGAUAUUUCAGUUGG------G-GAUCGUCAGACUGAAGAUCUGAAGGUCGCGUG 52
chr-3A.trna12-Phe-GAA     GCGGGUAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCACGUG 53
chr-3C.trna75-Phe-GAA     GCGGGUAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCACGUG 53
chr-3D.trna22-Phe-GAA     GCGGGUAUAGCUCAGUUGG------GACAGCGUCAGACUGAAGAUCUGAAGGUCACGUG 53
chr-3B.trna13-Phe-GAA     GCGGGUAUAGCUCAGUUGG------GAGAGCGUCAGACCGAAGAUCUGAAGGUCACGUG 53
chr-7C.trna80-Phe-GAA     GCGGGGAUAGCUCAGUUGGGACUUGGGAGAGCGCCAGACUGAAGAUCUGAAGGUCGCGUG 60
chr-3D.trna18-Phe-GAA     GCGGGGAUAGCUCAGUUGG----------GGC-UCAGACUGAAGAUCUGAAGGUCGCGUG 49
chr-3C.trna54-Phe-GAA     GUCAGGAUAGCUCAGUUGG------UAGAGUAGAGGACUGAAAAUUCUCAUGCCACCAG 53
chr-8B.trna36-Phe-GAA     GUCAGGAUAGCUCAGUUGG------UAGAGCAGAGGACUGAAAAUCCUCAUGUCACCAA 53
chr-2C.trna31-Phe-GAA     GUUAGGAUAGCUCAGUUGG------UAGAGCAGAGGACUGAAAAUUCUCAUGUCACCAG 53
chr-2C.trna94-Phe-GAA     GUUAGGAUAGCUCAGUUGG------UAGAGCAGAGGACUGAAAAUUCUCAUGUCACCAG 53
chr-8C.trna16-Phe-GAA     GUCCGGAUAGCUCAGUUGG------UAGAGCAGAGGACUGAAAAUCCUCGUGUCACCAG 53
chr-1C.trna54-Phe-GAA     GUCAGGAUAGCUCAGUUGG------UAGCGCAGAGGAUUGAAAAUCCUCGUGUCACCAG 53
chr-8A.trna30-Phe-GAA     GUCAGGAUAGAUCAGUUGG------UAGAGCAGAGGACUGAAAAUCAUCAUGUCACCAG 53
chr-8C.trna10-Phe-GAA     GUCAGGAUAGAUCAGUUGG------UAGAGCAGAGGACUGAAAAUCAUCAUGUCACCGG 53
chr-3C.trna56-Phe-GAA     GUCAGGAUAGCUCAGUU-G------UAGAGUAGAGGACUGAAAAUUCUCAUGCCACCAG 52
chr-2D.trna45-Phe-GAA     G---GGAUAGCUCAGUUGG------GAGAGCGUCAGACUGAAGAUCUGAAGGUCGCGUG 50
chr-2B.trna69-Phe-GAA     GGGGUGGUGGCGCAGUUGG------CUAGCGCCUCAUAGCUGAAACCUG-AGGUCGAGAG 53
                          .........10.........20.........30.........40.........50.........
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                          ...........)))))))..))))).
chr-2C.trna87-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 71
chr-5D.trna53-Phe-GAA     ----UUCGAUCGACGCUCACCGCA 73
chr-2D.trna90-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-1D.trna7-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-1D.trna8-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-1D.trna118-Phe-GAA    ----UUCGAUCCACGCUCACCGCA 73
chr-7D.trna73-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-7D.trna72-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-1D.trna119-Phe-GAA    ----UUCGAUCCACGCUCACCGCA 73
chr-7B.trna7-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-7A.trna101-Phe-GAA    ----UUCGAUCCACGCUCACCGCA 73
chr-6D.trna23-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-6D.trna1-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-6C.trna48-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-6C.trna4-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-6B.trna51-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-6B.trna4-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-6A.trna74-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2A.trna26-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-5D.trna45-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-5C.trna55-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-5C.trna48-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-5B.trna66-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-5B.trna14-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-5B.trna13-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-5A.trna59-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2B.trna68-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-4D.trna17-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-4C.trna58-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-4C.trna16-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-4B.trna64-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-4B.trna60-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-4A.trna60-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-4A.trna50-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-3D.trna72-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2B.trna80-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-3D.trna19-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2C.trna21-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2C.trna88-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2D.trna14-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2D.trna24-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-3C.trna12-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-3B.trna56-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2D.trna76-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-3B.trna6-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-3B.trna4-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-3A.trna48-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-1B.trna4-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-3A.trna10-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-3A.trna1-Phe-GAA      ----UUCGAUCCACGCUCACCGCA 73
chr-2D.trna91-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2A.trna61-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-4D.trna22-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 73
chr-2D.trna13-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 72
chr-3A.trna12-Phe-GAA     UUCGUUCGAUCCACGUUCACCGCA 77
chr-3C.trna75-Phe-GAA     UUCGUUCGAUCCACGUUCACCGCA 77
chr-3D.trna22-Phe-GAA     UUCGUUCGAUCCACGUUCACCGCA 77
chr-3B.trna13-Phe-GAA     UUCGUUCGAUCCACGUUCACCGCA 77
chr-7C.trna80-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 80
chr-3D.trna18-Phe-GAA     ----UUCGAUCCACGCUCACCGCA 69
chr-3C.trna54-Phe-GAA     ----UUCAAAUCUGGUUCCUGGCA 73
chr-8B.trna36-Phe-GAA     ----UUCAAAUCUGGUUCUUGGCA 73
chr-2C.trna31-Phe-GAA     ----UUCAAAUCUAGUUCCUGGCA 73
chr-2C.trna94-Phe-GAA     ----UUCAAAUCUGGUUCCUGGCA 73
chr-8C.trna16-Phe-GAA     ----UUCAAAUCUGGUUCCUGGCA 73
chr-1C.trna54-Phe-GAA     ----UUCAGAUCUAGUUCUUGGCA 73
chr-8A.trna30-Phe-GAA     ----UUCAAAUCUGGUUCCUGGCA 73
chr-8C.trna10-Phe-GAA     ----UUCAAAUCUGGUUCCUGGCA 73
chr-3C.trna56-Phe-GAA     ----UUCAAAUCU-GUUCCUGGCA 71
chr-2D.trna45-Phe-GAA     ----UUCGAUCCACGCUCACCG-- 68
chr-2B.trna69-Phe-GAA     ----UUCGAGCCUCUCUCACCCCA 73
                          .........70.........80...
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