```
                          (((.....((((.(((((.........)))))(((((.......)))))).....(.((((.
chr-2.trna15-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-2.trna17-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-22.trna63-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-21.trna17-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-26.trna30-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-16.trna53-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-16.trna54-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-5.trna22-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-5.trna23-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-6.trna24-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-6.trna27-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-10.trna21-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-12.trna68-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-14.trna31-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-14.trna57-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-18.trna17-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-19.trna22-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-19.trna24-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-19.trna57-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-19.trna92-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-12.trna70-Asp-GTC     GUU-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACU-CGGGU 53
chr-7.trna40-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-21.trna18-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-19.trna25-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-8.trna5-Asp-GTC       GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-14.trna58-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-10.trna34-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-UGGGU 53
chr-1.trna4-Asp-GTC       GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-UGGGU 53
chr-9.trna10-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGCGACC-CGGGU 53
chr-10.trna59-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGCGACC-CGGGU 53
chr-19.trna75-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGCGACC-CGGGU 53
chr-19.trna69-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGCGACC-CGGGU 53
chr-14.trna70-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGCGACC-CGGGU 53
chr-15.trna51-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGCGACC-CGGGU 53
chr-17.trna15-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGCGACC-CGGGU 53
chr-22.trna58-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGCGACC-CGGGU 53
chr-7.trna15-Asp-GTC      GUC-----GAUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGCGACC-CGGGU 53
chr-13.trna34-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-19.trna36-Asp-GTC     GUC-----GUUGUUGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-24.trna13-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGCUAUC-CGGGU 53
chr-2.trna16-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUUAGUUUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-22.trna20-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-15.trna57-Asp-GTC     AUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCAGGUGACC-CGGGU 53
chr-3.trna13-Asp-GTC      GUG-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGCGUGACC-CGGGU 53
chr-26.trna9-Asp-GTC      GUA-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCAGGUGACC-CGGGU 53
chr-14.trna32-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGA-C-CGGGU 52
chr-10.trna48-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACCCGGGUGACC-CGGGU 53
chr-6.trna22-Asp-GTC      GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-19.trna23-Asp-GTC     GUC-----GUUCUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-UGGGU 53
chr-19.trna93-Asp-GTC     GUC-----GUUUUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-UGGGU 53
chr-19.trna18-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-UGGGU 53
chr-2.trna13-Asp-GTC      GUC-----AUUGUAGUAUAGU-GGUAAGUACUCCCACCUGUCACGCAGGUGACC-UGGGU 53
chr-6.trna23-Asp-GTC      GUC-----GUUGUAGUAUGGU-GGUGAGUAUUUCCGCCUGUCACGUGGGCAACC-CGGGU 53
chr-4.trna7-Asp-GTC       GCU-----GUUGUAGUAUAGU-UGUAAGUAUUUCCGCCUGUCACGCGUAAAACC-CGGGU 53
chr-12.trna71-Asp-GTC     G-------GUUGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 51
chr-21.trna16-Asp-GTC     GUC-----GUUGUAGUAUAGU-GGUAAGUAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-6.trna25-Asp-GTC      GUC-----GUAGUAGUAUAGU-GGUGAGUAUUCCCGCCUGUCAGGUGGGUGACC-CGGCU 53
chr-2.trna14-Asp-GTC      AAG-----GUCGUAGUAUAGU-GGUAAGUACUCCCGCCUGUCACGCGGGUGACC-CGGGU 53
chr-9.trna4-Asp-GTC       AUU---------UAGUAUAGU-GGUAAGGAUUCCCGCCUGUCACGCGGGUGACC-CGGGU 49
chr-17.trna14-Asp-GTC     GCCAAGUUUUUGUAGUAUGGU-GGUGUGUAUCCCCGCCUGUCACGCGGGUGACC--GGGU 57
chr-6.trna29-Asp-GTC      GCG-----GAUAUAGUCGAAU-GGUAAAAA-UUCUCUUUGUCAAGGAGAAGACG-CGGGU 52
chr-18.trna55-Asp-GTC     AGU-----UUUGUAGUAUAGU-GGUGAGUAUUCUCGCUUGUCACGCGAGUGACC-CGGGU 53
chr-20.trna41-Asp-GTC     GUU-----UUUGUAGUAUAGU-GGUGAGUAUUCCUGCCUGUCAUGUAGGU-ACC-UGGGU 52
chr-5.trna15-Asp-GTC      GAG-----AUUGUAGUUCAAUUGGUCAGAGCACCGCCCUGUCAAGGCGGAAGCUGCGGGU 55
chr-8.trna26-Asp-GTC      GGG-----AUUGUAGUUCAAUCGGUCAGAGCACCGCCCUGUCAAGGCGGAAGCUGCGGGU 55
chr-19.trna110-Asp-GTC    GGG-----AUUGUAGUUCAAUUGGUCAGAGCACCGCCCUGUCAAGGCGGAAGCUGCGGGU 55
chr-15.trna11-Asp-GTC     GGG-----AUUGUAGUUCAAUUGGUCAAAGCACUGCCCUGUCAAGGCAGAAGCUGCGGGU 55
chr-18.trna7-Asp-GTC      GGG-----AUUGUAGUUCAAUUGGUCAAAGCACCGCCCUGUCAAGGCGGAAGCUGCGGGU 55
chr-11.trna17-Asp-GTC     GGG-----AUUGUAGUUCAAUUGGUCAGAGCACCGCCCUGUCAAGGCGGAAGCUGCAGGU 55
chr-21.trna9-Asp-GTC      GGG-----AUUGAAGUUCAAUUGGUCAGAGCACCGCCCUGUCAAGGCGGAAGCUGCGGGU 55
chr-10.trna14-Asp-GTC     GGG-----AUUGUAGUUCAAUUGGUCAGAGCACCGCCCUGUCAAGGCGGAAGCUGUGGGU 55
chr-19.trna114-Asp-GTC    GGG-----AUUGUAGUUCAAUUGGUCAAAGCACCGCCCUGUCAAGGCGGAAGCUGCGGGU 55
chr-20.trna67-Asp-GTC     GGG-----AUUGUAGUUCAAUUGGUCAGAGCACCACUCUGUCAAGGUGAAAGCUGCGGGU 55
chr-15.trna26-Asp-GTC     GGG-----AUUGUUGUUCAAUUUGUCAGAGAACCGCCCUGUCAAGGCGGAAGUUGCGGGU 55
chr-17.trna29-Asp-GTC     GGG-----AUUGUUGUUCAAUUUGUCAGAGAACCGCCCUGUCAAGGCGGAAGUUGCGGGU 55
                          .........10........20........30........40........50.........
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                          ......))))......)...)))))))).
chr-2.trna15-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-2.trna17-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-22.trna63-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-21.trna17-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-26.trna30-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-16.trna53-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-16.trna54-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-5.trna22-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-5.trna23-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-6.trna24-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-6.trna27-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-10.trna21-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-12.trna68-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-14.trna31-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-14.trna57-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-18.trna17-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-19.trna22-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-19.trna24-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-19.trna57-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-19.trna92-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-12.trna70-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-7.trna40-Asp-GTC      UCGUUCCCCG------G---CAACGGCG 72
chr-21.trna18-Asp-GTC     UCGAUCCCCG------G---CAACGGUG 72
chr-19.trna25-Asp-GTC     UCGAUCCUUG------G---CAACGGCG 72
chr-8.trna5-Asp-GTC       UCGAUCACCG------G---CAACGGCG 72
chr-14.trna58-Asp-GTC     UCGAUCACCG------G---CAACGGCG 72
chr-10.trna34-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-1.trna4-Asp-GTC       UCGAUCCCCG------G---CAACGGCG 72
chr-9.trna10-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-10.trna59-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-19.trna75-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-19.trna69-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-14.trna70-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-15.trna51-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-17.trna15-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-22.trna58-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-7.trna15-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-13.trna34-Asp-GTC     UCGAUCCCUG------G---UAACGGCG 72
chr-19.trna36-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-24.trna13-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 72
chr-2.trna16-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-22.trna20-Asp-GTC     UUGUUCCCCG------G---CAACGGCG 72
chr-15.trna57-Asp-GTC     UCAACCCCCG------G---CAACGGUG 72
chr-3.trna13-Asp-GTC      UCGAUCCCCG------G---CAACGGCG 72
chr-26.trna9-Asp-GTC      UCGAUCCCCG------G---CGACGGCG 72
chr-14.trna32-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 71
chr-10.trna48-Asp-GTC     UCGAUCCUCG------G---CAACGGCG 72
chr-6.trna22-Asp-GTC      UCGAU-CCCG------G---CAACGGCG 71
chr-19.trna23-Asp-GTC     UCGAUCCCCG------G---CAACGUCG 72
chr-19.trna93-Asp-GTC     UCGAUCCCCG------G---CAACGUCG 72
chr-19.trna18-Asp-GTC     UCGAUCCCCG------G---CAACGUCG 72
chr-2.trna13-Asp-GTC      UCGAUUCCCA------A---UAACGACA 72
chr-6.trna23-Asp-GTC      UCGAUCCCCG------G---CAAUUGCG 72
chr-4.trna7-Asp-GTC       UUGAUCCCCG------G---CAACGGCG 72
chr-12.trna71-Asp-GTC     UCGAUCCCCG------G---CAACGGCG 70
chr-21.trna16-Asp-GTC     UGGAUCCCCUGA----A---CGGCGAUU 74
chr-6.trna25-Asp-GTC      UCGAUCUCC-------G---GAACGGCG 71
chr-2.trna14-Asp-GTC      UCGAUCCCGGGAGACGG---CGAUUUUA 78
chr-9.trna4-Asp-GTC       UCGAUCCCCG------G---CAACAACG 68
chr-17.trna14-Asp-GTC     UCGAUCCCGG------G---CAACGGCG 76
chr-6.trna29-Asp-GTC      UCGUUUCCUG------C---UAUUCGCC 71
chr-18.trna55-Asp-GTC     UUGAUCCCCAGCAGCGCUGCCAAAACUG 81
chr-20.trna41-Asp-GTC     UCGAUCCCCGACAAUGGUGCUAAAAACU 80
chr-5.trna15-Asp-GTC      UUGAGCCCUGU---------CAGUCUCG 74
chr-8.trna26-Asp-GTC      UCGAGCCCCGU---------CAGUCCCG 74
chr-19.trna110-Asp-GTC    UCGAGCCCCGU---------CAAUCCCG 74
chr-15.trna11-Asp-GTC     UCGAGCCCCGU---------CAGUCCCG 74
chr-18.trna7-Asp-GTC      UCGAGCCCCGU---------CAGUCCCG 74
chr-11.trna17-Asp-GTC     UCGAGCCCCGU---------CAGUCCCG 74
chr-21.trna9-Asp-GTC      UUGAGCCCCAU---------CAGUCCCA 74
chr-10.trna14-Asp-GTC     UUGAGCCCUGU---------CAAUCCCA 74
chr-19.trna114-Asp-GTC    UCAAGCCCCGU---------CAGUUCCG 74
chr-20.trna67-Asp-GTC     UCGAGCCCCGU---------CAGUCUCA 74
chr-15.trna26-Asp-GTC     UCAAGUCCCGU---------CAGUCCCG 74
chr-17.trna29-Asp-GTC     UCAAGUCCCGU---------CAGUCCCG 74
                          .........70........80.......
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