```
                                 (((((((..(((.........)))((((((.....))))))..))))(((.........
chr-9.trna17-Ser-GGA     GGCUGGGUAACAUAAUGG--AAAUGUAUUGGACUGGAAAUCC----------------- 40
chr-20.trna38-Ser-GCT    UCCUCAGUAGCUCAAUGA--UAGAGCGAUCAGUUGCUAACUGA----------------- 41
chr-18.trna9-Ser-TGA     GUCGAUAUGUCCGAAUGA-UUAAGGAGACAAACUUGAAAUUUG--UUGGGC-------UA 50
chr-6.trna23-Ser-CGA     GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUCGAAAUCUG--UUGGGC-------UA 50
chr-13.trna37-Ser-CGA    GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUCGAAAUCUG--UUGGGC-------UU 50
chr-15.trna69-Ser-CGA    GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUCGAAAUCUG--UUGGGC-------UU 50
chr-13.trna27-Ser-CGA    GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUCGAAAUCUG--UUGGGC-------UU 50
chr-12.trna10-Ser-CGA    GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUCGAAAUCUG--UUGGGC-------UA 50
chr-11.trna25-Ser-CGA    GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUCGAAAUCUG--UUGGGC-------UA 50
chr-16.trna28-Ser-TGA    GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UA 50
chr-19.trna6-Ser-TGA     GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UA 50
chr-8.trna8-Ser-TGA      GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UA 50
chr-2.trna15-Ser-TGA     GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UU 50
chr-19.trna34-Ser-TGA    GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UU 50
chr-3.trna23-Ser-TGA     GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UU 50
chr-3.trna40-Ser-TGA     GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UU 50
chr-5.trna22-Ser-TGA     GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UU 50
chr-19.trna17-Ser-TGA    GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UU 50
chr-10.trna49-Ser-TGA    GUCGAUAUGUCCGAGUGG-UUAAGGAGACAGACUUGAAAUCUG--UUGGGC-------UU 50
chr-17.trna45-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-3.trna13-Ser-GCT     GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-8.trna17-Ser-GCT     GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-17.trna5-Ser-GCT     GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-18.trna40-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-11.trna48-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-11.trna52-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-1.trna2-Ser-GCT      GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-12.trna8-Ser-GCT     GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-12.trna22-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-13.trna52-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-15.trna23-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-15.trna4-Ser-GCT     GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-13.trna73-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-13.trna77-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-13.trna78-Ser-GCT    GUCGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-8.trna25-Ser-GCT     GUUGCUUUGGCCGAGUGG-UUAAGGCGUGUGCCUGCUAAGUAC--AUGGGG-------UU 50
chr-6.trna31-Ser-AGA     GUGGACGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-13.trna48-Ser-AGA    GUGGACGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-2.trna28-Ser-AGA     GUGGACGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-5.trna33-Ser-AGA     GUGGACGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-6.trna44-Ser-AGA     GUGGACGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-11.trna28-Ser-AGA    GUGGACGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-18.trna49-Ser-AGA    GUGGACGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-14.trna15-Ser-AGA    GUGGACGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-2.trna43-Ser-AGA     GUGGGCGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-10.trna47-Ser-AGA    GUGGGCGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-13.trna75-Ser-AGA    GUGGGCGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-20.trna44-Ser-AGA    GUGGGCGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-8.trna9-Ser-AGA      GUGGACAUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-15.trna1-Ser-AGA     GUGGACGUGCCGGAGUGG-UUAUCGGGCAUGACUAGAAAUCAU--GUGGGC-------UU 50
chr-13.trna60-Ser-AGA    GUGGACAUGCCGGAGUGG-UUAUCAGGCAUGACUAGAAAUCAU--GUGGGC-------UC 50
chr-6.trna43-Ser-TGA     GGAUAUGU--CCGAGCGG-CUAAGGAGGCAGACUUGAAAUCUG--CCGAGU-------UU 48
chr-15.trna37-Ser-GCT    GGAGAGAUGGUUGAGUGGACUAAAGCGUCGGAUUGCUAAUCCGUUGUACAA------AUU 54
chr-15.trna41-Ser-GCT    GGAGAGAUGGUUGAGUGGACUAAAGCAUCGGAUUGCUAAUCCGUUGUACAA------AUU 54
chr-15.trna42-Ser-GCT    GGAGAGAUGGUUGAGUGGAAUAAAGCGUCGGAUUGCUAAUCCGUUGUACAA------AUU 54
chr-15.trna34-Ser-GCT    GGAGAGAUGGUUGAGUGGACUAAAGCGUCGAAUUGCUAAUCCGUUGUACAA------AUU 54
chr-11.trna19-Ser-GCT    GGAGAGAUGGCUGAGUGGACUAAAGCGUUGGAUUGCUAAUCCGUUGUACAA------AUU 54
chr-15.trna36-Ser-GCT    GGAGAGAUGGUUGAGUGGACUAAAGAGUCGAAUUGCUAAUCCGUUGUACAA------AUU 54
chr-15.trna38-Ser-GCT    GGAGAGAUGGUUGAGUGGACUAAACCGUCGAAUUGCUAAUCCGUUGUACAA------AUU 54
chr-15.trna48-Ser-GCT    GGAGAGAUGGUUGAGUGGACUAAAGUGUCGAAUUGCUAAUCCGUUGUACAA------AUU 54
chr-12.trna44-Ser-GCT    GGAGAGAUGGCUGAGUGGACUAAAGCGUCGGCUUGCUAAUCCGUUGUACAA------AUU 54
chr-12.trna15-Ser-GCT    GGAGAGAUGGU-GAGUGGACUAAAGUGUCGAAUUGCUAAUCCGUUGUACAA------AUU 53
chr-3.trna12-Ser-GCT     AGAGAGAUGGCUGAGUGGACUAAAGCGCCGAAUUGCUAAUCCGUUGUACAA------AUU 54
chr-15.trna32-Ser-GCT    GGAGAGAUGGUUGAGUGGAAUAAAGUGUCGAAUUGCUAAUCCGUUGUACAA------AUU 54
chr-15.trna45-Ser-GCT    GGAGAGAUGGUUGAGUGG----AAGCGUCGAAUUGCUAAUCCGUUGUACAA------AUU 50
chr-2.trna21-Ser-TGA     GGAGAGAUGGCUGAGUGGUUGAUAGCCCCGAUCUUGAAAACCGGUAUAGUUCGGAACAAA 60
chr-15.trna49-Ser-TGA    GGAGAGAUGGUUGAGUGGUUGACAACCUCAGUCUUGAAAAUCAAUAUAGUUCGAAAAAAA 60
                         .........10........20........30........40........50.........
                                 .))))...(((((.......)))))))))))).
chr-9.trna17-Ser-GGA     --UGGAAUGACGGUUUGUUCCCCUCCUUGGCCU 71
chr-20.trna38-Ser-GCT    --CUGGUUGUAGGUUCAAAUCCUACUUGGCGAG 72
chr-18.trna9-Ser-TGA     UGCCUGC-GCAGUUUCGAAUCCUGCUGUCGACG 82
chr-6.trna23-Ser-CGA     UGCCUGC-GCAGGUUCGAAUCCUGCUGUCCACG 82
chr-13.trna37-Ser-CGA    UGCCUGC-GCAGGUUCGAAUCCUGCUGUCGACG 82
chr-15.trna69-Ser-CGA    UGCCUGC-GCAGGUUCGAAUCCUGCUGUCGACG 82
chr-13.trna27-Ser-CGA    UGCCUGC-GCAGGUUCGAAUCCUGCUGUCGACG 82
chr-12.trna10-Ser-CGA    UGCCUGC-GCAGGUUCGAAUCCUGCUGUCGACG 82
chr-11.trna25-Ser-CGA    UGCCUGC-GCAGGUUCGAAUCCUGCUGUCGACG 82
chr-16.trna28-Ser-TGA    CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-19.trna6-Ser-TGA     CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-8.trna8-Ser-TGA      CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-2.trna15-Ser-TGA     CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-19.trna34-Ser-TGA    CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-3.trna23-Ser-TGA     CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-3.trna40-Ser-TGA     CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-5.trna22-Ser-TGA     CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-19.trna17-Ser-TGA    CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-10.trna49-Ser-TGA    CGCCCGC-GCAGGUUCGAACCCUGCUGUCGACG 82
chr-17.trna45-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-3.trna13-Ser-GCT     UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-8.trna17-Ser-GCT     UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-17.trna5-Ser-GCT     UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-18.trna40-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-11.trna48-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-11.trna52-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-1.trna2-Ser-GCT      UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-12.trna8-Ser-GCT     UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-12.trna22-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-13.trna52-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-15.trna23-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-15.trna4-Ser-GCT     UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-13.trna73-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-13.trna77-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-13.trna78-Ser-GCT    UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-8.trna25-Ser-GCT     UCCCCGC-GAGAGUUCGAAUCUCUCAGGCGACG 82
chr-6.trna31-Ser-AGA     UGCCCGC-GCAGGUUCGAAUCCUGCCGUCCACG 82
chr-13.trna48-Ser-AGA    UGCCCGC-GCAGGUUCGAAUCCUGCCGUCCACG 82
chr-2.trna28-Ser-AGA     UGCCCGC-GCAGGUUCGAAUCCUGCCGUUCACG 82
chr-5.trna33-Ser-AGA     UGCCCGC-GCAGGUUCGAAUCCUGCCGUUCACG 82
chr-6.trna44-Ser-AGA     UGCCCGC-GCAGGUUCGAAUCCUGCCGUUCACG 82
chr-11.trna28-Ser-AGA    UGCCCGC-GCAGGUUCGAAUCCUGCCGUUCACG 82
chr-18.trna49-Ser-AGA    UGCCCGC-GCAGGUUCGAAUCCUGCCGUUCACG 82
chr-14.trna15-Ser-AGA    UGCCCGC-GCAGGUUCGAAUCCUGCCGUUCACG 82
chr-2.trna43-Ser-AGA     UGCCCGC-GCAGGUUCGAAUCCUGCCGCUCACG 82
chr-10.trna47-Ser-AGA    UGCCCGC-GCAGGUUCGAAUCCUGCCGCUCACG 82
chr-13.trna75-Ser-AGA    UGCCCGC-GCAGGUUCGAAUCCUGCCGCUCACG 82
chr-20.trna44-Ser-AGA    UGCCCGC-GCAGGUUCGAAUCCUGCCGCUCACG 82
chr-8.trna9-Ser-AGA      UGCCCGC-GCAGGUUCGAAUCCUGCUGUUCACG 82
chr-15.trna1-Ser-AGA     UGCCCGC-GCAGGUUCGAAUCCUGCCGUCCACG 82
chr-13.trna60-Ser-AGA    UGCCCGC-GCAGGUUCGAAUCCUGCUGUUCACG 82
chr-6.trna43-Ser-TGA     CAGCCGCAGCAGGUUCGAGUCCCGCUGUGUUCU 81
chr-15.trna37-Ser-GCT    UUUGUAUCGAGGGUUCGAAUCCCUCUCUUUCCG 87
chr-15.trna41-Ser-GCT    UUUGUACCGAGGGUUCGAAUCCCUCUCUUUUCG 87
chr-15.trna42-Ser-GCT    UUUGUAUCGAGGGUUCAAAUCCCUCUCUUUUCA 87
chr-15.trna34-Ser-GCT    UUUGUACCAAGGGUUCCAAUCCCUCUCUUUCCG 87
chr-11.trna19-Ser-GCT    UUUGUAUCGAGGAUUCGAAUCCCUCUCUUUCCG 87
chr-15.trna36-Ser-GCT    UUUGUACCGAGGGUUCAAAUCUCUCUCUUUCCA 87
chr-15.trna38-Ser-GCT    UUUGUACCGAGGGUUCAAAUCCCUCUCUUUCCA 87
chr-15.trna48-Ser-GCT    UUUGUACUGAGGGUUCGAAUCCCUCUCUUUCCG 87
chr-12.trna44-Ser-GCT    UUUGUACCGAGGGUUCGAAUCCCUCUCUUUCCG 87
chr-12.trna15-Ser-GCT    UUUGUACUGAGGGUUCGAAUCCCUCUCUUUCCG 86
chr-3.trna12-Ser-GCT     UUUGUAUCGAGAGUUCGAAUCCCUCUCUUUCUG 87
chr-15.trna32-Ser-GCT    UUUGUACCGAAGGUUCGAAUCCCUCUUUUUCCU 87
chr-15.trna45-Ser-GCT    UUUGUACCAAGGGUUCAAAUCCCUCUCUUUCCA 83
chr-2.trna21-Ser-TGA     GAACUAUCGAGGGUUCGAAUCCCUUUCUCUCCU 93
chr-15.trna49-Ser-TGA    GAACUAUUGAGGGUUCAAAUCCCUCUCUCCCUCU 93
                         .........70........80........90..
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