```
                                 (((((((..(((.(.....)).)))((((((.......))))))(.........)).
chr-3.trna89-Leu-AAG     GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-9.trna134-Leu-AAG    GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-2.trna262-Leu-AAG    GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-5.trna157-Leu-AAG    GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-1.trna29-Leu-AAG     GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-1.trna132-Leu-AAG    GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-9.trna95-Leu-AAG     GAUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-10.trna49-Leu-AAG    GAUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-3.trna40-Leu-AAG     GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-3.trna78-Leu-AAG     GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-3.trna200-Leu-AAG    GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-9.trna97-Leu-AAG     GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-4.trna49-Leu-AAG     GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-8.trna118-Leu-AAG    GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-8.trna90-Leu-AAG     GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-4.trna51-Leu-AAG     GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-4.trna126-Leu-AAG    GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-4.trna127-Leu-AAG    GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-5.trna171-Leu-AAG    GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-7.trna78-Leu-AAG     GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-3.trna90-Leu-AAG     GUUGGGAUGGCUGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGG 55
chr-10.trna48-Leu-AAG    GAUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCG-----AAAGGU 55
chr-1.trna236-Leu-AAG    GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUACG-----AAAGGG 55
chr-9.trna96-Leu-AAG     GACGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCCA-----AAAGGG 55
chr-1.trna30-Leu-CAG     GUCAAGAUGGCCGAGUUGGUCUAAGGCGCUAGUUUCAGGUACUAGUCCG-----AAAGGG 55
chr-2.trna184-Leu-CAG    GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-9.trna46-Leu-CAG     GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-8.trna86-Leu-CAG     GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-6.trna5-Leu-CAG      GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-9.trna111-Leu-CAG    GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-6.trna124-Leu-CAG    GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-9.trna112-Leu-CAG    GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-9.trna79-Leu-CAG     GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-9.trna78-Leu-CAG     GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-3.trna13-Leu-CAG     GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-6.trna4-Leu-CAG      GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCCG-----AAAGGG 55
chr-8.trna89-Leu-AAG     GUUGAGAUGGCCGAGUUGGUCUAAGGCAUCAGAUUAAGGUUCUGGUCCG-----AAAGGA 55
chr-5.trna135-Leu-CAG    GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCUG-----AAAGGG 55
chr-3.trna84-Leu-TAG     GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCCG-----AAAGGG 54
chr-3.trna160-Leu-TAG    GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCCG-----AAAGGG 54
chr-3.trna161-Leu-TAG    GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCCG-----AAAGGG 54
chr-8.trna120-Leu-TAG    GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCCG-----AAAGGG 54
chr-8.trna57-Leu-TAG     GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCCG-----AAAGGG 54
chr-6.trna15-Leu-TAG     GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUAGUCCG-----AAAGGG 54
chr-8.trna83-Leu-TAG     GACAGUUUGGCCGAG-UGGUCUAAGGCGCUAGAUUUAGGCUCUAGUCCG-----AAAGGG 54
chr-2.trna234-Leu-AAG    AUUGAGAUGGCCAAAUUGGUCUAAUGUGCCAGAUUAAGGUUUUGGUCCC-----AAAGGG 55
chr-2.trna233-Leu-AAG    GUUGAGAUGAUCGAGUUGGUCUAAGACACUAGAUUAAGGUGCUGGUUUG-----AAUGGG 55
chr-1.trna1-Leu-TAG      GCCGCCAUGGUGAAAUUGGUAG-ACACGCUGCUCUUAGGAAGCAGUGCU-----CAAGCA 54
chr-1.trna182-Leu-TAG    GCCGCCAUGGUGAAAUUGGUAG-ACACGCUGCUCUUAGGAAGCAGUGCU-----CAAGCA 54
chr-1.trna208-Leu-TAG    GCCGCCAUGGUGAAAUUGGUAG-ACACGCUGCUCUUAGGAAGCAGUGCU-----CAAGCA 54
chr-2.trna215-Leu-TAG    GCCGCCAUGGUGAAAUUGGUAG-ACACGCUGCUCUUAGGAAGCAGUGCU-----CAAGCA 54
chr-8.trna150-Leu-TAG    GCCGCCAUGGUGAAAUUGGUAG-ACACGCUGCUCUUAGGAAGCAGUGCU-----CAAGCA 54
chr-4.trna23-Leu-TAG     GCCGCCAUGGUGAAAUUGGUAG-ACACGCUGCUCUUAGGAAGCAGUGCU-----CAAGCA 54
chr-7.trna28-Leu-TAG     GCCGCUAUGGUGAAAUUGGUAG-ACACGCUGCUCUUAGGAAGCAGUGCU-----CAAGCA 54
chr-7.trna24-Leu-TAG     GCCGCUAUGGUGAAAUUGGUAG-ACACGCUGCUCUUAGGAAGCAGUGCU-----CAAGCA 54
chr-7.trna35-Leu-TAG     GCCACCAUGGUGAAAUUGGUAG-ACACGCUGCUCUUAGGAAGCAGUGCU-----CAAGCA 54
chr-1.trna6-Leu-CAA      GUCAGGAUGGCCGAG-GGGUCUAAGGCGUCAGACUCAAGUUCUGAUCCUC-UCACGAGGG 58
chr-1.trna130-Leu-CAA    GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUC-UAACGAGGG 58
chr-9.trna65-Leu-CAA     GUCAGGAUGGCCGAG-UGGUCUAAGGCGUCAGACUCAAGUUCUGAUCCUC-UAACGAGGG 58
chr-2.trna224-Leu-CAA    GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUC-UAACGAGGG 58
chr-5.trna210-Leu-CAA    GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUC-UAACGAGGG 58
chr-6.trna123-Leu-CAA    GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUC-UAACGAGGG 58
chr-7.trna13-Leu-CAA     GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUC-UAACGAGGG 58
chr-6.trna122-Leu-CAA    GUCAGAAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUC-UAACGAGGG 58
chr-9.trna117-Leu-CAA    GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUC-UAACGAGGG 58
chr-2.trna124-Leu-TAA    GCUGGUUUGCCCGAG-UGGU-UAAGGGGGAAGACUUAAGAUCUUCUGCAC-AGAAGUGCG 57
chr-2.trna269-Leu-TAA    GCUGGUUUGCCCGAG-UGGU-UAAGGGGGAAGACUUAAGAUCUUCUGCAC-AGAAGUGCG 57
chr-1.trna89-Leu-TAA     GCUGGUUUGCCCGAG-UGGU-UAAGGGGGAAGACUUAAGAUCUUCUGCAC-UGAAGUGCG 57
chr-4.trna3-Leu-TAA      GCUGGUUUGCCCGAG-UGGU-UAAGGGGGAAGACUUAAGAUCUUCUGCAC-UGAAGUGCG 57
chr-3.trna162-Leu-TAA    GCUGGUUUGCCCGAG-UGGU-UAAGGGGGAAGACUUAAGAUCUUCUGCAGUUGAACUGCG 58
chr-4.trna54-Leu-CAA     GCCUUGAUGGUGAAA-UGGUAG-ACACGCGAGACUCAAAAUCUCGUGCU---AACGAGCG 55
chr-2.trna244-Leu-CAA    GCCUUGAUGGUGAAA-UGGUAG-ACACUCGAGACUCAAAAUCUCGUGCU---AAAGAGCG 55
chr-6.trna114-Leu-CAA    GCCUUGAUGCUGAAA-UGGUAG-ACACGCGAGACUCAAAAUCUCGUGCU---AAAGAGCG 55
chr-2.trna34-Leu-TAG     GUUAAGAUGGUCGAGU--GUUUAAGGUAUCAGUUUUAGGAACUGA----------AAGGA 48
chr-8.trna157-Leu-TAA    GUUACUGUG-AUGUAGUGGU-UAUCAUGUCAGUCUUAACCACUG----------AAGGU 47
chr-8.trna156-Leu-TAA    GUUACUGUG-AUGUAGUGGU-UAUCAUGUCAGUCUUAACCACUG----------AAGGU 47
chr-4.trna34-Leu-CAG     AAC----------GUAGCUCAACUGGUUUGAGUCAUUGCUUCAGAACU-----AAUUGU 44
                         .........10.........20.........30.........40.........50.........
```



```
                         .(((((.......)))))))))))).
chr-3.trna89-Leu-AAG     CGUGGGUUCAAAUCCAACUCUCAACA 81
chr-9.trna134-Leu-AAG    CGUAGGUUCAAAUCCCACUCUCGUCA 81
chr-2.trna262-Leu-AAG    CUUGGGUUCAAAUCCCACUCUUGUCA 81
chr-5.trna157-Leu-AAG    CGUGGCUUCAAAUCCCACUCUCGUCA 81
chr-1.trna29-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-1.trna132-Leu-AAG    CGUGGGUUCAAAUCCCACUCUCAACA 81
chr-9.trna95-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-10.trna49-Leu-AAG    CGUGGGUUCAAAUCCCACUCUCAUCA 81
chr-3.trna40-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCAACA 81
chr-3.trna78-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-3.trna200-Leu-AAG    CGUGGGUUCAAAUCCCACUCUCAACA 81
chr-9.trna97-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-4.trna49-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-8.trna118-Leu-AAG    CGUGGGUUCAAAUCCCACUCUCAACA 81
chr-8.trna90-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCAACA 81
chr-4.trna51-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-4.trna126-Leu-AAG    CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-4.trna127-Leu-AAG    CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-5.trna171-Leu-AAG    CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-7.trna78-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCAACA 81
chr-3.trna90-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCAACA 81
chr-10.trna48-Leu-AAG    CGUGGGUUCAAAUCCCACUCUCAUUA 81
chr-1.trna236-Leu-AAG    CGUGGGUUCAAAUCCCACUCUCGUCA 81
chr-9.trna96-Leu-AAG     CGUGGGUUCAAAUCCCACUCUCAUCA 81
chr-1.trna30-Leu-CAG     CAUGGGUUUGAAUCCCAUUCUUGACA 81
chr-2.trna184-Leu-CAG    CAUGGGUUCGAAUCCCAUUCUUGACA 81
chr-9.trna46-Leu-CAG     CAUGGGUUCGAAUCCCAUUCUUGACA 81
chr-8.trna86-Leu-CAG     CAUGGGUUCGAAUCCCAUUCUUGACA 81
chr-6.trna5-Leu-CAG      CAUGGGUUCGAAUCCCAUUCUUGACA 81
chr-9.trna111-Leu-CAG    CAUGGGUUCGAAUCCCAUUCUUGACA 81
chr-6.trna124-Leu-CAG    CAUGGGUUCGAAUCCCAUUCUUGACA 81
chr-9.trna112-Leu-CAG    CAUGGGUUCGAAUCCCAUUCUUGACA 81
chr-9.trna79-Leu-CAG     CAUGGGUUCAAAUCCCAUUCUUGACA 81
chr-9.trna78-Leu-CAG     CAUGGGUUCAAAUCCCAUUCUUGACA 81
chr-3.trna13-Leu-CAG     CAUGGGUUCAAAUCCCAUUCUUGACA 81
chr-6.trna4-Leu-CAG      CAUGGGUUCAAAUCCCAUUCUUGACA 81
chr-8.trna89-Leu-AAG     UGUGGGUUUAAAUCCCACUCUCAACA 81
chr-5.trna135-Leu-CAG    CAUGGGUUCAAAUCCCAUUCUUGACA 81
chr-3.trna84-Leu-TAG     CGUGGGUUCAAAUCCCACAGCUGUCA 80
chr-3.trna160-Leu-TAG    CGUGGGUUCAAAUCCCACAGCUGUCA 80
chr-3.trna161-Leu-TAG    CGUGGGUUCAAAUCCCACAGCUGUCA 80
chr-8.trna120-Leu-TAG    CGUGGGUUCAAAUCCCACAGCUGUCA 80
chr-8.trna57-Leu-TAG     CGUGGGUUCAAAUCCCACAGCUGUCA 80
chr-6.trna15-Leu-TAG     CGUGGGUUCAAAUCCCAUAGCUGUCA 80
chr-8.trna83-Leu-TAG     CGUGGGUUCAAAUCCCACAGCUGUCA 80
chr-2.trna234-Leu-AAG    CGUGUGUUCAAAUCCCACUCUCAACA 81
chr-2.trna233-Leu-AAG    CGUGG-UUCAAAUUCCACUCUCAACA 80
chr-1.trna1-Leu-TAG      UCUCGGUUCGAAUCCGAGUGGCGGCA 80
chr-1.trna182-Leu-TAG    UCUCGGUUCGAAUCCGAGUGGCGGCA 80
chr-1.trna208-Leu-TAG    UCUCGGUUCGAAUCCGAGUGGCGGCA 80
chr-2.trna215-Leu-TAG    UCUCGGUUCGAAUCCGAGUGGCGGCA 80
chr-8.trna150-Leu-TAG    UCUCGGUUCGAAUCCGAGUGGCGGCA 80
chr-4.trna23-Leu-TAG     UCUCGGUUCGAAUCCGAGUGGCGGCA 80
chr-7.trna28-Leu-TAG     UCUCGGUUCGAAUCCGAGUGGCGGCA 80
chr-7.trna24-Leu-TAG     UCUCGGUUCGAAUCCGAGUGGCGGCA 80
chr-7.trna35-Leu-TAG     UCUCGGUUCGAAUCCGAGUGGCGGCA 80
chr-1.trna6-Leu-CAA      CGUGGGUUCAAAUCCCACUUCUGACA 84
chr-1.trna130-Leu-CAA    CGUGGGUUCAAAUCCCACUUCUGACA 84
chr-9.trna65-Leu-CAA     CGUGGGUUCAAAUCCCACUUCUGACA 84
chr-2.trna224-Leu-CAA    CGUGGGUUCAAAUCCCACUUCUGACA 84
chr-5.trna210-Leu-CAA    CGUGGGUUCAAAUCCCACUUCUGACA 84
chr-6.trna123-Leu-CAA    CGUGGGUUCAAAUCCCACUUCUGACA 84
chr-7.trna13-Leu-CAA     CGUGGGUUCAAAUCCCACUUCUGACA 84
chr-6.trna122-Leu-CAA    CGUGGGUUCAAAUCCCACUUCUGACA 84
chr-9.trna117-Leu-CAA    CGUGGGUUCAAAUCCCAUUUCUGACA 84
chr-2.trna124-Leu-TAA    CGUGGGUUCGAACCCCACAGCCAGCA 83
chr-2.trna269-Leu-TAA    CGUGGGUUCGAACCCCACAGCCAGCA 83
chr-1.trna89-Leu-TAA     CGUGGGUUCGAACCCCACAGCCAGCA 83
chr-4.trna3-Leu-TAA      CGUGGGUUCGAACCCCACAGCCAGCA 83
chr-3.trna162-Leu-TAA    CGUGGGUUCGAACCCCACAGCCAGCA 84
chr-4.trna54-Leu-CAA     UGGAGGUUCGAGUCCUCUUCAAGGCA 81
chr-2.trna244-Leu-CAA    UGGAGGUUCGAGUCCUCUUCAAGGAA 81
chr-6.trna114-Leu-CAA    UGGAGGUUCGAAUCCUCUUCAAGGCA 81
chr-2.trna34-Leu-TAG     CAUUGGUUCAAAUCCCAUUUUUGACA 74
chr-8.trna157-Leu-TAA    CUCCGGUUCGAUCCUGGACAGCAAAA 73
chr-8.trna156-Leu-TAA    CUCCGGUUCGAUCCUGGACAGCAAAA 73
chr-4.trna34-Leu-CAG     GCUAGGUUCAAAUCCUAGUGUCGCUU 70
                         .........70.........80.....
```