```
                          ((.(((((..(((.((.....)).)))((((((.......))))))((.......)).
chr-3.trna11-Leu-CAA      GC-CUUGGUGGUGAAA-UGGUAGA-CACGCGAGACUCAAAAUCUCGUGCU--AAAUAGCG 55
chr-4.trna161-Leu-CAA     GC-CUUGGUGGUGAAA-UGGUAGA-CACGCGAGACUCAAAAUCUCGUGCU--AAAUAGCG 55
chr-5.trna85-Leu-CAA      GC-CUUGGUGGUGAAA-UGGUAGA-CACGCGAGACUCAAAAUCUCGUGCU--AAAUAGUG 55
chr-1.trna19-Leu-TAG      GC-CGCUAUGGUGAAAUUGGUAGA-CACGUUGCUCUUAGGAAGCAGUGCU----AGAGCA 54
chr-4.trna185-Leu-TAG     GC-CGCUAUGGUGAAAUUGGUAGA-CACGCUGCUCUUAGGAAGCAGUGCU----AGAGCA 54
chr-4.trna74-Leu-TAG      GC-CGCUAUGGUGAAAUUGGUAGA-CACGCUGCUCUUAGGAAGCAGUGCU----AGAGCA 54
chr-6.trna11-Leu-TAG      GC-CGCUAUGGUGAAAUUGGUAGA-CACGCUGCUCUUAGGAAGCAGUGCU----AGAGCA 54
chr-7.trna122-Leu-TAG     GC-CGCUAUGGUGAAAUUGGUAGA-CACGCUGCUCUUAGGAAGCAGUGCU----AGAGCA 54
chr-4.trna159-Leu-TAG     GC-CGCUAUGGUGAAAUUGGUAGA-CACGCUGCUCUUAGGAAGCAGUGCU----AGAGCA 54
chr-3.trna36-Leu-TAG      GA-CGGUUUGGCCAAG-UGGUCUAAGGCAUCAGAUUUAGGCUCCGGUUU----GAAAGGG 54
chr-1.trna34-Leu-TAG      GA-CAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-1.trna78-Leu-TAG      GA-CAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-5.trna20-Leu-TAG      GA-CAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-6.trna9-Leu-TAG       GA-CAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-5.trna52-Leu-TAG      GA-CAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-3.trna95-Leu-TAG      GA-CAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-7.trna77-Leu-TAG      GA-CAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-6.trna14-Leu-TAG      GA-CAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-8.trna92-Leu-TAG      GA-CAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-1.trna10-Leu-TAG      GA-CGGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-4.trna108-Leu-TAG     GA-CGGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGG 54
chr-1.trna3-Leu-AAG       GU-UGAGAUGGCCGAGUUGGUCUAAGGCGCCGAUUAAGGUUCUGGUCU----AAAUGGG 55
chr-7.trna1-Leu-CAG       GU-CAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGG 55
chr-4.trna92-Leu-CAG      GU-CAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGG 55
chr-8.trna52-Leu-CAG      GU-CAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGG 55
chr-7.trna99-Leu-AAG      GU-UGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAUAGGG 55
chr-1.trna6-Leu-AAG       GU-UGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-2.trna36-Leu-AAG      GU-UGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-7.trna33-Leu-AAG      GU-UGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-7.trna57-Leu-AAG      GU-UGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-4.trna60-Leu-AAG      GU-UGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-8.trna82-Leu-AAG      GU-UGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-7.trna62-Leu-AAG      GU-UGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-1.trna45-Leu-AAG      GU-UGAUAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-7.trna32-Leu-AAG      GU-UGAUAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-7.trna31-Leu-AAG      GU-UGAUAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-3.trna93-Leu-AAG      GU-UGAUAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-3.trna130-Leu-AAG     GU-UGAUAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-1.trna2-Leu-AAG       GU-UGAGAUGGCCGAGUUGGUCUAAGGCGUCAGAUUAAGGUUCUGGUCC----GAAAGGG 55
chr-8.trna9-Leu-CAG       GU-CAAGAUGACCGAGUUGGUCUAAGGCACCAGUUUCAGGUACUGGUCC----GGAAAGG 55
chr-3.trna21-Leu-CAA      GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUUCUCGUGAGAGAG 58
chr-7.trna30-Leu-CAA      GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUUCUCGUGAGAGAG 58
chr-4.trna2-Leu-CAA       GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAAAGAGGG 58
chr-4.trna104-Leu-CAA     GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAAAGAGGG 58
chr-5.trna25-Leu-CAA      GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAAAGAGGG 58
chr-1.trna140-Leu-CAA     GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAGAGAGGG 58
chr-3.trna75-Leu-CAA      GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAGAGAGGG 58
chr-4.trna45-Leu-CAA      GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAGAGAGGG 58
chr-5.trna46-Leu-CAA      GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAGAGAGGG 58
chr-8.trna8-Leu-CAA       GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAGAGAGGG 58
chr-5.trna62-Leu-CAA      GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUUUGGUCUUCGAGAGAGGG 58
chr-3.trna132-Leu-CAA     GU-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAGAGAGGG 58
chr-8.trna105-Leu-CAA     GU-UAGGAUGGCCGAC-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUUGAGAGAGGG 58
chr-6.trna16-Leu-CAA      GU-CAGGAUGGCCGAG-UGGUCUAUGGCGUUAGAUUCAAGUUCUGGUCUUCGAAAGAGGG 58
chr-7.trna108-Leu-CAA     GU-CAGGAUGGUCGAG-UGGUCUAAGGCGCCAGACUCAAGUUUUGGUCUUCGAAAGAGGG 58
chr-4.trna1-Leu-CAA       AA-CAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCUUCGAAAGAGGG 58
chr-8.trna106-Leu-CAA     GU-CAGGAUGGCCGAG-UGGUCUAAGGUGCCAGACUCAAGUUUUGGUCUUCGAGAGAGGG 58
chr-4.trna68-Leu-TAA      GCAUAGAAUGGCCGAG-AGGUCUAAGGCGCCAGUCUUAAGAACUGGUCCUCGUGAGAGGG 59
chr-1.trna118-Leu-TAA     GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-3.trna65-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-3.trna66-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-8.trna97-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-4.trna15-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-4.trna75-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-6.trna32-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAU-UGAGUGCG 57
chr-3.trna53-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-6.trna7-Leu-TAA       GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-6.trna34-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-6.trna35-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCG 57
chr-6.trna31-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGAUUUAAGACCUACUGCAC-UGAGUGCG 57
chr-6.trna33-Leu-TAA      GC-AGGCUUGCCCGAG-UGGUCUAAGGGGGUAGACUUAAGACCUACUGCAC-UGAGUGCA 57
chr-4.trna109-Leu-AAG     GU-UGAGAUGGCCGAGUUAGUCUAAGGCGCCAGAUUAAGGUUCUCGUCC----GAAAGGG 55
chr-3.trna131-Leu-AAG     GU-UGAGAUGACCGAGUUGGCCUAAGGCACCGGAUUAAGGAUCC----------AAAGGG 49
chr-7.trna48-Leu-AAG      GG-GCAUUUGGUCUAGUUG---UAUGAUUCUCGCUUAAGGUGCGAGA----------GGU 46
chr-7.trna84-Leu-TAG      GC-CGUUAUGGUGAAA-UUGCUAAACACGCUGCUUUUAGGAA--GGUU------AGAGCA 50
                          .........10........20........30........40........50.........
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                          .(((((.............)))))))))))).
chr-3.trna11-Leu-CAA      UGGAGGUUCGAG------UCCUCUUCAAGGCA 81
chr-4.trna161-Leu-CAA     UGGAGGUUCGAG------UCCUCUUCAAGGCA 81
chr-5.trna85-Leu-CAA      UGGAGGUUCGAG------UCCUCUUCAAGGCA 81
chr-1.trna19-Leu-TAG      UCUCGGUUCGAG------UCCGAGUAGCGGCA 80
chr-4.trna185-Leu-TAG     UCUCGGUUCGAG------UCCGAGUAGCGGCA 80
chr-4.trna74-Leu-TAG      UCUCGGUUCGAG------UCCGAGUAGCGGCA 80
chr-6.trna11-Leu-TAG      UCUCGGUUCGAG------UCCGAGUAGCGGCA 80
chr-7.trna122-Leu-TAG     UCUCGGUUCGAG------UCCGAGUAGCGGCA 80
chr-4.trna159-Leu-TAG     UCUCGGUUCGAG------UCCGAGUAGCGGCA 80
chr-3.trna36-Leu-TAG      CGUGGGUUCAAA------UCUCACAGCCGUCA 80
chr-1.trna34-Leu-TAG      CGUGGGUUCAAA------UCCCACAGCUGUCA 80
chr-1.trna78-Leu-TAG      CGUGGGUUCAAA------UCCCACAGCUGUCA 80
chr-5.trna20-Leu-TAG      CGUGGGUUCAAA------UCCCACAGCUGUCA 80
chr-6.trna9-Leu-TAG       CGUGGGUUCAAA------UCCCACAGCUGUCA 80
chr-5.trna52-Leu-TAG      CGUGGGUUCAAA------UCCCACAGCUGUCA 80
chr-3.trna95-Leu-TAG      CGUGGGUUCAAA------UCCCACAGCUGUCA 80
chr-7.trna77-Leu-TAG      CGUGGGUUCAAA------UCCCACAGCUGUCA 80
chr-6.trna14-Leu-TAG      CGUGGGUUCAAA------UCCCACAGCUGUCA 80
chr-8.trna92-Leu-TAG      CGUGGGUUCAAA------UCCCACAGCUGUCA 80
chr-1.trna10-Leu-TAG      CGUGGGUUCAAA------UCCCACAGCCGUCA 80
chr-4.trna108-Leu-TAG     CGUGGGUUCAAA------UCCCACAGCCGUCA 80
chr-1.trna3-Leu-AAG       UGUGGGUUCAAA------UCCCGCUCUCAACA 81
chr-7.trna1-Leu-CAG       CAUGGGUUCGAA------UCCCAUUCUUGACA 81
chr-4.trna92-Leu-CAG      CAUGGGUUCGAA------UCCCAUUCUUGACA 81
chr-8.trna52-Leu-CAG      CAUGGGUUCAAA------UCCCAUUCUUGACA 81
chr-7.trna99-Leu-AAG      UGUGGGUUCAAA------UCCCACUCUCAACA 81
chr-1.trna6-Leu-AAG       CGUGGGUUCAAA------UCCCACUCUCAACA 81
chr-2.trna36-Leu-AAG      CGUGGGUUCAAA------UCCCACUCUCAACA 81
chr-7.trna33-Leu-AAG      CGUGGGUUCAAA------UCCCACUCUCAACA 81
chr-7.trna57-Leu-AAG      CGUGGGUUCAAA------UCCCACUCUCAACA 81
chr-4.trna60-Leu-AAG      CGUGGGUUCAAA------UCCCACUCUCAACA 81
chr-8.trna82-Leu-AAG      CGUGGGUUCAAA------UCCCACUCUCAACA 81
chr-7.trna62-Leu-AAG      CGUGGGUUCAAA------UCCCACUCUCAACA 81
chr-1.trna45-Leu-AAG      CGUGGGUUCAAA------UCCCACUGUCAACA 81
chr-7.trna32-Leu-AAG      CGUGGGUUCAAA------UCCCACUGUCAACA 81
chr-7.trna31-Leu-AAG      CGUGGGUUCAAA------UCCCACUGUCAACA 81
chr-3.trna93-Leu-AAG      CGUGGGUUCAAA------UCCCACUGUCAACA 81
chr-3.trna130-Leu-AAG     CGUGGGUUCAAA------UCCCACUGUCAACA 81
chr-1.trna2-Leu-AAG       CGUGGGUUCAAA------UCCCACUCUCAACA 81
chr-8.trna9-Leu-CAG       AAUGGGUUUGAA------UCCCAUUCUUAACA 81
chr-3.trna21-Leu-CAA      CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-7.trna30-Leu-CAA      CGUGGGUUCAAA------UUCCAUUUCUGACA 84
chr-4.trna2-Leu-CAA       CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-4.trna104-Leu-CAA     CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-5.trna25-Leu-CAA      CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-1.trna140-Leu-CAA     CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-3.trna75-Leu-CAA      CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-4.trna45-Leu-CAA      CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-5.trna46-Leu-CAA      CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-8.trna8-Leu-CAA       CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-5.trna62-Leu-CAA      CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-3.trna132-Leu-CAA     CAUGGGUUCAAA------UCCCACUUCUGACA 84
chr-8.trna105-Leu-CAA     CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-6.trna16-Leu-CAA      UGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-7.trna108-Leu-CAA     CGUGGGUUCAAA------UCCCACUUUUGACA 84
chr-4.trna1-Leu-CAA       CGUGGGUUCAAA------UCCCACUUCUGACA 84
chr-8.trna106-Leu-CAA     CG-GGGUUCAAA------UCCCACUUCUGACA 83
chr-4.trna68-Leu-TAA      CGUGGGUUCAAA------ACCCACUUCUGACA 85
chr-1.trna118-Leu-TAA     CGUGGGUUCAAA------CCCCACAGCUUGCA 83
chr-3.trna65-Leu-TAA      CGUGGGUUCAAA------CCCCACAGCCUGCA 83
chr-3.trna66-Leu-TAA      CGUGGGUUCAAA------CCCCACAGCCUGCA 83
chr-8.trna97-Leu-TAA      CGUGGGUUCAAA------CCCCACAGCCUGCA 83
chr-4.trna15-Leu-TAA      CGUGGGUUCAAA------CCCCACAGCCUGCA 83
chr-4.trna75-Leu-TAA      CGUGGGUUCAAA------CCCCACAGCCUGCA 83
chr-6.trna32-Leu-TAA      CGUGGGUUCAAA------CCCCACAGCCUGCA 83
chr-3.trna53-Leu-TAA      CGUGGGUUCGAA------CCCCACAGCCUGCA 83
chr-6.trna7-Leu-TAA       CGUGGGUUCGAA------CCCCACAGCCUGCA 83
chr-6.trna34-Leu-TAA      CGUGGGUUCGAA------CCCCACAGCCUGCA 83
chr-6.trna35-Leu-TAA      CGUGGGUUCGAA------CCCCACAGCCUGCA 83
chr-6.trna31-Leu-TAA      CGUGGGUUCAAA------CCCCACAGCCUGCA 83
chr-6.trna33-Leu-TAA      CGUGGGUUCGAA------CCCCACAGCCUGCA 83
chr-4.trna109-Leu-AAG     CGUGAAUUCAAAUCACACUCUCACUCUCAACA 87
chr-3.trna131-Leu-AAG     AGUGGGUUCUUCUC-UAAUCCCACUCUCAACA 80
chr-7.trna48-Leu-AAG      CCCGAGUUCAAU------UCUCGGAAUGCCCC 72
chr-7.trna84-Leu-TAG      UCUCGGUUCGAG------UCCGAGUAGCGACA 76
                          .........70........80........90.
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