```
                          ...(((((....(((...((.((((((.....))).))).)).....)))..(((..((
chr-1.trna486-Asn-ATT     ----CCACU-GCUCAGUUGG-UAAAGCACAAAGCUAUUAACCUUG---UGGA-CAU--GG 48
chr-4.trna320-Asn-ATT     ----CCACU-GCUCAGUUGG-UAAAGCACAAAGCUAUUAACCUUG---UGGA-CGU--GG 48
chr-6.trna43-Asn-ATT      ----CCACU-GCUCAGUUGG-UAAAGCACAAAGCUAUUAACCUUG---UGGA-CGU--GG 48
chr-3.trna82-Asn-ATT      ----CCACU-GCUCAGUUGG-UAAAGCACAAAGCUAUUAACCUUG---UGGA-CGU--GG 48
chr-4.trna49-Asn-ATT      ----CCACU-GCUCAGUUGG-UAAAGCACAAAGCUAUUAACCUUG---UGGA-CGU--GG 48
chr-7.trna361-Asn-ATT     ----CCACU-GCUCAGUUGG-UAAAGCACAAAGCUAUUAGCCUUG---UGGA-CGU--GG 48
chr-3.trna36-Asn-ATT      ----CCACU-GCUAAGUUGG-UAAAGCACAAAGCUAUUAACCUUG---UGGA-CGU--GG 48
chr-5.trna220-Asn-GTT     ----CCACU-GCUCAGUUGG-UAAAGCACAAAGCCGUUAACCUUG---UGGA-CGU--GG 48
chr-6.trna259-Asn-ATT     ---UCCACU-GCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-3.trna159-Asn-ATT     ---UCCACU-GCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CAU--GG 49
chr-1.trna465-Asn-ATT     ---UCCACU-GCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-5.trna254-Asn-ATT     ---UCCACU-GCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-5.trna385-Asn-ATT     ---UCCACU-GCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-3.trna513-Asn-ATT     ---UCCACU-GCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-7.trna183-Asn-ATT     ---UCCACU-ACUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-5.trna502-Asn-ATT     ---UCCACU-CCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-2.trna48-Asn-ATT      ---UCCACU-GCUAAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-2.trna46-Asn-ATT      ---UCCACU-GCUCAGUUGG-UAAAGCACAGGGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-4.trna162-Asn-ATT     ---UCCACU-GCUCAGUUGG-UAAAGCACACGGCUAUUAACCUUG---UGGA-CGU--GG 49
chr-6.trna19-Asn-ATT      ---UCCACU-ACUCAGUUGG-UAGAGUACAAAACUAUUAACCUUG---UGGA-CGU--GG 49
chr-1.trna505-Asn-GTT     ---UCCACU-ACUCAGUUGG-UAGGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-2.trna233-Asn-GTT     ---UCCACU-ACUCAGUUGG-UAGGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-2.trna391-Asn-GTT     ---UCCACU-ACUCAGUUGG-UAGGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-3.trna449-Asn-GTT     ---UCCACU-ACUCAGUUGG-UAGGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-5.trna203-Asn-GTT     ---UCCACU-ACUCAGUUGG-UAGGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-5.trna144-Asn-GTT     ---UCCACU-ACUCAGUUGG-UAGGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-3.trna575-Asn-GTT     ---UCCACU-ACUCAGUUGG-UAGGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-4.trna168-Asn-GTT     ---UCCACU-ACUCAGUUGG-UAGGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-3.trna481-Asn-GTT     ---UCCACU-ACUCAGUUGG-UAGGGUACAAAGUUGUUAACCUUG---UGGA-CGU--GG 49
chr-4.trna112-Asn-GTT     ---UCCACU-UCUCAGUUGG-UAGGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-1.trna220-Asn-GTT     ---UCCACU-ACUCAGUUGG-UACGGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-7.trna293-Asn-GTT     ---UCCACU-AUUCAGUUGG-UAGAGUACAAAGCUGUUAACCUUG---UGGA-CGU--GG 49
chr-4.trna104-Asn-ATT     ---UCCACU-ACUCAGUUGG-AAGAGUACAAAGCUAUUAACCUUA---UGGA-CGU--GG 49
chr-2.trna361-Asn-ATT     -------CU-GCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CAU--GG 45
chr-2.trna365-Asn-ATT     -------CU-GCUGAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CAU--GG 45
chr-1.trna381-Asn-ATT     -------CU-GCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 45
chr-6.trna125-Asn-ATT     -------CU-GCUCAGUUGG-UAAAGCACAGAGCUAUUAACCUUG---UGGA-CGU--GG 45
chr-4.trna163-Asn-GTT     -------CU-ACUCAGUUAG-UAGGGUACAAAGCUGUUAACCUUG---UGAA-CGU--GG 45
chr-7.trna193-Asn-ATT     -------CU-ACUCAGUUGG-UAGAGUACAAAUCUAUUAACCUUA---UGGA-UGU--GG 45
chr-7.trna192-Asn-ATT     -------CU-ACUCGGUUGG-UAGAGUACAAAUCUAUUAACCUUA---UGGA-CGU--GG 45
chr-2.trna104-Asn-GTT     -------CU-ACUCAGUUGG-UAGAGUAUAAAGCUGUUAACCUUA---UGGA-CGU--GG 45
chr-3.trna517-Asn-ATT     G-AUCCACU-GCUCAGUUGG-UAAAGCACAAAGCUAUUAACCUUG---UGGA-CGU--GG 51
chr-2.trna303-Asn-ATT     G--UCCACU-GCUCAGUUGG-UAGAUCACAAGGCUAUUAACCUUG---UGGA-CGU--GG 50
chr-3.trna310-Asn-ATT     GUCUGUCCA-GCUCAGUCGA-UAGAGCGCAAGGCUAUUAACCUUU---UGGU-CUU--GG 52
chr-7.trna47-Asn-GTT      U-CCUCGGUAGCUCAGU--GGUAGAGCGGUCGGCUGUUUUCGGAC---UGGU-CGU--AG 51
chr-6.trna76-Asn-GTT      U-CCUCAGUAGCUCAGU--GGUAGAGCAGUCGGCUGUUAACUGAC---UGGU-CGU--AG 51
chr-3.trna92-Asn-GTT      U-CCUCAGUAGCUCAGU--GGUAGAGUGGUCGGCUGUUAACUGAC---UGGU-CGU--AG 51
chr-7.trna42-Asn-GTT      U-CCUCAGUAGCUCAGU--GGUAGAGCGGUCGACUGUUAACUGAC---UGGU-CGU--AG 51
chr-6.trna297-Asn-GTT     U-CCUCAGUAGCUCAGU--GGUAAAGCGGUCGGCUGUUAACUGAC---UGGU-CAU--AG 51
chr-4.trna248-Asn-GTT     U-CCUCGGUAGCUCAGU--GGUAGAGUAGUCAACUGUUAACUGAC---UGGU-CGU--AC 51
chr-4.trna72-Asn-GTT      U-CCUCAAUAGCUCAGUUCGGUAGAGCGAUCGGCUGUUAACUGAU---UGGU-CGU--AG 53
chr-3.trna283-Asn-GTT     U-CCUCAGUAGCUCAGU--GGUAGAGCGGUCGGCUGUUAACUGAC---UGGU-CGU--AG 51
chr-2.trna197-Asn-GTT     G-CUGGAGUAGCUCAGUUGGUUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-2.trna201-Asn-GTT     G-CUGGAGUAGCUCAGUUGGUUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-2.trna266-Asn-GTT     G-CUGGAAUAGCUCAGUUGGUUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-1.trna64-Asn-GTT      G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-1.trna368-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-4.trna192-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-4.trna195-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-4.trna196-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-4.trna197-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-4.trna213-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-5.trna366-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-4.trna191-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCGCA---AGGU-CGG--AG 53
chr-1.trna493-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-6.trna234-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-1.trna34-Asn-GTT      G-CUGGAAUAGCUCAGAUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-1.trna414-Asn-GTT     G-CUGGAAUAGCUCAGAUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-2.trna54-Asn-GTT      G-CUGGAAUAGCUCAGAUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-5.trna140-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCAUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-2.trna287-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCCAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-1.trna556-Asn-GTT     G-CUGGAAUAGCUUAGUUGGCUAGAGCAUGUGGCUGUUAACCACA---AUGU-CGG--AG 53
chr-2.trna503-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUAUGGCUGUUCACCACA---AGCU-CGG--AG 53
chr-2.trna198-Asn-GTT     G-UUGUAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CGG--AG 53
chr-2.trna64-Asn-ATT      U-CCUCAAUAGCUCAGUUCGGUAGAGCGAUCGGCUAUUAACUGAU---UGGU-CGU--AG 53
chr-2.trna69-Asn-GTT      U-CCUCAAUAGCUCAGUUCGGUAGAGCGAUCGGCUGUUAACUGAU---UGGU-CGU--AG 53
chr-5.trna141-Asn-GTT     G-CUGGAAUAGCUCAGUUGGCUAGAGCGUGUGGCUGUUAACCACA---AGGU-CUG---- 51
chr-7.trna258-Asn-GTT     U-CCUCAGUAGCU-GCAGUGGUAGAGCGGUCGGCUGUUAACUGAC---UGGUACGUUAAG 55
chr-3.trna620-Asn-GTT     ------AGUAGCUCAGUGG--UAGAGCGGUCGGCUGUUAACUAAC---UGGU------CG 43
chr-4.trna63-Asn-GTT      GGAGAGA-UGGCUGAGUGGACUAAAGAGGUAGAUUGUUAAUCUGUGUACAAUUUUUUUUG 59
                          .........10........20........30........40........50.........
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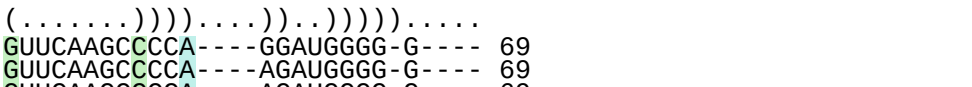

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                          (.......))))....))..)))))).....
chr-1.trna486-Asn-ATT     GUUCAAGCCCCA----GGAUGGGG-G---- 69
chr-4.trna320-Asn-ATT     GUUCAAGCCCCA----AGAUGGGG-G---- 69
chr-6.trna43-Asn-ATT      GUUCAAGCCCCA----AGAUGGGG-G---- 69
chr-3.trna82-Asn-ATT      GUUCAAGCCCCA----AGAUGGGG-G---- 69
chr-4.trna49-Asn-ATT      GUUCAAGCCCCA----AGAUGGGG-G---- 69
chr-7.trna361-Asn-ATT     GUUCAAGCCCCA----UGAUGGGG-G---- 69
chr-3.trna36-Asn-ATT      GUUCAAGCCCCA----AGAUGGGG-G---- 69
chr-5.trna220-Asn-GTT     GUUCAAGCCCCA----UGAUGGGG-G---- 69
chr-6.trna259-Asn-ATT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-3.trna159-Asn-ATT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-1.trna465-Asn-ATT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-5.trna254-Asn-ATT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-5.trna385-Asn-ATT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-3.trna513-Asn-ATT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-7.trna183-Asn-ATT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-5.trna502-Asn-ATT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-2.trna48-Asn-ATT      GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-2.trna46-Asn-ATT      GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-4.trna162-Asn-ATT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-6.trna19-Asn-ATT      GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-1.trna505-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-2.trna233-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-2.trna391-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-3.trna449-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-5.trna203-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-5.trna144-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-3.trna575-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-4.trna168-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-3.trna481-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-4.trna112-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-1.trna220-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-7.trna293-Asn-GTT     GUUCAAGCCCCA----UG--GUGGAG---- 69
chr-4.trna104-Asn-ATT     GUUCGGGCCCCA----UGGAGAGGAU---- 71
chr-2.trna361-Asn-ATT     GUUCAAGCCCCA----UGGUGGAGA----- 66
chr-2.trna365-Asn-ATT     GUUCAAGCCCCA----UGGUGGAGA----- 66
chr-1.trna381-Asn-ATT     GUUCAAGCCCCA----UGGUGGAGA----- 66
chr-6.trna125-Asn-ATT     AUUCAAGCUCCA----UGGUCGAGA----- 66
chr-4.trna163-Asn-GTT     GUUCAAGCCCCA----UGGUGGAGA----- 66
chr-7.trna193-Asn-ATT     GUUCAAGCCCCA----UGGUGAAGA----- 66
chr-7.trna192-Asn-ATT     GUUCAAGCCCCA----UGGUGAAGA----- 66
chr-2.trna104-Asn-GTT     GUUCAAGCCCCA----UGGUGAGGG----- 66
chr-3.trna517-Asn-ATT     GUUCAAGCCCCA----UGUAUCAAUGAUCA 77
chr-2.trna303-Asn-ATT     GUUUGAGCCCCA----UGGUGGGGGUUACA 76
chr-3.trna310-Asn-ATT     GUUCGAGCCCCA----AGUUGGGUG----- 73
chr-7.trna47-Asn-GTT      GUUCGAAUCCUA----C---UUGGG--GAG 72
chr-6.trna76-Asn-GTT      GUUCAAAUCCUA----C---UUGGG--GAG 72
chr-3.trna92-Asn-GTT      GUUCGAAUCCUA----C---UUGGG--GAG 72
chr-7.trna42-Asn-GTT      GUUAGAAUCCUA----C---UUGGG--GAG 72
chr-6.trna297-Asn-GTT     GUUCGAAUCCUA----C---UUGGG--GAG 72
chr-4.trna248-Asn-GTT     GUGCCAAUACUA----C---UUGGG--GAG 72
chr-4.trna72-Asn-GTT      GUUCGAAUCCUA----C---UUGGGUAGAU 76
chr-3.trna283-Asn-GTT     GUUCGAAUCCUA----C---UUGGGUAGAU 74
chr-2.trna197-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-2.trna201-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-2.trna266-Asn-GTT     GUUCAAGCCCUC----C---UUCUA--GCG 74
chr-1.trna64-Asn-GTT      GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-1.trna368-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-4.trna192-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-4.trna195-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-4.trna196-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-4.trna197-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-4.trna213-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-5.trna366-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-4.trna191-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-1.trna493-Asn-GTT     GUUCAAGCCCUC----C---UUCUA--GCG 74
chr-6.trna234-Asn-GTT     GUUCAAGCCCUC----C---UUCUA--GCG 74
chr-1.trna34-Asn-GTT      GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-1.trna414-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-2.trna54-Asn-GTT      GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-5.trna140-Asn-GTT     GUUCAAGCCCUC----C---UUCUA--GCG 74
chr-2.trna287-Asn-GTT     GUUCAAGCCCUC----C---UUCUA--GCG 74
chr-1.trna556-Asn-GTT     GUUCAAGCCCUC----C---UUCUA--GCG 74
chr-2.trna503-Asn-GTT     GUUCGAGCCCUC----C---UUCUA--GCG 74
chr-2.trna198-Asn-GTT     GUUCAAGCCCUC----C---UUCUA--GCG 74
chr-2.trna64-Asn-ATT      GUUCGAAUCCUA----C---UUGGG--GAG 74
chr-2.trna69-Asn-GTT      GUUCGAAUCCUG----C---UUGGG--GAG 74
chr-5.trna141-Asn-GTT     --UCAUUUUCUU----A---UUUCA--ACA 70
chr-7.trna258-Asn-GTT     GUUCGAAUCCUA----C---UUGGG-AGAU 77
chr-3.trna620-Asn-GTT     GUUCAAAUCGUU----CGUUCGCUA----- 64
chr-4.trna63-Asn-GTT      UACCGAGGGUUCGAAUCGCUCUCUUU-CCG 88
                          .........70........80.........
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