```
                                 (((((((..((((((....))).))).(((((.......)))))).....(((.(.....
chr-4.trna31-Val-AAC             G---UCGUGGUGUAGUUGGUUAUCAUGUUAGUCUAACACACUAAAGAUCUCU-GAUUUGA 56
chr-16.trna22-Val-AAC            G---CCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 56
chr-1.trna41-Val-CAC             GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACGCUAGAGGUCCCC-GGUUCAA 59
chr-12.trna67-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCAA 59
chr-17.trna48-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-5.trna40-Val-CAC             GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-20.trna80-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-10.trna10-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-10.trna16-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-12.trna37-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-12.trna38-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-12.trna69-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-12.trna72-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-10.trna73-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GUUUCGA 59
chr-20.trna79-Val-CAC            GUCUGGGUGGUGUAGUUGGUUAUCACGCUAAUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-10.trna37-Val-CAC            GUCUGGGUGGUGUUGUUGGUUAUCACGCUAGUCUCACACACUAGAGGUCCCC-GGUUCGA 59
chr-15.trna41-Val-CAC            GUCUGGAUGGUGUAGUUGGUUAUCAUGCUAGUCUCACACACUAGAGGUCCCC-AGUUCGA 59
chr-11.trna42-Val-CAC            GUUUACGUAUUGUAGUUAGUUAUCAUGCUAGUCUCACACACUAGAGGCCCCC-AGUUCAA 59
chr-1.trna42-Val-CAC             GUUUGGGUGGUGUAAUUGGUUAUCAUGCUAGUCUCACACACCAAAGGUCCCC-AGUUAGA 59
chr-10.trna5-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUUAGUUUAACACGUUGAAGGUCUCU-GGUUCGA 59
chr-2.trna56-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACAGAAGGUCUCC-GGUUCAA 59
chr-13.trna11-Val-AAC            GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-AGUUCGA 59
chr-14.trna27-Val-AAC            GGUGUCGUGGUGUAGUUAGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-14.trna29-Val-AAC            GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-AGUUCGA 59
chr-1.trna5-Val-AAC              GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-5.trna4-Val-AAC              GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-5.trna61-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-22.trna12-Val-AAC            GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-5.trna62-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-21.trna46-Val-AAC            GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-7.trna17-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-7.trna18-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-9.trna2-Val-AAC              GGUUUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-9.trna14-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-9.trna28-Val-AAC             GGUUUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-12.trna64-Val-AAC            GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-16.trna18-Val-AAC            GGUUUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-16.trna19-Val-AAC            GGUUUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-3.trna24-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-3.trna34-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-5.trna16-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-9.trna15-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGAUCUCC-GGUUCGA 59
chr-22.trna13-Val-AAC            GGUUUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-16.trna20-Val-AAC            GGUUUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-4.trna25-Val-AAC             GGUGUCGUGGUGUUGUUGGUUAUCACGUCAAUCUAACACACUGAAGGUCUCC-GAUUCGA 59
chr-9.trna30-Val-AAC             GGUUUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUUC-GGUUCGA 59
chr-9.trna32-Val-AAC             GGUGUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACAGUGAAGGUCUCC-GGUUCGA 59
chr-9.trna20-Val-AAC             GGUGUCGUGGUUUAGUUAGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-22.trna11-Val-AAC            GGUUUCGUGGUGUAGUUGGUUAUCACGUCAGUCUAACACGCUGAAGGUCUCC-GGUUCGA 59
chr-9.trna3-Val-AAC              GGUUUCGUGGUAUAGUUGGUUAUCACGUCAGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-9.trna29-Val-AAC             GGUUUCGUGGUGUAGUUGGUUAUCACGUCAGUUUAACACACUGAAGGUCUUC-GGUUCGA 59
chr-4.trna30-Val-AAC             GAUGUCUUGGUGUAGUUGAUUAUCAUGUCAGUUUAACACAUUGAAGGUCUCC-GGUUCGA 59
chr-16.trna21-Val-AAC            GGUUUCGUGGUGUAGUUGGUUAUCACGUGAGUCUAACACACUGAAUGUCUAC-GGUUCGA 59
chr-5.trna42-Val-AAC             GGUGUCAUGGUGUAGUUGGUUAUCACGUCUGUCUAACACACUGAAGGUCUCC-GGUUCGA 59
chr-6.trna1-Val-AAC              GGUGUCAUGGUGUAGUUGGUCAUCACGUCAAUUUAACACACUGAAGGUCUUC-GGUUUAA 59
chr-26.trna11-Val-TAC            GUUGCUGUGGUGUAG-UGGUUAUCACGUUAGUCUUACACACUAAAGGUCCUC-AGUUCGA 58
chr-20.trna60-Val-TAC            GUUGCUGUGGUGUAG-UGGUUAUCACGUUAGUCUUACACACUAAAGGUCCCU-AGUUCGA 58
chr-21.trna3-Val-TAC             GUUGCUGUGGUGUAG-UGGUUAUCACGUUAGUCUUACACACUAAAGGCCCCC-AGUUCGA 58
chr-22.trna64-Val-TAC            GUUGCUGUGGUGUAG-UGGUUAUCACGUCAGUUUUACACACUGAAGGUCCCC-AGUUCGA 58
chr-19.trna47-Val-TAC            GUUGCUGUGGUGUAG-UGGUUAUCACGUCAGUCUUACACACUGAAGGUCCCC-AGUUCGA 58
chr-21.trna43-Val-TAC            GUUGCUGUGGUGUAG-UGGUUAUCACGUCAGUCUUACACACUGAAGGUCCCC-AGUUCGA 58
chr-21.trna42-Val-TAC            GUUGCUGUGGUGUAG-UGGUUAUCACGUCAGUCUUACACACUGAAGGUCCCC-AGUUCGA 58
chr-14.trna76-Val-TAC            GUUGCUGUGGUGUAG-UGGUUAUCACGUCAGUCUUACACACUGAAGGUCCCC-AGUUCGA 58
chr-13.trna14-Val-TAC            GUUGCUGUGGUGUAG-UGGUUAUCACGUCAGUCUUACACACUGAAGGUCUUC-AGUUCGA 58
chr-8.trna34-Val-TAC             GUUGUUGUGGUGUAA-UGGUUAUCACGUUAGUCUUACACACUAAAGGUCCUCAUUUUGA 59
chr-20.trna35-Val-TAC            GUUGCUAUGGUGUAG-UGGUUAUCACAUUAGUCUUACACACUAAAGGUCCCU-AGUUCGA 58
chr-19.trna58-Val-TAC            GUUGCCGUGGUGUAG-UGGUUAUCACGUCAGUCUUACACACUGAAGGCCCCC-AGAUCGG 58
chr-9.trna33-Val-GAC             GUCUGGGUAGUGUAGUUGGUUAUCAUGCUAGUUUGACACACUAGAGGUCCCC-GGUUAGA 59
chr-15.trna25-Val-GAC            AGGGAUAUAACUCUGC--GGUAGAGUGUCACCUUGACGCGGAGGUGGUCAUC-AGUUCGA 57
chr-1.trna17-Val-GAC             AGGGAUAUAACUUAGC--GGUAGAGUGUCACCUUGACGUGGUGGAAGUCAUC-AGUUCGA 57
chr-8.trna9-Val-GAC              AGGGAUAUAACUCAGC--GGUAGAGUAUCACCUUGACGUGGUGGAAGUCAUC-AGUUCGA 57
chr-6.trna4-Val-GAC              AGGGAUAUAACUUAGC--GGUAGAGUGUCACCUUGACGUGGUGGAAGUCAUC-AGUUCGA 57
chr-12.trna49-Val-GAC            AGGGAUAUAACUCAGC--GGUAGAGUGUCACCUUGACAUGGUGGAAGCCAUC-AGUUCGA 57
chr-9.trna27-Val-GAC             AGGGAUAUAACUCAAC--GGUAGAGUGUCACCUUGACGUGGUAGAAGUUAUU-AGUUCGA 57
chr-13.trna20-Val-GAC            AGGGAUAUAACUUAGC--GGUAGAGUGUCACCUUGACGUGGUGGAAGUCAUC-AGUUCGA 57
chr-7.trna9-Val-GAC              AGGGAUAUAACUCAGC--GGUAGAAUGUCACCUUGACGUGGUGGAAGUCAUC-AGUUCGA 57
chr-20.trna61-Val-GAC            AGGGAUGUAACUCAGC--GGUAGAGUGUCACAUUGACAUGGUGGAAGUCAUC-AGUUCGA 57
chr-1.trna2-Val-GAC              AGGGAUGUAACUCAGC--GGUAGAGUGUCACAUUGACAUGGUGGAAGUCAUC-AGUUCGA 57
chr-25.trna16-Val-GAC            AGGGGUAUAACUCAGU--GGUAGAGUGUCGCCUUGACAUGGUGAAAGUCAUC-AGUUCGA 57
                                 .........10........20........30........40........50.........
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                                 ..)))))))))))).
chr-4.trna31-Val-AAC             GUCCGGGCAACGCCA 71
chr-16.trna22-Val-AAC            AUCCGGGCGAAGCCA 71
chr-1.trna41-Val-CAC             ACCCGGGCUCAGACA 74
chr-12.trna67-Val-CAC            ACCCGGGCUCAGACA 74
chr-17.trna48-Val-CAC            ACCCGGGCUCAGACA 74
chr-5.trna40-Val-CAC             ACCCGGGCUCAGACA 74
chr-20.trna80-Val-CAC            ACCCGGGCUCAGACA 74
chr-10.trna10-Val-CAC            ACCCGGGCUCAGACA 74
chr-10.trna16-Val-CAC            ACCCGGGCUCAGACA 74
chr-12.trna37-Val-CAC            ACCCGGGCUCAGACA 74
chr-12.trna38-Val-CAC            ACCCGGGCUCAGACA 74
chr-12.trna69-Val-CAC            ACCCGGGCUCAGAUA 74
chr-12.trna72-Val-CAC            ACCCGAGCUCAGACA 74
chr-10.trna73-Val-CAC            ACCCGGGCUCAGACA 74
chr-20.trna79-Val-CAC            AUCCGCGCUCAGACA 74
chr-10.trna37-Val-CAC            ACCCGGGCUCAGACA 74
chr-15.trna41-Val-CAC            ACCCGGGCUCAGACA 74
chr-11.trna42-Val-CAC            ACUCGGGCCCAGACA 74
chr-1.trna42-Val-CAC             ACUUGAGUUUAAACA 74
chr-10.trna5-Val-AAC             GUCUGGGCGAUGCCA 74
chr-2.trna56-Val-AAC             GUCCGGGCGACGCCA 74
chr-13.trna11-Val-AAC            GUCUGGGCGACGCCA 74
chr-14.trna27-Val-AAC            GUCCGGGCGACGCCA 74
chr-14.trna29-Val-AAC            GUCUGGGCGACGCCA 74
chr-1.trna5-Val-AAC              GUCCGGGCGACGCCA 74
chr-5.trna4-Val-AAC              GUCCGGGCGACGCCA 74
chr-5.trna61-Val-AAC             GUCCGGGCGACGCCA 74
chr-22.trna12-Val-AAC            GUCCGGGCGAAGCCA 74
chr-5.trna62-Val-AAC             GUCCGGGCGACGCCA 74
chr-21.trna46-Val-AAC            GUCCGGGCGACGCCA 74
chr-7.trna17-Val-AAC             GUCCGGGCGACGCCA 74
chr-7.trna18-Val-AAC             GUCCGGGCGACGCCA 74
chr-9.trna2-Val-AAC              GUCCGGGCGAAGCCA 74
chr-9.trna14-Val-AAC             GUCCGGGCGACGCCA 74
chr-9.trna28-Val-AAC             GUCCGGGCGAAGCCA 74
chr-12.trna64-Val-AAC            GUCCGGGCGACGCCA 74
chr-16.trna18-Val-AAC            GUCCGGGCGAAGCCA 74
chr-16.trna19-Val-AAC            GUCCGGGCGAAGCCA 74
chr-3.trna24-Val-AAC             GUCCGGGCGAUGCCA 74
chr-3.trna34-Val-AAC             GUCCGGGCGAUGCCA 74
chr-5.trna16-Val-AAC             GUCUGGGCGACGCCA 74
chr-9.trna15-Val-AAC             GUCCGGGCGACGCCA 74
chr-22.trna13-Val-AAC            AUCCGGGCGAAGCCA 74
chr-16.trna20-Val-AAC            GUCCGCGCGAAGCCA 74
chr-4.trna25-Val-AAC             GUCCGGGCGACGCCA 74
chr-9.trna30-Val-AAC             GUCCGGGCGAAGCCC 74
chr-9.trna32-Val-AAC             GUCCGGGCGACGCCA 74
chr-9.trna20-Val-AAC             GUCUGGGCGACGCCA 74
chr-22.trna11-Val-AAC            AUCCGGGGGAAACCA 74
chr-9.trna3-Val-AAC              GUCCGGGCGAAGCCA 74
chr-9.trna29-Val-AAC             GUCCGGGCGAAGCCA 74
chr-4.trna30-Val-AAC             GUCCGGGUGACGUCA 74
chr-16.trna21-Val-AAC            GUCCGCGCGAAGCCA 74
chr-5.trna42-Val-AAC             GUCCGGGCGACUUCA 74
chr-6.trna1-Val-AAC              GUCCGGGCGACGCCA 74
chr-26.trna11-Val-TAC            UCCUGGGCAGCAACA 73
chr-20.trna60-Val-TAC            UCCUAGGUAGCAACA 73
chr-21.trna3-Val-TAC             UCCUGGGCAGCAACA 73
chr-22.trna64-Val-TAC            UCCUGGGCAGCAACA 73
chr-19.trna47-Val-TAC            UCCUGGGCAGCAACA 73
chr-21.trna43-Val-TAC            UCCUGGGCAGCAACA 73
chr-21.trna42-Val-TAC            UCCUGGGCAGCAACA 73
chr-14.trna76-Val-TAC            UCCUGGGCAGCAACA 73
chr-13.trna14-Val-TAC            UCCUGGGCAGCAACA 73
chr-8.trna34-Val-TAC             UCCUGGGCAACAACA 74
chr-20.trna35-Val-TAC            UCUUGGGUAGCAACA 73
chr-19.trna58-Val-TAC            UCCUCGGCAGUAACA 73
chr-9.trna33-Val-GAC             ACCUAAGUUUAGAUA 74
chr-15.trna25-Val-GAC            GUCAGAUUAUCCCUA 72
chr-1.trna17-Val-GAC             GCCUGAUUAUCCCUA 72
chr-8.trna9-Val-GAC              GCCUGAUUAUCCCUA 72
chr-6.trna4-Val-GAC              GCCUGAUUAUCCCUA 72
chr-12.trna49-Val-GAC            GCCUGAUUAUCCCUA 72
chr-9.trna27-Val-GAC             GCCUGAUUAUUCCUA 72
chr-13.trna20-Val-GAC            GCCUGAUUAUCCCAA 72
chr-7.trna9-Val-GAC              GCCUGAUUAUCCCUA 72
chr-20.trna61-Val-GAC            GUCUGAUUAUCUCUA 72
chr-1.trna2-Val-GAC              GUCUGAUUAUCUCUA 72
chr-25.trna16-Val-GAC            GCCUAAUUAUCCCUA 72
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