



1.1_o_50%_cn
 abcdefgabcdefgabcdefgabcdefgabcdbcddefgabcdefgabcdefgabcdefgabcdefgabcdefgabcdefgabcdefgabcdefg
 YSEL-EDIQTKGKEVENFEKNLEECITRITNTTEKCLKELMELKTKA-EL-EECRSLRS-C-QL EERVSA MEDEM NEMK-EGKFR EKRIKRNEQSLQE IWDY

1_chr8_2_1 F...EV*.N..Q.K.L..R.D.WL...SV..S.ND.....D..T.FS..F...G...VI..Q.....Q.....V...*....G..
 1_chr4_3_2E....D..XX..Q...DK.....N.....R.....V.....I.....
 1_chr15_4_3E..I.....S.....P.....R.....V.....Y..
 1_chr6_5_4A.....K.....
 1_chr3_6_5M.....R...K.K.....T.....
 1_chr7_7_6R.....A.....R.....V.A.....
 1_chr3_8_7E.....K...DQ.....A.....R.....V.A.....
 1_chr5_9_8Q.....
 1_chr2_10_9
 1_chr2_11_10A.....Q.....
 1_chr3_12_11I.....Q.....E.....
 1_chrX_13_12L.....R.....*.....
 1_chr14_14_13
 1_chr1_15_14 *.....
 1_chr18_16_15
 1_chr5_17_16 ..K.....
 1_chr8_18_17
 1_chr1_19_18T.....
 1_chr8_20_19D.....G.....
 1_chr13_21_20
 1_chr4_22_21D.....G.....E.....
 1_chr4_23_22D.....E.....
 1_chr5_24_23
 1_chr4_25_24K.....X.....P.....V.....
 1_chr14_26_25
 1_chrX_27_26D.....S.....V.....A.....
 1_chr16_28_27Q.....V..Q.....A.....
 1_chr1_29_28N.....
 1_chr1_30_29Q.....
 1_chr18_31_30
 1_chr13_32_31Y.....S.....K.....
 1_chr2_33_32
 1_chr14_34_33
 1_chr8_35_34
 1_chr4_36_35Y.....V.....
 1_chr6_37_36
 1_chr18_38_37
 1_chr9_39_38
 1_chr6_40_39N.....V.....
 1_chr8_41_40
 1_chr8_42_41P.....
 1_chr3_43_42V.....
 1_chr4_44_43
 1_chr6_45_44K.....
 1_chrY_46_45
 1_chrY_47_46T.....L.....
 1_chr8_48_47
 1_chr7_49_48
 1_chr1_50_49R.....
 1_chr3_51_50R.....
 1_chr2_52_51D.....
 1_chr4_53_52
 1_chr3_54_53
 1_chr5_55_54
 1_chr13_56_55X.....
 1_chr4_57_56
 1_chr17_58_57Y.....

```

1_1_o_50%_cn      YSEL-EDIQTKGKEVENFEKNLEECITRITTEKCLKELMELKTKA-EL-EECRSLRS-C-QLEERVVSAMEDEMNEK-EGKFRKRIKRNEQSLQEIWDY
1_chr18_59_58     .....I.....
1_chrX_60_59      .....W.....
1_chr11_61_60     .....
1_chr10_62_61     .....
1_chr14_63_62     .....
1_chr7_64_63      .....
1_chr5_65_64      ..K.....
1_chr1_66_65      .....S.....K...
1_chr6_67_66      .....
1_chr4_68_67      .....
1_chr2_69_68      .....X.....
1_chr1_70_69      .....
1_chr20_71_70     .....
1_chr5_72_71      ..D.....V.....
1_chrX_73_72      .....V.....
1_chr5_74_73      .....
1_chr5_75_74      .....
1_chr1_76_75      .....
1_chr1_77_76      .....
1_chr15_78_77     .....
1_chr16_79_78     .....
1_chr6_80_79      .....
1_chrX_81_80      .....V.....
1_chr13_82_81     .....T.....
1_chr11_83_82     .....
1_chr5_84_83      .....X.....
1_chrX_85_84      .....
1_chr1_86_85      .....
1_chr7_87_86      .....
1_chrX_88_87      .....
1_chrX_89_88      .....
1_chr7_90_89      .....V.....
1_chr11_91_90     .....
1_chr3_92_91      .....I.....
1_chr3_93_92      .....
1_chr12_94_93     .....
1_chr4_95_94      .....Q.....
1_chr1_96_95      .....
1_chr7_97_96      .....
1_chr1_98_97      .....T.....T.....
1_chr3_99_98      .....
1_chr14_100_99    .....
1_chrX_101_100    .....
1_chr5_102_101    .....
1_chr8_103_102    .....T.....
1_chr11_104_103   .....
1_chrX_105_104    .....
1_chr12_106_105   .....
1_chr4_107_106    .....
1_chr10_108_107   .....
1_chr3_109_108    .....I.....
1_chr2_110_109    .....
1_chr6_111_110    .....
1_chr2_112_111    .....
1_chr3_113_112    .....
1_chr1_114_113    .....
1_chr2_115_114    .....
1_chr6_116_115    .....*.....
1_chr11_117_116   .....
1_chr2_118_117    .....P.....L.....
1_chrX_119_118    .....
1_chr4_120_119    .....
1_chr1_121_120    .....V.....
1_chr4_122_121    .....V.....

```

```

1_1_o_50%_cn YSEL-EDIQTKGKEVENFEKNLEECITRITNTTEKCLKELMELKTKA-EL-EECRSLRS-C-QLEERVSAMEDEMNEK-EGKFRKRIKRNEQSLQEIWDY
1_chr16_123_122 .....+++.....V.....
1_chr5_124_123 .....V.....
1_chr10_125_124 .....
1_chr6_126_125 .....*..
1_chr3_127_126 .....
1_chr18_128_127 .....
1_chr17_129_128 .....
1_chr5_130_129 .....
1_chr3_131_130 .....I.....
1_chr14_132_131 .....
1_chr5_133_132 .....
1_chrX_134_133 .....K.....G.....
1_chr2_135_134 .....
1_chr10_136_135 .....S.....
1_chr7_137_136 .....
1_chr16_138_137 .....
1_chr15_139_138 .....
1_chr4_140_139 .....
1_chr12_141_140 .....
1_chr14_142_141 .....
1_chr16_143_142 .....D.....
1_chr20_144_143 .....N.....
1_chrX_145_144 .....
1_chr2_146_145 .....
1_chr4_147_146 .....
1_chr11_148_147 .....R.....
1_chr4_149_148 .....
1_chr18_150_149 .....T.....
1_chr18_151_150 .....
1_chr7_152_151 .....R.....
1_chr11_153_152 .....
1_chr1_154_153 .....R.....
1_chr1_155_154 .....K.....
1_chr11_156_155 .....Q.....
1_chr12_157_156 .....A.....
1_chrY_158_157 .....
1_chr15_159_158 .....
1_chrX_160_159 .....
1_chr12_161_160 .....
1_chr4_162_161 .....
1_chrX_163_162 .....
1_chr18_164_163 .....
1_chr2_165_164 .....
1_chr2_166_165 .....T.....
1_chr5_167_166 .....
1_chr1_168_167 .....
1_chr10_169_168 .....N.....
1_chr12_170_169 .....
1_chr6_171_170 .....
1_chr5_172_171 .....
1_chr2_173_172 .....N.....V.....
1_chr8_174_173 .....X.....
1_chr2_175_174 .....
1_chr3_176_175 .....
1_chr1_177_176 .....
1_chr6_178_177 .....
1_chr4_179_178 .....
1_chrX_180_179 .....
1_chr2_181_180 .....
1_chr3_182_181 .....
1_chr2_183_182 .....R.....
1_chr2_184_183 .....I.....*..
1_chr22_185_184 .....I.....
1_chr11_186_185 .....

```

```

1_1_o_50%_cn      YSEL-EDIQTKGKEVENFEKNLEECITNTTEKCLKELMELKTKA-EL-EECRSLRS-C-QLEERVSAEMEDEMNEK-EGKFRKRIKRNEQSLQEIWDY
1_chr2_187_186    .....Q.....
1_chr3_188_187    .....
1_chr10_189_188   .....
1_chr20_190_189   .....
1_chrX_191_190    .....
1_chrY_192_191    .....V.....
1_chr13_193_192   .....
1_chr4_194_193    .....
1_chr5_195_194    .....
1_chr1_196_195    .....
1_chr10_197_196   .....
1_chr4_198_197    .....
1_chr13_199_198   .....
1_chr9_200_199    .....
1_chr4_201_200    .....
1_chr4_202_201    .....A.....G.....
1_chr5_203_202    .....S.....
1_chr2_204_203    .....DN.....V.....
1_chr7_205_204    .....
1_chrX_206_205    .....Q.....
1_chr4_207_206    .....
1_chr11_208_207   .....N.....
1_chr7_209_208    .....E.....N.....
1_chr6_210_209    .....X.....
1_chr1_211_210    .....X.....
1_chr20_212_211   .....T.....
1_chr9_213_212    .....
1_chr13_214_213   .....
1_chrX_215_214    .....
1_chr4_216_215    .....
1_chr2_217_216    .....P.....G.....
1_chr1_218_217    .....
1_chr16_219_218   .....
1_chr2_220_219    .....
1_chr20_221_220   .....
1_chr15_222_221   .....
1_chr22_223_222   .....T.....
1_chr4_224_223    .....
1_chr12_225_224   .....D.....
1_chrX_226_225    .....
1_chr3_227_226    .....K.....
1_chr7_228_227    .....
1_chr1_229_228    .....
1_chr1_230_229    .....
1_chr6_231_230    .....
1_chr5_232_231    .....
1_chr9_233_232    .....
1_chr17_234_233   .....
1_chr5_235_234    .....
1_chr9_236_235    .....
1_chr7_237_236    .....
1_chr6_238_237    .....E.....
1_chr9_239_238    .....
1_chr1_240_239    .....
1_chrX_241_240    .....P.....M.....
1_chr4_242_241    .....
1_chr11_243_242   .....N.....
1_chr5_244_243    .....V.....
1_chr1_245_244    .....
1_chr3_246_245    .....
1_chr3_247_246    .....
1_chr3_248_247    .....
1_chr6_249_248    .....
1_chr8_250_249    .....

```

