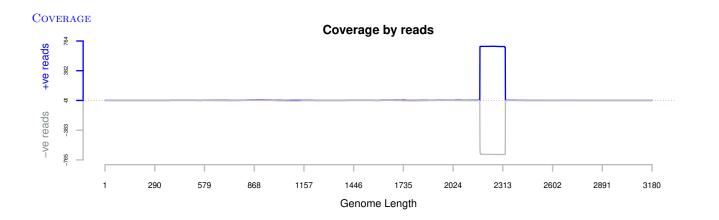
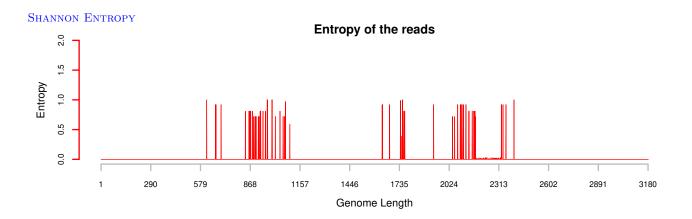
HBV-RYD-53

| File name Ref name Ref len Program used | HBV-RYD-53.sam KM606753.1 Hepatitis B virus isolate Cuba109, complete genome 3182 Tanoti Assembler 1.0 |
|---|---|
| Total reads Mapped reads Unmapped reads Mapped loan pairs Average read length | 406034 1425 (0.35%) 404609 1 147nt |
| Coverage Average depth Average insert length | 2069nt (65.02%) 66 reads/site 0nt |

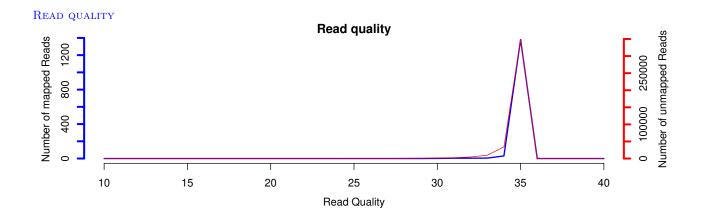




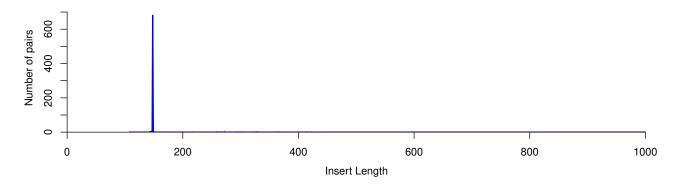
Consensus sequence

| 1 NANANANNAN NANANANNAN NANANANNAN NANANANNAN | 1 | MMMMMMMMM | NNNNNNNNN | MMMMMMMMM | MMMMMMMMM | MMMMMMMMM | MANAMAMAMAM | MMMMMMMMM |
|--|------|------------|------------|--------------------|--------------------|--------------------|--------------------|------------|
| 140 NINNINNINNIN NINNINNINNIN NINNINNINNIN NINNIN | | | | | | | | |
| NINNININNIN NINNINNINN NINNINNINN NINNIN | | | | | | | | |
| NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNN | | | | | | | | |
| NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNN | | | | | | | | |
| 420 ATGCCTCATC TTCTTGTTG TTCTTCTGGA CTATCAAGGT ATGTTGCCG TTGTCCTCA AATTCCAGGA 490 TCATCAACCA CAGATAGGG ACCCTGCCGA ACTGCAGGN NNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNN | | | | | | | | |
| TCATCACACCA CCAGTACGG ACCCTGCCGA ACCTGCACGN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNN | | | | | | | | |
| NNNNNTGCTG TTCAAAACCT TCGGACGGAA ATTGCACTTG TATTCCCATC CATCATCAT GGGCTTTCG 630 AAAATTCCTA TGGGACTGGG CCTCAGCCCG TTTCTTTCTG CTCAGTTTAC TAGTGCCATT TGTTCAGTGG 770 ACAACATCTT GNNTCCCTT ATACCTCTGGTT TAGAGTATTG GTATTGGGGG CAAGTCTGT 770 ACAACATCTT GNNTCCCTT ATACCTCTGT TACGTATTAT GGACTAGTGT GTATTGGGGG CAAGTCTGT 770 ACAACAACAA AAAGATGGGG ATATTCCCTA ATTTCATTG GTTATTGTTT TGGAGTTGG 840 AACAAACAA AAAGATGGGG ATATTCCCTA ATTTCATTG GTTATGTAT TGGAGTTG GGATCATTG 9910 CACAGGAACA CATCAGAATG AAAATCAAAG ACTGTTTTAG AAAACTCCCT GTTAACAGGG CTATTGTTG 980 GAAAGTCTGT CAACGTATTG TGGGTCTTTT GGGGTTTTGT GCCCCTTTTA CACAATTGC GTATTCGTGT 1050 TTAATGCCTC TGTATCGGTG TATTCAATCT AGGAGGGT TCACCTTTCT CGCAACTTAC AAGCCCTTC 1120 TGGTAAACC ATACCTGAAC CTTTACCCCG TTGCCCCGGCA CCGCCCAGGT CTGTCCCAAG 1190 TGCAACCCCC ACTGGCTGGG GCTTGNNNN NNNNNNNNN NNNNNNNNNN | | | | | | | | |
| AAAATTCCTA TGGGAGTGGG CCTCAGCCCC TTCTCTCG CTCAGTTC TAGTGCCATT TGTTCAGTGG 700 TTCCTCGGGC TTTCCCCCAC TGTCTGGCTT TCAGTTATAT GGATAGTGTG GTATTGGGG CCAAGTCTGT 770 ACAACATCT GNNTCCCTTA TACCTCGT TACCAATTT CTTTTTGTCTT TGGGATACA TTTAAATCCC 840 AACAAACAA AAAGTGGG ATATTCCCTA AATTCCATG 910 CACAGGAACA CATCACAATTG GAACTATTG TGGGTTTTG GGGTTTGAT TGGGAGTACG CTATTGATTG 980 GAAAGTCTGT CAACGTATTG TGGGCTTTTT GGGCTTTGCT GCCCCTTTTA CACAATTG ATATCCTCT 1050 TTAATGCCT TGTATCCCTG TATTCACCCG TGGCCCTTTTA CACAATTG CAACGTCTTC 1120 TGTGTAACA ATACCTGAAC CTTTACCCCG TGCCCGGCA CGCCCACTTCA CACGACTTC 1120 TGCAACCCC ACTGGGG GCTCTNNNN NNNNNNNNN NNNNNNNNNN NNNNNNNNNN | | | | | | | | |
| TTCGTCGGGC TTTCCCCCAC TGTCTGGCTT TAGCATTATA GGATGATGG GTATTGGGGG CCAAGTCTT TOO ACAACATCTT GNNTCCCTTT ATACCATCTT TACCAATTT CTTTTGTCTT TGGGTATACA TTTAAATCCC 840 AACAAAACAA AAAGATGGG ATATTCCCTA AATTTCATGG GTTATGCATTT TGGGTATACA TTTAAATCCC 950 GAAAGTCTGT CACCTATGT TGGGTCTTTT GGGCTTTTAG AAAACTCCT GTTAATCCGGC CTATTGATTG 950 GAAAGTCTGT CAACCTATTG TGGGTCTTTT GGGCTTTGCT GCCCCTTTTA CACAATGTGG ATATCCTGT 1050 TTAATGCCTC TGTATGGGTG TATTCAATCT AAGCAGGCTT TCACTTCTC GCCAACTTAC AAGGCCTTC 1120 TGTGTAAACA ATACCTGAC CTTTACCCCG TTGCCCGGCA ACGCCAGGT CTGTGCCAAC TGTTTGCTGA 1190 TGCAACCCC ACTGGCTGG GCTTGNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNN | | | | | | | | |
| ACAACATCTT GNTCCCTTT ATACCTCTT TACCAATTTT CTTTTGTCT TGGGTATACA TTTAAATCCC 840 AACAAAACAA AAAGATGGGG ATATTCCCTA AATTTCATG GTTATTAAT TGGAAGTTGG GGATCATTGC 910 CACAGGAACA CATCAGAATG AAAATCAAAA CATGTTTTAG AAAACTCCCT GTTAACCGGC CTATTGATG 980 GAAAGTCTGT CAACATATTG TGGGTCTTTT GGGCTTTGCC 1050 TTAATGCCTC TGTATGCGTG TATTCAATCT AAGCAGGCTT TCACTTTCTC GCCAACTTC AAAGCCGTT 1120 TGTGTAAACA ATACCTGAAC CTTTACCCCG TTGCCCGGCA ACGGCCAGGT CTGTGCCAAG TGTTTGCTGA 1190 TGCAACCCC ACTGGCTGGG GCTTGNNNNN NNNNNNNNNN NNNNNNNNNN | | | | | | | | |
| 840 AACAAAACAA AAGATGGGG ATATTCCTA AATTCATGG GTTATGTAAT TGGAAGTTGG GGATCATTGC 910 CACAGGAACA CATCAGAATG AAAATCAAAG ACTGTTTTAG AAAACTCCT GTTAACCGGC CTATTGATTG 980 GAAAGTCTGT CAACGATTG TGGGGTCTTTT GGCTTTTTG GCCCCTTTTA CACAATGTGG ATATCCTGCT 1050 TTAATGCCTC TGTATGCGTG TATTCAACT AAGCAGGCTT TCACTTTCT CACAATGTGG ATATCCTGCT 1120 TGTGTAAACA ATACCTGAAC CTTTACCCGC TGCCCGGGA ACGGCCAGGT CTGTGCCAAG TGTTTGCTGA 1190 TGCAACCCC ACTGGCTGGG GCTTGNNNN NNNNNNNNNN NNNNNNNNNN | | | | | | | | |
| 910 CACAGGAACA CATCAGAATG AAAATCAAAA ACTGTTTTAG AAAACTCCCT GTTAACCGCC CTATTGATTG 980 GAAAGTGTGT CAACGTATTG TGGGTCTTTTT GGGCTTTTCT GCCCCTTTAA CACAATGTG ATATCCTGCT 1050 TTAATGCCCT TGTATGCGTG TATTCAATCT AAGCAGGCTT TCACCTTTCT CACCAATGTG ATATCCTGCT 1120 TGTAAACAA ATACCTCAACA CTTTACCCCC TTGCCCGCA ACGGCCAGGT CTGTGCCAAG TGTTTGGTGA 1190 TGCAACCCCC ACTGGCTGG GCTTGNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNNN | | | | | | | | |
| 980 GAAAGTCTGT CAACGTATTG TGGGTCTTTT GGGCTTTGCT GCCCCTTTA CACAATGTGG ATATCCTGCT 1050 TTAATGCCTC TGTATGCGTG TATTCAATCT AAGCAGGCTT TCACTTTCTC GCCAACTTAC AAGCCTTTC 1120 TGGTAAACA ATACCTGAAC CTTACCCCG TGCCCGGCA ACGGCCAGGT CTGTGCCCAGA TGTTTGCTGA 1190 TGCAACCCCC ACTGGCTGG GCTTGNNNNN NNNNNNNNNN NNNNNNNNNN | | | | | | | | |
| 1050 TTAATGCCTC TGTATGCGTG TATTCAATCT AAGCAGGCTT TCACTTTCTC GCCAACTTAC AAGGCCTTC 1120 TGTGTAAACA ATACCTGAAC CTTTACCCCG TTGCCCGCA ACGGCCAGGT CTGTGCCAGA TGTTTGCTGA 1190 TGCAACCCCC ACTGGCTGGG GCTTGNNNN NNNNNNNNN NNNNNNNNNN | | | | | | | | |
| 1120 TGGTAAACA ATACCTGAC CTTTACCCG TGCCCGCA ACGGCCAGT CTGTGCCAAG TGTTTGCTGA 1190 TGCAACCCC ACTGGTGGG GCTTGNINNN NINNINNNNN NINNINNNNN NINNINNNNN NINNIN | | | | | | | | |
| 190 TGCAACCCC ACTGCTGGG GCTTGNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNN | | | | | | | | |
| 1260 NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNN | | | | | | | | |
| NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNN | | | | | | | | |
| 1400 NNNNNTGCGA GGGACGTCT TTGTCTACGT CCGTCAGCG CTGAATCCTG CGGACGACCA CTCTCGGGGT 1470 CGCTTGGGGA TCTATCGTC CCTTCTCGT CTGCGTTCC AGCCGACCAC GGGGCGACC TCTCTTACG 1540 CGGTCTCCCC GTCTGTNNNN NNNNNNNNNN NNNNNNNNNN | | | | | | | | |
| 1470 CGCTTGGGGA TCTATCGTC CCTTCTCGT CTGCCGTTCC AGCCGACCAC GGGGCGCAC TCTCTTTACG 1540 CGGTCTCCC GTCTGTNNNN NNNNNNNNNN NNNNNNNNNN | | | | | | | | |
| 1540 CGGTCTCCCC GTCTGTNNN NNNNNNNN NNNNNNNN NNNNNNNN NNNNNNNN | | | | | | | | |
| 1610 GAGACCACCG TGAACGCCA CCAATTCTTG CCCAAGGTCT TACATAAGAG GACTCTTGGA CTCTCTGTAA 1680 TGTCAACGAC CGACCTTGAG GCATACTTCA AAGACTGTTT GTTTAAAGAC TGGGAGGAGT TGGGGAGGA 1750 GACTAGATTA ATGATCTTTG TACTAGGAGG CTGTAGGCAT AAATTGGTCT GCGCACCAGC ACCATGCAAC 1820 TTTTTCACCT CTGCCTAATC ATCTCTTTT CATGTCTAC TGTTCAAGCC TCCAAGCTGT GCTTGGGTG 1890 GCTTTGGGGC ATGGACATTG ACCCTTATAA AGAATTTGGA GCTTCTGTGG AGTTACTCTC GTTTTTGCCT 1960 TCTGACTTCT TTCCTTCAGT ACGACAGCTT CTAGATACCG CTCACAGCTGT ATATCGAGAA GCCTTAGAGT 2030 CTCCTGAGCA TTGTTCACCT CACCATACTG CACCATACTG CACCATACTG CACCATACTG AAGAATTCTT TGCTGGGGG AACTAATGAC 2100 TCTAGCCACC TGGGTGGGTG GTAATTTGGA AGACCACCT TCCAAGGTC TAGTGAGCG TAGTAGAC 2170 ACTAATATGG GCCTAAAGTT CAGGCAACT TTGTGGGTTC CACGACCT TCCAAGCTG TAGTAGAC 2240 CGGTCATAGA GTATTTGGT TCTTTCGGAG TGTGGATTC CACCTACTC GCTTCTAGACC 2310 CCCTATCTTA TCAACACTTC CGGAGAACTA TTGTGGTTTC ACATTCTTC TCTCACCTTTT GGAAGGAAA 2240 CGGTCATAGA GTATTTGGT TCTTTCGGAG TGTGGATTC CACTCCCCA GCTTATAGAC CACCAAATGC 2310 CCCTACCTTA TCAACACTTC CGGAGAATAC TGTGGATTC GCACCCCCCA GCTTATAGAC CACCAAATGC 2320 CCCTCGCCTC GCAGACGAAG GTCTCAATCG CCGCGTCGCA GAAGAGCA GTCCCCTAG AAGAAGACT 2380 CCCTCGCCTC GCAGCACAA GTCTCAACAA GTTTCATCTC TCACCTTT TCACACATCT 2450 AGTATTCCCT GGACTCACAA GTTCCACACA TTCCCAACT TTTCCTGAT TTTACCTTC TACTATACCT TCCCAATGT 2520 CTAACTGGAA AACTCCATCT TTTCCTGAT TTCATTTCCA CCAGGACATT ATNNNNNNN NNNNNNNNNN 2590 NNNNNNNNNN NNNNNNNNNN NNNNNNNNN NNNNNN | | | | | | | | |
| 1680 TGTCAACGAC CGACCTTGAG GCATACTTCA AAGACTGTTT GTTTAAAGAC TGGGAGGAGT TGGGGAGGAG 1750 GACTAGATTA ATGATCTTG TACTAGGAGG CTGTAGGCAT AAATTGGTCT GCGCACCAGC ACCATGCAAC 1820 TTTTTCACCT CTGCCTAATC ATCTCTTGTT CATGTCTAC TGTTCAAGCC TCCAAGCTGT GCCTTGGTG 1890 GCTTTGGGGC ATGGACATTG ACCCTTATAA AGAATTTGGA GCTTCTGTGG AGTTACTCT GTTTGCCT 1960 TCTGACTTCT TTCCTTCAGT ACGACGCTT CTAGATACCG CCTCAGCTCT ATATCGAGAA GCCTTAGAGT CACCATACTG CACCATACTACTG CACCATACTG CACCATACTACTG CACCATACTACTG CACCATACTACTACTACTACTACTACTACTACTACTACT | | | | | | | | |
| 1750 GACTAGATTA ATGATCTTTG TACTAGGAGG CTGTAGGCAT AAATTGGTCT GCGACCAGC ACCATGCAAC 1820 TTTTTCACCT CTGCCTAACT ATCTCTTGTT CATGTCCTAC TGTTCAAGCC TCCAAGCTGT GCCTTGGTG 1890 GCTTTGGGGC ATGGACATTG ACCCTTATAA AGAATTTGGA GCTTCTGTG AGTTACTCT GTTTTTGCCT 1960 TCTGACTTCT TTCCTTCAGT ACGACAGCTT CTAGATACCG CCTCAGCTCT ATATCGAGAA GCCTTAGAGT 2030 CTCCTGAGCA TTGTTCACCT CACCATACTG CACTCAGGCA AGAAATTCTT TGCTGGGGG ACCTAATGAC 2100 TCTAGCCACC TGGGTGGGTG GTAATTTGGA AGATCCAACT TCCAGGGACC TAGTAGTCGG TTATGTTAAC 2170 ACTAATATGG GCCTAAAGTT CAGGCAACTA TTGTGGTTTC ACATTCTTG TCTCACTTTT GGAACAGAAA 2240 CGGTCATAGA GTATTTGGTG TCTTCCGGAC TGGGATTCG CACCCACCCAC GCTCATCTT GGAACAGAAA 2240 CGGTCATAGA GTATTTGGTG TCTTCCTGGAC TGTGGATTCG CACCCCCCA GCTCATCTT GGAACAGAAA 2310 CCCTATCTTA TCAACACTTC CGGAGAATAC TGTTGTTAGA CACTCCTCCA GCTCCCTAC AAGAAGACC 2310 CCCTACCCCC GCAGACCAA GGTGGGAAAT TTTACGGGC TTATCCCAACT TCCCAATGT 2450 AGTATTCCCT GCAGACCAAA GGTGGGAAAT TTTACGGGC TTTACTCTCT TCCCAATGTT 2450 AGTATTCCCT GCACCACAA GGTGGGAAAT TTTACGGGC TTTACTCTTC TACTATACC GTCTTTAATC 2520 CTAACTGGAA AACTCCATCT TTTCCTGATA TTCATTGCA CCAGGACATT ATNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNN | 1610 | | | | | | | |
| 1820 TTTTTCACCT CTGCCTAATC ATCTCTTGTT CATGTCCTAC TGTTCAAGCC TCCAAGCTGT GCCTTGGGTG 1890 GCTTTGGGGC ATGGACATTG ACCCTTATAA AGAATTTGA GCTTCTGTGG AGTTACTCT GTTTTTGCT 1960 TCTGACTTCT TTCCTTCAGT ACGACAGCTT CTAGATACCG CCTCAGCTCT ATATCGAGAA GCCTTAGAGT 2030 CTCCTGAGCA TTGTTCACCT CACCATACTG CACTCAGGCA AGAAATTCTT TGCTGGGGG AACTAATGAC 2100 TCTAGCCACC TGGGTGGGTG GTAATTTGGA AGATCCAACT TCCAGGGACC TAGTAGTCG TTATGTTAAC 2170 ACTAATATGG GCCTAAAGTT CAGGCAACTA TTGTGGTTTC ACATTCTTG TCTCACTTTT GGAAGAGAAA 2240 CGGTCATAGA GTATTTGGT TCTTCCGGAG TGTGGATTCG CACTCCTCCA GCTTATAGAC CACCAAATGC 2310 CCCTACTCTA TCAACACTTC CGGAGAATAC TGTGGTTTC ACATTCTTG TCTCACTTTT GGAAGAGAA 2380 CCCTCGCCTC GCAGACGAAG GTCTCAATCG CCGCGTCCCA GAAGATCCCA ATCTCCAGCT TCCCAATGT 2450 AGTATTCCCT GGACTCACAA GGTGGGAAAT TTTACGGGGC TTTACTCTC TACTATACC TCCCAATGT 2520 CTAACTGGAA AACTCCATCT TTTCCTGATA TTCATTTGCA CCAGGACATT ATNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNN | 1680 | TGTCAACGAC | CGACCTTGAG | GCATACTTCA | AAGACTGTTT | GTTTAAAGAC | TGGGAGGAGT | TGGGGGAGGA |
| 1890GCTTTGGGGCATGGACATTGACCCTTATAAAGAATTTGGAGCTTCTGTGAGTTACTCTCGTTTTTGCCT1960TCTGACTTCTTTCCTCAGTACGACAGCTTCTAGATACCGCCTCAGGTCTATATCGAGAAGCCTTAGAGT2030CTCCTGAGCATTGTTCACCTCACCATACTGCACTCAGGCAAGAAATTCTTTGCTGGGGGGAACTAATGAC2100TCTAGCCACCTGGGTGGGTGGTAATTTGGAAGATCCAACTTCCAGGGACTAGTAGTCGGTTATGTTAAC2170ACTAATATGGGCCTAAAGTTCAGGCAACTATTGTGGTTCCACTCTCCAGCTTATAGACCACCAAATGC2240CGGTCATAGAGTATTTGGTGTCTTCCGGAGTGTGGATTCGCACTCCTCAGCTTATAGACCACCAAATGC2310CCCTATCTTATCAACACCTCCGGAGAATACTGTGTTTAGACGAAGAGGCAGGTCCCCTAGAAGAAGACT2380CCCTCGCCTCGCAGACGAAGGTCTCAATCGCCGGTCGCAGAAGATCTCAATTCCCAGCTTCCCAATGTT2450AGTATTCCCTGGACTCACAAGGTGGGAAATTTTACTGTCCAGGACATTATTNNNNNNNNNNNNNNNN2590NNNNNNNNNNNNNNNNNNNNAAGACTACAATTGATTATGCCTGCTAGGTTCTATCCAAAG2660GTTACCAAATATTTGCCATGGATAAGGGTATTAAACCTTATTATCCAGAACATCTAGTTAATCATTACT2730TCCAGACCAGACATTATTTACACACTCTATGGAAGGCGGNN2870NNN | 1750 | GACTAGATTA | ATGATCTTTG | TACTAGGAGG | CTGTAGGCAT | AAATTGGTCT | GCGCACCAGC | ACCATGCAAC |
| 1960 TCTGACTTCT TTCCTTCAGT ACGACAGCTT CTAGATACCG CCTCAGCTCT ATATCGAGAA GCCTTAGAGT 2030 CTCCTGAGCA TTGTTCACCT CACCATACTG CACTCAGGCA AGAAATTCTT TGCTGGGGGG AACTAATGAC 2100 TCTAGCCACC TGGGTGGGTG GTAATTTGGA AGATCCAACT TCCAGGGACC TAGTAGTCGG TTATGTTAAC 2170 ACTAATATGG GCCTAAAAGTT CAGGCAACTA TTGTGGTTTC ACATTTCTTG TCTCACTTTT GAGAGAGAAA 2240 CGGTCATAGA GTATTTGGTG TCTTTCGGAG TGTGGATTCG CACTCCTCCA GCTTATAGAC CACCAAATGC 2310 CCCTATCTTA TCAACACTTC CGGAGAATAC TGTTGTTAGA CGAAGAGGCA GGTCCCCTAG AAGAAGACT 2380 CCCTCGCCTC GCAGACGAAG GTCTCAATCG CCGCGTCGCA GAAGATCTC ATCTCCAGCT TCCCAATGTT 2450 AGTATTCCCT GGACTCACAA GGTGGGAAAT TTTACGGGGC TTTACTCTTC TACTATACC GTCTTTAATC 2520 CTAACTGGAA AACTCCATCT TTTCCTGATA TTCATTTGCA CCAGGACATT ATNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNN | 1820 | TTTTTCACCT | CTGCCTAATC | ATCTCTTGTT | CATGTCCTAC | TGTTCAAGCC | TCCAAGCTGT | GCCTTGGGTG |
| 2030CTCCTGAGCATTGTTCACCTCACCATACTGCACTCAGGCAAGAAATTCTTTGCTGGGGGGAACTAATGAC2100TCTAGCCACCTGGGTGGGTGGTAATTTGGAAGATCCAACTTCCAGGGACCTAGTAGTCGTTATGTTAAC2170ACTAATATGGGCCTAAAGTTCAGGCAACTATTGTGGTTCACATTCTTGTCTCACTTTTGGAAGAGAAA2240CGGTCATAGAGTATTTGGTGTCTTTCGGAGTGTGGATTCGCACTCCTCCAGCTTATAGACCACCAAATGC2310CCCTACTTATCAACACTTCCGGGGAAATACTGTTGTTAGACGAAGAGGCAGGTCCCCTAGAAGAAGACT2380CCCTCGCCTCGCAGACGAAGGTCTCAATCCCGCGTCGCAGAAGATCTCAATCTCCAGCTTCCCAATGTT2450AGTATTCCCTGGACTCACAAGGTGGGAAATTTTACTGCGTTTACTCTCTACTATACCTGTCTTTAATC2520CTAACTGGAAAACTCCATCTTTTCCTGATATTGATTATCCCTGCTAGGTTCTATCCAAAG2660GTTACCAAATATTTGCCATTGGATAAGGGTATTAACCTTATTATCCAGAACATCTAGTTAATCATTACT2730TCCAGACCAGACATTATTTACACACTCTATGGAAGGCGGNN | 1890 | GCTTTGGGGC | ATGGACATTG | ACCCTTATAA | AGAATTTGGA | GCTTCTGTGG | AGTTACTCTC | GTTTTTGCCT |
| TCTAGCCACC TGGGTGGTT GTAATTTGGA AGATCCAACT TCCAGGGACC TAGTAGTCGG TTATGTTAAC ACTAATATGG GCCTAAAGTT CAGGCAACTA TTGTGGTTTC ACATTCTTG TCTCACTTTT GGAAGAGAAA CGGTCATAGA GTATTTGGTG TCTTTCGGAG TGTGGATTCG CACTCCTCCA GCTTATAGAC CACCAAATGC CCCTATCTTA TCAACACTTC CGGAGAATAC TGTTGTTAGA CGAAGAGGCA GGTCCCCTAG AAGAAGAACT CCCTCGCCTC GCAGACGAAG GTCTCAATCG CCGCGTCGCA GAAGATCTCA ATCTCCAGCT TCCCAATGTT AGTATTCCCT GGACTCACAA GGTGGGAAAT TTTACGGGGC TTTACTCTTC TACTATACCT GTCTTTAATC CTAACTGGAA AACTCCATCT TTTCCTGATA TCATTTGCA CCAGGACATT ATNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNN | 1960 | TCTGACTTCT | TTCCTTCAGT | ACGACAGCTT | CTAGATACCG | CCTCAGCTCT | ATATCGAGAA | GCCTTAGAGT |
| 2170 ACTAATATGG GCCTAAAGTT CAGGCAACTA TTGTGGTTTC ACATTTCTTG TCTCACTTTT GGAAGAGAAA 2240 CGGTCATAGA GTATTTGGTG TCTTTCGGAG TGTGGATTCG CACTCCTCCA GCTTATAGAC CACCAAATGC 2310 CCCTATCTTA TCAACACTTC CGGAGAATAC TGTTGTTAGA CGAAGAGGCA GGTCCCCTAG AAGAAGACT 2380 CCCTCGCCTC GCAGACGAAG GTCTCAATGC CCGCGTCGCA GAAGATCTCA ATCTCCAGCT TCCCAATGTT 2450 AGTATTCCCT GGACTCACAA GGTGGGAAAT TTTACGGGGC TTTACTCTTC TACTATACCT GTCTTTAATC 2520 CTAACTGGAA AACTCCATCT TTTCCTGATA TTCATTTGCA CCAGGACATT ATNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNN | 2030 | CTCCTGAGCA | TTGTTCACCT | CACCATACTG | CACTCAGGCA | AGAAATTCTT | TGCTGGGGGG | AACTAATGAC |
| 2240CGGTCATAGAGTATTTGGTGTCTTTCGGAGTGTGGATTCGCACTCCTCCAGCTTATAGACCACCAAATGC2310CCCTATCTTATCAACACTTCCGGAGAATACTGTTGTTAGACGAAGAGGCAGGTCCCTAGAAGAAGAACT2380CCCTCGCCTCGCAGACGAAGGTCTCAATCGCCGCGTCGCAGAAGATCTCAATCTCCAGCTTCCCAATGTT2450AGTATTCCCTGGACTCACAAGGTGGGAAATTTTACTGGTCTTTACTCTTCTACTATACCTGTCTTTAATC2520CTAACTGGAAAACTCCATCTTTTCCTGATATTCATTTGCACCAGGACATTATNNNNNNNNNNNNNNNNNN2590NNNNNNNNNNNNNNNNNNNNAAGACTACAATTGATTATCCCTGCTAGGTTCTATCCAAAG2660GTTACCAAATATTTGCCATTGGATAAGGGTATTAAACCTTATTATCCAGAACATCTAGTTAATCATTACT2730TCCAGACCAGACATTATTACACACTCTATGGAAGGCGGNN2870NN2940NN3080NNN | 2100 | TCTAGCCACC | TGGGTGGGTG | ${\tt GTAATTTGGA}$ | AGATCCAACT | TCCAGGGACC | TAGTAGTCGG | TTATGTTAAC |
| 2310 CCCTATCTTA TCAACACTTC CGGAGAATAC TGTTGTTAGA CGAAGAGGCA GGTCCCCTAG AAGAAGAACT 2380 CCCTCGCCTC GCAGACGAAG GTCTCAATCG CCGGTCGCA GAAGATCTCA ATCTCCAGCT TCCCAATGTT 2450 AGTATTCCCT GGACTCACAA GGTGGGAAAT TTTACGGGGC TTTACTCTTC TACTATACCT GTCTTTAATC 2520 CTAACTGGAA AACTCCATCT TTTCCTGATA TCCAGGACAT ATNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNN | 2170 | ACTAATATGG | GCCTAAAGTT | ${\tt CAGGCAACTA}$ | ${\tt TTGTGGTTTC}$ | ACATTTCTTG | TCTCACTTTT | GGAAGAGAAA |
| 2380 CCCTCGCCTC GCAGACGAAG GTCTCAATCG CCGCGTCGCA GAAGATCTCA ATCTCCAGCT TCCCAATGTT 2450 AGTATTCCCT GGACTCACAA GGTGGGAAAT TTTACGGGGC TTTACTCTTC TACTATACCT GTCTTTAATC 2520 CTAACTGGAA AACTCCATCT TTCCTGATA TTCATTTGCA CCAGGACATT ATNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNN | 2240 | CGGTCATAGA | GTATTTGGTG | TCTTTCGGAG | TGTGGATTCG | ${\tt CACTCCTCCA}$ | ${\tt GCTTATAGAC}$ | CACCAAATGC |
| 2450 AGTATTCCCT GGACTCACAA GGTGGGAAAT TTTACGGGGC TTTACTCTC TACTATACCT GTCTTTAATC 2520 CTAACTGGAA AACTCCATCT TTTCCTGATA TTCATTGCA CCAGGACATT ATNNNNNNN NNNNNNNNNN 2590 NNNNNNNNNN NNNNNNNNNN AAGACTACAA TTGATTATGC CTGCTAGGTT CTATCCAAAG 2660 GTTACCAAAT ATTTGCCATT GGATAAGGGT ATTAACCTT ATTATCCAGA ACATCTAGTT AATCATTACT 2730 TCCAGACCAG ACATTATTTA CACACTCTAT GGAAGGCGGG NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN | 2310 | CCCTATCTTA | TCAACACTTC | ${\tt CGGAGAATAC}$ | ${\tt TGTTGTTAGA}$ | ${\tt CGAAGAGGCA}$ | GGTCCCCTAG | AAGAAGAACT |
| 2520CTAACTGGAAAACTCCATCTTTTCCTGATATTCATTTGCACCAGGACATTATNNNNNNNNNNNNNNNN2590NNNNNNNNNNNNNNNNNNNNAAGACTACAATTGATTATGCCTGCTAGGTTCTATCCAAAG2660GTTACCAAATATTTGCCATTGGATAAGGGTATTAACCTTATTATCCAGAACATCTAGTTAATCATTACT2730TCCAGACCAGACATTATTACACACTCTATGGAAGGCGGGNNN | 2380 | CCCTCGCCTC | GCAGACGAAG | GTCTCAATCG | CCGCGTCGCA | GAAGATCTCA | ATCTCCAGCT | TCCCAATGTT |
| 2590NNNNNNNNNNNNNNNNNNNNNNNNNNNAAGACTACAATTGATTATGCCTGCTAGGTTCTATCCAAAG2660GTTACCAAATATTTGCCATTGGATAAGGGTATTAAACCTTATTATCCAGAACATCTAGTTAATCATTACT2730TCCAGACCAGACATTATTACACACTCTATGGAAGGCGGGNNN | 2450 | AGTATTCCCT | GGACTCACAA | GGTGGGAAAT | TTTACGGGGC | TTTACTCTTC | TACTATACCT | GTCTTTAATC |
| 2660GTTACCAAATATTTGCCATTGGATAAGGGTATTAAACCTTATTATCCAGAACATCTAGTTAATCATTACT2730TCCAGACCAGACATTATTACACACTCTATGGAAGGCGGGNNN | 2520 | CTAACTGGAA | AACTCCATCT | TTTCCTGATA | ${\tt TTCATTTGCA}$ | CCAGGACATT | ATNNNNNNN | NNNNNNNNN |
| 2730TCCAGACCAGACATTATTTACACACTCTATGGAAGGCGGGNNNNNNNNNNNNNNNNNNNNNNNNNNNN2800NN | 2590 | NNNNNNNN | NNNNNNNN | ${\tt NNNNNNNNN}$ | AAGACTACAA | ${\tt TTGATTATGC}$ | CTGCTAGGTT | CTATCCAAAG |
| 2800 NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN | 2660 | GTTACCAAAT | ATTTGCCATT | GGATAAGGGT | ATTAAACCTT | ATTATCCAGA | ACATCTAGTT | AATCATTACT |
| 2870 NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN | 2730 | TCCAGACCAG | ACATTATTTA | CACACTCTAT | GGAAGGCGGG | NNNNNNNNN | NNNNNNNNN | NNNNNNNNN |
| 2940 NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN | 2800 | NNNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN |
| 3010 NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNN | 2870 | NNNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNNN | NNNNNNNN |
| 3080 NNNNNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNN | 2940 | NNNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN |
| | 3010 | NNNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN |
| | 3080 | NNNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN | NNNNNNNN |
| | 3150 | NNNNNNNNN | NNNNNNNN | NNNNNNNN | NN | | | |

| Genome Compo | osition |
|-------------------|-------------------|
| A | 470 (14.77%) |
| T | 629 (19.77%) |
| G | 449 (14.11%) |
| \mathbf{C} | 521 (16.37%) |
| N | $1113\ (34.98\%)$ |
| Total Nucleotides | 3182 |
| GC% | 46.88 |



INSERT LENGTH DISTRIBUTION



| Protein | Position | Ref AA | Consensus AA | All AAs |
|---------|----------|--------------|--------------|--------------|
| P2 | 127 | F | S | S::100.00(1) |
| P2 | 128 | \mathbf{F} | A | A::100.00(1) |
| P2 | 129 | \mathbf{F} | A | A::100.00(1) |
| P2 | 131 | \mathbf{F} | Y | Y::100.00(1) |
| P2 | 132 | \mathbf{F} | H | H::100.00(1) |
| P2 | 133 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| P2 | 134 | \mathbf{F} | P | P::100.00(1) |
| P2 | 135 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| P2 | 136 | \mathbf{F} | H | H::100.00(1) |
| P2 | 137 | \mathbf{F} | P | P::100.00(1) |
| P2 | 138 | \mathbf{F} | A | A::100.00(1) |
| P2 | 139 | \mathbf{F} | A | A::100.00(1) |
| P2 | 140 | \mathbf{F} | ${ m M}$ | M::100.00(1) |
| P2 | 141 | \mathbf{F} | P | P::100.00(1) |
| P2 | 142 | \mathbf{F} | H | H::100.00(1) |
| P2 | 143 | \mathbf{F} | L | L::100.00(1) |
| P2 | 144 | \mathbf{F} | L | L::100.00(1) |
| P2 | 145 | \mathbf{F} | V | V::100.00(1) |
| P2 | 146 | \mathbf{F} | G | G::100.00(1) |
| P2 | 147 | \mathbf{F} | S | S::100.00(1) |
| P2 | 148 | \mathbf{F} | S | S::100.00(1) |
| P2 | 149 | \mathbf{F} | G | G::100.00(1) |
| P2 | 150 | \mathbf{F} | ${f L}$ | L::100.00(1) |
| P2 | 151 | \mathbf{F} | S | S::100.00(1) |
| P2 | 152 | \mathbf{F} | R | R::100.00(1) |
| P2 | 153 | \mathbf{F} | Y | Y::100.00(1) |
| P2 | 154 | \mathbf{F} | V | V::100.00(1) |
| P2 | 155 | \mathbf{F} | A | A::100.00(1) |
| P2 | 156 | \mathbf{F} | R | R::100.00(1) |
| P2 | 157 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| P2 | 158 | \mathbf{F} | S | S::100.00(1) |
| P2 | 159 | \mathbf{F} | S | S::100.00(1) |
| P2 | 160 | \mathbf{F} | N | N::100.00(1) |
| P2 | 161 | \mathbf{F} | \mathbf{S} | S::100.00(1) |
| P2 | 162 | \mathbf{F} | R | R::100.00(1) |
| P2 | 163 | \mathbf{F} | I | I::100.00(1) |
| P2 | 164 | \mathbf{F} | I | I::100.00(1) |
| P2 | 165 | \mathbf{F} | N | N::100.00(1) |
| P2 | 166 | \mathbf{F} | H | H::100.00(1) |
| P2 | 167 | \mathbf{F} | Q | Q::100.00(1) |
| P2 | 168 | F | Y | Y::100.00(1) |
| P2 | 169 | F | G | G::100.00(1) |
| P2 | 170 | F | ${ m T}$ | T::100.00(1) |
| P2 | 171 | F | ${ m L}$ | L::100.00(1) |
| P2 | 172 | F | P | P::100.00(1) |
| P2 | 173 | F | N | N::100.00(1) |

| P2 | 174 | \mathbf{F} | ${f L}$ | L::100.00(1) |
|----------------|-----|-------------------------|-------------------------|--------------|
| P2 | 175 | \mathbf{F} | ${ m H}$ | H::100.00(1) |
| P2 | 189 | $\overline{\mathrm{F}}$ | L | L::100.00(1) |
| P2 | 191 | F | K | K::100.00(1) |
| P2 | 192 | F | ${ m T}$ | T::100.00(1) |
| P2 | 194 | F | G | G::100.00(1) |
| P2 | 195 | F | R | R::100.00(1) |
| P2 | 196 | F | K | K::100.00(1) |
| P2 | 190 | F | L | L::100.00(1) |
| P2 | 198 | F | Н | H::100.00(1) |
| P2 P2 | | F | n L | ` ' |
| | 199 | F F | | L::100.00(2) |
| P2 | 200 | | Y | Y::100.00(2) |
| P2 | 201 | F | S | S::100.00(2) |
| P2 | 202 | F | Н | H::100.00(2) |
| P2 | 203 | F | P | P::100.00(2) |
| P2 | 204 | F | I | I::100.00(2) |
| P2 | 205 | F | I | I::100.00(2) |
| P2 | 206 | F | M | M::100.00(2) |
| P2 | 207 | F | G | G::100.00(2) |
| P2 | 209 | F | R | R::100.00(2) |
| P2 | 210 | F | K | K::100.00(3) |
| P2 | 211 | F | I | I::100.00(3) |
| P2 | 212 | \mathbf{F} | Р | P::100.00(3) |
| P2 | 213 | \mathbf{F} | ${f M}$ | M::100.00(3) |
| P2 | 214 | \mathbf{F} | G | G::100.00(3) |
| P2 | 215 | \mathbf{F} | V | V::100.00(3) |
| P2 | 216 | \mathbf{F} | G | G::100.00(3) |
| P2 | 217 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| P2 | 218 | F | \mathbf{S} | S::100.00(3) |
| P2 | 219 | F | P | P::100.00(3) |
| P2 | 221 | F | ${ m L}$ | L::100.00(3) |
| P2 | 222 | F | ${f L}$ | L::100.00(3) |
| P2 | 223 | \mathbf{F} | A | A::100.00(3) |
| P2 | 224 | \mathbf{F} | Q | Q::100.00(3) |
| P2 | 226 | \mathbf{F} | ${ m T}$ | T::100.00(3) |
| P2 | 227 | \mathbf{F} | S | S::100.00(3) |
| P2 | 228 | \mathbf{F} | A | A::100.00(3) |
| P2 | 229 | \mathbf{F} | I | I::100.00(3) |
| P2 | 230 | F | \mathbf{C} | C::100.00(3) |
| P2 | 231 | F | \mathbf{S} | S::100.00(3) |
| P2 | 232 | \mathbf{F} | V | V::100.00(3) |
| P2 | 233 | \mathbf{F} | V | V::100.00(3) |
| P2 | 234 | \mathbf{F} | \mathbf{R} | R::100.00(3) |
| P2 | 235 | \mathbf{F} | \mathbf{R} | R::100.00(3) |
| P2 | 236 | \mathbf{F} | A | A::100.00(3) |
| P2 | 238 | $^{-}$ | P | P::100.00(2) |
| P2 | 239 | $\overline{\mathrm{F}}$ | H | H::100.00(2) |
| P2 | 240 | $\overline{\mathrm{F}}$ | $\overline{\mathbf{C}}$ | C::100.00(2) |
| P2 | 241 | $\overline{\mathrm{F}}$ | Ĺ | L::100.00(2) |
| P2 | 242 | F | A | A::100.00(2) |
| P2 | 244 | F | S | S::100.00(2) |
| - - | | _ | ~ | 2200.00(2) |

```
P2
                   246
                                 F
                                              Μ
                                                                     M::100.00(2)
      P2
                   247
                                 \mathbf{F}
                                              \mathbf{D}
                                                                     D::100.00(2)
      P2
                                 F
                                              D
                   248
                                                                     D::100.00(1)
      P2
                                 F
                                               V
                   249
                                                                     V::100.00(1)
      P2
                                 F
                                               V
                   250
                                                                     V::100.00(1)
      P2
                   251
                                 F
                                              \mathbf{L}
                                                                     L::100.00(1)
      P2
                   252
                                 F
                                              G
                                                                     G::100.00(1)
      P2
                                 F
                   253
                                              A
                                                                     A::100.00(1)
                                                                     K::100.00(1)
      P2
                   254
                                 F
                                              K
      P2
                                 F
                                              S
                   255
                                                                     S::100.00(1)
                                               V
      P2
                   256
                                 F
                                                                     V::100.00(1)
      P2
                   257
                                 F
                                               Q
                                                                     Q::100.00(1)
      P2
                   258
                                 F
                                              Η
                                                                     H::100.00(1)
      P2
                   259
                                 \mathbf{F}
                                              \mathbf{L}
                                                                     L::100.00(1)
      P2
                                 F
                                              \mathbf{S}
                   261
                                                                     S::100.00(1)
      P2
                                 F
                   262
                                              \mathbf{L}
                                                                     L::100.00(1)
      P2
                   263
                                 F
                                              Y
                                                                     Y::100.00(1)
      P2
                                 F
                                              \mathbf{T}
                   264
                                                                     T::100.00(1)
      P2
                                 F
                                              \mathbf{S}
                   265
                                                                     S::100.00(1)
      P2
                                 F
                                              V
                   266
                                                                     V::100.00(1)
      P2
                                 F
                                              \mathbf{T}
                   267
                                                                     T::100.00(1)
      P2
                   268
                                 F
                                              Ν
                                                                     N::100.00(1)
      P2
                   270
                                 F
                                              \mathbf{L}
                                                                     L::100.00(1)
                                 F
      P2
                   271
                                              L
                                                                     L::100.00(1)
      P2
                   272
                                 \mathbf{F}
                                              S
                                                                     S::100.00(1)
      P2
                   273
                                 F
                                              \mathbf{L}
                                                                     L::100.00(3)
      P2
                                 F
                                              G
                   274
                                                                     G::100.00(3)
      P2
                   275
                                 \mathbf{F}
                                              Ι
                                                                     I::100.00(3)
      P2
                                 F
                   276
                                              Η
                                                                     H::100.00(3)
      P2
                   277
                                 \mathbf{F}
                                              \mathbf{L}
                                                                     L::100.00(3)
                                 \mathbf{F}
      P2
                                              Ν
                   278
                                                                     N::100.00(3)
      P2
                   279
                                 \mathbf{F}
                                              Ρ
                                                                     P::100.00(3)
      P2
                   280
                                 \mathbf{F}
                                              Ν
                                                                     N::100.00(4)
      P2
                                 F
                   281
                                              Κ
                                                                     K::100.00(4)
      P2
                                 \mathbf{F}
                                              \mathbf{T}
                   282
                                                                     T::100.00(4)
      P2
                                 F
                   283
                                              K
                                                                     K::100.00(4)
      P2
                                 F
                   284
                                              R
                                                                     R::100.00(4)
      P2
                   285
                                 F
                                              W
                                                                     W::100.00(4)
      P2
                                 F
                                              G
                   286
                                                                     G::100.00(4)
                                 F
                                              Y
      P2
                   287
                                                                     Y::100.00(4)
      P2
                                 \mathbf{F}
                                              S
                   288
                                                                     S::100.00(4)
P2
                           F
             289
                                        \mathbf{L}
                                                               L::100.00(4)
P2
             290
                           F
                                        Ν
                                                               N::75.00(3) H::25.00(1)
P2
             292
                           F
                                                               M::100.00(4)
                                        Μ
P2
             293
                           F
                                        G
                                                               G::100.00(4)
P2
                           F
                                        Y
             294
                                                               Y::100.00(5)
P2
             295
                           F
                                        V
                                                               V::100.00(5)
P2
                           F
             296
                                        Ι
                                                               I::100.00(5)
P2
             297
                           F
                                        G
                                                               G::100.00(5)
P2
                           F
                                        S
             298
                                                               S::80.00(4) C::20.00(1)
```

P2

F

245

Y

Y::100.00(2)

| P2 | 299 | \mathbf{F} | W | W::80.00(4) Y::20.00(1) |
|-----|-----|--------------|--------------|---|
| P2 | 300 | F | G | |
| | | | | G::100.00(5) |
| P2 | 301 | \mathbf{F} | S | S::100.00(5) |
| P2 | 302 | \mathbf{F} | L | L::100.00(5) |
| P2 | 303 | \mathbf{F} | P | P::100.00(5) |
| P2 | 304 | F | Q | Q::100.00(5) |
| | | | | - |
| P2 | 305 | F | \mathbf{E} | E::80.00(4) D::20.00(1) |
| P2 | 306 | \mathbf{F} | H | H::100.00(5) |
| P2 | 307 | \mathbf{F} | I | I::100.00(5) |
| P2 | 308 | \mathbf{F} | R | R::75.00(3) I::25.00(1) |
| P2 | | F | | ` ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' |
| | 309 | | M | M::75.00(3) Q::25.00(1) |
| P2 | 310 | \mathbf{F} | K | K::100.00(4) |
| P2 | 311 | \mathbf{F} | I | I::100.00(4) |
| P2 | 312 | \mathbf{F} | K | K::100.00(4) |
| P2 | 313 | F | D | D::75.00(3) E::25.00(1) |
| | | | C | |
| P2 | 314 | F | | C::100.00(4) |
| P2 | 316 | \mathbf{F} | R | R::100.00(4) |
| P2 | 317 | \mathbf{F} | K | K::100.00(4) |
| P2 | 318 | \mathbf{F} | L | L::75.00(3) H::25.00(1) |
| P2 | 319 | F | P | P::100.00(4) |
| | | | | |
| P2 | 320 | F | V | V::100.00(4) |
| P2 | 321 | \mathbf{F} | N | N::100.00(4) |
| P2 | 322 | \mathbf{F} | R | R::100.00(2) |
| P2 | 323 | \mathbf{F} | P | P::100.00(2) |
| P2 | 324 | F | I | I::100.00(2) |
| | | | | |
| P2 | 325 | F | D | D::100.00(2) |
| P2 | 326 | \mathbf{F} | W | W::100.00(2) |
| P2 | 327 | \mathbf{F} | K | K::100.00(3) |
| P2 | 328 | \mathbf{F} | V | V::100.00(3) |
| P2 | 329 | \mathbf{F} | C | C::100.00(3) |
| P2 | 330 | F | | Q::100.00(2) |
| | | | Q | |
| P2 | 331 | F | R | R::100.00(2) |
| P2 | 332 | \mathbf{F} | I | I::100.00(4) |
| P2 | 333 | \mathbf{F} | V | V::100.00(5) |
| P2 | 334 | \mathbf{F} | G | G::100.00(5) |
| P2 | 335 | F | L | L::100.00(5) |
| | | | | |
| P2 | 336 | F | L | L::100.00(5) |
| P2 | 337 | \mathbf{F} | G | G::100.00(5) |
| P2 | 339 | \mathbf{F} | A | A::100.00(5) |
| P2 | 340 | \mathbf{F} | A | A::100.00(5) |
| P2 | 341 | F | P | P::100.00(5) |
| | | | | |
| P2 | 343 | F | T | T::100.00(4) |
| P2 | 344 | \mathbf{F} | Q | Q::100.00(4) |
| P2 | 345 | \mathbf{F} | C | C::100.00(4) |
| P2 | 346 | \mathbf{F} | G | G::100.00(4) |
| P2 | 347 | F | Y | Y::100.00(4) |
| | | | P | |
| P2 | 348 | F | | P::100.00(4) |
| P2 | 349 | F | A | A::100.00(5) |
| P2 | 350 | \mathbf{F} | L | L::100.00(5) |
| P2 | 351 | \mathbf{F} | ${ m M}$ | M::100.00(5) |
| P2 | 352 | F | P | P::100.00(5) |
| ± 4 | 302 | ± | 1 | 1100.00(0) |

| P2 | 353 | \mathbf{F} | ${ m L}$ | L::100.00(5) |
|----|------------|--------------|-------------------------|-------------------------|
| P2 | 354 | \mathbf{F} | Y | Y::100.00(5) |
| P2 | 355 | \mathbf{F} | A | A::100.00(5) |
| P2 | 356 | \mathbf{F} | $^{\mathrm{C}}$ | C::100.00(5) |
| P2 | 357 | \mathbf{F} | I | I::60.00(3) T::40.00(2) |
| P2 | 358 | \mathbf{F} | Q | Q::100.00(7) |
| P2 | 359 | \mathbf{F} | \mathbf{S} | S::100.00(7) |
| P2 | 360 | \mathbf{F} | K | K::100.00(7) |
| P2 | 361 | \mathbf{F} | Q | Q::100.00(7) |
| P2 | 362 | F | Ã | A::100.00(7) |
| P2 | 364 | F | $^{ m T}$ | T::100.00(7) |
| P2 | 366 | F | S | S::100.00(7) |
| P2 | 367 | F | P | P::100.00(7) |
| P2 | 368 | F | $^{\mathrm{T}}$ | T::100.00(7) |
| P2 | 369 | F | Y | Y::100.00(7) |
| P2 | 370 | F | K | K::100.00(7) |
| P2 | 370 371 | F | A | A::100.00(7) |
| P2 | | | | ` / |
| | 373 | F | L | L::100.00(7) |
| P2 | 374 | F | C K | C::100.00(7) |
| P2 | 375 | F | | K::100.00(7) |
| P2 | 376 | F | Q | Q::100.00(7) |
| P2 | 377 | F | Y | Y::100.00(6) |
| P2 | 378 | F | L | L::100.00(6) |
| P2 | 379 | F | N | N::100.00(6) |
| P2 | 380 | F | L | L::100.00(4) |
| P2 | 381 | F | Y | Y::100.00(4) |
| P2 | 382 | F | Р | P::100.00(3) |
| P2 | 383 | F | V | V::100.00(3) |
| P2 | 384 | F | A | A::100.00(3) |
| P2 | 385 | \mathbf{F} | \mathbf{R} | R::100.00(3) |
| P2 | 386 | \mathbf{F} | Q | Q::100.00(3) |
| P2 | 387 | \mathbf{F} | ${ m R}$ | R::100.00(3) |
| P2 | 388 | \mathbf{F} | Р | P::100.00(3) |
| P2 | 389 | \mathbf{F} | G | G::100.00(3) |
| P2 | 390 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| P2 | 391 | \mathbf{F} | $^{\mathrm{C}}$ | C::100.00(3) |
| P2 | 392 | \mathbf{F} | Q | Q::100.00(3) |
| P2 | 393 | \mathbf{F} | V | V::100.00(3) |
| P2 | 395 | \mathbf{F} | A | A::100.00(3) |
| P2 | 396 | \mathbf{F} | D | D::100.00(3) |
| P2 | 397 | \mathbf{F} | A | A::100.00(3) |
| P2 | 398 | \mathbf{F} | ${ m T}$ | T::100.00(2) |
| P2 | 399 | \mathbf{F} | P | P::100.00(2) |
| P2 | 400 | \mathbf{F} | ${ m T}$ | T::100.00(2) |
| P2 | 401 | \mathbf{F} | G | G::100.00(2) |
| P2 | 402 | F | W | W::100.00(2) |
| P2 | 403 | \mathbf{F} | G | G::100.00(2) |
| P2 | 404 | \mathbf{F} | ${f L}$ | L::100.00(2) |
| P2 | 469 | \mathbf{F} | ${ m R}$ | R::100.00(1) |
| P2 | 470 | F | G | G::100.00(1) |
| P2 | 471 | F | $\overline{\mathrm{T}}$ | T::100.00(1) |
| | | | | (/ |

| To 0 | 4-0 | - | | 0 100 00(1) |
|------|-----|--------------|-------------------------|--------------|
| P2 | 472 | F | S | S::100.00(1) |
| P2 | 474 | \mathbf{F} | V | V::100.00(1) |
| P2 | 475 | \mathbf{F} | Y | Y::100.00(1) |
| P2 | 476 | \mathbf{F} | V | V::100.00(1) |
| P2 | 477 | \mathbf{F} | Р | P::100.00(1) |
| P2 | 478 | \mathbf{F} | S | S::100.00(1) |
| P2 | 479 | \mathbf{F} | \mathbf{A} | A::100.00(1) |
| P2 | 480 | \mathbf{F} | ${f L}$ | L::100.00(1) |
| P2 | 481 | \mathbf{F} | N | N::100.00(1) |
| P2 | 482 | \mathbf{F} | Р | P::100.00(1) |
| P2 | 483 | F | A | A::100.00(1) |
| P2 | 484 | F | D | D::100.00(1) |
| P2 | 485 | F | D | D::100.00(1) |
| P2 | 486 | F | P | P::100.00(1) |
| P2 | 487 | F | S | S::100.00(1) |
| P2 | | | | ` ' |
| | 488 | F | R | R::100.00(1) |
| P2 | 489 | F | G | G::100.00(1) |
| P2 | 490 | F | R | R::100.00(1) |
| P2 | 491 | F | L | L::100.00(1) |
| P2 | 492 | F | G | G::100.00(1) |
| P2 | 493 | F | I | I::100.00(1) |
| P2 | 494 | \mathbf{F} | Y | Y::100.00(1) |
| P2 | 495 | \mathbf{F} | \mathbf{R} | R::100.00(1) |
| P2 | 496 | F | Р | P::100.00(1) |
| P2 | 497 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| P2 | 498 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| P2 | 499 | F | R | R::100.00(1) |
| P2 | 500 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| P2 | 501 | \mathbf{F} | Р | P::100.00(1) |
| P2 | 503 | \mathbf{F} | Q | Q::100.00(1) |
| P2 | 504 | \mathbf{F} | P | P::100.00(1) |
| P2 | 505 | \mathbf{F} | ${ m T}$ | T::100.00(1) |
| P2 | 506 | \mathbf{F} | ${ m T}$ | T::100.00(1) |
| P2 | 507 | F | $\overline{\mathrm{G}}$ | G::100.00(1) |
| P2 | 508 | F | R | R::100.00(1) |
| P2 | 509 | F | $^{\mathrm{T}}$ | T::100.00(1) |
| P2 | 510 | F | S | S::100.00(1) |
| P2 | 511 | F | L | L::100.00(1) |
| P2 | 512 | F | Y | Y::100.00(1) |
| P2 | 513 | F | A | A::100.00(1) |
| P2 | 514 | F | V | V::100.00(1) |
| P2 | | | S S | . , |
| | 515 | F | | S::100.00(1) |
| P2 | 516 | F | P | P::100.00(1) |
| P2 | 517 | F | S | S::100.00(1) |
| P2 | 534 | F | V | V::100.00(1) |
| P2 | 535 | F | A | A::100.00(3) |
| P2 | 536 | F | W | W::100.00(3) |
| P2 | 537 | F | R | R::100.00(3) |
| P2 | 538 | F | Р | P::100.00(3) |
| S2 | 127 | F | С | C::100.00(1) |
| S2 | 128 | \mathbf{F} | L | L::100.00(1) |
| | - | | | (/ |

| S2 | 129 | \mathbf{F} | \mathbf{R} | R::100.00(1) |
|-----------------------|------------|-------------------------|--|------------------------------|
| S2 | 130 | F | ${ m R}$ | R::100.00(1) |
| $\tilde{\mathrm{S2}}$ | 132 | $\overline{\mathrm{F}}$ | I | I::100.00(1) |
| $\tilde{S2}$ | 133 | F | Ī | I::100.00(1) |
| S2 | 135 | F | L | L::100.00(1) |
| S2 | 137 | F | I | I::100.00(1) |
| S2 | 138 | F | L | L::100.00(1) |
| S2 | 139 | F | L | L::100.00(1) |
| S2 | 140 | F | L | L::100.00(1) |
| S2 S2 | | F | C | () |
| | 141 | F | | C::100.00(1) |
| S2 | 142 | F F | L I | L::100.00(1) |
| S2 | 143 | | | I::100.00(1) |
| S2 | 145 | F | L | L::100.00(1) |
| S2 | 146 | F | L | L::100.00(1) |
| S2 | 147 | F | V | V::100.00(1) |
| S2 | 148 | F | L | L::100.00(1) |
| S2 | 149 | \mathbf{F} | \mathbf{L} | L::100.00(1) |
| S2 | 150 | \mathbf{F} | D | D::100.00(1) |
| S2 | 151 | F | Y | Y::100.00(1) |
| S2 | 152 | F | Q | Q::100.00(1) |
| S2 | 153 | F | G | G::100.00(1) |
| S2 | 154 | \mathbf{F} | ${ m M}$ | M::100.00(1) |
| S2 | 155 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| S2 | 156 | \mathbf{F} | P | P::100.00(1) |
| S2 | 157 | \mathbf{F} | V | V::100.00(1) |
| S2 | 158 | \mathbf{F} | \mathbf{C} | C::100.00(1) |
| S2 | 159 | F | Р | P::100.00(1) |
| S2 | 160 | F | Q | Q::100.00(1) |
| S2 | 161 | F | I | I::100.00(1) |
| S2 | 162 | \mathbf{F} | P | P::100.00(1) |
| S2 | 163 | F | G | G::100.00(1) |
| S2 | 164 | \mathbf{F} | \mathbf{S} | S::100.00(1) |
| S2 | 165 | \mathbf{F} | \mathbf{S} | S::100.00(1) |
| S2 | 166 | \mathbf{F} | ${ m T}$ | T::100.00(1) |
| S2 | 167 | \mathbf{F} | ${ m T}$ | T::100.00(1) |
| S2 | 168 | F | \mathbf{S} | S::100.00(1) |
| S2 | 169 | F | $\dot{	ext{T}}$ | T::100.00(1) |
| S2 | 170 | \mathbf{F} | G | G::100.00(1) |
| S2 | 171 | \mathbf{F} | P | P::100.00(1) |
| S2 | 172 | $^{-}$ | $^{-}$ C | C::100.00(1) |
| $\tilde{S2}$ | 173 | F | $^{\circ}$ R | R::100.00(1) |
| S2 | 174 | F | T | T::100.00(1) |
| S2 | 175 | F | C | C::100.00(1) |
| S2 | 176 | F | $\overset{\circlearrowright}{	ext{T}}$ | T::100.00(1) |
| S2 | 189 | F | $\stackrel{1}{\mathrm{C}}$ | C::100.00(1) |
| S2 S2 | 190 | F | C | C::100.00(1) C::100.00(1) |
| S2 S2 | 190 | F | ${f s}$ | S::100.00(1) |
| S2 S2 | 191 | F | K | K::100.00(1) |
| S2 S2 | 193 | F | P | P::100.00(1) |
| S2 S2 | 193 194 | F | S | S::100.00(1) |
| S2 S2 | 194 195 | F | D D | D::100.00(1) |
| IJ4 | 130 | Г | D | D100.00(1) |

```
S2
                         F
                                      G
            196
                                                           G::100.00(1)
S2
                         F
                                      Ν
            197
                                                           N::100.00(1)
                                      \mathbf{C}
S2
            198
                         \mathbf{F}
                                                           C::100.00(1)
S2
                         F
                                      \mathbf{T}
            199
                                                           T::100.00(2)
                         F
                                      \mathbf{C}
S2
            200
                                                           C::100.00(2)
                         F
                                      Ι
S2
            201
                                                           I::100.00(2)
S2
            202
                         F
                                      Ρ
                                                           P::100.00(2)
S2
            203
                         F
                                      T
                                                           I::100.00(2)
S2
                         F
                                      Ρ
            204
                                                           P::100.00(2)
S2
            205
                         F
                                      S
                                                           S::50.00(1) L::50.00(1)
S2
                         F
                                      S
            206
                                                           S::100.00(2)
S2
            207
                         F
                                      W
                                                           W::100.00(2)
S2
                         F
            208
                                      Α
                                                           A::100.00(2)
S2
                         F
                                      G
            210
                                                           G::100.00(2)
S2
            211
                         \mathbf{F}
                                      Κ
                                                           K::100.00(3)
S2
                         F
                                      L
            213
                                                           L::100.00(3)
S2
                         F
                                      W
            214
                                                           W::100.00(3)
S2
            215
                         F
                                      \mathbf{E}
                                                           E::100.00(3)
S2
                         F
                                      W
            216
                                                           W::100.00(3)
S2
                         F
            217
                                      A
                                                           A::100.00(3)
                         F
                                      S
S2
            218
                                                           S::100.00(3)
                         F
S2
            219
                                      A
                                                           A::100.00(3)
S2
            220
                         F
                                      R
                                                           R::100.00(3)
S2
            222
                         F
                                      F
                                                           F::66.67(2) S::33.33(1)
                                      W
S2
            223
                         F
                                                           W::66.67(2) S::33.33(1)
S2
            224
                         F
                                      \mathbf{L}
                                                           L::100.00(3)
S2
            225
                         F
                                      S
                                                           S::100.00(3)
S2
                         F
            226
                                      \mathbf{L}
                                                           L::100.00(3)
S2
            227
                         F
                                      \mathbf{L}
                                                           L::100.00(3)
S2
                         F
                                      V
            228
                                                           V::100.00(3)
S2
            229
                         F
                                      Ρ
                                                           P::100.00(3)
S2
                                      V
                         F
            231
                                                           V::100.00(3)
S2
            232
                         F
                                      Q
                                                           Q::100.00(3)
S2
            233
                         F
                                      W
                                                           W::66.67(2) *::33.33(1)
S2
                         F
                                      V
            235
                                                           V::100.00(3)
                         F
S2
                                      G
            236
                                                           G::100.00(3)
                         F
S2
            237
                                      \mathbf{L}
                                                           L::100.00(3)
S2
                         F
                                      S
            238
                                                           S::100.00(3)
S2
            239
                         F
                                      Ρ
                                                           P::100.00(2)
S2
                         F
                                      \mathbf{T}
            240
                                                           T::100.00(2)
                         F
S2
            241
                                      V
                                                            V::100.00(2)
                                      W
S2
            242
                         F
                                                           W::100.00(2)
S2
                         F
            243
                                      \mathbf{L}
                                                           L::100.00(2)
S2
            244
                         F
                                      S
                                                           S::100.00(2)
S2
            245
                         F
                                      V
                                                           V::100.00(2)
S2
            246
                         F
                                      Ι
                                                           I::100.00(2)
S2
                         F
                                      W
            247
                                                           W::100.00(2)
S2
            248
                         F
                                      Μ
                                                           M::100.00(1)
S2
                         F
            249
                                      Μ
                                                           M::100.00(1)
S2
            250
                         F
                                      W
                                                           W::100.00(1)
S2
                         F
                                      Y
            251
                                                           Y::100.00(1)
```

| S2 | 252 | \mathbf{F} | W | W::100.00(1) |
|--------------|-------------------|-----------------|-------------------------------|---------------------------------------|
| $\tilde{S}2$ | 253 | $^{-}$ | G | G::100.00(1) |
| S2 | 254 | F | P | P::100.00(1) |
| S2 | 255 | F | S | S::100.00(1) |
| S2 | 256 | F | L | L::100.00(1) |
| S2 | 257 | F | Y | Y::100.00(1) |
| S2 | $\frac{257}{258}$ | F | N | N::100.00(1) |
| S2 S2 | | | | ` / |
| | 259 | F | I | I::100.00(1) |
| S2 | 260 | F | L | L::100.00(1) |
| S2 | 262 | F | P | P::100.00(1) |
| S2 | 264 | F | I | I::100.00(1) |
| S2 | 265 | F | P | P::100.00(1) |
| S2 | 266 | F | L | L::100.00(1) |
| S2 | 267 | \mathbf{F} | L | L::100.00(1) |
| S2 | 268 | \mathbf{F} | Р | P::100.00(1) |
| S2 | 269 | \mathbf{F} | I | I::100.00(1) |
| S2 | 272 | \mathbf{F} | \mathbf{C} | C::100.00(1) |
| S2 | 273 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| S2 | 274 | \mathbf{F} | W | W::100.00(3) |
| S2 | 275 | \mathbf{F} | V | V::100.00(3) |
| S2 | 276 | F | Y | Y::100.00(3) |
| X | 12 | F | A | · · · · · · · · · · · · · · · · · · · |
| X | 13 | $^{\mathbf{F}}$ | R R | A::100.00(1) R::100.00(1) |
| | | | | ` / |
| X | 14 | F | D | D::100.00(1) |
| X | 15 | F | V | V::100.00(1) |
| X | 16 | F | L | L::100.00(1) |
| X | 17 | F | C | C::100.00(1) |
| X | 18 | F | $_{ m L}$ | L::100.00(1) |
| X | 19 | \mathbf{F} | \mathbf{R} | R::100.00(1) |
| X | 20 | \mathbf{F} | Р | P::100.00(1) |
| X | 21 | \mathbf{F} | V | V::100.00(1) |
| X | 22 | \mathbf{F} | S | S::100.00(1) |
| X | 23 | \mathbf{F} | A | A::100.00(1) |
| X | 24 | \mathbf{F} | ${f E}$ | E::100.00(1) |
| X | 25 | \mathbf{F} | S | S::100.00(1) |
| X | 26 | \mathbf{F} | \mathbf{C} | C::100.00(1) |
| X | 27 | \mathbf{F} | G | G::100.00(1) |
| X | 28 | \mathbf{F} | \mathbf{R} | R::100.00(1) |
| X | 29 | \mathbf{F} | P | P::100.00(1) |
| X | 30 | \mathbf{F} | V | V::100.00(1) |
| X | 31 | $^{-}$ | S | S::100.00(1) |
| X | 32 | F | $\overset{\circ}{\mathrm{G}}$ | G::100.00(1) |
| X | 33 | F | S | S::100.00(1) |
| X | 34 | F | L | L::100.00(1) |
| X | 35 | F | G | G::100.00(1) |
| X | 36 | F | D D | . , |
| | | | | D::100.00(1) |
| X | 37 | F | L | L::100.00(1) |
| X | 38 | F | \mathbf{S} | S::100.00(1) |
| X | 39 | F | S | S::100.00(1) |
| X | 40 | F | P | P::100.00(1) |
| X | 41 | \mathbf{F} | \mathbf{S} | S::100.00(1) |
| | | | | |

| X | 42 | \mathbf{F} | P | P::100.00(1) |
|---|-----|-------------------------|-------------------------|-------------------------|
| X | 43 | F | \mathbf{S} | S::100.00(1) |
| | | | | ` / |
| X | 44 | \mathbf{F} | A | A::100.00(1) |
| X | 45 | \mathbf{F} | V | V::100.00(1) |
| X | 46 | \mathbf{F} | P | P::100.00(1) |
| X | 47 | \mathbf{F} | A | A::100.00(1) |
| X | 48 | F | D | D::100.00(1) |
| | | | | ` / |
| X | 49 | \mathbf{F} | H | H::100.00(1) |
| X | 50 | \mathbf{F} | G | G::100.00(1) |
| X | 51 | \mathbf{F} | A | A::100.00(1) |
| X | 52 | \mathbf{F} | H | H::100.00(1) |
| X | 53 | F | L | L::100.00(1) |
| | | | | |
| X | 54 | F | S | S::100.00(1) |
| X | 55 | F | ${ m L}$ | L::100.00(1) |
| X | 56 | \mathbf{F} | \mathbf{R} | R::100.00(1) |
| X | 57 | \mathbf{F} | G | G::100.00(1) |
| X | 58 | $\overline{\mathrm{F}}$ | L | L::100.00(1) |
| | | | | ` ' |
| X | 59 | F | P | P::100.00(1) |
| X | 60 | F | V | V::100.00(1) |
| X | 61 | \mathbf{F} | $^{\mathrm{C}}$ | C::100.00(1) |
| X | 78 | \mathbf{F} | ${ m R}$ | R::100.00(3) |
| X | 79 | F | \mathbf{M} | M::100.00(3) |
| X | | F | | |
| | 80 | | E | E::100.00(3) |
| X | 81 | \mathbf{F} | ${f T}$ | T::100.00(3) |
| X | 82 | \mathbf{F} | ${ m T}$ | T::100.00(3) |
| X | 83 | \mathbf{F} | V | V::100.00(3) |
| X | 84 | F | N | N::100.00(3) |
| X | 85 | F | | ` / |
| | | | A | A::100.00(3) |
| X | 86 | F | H | H::100.00(3) |
| X | 87 | F | Q | Q::100.00(3) |
| X | 88 | \mathbf{F} | \mathbf{F} | F::66.67(2) I::33.33(1) |
| X | 89 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| X | 90 | $\overline{\mathrm{F}}$ | P | P::100.00(3) |
| | | | | |
| X | 91 | F | K | K::100.00(3) |
| X | 92 | \mathbf{F} | V | V::100.00(3) |
| X | 93 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| X | 94 | \mathbf{F} | Н | H::100.00(3) |
| X | 95 | \mathbf{F} | K | K::100.00(3) |
| X | 96 | F | R | R::100.00(3) |
| | | | | |
| X | 97 | F | T | T::100.00(3) |
| X | 98 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| X | 99 | \mathbf{F} | G | G::100.00(3) |
| X | 100 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| X | 101 | F | $\overline{\mathrm{S}}$ | S::100.00(3) |
| | | | | |
| X | 102 | F | V | V::66.67(2) A::33.33(1) |
| X | 103 | F | ${f M}$ | M::100.00(4) |
| X | 104 | F | \mathbf{S} | S::100.00(4) |
| X | 105 | F | ${ m T}$ | T::100.00(4) |
| X | 106 | \mathbf{F} | ${ m T}$ | T::100.00(4) |
| X | 107 | F | D | D::100.00(4) |
| | | | | |
| X | 108 | F | ${f L}$ | L::100.00(4) |
| | | | | |

| v | 100 | 17 | 17. | E. 100 00(4) |
|--------|---------------|--------------|----------------------------|------------------------------|
| X | 109 | F | E | E::100.00(4) |
| X | 110 | F | A | A::100.00(4) |
| X | 111 | F | Y | Y::100.00(4) |
| X | 113 | F | K | K::100.00(4) |
| X | 114 | F | D | D::100.00(4) |
| X | 115 | F | \mathbf{C} | C::100.00(4) |
| X | 116 | \mathbf{F} | ${ m L}$ | L::100.00(4) |
| X | 118 | F | K | K::100.00(4) |
| X | 119 | F | D | D::100.00(7) |
| X | 120 | \mathbf{F} | W | W::100.00(7) |
| X | 121 | \mathbf{F} | \mathbf{E} | E::100.00(7) |
| X | 122 | \mathbf{F} | \mathbf{E} | E::100.00(7) |
| X | 123 | \mathbf{F} | ${ m L}$ | L::57.14(4) S::42.86(3) |
| X | 124 | \mathbf{F} | G | G::100.00(7) |
| X | 125 | \mathbf{F} | ${ m E}$ | E::100.00(2) |
| X | 126 | \mathbf{F} | ${f E}$ | E::100.00(4) |
| X | 127 | \mathbf{F} | ${ m T}$ | T::50.00(2) I::50.00(2) |
| X | 128 | \mathbf{F} | \mathbf{R} | R::100.00(4) |
| X | 129 | \mathbf{F} | \mathbf{L} | L::100.00(4) |
| X | 130 | \mathbf{F} | \mathbf{M} | M::75.00(3) *::25.00(1) |
| X | 131 | $^{-}$ | I | I::75.00(3) L::25.00(1) |
| X | 133 | $^{-}$ | V | V::100.00(4) |
| X | 134 | F | Ĺ | L::100.00(4) |
| X | 135 | F | G | G::100.00(4) |
| X | 136 | F | Ğ | G::100.00(4) |
| X | 137 | F | Č | C::100.00(4) |
| X | 138 | F | $\stackrel{\circ}{ m R}$ | R::100.00(4) |
| X | 139 | F | H | H::100.00(4) |
| X | 140 | F | K | K::100.00(4) |
| X | 141 | $^{-}$ | L | L::100.00(4) |
| X | 142 | $^{-}$ | $\overline{ m V}$ | V::100.00(4) |
| X | 143 | $^{-}$ | Ċ | C::100.00(4) |
| X | 144 | $^{-}$ | Ā | A::100.00(4) |
| X | 145 | F | P | P::100.00(4) |
| X | 146 | F | A | A::100.00(4) |
| X | 147 | F | P | P::100.00(4) |
| X | 148 | F | C | C::100.00(3) |
| X | 149 | F | N | N::100.00(3) |
| X | 152 | $^{-}$ | $\overline{\mathrm{T}}$ | T::100.00(3) |
| X | 153 | $^{-}$ | $\stackrel{-}{\mathrm{S}}$ | S::100.00(3) |
| | | | | |
| C C | 1 | F F | M | M::100.00(1) |
| C | $\frac{2}{3}$ | F | D I | D::100.00(1) I::100.00(1) |
| C | 3 4 | F | D | ` / |
| C | 5 | F | P | D::100.00(1) P::100.00(1) |
| C | 5 6 | F | | |
| C | o 7 | r F | Y K | Y::100.00(1) K::100.00(1) |
| C | 8 | F | E E | E::100.00(1) |
| C | 10 | F | G | G::100.00(1) |
| C | 10 | F | A | A::100.00(3) |
| C | 12 | F | S | S::66.67(2) T::33.33(1) |
| O | 14 | T, | b | 500.07(2) 133.33(1) |

| $^{\mathrm{C}}$ | 13 | \mathbf{F} | V | V::100.00(3) |
|--------------------------------|-----------------|--------------|-----------------|-------------------------|
| \mathbf{C} | 14 | F | ${f E}$ | E::100.00(3) |
| $\ddot{\mathrm{C}}$ | 15 | F | L | L::100.00(3) |
| $^{\rm C}$ | 16 | F | L | L::100.00(3) |
| | | | | |
| \mathbf{C} | 17 | \mathbf{F} | \mathbf{S} | S::100.00(3) |
| \mathbf{C} | 19 | F | ${ m L}$ | L::100.00(3) |
| \mathbf{C} | 20 | \mathbf{F} | P | P::100.00(3) |
| \mathbf{C} | 21 | \mathbf{F} | \mathbf{S} | S::100.00(3) |
| \mathbf{C} | 22 | \mathbf{F} | D | D::100.00(3) |
| Č | $\frac{-}{25}$ | F | P | P::100.00(3) |
| $\stackrel{	ext{C}}{	ext{C}}$ | $\frac{26}{26}$ | F | S | S::100.00(3) |
| C | | F | V | · / |
| | 27 | | | V::100.00(2) |
| С | 28 | \mathbf{F} | \mathbf{R} | R::100.00(2) |
| \mathbf{C} | 29 | F | Q | Q::100.00(2) |
| \mathbf{C} | 30 | \mathbf{F} | ${ m L}$ | L::100.00(2) |
| $^{\mathrm{C}}$ | 31 | \mathbf{F} | ${ m L}$ | L::100.00(2) |
| \mathbf{C} | 32 | F | D | D::100.00(2) |
| C | 33 | F | ${ m T}$ | T::100.00(2) |
| $\stackrel{\circ}{\mathrm{C}}$ | 34 | F | Ā | A::100.00(2) |
| $^{\rm C}$ | 35 | F | S | () |
| | | | | S::100.00(2) |
| C | 36 | F | A | A::100.00(2) |
| \mathbf{C} | 37 | \mathbf{F} | ${ m L}$ | L::100.00(2) |
| \mathbf{C} | 38 | F | Y | Y::100.00(2) |
| \mathbf{C} | 39 | \mathbf{F} | ${ m R}$ | R::100.00(2) |
| \mathbf{C} | 40 | \mathbf{F} | ${ m E}$ | E::100.00(2) |
| \mathbf{C} | 41 | \mathbf{F} | A | A::100.00(2) |
| $\ddot{\mathrm{C}}$ | 42 | F | L | L::100.00(2) |
| $^{\rm C}$ | 43 | F | E | E::100.00(2) |
| C | 44 | | S | |
| | | F | | S::100.00(2) |
| С | 45 | F | P | P::100.00(2) |
| \mathbf{C} | 46 | \mathbf{F} | \mathbf{E} | E::100.00(5) |
| $^{\mathrm{C}}$ | 47 | F | ${ m H}$ | H::100.00(5) |
| $^{\mathrm{C}}$ | 48 | \mathbf{F} | $^{\mathrm{C}}$ | C::100.00(5) |
| $^{\mathrm{C}}$ | 49 | \mathbf{F} | \mathbf{S} | S::100.00(5) |
| С | 50 | \mathbf{F} | Р | P::100.00(5) |
| Č | 51 | F | H | H::100.00(5) |
| $\stackrel{	ext{C}}{	ext{C}}$ | 52 | F | H | H::100.00(5) |
| | | | | |
| С | 53 | F | ${ m T}$ | T::100.00(5) |
| С | 54 | F | A | A::100.00(5) |
| \mathbf{C} | 55 | \mathbf{F} | L | L::100.00(5) |
| \mathbf{C} | 56 | \mathbf{F} | ${ m R}$ | R::100.00(5) |
| \mathbf{C} | 57 | \mathbf{F} | Q | Q::100.00(5) |
| \mathbf{C} | 58 | \mathbf{F} | \mathbf{E} | E::66.67(2) A::33.33(1) |
| \mathbf{C} | 59 | \mathbf{F} | I | I::100.00(3) |
| $\ddot{\mathrm{C}}$ | 60 | F | L | L::100.00(3) |
| $^{\rm C}$ | 61 | F | C | C::100.00(3) |
| | | | | |
| С | 62 | F | W | W::100.00(3) |
| C | 63 | F | G | G::100.00(3) |
| \mathbf{C} | 64 | \mathbf{F} | ${f E}$ | E::66.67(2) D::33.33(1) |
| $^{\mathrm{C}}$ | 65 | \mathbf{F} | L | L::100.00(3) |
| \mathbf{C} | 66 | \mathbf{F} | ${f M}$ | M::66.67(2) I::33.33(1) |
| | | | | () |

| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | |
|--|--------------|-----|--------------|----------|---------------------------------------|
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 68 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| C 71 F W W::100.00(3) C 72 F V V::100.00(3) C 73 F G G::100.00(3) C 74 F G G::66.67(2) A::33.33(1) C 75 F N N::100.00(4) C 76 F L L::100.00(4) C 77 F E E::100.00(4) C 77 F E E::100.00(4) C 78 F D D::100.00(4) C 79 F P P::100.00(4) C 80 F T T::75.00(3) A::25.00(1) C 81 F S S::100.00(4) C 83 F D D::100.00(4) C 84 F L L::100.00(4) C 85 F V V::100.00(4) C 85 F V V::100.00(4) <t< td=""><td></td><td>69</td><td>\mathbf{F}</td><td>A</td><td></td></t<> | | 69 | \mathbf{F} | A | |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | \mathbf{C} | 70 | \mathbf{F} | ${ m T}$ | T::100.00(3) |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | \mathbf{C} | 71 | \mathbf{F} | W | W::100.00(3) |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | \mathbf{C} | 72 | \mathbf{F} | V | V::100.00(3) |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 73 | \mathbf{F} | | ` ' |
| C 75 F N N::100.00(3) C 76 F L L::100.00(4) C 77 F E E::100.00(4) C 78 F D D::100.00(4) C 78 F P P::100.00(4) C 79 F P P::100.00(4) C 80 F T T::75.00(3) A::25.00(1) C 81 F P P::100.00(4) C 82 F R R::100.00(4) C 83 F D D::100.00(4) C 84 F L L::100.00(4) C 85 F V V::100.00(4) C 86 F V V::100.00(4) C 87 F G G::75.00(3) S::25.00(1) C 87 F G G::75.00(3) S::25.00(1) C 89 F | | | | | ` , |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | ` ' |
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| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | |
| C 81 F S S::100.00(4) C 82 F R R::100.00(4) C 83 F D D::100.00(4) C 84 F L L::100.00(4) C 86 F V V::100.00(4) C 86 F V V::100.00(4) C 87 F G G::75.00(3) S::25.00(1) C 88 F Y Y::100.00(4) C 89 F V V::100.00(4) C 89 F V V::100.00(4) C 99 F N N::100.00(4) C 90 F N N::75.00(3) T::25.00(1) C 91 F T T T::100.00(4) C 92 F N N::75.00(3) T::25.00(1) C 93 F M M::80.00(4) V::20.00(1) C< | | | | | ` , |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | . , |
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| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | ` ' ' |
| C 90 F N N::100.00(4) C 91 F T T::100.00(4) C 92 F N N::75.00(3) T::25.00(1) C 93 F M M::80.00(4) V::20.00(1) C 94 F G G::100.00(1292) C 95 F L L::99.85(1375) C 96 F K K::100.00(1388) C 98 F R R::99.86(1386) C 99 F Q Q::100.00(1388) C 100 F L L::99.86(1386) C 101 F L L::100.00(1389) C 102 F W W::100.00(1389) C 104 F H H::100.00(1389) C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C <t< td=""><td></td><td></td><td></td><td></td><td></td></t<> | | | | | |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 89 | \mathbf{F} | V | V::100.00(4) |
| C 92 F N N::75.00(3) T::25.00(1) C 93 F M M::80.00(4) V::20.00(1) C 94 F G G::100.00(1292) C 95 F L L::99.85(1375) C 96 F K K::100.00(1388) C 98 F R R::99.86(1386) C 99 F Q Q::100.00(1388) C 100 F L L::199.86(1386) C 101 F L L::100.00(1389) C 102 F W W::100.00(1389) C 104 F H H::100.00(1389) C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T | | 90 | \mathbf{F} | N | N::100.00(4) |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | \mathbf{C} | 91 | \mathbf{F} | ${ m T}$ | T::100.00(4) |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | \mathbf{C} | 92 | \mathbf{F} | N | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | \mathbf{C} | 93 | \mathbf{F} | ${ m M}$ | |
| C 95 F L L::99.85(1375) C 96 F K K::100.00(1388) C 98 F R R::99.86(1386) C 99 F Q Q::100.00(1388) C 100 F L L::99.86(1386) C 101 F L L::100.00(1389) C 102 F W W::100.00(1389) C 104 F H H::100.00(1389) C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99. | | 94 | \mathbf{F} | G | |
| C 96 F K K::100.00(1388) C 98 F R R::99.86(1386) C 99 F Q Q::100.00(1388) C 100 F L L::99.86(1386) C 101 F L L::100.00(1389) C 102 F W W::100.00(1389) C 104 F H H::100.00(1389) C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) < | | 95 | \mathbf{F} | | |
| C 98 F R R::99.86(1386) C 99 F Q Q::100.00(1388) C 100 F L L::99.86(1386) C 101 F L L::100.00(1389) C 102 F W W::100.00(1389) C 104 F H H::100.00(1389) C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) | | | \mathbf{F} | | · · · · · · · · · · · · · · · · · · · |
| C 99 F Q Q::100.00(1388) C 100 F L L::99.86(1386) C 101 F L L::100.00(1389) C 102 F W W::100.00(1389) C 104 F H H::100.00(1389) C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) | | | | | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | |
| C 101 F L L::100.00(1389) C 102 F W W::100.00(1389) C 104 F H H::100.00(1389) C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 102 F W W::100.00(1389) C 104 F H H::100.00(1389) C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 104 F H H::100.00(1389) C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 105 F I I::99.86(1387) C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 106 F S S::100.00(1389) C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 107 F C C::99.93(1388) C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 108 F L L::99.86(1387) C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | , |
| C 109 F T T::100.00(1389) C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | , , |
| C 111 F G G::100.00(1389) C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | · · · · · · · · · · · · · · · · · · · |
| C 112 F R R::99.50(1382) C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 113 F E E::99.93(1389) C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 114 F T T::100.00(1390) C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 115 F V V::99.71(1386) C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 116 F I I::100.00(1390) C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 117 F E E::100.00(1390) C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | · · · · · · · · · · · · · · · · · · · |
| C 118 F Y Y::100.00(1390) C 119 F L L::99.86(1388) | | | | | |
| C 119 F L L::99.86(1388) | | 117 | | | |
| | | 118 | F | | Y::100.00(1390) |
| C 120 F V $V::100.00(1391)$ | | 119 | \mathbf{F} | ${ m L}$ | L::99.86(1388) |
| | \mathbf{C} | 120 | \mathbf{F} | V | V::100.00(1391) |

| $^{\mathrm{C}}$ | 121 | \mathbf{F} | S | S::100.00(1391) |
|-------------------------------|-----|--------------|-------------------------------|-------------------------|
| \mathbf{C} | 123 | \mathbf{F} | G | G::100.00(1391) |
| Ċ | 124 | $^{-}$ | V | V::100.00(1391) |
| $\stackrel{	ext{C}}{	ext{C}}$ | 125 | F | W | W::99.71(1386) |
| | | | | |
| С | 126 | F | I | I::100.00(1390) |
| \mathbf{C} | 127 | F | R | R::99.78(1386) |
| \mathbf{C} | 128 | \mathbf{F} | Τ | T::100.00(1389) |
| \mathbf{C} | 129 | \mathbf{F} | P | P::100.00(1389) |
| \mathbf{C} | 130 | \mathbf{F} | P | P::99.78(1385) |
| \mathbf{C} | 131 | \mathbf{F} | A | A::100.00(1388) |
| C | 132 | \mathbf{F} | Y | Y::100.00(1389) |
| Č | 133 | F | R | R::99.86(1386) |
| $\stackrel{	ext{C}}{	ext{C}}$ | 134 | F | P | P::100.00(1388) |
| | | | | ` , |
| С | 135 | F | P | P::100.00(1388) |
| C | 136 | F | N | N::100.00(1388) |
| \mathbf{C} | 137 | \mathbf{F} | A | A::99.71(1384) |
| \mathbf{C} | 138 | \mathbf{F} | P | P::99.86(1386) |
| \mathbf{C} | 139 | \mathbf{F} | I | I::100.00(1388) |
| \mathbf{C} | 140 | \mathbf{F} | L | L::100.00(1388) |
| \mathbf{C} | 141 | \mathbf{F} | \mathbf{S} | S::99.86(1385) |
| \mathbf{C} | 142 | \mathbf{F} | Τ | T::100.00(1372) |
| Č | 143 | F | L | L::66.67(2) T::33.33(1) |
| $\overset{\circ}{\mathrm{C}}$ | 144 | F | P | P::100.00(3) |
| C | | F | | * * |
| | 145 | | E | E::100.00(3) |
| С | 146 | F | N | N::66.67(2) T::33.33(1) |
| C | 147 | F | T | T::100.00(3) |
| C | 148 | \mathbf{F} | V | V::100.00(3) |
| \mathbf{C} | 149 | \mathbf{F} | V | V::100.00(3) |
| \mathbf{C} | 150 | \mathbf{F} | R | R::100.00(3) |
| \mathbf{C} | 151 | \mathbf{F} | R | R::100.00(3) |
| \mathbf{C} | 152 | \mathbf{F} | R | R::100.00(3) |
| \mathbf{C} | 153 | \mathbf{F} | G | G::100.00(3) |
| \mathbf{C} | 154 | \mathbf{F} | R | R::100.00(3) |
| \mathbf{C} | 155 | \mathbf{F} | S | S::100.00(3) |
| Č | 156 | F | P P | P::100.00(3) |
| $\overset{\circ}{\mathrm{C}}$ | 157 | F | R | R::100.00(3) |
| C | 158 | F | R | R::100.00(3) |
| | | | | R::100.00(3) |
| С | 159 | F | R | * / |
| С | 160 | F | T | T::100.00(3) |
| C | 161 | F | P | P::100.00(3) |
| \mathbf{C} | 162 | \mathbf{F} | S | S::100.00(3) |
| \mathbf{C} | 163 | \mathbf{F} | P | P::100.00(2) |
| \mathbf{C} | 164 | F | R | R::100.00(2) |
| \mathbf{C} | 165 | \mathbf{F} | R | R::100.00(2) |
| \mathbf{C} | 166 | \mathbf{F} | R | R::100.00(2) |
| C | 167 | \mathbf{F} | R | R::100.00(2) |
| Č | 168 | F | S | S::100.00(2) |
| $\overset{\circ}{\mathrm{C}}$ | 169 | F | $\overset{\circ}{\mathrm{Q}}$ | Q::100.00(1) |
| C | 170 | F | S | S::100.00(1) |
| C | | | P | |
| C | 171 | F | | P::100.00(2) |
| C | 172 | F | R | R::100.00(2) |

| \mathbf{C} | 173 | \mathbf{F} | \mathbf{R} | R::100.00(2) |
|-------------------------------|----------------|--------------|--------------|---------------------------------------|
| \mathbf{C} | 174 | \mathbf{F} | ${ m R}$ | R::100.00(2) |
| \mathbf{C} | 175 | \mathbf{F} | ${ m R}$ | R::100.00(2) |
| \mathbf{C} | 176 | \mathbf{F} | \mathbf{S} | S::100.00(2) |
| \mathbf{C} | 177 | \mathbf{F} | Q | Q::100.00(2) |
| $\overset{\circ}{\mathrm{C}}$ | 178 | F | S | S::100.00(2) |
| C | 179 | F | P | P::100.00(2) |
| | | | | |
| C | 180 | F | A | A::100.00(1) |
| C | 181 | F | \mathbf{S} | S::100.00(1) |
| $^{\mathrm{C}}$ | 182 | \mathbf{F} | Q | Q::100.00(2) |
| P1 | 1 | F | M | M::99.86(1386) |
| P1 | $\overline{2}$ | $^{-}$ | P | P::99.86(1386) |
| P1 | 3 | F | Ĺ | L::99.86(1386) |
| P1 | $\frac{3}{4}$ | F | S | S::100.00(1388) |
| P1 | 5 | F | Y | Y::99.86(1386) |
| P1 | 6 | | | · · · · · · · · · · · · · · · · · · · |
| | | F | Q | Q::99.71(1378) |
| P1 | 7 | F | Н | H::99.93(1371) |
| P1 | 8 | F | F | F::66.67(2) L::33.33(1) |
| P1 | 9 | \mathbf{F} | ${ m R}$ | R::100.00(3) |
| P1 | 10 | F | \mathbf{R} | R::100.00(3) |
| P1 | 11 | \mathbf{F} | I | I::66.67(2) L::33.33(1) |
| P1 | 12 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| P1 | 13 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| P1 | 14 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| P1 | 15 | \mathbf{F} | D | D::100.00(3) |
| P1 | 16 | $^{-}$ | E | E::66.67(2) D::33.33(1) |
| P1 | 17 | F | E | E::100.00(3) |
| P1 | 18 | F | A | A::100.00(3) |
| P1 | 19 | F | G | G::100.00(3) |
| P1 | | F | P | |
| | 20 | | | P::100.00(3) |
| P1 | 21 | F | L | L::100.00(3) |
| P1 | 22 | F | E | E::100.00(3) |
| P1 | 23 | F | \mathbf{E} | E::100.00(3) |
| P1 | 24 | \mathbf{F} | \mathbf{E} | E::100.00(3) |
| P1 | 25 | \mathbf{F} | ${ m L}$ | L::100.00(3) |
| P1 | 26 | \mathbf{F} | P | P::100.00(3) |
| P1 | 27 | \mathbf{F} | ${ m R}$ | R::100.00(2) |
| P1 | 28 | \mathbf{F} | ${ m L}$ | L::100.00(2) |
| P1 | 29 | \mathbf{F} | \mathbf{A} | A::100.00(2) |
| P1 | 30 | \mathbf{F} | D | D::100.00(2) |
| P1 | 31 | \mathbf{F} | ${ m E}$ | E::100.00(2) |
| P1 | 32 | \mathbf{F} | G | G::50.00(1) D::50.00(1) |
| P1 | 33 | F | L | L::100.00(2) |
| P1 | 34 | F | N | N::100.00(2) |
| P1 | 35 | F | R | . , |
| | | | | R::100.00(2) |
| P1 | 36 | F | R | R::100.00(2) |
| P1 | 37 | F | V | V::100.00(2) |
| P1 | 38 | F | A | A::100.00(2) |
| P1 | 39 | F | \mathbf{E} | E::100.00(2) |
| P1 | 40 | \mathbf{F} | D | D::100.00(2) |
| P1 | 41 | \mathbf{F} | ${ m L}$ | L::100.00(2) |
| | | | | |

| P1 | 42 | F | N | N::100.00(2) |
|----------|------|-------------------------|------------------------------------|--------------|
| P1 | 43 | F | L | L::100.00(2) |
| P1 | 44 | F | Q | Q::100.00(1) |
| P1 | 45 | F | L | L::100.00(1) |
| P1 | 46 | F | P | P::100.00(1) |
| P1 | 47 | \mathbf{F} | N | N::100.00(2) |
| P1 | 48 | F | V | V::100.00(2) |
| P1 | 49 | F | S | S::100.00(2) |
| P1 | 50 | F | I | I::100.00(2) |
| P1 | 51 | F | P | P::100.00(2) |
| P1 | 52 | F | W | W::100.00(2) |
| P1 | 53 | $\overline{\mathrm{F}}$ | $\overset{\cdot }{\mathrm{T}}$ | T::100.00(2) |
| P1 | 54 | F | H | H::100.00(2) |
| P1 | 55 | F | K | K::100.00(2) |
| P1 | 56 | F | V | V::100.00(2) |
| P1 | 57 | F | Ġ | G::100.00(2) |
| P1 | 58 | F | N | N::100.00(2) |
| P1 | 60 | F | T | T::100.00(2) |
| P1 | 61 | F | G | G::100.00(2) |
| P1 | 62 | F | L | L::100.00(2) |
| P1 | 63 | F | Y | Y::100.00(2) |
| P1 | 64 | F | S | S::100.00(2) |
| P1 | 65 | F | S | S::100.00(2) |
| P1 | 66 | F | $\overset{\mathtt{S}}{\mathrm{T}}$ | T::100.00(2) |
| P1 | 67 | F | Ī | I::100.00(2) |
| P1 | 68 | F | P | P::100.00(2) |
| P1 | 69 | F | V | V::100.00(2) |
| P1 | 71 | F | N N | N::100.00(2) |
| P1 | 72 | F | P | P::100.00(2) |
| P1 | 73 | F | N | N::100.00(2) |
| P1 | 74 | F | W | W::100.00(2) |
| P1 | 75 | F | K | K::100.00(2) |
| P1 | 76 | F | T | T::100.00(2) |
| P1 | 77 | F | P | P::100.00(2) |
| P1 | 78 | F | S | S::100.00(2) |
| P1 | 80 | F | P | P::100.00(2) |
| P1 | 81 | F | D | D::100.00(2) |
| P1 | 82 | F | I | I::100.00(2) |
| P1 | 83 | F | H | H::100.00(2) |
| P1 | 84 | F | L | L::100.00(2) |
| P1 | 85 | F | H | H::100.00(1) |
| P1 | 86 | F | Q | Q::100.00(1) |
| P1 | 87 | F | D | D::100.00(1) |
| P1 | 88 | F | I | I::100.00(1) |
| P1 | 106 | F | R | R::100.00(1) |
| P1 | 107 | F | L | L::100.00(1) |
| P1 | 107 | F | Q | Q::100.00(1) |
| P1 | 108 | F | L L | L::100.00(1) |
| P1 | 1109 | F | I | I::100.00(1) |
| P1 P1 | 110 | F | M | M::100.00(1) |
| P1 P1 | 111 | F | P | P::100.00(1) |
| 1 1 | 114 | T. | 1 | 1100.00(1) |

| P1 | 113 | \mathbf{F} | A | A::100.00(1) |
|----|-----|--------------|------------------------------------|--------------|
| P1 | 114 | \mathbf{F} | ${ m R}$ | R::100.00(1) |
| P1 | 116 | \mathbf{F} | Y | Y::100.00(1) |
| P1 | 117 | \mathbf{F} | P | P::100.00(1) |
| P1 | 118 | \mathbf{F} | K | K::100.00(1) |
| P1 | 119 | \mathbf{F} | V | V::100.00(1) |
| P1 | 120 | \mathbf{F} | ${ m T}$ | T::100.00(1) |
| P1 | 121 | \mathbf{F} | K | K::100.00(1) |
| P1 | 122 | \mathbf{F} | Y | Y::100.00(1) |
| P1 | 123 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| P1 | 124 | \mathbf{F} | P | P::100.00(1) |
| P1 | 125 | \mathbf{F} | ${ m L}$ | L::100.00(1) |
| P1 | 126 | \mathbf{F} | D | D::100.00(1) |
| P1 | 127 | \mathbf{F} | K | K::100.00(1) |
| P1 | 128 | \mathbf{F} | G | G::100.00(1) |
| P1 | 129 | \mathbf{F} | I | I::100.00(1) |
| P1 | 130 | \mathbf{F} | K | K::100.00(1) |
| P1 | 131 | \mathbf{F} | P | P::100.00(1) |
| P1 | 132 | \mathbf{F} | Y | Y::100.00(1) |
| P1 | 133 | $^{-}$ | Ÿ | Y::100.00(1) |
| P1 | 134 | \mathbf{F} | P | P::100.00(1) |
| P1 | 135 | \mathbf{F} | E | E::100.00(1) |
| P1 | 136 | F | Н | H::100.00(1) |
| P1 | 137 | $^{-}$ | L | L::100.00(1) |
| P1 | 138 | $^{-}$ | V | V::100.00(1) |
| P1 | 139 | ${ m F}$ | N | N::100.00(1) |
| P1 | 140 | $^{-}$ | Н | H::100.00(1) |
| P1 | 141 | F | Y | Y::100.00(1) |
| P1 | 143 | F | Q | Q::100.00(1) |
| P1 | 144 | $^{-}$ | $\overset{\mathtt{T}}{\mathrm{T}}$ | T::100.00(1) |
| P1 | 145 | $^{-}$ | $ m_R$ | R::100.00(1) |
| P1 | 146 | $^{-}$ | H | H::100.00(1) |
| P1 | 147 | $^{-}$ | Y | Y::100.00(1) |
| P1 | 148 | F | Ĺ | L::100.00(1) |
| P1 | 149 | F | H | H::100.00(1) |
| P1 | 150 | F | T | T::100.00(1) |
| P1 | 151 | F | Ĺ | L::100.00(1) |
| P1 | 152 | F | W | W::100.00(1) |
| P1 | 153 | F | K | K::100.00(1) |
| P1 | 154 | F | A | A::100.00(1) |
| | 101 | 1 | 11 | 71100.00(1) |

| | Meta data |
|---|---|
| Assembly file: Annotation file: Reference file: | HBV-RYD-53.sam /home3/vatt01s/Work/Project-150-HBV/Data/P150-1/Annotation/HBV.anno KM606753.fa. |
| User name Hostname Location Date/Time | ales01a Alpha /home2/ales01a/HBV/P150-5/HBV-RYD-53 Mon 25 Mar 16:07:25 GMT 2019 |