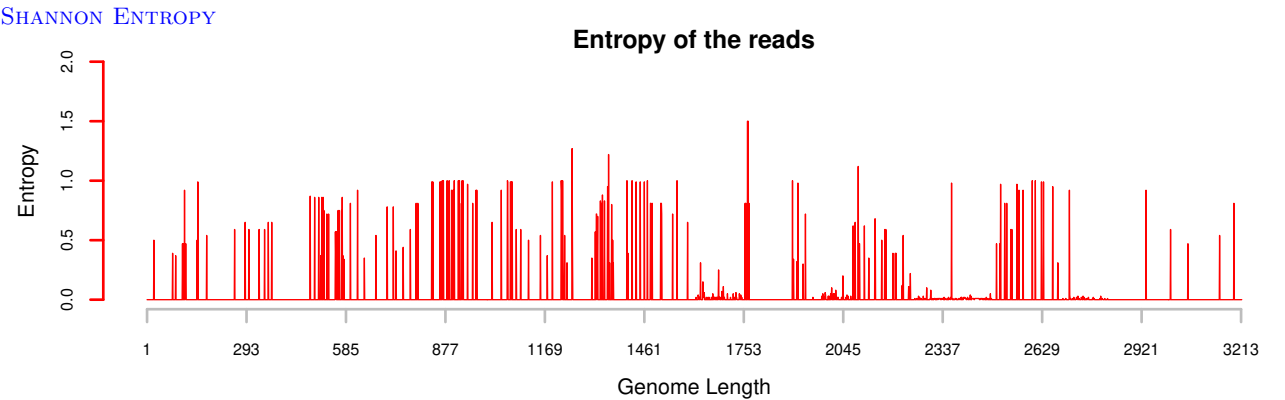
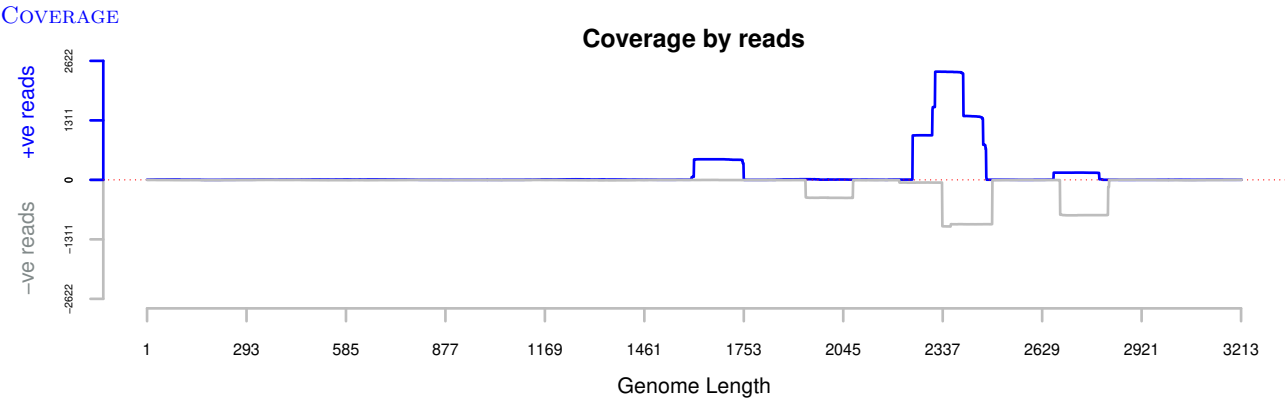


HBV-RYD-25

File name	HBV-RYD-25.sam
Ref name	FJ023674.1 Hepatitis B virus isolate I2/C2-C04-0790 S protein (S) and core
Ref len	3215
Program used	Tanoti Assembler 1.0
Total reads	3456208
Mapped reads	5389 (0.16%)
Unmapped reads	3450819
Mapped loan pairs	12
Average read length	147nt
Coverage	3164nt (98.41%)
Average depth	244 reads/site
Average insert length	1nt



CONSENSUS SEQUENCE

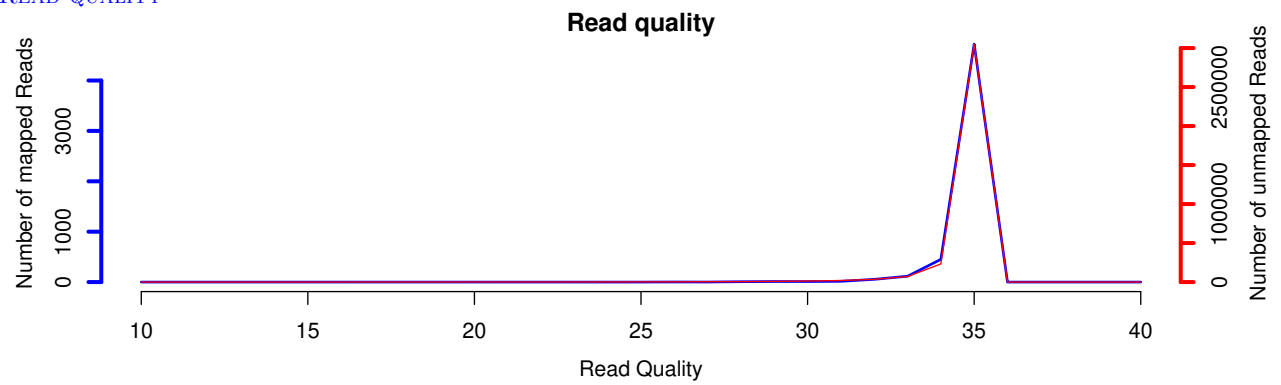
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140    ACCCTGCGCT GAACATGGAG AACATCACAT CAGGATTCCCT AGGACCCCTG CTCGTGTTAC AGGCGGGGTT
210    TTTCTTGTG ACAAGAATCC TCACAATACC GCAGAGTCTA GACTCGTGGT GGACTTCTCT CAATTTTCTA
280    GGGGGAAC TA CCGTGTGTCT TGGCCAAAAT TCGCAGTCCC CAACCTCCAA TCACTACCA ACCTCTGTG
350    CTCCAAC TTG TCCTGGTTAT CGCTGGATGT GTCTGCGGCG TTTTATCATC TTCCTCTTCA TCCTGCTGCT
420    ATGCTCATC TTCTTGTG TTTCTCTGGA CTATCAAGGT ATGTTGCCCC TTTGTCCTCT AATTCCAGGA
490    TCTTCAACCA CCAGCACGGG ACCATGCAGA ACCTGCACGA CTCCTGCTCA AGGAACCTCT ATGTATCCCT
560    CCTGCTGCTG TACCAAAACCT TCGGACGGAA ATTGCACCTG TATTCCTATC CCATCATCCT GGGCTTTCGG
630    AAAATTCCTA TGGGAGTGGG CCTCAGCCCG TTTCTCCTGG CTCAGTTTAC TAGTGCCATT TGTTCACTGG
700    TTCGTAGGGC TTTCCCCCAC TGTTTGGCTT TCAGTTATAT GGATGATGTG GTATTGGGGG CCAAGTCTGT
770    ACAGCATCTT GAGTCCCTTT TTACCGCTGT TACCAATTTT CTTTTGTCTT TGGGTATACA TTTAAATCCC
840    AACAAAACAA AAAGATGGGG ATATTCCCTA CATTTTCATG GCTATGTCAT TGGAAGTTGG GGGTCATTGC
910    CACAGGATCA CATCAGACTG AAAATCAAAG ACTGTTTTAG AAAACTCCCT GTTAACCGGC CTATTGATTG
980    GAAAGTCTGT CAAAGAATTG TGGGTCTTTT GGGCTTTGCT GCCCCTTTTA CACAATGTGG ATATCCTGCT
1050   TTAATGCCCT TGTATGCATG CATTCAATCT AAGCAGGCTT TCACTTTCTC GCCAACTTAC AAGGCCTTTC
1120   TGTGTAAACA ATACCTGAAC CTTTACCCCG TTGCCCGCA ACGGCCAGGT CTGTGCCAAG TGTTTGTGTA
1190   TGCAACCCCC ACTGGCTGGG GCTTGGCCAT AGGCCATCAG CGCATGCGTG GAACCTTTGT GGTCTCTCTG
1260   CCGATCCATA CTGCGGAACT CCTAGCCGCT TGTTTTGCTC GCAGCAGGTC TGGAGCGAAA CTTATCGGGA
1330   CAGATAATTC TGTCGTTCTC TCAAGGAAAT ATACATCATT TCCATGGCTG CTAGGCTGTG CTGCCAACTG
1400   GATCCTGCGA GGGACGTCTT TTGTCTACGT CCCGTGCGCG CTGAATCCTG CGGACGACCC TTCTCGGGGC
1470   CGCTTGGGGA TCTATCGTCC CTTTCTCCGT CTGCCGTTCC AGCCGACCAC GGGGCGCACC TCTCTTACG
1540   CGGTCTCCCC GTCTGTGCCT TCTCATCTGC CGGACCGTGT GCACTTCGCT TCACCTCTGC ACGTCGCATG
1610   GAGACCACCG TGAACGCCCA CCAATCTTGT CCCAAGGTCT TACATAAGAG GACTCTTGA CTCTCTGTGA
1680   TGTCAACGAC CGACCTTGAG GCATACTTCA AAGACTGTTT GTTTAAAGAC TGGGAGGAGT TGGGGGAGGA
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2240   CGGTCATAGA GTATTTGGTG TCTTTCGGAG TGTGGATTCT CACTCCTCCT GCTTATAGAC CACCAAATGC
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2940   CCAGCCTTCA GAGCAAACAC CGCAAATCCA GATTGGGACT TCAATCCAA CAAGGACACC TGGCCGACG
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3080   CCCTCAGGCT CAGGGCATAC TACAAACCTT GCCAGCAAAT CCGCCTCCTG CCTCCACCAA TCGCCAGTCA
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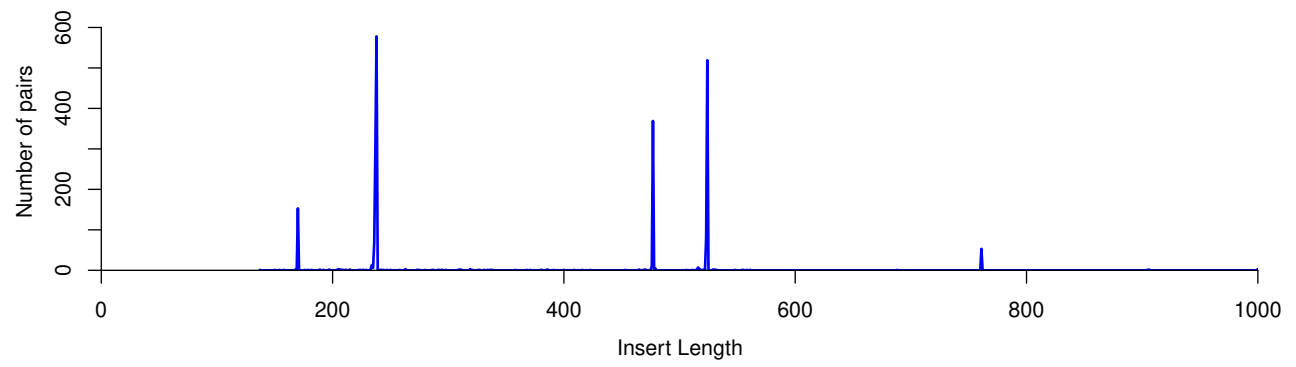
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Genome Composition	
A	728 (22.64%)
T	894 (27.81%)
G	691 (21.49%)
C	851 (26.47%)
N	51 (1.59%)
Total Nucleotides	3215
GC%	48.74

READ QUALITY



INSERT LENGTH DISTRIBUTION



AMINO ACID VARIATIONS

Protein	Position	Ref AA	Consensus AA	All AAs
P2	1	F	H	H::100.00(6)
P2	2	F	N	N::100.00(6)
P2	4	F	P	P::100.00(8)
P2	5	F	P	P::100.00(8)
P2	6	F	N	N::100.00(8)
P2	7	F	S	S::100.00(9)
P2	8	F	A	A::100.00(9)
P2	9	F	R	R::100.00(10)
P2	10	F	S	S::100.00(11)
P2	11	F	Q	Q::100.00(11)
P2	12	F	S	S::100.00(11)
P2	13	F	E	E::100.00(11)
P2	14	F	R	R::100.00(11)
P2	15	F	P	P::100.00(11)
P2	16	F	V	V::100.00(11)
P2	18	F	P	P::100.00(11)
P2	19	F	C	C::100.00(12)
P2	20	F	W	W::100.00(12)
P2	21	F	W	W::100.00(12)
P2	22	F	L	L::100.00(12)
P2	23	F	Q	Q::100.00(13)
P2	25	F	R	R::100.00(13)
P2	26	F	N	N::100.00(14)
P2	27	F	S	S::100.00(14)
P2	28	F	K	K::92.86(13) E::7.14(1)
P2	29	F	P	P::100.00(14)
P2	30	F	C	C::100.00(14)
P2	31	F	S	S::100.00(14)
P2	32	F	D	D::100.00(10)
P2	33	F	Y	Y::100.00(10)
P2	34	F	C	C::100.00(10)
P2	35	F	L	L::100.00(10)
P2	36	F	S	S::90.00(9) T::10.00(1)
P2	37	F	H	H::100.00(10)
P2	38	F	I	I::90.00(9) L::10.00(1)
P2	39	F	V	V::100.00(10)
P2	40	F	N	N::100.00(10)
P2	41	F	L	L::100.00(9)
P2	42	F	L	L::100.00(8)
P2	43	F	E	E::100.00(8)
P2	44	F	D	D::100.00(9)
P2	45	F	W	W::100.00(9)
P2	46	F	G	G::100.00(9)
P2	47	F	P	P::100.00(9)
P2	48	F	C	C::100.00(9)
P2	49	F	A	A::88.89(8) T::11.11(1)

P2	50	F	E	E::100.00(10)
P2	51	F	H	H::100.00(10)
P2	52	F	G	G::100.00(8)
P2	53	F	E	E::100.00(7)
P2	54	F	H	H::100.00(7)
P2	55	F	H	H::100.00(7)
P2	56	F	I	I::100.00(8)
P2	57	F	R	R::100.00(8)
P2	58	F	I	I::85.71(6) T::14.29(1)
P2	59	F	P	P::100.00(6)
P2	60	F	R	R::100.00(6)
P2	61	F	T	T::100.00(6)
P2	62	F	P	P::100.00(6)
P2	63	F	A	A::100.00(6)
P2	64	F	R	R::100.00(6)
P2	65	F	V	V::100.00(6)
P2	66	F	T	T::100.00(7)
P2	67	F	G	G::100.00(7)
P2	68	F	G	G::100.00(7)
P2	69	F	V	V::100.00(7)
P2	71	F	L	L::100.00(7)
P2	72	F	V	V::100.00(6)
P2	73	F	D	D::100.00(7)
P2	74	F	K	K::100.00(6)
P2	75	F	N	N::100.00(7)
P2	76	F	P	P::100.00(7)
P2	77	F	H	H::100.00(7)
P2	78	F	N	N::100.00(7)
P2	79	F	T	T::100.00(7)
P2	80	F	A	A::100.00(7)
P2	81	F	E	E::100.00(7)
P2	82	F	S	S::100.00(7)
P2	83	F	R	R::100.00(7)
P2	84	F	L	L::100.00(7)
P2	85	F	V	V::100.00(7)
P2	86	F	V	V::100.00(7)
P2	87	F	D	D::100.00(8)
P2	89	F	S	S::100.00(8)
P2	90	F	Q	Q::100.00(8)
P2	92	F	S	S::100.00(7)
P2	93	F	R	R::100.00(7)
P2	94	F	G	G::100.00(7)
P2	95	F	N	N::100.00(7)
P2	96	F	Y	Y::83.33(5) H::16.67(1)
P2	97	F	R	R::100.00(7)
P2	98	F	V	V::100.00(7)
P2	99	F	S	S::100.00(7)
P2	100	F	W	W::100.00(7)
P2	101	F	P	P::100.00(7)
P2	102	F	K	K::100.00(7)
P2	104	F	A	A::100.00(8)

P2	105	F	V	V::100.00(8)
P2	106	F	P	P::100.00(6)
P2	107	F	N	N::100.00(6)
P2	108	F	L	L::100.00(7)
P2	109	F	Q	Q::100.00(7)
P2	110	F	S	S::100.00(7)
P2	111	F	L	L::100.00(7)
P2	112	F	T	T::100.00(7)
P2	113	F	N	N::100.00(7)
P2	114	F	L	L::100.00(7)
P2	115	F	L	L::100.00(6)
P2	116	F	S	S::100.00(6)
P2	117	F	S	S::100.00(6)
P2	118	F	N	N::100.00(6)
P2	119	F	L	L::100.00(6)
P2	120	F	S	S::100.00(6)
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P2	124	F	L	L::100.00(5)
P2	125	F	D	D::100.00(5)
P2	126	F	V	V::100.00(5)
P2	127	F	S	S::100.00(5)
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P2	129	F	A	A::100.00(7)
P2	131	F	Y	Y::100.00(8)
P2	132	F	H	H::100.00(8)
P2	133	F	L	L::100.00(8)
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P2	137	F	P	P::100.00(8)
P2	138	F	A	A::100.00(8)
P2	139	F	A	A::100.00(8)
P2	140	F	M	M::100.00(8)
P2	141	F	P	P::100.00(8)
P2	142	F	H	H::100.00(8)
P2	143	F	L	L::100.00(8)
P2	144	F	L	L::100.00(7)
P2	145	F	V	V::100.00(7)
P2	146	F	G	G::100.00(7)
P2	147	F	S	S::100.00(8)
P2	148	F	S	S::100.00(8)
P2	149	F	G	G::100.00(8)
P2	150	F	L	L::100.00(8)
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P2	157	F	L	L::100.00(11)
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P2	160	F	N	N::100.00(12)
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P2	163	F	I	I::100.00(14)
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P2	165	F	N	N::100.00(14)
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P2	167	F	Q	Q::100.00(14)
P2	168	F	H	H::71.43(10) Y::28.57(4)
P2	169	F	G	G::100.00(15)
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P2	172	F	Q	Q::71.43(10) P::28.57(4)
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P2	174	F	L	L::100.00(14)
P2	175	F	H	H::100.00(14)
P2	176	F	D	D::80.00(12) N::20.00(3)
P2	177	F	S	S::100.00(14)
P2	178	F	C	C::100.00(14)
P2	179	F	S	S::100.00(13)
P2	180	F	R	R::100.00(13)
P2	181	F	N	N::100.00(13)
P2	182	F	L	L::100.00(13)
P2	183	F	Y	Y::100.00(13)
P2	184	F	V	V::86.67(13) E::13.33(2)
P2	185	F	S	S::86.67(13) T::13.33(2)
P2	186	F	L	L::100.00(14)
P2	187	F	L	L::78.57(11) M::21.43(3)
P2	188	F	L	L::100.00(14)
P2	189	F	L	L::100.00(14)
P2	190	F	Y	Y::78.57(11) F::21.43(3)
P2	191	F	Q	Q::64.29(9) K::28.57(4) H::7.14(1)
P2	192	F	T	T::100.00(15)
P2	194	F	G	G::100.00(16)
P2	195	F	R	R::100.00(16)
P2	196	F	K	K::100.00(17)
P2	197	F	L	L::100.00(16)
P2	198	F	H	H::100.00(16)
P2	199	F	L	L::100.00(16)
P2	200	F	Y	Y::100.00(14)
P2	201	F	S	S::100.00(13)
P2	202	F	H	H::100.00(13)
P2	203	F	P	P::100.00(13)
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P2	205	F	I	I::100.00(12)
P2	206	F	L	L::66.67(8) M::33.33(4)
P2	207	F	G	G::100.00(14)
P2	209	F	R	R::100.00(14)

P2	210	F	K	K::100.00(14)
P2	211	F	I	I::100.00(13)
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P2	213	F	M	M::100.00(15)
P2	214	F	G	G::100.00(15)
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P2	217	F	L	L::100.00(17)
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P2	221	F	L	L::100.00(16)
P2	222	F	L	L::100.00(16)
P2	223	F	A	A::100.00(16)
P2	224	F	Q	Q::87.50(14) K::12.50(2)
P2	226	F	T	T::100.00(15)
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P2	228	F	A	A::100.00(14)
P2	229	F	I	I::100.00(14)
P2	230	F	C	C::100.00(14)
P2	231	F	S	S::100.00(14)
P2	232	F	V	V::100.00(14)
P2	233	F	V	V::100.00(15)
P2	234	F	R	R::100.00(13)
P2	235	F	R	R::100.00(13)
P2	236	F	A	A::100.00(13)
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P2	239	F	H	H::100.00(13)
P2	240	F	C	C::100.00(13)
P2	241	F	L	L::100.00(13)
P2	242	F	A	A::100.00(12)
P2	244	F	S	S::100.00(12)
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P2	247	F	D	D::100.00(11)
P2	248	F	D	D::100.00(11)
P2	249	F	V	V::100.00(11)
P2	250	F	V	V::100.00(11)
P2	251	F	L	L::100.00(11)
P2	252	F	G	G::100.00(11)
P2	253	F	A	A::100.00(11)
P2	254	F	K	K::100.00(9)
P2	255	F	S	S::100.00(9)
P2	256	F	V	V::100.00(9)
P2	257	F	Q	Q::100.00(7)
P2	258	F	H	H::100.00(7)
P2	259	F	L	L::100.00(7)
P2	260	F	E	E::100.00(7)
P2	261	F	S	S::100.00(7)
P2	262	F	L	L::100.00(4)
P2	263	F	F	F::75.00(3) Y::25.00(1)
P2	264	F	T	T::100.00(4)

P2	265	F	A	A::66.67(2) S::33.33(1)
P2	266	F	V	V::100.00(3)
P2	267	F	T	T::100.00(5)
P2	268	F	N	N::100.00(6)
P2	270	F	L	L::100.00(6)
P2	271	F	L	L::100.00(6)
P2	272	F	S	S::100.00(6)
P2	273	F	L	L::100.00(6)
P2	274	F	G	G::100.00(6)
P2	275	F	I	I::100.00(7)
P2	276	F	H	H::100.00(7)
P2	277	F	L	L::100.00(7)
P2	278	F	N	N::100.00(7)
P2	279	F	P	P::100.00(7)
P2	280	F	N	N::100.00(7)
P2	281	F	K	K::100.00(7)
P2	282	F	T	T::100.00(6)
P2	283	F	K	K::100.00(6)
P2	284	F	R	R::100.00(6)
P2	285	F	W	W::100.00(7)
P2	286	F	G	G::100.00(7)
P2	287	F	Y	Y::100.00(7)
P2	288	F	S	S::100.00(7)
P2	289	F	L	L::100.00(6)
P2	290	F	H	N::50.00(3) H::50.00(3)
P2	292	F	M	M::100.00(6)
P2	293	F	G	G::100.00(6)
P2	294	F	Y	Y::100.00(6)
P2	295	F	V	V::100.00(6)
P2	296	F	I	I::100.00(7)
P2	297	F	G	G::100.00(7)
P2	298	F	S	S::66.67(4) C::33.33(2)
P2	299	F	W	W::66.67(4) Y::33.33(2)
P2	300	F	G	G::100.00(4)
P2	301	F	S	S::100.00(4)
P2	302	F	L	L::100.00(4)
P2	303	F	P	P::100.00(4)
P2	304	F	Q	Q::100.00(4)
P2	305	F	D	E::50.00(2) D::50.00(2)
P2	306	F	H	H::100.00(4)
P2	307	F	I	I::100.00(4)
P2	308	F	R	R::50.00(2) I::50.00(2)
P2	309	F	L	Q::50.00(2) M::50.00(2)
P2	310	F	K	K::100.00(5)
P2	311	F	I	I::100.00(5)
P2	312	F	K	K::100.00(5)
P2	313	F	D	D::60.00(3) E::40.00(2)
P2	314	F	C	C::100.00(5)
P2	316	F	R	R::100.00(5)
P2	317	F	K	K::100.00(4)
P2	318	F	L	L::100.00(4)

P2	319	F	P	P::100.00(4)
P2	320	F	V	V::100.00(4)
P2	321	F	N	N::100.00(3)
P2	322	F	R	R::100.00(3)
P2	323	F	P	P::100.00(3)
P2	324	F	I	I::100.00(3)
P2	325	F	D	D::100.00(3)
P2	326	F	W	W::100.00(3)
P2	327	F	K	K::100.00(5)
P2	328	F	V	V::100.00(5)
P2	329	F	C	C::100.00(5)
P2	330	F	Q	Q::100.00(5)
P2	331	F	R	R::100.00(4)
P2	332	F	I	I::100.00(4)
P2	333	F	V	V::100.00(4)
P2	334	F	G	G::100.00(4)
P2	335	F	L	L::100.00(4)
P2	336	F	L	L::100.00(4)
P2	337	F	G	G::100.00(6)
P2	339	F	A	A::100.00(6)
P2	340	F	A	A::100.00(6)
P2	341	F	P	P::100.00(6)
P2	343	F	T	T::100.00(7)
P2	344	F	Q	Q::100.00(7)
P2	345	F	C	C::100.00(7)
P2	346	F	G	G::100.00(6)
P2	347	F	Y	Y::100.00(6)
P2	348	F	P	P::100.00(8)
P2	349	F	A	A::100.00(8)
P2	350	F	L	L::100.00(8)
P2	351	F	M	M::100.00(8)
P2	352	F	P	P::100.00(8)
P2	353	F	L	L::100.00(7)
P2	354	F	Y	Y::100.00(7)
P2	355	F	A	A::100.00(7)
P2	356	F	C	C::100.00(7)
P2	357	F	I	I::57.14(4) T::42.86(3)
P2	358	F	Q	Q::100.00(7)
P2	359	F	S	S::100.00(7)
P2	360	F	K	K::100.00(7)
P2	361	F	Q	Q::85.71(6) L::14.29(1)
P2	362	F	A	A::100.00(7)
P2	364	F	T	T::100.00(7)
P2	366	F	S	S::100.00(7)
P2	367	F	P	P::100.00(7)
P2	368	F	T	T::100.00(7)
P2	369	F	Y	Y::100.00(7)
P2	370	F	K	K::100.00(8)
P2	371	F	A	A::100.00(9)
P2	373	F	L	L::88.89(8) P::11.11(1)
P2	374	F	C	C::100.00(9)

P2	375	F	K	K::100.00(9)
P2	376	F	Q	Q::100.00(6)
P2	377	F	Y	Y::100.00(6)
P2	378	F	L	L::100.00(7)
P2	379	F	N	N::100.00(7)
P2	380	F	L	L::100.00(7)
P2	381	F	Y	Y::100.00(8)
P2	382	F	P	P::100.00(8)
P2	383	F	V	V::100.00(8)
P2	384	F	A	A::100.00(8)
P2	385	F	R	R::87.50(7) G::12.50(1)
P2	386	F	Q	Q::100.00(13)
P2	387	F	R	R::100.00(13)
P2	388	F	P	P::100.00(13)
P2	389	F	G	G::100.00(14)
P2	390	F	L	L::100.00(14)
P2	391	F	C	C::100.00(14)
P2	392	F	Q	Q::100.00(14)
P2	393	F	V	V::100.00(13)
P2	395	F	A	A::100.00(13)
P2	396	F	D	D::100.00(11)
P2	397	F	A	A::100.00(11)
P2	398	F	T	T::100.00(12)
P2	399	F	P	P::100.00(12)
P2	400	F	T	T::100.00(12)
P2	401	F	G	G::100.00(12)
P2	402	F	W	W::100.00(13)
P2	403	F	G	G::100.00(14)
P2	404	F	L	L::100.00(15)
P2	405	F	A	A::53.33(8) V::46.67(7)
P2	406	F	I	I::53.33(8) M::46.67(7)
P2	407	F	G	G::93.75(15) R::6.25(1)
P2	408	F	H	H::100.00(16)
P2	409	F	Q	Q::100.00(16)
P2	410	F	R	R::100.00(18)
P2	411	F	M	M::94.44(17) L::5.56(1)
P2	412	F	R	R::100.00(18)
P2	413	F	G	G::100.00(18)
P2	414	F	T	T::100.00(18)
P2	416	F	V	V::63.16(12) L::26.32(5) R::10.53(2)
P2	417	F	A	A::100.00(19)
P2	418	F	P	P::100.00(19)
P2	419	F	L	L::100.00(18)
P2	420	F	P	P::100.00(19)
P2	421	F	I	I::100.00(20)
P2	422	F	H	H::100.00(20)
P2	423	F	T	T::100.00(20)
P2	424	F	A	A::100.00(20)
P2	425	F	E	E::100.00(19)
P2	426	F	L	L::100.00(19)
P2	427	F	L	L::100.00(18)

P2	428	F	A	A::100.00(17)
P2	429	F	A	A::100.00(17)
P2	430	F	C	C::100.00(18)
P2	432	F	A	A::100.00(19)
P2	433	F	R	R::100.00(18)
P2	434	F	S	S::100.00(15)
P2	435	F	R	R::93.33(14) K::6.67(1)
P2	436	F	S	S::100.00(15)
P2	437	F	G	G::100.00(15)
P2	438	F	A	A::100.00(15)
P2	439	F	K	K::80.00(12) N::20.00(3)
P2	440	F	L	L::80.00(12) I::20.00(3)
P2	441	F	I	I::81.25(13) L::18.75(3)
P2	442	F	G	G::100.00(19)
P2	443	F	T	T::100.00(19)
P2	444	F	D	D::100.00(19)
P2	445	F	N	N::100.00(20)
P2	446	F	S	S::100.00(20)
P2	447	F	V	V::100.00(19)
P2	448	F	V	V::100.00(15)
P2	449	F	L	L::100.00(15)
P2	450	F	S	S::100.00(16)
P2	451	F	R	R::100.00(16)
P2	452	F	K	K::94.44(17) N::5.56(1)
P2	453	F	Y	Y::100.00(18)
P2	454	F	T	T::100.00(18)
P2	455	F	S	S::100.00(18)
P2	456	F	F	F::94.44(17) Y::5.56(1)
P2	457	F	P	P::100.00(18)
P2	458	F	W	W::100.00(18)
P2	459	F	L	L::100.00(17)
P2	460	F	L	L::100.00(16)
P2	461	F	G	G::100.00(16)
P2	462	F	C	C::100.00(16)
P2	463	F	A	A::100.00(16)
P2	464	F	A	A::100.00(16)
P2	465	F	N	N::100.00(15)
P2	466	F	W	W::100.00(15)
P2	467	F	I	I::100.00(15)
P2	468	F	L	L::100.00(15)
P2	469	F	R	R::100.00(13)
P2	470	F	G	G::100.00(13)
P2	471	F	T	T::100.00(12)
P2	472	F	S	S::100.00(12)
P2	474	F	V	V::100.00(12)
P2	475	F	Y	Y::100.00(13)
P2	476	F	V	V::100.00(13)
P2	477	F	P	P::100.00(13)
P2	478	F	S	S::100.00(11)
P2	479	F	A	A::100.00(11)
P2	480	F	L	L::100.00(10)

P2	481	F	N	N::100.00(10)
P2	482	F	P	P::100.00(9)
P2	483	F	A	A::100.00(10)
P2	484	F	D	D::100.00(10)
P2	485	F	D	D::100.00(9)
P2	486	F	P	P::100.00(9)
P2	487	F	S	S::100.00(9)
P2	488	F	R	R::100.00(10)
P2	489	F	G	G::100.00(10)
P2	490	F	R	R::100.00(7)
P2	491	F	L	L::100.00(7)
P2	492	F	G	G::100.00(7)
P2	493	F	I	I::75.00(6) L::25.00(2)
P2	494	F	Y	Y::71.43(5) S::28.57(2)
P2	495	F	R	R::100.00(7)
P2	496	F	P	P::100.00(7)
P2	497	F	L	L::100.00(7)
P2	498	F	L	L::100.00(7)
P2	499	F	R	R::100.00(6)
P2	500	F	L	L::100.00(5)
P2	501	F	P	P::100.00(4)
P2	503	F	Q	Q::75.00(3) R::25.00(1)
P2	504	F	P	P::100.00(5)
P2	505	F	T	T::100.00(5)
P2	506	F	T	T::100.00(5)
P2	507	F	G	G::100.00(5)
P2	508	F	R	R::100.00(5)
P2	509	F	T	T::100.00(5)
P2	510	F	S	S::100.00(5)
P2	511	F	L	L::100.00(5)
P2	512	F	Y	Y::100.00(5)
P2	513	F	A	A::100.00(5)
P2	514	F	V	V::80.00(4) D::20.00(1)
P2	515	F	S	S::100.00(5)
P2	516	F	P	P::100.00(5)
P2	517	F	S	S::100.00(5)
P2	518	F	V	V::100.00(6)
P2	519	F	P	P::100.00(7)
P2	520	F	S	S::100.00(7)
P2	521	F	H	H::100.00(7)
P2	522	F	L	L::100.00(7)
P2	523	F	P	P::100.00(7)
P2	524	F	D	D::100.00(6)
P2	525	F	R	R::100.00(6)
P2	526	F	V	V::100.00(6)
P2	527	F	H	H::100.00(6)
P2	529	F	A	A::83.33(5) P::16.67(1)
P2	530	F	S	S::100.00(6)
P2	531	F	P	P::100.00(6)
P2	532	F	L	L::100.00(7)
P2	533	F	H	H::100.00(61)

P2	534	F	V	V::100.00(68)
P2	535	F	A	A::100.00(69)
P2	536	F	W	W::100.00(454)
P2	537	F	R	R::99.78(452)
P2	538	F	P	P::100.00(456)
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S2	1	F	S	S::100.00(6)
S2	2	F	T	T::100.00(6)
S2	3	F	T	T::100.00(6)
S2	5	F	H	H::100.00(8)
S2	6	F	Q	Q::100.00(8)
S2	7	F	T	T::87.50(7) I::12.50(1)
S2	8	F	L	L::100.00(9)
S2	9	F	Q	Q::100.00(10)
S2	10	F	D	D::100.00(11)
S2	11	F	P	P::100.00(11)
S2	12	F	R	R::100.00(11)
S2	13	F	V	V::100.00(11)
S2	14	F	R	R::100.00(11)
S2	15	F	G	G::100.00(11)
S2	16	F	L	L::100.00(11)
S2	17	F	Y	Y::100.00(11)
S2	19	F	P	P::100.00(12)
S2	20	F	A	A::100.00(12)
S2	21	F	G	G::100.00(12)
S2	22	F	G	G::100.00(12)
S2	23	F	S	S::100.00(12)
S2	24	F	S	S::100.00(13)
S2	25	F	S	S::100.00(13)
S2	26	F	G	G::100.00(13)
S2	27	F	T	T::100.00(14)
S2	28	F	V	V::100.00(14)
S2	29	F	N	N::100.00(14)
S2	30	F	P	P::100.00(14)
S2	31	F	V	V::100.00(14)
S2	32	F	P	P::100.00(14)
S2	33	F	T	T::100.00(10)
S2	34	F	T	T::100.00(10)
S2	35	F	V	V::90.00(9) A::10.00(1)
S2	36	F	S	S::100.00(10)
S2	37	F	P	P::80.00(8) L::10.00(1) H::10.00(1)
S2	38	F	I	I::90.00(9) T::10.00(1)
S2	39	F	S	S::100.00(10)
S2	40	F	S	S::100.00(10)
S2	41	F	I	I::100.00(10)
S2	43	F	S	S::100.00(8)
S2	44	F	R	R::100.00(9)
S2	45	F	I	I::100.00(9)
S2	46	F	G	G::100.00(9)
S2	47	F	D	D::100.00(9)
S2	48	F	P	P::100.00(9)
S2	49	F	A	A::100.00(9)

S2	50	F	L	L::77.78(7) R::11.11(1) P::11.11(1)
S2	51	F	N	N::100.00(10)
S2	52	F	M	M::100.00(10)
S2	53	F	E	E::100.00(7)
S2	54	F	N	N::100.00(7)
S2	55	F	I	I::100.00(7)
S2	56	F	T	T::100.00(6)
S2	57	F	S	S::100.00(8)
S2	58	F	G	G::100.00(8)
S2	59	F	F	F::83.33(5) L::16.67(1)
S2	60	F	L	L::100.00(6)
S2	61	F	G	G::100.00(6)
S2	62	F	P	P::100.00(6)
S2	63	F	L	L::100.00(6)
S2	64	F	L	L::100.00(6)
S2	65	F	V	V::100.00(6)
S2	66	F	L	L::100.00(6)
S2	67	F	Q	Q::100.00(7)
S2	68	F	A	A::100.00(7)
S2	69	F	G	G::100.00(7)
S2	72	F	L	L::100.00(7)
S2	73	F	L	L::100.00(6)
S2	74	F	T	T::100.00(7)
S2	75	F	R	R::100.00(6)
S2	76	F	I	I::100.00(7)
S2	77	F	L	L::100.00(7)
S2	78	F	T	T::100.00(7)
S2	79	F	I	I::100.00(7)
S2	80	F	P	P::100.00(7)
S2	81	F	Q	Q::100.00(7)
S2	82	F	S	S::100.00(7)
S2	83	F	L	L::100.00(7)
S2	84	F	D	D::100.00(7)
S2	85	F	S	S::100.00(7)
S2	86	F	W	W::85.71(6) *:14.29(1)
S2	87	F	W	W::100.00(7)
S2	88	F	T	T::100.00(8)
S2	89	F	S	S::100.00(8)
S2	90	F	L	L::100.00(8)
S2	91	F	N	N::100.00(7)
S2	93	F	L	L::100.00(7)
S2	94	F	G	G::100.00(7)
S2	95	F	G	G::100.00(7)
S2	96	F	T	T::100.00(6)
S2	97	F	T	T::100.00(7)
S2	98	F	V	V::100.00(7)
S2	99	F	C	C::100.00(7)
S2	100	F	L	L::85.71(6) R::14.29(1)
S2	101	F	G	G::100.00(7)
S2	102	F	Q	Q::100.00(7)
S2	103	F	N	N::100.00(7)

S2	104	F	S	S::100.00(7)
S2	105	F	Q	Q::100.00(8)
S2	106	F	S	S::100.00(8)
S2	107	F	P	P::100.00(6)
S2	108	F	T	T::100.00(6)
S2	109	F	S	S::100.00(7)
S2	110	F	N	N::85.71(6) S::14.29(1)
S2	111	F	H	H::100.00(7)
S2	112	F	S	S::100.00(7)
S2	113	F	P	P::100.00(7)
S2	114	F	T	T::100.00(7)
S2	115	F	S	S::100.00(7)
S2	116	F	C	C::100.00(6)
S2	117	F	P	P::100.00(6)
S2	118	F	P	P::100.00(6)
S2	119	F	T	T::83.33(5) I::16.67(1)
S2	120	F	C	C::100.00(6)
S2	121	F	P	P::100.00(7)
S2	122	F	G	G::100.00(6)
S2	123	F	Y	Y::100.00(6)
S2	124	F	R	R::100.00(6)
S2	125	F	W	W::100.00(5)
S2	126	F	M	M::100.00(5)
S2	127	F	C	C::100.00(5)
S2	128	F	L	L::100.00(5)
S2	129	F	R	R::100.00(7)
S2	130	F	R	R::100.00(8)
S2	132	F	I	I::100.00(8)
S2	133	F	I	I::100.00(8)
S2	135	F	L	L::100.00(8)
S2	137	F	I	I::100.00(9)
S2	138	F	L	L::100.00(8)
S2	139	F	L	L::100.00(8)
S2	140	F	L	L::100.00(8)
S2	141	F	C	C::100.00(8)
S2	142	F	L	L::100.00(8)
S2	143	F	I	I::100.00(8)
S2	145	F	L	L::100.00(7)
S2	146	F	L	L::100.00(7)
S2	147	F	V	V::100.00(7)
S2	148	F	L	L::100.00(8)
S2	149	F	L	L::100.00(8)
S2	150	F	D	D::100.00(8)
S2	151	F	Y	Y::100.00(10)
S2	152	F	Q	Q::100.00(10)
S2	153	F	G	G::100.00(10)
S2	154	F	M	M::100.00(10)
S2	155	F	L	L::100.00(10)
S2	156	F	P	P::100.00(11)
S2	157	F	V	V::100.00(11)
S2	158	F	C	C::100.00(11)

S2	159	F	P	P::100.00(11)
S2	160	F	L	L::81.82(9) Q::9.09(1) P::9.09(1)
S2	161	F	I	I::100.00(12)
S2	162	F	P	P::100.00(13)
S2	163	F	G	G::100.00(14)
S2	164	F	S	S::100.00(14)
S2	165	F	S	S::100.00(14)
S2	166	F	T	T::100.00(14)
S2	167	F	T	T::100.00(14)
S2	168	F	S	S::100.00(14)
S2	169	F	T	T::100.00(15)
S2	170	F	G	G::100.00(14)
S2	171	F	P	P::100.00(14)
S2	172	F	C	C::100.00(14)
S2	173	F	R	R::100.00(14)
S2	174	F	T	T::100.00(14)
S2	175	F	C	C::100.00(14)
S2	176	F	T	T::100.00(14)
S2	177	F	T	T::100.00(15)
S2	178	F	P	P::80.00(12) L::20.00(3)
S2	179	F	A	A::100.00(14)
S2	180	F	Q	Q::100.00(13)
S2	181	F	G	G::100.00(13)
S2	182	F	T	T::100.00(13)
S2	183	F	S	S::100.00(13)
S2	184	F	M	M::100.00(13)
S2	185	F	Y	Y::80.00(12) K::13.33(2) F::6.67(1)
S2	186	F	P	P::86.67(13) H::13.33(2)
S2	187	F	S	S::100.00(14)
S2	188	F	C	C::100.00(14)
S2	189	F	C	C::100.00(14)
S2	190	F	C	C::100.00(14)
S2	191	F	T	T::78.57(11) S::21.43(3)
S2	192	F	K	K::92.86(13) T::7.14(1)
S2	193	F	P	P::93.75(15) H::6.25(1)
S2	194	F	S	S::100.00(16)
S2	195	F	D	D::100.00(16)
S2	196	F	G	G::100.00(17)
S2	197	F	N	N::100.00(17)
S2	198	F	C	C::100.00(16)
S2	199	F	T	T::100.00(16)
S2	200	F	C	C::100.00(14)
S2	201	F	I	I::100.00(13)
S2	202	F	P	P::100.00(13)
S2	203	F	I	I::100.00(14)
S2	204	F	P	P::100.00(13)
S2	205	F	S	S::100.00(12)
S2	206	F	S	S::100.00(12)
S2	207	F	W	W::100.00(14)
S2	208	F	A	A::100.00(15)
S2	210	F	G	G::100.00(14)

S2	211	F	K	K::100.00(14)
S2	213	F	L	L::93.33(14) P::6.67(1)
S2	214	F	W	W::100.00(15)
S2	215	F	E	E::100.00(15)
S2	216	F	W	W::100.00(17)
S2	217	F	A	A::100.00(17)
S2	218	F	S	S::100.00(16)
S2	219	F	A	A::100.00(16)
S2	220	F	R	R::100.00(16)
S2	222	F	S	S::100.00(16)
S2	223	F	W	W::100.00(16)
S2	224	F	L	L::100.00(16)
S2	225	F	S	S::100.00(16)
S2	226	F	L	L::100.00(16)
S2	227	F	L	L::100.00(15)
S2	228	F	V	V::100.00(14)
S2	229	F	P	P::100.00(14)
S2	231	F	V	V::100.00(14)
S2	232	F	Q	Q::100.00(14)
S2	233	F	W	W::100.00(14)
S2	235	F	V	V::100.00(13)
S2	236	F	G	G::100.00(13)
S2	237	F	L	L::100.00(13)
S2	238	F	S	S::100.00(13)
S2	239	F	P	P::100.00(13)
S2	240	F	T	T::100.00(13)
S2	241	F	V	V::100.00(13)
S2	242	F	W	W::100.00(14)
S2	243	F	L	L::100.00(12)
S2	244	F	S	S::91.67(11) L::8.33(1)
S2	245	F	V	V::100.00(12)
S2	246	F	I	I::100.00(11)
S2	247	F	W	W::100.00(11)
S2	248	F	M	M::100.00(11)
S2	249	F	M	M::100.00(11)
S2	250	F	W	W::100.00(11)
S2	251	F	Y	Y::90.91(10) F::9.09(1)
S2	252	F	W	W::100.00(11)
S2	253	F	G	G::100.00(11)
S2	254	F	P	P::100.00(11)
S2	255	F	S	S::100.00(9)
S2	256	F	L	L::100.00(9)
S2	257	F	Y	Y::100.00(9)
S2	258	F	S	S::85.71(6) N::14.29(1)
S2	259	F	I	I::100.00(7)
S2	260	F	L	L::100.00(7)
S2	261	F	S	S::100.00(7)
S2	262	F	P	P::100.00(4)
S2	264	F	L	L::75.00(3) I::25.00(1)
S2	265	F	P	P::100.00(4)
S2	266	F	L	L::100.00(3)

S2	267	F	L	L::100.00(3)
S2	268	F	P	P::100.00(6)
S2	269	F	I	I::100.00(6)
S2	272	F	C	C::100.00(6)
S2	273	F	L	L::100.00(6)
S2	274	F	W	W::100.00(6)
S2	275	F	V	V::100.00(6)
S2	276	F	Y	Y::100.00(7)
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X	1	F	M	M::100.00(18)
X	2	F	A	A::100.00(17)
X	3	F	A	A::100.00(16)
X	4	F	R	R::100.00(16)
X	5	F	L	L::100.00(16)
X	6	F	C	C::100.00(16)
X	7	F	C	C::100.00(16)
X	8	F	Q	Q::100.00(15)
X	9	F	L	L::100.00(15)
X	10	F	D	D::100.00(15)
X	11	F	P	P::100.00(15)
X	12	F	A	A::100.00(13)
X	13	F	R	R::100.00(13)
X	14	F	D	D::91.67(11) N::8.33(1)
X	15	F	V	V::100.00(12)
X	16	F	L	L::100.00(12)
X	17	F	C	C::100.00(12)
X	18	F	L	L::100.00(13)
X	19	F	R	R::100.00(13)
X	20	F	P	P::100.00(13)
X	21	F	V	V::100.00(13)
X	22	F	G	G::54.55(6) S::45.45(5)
X	23	F	A	A::100.00(10)
X	24	F	E	E::100.00(10)
X	25	F	S	S::100.00(10)
X	26	F	C	C::55.56(5) R::44.44(4)
X	27	F	G	G::100.00(10)
X	28	F	R	R::100.00(9)
X	29	F	P	P::100.00(9)
X	30	F	F	F::55.56(5) V::44.44(4)
X	31	F	S	S::100.00(10)
X	32	F	G	G::100.00(10)
X	33	F	P	S::50.00(5) P::50.00(5)
X	34	F	L	L::100.00(7)
X	35	F	G	G::100.00(7)
X	36	F	D	D::75.00(6) T::25.00(2)
X	37	F	L	L::100.00(8)
X	38	F	S	S::100.00(7)
X	39	F	S	S::100.00(7)
X	40	F	P	P::100.00(7)
X	41	F	S	S::100.00(7)
X	42	F	P	P::100.00(6)
X	43	F	S	S::100.00(5)

X	44	F	A	A::100.00(4)
X	45	F	V	V::100.00(4)
X	46	F	P	P::75.00(3) S::25.00(1)
X	47	F	A	A::80.00(4) T::20.00(1)
X	48	F	D	D::100.00(5)
X	49	F	H	H::100.00(5)
X	50	F	G	G::100.00(5)
X	51	F	A	A::100.00(5)
X	52	F	H	H::100.00(5)
X	53	F	L	L::100.00(5)
X	54	F	S	S::100.00(5)
X	55	F	L	L::100.00(5)
X	56	F	R	R::100.00(5)
X	57	F	G	G::100.00(5)
X	58	F	L	L::100.00(5)
X	59	F	P	P::100.00(5)
X	60	F	V	V::100.00(5)
X	61	F	C	C::100.00(6)
X	62	F	A	T::50.00(3) A::50.00(3)
X	64	F	S	S::100.00(7)
X	65	F	S	S::100.00(7)
X	66	F	A	A::100.00(7)
X	67	F	G	G::100.00(6)
X	68	F	P	P::100.00(6)
X	69	F	C	C::100.00(6)
X	70	F	A	A::100.00(6)
X	71	F	L	L::100.00(6)
X	72	F	R	R::83.33(5) P::16.67(1)
X	74	F	T	T::100.00(6)
X	75	F	S	S::100.00(7)
X	76	F	A	A::100.00(7)
X	77	F	R	R::100.00(66)
X	78	F	R	R::100.00(68)
X	79	F	M	M::100.00(454)
X	80	F	E	E::100.00(453)
X	81	F	T	T::100.00(455)
X	82	F	T	T::100.00(456)
X	83	F	V	V::99.78(456)
X	84	F	N	N::99.78(456)
X	85	F	A	A::94.31(431) T::5.69(26)
X	86	F	H	H::100.00(456)
X	87	F	Q	Q::97.81(446)
X	89	F	L	L::100.00(456)
X	90	F	P	P::100.00(456)
X	91	F	K	K::100.00(456)
X	92	F	V	V::99.78(455)
X	93	F	L	L::99.78(455)
X	94	F	H	H::100.00(456)
X	95	F	K	K::99.78(454)
X	96	F	R	R::100.00(455)
X	97	F	T	T::99.56(453)

X	98	F	L	L::99.56(453)
X	99	F	G	G::99.56(453)
X	100	F	L	L::100.00(455)
X	101	F	S	S::99.78(454)
X	102	F	V	V::99.56(453)
X	103	F	M	M::99.56(456)
X	104	F	S	S::99.78(457)
X	105	F	T	T::100.00(458)
X	106	F	T	T::99.13(454)
X	107	F	D	D::98.69(452)
X	108	F	L	L::99.78(455)
X	109	F	E	E::100.00(455)
X	110	F	A	A::100.00(454)
X	111	F	Y	Y::99.56(452)
X	113	F	K	K::100.00(450)
X	114	F	D	D::99.78(449)
X	115	F	C	C::100.00(450)
X	116	F	L	L::100.00(447)
X	118	F	K	K::99.78(446)
X	119	F	D	D::99.33(444)
X	120	F	W	W::99.55(445)
X	121	F	E	E::100.00(447)
X	122	F	E	E::100.00(446)
X	123	F	L	L::99.33(443)
X	124	F	G	G::99.55(444)
X	125	F	E	E::99.77(441)
X	126	F	E	E::100.00(371)
X	127	F	I	I::100.00(6)
X	128	F	R	R::100.00(4)
X	129	F	L	L::75.00(3) S::25.00(1)
X	130	F	K	K::100.00(4)
X	131	F	V	V::50.00(2) L::25.00(1) I::25.00(1)
X	132	F	F	F::75.00(3) Y::25.00(1)
X	133	F	V	V::100.00(4)
X	134	F	L	L::100.00(4)
X	135	F	G	G::100.00(5)
X	136	F	G	G::100.00(5)
X	137	F	C	C::100.00(5)
X	138	F	R	R::100.00(5)
X	139	F	H	H::100.00(5)
X	140	F	K	K::100.00(5)
X	141	F	L	L::100.00(5)
X	142	F	V	V::100.00(5)
X	143	F	C	C::100.00(5)
X	144	F	A	A::100.00(5)
X	145	F	P	P::100.00(5)
X	146	F	A	A::100.00(5)
X	147	F	P	P::100.00(5)
X	148	F	C	C::100.00(5)
X	149	F	N	N::100.00(5)
X	152	F	T	T::100.00(4)

X	153	F	S	S::100.00(4)
C	1	F	M	M::100.00(16)
C	2	F	D	D::100.00(17)
C	3	F	I	I::100.00(17)
C	4	F	D	D::100.00(17)
C	5	F	P	P::100.00(16)
C	6	F	Y	Y::100.00(18)
C	7	F	K	K::100.00(19)
C	8	F	E	E::100.00(19)
C	10	F	G	G::100.00(19)
C	11	F	A	A::100.00(20)
C	12	F	T	T::80.00(16) S::20.00(4)
C	13	F	V	V::100.00(405)
C	14	F	E	E::100.00(406)
C	15	F	L	L::100.00(407)
C	16	F	L	L::100.00(409)
C	17	F	S	S::100.00(407)
C	19	F	L	L::100.00(406)
C	20	F	P	P::100.00(408)
C	21	F	S	S::100.00(406)
C	22	F	D	D::100.00(406)
C	25	F	P	P::100.00(397)
C	26	F	S	S::100.00(397)
C	27	F	V	V::100.00(397)
C	28	F	R	R::100.00(397)
C	29	F	D	D::99.50(395)
C	30	F	L	L::100.00(397)
C	31	F	L	L::99.75(394)
C	32	F	D	D::100.00(397)
C	33	F	T	T::100.00(402)
C	34	F	A	A::99.75(401)
C	35	F	S	S::99.75(401)
C	36	F	A	A::100.00(403)
C	37	F	L	L::99.75(402)
C	38	F	Y	Y::99.75(402)
C	39	F	R	R::99.75(401)
C	40	F	E	E::99.50(400)
C	41	F	A	A::99.75(401)
C	42	F	L	L::99.75(401)
C	43	F	E	E::100.00(404)
C	44	F	S	S::99.75(403)
C	45	F	P	P::100.00(404)
C	46	F	E	E::100.00(404)
C	47	F	H	H::99.75(403)
C	48	F	C	C::99.75(403)
C	49	F	S	S::99.26(402)
C	50	F	P	P::100.00(405)
C	51	F	H	H::100.00(405)
C	52	F	H	H::100.00(405)
C	53	F	T	T::99.75(402)
C	54	F	A	A::100.00(403)

C	55	F	L	L::100.00(402)
C	56	F	R	R::99.75(401)
C	57	F	Q	Q::100.00(402)
C	58	F	A	A::92.31(12) E::7.69(1)
C	59	F	I	I::100.00(13)
C	60	F	L	L::100.00(12)
C	61	F	C	C::100.00(12)
C	62	F	W	W::100.00(12)
C	63	F	G	G::100.00(9)
C	64	F	E	E::90.00(9) D::10.00(1)
C	65	F	L	L::100.00(10)
C	66	F	M	M::100.00(13)
C	67	F	T	T::100.00(13)
C	68	F	L	L::100.00(13)
C	69	F	A	A::100.00(13)
C	70	F	T	T::100.00(13)
C	71	F	W	W::100.00(14)
C	72	F	V	V::100.00(12)
C	73	F	G	G::100.00(10)
C	74	F	G	G::100.00(9)
C	75	F	N	N::100.00(11)
C	76	F	L	L::100.00(12)
C	77	F	E	E::100.00(12)
C	78	F	D	D::100.00(11)
C	79	F	P	P::100.00(11)
C	80	F	I	I::81.82(9) A::18.18(2)
C	81	F	S	S::100.00(11)
C	82	F	R	R::100.00(11)
C	83	F	D	D::100.00(9)
C	84	F	L	L::100.00(9)
C	85	F	V	V::100.00(9)
C	86	F	V	V::100.00(9)
C	87	F	S	S::100.00(9)
C	88	F	Y	Y::100.00(9)
C	89	F	V	V::100.00(7)
C	90	F	N	N::100.00(7)
C	91	F	T	T::100.00(7)
C	92	F	N	N::100.00(7)
C	93	F	M	M::100.00(12)
C	94	F	G	G::100.00(12)
C	95	F	L	L::100.00(12)
C	96	F	K	K::100.00(11)
C	97	F	F	F::90.91(10) L::9.09(1)
C	98	F	R	R::100.00(13)
C	99	F	Q	Q::100.00(13)
C	100	F	L	L::100.00(13)
C	101	F	L	L::100.00(13)
C	102	F	W	W::100.00(13)
C	104	F	H	H::100.00(65)
C	105	F	I	I::100.00(66)
C	106	F	S	S::100.00(64)

C	107	F	C	C::100.00(64)
C	108	F	L	L::100.00(64)
C	109	F	T	T::100.00(65)
C	111	F	G	G::100.00(66)
C	112	F	R	R::100.00(68)
C	113	F	E	E::98.53(67)
C	114	F	T	T::100.00(67)
C	115	F	V	V::100.00(67)
C	116	F	I	I::100.00(67)
C	117	F	E	E::100.00(1040)
C	118	F	Y	Y::100.00(1041)
C	119	F	L	L::100.00(1041)
C	120	F	V	V::100.00(1039)
C	121	F	S	S::100.00(1041)
C	123	F	G	G::100.00(1042)
C	124	F	V	V::100.00(1042)
C	125	F	W	W::99.90(1041)
C	126	F	I	I::100.00(1042)
C	127	F	R	R::99.71(1039)
C	128	F	T	T::100.00(1042)
C	129	F	P	P::100.00(1042)
C	130	F	P	P::100.00(1040)
C	131	F	A	A::100.00(1040)
C	132	F	Y	Y::100.00(1040)
C	133	F	R	R::100.00(1041)
C	134	F	P	P::99.90(1040)
C	135	F	P	P::100.00(1040)
C	136	F	N	N::99.90(1040)
C	137	F	A	A::100.00(1663)
C	138	F	P	P::99.88(1662)
C	139	F	I	I::99.96(2440)
C	140	F	L	L::99.96(2443)
C	141	F	S	S::99.92(2442)
C	142	F	T	T::99.92(2442)
C	143	F	L	L::99.88(2441)
C	144	F	P	P::99.92(2440)
C	145	F	E	E::99.92(2440)
C	146	F	T	T::99.85(3400)
C	147	F	T	T::99.94(3405)
C	148	F	V	V::99.97(3406)
C	149	F	V	V::99.82(3402)
C	150	F	R	R::100.00(3406)
C	151	F	R	R::99.94(3404)
C	152	F	R	R::99.85(3401)
C	153	F	G	G::99.79(3399)
C	154	F	R	R::99.79(3346)
C	155	F	S	S::58.06(1948) T::41.88(1405)
C	156	F	P	P::99.94(3354)
C	157	F	R	R::99.97(3353)
C	158	F	R	R::99.91(3351)
C	159	F	R	R::99.91(3351)

C	160	F	T	T::99.94(3353)
C	161	F	P	P::99.97(3348)
C	162	F	S	S::99.85(3342)
C	163	F	P	P::99.85(3343)
C	164	F	R	R::99.82(3340)
C	165	F	R	R::99.82(3321)
C	166	F	R	R::99.96(2384)
C	167	F	R	R::99.79(2380)
C	168	F	S	S::99.75(2379)
C	169	F	Q	Q::99.92(2383)
C	170	F	S	S::99.87(2382)
C	171	F	P	P::99.96(2384)
C	172	F	R	R::99.96(2383)
C	173	F	R	R::99.58(2372)
C	174	F	R	R::99.83(2377)
C	175	F	R	R::99.79(2374)
C	176	F	S	S::99.92(2377)
C	177	F	Q	Q::100.00(2378)
C	178	F	S	S::99.87(2375)
C	179	F	R	R::99.87(2373)
C	180	F	E	E::99.87(2369)
C	181	F	S	S::99.92(2370)
C	182	F	Q	Q::99.92(2362)
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P1	1	F	M	M::99.94(1605)
P1	2	F	P	P::100.00(1663)
P1	3	F	L	L::99.94(1660)
P1	4	F	S	S::99.96(2443)
P1	5	F	Y	Y::99.96(2443)
P1	6	F	Q	Q::99.92(2442)
P1	7	F	H	H::99.88(2441)
P1	9	F	R	R::99.88(2439)
P1	10	F	R	R::99.88(2439)
P1	11	F	L	L::99.85(3400)
P1	12	F	L	L::99.82(3401)
P1	13	F	L	L::99.97(3406)
P1	14	F	L	L::99.79(3399)
P1	15	F	D	D::99.94(3404)
P1	16	F	D	D::99.88(3402)
P1	17	F	E	E::99.85(3401)
P1	18	F	A	A::99.77(3399)
P1	19	F	G	G::99.76(3346)
P1	20	F	P	P::99.94(3354)
P1	21	F	L	L::99.97(3352)
P1	22	F	E	E::99.94(3352)
P1	23	F	E	E::99.88(3350)
P1	24	F	E	E::99.94(3352)
P1	25	F	L	L::100.00(3353)
P1	26	F	P	P::99.97(3348)
P1	27	F	R	R::99.85(3343)
P1	28	F	L	L::99.76(3340)
P1	29	F	A	A::99.79(3321)

P1	30	F	D	D::99.94(3323)
P1	31	F	E	E::99.83(2380)
P1	32	F	G	G::99.83(2381)
P1	33	F	L	L::99.87(2382)
P1	34	F	N	N::99.96(2386)
P1	35	F	R	R::99.79(2380)
P1	36	F	R	R::99.96(2384)
P1	37	F	V	V::99.96(2383)
P1	38	F	A	A::99.66(2373)
P1	39	F	E	E::99.92(2377)
P1	40	F	D	D::99.83(2375)
P1	41	F	L	L::99.87(2376)
P1	42	F	N	N::99.92(2376)
P1	43	F	L	L::99.87(2375)
P1	44	F	G	G::99.87(2373)
P1	45	F	N	N::99.92(2370)
P1	46	F	L	L::99.87(2369)
P1	47	F	N	N::100.00(2364)
P1	48	F	V	V::99.92(2359)
P1	49	F	S	S::99.87(2347)
P1	50	F	I	I::99.83(1746)
P1	51	F	P	P::100.00(1748)
P1	52	F	W	W::99.94(1740)
P1	53	F	T	T::100.00(1046)
P1	54	F	H	H::99.90(978)
P1	55	F	K	K::100.00(980)
P1	56	F	V	V::99.90(979)
P1	57	F	G	G::100.00(981)
P1	58	F	N	N::100.00(981)
P1	60	F	T	T::100.00(10)
P1	61	F	G	G::100.00(10)
P1	62	F	L	L::100.00(11)
P1	63	F	Y	Y::100.00(10)
P1	64	F	S	S::100.00(10)
P1	65	F	S	S::100.00(10)
P1	66	F	T	T::100.00(10)
P1	67	F	V	V::90.00(9) I::10.00(1)
P1	68	F	P	P::100.00(9)
P1	69	F	V	V::100.00(9)
P1	71	F	N	N::100.00(8)
P1	72	F	P	P::100.00(8)
P1	73	F	H	H::100.00(8)
P1	74	F	W	W::100.00(8)
P1	75	F	K	K::100.00(8)
P1	76	F	T	T::100.00(7)
P1	77	F	P	P::100.00(7)
P1	78	F	S	S::100.00(7)
P1	80	F	P	P::100.00(7)
P1	81	F	N	N::100.00(5)
P1	82	F	I	I::100.00(5)
P1	83	F	H	H::100.00(5)

P1	84	F	L	L::100.00(3)
P1	85	F	H	H::100.00(3)
P1	86	F	Q	Q::100.00(3)
P1	87	F	D	D::100.00(3)
P1	88	F	I	I::100.00(3)
P1	89	F	I	I::100.00(3)
P1	90	F	K	K::100.00(2)
P1	91	F	K	K::100.00(2)
P1	92	F	C	C::100.00(2)
P1	93	F	E	E::100.00(2)
P1	94	F	Q	Q::100.00(2)
P1	96	F	V	V::100.00(2)
P1	97	F	G	G::100.00(2)
P1	98	F	P	P::100.00(2)
P1	99	F	L	L::100.00(2)
P1	100	F	T	T::100.00(8)
P1	101	F	V	V::100.00(8)
P1	102	F	N	N::100.00(8)
P1	103	F	E	E::100.00(8)
P1	104	F	K	K::100.00(8)
P1	105	F	R	R::100.00(8)
P1	106	F	R	R::100.00(8)
P1	107	F	L	L::100.00(7)
P1	108	F	Q	Q::100.00(7)
P1	109	F	L	L::100.00(7)
P1	110	F	I	I::100.00(7)
P1	111	F	M	M::100.00(6)
P1	112	F	P	P::100.00(7)
P1	113	F	A	A::100.00(7)
P1	114	F	R	R::100.00(8)
P1	116	F	Y	Y::100.00(8)
P1	117	F	P	P::100.00(8)
P1	118	F	N	N::62.50(5) K::37.50(3)
P1	119	F	V	V::100.00(8)
P1	120	F	T	T::100.00(163)
P1	121	F	K	K::100.00(163)
P1	122	F	Y	Y::100.00(163)
P1	123	F	L	L::100.00(164)
P1	124	F	P	P::100.00(164)
P1	125	F	L	L::100.00(164)
P1	126	F	D	D::100.00(927)
P1	127	F	K	K::100.00(927)
P1	128	F	G	G::100.00(932)
P1	129	F	I	I::100.00(936)
P1	130	F	K	K::100.00(936)
P1	131	F	P	P::99.89(938)
P1	132	F	Y	Y::100.00(939)
P1	133	F	Y	Y::100.00(940)
P1	134	F	P	P::100.00(940)
P1	135	F	E	E::66.81(628) K::32.66(307)
P1	136	F	H	H::99.89(938)

P1	137	F	L	L::100.00(939)
P1	138	F	V	V::99.89(939)
P1	139	F	N	N::99.68(937)
P1	140	F	H	H::100.00(941)
P1	141	F	Y	Y::99.89(940)
P1	143	F	Q	Q::99.47(933)
P1	144	F	T	T::100.00(938)
P1	145	F	R	R::100.00(938)
P1	146	F	H	H::100.00(938)
P1	147	F	Y	Y::100.00(937)
P1	148	F	L	L::99.47(933)
P1	149	F	H	H::99.79(934)
P1	150	F	T	T::100.00(936)
P1	151	F	L	L::99.89(934)
P1	152	F	W	W::99.79(933)
P1	153	F	K	K::99.89(933)
P1	154	F	A	A::100.00(934)
P1	155	F	G	G::100.00(934)
P1	156	F	I	I::100.00(934)
P1	157	F	L	L::100.00(934)
P1	158	F	Y	Y::99.79(932)
P1	159	F	K	K::99.89(933)
P1	160	F	R	R::100.00(933)
P1	161	F	E	E::100.00(933)
P1	162	F	T	T::100.00(930)
P1	163	F	T	T::100.00(930)
P1	164	F	H	H::100.00(790)
P1	165	F	S	S::99.75(788)
P1	166	F	A	A::100.00(790)
P1	167	F	S	S::99.74(777)
P1	169	F	C	C::100.00(779)
P1	170	F	G	G::100.00(779)
P1	171	F	S	S::100.00(779)
P1	172	F	P	P::99.87(774)
P1	173	F	Y	Y::100.00(160)
P1	174	F	S	S::100.00(4)
P1	175	F	W	W::100.00(4)
P1	176	F	E	E::100.00(4)
P1	177	F	Q	Q::100.00(4)
P1	178	F	E	E::100.00(4)
P1	179	F	L	L::100.00(4)
P1	180	F	Q	Q::100.00(3)
P1	181	F	H	H::100.00(2)
P1	182	F	G	G::100.00(2)
P1	200	F	Q	Q::100.00(2)
P1	201	F	S	S::100.00(3)
P1	202	F	S	S::100.00(3)
P1	203	F	G	G::100.00(3)
P1	204	F	I	I::100.00(3)
P1	205	F	L	L::100.00(3)
P1	206	F	S	S::100.00(3)

P1	207	F	R	R::100.00(3)
P1	208	F	P	P::100.00(3)
P1	209	F	P	P::100.00(3)
P1	210	F	V	V::66.67(2) I::33.33(1)
P1	211	F	G	G::100.00(3)
P1	212	F	S	S::100.00(3)
P1	213	F	S	S::100.00(3)
P1	214	F	L	L::100.00(3)
P1	215	F	Q	Q::100.00(3)
P1	216	F	S	S::100.00(3)
P1	217	F	K	K::100.00(3)
P1	218	F	H	H::100.00(3)
P1	219	F	R	R::100.00(3)
P1	220	F	K	K::100.00(3)
P1	221	F	S	S::100.00(8)
P1	222	F	R	R::100.00(8)
P1	223	F	L	L::100.00(8)
P1	224	F	G	G::100.00(8)
P1	225	F	L	L::100.00(8)
P1	226	F	Q	Q::100.00(8)
P1	227	F	S	S::100.00(8)
P1	228	F	Q	Q::100.00(8)
P1	229	F	Q	Q::100.00(8)
P1	230	F	G	G::100.00(8)
P1	231	F	H	H::100.00(7)
P1	232	F	L	L::100.00(7)
P1	233	F	A	A::100.00(7)
P1	234	F	G	G::85.71(6) R::14.29(1)
P1	235	F	R	R::100.00(7)
P1	236	F	Q	Q::100.00(7)
P1	237	F	Q	Q::100.00(7)
P1	238	F	G	G::100.00(9)
P1	239	F	R	R::100.00(9)
P1	240	F	S	S::100.00(9)
P1	241	F	W	W::100.00(9)
P1	242	F	S	S::100.00(10)
P1	243	F	I	I::100.00(11)
P1	244	F	R	R::100.00(11)
P1	245	F	A	A::100.00(10)
P1	246	F	G	G::100.00(10)
P1	247	F	I	I::100.00(10)
P1	248	F	H	H::100.00(11)
P1	249	F	P	P::100.00(11)
P1	250	F	T	T::100.00(10)
P1	251	F	A	A::90.00(9) T::10.00(1)
P1	252	F	R	R::100.00(11)
P1	253	F	R	R::100.00(10)
P1	254	F	P	P::100.00(9)
P1	256	F	G	G::100.00(9)
P1	257	F	V	V::100.00(9)
P1	258	F	E	E::100.00(8)

P1	259	F	P	P::100.00(8)
P1	260	F	S	S::100.00(8)
P1	261	F	G	G::100.00(7)
P1	262	F	S	S::100.00(7)
P1	263	F	G	G::100.00(7)
P1	264	F	H	H::100.00(7)
P1	265	F	T	T::100.00(7)
P1	266	F	T	T::100.00(7)
P1	267	F	N	N::100.00(7)
P1	268	F	L	L::100.00(7)
P1	269	F	A	A::100.00(8)
P1	270	F	S	S::100.00(8)
P1	271	F	K	K::100.00(8)
P1	272	F	S	S::100.00(8)
P1	273	F	A	A::100.00(8)
P1	274	F	S	S::100.00(8)
P1	275	F	C	C::100.00(8)
P1	276	F	L	L::100.00(8)
P1	277	F	H	H::100.00(8)
P1	278	F	Q	Q::100.00(8)
P1	279	F	S	S::100.00(8)
P1	280	F	P	P::100.00(8)
P1	281	F	V	V::100.00(8)
P1	282	F	R	R::87.50(7) G::12.50(1)
P1	283	F	K	K::100.00(7)
P1	284	F	A	A::100.00(7)
P1	285	F	A	A::100.00(6)
P1	286	F	Y	Y::100.00(4)
P1	287	F	P	P::100.00(4)
P1	288	F	S	S::100.00(4)
P1	289	F	V	V::100.00(4)
P1	290	F	S	S::100.00(4)
P1	291	F	T	T::100.00(4)
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S1	1	F	M	M::100.00(2)
S1	20	F	N	N::100.00(2)
S1	21	F	P	P::100.00(3)
S1	22	F	L	L::100.00(3)
S1	23	F	G	G::100.00(3)
S1	26	F	P	P::100.00(3)
S1	27	F	D	D::100.00(3)
S1	28	F	H	H::100.00(3)
S1	29	F	Q	Q::100.00(3)
S1	30	F	L	L::100.00(3)
S1	31	F	D	D::100.00(3)
S1	32	F	P	P::100.00(3)
S1	33	F	A	A::100.00(3)
S1	35	F	R	R::100.00(3)
S1	36	F	A	A::100.00(3)
S1	37	F	N	N::100.00(3)
S1	38	F	T	T::100.00(3)
S1	39	F	A	A::100.00(3)

S1	40	F	N	N::100.00(8)
S1	41	F	P	P::100.00(8)
S1	42	F	D	D::100.00(8)
S1	43	F	W	W::100.00(8)
S1	44	F	D	D::100.00(8)
S1	46	F	N	N::100.00(8)
S1	47	F	P	P::100.00(8)
S1	48	F	N	N::100.00(8)
S1	49	F	K	K::100.00(8)
S1	50	F	D	D::100.00(8)
S1	51	F	T	T::100.00(7)
S1	52	F	W	W::100.00(7)
S1	53	F	P	P::100.00(7)
S1	54	F	D	D::100.00(7)
S1	55	F	A	A::100.00(7)
S1	56	F	N	N::100.00(7)
S1	57	F	K	K::100.00(7)
S1	58	F	V	V::100.00(9)
S1	59	F	G	G::100.00(9)
S1	60	F	A	A::100.00(9)
S1	61	F	G	G::100.00(10)
S1	62	F	A	A::100.00(11)
S1	64	F	G	G::100.00(11)
S1	65	F	L	L::100.00(10)
S1	66	F	G	G::100.00(10)
S1	68	F	T	T::100.00(11)
S1	69	F	P	P::100.00(10)
S1	70	F	P	P::100.00(10)
S1	71	F	H	H::100.00(11)
S1	72	F	G	G::100.00(11)
S1	73	F	G	G::100.00(9)
S1	74	F	L	L::100.00(9)
S1	75	F	L	L::100.00(9)
S1	76	F	G	G::100.00(9)
S1	77	F	W	W::100.00(9)
S1	78	F	S	S::100.00(8)
S1	79	F	P	P::100.00(8)
S1	80	F	Q	Q::100.00(7)
S1	81	F	A	A::100.00(7)
S1	82	F	Q	Q::100.00(7)
S1	83	F	G	G::100.00(7)
S1	84	F	I	I::100.00(7)
S1	85	F	L	L::100.00(7)
S1	86	F	Q	Q::100.00(7)
S1	87	F	T	T::100.00(7)
S1	88	F	L	L::100.00(7)
S1	89	F	P	P::100.00(8)
S1	90	F	A	A::100.00(8)
S1	91	F	N	N::100.00(8)
S1	92	F	P	P::100.00(8)
S1	93	F	P	P::100.00(8)

S1	94	F	P	P::100.00(8)
S1	95	F	A	A::100.00(8)
S1	96	F	S	S::100.00(8)
S1	97	F	T	T::100.00(8)
S1	98	F	N	N::100.00(8)
S1	99	F	R	R::100.00(8)
S1	100	F	Q	Q::100.00(8)
S1	101	F	S	S::100.00(8)
S1	102	F	G	G::100.00(7)
S1	103	F	R	R::100.00(7)
S1	104	F	Q	Q::100.00(7)
S1	105	F	P	P::100.00(4)
S1	106	F	T	T::100.00(4)
S1	107	F	P	P::100.00(4)
S1	108	F	L	L::100.00(4)
S1	109	F	S	S::100.00(4)
S1	110	F	P	P::100.00(4)

Meta data	
Assembly file:	HBV-RYD-25.sam
Annotation file:	/home3/vatt01s/Work/Project-150-HBV/Data/P150-1/Annotation/HBV.anno
Reference file:	FJ023674.fa.
User name	ales01a
Hostname	Alpha
Location	/home2/ales01a/HBV/P150-5/HBV-RYD-25
Date/Time	Tue 19 Mar 15:03:25 GMT 2019