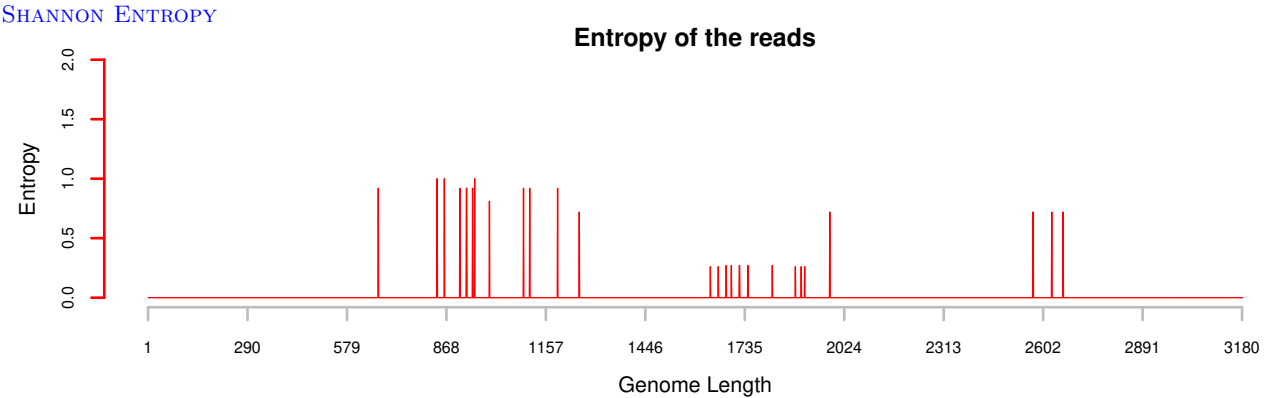
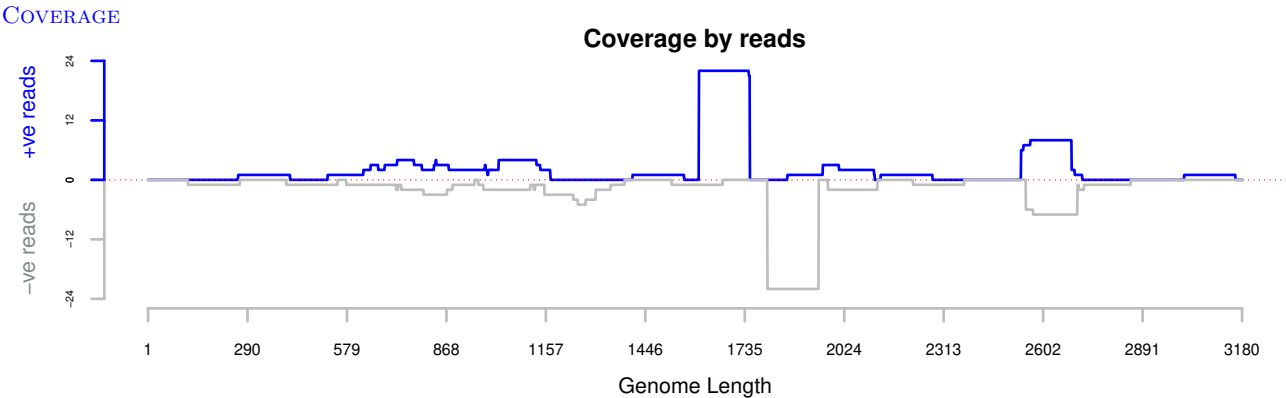
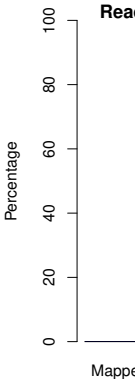


HBV-RYD-23

File name	HBV-RYD-23.sam
Ref name	KT963508.1 Hepatitis B virus strain HBV-8, complete genome
Ref len	3182
Program used	Tanoti Assembler 1.0

Total reads	237152
Mapped reads	95 (0.04%)
Unmapped reads	237057
Mapped loan pairs	0
Average read length	146nt

Coverage	2641nt (83.00%)
Average depth	4 reads/site
Average insert length	0nt



CONSENSUS SEQUENCE

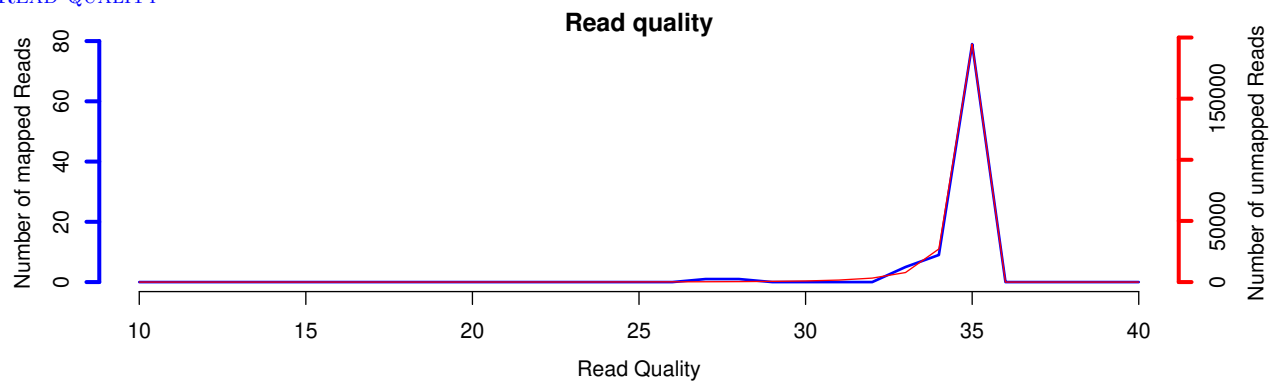
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70     NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNCGTC AATCTTCTCG AGGATTGGGG
140    ACCCTGCGCT GAACATGGAG AACATCACAT CAGGATTCCCT AGGACCCCTG CTCGTGTTAC AGGCGGGGTT
210    TTTCTTGTG ACAAGAATCC TCACAATACC GCAGAGTCTA GACTCGTGGT GGACTTCTCT CAATTTTCTA
280    GGGGGAAC TA CCGTGTGTCT TGGCCAAAGT TCGCAGTCCC CAACCTCCAA TCACTCACCA ACCTCCTGTC
350    CTCCAAC TTG TCCTGGTTAT CGCTGGATGT GTCTGCGGCG TTTTATCATC TTCCTCTTCA TCCTGCTGCT
420    ATGCTCATC TTCTTGTG TTTCTCTGGA CTATCGAGGT ATGTTGCCCG TTTGTCCTCT AATTCCAGGA
490    TCTTCAACAA CCAGCACGGG ACCATGCCGA ACCTGCACGA CTCCTGCTCA AGGAACCTCT ATGTATCCCT
560    CCTGTTGCTG TACCAAACCT TCGGACGGAA ATTGCACCTG TATCCCATC CCATCATCAT GGGCTTTCGG
630    AAAATTCCTA TGGGAGTGGG CCTCAGCCCG TTTCTCCTGG CTCAGTTTAC TAGTGCCATT TGTTCACTGG
700    TTCGTAGGGC TTTCCCCAC TGTTTGGCTT TCAGTTATAT GGATGATGTG GTATTGGGGG CCAAGTCTGT
770    ACAGCATCTT GAGTCCTTTT TTACCGCTGT TACCAATTTT CTTTTGTCTT TGGGTATACA TTAAACCCCT
840    CACAAAACAA AAAGATGGGG TCACTCTTTA CATTTCATGG GCTATGTCAT TGGATGTTAT GGGTCACTGC
910    CACAAGATCA CATCAGGCAG AAAATCAAAG AATGTTT TAG AAAACTTCCT GTTAACAGAC CTATTGATTG
980    GAAAGTCTGT CAACGTATTG TGGGTCTTTT GGGTTTTGCT GCCCCTTTTA CACAATGTGG TTATCCTGCT
1050   TTAATGCCCT TGTATGCATG CATTCAATCT AAGCAGGCTT TCACTTTCTC GCCAACTTAC AAGGCCTTTC
1120   TGTGTAAACA ATACCTGAAC CTTTACCCCG TTGCCCGCA ACGGCCAGGT CTGTGCCAAG TGTTTGTCTGA
1190   TGCAACCCCC ACTGGCTGGG GCTTGGTTAT GGGCCATCAG CGCATGCGTG GAACCTTTTT GGCTCCTCTG
1260   CCGATCCATA CTGCGGAACT CCTAGCCGCT TGTTTTGCTC GCAGCAGGTC TGGAGCAAAC ATTCTCGGGA
1330   CGGATAAATC TGTTGTCTC TCCCGCAAAT ATACATCGTT TCCATGGCTG CTAGNNNNNN NNNNNNNNNN
1400   NNNNNNNNGC GGGACGCTCT TTGTTACGT CCCGTCGGCG CTGAATCCCG CGGACGACCC TTCTCGGGGC
1470   CGCTTGGGAC TCTCTCGTCC CTTTCTCCGT CTGCCGTTTC GACCGACCAC GGGGCGCACC TCTCTTACG
1540   CGGACTCCCC GTCTGTGCCT TCTCATCTGC CGGACCGTGT GCACTTCGCT TCACCTCTGC ACGTCGCATG
1610   GAGACCACCG TGAACGCCCA CCAAGTCTTG CCCAAGGTCT TACATAAGAG GACTCTTGA CTCTCTGTAA
1680   TGTCACGACG CGACCTTGAG GCATACTTCA AAGACTCTT GTTTAAAGAC TGGGAGGAGT TGGGGGAGGN
1750   NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN
1820   TTTTTCACCT CTGCCTAATC ATCTCTTGTT CATGTCCTAC TGTTCAGGCC TCCAAGCTGT GCCTTGGGTG
1890   GCTTTGGGAC ATGGACATCG ACCCTTATAA AGAATTTGGA GCTACTGTGG AGTTACTCTC GTTTTTGCCT
1960   TCTGACTTCT TTCCTTCAGT ACGAGATCTT CTAGATACCG CCTCAGCTCT GTATCGGGAT GCCTTAGAGT
2030   CTCCTGAACA TTGTTACCT CACCATACTG CACTCAGGCA AGCCATTCTT TGTGGGGGG AATTAATGAC
2100   TCTAGCTACC TGGGTGGGTG NNNNNNNNNA AGATCCAATA TCCAGGGACC TAGTAGTCAG TTATGTTAAC
2170   ACTAATATGG GCCTAAAGTT CAGGCAACTA TTGTGGTTTC ACATTCTTG TCTCACTTTT GGAAGAGAAA
2240   CGGTCATAGA GTATTTGGTG TCTTTCGGAG TGTGGATTCT CACTCCTCCA GCTTATAGAC CACCAAATGC
2310   CCCTATCTTA TCAACACTTC CGGAGACTAC TGTTGTTAGA CGACGAGGCA GGTCCCCTAG AANNNNNNNN
2380   NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN
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2800   CGCCTCATTT TGTGGGTCAC CATATCTTGT GGAACAAGAG CTACAGCATG GGCAGNNNN NNNNNNNNNN
2870   NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN
2940   NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN
3010   NATTCACCCC ACCGCACGGA GGCCTTTTGG GGTGGAGCCC TCAGGCTCAG GGCATACTAC AAACCTTGCC
3080   AGCAAATCCG CCTCCTGCCA CCACCAATCG CCAGTCAGGA AGGCAGCCTA CCCCTCTGTC TCCACCTTTG
3150   AGAAACACTC NNNNNNNNNN NNNNNNNNNN NN

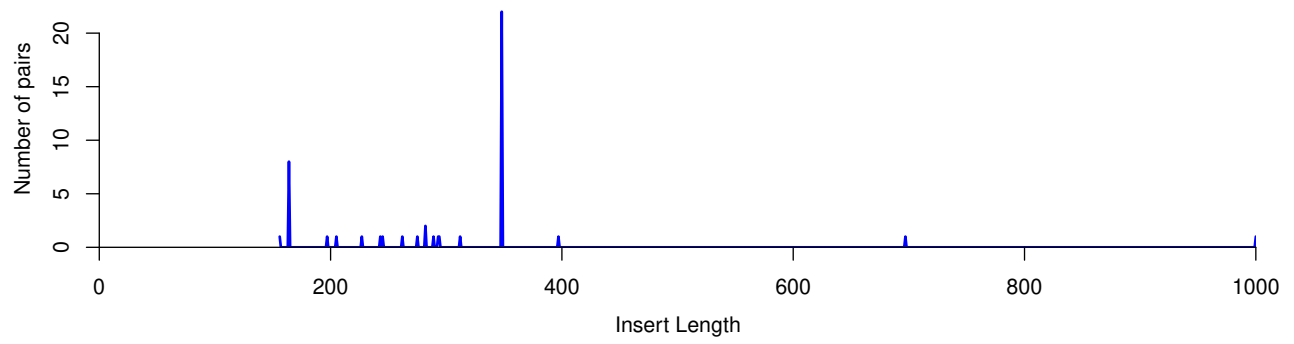
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Genome Composition	
A	588 (18.48%)
T	771 (24.23%)
G	573 (18.01%)
C	709 (22.28%)
N	541 (17.00%)
Total Nucleotides	3182
GC%	48.54

READ QUALITY



INSERT LENGTH DISTRIBUTION



AMINO ACID VARIATIONS

Protein	Position	Ref AA	Consensus AA	All AAs
P2	39	F	V	V::100.00(1)
P2	40	F	N	N::100.00(1)
P2	41	F	L	L::100.00(1)
P2	42	F	L	L::100.00(1)
P2	43	F	E	E::100.00(1)
P2	44	F	D	D::100.00(1)
P2	45	F	W	W::100.00(1)
P2	46	F	G	G::100.00(1)
P2	47	F	P	P::100.00(1)
P2	48	F	C	C::100.00(1)
P2	49	F	A	A::100.00(1)
P2	50	F	E	E::100.00(1)
P2	51	F	H	H::100.00(1)
P2	52	F	G	G::100.00(1)
P2	53	F	E	E::100.00(1)
P2	54	F	H	H::100.00(1)
P2	55	F	H	H::100.00(1)
P2	56	F	I	I::100.00(1)
P2	57	F	R	R::100.00(1)
P2	58	F	I	I::100.00(1)
P2	59	F	P	P::100.00(1)
P2	60	F	R	R::100.00(1)
P2	61	F	T	T::100.00(1)
P2	62	F	P	P::100.00(1)
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P2	64	F	R	R::100.00(1)
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P2	72	F	V	V::100.00(1)
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P2	319	F	P	P::100.00(2)
P2	320	F	V	V::100.00(3)
P2	321	F	N	N::100.00(3)
P2	322	F	R	R::100.00(3)
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P2	324	F	I	I::100.00(3)
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P2	326	F	W	W::100.00(4)
P2	327	F	K	K::100.00(4)
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P2	349	F	A	A::100.00(6)
P2	350	F	L	L::100.00(6)
P2	351	F	M	M::100.00(6)
P2	352	F	P	P::100.00(6)
P2	353	F	L	L::100.00(6)
P2	354	F	Y	Y::100.00(6)
P2	355	F	A	A::100.00(6)
P2	356	F	C	C::100.00(6)
P2	357	F	I	I::100.00(6)

P2	358	F	Q	Q::100.00(6)
P2	359	F	S	S::100.00(6)
P2	360	F	K	K::100.00(6)
P2	361	F	Q	Q::100.00(6)
P2	362	F	A	A::100.00(6)
P2	364	F	T	T::100.00(6)
P2	366	F	S	S::100.00(6)
P2	367	F	P	P::100.00(6)
P2	368	F	T	T::100.00(6)
P2	369	F	Y	Y::100.00(6)
P2	370	F	K	K::100.00(5)
P2	371	F	A	A::100.00(5)
P2	373	F	L	L::100.00(5)
P2	374	F	C	C::100.00(6)
P2	375	F	K	K::100.00(5)
P2	376	F	Q	Q::100.00(4)
P2	377	F	Y	Y::100.00(4)
P2	378	F	L	L::100.00(4)
P2	379	F	N	N::100.00(4)
P2	380	F	L	L::100.00(3)
P2	381	F	Y	Y::100.00(3)
P2	382	F	P	P::100.00(3)
P2	383	F	V	V::100.00(3)
P2	384	F	A	A::100.00(5)
P2	385	F	R	R::100.00(5)
P2	386	F	Q	Q::100.00(5)
P2	387	F	R	R::100.00(5)
P2	388	F	P	P::100.00(5)
P2	389	F	G	G::100.00(4)
P2	390	F	L	L::100.00(3)
P2	391	F	C	C::100.00(3)
P2	392	F	Q	Q::100.00(3)
P2	393	F	V	V::100.00(3)
P2	395	F	A	A::100.00(3)
P2	396	F	D	D::100.00(3)
P2	397	F	A	A::100.00(3)
P2	398	F	T	T::100.00(3)
P2	399	F	P	P::100.00(3)
P2	400	F	T	T::100.00(3)
P2	401	F	G	G::100.00(3)
P2	402	F	W	W::100.00(3)
P2	403	F	G	G::100.00(3)
P2	404	F	L	L::100.00(3)
P2	405	F	V	V::100.00(3)
P2	406	F	M	M::100.00(3)
P2	407	F	G	G::100.00(3)
P2	408	F	H	H::100.00(3)
P2	409	F	Q	Q::100.00(3)
P2	410	F	R	R::100.00(3)
P2	411	F	M	M::100.00(3)
P2	412	F	R	R::100.00(4)

P2	413	F	G	G::100.00(4)
P2	414	F	T	T::100.00(4)
P2	416	F	L	L::100.00(4)
P2	417	F	A	A::100.00(5)
P2	418	F	P	P::100.00(5)
P2	419	F	L	L::100.00(5)
P2	420	F	P	P::100.00(5)
P2	421	F	I	I::100.00(5)
P2	422	F	H	H::100.00(5)
P2	423	F	T	T::100.00(5)
P2	424	F	A	A::100.00(4)
P2	425	F	E	E::100.00(4)
P2	426	F	L	L::100.00(4)
P2	427	F	L	L::100.00(4)
P2	428	F	A	A::100.00(4)
P2	429	F	A	A::100.00(4)
P2	430	F	C	C::100.00(4)
P2	432	F	A	A::100.00(4)
P2	433	F	R	R::100.00(2)
P2	434	F	S	S::100.00(2)
P2	435	F	R	R::100.00(2)
P2	436	F	S	S::100.00(2)
P2	437	F	G	G::100.00(2)
P2	438	F	A	A::100.00(2)
P2	439	F	N	N::100.00(2)
P2	440	F	I	I::100.00(2)
P2	441	F	L	L::100.00(2)
P2	442	F	G	G::100.00(2)
P2	443	F	T	T::100.00(2)
P2	444	F	D	D::100.00(2)
P2	445	F	N	N::100.00(2)
P2	446	F	S	S::100.00(2)
P2	447	F	V	V::100.00(2)
P2	448	F	V	V::100.00(1)
P2	449	F	L	L::100.00(1)
P2	450	F	S	S::100.00(1)
P2	451	F	R	R::100.00(1)
P2	452	F	K	K::100.00(1)
P2	453	F	Y	Y::100.00(1)
P2	454	F	T	T::100.00(1)
P2	455	F	S	S::100.00(1)
P2	457	F	P	P::100.00(1)
P2	458	F	W	W::100.00(1)
P2	459	F	L	L::100.00(1)
P2	460	F	L	L::100.00(1)
P2	470	F	G	G::100.00(1)
P2	471	F	T	T::100.00(1)
P2	472	F	S	S::100.00(1)
P2	474	F	V	V::100.00(1)
P2	475	F	Y	Y::100.00(1)
P2	476	F	V	V::100.00(1)

P2	477	F	P	P::100.00(1)
P2	478	F	S	S::100.00(1)
P2	479	F	A	A::100.00(1)
P2	480	F	L	L::100.00(1)
P2	481	F	N	N::100.00(1)
P2	482	F	P	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	L	L::100.00(1)
P2	494	F	S	S::100.00(1)
P2	495	F	R	R::100.00(1)
P2	496	F	P	P::100.00(1)
P2	497	F	L	L::100.00(1)
P2	498	F	L	L::100.00(1)
P2	499	F	R	R::100.00(1)
P2	500	F	L	L::100.00(1)
P2	501	F	P	P::100.00(1)
P2	503	F	R	R::100.00(1)
P2	504	F	P	P::100.00(1)
P2	505	F	T	T::100.00(1)
P2	506	F	T	T::100.00(1)
P2	507	F	G	G::100.00(1)
P2	508	F	R	R::100.00(2)
P2	509	F	T	T::100.00(2)
P2	510	F	S	S::100.00(2)
P2	511	F	L	L::100.00(2)
P2	512	F	Y	Y::100.00(2)
P2	513	F	A	A::100.00(2)
P2	514	F	D	D::100.00(2)
P2	515	F	S	S::100.00(2)
P2	516	F	P	P::100.00(2)
P2	517	F	S	S::100.00(2)
P2	518	F	V	V::100.00(2)
P2	519	F	P	P::100.00(1)
P2	520	F	S	S::100.00(1)
P2	521	F	H	H::100.00(1)
P2	522	F	L	L::100.00(1)
P2	523	F	P	P::100.00(1)
P2	524	F	D	D::100.00(1)
P2	525	F	R	R::100.00(1)
P2	526	F	V	V::100.00(1)
P2	527	F	H	H::100.00(1)
P2	529	F	A	A::100.00(1)

P2	530	F	S	S::100.00(1)
P2	531	F	P	P::100.00(1)
P2	532	F	L	L::100.00(1)
P2	533	F	H	H::100.00(1)
P2	534	F	V	V::100.00(23)
P2	535	F	A	A::100.00(23)
P2	536	F	W	W::100.00(23)
P2	537	F	R	R::100.00(23)
P2	538	F	P	P::100.00(23)
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S2	40	F	S	S::100.00(1)
S2	41	F	I	I::100.00(1)
S2	43	F	S	S::100.00(1)
S2	44	F	R	R::100.00(1)
S2	45	F	I	I::100.00(1)
S2	46	F	G	G::100.00(1)
S2	47	F	D	D::100.00(1)
S2	48	F	P	P::100.00(1)
S2	49	F	A	A::100.00(1)
S2	50	F	L	L::100.00(1)
S2	51	F	N	N::100.00(1)
S2	52	F	M	M::100.00(1)
S2	53	F	E	E::100.00(1)
S2	54	F	N	N::100.00(1)
S2	55	F	I	I::100.00(1)
S2	56	F	T	T::100.00(1)
S2	57	F	S	S::100.00(1)
S2	58	F	G	G::100.00(1)
S2	60	F	L	L::100.00(1)
S2	61	F	G	G::100.00(1)
S2	62	F	P	P::100.00(1)
S2	63	F	L	L::100.00(1)
S2	64	F	L	L::100.00(1)
S2	65	F	V	V::100.00(1)
S2	66	F	L	L::100.00(1)
S2	67	F	Q	Q::100.00(1)
S2	68	F	A	A::100.00(1)
S2	69	F	G	G::100.00(1)
S2	72	F	L	L::100.00(1)
S2	73	F	L	L::100.00(1)
S2	74	F	T	T::100.00(1)
S2	75	F	R	R::100.00(1)
S2	76	F	I	I::100.00(1)
S2	77	F	L	L::100.00(1)
S2	78	F	T	T::100.00(1)
S2	79	F	I	I::100.00(1)
S2	80	F	P	P::100.00(1)
S2	81	F	Q	Q::100.00(1)
S2	82	F	S	S::100.00(1)
S2	83	F	L	L::100.00(1)
S2	84	F	D	D::100.00(1)
S2	85	F	S	S::100.00(1)

S2	86	F	W	W::100.00(1)
S2	87	F	W	W::100.00(1)
S2	88	F	T	T::100.00(2)
S2	89	F	S	S::100.00(1)
S2	90	F	L	L::100.00(1)
S2	91	F	N	N::100.00(1)
S2	93	F	L	L::100.00(1)
S2	94	F	G	G::100.00(1)
S2	95	F	G	G::100.00(1)
S2	96	F	T	T::100.00(1)
S2	97	F	T	T::100.00(1)
S2	98	F	V	V::100.00(1)
S2	99	F	C	C::100.00(1)
S2	100	F	L	L::100.00(1)
S2	101	F	G	G::100.00(1)
S2	102	F	Q	Q::100.00(1)
S2	103	F	S	S::100.00(1)
S2	104	F	S	S::100.00(1)
S2	105	F	Q	Q::100.00(1)
S2	106	F	S	S::100.00(1)
S2	107	F	P	P::100.00(1)
S2	108	F	T	T::100.00(1)
S2	109	F	S	S::100.00(1)
S2	110	F	N	N::100.00(1)
S2	111	F	H	H::100.00(1)
S2	112	F	S	S::100.00(1)
S2	113	F	P	P::100.00(1)
S2	114	F	T	T::100.00(1)
S2	115	F	S	S::100.00(1)
S2	116	F	C	C::100.00(1)
S2	117	F	P	P::100.00(1)
S2	118	F	P	P::100.00(1)
S2	119	F	T	T::100.00(1)
S2	120	F	C	C::100.00(1)
S2	121	F	P	P::100.00(1)
S2	122	F	G	G::100.00(1)
S2	123	F	Y	Y::100.00(1)
S2	124	F	R	R::100.00(1)
S2	125	F	W	W::100.00(1)
S2	126	F	M	M::100.00(1)
S2	127	F	C	C::100.00(1)
S2	128	F	L	L::100.00(1)
S2	129	F	R	R::100.00(1)
S2	130	F	R	R::100.00(1)
S2	132	F	I	I::100.00(1)
S2	133	F	I	I::100.00(1)
S2	135	F	L	L::100.00(2)
S2	137	F	I	I::100.00(2)
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	141	F	C	C::100.00(1)
S2	142	F	L	L::100.00(1)
S2	143	F	I	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	F	L	L::100.00(1)
S2	150	F	D	D::100.00(1)
S2	151	F	Y	Y::100.00(1)
S2	152	F	R	R::100.00(1)
S2	153	F	G	G::100.00(1)
S2	154	F	M	M::100.00(1)
S2	155	F	L	L::100.00(1)
S2	156	F	P	P::100.00(1)
S2	157	F	V	V::100.00(1)
S2	158	F	C	C::100.00(1)
S2	159	F	P	P::100.00(1)
S2	160	F	L	L::100.00(1)
S2	161	F	I	I::100.00(1)
S2	162	F	P	P::100.00(1)
S2	163	F	G	G::100.00(1)
S2	164	F	S	S::100.00(1)
S2	165	F	S	S::100.00(1)
S2	166	F	T	T::100.00(1)
S2	167	F	T	T::100.00(1)
S2	168	F	S	S::100.00(1)
S2	169	F	T	T::100.00(1)
S2	170	F	G	G::100.00(1)
S2	171	F	P	P::100.00(1)
S2	172	F	C	C::100.00(1)
S2	173	F	R	R::100.00(1)
S2	174	F	T	T::100.00(1)
S2	175	F	C	C::100.00(2)
S2	176	F	T	T::100.00(2)
S2	177	F	T	T::100.00(2)
S2	178	F	P	P::100.00(2)
S2	179	F	A	A::100.00(2)
S2	180	F	Q	Q::100.00(2)
S2	181	F	G	G::100.00(2)
S2	182	F	T	T::100.00(2)
S2	183	F	S	S::100.00(2)
S2	184	F	M	M::100.00(1)
S2	185	F	Y	Y::100.00(1)
S2	186	F	P	P::100.00(1)
S2	187	F	S	S::100.00(1)
S2	188	F	C	C::100.00(1)
S2	189	F	C	C::100.00(1)
S2	190	F	C	C::100.00(1)
S2	191	F	T	T::100.00(1)
S2	192	F	K	K::100.00(1)

S2	193	F	P	P::100.00(2)
S2	194	F	S	S::100.00(2)
S2	195	F	D	D::100.00(2)
S2	196	F	G	G::100.00(2)
S2	197	F	N	N::100.00(2)
S2	198	F	C	C::100.00(2)
S2	199	F	T	T::100.00(2)
S2	200	F	C	C::100.00(2)
S2	201	F	I	I::100.00(2)
S2	202	F	P	P::100.00(2)
S2	203	F	I	I::100.00(2)
S2	204	F	P	P::100.00(2)
S2	205	F	S	S::100.00(2)
S2	206	F	S	S::100.00(2)
S2	207	F	W	W::100.00(2)
S2	208	F	A	A::100.00(2)
S2	210	F	G	G::100.00(3)
S2	211	F	K	K::100.00(3)
S2	213	F	L	L::100.00(3)
S2	214	F	W	W::100.00(3)
S2	215	F	E	E::100.00(3)
S2	216	F	W	W::100.00(3)
S2	217	F	A	A::100.00(4)
S2	218	F	S	S::100.00(4)
S2	219	F	A	A::100.00(4)
S2	220	F	R	R::100.00(4)
S2	222	F	S	S::100.00(4)
S2	223	F	W	W::66.67(2) *:33.33(1)
S2	224	F	L	L::100.00(3)
S2	225	F	S	S::100.00(3)
S2	226	F	L	L::100.00(3)
S2	227	F	L	L::100.00(3)
S2	228	F	V	V::100.00(3)
S2	229	F	P	P::100.00(3)
S2	231	F	V	V::100.00(4)
S2	232	F	Q	Q::100.00(4)
S2	233	F	W	W::100.00(4)
S2	235	F	V	V::100.00(4)
S2	236	F	G	G::100.00(4)
S2	237	F	L	L::100.00(4)
S2	238	F	S	S::100.00(4)
S2	239	F	P	P::100.00(4)
S2	240	F	T	T::100.00(4)
S2	241	F	V	V::100.00(5)
S2	242	F	W	W::100.00(6)
S2	243	F	L	L::100.00(5)
S2	244	F	S	S::100.00(5)
S2	245	F	V	V::100.00(5)
S2	246	F	I	I::100.00(6)
S2	247	F	W	W::100.00(6)
S2	248	F	M	M::100.00(6)

S2	249	F	M	M::100.00(6)
S2	250	F	W	W::100.00(6)
S2	251	F	Y	Y::100.00(6)
S2	252	F	W	W::100.00(6)
S2	253	F	G	G::100.00(6)
S2	254	F	P	P::100.00(6)
S2	255	F	S	S::100.00(6)
S2	256	F	L	L::100.00(6)
S2	257	F	Y	Y::100.00(6)
S2	258	F	S	S::100.00(5)
S2	259	F	I	I::100.00(5)
S2	260	F	L	L::100.00(5)
S2	261	F	S	S::100.00(5)
S2	262	F	P	P::100.00(5)
S2	264	F	L	L::100.00(5)
S2	265	F	P	P::100.00(5)
S2	266	F	L	L::100.00(4)
S2	267	F	L	L::100.00(4)
S2	268	F	P	P::100.00(5)
S2	269	F	I	I::100.00(5)
S2	272	F	C	C::100.00(5)
S2	273	F	L	L::100.00(5)
S2	274	F	W	W::100.00(5)
S2	275	F	V	V::100.00(5)
S2	276	F	Y	Y::100.00(5)
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X	1	F	M	M::100.00(1)
X	2	F	A	A::100.00(1)
X	3	F	A	A::100.00(1)
X	4	F	R	R::100.00(1)
X	13	F	R	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	L	L::100.00(1)
X	19	F	R	R::100.00(1)
X	20	F	P	P::100.00(1)
X	21	F	V	V::100.00(1)
X	22	F	G	G::100.00(1)
X	23	F	A	A::100.00(1)
X	24	F	E	E::100.00(1)
X	25	F	S	S::100.00(1)
X	26	F	R	R::100.00(1)
X	27	F	G	G::100.00(1)
X	28	F	R	R::100.00(1)
X	29	F	P	P::100.00(1)
X	31	F	S	S::100.00(1)
X	32	F	G	G::100.00(1)
X	33	F	P	P::100.00(1)
X	34	F	L	L::100.00(1)
X	35	F	G	G::100.00(1)

X	36	F	T	T::100.00(1)
X	37	F	L	L::100.00(1)
X	38	F	S	S::100.00(1)
X	39	F	S	S::100.00(1)
X	40	F	P	P::100.00(1)
X	41	F	S	S::100.00(1)
X	42	F	P	P::100.00(1)
X	43	F	S	S::100.00(1)
X	44	F	A	A::100.00(1)
X	45	F	V	V::100.00(1)
X	46	F	S	S::100.00(1)
X	47	F	T	T::100.00(1)
X	48	F	D	D::100.00(1)
X	49	F	H	H::100.00(1)
X	50	F	G	G::100.00(1)
X	51	F	A	A::100.00(2)
X	52	F	H	H::100.00(2)
X	53	F	L	L::100.00(2)
X	54	F	S	S::100.00(2)
X	55	F	L	L::100.00(2)
X	56	F	R	R::100.00(2)
X	57	F	G	G::100.00(2)
X	58	F	L	L::100.00(2)
X	59	F	P	P::100.00(2)
X	60	F	V	V::100.00(2)
X	61	F	C	C::100.00(2)
X	62	F	A	A::100.00(1)
X	64	F	S	S::100.00(1)
X	65	F	S	S::100.00(1)
X	66	F	A	A::100.00(1)
X	67	F	G	G::100.00(1)
X	68	F	P	P::100.00(1)
X	69	F	C	C::100.00(1)
X	70	F	A	A::100.00(1)
X	71	F	L	L::100.00(1)
X	72	F	R	R::100.00(1)
X	74	F	T	T::100.00(1)
X	75	F	S	S::100.00(1)
X	76	F	A	A::100.00(1)
X	77	F	R	R::100.00(23)
X	78	F	R	R::100.00(23)
X	79	F	M	M::100.00(23)
X	80	F	E	E::100.00(23)
X	81	F	T	T::100.00(23)
X	82	F	T	T::100.00(23)
X	83	F	V	V::100.00(23)
X	84	F	N	N::100.00(23)
X	85	F	A	A::100.00(23)
X	86	F	H	H::100.00(23)
X	87	F	Q	Q::100.00(23)
X	88	F	V	V::95.65(22)

X	89	F	L	L::100.00(23)
X	90	F	P	P::100.00(23)
X	91	F	K	K::100.00(23)
X	92	F	V	V::100.00(23)
X	93	F	L	L::100.00(23)
X	94	F	H	H::100.00(23)
X	95	F	K	K::95.65(22)
X	96	F	R	R::100.00(23)
X	97	F	T	T::100.00(23)
X	98	F	L	L::100.00(23)
X	99	F	G	G::100.00(23)
X	100	F	L	L::100.00(22)
X	101	F	S	S::100.00(22)
X	102	F	V	V::100.00(22)
X	103	F	M	M::95.45(21)
X	104	F	S	S::100.00(22)
X	105	F	T	T::100.00(22)
X	106	F	T	T::100.00(22)
X	107	F	D	D::100.00(22)
X	108	F	L	L::95.45(21)
X	109	F	E	E::100.00(22)
X	110	F	A	A::100.00(22)
X	111	F	Y	Y::100.00(22)
X	113	F	K	K::100.00(22)
X	114	F	D	D::100.00(22)
X	115	F	S	S::100.00(22)
X	116	F	L	L::90.91(20)
X	118	F	K	K::100.00(22)
X	119	F	D	D::100.00(22)
X	120	F	W	W::100.00(22)
X	121	F	E	E::100.00(22)
X	122	F	E	E::100.00(22)
X	123	F	L	L::100.00(22)
X	124	F	G	G::95.45(21)
X	125	F	E	E::100.00(21)
X	144	F	A	A::100.00(22)
X	145	F	P	P::100.00(22)
X	146	F	V	V::100.00(22)
X	147	F	P	P::100.00(22)
X	148	F	C	C::95.45(21)
X	149	F	N	N::100.00(22)
X	152	F	T	T::100.00(22)
X	153	F	S	S::100.00(22)
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C	1	F	M	M::100.00(23)
C	2	F	D	D::100.00(23)
C	3	F	I	I::100.00(23)
C	4	F	D	D::100.00(23)
C	5	F	P	P::100.00(23)
C	6	F	Y	Y::100.00(23)
C	7	F	K	K::100.00(23)
C	8	F	E	E::100.00(23)

C	10	F	G	G::100.00(23)
C	11	F	A	A::100.00(23)
C	12	F	T	T::100.00(23)
C	13	F	V	V::100.00(23)
C	14	F	E	E::100.00(23)
C	15	F	L	L::100.00(23)
C	16	F	L	L::100.00(23)
C	17	F	S	S::100.00(1)
C	19	F	L	L::100.00(1)
C	20	F	P	P::100.00(1)
C	21	F	S	S::100.00(1)
C	22	F	D	D::100.00(3)
C	25	F	P	P::100.00(3)
C	26	F	S	S::100.00(3)
C	27	F	V	V::100.00(5)
C	28	F	R	R::100.00(5)
C	29	F	D	D::100.00(5)
C	30	F	L	L::100.00(5)
C	31	F	L	L::100.00(5)
C	32	F	D	D::100.00(5)
C	33	F	T	T::100.00(5)
C	34	F	A	A::100.00(5)
C	35	F	S	S::100.00(5)
C	36	F	A	A::100.00(5)
C	37	F	L	L::100.00(4)
C	38	F	Y	Y::100.00(4)
C	39	F	R	R::100.00(4)
C	40	F	D	D::100.00(4)
C	41	F	A	A::100.00(4)
C	42	F	L	L::100.00(4)
C	43	F	E	E::100.00(4)
C	44	F	S	S::100.00(4)
C	45	F	P	P::100.00(4)
C	46	F	E	E::100.00(4)
C	47	F	H	H::100.00(4)
C	48	F	C	C::100.00(4)
C	49	F	S	S::100.00(4)
C	50	F	P	P::100.00(4)
C	51	F	H	H::100.00(4)
C	52	F	H	H::100.00(4)
C	53	F	T	T::100.00(4)
C	54	F	A	A::100.00(4)
C	55	F	L	L::100.00(4)
C	56	F	R	R::100.00(4)
C	57	F	Q	Q::100.00(4)
C	58	F	A	A::100.00(4)
C	59	F	I	I::100.00(4)
C	60	F	L	L::100.00(4)
C	61	F	C	C::100.00(4)
C	62	F	W	W::100.00(4)
C	63	F	G	G::100.00(4)

C	64	F	E	E::100.00(4)
C	65	F	L	L::100.00(4)
C	66	F	M	M::100.00(4)
C	67	F	T	T::100.00(4)
C	68	F	L	L::100.00(4)
C	69	F	A	A::100.00(4)
C	70	F	T	T::100.00(4)
C	71	F	W	W::100.00(2)
C	72	F	V	V::100.00(2)
C	73	F	G	G::100.00(2)
C	78	F	D	D::100.00(1)
C	79	F	P	P::100.00(1)
C	80	F	I	I::100.00(1)
C	81	F	S	S::100.00(1)
C	82	F	R	R::100.00(1)
C	83	F	D	D::100.00(1)
C	84	F	L	L::100.00(1)
C	85	F	V	V::100.00(1)
C	86	F	V	V::100.00(1)
C	87	F	S	S::100.00(1)
C	88	F	Y	Y::100.00(1)
C	89	F	V	V::100.00(1)
C	90	F	N	N::100.00(1)
C	91	F	T	T::100.00(1)
C	92	F	N	N::100.00(1)
C	93	F	M	M::100.00(1)
C	94	F	G	G::100.00(1)
C	95	F	L	L::100.00(1)
C	96	F	K	K::100.00(1)
C	98	F	R	R::100.00(1)
C	99	F	Q	Q::100.00(1)
C	100	F	L	L::100.00(1)
C	101	F	L	L::100.00(1)
C	102	F	W	W::100.00(1)
C	104	F	H	H::100.00(1)
C	105	F	I	I::100.00(1)
C	106	F	S	S::100.00(1)
C	107	F	C	C::100.00(1)
C	108	F	L	L::100.00(1)
C	109	F	T	T::100.00(2)
C	111	F	G	G::100.00(2)
C	112	F	R	R::100.00(2)
C	113	F	E	E::100.00(2)
C	114	F	T	T::100.00(2)
C	115	F	V	V::100.00(2)
C	116	F	I	I::100.00(2)
C	117	F	E	E::100.00(2)
C	118	F	Y	Y::100.00(2)
C	119	F	L	L::100.00(2)
C	120	F	V	V::100.00(2)
C	121	F	S	S::100.00(2)

C	123	F	G	G::100.00(2)
C	124	F	V	V::100.00(2)
C	125	F	W	W::100.00(2)
C	126	F	I	I::100.00(2)
C	127	F	R	R::100.00(1)
C	128	F	T	T::100.00(1)
C	129	F	P	P::100.00(1)
C	130	F	P	P::100.00(1)
C	131	F	A	A::100.00(1)
C	132	F	Y	Y::100.00(1)
C	133	F	R	R::100.00(1)
C	134	F	P	P::100.00(1)
C	135	F	P	P::100.00(1)
C	136	F	N	N::100.00(1)
C	137	F	A	A::100.00(1)
C	138	F	P	P::100.00(1)
C	139	F	I	I::100.00(1)
C	140	F	L	L::100.00(1)
C	141	F	S	S::100.00(1)
C	142	F	T	T::100.00(1)
C	143	F	L	L::100.00(1)
C	144	F	P	P::100.00(1)
C	145	F	E	E::100.00(1)
C	146	F	T	T::100.00(1)
C	147	F	T	T::100.00(1)
C	148	F	V	V::100.00(1)
C	149	F	V	V::100.00(1)
C	150	F	R	R::100.00(1)
C	151	F	R	R::100.00(1)
C	152	F	R	R::100.00(1)
C	153	F	G	G::100.00(1)
C	154	F	R	R::100.00(1)
C	155	F	S	S::100.00(1)
C	156	F	P	P::100.00(1)
C	157	F	R	R::100.00(1)
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P1	1	F	M	M::100.00(1)
P1	2	F	P	P::100.00(1)
P1	3	F	L	L::100.00(1)
P1	4	F	S	S::100.00(1)
P1	5	F	Y	Y::100.00(1)
P1	6	F	Q	Q::100.00(1)
P1	7	F	H	H::100.00(1)
P1	9	F	R	R::100.00(1)
P1	10	F	R	R::100.00(1)
P1	11	F	L	L::100.00(1)
P1	12	F	L	L::100.00(1)
P1	13	F	L	L::100.00(1)
P1	14	F	L	L::100.00(1)
P1	15	F	D	D::100.00(1)
P1	16	F	D	D::100.00(1)
P1	17	F	E	E::100.00(1)

P1	18	F	A	A::100.00(1)
P1	19	F	G	G::100.00(1)
P1	20	F	P	P::100.00(1)
P1	21	F	L	L::100.00(1)
P1	22	F	E	E::100.00(1)
P1	78	F	S	S::100.00(6)
P1	80	F	P	P::100.00(6)
P1	81	F	N	N::100.00(7)
P1	82	F	I	I::100.00(7)
P1	83	F	H	H::100.00(13)
P1	84	F	L	L::100.00(13)
P1	85	F	H	H::100.00(13)
P1	86	F	Q	Q::100.00(13)
P1	87	F	D	D::100.00(14)
P1	88	F	I	I::100.00(14)
P1	89	F	I	I::100.00(14)
P1	90	F	K	K::100.00(15)
P1	91	F	K	K::100.00(15)
P1	92	F	C	C::100.00(15)
P1	93	F	E	E::100.00(15)
P1	94	F	Q	Q::100.00(15)
P1	96	F	V	V::100.00(15)
P1	97	F	G	G::100.00(15)
P1	98	F	P	P::100.00(15)
P1	99	F	L	L::100.00(15)
P1	100	F	T	T::100.00(15)
P1	101	F	V	V::100.00(15)
P1	102	F	N	N::100.00(15)
P1	103	F	E	E::100.00(15)
P1	104	F	K	K::100.00(15)
P1	105	F	R	R::100.00(15)
P1	106	F	R	R::100.00(15)
P1	107	F	L	L::100.00(15)
P1	108	F	Q	Q::100.00(15)
P1	109	F	L	L::100.00(15)
P1	110	F	I	I::100.00(15)
P1	111	F	M	M::100.00(15)
P1	112	F	P	P::100.00(15)
P1	113	F	A	A::100.00(15)
P1	114	F	R	R::100.00(15)
P1	116	F	Y	Y::100.00(15)
P1	117	F	P	P::100.00(15)
P1	118	F	K	K::80.00(12) N::20.00(3)
P1	119	F	V	V::100.00(15)
P1	120	F	T	T::100.00(15)
P1	121	F	K	K::100.00(15)
P1	122	F	Y	Y::100.00(15)
P1	123	F	L	L::100.00(15)
P1	124	F	P	P::100.00(15)
P1	125	F	L	L::100.00(15)
P1	126	F	D	D::100.00(15)

P1	127	F	K	K::100.00(9)
P1	128	F	G	G::100.00(9)
P1	129	F	I	I::100.00(9)
P1	130	F	K	K::100.00(8)
P1	131	F	P	P::100.00(8)
P1	132	F	Y	Y::100.00(2)
P1	133	F	Y	Y::100.00(2)
P1	134	F	P	P::100.00(3)
P1	135	F	E	E::100.00(3)
P1	136	F	H	H::100.00(3)
P1	137	F	L	L::100.00(2)
P1	138	F	V	V::100.00(2)
P1	139	F	N	N::100.00(1)
P1	140	F	H	H::100.00(1)
P1	141	F	Y	Y::100.00(1)
P1	143	F	Q	Q::100.00(1)
P1	144	F	T	T::100.00(1)
P1	145	F	R	R::100.00(1)
P1	146	F	H	H::100.00(1)
P1	147	F	Y	Y::100.00(1)
P1	148	F	L	L::100.00(1)
P1	149	F	H	H::100.00(1)
P1	150	F	T	T::100.00(1)
P1	151	F	L	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)
P1	155	F	G	G::100.00(1)
P1	156	F	I	I::100.00(1)
P1	157	F	L	L::100.00(1)
P1	158	F	Y	Y::100.00(1)
P1	159	F	K	K::100.00(1)
P1	160	F	R	R::100.00(1)
P1	161	F	E	E::100.00(1)
P1	162	F	T	T::100.00(1)
P1	163	F	T	T::100.00(1)
P1	164	F	H	H::100.00(1)
P1	165	F	S	S::100.00(1)
P1	166	F	A	A::100.00(1)
P1	167	F	S	S::100.00(1)
P1	169	F	C	C::100.00(1)
P1	170	F	G	G::100.00(1)
P1	171	F	S	S::100.00(1)
P1	172	F	P	P::100.00(1)
P1	173	F	Y	Y::100.00(1)
P1	174	F	S	S::100.00(1)
P1	175	F	W	W::100.00(1)
P1	176	F	E	E::100.00(1)
P1	177	F	Q	Q::100.00(1)
P1	178	F	E	E::100.00(1)
P1	179	F	L	L::100.00(1)

P1	180	F	Q	Q::100.00(1)
P1	181	F	H	H::100.00(1)
P1	182	F	G	G::100.00(1)
P1	183	F	A	A::100.00(1)
P1	236	F	I	I::100.00(1)
P1	237	F	H	H::100.00(1)
P1	238	F	P	P::100.00(1)
P1	239	F	T	T::100.00(1)
P1	240	F	A	A::100.00(1)
P1	241	F	R	R::100.00(1)
P1	242	F	R	R::100.00(1)
P1	243	F	P	P::100.00(1)
P1	245	F	G	G::100.00(1)
P1	246	F	V	V::100.00(1)
P1	247	F	E	E::100.00(1)
P1	248	F	P	P::100.00(1)
P1	249	F	S	S::100.00(1)
P1	250	F	G	G::100.00(1)
P1	251	F	S	S::100.00(1)
P1	252	F	G	G::100.00(1)
P1	253	F	H	H::100.00(1)
P1	254	F	T	T::100.00(1)
P1	255	F	T	T::100.00(1)
P1	256	F	N	N::100.00(1)
P1	257	F	L	L::100.00(1)
P1	258	F	A	A::100.00(1)
P1	259	F	S	S::100.00(1)
P1	260	F	K	K::100.00(1)
P1	261	F	S	S::100.00(1)
P1	262	F	A	A::100.00(1)
P1	263	F	S	S::100.00(1)
P1	264	F	C	C::100.00(1)
P1	265	F	H	H::100.00(1)
P1	266	F	H	H::100.00(1)
P1	267	F	Q	Q::100.00(1)
P1	268	F	S	S::100.00(1)
P1	269	F	P	P::100.00(1)
P1	270	F	V	V::100.00(1)
P1	271	F	R	R::100.00(1)
P1	272	F	K	K::100.00(1)
P1	273	F	A	A::100.00(1)
P1	274	F	A	A::100.00(1)
P1	275	F	Y	Y::100.00(1)
P1	276	F	P	P::100.00(1)
P1	277	F	S	S::100.00(1)
P1	278	F	V	V::100.00(1)
P1	279	F	S	S::100.00(1)
P1	280	F	T	T::100.00(1)
P1	282	F	E	E::100.00(1)
P1	283	F	K	K::100.00(1)
P1	284	F	H	H::100.00(1)

S1	1	F	M	M::100.00(1)
S1	2	F	G	G::100.00(1)
S1	3	F	Q	Q::100.00(1)
S1	57	F	T	T::100.00(1)
S1	58	F	P	P::100.00(1)
S1	59	F	P	P::100.00(1)
S1	60	F	H	H::100.00(1)
S1	61	F	G	G::100.00(1)
S1	62	F	G	G::100.00(1)
S1	63	F	L	L::100.00(1)
S1	64	F	L	L::100.00(1)
S1	65	F	G	G::100.00(1)
S1	66	F	W	W::100.00(1)
S1	67	F	S	S::100.00(1)
S1	68	F	P	P::100.00(1)
S1	69	F	Q	Q::100.00(1)
S1	70	F	A	A::100.00(1)
S1	71	F	Q	Q::100.00(1)
S1	72	F	G	G::100.00(1)
S1	73	F	I	I::100.00(1)
S1	74	F	L	L::100.00(1)
S1	75	F	Q	Q::100.00(1)
S1	76	F	T	T::100.00(1)
S1	77	F	L	L::100.00(1)
S1	78	F	P	P::100.00(1)
S1	79	F	A	A::100.00(1)
S1	80	F	N	N::100.00(1)
S1	81	F	P	P::100.00(1)
S1	82	F	P	P::100.00(1)
S1	83	F	P	P::100.00(1)
S1	84	F	A	A::100.00(1)
S1	85	F	T	T::100.00(1)
S1	86	F	T	T::100.00(1)
S1	87	F	N	N::100.00(1)
S1	88	F	R	R::100.00(1)
S1	89	F	Q	Q::100.00(1)
S1	90	F	S	S::100.00(1)
S1	91	F	G	G::100.00(1)
S1	92	F	R	R::100.00(1)
S1	93	F	Q	Q::100.00(1)
S1	94	F	P	P::100.00(1)
S1	95	F	T	T::100.00(1)
S1	96	F	P	P::100.00(1)
S1	97	F	L	L::100.00(1)
S1	98	F	S	S::100.00(1)
S1	99	F	P	P::100.00(1)
S1	100	F	P	P::100.00(1)
S1	101	F	L	L::100.00(1)
S1	102	F	R	R::100.00(1)
S1	103	F	N	N::100.00(1)
S1	104	F	T	T::100.00(1)

Meta data	
Assembly file:	HBV-RYD-23.sam
Annotation file:	/home3/vatt01s/Work/Project-150-HBV/Data/P150-1/Annotation/HBV.anno
Reference file:	KT963508.fa.
User name	ales01a
Hostname	Alpha
Location	/home2/ales01a/HBV/P150-5/HBV-RYD-23
Date/Time	Fri 22 Mar 09:28:22 GMT 2019