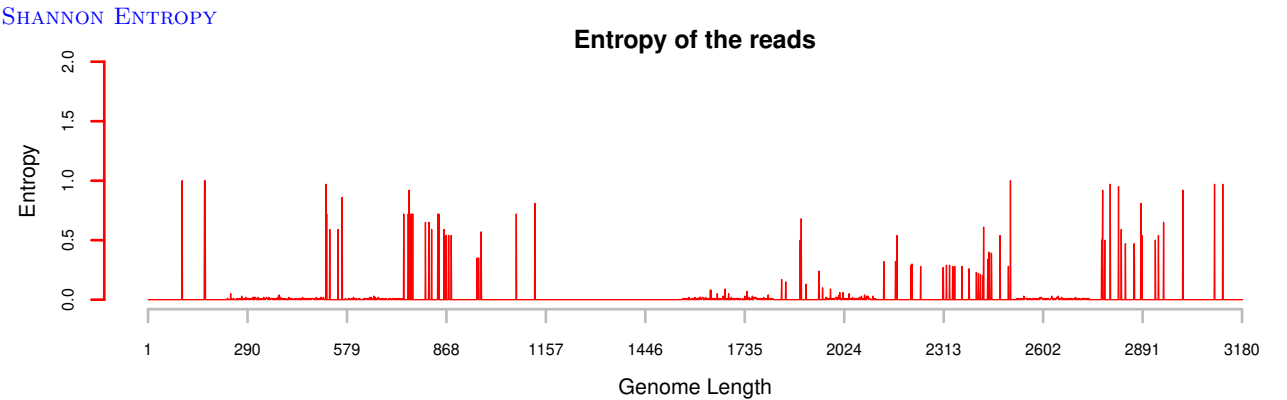
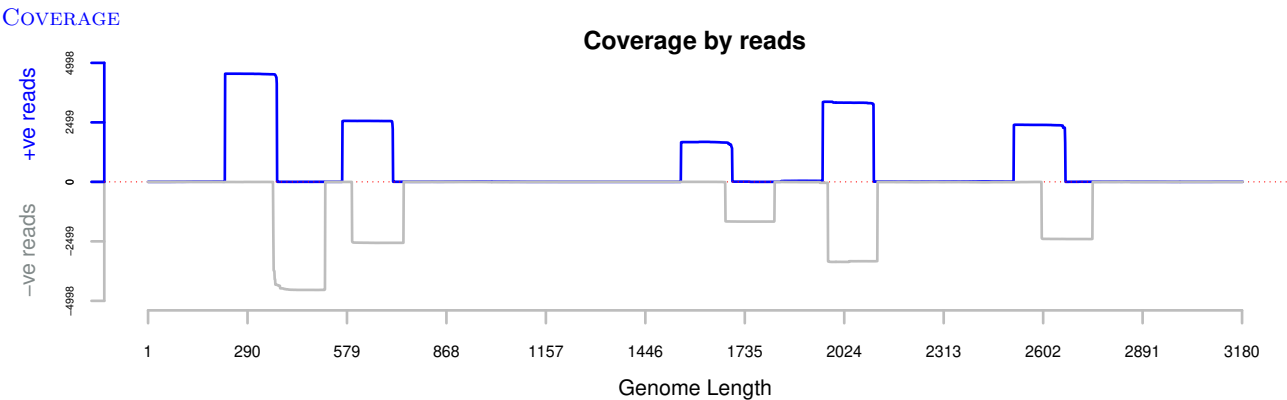


HBV-RYD-24

File name	HBV-RYD-24.sam
Ref name	KX357637.1 Hepatitis B virus isolate MK20ETH, complete genome
Ref len	3182
Program used	Tanoti Assembler 1.0
Total reads	1648852
Mapped reads	29233 (1.77%)
Unmapped reads	1619619
Mapped loan pairs	6
Average read length	146nt
Coverage	2957nt (92.93%)
Average depth	1357 reads/site
Average insert length	6nt



CONSENSUS SEQUENCE

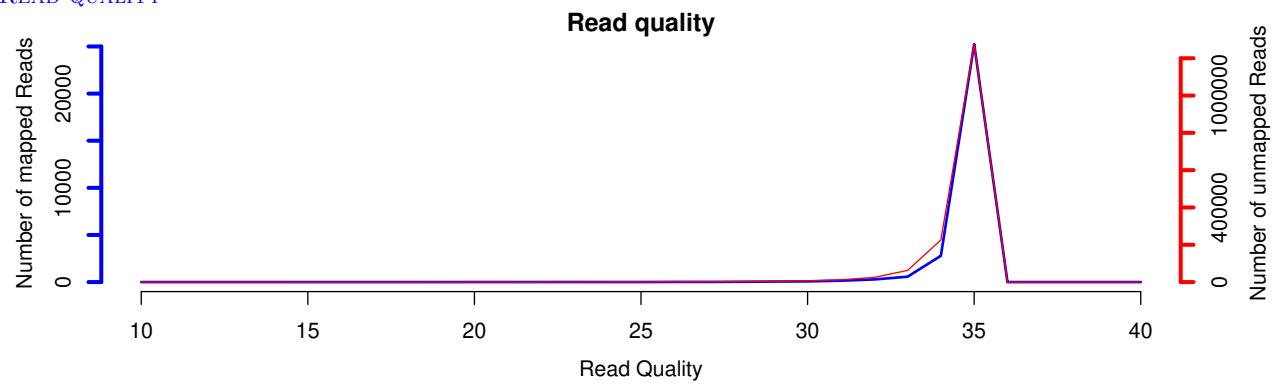
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70     AGTTCAGGAA CAGTAAACCC TGTTCGGACC ACTGTCTCTC ACATATCGTC AATCTTCTCG AGGATTGGGG
140    ACCCTGCGCT GAACATGGAG AACACCGCAT CAGGATTCCCT AGGACCCCTG CTCGTGTTAC AGGCGGGGTT
210    TTTCTTGTG ACAAGAATCC TCACAATACC GCAGAGTCTA GACTCGTGGT GGACTTCTCT CAGTTTTCTA
280    GGGGAAACTA CCGTGTGTCT TGGCCAAAAT TCGCAGTCCC CAACCTCCAA TCACTACCA ACCTGCTGTC
350    CTCCAAC TTG TCCTGGTTAT CGCTGGATGT GTCTGCGGCG TTTTATCATC TTCCTCTTCA TCCTGCTGCT
420    ATGCTCATC TTCTTGTG TTTCTCTGGA CTATCAAGGT ATGTTGCCCC TTTGTCCTCT AATTCCAGGA
490    TCTTCAACCA CCAGCACGGG ACCATGCCGA ACCTGCACGA CTCCTGCTCA AGGAACCTCT ATGTATCCCT
560    CCTGTTGCTG TACCAAAACCT TCGGACGGAA ATTGCACATG 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 TTTAAACCTT
840    AACAAAACAA AAAGATGGGG TTA CTCTTTA CATTTCATGG GCTATGTCAT TGGATGTTAT GGGTCATTGC
910    CACAAGATCA CATCATACAG AAAATCAAAG AATGTTTTAG AAAACTTCCT GTTAACAGAC CTATTGATTG
980    GAAAGTCTGT CAACGTATTG TGGGTCTTTT GGGTTTTGCT GCCCTTTTA CACAATGTGG TTATCCTGCT
1050   TTAATGCCCT TGTATGCATG CATTCAATCT AAGCAGGCTT TCACTTTCTC GCCAACTTAC AAGGCCTTTC
1120   TGTGTAAACA ATACCTGAAC CTTTACCCCG TTGCCCGCA ACGGCCAGGT CTGTGCCAAG TGTTTGTCTG
1190   CGCAACCCCG ACTGGCTGGG GCTTGGTTAT GGGCCATCAG CGCATGCGTG GAACCTTTTT GGTCTCTCTG
1260   CCGATCCATA CTGCGGAACCT CCTAGCCGCT TGTTTTGCTC GCAGCNNNNN NNNNNNNNNN NNNNNNNNNN
1330   NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN
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1470   NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN TCTCTTACG
1540   CGGACTCCCC GTCTGTGCCT TCTCATCTGC CGGACCGTGT GCACTTCGCT TCACCTCTGC ACGTCGCATG
1610   GAGACCACCG TGAACGCCA CCAAATATTG CCAAGGTCT TACATAAGAG GACTCTTGA CTCTCTGCAA
1680   TGTCAACAAC CGACCTTGAG GCATACTTCA AAGACTGTTT GTTTAAAGAC TGGGAGGAGT CGGGGGAGGA
1750   GATTAGATTA ATGATCTTTG TACTAGGAGG CTGTAGGCAT AAATTGGTCT GCGCACCAGC ACCATGCAAC
1820   TTTTTCACCT CTGCCTAATC ATCTCTTGTT CATGTCCTAC TGTTCAGGCC TCCAAGCTGT GCCTTGGGTG
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1960   TCTGACTTCT TTCCTTCAGT ACGAGATCTT CTAGATACCG CCTCAGCTCT GTATCGGGAT GCCTTAGAGT
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2240   CGGTCATAGA GTATTTGGTG TCTTTCGGAG TGTGGATTCT CACTCCTCCA GCTTATAGAC CACCAAATGC
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3010   GATTACCCC ACCGACGGGA GGCCTTTTGG GGTGGAGCCC TCAGGCTCAG GGCATACTAC ACACCGTGCC
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3150   AGAAACACTC ATCCTCAGGC CATGCACTGG AA

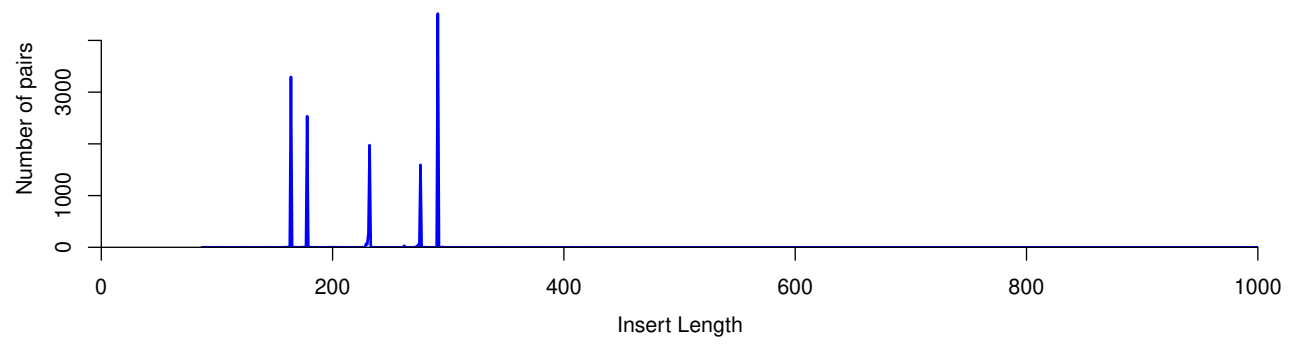
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Genome Composition	
A	695 (21.84%)
T	847 (26.62%)
G	632 (19.86%)
C	783 (24.61%)
N	225 (7.07%)
Total Nucleotides	3182
GC%	47.85

READ QUALITY



INSERT LENGTH DISTRIBUTION



AMINO ACID VARIATIONS

Protein	Position	Ref AA	Consensus AA	All AAs
P2	1	F	H	H::100.00(3)
P2	2	F	N	N::100.00(3)
P2	4	F	P	P::100.00(3)
P2	5	F	P	P::100.00(3)
P2	6	F	N	N::100.00(3)
P2	7	F	S	S::100.00(3)
P2	8	F	A	A::100.00(3)
P2	9	F	R	R::100.00(3)
P2	10	F	S	S::100.00(3)
P2	11	F	Q	Q::100.00(3)
P2	12	F	S	S::100.00(3)
P2	13	F	E	E::100.00(3)
P2	14	F	R	R::100.00(3)
P2	15	F	P	P::100.00(3)
P2	16	F	V	V::100.00(3)
P2	18	F	P	P::100.00(3)
P2	19	F	C	C::100.00(3)
P2	20	F	W	W::100.00(3)
P2	21	F	W	W::100.00(3)
P2	22	F	L	L::100.00(3)
P2	23	F	Q	Q::100.00(4)
P2	25	F	R	R::100.00(4)
P2	26	F	N	N::100.00(4)
P2	27	F	S	S::100.00(5)
P2	28	F	K	K::100.00(5)
P2	29	F	P	P::100.00(5)
P2	30	F	C	C::100.00(5)
P2	31	F	S	S::100.00(5)
P2	32	F	D	D::100.00(4)
P2	33	F	H	Y::50.00(2) H::50.00(2)
P2	34	F	C	C::100.00(3)
P2	35	F	L	L::100.00(4)
P2	36	F	S	S::100.00(4)
P2	37	F	H	H::100.00(5)
P2	38	F	I	I::100.00(5)
P2	39	F	V	V::100.00(5)
P2	40	F	N	N::100.00(5)
P2	41	F	L	L::100.00(6)
P2	42	F	L	L::100.00(6)
P2	43	F	E	E::100.00(9)
P2	44	F	D	D::100.00(10)
P2	45	F	W	W::100.00(10)
P2	46	F	G	G::100.00(10)
P2	47	F	P	P::100.00(10)
P2	48	F	C	C::100.00(10)
P2	49	F	A	A::100.00(10)

P2	50	F	E	E::100.00(10)
P2	51	F	H	H::100.00(10)
P2	52	F	G	G::100.00(10)
P2	53	F	E	E::100.00(10)
P2	54	F	H	H::100.00(10)
P2	55	F	R	S::50.00(5) H::50.00(5)
P2	56	F	I	I::100.00(10)
P2	57	F	R	R::100.00(10)
P2	58	F	I	I::100.00(10)
P2	59	F	P	P::100.00(10)
P2	60	F	R	R::100.00(11)
P2	61	F	T	T::100.00(11)
P2	62	F	P	P::100.00(11)
P2	63	F	A	A::100.00(13)
P2	64	F	R	R::100.00(13)
P2	65	F	V	V::100.00(13)
P2	66	F	T	T::100.00(13)
P2	67	F	G	G::100.00(13)
P2	68	F	G	G::100.00(13)
P2	69	F	V	V::100.00(13)
P2	71	F	L	L::100.00(12)
P2	72	F	V	V::100.00(12)
P2	73	F	D	D::100.00(11)
P2	74	F	K	K::100.00(11)
P2	75	F	N	N::100.00(4547)
P2	76	F	P	P::100.00(4549)
P2	77	F	H	H::99.91(4543)
P2	78	F	N	N::99.96(4546)
P2	79	F	T	T::99.98(4547)
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P2	81	F	E	E::99.96(4546)
P2	82	F	S	S::99.96(4546)
P2	83	F	R	R::99.96(4545)
P2	84	F	L	L::99.98(4547)
P2	85	F	V	V::100.00(4548)
P2	86	F	V	V::99.93(4544)
P2	87	F	D	D::99.96(4545)
P2	89	F	S	S::99.98(4548)
P2	90	F	Q	Q::99.93(4545)
P2	92	F	S	S::99.98(4543)
P2	93	F	R	R::99.96(4537)
P2	94	F	G	G::99.96(4540)
P2	95	F	N	N::99.89(4538)
P2	96	F	Y	Y::99.85(4536)
P2	97	F	R	R::99.93(4540)
P2	98	F	V	V::99.96(4541)
P2	99	F	S	S::99.96(4541)
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P2	101	F	P	P::99.89(4535)
P2	102	F	K	K::99.96(4538)
P2	104	F	A	A::99.78(4530)

P2	105	F	V	V::99.96(4538)
P2	106	F	P	P::99.98(4539)
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P2	108	F	L	L::99.87(4532)
P2	109	F	Q	Q::99.89(4529)
P2	110	F	S	S::99.96(4530)
P2	111	F	L	L::99.91(4527)
P2	112	F	T	T::99.85(4523)
P2	113	F	N	N::99.85(4522)
P2	114	F	L	L::99.87(4521)
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P2	116	F	S	S::99.93(4521)
P2	117	F	S	S::99.82(4516)
P2	118	F	N	N::99.96(4521)
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P2	126	F	V	V::99.91(4347)
P2	127	F	S	S::99.63(4352)
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P2	140	F	M	M::99.87(4528)
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P2	142	F	H	H::99.91(4532)
P2	143	F	L	L::99.96(4533)
P2	144	F	L	L::99.91(4535)
P2	145	F	V	V::99.96(4538)
P2	146	F	G	G::99.91(4536)
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P2	152	F	R	R::99.85(4534)
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P2	155	F	A	A::99.82(4532)
P2	156	F	R	R::99.82(4532)

P2	157	F	L	L::99.85(4533)
P2	158	F	S	S::99.93(4537)
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P2	160	F	N	N::99.89(4535)
P2	161	F	S	S::100.00(4541)
P2	162	F	R	R::99.87(4536)
P2	163	F	I	I::99.82(4534)
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P2	166	F	H	H::99.85(4533)
P2	167	F	Q	Q::99.82(4531)
P2	168	F	H	H::99.89(4534)
P2	169	F	G	G::99.82(4531)
P2	170	F	T	T::99.82(4531)
P2	171	F	M	M::100.00(5)
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P2	173	F	N	N::80.00(4) D::20.00(1)
P2	174	F	L	L::100.00(6)
P2	175	F	H	H::100.00(7)
P2	176	F	D	D::85.71(6) N::14.29(1)
P2	177	F	S	S::100.00(6)
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P2	180	F	R	R::100.00(6)
P2	181	F	N	N::100.00(6)
P2	182	F	L	L::100.00(6)
P2	183	F	Y	Y::100.00(6)
P2	184	F	V	V::85.71(6) I::14.29(1)
P2	185	F	S	S::100.00(7)
P2	186	F	L	L::100.00(7)
P2	187	F	L	L::100.00(7)
P2	188	F	L	L::100.00(7)
P2	189	F	L	L::100.00(2561)
P2	190	F	Y	Y::99.92(2564)
P2	191	F	Q	Q::99.81(2561)
P2	192	F	T	T::100.00(2566)
P2	194	F	G	G::99.84(2561)
P2	195	F	R	R::99.84(2559)
P2	196	F	K	K::100.00(2562)
P2	197	F	L	L::99.96(2560)
P2	198	F	H	H::99.90(5089)
P2	199	F	M	M::99.86(5102)
P2	200	F	Y	Y::99.80(5100)
P2	201	F	S	S::99.92(5107)
P2	202	F	H	H::99.94(5107)
P2	203	F	P	P::100.00(5112)
P2	204	F	I	I::99.84(5106)
P2	205	F	I	I::99.92(5111)
P2	206	F	L	L::99.98(5114)
P2	207	F	G	G::99.96(5114)
P2	209	F	R	R::99.92(5113)
P2	210	F	K	K::100.00(5117)

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P2	213	F	M	M::99.86(5110)
P2	214	F	G	G::99.86(5113)
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P2	217	F	L	L::99.96(5118)
P2	218	F	S	S::99.96(5117)
P2	219	F	P	P::99.96(5118)
P2	221	F	L	L::99.92(5117)
P2	222	F	L	L::99.94(5118)
P2	223	F	A	A::99.71(5106)
P2	224	F	Q	Q::99.88(5112)
P2	226	F	T	T::99.96(5116)
P2	227	F	S	S::100.00(5117)
P2	228	F	A	A::99.92(5113)
P2	229	F	I	I::99.98(5114)
P2	230	F	C	C::99.73(5103)
P2	231	F	S	S::99.96(5115)
P2	232	F	V	V::99.98(5116)
P2	233	F	V	V::99.88(5110)
P2	234	F	R	R::99.92(5112)
P2	235	F	R	R::99.92(5108)
P2	236	F	A	A::99.96(4996)
P2	238	F	P	P::99.84(2561)
P2	239	F	H	H::99.92(2563)
P2	240	F	C	C::99.92(2563)
P2	241	F	L	L::99.96(2564)
P2	242	F	A	A::99.81(2560)
P2	244	F	S	S::99.88(2562)
P2	245	F	Y	Y::99.92(2563)
P2	246	F	M	M::99.92(2562)
P2	247	F	D	D::80.00(4) E::20.00(1)
P2	248	F	D	D::100.00(5)
P2	249	F	V	V::100.00(5)
P2	250	F	V	V::100.00(5)
P2	251	F	L	L::100.00(5)
P2	252	F	G	G::66.67(2) R::33.33(1)
P2	253	F	A	A::100.00(3)
P2	254	F	K	K::100.00(5)
P2	255	F	S	S::80.00(4) T::20.00(1)
P2	256	F	V	V::80.00(4) E::20.00(1)
P2	257	F	Q	Q::100.00(5)
P2	258	F	H	H::100.00(5)
P2	259	F	L	L::100.00(5)
P2	260	F	E	E::100.00(5)
P2	261	F	S	S::100.00(5)
P2	262	F	L	L::100.00(5)
P2	264	F	T	T::100.00(6)
P2	265	F	A	A::100.00(6)
P2	266	F	V	V::100.00(6)

P2	267	F	T	T::100.00(6)
P2	268	F	N	N::83.33(5) K::16.67(1)
P2	270	F	L	L::100.00(6)
P2	271	F	L	L::100.00(6)
P2	272	F	S	S::83.33(5) T::16.67(1)
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(6)
P2	277	F	L	L::100.00(6)
P2	278	F	N	N::100.00(6)
P2	279	F	P	P::100.00(5)
P2	280	F	N	N::100.00(4)
P2	281	F	K	K::100.00(5)
P2	282	F	T	T::100.00(5)
P2	283	F	K	K::100.00(6)
P2	284	F	R	R::100.00(7)
P2	285	F	W	W::100.00(7)
P2	286	F	G	G::100.00(7)
P2	287	F	Y	Y::100.00(8)
P2	288	F	S	S::100.00(8)
P2	289	F	L	L::100.00(8)
P2	290	F	H	H::100.00(8)
P2	291	F	F	F::75.00(6) Y::12.50(1) I::12.50(1)
P2	292	F	M	M::100.00(8)
P2	293	F	G	G::100.00(8)
P2	294	F	Y	Y::100.00(8)
P2	295	F	V	V::100.00(9)
P2	296	F	I	I::100.00(9)
P2	297	F	G	G::100.00(10)
P2	298	F	C	C::100.00(10)
P2	299	F	Y	Y::100.00(9)
P2	300	F	G	G::100.00(9)
P2	301	F	S	S::100.00(10)
P2	302	F	L	L::100.00(10)
P2	303	F	P	P::100.00(9)
P2	304	F	Q	Q::100.00(10)
P2	305	F	D	D::100.00(10)
P2	306	F	H	H::100.00(11)
P2	307	F	I	I::100.00(11)
P2	308	F	I	I::100.00(11)
P2	309	F	Q	Q::100.00(11)
P2	310	F	K	K::100.00(11)
P2	311	F	I	I::100.00(11)
P2	312	F	K	K::100.00(11)
P2	313	F	E	E::100.00(10)
P2	314	F	C	C::100.00(14)
P2	316	F	R	R::100.00(14)
P2	317	F	K	K::100.00(14)
P2	318	F	L	L::100.00(15)
P2	319	F	P	P::100.00(15)

P2	320	F	V	V::93.33(14) C::6.67(1)
P2	321	F	N	N::100.00(15)
P2	322	F	R	R::100.00(15)
P2	323	F	P	P::100.00(15)
P2	324	F	I	I::100.00(15)
P2	325	F	D	D::100.00(15)
P2	326	F	W	W::100.00(15)
P2	327	F	K	K::100.00(15)
P2	328	F	V	V::100.00(14)
P2	329	F	C	C::100.00(14)
P2	330	F	Q	Q::100.00(15)
P2	331	F	R	R::100.00(15)
P2	332	F	I	I::100.00(14)
P2	333	F	V	V::100.00(15)
P2	334	F	G	G::100.00(14)
P2	335	F	L	L::100.00(14)
P2	336	F	L	L::100.00(14)
P2	337	F	G	G::100.00(13)
P2	339	F	A	A::100.00(13)
P2	340	F	A	A::100.00(13)
P2	341	F	P	P::100.00(13)
P2	343	F	T	T::100.00(14)
P2	344	F	Q	Q::100.00(14)
P2	345	F	C	C::100.00(13)
P2	346	F	G	G::100.00(13)
P2	347	F	Y	Y::100.00(13)
P2	348	F	P	P::100.00(13)
P2	349	F	A	A::100.00(12)
P2	350	F	L	L::100.00(12)
P2	351	F	M	M::100.00(12)
P2	352	F	P	P::100.00(12)
P2	353	F	L	L::100.00(12)
P2	354	F	Y	Y::100.00(11)
P2	355	F	A	A::100.00(10)
P2	356	F	C	C::100.00(10)
P2	357	F	I	I::100.00(10)
P2	358	F	Q	Q::100.00(10)
P2	359	F	S	S::100.00(10)
P2	360	F	K	K::100.00(8)
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(5)
P2	367	F	P	P::100.00(5)
P2	368	F	T	T::100.00(5)
P2	369	F	Y	Y::100.00(5)
P2	370	F	K	K::100.00(5)
P2	371	F	A	A::100.00(5)
P2	373	F	L	L::100.00(4)
P2	374	F	C	C::100.00(4)
P2	375	F	K	K::100.00(4)

P2	376	F	Q	Q::100.00(4)
P2	377	F	Y	Y::100.00(4)
P2	378	F	L	L::100.00(3)
P2	379	F	N	N::100.00(3)
P2	380	F	L	L::100.00(3)
P2	381	F	Y	Y::100.00(3)
P2	382	F	P	P::100.00(2)
P2	383	F	V	V::100.00(2)
P2	384	F	A	A::100.00(2)
P2	385	F	R	R::100.00(3)
P2	386	F	Q	Q::100.00(4)
P2	387	F	R	R::100.00(4)
P2	388	F	P	P::100.00(4)
P2	389	F	G	G::100.00(4)
P2	390	F	L	L::100.00(4)
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(2)
P2	398	F	T	T::100.00(2)
P2	399	F	P	P::100.00(2)
P2	400	F	T	T::100.00(2)
P2	401	F	G	G::100.00(2)
P2	402	F	W	W::100.00(2)
P2	403	F	G	G::100.00(2)
P2	404	F	L	L::100.00(2)
P2	405	F	V	V::100.00(2)
P2	406	F	M	M::100.00(2)
P2	407	F	G	G::100.00(2)
P2	408	F	H	H::100.00(2)
P2	409	F	Q	Q::100.00(2)
P2	410	F	R	R::100.00(2)
P2	411	F	M	M::100.00(2)
P2	412	F	R	R::100.00(2)
P2	413	F	G	G::100.00(2)
P2	414	F	T	T::100.00(2)
P2	416	F	L	L::100.00(2)
P2	417	F	A	A::100.00(2)
P2	418	F	P	P::100.00(2)
P2	419	F	L	L::100.00(2)
P2	420	F	P	P::100.00(2)
P2	421	F	I	I::100.00(2)
P2	422	F	H	H::100.00(2)
P2	423	F	T	T::100.00(2)
P2	424	F	A	A::100.00(2)
P2	425	F	E	E::100.00(2)
P2	426	F	L	L::100.00(2)
P2	427	F	L	L::100.00(2)
P2	428	F	A	A::100.00(2)

P2	429	F	A	A::100.00(2)
P2	430	F	C	C::100.00(2)
P2	432	F	A	A::100.00(2)
P2	433	F	R	R::100.00(1)
P2	434	F	S	S::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	D	D::100.00(1)
P2	515	F	S	S::100.00(1)
P2	516	F	P	P::100.00(1)
P2	517	F	S	S::100.00(1667)
P2	518	F	V	V::99.82(1667)
P2	519	F	P	P::99.82(1667)
P2	520	F	S	S::100.00(1670)
P2	521	F	H	H::99.94(1669)
P2	522	F	L	L::99.82(1667)
P2	523	F	P	P::100.00(1670)
P2	524	F	D	D::99.88(1667)
P2	525	F	R	R::100.00(1670)
P2	526	F	V	V::99.88(1668)
P2	527	F	H	H::99.94(1668)
P2	529	F	A	A::99.94(1669)
P2	530	F	S	S::99.88(1668)
P2	531	F	P	P::99.88(1668)
P2	532	F	L	L::99.88(1668)
P2	533	F	H	H::99.94(1671)
P2	534	F	V	V::99.82(1676)
P2	535	F	A	A::99.76(1675)
P2	536	F	W	W::99.82(1676)
P2	537	F	R	R::99.76(1675)
P2	538	F	P	P::100.00(1680)
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S2	1	F	S	S::100.00(3)
S2	2	F	T	T::100.00(3)
S2	3	F	T	T::100.00(3)
S2	5	F	H	H::100.00(3)
S2	6	F	Q	Q::100.00(3)
S2	7	F	T	T::100.00(3)
S2	8	F	L	L::100.00(3)
S2	9	F	Q	Q::100.00(3)
S2	10	F	D	D::100.00(3)
S2	11	F	P	P::100.00(3)
S2	12	F	R	R::100.00(3)
S2	13	F	V	V::100.00(3)
S2	14	F	R	R::100.00(3)
S2	15	F	G	G::100.00(3)
S2	16	F	L	L::100.00(3)
S2	17	F	Y	Y::100.00(3)
S2	19	F	P	P::100.00(3)
S2	20	F	A	A::100.00(3)

S2	21	F	G	G::100.00(3)
S2	22	F	G	G::100.00(3)
S2	23	F	S	S::100.00(3)
S2	24	F	S	S::100.00(4)
S2	25	F	S	S::100.00(4)
S2	26	F	G	G::100.00(4)
S2	27	F	T	T::100.00(4)
S2	28	F	V	V::100.00(5)
S2	29	F	N	N::100.00(5)
S2	30	F	P	P::100.00(5)
S2	31	F	V	V::100.00(5)
S2	32	F	P	P::100.00(4)
S2	33	F	T	T::100.00(4)
S2	34	F	T	T::100.00(4)
S2	35	F	V	V::100.00(3)
S2	36	F	S	S::100.00(4)
S2	37	F	H	H::100.00(4)
S2	38	F	I	I::100.00(5)
S2	39	F	S	S::100.00(5)
S2	40	F	S	S::100.00(5)
S2	41	F	I	I::100.00(6)
S2	43	F	S	S::100.00(6)
S2	44	F	R	R::100.00(10)
S2	45	F	I	I::100.00(10)
S2	46	F	G	G::100.00(10)
S2	47	F	D	D::100.00(10)
S2	48	F	P	P::100.00(10)
S2	49	F	A	A::100.00(10)
S2	50	F	L	L::100.00(10)
S2	51	F	N	N::100.00(10)
S2	52	F	M	M::100.00(10)
S2	53	F	E	E::100.00(10)
S2	54	F	N	N::100.00(10)
S2	55	F	T	T::50.00(5) I::50.00(5)
S2	56	F	A	T::50.00(5) A::50.00(5)
S2	57	F	S	S::100.00(10)
S2	58	F	G	G::100.00(10)
S2	60	F	L	L::100.00(10)
S2	61	F	G	G::100.00(11)
S2	62	F	P	P::100.00(11)
S2	63	F	L	L::100.00(12)
S2	64	F	L	L::100.00(13)
S2	65	F	V	V::100.00(13)
S2	66	F	L	L::100.00(13)
S2	67	F	Q	Q::100.00(13)
S2	68	F	A	A::100.00(13)
S2	69	F	G	G::100.00(13)
S2	72	F	L	L::100.00(12)
S2	73	F	L	L::100.00(11)
S2	74	F	T	T::100.00(11)
S2	75	F	R	R::100.00(11)

S2	76	F	I	I::100.00(4548)
S2	77	F	L	L::99.96(4547)
S2	78	F	T	T::99.93(4544)
S2	79	F	I	I::99.96(4546)
S2	80	F	P	P::99.96(4546)
S2	81	F	Q	Q::99.98(4547)
S2	82	F	S	S::100.00(4548)
S2	83	F	L	L::99.91(4543)
S2	84	F	D	D::99.96(4546)
S2	85	F	S	S::99.98(4547)
S2	86	F	W	W::99.96(4545)
S2	87	F	W	W::99.96(4544)
S2	88	F	T	T::99.93(4546)
S2	89	F	S	S::99.87(4543)
S2	90	F	L	L::99.93(4546)
S2	91	F	S	S::99.76(4537)
S2	93	F	L	L::99.93(4538)
S2	94	F	G	G::99.98(4540)
S2	95	F	E	E::99.85(4535)
S2	96	F	T	T::99.93(4540)
S2	97	F	T	T::99.85(4536)
S2	98	F	V	V::99.89(4538)
S2	99	F	C	C::99.98(4542)
S2	100	F	L	L::99.89(4538)
S2	101	F	G	G::99.87(4538)
S2	102	F	Q	Q::99.87(4534)
S2	103	F	N	N::99.85(4533)
S2	104	F	S	S::99.82(4532)
S2	105	F	Q	Q::99.78(4530)
S2	106	F	S	S::99.89(4535)
S2	107	F	P	P::99.82(4532)
S2	108	F	T	T::99.93(4537)
S2	109	F	S	S::99.96(4536)
S2	110	F	N	N::99.91(4529)
S2	111	F	H	H::99.85(4525)
S2	112	F	S	S::99.91(4526)
S2	113	F	P	P::99.98(4528)
S2	114	F	T	T::99.91(4525)
S2	115	F	C	C::99.69(4513)
S2	116	F	C	C::99.89(4522)
S2	117	F	P	P::99.91(4521)
S2	118	F	P	P::99.93(4520)
S2	119	F	T	T::99.98(4522)
S2	120	F	C	C::99.85(4516)
S2	121	F	P	P::99.93(4518)
S2	122	F	G	G::99.99(6738)
S2	123	F	Y	Y::99.92(8259)
S2	124	F	R	R::99.89(8717)
S2	125	F	W	W::99.84(4326)
S2	126	F	M	M::99.72(4321)
S2	127	F	C	C::99.66(4336)

S2	128	F	L	L::99.91(4364)
S2	129	F	R	R::99.87(4466)
S2	130	F	R	R::99.91(4471)
S2	132	F	I	I::99.96(4491)
S2	133	F	I	I::99.93(4502)
S2	135	F	L	L::99.96(4515)
S2	137	F	I	I::99.78(4517)
S2	138	F	L	L::99.96(4528)
S2	139	F	L	L::99.91(4528)
S2	140	F	L	L::100.00(4533)
S2	141	F	C	C::99.98(4533)
S2	142	F	L	L::99.96(4534)
S2	143	F	I	I::99.96(4534)
S2	145	F	L	L::99.96(4537)
S2	146	F	L	L::99.91(4536)
S2	147	F	V	V::99.87(4534)
S2	148	F	L	L::99.96(4539)
S2	149	F	L	L::99.96(4539)
S2	150	F	D	D::99.80(4532)
S2	151	F	Y	Y::99.91(4537)
S2	152	F	Q	Q::99.82(4533)
S2	153	F	G	G::99.85(4534)
S2	154	F	M	M::99.87(4535)
S2	155	F	L	L::99.85(4534)
S2	156	F	P	P::99.91(4535)
S2	157	F	V	V::99.85(4533)
S2	158	F	C	C::99.85(4533)
S2	159	F	P	P::99.93(4537)
S2	160	F	L	L::99.89(4535)
S2	161	F	I	I::99.96(4538)
S2	162	F	P	P::99.96(4540)
S2	163	F	G	G::99.87(4536)
S2	164	F	S	S::99.93(4538)
S2	165	F	S	S::99.93(4539)
S2	166	F	T	T::99.98(4540)
S2	167	F	T	T::99.91(4536)
S2	168	F	S	S::99.74(4527)
S2	169	F	T	T::99.93(4536)
S2	170	F	G	G::99.89(4534)
S2	171	F	P	P::99.98(4537)
S2	172	F	C	C::100.00(5)
S2	173	F	R	R::100.00(5)
S2	174	F	T	T::100.00(5)
S2	175	F	C	C::100.00(6)
S2	176	F	T	T::100.00(7)
S2	177	F	T	T::100.00(6)
S2	178	F	P	P::100.00(6)
S2	179	F	A	A::100.00(6)
S2	180	F	Q	Q::100.00(6)
S2	181	F	G	G::100.00(6)
S2	182	F	T	T::100.00(6)

S2	183	F	S	S::100.00(6)
S2	184	F	M	M::83.33(5) I::16.67(1)
S2	185	F	Y	Y::100.00(7)
S2	186	F	P	P::100.00(7)
S2	187	F	S	S::100.00(7)
S2	188	F	C	C::100.00(7)
S2	189	F	C	C::100.00(2557)
S2	190	F	C	C::99.96(2565)
S2	191	F	T	T::99.96(2565)
S2	192	F	K	K::99.92(2564)
S2	193	F	P	P::99.96(2564)
S2	194	F	S	S::99.96(2564)
S2	195	F	D	D::99.88(2562)
S2	196	F	G	G::99.92(2561)
S2	197	F	N	N::99.96(2561)
S2	198	F	C	C::99.84(2557)
S2	199	F	T	T::99.94(5096)
S2	200	F	C	C::99.96(5107)
S2	201	F	I	I::99.92(5107)
S2	202	F	P	P::99.90(5105)
S2	203	F	I	I::99.98(5111)
S2	204	F	P	P::100.00(5112)
S2	205	F	S	S::99.92(5110)
S2	206	F	S	S::99.96(5113)
S2	207	F	W	W::99.96(5113)
S2	208	F	A	A::99.96(5114)
S2	210	F	G	G::99.90(5112)
S2	211	F	K	K::99.98(5114)
S2	213	F	L	L::100.00(5117)
S2	214	F	W	W::99.90(5112)
S2	215	F	E	E::99.69(5104)
S2	216	F	W	W::99.88(5112)
S2	217	F	A	A::99.79(5108)
S2	218	F	S	S::99.98(5118)
S2	219	F	A	A::99.69(5103)
S2	220	F	R	R::99.96(5117)
S2	222	F	S	S::100.00(5121)
S2	223	F	W	W::99.75(5108)
S2	224	F	L	L::99.82(5112)
S2	225	F	S	S::99.94(5115)
S2	226	F	L	L::99.88(5112)
S2	227	F	L	L::99.96(5115)
S2	228	F	V	V::99.96(5115)
S2	229	F	P	P::99.94(5114)
S2	231	F	V	V::99.84(5109)
S2	232	F	Q	Q::99.92(5113)
S2	233	F	W	W::99.92(5113)
S2	235	F	V	V::99.84(5104)
S2	236	F	G	G::99.96(5109)
S2	237	F	L	L::99.92(4771)
S2	238	F	S	S::99.92(2560)

S2	239	F	P	P::99.96(2564)
S2	240	F	T	T::99.92(2563)
S2	241	F	V	V::99.96(2564)
S2	242	F	W	W::99.88(2562)
S2	243	F	L	L::99.88(2562)
S2	244	F	S	S::100.00(2565)
S2	245	F	V	V::99.96(2564)
S2	246	F	I	I::99.84(2561)
S2	247	F	W	W::100.00(2564)
S2	248	F	M	M::80.00(4) K::20.00(1)
S2	249	F	M	M::100.00(5)
S2	250	F	W	W::100.00(5)
S2	251	F	Y	Y::100.00(5)
S2	252	F	W	W::80.00(4) C::20.00(1)
S2	253	F	G	G::66.67(2) A::33.33(1)
S2	254	F	P	P::75.00(3) Q::25.00(1)
S2	255	F	S	S::80.00(4) R::20.00(1)
S2	256	F	L	L::100.00(5)
S2	257	F	Y	Y::80.00(4) N::20.00(1)
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(6)
S2	266	F	L	L::100.00(6)
S2	267	F	L	L::100.00(6)
S2	268	F	P	P::100.00(6)
S2	269	F	I	I::83.33(5) N::16.67(1)
S2	272	F	C	C::83.33(5) *:16.67(1)
S2	273	F	L	L::100.00(6)
S2	274	F	W	W::100.00(6)
S2	275	F	V	V::85.71(6) E::14.29(1)
S2	276	F	Y	Y::100.00(7)
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X	54	F	S	S::100.00(1)
X	55	F	L	L::100.00(1)
X	56	F	R	R::100.00(1)
X	57	F	G	G::100.00(1)
X	58	F	L	L::100.00(1)
X	59	F	P	P::100.00(1)
X	60	F	V	V::100.00(1665)
X	61	F	C	C::99.88(1668)
X	62	F	A	A::99.88(1668)
X	64	F	S	S::99.94(1669)
X	65	F	S	S::99.88(1668)
X	66	F	A	A::100.00(1670)
X	67	F	G	G::99.88(1667)
X	68	F	P	P::100.00(1670)
X	69	F	C	C::99.88(1668)
X	70	F	A	A::99.88(1668)

X	71	F	L	L::99.88(1667)
X	72	F	R	R::99.94(1669)
X	74	F	T	T::100.00(1670)
X	75	F	S	S::99.88(1668)
X	76	F	A	A::99.94(1669)
X	77	F	R	R::99.76(1672)
X	78	F	R	R::99.76(1675)
X	79	F	M	M::99.82(1676)
X	80	F	E	E::99.88(1676)
X	81	F	T	T::99.94(1678)
X	82	F	T	T::99.94(1679)
X	83	F	V	V::99.76(1676)
X	84	F	N	N::99.94(1679)
X	85	F	A	A::99.94(1679)
X	86	F	H	H::99.88(1677)
X	87	F	Q	Q::99.88(1675)
X	88	F	I	I::99.10(1658)
X	89	F	L	L::99.82(1670)
X	90	F	P	P::99.94(1672)
X	91	F	K	K::99.88(1669)
X	92	F	V	V::99.94(1670)
X	93	F	L	L::99.94(1667)
X	94	F	H	H::99.82(1665)
X	95	F	K	K::100.00(1666)
X	96	F	R	R::99.94(1665)
X	97	F	T	T::99.94(1660)
X	98	F	L	L::100.00(1658)
X	99	F	G	G::99.94(1656)
X	100	F	L	L::99.58(1651)
X	101	F	S	S::99.94(1659)
X	102	F	A	A::98.61(1636)
X	103	F	M	M::99.85(3303)
X	104	F	S	S::99.88(3300)
X	105	F	T	T::100.00(3251)
X	106	F	T	T::100.00(3251)
X	107	F	D	D::99.94(3219)
X	108	F	L	L::99.87(3109)
X	109	F	E	E::99.88(1677)
X	110	F	A	A::99.94(1675)
X	111	F	Y	Y::99.94(1675)
X	113	F	K	K::99.82(1673)
X	114	F	D	D::100.00(1677)
X	115	F	C	C::99.88(1675)
X	116	F	L	L::99.88(1675)
X	118	F	K	K::100.00(1678)
X	119	F	D	D::99.88(1676)
X	120	F	W	W::100.00(1678)
X	121	F	E	E::99.88(1677)
X	122	F	E	E::99.94(1678)
X	123	F	S	S::98.99(1662)
X	124	F	G	G::99.82(1676)

X	125	F	E	E::99.82(1675)
X	126	F	E	E::99.94(1669)
X	127	F	I	I::100.00(1669)
X	128	F	R	R::99.88(1667)
X	129	F	L	L::100.00(1669)
X	130	F	M	M::99.82(1665)
X	131	F	I	I::99.94(1667)
X	133	F	V	V::99.88(1667)
X	134	F	L	L::100.00(1669)
X	135	F	G	G::99.88(1667)
X	136	F	G	G::99.94(1668)
X	137	F	C	C::99.94(1667)
X	138	F	R	R::99.94(1667)
X	139	F	H	H::99.88(1666)
X	140	F	K	K::100.00(1668)
X	141	F	L	L::100.00(1667)
X	142	F	V	V::99.94(1668)
X	143	F	C	C::99.94(1667)
X	144	F	A	A::99.58(1662)
X	145	F	P	P::99.88(1667)
X	146	F	A	A::100.00(1669)
X	147	F	P	P::99.94(1668)
X	148	F	C	C::99.88(1667)
X	149	F	N	N::100.00(1669)
X	152	F	T	T::100.00(6)
X	153	F	S	S::100.00(7)
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C	1	F	M	M::100.00(55)
C	2	F	D	D::100.00(55)
C	3	F	I	I::100.00(55)
C	4	F	D	D::100.00(55)
C	5	F	P	P::98.21(55)
C	6	F	Y	Y::100.00(56)
C	7	F	K	K::100.00(54)
C	8	F	E	E::100.00(55)
C	10	F	G	G::100.00(55)
C	11	F	A	A::100.00(55)
C	12	F	T	T::100.00(55)
C	13	F	V	V::100.00(55)
C	14	F	E	E::100.00(55)
C	15	F	L	L::100.00(53)
C	16	F	L	L::100.00(52)
C	17	F	S	S::98.08(51)
C	19	F	L	L::100.00(81)
C	20	F	P	P::100.00(81)
C	21	F	S	S::96.30(78)
C	22	F	D	D::100.00(3399)
C	25	F	P	P::99.97(3404)
C	26	F	S	S::99.94(3401)
C	27	F	V	V::99.97(6713)
C	28	F	R	R::99.91(6715)
C	29	F	D	D::99.82(6710)

C	30	F	L	L::99.93(6718)
C	31	F	L	L::100.00(6694)
C	32	F	D	D::99.88(6684)
C	33	F	T	T::99.91(6683)
C	34	F	A	A::99.78(6672)
C	35	F	S	S::99.87(6679)
C	36	F	A	A::99.84(6678)
C	37	F	L	L::99.96(6686)
C	38	F	Y	Y::99.94(6685)
C	39	F	R	R::99.85(6681)
C	40	F	D	D::99.33(6645)
C	41	F	A	A::99.85(6678)
C	42	F	L	L::99.91(6682)
C	43	F	E	E::99.90(6682)
C	44	F	S	S::99.93(6684)
C	45	F	P	P::99.91(6682)
C	46	F	E	E::99.88(6681)
C	47	F	H	H::99.95(6658)
C	48	F	C	C::99.91(6654)
C	49	F	S	S::99.91(6651)
C	50	F	P	P::99.79(6644)
C	51	F	H	H::99.92(6652)
C	52	F	H	H::99.92(6652)
C	53	F	T	T::99.89(6651)
C	54	F	A	A::99.91(6652)
C	55	F	L	L::99.95(6655)
C	56	F	R	R::99.82(6647)
C	57	F	Q	Q::99.95(6655)
C	58	F	A	A::99.80(6643)
C	59	F	I	I::99.92(6652)
C	60	F	L	L::99.88(6649)
C	61	F	C	C::99.97(6642)
C	62	F	W	W::99.79(6639)
C	63	F	G	G::99.97(6648)
C	64	F	E	E::99.62(6612)
C	65	F	L	L::99.91(6634)
C	66	F	M	M::99.80(6627)
C	67	F	T	T::99.89(6633)
C	68	F	L	L::99.98(6627)
C	69	F	A	A::99.97(6619)
C	70	F	T	T::99.97(3340)
C	71	F	W	W::99.88(3339)
C	72	F	V	V::99.91(3340)
C	73	F	G	G::100.00(3339)
C	74	F	G	G::100.00(16)
C	75	F	N	N::100.00(18)
C	76	F	L	L::100.00(17)
C	77	F	E	E::100.00(18)
C	78	F	D	D::100.00(18)
C	79	F	P	P::100.00(18)
C	80	F	I	I::94.12(16) T::5.88(1)

C	81	F	S	S::100.00(17)
C	82	F	R	R::100.00(17)
C	83	F	D	D::100.00(17)
C	84	F	L	L::100.00(17)
C	85	F	V	V::100.00(17)
C	86	F	V	V::100.00(17)
C	87	F	S	S::100.00(17)
C	88	F	Y	Y::100.00(17)
C	89	F	V	V::100.00(15)
C	90	F	N	N::100.00(16)
C	91	F	T	T::100.00(17)
C	92	F	N	N::100.00(16)
C	93	F	M	M::84.62(11) V::15.38(2)
C	94	F	G	G::100.00(13)
C	95	F	L	L::100.00(13)
C	96	F	K	K::100.00(16)
C	98	F	R	R::100.00(17)
C	99	F	Q	Q::100.00(17)
C	100	F	L	L::100.00(17)
C	101	F	L	L::100.00(17)
C	102	F	W	W::100.00(18)
C	104	F	H	H::100.00(20)
C	105	F	I	I::100.00(21)
C	106	F	S	S::100.00(20)
C	107	F	C	C::100.00(19)
C	108	F	L	L::100.00(19)
C	109	F	T	T::100.00(18)
C	111	F	G	G::100.00(18)
C	112	F	R	R::100.00(18)
C	113	F	E	E::100.00(18)
C	114	F	T	T::100.00(17)
C	115	F	V	V::100.00(17)
C	116	F	I	I::95.24(20)
C	117	F	E	E::100.00(21)
C	118	F	Y	Y::100.00(20)
C	119	F	L	L::100.00(20)
C	120	F	V	V::100.00(19)
C	121	F	S	S::100.00(19)
C	123	F	G	G::100.00(20)
C	124	F	V	V::100.00(18)
C	125	F	W	W::100.00(18)
C	126	F	I	I::100.00(17)
C	127	F	R	R::100.00(16)
C	128	F	T	T::100.00(16)
C	129	F	P	P::100.00(14)
C	130	F	P	P::100.00(16)
C	131	F	A	A::100.00(17)
C	132	F	Y	Y::100.00(17)
C	133	F	R	R::100.00(18)
C	134	F	P	P::100.00(19)
C	135	F	P	P::100.00(20)

C	136	F	N	N::100.00(21)
C	137	F	A	A::100.00(21)
C	138	F	P	P::95.45(21)
C	139	F	I	I::100.00(21)
C	140	F	L	L::100.00(20)
C	141	F	S	S::95.00(19) T::5.00(1)
C	142	F	T	T::100.00(20)
C	143	F	L	L::100.00(20)
C	144	F	P	P::95.00(19) T::5.00(1)
C	145	F	E	E::100.00(20)
C	146	F	T	T::100.00(21)
C	147	F	T	T::95.24(20)
C	148	F	V	V::95.24(20)
C	149	F	V	V::95.24(20)
C	150	F	R	R::100.00(20)
C	151	F	R	R::100.00(19)
C	152	F	R	R::100.00(18)
C	153	F	G	G::100.00(19)
C	154	F	R	R::100.00(17)
C	155	F	S	S::100.00(17)
C	156	F	P	P::95.24(20)
C	157	F	R	R::100.00(21)
C	158	F	R	R::100.00(22)
C	159	F	R	R::100.00(20)
C	160	F	T	T::100.00(20)
C	161	F	P	P::100.00(21)
C	162	F	S	S::100.00(21)
C	163	F	P	P::95.65(22)
C	164	F	R	R::100.00(24)
C	165	F	R	R::100.00(23)
C	166	F	R	R::100.00(25)
C	167	F	R	R::100.00(26)
C	168	F	S	S::100.00(26)
C	169	F	Q	Q::100.00(26)
C	170	F	S	S::96.30(26)
C	171	F	P	P::100.00(29)
C	172	F	R	R::96.55(28)
C	173	F	R	R::100.00(31)
C	174	F	R	R::100.00(31)
C	175	F	R	R::100.00(33)
C	176	F	S	S::96.97(32)
C	177	F	Q	Q::84.85(28) K::15.15(5)
C	178	F	S	S::100.00(33)
C	179	F	R	R::100.00(33)
C	180	F	E	E::100.00(32)
C	181	F	S	S::93.75(30) P::6.25(2)
C	182	F	Q	Q::90.32(28)
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P1	1	F	M	M::100.00(21)
P1	2	F	P	P::95.45(21)
P1	3	F	L	L::100.00(22)
P1	4	F	S	S::100.00(21)

P1	5	F	Y	Y::95.00(19) *:5.00(1)
P1	6	F	Q	Q::100.00(20)
P1	7	F	H	H::100.00(20)
P1	8	F	F	F::95.00(19) L::5.00(1)
P1	9	F	R	R::100.00(20)
P1	10	F	R	R::100.00(20)
P1	11	F	L	L::100.00(21)
P1	12	F	L	L::100.00(22)
P1	13	F	L	L::100.00(21)
P1	14	F	L	L::100.00(21)
P1	15	F	D	D::100.00(20)
P1	16	F	D	D::100.00(18)
P1	17	F	E	E::100.00(18)
P1	18	F	A	A::100.00(18)
P1	19	F	G	G::100.00(17)
P1	20	F	P	P::100.00(20)
P1	21	F	L	L::100.00(21)
P1	22	F	E	E::100.00(22)
P1	23	F	E	E::100.00(21)
P1	24	F	E	E::100.00(20)
P1	25	F	L	L::100.00(20)
P1	26	F	P	P::100.00(21)
P1	27	F	R	R::100.00(21)
P1	28	F	L	L::100.00(24)
P1	29	F	A	A::100.00(23)
P1	30	F	D	D::100.00(23)
P1	31	F	E	E::100.00(27)
P1	32	F	G	G::100.00(26)
P1	33	F	L	L::100.00(26)
P1	34	F	N	N::96.15(25)
P1	35	F	R	R::100.00(27)
P1	36	F	R	R::100.00(29)
P1	37	F	V	V::100.00(31)
P1	38	F	A	A::100.00(31)
P1	39	F	E	E::100.00(31)
P1	40	F	D	D::100.00(33)
P1	41	F	L	L::96.97(32)
P1	42	F	N	N::100.00(33)
P1	43	F	L	L::100.00(33)
P1	44	F	G	G::100.00(33)
P1	45	F	N	N::100.00(32)
P1	46	F	L	L::100.00(32)
P1	47	F	N	N::93.10(27)
P1	48	F	V	V::100.00(27)
P1	49	F	S	S::92.31(24) D::7.69(2)
P1	50	F	I	I::100.00(23)
P1	51	F	P	P::100.00(23)
P1	52	F	W	W::100.00(23)
P1	53	F	T	T::100.00(23)
P1	54	F	H	H::100.00(23)
P1	55	F	K	K::100.00(24)

P1	56	F	V	V::100.00(24)
P1	57	F	G	G::100.00(24)
P1	58	F	N	N::100.00(24)
P1	60	F	T	T::100.00(23)
P1	61	F	G	G::100.00(22)
P1	62	F	L	L::100.00(21)
P1	63	F	Y	Y::100.00(21)
P1	64	F	S	S::100.00(21)
P1	65	F	S	S::100.00(21)
P1	66	F	T	T::100.00(21)
P1	67	F	V	V::100.00(21)
P1	68	F	P	P::100.00(24)
P1	69	F	V	V::100.00(24)
P1	71	F	N	N::100.00(2402)
P1	72	F	P	P::100.00(2412)
P1	73	F	H	H::99.88(2409)
P1	74	F	W	W::100.00(2411)
P1	75	F	K	K::99.88(2408)
P1	76	F	T	T::99.88(2405)
P1	77	F	P	P::100.00(2407)
P1	78	F	S	S::99.92(2405)
P1	80	F	P	P::99.96(2403)
P1	81	F	N	N::99.92(2402)
P1	82	F	I	I::99.83(2400)
P1	83	F	H	H::99.83(2400)
P1	84	F	L	L::99.88(2400)
P1	85	F	H	H::100.00(2402)
P1	86	F	Q	Q::99.92(2398)
P1	87	F	D	D::99.96(2398)
P1	88	F	I	I::100.00(2399)
P1	89	F	I	I::99.96(2397)
P1	90	F	K	K::99.92(2395)
P1	91	F	K	K::99.92(2393)
P1	92	F	C	C::99.96(2396)
P1	93	F	E	E::99.96(2396)
P1	94	F	Q	Q::99.87(2394)
P1	96	F	V	V::99.87(2394)
P1	97	F	G	G::99.92(2395)
P1	98	F	P	P::99.89(4753)
P1	99	F	L	L::99.96(4784)
P1	100	F	T	T::99.87(4781)
P1	101	F	V	V::99.92(4782)
P1	102	F	N	N::99.94(4784)
P1	103	F	E	E::99.87(4779)
P1	104	F	K	K::99.83(4777)
P1	105	F	R	R::100.00(4783)
P1	106	F	R	R::99.94(4783)
P1	107	F	L	L::99.85(4775)
P1	108	F	Q	Q::99.92(4778)
P1	109	F	L	L::99.96(4776)
P1	110	F	I	I::99.96(4777)

P1	111	F	M	M::99.96(4775)
P1	112	F	P	P::99.83(4769)
P1	113	F	A	A::99.85(4769)
P1	114	F	R	R::99.73(4763)
P1	116	F	Y	Y::99.87(4766)
P1	117	F	P	P::99.81(4756)
P1	118	F	N	N::100.00(4671)
P1	119	F	V	V::99.94(4669)
P1	120	F	T	T::100.00(4038)
P1	121	F	K	K::99.92(2399)
P1	122	F	Y	Y::99.96(2401)
P1	123	F	L	L::99.92(2400)
P1	124	F	P	P::99.92(2400)
P1	125	F	L	L::99.96(2403)
P1	126	F	D	D::99.88(2401)
P1	127	F	K	K::99.96(2401)
P1	128	F	G	G::100.00(2404)
P1	129	F	I	I::99.88(2401)
P1	130	F	K	K::99.92(2402)
P1	131	F	P	P::99.96(2403)
P1	132	F	Y	Y::99.88(2401)
P1	133	F	Y	Y::99.92(2401)
P1	134	F	P	P::99.92(2402)
P1	135	F	E	E::100.00(2407)
P1	136	F	H	H::99.88(2404)
P1	137	F	L	L::99.96(2405)
P1	138	F	V	V::99.88(2403)
P1	139	F	N	N::99.96(2405)
P1	140	F	H	H::99.96(2405)
P1	141	F	Y	Y::99.92(2404)
P1	143	F	Q	Q::100.00(2408)
P1	144	F	T	T::100.00(2408)
P1	145	F	R	R::100.00(2408)
P1	146	F	H	H::100.00(2403)
P1	147	F	Y	Y::100.00(12)
P1	148	F	L	L::100.00(12)
P1	149	F	H	H::100.00(12)
P1	150	F	T	T::100.00(12)
P1	151	F	L	L::100.00(12)
P1	152	F	W	W::100.00(12)
P1	153	F	K	K::100.00(12)
P1	154	F	A	A::100.00(12)
P1	155	F	G	G::100.00(11)
P1	156	F	I	I::88.89(8) V::11.11(1)
P1	157	F	L	L::100.00(9)
P1	158	F	Y	Y::100.00(9)
P1	159	F	K	K::88.89(8) E::11.11(1)
P1	160	F	R	R::100.00(9)
P1	161	F	E	E::100.00(9)
P1	162	F	T	T::100.00(9)
P1	163	F	T	T::100.00(10)

P1	164	F	R	R::60.00(6) H::40.00(4)
P1	165	F	S	S::100.00(10)
P1	166	F	A	A::100.00(10)
P1	167	F	S	S::100.00(10)
P1	169	F	C	C::100.00(10)
P1	170	F	G	G::100.00(10)
P1	171	F	S	S::100.00(8)
P1	172	F	Q	Q::62.50(5) P::37.50(3)
P1	173	F	Y	Y::100.00(8)
P1	174	F	S	S::100.00(7)
P1	175	F	W	W::85.71(6) R::14.29(1)
P1	176	F	E	E::100.00(7)
P1	177	F	Q	Q::100.00(9)
P1	178	F	E	E::100.00(9)
P1	179	F	L	L::90.00(9) I::10.00(1)
P1	180	F	Q	Q::100.00(11)
P1	181	F	H	H::100.00(11)
P1	182	F	G	G::100.00(11)
P1	183	F	A	A::100.00(8)
P1	184	F	E	E::100.00(8)
P1	185	F	S	S::100.00(9)
P1	187	F	H	H::90.00(9) P::10.00(1)
P1	188	F	Q	Q::100.00(10)
P1	189	F	Q	Q::100.00(10)
P1	190	F	S	S::100.00(10)
P1	191	F	S	S::100.00(10)
P1	192	F	G	G::100.00(8)
P1	193	F	I	I::100.00(8)
P1	194	F	L	L::75.00(6) I::25.00(2)
P1	195	F	S	S::87.50(7) T::12.50(1)
P1	196	F	R	R::100.00(8)
P1	197	F	P	P::100.00(8)
P1	198	F	P	P::100.00(9)
P1	199	F	V	V::100.00(9)
P1	200	F	G	G::100.00(9)
P1	201	F	S	S::100.00(9)
P1	202	F	S	S::100.00(9)
P1	203	F	L	L::100.00(9)
P1	204	F	Q	Q::100.00(9)
P1	205	F	S	S::100.00(9)
P1	206	F	K	K::100.00(9)
P1	207	F	H	H::100.00(9)
P1	208	F	R	R::88.89(8) S::11.11(1)
P1	209	F	K	K::100.00(9)
P1	210	F	S	S::100.00(9)
P1	211	F	R	R::83.33(5) G::16.67(1)
P1	212	F	L	L::100.00(6)
P1	213	F	G	G::100.00(6)
P1	214	F	L	L::100.00(6)
P1	215	F	Q	Q::100.00(6)
P1	216	F	S	S::83.33(5) T::16.67(1)

P1	217	F	Q	Q::100.00(6)
P1	218	F	Q	Q::100.00(5)
P1	219	F	G	G::100.00(4)
P1	220	F	H	H::100.00(4)
P1	221	F	L	L::100.00(4)
P1	222	F	A	A::100.00(4)
P1	223	F	G	G::100.00(3)
P1	224	F	R	R::100.00(3)
P1	225	F	Q	Q::100.00(3)
P1	226	F	Q	Q::100.00(3)
P1	227	F	G	G::100.00(3)
P1	228	F	R	R::100.00(3)
P1	229	F	S	S::100.00(3)
P1	230	F	W	W::100.00(4)
P1	231	F	S	S::100.00(4)
P1	232	F	I	I::100.00(4)
P1	233	F	R	R::100.00(4)
P1	234	F	A	A::100.00(3)
P1	235	F	G	G::100.00(3)
P1	236	F	I	I::100.00(2)
P1	237	F	H	H::100.00(2)
P1	238	F	P	P::100.00(2)
P1	239	F	T	T::100.00(2)
P1	240	F	A	A::100.00(2)
P1	241	F	R	R::100.00(2)
P1	242	F	R	R::100.00(2)
P1	243	F	P	P::100.00(3)
P1	245	F	G	G::100.00(3)
P1	246	F	V	V::100.00(3)
P1	247	F	E	E::100.00(2)
P1	248	F	P	P::100.00(2)
P1	249	F	S	S::100.00(2)
P1	250	F	G	G::100.00(2)
P1	251	F	S	S::100.00(2)
P1	252	F	G	G::100.00(2)
P1	253	F	H	H::100.00(2)
P1	254	F	T	T::100.00(2)
P1	255	F	T	T::100.00(2)
P1	256	F	H	H::100.00(2)
P1	257	F	R	R::100.00(2)
P1	258	F	A	A::100.00(2)
P1	259	F	S	S::100.00(3)
P1	260	F	K	K::100.00(3)
P1	261	F	S	S::100.00(3)
P1	262	F	A	A::100.00(3)
P1	263	F	S	S::100.00(3)
P1	264	F	C	C::100.00(4)
P1	265	F	L	R::50.00(2) L::50.00(2)
P1	266	F	H	H::100.00(5)
P1	267	F	Q	Q::100.00(5)
P1	268	F	S	S::100.00(5)

P1	269	F	P	P::100.00(5)
P1	270	F	V	V::100.00(5)
P1	271	F	R	R::100.00(5)
P1	272	F	K	K::100.00(5)
P1	273	F	A	A::60.00(3) V::40.00(2)
P1	274	F	A	A::100.00(5)
P1	275	F	Y	Y::100.00(5)
P1	276	F	P	P::100.00(5)
P1	277	F	S	S::100.00(5)
P1	278	F	V	V::100.00(5)
P1	279	F	S	S::100.00(5)
P1	280	F	T	T::100.00(4)
P1	282	F	E	E::100.00(4)
P1	283	F	K	K::100.00(4)
P1	284	F	H	H::100.00(4)
P1	285	F	S	S::100.00(4)
P1	286	F	S	S::100.00(4)
P1	287	F	S	S::100.00(4)
P1	288	F	G	G::100.00(4)
P1	289	F	H	H::100.00(4)
P1	290	F	A	A::100.00(4)
P1	291	F	V	V::100.00(4)
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S1	1	F	M	M::100.00(11)
S1	2	F	G	G::100.00(11)
S1	3	F	Q	Q::100.00(8)
S1	4	F	N	N::100.00(9)
S1	5	F	L	L::100.00(9)
S1	6	F	S	S::100.00(9)
S1	7	F	T	T::90.00(9) L::10.00(1)
S1	8	F	S	S::100.00(10)
S1	9	F	N	N::100.00(10)
S1	10	F	P	P::100.00(10)
S1	11	F	L	L::100.00(10)
S1	12	F	G	G::100.00(8)
S1	13	F	F	F::75.00(6) L::25.00(2)
S1	14	F	F	F::87.50(7) L::12.50(1)
S1	15	F	P	P::100.00(8)
S1	16	F	D	D::100.00(8)
S1	17	F	H	H::100.00(8)
S1	18	F	Q	Q::100.00(9)
S1	19	F	L	L::100.00(9)
S1	20	F	D	D::100.00(9)
S1	21	F	P	P::100.00(9)
S1	22	F	A	A::100.00(9)
S1	24	F	R	R::100.00(9)
S1	25	F	A	A::100.00(9)
S1	26	F	N	N::100.00(9)
S1	27	F	T	T::100.00(9)
S1	28	F	A	A::100.00(9)
S1	29	F	N	N::100.00(9)
S1	30	F	P	P::100.00(8)

S1	31	F	D	D::100.00(6)
S1	32	F	W	W::100.00(6)
S1	33	F	D	D::100.00(6)
S1	35	F	N	N::83.33(5) K::16.67(1)
S1	36	F	P	P::100.00(6)
S1	37	F	N	N::100.00(6)
S1	38	F	K	K::100.00(4)
S1	39	F	D	D::100.00(4)
S1	40	F	T	T::100.00(4)
S1	41	F	W	W::100.00(4)
S1	42	F	P	P::100.00(3)
S1	43	F	D	D::100.00(3)
S1	44	F	A	A::100.00(3)
S1	45	F	N	N::100.00(3)
S1	46	F	K	K::100.00(3)
S1	47	F	V	V::100.00(3)
S1	48	F	G	G::100.00(3)
S1	49	F	A	A::100.00(3)
S1	50	F	G	G::100.00(4)
S1	51	F	A	A::100.00(4)
S1	53	F	G	G::100.00(4)
S1	54	F	P	P::66.67(2) L::33.33(1)
S1	55	F	G	G::100.00(3)
S1	57	F	T	T::100.00(2)
S1	58	F	P	P::100.00(2)
S1	59	F	P	P::100.00(2)
S1	60	F	H	H::100.00(2)
S1	61	F	G	G::100.00(2)
S1	62	F	G	G::100.00(3)
S1	63	F	L	L::100.00(3)
S1	64	F	L	L::100.00(3)
S1	65	F	G	G::100.00(3)
S1	66	F	W	W::100.00(3)
S1	67	F	S	S::100.00(2)
S1	68	F	P	P::100.00(2)
S1	69	F	Q	Q::100.00(2)
S1	70	F	A	A::100.00(2)
S1	71	F	Q	Q::100.00(2)
S1	72	F	G	G::100.00(2)
S1	73	F	I	I::100.00(2)
S1	74	F	L	L::100.00(2)
S1	75	F	H	H::100.00(2)
S1	76	F	T	T::100.00(2)
S1	77	F	V	V::100.00(2)
S1	78	F	P	P::100.00(2)
S1	79	F	A	A::100.00(3)
S1	80	F	N	N::100.00(3)
S1	81	F	P	P::100.00(3)
S1	82	F	P	P::100.00(3)
S1	83	F	P	P::100.00(4)
S1	84	F	A	A::100.00(4)

S1	85	F	S	S::60.00(3) A::40.00(2)
S1	86	F	T	T::100.00(5)
S1	87	F	N	N::100.00(5)
S1	88	F	R	R::100.00(5)
S1	89	F	Q	Q::100.00(5)
S1	90	F	S	S::100.00(5)
S1	91	F	G	G::100.00(5)
S1	92	F	R	R::100.00(5)
S1	93	F	Q	Q::60.00(3) *:40.00(2)
S1	94	F	P	P::100.00(5)
S1	95	F	T	T::100.00(5)
S1	96	F	P	P::100.00(5)
S1	97	F	L	L::100.00(5)
S1	98	F	S	S::100.00(5)
S1	99	F	P	P::100.00(4)
S1	100	F	P	P::100.00(4)
S1	101	F	L	L::100.00(4)
S1	102	F	R	R::100.00(4)
S1	103	F	N	N::100.00(4)
S1	104	F	T	T::100.00(4)
S1	105	F	H	H::100.00(4)
S1	106	F	P	P::100.00(4)
S1	107	F	Q	Q::100.00(4)
S1	108	F	A	A::100.00(4)
S1	109	F	M	M::100.00(4)
S1	110	F	Q	Q::100.00(4)

Meta data	
Assembly file:	HBV-RYD-24.sam
Annotation file:	/home3/vatt01s/Work/Project-150-HBV/Data/P150-1/Annotation/HBV.anno
Reference file:	KX357637.fa.
User name	ales01a
Hostname	Alpha
Location	/home2/ales01a/HBV/P150-5/HBV-RYD-24
Date/Time	Tue 19 Mar 14:36:52 GMT 2019