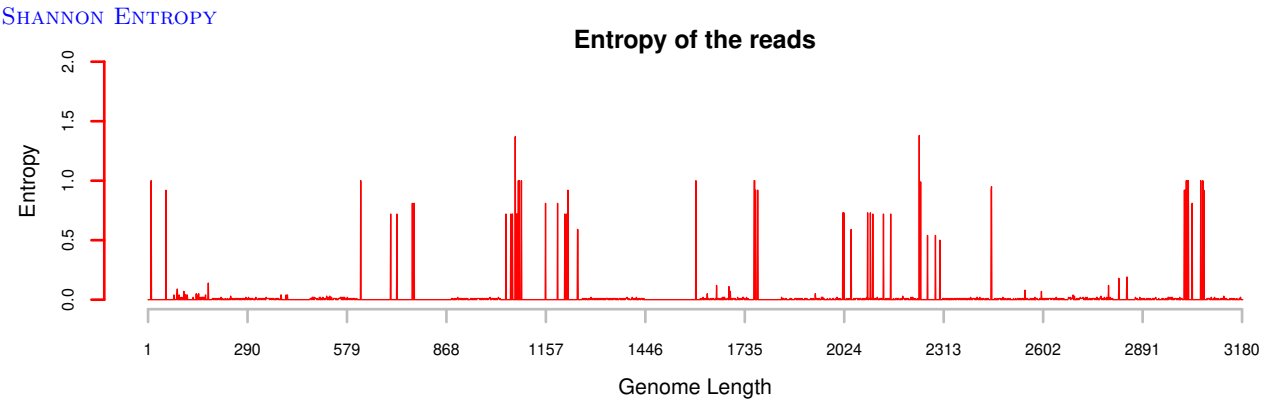
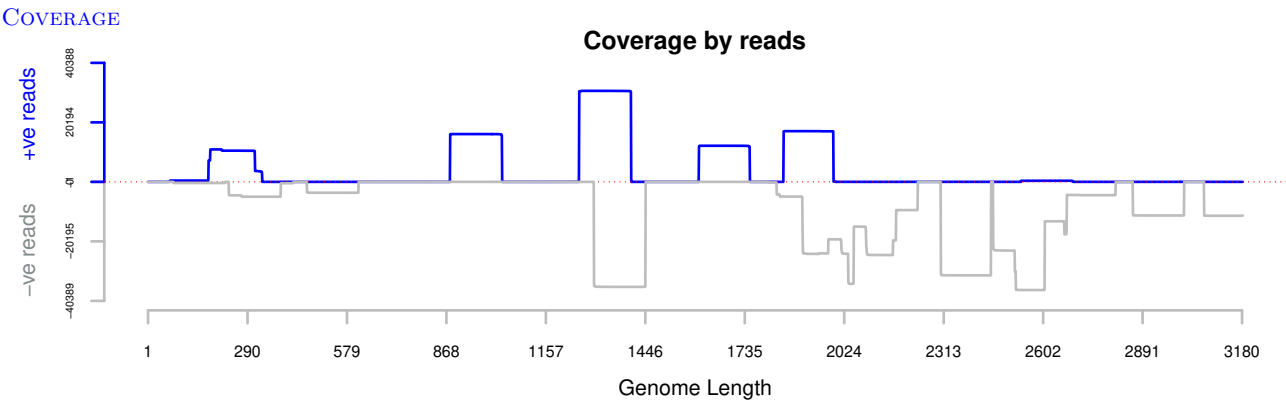


HBV-RYD-29

File name	HBV-RYD-29.sam
Ref name	KX357637.1 Hepatitis B virus isolate MK20ETH, complete genome
Ref len	3182
Program used	Tanoti Assembler 1.0
Total reads	1115912
Mapped reads	278044 (24.92%)
Unmapped reads	837868
Mapped loan pairs	0
Average read length	146nt
Coverage	3106nt (97.61%)
Average depth	12816 reads/site
Average insert length	41nt



CONSENSUS SEQUENCE

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1      CTCCACAACC TTCCACCAAA CTCTGCAAGA TCCCAGAGTG AGAGGCCTGT ATCTCCCTGC TGGTGGCTCC
70     AGTTCAGGAA CAGTGAACCC TGTTCGCACT ACTGTCTCTC CCATATCGTC AATCTTCTCG AGGATTGGGG
140    ACCTTGCGCC GAACATGGAG AACATCACAT CAGGACTCCT AGGACCCCTG CTCGTGTTAC AGGCGGGGTT
210    TTTCTTGTG ACAAGAATCC TCACAATACC GCAGAGCTA GACTCGTGGT GGACTTCTCT CAATTTTCTA
280    GGGGGAACCA CCGTGTGTCT TGGCCAAAAT TCGCGGTCCC CAACCTCCAA TCACTACCA ACCTCTGTCT
350    CTCCAACCTG TCCTGGTTAT CGCTGGATGT GTCTGCGGCG TTTTATCATC TTCCTCTTCA TCCTGTCTCT
420    ATGCTCATC TTCTTGTGG TTCTTCTGGA CTATCAAGGT ATGTTGCCCC TTTGTCCTAT GATTCCAGGA
490    TCTTCAACCA CCAGCACGGG ACCATGCAGG ACCTGCACAA CTCCTGCTCA AGGAACCTCT ATGTATCCCT
560    CCTGCTGCTG TACCAAACCT TCGGACGGAA ATTGCACCTG TATTCCTATC CCATCATCCT GGGCTTTCGG
630    AAAATTCCTA TGGGAGTGGG CCTCAGCCCG TTTCTCCTGG CTCAGTTTAC TAGTGCCATT TGTTCACTGG
700    TTCGTCGGGC TTTCCCCCAC TGTCTGGCTT TCAGTTATAT GGATGATGTG GTATTGGGGG CCAAGTCTGT
770    ACAACATCTT GAGTCCCTTT ATACCGCTGT GACCAATTTT CTTTTGTCTT TGGGCATACA TTTAAACCTT
840    AACAAAACAA AAAGATGGGG TTAATCTTTA CATTTTCATG GCTATGTCAT TGGAAAGTTA GGGTCATTGC
910    CACAAGATCA CATCACACAA AAAATCAAAG AATGTTTTAG AAAACTTCCT GTTAACAGAC CTATTGATTG
980    GAAAGTCTGT CAACGTATTG TGGGTCTTTT GGGGTTTGCT GCCCCTTTTA CACAATGTGG TTATCCTGCT
1050   TTAATGCCCT TGTATGCATG TATTCAGTCC AAGCAGGCTT TCACTTTCTC GCCAACTTAC AAGGCCTTTC
1120   TGTGTAAACA ATACCTGAAC CTTTACCCCG TTGCCCGCA ACGGCCAGGT CTGTGCCAAG TGTTTGCTGA
1190   TGCAACCCCC ACTGGCTGGG GCTTGGCCAT AGGCCATCAG CGCATGCGTG GAACCTTTGT GGTCTCTCTG
1260   CCGATCCATA CTGCGGAACCT CCTAGCCGCT TGTTTTGCTC GCAGCAGGTC TGGAGCAAAC ATTCTCGGGA
1330   CTGACAACTC TGTGTCTCTC TCCCGCAAAT ATACTTCGTT TCCATGGCTG CTAGGCTGTG CTGCCAACTG
1400   GATCCTGCGC GGGACGTCCT TTGTTACGT CCCGTCGGCG CTGAATNNNN NNNNNNNNNN NNNNNNNNNN
1470   NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNGGCGCACC TCTCTTACG
1540   CGGTCTCCCC GTCTGTGCCT TCTCATCTGC CGGACCGTGT GCACTTCGCT TCCCCTCTGC ACGTCGCATG
1610   GAGACCACCG TGAACGCCCA CCAATCTTGT CCCAAGGTCT TACATAAGAG GACTCTTGA CTCTCTGTAA
1680   TGTCAACGAC CGACCTTGAG GCATACTTCA AAGACTGTTT GTTTAAAGAC TGGGAGGAGT TGGGGGAGGA
1750   GATTAGATTA AGGCTCTTTG TACTAGGAGG CTGTAGGCAT AAATTGGTCT GCGCACCAGC ACCATGCAAC
1820   TTTTTCACCT CTGCCTAATC ACCTCTTGTT CATGTCCTAC TGTTCAGGCC TCCAAGCTGT GCCTTGGGTG
1890   GCTTTAGGAC ATGGACATTG ATCCTTATAA AGAATTTGGA GCTACTGTGG AGTTACTCTC TTTTTCCTCT
1960   CAAGACTTCT TTCCTTCAGT ACGAGATCTT CTAGATACCG CCGCAGCTCT ATTTCTGGGAG GCATTAGAGT
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2100   TCTAGCTACC TGGGTGGGTG GTAATTTGGA AGATCCAGTA TCCAGGGACC TAGTAGTCGG TTATGTTAAC
2170   ACTACTGTGG GCCTAAAGTT CAGGCAACTA TTGTGGTTTC ACATTTCGTG CCTCACTTTT GGAAGAGAAA
2240   CGGTCCTAGA GTATTTGGTG TCTTTCGGAG TGTGGATTCT CACTCCTCCA GCTTATAGAC CACCAAATGC
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2590   TGTAGGCCCA CTCACAGTTA ATGAGAAAAG AAGACTACAA TTAATTATGC CTGCTAGGTT TTATCCAAAT
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3150   AGAAACACCC ATCCTCAGGC CATGCACTGG AA

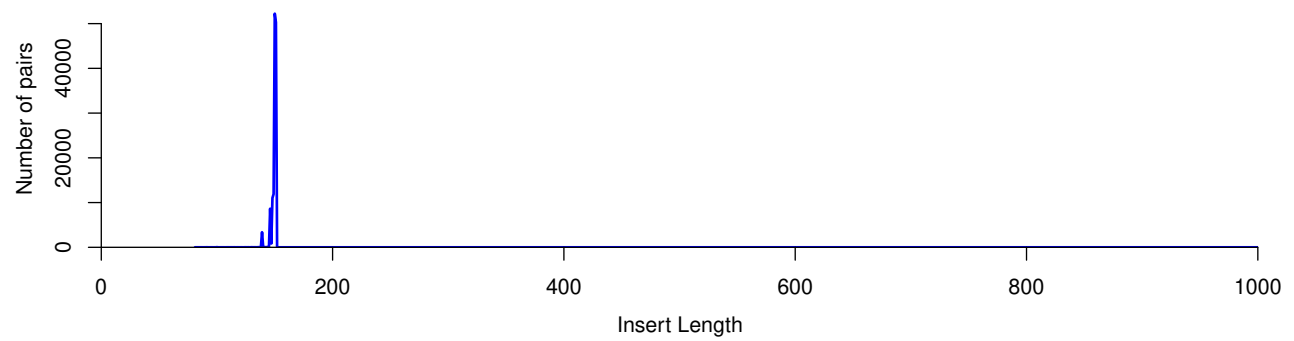
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Genome Composition	
A	714 (22.44%)
T	870 (27.34%)
G	676 (21.24%)
C	846 (26.59%)
N	76 (2.39%)
Total Nucleotides	3182
GC%	49.00

READ QUALITY



INSERT LENGTH DISTRIBUTION



AMINO ACID VARIATIONS

Protein	Position	Ref AA	Consensus AA	All AAs
P2	1	F	H	H::100.00(4)
P2	2	F	N	N::100.00(4)
P2	3	F	L	L::50.00(2) F::50.00(2)
P2	4	F	P	P::100.00(6)
P2	5	F	P	P::100.00(6)
P2	6	F	N	N::100.00(6)
P2	7	F	S	S::100.00(6)
P2	8	F	A	A::100.00(6)
P2	9	F	R	R::100.00(6)
P2	10	F	S	S::100.00(6)
P2	11	F	Q	Q::100.00(6)
P2	12	F	S	S::100.00(6)
P2	13	F	E	E::100.00(6)
P2	14	F	R	R::100.00(6)
P2	15	F	P	P::100.00(6)
P2	16	F	V	V::100.00(6)
P2	17	F	S	S::66.67(4) F::33.33(2)
P2	18	F	P	P::100.00(6)
P2	19	F	C	C::100.00(20)
P2	20	F	W	W::100.00(20)
P2	21	F	W	W::100.00(20)
P2	22	F	L	L::100.00(446)
P2	23	F	Q	Q::100.00(448)
P2	25	F	R	R::100.00(810)
P2	26	F	N	N::100.00(828)
P2	27	F	S	S::99.76(826)
P2	28	F	E	E::98.79(818)
P2	29	F	P	P::100.00(830)
P2	30	F	C	C::99.52(826)
P2	31	F	S	S::100.00(830)
P2	32	F	D	D::99.76(828)
P2	33	F	Y	Y::100.00(830)
P2	34	F	C	C::99.52(822)
P2	35	F	L	L::100.00(826)
P2	36	F	S	S::99.52(822)
P2	37	F	H	H::100.00(826)
P2	38	F	I	I::99.52(822)
P2	39	F	V	V::100.00(826)
P2	40	F	N	N::100.00(826)
P2	41	F	L	L::100.00(826)
P2	42	F	L	L::100.00(826)
P2	43	F	E	E::100.00(824)
P2	44	F	D	D::100.00(824)
P2	45	F	W	W::100.00(824)
P2	46	F	G	G::100.00(822)
P2	47	F	P	P::100.00(822)

P2	48	F	C	C::100.00(822)
P2	49	F	A	A::99.51(816)
P2	50	F	E	E::99.76(818)
P2	51	F	H	H::99.76(818)
P2	52	F	G	G::99.76(818)
P2	53	F	E	E::99.76(818)
P2	54	F	H	H::100.00(822)
P2	55	F	H	H::99.76(820)
P2	56	F	I	I::100.00(822)
P2	57	F	R	R::100.00(822)
P2	58	F	T	T::97.81(804)
P2	59	F	P	P::100.00(7644)
P2	60	F	R	R::99.92(7632)
P2	61	F	T	T::100.00(11378)
P2	62	F	P	P::99.93(11388)
P2	63	F	A	A::99.91(11388)
P2	64	F	R	R::99.89(11386)
P2	65	F	V	V::99.96(11392)
P2	66	F	T	T::99.93(11388)
P2	67	F	G	G::99.93(11390)
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P2	69	F	V	V::99.96(11390)
P2	71	F	L	L::99.96(10968)
P2	72	F	V	V::99.95(10968)
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P2	74	F	K	K::99.96(10968)
P2	75	F	N	N::99.94(10584)
P2	76	F	P	P::99.98(10586)
P2	77	F	H	H::99.96(10586)
P2	78	F	N	N::99.87(10582)
P2	79	F	T	T::99.99(15156)
P2	80	F	A	A::99.75(15124)
P2	81	F	E	E::99.91(15150)
P2	82	F	S	S::99.92(15152)
P2	83	F	R	R::99.92(15152)
P2	84	F	L	L::99.93(15154)
P2	85	F	V	V::99.92(15154)
P2	86	F	V	V::99.96(15160)
P2	87	F	D	D::99.85(15144)
P2	89	F	S	S::99.95(15158)
P2	90	F	Q	Q::99.96(15156)
P2	92	F	S	S::99.85(15586)
P2	93	F	R	R::99.94(15590)
P2	94	F	G	G::99.95(15592)
P2	95	F	N	N::99.83(15570)
P2	96	F	H	H::99.91(15582)
P2	97	F	R	R::99.77(15562)
P2	98	F	V	V::99.94(15590)
P2	99	F	S	S::99.94(15588)
P2	100	F	W	W::99.82(15570)
P2	101	F	P	P::99.77(15562)

P2	102	F	K	K::99.96(15544)
P2	104	F	A	A::99.79(8694)
P2	105	F	V	V::99.89(8702)
P2	106	F	P	P::99.95(8672)
P2	107	F	N	N::99.81(8594)
P2	108	F	L	L::99.91(8592)
P2	109	F	Q	Q::99.91(8502)
P2	110	F	S	S::99.92(5040)
P2	111	F	L	L::99.92(5038)
P2	112	F	T	T::99.80(5032)
P2	113	F	N	N::100.00(5042)
P2	114	F	L	L::99.84(5034)
P2	115	F	L	L::99.96(5040)
P2	116	F	S	S::99.88(5036)
P2	117	F	S	S::99.88(5034)
P2	118	F	N	N::99.88(5036)
P2	119	F	L	L::99.92(5038)
P2	120	F	S	S::99.96(5040)
P2	121	F	W	W::99.92(5038)
P2	122	F	L	L::99.96(5040)
P2	123	F	S	S::100.00(5042)
P2	124	F	L	L::100.00(5042)
P2	125	F	D	D::99.88(5036)
P2	126	F	V	V::99.92(5038)
P2	127	F	S	S::100.00(5038)
P2	128	F	A	A::100.00(458)
P2	129	F	A	A::99.56(456)
P2	131	F	Y	Y::100.00(458)
P2	132	F	H	H::100.00(460)
P2	133	F	L	L::100.00(460)
P2	134	F	P	P::100.00(460)
P2	135	F	L	L::99.57(458)
P2	136	F	H	H::100.00(460)
P2	137	F	P	P::100.00(460)
P2	138	F	A	A::100.00(460)
P2	139	F	A	A::100.00(460)
P2	140	F	M	M::100.00(460)
P2	141	F	P	P::100.00(10)
P2	142	F	H	H::100.00(10)
P2	143	F	L	L::100.00(10)
P2	144	F	L	L::100.00(10)
P2	145	F	V	V::100.00(10)
P2	146	F	G	G::100.00(8)
P2	147	F	S	S::100.00(8)
P2	148	F	S	S::100.00(4)
P2	149	F	G	G::100.00(4)
P2	150	F	L	L::100.00(4)
P2	151	F	S	S::100.00(4)
P2	152	F	R	R::100.00(4)
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P2	154	F	V	V::100.00(3594)

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P2	156	F	R	R::100.00(3684)
P2	157	F	L	L::99.95(3684)
P2	158	F	S	S::99.89(3684)
P2	159	F	Y	Y::99.78(3678)
P2	160	F	D	D::99.78(3680)
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P2	162	F	R	R::99.73(3682)
P2	163	F	I	I::99.95(3690)
P2	165	F	N	N::99.95(3690)
P2	166	F	H	H::99.84(3686)
P2	167	F	Q	Q::99.89(3686)
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P2	169	F	G	G::99.84(3688)
P2	170	F	T	T::99.95(3692)
P2	171	F	M	M::99.95(3690)
P2	172	F	Q	Q::99.73(3682)
P2	173	F	D	D::99.68(3682)
P2	174	F	L	L::99.95(3692)
P2	175	F	H	H::100.00(3694)
P2	176	F	N	N::99.73(3684)
P2	177	F	S	S::100.00(3694)
P2	178	F	C	C::99.95(3692)
P2	179	F	S	S::100.00(3694)
P2	180	F	R	R::99.78(3686)
P2	181	F	N	N::99.89(3690)
P2	182	F	L	L::99.95(3692)
P2	183	F	Y	Y::100.00(3694)
P2	184	F	V	V::99.89(3690)
P2	185	F	S	S::99.89(3690)
P2	186	F	L	L::99.78(3686)
P2	187	F	L	L::99.84(3688)
P2	188	F	L	L::100.00(3694)
P2	189	F	L	L::99.84(3688)
P2	190	F	Y	Y::99.78(3686)
P2	191	F	Q	Q::99.84(3688)
P2	192	F	T	T::99.89(3692)
P2	194	F	G	G::99.84(3690)
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P2	196	F	K	K::99.95(3694)
P2	197	F	L	L::100.00(3696)
P2	198	F	H	H::99.84(3690)
P2	199	F	L	L::99.89(3692)
P2	200	F	Y	Y::99.95(3694)
P2	201	F	S	S::100.00(3696)
P2	202	F	H	H::99.89(3656)
P2	203	F	P	P::100.00(3658)
P2	204	F	I	I::100.00(8)
P2	205	F	I	I::100.00(8)
P2	206	F	L	M::50.00(4) L::50.00(4)
P2	207	F	G	G::100.00(8)

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P2	211	F	I	I::100.00(8)
P2	212	F	P	P::100.00(8)
P2	213	F	M	M::100.00(10)
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P2	215	F	V	V::100.00(10)
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P2	217	F	L	L::100.00(10)
P2	218	F	S	S::100.00(10)
P2	219	F	P	P::100.00(10)
P2	221	F	L	L::100.00(10)
P2	222	F	L	L::100.00(12)
P2	223	F	A	A::100.00(10)
P2	224	F	Q	Q::100.00(10)
P2	226	F	T	T::100.00(10)
P2	227	F	S	S::100.00(10)
P2	228	F	A	A::100.00(12)
P2	229	F	I	I::100.00(12)
P2	230	F	C	C::100.00(10)
P2	231	F	S	S::100.00(10)
P2	232	F	V	V::100.00(10)
P2	233	F	V	V::100.00(10)
P2	234	F	R	R::100.00(10)
P2	235	F	R	R::100.00(10)
P2	236	F	A	A::100.00(10)
P2	238	F	P	P::100.00(10)
P2	239	F	H	H::100.00(10)
P2	240	F	C	C::100.00(10)
P2	241	F	L	L::100.00(8)
P2	242	F	A	A::100.00(8)
P2	244	F	S	S::100.00(8)
P2	245	F	Y	Y::100.00(8)
P2	246	F	M	M::100.00(8)
P2	247	F	D	D::100.00(8)
P2	248	F	D	D::100.00(8)
P2	249	F	V	V::100.00(8)
P2	250	F	V	V::100.00(8)
P2	251	F	L	L::100.00(8)
P2	252	F	G	G::100.00(8)
P2	253	F	A	A::100.00(8)
P2	254	F	K	K::100.00(8)
P2	255	F	S	S::100.00(8)
P2	256	F	V	V::75.00(6) L::25.00(2)
P2	257	F	Q	Q::100.00(8)
P2	258	F	H	H::100.00(8)
P2	259	F	L	L::100.00(8)
P2	260	F	E	E::100.00(8)
P2	261	F	S	S::100.00(6)
P2	262	F	L	L::100.00(4)
P2	263	F	Y	Y::100.00(4)

P2	264	F	T	T::100.00(4)
P2	265	F	A	A::100.00(4)
P2	266	F	V	V::100.00(4)
P2	267	F	T	T::100.00(4)
P2	268	F	N	N::100.00(6)
P2	270	F	L	L::100.00(4)
P2	271	F	L	L::100.00(4)
P2	272	F	S	S::100.00(4)
P2	273	F	L	L::100.00(2)
P2	274	F	G	G::100.00(2)
P2	275	F	I	I::100.00(2)
P2	276	F	H	H::100.00(2)
P2	277	F	L	L::100.00(2)
P2	278	F	N	N::100.00(2)
P2	279	F	P	P::100.00(2)
P2	280	F	N	N::100.00(2)
P2	281	F	K	K::100.00(2)
P2	282	F	T	T::100.00(2)
P2	283	F	K	K::100.00(2)
P2	284	F	R	R::100.00(2)
P2	285	F	W	W::100.00(2)
P2	286	F	G	G::100.00(2)
P2	287	F	Y	Y::100.00(2)
P2	288	F	S	S::100.00(2)
P2	289	F	L	L::100.00(2)
P2	290	F	H	H::100.00(2)
P2	292	F	M	M::100.00(2)
P2	293	F	G	G::100.00(16194)
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P2	297	F	G	G::99.96(16214)
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P2	302	F	L	L::99.95(16210)
P2	303	F	P	P::99.94(16204)
P2	304	F	Q	Q::99.98(16214)
P2	305	F	D	D::99.96(16210)
P2	306	F	H	H::99.89(16202)
P2	307	F	I	I::99.95(16212)
P2	308	F	T	T::99.91(16204)
P2	309	F	Q	Q::99.94(16192)
P2	310	F	K	K::99.99(16218)
P2	311	F	I	I::99.96(16214)
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P2	313	F	E	E::99.93(16208)
P2	314	F	C	C::99.94(16210)
P2	316	F	R	R::99.94(16202)
P2	317	F	K	K::99.90(16204)

P2	318	F	L	L::99.95(16210)
P2	319	F	P	P::99.89(16206)
P2	320	F	V	V::99.90(16206)
P2	321	F	N	N::99.90(16208)
P2	322	F	R	R::99.89(16200)
P2	323	F	P	P::99.89(16200)
P2	324	F	I	I::99.95(16210)
P2	325	F	D	D::99.93(16206)
P2	326	F	W	W::99.89(16200)
P2	327	F	K	K::99.95(16210)
P2	328	F	V	V::99.94(16206)
P2	329	F	C	C::99.84(16190)
P2	330	F	Q	Q::99.88(16198)
P2	331	F	R	R::99.74(16172)
P2	332	F	I	I::99.99(16212)
P2	333	F	V	V::99.88(16190)
P2	334	F	G	G::99.95(16202)
P2	335	F	L	L::99.90(16180)
P2	336	F	L	L::99.88(16184)
P2	337	F	G	G::99.96(16192)
P2	339	F	A	A::99.79(16158)
P2	340	F	A	A::99.79(16148)
P2	341	F	P	P::99.93(16100)
P2	343	F	T	T::100.00(8)
P2	344	F	Q	Q::100.00(10)
P2	345	F	C	C::100.00(10)
P2	346	F	G	G::100.00(10)
P2	347	F	Y	Y::100.00(10)
P2	348	F	P	P::100.00(10)
P2	349	F	A	A::100.00(10)
P2	350	F	L	L::100.00(10)
P2	351	F	M	M::80.00(8) K::20.00(2)
P2	352	F	P	P::100.00(10)
P2	353	F	L	L::100.00(10)
P2	354	F	Y	Y::100.00(10)
P2	355	F	A	A::100.00(10)
P2	356	F	C	C::100.00(10)
P2	357	F	I	I::80.00(8) T::20.00(2)
P2	358	F	Q	Q::100.00(12)
P2	359	F	S	S::100.00(12)
P2	360	F	K	K::100.00(12)
P2	361	F	Q	Q::100.00(12)
P2	362	F	A	A::100.00(12)
P2	364	F	T	T::100.00(12)
P2	366	F	S	S::100.00(12)
P2	367	F	P	P::100.00(12)
P2	368	F	T	T::100.00(12)
P2	369	F	Y	Y::100.00(6)
P2	370	F	K	K::100.00(6)
P2	371	F	A	A::100.00(6)
P2	373	F	L	L::100.00(6)

P2	374	F	C	C::100.00(6)
P2	375	F	K	K::100.00(6)
P2	376	F	Q	Q::100.00(6)
P2	377	F	Y	Y::100.00(6)
P2	378	F	L	L::100.00(6)
P2	379	F	N	N::100.00(6)
P2	380	F	L	L::100.00(4)
P2	381	F	Y	Y::100.00(6)
P2	382	F	P	P::100.00(6)
P2	383	F	V	V::100.00(6)
P2	384	F	A	A::100.00(6)
P2	385	F	R	R::75.00(6) G::25.00(2)
P2	386	F	Q	Q::100.00(8)
P2	387	F	R	R::100.00(8)
P2	388	F	P	P::100.00(6)
P2	389	F	G	G::100.00(6)
P2	390	F	L	L::100.00(8)
P2	391	F	C	C::100.00(8)
P2	392	F	Q	Q::100.00(8)
P2	393	F	V	V::100.00(8)
P2	395	F	A	A::100.00(8)
P2	396	F	D	D::100.00(8)
P2	397	F	A	A::100.00(8)
P2	398	F	T	T::100.00(8)
P2	399	F	P	P::100.00(10)
P2	400	F	T	T::100.00(10)
P2	401	F	G	G::100.00(8)
P2	402	F	W	W::100.00(10)
P2	403	F	G	G::100.00(10)
P2	404	F	L	L::100.00(10)
P2	405	F	A	A::80.00(8) V::20.00(2)
P2	406	F	I	I::66.67(8) M::33.33(4)
P2	407	F	G	G::100.00(12)
P2	408	F	H	H::100.00(12)
P2	409	F	Q	Q::100.00(12)
P2	410	F	R	R::100.00(12)
P2	411	F	M	M::100.00(14)
P2	412	F	R	R::100.00(14)
P2	413	F	G	G::100.00(14)
P2	414	F	T	T::100.00(14)
P2	416	F	V	V::85.71(12) R::14.29(2)
P2	417	F	A	A::100.00(14)
P2	418	F	P	P::100.00(30768)
P2	419	F	L	L::100.00(30768)
P2	420	F	P	P::99.98(30854)
P2	421	F	I	I::99.90(30864)
P2	422	F	H	H::99.88(30860)
P2	423	F	T	T::99.95(30882)
P2	424	F	A	A::99.90(30864)
P2	425	F	E	E::99.95(30882)
P2	426	F	L	L::99.94(30874)

P2	427	F	L	L::99.92(30872)
P2	428	F	A	A::99.95(30880)
P2	429	F	A	A::99.87(30854)
P2	430	F	C	C::99.92(30868)
P2	432	F	A	A::99.95(66090)
P2	433	F	R	R::99.91(66372)
P2	434	F	S	S::99.91(66412)
P2	435	F	R	R::99.89(66406)
P2	436	F	S	S::99.94(66444)
P2	437	F	G	G::99.93(66446)
P2	438	F	A	A::99.94(66460)
P2	439	F	N	N::99.92(66454)
P2	440	F	I	I::99.92(66462)
P2	441	F	L	L::99.92(66464)
P2	442	F	G	G::99.93(66468)
P2	443	F	T	T::99.92(66460)
P2	444	F	D	D::99.87(66426)
P2	445	F	N	N::99.91(66460)
P2	446	F	S	S::99.94(66476)
P2	447	F	V	V::99.95(66486)
P2	448	F	V	V::99.95(66486)
P2	449	F	L	L::99.91(66456)
P2	450	F	S	S::99.89(66444)
P2	451	F	R	R::99.90(66454)
P2	452	F	K	K::99.91(66452)
P2	453	F	Y	Y::99.91(66452)
P2	454	F	T	T::99.95(66480)
P2	455	F	S	S::99.95(66476)
P2	457	F	P	P::99.93(66452)
P2	458	F	W	W::99.90(66442)
P2	459	F	L	L::99.94(66464)
P2	460	F	L	L::99.94(66462)
P2	461	F	G	G::99.97(66478)
P2	462	F	C	C::99.89(66422)
P2	463	F	A	A::99.85(66390)
P2	464	F	A	A::99.75(66316)
P2	465	F	N	N::99.93(66434)
P2	466	F	W	W::99.86(66358)
P2	467	F	I	I::99.96(66258)
P2	468	F	L	L::99.93(35622)
P2	469	F	R	R::99.82(35572)
P2	470	F	G	G::99.93(35618)
P2	471	F	T	T::99.93(35614)
P2	472	F	S	S::99.90(35610)
P2	474	F	V	V::99.96(35624)
P2	475	F	Y	Y::99.96(35632)
P2	476	F	V	V::99.91(35610)
P2	477	F	P	P::99.96(35630)
P2	478	F	S	S::99.89(35602)
P2	479	F	A	A::99.96(35624)
P2	480	F	L	L::99.92(35594)

P2	481	F	N	N::100.00(35526)
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	V	V::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(2)
P2	520	F	S	S::100.00(2)
P2	521	F	H	H::100.00(2)
P2	522	F	L	L::100.00(2)
P2	523	F	P	P::100.00(2)
P2	524	F	D	D::100.00(2)
P2	525	F	R	R::100.00(2)
P2	526	F	V	V::100.00(2)
P2	527	F	H	H::100.00(2)
P2	529	F	A	A::100.00(2)
P2	530	F	S	S::100.00(2)
P2	531	F	P	P::100.00(4)
P2	532	F	L	L::100.00(4)
P2	533	F	H	H::100.00(4)
P2	534	F	V	V::100.00(12238)
P2	535	F	A	A::99.89(12246)
P2	536	F	W	W::99.90(12246)
P2	537	F	R	R::99.71(12224)
P2	538	F	P	P::99.95(12254)
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S2	1	F	S	S::100.00(4)
S2	2	F	T	T::100.00(4)
S2	3	F	T	T::100.00(4)
S2	5	F	H	H::100.00(6)
S2	6	F	Q	Q::100.00(6)
S2	7	F	T	T::100.00(6)
S2	8	F	L	L::100.00(6)
S2	9	F	Q	Q::100.00(6)
S2	10	F	D	D::100.00(6)
S2	11	F	P	P::100.00(6)
S2	12	F	R	R::100.00(6)
S2	13	F	V	V::100.00(6)
S2	14	F	R	R::100.00(6)
S2	15	F	G	G::100.00(6)
S2	16	F	L	L::100.00(6)
S2	17	F	Y	Y::100.00(6)
S2	18	F	L	L::66.67(4) F::33.33(2)
S2	19	F	P	P::100.00(8)
S2	20	F	A	A::100.00(20)
S2	21	F	G	G::100.00(20)

S2	22	F	G	G::100.00(446)
S2	23	F	S	S::100.00(446)
S2	24	F	S	S::100.00(448)
S2	25	F	S	S::100.00(448)
S2	26	F	G	G::100.00(810)
S2	27	F	T	T::100.00(828)
S2	28	F	V	V::99.76(826)
S2	29	F	N	N::99.04(822)
S2	30	F	P	P::100.00(830)
S2	31	F	V	V::99.76(828)
S2	32	F	P	P::100.00(830)
S2	33	F	T	T::99.76(828)
S2	34	F	T	T::100.00(830)
S2	35	F	V	V::99.27(820)
S2	36	F	S	S::100.00(826)
S2	37	F	P	P::99.52(822)
S2	38	F	I	I::100.00(826)
S2	39	F	S	S::100.00(826)
S2	40	F	S	S::100.00(826)
S2	41	F	I	I::100.00(826)
S2	43	F	S	S::100.00(824)
S2	44	F	R	R::99.76(822)
S2	45	F	I	I::100.00(824)
S2	46	F	G	G::100.00(824)
S2	47	F	D	D::99.76(820)
S2	48	F	L	L::99.51(818)
S2	49	F	A	A::99.76(820)
S2	50	F	P	P::100.00(820)
S2	51	F	N	N::99.76(818)
S2	52	F	M	M::99.76(818)
S2	53	F	E	E::99.51(816)
S2	54	F	N	N::99.76(818)
S2	55	F	I	I::100.00(822)
S2	56	F	T	T::99.51(818)
S2	57	F	S	S::100.00(822)
S2	58	F	G	G::100.00(822)
S2	59	F	L	L::98.05(806)
S2	60	F	L	L::100.00(7634)
S2	61	F	G	G::99.96(11372)
S2	62	F	P	P::100.00(11392)
S2	63	F	L	L::99.91(11386)
S2	64	F	L	L::99.93(11390)
S2	65	F	V	V::99.93(11390)
S2	66	F	L	L::99.91(11384)
S2	67	F	Q	Q::99.96(11394)
S2	68	F	A	A::99.93(11390)
S2	69	F	G	G::99.86(11380)
S2	72	F	L	L::99.95(10966)
S2	73	F	L	L::99.95(10968)
S2	74	F	T	T::99.93(10964)
S2	75	F	R	R::99.94(10584)

S2	76	F	I	I::99.96(10586)
S2	77	F	L	L::99.94(10582)
S2	78	F	T	T::99.98(10590)
S2	79	F	I	I::99.91(15100)
S2	80	F	P	P::99.97(15158)
S2	81	F	Q	Q::99.91(15148)
S2	82	F	S	S::99.87(15144)
S2	83	F	L	L::99.92(15152)
S2	84	F	D	D::99.93(15154)
S2	85	F	S	S::99.89(15150)
S2	86	F	W	W::99.87(15146)
S2	87	F	W	W::99.91(15152)
S2	88	F	T	T::99.88(15148)
S2	89	F	S	S::99.95(15158)
S2	90	F	L	L::99.92(15154)
S2	91	F	N	N::99.92(15148)
S2	93	F	L	L::99.86(15586)
S2	94	F	G	G::99.96(15594)
S2	95	F	G	G::99.82(15566)
S2	96	F	T	T::99.90(15580)
S2	97	F	T	T::99.94(15586)
S2	98	F	V	V::99.76(15560)
S2	99	F	C	C::99.95(15592)
S2	100	F	L	L::99.88(15578)
S2	101	F	G	G::99.86(15576)
S2	102	F	Q	Q::99.83(15572)
S2	103	F	N	N::99.97(15546)
S2	104	F	S	S::99.95(8728)
S2	105	F	R	R::99.70(8686)
S2	106	F	S	S::99.93(8706)
S2	107	F	P	P::99.98(8610)
S2	108	F	T	T::99.91(8600)
S2	109	F	S	S::99.84(8576)
S2	110	F	N	N::99.86(8498)
S2	111	F	H	H::99.92(5040)
S2	112	F	S	S::99.96(5040)
S2	113	F	P	P::99.80(5032)
S2	114	F	T	T::100.00(5042)
S2	115	F	S	S::99.80(5032)
S2	116	F	C	C::99.88(5036)
S2	117	F	P	P::99.88(5036)
S2	118	F	P	P::99.96(5038)
S2	119	F	T	T::99.88(5036)
S2	120	F	C	C::99.88(5036)
S2	121	F	P	P::99.92(5038)
S2	122	F	G	G::99.96(5040)
S2	123	F	Y	Y::100.00(5042)
S2	124	F	R	R::99.88(5036)
S2	125	F	W	W::99.88(5036)
S2	126	F	M	M::99.92(5038)
S2	127	F	C	C::99.88(5036)

S2	128	F	L	L::100.00(5038)
S2	129	F	R	R::99.56(456)
S2	130	F	R	R::100.00(458)
S2	132	F	I	I::100.00(460)
S2	133	F	I	I::100.00(460)
S2	135	F	L	L::100.00(460)
S2	137	F	I	I::100.00(460)
S2	138	F	L	L::100.00(460)
S2	139	F	L	L::100.00(460)
S2	140	F	L	L::100.00(460)
S2	141	F	C	C::100.00(10)
S2	142	F	L	L::100.00(10)
S2	143	F	I	I::100.00(10)
S2	145	F	L	L::100.00(10)
S2	146	F	L	L::100.00(10)
S2	147	F	V	V::100.00(8)
S2	148	F	L	L::100.00(4)
S2	149	F	L	L::100.00(4)
S2	150	F	D	D::100.00(4)
S2	151	F	Y	Y::100.00(4)
S2	152	F	Q	Q::100.00(4)
S2	153	F	G	G::100.00(4)
S2	154	F	M	M::100.00(8)
S2	155	F	L	L::100.00(3594)
S2	156	F	P	P::100.00(3684)
S2	157	F	V	V::100.00(3686)
S2	158	F	C	C::99.89(3682)
S2	159	F	P	P::99.95(3686)
S2	160	F	M	M::99.84(3680)
S2	161	F	I	I::99.89(3684)
S2	162	F	P	P::99.78(3680)
S2	163	F	G	G::99.84(3686)
S2	164	F	S	S::100.00(3692)
S2	165	F	S	S::100.00(3692)
S2	166	F	T	T::99.89(3688)
S2	167	F	T	T::100.00(3690)
S2	168	F	S	S::99.95(3690)
S2	169	F	T	T::100.00(3692)
S2	170	F	G	G::99.78(3686)
S2	171	F	P	P::100.00(3692)
S2	172	F	C	C::100.00(3692)
S2	173	F	R	R::99.78(3684)
S2	174	F	T	T::100.00(3694)
S2	175	F	C	C::99.78(3686)
S2	176	F	T	T::100.00(3694)
S2	177	F	T	T::99.95(3692)
S2	178	F	P	P::99.78(3686)
S2	179	F	A	A::100.00(3694)
S2	180	F	Q	Q::99.89(3690)
S2	181	F	G	G::99.84(3690)
S2	182	F	T	T::99.95(3692)

S2	183	F	S	S::99.95(3692)
S2	184	F	M	M::100.00(3694)
S2	185	F	Y	Y::99.84(3688)
S2	186	F	P	P::99.84(3688)
S2	187	F	S	S::99.78(3686)
S2	188	F	C	C::99.89(3690)
S2	189	F	C	C::100.00(3694)
S2	190	F	C	C::99.78(3686)
S2	191	F	T	T::99.84(3688)
S2	192	F	K	K::99.95(3694)
S2	193	F	P	P::99.89(3690)
S2	194	F	S	S::99.89(3692)
S2	195	F	D	D::99.95(3694)
S2	196	F	G	G::99.89(3692)
S2	197	F	N	N::99.95(3694)
S2	198	F	C	C::100.00(3696)
S2	199	F	T	T::99.95(3694)
S2	200	F	C	C::99.84(3690)
S2	201	F	I	I::99.95(3694)
S2	202	F	P	P::100.00(3696)
S2	203	F	I	I::99.95(3658)
S2	204	F	P	P::100.00(8)
S2	205	F	S	S::100.00(8)
S2	206	F	S	S::100.00(8)
S2	207	F	W	W::100.00(8)
S2	208	F	A	A::100.00(8)
S2	210	F	G	G::100.00(6)
S2	211	F	K	K::100.00(6)
S2	213	F	L	L::100.00(10)
S2	214	F	W	W::100.00(10)
S2	215	F	E	E::100.00(10)
S2	216	F	W	W::100.00(10)
S2	217	F	A	A::100.00(10)
S2	218	F	S	S::100.00(10)
S2	219	F	A	A::100.00(10)
S2	220	F	R	R::100.00(10)
S2	222	F	S	S::100.00(10)
S2	223	F	W	W::100.00(10)
S2	224	F	L	L::100.00(10)
S2	225	F	S	S::100.00(10)
S2	226	F	L	L::100.00(10)
S2	227	F	L	L::100.00(10)
S2	228	F	V	V::100.00(10)
S2	229	F	P	P::100.00(12)
S2	231	F	V	V::100.00(10)
S2	232	F	Q	Q::100.00(10)
S2	233	F	W	W::100.00(10)
S2	235	F	V	V::100.00(10)
S2	236	F	G	G::100.00(10)
S2	237	F	L	L::100.00(10)
S2	238	F	S	S::100.00(10)

	S2	239	F	P	P::100.00(10)
	S2	240	F	T	T::100.00(10)
	S2	241	F	V	V::100.00(10)
	S2	242	F	W	W::100.00(8)
	S2	243	F	L	L::100.00(8)
	S2	244	F	S	S::100.00(8)
	S2	245	F	V	V::100.00(8)
	S2	246	F	I	I::100.00(8)
	S2	247	F	W	W::100.00(8)
	S2	248	F	M	M::100.00(8)
S2	249	F	M	M::100.00(8)	
S2	250	F	W	W::100.00(8)	
S2	251	F	Y	Y::100.00(8)	
S2	252	F	W	W::100.00(8)	
S2	253	F	G	G::100.00(8)	
S2	254	F	P	P::100.00(8)	
S2	255	F	S	S::100.00(8)	
S2	256	F	L	L::100.00(8)	
S2	257	F	Y	Y::100.00(8)	
S2	258	F	N	N::75.00(6) S::25.00(2)	
S2	259	F	I	I::100.00(8)	
S2	260	F	L	L::100.00(8)	
S2	261	F	S	S::100.00(8)	
S2	262	F	P	P::100.00(6)	
S2	264	F	I	I::100.00(4)	
S2	265	F	P	P::100.00(4)	
S2	266	F	L	L::100.00(4)	
S2	267	F	*	*::100.00(4) temp3:variations temp1:temp2 quality.eps:res mapPerc:qu	
S2	268	F	P	P::100.00(4)	
S2	269	F	I	I::100.00(6)	
S2	272	F	C	C::100.00(4)	
S2	273	F	L	L::100.00(4)	
S2	274	F	W	W::100.00(2)	
S2	275	F	A	A::100.00(2)	
S2	276	F	Y	Y::100.00(2)	
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X	1	F	M	M::99.92(66456)	
X	2	F	A	A::99.92(66452)	
X	3	F	A	A::99.93(66460)	
X	4	F	R	R::99.96(66470)	
X	5	F	L	L::99.96(66464)	
X	6	F	C	C::99.89(66412)	
X	7	F	C	C::99.76(66324)	
X	8	F	Q	Q::99.91(66420)	
X	9	F	L	L::99.87(66386)	
X	10	F	D	D::99.96(66382)	
X	11	F	P	P::99.97(35632)	
X	12	F	A	A::99.81(35572)	
X	13	F	R	R::99.96(35622)	
X	14	F	D	D::99.93(35618)	
X	15	F	V	V::99.84(35584)	
X	16	F	L	L::99.83(35566)	

X	17	F	C	C::99.95(35620)
X	18	F	L	L::99.97(35634)
X	19	F	R	R::99.92(35618)
X	20	F	P	P::99.96(35626)
X	21	F	V	V::99.88(35596)
X	22	F	G	G::99.94(35620)
X	23	F	A	A::99.92(35610)
X	24	F	E	E::100.00(35580)
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(2)
X	64	F	S	S::100.00(2)
X	65	F	S	S::100.00(2)
X	66	F	A	A::100.00(2)
X	67	F	G	G::100.00(2)
X	68	F	P	P::100.00(2)
X	69	F	C	C::100.00(2)
X	70	F	A	A::100.00(2)
X	71	F	L	L::100.00(2)
X	72	F	R	R::100.00(2)
X	74	F	P	T::50.00(2) P::50.00(2)
X	75	F	S	S::100.00(4)
X	76	F	A	A::100.00(4)
X	77	F	R	R::100.00(12028)
X	78	F	R	R::99.90(12242)
X	79	F	M	M::99.87(12244)
X	80	F	E	E::99.89(12244)
X	81	F	T	T::99.79(12234)
X	82	F	T	T::99.92(12250)
X	83	F	V	V::99.93(12250)
X	84	F	N	N::99.95(12254)
X	85	F	A	A::99.49(12198)
X	86	F	H	H::99.89(12246)
X	87	F	Q	Q::99.95(12254)
X	89	F	L	L::99.97(12256)
X	90	F	P	P::99.90(12244)
X	91	F	K	K::99.87(12244)
X	92	F	V	V::99.98(12258)
X	93	F	L	L::99.93(12252)
X	94	F	H	H::98.27(12046)
X	95	F	K	K::99.93(12250)
X	96	F	R	R::99.92(12250)

X	97	F	T	T::99.92(12250)
X	98	F	L	L::99.87(12244)
X	99	F	G	G::99.95(12252)
X	100	F	L	L::99.97(12254)
X	101	F	S	S::99.85(12240)
X	102	F	V	V::99.85(12240)
X	103	F	M	M::99.97(12254)
X	104	F	S	S::99.90(12246)
X	105	F	T	T::99.92(12244)
X	106	F	T	T::98.55(12076)
X	107	F	D	D::99.12(12144)
X	108	F	L	L::99.98(12248)
X	109	F	E	E::99.87(12234)
X	110	F	A	A::99.85(12232)
X	111	F	Y	Y::99.85(12230)
X	113	F	K	K::99.97(12246)
X	114	F	D	D::99.72(12216)
X	115	F	C	C::99.84(12230)
X	116	F	L	L::99.97(12246)
X	118	F	K	K::99.87(12224)
X	119	F	D	D::99.75(12212)
X	120	F	W	W::99.80(12212)
X	121	F	E	E::99.92(12226)
X	122	F	E	E::100.00(12222)
X	123	F	L	L::99.71(12182)
X	124	F	G	G::99.97(12202)
X	125	F	E	E::100.00(11986)
X	126	F	E	E::100.00(10)
X	127	F	I	I::100.00(4)
X	128	F	R	R::100.00(4)
X	129	F	L	L::100.00(4)
X	130	F	R	R::50.00(2) K::50.00(2)
X	131	F	L	V::50.00(2) L::50.00(2)
X	133	F	V	V::100.00(6)
X	134	F	L	L::100.00(6)
X	135	F	G	G::100.00(6)
X	136	F	G	G::100.00(6)
X	137	F	C	C::100.00(6)
X	138	F	R	R::100.00(6)
X	139	F	H	H::100.00(6)
X	140	F	K	K::100.00(6)
X	141	F	L	L::100.00(6)
X	142	F	V	V::100.00(6)
X	143	F	C	C::100.00(6)
X	144	F	A	A::100.00(6)
X	145	F	P	P::100.00(202)
X	146	F	A	A::100.00(202)
X	147	F	P	P::100.00(202)
X	148	F	C	C::100.00(202)
X	149	F	N	N::100.00(202)
X	152	F	T	T::100.00(206)

X	153	F	S	S::100.00(4300)
C	1	F	M	M::99.88(22270)
C	2	F	D	D::99.96(40772)
C	3	F	I	I::99.97(41538)
C	4	F	D	D::99.91(41512)
C	5	F	P	P::99.98(41608)
C	6	F	Y	Y::99.94(41600)
C	7	F	K	K::99.96(41622)
C	8	F	E	E::99.96(41632)
C	10	F	G	G::99.95(41626)
C	11	F	A	A::99.97(41638)
C	12	F	T	T::99.92(41618)
C	13	F	V	V::99.97(41636)
C	14	F	E	E::99.44(41426)
C	15	F	L	L::99.93(41620)
C	16	F	L	L::99.97(41642)
C	17	F	S	S::99.93(41428)
C	19	F	L	L::99.88(41378)
C	20	F	P	P::99.86(41372)
C	21	F	Q	Q::99.82(41352)
C	22	F	D	D::99.94(41434)
C	25	F	P	P::99.98(41446)
C	26	F	S	S::99.93(36640)
C	27	F	V	V::99.96(36652)
C	28	F	R	R::99.89(36622)
C	29	F	D	D::99.94(36642)
C	30	F	L	L::99.97(36644)
C	31	F	L	L::99.92(19562)
C	32	F	D	D::99.99(19564)
C	33	F	T	T::99.96(19496)
C	34	F	A	A::99.89(19478)
C	35	F	A	A::99.87(19476)
C	36	F	A	A::99.93(19488)
C	37	F	L	L::99.98(19498)
C	39	F	R	R::99.95(20022)
C	40	F	E	E::99.87(24186)
C	41	F	A	A::99.92(24352)
C	42	F	L	L::99.98(24372)
C	43	F	E	E::99.96(24388)
C	44	F	S	S::99.93(24382)
C	45	F	P	P::99.98(24404)
C	46	F	E	E::99.92(33796)
C	47	F	H	H::99.94(34586)
C	48	F	C	C::99.86(34558)
C	49	F	S	S::99.96(34602)
C	50	F	P	P::99.98(34564)
C	51	F	H	H::99.93(15144)
C	52	F	H	H::99.96(15164)
C	53	F	T	T::99.85(15150)
C	54	F	A	A::99.82(15144)
C	55	F	L	L::99.95(15166)

C	56	F	R	R::99.92(15162)
C	57	F	Q	Q::99.95(15180)
C	58	F	A	A::99.95(15182)
C	59	F	I	I::99.96(15202)
C	60	F	L	L::99.95(15204)
C	61	F	C	C::99.93(15204)
C	62	F	W	W::99.92(15196)
C	63	F	G	G::99.98(16760)
C	64	F	D	D::79.51(19376) E::20.30(4946)
C	65	F	L	L::99.94(24732)
C	66	F	M	M::99.87(24780)
C	67	F	N	N::79.95(19836) T::19.99(4960)
C	68	F	L	L::99.94(24798)
C	69	F	A	A::99.94(24800)
C	70	F	T	T::99.94(24798)
C	71	F	W	W::99.90(24790)
C	72	F	V	V::99.93(24802)
C	73	F	G	G::99.92(24802)
C	74	F	G	G::99.81(24774)
C	75	F	N	N::99.94(24820)
C	76	F	L	L::99.93(24820)
C	77	F	E	E::99.86(24802)
C	78	F	D	D::99.91(24814)
C	79	F	P	P::99.93(24820)
C	80	F	V	V::79.96(19860) I::20.00(4968)
C	81	F	S	S::99.95(24824)
C	82	F	R	R::99.94(24820)
C	83	F	D	D::99.90(24824)
C	84	F	L	L::99.93(24830)
C	85	F	V	V::99.94(24832)
C	86	F	V	V::99.94(24832)
C	87	F	G	G::79.99(19872) S::20.00(4968)
C	88	F	Y	Y::99.94(24828)
C	89	F	V	V::99.98(19858)
C	90	F	N	N::99.99(19860)
C	91	F	T	T::99.98(19856)
C	92	F	T	T::99.92(9580)
C	93	F	V	V::99.92(9578)
C	94	F	G	G::99.94(9582)
C	95	F	L	L::99.96(9582)
C	96	F	K	K::99.96(9586)
C	98	F	R	R::99.94(9584)
C	99	F	Q	Q::99.85(9576)
C	100	F	L	L::99.98(9588)
C	101	F	L	L::99.94(9584)
C	102	F	W	W::99.85(9574)
C	104	F	H	H::99.94(9584)
C	105	F	I	I::100.00(9598)
C	106	F	S	S::99.98(9596)
C	107	F	C	C::99.92(9588)
C	108	F	L	L::99.77(9576)

C	109	F	T	T::99.92(9588)
C	111	F	G	G::99.94(9590)
C	112	F	R	R::100.00(9576)
C	113	F	E	E::71.43(10) Q::28.57(4)
C	114	F	T	T::100.00(14)
C	115	F	V	V::100.00(14)
C	116	F	L	L::57.14(8) I::42.86(6)
C	117	F	E	E::100.00(14)
C	118	F	Y	Y::100.00(12)
C	119	F	L	L::100.00(12)
C	120	F	V	V::100.00(12)
C	121	F	S	S::100.00(12)
C	123	F	G	G::100.00(16)
C	124	F	V	V::100.00(16)
C	125	F	W	W::100.00(16)
C	126	F	I	I::100.00(16)
C	127	F	R	R::100.00(16)
C	128	F	T	T::100.00(16)
C	129	F	P	P::100.00(16)
C	130	F	P	P::87.50(14) Q::12.50(2)
C	131	F	A	A::100.00(16)
C	132	F	Y	Y::100.00(16)
C	133	F	R	R::100.00(16)
C	134	F	P	P::100.00(14)
C	135	F	P	P::100.00(24)
C	136	F	N	N::99.99(31656)
C	137	F	A	A::99.90(31666)
C	138	F	P	P::99.91(31690)
C	139	F	I	I::99.95(31710)
C	140	F	L	L::99.94(31698)
C	141	F	S	S::99.96(31712)
C	142	F	T	T::99.96(31714)
C	143	F	L	L::99.95(31712)
C	144	F	P	P::99.95(31714)
C	145	F	E	E::99.92(31712)
C	146	F	T	T::99.92(31710)
C	147	F	T	T::99.92(31712)
C	148	F	V	V::99.93(31714)
C	149	F	I	I::99.93(31714)
C	150	F	R	R::99.89(31714)
C	151	F	R	R::99.91(31718)
C	152	F	R	R::99.89(31712)
C	153	F	G	G::99.94(31730)
C	154	F	R	R::99.89(31712)
C	155	F	S	S::99.89(31704)
C	156	F	P	P::99.90(31710)
C	157	F	R	R::99.89(31712)
C	158	F	R	R::99.94(31724)
C	159	F	R	R::99.90(31712)
C	160	F	T	T::99.96(31734)
C	161	F	P	P::99.96(31734)

C	162	F	S	S::99.89(31712)
C	163	F	P	P::99.98(31742)
C	164	F	R	R::99.87(31706)
C	165	F	R	R::99.92(31724)
C	166	F	R	R::99.96(31730)
C	167	F	R	R::99.86(31702)
C	168	F	S	S::99.94(31726)
C	169	F	Q	Q::99.91(31718)
C	170	F	S	S::99.95(31734)
C	171	F	P	P::99.90(31714)
C	172	F	R	R::99.92(31718)
C	173	F	R	R::99.82(31686)
C	174	F	R	R::99.96(31728)
C	175	F	R	R::99.91(31712)
C	176	F	S	S::99.96(31730)
C	177	F	Q	Q::99.87(31700)
C	178	F	S	S::99.96(31728)
C	179	F	R	R::99.92(31716)
C	180	F	E	E::99.93(31720)
C	181	F	P	P::99.92(31718)
C	182	F	Q	Q::99.97(31732)
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P1	1	F	M	M::99.97(31672)
P1	2	F	P	P::99.89(31664)
P1	3	F	L	L::99.91(31692)
P1	4	F	S	S::99.94(31708)
P1	5	F	Y	Y::99.94(31698)
P1	6	F	Q	Q::99.91(31698)
P1	7	F	H	H::99.93(31704)
P1	9	F	R	R::99.91(31704)
P1	10	F	R	R::99.91(31708)
P1	11	F	L	L::99.95(31720)
P1	12	F	L	L::99.97(31728)
P1	13	F	L	L::99.89(31700)
P1	14	F	L	L::99.96(31728)
P1	15	F	D	D::99.91(31720)
P1	16	F	D	D::99.90(31716)
P1	17	F	E	E::99.90(31716)
P1	18	F	A	A::99.91(31716)
P1	19	F	G	G::99.94(31720)
P1	20	F	P	P::99.97(31732)
P1	21	F	L	L::99.97(31730)
P1	22	F	E	E::99.92(31720)
P1	23	F	E	E::99.93(31722)
P1	24	F	E	E::99.91(31718)
P1	25	F	L	L::99.94(31726)
P1	26	F	P	P::99.95(31730)
P1	27	F	R	R::99.89(31712)
P1	28	F	L	L::99.94(31728)
P1	29	F	A	A::99.83(31694)
P1	30	F	D	D::99.95(31732)
P1	31	F	E	E::99.91(31716)

P1	32	F	G	G::99.91(31716)
P1	33	F	L	L::99.94(31728)
P1	34	F	N	N::99.89(31712)
P1	35	F	R	R::99.83(31694)
P1	36	F	R	R::99.93(31724)
P1	37	F	V	V::99.92(31718)
P1	38	F	A	A::99.86(31700)
P1	39	F	E	E::99.95(31724)
P1	40	F	D	D::99.94(31724)
P1	41	F	L	L::99.87(31702)
P1	42	F	N	N::99.89(31708)
P1	43	F	L	L::99.96(31728)
P1	44	F	G	G::99.94(31722)
P1	45	F	N	N::99.94(31722)
P1	46	F	L	L::99.86(31698)
P1	47	F	N	N::99.98(31732)
P1	48	F	V	V::100.00(31722)
P1	49	F	G	G::37.50(6) D::37.50(6) S::25.00(4)
P1	50	F	I	I::100.00(10)
P1	51	F	P	P::100.00(22740)
P1	52	F	W	W::99.91(23156)
P1	53	F	T	T::99.94(23232)
P1	54	F	H	H::99.98(23252)
P1	55	F	K	K::99.88(23236)
P1	56	F	V	V::99.92(23248)
P1	57	F	G	G::99.88(23238)
P1	58	F	N	N::99.96(23270)
P1	60	F	T	T::99.80(23248)
P1	61	F	G	G::99.96(23290)
P1	62	F	L	L::99.96(23294)
P1	63	F	Y	Y::99.91(23270)
P1	64	F	S	S::99.97(23308)
P1	65	F	S	S::99.96(23306)
P1	66	F	T	T::99.96(23304)
P1	67	F	V	V::99.93(23300)
P1	68	F	P	P::99.97(23312)
P1	69	F	V	V::99.95(23310)
P1	71	F	N	N::99.96(23322)
P1	72	F	P	P::99.96(30376)
P1	73	F	H	H::99.95(36602)
P1	74	F	W	W::99.83(36594)
P1	75	F	K	K::99.92(36664)
P1	76	F	T	T::99.94(36668)
P1	77	F	P	P::99.96(36684)
P1	78	F	S	S::99.96(37052)
P1	80	F	P	P::99.95(37052)
P1	81	F	N	N::99.97(37060)
P1	82	F	I	I::99.92(37054)
P1	83	F	H	H::99.91(37044)
P1	84	F	L	L::99.93(37052)
P1	85	F	H	H::99.94(37056)

P1	86	F	Q	Q::99.92(37050)
P1	87	F	D	D::99.93(37052)
P1	88	F	I	I::99.95(37054)
P1	89	F	I	I::99.91(37046)
P1	90	F	K	K::99.95(37044)
P1	91	F	K	K::99.97(37022)
P1	92	F	C	C::99.94(37058)
P1	93	F	E	E::99.88(37040)
P1	94	F	Q	Q::99.95(37070)
P1	96	F	V	V::99.95(37070)
P1	97	F	G	G::99.85(37034)
P1	98	F	P	P::99.91(37056)
P1	99	F	L	L::99.93(37054)
P1	100	F	T	T::99.97(37030)
P1	101	F	V	V::99.91(13740)
P1	102	F	N	N::99.90(13742)
P1	103	F	E	E::99.81(13730)
P1	104	F	K	K::99.91(13746)
P1	105	F	R	R::99.88(13742)
P1	106	F	R	R::99.87(13740)
P1	107	F	L	L::99.96(13750)
P1	108	F	Q	Q::99.88(13740)
P1	109	F	L	L::99.96(13752)
P1	110	F	I	I::99.91(13744)
P1	111	F	M	M::99.88(13740)
P1	112	F	P	P::99.74(13722)
P1	113	F	A	A::99.94(13746)
P1	114	F	R	R::99.97(13752)
P1	116	F	Y	Y::99.93(13748)
P1	117	F	P	P::99.93(13748)
P1	118	F	N	N::99.90(13742)
P1	119	F	V	V::99.91(13748)
P1	120	F	T	T::99.96(18174)
P1	121	F	K	K::99.98(18172)
P1	122	F	Y	Y::99.92(4816)
P1	123	F	L	L::99.92(4818)
P1	124	F	P	P::99.79(4814)
P1	125	F	L	L::99.83(4810)
P1	126	F	D	D::99.92(4816)
P1	127	F	K	K::99.83(4754)
P1	128	F	D	D::99.51(4430)
P1	129	F	I	I::99.96(4452)
P1	130	F	K	K::100.00(4454)
P1	131	F	P	P::100.00(4454)
P1	132	F	Y	Y::99.96(4454)
P1	133	F	Y	Y::99.91(4450)
P1	134	F	P	P::100.00(4456)
P1	135	F	E	E::99.69(4508)
P1	136	F	H	H::99.82(4514)
P1	137	F	L	L::99.87(4516)
P1	138	F	V	V::99.87(4516)

P1	139	F	N	N::99.87(4518)
P1	140	F	H	H::99.87(4518)
P1	141	F	Y	Y::99.91(4520)
P1	143	F	Q	Q::99.96(4520)
P1	144	F	T	T::99.91(4518)
P1	145	F	R	R::99.96(4520)
P1	146	F	H	H::100.00(4522)
P1	147	F	Y	Y::99.91(4518)
P1	148	F	L	L::99.96(4520)
P1	149	F	H	H::99.91(4516)
P1	150	F	T	T::99.96(4518)
P1	151	F	L	L::99.87(4510)
P1	152	F	W	W::99.91(4512)
P1	153	F	K	K::100.00(4514)
P1	154	F	A	A::99.96(4512)
P1	155	F	G	G::99.73(4502)
P1	156	F	I	I::99.96(4512)
P1	157	F	L	L::99.91(4510)
P1	158	F	Y	Y::99.87(4508)
P1	159	F	K	K::99.87(4508)
P1	160	F	R	R::99.91(4510)
P1	161	F	E	E::99.87(4508)
P1	162	F	T	T::99.96(4512)
P1	163	F	T	T::100.00(4514)
P1	164	F	R	R::99.82(4506)
P1	165	F	S	S::99.91(4510)
P1	166	F	A	A::99.87(4508)
P1	167	F	S	S::100.00(4514)
P1	169	F	C	C::100.00(70)
P1	170	F	G	G::100.00(72)
P1	171	F	S	S::100.00(72)
P1	172	F	P	P::100.00(72)
P1	173	F	Y	Y::100.00(72)
P1	174	F	S	S::100.00(72)
P1	175	F	W	W::100.00(72)
P1	176	F	E	E::100.00(70)
P1	177	F	Q	Q::100.00(70)
P1	178	F	E	E::100.00(68)
P1	179	F	L	L::100.00(68)
P1	180	F	Q	Q::97.06(66)
P1	181	F	H	H::100.00(68)
P1	182	F	G	G::100.00(68)
P1	183	F	A	A::100.00(68)
P1	184	F	E	E::100.00(68)
P1	185	F	S	S::100.00(2)
P1	187	F	H	H::99.98(11380)
P1	188	F	Q	Q::99.98(11392)
P1	189	F	Q	Q::99.84(11376)
P1	190	F	S	S::99.89(11384)
P1	191	F	S	S::99.93(11390)
P1	192	F	G	G::99.96(11398)

P1	193	F	I	I::99.81(11384)
P1	194	F	L	L::99.93(11398)
P1	195	F	S	S::99.91(11394)
P1	196	F	R	R::99.89(11402)
P1	197	F	P	P::99.98(11410)
P1	198	F	P	P::99.98(11412)
P1	199	F	V	V::99.96(11410)
P1	200	F	G	G::99.98(11410)
P1	201	F	S	S::99.93(11406)
P1	202	F	S	S::99.86(11400)
P1	203	F	L	L::99.95(11410)
P1	204	F	Q	Q::99.96(11412)
P1	205	F	S	S::99.86(11400)
P1	206	F	K	K::99.81(11394)
P1	207	F	H	H::99.93(11408)
P1	208	F	R	R::99.72(11386)
P1	209	F	K	K::99.91(11408)
P1	210	F	S	S::99.96(11414)
P1	211	F	R	R::99.89(11406)
P1	212	F	L	L::99.96(11412)
P1	213	F	G	G::99.96(11414)
P1	214	F	L	L::99.88(11402)
P1	215	F	Q	Q::99.88(11406)
P1	216	F	S	S::99.98(11418)
P1	217	F	Q	Q::99.89(11408)
P1	218	F	Q	Q::99.96(11416)
P1	219	F	G	G::99.93(11410)
P1	220	F	H	H::99.74(11388)
P1	221	F	L	L::99.93(11410)
P1	222	F	A	A::99.79(11390)
P1	223	F	G	G::99.89(11406)
P1	224	F	R	R::99.75(11388)
P1	225	F	Q	Q::99.89(11404)
P1	226	F	Q	Q::99.95(11410)
P1	227	F	G	G::99.88(11396)
P1	228	F	R	R::99.95(11408)
P1	229	F	S	S::99.93(11410)
P1	230	F	W	W::99.82(11398)
P1	231	F	S	S::99.84(11400)
P1	232	F	I	I::99.93(11410)
P1	233	F	R	R::99.89(11406)
P1	234	F	A	A::99.86(11396)
P1	235	F	G	G::99.96(11404)
P1	236	F	V	V::33.33(2) I::33.33(2) G::33.33(2)
P1	237	F	H	H::66.67(4) D::33.33(2)
P1	238	F	P	S::50.00(4) P::50.00(4)
P1	239	F	P	T::50.00(4) P::50.00(4)
P1	240	F	A	T::50.00(4) A::50.00(4)
P1	241	F	R	R::100.00(8)
P1	242	F	R	R::100.00(8)
P1	243	F	P	P::100.00(8)

P1	245	F	G	G::100.00(6)
P1	246	F	V	V::100.00(6)
P1	247	F	E	E::100.00(6)
P1	248	F	P	P::100.00(6)
P1	249	F	S	S::100.00(6)
P1	250	F	G	G::100.00(6)
P1	251	F	S	S::100.00(4)
P1	252	F	G	R::50.00(2) G::50.00(2)
P1	253	F	H	H::100.00(4)
P1	254	F	A	T::50.00(2) A::50.00(2)
P1	255	F	T	T::33.33(2) K::33.33(2) A::33.33(2)
P1	256	F	N	N::100.00(11480)
P1	257	F	L	L::99.95(11480)
P1	258	F	A	A::99.90(11476)
P1	259	F	S	S::99.83(11474)
P1	260	F	K	K::99.84(11478)
P1	261	F	S	S::99.97(11492)
P1	262	F	A	A::99.62(11450)
P1	263	F	S	S::99.93(11486)
P1	264	F	C	C::99.90(11482)
P1	265	F	L	L::99.86(11478)
P1	266	F	H	H::99.91(11484)
P1	267	F	Q	Q::99.91(11484)
P1	268	F	S	S::99.97(11490)
P1	269	F	P	P::99.95(11488)
P1	270	F	V	V::99.95(11488)
P1	271	F	R	R::99.86(11478)
P1	272	F	K	K::99.90(11482)
P1	273	F	A	A::99.79(11470)
P1	274	F	A	A::99.67(11456)
P1	275	F	Y	Y::99.90(11482)
P1	276	F	P	P::99.93(11486)
P1	277	F	S	S::99.88(11480)
P1	278	F	I	I::99.93(11486)
P1	279	F	S	S::99.95(11486)
P1	280	F	T	T::99.93(11486)
P1	282	F	E	E::99.90(11482)
P1	283	F	K	K::99.91(11484)
P1	284	F	H	H::99.90(11482)
P1	285	F	P	P::99.95(11488)
P1	286	F	S	S::99.95(11488)
P1	287	F	S	S::99.93(11486)
P1	288	F	G	G::99.93(11484)
P1	289	F	H	H::99.95(11486)
P1	290	F	A	A::99.77(11466)
P1	291	F	V	V::100.00(11488)
<hr/>				
S1	1	F	M	M::100.00(68)
S1	2	F	G	G::100.00(68)
S1	3	F	Q	Q::100.00(68)
S1	4	F	N	N::100.00(2)
S1	5	F	L	L::100.00(2)

S1	6	F	S	S::100.00(10940)
S1	7	F	T	T::99.98(11384)
S1	8	F	S	S::99.84(11376)
S1	9	F	N	N::99.86(11378)
S1	10	F	P	P::99.91(11388)
S1	11	F	L	L::99.95(11392)
S1	12	F	G	G::100.00(11404)
S1	15	F	P	P::99.93(11404)
S1	16	F	D	D::99.93(11406)
S1	17	F	H	H::99.91(11402)
S1	18	F	Q	Q::99.95(11408)
S1	19	F	L	L::99.95(11408)
S1	20	F	D	D::99.89(11400)
S1	21	F	P	P::99.93(11408)
S1	22	F	A	A::99.86(11400)
S1	24	F	R	R::99.93(11408)
S1	25	F	A	A::99.91(11406)
S1	26	F	N	N::99.82(11396)
S1	27	F	T	T::99.89(11404)
S1	28	F	A	A::99.77(11392)
S1	29	F	N	N::99.95(11412)
S1	30	F	P	P::99.98(11416)
S1	31	F	D	D::99.91(11408)
S1	32	F	W	W::99.93(11408)
S1	33	F	D	D::99.98(11414)
S1	35	F	N	N::99.89(11408)
S1	36	F	P	P::99.96(11416)
S1	37	F	N	N::99.88(11406)
S1	38	F	K	K::99.95(11414)
S1	39	F	D	D::99.95(11412)
S1	40	F	T	T::99.68(11382)
S1	41	F	W	W::99.86(11398)
S1	42	F	P	P::99.77(11390)
S1	43	F	D	D::99.86(11400)
S1	44	F	A	A::99.84(11398)
S1	45	F	N	N::99.89(11404)
S1	46	F	K	K::99.88(11402)
S1	47	F	V	V::99.96(11404)
S1	48	F	G	G::99.96(11412)
S1	49	F	A	A::99.89(11406)
S1	50	F	G	G::99.95(11412)
S1	51	F	A	A::99.82(11398)
S1	53	F	G	G::99.88(11404)
S1	54	F	P	P::99.95(11402)
S1	55	F	G	G::100.00(6)
S1	56	F	F	V::33.33(2) L::33.33(2) F::33.33(2)
S1	57	F	T	T::100.00(6)
S1	58	F	P	P::100.00(8)
S1	59	F	P	P::100.00(8)
S1	60	F	H	H::100.00(8)
S1	61	F	G	G::100.00(8)

S1	62	F	G	G::100.00(8)
S1	63	F	L	L::75.00(6) P::25.00(2)
S1	64	F	L	L::100.00(8)
S1	65	F	G	G::100.00(6)
S1	66	F	W	W::100.00(6)
S1	67	F	S	S::100.00(6)
S1	68	F	P	P::100.00(6)
S1	69	F	Q	Q::100.00(6)
S1	70	F	A	A::100.00(6)
S1	71	F	Q	Q::100.00(4)
S1	72	F	G	G::100.00(4)
S1	73	F	M	M::50.00(2) I::50.00(2)
S1	74	F	L	L::100.00(4)
S1	75	F	Q	Q::99.98(11468)
S1	76	F	T	T::100.00(11482)
S1	77	F	L	L::99.95(11480)
S1	78	F	P	P::99.93(11480)
S1	79	F	A	A::99.81(11472)
S1	80	F	N	N::99.90(11484)
S1	81	F	P	P::99.97(11492)
S1	82	F	P	P::99.83(11474)
S1	83	F	P	P::99.93(11486)
S1	84	F	A	A::99.93(11486)
S1	85	F	S	S::99.84(11476)
S1	86	F	T	T::99.95(11488)
S1	87	F	N	N::99.88(11480)
S1	88	F	R	R::99.91(11484)
S1	89	F	Q	Q::99.90(11482)
S1	90	F	S	S::99.98(11492)
S1	91	F	G	G::99.86(11478)
S1	92	F	R	R::99.91(11484)
S1	93	F	Q	Q::99.83(11474)
S1	94	F	P	P::99.69(11458)
S1	95	F	T	T::99.95(11488)
S1	96	F	P	P::99.95(11488)
S1	97	F	L	L::99.98(11492)
S1	98	F	S	S::99.95(11488)
S1	99	F	P	P::99.95(11486)
S1	100	F	P	P::99.98(11490)
S1	101	F	L	L::99.88(11480)
S1	102	F	R	R::99.95(11488)
S1	103	F	N	N::99.93(11486)
S1	104	F	T	T::99.95(11488)
S1	105	F	H	H::99.95(11488)
S1	106	F	P	P::99.98(11492)
S1	107	F	Q	Q::99.95(11488)
S1	108	F	A	A::99.95(11486)
S1	109	F	M	M::99.86(11476)
S1	110	F	Q	Q::99.70(11458)

Meta data	
Assembly file:	HBV-RYD-29.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-29
Date/Time	Wed 20 Mar 10:40:56 GMT 2019