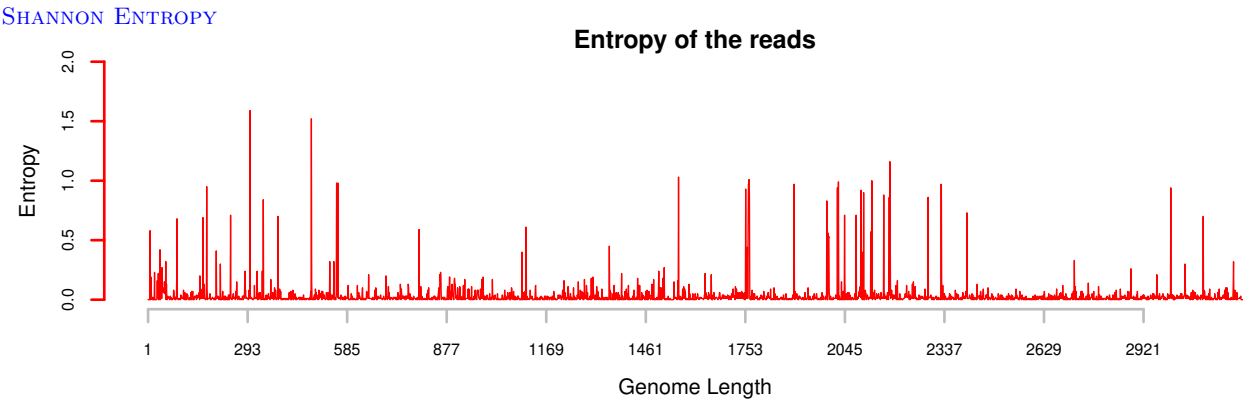
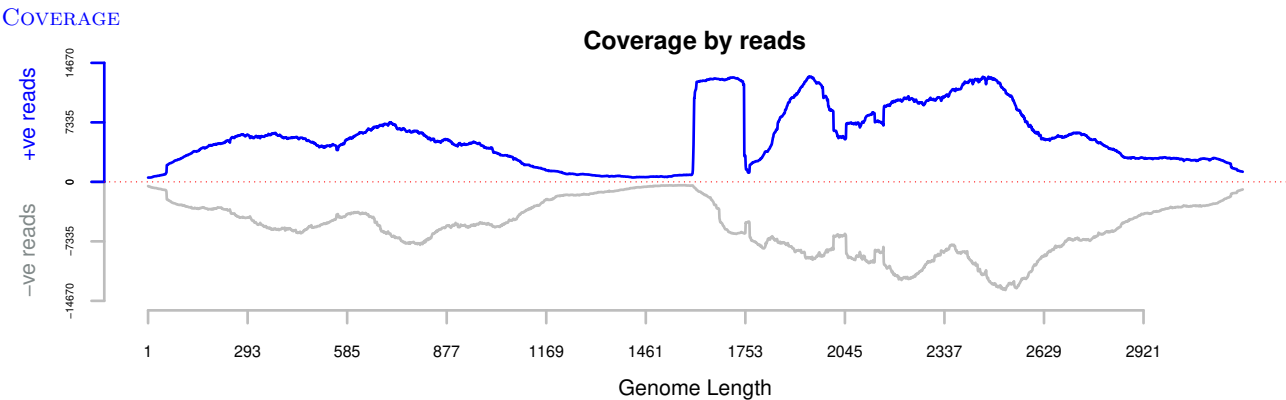
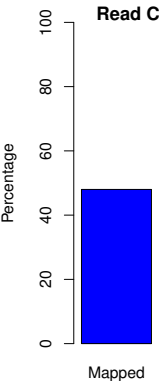


HBV-RYD-13

File name	HBV-RYD-13.sam
Ref name	KX186584.1 Hepatitis B virus isolate Eafr, complete genome
Ref len	3212
Program used	Tanoti Assembler 1.0
Total reads	504706
Mapped reads	244365 (48.42%)
Unmapped reads	260341
Mapped loan pairs	1230
Average read length	146nt
Coverage	3212nt (100.00%)
Average depth	10996 reads/site
Average insert length	68nt



CONSENSUS SEQUENCE

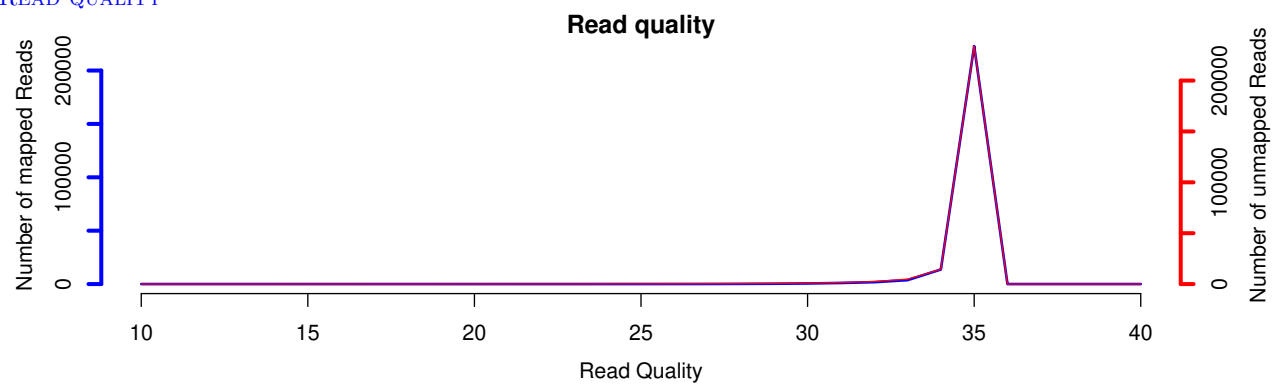
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140    ACCCTGCACC GAACATGGAA AGCATCACAT CAGGATTCCCT AGGACCCCTG CTCGTGTTAC AGGCGGGGTT
210    TTTCTTGTG ACAAAAATCC TCACAATACC TCAGAGTCTA GACTCGTGGT GGACTTCTCT CAATTTTCTA
280    GGGGGAGCTC CCGTGTGTG TGGCCAAAAT TCGCAGTCCC CAACCTCCAG TCACTACCA ACCTCTGTG
350    CTCCAATTG TCCTGGCTAT CGCTGGATGT GTCTGCGCG TTTTATCATC TTCCTCTTCA TCCTGCTGCT
420    ATGCCTCATC TTCTTGTG TTTCTCTGGA CTATCAAGGT ATGTTGCCCC TTTGTCCTCT AATTCCAGGA
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630    AAAATTCCTA TGGGAGTGGG CCTCAGCCCG TTTCTCCTGG CTCAGTTTAC TAGTGCCATT TGTTCACTGG
700    TTCGTGCGGC TTTCCCCCAC TGTCTGGCTT TCAGTTATAT GGATGATGTG GTATTGGGGG CCAAGTCTGT
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840    AACAAAACAA AAAGATGGGG ATATTCCCTA AATTCATGG GTTATGTAAT TGGAAAGTTG GGATCATTGC
910    CACAGGAACA CATCAGAATG AAAATCAAAG ACTGTTTGTAG AAAACTCCCT GTTAACCCGC CTATTGATTG
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1050   TTAATGCCTC TGTATGCGTG TACTCAATCT AAGCAGGCTT TCACTTTCTC GCCAATTAC AAGGCCTTTC
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1190   TGCAACCCCC ACTGGCTGGG GCTTGGCCAT AGGCCATCAG CGCATGCGTG GAACCTTTGT GGCTCCTCTG
1260   CCGATCCATA CTGCGGAACCT CCTAGCCGCT TGTTTTGCTC GCAGCAGGTC TGGAGCGAAA CTTATCGGGA
1330   CAGATAATTC TGTGCTTCTC TCAAGGAAAT ATACATCATT TCCATGGCTG CTAGGCTGTG CTGCCAACTG
1400   GATCCTGCGA GGGACGTCTT TTGTCTACGT CCCGTACGCG CTGAATCCTG CGGACGACCC GTCTCGGGGT
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1540   CGGTCTCCCC GTCTGTACCT TCTCATCTGC CGGACCGTGT GCACTTCGCT TCACCTCTGC ACGTCGCATG
1610   GAGACCACCG TGAACGCCCA CCAAATATTG CCCAAGGTCT TACATAAGAG GACTCTTGA CTCTCTGCAA
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2240   CCGTCATAGA GTATTTGGTG TCTTTTGGAG TGTGGATTCT CACTCCTCCA GCTTATAGAC CACCAAATGC
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2450   AGTATTCCTT GGACTCACA GGTGGGAAAT TTTACGGGGC TTTACTCTTC TACTATACCT GTCTTTAATC
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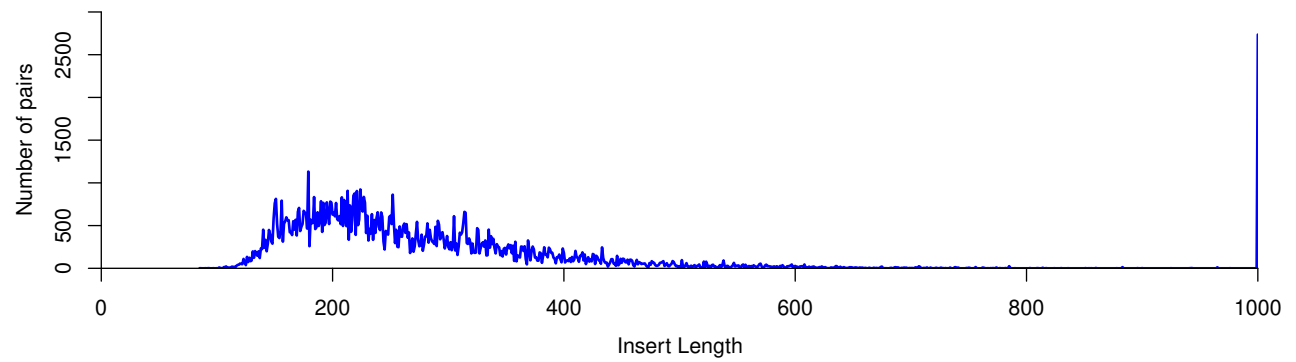
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Genome Composition	
A	754 (23.47%)
T	903 (28.11%)
G	699 (21.76%)
C	856 (26.65%)
N	0 (0.00%)
Total Nucleotides	3212
GC%	48.41

READ QUALITY



INSERT LENGTH DISTRIBUTION



AMINO ACID VARIATIONS

Protein	Position	Ref AA	Consensus AA	All AAs
P2	1	F	H	H::100.00(1117)
P2	2	F	D	D::86.65(967) N::13.35(149)
P2	3	F	I	I::97.37(1185)
P2	4	F	P	P::100.00(1295)
P2	5	F	P	P::100.00(1360)
P2	6	F	S	S::96.19(1365)
P2	7	F	S	S::100.00(1460)
P2	8	F	A	A::100.00(1466)
P2	9	F	G	G::97.68(1518)
P2	10	F	S	S::96.53(1528)
P2	11	F	Q	Q::99.82(1621)
P2	12	F	S	S::99.23(1677)
P2	13	F	K	K::97.66(1673)
P2	14	F	R	R::99.44(1781)
P2	15	F	P	P::99.95(1839)
P2	16	F	V	V::98.85(1890)
P2	18	F	S	S::98.14(2374)
P2	19	F	C	C::99.63(4265)
P2	20	F	W	W::99.82(4416)
P2	21	F	W	W::99.67(4576)
P2	22	F	L	L::99.79(4697)
P2	23	F	Q	Q::99.92(4875)
P2	25	F	R	R::99.30(5083)
P2	26	F	N	N::99.90(5253)
P2	27	F	S	S::99.79(5346)
P2	28	F	E	E::79.39(4294) A::17.67(956)
P2	29	F	P	P::99.95(5540)
P2	30	F	C	C::99.80(5546)
P2	31	F	S	S::99.98(5572)
P2	32	F	D	D::99.54(5637)
P2	33	F	Y	Y::99.86(5745)
P2	34	F	C	C::99.76(5818)
P2	35	F	L	L::99.95(5977)
P2	36	F	T	T::99.33(6089)
P2	37	F	H	H::99.92(6256)
P2	38	F	L	L::99.44(6261)
P2	39	F	V	V::99.73(6340)
P2	40	F	N	N::99.97(6531)
P2	41	F	L	L::99.69(6529)
P2	42	F	L	L::99.41(6575)
P2	43	F	E	E::99.46(6779)
P2	44	F	D	D::99.76(6940)
P2	45	F	W	W::99.59(6820)
P2	46	F	G	G::99.61(6840)
P2	47	F	P	P::99.93(6969)
P2	48	F	C	C::99.67(6877)

P2	49	F	T	T::99.46(7037)
P2	50	F	E	E::99.28(7038)
P2	51	F	H	H::99.21(7117)
P2	52	F	G	G::98.86(7096)
P2	53	F	K	K::98.67(7178)
P2	54	F	H	H::99.86(7309)
P2	55	F	H	H::98.15(7198)
P2	56	F	I	I::99.97(7406)
P2	57	F	R	R::61.88(4597) K::37.56(2790)
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P2	64	F	R	R::99.92(7736)
P2	65	F	V	V::99.94(7853)
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P2	68	F	G	G::99.54(7747)
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P2	72	F	V	V::99.96(7972)
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P2	74	F	K	K::99.95(8107)
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P2	84	F	L	L::99.73(9242)
P2	85	F	V	V::99.80(9548)
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P2	92	F	S	S::99.73(10072)
P2	93	F	R	R::99.85(10108)
P2	94	F	G	G::99.00(9858)
P2	95	F	S	S::98.75(9864)
P2	96	F	S	S::99.71(9963)
P2	97	F	R	R::99.83(10098)
P2	98	F	V	V::99.95(9987)
P2	99	F	S	S::99.88(9643)
P2	100	F	W	W::99.72(9789)
P2	101	F	P	P::99.79(9954)
P2	102	F	K	K::99.97(10150)

P2	104	F	A	A::98.28(10125)
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P2	107	F	N	N::99.90(10682)
P2	108	F	L	L::99.89(10795)
P2	109	F	Q	Q::99.86(10415)
P2	110	F	S	S::99.93(10736)
P2	111	F	L	L::99.92(10841)
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P2	113	F	N	N::99.90(11041)
P2	114	F	L	L::99.92(10982)
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P2	134	F	P	P::99.96(11250)
P2	135	F	L	L::99.89(11040)
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P2	138	F	A	A::99.28(11000)
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P2	140	F	M	M::99.89(11166)
P2	141	F	P	P::99.90(11302)
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P2	145	F	V	V::99.85(11708)
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P2	154	F	V	V::99.84(10936)
P2	155	F	A	A::99.81(10658)

P2	156	F	R	R::99.80(10548)
P2	157	F	L	L::99.95(10445)
P2	158	F	S	S::99.76(10343)
P2	159	F	S	S::99.14(10070)
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P2	162	F	R	R::99.60(10204)
P2	163	F	I	I::99.95(10186)
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P2	166	F	H	H::99.65(9706)
P2	167	F	Q	Q::98.89(9545)
P2	168	F	Y	Y::99.37(9489)
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P2	173	F	N	N::99.89(9381)
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P2	180	F	R	R::99.63(9198)
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P2	182	F	L	L::99.93(9129)
P2	183	F	Y	Y::99.92(8921)
P2	184	F	E	E::59.28(4723) V::40.03(3189)
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P2	187	F	M	M::99.66(8763)
P2	188	F	L	L::99.93(8802)
P2	189	F	L	L::99.92(8885)
P2	191	F	K	K::99.73(8796)
P2	192	F	T	T::99.92(8962)
P2	194	F	G	G::99.78(8994)
P2	195	F	R	R::99.24(9054)
P2	196	F	K	K::99.96(9123)
P2	197	F	L	L::99.97(9341)
P2	198	F	H	H::99.89(9157)
P2	199	F	L	L::99.85(9101)
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P2	201	F	S	S::99.92(9163)
P2	202	F	H	H::99.90(9301)
P2	203	F	P	P::99.96(9409)
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P2	207	F	G	G::99.66(9855)
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P2	221	F	L	L::99.93(11249)
P2	222	F	L	L::99.92(11562)
P2	223	F	A	A::99.38(11450)
P2	224	F	Q	Q::99.88(11951)
P2	226	F	T	T::99.70(12199)
P2	227	F	S	S::99.58(12440)
P2	228	F	A	A::99.82(12944)
P2	229	F	I	I::99.93(12888)
P2	230	F	C	C::99.67(12958)
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P2	234	F	R	R::99.80(13015)
P2	235	F	R	R::99.65(13317)
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P2	249	F	V	V::99.66(13881)
P2	250	F	V	V::99.49(13763)
P2	251	F	L	L::99.95(13682)
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P2	253	F	A	A::99.75(13569)
P2	254	F	K	K::98.16(13487)
P2	255	F	S	S::99.82(13566)
P2	256	F	V	V::99.40(13410)
P2	257	F	Q	Q::99.94(13478)
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P2	259	F	L	L::99.96(13487)
P2	260	F	E	E::99.85(13625)
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P2	262	F	L	L::99.87(13738)
P2	263	F	Y	Y::99.77(13635)
P2	264	F	T	T::99.93(13539)

P2	265	F	S	S::87.45(11764) A::11.75(1581)
P2	266	F	V	V::99.40(13512)
P2	267	F	T	T::99.94(13497)
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P2	271	F	L	L::99.92(12736)
P2	272	F	S	S::99.90(12499)
P2	273	F	L	L::99.89(12312)
P2	274	F	G	G::98.44(11964)
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P2	276	F	H	H::99.87(11982)
P2	277	F	L	L::99.89(11671)
P2	278	F	N	N::99.94(11568)
P2	279	F	P	P::99.89(11549)
P2	280	F	N	N::99.67(11163)
P2	281	F	K	K::99.95(11011)
P2	282	F	T	T::99.93(10975)
P2	283	F	K	K::99.50(10786)
P2	284	F	R	R::98.64(10639)
P2	285	F	W	W::96.35(10281)
P2	286	F	G	G::96.07(9841)
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P2	288	F	S	S::99.91(10551)
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P2	297	F	G	G::98.11(9633)
P2	298	F	S	S::99.53(9924)
P2	299	F	W	W::97.65(9553)
P2	300	F	G	G::97.88(9313)
P2	301	F	S	S::99.93(9738)
P2	302	F	L	L::99.88(9535)
P2	303	F	P	P::99.87(10135)
P2	304	F	Q	Q::99.78(10228)
P2	305	F	E	E::98.47(9666)
P2	306	F	H	H::99.74(9708)
P2	307	F	I	I::99.93(9956)
P2	308	F	R	R::97.93(9720)
P2	309	F	M	M::97.27(9505)
P2	310	F	K	K::99.93(9798)
P2	311	F	I	I::99.90(9968)
P2	312	F	K	K::99.86(10047)
P2	313	F	D	D::97.74(9890)
P2	314	F	C	C::99.90(10035)
P2	316	F	R	R::98.49(9797)
P2	317	F	K	K::99.90(10146)
P2	318	F	L	L::99.88(10132)

P2	319	F	P	P::99.95(10162)
P2	320	F	V	V::98.90(9925)
P2	321	F	N	N::99.94(9819)
P2	322	F	R	R::99.67(9734)
P2	323	F	P	P::99.95(9828)
P2	324	F	I	I::99.91(9628)
P2	325	F	D	D::98.85(9407)
P2	326	F	W	W::97.43(9221)
P2	327	F	K	K::99.88(9480)
P2	328	F	V	V::99.98(9290)
P2	329	F	C	C::99.69(9325)
P2	330	F	Q	Q::99.92(9254)
P2	331	F	R	R::99.57(9211)
P2	332	F	I	I::99.90(9211)
P2	333	F	V	V::99.92(9253)
P2	334	F	G	G::99.41(9327)
P2	335	F	L	L::99.93(9359)
P2	336	F	L	L::99.92(9222)
P2	337	F	G	G::99.75(9063)
P2	339	F	A	A::99.50(9096)
P2	340	F	A	A::99.76(9016)
P2	341	F	P	P::99.91(8973)
P2	343	F	T	T::99.91(8900)
P2	344	F	Q	Q::99.97(8613)
P2	345	F	C	C::99.92(8506)
P2	346	F	G	G::99.52(8320)
P2	347	F	Y	Y::99.94(8319)
P2	348	F	P	P::99.93(8388)
P2	349	F	A	A::99.86(8321)
P2	350	F	L	L::99.91(8213)
P2	351	F	M	M::99.20(8104)
P2	352	F	P	P::99.86(7855)
P2	353	F	L	L::99.95(7761)
P2	354	F	Y	Y::99.90(7754)
P2	355	F	A	A::98.64(7687)
P2	356	F	C	C::99.80(7625)
P2	357	F	T	T::99.15(7221)
P2	358	F	Q	Q::99.66(7523)
P2	359	F	S	S::99.97(7425)
P2	360	F	K	K::99.90(7160)
P2	361	F	Q	Q::99.68(6898)
P2	362	F	A	A::99.64(6591)
P2	364	F	T	T::99.95(6296)
P2	366	F	S	S::99.98(5927)
P2	367	F	P	P::99.79(5720)
P2	368	F	T	T::99.95(5707)
P2	369	F	Y	Y::99.84(5472)
P2	370	F	K	K::99.66(5527)
P2	371	F	A	A::99.87(5531)
P2	373	F	L	L::99.96(5257)
P2	374	F	C	C::99.70(5043)

P2	375	F	K	K::99.60(5002)
P2	376	F	Q	Q::99.98(4937)
P2	377	F	Y	Y::99.98(4749)
P2	378	F	L	L::99.89(4727)
P2	379	F	N	N::98.34(4632)
P2	380	F	L	L::99.89(4640)
P2	381	F	Y	Y::99.89(4535)
P2	382	F	P	P::99.89(4543)
P2	383	F	V	V::99.84(4418)
P2	384	F	A	A::99.58(4224)
P2	385	F	R	R::99.78(4120)
P2	386	F	Q	Q::99.85(4028)
P2	387	F	R	R::99.87(3816)
P2	388	F	P	P::99.78(3623)
P2	389	F	G	G::99.69(3518)
P2	390	F	L	L::100.00(3517)
P2	391	F	C	C::99.69(3533)
P2	392	F	Q	Q::99.97(3543)
P2	393	F	V	V::99.74(3501)
P2	395	F	A	A::99.67(3363)
P2	396	F	D	D::99.73(3368)
P2	397	F	A	A::99.57(3221)
P2	398	F	T	T::99.97(3091)
P2	399	F	P	P::99.97(3053)
P2	400	F	T	T::99.83(3001)
P2	401	F	G	G::99.43(2954)
P2	402	F	W	W::99.41(2845)
P2	403	F	G	G::99.79(2811)
P2	404	F	L	L::99.93(2768)
P2	405	F	A	A::98.82(2688)
P2	406	F	I	I::99.02(2629)
P2	407	F	G	G::99.66(2612)
P2	408	F	H	H::99.88(2573)
P2	409	F	Q	Q::99.96(2494)
P2	410	F	R	R::98.94(2520)
P2	411	F	M	M::99.04(2583)
P2	412	F	R	R::99.85(2587)
P2	413	F	G	G::99.46(2557)
P2	414	F	T	T::99.84(2568)
P2	416	F	V	V::98.79(2534)
P2	417	F	A	A::99.88(2565)
P2	418	F	P	P::99.88(2507)
P2	419	F	L	L::99.92(2437)
P2	420	F	P	P::99.80(2451)
P2	421	F	I	I::99.92(2532)
P2	422	F	H	H::99.92(2484)
P2	423	F	T	T::99.88(2524)
P2	424	F	A	A::99.03(2450)
P2	425	F	E	E::99.19(2448)
P2	426	F	L	L::99.92(2407)
P2	427	F	L	L::99.71(2440)

P2	428	F	A	A::99.71(2420)
P2	429	F	A	A::99.35(2442)
P2	430	F	C	C::99.83(2411)
P2	432	F	A	A::99.61(2292)
P2	433	F	R	R::97.37(2225)
P2	434	F	S	S::99.78(2236)
P2	435	F	R	R::98.71(2214)
P2	436	F	S	S::99.72(2171)
P2	437	F	G	G::99.48(2099)
P2	438	F	A	A::99.86(2105)
P2	439	F	K	K::99.12(2020)
P2	440	F	L	L::99.30(1990)
P2	441	F	I	I::99.80(2013)
P2	442	F	G	G::99.90(1969)
P2	443	F	T	T::99.95(1904)
P2	444	F	D	D::99.80(1954)
P2	445	F	N	N::100.00(1976)
P2	446	F	S	S::100.00(1920)
P2	447	F	V	V::99.95(1935)
P2	448	F	V	V::99.90(1927)
P2	449	F	L	L::100.00(1923)
P2	450	F	S	S::100.00(1754)
P2	451	F	R	R::99.71(1749)
P2	452	F	K	K::99.19(1839)
P2	453	F	Y	Y::99.79(1860)
P2	454	F	T	T::100.00(1825)
P2	455	F	S	S::100.00(1808)
P2	457	F	P	P::99.78(1802)
P2	458	F	W	W::99.39(1785)
P2	459	F	L	L::100.00(1775)
P2	460	F	L	L::100.00(1749)
P2	461	F	G	G::99.83(1720)
P2	462	F	C	C::99.88(1650)
P2	463	F	A	A::96.25(1593)
P2	464	F	A	A::99.63(1623)
P2	465	F	N	N::99.94(1589)
P2	466	F	W	W::99.16(1531)
P2	467	F	I	I::99.93(1535)
P2	468	F	L	L::99.87(1495)
P2	469	F	R	R::99.73(1455)
P2	470	F	G	G::99.86(1421)
P2	471	F	T	T::99.93(1355)
P2	472	F	S	S::99.85(1334)
P2	474	F	V	V::99.68(1257)
P2	475	F	Y	Y::98.27(1252)
P2	476	F	V	V::99.92(1254)
P2	477	F	P	P::99.84(1228)
P2	478	F	S	S::99.92(1209)
P2	479	F	A	A::98.63(1227)
P2	480	F	L	L::100.00(1229)
P2	481	F	N	N::100.00(1269)

P2	482	F	P	P::100.00(1234)
P2	483	F	A	A::100.00(1216)
P2	484	F	D	D::99.83(1195)
P2	485	F	D	D::99.83(1186)
P2	486	F	P	P::99.92(1186)
P2	487	F	S	S::99.83(1173)
P2	488	F	R	R::100.00(1153)
P2	489	F	G	G::99.83(1156)
P2	490	F	R	R::99.65(1149)
P2	491	F	L	L::99.91(1175)
P2	492	F	G	G::99.83(1193)
P2	493	F	I	I::98.72(1153)
P2	494	F	Y	Y::97.66(1086)
P2	495	F	R	R::100.00(1138)
P2	496	F	P	P::99.91(1118)
P2	497	F	L	L::99.82(1139)
P2	498	F	L	L::100.00(1121)
P2	499	F	R	R::95.52(1066)
P2	500	F	L	L::99.91(1130)
P2	501	F	P	P::99.91(1107)
P2	503	F	Q	Q::97.02(1043)
P2	504	F	P	P::99.03(1017)
P2	505	F	T	T::99.91(1061)
P2	506	F	T	T::100.00(1075)
P2	507	F	G	G::99.90(1034)
P2	508	F	R	R::99.81(1059)
P2	509	F	T	T::100.00(1105)
P2	510	F	S	S::99.91(1101)
P2	511	F	L	L::100.00(1090)
P2	512	F	Y	Y::100.00(1133)
P2	513	F	A	A::100.00(1167)
P2	514	F	V	V::98.12(1200)
P2	515	F	S	S::99.75(1217)
P2	516	F	P	P::99.75(1221)
P2	517	F	S	S::100.00(1232)
P2	518	F	V	V::97.45(1184)
P2	519	F	P	P::99.92(1242)
P2	520	F	S	S::99.76(1231)
P2	521	F	H	H::100.00(1245)
P2	522	F	L	L::100.00(1241)
P2	523	F	P	P::99.84(1227)
P2	524	F	D	D::98.49(1243)
P2	525	F	R	R::99.12(1235)
P2	526	F	V	V::100.00(1273)
P2	527	F	H	H::99.85(1289)
P2	529	F	A	A::98.33(1299)
P2	530	F	S	S::100.00(1310)
P2	531	F	P	P::99.85(1298)
P2	532	F	L	L::99.93(1401)
P2	533	F	H	H::100.00(3328)
P2	534	F	V	V::99.97(11019)

P2	535	F	A	A::99.45(11942)
P2	536	F	W	W::99.65(12593)
P2	537	F	R	R::99.33(13303)
P2	538	F	P	P::99.84(13478)
S2	1	F	S	S::100.00(1074)
S2	2	F	T	T::100.00(1116)
S2	3	F	T	T::100.00(1186)
S2	5	F	H	H::99.85(1298)
S2	6	F	Q	Q::100.00(1378)
S2	7	F	A	A::96.26(1391)
S2	8	F	L	L::100.00(1460)
S2	9	F	Q	Q::99.93(1489)
S2	10	F	D	D::96.37(1514)
S2	11	F	P	P::100.00(1617)
S2	12	F	R	R::91.24(1511) K::8.70(144)
S2	13	F	V	V::99.24(1692)
S2	14	F	R	R::96.40(1689)
S2	15	F	G	G::99.50(1799)
S2	16	F	L	L::99.95(1844)
S2	17	F	Y	Y::99.95(1911)
S2	19	F	P	P::99.95(4226)
S2	20	F	A	A::99.63(4338)
S2	21	F	G	G::99.89(4531)
S2	22	F	G	G::99.72(4637)
S2	23	F	S	S::99.83(4741)
S2	24	F	S	S::99.90(4920)
S2	25	F	S	S::99.90(5013)
S2	26	F	G	G::99.29(5142)
S2	27	F	T	T::99.75(5252)
S2	28	F	V	V::99.79(5338)
S2	29	F	N	N::82.29(4485) H::17.54(956)
S2	30	F	P	P::99.96(5566)
S2	31	F	V	V::99.84(5585)
S2	32	F	P	P::99.96(5569)
S2	33	F	T	T::99.60(5656)
S2	34	F	T	T::99.85(5811)
S2	35	F	A	A::98.91(5831)
S2	36	F	S	S::99.75(5958)
S2	37	F	L	L::99.56(6114)
S2	38	F	I	I::99.94(6293)
S2	39	F	S	S::99.48(6281)
S2	40	F	S	S::99.89(6416)
S2	41	F	I	I::99.97(6541)
S2	43	F	S	S::99.07(6523)
S2	44	F	R	R::99.09(6766)
S2	45	F	I	I::99.74(6931)
S2	46	F	G	G::99.59(6842)
S2	47	F	D	D::99.49(6890)
S2	48	F	P	P::99.58(6898)
S2	49	F	A	A::99.63(6956)
S2	50	F	P	P::99.35(6989)

S2	51	F	N	N::96.96(6885)
S2	52	F	M	M::98.71(7141)
S2	53	F	E	E::98.42(7052)
S2	54	F	S	S::81.94(5945) N::17.63(1279)
S2	55	F	I	I::99.89(7362)
S2	56	F	T	T::99.90(7270)
S2	57	F	S	S::99.90(7312)
S2	58	F	G	G::62.22(4665) R::36.78(2758)
S2	60	F	L	L::99.88(7672)
S2	61	F	G	G::98.86(7692)
S2	62	F	P	P::99.96(7792)
S2	63	F	L	L::99.91(7715)
S2	64	F	L	L::99.86(7782)
S2	65	F	V	V::99.94(7821)
S2	66	F	L	L::99.82(7777)
S2	67	F	Q	Q::91.73(7150) P::8.13(634)
S2	68	F	A	A::99.69(7719)
S2	69	F	G	G::99.70(7716)
S2	72	F	L	L::99.96(7771)
S2	73	F	L	L::99.66(7898)
S2	74	F	T	T::99.95(8027)
S2	75	F	K	K::99.69(8031)
S2	76	F	I	I::99.65(8299)
S2	77	F	L	L::99.86(8354)
S2	78	F	T	T::99.82(8396)
S2	79	F	I	I::99.59(8442)
S2	80	F	P	P::99.95(8220)
S2	81	F	Q	Q::80.09(7063) P::19.63(1731)
S2	82	F	S	S::99.87(9287)
S2	83	F	L	L::99.84(9249)
S2	84	F	D	D::99.30(9264)
S2	85	F	S	S::99.86(9211)
S2	86	F	W	W::99.14(9404)
S2	87	F	W	W::97.84(9495)
S2	88	F	T	T::99.93(9871)
S2	89	F	S	S::99.66(9964)
S2	90	F	L	L::99.95(10058)
S2	91	F	N	N::99.81(10082)
S2	93	F	L	L::99.94(9932)
S2	94	F	G	G::99.85(10112)
S2	95	F	G	G::95.50(9475)
S2	96	F	A	A::98.97(9912)
S2	97	F	P	P::99.72(10014)
S2	98	F	V	V::99.83(10081)
S2	99	F	C	C::99.69(9835)
S2	100	F	R	R::36.46(3514) P::34.49(3324) L::28.85(2780)
S2	101	F	G	G::99.81(10004)
S2	102	F	Q	Q::99.88(10005)
S2	103	F	N	N::99.97(10168)
S2	104	F	S	S::99.67(10037)
S2	105	F	Q	Q::99.77(10402)

S2	106	F	S	S::99.87(10439)
S2	107	F	P	P::95.86(9995)
S2	108	F	T	T::99.90(10687)
S2	109	F	S	S::99.24(10691)
S2	110	F	S	S::99.18(10344)
S2	111	F	H	H::99.96(10844)
S2	112	F	S	S::96.65(10428)
S2	113	F	P	P::72.63(7745) L::27.32(2913)
S2	114	F	T	T::99.95(11011)
S2	115	F	S	S::99.91(11069)
S2	116	F	C	C::99.39(10986)
S2	117	F	P	P::99.73(11325)
S2	118	F	P	P::99.43(11212)
S2	119	F	I	I::99.59(11331)
S2	120	F	C	C::97.46(11077)
S2	121	F	P	P::99.67(11558)
S2	122	F	G	G::99.77(11680)
S2	123	F	Y	Y::99.88(11618)
S2	124	F	R	R::98.66(11471)
S2	125	F	W	W::98.84(11428)
S2	126	F	M	M::99.88(11583)
S2	127	F	C	C::80.98(9280) *:18.90(2166)
S2	128	F	L	L::99.71(11358)
S2	129	F	R	R::98.84(11285)
S2	130	F	R	R::99.00(11224)
S2	132	F	I	I::99.95(11144)
S2	133	F	I	I::99.91(11047)
S2	135	F	L	L::99.90(11234)
S2	137	F	I	I::99.91(11018)
S2	138	F	L	L::99.86(10983)
S2	139	F	L	L::99.83(11083)
S2	140	F	L	L::99.16(11078)
S2	141	F	C	C::99.89(11148)
S2	142	F	L	L::99.06(11287)
S2	143	F	I	I::99.95(11357)
S2	145	F	L	L::99.91(11272)
S2	146	F	L	L::99.88(11619)
S2	147	F	V	V::99.82(11526)
S2	148	F	L	L::99.77(11446)
S2	149	F	L	L::99.81(11463)
S2	150	F	D	D::99.95(11709)
S2	151	F	Y	Y::99.66(11452)
S2	152	F	Q	Q::99.85(11171)
S2	153	F	G	G::99.88(11253)
S2	154	F	M	M::99.80(11100)
S2	155	F	L	L::99.89(10809)
S2	156	F	P	P::99.86(10629)
S2	157	F	V	V::99.89(10557)
S2	158	F	C	C::99.93(10380)
S2	159	F	P	P::99.74(10293)
S2	160	F	L	L::41.83(4228) Q::35.84(3622) P::20.35(2057)

S2	161	F	I	I::99.90(10514)
S2	162	F	P	P::99.94(10304)
S2	163	F	G	G::99.56(10062)
S2	164	F	S	S::98.83(9911)
S2	165	F	S	S::99.28(9835)
S2	166	F	T	T::99.86(9800)
S2	167	F	T	T::99.88(9731)
S2	168	F	S	S::99.81(9670)
S2	169	F	T	T::99.14(9506)
S2	170	F	G	G::99.00(9398)
S2	171	F	P	P::99.01(9338)
S2	172	F	C	C::99.81(9316)
S2	173	F	R	R::99.84(9231)
S2	174	F	T	T::99.94(9520)
S2	175	F	C	C::98.78(9217)
S2	176	F	T	T::99.68(9377)
S2	177	F	T	T::99.96(9440)
S2	178	F	L	L::94.43(8698) R::5.23(482)
S2	179	F	A	A::99.31(9111)
S2	180	F	Q	Q::99.56(9044)
S2	181	F	G	G::99.64(9236)
S2	182	F	T	T::93.99(8609) I::5.94(544)
S2	183	F	S	S::99.81(9058)
S2	184	F	M	M::99.35(8737)
S2	185	F	K	K::60.13(4772) F::39.40(3127)
S2	186	F	H	H::60.58(4771) P::39.22(3089)
S2	187	F	S	S::99.88(8532)
S2	188	F	C	C::99.84(8770)
S2	189	F	C	C::99.52(8786)
S2	190	F	C	C::99.76(8767)
S2	191	F	S	S::99.77(8682)
S2	192	F	K	K::99.89(8800)
S2	193	F	P	P::99.62(8944)
S2	194	F	S	S::99.92(9063)
S2	195	F	D	D::99.70(9036)
S2	196	F	G	G::97.97(8956)
S2	197	F	N	N::99.97(9154)
S2	198	F	C	C::99.85(9278)
S2	199	F	T	T::99.47(9075)
S2	200	F	C	C::99.68(9109)
S2	201	F	I	I::99.91(9204)
S2	202	F	P	P::99.86(9255)
S2	203	F	I	I::99.95(9366)
S2	204	F	P	P::99.95(9465)
S2	205	F	S	S::98.26(9278)
S2	206	F	S	S::99.66(9381)
S2	207	F	W	W::99.53(9605)
S2	208	F	A	A::99.85(9968)
S2	210	F	G	G::98.46(9518)
S2	211	F	K	K::99.94(9853)
S2	213	F	L	L::99.95(9832)

S2	214	F	W	W::99.07(9915)
S2	215	F	E	E::99.17(10247)
S2	216	F	W	W::96.54(10128)
S2	217	F	A	A::99.81(10636)
S2	218	F	S	S::99.87(10497)
S2	219	F	A	A::99.84(10665)
S2	220	F	R	R::99.70(10831)
S2	222	F	S	S::99.03(11161)
S2	223	F	W	W::98.13(11412)
S2	224	F	L	L::99.90(11650)
S2	225	F	S	S::99.57(11927)
S2	226	F	L	L::99.67(11938)
S2	227	F	L	L::99.91(12244)
S2	228	F	V	V::99.61(12693)
S2	229	F	P	P::99.83(12966)
S2	231	F	V	V::99.69(13156)
S2	232	F	Q	Q::99.84(13185)
S2	233	F	W	W::95.42(12694)
S2	235	F	V	V::99.74(13007)
S2	236	F	G	G::98.99(13337)
S2	237	F	L	L::99.96(13517)
S2	238	F	S	S::99.80(13650)
S2	239	F	P	P::99.86(13790)
S2	240	F	T	T::99.82(13552)
S2	241	F	V	V::99.88(13607)
S2	242	F	W	W::99.76(13555)
S2	243	F	L	L::99.84(13434)
S2	244	F	S	S::99.95(13315)
S2	245	F	V	V::99.32(13207)
S2	246	F	I	I::99.66(13304)
S2	247	F	W	W::97.69(13077)
S2	248	F	M	M::98.38(13273)
S2	249	F	M	M::99.58(13656)
S2	250	F	W	W::99.57(13826)
S2	251	F	Y	Y::99.77(13754)
S2	252	F	W	W::99.71(13621)
S2	253	F	G	G::99.71(13460)
S2	254	F	P	P::99.72(13528)
S2	255	F	S	S::96.74(13284)
S2	256	F	L	L::99.98(13502)
S2	257	F	Y	Y::99.90(13520)
S2	258	F	N	N::99.79(13510)
S2	259	F	I	I::99.92(13565)
S2	260	F	L	L::99.69(13467)
S2	261	F	S	S::99.81(13697)
S2	262	F	P	P::99.91(13810)
S2	264	F	I	I::99.79(13379)
S2	265	F	P	P::99.90(13401)
S2	266	F	L	L::99.96(13383)
S2	267	F	L	L::98.43(13369)
S2	268	F	P	P::99.76(13344)

S2	269	F	I	I::99.85(13235)
S2	272	F	C	C::99.89(12628)
S2	273	F	L	L::99.43(12473)
S2	274	F	W	W::98.87(11890)
S2	275	F	V	V::98.58(12012)
S2	276	F	Y	Y::99.85(12115)
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X	1	F	M	M::98.89(1782)
X	2	F	A	A::99.89(1815)
X	3	F	A	A::99.32(1754)
X	4	F	R	R::99.94(1709)
X	5	F	L	L::99.94(1651)
X	6	F	C	C::96.37(1595)
X	7	F	C	C::99.63(1633)
X	8	F	Q	Q::99.87(1588)
X	9	F	L	L::99.94(1553)
X	10	F	D	D::99.42(1537)
X	11	F	P	P::98.80(1481)
X	12	F	A	A::99.13(1473)
X	13	F	R	R::99.59(1445)
X	14	F	D	D::99.93(1367)
X	15	F	V	V::99.93(1363)
X	16	F	L	L::99.92(1296)
X	17	F	C	C::99.68(1265)
X	18	F	L	L::99.14(1263)
X	19	F	R	R::100.00(1242)
X	20	F	P	P::99.92(1228)
X	21	F	V	V::99.76(1242)
X	22	F	S	S::97.24(1196)
X	23	F	A	A::98.30(1214)
X	24	F	E	E::98.34(1245)
X	25	F	S	S::100.00(1246)
X	26	F	C	C::99.34(1206)
X	27	F	G	G::99.51(1218)
X	28	F	R	R::99.58(1183)
X	29	F	P	P::99.92(1186)
X	30	F	V	V::99.07(1177)
X	31	F	S	S::98.96(1143)
X	32	F	G	G::100.00(1146)
X	33	F	S	S::99.06(1162)
X	34	F	L	L::99.48(1159)
X	35	F	G	G::99.92(1196)
X	36	F	D	D::97.87(1150)
X	37	F	L	L::99.64(1116)
X	38	F	S	S::99.74(1130)
X	39	F	S	S::99.91(1109)
X	40	F	P	P::99.91(1145)
X	41	F	S	S::99.82(1121)
X	42	F	P	P::99.29(1113)
X	43	F	S	S::99.20(1122)
X	44	F	A	A::98.74(1101)
X	45	F	V	V::98.75(1105)

X	46	F	P	P::99.63(1079)
X	47	F	A	A::96.54(1032)
X	48	F	D	D::95.27(1006)
X	49	F	H	H::100.00(1080)
X	50	F	G	G::99.90(1026)
X	51	F	A	A::99.90(1036)
X	52	F	H	H::99.63(1083)
X	53	F	L	L::99.91(1092)
X	54	F	S	S::99.91(1089)
X	55	F	L	L::100.00(1088)
X	56	F	R	R::100.00(1172)
X	57	F	G	G::100.00(1223)
X	58	F	L	L::99.75(1203)
X	59	F	P	P::99.75(1216)
X	60	F	V	V::99.92(1231)
X	61	F	C	C::97.35(1176)
X	62	F	T	T::57.51(697) A::41.83(507)
X	64	F	S	S::100.00(1224)
X	65	F	S	S::99.76(1239)
X	66	F	A	A::98.79(1226)
X	67	F	G	G::98.24(1231)
X	68	F	P	P::98.69(1209)
X	69	F	C	C::100.00(1237)
X	70	F	A	A::99.84(1283)
X	71	F	L	L::100.00(1303)
X	72	F	R	R::98.22(1266)
X	74	F	T	T::99.85(1296)
X	75	F	S	S::100.00(1306)
X	76	F	A	A::99.43(1914)
X	77	F	R	R::99.94(8159)
X	78	F	R	R::99.44(11715)
X	79	F	M	M::99.73(12233)
X	80	F	E	E::99.74(13286)
X	81	F	T	T::99.77(13430)
X	82	F	T	T::99.92(13531)
X	83	F	V	V::99.79(13577)
X	84	F	N	N::99.77(13731)
X	85	F	A	A::99.85(13756)
X	86	F	H	H::99.91(13929)
X	87	F	Q	Q::99.18(13883)
X	88	F	I	I::96.98(13622)
X	89	F	L	L::99.81(14131)
X	90	F	P	P::99.62(14290)
X	91	F	K	K::99.80(14306)
X	92	F	V	V::99.59(14460)
X	93	F	L	L::99.82(14568)
X	94	F	H	H::96.71(14359)
X	95	F	K	K::99.93(14941)
X	96	F	R	R::99.72(15092)
X	97	F	T	T::99.90(15578)
X	98	F	L	L::99.77(15523)

X	99	F	G	G::99.63(15728)
X	100	F	L	L::99.94(15931)
X	101	F	S	S::99.75(15878)
X	102	F	A	A::98.86(16862)
X	103	F	M	M::99.84(17598)
X	104	F	S	S::99.73(17617)
X	105	F	T	T::99.49(17742)
X	106	F	T	T::99.46(17904)
X	107	F	D	D::99.48(18135)
X	108	F	L	L::99.60(18354)
X	109	F	E	E::99.78(18443)
X	110	F	A	A::99.51(18539)
X	111	F	Y	Y::99.95(18906)
X	113	F	K	K::99.85(19032)
X	114	F	D	D::99.52(19037)
X	115	F	C	C::99.02(18959)
X	116	F	L	L::99.73(19145)
X	118	F	K	K::99.73(19064)
X	119	F	D	D::99.51(18988)
X	120	F	W	W::99.01(18787)
X	121	F	E	E::99.92(18810)
X	122	F	E	E::99.13(18625)
X	123	F	S	S::99.12(18423)
X	124	F	G	G::99.50(18565)
X	125	F	E	E::99.54(18129)
X	126	F	E	E::99.45(9244)
X	127	F	I	I::99.93(6960)
X	128	F	R	R::98.89(6422)
X	129	F	L	L::90.51(5579) *:9.41(580)
X	130	F	M	M::57.53(3470) N::30.49(1839) *:9.60(579)
X	131	F	I	I::59.48(3588) Y::30.42(1835) F::9.62(580)
X	133	F	V	V::99.73(9310)
X	134	F	L	L::99.94(9536)
X	135	F	G	G::99.31(9674)
X	136	F	G	G::99.46(9695)
X	137	F	C	C::99.81(9813)
X	138	F	R	R::99.77(10018)
X	139	F	H	H::99.68(10118)
X	140	F	K	K::99.94(10273)
X	141	F	L	L::99.93(10421)
X	142	F	V	V::99.87(10703)
X	143	F	C	C::99.65(10707)
X	144	F	A	A::99.66(11167)
X	145	F	P	P::99.21(11285)
X	146	F	A	A::99.50(11349)
X	147	F	P	P::99.96(11154)
X	148	F	C	C::99.55(10780)
X	149	F	N	N::99.95(10543)
X	152	F	T	T::98.87(11063)
X	153	F	S	S::99.89(11200)
C	1	F	M	M::99.78(18989)

C	2	F	D	D::99.44(18912)
C	3	F	I	I::99.97(19358)
C	4	F	D	D::99.60(19461)
C	5	F	P	P::99.73(19763)
C	6	F	Y	Y::99.92(19956)
C	7	F	K	K::99.97(20163)
C	8	F	E	E::99.81(20522)
C	10	F	G	G::99.07(21133)
C	11	F	A	A::99.94(21680)
C	12	F	T	T::99.90(21895)
C	13	F	V	V::98.79(21854)
C	14	F	E	E::99.91(22076)
C	15	F	L	L::99.92(22179)
C	16	F	L	L::99.93(22093)
C	17	F	S	S::99.89(21861)
C	19	F	L	L::99.61(21625)
C	20	F	P	P::99.82(21509)
C	21	F	S	S::99.25(21052)
C	22	F	D	D::99.90(21138)
C	25	F	P	P::99.83(20865)
C	26	F	S	S::99.94(20442)
C	27	F	V	V::99.58(19859)
C	28	F	R	R::99.80(19278)
C	29	F	D	D::99.94(19172)
C	30	F	L	L::99.65(18869)
C	31	F	L	L::73.04(13326) Q::26.84(4898)
C	32	F	D	D::99.95(13665)
C	33	F	T	T::99.85(13213)
C	34	F	A	A::99.87(17102)
C	35	F	S	S::99.61(16840)
C	36	F	A	A::99.97(16870)
C	37	F	L	L::99.96(16637)
C	38	F	Y	Y::99.89(12876)
C	39	F	R	R::99.86(12927)
C	40	F	D	D::99.25(12707)
C	41	F	A	A::99.59(12033)
C	42	F	L	L::99.92(11812)
C	43	F	E	E::99.49(12057)
C	44	F	S	S::99.99(12118)
C	45	F	P	P::99.97(12071)
C	46	F	E	E::99.78(11976)
C	47	F	H	H::98.87(12005)
C	48	F	C	C::98.45(11535)
C	49	F	S	S::97.80(11395)
C	50	F	P	P::99.94(11963)
C	51	F	H	H::99.83(16005)
C	52	F	H	H::99.93(16395)
C	53	F	T	T::99.27(16236)
C	54	F	A	A::99.51(16277)
C	55	F	L	L::99.92(16526)
C	56	F	R	R::99.78(16388)

C	57	F	Q	Q::99.91(16474)
C	58	F	A	A::99.82(16557)
C	59	F	I	I::99.94(16501)
C	60	F	L	L::80.99(13037) F::18.97(3053)
C	61	F	C	C::99.74(15946)
C	62	F	W	W::99.62(16096)
C	63	F	G	G::99.33(15201)
C	64	F	E	E::66.66(10510) D::32.20(5076)
C	65	F	L	L::99.94(16411)
C	66	F	M	M::91.85(15235) I::8.03(1332)
C	67	F	T	T::68.61(11219) N::31.34(5125)
C	68	F	L	L::99.95(16703)
C	69	F	A	A::98.59(17297)
C	70	F	T	T::99.91(17668)
C	71	F	W	W::99.44(17780)
C	72	F	V	V::99.95(18031)
C	73	F	G	G::99.80(17894)
C	74	F	V	V::88.90(15959) A::9.41(1689)
C	75	F	N	N::52.35(9499) S::47.38(8596)
C	76	F	L	L::99.83(18037)
C	77	F	E	E::99.26(18070)
C	78	F	D	D::98.72(15446)
C	79	F	P	P::99.81(15759)
C	80	F	A	A::99.33(15605)
C	81	F	S	S::99.67(15598)
C	82	F	R	R::99.24(15488)
C	83	F	D	D::99.82(15908)
C	84	F	L	L::99.29(15734)
C	85	F	V	V::99.82(15746)
C	86	F	V	V::99.77(14929)
C	87	F	S	S::69.79(13090) G::29.78(5586)
C	88	F	Y	Y::99.43(19341)
C	89	F	V	V::99.87(19568)
C	90	F	N	N::99.77(19889)
C	91	F	T	T::99.78(19830)
C	92	F	N	N::68.54(13457) T::28.41(5578)
C	93	F	M	M::55.73(10896) V::31.57(6172) R::5.32(1040)
C	94	F	G	G::99.42(20299)
C	95	F	L	L::99.46(20614)
C	96	F	K	K::99.51(20825)
C	98	F	R	R::99.84(21124)
C	99	F	Q	Q::98.27(21021)
C	100	F	L	L::97.92(20999)
C	101	F	L	L::99.92(21375)
C	102	F	W	W::99.41(21613)
C	104	F	H	H::99.83(21827)
C	105	F	I	I::99.95(21817)
C	106	F	S	S::99.87(21852)
C	107	F	C	C::99.69(21864)
C	108	F	L	L::99.60(21876)
C	109	F	T	T::98.57(21661)

C	111	F	G	G::99.09(21589)
C	112	F	R	R::99.76(21695)
C	113	F	E	E::99.49(21663)
C	114	F	T	T::99.79(21873)
C	115	F	V	V::98.31(21307)
C	116	F	I	I::97.87(20899)
C	117	F	E	E::97.89(20991)
C	118	F	Y	Y::99.57(21194)
C	119	F	L	L::99.90(20946)
C	120	F	V	V::99.92(20760)
C	121	F	S	S::99.63(20669)
C	123	F	G	G::99.78(20381)
C	124	F	V	V::99.69(20359)
C	125	F	W	W::99.70(19816)
C	126	F	I	I::99.89(19797)
C	127	F	R	R::98.33(19330)
C	128	F	T	T::99.94(19949)
C	129	F	P	P::99.82(19680)
C	130	F	P	P::71.57(13947) Q::28.35(5525)
C	131	F	A	A::99.69(19701)
C	132	F	Y	Y::99.77(19685)
C	133	F	R	R::99.57(19591)
C	134	F	P	P::99.78(19464)
C	135	F	P	P::99.80(19392)
C	136	F	N	N::99.95(19241)
C	137	F	A	A::99.77(18866)
C	138	F	P	P::99.54(19173)
C	139	F	I	I::99.92(19147)
C	140	F	L	L::99.83(18887)
C	141	F	S	S::99.90(19126)
C	142	F	T	T::99.92(19074)
C	143	F	L	L::61.71(11310) T::37.87(6941)
C	144	F	P	P::99.93(18752)
C	145	F	E	E::99.77(18776)
C	146	F	N	N::99.42(18841)
C	147	F	T	T::99.70(18773)
C	148	F	V	V::99.77(18750)
C	149	F	V	V::99.86(18915)
C	150	F	R	R::99.78(18691)
C	151	F	R	R::99.38(18147)
C	152	F	R	R::99.77(18763)
C	153	F	G	G::99.63(18786)
C	154	F	R	R::99.81(19009)
C	155	F	S	S::99.85(18843)
C	156	F	P	P::99.94(18979)
C	157	F	R	R::98.99(19215)
C	158	F	R	R::99.35(19629)
C	159	F	R	R::99.69(19901)
C	160	F	T	T::99.65(19961)
C	161	F	P	P::99.88(19891)
C	162	F	S	S::99.86(19748)

C	163	F	P	P::99.90(20104)
C	164	F	R	R::99.29(20035)
C	165	F	R	R::99.57(20431)
C	166	F	R	R::99.69(20238)
C	167	F	R	R::99.03(20694)
C	168	F	S	S::79.18(16420) F::20.49(4250)
C	169	F	Q	Q::99.84(21209)
C	170	F	S	S::99.87(21255)
C	171	F	P	P::99.50(21604)
C	172	F	R	R::99.85(21962)
C	173	F	R	R::99.35(22022)
C	174	F	R	R::99.43(21978)
C	175	F	R	R::99.80(22429)
C	176	F	S	S::99.74(22493)
C	177	F	Q	Q::99.88(22364)
C	178	F	S	S::98.19(22126)
C	179	F	P	P::99.73(22925)
C	180	F	A	A::99.46(22945)
C	181	F	S	S::99.50(22985)
C	182	F	Q	Q::99.44(23319)
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P1	1	F	M	M::99.88(18954)
P1	2	F	P	P::99.81(18978)
P1	3	F	L	L::99.90(19267)
P1	4	F	S	S::99.93(19106)
P1	5	F	Y	Y::99.89(19071)
P1	6	F	Q	Q::99.81(19118)
P1	7	F	H	H::62.04(11353) Q::37.94(6943)
P1	8	F	F	F::61.85(11350) L::38.08(6988)
P1	9	F	R	R::98.53(18534)
P1	10	F	R	R::99.45(18734)
P1	11	F	I	I::99.41(18745)
P1	12	F	L	L::99.92(18779)
P1	13	F	L	L::99.91(18828)
P1	14	F	L	L::99.93(18587)
P1	15	F	D	D::99.72(18569)
P1	16	F	E	E::98.98(18297)
P1	17	F	E	E::99.76(18746)
P1	18	F	A	A::99.59(18692)
P1	19	F	G	G::99.82(19016)
P1	20	F	P	P::99.96(18807)
P1	21	F	L	L::99.94(18795)
P1	22	F	E	E::99.73(19440)
P1	23	F	E	E::99.35(19437)
P1	24	F	E	E::99.38(19783)
P1	25	F	L	L::99.88(19977)
P1	26	F	P	P::99.90(19895)
P1	27	F	R	R::99.76(19843)
P1	28	F	L	L::99.90(20103)
P1	29	F	A	A::99.58(20153)
P1	30	F	D	D::99.60(20560)
P1	31	F	E	E::99.59(20394)

P1	32	F	D	D::98.68(20554)
P1	33	F	L	L::79.40(16475) F::20.48(4250)
P1	34	F	N	N::99.89(21337)
P1	35	F	R	R::99.63(21488)
P1	36	F	R	R::99.73(21890)
P1	37	F	V	V::99.90(22006)
P1	38	F	A	A::99.43(21509)
P1	39	F	E	E::99.84(22052)
P1	40	F	D	D::99.72(22497)
P1	41	F	L	L::99.80(22561)
P1	42	F	N	N::99.94(22638)
P1	43	F	L	L::98.17(22096)
P1	44	F	Q	Q::99.57(22981)
P1	45	F	L	L::99.65(22980)
P1	46	F	P	P::98.86(23040)
P1	47	F	N	N::99.89(23808)
P1	48	F	V	V::99.70(23944)
P1	49	F	S	S::98.75(23858)
P1	50	F	I	I::99.95(23815)
P1	51	F	P	P::99.92(22909)
P1	52	F	W	W::99.41(23763)
P1	53	F	T	T::99.93(24435)
P1	54	F	H	H::99.90(24735)
P1	55	F	K	K::99.76(24883)
P1	56	F	V	V::99.91(24896)
P1	57	F	G	G::99.30(24809)
P1	58	F	N	N::99.96(25131)
P1	60	F	T	T::99.86(24878)
P1	61	F	G	G::99.71(24889)
P1	62	F	L	L::99.94(25136)
P1	63	F	Y	Y::99.90(24805)
P1	64	F	S	S::99.91(24915)
P1	65	F	S	S::99.96(24827)
P1	66	F	T	T::99.90(24551)
P1	67	F	I	I::99.61(24435)
P1	68	F	P	P::99.93(24490)
P1	69	F	V	V::99.89(24457)
P1	71	F	N	N::99.91(23848)
P1	72	F	P	P::99.94(23400)
P1	73	F	N	N::99.72(23205)
P1	74	F	W	W::99.55(22818)
P1	75	F	K	K::99.90(22858)
P1	76	F	T	T::99.68(22898)
P1	77	F	P	P::99.97(22413)
P1	78	F	S	S::99.96(22223)
P1	80	F	P	P::99.78(22242)
P1	81	F	D	D::98.96(21615)
P1	82	F	I	I::99.92(21676)
P1	83	F	H	H::99.85(21387)
P1	84	F	L	L::99.95(21029)
P1	85	F	H	H::99.82(20556)

P1	86	F	Q	Q::99.84(20029)
P1	87	F	D	D::99.57(19754)
P1	88	F	I	I::99.91(19730)
P1	89	F	I	I::99.95(19397)
P1	90	F	N	N::99.74(19221)
P1	91	F	K	K::99.88(19046)
P1	92	F	C	C::99.88(18491)
P1	93	F	E	E::99.84(17872)
P1	94	F	Q	Q::99.91(17770)
P1	96	F	V	V::99.91(17142)
P1	97	F	G	G::99.87(16792)
P1	98	F	P	P::99.93(16378)
P1	99	F	L	L::99.94(16032)
P1	100	F	T	T::99.94(15981)
P1	101	F	V	V::99.87(15611)
P1	102	F	N	N::99.88(15694)
P1	103	F	E	E::99.81(15004)
P1	104	F	K	K::99.75(14926)
P1	105	F	R	R::99.63(14440)
P1	106	F	R	R::99.68(14317)
P1	107	F	L	L::99.86(14300)
P1	108	F	N	N::99.24(14163)
P1	109	F	L	L::99.95(14017)
P1	110	F	V	V::99.83(14064)
P1	111	F	M	M::99.73(13828)
P1	112	F	P	P::99.93(13785)
P1	113	F	A	A::99.47(13640)
P1	114	F	R	R::99.86(13566)
P1	117	F	P	P::99.84(13488)
P1	118	F	I	I::99.87(13403)
P1	119	F	S	S::99.80(13203)
P1	120	F	T	T::99.88(13389)
P1	121	F	K	K::99.90(13531)
P1	122	F	Y	Y::99.76(13470)
P1	123	F	L	L::99.81(13300)
P1	124	F	P	P::99.56(13456)
P1	125	F	L	L::99.92(13257)
P1	126	F	E	E::99.37(13051)
P1	127	F	K	K::99.89(13074)
P1	128	F	G	G::99.81(12672)
P1	129	F	I	I::99.93(12626)
P1	130	F	K	K::99.95(12786)
P1	131	F	P	P::99.83(12682)
P1	132	F	Y	Y::99.89(12615)
P1	133	F	Y	Y::99.94(12682)
P1	134	F	P	P::99.94(12702)
P1	135	F	D	D::99.48(12773)
P1	136	F	N	N::99.76(13018)
P1	137	F	V	V::99.18(12895)
P1	138	F	V	V::93.79(12133) I::6.15(795)
P1	139	F	N	N::99.17(12832)

P1	140	F	H	H::99.92(12818)
P1	141	F	Y	Y::99.86(12775)
P1	143	F	Q	Q::99.75(13006)
P1	144	F	T	T::99.89(12909)
P1	145	F	R	R::99.70(12798)
P1	146	F	H	H::99.93(12825)
P1	147	F	Y	Y::99.87(12813)
P1	148	F	L	L::99.98(12776)
P1	149	F	H	H::99.84(12723)
P1	150	F	T	T::99.88(12607)
P1	151	F	L	L::99.91(12445)
P1	152	F	W	W::99.48(12277)
P1	153	F	K	K::99.97(12321)
P1	154	F	A	A::99.79(12158)
P1	155	F	G	G::99.28(11922)
P1	156	F	I	I::99.89(11954)
P1	157	F	L	L::99.92(11823)
P1	158	F	Y	Y::99.89(11890)
P1	159	F	K	K::99.95(11555)
P1	160	F	R	R::99.92(11467)
P1	161	F	E	E::99.72(10983)
P1	162	F	T	T::99.90(11190)
P1	163	F	T	T::99.88(11103)
P1	164	F	R	R::99.49(11001)
P1	165	F	S	S::99.93(10998)
P1	166	F	A	A::99.93(10821)
P1	167	F	S	S::99.90(10580)
P1	169	F	C	C::99.65(10313)
P1	170	F	G	G::99.64(10250)
P1	171	F	S	S::99.83(10077)
P1	172	F	P	P::99.54(10167)
P1	173	F	Y	Y::99.92(10004)
P1	174	F	S	S::99.94(10019)
P1	175	F	W	W::99.63(9875)
P1	176	F	E	E::99.62(9928)
P1	177	F	Q	Q::99.42(9724)
P1	178	F	E	E::99.56(9635)
P1	179	F	L	L::99.03(9320)
P1	180	F	H	H::99.82(9329)
P1	181	F	H	H::99.97(9187)
P1	182	F	G	G::99.92(9047)
P1	183	F	A	A::98.86(8512)
P1	185	F	L	L::99.91(8075)
P1	186	F	D	D::99.71(7940)
P1	187	F	G	G::99.56(7850)
P1	188	F	P	P::99.94(7842)
P1	189	F	S	S::99.78(7743)
P1	190	F	R	R::99.14(7537)
P1	191	F	M	M::99.87(7492)
P1	192	F	G	G::99.88(7480)
P1	193	F	E	E::96.00(7048)

P1	194	F	E	E::99.64(7462)
P1	195	F	S	S::99.76(7331)
P1	197	F	H	H::99.88(7240)
P1	198	F	H	H::99.90(7231)
P1	199	F	Q	Q::98.93(7045)
P1	200	F	S	S::99.89(7011)
P1	201	F	S	S::99.91(6941)
P1	202	F	G	G::99.84(6928)
P1	203	F	I	I::99.75(6871)
P1	205	F	S	S::99.45(6734)
P1	206	F	R	R::99.73(6609)
P1	207	F	P	P::99.80(6640)
P1	208	F	P	P::99.91(6631)
P1	209	F	V	V::99.87(6677)
P1	210	F	G	G::99.70(6624)
P1	211	F	S	S::99.88(6717)
P1	212	F	S	S::99.38(6717)
P1	213	F	I	I::99.78(6706)
P1	214	F	Q	Q::99.66(6502)
P1	215	F	S	S::99.66(6397)
P1	216	F	K	K::99.75(6502)
P1	217	F	H	H::99.63(6465)
P1	218	F	Q	Q::99.49(6401)
P1	219	F	K	K::99.72(6417)
P1	220	F	S	S::99.58(6393)
P1	221	F	R	R::99.25(6379)
P1	222	F	L	L::99.78(6411)
P1	223	F	G	G::99.63(6228)
P1	224	F	P	P::99.54(6241)
P1	225	F	Q	Q::99.64(6306)
P1	226	F	S	S::99.83(6301)
P1	227	F	Q	Q::99.94(6217)
P1	228	F	Q	Q::99.93(6128)
P1	229	F	R	R::99.23(6091)
P1	230	F	P	P::99.66(6080)
P1	231	F	L	L::99.64(6056)
P1	232	F	D	D::65.80(3880) V::33.88(1998)
P1	233	F	R	R::99.33(5931)
P1	234	F	S	S::99.32(5994)
P1	235	F	Q	Q::99.97(6041)
P1	236	F	Q	Q::99.97(5923)
P1	237	F	G	G::99.68(5958)
P1	238	F	R	R::99.55(5935)
P1	239	F	S	S::99.73(5895)
P1	240	F	G	G::99.66(5867)
P1	241	F	S	S::99.66(5797)
P1	242	F	I	I::99.37(5869)
P1	243	F	R	R::99.39(5741)
P1	244	F	A	A::99.69(5709)
P1	245	F	W	W::99.34(5425)
P1	246	F	V	V::94.63(5323)

P1	247	F	H	H::99.70(5626)
P1	248	F	S	S::99.56(5643)
P1	249	F	P	P::99.61(5681)
P1	250	F	T	T::99.79(5637)
P1	251	F	R	R::99.79(5594)
P1	252	F	R	R::99.15(5513)
P1	253	F	P	P::99.89(5510)
P1	255	F	G	G::99.35(5542)
P1	256	F	V	V::99.30(5522)
P1	257	F	E	E::99.62(5451)
P1	258	F	P	P::99.58(5480)
P1	259	F	S	S::99.56(5493)
P1	260	F	G	G::99.66(5576)
P1	261	F	S	S::99.87(5578)
P1	262	F	R	R::99.43(5717)
P1	263	F	H	H::99.24(5738)
P1	264	F	A	A::81.35(4668) T::18.58(1066)
P1	265	F	K	K::98.94(5695)
P1	266	F	N	N::99.88(5714)
P1	267	F	I	I::99.72(5649)
P1	268	F	A	A::99.77(5609)
P1	269	F	S	S::99.25(5561)
P1	270	F	R	R::98.82(5365)
P1	271	F	S	S::99.89(5408)
P1	272	F	A	A::99.84(5519)
P1	273	F	S	S::99.93(5532)
P1	274	F	C	C::99.84(5516)
P1	275	F	L	L::99.46(5535)
P1	276	F	H	H::99.75(5520)
P1	277	F	Q	Q::99.98(5474)
P1	278	F	S	S::99.31(5303)
P1	279	F	A	A::98.96(5152)
P1	280	F	V	V::99.92(5170)
P1	281	F	R	R::99.82(5027)
P1	282	F	K	K::99.88(4935)
P1	283	F	A	A::99.67(4798)
P1	284	F	A	A::99.53(4631)
P1	285	F	Y	Y::98.80(4462)
P1	286	F	P	P::98.68(4397)
P1	287	F	N	N::98.35(4242)
P1	288	F	H	H::99.25(4222)
P1	289	F	S	S::99.93(4192)
P1	290	F	T	T::99.90(4061)
<hr/>				
S1	1	F	M	M::99.92(9109)
S1	2	F	G	G::99.96(8968)
S1	3	F	L	L::99.89(8501)
S1	4	F	S	S::99.73(8190)
S1	5	F	W	W::99.53(7999)
S1	6	F	T	T::99.66(7938)
S1	7	F	V	V::99.57(7813)
S1	8	F	P	P::99.95(7780)

S1	9	F	L	L::99.90(7739)
S1	10	F	E	E::99.04(7565)
S1	11	F	W	W::99.89(7413)
S1	12	F	G	G::99.15(7428)
S1	13	F	K	K::96.08(7078)
S1	14	F	N	N::99.76(7459)
S1	15	F	H	H::99.47(7357)
S1	16	F	S	S::99.93(7273)
S1	17	F	T	T::99.75(7197)
S1	18	F	T	T::99.86(7197)
S1	19	F	N	N::99.10(7071)
S1	20	F	P	P::99.97(7027)
S1	21	F	L	L::99.94(6959)
S1	22	F	G	G::99.85(6869)
S1	25	F	P	P::99.56(6739)
S1	26	F	D	D::99.76(6613)
S1	27	F	H	H::99.67(6697)
S1	28	F	Q	Q::99.91(6629)
S1	29	F	L	L::99.94(6662)
S1	30	F	D	D::99.91(6703)
S1	31	F	P	P::99.79(6689)
S1	32	F	A	A::99.32(6688)
S1	34	F	R	R::99.19(6476)
S1	35	F	A	A::99.45(6375)
S1	36	F	N	N::99.74(6502)
S1	37	F	T	T::99.37(6456)
S1	38	F	R	R::96.93(6258)
S1	39	F	N	N::99.72(6443)
S1	40	F	P	P::99.70(6385)
S1	41	F	D	D::99.38(6369)
S1	42	F	W	W::99.68(6317)
S1	43	F	D	D::99.49(6212)
S1	44	F	H	H::99.43(6297)
S1	45	F	N	N::99.59(6336)
S1	46	F	P	P::99.76(6269)
S1	47	F	N	N::99.95(6207)
S1	48	F	K	K::99.87(6124)
S1	49	F	D	D::99.32(6119)
S1	50	F	H	H::99.49(6066)
S1	51	F	W	W::99.09(5975)
S1	52	F	T	T::65.61(3834) S::34.19(1998)
S1	53	F	E	E::99.50(5966)
S1	54	F	A	A::99.57(5982)
S1	55	F	N	N::99.72(6041)
S1	56	F	K	K::99.85(5925)
S1	57	F	V	V::99.82(5962)
S1	58	F	G	G::99.54(5906)
S1	59	F	V	V::99.68(5889)
S1	60	F	G	G::99.71(5804)
S1	61	F	A	A::99.83(5815)
S1	63	F	G	G::99.88(5732)

S1	64	F	P	P::99.74(5446)
S1	65	F	G	G::99.63(5584)
S1	67	F	T	T::99.81(5669)
S1	68	F	P	P::99.67(5727)
S1	69	F	P	P::99.44(5666)
S1	70	F	H	H::99.72(5671)
S1	71	F	G	G::99.75(5555)
S1	72	F	G	G::99.08(5520)
S1	73	F	L	L::99.40(5484)
S1	74	F	L	L::99.36(5458)
S1	75	F	G	G::99.50(5528)
S1	76	F	W	W::99.16(5454)
S1	77	F	S	S::99.71(5469)
S1	78	F	P	P::99.56(5469)
S1	79	F	Q	Q::99.64(5612)
S1	80	F	A	A::99.73(5574)
S1	81	F	Q	Q::99.86(5716)
S1	82	F	G	G::99.60(5721)
S1	83	F	M	M::81.05(4666) I::18.52(1066)
S1	84	F	L	L::99.20(5703)
S1	85	F	K	K::98.92(5687)
S1	86	F	T	T::99.96(5705)
S1	87	F	L	L::99.86(5600)
S1	88	F	P	P::99.93(5610)
S1	89	F	A	A::99.15(5352)
S1	90	F	D	D::98.78(5414)
S1	91	F	P	P::99.98(5428)
S1	92	F	P	P::99.95(5533)
S1	93	F	P	P::99.95(5468)
S1	94	F	A	A::99.84(5576)
S1	95	F	S	S::99.43(5536)
S1	96	F	T	T::99.91(5514)
S1	97	F	N	N::99.98(5452)
S1	98	F	R	R::99.23(5279)
S1	99	F	Q	Q::98.54(5123)
S1	100	F	S	S::99.88(5057)
S1	101	F	G	G::99.84(4980)
S1	102	F	R	R::99.80(4925)
S1	103	F	Q	Q::99.24(4703)
S1	104	F	P	P::99.65(4586)
S1	105	F	T	T::99.71(4489)
S1	106	F	P	P::99.89(4363)
S1	107	F	I	I::98.65(4252)
S1	108	F	T	T::99.27(4203)
S1	109	F	P	P::99.93(4103)
S1	110	F	P	P::100.00(4027)

Meta data	
Assembly file:	HBV-RYD-13.sam
Annotation file:	/home3/vatt01s/Work/Project-150-HBV/Data/P150-1/Annotation/HBV.anno
Reference file:	KX186584.fa.
User name	ales01a
Hostname	Alpha
Location	/home2/ales01a/HBV/P150-5/HBV-RYD-13
Date/Time	Tue 19 Mar 10:19:17 GMT 2019