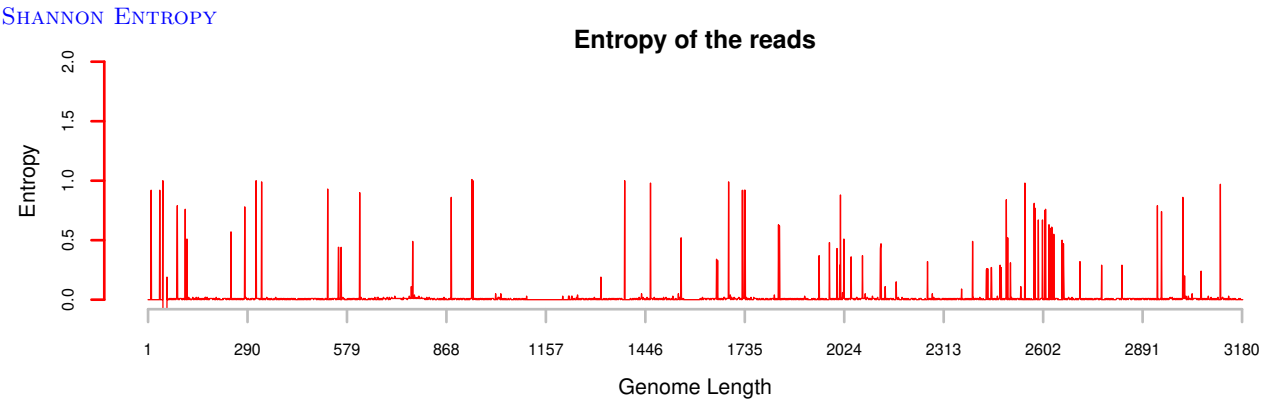
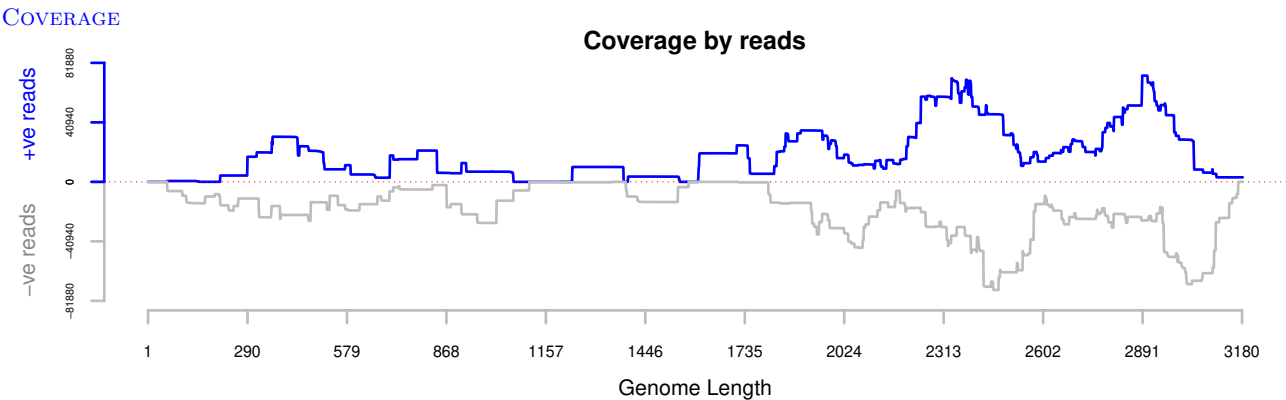


HBV-RYD-19

File name	HBV-RYD-19.sam
Ref name	KX357637.1 Hepatitis B virus isolate MK20ETH, complete genome
Ref len	3182
Program used	Tanoti Assembler 1.0
Total reads	1708796
Mapped reads	815774 (47.74%)
Unmapped reads	893022
Mapped loan pairs	11587
Average read length	148nt
Coverage	3099nt (97.39%)
Average depth	37753 reads/site
Average insert length	236nt



# CONSENSUS SEQUENCE

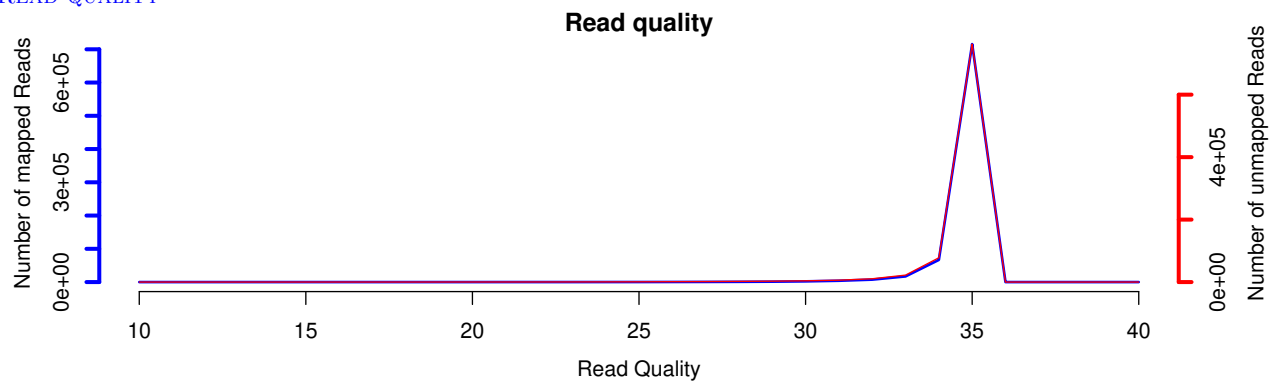
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140    ACCTTGCGCC GAACATGGAG AACATCACAT CAGGATTCCCT AGGACCCCTG CTCGTGTTAC AGGCGGGGTT
210    TTTCTTGTG ACAAGAATCC TCACAATACC GCAGAGTCTA GACTCGTGGT GGACTTCTCT CAATTTTCTA
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350    CTCCAACCTG TCCTGGTTAT CGCTGGATGT GTCTGCGGCG TTTTATCATC TTCCTCTTCA TCCTGTCTCT
420    ATGCTCATC TTCTTGTGG TTCTTCTGGA CTATCAAGGT ATGTTGCCCC TTTGTCCTAT GATTCCAGGA
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560    CCTGCTGCTG TACCAAAACCT TCGGACGGAA ATTGCACCTG TATCCCATC CCATCATCCT GGGCTTTCGG
630    AAAATTCCTA TGGGAGTGGG CCTCAGCCCG TTTCTCCTGG CTCAGTTTAC TAGTGCCATT TGTTCACTGG
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840    AACAAAACAA AAAGATGGGG TTAATCTTTA CATTTCATGG GTTATGTCAT TGGAAAGTAT GGGTCATTGC
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1190   NNNNNNNCCC ACTGGCTGGG GCTTGGTTAT GGGCCATCAG CGCATGCGTG GAACCTTTTT GGTCTCTCTG
1260   CCGATCCATA CTGCGGAACCT CCTAGCCGCT TGTTTTGCTC GCAGCAGGTC TGGAGCGAAC ATTCTCGGGA
1330   CAGACAATCT TGTGTCTCTC TCCCGCAAAT ATACTTCGTT TCCATGGCTG CTAGGCTGTG CTGCCAACTG
1400   GATCCTGCGC GGGACGCTCT TTGTTACGT CCCGTGCGCG CTGAATCCTG CGGACGACCC TTCTCGGGGC
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1750   GATTAGATTA CAGTTGTTG TATTAGGAGG CTGTAGGCAT AAATTGGTCT GCGCACCAGC ACCATGCAAC
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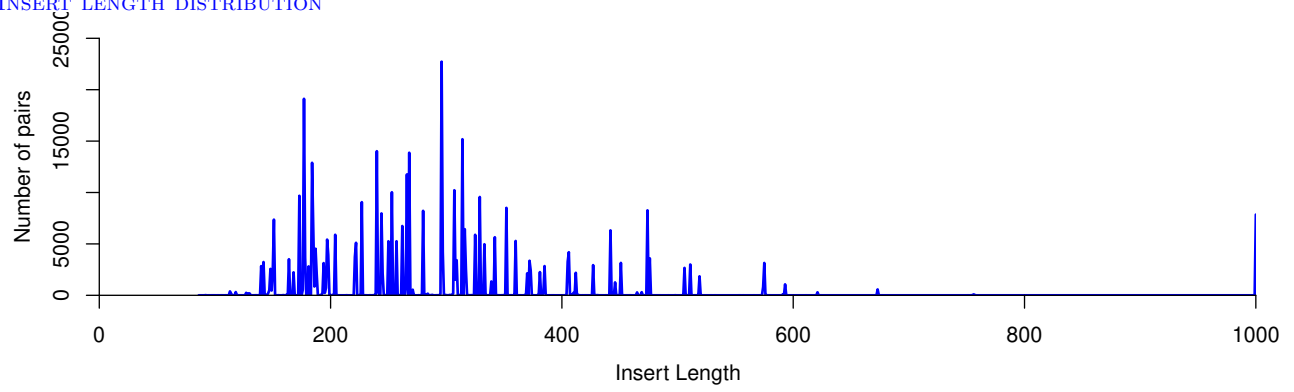
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Genome Composition	
A	707 (22.22%)
T	877 (27.56%)
G	678 (21.31%)
C	837 (26.30%)
N	83 (2.61%)
Total Nucleotides	3182
GC%	48.89

### READ QUALITY



### INSERT LENGTH DISTRIBUTION



AMINO ACID VARIATIONS

Protein	Position	Ref AA	Consensus AA	All AAs
P2	1	F	H	H::100.00(6)
P2	2	F	N	N::100.00(6)
P2	3	F	F	F::66.67(4) L::33.33(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	Y	Y::100.00(6)
P2	11	F	R	R::66.67(4) Q::33.33(2)
P2	12	F	S	S::100.00(6)
P2	13	F	E	E::100.00(7)
P2	14	F	R	R::100.00(2)
P2	15	F	P	P::100.00(2)
P2	16	F	V	V::100.00(2)
P2	18	F	P	P::100.00(3)
P2	19	F	C	C::100.00(6889)
P2	20	F	W	W::99.91(6891)
P2	21	F	W	W::99.77(6885)
P2	22	F	L	L::99.93(6898)
P2	23	F	Q	Q::99.86(6893)
P2	25	F	R	R::99.83(6895)
P2	26	F	N	N::99.87(6901)
P2	27	F	S	S::99.83(6899)
P2	28	F	K	K::68.01(4700) T::23.51(1625) E::8.39(580)
P2	29	F	P	P::99.97(6910)
P2	30	F	C	C::99.87(6903)
P2	31	F	S	S::99.87(6904)
P2	32	F	D	D::99.78(6898)
P2	33	F	Y	Y::99.94(6911)
P2	34	F	C	C::99.87(10089)
P2	35	F	L	L::99.97(10101)
P2	36	F	T	T::77.96(7877) S::21.97(2220)
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P2	39	F	V	V::99.69(14971)
P2	40	F	N	N::99.85(15025)
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P2	42	F	L	L::99.95(15184)
P2	43	F	E	E::99.74(15190)
P2	44	F	D	D::99.84(15210)
P2	45	F	W	W::99.81(15205)
P2	46	F	G	G::99.92(15126)
P2	47	F	P	P::99.91(15088)
P2	48	F	C	C::99.85(15051)

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P2	50	F	E	E::99.85(14740)
P2	51	F	H	H::99.85(14741)
P2	52	F	G	G::99.89(14751)
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P2	54	F	H	H::99.89(14752)
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P2	73	F	D	D::99.85(20481)
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P2	101	F	P	P::99.86(28732)
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P2	165	F	N	N::99.91(35121)
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P2	167	F	Q	Q::99.96(34814)
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P2	169	F	G	G::99.93(34442)
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P2	174	F	L	L::99.92(27846)
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P2	179	F	S	S::99.93(18215)
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P2	227	F	S	S::99.90(15709)
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P2	256	F	V	V::89.31(18620) E::10.49(2187)
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P2	260	F	E	E::99.80(20821)
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P2	272	F	S	S::99.79(26737)
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P2	277	F	L	L::99.88(23704)
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P2	288	F	S	S::99.95(8382)
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P2	303	F	P	P::99.87(21217)
P2	304	F	Q	Q::99.90(35104)
P2	305	F	D	D::99.90(35241)
P2	306	F	H	H::99.92(35258)
P2	307	F	I	I::99.95(35266)
P2	308	F	I	I::99.90(29343)
P2	309	F	Q	Q::99.95(29341)
P2	310	F	K	K::99.92(29353)
P2	311	F	I	I::99.94(29345)
P2	312	F	K	K::99.86(29319)
P2	313	F	E	E::52.06(15286) D::47.82(14041)
P2	314	F	C	C::52.12(15302) G::47.82(14038)
P2	316	F	R	R::99.88(29328)
P2	317	F	K	K::99.88(29332)
P2	318	F	L	L::99.95(29351)
P2	319	F	P	P::99.96(34889)

P2	320	F	V	V::99.95(35217)
P2	321	F	N	N::99.89(35220)
P2	322	F	R	R::99.90(35225)
P2	323	F	P	P::99.92(35238)
P2	324	F	I	I::99.95(35260)
P2	325	F	D	D::99.93(35254)
P2	326	F	W	W::99.89(35242)
P2	327	F	K	K::99.89(35240)
P2	328	F	V	V::99.91(35252)
P2	329	F	C	C::99.87(35238)
P2	330	F	Q	Q::99.86(35229)
P2	331	F	R	R::99.91(35254)
P2	332	F	I	I::99.88(35241)
P2	333	F	V	V::99.90(35245)
P2	334	F	G	G::99.87(35231)
P2	335	F	L	L::99.98(35227)
P2	336	F	L	L::99.37(35026)
P2	337	F	G	G::99.90(19958)
P2	339	F	A	A::99.72(19928)
P2	340	F	A	A::99.77(19933)
P2	341	F	P	P::99.96(19966)
P2	343	F	T	T::99.93(19956)
P2	344	F	Q	Q::99.93(19953)
P2	345	F	C	C::99.90(19946)
P2	346	F	G	G::99.97(19957)
P2	347	F	Y	Y::99.95(19950)
P2	348	F	P	P::99.98(19956)
P2	349	F	A	A::99.92(19913)
P2	350	F	L	L::99.96(19921)
P2	351	F	K	K::99.87(19552)
P2	352	F	P	P::99.97(19572)
P2	353	F	L	L::100.00(17015)
P2	354	F	Y	Y::99.90(5930)
P2	355	F	A	A::99.90(5930)
P2	356	F	C	C::99.95(5933)
P2	357	F	I	I::99.92(5931)
P2	358	F	Q	Q::99.93(5932)
P2	359	F	S	S::99.93(5932)
P2	360	F	K	K::99.85(5927)
P2	361	F	Q	Q::99.93(5932)
P2	362	F	A	A::99.88(5924)
P2	364	F	T	T::99.95(5933)
P2	366	F	S	S::99.97(5899)
P2	367	F	P	P::100.00(5901)
P2	368	F	T	T::100.00(5901)
P2	369	F	Y	Y::100.00(1)
P2	370	F	K	K::100.00(1)
P2	399	F	P	P::100.00(2)
P2	400	F	T	T::100.00(292)
P2	401	F	G	G::100.00(295)
P2	402	F	W	W::100.00(295)

P2	403	F	G	G::100.00(297)
P2	404	F	L	L::100.00(297)
P2	405	F	V	V::100.00(297)
P2	406	F	M	M::100.00(297)
P2	407	F	G	G::99.66(296)
P2	408	F	H	H::99.66(296)
P2	409	F	Q	Q::100.00(298)
P2	410	F	R	R::99.66(297)
P2	411	F	M	M::100.00(10455)
P2	412	F	R	R::99.90(10499)
P2	413	F	G	G::99.91(10539)
P2	414	F	T	T::99.97(10544)
P2	416	F	L	L::99.90(10484)
P2	417	F	A	A::99.90(10537)
P2	418	F	P	P::99.98(10547)
P2	419	F	L	L::99.93(10540)
P2	420	F	P	P::99.79(10527)
P2	421	F	I	I::99.87(10535)
P2	422	F	H	H::99.92(10541)
P2	423	F	T	T::99.96(10545)
P2	424	F	A	A::99.87(10535)
P2	425	F	E	E::99.97(10545)
P2	426	F	L	L::99.93(10542)
P2	427	F	L	L::99.95(10544)
P2	428	F	A	A::99.93(10542)
P2	429	F	A	A::99.90(10538)
P2	430	F	C	C::99.93(10543)
P2	432	F	A	A::99.80(10529)
P2	433	F	R	R::99.90(10539)
P2	434	F	S	S::99.91(10540)
P2	435	F	R	R::99.92(10541)
P2	436	F	S	S::99.95(10545)
P2	437	F	G	G::99.97(10547)
P2	438	F	A	A::99.95(10545)
P2	439	F	N	N::99.93(10543)
P2	440	F	I	I::99.96(10546)
P2	441	F	L	L::99.92(10541)
P2	442	F	G	G::99.97(10541)
P2	443	F	T	T::99.95(10536)
P2	444	F	D	D::99.93(10534)
P2	445	F	N	N::99.95(10536)
P2	446	F	S	S::99.93(10533)
P2	447	F	V	V::99.91(10528)
P2	448	F	V	V::99.94(10534)
P2	449	F	L	L::99.88(10228)
P2	450	F	S	S::99.93(10232)
P2	451	F	R	R::99.85(10220)
P2	452	F	K	K::99.93(10228)
P2	453	F	Y	Y::99.93(10228)
P2	454	F	T	T::99.93(10218)
P2	455	F	S	S::99.85(10211)

P2	457	F	P	P::99.86(10207)
P2	458	F	W	W::99.85(10200)
P2	459	F	L	L::99.98(10187)
P2	460	F	L	L::100.00(61)
P2	461	F	G	G::100.00(2)
P2	462	F	C	C::100.00(1)
P2	463	F	A	A::100.00(6046)
P2	464	F	A	A::99.97(10005)
P2	465	F	N	N::99.96(13684)
P2	466	F	W	W::99.93(13693)
P2	467	F	I	I::99.83(13718)
P2	468	F	L	L::99.96(13764)
P2	469	F	R	R::99.91(13785)
P2	470	F	G	G::99.92(13791)
P2	471	F	T	T::99.89(13792)
P2	472	F	S	S::99.93(13797)
P2	474	F	V	V::99.92(15804)
P2	475	F	Y	Y::99.96(17022)
P2	476	F	V	V::99.90(17264)
P2	477	F	P	P::99.90(17363)
P2	478	F	S	S::99.34(17269)
P2	479	F	A	A::99.82(17414)
P2	480	F	L	L::99.93(17435)
P2	481	F	N	N::99.90(17435)
P2	482	F	P	P::99.97(17448)
P2	483	F	A	A::99.82(17451)
P2	484	F	D	D::99.94(17472)
P2	485	F	D	D::99.94(17475)
P2	486	F	P	P::99.91(17472)
P2	487	F	S	S::99.83(17458)
P2	488	F	R	R::99.90(17472)
P2	489	F	G	G::99.88(17475)
P2	490	F	R	R::99.73(17448)
P2	491	F	L	L::99.89(17475)
P2	492	F	G	G::99.91(17478)
P2	493	F	L	L::99.93(17480)
P2	494	F	S	S::99.94(17481)
P2	495	F	R	R::99.94(17486)
P2	496	F	P	P::99.93(17483)
P2	497	F	L	L::99.86(17469)
P2	498	F	L	L::99.93(17478)
P2	499	F	R	R::99.83(17461)
P2	500	F	L	L::99.94(17479)
P2	501	F	P	P::99.87(17467)
P2	503	F	R	R::99.93(17471)
P2	504	F	P	P::99.93(17471)
P2	505	F	S	S::99.89(17465)
P2	506	F	T	T::99.95(17470)
P2	507	F	G	G::99.93(17470)
P2	508	F	R	R::99.69(17428)
P2	509	F	T	T::99.96(17459)

P2	510	F	S	S::99.95(17456)
P2	511	F	L	L::99.90(17446)
P2	512	F	Y	Y::99.99(17433)
P2	513	F	A	A::99.87(7065)
P2	514	F	D	D::99.91(5350)
P2	515	F	S	S::99.81(3622)
P2	516	F	P	P::88.26(3203) Q::11.66(423)
P2	517	F	S	S::99.94(3627)
P2	518	F	V	V::99.89(3625)
P2	519	F	P	P::99.97(3628)
P2	520	F	S	S::99.97(3629)
P2	521	F	H	H::99.94(3627)
P2	522	F	L	L::100.00(3621)
P2	523	F	P	P::100.00(1)
P2	524	F	D	D::100.00(1)
P2	525	F	R	R::100.00(1)
P2	526	F	V	V::100.00(1)
P2	527	F	H	H::100.00(1)
P2	529	F	A	A::100.00(1)
P2	530	F	S	S::100.00(1)
P2	531	F	P	P::100.00(1)
P2	532	F	L	L::100.00(2)
P2	533	F	H	H::100.00(4037)
P2	534	F	V	V::99.99(19253)
P2	535	F	A	A::99.87(19628)
P2	536	F	W	W::99.91(19646)
P2	537	F	R	R::99.77(19622)
P2	538	F	P	P::99.86(19639)
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S2	1	F	S	S::100.00(6)
S2	2	F	T	T::100.00(6)
S2	3	F	T	T::100.00(6)
S2	5	F	H	H::100.00(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	T	T::100.00(6)
S2	12	F	G	G::66.67(4) R::33.33(2)
S2	13	F	V	V::100.00(7)
S2	14	F	R	R::100.00(8)
S2	15	F	G	G::100.00(2)
S2	16	F	L	L::100.00(2)
S2	17	F	Y	Y::100.00(2)
S2	19	F	P	P::100.00(7)
S2	20	F	A	A::100.00(6892)
S2	21	F	G	G::99.93(6895)
S2	22	F	G	G::99.86(6892)
S2	23	F	S	S::99.93(6898)
S2	24	F	S	S::99.91(6897)
S2	25	F	S	S::99.93(6898)

S2	26	F	G	G::99.93(6902)
S2	27	F	T	T::99.93(6905)
S2	28	F	V	V::99.83(6899)
S2	29	F	N	N::76.41(5281) H::23.48(1623)
S2	30	F	P	P::99.91(6906)
S2	31	F	V	V::99.93(6908)
S2	32	F	P	P::99.88(6905)
S2	33	F	T	T::99.87(6903)
S2	34	F	T	T::99.99(10101)
S2	35	F	V	V::99.90(10092)
S2	36	F	S	S::99.95(10099)
S2	37	F	P	P::99.95(10113)
S2	38	F	I	I::88.73(12894) K::11.20(1627)
S2	39	F	S	S::99.93(14778)
S2	40	F	S	S::99.77(14983)
S2	41	F	I	I::99.87(15029)
S2	43	F	S	S::99.94(15183)
S2	44	F	R	R::99.80(15199)
S2	45	F	I	I::99.84(15211)
S2	46	F	G	G::99.86(15283)
S2	47	F	D	D::99.81(15110)
S2	48	F	L	L::99.89(15065)
S2	49	F	A	A::99.77(15033)
S2	50	F	P	P::99.86(14738)
S2	51	F	N	N::99.86(14741)
S2	52	F	M	M::99.78(14732)
S2	53	F	E	E::99.84(14745)
S2	54	F	N	N::99.84(14748)
S2	55	F	I	I::99.88(14751)
S2	56	F	T	T::99.78(10060)
S2	57	F	S	S::99.93(10077)
S2	58	F	G	G::99.85(10073)
S2	60	F	L	L::99.95(10093)
S2	61	F	G	G::99.87(10087)
S2	62	F	P	P::99.87(10086)
S2	63	F	L	L::99.91(10090)
S2	64	F	L	L::99.91(10092)
S2	65	F	V	V::99.89(8460)
S2	66	F	L	L::99.85(8455)
S2	67	F	Q	Q::99.82(8454)
S2	68	F	A	A::99.94(8462)
S2	69	F	G	G::99.88(8457)
S2	72	F	L	L::99.95(20445)
S2	73	F	L	L::99.92(20489)
S2	74	F	T	T::99.87(20486)
S2	75	F	R	R::99.85(20496)
S2	76	F	I	I::99.89(20539)
S2	77	F	L	L::99.92(20556)
S2	78	F	T	T::99.87(20548)
S2	79	F	I	I::99.94(23751)
S2	80	F	P	P::99.91(24102)

S2	81	F	Q	Q::86.57(20890) K::13.32(3213)
S2	82	F	S	S::99.91(24126)
S2	83	F	L	L::99.91(20919)
S2	84	F	D	D::99.90(20945)
S2	85	F	S	S::99.93(20954)
S2	86	F	W	W::99.91(20966)
S2	87	F	W	W::99.87(20956)
S2	88	F	T	T::99.91(15784)
S2	89	F	S	S::99.95(15791)
S2	90	F	L	L::99.93(15793)
S2	91	F	N	N::99.89(15790)
S2	93	F	L	L::99.96(15801)
S2	94	F	G	G::77.13(12191) E::22.78(3600)
S2	95	F	G	G::99.81(15747)
S2	96	F	T	T::99.93(15773)
S2	97	F	T	T::99.95(28700)
S2	98	F	V	V::99.89(28700)
S2	99	F	C	C::99.93(28725)
S2	100	F	L	L::99.95(28732)
S2	101	F	G	G::99.85(28703)
S2	102	F	Q	Q::99.89(28740)
S2	103	F	N	N::99.95(28746)
S2	104	F	S	S::99.90(28739)
S2	105	F	Q	Q::54.29(15612) R::45.57(13106)
S2	106	F	S	S::99.92(31760)
S2	107	F	P	P::99.88(31732)
S2	108	F	T	T::99.94(41316)
S2	109	F	S	S::99.94(44485)
S2	110	F	K	K::57.79(25781) N::42.12(18791)
S2	111	F	H	H::99.91(44603)
S2	112	F	S	S::99.92(44593)
S2	113	F	P	P::99.91(44587)
S2	114	F	T	T::99.94(44603)
S2	115	F	S	S::99.88(44583)
S2	116	F	C	C::99.90(44595)
S2	117	F	P	P::99.93(44596)
S2	118	F	P	P::99.93(44484)
S2	119	F	T	T::99.94(44267)
S2	120	F	C	C::99.88(34328)
S2	121	F	P	P::99.97(42360)
S2	122	F	G	G::99.95(47625)
S2	123	F	Y	Y::99.90(47614)
S2	124	F	R	R::99.69(47511)
S2	125	F	W	W::99.91(47604)
S2	126	F	M	M::99.89(47594)
S2	127	F	C	C::99.87(47586)
S2	128	F	L	L::99.95(47617)
S2	129	F	R	R::99.86(53213)
S2	130	F	R	R::99.88(53619)
S2	132	F	I	I::99.90(53733)
S2	133	F	I	I::99.91(53730)



S2	135	F	L	L::99.94(53736)
S2	137	F	I	I::99.92(53708)
S2	138	F	L	L::99.92(53690)
S2	139	F	L	L::99.96(53708)
S2	140	F	L	L::99.93(53690)
S2	141	F	C	C::99.87(53644)
S2	142	F	L	L::99.88(53624)
S2	143	F	I	I::99.94(53578)
S2	145	F	L	L::99.95(45893)
S2	146	F	L	L::99.90(40838)
S2	147	F	V	V::99.86(40818)
S2	148	F	L	L::99.95(47270)
S2	149	F	L	L::99.93(47248)
S2	150	F	D	D::99.91(47222)
S2	151	F	Y	Y::99.92(47187)
S2	152	F	Q	Q::99.89(47156)
S2	153	F	G	G::99.93(47177)
S2	154	F	M	M::99.92(47166)
S2	155	F	L	L::99.92(46978)
S2	156	F	P	P::99.91(48048)
S2	157	F	V	V::99.94(48210)
S2	158	F	C	C::99.88(35283)
S2	159	F	P	P::99.91(35291)
S2	160	F	M	M::99.88(35221)
S2	161	F	I	I::99.90(35327)
S2	162	F	P	P::99.90(35333)
S2	163	F	G	G::99.90(35337)
S2	164	F	S	S::99.93(35105)
S2	165	F	S	S::99.88(35101)
S2	166	F	T	T::99.95(35040)
S2	167	F	T	T::99.94(34894)
S2	168	F	S	S::99.91(34794)
S2	169	F	T	T::99.94(34428)
S2	170	F	G	G::99.92(25267)
S2	171	F	P	P::99.95(22720)
S2	172	F	C	C::99.88(22694)
S2	173	F	R	R::99.93(22674)
S2	174	F	T	T::99.97(27860)
S2	175	F	C	C::99.90(27840)
S2	176	F	T	T::99.96(18136)
S2	177	F	T	T::99.98(18139)
S2	178	F	P	P::99.94(18131)
S2	179	F	A	A::99.92(18213)
S2	180	F	Q	Q::99.89(18209)
S2	181	F	G	G::99.91(18218)
S2	182	F	T	T::99.92(18223)
S2	183	F	S	S::99.90(18219)
S2	184	F	M	M::99.87(18232)
S2	185	F	Y	Y::90.89(22280) S::9.01(2209)
S2	186	F	P	P::99.89(24620)
S2	187	F	S	S::99.91(24623)

S2	188	F	C	C::99.93(24638)
S2	189	F	C	C::99.83(24617)
S2	190	F	C	C::99.87(24626)
S2	191	F	T	T::99.93(24644)
S2	192	F	K	K::99.96(30351)
S2	193	F	P	P::99.98(30364)
S2	194	F	S	S::99.95(30354)
S2	195	F	D	D::99.90(31098)
S2	196	F	G	G::99.93(31065)
S2	197	F	N	N::99.91(24718)
S2	198	F	C	C::99.85(24699)
S2	199	F	T	T::99.93(24719)
S2	200	F	C	C::99.81(24688)
S2	201	F	I	I::99.95(24725)
S2	202	F	P	P::99.93(24720)
S2	203	F	I	I::99.93(24725)
S2	204	F	P	P::99.91(24717)
S2	205	F	S	S::99.90(20393)
S2	206	F	S	S::99.96(20405)
S2	207	F	W	W::99.78(20369)
S2	208	F	A	A::99.95(20406)
S2	210	F	G	G::99.86(20390)
S2	211	F	K	K::99.93(20406)
S2	213	F	L	L::99.94(20408)
S2	214	F	W	W::99.88(20394)
S2	215	F	E	E::99.86(20390)
S2	216	F	W	W::99.88(20389)
S2	217	F	A	A::99.80(20366)
S2	218	F	S	S::99.91(20195)
S2	219	F	A	A::99.95(20156)
S2	220	F	R	R::99.77(18751)
S2	222	F	S	S::99.97(18209)
S2	223	F	W	W::99.76(12918)
S2	224	F	L	L::99.94(12940)
S2	225	F	S	S::99.92(12917)
S2	226	F	L	L::99.92(12916)
S2	227	F	L	L::99.96(15565)
S2	228	F	V	V::99.90(15729)
S2	229	F	P	P::99.87(15777)
S2	231	F	V	V::99.89(15795)
S2	232	F	Q	Q::99.77(15779)
S2	233	F	W	W::99.85(15800)
S2	235	F	V	V::99.93(24672)
S2	236	F	G	G::99.85(24694)
S2	237	F	L	L::99.85(24697)
S2	238	F	S	S::99.81(19006)
S2	239	F	P	P::99.89(19057)
S2	240	F	T	T::99.88(19080)
S2	241	F	V	V::99.83(19083)
S2	242	F	W	W::99.80(19073)
S2	243	F	L	L::99.83(18312)

S2	244	F	S	S::99.83(18618)
S2	245	F	V	V::99.87(20724)
S2	246	F	I	I::99.93(20766)
S2	247	F	W	W::99.86(20757)
S2	248	F	M	M::99.75(20745)
S2	249	F	M	M::99.78(20758)
S2	250	F	W	W::99.81(20776)
S2	251	F	Y	Y::99.84(20789)
S2	252	F	W	W::99.84(20792)
S2	253	F	G	G::99.88(20812)
S2	254	F	P	P::99.75(20798)
S2	255	F	S	S::99.77(20803)
S2	256	F	L	L::99.85(20818)
S2	257	F	Y	Y::89.28(18615) N::10.51(2191)
S2	258	F	S	S::99.71(20795)
S2	259	F	T	T::99.85(20828)
S2	260	F	L	L::99.77(20811)
S2	261	F	S	S::99.74(20807)
S2	262	F	P	P::99.86(26758)
S2	264	F	L	L::99.90(26776)
S2	265	F	P	P::99.80(26750)
S2	266	F	L	L::99.86(26766)
S2	267	F	L	L::99.86(26756)
S2	268	F	P	P::99.85(26759)
S2	269	F	I	I::99.88(26762)
S2	272	F	C	C::99.77(26733)
S2	273	F	L	L::99.82(26744)
S2	274	F	W	W::99.83(26746)
S2	275	F	V	V::99.91(26755)
S2	276	F	Y	Y::99.85(23704)
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X	1	F	M	M::99.89(10206)
X	2	F	A	A::99.87(10193)
X	3	F	A	A::100.00(9995)
X	4	F	R	R::100.00(61)
X	5	F	L	L::100.00(1)
X	6	F	C	C::100.00(2)
X	7	F	C	C::100.00(6059)
X	8	F	Q	Q::99.91(10049)
X	9	F	L	L::99.98(13699)
X	10	F	D	D::99.85(13720)
X	11	F	P	P::99.95(13762)
X	12	F	A	A::99.92(13784)
X	13	F	R	R::99.89(13789)
X	14	F	D	D::99.93(13795)
X	15	F	V	V::99.86(13788)
X	16	F	L	L::99.88(13792)
X	17	F	C	C::99.91(13799)
X	18	F	L	L::99.97(16849)
X	19	F	R	R::99.76(17229)
X	20	F	P	P::99.94(17367)
X	21	F	V	V::99.35(17270)

X	22	F	G	G::99.92(17430)
X	23	F	A	A::99.86(17422)
X	24	F	E	E::99.92(17439)
X	25	F	S	S::99.96(17446)
X	26	F	C	C::99.92(17440)
X	27	F	G	G::99.91(17467)
X	28	F	R	R::99.91(17471)
X	29	F	P	P::99.93(17474)
X	30	F	F	F::58.53(10236) V::41.35(7230)
X	31	F	S	S::99.91(17466)
X	32	F	G	G::99.95(17488)
X	33	F	P	P::99.83(17466)
X	34	F	L	L::99.93(17483)
X	35	F	G	G::99.94(17485)
X	36	F	T	T::99.93(17482)
X	37	F	L	L::99.91(17479)
X	38	F	S	S::99.94(17481)
X	39	F	S	S::99.90(17478)
X	40	F	P	P::99.94(17482)
X	41	F	S	S::99.92(17477)
X	42	F	P	P::99.97(17485)
X	43	F	P	P::99.98(17487)
X	44	F	A	A::99.85(17465)
X	45	F	V	V::99.86(17465)
X	46	F	S	S::99.98(17484)
X	47	F	S	S::99.91(17468)
X	48	F	V	V::99.80(17449)
X	49	F	H	H::99.96(17477)
X	50	F	G	G::99.91(17461)
X	51	F	A	A::99.91(17466)
X	52	F	H	H::99.97(17461)
X	53	F	L	L::99.93(17452)
X	54	F	S	S::99.94(17452)
X	55	F	L	L::99.98(17438)
X	56	F	R	R::99.86(7159)
X	57	F	G	G::99.22(5314)
X	58	F	L	L::99.78(3628)
X	59	F	P	P::99.94(3627)
X	60	F	V	V::99.89(3625)
X	61	F	C	C::99.78(3621)
X	62	F	A	A::99.89(3625)
X	64	F	S	S::100.00(3629)
X	65	F	S	S::99.97(3625)
X	66	F	A	A::100.00(3621)
X	67	F	G	G::100.00(1)
X	68	F	P	P::100.00(1)
X	69	F	C	C::100.00(1)
X	70	F	A	A::100.00(1)
X	71	F	L	L::100.00(1)
X	72	F	R	R::100.00(1)
X	74	F	T	T::100.00(1)

X	75	F	S	S::100.00(2)
X	76	F	A	A::100.00(3)
X	77	F	R	R::100.00(10676)
X	78	F	R	R::99.84(19611)
X	79	F	M	M::99.88(19640)
X	80	F	E	E::99.81(19630)
X	81	F	T	T::99.91(19650)
X	82	F	T	T::99.88(19644)
X	83	F	V	V::99.86(19640)
X	84	F	N	N::99.89(19647)
X	85	F	A	A::99.85(19638)
X	86	F	H	H::99.86(19638)
X	87	F	Q	Q::99.96(19660)
X	89	F	L	L::99.90(19648)
X	90	F	P	P::99.85(19637)
X	91	F	K	K::99.89(19648)
X	92	F	V	V::99.91(19651)
X	93	F	L	L::99.87(19640)
X	94	F	Y	Y::93.88(18461) H::6.01(1182)
X	95	F	K	K::93.92(18473) Q::5.98(1176)
X	96	F	R	R::99.92(19653)
X	97	F	T	T::99.90(19650)
X	98	F	L	L::99.93(19653)
X	99	F	G	G::99.92(19653)
X	100	F	L	L::99.87(19645)
X	101	F	S	S::99.81(19633)
X	102	F	V	V::99.86(19639)
X	103	F	M	M::99.88(19646)
X	104	F	S	S::99.84(19614)
X	105	F	T	T::99.85(19613)
X	106	F	T	T::99.45(19533)
X	107	F	D	D::99.52(19541)
X	108	F	L	L::99.80(19596)
X	109	F	E	E::99.86(19602)
X	110	F	A	A::99.81(19590)
X	111	F	Y	Y::99.80(19580)
X	113	F	K	K::99.95(19565)
X	114	F	D	D::99.86(25113)
X	115	F	C	C::99.77(25078)
X	116	F	L	L::99.86(25450)
X	118	F	K	K::99.95(25458)
X	119	F	D	D::66.17(16838) N::33.69(8574)
X	120	F	W	W::99.89(25409)
X	121	F	E	E::66.31(16838) K::33.61(8535)
X	122	F	E	E::99.92(25320)
X	123	F	L	L::99.75(25270)
X	124	F	G	G::99.95(16774)
X	125	F	E	E::99.90(16422)
X	126	F	E	E::99.94(6295)
X	127	F	I	I::99.83(5932)
X	128	F	R	R::99.93(5940)

X	129	F	L	L::99.97(5941)
X	130	F	Q	Q::99.80(5931)
X	131	F	L	L::99.88(5936)
X	133	F	V	V::99.97(5942)
X	134	F	L	L::99.93(5940)
X	135	F	G	G::99.93(5940)
X	136	F	G	G::99.90(5937)
X	137	F	C	C::99.92(5939)
X	138	F	R	R::99.90(5937)
X	139	F	H	H::99.87(5936)
X	140	F	K	K::99.95(5942)
X	141	F	L	L::99.90(5939)
X	142	F	V	V::99.83(5932)
X	143	F	C	C::99.98(5939)
X	144	F	A	A::99.95(5933)
X	145	F	P	P::99.96(14409)
X	146	F	A	A::99.85(14460)
X	147	F	P	P::99.95(19795)
X	148	F	C	C::99.83(19782)
X	149	F	N	N::99.88(19791)
X	152	F	T	T::99.90(25105)
X	153	F	S	S::99.91(34879)
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C	1	F	M	M::99.90(49827)
C	2	F	D	D::99.90(49825)
C	3	F	I	I::99.94(49843)
C	4	F	D	D::99.88(49799)
C	5	F	P	P::99.94(49822)
C	6	F	Y	Y::99.93(49810)
C	7	F	K	K::99.94(49813)
C	8	F	E	E::99.97(49826)
C	10	F	G	G::99.96(54602)
C	11	F	A	A::99.96(63924)
C	12	F	T	T::99.93(64082)
C	13	F	V	V::99.94(66128)
C	14	F	E	E::99.94(66215)
C	15	F	L	L::99.95(66183)
C	16	F	L	L::99.85(71380)
C	17	F	S	S::99.95(62740)
C	19	F	L	L::99.93(62759)
C	20	F	P	P::99.89(57355)
C	21	F	Q	Q::99.92(50807)
C	22	F	D	D::99.94(53847)
C	25	F	P	P::99.95(53050)
C	26	F	S	S::99.96(44871)
C	27	F	V	V::99.94(49001)
C	28	F	R	R::99.93(57802)
C	29	F	D	D::99.92(57861)
C	30	F	L	L::99.92(60294)
C	31	F	L	L::99.94(60129)
C	32	F	D	D::99.94(60144)
C	33	F	T	T::99.93(58992)

C	34	F	A	A::99.91(56092)
C	35	F	A	A::91.38(44037) S::8.59(4138)
C	36	F	A	A::99.94(48167)
C	37	F	L	L::99.93(48153)
C	38	F	F	F::69.97(33716) Y::29.93(14424)
C	39	F	R	R::99.90(48140)
C	40	F	E	E::99.26(47805)
C	41	F	A	A::99.91(48124)
C	42	F	L	L::99.92(53673)
C	43	F	E	E::99.92(54214)
C	44	F	S	S::99.93(54247)
C	45	F	P	P::99.97(54273)
C	46	F	E	E::99.92(54150)
C	47	F	H	H::99.89(54519)
C	48	F	C	C::99.73(53728)
C	49	F	S	S::99.90(54958)
C	50	F	P	P::99.91(53755)
C	51	F	H	H::99.89(53734)
C	52	F	H	H::99.92(56137)
C	53	F	T	T::99.91(56165)
C	54	F	A	A::99.64(56019)
C	55	F	L	L::99.92(56184)
C	56	F	R	R::99.84(56900)
C	57	F	Q	Q::99.91(56969)
C	58	F	A	A::99.89(56964)
C	59	F	I	I::99.90(56959)
C	60	F	L	L::99.91(51613)
C	61	F	C	C::99.89(42488)
C	62	F	W	W::99.87(40990)
C	63	F	G	G::99.94(41281)
C	64	F	D	D::99.79(41185)
C	65	F	L	L::99.88(41200)
C	66	F	M	M::99.87(35814)
C	67	F	N	N::99.88(35771)
C	68	F	L	L::99.91(35780)
C	69	F	A	A::99.66(35683)
C	70	F	T	T::99.89(33006)
C	71	F	W	W::99.89(33157)
C	72	F	V	V::99.89(38472)
C	73	F	G	G::99.96(38471)
C	74	F	G	G::99.81(33923)
C	75	F	N	N::99.92(33979)
C	76	F	L	L::99.91(34520)
C	77	F	E	E::99.89(20637)
C	78	F	D	D::99.93(24662)
C	79	F	P	P::99.91(23262)
C	80	F	V	V::99.93(23262)
C	81	F	S	S::99.91(23258)
C	82	F	R	R::99.92(23255)
C	83	F	D	D::99.91(29162)
C	84	F	L	L::99.91(29177)

C	85	F	V	V::99.94(32327)
C	86	F	V	V::99.93(32340)
C	87	F	G	G::99.89(32292)
C	88	F	Y	Y::99.93(32322)
C	89	F	V	V::99.92(29936)
C	90	F	N	N::99.98(29955)
C	91	F	T	T::99.95(25925)
C	92	F	T	T::97.80(18408)
C	93	F	V	V::99.89(18399)
C	94	F	G	G::99.84(18390)
C	95	F	L	L::99.94(18402)
C	96	F	K	K::99.96(27056)
C	98	F	R	R::99.82(29734)
C	99	F	Q	Q::99.88(30095)
C	100	F	L	L::99.94(30264)
C	101	F	L	L::99.92(31624)
C	102	F	W	W::99.90(33674)
C	104	F	H	H::99.93(48909)
C	105	F	I	I::99.95(48925)
C	106	F	S	S::99.94(48602)
C	107	F	C	C::99.87(48564)
C	108	F	L	L::99.90(48599)
C	109	F	T	T::99.93(48920)
C	111	F	G	G::99.89(48086)
C	112	F	R	R::99.95(58241)
C	113	F	E	E::99.96(58280)
C	114	F	T	T::99.92(58256)
C	115	F	V	V::99.92(58223)
C	116	F	L	L::99.92(58223)
C	117	F	E	E::99.96(79416)
C	118	F	Y	Y::99.94(79375)
C	119	F	L	L::99.93(79399)
C	120	F	V	V::99.94(77393)
C	121	F	S	S::99.95(87070)
C	123	F	G	G::99.93(90085)
C	124	F	V	V::99.95(90114)
C	125	F	W	W::99.86(90013)
C	126	F	I	I::99.93(89542)
C	127	F	R	R::99.32(89000)
C	128	F	T	T::99.93(89519)
C	129	F	P	P::99.96(88778)
C	130	F	P	P::99.93(83025)
C	131	F	A	A::99.96(83049)
C	132	F	Y	Y::99.92(89287)
C	133	F	R	R::99.87(89209)
C	134	F	P	P::99.92(86051)
C	135	F	P	P::99.95(86080)
C	136	F	N	N::99.93(89610)
C	137	F	A	A::99.86(89591)
C	138	F	P	P::99.92(89613)
C	139	F	I	I::99.94(89619)



C	140	F	L	L::99.93(89541)
C	141	F	S	S::99.92(89493)
C	142	F	T	T::99.96(98175)
C	143	F	L	L::99.94(99659)
C	144	F	P	P::99.91(100413)
C	145	F	E	E::99.93(94067)
C	146	F	T	T::99.92(106856)
C	147	F	T	T::99.93(106870)
C	148	F	V	V::99.92(106518)
C	149	F	I	I::99.93(106050)
C	150	F	R	R::99.93(106078)
C	151	F	R	R::99.84(98632)
C	152	F	R	R::99.86(91731)
C	153	F	G	G::99.94(91767)
C	154	F	R	R::99.90(85421)
C	155	F	S	S::99.91(85418)
C	156	F	P	P::99.96(93351)
C	157	F	R	R::99.94(93315)
C	158	F	R	R::99.94(93288)
C	159	F	R	R::99.92(101163)
C	160	F	T	T::99.95(107359)
C	161	F	P	P::99.93(105136)
C	162	F	S	S::99.92(97199)
C	163	F	P	P::99.96(97148)
C	164	F	R	R::99.89(104221)
C	165	F	R	R::99.92(104226)
C	166	F	R	R::89.40(88105) Q::10.55(10396)
C	167	F	R	R::99.82(98392)
C	168	F	S	S::99.92(98560)
C	169	F	Q	Q::99.92(98721)
C	170	F	S	S::99.92(88502)
C	171	F	P	P::99.90(89518)
C	172	F	R	R::99.91(85813)
C	173	F	R	R::99.80(92677)
C	174	F	R	R::99.91(93601)
C	175	F	R	R::99.92(93648)
C	176	F	S	S::99.95(93685)
C	177	F	Q	Q::99.96(117543)
C	178	F	S	S::99.96(118043)
C	179	F	R	R::99.92(119718)
C	180	F	E	E::95.55(114436)
C	181	F	P	P::95.68(113557)
C	182	F	Q	Q::99.92(118651)
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P1	1	F	M	M::99.87(89604)
P1	2	F	P	P::99.90(89624)
P1	3	F	L	L::99.92(89593)
P1	4	F	S	S::99.94(89605)
P1	5	F	Y	Y::99.90(89515)
P1	6	F	Q	Q::99.93(97613)
P1	7	F	H	H::99.93(95322)
P1	9	F	R	R::99.92(100408)

P1	10	F	R	R::99.90(94039)
P1	11	F	L	L::99.95(106911)
P1	12	F	L	L::99.94(106860)
P1	13	F	L	L::99.93(106048)
P1	14	F	L	L::99.94(106081)
P1	15	F	D	D::99.94(100158)
P1	16	F	D	D::99.90(98693)
P1	17	F	E	E::99.92(91782)
P1	18	F	A	A::99.86(85380)
P1	19	F	G	G::99.94(85453)
P1	20	F	P	P::98.67(84362)
P1	21	F	L	L::99.94(93306)
P1	22	F	E	E::99.94(93285)
P1	23	F	E	E::99.93(93098)
P1	24	F	E	E::99.92(101682)
P1	25	F	L	L::99.93(107116)
P1	26	F	P	P::99.93(97291)
P1	27	F	R	R::99.92(97193)
P1	28	F	L	L::99.94(106671)
P1	29	F	A	A::99.86(95433)
P1	30	F	D	D::99.94(104826)
P1	31	F	E	E::89.29(88022) K::10.54(10386)
P1	32	F	G	G::99.95(98522)
P1	33	F	L	L::99.92(98559)
P1	34	F	N	N::99.91(98713)
P1	35	F	R	R::99.84(89626)
P1	36	F	R	R::99.91(89505)
P1	37	F	V	V::99.90(90303)
P1	38	F	A	A::99.81(92962)
P1	39	F	E	E::99.92(93620)
P1	40	F	D	D::99.93(93662)
P1	41	F	L	L::99.91(93645)
P1	42	F	N	N::99.94(118020)
P1	43	F	L	L::99.96(118039)
P1	44	F	G	G::95.70(114597)
P1	45	F	N	N::99.91(118578)
P1	46	F	L	L::99.89(118607)
P1	47	F	N	N::99.92(118642)
P1	48	F	V	V::99.94(118665)
P1	49	F	D	D::95.48(109912)
P1	50	F	I	I::99.93(115111)
P1	51	F	P	P::99.95(120750)
P1	52	F	W	W::99.87(120757)
P1	53	F	T	T::99.93(120844)
P1	54	F	H	H::99.90(120816)
P1	55	F	K	K::99.71(120543)
P1	56	F	V	V::99.93(112103)
P1	57	F	G	G::99.88(106748)
P1	58	F	N	N::99.93(108409)
P1	60	F	T	T::99.89(103758)
P1	61	F	G	G::99.93(94387)

P1	62	F	L	L::99.94(94353)
P1	63	F	Y	Y::99.91(94252)
P1	64	F	S	S::99.94(94286)
P1	65	F	S	S::88.44(83435) T::11.53(10878)
P1	66	F	T	T::99.95(94285)
P1	67	F	V	V::99.93(94102)
P1	68	F	P	P::99.92(95439)
P1	69	F	V	V::99.93(95298)
P1	71	F	N	N::99.92(87521)
P1	72	F	P	P::99.96(87040)
P1	73	F	H	H::99.95(84922)
P1	74	F	W	W::99.88(80669)
P1	75	F	K	K::99.91(80795)
P1	76	F	T	T::99.92(80569)
P1	77	F	P	P::99.94(77353)
P1	78	F	S	S::99.95(71769)
P1	80	F	P	P::99.96(61372)
P1	81	F	N	N::99.94(63251)
P1	82	F	I	I::99.92(63250)
P1	83	F	H	H::99.92(63242)
P1	84	F	L	L::99.94(63256)
P1	85	F	H	H::99.91(62147)
P1	86	F	Q	Q::99.92(62141)
P1	87	F	D	D::99.92(56551)
P1	88	F	I	I::99.97(56580)
P1	89	F	I	I::99.96(56553)
P1	90	F	K	K::99.93(37399)
P1	91	F	K	K::91.41(33717) R::8.51(3139)
P1	92	F	C	C::99.92(35812)
P1	93	F	E	E::99.91(33711)
P1	94	F	Q	Q::99.94(29251)
P1	96	F	V	V::99.95(29217)
P1	97	F	G	G::99.81(29170)
P1	98	F	P	P::99.91(29205)
P1	99	F	L	L::99.92(29209)
P1	100	F	T	T::99.92(29197)
P1	101	F	V	V::78.47(18466) I::21.48(5055)
P1	102	F	N	N::99.86(28326)
P1	103	F	E	E::99.92(32053)
P1	104	F	K	K::99.94(32269)
P1	105	F	R	R::99.89(32246)
P1	106	F	R	R::99.88(34965)
P1	107	F	L	L::99.95(33631)
P1	108	F	Q	Q::85.86(30861) K::14.06(5052)
P1	109	F	L	L::99.92(37774)
P1	110	F	I	I::99.95(39640)
P1	111	F	M	M::99.84(39601)
P1	112	F	P	P::99.82(39586)
P1	113	F	A	A::99.92(39602)
P1	114	F	R	R::99.93(39596)
P1	116	F	Y	Y::99.93(39345)

P1	117	F	P	P::99.95(40509)
P1	118	F	N	N::99.94(46264)
P1	119	F	V	V::87.01(44688) F::9.85(5059)
P1	120	F	T	T::99.94(53014)
P1	121	F	K	K::99.94(53061)
P1	122	F	Y	Y::99.93(53061)
P1	123	F	L	L::99.93(52885)
P1	124	F	P	P::99.74(44871)
P1	125	F	L	L::99.93(44815)
P1	126	F	D	D::99.90(50093)
P1	127	F	K	K::99.82(50048)
P1	128	F	G	G::99.93(52924)
P1	129	F	I	I::99.95(50334)
P1	130	F	K	K::99.94(49757)
P1	131	F	P	P::99.90(52960)
P1	132	F	Y	Y::99.94(53448)
P1	133	F	Y	Y::99.94(53465)
P1	134	F	P	P::99.91(53431)
P1	135	F	E	E::94.26(50402) K::5.64(3016)
P1	136	F	H	H::99.93(53374)
P1	137	F	L	L::99.94(49506)
P1	138	F	V	V::99.95(49513)
P1	139	F	N	N::99.93(49491)
P1	140	F	H	H::99.90(46045)
P1	141	F	Y	Y::99.90(46031)
P1	143	F	Q	Q::99.90(46035)
P1	144	F	T	T::99.92(46036)
P1	145	F	R	R::99.90(46030)
P1	146	F	H	H::99.93(46039)
P1	147	F	Y	Y::99.94(46039)
P1	148	F	L	L::99.93(45996)
P1	149	F	H	H::99.91(45884)
P1	150	F	T	T::99.94(41148)
P1	151	F	L	L::99.93(41770)
P1	152	F	W	W::99.91(44489)
P1	153	F	K	K::99.91(44570)
P1	154	F	A	A::99.89(42050)
P1	155	F	G	G::99.86(42036)
P1	156	F	I	I::94.40(37375) V::5.55(2199)
P1	157	F	L	L::99.95(52250)
P1	158	F	Y	Y::99.93(52276)
P1	159	F	K	K::99.92(55481)
P1	160	F	R	R::99.93(60451)
P1	161	F	E	E::99.91(60545)
P1	162	F	T	T::99.94(63937)
P1	163	F	T	T::99.92(68367)
P1	164	F	R	R::99.94(65887)
P1	165	F	S	S::99.95(65890)
P1	166	F	A	A::99.90(69473)
P1	167	F	S	S::99.85(56868)
P1	169	F	C	C::99.95(66659)

P1	170	F	G	G::99.93(66649)
P1	171	F	S	S::99.91(66642)
P1	172	F	P	P::99.87(66618)
P1	173	F	Y	Y::99.91(66656)
P1	174	F	S	S::99.91(66649)
P1	175	F	W	W::95.03(58373)
P1	176	F	E	E::99.86(61340)
P1	177	F	Q	Q::99.93(69668)
P1	178	F	E	E::99.91(69660)
P1	179	F	L	L::99.95(74472)
P1	180	F	Q	Q::99.92(78161)
P1	181	F	H	H::99.87(73988)
P1	182	F	G	G::99.93(76589)
P1	183	F	A	A::99.87(76548)
P1	184	F	E	E::99.90(76586)
P1	185	F	S	S::99.95(76617)
P1	187	F	H	H::99.91(76571)
P1	188	F	Q	Q::99.90(76558)
P1	189	F	Q	Q::99.93(76583)
P1	190	F	S	S::99.94(76588)
P1	191	F	S	S::99.93(76571)
P1	192	F	G	G::99.93(76560)
P1	193	F	I	I::99.91(76673)
P1	194	F	L	L::99.87(76646)
P1	195	F	S	S::99.93(87350)
P1	196	F	R	R::99.90(99473)
P1	197	F	P	P::99.94(99533)
P1	198	F	P	P::99.93(99498)
P1	199	F	V	V::99.94(99496)
P1	200	F	G	G::99.92(94824)
P1	201	F	S	S::99.92(91820)
P1	202	F	S	S::99.91(91734)
P1	203	F	L	L::99.94(91571)
P1	204	F	Q	Q::99.90(92864)
P1	205	F	S	S::99.91(93236)
P1	206	F	K	K::99.91(88699)
P1	207	F	H	H::99.89(82539)
P1	208	F	R	R::99.84(82552)
P1	209	F	K	K::99.93(74263)
P1	210	F	S	S::76.11(56245) P::23.85(17622)
P1	211	F	R	R::99.91(70939)
P1	212	F	L	L::99.93(66318)
P1	213	F	G	G::99.93(66300)
P1	214	F	L	L::78.38(55187) F::21.57(15187)
P1	215	F	Q	Q::99.89(79003)
P1	216	F	S	S::99.92(81518)
P1	217	F	Q	Q::99.92(97609)
P1	218	F	Q	Q::99.93(94331)
P1	219	F	G	G::99.91(94387)
P1	220	F	H	H::99.90(96715)
P1	221	F	L	L::99.93(97218)

P1	222	F	A	A::99.79(97278)
P1	223	F	G	G::99.88(97341)
P1	224	F	R	R::99.71(97254)
P1	225	F	Q	Q::99.92(97346)
P1	226	F	Q	Q::99.90(85635)
P1	227	F	G	G::99.94(85627)
P1	228	F	R	R::99.89(80837)
P1	229	F	S	S::99.90(77151)
P1	230	F	W	W::99.87(82653)
P1	231	F	S	S::99.87(84492)
P1	232	F	I	I::99.92(84564)
P1	233	F	R	R::99.87(84591)
P1	234	F	A	A::99.86(87552)
P1	235	F	G	G::99.88(88169)
P1	236	F	I	I::96.90(85698)
P1	237	F	H	H::99.85(90695)
P1	238	F	P	P::99.95(94555)
P1	239	F	T	T::99.91(99160)
P1	240	F	A	A::99.72(98931)
P1	241	F	R	R::99.89(99262)
P1	242	F	R	R::99.92(99264)
P1	243	F	P	P::99.94(96334)
P1	245	F	G	G::99.92(76443)
P1	246	F	V	V::99.89(76441)
P1	247	F	E	E::99.87(76441)
P1	248	F	P	P::99.94(76485)
P1	249	F	S	S::99.87(76435)
P1	250	F	G	G::99.92(76482)
P1	251	F	S	S::99.90(76467)
P1	252	F	G	G::95.98(73464)
P1	253	F	H	H::99.92(74517)
P1	254	F	T	T::99.95(69183)
P1	255	F	T	T::99.94(69166)
P1	256	F	N	N::99.91(69168)
P1	257	F	L	L::99.95(69190)
P1	258	F	A	A::99.85(69121)
P1	259	F	S	S::99.65(68984)
P1	260	F	K	K::99.90(69132)
P1	261	F	S	S::99.95(69104)
P1	262	F	A	A::99.79(68904)
P1	263	F	S	S::99.93(61675)
P1	264	F	C	C::99.90(64686)
P1	265	F	L	L::99.94(52644)
P1	266	F	H	H::99.92(33327)
P1	267	F	Q	Q::99.93(30949)
P1	268	F	S	S::99.92(30944)
P1	269	F	P	P::99.94(30947)
P1	270	F	V	V::99.96(27956)
P1	271	F	G	G::61.53(17207) R::38.40(10738)
P1	272	F	K	K::99.87(27929)
P1	273	F	A	A::99.66(27861)

P1	274	F	A	A::99.85(27913)
P1	275	F	Y	Y::99.92(27930)
P1	276	F	P	P::99.96(27943)
P1	277	F	S	S::99.94(27925)
P1	278	F	V	V::99.96(27933)
P1	279	F	S	S::99.53(17747)
P1	280	F	T	T::99.93(17818)
P1	282	F	E	E::99.92(14724)
P1	283	F	K	K::99.91(14115)
P1	284	F	H	H::99.90(14108)
P1	285	F	P	P::99.96(14106)
P1	286	F	S	S::99.96(14107)
P1	287	F	S	S::99.97(11553)
P1	288	F	G	G::100.00(3125)
P1	289	F	H	H::99.90(3122)
P1	290	F	A	A::99.90(3122)
P1	291	F	V	V::99.97(3122)
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S1	1	F	M	M::99.88(76532)
S1	2	F	G	G::99.91(76572)
S1	3	F	Q	Q::99.88(76570)
S1	4	F	N	N::99.92(76598)
S1	5	F	L	L::99.93(76604)
S1	6	F	S	S::99.92(76586)
S1	7	F	T	T::99.94(76586)
S1	8	F	S	S::99.87(76532)
S1	9	F	N	N::99.92(76574)
S1	10	F	P	P::99.95(76594)
S1	11	F	L	L::99.90(76546)
S1	12	F	G	G::99.93(76558)
S1	15	F	P	P::99.93(99509)
S1	16	F	D	D::99.85(99444)
S1	17	F	H	H::99.91(99502)
S1	18	F	Q	Q::99.89(99460)
S1	19	F	L	L::99.91(99459)
S1	20	F	D	D::99.90(94802)
S1	21	F	P	P::99.92(91748)
S1	22	F	A	A::99.90(91712)
S1	24	F	R	R::99.90(93022)
S1	25	F	A	A::99.89(89142)
S1	26	F	N	N::99.92(88730)
S1	27	F	T	T::99.91(82551)
S1	28	F	A	A::99.87(82355)
S1	29	F	N	N::99.92(74256)
S1	30	F	P	P::99.94(70962)
S1	31	F	D	D::99.94(70967)
S1	32	F	W	W::99.88(66292)
S1	33	F	D	D::99.91(73576)
S1	35	F	N	N::99.91(81512)
S1	36	F	P	P::99.93(98365)
S1	37	F	N	N::99.93(100399)
S1	38	F	K	K::99.91(94346)

S1	39	F	D	D::99.86(94367)
S1	40	F	T	T::99.89(96836)
S1	41	F	W	W::99.85(97139)
S1	42	F	P	P::99.80(97263)
S1	43	F	D	D::99.85(97384)
S1	44	F	A	A::99.76(97300)
S1	45	F	N	N::99.91(97343)
S1	46	F	K	K::99.86(85594)
S1	47	F	V	V::99.95(80878)
S1	48	F	G	G::99.93(80868)
S1	49	F	A	A::99.93(82777)
S1	50	F	G	G::99.94(84367)
S1	51	F	A	A::99.93(84554)
S1	53	F	G	G::99.91(85532)
S1	54	F	L	L::72.35(63505) P::27.59(24217)
S1	55	F	G	G::99.91(88310)
S1	57	F	T	T::99.83(90706)
S1	58	F	P	P::99.95(99071)
S1	59	F	P	P::99.93(99139)
S1	60	F	H	H::99.92(99288)
S1	61	F	G	G::99.91(99254)
S1	62	F	G	G::99.91(99249)
S1	63	F	L	L::99.58(95752)
S1	64	F	L	L::99.96(95607)
S1	65	F	G	G::99.91(76461)
S1	66	F	W	W::99.83(76408)
S1	67	F	S	S::99.85(76419)
S1	68	F	P	P::99.94(76491)
S1	69	F	Q	Q::99.87(76442)
S1	70	F	A	A::99.92(76483)
S1	71	F	Q	Q::99.85(76427)
S1	72	F	G	G::95.88(73388)
S1	73	F	I	I::99.93(71231)
S1	74	F	L	L::99.95(69183)
S1	75	F	Q	Q::99.93(69175)
S1	76	F	T	T::99.94(69185)
S1	77	F	L	L::99.93(69176)
S1	78	F	P	P::99.86(69126)
S1	79	F	A	A::99.65(68970)
S1	80	F	N	N::99.93(69162)
S1	81	F	P	P::99.93(69054)
S1	82	F	P	P::99.95(68778)
S1	83	F	P	P::99.97(64795)
S1	84	F	A	A::99.87(52608)
S1	85	F	S	S::99.96(52652)
S1	86	F	T	T::99.91(33286)
S1	87	F	N	N::99.94(30951)
S1	88	F	R	R::99.73(30886)
S1	89	F	Q	Q::99.92(27945)
S1	90	F	S	S::99.94(27948)
S1	91	F	G	G::99.94(27949)



S1	92	F	R	R::99.92(27934)
S1	93	F	Q	Q::99.76(27891)
S1	94	F	P	P::99.84(27911)
S1	95	F	T	T::99.95(27936)
S1	96	F	P	P::99.96(27931)
S1	97	F	L	L::99.94(27929)
S1	98	F	S	S::99.97(27934)
S1	99	F	P	P::99.96(17822)
S1	100	F	P	P::99.95(17819)
S1	101	F	L	L::99.96(17823)
S1	102	F	R	R::99.90(14722)
S1	103	F	N	N::99.94(14120)
S1	104	F	T	T::99.89(14097)
S1	105	F	H	H::99.93(14102)
S1	106	F	P	P::99.94(11557)
S1	107	F	Q	Q::100.00(11554)
S1	108	F	A	A::99.94(3123)
S1	109	F	M	M::99.90(3122)
S1	110	F	Q	Q::99.90(3122)

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Meta data	
Assembly file:	HBV-RYD-19.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-19
Date/Time	Tue 19 Mar 11:40:37 GMT 2019