



## wwPDB EM Validation Summary Report ⓘ

Aug 30, 2023 – 12:47 AM JST

PDB ID : 8H2I  
EMDB ID : EMD-34438  
Title : Near-atomic structure of five-fold averaged PBCV-1 capsid  
Authors : Shao, Q.; Agarkova, I.V.; Noel, E.A.; Dunigan, D.D.; Liu, Y.; Wang, A.; Guo, M.; Xie, L.; Zhao, X.; Rossmann, M.G.; Van Etten, J.L.; Klose, T.; Fang, Q.  
Deposited on : 2022-10-06  
Resolution : 3.80 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

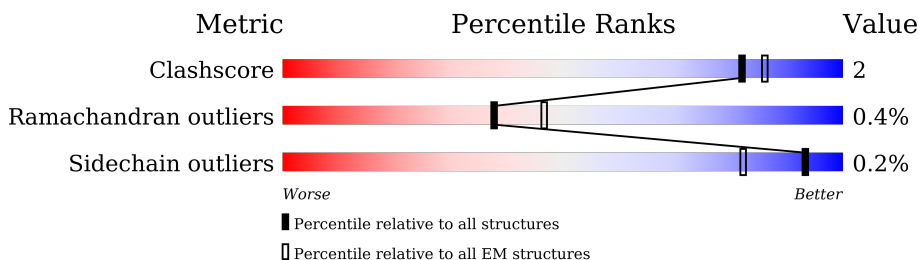
EMDB validation analysis : 0.0.1.dev50  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.35

# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:  
*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.80 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	aA	437	
1	aB	437	
1	aC	437	
1	aD	437	
1	aE	437	
1	aF	437	
1	aG	437	
1	aH	437	

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Mol	Chain	Length	Quality of chain	
1	aI	437	40%	99%
1	aJ	437	46%	100%
1	aK	437	54%	99%
1	aL	437	60%	99%
1	aM	437	62%	100%
1	aN	437	58%	99%
1	aO	437	63%	100%
1	aP	437	57%	100%
1	aQ	437	68%	99%
1	aR	437	71%	99%
1	aS	437	65%	100%
1	aT	437	62%	99%
1	aU	437	56%	100%
1	aV	437	57%	99%
1	aW	437	70%	100%
1	aX	437	70%	100%
1	aY	437	72%	100%
1	aZ	437	66%	100%
1	aa	437	45%	99%
1	ab	437	45%	99%
1	ac	437	42%	100%
1	ad	437	43%	99%
1	ae	437	42%	100%
1	af	437	47%	100%
1	ag	437	45%	100%

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Mol	Chain	Length	Quality of chain	
1	ah	437	37%	99%
1	ai	437	44%	100%
1	aj	437	75%	100%
1	ak	437	62%	99%
1	al	437	78%	99%
1	am	437	41%	100%
1	an	437	41%	99%
1	ao	437	41%	99%
1	ap	437	38%	100%
1	aq	437	33%	100%
1	ar	437	31%	99%
1	as	437	44%	99%
1	at	437	58%	100%
1	au	437	51%	99%
1	av	437	69%	100%
1	aw	437	75%	100%
1	ax	437	65%	99%
1	ay	437	88%	100%
1	az	437	89%	99%
1	ba	437	57%	100%
1	bb	437	67%	99%
1	bc	437	58%	100%
1	bd	437	62%	99%
1	be	437	61%	100%
1	bf	437	55%	99%

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Mol	Chain	Length	Quality of chain
1	bg	437	58% 100%
1	bh	437	55% 100%
1	bi	437	62% 100%
1	bj	437	68% 100%
1	bk	437	61% 99%
1	bl	437	67% 99%
1	bm	437	66% 100%
1	bn	437	70% 99%
1	bo	437	68% 99%
1	bp	437	60% 100%
1	bq	437	68% 100%
1	br	437	48% 99%
1	bs	437	58% 100%
1	bt	437	56% 99%
2	bA	520	58% 98%
2	bB	520	79% 99%
2	bu	520	31% 98%
2	bv	520	36% 98%
2	bw	520	34% 99%
2	bx	520	42% 98%
2	by	520	49% 99%
2	bz	520	48% 97%
3	bC	486	61% 99%
4	bD	403	84% 99%
4	bF	403	77% 99%

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Mol	Chain	Length	Quality of chain
4	cX	403	68% 98%
4	cZ	403	69% 98%
4	dd	403	85% 98%
4	df	403	85% 97%
4	dj	403	75% 98%
4	dk	403	76% 98%
4	dl	403	70% 98%
4	dp	403	73% 99%
4	dr	403	71% 98%
5	bE	401	74% 99%
5	cY	401	83% 98%
5	de	401	86% 99%
5	dq	401	77% 98%
6	bG	530	54% 95% 5%
7	bH	576	48% 73% 26%
8	bI	171	63% 82% 18%
8	bJ	171	63% 85% 14%
8	bK	171	51% 68% 32%
9	bL	181	29% 34% 65%
9	bM	181	31% 34% 65%
9	bN	181	29% 34% 66%
9	bO	181	32% 33% 66%
10	bP	146	77% 97%
11	bQ	216	63% 73% 25%
12	bR	173	55% 92% 8%









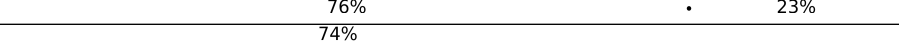
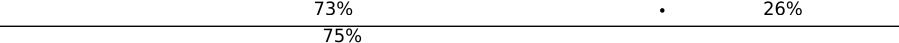
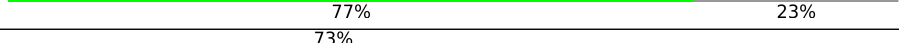













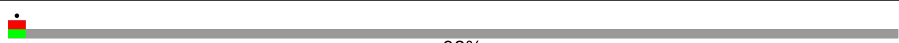



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Mol	Chain	Length	Quality of chain
13	bS	210	61% 90% 9%
14	bT	207	16% 22% 77%
14	bU	207	12% 26% 74%
14	bV	207	14% 25% 74%
14	bW	207	14% 25% 75%
14	bX	207	13% 19% 80%
14	bY	207	29% 34% 64%
14	bZ	207	23% 25% 75%
14	ca	207	23% 24% 75%
14	cb	207	21% 25% 75%
14	cc	207	28% 40% 59%
14	cd	207	27% 36% 64%
14	ce	207	26% 34% 65%
15	cf	151	34% 50% 48%
16	cg	98	59% 64% 33%
17	ch	155	59% 96% ..
18	ci	93	40% 84% 14%
19	cj	80	54% 74% 26%
19	ck	80	55% 71% 29%
19	cl	80	52% 69% 31%
19	cm	80	54% 79% 21%
20	cn	148	54% 66% 34%
20	co	148	47% 64% 36%
21	cA	378	74% 74% 26%
21	cB	378	76% 77% 23%

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Mol	Chain	Length	Quality of chain
21	cC	378	74% 
21	cD	378	77% 
21	cE	378	73% 
21	cF	378	74% 
21	cG	378	76% 
21	cH	378	74% 
21	cI	378	63% 
21	cJ	378	77% 
21	cK	378	74% 
21	cL	378	73% 
21	cM	378	74% 
21	cN	378	71% 
21	cp	378	76% 
21	cq	378	77% 
21	cr	378	76% 
21	cs	378	75% 
21	ct	378	74% 
21	cu	378	77% 
21	cv	378	74% 
21	cw	378	72% 
21	cX	378	71% 
21	cX	378	63% 
21	cy	378	77% 
21	cz	378	72% 
21	cz	378	74% 
21	cz	378	77% 
22	cO	1335	 98%
22	cQ	1335	 98%

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Mol	Chain	Length	Quality of chain
22	da	1335	98%
22	dc	1335	98%
22	dg	1335	98%
22	di	1335	98%
22	ds	1335	98%
22	du	1335	98%
23	cP	1369	97%
23	db	1369	98%
23	dh	1369	97%
23	dt	1369	97%
24	cR	400	77% 98%
24	cS	400	71% 98%
24	cT	400	75% 98%
25	cU	1343	97%
25	cV	1343	97%
25	cW	1343	97%
26	dm	1359	98%
26	dn	1359	98%
26	do	1359	98%

## 2 Entry composition [i](#)

There are 26 unique types of molecules in this entry. The entry contains 427569 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Major capsid protein (MCP).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	aa	432	Total 3374	C 2145	N 571	O 650	S 8	0	0
1	ab	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	ac	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	ad	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	ae	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	af	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	ag	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	ah	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	ai	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aj	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	ak	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	al	435	Total 3387	C 2152	N 574	O 653	S 8	0	0
1	am	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	an	435	Total 3387	C 2152	N 574	O 653	S 8	0	0
1	ao	435	Total 3390	C 2153	N 575	O 654	S 8	0	0
1	ap	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aq	436	Total 3395	C 2156	N 576	O 655	S 8	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	ar	434	Total 3382	C 2149	N 573	O 652	S 8	0	0
1	as	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	at	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	au	434	Total 3382	C 2149	N 573	O 652	S 8	0	0
1	av	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aw	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	ax	434	Total 3382	C 2149	N 573	O 652	S 8	0	0
1	ay	435	Total 3390	C 2153	N 575	O 654	S 8	0	0
1	az	434	Total 3382	C 2149	N 573	O 652	S 8	0	0
1	aA	435	Total 3390	C 2153	N 575	O 654	S 8	0	0
1	aB	435	Total 3390	C 2153	N 575	O 654	S 8	0	0
1	aC	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aD	434	Total 3382	C 2149	N 573	O 652	S 8	0	0
1	aE	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aF	434	Total 3382	C 2149	N 573	O 652	S 8	0	0
1	aG	435	Total 3390	C 2153	N 575	O 654	S 8	0	0
1	aH	434	Total 3382	C 2149	N 573	O 652	S 8	0	0
1	aI	435	Total 3390	C 2153	N 575	O 654	S 8	0	0
1	aJ	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aK	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aL	435	Total 3387	C 2152	N 574	O 653	S 8	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	aM	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aN	435	Total 3390	C 2153	N 575	O 654	S 8	0	0
1	aO	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aP	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aQ	434	Total 3382	C 2149	N 573	O 652	S 8	0	0
1	aR	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aS	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aT	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aU	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aV	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aW	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aX	435	Total 3390	C 2153	N 575	O 654	S 8	0	0
1	aY	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	aZ	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	ba	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bb	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bc	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bd	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	be	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bf	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bg	436	Total 3395	C 2156	N 576	O 655	S 8	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	bh	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bi	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bj	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bk	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bl	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bm	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bn	434	Total 3382	C 2149	N 573	O 652	S 8	0	0
1	bo	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bp	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bq	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	br	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bs	436	Total 3395	C 2156	N 576	O 655	S 8	0	0
1	bt	435	Total 3390	C 2153	N 575	O 654	S 8	0	0

- Molecule 2 is a protein called MCPv1.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	bu	517	Total 4090	C 2621	N 680	O 778	S 11	0	0
2	bv	517	Total 4090	C 2621	N 680	O 778	S 11	0	0
2	bw	517	Total 4090	C 2621	N 680	O 778	S 11	0	0
2	bx	514	Total 4074	C 2611	N 677	O 775	S 11	0	0
2	by	517	Total 4090	C 2621	N 680	O 778	S 11	0	0
2	bz	508	Total 4030	C 2583	N 670	O 766	S 11	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
2	bA	516	Total	C	N	O	S	0	0
			4079	2612	679	777	11		
2	bB	517	Total	C	N	O	S	0	0
			4090	2621	680	778	11		

- Molecule 3 is a protein called MCPv2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	bC	485	Total	C	N	O	S	0	0
			3921	2518	645	742	16		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
bC	343	SER	GLY	variant	UNP M1I493

- Molecule 4 is a protein called MCPv3.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	bD	401	Total	C	N	O	S	0	0
			3169	2031	521	607	10		
4	bF	401	Total	C	N	O	S	0	0
			3169	2031	521	607	10		
4	cX	401	Total	C	N	O	S	0	0
			3165	2029	521	605	10		
4	cZ	401	Total	C	N	O	S	0	0
			3165	2029	521	605	10		
4	dd	401	Total	C	N	O	S	0	0
			3169	2031	521	607	10		
4	df	401	Total	C	N	O	S	0	0
			3165	2029	521	605	10		
4	dj	401	Total	C	N	O	S	0	0
			3169	2031	521	607	10		
4	dk	401	Total	C	N	O	S	0	0
			3169	2031	521	607	10		
4	dl	401	Total	C	N	O	S	0	0
			3169	2031	521	607	10		
4	dp	401	Total	C	N	O	S	0	0
			3169	2031	521	607	10		
4	dr	401	Total	C	N	O	S	0	0
			3169	2031	521	607	10		

- Molecule 5 is a protein called MCPv4.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	bE	397	Total	C	N	O	S	0	0
			3146	2021	513	601	11		
5	cY	397	Total	C	N	O	S	0	0
			3146	2021	513	601	11		
5	de	397	Total	C	N	O	S	0	0
			3146	2021	513	601	11		
5	dq	397	Total	C	N	O	S	0	0
			3146	2021	513	601	11		

- Molecule 6 is a protein called P1v1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	bG	504	Total	C	N	O	S	0	0
			3864	2454	633	771	6		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
bG	113	ASN	SER	variant	UNP M1I677
bG	348	ILE	VAL	variant	UNP M1I677
bG	364	SER	THR	variant	UNP M1I677

- Molecule 7 is a protein called P2.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	bH	424	Total	C	N	O	S	0	0
			3258	2015	591	642	10		

- Molecule 8 is a protein called P3.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	bI	141	Total	C	N	O	S	0	0
			1096	691	191	209	5		
8	bJ	147	Total	C	N	O	S	0	0
			1146	724	198	219	5		
8	bK	116	Total	C	N	O	S	0	0
			892	560	157	170	5		

- Molecule 9 is a protein called P4.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	bL	63	Total	C	N	O	S	0	0
			526	340	88	97	1		
9	bM	63	Total	C	N	O	S	0	0
			526	340	88	97	1		
9	bN	62	Total	C	N	O	S	0	0
			519	336	87	95	1		
9	bO	62	Total	C	N	O	S	0	0
			519	336	87	95	1		

- Molecule 10 is a protein called P5.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	bP	142	Total	C	N	O	S	0	0
			1126	724	192	208	2		

- Molecule 11 is a protein called P6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	bQ	162	Total	C	N	O	S	0	0
			1275	830	202	242	1		

- Molecule 12 is a protein called P8.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	bR	159	Total	C	N	O	S	0	0
			1244	798	207	235	4		

- Molecule 13 is a protein called P9.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	bS	191	Total	C	N	O	S	0	0
			1504	953	258	285	8		

- Molecule 14 is a protein called P11.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	bT	48	Total	C	N	O	S	0	0
			373	237	65	69	2		
14	bU	54	Total	C	N	O	S	0	0
			424	273	70	79	2		
14	bV	53	Total	C	N	O	S	0	0
			416	269	68	77	2		

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Mol	Chain	Residues	Atoms					AltConf	Trace
14	bW	52	Total	C	N	O	S	0	0
			405	260	67	76	2		
14	bX	41	Total	C	N	O	S	0	0
			312	195	53	62	2		
14	bY	74	Total	C	N	O	S	0	0
			576	370	96	108	2		
14	bZ	52	Total	C	N	O	S	0	0
			405	260	67	76	2		
14	ca	52	Total	C	N	O	S	0	0
			405	260	67	76	2		
14	cb	52	Total	C	N	O	S	0	0
			405	260	67	76	2		
14	cc	84	Total	C	N	O	S	0	0
			646	415	107	122	2		
14	cd	75	Total	C	N	O	S	0	0
			583	375	97	109	2		
14	ce	72	Total	C	N	O	S	0	0
			560	359	93	106	2		

- Molecule 15 is a protein called P12.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	cf	78	Total	C	N	O	S	0	0
			631	408	103	116	4		

- Molecule 16 is a protein called P13.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	cg	66	Total	C	N	O	S	0	0
			521	333	89	96	3		

- Molecule 17 is a protein called P15.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	ch	152	Total	C	N	O	S	0	0
			1288	838	212	233	5		

- Molecule 18 is a protein called P16.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	ci	80	Total	C	N	O	S	0	0
			553	358	95	94	6		

- Molecule 19 is a protein called P17.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	cj	59	Total	C	N	O	S	0	0
			463	295	76	90	2		
19	ck	57	Total	C	N	O	S	0	0
			455	293	76	84	2		
19	cl	55	Total	C	N	O	S	0	0
			431	275	71	82	3		
19	cm	63	Total	C	N	O	S	0	0
			503	320	86	95	2		

- Molecule 20 is a protein called P18.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	cn	98	Total	C	N	O	S	0	0
			769	488	134	146	1		
20	co	95	Total	C	N	O	S	0	0
			733	470	123	139	1		

- Molecule 21 is a protein called P19.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	cp	292	Total	C	N	O	S	0	0
			2299	1479	385	426	9		
21	cq	282	Total	C	N	O	S	0	0
			2212	1420	371	413	8		
21	cr	292	Total	C	N	O	S	0	0
			2299	1479	385	426	9		
21	cs	275	Total	C	N	O	S	0	0
			2159	1387	363	402	7		
21	ct	292	Total	C	N	O	S	0	0
			2299	1479	385	426	9		
21	cu	280	Total	C	N	O	S	0	0
			2199	1413	369	410	7		
21	cv	292	Total	C	N	O	S	0	0
			2299	1479	385	426	9		
21	cw	280	Total	C	N	O	S	0	0
			2199	1413	369	410	7		
21	cx	292	Total	C	N	O	S	0	0
			2299	1479	385	426	9		
21	cy	280	Total	C	N	O	S	0	0
			2199	1413	369	410	7		
21	cz	292	Total	C	N	O	S	0	0
			2299	1479	385	426	9		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	cA	279	Total 2191	C 1409	N 367	O 408	S 7	0	0
21	cB	292	Total 2299	C 1479	N 385	O 426	S 9	0	0
21	cC	279	Total 2191	C 1409	N 367	O 408	S 7	0	0
21	cD	292	Total 2299	C 1479	N 385	O 426	S 9	0	0
21	cE	280	Total 2199	C 1413	N 369	O 410	S 7	0	0
21	cF	292	Total 2299	C 1479	N 385	O 426	S 9	0	0
21	cG	282	Total 2212	C 1420	N 371	O 413	S 8	0	0
21	cH	292	Total 2299	C 1479	N 385	O 426	S 9	0	0
21	cI	279	Total 2191	C 1409	N 367	O 408	S 7	0	0
21	cJ	292	Total 2299	C 1479	N 385	O 426	S 9	0	0
21	cK	279	Total 2191	C 1409	N 367	O 408	S 7	0	0
21	cL	292	Total 2299	C 1479	N 385	O 426	S 9	0	0
21	cM	277	Total 2173	C 1396	N 365	O 405	S 7	0	0
21	cN	292	Total 2299	C 1479	N 385	O 426	S 9	0	0

- Molecule 22 is a protein called P20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	cO	30	Total 218	C 142	N 35	O 39	S 2	0	0
22	cQ	31	Total 233	C 149	N 38	O 44	S 2	0	0
22	da	32	Total 228	C 144	N 37	O 45	S 2	0	0
22	dc	28	Total 209	C 134	N 34	O 39	S 2	0	0
22	dg	32	Total 241	C 153	N 40	O 46	S 2	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
22	di	29	Total	C	N	O	S	0	0
			211	137	32	40	2		
22	ds	32	Total	C	N	O	S	0	0
			238	152	40	44	2		
22	du	30	Total	C	N	O	S	0	0
			224	144	36	42	2		

- Molecule 23 is a protein called P21.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	cP	35	Total	C	N	O	0	0
			239	152	42	45		
23	db	30	Total	C	N	O	0	0
			200	127	36	37		
23	dh	35	Total	C	N	O	0	0
			249	157	45	47		
23	dt	35	Total	C	N	O	0	0
			236	147	44	45		

- Molecule 24 is a protein called MCPv5.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	cR	399	Total	C	N	O	S	0	0
			3203	2060	518	611	14		
24	cS	399	Total	C	N	O	S	0	0
			3203	2060	518	611	14		
24	cT	399	Total	C	N	O	S	0	0
			3203	2060	518	611	14		

- Molecule 25 is a protein called P22.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	cU	43	Total	C	N	O	0	0
			311	203	51	57		
25	cV	43	Total	C	N	O	0	0
			305	201	50	54		
25	cW	43	Total	C	N	O	0	0
			308	202	51	55		

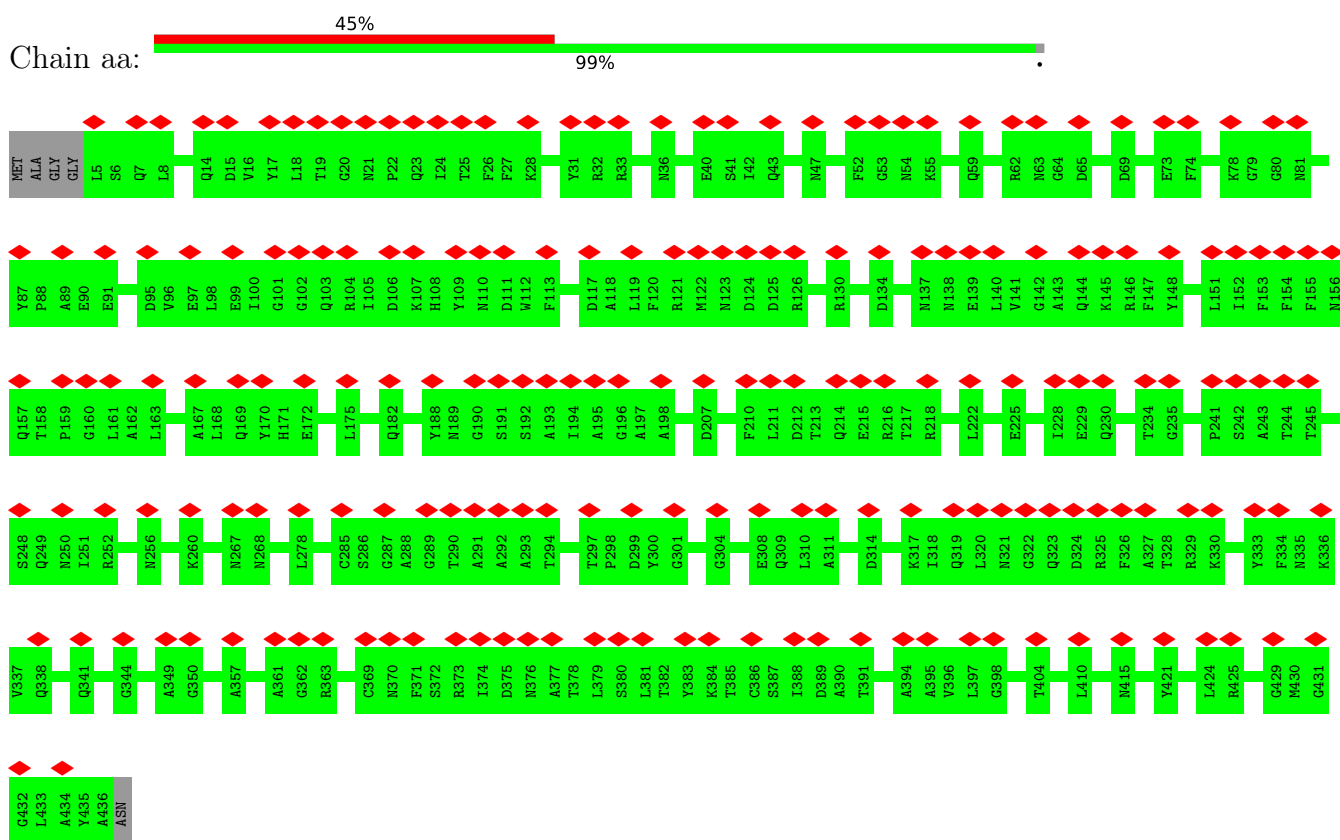
- Molecule 26 is a protein called P23.

<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>				<b>AltConf</b>	<b>Trace</b>
26	dm	25	Total 174	C 111	N 28	O 35	0	0
26	dn	25	Total 181	C 116	N 29	O 36	0	0
26	do	25	Total 182	C 121	N 28	O 33	0	0

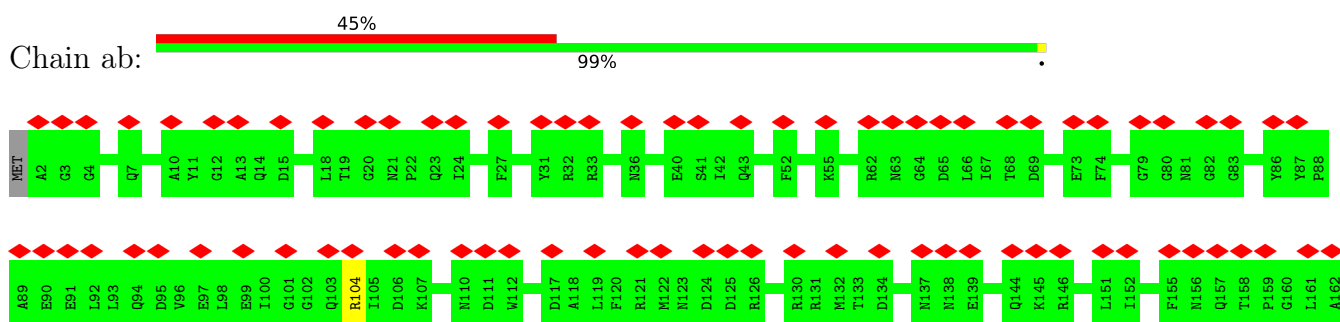
### 3 Residue-property plots [i](#)

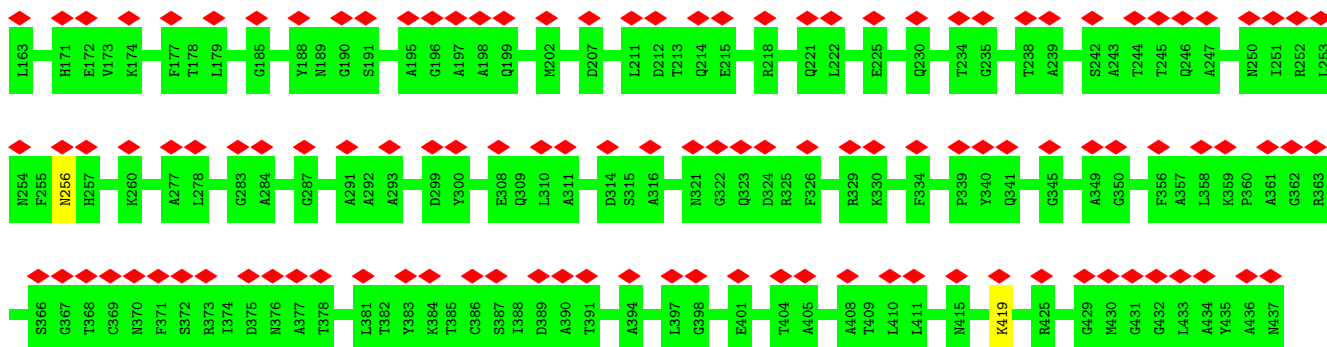
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Major capsid protein (MCP)

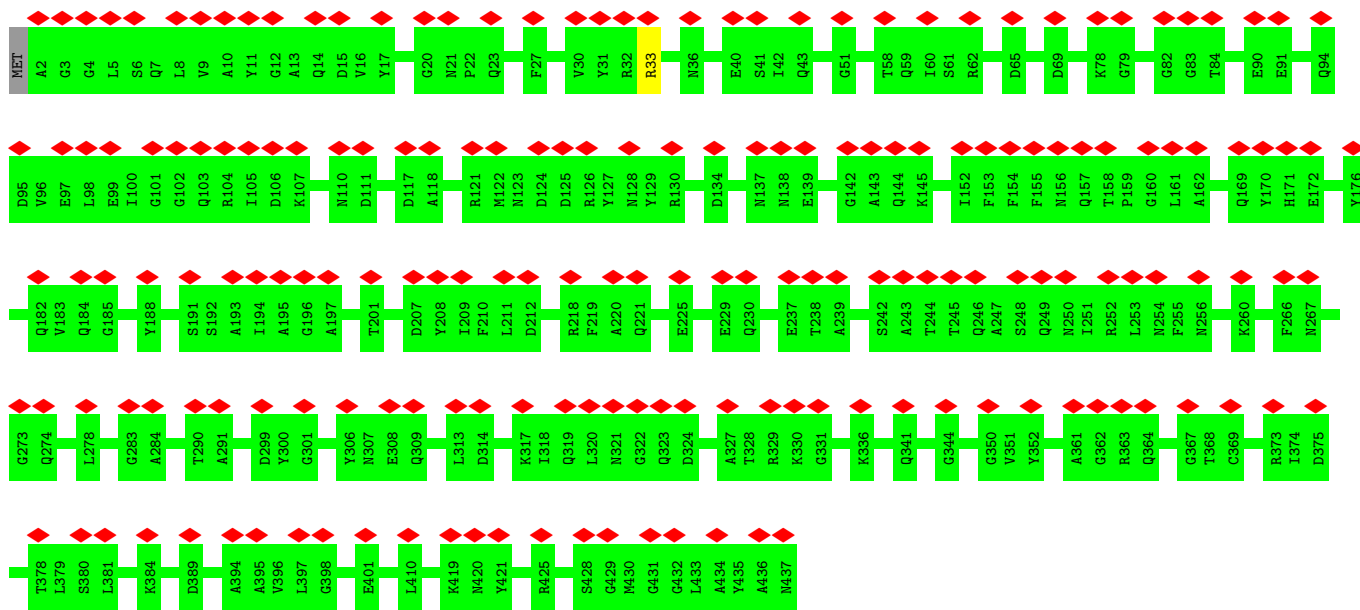
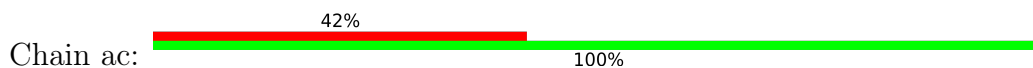


- Molecule 1: Major capsid protein (MCP)

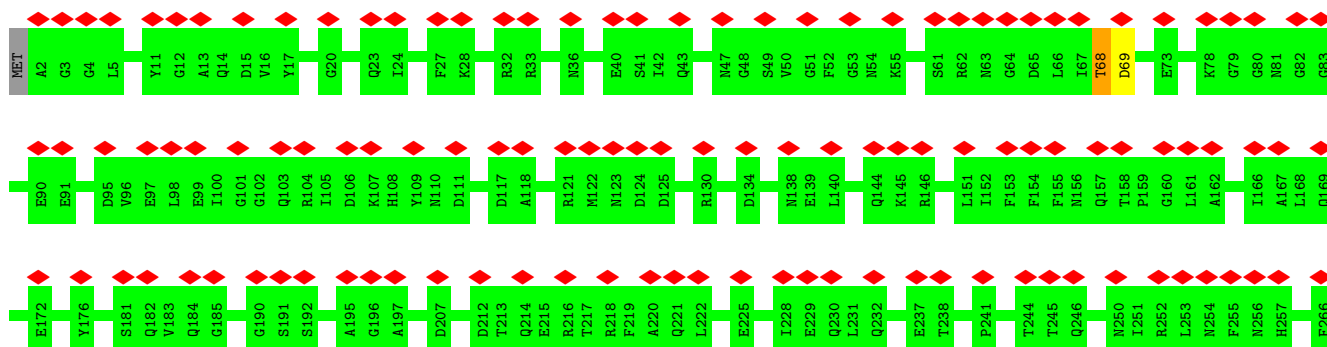
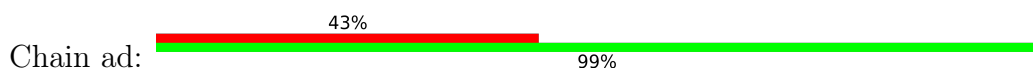


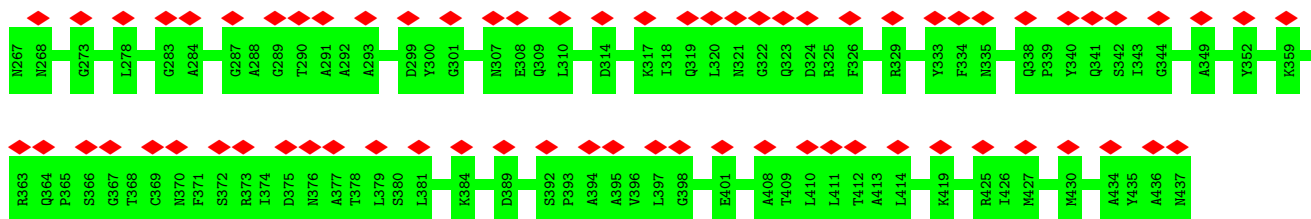


• Molecule 1: Major capsid protein (MCP)

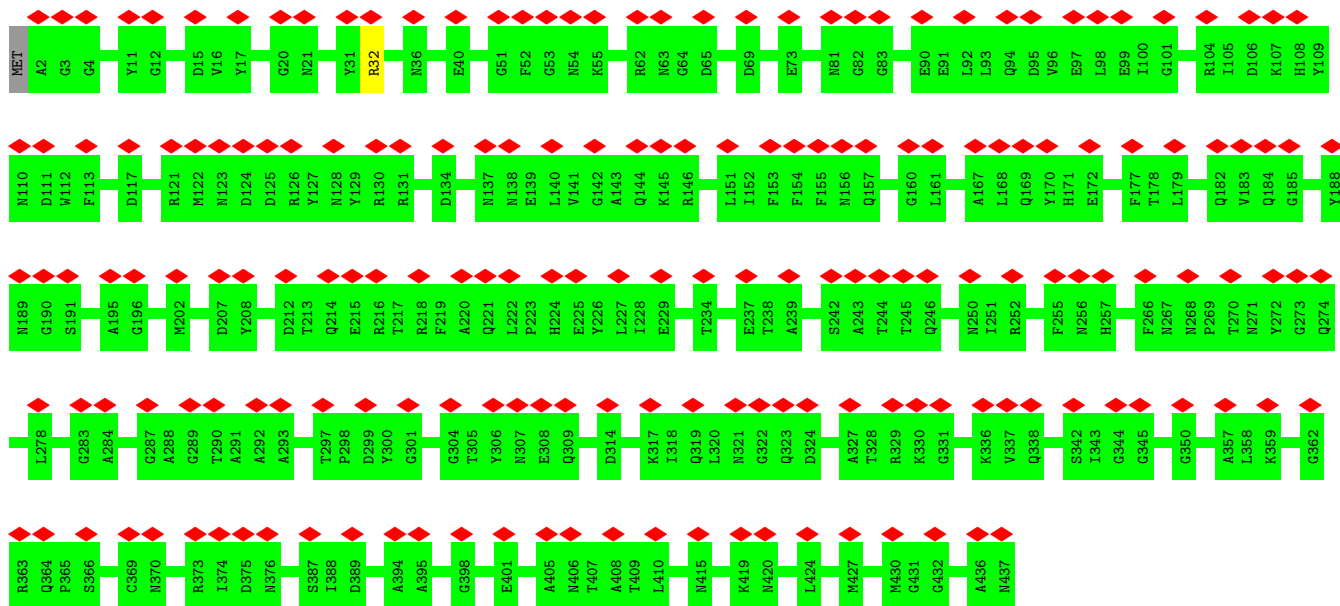
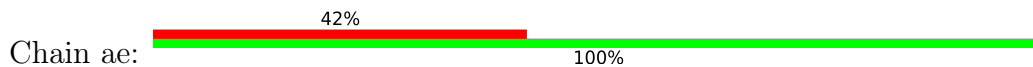


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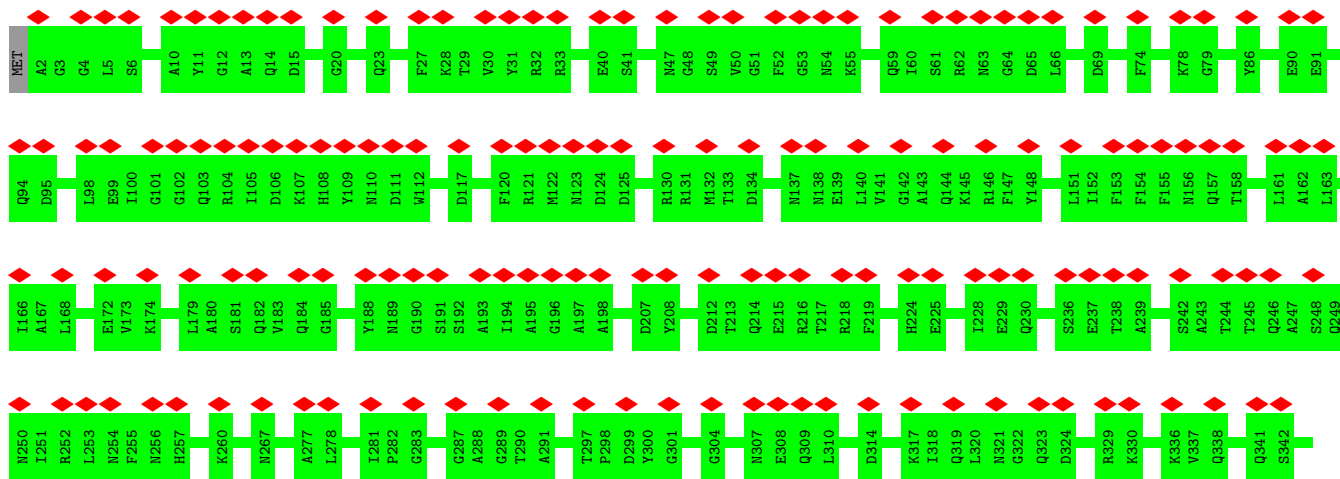




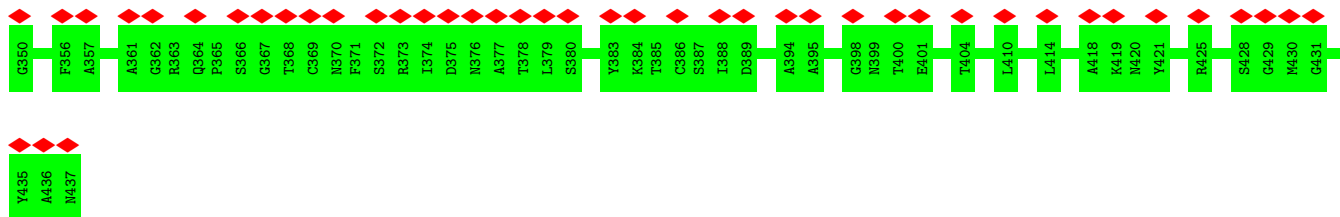
• Molecule 1: Major capsid protein (MCP)



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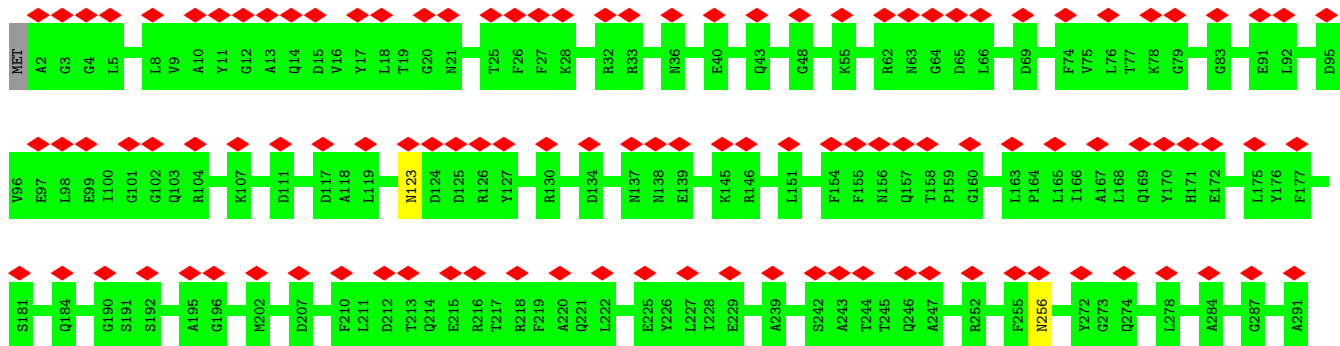
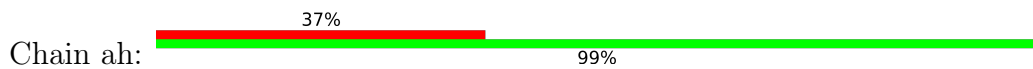




• Molecule 1: Major capsid protein (MCP)

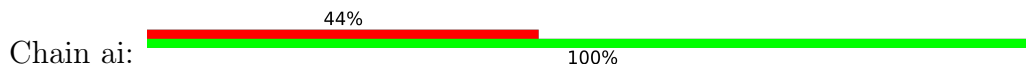


• Molecule 1: Major capsid protein (MCP)

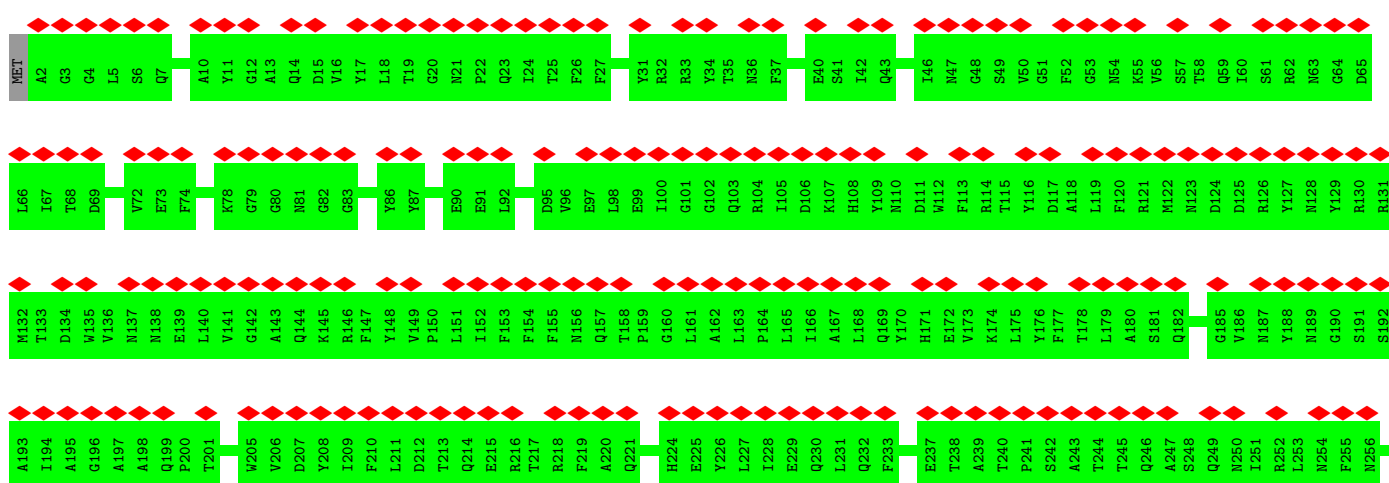
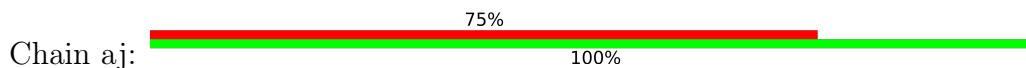


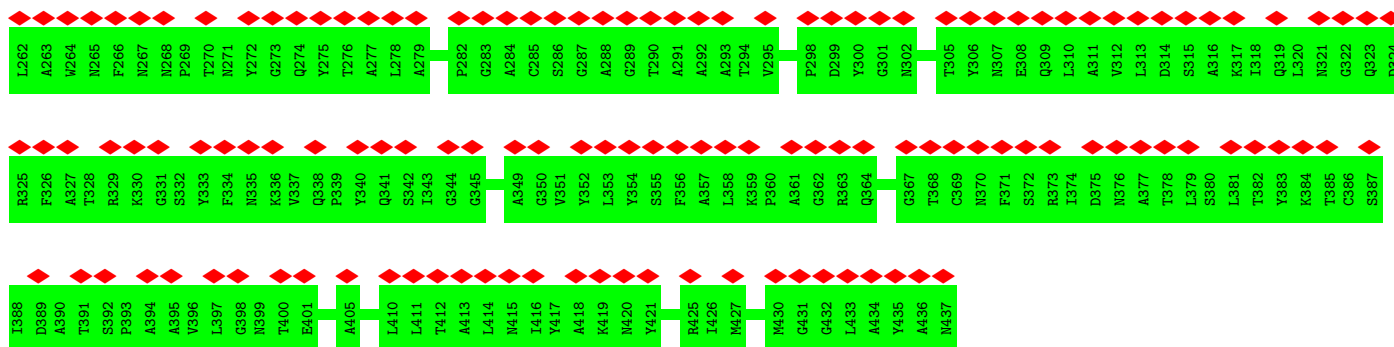


• Molecule 1: Major capsid protein (MCP)

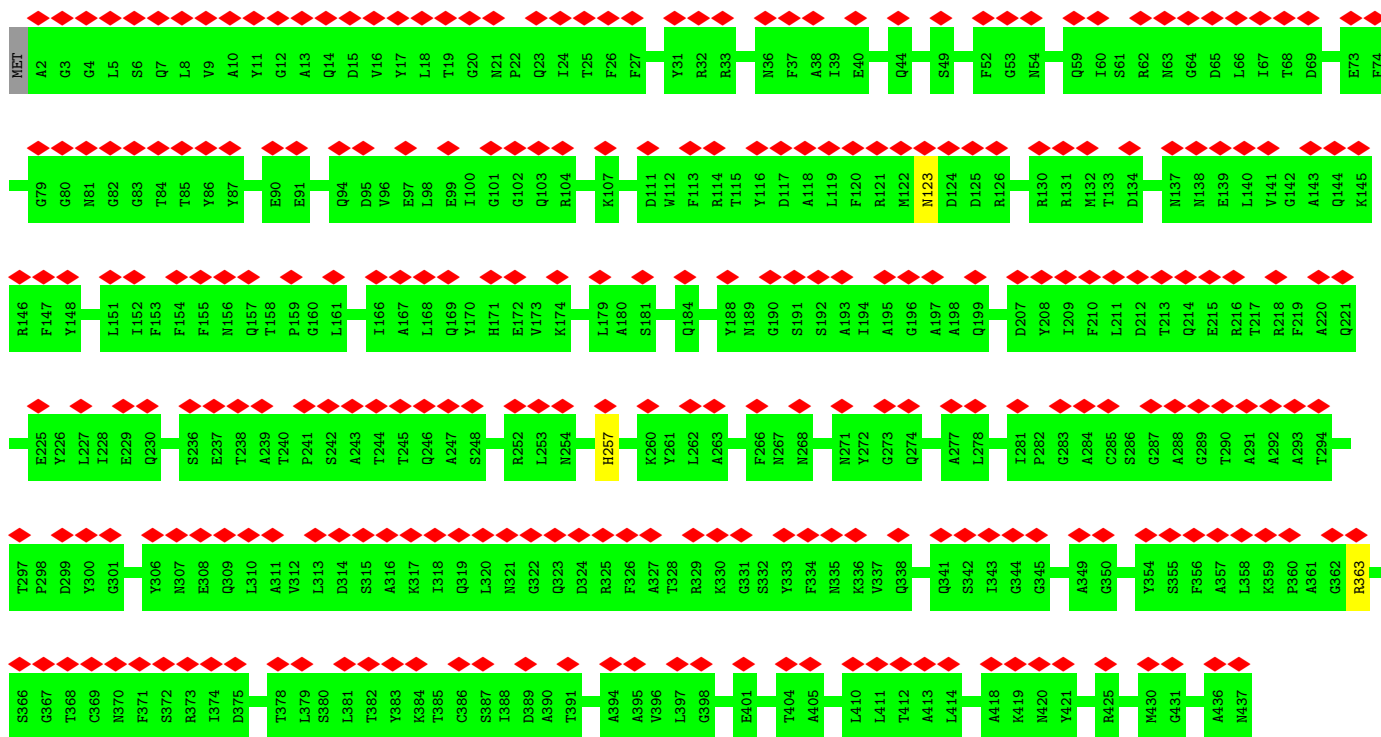


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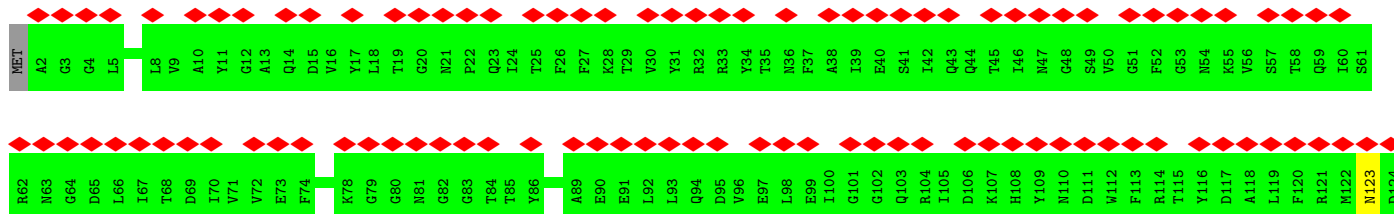
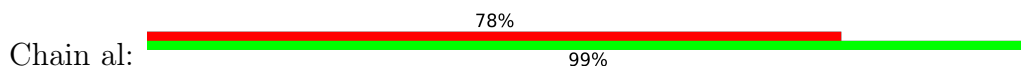




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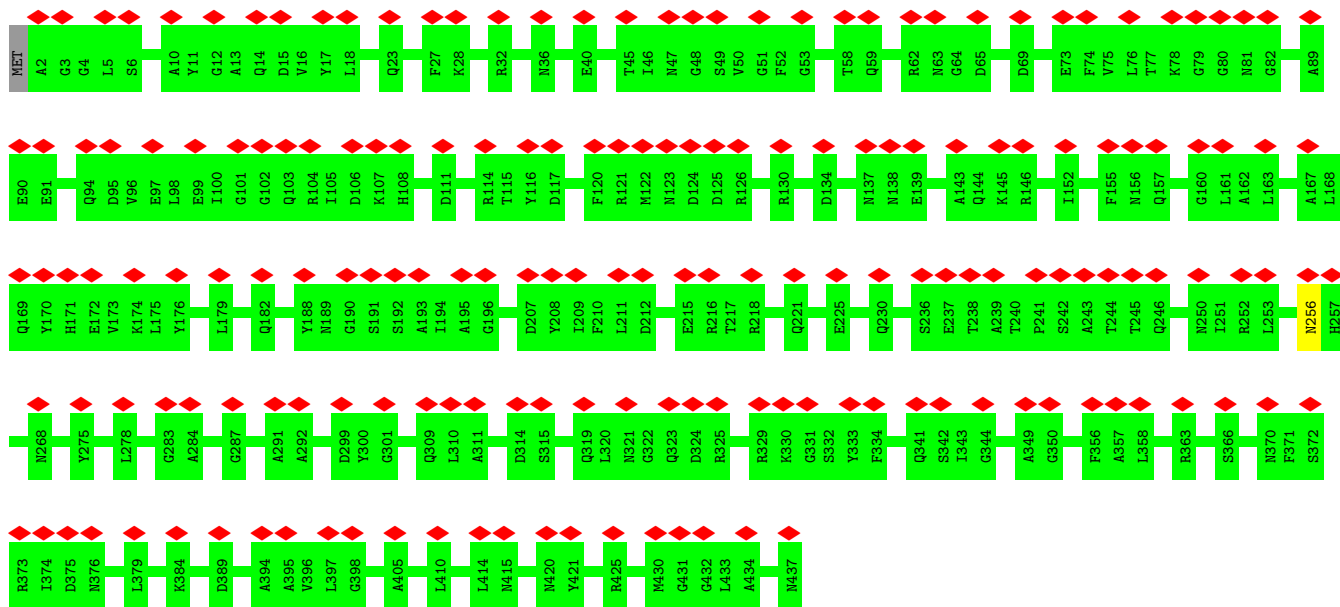
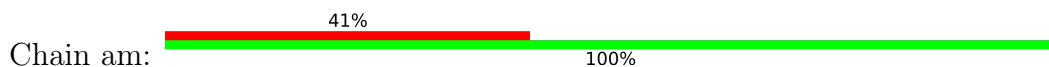


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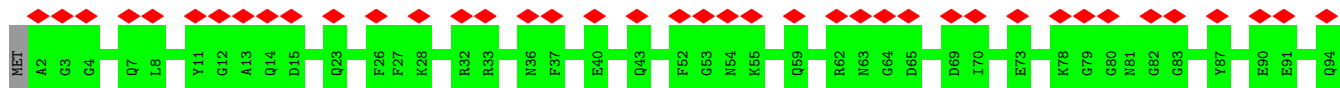
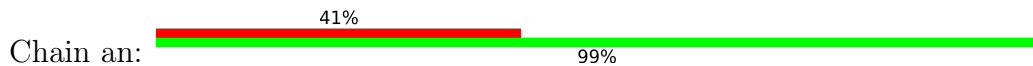


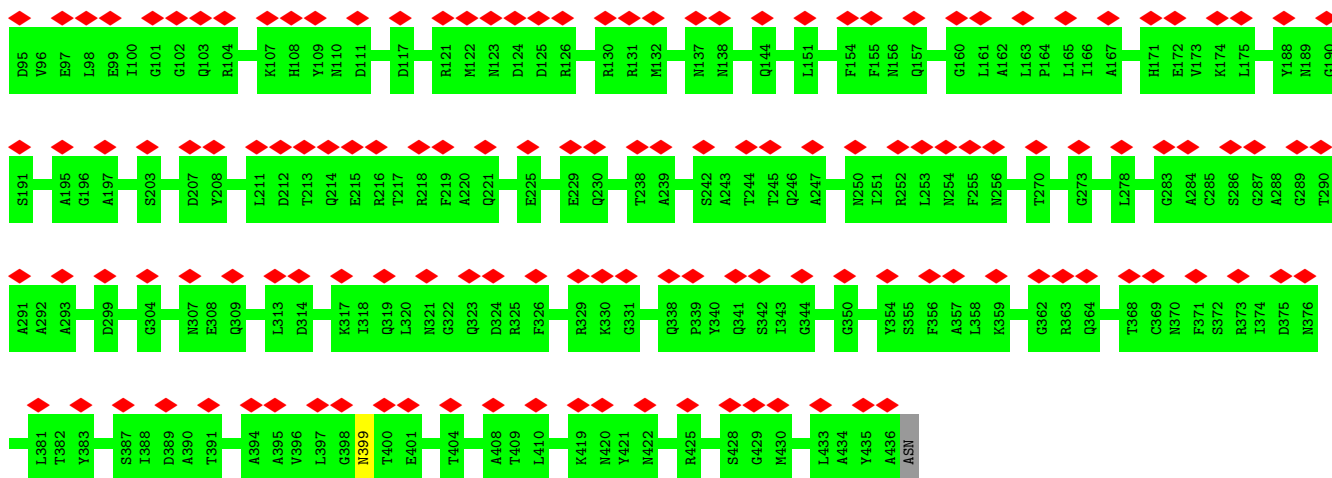


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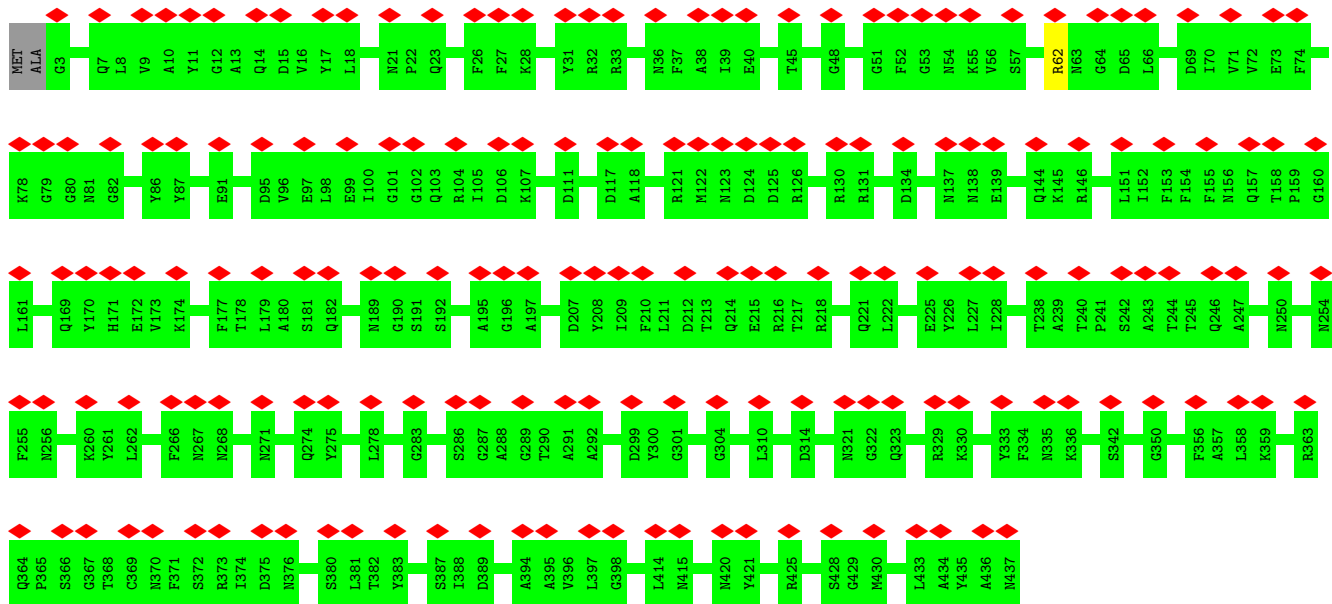
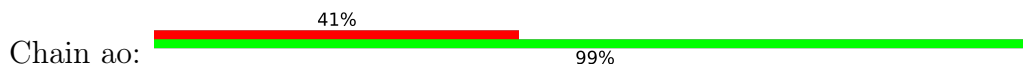


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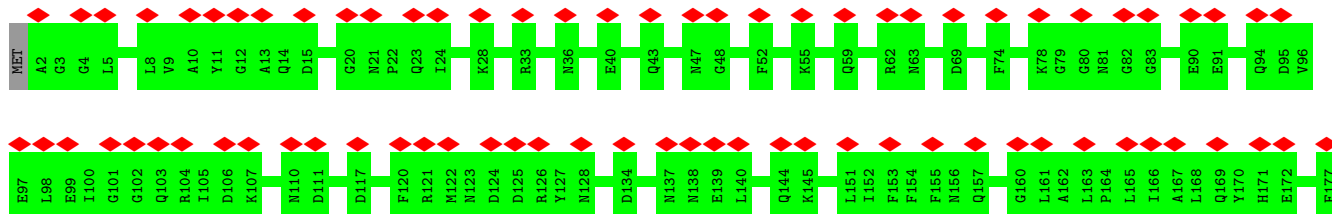
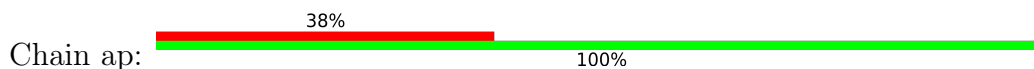


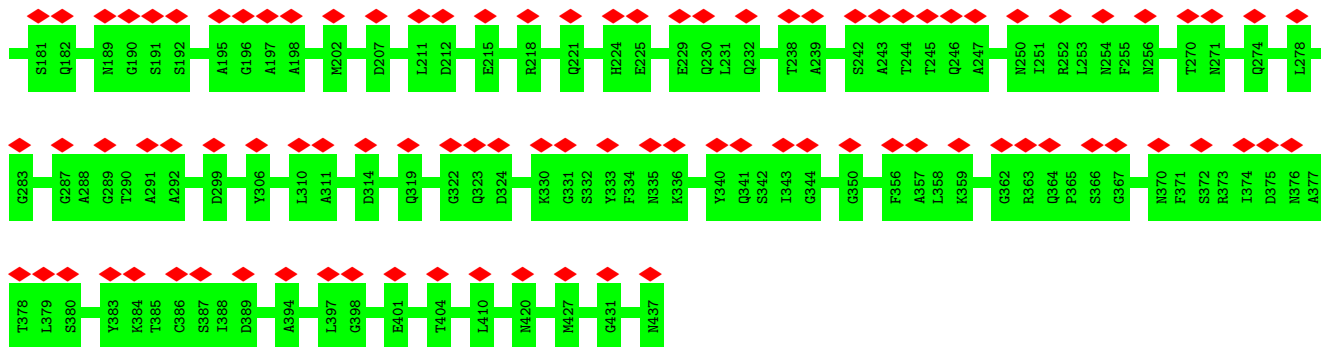


• Molecule 1: Major capsid protein (MCP)

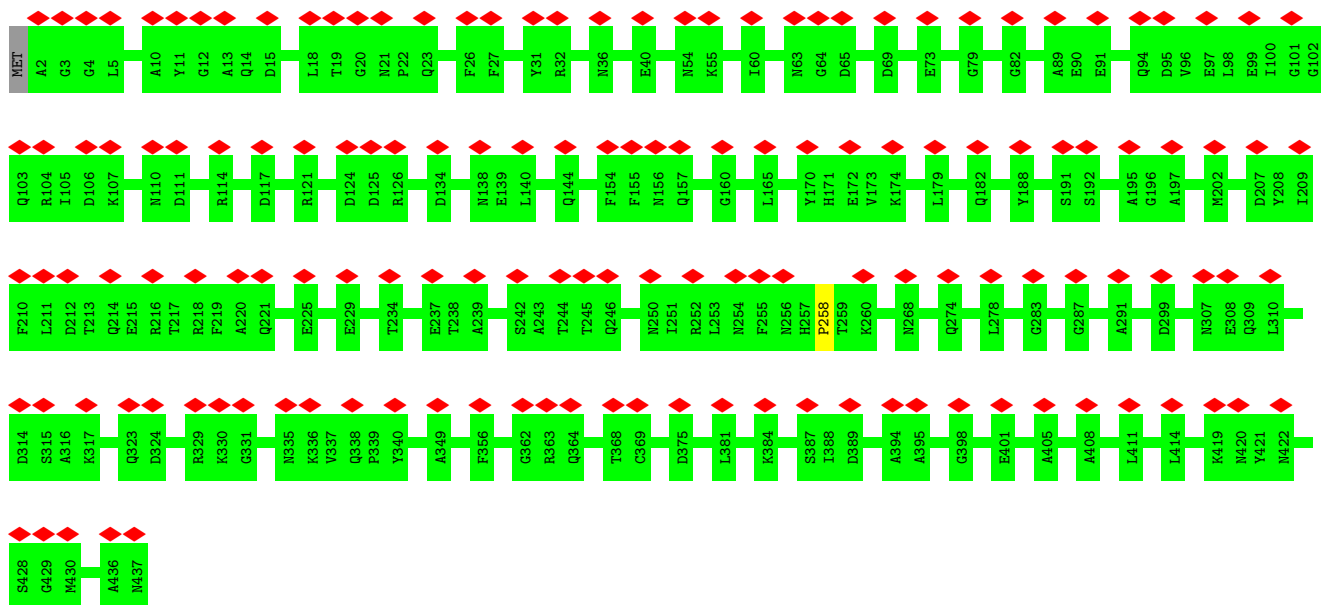


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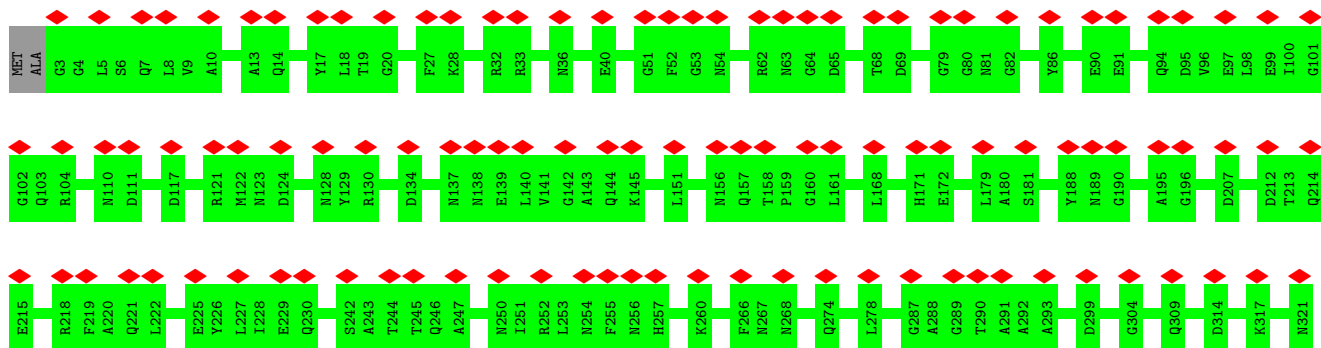


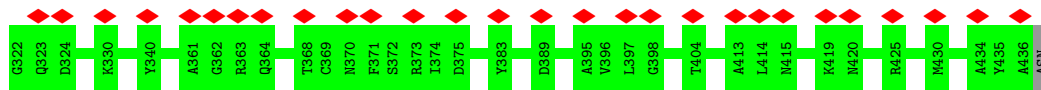


• Molecule 1: Major capsid protein (MCP)

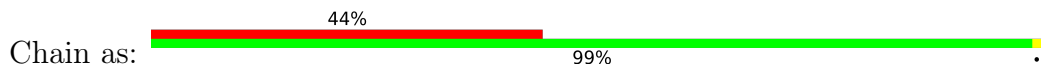


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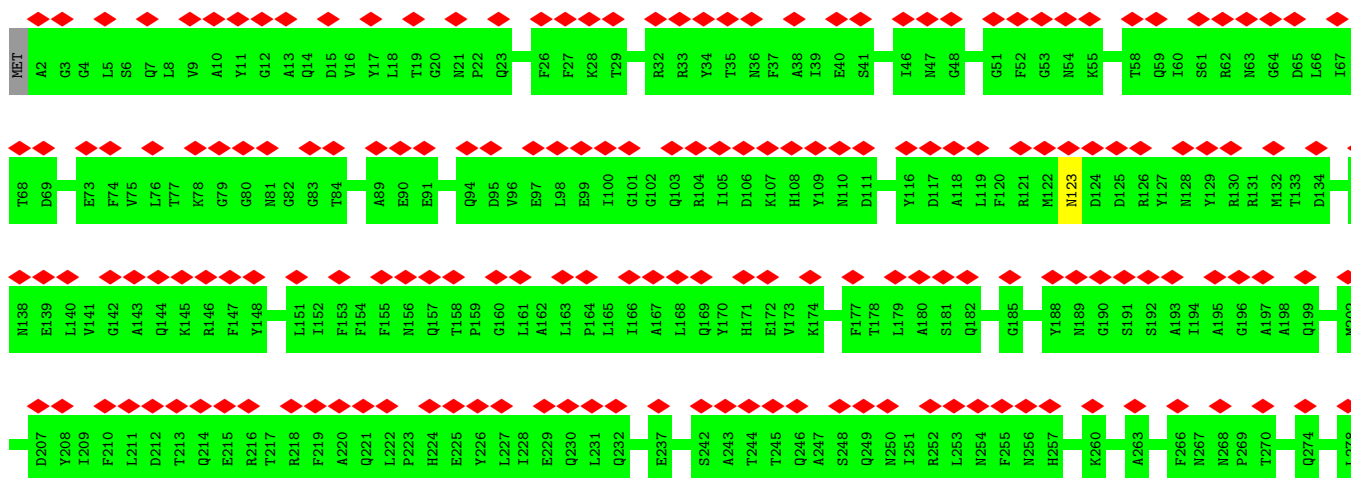


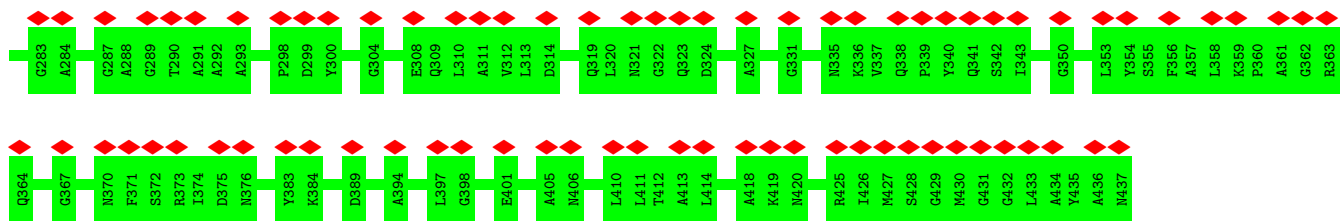


• Molecule 1: Major capsid protein (MCP)



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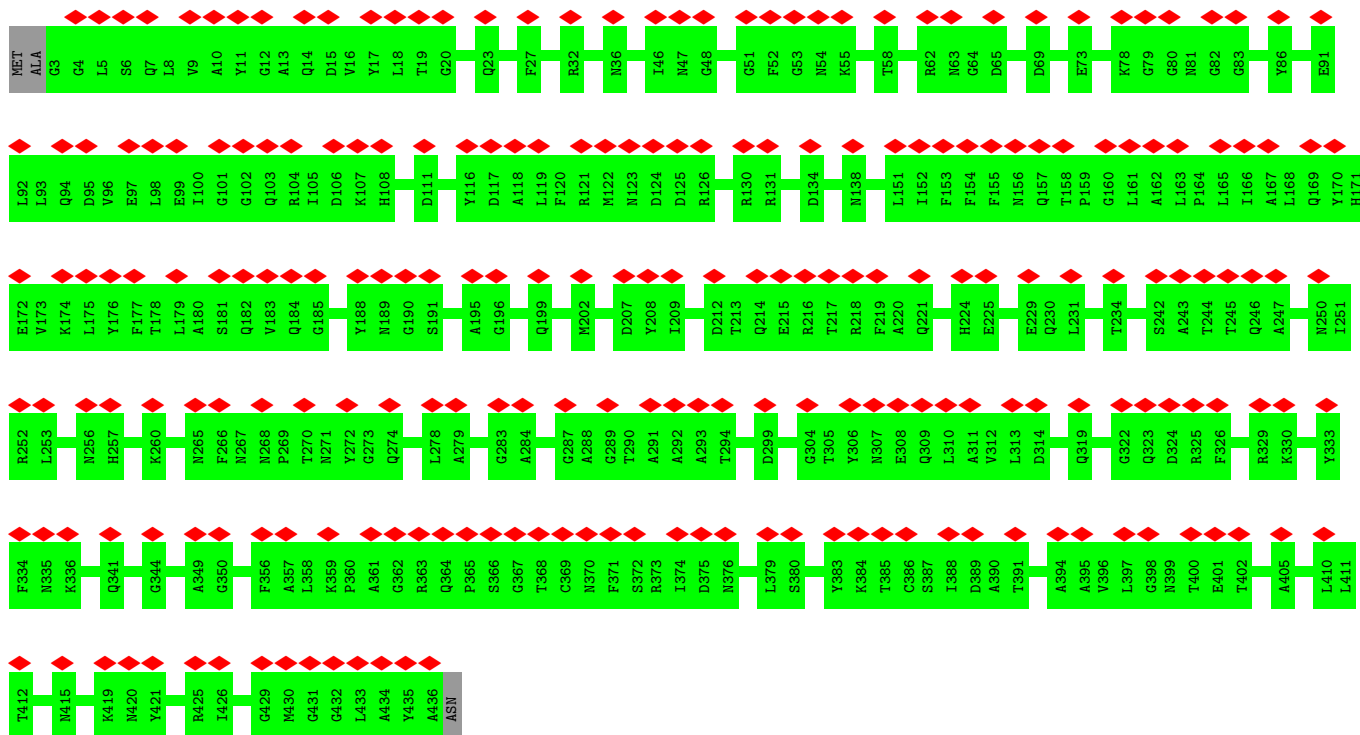




• Molecule 1: Major capsid protein (MCP)



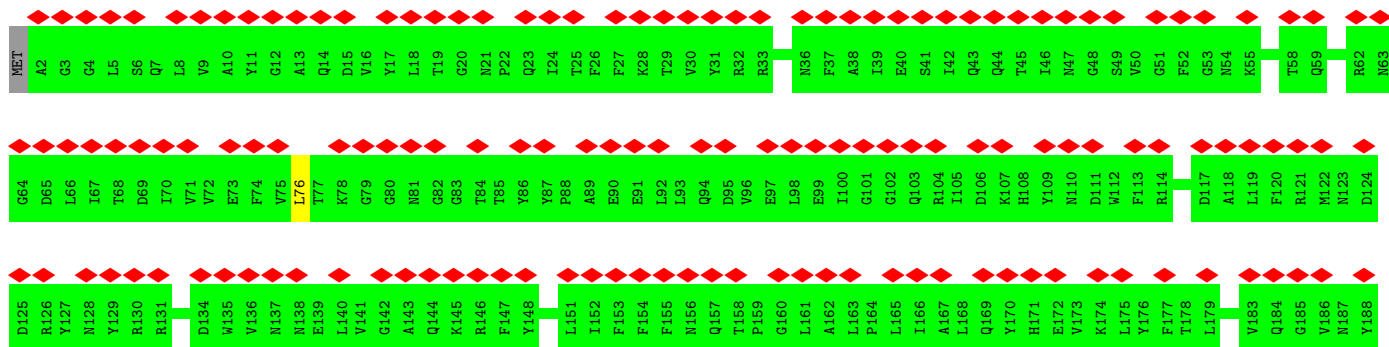
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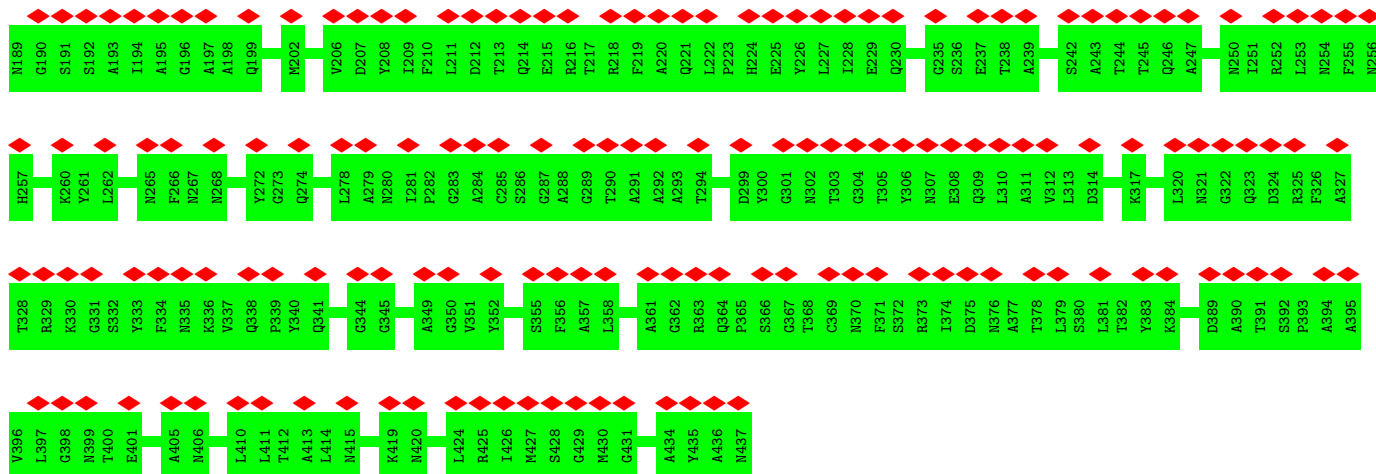
• Molecule 1: Major capsid protein (MCP)



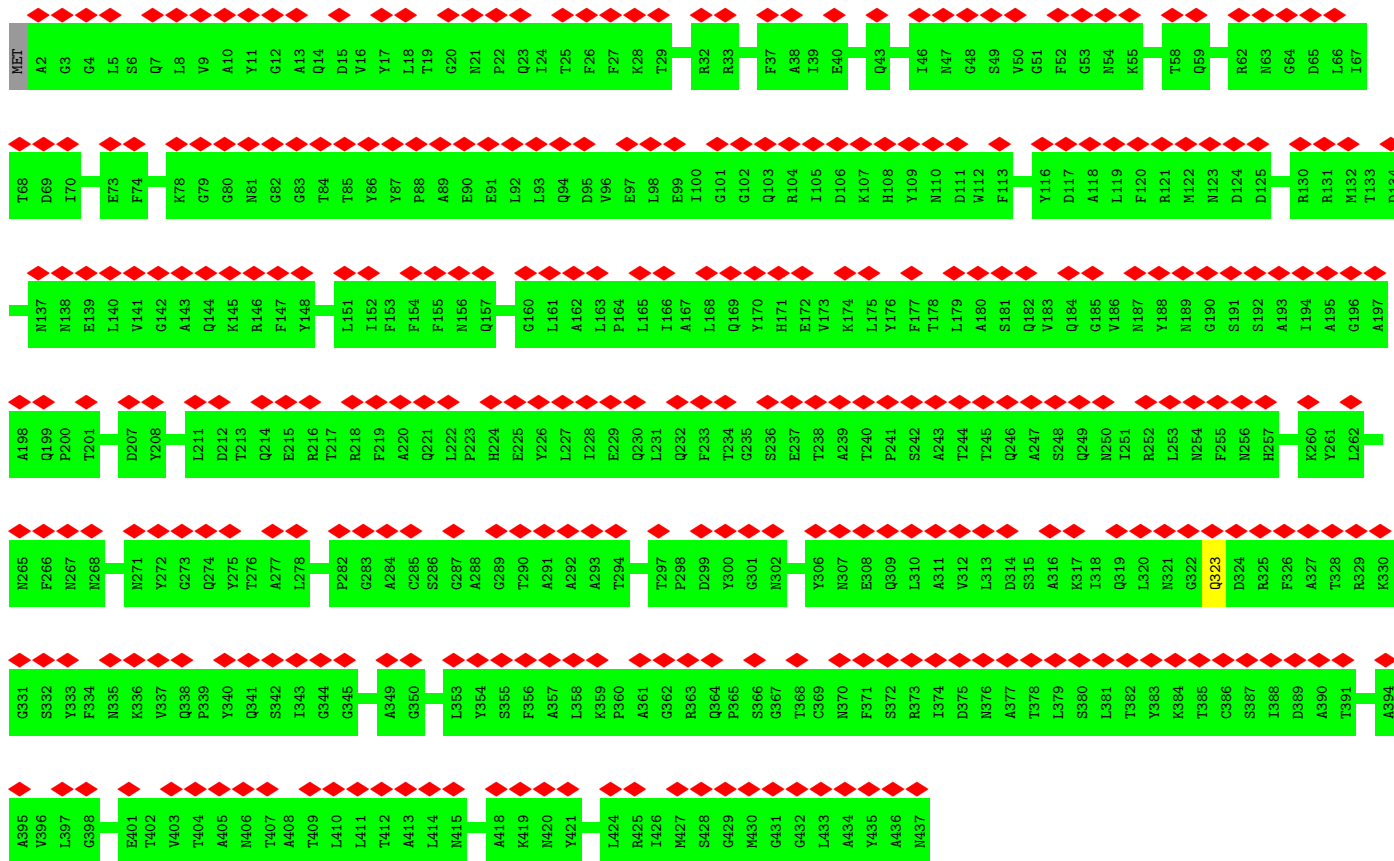
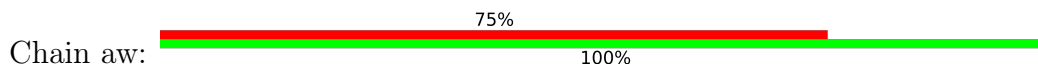
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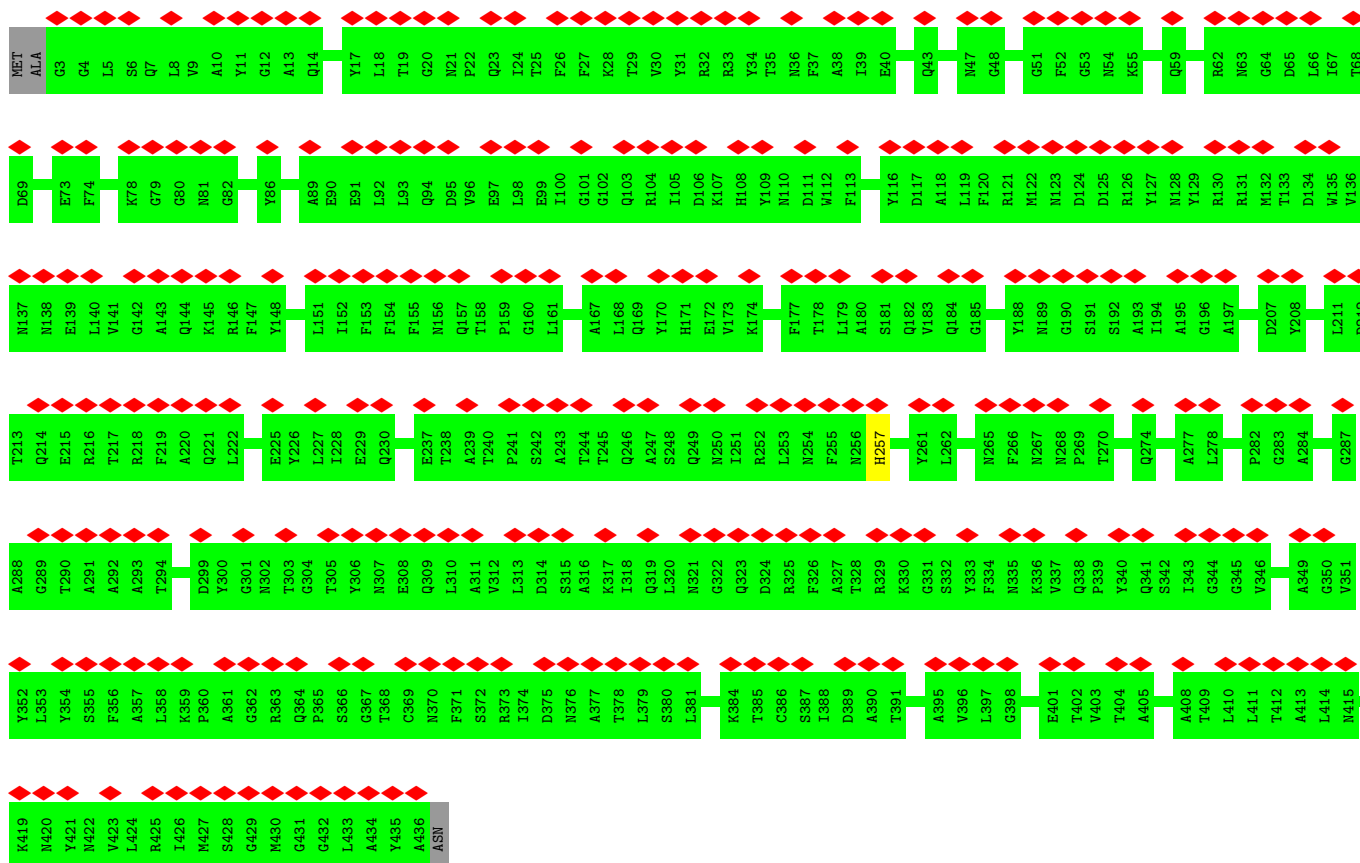


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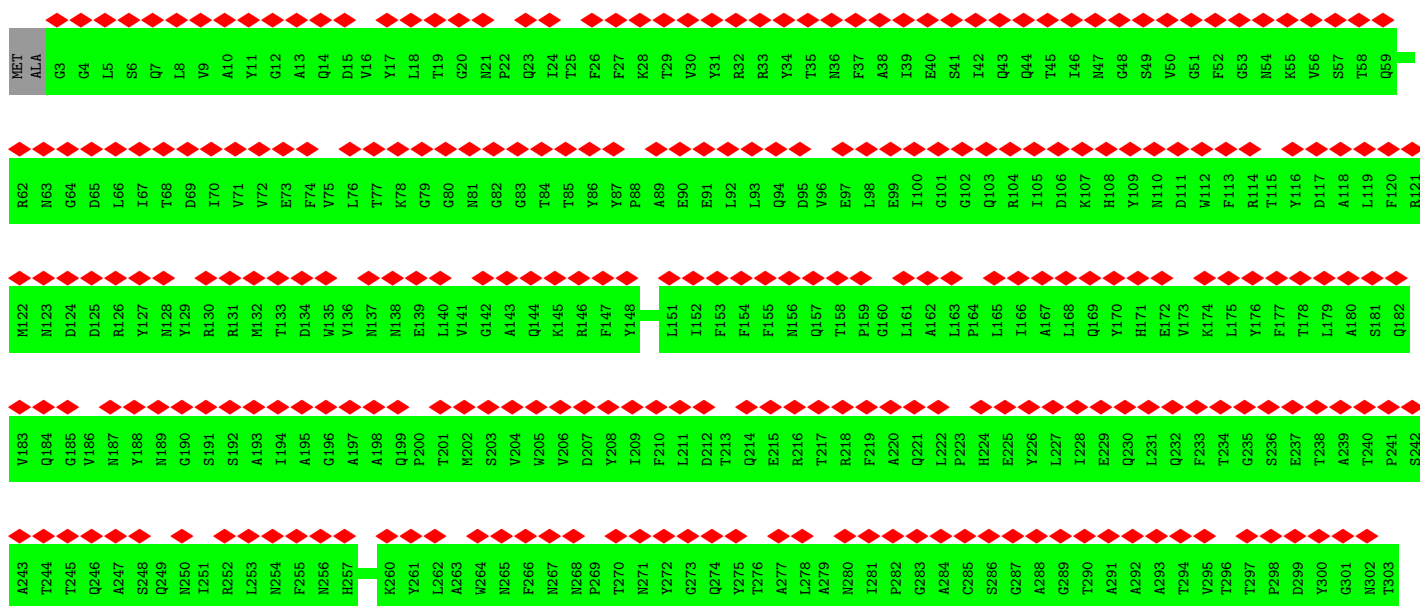
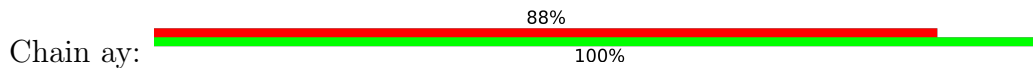


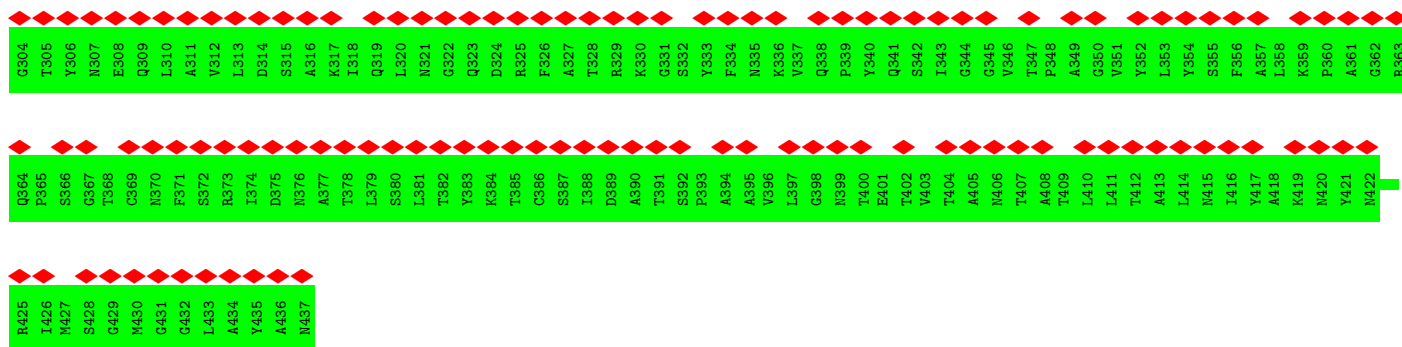
• Molecule 1: Major capsid protein (MCP)



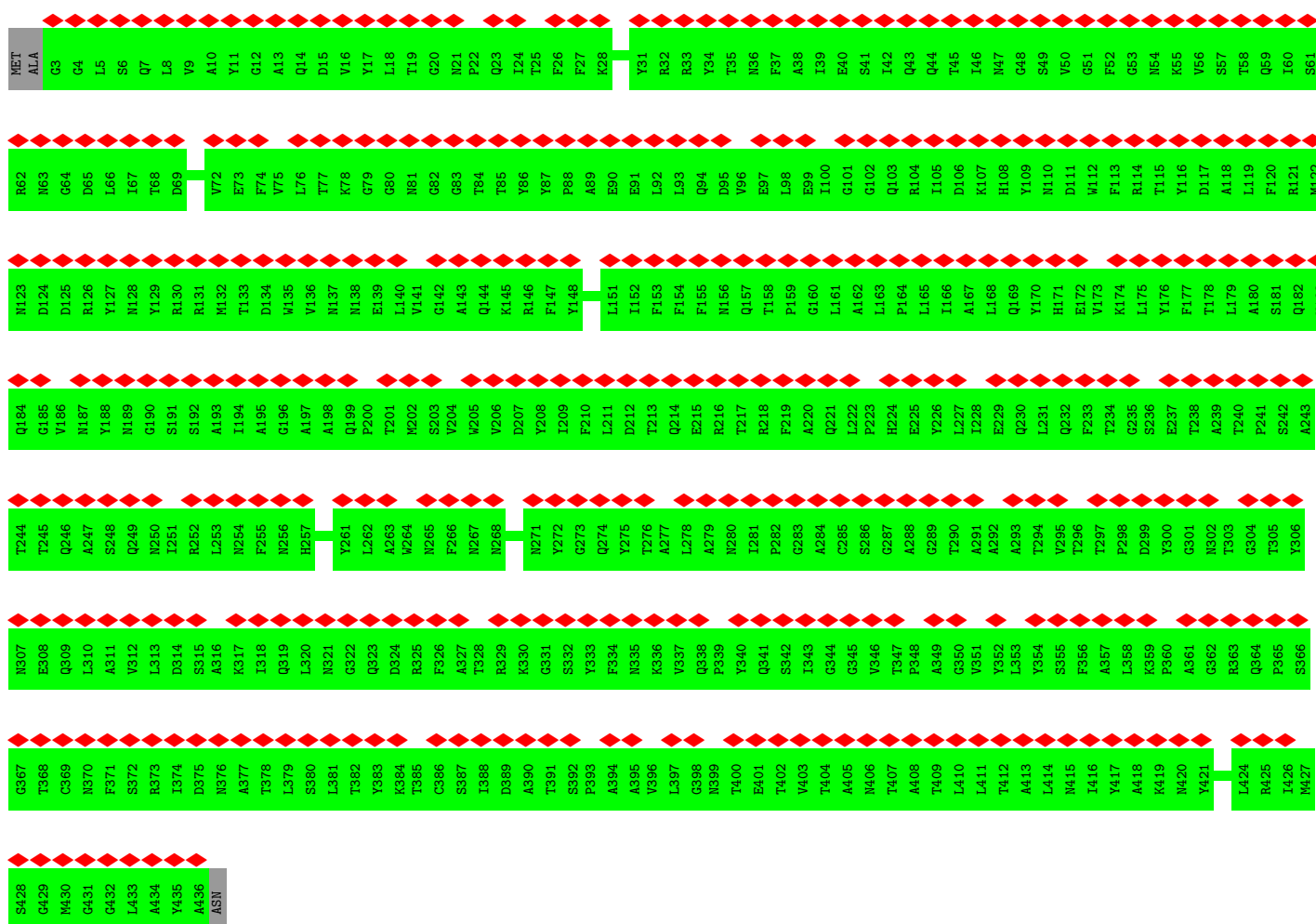
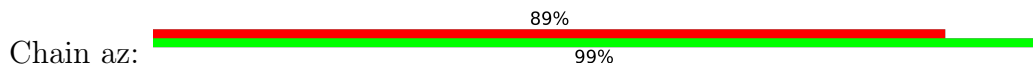


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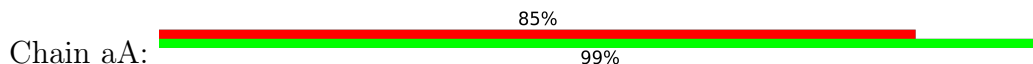


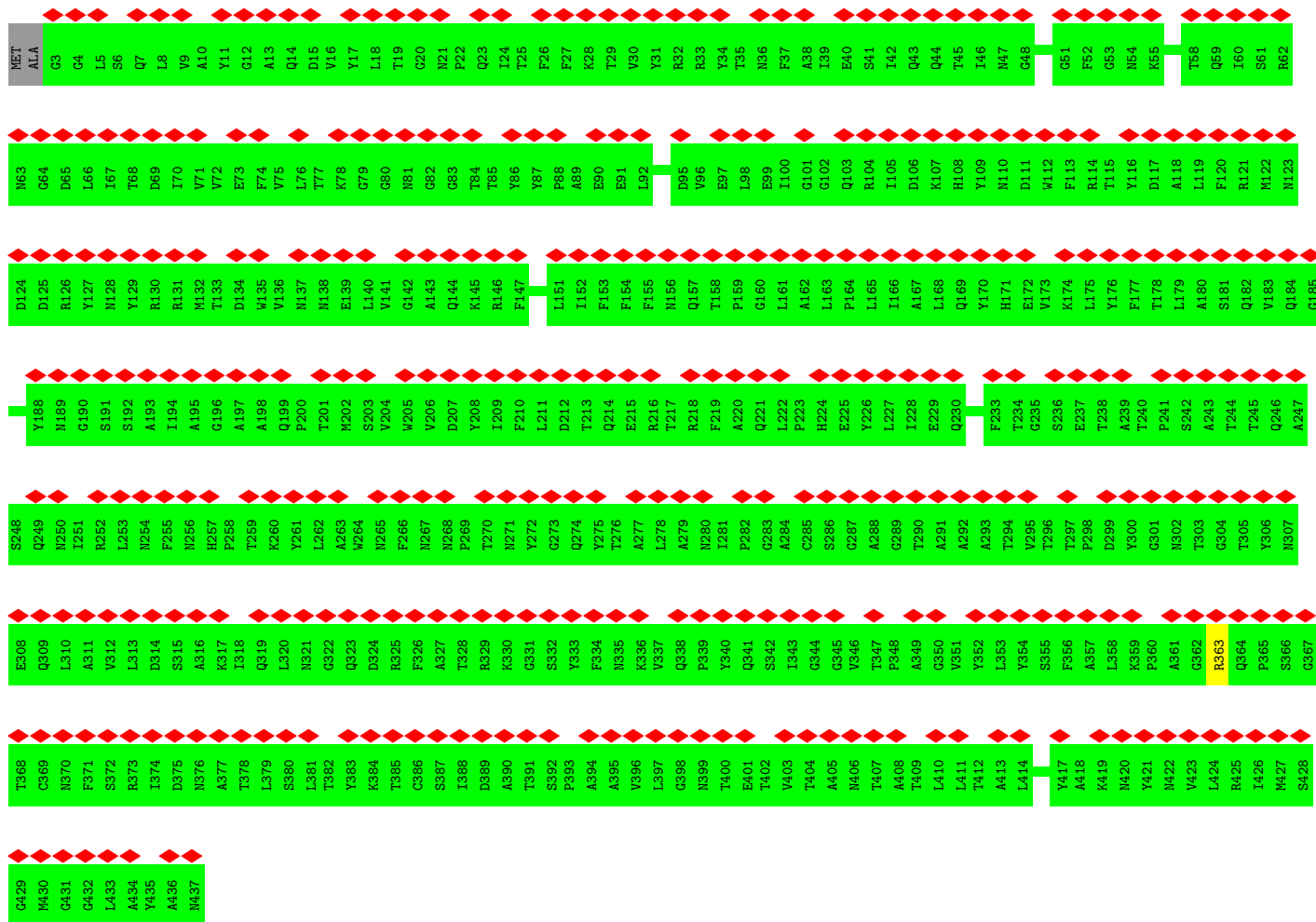


• Molecule 1: Major capsid protein (MCP)

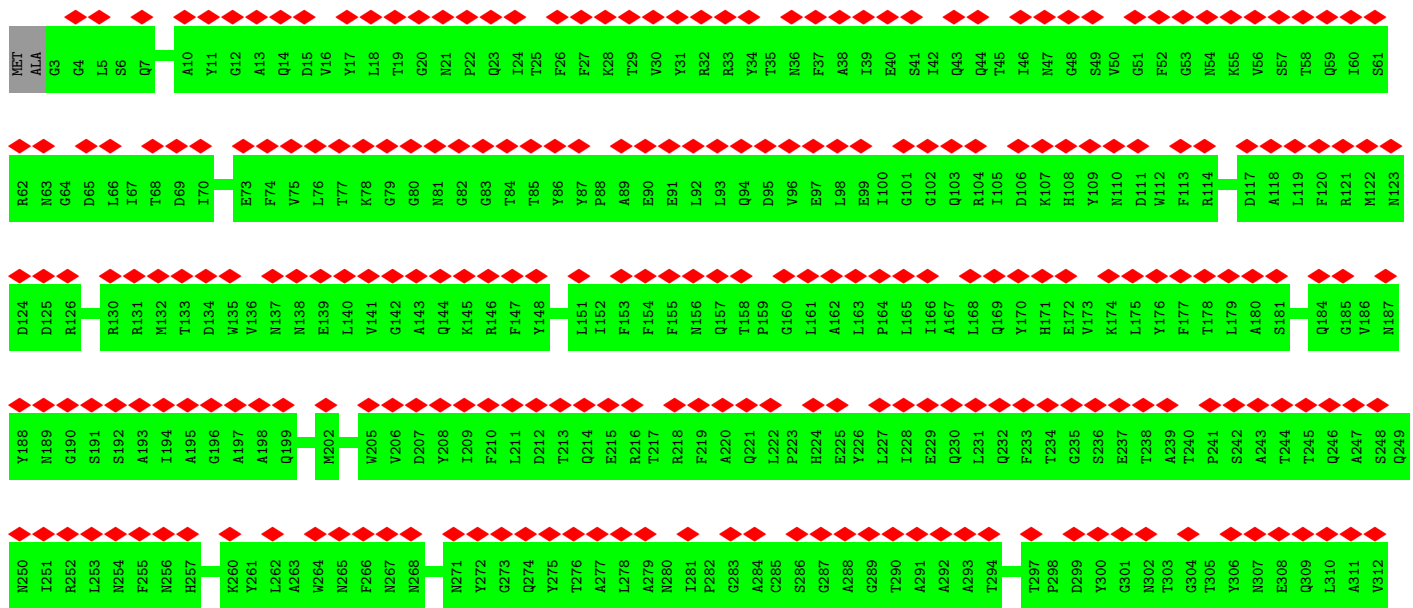
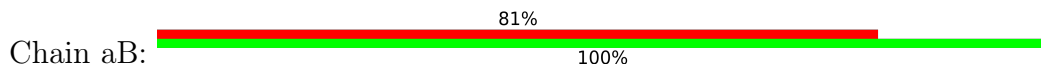


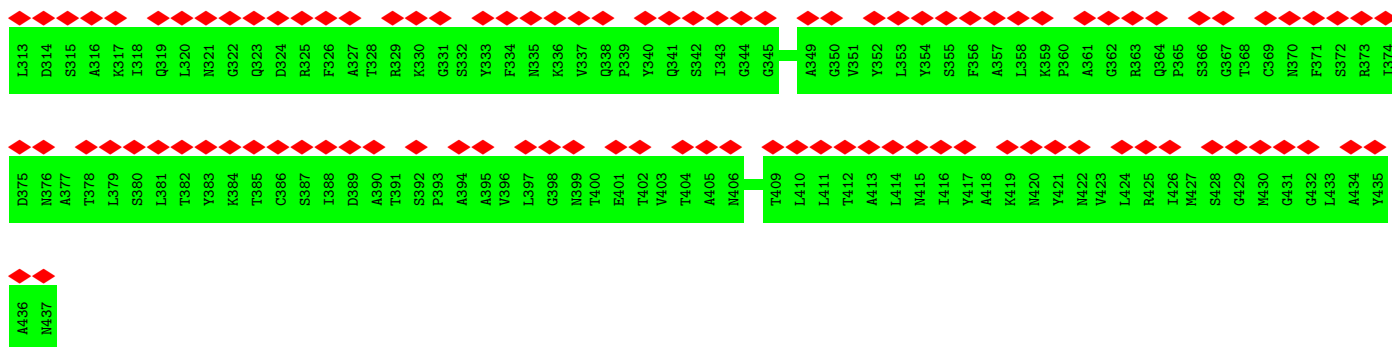
• Molecule 1: Major capsid protein (MCP)



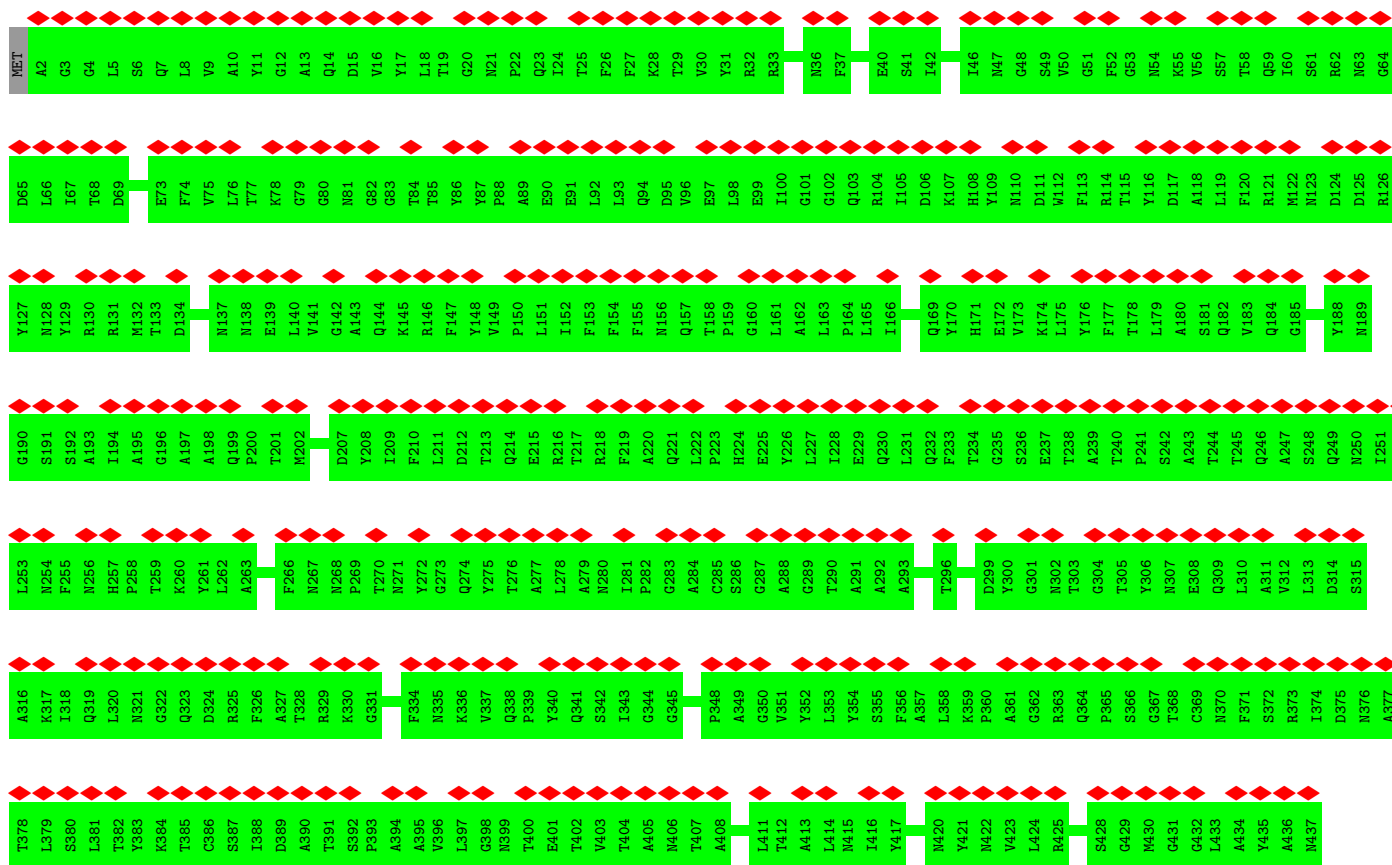
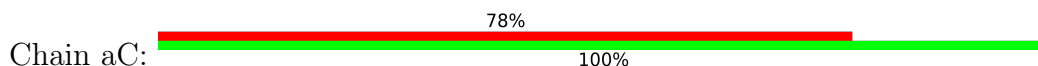


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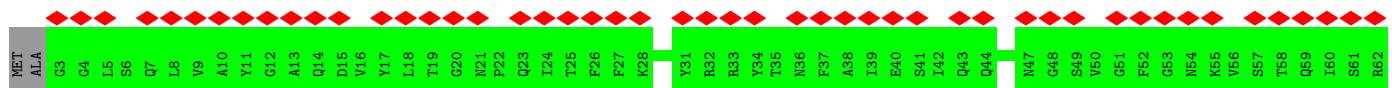
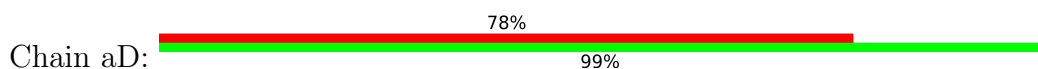


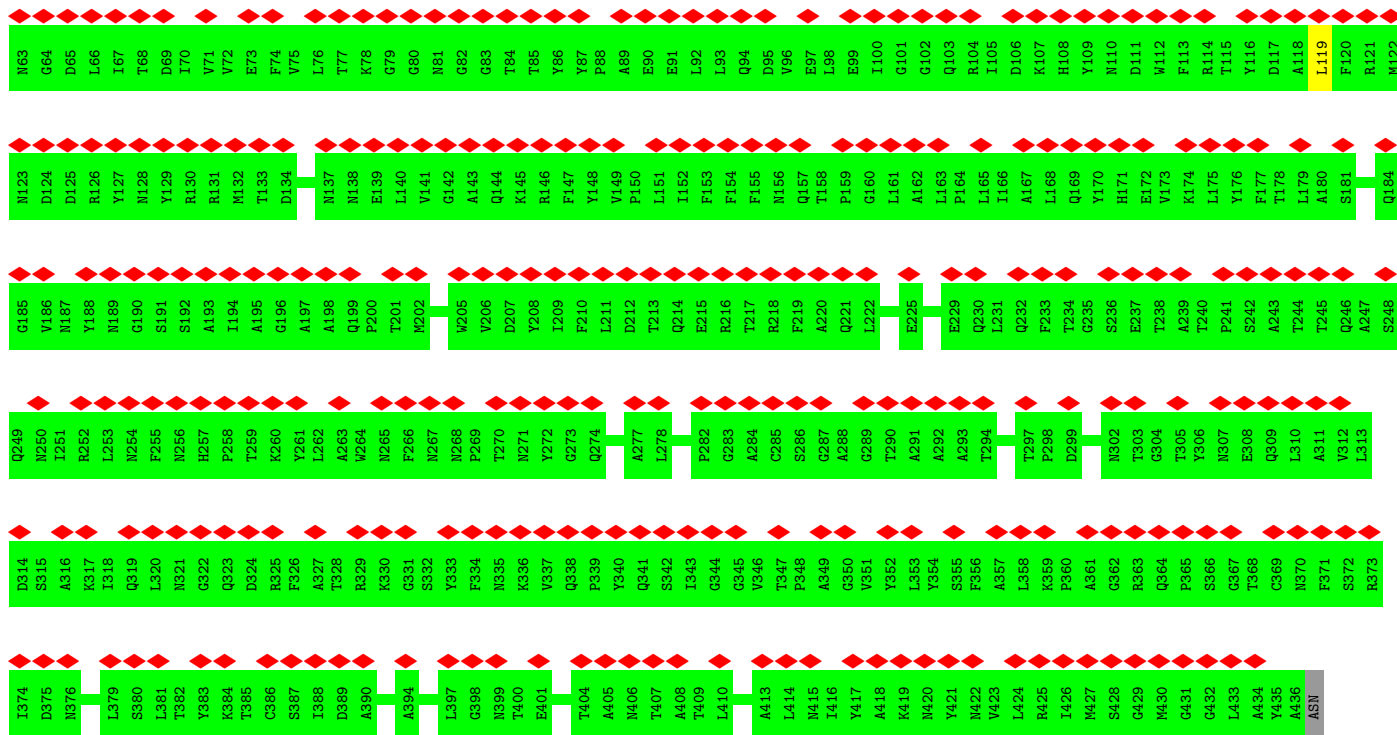


• Molecule 1: Major capsid protein (MCP)

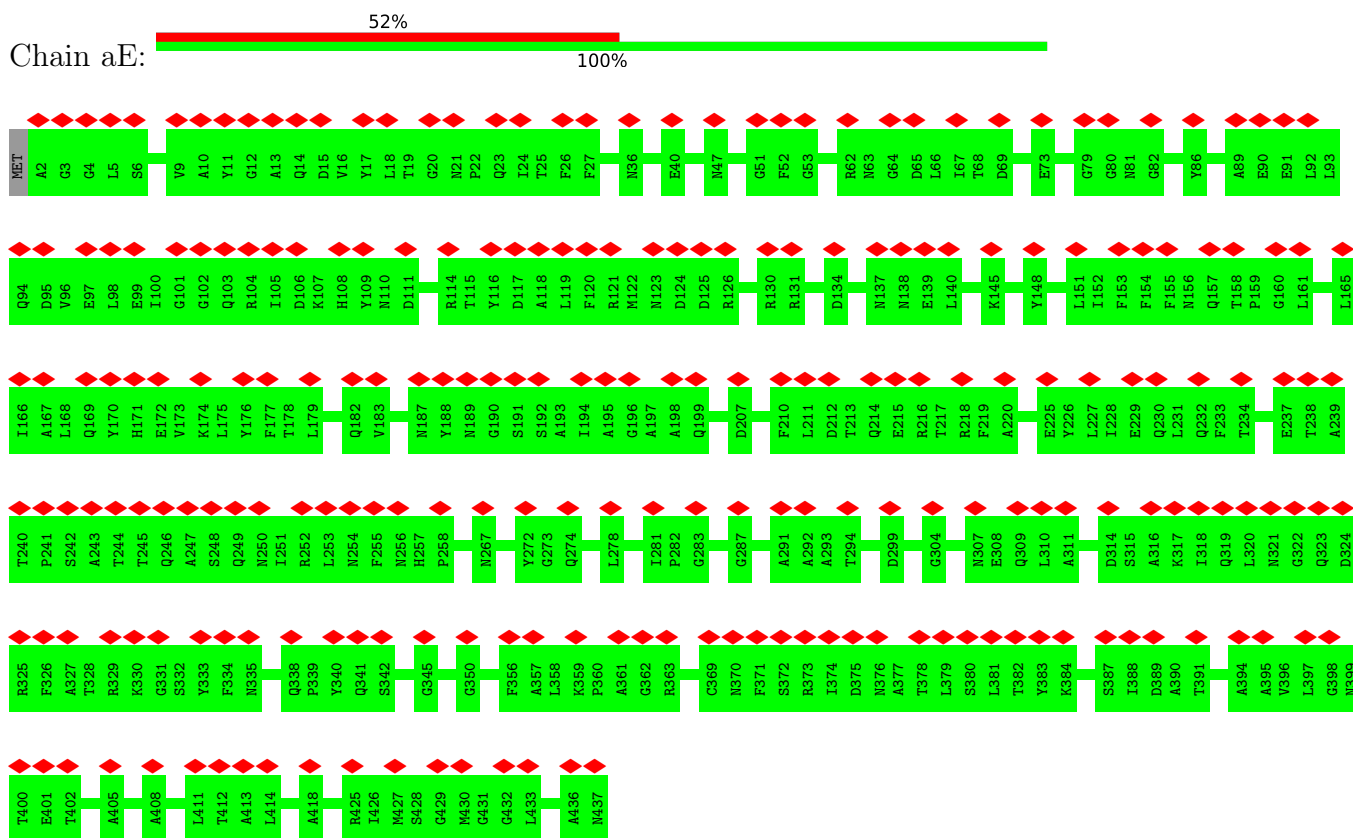


• Molecule 1: Major capsid protein (MCP)





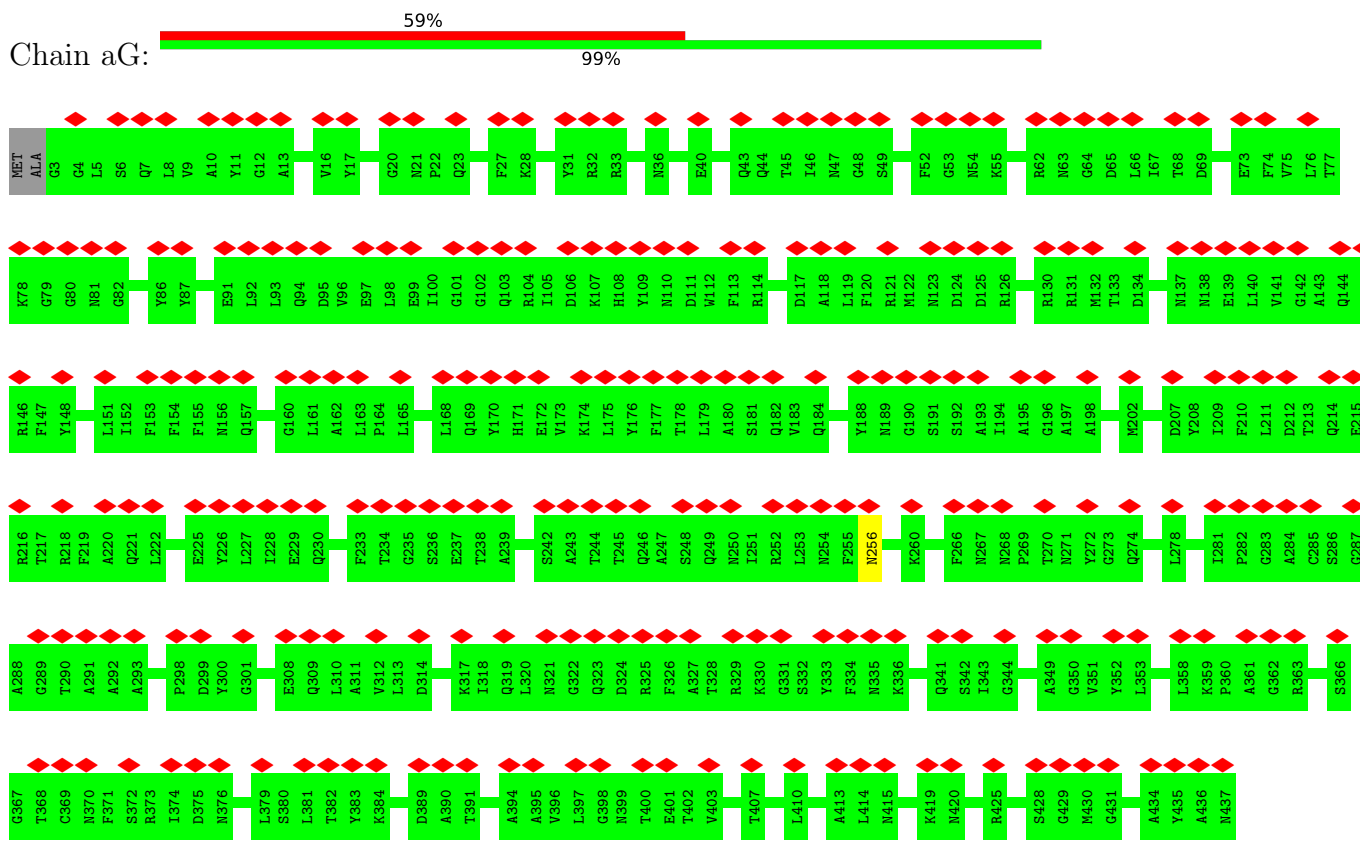
• Molecule 1: Major capsid protein (MCP)



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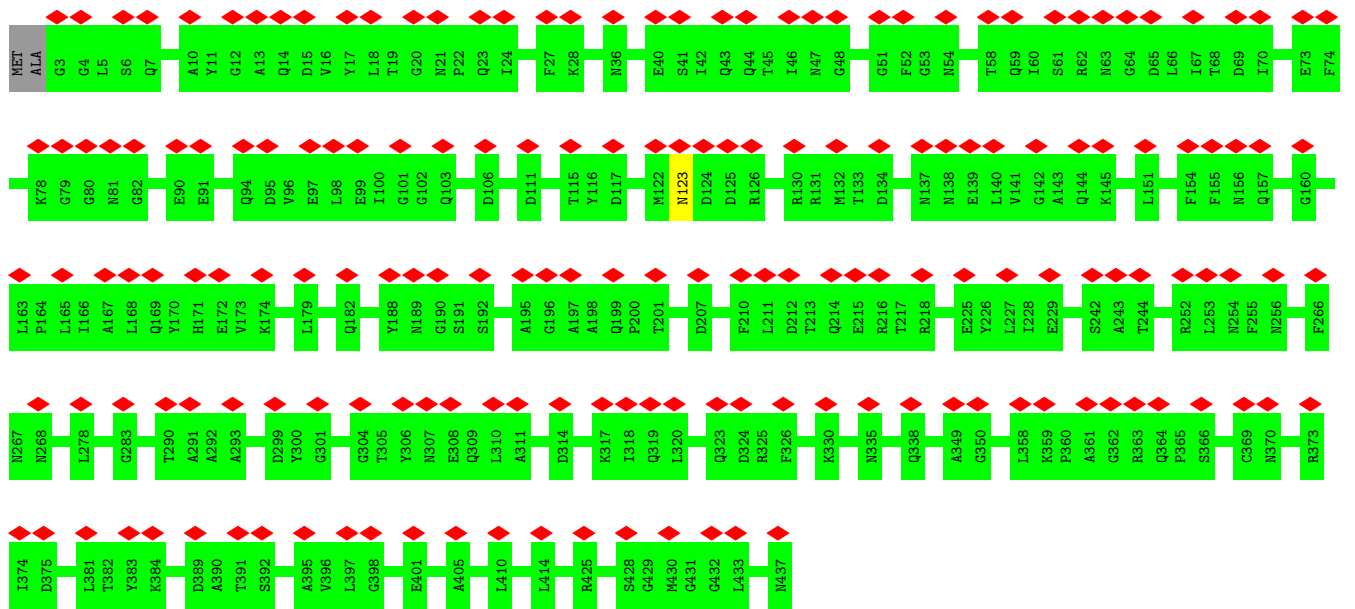
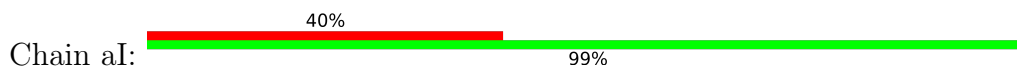


• Molecule 1: Major capsid protein (MCP)

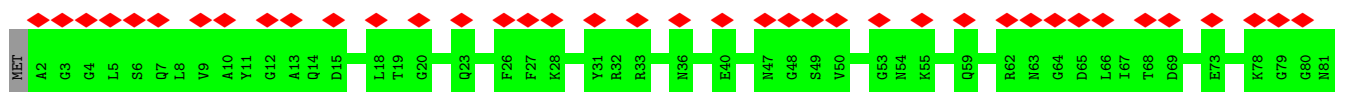




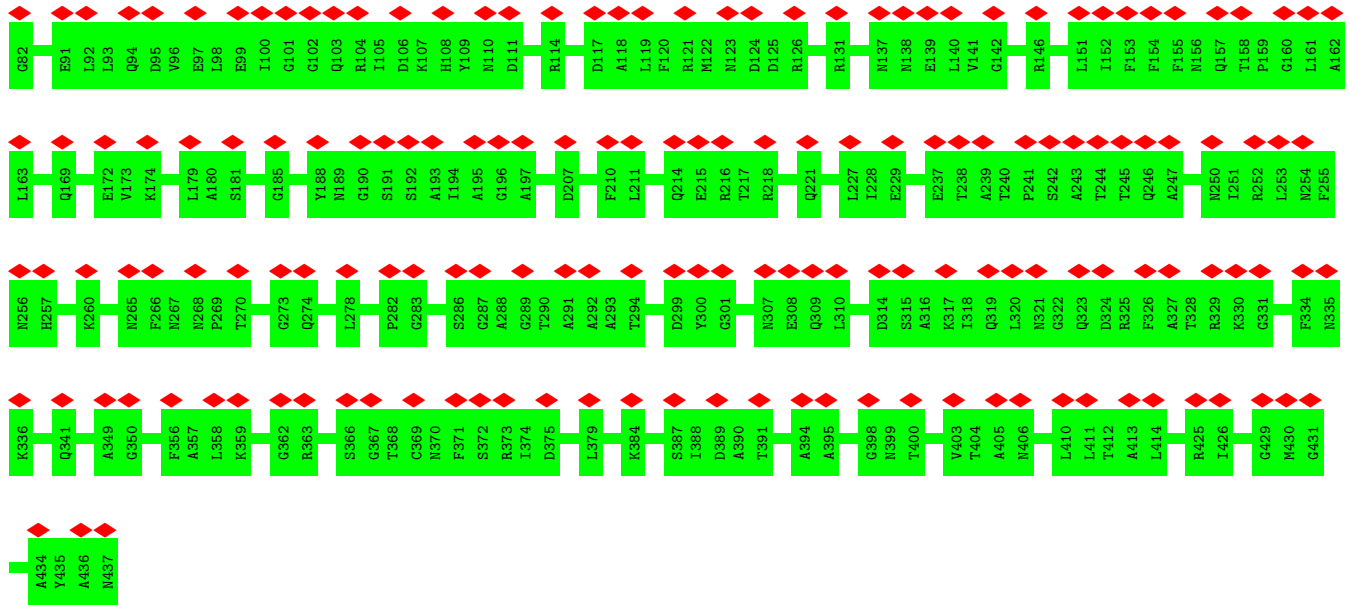
• Molecule 1: Major capsid protein (MCP)



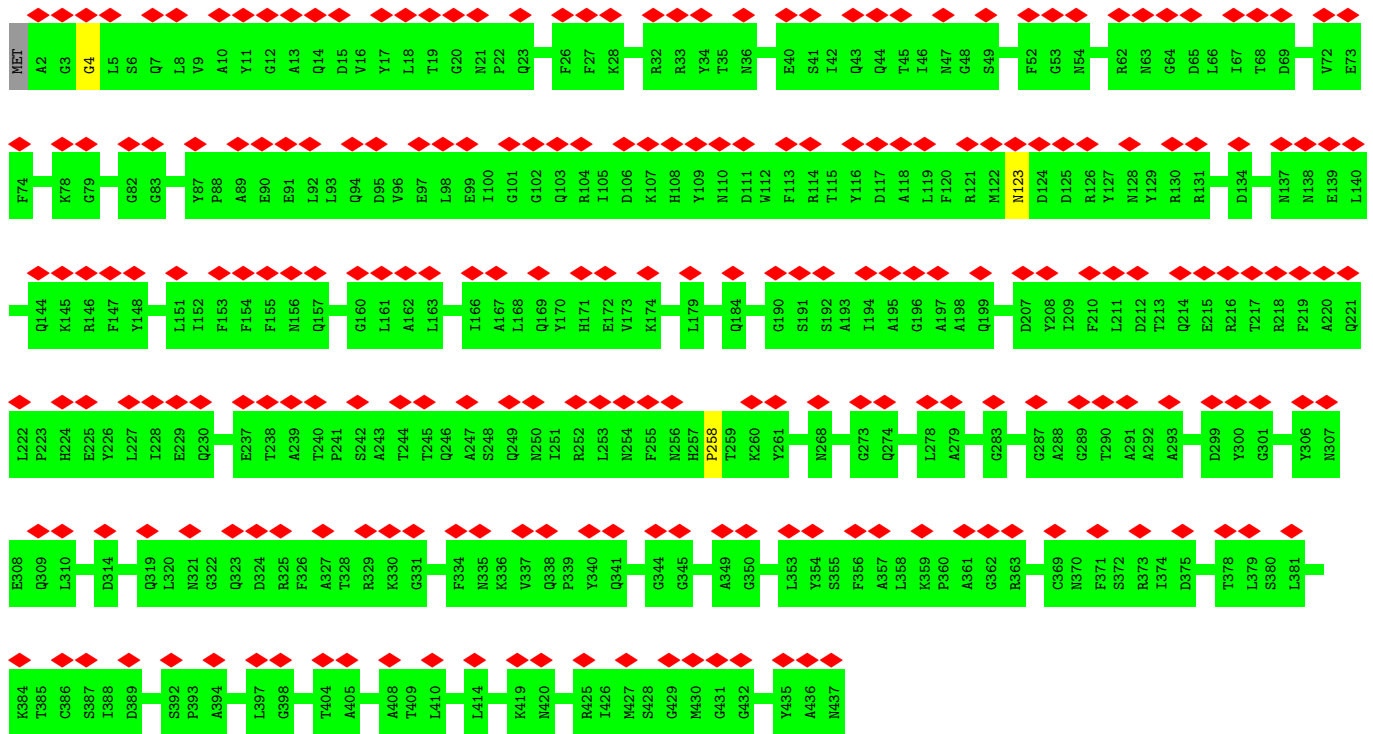
• Molecule 1: Major capsid protein (MCP)





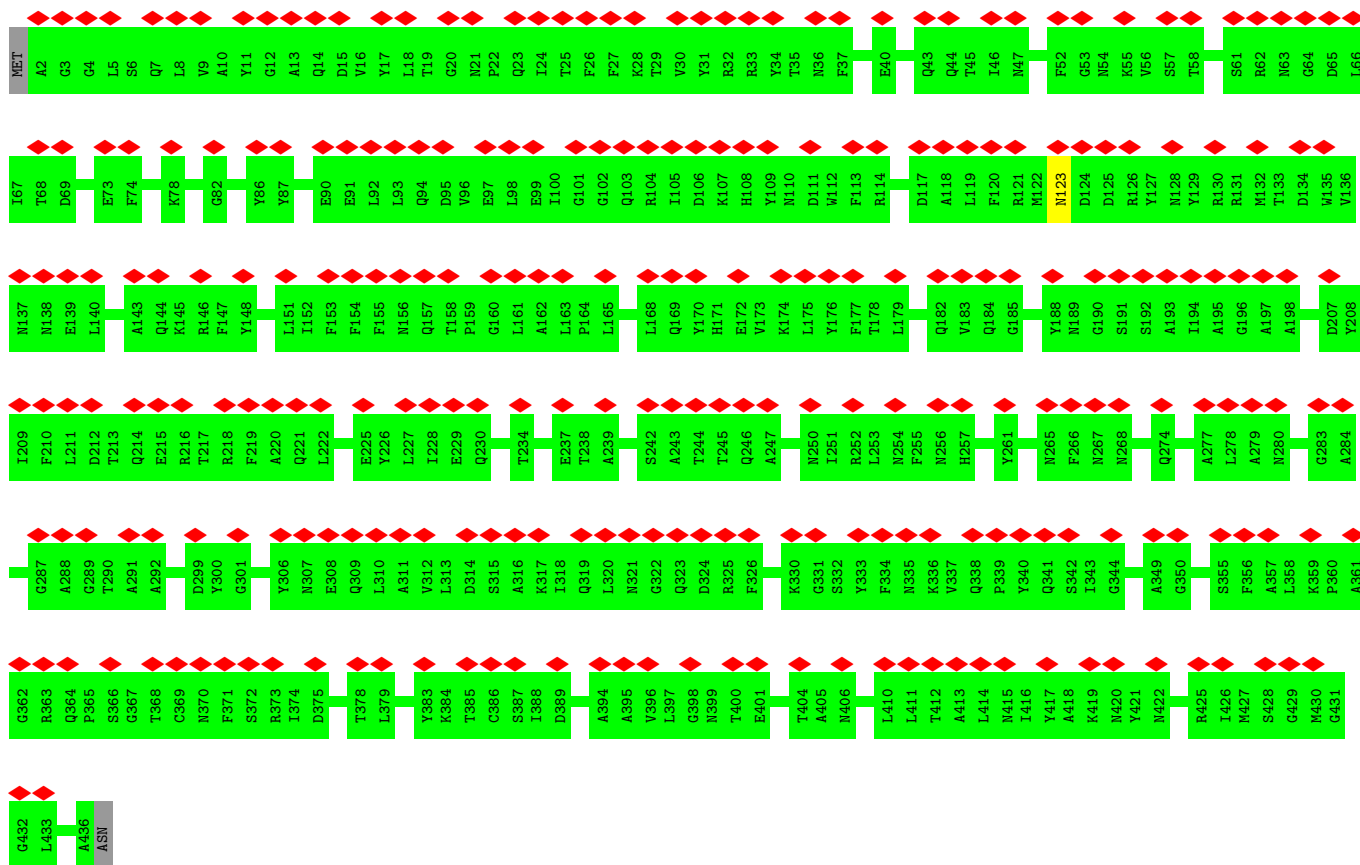


• Molecule 1: Major capsid protein (MCP)

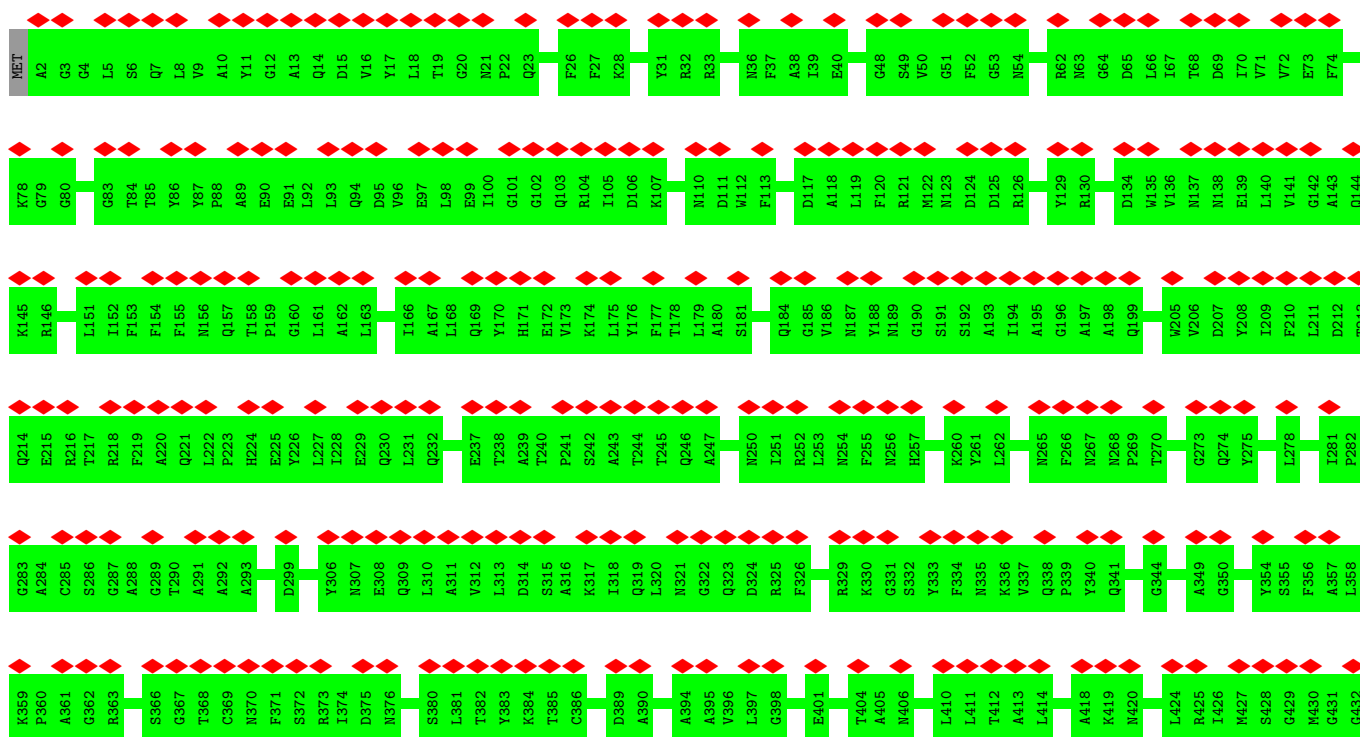


• Molecule 1: Major capsid protein (MCP)



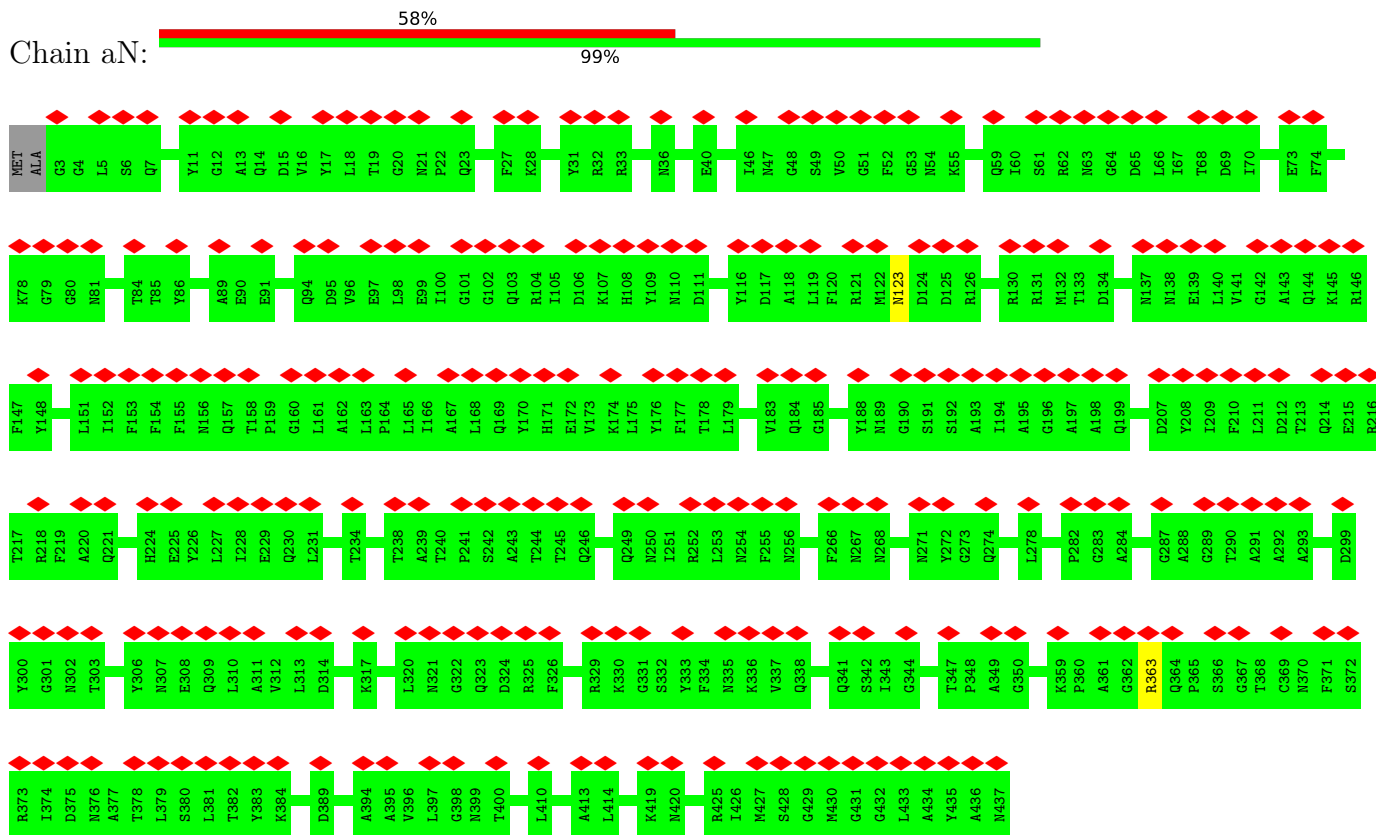


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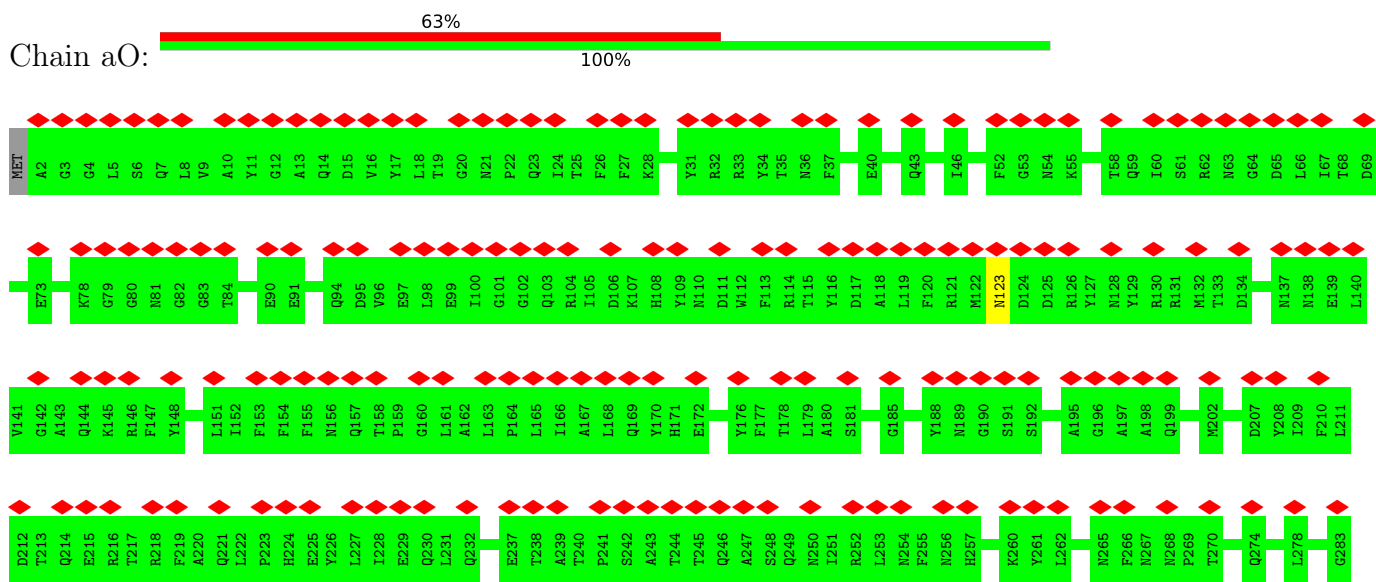


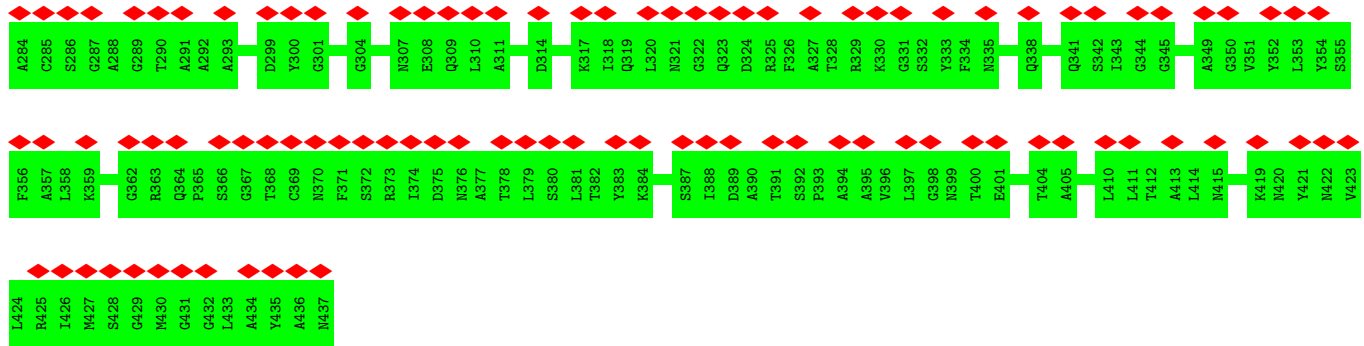
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Y435  
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• Molecule 1: Major capsid protein (MCP)



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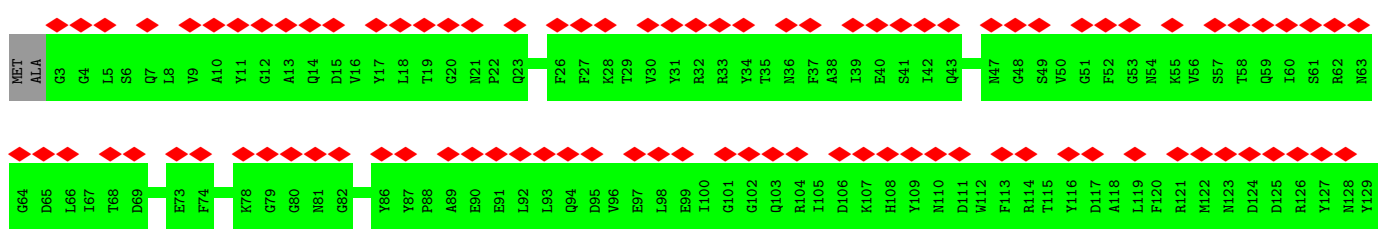




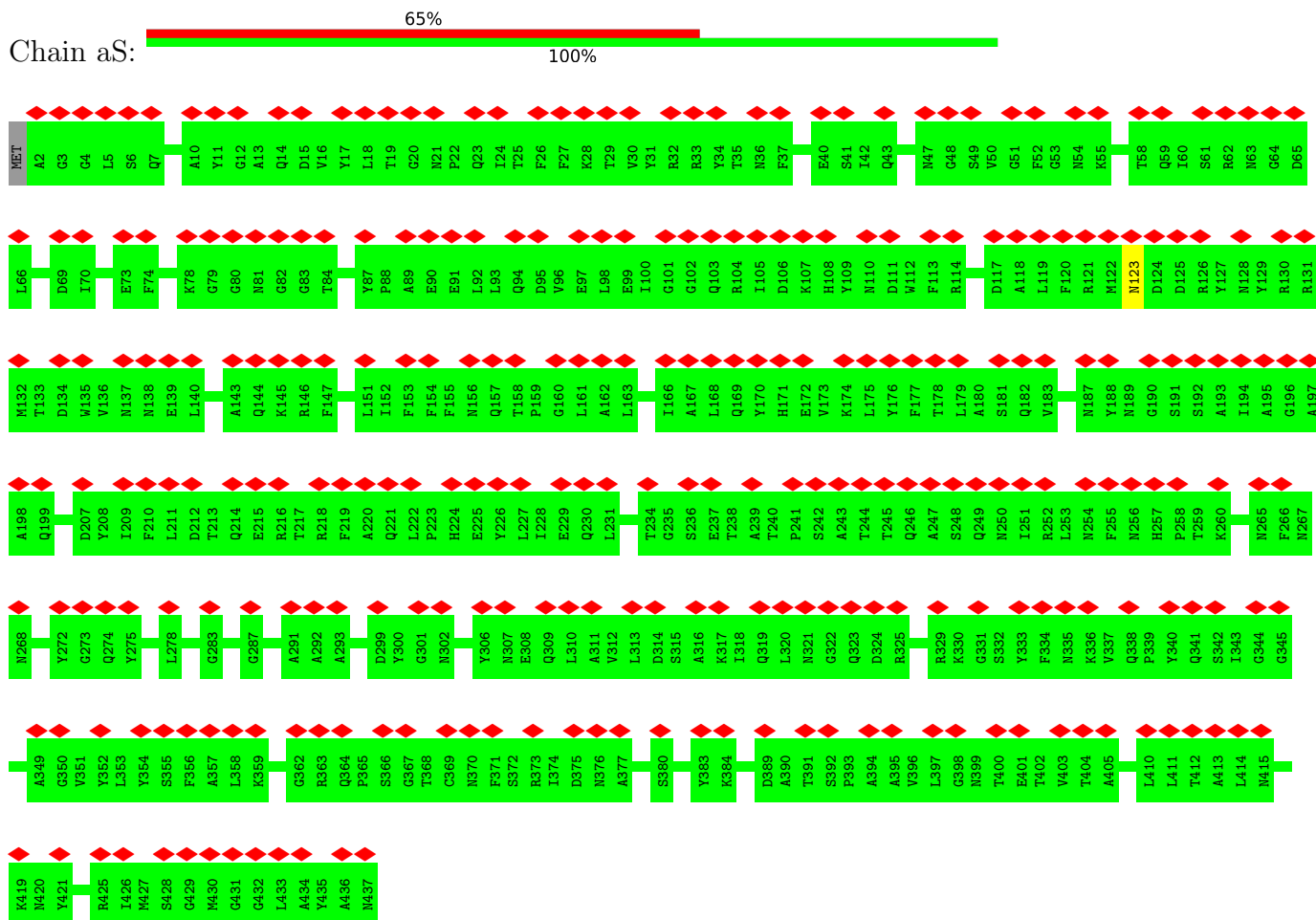
• Molecule 1: Major capsid protein (MCP)



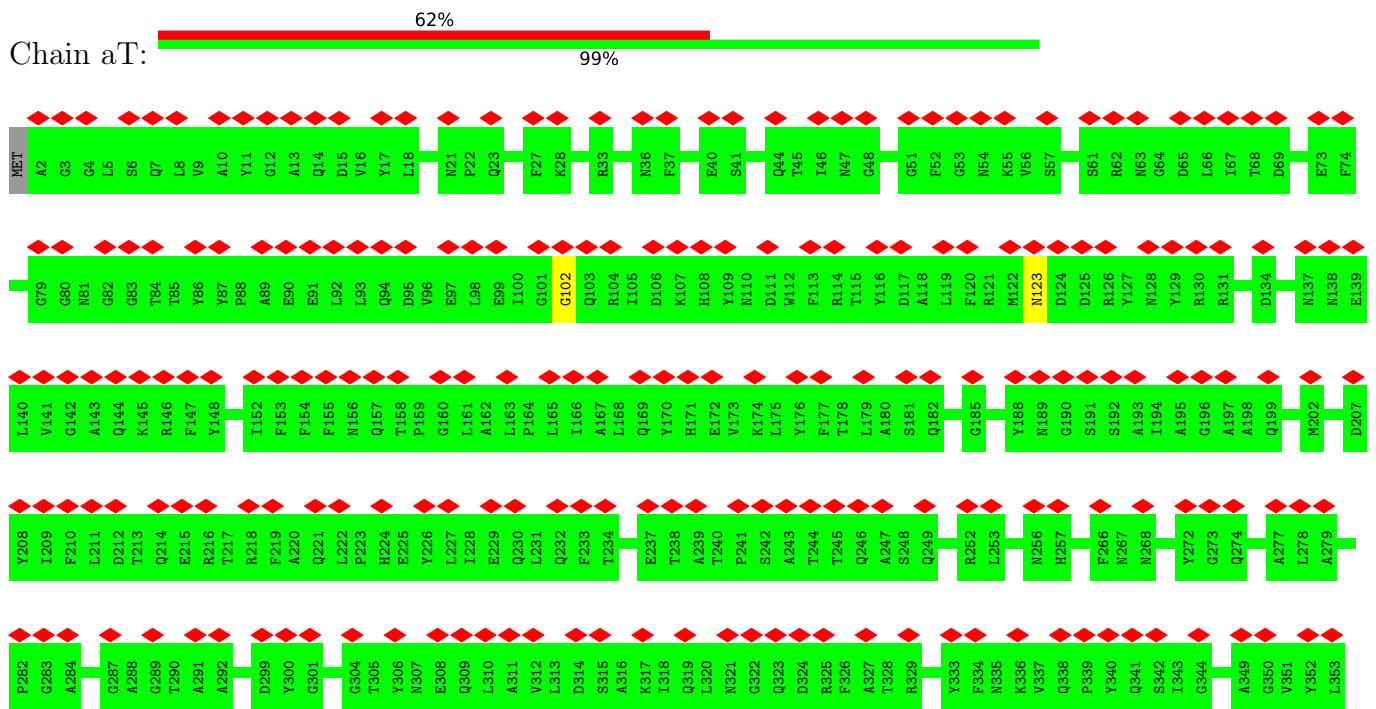
• Molecule 1: Major capsid protein (MCP)

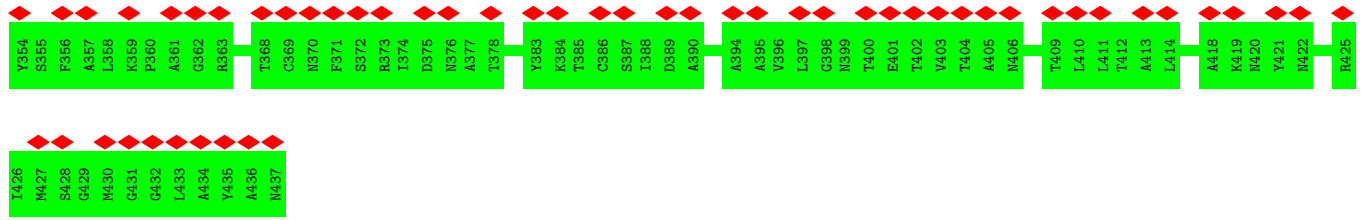




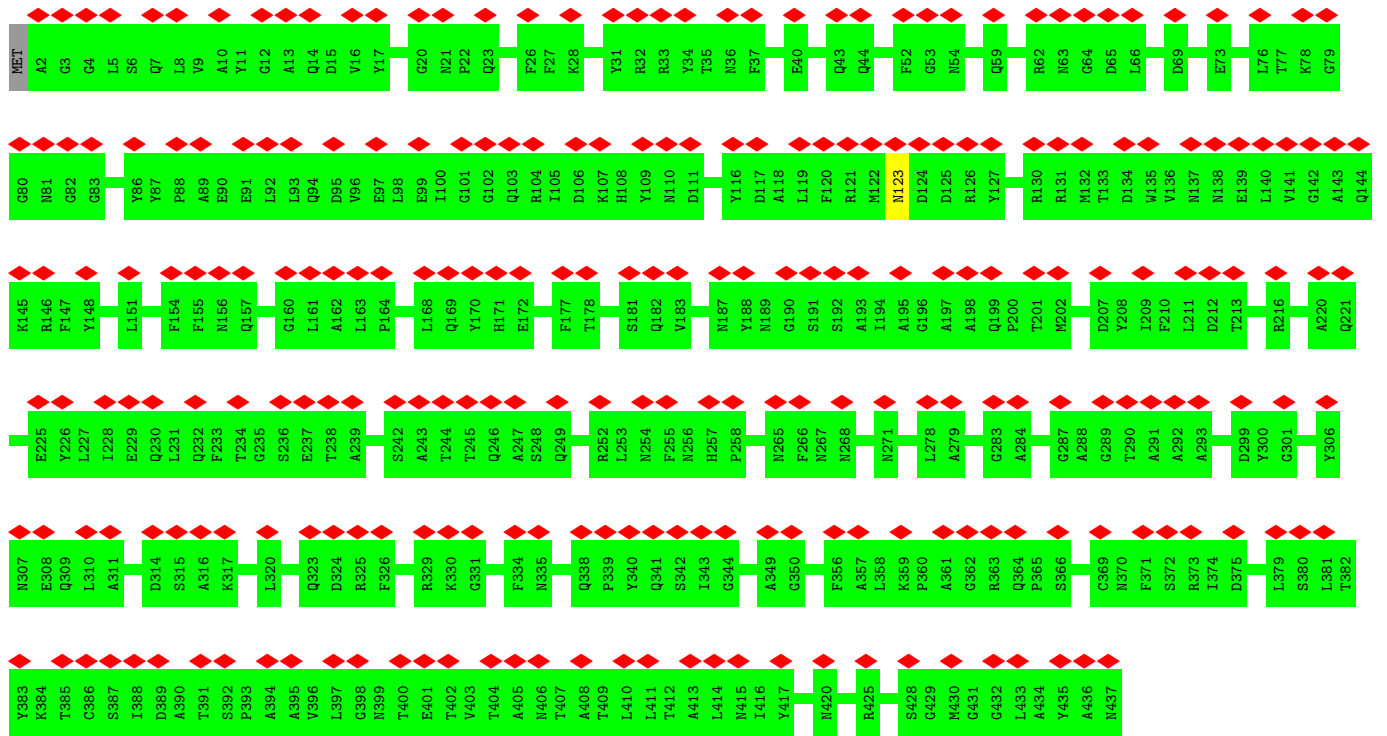


• Molecule 1: Major capsid protein (MCP)

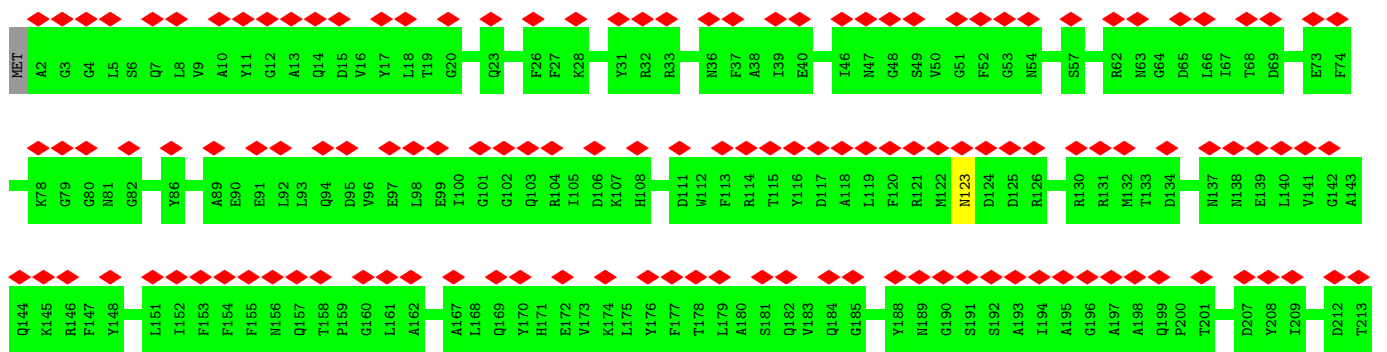


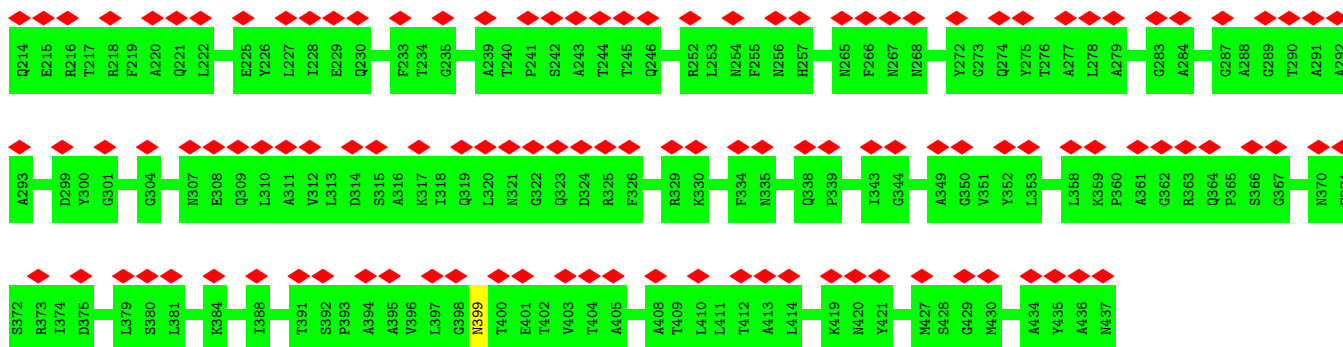


• Molecule 1: Major capsid protein (MCP)

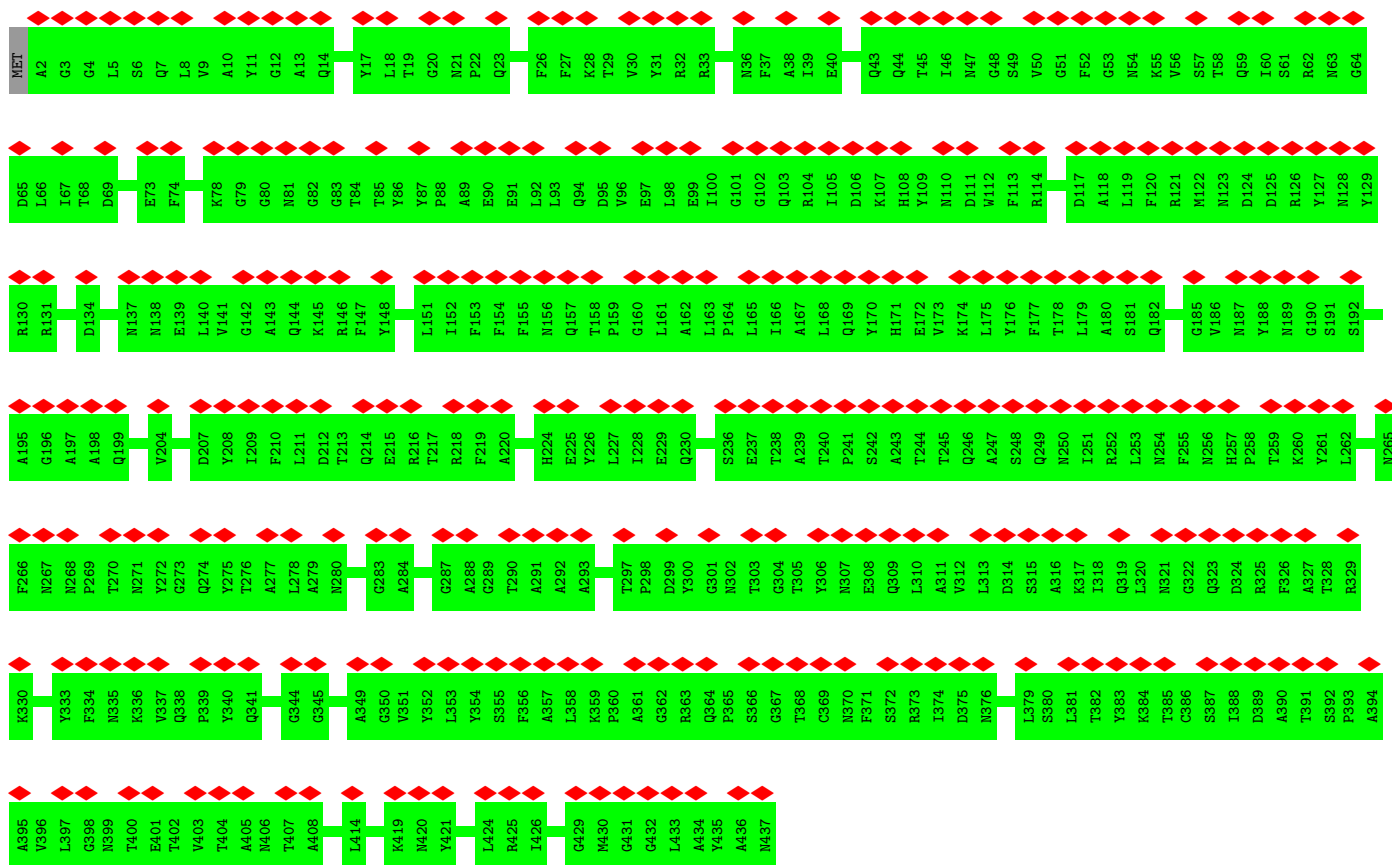


• Molecule 1: Major capsid protein (MCP)

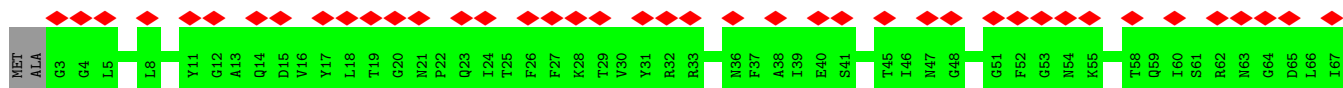




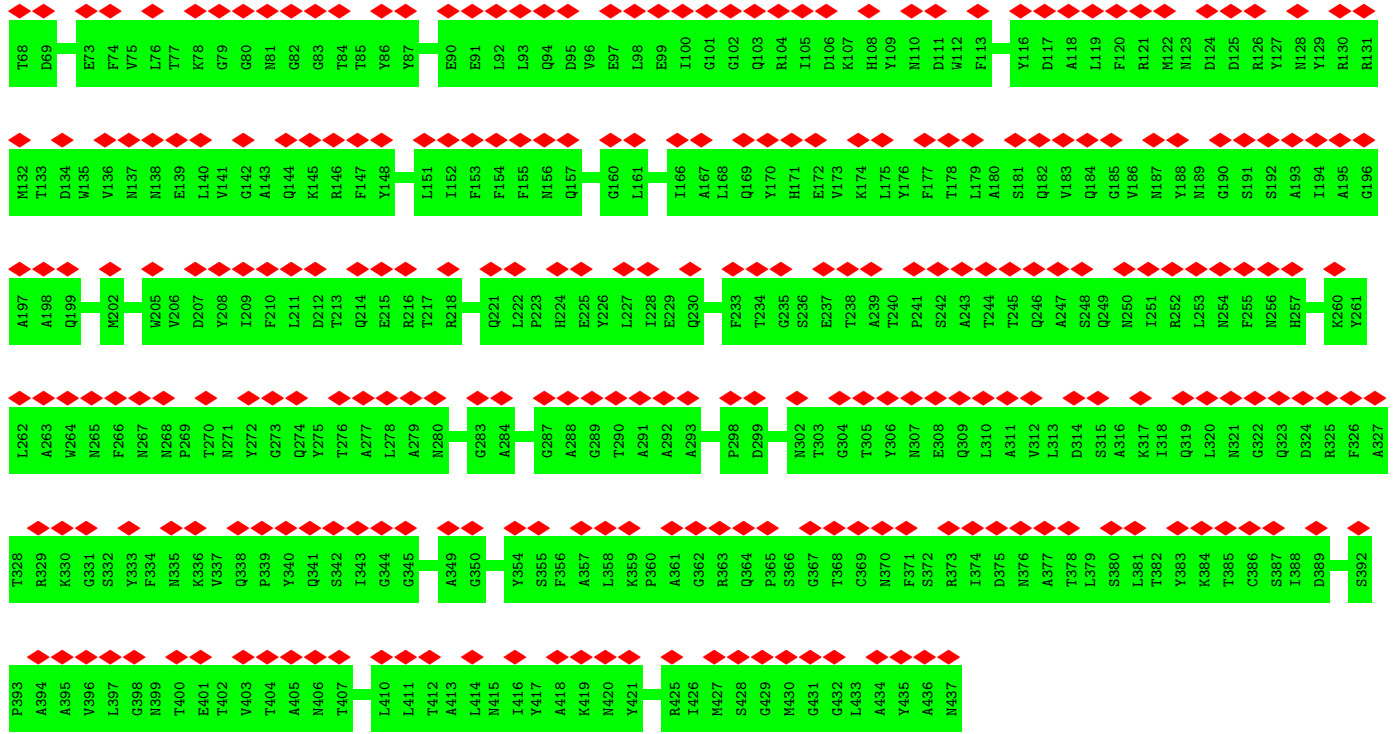
• Molecule 1: Major capsid protein (MCP)



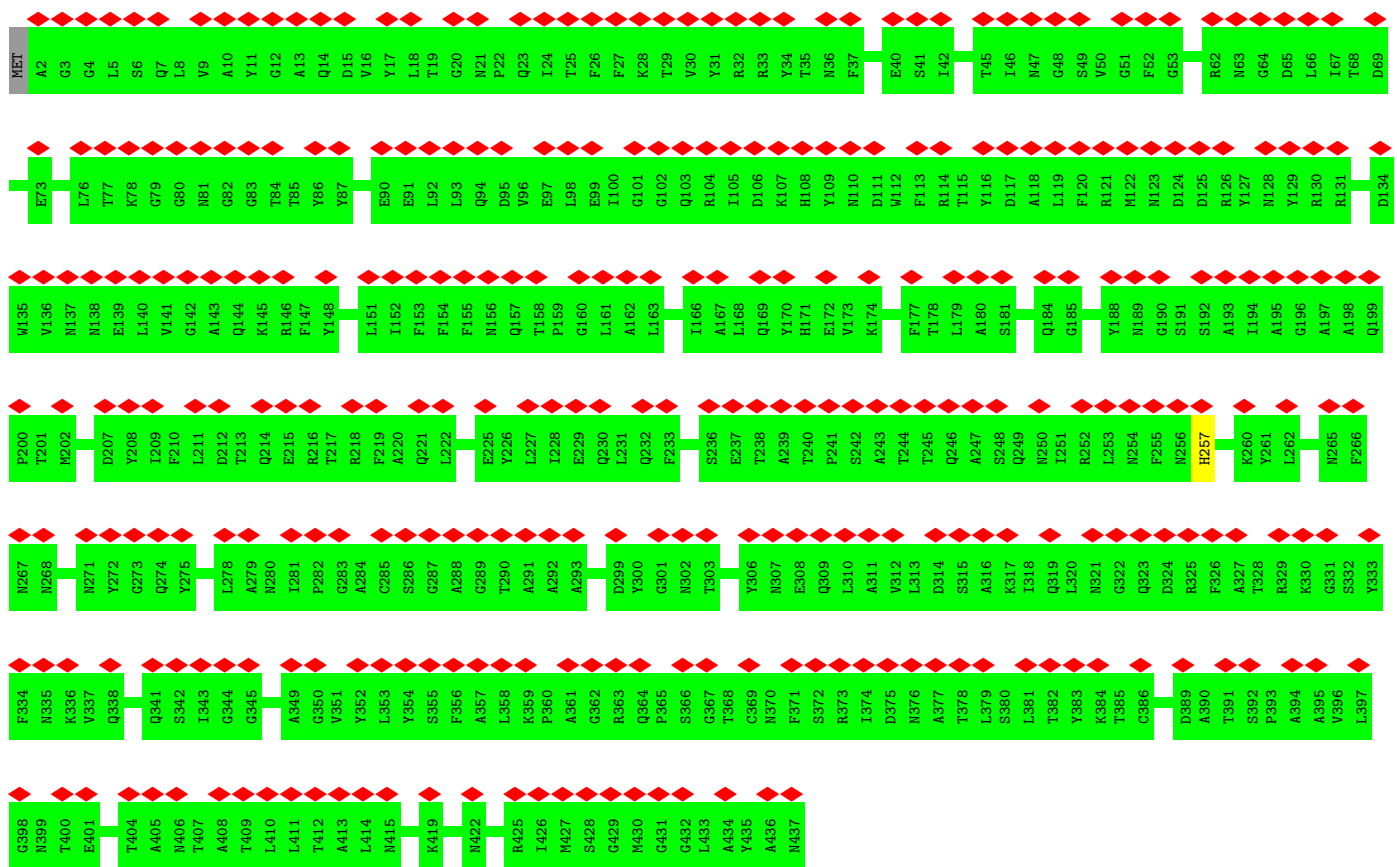
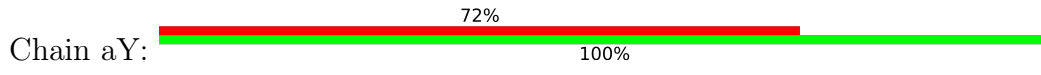
• Molecule 1: Major capsid protein (MCP)



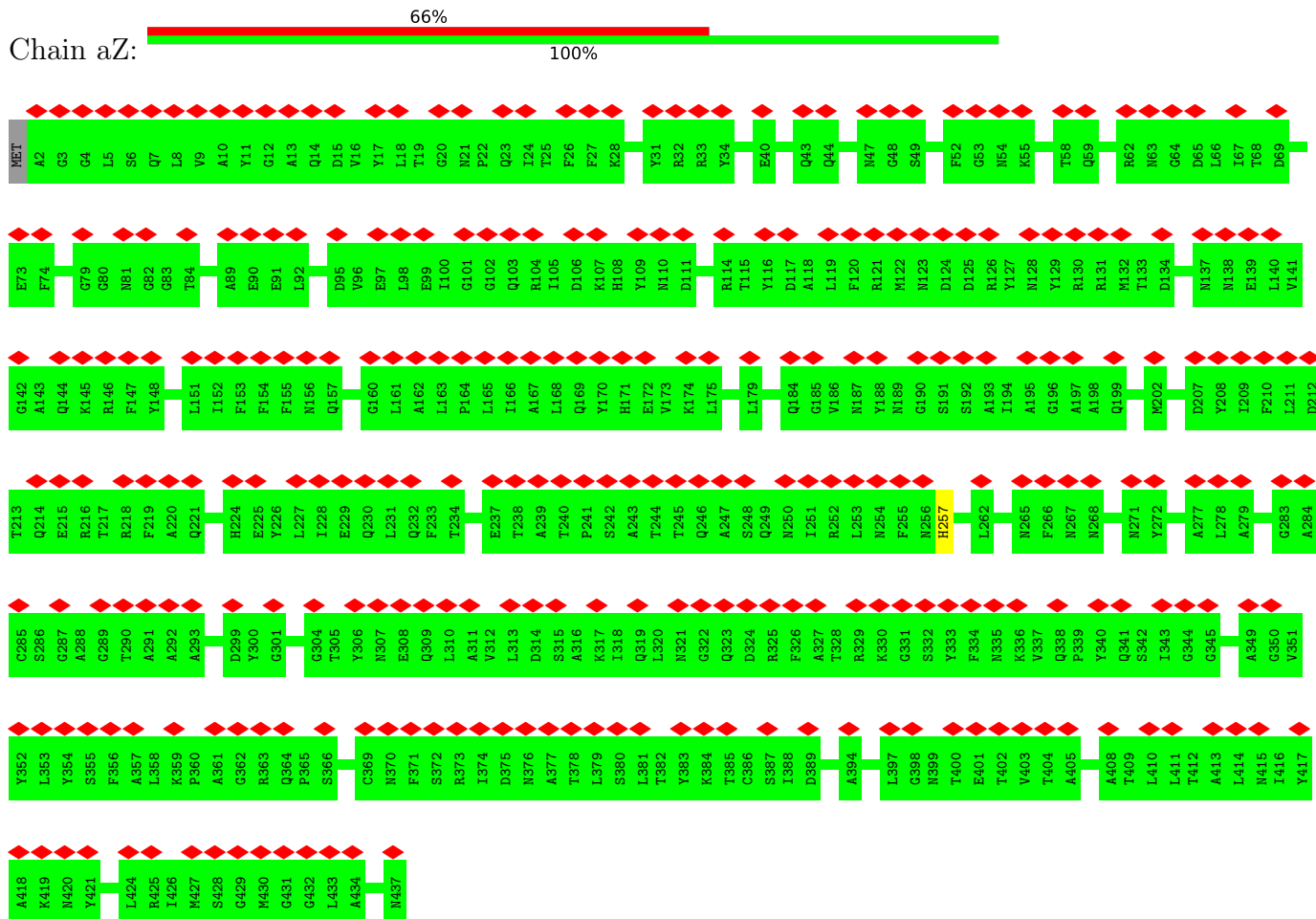




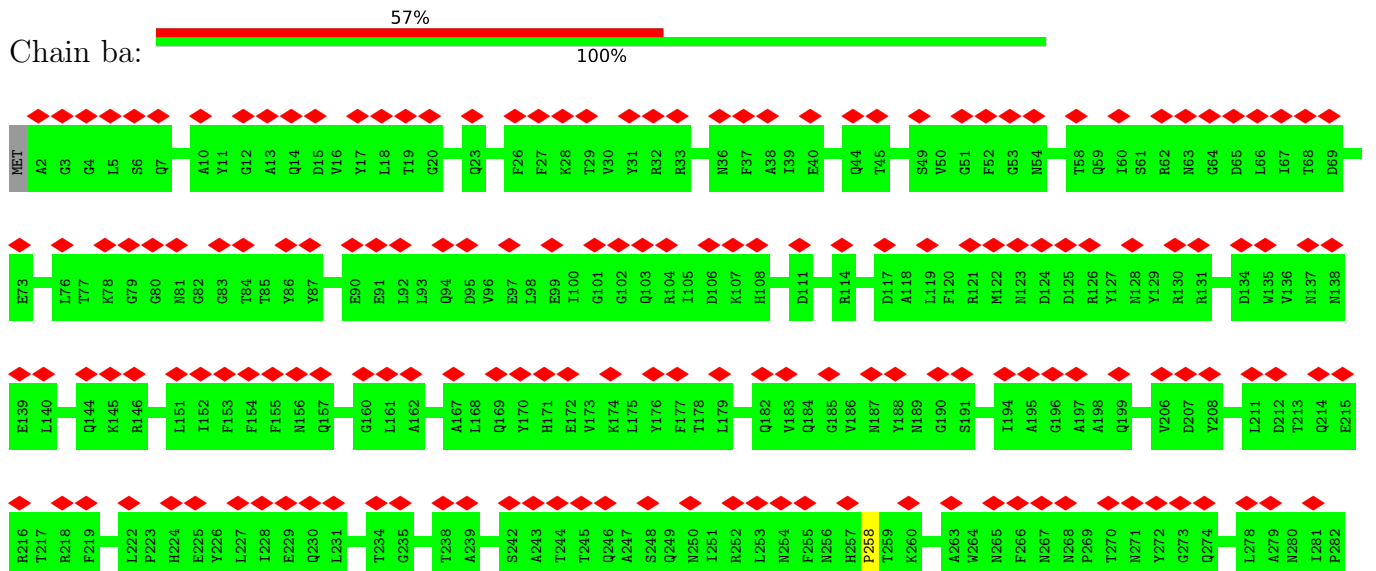
• Molecule 1: Major capsid protein (MCP)

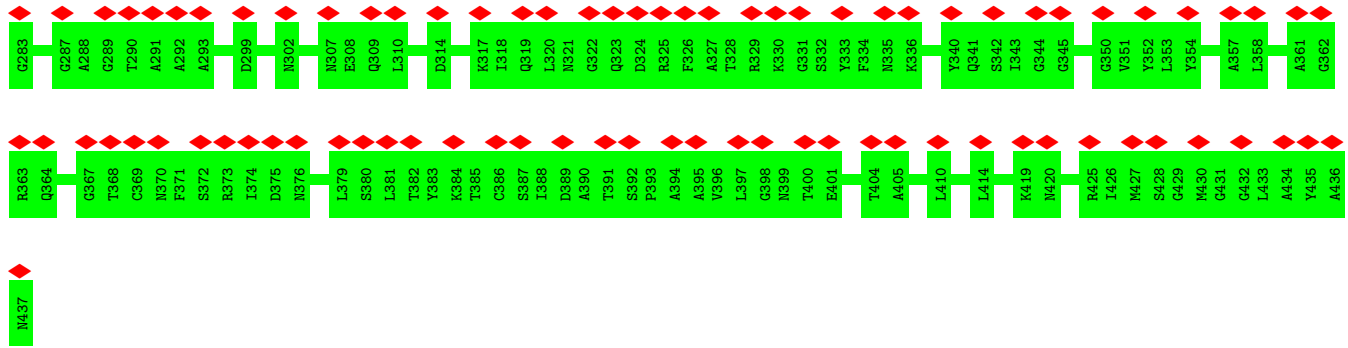


• Molecule 1: Major capsid protein (MCP)

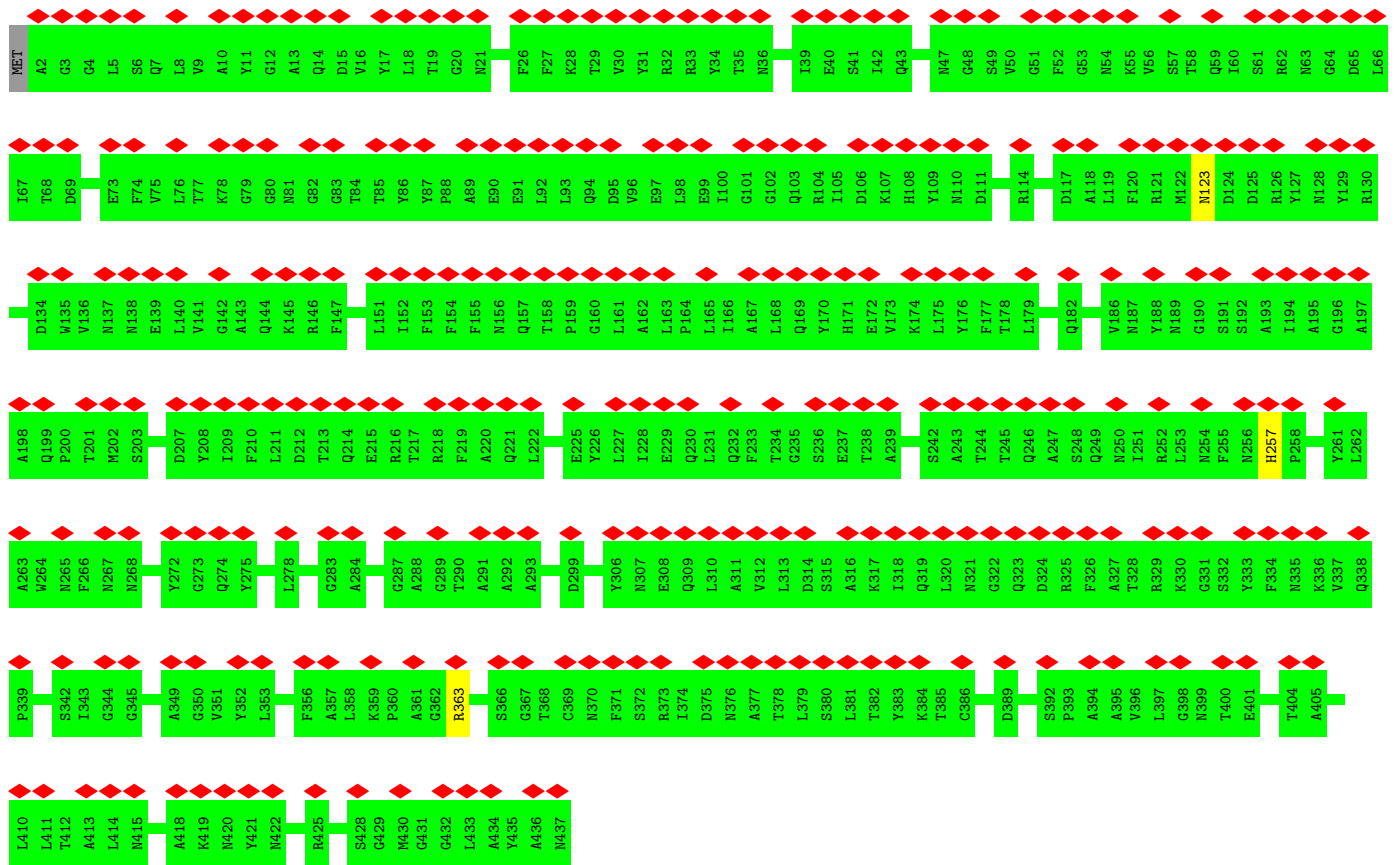


• Molecule 1: Major capsid protein (MCP)

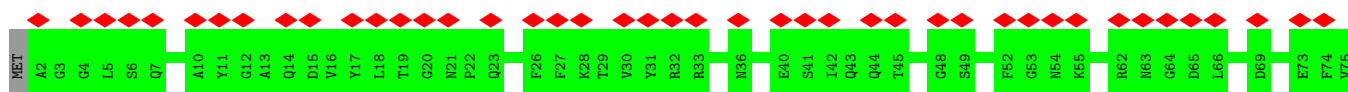


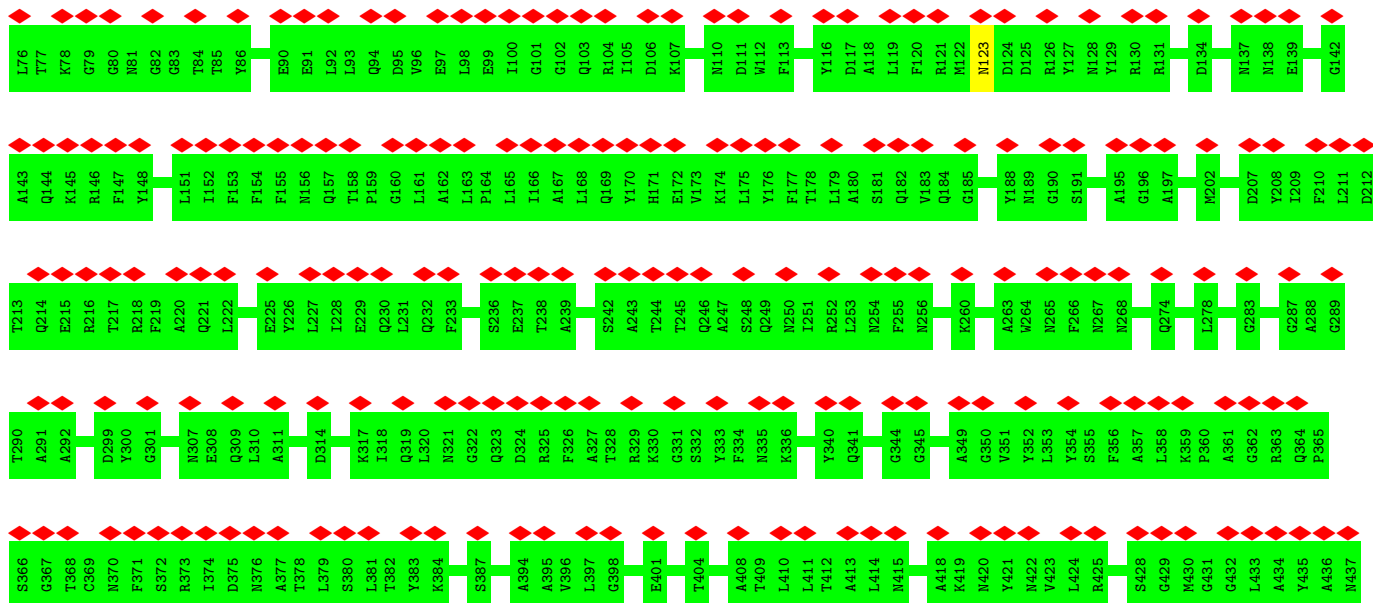


• Molecule 1: Major capsid protein (MCP)

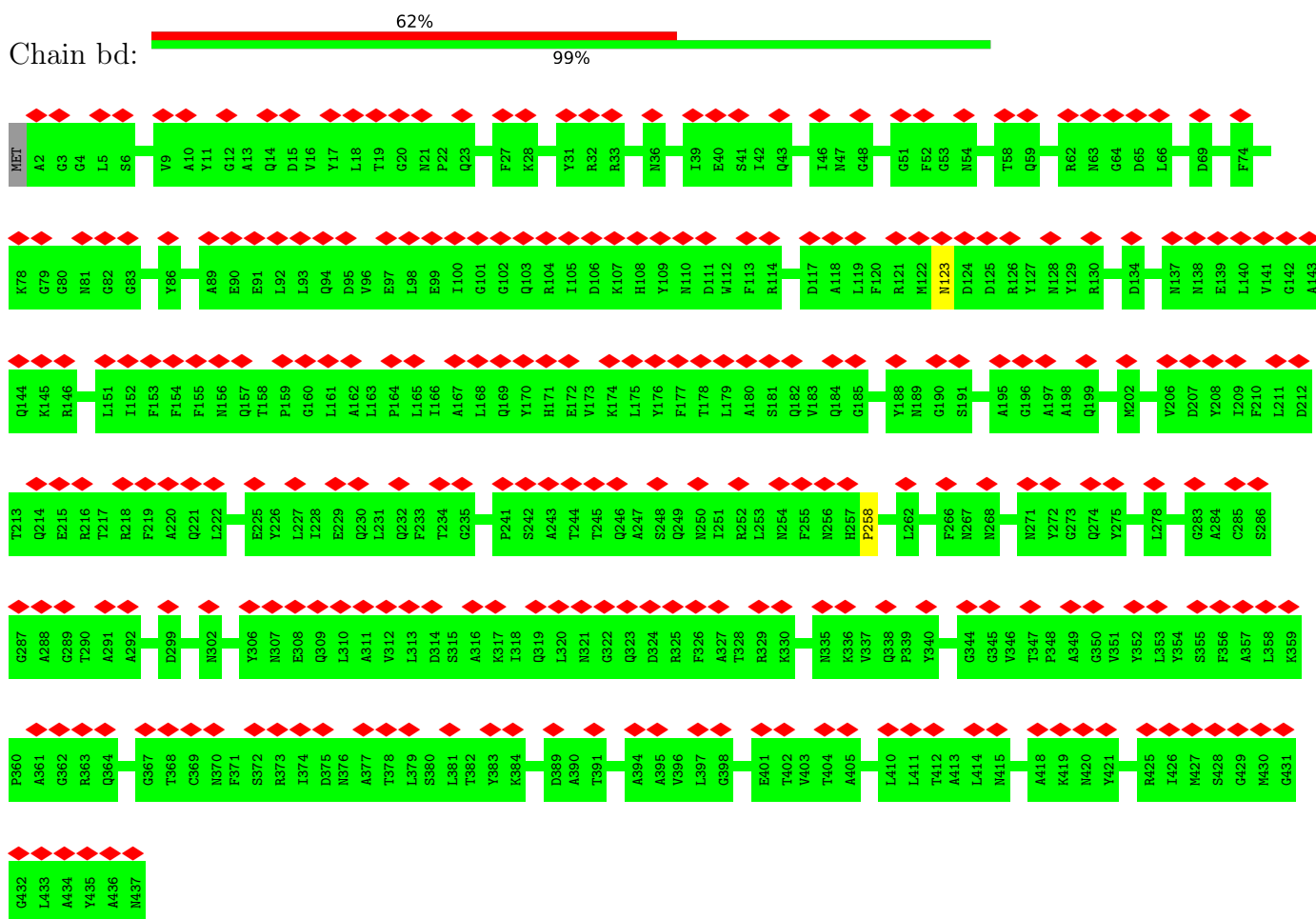


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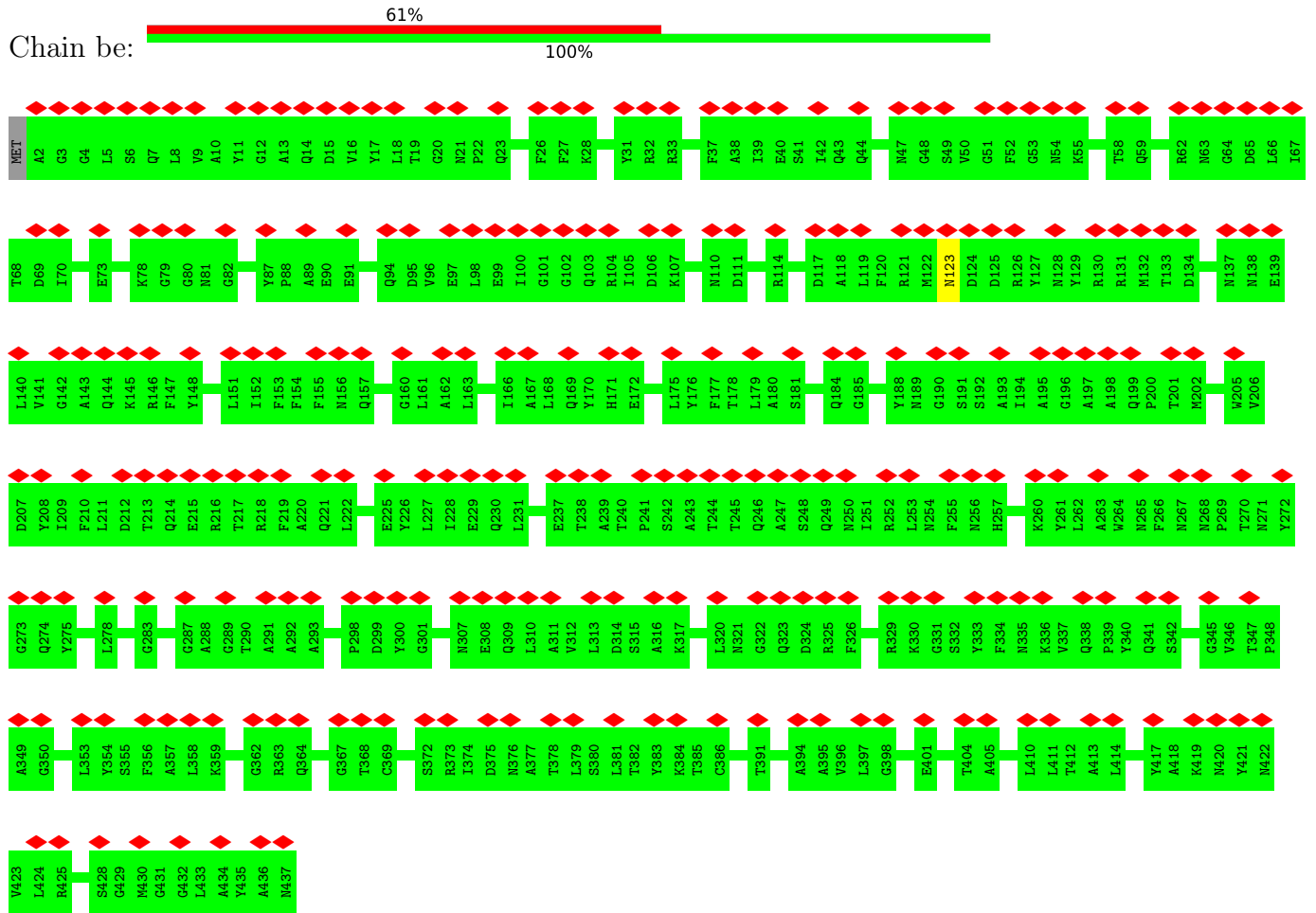




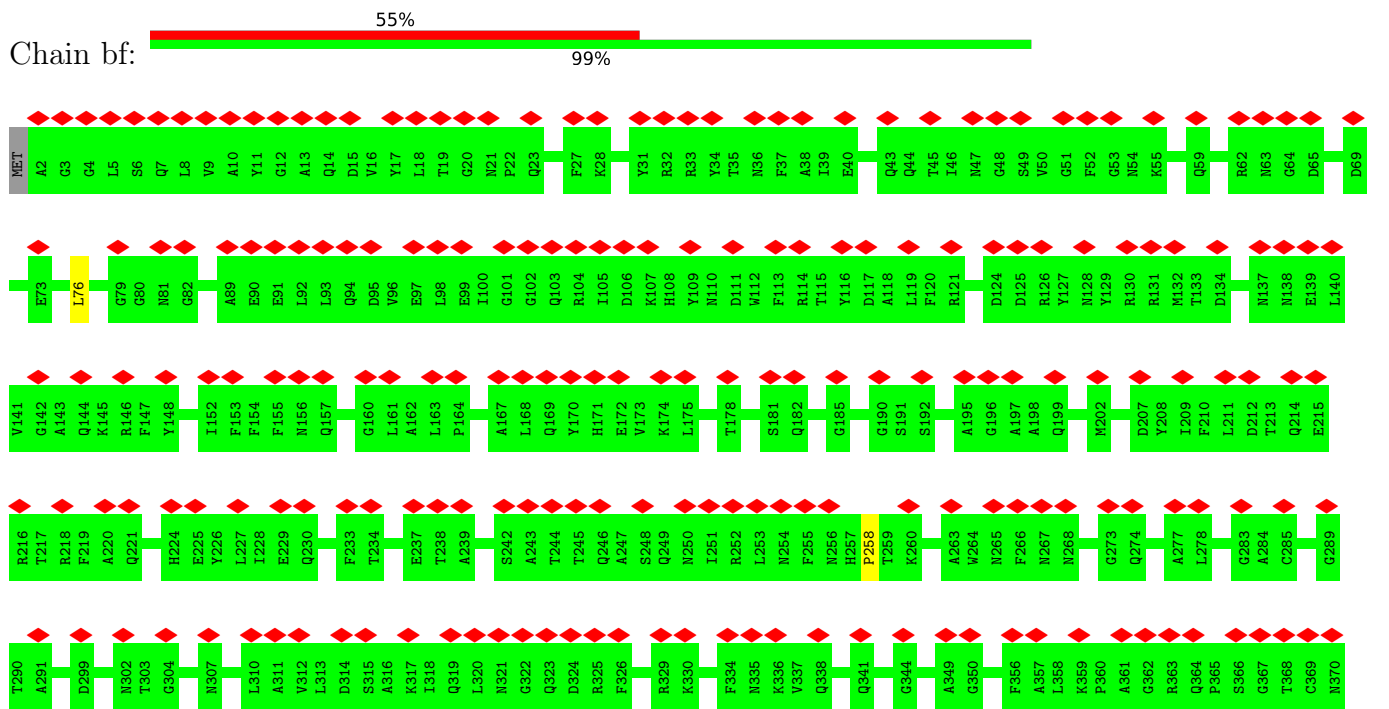
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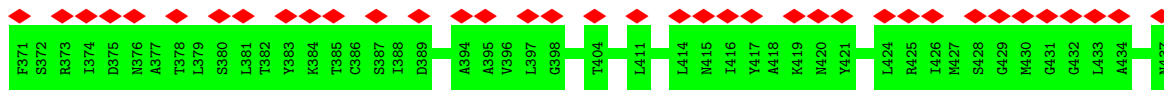


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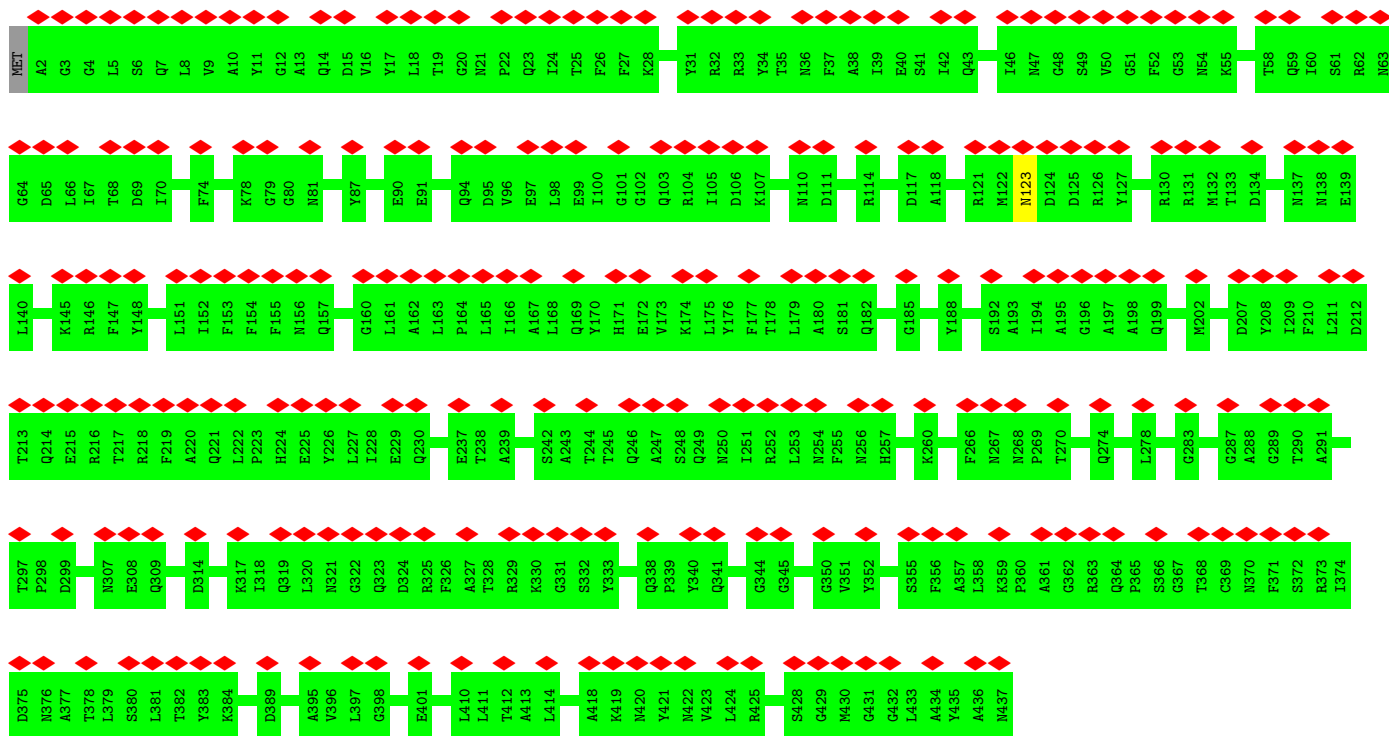


• Molecule 1: Major capsid protein (MCP)

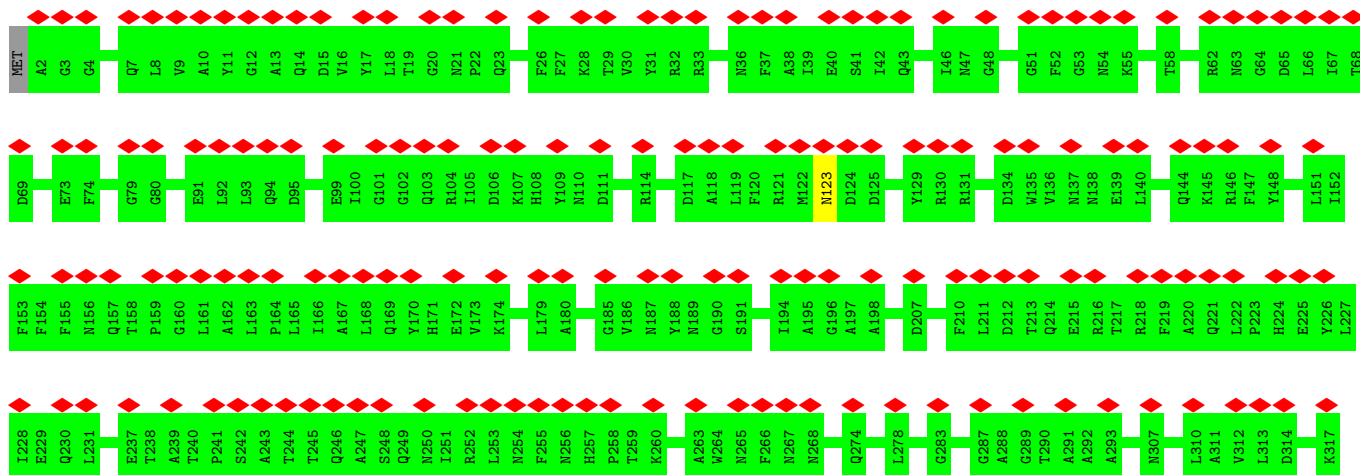


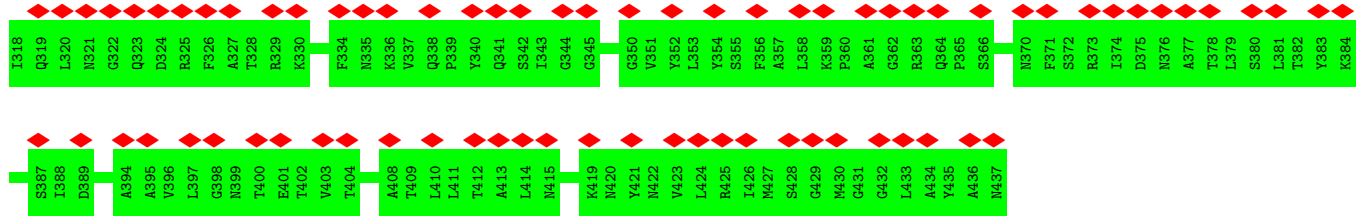


• Molecule 1: Major capsid protein (MCP)

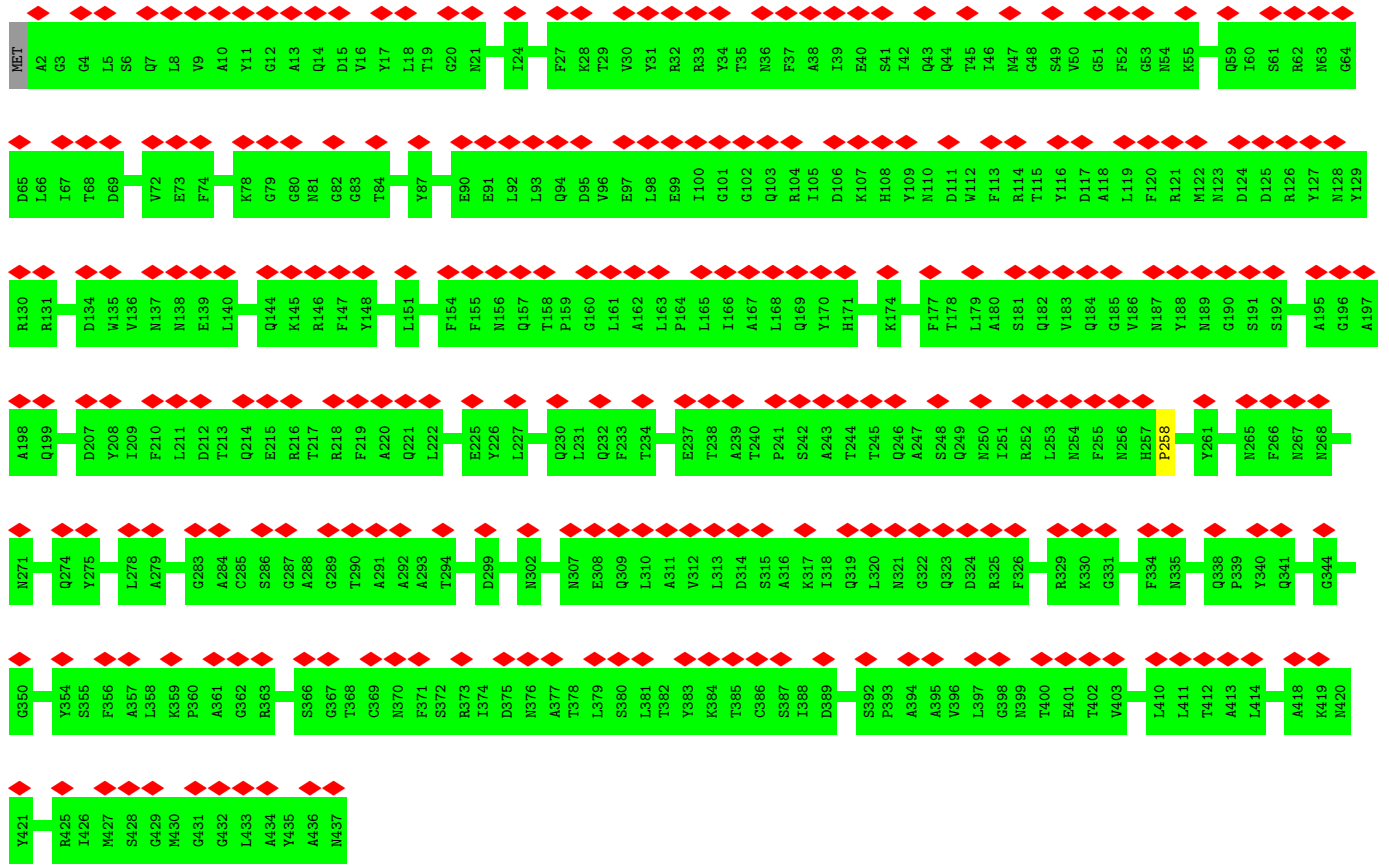


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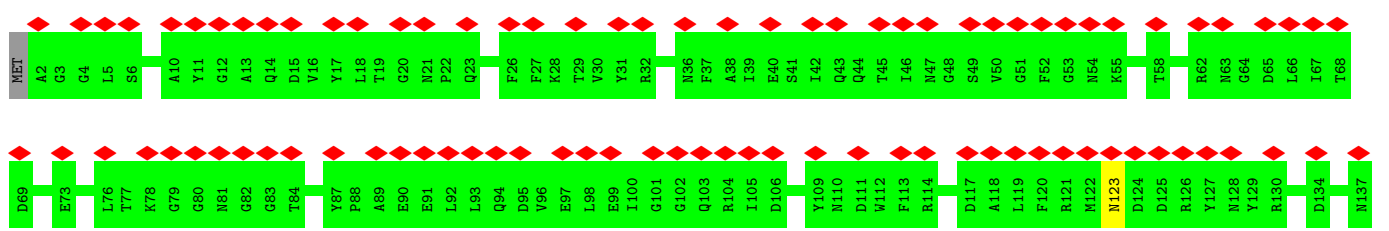




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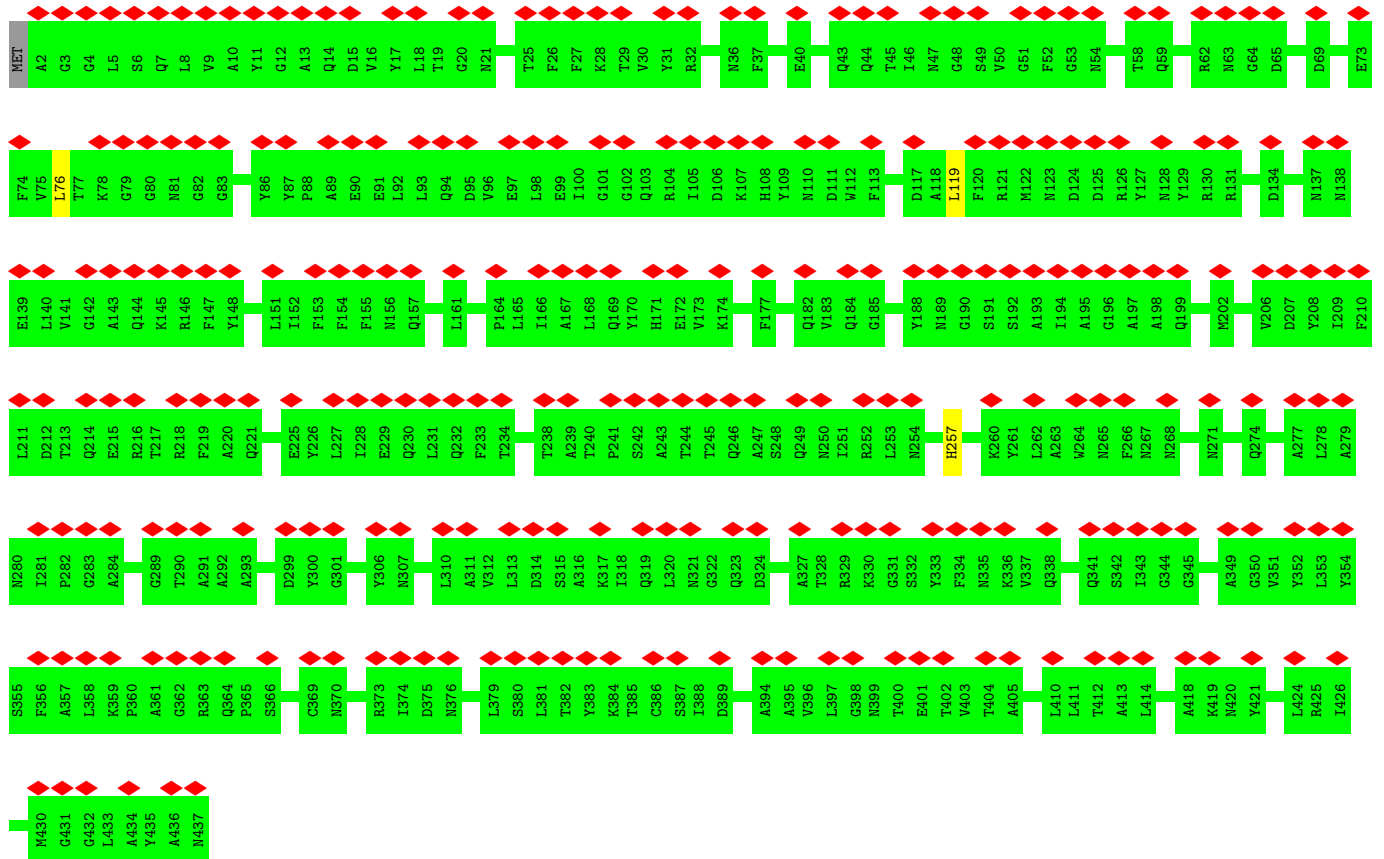


• Molecule 1: Major capsid protein (MCP)



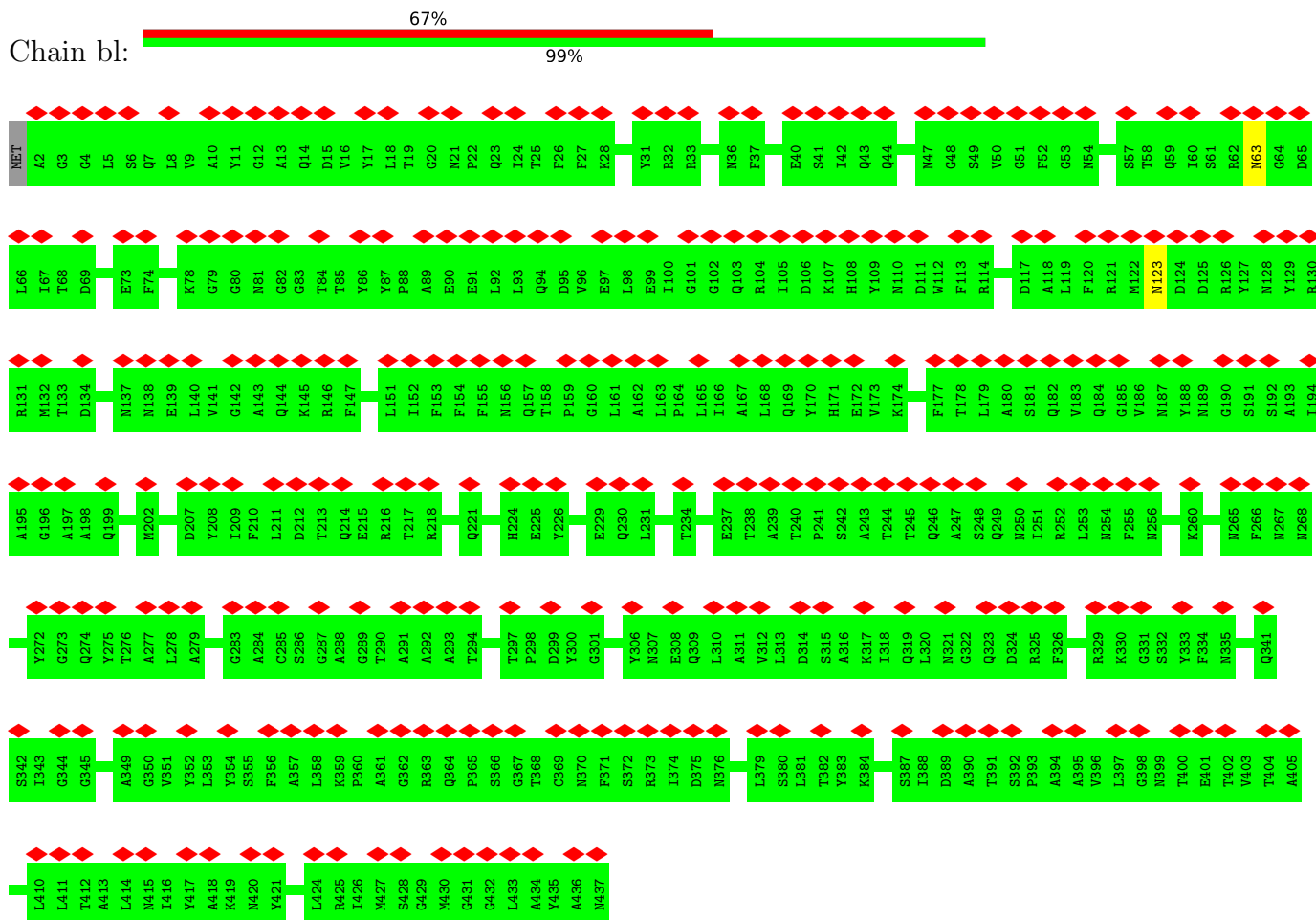


- Molecule 1: Major capsid protein (MCP)

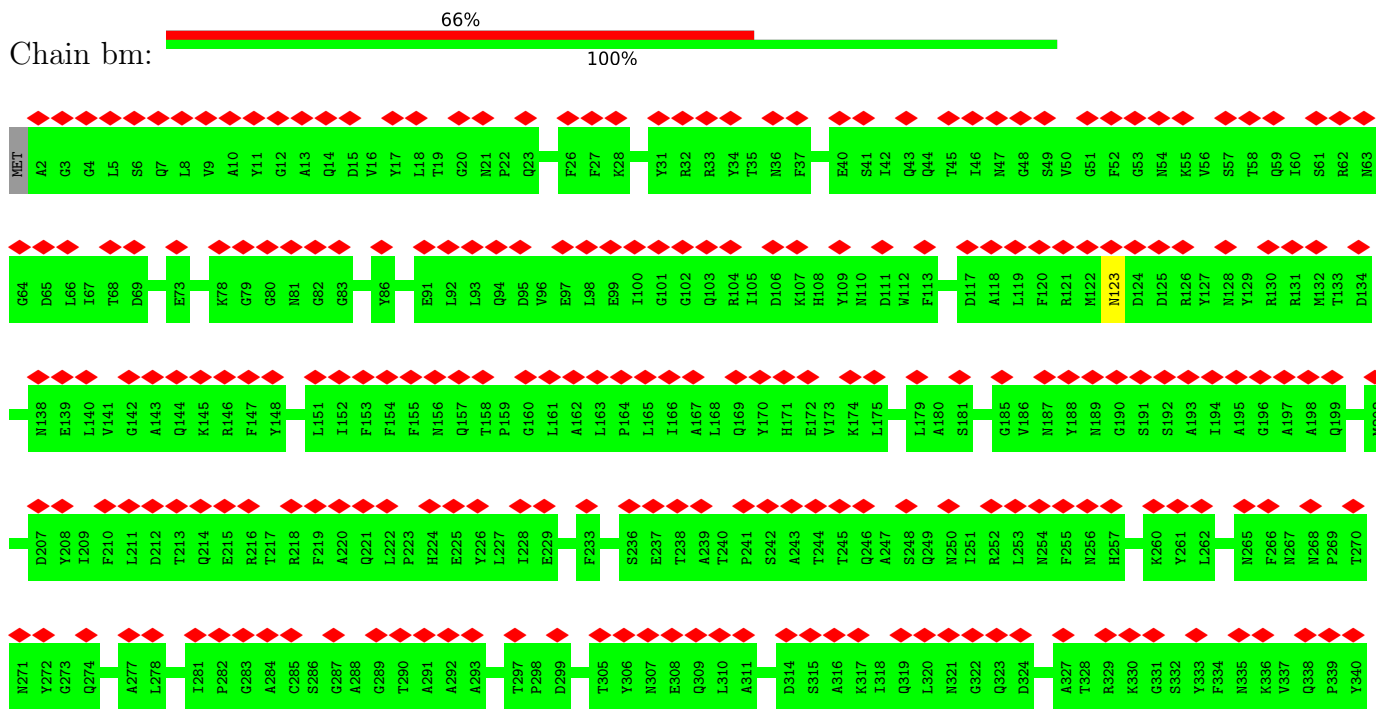


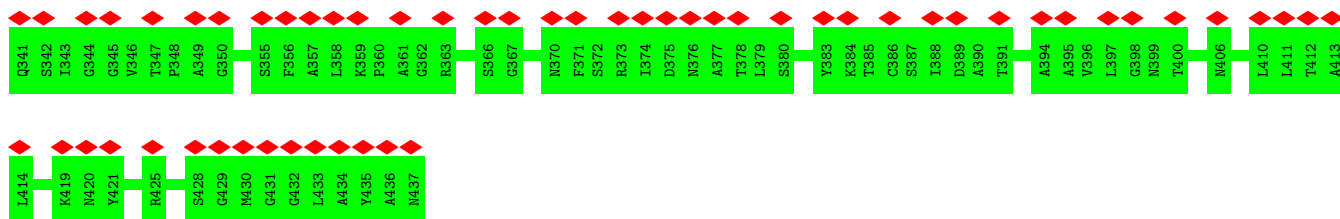
- Molecule 1: Major capsid protein (MCP)



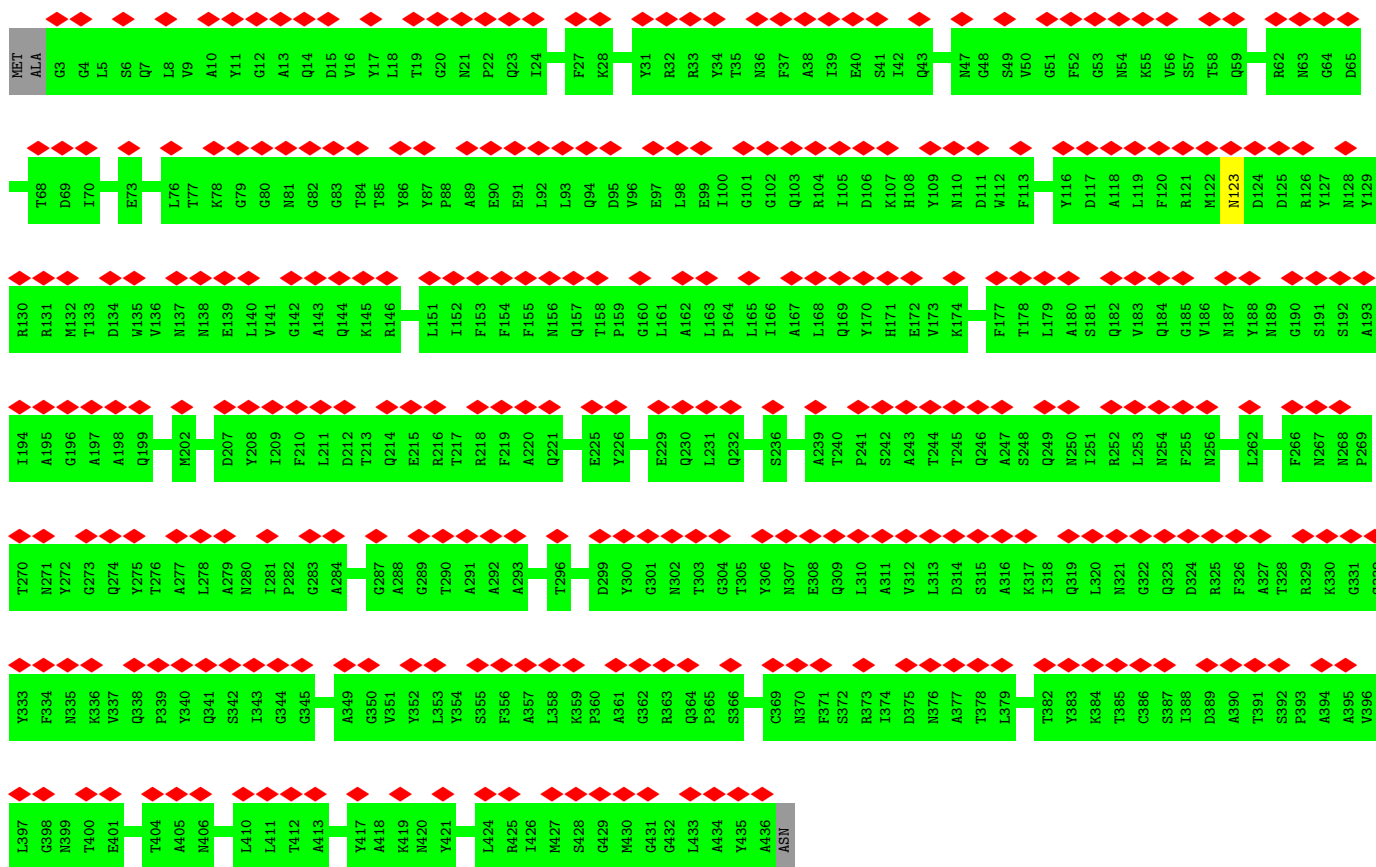


● Molecule 1: Major capsid protein (MCP)

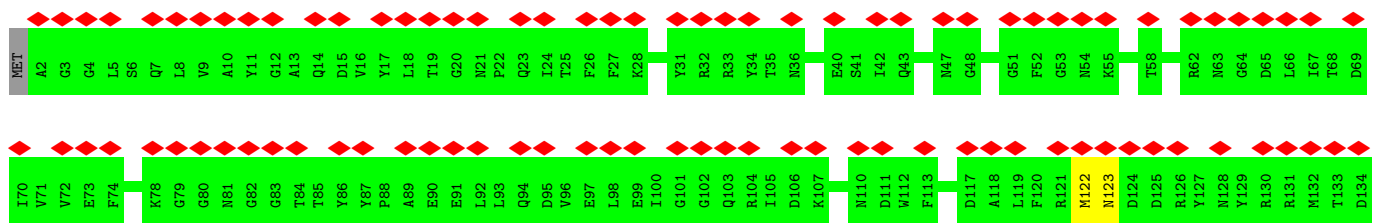




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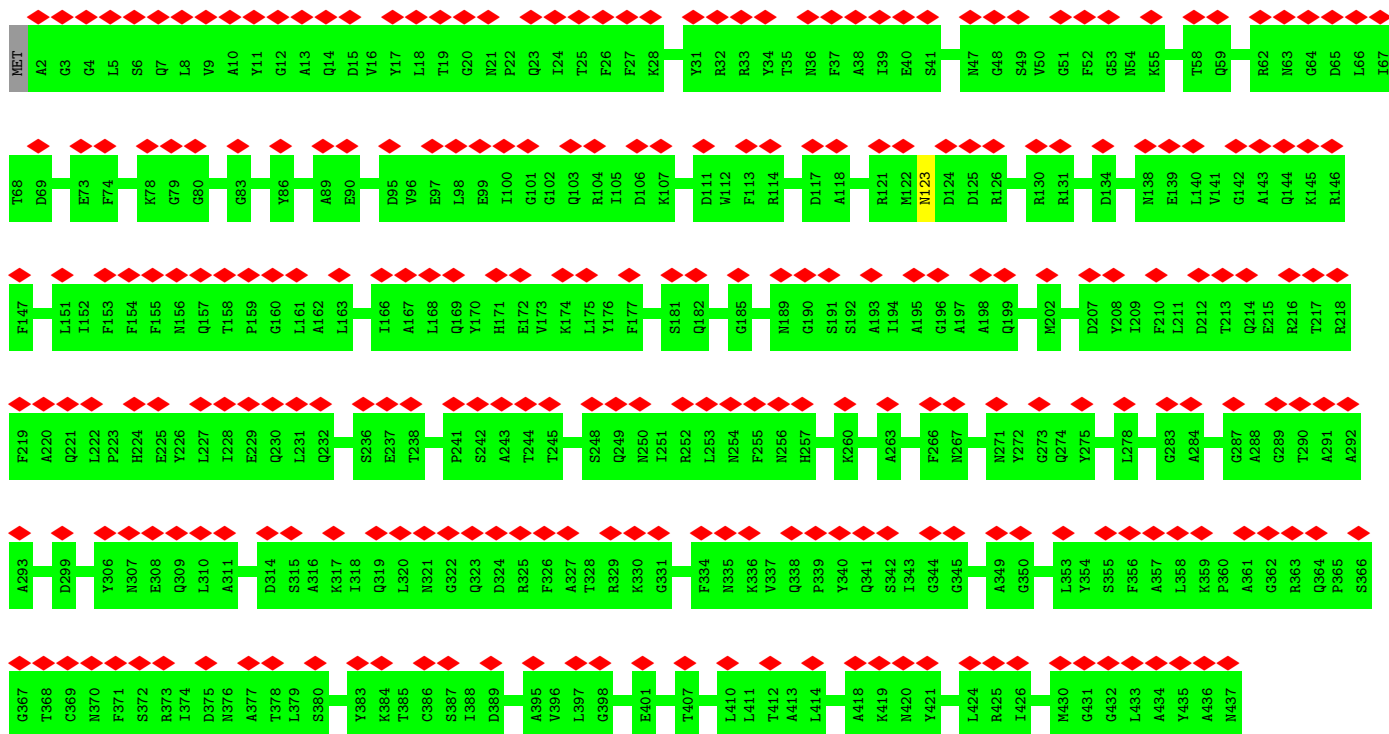


• Molecule 1: Major capsid protein (MCP)



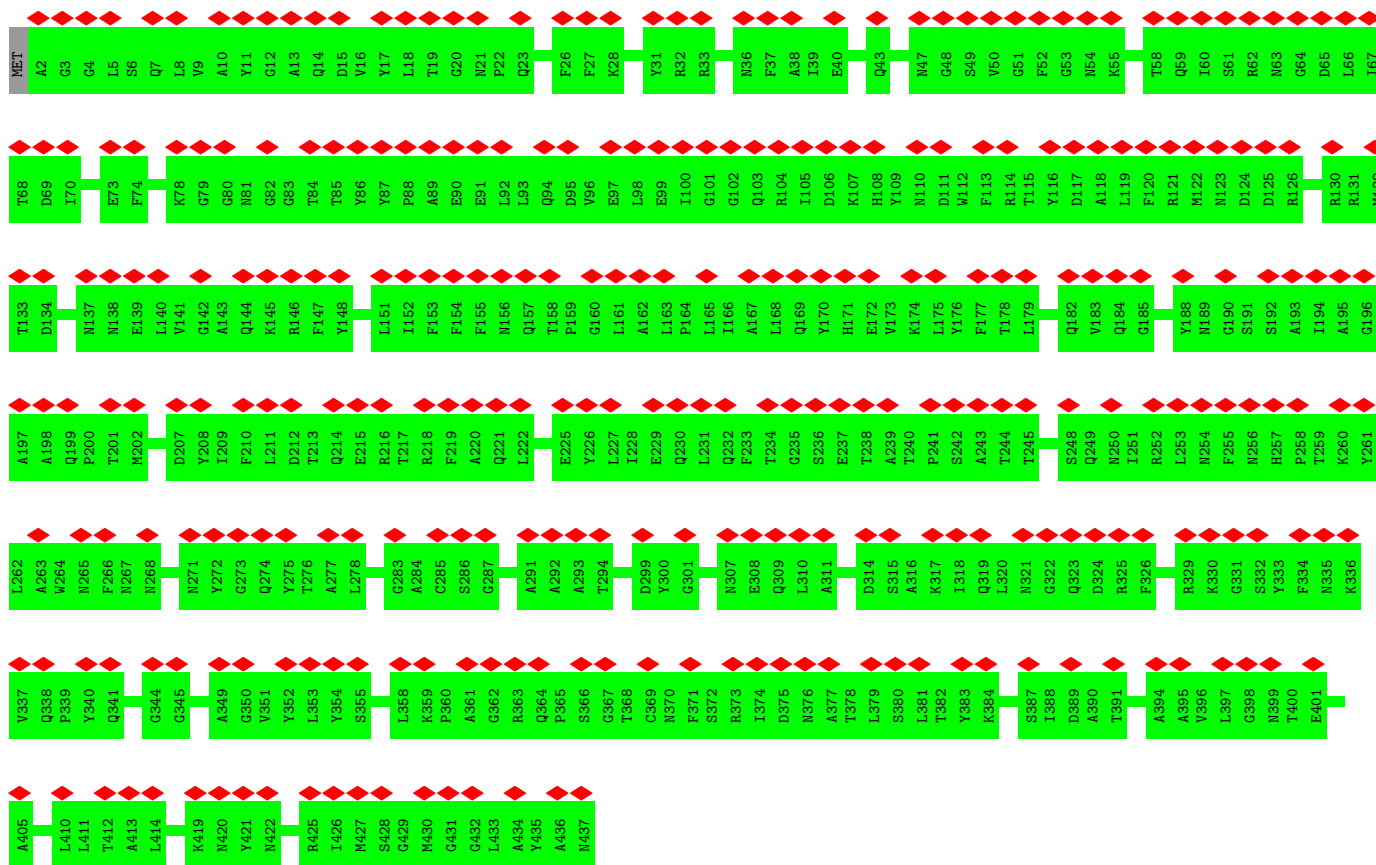


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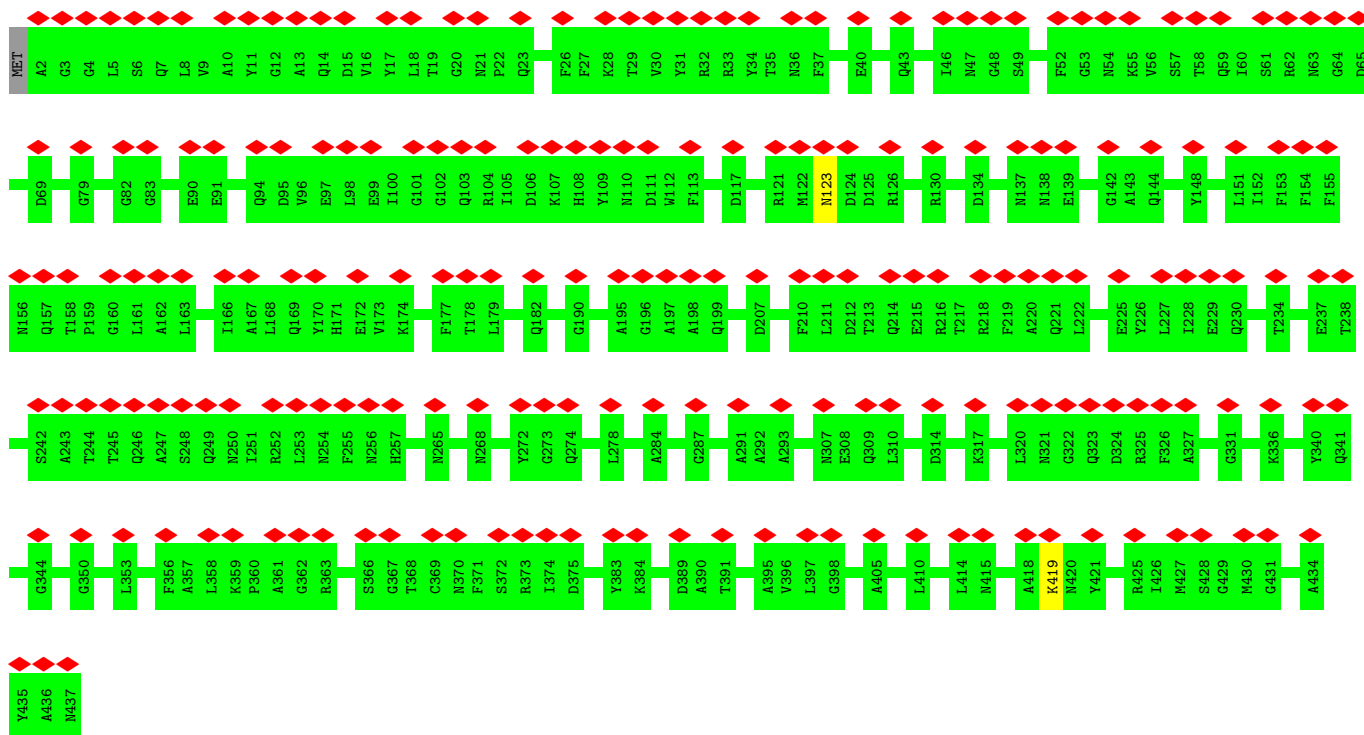


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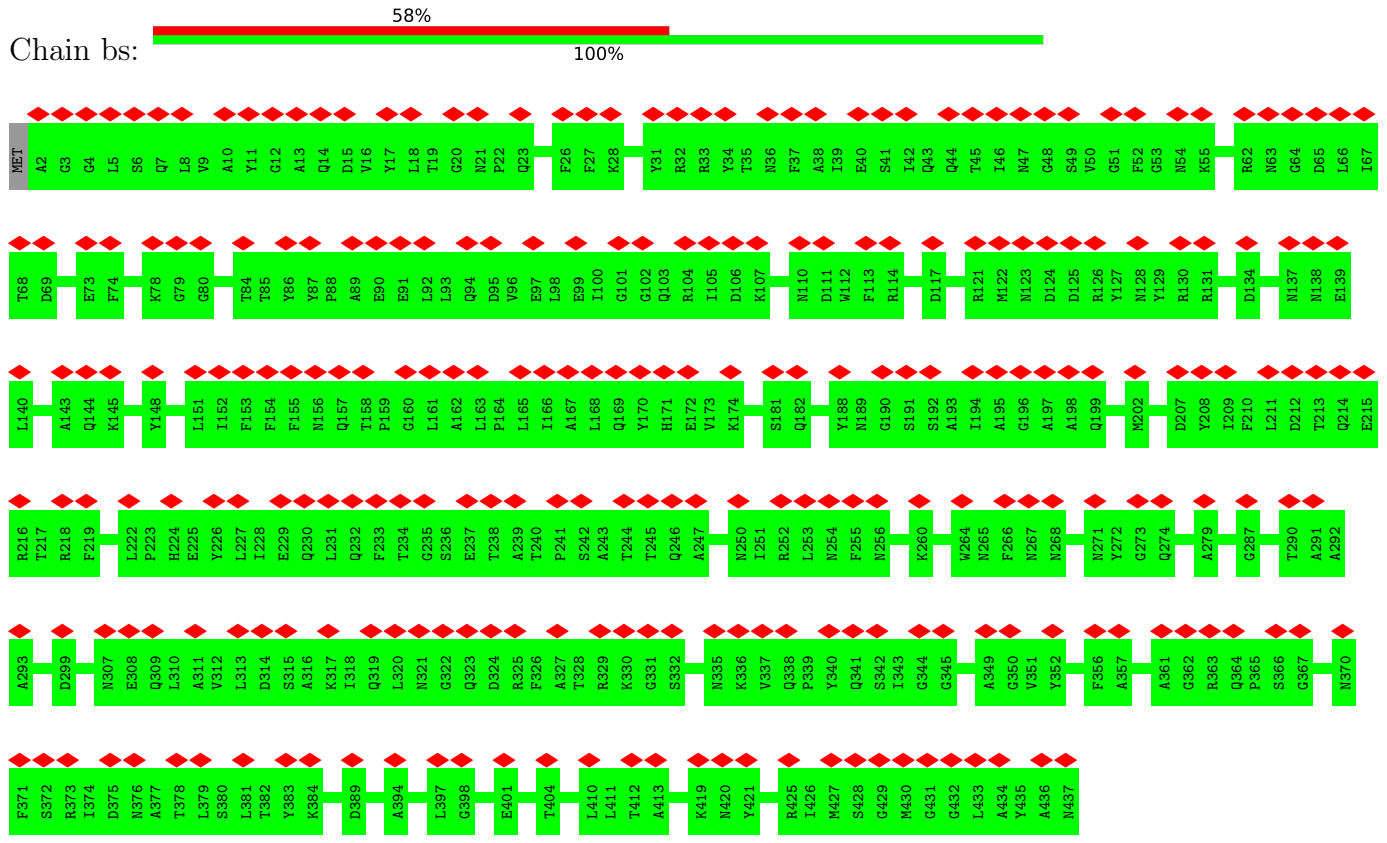




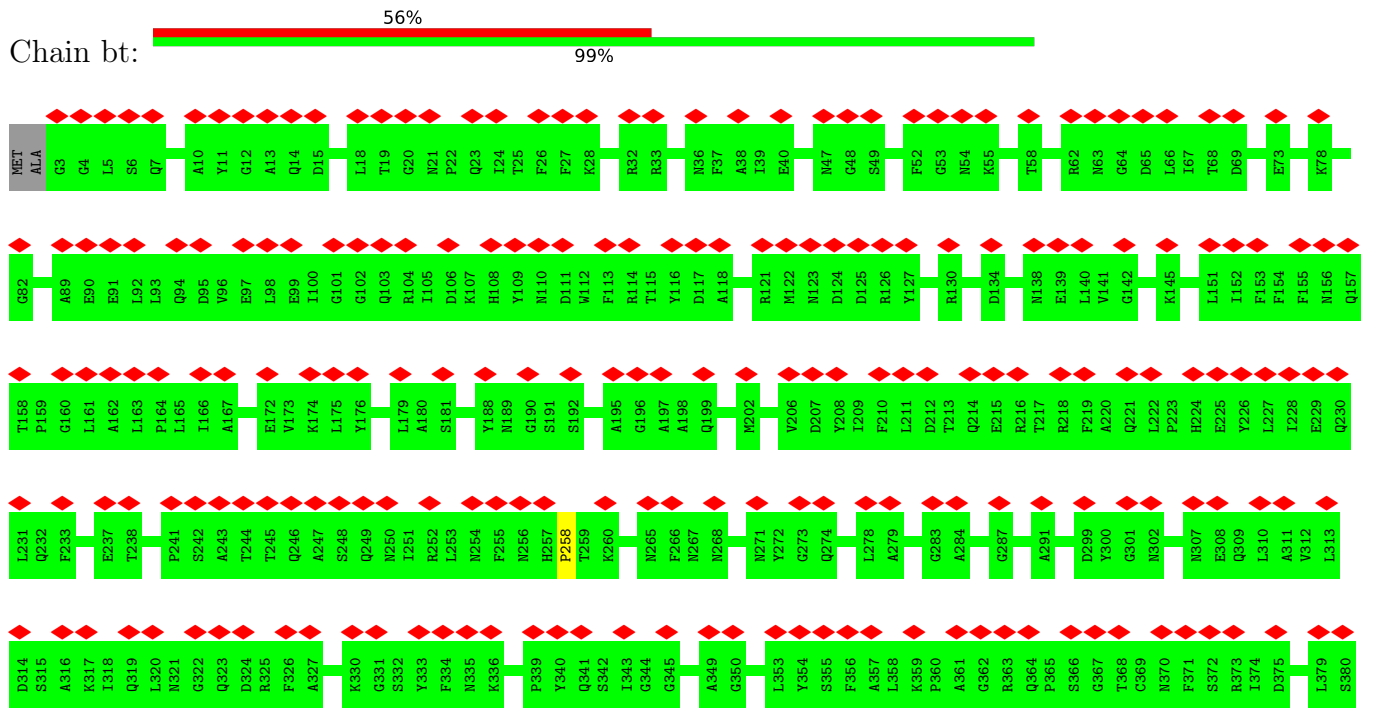
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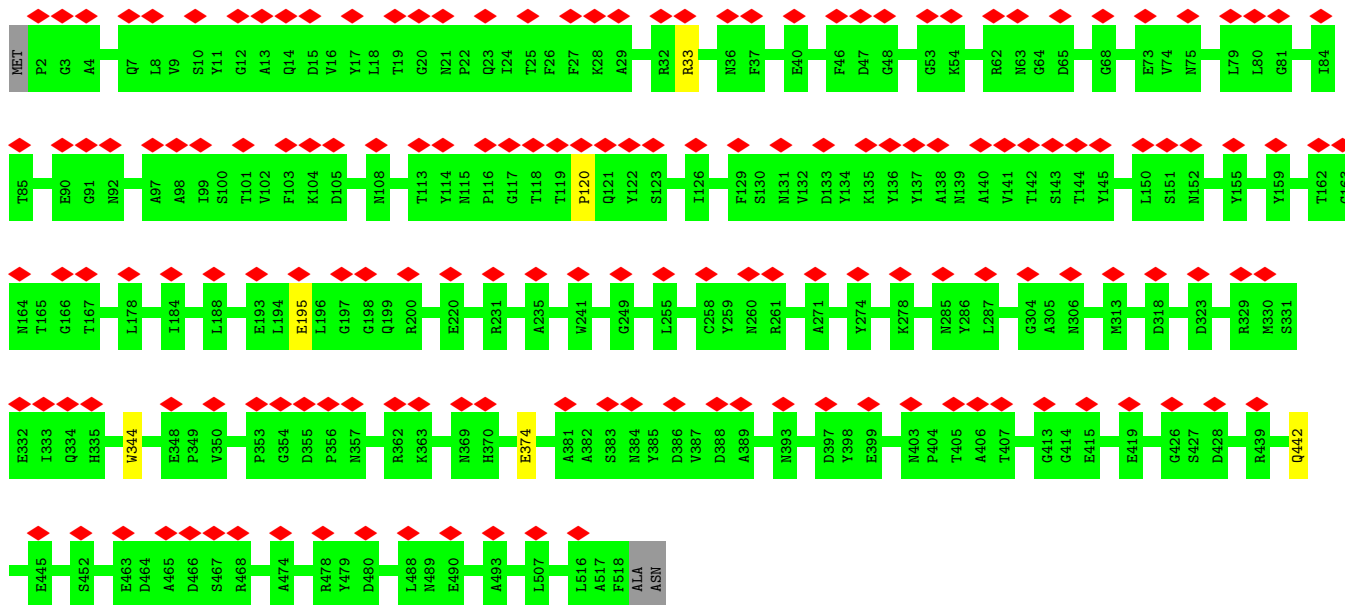




• Molecule 2: MCPv1



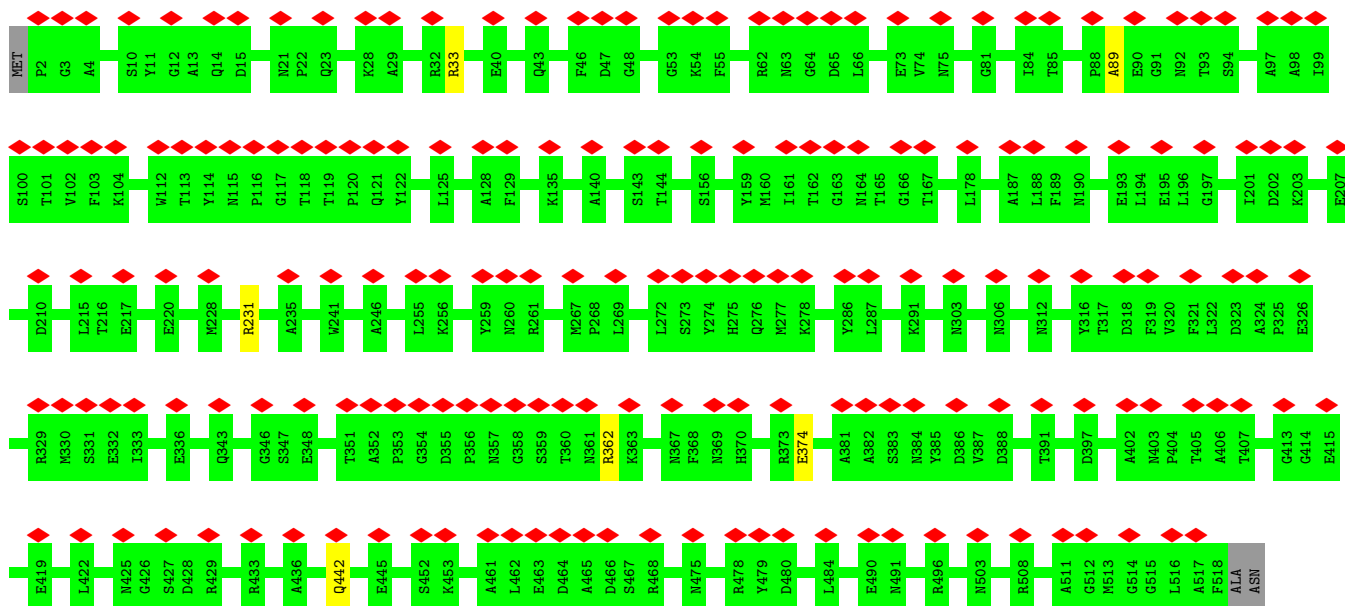
Chain bu:



• Molecule 2: MCPv1



Chain bu:



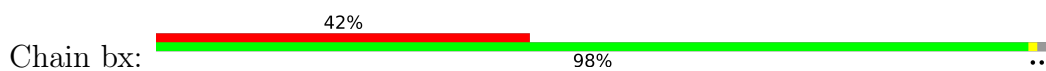
• Molecule 2: MCPv1



Chain bw:



• Molecule 2: MCPv1

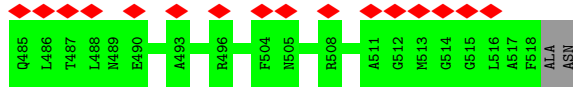


• Molecule 2: MCPv1

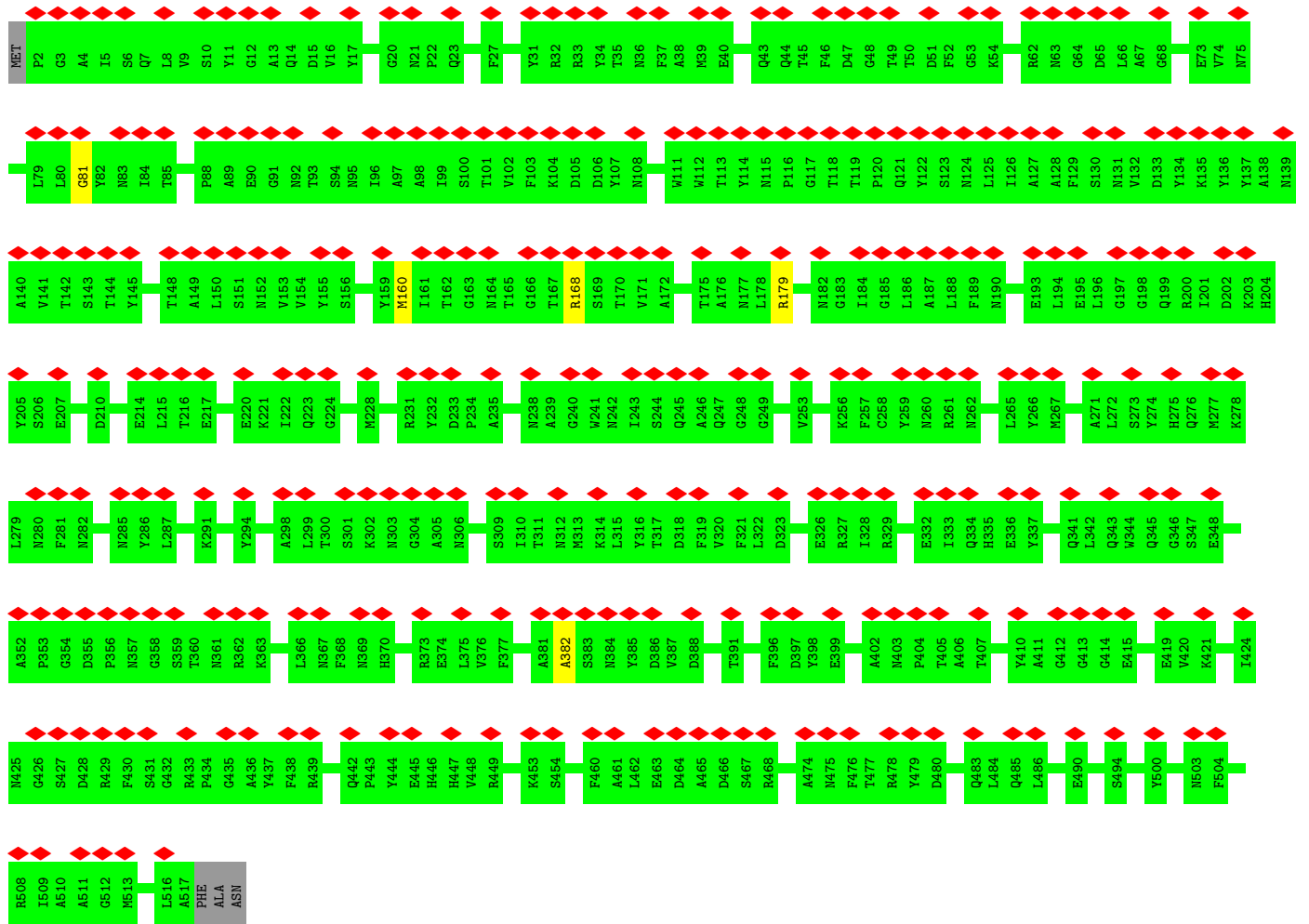




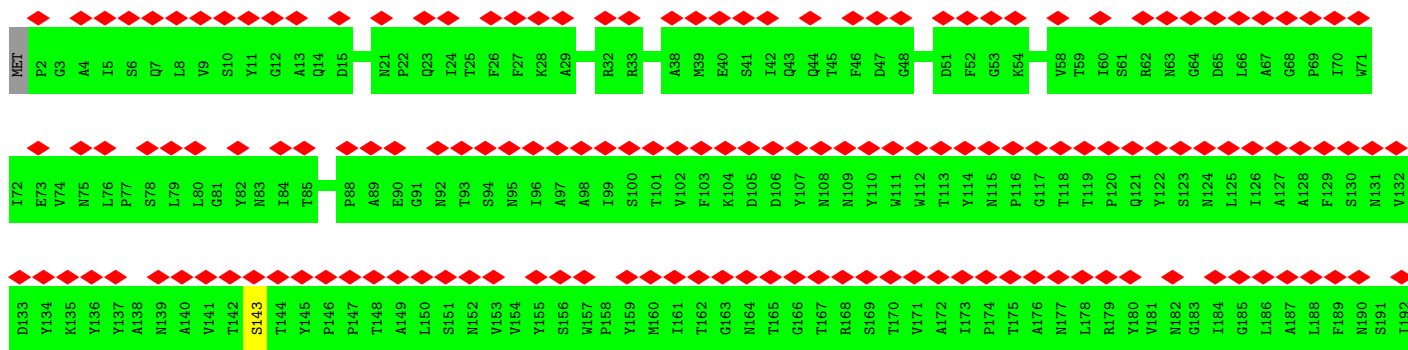
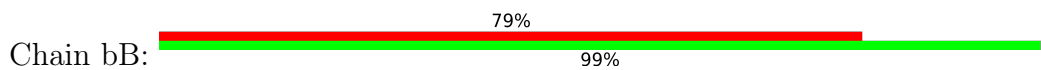


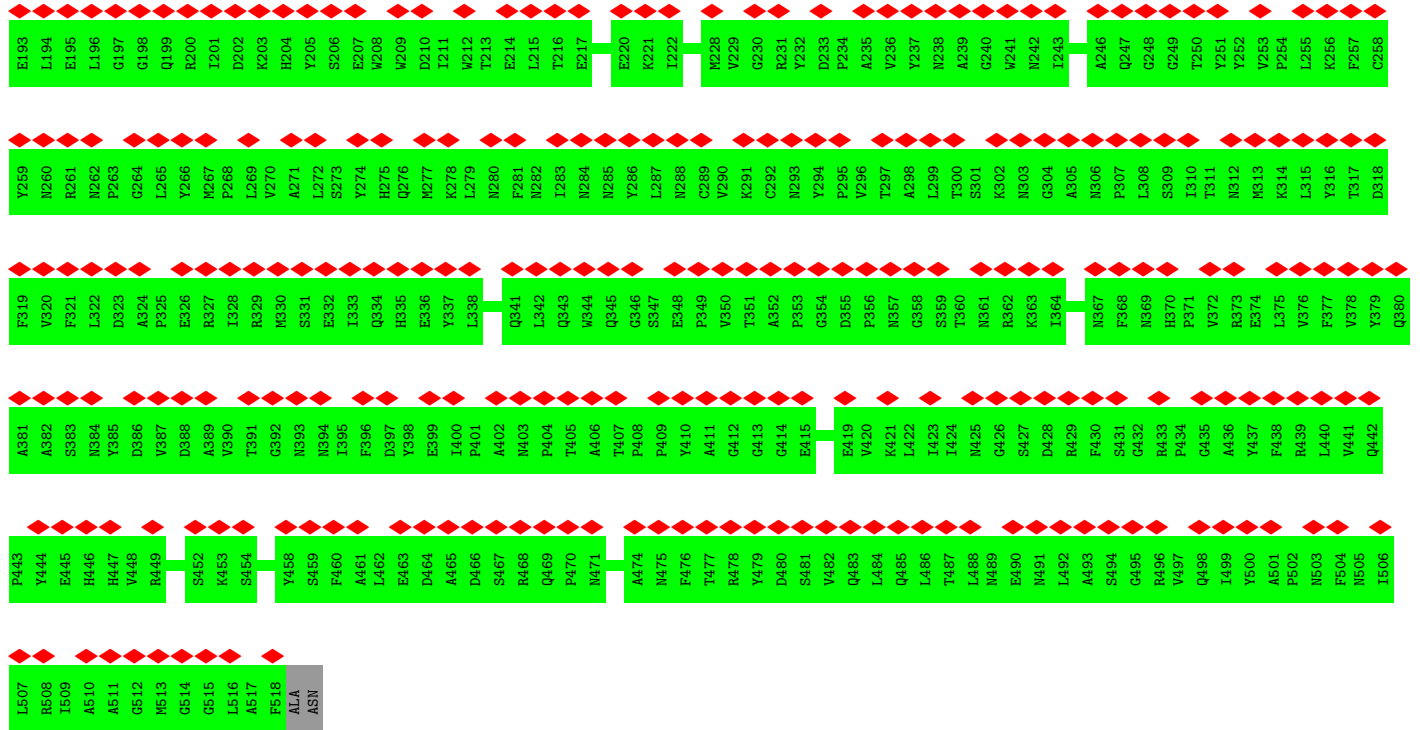


• Molecule 2: MCPv1

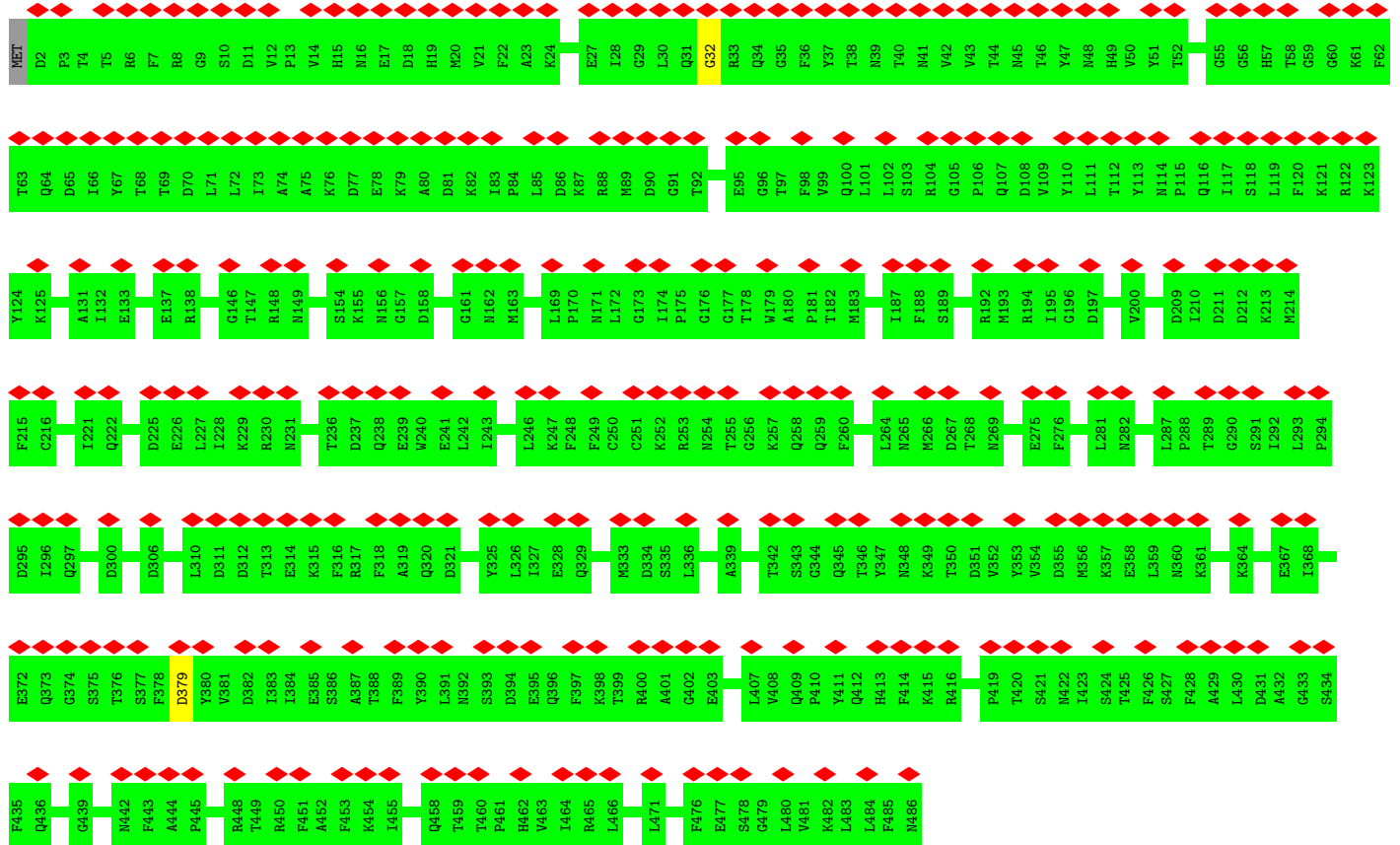


• Molecule 2: MCPv1

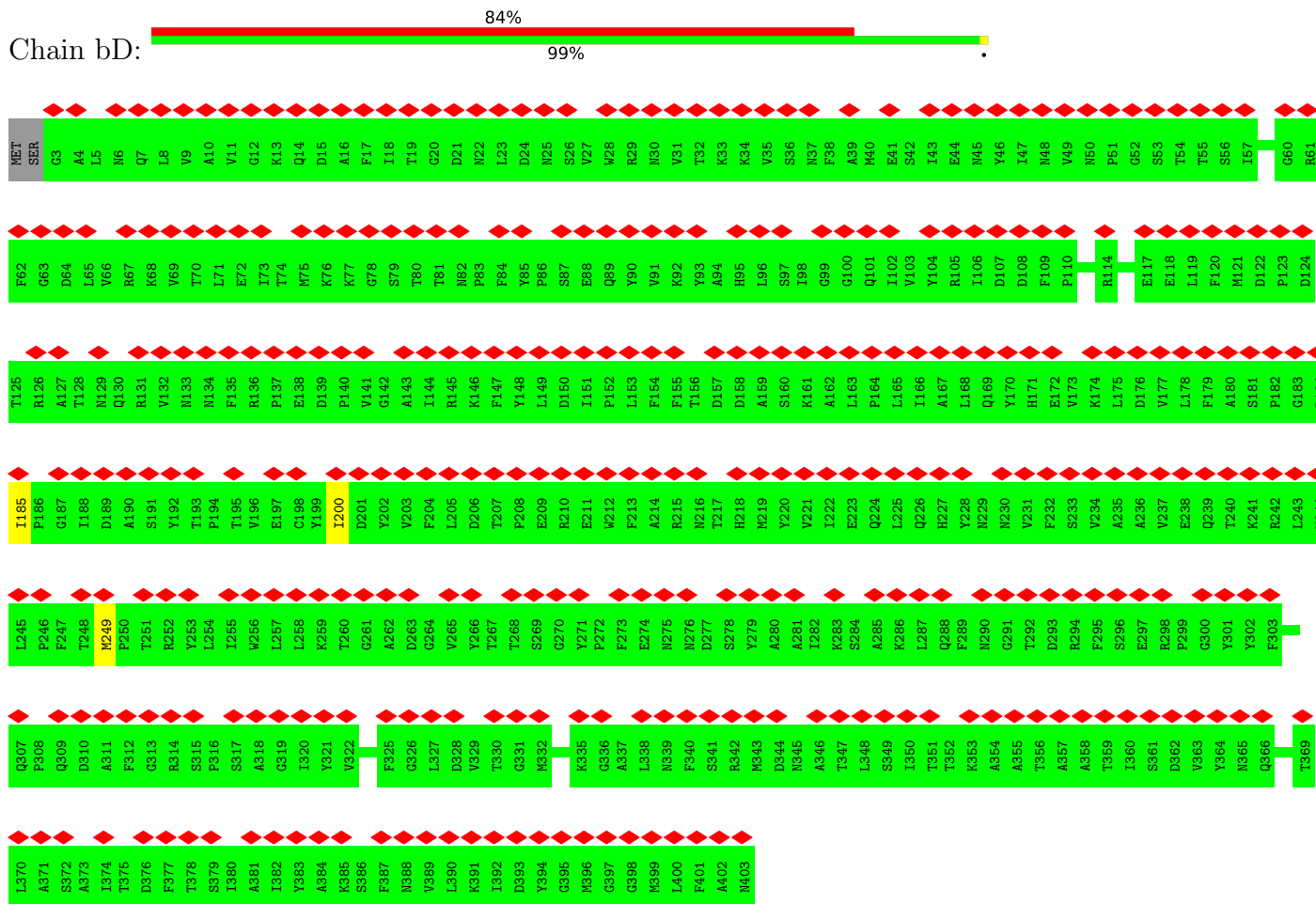




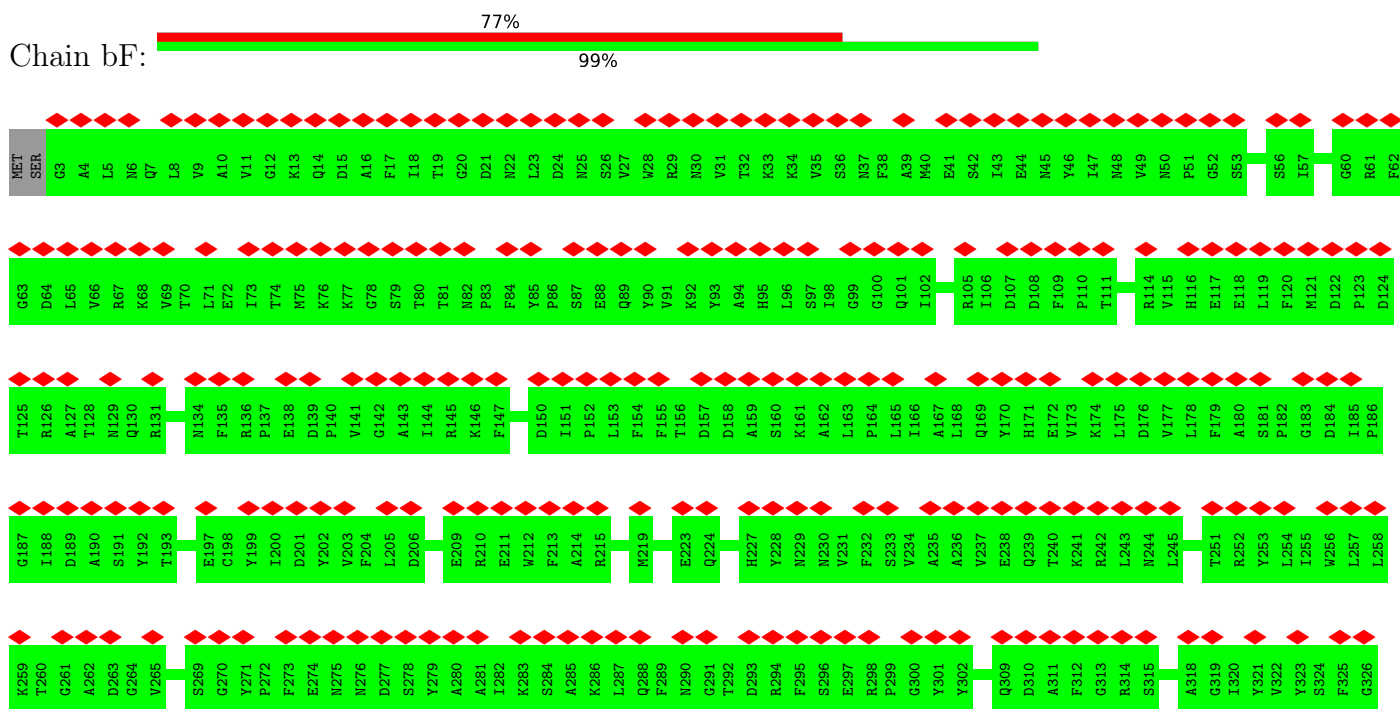
• Molecule 3: MCPv2



• Molecule 4: MCPv3

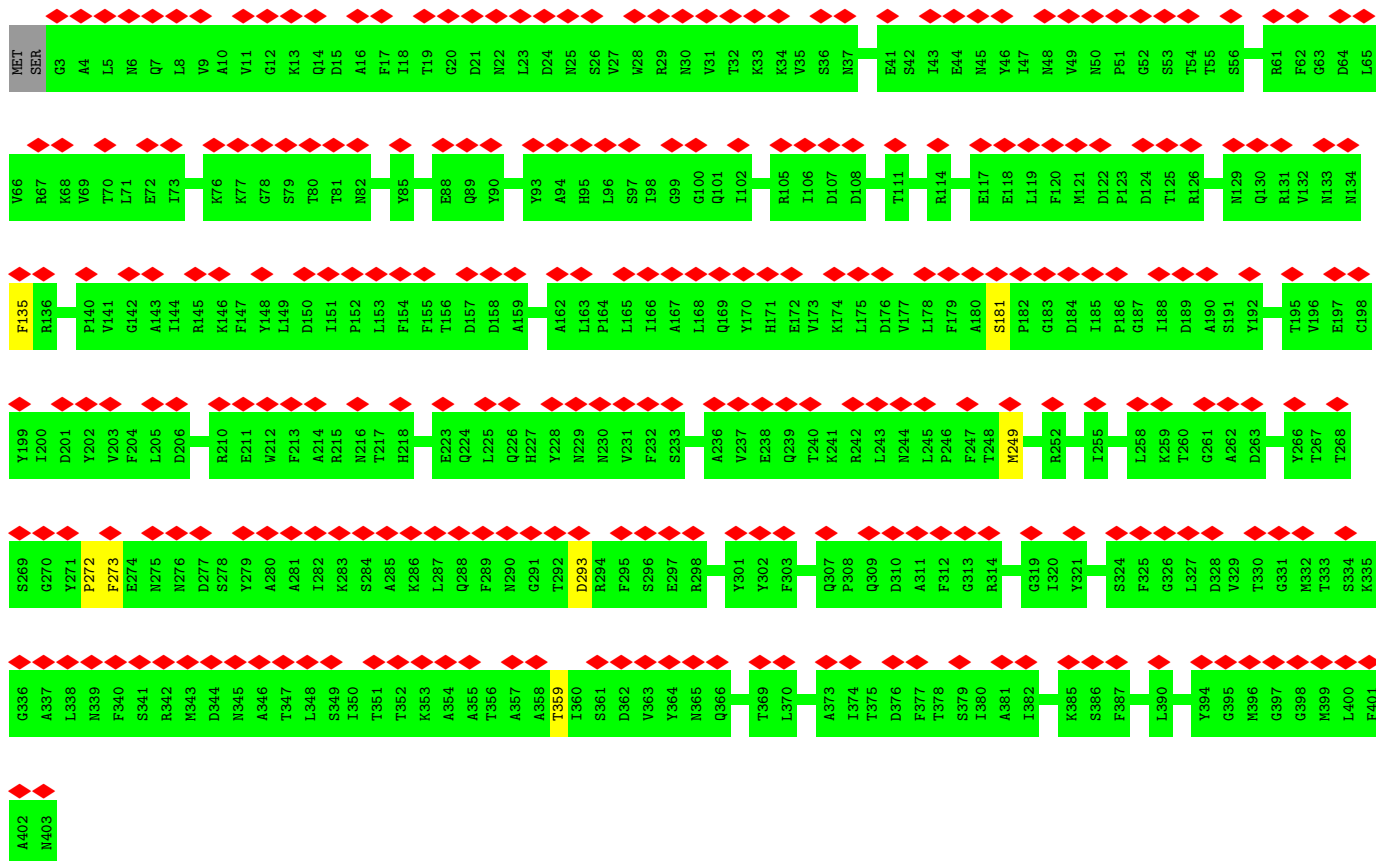


• Molecule 4: MCPv3

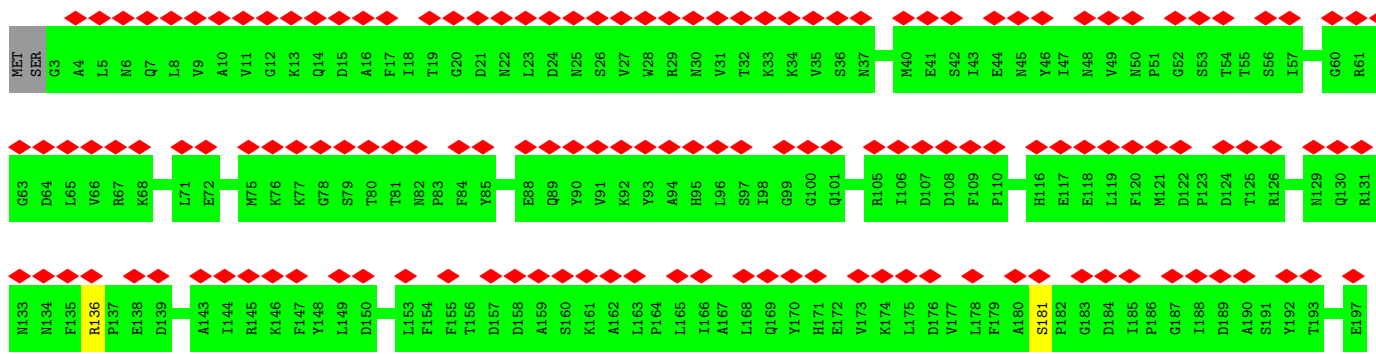


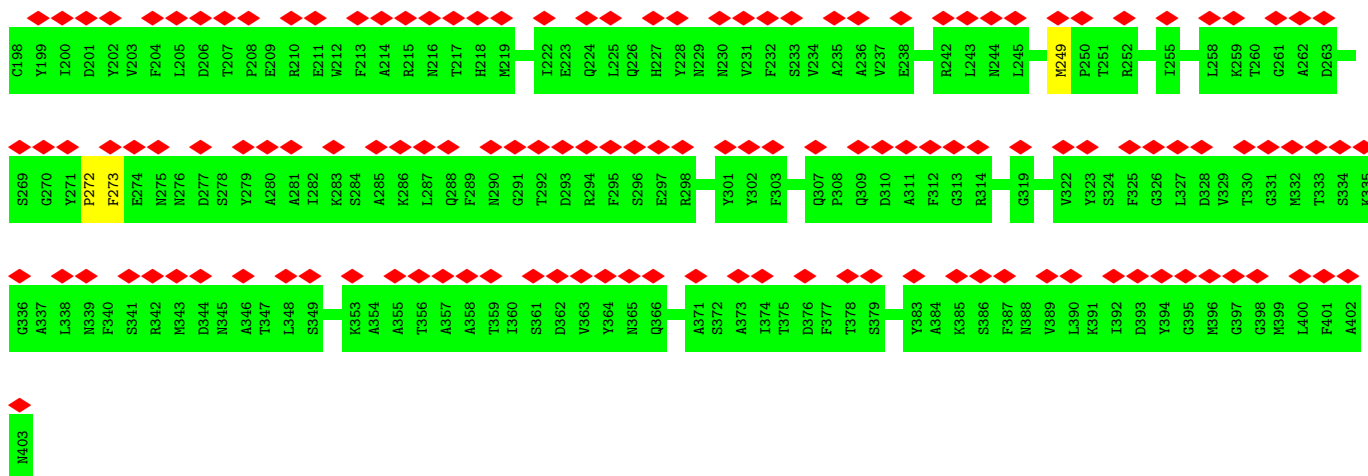


• Molecule 4: MCPv3

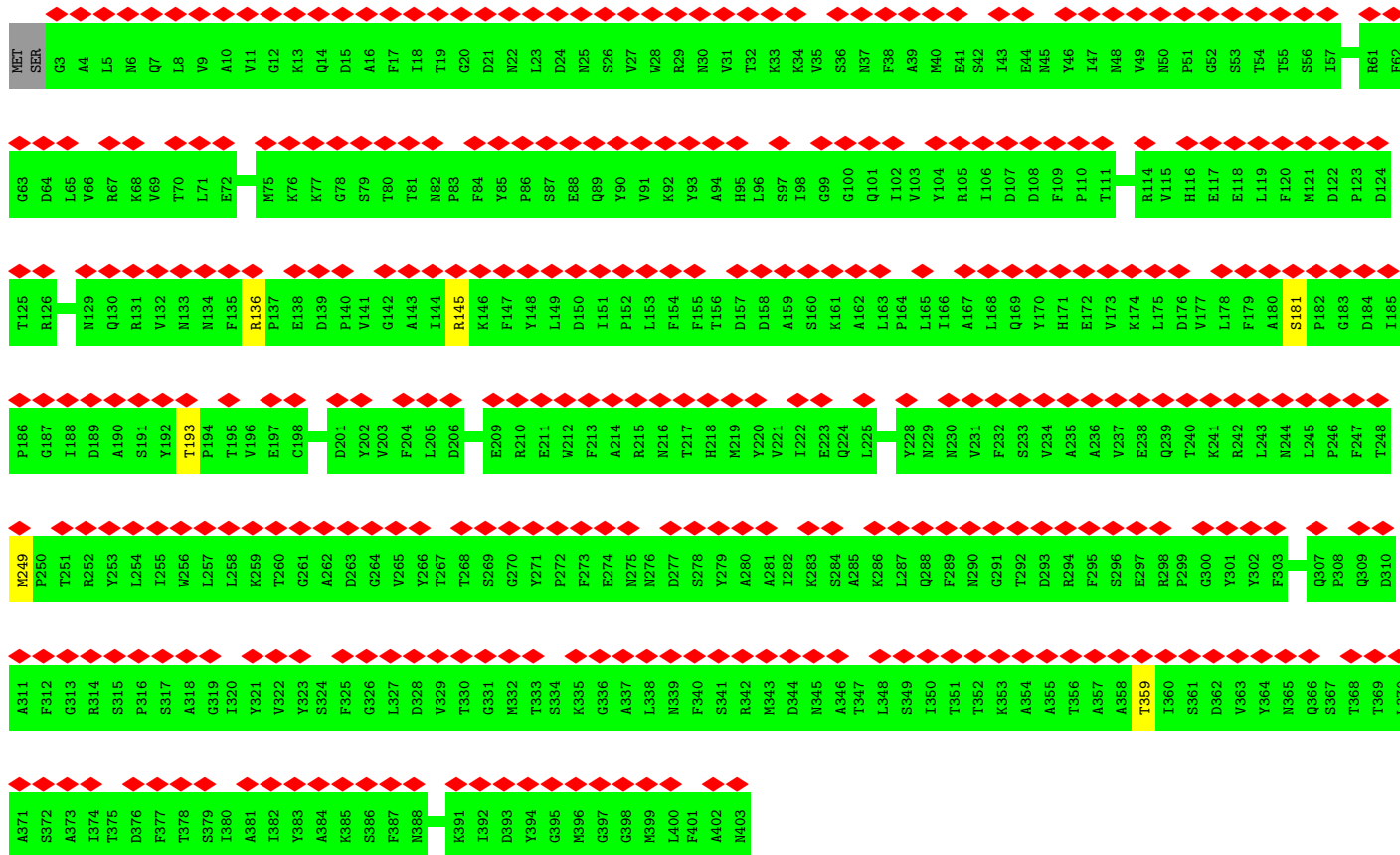
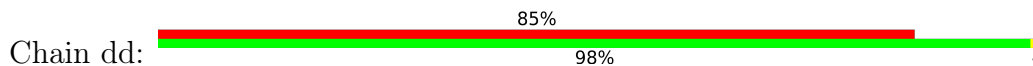


• Molecule 4: MCPv3

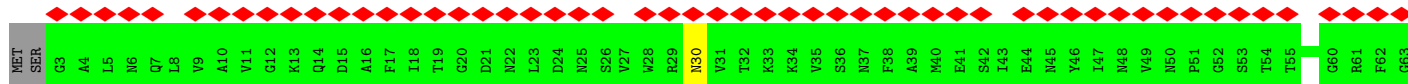
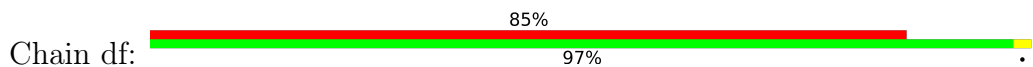




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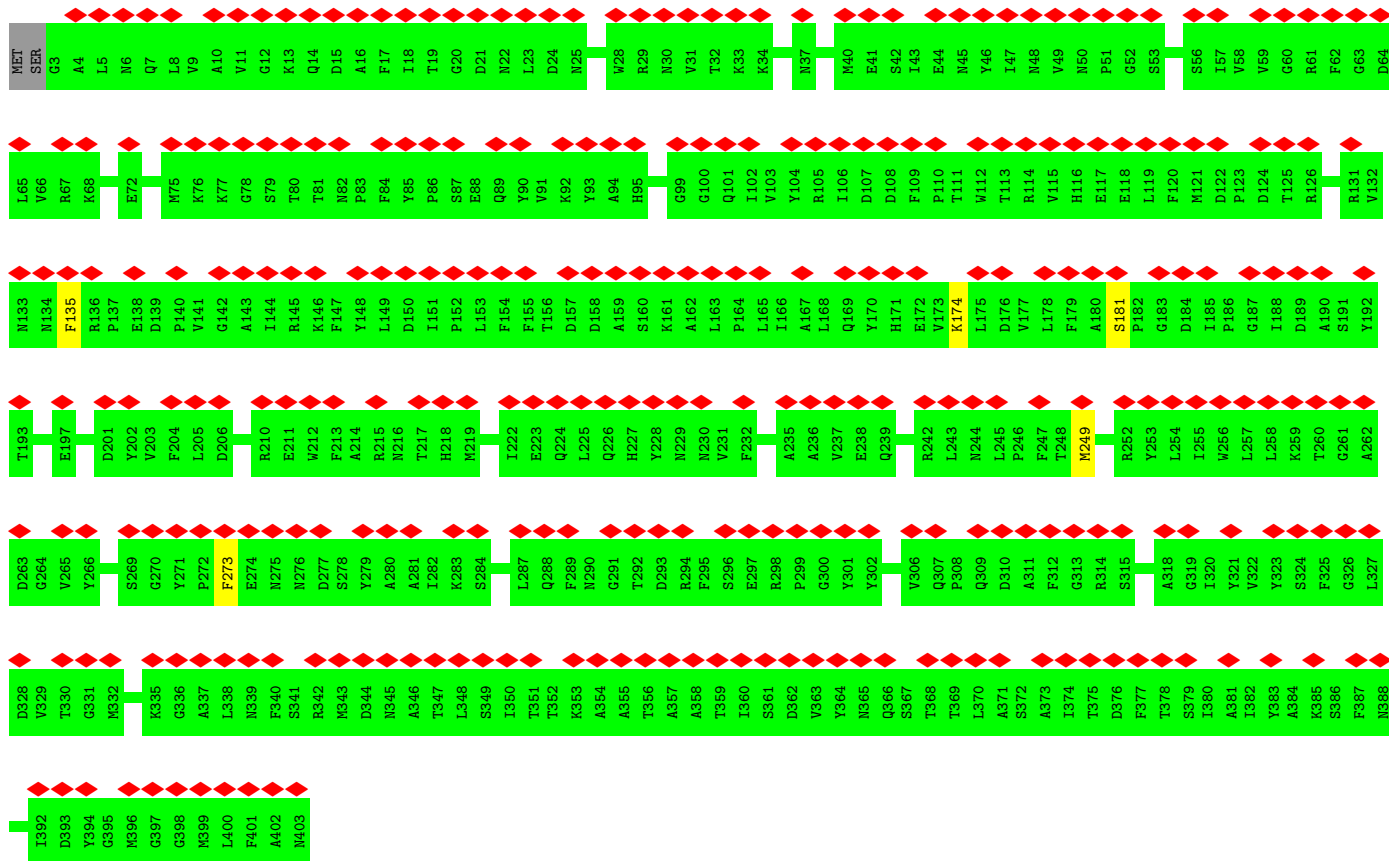


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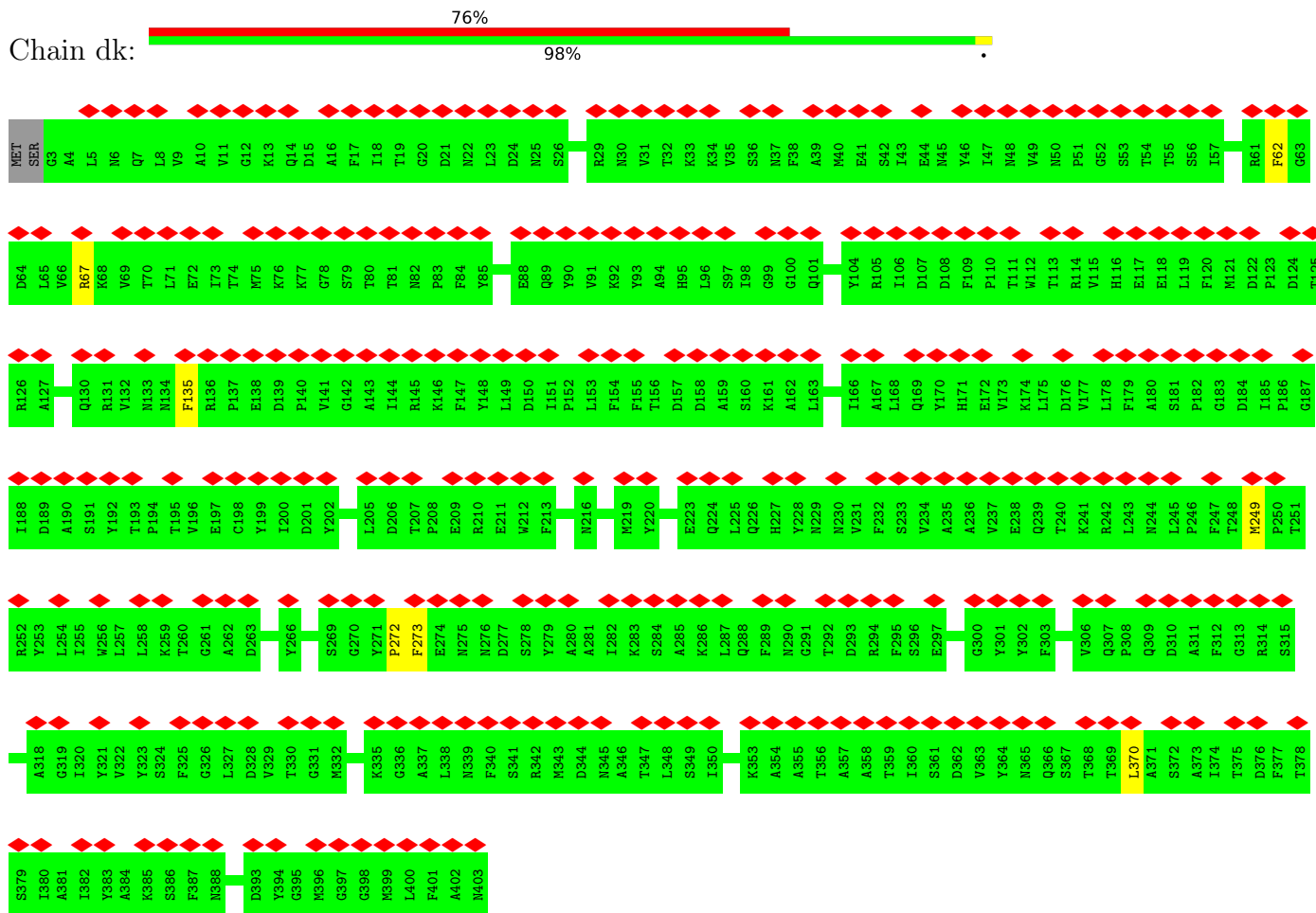




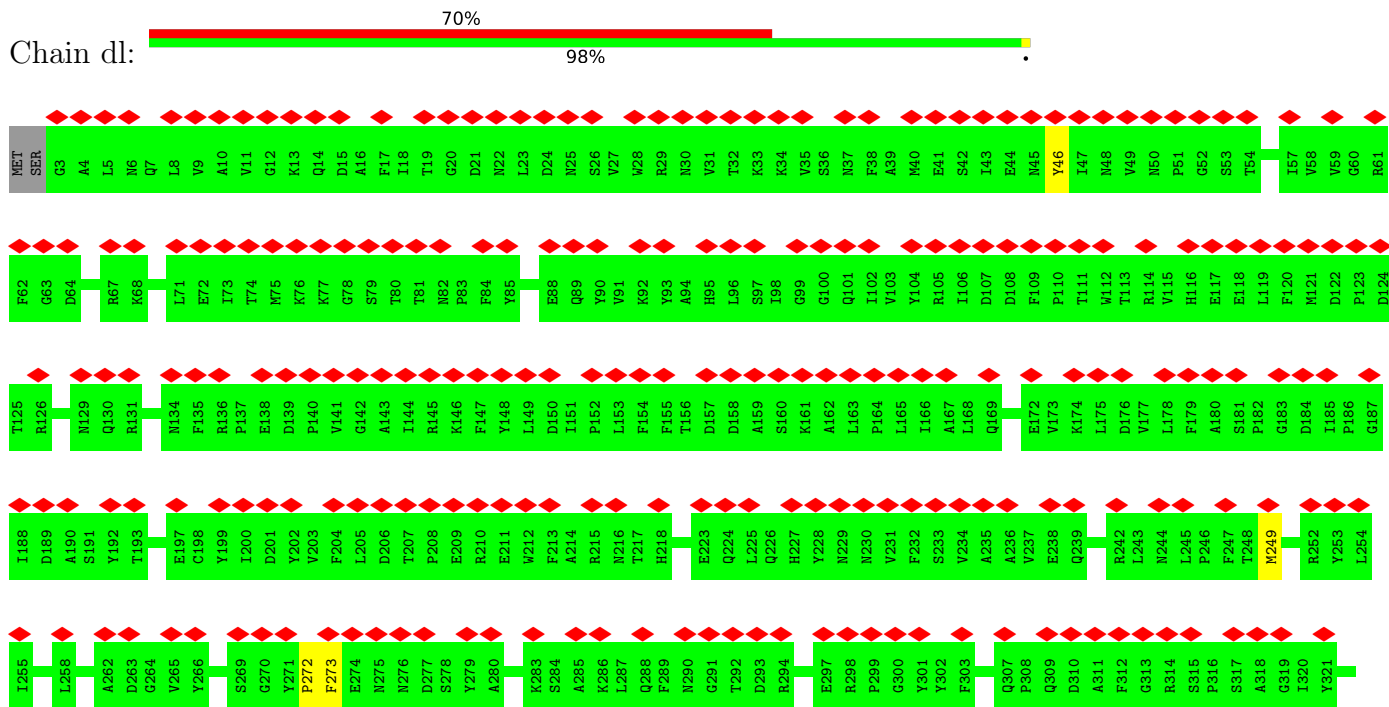
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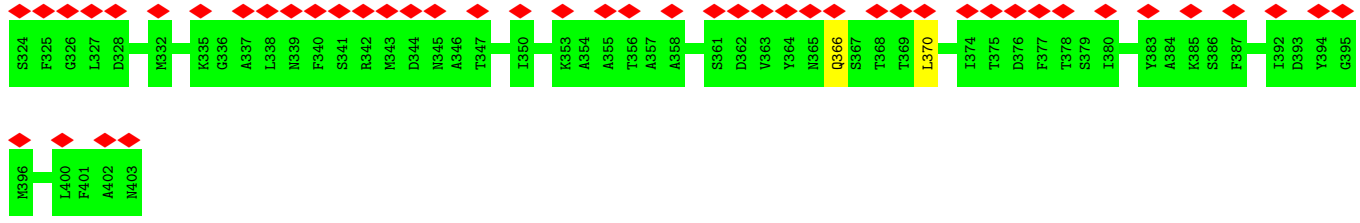


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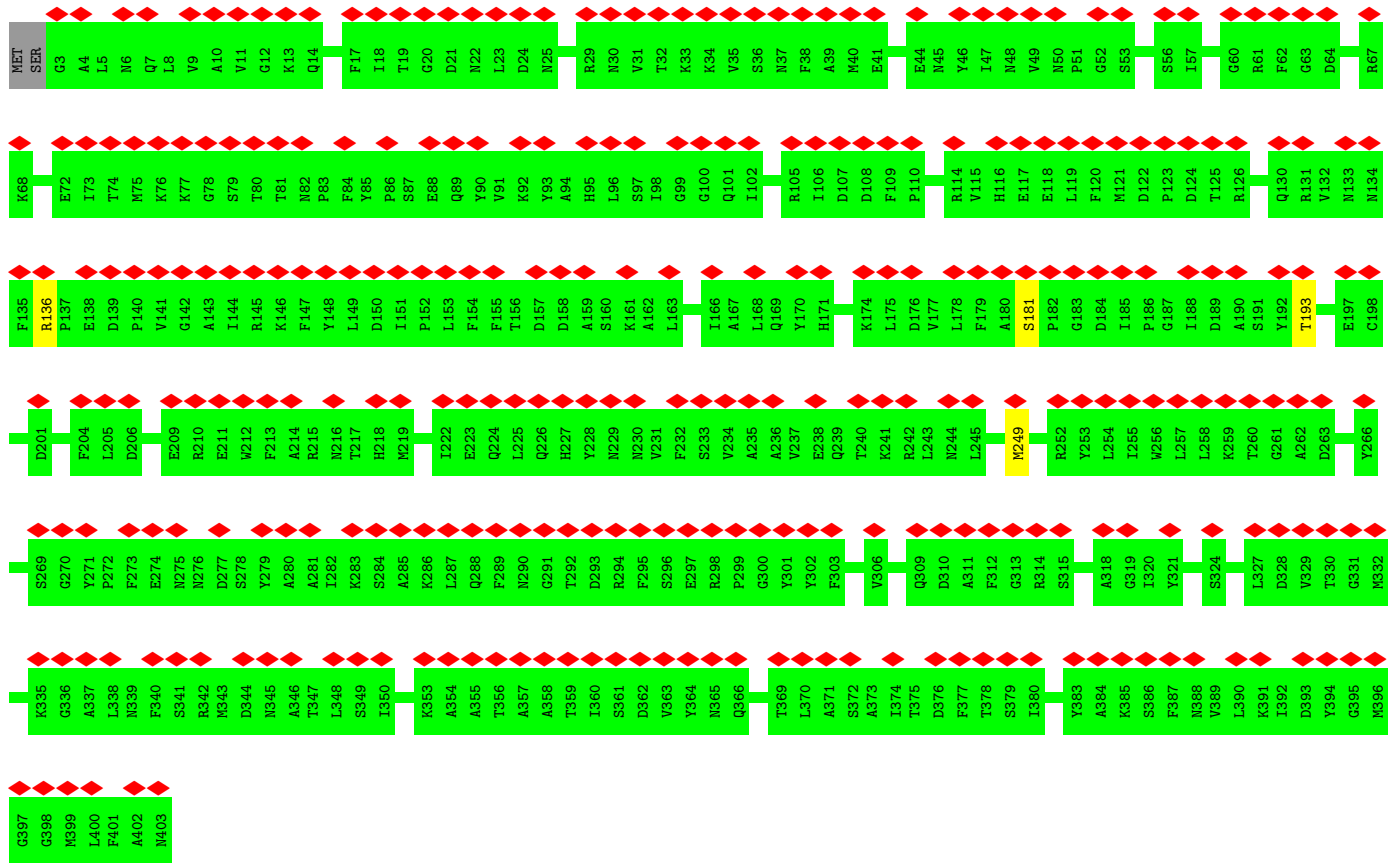
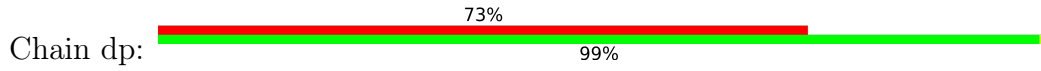


• Molecule 4: MCPv3

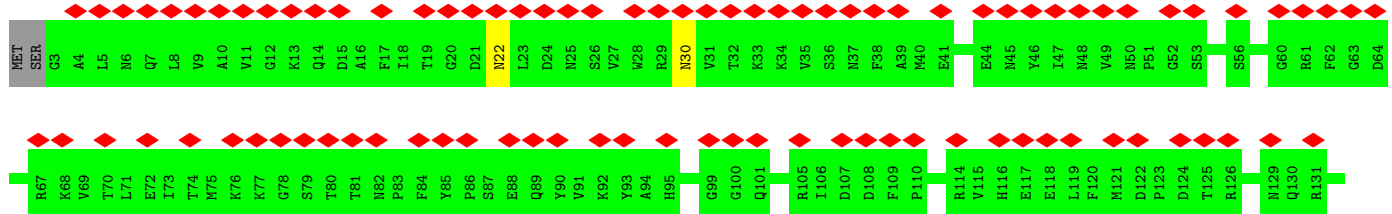




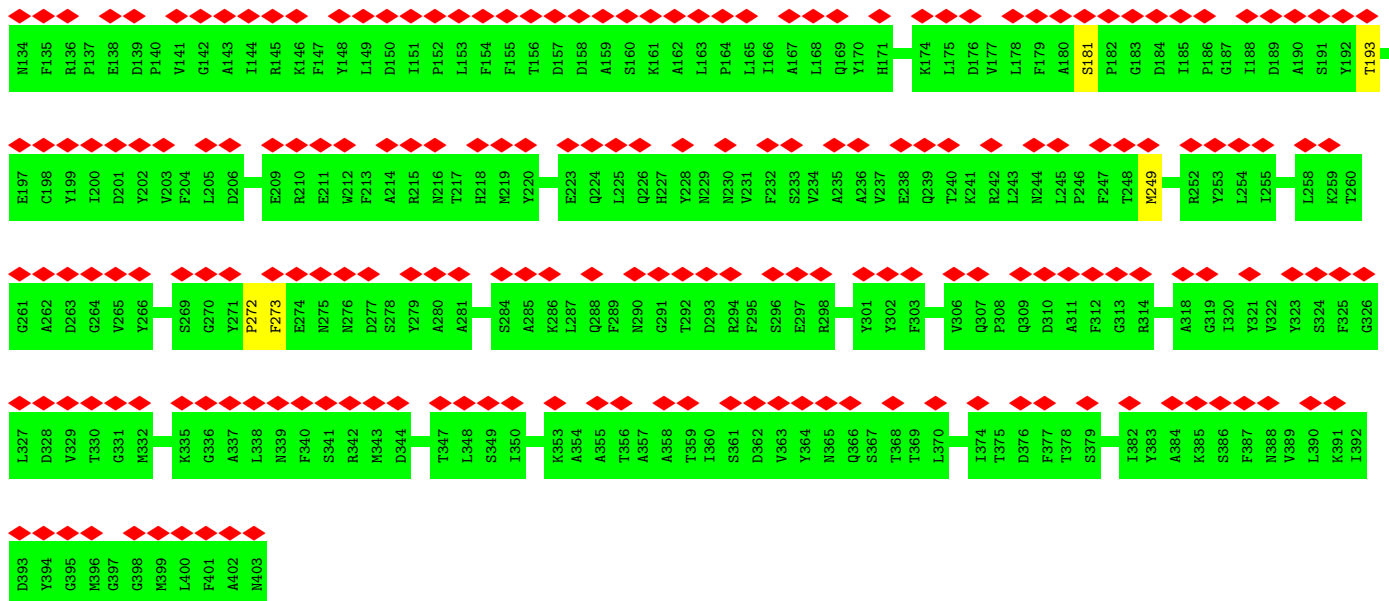
• Molecule 4: MCPv3



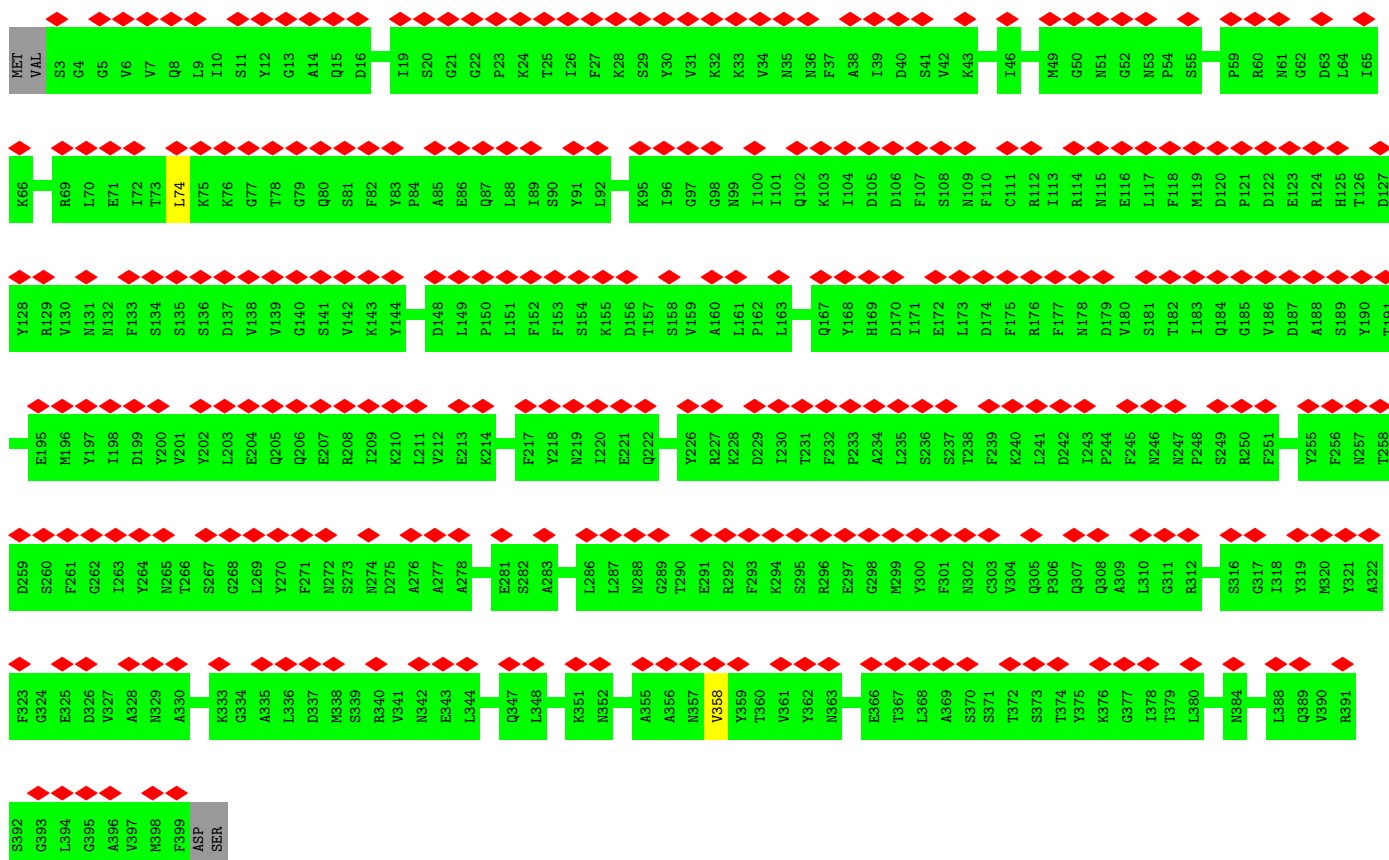
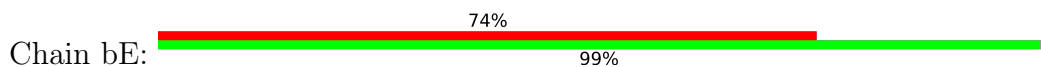
• Molecule 4: MCPv3



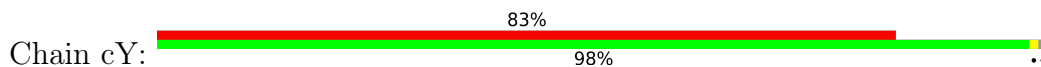


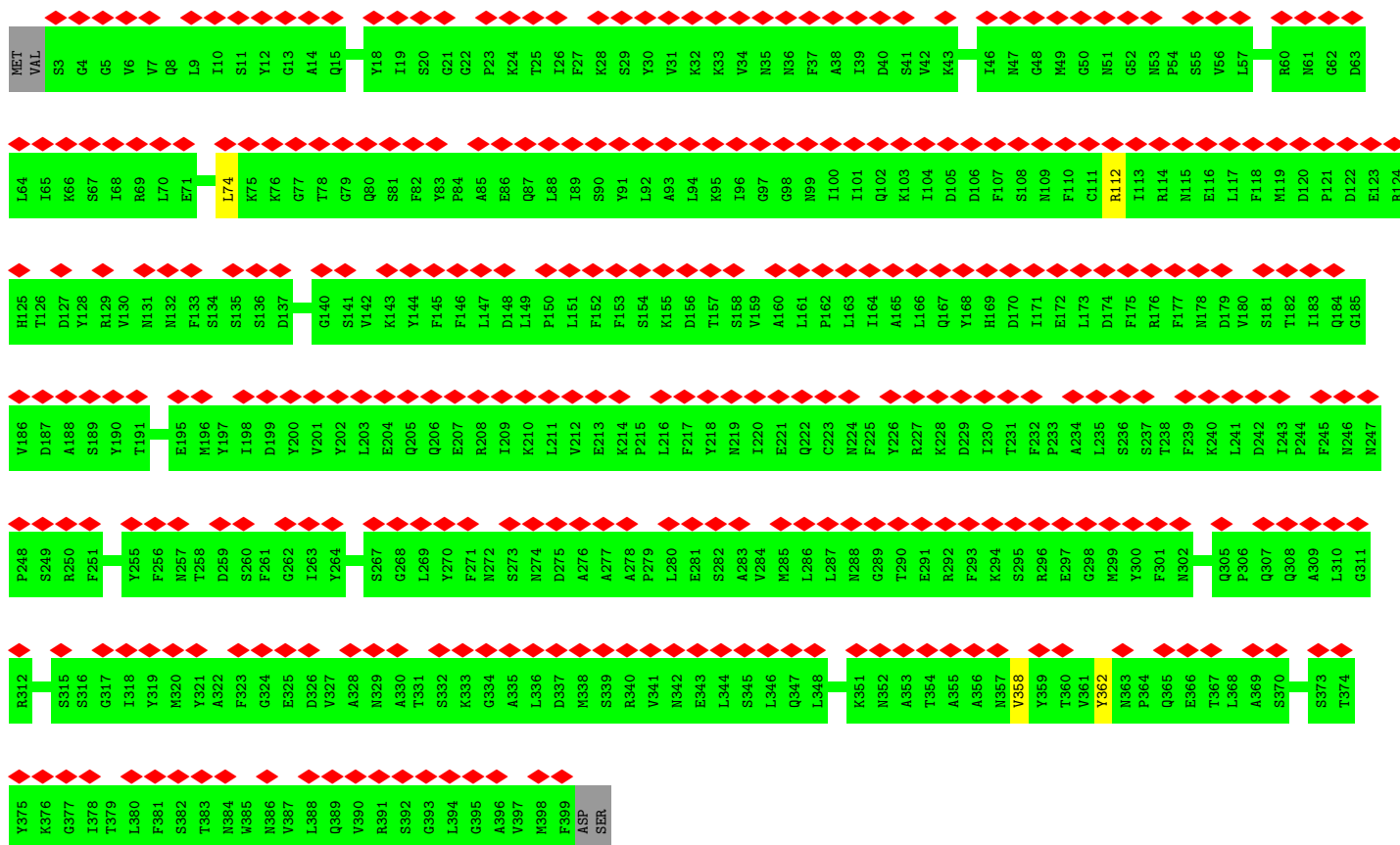


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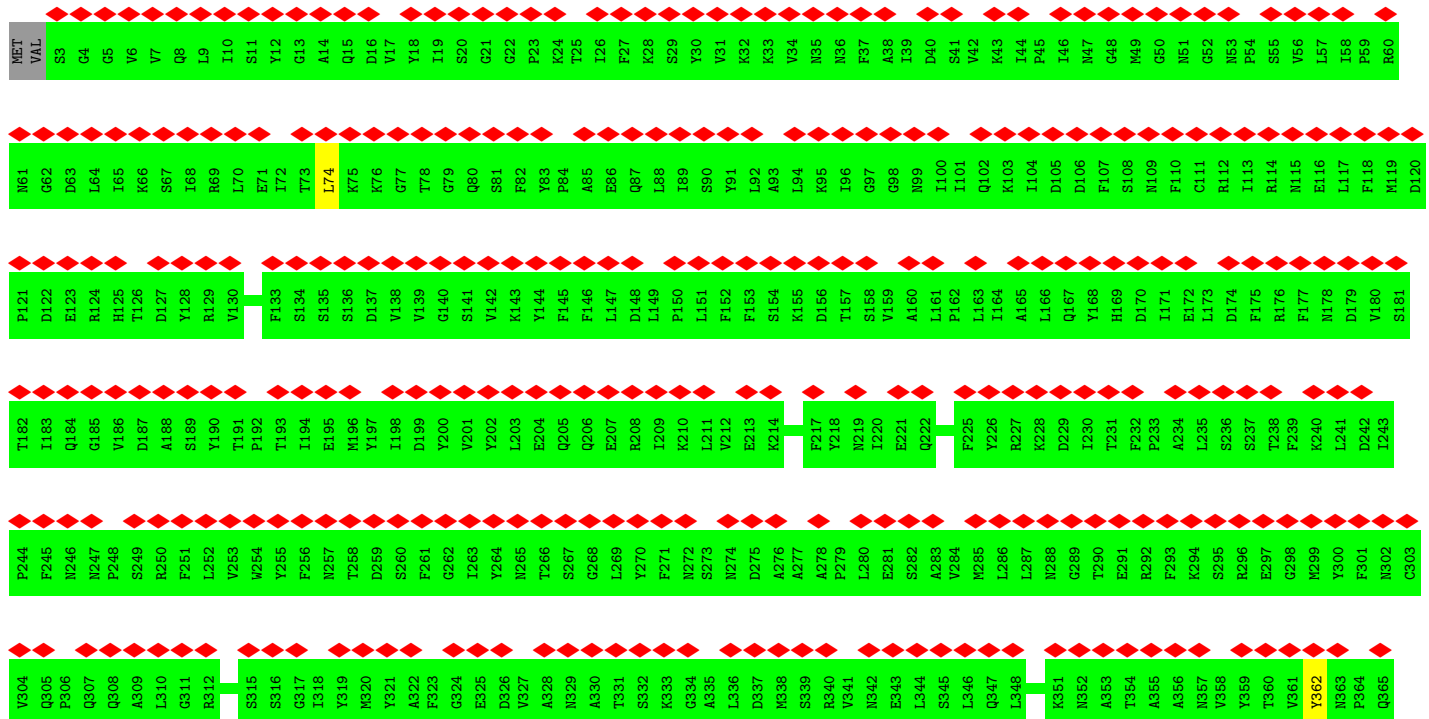
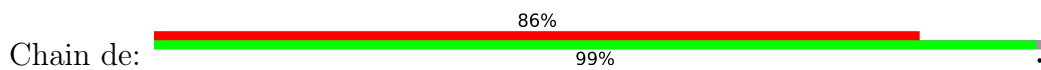


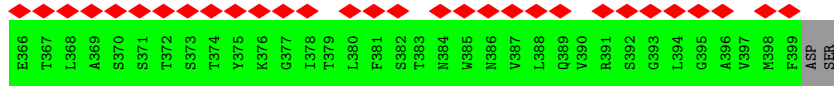
• Molecule 5: MCPv4



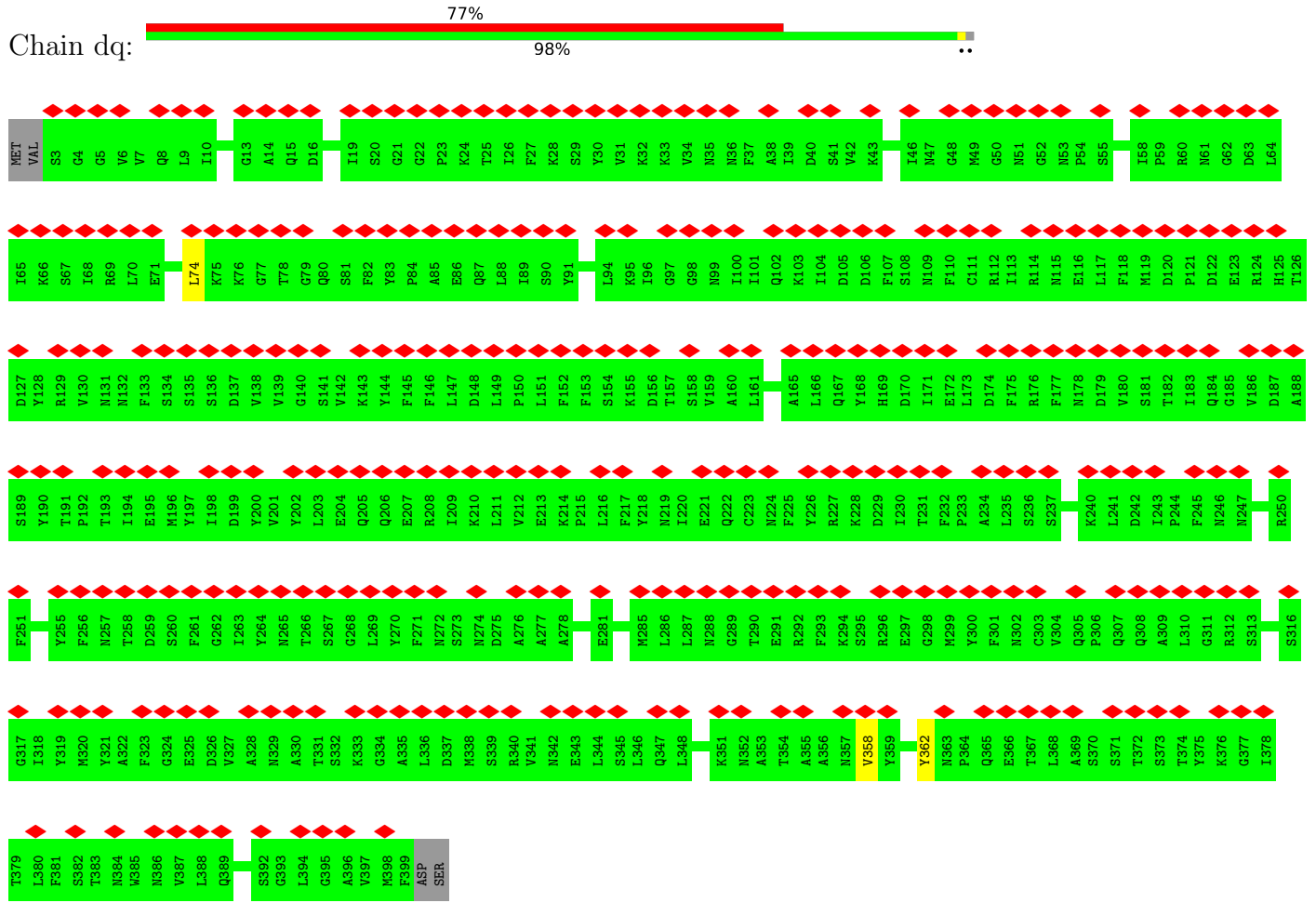


• Molecule 5: MCPv4

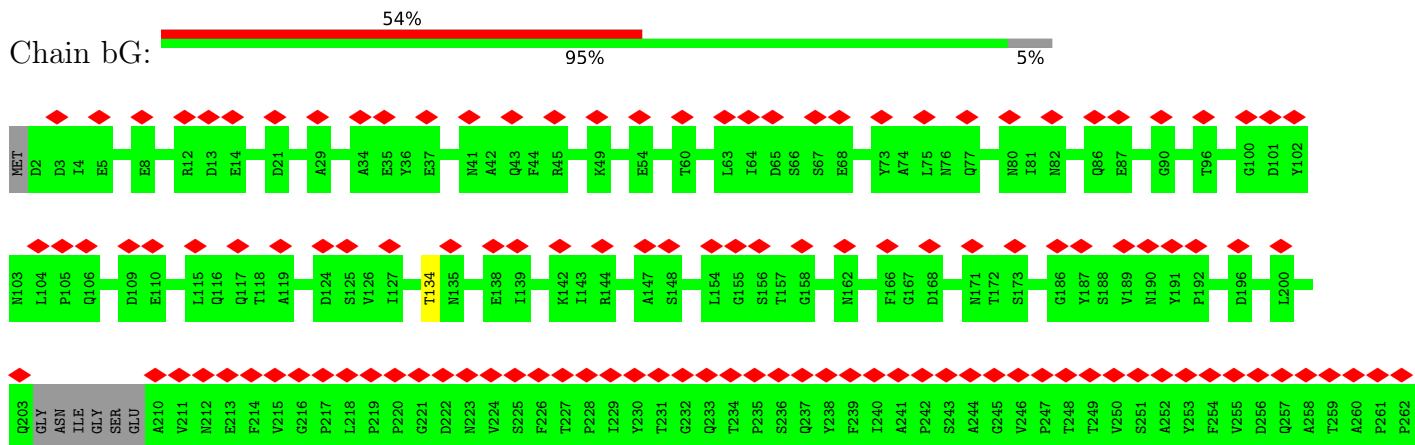


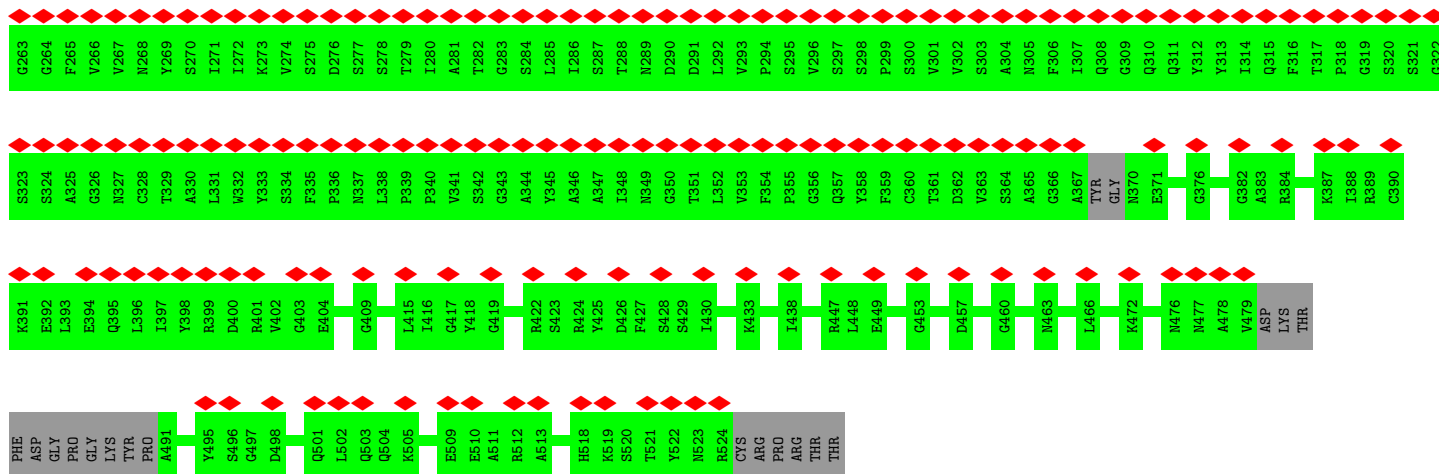


• Molecule 5: MCPv4

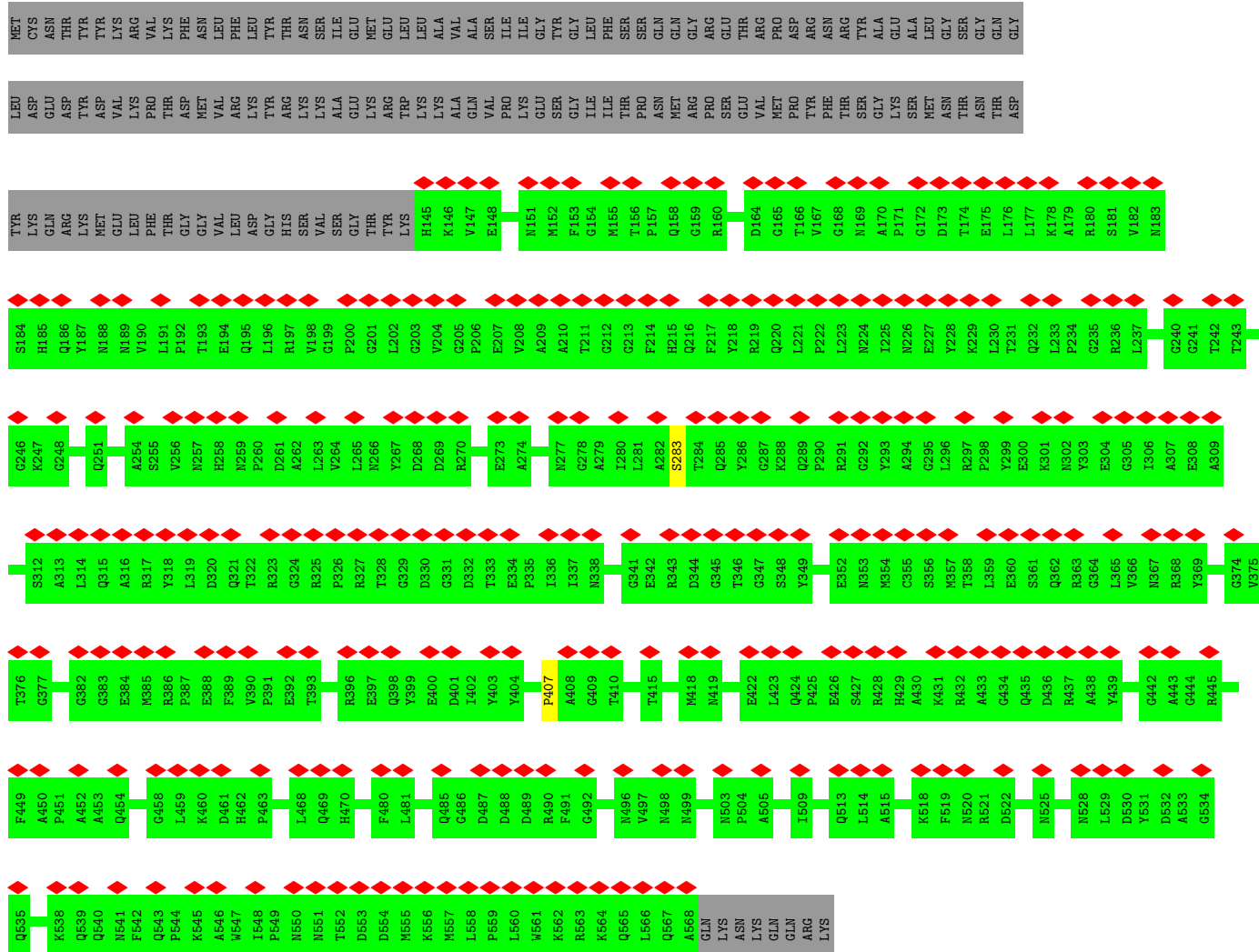
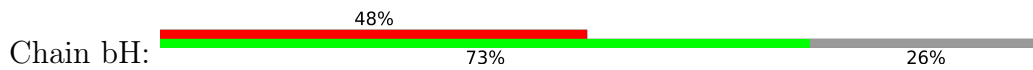


• Molecule 6: P1v1

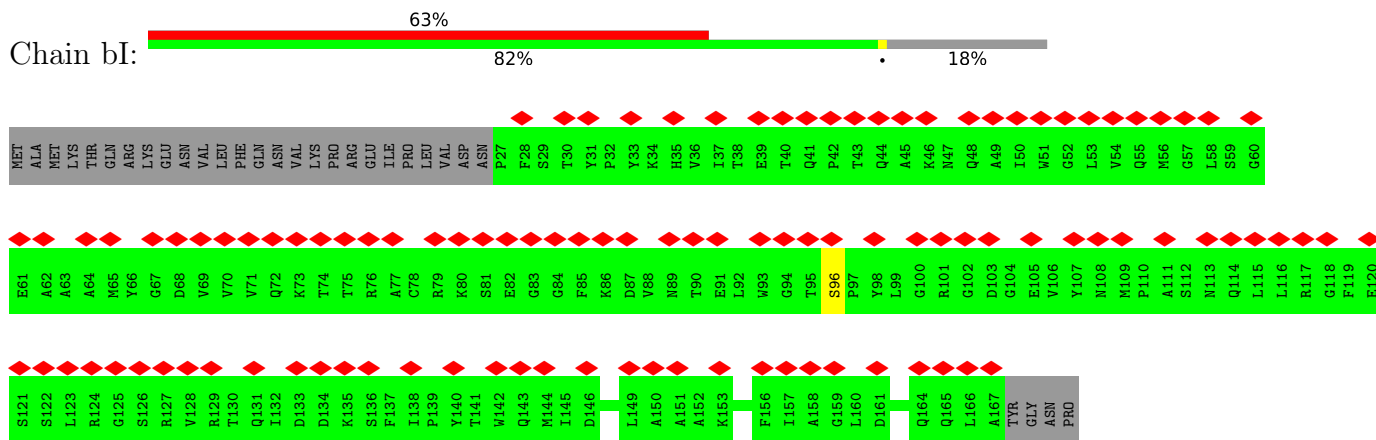




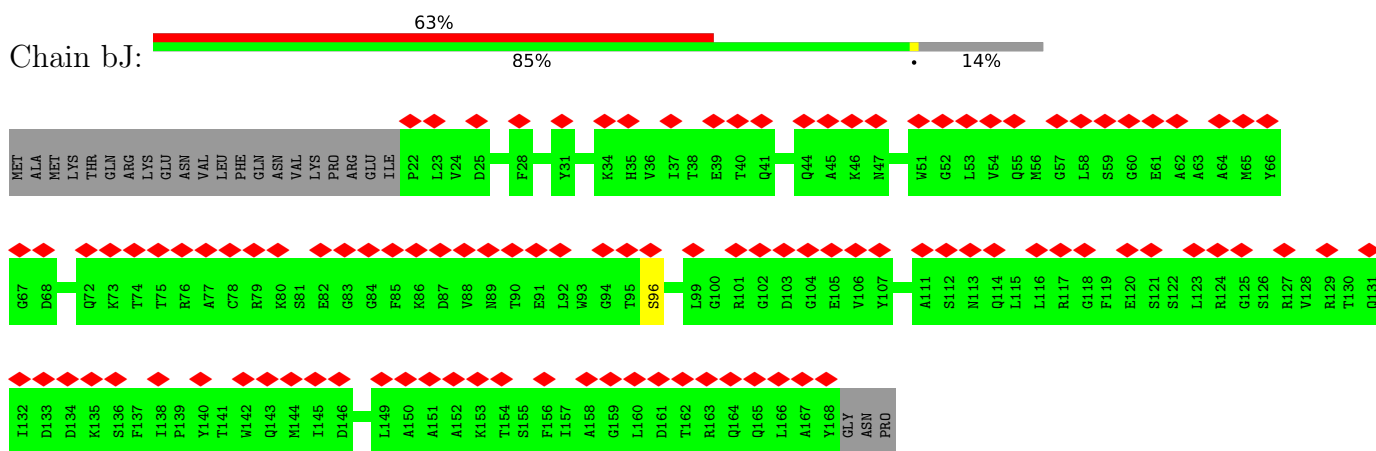
• Molecule 7: P2



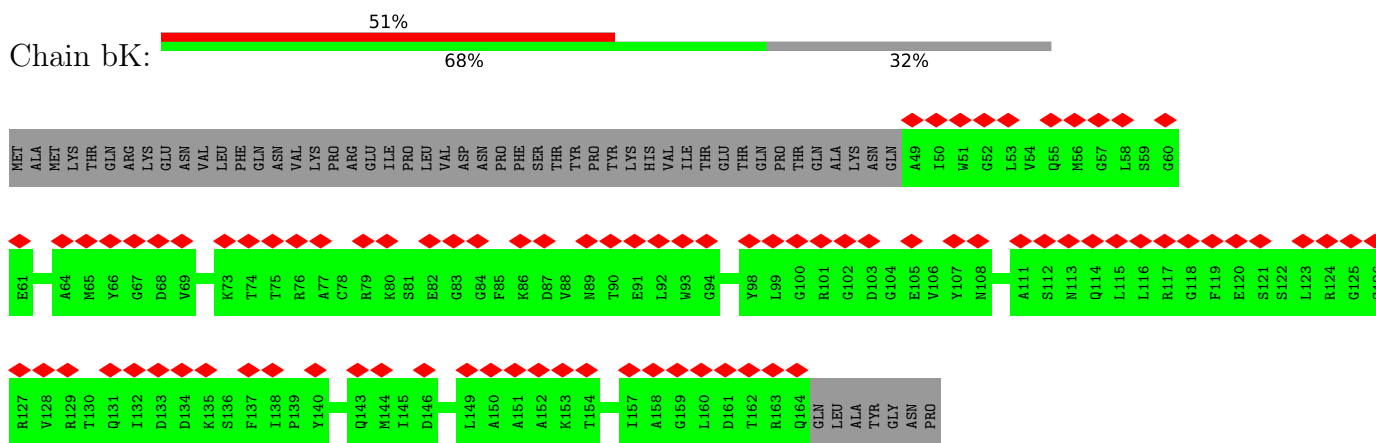
• Molecule 8: P3



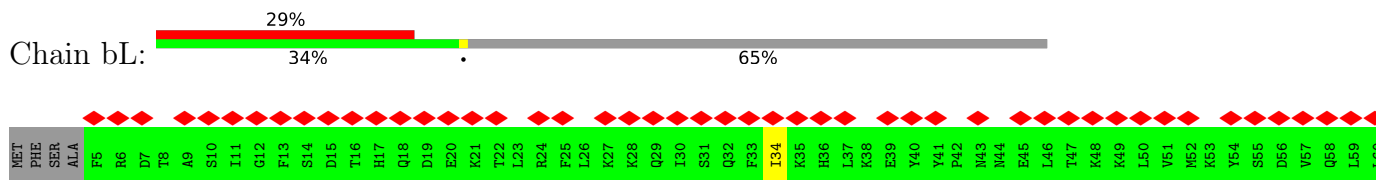
• Molecule 8: P3

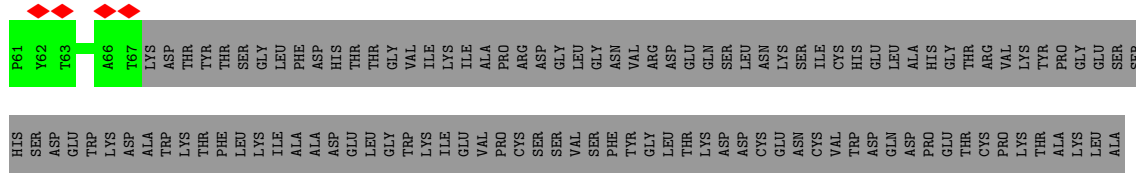


• Molecule 8: P3

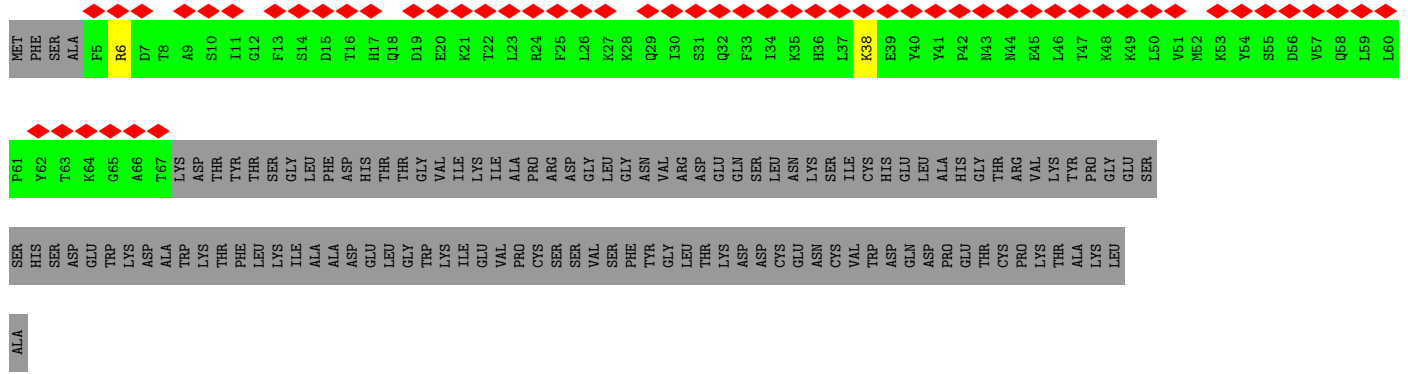


• Molecule 9: P4

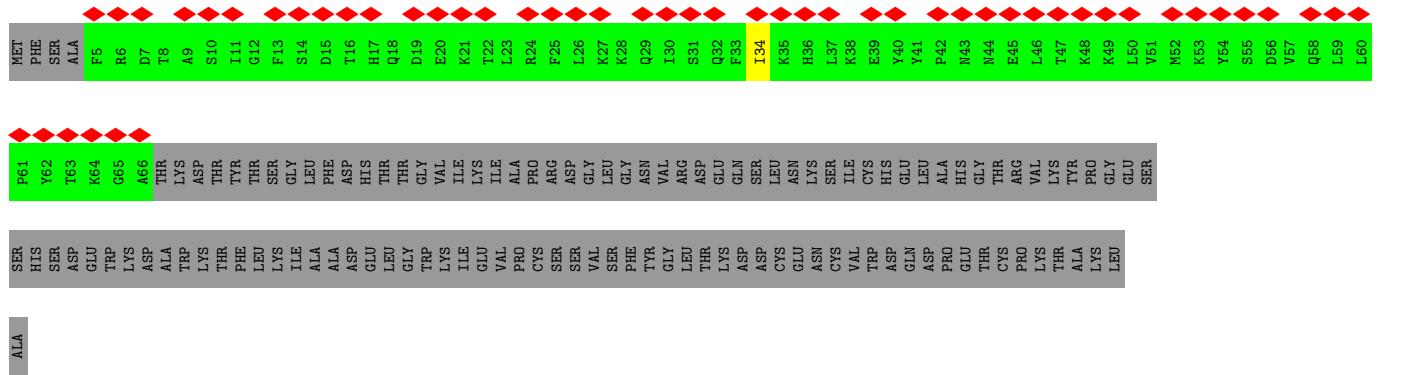




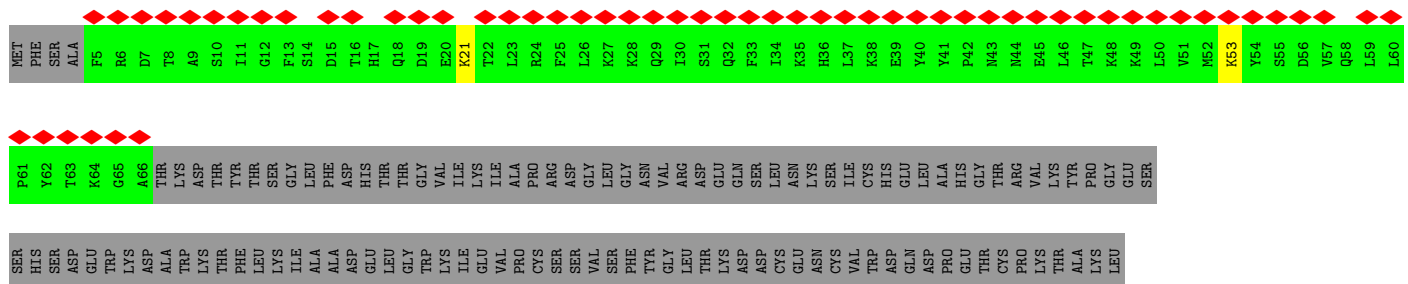
• Molecule 9: P4



• Molecule 9: P4

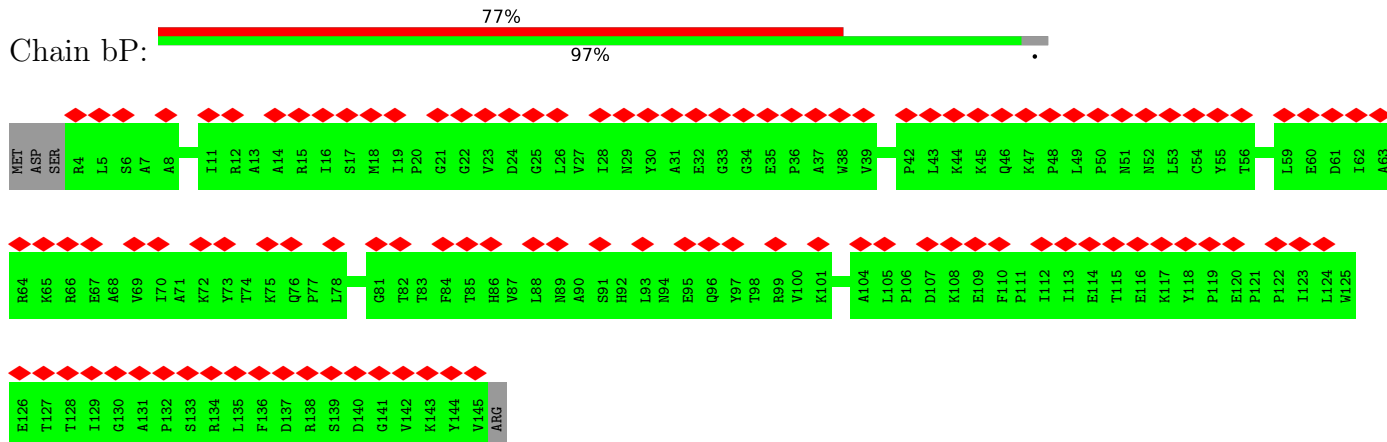


• Molecule 9: P4

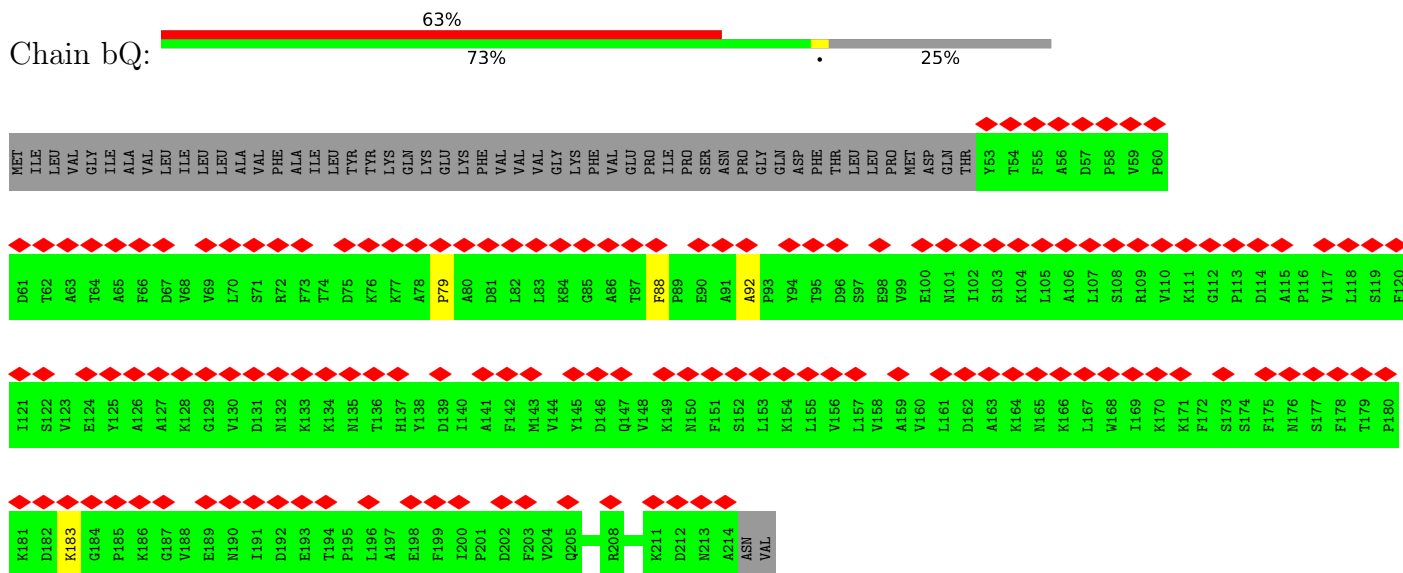


ALA

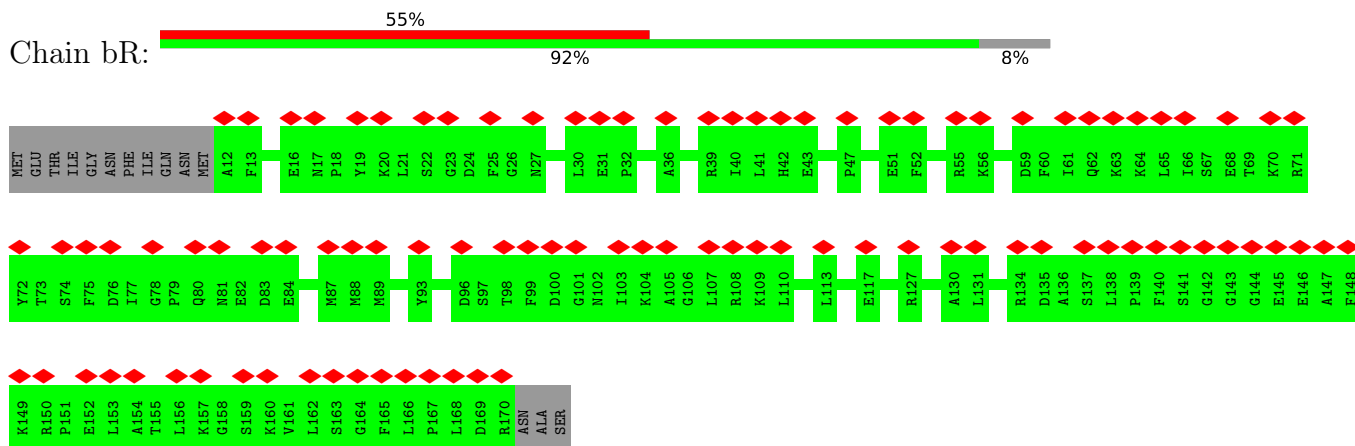
- Molecule 10: P5



- Molecule 11: P6



- Molecule 12: P8

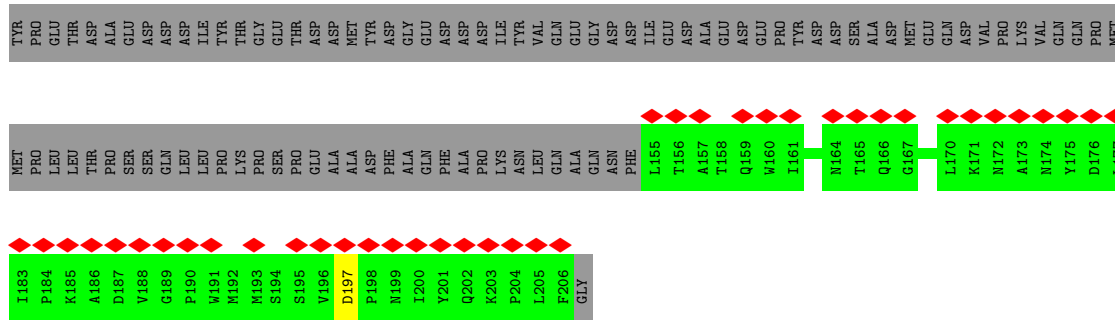




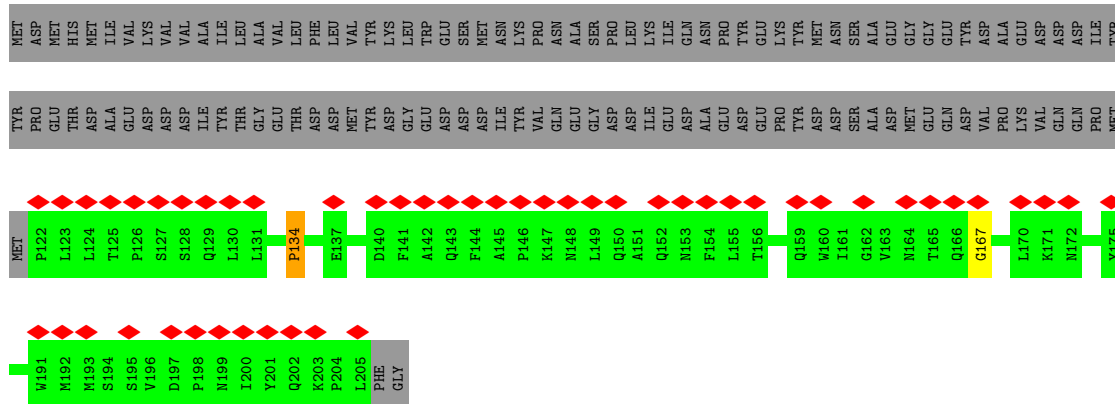




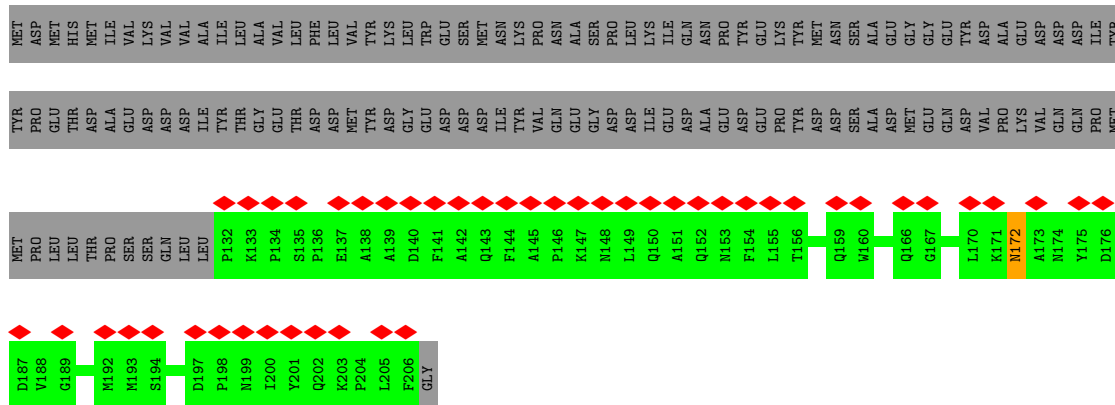




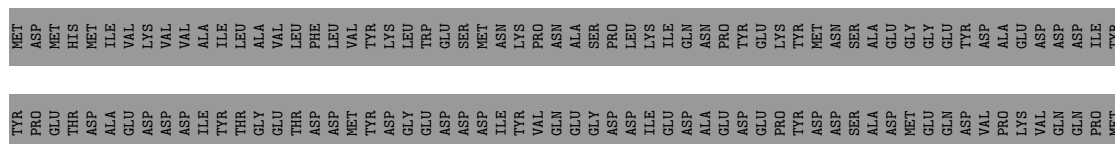
• Molecule 14: P11

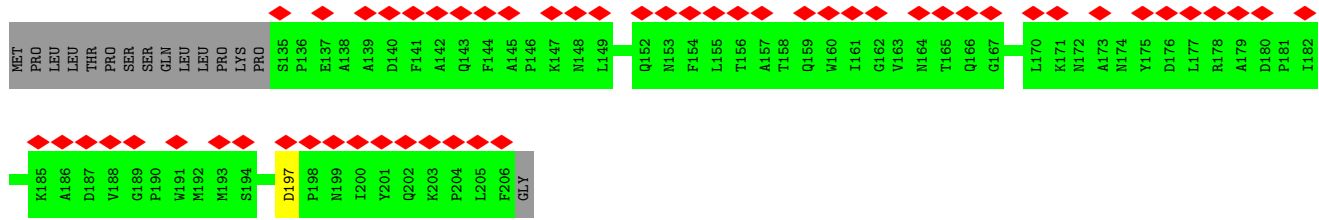


• Molecule 14: P11

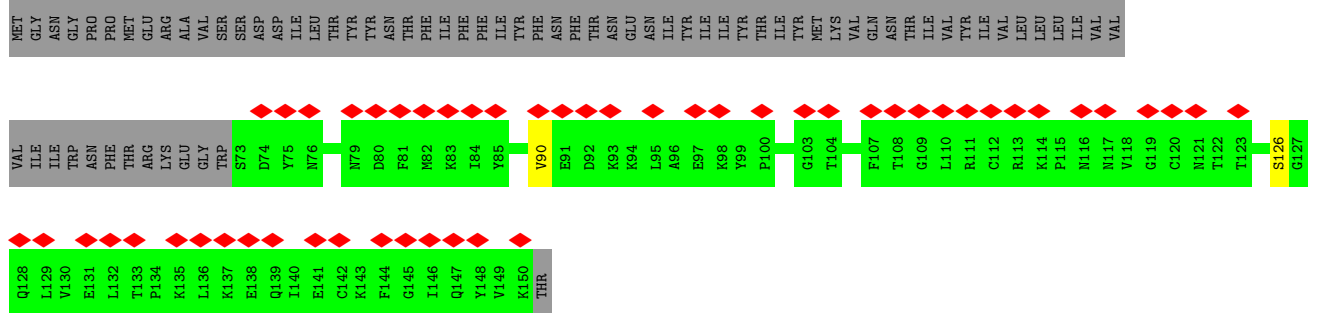


• Molecule 14: P11

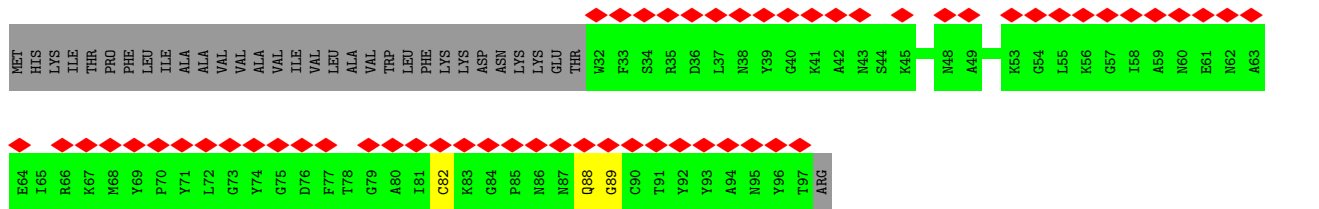




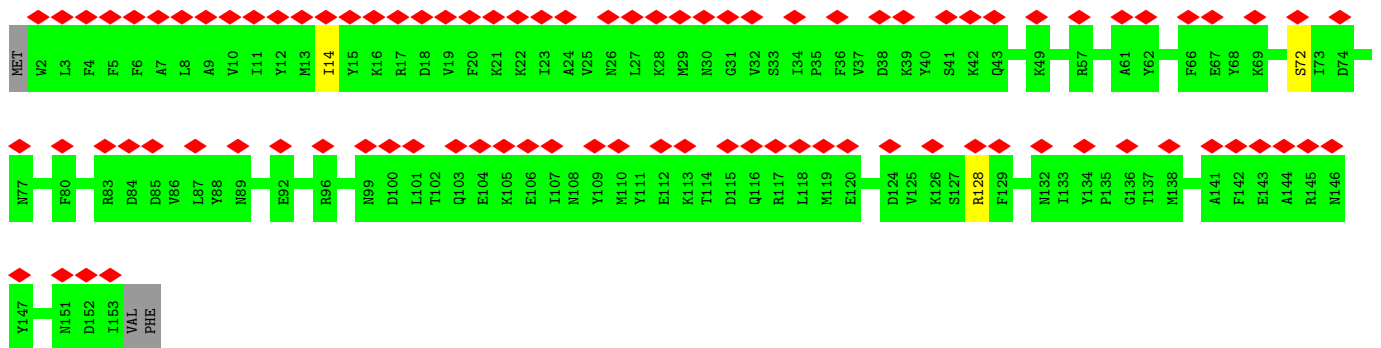
• Molecule 15: P12



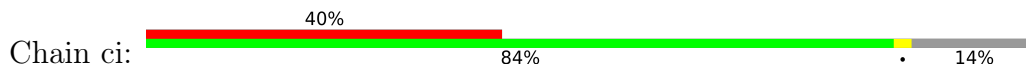
• Molecule 16: P13

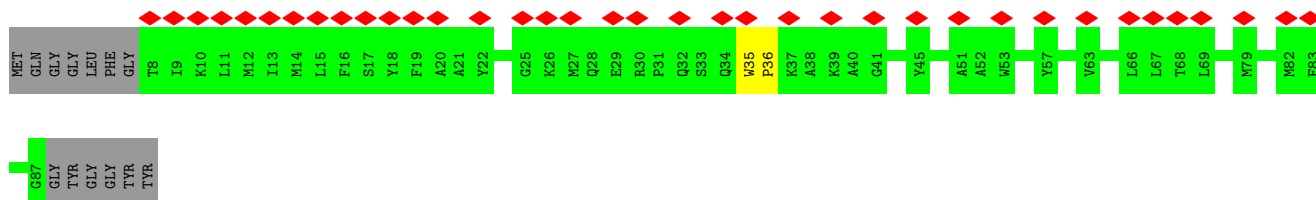


• Molecule 17: P15

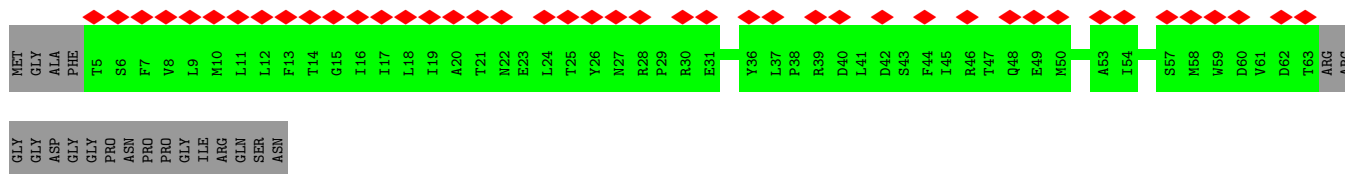
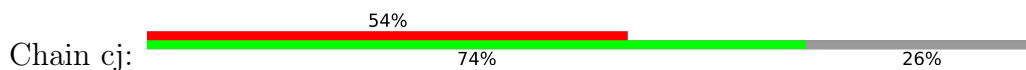


• Molecule 18: P16

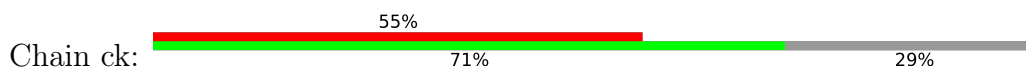




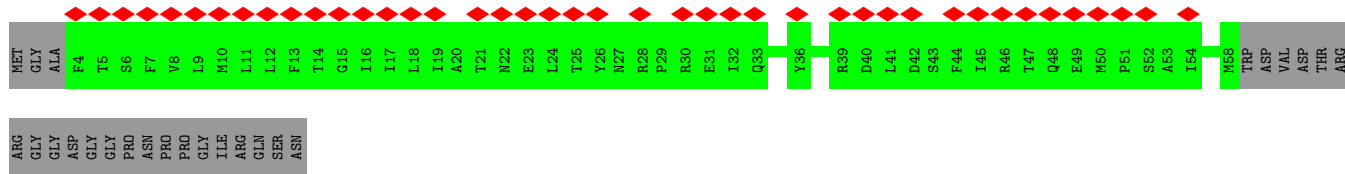
• Molecule 19: P17



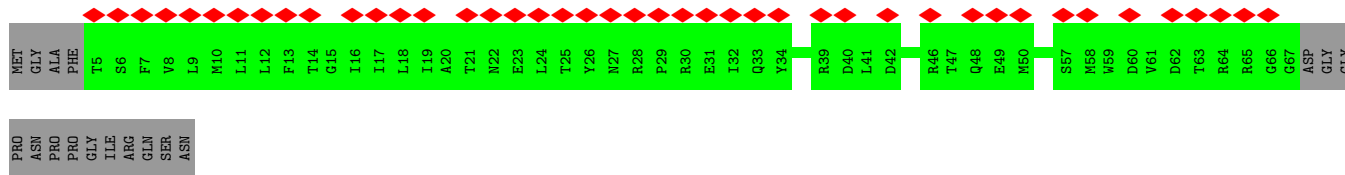
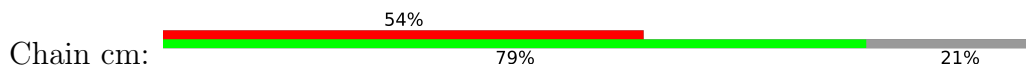
• Molecule 19: P17



• Molecule 19: P17

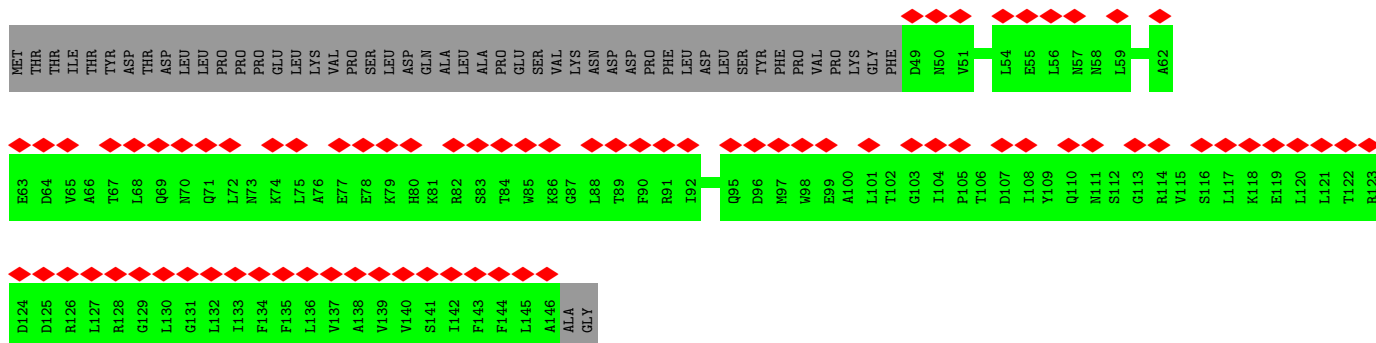


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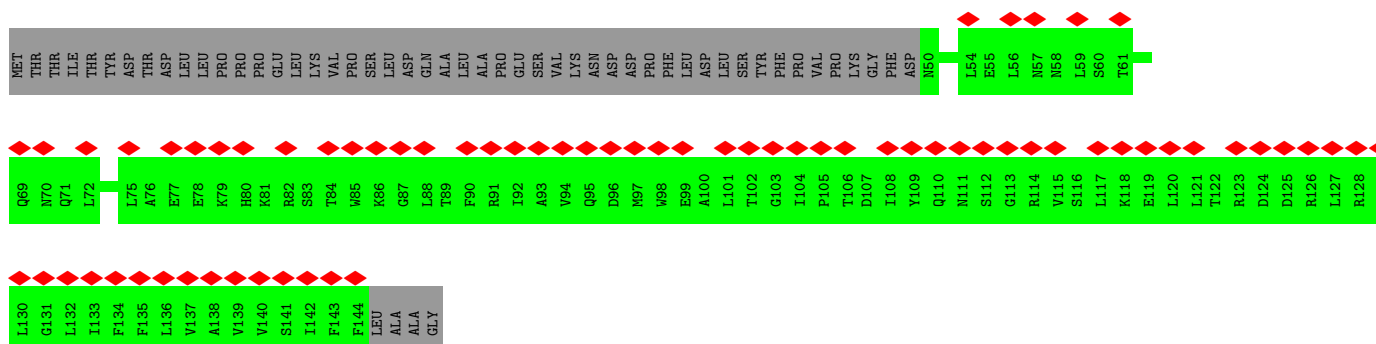


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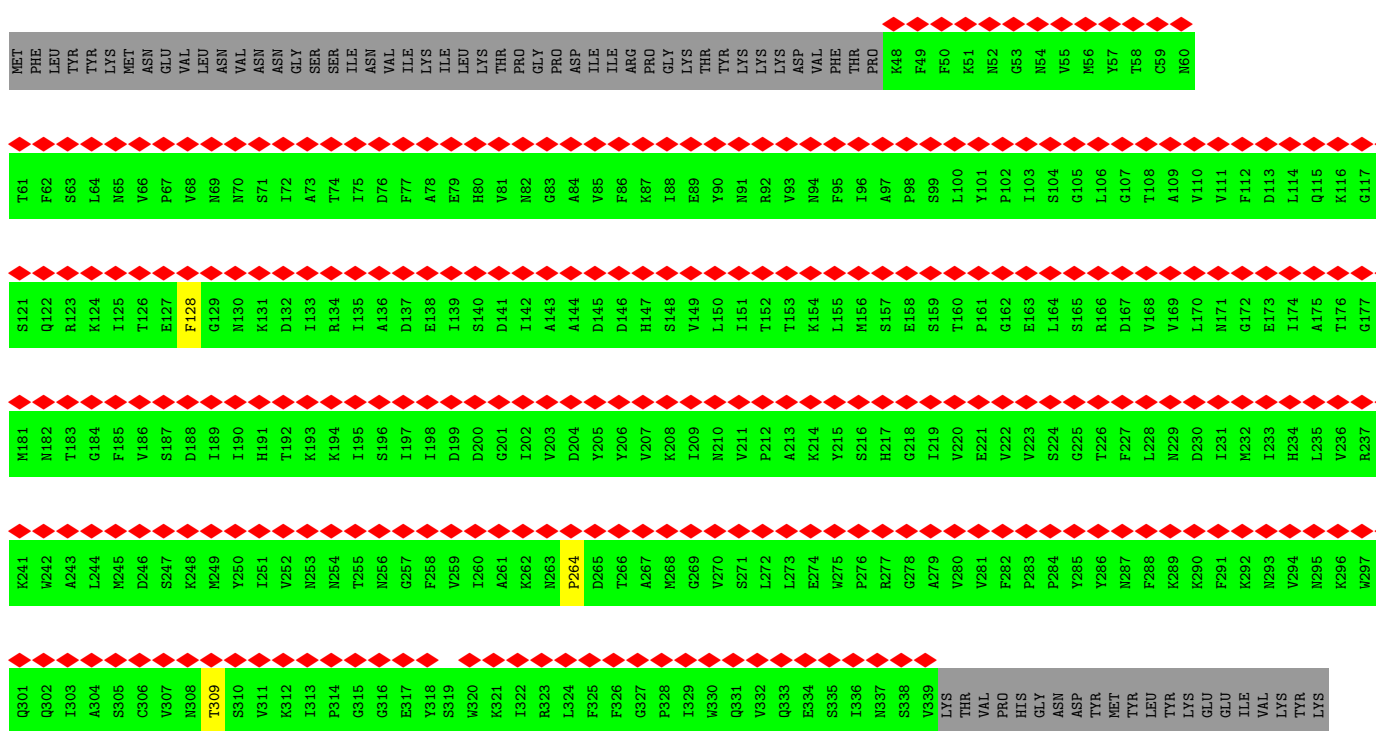
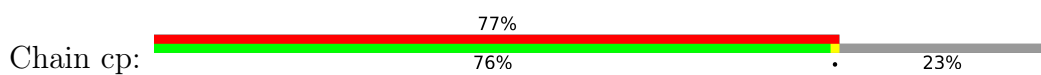




• Molecule 20: P18

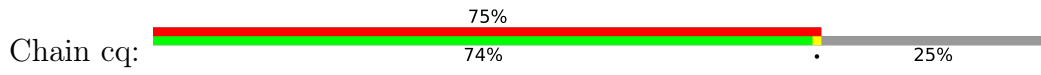


• Molecule 21: P19



TYR  
GLN  
ARG  
ASN  
THR  
LYS  
LYS  
ARG  
ASN  
PHE  
GLU  
HIS  
GLU  
TYR  
TYR  
ASP  
ASP  
LYS  
PHE

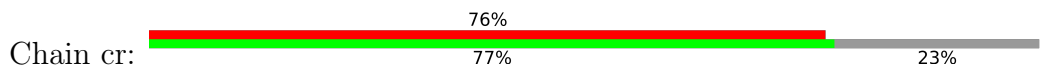
• Molecule 21: P19



MET	PHE	LEU	TYR	TYR	LYS	MET	ASN	GLU	VAL	LEU	ASN	VAL	ASN	ASN	GLY	SER	SER	ILE	ASN	VAL	VAL	ILE	LYS	ILE	LYS	ILE	LEU	LYS	THR	PRO	PRO	GLY	PRO	ASP	ASP	ILE	ILE	ARG	PRO	GLY	GLY	LYS	THR	THR	LYS	LYS	LYS	LYS	ASP	VAL	PHE	THR	PRO	PRO	PHE	PHE	LYS	ASN	ASN	VAL	VAL	MET	MET	TYR	T58	C59	N60
T61	F62	S63	L64	N65	V66	P67	F68	N69	N70	VAL	S71	I72	A73	A74	I75	D76	F77	A78	E79	H80	W81	N82	G83	A84	W85	F86	A87	I88	E89	Y90	N91	R92	Y93	Y94	F95	I96	A97	P98	S99	T100	Y101	P102	I103	S104	G105	L106	G107	T108	A109	V110	V111	F112	D113	L114	Q115	K116	G117	E118	K119	A120							
S121	Q122	R123	K124	I125	T126	E127	F128	G129	M130	K131	D132	I133	R134	I135	A136	D137	E138	I139	S140	D141	I142	A143	A144	D145	D146	H147	S148	V149	L150	I151	T152	T153	T154	K155	L156	M157	E158	S159	T160	P161	G162	E163	L164	S165	S166	D167	V168	V169	L170	M171	G172	E173	I174	A175	T176	G177	R178	I179	M180								
M181	N182	T183	G184	F185	V186	S187	D188	I189	I190	H191	T192	K193	K194	I195	S196	I197	I198	D199	D200	G201	I202	V203	D204	Y205	D206	V207	K208	I209	M210	V211	P212	A213	K214	Y215	S216	G217	G218	I219	V220	E221	V222	V223	S224	G225	G226	F227	L228	N229	D230	I231	M232	I233	H234	L235	V236	R237	M238	K239	M240								
K241	W242	A243	L244	M245	D246	S247	K248	Y249	Y250	I251	V252	M253	N254	T255	N256	G257	F258	V259	I260	A261	K262	N263	P264	F265	T266	A267	M268	G269	V270	S271	L272	L273	E274	W275	P276	R277	G278	A279	V280	V281	F282	P283	P284	Y285	Y286	N287	F288	K289	K290	F291	K292	N293	V294	N295	K296	W297	S298	I299	S300								
Q301	Q302	I303	A304	S305	C306	V307	N308	T309	S310	V311	K312	I313	P314	G315	G316	E317	Y318	S319	W320	K321	I322	R323	L324	F325	F326	G327	P328	I329	W330	Q331	V332	Q333	E334	S335	I336	N337	S338	V339	LYS	THR	VAL	PRO	HIS	GLY	ASN	ASP	TYR	MET	TYR	LEU	TYR	LYS	GLU	GLU	ILE	VAL	LYS	LYS									

TYR  
GLN  
ARG  
ASN  
THR  
LYS  
LYS  
ARG  
ASN  
PHE  
GLU  
HIS  
GLU  
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ASP  
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PHE

• Molecule 21: P19



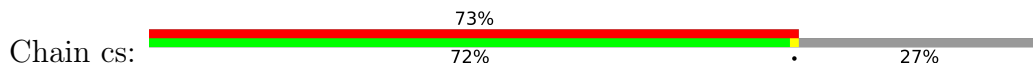
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T61	F62	S63	L64	N65	V66	P67	F68	N69	N70	VAL	S71	I72	A73	A74	I75	D76	F77	A78	E79	H80	W81	N82	G83	A84	W85	F86	A87	I88	E89	Y90	N91	R92	Y93	Y94	F95	I96	A97	P98	S99	T100	Y101	P102	I103	S104	G105	L106	G107	T108	A109	V110	V111	F112	D113	L114	Q115	K116	G117	E118	K119	A120						
S121	Q122	R123	K124	I125	T126	E127	F128	G129	M130	K131	D132	I133	R134	I135	A136	D137	E138	I139	S140	D141	I142	A143	A144	D145	D146	H147	S148	V149	L150	I151	T152	T153	K154	L155	M156	S157	E158	S159	P161	G162	E163	L164	S165	R166	D167	V168	V169	L170	M171	G172	E173	I174	A175	T176	G177	R178	I179	M180								
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Q301	Q302	I303	A304	S305	C306	V307	N308	T309	S310	V311	K312	I313	P314	G315	G316	E317	Y318	S319	W320	K321	I322	R323	L324	F325	F326	G327	P328	I329	W330	Q331	Q332	Q333	E334	S335	I336	N337	S338	V339	THR	VAL	PRO	HIS	GLY	ASP	TYR	MET	TYR	LEU	TYR	LYS	GLU	ILE	VAL	LYS	TYR	LYS	N295
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TYR	GLN	ARG	ASN	THR	LYS	ARG	ASN	PHE	HIS	GLU	TYR	ASP	TYR	LYS	PHE
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• Molecule 21: P19



MET	PHE	LEU	TYR	LYS	MET	ASN	GLU	VAL	LEU	ASN	VAL	ASN	ASN	GLY	SER	ILE	VAL	ILE	LYS	LEU	LYS	THR	PRO	GLY	ASP	ILE	ARG	PRO	GLY	LYS	LYS	VAL	PHE	THR	PRO	LYS	PHE	PHE	LYS	ASN	THR	VAL	GLY	ASN	ASN	HIS	VAL	GLY	MET	TYR	THR	CYS	ASN
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THR	PHE	LEU	M65	V66	P67	V68	M69	M70	S71	I72	A73	I74	I75	D76	F77	A78	E79	H80	W81	N82	G83	A84	V85	F86	K87	I88	E89	Y90	N91	R92	W93	N94	F95	I96	A97	P98	S99	L100	Y101	P102	I103	S104	G105	L106	G107	T108	A109	V110	V111	F112	D113	L114	Q115	K116	G117	E118	K119	A120
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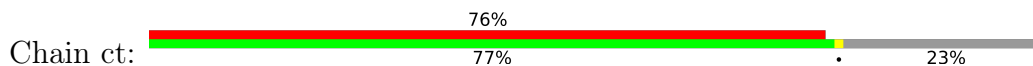
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K241	W242	A243	L244	M245	D246	S247	K248	M249	Y250	I251	V252	N253	N254	T255	N256	G257	F258	V259	I260	A261	K262	N263	P264	D265	T266	A267	M268	G269	V270	S271	L272	L273	E274	W275	P276	R277	G278	A279	V280	V281	F282	P283	P284	Y285	Y286	N287	F288	K289	K290	F291	K292	N293	V294	N295	K296	W297	S298	I299	S300
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Q301	Q302	I303	A304	S305	C306	V307	N308	T309	S310	V311	K312	I313	P314	G315	G316	E317	Y318	S319	W320	K321	I322	R323	L324	F325	F326	G327	P328	I329	W330	Q331	Q332	Q333	E334	S335	I336	N337	S338	V339	LYS	THR	VAL	PRO	HIS	GLY	ASP	ASN	ASP	TYR	MET	TYR	LEU	TYR	LYS	GLU	ILE	VAL	LYS	TYR	LYS
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TYR	GLN	ARG	ASN	THR	LYS	ARG	ASN	PHE	HIS	GLU	TYR	ASP	TYR	LYS	PHE
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• Molecule 21: P19



MET	PHE	LEU	TYR	LYS	MET	ASN	GLU	VAL	LEU	ASN	VAL	ASN	ASN	GLY	SER	ILE	VAL	ILE	LYS	LEU	LYS	THR	PRO	GLY	ASP	ILE	ILE	ARG	PRO	GLY	LYS	LYS	VAL	PHE	THR	PRO	K48	F49	F50	K51	M52	G53	M54	V55	M56	Y57	F58	C59	M60
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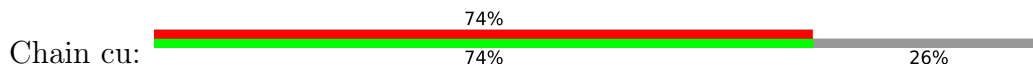
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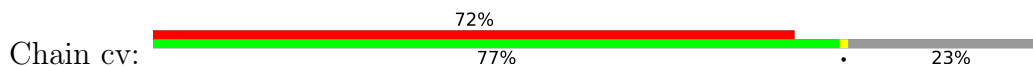
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TYR	GLN	ARG	ASN	THR	LYS	ARG	ASN	PHE	GLU	HIS	GLU	TYR	ASP	TYR	PHE	TYR	GLN	ARG	ASN	HIS	THR	PRO	GLY	ASP	ILE	ILE	ARG	PRO	GLY	LYS	THR	LYS	VAL	PHE	THR	PRO	LYS	PHE	THR	LYS	PHE	ASN	CYS	THR	TYR	LEU	TYR	LYS	GLU	ILE	VAL	LYS	TYR	LYS	LYS				

• Molecule 21: P19

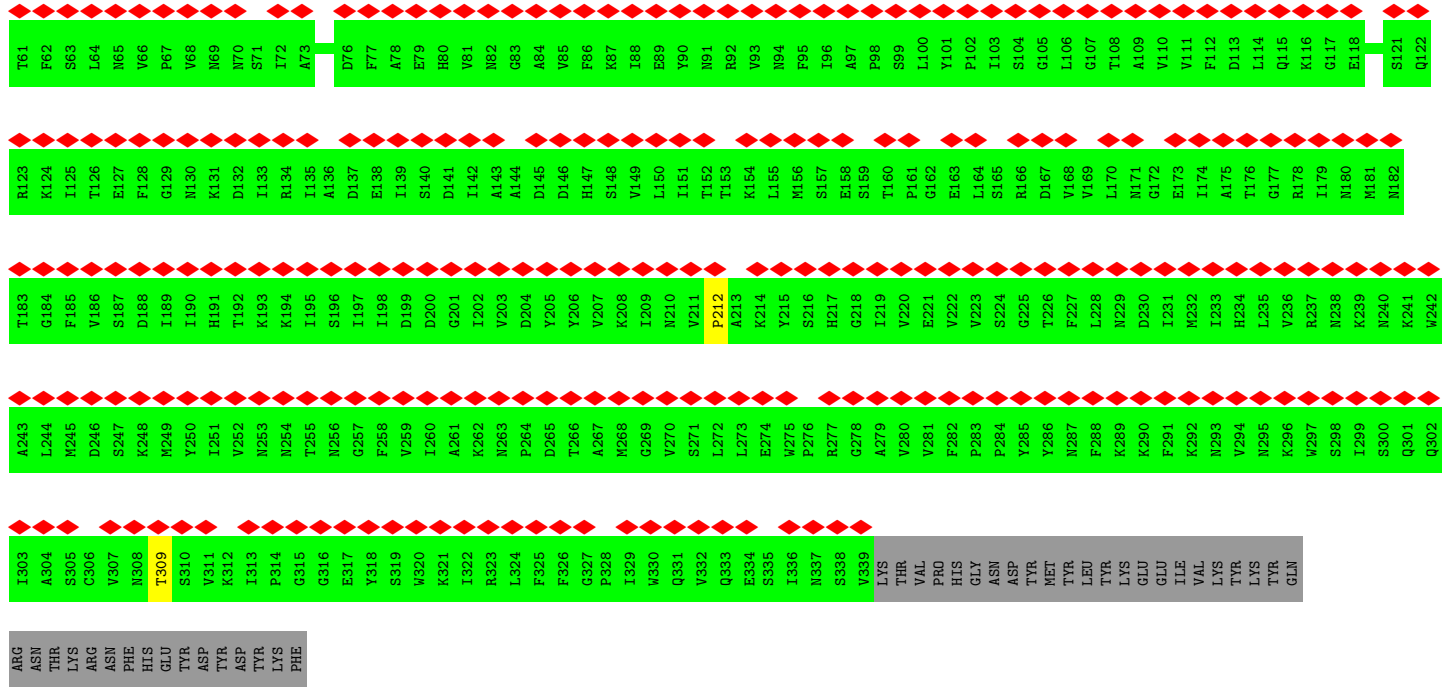


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T61	F62	S63	L64	N65	V66	P67	F68	N69	N70	S71	I72	A73	T74	I75	D76	F77	A78	E79	H80	W81	N82	G83	A84	W85	F86	K87	I88	E89	Y90	N91	R92	N93	N94	F95	I96	A97	P98	S99	L100	Y101	P102	I103	S104	G105	R106	G107	T108	A109	V110	V111	F112	D113	L114	Q115	K116	E117	K119	A120	
S121	Q122	R123	K124	I125	T126	E127	F128	G129	N130	K131	D132	I133	R134	I135	A136	D137	E138	I139	S140	D141	I142	A143	A144	D145	D146	H147	S148	V149	L150	I151	T152	T153	K154	L155	M156	S157	E158	S159	T160	P161	G162	E163	L164	S165	R166	D167	V168	V169	L170	M171	G172	E173	I174	A175	T176	G177	R178	I179	N180
M181	N182	T183	G184	F185	V186	S187	D188	I189	I190	H191	T192	K193	K194	I195	S196	I197	I198	D199	D200	G201	I202	V203	D204	Y205	Y206	Y207	K208	I209	N210	V211	P212	A213	K214	Y215	S216	H217	G218	I219	V220	E221	V222	V223	S224	G225	T226	F227	L228	N229	I231	M232	I233	H234	L235	V236	R237	N238	K239	N240	
K241	W242	A243	L244	M245	D246	S247	K248	M249	Y250	I251	V252	N253	N254	T255	N256	G257	F258	V259	I260	A261	K262	N263	P264	D265	T266	A267	M268	G269	V270	S271	L272	L273	E274	W275	P276	R277	G278	A279	V280	V281	F282	P283	P284	Y285	Y286	N287	F288	K289	L290	F291	K292	N293	V294	N295	K296	W297	S298	I299	S300
Q301	Q302	A304	S305	C306	V307	N308	T309	S310	V311	K312	N313	P314	G315	G316	E317	Y318	S319	W320	K321	I322	R323	L324	F325	F326	G327	P328	I329	W330	Q331	V332	Q333	E334	S335	I336	N337	S338	V339	LYS	THR	VAL	PRO	HIS	GLY	ASN	ASP	TYR	TYR	LEU	TYR	LYS	GLU	GLU	ILE	VAL	LYS	TYR	LYS	LYS	
TYR	GLN	ARG	ASN	THR	LYS	ARG	ASN	PHE	GLU	HIS	GLU	TYR	ASP	TYR	PHE	TYR	GLN	ARG	ASN	HIS	THR	PRO	GLY	ASP	ILE	ILE	ARG	PRO	GLY	LYS	THR	LYS	VAL	PHE	THR	PRO	LYS	PHE	THR	LYS	PHE	ASN	CYS	THR	TYR	LEU	TYR	LYS	GLU	ILE	VAL	LYS	TYR	LYS	LYS				

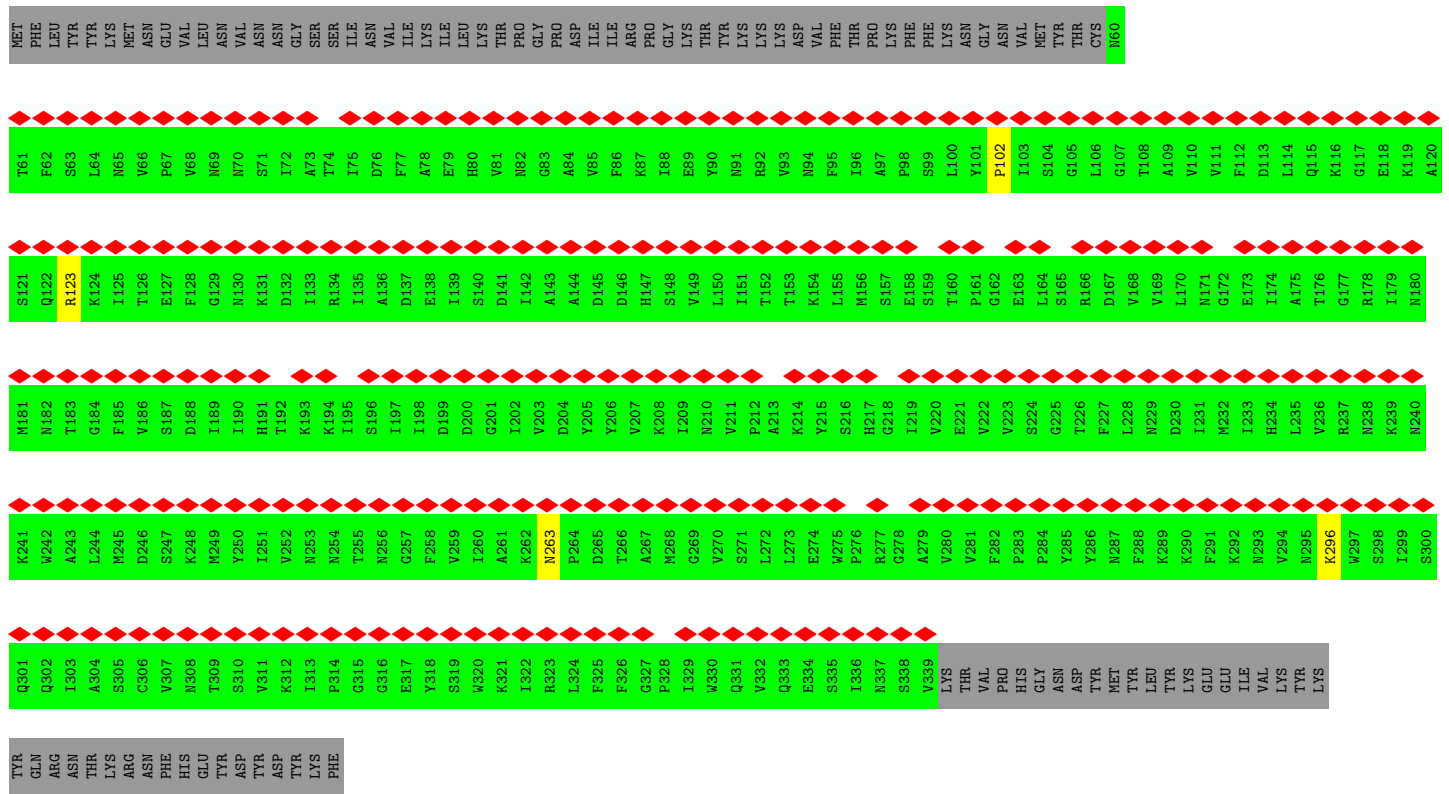
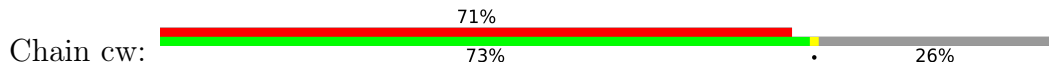
• Molecule 21: P19



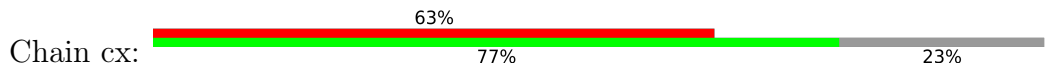
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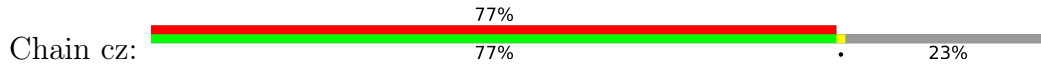
• Molecule 21: P19





TYR  
GLN  
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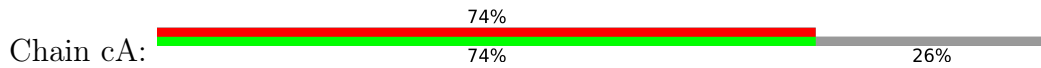
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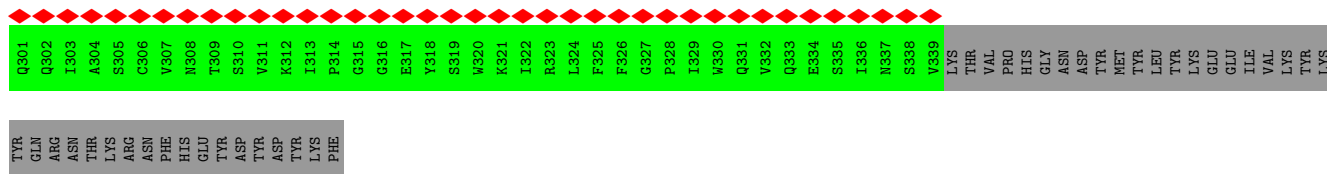
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T61	F62	S63	L64	N65	V66	P67	V68	N69	M70	S71	I72	A73	T74	I75	D76	F77	A78	E79	H80	V81	N82	G83	A84	V85	F86	K87	I88	E89	Y90	N91	R92	V93	N94	F95	I96	A97	P98	S99	L100	Y101	P102	I103	S104	G105	L106	G107	T108	A109	V110	V111	F112	D113	L114	Q115	K116	G117	E118	K119	A120
S121	Q122	R123	K124	I125	T126	E127	F128	G129	M130	K131	D132	I133	R134	I135	A136	D137	E138	I139	S140	D141	I142	A143	A144	D145	D146	H147	S148	V149	L150	I151	T152	T153	K154	L155	M156	S157	E158	S159	T160	P161	G162	E163	L164	S165	R166	D167	V168	V169	L170	M171	G172	E173	I174	A175	T176	G177	R178	I179	N180
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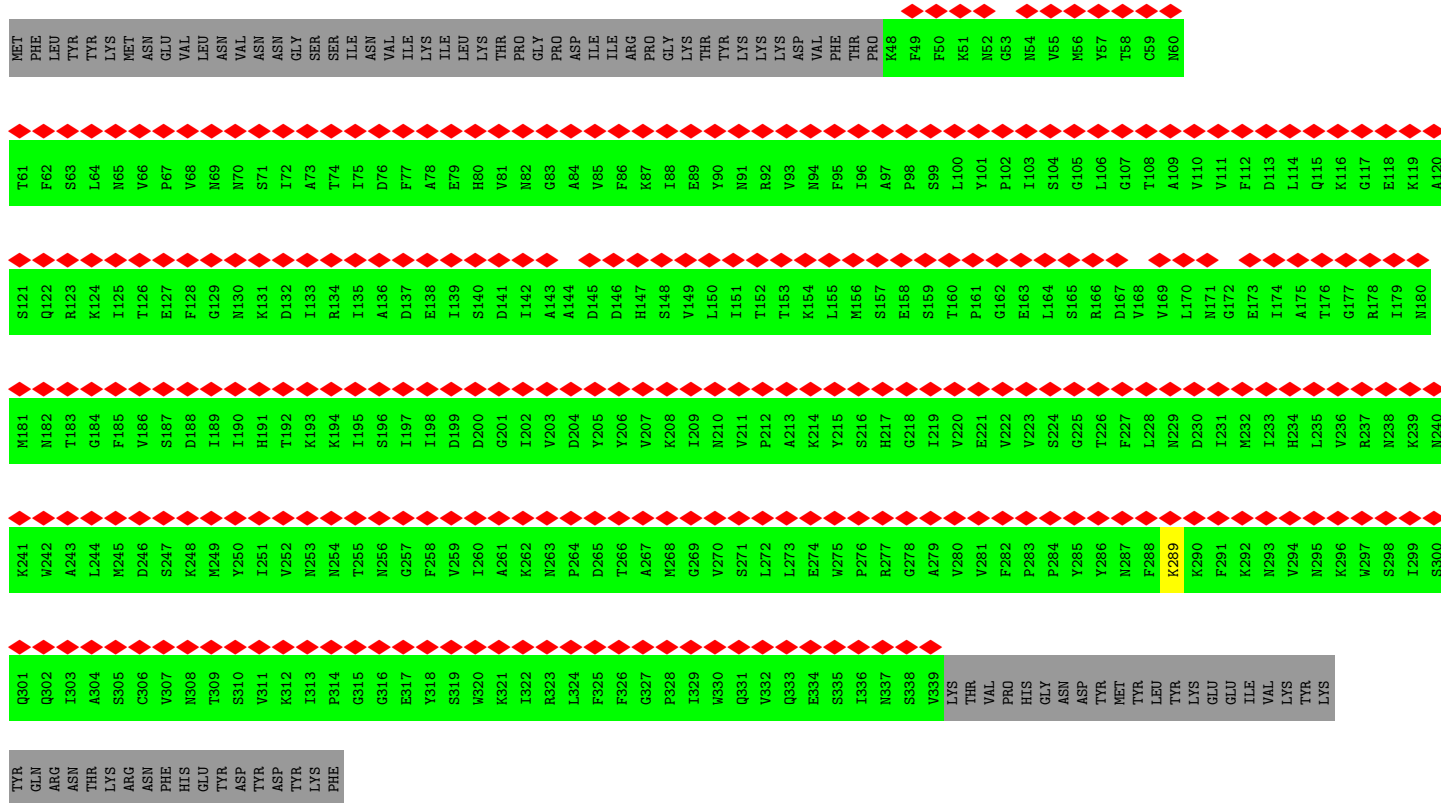
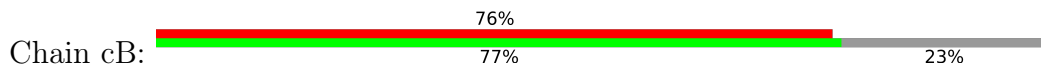
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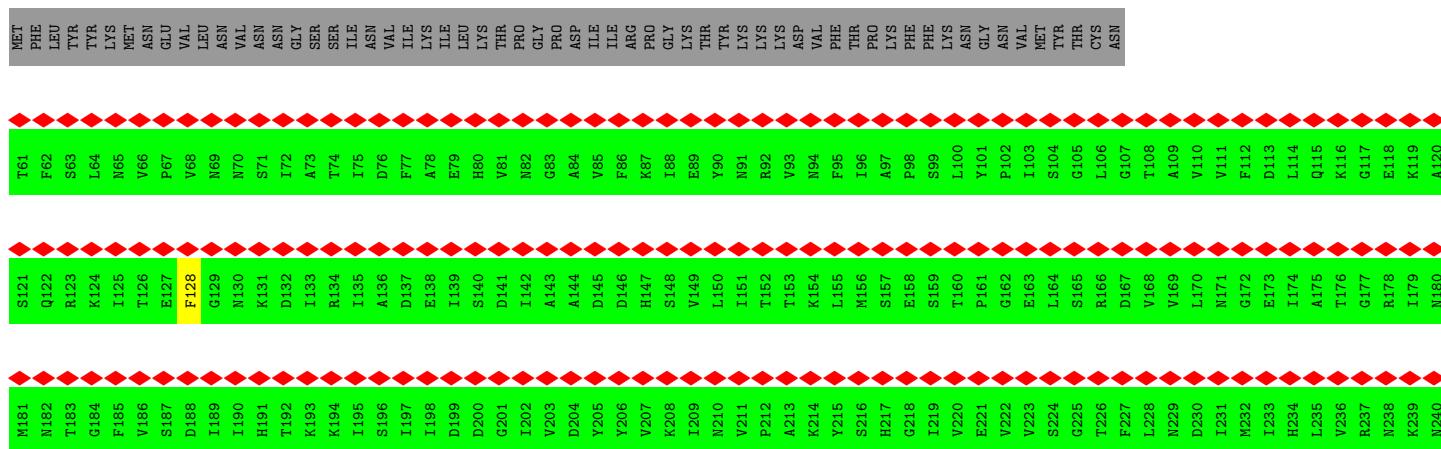
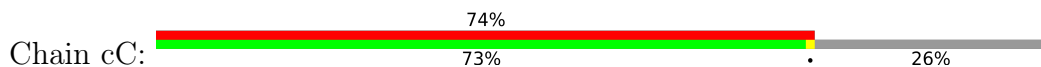
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T61	F62	S63	L64	N65	V66	P67	V68	N69	M70	S71	I72	A73	T74	I75	D76	F77	A78	E79	H80	V81	N82	G83	A84	V85	F86	K87	I88	E89	Y90	N91	R92	V93	N94	F95	I96	A97	P98	S99	L100	Y101	P102	I103	S104	G105	L106	G107	T108	A109	V110	V111	F112	D113	L114	Q115	K116	G117	E118	K119	A120
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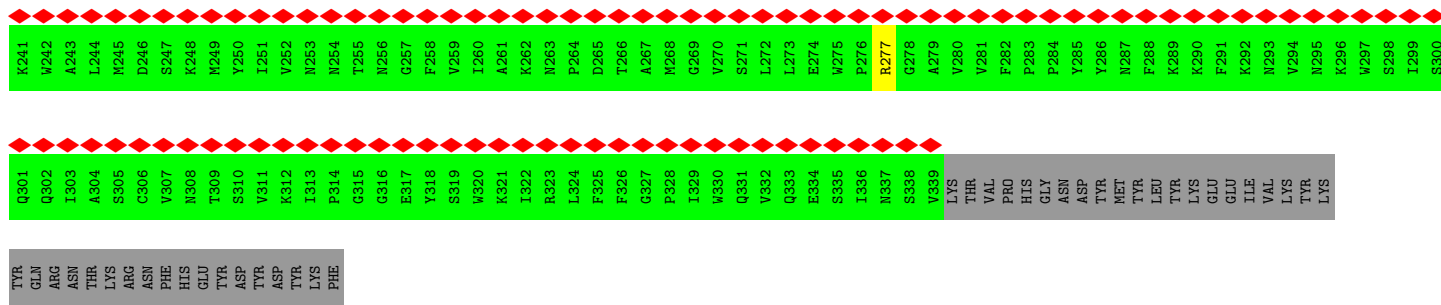


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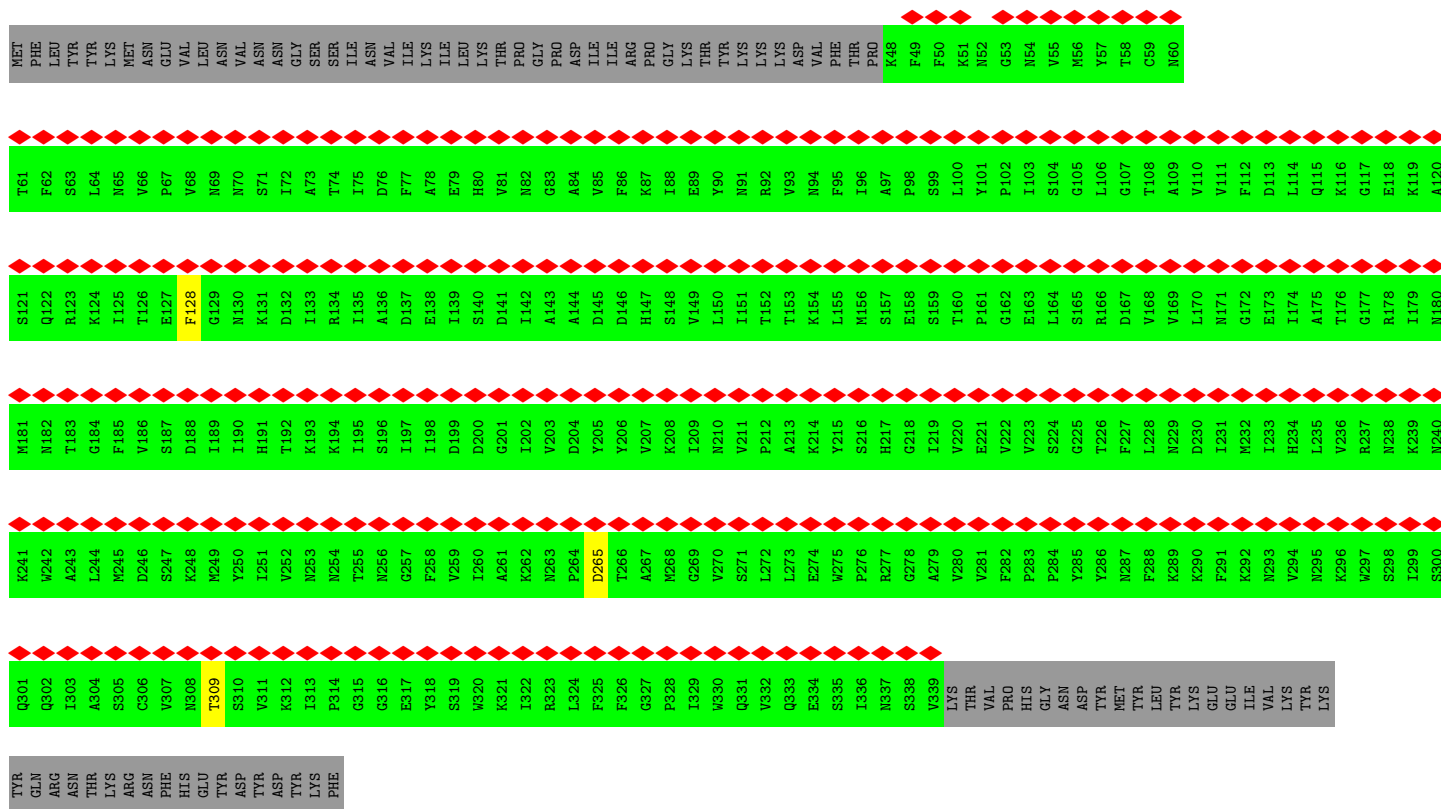
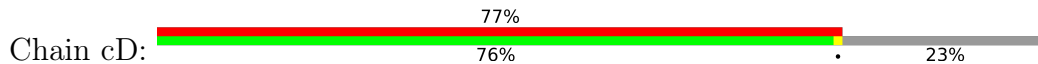


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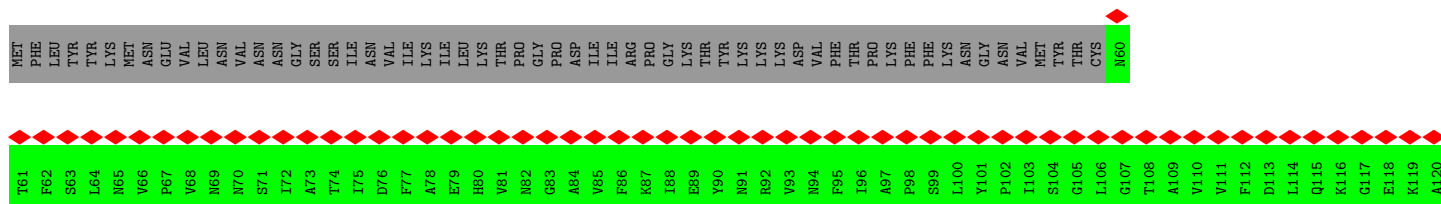
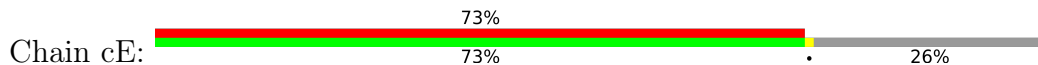


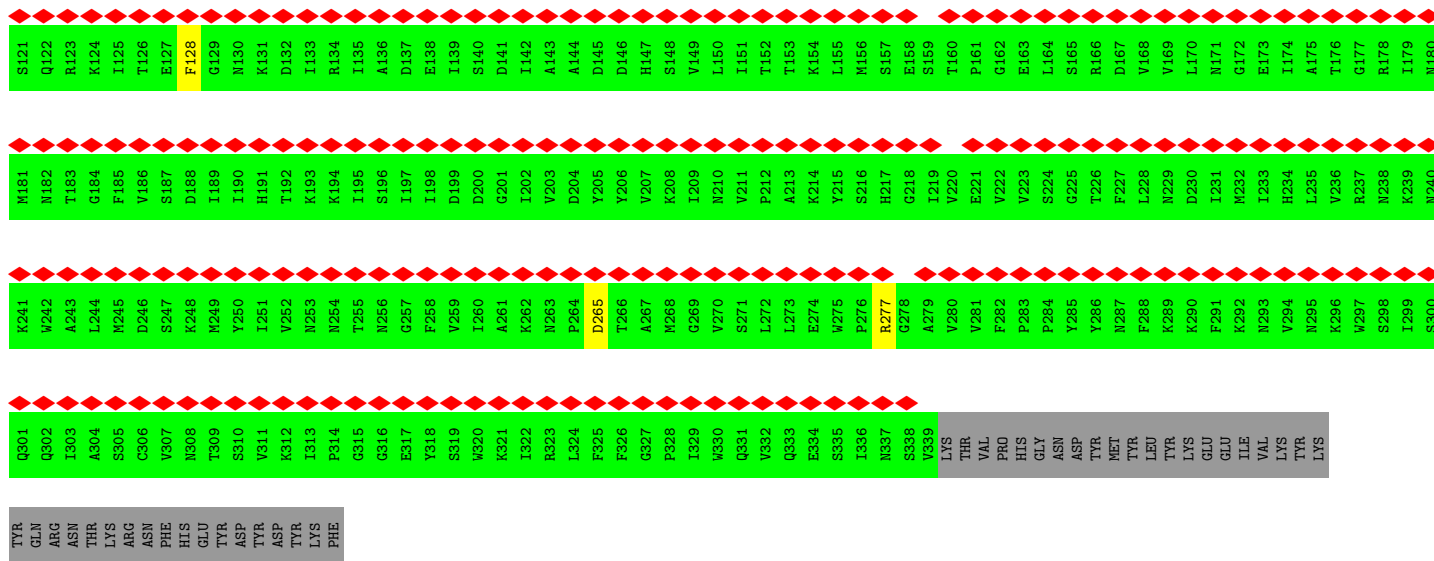


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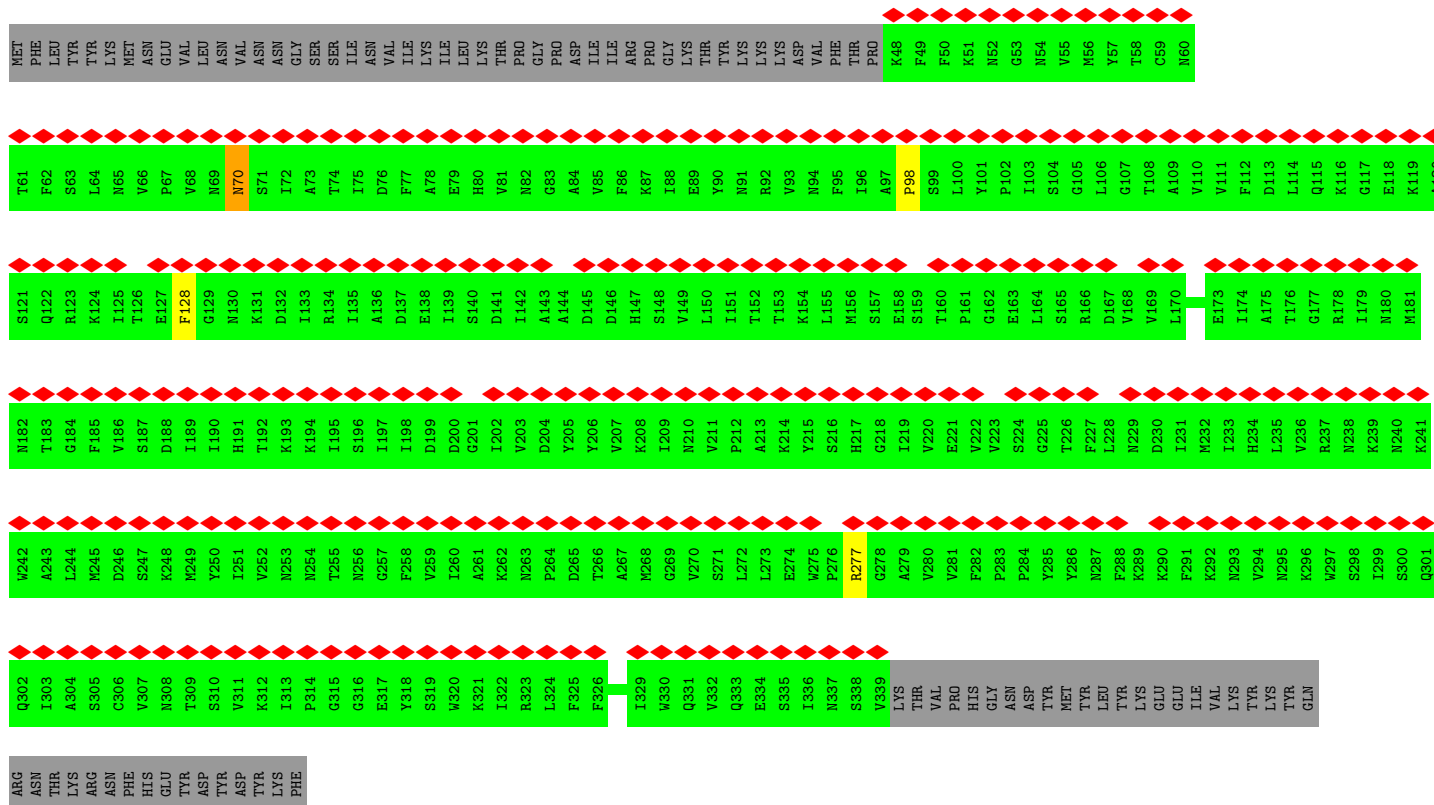
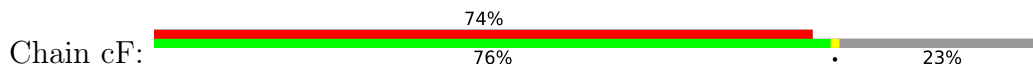


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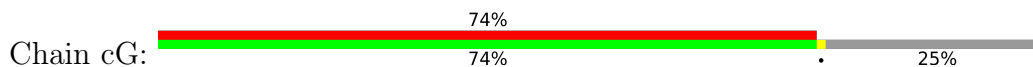




• Molecule 21: P19



• Molecule 21: P19





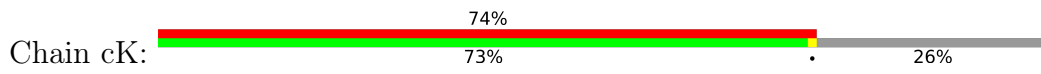




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ASN	THR	LYS	ARG	ASN	PHE	HIS	GLU	TYR	ASP	ASP	ASP	TYR	LYS	PHE
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• Molecule 21: P19



MET	PHE	LEU	TYR	TYR	VAL	ASN	ASN	ASN	GLY	SER	SER	ILE	ILE	VAL	LYS	LEU	LYS	THR	PRO	PRO	GLY	PRO	ASP	ILE	ILE	ARG	PRO	GLY	LYS	LYS	LYS	ASP	VAL	PHE	THR	PRO	LYS	PHE	PHE	LYS	GLY	ASN	ASN	VAL	MET	TYR	THR	CYS	ASN
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T61	F62	S63	L64	N65	V66	P67	V68	N69	N70	S71	I72	A73	T74	I75	D76	F77	A78	E79	H80	V81	N82	G83	A84	V85	F86	K87	I88	E89	Y90	N91	R92	V93	N94	F95	I96	A97	A98	S99	L100	Y101	P102	I103	S104	G105	L106	G107	T108	A109	V110	V111	F112	D113	L114	Q115	K116	G117	E118	K119	A120
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S121	Q122	R123	K124	I125	T126	E127	F128	G129	M130	K131	D132	R134	I135	A136	E138	I139	S140	D141	I142	A143	A144	D145	D146	H147	S148	V149	E89	I150	I151	T152	T153	K154	L155	M156	S157	E158	S159	T160	P161	G162	E163	L164	S165	R166	D167	V168	V169	L170	M171	G172	E173	I174	A175	T176	G177	R178	I179	N180
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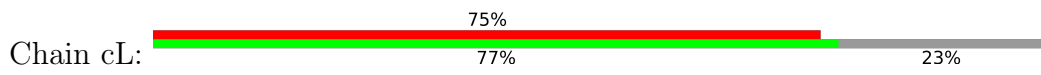
M181	M182	T183	G184	F185	V186	S187	D188	I189	I190	H191	T192	K193	L194	I195	S196	I197	F198	V199	D200	G201	T202	V203	D204	Y205	Y206	V207	K208	I209	N210	V211	P212	A213	K214	Y215	S216	H217	G218	I219	V220	E221	V222	V223	S224	G225	T226	F227	L228	M229	D230	I231	M232	I233	H234	L235	M236	K237	R238	K239	N240
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K241	W242	A243	L244	M245	D246	S247	K248	M249	Y250	L251	V252	M253	T254	T255	N256	G257	F258	V259	L260	A261	K262	M263	P264	D265	T266	A267	M268	G269	V270	S271	L272	L273	E274	W275	P276	R277	G278	A279	V280	V281	F282	P283	P284	Y285	T286	M287	F288	K289	M290	F291	K292	M293	V294	N295	K296	W297	S298	I299	S300
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Q301	Q302	I303	A304	S305	C306	V307	N308	T309	S310	V311	K312	I313	P314	G315	G316	E317	Y318	S319	W320	K321	I322	R323	L324	F325	F326	G327	P328	I329	W330	Q331	V332	Q333	E334	S335	I336	N337	S338	V339	LYS	THR	VAL	PRO	HIS	GLY	ASN	ASP	TYR	MET	TYR	TYR	LEU	LEU	LYS	GLU	ILE	VAL	VAL	TYR	LYS
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TYR	GLN	ARG	ASN	THR	LYS	ARG	ASN	PHE	GLU	HIS	GLU	TYR	ASP	TYR	TYR	ASP	GLY	LYS	PHE
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• Molecule 21: P19



MET	PHE	LEU	TYR	TYR	VAL	ASN	ASN	ASN	GLY	SER	SER	ILE	ILE	VAL	LYS	LEU	LYS	THR	PRO	PRO	GLY	PRO	ASP	ILE	ILE	ARG	PRO	GLY	LYS	LYS	LYS	ASP	VAL	PHE	THR	K48	F49	F50	K51	M52	G53	M54	V55	M56	V57	F58	C59	M60
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T61	F62	S63	L64	N65	V66	P67	V68	N69	N70	S71	I72	A73	T74	I75	D76	F77	A78	E79	H80	V81	N82	G83	A84	V85	F86	K87	I88	E89	Y90	N91	R92	V93	N94	F95	I96	A97	A98	S99	L100	Y101	P102	I103	S104	G105	L106	G107	T108	A109	V110	V111	F112	D113	L114	Q115	K116	G117	E118	K119	A120
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S121	Q122	R123	K124	I125	T126	E127	F128	G129	M130	K131	D132	R134	I135	A136	E138	I139	S140	D141	I142	A143	A144	D145	D146	H147	S148	V149	E89	I150	I151	T152	T153	K154	L155	M156	S157	E158	S159	T160	P161	G162	E163	L164	S165	R166	D167	V168	V169	L170	M171	G172	E173	I174	A175	T176	G177	R178	I179	N180
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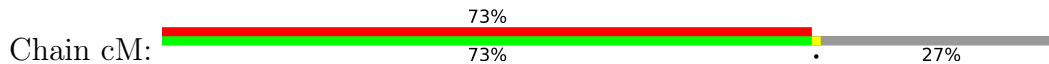
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K241	W242	A243	L244	M245	D246	S247	K248	M249	Y250	I251	V252	N253	N254	T255	N256	G257	F258	V259	I260	A261	K262	N263	P264	D265	T266	A267	M268	G269	V270	S271	L272	L273	E274	W275	P276	R277	G278	A279	V280	V281	F282	P283	P284	Y285	Y286	N287	F288	K289	K290	F291	K292	N293	V294	N295	K296	W297	S298	I299	S300
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Q301	Q302	I303	A304	S305	C306	V307	N308	T309	S310	V311	K312	I313	S314	G315	G316	E317	Y318	S319	W320	K321	I322	R323	L324	F325	F326	G327	P328	I329	W330	Q331	V332	Q333	E334	S335	I336	N337	S338	V339	THR	VAL	PRO	HIS	GLY	ASP	TYR	MET	LEU	TYR	LYS	GLU	ILE	VAL	LYS	TYR	LYS	TYR	LYS
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TYR	GLN	ARG	ASN	THR	LYS	ARG	ASN	PHE	HIS	GLU	TYR	ASP	TYR	LYS	PHE
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• Molecule 21: P19



MET	PHE	LEU	TYR	LYS	MET	GLU	VAL	ASN	GLU	ASN	VAL	ASN	ASN	SER	ILE	VAL	ILE	LYS	LEU	LYS	THR	PRO	ASP	ILE	ARG	PRO	GLY	LYS	LYS	VAL	VAL	PHE	THR	LYS	PHE	PHE	LYS	ASN	GLY	ASN	ASN	VAL	HIS	VAL	HIS	GLY	MET	TYR	THR	CYS	ASN
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THR	PHE	S63	L64	N65	V66	P67	V68	N69	N70	S71	I72	T73	T74	I75	D76	F77	A78	E79	H80	N81	N82	G83	A84	V85	F86	K87	I88	E89	Y90	N91	R92	V93	N94	F95	I96	A97	P98	S99	L100	Y101	P102	I103	S104	G105	L106	G107	T108	A109	V110	V111	F112	D113	L114	Q115	K116	E118	K119	A120
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S121	Q122	R123	K124	I125	T126	E127	F128	G129	M130	K131	D132	R133	R134	I135	A136	D137	A78	E79	H80	D200	G201	L202	V203	D204	D145	Y206	V207	K208	L209	N210	V211	P212	A213	K214	Y215	S216	H217	G218	I219	V220	E221	F222	V223	S224	G225	T226	F227	L228	M229	D230	L231	M232	L233	H234	L235	V236	R237	K238	K239	N240
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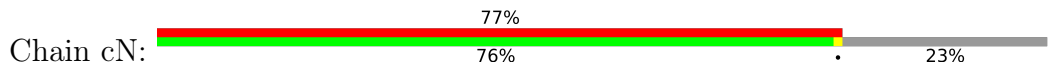
M181	N182	T183	G184	F185	V186	S187	D188	I189	I190	H191	T192	K193	K194	I195	S196	I197	L198	D199	D200	G201	L202	V203	D204	D145	Y206	V207	K208	L209	N210	V211	P212	A213	K214	Y215	S216	H217	G218	I219	V220	E221	F222	V223	S224	G225	T226	F227	L228	M229	D230	L231	M232	L233	H234	L235	V236	R237	K238	K239	N240
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K241	W242	A243	L244	M245	D246	S247	K248	M249	Y250	I251	V252	N253	N254	T255	N256	G257	F258	V259	I260	A261	K262	N263	P264	D265	T266	A267	M268	G269	V270	S271	L272	L273	E274	W275	P276	R277	G278	A279	V280	V281	F282	P283	P284	Y285	Y286	N287	F288	K289	K290	F291	K292	N293	V294	N295	K296	W297	S298	I299	S300
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Q301	Q302	I303	A304	S305	C306	V307	N308	T309	S310	V311	K312	I313	P314	G315	G316	E317	Y318	S319	W320	K321	I322	R323	L324	F325	F326	G327	P328	I329	W330	Q331	V332	Q333	E334	S335	I336	N337	S338	V339	LYS	THR	VAL	PRO	HIS	GLY	ASP	ASN	ASP	TYR	MET	TYR	LEU	TYR	LYS	GLU	ILE	VAL	LYS	TYR	LYS
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TYR	GLN	ARG	ASN	THR	LYS	ARG	ASN	PHE	HIS	GLU	TYR	ASP	TYR	LYS	PHE
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• Molecule 21: P19



MET	PHE	LEU	TYR	LYS	MET	ASN	GLU	VAL	VAL	ASN	ASN	ASN	GLY	SER	ILE	ASN	VAL	ILE	LYS	LEU	LYS	THR	PRO	PRO	GLY	ASP	ILE	ILE	ARG	PRO	GLY	LYS	LYS	VAL	VAL	PHE	THR	K48	F49	F50	K51	M52	G53	M54	V55	M56	Y57	T58	C59	N60
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T61	F62	S63	L64	N65	V66	P67	V68	N69	N70	S71	I72	A73	T74	I75	D76	F77	A78	E79	H80	V81	N82	G83	A84	V85	F86	K87	I88	E89	Y90	N91	R92	V93	N94	F95	I96	A97	P98	S99	L100	Y101	P102	I103	S104	G105	V106	G107	T108	A109	V110	V111	F112	D113	I114	Q115	K116	G117	E118	K119	A120
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S121	Q122	R123	K124	I125	T126	E127	F128	G129	M130	K131	D132	I133	R134	I135	A136	D137	A78	E79	H80	D141	I142	A143	A144	D145	D146	H147	I148	E149	L150	I151	T152	V153	N154	L155	I156	M157	S158	S159	T160	P161	E163	L164	S165	R166	D167	V168	V169	L170	M171	G172	E173	I174	A175	T176	G177	R178	I179	M180
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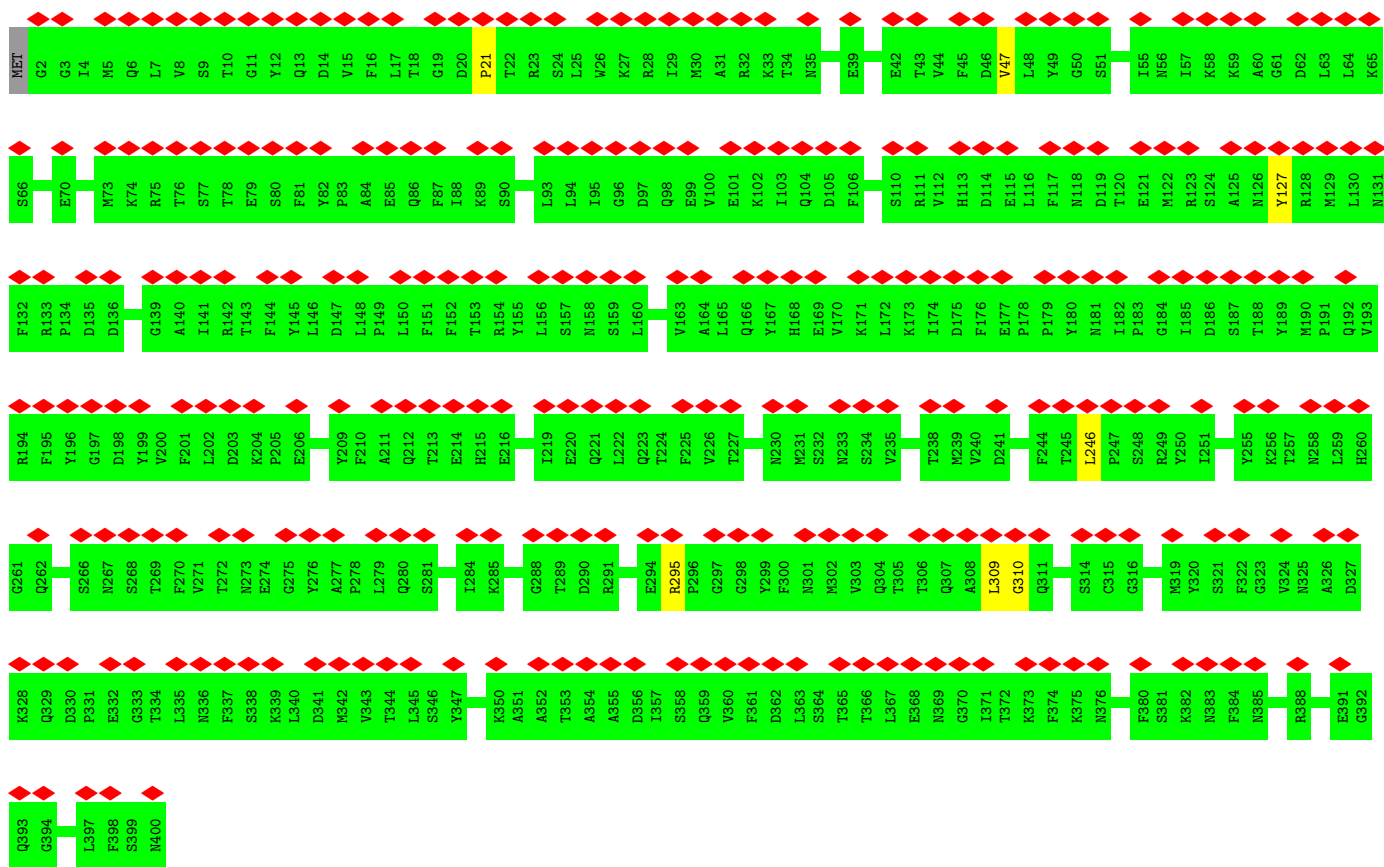




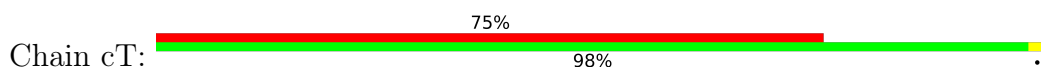




• Molecule 24: MCPv5



• Molecule 24: MCPv5





















## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	56500	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	24.4	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	4000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	2.269	Depositor
Minimum map value	-1.541	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.098	Depositor
Recommended contour level	0.55	Depositor
Map size (Å)	1944.0, 1944.0, 1944.0	wwPDB
Map dimensions	1200, 1200, 1200	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.62, 1.62, 1.62	Depositor

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	aA	0.55	0/3468	0.69	0/4728
1	aB	0.58	0/3468	0.71	0/4728
1	aC	0.58	0/3473	0.71	0/4735
1	aD	0.60	0/3460	0.76	0/4717
1	aE	0.57	0/3473	0.72	0/4735
1	aF	0.58	0/3460	0.70	0/4717
1	aG	0.56	0/3468	0.70	0/4728
1	aH	0.55	0/3460	0.72	0/4717
1	aI	0.57	0/3468	0.71	0/4728
1	aJ	0.58	0/3473	0.70	0/4735
1	aK	0.55	0/3473	0.74	1/4735 (0.0%)
1	aL	0.58	0/3465	0.73	0/4724
1	aM	0.57	0/3473	0.71	0/4735
1	aN	0.58	0/3468	0.71	0/4728
1	aO	0.57	0/3473	0.72	0/4735
1	aP	0.57	0/3473	0.71	0/4735
1	aQ	0.58	0/3460	0.72	0/4717
1	aR	0.58	0/3473	0.73	0/4735
1	aS	0.57	0/3473	0.71	0/4735
1	aT	0.58	0/3473	0.70	0/4735
1	aU	0.58	0/3473	0.70	0/4735
1	aV	0.56	0/3473	0.69	0/4735
1	aW	0.56	0/3473	0.71	0/4735
1	aX	0.58	0/3468	0.72	0/4728
1	aY	0.57	0/3473	0.71	0/4735
1	aZ	0.57	0/3473	0.71	0/4735
1	aa	0.84	0/3452	0.83	0/4707
1	ab	0.88	0/3473	0.88	0/4735
1	ac	0.83	0/3473	0.82	1/4735 (0.0%)
1	ad	0.57	0/3473	0.71	1/4735 (0.0%)
1	ae	0.56	0/3473	0.69	0/4735
1	af	0.57	0/3473	0.71	0/4735
1	ag	0.57	0/3473	0.70	0/4735
1	ah	0.56	0/3473	0.70	0/4735

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	ai	0.56	0/3473	0.71	0/4735
1	aj	0.57	0/3473	0.70	0/4735
1	ak	0.56	0/3473	0.69	0/4735
1	al	0.55	0/3465	0.72	0/4724
1	am	0.57	0/3473	0.73	0/4735
1	an	0.57	0/3465	0.69	0/4724
1	ao	0.57	0/3468	0.71	0/4728
1	ap	0.57	0/3473	0.72	0/4735
1	aq	0.56	0/3473	0.72	0/4735
1	ar	0.57	0/3460	0.72	0/4717
1	as	0.56	0/3473	0.69	0/4735
1	at	0.56	0/3473	0.69	0/4735
1	au	0.56	0/3460	0.70	0/4717
1	av	0.54	0/3473	0.70	0/4735
1	aw	0.56	0/3473	0.72	0/4735
1	ax	0.56	0/3460	0.69	0/4717
1	ay	0.57	0/3468	0.69	0/4728
1	az	0.57	0/3460	0.69	0/4717
1	ba	0.58	0/3473	0.73	0/4735
1	bb	0.56	0/3473	0.69	0/4735
1	bc	0.58	0/3473	0.72	0/4735
1	bd	0.57	0/3473	0.71	0/4735
1	be	0.57	0/3473	0.71	0/4735
1	bf	0.56	0/3473	0.73	0/4735
1	bg	0.57	0/3473	0.70	0/4735
1	bh	0.57	0/3473	0.69	0/4735
1	bi	0.57	0/3473	0.71	0/4735
1	bj	0.56	0/3473	0.69	0/4735
1	bk	0.56	0/3473	0.69	0/4735
1	bl	0.57	0/3473	0.69	0/4735
1	bm	0.57	0/3473	0.73	0/4735
1	bn	0.56	0/3460	0.70	0/4717
1	bo	0.58	0/3473	0.70	0/4735
1	bp	0.58	0/3473	0.74	0/4735
1	bq	0.58	0/3473	0.71	0/4735
1	br	0.58	0/3473	0.71	0/4735
1	bs	0.58	0/3473	0.70	0/4735
1	bt	0.57	0/3468	0.71	0/4728
2	bA	0.59	0/4196	0.71	0/5743
2	bB	0.60	0/4208	0.60	0/5759
2	bu	0.81	0/4208	0.80	0/5759
2	bv	0.79	0/4208	0.79	0/5759
2	bw	0.80	0/4208	0.81	0/5759

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
2	bx	0.80	0/4191	0.82	0/5736
2	by	0.78	0/4208	0.79	0/5759
2	bz	0.79	0/4147	0.81	0/5676
3	bC	0.59	0/4020	0.55	0/5461
4	bD	0.61	0/3248	0.69	0/4423
4	bF	0.61	0/3248	0.68	0/4423
4	cX	0.60	0/3244	0.71	0/4418
4	cZ	0.61	0/3244	0.71	0/4418
4	dd	0.61	0/3248	0.70	0/4423
4	df	0.61	0/3244	0.71	0/4418
4	dj	0.62	0/3248	0.71	0/4423
4	dk	0.60	0/3248	0.70	0/4423
4	dl	0.61	0/3248	0.71	0/4423
4	dp	0.60	0/3248	0.70	0/4423
4	dr	0.62	0/3248	0.71	0/4423
5	bE	0.61	0/3218	0.69	0/4365
5	cY	0.61	0/3218	0.69	1/4365 (0.0%)
5	de	0.61	0/3218	0.69	1/4365 (0.0%)
5	dq	0.61	0/3218	0.69	1/4365 (0.0%)
6	bG	0.62	0/3957	0.56	0/5413
7	bH	0.62	0/3333	0.72	0/4542
8	bI	0.67	0/1120	0.77	0/1517
8	bJ	0.67	0/1172	0.80	0/1590
8	bK	0.66	0/909	0.78	0/1228
9	bL	0.65	0/537	0.79	0/720
9	bM	0.64	0/537	0.78	0/720
9	bN	0.63	0/530	0.84	0/710
9	bO	0.62	0/530	0.76	0/710
10	bP	0.77	0/1155	0.76	0/1573
11	bQ	0.70	0/1307	0.81	0/1775
12	bR	0.72	0/1270	0.67	0/1716
13	bS	0.26	0/1534	0.61	1/2075 (0.0%)
14	bT	0.52	0/382	0.94	0/520
14	bU	0.58	0/436	0.80	0/596
14	bV	0.51	0/428	0.75	0/585
14	bW	0.51	0/416	0.73	0/569
14	bX	0.53	0/319	0.84	0/435
14	bY	0.63	0/593	0.87	0/810
14	bZ	0.54	0/416	0.74	0/569
14	ca	0.51	0/416	0.78	0/569
14	cb	0.61	0/416	0.89	0/569
14	cc	0.56	0/665	0.77	1/911 (0.1%)
14	cd	0.60	0/601	0.83	1/821 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
14	ce	0.61	0/576	0.73	0/787
15	cf	0.70	0/647	0.72	0/873
16	cg	0.68	0/535	0.79	0/723
17	ch	0.77	0/1319	0.79	0/1781
18	ci	0.42	0/565	0.66	1/760 (0.1%)
19	cj	0.27	0/471	0.54	0/643
19	ck	0.25	0/464	0.50	0/629
19	cl	0.27	0/438	0.51	0/595
19	cm	0.25	0/513	0.55	0/697
20	cn	0.26	0/778	0.53	0/1051
20	co	0.26	0/744	0.53	0/1010
21	cA	0.59	0/2239	0.53	0/3040
21	cB	0.61	0/2350	0.59	0/3188
21	cC	0.60	0/2239	0.54	0/3040
21	cD	0.59	0/2350	0.56	0/3188
21	cE	0.60	0/2247	0.57	0/3051
21	cF	0.61	0/2350	0.58	0/3188
21	cG	0.60	0/2260	0.56	0/3069
21	cH	0.63	0/2350	0.60	0/3188
21	cI	0.59	0/2239	0.56	0/3040
21	cJ	0.61	0/2350	0.58	0/3188
21	cK	0.60	0/2239	0.54	0/3040
21	cL	0.60	0/2350	0.59	0/3188
21	cM	0.59	0/2220	0.54	0/3014
21	cN	0.58	0/2350	0.56	0/3188
21	cp	0.60	0/2350	0.57	0/3188
21	cq	0.59	0/2260	0.55	0/3069
21	cr	0.60	0/2350	0.56	0/3188
21	cs	0.60	0/2206	0.55	0/2995
21	ct	0.60	0/2350	0.56	0/3188
21	cu	0.59	0/2247	0.52	0/3051
21	cv	0.61	0/2350	0.60	0/3188
21	cw	0.63	0/2247	0.57	0/3051
21	cx	0.63	0/2350	0.59	0/3188
21	cy	0.61	0/2247	0.56	0/3051
21	cz	0.59	0/2350	0.56	0/3188
22	cO	0.48	0/222	0.70	0/302
22	cQ	0.44	0/237	0.57	0/322
22	da	0.38	0/231	0.59	0/316
22	dc	0.43	0/213	0.57	0/289
22	dg	0.38	0/245	0.52	0/334
22	di	0.37	0/215	0.58	0/293
22	ds	0.35	0/242	0.53	0/330



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
22	du	0.34	0/228	0.55	0/310
23	cP	0.41	0/244	0.55	0/333
23	db	0.42	0/203	0.57	0/277
23	dh	0.36	0/254	0.59	0/345
23	dt	0.29	0/239	0.54	0/324
24	cR	0.65	0/3281	0.72	2/4457 (0.0%)
24	cS	0.65	0/3281	0.72	2/4457 (0.0%)
24	cT	0.64	0/3281	0.72	2/4457 (0.0%)
25	cU	0.35	0/318	0.57	0/433
25	cV	0.34	0/312	0.56	0/425
25	cW	0.37	0/315	0.54	0/429
26	dm	0.41	0/176	0.63	0/243
26	dn	0.40	0/183	0.57	0/252
26	do	0.39	0/185	0.69	1/255 (0.4%)
All	All	0.60	0/437605	0.70	17/596073 (0.0%)

There are no bond length outliers.

The worst 5 of 17 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	bS	27	ILE	C-N-CD	-13.89	90.05	120.60
18	ci	35	TRP	C-N-CD	-6.33	106.67	120.60
24	cT	127	TYR	CA-CB-CG	5.85	124.52	113.40
24	cS	127	TYR	CA-CB-CG	5.84	124.50	113.40
24	cR	127	TYR	CA-CB-CG	5.83	124.48	113.40

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	aA	3390	0	3284	0	0
1	aB	3390	0	3284	0	0
1	aC	3395	0	3289	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	aD	3382	0	3278	0	0
1	aE	3395	0	3289	0	0
1	aF	3382	0	3278	0	0
1	aG	3390	0	3284	0	0
1	aH	3382	0	3278	0	0
1	aI	3390	0	3284	0	0
1	aJ	3395	0	3289	0	0
1	aK	3395	0	3289	0	0
1	aL	3387	0	3283	0	0
1	aM	3395	0	3289	0	0
1	aN	3390	0	3284	0	0
1	aO	3395	0	3289	0	0
1	aP	3395	0	3289	0	0
1	aQ	3382	0	3278	0	0
1	aR	3395	0	3289	0	0
1	aS	3395	0	3289	0	0
1	aT	3395	0	3289	0	0
1	aU	3395	0	3289	0	0
1	aV	3395	0	3289	0	0
1	aW	3395	0	3289	0	0
1	aX	3390	0	3284	0	0
1	aY	3395	0	3289	0	0
1	aZ	3395	0	3289	0	0
1	aa	3374	0	3272	0	0
1	ab	3395	0	3289	0	0
1	ac	3395	0	3289	0	0
1	ad	3395	0	3289	0	0
1	ae	3395	0	3289	0	0
1	af	3395	0	3289	0	0
1	ag	3395	0	3289	0	0
1	ah	3395	0	3289	0	0
1	ai	3395	0	3289	0	0
1	aj	3395	0	3289	0	0
1	ak	3395	0	3289	0	0
1	al	3387	0	3283	0	0
1	am	3395	0	3289	0	0
1	an	3387	0	3283	0	0
1	ao	3390	0	3284	0	0
1	ap	3395	0	3289	0	0
1	aq	3395	0	3289	0	0
1	ar	3382	0	3278	0	0
1	as	3395	0	3289	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	at	3395	0	3289	0	0
1	au	3382	0	3278	0	0
1	av	3395	0	3289	0	0
1	aw	3395	0	3289	0	0
1	ax	3382	0	3278	0	0
1	ay	3390	0	3284	0	0
1	az	3382	0	3278	0	0
1	ba	3395	0	3289	0	0
1	bb	3395	0	3289	0	0
1	bc	3395	0	3289	0	0
1	bd	3395	0	3289	0	0
1	be	3395	0	3289	0	0
1	bf	3395	0	3289	0	0
1	bg	3395	0	3289	0	0
1	bh	3395	0	3289	0	0
1	bi	3395	0	3289	0	0
1	bj	3395	0	3289	0	0
1	bk	3395	0	3289	0	0
1	bl	3395	0	3289	0	0
1	bm	3395	0	3289	0	0
1	bn	3382	0	3278	0	0
1	bo	3395	0	3289	0	0
1	bp	3395	0	3289	0	0
1	bq	3395	0	3289	0	0
1	br	3395	0	3289	0	0
1	bs	3395	0	3289	0	0
1	bt	3390	0	3284	0	0
2	bA	4079	0	3911	0	0
2	bB	4090	0	3920	0	0
2	bu	4090	0	3920	0	0
2	bv	4090	0	3920	0	0
2	bw	4090	0	3920	0	0
2	bx	4074	0	3904	0	0
2	by	4090	0	3920	0	0
2	bz	4030	0	3855	0	0
3	bC	3921	0	3830	0	0
4	bD	3169	0	3084	0	0
4	bF	3169	0	3084	0	0
4	cX	3165	0	3080	0	0
4	cZ	3165	0	3080	0	0
4	dd	3169	0	3084	0	0
4	df	3165	0	3080	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	dj	3169	0	3084	0	0
4	dk	3169	0	3084	0	0
4	dl	3169	0	3084	0	0
4	dp	3169	0	3084	0	0
4	dr	3169	0	3084	0	0
5	bE	3146	0	3091	0	0
5	cY	3146	0	3091	0	0
5	de	3146	0	3091	0	0
5	dq	3146	0	3091	0	0
6	bG	3864	0	3724	0	0
7	bH	3258	0	3136	0	0
8	bI	1096	0	1079	0	0
8	bJ	1146	0	1125	0	0
8	bK	892	0	879	0	0
9	bL	526	0	535	0	0
9	bM	526	0	535	0	0
9	bN	519	0	528	0	0
9	bO	519	0	528	0	0
10	bP	1126	0	1142	0	0
11	bQ	1275	0	1274	0	0
12	bR	1244	0	1254	0	0
13	bS	1504	0	1497	0	0
14	bT	373	0	370	0	0
14	bU	424	0	415	0	0
14	bV	416	0	409	0	0
14	bW	405	0	400	0	0
14	bX	312	0	301	0	0
14	bY	576	0	561	0	0
14	bZ	405	0	400	0	0
14	ca	405	0	400	0	0
14	cb	405	0	400	0	0
14	cc	646	0	643	0	0
14	cd	583	0	569	0	0
14	ce	560	0	541	0	0
15	cf	631	0	625	0	0
16	cg	521	0	494	0	0
17	ch	1288	0	1280	0	0
18	ci	553	0	539	0	0
19	cj	463	0	449	0	0
19	ck	455	0	448	0	0
19	cl	431	0	422	0	0
19	cm	503	0	486	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	cn	769	0	785	0	0
20	co	733	0	728	0	0
21	cA	2191	0	2203	0	0
21	cB	2299	0	2307	0	0
21	cC	2191	0	2203	0	0
21	cD	2299	0	2307	0	0
21	cE	2199	0	2209	0	0
21	cF	2299	0	2307	0	0
21	cG	2212	0	2221	0	0
21	cH	2299	0	2307	0	0
21	cI	2191	0	2203	0	0
21	cJ	2299	0	2307	0	0
21	cK	2191	0	2203	0	0
21	cL	2299	0	2307	0	0
21	cM	2173	0	2187	0	0
21	cN	2299	0	2307	0	0
21	cp	2299	0	2307	0	0
21	cq	2212	0	2221	0	0
21	cr	2299	0	2307	0	0
21	cs	2159	0	2171	0	0
21	ct	2299	0	2307	0	0
21	cu	2199	0	2209	0	0
21	cv	2299	0	2307	0	0
21	cw	2199	0	2209	0	0
21	cx	2299	0	2307	0	0
21	cy	2199	0	2209	0	0
21	cz	2299	0	2307	0	0
22	cO	218	0	220	0	0
22	cQ	233	0	234	0	0
22	da	228	0	221	0	0
22	dc	209	0	208	0	0
22	dg	241	0	239	0	0
22	di	211	0	208	0	0
22	ds	238	0	237	0	0
22	du	224	0	226	0	0
23	cP	239	0	226	0	0
23	db	200	0	188	0	0
23	dh	249	0	241	0	0
23	dt	236	0	229	0	0
24	cR	3203	0	3142	0	0
24	cS	3203	0	3142	0	0
24	cT	3203	0	3142	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	cU	311	0	299	0	0
25	cV	305	0	293	0	0
25	cW	308	0	297	0	0
26	dm	174	0	154	0	0
26	dn	181	0	169	0	0
26	do	182	0	175	0	0
All	All	427569	0	416835	0	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.

There are no clashes within the asymmetric unit.

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	aA	433/437 (99%)	421 (97%)	12 (3%)	0	100	100
1	aB	433/437 (99%)	424 (98%)	9 (2%)	0	100	100
1	aC	434/437 (99%)	423 (98%)	11 (2%)	0	100	100
1	aD	432/437 (99%)	421 (98%)	11 (2%)	0	100	100
1	aE	434/437 (99%)	419 (96%)	15 (4%)	0	100	100
1	aF	432/437 (99%)	421 (98%)	11 (2%)	0	100	100
1	aG	433/437 (99%)	420 (97%)	13 (3%)	0	100	100
1	aH	432/437 (99%)	422 (98%)	9 (2%)	1 (0%)	47	79
1	aI	433/437 (99%)	422 (98%)	10 (2%)	1 (0%)	47	79
1	aJ	434/437 (99%)	421 (97%)	13 (3%)	0	100	100
1	aK	434/437 (99%)	420 (97%)	12 (3%)	2 (0%)	29	66
1	aL	433/437 (99%)	419 (97%)	13 (3%)	1 (0%)	47	79

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	aM	434/437 (99%)	418 (96%)	16 (4%)	0	100	100
1	aN	433/437 (99%)	419 (97%)	13 (3%)	1 (0%)	47	79
1	aO	434/437 (99%)	419 (96%)	14 (3%)	1 (0%)	47	79
1	aP	434/437 (99%)	422 (97%)	11 (2%)	1 (0%)	47	79
1	aQ	432/437 (99%)	420 (97%)	11 (2%)	1 (0%)	47	79
1	aR	434/437 (99%)	416 (96%)	14 (3%)	4 (1%)	17	54
1	aS	434/437 (99%)	418 (96%)	15 (4%)	1 (0%)	47	79
1	aT	434/437 (99%)	417 (96%)	15 (4%)	2 (0%)	29	66
1	aU	434/437 (99%)	421 (97%)	12 (3%)	1 (0%)	47	79
1	aV	434/437 (99%)	420 (97%)	13 (3%)	1 (0%)	47	79
1	aW	434/437 (99%)	420 (97%)	14 (3%)	0	100	100
1	aX	433/437 (99%)	420 (97%)	13 (3%)	0	100	100
1	aY	434/437 (99%)	421 (97%)	12 (3%)	1 (0%)	47	79
1	aZ	434/437 (99%)	421 (97%)	12 (3%)	1 (0%)	47	79
1	aa	430/437 (98%)	420 (98%)	10 (2%)	0	100	100
1	ab	434/437 (99%)	430 (99%)	4 (1%)	0	100	100
1	ac	434/437 (99%)	425 (98%)	9 (2%)	0	100	100
1	ad	434/437 (99%)	419 (96%)	13 (3%)	2 (0%)	29	66
1	ae	434/437 (99%)	419 (96%)	15 (4%)	0	100	100
1	af	434/437 (99%)	422 (97%)	12 (3%)	0	100	100
1	ag	434/437 (99%)	415 (96%)	19 (4%)	0	100	100
1	ah	434/437 (99%)	417 (96%)	16 (4%)	1 (0%)	47	79
1	ai	434/437 (99%)	418 (96%)	16 (4%)	0	100	100
1	aj	434/437 (99%)	423 (98%)	11 (2%)	0	100	100
1	ak	434/437 (99%)	422 (97%)	10 (2%)	2 (0%)	29	66
1	al	433/437 (99%)	425 (98%)	7 (2%)	1 (0%)	47	79
1	am	434/437 (99%)	423 (98%)	11 (2%)	0	100	100
1	an	433/437 (99%)	423 (98%)	10 (2%)	0	100	100
1	ao	433/437 (99%)	419 (97%)	14 (3%)	0	100	100
1	ap	434/437 (99%)	417 (96%)	17 (4%)	0	100	100
1	aq	434/437 (99%)	425 (98%)	8 (2%)	1 (0%)	47	79

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	ar	432/437 (99%)	420 (97%)	12 (3%)	0	100	100
1	as	434/437 (99%)	418 (96%)	14 (3%)	2 (0%)	29	66
1	at	434/437 (99%)	421 (97%)	12 (3%)	1 (0%)	47	79
1	au	432/437 (99%)	421 (98%)	11 (2%)	0	100	100
1	av	434/437 (99%)	425 (98%)	9 (2%)	0	100	100
1	aw	434/437 (99%)	418 (96%)	15 (4%)	1 (0%)	47	79
1	ax	432/437 (99%)	417 (96%)	14 (3%)	1 (0%)	47	79
1	ay	433/437 (99%)	419 (97%)	14 (3%)	0	100	100
1	az	432/437 (99%)	420 (97%)	12 (3%)	0	100	100
1	ba	434/437 (99%)	416 (96%)	17 (4%)	1 (0%)	47	79
1	bb	434/437 (99%)	420 (97%)	12 (3%)	2 (0%)	29	66
1	bc	434/437 (99%)	421 (97%)	12 (3%)	1 (0%)	47	79
1	bd	434/437 (99%)	423 (98%)	9 (2%)	2 (0%)	29	66
1	be	434/437 (99%)	421 (97%)	12 (3%)	1 (0%)	47	79
1	bf	434/437 (99%)	421 (97%)	12 (3%)	1 (0%)	47	79
1	bg	434/437 (99%)	421 (97%)	12 (3%)	1 (0%)	47	79
1	bh	434/437 (99%)	422 (97%)	11 (2%)	1 (0%)	47	79
1	bi	434/437 (99%)	419 (96%)	14 (3%)	1 (0%)	47	79
1	bj	434/437 (99%)	420 (97%)	13 (3%)	1 (0%)	47	79
1	bk	434/437 (99%)	419 (96%)	14 (3%)	1 (0%)	47	79
1	bl	434/437 (99%)	418 (96%)	15 (4%)	1 (0%)	47	79
1	bm	434/437 (99%)	420 (97%)	13 (3%)	1 (0%)	47	79
1	bn	432/437 (99%)	416 (96%)	15 (4%)	1 (0%)	47	79
1	bo	434/437 (99%)	419 (96%)	13 (3%)	2 (0%)	29	66
1	bp	434/437 (99%)	422 (97%)	11 (2%)	1 (0%)	47	79
1	bq	434/437 (99%)	420 (97%)	14 (3%)	0	100	100
1	br	434/437 (99%)	420 (97%)	13 (3%)	1 (0%)	47	79
1	bs	434/437 (99%)	421 (97%)	13 (3%)	0	100	100
1	bt	433/437 (99%)	423 (98%)	9 (2%)	1 (0%)	47	79
2	bA	514/520 (99%)	486 (95%)	26 (5%)	2 (0%)	34	70
2	bB	515/520 (99%)	480 (93%)	34 (7%)	1 (0%)	47	79

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	bu	515/520 (99%)	489 (95%)	25 (5%)	1 (0%)	47	79
2	bv	515/520 (99%)	485 (94%)	29 (6%)	1 (0%)	47	79
2	bw	515/520 (99%)	490 (95%)	25 (5%)	0	100	100
2	bx	512/520 (98%)	483 (94%)	27 (5%)	2 (0%)	34	70
2	by	515/520 (99%)	482 (94%)	32 (6%)	1 (0%)	47	79
2	bz	506/520 (97%)	473 (94%)	32 (6%)	1 (0%)	47	79
3	bC	483/486 (99%)	459 (95%)	22 (5%)	2 (0%)	34	70
4	bD	399/403 (99%)	383 (96%)	14 (4%)	2 (0%)	29	66
4	bF	399/403 (99%)	385 (96%)	14 (4%)	0	100	100
4	cX	399/403 (99%)	380 (95%)	14 (4%)	5 (1%)	12	48
4	cZ	399/403 (99%)	380 (95%)	14 (4%)	5 (1%)	12	48
4	dd	399/403 (99%)	379 (95%)	15 (4%)	5 (1%)	12	48
4	df	399/403 (99%)	377 (94%)	14 (4%)	8 (2%)	7	41
4	dj	399/403 (99%)	376 (94%)	20 (5%)	3 (1%)	19	57
4	dk	399/403 (99%)	374 (94%)	22 (6%)	3 (1%)	19	57
4	dl	399/403 (99%)	374 (94%)	20 (5%)	5 (1%)	12	48
4	dp	399/403 (99%)	381 (96%)	14 (4%)	4 (1%)	15	52
4	dr	399/403 (99%)	378 (95%)	14 (4%)	7 (2%)	8	42
5	bE	395/401 (98%)	382 (97%)	12 (3%)	1 (0%)	41	74
5	cY	395/401 (98%)	382 (97%)	12 (3%)	1 (0%)	41	74
5	de	395/401 (98%)	385 (98%)	10 (2%)	0	100	100
5	dq	395/401 (98%)	384 (97%)	10 (2%)	1 (0%)	41	74
6	bG	496/530 (94%)	478 (96%)	17 (3%)	1 (0%)	47	79
7	bH	422/576 (73%)	388 (92%)	32 (8%)	2 (0%)	29	66
8	bI	139/171 (81%)	131 (94%)	7 (5%)	1 (1%)	22	60
8	bJ	145/171 (85%)	135 (93%)	9 (6%)	1 (1%)	22	60
8	bK	114/171 (67%)	111 (97%)	3 (3%)	0	100	100
9	bL	61/181 (34%)	59 (97%)	1 (2%)	1 (2%)	9	44
9	bM	61/181 (34%)	55 (90%)	5 (8%)	1 (2%)	9	44
9	bN	60/181 (33%)	56 (93%)	3 (5%)	1 (2%)	9	43
9	bO	60/181 (33%)	54 (90%)	5 (8%)	1 (2%)	9	43

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	bP	140/146 (96%)	133 (95%)	7 (5%)	0	100	100
11	bQ	160/216 (74%)	149 (93%)	8 (5%)	3 (2%)	8	42
12	bR	157/173 (91%)	153 (98%)	4 (2%)	0	100	100
13	bS	189/210 (90%)	172 (91%)	15 (8%)	2 (1%)	14	51
14	bT	46/207 (22%)	40 (87%)	3 (6%)	3 (6%)	1	19
14	bU	52/207 (25%)	48 (92%)	3 (6%)	1 (2%)	8	42
14	bV	51/207 (25%)	42 (82%)	8 (16%)	1 (2%)	7	41
14	bW	50/207 (24%)	45 (90%)	4 (8%)	1 (2%)	7	41
14	bX	39/207 (19%)	34 (87%)	4 (10%)	1 (3%)	5	36
14	bY	72/207 (35%)	58 (81%)	10 (14%)	4 (6%)	2	21
14	bZ	50/207 (24%)	46 (92%)	4 (8%)	0	100	100
14	ca	50/207 (24%)	47 (94%)	2 (4%)	1 (2%)	7	41
14	cb	50/207 (24%)	45 (90%)	4 (8%)	1 (2%)	7	41
14	cc	82/207 (40%)	73 (89%)	8 (10%)	1 (1%)	13	50
14	cd	73/207 (35%)	66 (90%)	7 (10%)	0	100	100
14	ce	70/207 (34%)	63 (90%)	6 (9%)	1 (1%)	11	46
15	cf	76/151 (50%)	67 (88%)	7 (9%)	2 (3%)	5	36
16	cg	64/98 (65%)	58 (91%)	3 (5%)	3 (5%)	2	24
17	ch	150/155 (97%)	143 (95%)	5 (3%)	2 (1%)	12	48
18	ci	78/93 (84%)	72 (92%)	5 (6%)	1 (1%)	12	48
19	cj	57/80 (71%)	51 (90%)	6 (10%)	0	100	100
19	ck	55/80 (69%)	52 (94%)	3 (6%)	0	100	100
19	cl	53/80 (66%)	51 (96%)	2 (4%)	0	100	100
19	cm	61/80 (76%)	58 (95%)	3 (5%)	0	100	100
20	cn	96/148 (65%)	93 (97%)	3 (3%)	0	100	100
20	co	93/148 (63%)	87 (94%)	6 (6%)	0	100	100
21	cA	277/378 (73%)	254 (92%)	23 (8%)	0	100	100
21	cB	290/378 (77%)	267 (92%)	23 (8%)	0	100	100
21	cC	277/378 (73%)	250 (90%)	26 (9%)	1 (0%)	34	70
21	cD	290/378 (77%)	267 (92%)	20 (7%)	3 (1%)	15	52
21	cE	278/378 (74%)	255 (92%)	21 (8%)	2 (1%)	22	60

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	cF	290/378 (77%)	257 (89%)	30 (10%)	3 (1%)	15	52
21	cG	280/378 (74%)	253 (90%)	26 (9%)	1 (0%)	34	70
21	cH	290/378 (77%)	261 (90%)	28 (10%)	1 (0%)	41	74
21	cI	277/378 (73%)	256 (92%)	21 (8%)	0	100	100
21	cJ	290/378 (77%)	263 (91%)	24 (8%)	3 (1%)	15	52
21	cK	277/378 (73%)	258 (93%)	18 (6%)	1 (0%)	34	70
21	cL	290/378 (77%)	265 (91%)	24 (8%)	1 (0%)	41	74
21	cM	275/378 (73%)	252 (92%)	22 (8%)	1 (0%)	34	70
21	cN	290/378 (77%)	267 (92%)	21 (7%)	2 (1%)	22	60
21	cp	290/378 (77%)	263 (91%)	24 (8%)	3 (1%)	15	52
21	cq	280/378 (74%)	257 (92%)	21 (8%)	2 (1%)	22	60
21	cr	290/378 (77%)	264 (91%)	25 (9%)	1 (0%)	41	74
21	cs	273/378 (72%)	248 (91%)	23 (8%)	2 (1%)	22	60
21	ct	290/378 (77%)	258 (89%)	30 (10%)	2 (1%)	22	60
21	cu	278/378 (74%)	260 (94%)	18 (6%)	0	100	100
21	cv	290/378 (77%)	254 (88%)	34 (12%)	2 (1%)	22	60
21	cw	278/378 (74%)	252 (91%)	22 (8%)	4 (1%)	11	46
21	cx	290/378 (77%)	260 (90%)	30 (10%)	0	100	100
21	cy	278/378 (74%)	248 (89%)	29 (10%)	1 (0%)	34	70
21	cz	290/378 (77%)	267 (92%)	21 (7%)	2 (1%)	22	60
22	cO	28/1335 (2%)	21 (75%)	7 (25%)	0	100	100
22	cQ	29/1335 (2%)	22 (76%)	7 (24%)	0	100	100
22	da	30/1335 (2%)	24 (80%)	6 (20%)	0	100	100
22	dc	26/1335 (2%)	21 (81%)	5 (19%)	0	100	100
22	dg	30/1335 (2%)	27 (90%)	3 (10%)	0	100	100
22	di	27/1335 (2%)	21 (78%)	6 (22%)	0	100	100
22	ds	30/1335 (2%)	30 (100%)	0	0	100	100
22	du	28/1335 (2%)	24 (86%)	4 (14%)	0	100	100
23	cP	33/1369 (2%)	22 (67%)	11 (33%)	0	100	100
23	db	28/1369 (2%)	20 (71%)	6 (21%)	2 (7%)	1	17
23	dh	33/1369 (2%)	26 (79%)	7 (21%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
23	dt	33/1369 (2%)	25 (76%)	8 (24%)	0	100	100
24	cR	397/400 (99%)	358 (90%)	34 (9%)	5 (1%)	12	48
24	cS	397/400 (99%)	359 (90%)	34 (9%)	4 (1%)	15	52
24	cT	397/400 (99%)	358 (90%)	35 (9%)	4 (1%)	15	52
25	cU	41/1343 (3%)	36 (88%)	5 (12%)	0	100	100
25	cV	41/1343 (3%)	35 (85%)	5 (12%)	1 (2%)	6	37
25	cW	41/1343 (3%)	36 (88%)	5 (12%)	0	100	100
26	dm	23/1359 (2%)	19 (83%)	4 (17%)	0	100	100
26	dn	23/1359 (2%)	18 (78%)	5 (22%)	0	100	100
26	do	23/1359 (2%)	21 (91%)	2 (9%)	0	100	100
All	All	54281/83744 (65%)	51687 (95%)	2389 (4%)	205 (0%)	38	70

5 of 205 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	ah	123	ASN
1	aU	123	ASN
1	bm	123	ASN
1	bo	123	ASN
1	br	123	ASN

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	aA	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	aB	357/358 (100%)	357 (100%)	0	100	100
1	aC	357/358 (100%)	357 (100%)	0	100	100
1	aD	356/358 (99%)	355 (100%)	1 (0%)	92	96
1	aE	357/358 (100%)	357 (100%)	0	100	100
1	aF	356/358 (99%)	356 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	aG	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	aH	356/358 (99%)	355 (100%)	1 (0%)	92	96
1	aI	357/358 (100%)	357 (100%)	0	100	100
1	aJ	357/358 (100%)	357 (100%)	0	100	100
1	aK	357/358 (100%)	357 (100%)	0	100	100
1	aL	356/358 (99%)	356 (100%)	0	100	100
1	aM	357/358 (100%)	357 (100%)	0	100	100
1	aN	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	aO	357/358 (100%)	357 (100%)	0	100	100
1	aP	357/358 (100%)	357 (100%)	0	100	100
1	aQ	356/358 (99%)	356 (100%)	0	100	100
1	aR	357/358 (100%)	357 (100%)	0	100	100
1	aS	357/358 (100%)	357 (100%)	0	100	100
1	aT	357/358 (100%)	357 (100%)	0	100	100
1	aU	357/358 (100%)	357 (100%)	0	100	100
1	aV	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	aW	357/358 (100%)	357 (100%)	0	100	100
1	aX	357/358 (100%)	357 (100%)	0	100	100
1	aY	357/358 (100%)	357 (100%)	0	100	100
1	aZ	357/358 (100%)	357 (100%)	0	100	100
1	aa	356/358 (99%)	356 (100%)	0	100	100
1	ab	357/358 (100%)	354 (99%)	3 (1%)	81	89
1	ac	357/358 (100%)	357 (100%)	0	100	100
1	ad	357/358 (100%)	357 (100%)	0	100	100
1	ae	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	af	357/358 (100%)	357 (100%)	0	100	100
1	ag	357/358 (100%)	357 (100%)	0	100	100
1	ah	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	ai	357/358 (100%)	357 (100%)	0	100	100
1	aj	357/358 (100%)	357 (100%)	0	100	100
1	ak	357/358 (100%)	356 (100%)	1 (0%)	92	96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	al	356/358 (99%)	356 (100%)	0	100	100
1	am	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	an	356/358 (99%)	355 (100%)	1 (0%)	92	96
1	ao	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	ap	357/358 (100%)	357 (100%)	0	100	100
1	aq	357/358 (100%)	357 (100%)	0	100	100
1	ar	356/358 (99%)	356 (100%)	0	100	100
1	as	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	at	357/358 (100%)	357 (100%)	0	100	100
1	au	356/358 (99%)	356 (100%)	0	100	100
1	av	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	aw	357/358 (100%)	357 (100%)	0	100	100
1	ax	356/358 (99%)	356 (100%)	0	100	100
1	ay	357/358 (100%)	357 (100%)	0	100	100
1	az	356/358 (99%)	356 (100%)	0	100	100
1	ba	357/358 (100%)	357 (100%)	0	100	100
1	bb	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	bc	357/358 (100%)	357 (100%)	0	100	100
1	bd	357/358 (100%)	357 (100%)	0	100	100
1	be	357/358 (100%)	357 (100%)	0	100	100
1	bf	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	bg	357/358 (100%)	357 (100%)	0	100	100
1	bh	357/358 (100%)	357 (100%)	0	100	100
1	bi	357/358 (100%)	357 (100%)	0	100	100
1	bj	357/358 (100%)	357 (100%)	0	100	100
1	bk	357/358 (100%)	355 (99%)	2 (1%)	86	92
1	bl	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	bm	357/358 (100%)	357 (100%)	0	100	100
1	bn	356/358 (99%)	356 (100%)	0	100	100
1	bo	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	bp	357/358 (100%)	357 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	bq	357/358 (100%)	357 (100%)	0	100	100
1	br	357/358 (100%)	356 (100%)	1 (0%)	92	96
1	bs	357/358 (100%)	357 (100%)	0	100	100
1	bt	357/358 (100%)	357 (100%)	0	100	100
2	bA	438/441 (99%)	435 (99%)	3 (1%)	84	91
2	bB	439/441 (100%)	439 (100%)	0	100	100
2	bu	439/441 (100%)	434 (99%)	5 (1%)	73	85
2	bv	439/441 (100%)	434 (99%)	5 (1%)	73	85
2	bw	439/441 (100%)	438 (100%)	1 (0%)	93	97
2	bx	438/441 (99%)	435 (99%)	3 (1%)	84	91
2	by	439/441 (100%)	438 (100%)	1 (0%)	93	97
2	bz	432/441 (98%)	429 (99%)	3 (1%)	84	91
3	bC	439/440 (100%)	439 (100%)	0	100	100
4	bD	344/346 (99%)	343 (100%)	1 (0%)	92	96
4	bF	344/346 (99%)	343 (100%)	1 (0%)	92	96
4	cX	343/346 (99%)	341 (99%)	2 (1%)	86	92
4	cZ	343/346 (99%)	343 (100%)	0	100	100
4	dd	344/346 (99%)	343 (100%)	1 (0%)	92	96
4	df	343/346 (99%)	342 (100%)	1 (0%)	92	96
4	dj	344/346 (99%)	342 (99%)	2 (1%)	86	92
4	dk	344/346 (99%)	340 (99%)	4 (1%)	71	84
4	dl	344/346 (99%)	343 (100%)	1 (0%)	92	96
4	dp	344/346 (99%)	344 (100%)	0	100	100
4	dr	344/346 (99%)	344 (100%)	0	100	100
5	bE	349/353 (99%)	348 (100%)	1 (0%)	92	96
5	cY	349/353 (99%)	347 (99%)	2 (1%)	86	92
5	de	349/353 (99%)	348 (100%)	1 (0%)	92	96
5	dq	349/353 (99%)	348 (100%)	1 (0%)	92	96
6	bG	424/446 (95%)	424 (100%)	0	100	100
7	bH	345/479 (72%)	345 (100%)	0	100	100
8	bI	116/144 (81%)	116 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	bJ	122/144 (85%)	122 (100%)	0	100	100
8	bK	93/144 (65%)	93 (100%)	0	100	100
9	bL	59/161 (37%)	59 (100%)	0	100	100
9	bM	59/161 (37%)	58 (98%)	1 (2%)	60	78
9	bN	58/161 (36%)	58 (100%)	0	100	100
9	bO	58/161 (36%)	57 (98%)	1 (2%)	60	78
10	bP	121/125 (97%)	121 (100%)	0	100	100
11	bQ	140/188 (74%)	139 (99%)	1 (1%)	84	91
12	bR	136/148 (92%)	136 (100%)	0	100	100
13	bS	164/179 (92%)	164 (100%)	0	100	100
14	bT	40/181 (22%)	40 (100%)	0	100	100
14	bU	47/181 (26%)	47 (100%)	0	100	100
14	bV	46/181 (25%)	46 (100%)	0	100	100
14	bW	45/181 (25%)	45 (100%)	0	100	100
14	bX	35/181 (19%)	35 (100%)	0	100	100
14	bY	62/181 (34%)	62 (100%)	0	100	100
14	bZ	45/181 (25%)	45 (100%)	0	100	100
14	ca	45/181 (25%)	44 (98%)	1 (2%)	52	72
14	cb	45/181 (25%)	45 (100%)	0	100	100
14	cc	72/181 (40%)	71 (99%)	1 (1%)	67	81
14	cd	63/181 (35%)	62 (98%)	1 (2%)	62	79
14	ce	60/181 (33%)	60 (100%)	0	100	100
15	cf	70/139 (50%)	70 (100%)	0	100	100
16	cg	51/79 (65%)	51 (100%)	0	100	100
17	ch	142/145 (98%)	141 (99%)	1 (1%)	84	91
18	ci	47/63 (75%)	47 (100%)	0	100	100
19	cj	51/70 (73%)	51 (100%)	0	100	100
19	ck	49/70 (70%)	49 (100%)	0	100	100
19	cl	47/70 (67%)	47 (100%)	0	100	100
19	cm	54/70 (77%)	54 (100%)	0	100	100
20	cn	84/130 (65%)	84 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	co	78/130 (60%)	78 (100%)	0	100	100
21	cA	245/339 (72%)	244 (100%)	1 (0%)	91	95
21	cB	257/339 (76%)	256 (100%)	1 (0%)	91	95
21	cC	245/339 (72%)	244 (100%)	1 (0%)	91	95
21	cD	257/339 (76%)	257 (100%)	0	100	100
21	cE	246/339 (73%)	245 (100%)	1 (0%)	91	95
21	cF	257/339 (76%)	255 (99%)	2 (1%)	81	89
21	cG	248/339 (73%)	246 (99%)	2 (1%)	81	89
21	cH	257/339 (76%)	257 (100%)	0	100	100
21	cI	245/339 (72%)	244 (100%)	1 (0%)	91	95
21	cJ	257/339 (76%)	256 (100%)	1 (0%)	91	95
21	cK	245/339 (72%)	244 (100%)	1 (0%)	91	95
21	cL	257/339 (76%)	257 (100%)	0	100	100
21	cM	243/339 (72%)	242 (100%)	1 (0%)	91	95
21	cN	257/339 (76%)	256 (100%)	1 (0%)	91	95
21	cp	257/339 (76%)	257 (100%)	0	100	100
21	cq	248/339 (73%)	248 (100%)	0	100	100
21	cr	257/339 (76%)	257 (100%)	0	100	100
21	cs	241/339 (71%)	240 (100%)	1 (0%)	91	95
21	ct	257/339 (76%)	257 (100%)	0	100	100
21	cu	246/339 (73%)	246 (100%)	0	100	100
21	cv	257/339 (76%)	257 (100%)	0	100	100
21	cw	246/339 (73%)	246 (100%)	0	100	100
21	cx	257/339 (76%)	256 (100%)	1 (0%)	91	95
21	cy	246/339 (73%)	246 (100%)	0	100	100
21	cz	257/339 (76%)	257 (100%)	0	100	100
22	cO	22/1123 (2%)	22 (100%)	0	100	100
22	cQ	25/1123 (2%)	24 (96%)	1 (4%)	31	59
22	da	24/1123 (2%)	24 (100%)	0	100	100
22	dc	22/1123 (2%)	22 (100%)	0	100	100
22	dg	26/1123 (2%)	25 (96%)	1 (4%)	33	61

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
22	di	22/1123 (2%)	22 (100%)	0	100	100
22	ds	25/1123 (2%)	25 (100%)	0	100	100
22	du	24/1123 (2%)	24 (100%)	0	100	100
23	cP	24/1147 (2%)	24 (100%)	0	100	100
23	db	19/1147 (2%)	19 (100%)	0	100	100
23	dh	26/1147 (2%)	25 (96%)	1 (4%)	33	61
23	dt	24/1147 (2%)	24 (100%)	0	100	100
24	cR	359/360 (100%)	358 (100%)	1 (0%)	92	96
24	cS	359/360 (100%)	358 (100%)	1 (0%)	92	96
24	cT	359/360 (100%)	359 (100%)	0	100	100
25	cU	30/1015 (3%)	30 (100%)	0	100	100
25	cV	28/1015 (3%)	28 (100%)	0	100	100
25	cW	29/1015 (3%)	29 (100%)	0	100	100
26	dm	17/1144 (2%)	17 (100%)	0	100	100
26	dn	19/1144 (2%)	19 (100%)	0	100	100
26	do	19/1144 (2%)	18 (95%)	1 (5%)	22	54
All	All	45770/70345 (65%)	45679 (100%)	91 (0%)	93	97

5 of 91 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
21	cA	289	LYS
24	cR	295	ARG
21	cC	277	ARG
21	cI	277	ARG
5	cY	74	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 113 such sidechains are listed below:

Mol	Chain	Res	Type
1	bm	187	ASN
22	dg	37	GLN
2	bB	483	GLN
4	df	275	ASN
21	cN	333	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

### 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

### 5.7 Other polymers [i](#)

There are no such residues in this entry.

### 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

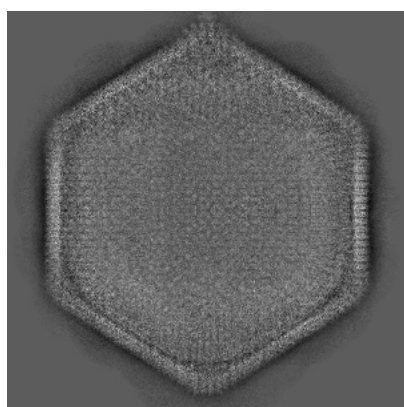
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-34438. These allow visual inspection of the internal detail of the map and identification of artifacts.

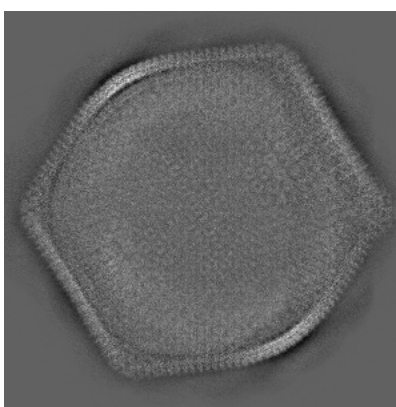
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

### 6.1 Orthogonal projections [i](#)

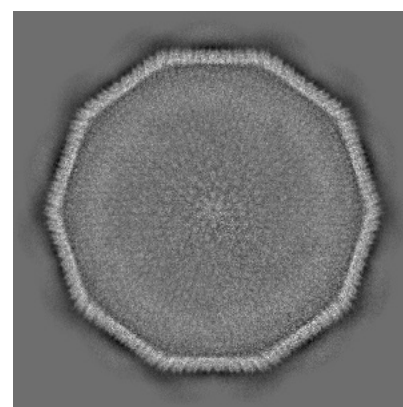
#### 6.1.1 Primary map



X



Y

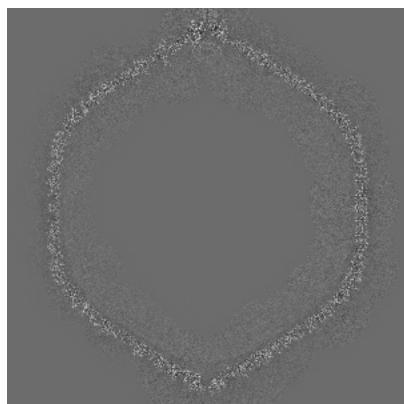


Z

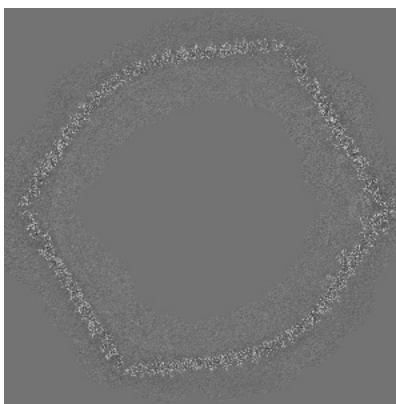
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

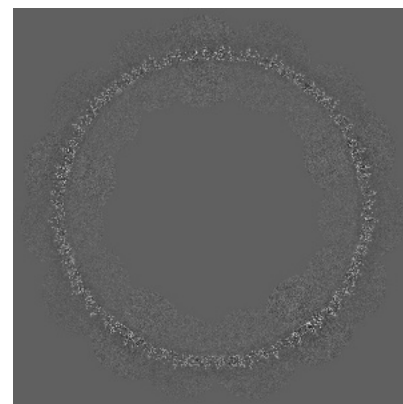
#### 6.2.1 Primary map



X Index: 600



Y Index: 600

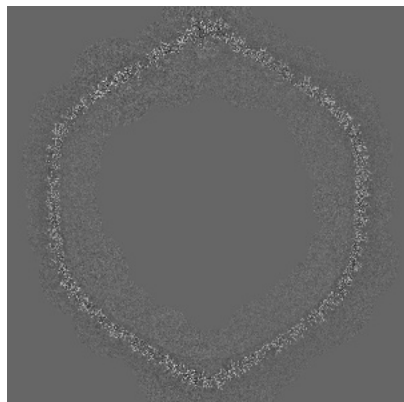


Z Index: 600

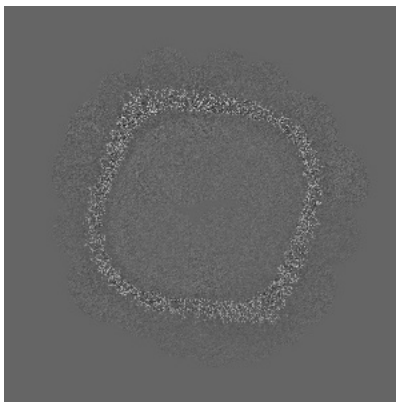
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

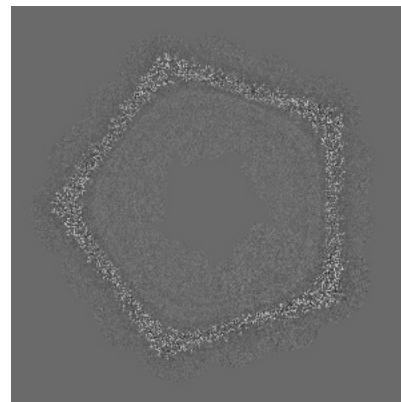
### 6.3.1 Primary map



X Index: 628



Y Index: 257

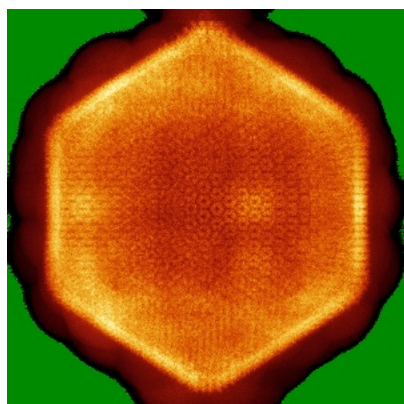


Z Index: 320

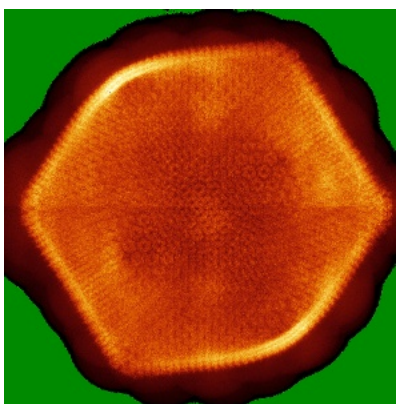
The images above show the largest variance slices of the map in three orthogonal directions.

## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

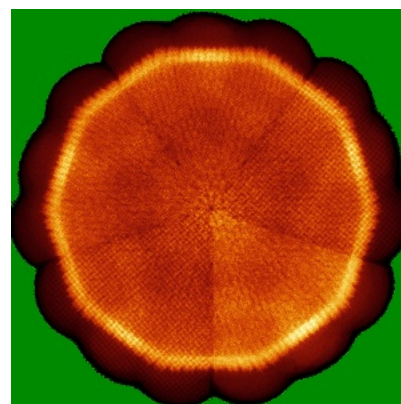
### 6.4.1 Primary map



X



Y

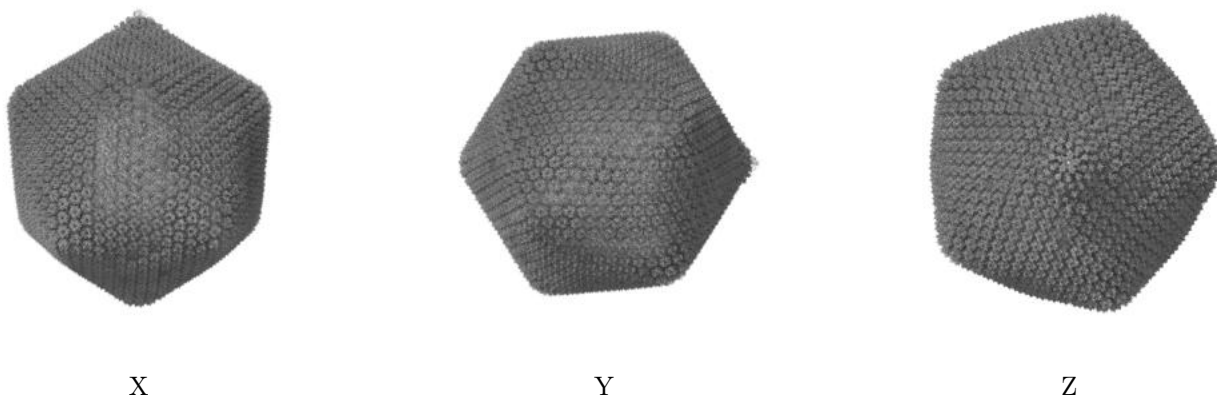


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.55. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

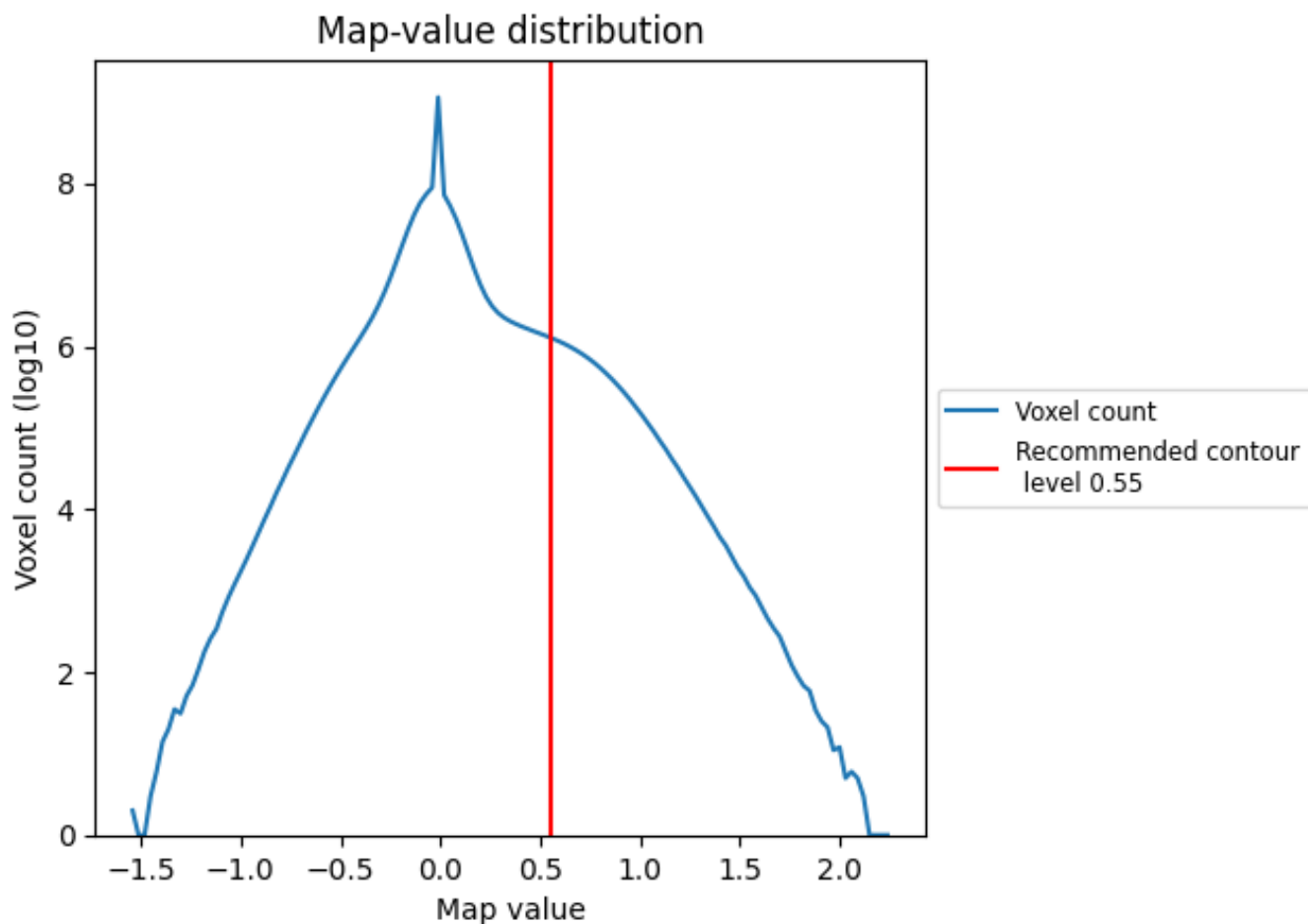
## 6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

## 7 Map analysis [i](#)

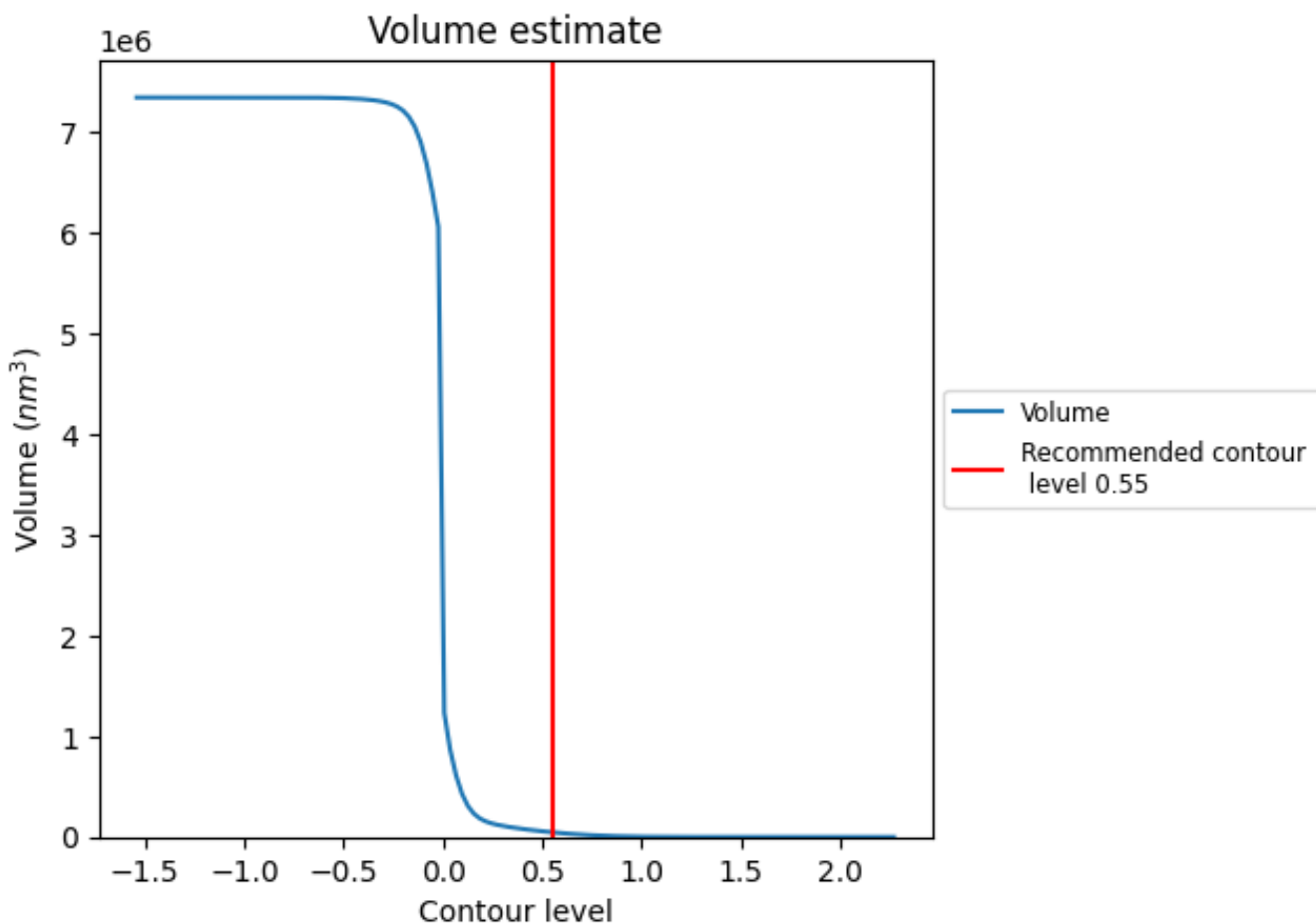
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

## 7.2 Volume estimate [\(i\)](#)

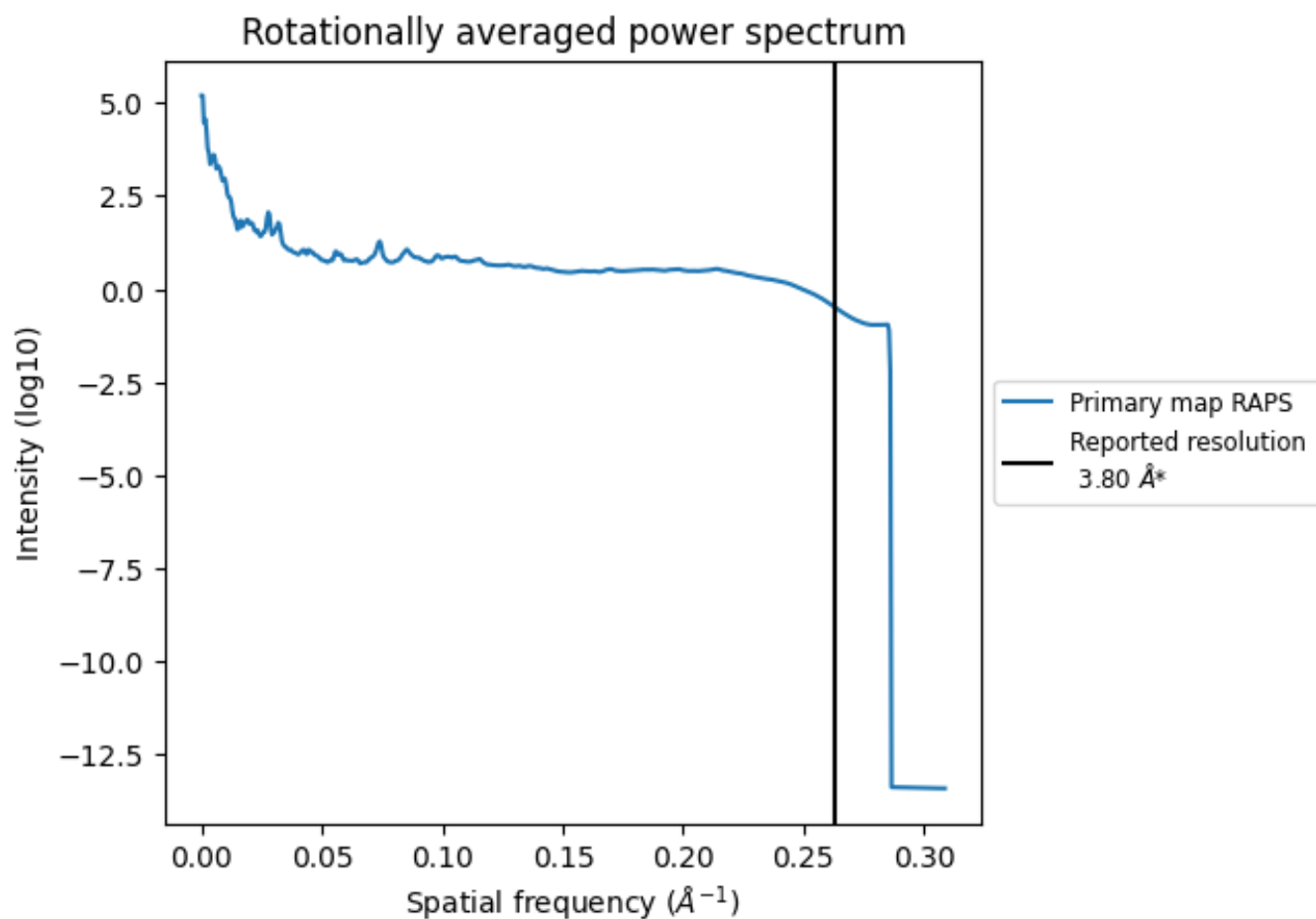


The volume at the recommended contour level is  $46843 \text{ nm}^3$ ; this corresponds to an approximate mass of 42315 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.



### 7.3 Rotationally averaged power spectrum [i](#)



\*Reported resolution corresponds to spatial frequency of 0.263 Å<sup>-1</sup>

## 8 Fourier-Shell correlation

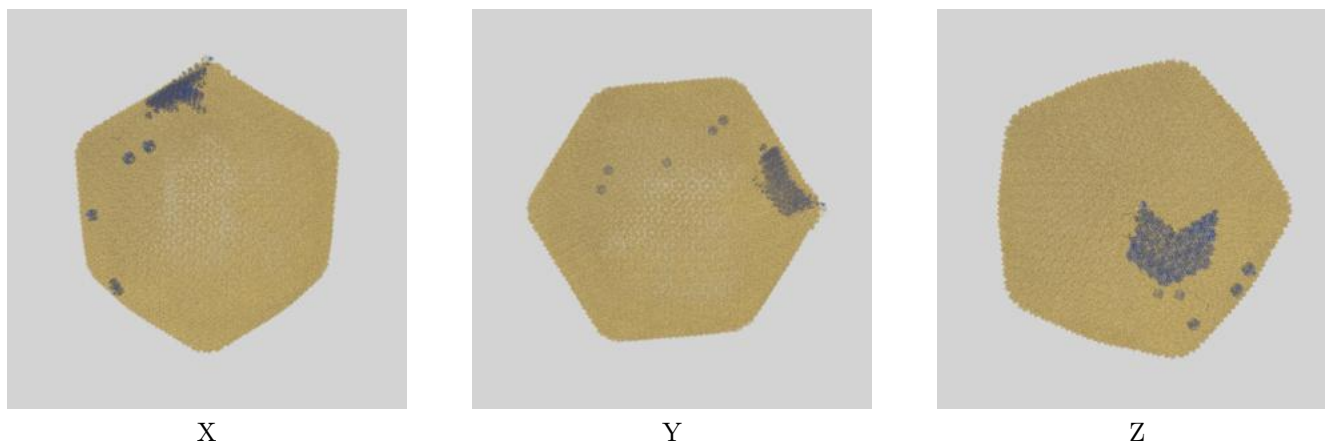
This section was not generated. No FSC curve or half-maps provided.

## 9 Map-model fit [i](#)

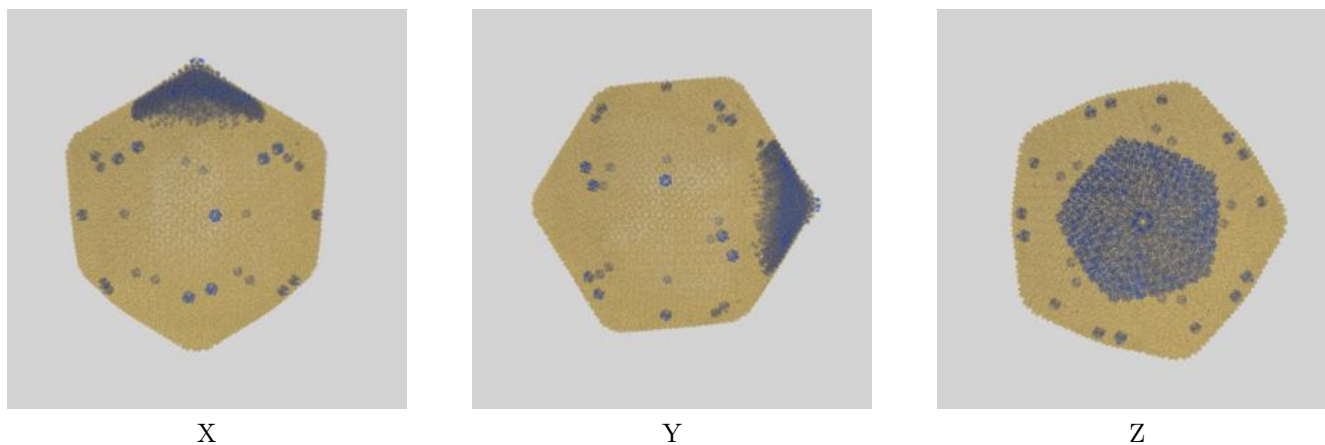
This section contains information regarding the fit between EMDB map EMD-34438 and PDB model 8H2I. Per-residue inclusion information can be found in section 3 on page 22.

### 9.1 Map-model overlays

#### 9.1.1 Map-model overlay [i](#)



#### 9.1.2 Map-model assembly overlay [i](#)



The images above show the 3D surface view of the map at the recommended contour level 0.55 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

## 9.2 Q-score mapped to coordinate model [\(i\)](#)



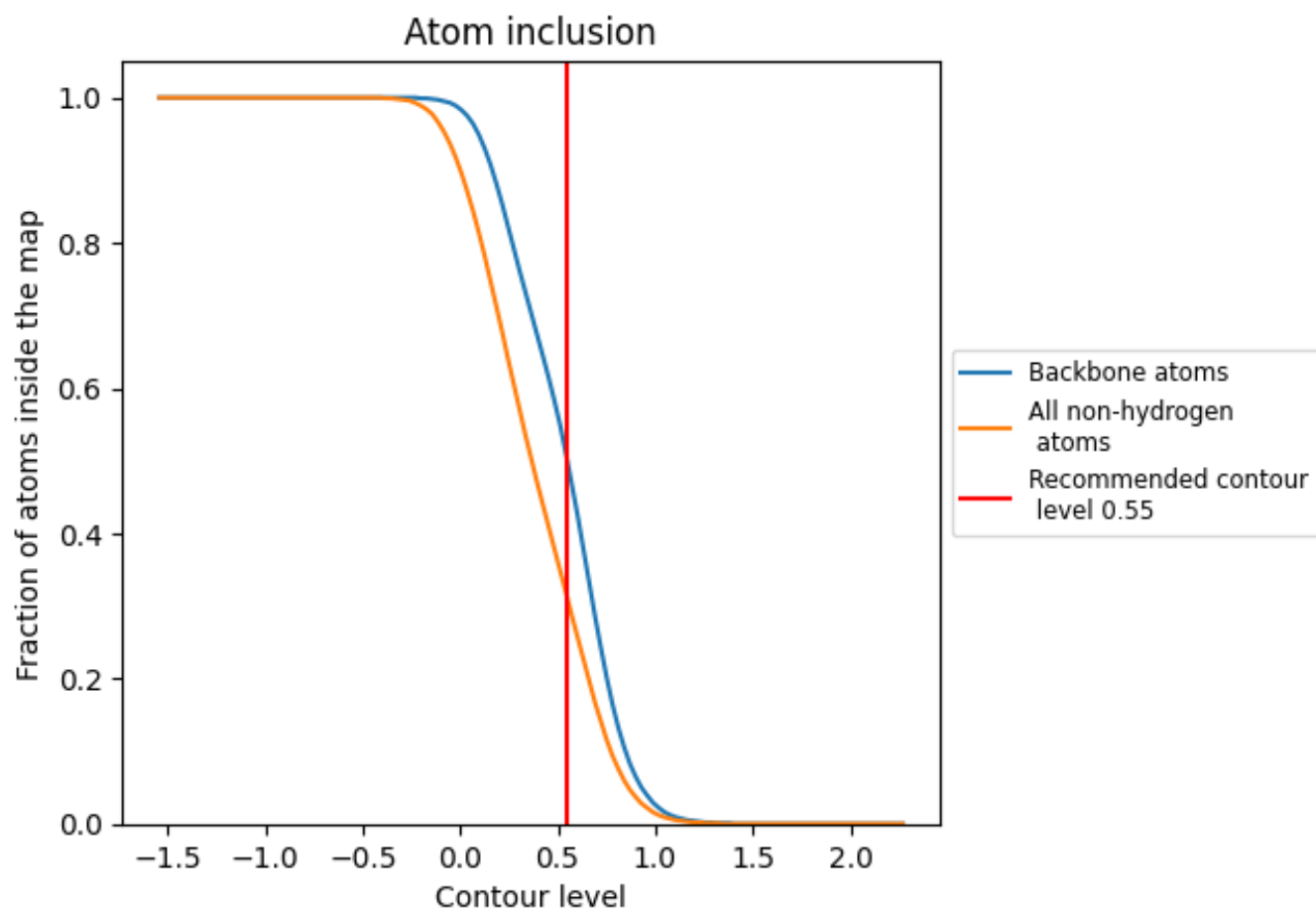
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

## 9.3 Atom inclusion mapped to coordinate model [\(i\)](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.55).







































































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 50% of all backbone atoms, 31% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.55) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.3110	 0.3620
aA	 0.2580	 0.3860
aB	 0.2670	 0.3810
aC	 0.2860	 0.3790
aD	 0.2940	 0.3800
aE	 0.3830	 0.4000
aF	 0.4160	 0.3950
aG	 0.3710	 0.3900
aH	 0.4420	 0.4010
aI	 0.4390	 0.4000
aJ	 0.4140	 0.3930
aK	 0.3900	 0.3960
aL	 0.3660	 0.3930
aM	 0.3610	 0.3940
aN	 0.3690	 0.3970
aO	 0.3660	 0.3900
aP	 0.3750	 0.3960
aQ	 0.3370	 0.3910
aR	 0.3310	 0.3900
aS	 0.3510	 0.3970
aT	 0.3660	 0.3910
aU	 0.3800	 0.3960
aV	 0.3800	 0.3970
aW	 0.3310	 0.3900
aX	 0.3340	 0.3900
aY	 0.3320	 0.3900
aZ	 0.3520	 0.3910
aa	 0.4210	 0.3970
ab	 0.4250	 0.3940
ac	 0.4330	 0.4050
ad	 0.4340	 0.3980
ae	 0.4250	 0.4010
af	 0.4220	 0.4010
ag	 0.4150	 0.3910
ah	 0.4500	 0.4050



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Chain	Atom inclusion	Q-score
ai	0.4230	0.3990
aj	0.3020	0.3830
ak	0.3610	0.3940
al	0.2940	0.3800
am	0.4340	0.3980
an	0.4370	0.3950
ao	0.4260	0.3960
ap	0.4430	0.3980
aq	0.4620	0.3980
ar	0.4610	0.4010
as	0.4250	0.3900
at	0.3850	0.3990
au	0.3930	0.4020
av	0.3320	0.3890
aw	0.3030	0.3940
ax	0.3480	0.3980
ay	0.2330	0.3780
az	0.2220	0.3830
bA	0.3620	0.3680
bB	0.2710	0.3590
bC	0.3450	0.3730
bD	0.2300	0.3510
bE	0.2900	0.3580
bF	0.2640	0.3460
bG	0.3260	0.3190
bH	0.3210	0.3860
bI	0.3010	0.3470
bJ	0.3120	0.3430
bK	0.3060	0.3660
bL	0.2550	0.2560
bM	0.2370	0.2780
bN	0.2580	0.2770
bO	0.2130	0.2690
bP	0.2440	0.3230
bQ	0.2140	0.3340
bR	0.3370	0.3500
bS	0.3120	0.3890
bT	0.3150	0.3600
bU	0.4400	0.3720
bV	0.3780	0.3510
bW	0.3780	0.3380
bX	0.3420	0.3510

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Chain	Atom inclusion	Q-score
bY	0.2230	0.3100
bZ	0.1960	0.3360
ba	0.3790	0.3920
bb	0.3440	0.3980
bc	0.3710	0.3880
bd	0.3590	0.3920
be	0.3650	0.3910
bf	0.3860	0.3930
bg	0.3700	0.3880
bh	0.3880	0.3900
bi	0.3690	0.3950
bj	0.3390	0.3920
bk	0.3720	0.3900
bl	0.3490	0.3960
bm	0.3400	0.3930
bn	0.3350	0.4010
bo	0.3390	0.3910
bp	0.3670	0.3890
bq	0.3350	0.3870
br	0.3990	0.3920
bs	0.3730	0.3880
bt	0.3840	0.3930
bu	0.4830	0.3820
bv	0.4510	0.3760
bw	0.4610	0.3780
bx	0.4270	0.3790
by	0.4070	0.3760
bz	0.4050	0.3700
cA	0.0000	0.1280
cB	0.0590	0.2680
cC	0.0010	0.2080
cD	0.0220	0.2300
cE	0.0380	0.2070
cF	0.1190	0.2600
cG	0.0270	0.1770
cH	0.2280	0.2810
cI	0.0090	0.2100
cJ	0.1480	0.2890
cK	0.0010	0.1880
cL	0.0800	0.2810
cM	0.0000	0.1290
cN	0.0110	0.2370

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Chain	Atom inclusion	Q-score
cO	 0.0000	 0.4580
cP	 0.0080	 0.4540
cQ	 0.0130	 0.4490
cR	 0.2880	 0.3690
cS	 0.3090	 0.3610
cT	 0.2750	 0.3470
cU	 0.1420	 0.4210
cV	 0.1580	 0.4140
cW	 0.1700	 0.4200
cX	 0.3110	 0.3360
cY	 0.2550	 0.3320
cZ	 0.3020	 0.3400
ca	 0.2260	 0.3680
cb	 0.2460	 0.3550
cc	 0.2610	 0.3240
cd	 0.2650	 0.3370
ce	 0.3120	 0.3590
cf	 0.3640	 0.3430
cg	 0.1610	 0.3070
ch	 0.3600	 0.3560
ci	 0.4020	 0.3530
cj	 0.2720	 0.3750
ck	 0.2080	 0.3810
cl	 0.2500	 0.3610
cm	 0.2690	 0.3710
cn	 0.2410	 0.3910
co	 0.2670	 0.3680
cp	 0.0240	 0.2540
cq	 0.0000	 0.1670
cr	 0.0610	 0.2610
cs	 0.0020	 0.1780
ct	 0.0520	 0.2710
cu	 0.0010	 0.1850
cv	 0.1610	 0.2950
cw	 0.1090	 0.2620
cx	 0.2120	 0.2930
cy	 0.0350	 0.2420
cz	 0.0110	 0.2100
da	 0.0880	 0.4680
db	 0.1110	 0.4280
dc	 0.1120	 0.4710
dd	 0.2410	 0.3720

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Chain	Atom inclusion	Q-score
de	 0.2250	 0.3630
df	 0.2390	 0.3680
dg	 0.0080	 0.4510
dh	 0.0080	 0.4250
di	 0.0000	 0.4400
dj	 0.2870	 0.3620
dk	 0.2660	 0.3550
dl	 0.2990	 0.3340
dm	 0.0000	 0.3540
dn	 0.0110	 0.3860
do	 0.0000	 0.3280
dp	 0.3010	 0.3750
dq	 0.2960	 0.3750
dr	 0.3090	 0.3720
ds	 0.0300	 0.4410
dt	 0.0170	 0.4570
du	 0.0040	 0.4400