



wwPDB EM Validation Summary Report ⓘ

Dec 18, 2022 – 07:07 pm GMT

PDB ID : 7ANE
EMDB ID : EMD-11829
Title : Leishmania Major mitochondrial ribosome
Authors : Soufari, H.; Waltz, F.; Parrot, C.; Bochler, A.; Hashem, Y.
Deposited on : 2020-10-11
Resolution : 3.90 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

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>.

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

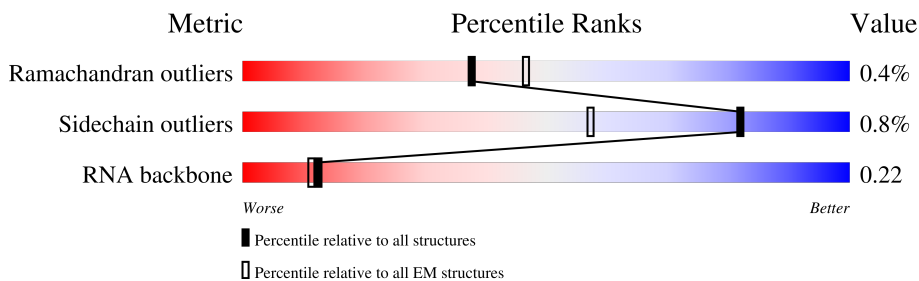
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

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 3.90 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.



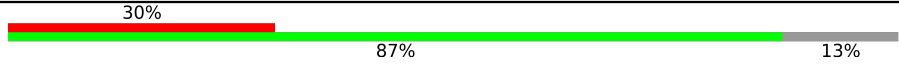
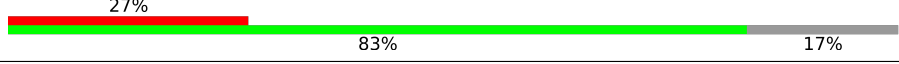
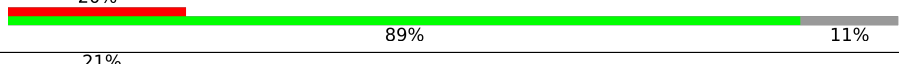

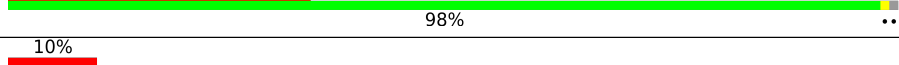
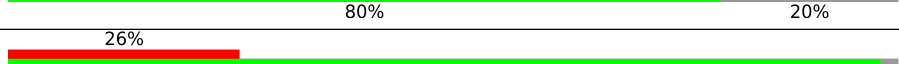
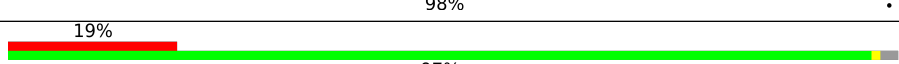
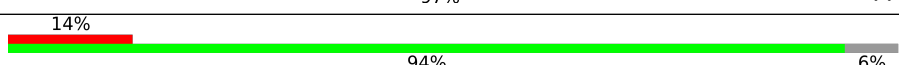

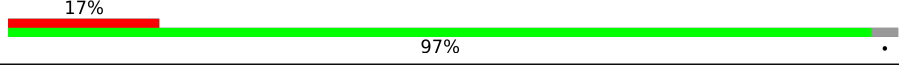

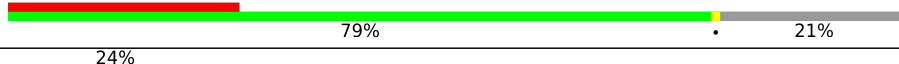
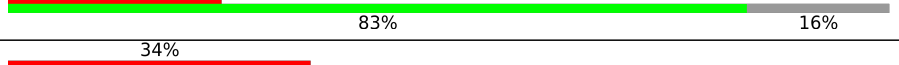
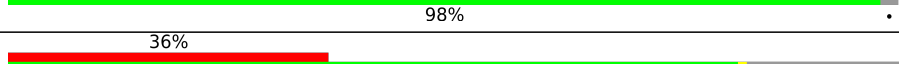
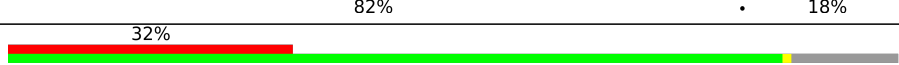

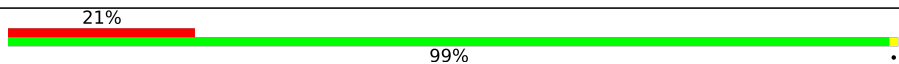

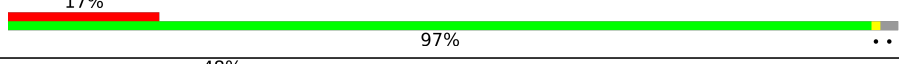
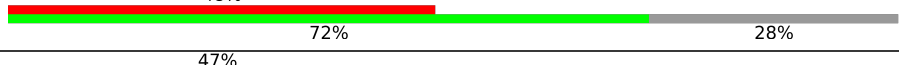
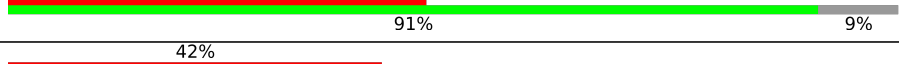




Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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 ≥ 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	1	18998	94%
1	2	18998	97%
2	h	166	16% 95% 5%
3	aw	139	24% 100%
4	m	325	24% 88% 11%
5	f	371	15% 39% 60%
6	s	179	25% 92% 8%
7	au	247	32% 96%

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Mol	Chain	Length	Quality of chain
8	am	313	
9	n	171	
10	ae	655	
11	ay	169	
12	ag	564	
13	aj	397	
14	e	822	
15	d	351	
16	az	163	
17	ax	184	
18	r	467	
19	af	835	
20	u	890	
21	aa	1813	
22	ab	1177	
23	ak	325	
24	ac	1267	
25	ad	811	
26	an	302	
27	ao	291	
28	ap	245	
29	aq	295	
30	as	270	
31	at	397	
32	y	485	

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Mol	Chain	Length	Quality of chain
33	w	190	54% 81% 18%
34	v	214	9% 29% 71%
35	t	267	41% 85% 15%
36	p	321	11% 72% 26%
37	j	189	42% 95% 5%
38	l	677	32% 80% 19%
39	ar	282	32% 89% 11%
40	av	236	35% 63% 36%
41	ai	379	23% 100%
42	x	268	19% 94% 5%
43	i	429	18% 62% 38%
44	g	192	31% 52% 48%
45	o	604	35% 72% 27%
46	c	311	32% 80% 19%
47	k	312	12% 37% 63%
48	q	425	9% 46% 54%
49	b	159	25% 96% 2%
50	a	431	35% 94% 5%
51	ba	94	27% 28% 72%
52	z	1169	19% 83% 17%
53	bd	89	13% 44% 54%
54	A	466	35% 77% 21%
55	B	435	31% 98%
56	C	261	15% 81% 19%
57	D	204	41% 61% 37%

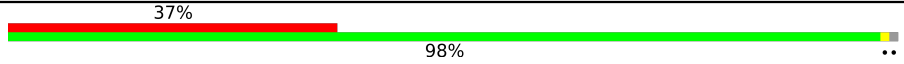
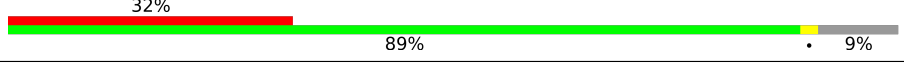
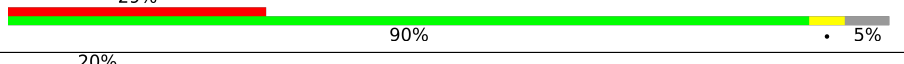


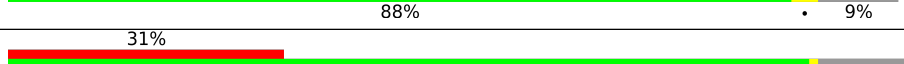
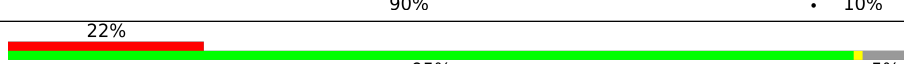
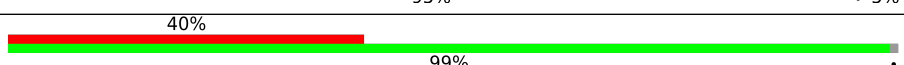
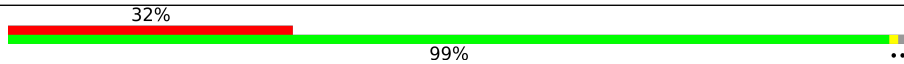


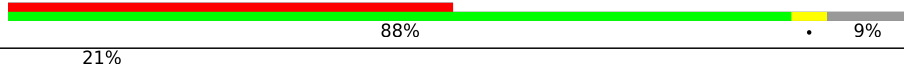
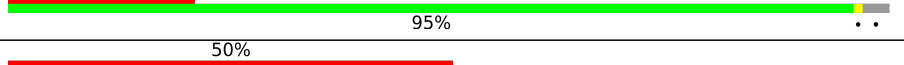

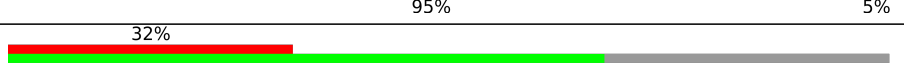
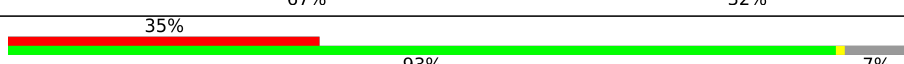
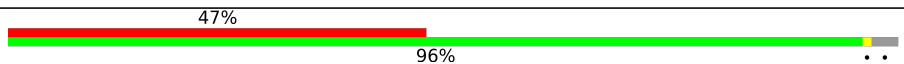


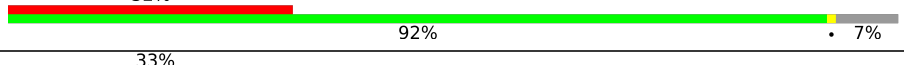


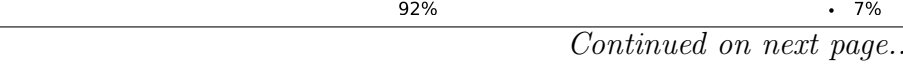


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Mol	Chain	Length	Quality of chain
58	E	345	38% 94% 6%
59	F	171	51% 96%
60	G	373	28% 96%
61	H	167	31% 95%
62	I	304	30% 84% 15%
63	J	143	46% 96%
64	K	193	44% 92% 7%
65	L	185	50% 95%
66	M	278	25% 92% 7%
67	N	251	12% 74% 25%
68	O	475	31% 63% 35%
69	P	184	17% 89% 10%
70	Q	233	20% 92% 7%
71	R	479	29% 98%
72	S	408	14% 37% 63%
73	T	82	18% 67% 33%
74	U	117	21% 73% 5% 21%
75	V	150	23% 91% 6%
76	W	185	11% 27% 71%
77	X	512	32% 90% 9%
78	Y	292	25% 87% 13%
79	Z	197	11% 73% 24%
80	BA	167	34% 77% 5% 17%
81	UA	203	24% 99%
82	BB	156	40% 75% 22%

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Mol	Chain	Length	Quality of chain
83	Aw	187	
84	Bj	185	
85	An	331	
86	Al	346	
87	BI	266	
88	Az	152	
89	At	183	
90	BC	147	
91	Ab	262	
92	Ai	479	
93	Ap	240	
94	Au	186	
95	Aa	195	
96	Ao	284	
97	BM	457	
98	Ar	205	
99	Aj	503	
100	BH	229	
101	Am	340	
102	Aq	341	
103	BE	118	
104	Ak	323	
105	BP	254	
106	Ad	237	
107	BF	109	

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Mol	Chain	Length	Quality of chain
108	Av	192	
109	Af	155	
110	As	249	
111	Ae	311	
112	Ac	291	
113	Ah	570	
114	BD	102	
115	Ay	174	
116	Ag	244	
117	Ax	216	
118	BL	380	
119	BO	190	
120	BG	1347	
121	UB	67	
122	UC	144	
123	UD	95	

2 Entry composition

There are 126 unique types of molecules in this entry. The entry contains 303111 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 RNA chain called Large ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	2	604	12723	5725	2119	4275	604	0	0
1	1	1084	22858	10292	3832	7650	1084	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
2	612	U	A	conflict	GB 1756572068
2	613	U	A	conflict	GB 1756572068
2	615	U	G	conflict	GB 1756572068
1	1840	U	A	conflict	GB 1756572068
1	1841	U	A	conflict	GB 1756572068
1	1843	U	G	conflict	GB 1756572068

- Molecule 2 is a protein called uS14m.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	h	157	1311	831	248	224	8	0	0

- Molecule 3 is a protein called mS69.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	aw	139	1144	723	209	204	8	0	0

- Molecule 4 is a protein called bS18m.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	m	288	2368	1495	435	427	11	0	0

- Molecule 5 is a protein called uS11m.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	f	148	1213	764	231	216	2	0	0

- Molecule 6 is a protein called mS33.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	s	165	1349	852	251	239	7	0	0

- Molecule 7 is a protein called Rhodanese domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	au	239	2066	1322	366	368	10	0	0

- Molecule 8 is a protein called mS59.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	am	272	2198	1398	404	386	10	0	0

- Molecule 9 is a protein called uS19m.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	n	142	1176	760	210	201	5	0	0

- Molecule 10 is a protein called mS53.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	ae	584	4593	2888	856	830	19	0	0

- Molecule 11 is a protein called mS71.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	ay	141	1187	756	222	204	5	0	0

- Molecule 12 is a protein called mS55.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	ag	557	Total	C	N	O	S	0	0
			4521	2827	849	821	24		

- Molecule 13 is a protein called mS57.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	aj	316	Total	C	N	O	S	0	0
			2560	1643	449	453	15		

- Molecule 14 is a protein called uS10m.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	e	809	Total	C	N	O	S	0	0
			6413	4040	1128	1218	27		

- Molecule 15 is a protein called uS9m.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	d	343	Total	C	N	O	S	0	0
			2715	1716	474	511	14		

- Molecule 16 is a protein called mS72.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	az	154	Total	C	N	O	S	0	0
			1301	834	246	214	7		

- Molecule 17 is a protein called mS70.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	ax	161	Total	C	N	O	S	0	0
			1356	864	261	224	7		

- Molecule 18 is a protein called mS29.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	r	451	Total	C	N	O	S	0	0
			3703	2380	646	660	17		

- Molecule 19 is a protein called Excreted/secreted protein 15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	af	585	4698	2963	853	857	25	0	0

- Molecule 20 is a protein called mS35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	u	706	5564	3497	1017	1025	25	0	0

- Molecule 21 is a protein called mS48.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	aa	1514	12070	7616	2166	2249	39	0	0

- Molecule 22 is a protein called mS49.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	ab	1151	9209	5726	1711	1744	28	0	0

- Molecule 23 is a protein called mS58.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	ak	268	2141	1337	403	394	7	0	0

- Molecule 24 is a protein called mS50.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	ac	1116	8700	5454	1568	1644	34	0	0

- Molecule 25 is a protein called mS51.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	ad	694	5676	3607	1012	1023	34	0	0

- Molecule 26 is a protein called mS60.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	an	302	Total	C	N	O	S	0	0
			2480	1560	484	427	9		

- Molecule 27 is a protein called mS61.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	ao	191	Total	C	N	O	S	0	0
			1535	980	271	274	10		

- Molecule 28 is a protein called mS62.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	ap	240	Total	C	N	O	S	0	0
			1893	1180	341	360	12		

- Molecule 29 is a protein called mS63.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	aq	212	Total	C	N	O	S	0	0
			1794	1147	318	320	9		

- Molecule 30 is a protein called mS65.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	as	247	Total	C	N	O	S	0	0
			1954	1246	352	348	8		

- Molecule 31 is a protein called mS66.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	at	204	Total	C	N	O	S	0	0
			1631	1008	313	300	10		

- Molecule 32 is a protein called mS43.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	y	283	Total	C	N	O	S	0	0
			2152	1345	395	398	14		

- Molecule 33 is a protein called Protein FYV4, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	w	155	Total	C	N	O	S	0	0
			1279	815	227	233	4		

- Molecule 34 is a protein called mS37.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	v	63	Total	C	N	O	S	0	0
			486	294	89	97	6		

- Molecule 35 is a protein called mS34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	t	226	Total	C	N	O	S	0	0
			1776	1128	308	336	4		

- Molecule 36 is a protein called mS23.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	p	236	Total	C	N	O	S	0	0
			1954	1241	346	360	7		

- Molecule 37 is a protein called bS16m.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	j	180	Total	C	N	O	S	0	0
			1506	963	280	254	9		

- Molecule 38 is a protein called mS52.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	l	545	Total	C	N	O	S	0	0
			4438	2809	821	796	12		

- Molecule 39 is a protein called AKAP7_NLS domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	ar	252	Total	C	N	O	S	0	0
			1993	1249	376	356	12		

- Molecule 40 is a protein called Ubiquitin-like domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	av	150	Total	C	N	O	S	0	0
			1237	777	219	236	5		

- Molecule 41 is a protein called mS56.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	ai	379	Total	C	N	O	S	0	0
			3068	1957	534	565	12		

- Molecule 42 is a protein called Putative superoxide dismutase.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	x	255	Total	C	N	O	S	0	0
			2034	1299	351	375	9		

- Molecule 43 is a protein called uS15m.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	i	267	Total	C	N	O	S	0	0
			2221	1406	403	402	10		

- Molecule 44 is a protein called bS21m.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	g	99	Total	C	N	O	S	0	0
			818	513	161	141	3		

- Molecule 45 is a protein called mS22.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	o	438	Total	C	N	O	S	0	0
			3736	2395	658	664	19		

- Molecule 46 is a protein called uS8m.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	c	251	Total	C	N	O	S	0	0
			2038	1279	379	370	10		

- Molecule 47 is a protein called 30S Ribosomal protein S17-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	k	116	Total	C	N	O	S	0	0
			951	614	169	163	5		

- Molecule 48 is a protein called mS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	q	196	Total	C	N	O	S	0	0
			1699	1077	317	297	8		

- Molecule 49 is a protein called bS6m.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	b	155	Total	C	N	O	S	0	0
			1290	816	232	238	4		

- Molecule 50 is a protein called Ribosomal_S5_C domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	a	408	Total	C	N	O	S	0	0
			3298	2084	610	587	17		

- Molecule 51 is a protein called mS73.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	ba	26	Total	C	N	O	S	0	0
			223	147	36	39	1		

- Molecule 52 is a protein called mS47.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	z	971	Total	C	N	O	S	0	0
			7713	4847	1378	1454	34		

- Molecule 53 is a protein called uS3m.

Mol	Chain	Residues	Atoms				AltConf	Trace
53	bd	41	Total	C	N	O	0	0
			350	245	52	53		

- Molecule 54 is a protein called Ribosomal protein L3-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	A	368	2996	1929	496	556	15	0	0

- Molecule 55 is a protein called uL4m.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
55	B	435	3513	2237	615	642	19	0	0

- Molecule 56 is a protein called RIBOSOMAL_L9 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
56	C	212	1772	1144	303	321	4	0	0

- Molecule 57 is a protein called uL10m.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
57	D	128	1036	656	198	177	5	0	0

- Molecule 58 is a protein called Putative ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
58	E	326	2668	1704	480	470	14	0	0

- Molecule 59 is a protein called 50S ribosomal protein L13-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
59	F	170	1435	919	261	243	12	0	0

- Molecule 60 is a protein called Ribosomal_L18e/L15P domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
60	G	365	3012	1917	555	531	9	0	0

- Molecule 61 is a protein called Ribosomal_L16 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	H	162	Total	C	N	O	S	0	0
			1305	836	239	226	4		

- Molecule 62 is a protein called Putative 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	I	257	Total	C	N	O	S	0	0
			2153	1362	406	372	13		

- Molecule 63 is a protein called bL19m.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	J	141	Total	C	N	O	S	0	0
			1146	727	211	202	6		

- Molecule 64 is a protein called bL20m.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	K	179	Total	C	N	O	S	0	0
			1467	910	289	258	10		

- Molecule 65 is a protein called bL21m.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	L	178	Total	C	N	O	S	0	0
			1419	907	257	250	5		

- Molecule 66 is a protein called uL22m.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	M	259	Total	C	N	O	S	0	0
			2116	1345	385	371	15		

- Molecule 67 is a protein called uL23m.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	N	189	Total	C	N	O	S	0	0
			1599	1031	296	269	3		

- Molecule 68 is a protein called uL24m.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	O	307	Total	C	N	O	S	0	0
			2537	1600	455	475	7		

- Molecule 69 is a protein called bL27m.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	P	165	Total	C	N	O	S	0	0
			1367	856	266	238	7		

- Molecule 70 is a protein called bL28m.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Q	217	Total	C	N	O	S	0	0
			1785	1127	331	316	11		

- Molecule 71 is a protein called uL29m.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	R	472	Total	C	N	O	S	0	0
			3755	2377	662	704	12		

- Molecule 72 is a protein called uL30m.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	S	150	Total	C	N	O	S	0	0
			1244	782	247	207	8		

- Molecule 73 is a protein called bL32m.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	T	55	Total	C	N	O	S	0	0
			487	311	93	78	5		

- Molecule 74 is a protein called bL33m.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	U	92	Total	C	N	O	S	0	0
			744	472	142	125	5		

- Molecule 75 is a protein called bL35m.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	V	141	Total	C	N	O	S	0	0
			1202	755	242	197	8		

- Molecule 76 is a protein called bL36m.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	W	54	Total	C	N	O	S	0	0
			465	299	89	74	3		

- Molecule 77 is a protein called mL38.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	X	468	Total	C	N	O	S	0	0
			3733	2365	657	694	17		

- Molecule 78 is a protein called mL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Y	255	Total	C	N	O	S	0	0
			2067	1287	373	402	5		

- Molecule 79 is a protein called mL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Z	150	Total	C	N	O	S	0	0
			1223	784	224	211	4		

- Molecule 80 is a protein called mL94.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	BA	138	Total	C	N	O	S	0	0
			1038	648	188	197	5		

- Molecule 81 is a protein called UA.

Mol	Chain	Residues	Atoms				AltConf	Trace
81	UA	203	Total	C	N	O	0	0
			1015	609	203	203		

- Molecule 82 is a protein called mL95.

Mol	Chain	Residues	Atoms				AltConf	Trace
82	BB	122	Total	C	N	O	0	0
			1028	663	189	176		

- Molecule 83 is a protein called mL89.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Aw	185	Total	C	N	O	S	0	0
			1509	949	289	268	3		

- Molecule 84 is a protein called bL31m.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	Bj	168	Total	C	N	O	S	0	0
			1358	865	255	231	7		

- Molecule 85 is a protein called mL76.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	An	314	Total	C	N	O	S	0	0
			2605	1643	487	470	5		

- Molecule 86 is a protein called mL74.

Mol	Chain	Residues	Atoms					AltConf	Trace
86	Al	264	Total	C	N	O	S	0	0
			2152	1371	374	399	8		

- Molecule 87 is a protein called Peptidyl-prolyl cis-trans isomerase.

Mol	Chain	Residues	Atoms					AltConf	Trace
87	BI	186	Total	C	N	O	S	0	0
			1409	895	242	264	8		

- Molecule 88 is a protein called mL93.

Mol	Chain	Residues	Atoms					AltConf	Trace
88	Az	138	Total	C	N	O	S	0	0
			1215	782	216	211	6		

- Molecule 89 is a protein called mL86.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
89	At	165	1346	824	260	254	8	0	0

- Molecule 90 is a protein called mL96.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
90	BC	140	1114	693	205	207	9	0	0

- Molecule 91 is a protein called L51_S25_CI-B8 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
91	Ab	260	2185	1365	416	397	7	0	0

- Molecule 92 is a protein called mL69.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
92	Ai	476	3789	2419	654	694	22	0	0

- Molecule 93 is a protein called mL80.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
93	Ap	214	1775	1111	327	328	9	0	0

- Molecule 94 is a protein called mL87.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
94	Au	176	1490	945	292	245	8	0	0

- Molecule 95 is a protein called mL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
95	Aa	178	1417	884	270	256	7	0	0

- Molecule 96 is a protein called mL79.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
96	Ao	275	2276	1433	429	402	12	0	0

- Molecule 97 is a protein called mL70.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
97	BM	389	3069	1954	548	551	16	0	0

- Molecule 98 is a protein called mL84.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
98	Ar	195	1644	1054	295	288	7	0	0

- Molecule 99 is a protein called mL72.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
99	Aj	341	2766	1756	508	491	11	0	0

- Molecule 100 is a protein called Peptidyl-prolyl cis-trans isomerase.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
100	BH	214	1659	1050	290	310	9	0	0

- Molecule 101 is a protein called mL75.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
101	Am	330	2708	1727	491	474	16	0	0

- Molecule 102 is a protein called mL82.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
102	Aq	258	2074	1296	406	360	12	0	0

- Molecule 103 is a protein called mL98.

Mol	Chain	Residues	Atoms				AltConf	Trace
103	BE	84	Total	C	N	O	0	0
			700	447	125	128		

- Molecule 104 is a protein called mL73.

Mol	Chain	Residues	Atoms					AltConf	Trace
104	Ak	300	Total	C	N	O	S	0	0
			2352	1489	421	429	13		

- Molecule 105 is a protein called mL52.

Mol	Chain	Residues	Atoms					AltConf	Trace
105	BP	195	Total	C	N	O	S	0	0
			1593	1014	288	288	3		

- Molecule 106 is a protein called mL49.

Mol	Chain	Residues	Atoms					AltConf	Trace
106	Ad	207	Total	C	N	O	S	0	0
			1632	1049	289	286	8		

- Molecule 107 is a protein called mL99.

Mol	Chain	Residues	Atoms					AltConf	Trace
107	BF	101	Total	C	N	O	S	0	0
			851	530	165	154	2		

- Molecule 108 is a protein called mL88.

Mol	Chain	Residues	Atoms					AltConf	Trace
108	Av	155	Total	C	N	O	S	0	0
			1300	828	230	234	8		

- Molecule 109 is a protein called mL63.

Mol	Chain	Residues	Atoms					AltConf	Trace
109	Af	139	Total	C	N	O	S	0	0
			1132	709	215	207	1		

- Molecule 110 is a protein called mL85.

Mol	Chain	Residues	Atoms					AltConf	Trace
110	As	97	Total	C	N	O	S	0	0
			787	495	139	148	5		

- Molecule 111 is a protein called mL53.

Mol	Chain	Residues	Atoms					AltConf	Trace
111	Ae	291	Total	C	N	O	S	0	0
			2359	1526	418	404	11		

- Molecule 112 is a protein called MRP-L46 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
112	Ac	268	Total	C	N	O	S	0	0
			2174	1375	389	405	5		

- Molecule 113 is a protein called mL68.

Mol	Chain	Residues	Atoms					AltConf	Trace
113	Ah	452	Total	C	N	O	S	0	0
			3686	2338	651	679	18		

- Molecule 114 is a protein called mL97.

Mol	Chain	Residues	Atoms					AltConf	Trace
114	BD	97	Total	C	N	O	S	0	0
			807	499	160	140	8		

- Molecule 115 is a protein called C2H2-type domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
115	Ay	142	Total	C	N	O	S	0	0
			1226	774	228	217	7		

- Molecule 116 is a protein called mL59/64.

Mol	Chain	Residues	Atoms					AltConf	Trace
116	Ag	231	Total	C	N	O	S	0	0
			1916	1211	356	340	9		

- Molecule 117 is a protein called LIM zinc-binding domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
117	Ax	167	1388	876	268	233	11	0	0

- Molecule 118 is a protein called Putative ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
118	BL	309	2497	1594	464	427	12	0	0

- Molecule 119 is a protein called Putative ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
119	BO	155	1239	772	253	205	9	0	0

- Molecule 120 is a protein called mL100.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
120	BG	85	643	400	122	115	6	0	0

- Molecule 121 is a protein called UB.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
121	UB	67	335	201	67	67	0	0

- Molecule 122 is a protein called UC.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
122	UC	144	720	432	144	144	0	0

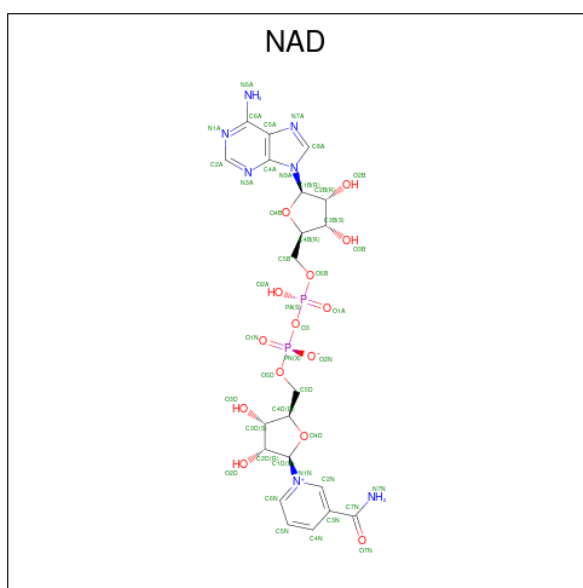
- Molecule 123 is a protein called UD.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
123	UD	95	475	285	95	95	0	0

- Molecule 124 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
124	T	1	Total	Zn	0
			1	1	
124	W	1	Total	Zn	0
			1	1	
124	BD	1	Total	Zn	0
			1	1	
124	Ax	2	Total	Zn	0
			2	2	
124	BG	1	Total	Zn	0
			1	1	

- Molecule 125 is NICOTINAMIDE-ADENINE-DINUCLEOTIDE (three-letter code: NAD) (formula: $C_{21}H_{27}N_7O_{14}P_2$).



Mol	Chain	Residues	Atoms				AltConf	
			Total	C	N	O		P
125	Ag	1	44	21	7	14	2	0

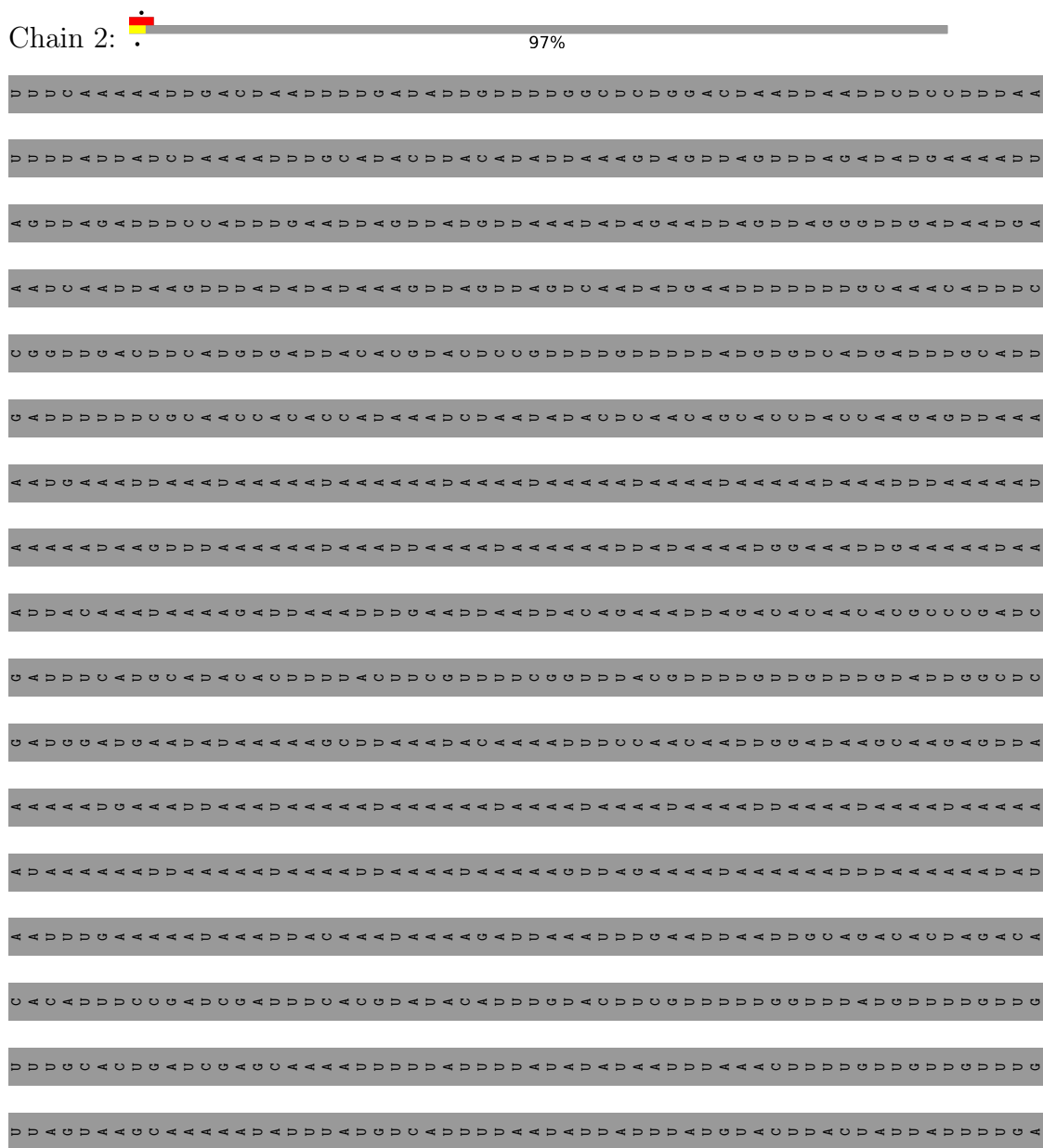
- Molecule 126 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
126	1	2	Total	Mg	0
			2	2	

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: Large ribosomal RNA



U A U U U U U U U U A A U G G U U U U U U U U A U U A U U G G G A U U U U U U A U U C C A C C G U U U U A C C G U A A A C G G U U G U G C A A U U D
U G U G C A A U U U U U G G U U U U U U U U A A U U G G U U G A U U G A U U C G G A G G G U U U A C G U U D U G C A C G U A G G C
A G U U U A A U U G G U U A A A A A G G U U U U G A A U G U U G G U U U U U U G G U U C U G G U A A G C C G A U U U U U U A U A
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U U U G A A A G U U U U U C A U U U A A U
U U U U A A U C G G A U U U A U U U U G C A U U U U U U U A U U C A A U
G U U U A G U C G U U U A A U U U U U U U U U A U U G G A U U G G A U U C A C G U
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U U G A U G U U U A A A A A G G U U U A A C U U A U U A A U A A U G C A U U A A U
U U A U U C A A A A A C G G A A G G A
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U U A U G G U U A A U
U U A A G G U U A A U
U U A A G C A U
G U G A A U
A U U U U U C U U U U U U U A U U G U U C U U A U
A C A U U U U A A G G U U G G U U G U U A A U
U A U U U G C U A U U U U A A C C A U U G U A A C U U G U U C G U U A A U
C A U U U A G C A A A A C U G U C C A A G U U G U A A C U U U U G U U A A U

G U A A U U A A U G A U U U U A A C U U G U U A A A U U A C A U G U G U U G C U U A C C U U U G U
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A C G A A G A U U A U G U U U U U G G C U U U U U U U G A U U U U U U G U A A A U U U U A U U U A A A
U U G A A U U U U G U U U U U C A U G A A A G A A U C U U U G A G U U G A A U U A A A A C A U U C U G A
U A A G A A U U C U U U C C U U G A G U G A U U U U U U A U U U U U U U U U U A A A A G C U U G U A C C A G A
U A A A A U U A C U U G G U U U U A A U U A U U A U G U U U A A U
A A A U U U G C A U U A A U U U A U G A U
A G U U U U A U U U A A U A G U A A A U U U G A U G U U U U C A U G U U U G U U U A A U U A A U U A C A U U
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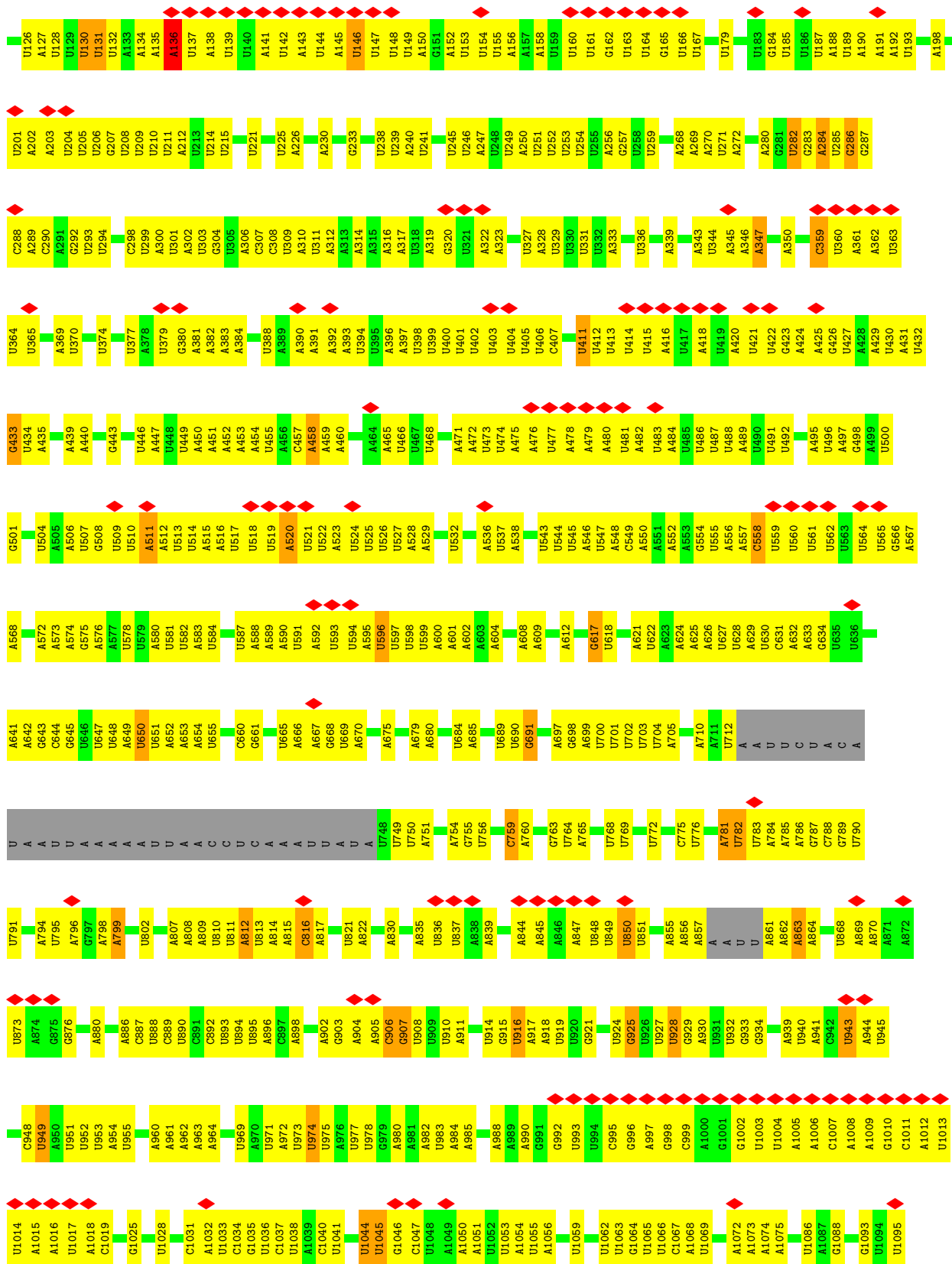
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● Molecule 1: Large ribosomal RNA





Residue ID	Atom	Occupancy	B-factor	Distance (Å)	Angle (°)	Volume (Å³)	Quality
A1096	U	1.00	100	1.50	120	100	A
A1097	U	1.00	100	1.50	120	100	A
A1098	C	1.00	100	1.50	120	100	A
A1099	A	1.00	100	1.50	120	100	A
U1100	U	1.00	100	1.50	120	100	A
C1101	U	1.00	100	1.50	120	100	A
G1102	U	1.00	100	1.50	120	100	A
U1103	U	1.00	100	1.50	120	100	A
U1104	U	1.00	100	1.50	120	100	A
G1105	U	1.00	100	1.50	120	100	A
U1106	U	1.00	100	1.50	120	100	A
A1107	U	1.00	100	1.50	120	100	A
C1111	U	1.00	100	1.50	120	100	A
A1114	U	1.00	100	1.50	120	100	A
U1115	U	1.00	100	1.50	120	100	A
U1116	U	1.00	100	1.50	120	100	A
U1117	U	1.00	100	1.50	120	100	A
G1118	U	1.00	100	1.50	120	100	A
U1121	U	1.00	100	1.50	120	100	A
A1122	U	1.00	100	1.50	120	100	A
U1123	U	1.00	100	1.50	120	100	A
A1124	U	1.00	100	1.50	120	100	A
U1125	U	1.00	100	1.50	120	100	A
A1126	U	1.00	100	1.50	120	100	A
U1127	U	1.00	100	1.50	120	100	A
U1128	U	1.00	100	1.50	120	100	A
U1129	U	1.00	100	1.50	120	100	A
A1130	U	1.00	100	1.50	120	100	A
A1131	U	1.00	100	1.50	120	100	A
U1135	U	1.00	100	1.50	120	100	A
U1136	U	1.00	100	1.50	120	100	A
G1137	U	1.00	100	1.50	120	100	A
U1138	U	1.00	100	1.50	120	100	A
A1139	U	1.00	100	1.50	120	100	A
U1140	U	1.00	100	1.50	120	100	A
A1141	U	1.00	100	1.50	120	100	A
U1146	U	1.00	100	1.50	120	100	A
A1155	U	1.00	100	1.50	120	100	A
U1156	U	1.00	100	1.50	120	100	A
A1157	U	1.00	100	1.50	120	100	A
U1158	U	1.00	100	1.50	120	100	A

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Table with 20 columns and 30 rows of nucleotide sequence data. Each row contains a single line of text with characters A, U, G, and C. The sequences are arranged in a regular grid pattern across the page.

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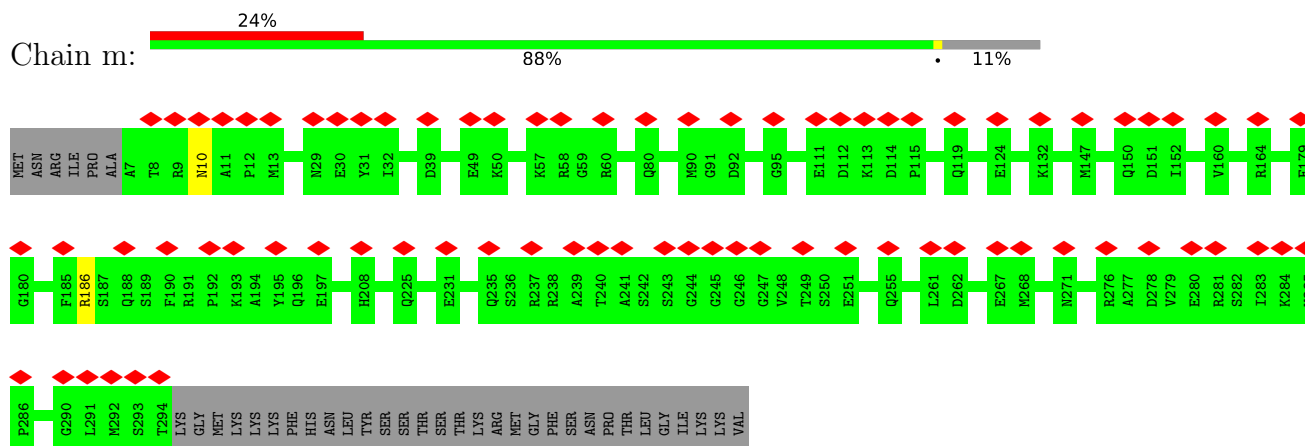


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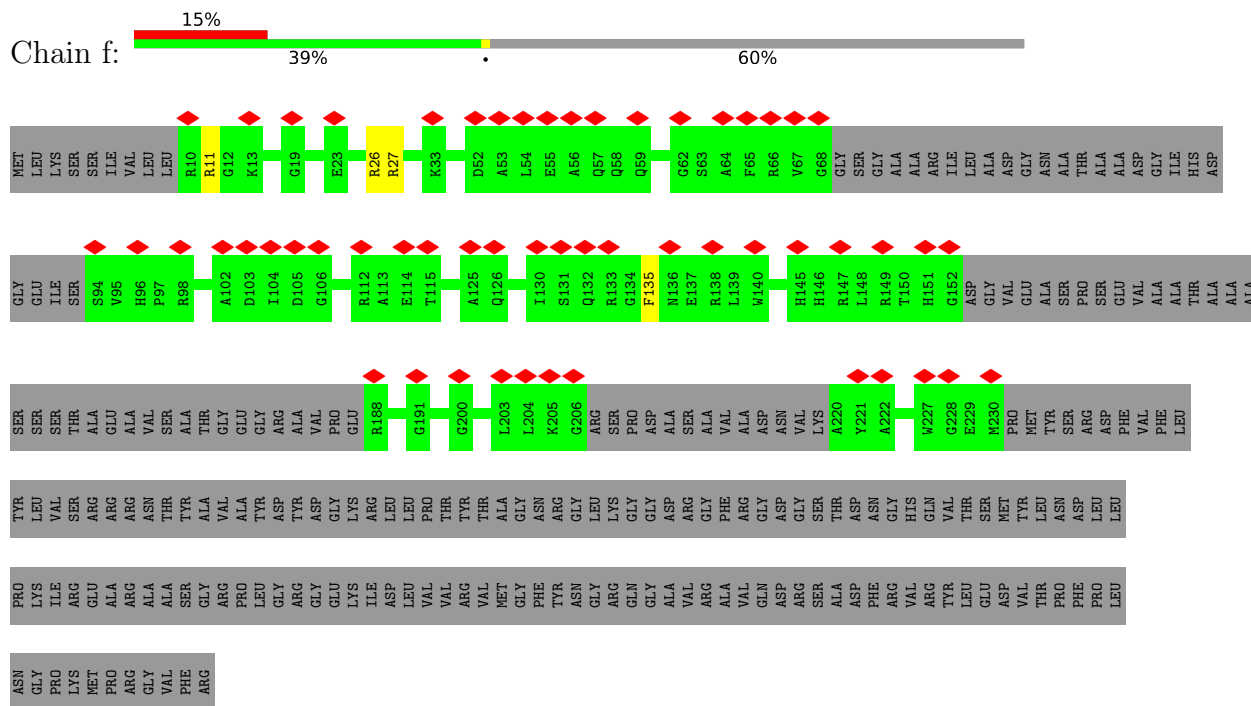
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C C A A U U G U
C G C C C A C C C A U
G C C C C A C C C A U

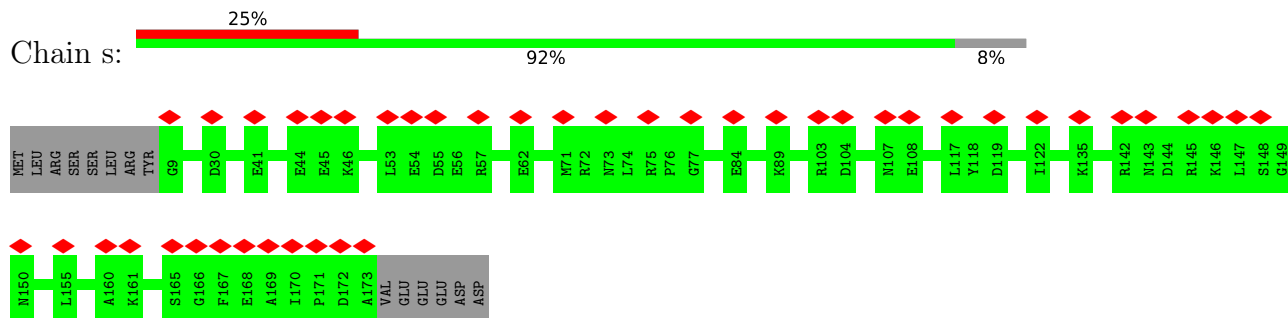
● Molecule 4: bS18m



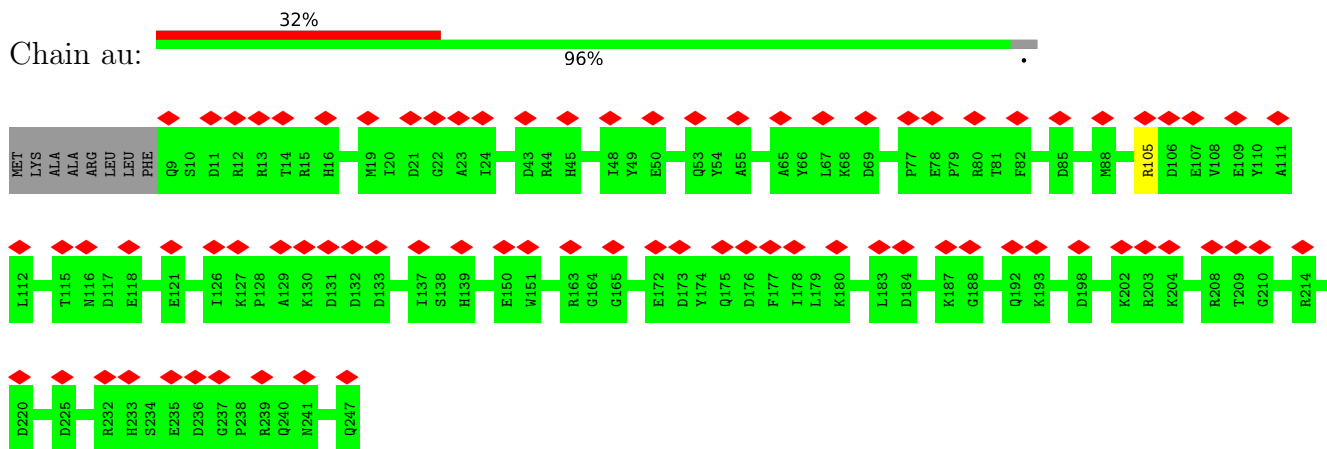
● Molecule 5: uS11m



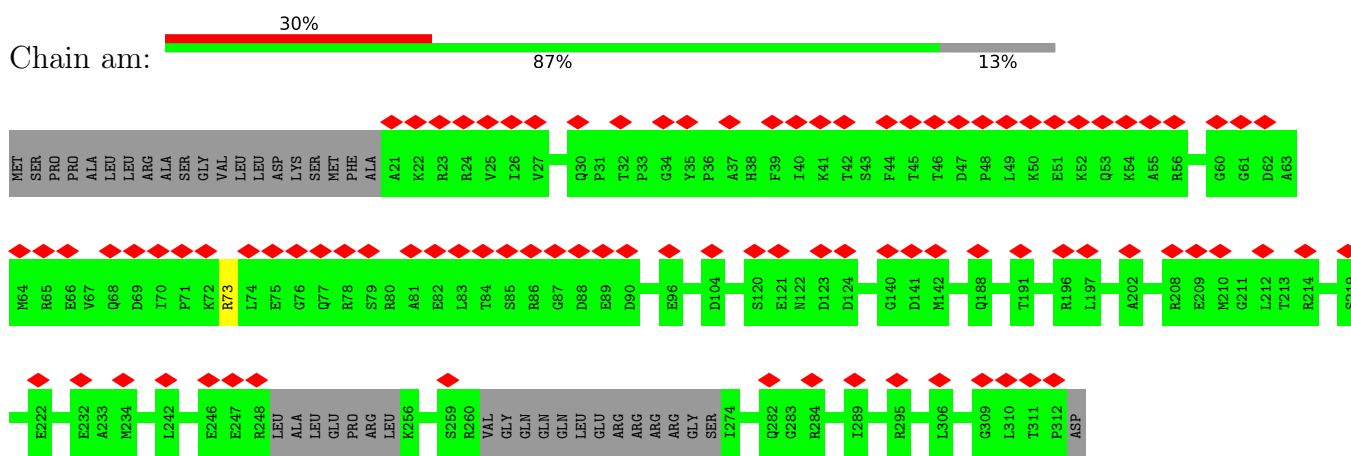
● Molecule 6: mS33



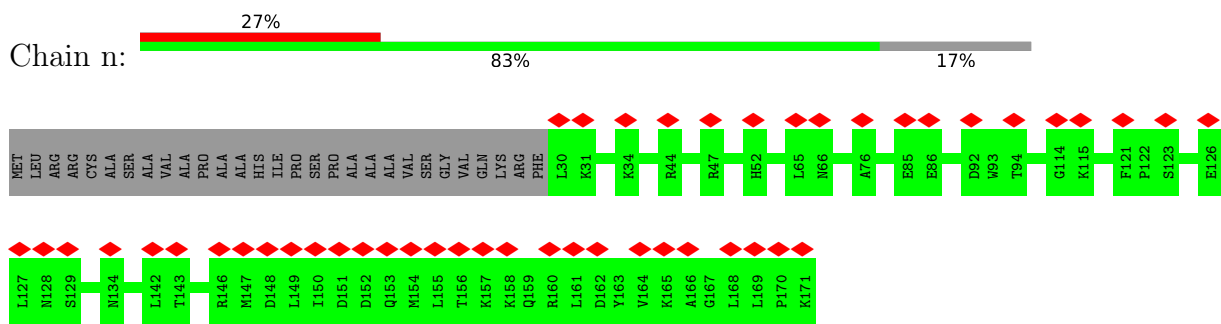
● Molecule 7: Rhodanese domain-containing protein



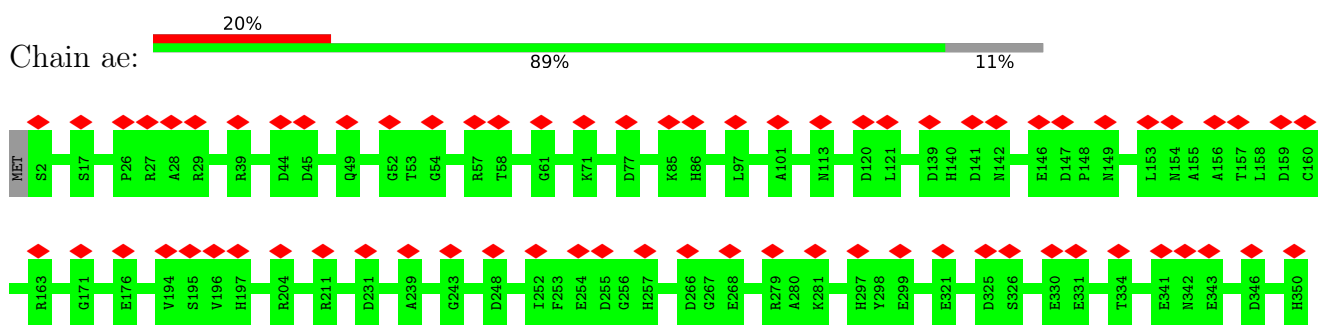
• Molecule 8: mS59

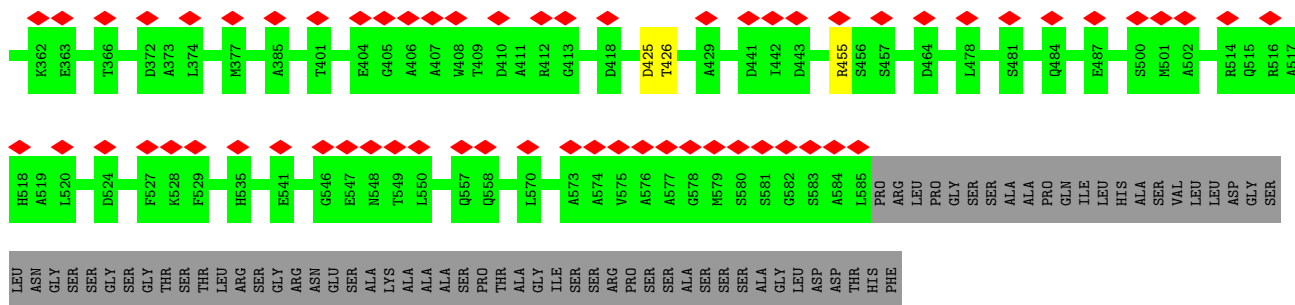


• Molecule 9: uS19m

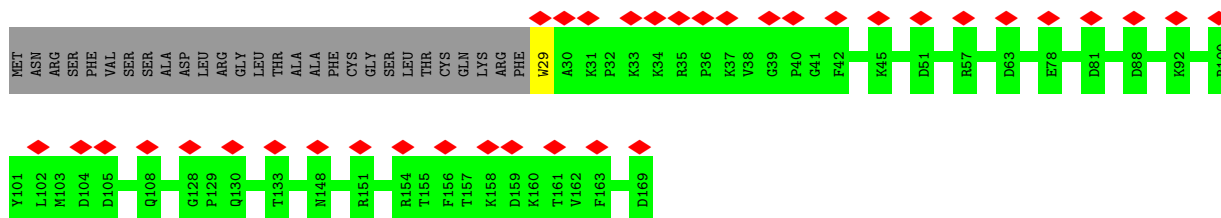
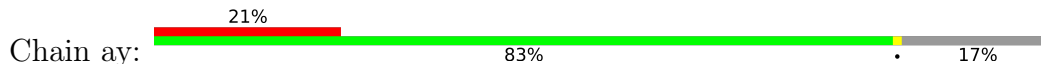


• Molecule 10: mS53

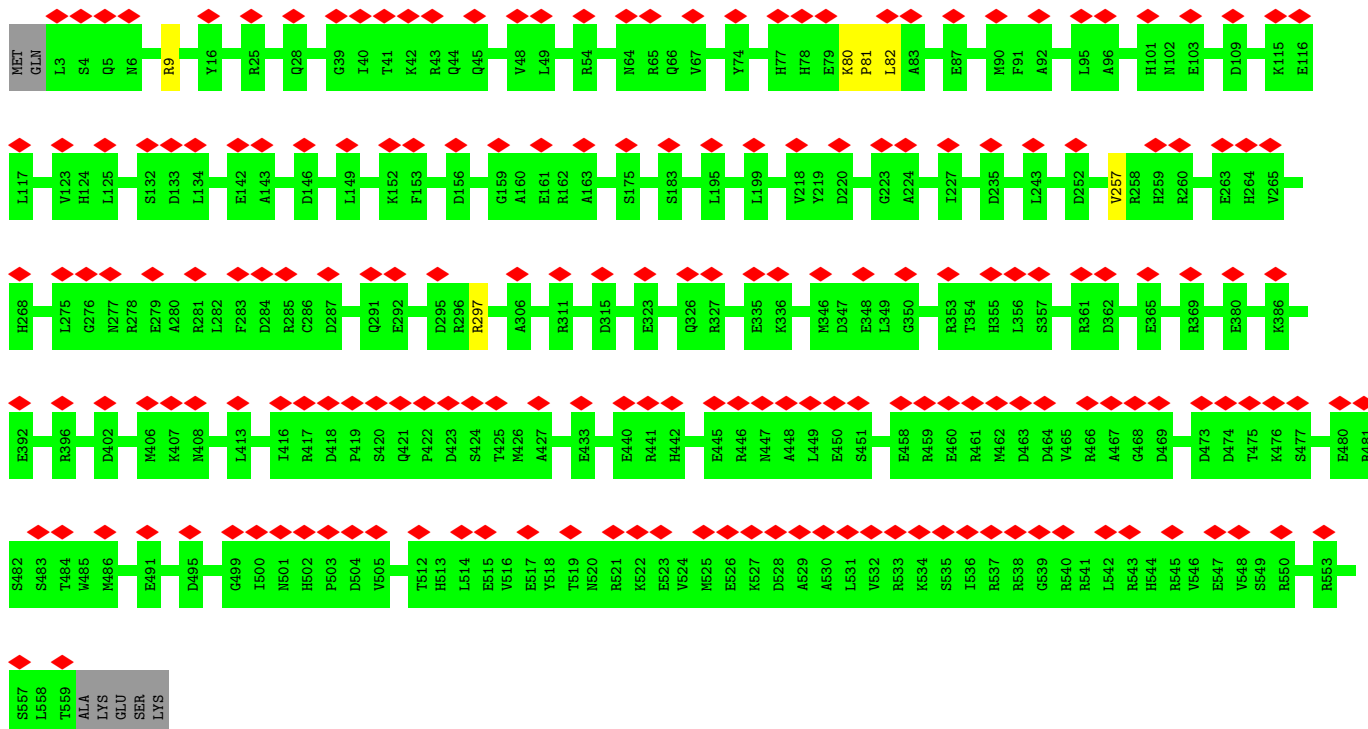




• Molecule 11: mS71

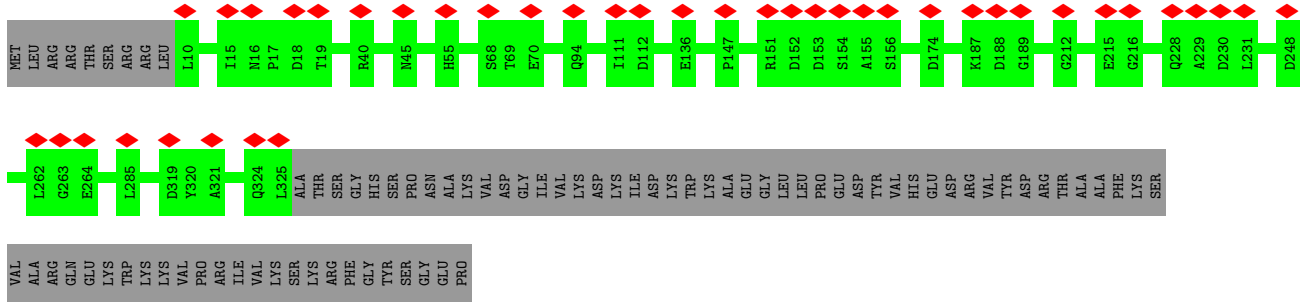


• Molecule 12: mS55



• Molecule 13: mS57

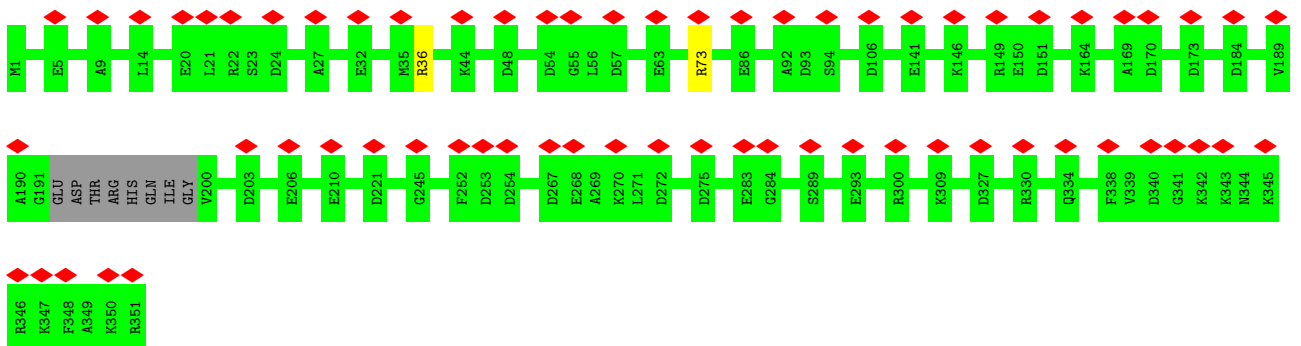


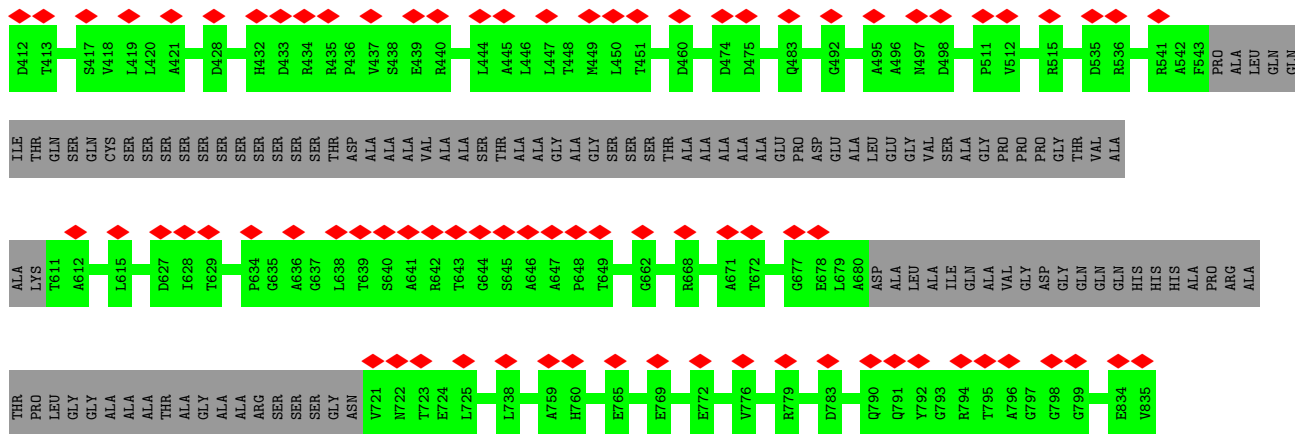


• Molecule 14: uS10m

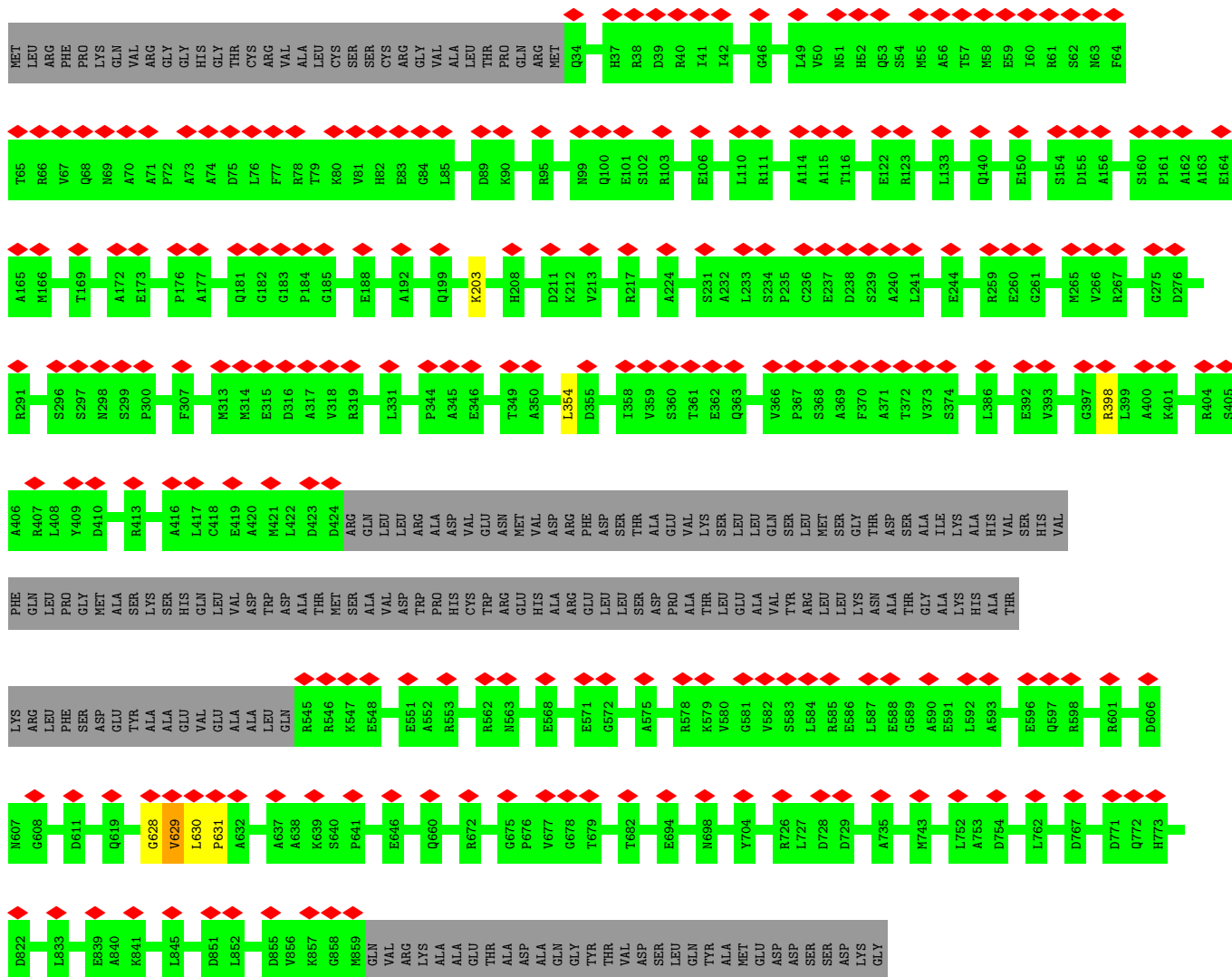
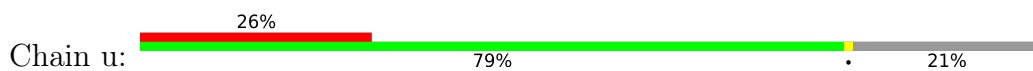


• Molecule 15: uS9m



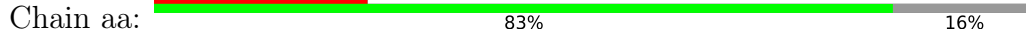


• Molecule 20: mS35



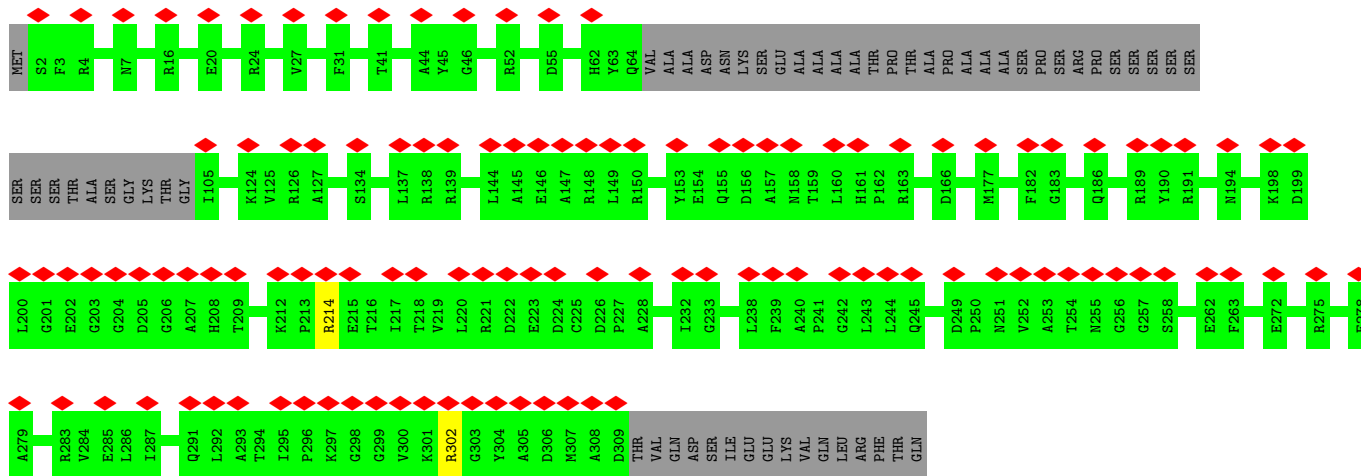
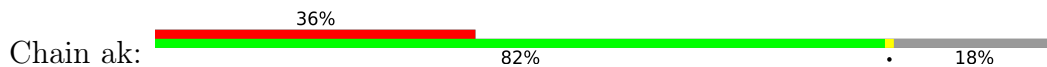
• Molecule 21: mS48

24%

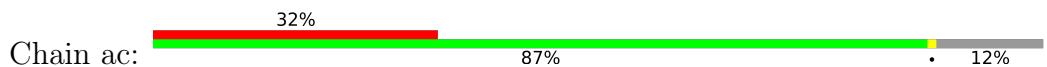


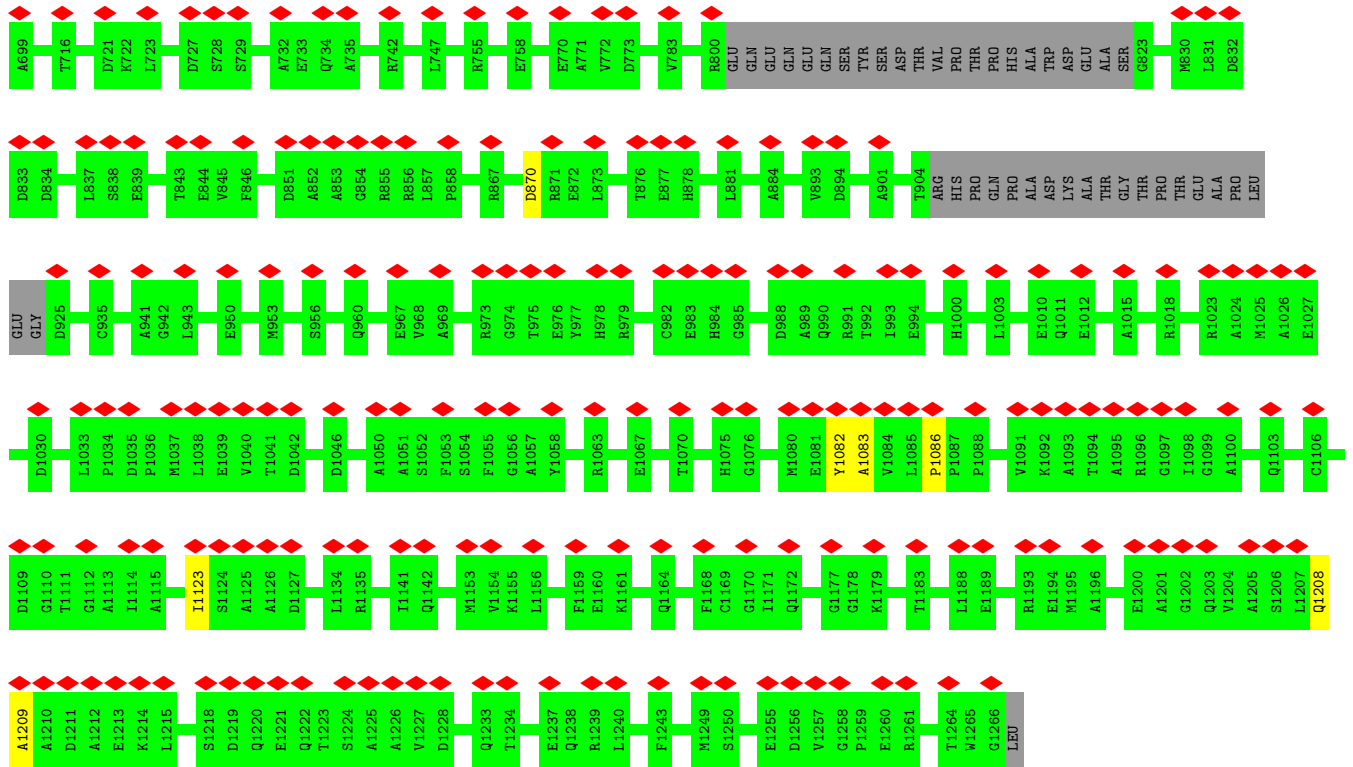


• Molecule 23: mS58

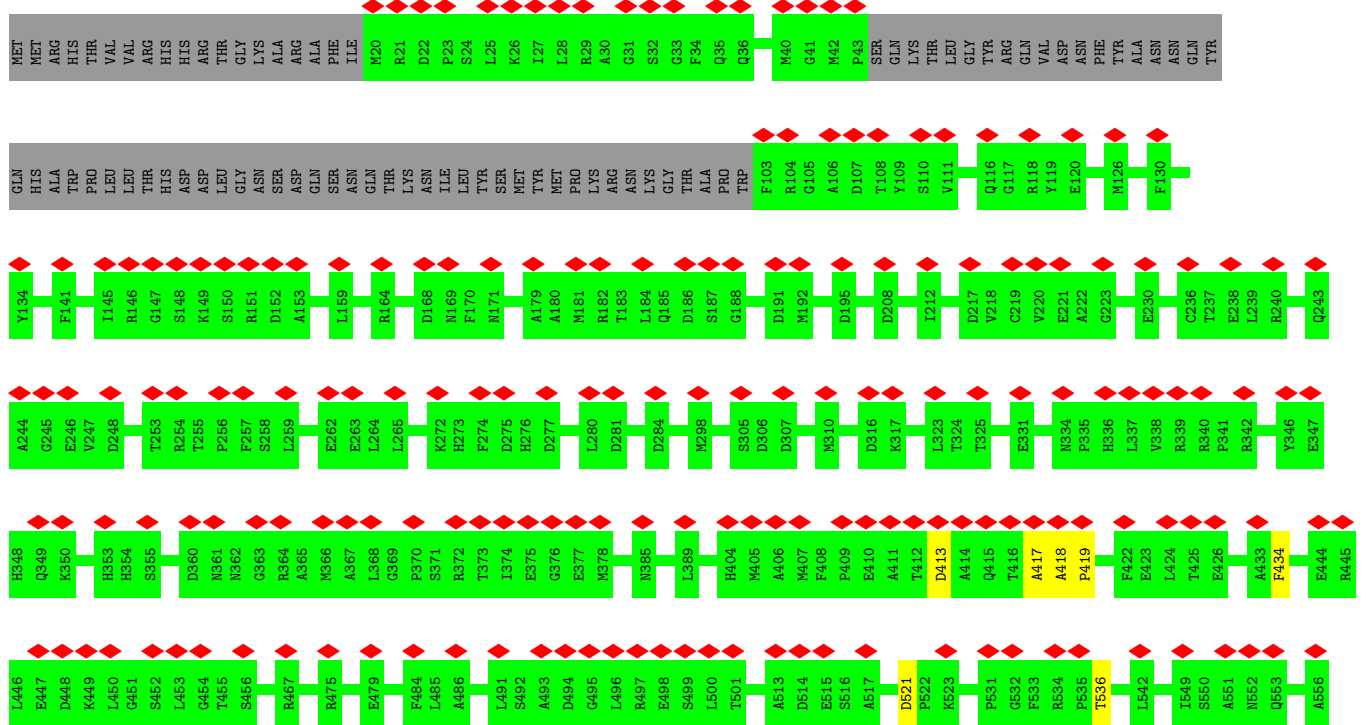
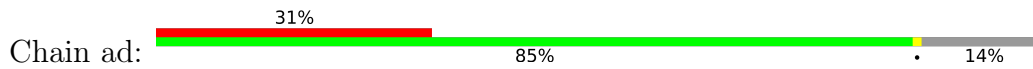


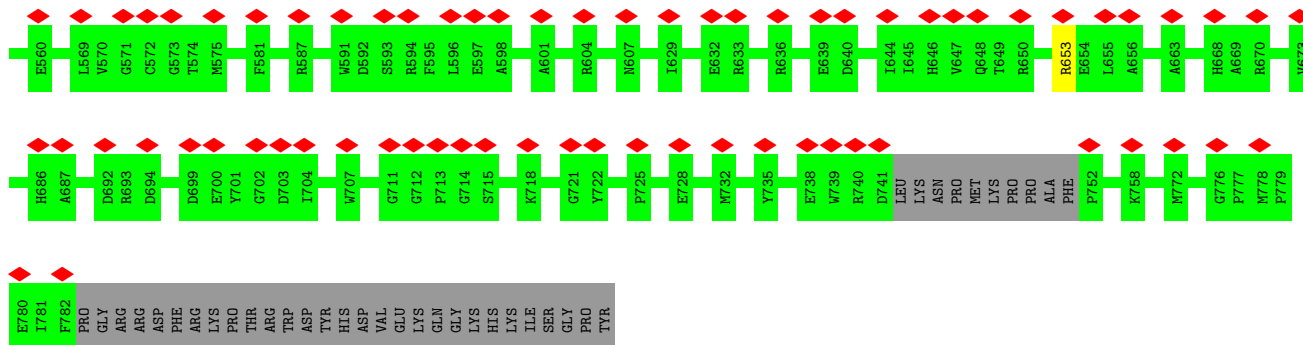
• Molecule 24: mS50



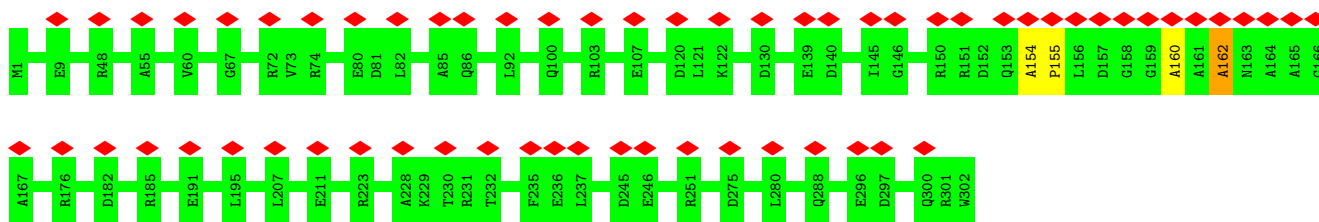


• Molecule 25: mS51

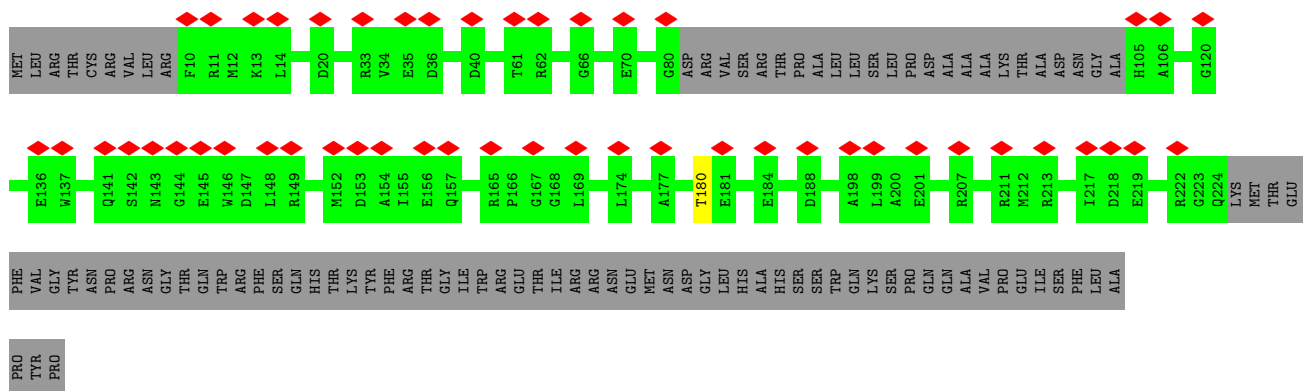




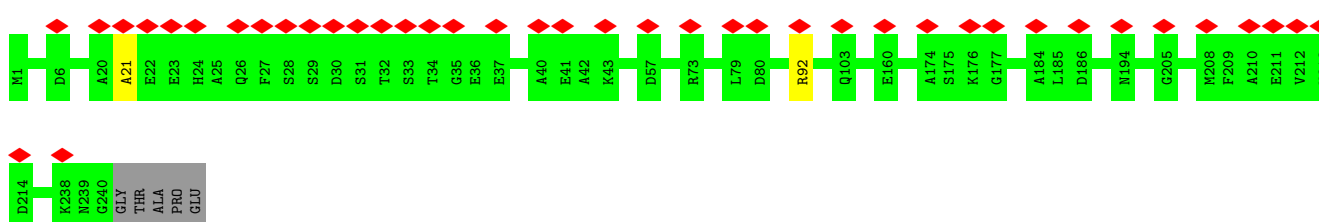
• Molecule 26: mS60



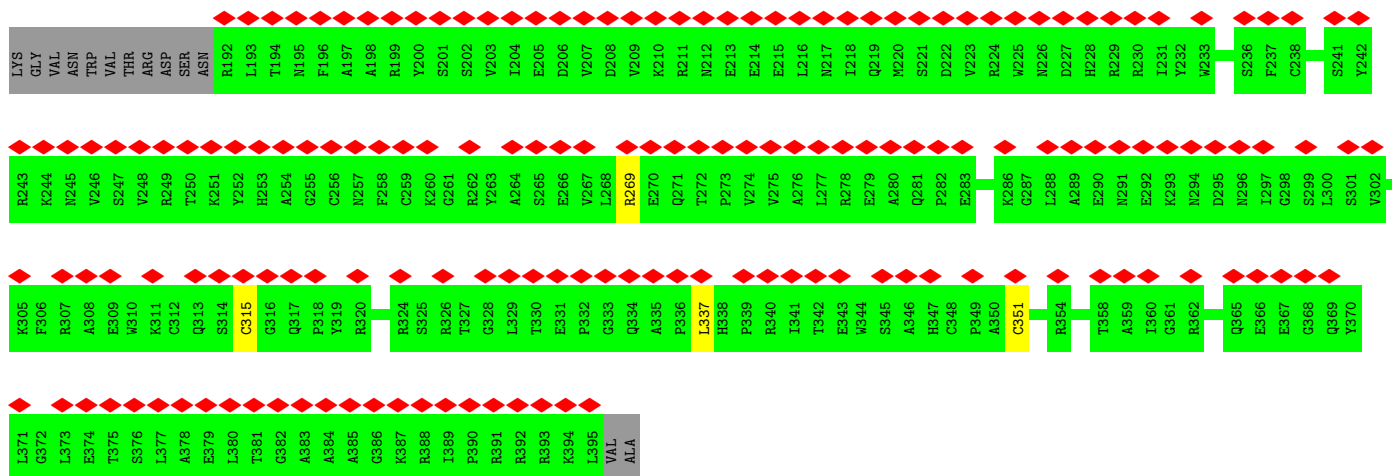
• Molecule 27: mS61



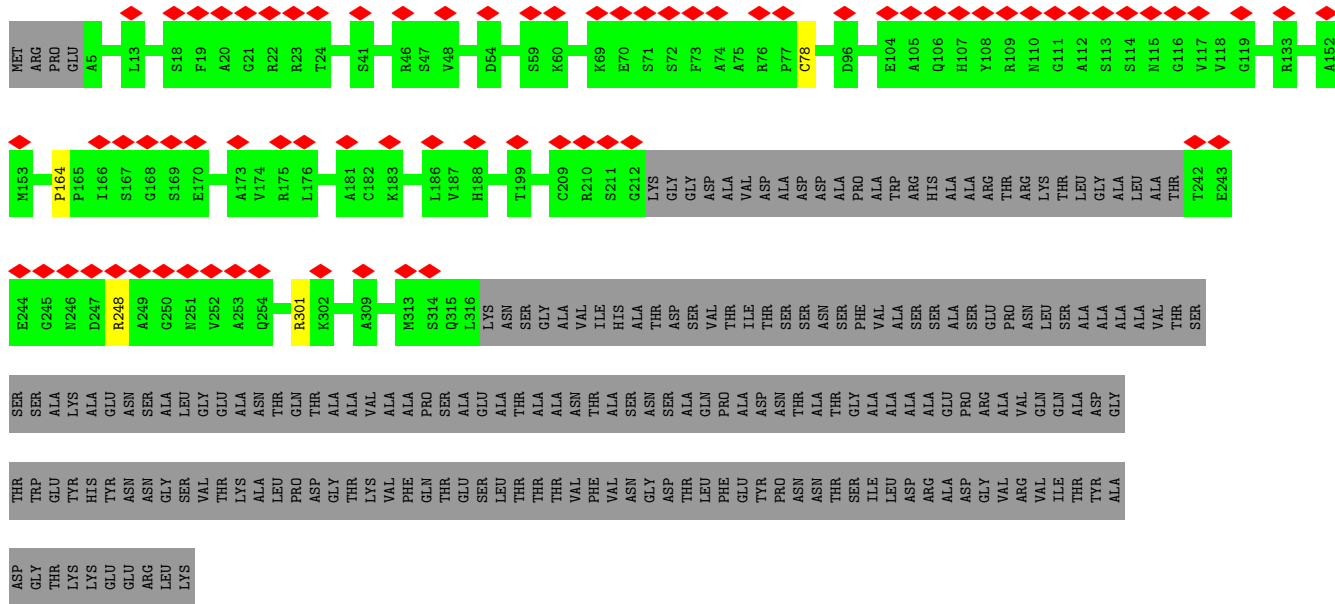
• Molecule 28: mS62



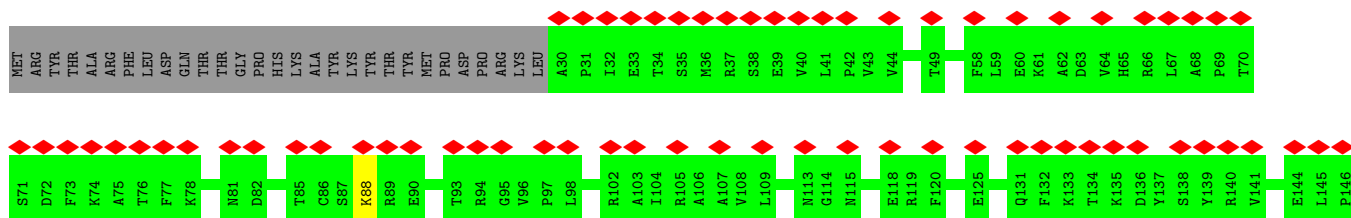
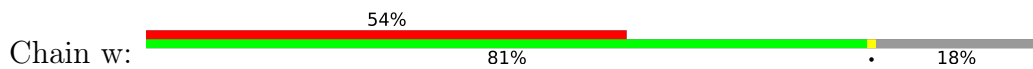
• Molecule 29: mS63

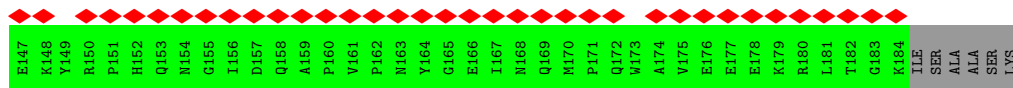


• Molecule 32: mS43

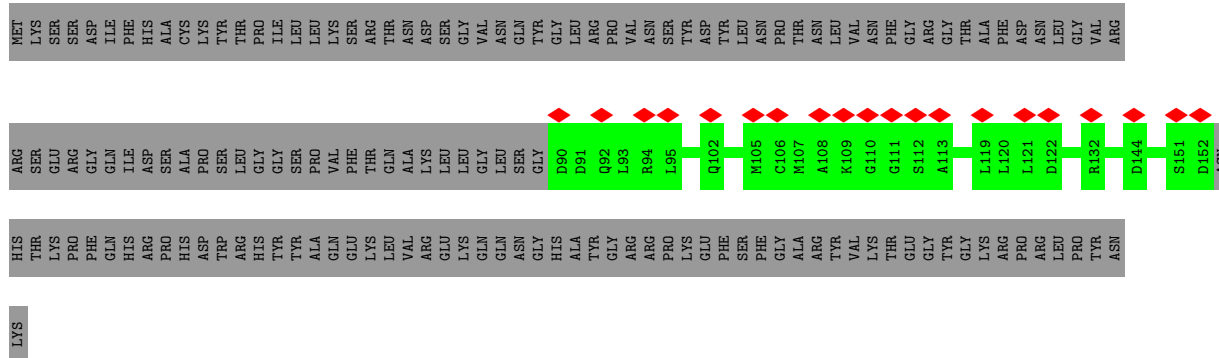


• Molecule 33: Protein FYV4, mitochondrial

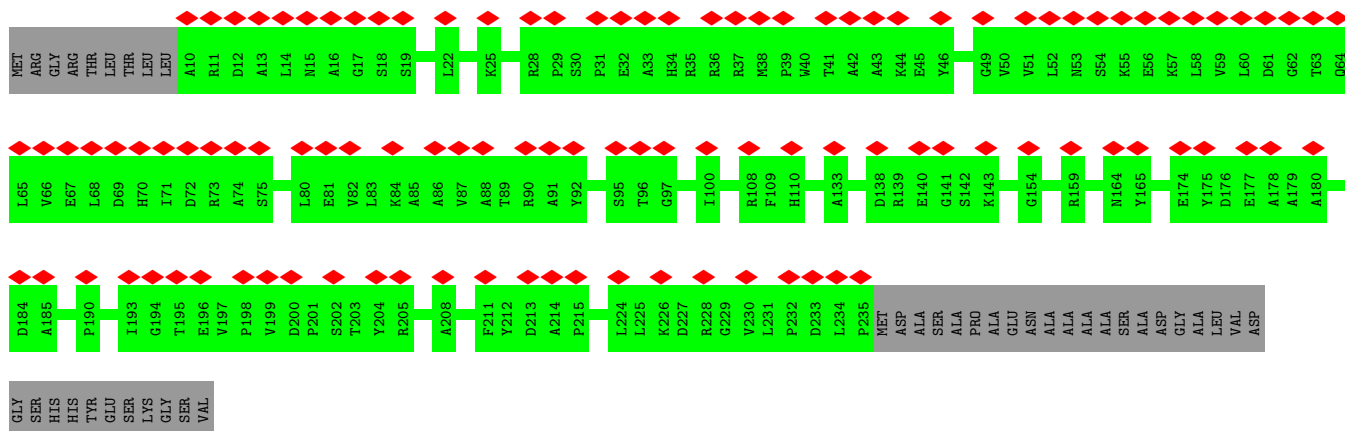
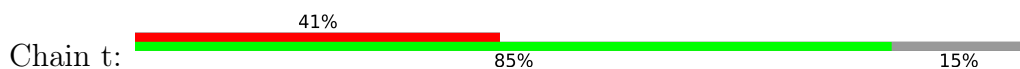




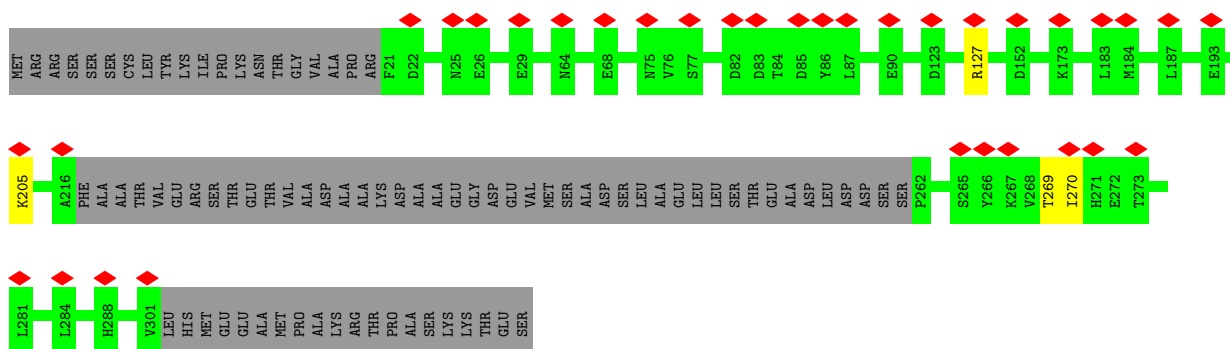
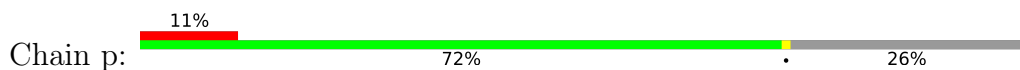
• Molecule 34: mS37

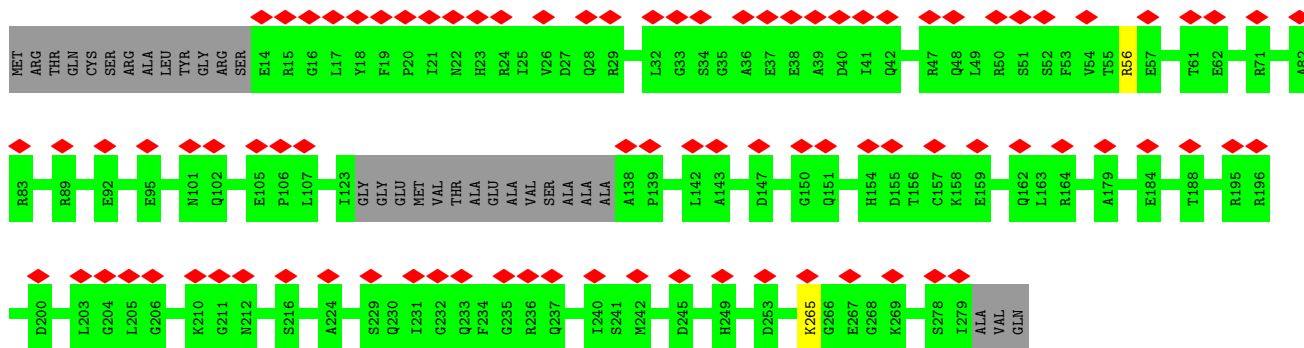
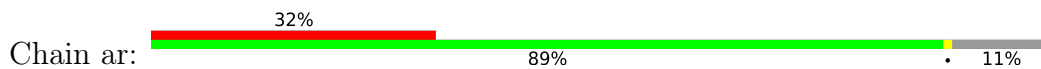


• Molecule 35: mS34

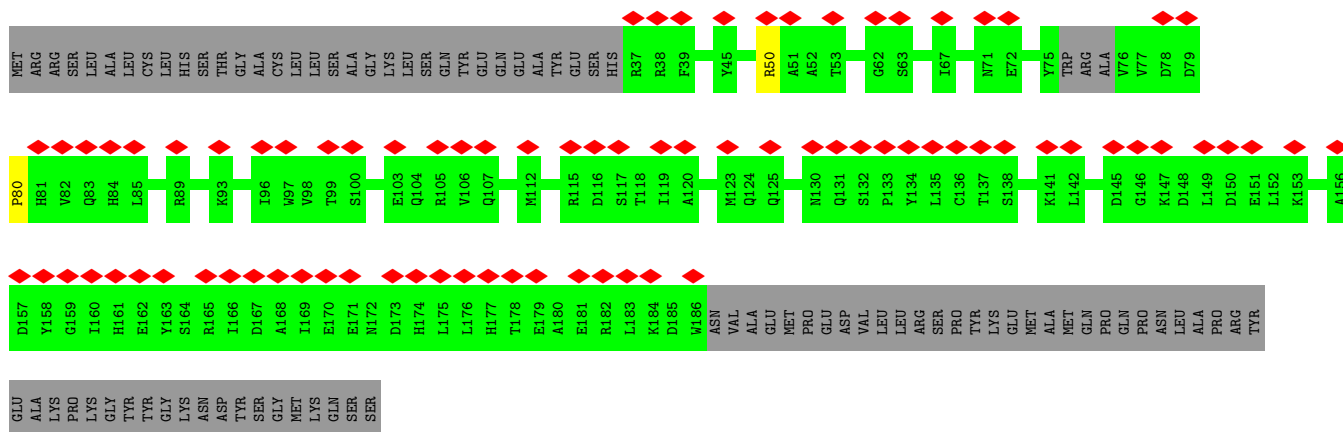


• Molecule 36: mS23

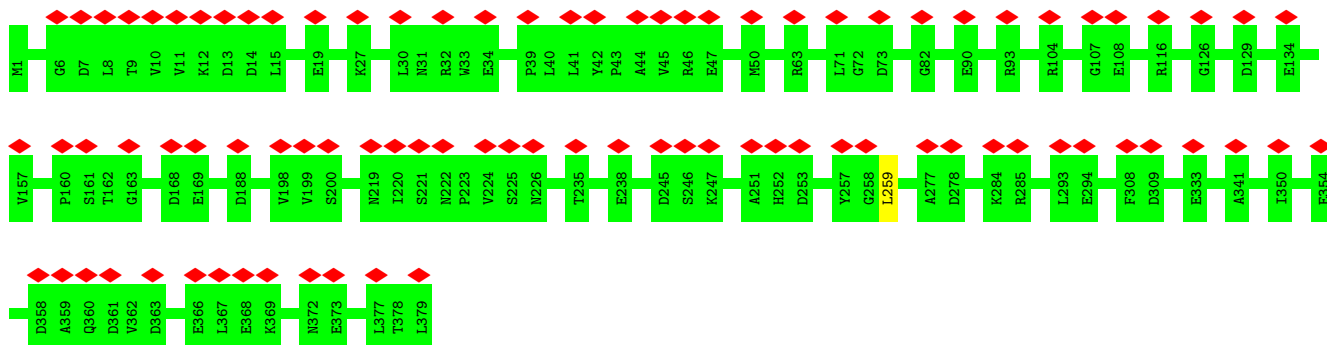




• Molecule 40: Ubiquitin-like domain-containing protein

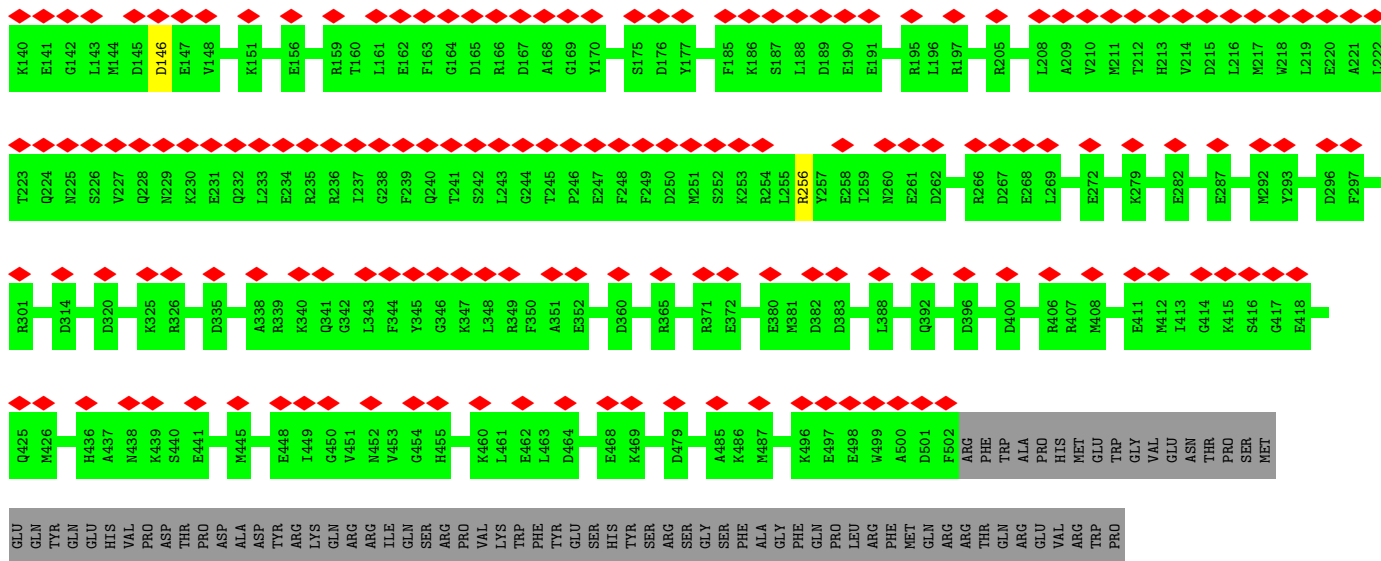


• Molecule 41: mS56

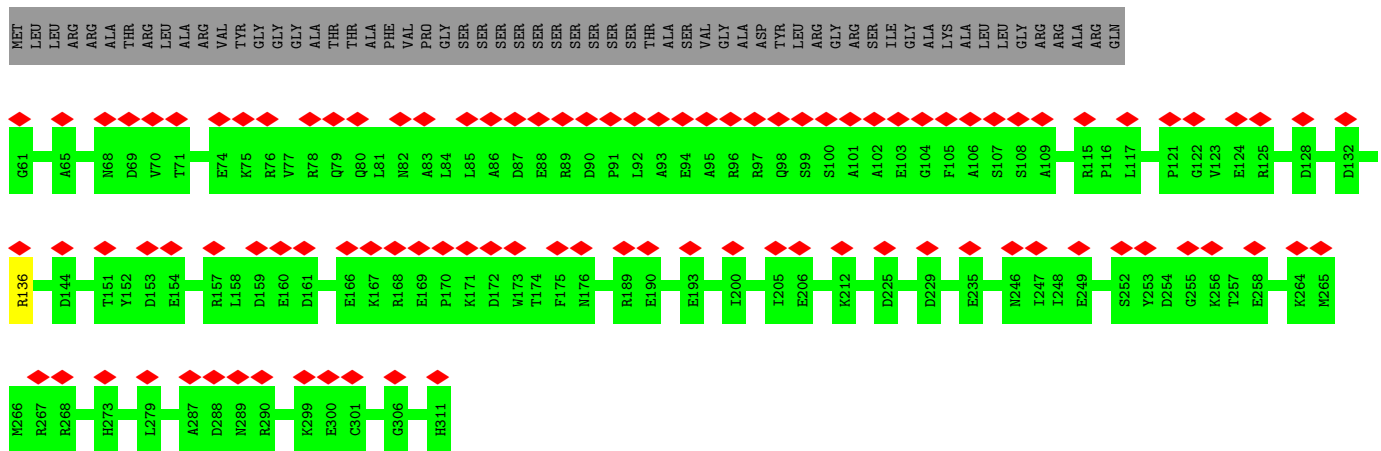
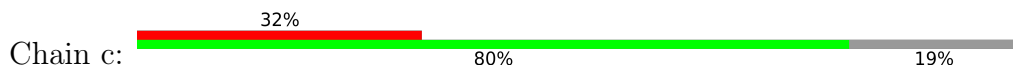


• Molecule 42: Putative superoxide dismutase

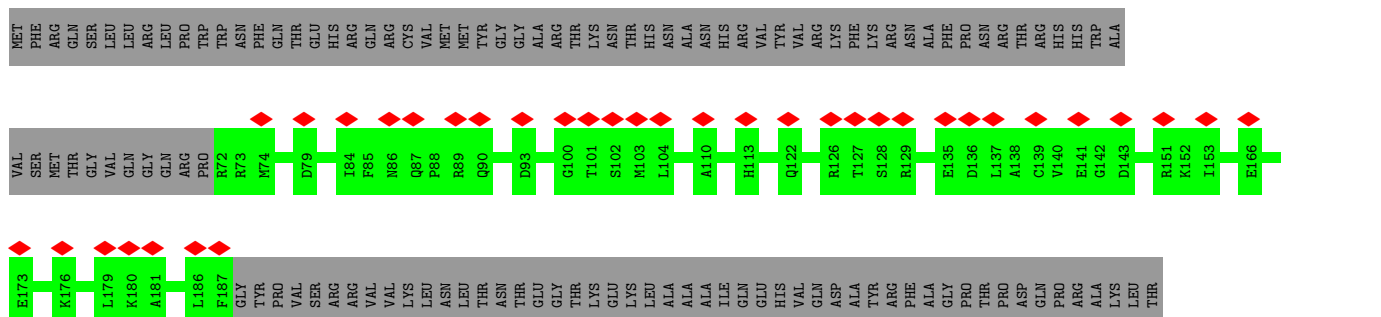




• Molecule 46: uS8m



• Molecule 47: 30S Ribosomal protein S17-like protein



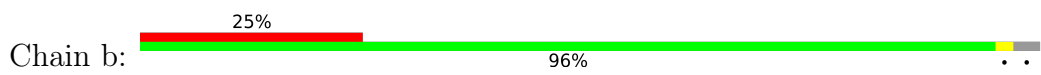
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GLN	PRO	SER	ASP	LYS	TYR	ASP	PHE	ASP	LYS	ASN	LEU	LYS	LYS	SER	SER	PRO	VAL	THR	ALA	GLU	LEU	PRO	PRO	GLY	ALA	ALA	PRO	PHE	LEU	GLY	GLY	GLN	PRO	VAL	ALA	ALA	GLU	GLU	PHE	SER	SER	GLU	VAL	GLU	ASP	SER	ARG	ARG	HIS	LYS	GLY	ASP	TVR	TRP	TRP	ASN	LEU

• Molecule 48: mS26



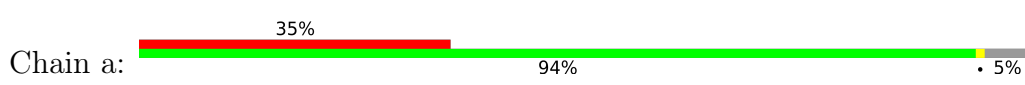
MET	HIS	SER	SER	GLY	VAL	ALA	ARG	R10	Q11	M12	Y15	Y16	K21	S22	E23	R36	K41	L57	L66	D74	L82	E92	H93	E94	R100	R103	D165	G170	S171	K172	F179	L186	E187	D188	K189	M192	I193	A194	Q195	V196	P197	A198	M199													
L200	M201	T202	N203	H204	A205	THR	GLU	ASN	PRO	ASP	GLY	GLY	VAL	THR	MET	TYR	THR	GLU	ALA	PRO	GLU	ARG	GLU	GLY	THR	VAL	ASN	ALA	ARG	ALA	GLU	TYR	ILE	ASP	GLN	GLY	THR	ILE	PHE	GLU	ARG	ARG	PRO	PRO	SER	ALA	GLY	GLY	THR	ASP	ASP	ASP	ASP			
ARG	SER	GLU	SER	ALA	ARG	ILE	ASP	SER	LYS	ARG	VAL	ALA	ARG	THR	MET	GLU	GLU	THR	ASP	GLU	VAL	GLU	ARG	GLU	VAL	ASN	ALA	ARG	ALA	ALA	ALA	TYR	ILE	ASP	GLY	THR	THR	ILE	PHE	THR	THR	PRO	PRO	SER	ALA	GLY	GLY	THR	ASP	ASP	GLY	THR	MET	GLY	THR	MET
THR	PRO	MET	LYS	ARG	ARG	LYS	SER	ALA	ALA	ALA	GLN	GLN	GLN	ASN	GLN	VAL	ALA	ALA	GLY	VAL	VAL	VAL	THR	LEU	LEU	LEU	GLY	GLY	GLY	VAL	VAL	ALA	GLU	ALA	ASN	ARG	GLY	ALA	ARG	ARG	LEU	PRO	PRO	ASP	ARG	ARG	MET	GLY	ILE	THR	MET	MET				
PRO	SER	LEU	THR	LEU	GLN	GLN	SER	LYS	PRO	GLU	MET	MET	ALA	ALA	ASN	PRO	GLY	GLY	ARG	VAL	VAL	THR	HIS	HIS	MET	LEU	GLU	LYS	VAL	VAL	VAL	GLY	GLY	PHE	LYS	LYS	GLY	GLY	GLY	ASP	GLU	ASP	GLU	ALA	ALA											

• Molecule 49: bS6m



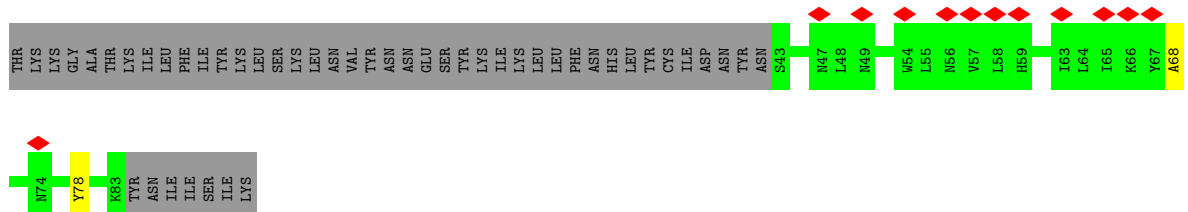
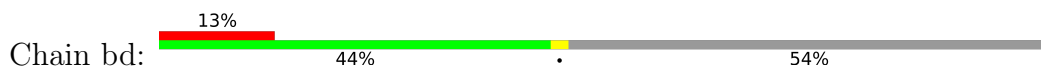
MET	V2	M10	E24	I25	Y48	S49	R50	F51	R52	D53	A54	D55	N56	A58	I59	T60	Y61	D70	E73	K78	V79	E80	E85	H86	A87	D88	V89	N90	R94	E99	R100	P101	T102	M107	Q108	Q109	S110	A111	A112	D118	E125	E126	I127	D136
F148	T151	R152	M153	Y156	LEU	ARG	ASN																																					

• Molecule 50: Ribosomal_S5_C domain-containing protein

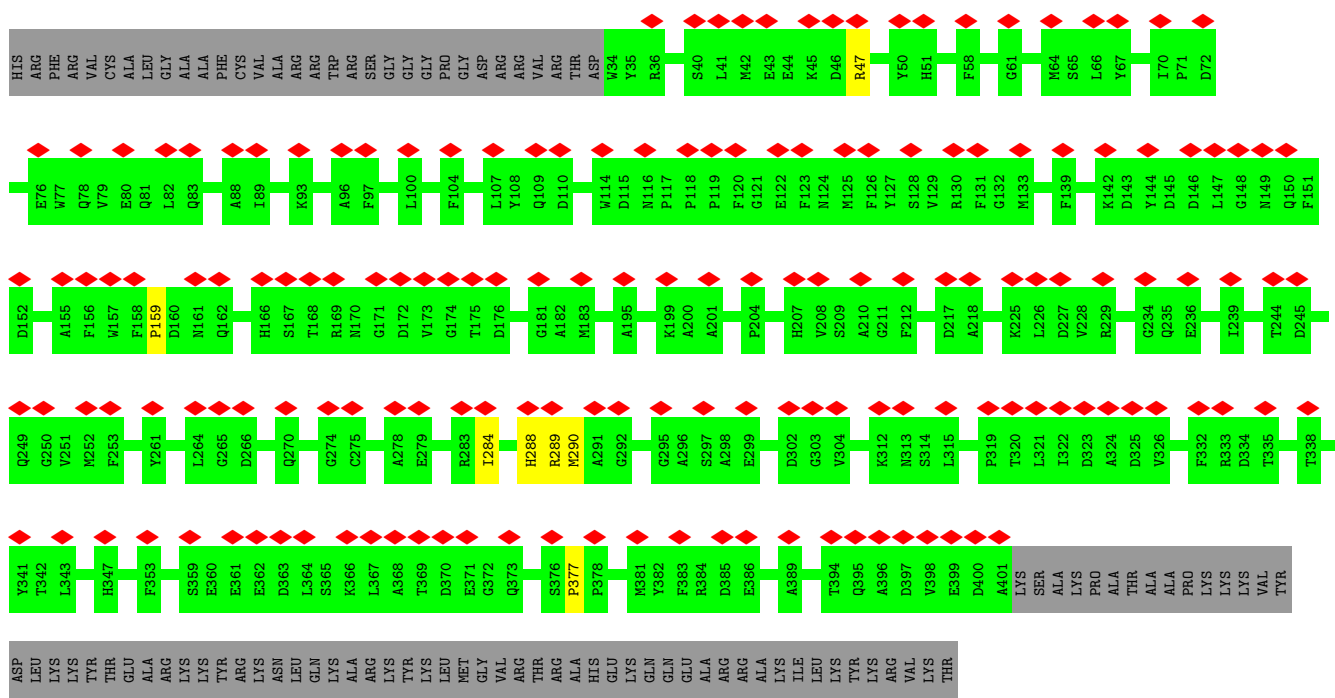
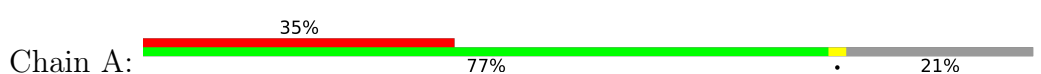


MET	LEU	ARG	PRO	THR	CYS	PRO	VAL	ALA	LYS	ASN	LEU	THR	SER	PHE	ALA	THR	LYS	GLY	THR	MET	ARG	ARG	GLY	G24	I25	M33	K34	A38	T39	R40	R41	R42	F43	M52	D63	T64	R65	D66	S67	A68	E69	H73	A74	A75	D76	G79	L80	K81	G82	M83	D84	N85	G86
V87	D88	L89	D98	E102	Q105	W106	K107	M111	W117	L123	E126	E131	A145	Y147	M149	R150	V151	V152	K153	F154	S155	P156	K157	D158	H159	R160	Q161	W162	I163	A181	S185	T186	Q187	E188	E192	R195	E196	D205	L206	E207	Q208	E209	R216										
I217	N218	A219	D220	R223	R230	R231	A234	N235	F236	R237	D240	I241	L242	C243	A244	K253	L254	N255	L256	K257	A258	S259	N260	N261	P262	K263	A264	P265	T266	H267	G271	E274	L279	R280	E284	A287	E306	R310	A315	G320	K321	D322	N328										

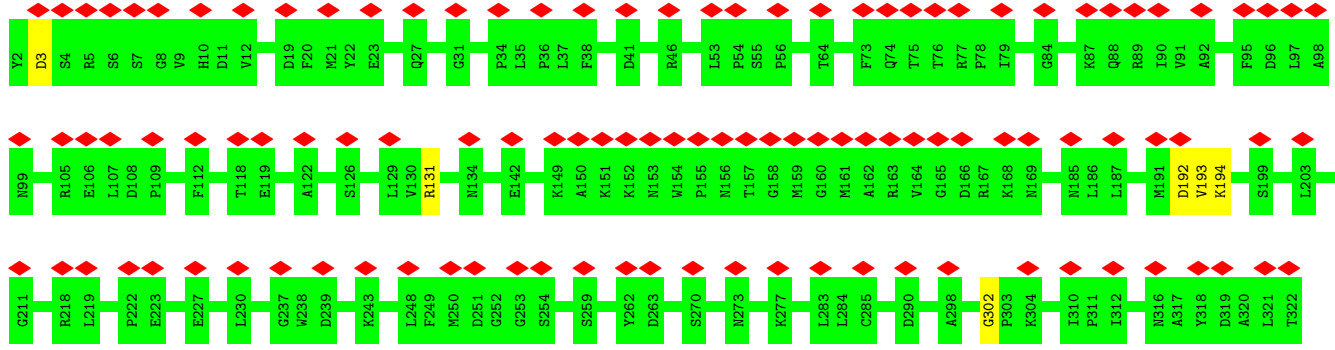
• Molecule 53: uS3m

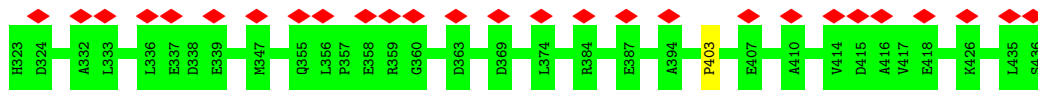


• Molecule 54: Ribosomal protein L3-like protein

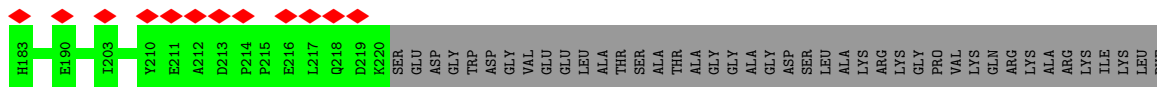
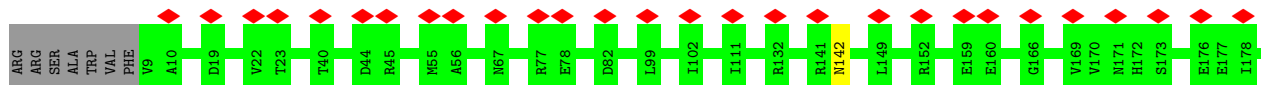
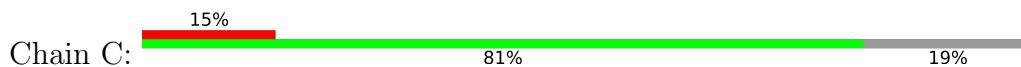


• Molecule 55: uL4m

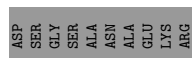
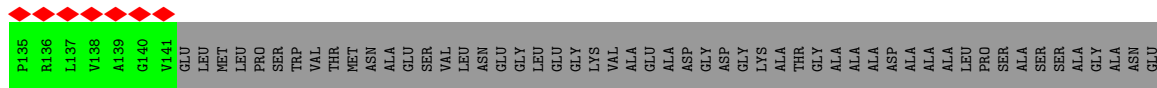
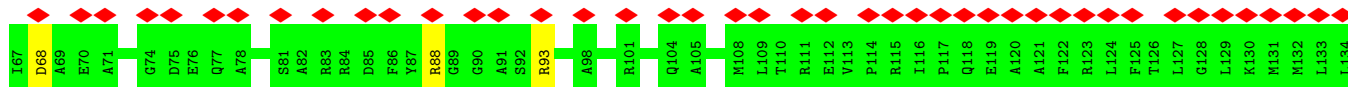
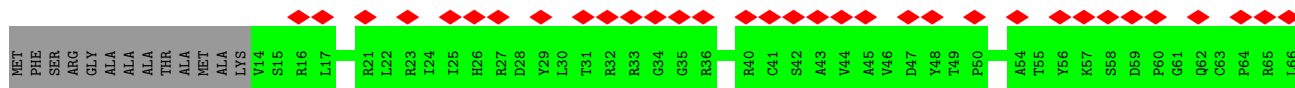
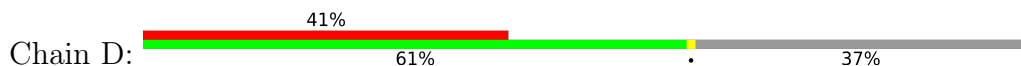




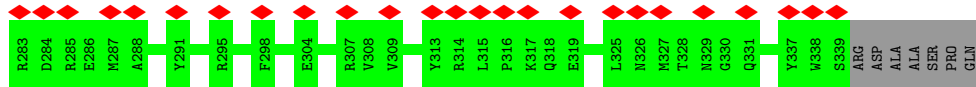
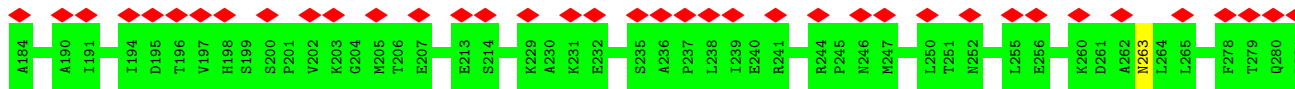
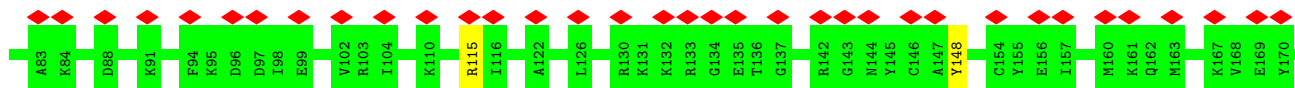
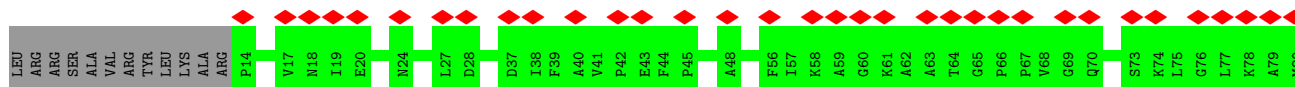
• Molecule 56: RIBOSOMAL_L9 domain-containing protein



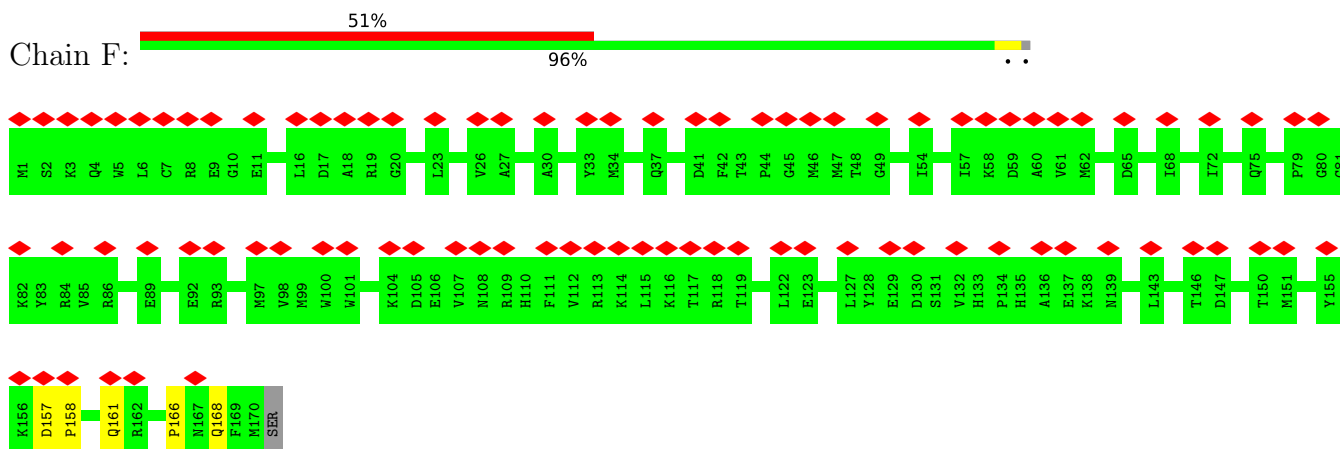
• Molecule 57: uL10m



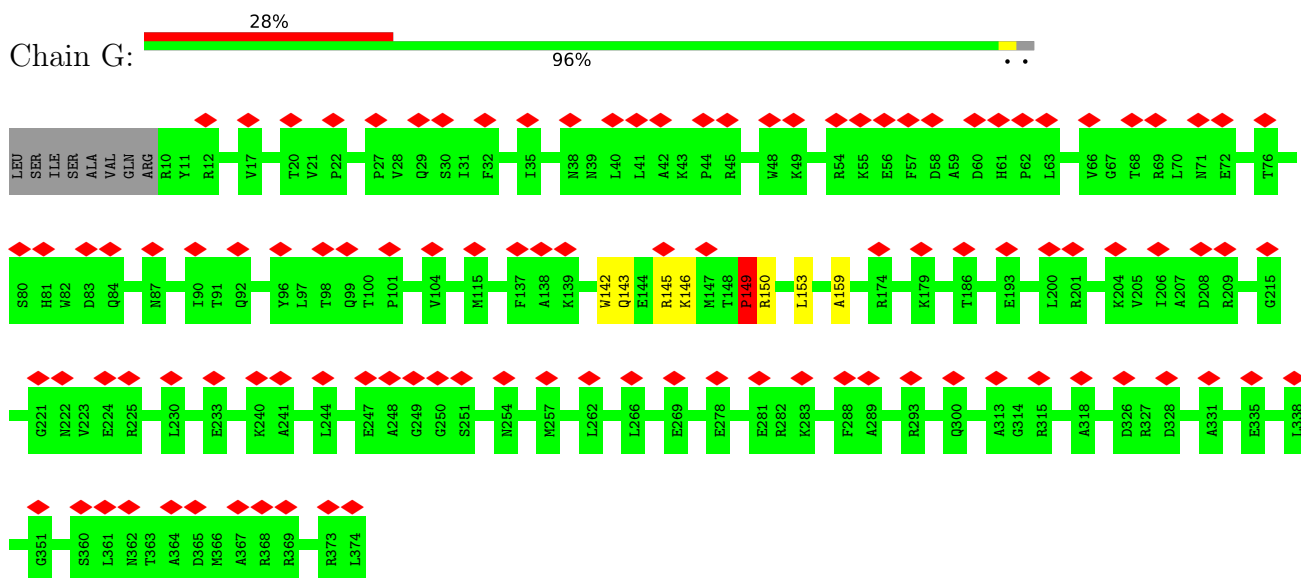
• Molecule 58: Putative ribosomal protein L11



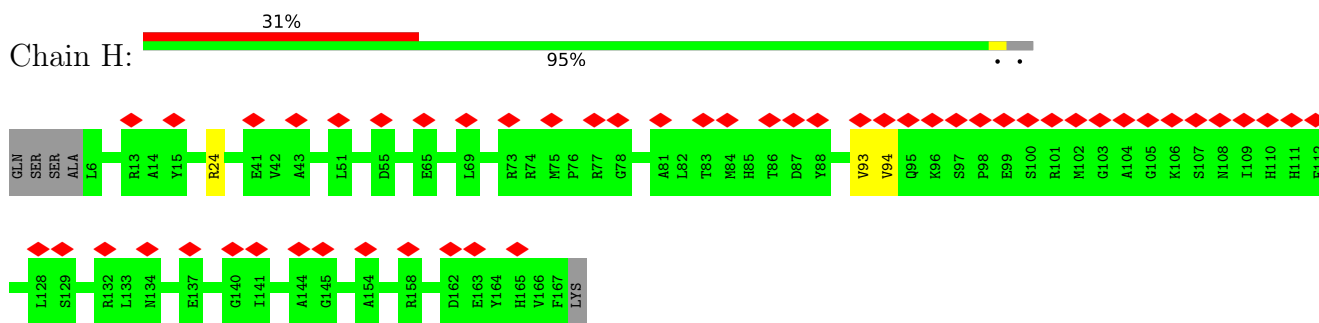
- Molecule 59: 50S ribosomal protein L13-like protein



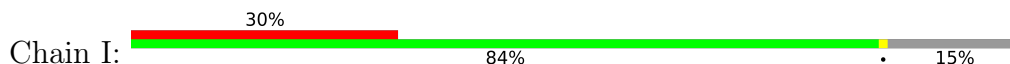
- Molecule 60: Ribosomal_L18e/L15P domain-containing protein

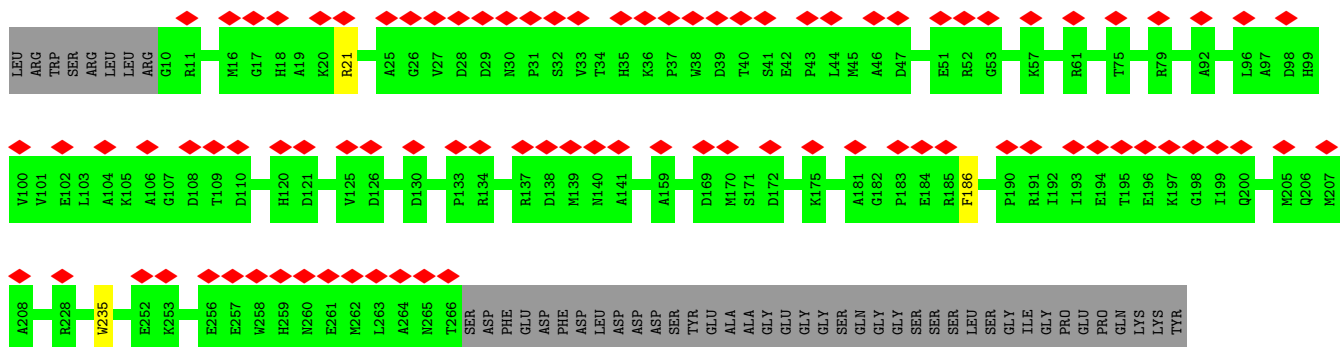


- Molecule 61: Ribosomal_L16 domain-containing protein

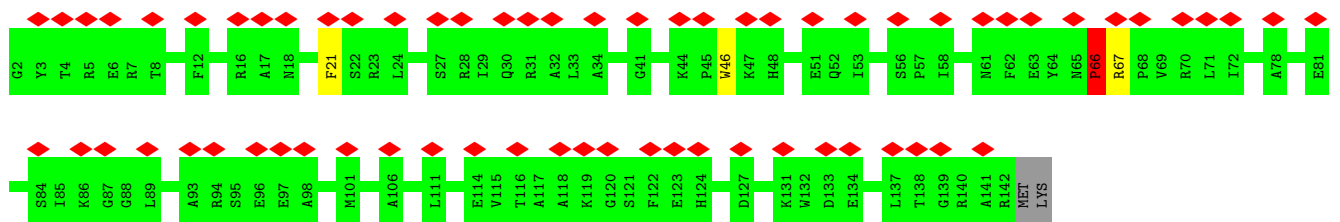


- Molecule 62: Putative 50S ribosomal protein L17

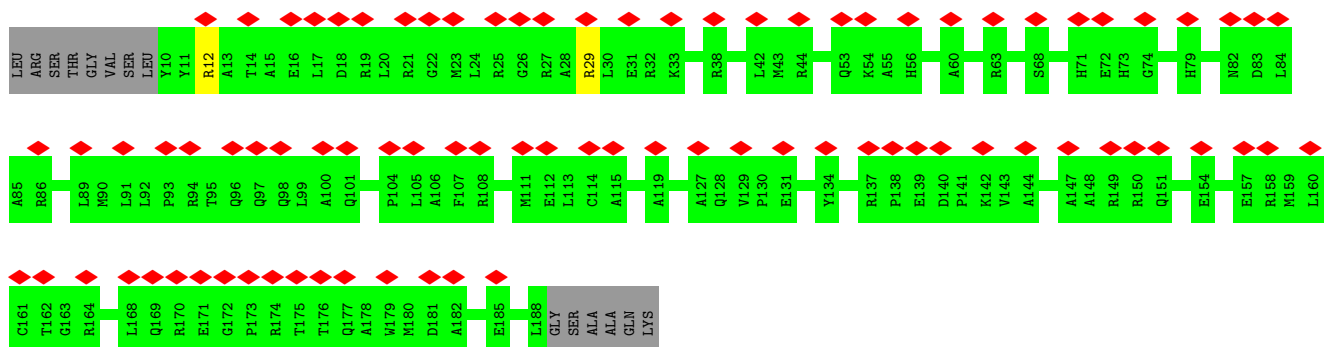
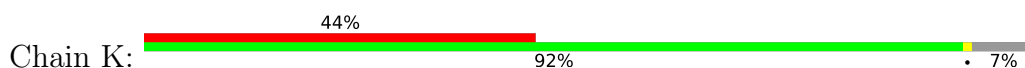




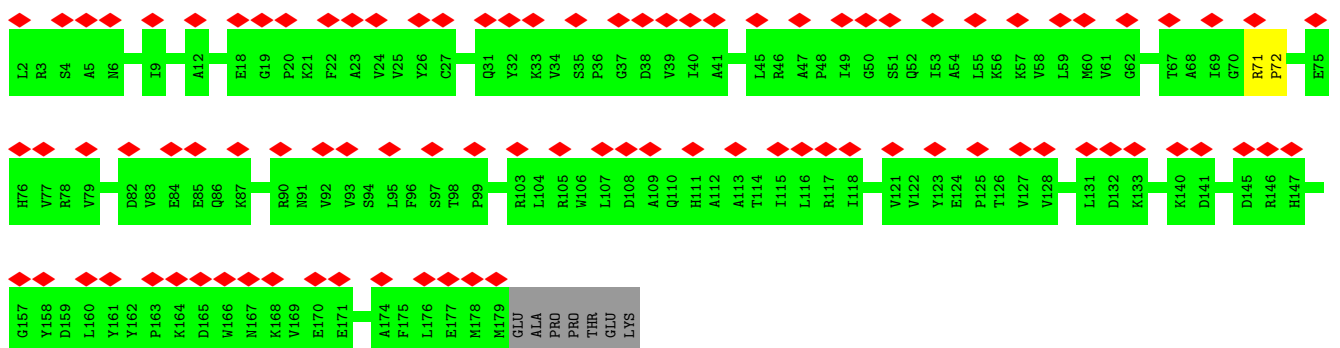
• Molecule 63: bL19m



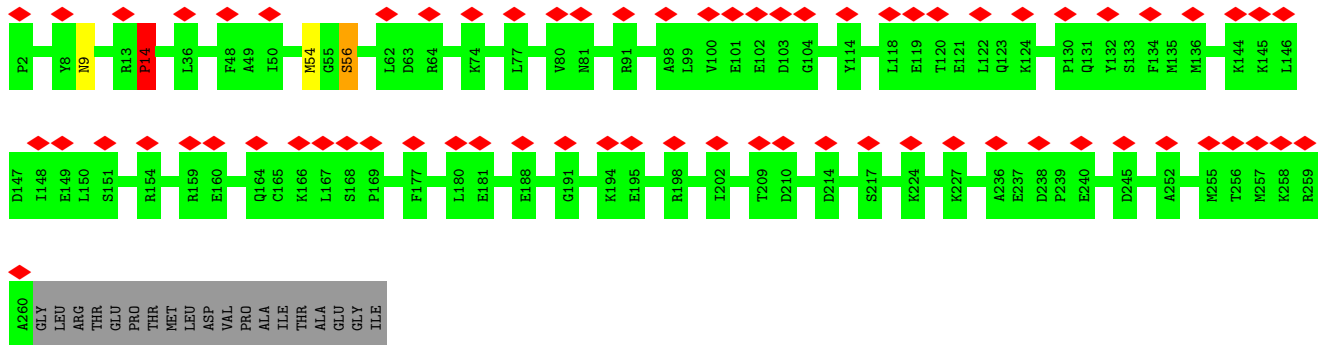
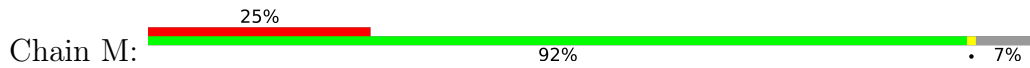
• Molecule 64: bL20m



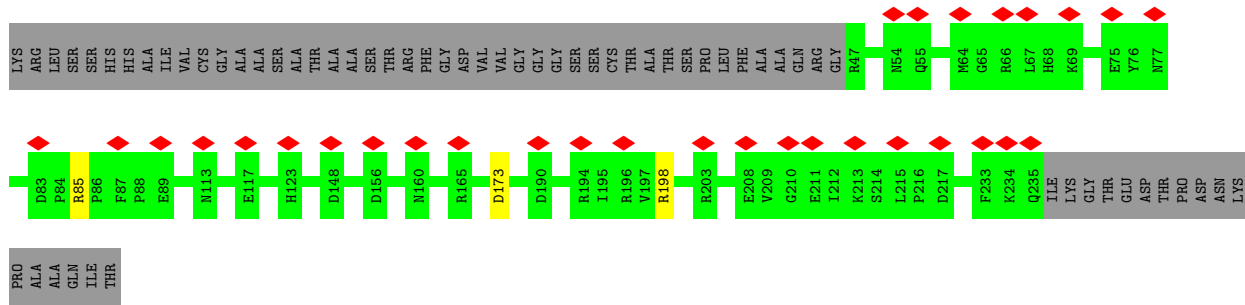
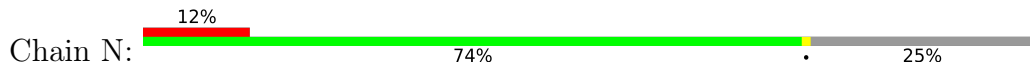
• Molecule 65: bL21m



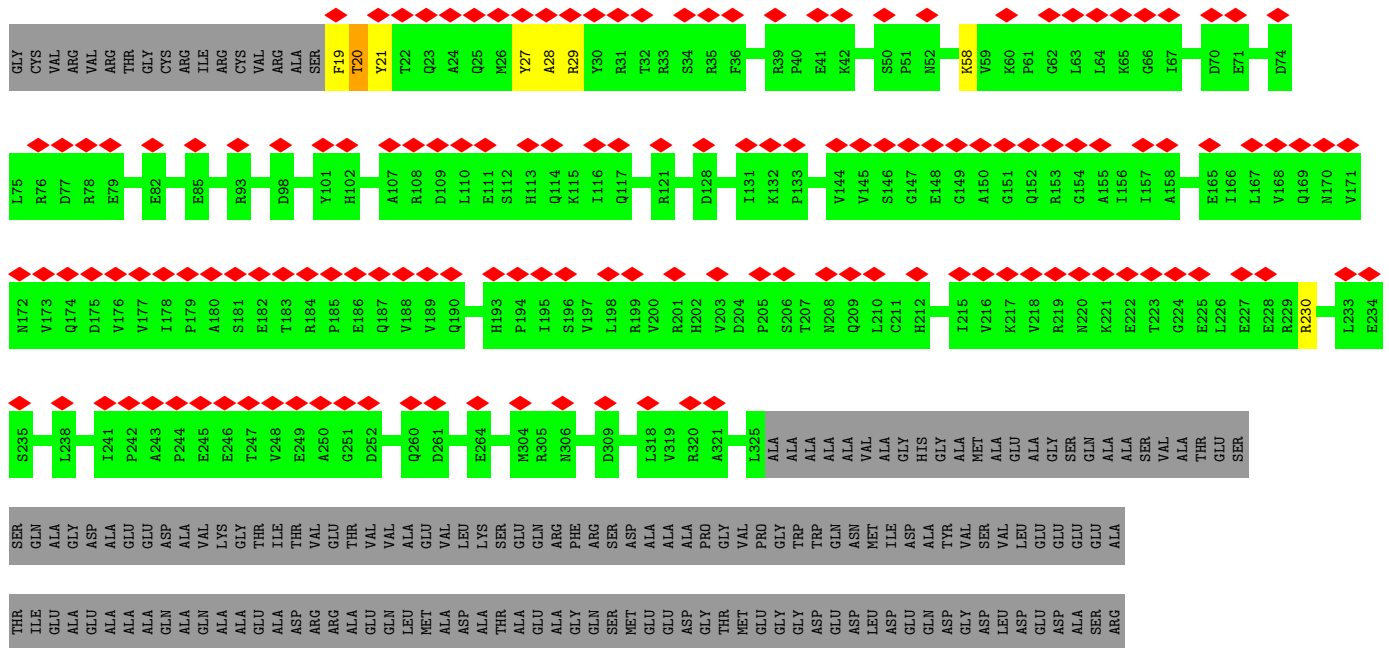
• Molecule 66: uL22m



• Molecule 67: uL23m

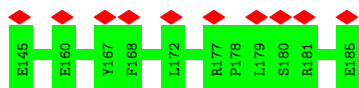
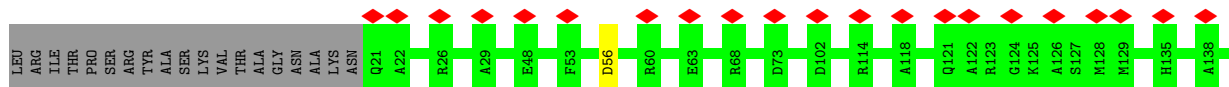
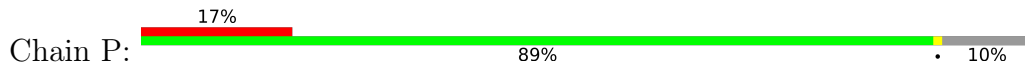


• Molecule 68: uL24m

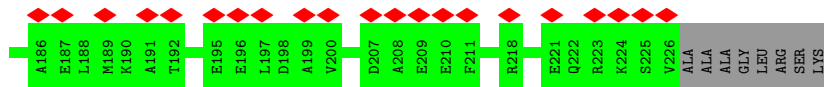
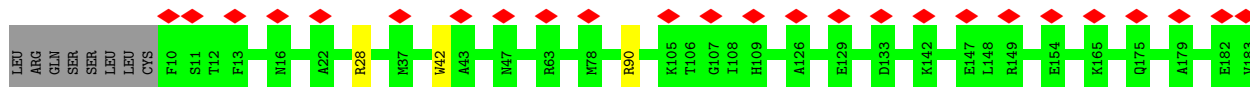
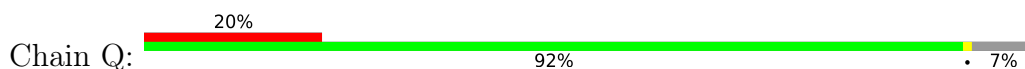


SER
ASP
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SER
LYS

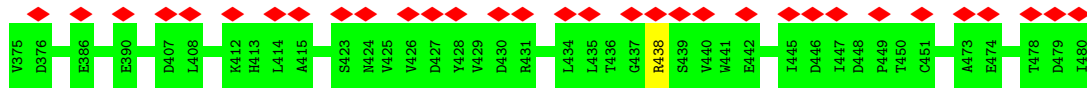
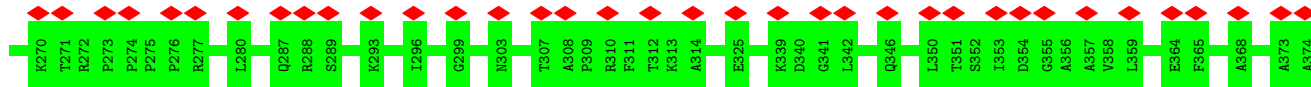
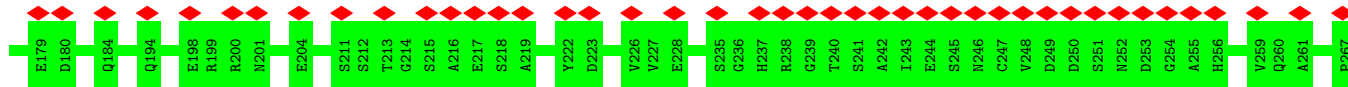
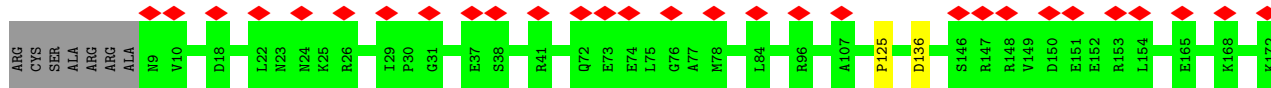
• Molecule 69: bL27m



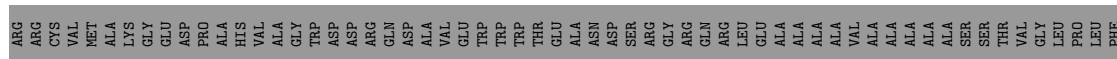
• Molecule 70: bL28m

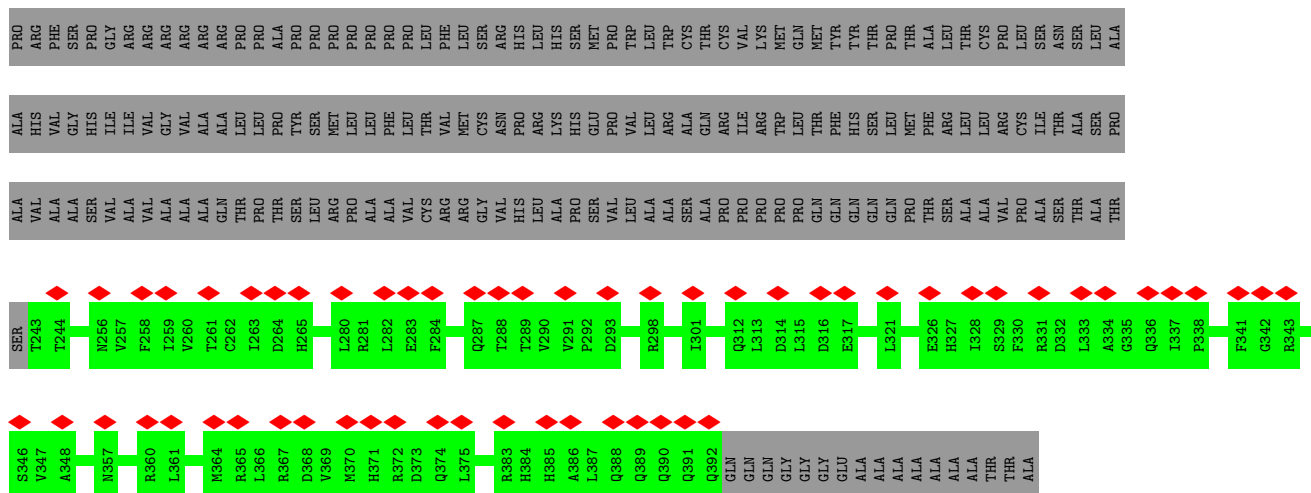


• Molecule 71: uL29m

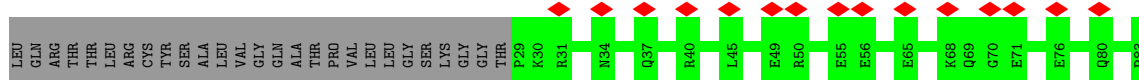


• Molecule 72: uL30m

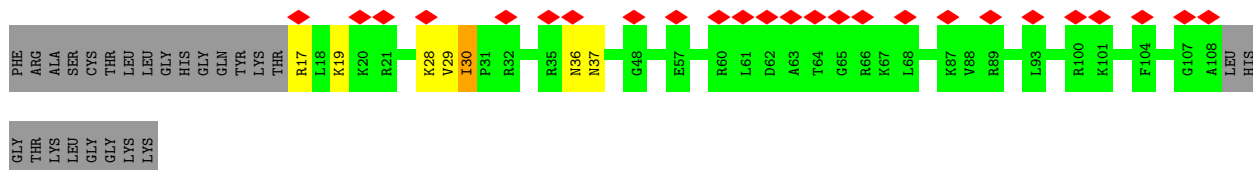
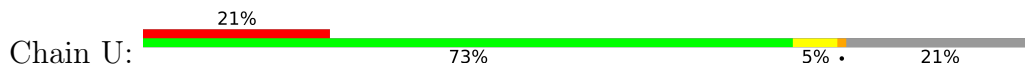




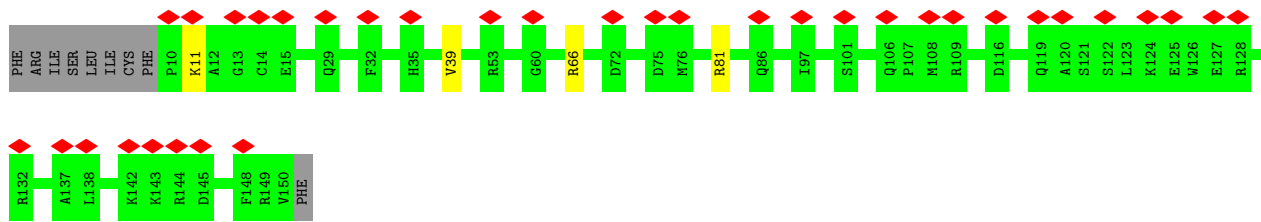
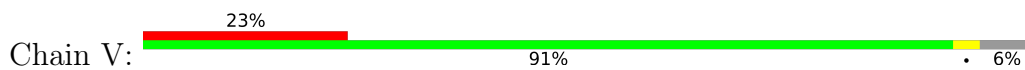
• Molecule 73: bL32m



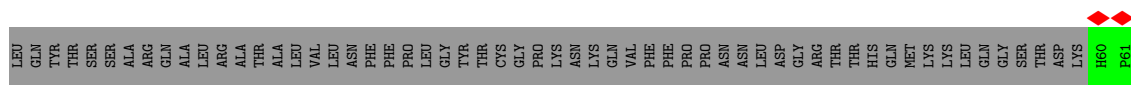
• Molecule 74: bL33m

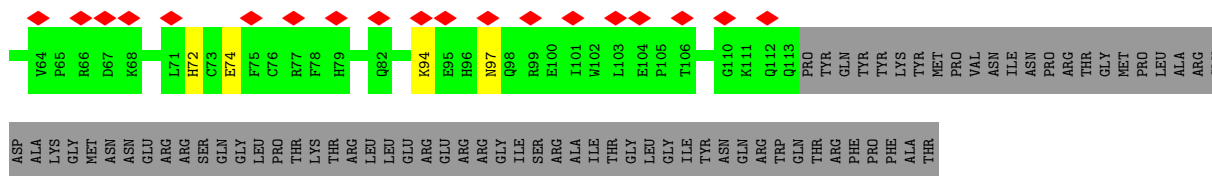


• Molecule 75: bL35m

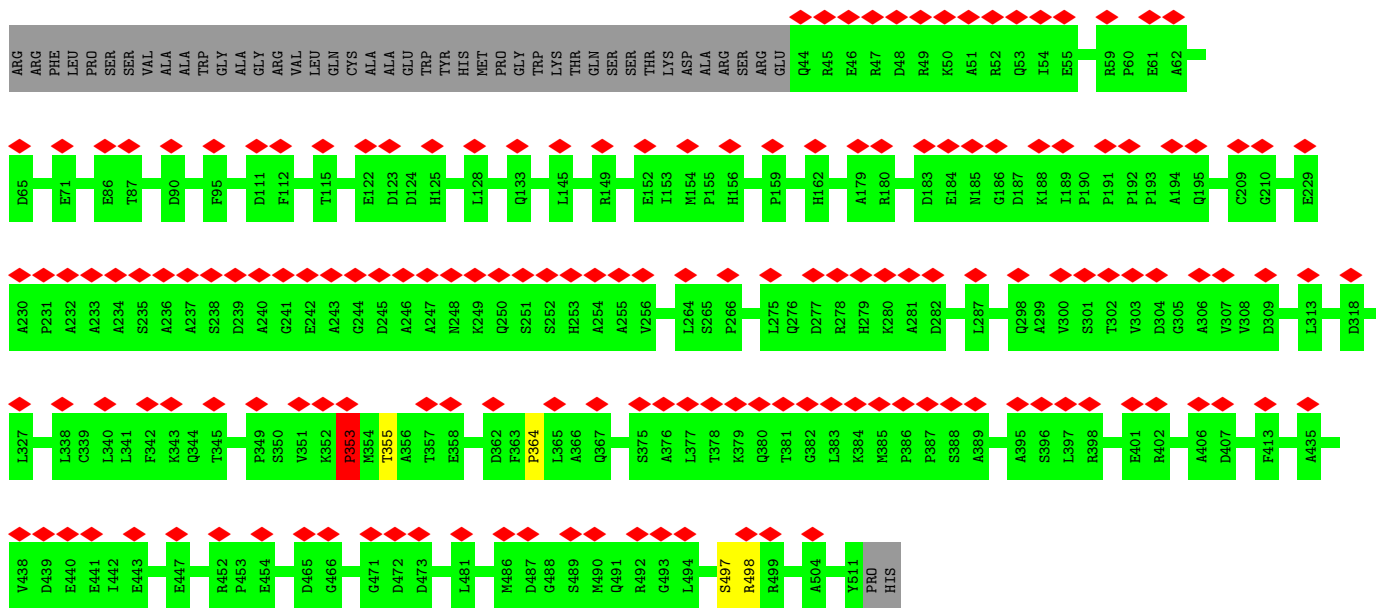
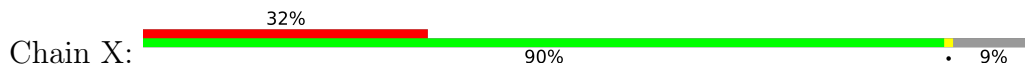


• Molecule 76: bL36m

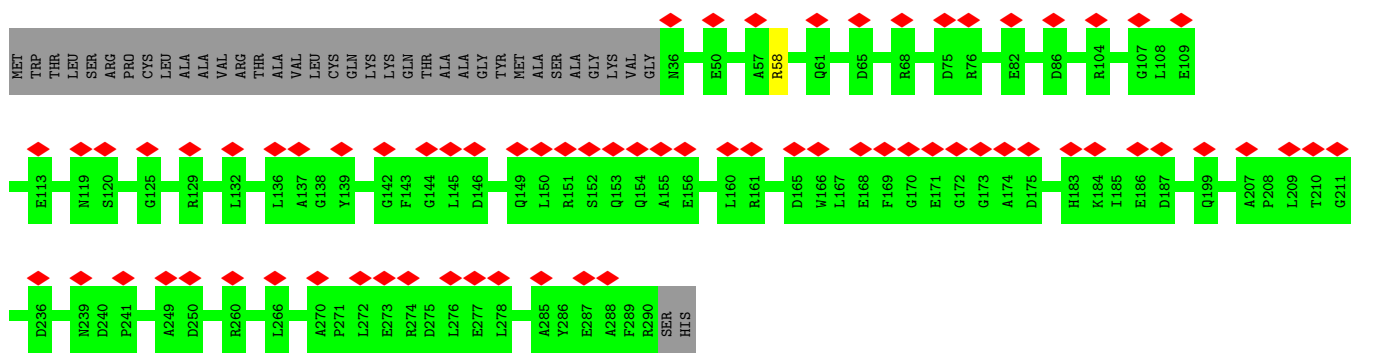
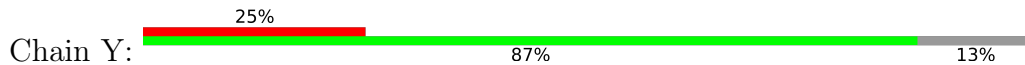




• Molecule 77: mL38



• Molecule 78: mL40

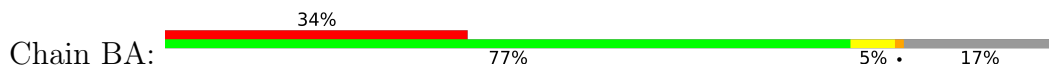


• Molecule 79: mL41



GLY
MET
ALA
GLN
ALA
TRP
ILE
THR
LYS
GLU
HIS
SER
LYS
ALA
VAL
SER
THR
SER
ALA
ALA
THR
ASP
SER
LYS
PRO
LEU
MET
LYS
ARG
LEU
PHE
TRP
LYS

• Molecule 80: mL94



MET
ALA
TRP
ILE
PRO
LYS
THR
ALA
TRP
LYS
VAL
SER
N14
R18
A21
P22
Y23
V24
A25
K26
Q27
Y28
A29
S30
L31
D32
P33
R34
L37
S41
S42
F43
Q44
Q45
D61
K64
A65
L56
L57
S58
I59
D60
S61
T62
S63
L67
E74
F77
R80

F81
L82
L83
S84
P85
A86
L90
H93
G98
N107
K108
E109
R110
A111
E112
M113
F114
V115
N125
A126
C127
T128
A129
L130
R131
R132
W133
G134
F135
S136
R137
V138
T139
A140
V141
D144
A145
V146
S147
E148
A151
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PRO
ALA
ASP
ALA
ALA
THR
SER
SER

SER
THR
LYS
SER

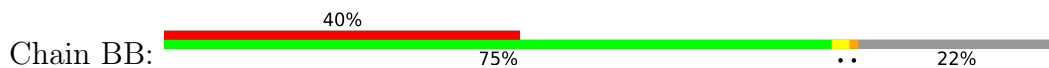
• Molecule 81: UA



X1
X6
X11
X12
X16
X19
X20
X21
X47
X57
X66
X67
X68
X69
X72
X75
X81
X82
X83
X87
X101
X110
X114
X118
X123
X127
X137
X138
X143
X144
X145
X146
X147
X148
X149
X150
X152
X153
X158

X169
X176
X185
X186
X187
X188
X193
X196
X199
X200
X201
X202
X203

• Molecule 82: mL95

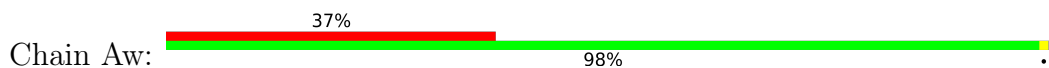


MET
LEU
HIS
ARG
SER
CYS
VAL
LEU
VAL
D10
S11
E14
R18
L21
L25
Q28
R29
Y30
I31
K32
E35
A36
R37
L38
S39
R40
H41
K42
G43
K44
A45
V46
A47
A48
A49
A50
A51
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E58
V59
K62
Y63
M64
D71
H72
E73
F74

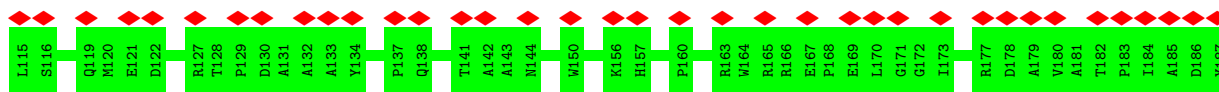
V75
H76
Q77
F78
V81
E82
D83
V86
T87
R88
E89
P95
N101
K104
E105
Q108
T109
F110
F111
L112
P113
F114
A115
P116
F117
V118
V121
D122
Y123
A124
K125
D126
P127
D128
T129
X130
F131
LEU
LYS
PRO
VAL
ASN
ILE
PRO
ARG
TRP
LYS
ASP
TYR
MET
GLN
ARG
THR

LYS
PRO
ILE
VAL
PRO
ARG
THR
TRP
TYR

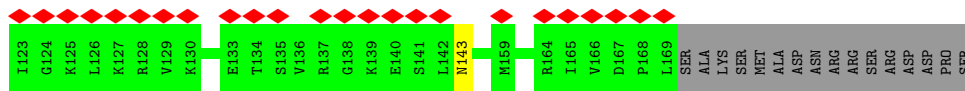
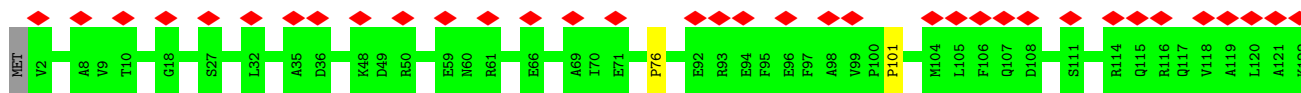
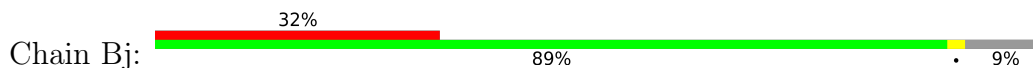
• Molecule 83: mL89



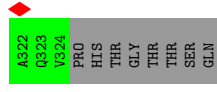
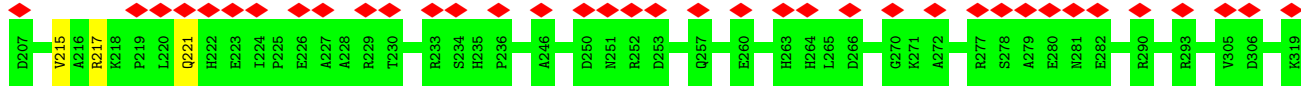
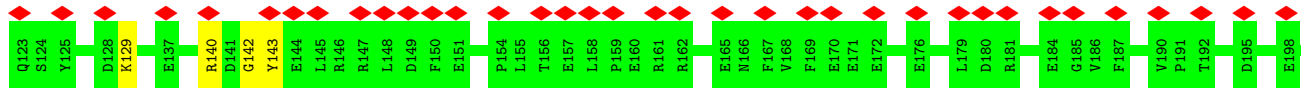
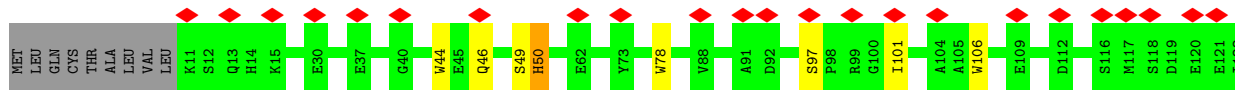
MET
SER
S3
G4
A5
V6
R8
G9
S10
N19
R22
I23
Y26
Y27
N28
S29
A30
L33
I34
H37
R38
T44
R45
L48
K52
D55
N56
K57
F58
P59
G60
C61
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N65
K69
E82
H89
R96
R101
I107
L108
V114



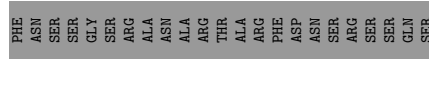
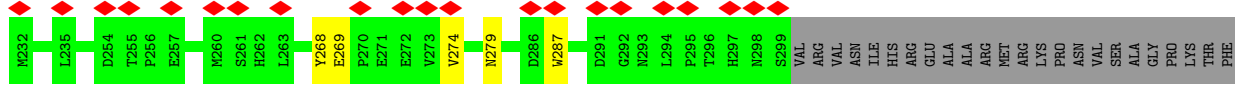
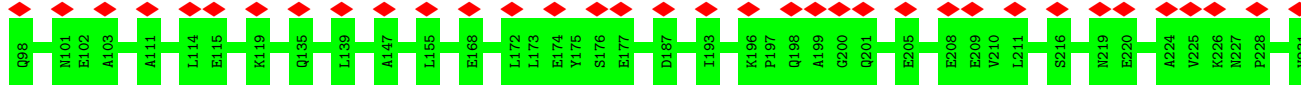
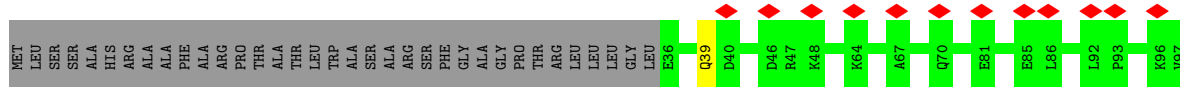
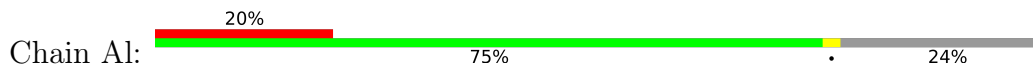
• Molecule 84: bL31m



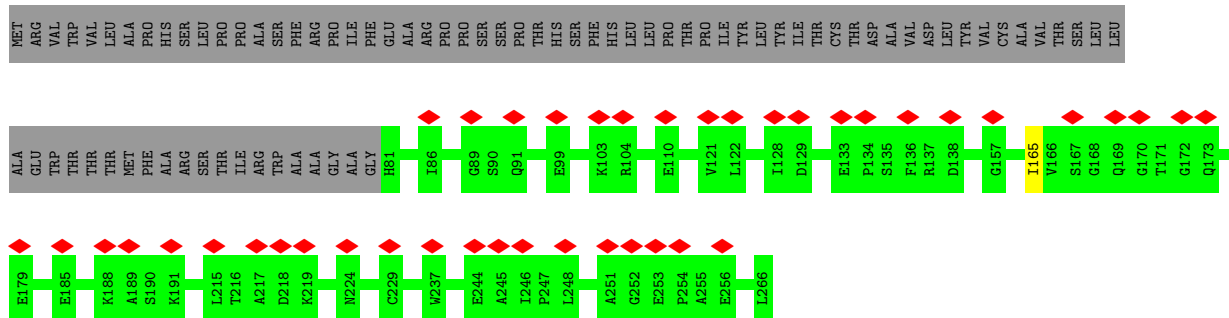
• Molecule 85: mL76



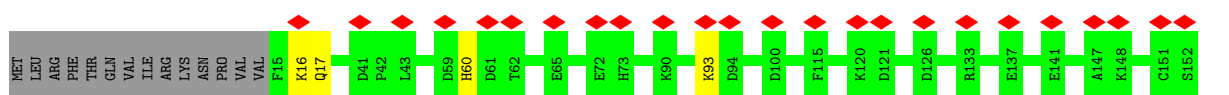
• Molecule 86: mL74



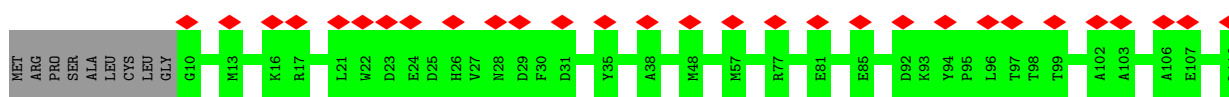
• Molecule 87: Peptidyl-prolyl cis-trans isomerase



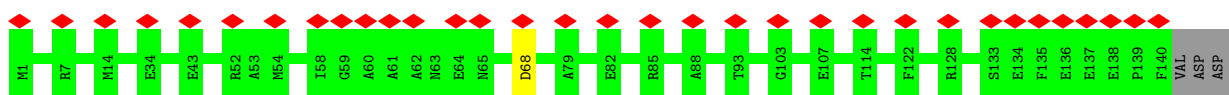
• Molecule 88: mL93



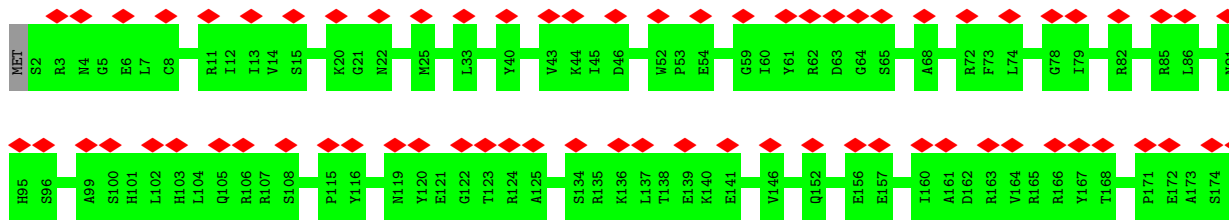
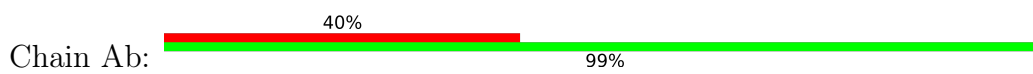
• Molecule 89: mL86

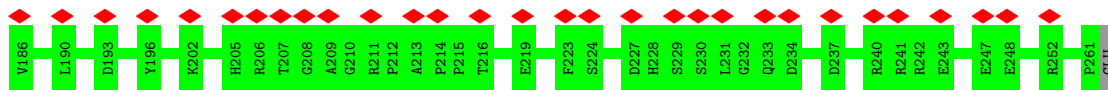


• Molecule 90: mL96

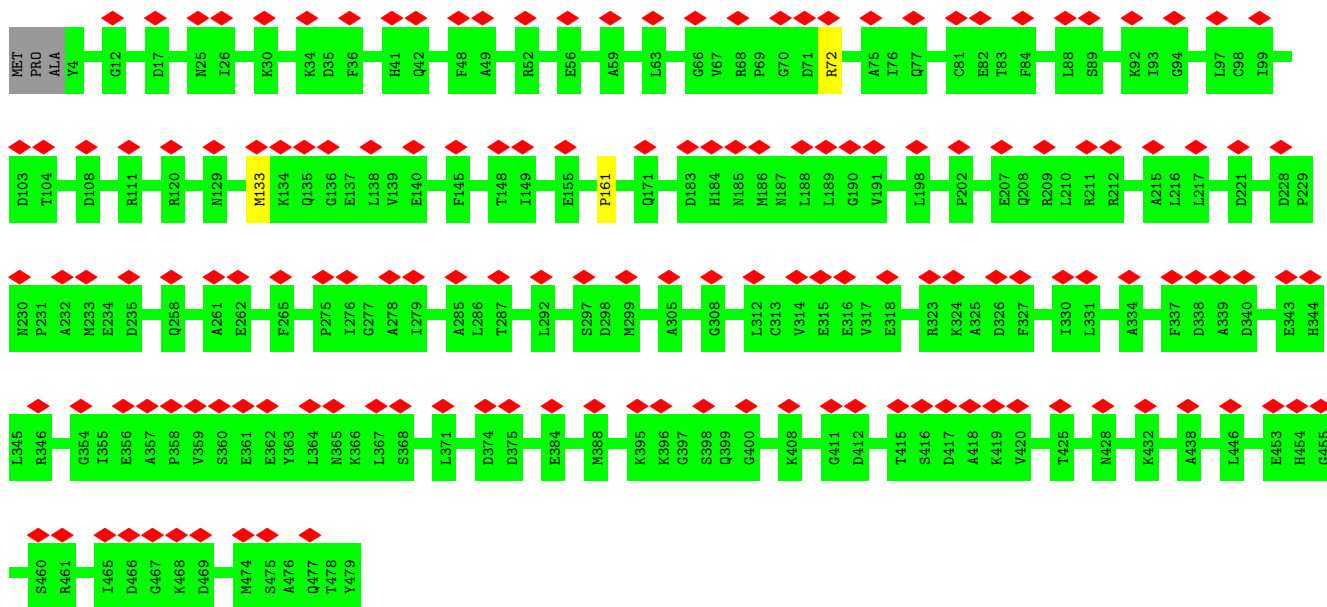


• Molecule 91: L51_S25_CI-B8 domain-containing protein

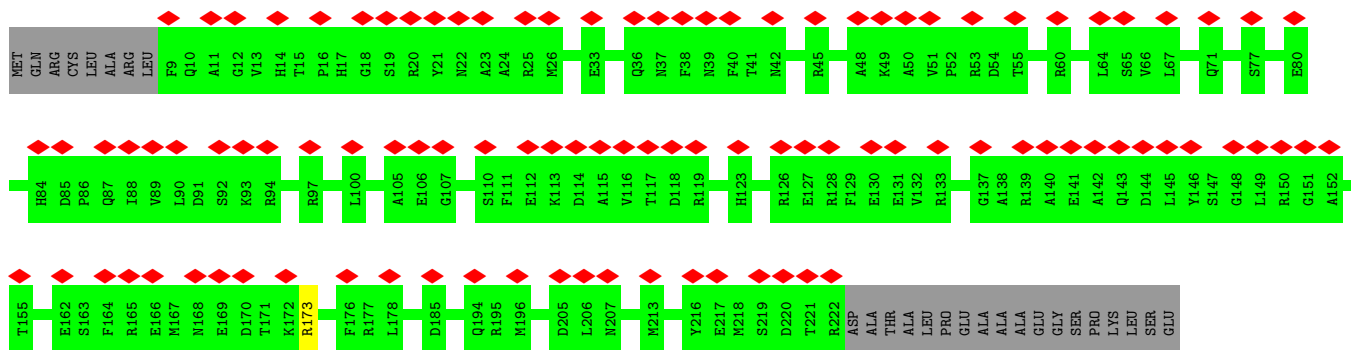
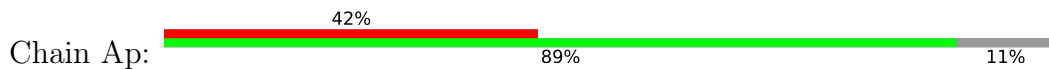




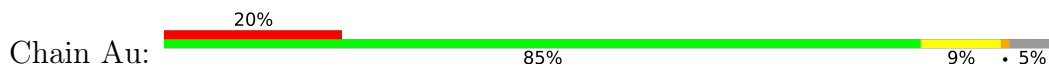
• Molecule 92: mL69

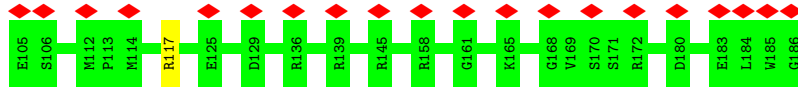


• Molecule 93: mL80

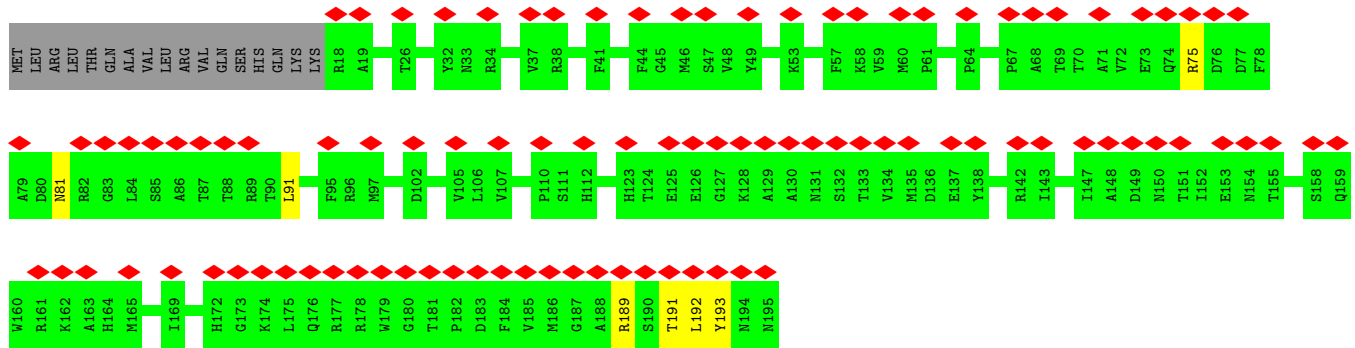


• Molecule 94: mL87

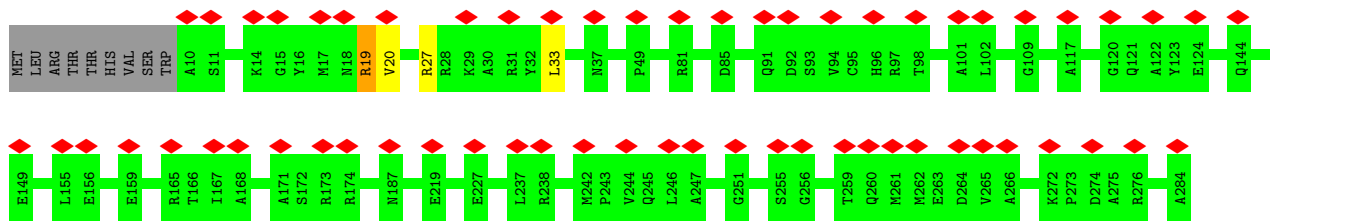




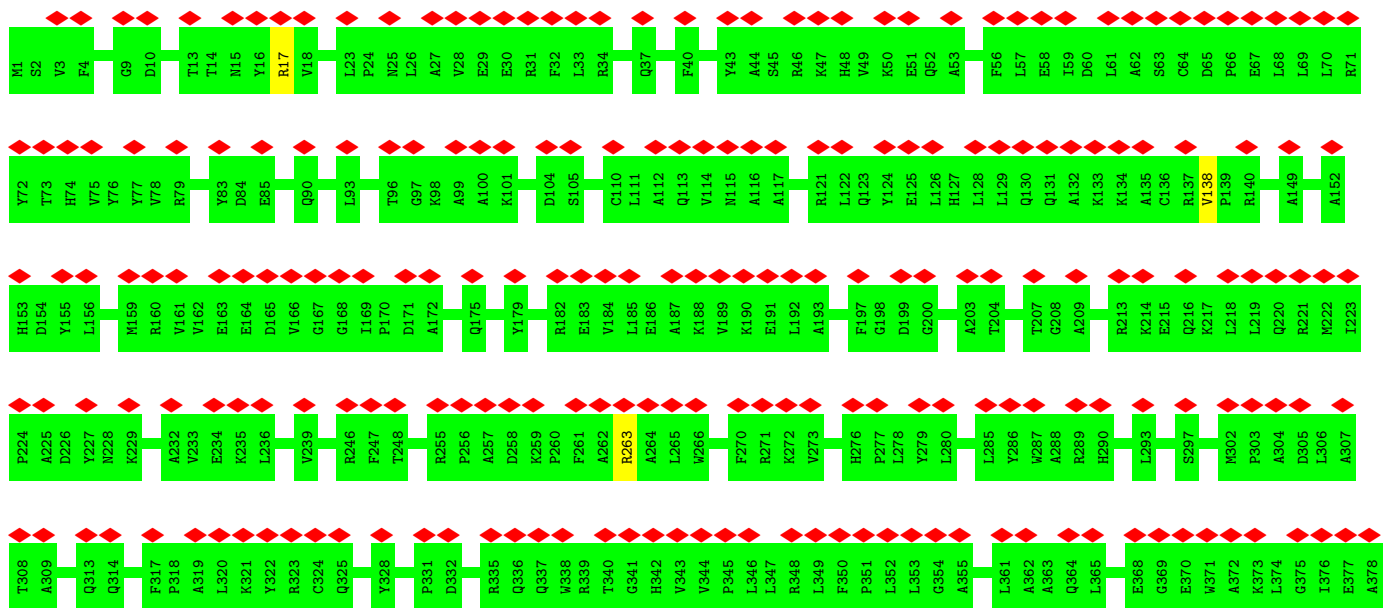
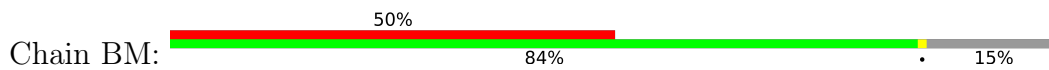
• Molecule 95: mL42

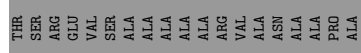
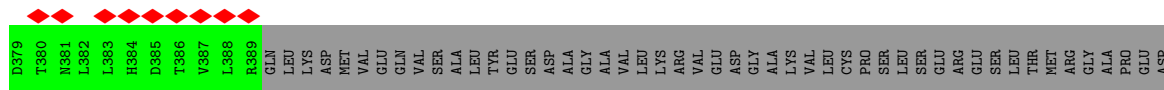


• Molecule 96: mL79

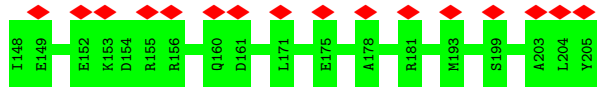
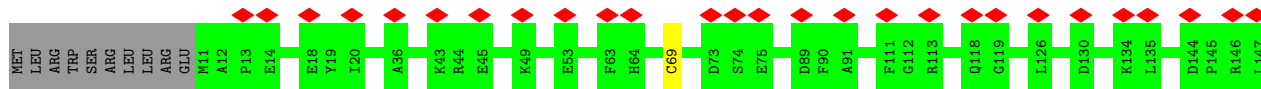


• Molecule 97: mL70

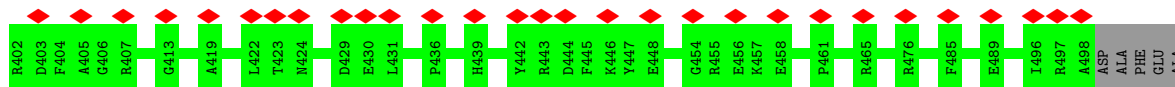
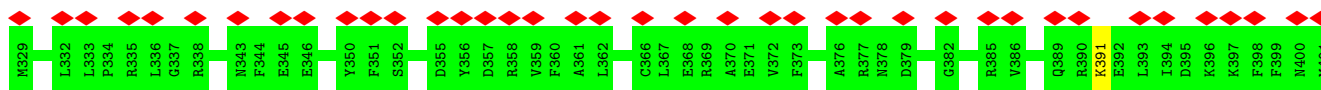
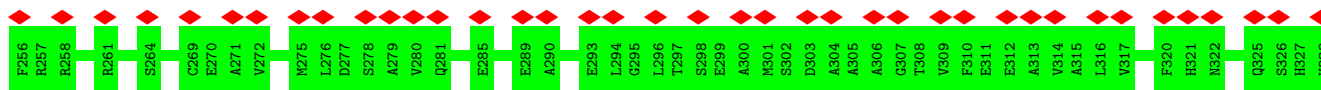
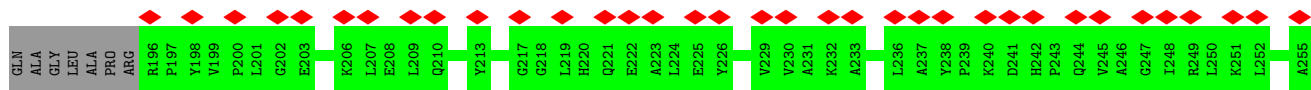
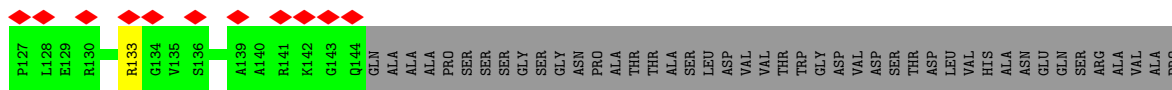
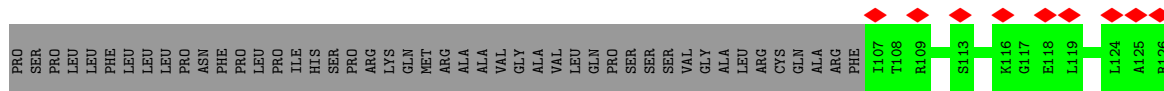
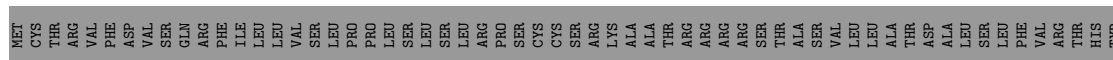




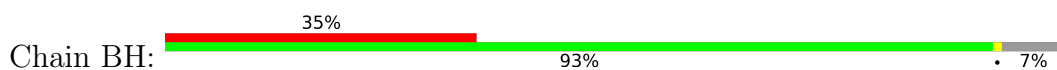
• Molecule 98: mL84

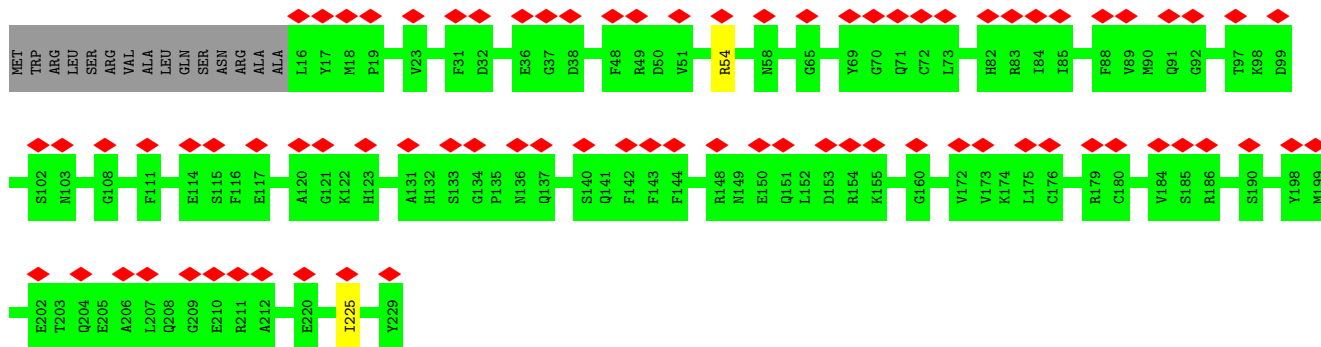


• Molecule 99: mL72

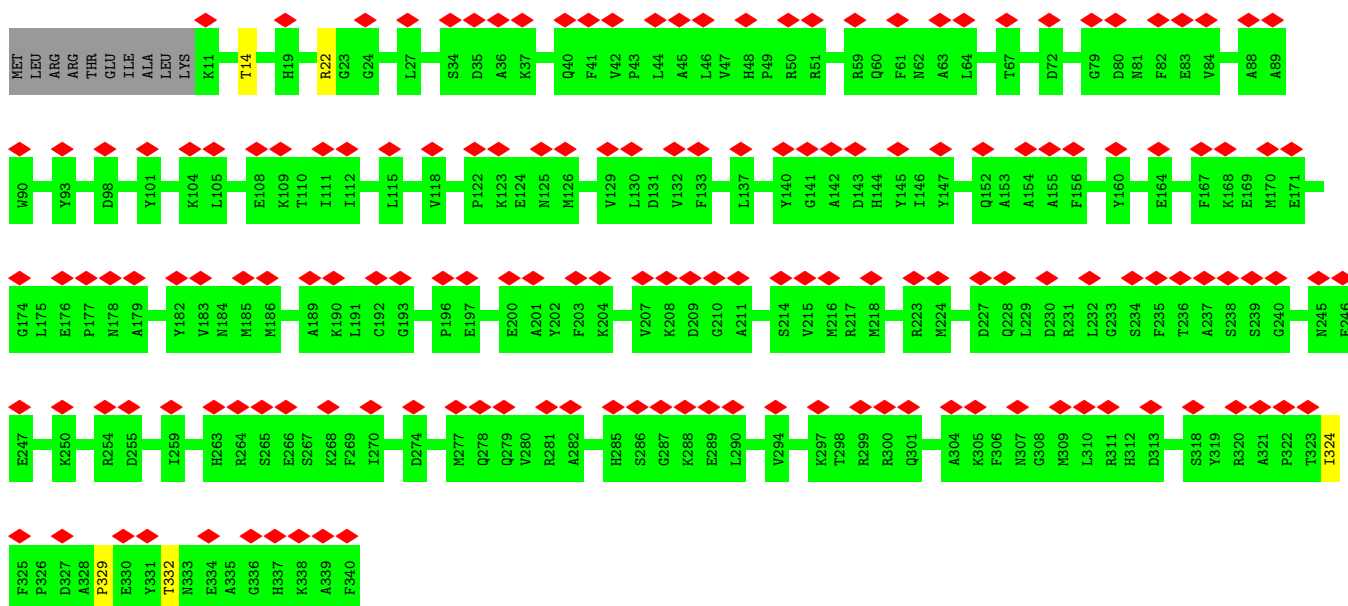


• Molecule 100: Peptidyl-prolyl cis-trans isomerase

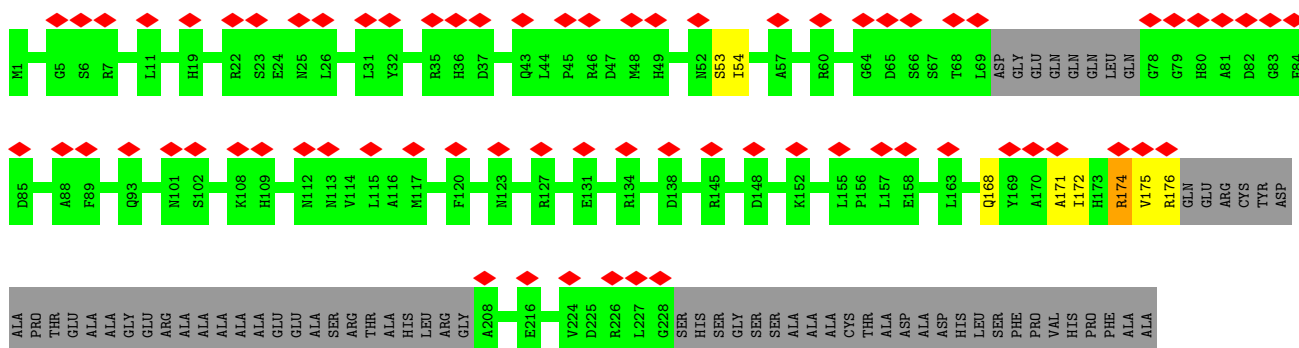
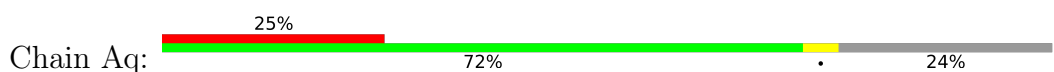


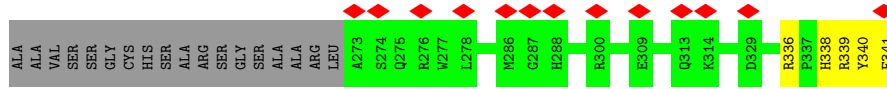


• Molecule 101: mL75

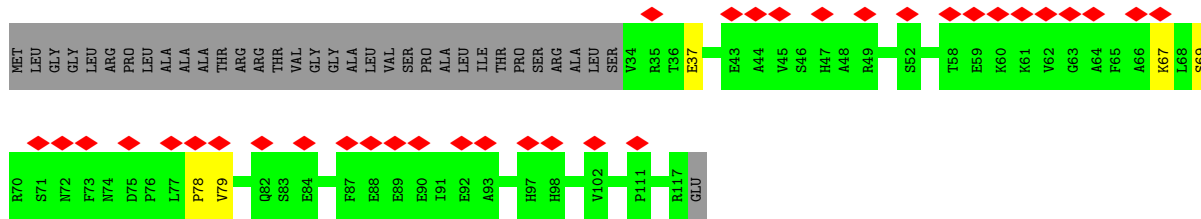


• Molecule 102: mL82

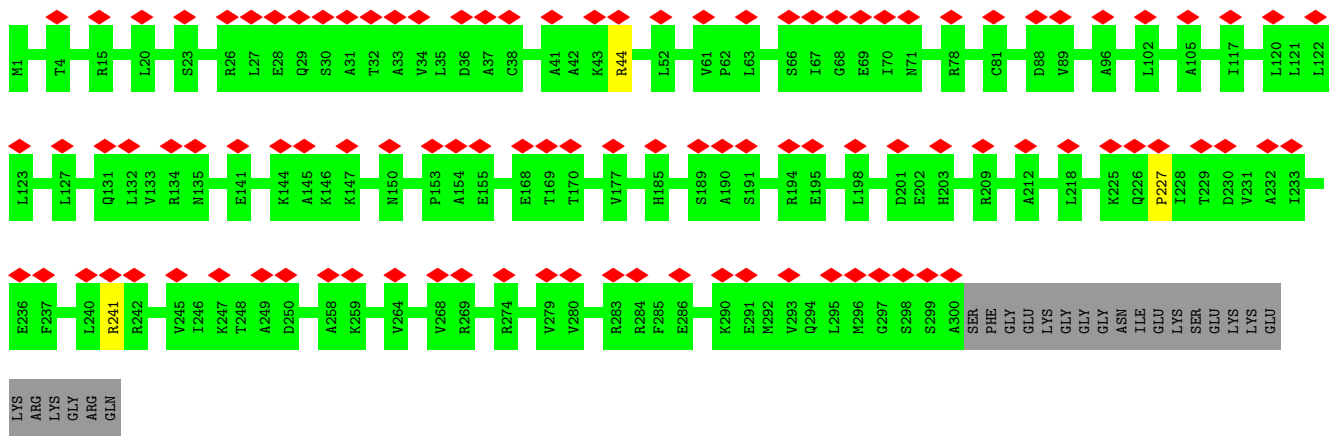




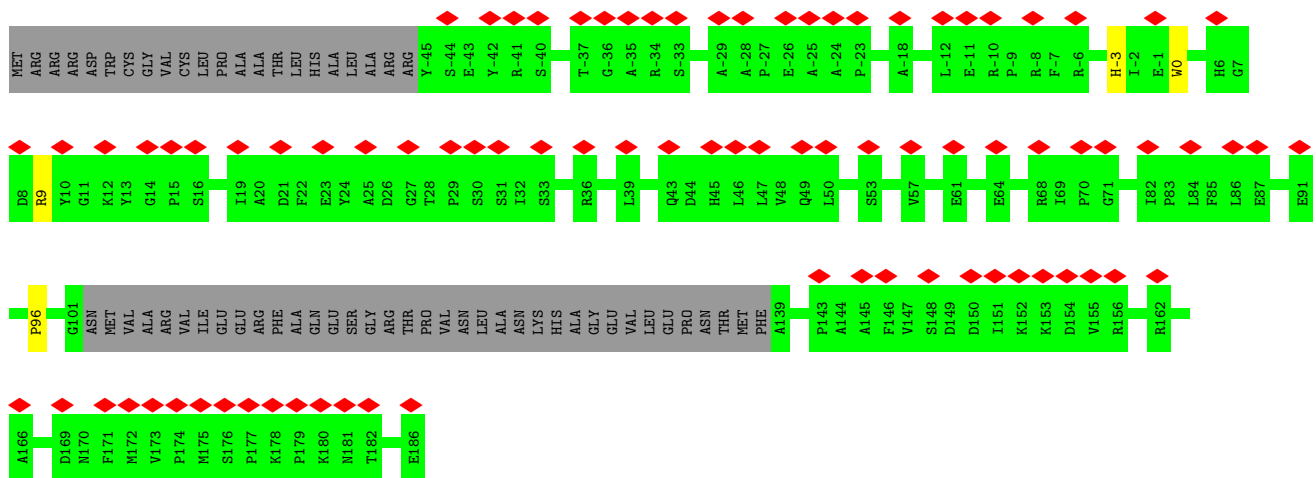
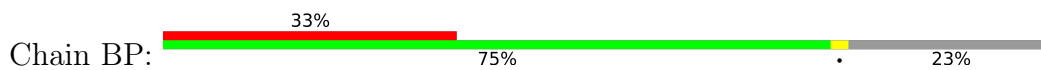
• Molecule 103: mL98



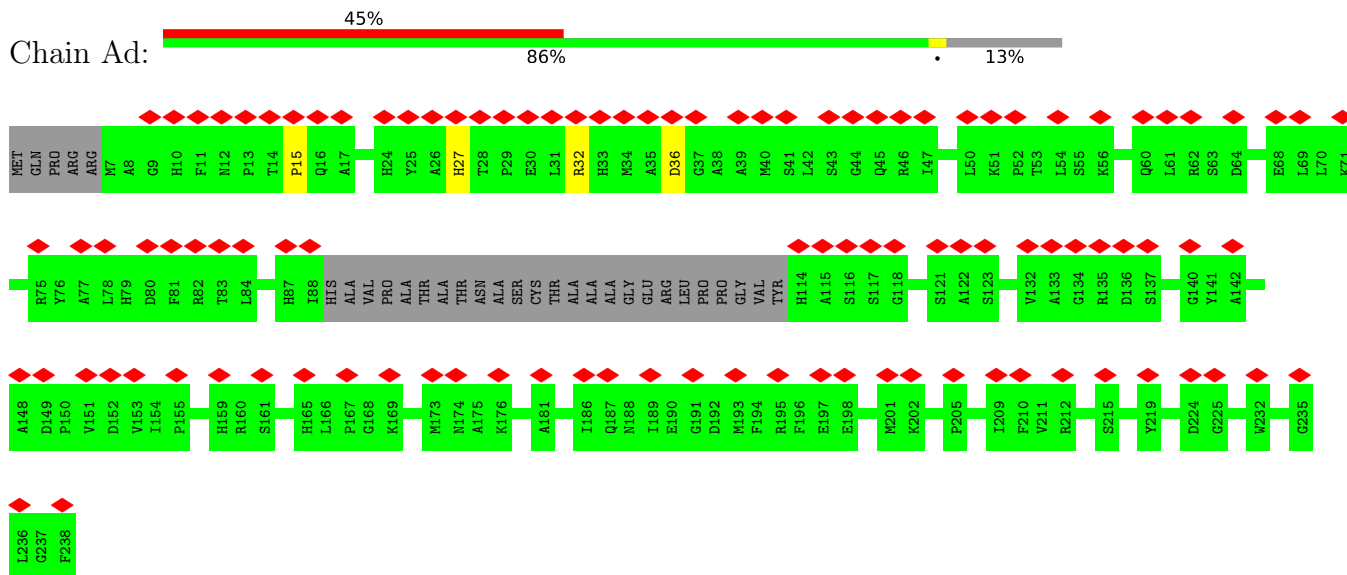
• Molecule 104: mL73



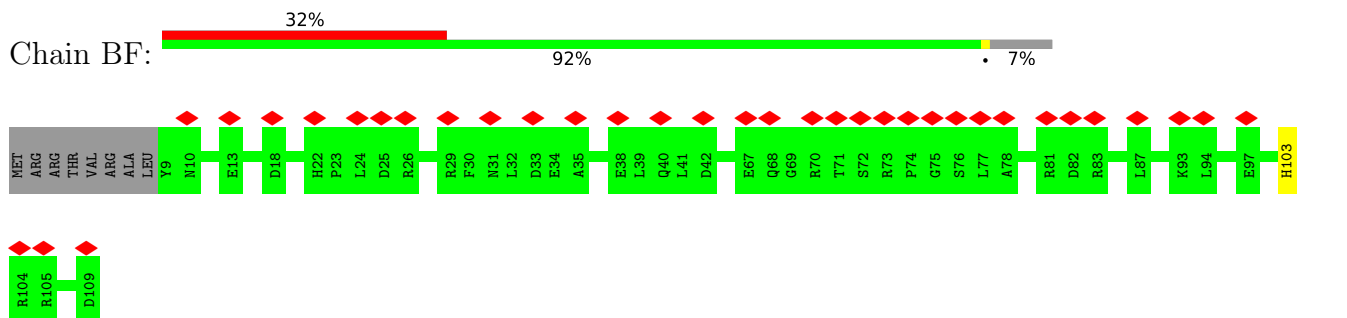
• Molecule 105: mL52



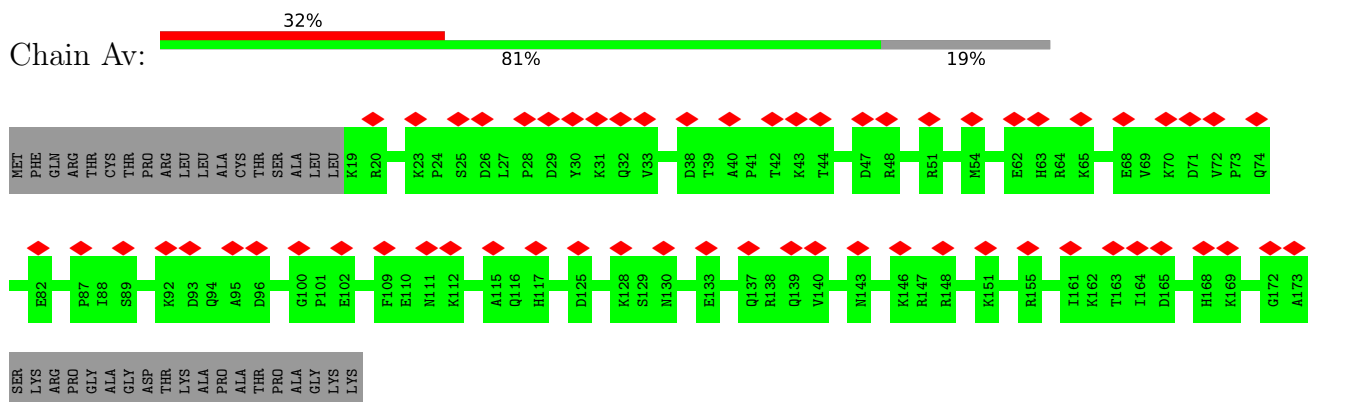
• Molecule 106: mL49



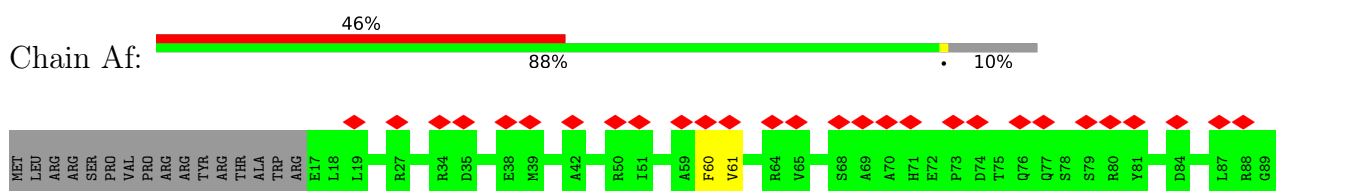
• Molecule 107: mL99

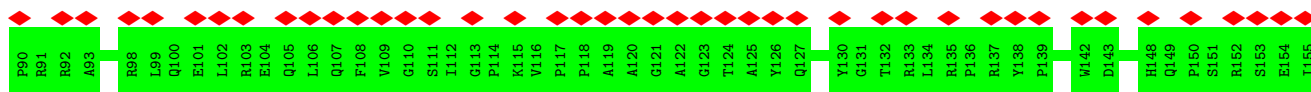


• Molecule 108: mL88

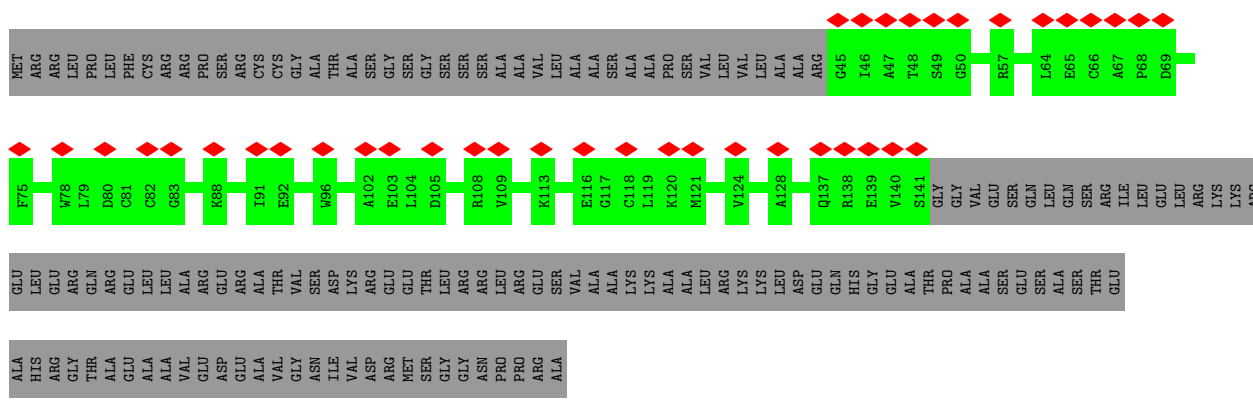


• Molecule 109: mL63

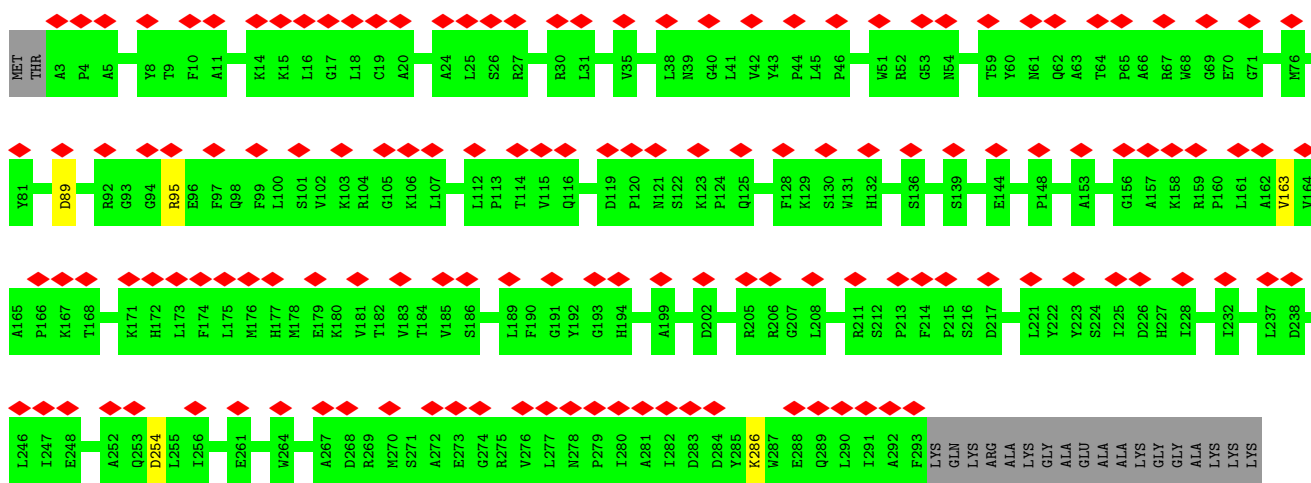




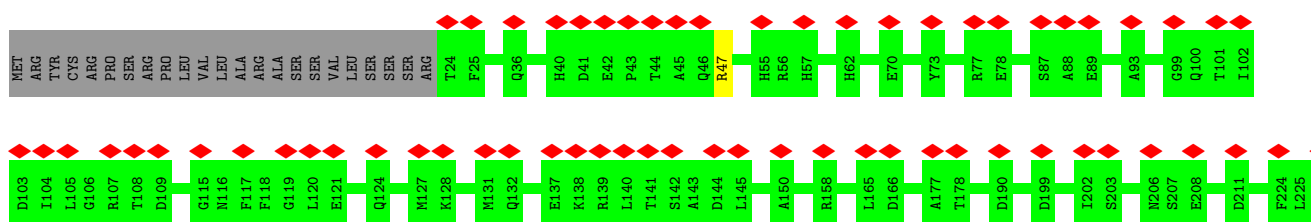
• Molecule 110: mL85

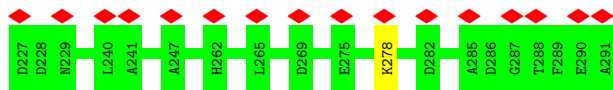


• Molecule 111: mL53

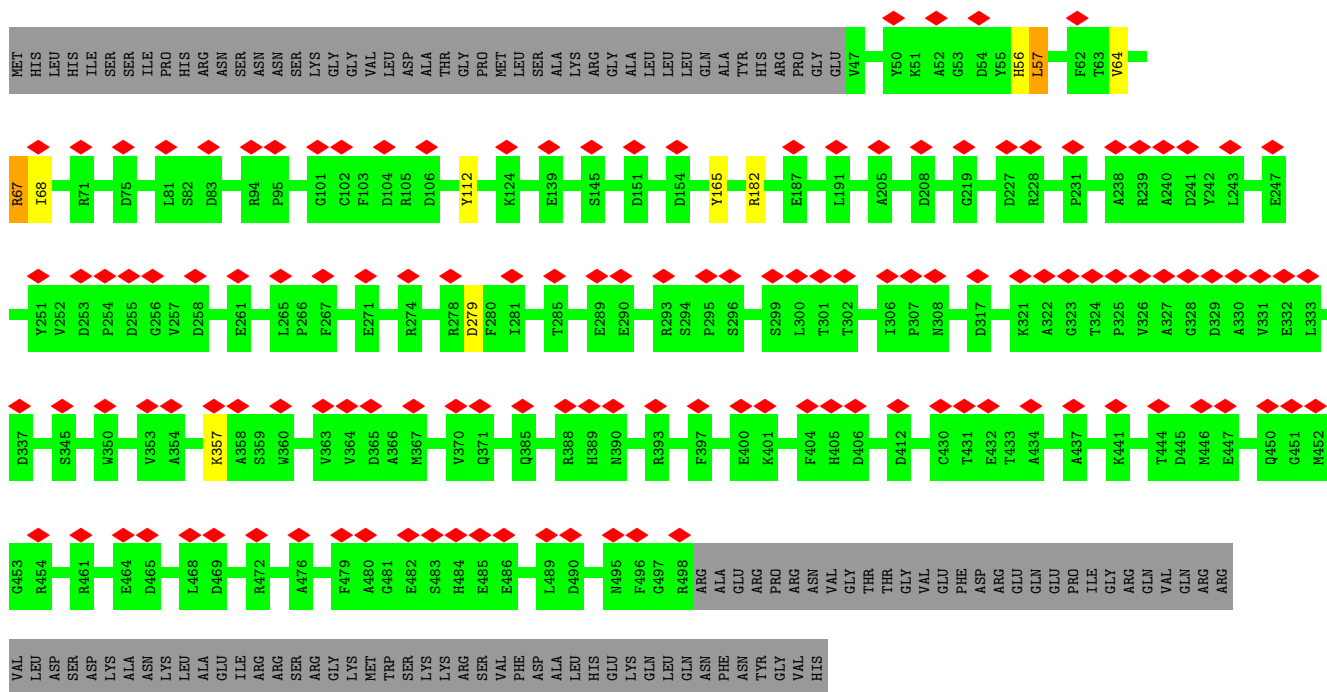
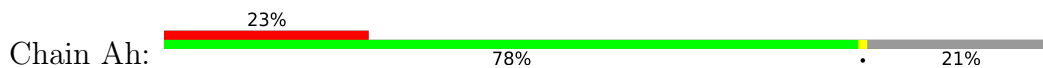


• Molecule 112: MRP-L46 domain-containing protein

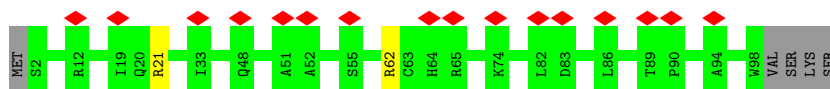




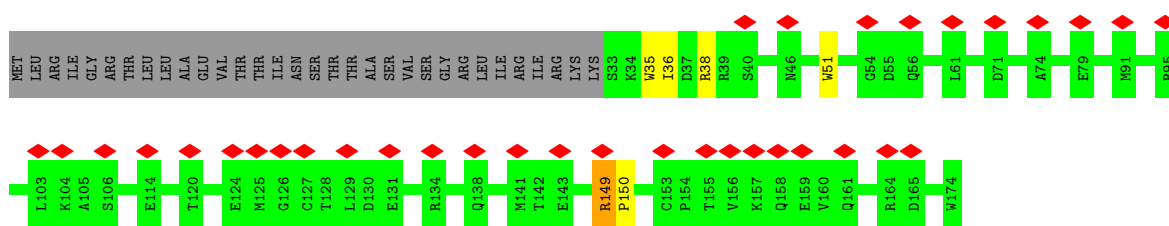
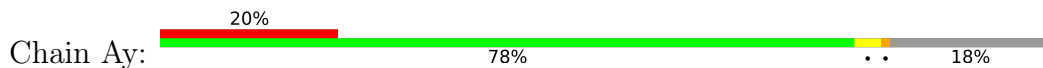
• Molecule 113: mL68



• Molecule 114: mL97

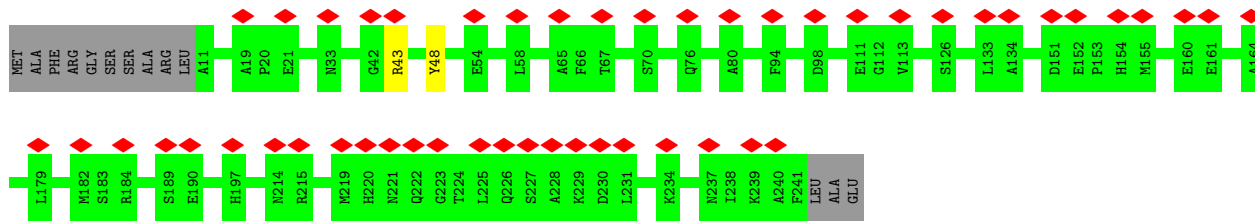


• Molecule 115: C2H2-type domain-containing protein

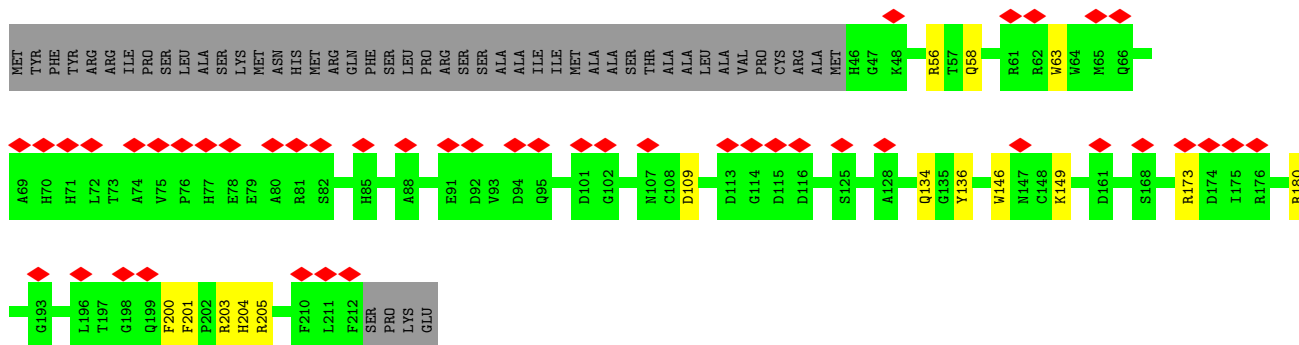


• Molecule 116: mL59/64

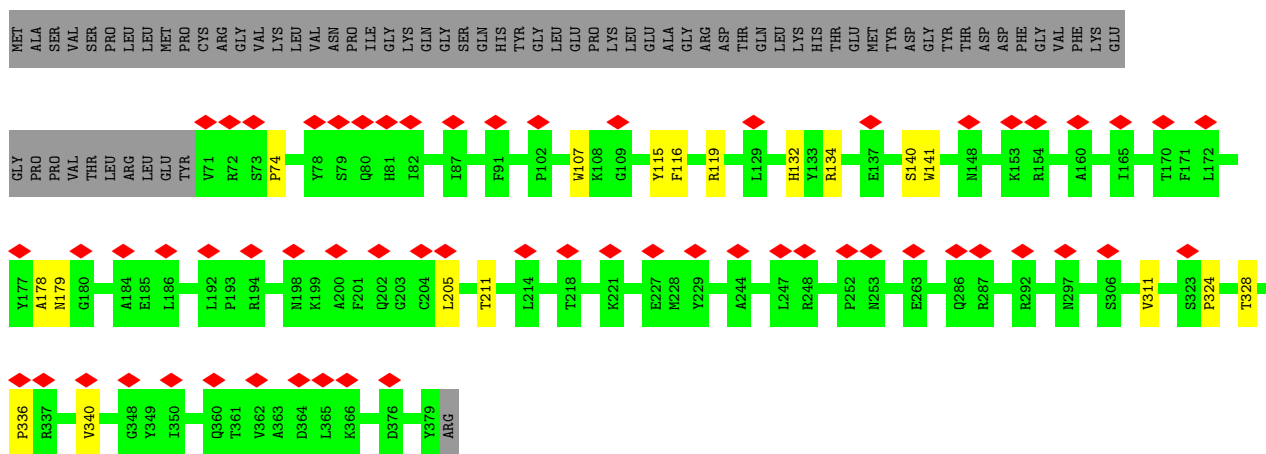
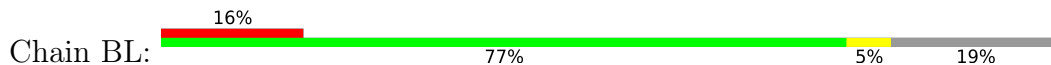




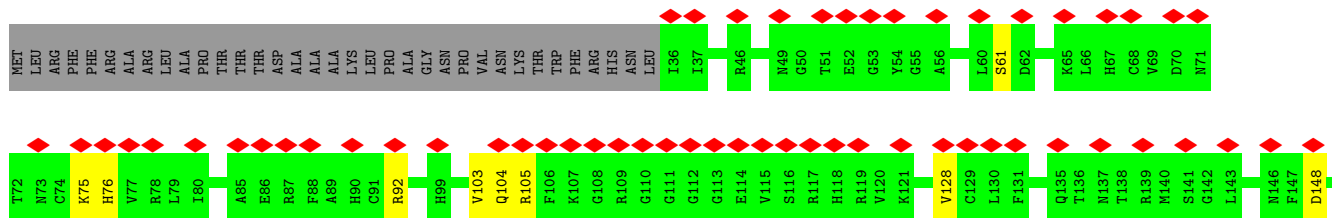
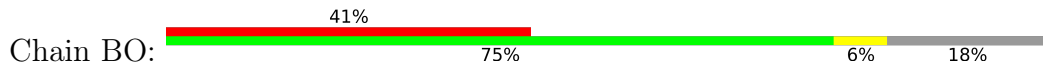
• Molecule 117: LIM zinc-binding domain-containing protein



• Molecule 118: Putative ribosomal protein L2



• Molecule 119: Putative ribosomal protein L14



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	82060	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.195	Depositor
Minimum map value	-0.108	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.014	Depositor
Recommended contour level	0.045	Depositor
Map size (Å)	476.00003, 476.00003, 476.00003	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.19, 1.19, 1.19	Depositor

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: NAD, ZN, MG

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	1	0.91	7/25559 (0.0%)	1.09	102/39736 (0.3%)
1	2	0.89	81/14217 (0.6%)	1.04	51/22099 (0.2%)
2	h	0.32	0/1347	0.42	0/1819
3	aw	0.32	0/1172	0.44	0/1578
4	m	0.31	0/2437	0.44	0/3300
5	f	0.29	0/1239	0.48	0/1660
6	s	0.31	0/1389	0.43	0/1877
7	au	0.30	0/2140	0.41	0/2899
8	am	0.32	0/2252	0.46	0/3035
9	n	0.29	0/1209	0.45	0/1625
10	ae	0.29	0/4698	0.44	0/6385
11	ay	0.31	0/1223	0.42	0/1653
12	ag	0.30	0/4627	0.43	0/6260
13	aj	0.29	0/2641	0.41	0/3591
14	e	0.32	0/6598	0.45	0/8991
15	d	0.31	0/2771	0.42	0/3733
16	az	0.33	0/1343	0.42	0/1815
17	ax	0.29	0/1405	0.42	0/1906
18	r	0.31	0/3818	0.42	0/5177
19	af	0.29	0/4802	0.42	0/6515
20	u	0.29	0/5673	0.44	0/7675
21	aa	0.28	0/12362	0.43	0/16747
22	ab	0.30	0/9432	0.44	0/12775
23	ak	0.28	0/2187	0.43	0/2963
24	ac	0.27	0/8897	0.46	3/12093 (0.0%)
25	ad	0.38	1/5837 (0.0%)	0.46	4/7913 (0.1%)
26	an	0.30	0/2545	0.44	0/3443
27	ao	0.30	0/1574	0.47	0/2141
28	ap	0.29	0/1927	0.45	0/2593
29	aq	0.27	0/1847	0.43	0/2506
30	as	2.26	6/2013 (0.3%)	0.57	4/2745 (0.1%)
31	at	0.27	0/1664	0.52	2/2243 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	y	0.28	0/2191	0.44	0/2965
33	w	0.27	0/1315	0.43	0/1787
34	v	0.26	0/490	0.45	0/656
35	t	0.28	0/1826	0.46	0/2488
36	p	0.32	0/2002	0.43	0/2704
37	j	0.29	0/1553	0.44	0/2098
38	l	0.28	0/4544	0.45	1/6158 (0.0%)
39	ar	0.27	0/2038	0.45	0/2758
40	av	0.28	0/1265	0.50	0/1716
41	ai	0.29	0/3133	0.45	1/4241 (0.0%)
42	x	0.33	0/2091	0.44	0/2844
43	i	0.30	0/2271	0.42	0/3065
44	g	0.26	0/834	0.37	0/1115
45	o	1.17	1/3847 (0.0%)	0.45	2/5196 (0.0%)
46	c	0.31	0/2084	0.44	0/2815
47	k	0.33	0/977	0.45	0/1319
48	q	0.31	0/1748	0.42	0/2354
49	b	0.32	0/1319	0.47	0/1787
50	a	0.90	6/3377 (0.2%)	0.48	0/4558
51	ba	0.24	0/232	0.39	0/314
52	z	0.30	0/7898	0.44	0/10712
53	bd	0.38	0/358	0.62	0/487
54	A	0.58	0/3098	0.53	0/4217
55	B	0.52	0/3623	0.54	1/4931 (0.0%)
56	C	0.52	0/1831	0.53	0/2498
57	D	0.42	0/1062	0.53	0/1438
58	E	0.41	0/2734	0.48	0/3687
59	F	0.52	0/1485	0.56	1/2019 (0.0%)
60	G	0.51	0/3110	0.56	1/4223 (0.0%)
61	H	0.46	0/1338	0.57	0/1808
62	I	0.50	0/2220	0.53	0/2998
63	J	0.48	0/1175	0.61	1/1582 (0.1%)
64	K	0.46	0/1499	0.50	0/2026
65	L	0.52	0/1452	0.55	0/1970
66	M	0.50	0/2168	0.60	1/2928 (0.0%)
67	N	0.55	0/1650	0.51	0/2242
68	O	0.41	0/2591	0.54	1/3507 (0.0%)
69	P	0.51	0/1402	0.52	0/1892
70	Q	0.50	0/1827	0.52	0/2463
71	R	0.44	0/3852	0.49	0/5243
72	S	0.48	0/1271	0.50	0/1712
73	T	0.50	0/501	0.48	0/665
74	U	0.49	0/756	0.73	1/1011 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	V	0.56	0/1231	0.56	0/1645
76	W	0.51	0/483	0.69	0/657
77	X	0.49	0/3846	0.56	3/5250 (0.1%)
78	Y	0.40	0/2116	0.46	0/2866
79	Z	0.53	0/1268	0.66	0/1725
80	BA	0.42	0/1056	0.59	0/1435
82	BB	0.53	0/1061	0.60	0/1438
83	Aw	0.50	0/1552	0.52	0/2107
84	Bj	0.45	0/1389	0.50	0/1878
85	An	0.49	0/2677	0.61	0/3633
86	Al	0.49	0/2212	0.56	0/3013
87	BI	0.42	0/1440	0.53	0/1953
88	Az	0.61	0/1259	0.53	0/1700
89	At	0.45	0/1373	0.51	1/1848 (0.1%)
90	BC	0.38	0/1135	0.49	0/1532
91	Ab	0.48	0/2249	0.49	0/3044
92	Ai	0.48	0/3879	0.51	0/5258
93	Ap	0.40	0/1819	0.47	0/2458
94	Au	0.53	0/1542	0.62	0/2082
95	Aa	0.52	1/1454 (0.1%)	0.63	1/1968 (0.1%)
96	Ao	0.52	0/2351	0.55	0/3196
97	BM	0.30	0/3136	0.51	0/4259
98	Ar	0.55	0/1689	0.54	0/2280
99	Aj	0.47	0/2826	0.50	0/3807
100	BH	0.50	0/1700	0.53	0/2301
101	Am	0.48	0/2791	0.52	1/3775 (0.0%)
102	Aq	0.44	0/2128	0.59	1/2876 (0.0%)
103	BE	0.47	0/723	0.63	0/981
104	Ak	0.38	0/2403	0.50	0/3265
105	BP	0.48	0/1648	0.55	0/2238
106	Ad	0.52	0/1682	0.60	0/2283
107	BF	0.47	0/871	0.52	0/1170
108	Av	0.40	0/1335	0.48	0/1797
109	Af	0.48	0/1165	0.55	0/1585
110	As	0.42	0/804	0.53	0/1093
111	Ae	0.48	0/2441	0.51	0/3324
112	Ac	0.41	0/2236	0.49	0/3038
113	Ah	0.44	0/3780	0.55	1/5125 (0.0%)
114	BD	0.49	0/826	0.47	0/1109
115	Ay	0.49	0/1269	0.52	0/1724
116	Ag	0.52	0/1968	0.50	0/2661
117	Ax	0.56	0/1439	0.79	3/1952 (0.2%)
118	BL	0.53	0/2572	0.65	1/3482 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
119	BO	0.51	0/1266	0.67	0/1702
120	BG	0.46	0/657	0.68	0/888
All	All	0.54	103/311630 (0.0%)	0.61	189/430089 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	1	2	0
1	2	1	1
4	m	0	1
10	ae	0	1
12	ag	0	1
14	e	0	1
20	u	0	2
24	ac	0	6
25	ad	0	3
26	an	0	3
27	ao	0	1
28	ap	0	1
32	y	0	1
36	p	0	1
38	l	0	1
42	x	0	1
49	b	0	1
50	a	0	1
52	z	0	2
53	bd	0	1
54	A	0	1
56	C	0	1
59	F	0	1
62	I	0	1
65	L	0	1
71	R	0	2
79	Z	0	1
80	BA	0	2
81	UA	0	2
82	BB	0	2
84	Bj	0	1
85	An	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
94	Au	0	3
96	Ao	0	1
101	Am	0	1
102	Aq	0	2
103	BE	0	3
104	Ak	0	1
106	Ad	0	1
109	Af	0	1
115	Ay	0	1
118	BL	0	3
119	BO	0	5
122	UC	0	2
123	UD	0	1
All	All	3	72

The worst 5 of 103 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
30	as	215	TRP	CE3-CZ3	72.01	2.60	1.38
45	o	132	ARG	CB-CG	70.18	3.42	1.52
30	as	215	TRP	CZ3-CH2	45.96	2.13	1.40
30	as	215	TRP	CE2-CZ2	32.69	1.95	1.39
50	a	349	TRP	CE3-CZ3	32.57	1.93	1.38

The worst 5 of 189 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	2	438	G	N9-C1'-C2'	-17.25	91.57	114.00
1	1	136	A	C2'-C3'-O3'	-17.05	71.99	109.50
1	2	438	G	C4'-C3'-O3'	12.40	137.80	113.00
1	1	146	U	N1-C1'-C2'	-11.88	98.56	114.00
1	2	529	A	N9-C1'-C2'	11.32	128.72	114.00

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	2	529	A	C2'
1	1	136	A	C3',C4'

5 of 72 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	2	438	G	Sidechain
10	ae	425	ASP	Peptide
12	ag	257	VAL	Peptide
14	e	291	SER	Peptide
4	m	10	ASN	Peptide

5.2 Too-close contacts [i](#)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

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	
2	h	155/166 (93%)	148 (96%)	7 (4%)	0	100	100
3	aw	137/139 (99%)	123 (90%)	14 (10%)	0	100	100
4	m	286/325 (88%)	267 (93%)	19 (7%)	0	100	100
5	f	140/371 (38%)	118 (84%)	22 (16%)	0	100	100
6	s	163/179 (91%)	148 (91%)	15 (9%)	0	100	100
7	au	237/247 (96%)	225 (95%)	12 (5%)	0	100	100
8	am	264/313 (84%)	242 (92%)	22 (8%)	0	100	100
9	n	140/171 (82%)	129 (92%)	11 (8%)	0	100	100
10	ae	582/655 (89%)	542 (93%)	39 (7%)	1 (0%)	47	79
11	ay	139/169 (82%)	129 (93%)	10 (7%)	0	100	100
12	ag	555/564 (98%)	520 (94%)	33 (6%)	2 (0%)	34	71
13	aj	314/397 (79%)	297 (95%)	17 (5%)	0	100	100
14	e	805/822 (98%)	736 (91%)	67 (8%)	2 (0%)	47	79
15	d	339/351 (97%)	317 (94%)	22 (6%)	0	100	100
16	az	152/163 (93%)	148 (97%)	4 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	ax	159/184 (86%)	147 (92%)	12 (8%)	0	100	100
18	r	449/467 (96%)	423 (94%)	26 (6%)	0	100	100
19	af	579/835 (69%)	541 (93%)	38 (7%)	0	100	100
20	u	702/890 (79%)	652 (93%)	47 (7%)	3 (0%)	34	71
21	aa	1504/1813 (83%)	1411 (94%)	92 (6%)	1 (0%)	51	84
22	ab	1149/1177 (98%)	1070 (93%)	79 (7%)	0	100	100
23	ak	264/325 (81%)	244 (92%)	20 (8%)	0	100	100
24	ac	1108/1267 (88%)	1014 (92%)	89 (8%)	5 (0%)	29	67
25	ad	688/811 (85%)	643 (94%)	43 (6%)	2 (0%)	41	75
26	an	300/302 (99%)	272 (91%)	26 (9%)	2 (1%)	22	60
27	ao	187/291 (64%)	170 (91%)	17 (9%)	0	100	100
28	ap	238/245 (97%)	213 (90%)	25 (10%)	0	100	100
29	aq	210/295 (71%)	202 (96%)	8 (4%)	0	100	100
30	as	245/270 (91%)	213 (87%)	32 (13%)	0	100	100
31	at	202/397 (51%)	185 (92%)	17 (8%)	0	100	100
32	y	279/485 (58%)	250 (90%)	29 (10%)	0	100	100
33	w	153/190 (80%)	143 (94%)	10 (6%)	0	100	100
34	v	61/214 (28%)	55 (90%)	6 (10%)	0	100	100
35	t	224/267 (84%)	210 (94%)	14 (6%)	0	100	100
36	p	232/321 (72%)	210 (90%)	21 (9%)	1 (0%)	34	71
37	j	178/189 (94%)	158 (89%)	20 (11%)	0	100	100
38	l	535/677 (79%)	489 (91%)	44 (8%)	2 (0%)	34	71
39	ar	248/282 (88%)	235 (95%)	13 (5%)	0	100	100
40	av	148/236 (63%)	124 (84%)	23 (16%)	1 (1%)	22	60
41	ai	377/379 (100%)	346 (92%)	31 (8%)	0	100	100
42	x	253/268 (94%)	236 (93%)	16 (6%)	1 (0%)	34	71
43	i	265/429 (62%)	248 (94%)	17 (6%)	0	100	100
44	g	97/192 (50%)	94 (97%)	3 (3%)	0	100	100
45	o	436/604 (72%)	412 (94%)	23 (5%)	1 (0%)	47	79
46	c	249/311 (80%)	223 (90%)	26 (10%)	0	100	100
47	k	114/312 (36%)	107 (94%)	7 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	q	194/425 (46%)	189 (97%)	5 (3%)	0	100	100
49	b	153/159 (96%)	127 (83%)	25 (16%)	1 (1%)	22	60
50	a	406/431 (94%)	373 (92%)	32 (8%)	1 (0%)	47	79
51	ba	24/94 (26%)	23 (96%)	1 (4%)	0	100	100
52	z	965/1169 (82%)	891 (92%)	73 (8%)	1 (0%)	51	84
53	bd	39/89 (44%)	30 (77%)	9 (23%)	0	100	100
54	A	366/466 (78%)	311 (85%)	50 (14%)	5 (1%)	11	46
55	B	433/435 (100%)	380 (88%)	52 (12%)	1 (0%)	47	79
56	C	210/261 (80%)	179 (85%)	31 (15%)	0	100	100
57	D	126/204 (62%)	109 (86%)	17 (14%)	0	100	100
58	E	324/345 (94%)	293 (90%)	31 (10%)	0	100	100
59	F	168/171 (98%)	153 (91%)	14 (8%)	1 (1%)	25	63
60	G	363/373 (97%)	314 (86%)	47 (13%)	2 (1%)	25	63
61	H	160/167 (96%)	144 (90%)	14 (9%)	2 (1%)	12	48
62	I	255/304 (84%)	224 (88%)	31 (12%)	0	100	100
63	J	139/143 (97%)	102 (73%)	36 (26%)	1 (1%)	22	60
64	K	177/193 (92%)	158 (89%)	19 (11%)	0	100	100
65	L	176/185 (95%)	157 (89%)	18 (10%)	1 (1%)	25	63
66	M	257/278 (92%)	217 (84%)	38 (15%)	2 (1%)	19	57
67	N	187/251 (74%)	163 (87%)	24 (13%)	0	100	100
68	O	305/475 (64%)	273 (90%)	29 (10%)	3 (1%)	15	52
69	P	163/184 (89%)	145 (89%)	17 (10%)	1 (1%)	25	63
70	Q	215/233 (92%)	192 (89%)	22 (10%)	1 (0%)	29	67
71	R	470/479 (98%)	405 (86%)	65 (14%)	0	100	100
72	S	148/408 (36%)	132 (89%)	16 (11%)	0	100	100
73	T	53/82 (65%)	50 (94%)	3 (6%)	0	100	100
74	U	90/117 (77%)	76 (84%)	12 (13%)	2 (2%)	6	38
75	V	139/150 (93%)	120 (86%)	19 (14%)	0	100	100
76	W	52/185 (28%)	46 (88%)	6 (12%)	0	100	100
77	X	466/512 (91%)	417 (90%)	46 (10%)	3 (1%)	25	63
78	Y	253/292 (87%)	233 (92%)	20 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
79	Z	148/197 (75%)	114 (77%)	31 (21%)	3 (2%)	7	40
80	BA	136/167 (81%)	103 (76%)	29 (21%)	4 (3%)	4	33
82	BB	120/156 (77%)	95 (79%)	23 (19%)	2 (2%)	9	43
83	Aw	183/187 (98%)	161 (88%)	22 (12%)	0	100	100
84	Bj	166/185 (90%)	143 (86%)	22 (13%)	1 (1%)	25	63
85	An	312/331 (94%)	253 (81%)	52 (17%)	7 (2%)	6	38
86	Al	262/346 (76%)	219 (84%)	43 (16%)	0	100	100
87	BI	184/266 (69%)	155 (84%)	29 (16%)	0	100	100
88	Az	136/152 (90%)	110 (81%)	24 (18%)	2 (2%)	10	45
89	At	163/183 (89%)	145 (89%)	18 (11%)	0	100	100
90	BC	138/147 (94%)	129 (94%)	9 (6%)	0	100	100
91	Ab	258/262 (98%)	226 (88%)	32 (12%)	0	100	100
92	Ai	474/479 (99%)	413 (87%)	60 (13%)	1 (0%)	47	79
93	Ap	212/240 (88%)	188 (89%)	24 (11%)	0	100	100
94	Au	174/186 (94%)	131 (75%)	37 (21%)	6 (3%)	3	31
95	Aa	176/195 (90%)	142 (81%)	31 (18%)	3 (2%)	9	43
96	Ao	273/284 (96%)	232 (85%)	39 (14%)	2 (1%)	22	60
97	BM	387/457 (85%)	326 (84%)	61 (16%)	0	100	100
98	Ar	193/205 (94%)	168 (87%)	25 (13%)	0	100	100
99	Aj	337/503 (67%)	292 (87%)	45 (13%)	0	100	100
100	BH	212/229 (93%)	185 (87%)	27 (13%)	0	100	100
101	Am	328/340 (96%)	275 (84%)	53 (16%)	0	100	100
102	Aq	250/341 (73%)	201 (80%)	43 (17%)	6 (2%)	6	37
103	BE	82/118 (70%)	56 (68%)	25 (30%)	1 (1%)	13	49
104	Ak	298/323 (92%)	254 (85%)	44 (15%)	0	100	100
105	BP	191/254 (75%)	161 (84%)	28 (15%)	2 (1%)	15	52
106	Ad	203/237 (86%)	163 (80%)	38 (19%)	2 (1%)	15	52
107	BF	99/109 (91%)	79 (80%)	20 (20%)	0	100	100
108	Av	153/192 (80%)	128 (84%)	25 (16%)	0	100	100
109	Af	137/155 (88%)	117 (85%)	19 (14%)	1 (1%)	22	60
110	As	95/249 (38%)	87 (92%)	8 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
111	Ae	289/311 (93%)	253 (88%)	36 (12%)	0	100	100
112	Ac	266/291 (91%)	234 (88%)	32 (12%)	0	100	100
113	Ah	450/570 (79%)	386 (86%)	60 (13%)	4 (1%)	17	54
114	BD	95/102 (93%)	85 (90%)	10 (10%)	0	100	100
115	Ay	140/174 (80%)	118 (84%)	18 (13%)	4 (3%)	4	33
116	Ag	229/244 (94%)	204 (89%)	25 (11%)	0	100	100
117	Ax	165/216 (76%)	129 (78%)	33 (20%)	3 (2%)	8	42
118	BL	307/380 (81%)	233 (76%)	67 (22%)	7 (2%)	6	38
119	BO	153/190 (80%)	104 (68%)	46 (30%)	3 (2%)	7	40
120	BG	83/1347 (6%)	57 (69%)	23 (28%)	3 (4%)	3	29
All	All	32374/40717 (80%)	28909 (89%)	3346 (10%)	119 (0%)	38	71

5 of 119 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
24	ac	685	LEU
54	A	289	ARG
54	A	290	MET
61	H	94	VAL
63	J	66	PRO

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	
2	h	138/146 (94%)	138 (100%)	0	100	100
3	aw	120/120 (100%)	120 (100%)	0	100	100
4	m	250/283 (88%)	249 (100%)	1 (0%)	91	94
5	f	122/292 (42%)	118 (97%)	4 (3%)	38	63
6	s	143/157 (91%)	143 (100%)	0	100	100
7	au	217/223 (97%)	216 (100%)	1 (0%)	88	93

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	am	228/262 (87%)	227 (100%)	1 (0%)	91	94
9	n	127/147 (86%)	127 (100%)	0	100	100
10	ae	479/532 (90%)	478 (100%)	1 (0%)	93	96
11	ay	126/149 (85%)	125 (99%)	1 (1%)	81	89
12	ag	478/484 (99%)	475 (99%)	3 (1%)	86	91
13	aj	275/345 (80%)	275 (100%)	0	100	100
14	e	688/700 (98%)	687 (100%)	1 (0%)	93	97
15	d	289/296 (98%)	287 (99%)	2 (1%)	84	90
16	az	137/144 (95%)	137 (100%)	0	100	100
17	ax	146/166 (88%)	146 (100%)	0	100	100
18	r	396/409 (97%)	396 (100%)	0	100	100
19	af	486/676 (72%)	486 (100%)	0	100	100
20	u	582/733 (79%)	579 (100%)	3 (0%)	88	93
21	aa	1266/1465 (86%)	1261 (100%)	5 (0%)	91	94
22	ab	951/971 (98%)	950 (100%)	1 (0%)	93	97
23	ak	224/268 (84%)	222 (99%)	2 (1%)	78	87
24	ac	889/1002 (89%)	888 (100%)	1 (0%)	93	97
25	ad	595/699 (85%)	593 (100%)	2 (0%)	92	95
26	an	248/248 (100%)	248 (100%)	0	100	100
27	ao	167/253 (66%)	167 (100%)	0	100	100
28	ap	191/194 (98%)	190 (100%)	1 (0%)	88	93
29	aq	190/249 (76%)	190 (100%)	0	100	100
30	as	207/226 (92%)	207 (100%)	0	100	100
31	at	172/334 (52%)	170 (99%)	2 (1%)	71	83
32	y	230/379 (61%)	227 (99%)	3 (1%)	69	82
33	w	140/170 (82%)	139 (99%)	1 (1%)	84	90
34	v	53/182 (29%)	53 (100%)	0	100	100
35	t	186/214 (87%)	186 (100%)	0	100	100
36	p	209/278 (75%)	207 (99%)	2 (1%)	76	86
37	j	163/172 (95%)	162 (99%)	1 (1%)	86	91
38	l	465/552 (84%)	463 (100%)	2 (0%)	91	94

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
39	ar	217/237 (92%)	215 (99%)	2 (1%)	78	87
40	av	136/208 (65%)	135 (99%)	1 (1%)	84	90
41	ai	338/338 (100%)	338 (100%)	0	100	100
42	x	211/222 (95%)	211 (100%)	0	100	100
43	i	241/383 (63%)	241 (100%)	0	100	100
44	g	84/168 (50%)	84 (100%)	0	100	100
45	o	393/546 (72%)	391 (100%)	2 (0%)	88	93
46	c	217/260 (84%)	216 (100%)	1 (0%)	88	93
47	k	104/272 (38%)	104 (100%)	0	100	100
48	q	177/363 (49%)	177 (100%)	0	100	100
49	b	140/144 (97%)	139 (99%)	1 (1%)	84	90
50	a	346/365 (95%)	345 (100%)	1 (0%)	92	95
51	ba	21/82 (26%)	21 (100%)	0	100	100
52	z	817/979 (84%)	814 (100%)	3 (0%)	91	94
53	bd	39/85 (46%)	38 (97%)	1 (3%)	46	68
54	A	314/393 (80%)	313 (100%)	1 (0%)	92	95
55	B	380/380 (100%)	375 (99%)	5 (1%)	69	82
56	C	190/226 (84%)	190 (100%)	0	100	100
57	D	106/154 (69%)	103 (97%)	3 (3%)	43	66
58	E	285/300 (95%)	282 (99%)	3 (1%)	73	84
59	F	151/152 (99%)	149 (99%)	2 (1%)	69	82
60	G	315/322 (98%)	308 (98%)	7 (2%)	52	71
61	H	138/142 (97%)	137 (99%)	1 (1%)	84	90
62	I	223/261 (85%)	221 (99%)	2 (1%)	78	87
63	J	119/121 (98%)	115 (97%)	4 (3%)	37	62
64	K	151/161 (94%)	149 (99%)	2 (1%)	69	82
65	L	151/157 (96%)	151 (100%)	0	100	100
66	M	226/241 (94%)	222 (98%)	4 (2%)	59	77
67	N	175/219 (80%)	172 (98%)	3 (2%)	60	78
68	O	278/396 (70%)	273 (98%)	5 (2%)	59	77
69	P	147/162 (91%)	147 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
70	Q	191/203 (94%)	189 (99%)	2 (1%)	76	86
71	R	406/411 (99%)	405 (100%)	1 (0%)	93	96
72	S	135/335 (40%)	135 (100%)	0	100	100
73	T	52/73 (71%)	52 (100%)	0	100	100
74	U	80/99 (81%)	75 (94%)	5 (6%)	18	47
75	V	125/134 (93%)	121 (97%)	4 (3%)	39	63
76	W	50/163 (31%)	46 (92%)	4 (8%)	12	41
77	X	402/437 (92%)	399 (99%)	3 (1%)	84	90
78	Y	209/236 (89%)	208 (100%)	1 (0%)	88	93
79	Z	132/172 (77%)	128 (97%)	4 (3%)	41	64
80	BA	112/135 (83%)	108 (96%)	4 (4%)	35	61
82	BB	106/140 (76%)	103 (97%)	3 (3%)	43	66
83	Aw	157/159 (99%)	156 (99%)	1 (1%)	86	91
84	Bj	150/165 (91%)	149 (99%)	1 (1%)	84	90
85	An	274/289 (95%)	267 (97%)	7 (3%)	46	68
86	Al	236/299 (79%)	230 (98%)	6 (2%)	47	69
87	BI	153/221 (69%)	152 (99%)	1 (1%)	84	90
88	Az	129/143 (90%)	127 (98%)	2 (2%)	62	79
89	At	140/153 (92%)	140 (100%)	0	100	100
90	BC	117/124 (94%)	116 (99%)	1 (1%)	78	87
91	Ab	233/235 (99%)	233 (100%)	0	100	100
92	Ai	408/410 (100%)	406 (100%)	2 (0%)	88	93
93	Ap	189/208 (91%)	188 (100%)	1 (0%)	88	93
94	Au	154/164 (94%)	145 (94%)	9 (6%)	20	50
95	Aa	150/166 (90%)	148 (99%)	2 (1%)	69	82
96	Ao	236/245 (96%)	234 (99%)	2 (1%)	81	89
97	BM	319/370 (86%)	316 (99%)	3 (1%)	78	87
98	Ar	169/179 (94%)	168 (99%)	1 (1%)	86	91
99	Aj	286/420 (68%)	284 (99%)	2 (1%)	84	90
100	BH	177/189 (94%)	175 (99%)	2 (1%)	73	84
101	Am	278/287 (97%)	275 (99%)	3 (1%)	73	84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
102	Aq	221/276 (80%)	216 (98%)	5 (2%)	50	71
103	BE	76/100 (76%)	75 (99%)	1 (1%)	69	82
104	Ak	254/272 (93%)	252 (99%)	2 (1%)	81	89
105	BP	167/215 (78%)	165 (99%)	2 (1%)	71	83
106	Ad	172/193 (89%)	171 (99%)	1 (1%)	86	91
107	BF	88/95 (93%)	87 (99%)	1 (1%)	73	84
108	Av	141/169 (83%)	141 (100%)	0	100	100
109	Af	120/135 (89%)	120 (100%)	0	100	100
110	As	88/204 (43%)	88 (100%)	0	100	100
111	Ae	249/261 (95%)	244 (98%)	5 (2%)	55	74
112	Ac	232/253 (92%)	230 (99%)	2 (1%)	78	87
113	Ah	385/485 (79%)	378 (98%)	7 (2%)	59	77
114	BD	85/90 (94%)	83 (98%)	2 (2%)	49	69
115	Ay	130/158 (82%)	128 (98%)	2 (2%)	65	80
116	Ag	202/211 (96%)	200 (99%)	2 (1%)	76	86
117	Ax	150/190 (79%)	141 (94%)	9 (6%)	19	49
118	BL	268/329 (82%)	261 (97%)	7 (3%)	46	68
119	BO	130/158 (82%)	126 (97%)	4 (3%)	40	64
120	BG	67/1047 (6%)	67 (100%)	0	100	100
All	All	27983/34364 (81%)	27759 (99%)	224 (1%)	82	89

5 of 224 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
79	Z	40	THR
119	BO	128	VAL
88	Az	93	LYS
118	BL	328	THR
114	BD	62	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 648 such sidechains are listed below:

Mol	Chain	Res	Type
79	Z	13	HIS

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Mol	Chain	Res	Type
101	Am	152	GLN
85	An	24	HIS
78	Y	282	GLN
92	Ai	142	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	1082/18998 (5%)	638 (58%)	129 (11%)
1	2	602/18998 (3%)	481 (79%)	200 (33%)
All	All	1684/37996 (4%)	1119 (66%)	329 (19%)

5 of 1119 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	2	U
1	2	3	C
1	2	6	U
1	2	7	U
1	2	9	U

5 of 329 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	249	U
1	1	703	U
1	1	309	U
1	1	519	U
1	1	849	U

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

Of 9 ligands modelled in this entry, 8 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
125	NAD	Ag	301	-	42,48,48	0.61	0	50,73,73	1.12	5 (10%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
125	NAD	Ag	301	-	-	11/26/62/62	0/5/5/5

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
125	Ag	301	NAD	O4D-C1D-C2D	-4.10	100.93	106.93
125	Ag	301	NAD	C3D-C2D-C1D	3.28	105.91	100.98
125	Ag	301	NAD	C6N-N1N-C2N	-2.20	119.97	121.97
125	Ag	301	NAD	C5A-C6A-N6A	2.15	123.62	120.35
125	Ag	301	NAD	O4B-C4B-C3B	-2.09	100.98	105.11

There are no chirality outliers.

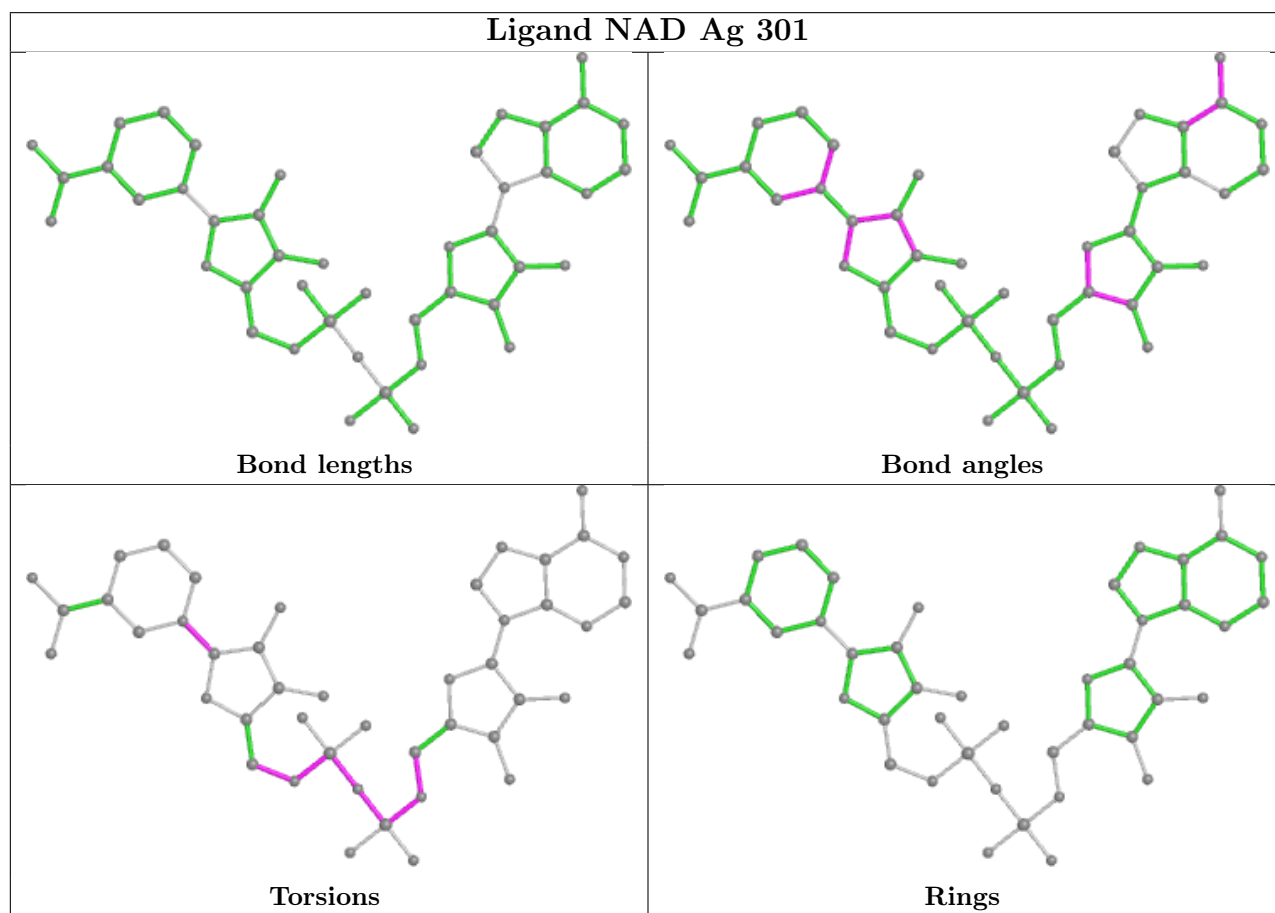
5 of 11 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
125	Ag	301	NAD	C5B-O5B-PA-O3
125	Ag	301	NAD	C2D-C1D-N1N-C2N
125	Ag	301	NAD	C4B-C5B-O5B-PA
125	Ag	301	NAD	PN-O3-PA-O5B
125	Ag	301	NAD	PA-O3-PN-O5D

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



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

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
8	am	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	am	121:GLU	C	122:ASN	N	3.38

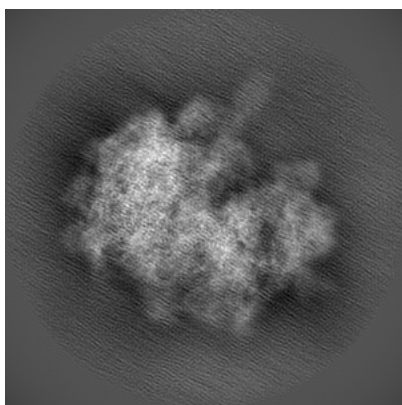
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-11829. These allow visual inspection of the internal detail of the map and identification of artifacts.

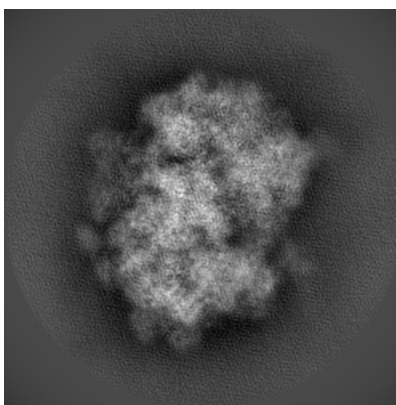
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

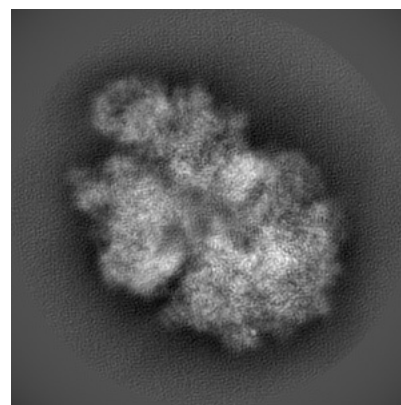
6.1.1 Primary map



X



Y

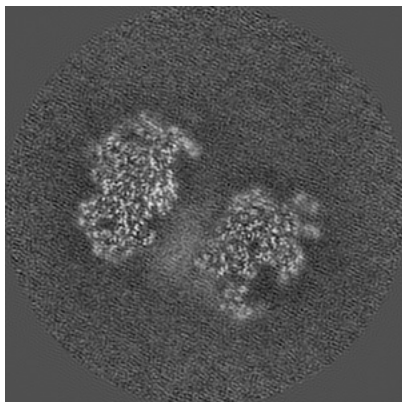


Z

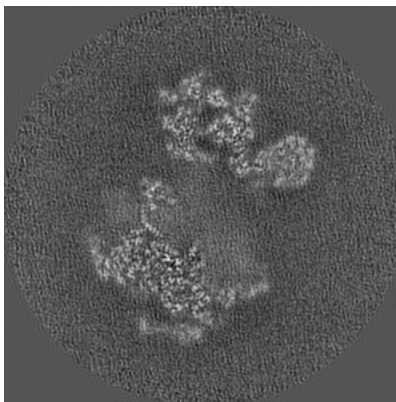
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

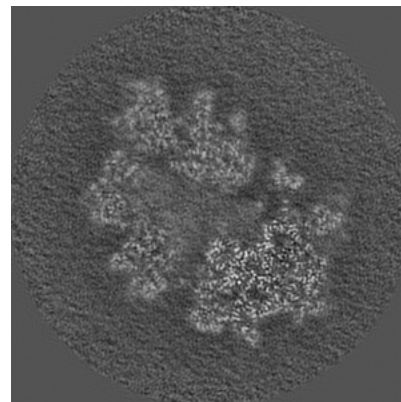
6.2.1 Primary map



X Index: 200



Y Index: 200

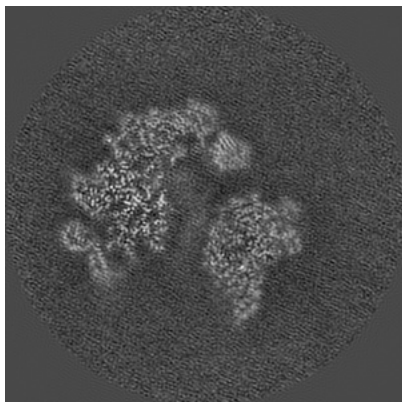


Z Index: 200

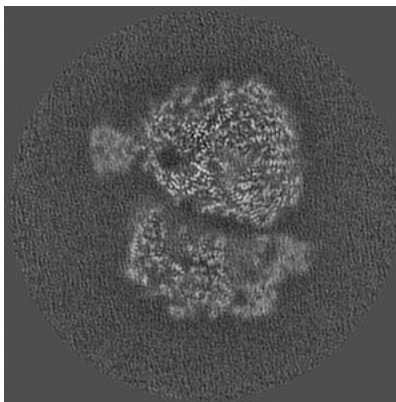
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

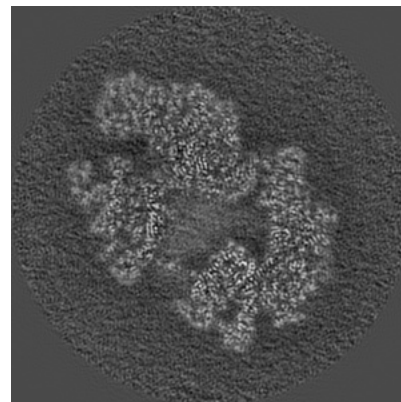
6.3.1 Primary map



X Index: 224



Y Index: 150



Z Index: 173

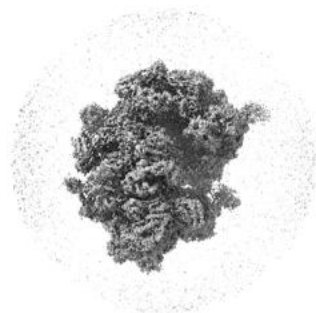
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.045. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

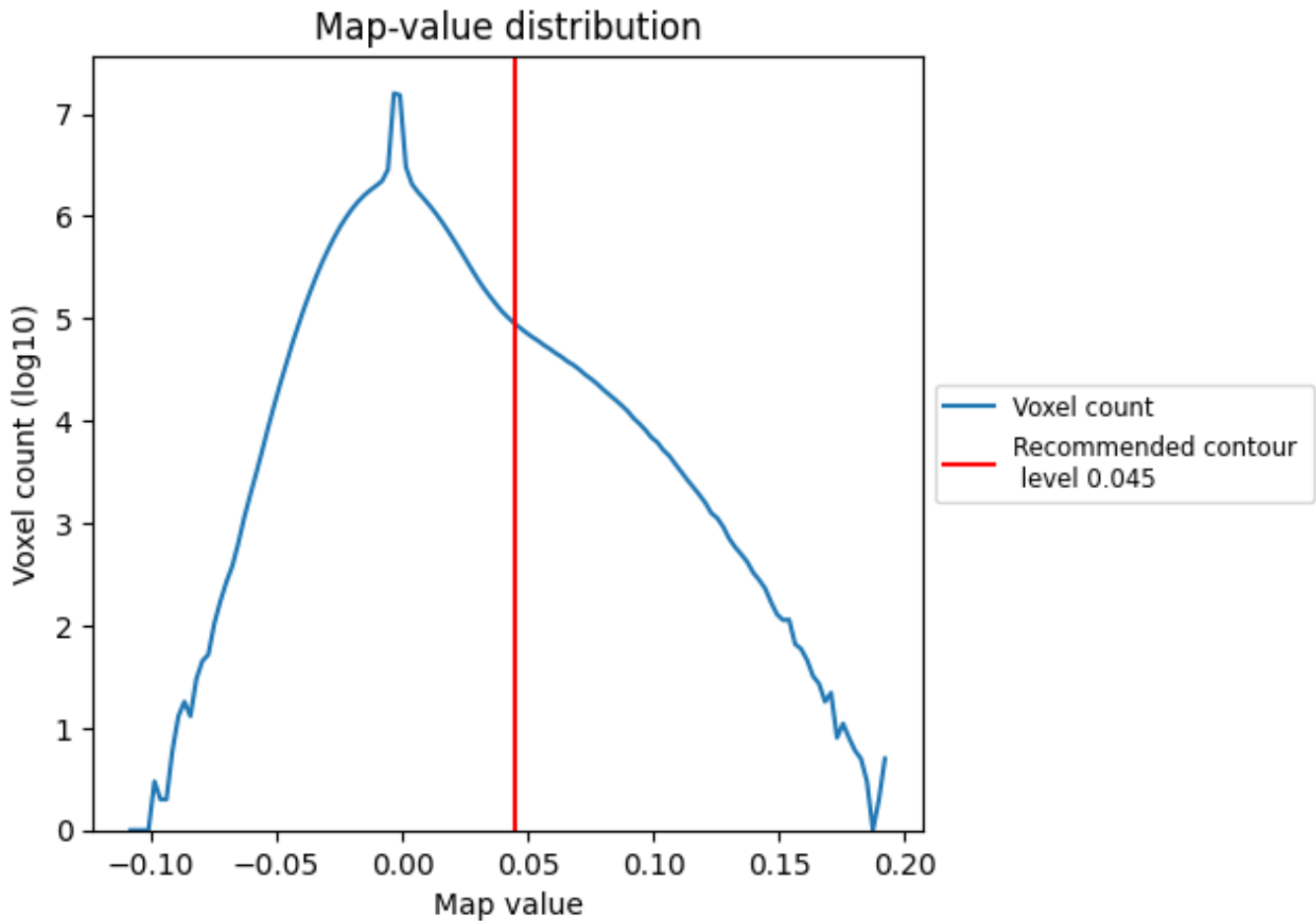
6.5 Mask visualisation

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

7 Map analysis [i](#)

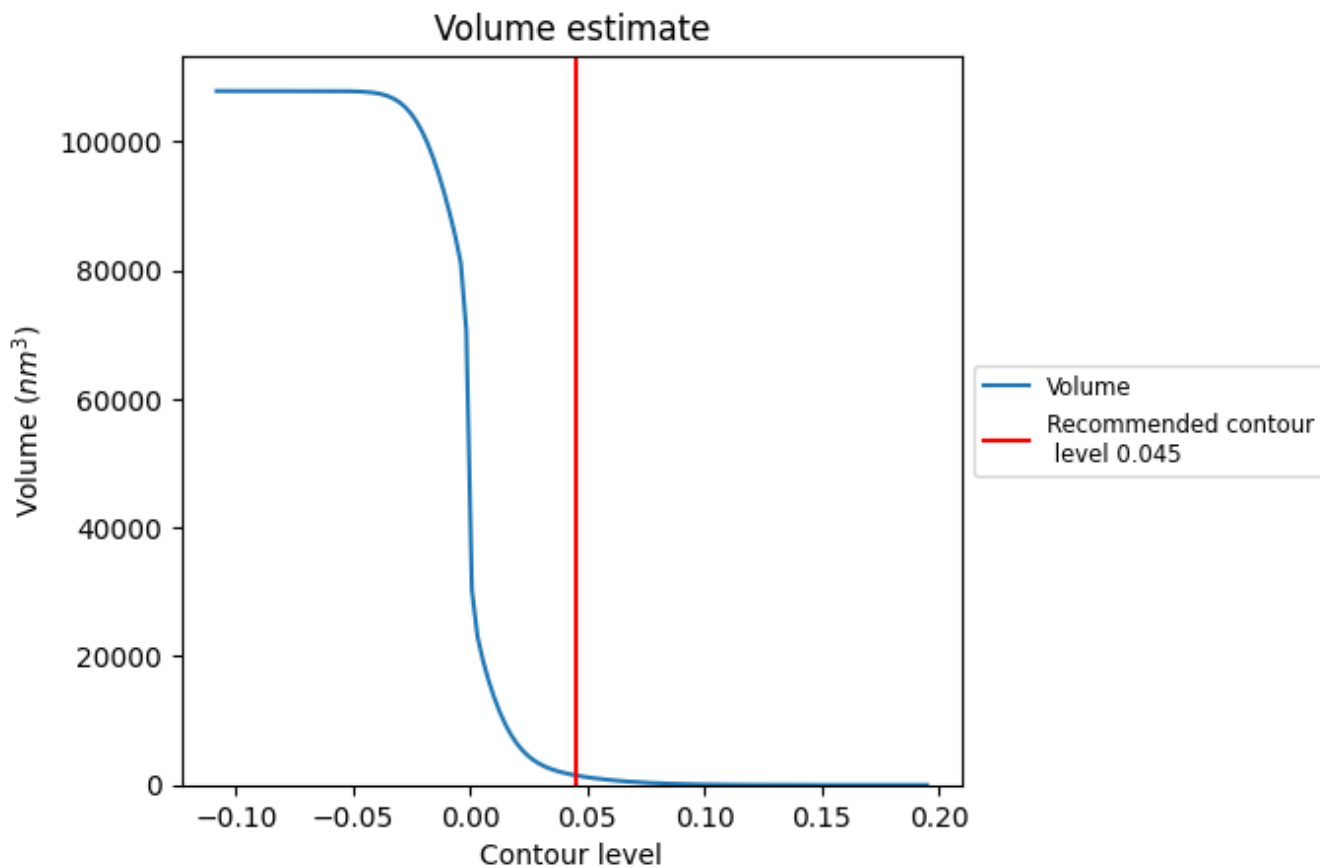
This section contains the results of statistical analysis of the map.

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.

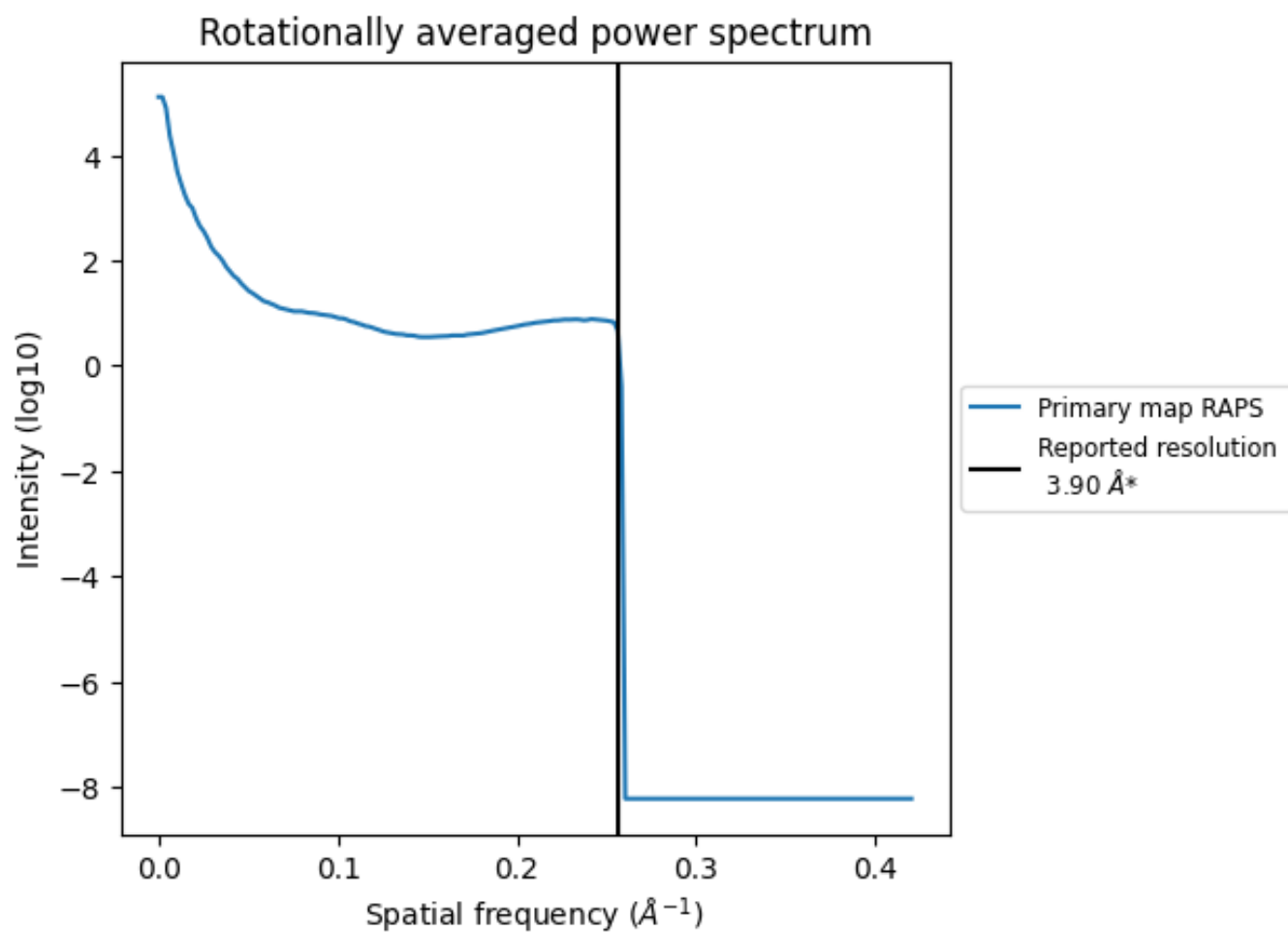
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1487 nm³; this corresponds to an approximate mass of 1343 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 0.256 Å⁻¹

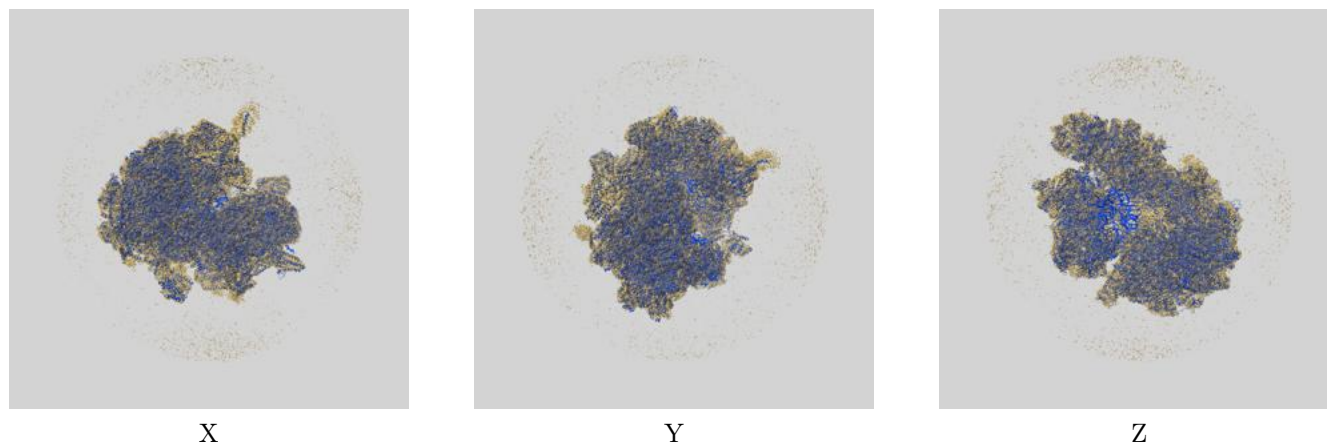
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

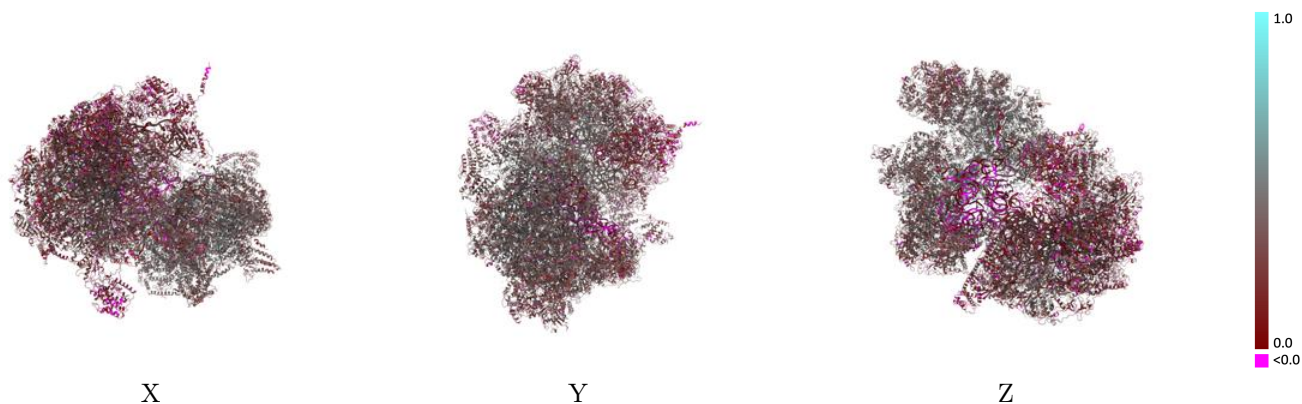
This section contains information regarding the fit between EMDB map EMD-11829 and PDB model 7ANE. Per-residue inclusion information can be found in section 3 on page 27.

9.1 Map-model overlay [i](#)



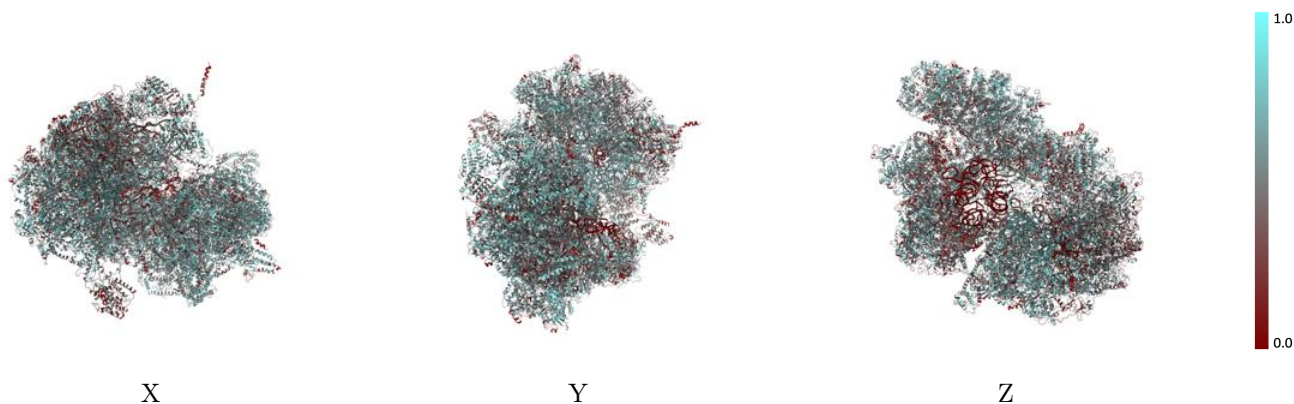
The images above show the 3D surface view of the map at the recommended contour level 0.045 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



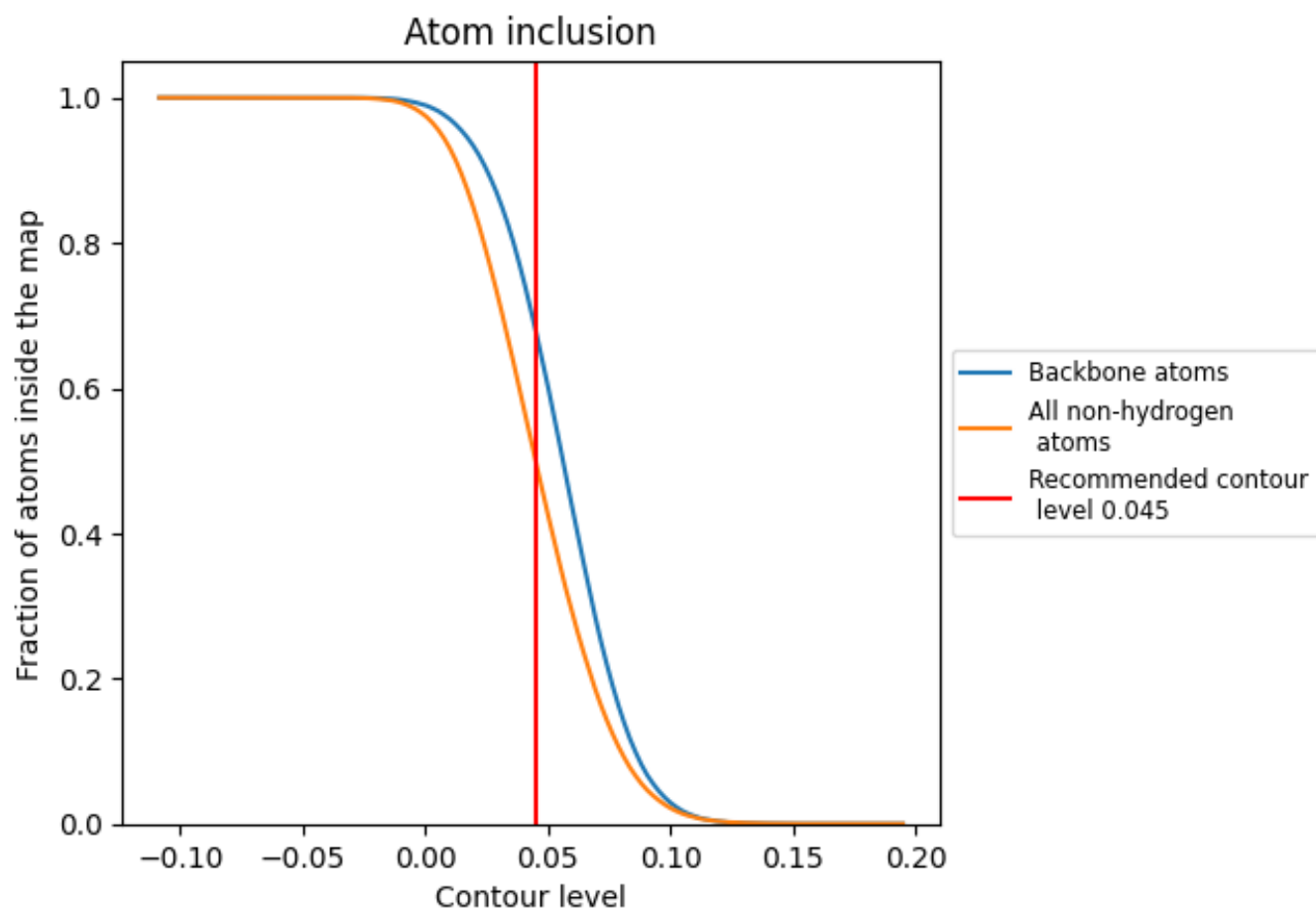
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.045).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 68% of all backbone atoms, 50% 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 (0.045) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5010	 0.3210
1	 0.6441	 0.3250
2	 0.1121	 0.0360
A	 0.4609	 0.2040
Aa	 0.3690	 0.2020
Ab	 0.4850	 0.2250
Ac	 0.5313	 0.3030
Ad	 0.4305	 0.2790
Ae	 0.4235	 0.1760
Af	 0.4187	 0.2100
Ag	 0.5818	 0.3550
Ah	 0.5310	 0.2640
Ai	 0.5155	 0.2900
Aj	 0.4457	 0.2260
Ak	 0.5083	 0.2390
Al	 0.5482	 0.2700
Am	 0.4356	 0.1610
An	 0.5299	 0.2960
Ao	 0.5798	 0.3180
Ap	 0.4253	 0.1900
Aq	 0.5122	 0.3570
Ar	 0.5583	 0.3460
As	 0.4707	 0.1780
At	 0.5104	 0.2510
Au	 0.5973	 0.3460
Av	 0.4842	 0.2070
Aw	 0.5141	 0.2570
Ax	 0.5602	 0.3310
Ay	 0.5790	 0.2930
Az	 0.6213	 0.3700
B	 0.5054	 0.2890
BA	 0.4837	 0.2390
BB	 0.4208	 0.1810
BC	 0.5509	 0.3630
BD	 0.5925	 0.3220



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Chain	Atom inclusion	Q-score
BE	0.4471	0.1690
BF	0.5209	0.3430
BG	0.5288	0.3080
BH	0.4624	0.2390
BI	0.5839	0.2960
BL	0.5733	0.3350
BM	0.3456	0.1220
BO	0.4171	0.2090
BP	0.4468	0.2500
Bj	0.4924	0.3330
C	0.5842	0.3250
D	0.3249	0.1210
E	0.4725	0.1750
F	0.4167	0.2200
G	0.5295	0.3200
H	0.4850	0.3200
I	0.4870	0.2790
J	0.4401	0.1980
K	0.4378	0.2300
L	0.4188	0.2030
M	0.5273	0.3060
N	0.6119	0.4010
O	0.4015	0.2560
P	0.5733	0.3810
Q	0.5815	0.3370
R	0.5318	0.2830
S	0.4754	0.2740
T	0.5821	0.3010
U	0.5243	0.3610
UA	0.6670	0.2890
UB	0.5373	0.3040
UC	0.3278	0.1890
UD	0.5032	0.1910
V	0.5593	0.3960
W	0.4604	0.2770
X	0.4894	0.2890
Y	0.5374	0.3210
Z	0.6176	0.3990
a	0.4880	0.4310
aa	0.5241	0.3740
ab	0.4999	0.4030
ac	0.4987	0.3150













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Chain	Atom inclusion	Q-score
ad	0.4909	0.3690
ae	0.5584	0.3940
af	0.5582	0.3690
ag	0.4927	0.4050
ai	0.5609	0.3960
aj	0.6126	0.4020
ak	0.4446	0.3460
am	0.4965	0.4470
an	0.5887	0.4180
ao	0.5520	0.4140
ap	0.6243	0.3810
aq	0.3495	0.2790
ar	0.4902	0.3620
as	0.4148	0.3030
at	0.2089	0.2680
au	0.5055	0.3990
av	0.3970	0.3520
aw	0.5604	0.4370
ax	0.5374	0.4190
ay	0.5480	0.4160
az	0.6232	0.4420
b	0.5496	0.3990
ba	0.0731	0.3450
bd	0.4942	0.4070
c	0.4704	0.4340
d	0.5594	0.4430
e	0.5398	0.4250
f	0.4812	0.3670
g	0.3030	0.3410
h	0.5829	0.4480
i	0.5021	0.4050
j	0.4613	0.3630
k	0.5070	0.4440
l	0.4716	0.3280
m	0.5348	0.4250
n	0.4917	0.4150
o	0.4143	0.3920
p	0.5948	0.4110
q	0.5724	0.3820
r	0.6054	0.4200
s	0.5523	0.4360
t	0.4243	0.3090

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Chain	Atom inclusion	Q-score
u	 0.5164	 0.3860
v	 0.5074	 0.3990
w	 0.2920	 0.2890
x	 0.5903	 0.4250
y	 0.5593	 0.3560
z	 0.5654	 0.4190