



wwPDB EM Validation Summary Report ⓘ

Dec 18, 2022 – 05:34 pm GMT

PDB ID : 7ASE
EMDB ID : EMD-11893
Title : 43S preinitiation complex from Trypanosoma cruzi with the kDDX60 helicase
Authors : Bochler, A.; Brito Querido, J.; Prilepskaja, T.; Soufari, H.; Del Cistia, M.L.; Kuhn, L.; Rimoldi Ribeiro, A.; Valasek, L.S.; Hashem, Y.
Deposited on : 2020-10-27
Resolution : 3.33 Å(reported)

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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:

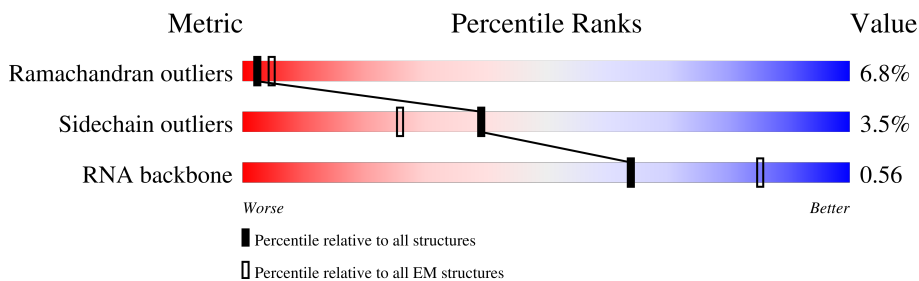
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : 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 3.33 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	f	2174	54% (Poor fit) 55% (0 outliers) 10% (1 outlier) 30% (Not modelled)
2	1	75	13% (Poor fit) 85% (0 outliers) 15% (1 outlier)
3	0	2319	18% (Poor fit) 74% (0 outliers) 17% (1 outlier) 7% (2 outliers)
4	y	137	9% (Poor fit) 88% (0 outliers) 10% (1 outlier)
5	s	418	58% (Poor fit) 58% (0 outliers) 9% (1 outlier) 29% (Not modelled)
6	j	150	35% (Poor fit) 46% (0 outliers) 7% (1 outlier) 47% (Not modelled)
7	n	343	43% (Poor fit) 58% (0 outliers) 7% (1 outlier) 34% (Not modelled)
8	p	318	38% (Poor fit) 93% (0 outliers) 7% (1 outlier)

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Mol	Chain	Length	Quality of chain
9	r	149	12% 86% 7% • 6%
10	u	153	31% 75% 12% • 11%
11	m	143	8% 94% • • •
12	Z	221	7% 76% • 21%
13	o	190	22% 94% 6%
14	q	211	14% 93% • 5%
15	R	151	7% 91% • 7%
16	S	86	9% 92% • 5%
17	t	112	10% 91% • 7%
18	U	91	26% 66% 8% • 25%
19	v	144	9% 90% • • 6%
20	X	173	8% 79% • • • 14%
21	B	190	9% 89% 5% 6%
22	F	245	9% 82% • 16%
23	d	263	9% 82% • • 15%
24	g	247	• 32% 66%
25	a	110	29% 64% 36%
26	J	257	55% 52% 11% • • 33%
27	h	141	69% 83% • • 14%
28	5	477	77% 76% 11% • 12%
29	P	250	31% 96% •
30	i	141	23% 74% 9% • 14%
31	L	117	26% 78% 6% • 15%
32	M	214	15% 87% 5% • 7%
33	N	161	20% 54% • • 42%

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Mol	Chain	Length	Quality of chain
34	O	167	
35	b	145	
36	c	66	
37	V	109	
38	w	166	
39	E	407	
40	Y	379	
41	Q	57	
42	D	34	
43	G	345	
44	K	203	
45	T	152	
46	C	716	
47	8	762	
48	W	254	
49	I	489	
50	H	334	
51	A	502	
52	l	273	

2 Entry composition

There are 55 unique types of molecules in this entry. The entry contains 136847 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called kDDX60.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	f	1523	12257	7734	2165	2292	66	0	0

- Molecule 2 is a RNA chain called initiator tRNA-Met.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	1	75	1606	718	300	514	74	0	0

- Molecule 3 is a RNA chain called 18S.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	0	2150	45795	20471	8144	15037	2143	0	0

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	143	C	A	conflict	GB 320364483
0	805	C	U	conflict	GB 320364483
0	2321	U	-	insertion	GB 320364483
0	2322	U	-	insertion	GB 320364483
0	2323	U	-	insertion	GB 320364483

- Molecule 4 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	y	123	989	628	194	165	2	0	0

- Molecule 5 is a protein called Elongation initiation factor 2 alpha subunit, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	s	295	2365	1489	436	427	13	0	0

- Molecule 6 is a protein called 60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	j	79	644	409	123	106	6	0	0

- Molecule 7 is a protein called Translation initiation factor, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	n	225	1796	1111	335	339	11	0	0

- Molecule 8 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	p	310	2405	1505	424	463	13	0	0

- Molecule 9 is a protein called 40S ribosomal protein S16, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	r	140	1113	706	212	192	3	0	0

- Molecule 10 is a protein called 40S ribosomal protein S18, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	u	136	1108	689	224	190	5	0	0

- Molecule 11 is a protein called 40S ribosomal protein S23, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	m	142	1116	706	220	188	2	0	0

- Molecule 12 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	Z	175	1404	885	283	233	3	0	0

- Molecule 13 is a protein called 40S ribosomal protein S5, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	o	190	1493	932	286	269	6	0	0

- Molecule 14 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	q	200	1670	1063	324	277	6	0	0

- Molecule 15 is a protein called 40S ribosomal protein S13, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	R	141	1143	724	221	190	8	0	0

- Molecule 16 is a protein called 40S ribosomal protein S27, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	S	82	630	384	121	116	9	0	0

- Molecule 17 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	t	104	829	510	177	132	10	0	0

- Molecule 18 is a protein called 40S ribosomal protein S33.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	U	68	526	315	107	100	4	0	0

- Molecule 19 is a protein called 40S ribosomal protein S14, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	v	135	1011	620	195	187	9	0	0

- Molecule 20 is a protein called 40S ribosomal protein S11, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	X	148	1212	760	239	207	6	0	0

- Molecule 21 is a protein called Putative 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	B	179	1483	935	297	243	8	0	0

- Molecule 22 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	F	207	1658	1060	299	288	11	0	0

- Molecule 23 is a protein called 40S ribosomal protein S2, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	d	223	1726	1098	304	314	10	0	0

- Molecule 24 is a protein called Putative 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	g	83	635	395	116	122	2	0	0

- Molecule 25 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	a	70	553	356	97	97	3	0	0

- Molecule 26 is a protein called RNA-binding protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	J	173	Total	C	N	O	S	0	0
			1358	862	259	234	3		

- Molecule 27 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	h	121	Total	C	N	O	S	0	0
			958	594	174	185	5		

- Molecule 28 is a protein called Eukaryotic translation initiation factor 2 subunit, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	5	421	Total	C	N	O	S	0	0
			3245	2049	581	596	19		

- Molecule 29 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	P	249	Total	C	N	O	S	0	0
			1983	1244	402	333	4		

- Molecule 30 is a protein called 40S ribosomal protein S17, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	i	121	Total	C	N	O	S	0	0
			992	623	190	174	5		

- Molecule 31 is a protein called Ribosomal protein S20, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	L	99	Total	C	N	O	S	0	0
			784	497	144	140	3		

- Molecule 32 is a protein called 40S ribosomal protein S3, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	M	200	Total	C	N	O	S	0	0
			1587	995	302	279	11		

- Molecule 33 is a protein called 40S ribosomal protein S10, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	N	93	Total	C	N	O	S	0	0
			780	508	136	132	4		

- Molecule 34 is a protein called Ribosomal protein S19, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	O	140	Total	C	N	O	S	0	0
			1116	702	221	185	8		

- Molecule 35 is a protein called 40S ribosomal protein S15a, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	b	129	Total	C	N	O	S	0	0
			1019	647	188	176	8		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
b	83	THR	ALA	conflict	UNP Q4CXX2

- Molecule 36 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	c	60	Total	C	N	O	S	0	0
			480	303	98	78	1		

- Molecule 37 is a protein called Protein translation factor SUI1 homolog, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	V	97	Total	C	N	O	S	0	0
			789	490	152	145	2		

- Molecule 38 is a protein called Putative eukaryotic translation initiation factor 1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	w	147	Total	C	N	O	S	0	0
			1162	716	209	236	1		

- Molecule 39 is a protein called Eukaryotic translation initiation factor 3 subunit E.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	E	391	3119	1977	536	593	13	0	0

- Molecule 40 is a protein called Eukaryotic translation initiation factor 5, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	Y	174	1387	872	243	260	12	0	0

- Molecule 41 is a protein called Ribosomal protein S29, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	Q	57	462	283	96	77	6	0	0

- Molecule 42 is a protein called eL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	D	33	294	178	76	38	2	0	0

- Molecule 43 is a protein called JAB_MPN domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	G	308	2414	1492	442	466	14	0	0

- Molecule 44 is a protein called CSN8_PSD8_EIF3K domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	K	201	1566	1001	256	304	5	0	0

- Molecule 45 is a protein called 40S ribosomal protein S15, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	T	132	1057	670	204	179	4	0	0

- Molecule 46 is a protein called Eukaryotic translation initiation factor 3 subunit 8, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	C	696	5630	3542	973	1092	23	0	0

- Molecule 47 is a protein called eIF3A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
47	8	576	4596	2882	845	847	22	0	0

- Molecule 48 is a protein called 40S ribosomal protein S3a-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
48	W	217	1781	1124	337	313	7	0	0

- Molecule 49 is a protein called Eukaryotic translation initiation factor 3 (EIF-3) interacting protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	I	344	2770	1771	479	503	17	0	0

- Molecule 50 is a protein called eIF3H.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	H	297	2388	1498	421	451	18	0	0

- Molecule 51 is a protein called Eukaryotic translation initiation factor 3 subunit 7-like protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	A	483	3891	2446	691	729	25	0	0

- Molecule 52 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	1	258	2038	1290	383	354	11	0	0

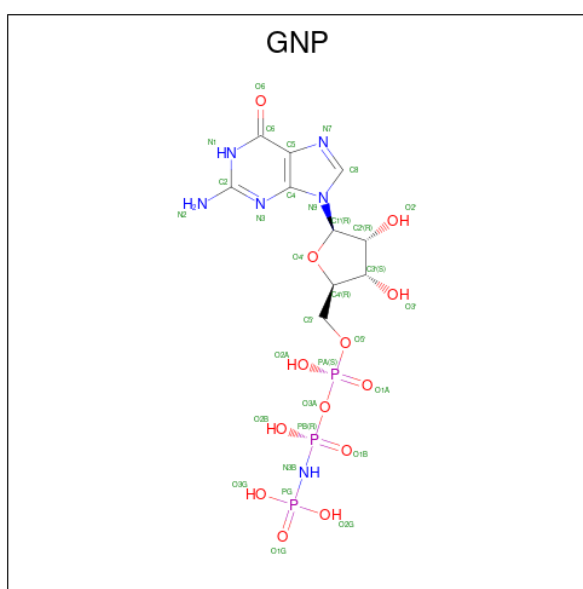
- Molecule 53 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
53	n	1	Total	Zn	0
			1	1	

- Molecule 54 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

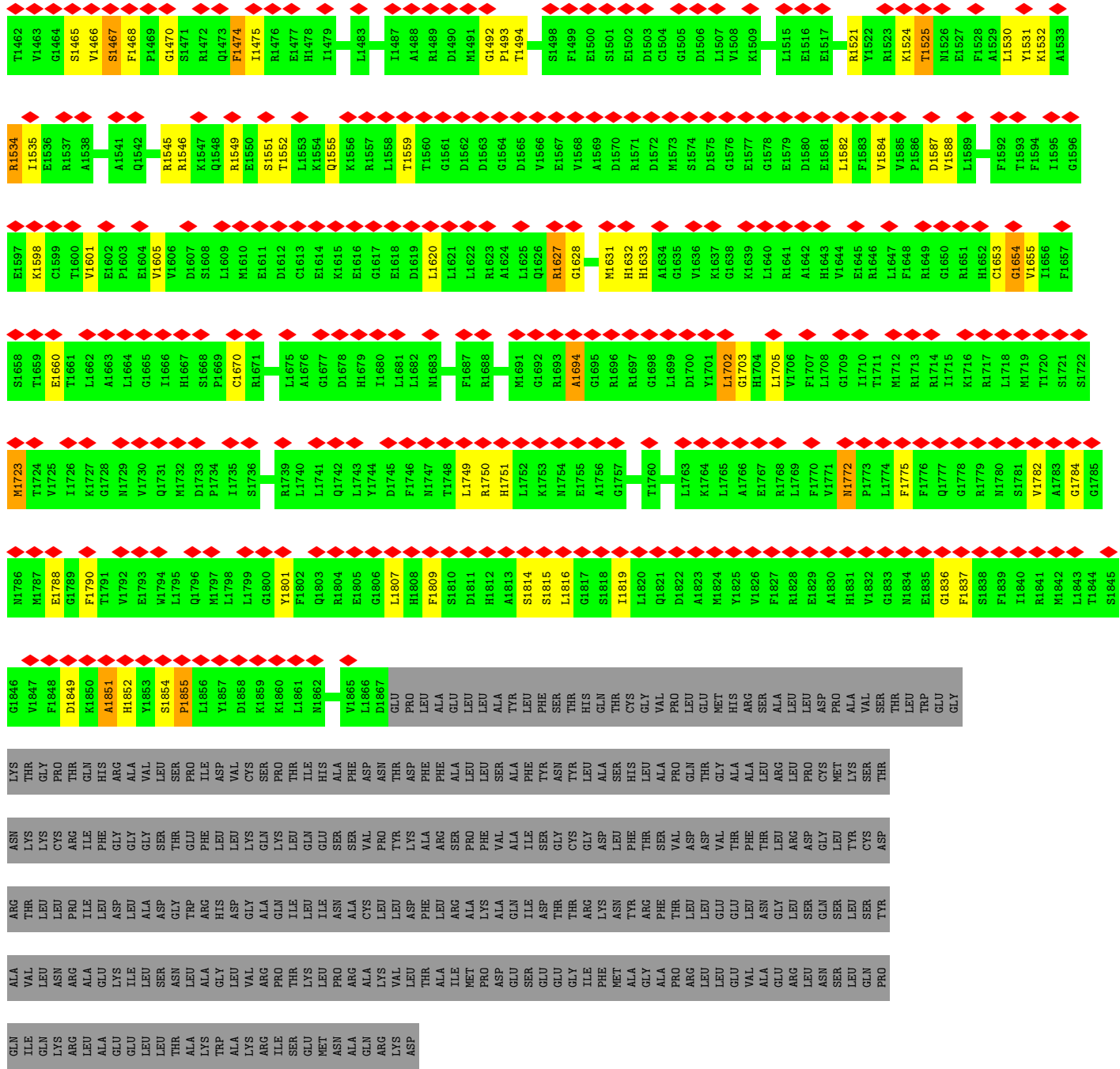
Mol	Chain	Residues	Atoms		AltConf
54	5	1	Total	Mg	0
			1	1	

- Molecule 55 is PHOSPHOAMINOPHOSPHONIC ACID-GUANYLATE ESTER (three-letter code: GNP) (formula: C₁₀H₁₇N₆O₁₃P₃).

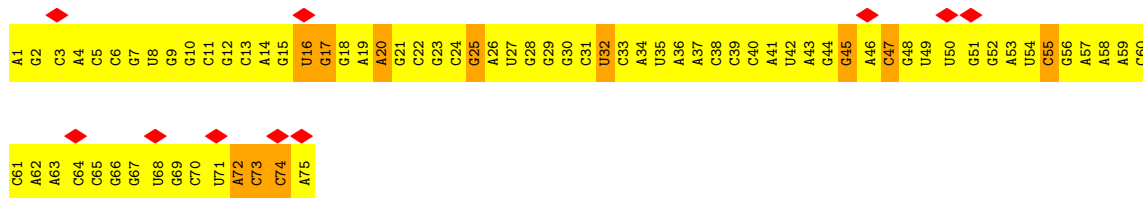
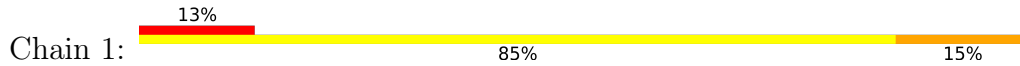


Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
55	5	1	32	10	6	13	3	0

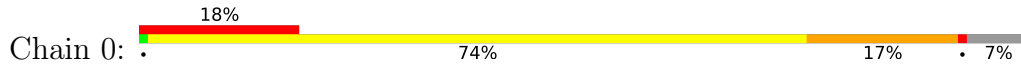
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D669	D670	D671	A672	G673	G674	S675	S676	A677	N678	N679	K680	T681	A682	G683	A684	K685	K686	V687	N688	K689	E690	H691	A692	G693	Q694	R695	K696	K697	K698	E699	R700	S701	K702	E703	D704	E705	I706	F707	E708	R709	S710	N711	N712	I713	A714	A715	A716	A717	T718	V719	A720	E721	W722	H723	K724	Q725	N726	H728		
L729	L730	H731	A732	V733	D734	M735	S736	R739	T740	R743	A754	A755	I756	K757	R758	L759	K763	F764	G765	K766	N767	F768	D769	P770	G771	Y772	T773	G774	G775	G776	S777	T778	N779	T780	A781	L784	K785	L786	M787	M788	W789	R790	L791	L792	V793	A794	A795	S796	Q797	L798	R799	E800	V801	E802						
F803	A804	F805	A806	M807	E808	D809	K813	K820	K821	K822	D823	S824	K825	S826	E827	Y828	K829	H830	L831	Y832	G833	F834	H835	V836	I837	F840	R843	E844	A845	V846	K847	G848	N849	H850	N851	G852	Q853	L854	D855	P855	L857	R858	K859	A860	K861	P862	D863	M864	T865	I866	R867	E868	A869	R870						
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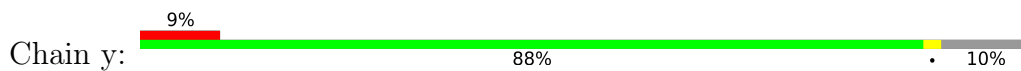
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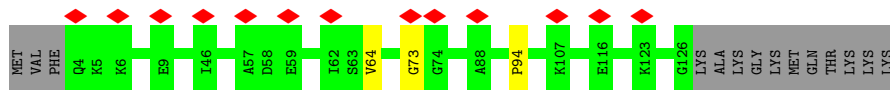


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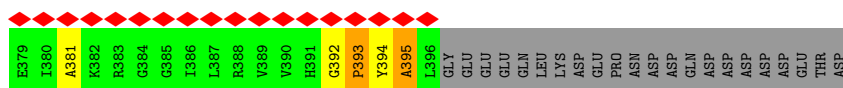
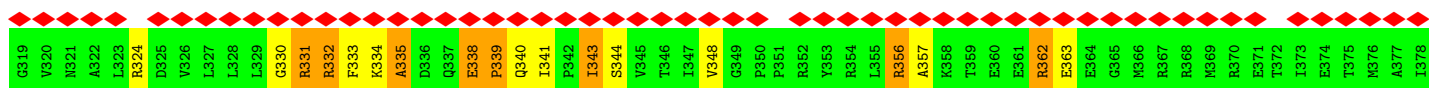
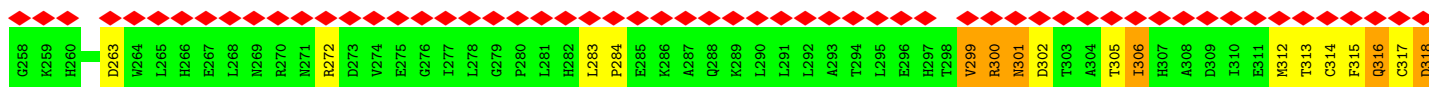
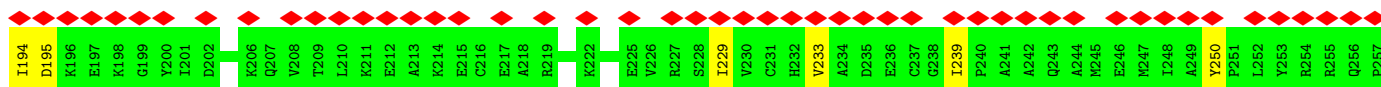
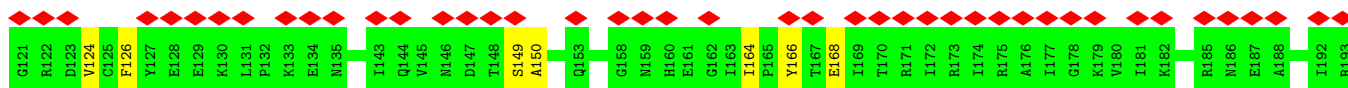
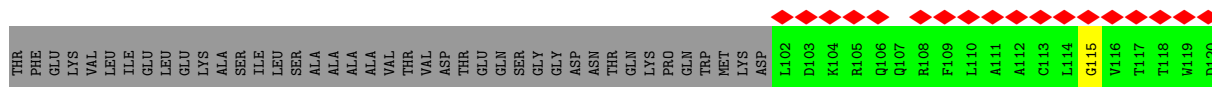
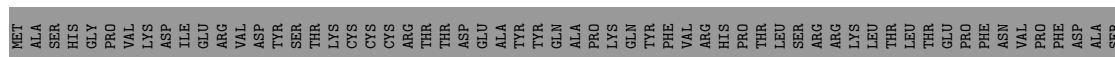
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• Molecule 4: 40S ribosomal protein S24

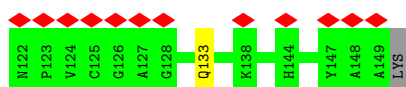
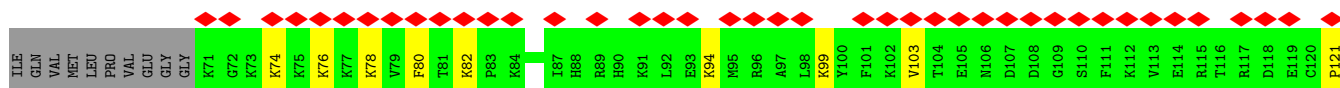
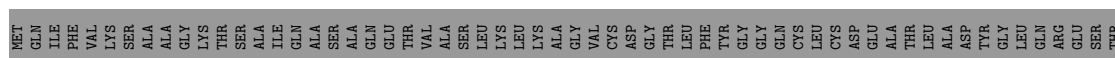




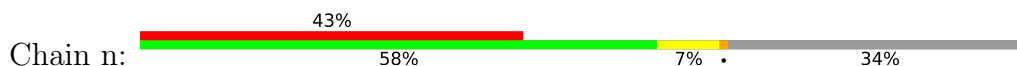
• Molecule 5: Elongation initiation factor 2 alpha subunit, putative

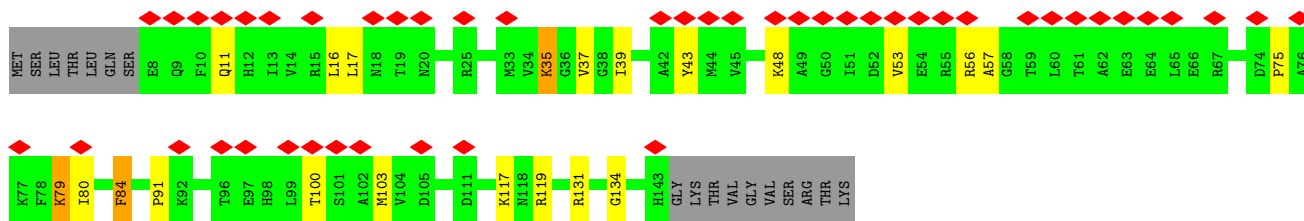


• Molecule 6: 60S ribosomal protein L40

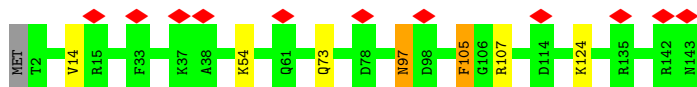


• Molecule 7: Translation initiation factor, putative

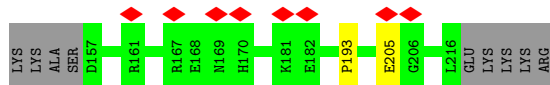
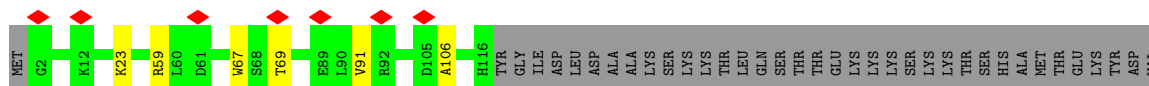
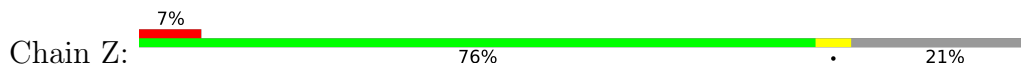




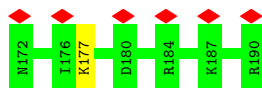
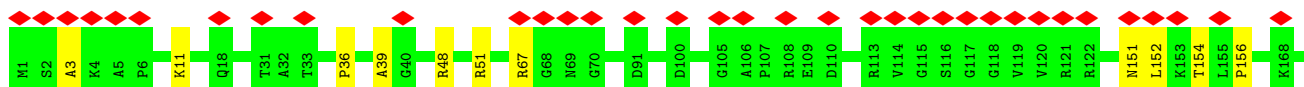
• Molecule 11: 40S ribosomal protein S23, putative



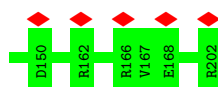
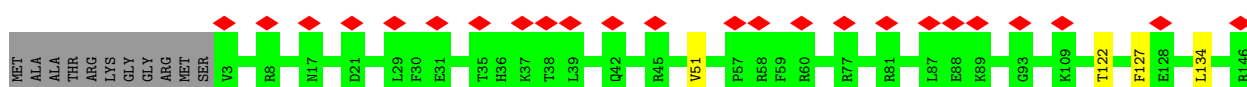
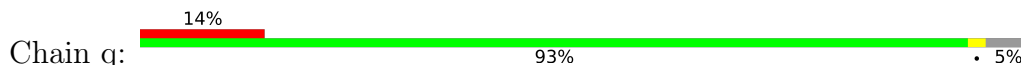
• Molecule 12: 40S ribosomal protein S8



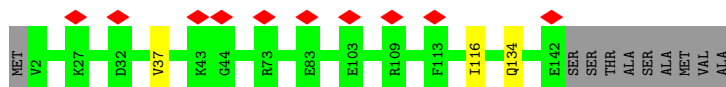
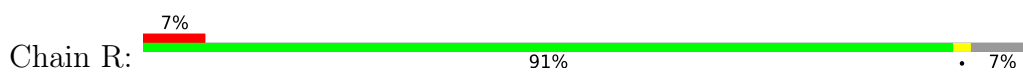
• Molecule 13: 40S ribosomal protein S5, putative



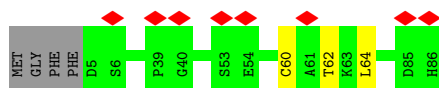
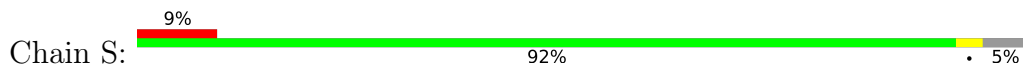
• Molecule 14: 40S ribosomal protein S7



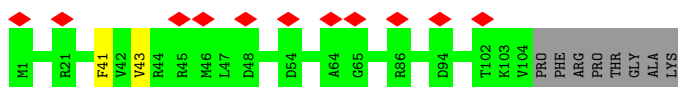
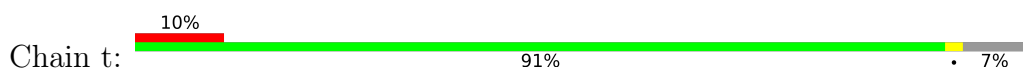
• Molecule 15: 40S ribosomal protein S13, putative



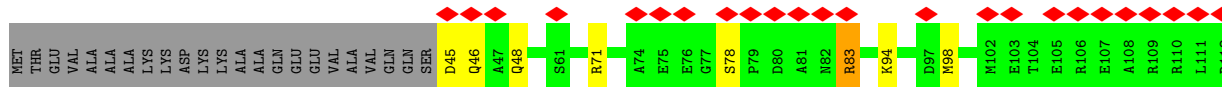
- Molecule 16: 40S ribosomal protein S27, putative



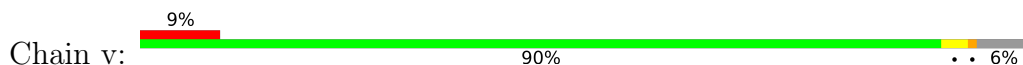
- Molecule 17: 40S ribosomal protein S26



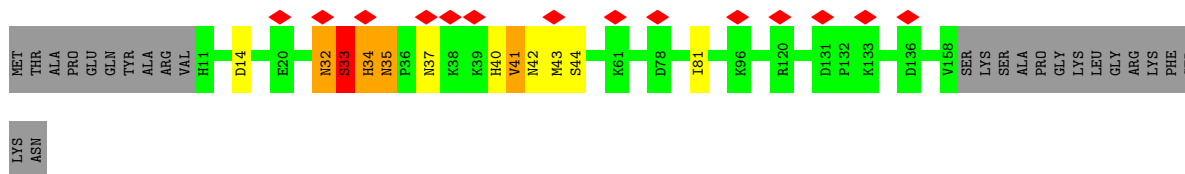
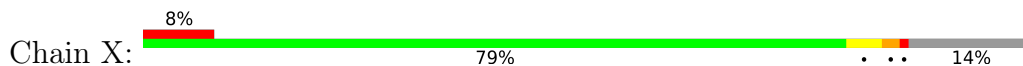
- Molecule 18: 40S ribosomal protein S33



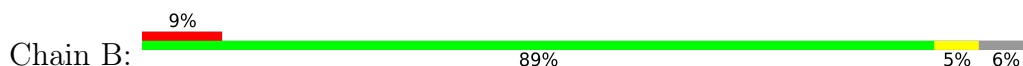
- Molecule 19: 40S ribosomal protein S14, putative

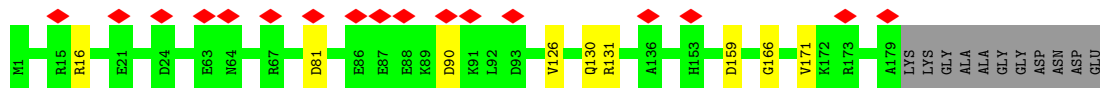


- Molecule 20: 40S ribosomal protein S11, putative

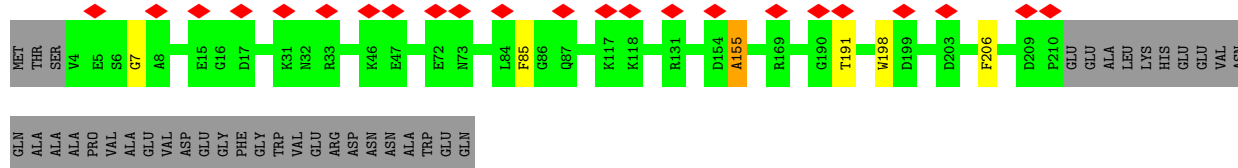
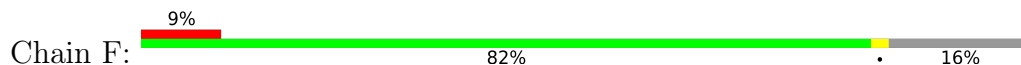


- Molecule 21: Putative 40S ribosomal protein S9

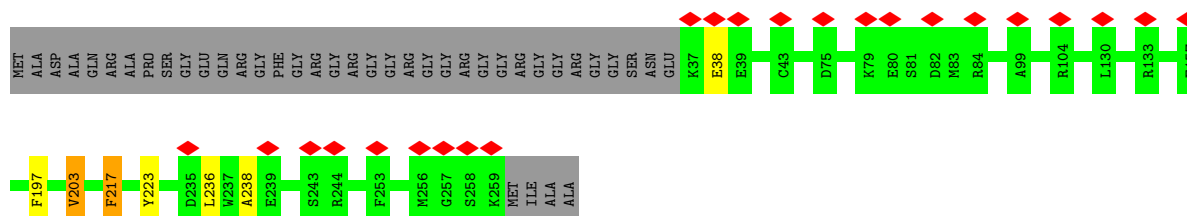
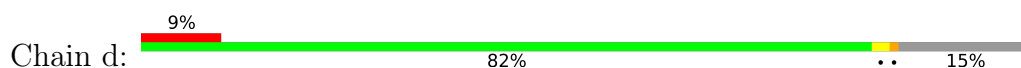




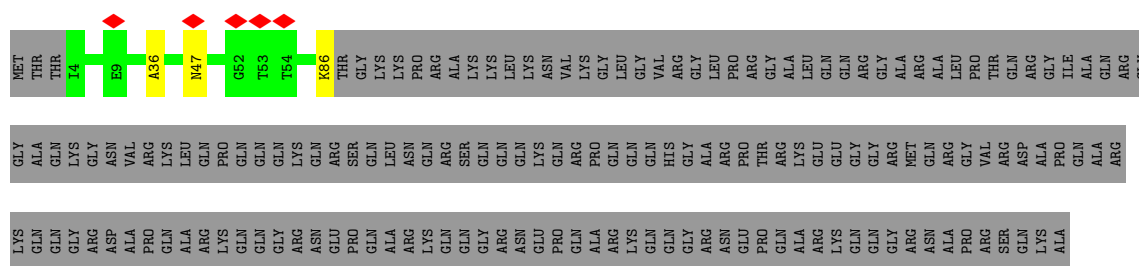
• Molecule 22: 40S ribosomal protein SA



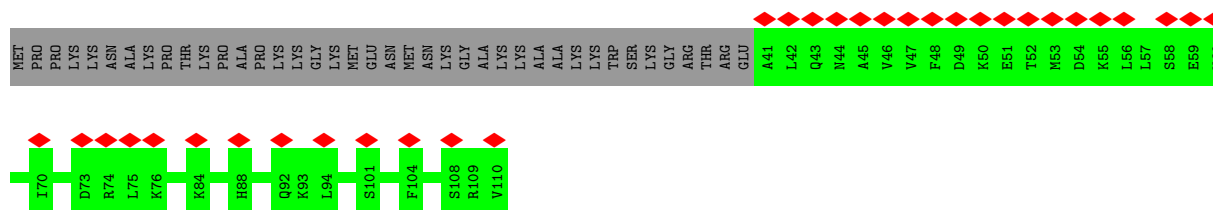
• Molecule 23: 40S ribosomal protein S2, putative



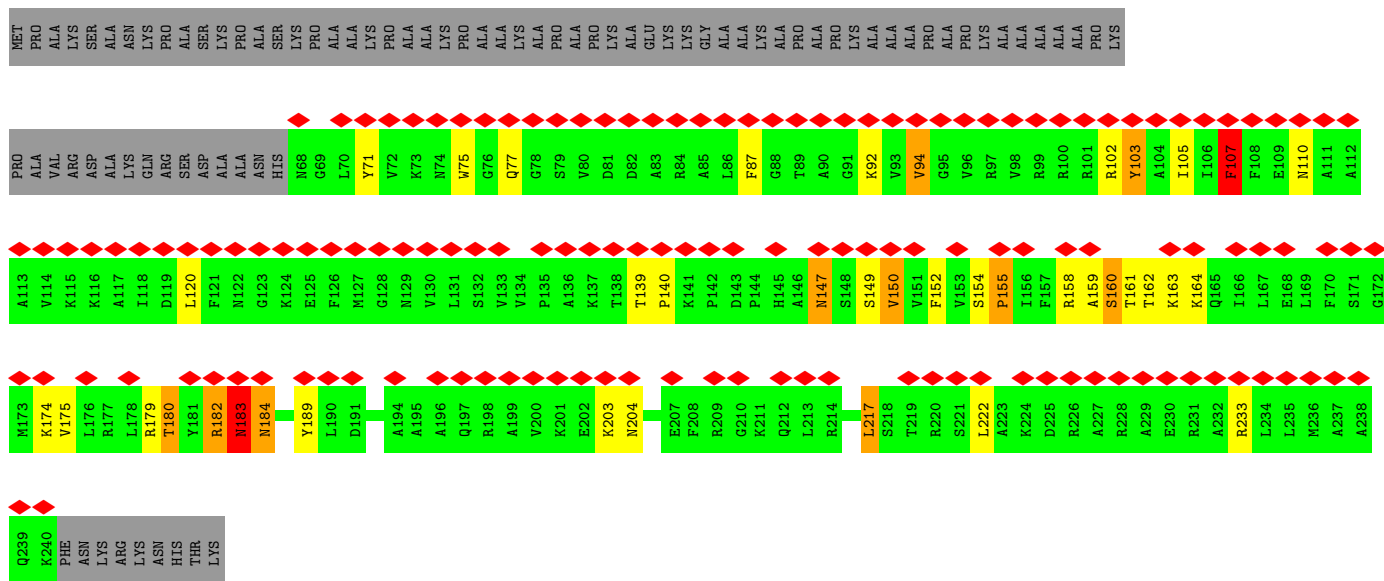
• Molecule 24: Putative 40S ribosomal protein S21



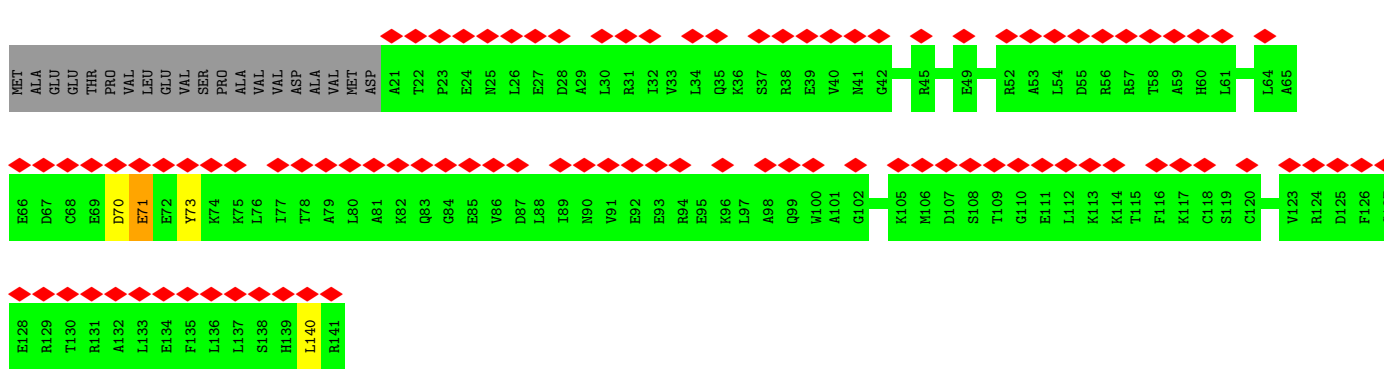
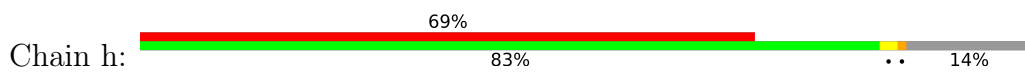
• Molecule 25: 40S ribosomal protein S25



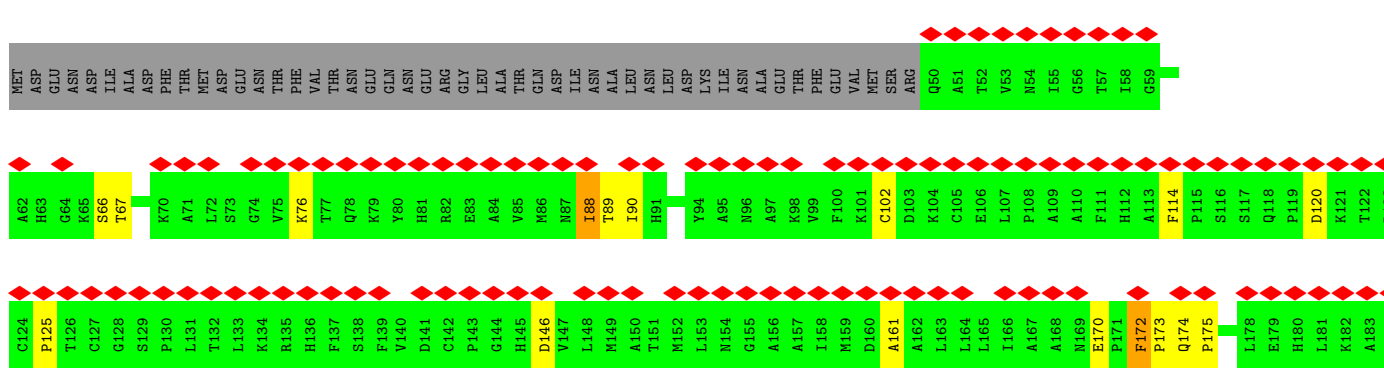
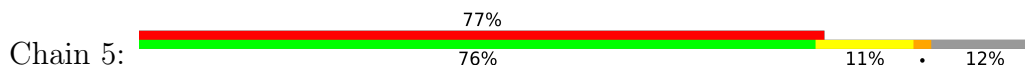
• Molecule 26: RNA-binding protein, putative

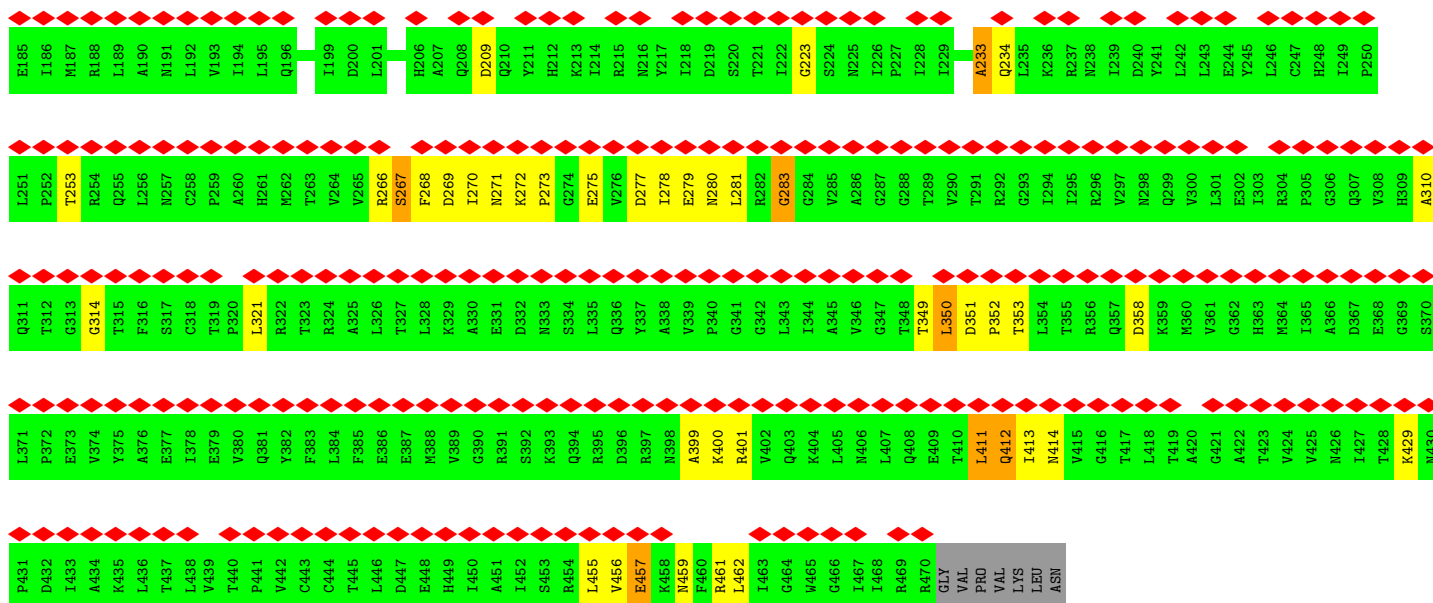


• Molecule 27: 40S ribosomal protein S12

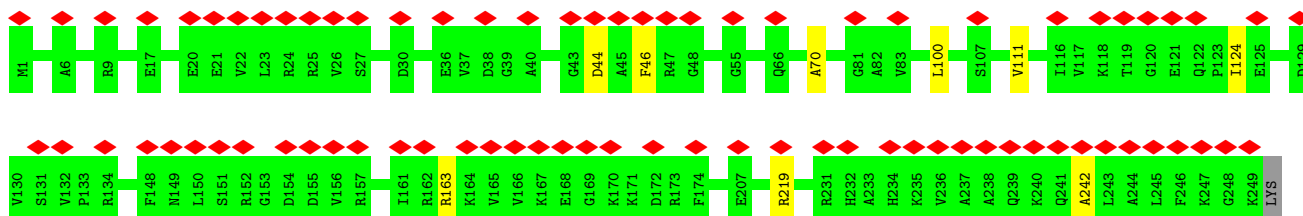


• Molecule 28: Eukaryotic translation initiation factor 2 subunit, putative

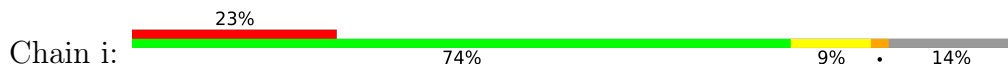




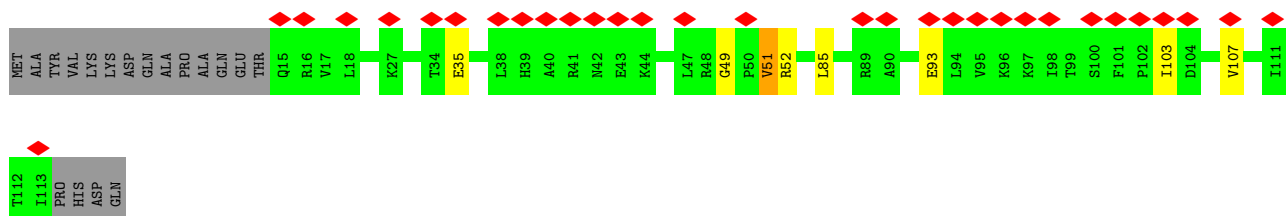
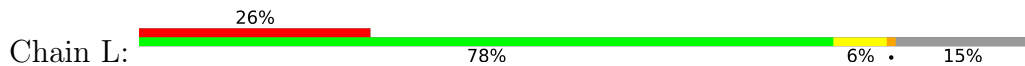
• Molecule 29: 40S ribosomal protein S6

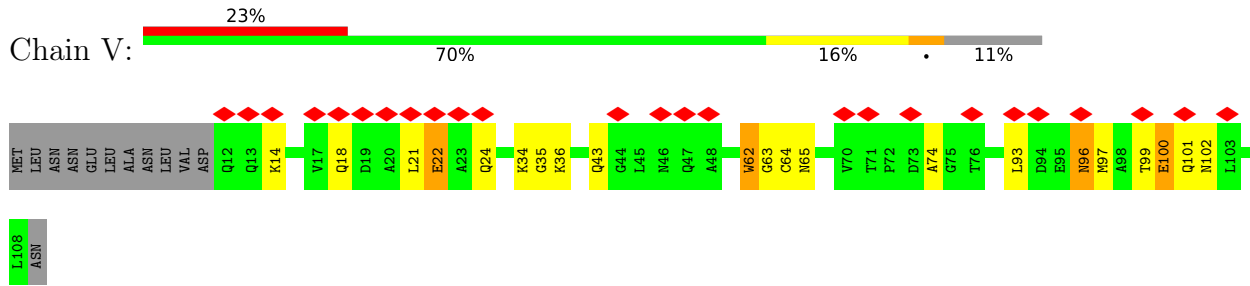


• Molecule 30: 40S ribosomal protein S17, putative

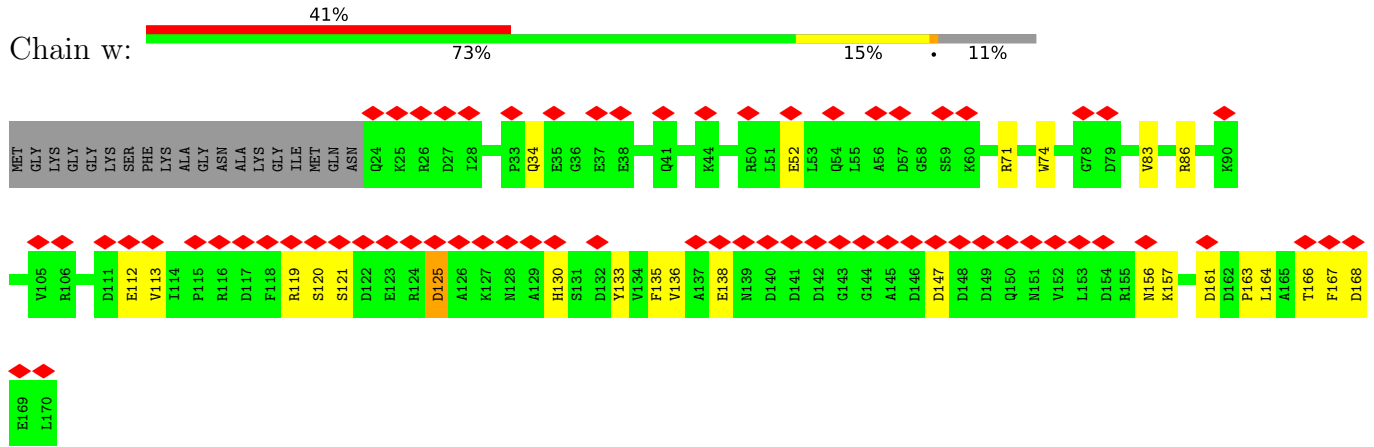


• Molecule 31: Ribosomal protein S20, putative

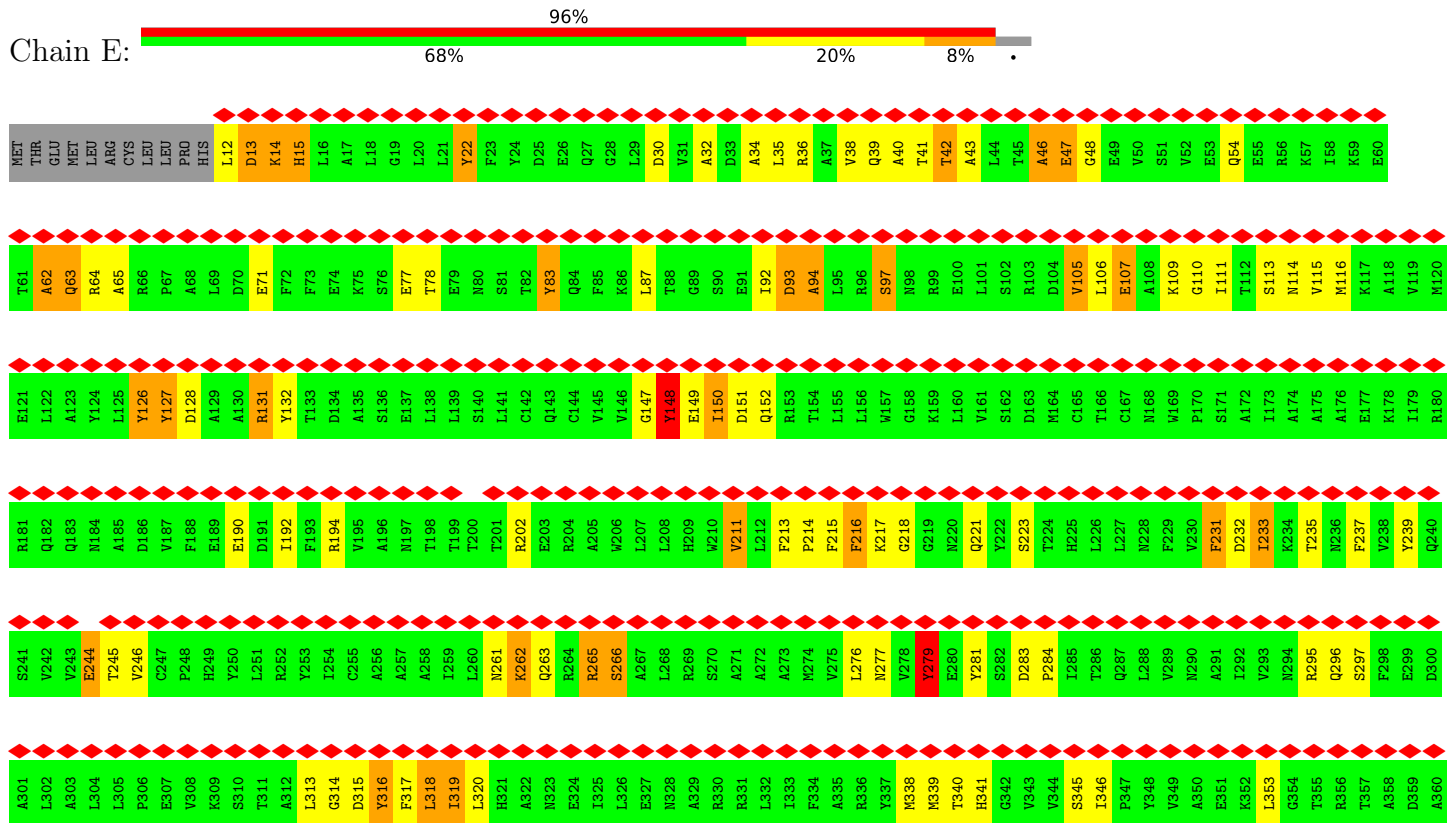


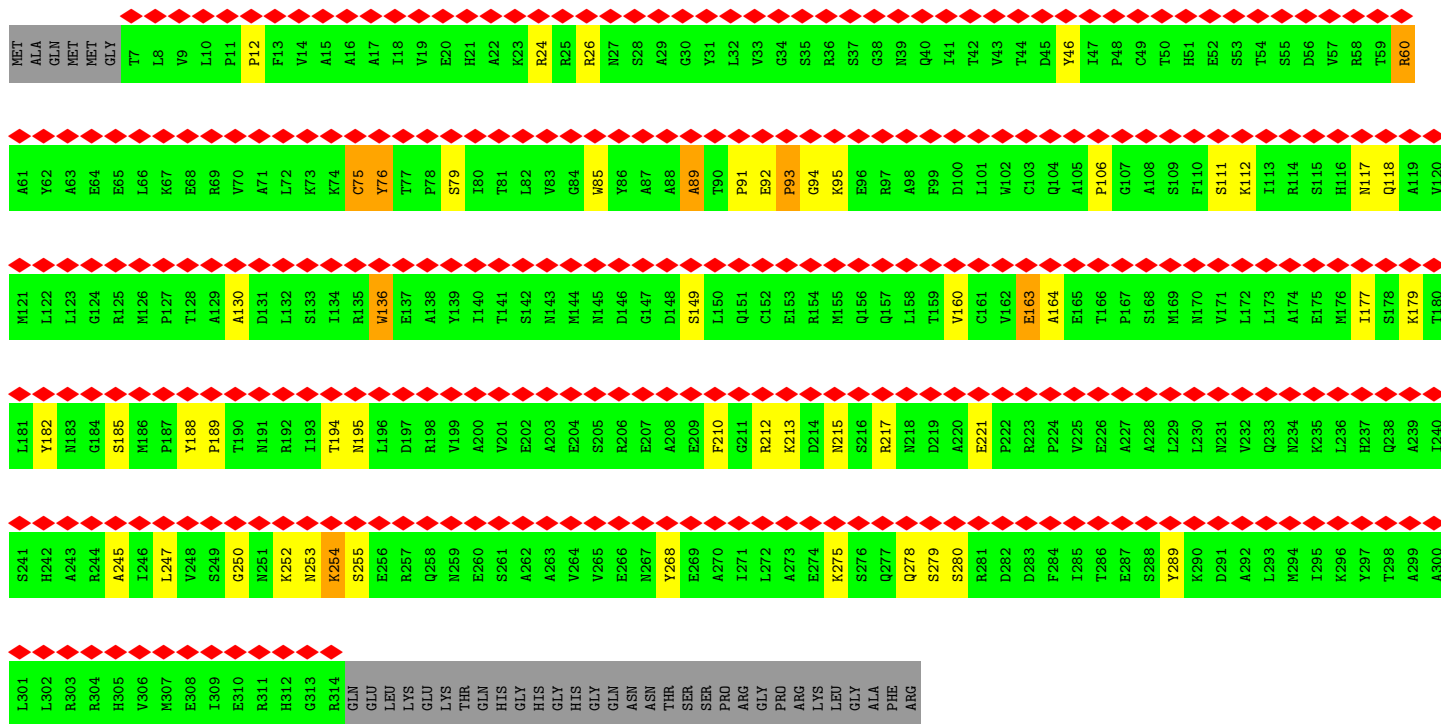


• Molecule 38: Putative eukaryotic translation initiation factor 1A

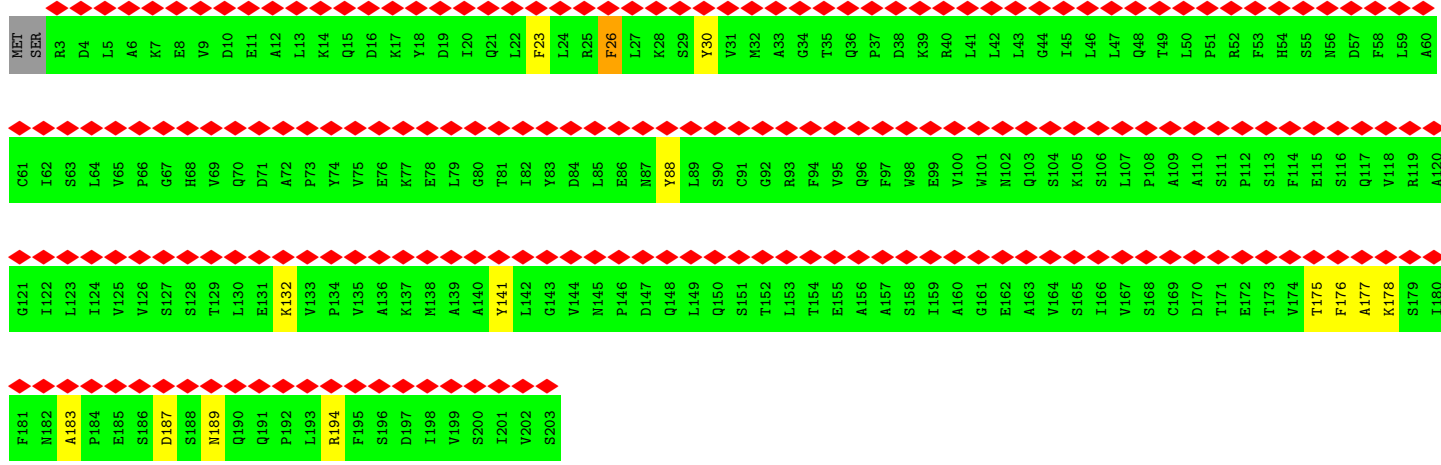
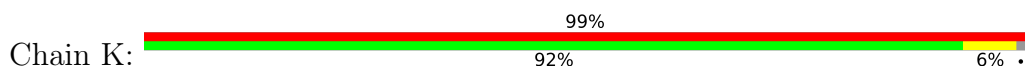


• Molecule 39: Eukaryotic translation initiation factor 3 subunit E

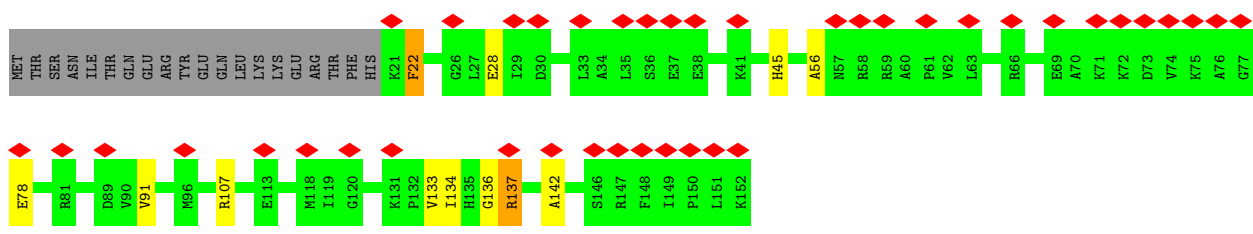
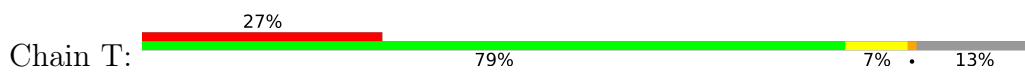


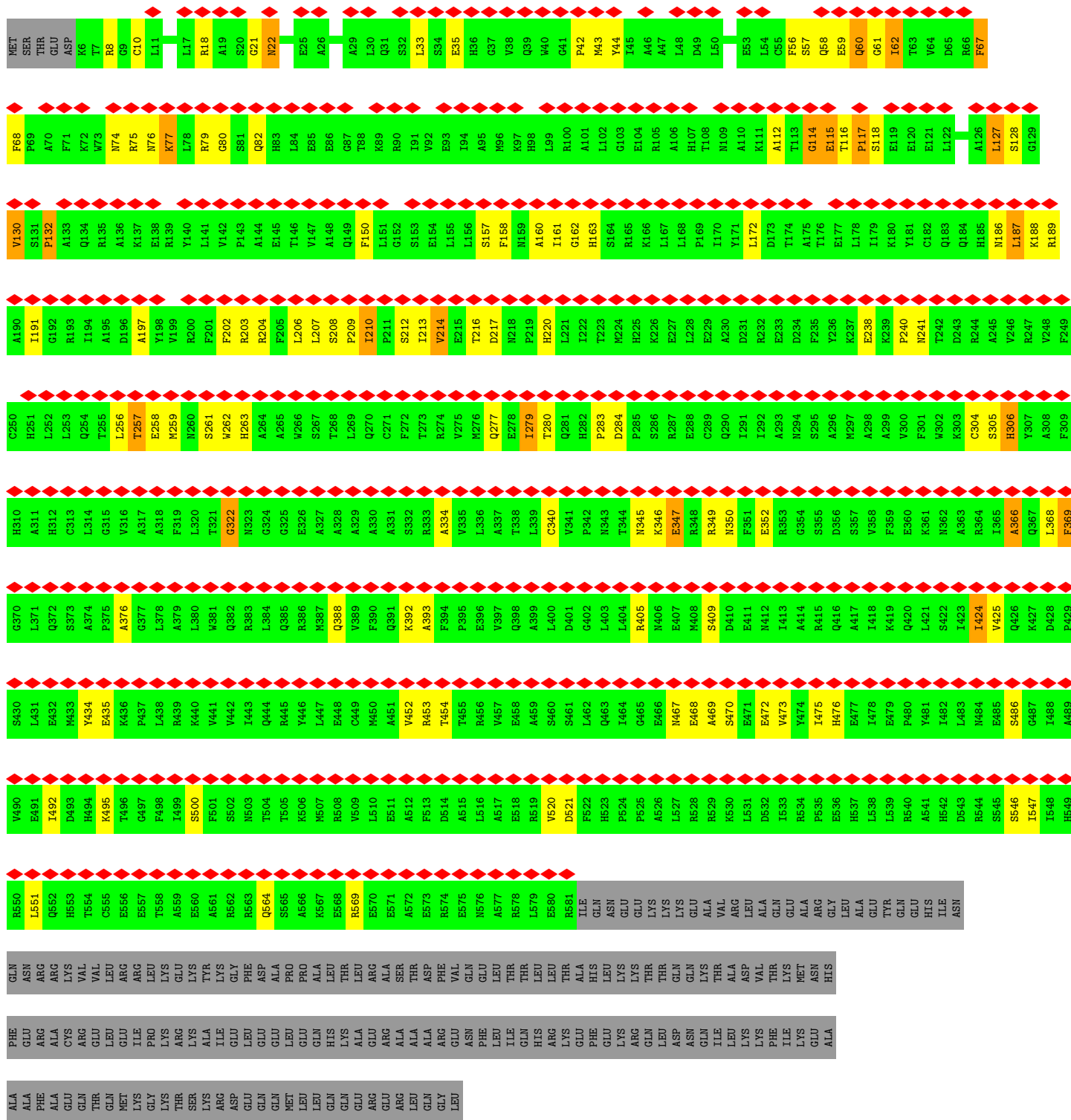


• Molecule 44: CSN8_PSD8_EIF3K domain-containing protein

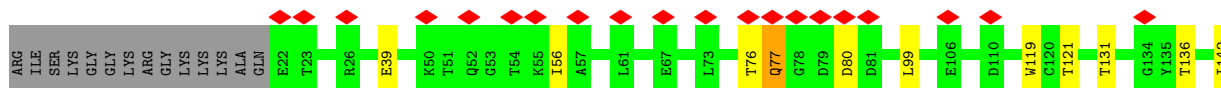


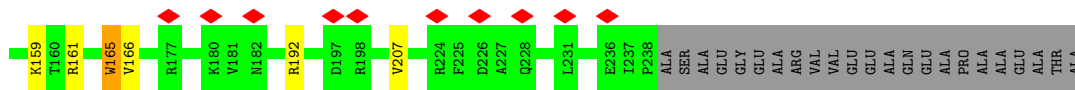
• Molecule 45: 40S ribosomal protein S15, putative



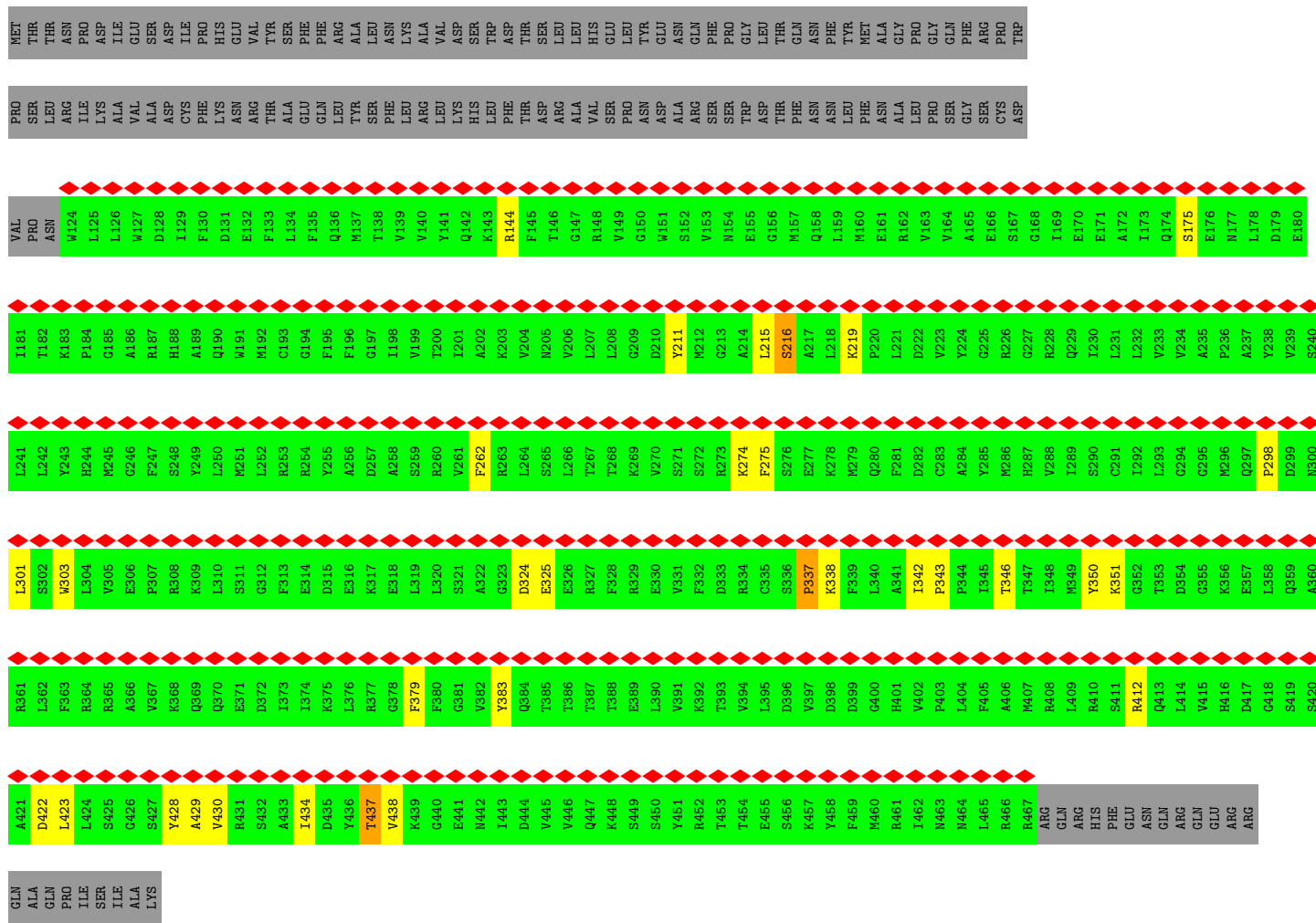


● Molecule 48: 40S ribosomal protein S3a-2

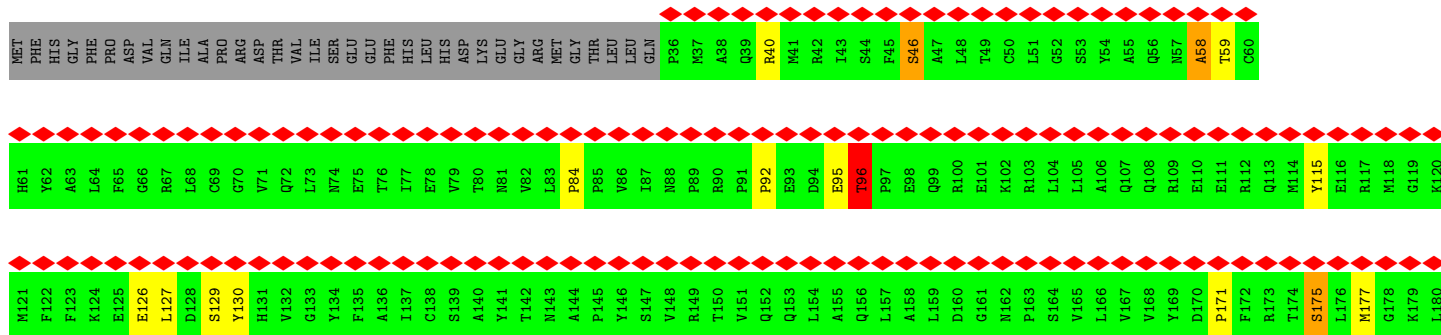
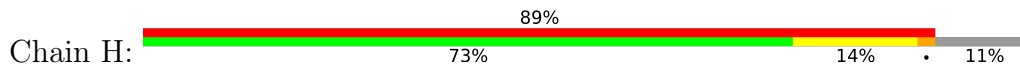


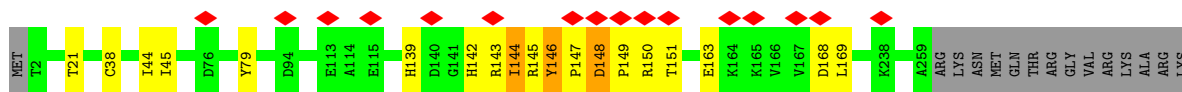


• Molecule 49: Eukaryotic translation initiation factor 3 (EIF-3) interacting protein, putative



• Molecule 50: eIF3H





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	33775	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	30	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.118	Depositor
Minimum map value	-0.081	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.0193	Depositor
Map size (\AA)	440.0, 440.0, 440.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.1, 1.1, 1.1	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: MG, GNP, ZN

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	f	1.28	79/12510 (0.6%)	1.48	202/16884 (1.2%)
2	l	1.61	1/1798 (0.1%)	2.50	213/2803 (7.6%)
3	0	1.59	38/51207 (0.1%)	2.44	5849/79792 (7.3%)
4	y	1.02	0/1004	1.01	0/1335
5	s	0.94	0/2405	1.09	8/3247 (0.2%)
6	j	0.94	0/658	1.04	2/871 (0.2%)
7	n	0.92	0/1818	0.93	1/2433 (0.0%)
8	p	0.94	0/2461	1.10	2/3347 (0.1%)
9	r	1.01	0/1131	1.06	1/1520 (0.1%)
10	u	1.06	0/1126	1.20	5/1508 (0.3%)
11	m	0.97	0/1137	1.02	2/1520 (0.1%)
12	Z	1.06	0/1424	1.04	0/1904
13	o	0.96	0/1515	0.97	0/2034
14	q	1.06	0/1703	1.05	2/2290 (0.1%)
15	R	1.01	0/1164	1.00	0/1559
16	S	0.97	0/641	0.95	0/858
17	t	1.14	0/845	1.05	0/1129
18	U	1.05	0/527	1.04	0/702
19	v	1.04	0/1026	1.04	1/1376 (0.1%)
20	X	1.04	1/1238 (0.1%)	1.04	1/1662 (0.1%)
21	B	1.06	0/1513	1.00	0/2030
22	F	0.98	0/1693	1.05	4/2290 (0.2%)
23	d	0.95	0/1760	1.08	5/2376 (0.2%)
24	g	0.93	0/644	1.01	0/875
25	a	0.93	0/559	0.98	0/748
26	J	1.07	0/1381	1.23	7/1857 (0.4%)
27	h	0.97	0/966	0.99	0/1295
28	5	1.02	2/3302 (0.1%)	1.27	12/4483 (0.3%)
29	P	1.09	0/2008	1.04	0/2678
30	i	1.00	0/1005	1.11	3/1341 (0.2%)
31	L	0.99	0/794	1.09	0/1076
32	M	1.04	0/1606	1.05	0/2141

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	N	0.98	0/804	1.07	2/1082 (0.2%)
34	O	1.01	0/1140	1.05	0/1524
35	b	1.00	0/1037	1.04	0/1391
36	c	0.92	0/488	1.02	0/644
37	V	0.75	0/799	0.84	0/1072
38	w	0.92	0/1177	0.94	1/1588 (0.1%)
39	E	1.49	6/3174 (0.2%)	1.15	13/4304 (0.3%)
40	Y	0.91	0/1406	1.00	2/1890 (0.1%)
41	Q	1.07	0/468	1.10	1/618 (0.2%)
42	D	1.30	0/298	1.04	0/385
43	G	1.00	0/2455	1.09	4/3323 (0.1%)
44	K	0.89	0/1597	1.06	12/2170 (0.6%)
45	T	1.00	0/1079	0.98	1/1447 (0.1%)
46	C	1.68	3/5724 (0.1%)	1.11	20/7724 (0.3%)
47	8	0.96	0/4685	1.04	6/6327 (0.1%)
48	W	1.05	4/1809 (0.2%)	1.21	7/2437 (0.3%)
49	I	0.98	0/2826	1.01	8/3809 (0.2%)
50	H	1.01	0/2431	1.11	9/3285 (0.3%)
51	A	0.95	3/3971 (0.1%)	1.04	4/5366 (0.1%)
52	l	1.01	0/2073	1.05	0/2787
All	All	1.31	137/144010 (0.1%)	1.78	6410/205137 (3.1%)

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	f	3	200
3	0	2	52
4	y	0	1
5	s	0	17
6	j	0	2
7	n	0	1
8	p	0	2
9	r	0	4
10	u	0	2
11	m	0	2
12	Z	0	2
13	o	0	1
17	t	0	1
19	v	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
20	X	0	10
21	B	0	4
22	F	0	3
23	d	0	3
24	g	0	1
26	J	0	21
28	5	0	12
29	P	0	4
31	L	0	7
32	M	0	2
33	N	0	1
34	O	0	6
35	b	0	1
36	c	0	3
38	w	0	6
39	E	1	73
40	Y	0	4
41	Q	0	3
42	D	0	1
43	G	0	36
44	K	0	2
45	T	0	1
46	C	1	137
47	8	0	69
48	W	0	2
49	I	2	6
50	H	0	26
51	A	0	16
52	l	0	10
All	All	9	759

The worst 5 of 137 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	C	411	ARG	CD-NE	105.86	3.26	1.46
39	E	279	TYR	CE1-CZ	28.41	1.75	1.38
39	E	279	TYR	CE2-CZ	28.18	1.75	1.38
39	E	279	TYR	CG-CD1	28.05	1.75	1.39
39	E	279	TYR	CG-CD2	27.28	1.74	1.39

The worst 5 of 6410 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	5	412	GLN	O-C-N	-35.37	66.11	122.70
1	f	234	GLY	O-C-N	-34.90	66.87	122.70
1	f	307	LEU	O-C-N	-26.57	80.19	122.70
1	f	1147	ILE	O-C-N	23.84	160.84	122.70
1	f	305	TYR	N-CA-CB	19.79	146.23	110.60

5 of 9 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	f	296	TYR	CA
1	f	305	TYR	CA
1	f	772	TYR	CA
3	0	974	A	C1'
3	0	1833	G	C1'

5 of 759 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	f	26	SER	Peptide
1	f	38	SER	Peptide
1	f	46	SER	Peptide
1	f	55	VAL	Peptide
1	f	56	THR	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
1	f	1519/2174 (70%)	1094 (72%)	295 (19%)	130 (9%)	1 5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	y	121/137 (88%)	109 (90%)	10 (8%)	2 (2%)	9	37
5	s	293/418 (70%)	207 (71%)	51 (17%)	35 (12%)	0	2
6	j	77/150 (51%)	68 (88%)	6 (8%)	3 (4%)	3	21
7	n	223/343 (65%)	179 (80%)	33 (15%)	11 (5%)	2	16
8	p	308/318 (97%)	268 (87%)	31 (10%)	9 (3%)	4	27
9	r	138/149 (93%)	101 (73%)	29 (21%)	8 (6%)	1	12
10	u	134/153 (88%)	87 (65%)	33 (25%)	14 (10%)	0	3
11	m	140/143 (98%)	120 (86%)	18 (13%)	2 (1%)	11	41
12	Z	171/221 (77%)	145 (85%)	20 (12%)	6 (4%)	3	24
13	o	188/190 (99%)	147 (78%)	33 (18%)	8 (4%)	2	19
14	q	198/211 (94%)	168 (85%)	28 (14%)	2 (1%)	15	49
15	R	139/151 (92%)	121 (87%)	15 (11%)	3 (2%)	6	33
16	S	80/86 (93%)	69 (86%)	9 (11%)	2 (2%)	5	30
17	t	102/112 (91%)	82 (80%)	19 (19%)	1 (1%)	15	49
18	U	66/91 (72%)	54 (82%)	10 (15%)	2 (3%)	4	27
19	v	133/144 (92%)	121 (91%)	10 (8%)	2 (2%)	10	40
20	X	146/173 (84%)	121 (83%)	20 (14%)	5 (3%)	3	24
21	B	177/190 (93%)	149 (84%)	23 (13%)	5 (3%)	5	27
22	F	205/245 (84%)	180 (88%)	23 (11%)	2 (1%)	15	49
23	d	221/263 (84%)	191 (86%)	28 (13%)	2 (1%)	17	51
24	g	81/247 (33%)	68 (84%)	12 (15%)	1 (1%)	13	45
25	a	68/110 (62%)	56 (82%)	12 (18%)	0	100	100
26	J	171/257 (66%)	132 (77%)	24 (14%)	15 (9%)	1	5
27	h	119/141 (84%)	96 (81%)	19 (16%)	4 (3%)	3	24
28	5	417/477 (87%)	325 (78%)	62 (15%)	30 (7%)	1	8
29	P	247/250 (99%)	219 (89%)	25 (10%)	3 (1%)	13	45
30	i	119/141 (84%)	91 (76%)	16 (13%)	12 (10%)	0	3
31	L	97/117 (83%)	75 (77%)	20 (21%)	2 (2%)	7	34
32	M	198/214 (92%)	160 (81%)	31 (16%)	7 (4%)	3	24
33	N	91/161 (56%)	78 (86%)	10 (11%)	3 (3%)	4	24
34	O	138/167 (83%)	103 (75%)	27 (20%)	8 (6%)	1	12

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
35	b	127/145 (88%)	108 (85%)	18 (14%)	1 (1%)	19	53
36	c	58/66 (88%)	47 (81%)	10 (17%)	1 (2%)	9	37
37	V	95/109 (87%)	70 (74%)	15 (16%)	10 (10%)	0	3
38	w	145/166 (87%)	105 (72%)	30 (21%)	10 (7%)	1	9
39	E	389/407 (96%)	288 (74%)	46 (12%)	55 (14%)	0	1
40	Y	172/379 (45%)	139 (81%)	27 (16%)	6 (4%)	3	24
41	Q	55/57 (96%)	40 (73%)	8 (14%)	7 (13%)	0	2
42	D	31/34 (91%)	25 (81%)	5 (16%)	1 (3%)	4	25
43	G	306/345 (89%)	254 (83%)	33 (11%)	19 (6%)	1	11
44	K	199/203 (98%)	185 (93%)	10 (5%)	4 (2%)	7	34
45	T	130/152 (86%)	100 (77%)	21 (16%)	9 (7%)	1	9
46	C	694/716 (97%)	490 (71%)	82 (12%)	122 (18%)	0	1
47	8	574/762 (75%)	462 (80%)	57 (10%)	55 (10%)	0	4
48	W	215/254 (85%)	181 (84%)	27 (13%)	7 (3%)	4	24
49	I	342/489 (70%)	302 (88%)	21 (6%)	19 (6%)	2	13
50	H	295/334 (88%)	231 (78%)	41 (14%)	23 (8%)	1	7
51	A	481/502 (96%)	341 (71%)	89 (18%)	51 (11%)	0	3
52	l	256/273 (94%)	216 (84%)	30 (12%)	10 (4%)	3	21
All	All	11089/13737 (81%)	8768 (79%)	1572 (14%)	749 (7%)	2	9

5 of 749 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	f	56	THR
1	f	91	ASP
1	f	190	ARG
1	f	203	LEU
1	f	235	LEU

5.3.2 Protein sidechains [i](#)

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

The Analysed column shows the number of residues for which the sidechain conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	f	1318/1862 (71%)	1270 (96%)	48 (4%)	35	65
4	y	104/116 (90%)	104 (100%)	0	100	100
5	s	252/362 (70%)	239 (95%)	13 (5%)	23	56
6	j	69/123 (56%)	65 (94%)	4 (6%)	20	53
7	n	196/289 (68%)	181 (92%)	15 (8%)	13	41
8	p	262/268 (98%)	259 (99%)	3 (1%)	73	86
9	r	113/121 (93%)	113 (100%)	0	100	100
10	u	117/132 (89%)	111 (95%)	6 (5%)	24	57
11	m	116/117 (99%)	112 (97%)	4 (3%)	37	67
12	Z	143/184 (78%)	143 (100%)	0	100	100
13	o	160/160 (100%)	157 (98%)	3 (2%)	57	79
14	q	188/195 (96%)	187 (100%)	1 (0%)	88	93
15	R	125/132 (95%)	125 (100%)	0	100	100
16	S	70/73 (96%)	69 (99%)	1 (1%)	67	83
17	t	87/93 (94%)	87 (100%)	0	100	100
18	U	57/74 (77%)	50 (88%)	7 (12%)	4	20
19	v	103/112 (92%)	102 (99%)	1 (1%)	76	87
20	X	137/157 (87%)	135 (98%)	2 (2%)	65	82
21	B	159/165 (96%)	159 (100%)	0	100	100
22	F	182/212 (86%)	182 (100%)	0	100	100
23	d	187/208 (90%)	186 (100%)	1 (0%)	88	93
24	g	68/197 (34%)	67 (98%)	1 (2%)	65	82
25	a	64/96 (67%)	64 (100%)	0	100	100
26	J	138/191 (72%)	125 (91%)	13 (9%)	8	32
27	h	103/120 (86%)	102 (99%)	1 (1%)	76	87
28	5	358/408 (88%)	337 (94%)	21 (6%)	19	52
29	P	204/205 (100%)	202 (99%)	2 (1%)	76	87
30	i	110/124 (89%)	106 (96%)	4 (4%)	35	65
31	L	89/104 (86%)	89 (100%)	0	100	100
32	M	167/179 (93%)	161 (96%)	6 (4%)	35	65
33	N	84/125 (67%)	82 (98%)	2 (2%)	49	75

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	O	118/139 (85%)	117 (99%)	1 (1%)	81	90
35	b	110/123 (89%)	110 (100%)	0	100	100
36	c	49/53 (92%)	47 (96%)	2 (4%)	30	62
37	V	86/97 (89%)	71 (83%)	15 (17%)	2	8
38	w	125/137 (91%)	115 (92%)	10 (8%)	12	40
39	E	334/350 (95%)	322 (96%)	12 (4%)	35	65
40	Y	152/327 (46%)	145 (95%)	7 (5%)	27	60
41	Q	49/49 (100%)	46 (94%)	3 (6%)	18	51
42	D	30/31 (97%)	29 (97%)	1 (3%)	38	68
43	G	260/289 (90%)	256 (98%)	4 (2%)	65	82
44	K	176/178 (99%)	174 (99%)	2 (1%)	73	86
45	T	111/131 (85%)	108 (97%)	3 (3%)	44	72
46	C	616/628 (98%)	585 (95%)	31 (5%)	24	57
47	8	485/648 (75%)	465 (96%)	20 (4%)	30	62
48	W	194/217 (89%)	186 (96%)	8 (4%)	30	62
49	I	300/430 (70%)	295 (98%)	5 (2%)	60	80
50	H	266/299 (89%)	261 (98%)	5 (2%)	57	79
51	A	425/441 (96%)	380 (89%)	45 (11%)	6	27
52	l	217/230 (94%)	214 (99%)	3 (1%)	67	83
All	All	9633/11701 (82%)	9297 (96%)	336 (4%)	39	66

5 of 336 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
46	C	190	ILE
50	H	304	LEU
46	C	274	LYS
47	8	82	GLN
51	A	48	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 91 such sidechains are listed below:

Mol	Chain	Res	Type
38	w	34	GLN

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Mol	Chain	Res	Type
46	C	359	HIS
38	w	130	HIS
43	G	231	ASN
46	C	635	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	1	74/75 (98%)	11 (14%)	1 (1%)
3	0	2144/2319 (92%)	389 (18%)	28 (1%)
All	All	2218/2394 (92%)	400 (18%)	29 (1%)

5 of 400 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	1	16	U
2	1	17	G
2	1	20	A
2	1	25	G
2	1	32	U

5 of 29 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
3	0	1196	G
3	0	2073	C
3	0	1450	G
3	0	1979	C
3	0	1393	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 [i](#)

Of 3 ligands modelled in this entry, 2 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
55	GNP	5	502	54	29,34,34	2.06	8 (27%)	33,54,54	2.39	9 (27%)

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
55	GNP	5	502	54	-	6/14/38/38	0/3/3/3

The worst 5 of 8 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	5	502	GNP	PB-O3A	-7.46	1.49	1.59
55	5	502	GNP	C6-N1	3.87	1.39	1.33
55	5	502	GNP	PB-O2B	-3.60	1.47	1.56
55	5	502	GNP	PG-O3G	-2.43	1.50	1.56
55	5	502	GNP	C8-N7	-2.33	1.30	1.34

The worst 5 of 9 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	5	502	GNP	C5-C6-N1	-8.57	111.71	123.43
55	5	502	GNP	C2-N1-C6	5.52	124.69	115.93
55	5	502	GNP	O3G-PG-O1G	-3.59	104.44	113.45
55	5	502	GNP	PB-O3A-PA	-3.42	120.56	132.62
55	5	502	GNP	C3'-C2'-C1'	3.38	106.07	100.98

There are no chirality outliers.

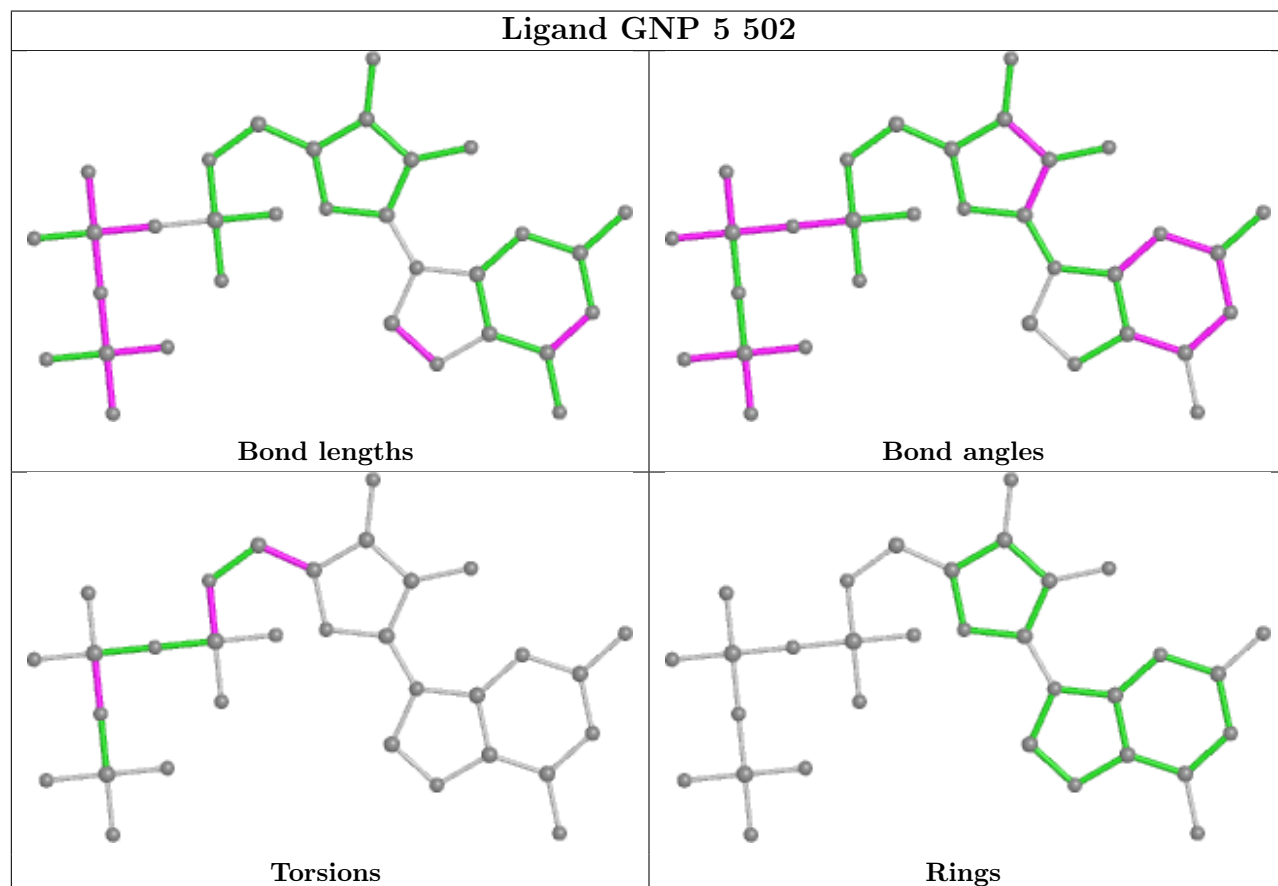
5 of 6 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
55	5	502	GNP	PG-N3B-PB-O1B
55	5	502	GNP	PG-N3B-PB-O3A
55	5	502	GNP	C5'-O5'-PA-O3A
55	5	502	GNP	O4'-C4'-C5'-O5'
55	5	502	GNP	C3'-C4'-C5'-O5'

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 [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	f	20
28	5	2
46	C	1
48	W	1

The worst 5 of 24 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	5	282:ARG	C	283:GLY	N	2.09
1	f	1149:TYR	C	1150:VAL	N	1.72
1	f	1221:LEU	C	1222:PRO	N	1.71
1	f	1254:ALA	C	1255:GLN	N	1.68
1	C	53:ARG	C	54:ASN	N	1.67

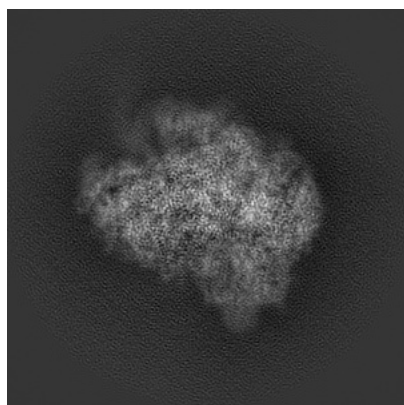
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-11893. These allow visual inspection of the internal detail of the map and identification of artifacts.

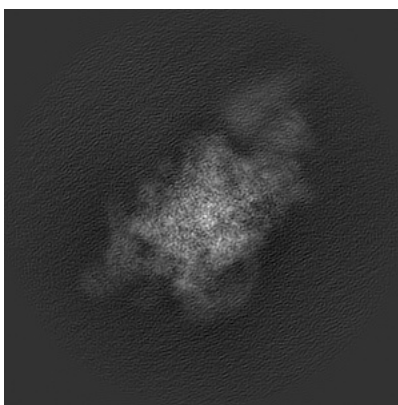
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

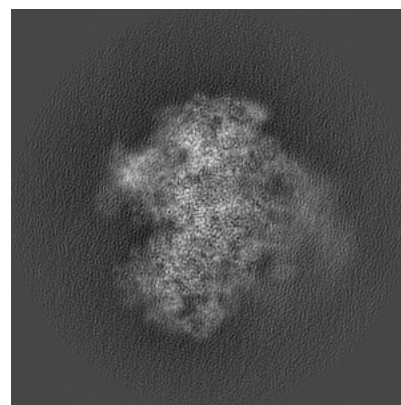
6.1.1 Primary map



X



Y

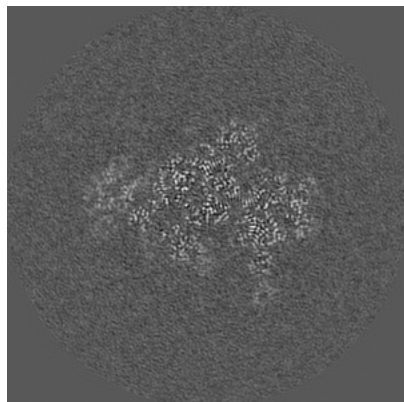


Z

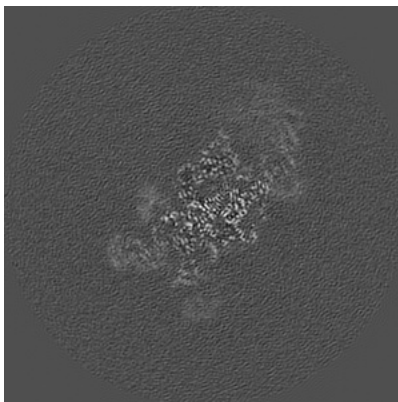
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

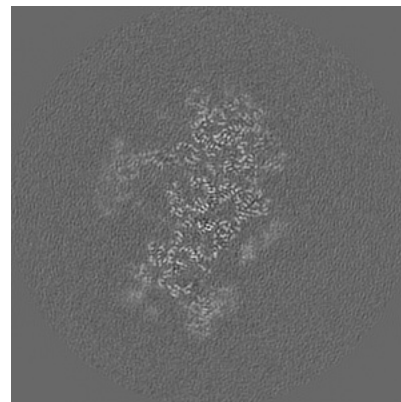
6.2.1 Primary map



X Index: 200



Y Index: 200

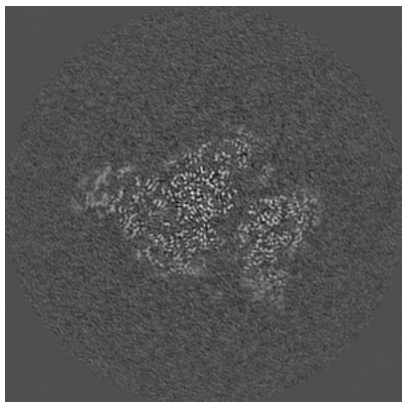


Z Index: 200

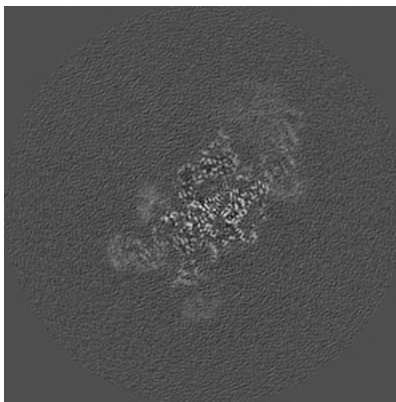
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

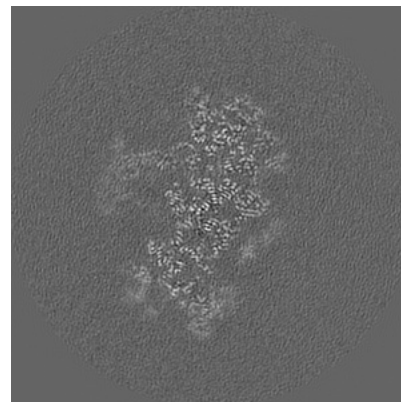
6.3.1 Primary map



X Index: 188



Y Index: 200



Z Index: 199

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 0.0193. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

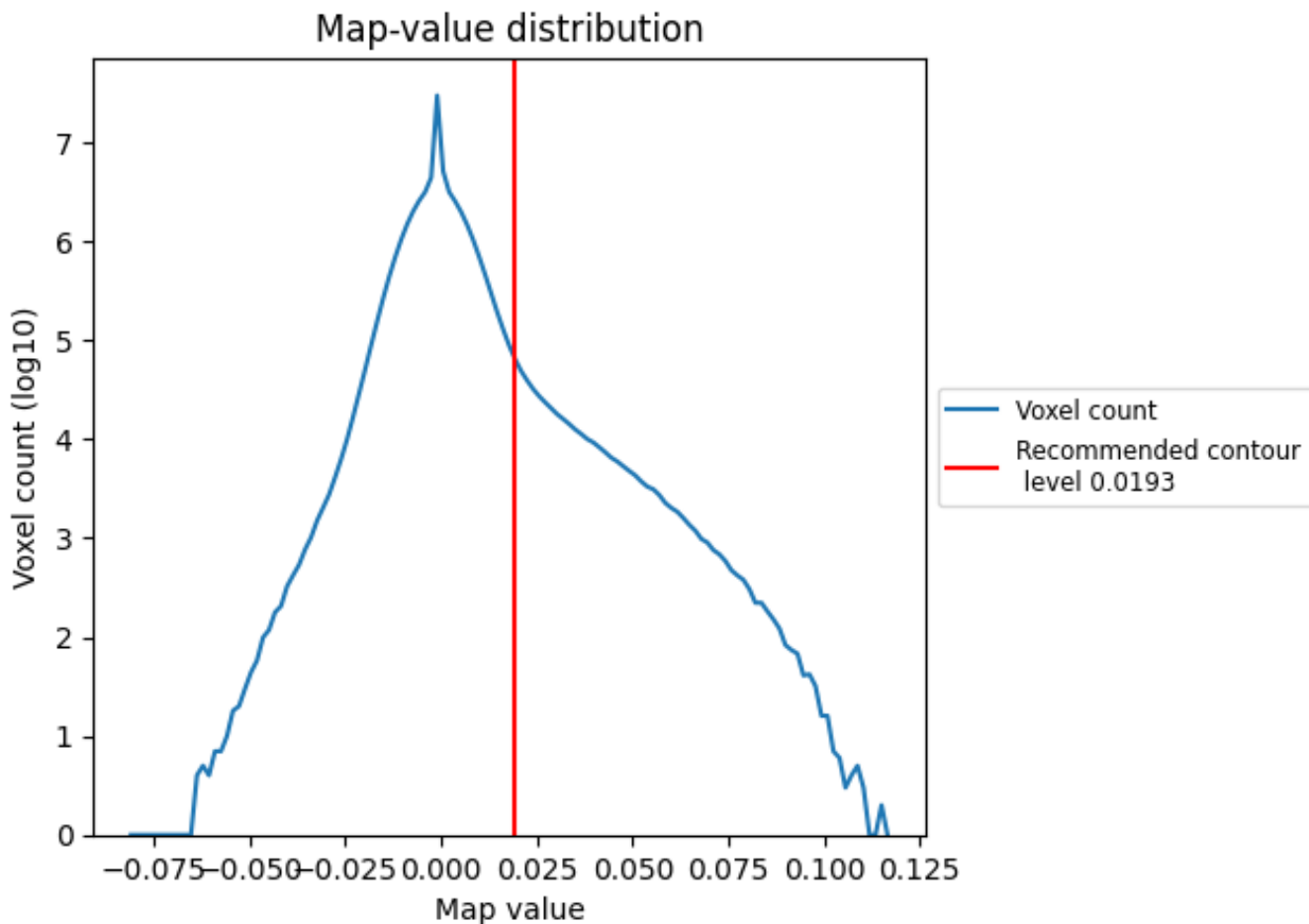
6.5 Mask visualisation

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

7 Map analysis [i](#)

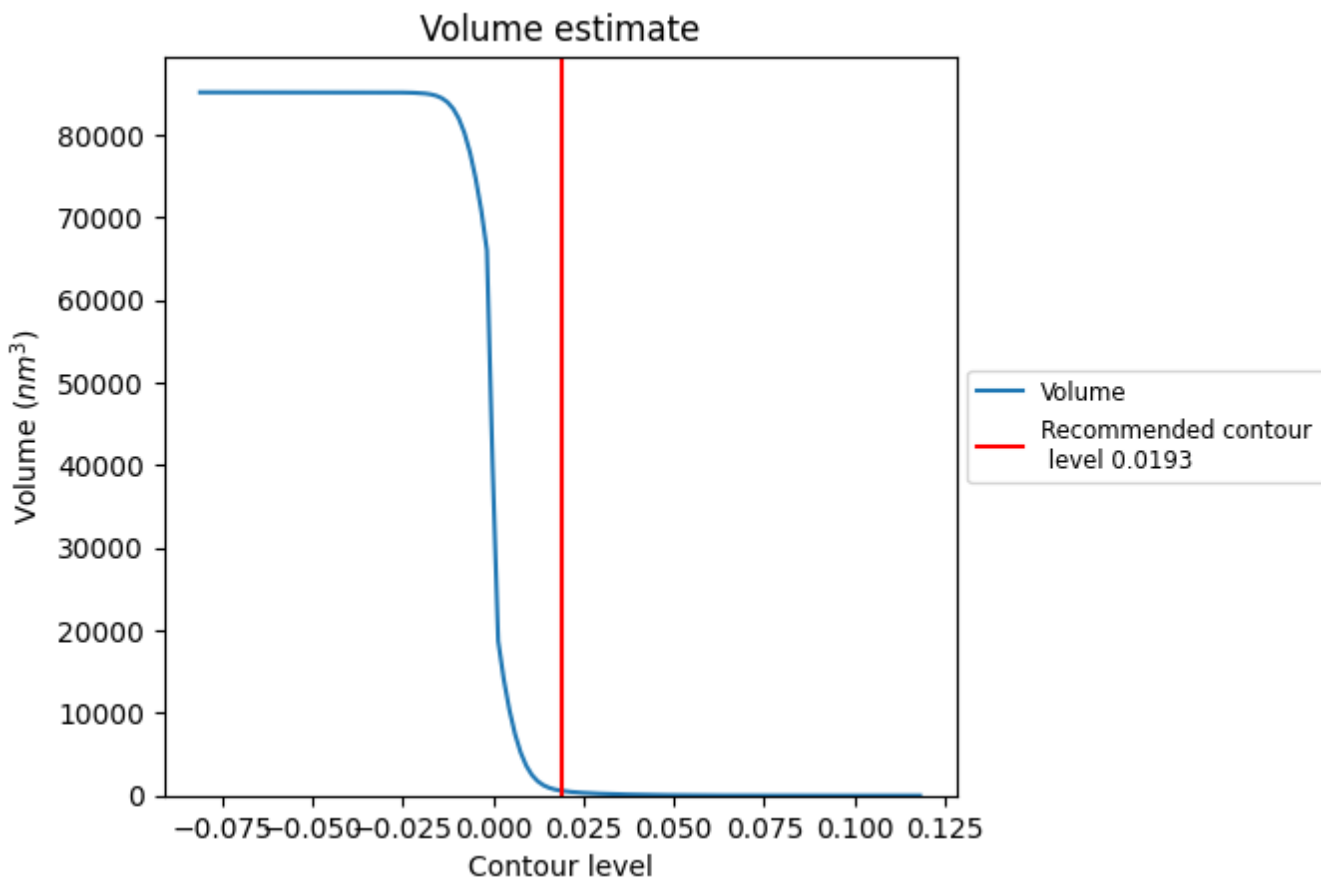
This section contains the results of statistical analysis of the map.

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.

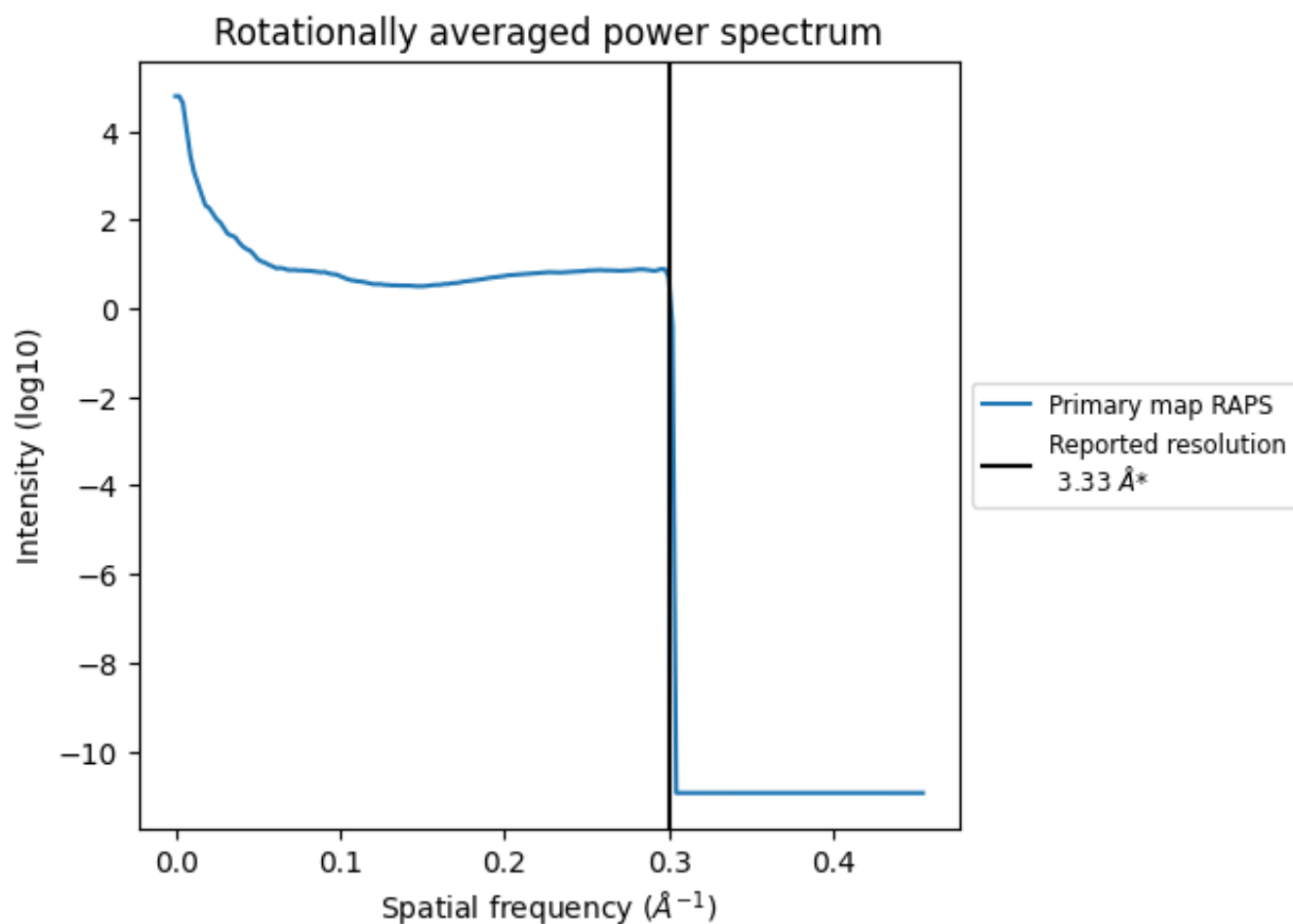
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 566 nm^3 ; this corresponds to an approximate mass of 511 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 0.300\AA^{-1}

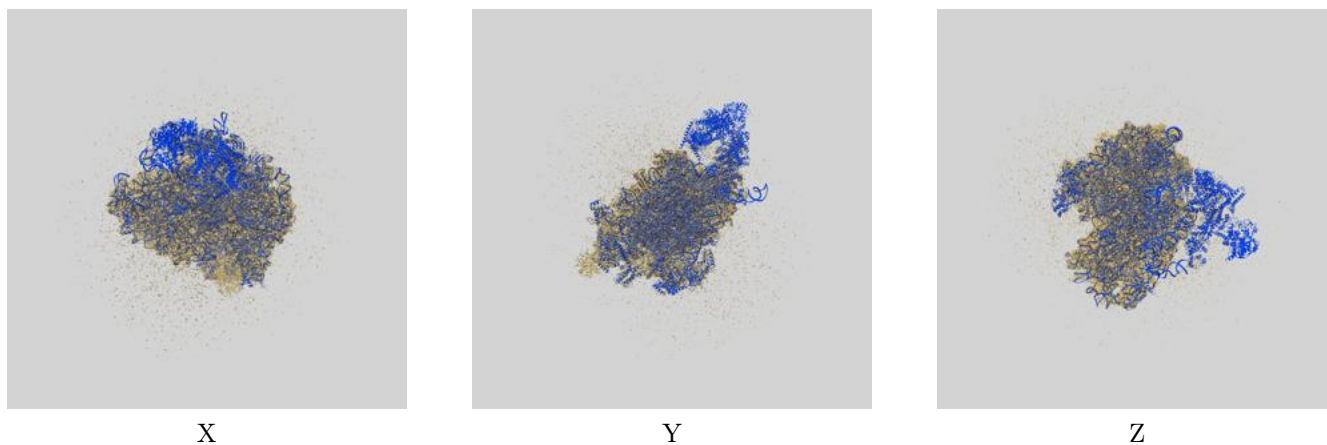
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

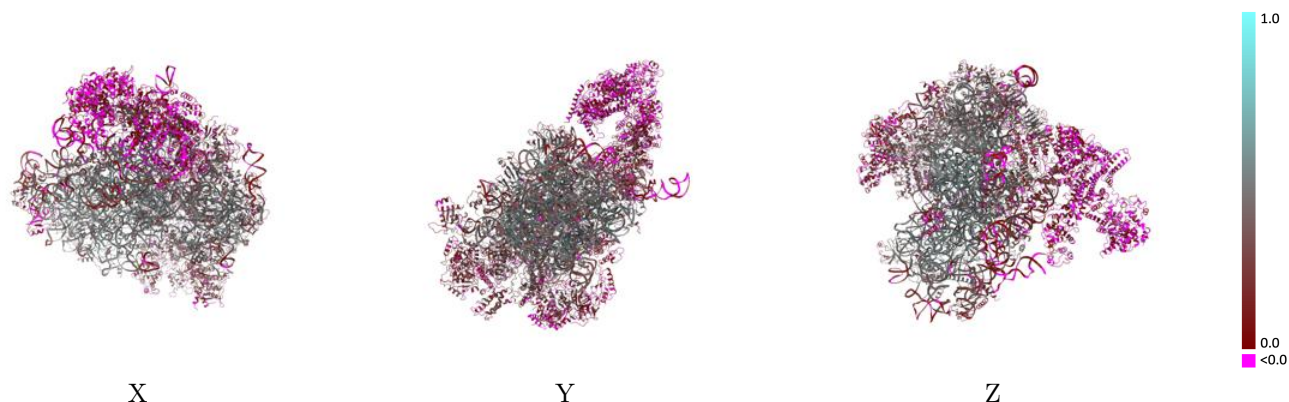
This section contains information regarding the fit between EMDB map EMD-11893 and PDB model 7ASE. Per-residue inclusion information can be found in section 3 on page 14.

9.1 Map-model overlay [i](#)



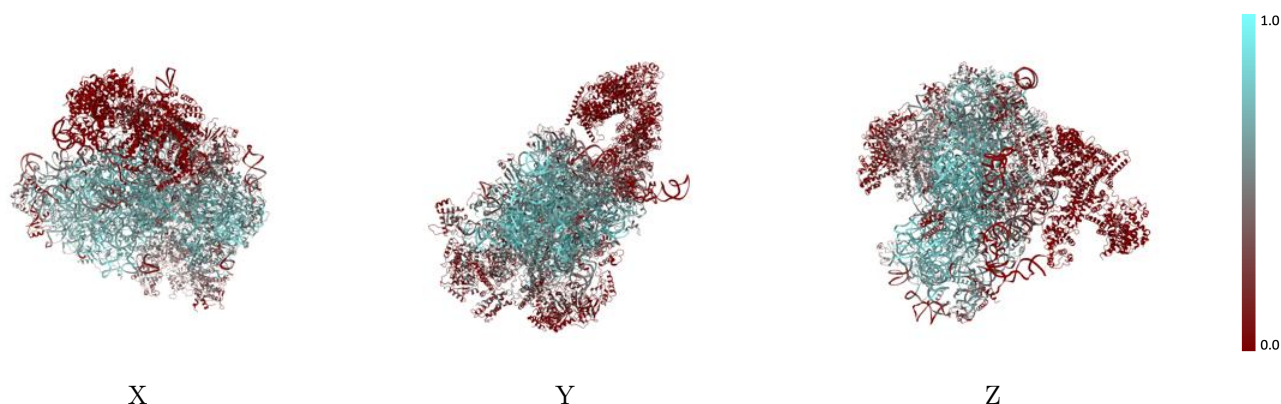
The images above show the 3D surface view of the map at the recommended contour level 0.0193 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



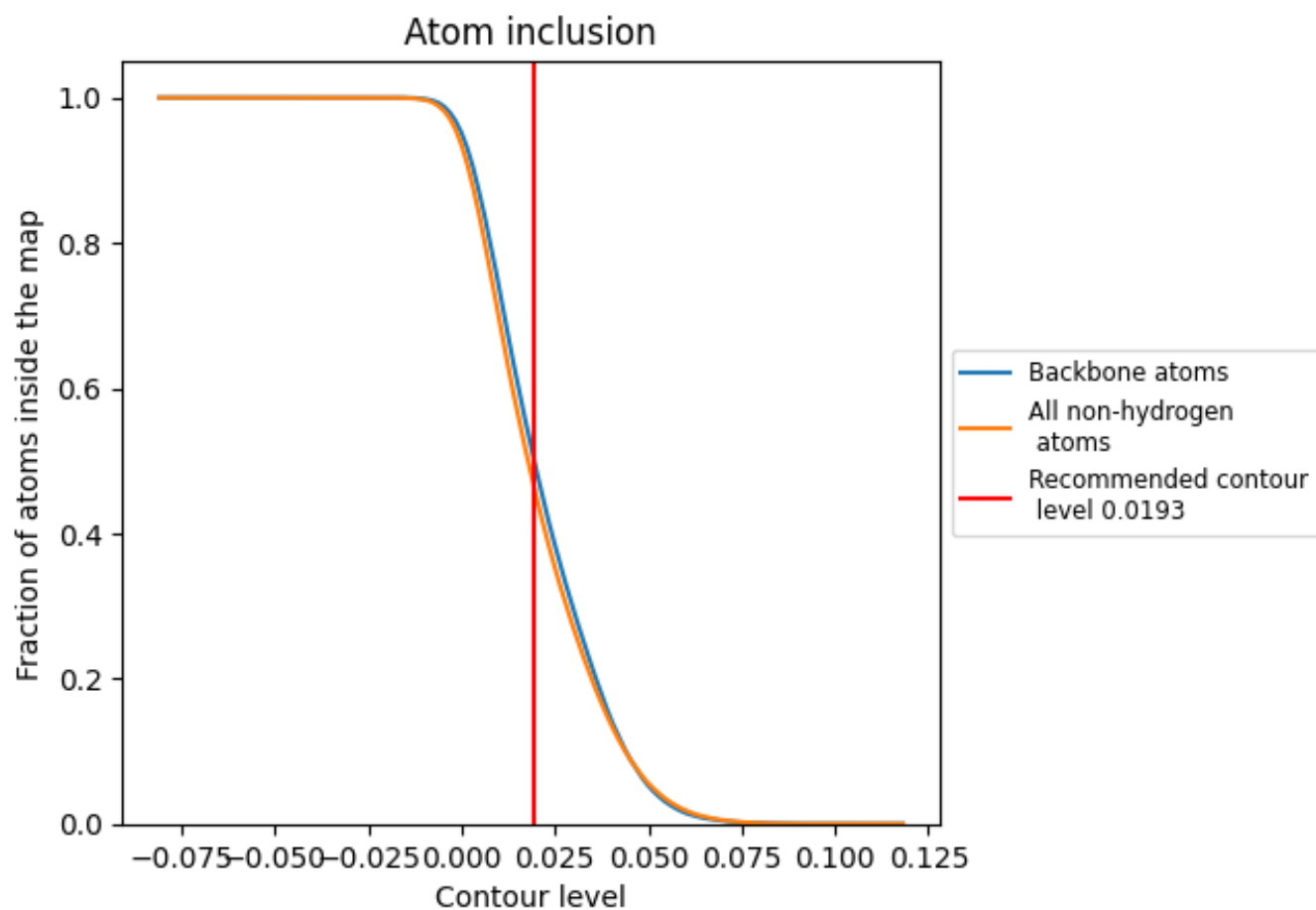
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0193).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 50% of all backbone atoms, 47% 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 (0.0193) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.4651	 0.3140
0	 0.6863	 0.4100
1	 0.6239	 0.3900
5	 0.1771	 0.1970
8	 0.1055	 0.1110
A	 0.1799	 0.2290
B	 0.6629	 0.4450
C	 0.1366	 0.1530
D	 0.6494	 0.4030
E	 0.0184	 0.0580
F	 0.6586	 0.4440
G	 0.0085	 0.0310
H	 0.0060	 0.0140
I	 0.0000	 0.0270
J	 0.2144	 0.1620
K	 0.0000	 0.0090
L	 0.5216	 0.3740
M	 0.5824	 0.4010
N	 0.5152	 0.3200
O	 0.5157	 0.2710
P	 0.5254	 0.3680
Q	 0.6166	 0.3660
R	 0.6715	 0.4560
S	 0.6558	 0.4530
T	 0.5678	 0.3920
U	 0.4506	 0.3740
V	 0.5590	 0.4390
W	 0.6412	 0.4440
X	 0.7030	 0.4570
Y	 0.0510	 0.1140
Z	 0.6632	 0.4390
a	 0.4438	 0.3150
b	 0.7233	 0.4770
c	 0.5107	 0.3610
d	 0.6771	 0.4640



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Chain	Atom inclusion	Q-score
f	 0.2537	 0.2210
g	 0.6677	 0.4600
h	 0.2366	 0.1980
i	 0.5446	 0.3570
j	 0.3185	 0.2750
l	 0.6776	 0.4450
m	 0.7000	 0.4630
n	 0.2780	 0.2490
o	 0.5774	 0.3930
p	 0.4877	 0.3530
q	 0.6075	 0.4110
r	 0.6475	 0.4160
s	 0.2066	 0.1950
t	 0.6915	 0.4720
u	 0.5258	 0.3220
v	 0.6547	 0.4420
w	 0.3930	 0.3050
y	 0.6420	 0.4190