



wwPDB EM Validation Summary Report ⓘ

Nov 20, 2022 – 12:37 am GMT

PDB ID : 5T7V
EMDB ID : EMD-8369
Title : Methicillin Resistant, Linezolid resistant Staphylococcus aureus 70S ribosome (delta S145 uL3)
Authors : Belousoff, M.J.; Lithgow, T.; Eyal, Z.; Yonath, A.; Radjainia, M.
Deposited on : 2016-09-06
Resolution : 3.60 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:

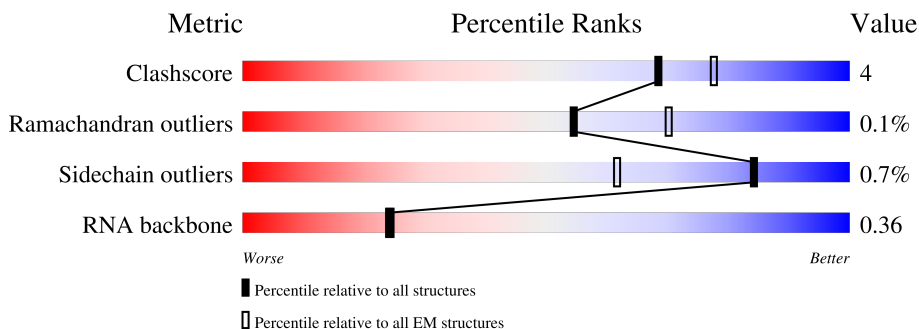
EMDB validation analysis : 0.0.1.dev43
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.2

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 3.60 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
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	A	1547	
2	S1	82	
3	S2	115	
4	S3	136	
5	S6	87	
6	S7	76	
7	S8	82	

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Mol	Chain	Length	Quality of chain
8	S9	55	5% 85% 15%
9	SA	76	17% 83% 16%
10	SC	198	22% 81% 19%
11	SD	154	84% 15%
12	SE	92	84% 16%
13	SF	130	87% 13%
14	B	2919	59% 30% 6% 5%
15	C	114	57% 37% 6%
16	L1	113	81% 19%
17	L2	275	87% 13%
18	L3	116	89% 11%
19	L4	100	85% 15%
20	L5	111	92% 7%
21	L6	87	93% 7%
22	L7	101	89% 11%
23	L8	93	92% 8%
24	L9	78	79% 19%
25	LA	59	88% 12%
26	LB	61	85% 15%
27	LC	214	89% 11%
28	LD	57	93% 7%
29	LE	53	79% 21%
30	LF	47	94% 6%
31	LG	44	91% 9%
32	LH	64	84% 16%

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Mol	Chain	Length	Quality of chain
33	LI	37	95% 5%
34	LJ	204	91% 9%
35	LL	174	86% 14%
36	LM	143	89% 10%
37	LN	121	90% 10%
38	LO	144	92% 8%
39	LP	136	93% 7%
40	LQ	121	83% 17%
41	LR	116	84% 15%
42	D	74	41% 47% 12%

2 Entry composition i

There are 43 unique types of molecules in this entry. The entry contains 126001 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 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	A	1419	30390	13573	5558	9844	1415	0	0

- Molecule 2 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	S1	82	647	405	117	124	1	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
S1	57	GLY	LYS	conflict	UNP A0A0H2K0A0

- Molecule 3 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	S2	115	850	525	161	161	3	0	0

- Molecule 4 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	S3	136	1011	622	205	183	1	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
S3	43	ALA	LYS	conflict	UNP W8U1C6

- Molecule 5 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	S6	87	Total	C	N	O	S	0	0
			725	448	149	127	1		

- Molecule 6 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	S7	76	Total	C	N	O	S	0	0
			594	374	112	108			

- Molecule 7 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	S8	82	Total	C	N	O	S	0	0
			674	427	122	124	1		

- Molecule 8 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	S9	55	Total	C	N	O	S	0	0
			456	290	87	77	2		

- Molecule 9 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	SA	76	Total	C	N	O	S	0	0
			475	290	96	89			

- Molecule 10 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	SC	198	Total	C	N	O	S	0	0
			1604	1014	298	290	2		

- Molecule 11 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	SD	154	Total	C	N	O	S	0	0
			1132	711	209	210	2		

- Molecule 12 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	SE	92	763	484	135	142	2	0	0

- Molecule 13 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	SF	130	1012	638	180	190	4	0	0

- Molecule 14 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
14	B	2768	59339	26499	10863	19214	2763	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	1866	A	G	conflict	GB 1015534143

- Molecule 15 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
15	C	114	2424	1085	434	792	113	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	68	A	U	conflict	GB 1043615627
C	?	-	G	deletion	GB 1043615627

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
16	L1	113	914	576	184	154	0	0

- Molecule 17 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	L2	275	2086	1301	416	364	5	0	0

- Molecule 18 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	L3	116	942	593	189	156	4	0	0

- Molecule 19 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	L4	100	784	499	139	145	1	0	0

- Molecule 20 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	L5	111	852	532	163	154	3	0	0

- Molecule 21 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	L6	87	684	430	121	130	3	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L6	87	ASP	ILE	conflict	UNP W8TUB4

- Molecule 22 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	L7	101	758	479	141	137	1	0	0

- Molecule 23 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	L8	93	726	465	129	131	1	0	0

- Molecule 24 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	L9	78	590	365	116	109		0	0

- Molecule 25 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	LA	59	462	287	99	75	1	0	0

- Molecule 26 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	LB	61	502	310	95	96	1	0	0

- Molecule 27 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	LC	214	1617	1012	297	303	5	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LC	?	-	SER	deletion	UNP W8U3W0

- Molecule 28 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
28	LD	57	440	274	83	83	0	0

- Molecule 29 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	LE	53	Total	C	N	O	S	0	0
			421	256	86	74	5		

- Molecule 30 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	LF	47	Total	C	N	O	S	0	0
			386	232	79	70	5		

- Molecule 31 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	LG	44	Total	C	N	O	S	0	0
			371	228	90	52	1		

- Molecule 32 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	LH	64	Total	C	N	O	S	0	0
			520	324	113	81	2		

- Molecule 33 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	LI	37	Total	C	N	O	S	0	0
			295	186	60	44	5		

- Molecule 34 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	LJ	204	Total	C	N	O	S	0	0
			1538	965	283	288	2		

- Molecule 35 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	LL	174	Total	C	N	O	S	0	0
			1357	845	248	261	3		

- Molecule 36 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	LM	143	1137	710	209	216	2	0	0

- Molecule 37 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	LN	121	910	566	173	167	4	0	0

- Molecule 38 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
38	LO	144	1081	669	213	199	0	0

- Molecule 39 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	LP	136	1088	698	206	180	4	0	0

- Molecule 40 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	LQ	121	954	586	183	184	1	0	0

- Molecule 41 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
41	LR	116	896	559	171	166	0	0

- Molecule 42 is a RNA chain called E-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
42	D	74	1577	704	282	518	73	0	0

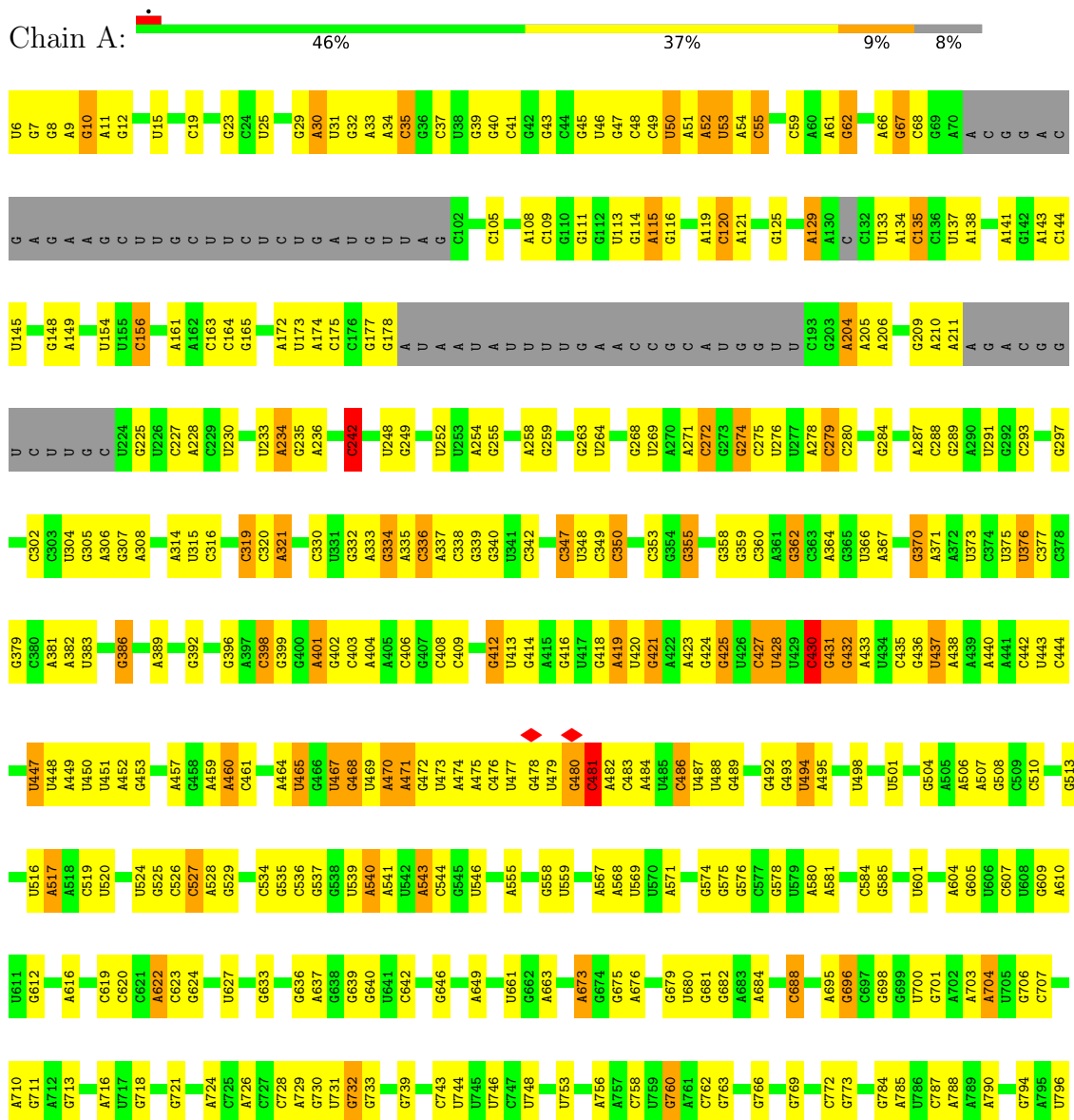
- Molecule 43 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

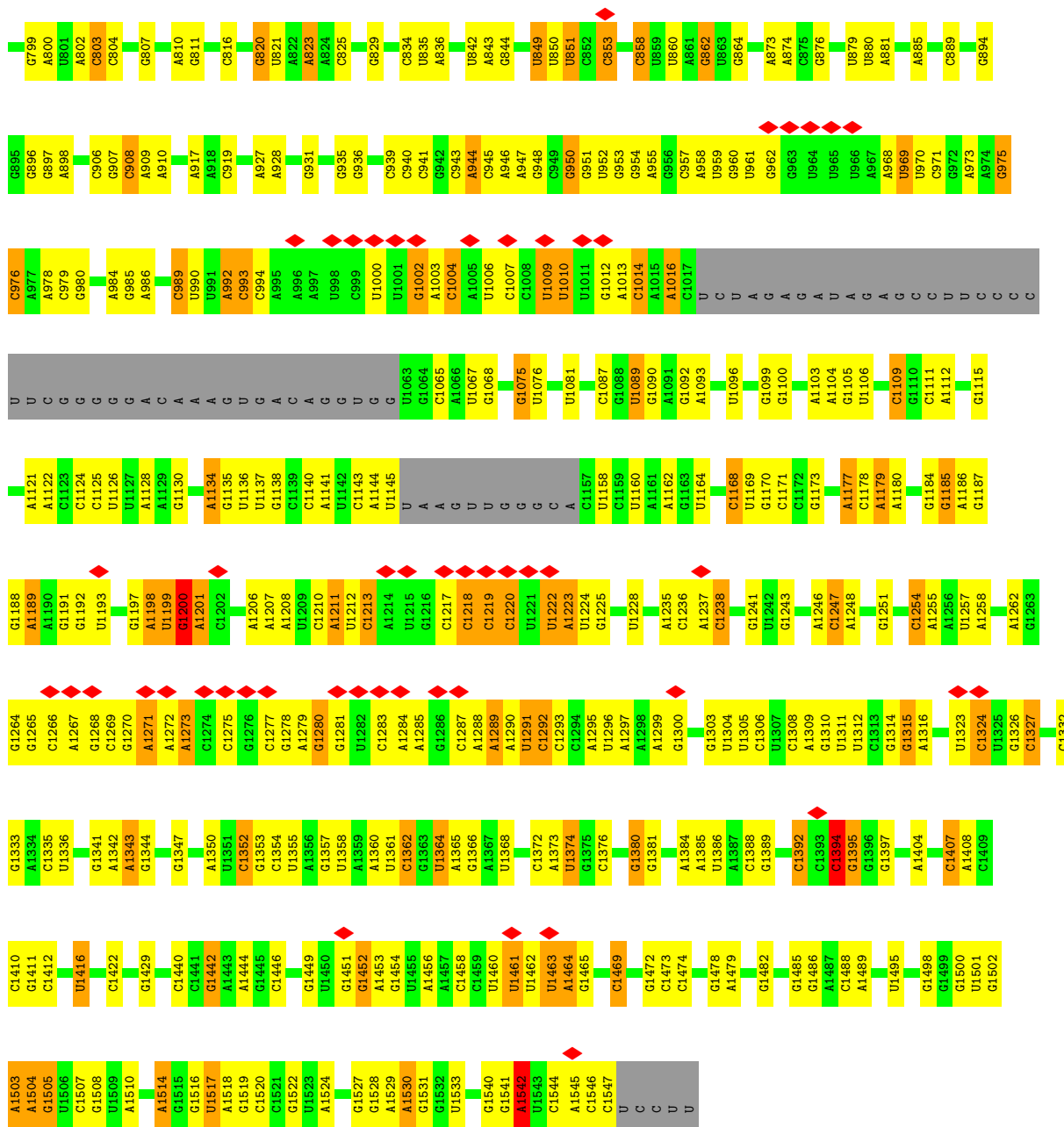
Mol	Chain	Residues	Atoms		AltConf
43	A	4	Total 4	Mg 4	0
43	B	13	Total 13	Mg 13	0

3 Residue-property plots [i](#)

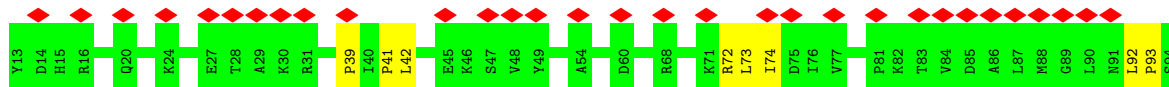
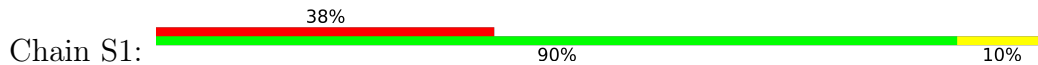
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

• Molecule 1: 16S ribosomal RNA

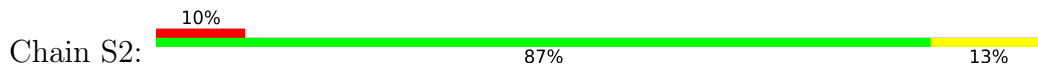


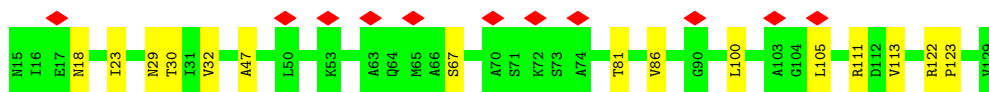


• Molecule 2: 30S ribosomal protein S10

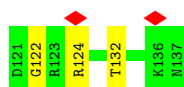
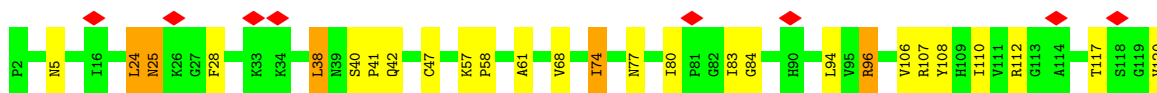
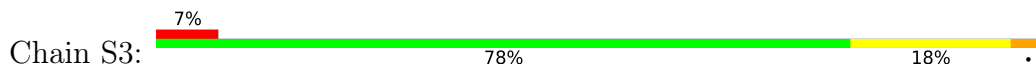


• Molecule 3: 30S ribosomal protein S11

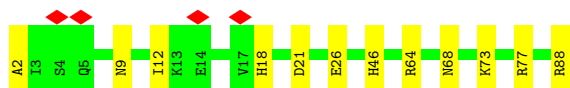
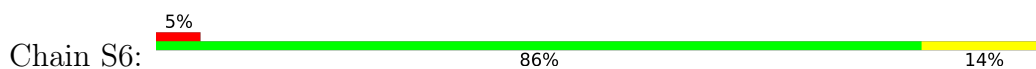




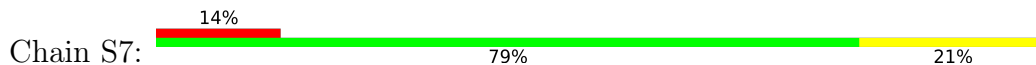
- Molecule 4: 30S ribosomal protein S12



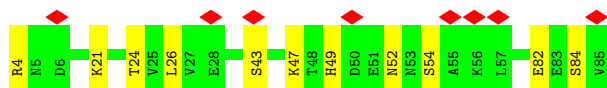
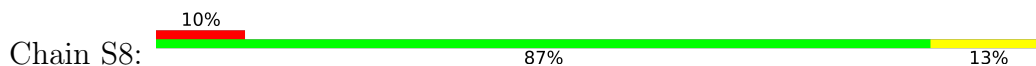
- Molecule 5: 30S ribosomal protein S15



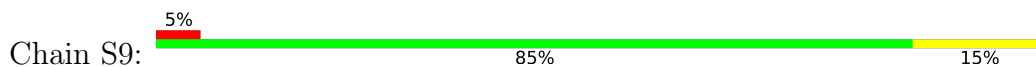
- Molecule 6: 30S ribosomal protein S16



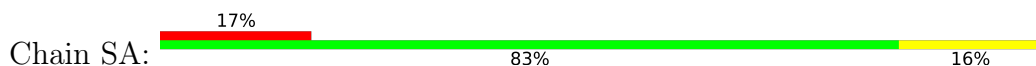
- Molecule 7: 30S ribosomal protein S17

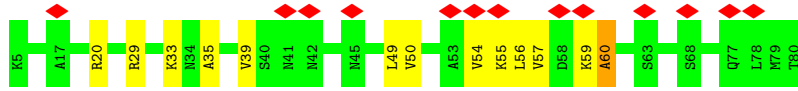


- Molecule 8: 30S ribosomal protein S18

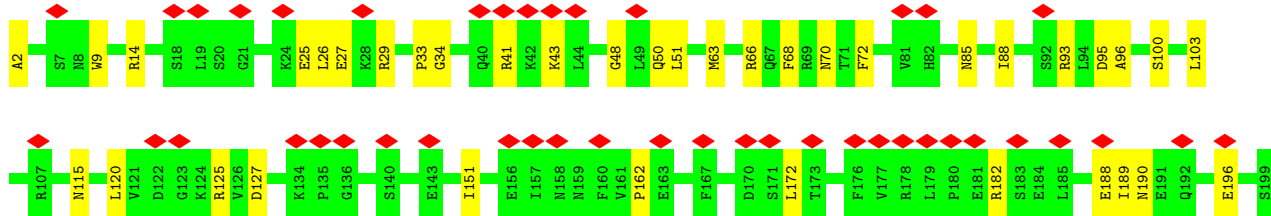
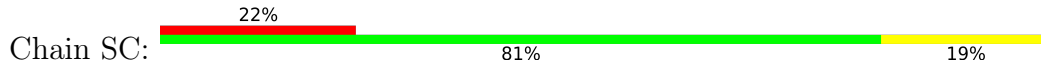


- Molecule 9: 30S ribosomal protein S20

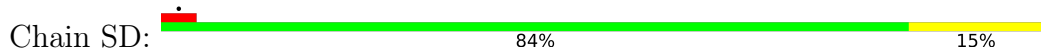




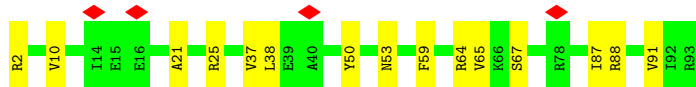
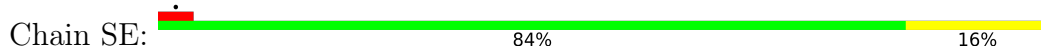
• Molecule 10: 30S ribosomal protein S4



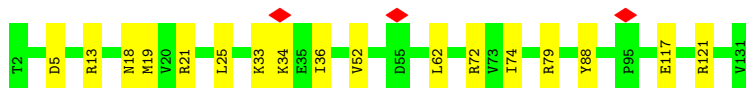
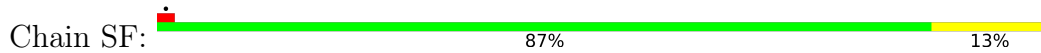
• Molecule 11: 30S ribosomal protein S5



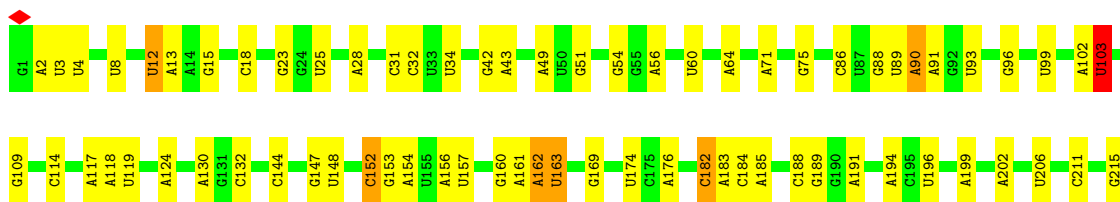
• Molecule 12: 30S ribosomal protein S6



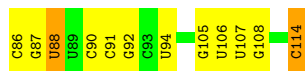
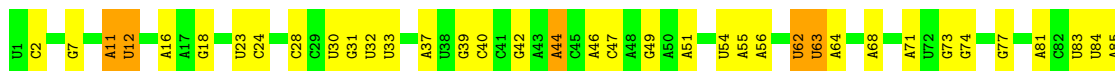
• Molecule 13: 30S ribosomal protein S8



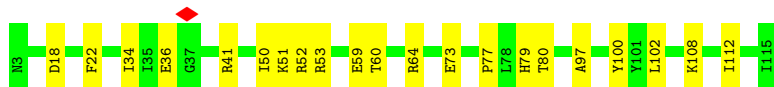
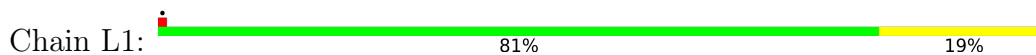
• Molecule 14: 23S ribosomal RNA



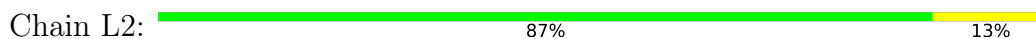
C1624	C1735	C1822	C1914	U2020	C2111	A	G2245	A2349	A2445	U2555	C2799	A2918
U1625	U1736	U1823	G1915	C2021	G2114	G	U2246	G2352	A2452	G2556	A2805	A2919
A1626	U1737	C1824	A1926	C2022	U2115	C	U2247	U2353	A2453	U2557	U2806	U2920
G1627	U1825	U1826	A2024	C2023	A2116	U	C2252	A2354	G2456	C2561	G2807	
A1628	C1738	C1827	C1932	A2025	U2119	A	C2253	G2358	A2457	G2562	A2808	
G1629	G1739	U1828	G1933	C2026	G2120	C	G2261	C2359	U2458	G2563	G2809	
A1630	G1740				U2121	G	G2262	A2360	G2463	U2564	C2819	
G1631	G1741	U1835	A1939	A2032	G2122	U	G2263	U2361	G2467	C2565	U2820	
G1632	A1742	A1836	A1940	C2033	A2121	G	G2264	A2362	C2468	C2566	G2821	
A1633	G1743	A1837	C1941	U2034	U2122	G	G2265	A2363	C2469	C2567	U2822	
A1634	A1744	G1838	A1942	C2035	A2123	A	U2270	G2367	C2470	G2576	G2823	
A1635	G1745	G1839	A1943	G2036	G2127	G	G2277	A2368	A2475	U2581	G2824	
U1646	G1746	A1842	U1944	G2037	G2128	C	G2278	G2369	U2476	U2582	A2832	
A1647	G1748	U1843	A1945	A2040	C2129	U	G2279	U2370	A2483	C2583	A2841	
		G1844	C1947	A2041	A2130	C	G2287	U2371	G2487	G2584	G2842	
		U1845	U1953	C2044	C2131	U	C2288	U2372	U2488	A2591	A2843	
		U1756		A2045	A2132	G	U2289	C2374	U2489	A2592	U2844	
		G1759	G1956	U2046	G2133	G	C2290	U2375	C2488	A2593	G2845	
		G1760	G1957	A2047	U2135	G	C2297	C2376	U2489	G2594	A2846	
		G1656	G1957	U2048	U	G	A2293	C2377	C2490	C2595	G2850	
		G1657	G1761	U1854	G	C	A2296	G2380	C2491	C2600	U2853	
		G1658	A1765	G1855	U	U	C2297	A2381	C2492	C2601	A2854	
		A1660	C1766	A1856	A	U	G2298	U2384	C2497	C2602	A2855	
				C1863	C	A	G2307	A2385	G2497	G2608	G2859	
				C1864	C	A	U2310	C2386	G2499	G2609	U2868	
				C1865	C	A	U2311	U2389	U2500	G2610	G2869	
				C1866	C	A	C2312	G2390	U2501	U2611	U2874	
				C1867	C	A	U2313	U2391	C2502	U2612	U2875	
				G1873	A	C	A2296	A2396	A2505	C2621	C2873	
				A1874	U	U	C2312	G2397	G2521	G2622	A2874	
				A1875	G	A	U2313	U2398	G2522	U2623	U2875	
				U1878	G	A	A2314	G2399	A2524	G2624	G2876	
				A1881	U	U	G2315	C2401	A2524	A2625	C2881	
				G1884	C	A	U2316	G2406	G2409	C2628	A2882	
				A1884	C	A	U2214	U2410	G2410	A	G2886	
				A1884	C	A	U2215	A2411	A2411	G2630	G2889	
				A1884	C	A	U2216	C2412	G2528	U2631	C2900	
				A1884	C	A	G2218	U2413	G2529	U2631	C2905	
				A1884	C	A	G2219	U2414	A2530	U2636	G2906	
				A1884	C	A	U2220	A2419	G2531	U2636	A2907	
				A1884	C	A	A2225	U2429	G2532	U2640	G2913	
				A1884	C	A	A2226	U2432	G2533	A2641		
				A1884	C	A	A2226	U2433	G2534	U2642		
				A1884	C	A	A2226	U2434	G2535	U2644		
				A1884	C	A	A2226	U2435	G2536	U2644		
				A1884	C	A	A2226	U2436	G2537	U2644		
				A1884	C	A	A2226	U2437	G2538	U2644		
				A1884	C	A	A2226	U2438	G2539	U2644		
				A1884	C	A	A2226	U2439	G2540	U2644		
				A1884	C	A	A2226	U2440	G2541	U2644		
				A1884	C	A	A2226	U2441	G2542	U2644		
				A1884	C	A	A2226	U2442	G2543	U2644		
				A1884	C	A	A2226	U2443	G2544	U2644		
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				A1884	C	A	A2226	U2445	G2546	U2644		
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				A1884	C	A	A2226	U2493	G2594	U2644		
				A1884	C	A	A2226	U2494	G2595	U2644		
				A1884	C	A	A2226	U2495	G2596	U2644		
				A1884	C	A	A2226	U2496	G2597	U2644		
				A1884	C	A	A2226	U2497	G2598	U2644		
				A1884	C	A	A2226	U2498	G2599	U2644		
				A1884	C	A	A2226	U2499	G2600	U2644		
				A1884	C	A	A2226	U2500	G2601	U2644		
				A1884	C	A	A2226	U2501	G2602	U2644		
				A1884	C	A	A2226	U2502	G2603	U2644		
				A1884	C	A	A2226	U2503	G2604	U2644		
				A1884	C	A	A2226	U2504	G2605	U2644		
				A1884	C	A	A2226	U2505	G2606	U2644		
				A1884	C	A	A2226	U2506	G2607	U2644		
				A1884	C	A	A2226	U2507	G2608	U2644		
				A1884	C	A	A2226	U2508	G2609	U2644		
				A1884	C	A	A2226	U2509	G2610	U2644		
				A1884	C	A	A2226	U2510	G2611	U2644		
				A1884	C	A	A2226	U2511	G2612	U2644		
				A1884	C	A	A2226	U2512	G2613	U2644		
				A1884	C	A	A2226	U2513	G2614	U2644		
				A1884	C	A	A2226	U2514	G2615	U2644		
				A1884	C	A	A2226	U2515	G2616	U2644		
				A1884	C	A	A2226	U2516	G2617	U2644		
				A1884	C	A	A2226	U2517	G2618	U2644		
				A1884	C	A	A2226	U2518	G2619	U2644		
				A1884	C	A	A2226	U2519	G2620	U2644		
				A1884	C	A	A2226	U2520	G2621	U2644		
				A1884	C	A	A2226	U2521	G2622	U2644		
				A1884	C	A	A2226	U2522	G2623	U2644		
				A1884	C	A	A2226	U2523	G2624	U2644		
				A1884	C	A	A2226	U2524	G2625	U2644		
				A1884	C	A	A2226					



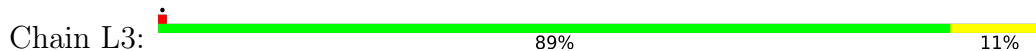
- Molecule 16: 50S ribosomal protein L19



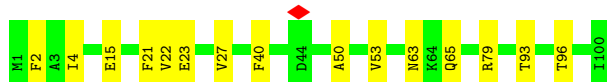
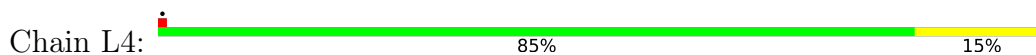
- Molecule 17: 50S ribosomal protein L2



- Molecule 18: 50S ribosomal protein L20



- Molecule 19: 50S ribosomal protein L21



- Molecule 20: 50S ribosomal protein L22

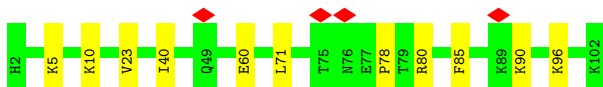


- Molecule 21: 50S ribosomal protein L23





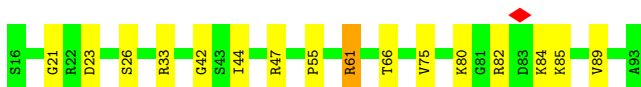
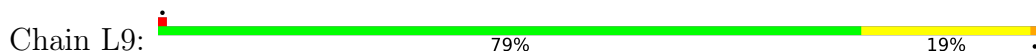
- Molecule 22: 50S ribosomal protein L24



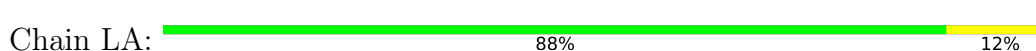
- Molecule 23: 50S ribosomal protein L25



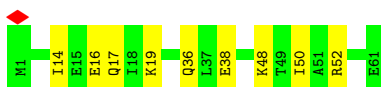
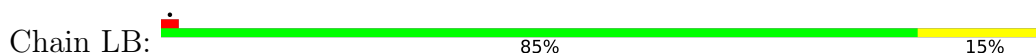
- Molecule 24: 50S ribosomal protein L27



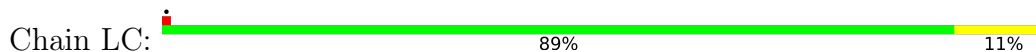
- Molecule 25: 50S ribosomal protein L28



- Molecule 26: 50S ribosomal protein L29

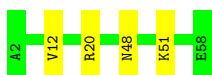


- Molecule 27: 50S ribosomal protein L3




- Molecule 28: 50S ribosomal protein L30

Chain LD:  93% 7%



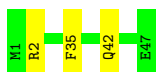
- Molecule 29: 50S ribosomal protein L32

Chain LE:  79% 21%



- Molecule 30: 50S ribosomal protein L33

Chain LF:  94% 6%




- Molecule 31: 50S ribosomal protein L34

Chain LG:  91% 9%



- Molecule 32: 50S ribosomal protein L35

Chain LH:  84% 16%



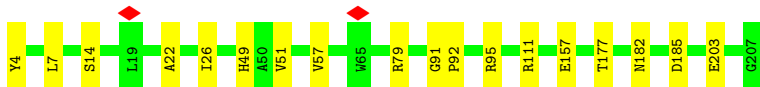
- Molecule 33: 50S ribosomal protein L36

Chain LI:  95% 5%




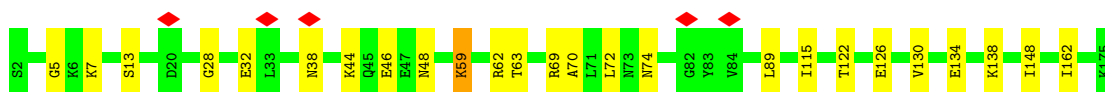
- Molecule 34: 50S ribosomal protein L4

Chain LJ:  91% 9%



- Molecule 35: 50S ribosomal protein L6

Chain LL:  86% 14%



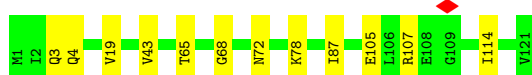
• Molecule 36: 50S ribosomal protein L13

Chain LM:  89% 10%



• Molecule 37: 50S ribosomal protein L14

Chain LN:  90% 10%




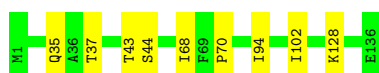
• Molecule 38: 50S ribosomal protein L15

Chain LO:  92% 8%




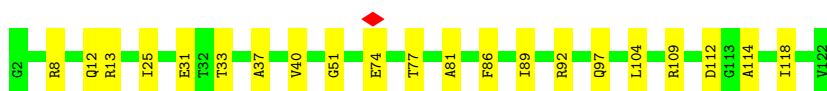
• Molecule 39: 50S ribosomal protein L16

Chain LP:  93% 7%




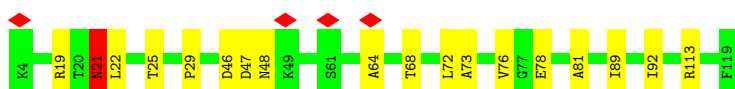
• Molecule 40: 50S ribosomal protein L17

Chain LQ:  83% 17%

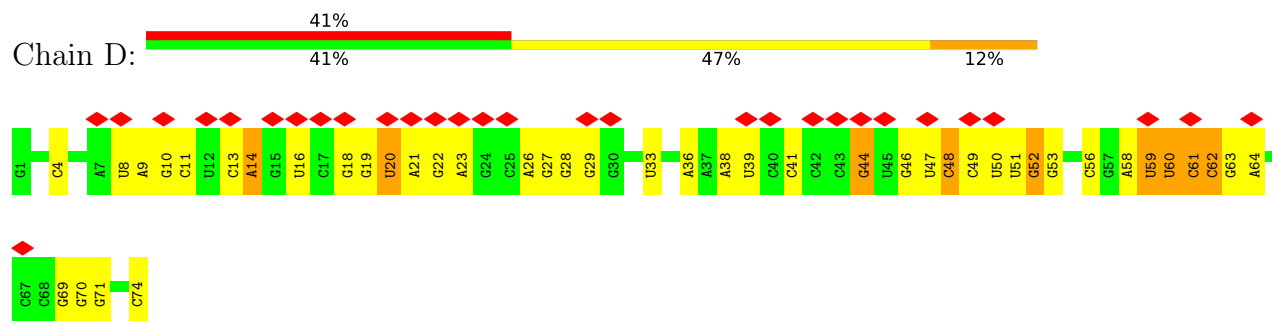


• Molecule 41: 50S ribosomal protein L18

Chain LR:  84% 15%



● Molecule 42: E-site tRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	80500	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	45	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.740	Depositor
Minimum map value	-0.466	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.027	Depositor
Recommended contour level	0.05	Depositor
Map size (\AA)	352.0, 352.0, 352.0	wwPDB
Map dimensions	320, 320, 320	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

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	A	0.55	0/34022	1.12	160/53044 (0.3%)
2	S1	0.30	0/659	0.52	0/893
3	S2	0.29	0/865	0.55	0/1170
4	S3	0.34	0/1026	0.77	3/1385 (0.2%)
5	S6	0.32	0/734	0.53	0/981
6	S7	0.29	0/604	0.60	0/819
7	S8	0.34	0/682	0.63	0/912
8	S9	0.31	0/463	0.59	0/619
9	SA	0.28	0/475	0.57	1/645 (0.2%)
10	SC	0.31	0/1634	0.56	0/2196
11	SD	0.35	0/1145	0.62	0/1546
12	SE	0.36	0/774	0.62	0/1039
13	SF	0.31	0/1022	0.56	0/1373
14	B	0.97	5/66453 (0.0%)	1.16	377/103631 (0.4%)
15	C	0.65	0/2710	1.15	20/4221 (0.5%)
16	L1	0.45	0/926	0.63	1/1238 (0.1%)
17	L2	0.53	0/2121	0.66	0/2849
18	L3	0.52	0/954	0.64	0/1264
19	L4	0.45	0/794	0.62	0/1061
20	L5	0.46	0/860	0.66	0/1158
21	L6	0.48	0/691	0.61	0/926
22	L7	0.36	0/765	0.60	0/1021
23	L8	0.36	0/734	0.59	0/985
24	L9	0.52	0/596	0.74	0/792
25	LA	0.43	0/468	0.60	1/624 (0.2%)
26	LB	0.35	0/503	0.63	0/669
27	LC	0.50	0/1641	0.66	1/2203 (0.0%)
28	LD	0.40	0/442	0.64	0/596
29	LE	0.47	0/428	0.63	0/570
30	LF	0.39	0/389	0.55	0/518
31	LG	0.55	0/375	0.60	0/490
32	LH	0.44	0/525	0.61	0/689

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	LI	0.45	0/298	0.56	0/392
34	LJ	0.45	0/1561	0.62	0/2110
35	LL	0.36	0/1375	0.58	0/1850
36	LM	0.48	0/1159	0.60	1/1562 (0.1%)
37	LN	0.53	0/917	0.67	0/1231
38	LO	0.47	0/1095	0.63	0/1460
39	LP	0.45	0/1112	0.59	0/1492
40	LQ	0.46	0/958	0.67	0/1281
41	LR	0.38	0/905	0.67	0/1211
42	D	0.41	0/1762	1.06	5/2746 (0.2%)
All	All	0.77	5/137622 (0.0%)	1.05	570/207462 (0.3%)

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
4	S3	0	1
9	SA	0	1
11	SD	0	1
18	L3	0	1
19	L4	0	1
24	L9	0	1
36	LM	0	1
37	LN	0	1
41	LR	0	2
All	All	0	10

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	B	1289	A	N9-C4	-6.20	1.34	1.37
14	B	1599	G	N3-C4	-5.57	1.31	1.35
14	B	2740	A	N9-C4	-5.20	1.34	1.37
14	B	2625	A	N7-C5	-5.20	1.36	1.39
14	B	1566	G	N9-C4	-5.15	1.33	1.38

The worst 5 of 570 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1168	C	N1-C2-O2	12.01	126.10	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	B	12	U	C2-N1-C1'	11.85	131.92	117.70
14	B	1350	U	N3-C2-O2	-10.99	114.50	122.20
1	A	373	U	C2-N1-C1'	10.92	130.80	117.70
1	A	1168	C	C2-N1-C1'	10.73	130.61	118.80

There are no chirality outliers.

5 of 10 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
18	L3	95	LEU	Peptide
19	L4	23	GLU	Peptide
4	S3	28	PHE	Peptide
9	SA	60	ALA	Peptide
11	SD	108	GLY	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	30390	0	15318	185	0
2	S1	647	0	657	4	0
3	S2	850	0	860	8	0
4	S3	1011	0	1001	17	0
5	S6	725	0	756	9	0
6	S7	594	0	618	12	0
7	S8	674	0	716	6	0
8	S9	456	0	490	5	0
9	SA	475	0	406	8	0
10	SC	1604	0	1633	24	0
11	SD	1132	0	1188	13	0
12	SE	763	0	766	10	0
13	SF	1012	0	1061	10	0
14	B	59339	0	29847	185	0
15	C	2424	0	1230	11	0
16	L1	914	0	987	13	0
17	L2	2086	0	2194	20	0
18	L3	942	0	1014	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	L4	784	0	825	7	0
20	L5	852	0	914	7	0
21	L6	684	0	696	3	0
22	L7	758	0	801	7	0
23	L8	726	0	777	5	0
24	L9	590	0	603	11	0
25	LA	462	0	501	4	0
26	LB	502	0	536	5	0
27	LC	1617	0	1651	13	0
28	LD	440	0	478	2	0
29	LE	421	0	430	9	0
30	LF	386	0	394	2	0
31	LG	371	0	420	3	0
32	LH	520	0	586	8	0
33	LI	295	0	340	1	0
34	LJ	1538	0	1561	10	0
35	LL	1357	0	1388	16	0
36	LM	1137	0	1130	8	0
37	LN	910	0	970	6	0
38	LO	1081	0	1119	6	0
39	LP	1088	0	1155	4	0
40	LQ	954	0	1002	12	0
41	LR	896	0	935	9	0
42	D	1577	0	800	15	0
43	A	4	0	0	0	0
43	B	13	0	0	0	0
All	All	126001	0	80754	625	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 4.

The worst 5 of 625 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:B:2533:U:C6	14:B:2533:U:H5''	2.26	0.71
35:LL:5:GLY:HA2	35:LL:69:ARG:HD3	1.71	0.70
12:SE:10:VAL:HB	12:SE:59:PHE:HB2	1.73	0.70
14:B:262:G:H21	14:B:666:A:H8	1.40	0.69
14:B:2037:G:H5''	20:L5:42:ALA:HB2	1.72	0.68

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	S1	80/82 (98%)	70 (88%)	10 (12%)	0	100	100
3	S2	113/115 (98%)	104 (92%)	9 (8%)	0	100	100
4	S3	134/136 (98%)	109 (81%)	22 (16%)	3 (2%)	6	39
5	S6	85/87 (98%)	77 (91%)	8 (9%)	0	100	100
6	S7	74/76 (97%)	69 (93%)	5 (7%)	0	100	100
7	S8	80/82 (98%)	72 (90%)	8 (10%)	0	100	100
8	S9	53/55 (96%)	46 (87%)	7 (13%)	0	100	100
9	SA	74/76 (97%)	70 (95%)	4 (5%)	0	100	100
10	SC	196/198 (99%)	180 (92%)	16 (8%)	0	100	100
11	SD	152/154 (99%)	136 (90%)	16 (10%)	0	100	100
12	SE	90/92 (98%)	80 (89%)	10 (11%)	0	100	100
13	SF	128/130 (98%)	109 (85%)	19 (15%)	0	100	100
16	L1	111/113 (98%)	94 (85%)	17 (15%)	0	100	100
17	L2	273/275 (99%)	233 (85%)	39 (14%)	1 (0%)	34	71
18	L3	114/116 (98%)	103 (90%)	11 (10%)	0	100	100
19	L4	98/100 (98%)	87 (89%)	11 (11%)	0	100	100
20	L5	109/111 (98%)	101 (93%)	8 (7%)	0	100	100
21	L6	85/87 (98%)	71 (84%)	14 (16%)	0	100	100
22	L7	99/101 (98%)	87 (88%)	12 (12%)	0	100	100
23	L8	91/93 (98%)	82 (90%)	9 (10%)	0	100	100
24	L9	76/78 (97%)	68 (90%)	8 (10%)	0	100	100
25	LA	57/59 (97%)	49 (86%)	8 (14%)	0	100	100
26	LB	59/61 (97%)	53 (90%)	6 (10%)	0	100	100
27	LC	212/214 (99%)	176 (83%)	36 (17%)	0	100	100
28	LD	55/57 (96%)	49 (89%)	6 (11%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
29	LE	51/53 (96%)	43 (84%)	8 (16%)	0	100	100
30	LF	45/47 (96%)	42 (93%)	3 (7%)	0	100	100
31	LG	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
32	LH	62/64 (97%)	55 (89%)	7 (11%)	0	100	100
33	LI	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
34	LJ	202/204 (99%)	173 (86%)	29 (14%)	0	100	100
35	LL	172/174 (99%)	147 (86%)	24 (14%)	1 (1%)	25	64
36	LM	141/143 (99%)	122 (86%)	19 (14%)	0	100	100
37	LN	119/121 (98%)	108 (91%)	11 (9%)	0	100	100
38	LO	142/144 (99%)	121 (85%)	21 (15%)	0	100	100
39	LP	134/136 (98%)	126 (94%)	8 (6%)	0	100	100
40	LQ	119/121 (98%)	107 (90%)	12 (10%)	0	100	100
41	LR	114/116 (98%)	99 (87%)	15 (13%)	0	100	100
All	All	4076/4152 (98%)	3590 (88%)	481 (12%)	5 (0%)	54	83

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
35	LL	59	LYS
17	L2	50	THR
4	S3	57	LYS
4	S3	58	PRO
4	S3	41	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	S1	73/73 (100%)	73 (100%)	0	100	100
3	S2	91/91 (100%)	90 (99%)	1 (1%)	73	88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	S3	103/117 (88%)	99 (96%)	4 (4%)	32	65
5	S6	79/79 (100%)	79 (100%)	0	100	100
6	S7	64/64 (100%)	64 (100%)	0	100	100
7	S8	77/77 (100%)	77 (100%)	0	100	100
8	S9	50/50 (100%)	50 (100%)	0	100	100
9	SA	29/64 (45%)	29 (100%)	0	100	100
10	SC	173/173 (100%)	173 (100%)	0	100	100
11	SD	118/120 (98%)	116 (98%)	2 (2%)	60	82
12	SE	80/80 (100%)	80 (100%)	0	100	100
13	SF	110/111 (99%)	110 (100%)	0	100	100
16	L1	99/99 (100%)	99 (100%)	0	100	100
17	L2	217/222 (98%)	215 (99%)	2 (1%)	78	90
18	L3	96/96 (100%)	96 (100%)	0	100	100
19	L4	85/85 (100%)	84 (99%)	1 (1%)	71	87
20	L5	90/90 (100%)	89 (99%)	1 (1%)	73	88
21	L6	74/79 (94%)	73 (99%)	1 (1%)	67	85
22	L7	79/86 (92%)	79 (100%)	0	100	100
23	L8	81/81 (100%)	81 (100%)	0	100	100
24	L9	59/61 (97%)	57 (97%)	2 (3%)	37	69
25	LA	49/49 (100%)	49 (100%)	0	100	100
26	LB	55/55 (100%)	55 (100%)	0	100	100
27	LC	171/172 (99%)	169 (99%)	2 (1%)	71	87
28	LD	51/51 (100%)	51 (100%)	0	100	100
29	LE	48/48 (100%)	48 (100%)	0	100	100
30	LF	44/45 (98%)	44 (100%)	0	100	100
31	LG	39/39 (100%)	39 (100%)	0	100	100
32	LH	55/55 (100%)	55 (100%)	0	100	100
33	LI	35/35 (100%)	35 (100%)	0	100	100
34	LJ	160/167 (96%)	160 (100%)	0	100	100
35	LL	151/152 (99%)	151 (100%)	0	100	100
36	LM	122/122 (100%)	120 (98%)	2 (2%)	62	83

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	LN	99/99 (100%)	97 (98%)	2 (2%)	55	79
38	LO	110/110 (100%)	109 (99%)	1 (1%)	78	90
39	LP	113/113 (100%)	112 (99%)	1 (1%)	78	90
40	LQ	101/101 (100%)	101 (100%)	0	100	100
41	LR	91/92 (99%)	88 (97%)	3 (3%)	38	69
All	All	3421/3503 (98%)	3396 (99%)	25 (1%)	84	93

5 of 25 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
27	LC	66	ASN
36	LM	85	ILE
41	LR	113	ARG
36	LM	11	ASN
37	LN	72	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 32 such sidechains are listed below:

Mol	Chain	Res	Type
38	LO	83	ASN
38	LO	104	ASN
17	L2	232	HIS
17	L2	86	ASN
41	LR	21	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1411/1547 (91%)	486 (34%)	14 (0%)
14	B	2759/2919 (94%)	765 (27%)	9 (0%)
15	C	113/114 (99%)	31 (27%)	1 (0%)
42	D	73/74 (98%)	28 (38%)	0
All	All	4356/4654 (93%)	1310 (30%)	24 (0%)

5 of 1310 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	7	G

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Mol	Chain	Res	Type
1	A	8	G
1	A	9	A
1	A	10	G
1	A	23	G

5 of 24 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
14	B	90	A
14	B	1510	U
14	B	1503	U
14	B	1940	A
1	A	935	G

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 17 ligands modelled in this entry, 17 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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
1	A	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	193:C	O3'	203:G	P	30.87

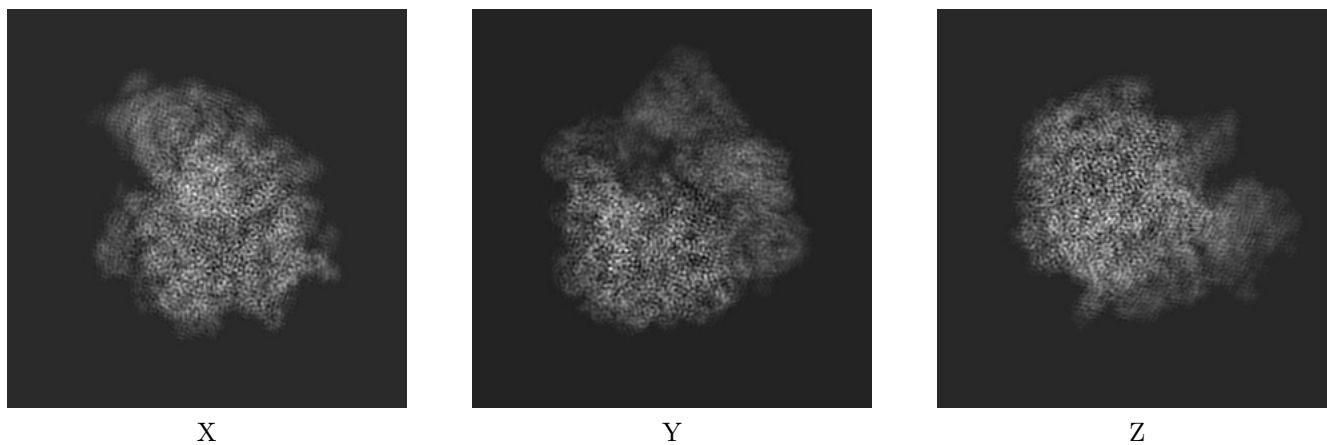
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-8369. 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](#)

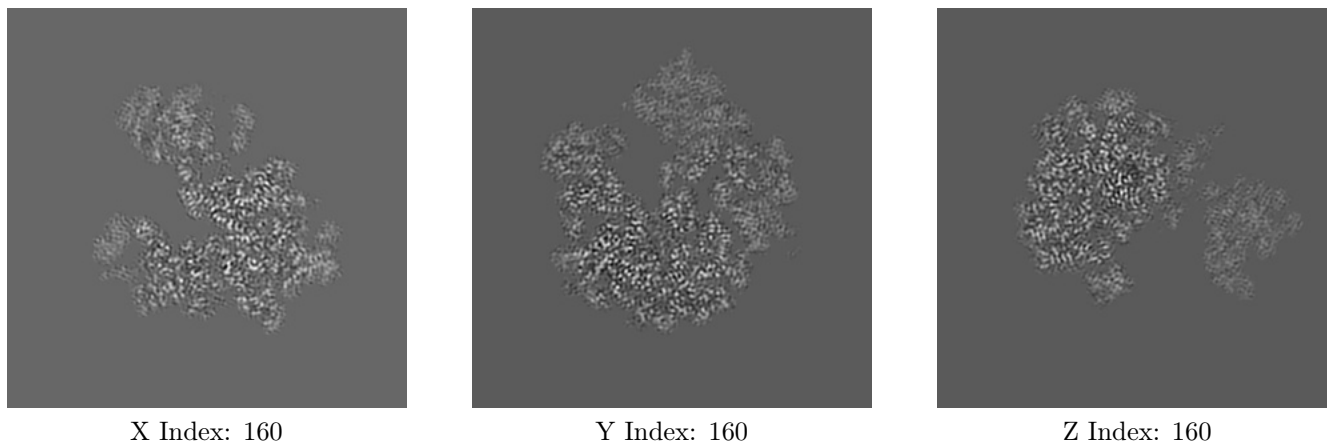
6.1.1 Primary map



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

6.2 Central slices [i](#)

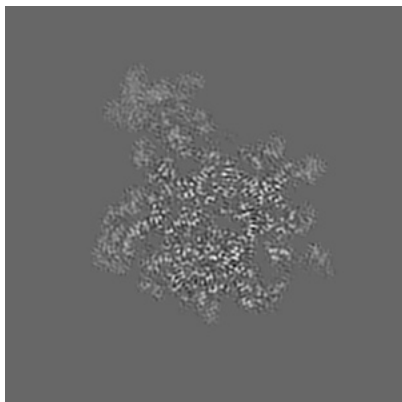
6.2.1 Primary map



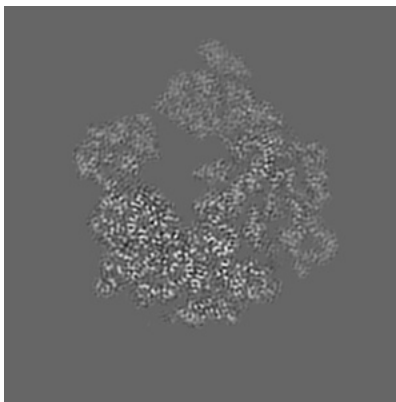
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

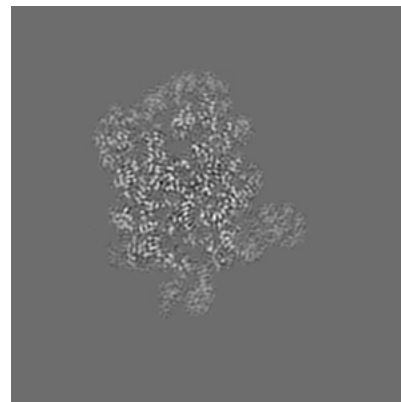
6.3.1 Primary map



X Index: 126



Y Index: 149



Z Index: 110

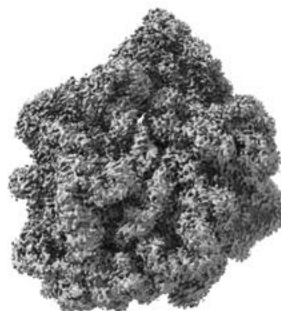
The images above show the largest variance slices of the map in three orthogonal directions.

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

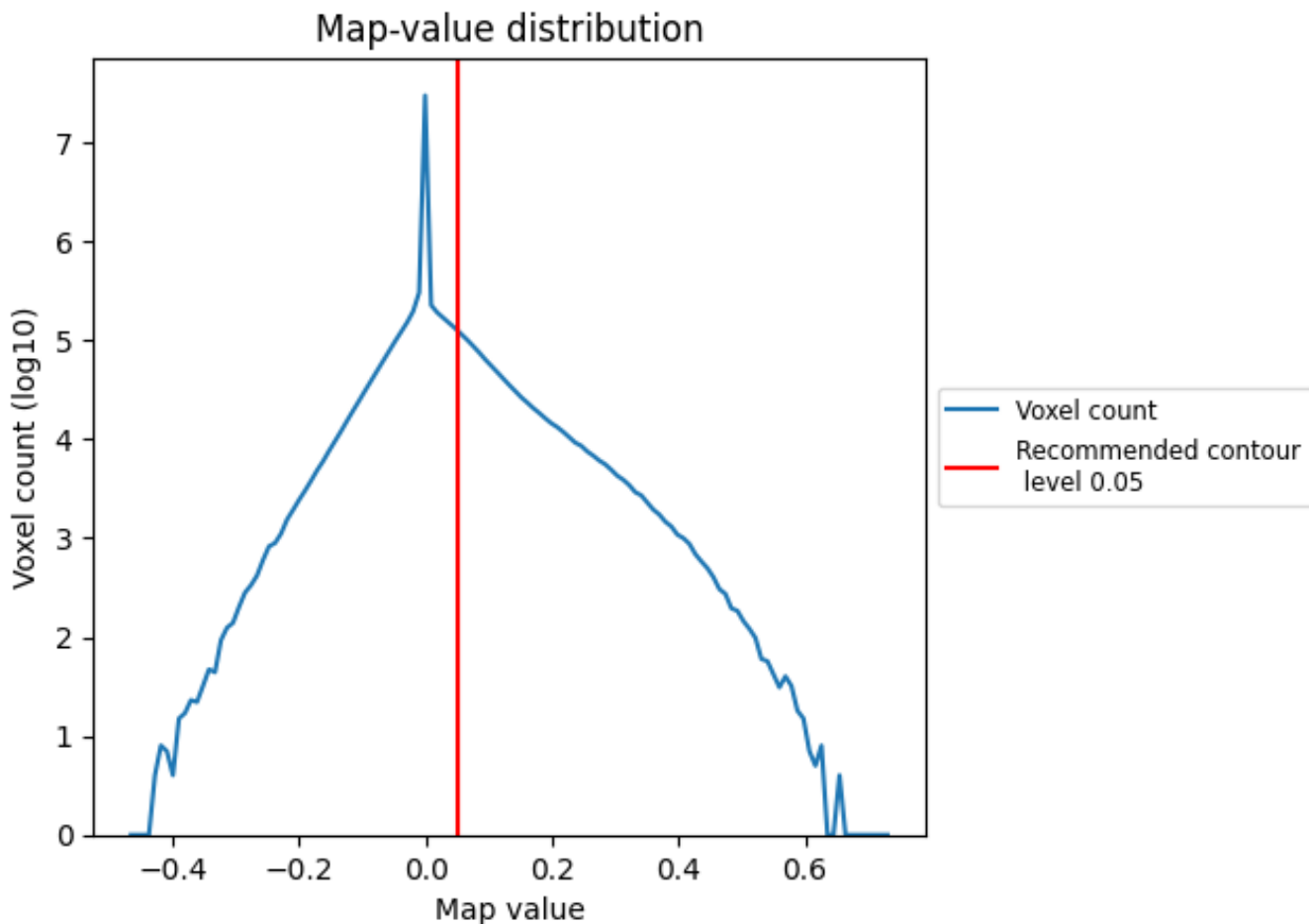
6.5 Mask visualisation

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

7 Map analysis [i](#)

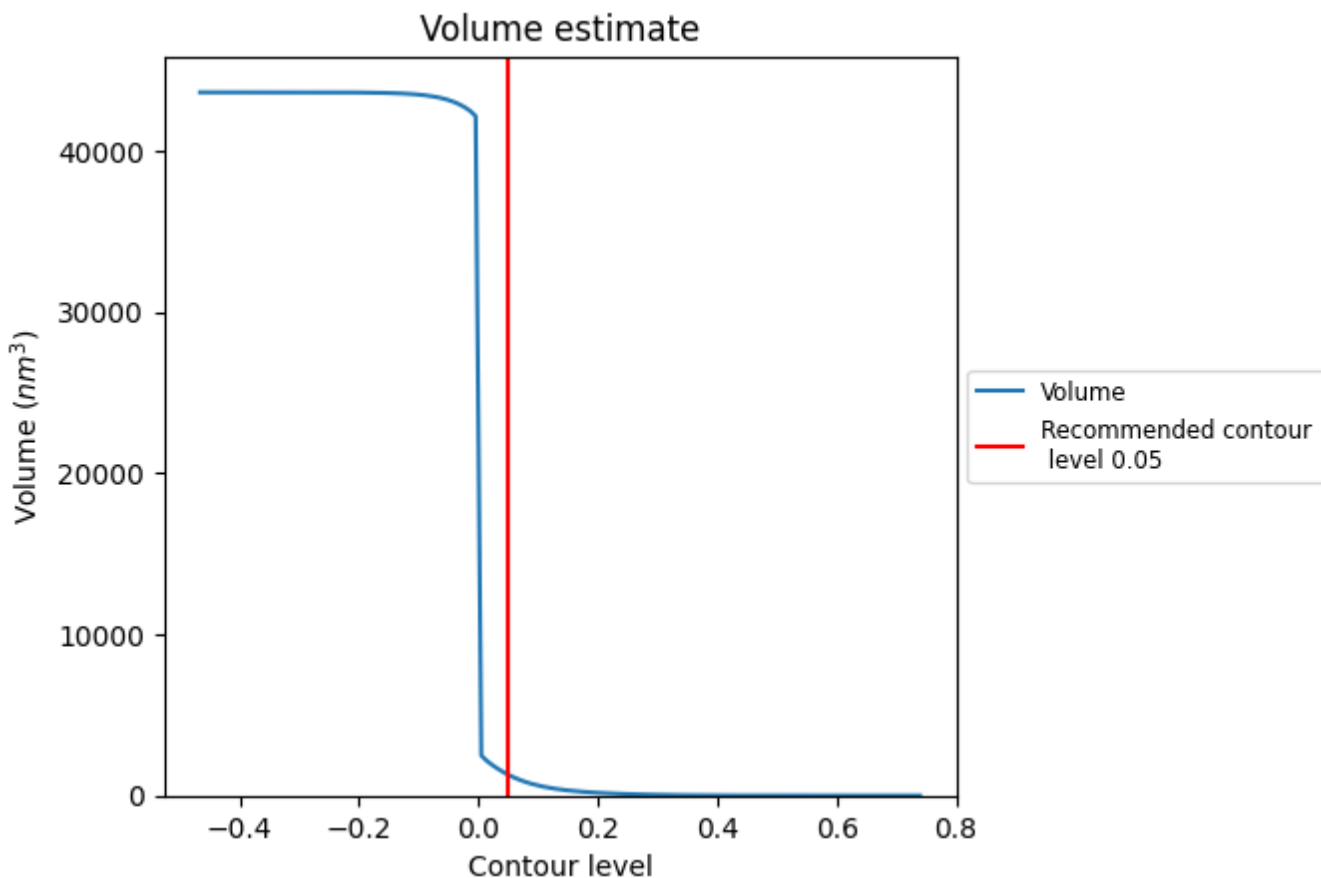
This section contains the results of statistical analysis of the map.

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.

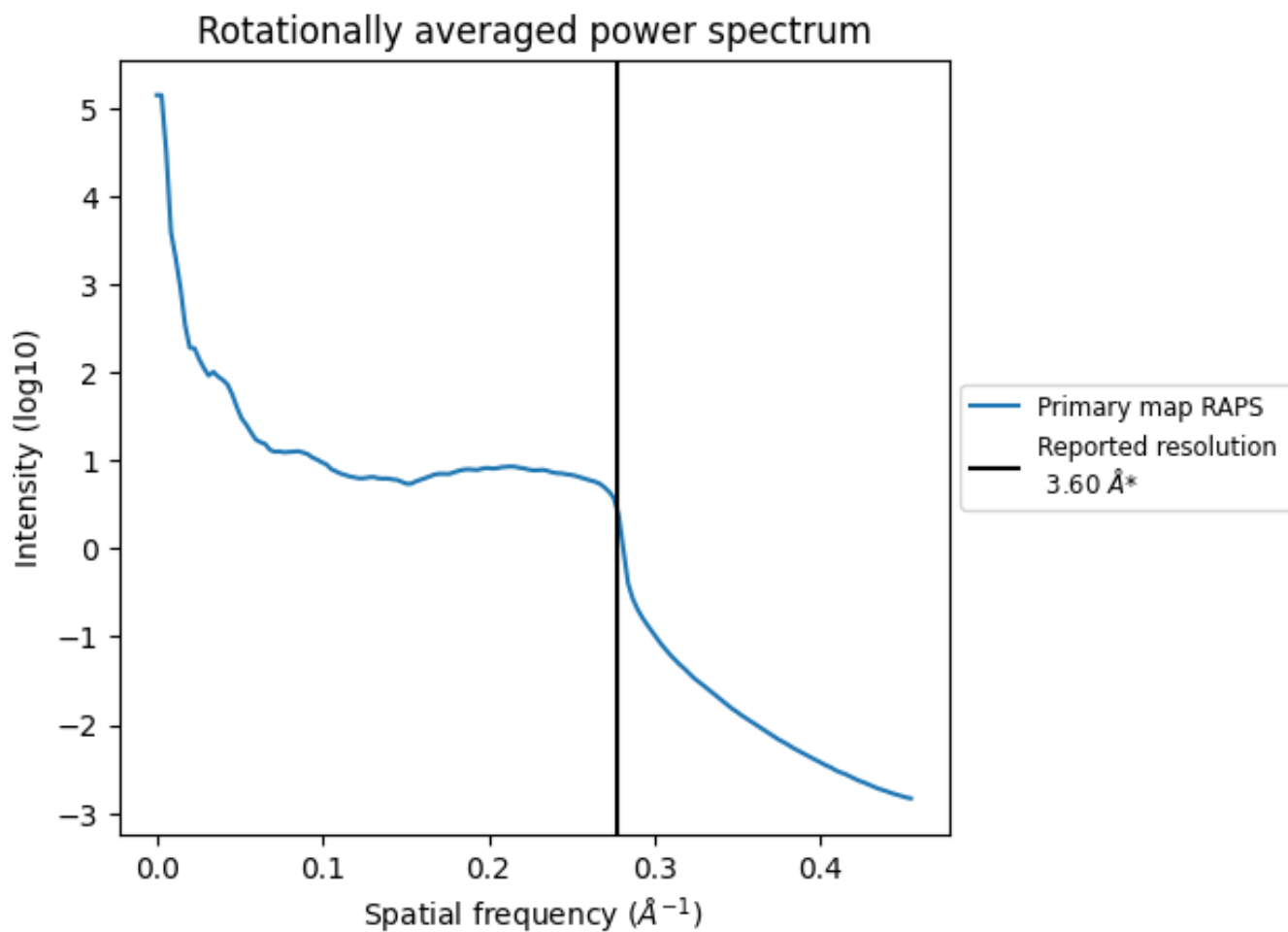
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1298 nm^3 ; this corresponds to an approximate mass of 1173 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 0.278\AA^{-1}

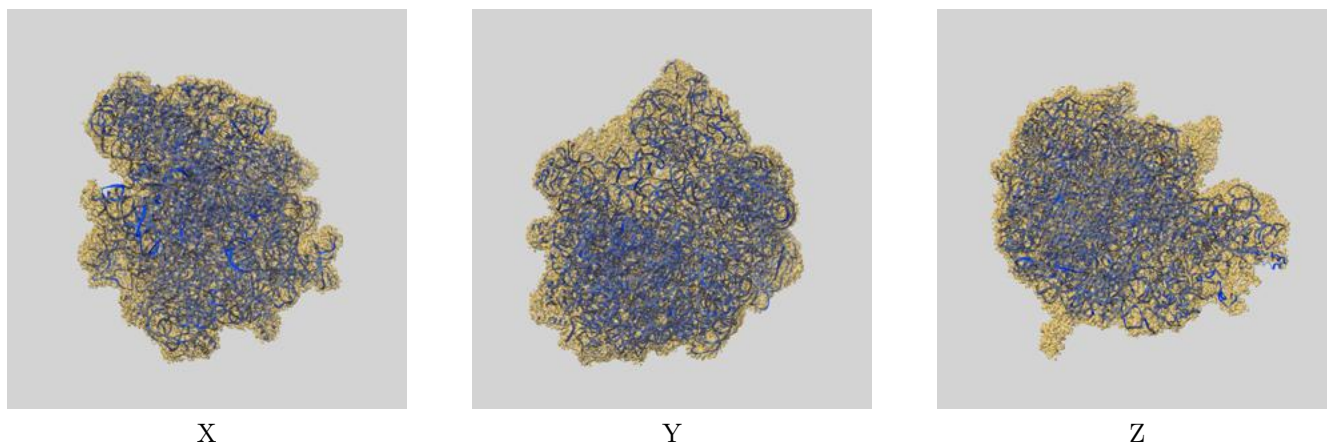
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

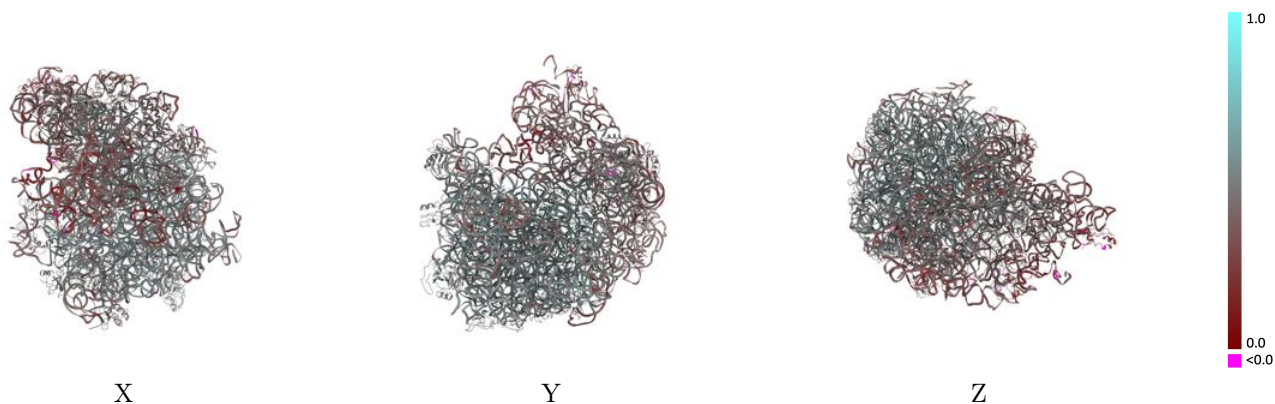
This section contains information regarding the fit between EMDB map EMD-8369 and PDB model 5T7V. Per-residue inclusion information can be found in section 3 on page 13.

9.1 Map-model overlay [i](#)



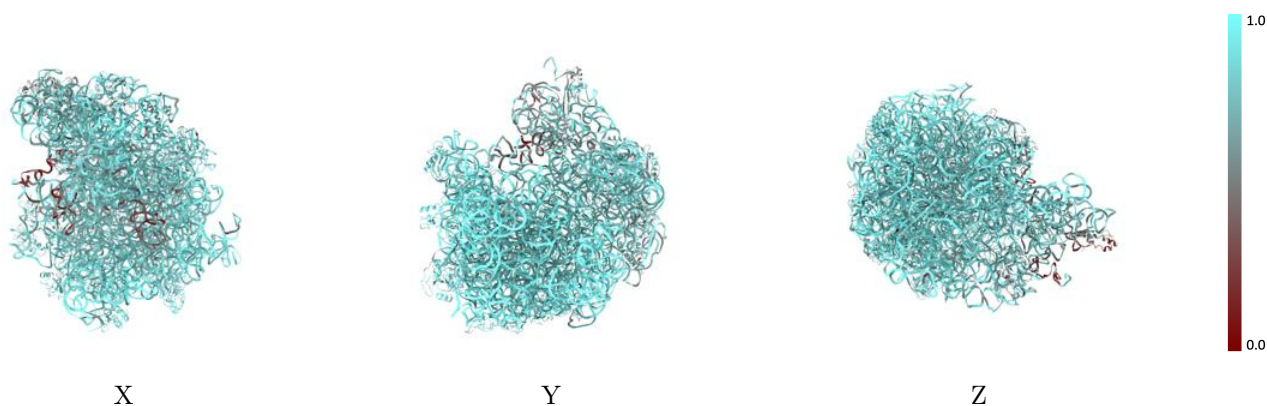
The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



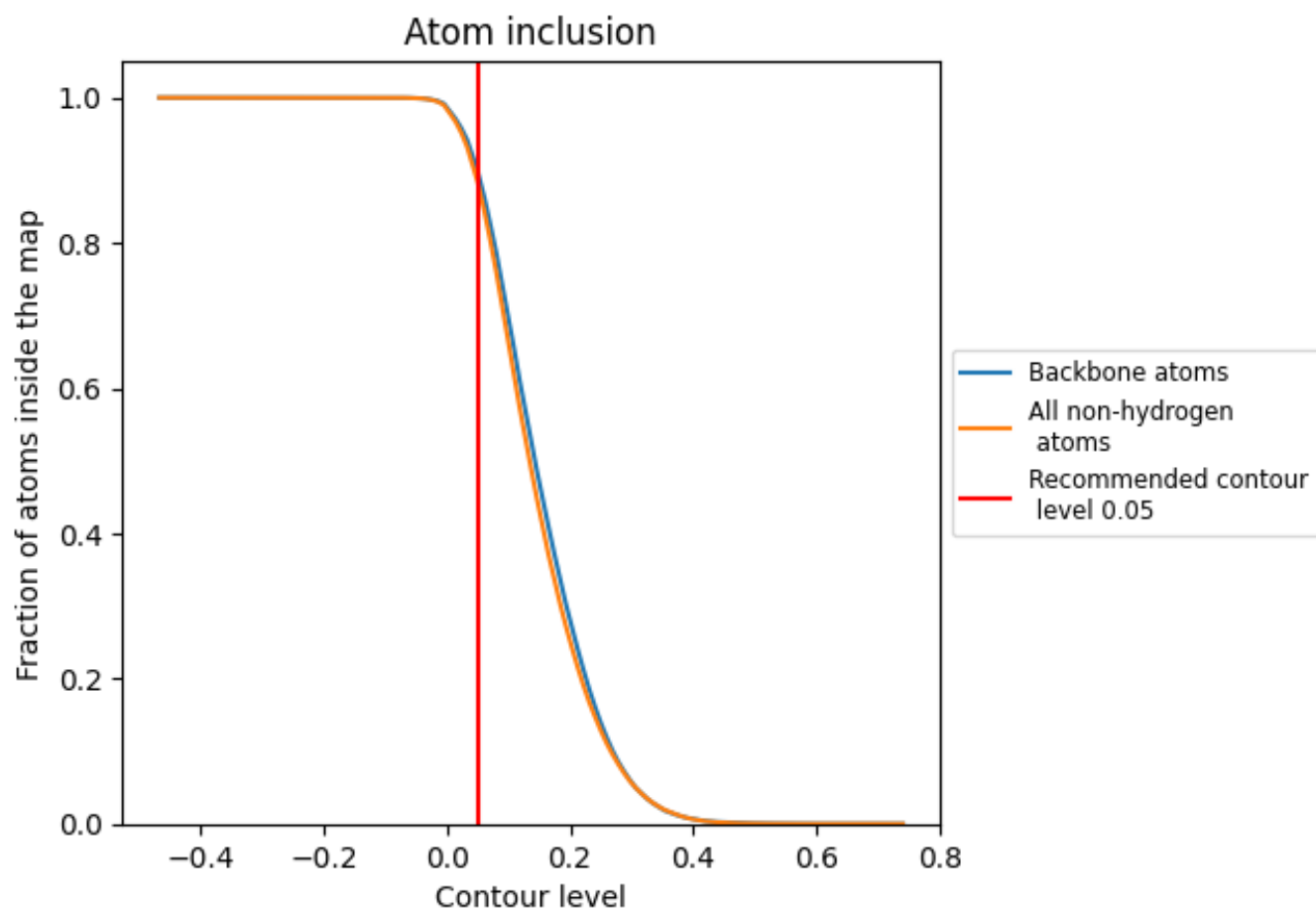
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.05).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 90% of all backbone atoms, 88% 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 (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8842	 0.4620
A	 0.8277	 0.3890
B	 0.9516	 0.5050
C	 0.9315	 0.4460
D	 0.4756	 0.2820
L1	 0.8747	 0.5030
L2	 0.8995	 0.5290
L3	 0.9043	 0.5200
L4	 0.8938	 0.5000
L5	 0.8964	 0.5190
L6	 0.8852	 0.5020
L7	 0.8429	 0.4710
L8	 0.8345	 0.4670
L9	 0.9212	 0.5180
LA	 0.8879	 0.5120
LB	 0.8519	 0.4710
LC	 0.8858	 0.5010
LD	 0.8889	 0.5060
LE	 0.8747	 0.5170
LF	 0.8579	 0.4890
LG	 0.9314	 0.5550
LH	 0.9401	 0.5550
LI	 0.8997	 0.5220
LJ	 0.8699	 0.4980
LL	 0.8229	 0.4310
LM	 0.9026	 0.5200
LN	 0.8737	 0.5120
LO	 0.8922	 0.5050
LP	 0.9050	 0.5280
LQ	 0.8914	 0.5150
LR	 0.8421	 0.4420
S1	 0.4984	 0.2880
S2	 0.7071	 0.3820
S3	 0.7543	 0.4010
S6	 0.7908	 0.4220



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Chain	Atom inclusion	Q-score
S7	 0.6551	 0.3500
S8	 0.7108	 0.3770
S9	 0.7335	 0.3880
SA	 0.6866	 0.3610
SC	 0.5977	 0.3170
SD	 0.8052	 0.4330
SE	 0.7645	 0.3930
SF	 0.7838	 0.4070