wwPDB EM Validation Summary Report ⓘ

Oct 7, 2025 – 10:33 AM JST

PDB ID	:	9V1L / pdb_00009v1l
EMDB ID	:	EMD-64697
Title	:	Cryo- EM structure of large subunit (LSU) of 75S ribosome with P- tRNA from Entamoeba histolytica
Authors	:	Sharma, S.; Mishra, S.; Gourinath, S.; Kaushal, P.S.
Deposited on	:	2025-05-19
Resolution	:	3.00 Å(reported)

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

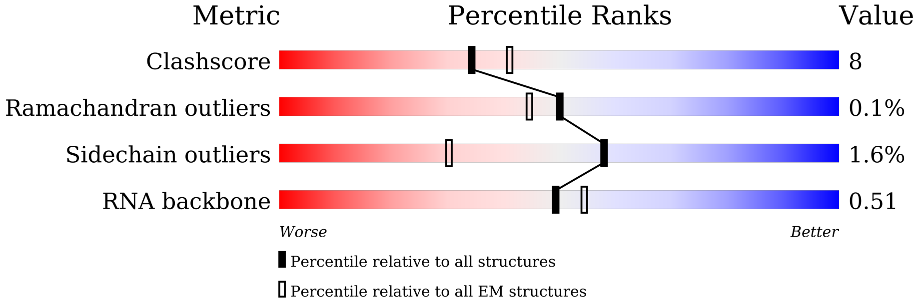
EMDB validation analysis	:	0.0.1.dev129
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

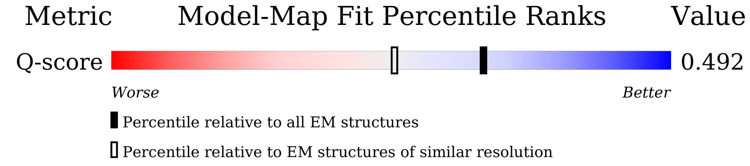
1 Overall quality at a glance

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

The reported resolution of this entry is 3.00 Å.

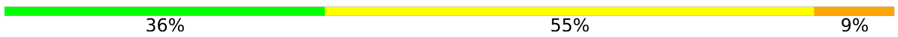
Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	14081 (2.50 - 3.50)

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 <=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	lA	3503	
2	lB	155	
3	lC	117	

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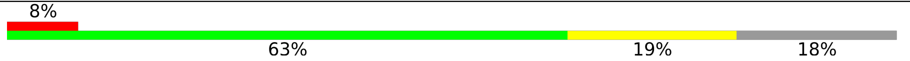
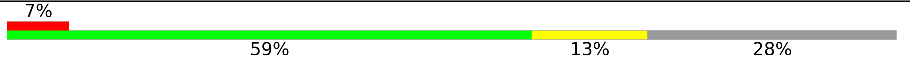
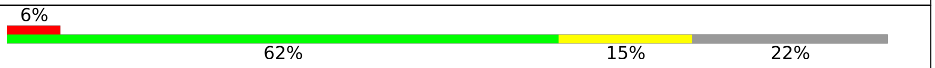
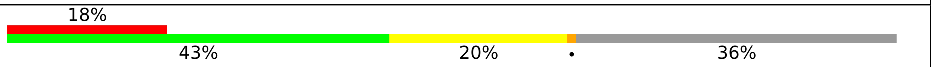
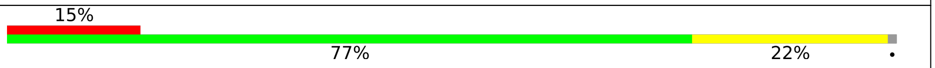
Mol	Chain	Length	Quality of chain
4	lD	257	
5	lE	402	
6	lF	431	
7	lG	286	
8	lH	204	
9	lI	230	
10	lJ	246	
11	lK	197	
12	lL	210	
13	lM	174	
14	lN	291	
15	lO	205	
16	lP	135	
17	lQ	205	
18	lR	179	
19	lS	168	
20	lT	173	
21	lU	198	
22	lV	166	
23	lW	137	
24	lX	140	
25	lY	121	
26	lZ	163	
27	la	213	
28	lb	139	

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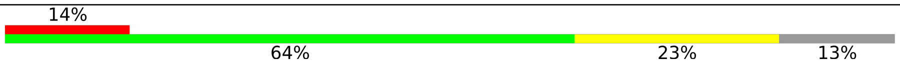
Mol	Chain	Length	Quality of chain
29	lc	149	 85% 14% • •
30	ld	64	 75% 19% 6%
31	le	109	 • 67% 25% 8%
32	lf	150	 • 71% 15% 14%
33	lg	134	 • 86% 10% •
34	lh	137	 • 66% 10% 23%
35	li	122	 • 85% 15%
36	lj	106	 89% 10% •
37	lk	104	 • 68% 17% 14%
38	ll	77	 68% 25% • 6%
39	lm	93	 • 83% 13% • •
40	ln	84	 14% 64% 23% 13%
41	lo	51	 84% 14% •
42	lp	56	 • 71% 20% • 5%
43	lq	98	 77% 17% 6%
44	ls	14	 100%
45	sH	76	 12% 9% • 78%

2 Entry composition

There are 45 unique types of molecules in this entry. The entry contains 122723 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 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	lA	3158	67497	30260	12256	21823	3158	0	0

- Molecule 2 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	lB	145	3097	1390	560	1002	145	0	0

- Molecule 3 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	lC	117	2477	1108	425	827	117	0	0

- Molecule 4 is a protein called Large ribosomal subunit protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	lD	246	1881	1165	382	326	8	0	0

- Molecule 5 is a protein called 60S ribosomal protein L3, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	lE	388	3085	1961	579	530	15	0	0

- Molecule 6 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	lF	424	3253	2069	619	551	14	0	0

- Molecule 7 is a protein called 60S ribosomal protein L5, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	lG	280	2232	1427	403	394	8	0	0

- Molecule 8 is a protein called Large ribosomal subunit protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	lH	168	1323	872	226	221	4	0	0

- Molecule 9 is a protein called 60S ribosomal protein L7, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	lI	210	1658	1067	301	282	8	0	0

- Molecule 10 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	lJ	178	1451	938	270	238	5	0	0

- Molecule 11 is a protein called 60S ribosomal protein L9, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	lK	193	1538	974	279	279	6	0	0

- Molecule 12 is a protein called Ribosomal protein L10, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	lL	200	1597	1017	302	264	14	0	0

- Molecule 13 is a protein called 60S ribosomal protein L11, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	lM	170	1350	857	243	245	5	0	0

- Molecule 14 is a protein called 60S ribosomal protein L13, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	lN	226	1815	1151	356	301	7	0	0

- Molecule 15 is a protein called 60S ribosomal protein L13, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	lO	204	1616	1030	302	275	9	0	0

- Molecule 16 is a protein called 60S ribosomal protein L14, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	lP	130	1020	654	188	174	4	0	0

- Molecule 17 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	lQ	204	1676	1051	356	264	5	0	0

- Molecule 18 is a protein called 60S ribosomal protein L17, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	lR	155	1211	765	234	207	5	0	0

- Molecule 19 is a protein called 60S ribosomal protein L18, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	lS	167	1316	832	257	218	9	0	0

- Molecule 20 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	lT	173	1413	910	259	235	9	0	0

- Molecule 21 is a protein called Ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	lU	150	Total 1235	C 787	N 246	O 197	S 5	0	0

- Molecule 22 is a protein called 60S ribosomal protein L21, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	lV	165	Total 1320	C 846	N 254	O 217	S 3	0	0

- Molecule 23 is a protein called Large ribosomal subunit protein eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	lW	87	Total 716	C 463	N 123	O 125	S 5	0	0

- Molecule 24 is a protein called 60S ribosomal protein L23, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	lX	133	Total 1015	C 629	N 196	O 182	S 8	0	0

- Molecule 25 is a protein called Ribosomal protein L23A, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	lY	116	Total 926	C 597	N 166	O 159	S 4	0	0

- Molecule 26 is a protein called 60S ribosomal protein L24, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	lZ	57	Total 481	C 318	N 88	O 73	S 2	0	0

- Molecule 27 is a protein called 60S ribosomal protein L26, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	la	210	Total 1651	C 1055	N 304	O 285	S 7	0	0

- Molecule 28 is a protein called 60S ribosomal protein L27, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	lb	137	Total	C	N	O	S	0	0
			1094	707	196	187	4		

- Molecule 29 is a protein called Large ribosomal subunit protein uL15A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	lc	148	Total	C	N	O	S	0	0
			1192	757	236	194	5		

- Molecule 30 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	ld	60	Total	C	N	O	S	0	0
			478	297	97	82	2		

- Molecule 31 is a protein called 60S ribosomal protein L30, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	le	100	Total	C	N	O	S	0	0
			748	475	128	143	2		

- Molecule 32 is a protein called 60S ribosomal protein L31, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	lf	129	Total	C	N	O	S	0	0
			1048	676	194	172	6		

- Molecule 33 is a protein called 60S ribosomal protein L32, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	lg	129	Total	C	N	O	S	0	0
			1058	672	209	172	5		

- Molecule 34 is a protein called 60S ribosomal protein L34, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	lh	105	Total	C	N	O	S	0	0
			820	512	169	133	6		

- Molecule 35 is a protein called uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	li	122	974	620	188	162	4	0	0

- Molecule 36 is a protein called 60S ribosomal protein L35a, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	lj	106	841	545	158	135	3	0	0

- Molecule 37 is a protein called 60S ribosomal protein L36, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	lk	89	712	447	144	116	5	0	0

- Molecule 38 is a protein called 60S ribosomal protein L37-A, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	ll	72	591	361	132	91	7	0	0

- Molecule 39 is a protein called 60S ribosomal protein L37A, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	lm	90	688	428	135	119	6	0	0

- Molecule 40 is a protein called 60S ribosomal protein L38, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	ln	73	584	378	104	100	2	0	0

- Molecule 41 is a protein called Ribosomal protein L39, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	lo	50	432	275	91	63	3	0	0

- Molecule 42 is a protein called 60S ribosomal protein L40, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	lp	53	420	259	86	69	6	0	0

- Molecule 43 is a protein called 60S ribosomal protein L44, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	lq	92	756	480	148	122	6	0	0

- Molecule 44 is a protein called Nascent peptide.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
44	ls	14	76	45	17	14	0	0

- Molecule 45 is a RNA chain called P-tRNA.

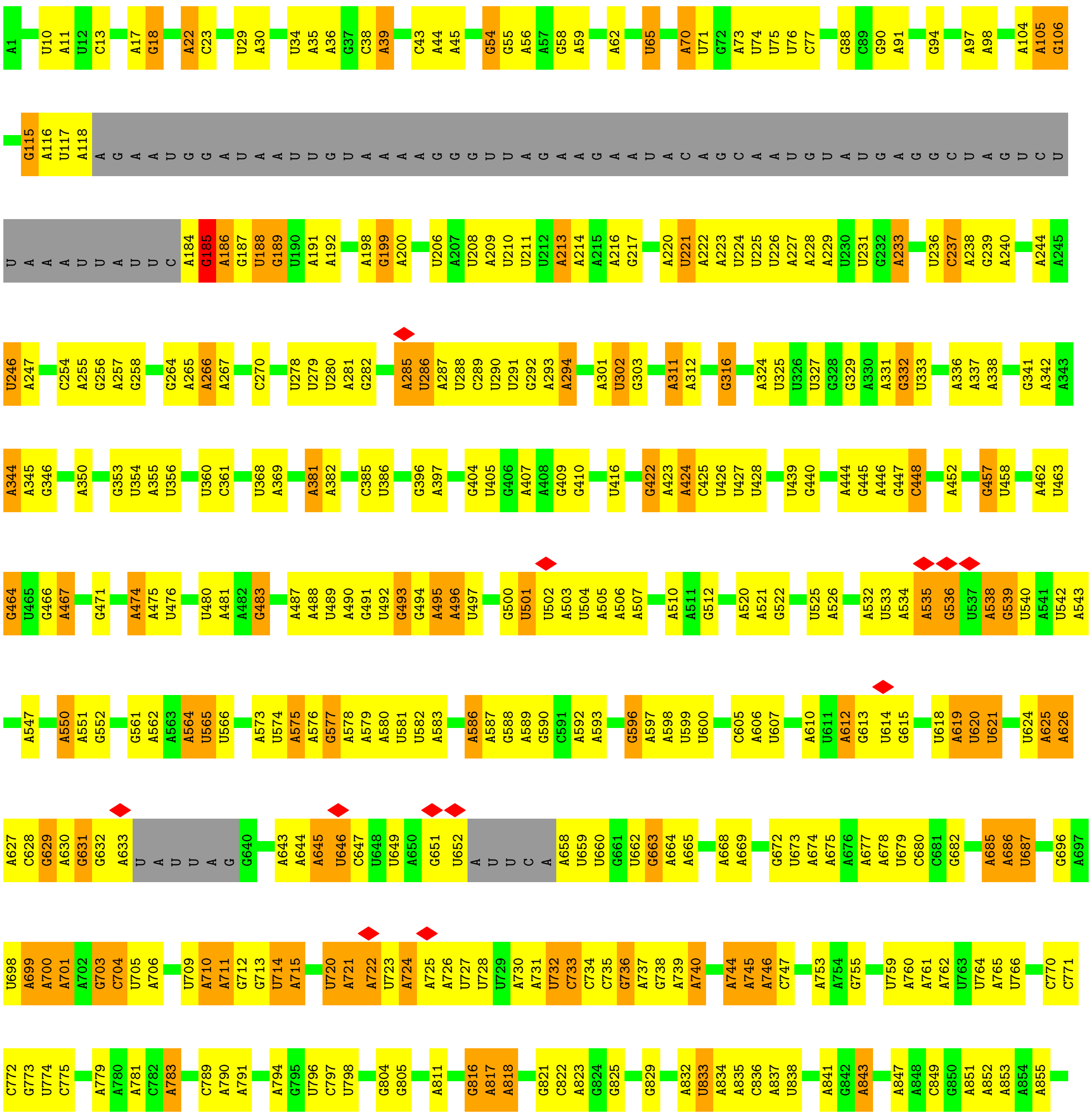
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
45	sH	17	361	162	66	116	17	0	0

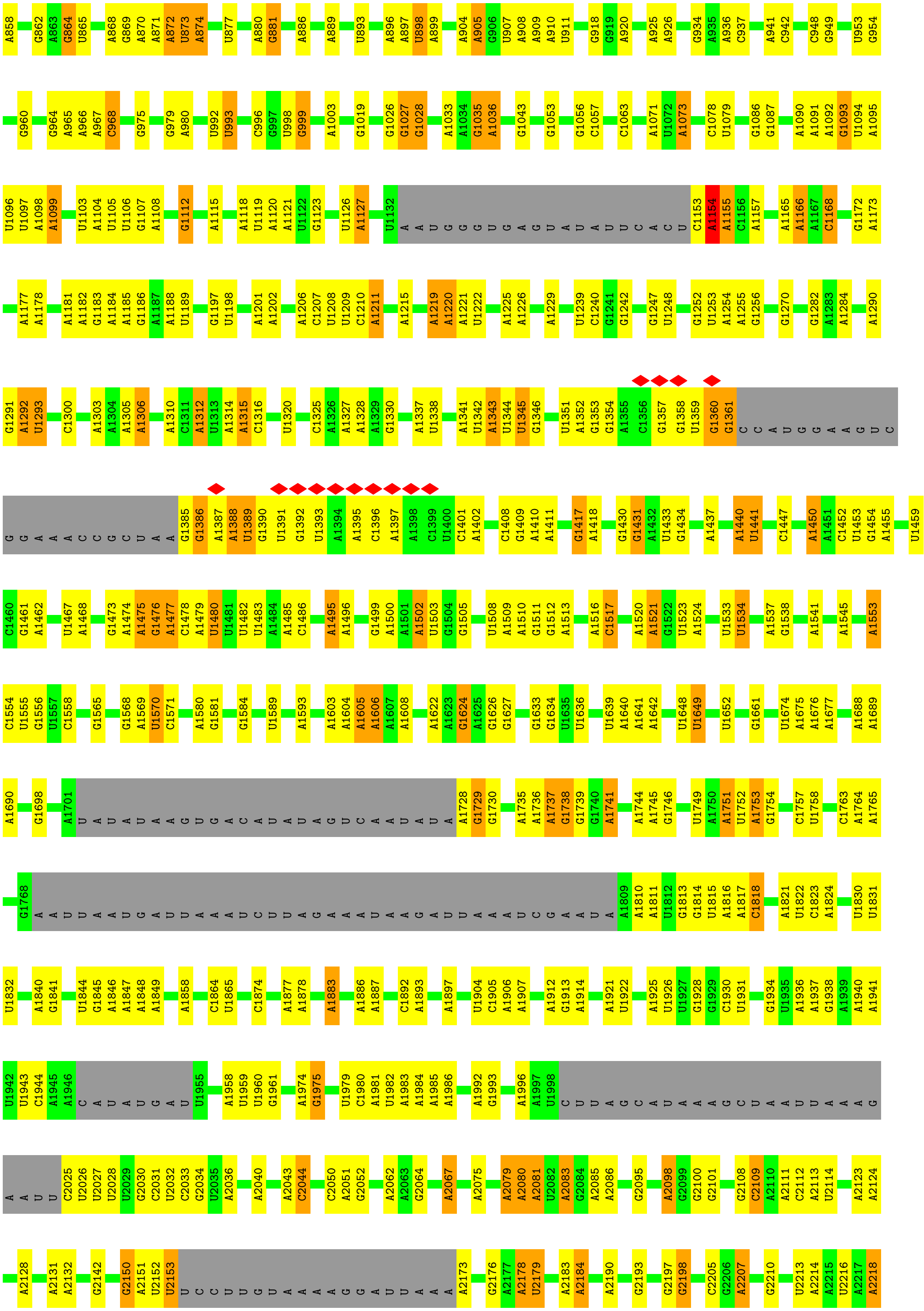
3 Residue-property plots

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: 25S rRNA

Chain 1A:

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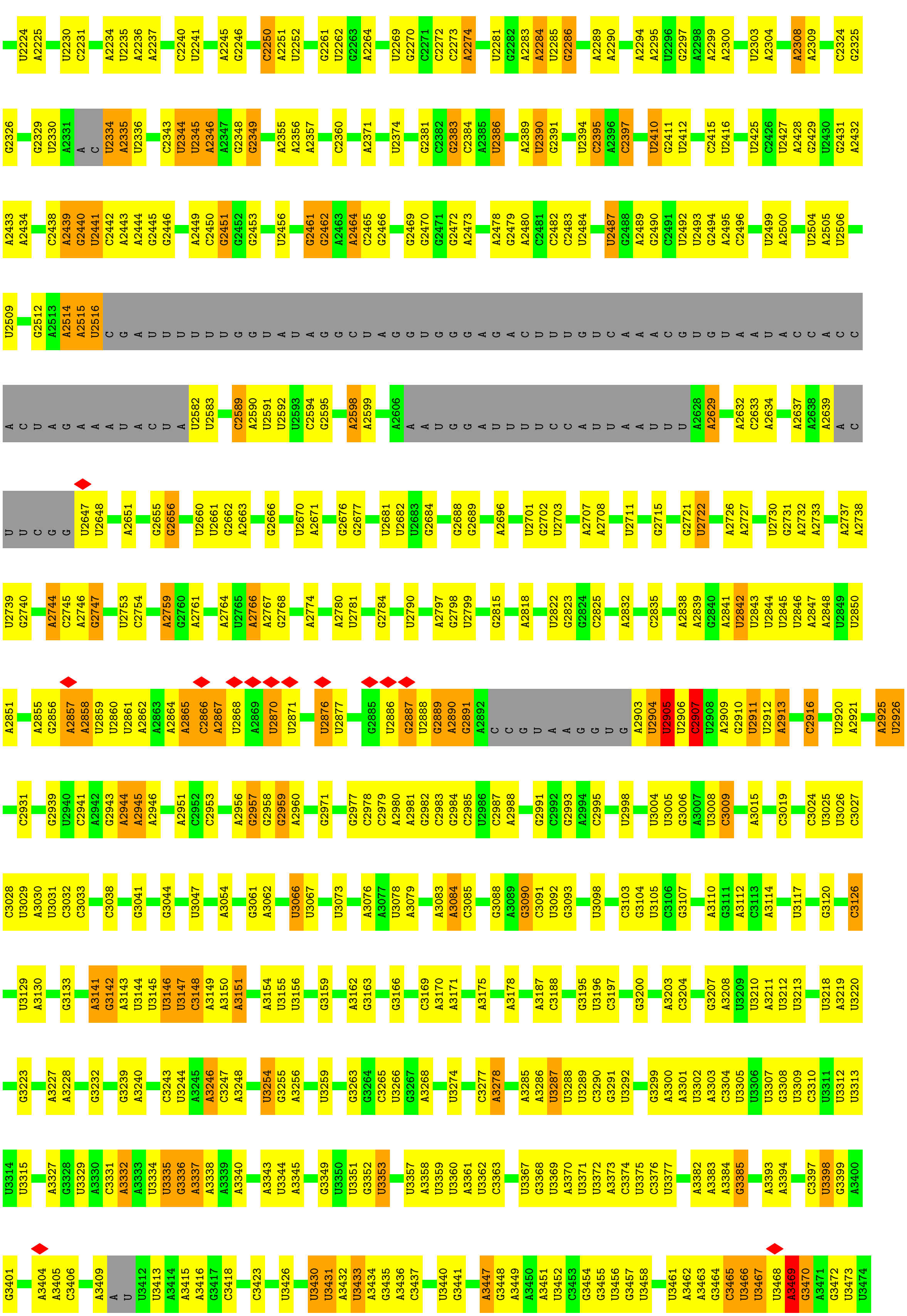
G960 G964 A965 A966 A967 C968 G975 G979 A980 U992 U993 C996 G997 U998 G999 A1003 G1019 G1026 G1027 G1028 A1033 A1034 G1035 A1036 G1043 G1053 G1056 C1057 C1063 A1071 U1072 A1073 C1078 U1079 G1086 G1087 A1090 A1091 A1092 G1093 U1094 A1095
U1096 U1097 A1098 A1099 U1103 A1104 U1105 U1106 G1107 A1108 G1112 A1115 A1118 U1119 A1120 A1121 U1122 G1123 U1126 A1127 U1132 A A U G G G U G A G U A U A U U C A C U C1153 A1154 A1155 C1156 A1157 A1165 A1166 A1167 C1168 G1172 A1173
A1177 A1178 A1181 A1182 G1183 A1184 A1185 G1186 A1187 A1188 U1189 G1197 U1198 A1201 A1202 A1206 C1207 U1208 U1209 C1210 A1211 A1215 A1219 A1220 A1221 U1222 A1225 A1226 A1229 U1239 C1240 G1241 G1242 G1247 U1248 G1252 U1253 A1254 A1255 G1256 G1270 G1282 A1283 A1284 A1290
G1291 A1292 U1293 C1300 A1303 A1304 A1305 A1306 A1310 C1311 A1312 U1313 A1314 A1315 C1316 U1320 C1325 A1326 A1327 A1328 A1329 G1330 A1337 U1338 A1341 U1342 A1343 U1344 U1345 G1346 U1351 A1352 G1353 G1354 A1355 C1356 G1357 G1358 U1359 G1360 G1361 C C A U G G A A G U C
G G A A A C C G C U A A G1385 G1386 A1387 A1388 U1389 G1390 U1391 G1392 U1393 A1394 A1395 C1396 A1397 A1398 C1399 U1400 C1401 A1402 C1408 G1409 A1410 A1411 G1417 A1418 G1430 G1431 A1432 U1433 G1434 A1437 A1440 U1441 C1447 A1450 A1451 C1452 U1453 G1454 A1455 U1459
C1460 G1461 A1462 U1467 A1468 G1473 A1474 A1475 G1476 A1477 C1478 A1479 U1480 U1481 U1482 U1483 A1484 A1485 C1486 A1495 A1496 G1499 A1500 A1501 A1502 U1503 G1504 G1505 U1508 A1509 A1510 G1511 G1512 A1513 A1516 C1517 A1520 A1521 G1522 U1523 A1524 U1533 U1534 A1537 G1538 A1541 A1545 A1553
C1554 U1555 G1556 U1557 C1558 G1565 G1568 A1569 U1570 C1571 A1580 G1581 G1584 U1589 A1593 A1603 A1604 A1605 A1606 A1607 A1608 A1622 A1623 G1624 A1625 G1626 G1627 G1633 G1634 U1635 U1636 U1639 A1640 A1641 A1642 U1648 U1649 U1652 G1661 U1674 A1675 A1676 A1677 A1688 A1689
A1690 G1698 A1701 U A U A U A A G U G A C A U A U A G U C A A U A U A A1728 G1729 G1730 A1735 A1736 A1737 G1738 G1739 G1740 A1741 A1744 A1745 G1746 U1749 A1750 A1751 U1752 A1753 G1754 C1757 U1758 C1763 A1764 A1765
G1768 A A U U A A U G A U U A A A U C U U A G A A A U A A G A U U A A A U C G A A U A A1809 A1810 A1811 U1812 G1813 G1814 U1815 A1816 A1817 C1818 A1821 U1822 C1823 A1824 U1830 U1831
U1832 A1840 G1841 U1844 G1845 A1846 A1847 A1848 A1849 A1858 C1864 U1865 C1874 A1877 A1878 A1883 A1886 A1887 C1892 A1893 A1897 U1904 C1905 A1906 A1907 A1912 G1913 A1914 A1921 U1922 A1925 U1926 U1927 G1928 G1929 C1930 U1931 G1934 U1935 A1936 A1937 G1938 A1939 A1940 A1941
U1942 U1943 C1944 A1945 A1946 C A U A U G A U U1955 A1958 U1959 U1960 G1961 A1974 G1975 U1979 C1980 A1981 U1982 A1983 A1984 A1985 A1986 A1992 G1993 A1996 A1997 U1998 C U U A G C A U A A A G C U A A U U A A A G
A A U U C2025 U2026 U2027 U2028 U2029 G2030 C2031 U2032 C2033 G2034 U2035 A2036 A2040 A2043 C2044 C2050 A2051 G2052 A2062 A2063 G2064 A2067 A2075 A2079 A2080 A2081 U2082 A2083 G2084 A2085 A2086 G2095 A2098 G2099 G2100 G2101 G2108 C2109 A2110 A2111 C2112 A2113 U2114 A2123 A2124
A2128 A2131 A2132 G2142 G2150 A2151 U2152 U2153 U C C U U G U A A A A G G A U U A A A A2173 G2176 A2177 A2178 U2179 A2183 A2184 A2190 G2193 G2197 G2198 C2205 G2206 A2207 G2210 U2213 A2214 A2215 U2216 A2217 A2218


U2224 A2225 U2230 C2231 A2234 U2235 A2236 G2237 C2240 U2241 A2245 G2246 C2250 A2251 U2252 G2261 U2262 G2263 A2264 U2269 G2270 C2271 C2272 C2273 A2274 U2281 G2282 A2283 A2284 U2285 G2286 A2289 A2290 A2294 A2295 U2296 G2297 A2298 A2299 A2300 U2303 A2304 A2308 A2309 C2324 G2325
G2326 G2329 U2330 A2331 A C U2334 A2335 U2336 C2343 U2344 U2345 A2346 A2347 G2348 G2349 A2355 A2356 A2357 C2360 A2371 U2374 G2381 C2382 G2383 C2384 A2385 U2386 A2389 U2390 G2391 U2394 C2395 A2396 C2397 U2410 G2411 U2412 C2415 U2416 U2425 C2426 U2427 A2428 G2429 U2430 G2431 A2432
A2433 A2434 C2438 A2439 G2440 U2441 C2442 A2443 A2444 G2445 G2446 A2449 C2450 G2451 G2452 G2453 U2456 G2461 G2462 A2463 A2464 C2465 G2466 G2469 G2470 G2471 G2472 A2473 A2478 G2479 A2480 C2481 C2482 C2483 U2484 U2487 G2488 A2489 G2490 C2491 U2492 U2493 G2494 A2495 C2496 U2499 A2500 U2504 A2505 U2506
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A C U A G A A A U A C U A U2582 U2583 C2589 A2590 U2591 U2592 U2593 C2594 G2595 A2598 A2599 A2606 A A U G G A U U U U C C A U U A A U U U A2628 A2629 A2632 C2633 A2634 A2637 A2638 A2639 A C
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U2739 G2740 A2744 C2745 A2746 G2747 U2753 C2754 A2759 G2760 A2761 A2764 U2765 A2766 A2767 G2768 A2774 A2780 U2781 G2784 U2790 A2797 G2798 U2799 G2815 A2818 U2822 G2823 G2824 C2825 A2832 C2835 A2838 A2839 G2840 A2841 U2842 U2843 U2844 U2845 U2846 A2847 A2848 U2849 U2850
A2851 A2855 G2856 A2857 A2858 U2859 U2860 U2861 A2862 G2863 A2864 A2865 C2866 A2867 U2868 A2869 U2870 U2871 U2876 U2877 G2885 U2886 G2887 U2888 G2889 A2890 G2891 A2892 C C G U A A G G U G A2903 U2904 U2905 U2906 C2907 U2908 A2909 G2910 U2911 U2912 A2913 C2916 U2920 A2921 A2925 U2926
C2931 G2939 U2940 C2941 A2942 G2943 A2944 A2945 A2946 A2951 C2952 C2953 A2956 G2957 G2958 G2959 A2960 G2971 G2977 C2978 C2979 A2980 A2981 G2982 C2983 G2984 C2985 U2986 C2987 A2988 G2991 C2992 G2993 A2994 C2995 U2998 U3004 U3005 G3006 A3007 U3008 C3009 A3015 C3019 C3024 U3025 U3026 C3027
C3028 U3029 A3030 U3031 C3032 C3033 C3038 G3041 G3044 U3047 A3054 G3061 A3062 U3066 U3067 U3073 A3076 A3077 U3078 A3079 A3083 A3084 C3085 G3088 A3089 G3090 C3091 U3092 G3093 U3098 C3103 G3104 U3105 C3106 G3107 A3110 G3111 A3112 C3113 A3114 U3117 G3120 C3126
U3129 A3130 G3133 A3141 G3142 A3143 U3144 U3145 U3146 U3147 C3148 A3149 A3150 A3151 A3154 U3155 U3156 G3159 A3162 G3163 G3166 C3169 A3170 A3171 A3175 A3178 A3187 C3188 G3195 U3196 C3197 G3200 A3203 C3204 G3207 A3208 U3209 U3210 A3211 U3212 U3213 U3218 A3219 U3220
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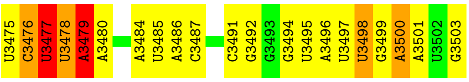
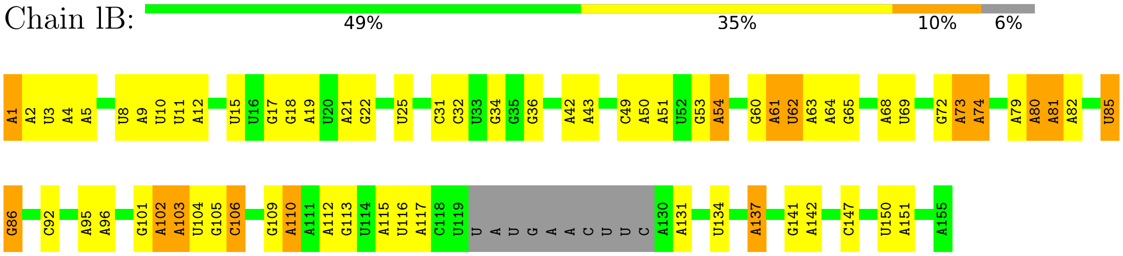


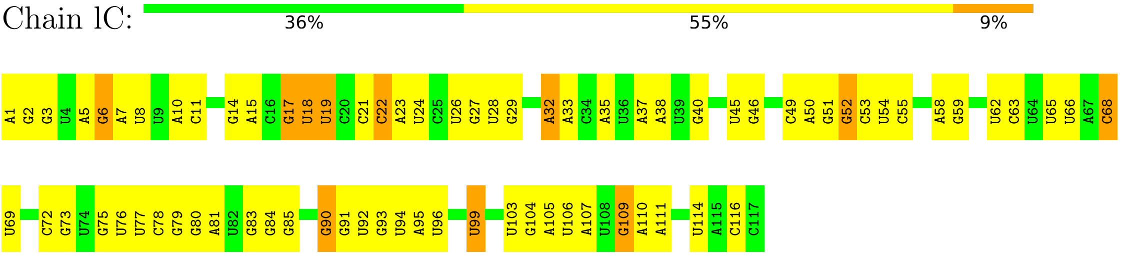
- Molecule 2: 5.8S rRNA

Chain lB:



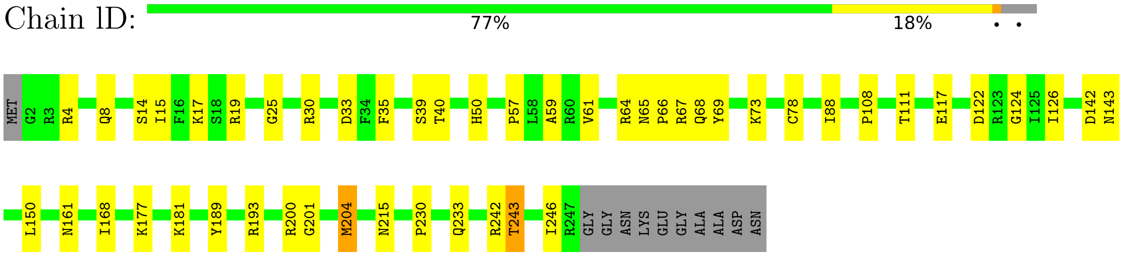
- Molecule 3: 5S rRNA

Chain lC:



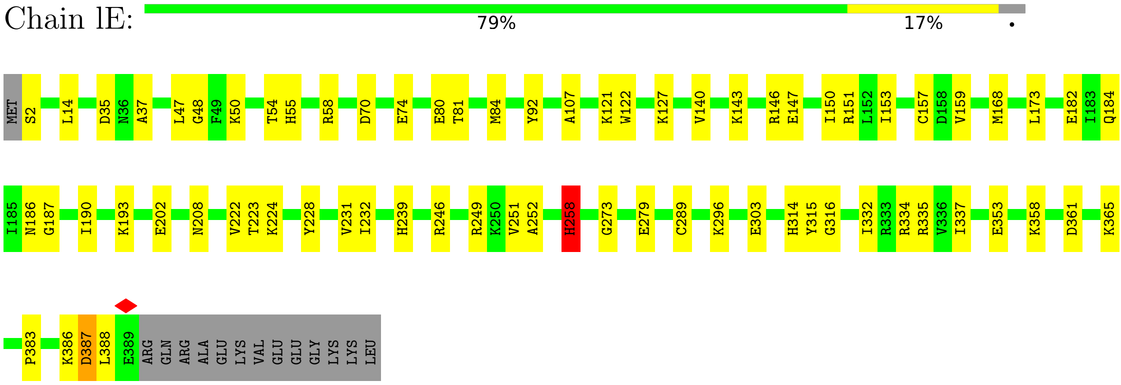
- Molecule 4: Large ribosomal subunit protein uL2

Chain lD:



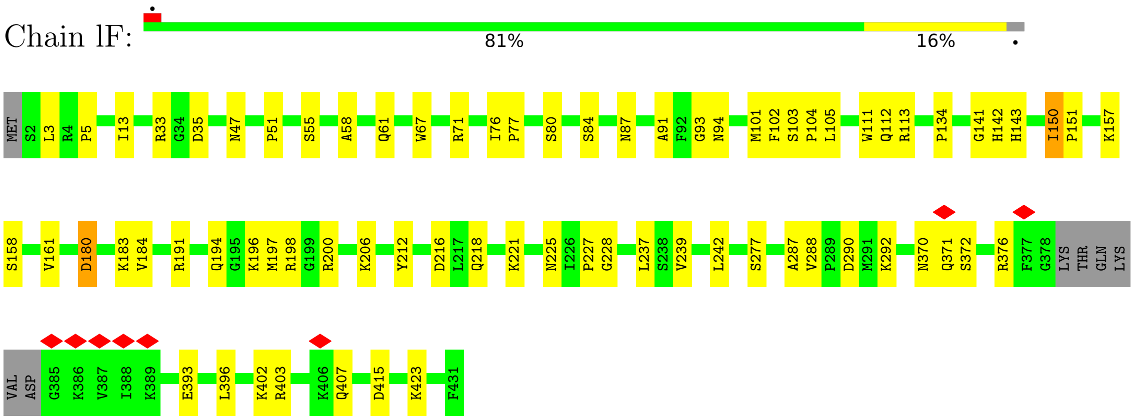
- Molecule 5: 60S ribosomal protein L3, putative

Chain lE:



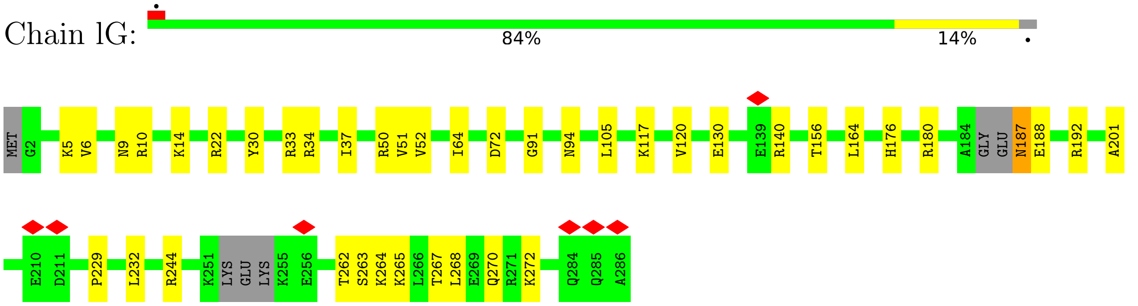
- Molecule 6: Large ribosomal subunit protein uL4

Chain lF:



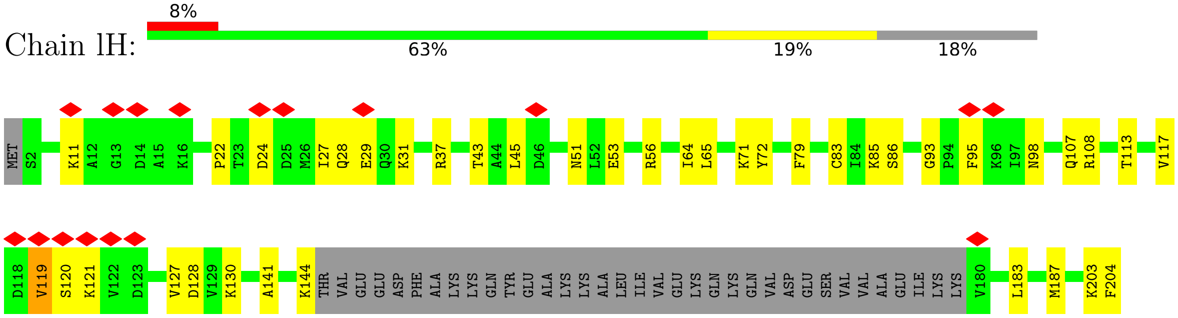
- Molecule 7: 60S ribosomal protein L5, putative

Chain lG:



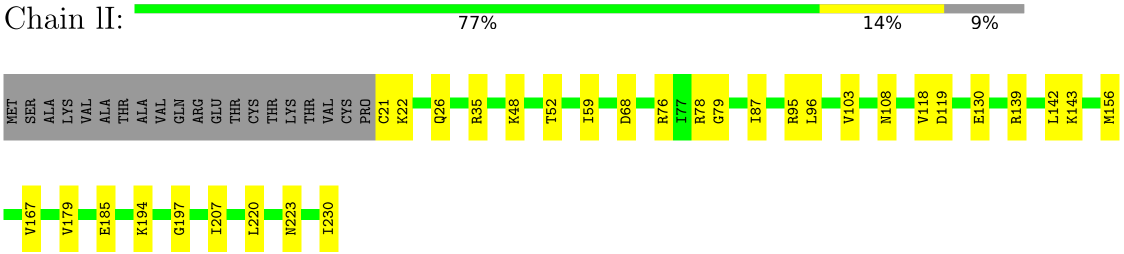
- Molecule 8: Large ribosomal subunit protein eL6

Chain lH:



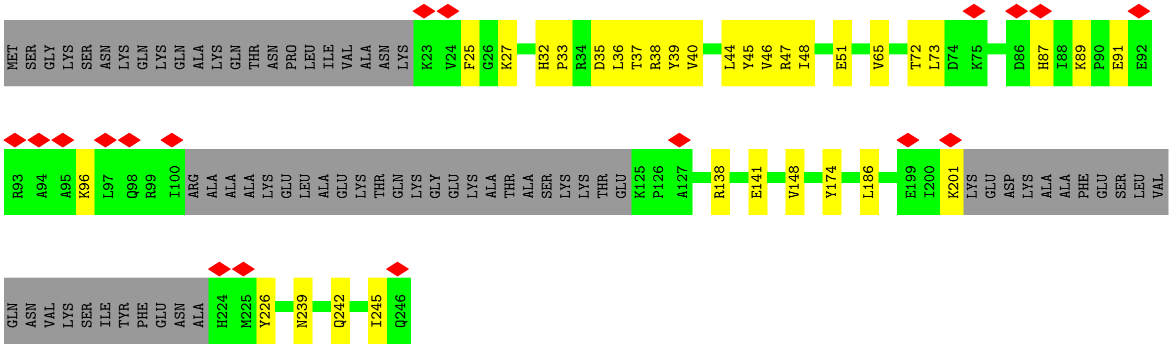
- Molecule 9: 60S ribosomal protein L7, putative

Chain lI:



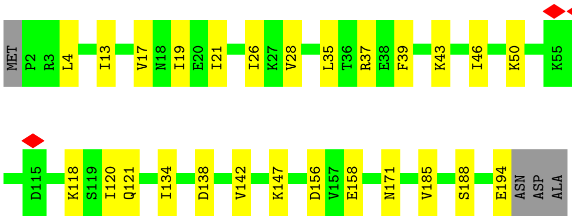
- Molecule 10: 60S ribosomal protein L7a

Chain lJ:



- Molecule 11: 60S ribosomal protein L9, putative

Chain lK:

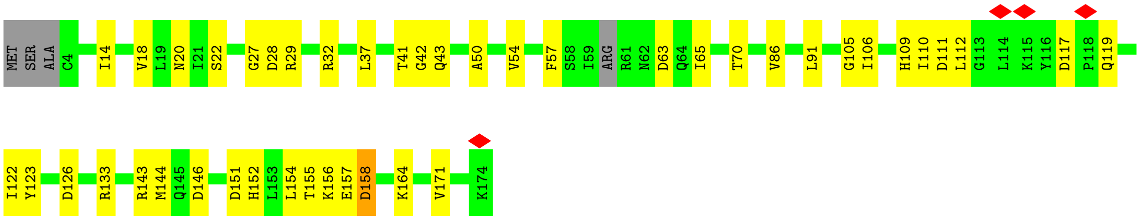


- Molecule 12: Ribosomal protein L10, putative

Chain lL:

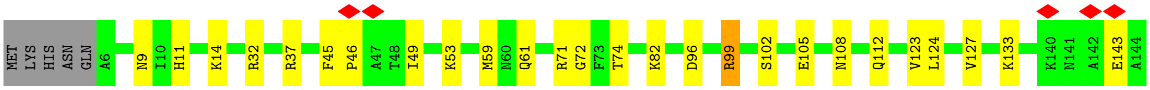
- Molecule 13: 60S ribosomal protein L11, putative

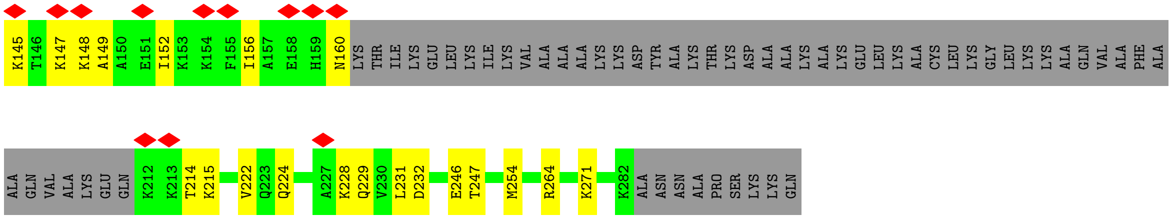
Chain lM:



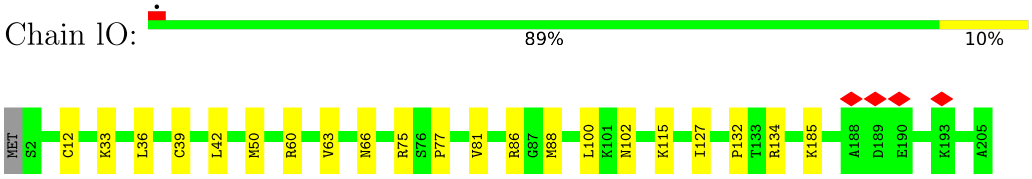
- Molecule 14: 60S ribosomal protein L13, putative

Chain lN:

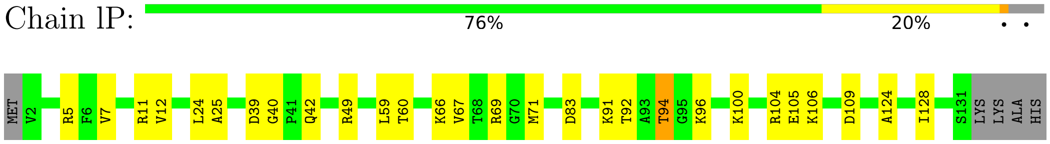




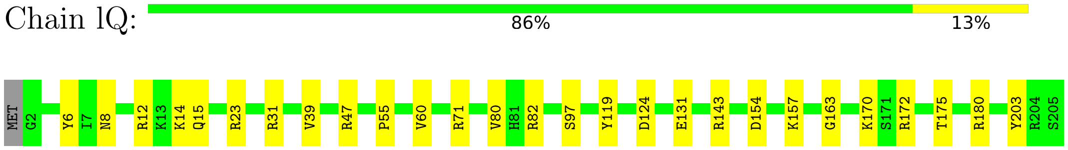
- Molecule 15: 60S ribosomal protein L13, putative



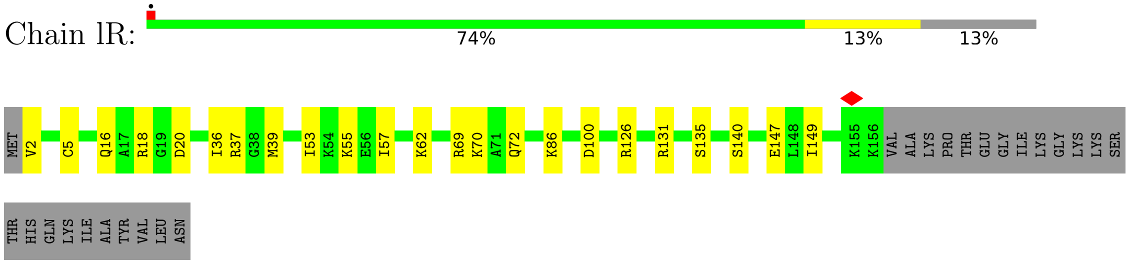
- Molecule 16: 60S ribosomal protein L14, putative



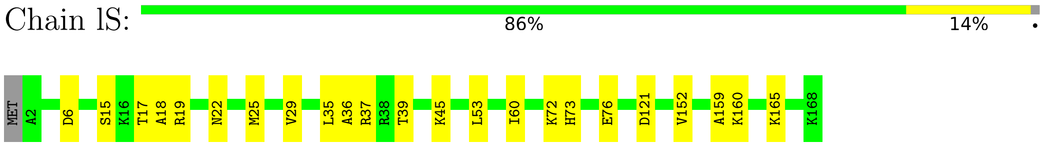
- Molecule 17: Ribosomal protein L15



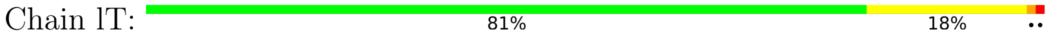
- Molecule 18: 60S ribosomal protein L17, putative

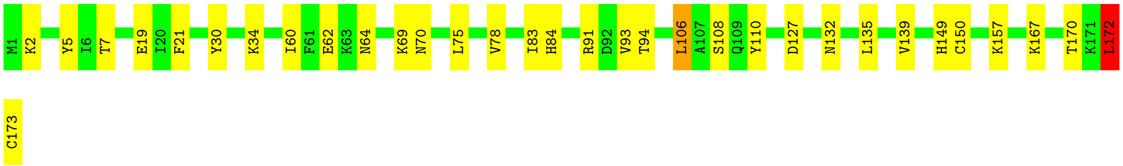


- Molecule 19: 60S ribosomal protein L18, putative



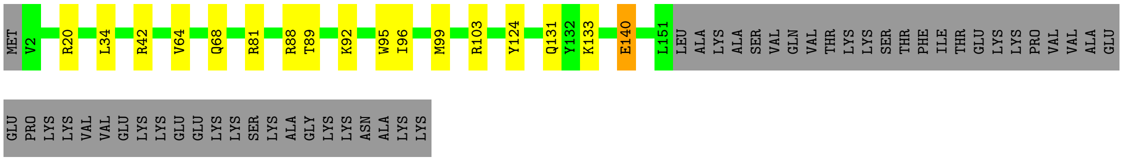
- Molecule 20: 60S ribosomal protein L18a





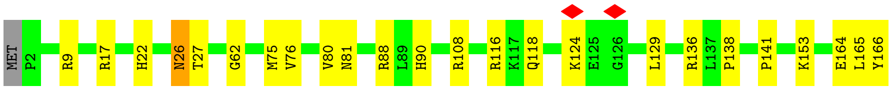
- Molecule 21: Ribosomal protein L19

Chain lU:



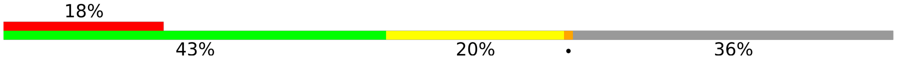
- Molecule 22: 60S ribosomal protein L21, putative

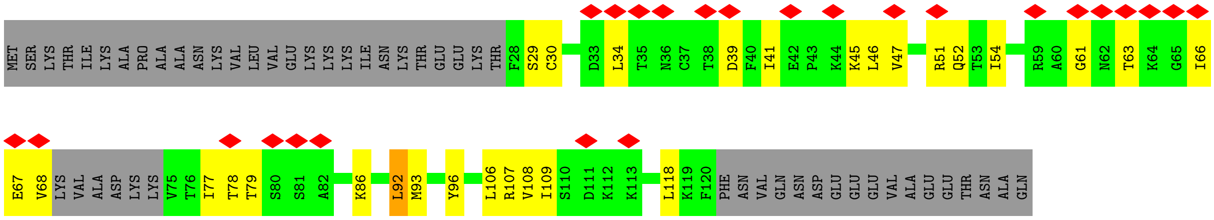
Chain lV:



- Molecule 23: Large ribosomal subunit protein eL22

Chain lW:



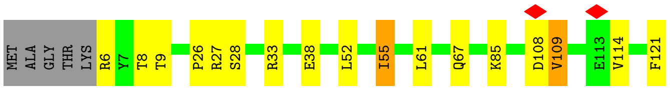


- Molecule 24: 60S ribosomal protein L23, putative

Chain lX:

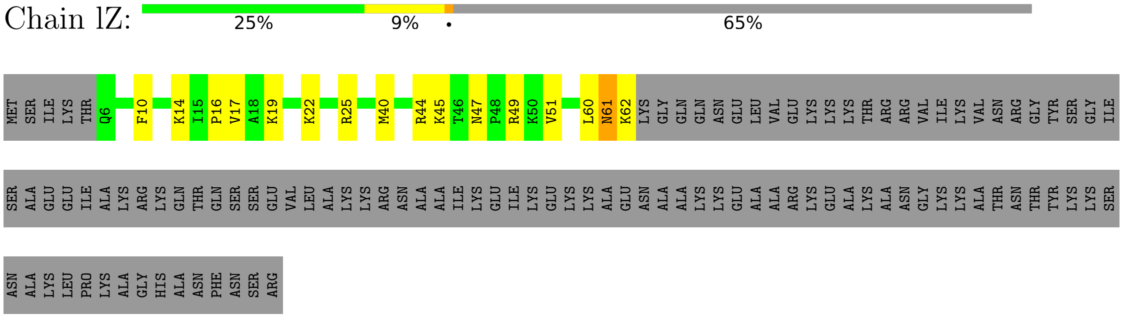
- Molecule 25: Ribosomal protein L23A, putative

Chain lY:



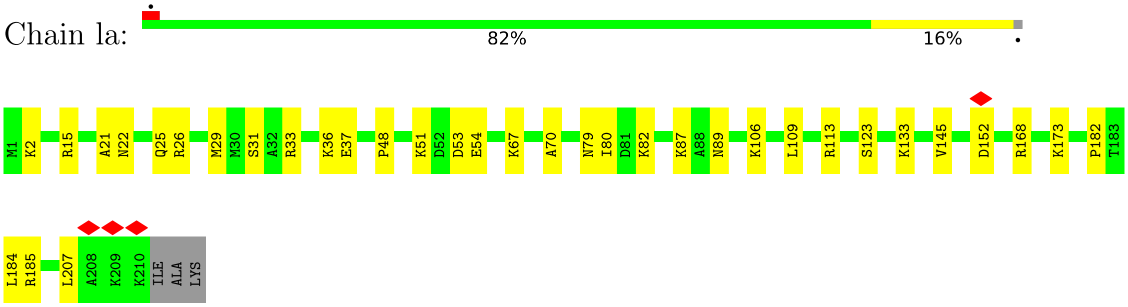
- Molecule 26: 60S ribosomal protein L24, putative

Chain lZ:



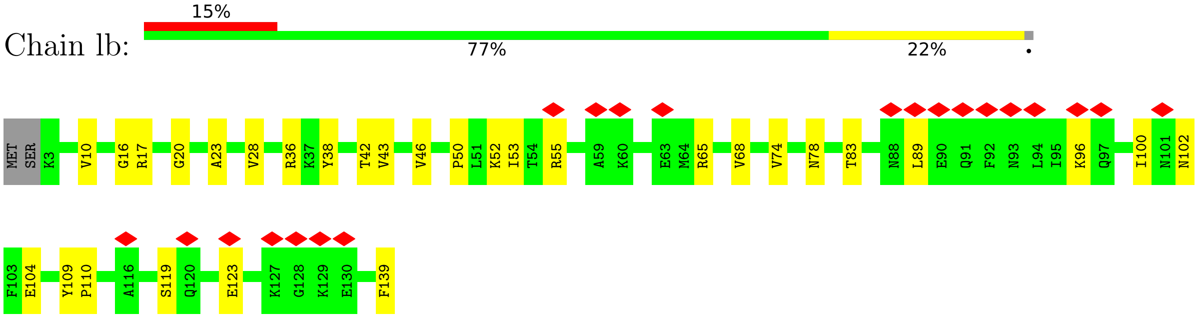
- Molecule 27: 60S ribosomal protein L26, putative

Chain la:



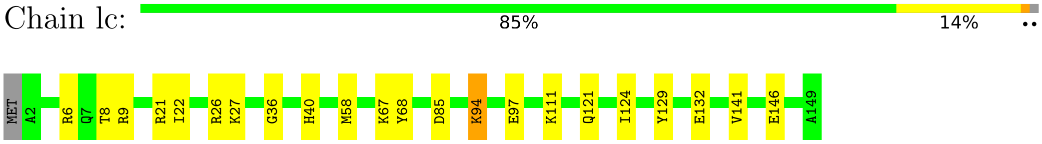
- Molecule 28: 60S ribosomal protein L27, putative

Chain lb:



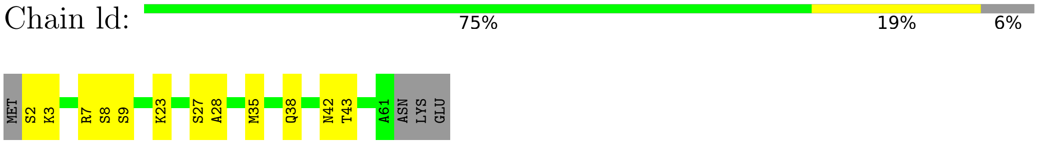
- Molecule 29: Large ribosomal subunit protein uL15A

Chain lc:



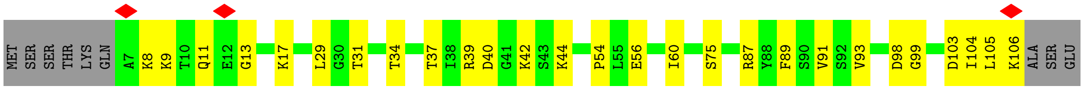
- Molecule 30: 60S ribosomal protein L29

Chain ld:



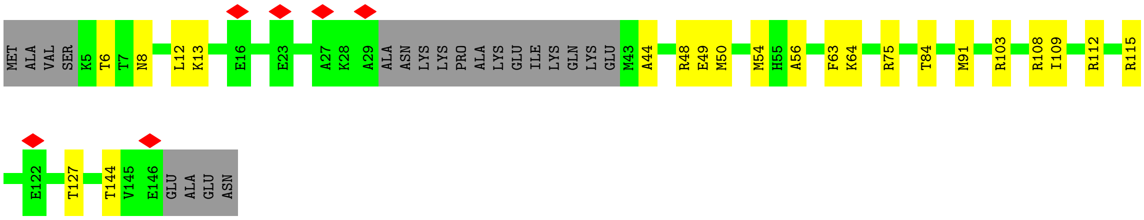
- Molecule 31: 60S ribosomal protein L30, putative

Chain le:



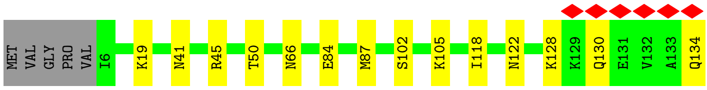
- Molecule 32: 60S ribosomal protein L31, putative

Chain lf:



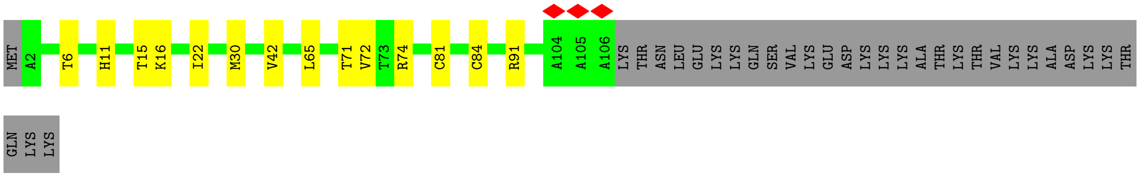
- Molecule 33: 60S ribosomal protein L32, putative

Chain lg:



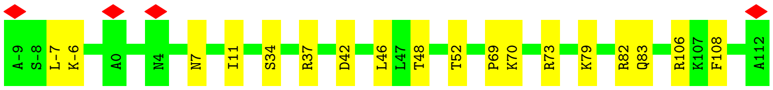
- Molecule 34: 60S ribosomal protein L34, putative

Chain lh:



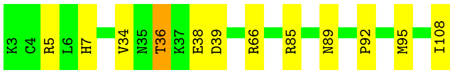
- Molecule 35: uL29

Chain li:



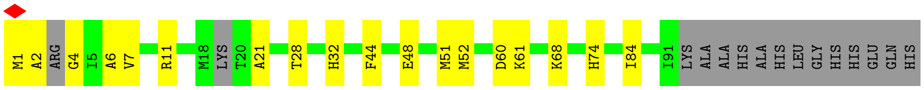
- Molecule 36: 60S ribosomal protein L35a, putative

Chain lj:

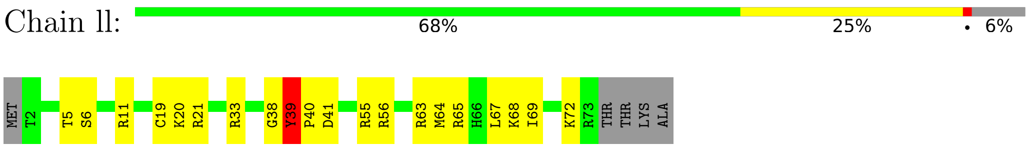


- Molecule 37: 60S ribosomal protein L36, putative

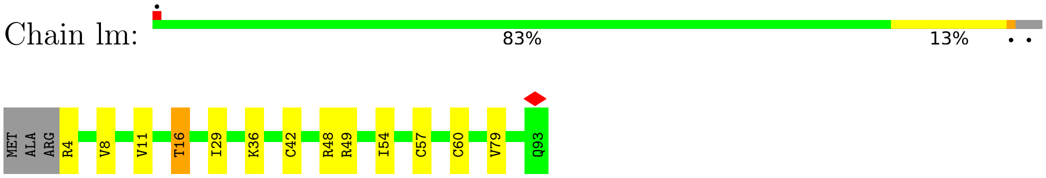
Chain lk:



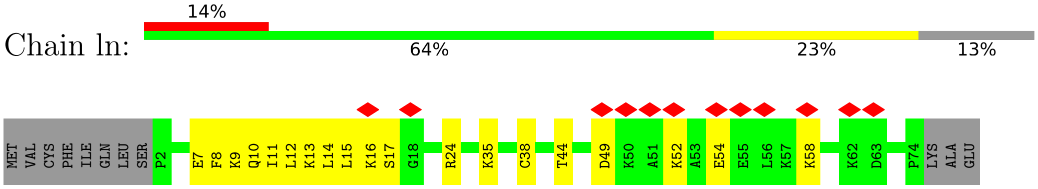
- Molecule 38: 60S ribosomal protein L37-A, putative



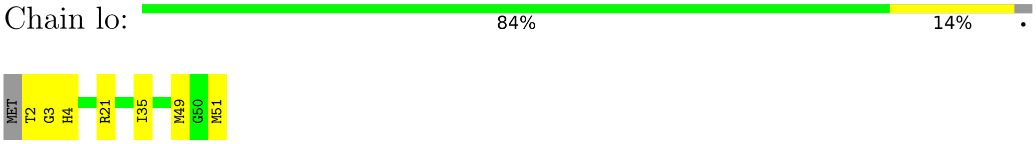
- Molecule 39: 60S ribosomal protein L37A, putative



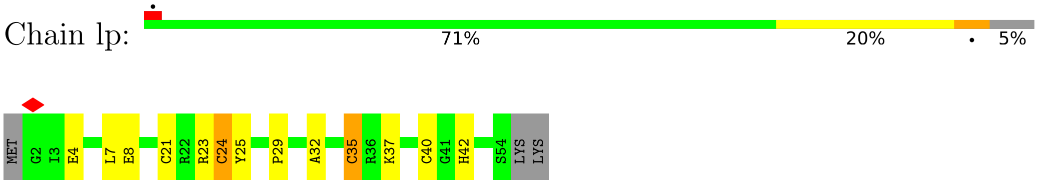
- Molecule 40: 60S ribosomal protein L38, putative



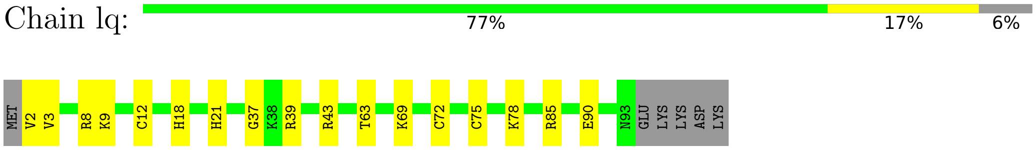
- Molecule 41: Ribosomal protein L39, putative



- Molecule 42: 60S ribosomal protein L40, putative



- Molecule 43: 60S ribosomal protein L44, putative



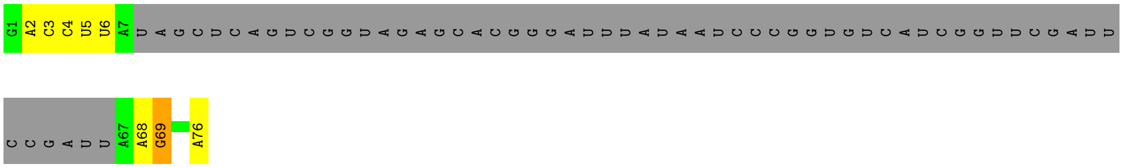
- Molecule 44: Nascent peptide

Chain ls:

There are no outlier residues recorded for this chain.

- Molecule 45: P-tRNA

Chain sH:



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	53764	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\mathrm{\AA}^2$)	1.106	Depositor
Minimum defocus (nm)	1800	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	75000	Depositor
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	15.718	Depositor
Minimum map value	-3.902	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	1.000	Depositor
Recommended contour level	2.5	Depositor
Map size (Å)	374.50003, 374.50003, 374.50003	wwPDB
Map dimensions	350, 350, 350	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.07, 1.07, 1.07	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	lA	0.25	5/75634 (0.0%)	0.33	10/117816 (0.0%)
2	lB	0.24	0/3470	0.32	1/5401 (0.0%)
3	lC	0.25	0/2765	0.39	2/4303 (0.0%)
4	lD	0.22	0/1920	0.31	0/2582
5	lE	0.21	0/3149	0.27	0/4228
6	lF	0.20	0/3311	0.27	0/4446
7	lG	0.19	0/2270	0.30	0/3039
8	lH	0.17	0/1352	0.30	0/1819
9	lI	0.20	0/1680	0.26	0/2252
10	lJ	0.17	0/1477	0.32	0/1983
11	lK	0.18	0/1562	0.25	0/2103
12	lL	0.19	0/1633	0.28	0/2184
13	lM	0.17	0/1369	0.27	0/1834
14	lN	0.20	0/1842	0.29	0/2460
15	lO	0.20	0/1646	0.28	0/2209
16	lP	0.20	0/1032	0.25	0/1388
17	lQ	0.23	0/1707	0.24	0/2276
18	lR	0.21	0/1230	0.24	0/1647
19	lS	0.22	0/1337	0.27	0/1789
20	lT	0.21	0/1445	0.27	0/1946
21	lU	0.20	0/1253	0.27	0/1666
22	lV	0.20	0/1351	0.26	0/1819
23	lW	0.12	0/726	0.30	0/967
24	lX	0.22	0/1030	0.28	0/1384
25	lY	0.17	0/941	0.25	0/1262
26	lZ	0.21	0/492	0.24	0/656
27	la	0.17	0/1673	0.24	0/2236
28	lb	0.16	0/1112	0.25	0/1489
29	lc	0.23	0/1223	0.26	0/1636
30	ld	0.22	0/485	0.29	0/639
31	le	0.19	0/756	0.35	0/1017
32	lf	0.19	0/1067	0.25	0/1425
33	lg	0.21	0/1075	0.24	0/1434
34	lh	0.20	0/833	0.27	0/1115

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	li	0.16	0/984	0.25	0/1310
36	lj	0.23	0/862	0.29	0/1163
37	lk	0.16	0/721	0.26	0/955
38	ll	0.24	0/602	0.31	0/797
39	lm	0.22	0/696	0.33	0/928
40	ln	0.17	0/592	0.29	0/789
41	lo	0.23	0/444	0.22	0/587
42	lp	0.21	0/425	0.52	2/563 (0.4%)
43	lq	0.20	0/770	0.24	0/1019
44	ls	0.99	0/10	1.39	0/11
45	sH	0.15	0/402	0.24	0/621
All	All	0.23	5/132356 (0.0%)	0.31	15/195193 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
5	lE	0	1
20	lT	0	1
38	ll	0	1
All	All	0	3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	lA	2150	G	O3'-P	-7.93	1.49	1.61
1	lA	3469	A	C1'-N9	-6.04	1.38	1.48
1	lA	2905	U	O3'-P	-5.88	1.52	1.61
1	lA	3473	U	C1'-N1	5.79	1.57	1.48
1	lA	3465	C	C1'-N1	5.17	1.56	1.48

The worst 5 of 15 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	lC	62	U	OP1-P-O3'	-8.82	81.55	108.00
3	lC	62	U	OP2-P-O3'	-8.72	81.85	108.00
1	lA	3477	U	C4'-C3'-O3'	7.06	119.99	109.40
1	lA	185	G	C4'-C3'-O3'	-7.02	102.47	113.00
42	lp	24	CYS	CA-CB-SG	6.73	129.88	114.40

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
5	lE	258	HIS	Peptide
20	lT	172	LEU	Peptide
38	ll	39	TYR	Peptide

5.2 Too-close contacts ⓘ

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	lA	67497	0	33861	968	0
2	lB	3097	0	1552	44	0
3	lC	2477	0	1252	87	0
4	lD	1881	0	1928	34	0
5	lE	3085	0	3215	52	0
6	lF	3253	0	3444	52	0
7	lG	2232	0	2315	26	0
8	lH	1323	0	1425	30	0
9	lI	1658	0	1802	20	0
10	lJ	1451	0	1562	21	0
11	lK	1538	0	1598	26	0
12	lL	1597	0	1654	22	0
13	lM	1350	0	1390	29	0
14	lN	1815	0	1964	40	0
15	lO	1616	0	1700	16	0
16	lP	1020	0	1104	22	0
17	lQ	1676	0	1777	19	0
18	lR	1211	0	1280	19	0
19	lS	1316	0	1420	18	0
20	lT	1413	0	1479	21	0
21	lU	1235	0	1369	13	0
22	lV	1320	0	1406	17	0
23	lW	716	0	760	23	0
24	lX	1015	0	1054	19	0
25	lY	926	0	997	14	0
26	lZ	481	0	518	8	0
27	la	1651	0	1822	27	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	lb	1094	0	1174	24	0
29	lc	1192	0	1205	17	0
30	ld	478	0	507	8	0
31	le	748	0	794	21	0
32	lf	1048	0	1127	14	0
33	lg	1058	0	1140	14	0
34	lh	820	0	864	11	0
35	li	974	0	1093	12	0
36	lj	841	0	878	10	0
37	lk	712	0	755	13	0
38	ll	591	0	617	14	0
39	lm	688	0	728	13	0
40	ln	584	0	643	16	0
41	lo	432	0	444	6	0
42	lp	420	0	450	11	0
43	lq	756	0	821	13	0
44	ls	76	0	34	0	0
45	sH	361	0	186	5	0
All	All	122723	0	89108	1644	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 8.

The worst 5 of 1644 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)
23:lW:47:VAL:HG13	23:lW:68:VAL:CG1	1.53	1.37
1:lA:3454:G:N1	1:lA:3501:A:C2	2.16	1.14
1:lA:3454:G:N1	1:lA:3501:A:H2	1.47	1.13
1:lA:3469:A:N6	1:lA:3485:U:H3	1.46	1.12
3:lC:79:G:N1	3:lC:95:A:H2	1.45	1.12

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	
4	lD	244/257 (95%)	228 (93%)	16 (7%)	0	100	100
5	lE	386/402 (96%)	372 (96%)	13 (3%)	1 (0%)	37	70
6	lF	420/431 (97%)	401 (96%)	19 (4%)	0	100	100
7	lG	274/286 (96%)	258 (94%)	15 (6%)	1 (0%)	30	66
8	lH	164/204 (80%)	145 (88%)	17 (10%)	2 (1%)	11	41
9	lI	208/230 (90%)	199 (96%)	8 (4%)	1 (0%)	25	61
10	lJ	172/246 (70%)	166 (96%)	6 (4%)	0	100	100
11	lK	191/197 (97%)	183 (96%)	7 (4%)	1 (0%)	25	61
12	lL	196/210 (93%)	184 (94%)	12 (6%)	0	100	100
13	lM	166/174 (95%)	159 (96%)	7 (4%)	0	100	100
14	lN	222/291 (76%)	213 (96%)	9 (4%)	0	100	100
15	lO	202/205 (98%)	197 (98%)	5 (2%)	0	100	100
16	lP	128/135 (95%)	124 (97%)	4 (3%)	0	100	100
17	lQ	202/205 (98%)	194 (96%)	8 (4%)	0	100	100
18	lR	153/179 (86%)	150 (98%)	3 (2%)	0	100	100
19	lS	165/168 (98%)	154 (93%)	11 (7%)	0	100	100
20	lT	171/173 (99%)	163 (95%)	8 (5%)	0	100	100
21	lU	148/198 (75%)	147 (99%)	1 (1%)	0	100	100
22	lV	163/166 (98%)	160 (98%)	3 (2%)	0	100	100
23	lW	83/137 (61%)	79 (95%)	4 (5%)	0	100	100
24	lX	131/140 (94%)	126 (96%)	5 (4%)	0	100	100
25	lY	114/121 (94%)	111 (97%)	3 (3%)	0	100	100
26	lZ	55/163 (34%)	54 (98%)	1 (2%)	0	100	100
27	la	208/213 (98%)	199 (96%)	9 (4%)	0	100	100
28	lb	135/139 (97%)	132 (98%)	3 (2%)	0	100	100
29	lc	146/149 (98%)	138 (94%)	8 (6%)	0	100	100
30	ld	58/64 (91%)	57 (98%)	1 (2%)	0	100	100
31	le	98/109 (90%)	90 (92%)	8 (8%)	0	100	100
32	lf	125/150 (83%)	124 (99%)	1 (1%)	0	100	100
33	lg	127/134 (95%)	120 (94%)	7 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	lh	103/137 (75%)	99 (96%)	4 (4%)	0	100	100
35	li	120/122 (98%)	117 (98%)	2 (2%)	1 (1%)	16	51
36	lj	104/106 (98%)	102 (98%)	2 (2%)	0	100	100
37	lk	83/104 (80%)	83 (100%)	0	0	100	100
38	ll	70/77 (91%)	63 (90%)	5 (7%)	2 (3%)	3	20
39	lm	88/93 (95%)	79 (90%)	9 (10%)	0	100	100
40	ln	71/84 (84%)	68 (96%)	3 (4%)	0	100	100
41	lo	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
42	lp	51/56 (91%)	50 (98%)	1 (2%)	0	100	100
43	lq	90/98 (92%)	86 (96%)	4 (4%)	0	100	100
44	ls	1/14 (7%)	0	1 (100%)	0	100	100
All	All	6084/6818 (89%)	5821 (96%)	254 (4%)	9 (0%)	50	81

5 of 9 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
38	ll	40	PRO
5	lE	387	ASP
38	ll	39	TYR
35	li	-6	LYS
8	lH	119	VAL

5.3.2 Protein sidechains ⓘ

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	
4	lD	195/201 (97%)	192 (98%)	3 (2%)	60	83
5	lE	331/343 (96%)	327 (99%)	4 (1%)	67	86
6	lF	332/345 (96%)	325 (98%)	7 (2%)	48	77
7	lG	226/231 (98%)	222 (98%)	4 (2%)	54	80
8	lH	141/173 (82%)	140 (99%)	1 (1%)	81	91

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	lI	178/195 (91%)	175 (98%)	3 (2%)	56	81
10	lJ	157/212 (74%)	154 (98%)	3 (2%)	52	79
11	lK	171/174 (98%)	169 (99%)	2 (1%)	67	86
12	lL	169/176 (96%)	169 (100%)	0	100	100
13	lM	144/147 (98%)	139 (96%)	5 (4%)	31	65
14	lN	193/243 (79%)	187 (97%)	6 (3%)	35	68
15	lO	167/168 (99%)	167 (100%)	0	100	100
16	lP	113/118 (96%)	112 (99%)	1 (1%)	75	89
17	lQ	171/172 (99%)	170 (99%)	1 (1%)	84	93
18	lR	127/147 (86%)	127 (100%)	0	100	100
19	lS	141/143 (99%)	141 (100%)	0	100	100
20	lT	156/156 (100%)	152 (97%)	4 (3%)	41	72
21	lU	132/174 (76%)	128 (97%)	4 (3%)	36	69
22	lV	144/145 (99%)	141 (98%)	3 (2%)	48	77
23	lW	81/125 (65%)	76 (94%)	5 (6%)	15	45
24	lX	109/113 (96%)	109 (100%)	0	100	100
25	lY	99/102 (97%)	96 (97%)	3 (3%)	36	69
26	lZ	52/137 (38%)	47 (90%)	5 (10%)	7	27
27	la	177/179 (99%)	176 (99%)	1 (1%)	84	93
28	lb	121/123 (98%)	120 (99%)	1 (1%)	79	90
29	lc	120/121 (99%)	116 (97%)	4 (3%)	33	67
30	ld	50/54 (93%)	48 (96%)	2 (4%)	27	61
31	le	84/92 (91%)	84 (100%)	0	100	100
32	lf	111/128 (87%)	110 (99%)	1 (1%)	75	89
33	lg	112/116 (97%)	112 (100%)	0	100	100
34	lh	86/116 (74%)	85 (99%)	1 (1%)	67	86
35	li	103/103 (100%)	103 (100%)	0	100	100
36	lj	89/89 (100%)	87 (98%)	2 (2%)	47	76
37	lk	71/82 (87%)	70 (99%)	1 (1%)	62	83
38	ll	60/64 (94%)	59 (98%)	1 (2%)	56	81
39	lm	72/74 (97%)	71 (99%)	1 (1%)	62	83

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
40	ln	63/73 (86%)	63 (100%)	0	100	100
41	lo	44/45 (98%)	43 (98%)	1 (2%)	45	75
42	lp	45/48 (94%)	44 (98%)	1 (2%)	47	76
43	lq	85/91 (93%)	84 (99%)	1 (1%)	67	86
44	ls	1/1 (100%)	1 (100%)	0	100	100
All	All	5223/5739 (91%)	5141 (98%)	82 (2%)	58	82

5 of 82 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
25	lY	109	VAL
30	ld	35	MET
26	lZ	17	VAL
28	lb	28	VAL
36	lj	38	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 34 such sidechains are listed below:

Mol	Chain	Res	Type
34	lh	40	ASN
41	lo	18	HIS
41	lo	36	ASN
17	lQ	67	HIS
17	lQ	32	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	lA	3141/3503 (89%)	588 (18%)	0
2	lB	143/155 (92%)	35 (24%)	0
3	lC	116/117 (99%)	19 (16%)	0
45	sH	15/76 (19%)	4 (26%)	0
All	All	3415/3851 (88%)	646 (18%)	0

5 of 646 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	lA	18	G

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Mol	Chain	Res	Type
1	lA	22	A
1	lA	29	U
1	lA	30	A
1	lA	36	A

There are no RNA pucker outliers to report.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

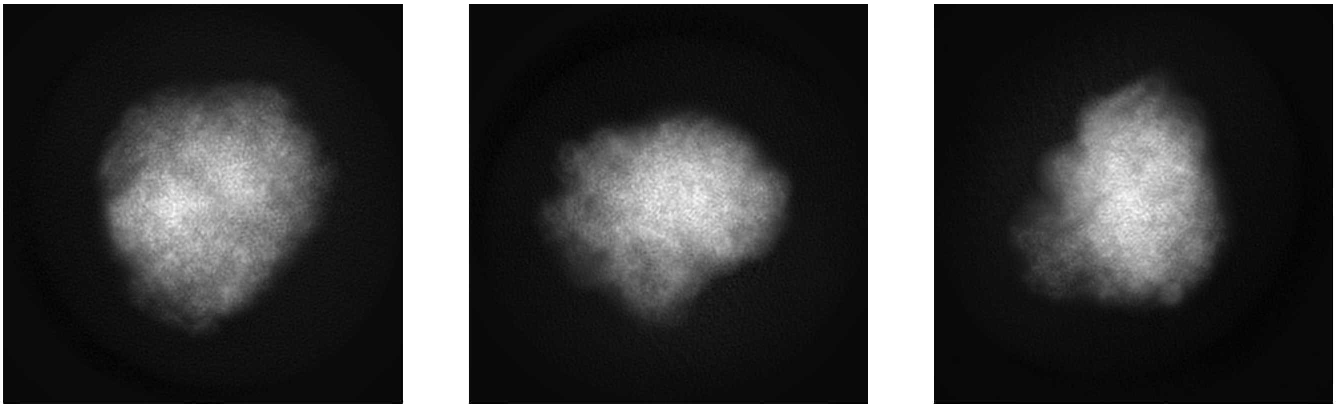
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-64697. These allow visual inspection of the internal detail of the map and identification of artifacts.

Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

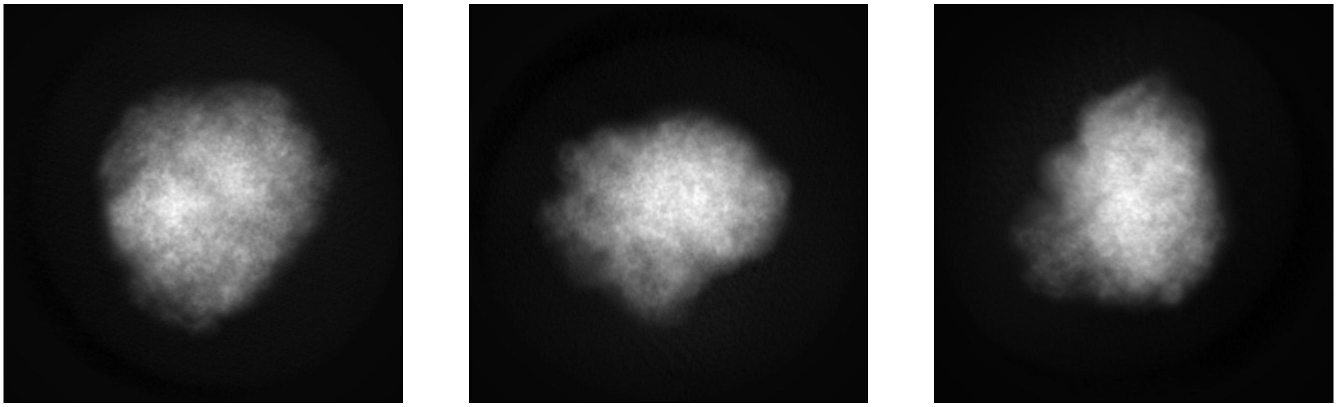
6.1 Orthogonal projections

6.1.1 Primary map



X Y Z

6.1.2 Raw map

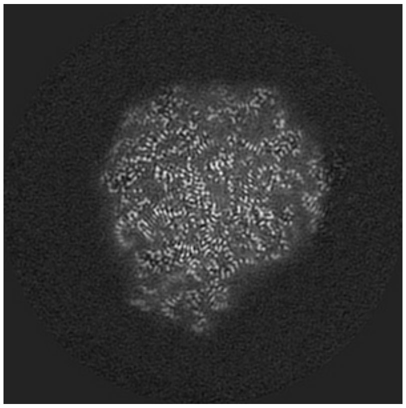


X Y Z

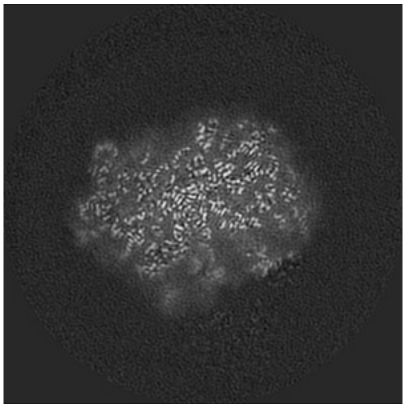
The images above show the map projected in three orthogonal directions.

6.2 Central slices

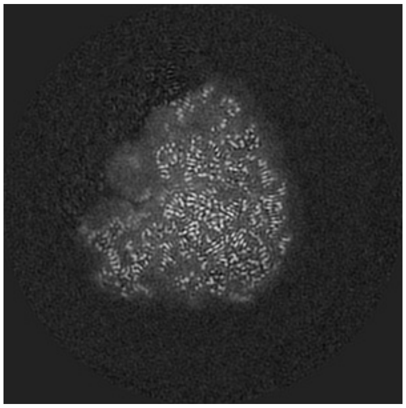
6.2.1 Primary map



X Index: 175

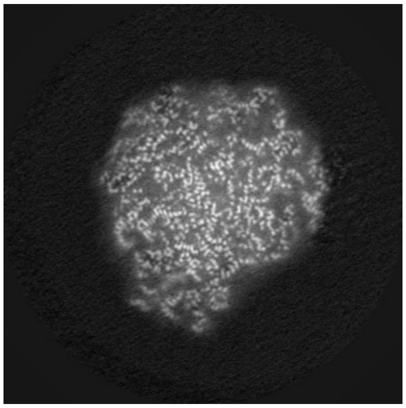


Y Index: 175

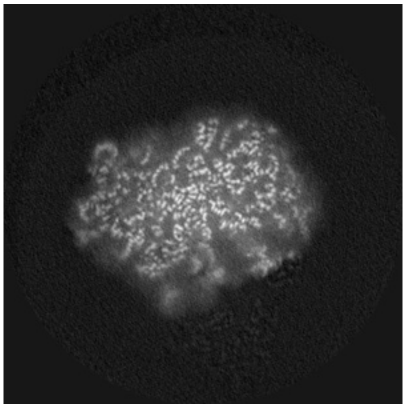


Z Index: 175

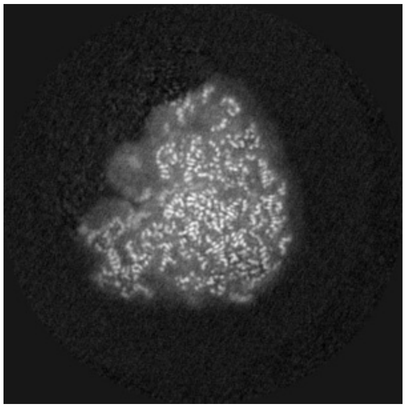
6.2.2 Raw map



X Index: 175



Y Index: 175

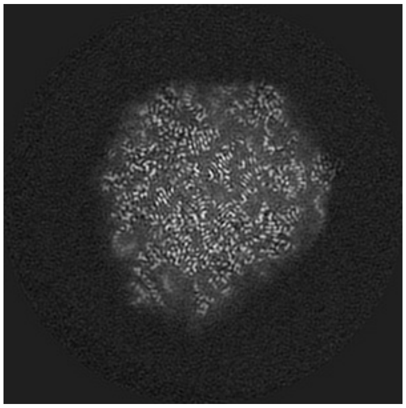


Z Index: 175

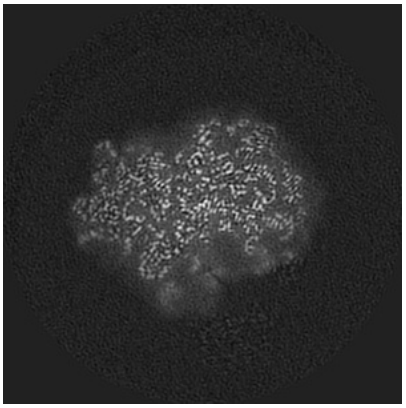
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices

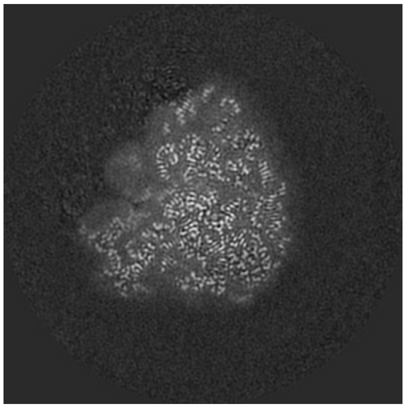
6.3.1 Primary map



X Index: 181

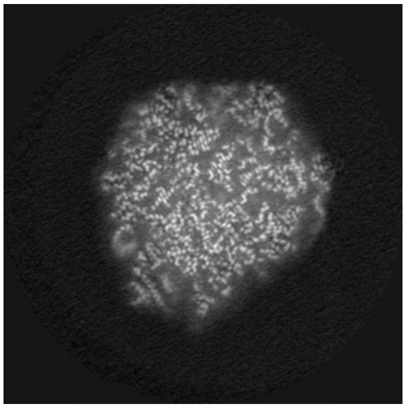


Y Index: 171

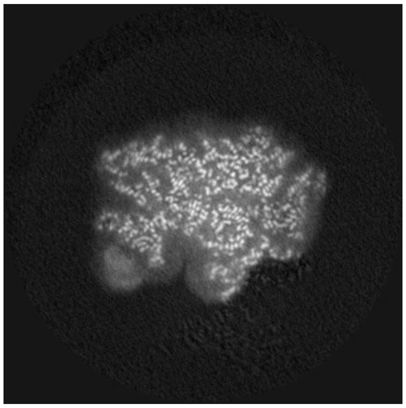


Z Index: 176

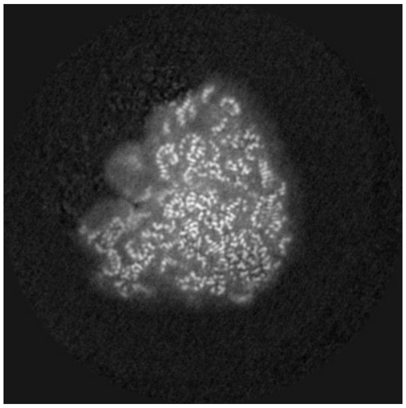
6.3.2 Raw map



X Index: 181



Y Index: 205

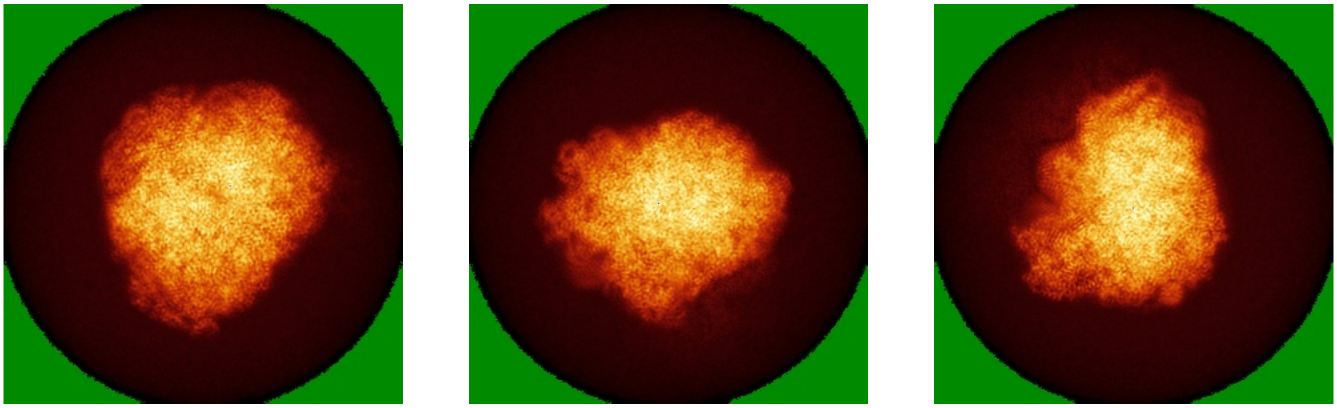


Z Index: 176

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

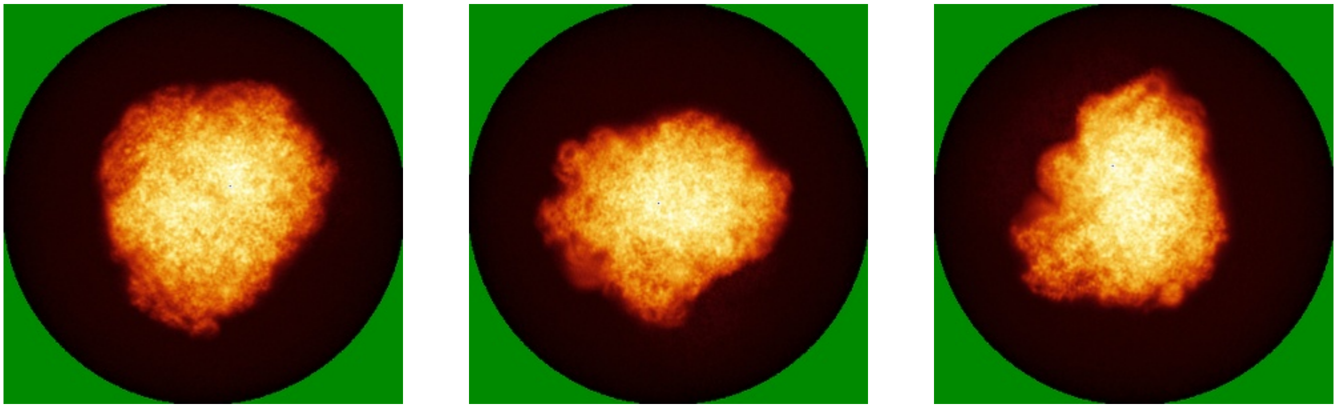
6.4 Orthogonal standard-deviation projections (False-color)

6.4.1 Primary map



X Y Z

6.4.2 Raw map



X Y Z

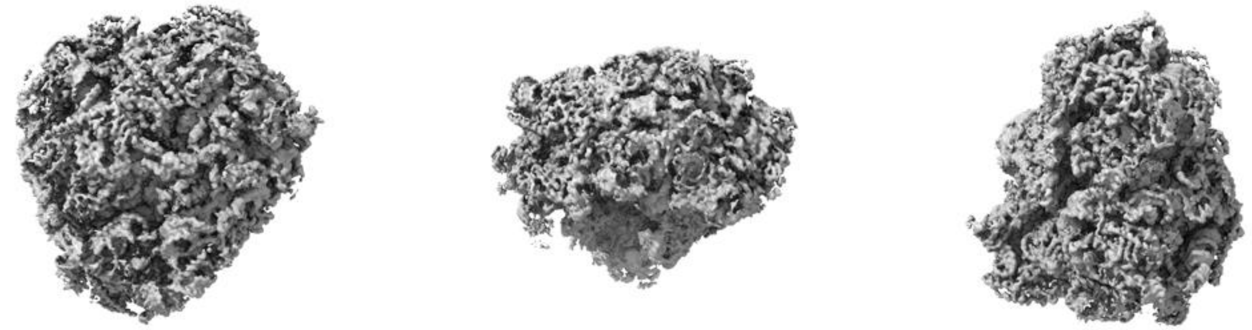
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

6.5.1 Primary map

The images above show the 3D surface view of the map at the recommended contour level 2.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

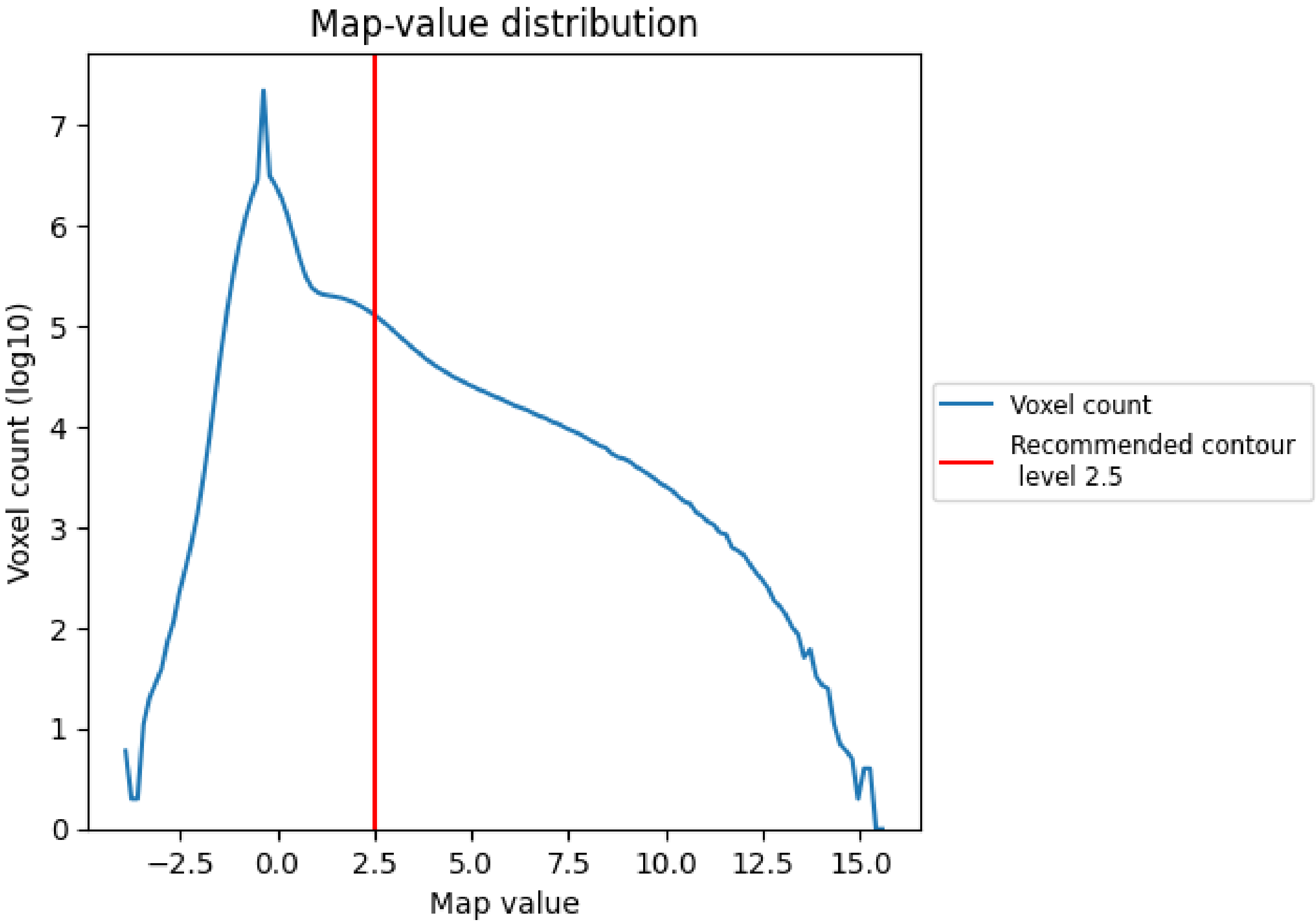
6.6 Mask visualisation ⓘ

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

7 Map analysis (i)

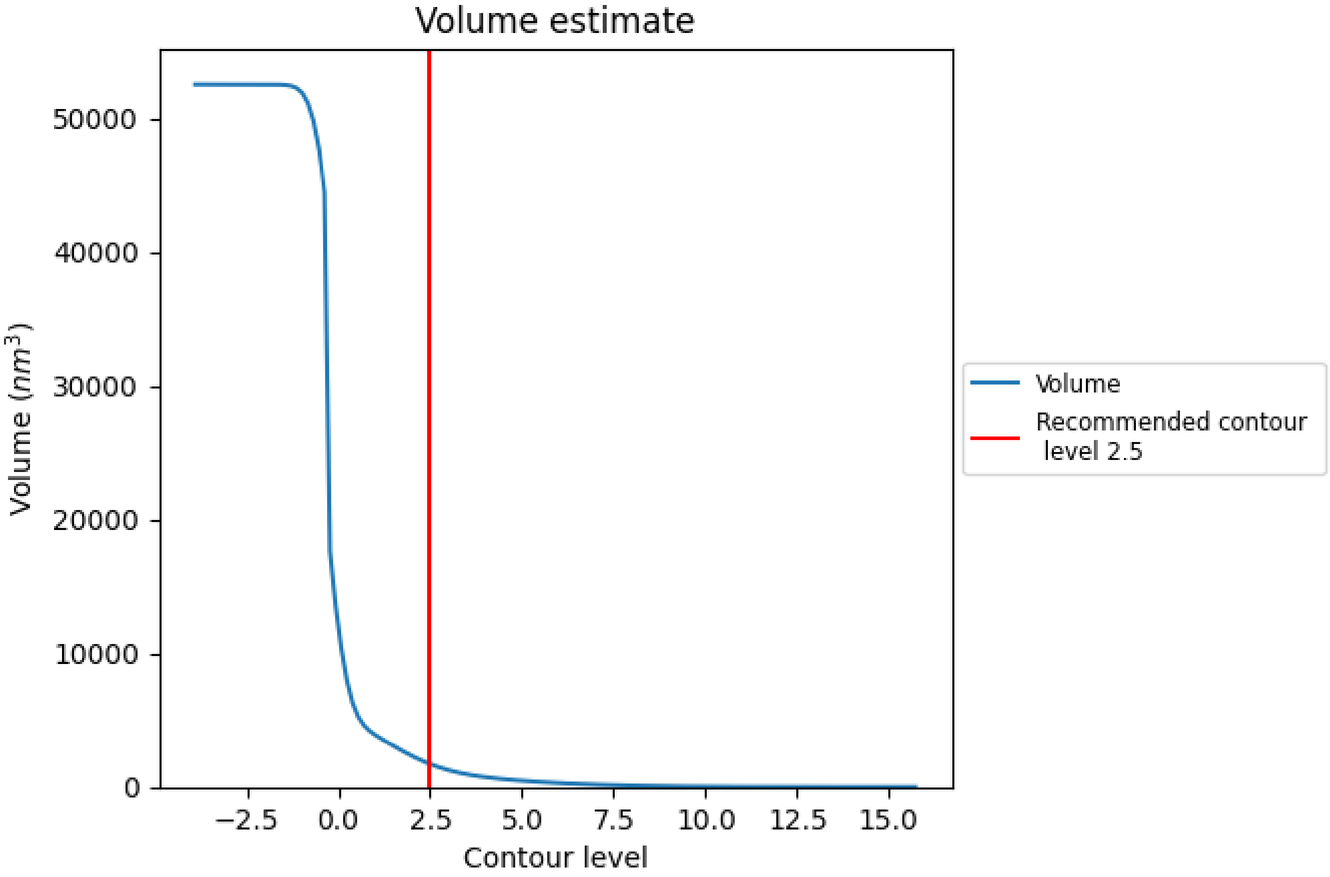
This section contains the results of statistical analysis of the map.

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.

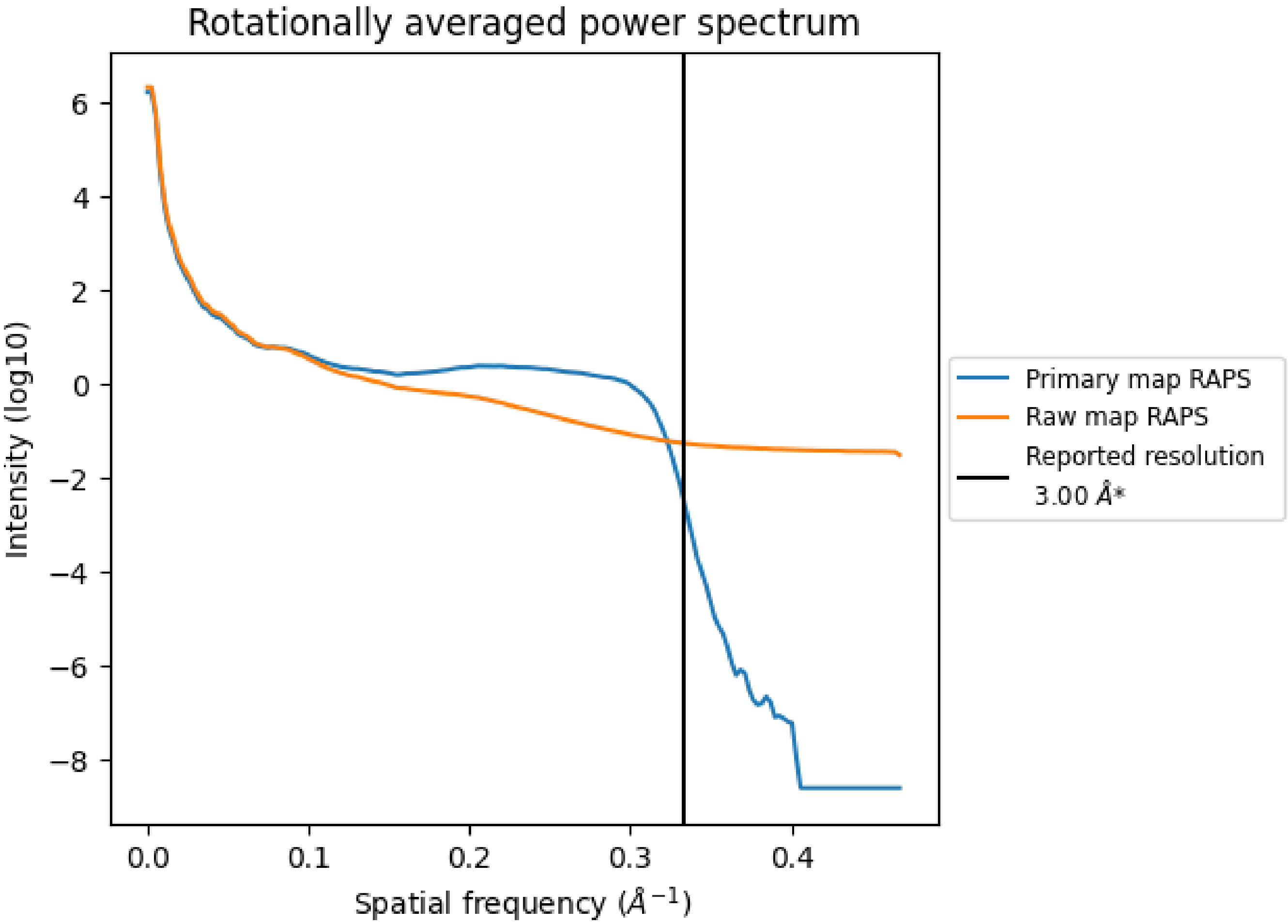
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 1716 nm^3; this corresponds to an approximate mass of 1550 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 ⓘ

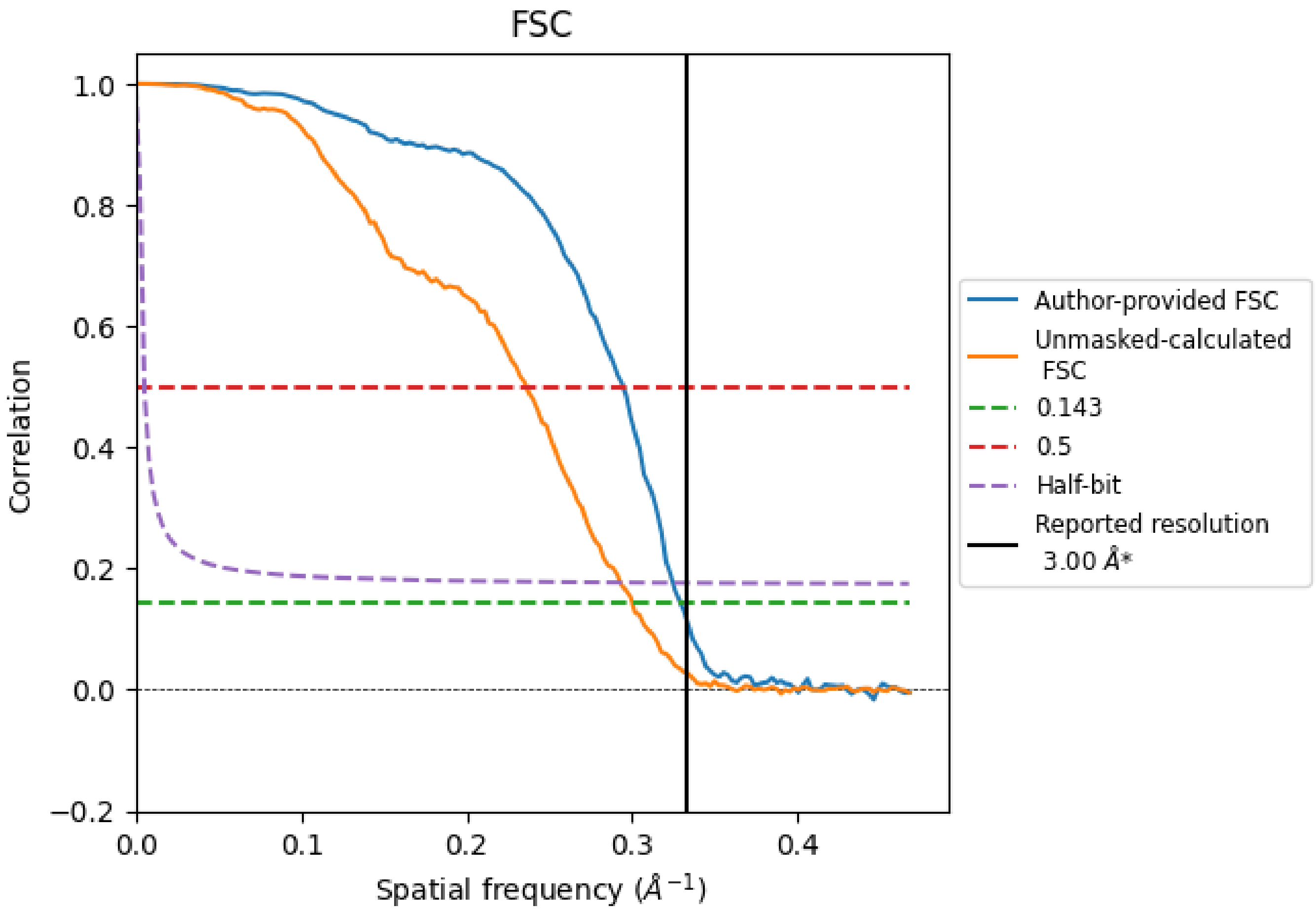


*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8 Fourier-Shell correlation ⓘ

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC ⓘ



*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8.2 Resolution estimates

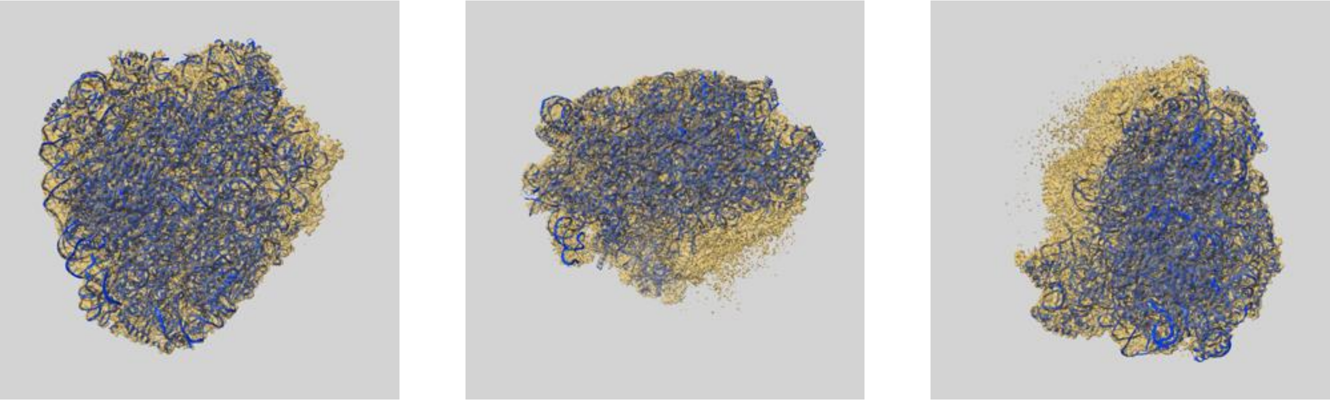
Resolution estimate (Å)	**Estimation criterion (FSC cut-off)**		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	3.04	3.39	3.08
Unmasked-calculated*	3.33	4.24	3.41

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.33 differs from the reported value 3.0 by more than 10 %

9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-64697 and PDB model 9V1L. Per-residue inclusion information can be found in section 3 on page 12.

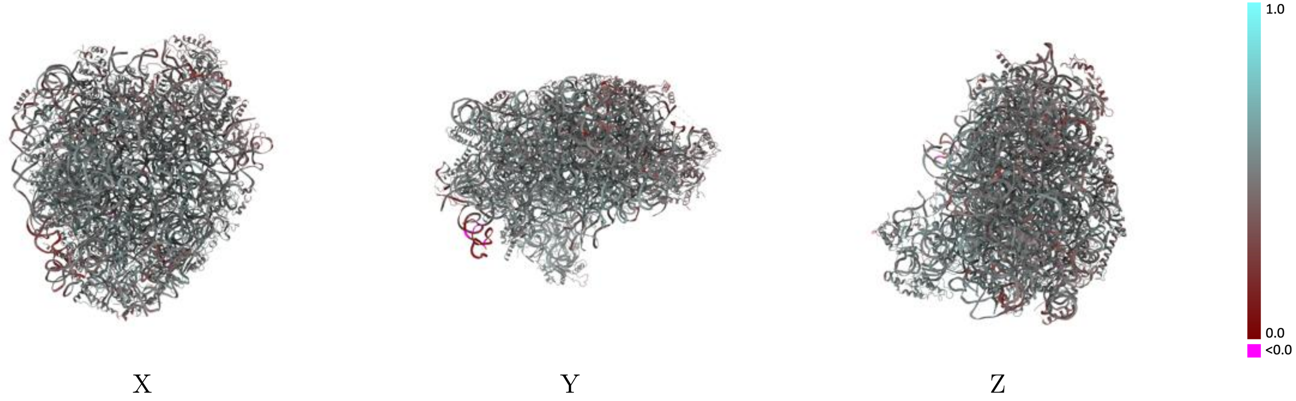
9.1 Map-model overlay



X Y Z

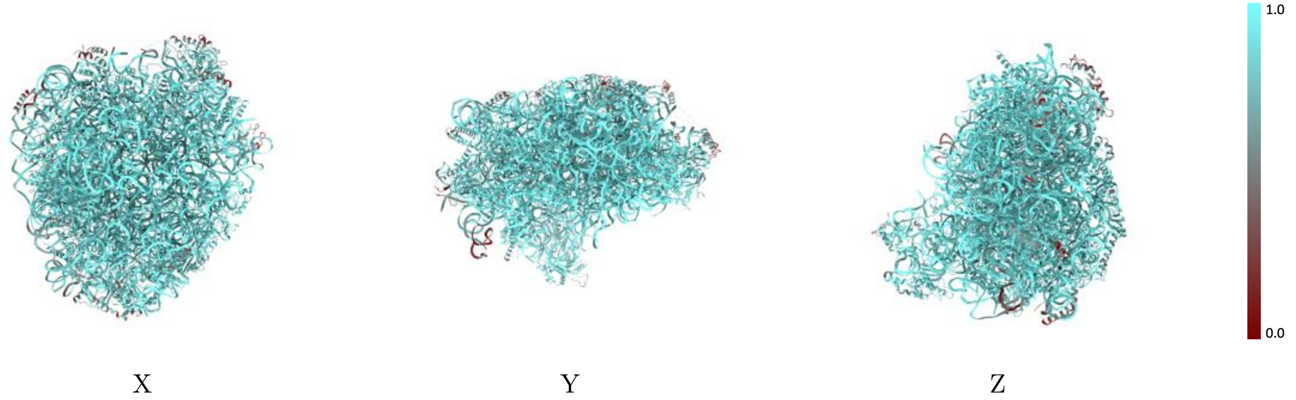
The images above show the 3D surface view of the map at the recommended contour level 2.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model ⓘ



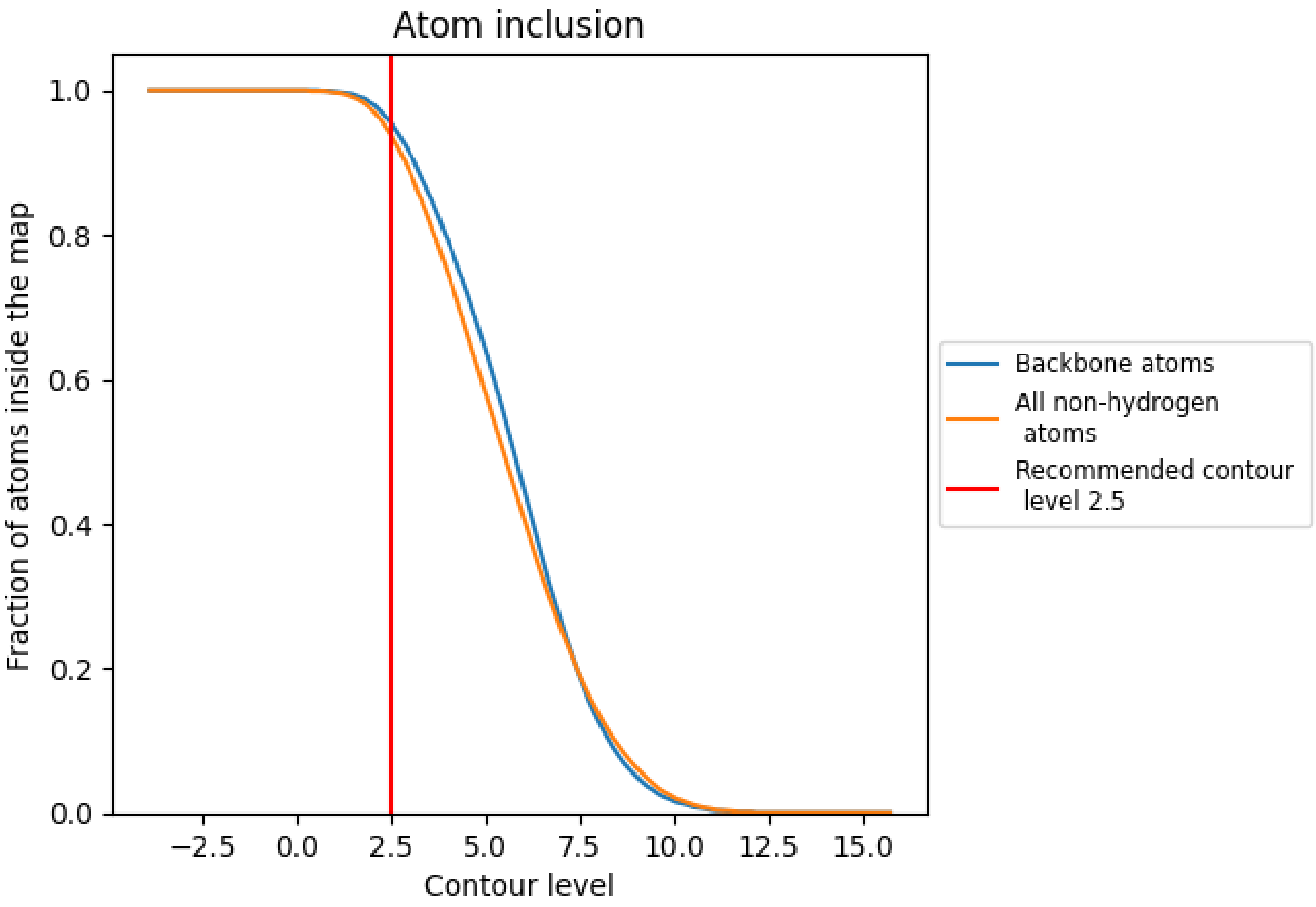
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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



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 (2.5).

9.4 Atom inclusion ⓘ



At the recommended contour level, 96% of all backbone atoms, 94% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (2.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9380	0.4920
1A	0.9590	0.4890
1B	0.9780	0.4930
1C	0.9830	0.5010
1D	0.9840	0.5000
1E	0.9370	0.5030
1F	0.8990	0.5110
1G	0.8770	0.5210
1H	0.7640	0.4840
1I	0.9510	0.5280
1J	0.7680	0.4580
1K	0.8630	0.4920
1L	0.9760	0.5150
1M	0.8820	0.4780
1N	0.8330	0.4800
1O	0.9260	0.5150
1P	0.9140	0.5170
1Q	0.9760	0.5140
1R	0.9540	0.4970
1S	0.9710	0.5280
1T	0.9680	0.5330
1U	0.9350	0.4650
1V	0.9470	0.5320
1W	0.5710	0.3520
1X	0.9790	0.4990
1Y	0.8780	0.4570
1Z	0.9680	0.4910
1a	0.8670	0.4790
1b	0.6920	0.4270
1c	0.9580	0.5330
1d	0.9700	0.5280
1e	0.8600	0.4520
1f	0.8670	0.4710
1g	0.9180	0.4980
1h	0.9360	0.4720

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Chain	Atom inclusion	Q-score
li	0.8600	0.4650
lj	0.9670	0.5280
lk	0.9100	0.4930
ll	0.9960	0.5130
lm	0.9710	0.4830
ln	0.6540	0.4030
lo	0.9880	0.4980
lp	0.9360	0.4960
lq	0.9720	0.5270
ls	1.0000	0.4720
sH	0.9970	0.4560