wwPDB EM Validation Summary Report ⓘ

May 27, 2024 – 03:41 PM JST

PDB ID	:	3JCE
EMDB ID	:	EMD-6550
Title	:	Structure of Escherichia coli EF4 in pretranslocational ribosomes (Pre EF4)
Authors	:	Zhang, D.; Yan, K.; Liu, G.; Song, G.; Luo, J.; Shi, Y.; Cheng, E.; Wu, S.; Jiang, T.; Low, J.; Gao, N.; Qin, Y.
Deposited on	:	2015-12-01
Resolution	:	3.20 Å(reported)
Based on initial model	:	4V9O

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:

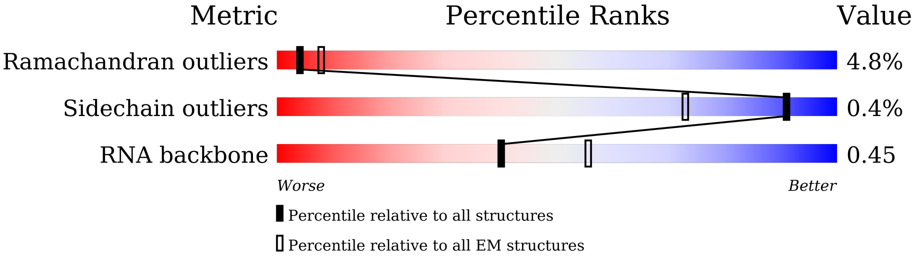
EMDB validation analysis	:	0.0.1.dev92
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance ⓘ

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

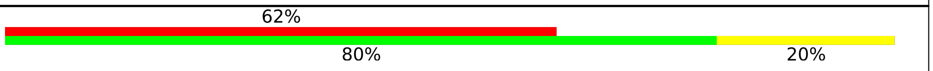
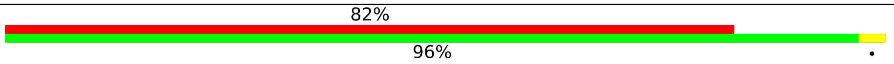
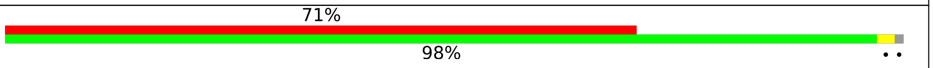
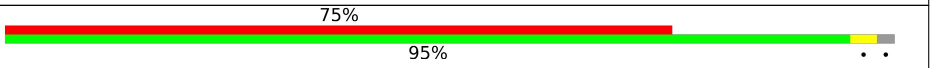
The reported resolution of this entry is 3.20 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	1533	
2	c	233	
3	d	206	
4	e	167	
5	f	135	
6	g	179	
7	h	130	
8	i	130	

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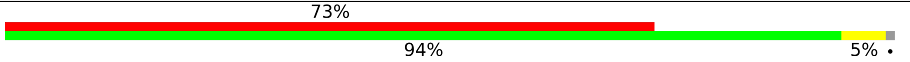
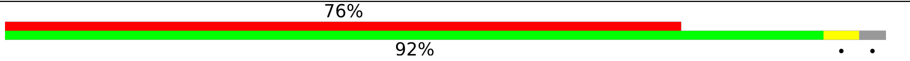
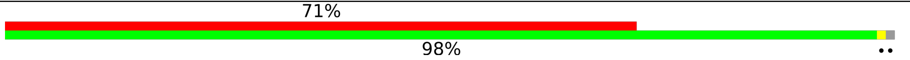
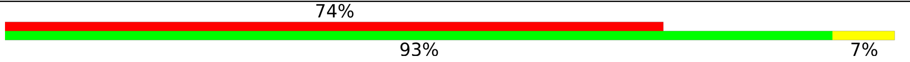
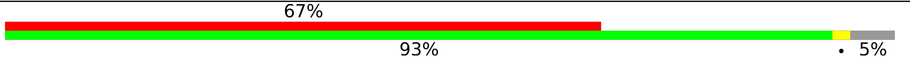
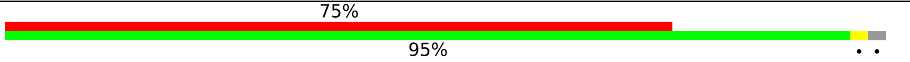
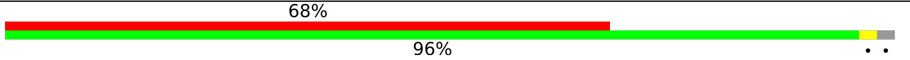
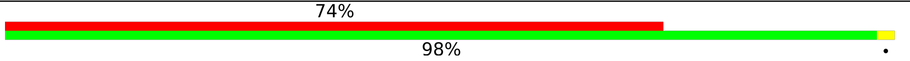
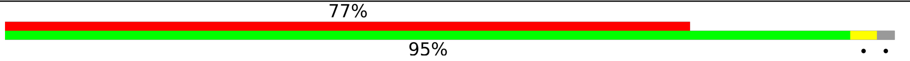
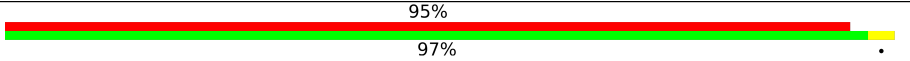
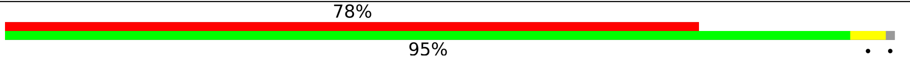
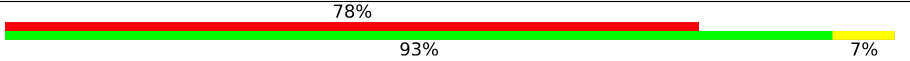
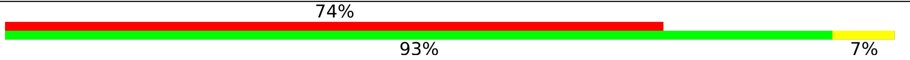
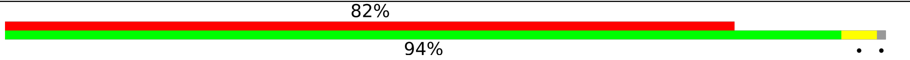
Mol	Chain	Length	Quality of chain
9	j	103	
10	k	129	
11	l	124	
12	m	118	
13	n	101	
14	o	89	
15	p	82	
16	q	84	
17	r	75	
18	s	92	
19	t	87	
20	u	71	
21	b	241	
22	0	57	
23	1	55	
24	2	46	
25	3	65	
26	4	38	
27	5	234	
28	A	2904	
29	B	120	
30	C	273	
31	D	209	
32	E	201	
33	F	179	

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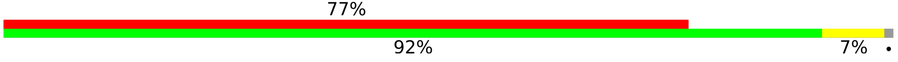
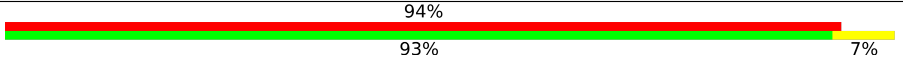
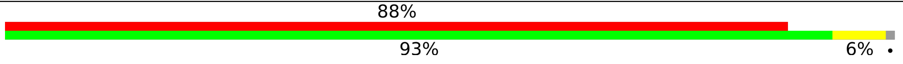
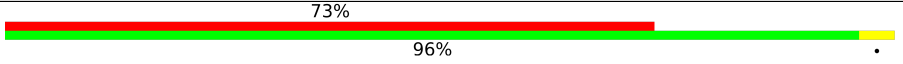
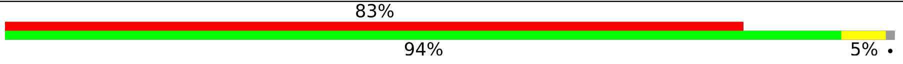
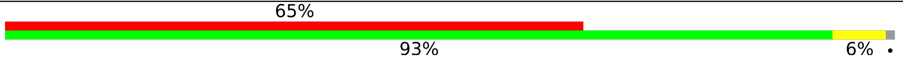
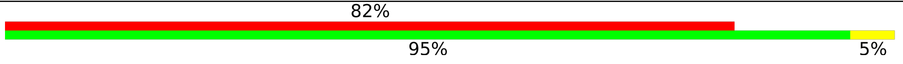
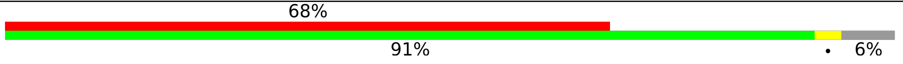
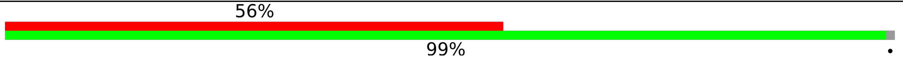
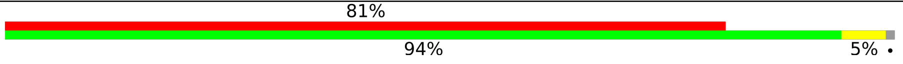
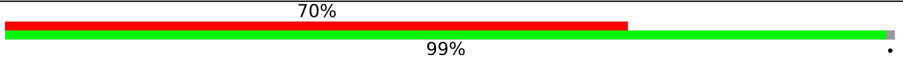
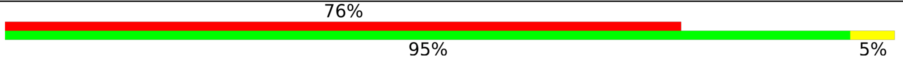
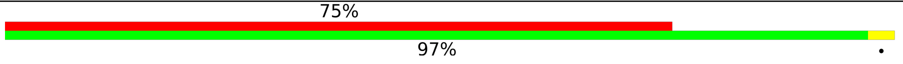
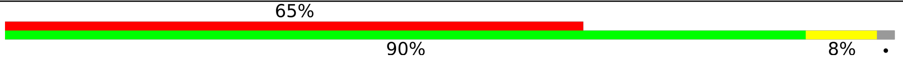
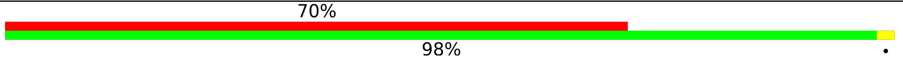
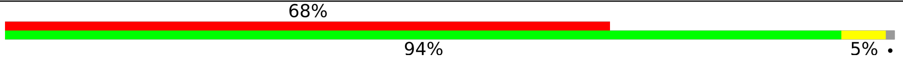
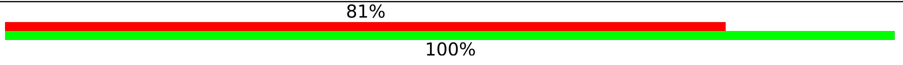
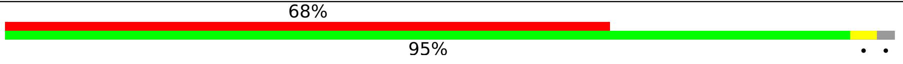
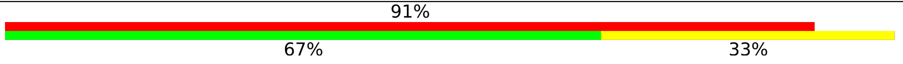
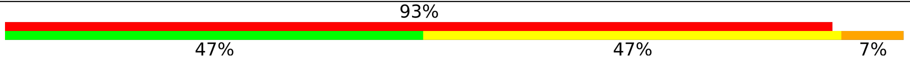
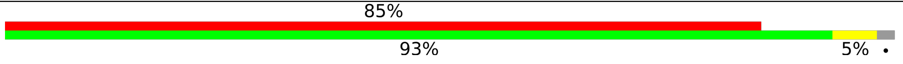
Mol	Chain	Length	Quality of chain
34	G	177	
35	H	149	
36	I	142	
37	J	142	
38	K	123	
39	L	144	
40	M	136	
41	N	127	
42	O	117	
43	P	115	
44	Q	118	
45	R	103	
46	S	110	
47	T	100	
48	U	104	
49	V	94	
50	W	85	
51	X	78	
52	Y	63	
53	Z	59	
54	6	76	
54	9	76	
55	7	15	
56	8	77	
57	x	599	

2 Entry composition

There are 60 unique types of molecules in this entry. The entry contains 154017 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	1533	32895	14671	6036	10655	1533	0	0

- Molecule 2 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	c	206	1624	1028	305	288	3	0	0

- Molecule 3 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	d	205	1643	1026	315	298	4	0	0

- Molecule 4 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	e	150	1105	687	211	201	6	0	0

- Molecule 5 is a protein called 30S ribosomal protein S6, fully modified isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	f	102	832	525	150	150	7	0	0

- Molecule 6 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	g	151	1181	735	227	215	4	0	0

- Molecule 7 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	h	129	979	616	173	184	6	0	0

- Molecule 8 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	i	127	1022	634	206	179	3	0	0

- Molecule 9 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	j	98	786	493	150	142	1	0	0

- Molecule 10 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	k	117	877	540	174	160	3	0	0

- Molecule 11 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	l	123	955	590	196	165	4	0	0

- Molecule 12 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	m	114	883	546	178	156	3	0	0

- Molecule 13 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	n	100	805	499	164	139	3	0	0

- Molecule 14 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	o	88	Total 714	C 439	N 144	O 130	S 1	0	0

- Molecule 15 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	p	82	Total 649	C 406	N 128	O 114	S 1	0	0

- Molecule 16 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	q	80	Total 648	C 411	N 121	O 113	S 3	0	0

- Molecule 17 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	r	55	Total 455	C 288	N 86	O 81	0	0

- Molecule 18 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	s	79	Total 637	C 408	N 120	O 107	S 2	0	0

- Molecule 19 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	t	85	Total 665	C 411	N 137	O 114	S 3	0	0

- Molecule 20 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	u	51	Total 425	C 265	N 86	O 73	S 1	0	0

- Molecule 21 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	b	218	1704	1081	305	311	7	0	0

- Molecule 22 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	0	56	444	269	94	80	1	0	0

- Molecule 23 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
23	1	50	409	263	75	71	0	0

- Molecule 24 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	2	46	377	228	90	57	2	0	0

- Molecule 25 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	3	64	504	323	105	74	2	0	0

- Molecule 26 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	4	38	302	185	65	48	4	0	0

- Molecule 27 is a protein called Large ribosomal subunit protein uL1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	5	234	1733	1081	315	330	7	0	0

- Molecule 28 is a RNA chain called 23 ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	A	2903	Total 62320	C 27801	N 11467	O 20149	P 2903	0	0

- Molecule 29 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	B	118	Total 2529	C 1126	N 464	O 821	P 118	0	0

- Molecule 30 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	C	270	Total 2076	C 1285	N 422	O 362	S 7	0	0

- Molecule 31 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	D	209	Total 1565	C 979	N 288	O 294	S 4	0	0

- Molecule 32 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	E	201	Total 1552	C 974	N 283	O 290	S 5	0	0

- Molecule 33 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	F	177	Total 1410	C 899	N 249	O 256	S 6	0	0

- Molecule 34 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	G	176	Total 1323	C 832	N 243	O 246	S 2	0	0

- Molecule 35 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	H	149	1111	699	197	214	1	0	0

- Molecule 36 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	I	141	1032	651	179	196	6	0	0

- Molecule 37 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	J	142	1129	714	212	199	4	0	0

- Molecule 38 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	K	122	938	587	180	165	6	0	0

- Molecule 39 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	L	143	1045	649	206	189	1	0	0

- Molecule 40 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	M	136	1074	686	205	177	6	0	0

- Molecule 41 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	N	120	960	593	196	166	5	0	0

- Molecule 42 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
42	O	116	892	552	178	162	0	0

- Molecule 43 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	P	114	917	574	179	163	1	0	0

- Molecule 44 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
44	Q	117	947	604	192	151	0	0

- Molecule 45 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	R	103	816	516	153	145	2	0	0

- Molecule 46 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	S	110	857	532	166	156	3	0	0

- Molecule 47 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
47	T	93	738	466	139	131	2	0	0

- Molecule 48 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
48	U	102	779	492	146	141	0	0

- Molecule 49 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	V	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
50	W	79	Total	C	N	O	S	0	0
			596	367	120	108	1		

- Molecule 51 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	X	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 52 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	Y	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

- Molecule 53 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	Z	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 54 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	6	76	Total	C	N	O	P	0	0
			1622	723	290	533	76		
54	9	76	Total	C	N	O	P	0	0
			1623	723	290	534	76		

- Molecule 55 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	7	15	Total	C	N	O	P	0	0
			320	144	59	102	15		

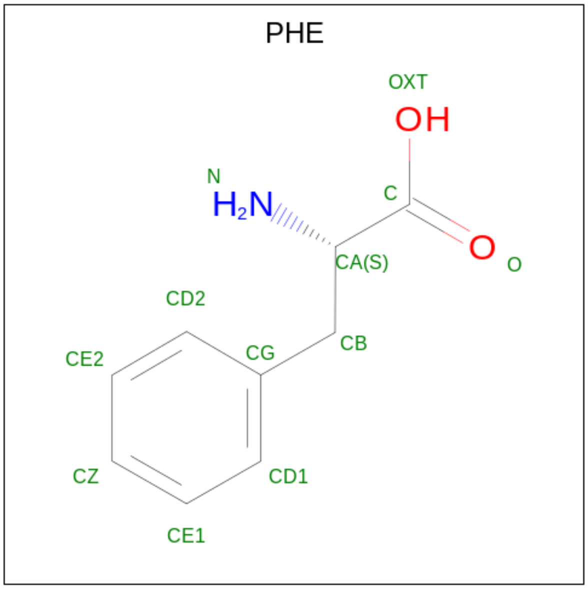
- Molecule 56 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
56	8	77	1640	732	297	535	76	0	0

- Molecule 57 is a protein called Elongation factor 4.

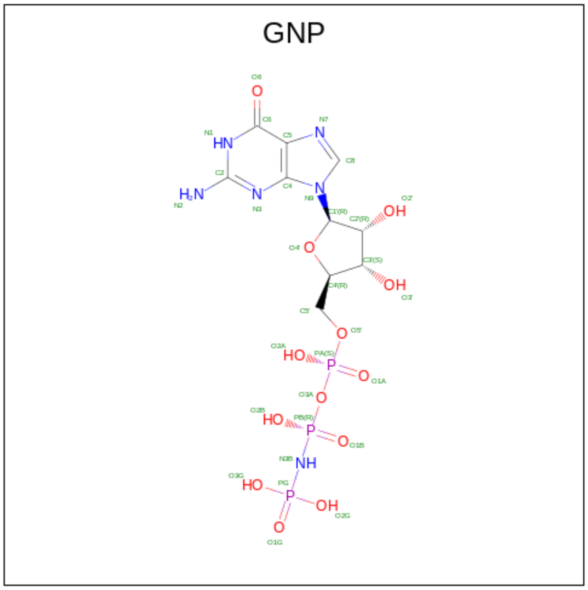
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
57	x	586	4573	2885	792	875	21	0	0

- Molecule 58 is PHENYLALANINE (three-letter code: PHE) (formula: $C_9H_{11}NO_2$).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
58	6	1	11	9	1	1	0

- Molecule 59 is PHOSPHOAMINOPHOSPHONIC ACID-GUANYLATE ESTER (three-letter code: GNP) (formula: $C_{10}H_{17}N_6O_{13}P_3$).



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

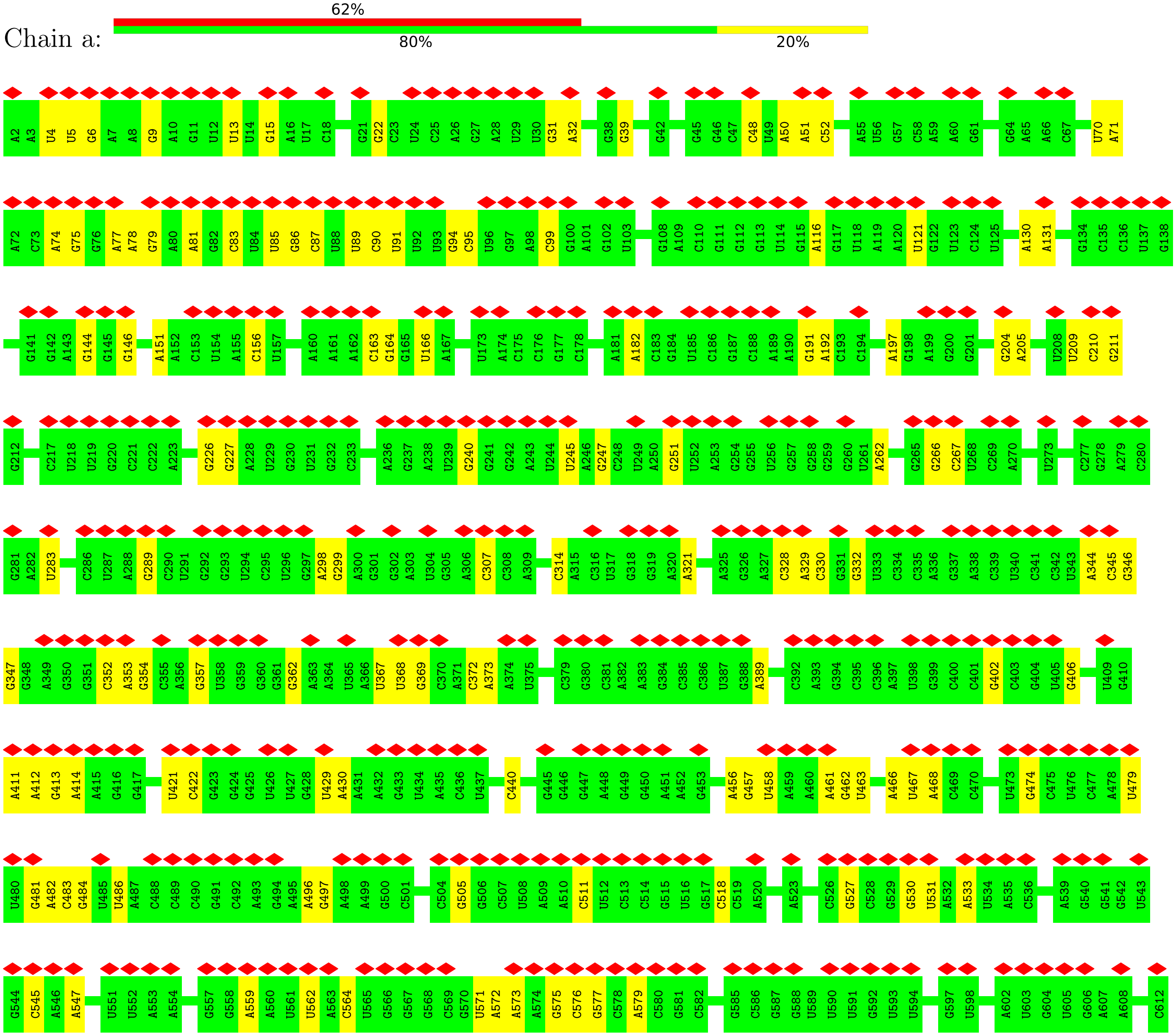
- Molecule 60 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

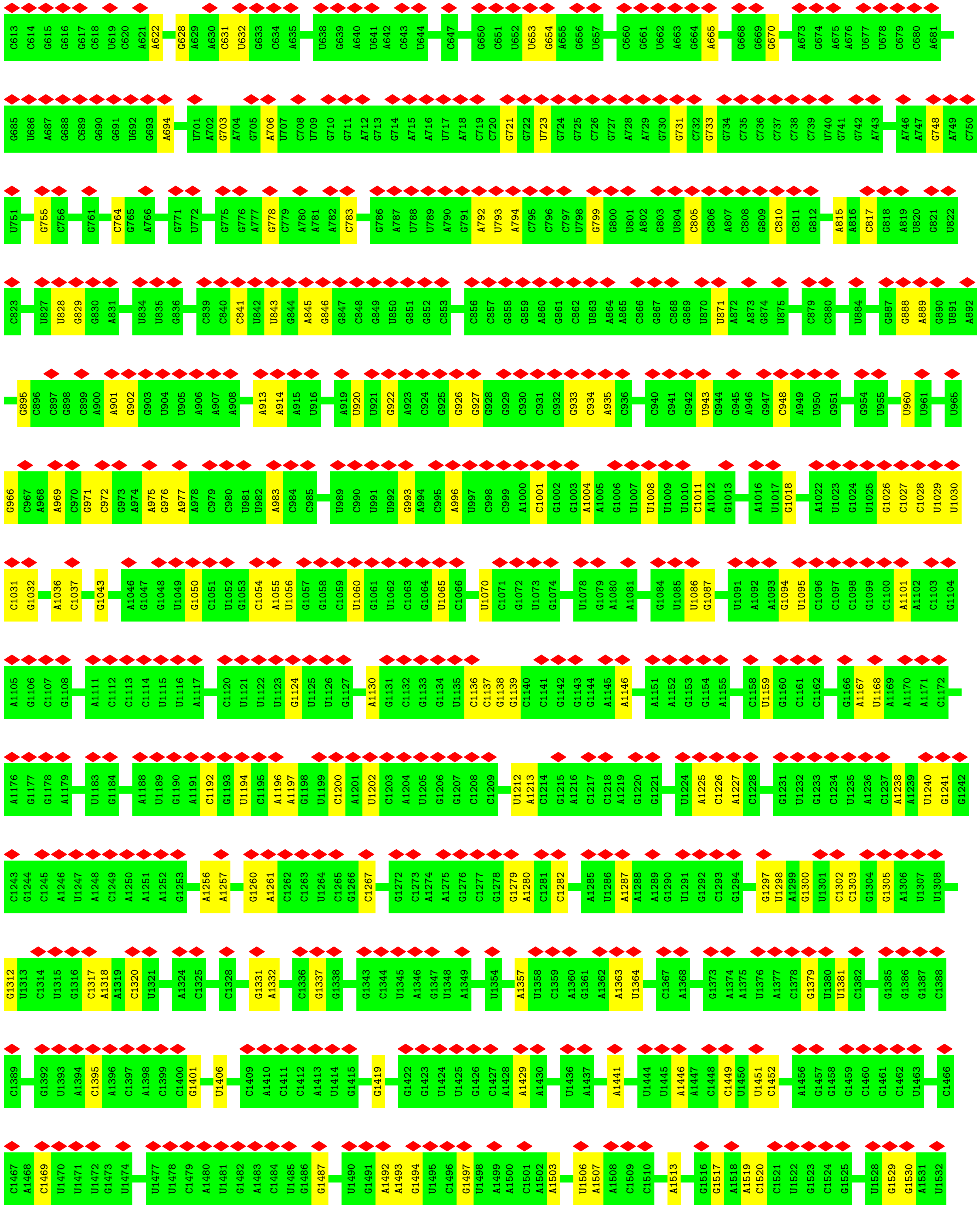
Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
60	x	1	1	1	0

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.

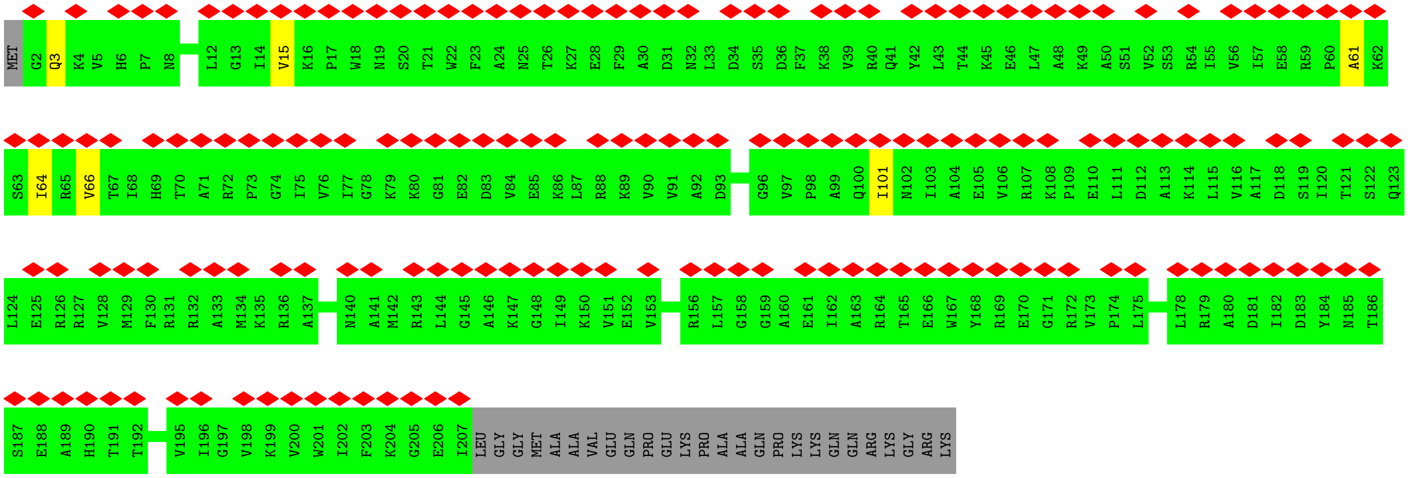
- Molecule 1: 16S ribosomal RNA




C613 C614 G615 G616 G617 C618 U619 C620 A621 A622 G628 A629 A630 C631 U632 G633 C634 A635 U638 G639 A640 U641 A642 C643 U644 C647 G650 C651 U652 U653 G654 A655 G656 U657 C660 G661 U662 A663 G664 A665 G668 G669 G670 A673 G674 A675 A676 U677 U678 C679 C680 A681
G685 U686 A687 G688 C689 G690 G691 U692 G693 A694 U701 A702 G703 A704 G705 A706 U707 C708 U709 G710 G711 A712 G713 G714 A715 C716 U717 A718 C719 C720 G721 G722 U723 G724 G725 C726 G727 A728 A729 G730 G731 C732 G733 G734 C735 C736 C737 C738 C739 U740 G741 G742 A743 A746 A747 G748 A749 C750
U751 G755 C756 G761 C764 G765 A766 G771 U772 G775 G776 A777 G778 C779 A780 A781 A782 C783 G786 A787 U788 U789 A790 G791 A792 U793 A794 C795 C796 C797 U798 G799 G800 U801 A802 G803 U804 C805 C806 A807 C808 G809 C810 C811 G812 A815 A816 C817 G818 A819 U820 G821 U822
C823 U827 U828 G829 G830 A831 U834 U835 G836 C839 C840 C841 U842 U843 G844 A845 G846 G847 C848 G849 U850 G851 G852 C853 C856 C857 G858 G859 A860 G861 C862 U863 A864 A865 C866 G867 C868 G869 U870 U871 A872 A873 G874 U875 C879 C880 U884 G887 G888 A889 G890 U891 A892
G895 C896 C897 G898 C899 A900 A901 G902 G903 U904 U905 A906 A907 A908 A913 A914 A915 U916 A919 U920 U921 G922 A923 C924 G925 G926 G927 G928 G929 C930 C931 C932 G933 C934 A935 C936 C940 G941 G942 U943 G944 G945 A946 G947 C948 A949 U950 G951 G954 U955 U960 U961 U965
G966 C967 A968 A969 C970 G971 C972 G973 A974 A975 G976 A977 A978 C979 C980 U981 U982 A983 C984 C985 U989 C990 U991 U992 G993 A994 C995 A996 U997 C998 C999 A1000 C1001 G1002 G1003 A1004 A1005 G1006 U1007 U1008 U1009 U1010 C1011 A1012 G1013 A1016 U1017 G1018 A1022 U1023 G1024 U1025 G1026 C1027 C1028 U1029 U1030
C1031 G1032 A1036 C1037 G1043 A1046 G1047 G1048 U1049 G1050 C1051 U1052 G1053 C1054 A1055 U1056 G1057 G1058 C1059 U1060 G1061 U1062 C1063 G1064 U1065 C1066 U1070 C1071 G1072 U1073 G1074 U1078 G1079 A1080 A1081 G1084 U1085 U1086 G1087 U1091 A1092 A1093 G1094 U1095 C1096 C1097 C1098 G1099 C1100 A1101 A1102 C1103 G1104
A1105 G1106 C1107 G1108 A1111 C1112 C1113 U1114 U1115 U1116 A1117 C1120 U1121 U1122 U1123 G1124 U1125 U1126 G1127 A1130 G1131 C1132 G1133 G1134 U1135 C1136 C1137 G1138 G1139 C1140 C1141 G1142 G1143 G1144 A1145 A1146 A1151 A1152 G1153 G1154 A1155 C1158 U1159 G1160 C1161 C1162 G1166 A1167 U1168 A1169 A1170 A1171 C1172
A1176 G1177 G1178 A1179 U1183 G1184 A1188 U1189 G1190 A1191 C1192 G1193 U1194 C1195 A1196 A1197 G1198 U1199 C1200 A1201 U1202 C1203 A1204 U1205 G1206 G1207 C1208 C1209 U1212 A1213 C1214 G1215 A1216 C1217 C1218 A1219 G1220 G1221 U1224 A1225 C1226 A1227 C1228 G1231 U1232 G1233 C1234 U1235 A1236 C1237 A1238 A1239 U1240 G1241 G1242
C1243 G1244 C1245 A1246 U1247 A1248 C1249 A1250 A1251 A1252 G1253 A1256 A1257 G1260 A1261 C1262 C1263 U1264 C1265 G1266 C1267 G1272 C1273 A1274 A1275 G1276 C1277 G1278 G1279 A1280 C1281 C1282 A1285 U1286 A1287 A1288 A1289 G1290 U1291 G1292 C1293 G1294 G1297 U1298 A1299 G1300 U1301 C1302 C1303 G1304 G1305 A1306 U1307 U1308
G1312 U1313 C1314 U1315 G1316 C1317 A1318 A1319 C1320 U1321 A1324 C1325 C1328 G1331 A1332 C1336 G1337 G1338 G1343 C1344 U1345 A1346 G1347 U1348 A1349 U1354 A1357 U1358 C1359 A1360 G1361 A1362 A1363 U1364 C1367 A1368 G1373 A1374 A1375 U1376 A1377 C1378 G1379 U1380 U1381 C1382 G1385 G1386 G1387 C1388
C1389 G1392 U1393 A1394 C1395 A1396 C1397 A1398 C1399 C1400 G1401 U1406 C1409 A1410 C1411 C1412 A1413 U1414 G1415 G1419 G1422 G1423 U1424 U1425 G1426 C1427 A1428 A1429 A1430 U1436 A1437 A1441 U1444 U1445 A1446 A1447 C1448 C1449 U1450 U1451 C1452 A1456 G1457 G1458 G1459 C1460 G1461 C1462 U1463 C1466
C1467 A1468 C1469 U1470 U1471 U1472 G1473 U1474 U1477 U1478 C1479 A1480 U1481 G1482 A1483 C1484 U1485 G1486 G1487 U1490 G1491 A1492 A1493 G1494 U1495 C1496 G1497 U1498 A1499 A1500 C1501 A1502 A1503 U1506 A1507 A1508 C1509 C1510 A1513 G1516 G1517 A1518 A1519 C1520 C1521 U1522 G1523 C1524 G1525 U1528 G1529 G1530 A1531 U1532

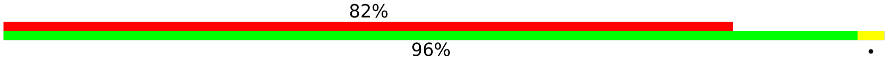
- Molecule 2: 30S ribosomal protein S3

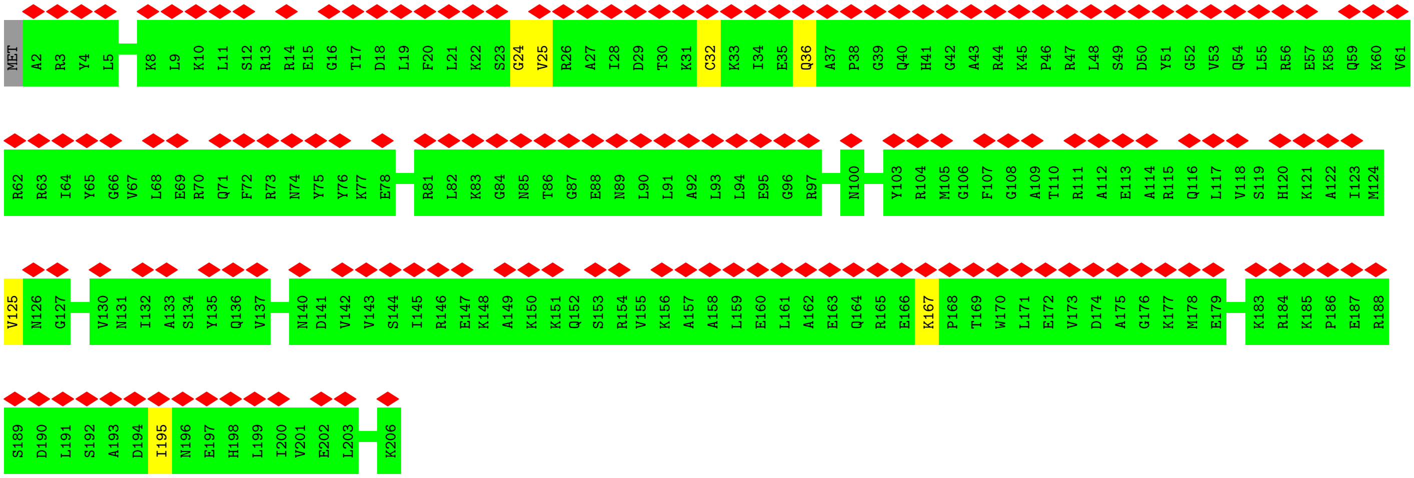
Chain c:



- Molecule 3: 30S ribosomal protein S4

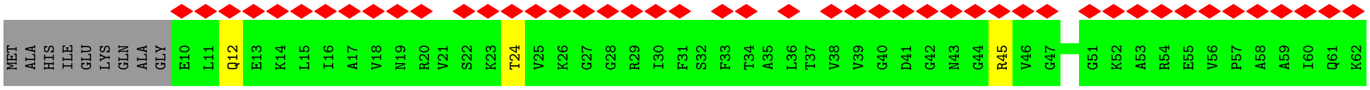
Chain d:

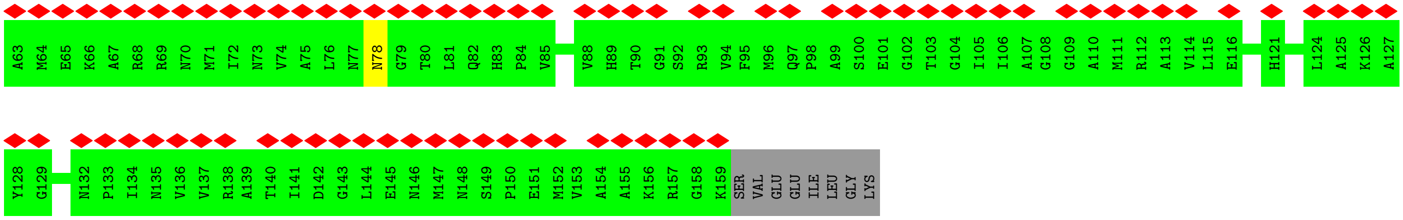




- Molecule 4: 30S ribosomal protein S5

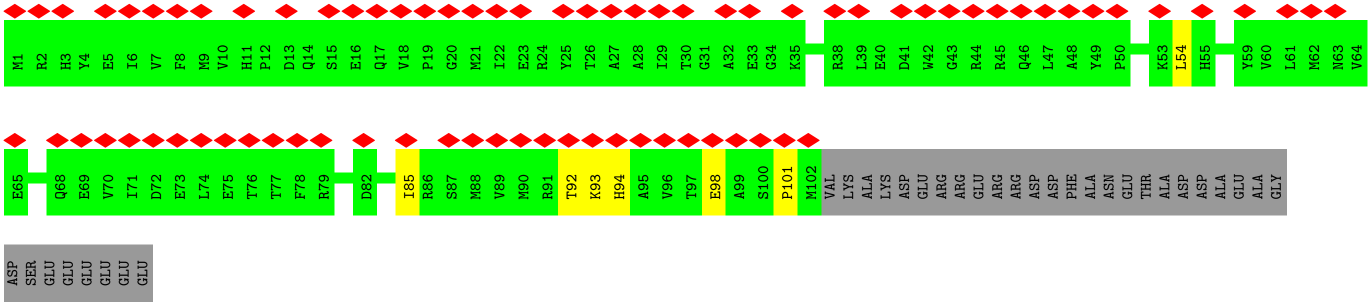
Chain e:





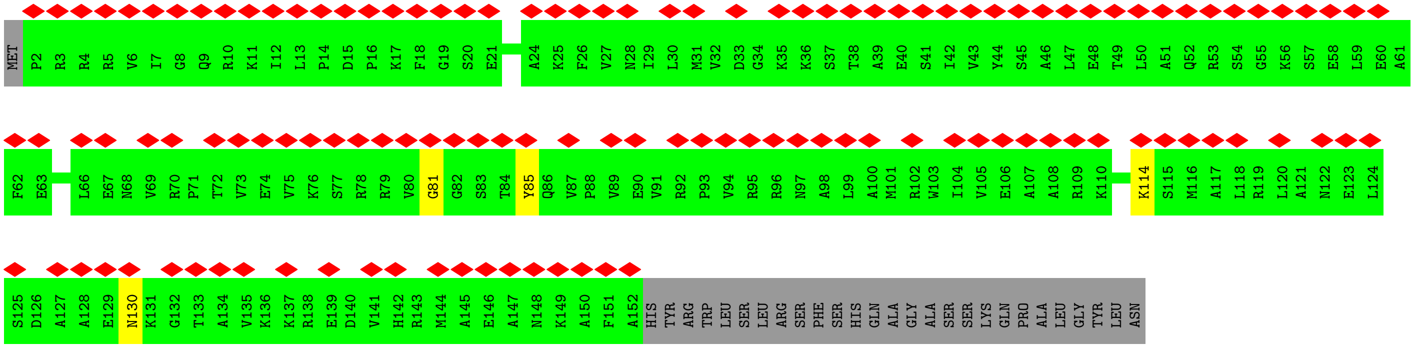
- Molecule 5: 30S ribosomal protein S6, fully modified isoform

Chain f:



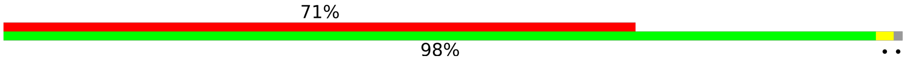
- Molecule 6: 30S ribosomal protein S7

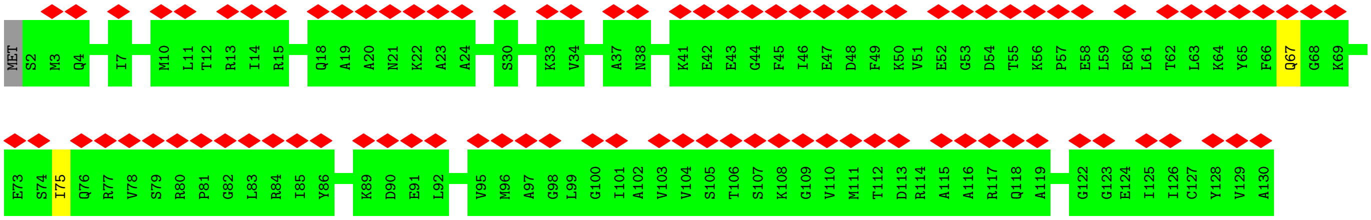
Chain g:



- Molecule 7: 30S ribosomal protein S8

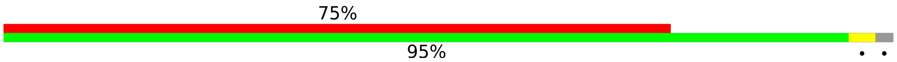
Chain h:

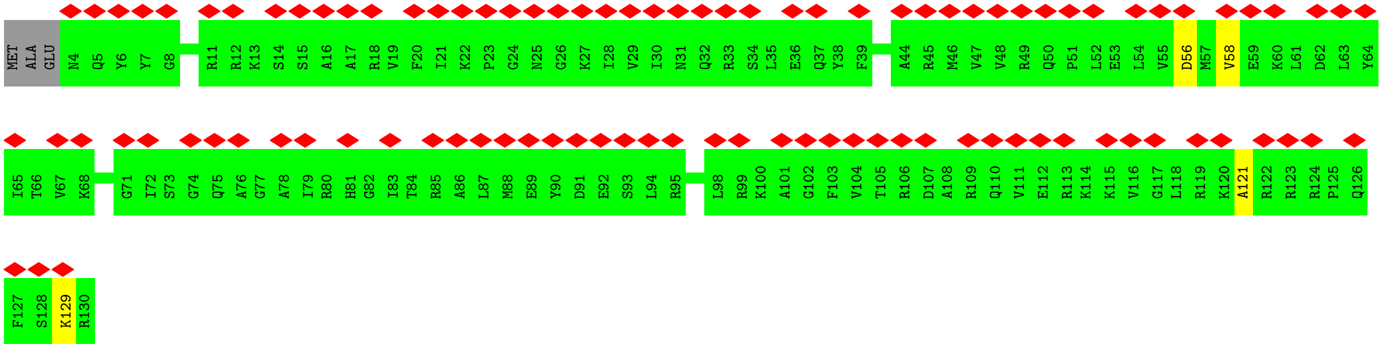




- Molecule 8: 30S ribosomal protein S9

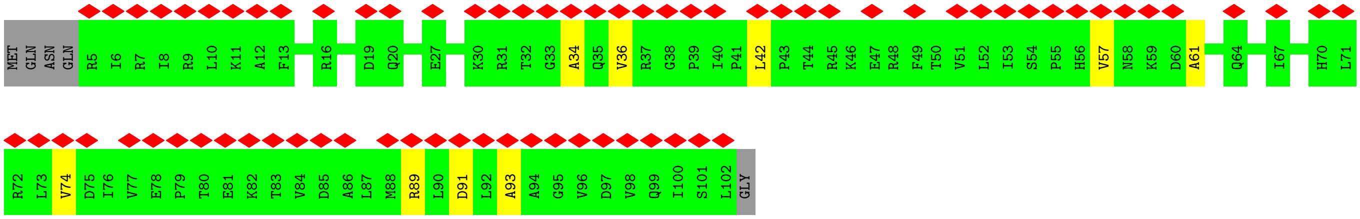
Chain i:





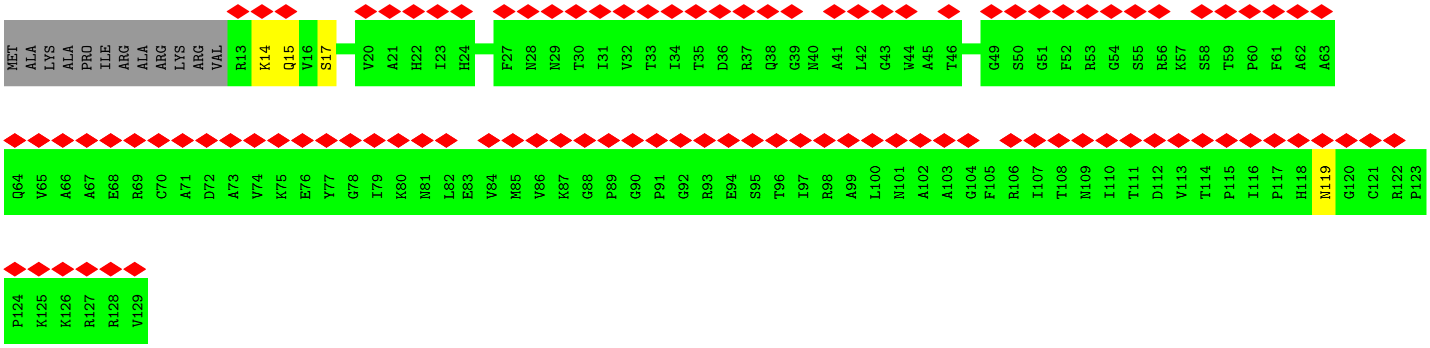
- Molecule 9: 30S ribosomal protein S10

Chain j:



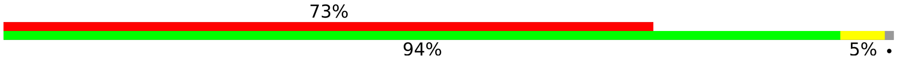
- Molecule 10: 30S ribosomal protein S11

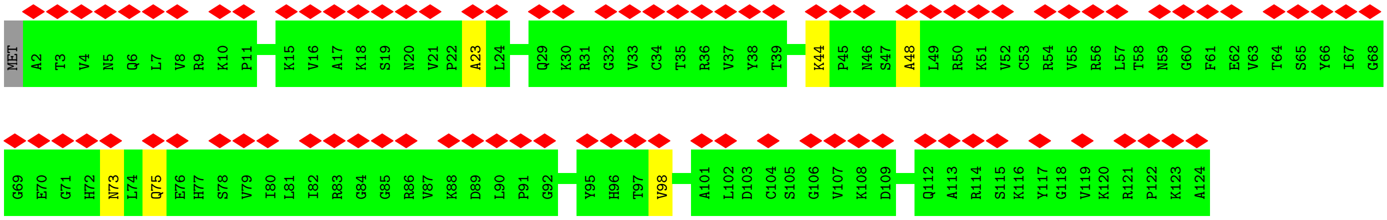
Chain k:



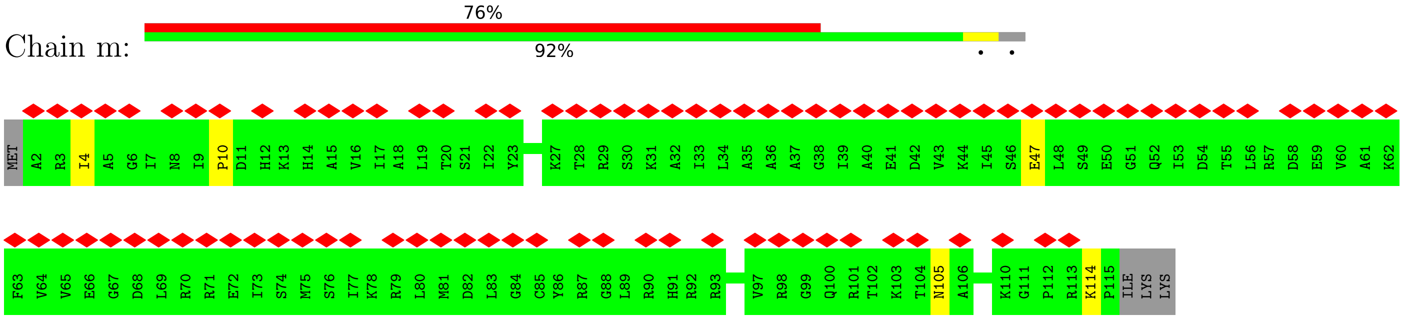
- Molecule 11: 30S ribosomal protein S12

Chain l:

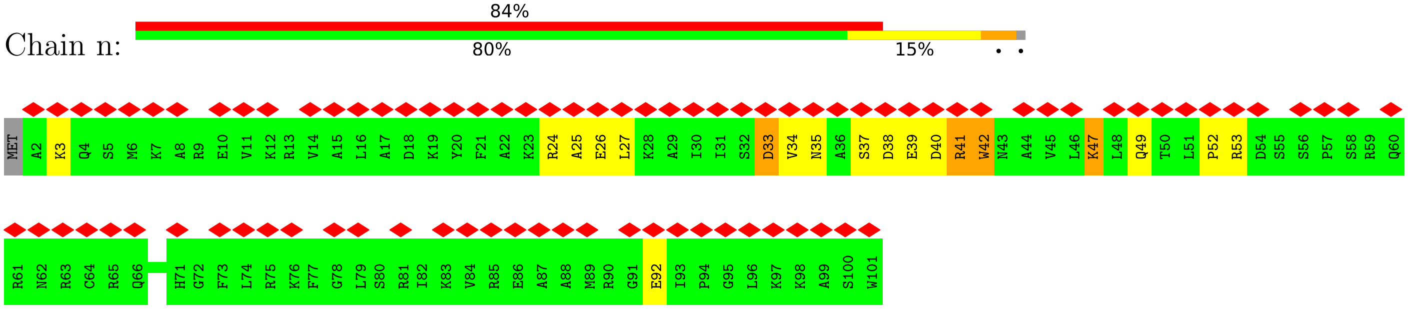




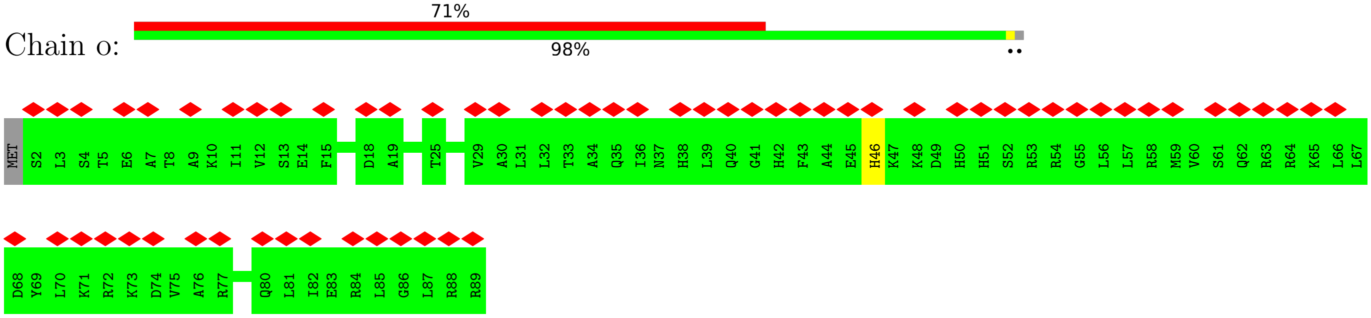
- Molecule 12: 30S ribosomal protein S13



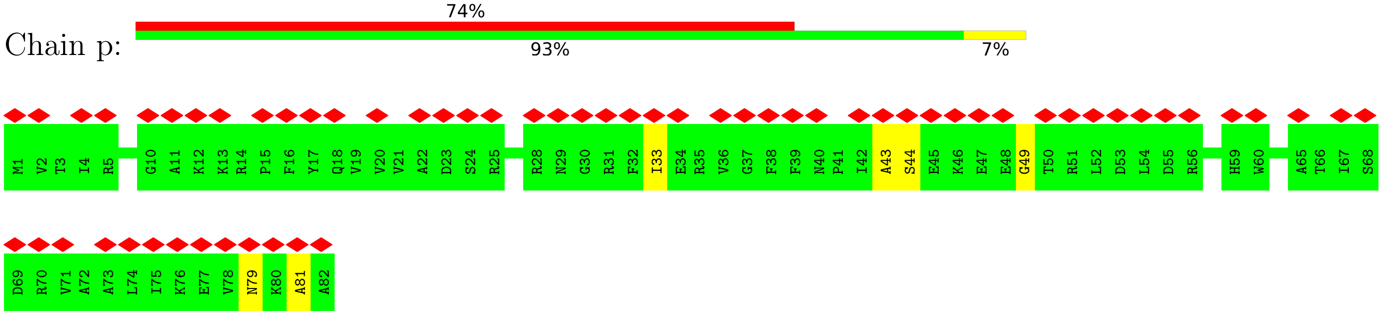
- Molecule 13: 30S ribosomal protein S14



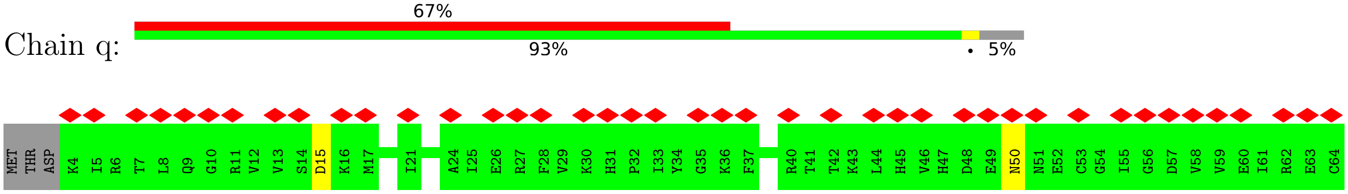
- Molecule 14: 30S ribosomal protein S15

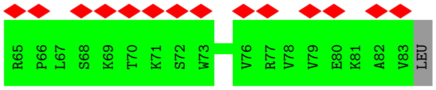


- Molecule 15: 30S ribosomal protein S16



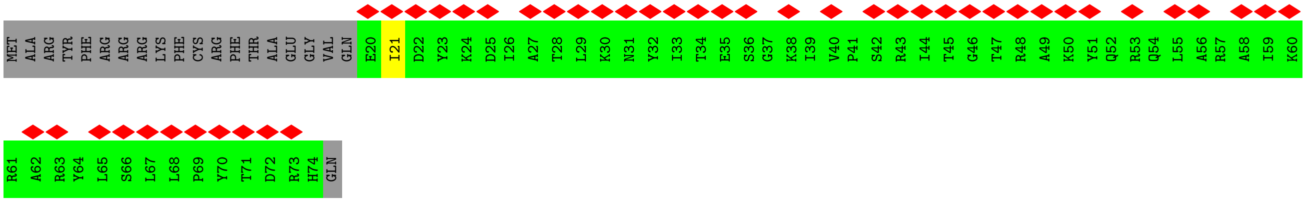
- Molecule 16: 30S ribosomal protein S17





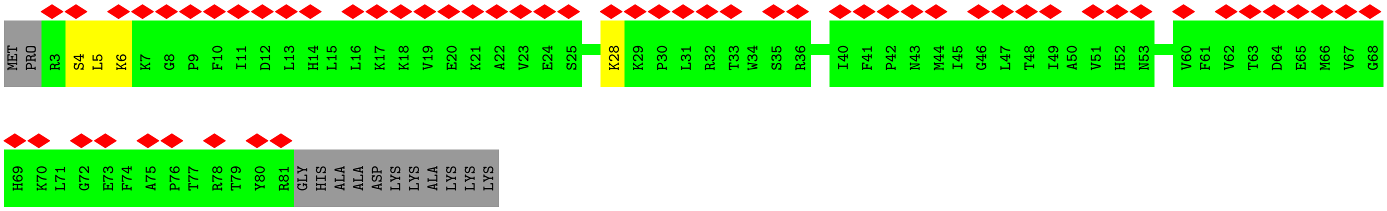
- Molecule 17: 30S ribosomal protein S18

Chain r:



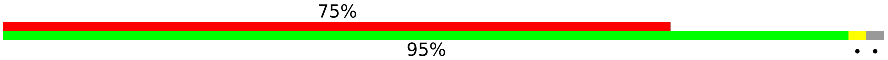
- Molecule 18: 30S ribosomal protein S19

Chain s:



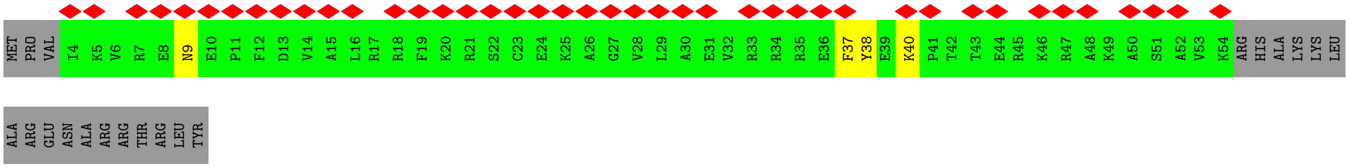
- Molecule 19: 30S ribosomal protein S20

Chain t:



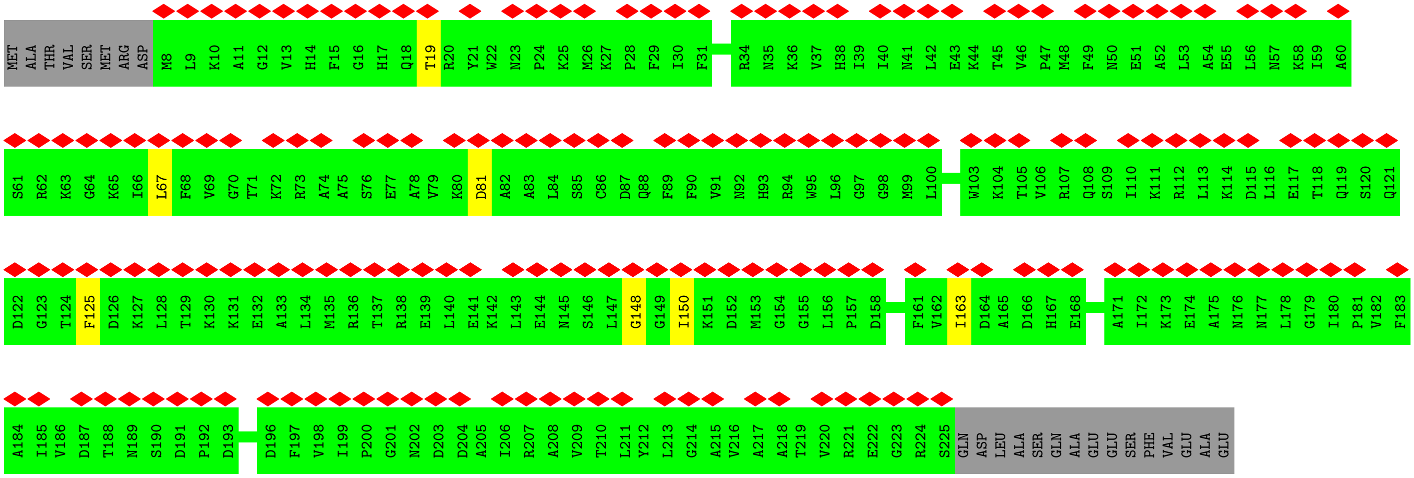
- Molecule 20: 30S ribosomal protein S21

Chain u:



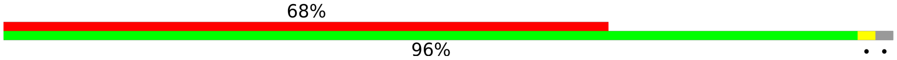
- Molecule 21: 30S ribosomal protein S2

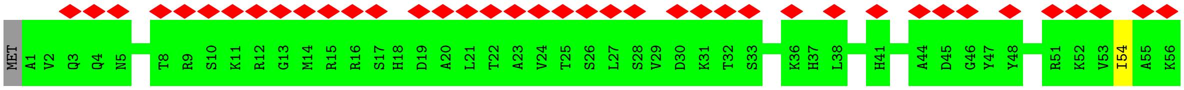
Chain b:



- Molecule 22: 50S ribosomal protein L32

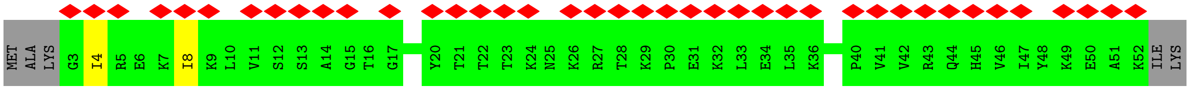
Chain 0:





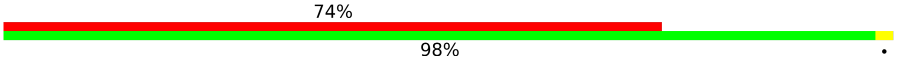
- Molecule 23: 50S ribosomal protein L33

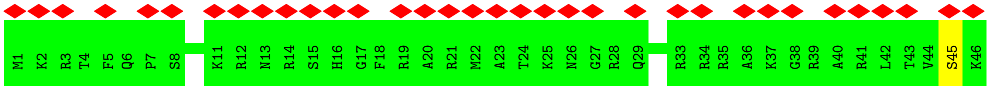
Chain 1:



- Molecule 24: 50S ribosomal protein L34

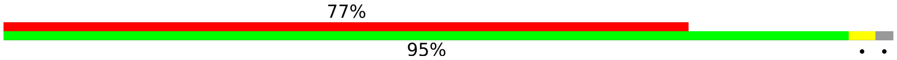
Chain 2:

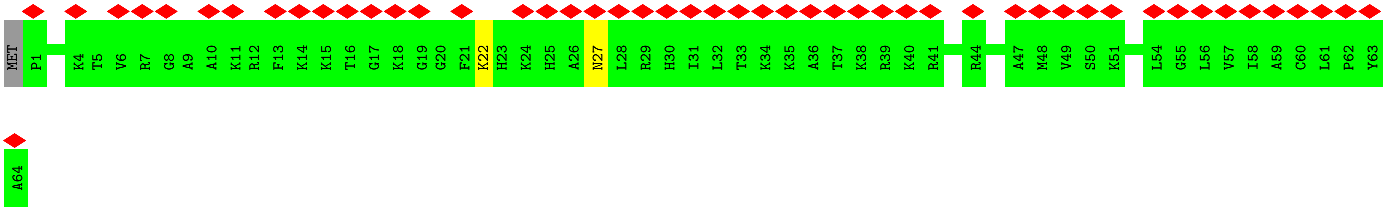




- Molecule 25: 50S ribosomal protein L35

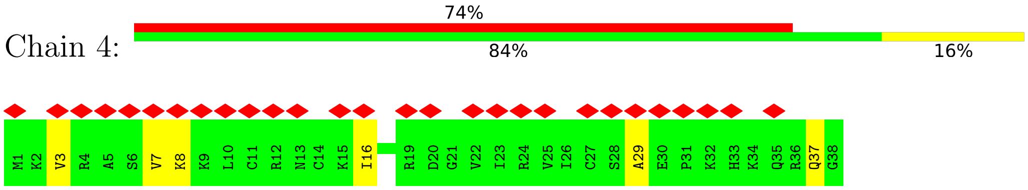
Chain 3:





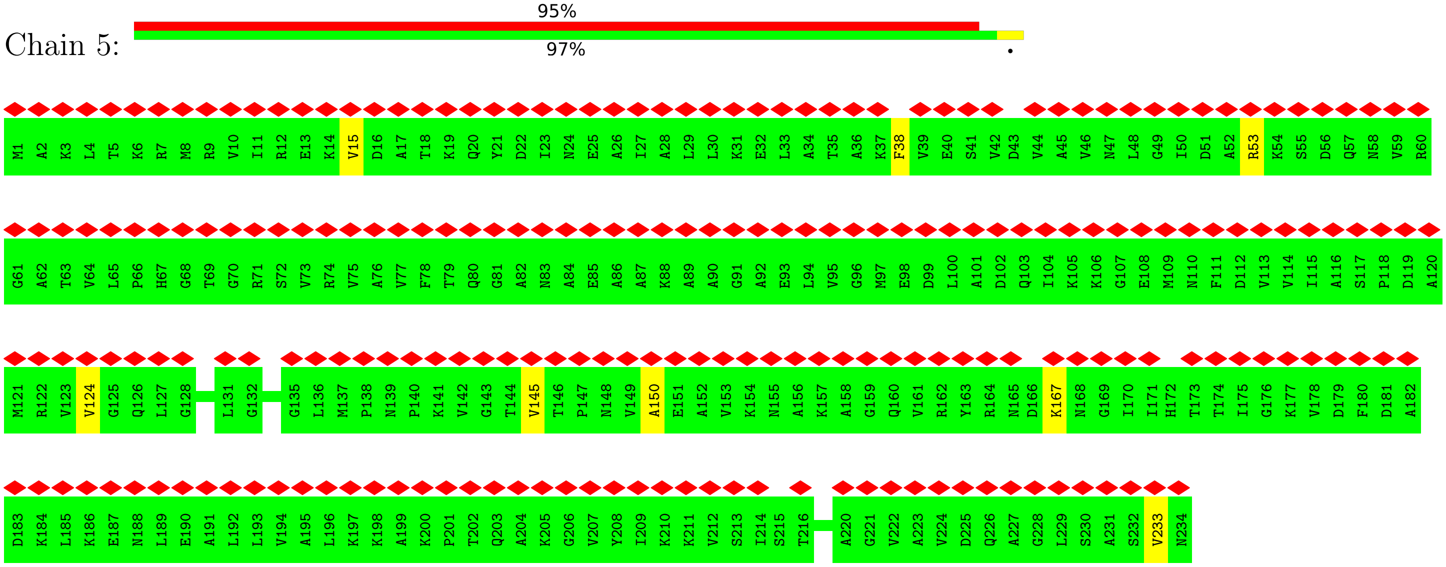
- Molecule 26: 50S ribosomal protein L36

Chain 4:



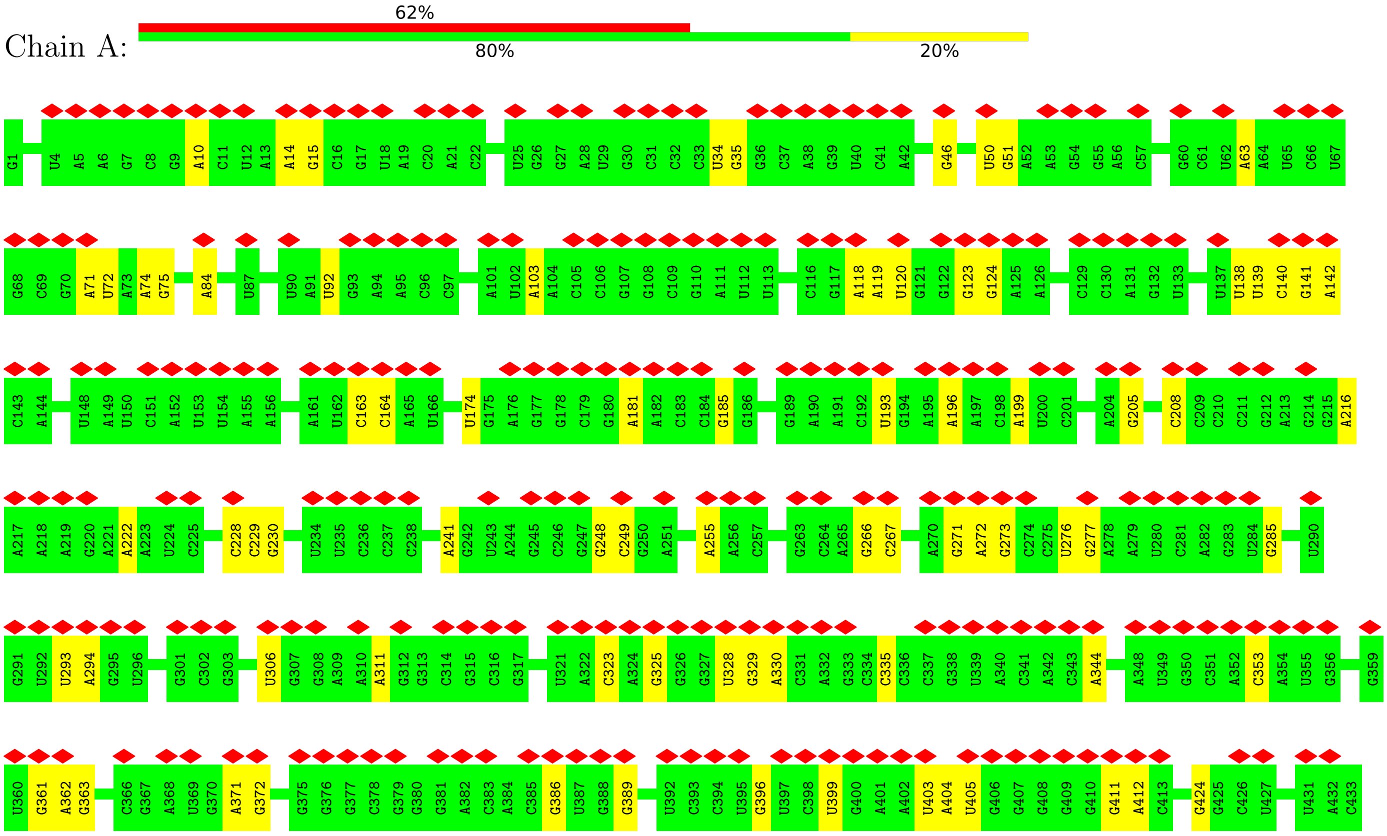
- Molecule 27: Large ribosomal subunit protein uL1

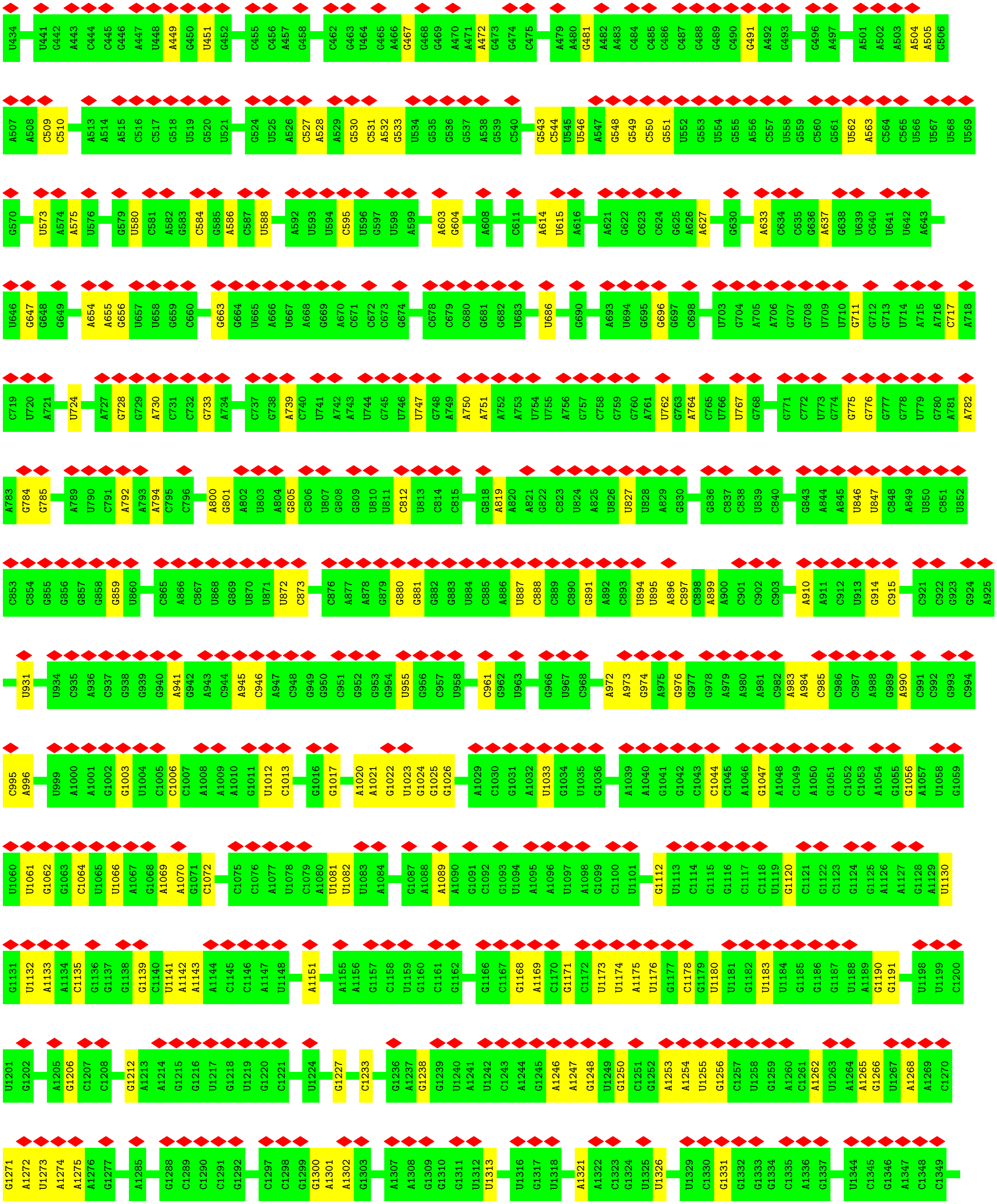
Chain 5:



- Molecule 28: 23 ribosomal RNA

Chain A:

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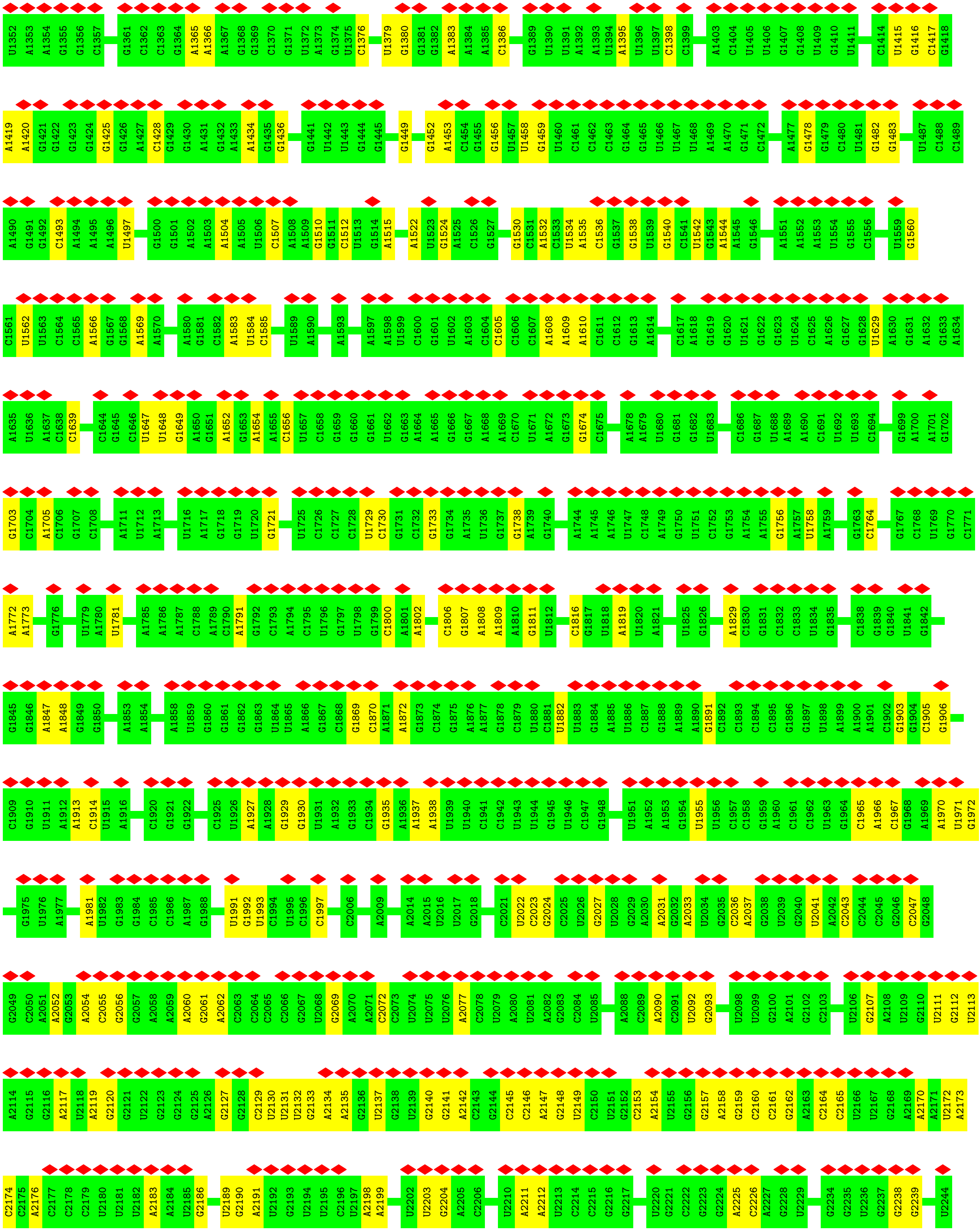
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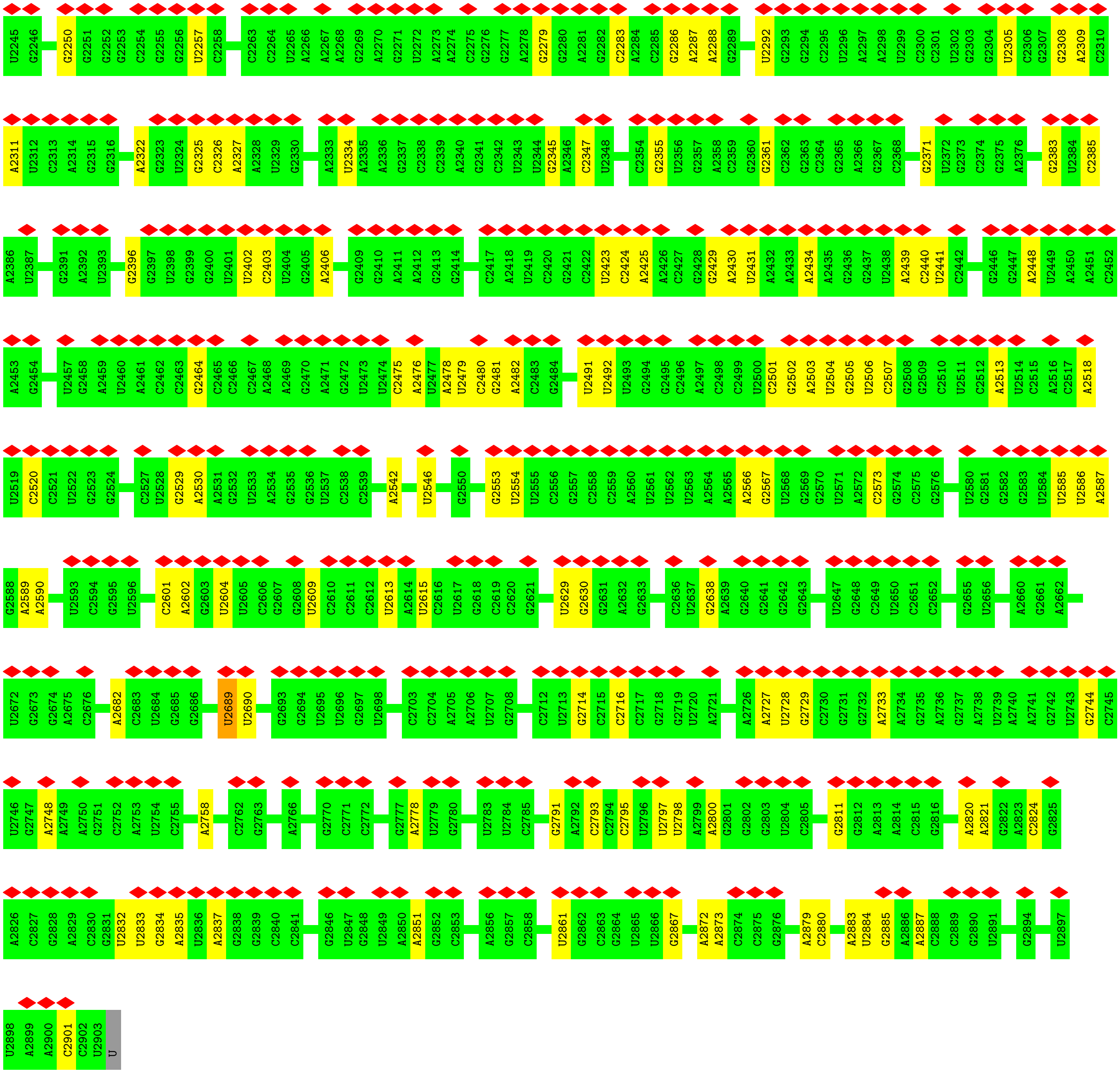
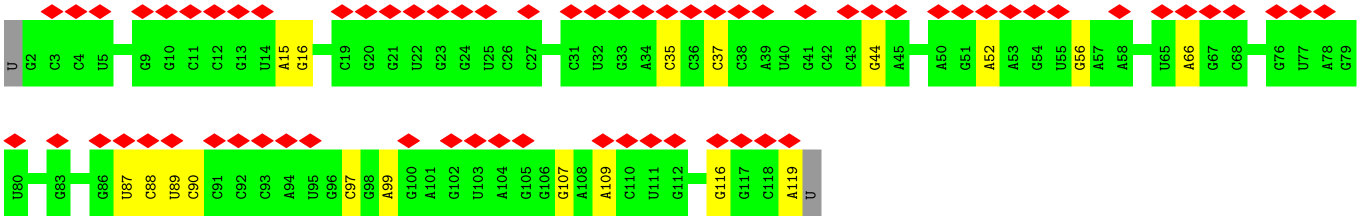


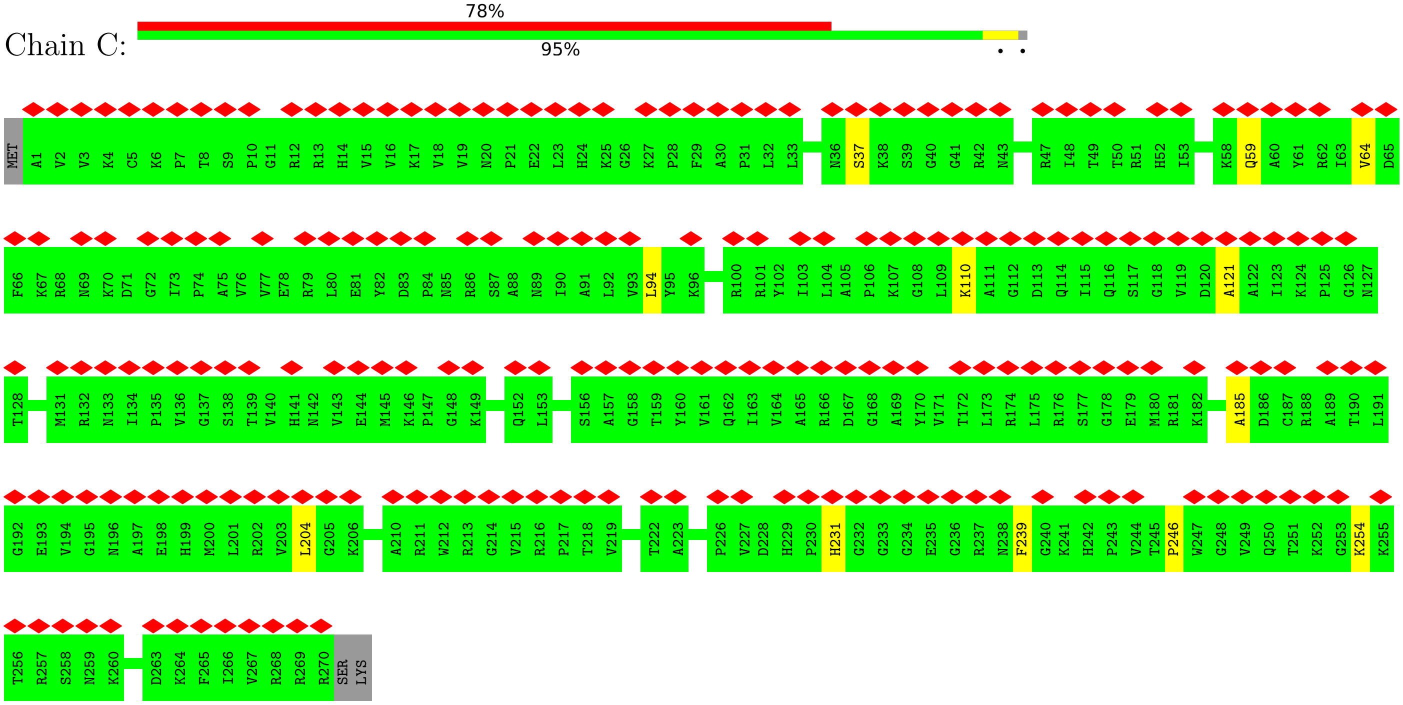
- Molecule 29: 5S ribosomal RNA

Chain B:



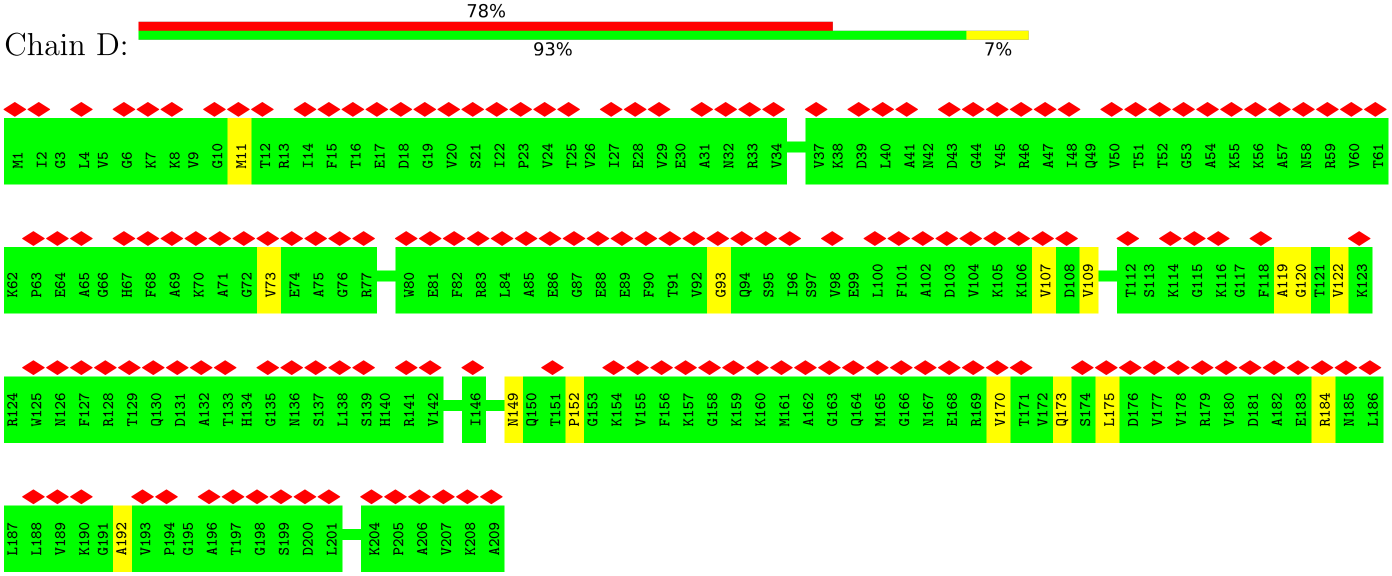
- Molecule 30: 50S ribosomal protein L2

Chain C:



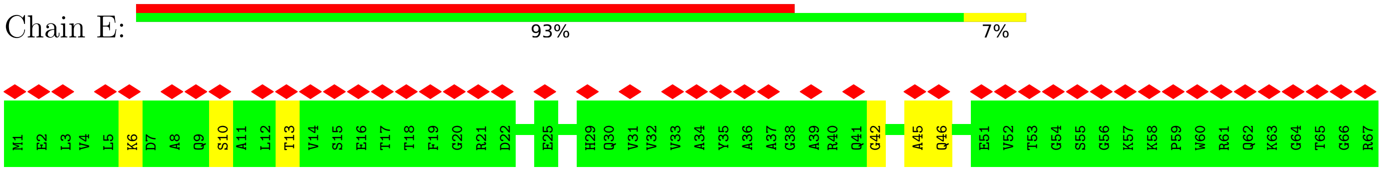
- Molecule 31: 50S ribosomal protein L3

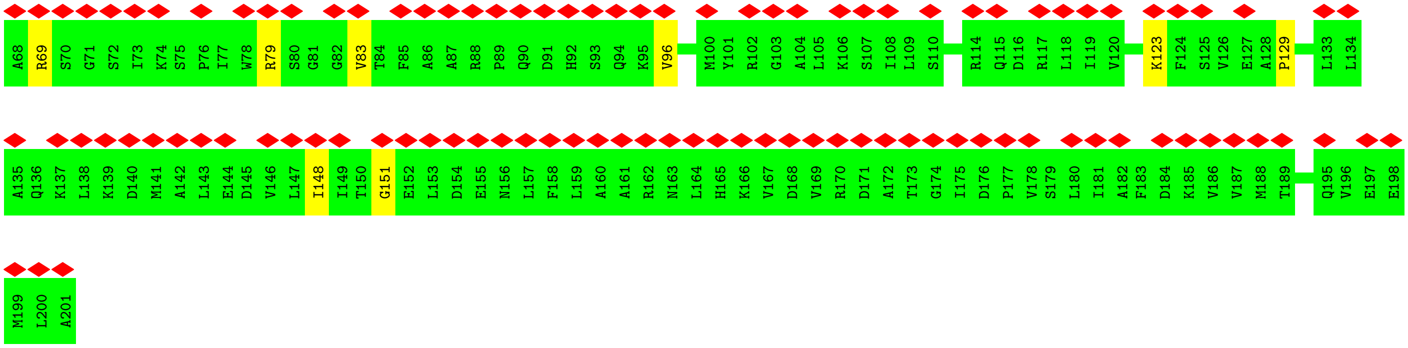
Chain D:



- Molecule 32: 50S ribosomal protein L4

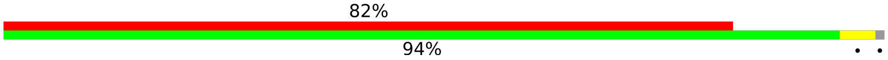
Chain E:

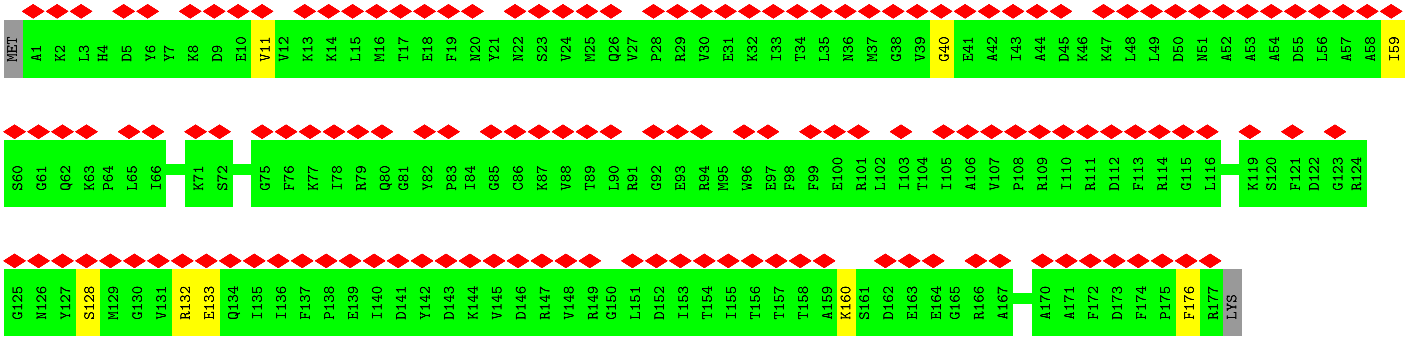




- Molecule 33: 50S ribosomal protein L5

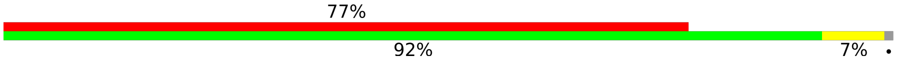
Chain F:

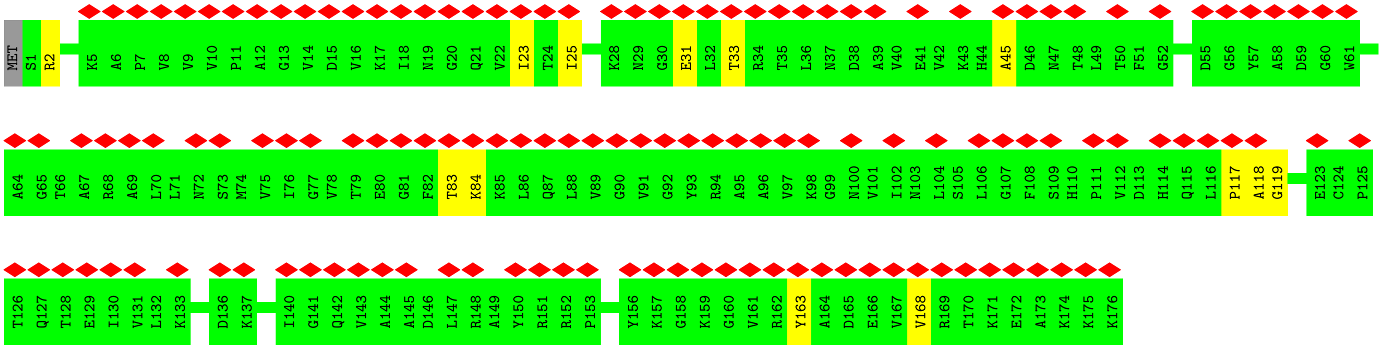




- Molecule 34: 50S ribosomal protein L6

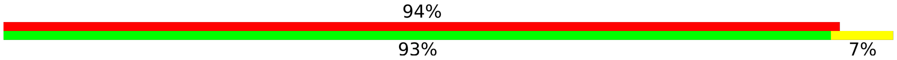
Chain G:

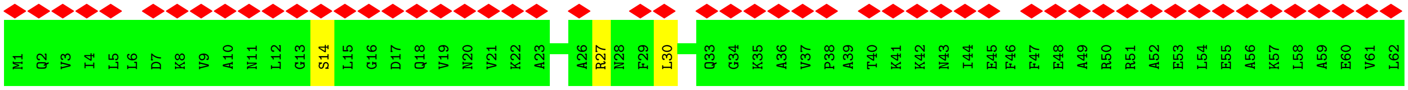


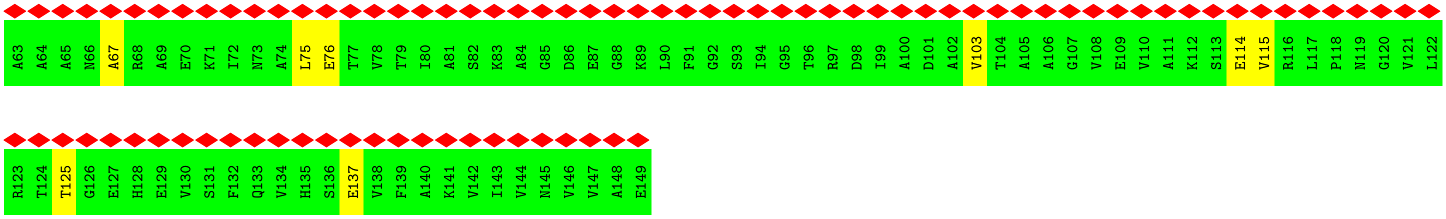


- Molecule 35: 50S ribosomal protein L9

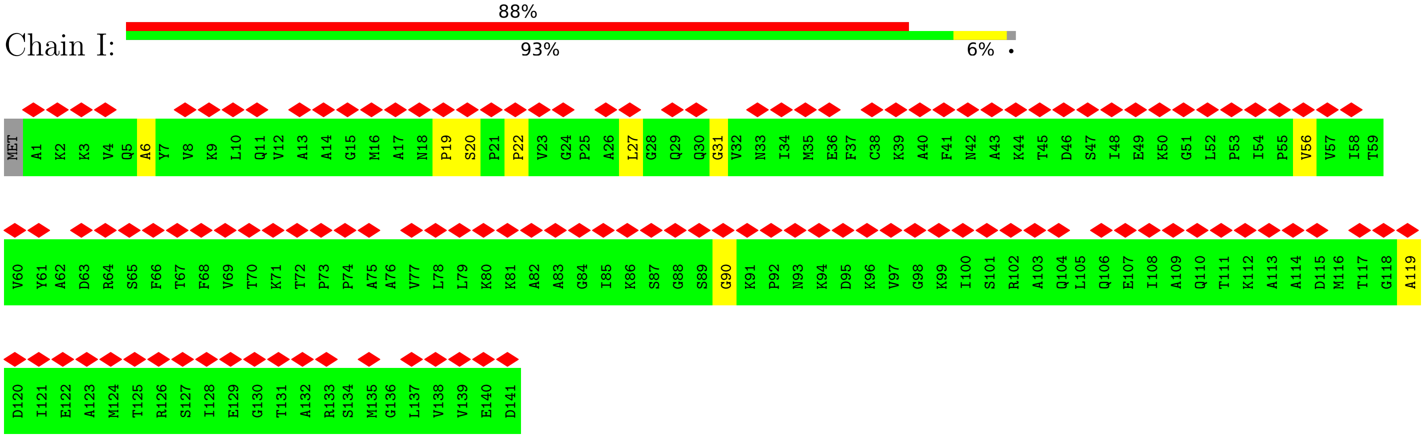
Chain H:



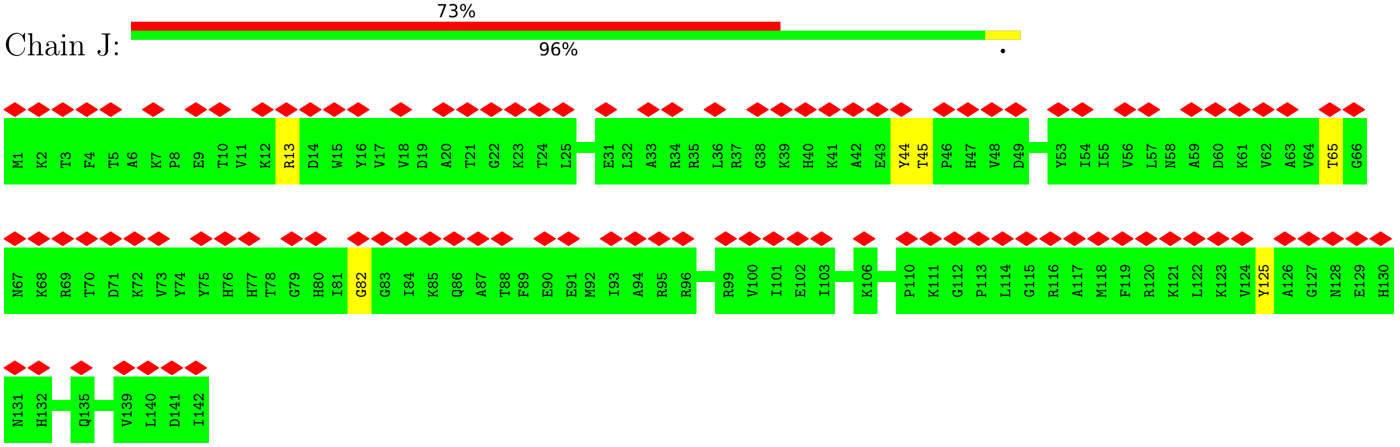




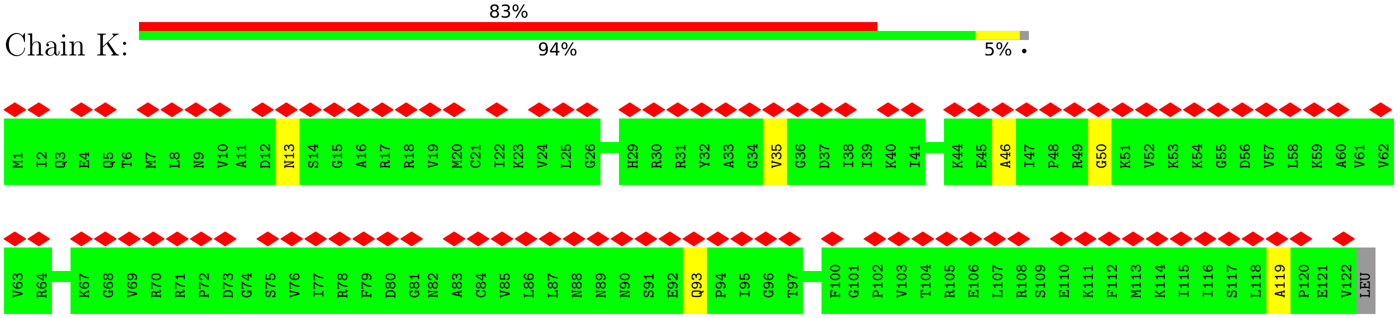
- Molecule 36: 50S ribosomal protein L11



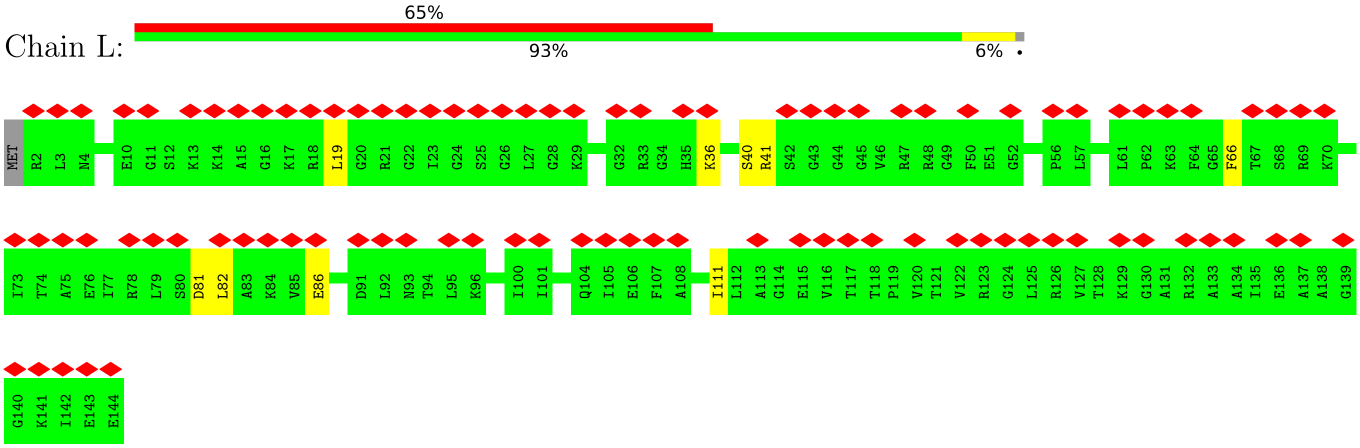
- Molecule 37: 50S ribosomal protein L13



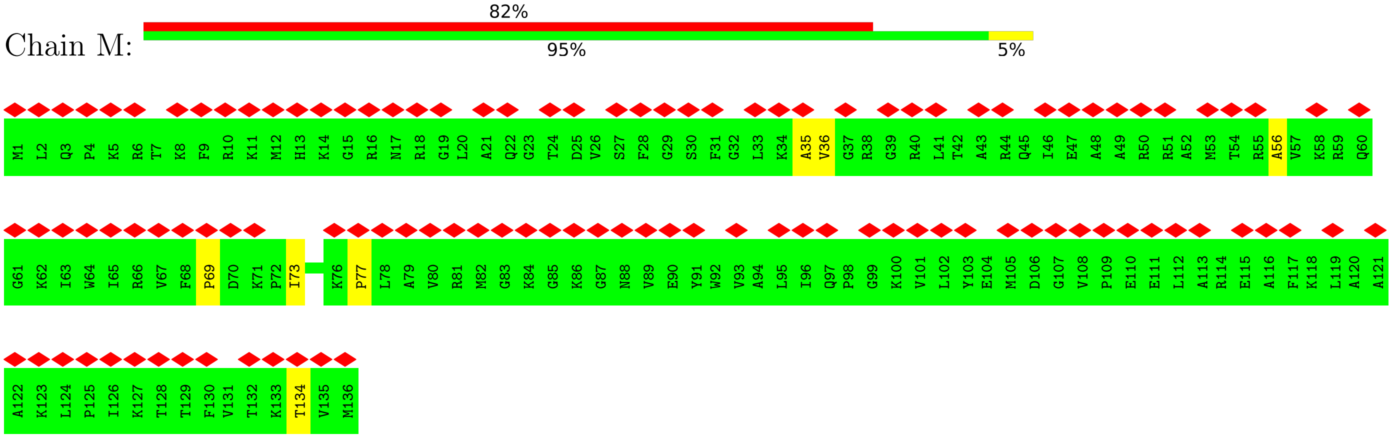
- Molecule 38: 50S ribosomal protein L14



- Molecule 39: 50S ribosomal protein L15

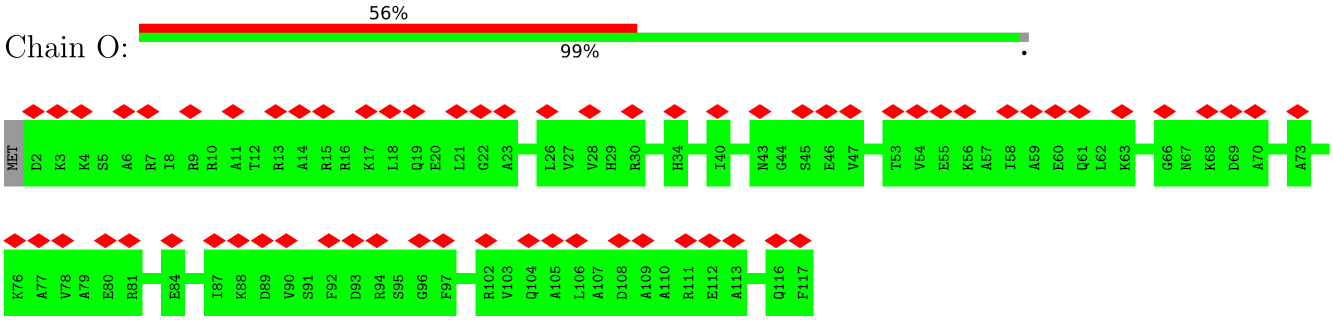


- Molecule 40: 50S ribosomal protein L16



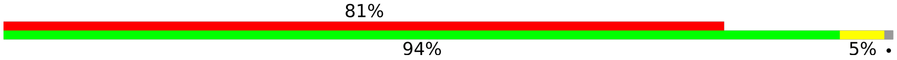
- Molecule 41: 50S ribosomal protein L17

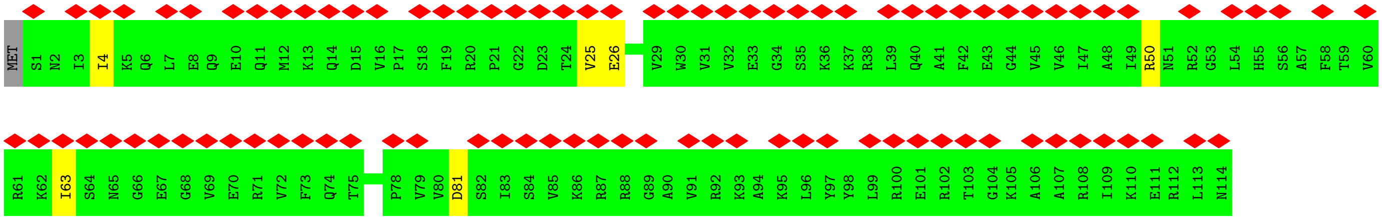
- Molecule 42: 50S ribosomal protein L18



- Molecule 43: 50S ribosomal protein L19

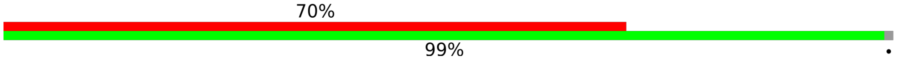
Chain P:

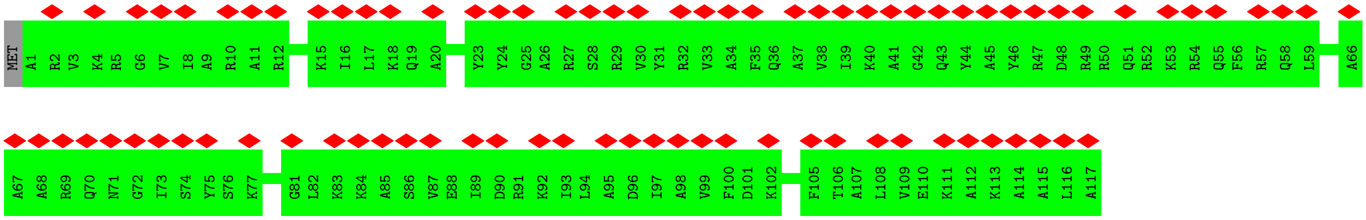




- Molecule 44: 50S ribosomal protein L20

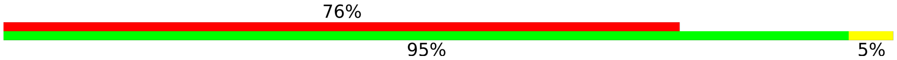
Chain Q:

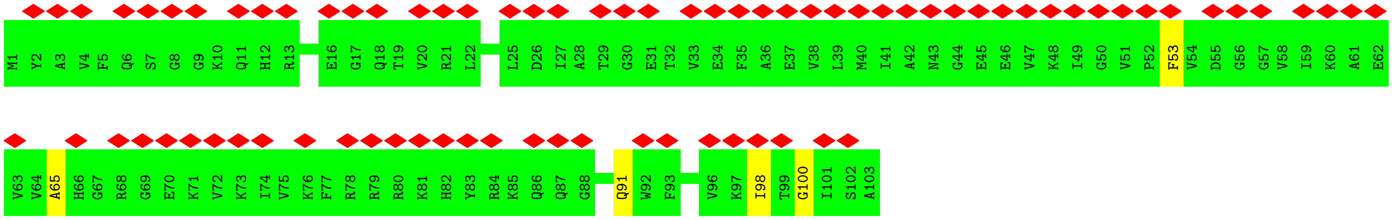




- Molecule 45: 50S ribosomal protein L21

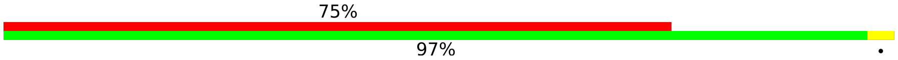
Chain R:

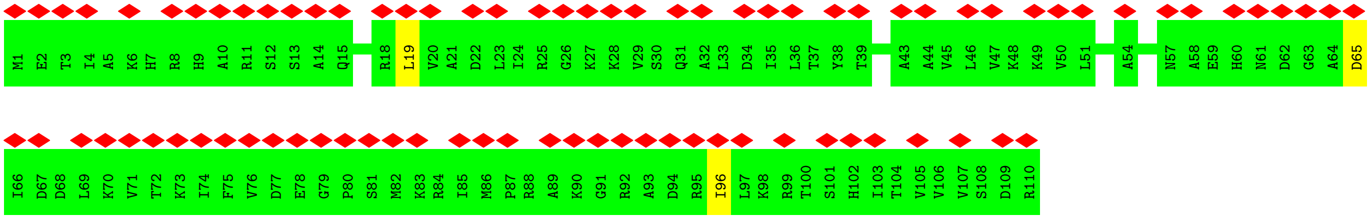




- Molecule 46: 50S ribosomal protein L22

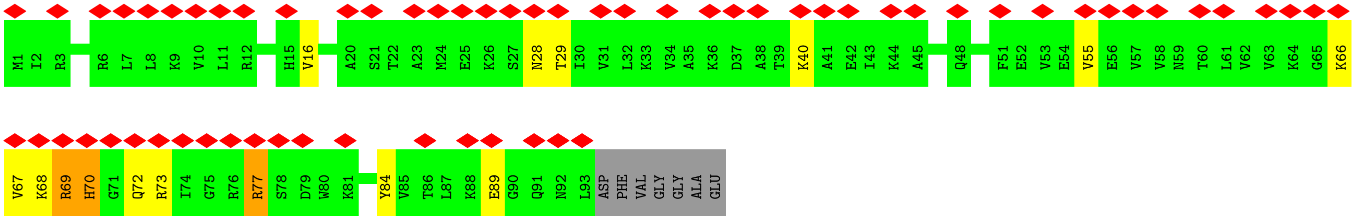
Chain S:





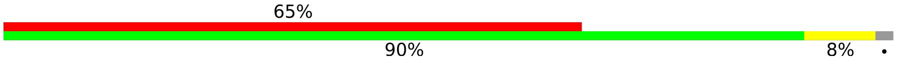
- Molecule 47: 50S ribosomal protein L23

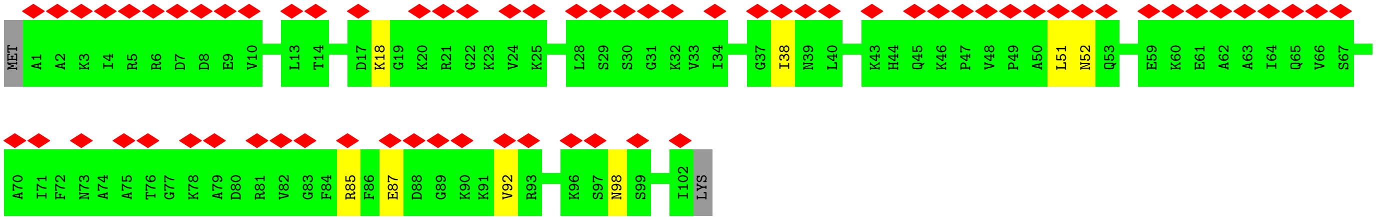
Chain T:



- Molecule 48: 50S ribosomal protein L24

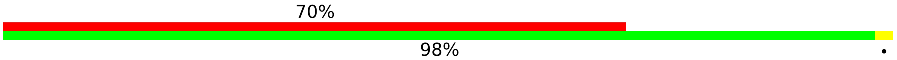
Chain U:

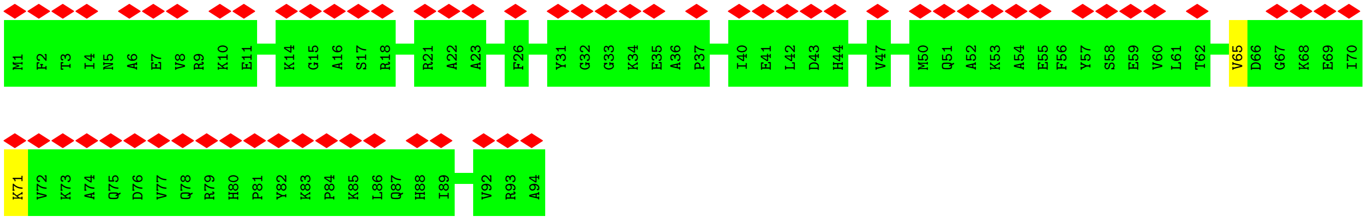




- Molecule 49: 50S ribosomal protein L25

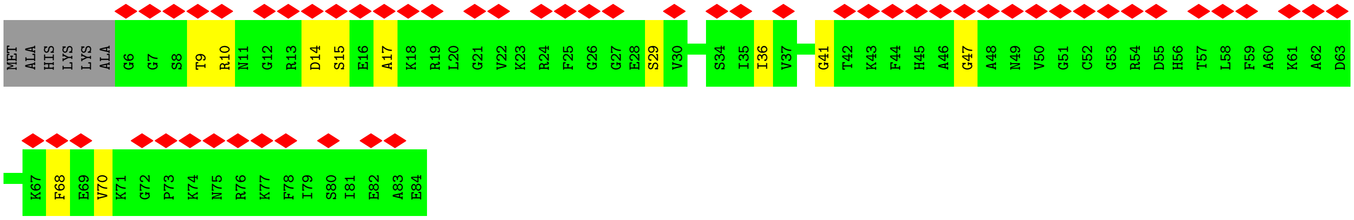
Chain V:





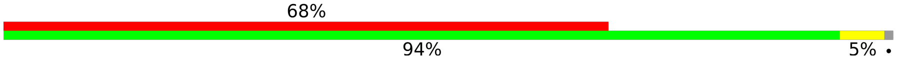
- Molecule 50: 50S ribosomal protein L27

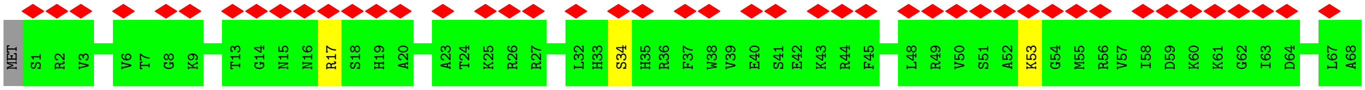
Chain W:

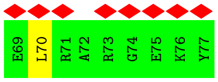


- Molecule 51: 50S ribosomal protein L28

Chain X:

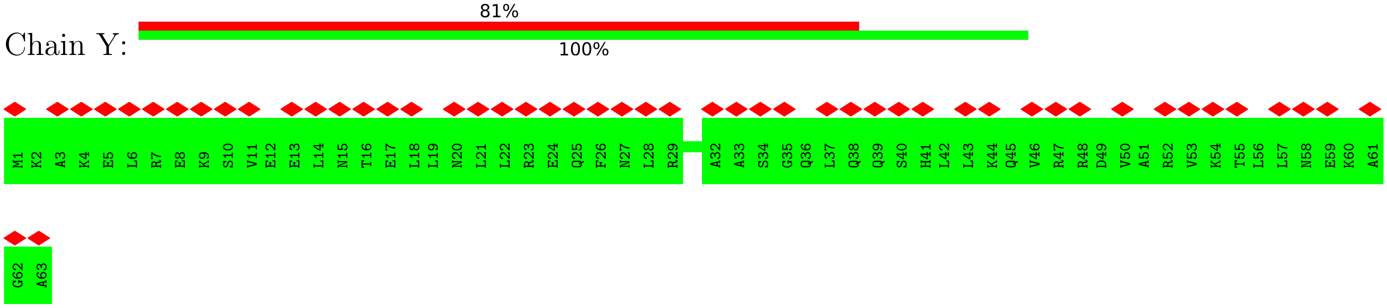






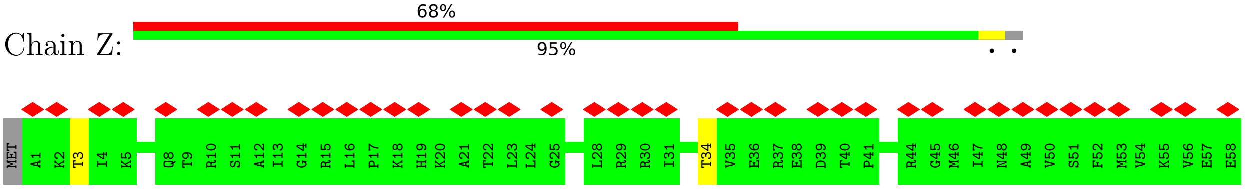
- Molecule 52: 50S ribosomal protein L29

Chain Y:



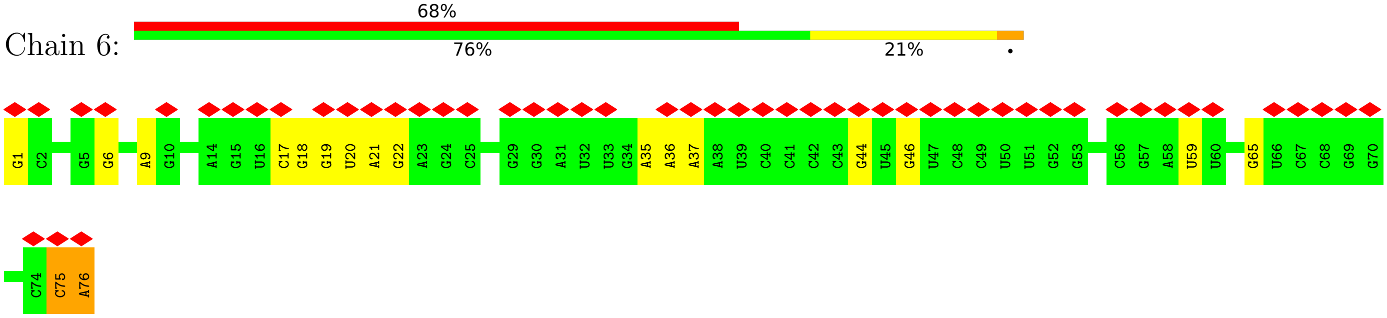
- Molecule 53: 50S ribosomal protein L30

Chain Z:



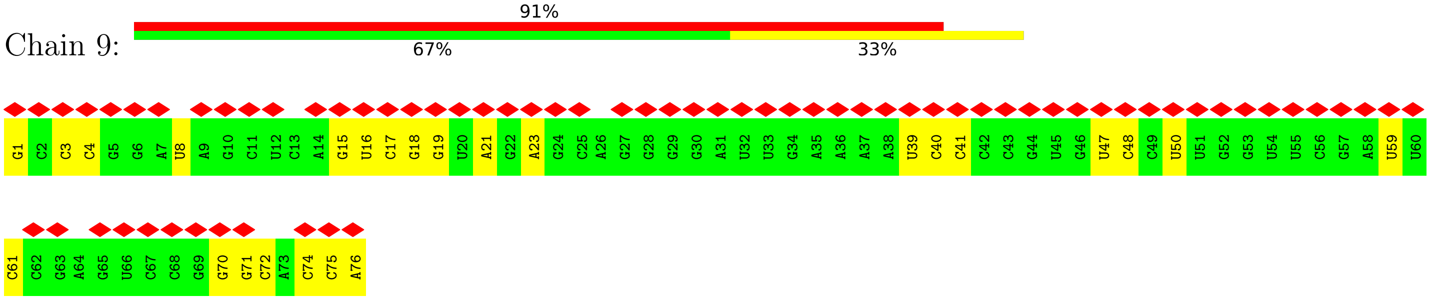
- Molecule 54: tRNA

Chain 6:



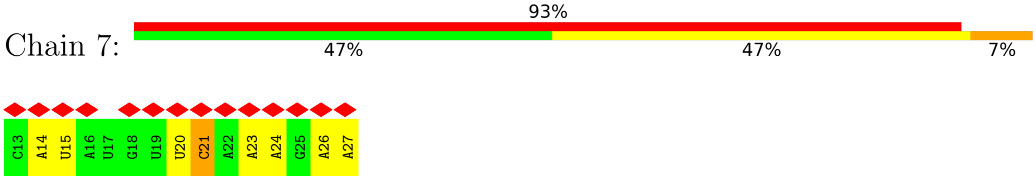
- Molecule 54: tRNA

Chain 9:

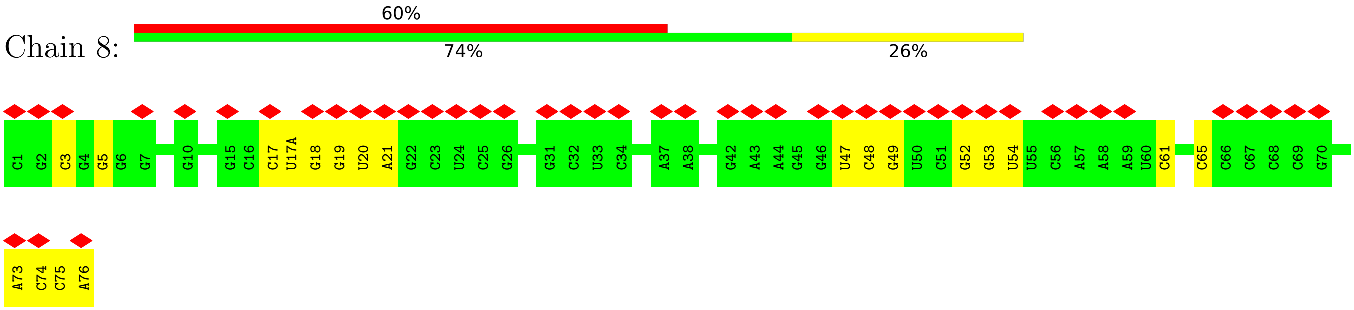


- Molecule 55: mRNA

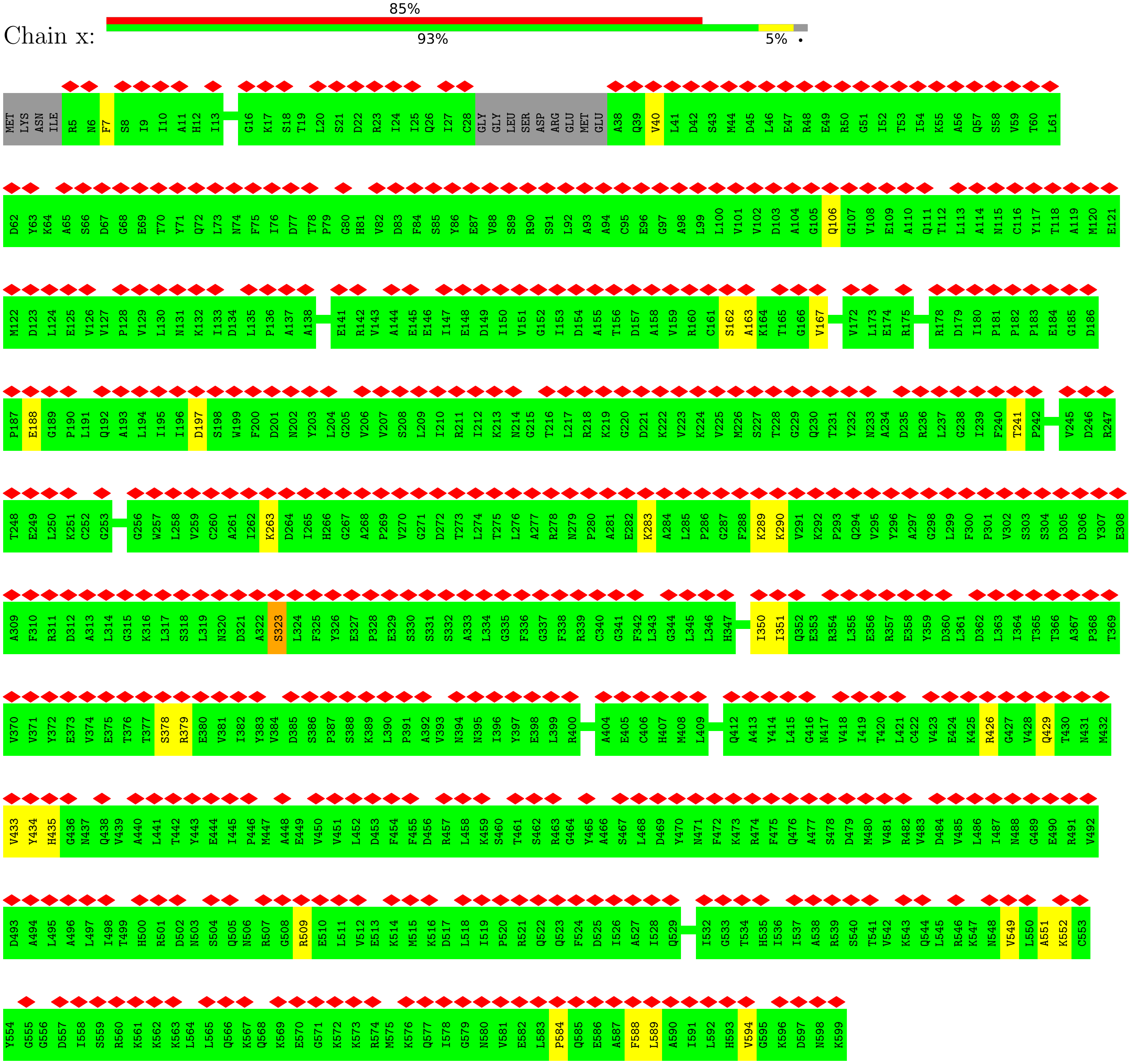
Chain 7:



- Molecule 56: tRNA



- Molecule 57: Elongation factor 4



4 Experimental information ⓘ

Property	**Value**	**Source**
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	107706	Depositor
Resolution determination method	Not provided	
CTF correction method	Not provided	
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	Not provided	
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.036	Depositor
Minimum map value	-0.014	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	422.40002, 422.40002, 422.40002	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.32, 1.32, 1.32	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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	0.73	0/36834	0.79	0/57462
2	c	0.42	0/1651	0.52	0/2225
3	d	0.38	0/1665	0.50	0/2227
4	e	0.46	0/1118	0.56	0/1504
5	f	0.37	0/851	0.53	0/1150
6	g	0.37	0/1195	0.49	0/1602
7	h	0.43	0/989	0.52	0/1326
8	i	0.39	0/1034	0.56	0/1375
9	j	0.37	0/796	0.51	0/1077
10	k	0.43	0/893	0.54	0/1205
11	l	0.46	0/969	0.55	0/1300
12	m	0.38	0/892	0.55	0/1193
13	n	0.37	0/817	0.52	0/1088
14	o	0.43	0/722	0.50	0/964
15	p	0.36	0/659	0.47	0/884
16	q	0.42	0/657	0.54	0/881
17	r	0.43	0/462	0.49	0/621
18	s	0.36	0/652	0.50	0/877
19	t	0.37	0/671	0.46	0/888
20	u	0.38	0/430	0.53	0/570
21	b	0.35	0/1735	0.51	0/2338
22	0	0.48	0/450	0.54	0/599
23	1	0.44	0/416	0.52	0/554
24	2	0.52	0/380	0.57	0/498
25	3	0.45	0/513	0.58	0/676
26	4	0.45	0/303	0.58	0/397
27	5	0.24	0/1748	0.53	0/2355
28	A	0.84	0/69799	0.81	2/108892 (0.0%)
29	B	0.63	0/2828	0.74	0/4410
30	C	0.52	0/2115	0.58	0/2844
31	D	0.48	0/1586	0.56	0/2134
32	E	0.43	0/1571	0.54	0/2113

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	F	0.37	0/1434	0.47	0/1926
34	G	0.37	0/1343	0.51	0/1816
35	H	0.30	0/1122	0.57	0/1515
36	I	0.28	0/1046	0.50	0/1410
37	J	0.50	0/1152	0.58	0/1551
38	K	0.49	0/947	0.58	0/1268
39	L	0.45	0/1054	0.57	0/1403
40	M	0.49	0/1093	0.61	0/1460
41	N	0.48	0/973	0.56	0/1301
42	O	0.38	0/902	0.48	0/1209
43	P	0.45	0/929	0.56	0/1242
44	Q	0.57	0/960	0.55	0/1278
45	R	0.48	0/829	0.54	0/1107
46	S	0.48	0/864	0.57	0/1156
47	T	0.40	0/744	0.57	0/994
48	U	0.37	0/787	0.54	0/1051
49	V	0.40	0/766	0.49	0/1025
50	W	0.47	0/603	0.64	0/797
51	X	0.47	0/635	0.56	0/848
52	Y	0.41	0/510	0.51	0/677
53	Z	0.41	0/453	0.58	0/605
54	6	0.75	5/1812 (0.3%)	1.04	13/2820 (0.5%)
54	9	0.40	1/1813 (0.1%)	0.79	0/2823
55	7	0.64	0/358	0.92	2/555 (0.4%)
56	8	0.64	0/1832	0.76	0/2855
57	x	0.39	0/4646	0.52	0/6285
All	All	0.70	6/167008 (0.0%)	0.74	17/249206 (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
11	l	0	1
20	u	0	1
All	All	0	2

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
54	6	75	C	O3'-P	-12.09	1.46	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
54	9	1	G	OP3-P	-10.74	1.48	1.61
54	6	1	G	OP3-P	-10.67	1.48	1.61
54	6	76	A	N7-C5	-7.24	1.34	1.39
54	6	76	A	N9-C4	-7.05	1.33	1.37

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

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
54	6	76	A	C2-N3-C4	19.21	120.21	110.60
54	6	76	A	N1-C2-N3	-15.97	121.31	129.30
54	6	75	C	OP2-P-O3'	11.74	131.03	105.20
54	6	76	A	N3-C4-C5	-10.30	119.59	126.80
54	6	76	A	N7-C8-N9	-9.55	109.03	113.80

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
11	l	23	ALA	Peptide
20	u	37	PHE	Peptide

5.2 Too-close contacts ⓘ

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

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	
2	c	204/233 (88%)	182 (89%)	16 (8%)	6 (3%)	4	28
3	d	203/206 (98%)	180 (89%)	16 (8%)	7 (3%)	3	24

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	e	148/167 (89%)	125 (84%)	19 (13%)	4 (3%)	5	30
5	f	100/135 (74%)	84 (84%)	9 (9%)	7 (7%)	1	8
6	g	149/179 (83%)	134 (90%)	11 (7%)	4 (3%)	5	30
7	h	127/130 (98%)	114 (90%)	11 (9%)	2 (2%)	9	43
8	i	125/130 (96%)	107 (86%)	14 (11%)	4 (3%)	4	26
9	j	96/103 (93%)	76 (79%)	11 (12%)	9 (9%)	0	3
10	k	115/129 (89%)	102 (89%)	9 (8%)	4 (4%)	3	24
11	l	121/124 (98%)	104 (86%)	12 (10%)	5 (4%)	3	21
12	m	112/118 (95%)	101 (90%)	6 (5%)	5 (4%)	2	18
13	n	98/101 (97%)	70 (71%)	15 (15%)	13 (13%)	0	1
14	o	86/89 (97%)	76 (88%)	9 (10%)	1 (1%)	13	49
15	p	80/82 (98%)	66 (82%)	8 (10%)	6 (8%)	1	7
16	q	78/84 (93%)	62 (80%)	14 (18%)	2 (3%)	5	31
17	r	53/75 (71%)	50 (94%)	2 (4%)	1 (2%)	8	39
18	s	77/92 (84%)	68 (88%)	5 (6%)	4 (5%)	2	15
19	t	83/87 (95%)	78 (94%)	3 (4%)	2 (2%)	6	34
20	u	49/71 (69%)	39 (80%)	7 (14%)	3 (6%)	1	12
21	b	216/241 (90%)	189 (88%)	20 (9%)	7 (3%)	4	26
22	0	54/57 (95%)	51 (94%)	2 (4%)	1 (2%)	8	39
23	1	48/55 (87%)	41 (85%)	6 (12%)	1 (2%)	7	37
24	2	44/46 (96%)	43 (98%)	0	1 (2%)	6	34
25	3	62/65 (95%)	55 (89%)	5 (8%)	2 (3%)	4	26
26	4	36/38 (95%)	25 (69%)	5 (14%)	6 (17%)	0	0
27	5	232/234 (99%)	190 (82%)	34 (15%)	8 (3%)	3	24
30	C	268/273 (98%)	228 (85%)	28 (10%)	12 (4%)	2	18
31	D	207/209 (99%)	169 (82%)	23 (11%)	15 (7%)	1	7
32	E	199/201 (99%)	171 (86%)	14 (7%)	14 (7%)	1	8
33	F	175/179 (98%)	146 (83%)	21 (12%)	8 (5%)	2	18
34	G	174/177 (98%)	140 (80%)	21 (12%)	13 (8%)	1	7
35	H	147/149 (99%)	114 (78%)	22 (15%)	11 (8%)	1	7
36	I	139/142 (98%)	119 (86%)	11 (8%)	9 (6%)	1	10

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	J	140/142 (99%)	121 (86%)	13 (9%)	6 (4%)	2	20
38	K	120/123 (98%)	100 (83%)	14 (12%)	6 (5%)	2	16
39	L	141/144 (98%)	115 (82%)	17 (12%)	9 (6%)	1	10
40	M	134/136 (98%)	112 (84%)	15 (11%)	7 (5%)	2	15
41	N	118/127 (93%)	104 (88%)	10 (8%)	4 (3%)	3	24
42	O	114/117 (97%)	104 (91%)	10 (9%)	0	100	100
43	P	112/115 (97%)	93 (83%)	13 (12%)	6 (5%)	2	14
44	Q	115/118 (98%)	109 (95%)	6 (5%)	0	100	100
45	R	101/103 (98%)	81 (80%)	15 (15%)	5 (5%)	2	16
46	S	108/110 (98%)	94 (87%)	11 (10%)	3 (3%)	5	29
47	T	91/100 (91%)	61 (67%)	18 (20%)	12 (13%)	0	1
48	U	100/104 (96%)	81 (81%)	11 (11%)	8 (8%)	1	6
49	V	92/94 (98%)	81 (88%)	9 (10%)	2 (2%)	6	35
50	W	77/85 (91%)	49 (64%)	17 (22%)	11 (14%)	0	1
51	X	75/78 (96%)	64 (85%)	7 (9%)	4 (5%)	2	15
52	Y	61/63 (97%)	50 (82%)	11 (18%)	0	100	100
53	Z	56/59 (95%)	51 (91%)	3 (5%)	2 (4%)	3	23
57	x	582/599 (97%)	496 (85%)	58 (10%)	28 (5%)	2	17
All	All	6442/6818 (94%)	5465 (85%)	667 (10%)	310 (5%)	4	17

5 of 310 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	d	125	VAL
5	f	98	GLU
5	f	101	PRO
9	j	57	VAL
9	j	61	ALA

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	
2	c	170/190 (90%)	170 (100%)	0	100	100
3	d	172/173 (99%)	172 (100%)	0	100	100
4	e	113/126 (90%)	113 (100%)	0	100	100
5	f	89/116 (77%)	89 (100%)	0	100	100
6	g	124/147 (84%)	124 (100%)	0	100	100
7	h	104/105 (99%)	104 (100%)	0	100	100
8	i	105/107 (98%)	105 (100%)	0	100	100
9	j	86/90 (96%)	86 (100%)	0	100	100
10	k	90/99 (91%)	90 (100%)	0	100	100
11	l	103/104 (99%)	103 (100%)	0	100	100
12	m	92/96 (96%)	92 (100%)	0	100	100
13	n	83/84 (99%)	73 (88%)	10 (12%)	5	22
14	o	76/77 (99%)	76 (100%)	0	100	100
15	p	65/65 (100%)	65 (100%)	0	100	100
16	q	74/78 (95%)	74 (100%)	0	100	100
17	r	48/65 (74%)	48 (100%)	0	100	100
18	s	70/79 (89%)	70 (100%)	0	100	100
19	t	65/66 (98%)	65 (100%)	0	100	100
20	u	44/61 (72%)	44 (100%)	0	100	100
21	b	180/199 (90%)	180 (100%)	0	100	100
22	0	47/48 (98%)	47 (100%)	0	100	100
23	1	45/49 (92%)	44 (98%)	1 (2%)	52	79
24	2	38/38 (100%)	38 (100%)	0	100	100
25	3	51/52 (98%)	51 (100%)	0	100	100
26	4	34/34 (100%)	34 (100%)	0	100	100
27	5	181/181 (100%)	181 (100%)	0	100	100
30	C	215/218 (99%)	215 (100%)	0	100	100
31	D	164/164 (100%)	164 (100%)	0	100	100
32	E	165/165 (100%)	165 (100%)	0	100	100
33	F	148/150 (99%)	148 (100%)	0	100	100
34	G	137/138 (99%)	137 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
35	H	114/114 (100%)	114 (100%)	0	100	100
36	I	109/110 (99%)	109 (100%)	0	100	100
37	J	116/116 (100%)	116 (100%)	0	100	100
38	K	103/104 (99%)	103 (100%)	0	100	100
39	L	102/103 (99%)	102 (100%)	0	100	100
40	M	109/109 (100%)	109 (100%)	0	100	100
41	N	100/103 (97%)	100 (100%)	0	100	100
42	O	86/87 (99%)	86 (100%)	0	100	100
43	P	99/100 (99%)	99 (100%)	0	100	100
44	Q	89/90 (99%)	89 (100%)	0	100	100
45	R	84/84 (100%)	84 (100%)	0	100	100
46	S	93/93 (100%)	93 (100%)	0	100	100
47	T	80/84 (95%)	74 (92%)	6 (8%)	13	45
48	U	83/85 (98%)	83 (100%)	0	100	100
49	V	78/78 (100%)	78 (100%)	0	100	100
50	W	59/63 (94%)	59 (100%)	0	100	100
51	X	67/68 (98%)	67 (100%)	0	100	100
52	Y	55/55 (100%)	55 (100%)	0	100	100
53	Z	48/49 (98%)	48 (100%)	0	100	100
57	x	500/511 (98%)	496 (99%)	4 (1%)	81	93
All	All	5352/5570 (96%)	5331 (100%)	21 (0%)	91	95

5 of 21 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
47	T	70	HIS
57	x	106	GLN
57	x	589	LEU
57	x	323	SER
47	T	77	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 74 such sidechains are listed below:

Mol	Chain	Res	Type
50	W	39	GLN
57	x	548	ASN
52	Y	20	ASN
57	x	214	ASN
27	5	83	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	a	1532/1533 (99%)	302 (19%)	0
28	A	2902/2904 (99%)	566 (19%)	24 (0%)
29	B	117/120 (97%)	18 (15%)	0
54	6	75/76 (98%)	16 (21%)	3 (4%)
54	9	75/76 (98%)	24 (32%)	2 (2%)
55	7	14/15 (93%)	7 (50%)	1 (7%)
56	8	76/77 (98%)	20 (26%)	0
All	All	4791/4801 (99%)	953 (19%)	30 (0%)

5 of 953 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	a	4	U
1	a	5	U
1	a	6	G
1	a	9	G
1	a	13	U

5 of 30 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
28	A	1331	G
55	7	20	U
28	A	1905	C
54	9	74	C
54	6	17	C

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 monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 3 ligands modelled in this entry, 1 is monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
59	GNP	x	701	60	29,34,34	1.86	8 (27%)	33,54,54	2.51	10 (30%)
58	PHE	6	101	54	10,11,12	0.46	0	10,13,15	0.70	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
59	GNP	x	701	60	-	6/14/38/38	0/3/3/3
58	PHE	6	101	54	-	4/5/6/8	0/1/1/1

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	x	701	GNP	PB-O3A	-5.75	1.51	1.59
59	x	701	GNP	C6-N1	3.63	1.39	1.33
59	x	701	GNP	PB-O2B	-3.22	1.48	1.56
59	x	701	GNP	PG-O1G	3.15	1.51	1.46
59	x	701	GNP	C8-N7	-2.30	1.30	1.34

The worst 5 of 10 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
59	x	701	GNP	C5-C6-N1	-8.47	111.85	123.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
59	x	701	GNP	C2-N1-C6	5.63	124.88	115.93
59	x	701	GNP	O2B-PB-O1B	4.20	118.72	109.92
59	x	701	GNP	O1B-PB-N3B	-4.02	105.85	111.77
59	x	701	GNP	PB-O3A-PA	-3.71	119.55	132.62

There are no chirality outliers.

5 of 10 torsion outliers are listed below:

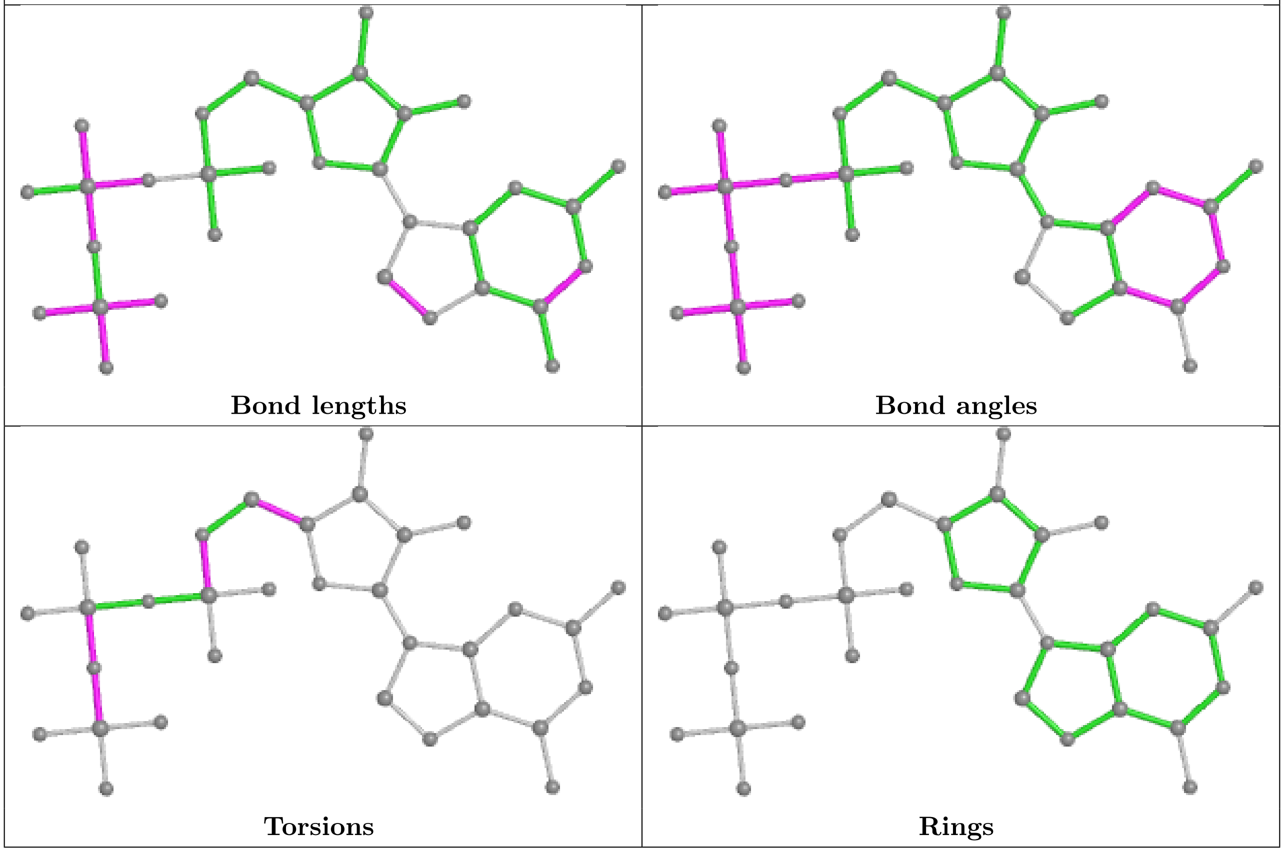
Mol	Chain	Res	Type	Atoms
58	6	101	PHE	C-CA-CB-CG
59	x	701	GNP	PB-N3B-PG-O1G
59	x	701	GNP	PG-N3B-PB-O1B
59	x	701	GNP	PG-N3B-PB-O3A
59	x	701	GNP	O4'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

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

Ligand GNP x 701



Bond lengths

Bond angles

Torsions

Rings

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.

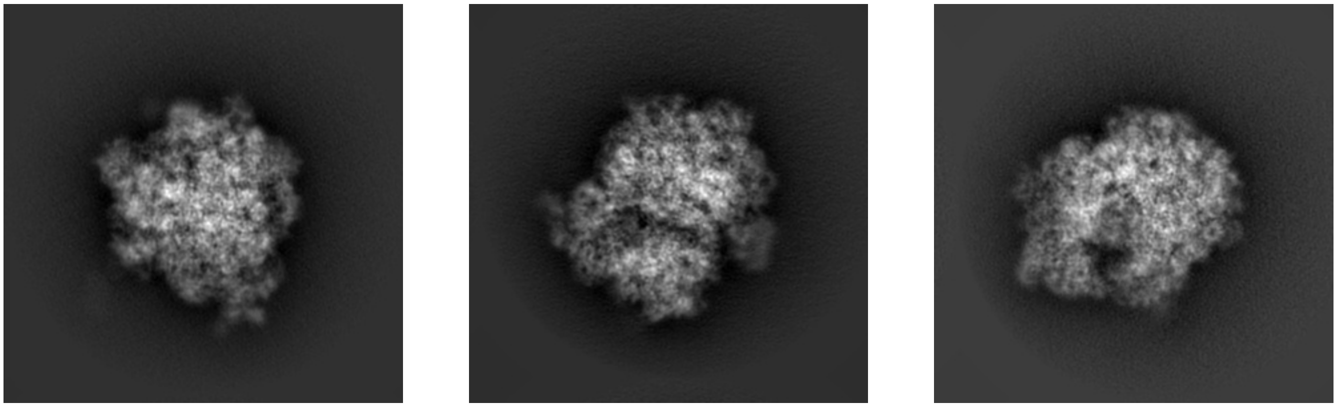
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-6550. 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

6.1.1 Primary map

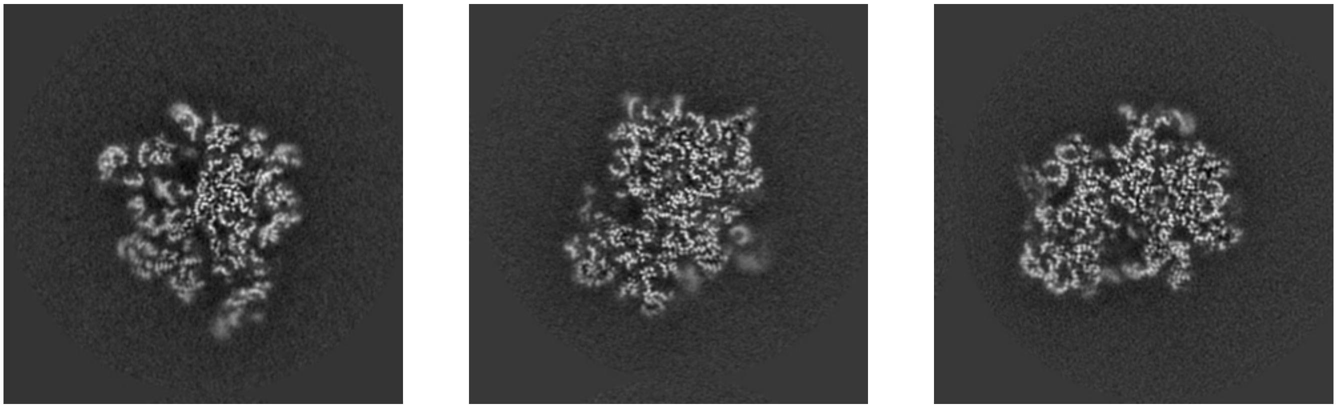


X Y Z

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

6.2 Central slices

6.2.1 Primary map

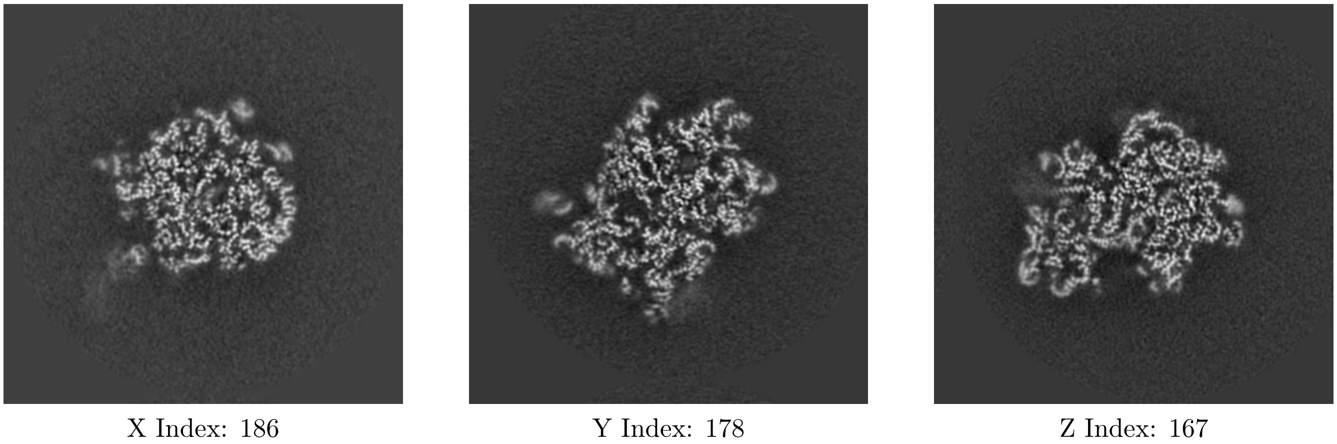


X Index: 160 Y Index: 160 Z Index: 160

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

6.3 Largest variance slices ⓘ

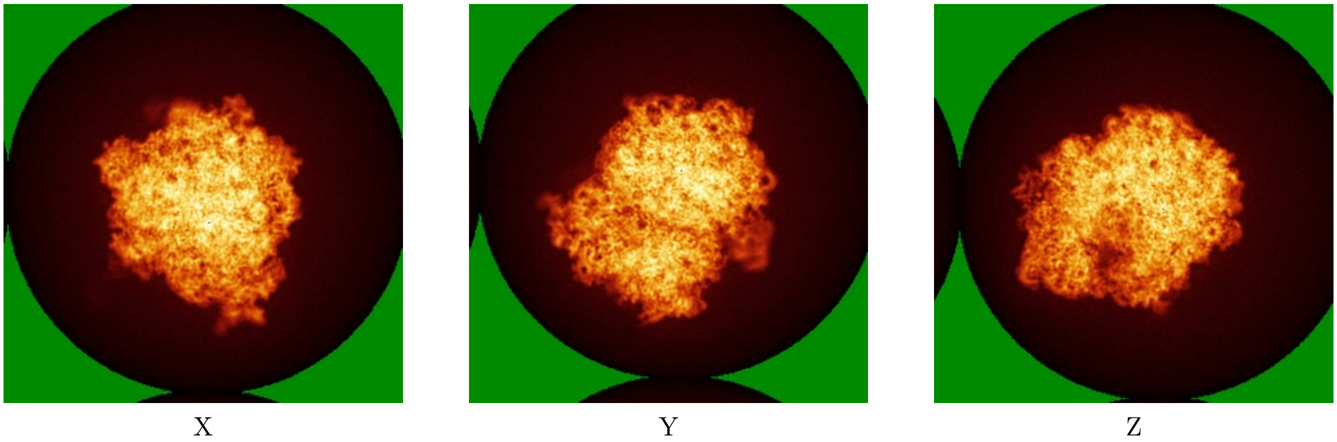
6.3.1 Primary map


X Index: 186 Y Index: 178 Z Index: 167

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

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

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

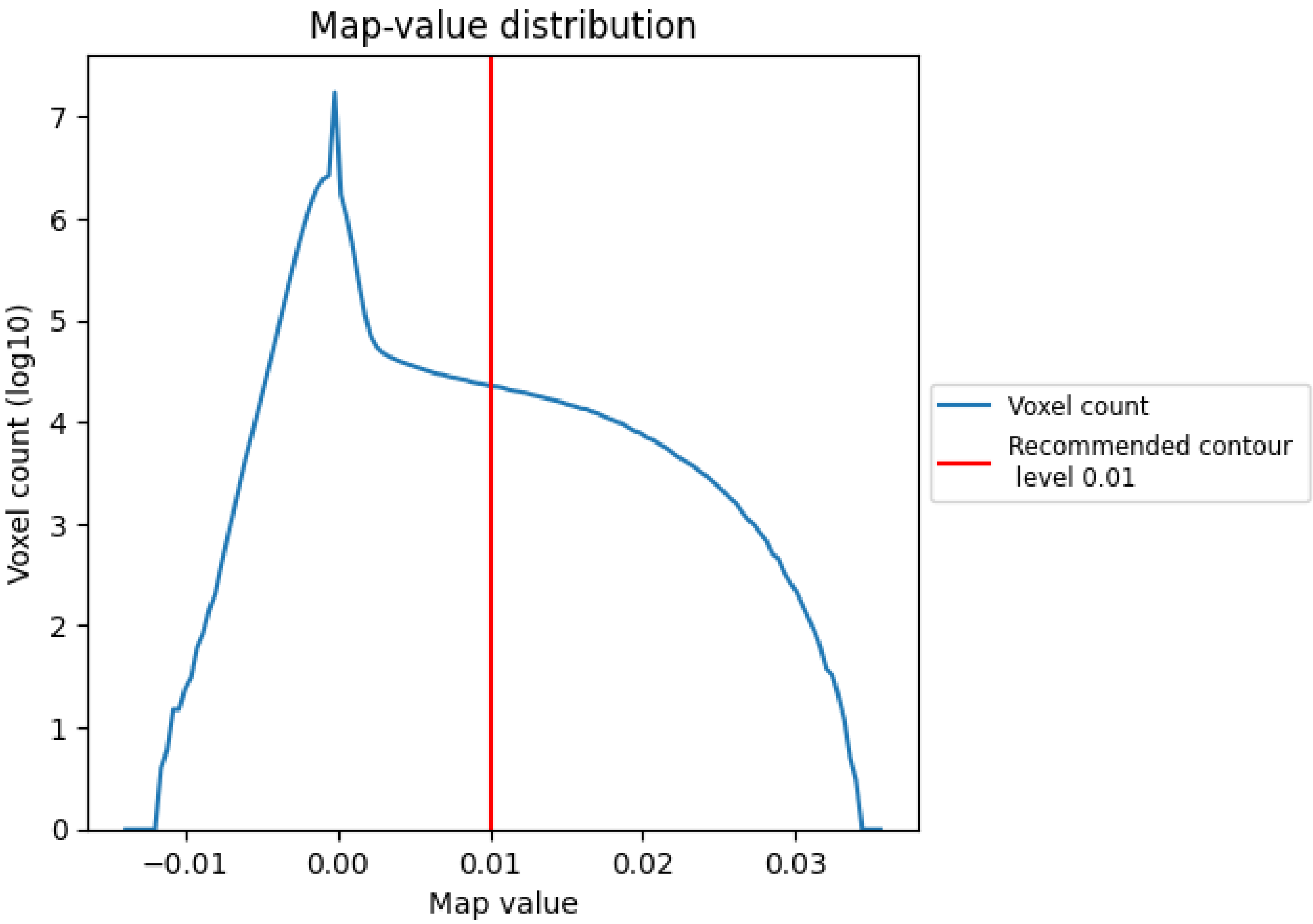
6.6 Mask visualisation ⓘ

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

7 Map analysis ⓘ

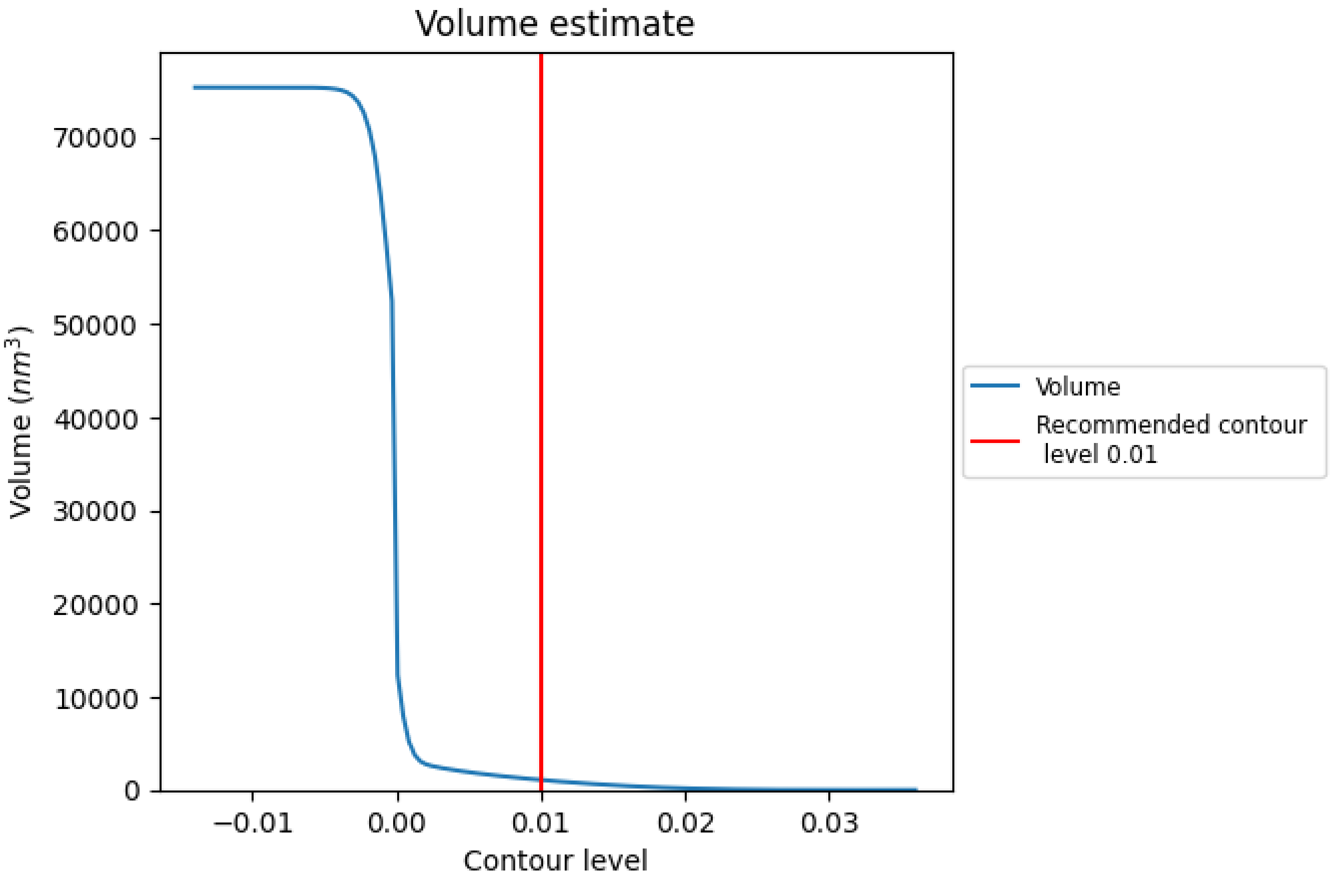
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution ⓘ



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.

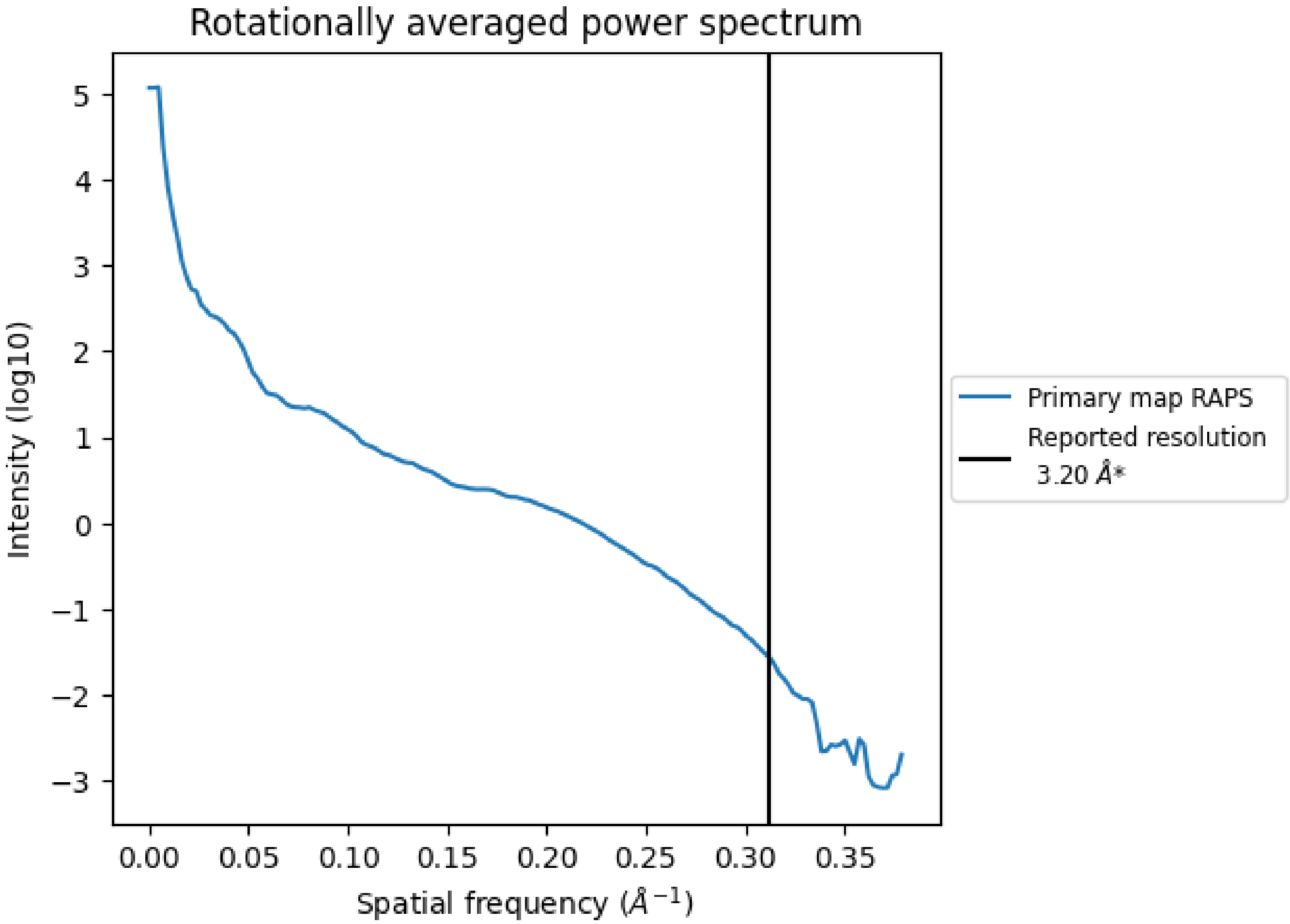
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 1075 nm^3; this corresponds to an approximate mass of 971 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 ⓘ

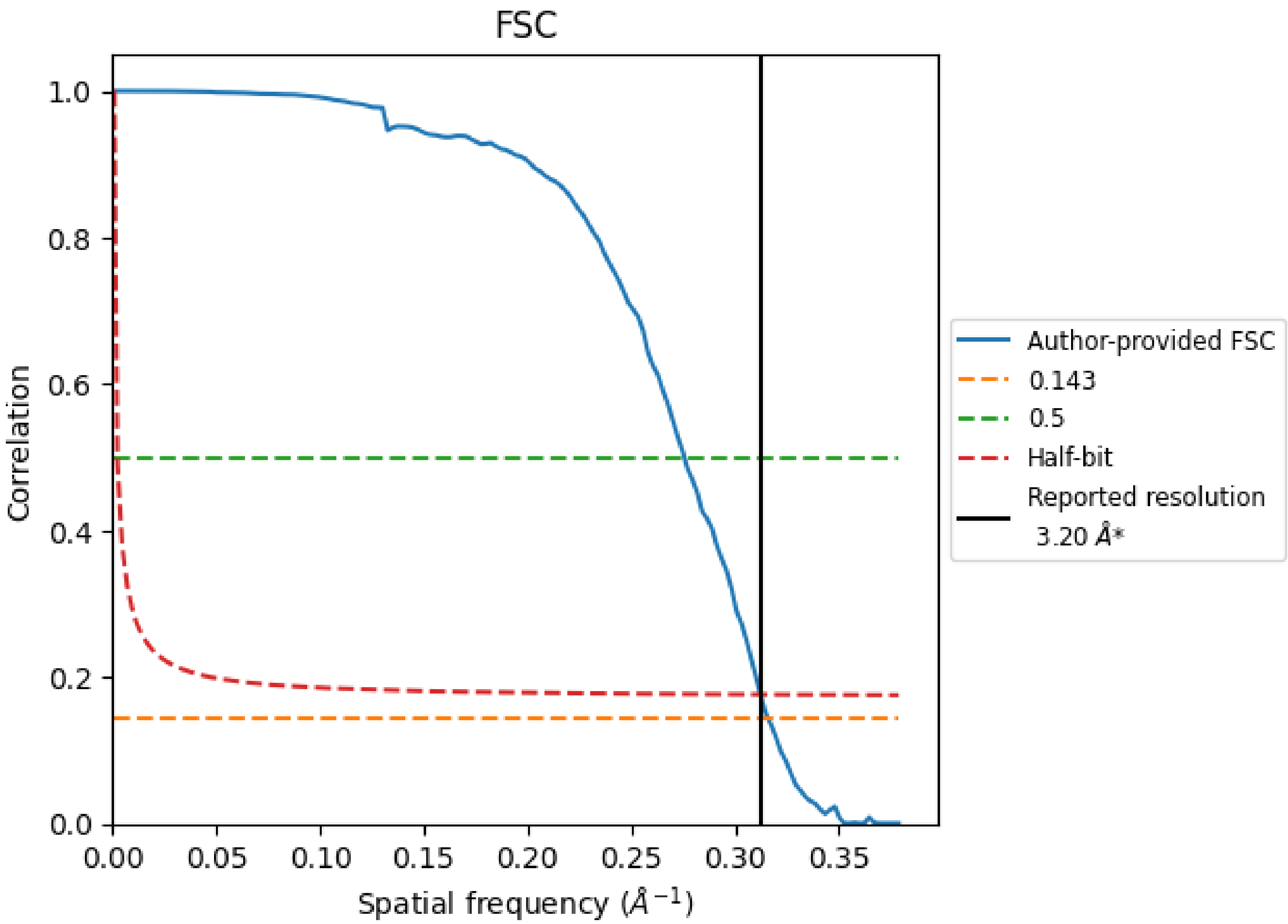


*Reported resolution corresponds to spatial frequency of 0.312 $Å^{-1}$

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 0.312 $Å^{-1}$

8.2 Resolution estimates ⓘ

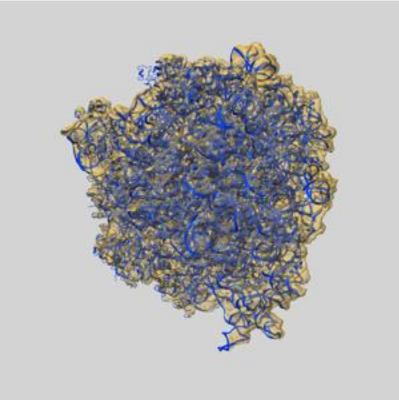
Resolution estimate (Å)	**Estimation criterion (FSC cut-off)**		
	0.143	0.5	Half-bit
Reported by author	-	-	-
Author-provided FSC curve	3.17	3.63	3.20
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

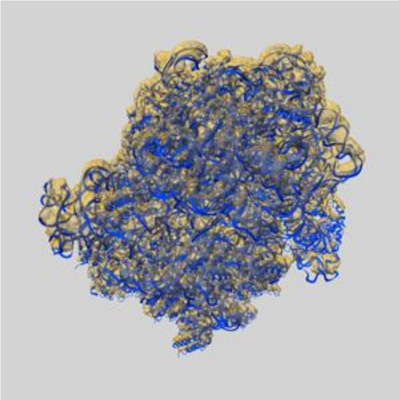
9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-6550 and PDB model 3JCE. Per-residue inclusion information can be found in section 3 on page 15.

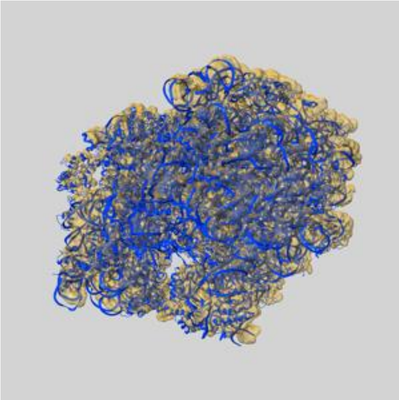
9.1 Map-model overlay ⓘ



X



Y



Z

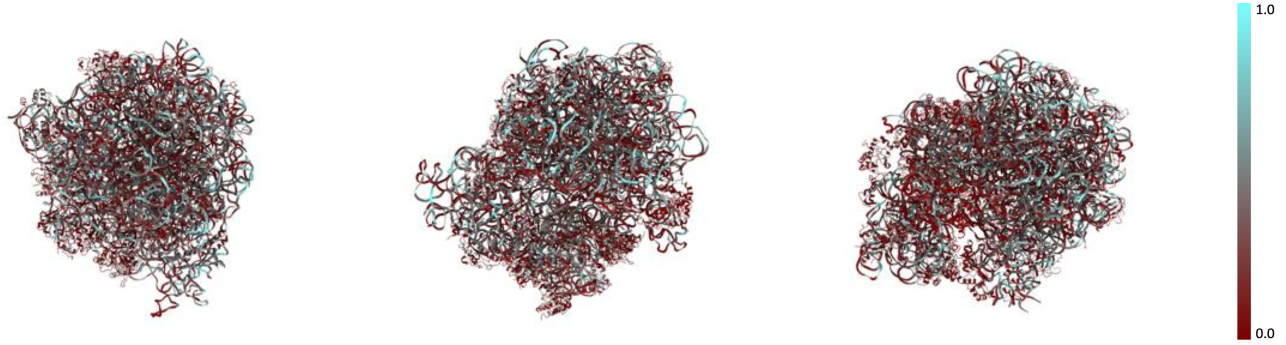
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model ⓘ

X Y Z

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.

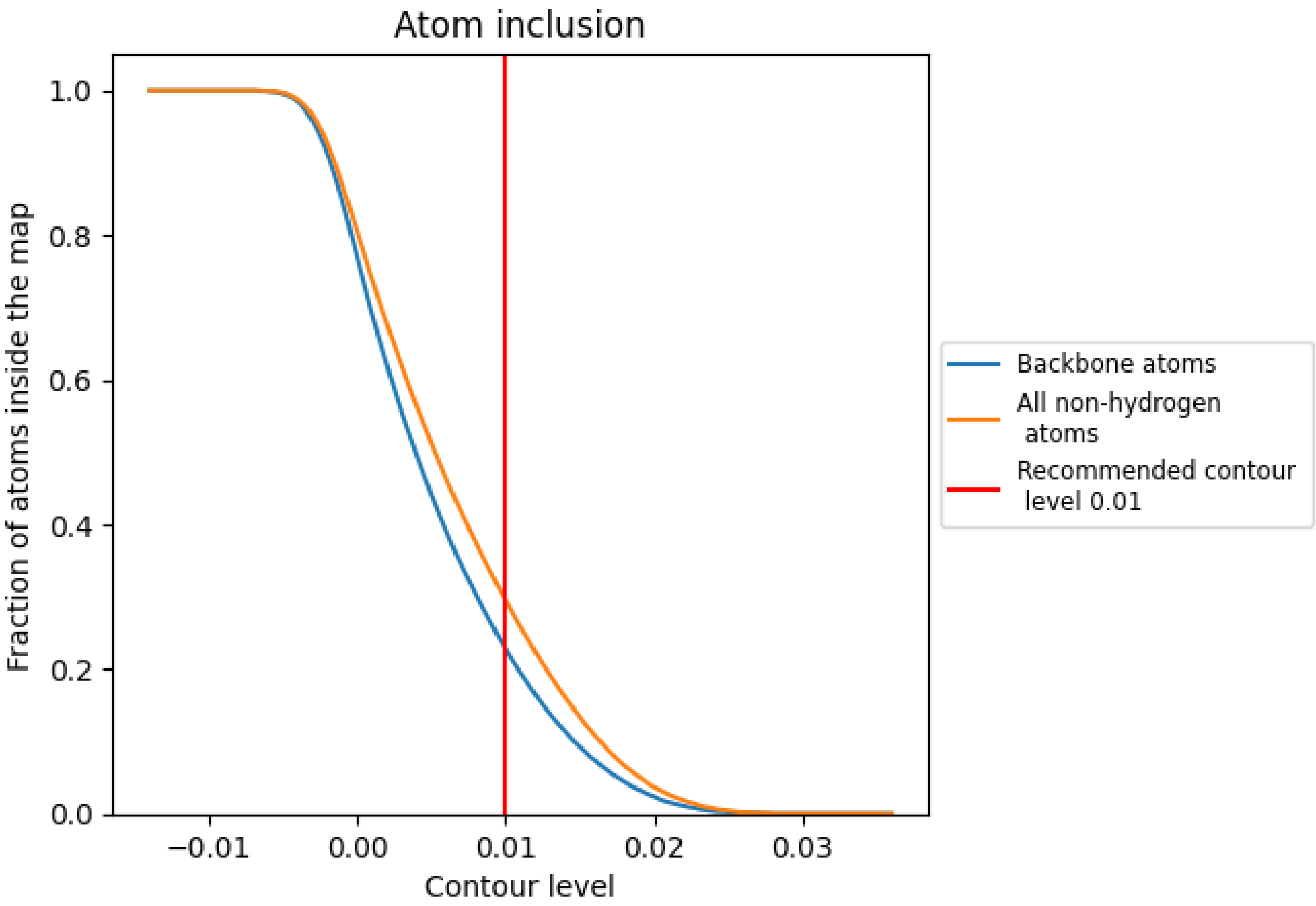
9.3 Atom inclusion mapped to coordinate model ⓘ



X Y Z

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 (0.01).

9.4 Atom inclusion ⓘ



At the recommended contour level, 23% of all backbone atoms, 30% 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 (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.2950	-0.0160
0	0.2500	-0.0710
1	0.1840	-0.0080
2	0.2200	-0.0580
3	0.2380	-0.0330
4	0.2330	-0.0340
5	0.0470	0.0240
6	0.2770	0.0080
7	0.1380	-0.0660
8	0.3170	0.0250
9	0.1150	0.0280
A	0.3460	-0.0170
B	0.3770	-0.0130
C	0.1920	-0.0390
D	0.2220	-0.0230
E	0.2340	-0.0220
F	0.1530	-0.0490
G	0.1980	-0.0270
H	0.0580	0.0200
I	0.1050	-0.0080
J	0.2370	-0.0310
K	0.1990	-0.0050
L	0.2880	-0.0050
M	0.1760	-0.0140
N	0.2550	-0.0380
O	0.3460	0.0420
P	0.1970	-0.0010
Q	0.2670	-0.0250
R	0.2520	-0.0370
S	0.2430	-0.0400
T	0.2780	-0.0040
U	0.2880	-0.0080
V	0.2760	0.0170
W	0.2790	-0.0120
X	0.2560	-0.0360

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Chain	Atom inclusion	Q-score
Y	🟥 0.2030	🟪 -0.0360
Z	🟥 0.2650	🟪 -0.0170
a	🟥 0.3490	🟪 -0.0200
b	🟥 0.1430	🟪 -0.0020
c	🟥 0.1860	🟪 -0.0380
d	🟥 0.1760	🟪 -0.0060
e	🟥 0.1590	🟪 -0.0490
f	🟥 0.2160	🟪 -0.0120
g	🟥 0.1840	🟪 -0.0270
h	🟥 0.2330	🟥 0.0260
i	🟥 0.1990	🟪 -0.0310
j	🟥 0.2310	🟥 0.0510
k	🟥 0.1550	🟪 -0.0580
l	🟥 0.2430	🟪 -0.0190
m	🟥 0.1970	🟪 -0.0140
n	🟥 0.1770	🟪 -0.0250
o	🟥 0.2590	🟪 -0.0290
p	🟥 0.2300	🟥 0.0270
q	🟥 0.2480	🟪 -0.0090
r	🟥 0.1880	🟪 -0.0310
s	🟥 0.2160	🟪 -0.0360
t	🟥 0.2340	🟪 -0.0390
u	🟥 0.1550	🟥 0.0270
x	🟥 0.1390	🟪 -0.0120