wwPDB EM Validation Summary Report ⓘ

Oct 26, 2024 – 02:17 PM EDT

PDB ID	:	6OLG
EMDB ID	:	EMD-0601
Title	:	Human ribosome nascent chain complex stalled by a drug-like small molecule (CDH1_RNC with PP tRNA)
Authors	:	Li, W.; Cate, J.H.D.
Deposited on	:	2019-04-16
Resolution	:	3.40 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

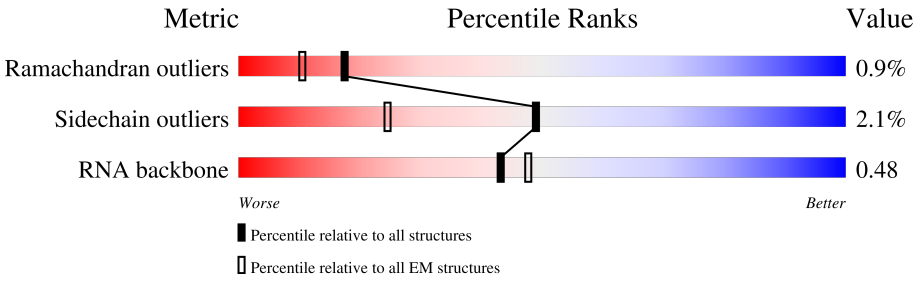
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.40 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	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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	AA	257	8% 95%
2	BA	215	29% 96%
3	AB	394	8% 98%
4	BB	212	38% 98%
5	AC	363	10% 98%
6	BC	222	24% 98%
7	A3	157	11% 71% 27%
8	A4	119	79% 18%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
9	AD	294	13% 94% 5%
10	AE	194	25% 93% 7%
11	AF	234	12% 98%
12	AG	234	21% 100%
13	AH	191	16% 96%
14	AI	211	15% 98%
15	AJ	169	21% 98%
16	AK	109	99% 83% 16%
17	AL	205	20% 93% 5%
18	AM	139	9% 99%
19	AN	203	99%
20	AO	195	8% 98%
21	AP	153	10% 100%
22	AQ	187	11% 96%
23	AR	181	13% 98%
24	AS	175	6% 100%
25	AT	157	8% 99%
26	AU	99	25% 95% 5%
27	AV	129	10% 100%
28	AW	121	55% 98%
29	AX	117	18% 99%
30	AY	127	9% 99%
31	AZ	134	14% 99%
32	Aa	147	9% 99%
33	Ab	121	15% 50% 7% 44%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
34	Ac	103	17% 93% 6%
35	Ad	106	9% 100%
36	Ae	129	6% 100%
37	Af	109	5% 95% 5%
38	Ag	114	12% 100%
39	Ah	122	15% 95%
40	Ai	97	14% 100%
41	Aj	84	5% 98%
42	Ak	69	39% 97%
43	Al	50	10% 94% 6%
44	Am	50	14% 98%
45	An	25	24% 100%
46	Ao	105	20% 98%
47	Ap	91	8% 99%
48	Aq	138	100% 92% 6%
49	At	122	9% 95% 5%
50	Au	217	100% 93% 7%
51	A2	3612	10% 71% 26%
52	B1	1708	12% 71% 25%
53	BD	220	62% 98%
54	BE	257	32% 98%
55	BF	190	53% 99%
56	BG	232	51% 99%
57	BH	183	50% 99%
58	BI	207	28% 96%

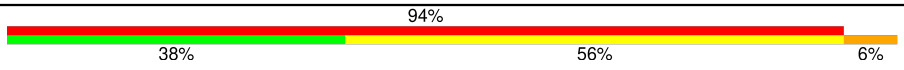
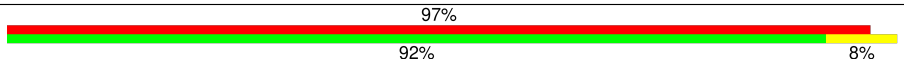
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
59	BJ	179	36% 97%
60	BK	98	71% 96%
61	BL	153	30% 98%
62	BM	120	99% 100%
63	BN	149	24% 99%
64	BO	136	30% 98%
65	BP	120	61% 90% 8%
66	BQ	139	52% 99%
67	BR	125	55% 98%
68	BS	139	58% 94%
69	BT	143	53% 98%
70	BU	97	59% 100%
71	BV	81	41% 98%
72	BW	129	15% 96%
73	BX	139	20% 96%
74	BY	125	38% 99%
75	BZ	86	70% 98%
76	Ba	97	25% 100%
77	Bb	80	42% 99%
78	Bc	62	53% 97%
79	Bd	51	35% 96%
80	Be	55	44% 95% 5%
81	Bf	73	96% 99%
82	Bg	314	85% 99%
83	Bv	76	58% 62% 36%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
84	Bx	16	
85	A	39	

2 Entry composition (i)

There are 88 unique types of molecules in this entry. The entry contains 216796 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	AA	252	1930	1209	395	320	6	0	0

- Molecule 2 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	BA	215	1704	1083	298	315	8	0	0

- Molecule 3 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	AB	394	3178	2024	596	544	14	0	0

- Molecule 4 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	BB	212	1722	1093	308	307	14	0	0

- Molecule 5 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	AC	363	2888	1817	577	480	14	0	0

- Molecule 6 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	BC	222	1724	1114	296	304	10	0	0

- Molecule 7 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A3	157	Total	C	N	O	P	0	0
			3337	1489	587	1104	157		

- Molecule 8 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	A4	119	Total	C	N	O	P	0	0
			2541	1132	454	836	119		

- Molecule 9 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AD	294	Total	C	N	O	S	0	0
			2392	1510	436	432	14		

- Molecule 10 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AE	194	Total	C	N	O	S	0	0
			1571	1013	294	263	1		

- Molecule 11 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AF	234	Total	C	N	O	S	0	0
			1950	1252	376	313	9		

- Molecule 12 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AG	234	Total	C	N	O	S	0	0
			1880	1197	362	317	4		

- Molecule 13 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AH	191	Total	C	N	O	S	0	0
			1526	960	285	275	6		

- Molecule 14 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AI	208	Total	C	N	O	S	0	0
			1692	1074	327	278	13		

- Molecule 15 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AJ	169	Total	C	N	O	S	0	0
			1353	855	252	240	6		

- Molecule 16 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AK	109	Total	C	N	O	S	0	0
			872	554	159	151	8		

- Molecule 17 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AL	205	Total	C	N	O	S	0	0
			1657	1036	344	273	4		

- Molecule 18 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AM	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

- Molecule 19 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AN	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 20 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AO	195	Total	C	N	O	S	0	0
			1606	1034	315	252	5		

- Molecule 21 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AP	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 22 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AQ	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 23 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AR	181	Total	C	N	O	S	0	0
			1517	938	329	241	9		

- Molecule 24 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AS	175	Total	C	N	O	S	0	0
			1449	921	283	234	11		

- Molecule 25 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	AT	157	Total	C	N	O	S	0	0
			1284	815	250	214	5		

- Molecule 26 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	AU	99	Total	C	N	O	S	0	0
			808	518	141	147	2		

- Molecule 27 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	AV	129	Total	C	N	O	S	0	0
			969	613	182	169	5		

- Molecule 28 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AW	121	Total	C	N	O	S	0	0
			989	617	202	167	3		

- Molecule 29 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	AX	117	Total	C	N	O	S	0	0
			958	612	180	165	1		

- Molecule 30 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AY	127	Total	C	N	O	S	0	0
			1064	668	216	177	3		

- Molecule 31 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	AZ	134	Total	C	N	O	S	0	0
			1103	712	207	181	3		

- Molecule 32 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Aa	147	Total	C	N	O	S	0	0
			1162	736	237	186	3		

- Molecule 33 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Ab	68	Total	C	N	O	S	0	0
			559	344	122	90	3		

- Molecule 34 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Ac	103	Total	C	N	O	S	0	0
			801	508	141	145	7		

- Molecule 35 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Ad	106	Total	C	N	O	S	0	0
			879	555	170	152	2		

- Molecule 36 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Ae	129	Total	C	N	O	S	0	0
			1064	673	220	166	5		

- Molecule 37 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Af	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 38 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Ag	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 39 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Ah	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 40 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Ai	97	Total	C	N	O	S	0	0
			794	497	168	124	5		

- Molecule 41 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Aj	84	Total	C	N	O	S	0	0
			689	423	152	109	5		

- Molecule 42 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Ak	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

- Molecule 43 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Al	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 44 is a protein called 60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Am	50	Total	C	N	O	S	0	0
			411	254	87	64	6		

- Molecule 45 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	An	25	Total	C	N	O	S	0	0
			240	145	64	28	3		

- Molecule 46 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Ao	105	Total	C	N	O	S	0	0
			863	542	175	140	6		

- Molecule 47 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Ap	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 48 is a protein called 60S ribosomal protein L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Aq	138	Total	C	N	O	S	0	0
			1046	654	196	193	3		

- Molecule 49 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	At	122	Total	C	N	O	S	0	0
			980	607	204	165	4		

- Molecule 50 is a protein called 60S ribosomal protein L10a.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	Au	217	Total	C	N	O	S	0	0
			1744	1114	314	307	9		

- Molecule 51 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	A2	3612	Total	C	N	O	P	0	0
			77427	34482	14158	25175	3612		

- Molecule 52 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	B1	1708	Total	C	N	O	P	0	0
			36456	16274	6546	11928	1708		

- Molecule 53 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	BD	220	Total	C	N	O	S	0	0
			1709	1090	308	304	7		

- Molecule 54 is a protein called 40S ribosomal protein S4, Y isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	BE	257	Total	C	N	O	S	0	0
			2031	1298	381	344	8		

- Molecule 55 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BF	190	Total	C	N	O	S	0	0
			1502	939	285	271	7		

- Molecule 56 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BG	232	Total	C	N	O	S	0	0
			1884	1176	379	322	7		

- Molecule 57 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BH	183	Total	C	N	O	S	0	0
			1479	941	272	265	1		

- Molecule 58 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	BI	207	Total	C	N	O	S	0	0
			1696	1064	334	293	5		

- Molecule 59 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	BJ	179	Total	C	N	O	S	0	0
			1495	953	299	241	2		

- Molecule 60 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	BK	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 61 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	BL	153	Total	C	N	O	S	0	0
			1258	804	235	213	6		

- Molecule 62 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	BM	120	Total	C	N	O	S	0	0
			931	584	164	174	9		

- Molecule 63 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	BN	149	Total	C	N	O	S	0	0
			1202	770	228	203	1		

- Molecule 64 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	BO	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

- Molecule 65 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	BP	120	Total	C	N	O	S	0	0
			999	636	188	168	7		

- Molecule 66 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	BQ	139	Total	C	N	O	S	0	0
			1109	704	210	192	3		

- Molecule 67 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	BR	125	Total	C	N	O	S	0	0
			1011	634	187	186	4		

- Molecule 68 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	BS	139	Total	C	N	O	S	0	0
			1154	725	233	195	1		

- Molecule 69 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	BT	143	Total	C	N	O	S	0	0
			1112	697	214	198	3		

- Molecule 70 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	BU	97	Total	C	N	O	S	0	0
			769	483	144	138	4		

- Molecule 71 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	BV	81	Total	C	N	O	S	0	0
			617	380	114	118	5		

- Molecule 72 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	BW	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 73 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	BX	139	Total	C	N	O	S	0	0
			1080	682	214	181	3		

- Molecule 74 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	BY	125	Total	C	N	O	S	0	0
			1015	642	199	169	5		

- Molecule 75 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	BZ	86	Total	C	N	O	S	0	0
			688	442	129	116	1		

- Molecule 76 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Ba	97	Total	C	N	O	S	0	0
			774	481	160	128	5		

- Molecule 77 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Bb	80	Total	C	N	O	S	0	0
			625	391	116	111	7		

- Molecule 78 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Bc	62	Total	C	N	O	S	0	0
			488	297	97	92	2		

- Molecule 79 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Bd	51	Total	C	N	O	S	0	0
			427	269	87	66	5		

- Molecule 80 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Be	55	Total	C	N	O	S	0	0
			437	272	96	68	1		

- Molecule 81 is a protein called 40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Bf	73	Total	C	N	O	S	0	0
			601	379	115	100	7		

- Molecule 82 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	Bg	314	Total	C	N	O	S	0	0
			2440	1537	425	466	12		

- Molecule 83 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Bv	76	Total	C	N	O	P	0	0
			1623	723	290	534	76		

- Molecule 84 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	Bx	16	Total 320	C 144	N 32	O 128	P 16	0	0

- Molecule 85 is a protein called Cadherin-1.

Mol	Chain	Residues	Atoms				AltConf	Trace
85	A	39	Total 190	C 112	N 39	O 39	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	6	ALA	-	insertion	UNP P12830
A	10	GLU	VAL	conflict	UNP P12830

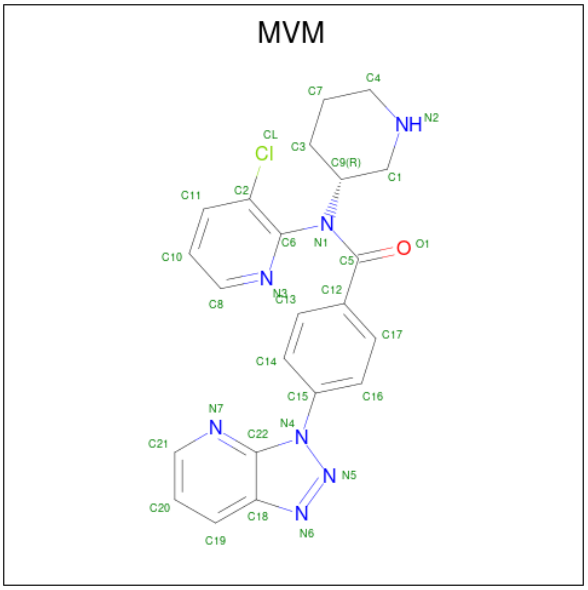
- Molecule 86 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
86	AB	2	Total 2	Mg 2	0
86	A3	6	Total 6	Mg 6	0
86	A4	9	Total 9	Mg 9	0
86	AP	1	Total 1	Mg 1	0
86	AY	1	Total 1	Mg 1	0
86	Aa	1	Total 1	Mg 1	0
86	Ae	1	Total 1	Mg 1	0
86	A2	226	Total 226	Mg 226	0
86	B1	75	Total 75	Mg 75	0
86	BI	1	Total 1	Mg 1	0
86	Ba	1	Total 1	Mg 1	0
86	Bv	2	Total 2	Mg 2	0

- Molecule 87 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	AltConf
87	Aj	1	Total Zn 1 1	0
87	Ao	1	Total Zn 1 1	0
87	Ap	1	Total Zn 1 1	0
87	Ba	1	Total Zn 1 1	0
87	Bd	1	Total Zn 1 1	0

- Molecule 88 is N-(3-chloropyridin-2-yl)-N-[(3R)-piperidin-3-yl]-4-(3H-[1,2,3]triazolo[4,5-b]pyridin-3-yl)benzamide (three-letter code: MVM) (formula: $C_{22}H_{20}ClN_7O$).



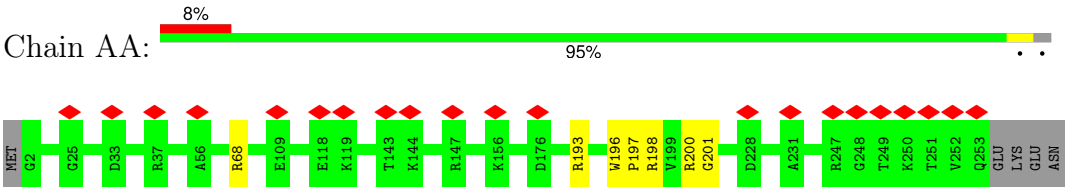
Mol	Chain	Residues	Atoms	AltConf
88	A2	1	Total C Cl N O 31 22 1 7 1	0

3 Residue-property plots (i)

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

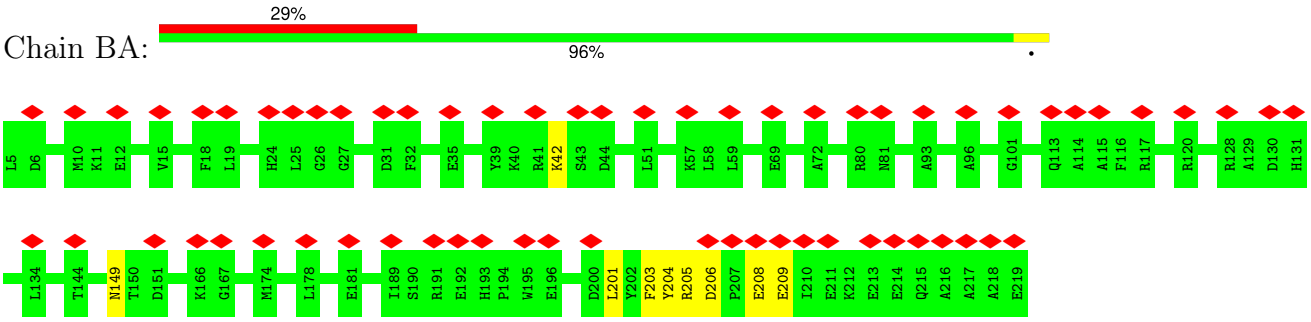
• Molecule 1: 60S ribosomal protein L8

Chain AA:



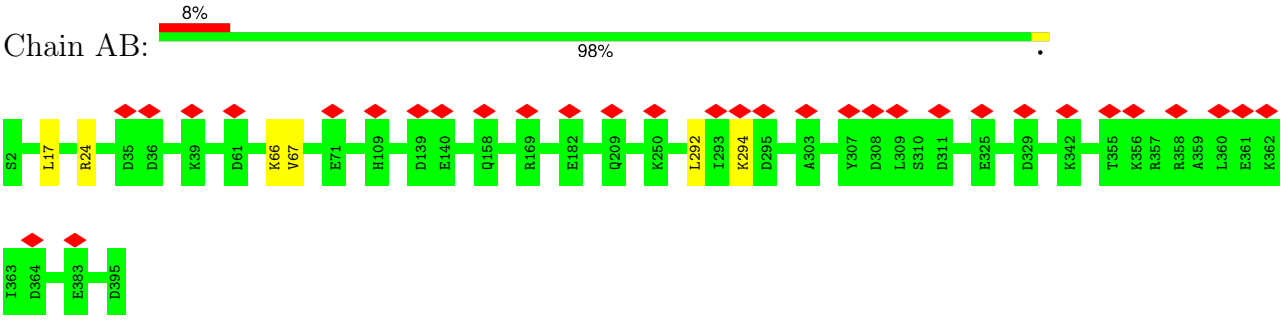
• Molecule 2: 40S ribosomal protein SA

Chain BA:



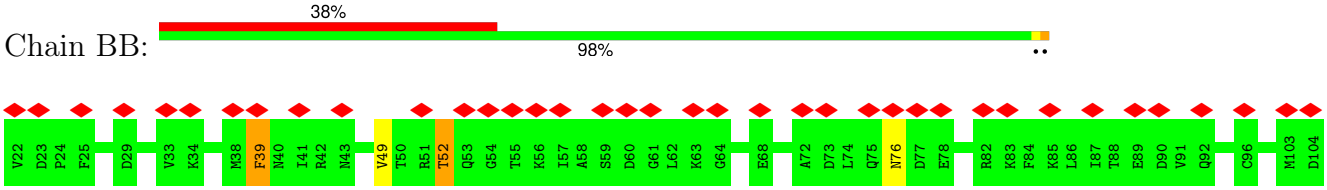
• Molecule 3: 60S ribosomal protein L3

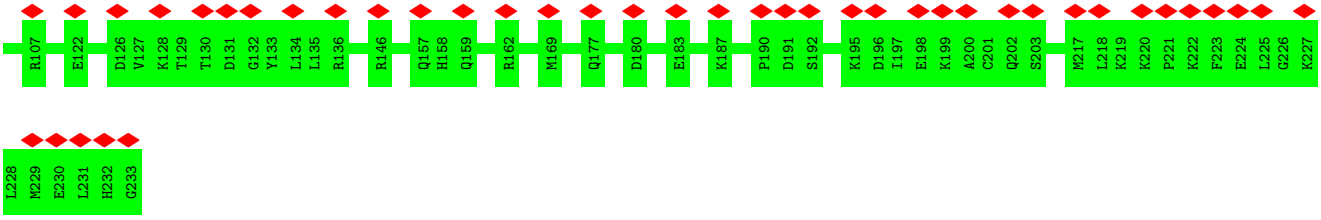
Chain AB:



• Molecule 4: 40S ribosomal protein S3a

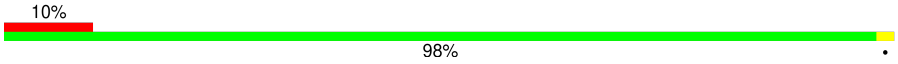
Chain BB:

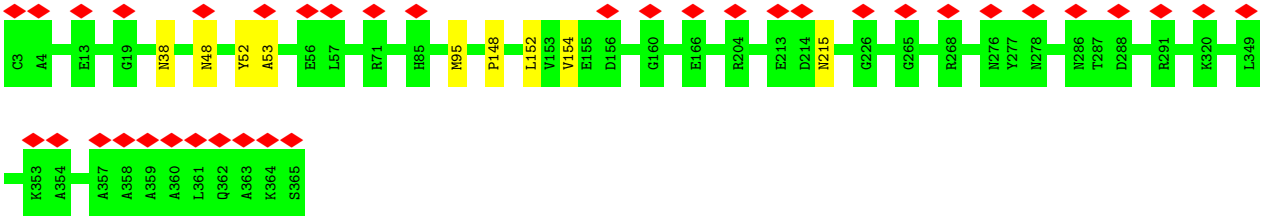




• Molecule 5: 60S ribosomal protein L4

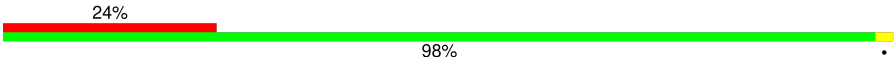
Chain AC:

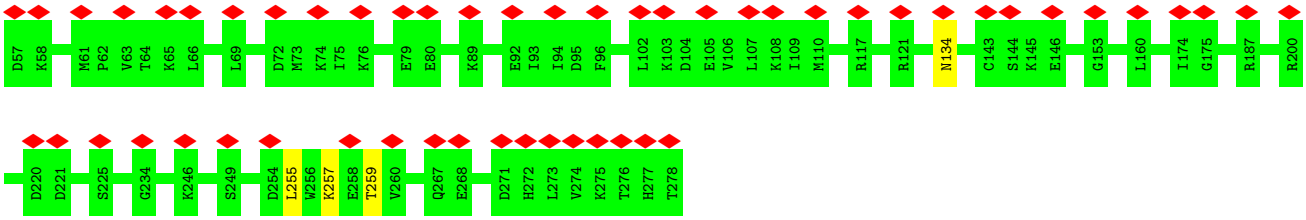




• Molecule 6: 40S ribosomal protein S2

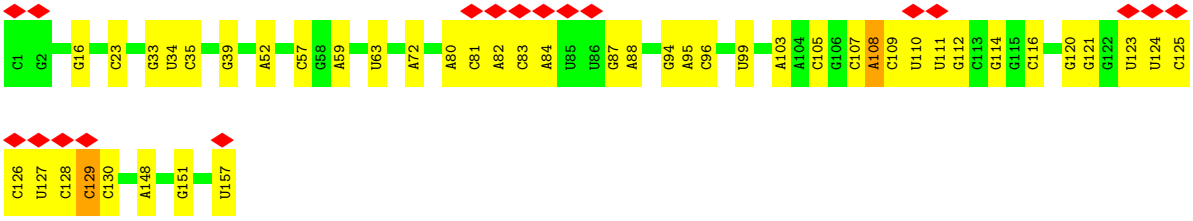
Chain BC:





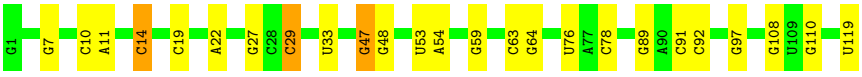
• Molecule 7: 5.8S ribosomal RNA

Chain A3:



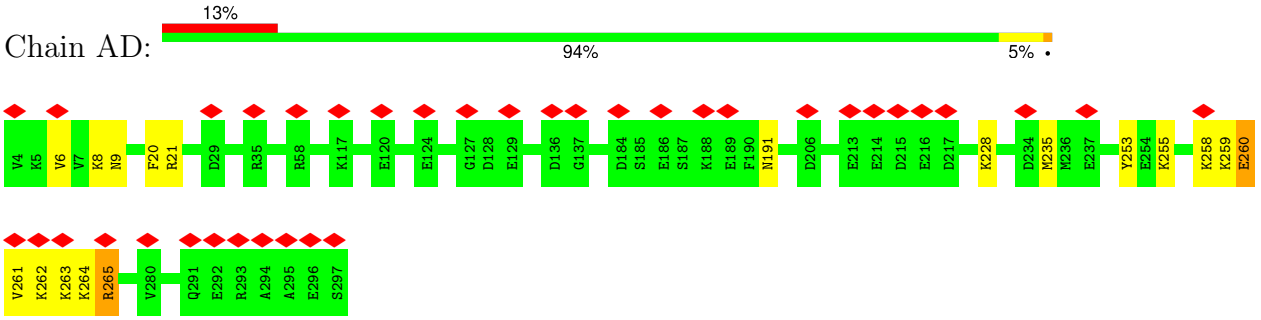
• Molecule 8: 5S ribosomal RNA

Chain A4:



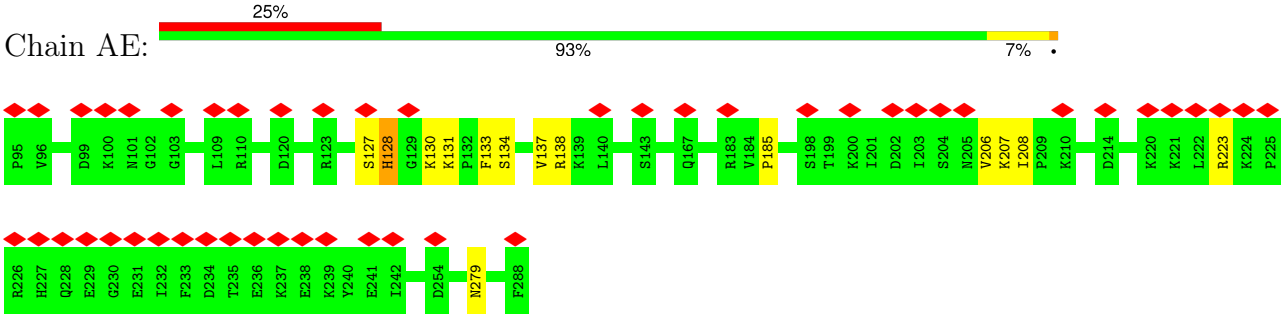
• Molecule 9: 60S ribosomal protein L5

Chain AD:



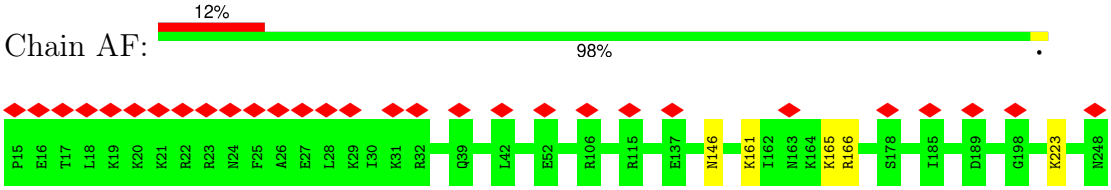
• Molecule 10: 60S ribosomal protein L6

Chain AE:



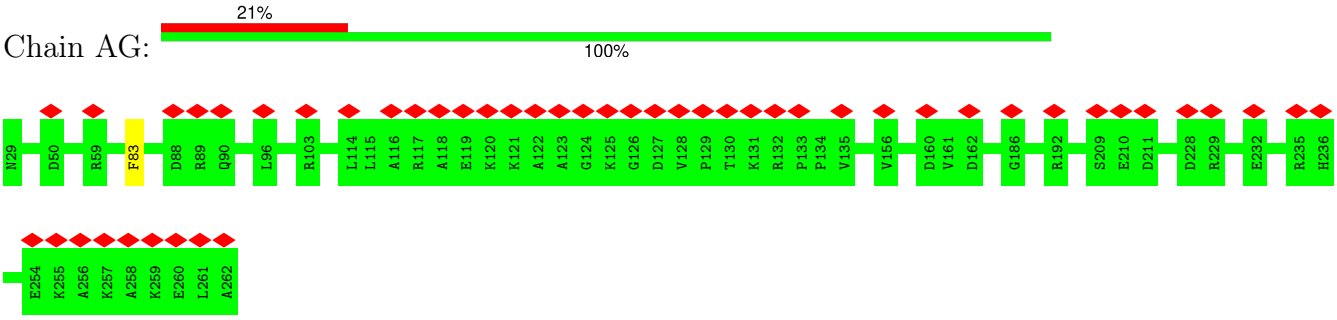
• Molecule 11: 60S ribosomal protein L7

Chain AF:



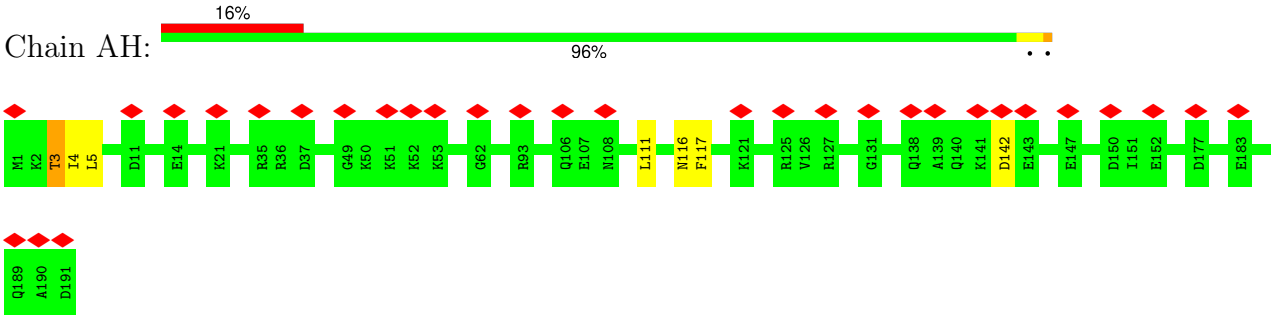
• Molecule 12: 60S ribosomal protein L7a

Chain AG:



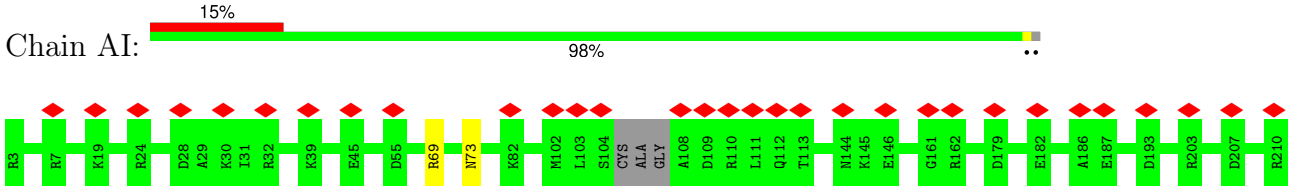
• Molecule 13: 60S ribosomal protein L9

Chain AH:



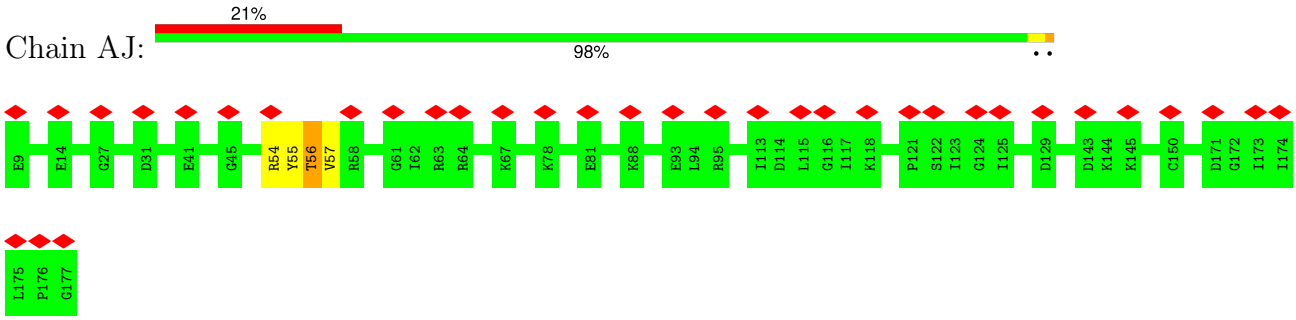
• Molecule 14: 60S ribosomal protein L10

Chain AI:



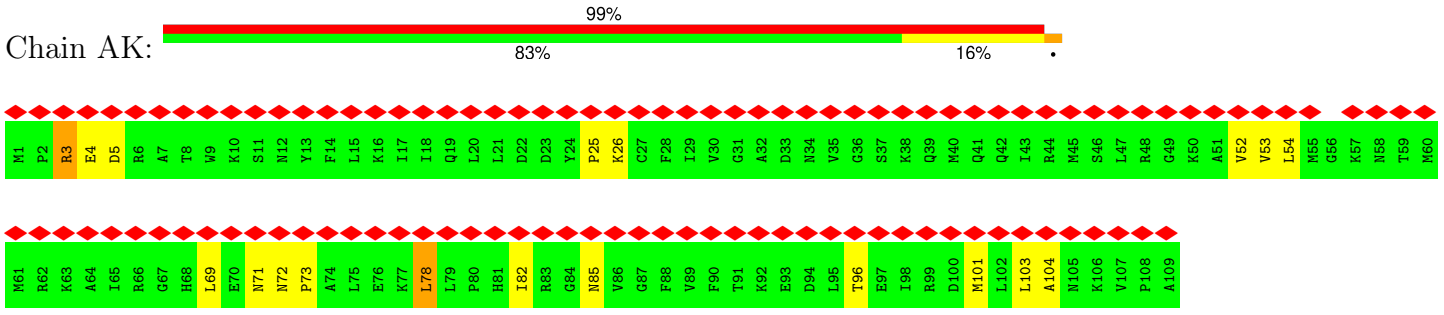
• Molecule 15: 60S ribosomal protein L11

Chain AJ:



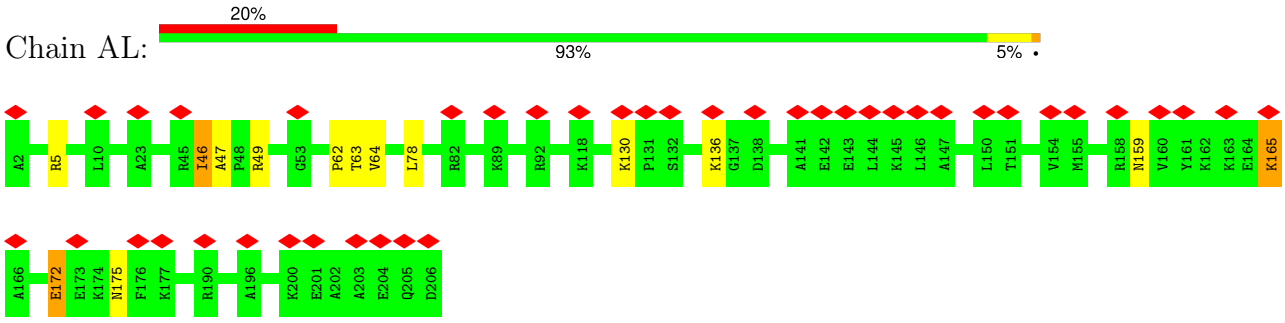
• Molecule 16: 60S acidic ribosomal protein P0

Chain AK:



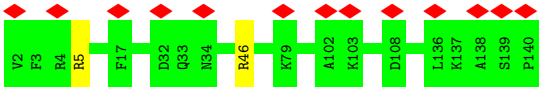
• Molecule 17: 60S ribosomal protein L13

Chain AL:



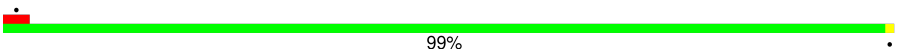
• Molecule 18: 60S ribosomal protein L14

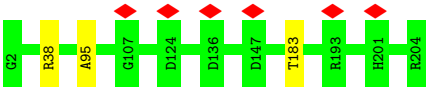
Chain AM:



• Molecule 19: 60S ribosomal protein L15

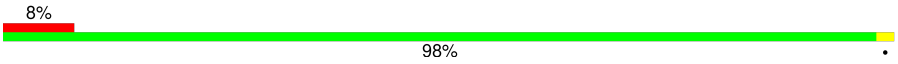
Chain AN:

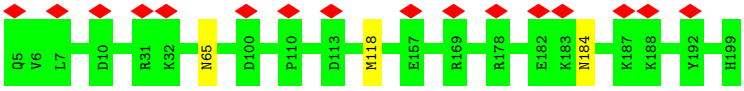




• Molecule 20: 60S ribosomal protein L13a

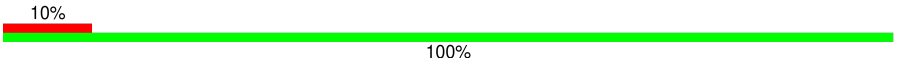
Chain AO:

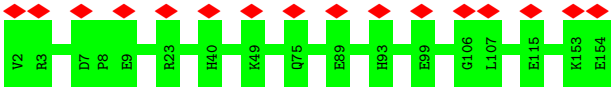




• Molecule 21: 60S ribosomal protein L17

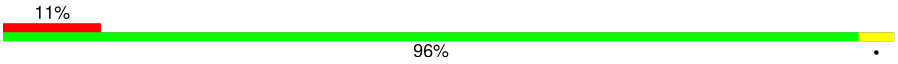
Chain AP:

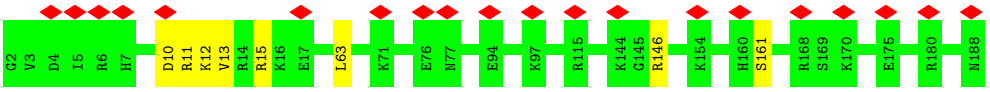




• Molecule 22: 60S ribosomal protein L18

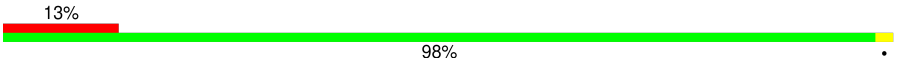
Chain AQ:

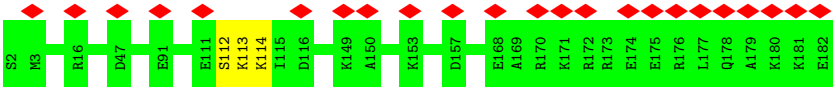




• Molecule 23: 60S ribosomal protein L19

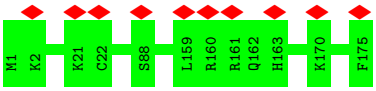
Chain AR:





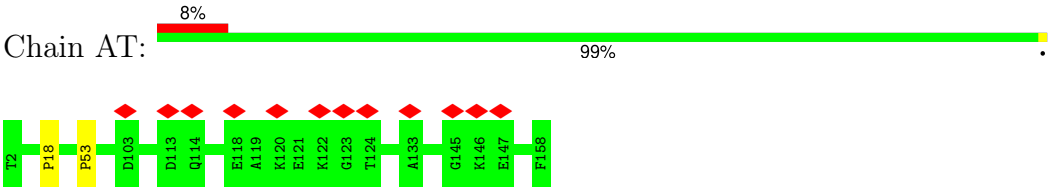
• Molecule 24: 60S ribosomal protein L18a

Chain AS:



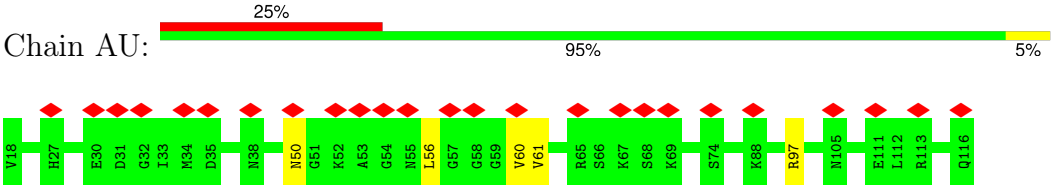
• Molecule 25: 60S ribosomal protein L21

Chain AT:



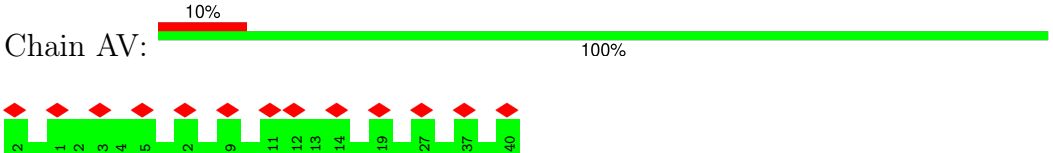
• Molecule 26: 60S ribosomal protein L22

Chain AU:



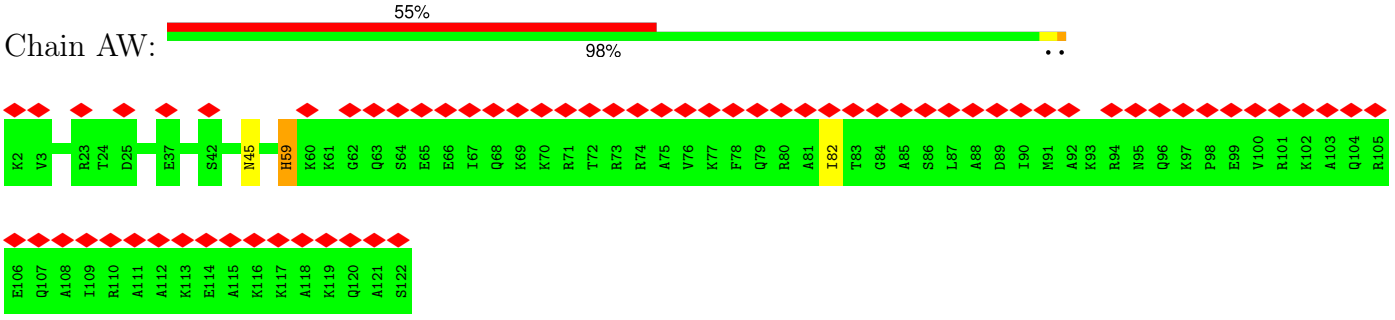
• Molecule 27: 60S ribosomal protein L23

Chain AV:



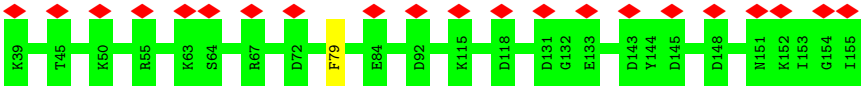
• Molecule 28: 60S ribosomal protein L24

Chain AW:



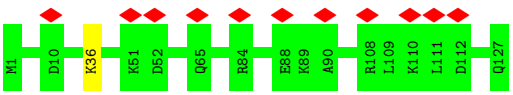
• Molecule 29: 60S ribosomal protein L23a

Chain AX:



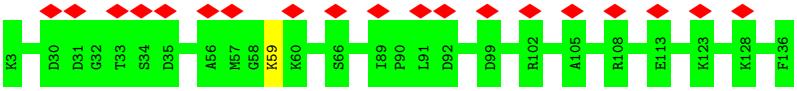
• Molecule 30: 60S ribosomal protein L26

Chain AY:



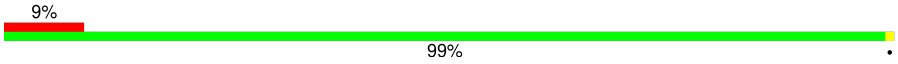
• Molecule 31: 60S ribosomal protein L27

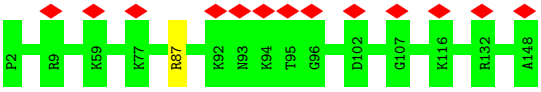
Chain AZ:



• Molecule 32: 60S ribosomal protein L27a

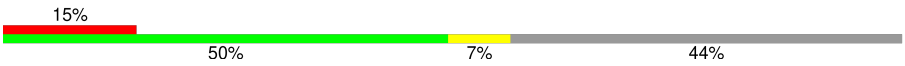
Chain Aa:

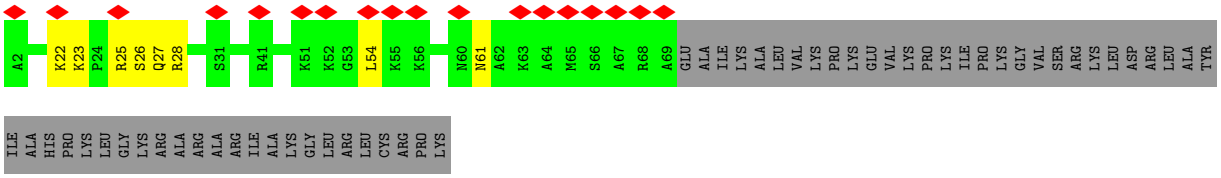




• Molecule 33: 60S ribosomal protein L29

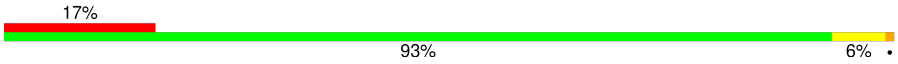
Chain Ab:

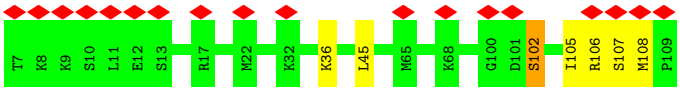




• Molecule 34: 60S ribosomal protein L30

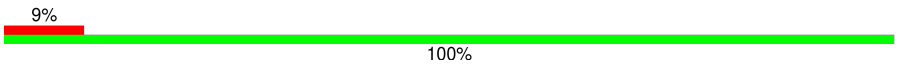
Chain Ac:

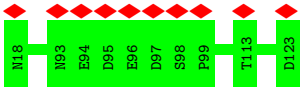




• Molecule 35: 60S ribosomal protein L31

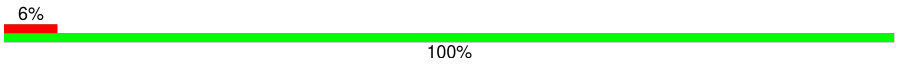
Chain Ad:

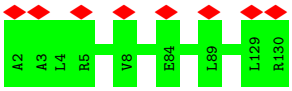




• Molecule 36: 60S ribosomal protein L32

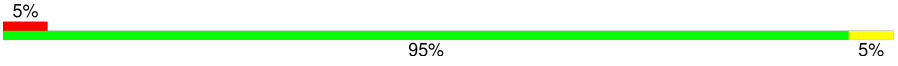
Chain Ae:

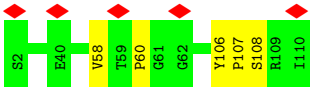




• Molecule 37: 60S ribosomal protein L35a

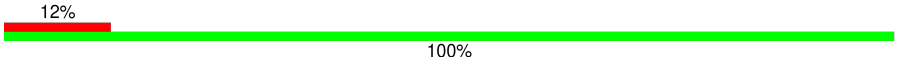
Chain Af:

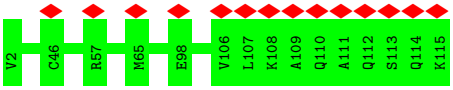




• Molecule 38: 60S ribosomal protein L34

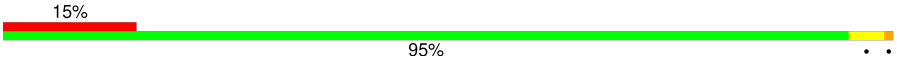
Chain Ag:

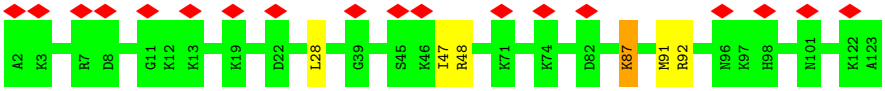




• Molecule 39: 60S ribosomal protein L35

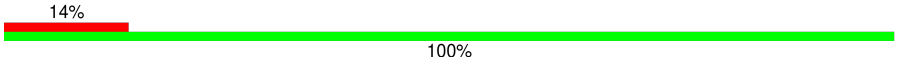
Chain Ah:

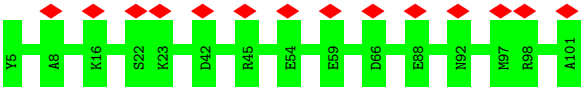




• Molecule 40: 60S ribosomal protein L36

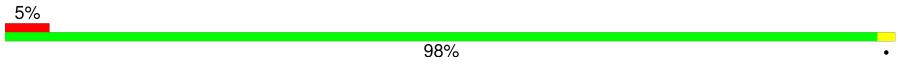
Chain Ai:

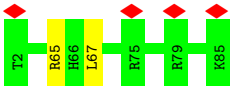




• Molecule 41: 60S ribosomal protein L37

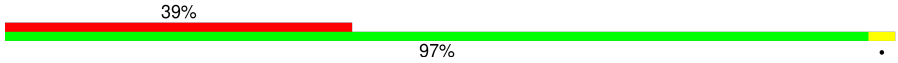
Chain Aj:

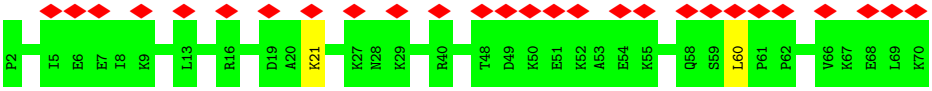




• Molecule 42: 60S ribosomal protein L38

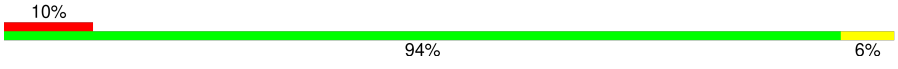
Chain Ak:

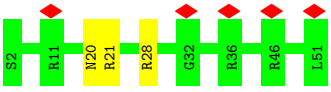




• Molecule 43: 60S ribosomal protein L39

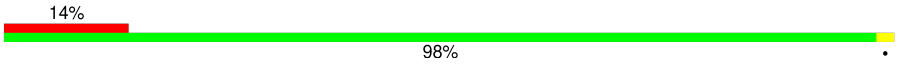
Chain Al:

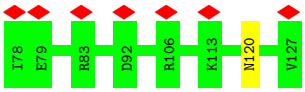




• Molecule 44: 60S ribosomal protein L40

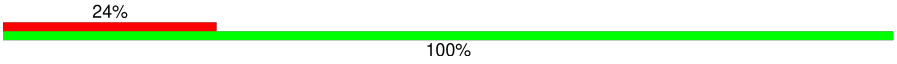
Chain Am:

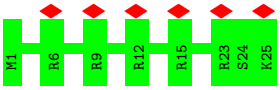




• Molecule 45: 60S ribosomal protein L41

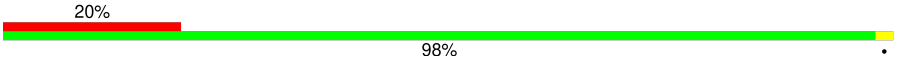
Chain An:

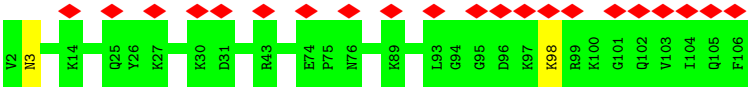




• Molecule 46: 60S ribosomal protein L36a

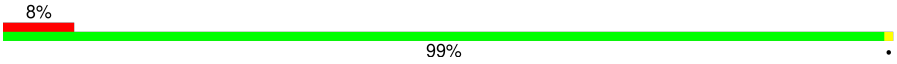
Chain Ao:

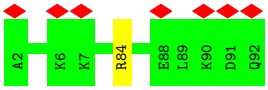




• Molecule 47: 60S ribosomal protein L37a

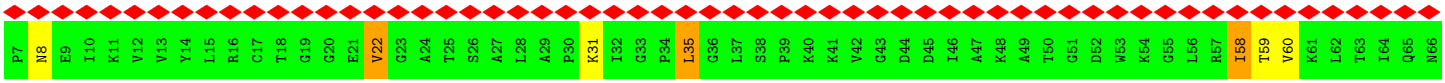
Chain Ap:

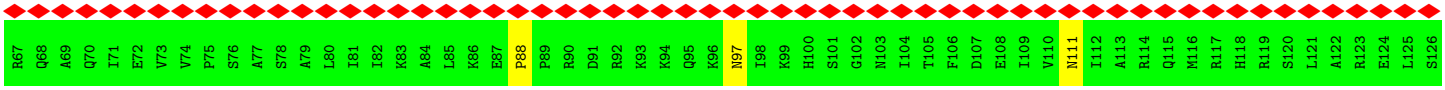


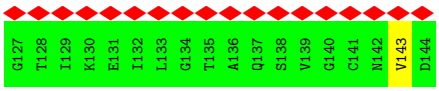


• Molecule 48: 60S ribosomal protein L12

Chain Aq:

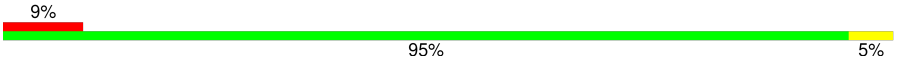


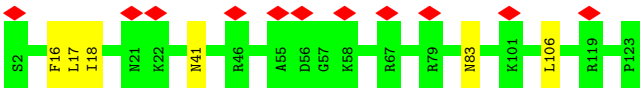




• Molecule 49: 60S ribosomal protein L28

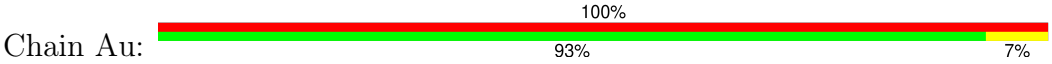
Chain At:

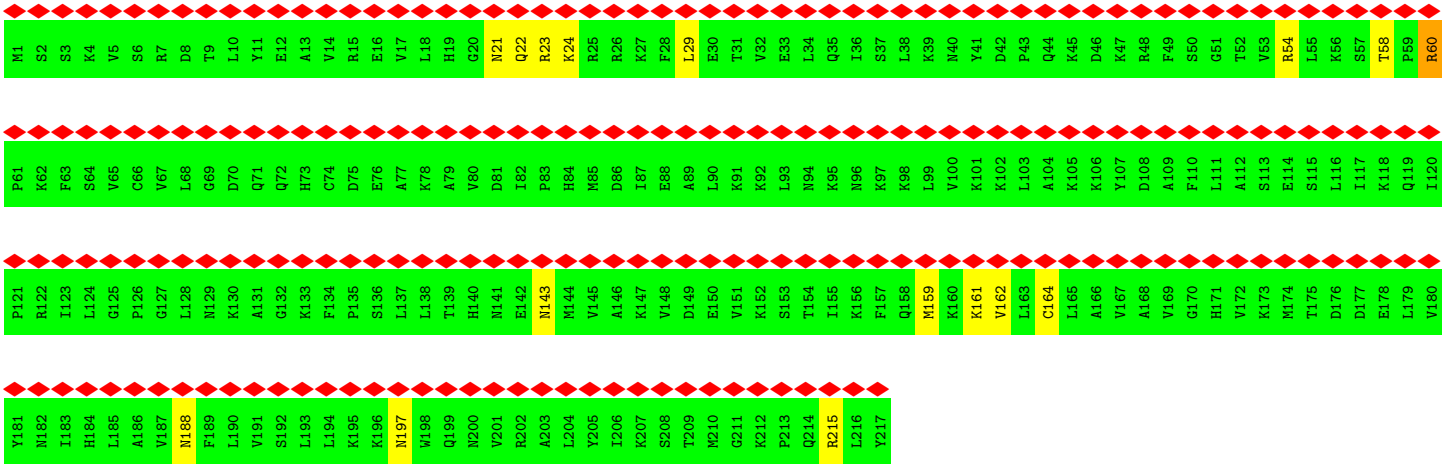




• Molecule 50: 60S ribosomal protein L10a

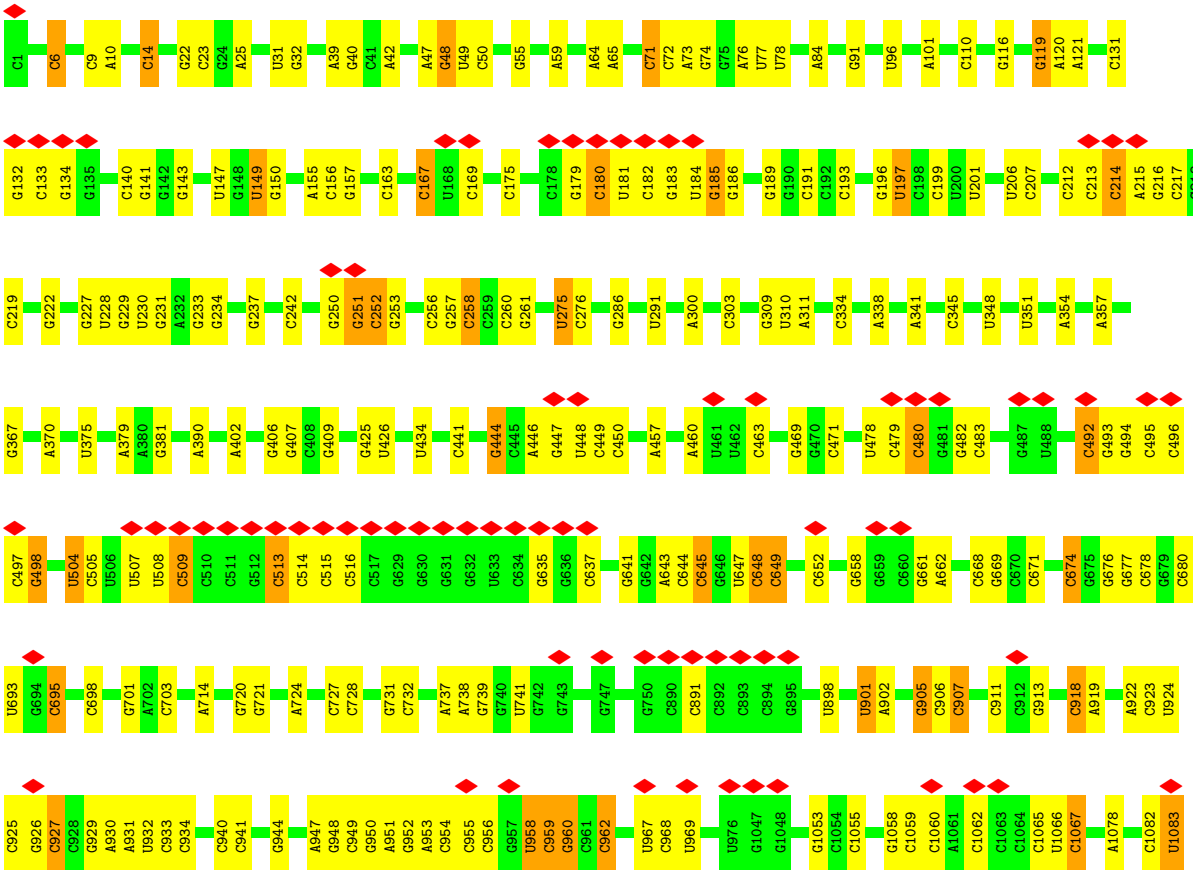
Chain Au:

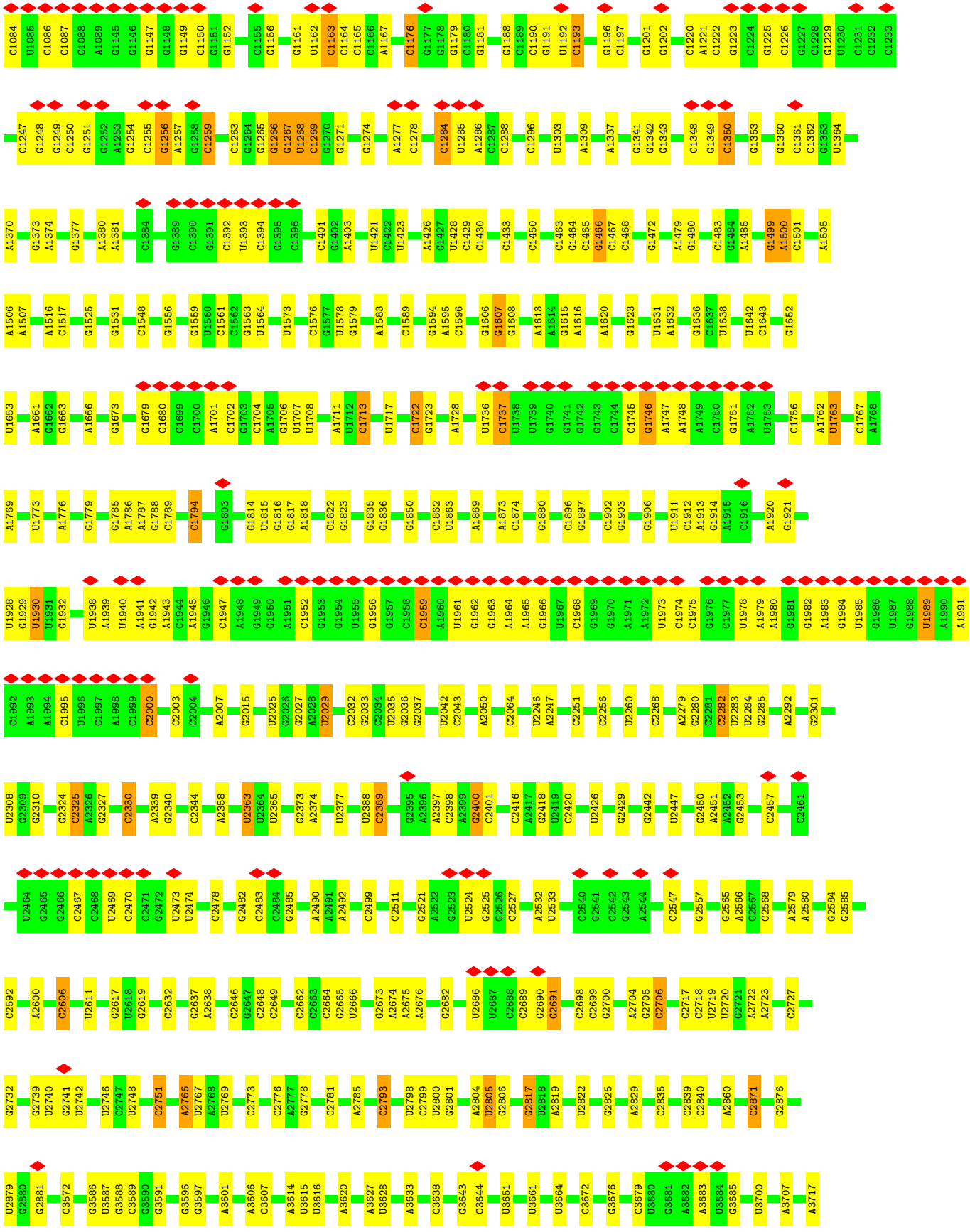


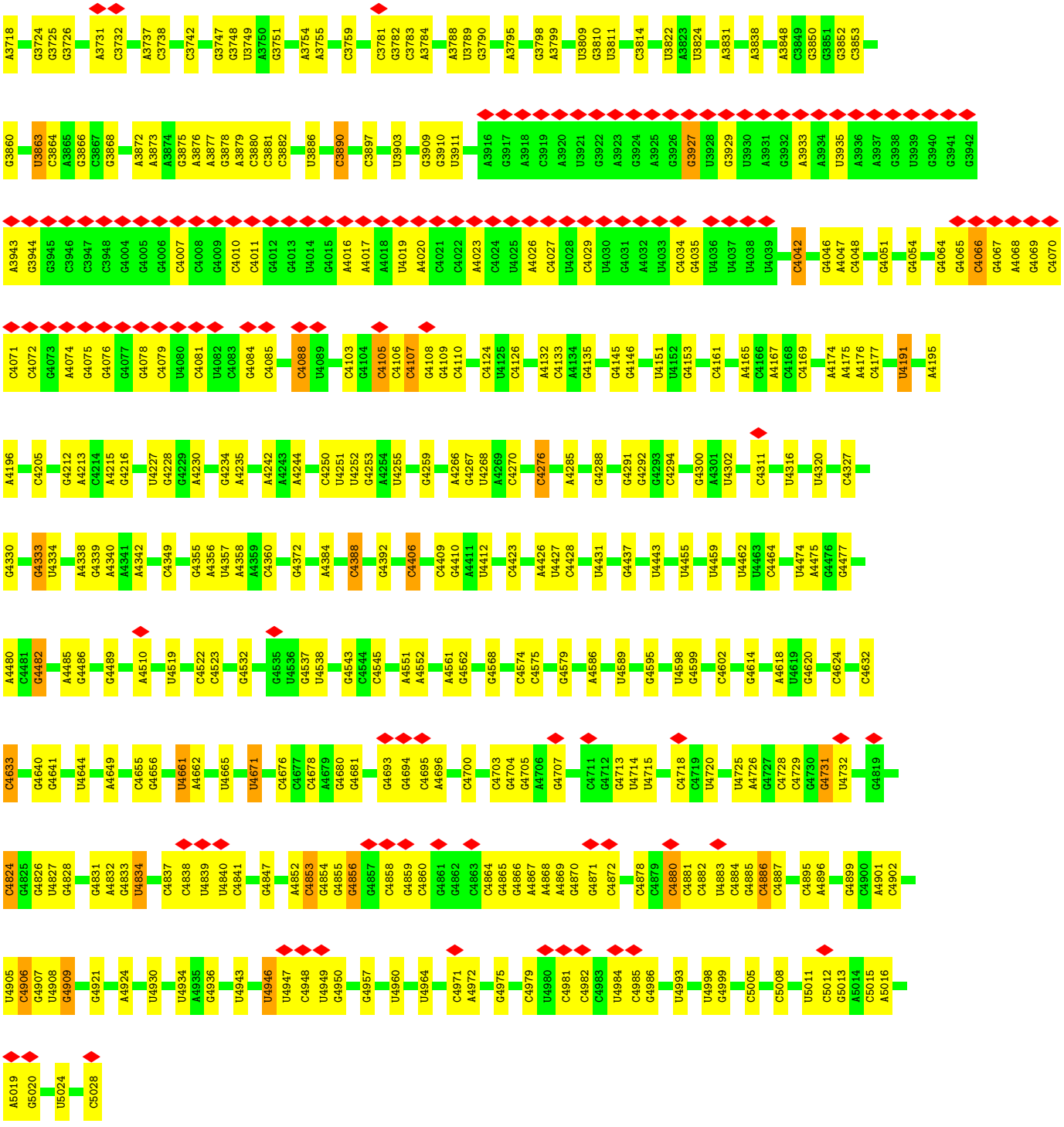


• Molecule 51: 28S ribosomal RNA

Chain A2:

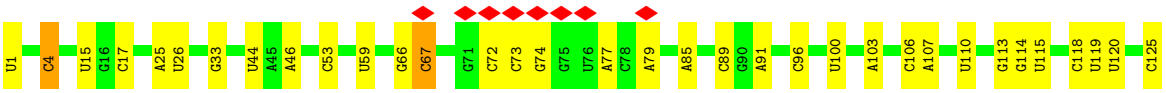


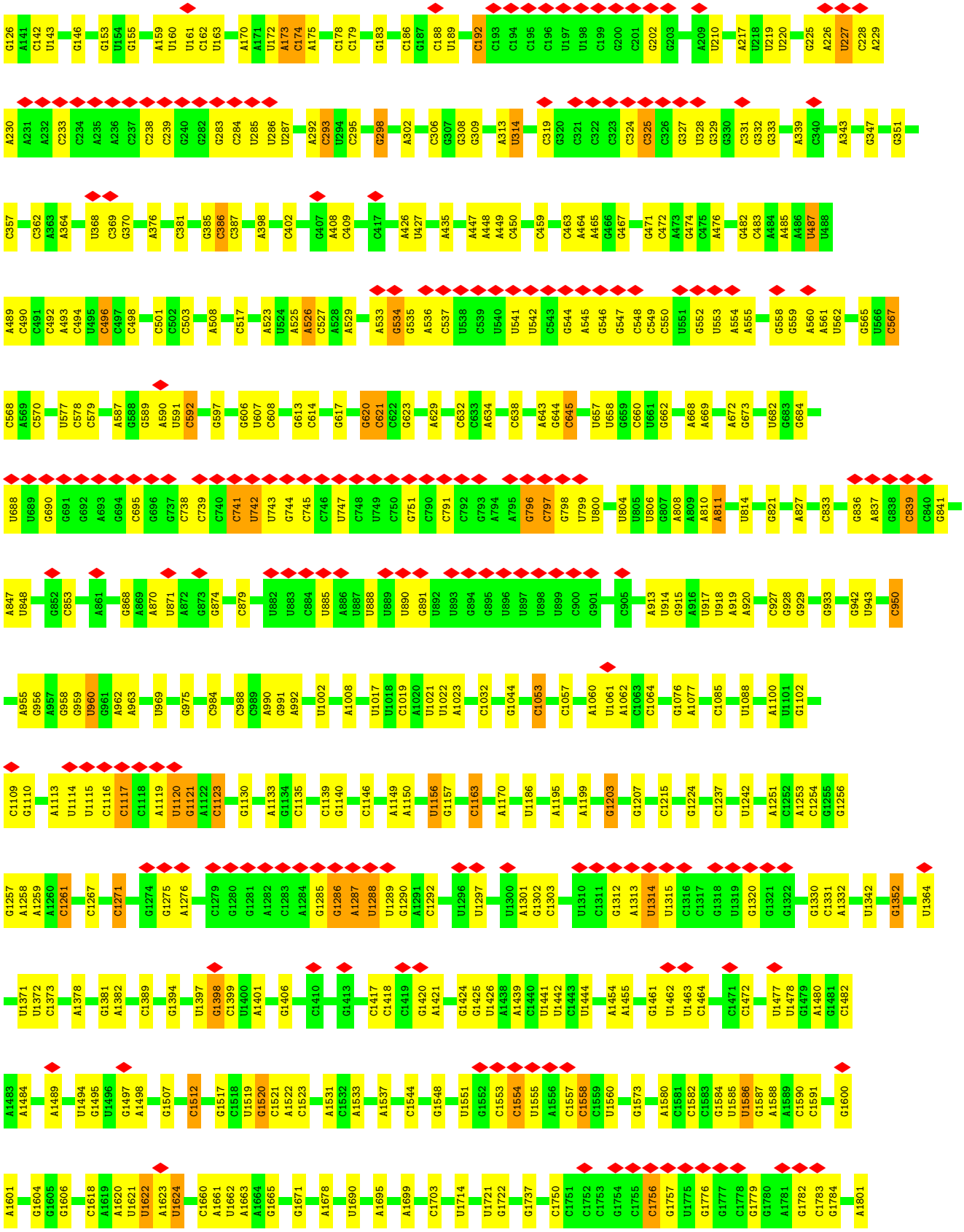

C1084 U1085 C1086 C1087 C1088 A1089 G1145 G1146 G1147 G1148 G1149 C1150 G1151 G1152 C1155 G1156 G1161 U1162 C1163 C1164 C1165 C1166 A1167 C1176 G1177 G1178 G1179 C1180 G1181 G1188 C1189 C1190 G1191 U1192 C1193 G1196 C1197 G1201 G1202 C1220 A1221 C1222 G1223 C1224 G1225 C1226 G1227 C1228 G1229 U1230 C1231 C1232 C1233
C1247 G1248 G1249 C1250 G1251 G1252 A1253 G1254 C1255 G1256 A1257 G1258 C1259 C1263 G1264 G1265 G1266 G1267 U1268 C1269 G1270 G1271 G1274 A1277 C1278 C1284 U1285 A1286 G1287 C1288 C1296 U1303 A1309 A1337 G1341 G1342 G1343 C1348 G1349 C1350 G1353 G1360 C1361 C1362 G1363 U1364
A1370 G1373 A1374 G1377 A1380 A1381 C1384 G1389 C1390 G1391 C1392 U1393 C1394 G1395 C1396 C1401 G1402 A1403 U1421 C1422 U1423 A1426 G1427 U1428 C1429 C1430 C1433 C1450 C1463 C1464 C1465 G1466 C1467 C1468 G1472 A1479 G1480 C1483 C1484 A1485 G1499 A1500 C1501 A1505
A1506 A1507 A1516 C1517 G1525 G1531 C1548 G1556 G1559 U1560 C1561 C1562 G1563 U1564 U1573 C1576 G1577 U1578 G1579 A1583 C1589 G1594 A1595 C1596 G1606 G1607 G1608 A1613 A1614 G1615 A1616 A1620 G1623 U1631 A1632 G1636 C1637 U1638 U1642 C1643 G1652
U1653 A1661 G1662 G1663 A1666 G1673 G1679 C1680 C1699 C1700 A1701 C1702 G1703 C1704 A1705 G1706 U1707 U1708 A1711 U1712 C1713 U1717 C1722 G1723 A1728 U1736 C1737 U1738 U1739 G1740 G1741 G1742 G1743 C1744 C1745 G1746 A1747 A1748 A1749 C1750 G1751 A1752 U1753 C1756 A1762 U1763 C1767 A1768
A1769 U1773 A1776 G1779 G1785 A1786 A1787 G1788 C1789 C1794 G1803 G1814 U1815 G1816 G1817 A1818 C1822 G1823 G1835 G1836 G1850 C1862 U1863 A1869 A1873 C1874 G1880 C1896 G1897 C1902 G1903 G1906 U1911 C1912 A1913 G1914 A1915 C1916 A1920 G1921
U1928 G1929 U1930 U1931 G1932 U1938 A1939 U1940 A1941 G1942 A1943 C1944 A1945 G1946 C1947 A1948 G1949 G1950 A1951 C1952 G1953 G1954 U1955 G1956 G1957 C1958 C1959 A1960 U1961 G1962 G1963 A1964 A1965 G1966 U1967 C1968 G1969 G1970 A1971 A1972 U1973 C1974 C1975 G1976 C1977 U1978 A1979 A1980 G1981 G1982 A1983 G1984 U1985 G1986 U1987 G1988 U1989 A1990 A1991
C1992 A1993 A1994 C1995 U1996 C1997 A1998 C1999 C2000 C2003 C2004 A2007 G2015 U2025 G2026 G2027 A2028 U2029 C2032 G2033 C2034 U2035 G2036 G2037 U2042 C2043 A2050 C2064 U2246 A2247 C2251 C2256 U2260 C2268 A2279 G2280 C2281 C2282 U2283 U2284 G2285 A2292 G2301
U2308 G2309 G2310 G2324 C2325 A2326 G2327 C2330 A2339 G2340 C2344 A2358 U2363 U2364 U2365 G2373 A2374 U2377 U2388 C2389 G2395 A2396 A2397 C2398 A2399 G2400 C2401 C2416 A2417 G2418 U2419 C2420 U2426 G2429 G2442 U2447 G2450 A2451 A2452 G2453 C2457 C2461
U2464 G2465 G2466 C2467 C2468 U2469 C2470 C2471 G2472 U2473 U2474 C2478 G2482 C2483 C2484 G2485 A2490 A2491 A2492 C2499 C2511 G2521 A2522 G2523 U2524 G2525 G2526 C2527 A2532 U2533 C2540 G2541 C2542 G2543 A2544 C2547 G2557 G2565 A2566 C2567 C2568 A2579 A2580 G2584 G2585
C2592 A2600 C2606 U2611 G2617 U2618 G2619 C2632 G2637 A2638 C2646 G2647 C2648 C2649 C2662 C2663 C2664 G2665 U2666 G2673 A2674 A2675 A2676 G2682 U2686 U2687 C2688 C2689 G2690 G2691 C2698 C2699 G2700 A2704 G2705 C2706 C2717 C2718 U2719 U2720 G2721 A2722 A2723 C2727
G2732 G2739 U2740 G2741 U2742 U2746 C2747 U2748 C2751 A2766 U2767 A2768 U2769 C2773 C2776 A2777 G2778 C2781 A2785 C2793 U2798 C2799 U2800 G2801 A2804 U2805 C2806 G2817 U2818 A2819 U2822 G2825 A2829 C2835 C2839 C2840 A2860 C2871 G2876
U2879 G2880 G2881 C3572 G3586 U3587 G3588 C3589 G3590 G3591 G3596 G3597 A3601 A3606 C3607 A3614 U3615 U3616 A3620 A3627 U3628 A3633 C3638 G3643 C3644 U3651 U3661 U3664 C3672 G3676 C3679 U3680 G3681 A3682 A3683 U3684 G3685 U3700 A3707 A3717

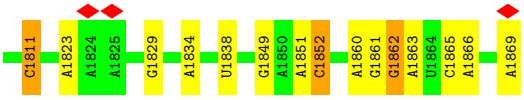


• Molecule 52: 18S ribosomal RNA

Chain B1:

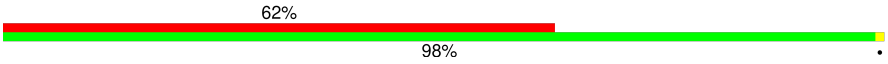


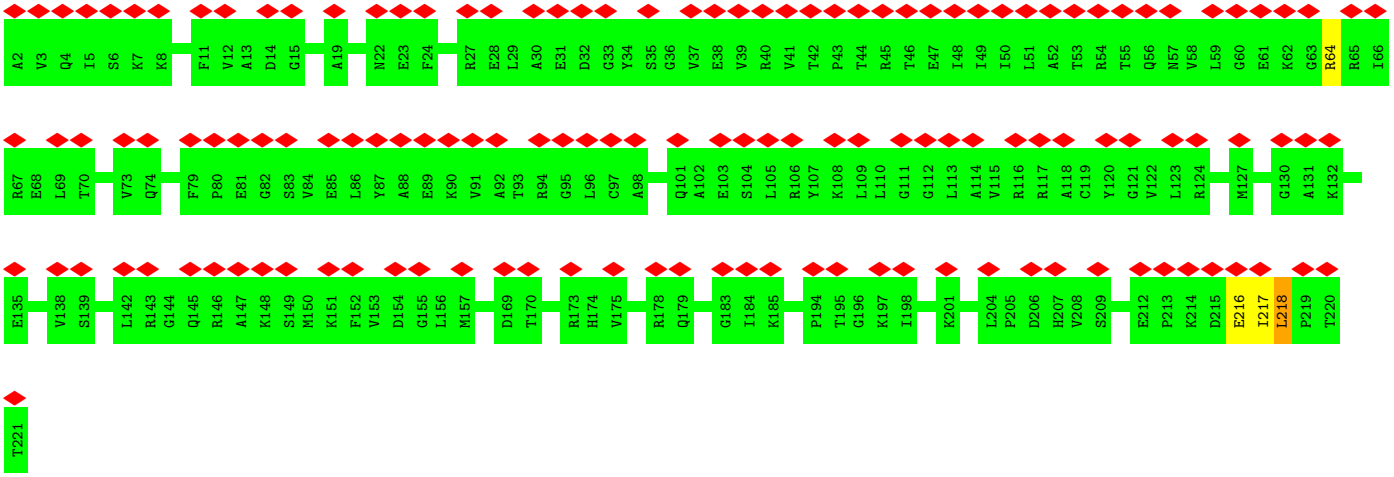

G126 A141 C142 U143 G146 G153 U154 G155 A159 U160 U161 C162 U163 A170 A171 U172 A173 C174 A175 C178 C179 G183 C186 G187 C188 U189 C192 C193 C194 C195 C196 U197 U198 C199 G200 C201 G202 G203 A209 U210 A217 U218 U219 U220 G225 A226 U227 C228 A229
A230 A231 A232 C233 C234 A235 A236 C237 C238 C239 G240 G282 C283 C284 U285 U286 U287 A292 C293 U294 C295 G298 A302 C306 G307 G308 G309 A313 U314 C319 G320 C321 C322 C323 C324 C325 C326 G327 U328 G329 G330 C331 G332 G333 A339 C340 A343 G347 G351
C357 C362 A363 A364 U368 C369 G370 A376 C381 G385 C386 C387 A398 C402 G407 A408 C409 C417 A426 U427 A435 A447 A448 A449 C450 C459 C463 A464 A465 G466 G467 G471 C472 A473 G474 C475 A476 G482 C483 A484 A485 A486 U487 U488
A489 C490 C491 C492 A493 C494 U495 C496 C497 C498 C501 C502 C503 A508 C517 A523 U524 A525 A526 C527 A528 A529 A533 G534 G535 A536 C537 U538 C539 U540 U541 U542 C543 G544 A545 G546 G547 C548 C549 C550 U551 G552 U553 A554 A555 G558 G559 A560 A561 U562 G565 U566 C567
C568 A569 C570 U577 C578 C579 A587 G588 G589 A590 U591 C592 G597 G606 U607 C608 G613 C614 G617 G620 C621 C622 G623 A629 C632 C633 A634 C638 A643 G644 C645 U657 U658 G659 C660 U661 G662 A668 A669 A672 G673 U682 G683 G684
U688 U689 G690 G691 G692 A693 G694 C695 G696 G737 C738 C739 C740 C741 U742 U743 G744 C745 C746 U747 C748 U749 C750 G751 C790 C791 C792 G793 A794 A795 G796 C797 G798 U799 U800 U804 U805 U806 G807 A808 A809 A810 A811 U814 G821 A827 C833 G836 A837 G838 C839 C840 G841
A847 U848 G852 C853 A861 G868 A869 A870 U871 A872 G873 G874 C879 U882 U883 C884 U885 A886 U887 U888 U889 U890 G891 U892 U893 G894 G895 U896 U897 U898 U899 C900 G901 C905 A913 U914 G915 A916 U917 U918 A919 A920 C927 G928 G929 G933 G942 U943 C950
A955 G956 A957 G958 G959 U960 G961 A962 A963 U969 G975 C984 C988 C989 A990 G991 A992 U1002 A1008 U1017 U1018 C1019 A1020 U1021 U1022 A1023 C1032 G1044 C1053 C1057 A1060 U1061 A1062 C1063 C1064 G1076 A1077 C1085 U1088 A1100 U1101 G1102
C1109 G1110 A1113 U1114 U1115 C1116 C1117 C1118 A1119 U1120 G1121 A1122 C1123 G1130 A1133 G1134 C1135 C1139 G1140 C1146 A1149 A1150 U1156 G1157 C1163 A1170 U1186 A1195 A1199 G1203 G1207 C1215 G1224 C1237 U1242 A1251 C1252 A1253 C1254 G1255 G1256
G1257 A1258 A1259 A1260 C1261 C1267 C1271 G1274 G1275 A1276 C1279 G1280 G1281 A1282 C1283 A1284 G1285 G1286 A1287 U1288 U1289 G1290 A1291 C1292 U1296 U1297 U1300 A1301 G1302 C1303 U1310 C1311 G1312 A1313 U1314 U1315 C1316 C1317 G1318 U1319 G1320 G1321 G1322 G1330 C1331 A1332 U1342 G1352 U1364
U1371 U1372 C1373 A1378 G1381 A1382 C1389 G1394 U1397 G1398 C1399 U1400 A1401 G1406 C1410 G1413 C1417 C1418 U1419 G1420 A1421 G1424 G1425 U1426 A1438 A1439 C1440 U1441 U1442 C1443 U1444 A1454 A1455 G1461 U1462 U1463 C1464 C1471 C1472 U1477 U1478 G1479 A1480 G1481 C1482
A1483 A1484 A1489 U1494 G1495 U1496 G1497 A1498 G1507 C1512 G1517 C1518 U1519 G1520 C1521 A1522 C1523 A1531 C1532 A1533 A1537 C1544 G1548 U1551 G1552 C1553 C1554 U1555 A1556 C1557 C1558 C1559 U1560 G1573 A1580 C1581 C1582 C1583 G1584 U1585 U1586 G1587 A1588 A1589 C1590 C1591 G1600
A1601 G1604 G1605 G1606 C1618 A1619 A1620 U1621 U1622 A1623 U1624 C1660 A1661 U1662 A1663 A1664 G1665 G1671 A1678 U1690 A1695 A1699 C1703 U1714 U1721 G1722 G1737 C1750 C1751 C1752 C1753 G1754 C1755 C1756 G1757 U1775 G1776 G1777 C1778 G1779 G1780 A1781 G1782 C1783 G1784 A1801



• Molecule 53: 40S ribosomal protein S3

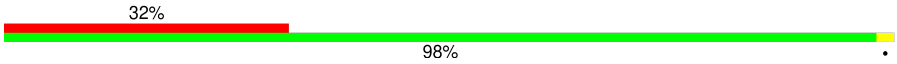
Chain BD:

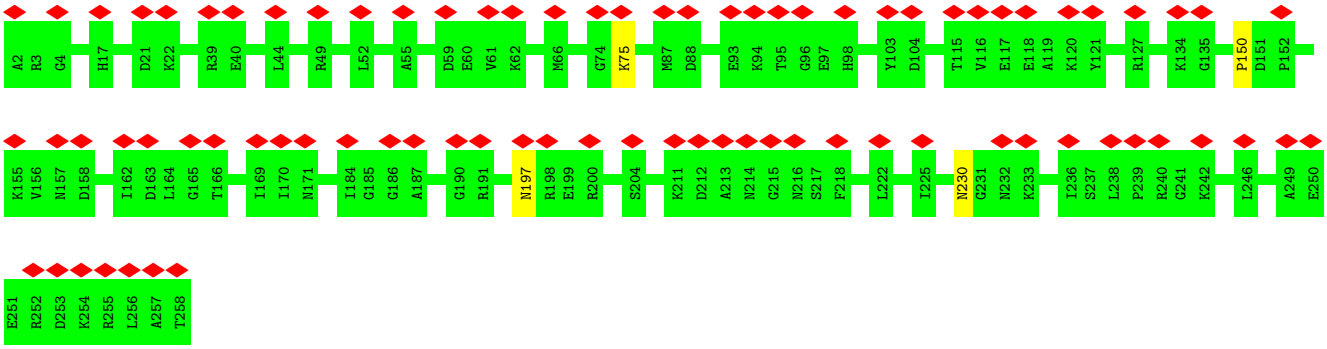




• Molecule 54: 40S ribosomal protein S4, Y isoform 1

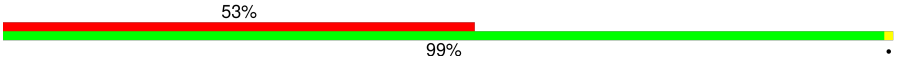
Chain BE:

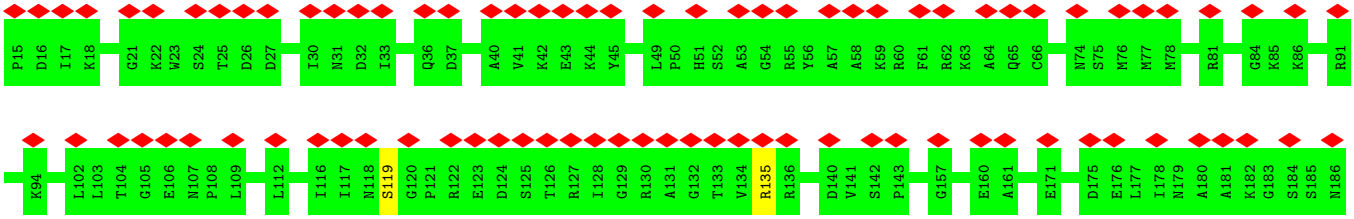


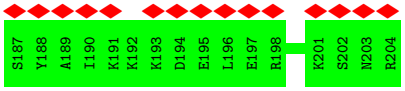


• Molecule 55: 40S ribosomal protein S5

Chain BF:

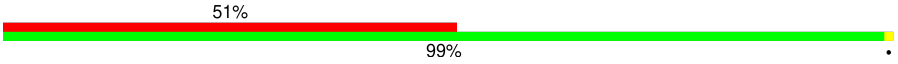


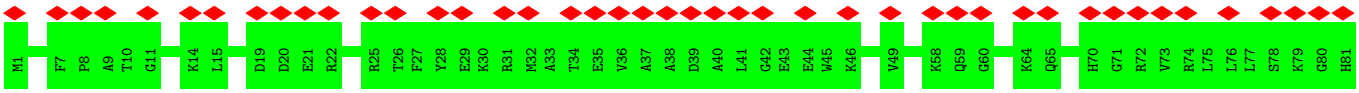


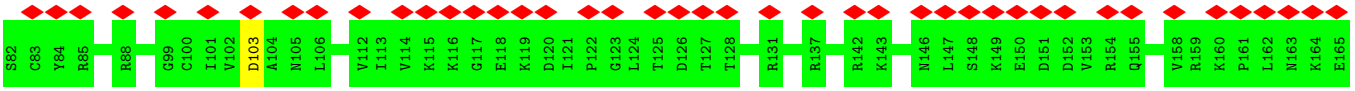


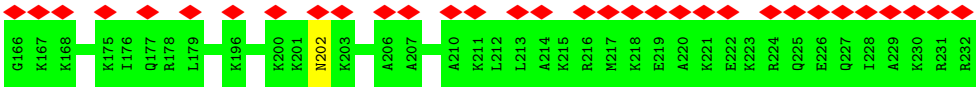
• Molecule 56: 40S ribosomal protein S6

Chain BG:



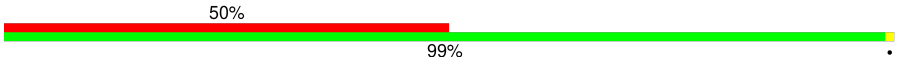


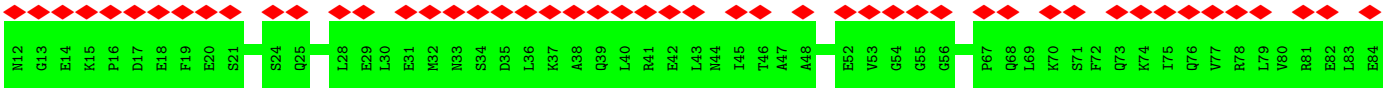


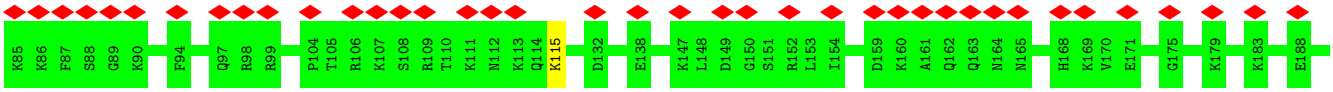


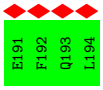
• Molecule 57: 40S ribosomal protein S7

Chain BH:



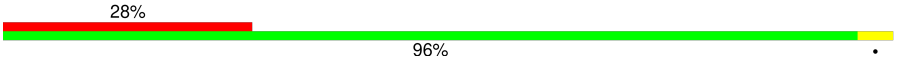


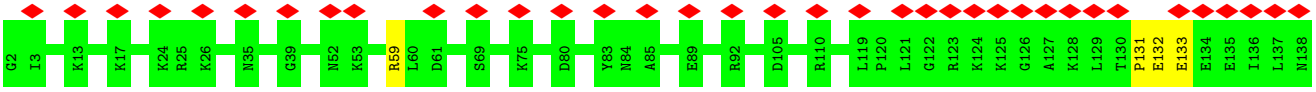


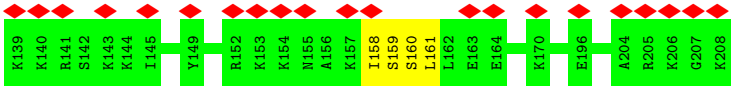


• Molecule 58: 40S ribosomal protein S8

Chain BI:

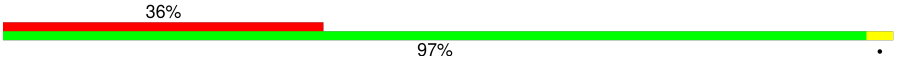


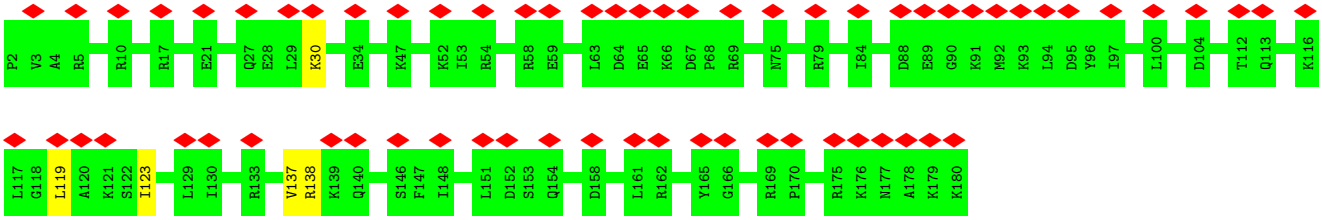




• Molecule 59: 40S ribosomal protein S9

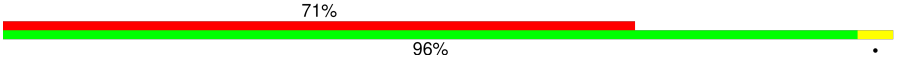
Chain BJ:

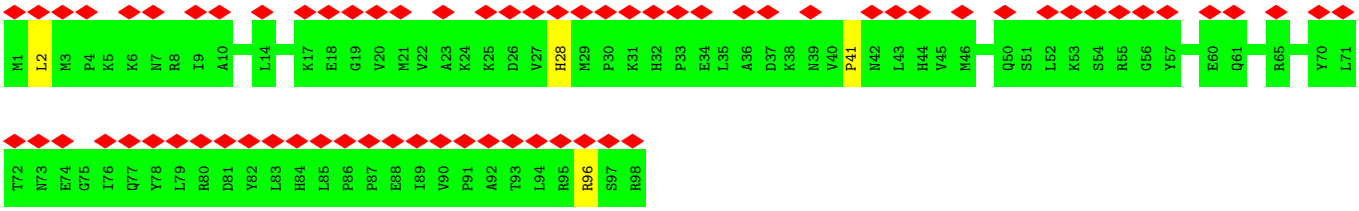




• Molecule 60: 40S ribosomal protein S10

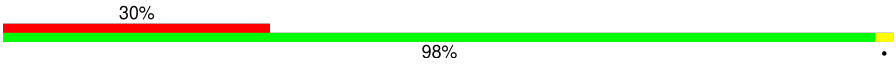
Chain BK:

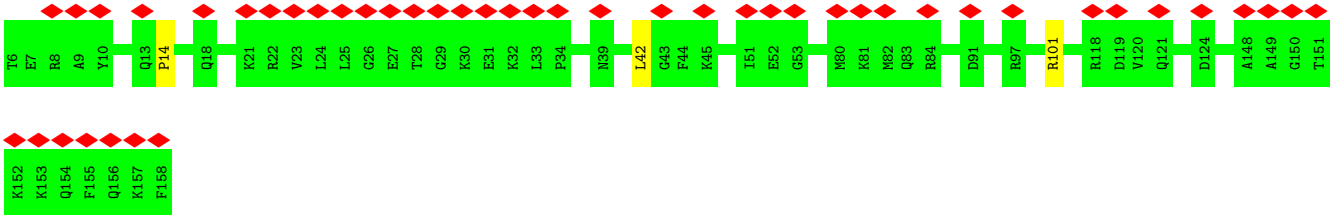




• Molecule 61: 40S ribosomal protein S11

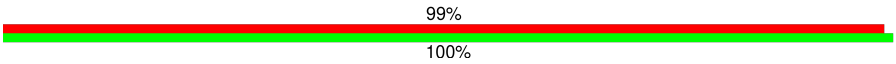
Chain BL:





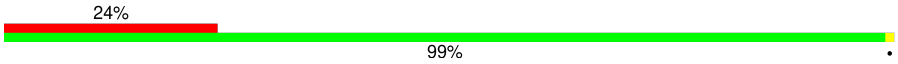
• Molecule 62: 40S ribosomal protein S12

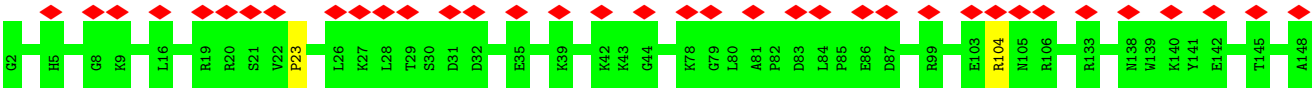
Chain BM:



• Molecule 63: 40S ribosomal protein S13

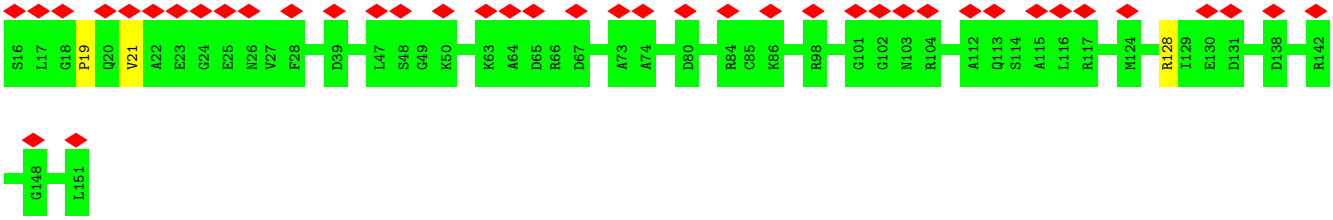
Chain BN:





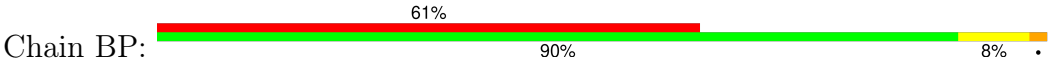
• Molecule 64: 40S ribosomal protein S14

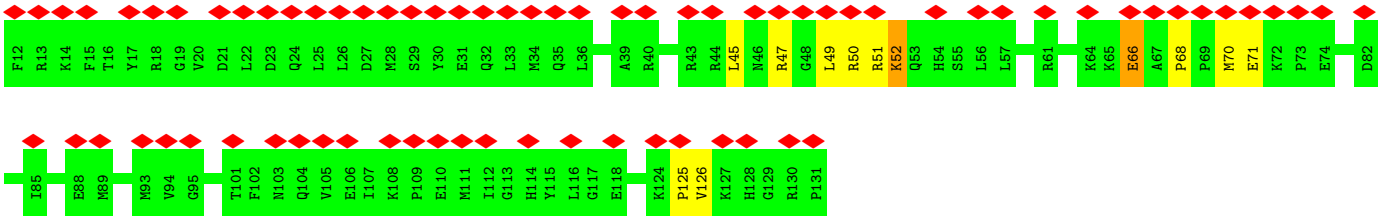
Chain BO:



• Molecule 65: 40S ribosomal protein S15

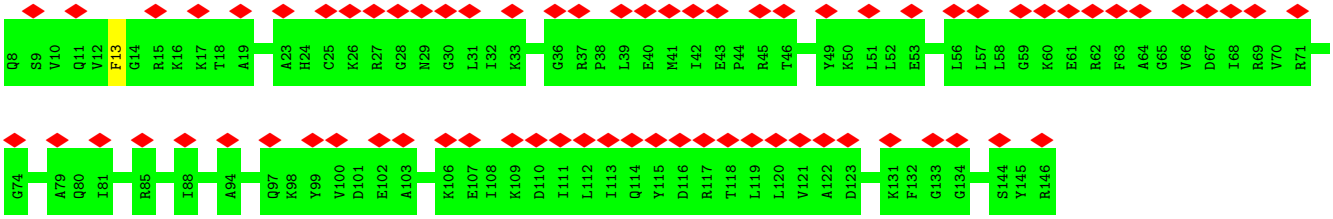
Chain BP:





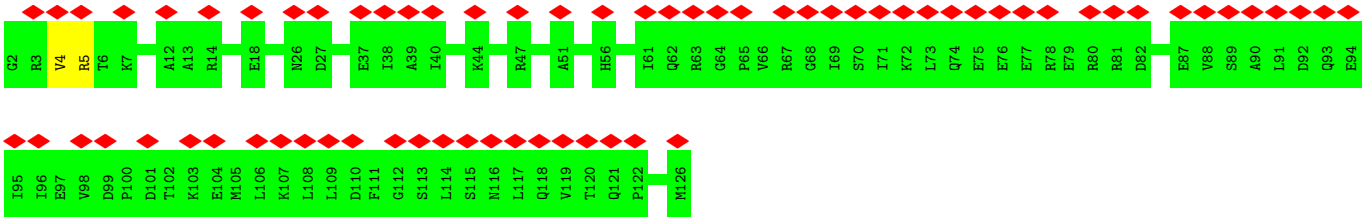
• Molecule 66: 40S ribosomal protein S16

Chain BQ:



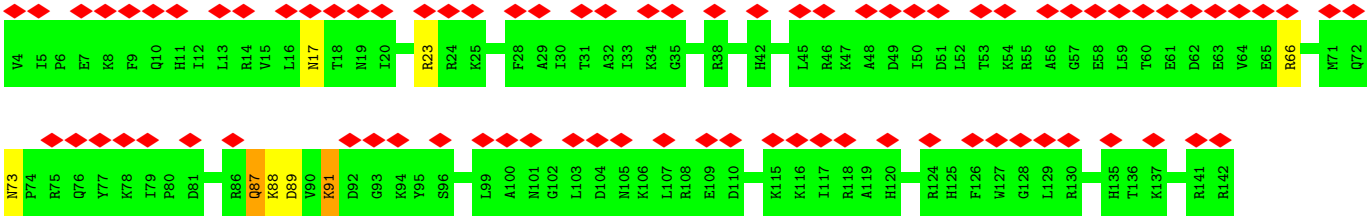
• Molecule 67: 40S ribosomal protein S17

Chain BR:

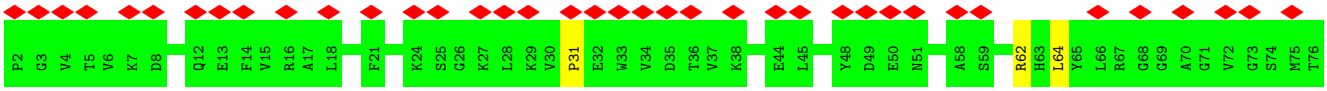


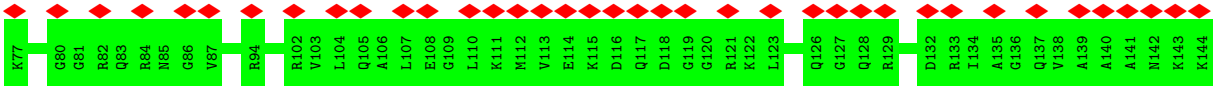
• Molecule 68: 40S ribosomal protein S18

Chain BS:

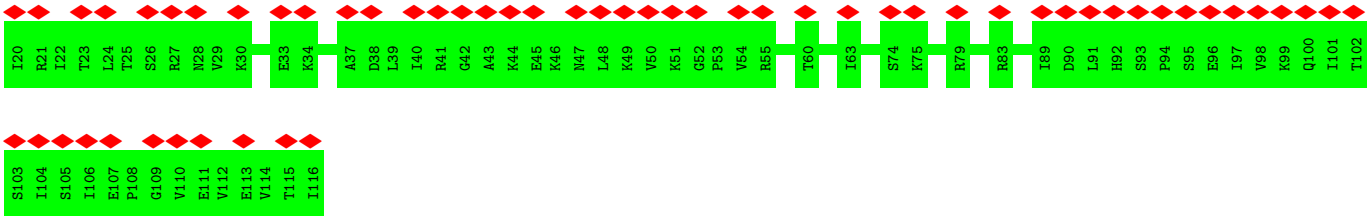


• Molecule 69: 40S ribosomal protein S19

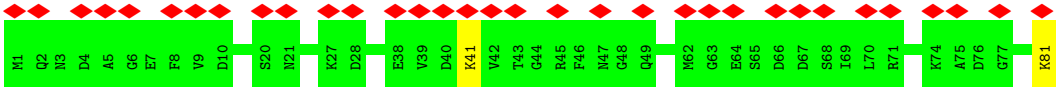




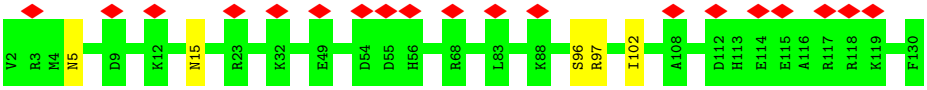
• Molecule 70: 40S ribosomal protein S20



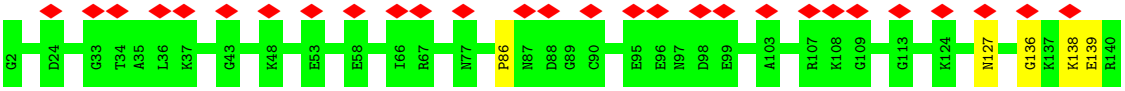
• Molecule 71: 40S ribosomal protein S21



• Molecule 72: 40S ribosomal protein S15a

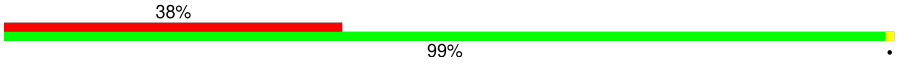


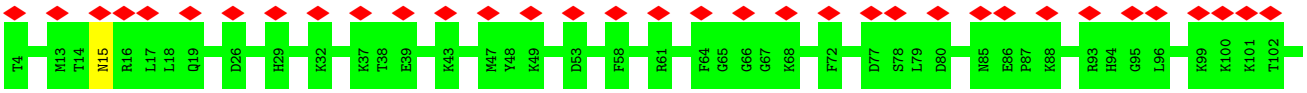
• Molecule 73: 40S ribosomal protein S23

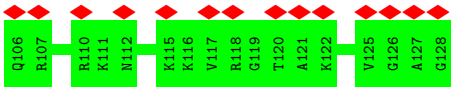


• Molecule 74: 40S ribosomal protein S24

Chain BY:

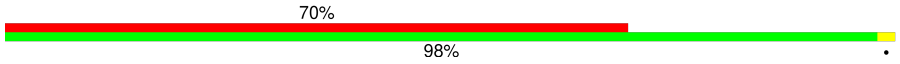


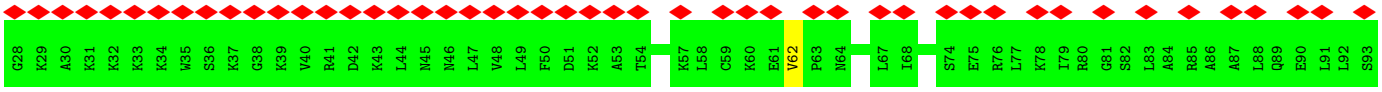


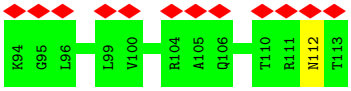


• Molecule 75: 40S ribosomal protein S25

Chain BZ:

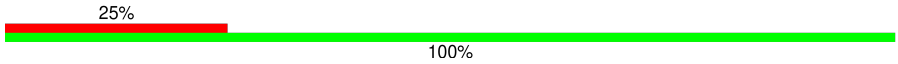


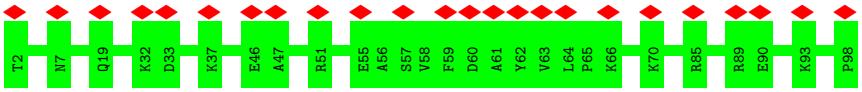




• Molecule 76: 40S ribosomal protein S26

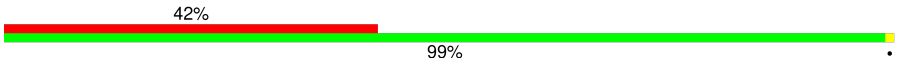
Chain Ba:

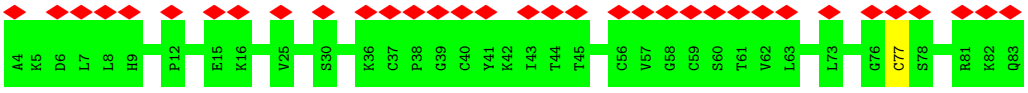




• Molecule 77: 40S ribosomal protein S27

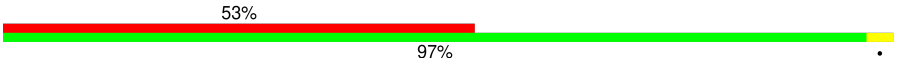
Chain Bb:

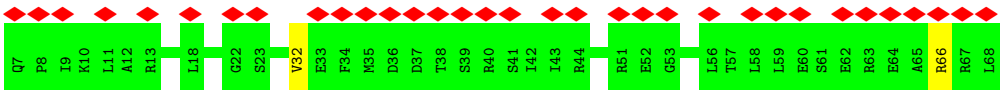




• Molecule 78: 40S ribosomal protein S28

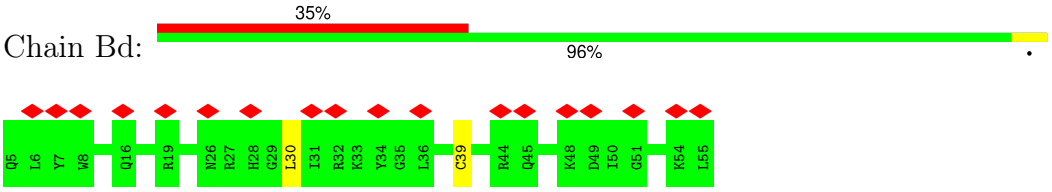
Chain Bc:





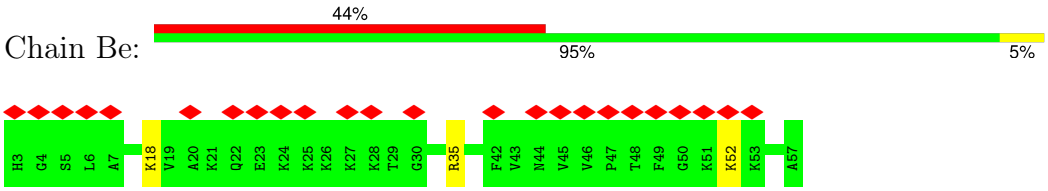
• Molecule 79: 40S ribosomal protein S29

Chain Bd:



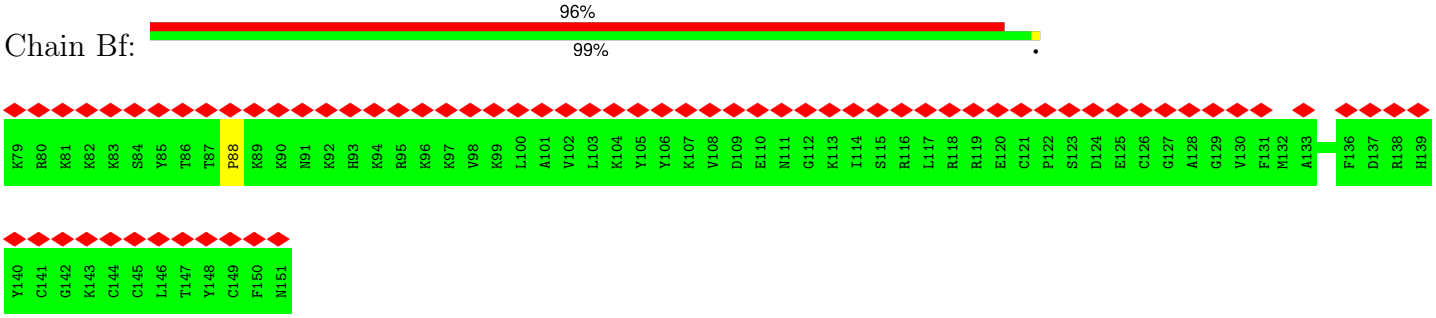
• Molecule 80: 40S ribosomal protein S30

Chain Be:



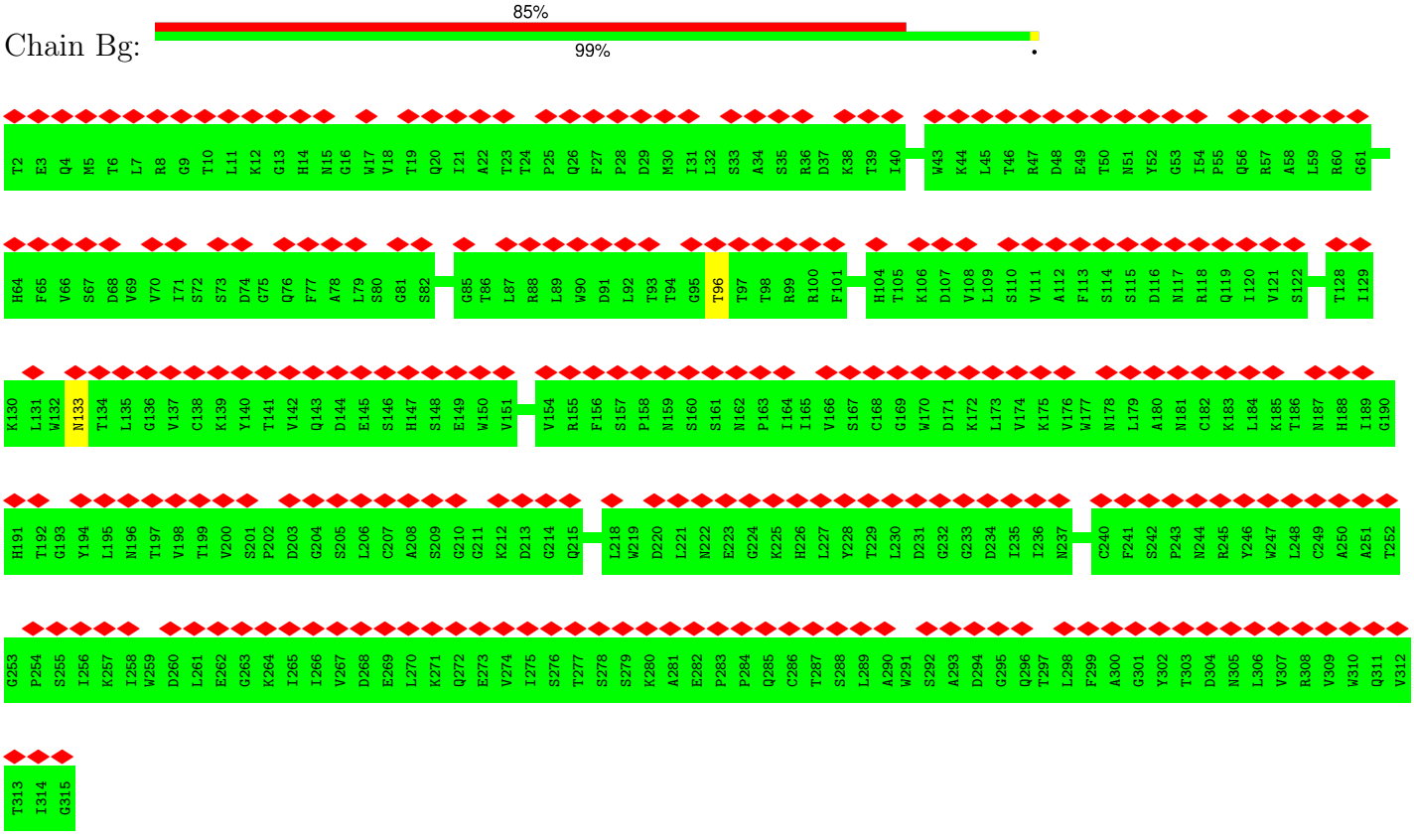
• Molecule 81: 40S ribosomal protein S27a

Chain Bf:



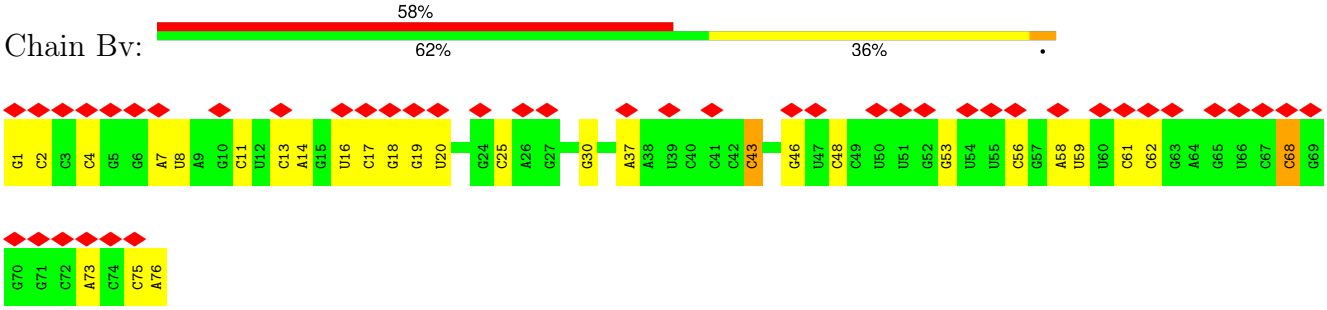
• Molecule 82: Receptor of activated protein C kinase 1

Chain Bg:



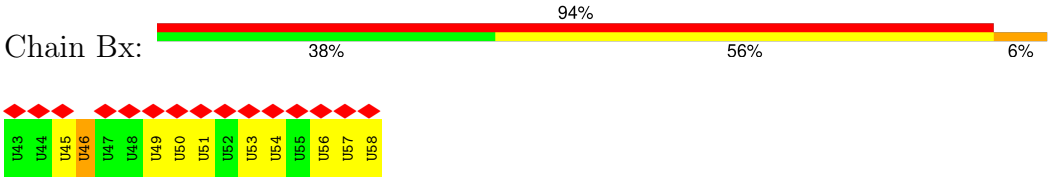
• Molecule 83: tRNA

Chain Bv:



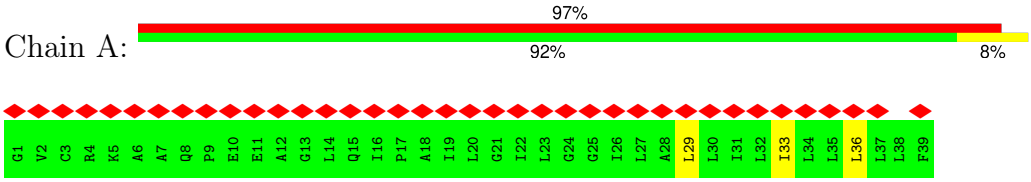
• Molecule 84: mRNA

Chain Bx:



• Molecule 85: Cadherin-1

Chain A:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	16594	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.107	Depositor
Minimum map value	-0.054	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.02	Depositor
Map size (Å)	471.5, 471.5, 471.5	wwPDB
Map dimensions	410, 410, 410	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.15, 1.15, 1.15	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, ZN, MVM

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	AA	0.40	0/1968	0.58	0/2639
2	BA	0.36	0/1741	0.59	1/2366 (0.0%)
3	AB	0.41	0/3246	0.61	1/4345 (0.0%)
4	BB	0.34	0/1749	0.61	0/2340
5	AC	0.38	0/2942	0.60	0/3951
6	BC	0.37	0/1761	0.59	0/2379
7	A3	0.66	0/3726	1.15	19/5804 (0.3%)
8	A4	0.66	0/2839	1.16	16/4425 (0.4%)
9	AD	0.37	0/2437	0.55	0/3262
10	AE	0.35	0/1603	0.61	0/2153
11	AF	0.39	0/1986	0.59	1/2644 (0.0%)
12	AG	0.36	0/1913	0.60	1/2576 (0.0%)
13	AH	0.36	0/1545	0.61	1/2077 (0.0%)
14	AI	0.38	0/1730	0.56	0/2311
15	AJ	0.35	0/1376	0.57	0/1841
16	AK	0.33	0/886	0.79	2/1188 (0.2%)
17	AL	0.37	0/1688	0.63	0/2260
18	AM	0.42	0/1161	0.58	0/1554
19	AN	0.46	0/1746	0.58	0/2338
20	AO	0.41	0/1638	0.60	0/2191
21	AP	0.40	0/1268	0.53	0/1701
22	AQ	0.39	0/1537	0.68	1/2052 (0.0%)
23	AR	0.35	0/1533	0.59	0/2025
24	AS	0.42	0/1488	0.58	0/1997
25	AT	0.42	0/1312	0.54	0/1753
26	AU	0.37	0/822	0.51	0/1103
27	AV	0.39	0/983	0.55	0/1319
28	AW	0.36	0/1004	0.60	2/1332 (0.2%)
29	AX	0.35	0/975	0.55	0/1312
30	AY	0.37	0/1081	0.54	0/1439
31	AZ	0.37	0/1126	0.59	0/1502
32	Aa	0.42	0/1191	0.60	0/1591

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\|>5$	RMSZ	$\#\|Z\|>5$
33	Ab	0.33	0/569	0.62	1/750 (0.1%)
34	Ac	0.36	0/812	0.58	1/1089 (0.1%)
35	Ad	0.37	0/894	0.59	0/1204
36	Ae	0.37	0/1082	0.59	0/1443
37	Af	0.44	0/895	0.64	1/1198 (0.1%)
38	Ag	0.39	0/916	0.63	0/1220
39	Ah	0.33	0/1023	0.59	2/1351 (0.1%)
40	Ai	0.34	0/805	0.57	0/1065
41	Aj	0.41	0/703	0.65	0/929
42	Ak	0.32	0/575	0.66	1/761 (0.1%)
43	Al	0.36	0/454	0.56	0/599
44	Am	0.35	0/417	0.61	0/553
45	An	0.37	0/241	0.60	0/305
46	Ao	0.38	0/877	0.59	0/1156
47	Ap	0.43	0/718	0.60	0/953
48	Aq	0.29	0/1058	0.75	1/1424 (0.1%)
49	At	0.37	0/995	0.72	1/1334 (0.1%)
50	Au	0.28	0/1772	0.59	1/2375 (0.0%)
51	A2	0.68	1/86613 (0.0%)	1.19	613/135108 (0.5%)
52	B1	0.57	1/40767 (0.0%)	1.18	333/63536 (0.5%)
53	BD	0.33	0/1736	0.54	0/2338
54	BE	0.34	0/2072	0.59	0/2793
55	BF	0.32	0/1524	0.60	0/2048
56	BG	0.31	0/1907	0.59	0/2538
57	BH	0.32	0/1501	0.57	0/2009
58	BI	0.36	0/1725	0.59	0/2298
59	BJ	0.32	0/1520	0.60	1/2030 (0.0%)
60	BK	0.35	0/851	0.71	1/1147 (0.1%)
61	BL	0.36	0/1281	0.63	1/1710 (0.1%)
62	BM	0.28	0/941	0.60	0/1264
63	BN	0.35	0/1226	0.60	0/1649
64	BO	0.33	0/1029	0.58	0/1380
65	BP	0.31	0/1019	0.64	0/1361
66	BQ	0.32	0/1126	0.61	0/1506
67	BR	0.31	0/1023	0.61	0/1373
68	BS	0.29	0/1172	0.53	0/1570
69	BT	0.34	0/1131	0.61	1/1515 (0.1%)
70	BU	0.30	0/778	0.56	0/1045
71	BV	0.33	0/623	0.57	0/833
72	BW	0.36	0/1051	0.58	0/1406
73	BX	0.37	0/1097	0.60	0/1464
74	BY	0.34	0/1032	0.61	0/1371
75	BZ	0.32	0/696	0.66	0/929

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	Ba	0.37	0/786	0.61	0/1053
77	Bb	0.32	0/637	0.55	0/854
78	Bc	0.29	0/490	0.56	0/656
79	Bd	0.38	0/437	0.70	2/580 (0.3%)
80	Be	0.32	0/443	0.61	0/583
81	Bf	0.29	0/613	0.58	0/811
82	Bg	0.31	0/2497	0.58	0/3399
83	Bv	0.59	2/1813 (0.1%)	1.21	18/2823 (0.6%)
84	Bx	0.28	0/351	1.07	3/540 (0.6%)
85	A	0.29	0/189	0.64	0/260
All	All	0.55	4/232504 (0.0%)	1.00	1027/341259 (0.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
4	BB	0	1
9	AD	0	1
13	AH	0	1
29	AX	0	1
All	All	0	4

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
83	Bv	73	A	O3'-P	14.03	1.77	1.61
52	B1	1	U	OP3-P	-10.73	1.48	1.61
83	Bv	1	G	OP3-P	-10.71	1.48	1.61
51	A2	930	A	N9-C4	-5.15	1.34	1.37

The worst 5 of 1027 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
52	B1	1288	U	C2-N1-C1'	10.38	130.16	117.70
51	A2	463	C	N1-C2-O2	10.12	124.97	118.90
52	B1	1398	G	C4-N9-C1'	10.06	139.57	126.50
52	B1	984	C	N3-C2-O2	-9.83	115.02	121.90
52	B1	1464	C	N1-C2-O2	9.81	124.79	118.90

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	AD	228	LYS	Peptide
13	AH	116	ASN	Peptide
29	AX	79	PHE	Peptide
4	BB	39	PHE	Peptide

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	AA	250/257 (97%)	223 (89%)	24 (10%)	3 (1%)	11 35
2	BA	213/215 (99%)	196 (92%)	13 (6%)	4 (2%)	6 26
3	AB	392/394 (100%)	363 (93%)	29 (7%)	0	100 100
4	BB	210/212 (99%)	181 (86%)	27 (13%)	2 (1%)	13 39
5	AC	361/363 (99%)	333 (92%)	26 (7%)	2 (1%)	22 50
6	BC	220/222 (99%)	205 (93%)	15 (7%)	0	100 100
9	AD	292/294 (99%)	261 (89%)	27 (9%)	4 (1%)	9 31
10	AE	192/194 (99%)	159 (83%)	29 (15%)	4 (2%)	5 24
11	AF	232/234 (99%)	211 (91%)	20 (9%)	1 (0%)	30 60
12	AG	232/234 (99%)	211 (91%)	21 (9%)	0	100 100
13	AH	189/191 (99%)	178 (94%)	9 (5%)	2 (1%)	12 37
14	AI	204/211 (97%)	182 (89%)	22 (11%)	0	100 100
15	AJ	167/169 (99%)	153 (92%)	12 (7%)	2 (1%)	11 35
16	AK	107/109 (98%)	59 (55%)	35 (33%)	13 (12%)	0 2

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
17	AL	203/205 (99%)	166 (82%)	28 (14%)	9 (4%)	2 13
18	AM	137/139 (99%)	125 (91%)	12 (9%)	0	100 100
19	AN	201/203 (99%)	184 (92%)	16 (8%)	1 (0%)	25 54
20	AO	193/195 (99%)	180 (93%)	13 (7%)	0	100 100
21	AP	151/153 (99%)	147 (97%)	4 (3%)	0	100 100
22	AQ	185/187 (99%)	159 (86%)	25 (14%)	1 (0%)	25 54
23	AR	179/181 (99%)	169 (94%)	9 (5%)	1 (1%)	22 50
24	AS	173/175 (99%)	162 (94%)	11 (6%)	0	100 100
25	AT	155/157 (99%)	140 (90%)	13 (8%)	2 (1%)	10 33
26	AU	97/99 (98%)	87 (90%)	8 (8%)	2 (2%)	5 24
27	AV	127/129 (98%)	122 (96%)	5 (4%)	0	100 100
28	AW	119/121 (98%)	105 (88%)	13 (11%)	1 (1%)	16 44
29	AX	115/117 (98%)	110 (96%)	5 (4%)	0	100 100
30	AY	125/127 (98%)	118 (94%)	7 (6%)	0	100 100
31	AZ	132/134 (98%)	117 (89%)	15 (11%)	0	100 100
32	Aa	145/147 (99%)	128 (88%)	17 (12%)	0	100 100
33	Ab	66/121 (54%)	56 (85%)	9 (14%)	1 (2%)	8 30
34	Ac	101/103 (98%)	96 (95%)	3 (3%)	2 (2%)	6 25
35	Ad	104/106 (98%)	99 (95%)	5 (5%)	0	100 100
36	Ae	127/129 (98%)	113 (89%)	14 (11%)	0	100 100
37	Af	107/109 (98%)	95 (89%)	9 (8%)	3 (3%)	4 20
38	Ag	112/114 (98%)	101 (90%)	11 (10%)	0	100 100
39	Ah	120/122 (98%)	111 (92%)	8 (7%)	1 (1%)	16 44
40	Ai	95/97 (98%)	86 (90%)	9 (10%)	0	100 100
41	Aj	82/84 (98%)	75 (92%)	7 (8%)	0	100 100
42	Ak	67/69 (97%)	63 (94%)	4 (6%)	0	100 100
43	Al	48/50 (96%)	44 (92%)	4 (8%)	0	100 100
44	Am	48/50 (96%)	45 (94%)	3 (6%)	0	100 100
45	An	23/25 (92%)	23 (100%)	0	0	100 100
46	Ao	103/105 (98%)	93 (90%)	10 (10%)	0	100 100
47	Ap	89/91 (98%)	80 (90%)	9 (10%)	0	100 100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
48	Aq	136/138 (99%)	94 (69%)	38 (28%)	4 (3%)	3 19
49	At	120/122 (98%)	102 (85%)	16 (13%)	2 (2%)	7 28
50	Au	215/217 (99%)	193 (90%)	18 (8%)	4 (2%)	6 26
53	BD	218/220 (99%)	202 (93%)	15 (7%)	1 (0%)	25 54
54	BE	255/257 (99%)	235 (92%)	19 (8%)	1 (0%)	30 60
55	BF	188/190 (99%)	171 (91%)	17 (9%)	0	100 100
56	BG	230/232 (99%)	208 (90%)	21 (9%)	1 (0%)	30 60
57	BH	181/183 (99%)	166 (92%)	14 (8%)	1 (1%)	22 50
58	BI	205/207 (99%)	175 (85%)	26 (13%)	4 (2%)	6 25
59	BJ	177/179 (99%)	151 (85%)	25 (14%)	1 (1%)	22 50
60	BK	96/98 (98%)	82 (85%)	12 (12%)	2 (2%)	5 24
61	BL	151/153 (99%)	132 (87%)	18 (12%)	1 (1%)	19 47
62	BM	118/120 (98%)	112 (95%)	6 (5%)	0	100 100
63	BN	147/149 (99%)	129 (88%)	17 (12%)	1 (1%)	19 47
64	BO	134/136 (98%)	119 (89%)	13 (10%)	2 (2%)	8 30
65	BP	118/120 (98%)	101 (86%)	12 (10%)	5 (4%)	2 14
66	BQ	137/139 (99%)	127 (93%)	10 (7%)	0	100 100
67	BR	123/125 (98%)	105 (85%)	16 (13%)	2 (2%)	8 29
68	BS	137/139 (99%)	118 (86%)	16 (12%)	3 (2%)	5 24
69	BT	141/143 (99%)	129 (92%)	11 (8%)	1 (1%)	19 47
70	BU	95/97 (98%)	91 (96%)	4 (4%)	0	100 100
71	BV	79/81 (98%)	75 (95%)	4 (5%)	0	100 100
72	BW	127/129 (98%)	121 (95%)	6 (5%)	0	100 100
73	BX	137/139 (99%)	124 (90%)	11 (8%)	2 (2%)	8 30
74	BY	123/125 (98%)	108 (88%)	15 (12%)	0	100 100
75	BZ	84/86 (98%)	74 (88%)	10 (12%)	0	100 100
76	Ba	95/97 (98%)	87 (92%)	8 (8%)	0	100 100
77	Bb	78/80 (98%)	71 (91%)	7 (9%)	0	100 100
78	Bc	60/62 (97%)	55 (92%)	5 (8%)	0	100 100
79	Bd	49/51 (96%)	43 (88%)	6 (12%)	0	100 100
80	Be	53/55 (96%)	51 (96%)	2 (4%)	0	100 100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
81	Bf	71/73 (97%)	64 (90%)	6 (8%)	1 (1%)	9 31
82	Bg	312/314 (99%)	281 (90%)	31 (10%)	0	100 100
85	A	37/39 (95%)	20 (54%)	14 (38%)	3 (8%)	1 4
All	All	11617/11838 (98%)	10430 (90%)	1084 (9%)	103 (1%)	17 41

5 of 103 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	AA	196	TRP
1	AA	197	PRO
1	AA	201	GLY
2	BA	206	ASP
5	AC	148	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	AA	194/199 (98%)	190 (98%)	4 (2%)	48 69
2	BA	180/180 (100%)	176 (98%)	4 (2%)	47 68
3	AB	343/343 (100%)	338 (98%)	5 (2%)	60 76
4	BB	193/193 (100%)	190 (98%)	3 (2%)	58 75
5	AC	302/302 (100%)	295 (98%)	7 (2%)	45 67
6	BC	188/188 (100%)	184 (98%)	4 (2%)	48 69
9	AD	248/248 (100%)	233 (94%)	15 (6%)	16 41
10	AE	174/174 (100%)	163 (94%)	11 (6%)	15 40
11	AF	203/203 (100%)	200 (98%)	3 (2%)	60 76
12	AG	199/199 (100%)	199 (100%)	0	100 100
13	AH	170/170 (100%)	166 (98%)	4 (2%)	44 66
14	AI	178/179 (99%)	176 (99%)	2 (1%)	70 81
15	AJ	142/142 (100%)	139 (98%)	3 (2%)	48 69

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
16	AK	95/95 (100%)	89 (94%)	6 (6%)	15 40
17	AL	171/171 (100%)	163 (95%)	8 (5%)	22 49
18	AM	118/118 (100%)	116 (98%)	2 (2%)	56 74
19	AN	171/171 (100%)	169 (99%)	2 (1%)	67 80
20	AO	168/168 (100%)	165 (98%)	3 (2%)	54 73
21	AP	134/134 (100%)	134 (100%)	0	100 100
22	AQ	164/164 (100%)	158 (96%)	6 (4%)	29 54
23	AR	160/160 (100%)	158 (99%)	2 (1%)	65 78
24	AS	156/156 (100%)	156 (100%)	0	100 100
25	AT	138/138 (100%)	138 (100%)	0	100 100
26	AU	89/89 (100%)	86 (97%)	3 (3%)	32 57
27	AV	100/100 (100%)	100 (100%)	0	100 100
28	AW	100/100 (100%)	99 (99%)	1 (1%)	73 83
29	AX	105/105 (100%)	105 (100%)	0	100 100
30	AY	119/119 (100%)	118 (99%)	1 (1%)	79 87
31	AZ	117/117 (100%)	116 (99%)	1 (1%)	75 86
32	Aa	120/120 (100%)	119 (99%)	1 (1%)	79 87
33	Ab	58/101 (57%)	52 (90%)	6 (10%)	6 22
34	Ac	88/88 (100%)	83 (94%)	5 (6%)	17 43
35	Ad	97/97 (100%)	97 (100%)	0	100 100
36	Ae	115/115 (100%)	115 (100%)	0	100 100
37	Af	88/88 (100%)	87 (99%)	1 (1%)	70 81
38	Ag	98/98 (100%)	98 (100%)	0	100 100
39	Ah	109/109 (100%)	105 (96%)	4 (4%)	29 54
40	Ai	83/83 (100%)	83 (100%)	0	100 100
41	Aj	71/71 (100%)	69 (97%)	2 (3%)	38 62
42	Ak	64/64 (100%)	63 (98%)	1 (2%)	58 75
43	Al	47/47 (100%)	44 (94%)	3 (6%)	14 39
44	Am	46/46 (100%)	45 (98%)	1 (2%)	47 68
45	An	24/24 (100%)	24 (100%)	0	100 100
46	Ao	93/93 (100%)	91 (98%)	2 (2%)	47 68

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
47	Ap	74/74 (100%)	73 (99%)	1 (1%)	62 77
48	Aq	114/114 (100%)	105 (92%)	9 (8%)	10 32
49	At	106/106 (100%)	103 (97%)	3 (3%)	38 62
50	Au	196/196 (100%)	184 (94%)	12 (6%)	15 40
53	BD	183/183 (100%)	179 (98%)	4 (2%)	47 68
54	BE	220/220 (100%)	217 (99%)	3 (1%)	62 77
55	BF	160/160 (100%)	158 (99%)	2 (1%)	65 78
56	BG	202/202 (100%)	201 (100%)	1 (0%)	86 91
57	BH	164/164 (100%)	164 (100%)	0	100 100
58	BI	179/179 (100%)	175 (98%)	4 (2%)	47 68
59	BJ	160/160 (100%)	157 (98%)	3 (2%)	52 71
60	BK	89/89 (100%)	88 (99%)	1 (1%)	70 81
61	BL	138/138 (100%)	137 (99%)	1 (1%)	81 88
62	BM	102/102 (100%)	102 (100%)	0	100 100
63	BN	130/130 (100%)	129 (99%)	1 (1%)	79 87
64	BO	106/106 (100%)	105 (99%)	1 (1%)	75 86
65	BP	109/109 (100%)	100 (92%)	9 (8%)	9 30
66	BQ	115/115 (100%)	114 (99%)	1 (1%)	75 86
67	BR	113/113 (100%)	113 (100%)	0	100 100
68	BS	121/121 (100%)	114 (94%)	7 (6%)	17 42
69	BT	113/113 (100%)	112 (99%)	1 (1%)	75 86
70	BU	90/90 (100%)	90 (100%)	0	100 100
71	BV	65/65 (100%)	63 (97%)	2 (3%)	35 60
72	BW	112/112 (100%)	107 (96%)	5 (4%)	23 50
73	BX	111/111 (100%)	108 (97%)	3 (3%)	40 63
74	BY	107/107 (100%)	106 (99%)	1 (1%)	75 86
75	BZ	75/75 (100%)	73 (97%)	2 (3%)	40 63
76	Ba	84/84 (100%)	84 (100%)	0	100 100
77	Bb	72/72 (100%)	71 (99%)	1 (1%)	62 77
78	Bc	55/55 (100%)	53 (96%)	2 (4%)	30 56
79	Bd	45/45 (100%)	45 (100%)	0	100 100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
80	Be	44/44 (100%)	41 (93%)	3 (7%)	13 38
81	Bf	66/66 (100%)	66 (100%)	0	100 100
82	Bg	272/272 (100%)	270 (99%)	2 (1%)	81 88
All	All	10112/10161 (100%)	9901 (98%)	211 (2%)	49 69

5 of 211 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
39	Ah	91	MET
50	Au	60	ARG
73	BX	139	GLU
42	Ak	21	LYS
48	Aq	35	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 128 such sidechains are listed below:

Mol	Chain	Res	Type
73	BX	127	ASN
75	BZ	106	GLN
25	AT	22	HIS
24	AS	91	HIS
78	Bc	24	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
51	A2	3600/3612 (99%)	863 (23%)	15 (0%)
52	B1	1701/1708 (99%)	408 (23%)	10 (0%)
7	A3	156/157 (99%)	40 (25%)	3 (1%)
8	A4	118/119 (99%)	22 (18%)	0
83	Bv	75/76 (98%)	23 (30%)	0
84	Bx	15/16 (93%)	10 (66%)	0
All	All	5665/5688 (99%)	1366 (24%)	28 (0%)

5 of 1366 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
7	A3	16	G
7	A3	23	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A3	33	G
7	A3	34	U
7	A3	35	C

5 of 28 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
51	A2	4865	G
52	B1	1756	C
51	A2	4946	U
52	B1	1139	C
51	A2	4907	G

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 332 ligands modelled in this entry, 331 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
88	MVM	A2	5327	-	32,35,35	1.79	4 (12%)	39,49,49	2.29	16 (41%)

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
88	MVM	A2	5327	-	-	0/20/28/28	0/5/5/5

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
88	A2	5327	MVM	C5-N1	6.30	1.46	1.37
88	A2	5327	MVM	N5-N4	-4.44	1.30	1.37
88	A2	5327	MVM	C6-N1	2.58	1.45	1.39
88	A2	5327	MVM	C12-C5	2.39	1.54	1.50

The worst 5 of 16 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
88	A2	5327	MVM	C21-N7-C22	4.82	122.58	116.81
88	A2	5327	MVM	C15-N4-C22	-4.65	124.12	130.09
88	A2	5327	MVM	C7-C3-C9	4.54	119.43	110.81
88	A2	5327	MVM	C6-N1-C5	-4.32	117.76	122.94
88	A2	5327	MVM	N3-C6-N1	3.75	120.36	116.35

There are no chirality outliers.

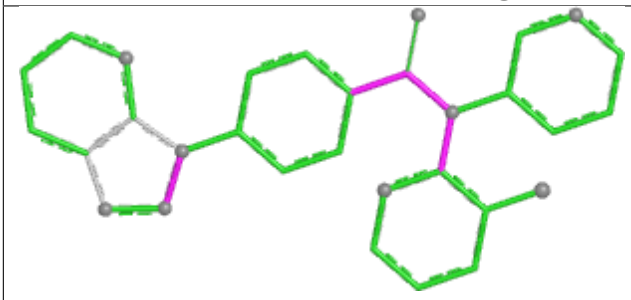
There are no torsion outliers.

There are no ring outliers.

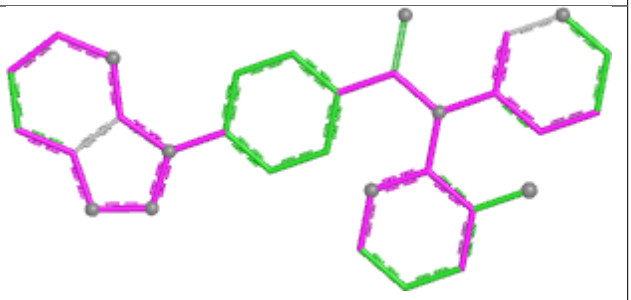
No monomer is involved in short contacts.

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.

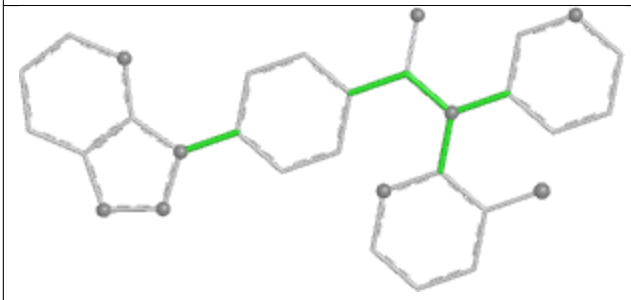
Ligand MVM A2 5327



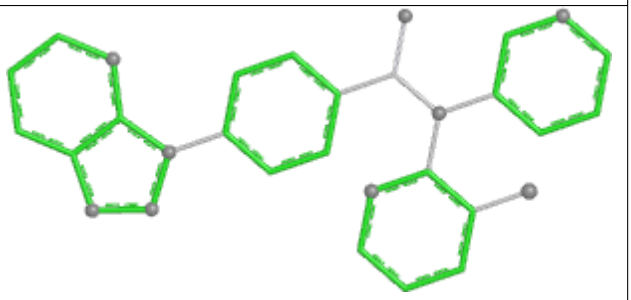
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
51	A2	11
52	B1	6
83	Bv	1

The worst 5 of 18 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B1	126:G	O3'	141:A	P	20.56
1	B1	1757:G	O3'	1775:U	P	18.28
1	A2	3948:C	O3'	4004:G	P	18.11
1	B1	751:G	O3'	790:C	P	17.98
1	A2	4734:C	O3'	4818:G	P	17.83

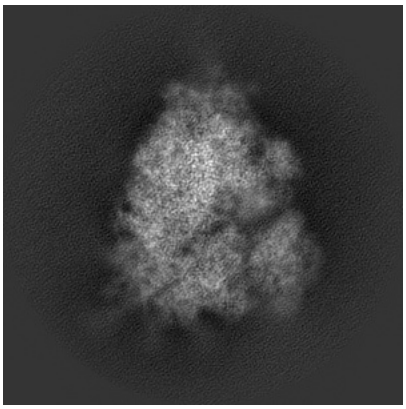
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-0601. These allow visual inspection of the internal detail of the map and identification of artifacts.

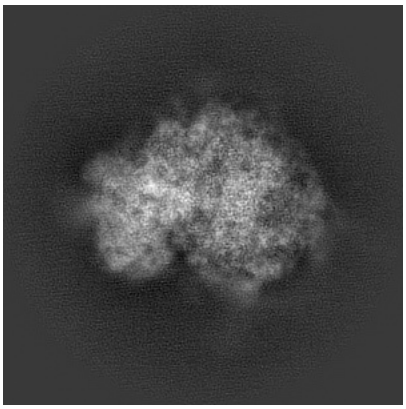
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

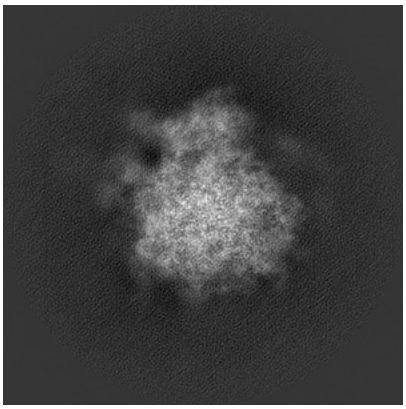
6.1.1 Primary map



X

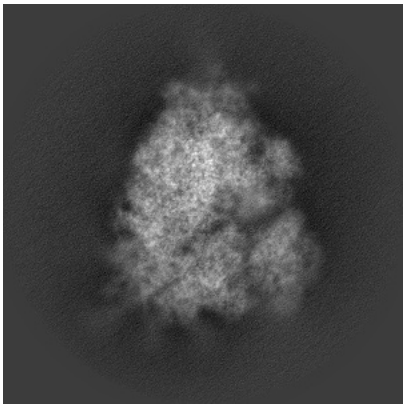


Y

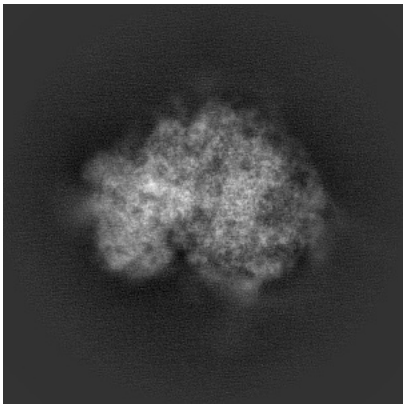


Z

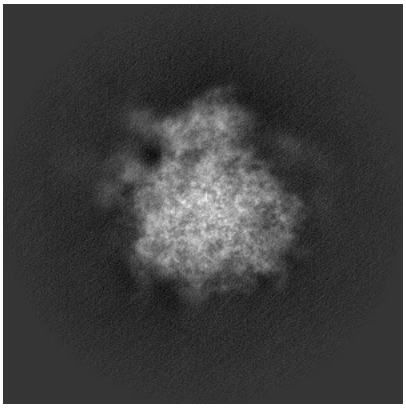
6.1.2 Raw map



X



Y

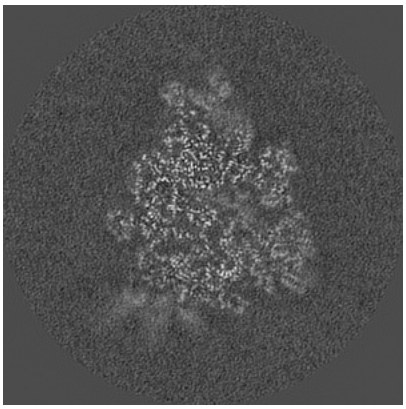


Z

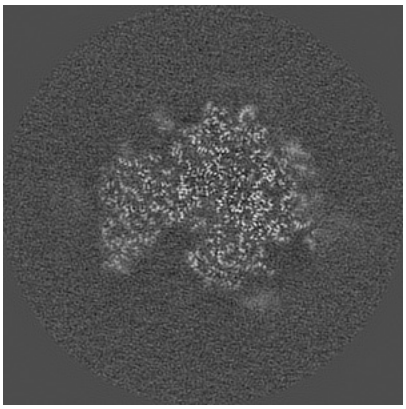
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

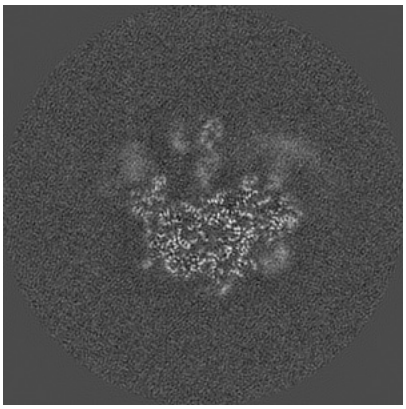
6.2.1 Primary map



X Index: 205

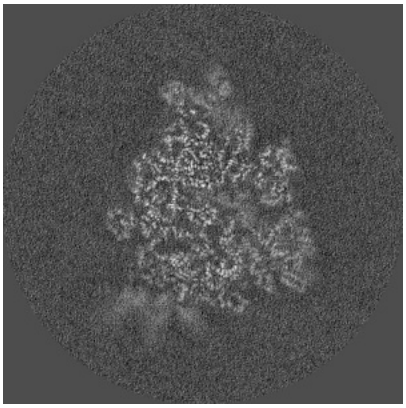


Y Index: 205

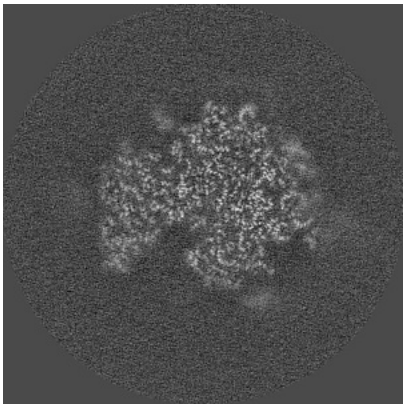


Z Index: 205

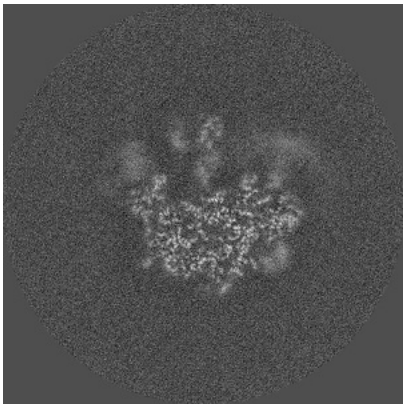
6.2.2 Raw map



X Index: 205



Y Index: 205

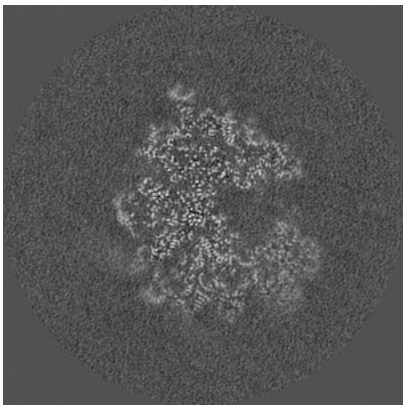


Z Index: 205

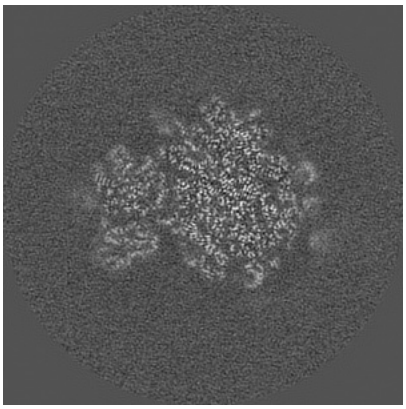
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

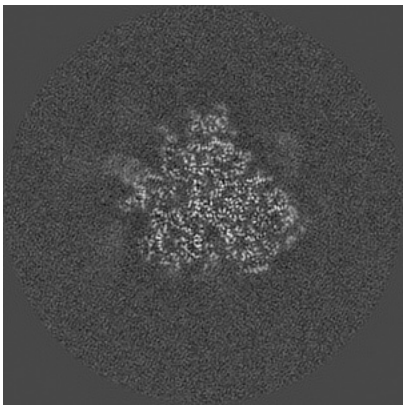
6.3.1 Primary map



X Index: 225

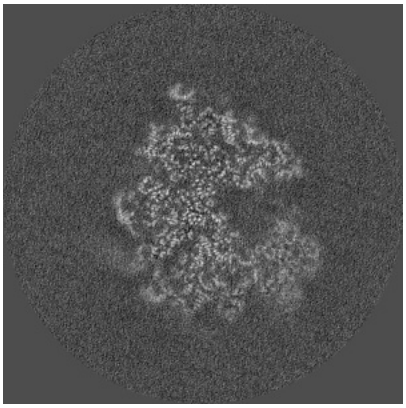


Y Index: 197

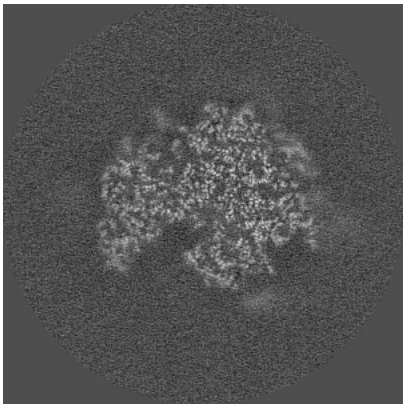


Z Index: 234

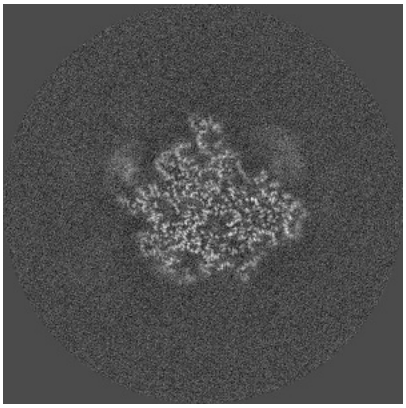
6.3.2 Raw map



X Index: 225



Y Index: 207

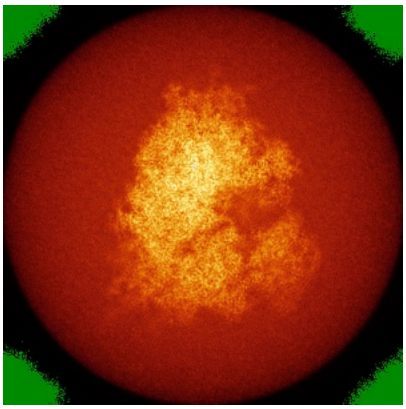


Z Index: 225

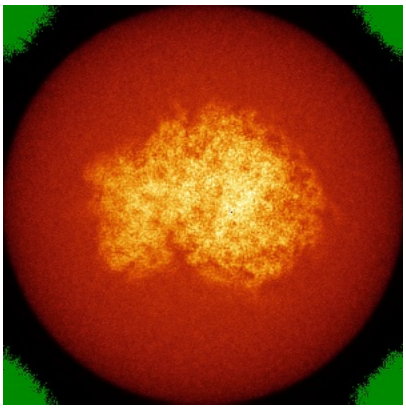
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

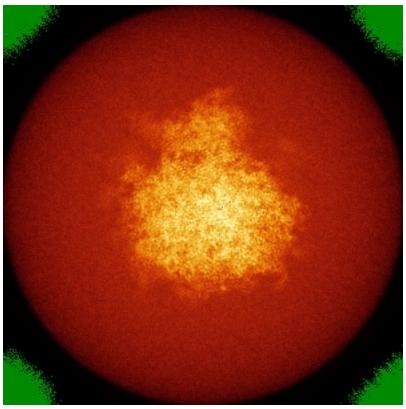
6.4.1 Primary map



X

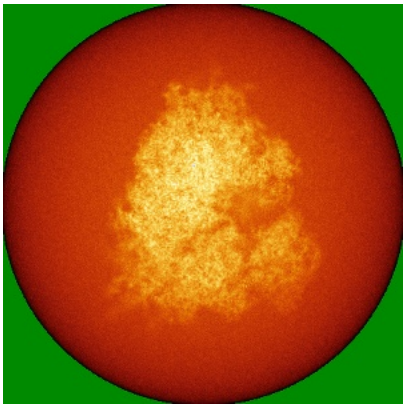


Y

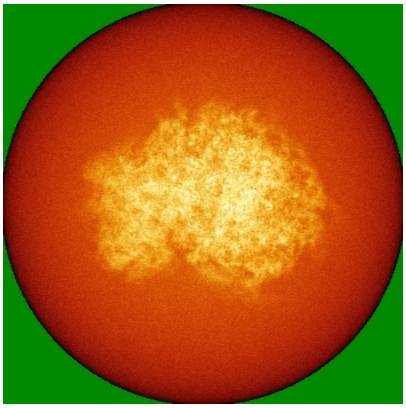


Z

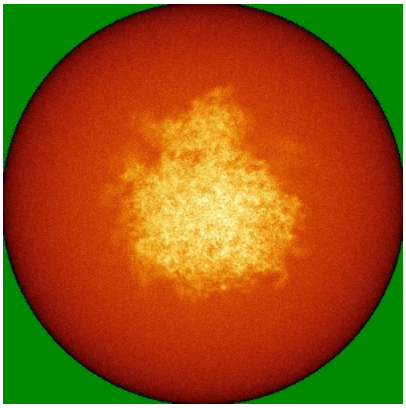
6.4.2 Raw map



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 (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.02. 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

X Y Z

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.

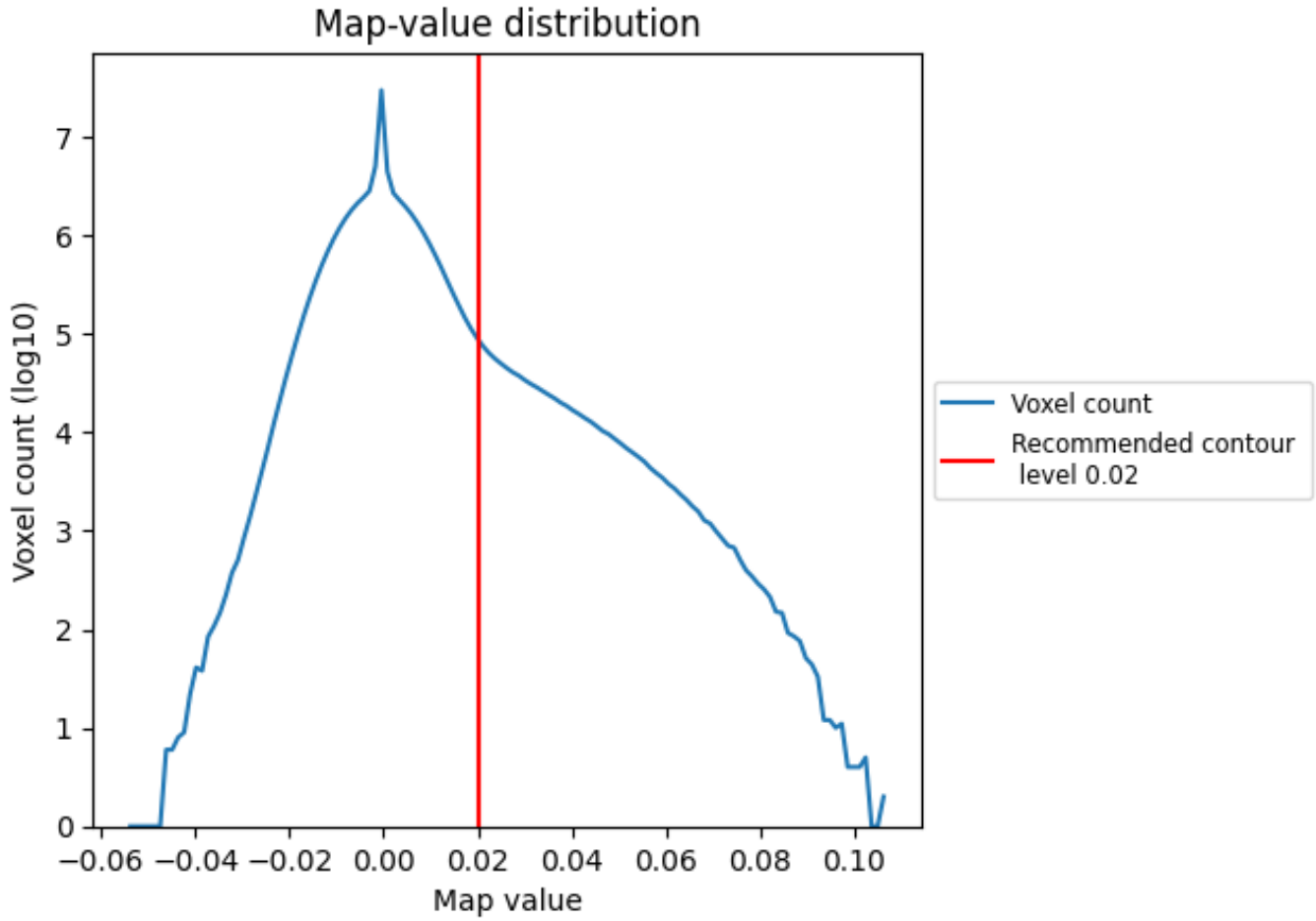
6.6 Mask visualisation (i)

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

7 Map analysis

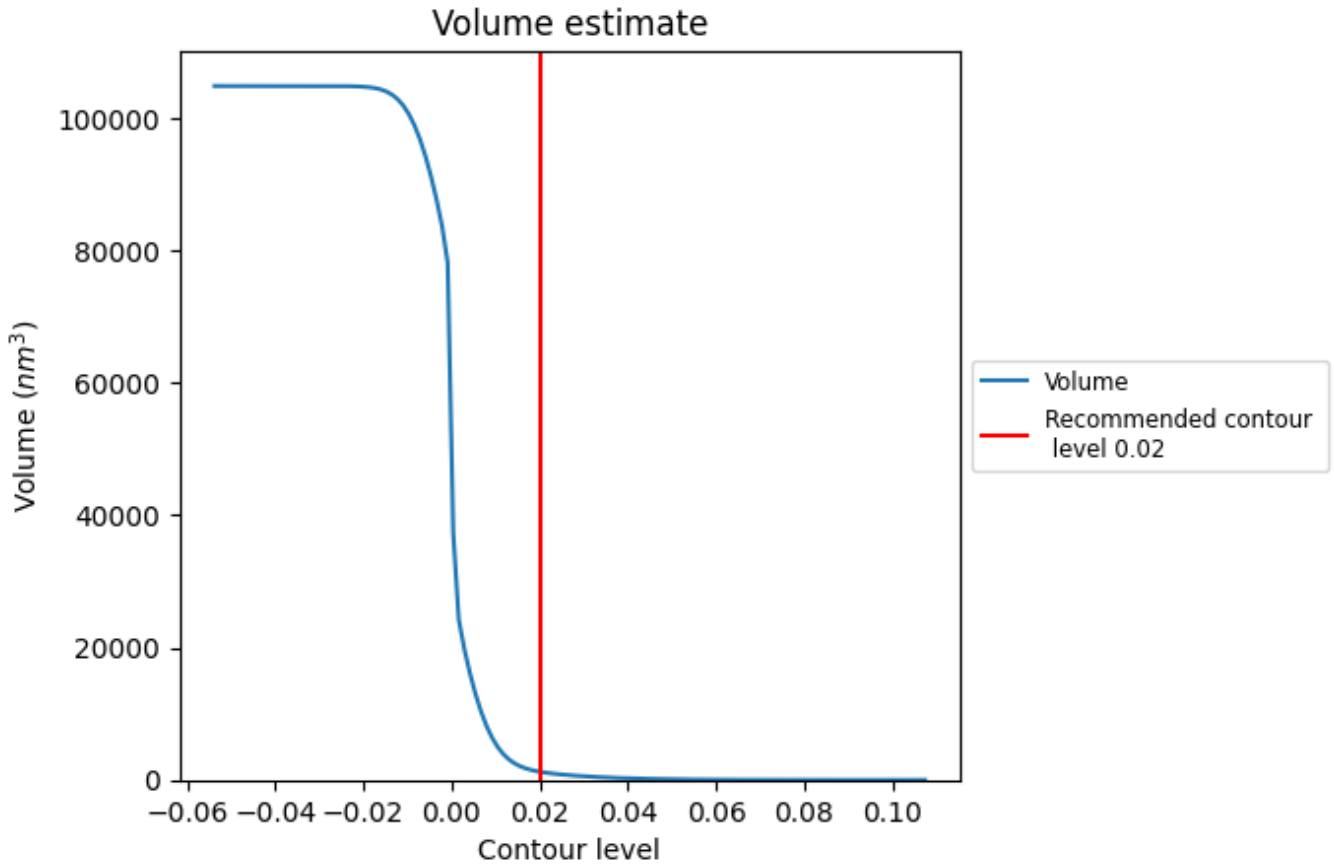
This section contains the results of statistical analysis of the map.

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.

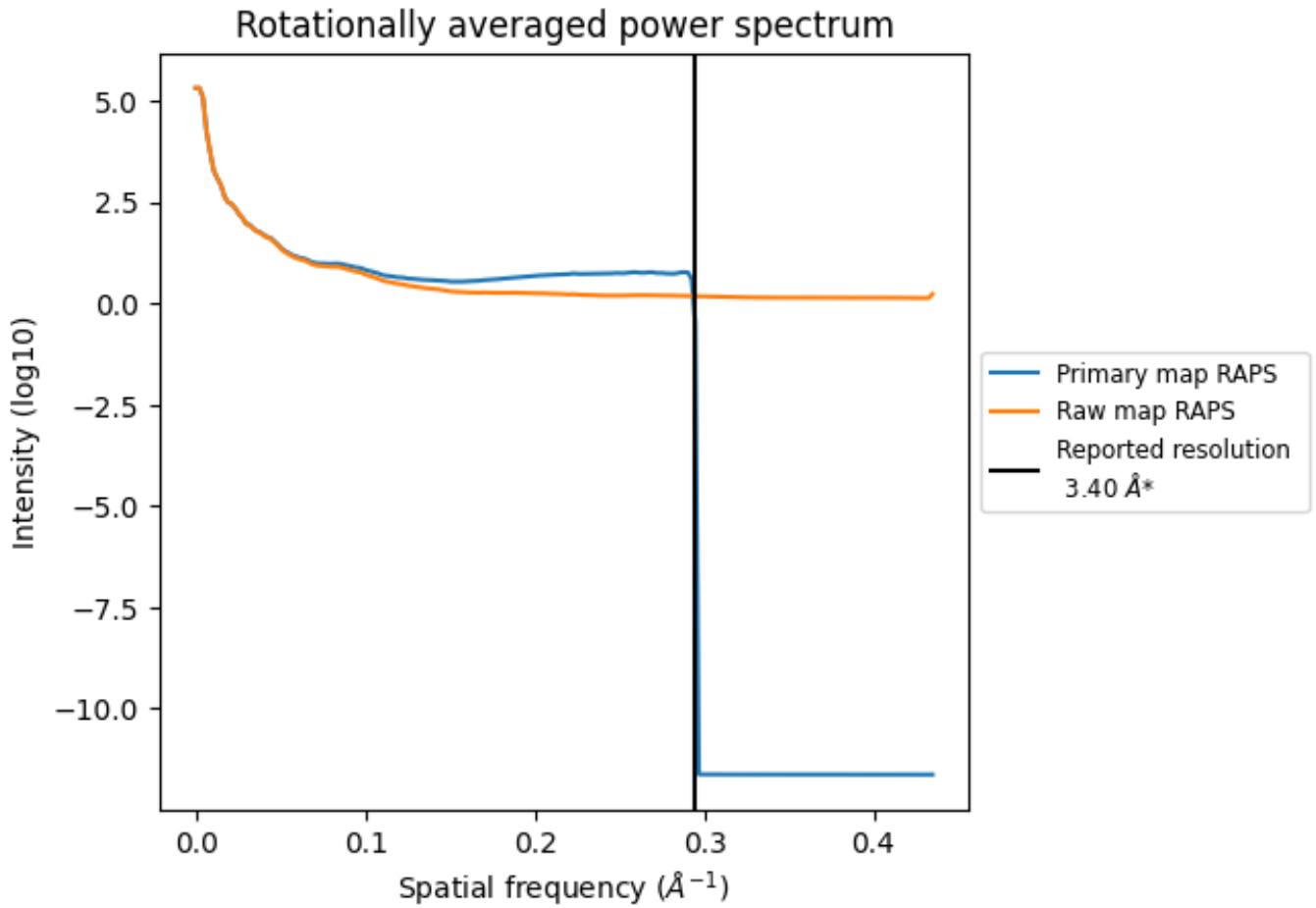
7.2 Volume estimate (i)



The volume at the recommended contour level is 1242 nm^3; this corresponds to an approximate mass of 1122 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

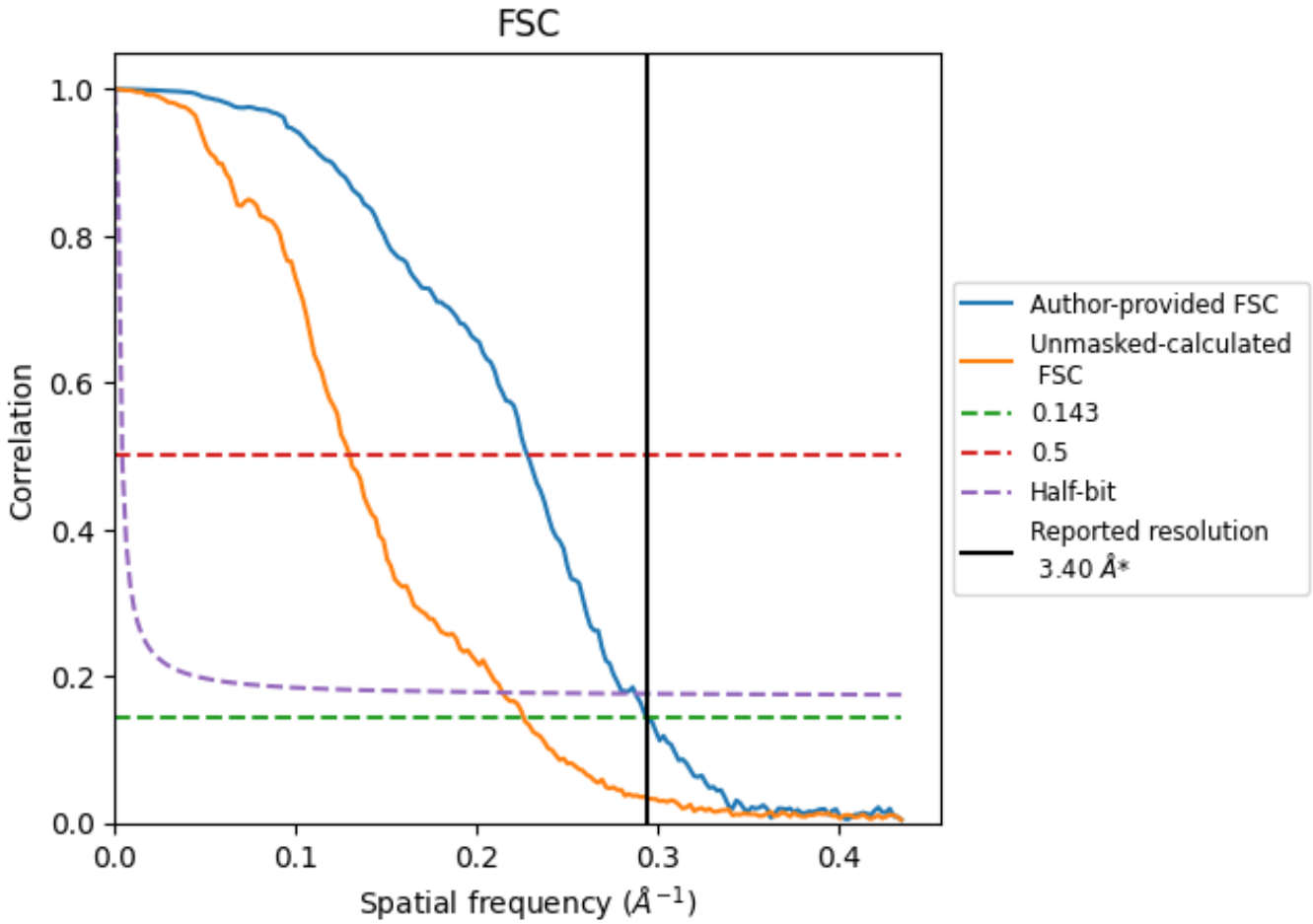


*Reported resolution corresponds to spatial frequency of 0.294 Å^{-1}

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 0.294 Å^{-1}

8.2 Resolution estimates (i)

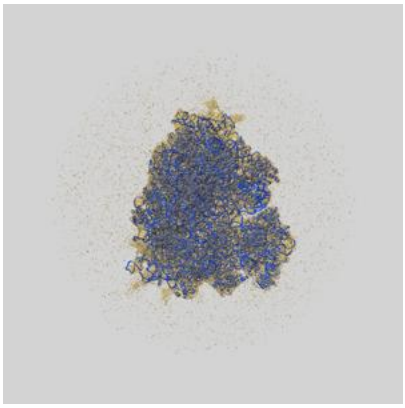
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.40	4.38	3.47
Unmasked-calculated*	4.42	7.70	4.67

*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 4.42 differs from the reported value 3.4 by more than 10 %

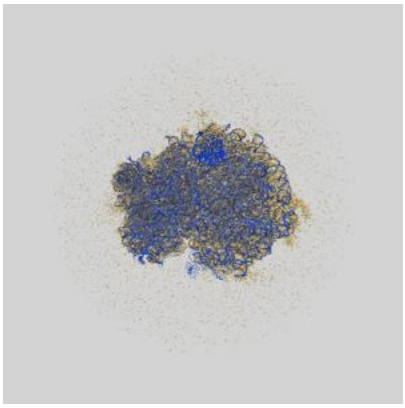
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-0601 and PDB model 6OLG. Per-residue inclusion information can be found in section 3 on page 21.

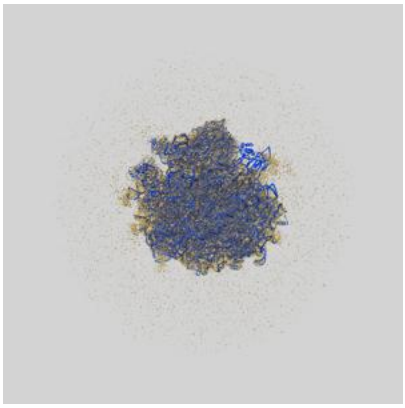
9.1 Map-model overlay



X



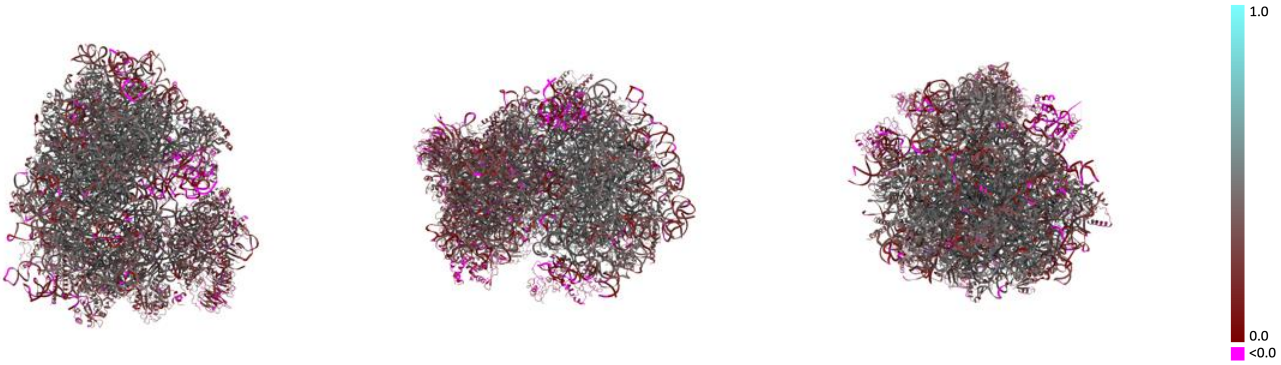
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.02 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

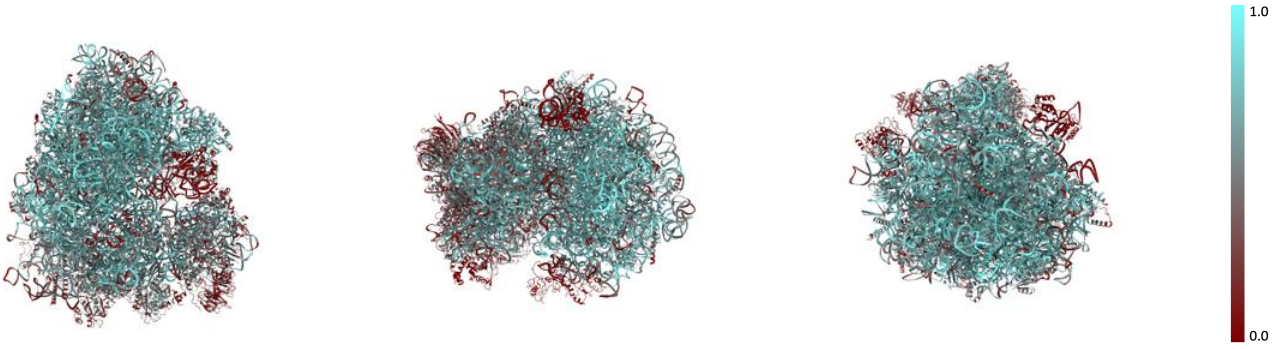
9.2 Q-score mapped to coordinate model (i)



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.

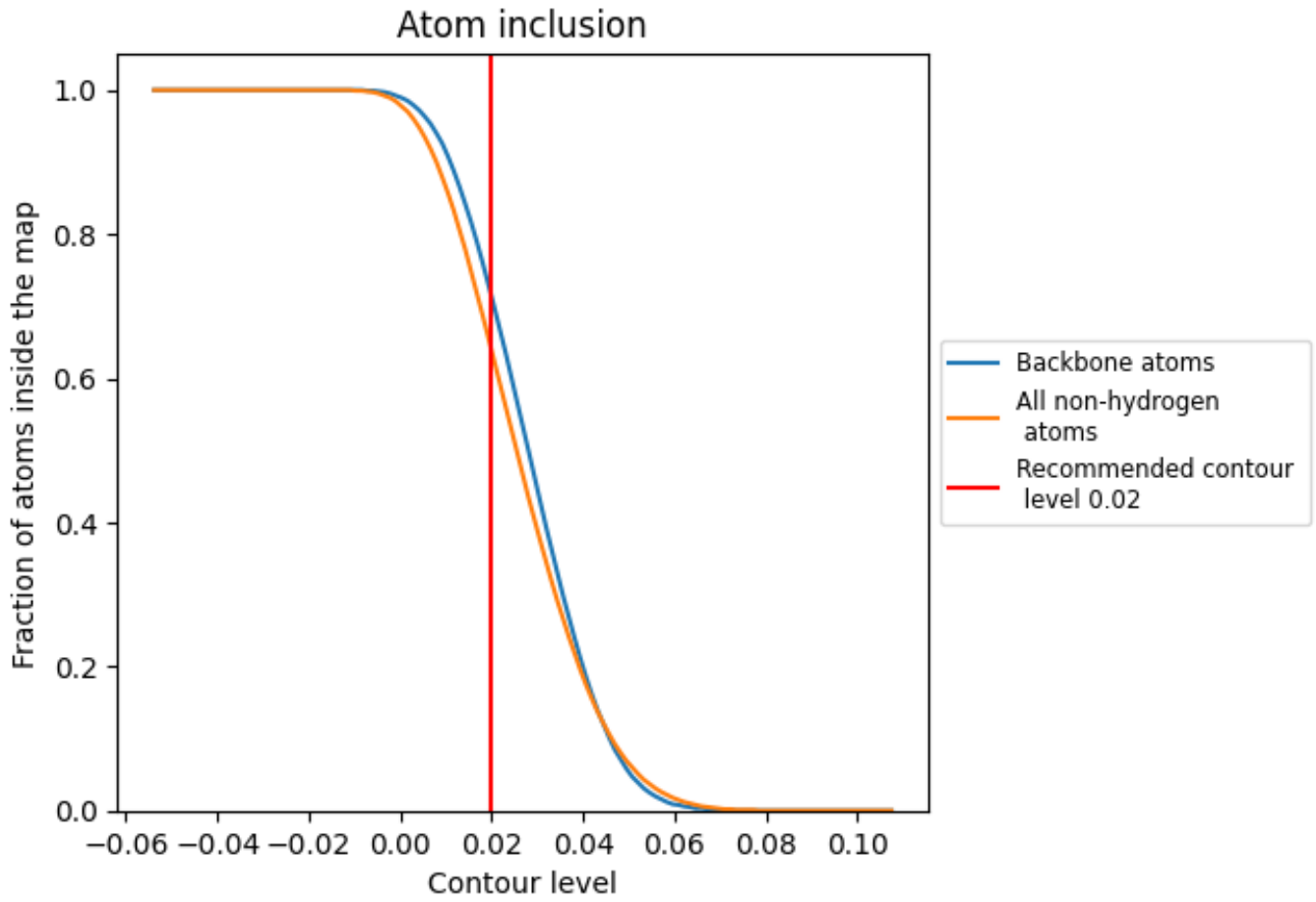
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.02).

9.4 Atom inclusion (i)



At the recommended contour level, 71% of all backbone atoms, 64% 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 (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6390	0.3630
A	0.0740	0.0960
A2	0.7520	0.3930
A3	0.7640	0.4020
A4	0.8630	0.4520
AA	0.6720	0.4320
AB	0.6500	0.4280
AC	0.6680	0.4320
AD	0.6230	0.3830
AE	0.5410	0.3590
AF	0.6380	0.4090
AG	0.5640	0.3510
AH	0.5730	0.3930
AI	0.6200	0.4030
AJ	0.5680	0.3670
AK	0.0390	0.0470
AL	0.5950	0.3720
AM	0.6480	0.4040
AN	0.7230	0.4480
AO	0.6530	0.4190
AP	0.6600	0.4370
AQ	0.6480	0.4270
AR	0.6270	0.3870
AS	0.6740	0.4430
AT	0.6590	0.4100
AU	0.5420	0.3530
AV	0.6480	0.4400
AW	0.3730	0.2640
AX	0.6000	0.4040
AY	0.6600	0.4130
AZ	0.6230	0.3660
Aa	0.6950	0.4390
Ab	0.5880	0.3580
Ac	0.5820	0.3890
Ad	0.6390	0.4050

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
Ae	0.6820	0.4450
Af	0.7040	0.4620
Ag	0.6200	0.4080
Ah	0.6070	0.3720
Ai	0.6190	0.3560
Aj	0.7170	0.4510
Ak	0.5040	0.3110
Al	0.6550	0.4200
Am	0.6450	0.4080
An	0.5520	0.3670
Ao	0.5720	0.3850
Ap	0.6530	0.4230
Aq	0.0210	0.0630
At	0.6650	0.4220
Au	0.0060	0.0330
B1	0.6890	0.3570
BA	0.5000	0.3260
BB	0.4860	0.3100
BC	0.5440	0.3690
BD	0.3340	0.2720
BE	0.5130	0.3530
BF	0.4070	0.2760
BG	0.3960	0.2560
BH	0.3740	0.2540
BI	0.5100	0.3430
BJ	0.5030	0.3120
BK	0.2780	0.2000
BL	0.5170	0.3390
BM	0.0410	0.0730
BN	0.5380	0.3460
BO	0.5330	0.3590
BP	0.3710	0.2340
BQ	0.4110	0.2550
BR	0.3540	0.2520
BS	0.3930	0.2800
BT	0.3690	0.2290
BU	0.3720	0.2510
BV	0.4860	0.3190
BW	0.5830	0.3830
BX	0.5610	0.3700
BY	0.4570	0.2880
BZ	0.3060	0.2130

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
Ba	0.5610	0.3270
Bb	0.4550	0.3050
Bc	0.3660	0.2670
Bd	0.4540	0.3030
Be	0.4120	0.2940
Bf	0.0920	0.1090
Bg	0.2130	0.1920
Bv	0.3690	0.2530
Bx	0.0910	0.0900