Full wwPDB EM Validation Report

Apr 25, 2023 – 03:22 pm BST

PDB ID	:	8BQX
EMDB ID	:	EMD-16191
Title	:	Yeast 80S ribosome in complex with Map1 (conformation 2)
Authors	:	Knorr, A.G.; Mackens-Kiani, T.; Musial, J.; Berninghausen, O.; Becker, T.; Beatrix, B.; Beckmann, R.
Deposited on	:	2022-11-21
Resolution	:	3.80 Å(reported)

This is a Full wwPDB EM Validation 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:

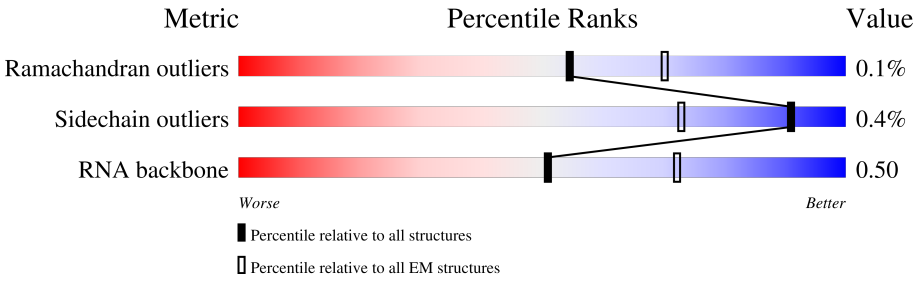
EMDB validation analysis	:	0.0.1.dev50
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.32.2

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 3.80 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	x	387	94% 91% · 5%
2	A	222	49% 100%
3	B	206	58% 100%
4	C	92	51% 100%
5	D	121	82% 98% ·
6	E	142	33% 82% 18%
7	F	141	43% 99% ·
8	G	125	48% 97% ·

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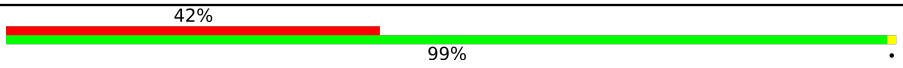
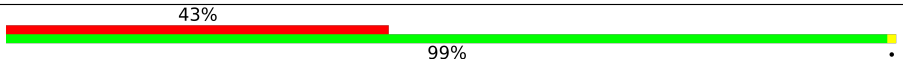
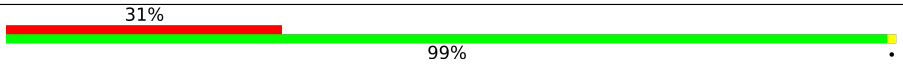
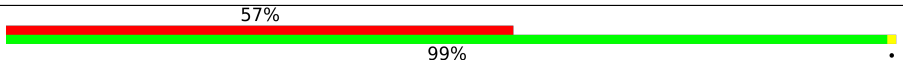
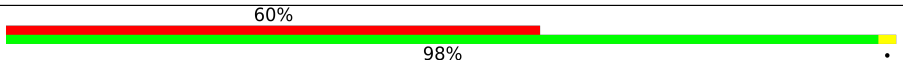
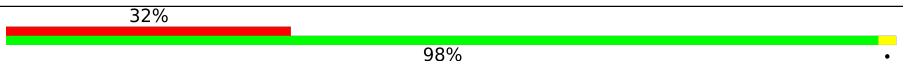
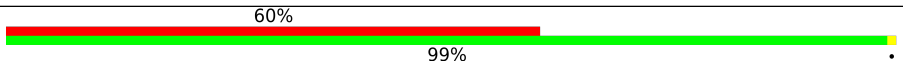
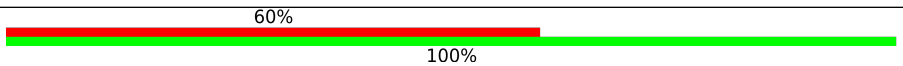
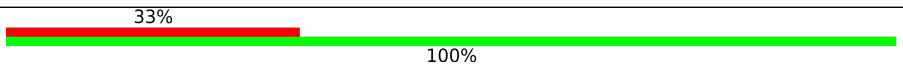
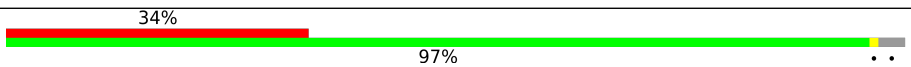
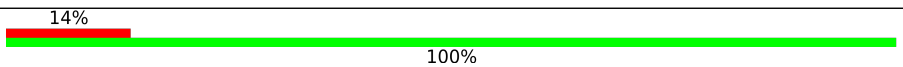
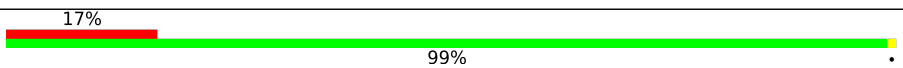
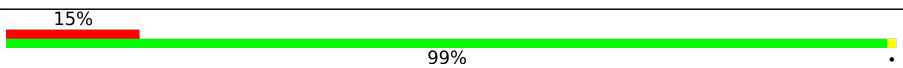
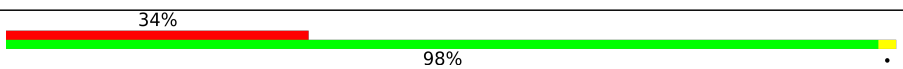
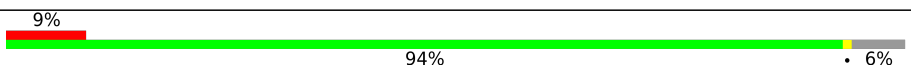
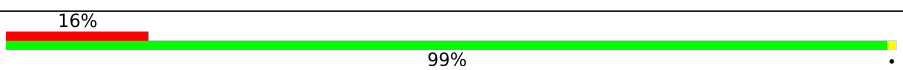
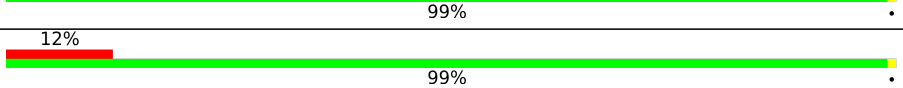
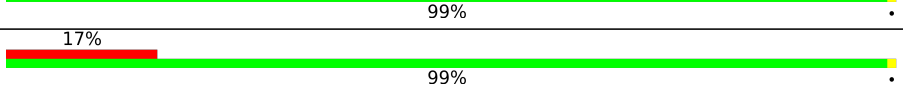
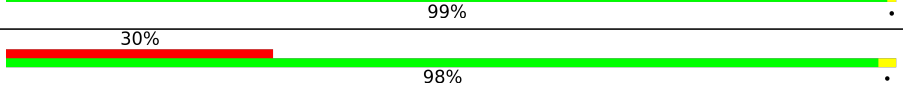
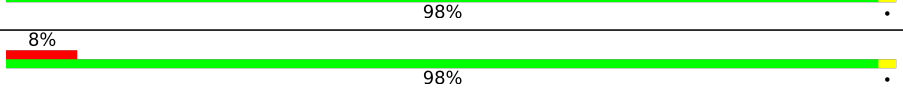
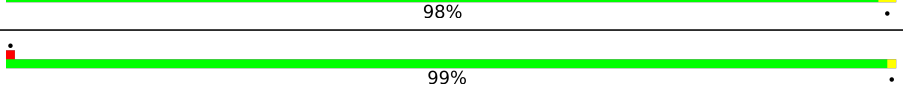
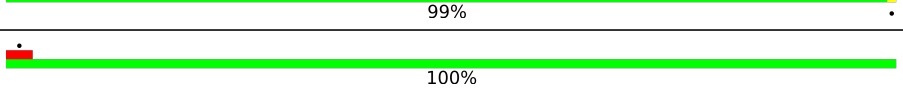
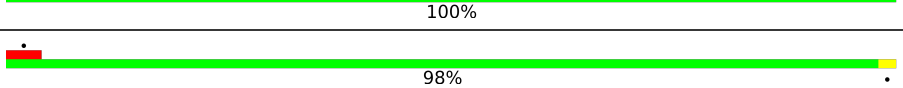
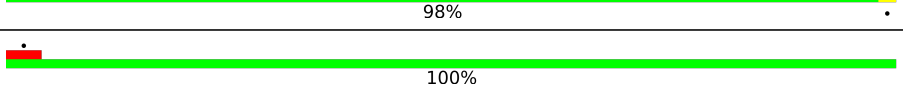
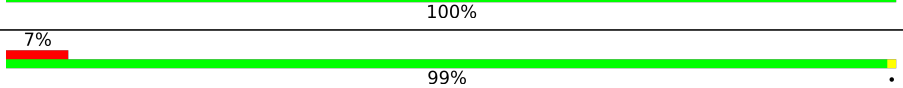
Mol	Chain	Length	Quality of chain
9	H	145	
10	I	143	
11	J	100	
12	K	82	
13	L	63	
14	M	53	
15	N	73	
16	O	312	
17	P	206	
18	Q	232	
19	R	216	
20	S	258	
21	T	228	
22	U	184	
23	V	198	
24	W	184	
25	X	142	
26	Y	150	
27	Z	127	
28	AA	233	
29	BA	386	
30	AB	136	
31	BB	185	
32	AC	99	
33	BC	109	

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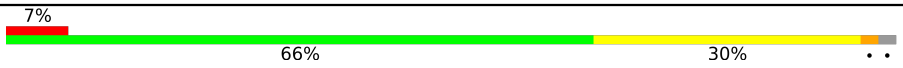
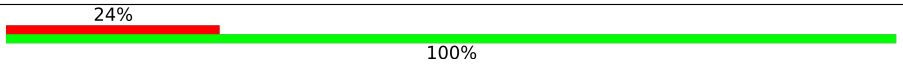
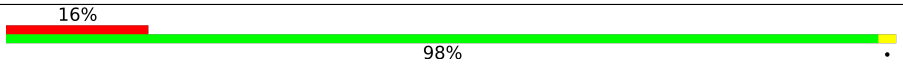
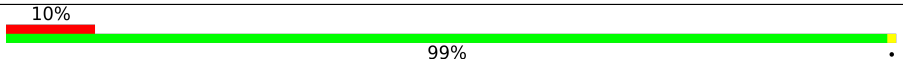
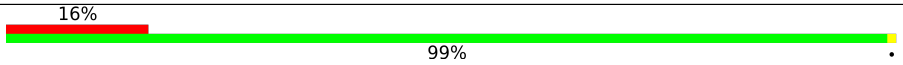
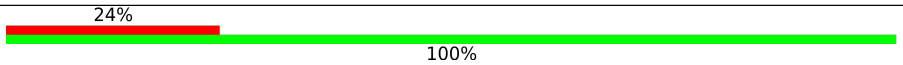
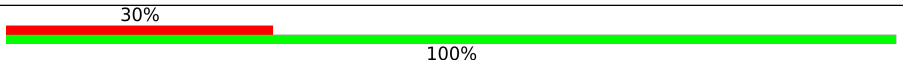
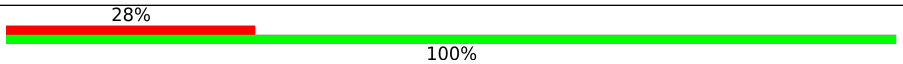
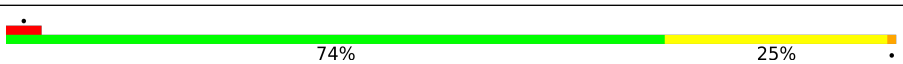
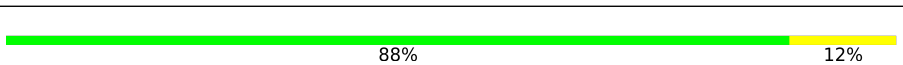
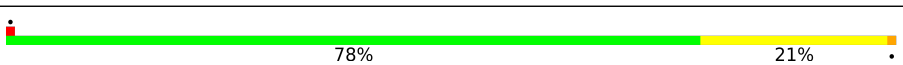
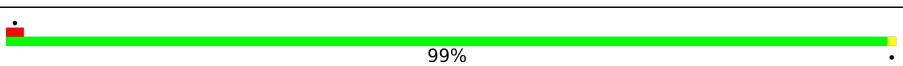
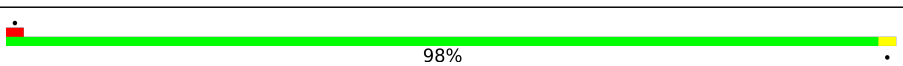
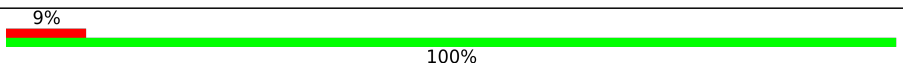
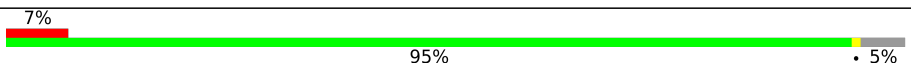
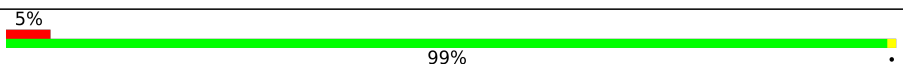
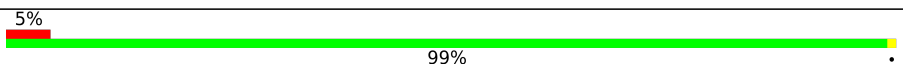
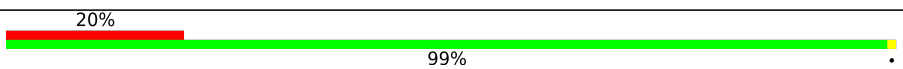
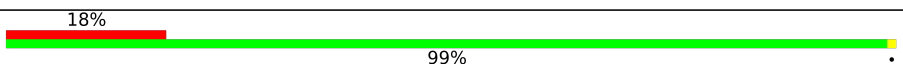
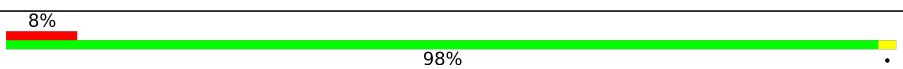
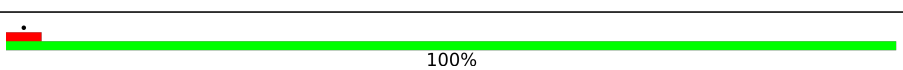
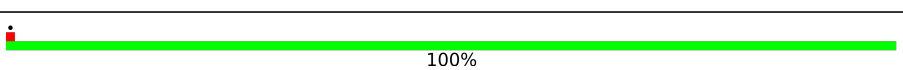
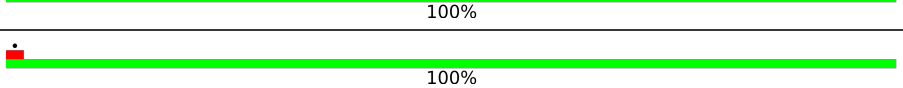
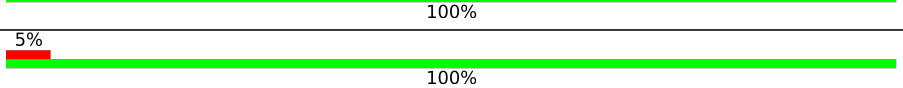
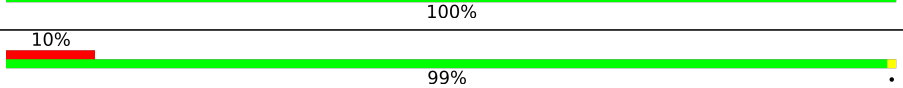
Mol	Chain	Length	Quality of chain
34	2	1798	
35	a	87	
36	b	129	
37	c	144	
38	d	134	
39	e	97	
40	f	81	
41	g	60	
42	BQ	3301	
43	BR	121	
44	BS	158	
45	AW	251	
46	BE	361	
47	BI	294	
48	BM	175	
49	BO	222	
50	AD	191	
51	BD	218	
52	AG	169	
53	AJ	193	
54	AM	136	
55	AQ	203	
56	AU	197	
57	AX	183	
58	BF	188	

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Mol	Chain	Length	Quality of chain
59	BH	171	100%
60	BJ	159	5% 100%
61	BL	100	5% 100%
62	AE	126	44% 100%
63	AH	121	100%
64	AK	125	100%
65	AN	135	7% 99%
66	AR	148	97%
67	AV	58	5% 95% 5%
68	AY	96	5% 99%
69	BG	127	100%
70	BK	106	100%
71	BN	112	8% 99%
72	BP	119	99%
73	AF	81	91% 7%
74	AI	77	6% 100%
75	AL	50	98%
76	AO	52	94% 6%
77	AS	25	96%
78	AP	103	96%
79	AT	91	98%
80	BT	217	92% 89% 5%

2 Entry composition

There are 81 unique types of molecules in this entry. The entry contains 205808 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 Methionine aminopeptidase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	x	367	2899	1825	504	549	21	0	0

- Molecule 2 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	A	222	1729	1098	312	313	6	0	0

- Molecule 3 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	B	206	1605	1005	299	298	3	0	0

- Molecule 4 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	C	92	752	487	122	141	2	0	0

- Molecule 5 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	D	121	875	551	153	169	2	0	0

- Molecule 6 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	E	117	916	583	171	155	7	0	0

- Molecule 7 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
7	F	141	Total	C	N	O	0	0
			1105	708	203	194		

- Molecule 8 is a protein called 40S ribosomal protein S17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	G	121	Total	C	N	O	S	0	0
			948	596	179	171	2		

- Molecule 9 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	H	145	Total	C	N	O	S	0	0
			1188	741	237	208	2		

- Molecule 10 is a protein called 40S ribosomal protein S19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	I	143	Total	C	N	O	S	0	0
			1112	694	208	208	2		

- Molecule 11 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	J	100	Total	C	N	O	S	0	0
			797	506	144	146	1		

- Molecule 12 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	K	82	Total	C	N	O	0	0
			651	416	123	112		

- Molecule 13 is a protein called 40S ribosomal protein S28-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	L	63	Total	C	N	O	S	0	0
			491	303	96	91	1		

- Molecule 14 is a protein called 40S ribosomal protein S29-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	M	53	Total	C	N	O	S	0	0
			442	274	92	72	4		

- Molecule 15 is a protein called 40S ribosomal protein S31.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	N	73	Total	C	N	O	S	0	0
			556	352	105	95	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
N	97	ALA	LYS	conflict	UNP P05759

- Molecule 16 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	O	312	Total	C	N	O	S	0	0
			2383	1514	409	452	8		

- Molecule 17 is a protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	P	206	Total	C	N	O	S	0	0
			1603	1030	284	287	2		

- Molecule 18 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Q	226	Total	C	N	O	S	0	0
			1798	1139	330	325	4		

- Molecule 19 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	R	216	Total	C	N	O	S	0	0
			1626	1042	287	295	2		

- Molecule 20 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	S	258	Total	C	N	O	S	0	0
			2056	1308	387	358	3		

- Molecule 21 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	T	228	Total	C	N	O	S	0	0
			1815	1138	351	323	3		

- Molecule 22 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
22	U	184	Total	C	N	O	0	0
			1473	946	263	264		

- Molecule 23 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	V	187	Total	C	N	O	S	0	0
			1476	916	295	263	2		

- Molecule 24 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	W	184	Total	C	N	O	S	0	0
			1479	935	285	258	1		

- Molecule 25 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	X	142	Total	C	N	O	S	0	0
			1142	733	217	189	3		

- Molecule 26 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Y	150	Total	C	N	O	S	0	0
			1192	759	224	207	2		

- Molecule 27 is a protein called 40S ribosomal protein S14-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Z	127	Total	C	N	O	S	0	0
			923	568	185	167	3		

- Molecule 28 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AA	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 29 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	BA	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 30 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AB	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 31 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	BB	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 32 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	AC	99	Total	C	N	O	S	0	0
			766	478	154	132	2		

- Molecule 33 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	BC	109	Total	C	N	O	S	0	0
			876	556	167	152	1		

- Molecule 34 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	2	1771	Total	C	N	O	P	0	0
			37739	16872	6683	12413	1771		

- Molecule 35 is a protein called 40S ribosomal protein S21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	a	87	Total	C	N	O	S	0	0
			673	415	125	131	2		

- Molecule 36 is a protein called 40S ribosomal protein S22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	b	129	Total	C	N	O	S	0	0
			1021	650	188	180	3		

- Molecule 37 is a protein called 40S ribosomal protein S23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	c	144	Total	C	N	O	S	0	0
			1121	708	220	191	2		

- Molecule 38 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	d	134	Total	C	N	O	0	0
			1032	651	195	186		

- Molecule 39 is a protein called 40S ribosomal protein S26-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	e	97	Total	C	N	O	S	0	0
			765	473	160	127	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
40	f	81	Total	C	N	O	S	0	0
			610	382	110	113	5		

- Molecule 41 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	g	60	Total	C	N	O	S	0	0
			472	298	97	76	1		

- Molecule 42 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	BQ	3301	Total	C	N	O	P	0	0
			70586	31525	12690	23070	3301		

- Molecule 43 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	BR	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 44 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	BS	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 45 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	AW	251	Total	C	N	O	S	0	0
			1899	1182	385	331	1		

- Molecule 46 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	BE	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 47 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	BI	294	Total	C	N	O	S	0	0
			2351	1484	410	455	2		

- Molecule 48 is a protein called 60S ribosomal protein L6-B.

Mol	Chain	Residues	Atoms				AltConf	Trace
48	BM	167	Total	C	N	O	0	0
			1307	843	234	230		

- Molecule 49 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BO	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 50 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	AD	191	Total	C	N	O	S	0	0
			1508	957	274	273	4		

- Molecule 51 is a protein called RPL10 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	BD	218	Total	C	N	O	S	0	0
			1764	1117	334	306	7		

- Molecule 52 is a protein called RPL11B isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	AG	169	Total	C	N	O	S	0	0
			1346	843	252	247	4		

- Molecule 53 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
53	AJ	193	Total	C	N	O	0	0
			1543	962	315	266		

- Molecule 54 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	AM	136	Total	C	N	O	S	0	0
			1053	675	199	177	2		

- Molecule 55 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	AQ	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 56 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	AU	197	Total	C	N	O	S	197	0
			1555	1003	289	262	1		

- Molecule 57 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
57	AX	183	Total	C	N	O	0	0
			1416	879	284	253		

- Molecule 58 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
58	BF	188	Total	C	N	O	0	0
			1515	932	323	260		

- Molecule 59 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	BH	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
60	BJ	159	Total	C	N	O	S	0	0
			1272	802	245	221	4		

- Molecule 61 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
61	BL	100	Total	C	N	O	0	0
			796	516	131	149		

- Molecule 62 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	AE	126	Total	C	N	O	S	0	0
			836	525	165	145	1		

- Molecule 63 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	AH	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 64 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
64	AK	125	Total	C	N	O	0	0
			984	620	191	173		

- Molecule 65 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
65	AN	135	Total	C	N	O	0	0
			1080	701	199	180		

- Molecule 66 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	AR	148	Total	C	N	O	S	0	0
			1169	747	231	188	3		

- Molecule 67 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
67	AV	58	Total	C	N	O	0	0
			462	289	100	73		

- Molecule 68 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	AY	96	Total	C	N	O	S	0	0
			737	476	123	137	1		

- Molecule 69 is a protein called RPL32 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	BG	127	Total	C	N	O	S	0	0
			1017	644	205	167	1		

- Molecule 70 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	BK	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 71 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	BN	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 72 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	BP	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 73 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	AF	81	Total	C	N	O	S	0	0
			645	393	141	106	5		

- Molecule 74 is a protein called RPL38 isoform 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
74	AI	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 75 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	AL	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 76 is a protein called 60S ribosomal protein L40-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	AO	52	Total	C	N	O	S	0	0
			410	254	86	65	5		

- Molecule 77 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	AS	25	Total	C	N	O	S	0	0
			229	139	62	27	1		

- Molecule 78 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	AP	103	Total	C	N	O	S	0	0
			824	517	167	135	5		

- Molecule 79 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	AT	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 80 is a protein called 60S ribosomal protein L1-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
80	BT	210	Total	C	N	O	0	0
			1041	621	210	210		

- Molecule 81 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
81	M	1	Total	Zn	0
			1	1	
81	N	1	Total	Zn	0
			1	1	
81	BN	1	Total	Zn	0
			1	1	
81	AF	1	Total	Zn	0
			1	1	
81	AO	1	Total	Zn	0
			1	1	
81	AP	1	Total	Zn	0
			1	1	

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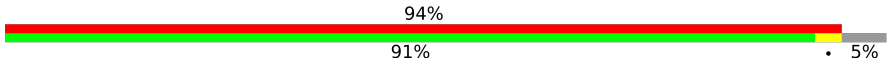
Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
81	AT	1	1	1	0

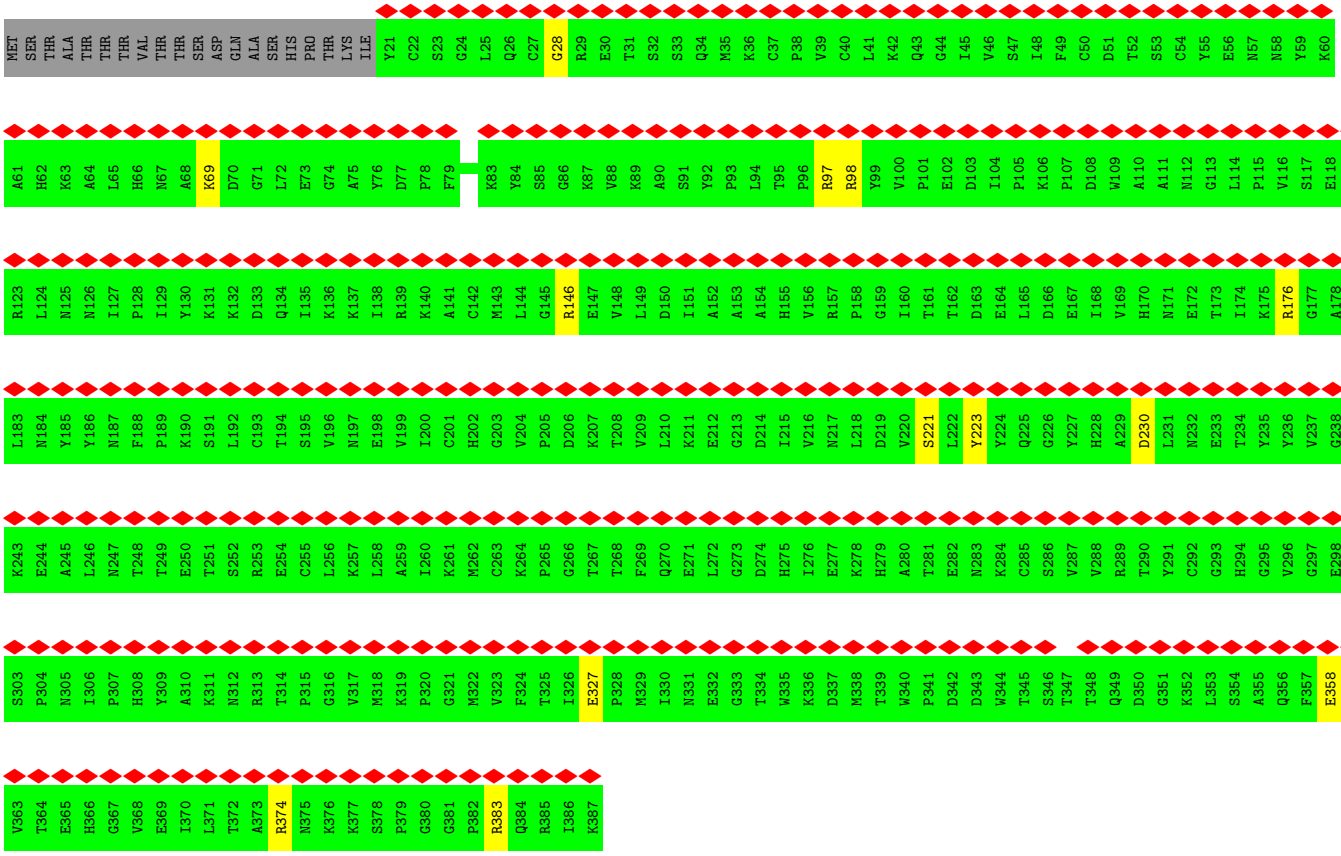
3 Residue-property plots (i)

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: Methionine aminopeptidase 1

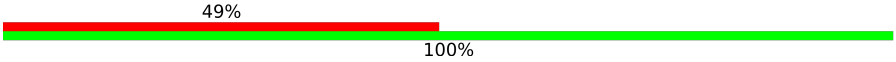
Chain x:

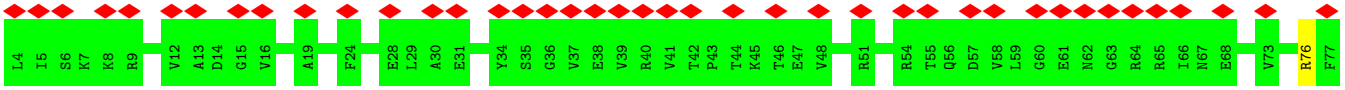


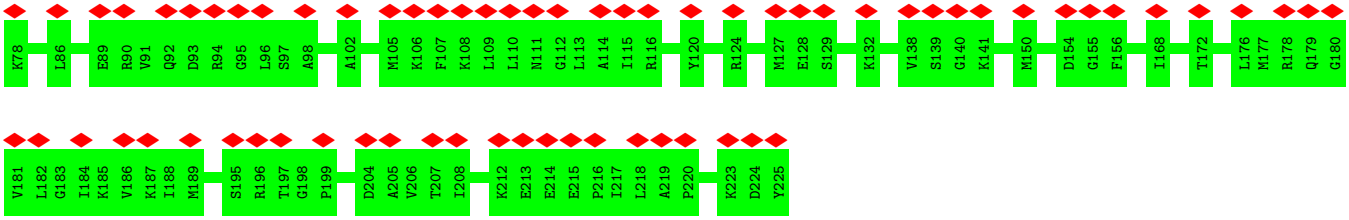


• Molecule 2: 40S ribosomal protein S3

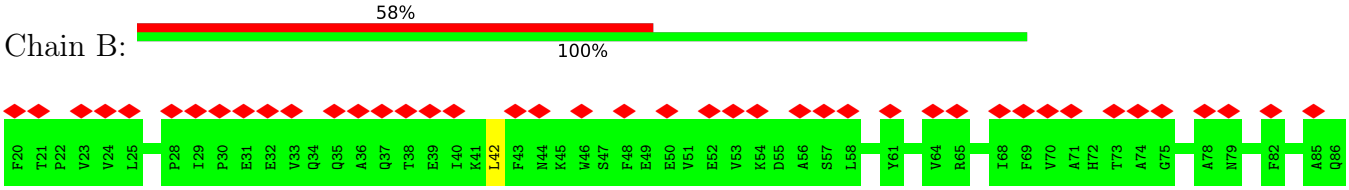
Chain A:



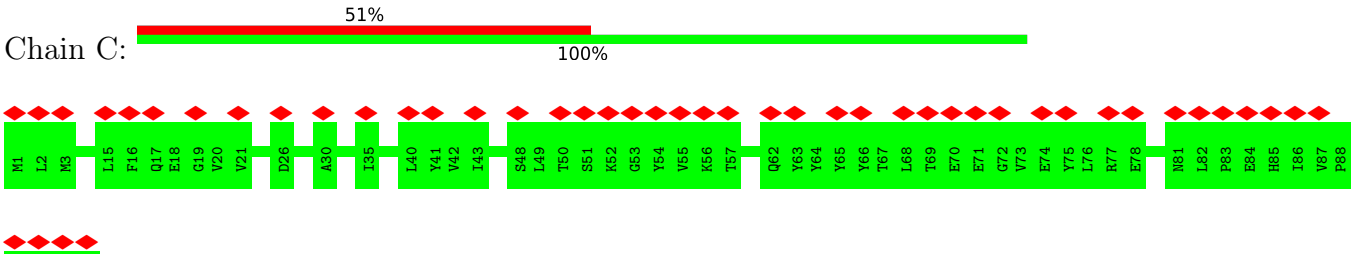




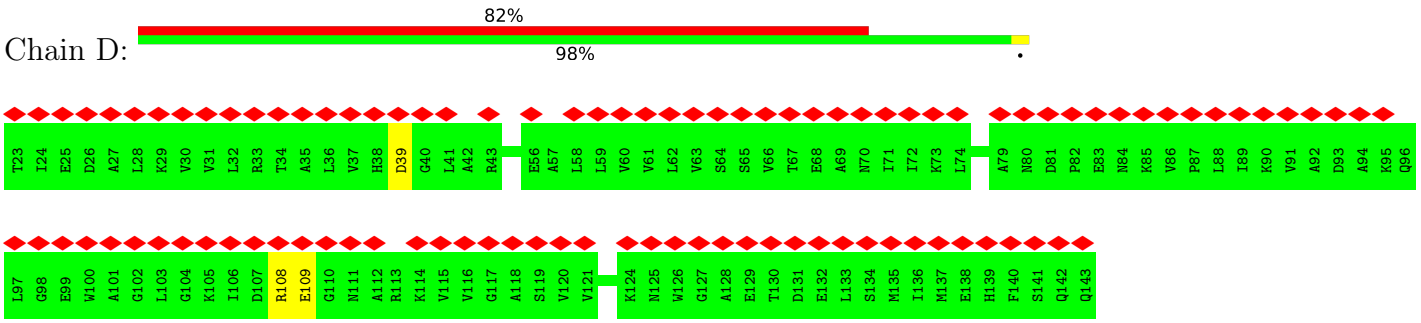
• Molecule 3: 40S ribosomal protein S5



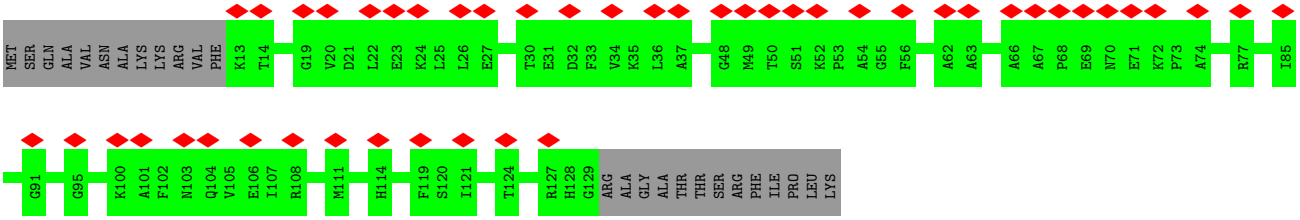
• Molecule 4: 40S ribosomal protein S10-A



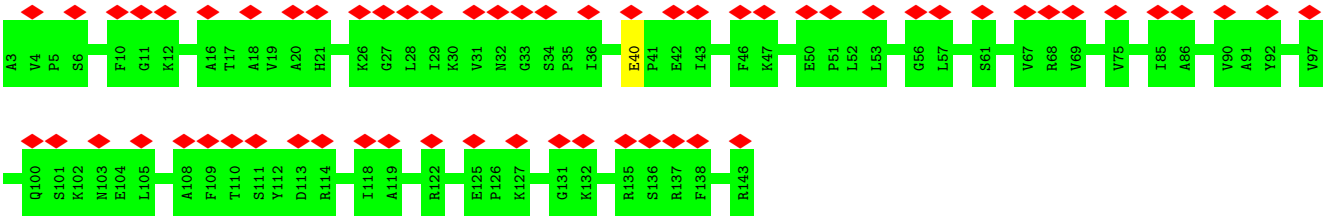
• Molecule 5: 40S ribosomal protein S12



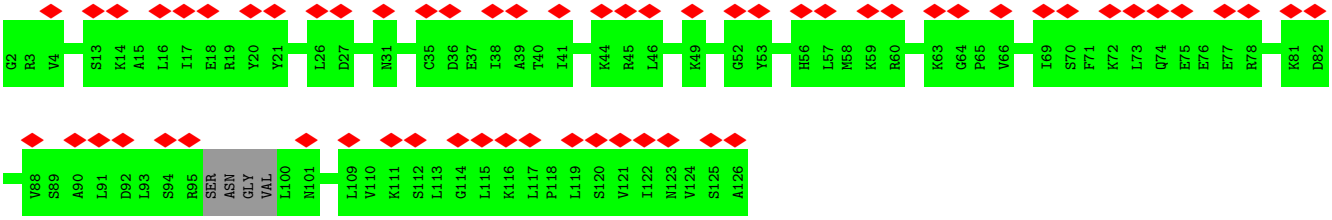
• Molecule 6: 40S ribosomal protein S15



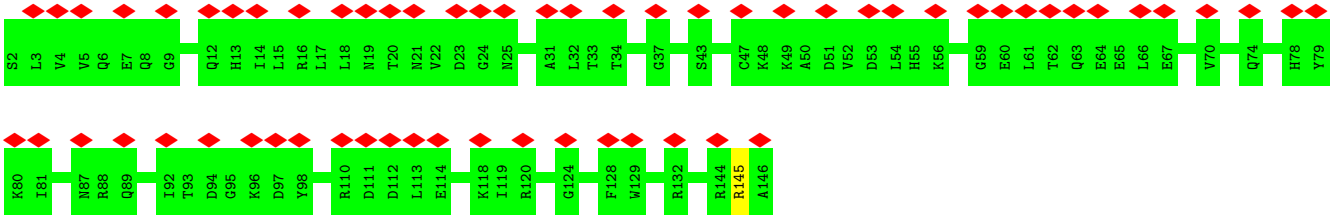
• Molecule 7: 40S ribosomal protein S16-A



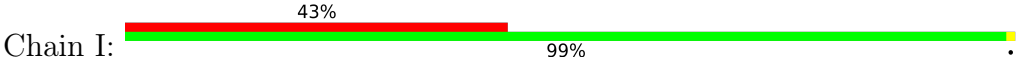
• Molecule 8: 40S ribosomal protein S17-A

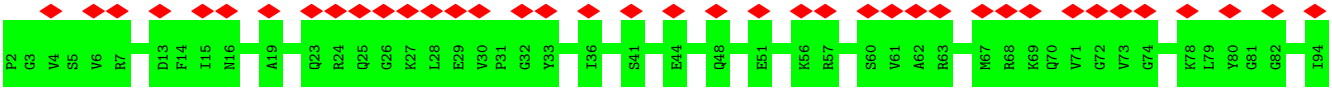


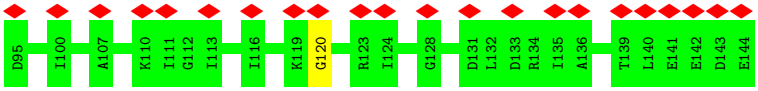
• Molecule 9: 40S ribosomal protein S18-A



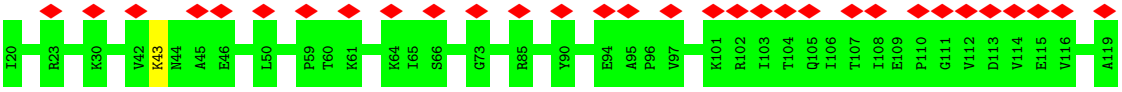
• Molecule 10: 40S ribosomal protein S19-A



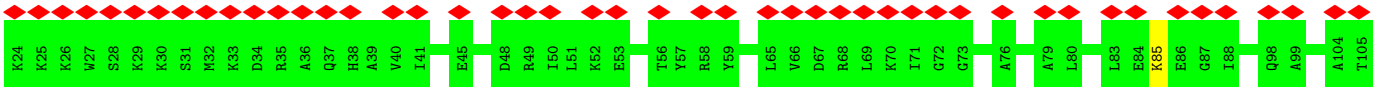




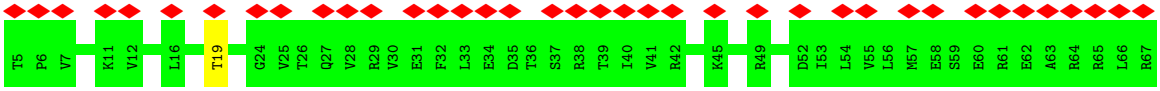
• Molecule 11: 40S ribosomal protein S20



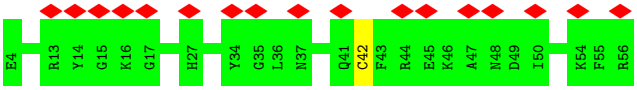
• Molecule 12: 40S ribosomal protein S25-A



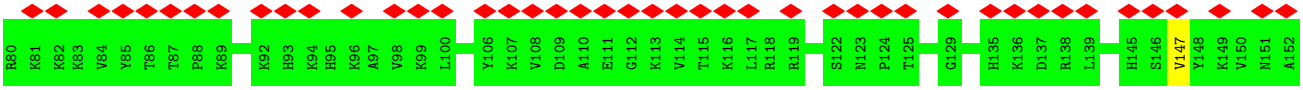
• Molecule 13: 40S ribosomal protein S28-A



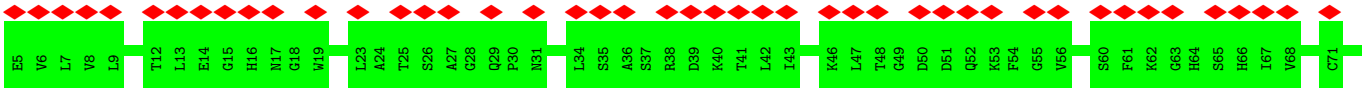
• Molecule 14: 40S ribosomal protein S29-A

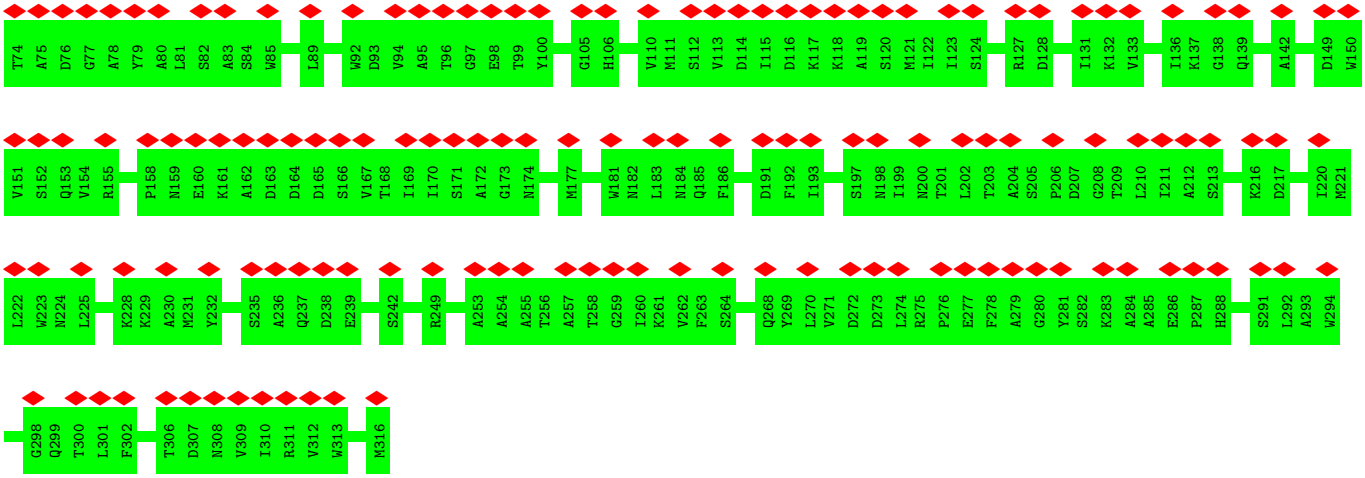


• Molecule 15: 40S ribosomal protein S31

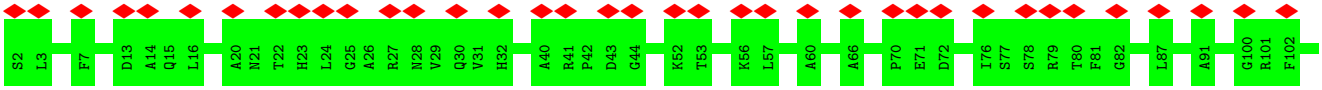


• Molecule 16: Guanine nucleotide-binding protein subunit beta-like protein

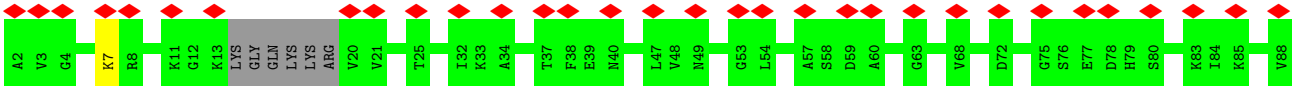




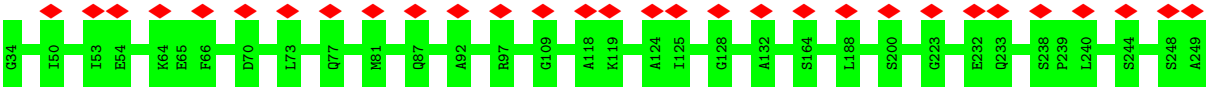
• Molecule 17: 40S ribosomal protein S0-A



• Molecule 18: 40S ribosomal protein S1-A

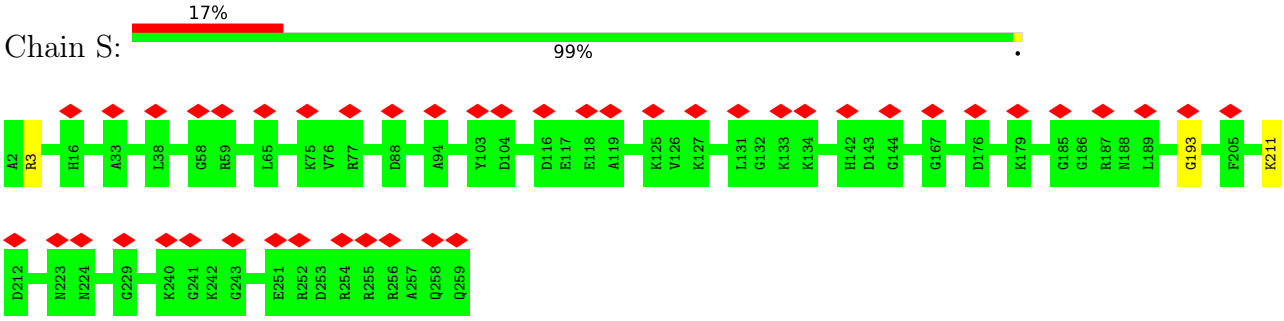


• Molecule 19: 40S ribosomal protein S2



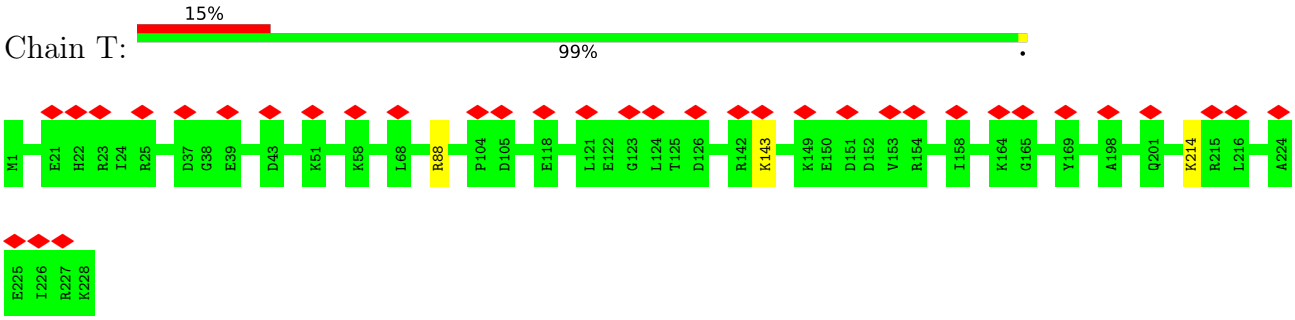
• Molecule 20: 40S ribosomal protein S4-A

Chain S:



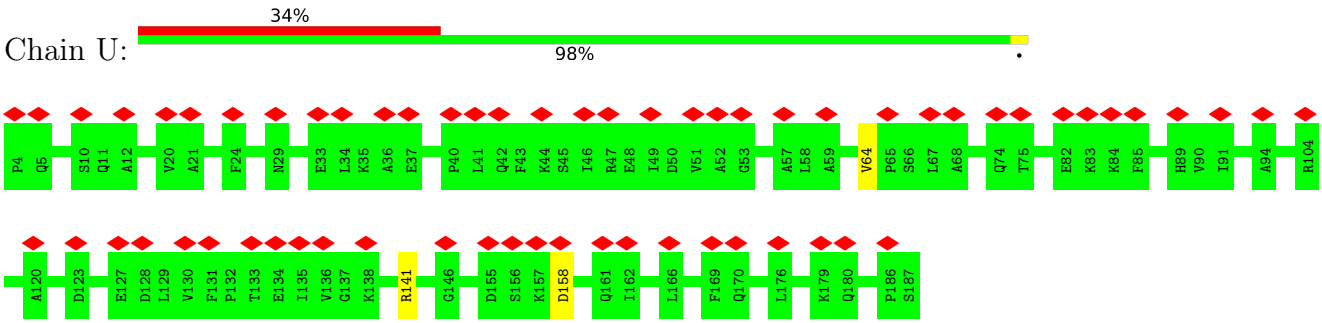
• Molecule 21: 40S ribosomal protein S6-A

Chain T:



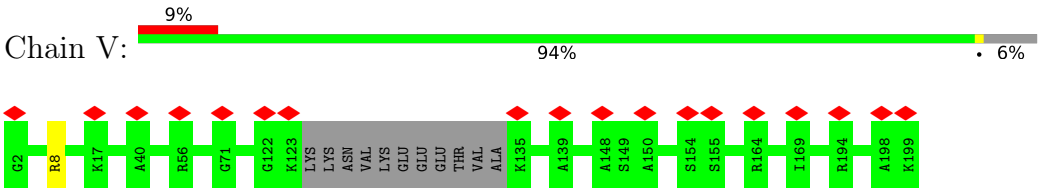
• Molecule 22: 40S ribosomal protein S7-A

Chain U:



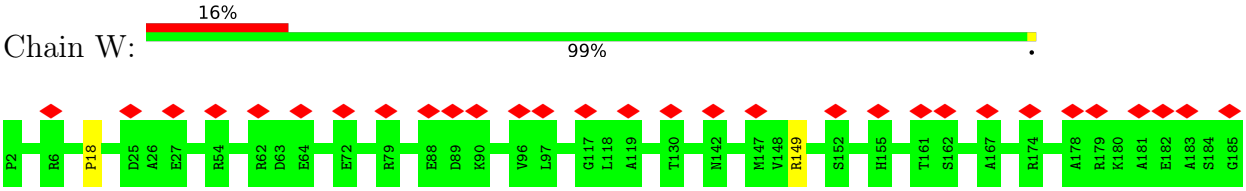
• Molecule 23: 40S ribosomal protein S8-A

Chain V:



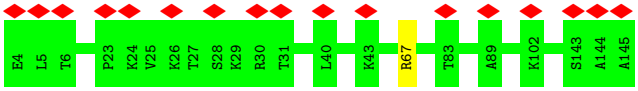
• Molecule 24: 40S ribosomal protein S9-A

Chain W:



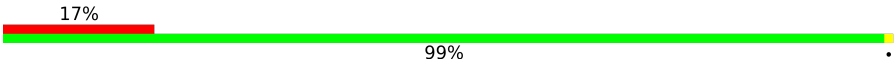
• Molecule 25: 40S ribosomal protein S11-A

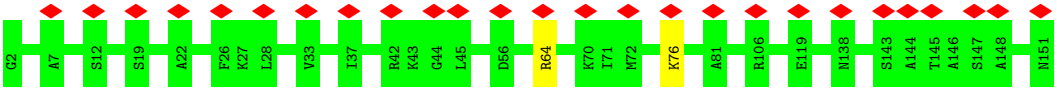
Chain X:



• Molecule 26: 40S ribosomal protein S13

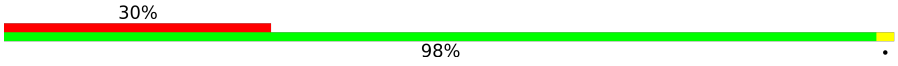
Chain Y:

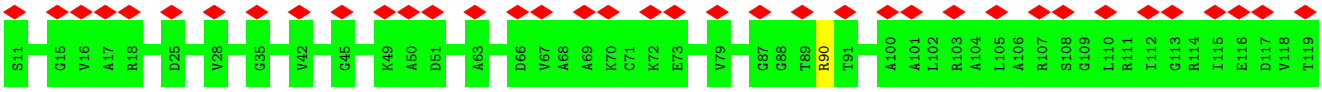




• Molecule 27: 40S ribosomal protein S14-B

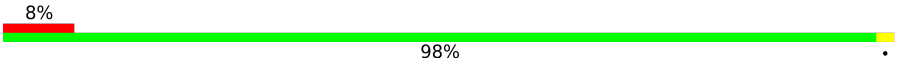
Chain Z:

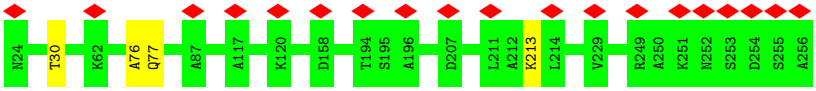




• Molecule 28: 60S ribosomal protein L8-A

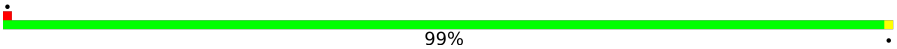
Chain AA:

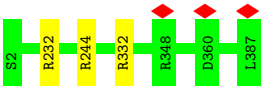




• Molecule 29: 60S ribosomal protein L3

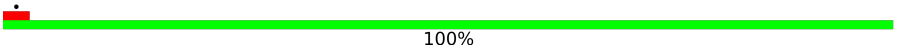
Chain BA:

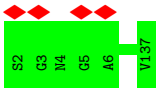




• Molecule 30: 60S ribosomal protein L23-A

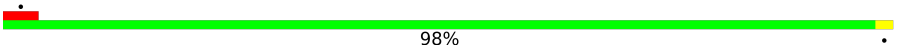
Chain AB:

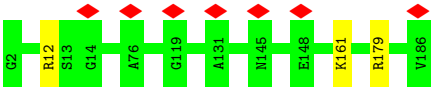




• Molecule 31: 60S ribosomal protein L18-A

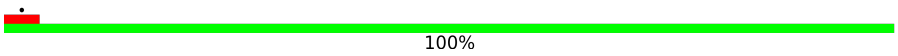
Chain BB:

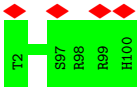




• Molecule 32: 60S ribosomal protein L36-A

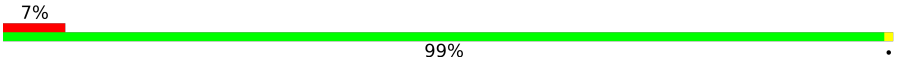
Chain AC:

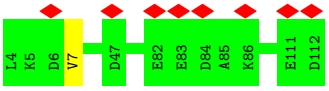




• Molecule 33: 60S ribosomal protein L31-A

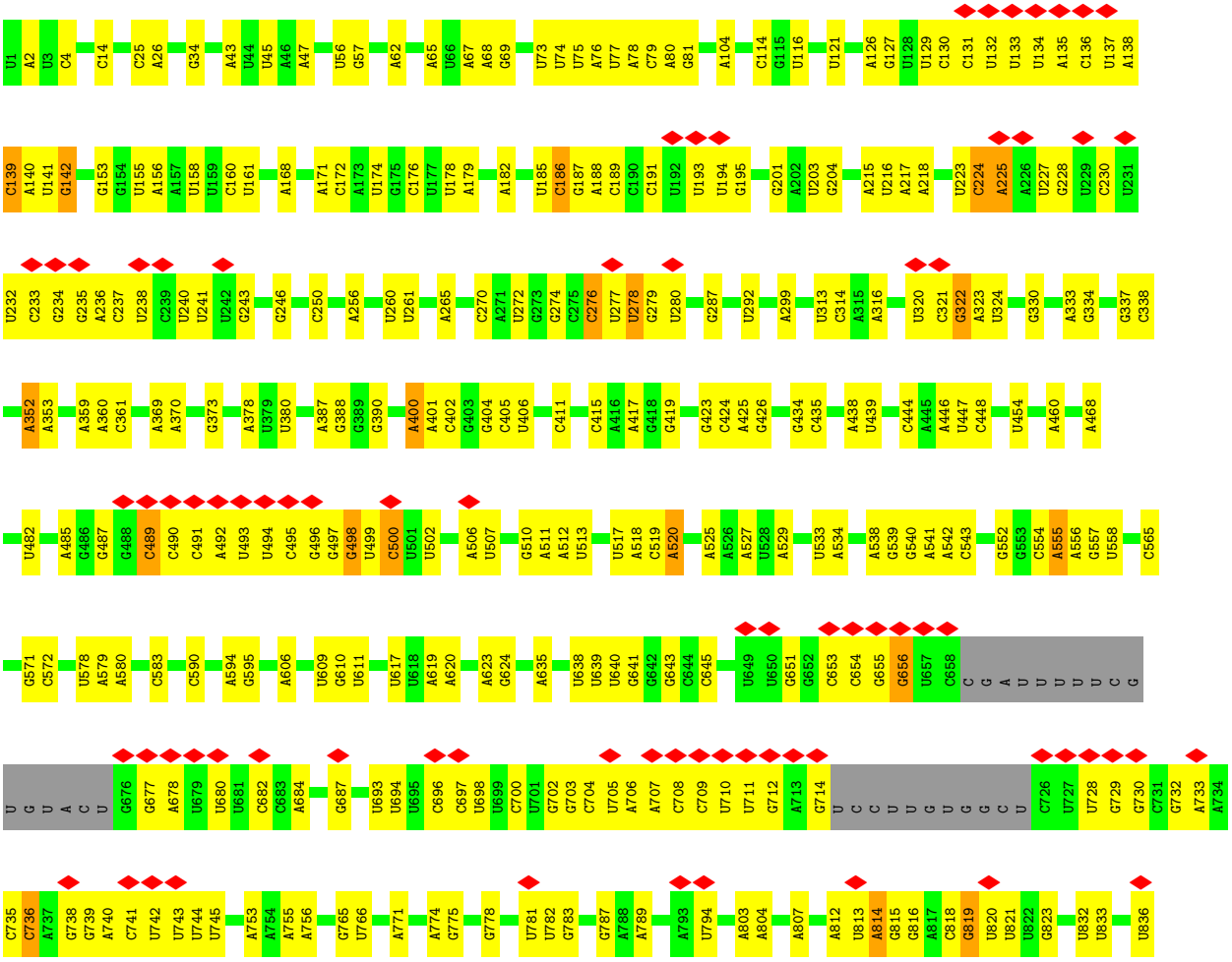
Chain BC:

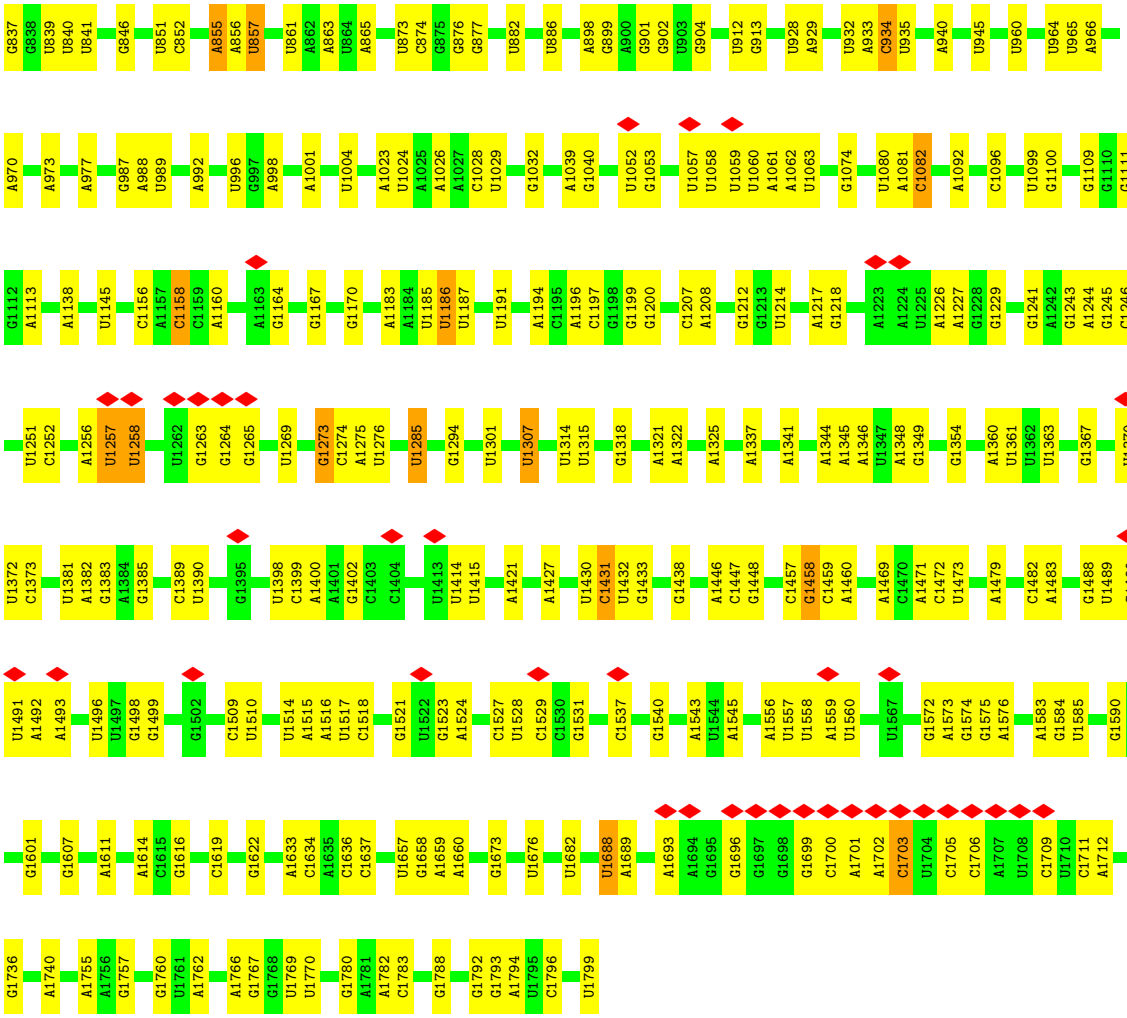




• Molecule 34: 18S rRNA

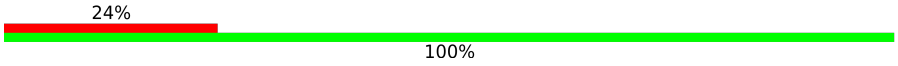
Chain 2:

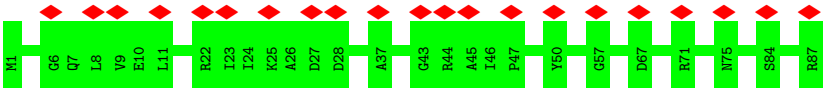




• Molecule 35: 40S ribosomal protein S21-A

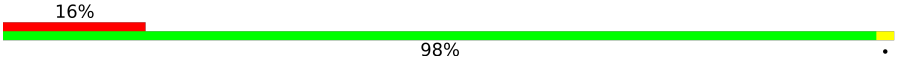
Chain a:

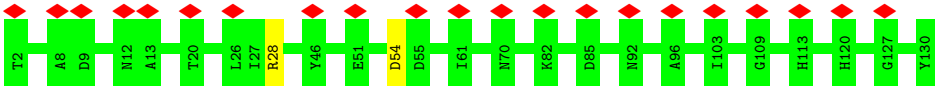




• Molecule 36: 40S ribosomal protein S22-A

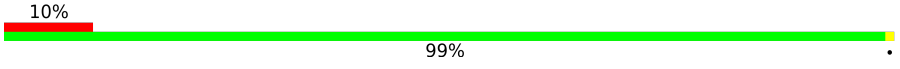
Chain b:

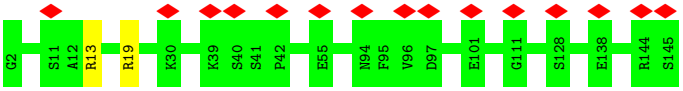




• Molecule 37: 40S ribosomal protein S23-A

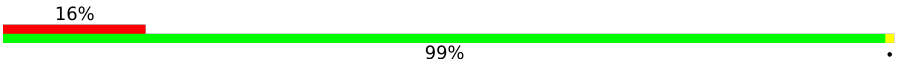
Chain c:

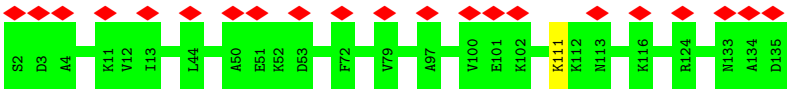




• Molecule 38: 40S ribosomal protein S24-A

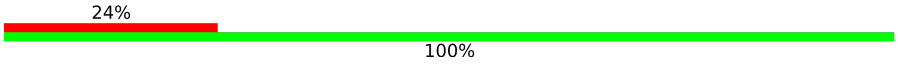
Chain d:

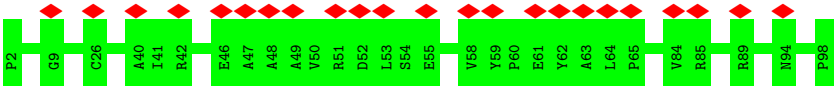




• Molecule 39: 40S ribosomal protein S26-B

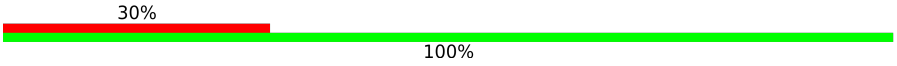
Chain e:

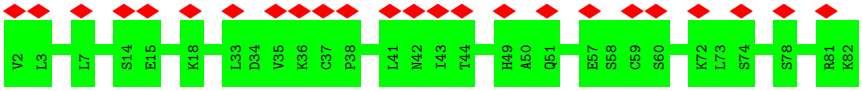




• Molecule 40: 40S ribosomal protein S27-A

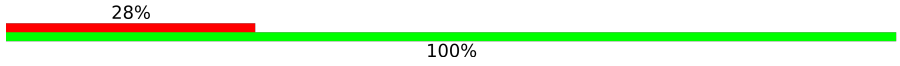
Chain f:

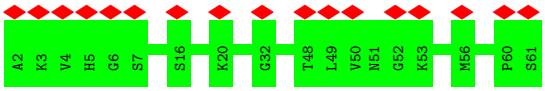




• Molecule 41: 40S ribosomal protein S30-A

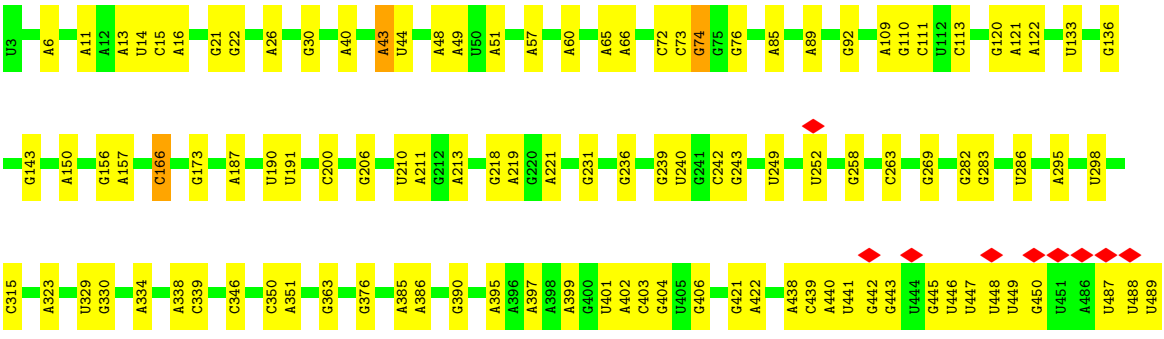
Chain g:

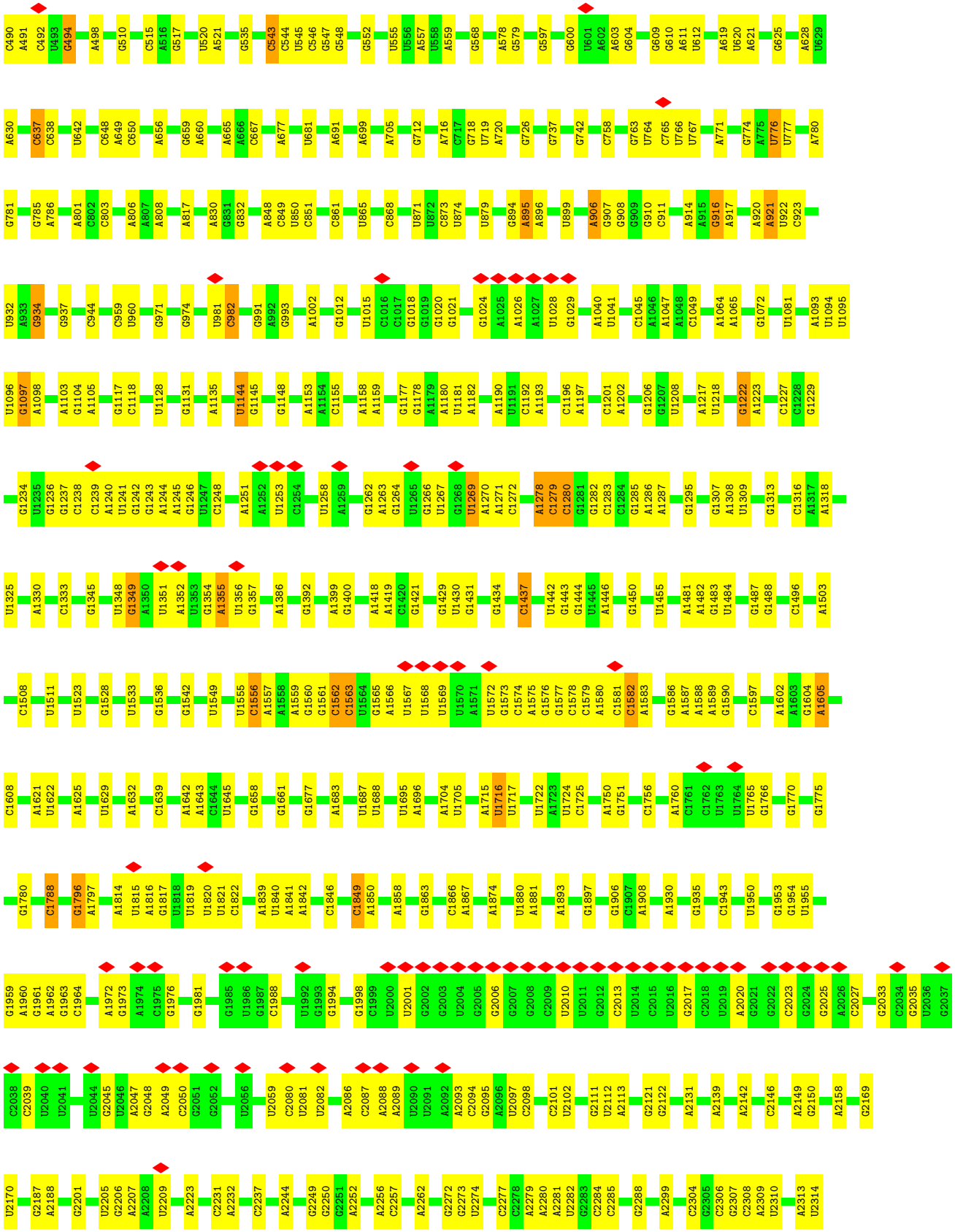




• Molecule 42: 25S rRNA

Chain BQ:

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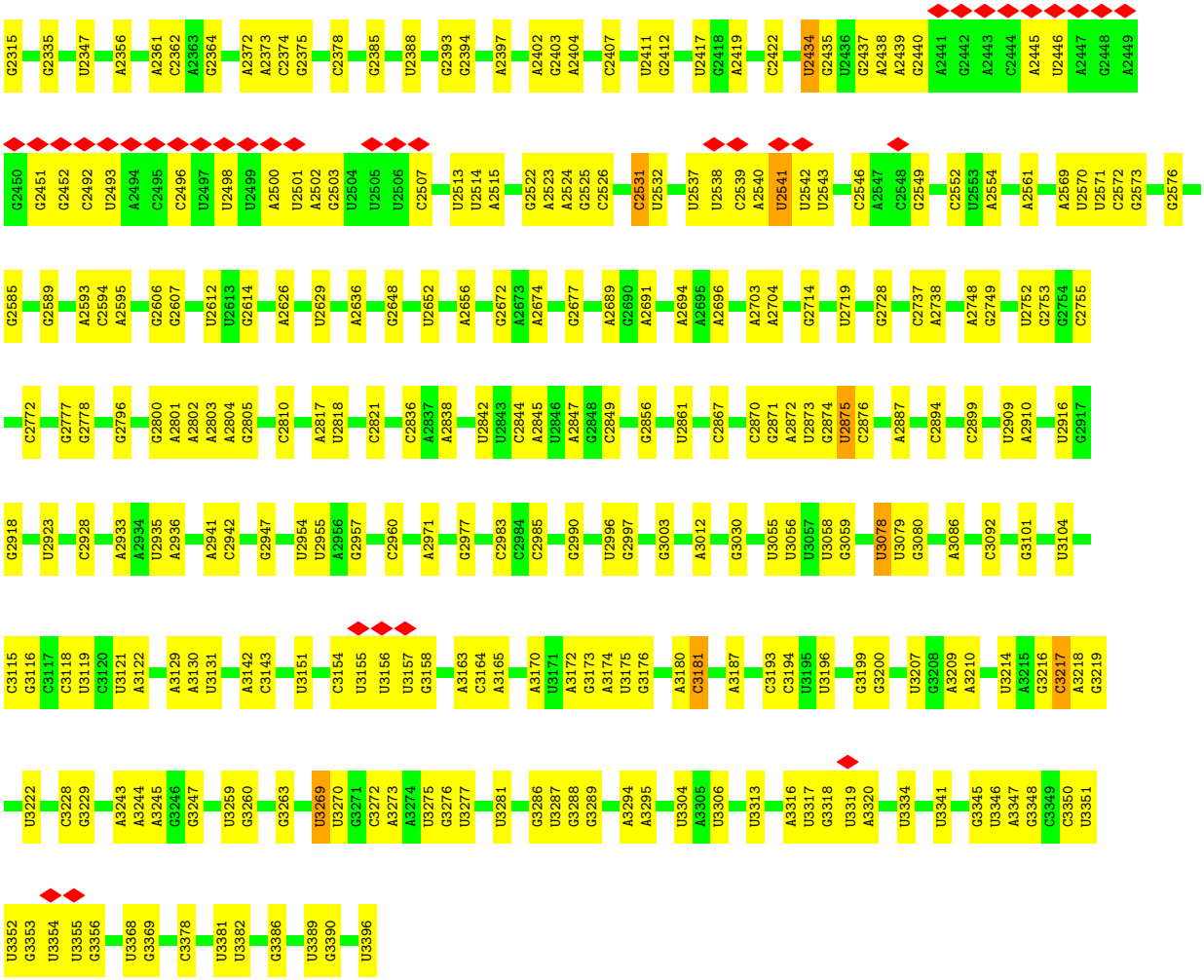
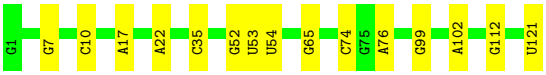
A630 C637 C638 U642 C648 A649 C650 A656 G659 A660 A665 A666 C667 A677 U681 A691 A699 A705 G712 A716 C717 G718 U719 A720 G726 G737 G742 C758 G763 U764 C765 U766 U767 A771 G774 A775 U776 U777 A780
G781 G785 A786 A801 C802 C803 A806 A807 A808 A817 A830 G831 G832 A848 C849 U850 C851 C861 U865 C868 U871 U872 C873 U874 U879 G894 A895 A896 U899 A906 G907 G908 G909 G910 C911 A914 A915 G916 A917 A920 A921 U922 C923
U932 A933 G934 G937 C944 C959 U960 G971 G974 U981 C982 G991 A992 G993 A1002 G1012 U1015 C1016 C1017 G1018 G1019 G1020 G1021 G1024 A1025 A1026 A1027 U1028 G1029 A1040 U1041 C1045 A1046 A1047 A1048 C1049 A1064 A1065 G1072 U1081 A1093 U1094 U1095
U1096 G1097 A1098 A1103 G1104 A1105 G1117 C1118 U1128 G1131 A1135 U1144 G1145 G1148 A1153 A1154 C1155 A1158 A1159 G1177 G1178 A1179 A1180 U1181 A1182 A1190 U1191 C1192 A1193 C1196 A1197 C1201 A1202 G1206 G1207 U1208 A1217 U1218 G1222 A1223 C1227 C1228 G1229
G1234 U1235 G1236 G1237 C1238 C1239 A1240 U1241 G1242 G1243 A1244 A1245 G1246 U1247 C1248 A1251 A1252 U1253 C1254 U1258 A1259 G1262 A1263 G1264 U1265 G1266 U1267 G1268 U1269 A1270 A1271 C1272 A1278 C1279 C1280 G1281 G1282 C1283 C1284 G1285 A1286 A1287 G1295 G1307 A1308 U1309 G1313 C1316 A1317 A1318
U1325 A1330 C1333 G1345 U1348 G1349 A1350 U1351 A1352 U1353 G1354 A1355 U1356 G1357 A1386 G1392 A1399 G1400 A1418 A1419 C1420 G1421 G1429 U1430 G1431 G1434 C1437 U1442 G1443 G1444 U1445 A1446 G1460 U1455 A1481 A1482 G1483 U1484 G1487 G1488 C1496 A1503
C1508 U1511 U1523 G1528 U1533 G1536 G1542 U1549 U1555 C1556 A1557 A1558 A1559 G1560 G1561 C1562 C1563 U1564 G1565 A1566 U1567 U1568 U1569 U1570 A1571 U1572 G1573 C1574 A1575 G1576 G1577 C1578 C1579 A1580 C1581 C1582 A1583 G1586 A1587 A1588 A1589 G1590 C1597 A1602 A1603 G1604 A1605
C1608 A1621 U1622 A1625 U1629 A1632 C1639 A1642 A1643 C1644 U1645 G1658 G1661 G1677 A1683 U1687 U1688 U1695 A1696 A1704 U1705 A1715 U1716 U1717 U1722 A1723 U1724 C1725 A1750 G1751 C1756 A1760 C1761 C1762 U1763 U1764 U1765 G1766 G1770 G1775
G1780 C1788 G1796 A1797 A1814 U1815 A1816 G1817 U1818 U1819 U1820 U1821 C1822 A1839 U1840 A1841 A1842 C1846 C1849 A1850 A1858 G1863 C1866 A1867 A1874 U1880 A1881 A1893 G1897 G1906 C1907 A1908 A1930 G1935 C1943 U1950 G1953 G1954 U1955
G1959 A1960 G1961 A1962 G1963 C1964 A1972 G1973 A1974 C1975 G1976 G1981 G1985 U1986 G1987 C1988 U1992 G1993 G1994 G1998 C1999 U2000 U2001 G2002 G2003 U2004 G2005 G2006 G2007 G2008 C2009 U2010 U2011 G2012 C2013 U2014 C2015 U2016 G2017 C2018 U2019 A2020 G2021 G2022 C2023 G2024 G2025 A2026 C2027 G2033 C2034 G2035 U2036 G2037
C2038 C2039 U2040 U2041 U2044 C2045 U2046 A2047 G2048 A2049 C2050 G2051 G2052 U2056 U2059 C2080 U2081 U2082 A2086 C2087 A2088 A2089 U2090 U2091 A2092 A2093 C2094 C2095 A2096 U2097 C2098 C2101 U2102 G2111 U2112 A2113 C2121 G2122 A2131 A2139 A2142 C2146 A2149 G2150 A2158 G2169
U2170 G2187 A2188 G2201 U2205 G2206 A2207 A2208 U2209 A2223 C2231 A2232 C2237 A2244 G2249 G2250 G2251 A2252 A2256 C2257 A2262 G2272 G2273 U2274 C2277 C2278 A2279 A2280 A2281 U2282 G2283 C2284 C2285 G2288 A2299 C2304 G2305 C2306 G2307 C2308 A2309 U2310 A2313 U2314



• Molecule 43: 5S rRNA

Chain BR:

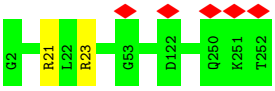


• Molecule 44: 5.8S rRNA

Chain BS:

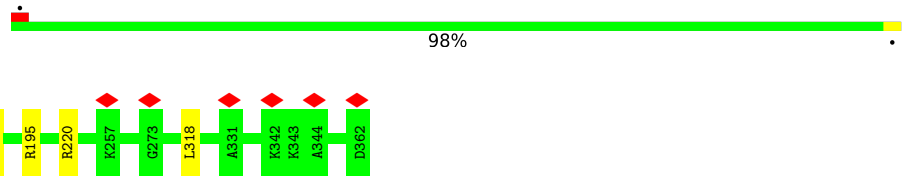
• Molecule 45: 60S ribosomal protein L2-A

Chain AW:



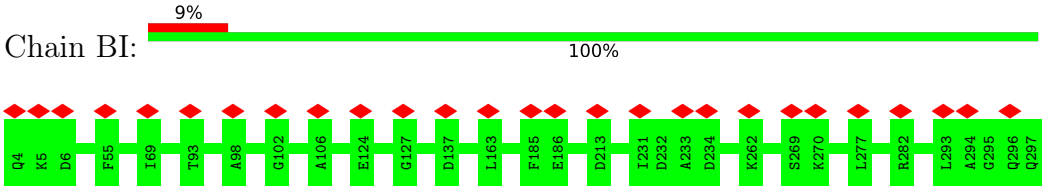
• Molecule 46: 60S ribosomal protein L4-A

Chain BE:



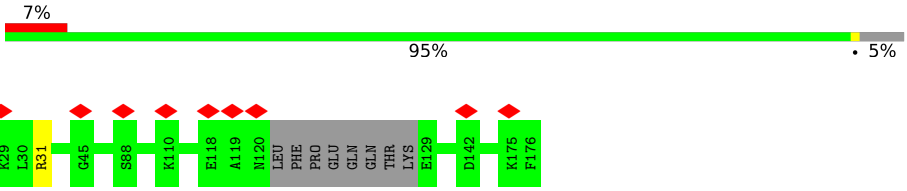
• Molecule 47: 60S ribosomal protein L5

Chain BI:



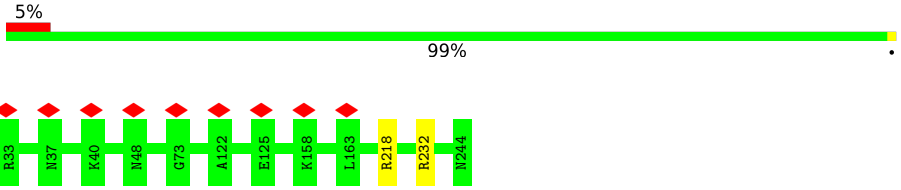
• Molecule 48: 60S ribosomal protein L6-B

Chain BM:



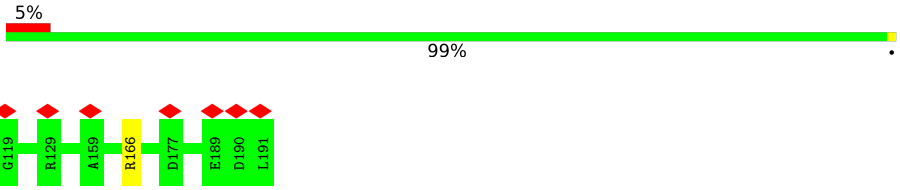
• Molecule 49: 60S ribosomal protein L7-A

Chain BO:



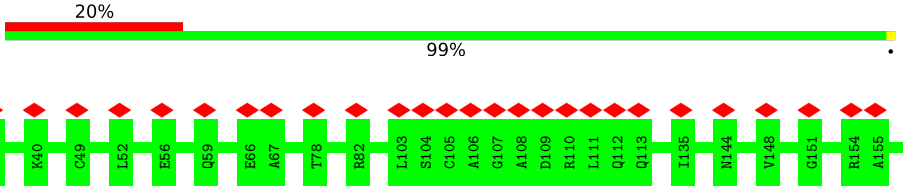
• Molecule 50: 60S ribosomal protein L9-A

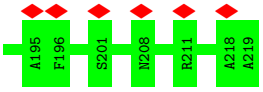
Chain AD:



• Molecule 51: RPL10 isoform 1

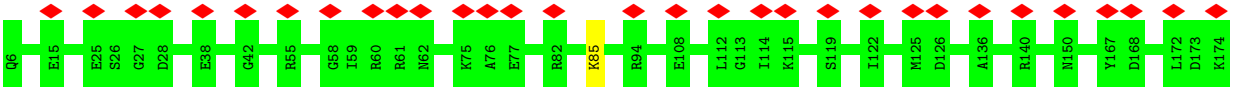
Chain BD:





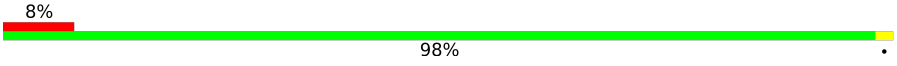
• Molecule 52: RPL11B isoform 1

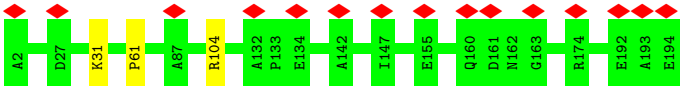
Chain AG:



• Molecule 53: 60S ribosomal protein L13-A

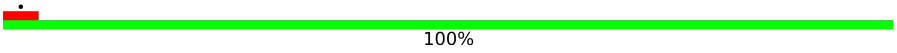
Chain AJ:

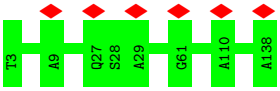




• Molecule 54: 60S ribosomal protein L14-A

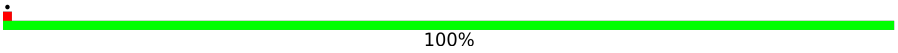
Chain AM:

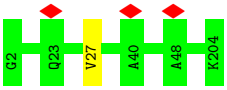




• Molecule 55: 60S ribosomal protein L15-A

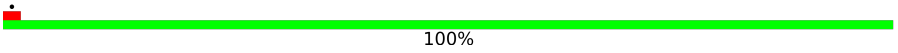
Chain AQ:

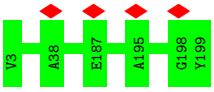




• Molecule 56: 60S ribosomal protein L16-A

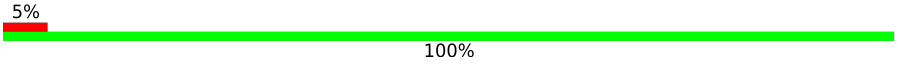
Chain AU:

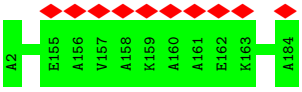




• Molecule 57: 60S ribosomal protein L17-A

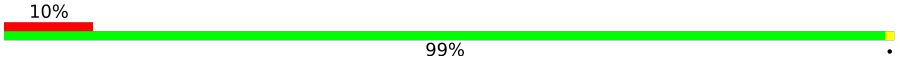
Chain AX:

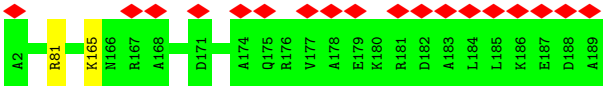




• Molecule 58: 60S ribosomal protein L19-A

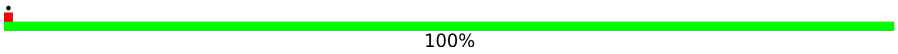
Chain BF:

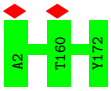




• Molecule 59: 60S ribosomal protein L20-A

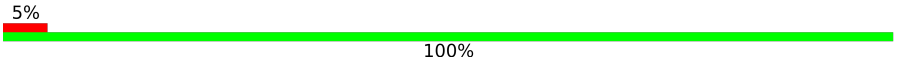
Chain BH:

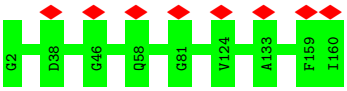




• Molecule 60: 60S ribosomal protein L21-A

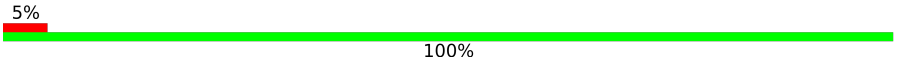
Chain BJ:

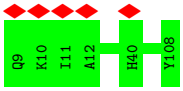




• Molecule 61: 60S ribosomal protein L22-A

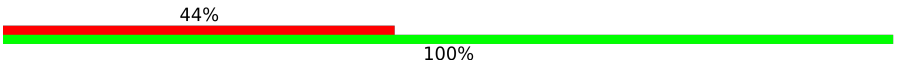
Chain BL:

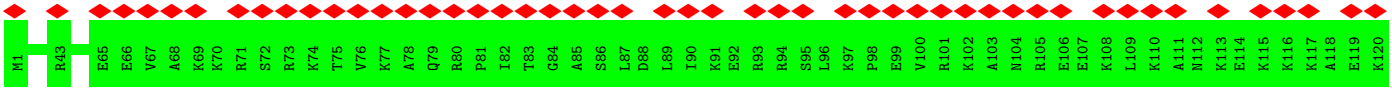


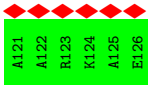


• Molecule 62: 60S ribosomal protein L24-A

Chain AE:

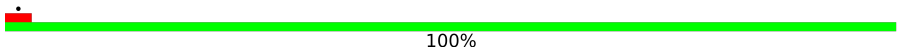


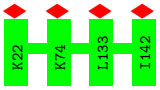




• Molecule 63: 60S ribosomal protein L25

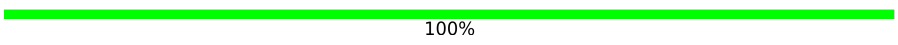
Chain AH:





• Molecule 64: 60S ribosomal protein L26-A

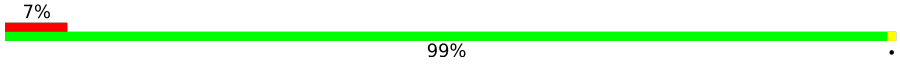
Chain AK:

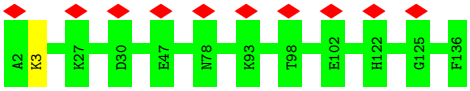


There are no outlier residues recorded for this chain.

• Molecule 65: 60S ribosomal protein L27-A

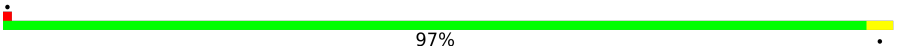
Chain AN:

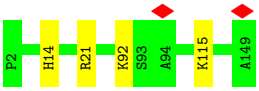




• Molecule 66: 60S ribosomal protein L28

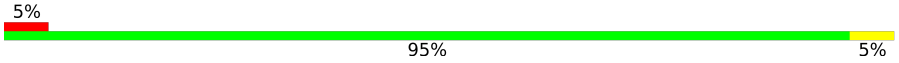
Chain AR:

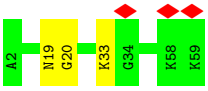




• Molecule 67: 60S ribosomal protein L29

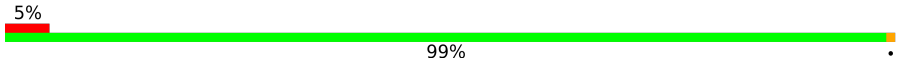
Chain AV:

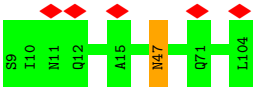




• Molecule 68: 60S ribosomal protein L30

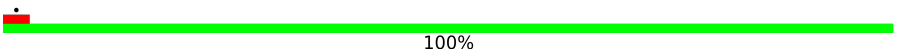
Chain AY:

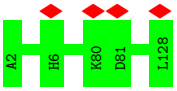




• Molecule 69: RPL32 isoform 1

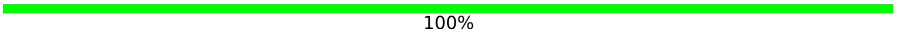
Chain BG:





• Molecule 70: 60S ribosomal protein L33-A

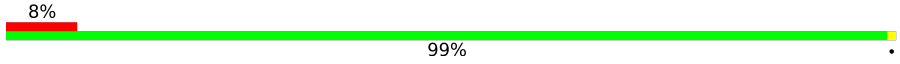
Chain BK:

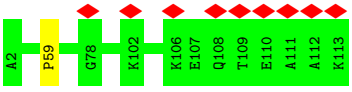


There are no outlier residues recorded for this chain.

• Molecule 71: 60S ribosomal protein L34-A

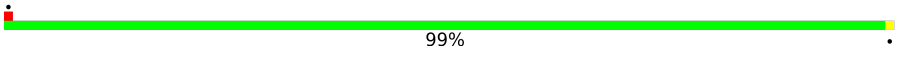
Chain BN:

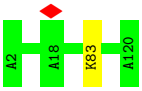




• Molecule 72: 60S ribosomal protein L35-A

Chain BP:



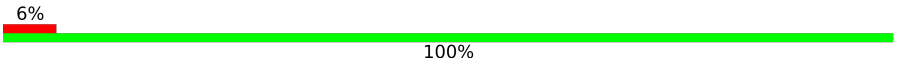


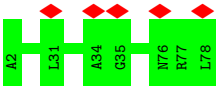
• Molecule 73: 60S ribosomal protein L37-A

Chain AF:

• Molecule 74: RPL38 isoform 1

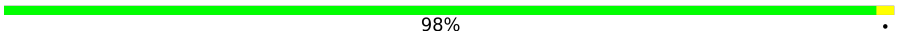
Chain AI:





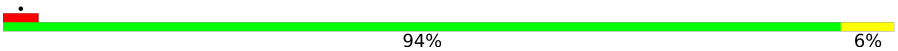
• Molecule 75: 60S ribosomal protein L39

Chain AL:



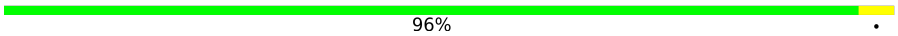
• Molecule 76: 60S ribosomal protein L40-A

Chain AO:



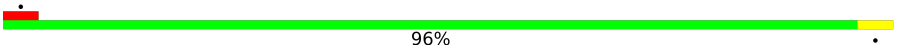
• Molecule 77: 60S ribosomal protein L41-A

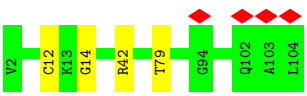
Chain AS:



• Molecule 78: 60S ribosomal protein L42-A

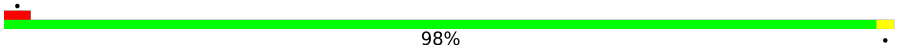
Chain AP:

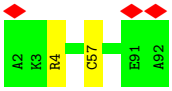




• Molecule 79: 60S ribosomal protein L43-A

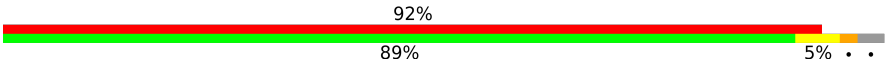
Chain AT:

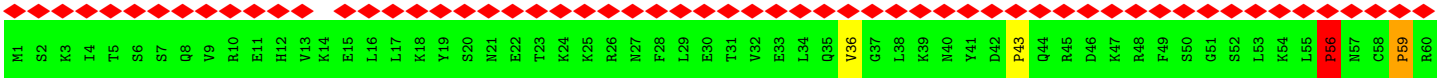


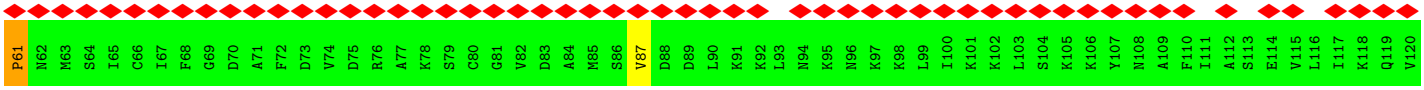


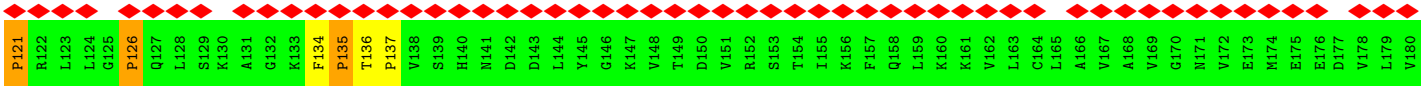
• Molecule 80: 60S ribosomal protein L1-A

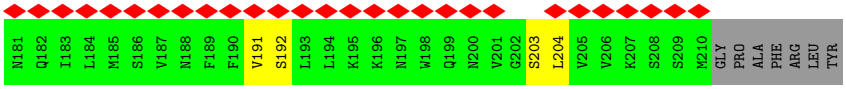
Chain BT:











4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	13307	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	56.16	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	3200	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.096	Depositor
Minimum map value	-0.047	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.015	Depositor
Map size (Å)	455.28, 455.28, 455.28	wwPDB
Map dimensions	420, 420, 420	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.084, 1.084, 1.084	Depositor

5 Model quality

5.1 Standard geometry

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	x	0.65	0/2970	0.93	8/4023 (0.2%)
2	A	0.38	0/1754	0.62	0/2361
3	B	0.34	0/1625	0.59	0/2197
4	C	0.36	0/769	0.54	0/1039
5	D	0.29	0/883	0.63	1/1199 (0.1%)
6	E	0.34	0/936	0.62	0/1259
7	F	0.41	0/1125	0.63	0/1510
8	G	0.34	0/957	0.58	0/1283
9	H	0.33	0/1207	0.59	0/1623
10	I	0.36	0/1130	0.61	0/1517
11	J	0.37	0/807	0.61	0/1091
12	K	0.32	0/661	0.62	0/888
13	L	0.36	0/493	0.73	0/663
14	M	0.43	0/452	0.64	0/600
15	N	0.33	0/567	0.65	0/764
16	O	0.32	0/2436	0.58	0/3318
17	P	0.36	0/1644	0.59	0/2249
18	Q	0.34	0/1823	0.66	1/2447 (0.0%)
19	R	0.44	0/1656	0.63	0/2251
20	S	0.38	0/2097	0.62	1/2823 (0.0%)
21	T	0.35	0/1839	0.65	1/2460 (0.0%)
22	U	0.33	0/1498	0.66	2/2019 (0.1%)
23	V	0.42	0/1501	0.66	1/2006 (0.0%)
24	W	0.35	0/1504	0.67	0/2016
25	X	0.47	0/1168	0.62	0/1575
26	Y	0.42	0/1215	0.67	0/1638
27	Z	0.38	0/934	0.67	0/1257
28	AA	0.49	0/1836	0.58	0/2481
29	BA	0.61	0/3146	0.69	2/4228 (0.0%)
30	AB	0.59	0/1018	0.65	0/1369
31	BB	0.57	0/1465	0.73	2/1965 (0.1%)
32	AC	0.44	0/772	0.66	0/1026

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	BC	0.59	0/890	0.69	0/1196
34	2	0.71	1/42211 (0.0%)	1.07	106/65773 (0.2%)
35	a	0.36	0/682	0.62	0/921
36	b	0.42	0/1038	0.64	1/1395 (0.1%)
37	c	0.47	0/1139	0.72	2/1518 (0.1%)
38	d	0.34	0/1046	0.58	0/1401
39	e	0.43	0/778	0.69	0/1042
40	f	0.33	0/620	0.63	0/838
41	g	0.35	0/480	0.67	0/639
42	BQ	1.05	3/78999 (0.0%)	1.12	201/123162 (0.2%)
43	BR	0.80	0/2883	1.01	0/4491
44	BS	1.08	0/3746	1.12	7/5832 (0.1%)
45	AW	0.68	0/1933	0.74	2/2598 (0.1%)
46	BE	0.60	0/2800	0.71	3/3790 (0.1%)
47	BI	0.45	0/2400	0.61	0/3239
48	BM	0.48	0/1329	0.66	2/1794 (0.1%)
49	BO	0.62	0/1821	0.65	1/2451 (0.0%)
50	AD	0.47	0/1529	0.62	1/2060 (0.0%)
51	BD	0.49	0/1801	0.68	1/2416 (0.0%)
52	AG	0.39	0/1367	0.62	0/1834
53	AJ	0.57	0/1568	0.71	0/2106
54	AM	0.46	0/1068	0.65	0/1438
55	AQ	0.74	0/1757	0.77	0/2354
56	AU	0.63	0/1585	0.67	0/2128
57	AX	0.65	0/1439	0.69	0/1938
58	BF	0.53	0/1532	0.66	0/2043
59	BH	0.57	0/1473	0.67	0/1980
60	BJ	0.59	0/1296	0.62	0/1739
61	BL	0.44	0/812	0.59	0/1099
62	AE	0.47	0/850	0.58	0/1152
63	AH	0.57	0/979	0.62	0/1321
64	AK	0.51	0/995	0.62	0/1329
65	AN	0.49	0/1106	0.60	0/1485
66	AR	0.65	0/1200	0.70	1/1607 (0.1%)
67	AV	0.49	0/473	0.67	0/629
68	AY	0.56	1/745 (0.1%)	0.59	0/1001
69	BG	0.61	0/1038	0.69	0/1390
70	BK	0.72	0/868	0.72	0/1168
71	BN	0.62	0/890	0.75	0/1189
72	BP	0.51	0/978	0.67	0/1301
73	AF	0.76	1/660 (0.2%)	0.92	5/875 (0.6%)
74	AI	0.42	0/618	0.62	0/826
75	AL	0.66	0/443	0.79	1/588 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	AO	0.59	0/416	0.80	0/553
77	AS	0.50	0/230	0.95	1/296 (0.3%)
78	AP	0.67	0/836	0.81	4/1104 (0.4%)
79	AT	0.68	0/701	0.80	0/934
80	BT	0.30	0/1040	0.67	8/1449 (0.6%)
All	All	0.79	6/220976 (0.0%)	0.96	366/324557 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	x	0	1
3	B	0	1
5	D	0	1
7	F	0	1
10	I	0	1
13	L	0	1
15	N	0	1
20	S	0	1
22	U	0	1
27	Z	0	1
28	AA	0	3
31	BB	0	1
33	BC	0	1
36	b	0	1
46	BE	0	3
49	BO	0	1
66	AR	0	2
67	AV	0	2
68	AY	0	1
72	BP	0	1
80	BT	0	4
All	All	0	30

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	AY	47	ASN	C-N	-7.22	1.17	1.34
73	AF	39	TYR	C-N	6.04	1.45	1.34
34	2	857	U	C4-O4	-5.48	1.19	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
42	BQ	803	C	C4-C5	-5.11	1.38	1.43
42	BQ	801	A	C6-N6	-5.06	1.29	1.33
42	BQ	920	A	N9-C4	-5.03	1.34	1.37

All (366) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	2	857	U	N3-C4-O4	-17.21	107.35	119.40
34	2	857	U	C5-C4-O4	14.27	134.46	125.90
34	2	814	A	N1-C6-N6	-11.46	111.73	118.60
34	2	1699	G	C5-C6-O6	11.19	135.32	128.60
34	2	1699	G	N1-C6-O6	-10.37	113.68	119.90
42	BQ	1144	U	C5-C4-O4	-9.63	120.12	125.90
34	2	1703	C	N3-C4-N4	-9.54	111.33	118.00
34	2	533	U	N3-C2-O2	-9.52	115.54	122.20
34	2	1706	C	N3-C2-O2	-9.42	115.30	121.90
1	x	374	ARG	NE-CZ-NH1	9.32	124.96	120.30
42	BQ	2737	C	N1-C2-O2	8.99	124.29	118.90
42	BQ	1562	C	N1-C2-O2	8.98	124.28	118.90
44	BS	125	U	C2-N1-C1'	8.95	128.44	117.70
42	BQ	3348	G	C5-C6-O6	8.95	133.97	128.60
34	2	934	C	C2-N1-C1'	8.93	128.63	118.80
42	BQ	74	G	C5-C6-O6	-8.79	123.33	128.60
42	BQ	1563	C	N3-C2-O2	-8.75	115.78	121.90
42	BQ	2492	C	C2-N1-C1'	8.74	128.41	118.80
42	BQ	637	C	C6-N1-C2	-8.73	116.81	120.30
34	2	520	A	N1-C6-N6	-8.71	113.38	118.60
42	BQ	2737	C	N3-C2-O2	-8.61	115.87	121.90
42	BQ	2407	C	C6-N1-C2	-8.54	116.89	120.30
34	2	490	C	N3-C2-O2	-8.47	115.97	121.90
42	BQ	1280	C	N3-C2-O2	-8.34	116.06	121.90
42	BQ	3217	C	N1-C2-O2	8.31	123.89	118.90
34	2	736	C	N3-C2-O2	-8.29	116.10	121.90
42	BQ	3193	C	N3-C2-O2	-8.04	116.27	121.90
42	BQ	1144	U	N3-C4-O4	7.94	124.96	119.40
42	BQ	406	G	O4'-C1'-N9	7.69	114.36	108.20
34	2	1509	C	N3-C2-O2	-7.66	116.54	121.90
34	2	276	C	N3-C2-O2	-7.60	116.58	121.90
34	2	1703	C	N3-C4-C5	7.56	124.92	121.90
34	2	292	U	C5-C4-O4	-7.53	121.38	125.90
1	x	146	ARG	NE-CZ-NH1	7.44	124.02	120.30
42	BQ	2407	C	C5-C6-N1	7.39	124.70	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
42	BQ	3217	C	C2-N1-C1'	7.37	126.91	118.80
42	BQ	3200	G	N3-C4-N9	-7.35	121.59	126.00
42	BQ	2492	C	N1-C2-O2	7.32	123.29	118.90
42	BQ	1579	C	N3-C2-O2	-7.31	116.78	121.90
42	BQ	1788	C	N1-C2-O2	7.15	123.19	118.90
42	BQ	3348	G	N1-C6-O6	-7.15	115.61	119.90
42	BQ	1562	C	N3-C2-O2	-7.05	116.97	121.90
34	2	1431	C	N3-C4-N4	-7.05	113.07	118.00
42	BQ	1283	C	N3-C2-O2	-7.04	116.97	121.90
42	BQ	1496	C	C6-N1-C2	-7.01	117.49	120.30
34	2	583	C	C6-N1-C2	-6.98	117.51	120.30
42	BQ	1788	C	N3-C2-O2	-6.97	117.02	121.90
34	2	1186	U	C5-C4-O4	-6.96	121.72	125.90
34	2	400	A	P-O3'-C3'	6.95	128.04	119.70
44	BS	125	U	N1-C2-O2	6.94	127.66	122.80
34	2	533	U	N1-C2-N3	6.92	119.05	114.90
34	2	1706	C	N1-C2-O2	6.92	123.05	118.90
42	BQ	3181	C	N1-C2-O2	6.89	123.03	118.90
1	x	383	ARG	NE-CZ-NH1	6.88	123.74	120.30
42	BQ	922	U	C2-N1-C1'	6.84	125.91	117.70
42	BQ	3163	A	C5-C6-N6	-6.81	118.25	123.70
34	2	1389	C	C2-N1-C1'	6.78	126.26	118.80
34	2	965	U	C2-N1-C1'	6.78	125.83	117.70
42	BQ	776	U	O4'-C1'-N1	6.77	113.61	108.20
42	BQ	2304	C	N1-C2-O2	6.76	122.95	118.90
80	BT	126	PRO	N-CA-CB	6.76	111.41	103.30
42	BQ	2142	A	C5-C6-N6	-6.74	118.31	123.70
42	BQ	1556	C	C6-N1-C2	-6.65	117.64	120.30
34	2	186	C	C2-N1-C1'	6.65	126.11	118.80
44	BS	125	U	N3-C2-O2	-6.62	117.56	122.20
42	BQ	1222	G	O4'-C1'-N9	6.60	113.48	108.20
34	2	1688	U	C5-C4-O4	6.57	129.84	125.90
42	BQ	628	A	C4-C5-N7	6.57	113.98	110.70
42	BQ	2492	C	N3-C2-O2	-6.53	117.33	121.90
34	2	934	C	C6-N1-C1'	-6.50	113.00	120.80
34	2	1458	G	C4-N9-C1'	6.50	134.94	126.50
42	BQ	1563	C	C6-N1-C2	-6.47	117.71	120.30
34	2	490	C	C6-N1-C2	-6.47	117.71	120.30
42	BQ	1563	C	N1-C2-O2	6.45	122.77	118.90
42	BQ	776	U	C6-N1-C2	-6.43	117.14	121.00
42	BQ	3194	C	N3-C2-O2	-6.42	117.41	121.90
80	BT	135	PRO	N-CA-CB	6.37	110.94	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	2	583	C	C2-N1-C1'	6.36	125.79	118.80
42	BQ	2362	C	N1-C2-O2	6.35	122.71	118.90
80	BT	61	PRO	N-CA-CB	6.34	110.91	103.30
66	AR	21	ARG	NE-CZ-NH2	-6.33	117.14	120.30
34	2	855	A	N1-C6-N6	-6.33	114.80	118.60
42	BQ	628	A	C5-C6-N6	-6.32	118.65	123.70
42	BQ	982	C	N1-C2-O2	6.30	122.68	118.90
42	BQ	2257	C	N1-C2-O2	6.30	122.68	118.90
42	BQ	3164	C	N3-C2-O2	-6.30	117.49	121.90
34	2	1560	U	N3-C2-O2	-6.29	117.80	122.20
78	AP	12	CYS	CA-CB-SG	-6.27	102.72	114.00
42	BQ	2738	A	N1-C2-N3	-6.26	126.17	129.30
42	BQ	982	C	C6-N1-C2	-6.25	117.80	120.30
42	BQ	2492	C	C6-N1-C1'	-6.19	113.38	120.80
80	BT	43	PRO	N-CA-CB	6.16	110.69	103.30
42	BQ	74	G	N1-C6-O6	6.15	123.59	119.90
42	BQ	3163	A	N1-C6-N6	6.15	122.29	118.60
42	BQ	637	C	C5-C6-N1	6.15	124.08	121.00
34	2	498	G	C4-N9-C1'	-6.15	118.51	126.50
42	BQ	2237	C	N3-C2-O2	-6.14	117.60	121.90
34	2	555	A	N7-C8-N9	6.13	116.86	113.80
37	c	13	ARG	NE-CZ-NH1	6.12	123.36	120.30
42	BQ	628	A	N9-C4-C5	-6.12	103.35	105.80
42	BQ	1577	G	N1-C6-O6	-6.12	116.23	119.90
42	BQ	3217	C	N3-C2-O2	-6.11	117.62	121.90
44	BS	125	U	C6-N1-C1'	-6.11	112.64	121.20
42	BQ	1695	U	O4'-C1'-N1	6.11	113.09	108.20
34	2	142	G	N3-C4-N9	-6.10	122.34	126.00
34	2	1498	G	N3-C4-N9	6.08	129.65	126.00
42	BQ	3194	C	C6-N1-C2	-6.06	117.88	120.30
42	BQ	2417	U	N3-C4-O4	6.05	123.64	119.40
42	BQ	628	A	N1-C6-N6	6.05	122.23	118.60
42	BQ	3217	C	C6-N1-C1'	-6.05	113.54	120.80
42	BQ	3269	U	N1-C2-O2	6.04	127.03	122.80
34	2	874	C	N1-C2-O2	6.03	122.52	118.90
42	BQ	1496	C	C5-C6-N1	6.03	124.02	121.00
42	BQ	1661	G	N3-C4-N9	6.02	129.61	126.00
42	BQ	2612	U	N3-C4-O4	6.02	123.61	119.40
34	2	656	G	C4-N9-C1'	6.01	134.32	126.50
42	BQ	1605	A	O4'-C1'-N9	6.00	113.00	108.20
42	BQ	665	A	N7-C8-N9	5.99	116.80	113.80
42	BQ	2870	C	N3-C2-O2	-5.99	117.71	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
42	BQ	659	G	C2-N3-C4	-5.98	108.91	111.90
46	BE	195	ARG	NE-CZ-NH2	-5.97	117.31	120.30
42	BQ	2146	C	N1-C2-O2	5.97	122.48	118.90
80	BT	59	PRO	N-CA-CB	5.97	110.47	103.30
42	BQ	3164	C	N1-C2-O2	5.96	122.48	118.90
34	2	656	G	N3-C4-N9	5.94	129.56	126.00
34	2	861	U	C2-N1-C1'	5.94	124.83	117.70
34	2	489	C	N1-C2-O2	5.93	122.46	118.90
42	BQ	1496	C	C2-N1-C1'	5.93	125.32	118.80
42	BQ	2304	C	N3-C2-O2	-5.91	117.77	121.90
42	BQ	1280	C	N1-C2-O2	5.90	122.44	118.90
42	BQ	911	C	C5-C4-N4	-5.87	116.09	120.20
42	BQ	1283	C	C6-N1-C2	-5.87	117.95	120.30
34	2	1258	U	N3-C2-O2	-5.86	118.10	122.20
42	BQ	3200	G	C2-N3-C4	-5.85	108.97	111.90
34	2	1706	C	C6-N1-C2	-5.85	117.96	120.30
42	BQ	72	C	N3-C2-O2	-5.84	117.81	121.90
46	BE	195	ARG	NE-CZ-NH1	5.84	123.22	120.30
34	2	1307	U	C6-N1-C2	-5.84	117.50	121.00
42	BQ	656	A	C5-N7-C8	-5.84	100.98	103.90
34	2	874	C	C5-C6-N1	5.81	123.90	121.00
42	BQ	166	C	N3-C2-O2	-5.81	117.83	121.90
42	BQ	43	A	C8-N9-C4	-5.81	103.48	105.80
42	BQ	2434	U	C2-N1-C1'	5.80	124.67	117.70
34	2	1158	C	C6-N1-C2	-5.80	117.98	120.30
42	BQ	2738	A	N9-C4-C5	-5.79	103.48	105.80
42	BQ	2257	C	C2-N1-C1'	5.76	125.14	118.80
42	BQ	2870	C	N1-C2-O2	5.76	122.36	118.90
42	BQ	166	C	N1-C2-O2	5.76	122.36	118.90
34	2	1458	G	C8-N9-C1'	-5.76	119.51	127.00
42	BQ	1269	U	C2-N1-C1'	5.76	124.61	117.70
34	2	874	C	C2-N1-C1'	5.75	125.13	118.80
42	BQ	1135	A	N1-C6-N6	5.75	122.05	118.60
34	2	857	U	N3-C4-C5	5.75	118.05	114.60
42	BQ	1283	C	N1-C2-O2	5.75	122.35	118.90
34	2	160	C	C6-N1-C2	-5.74	118.00	120.30
42	BQ	1349	G	N3-C4-C5	-5.74	125.73	128.60
42	BQ	1155	C	C6-N1-C2	-5.73	118.01	120.30
73	AF	73	ARG	NE-CZ-NH1	5.72	123.16	120.30
42	BQ	1496	C	N1-C2-O2	5.72	122.33	118.90
34	2	1258	U	N1-C2-O2	5.70	126.79	122.80
42	BQ	1333	C	N1-C2-O2	5.70	122.32	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
73	AF	25	ARG	NE-CZ-NH1	5.70	123.15	120.30
45	AW	21	ARG	NE-CZ-NH1	5.70	123.15	120.30
42	BQ	2612	U	C5-C4-O4	-5.69	122.49	125.90
34	2	1257	U	N3-C2-O2	-5.67	118.23	122.20
34	2	1257	U	N1-C2-O2	5.67	126.77	122.80
42	BQ	2417	U	C5-C4-O4	-5.67	122.50	125.90
34	2	224	C	P-O3'-C3'	5.66	126.49	119.70
29	BA	232	ARG	NE-CZ-NH1	5.66	123.13	120.30
34	2	1145	U	C2-N1-C1'	5.64	124.47	117.70
42	BQ	2960	C	C5-C4-N4	-5.64	116.25	120.20
42	BQ	363	G	N3-C2-N2	-5.63	115.96	119.90
34	2	656	G	C8-N9-C1'	-5.63	119.68	127.00
34	2	322	G	P-O3'-C3'	5.62	126.45	119.70
51	BD	24	ARG	NE-CZ-NH2	5.62	123.11	120.30
42	BQ	1562	C	C3'-C2'-C1'	5.62	105.99	101.50
80	BT	121	PRO	N-CA-CB	5.62	110.04	103.30
34	2	500	C	N3-C2-O2	-5.61	117.97	121.90
80	BT	56	PRO	N-CA-CB	5.60	110.02	103.30
42	BQ	494	G	C5-C6-O6	5.60	131.96	128.60
42	BQ	1796	G	C8-N9-C1'	5.60	134.28	127.00
78	AP	14	GLY	CA-C-O	-5.60	110.52	120.60
34	2	1509	C	N1-C2-O2	5.60	122.26	118.90
42	BQ	1716	U	P-O3'-C3'	5.60	126.42	119.70
31	BB	179	ARG	NE-CZ-NH2	-5.58	117.51	120.30
34	2	1705	C	N1-C2-O2	5.57	122.24	118.90
34	2	590	C	C6-N1-C2	-5.57	118.07	120.30
34	2	1499	G	N3-C4-N9	-5.57	122.66	126.00
42	BQ	1437	C	C6-N1-C2	-5.56	118.08	120.30
36	b	28	ARG	C-N-CD	-5.56	108.37	120.60
42	BQ	2378	C	C2-N1-C1'	5.56	124.91	118.80
42	BQ	548	G	N1-C6-O6	-5.54	116.57	119.90
34	2	552	G	C6-C5-N7	-5.54	127.08	130.40
34	2	1082	C	C2-N1-C1'	5.54	124.90	118.80
42	BQ	3181	C	C2-N1-C1'	5.54	124.90	118.80
42	BQ	1577	G	N1-C2-N2	-5.54	111.22	116.20
34	2	1307	U	N3-C2-O2	-5.53	118.33	122.20
34	2	405	C	N1-C2-O2	5.52	122.22	118.90
42	BQ	3269	U	N3-C2-O2	-5.52	118.33	122.20
42	BQ	1349	G	N3-C4-N9	5.52	129.31	126.00
42	BQ	1105	A	N9-C4-C5	-5.52	103.59	105.80
42	BQ	1349	G	C4-N9-C1'	5.52	133.68	126.50
42	BQ	1135	A	C5-C6-N6	-5.52	119.28	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
44	BS	127	U	C2-N1-C1'	5.51	124.32	117.70
34	2	590	C	N1-C2-O2	5.51	122.21	118.90
34	2	934	C	N1-C2-O2	5.49	122.19	118.90
42	BQ	242	C	N3-C2-O2	-5.48	118.06	121.90
42	BQ	982	C	C2-N1-C1'	5.48	124.83	118.80
42	BQ	1578	C	N1-C2-O2	5.48	122.19	118.90
42	BQ	2080	C	N1-C2-O2	5.48	122.19	118.90
42	BQ	3193	C	N1-C2-O2	5.47	122.18	118.90
42	BQ	1444	G	C4-C5-N7	5.46	112.98	110.80
42	BQ	2098	C	N1-C2-O2	5.46	122.17	118.90
42	BQ	2772	C	N1-C2-O2	5.46	122.17	118.90
42	BQ	1796	G	N3-C4-N9	-5.45	122.73	126.00
34	2	352	A	C6-N1-C2	-5.45	115.33	118.60
34	2	1696	G	N1-C2-N2	-5.45	111.30	116.20
42	BQ	920	A	C5-C6-N6	-5.45	119.34	123.70
42	BQ	1097	G	P-O3'-C3'	5.45	126.24	119.70
42	BQ	2150	G	N1-C2-N2	-5.45	111.29	116.20
42	BQ	895	A	C5-N7-C8	-5.44	101.18	103.90
22	U	158	ASP	CB-CG-OD1	5.44	123.20	118.30
42	BQ	2875	U	C5-C6-N1	5.43	125.42	122.70
34	2	735	C	N1-C2-O2	5.41	122.15	118.90
42	BQ	1796	G	C4-N9-C1'	-5.41	119.47	126.50
34	2	590	C	C2-N1-C1'	5.41	124.75	118.80
42	BQ	2407	C	C2-N1-C1'	5.40	124.74	118.80
42	BQ	656	A	N7-C8-N9	5.40	116.50	113.80
44	BS	10	A	C6-C5-N7	-5.40	128.52	132.30
34	2	857	U	C4-C5-C6	-5.40	116.46	119.70
42	BQ	630	A	N9-C4-C5	-5.40	103.64	105.80
78	AP	79	THR	N-CA-C	-5.40	96.43	111.00
1	x	97	ARG	NE-CZ-NH1	5.39	122.99	120.30
34	2	278	U	P-O3'-C3'	5.38	126.16	119.70
34	2	819	G	P-O3'-C3'	5.38	126.16	119.70
34	2	352	A	C8-N9-C4	-5.38	103.65	105.80
34	2	1498	G	C4-N9-C1'	5.38	133.49	126.50
42	BQ	1661	G	C6-C5-N7	-5.38	127.17	130.40
42	BQ	910	G	C2-N3-C4	-5.37	109.21	111.90
1	x	176	ARG	NE-CZ-NH1	5.37	122.98	120.30
42	BQ	2492	C	C6-N1-C2	-5.37	118.15	120.30
34	2	814	A	C5-C6-N1	5.36	120.38	117.70
34	2	874	C	C6-N1-C2	-5.36	118.16	120.30
42	BQ	3194	C	N1-C2-N3	5.36	122.95	119.20
73	AF	11	ARG	NE-CZ-NH2	-5.35	117.62	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	BM	31	ARG	NE-CZ-NH1	5.35	122.97	120.30
37	c	19	ARG	NE-CZ-NH2	5.34	122.97	120.30
42	BQ	3181	C	N3-C2-O2	-5.34	118.16	121.90
42	BQ	1604	G	C4-N9-C1'	5.34	133.44	126.50
34	2	498	G	N1-C6-O6	-5.34	116.70	119.90
42	BQ	2531	C	C6-N1-C2	-5.34	118.17	120.30
42	BQ	3317	U	C2-N1-C1'	5.33	124.10	117.70
42	BQ	2378	C	C6-N1-C2	-5.33	118.17	120.30
42	BQ	363	G	N3-C4-N9	-5.33	122.80	126.00
42	BQ	921	A	N1-C6-N6	5.32	121.79	118.60
42	BQ	801	A	C5-C6-N1	5.30	120.35	117.70
42	BQ	921	A	C5-C6-N6	-5.30	119.46	123.70
34	2	498	G	C8-N9-C1'	5.30	133.89	127.00
42	BQ	1863	G	C2-N3-C4	-5.30	109.25	111.90
42	BQ	2142	A	N9-C4-C5	-5.30	103.68	105.80
42	BQ	2874	G	N3-C4-N9	-5.29	122.82	126.00
42	BQ	16	A	N9-C4-C5	-5.29	103.68	105.80
42	BQ	3194	C	C6-N1-C1'	5.29	127.15	120.80
42	BQ	1661	G	C4-N9-C1'	5.29	133.38	126.50
42	BQ	2772	C	N3-C2-O2	-5.29	118.20	121.90
34	2	276	C	C6-N1-C2	-5.29	118.19	120.30
20	S	3	ARG	NE-CZ-NH1	5.28	122.94	120.30
42	BQ	1597	C	C5-C6-N1	5.28	123.64	121.00
42	BQ	628	A	C5-N7-C8	-5.28	101.26	103.90
45	AW	23	ARG	NE-CZ-NH1	5.28	122.94	120.30
42	BQ	1562	C	C2-N1-C1'	5.27	124.60	118.80
42	BQ	3214	U	C2-N1-C1'	5.27	124.02	117.70
42	BQ	1577	G	C5-C6-O6	5.26	131.76	128.60
42	BQ	543	C	N3-C2-O2	-5.26	118.22	121.90
42	BQ	386	A	N1-C6-N6	5.25	121.75	118.60
34	2	1273	G	P-O3'-C3'	5.24	125.99	119.70
23	V	8	ARG	NE-CZ-NH2	5.24	122.92	120.30
42	BQ	2909	U	C5-C4-O4	-5.24	122.76	125.90
42	BQ	1582	C	OP1-P-O3'	5.24	116.72	105.20
34	2	1527	C	C6-N1-C2	-5.24	118.20	120.30
42	BQ	3078	U	P-O3'-C3'	5.23	125.97	119.70
34	2	814	A	C5-C6-N6	5.23	127.88	123.70
42	BQ	648	C	C5-C4-N4	-5.23	116.54	120.20
42	BQ	665	A	C5-N7-C8	-5.23	101.29	103.90
42	BQ	1858	A	O4'-C1'-N9	5.23	112.38	108.20
42	BQ	2356	A	C5-C6-N6	-5.23	119.52	123.70
49	BO	218	ARG	NE-CZ-NH1	5.23	122.91	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
42	BQ	1444	G	C6-C5-N7	-5.23	127.26	130.40
34	2	126	A	N1-C6-N6	-5.22	115.47	118.60
44	BS	10	A	N7-C8-N9	5.22	116.41	113.80
42	BQ	776	U	N1-C2-N3	5.22	118.03	114.90
42	BQ	2378	C	N1-C2-O2	5.21	122.03	118.90
34	2	139	C	P-O3'-C3'	5.21	125.96	119.70
42	BQ	2361	A	N1-C6-N6	5.21	121.73	118.60
1	x	98	ARG	NE-CZ-NH1	5.21	122.90	120.30
34	2	1438	G	N1-C6-O6	-5.21	116.78	119.90
34	2	1145	U	N3-C2-O2	-5.20	118.56	122.20
42	BQ	3200	G	N3-C4-C5	5.20	131.20	128.60
42	BQ	1556	C	N3-C2-O2	-5.20	118.26	121.90
42	BQ	1625	A	N9-C4-C5	-5.20	103.72	105.80
34	2	1498	G	C8-N9-C1'	-5.19	120.26	127.00
42	BQ	1608	C	C6-N1-C2	-5.19	118.22	120.30
29	BA	244	ARG	NE-CZ-NH1	5.19	122.89	120.30
34	2	352	A	P-O3'-C3'	5.18	125.92	119.70
42	BQ	1278	A	O4'-C1'-N9	5.18	112.35	108.20
42	BQ	1562	C	P-O3'-C3'	5.18	125.92	119.70
34	2	490	C	N1-C2-N3	5.18	122.83	119.20
31	BB	179	ARG	NE-CZ-NH1	5.18	122.89	120.30
42	BQ	916	G	P-O3'-C3'	5.18	125.91	119.70
42	BQ	3306	U	C2-N1-C1'	5.17	123.91	117.70
42	BQ	1561	G	O4'-C1'-N9	5.16	112.33	108.20
73	AF	22	CYS	C-N-CA	5.16	133.13	122.30
42	BQ	2836	C	N1-C2-O2	5.15	121.99	118.90
42	BQ	656	A	C4-C5-N7	5.15	113.28	110.70
42	BQ	906	A	C5-C6-N6	-5.15	119.58	123.70
42	BQ	1622	U	C5-C6-N1	5.15	125.27	122.70
42	BQ	2257	C	N3-C2-O2	-5.14	118.30	121.90
42	BQ	2027	C	N1-C2-O2	5.14	121.98	118.90
34	2	225	A	N9-C4-C5	-5.14	103.75	105.80
42	BQ	2378	C	C5-C4-N4	-5.14	116.61	120.20
34	2	1659	A	C5-C6-N6	-5.13	119.59	123.70
1	x	327	GLU	OE1-CD-OE2	5.13	129.46	123.30
34	2	142	G	C8-N9-C1'	5.13	133.67	127.00
42	BQ	895	A	C4-C5-N7	5.13	113.27	110.70
34	2	186	C	C6-N1-C2	-5.12	118.25	120.30
42	BQ	2027	C	N3-C2-O2	-5.12	118.31	121.90
42	BQ	1849	C	C5-C4-N4	-5.12	116.61	120.20
42	BQ	2836	C	C2-N1-C1'	5.11	124.42	118.80
42	BQ	2985	C	C6-N1-C2	-5.11	118.26	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
73	AF	24	ARG	NE-CZ-NH1	5.11	122.85	120.30
34	2	497	G	C8-N9-C4	-5.10	104.36	106.40
34	2	736	C	C6-N1-C2	-5.09	118.26	120.30
34	2	1285	U	N3-C4-O4	-5.09	115.83	119.40
34	2	1307	U	C5-C6-N1	5.09	125.25	122.70
34	2	1389	C	C6-N1-C1'	-5.09	114.69	120.80
42	BQ	72	C	N3-C4-N4	-5.09	114.44	118.00
77	AS	23	ARG	NE-CZ-NH2	5.09	122.84	120.30
42	BQ	1279	C	N1-C2-O2	5.08	121.95	118.90
78	AP	42	ARG	NE-CZ-NH1	5.08	122.84	120.30
80	BT	137	PRO	N-CA-CB	5.08	109.39	103.30
42	BQ	1586	G	C2-N3-C4	-5.08	109.36	111.90
42	BQ	2080	C	N3-C2-O2	-5.07	118.35	121.90
50	AD	166	ARG	NE-CZ-NH1	5.07	122.83	120.30
42	BQ	2277	C	C5-C4-N4	-5.06	116.66	120.20
34	2	224	C	N3-C2-O2	-5.06	118.36	121.90
42	BQ	1582	C	P-O3'-C3'	5.06	125.77	119.70
42	BQ	2142	A	N1-C6-N6	5.06	121.63	118.60
42	BQ	2541	U	P-O3'-C3'	5.06	125.77	119.70
18	Q	165	ARG	NE-CZ-NH1	5.06	122.83	120.30
22	U	141	ARG	NE-CZ-NH1	5.05	122.83	120.30
34	2	736	C	N1-C2-O2	5.05	121.93	118.90
21	T	88	ARG	NE-CZ-NH1	5.05	122.83	120.30
42	BQ	1355	A	P-O3'-C3'	5.05	125.76	119.70
1	x	358	GLU	OE1-CD-OE2	5.05	129.36	123.30
46	BE	220	ARG	NE-CZ-NH1	5.04	122.82	120.30
42	BQ	1608	C	C2-N1-C1'	5.04	124.35	118.80
75	AL	41	ARG	NE-CZ-NH1	5.04	122.82	120.30
42	BQ	494	G	N1-C6-O6	-5.03	116.88	119.90
48	BM	31	ARG	NE-CZ-NH2	-5.03	117.78	120.30
34	2	500	C	N1-C2-O2	5.02	121.91	118.90
42	BQ	2977	G	C2-N3-C4	-5.02	109.39	111.90
34	2	1527	C	C2-N1-C1'	5.01	124.31	118.80
42	BQ	2361	A	C5-C6-N6	-5.01	119.69	123.70
42	BQ	934	G	C4-N9-C1'	5.00	133.01	126.50
5	D	39	ASP	CB-CG-OD1	5.00	122.80	118.30
34	2	656	G	N3-C4-C5	-5.00	126.10	128.60

There are no chirality outliers.

All (30) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
28	AA	30	THR	Peptide
28	AA	76	ALA	Peptide
28	AA	77	GLN	Peptide
66	AR	115	LYS	Peptide
66	AR	14	HIS	Peptide
67	AV	19	ASN	Peptide
67	AV	20	GLY	Peptide
68	AY	47	ASN	Peptide
3	B	42	LEU	Peptide
31	BB	161	LYS	Peptide
33	BC	7	VAL	Peptide
46	BE	13	GLY	Peptide
46	BE	3	ARG	Peptide
46	BE	318	LEU	Peptide
49	BO	232	ARG	Peptide
72	BP	83	LYS	Peptide
80	BT	191	VAL	Peptide
80	BT	192	SER	Peptide
80	BT	203	SER	Peptide
80	BT	56	PRO	Peptide
5	D	108	ARG	Peptide
7	F	40	GLU	Peptide
10	I	120	GLY	Peptide
13	L	19	THR	Peptide
15	N	147	VAL	Peptide
20	S	193	GLY	Peptide
22	U	64	VAL	Peptide
27	Z	90	ARG	Peptide
36	b	54	ASP	Peptide
1	x	223	TYR	Sidechain

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	x	365/387 (94%)	349 (96%)	14 (4%)	2 (0%)	29	66
2	A	220/222 (99%)	208 (94%)	12 (6%)	0	100	100
3	B	204/206 (99%)	190 (93%)	14 (7%)	0	100	100
4	C	90/92 (98%)	77 (86%)	13 (14%)	0	100	100
5	D	119/121 (98%)	89 (75%)	29 (24%)	1 (1%)	19	57
6	E	115/142 (81%)	100 (87%)	15 (13%)	0	100	100
7	F	139/141 (99%)	124 (89%)	15 (11%)	0	100	100
8	G	117/125 (94%)	112 (96%)	5 (4%)	0	100	100
9	H	143/145 (99%)	129 (90%)	14 (10%)	0	100	100
10	I	141/143 (99%)	128 (91%)	13 (9%)	0	100	100
11	J	98/100 (98%)	88 (90%)	10 (10%)	0	100	100
12	K	80/82 (98%)	71 (89%)	9 (11%)	0	100	100
13	L	61/63 (97%)	56 (92%)	5 (8%)	0	100	100
14	M	51/53 (96%)	49 (96%)	2 (4%)	0	100	100
15	N	71/73 (97%)	48 (68%)	23 (32%)	0	100	100
16	O	310/312 (99%)	265 (86%)	45 (14%)	0	100	100
17	P	204/206 (99%)	181 (89%)	23 (11%)	0	100	100
18	Q	222/232 (96%)	196 (88%)	26 (12%)	0	100	100
19	R	214/216 (99%)	189 (88%)	25 (12%)	0	100	100
20	S	256/258 (99%)	224 (88%)	32 (12%)	0	100	100
21	T	226/228 (99%)	210 (93%)	16 (7%)	0	100	100
22	U	182/184 (99%)	160 (88%)	22 (12%)	0	100	100
23	V	183/198 (92%)	164 (90%)	19 (10%)	0	100	100
24	W	182/184 (99%)	162 (89%)	19 (10%)	1 (0%)	29	66
25	X	140/142 (99%)	125 (89%)	15 (11%)	0	100	100
26	Y	148/150 (99%)	131 (88%)	17 (12%)	0	100	100
27	Z	125/127 (98%)	108 (86%)	17 (14%)	0	100	100
28	AA	231/233 (99%)	209 (90%)	22 (10%)	0	100	100
29	BA	384/386 (100%)	354 (92%)	30 (8%)	0	100	100
30	AB	134/136 (98%)	127 (95%)	7 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	BB	183/185 (99%)	170 (93%)	13 (7%)	0	100	100
32	AC	97/99 (98%)	91 (94%)	6 (6%)	0	100	100
33	BC	107/109 (98%)	92 (86%)	15 (14%)	0	100	100
35	a	85/87 (98%)	72 (85%)	13 (15%)	0	100	100
36	b	127/129 (98%)	114 (90%)	13 (10%)	0	100	100
37	c	142/144 (99%)	122 (86%)	20 (14%)	0	100	100
38	d	132/134 (98%)	123 (93%)	9 (7%)	0	100	100
39	e	95/97 (98%)	85 (90%)	10 (10%)	0	100	100
40	f	79/81 (98%)	71 (90%)	8 (10%)	0	100	100
41	g	58/60 (97%)	48 (83%)	10 (17%)	0	100	100
45	AW	249/251 (99%)	220 (88%)	29 (12%)	0	100	100
46	BE	359/361 (99%)	320 (89%)	38 (11%)	1 (0%)	41	74
47	BI	292/294 (99%)	268 (92%)	24 (8%)	0	100	100
48	BM	163/175 (93%)	146 (90%)	17 (10%)	0	100	100
49	BO	220/222 (99%)	205 (93%)	15 (7%)	0	100	100
50	AD	189/191 (99%)	172 (91%)	17 (9%)	0	100	100
51	BD	216/218 (99%)	188 (87%)	28 (13%)	0	100	100
52	AG	167/169 (99%)	155 (93%)	12 (7%)	0	100	100
53	AJ	191/193 (99%)	169 (88%)	21 (11%)	1 (0%)	29	66
54	AM	134/136 (98%)	120 (90%)	14 (10%)	0	100	100
55	AQ	201/203 (99%)	181 (90%)	20 (10%)	0	100	100
56	AU	195/197 (99%)	186 (95%)	9 (5%)	0	100	100
57	AX	181/183 (99%)	165 (91%)	16 (9%)	0	100	100
58	BF	186/188 (99%)	178 (96%)	8 (4%)	0	100	100
59	BH	169/171 (99%)	157 (93%)	12 (7%)	0	100	100
60	BJ	157/159 (99%)	142 (90%)	15 (10%)	0	100	100
61	BL	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
62	AE	124/126 (98%)	106 (86%)	18 (14%)	0	100	100
63	AH	119/121 (98%)	110 (92%)	9 (8%)	0	100	100
64	AK	123/125 (98%)	116 (94%)	7 (6%)	0	100	100
65	AN	133/135 (98%)	117 (88%)	16 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
66	AR	146/148 (99%)	128 (88%)	18 (12%)	0	100	100
67	AV	56/58 (97%)	46 (82%)	10 (18%)	0	100	100
68	AY	94/96 (98%)	91 (97%)	3 (3%)	0	100	100
69	BG	125/127 (98%)	114 (91%)	11 (9%)	0	100	100
70	BK	104/106 (98%)	98 (94%)	6 (6%)	0	100	100
71	BN	110/112 (98%)	105 (96%)	5 (4%)	0	100	100
72	BP	117/119 (98%)	109 (93%)	8 (7%)	0	100	100
73	AF	79/81 (98%)	72 (91%)	7 (9%)	0	100	100
74	AI	75/77 (97%)	71 (95%)	4 (5%)	0	100	100
75	AL	48/50 (96%)	45 (94%)	3 (6%)	0	100	100
76	AO	50/52 (96%)	43 (86%)	7 (14%)	0	100	100
77	AS	23/25 (92%)	23 (100%)	0	0	100	100
78	AP	101/103 (98%)	93 (92%)	8 (8%)	0	100	100
79	AT	89/91 (98%)	85 (96%)	4 (4%)	0	100	100
80	BT	208/217 (96%)	166 (80%)	31 (15%)	11 (5%)	2	23
All	All	11551/11792 (98%)	10413 (90%)	1121 (10%)	17 (0%)	54	83

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
80	BT	56	PRO
80	BT	59	PRO
80	BT	87	VAL
80	BT	121	PRO
80	BT	126	PRO
80	BT	134	PHE
80	BT	135	PRO
1	x	69	LYS
5	D	109	GLU
46	BE	4	PRO
80	BT	61	PRO
80	BT	136	THR
80	BT	204	LEU
80	BT	36	VAL
53	AJ	61	PRO
24	W	18	PRO
1	x	28	GLY

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	x	322/340 (95%)	320 (99%)	2 (1%)	86 92
2	A	182/182 (100%)	181 (100%)	1 (0%)	88 94
3	B	172/173 (99%)	172 (100%)	0	100 100
4	C	77/85 (91%)	77 (100%)	0	100 100
5	D	88/98 (90%)	88 (100%)	0	100 100
6	E	95/118 (80%)	95 (100%)	0	100 100
7	F	117/117 (100%)	117 (100%)	0	100 100
8	G	101/113 (89%)	101 (100%)	0	100 100
9	H	127/128 (99%)	126 (99%)	1 (1%)	81 89
10	I	115/115 (100%)	115 (100%)	0	100 100
11	J	93/93 (100%)	92 (99%)	1 (1%)	73 85
12	K	67/73 (92%)	66 (98%)	1 (2%)	65 81
13	L	55/56 (98%)	55 (100%)	0	100 100
14	M	47/47 (100%)	46 (98%)	1 (2%)	53 74
15	N	56/63 (89%)	56 (100%)	0	100 100
16	O	250/257 (97%)	250 (100%)	0	100 100
17	P	170/173 (98%)	170 (100%)	0	100 100
18	Q	200/205 (98%)	199 (100%)	1 (0%)	88 94
19	R	175/175 (100%)	175 (100%)	0	100 100
20	S	220/220 (100%)	219 (100%)	1 (0%)	88 94
21	T	189/195 (97%)	187 (99%)	2 (1%)	73 85
22	U	163/165 (99%)	163 (100%)	0	100 100
23	V	148/159 (93%)	148 (100%)	0	100 100
24	W	156/157 (99%)	155 (99%)	1 (1%)	86 92
25	X	126/127 (99%)	125 (99%)	1 (1%)	81 89
26	Y	127/127 (100%)	125 (98%)	2 (2%)	62 79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
27	Z	90/96 (94%)	89 (99%)	1 (1%)	73 85
28	AA	187/191 (98%)	186 (100%)	1 (0%)	88 94
29	BA	318/322 (99%)	317 (100%)	1 (0%)	92 96
30	AB	104/104 (100%)	104 (100%)	0	100 100
31	BB	150/150 (100%)	149 (99%)	1 (1%)	84 91
32	AC	80/81 (99%)	80 (100%)	0	100 100
33	BC	92/96 (96%)	92 (100%)	0	100 100
35	a	71/74 (96%)	71 (100%)	0	100 100
36	b	110/110 (100%)	110 (100%)	0	100 100
37	c	119/119 (100%)	119 (100%)	0	100 100
38	d	102/112 (91%)	101 (99%)	1 (1%)	76 86
39	e	82/83 (99%)	82 (100%)	0	100 100
40	f	70/70 (100%)	70 (100%)	0	100 100
41	g	50/51 (98%)	50 (100%)	0	100 100
45	AW	190/193 (98%)	190 (100%)	0	100 100
46	BE	288/288 (100%)	287 (100%)	1 (0%)	92 96
47	BI	241/243 (99%)	241 (100%)	0	100 100
48	BM	139/154 (90%)	139 (100%)	0	100 100
49	BO	186/186 (100%)	186 (100%)	0	100 100
50	AD	168/171 (98%)	168 (100%)	0	100 100
51	BD	185/185 (100%)	184 (100%)	1 (0%)	88 94
52	AG	145/147 (99%)	144 (99%)	1 (1%)	84 91
53	AJ	154/154 (100%)	152 (99%)	2 (1%)	69 82
54	AM	107/107 (100%)	107 (100%)	0	100 100
55	AQ	175/175 (100%)	174 (99%)	1 (1%)	86 92
56	AU	160/160 (100%)	160 (100%)	0	100 100
57	AX	138/145 (95%)	138 (100%)	0	100 100
58	BF	152/153 (99%)	150 (99%)	2 (1%)	69 82
59	BH	155/155 (100%)	155 (100%)	0	100 100
60	BJ	135/136 (99%)	135 (100%)	0	100 100
61	BL	87/87 (100%)	87 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
62	AE	56/108 (52%)	56 (100%)	0	100 100
63	AH	104/105 (99%)	104 (100%)	0	100 100
64	AK	108/108 (100%)	108 (100%)	0	100 100
65	AN	112/115 (97%)	111 (99%)	1 (1%)	78 88
66	AR	117/118 (99%)	116 (99%)	1 (1%)	78 88
67	AV	46/46 (100%)	45 (98%)	1 (2%)	52 72
68	AY	81/81 (100%)	81 (100%)	0	100 100
69	BG	108/109 (99%)	108 (100%)	0	100 100
70	BK	90/90 (100%)	90 (100%)	0	100 100
71	BN	95/95 (100%)	94 (99%)	1 (1%)	73 85
72	BP	104/104 (100%)	104 (100%)	0	100 100
73	AF	67/67 (100%)	65 (97%)	2 (3%)	41 66
74	AI	68/68 (100%)	68 (100%)	0	100 100
75	AL	45/45 (100%)	45 (100%)	0	100 100
76	AO	45/47 (96%)	42 (93%)	3 (7%)	16 47
77	AS	22/23 (96%)	22 (100%)	0	100 100
78	AP	87/88 (99%)	87 (100%)	0	100 100
79	AT	71/71 (100%)	69 (97%)	2 (3%)	43 68
All	All	9494/9747 (97%)	9455 (100%)	39 (0%)	91 95

All (39) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	x	221	SER
1	x	230	ASP
2	A	76	ARG
9	H	145	ARG
11	J	43	LYS
12	K	85	LYS
14	M	42	CYS
18	Q	7	LYS
20	S	211	LYS
21	T	143	LYS
21	T	214	LYS
24	W	149	ARG
25	X	67	ARG

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Mol	Chain	Res	Type
26	Y	64	ARG
26	Y	76	LYS
27	Z	136	ARG
28	AA	213	LYS
29	BA	332	ARG
31	BB	12	ARG
38	d	111	LYS
46	BE	98	ARG
51	BD	185	ARG
52	AG	85	LYS
53	AJ	31	LYS
53	AJ	104	ARG
55	AQ	27	VAL
58	BF	81	ARG
58	BF	165	LYS
65	AN	3	LYS
66	AR	92	LYS
67	AV	33	LYS
71	BN	59	PRO
73	AF	19	CYS
73	AF	22	CYS
76	AO	96	CYS
76	AO	112	LYS
76	AO	115	CYS
79	AT	4	ARG
79	AT	57	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31) such sidechains are listed below:

Mol	Chain	Res	Type
1	x	275	HIS
3	B	103	ASN
4	C	29	GLN
6	E	70	ASN
7	F	32	ASN
9	H	25	ASN
9	H	103	ASN
9	H	104	ASN
11	J	49	ASN
15	N	123	ASN
15	N	151	ASN
18	Q	177	GLN

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Mol	Chain	Res	Type
20	S	130	GLN
28	AA	240	ASN
29	BA	279	ASN
36	b	70	ASN
38	d	34	ASN
45	AW	97	ASN
45	AW	140	ASN
45	AW	144	ASN
45	AW	194	ASN
46	BE	48	GLN
50	AD	116	ASN
51	BD	55	ASN
55	AQ	57	GLN
57	AX	10	ASN
67	AV	43	HIS
68	AY	75	ASN
71	BN	52	GLN
72	BP	16	GLN
78	AP	23	HIS

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
34	2	1768/1798 (98%)	536 (30%)	53 (2%)
42	BQ	3296/3301 (99%)	760 (23%)	44 (1%)
43	BR	120/121 (99%)	15 (12%)	1 (0%)
44	BS	157/158 (99%)	32 (20%)	3 (1%)
All	All	5341/5378 (99%)	1343 (25%)	101 (1%)

All (1343) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
34	2	2	A
34	2	4	C
34	2	14	C
34	2	25	C
34	2	26	A
34	2	34	G
34	2	43	A
34	2	45	U
34	2	47	A

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Mol	Chain	Res	Type
34	2	56	U
34	2	57	G
34	2	62	A
34	2	65	A
34	2	67	A
34	2	68	A
34	2	69	G
34	2	73	U
34	2	74	U
34	2	75	U
34	2	76	A
34	2	78	A
34	2	79	C
34	2	80	A
34	2	81	G
34	2	104	A
34	2	114	C
34	2	116	U
34	2	121	U
34	2	127	G
34	2	129	U
34	2	130	C
34	2	131	C
34	2	132	U
34	2	133	U
34	2	134	U
34	2	135	A
34	2	136	C
34	2	137	U
34	2	138	A
34	2	140	A
34	2	141	U
34	2	142	G
34	2	153	G
34	2	155	U
34	2	156	A
34	2	158	U
34	2	161	U
34	2	168	A
34	2	171	A
34	2	172	C
34	2	174	U

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Mol	Chain	Res	Type
34	2	176	C
34	2	178	U
34	2	179	A
34	2	182	A
34	2	185	U
34	2	186	C
34	2	187	G
34	2	188	A
34	2	189	C
34	2	191	C
34	2	193	U
34	2	194	U
34	2	195	G
34	2	201	G
34	2	203	U
34	2	204	G
34	2	216	U
34	2	217	A
34	2	218	A
34	2	223	U
34	2	224	C
34	2	225	A
34	2	227	U
34	2	228	G
34	2	230	C
34	2	232	U
34	2	233	C
34	2	234	G
34	2	235	G
34	2	236	A
34	2	238	U
34	2	240	U
34	2	241	U
34	2	243	G
34	2	246	G
34	2	250	C
34	2	256	A
34	2	260	U
34	2	261	U
34	2	265	A
34	2	270	C
34	2	272	U

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Mol	Chain	Res	Type
34	2	274	G
34	2	276	C
34	2	277	U
34	2	278	U
34	2	279	G
34	2	280	U
34	2	287	G
34	2	299	A
34	2	313	U
34	2	314	C
34	2	316	A
34	2	320	U
34	2	321	C
34	2	322	G
34	2	323	A
34	2	324	U
34	2	330	G
34	2	333	A
34	2	334	G
34	2	337	G
34	2	338	C
34	2	352	A
34	2	353	A
34	2	359	A
34	2	360	A
34	2	361	C
34	2	369	A
34	2	370	A
34	2	373	G
34	2	378	A
34	2	380	U
34	2	388	G
34	2	390	G
34	2	400	A
34	2	401	A
34	2	402	C
34	2	404	G
34	2	406	U
34	2	411	C
34	2	415	C
34	2	417	A
34	2	419	G

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Mol	Chain	Res	Type
34	2	423	G
34	2	424	C
34	2	425	A
34	2	426	G
34	2	434	G
34	2	435	C
34	2	438	A
34	2	439	U
34	2	444	C
34	2	446	A
34	2	447	U
34	2	448	C
34	2	454	U
34	2	460	A
34	2	468	A
34	2	482	U
34	2	485	A
34	2	487	G
34	2	489	C
34	2	491	C
34	2	492	A
34	2	493	U
34	2	494	U
34	2	495	C
34	2	496	G
34	2	498	G
34	2	499	U
34	2	500	C
34	2	502	U
34	2	506	A
34	2	507	U
34	2	510	G
34	2	511	A
34	2	512	A
34	2	513	U
34	2	517	U
34	2	518	A
34	2	519	C
34	2	520	A
34	2	525	A
34	2	527	A
34	2	529	A

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Mol	Chain	Res	Type
34	2	534	A
34	2	538	A
34	2	539	G
34	2	540	G
34	2	541	A
34	2	542	A
34	2	543	C
34	2	554	C
34	2	555	A
34	2	556	A
34	2	557	G
34	2	558	U
34	2	565	C
34	2	571	G
34	2	572	C
34	2	578	U
34	2	579	A
34	2	580	A
34	2	594	A
34	2	595	G
34	2	606	A
34	2	609	U
34	2	610	G
34	2	611	U
34	2	617	U
34	2	619	A
34	2	620	A
34	2	623	A
34	2	624	G
34	2	635	A
34	2	638	U
34	2	639	U
34	2	640	U
34	2	641	G
34	2	643	G
34	2	645	C
34	2	651	G
34	2	653	C
34	2	654	C
34	2	655	G
34	2	656	G
34	2	677	G

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Mol	Chain	Res	Type
34	2	678	A
34	2	680	U
34	2	682	C
34	2	684	A
34	2	687	G
34	2	693	U
34	2	694	U
34	2	696	C
34	2	697	C
34	2	698	U
34	2	700	C
34	2	702	G
34	2	703	G
34	2	704	C
34	2	705	U
34	2	706	A
34	2	707	A
34	2	708	C
34	2	709	C
34	2	710	U
34	2	711	U
34	2	712	G
34	2	714	G
34	2	728	U
34	2	729	G
34	2	730	G
34	2	732	G
34	2	733	A
34	2	736	C
34	2	738	G
34	2	739	G
34	2	741	C
34	2	742	U
34	2	743	U
34	2	744	U
34	2	745	U
34	2	753	A
34	2	755	A
34	2	756	A
34	2	765	G
34	2	766	U
34	2	771	A

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Mol	Chain	Res	Type
34	2	774	A
34	2	775	G
34	2	778	G
34	2	781	U
34	2	782	U
34	2	783	G
34	2	787	G
34	2	789	A
34	2	794	U
34	2	804	A
34	2	807	A
34	2	812	A
34	2	813	U
34	2	814	A
34	2	815	G
34	2	816	G
34	2	818	C
34	2	819	G
34	2	820	U
34	2	821	U
34	2	823	G
34	2	832	U
34	2	833	U
34	2	836	U
34	2	837	G
34	2	839	U
34	2	840	U
34	2	841	U
34	2	846	G
34	2	851	U
34	2	852	C
34	2	855	A
34	2	856	A
34	2	857	U
34	2	863	A
34	2	865	A
34	2	873	U
34	2	876	G
34	2	877	G
34	2	882	U
34	2	886	U
34	2	898	A

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Mol	Chain	Res	Type
34	2	899	G
34	2	901	G
34	2	902	G
34	2	904	G
34	2	912	U
34	2	913	G
34	2	929	A
34	2	932	U
34	2	933	A
34	2	934	C
34	2	935	U
34	2	940	A
34	2	945	U
34	2	960	U
34	2	964	U
34	2	966	A
34	2	970	A
34	2	973	A
34	2	977	A
34	2	988	A
34	2	989	U
34	2	992	A
34	2	996	U
34	2	998	A
34	2	1001	A
34	2	1004	U
34	2	1024	U
34	2	1026	A
34	2	1028	C
34	2	1029	U
34	2	1032	G
34	2	1039	A
34	2	1040	G
34	2	1052	U
34	2	1053	G
34	2	1057	U
34	2	1058	U
34	2	1059	U
34	2	1060	U
34	2	1061	A
34	2	1062	A
34	2	1063	U

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Mol	Chain	Res	Type
34	2	1074	G
34	2	1080	U
34	2	1081	A
34	2	1082	C
34	2	1092	A
34	2	1096	C
34	2	1099	U
34	2	1100	G
34	2	1109	G
34	2	1111	G
34	2	1113	A
34	2	1138	A
34	2	1156	C
34	2	1158	C
34	2	1160	A
34	2	1164	G
34	2	1167	G
34	2	1170	G
34	2	1183	A
34	2	1185	U
34	2	1186	U
34	2	1187	U
34	2	1191	U
34	2	1194	A
34	2	1196	A
34	2	1197	C
34	2	1199	G
34	2	1200	G
34	2	1208	A
34	2	1212	G
34	2	1214	U
34	2	1217	A
34	2	1218	G
34	2	1227	A
34	2	1229	G
34	2	1241	G
34	2	1243	G
34	2	1244	A
34	2	1245	G
34	2	1246	C
34	2	1251	U
34	2	1252	C

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Mol	Chain	Res	Type
34	2	1256	A
34	2	1257	U
34	2	1258	U
34	2	1263	G
34	2	1264	G
34	2	1265	G
34	2	1269	U
34	2	1273	G
34	2	1274	C
34	2	1275	A
34	2	1276	U
34	2	1285	U
34	2	1294	G
34	2	1301	U
34	2	1307	U
34	2	1314	U
34	2	1315	U
34	2	1318	G
34	2	1321	A
34	2	1322	A
34	2	1325	A
34	2	1337	A
34	2	1341	A
34	2	1344	A
34	2	1345	A
34	2	1346	A
34	2	1348	A
34	2	1349	G
34	2	1354	G
34	2	1360	A
34	2	1361	U
34	2	1363	U
34	2	1367	G
34	2	1370	U
34	2	1371	A
34	2	1372	U
34	2	1373	C
34	2	1381	U
34	2	1382	A
34	2	1383	G
34	2	1385	G
34	2	1390	U

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Mol	Chain	Res	Type
34	2	1398	U
34	2	1399	C
34	2	1400	A
34	2	1402	G
34	2	1414	U
34	2	1415	U
34	2	1421	A
34	2	1427	A
34	2	1431	C
34	2	1432	U
34	2	1433	G
34	2	1446	A
34	2	1447	C
34	2	1448	G
34	2	1457	C
34	2	1458	G
34	2	1459	C
34	2	1460	A
34	2	1469	A
34	2	1472	C
34	2	1473	U
34	2	1479	A
34	2	1482	C
34	2	1483	A
34	2	1488	G
34	2	1489	U
34	2	1490	C
34	2	1491	U
34	2	1492	A
34	2	1493	A
34	2	1496	U
34	2	1510	U
34	2	1514	U
34	2	1515	A
34	2	1516	A
34	2	1517	U
34	2	1518	C
34	2	1521	G
34	2	1523	G
34	2	1524	A
34	2	1528	U
34	2	1529	C

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Mol	Chain	Res	Type
34	2	1531	G
34	2	1537	C
34	2	1540	G
34	2	1543	A
34	2	1545	A
34	2	1556	A
34	2	1557	U
34	2	1558	U
34	2	1559	A
34	2	1572	G
34	2	1573	A
34	2	1574	G
34	2	1575	G
34	2	1576	A
34	2	1583	A
34	2	1584	G
34	2	1585	U
34	2	1590	G
34	2	1592	A
34	2	1601	G
34	2	1607	G
34	2	1611	A
34	2	1614	A
34	2	1616	G
34	2	1619	C
34	2	1622	G
34	2	1634	C
34	2	1637	C
34	2	1657	U
34	2	1658	G
34	2	1660	A
34	2	1673	G
34	2	1676	U
34	2	1682	U
34	2	1688	U
34	2	1689	A
34	2	1693	A
34	2	1700	C
34	2	1701	A
34	2	1702	A
34	2	1703	C
34	2	1709	C

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Mol	Chain	Res	Type
34	2	1711	C
34	2	1712	A
34	2	1715	G
34	2	1717	G
34	2	1736	G
34	2	1740	A
34	2	1755	A
34	2	1757	G
34	2	1760	G
34	2	1762	A
34	2	1766	A
34	2	1767	G
34	2	1769	U
34	2	1770	U
34	2	1780	G
34	2	1782	A
34	2	1783	C
34	2	1788	G
34	2	1792	G
34	2	1793	G
34	2	1794	A
34	2	1796	C
34	2	1799	U
42	BQ	6	A
42	BQ	11	A
42	BQ	14	U
42	BQ	15	C
42	BQ	21	G
42	BQ	22	G
42	BQ	26	A
42	BQ	30	G
42	BQ	40	A
42	BQ	43	A
42	BQ	44	U
42	BQ	48	A
42	BQ	49	A
42	BQ	51	A
42	BQ	57	A
42	BQ	60	A
42	BQ	65	A
42	BQ	66	A
42	BQ	73	C

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Mol	Chain	Res	Type
42	BQ	74	G
42	BQ	76	G
42	BQ	85	A
42	BQ	89	A
42	BQ	92	G
42	BQ	109	A
42	BQ	110	G
42	BQ	111	C
42	BQ	113	C
42	BQ	120	G
42	BQ	121	A
42	BQ	122	A
42	BQ	133	U
42	BQ	136	G
42	BQ	143	G
42	BQ	150	A
42	BQ	156	G
42	BQ	157	A
42	BQ	166	C
42	BQ	173	G
42	BQ	187	A
42	BQ	190	U
42	BQ	191	U
42	BQ	200	C
42	BQ	206	G
42	BQ	210	U
42	BQ	211	A
42	BQ	213	A
42	BQ	218	G
42	BQ	219	A
42	BQ	221	A
42	BQ	231	G
42	BQ	236	G
42	BQ	239	G
42	BQ	240	U
42	BQ	243	G
42	BQ	249	U
42	BQ	252	U
42	BQ	258	G
42	BQ	263	C
42	BQ	269	G
42	BQ	282	G

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Mol	Chain	Res	Type
42	BQ	283	G
42	BQ	286	U
42	BQ	295	A
42	BQ	298	U
42	BQ	315	C
42	BQ	323	A
42	BQ	329	U
42	BQ	330	G
42	BQ	334	A
42	BQ	338	A
42	BQ	339	C
42	BQ	346	C
42	BQ	350	C
42	BQ	351	A
42	BQ	376	G
42	BQ	385	A
42	BQ	390	G
42	BQ	395	A
42	BQ	397	A
42	BQ	399	A
42	BQ	401	U
42	BQ	402	A
42	BQ	403	C
42	BQ	404	G
42	BQ	421	G
42	BQ	422	A
42	BQ	438	A
42	BQ	440	A
42	BQ	441	U
42	BQ	442	G
42	BQ	443	G
42	BQ	445	G
42	BQ	446	U
42	BQ	447	U
42	BQ	448	U
42	BQ	449	U
42	BQ	450	G
42	BQ	487	U
42	BQ	488	U
42	BQ	489	U
42	BQ	490	C
42	BQ	491	A

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Mol	Chain	Res	Type
42	BQ	492	C
42	BQ	494	G
42	BQ	498	A
42	BQ	510	G
42	BQ	515	C
42	BQ	517	G
42	BQ	520	U
42	BQ	521	A
42	BQ	535	G
42	BQ	543	C
42	BQ	544	C
42	BQ	545	U
42	BQ	546	C
42	BQ	547	G
42	BQ	552	G
42	BQ	555	U
42	BQ	557	A
42	BQ	559	A
42	BQ	568	G
42	BQ	578	A
42	BQ	579	G
42	BQ	597	G
42	BQ	600	G
42	BQ	603	A
42	BQ	604	G
42	BQ	609	G
42	BQ	610	G
42	BQ	611	A
42	BQ	612	U
42	BQ	619	A
42	BQ	620	U
42	BQ	621	A
42	BQ	625	G
42	BQ	637	C
42	BQ	638	C
42	BQ	642	U
42	BQ	649	A
42	BQ	650	C
42	BQ	660	A
42	BQ	667	C
42	BQ	677	A
42	BQ	681	U

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Mol	Chain	Res	Type
42	BQ	691	A
42	BQ	699	A
42	BQ	705	A
42	BQ	712	G
42	BQ	716	A
42	BQ	718	G
42	BQ	719	U
42	BQ	720	A
42	BQ	726	G
42	BQ	737	G
42	BQ	742	G
42	BQ	758	C
42	BQ	763	G
42	BQ	764	U
42	BQ	765	C
42	BQ	766	U
42	BQ	767	U
42	BQ	771	A
42	BQ	774	G
42	BQ	776	U
42	BQ	777	U
42	BQ	780	A
42	BQ	781	G
42	BQ	785	G
42	BQ	786	A
42	BQ	806	A
42	BQ	808	A
42	BQ	817	A
42	BQ	830	A
42	BQ	832	G
42	BQ	848	A
42	BQ	849	C
42	BQ	850	U
42	BQ	851	C
42	BQ	861	C
42	BQ	865	U
42	BQ	868	C
42	BQ	871	U
42	BQ	874	U
42	BQ	879	U
42	BQ	894	G
42	BQ	895	A

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Mol	Chain	Res	Type
42	BQ	896	A
42	BQ	899	U
42	BQ	906	A
42	BQ	907	G
42	BQ	908	G
42	BQ	914	A
42	BQ	916	G
42	BQ	917	A
42	BQ	921	A
42	BQ	923	C
42	BQ	932	U
42	BQ	934	G
42	BQ	937	G
42	BQ	944	C
42	BQ	959	C
42	BQ	960	U
42	BQ	971	G
42	BQ	974	G
42	BQ	981	U
42	BQ	982	C
42	BQ	991	G
42	BQ	1002	A
42	BQ	1012	G
42	BQ	1015	U
42	BQ	1018	G
42	BQ	1020	G
42	BQ	1021	G
42	BQ	1024	G
42	BQ	1026	A
42	BQ	1028	U
42	BQ	1029	G
42	BQ	1040	A
42	BQ	1041	U
42	BQ	1045	C
42	BQ	1047	A
42	BQ	1049	C
42	BQ	1064	A
42	BQ	1065	A
42	BQ	1072	G
42	BQ	1081	U
42	BQ	1093	A
42	BQ	1094	U

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Mol	Chain	Res	Type
42	BQ	1095	U
42	BQ	1096	U
42	BQ	1097	G
42	BQ	1098	A
42	BQ	1103	A
42	BQ	1104	G
42	BQ	1117	G
42	BQ	1118	C
42	BQ	1128	U
42	BQ	1131	G
42	BQ	1144	U
42	BQ	1145	G
42	BQ	1148	G
42	BQ	1153	A
42	BQ	1158	A
42	BQ	1159	A
42	BQ	1177	G
42	BQ	1178	G
42	BQ	1180	A
42	BQ	1181	U
42	BQ	1182	A
42	BQ	1190	A
42	BQ	1192	C
42	BQ	1193	A
42	BQ	1196	C
42	BQ	1197	A
42	BQ	1201	C
42	BQ	1202	A
42	BQ	1206	G
42	BQ	1208	U
42	BQ	1217	A
42	BQ	1218	U
42	BQ	1222	G
42	BQ	1223	A
42	BQ	1227	C
42	BQ	1229	G
42	BQ	1234	G
42	BQ	1236	G
42	BQ	1237	G
42	BQ	1238	C
42	BQ	1239	C
42	BQ	1240	A

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Mol	Chain	Res	Type
42	BQ	1241	U
42	BQ	1242	G
42	BQ	1243	G
42	BQ	1244	A
42	BQ	1245	A
42	BQ	1246	G
42	BQ	1248	C
42	BQ	1251	A
42	BQ	1253	U
42	BQ	1258	U
42	BQ	1262	G
42	BQ	1263	A
42	BQ	1264	G
42	BQ	1266	G
42	BQ	1267	U
42	BQ	1269	U
42	BQ	1270	A
42	BQ	1271	A
42	BQ	1272	C
42	BQ	1278	A
42	BQ	1279	C
42	BQ	1280	C
42	BQ	1282	G
42	BQ	1285	G
42	BQ	1286	A
42	BQ	1287	A
42	BQ	1295	G
42	BQ	1307	G
42	BQ	1308	A
42	BQ	1309	U
42	BQ	1313	G
42	BQ	1316	C
42	BQ	1318	A
42	BQ	1325	U
42	BQ	1330	A
42	BQ	1345	G
42	BQ	1348	U
42	BQ	1349	G
42	BQ	1351	U
42	BQ	1352	A
42	BQ	1354	G
42	BQ	1355	A

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Mol	Chain	Res	Type
42	BQ	1356	U
42	BQ	1357	G
42	BQ	1386	A
42	BQ	1392	G
42	BQ	1399	A
42	BQ	1400	G
42	BQ	1418	A
42	BQ	1419	A
42	BQ	1421	G
42	BQ	1429	G
42	BQ	1430	U
42	BQ	1431	G
42	BQ	1434	G
42	BQ	1437	C
42	BQ	1442	U
42	BQ	1443	G
42	BQ	1446	A
42	BQ	1450	G
42	BQ	1455	U
42	BQ	1481	A
42	BQ	1482	A
42	BQ	1483	G
42	BQ	1484	U
42	BQ	1487	G
42	BQ	1488	G
42	BQ	1503	A
42	BQ	1508	C
42	BQ	1511	U
42	BQ	1523	U
42	BQ	1528	G
42	BQ	1533	U
42	BQ	1536	G
42	BQ	1542	G
42	BQ	1549	U
42	BQ	1555	U
42	BQ	1556	C
42	BQ	1557	A
42	BQ	1559	A
42	BQ	1560	G
42	BQ	1562	C
42	BQ	1563	C
42	BQ	1565	G

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Mol	Chain	Res	Type
42	BQ	1566	A
42	BQ	1567	U
42	BQ	1568	U
42	BQ	1569	U
42	BQ	1572	U
42	BQ	1573	G
42	BQ	1574	C
42	BQ	1575	A
42	BQ	1576	G
42	BQ	1580	A
42	BQ	1581	C
42	BQ	1582	C
42	BQ	1583	A
42	BQ	1587	A
42	BQ	1588	A
42	BQ	1589	A
42	BQ	1590	G
42	BQ	1602	A
42	BQ	1605	A
42	BQ	1621	A
42	BQ	1629	U
42	BQ	1632	A
42	BQ	1639	C
42	BQ	1642	A
42	BQ	1643	A
42	BQ	1645	U
42	BQ	1658	G
42	BQ	1677	G
42	BQ	1683	A
42	BQ	1687	U
42	BQ	1688	U
42	BQ	1696	A
42	BQ	1704	A
42	BQ	1705	U
42	BQ	1715	A
42	BQ	1716	U
42	BQ	1717	U
42	BQ	1722	U
42	BQ	1724	U
42	BQ	1725	C
42	BQ	1750	A
42	BQ	1751	G

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Mol	Chain	Res	Type
42	BQ	1756	C
42	BQ	1760	A
42	BQ	1765	U
42	BQ	1766	G
42	BQ	1770	G
42	BQ	1775	G
42	BQ	1780	G
42	BQ	1788	C
42	BQ	1796	G
42	BQ	1797	A
42	BQ	1814	A
42	BQ	1816	A
42	BQ	1817	G
42	BQ	1819	U
42	BQ	1820	U
42	BQ	1821	U
42	BQ	1822	C
42	BQ	1839	A
42	BQ	1840	U
42	BQ	1841	A
42	BQ	1842	A
42	BQ	1846	C
42	BQ	1849	C
42	BQ	1850	A
42	BQ	1866	C
42	BQ	1867	A
42	BQ	1874	A
42	BQ	1880	U
42	BQ	1881	A
42	BQ	1893	A
42	BQ	1897	G
42	BQ	1906	G
42	BQ	1908	A
42	BQ	1930	A
42	BQ	1935	G
42	BQ	1943	C
42	BQ	1950	U
42	BQ	1953	G
42	BQ	1954	G
42	BQ	1955	U
42	BQ	1960	A
42	BQ	1961	G

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Mol	Chain	Res	Type
42	BQ	1962	A
42	BQ	1963	G
42	BQ	1964	C
42	BQ	1972	A
42	BQ	1973	G
42	BQ	1976	G
42	BQ	1981	G
42	BQ	1988	C
42	BQ	1994	G
42	BQ	1998	G
42	BQ	2001	U
42	BQ	2006	G
42	BQ	2010	U
42	BQ	2013	C
42	BQ	2017	G
42	BQ	2020	A
42	BQ	2023	C
42	BQ	2025	G
42	BQ	2033	G
42	BQ	2035	G
42	BQ	2039	C
42	BQ	2045	G
42	BQ	2047	A
42	BQ	2048	G
42	BQ	2049	A
42	BQ	2050	C
42	BQ	2059	U
42	BQ	2081	U
42	BQ	2082	U
42	BQ	2087	C
42	BQ	2088	A
42	BQ	2089	A
42	BQ	2093	A
42	BQ	2094	C
42	BQ	2095	G
42	BQ	2097	U
42	BQ	2101	C
42	BQ	2102	U
42	BQ	2111	G
42	BQ	2112	U
42	BQ	2113	A
42	BQ	2121	G

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Mol	Chain	Res	Type
42	BQ	2122	G
42	BQ	2131	A
42	BQ	2139	A
42	BQ	2149	A
42	BQ	2158	A
42	BQ	2169	G
42	BQ	2170	U
42	BQ	2187	G
42	BQ	2188	A
42	BQ	2201	G
42	BQ	2205	U
42	BQ	2206	G
42	BQ	2207	A
42	BQ	2209	U
42	BQ	2223	A
42	BQ	2232	A
42	BQ	2244	A
42	BQ	2249	G
42	BQ	2250	G
42	BQ	2252	A
42	BQ	2256	A
42	BQ	2262	A
42	BQ	2272	G
42	BQ	2273	G
42	BQ	2274	U
42	BQ	2279	A
42	BQ	2280	A
42	BQ	2281	A
42	BQ	2282	U
42	BQ	2284	C
42	BQ	2285	C
42	BQ	2288	G
42	BQ	2299	A
42	BQ	2306	C
42	BQ	2307	G
42	BQ	2308	C
42	BQ	2309	A
42	BQ	2310	U
42	BQ	2313	A
42	BQ	2314	U
42	BQ	2315	G
42	BQ	2335	G

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Mol	Chain	Res	Type
42	BQ	2347	U
42	BQ	2364	G
42	BQ	2372	A
42	BQ	2373	A
42	BQ	2374	C
42	BQ	2375	G
42	BQ	2385	G
42	BQ	2388	U
42	BQ	2393	G
42	BQ	2394	G
42	BQ	2397	A
42	BQ	2402	A
42	BQ	2403	G
42	BQ	2404	A
42	BQ	2411	U
42	BQ	2412	G
42	BQ	2419	A
42	BQ	2422	C
42	BQ	2434	U
42	BQ	2435	G
42	BQ	2437	G
42	BQ	2438	A
42	BQ	2439	A
42	BQ	2440	G
42	BQ	2446	U
42	BQ	2451	G
42	BQ	2452	G
42	BQ	2493	U
42	BQ	2496	C
42	BQ	2498	U
42	BQ	2501	U
42	BQ	2502	A
42	BQ	2503	G
42	BQ	2507	C
42	BQ	2514	U
42	BQ	2515	A
42	BQ	2522	G
42	BQ	2523	A
42	BQ	2524	A
42	BQ	2525	G
42	BQ	2526	C
42	BQ	2531	C

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Mol	Chain	Res	Type
42	BQ	2532	U
42	BQ	2537	U
42	BQ	2538	U
42	BQ	2539	C
42	BQ	2540	A
42	BQ	2541	U
42	BQ	2542	U
42	BQ	2543	U
42	BQ	2546	C
42	BQ	2549	G
42	BQ	2552	C
42	BQ	2554	A
42	BQ	2561	A
42	BQ	2569	A
42	BQ	2570	U
42	BQ	2571	U
42	BQ	2572	C
42	BQ	2573	G
42	BQ	2576	G
42	BQ	2585	G
42	BQ	2589	G
42	BQ	2593	A
42	BQ	2594	C
42	BQ	2595	A
42	BQ	2606	G
42	BQ	2607	G
42	BQ	2614	G
42	BQ	2626	A
42	BQ	2629	U
42	BQ	2636	A
42	BQ	2648	G
42	BQ	2652	U
42	BQ	2656	A
42	BQ	2672	G
42	BQ	2674	A
42	BQ	2677	G
42	BQ	2689	A
42	BQ	2691	A
42	BQ	2694	A
42	BQ	2696	A
42	BQ	2703	A
42	BQ	2704	A

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Mol	Chain	Res	Type
42	BQ	2714	G
42	BQ	2719	U
42	BQ	2728	G
42	BQ	2748	A
42	BQ	2749	G
42	BQ	2752	U
42	BQ	2753	G
42	BQ	2755	C
42	BQ	2777	G
42	BQ	2778	G
42	BQ	2796	G
42	BQ	2800	G
42	BQ	2801	A
42	BQ	2802	A
42	BQ	2803	A
42	BQ	2804	A
42	BQ	2805	G
42	BQ	2810	C
42	BQ	2817	A
42	BQ	2818	U
42	BQ	2821	C
42	BQ	2838	A
42	BQ	2842	U
42	BQ	2844	C
42	BQ	2845	A
42	BQ	2847	A
42	BQ	2849	C
42	BQ	2856	G
42	BQ	2861	U
42	BQ	2867	C
42	BQ	2871	G
42	BQ	2872	A
42	BQ	2873	U
42	BQ	2875	U
42	BQ	2876	C
42	BQ	2887	A
42	BQ	2894	C
42	BQ	2899	C
42	BQ	2910	A
42	BQ	2916	U
42	BQ	2918	G
42	BQ	2923	U

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Mol	Chain	Res	Type
42	BQ	2928	C
42	BQ	2933	A
42	BQ	2935	U
42	BQ	2936	A
42	BQ	2941	A
42	BQ	2942	C
42	BQ	2947	G
42	BQ	2954	U
42	BQ	2955	U
42	BQ	2957	G
42	BQ	2971	A
42	BQ	2983	C
42	BQ	2990	G
42	BQ	2996	U
42	BQ	2997	G
42	BQ	3003	G
42	BQ	3012	A
42	BQ	3030	G
42	BQ	3055	U
42	BQ	3056	U
42	BQ	3058	U
42	BQ	3059	G
42	BQ	3078	U
42	BQ	3079	U
42	BQ	3080	G
42	BQ	3086	A
42	BQ	3092	C
42	BQ	3101	G
42	BQ	3104	U
42	BQ	3115	C
42	BQ	3116	G
42	BQ	3118	C
42	BQ	3119	U
42	BQ	3122	A
42	BQ	3129	A
42	BQ	3130	A
42	BQ	3131	U
42	BQ	3142	A
42	BQ	3143	C
42	BQ	3151	U
42	BQ	3154	C
42	BQ	3155	U

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Mol	Chain	Res	Type
42	BQ	3156	U
42	BQ	3157	U
42	BQ	3158	G
42	BQ	3165	A
42	BQ	3170	A
42	BQ	3172	A
42	BQ	3173	G
42	BQ	3174	A
42	BQ	3175	U
42	BQ	3176	G
42	BQ	3180	A
42	BQ	3181	C
42	BQ	3187	A
42	BQ	3196	U
42	BQ	3199	G
42	BQ	3207	U
42	BQ	3209	A
42	BQ	3210	A
42	BQ	3216	G
42	BQ	3217	C
42	BQ	3218	A
42	BQ	3219	G
42	BQ	3222	U
42	BQ	3229	G
42	BQ	3243	A
42	BQ	3244	A
42	BQ	3245	A
42	BQ	3247	G
42	BQ	3259	U
42	BQ	3260	G
42	BQ	3263	G
42	BQ	3270	U
42	BQ	3272	C
42	BQ	3273	A
42	BQ	3276	G
42	BQ	3277	U
42	BQ	3281	U
42	BQ	3286	G
42	BQ	3287	U
42	BQ	3288	G
42	BQ	3289	G
42	BQ	3294	A

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Mol	Chain	Res	Type
42	BQ	3295	A
42	BQ	3304	U
42	BQ	3313	U
42	BQ	3316	A
42	BQ	3318	G
42	BQ	3319	U
42	BQ	3320	A
42	BQ	3334	U
42	BQ	3341	U
42	BQ	3345	G
42	BQ	3346	U
42	BQ	3347	A
42	BQ	3351	U
42	BQ	3352	U
42	BQ	3353	G
42	BQ	3354	U
42	BQ	3355	U
42	BQ	3356	G
42	BQ	3368	U
42	BQ	3369	G
42	BQ	3378	C
42	BQ	3381	U
42	BQ	3382	U
42	BQ	3386	G
42	BQ	3389	U
42	BQ	3390	G
42	BQ	3396	U
43	BR	7	G
43	BR	10	C
43	BR	17	A
43	BR	22	A
43	BR	35	C
43	BR	52	G
43	BR	53	U
43	BR	54	U
43	BR	65	G
43	BR	74	C
43	BR	76	A
43	BR	99	G
43	BR	102	A
43	BR	112	G
43	BR	121	U

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Mol	Chain	Res	Type
44	BS	16	G
44	BS	25	G
44	BS	34	U
44	BS	35	C
44	BS	38	U
44	BS	59	A
44	BS	62	C
44	BS	63	G
44	BS	80	A
44	BS	81	U
44	BS	82	U
44	BS	83	C
44	BS	84	C
44	BS	85	G
44	BS	86	U
44	BS	87	G
44	BS	90	U
44	BS	95	G
44	BS	97	A
44	BS	99	C
44	BS	104	A
44	BS	106	C
44	BS	111	A
44	BS	112	U
44	BS	113	U
44	BS	125	U
44	BS	126	A
44	BS	138	A
44	BS	148	G
44	BS	152	G
44	BS	157	U
44	BS	158	U

All (101) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
34	2	68	A
34	2	77	U
34	2	139	C
34	2	141	U
34	2	215	A
34	2	224	C

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Mol	Chain	Res	Type
34	2	237	C
34	2	278	U
34	2	313	U
34	2	322	G
34	2	352	A
34	2	387	A
34	2	400	A
34	2	447	U
34	2	511	A
34	2	518	A
34	2	539	G
34	2	541	A
34	2	555	A
34	2	609	U
34	2	639	U
34	2	640	U
34	2	705	U
34	2	711	U
34	2	740	A
34	2	755	A
34	2	803	A
34	2	819	G
34	2	912	U
34	2	928	U
34	2	987	G
34	2	1023	A
34	2	1207	C
34	2	1226	A
34	2	1245	G
34	2	1251	U
34	2	1256	A
34	2	1273	G
34	2	1274	C
34	2	1314	U
34	2	1344	A
34	2	1348	A
34	2	1382	A
34	2	1399	C
34	2	1430	U
34	2	1471	A
34	2	1556	A
34	2	1557	U

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Mol	Chain	Res	Type
34	2	1573	A
34	2	1584	G
34	2	1633	A
34	2	1636	C
34	2	1700	C
42	BQ	13	A
42	BQ	282	G
42	BQ	439	C
42	BQ	637	C
42	BQ	763	G
42	BQ	849	C
42	BQ	873	C
42	BQ	896	A
42	BQ	916	G
42	BQ	993	G
42	BQ	1064	A
42	BQ	1097	G
42	BQ	1271	A
42	BQ	1307	G
42	BQ	1355	A
42	BQ	1562	C
42	BQ	1572	U
42	BQ	1582	C
42	BQ	1716	U
42	BQ	1815	U
42	BQ	1820	U
42	BQ	1959	G
42	BQ	2086	A
42	BQ	2112	U
42	BQ	2231	C
42	BQ	2445	A
42	BQ	2500	A
42	BQ	2501	U
42	BQ	2502	A
42	BQ	2513	U
42	BQ	2514	U
42	BQ	2525	G
42	BQ	2537	U
42	BQ	2538	U
42	BQ	2541	U
42	BQ	3055	U
42	BQ	3078	U

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Mol	Chain	Res	Type
42	BQ	3121	U
42	BQ	3218	A
42	BQ	3228	C
42	BQ	3269	U
42	BQ	3275	U
42	BQ	3319	U
42	BQ	3350	C
43	BR	52	G
44	BS	82	U
44	BS	85	G
44	BS	125	U

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 7 ligands modelled in this entry, 7 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

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
42	BQ	4
68	AY	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	BQ	2452:G	O3'	2492:C	P	17.28
1	BQ	2059:U	O3'	2080:C	P	10.98
1	BQ	451:U	O3'	486:A	P	8.84
1	BQ	1984:C	O3'	1985:G	P	6.36
1	AY	47:ASN	C	48:THR	N	1.17

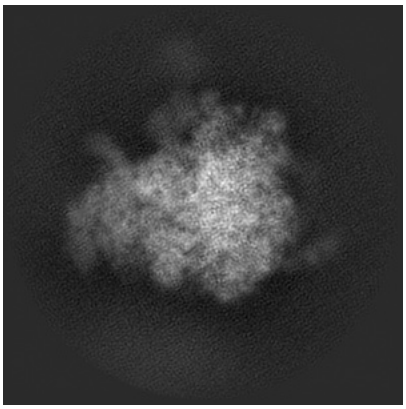
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-16191. These allow visual inspection of the internal detail of the map and identification of artifacts.

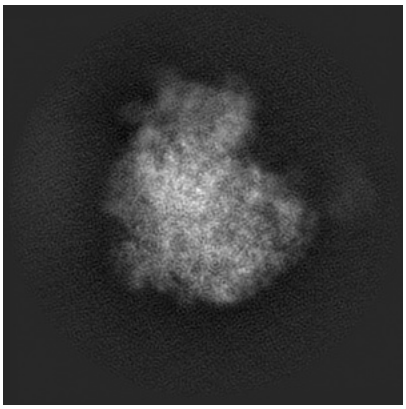
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

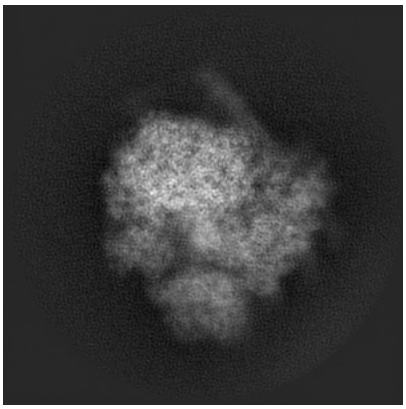
6.1.1 Primary map



X

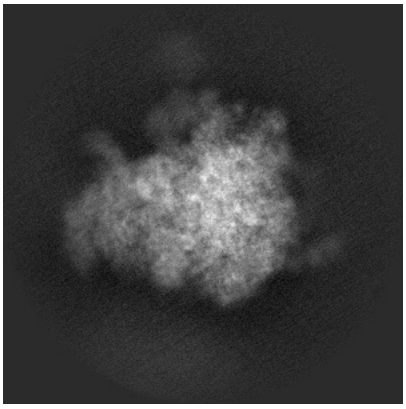


Y

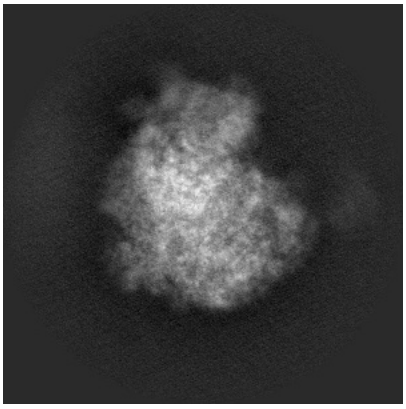


Z

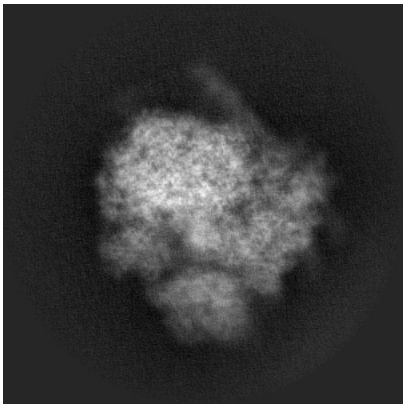
6.1.2 Raw map



X



Y

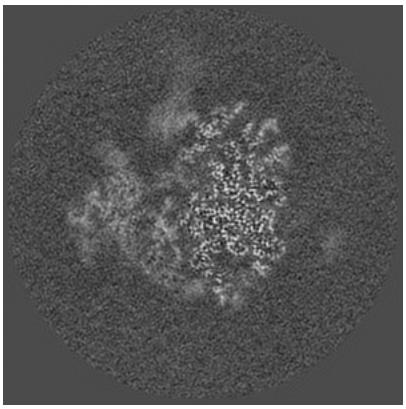


Z

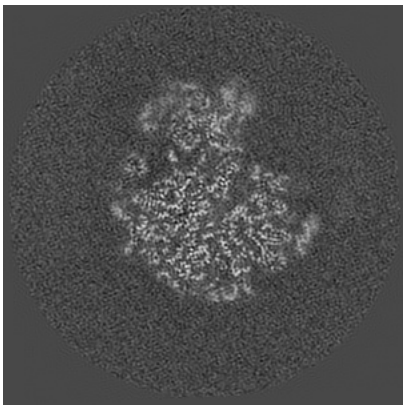
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

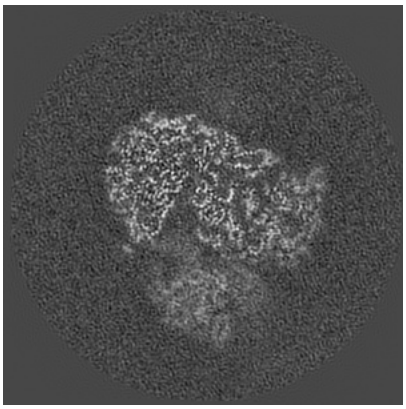
6.2.1 Primary map



X Index: 210

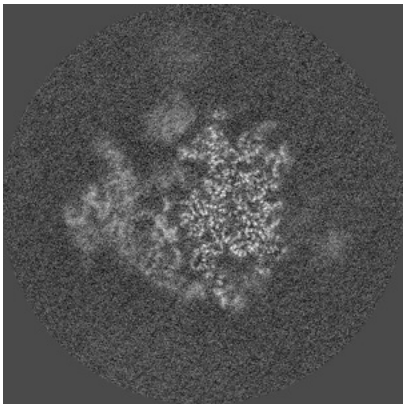


Y Index: 210

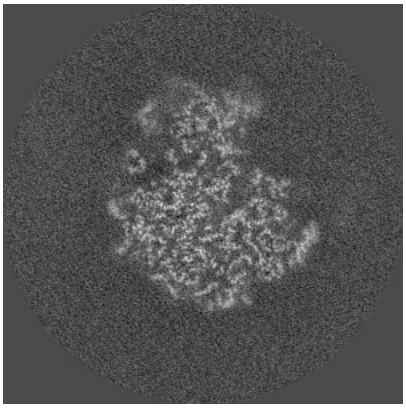


Z Index: 210

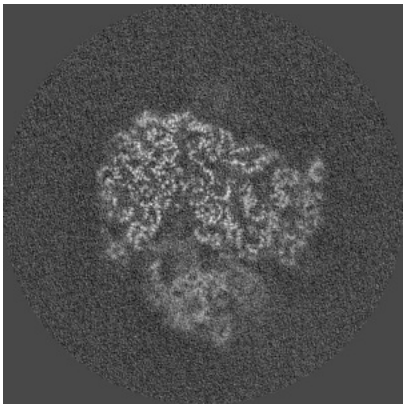
6.2.2 Raw map



X Index: 210



Y Index: 210

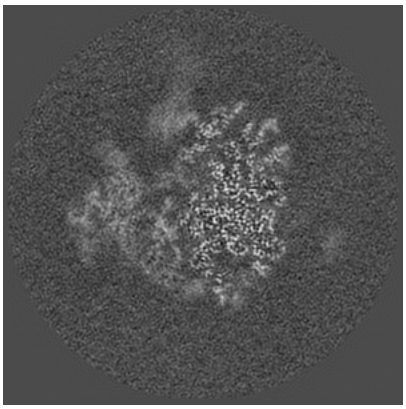


Z Index: 210

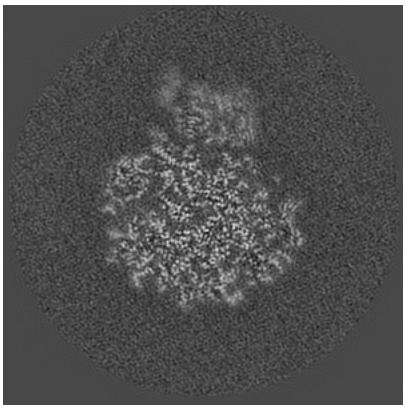
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

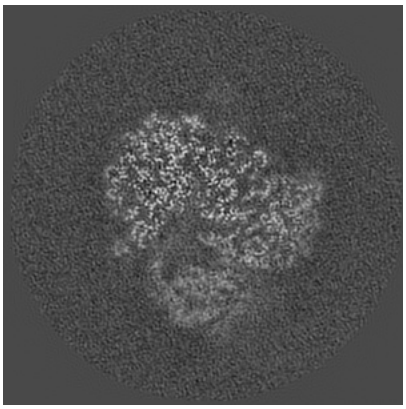
6.3.1 Primary map



X Index: 210

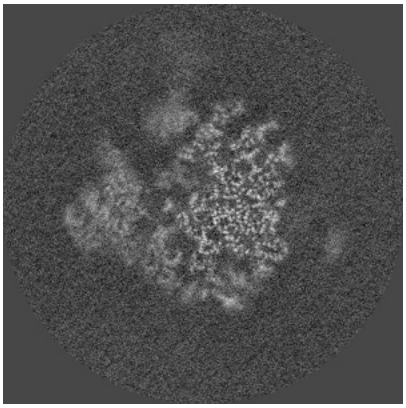


Y Index: 234

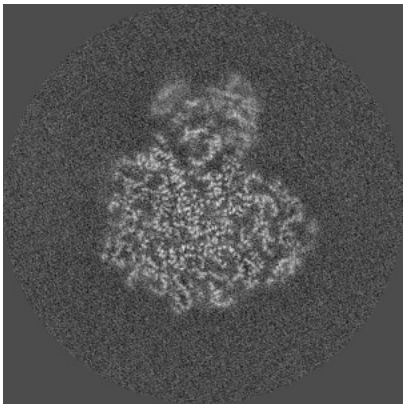


Z Index: 215

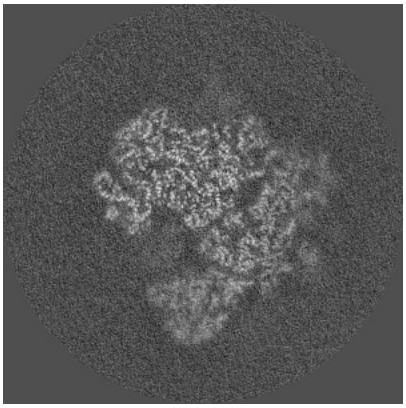
6.3.2 Raw map



X Index: 206



Y Index: 226

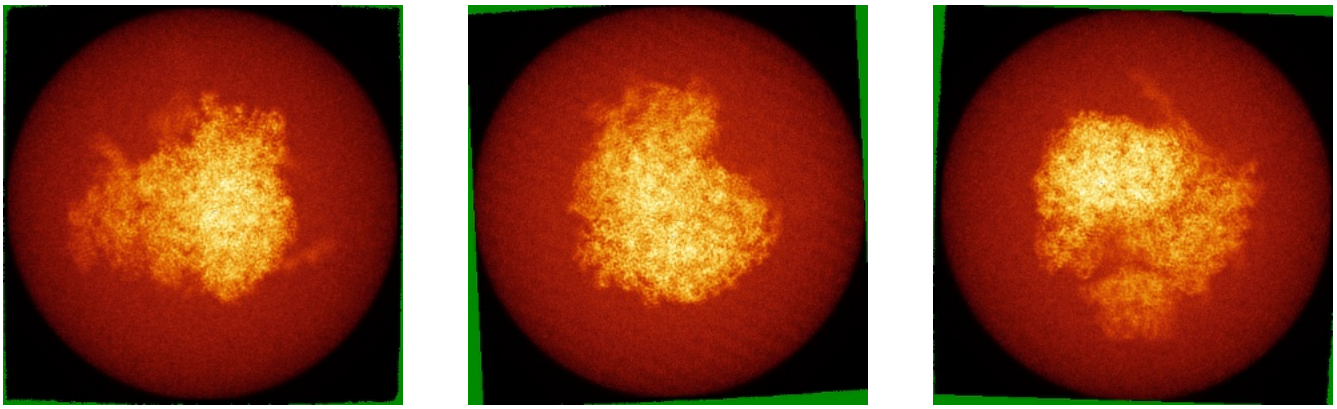


Z Index: 189

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

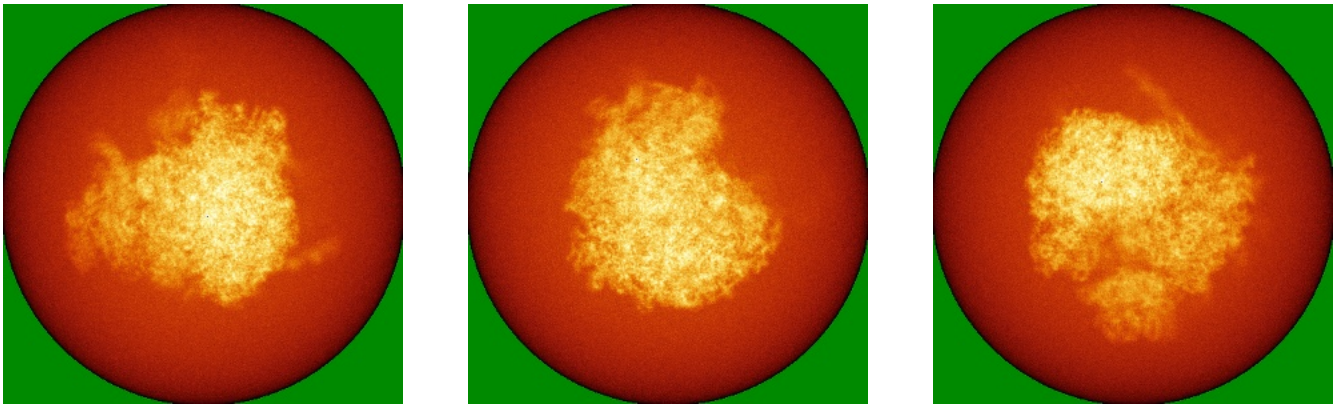
6.4 Orthogonal standard-deviation projections (False-color) (i)

6.4.1 Primary map



X Y Z

6.4.2 Raw map

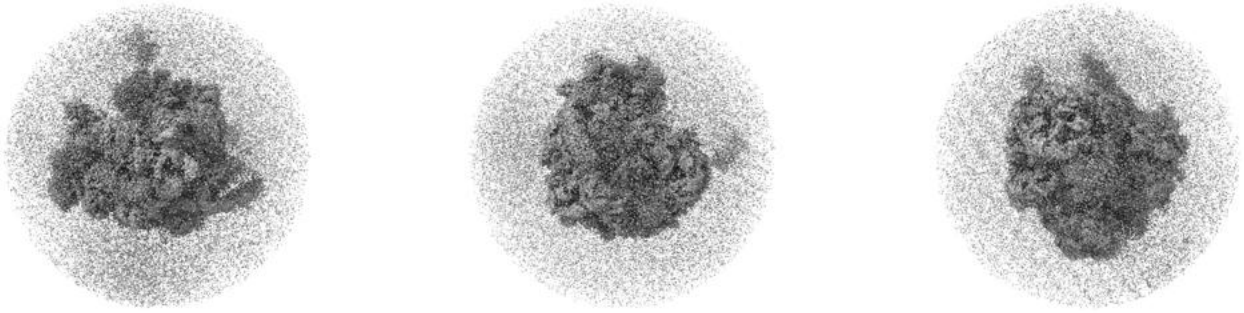


X Y Z

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)

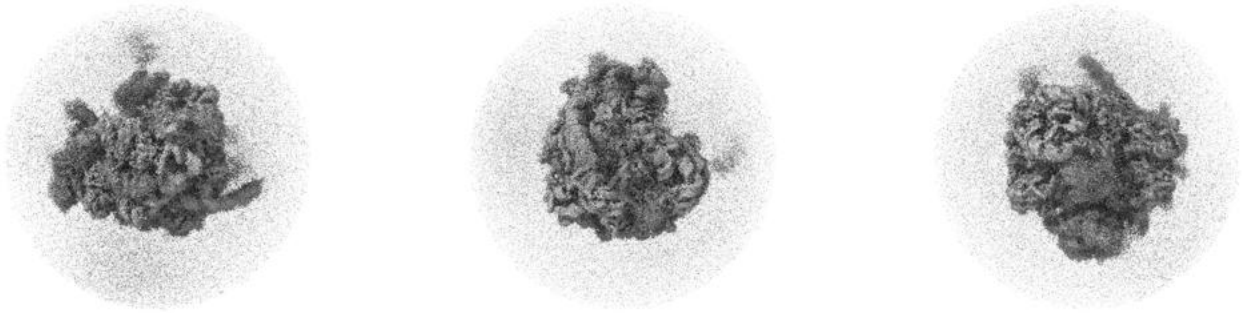
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.015. 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.

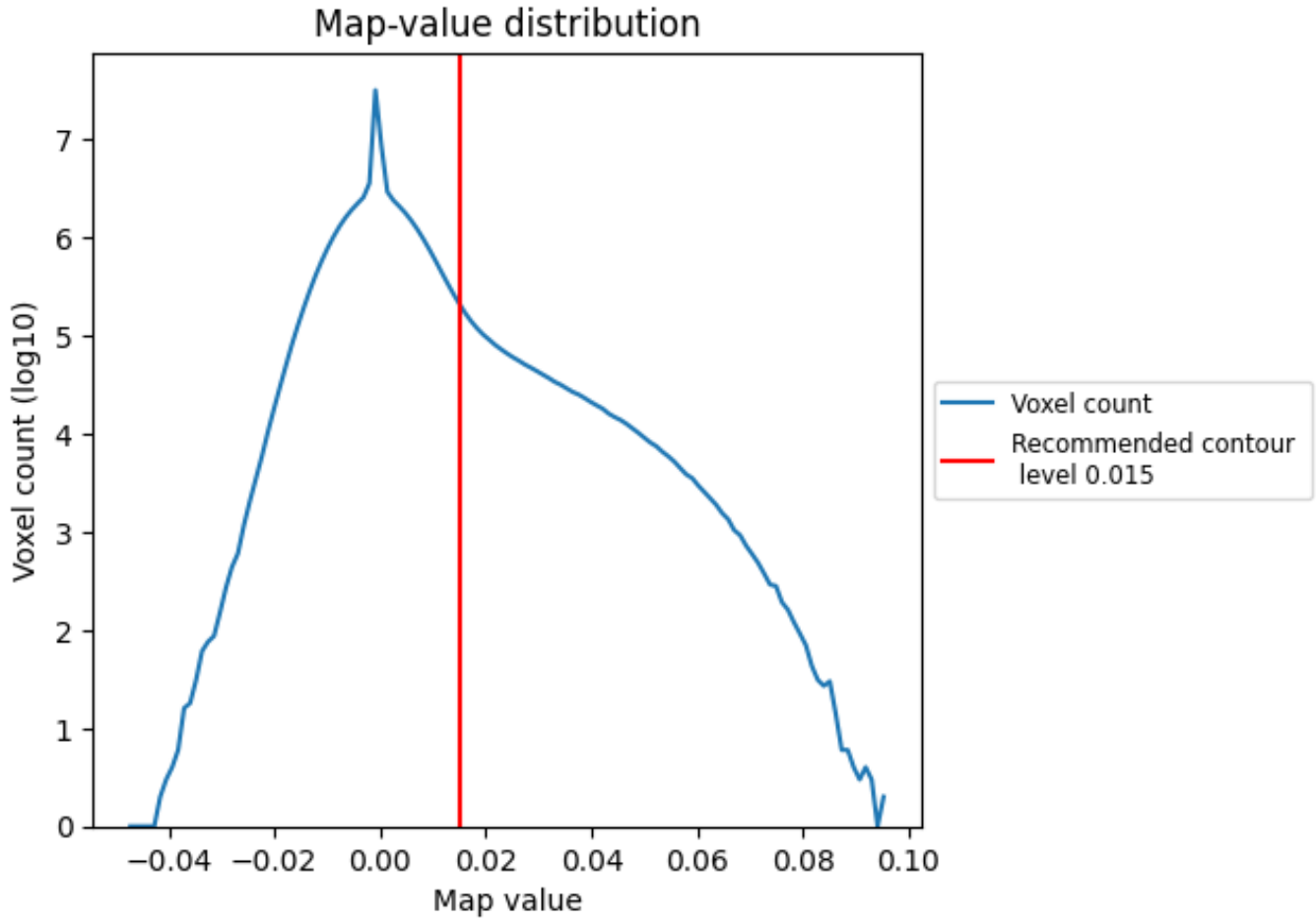
6.6 Mask visualisation (i)

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

7 Map analysis

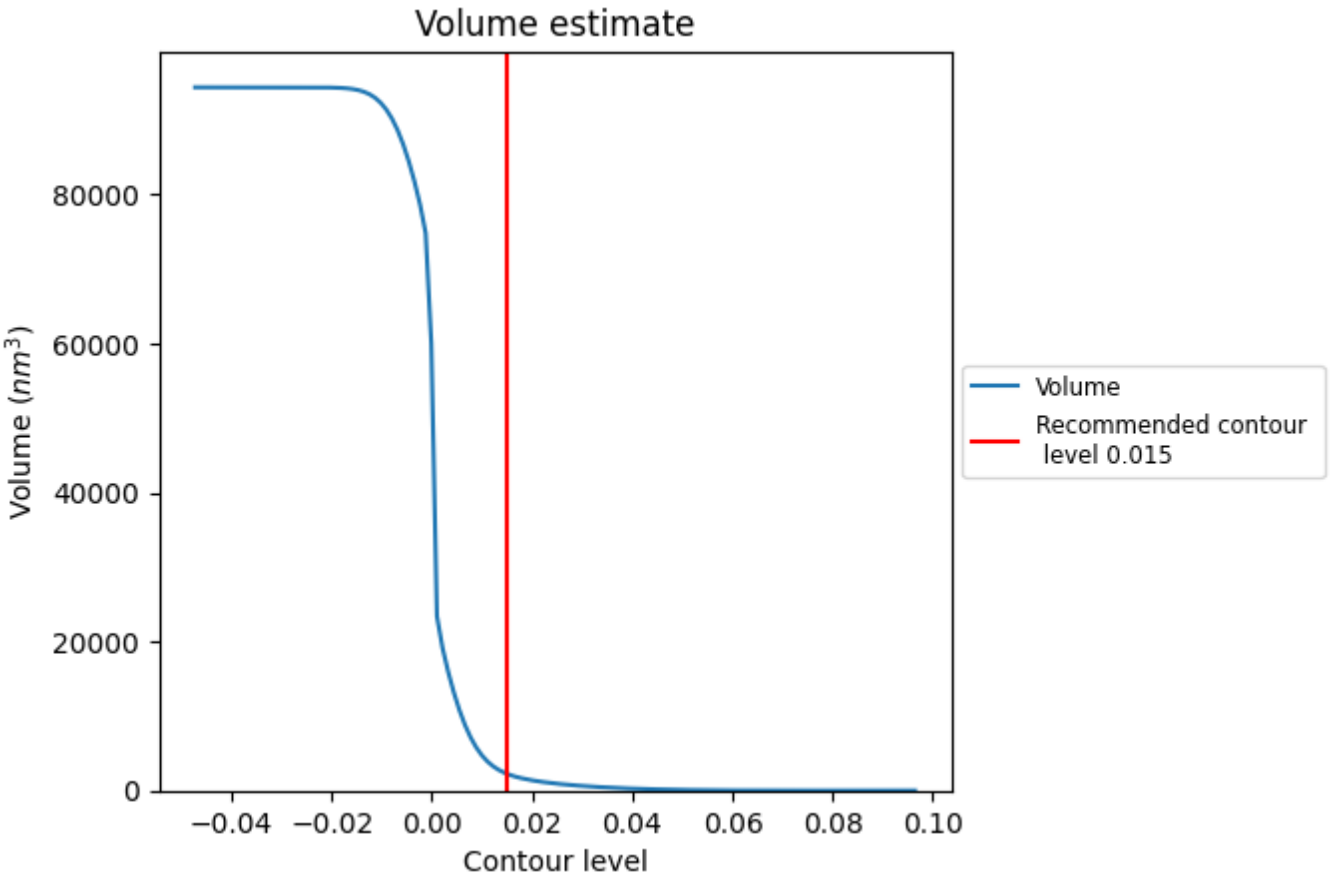
This section contains the results of statistical analysis of the map.

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.

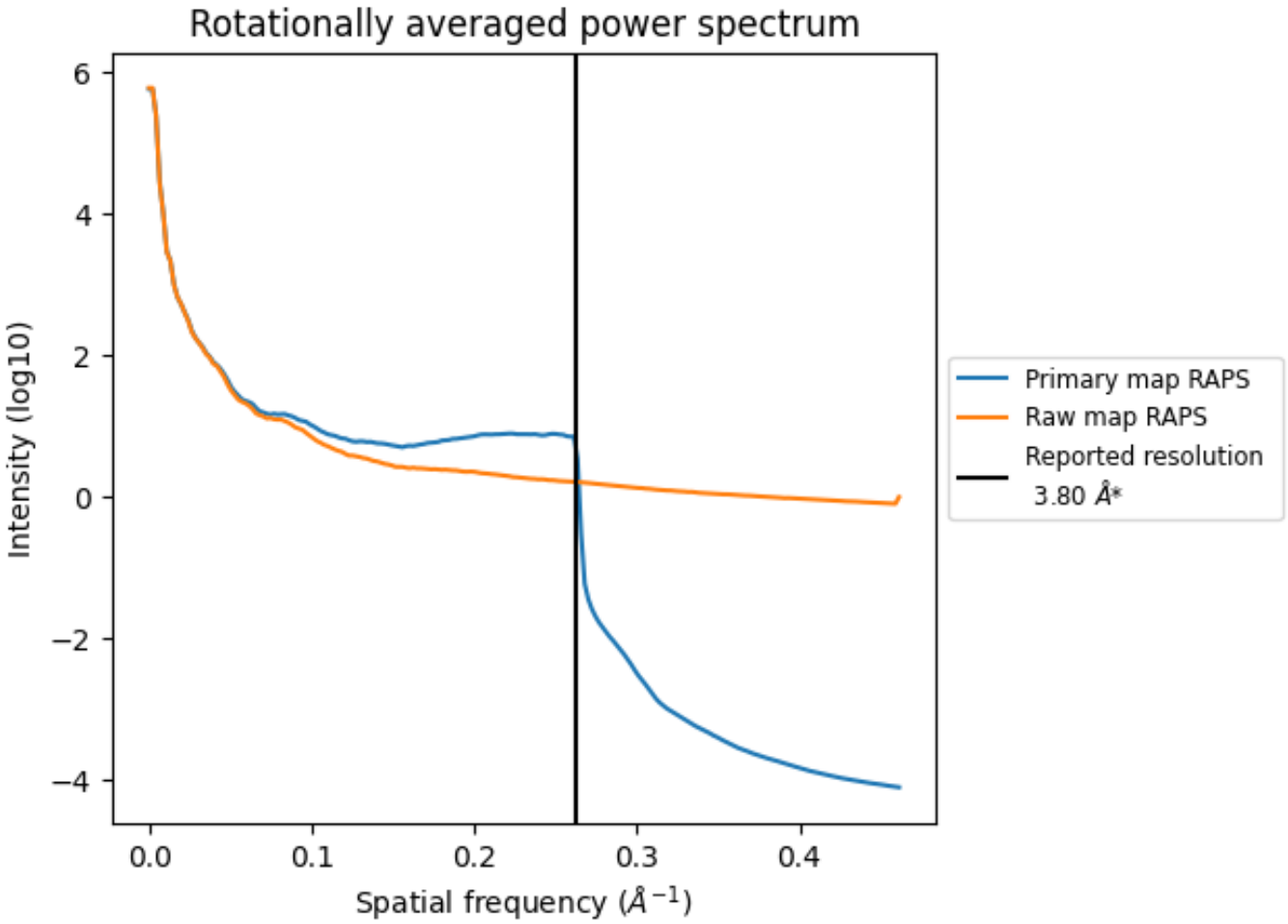
7.2 Volume estimate



The volume at the recommended contour level is 2255 nm^3; this corresponds to an approximate mass of 2037 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)

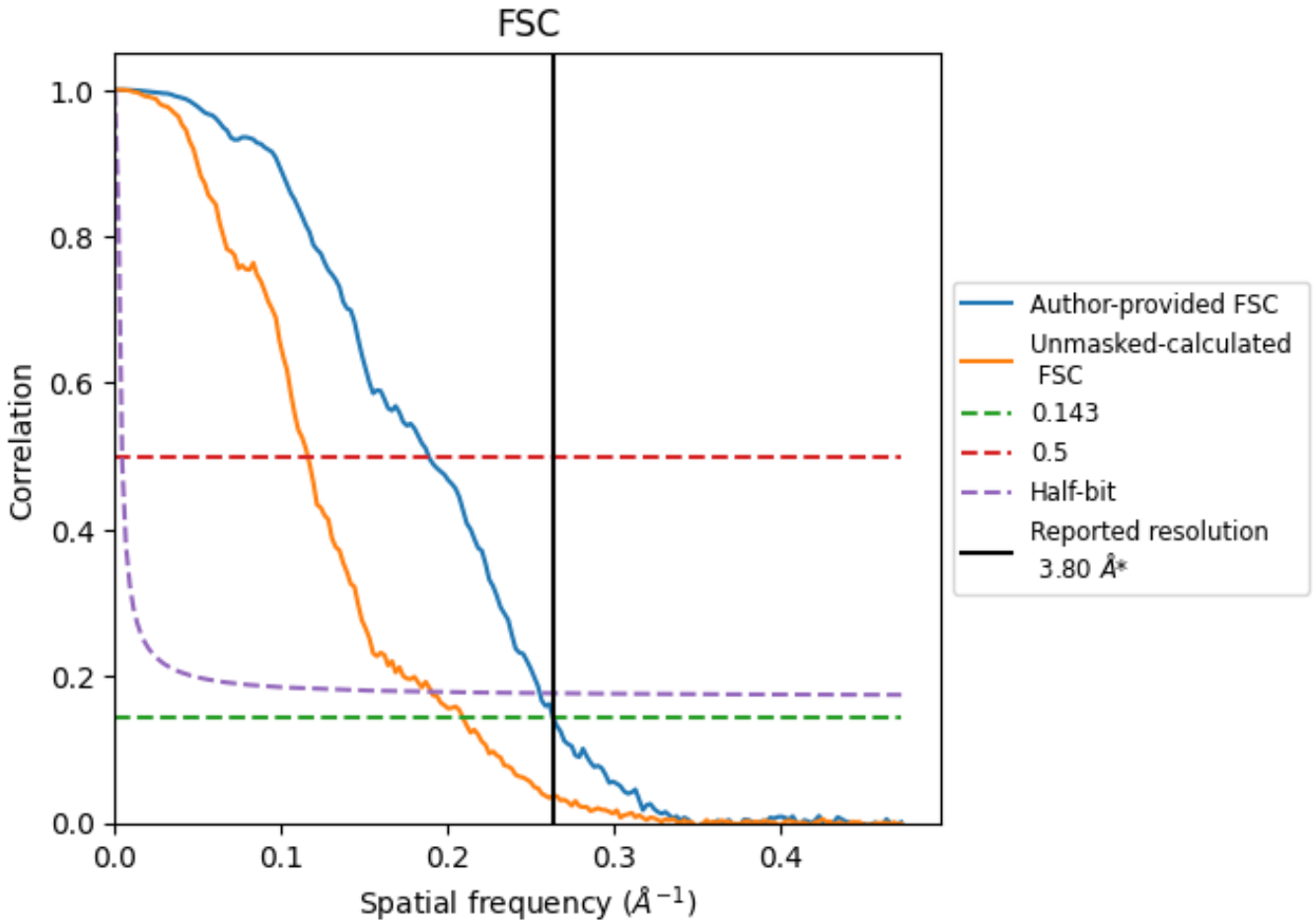


*Reported resolution corresponds to spatial frequency of 0.263 $Å^{-1}$

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 0.263 Å^{-1}

8.2 Resolution estimates (i)

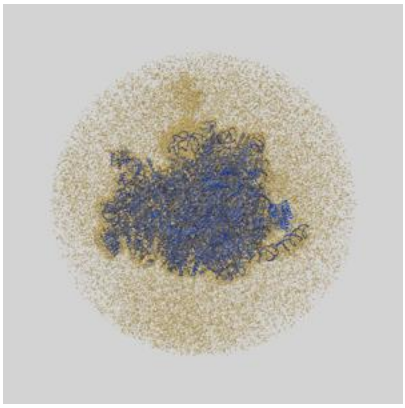
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.80	5.31	3.92
Unmasked-calculated*	4.78	8.64	5.26

*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 4.78 differs from the reported value 3.8 by more than 10 %

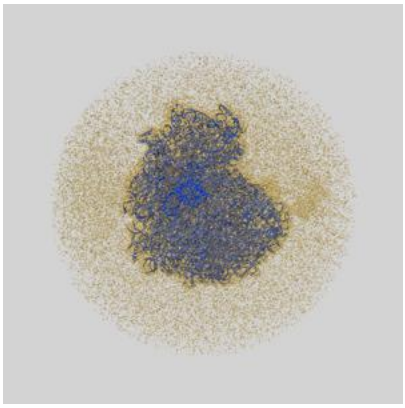
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-16191 and PDB model 8BQX. Per-residue inclusion information can be found in section 3 on page 19.

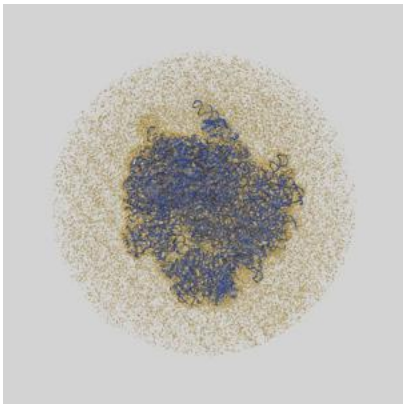
9.1 Map-model overlay



X



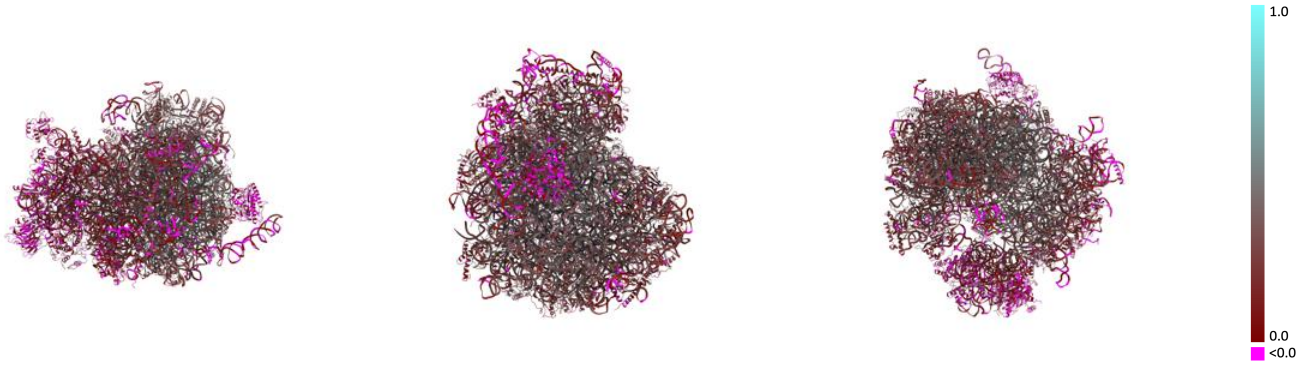
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.015 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.

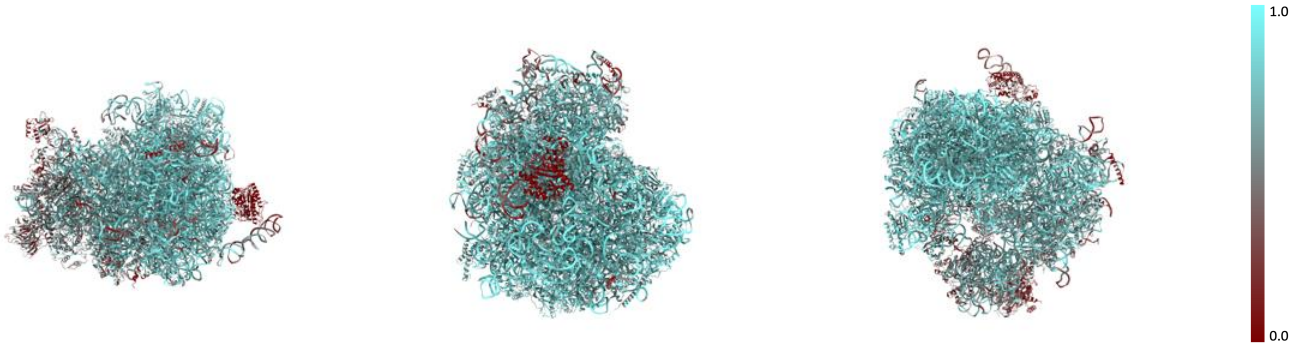
9.2 Q-score mapped to coordinate model (i)



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.

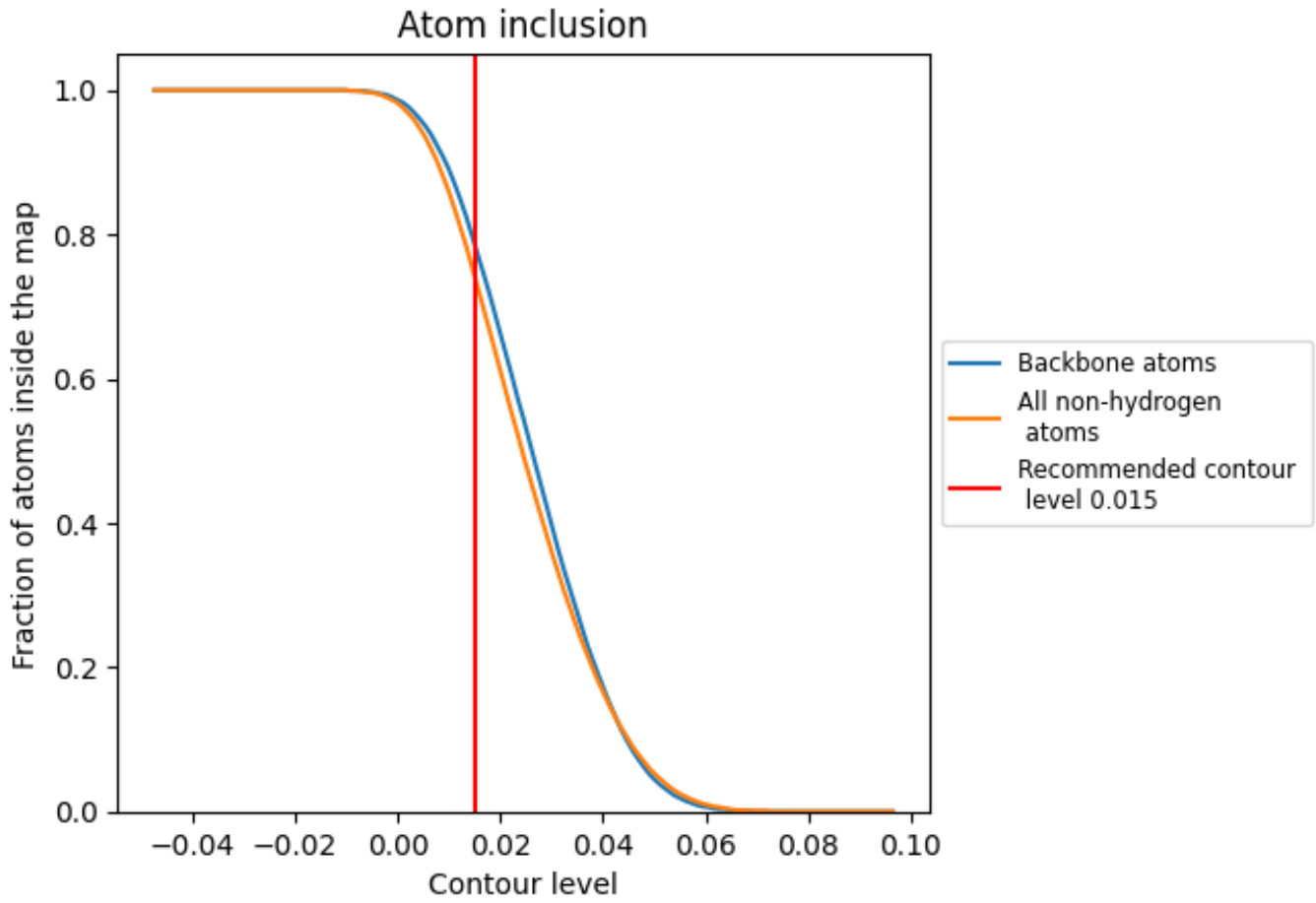
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.015).

9.4 Atom inclusion (i)



At the recommended contour level, 79% of all backbone atoms, 74% 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 (0.015) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7440	0.2640
2	0.7690	0.2120
A	0.4230	0.1180
AA	0.7240	0.2760
AB	0.7670	0.3980
AC	0.7320	0.2980
AD	0.7450	0.2870
AE	0.5510	0.2380
AF	0.8710	0.4150
AG	0.6290	0.1890
AH	0.7590	0.3470
AI	0.7180	0.2810
AJ	0.7580	0.3050
AK	0.7980	0.3400
AL	0.7780	0.3790
AM	0.7320	0.2440
AN	0.7020	0.2560
AO	0.7810	0.2960
AP	0.7650	0.3530
AQ	0.7870	0.3580
AR	0.7870	0.3420
AS	0.6830	0.2560
AT	0.7690	0.3790
AU	0.7640	0.3230
AV	0.7480	0.3250
AW	0.7910	0.4020
AX	0.7950	0.3800
AY	0.7270	0.3270
B	0.3570	0.0370
BA	0.8010	0.3730
BB	0.7570	0.3120
BC	0.7730	0.3630
BD	0.6230	0.2070
BE	0.7650	0.3060
BF	0.7410	0.3280

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Chain	Atom inclusion	Q-score
BG	0.7800	0.3580
BH	0.7600	0.3120
BI	0.7210	0.2340
BJ	0.7400	0.2980
BK	0.7560	0.3290
BL	0.7520	0.3020
BM	0.6960	0.2250
BN	0.7370	0.3540
BO	0.7470	0.2860
BP	0.7590	0.3080
BQ	0.8700	0.3310
BR	0.8750	0.2710
BS	0.9050	0.3610
BT	0.1370	0.0880
C	0.4350	0.0770
D	0.2120	0.0460
E	0.4600	0.0740
F	0.4600	0.0600
G	0.4240	0.0860
H	0.4920	0.0760
I	0.4540	0.0580
J	0.5140	0.0990
K	0.3730	0.0400
L	0.3760	0.0940
M	0.5450	0.1100
N	0.3930	0.0680
O	0.3540	0.0420
P	0.5380	0.1250
Q	0.4960	0.1520
R	0.6190	0.2150
S	0.6130	0.2010
T	0.6330	0.1920
U	0.5020	0.1130
V	0.7040	0.2670
W	0.6460	0.1990
X	0.6700	0.2860
Y	0.6230	0.2310
Z	0.5430	0.1620
a	0.5510	0.1460
b	0.6160	0.2190
c	0.6560	0.2790
d	0.6480	0.1920

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Chain	Atom inclusion	Q-score
e	0.5850	0.1910
f	0.5460	0.1750
g	0.5480	0.1520
x	0.0330	0.0050