



Full wwPDB EM Validation Report ⓘ

Jan 20, 2026 – 08:10 pm GMT

PDB ID : 9R9O / pdb_00009r9o
EMDB ID : EMD-53860
Title : Yeast 80S with nascent chain in complex with Ssb1-ADP in the S1 state
Authors : Grundmann, L.; Zhang, Y.; Grishkovskaya, I.; Rospert, S.; Haselbach, D.
Deposited on : 2025-05-20
Resolution : 2.90 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:

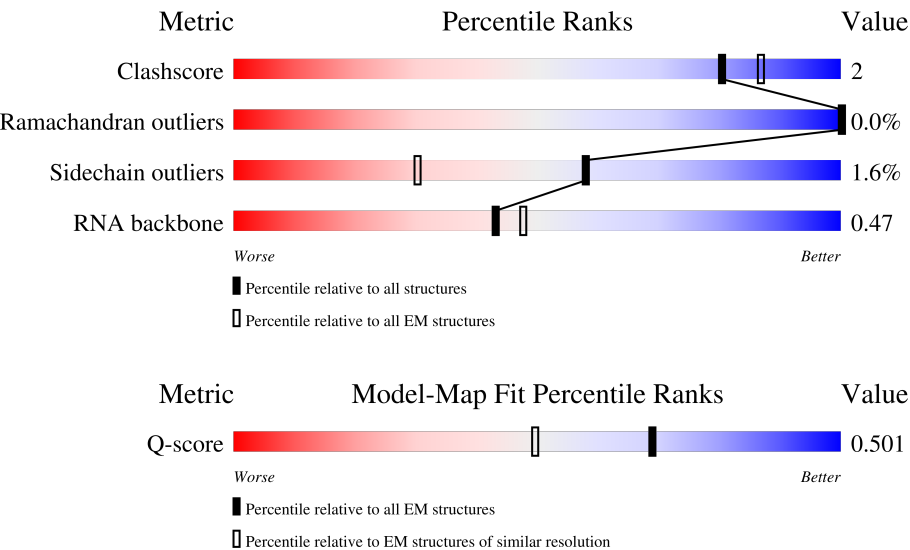
EMDB validation analysis : 0.0.1.dev129
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

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 2.90 Å.

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



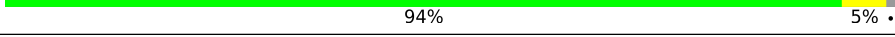
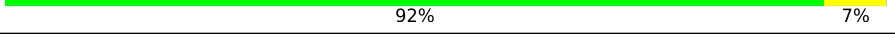
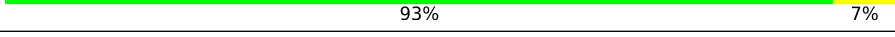
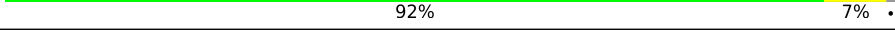
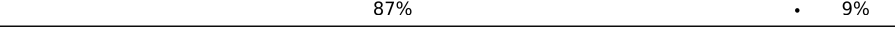
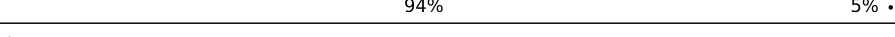
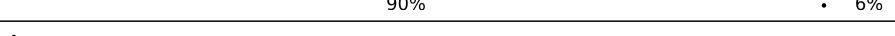
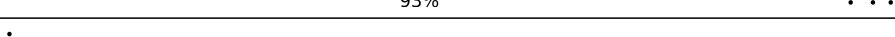
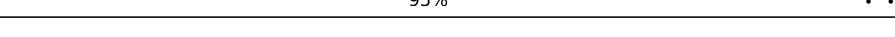
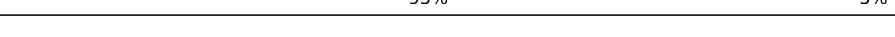
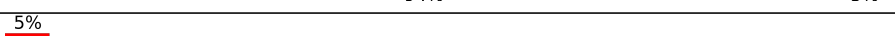
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	13054 (2.40 - 3.40)

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

Mol	Chain	Length	Quality of chain
1	5	234	97%
2	6	76	9% 79% 13% 8%
3	A	613	14% 35% 65%

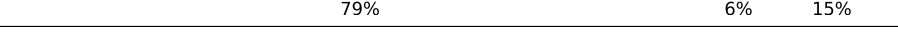
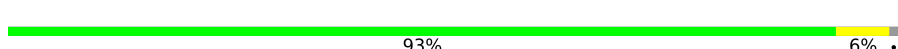
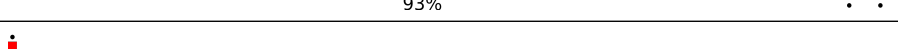
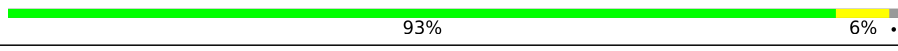
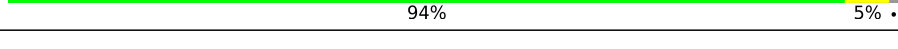
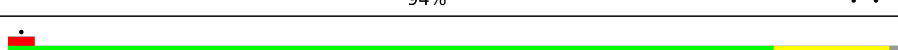
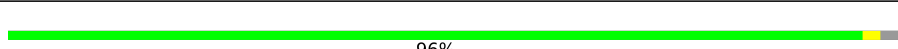
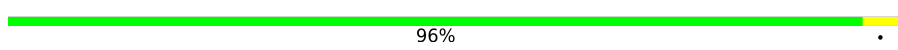
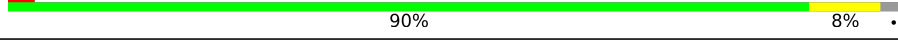
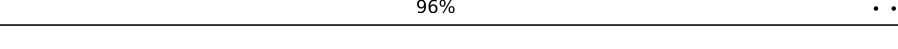
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Mol	Chain	Length	Quality of chain
4	B	78	
5	C1	3396	
6	C2	1800	
7	C3	158	
8	C4	121	
9	LA	254	
10	LB	387	
11	LC	362	
12	LD	297	
13	LE	176	
14	LF	244	
15	LG	256	
16	LH	191	
17	LI	221	
18	LJ	174	
19	LL	199	
20	LM	138	
21	LN	204	
22	LO	199	
23	LP	184	
24	LQ	186	
25	LR	189	
26	LS	172	
27	LT	160	
28	LU	121	

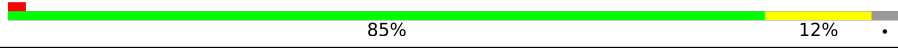
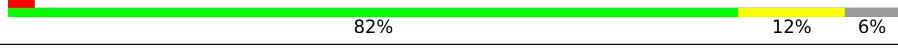
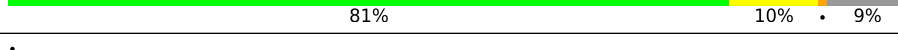
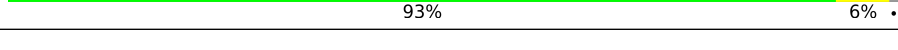
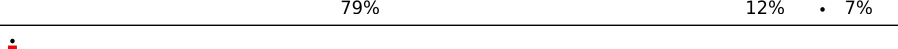
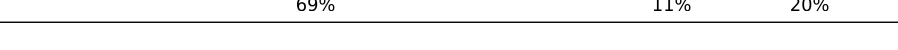
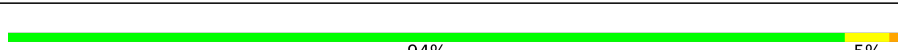
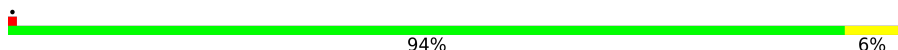
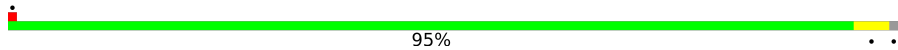
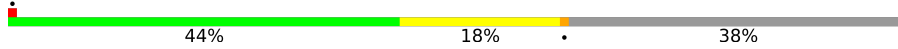
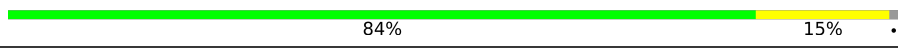
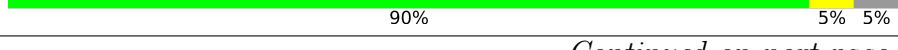
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Mol	Chain	Length	Quality of chain
29	LV	137	
30	LW	155	
31	LX	142	
32	LY	127	
33	LZ	136	
34	La	149	
35	Lb	59	
36	Lc	105	
37	Ld	113	
38	Le	130	
39	Lf	107	
40	Lg	121	
41	Lh	120	
42	Li	100	
43	Lj	88	
44	Lk	78	
45	Ll	51	
46	Ln	25	
47	Lo	106	
48	Lp	92	
49	SA	252	
50	SB	255	
51	SC	254	
52	SD	240	
53	SE	261	

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Mol	Chain	Length	Quality of chain
54	SF	225	
55	SG	236	
56	SH	190	
57	SI	200	
58	SJ	197	
59	SK	105	
60	SL	156	
61	SN	151	
62	SO	137	
63	SP	142	
64	SQ	143	
65	SR	136	
66	SS	146	
67	ST	144	
68	SU	121	
69	SV	87	
70	SW	130	
71	SX	145	
72	SY	135	
73	SZ	108	
74	Sa	119	
75	Sb	82	
76	Sc	67	
77	Sd	56	
78	Se	63	

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Mol	Chain	Length	Quality of chain
79	Sg	319	84% 14%

2 Entry composition

There are 79 unique types of molecules in this entry. The entry contains 339152 atoms, of which 144364 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called mRNA_Flag-Pgk-1-70.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	5	7	Total	C	H	N	O	P	0	0
			229	68	76	29	49	7		

- Molecule 2 is a RNA chain called tRNA Methionin elongator.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	6	76	Total	C	H	N	O	P	0	0
			2440	724	820	292	528	76		

- Molecule 3 is a protein called Ribosome-associated molecular chaperone SSB1.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	A	214	Total	C	H	N	O	S	0	0
			2293	788	999	247	258	1		

- Molecule 4 is a protein called Phosphoglycerate kinase.

Mol	Chain	Residues	Atoms						AltConf	Trace
4	B	17	Total	C	H	N	O	S	0	0
			283	89	143	29	19	3		

There are 13 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	1	MET	-	initiating methionine	UNP P00560
B	2	ASP	-	expression tag	UNP P00560
B	3	TYR	-	expression tag	UNP P00560
B	4	LYS	-	expression tag	UNP P00560
B	5	ASP	-	expression tag	UNP P00560
B	6	ASP	-	expression tag	UNP P00560
B	7	ASP	-	expression tag	UNP P00560
B	8	ASP	-	expression tag	UNP P00560
B	9	LYS	-	expression tag	UNP P00560

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Chain	Residue	Modelled	Actual	Comment	Reference
B	10	GLU	-	expression tag	UNP P00560
B	76	MET	-	expression tag	UNP P00560
B	77	MET	-	expression tag	UNP P00560
B	78	MET	-	expression tag	UNP P00560

- Molecule 5 is a RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
5	C1	3063	Total	C	H	N	O	P	0	0
			98458	29270	32926	11827	21372	3063		

- Molecule 6 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	C2	1642	Total	C	H	N	O	P	0	0
			52622	15656	17607	6227	11490	1642		

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

Mol	Chain	Residues	Atoms						AltConf	Trace
7	C3	158	Total	C	H	N	O	P	0	0
			5048	1500	1695	586	1109	158		

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

Mol	Chain	Residues	Atoms						AltConf	Trace
8	C4	121	Total	C	H	N	O	P	0	0
			3883	1152	1304	461	845	121		

- Molecule 9 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
9	LA	251	Total	C	H	N	O	S	0	0
			3857	1182	1958	385	331	1		

- Molecule 10 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	LB	386	Total	C	H	N	O	S	0	0
			6238	1954	3159	584	533	8		

- Molecule 11 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
11	LC	361	Total	C	H	N	O	S	0	0
			5613	1730	2864	522	494	3		

- Molecule 12 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms						AltConf	Trace
12	LD	294	Total	C	H	N	O	S	0	0
			4646	1484	2295	410	455	2		

- Molecule 13 is a protein called 60S ribosomal protein L6-B.

Mol	Chain	Residues	Atoms						AltConf	Trace
13	LE	156	Total	C	H	N	O		0	0
			2547	802	1306	222	217			

- Molecule 14 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
14	LF	222	Total	C	H	N	O	S	0	0
			3647	1151	1863	324	308	1		

- Molecule 15 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
15	LG	229	Total	C	H	N	O	S	0	0
			3638	1138	1859	319	319	3		

- Molecule 16 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
16	LH	191	Total	C	H	N	O	S	0	0
			3080	957	1572	274	273	4		

- Molecule 17 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms						AltConf	Trace
17	LI	208	Total	C	H	N	O	S	0	0
			3429	1076	1734	321	293	5		

- Molecule 18 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
18	LJ	169	Total	C	H	N	O	S	0	0
			2732	846	1382	253	247	4		

- Molecule 19 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
19	LL	193	Total	C	H	N	O		0	0
			3152	962	1609	315	266			

- Molecule 20 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
20	LM	136	Total	C	H	N	O	S	0	0
			2203	675	1150	199	177	2		

- Molecule 21 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
21	LN	203	Total	C	H	N	O	S	0	0
			3500	1077	1780	361	281	1		

- Molecule 22 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
22	LO	197	Total	C	H	N	O	S	0	0
			3216	1003	1661	289	262	1		

- Molecule 23 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
23	LP	183	Total	C	H	N	O		0	0
			2850	879	1434	284	253			

- Molecule 24 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
24	LQ	185	Total	C	H	N	O	S	0	0
			2986	908	1545	290	241	2		

- Molecule 25 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LR	188	Total	C	H	N	O	0	0
			3122	932	1607	323	260		

- Molecule 26 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace	
26	LS	171	Total	C	H	N	O	S	0	0
			2913	925	1476	266	243	3		

- Molecule 27 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace	
27	LT	159	Total	C	H	N	O	S	0	0
			2600	805	1324	246	221	4		

- Molecule 28 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	LU	100	Total	C	H	N	O	0	0
			1609	516	813	131	149		

- Molecule 29 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
29	LV	136	Total	C	H	N	O	S	0	0
			2052	628	1049	189	179	7		

- Molecule 30 is a protein called Large ribosomal subunit protein eL24B.

Mol	Chain	Residues	Atoms					AltConf	Trace	
30	LW	63	Total	C	H	N	O	S	0	0
			1050	332	533	102	82	1		

- Molecule 31 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms						AltConf	Trace
31	LX	121	Total	C	H	N	O	S	0	0
			1992	620	1027	169	174	2		

- Molecule 32 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	LY	125	Total	C	H	N	O	0	0
			2060	620	1076	191	173		

- Molecule 33 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	LZ	135	Total	C	H	N	O	0	0
			2248	710	1156	202	180		

- Molecule 34 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms						AltConf	Trace
34	La	148	Total	C	H	N	O	S	0	0
			2388	749	1215	231	190	3		

- Molecule 35 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Lb	58	Total	C	H	N	O	0	0
			954	289	492	100	73		

- Molecule 36 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms						AltConf	Trace
36	Lc	96	Total	C	H	N	O	S	0	0
			1530	476	793	123	137	1		

- Molecule 37 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
37	Ld	108	Total	C	H	N	O	S	0	0
			1782	553	911	166	151	1		

- Molecule 38 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace	
38	Le	127	Total	C	H	N	O	S	0	0
			2099	644	1082	205	167	1		

- Molecule 39 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
39	Lf	106	Total	C	H	N	O	S	0	0
			1731	540	881	165	144	1		

- Molecule 40 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
40	Lg	112	Total	C	H	N	O	S	0	0
			1826	545	946	179	152	4		

- Molecule 41 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
41	Lh	119	Total	C	H	N	O	S	0	0
			2048	615	1079	186	167	1		

- Molecule 42 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
42	Li	99	Total	C	H	N	O	S	0	0
			1611	478	845	154	132	2		

- Molecule 43 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
43	Lj	85	Total	C	H	N	O	S	0	0
			1348	408	678	146	111	5		

- Molecule 44 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms						AltConf	Trace
44	Lk	77	Total	C	H	N	O		0	0
			1295	391	683	115	106			

- Molecule 45 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms						AltConf	Trace
45	Ll	50	Total	C	H	N	O	S	0	0
			912	272	476	97	65	2		

- Molecule 46 is a protein called Large ribosomal subunit protein eL41B.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	Ln	25	Total	C	H	N	O	S	0	0
			502	139	273	62	27	1		

- Molecule 47 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
47	Lo	103	Total	C	H	N	O	S	0	0
			1717	517	893	167	135	5		

- Molecule 48 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
48	Lp	91	Total	C	H	N	O	S	0	0
			1433	429	739	138	121	6		

- Molecule 49 is a protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
49	SA	206	Total	C	H	N	O	S	0	0
			3214	1030	1611	284	287	2		

- Molecule 50 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
50	SB	226	Total	C	H	N	O	S	0	0
			3690	1139	1892	330	325	4		

- Molecule 51 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms						AltConf	Trace
51	SC	216	Total	C	H	N	O	S	0	0
			3342	1042	1716	287	295	2		

- Molecule 52 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms						AltConf	Trace
52	SD	222	Total	C	H	N	O	S	0	0
			3542	1098	1813	312	313	6		

- Molecule 53 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
53	SE	258	Total	C	H	N	O	S	0	0
			4197	1308	2141	387	358	3		

- Molecule 54 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms						AltConf	Trace
54	SF	205	Total	C	H	N	O	S	0	0
			3256	996	1662	298	297	3		

- Molecule 55 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
55	SG	228	Total	C	H	N	O	S	0	0
			3709	1138	1894	351	323	3		

- Molecule 56 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
56	SH	184	Total	C	H	N	O		0	0
			3028	946	1555	263	264			

- Molecule 57 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
57	SI	187	Total	C	H	N	O	S	0	0
			2979	916	1503	295	263	2		

- Molecule 58 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
58	SJ	184	Total	C	H	N	O	S	0	0
			3035	935	1556	285	258	1		

- Molecule 59 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
59	SK	80	Total	C	H	N	O	S	0	0
			1362	446	677	109	128	2		

- Molecule 60 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
60	SL	142	Total	C	H	N	O	S	0	0
			2360	735	1214	217	191	3		

- Molecule 61 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms						AltConf	Trace
61	SN	150	Total	C	H	N	O	S	0	0
			2448	759	1256	224	207	2		

- Molecule 62 is a protein called 40S ribosomal protein S14-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
62	SO	127	Total	C	H	N	O	S	0	0
			1877	569	951	185	169	3		

- Molecule 63 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms						AltConf	Trace
63	SP	114	Total	C	H	N	O	S	0	0
			1816	571	921	168	150	6		

- Molecule 64 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
64	SQ	141	Total	C	H	N	O	S	0	0
			2272	708	1167	203	194			

- Molecule 65 is a protein called 40S ribosomal protein S17-B.

Mol	Chain	Residues	Atoms						AltConf	Trace
65	SR	121	Total	C	H	N	O	S	0	0
			1940	596	992	179	171	2		

- Molecule 66 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
66	SS	145	Total	C	H	N	O	S	0	0
			2415	743	1223	237	210	2		

- Molecule 67 is a protein called 40S ribosomal protein S19-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
67	ST	143	Total	C	H	N	O	S	0	0
			2236	694	1124	208	208	2		

- Molecule 68 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms						AltConf	Trace
68	SU	100	Total	C	H	N	O	S	0	0
			1661	506	864	144	146	1		

- Molecule 69 is a protein called 40S ribosomal protein S21-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
69	SV	87	Total	C	H	N	O	S	0	0
			1335	415	662	125	131	2		

- Molecule 70 is a protein called 40S ribosomal protein S22-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
70	SW	129	Total	C	H	N	O	S	0	0
			2082	650	1061	188	180	3		

- Molecule 71 is a protein called 40S ribosomal protein S23-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
71	SX	144	Total	C	H	N	O	S	0	0
			2318	708	1197	220	191	2		

- Molecule 72 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
72	SY	133	Total	C	H	N	O		0	0
			2196	673	1129	207	187			

- Molecule 73 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
73	SZ	67	Total	C	H	N	O		0	0
			1123	346	584	98	95			

- Molecule 74 is a protein called Small ribosomal subunit protein eS26A.

Mol	Chain	Residues	Atoms						AltConf	Trace
74	Sa	97	Total	C	H	N	O	S	0	0
			1587	475	818	160	129	5		

- Molecule 75 is a protein called 40S ribosomal protein S27-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
75	Sb	81	Total	C	H	N	O	S	0	0
			1244	382	634	110	113	5		

- Molecule 76 is a protein called Small ribosomal subunit protein eS28B.

Mol	Chain	Residues	Atoms						AltConf	Trace
76	Sc	63	Total	C	H	N	O	S	0	0
			1016	303	525	96	91	1		

- Molecule 77 is a protein called Small ribosomal subunit protein uS14A.

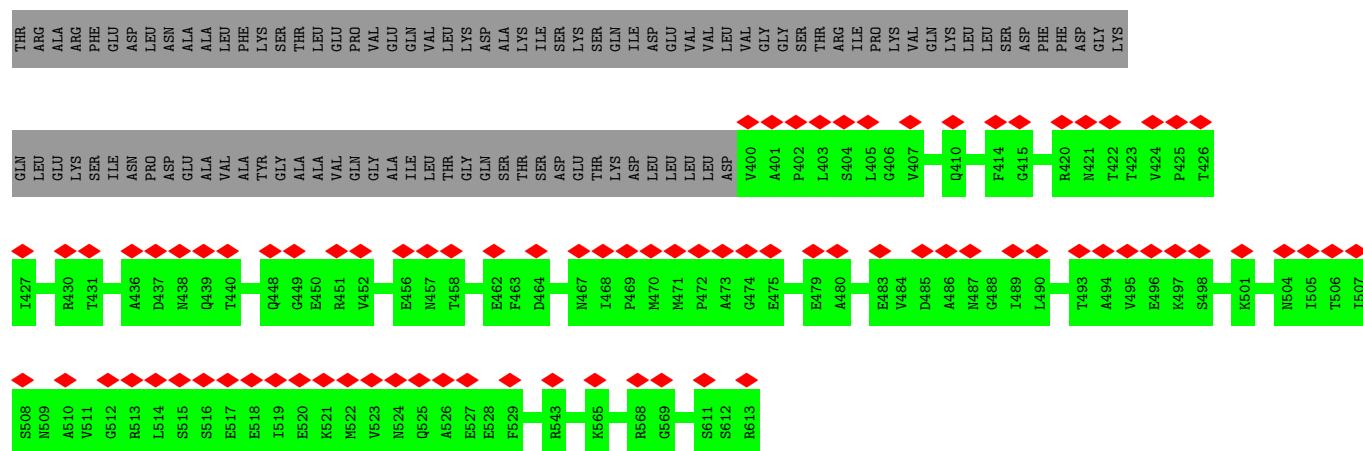
Mol	Chain	Residues	Atoms						AltConf	Trace
77	Sd	45	Total	C	H	N	O	S	0	0
			749	227	378	80	60	4		

- Molecule 78 is a protein called 40S ribosomal protein S30-A.

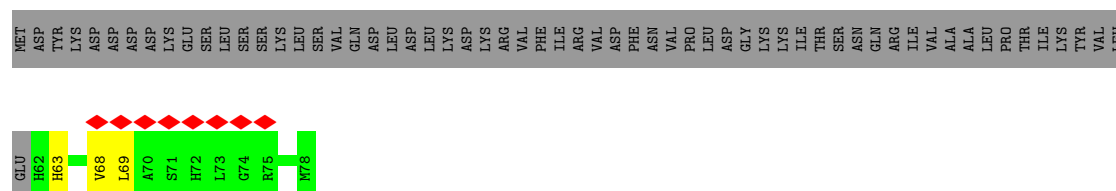
Mol	Chain	Residues	Atoms						AltConf	Trace
78	Se	60	Total	C	H	N	O	S	0	0
			994	298	522	97	76	1		

- Molecule 79 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

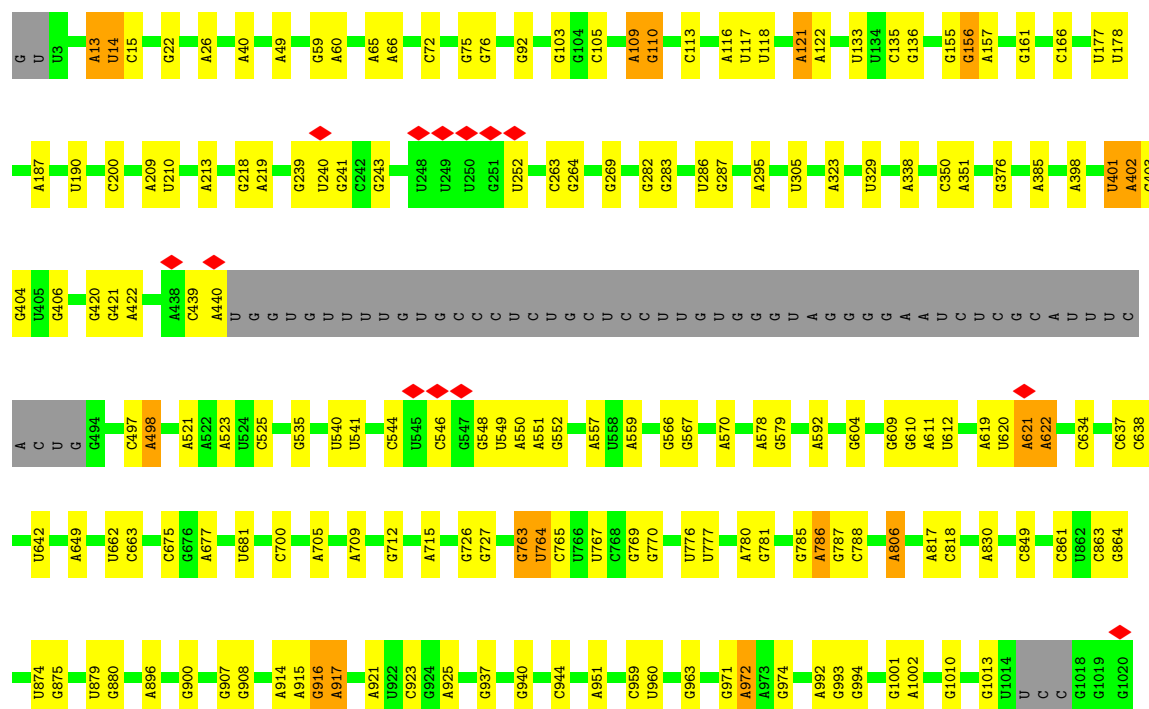
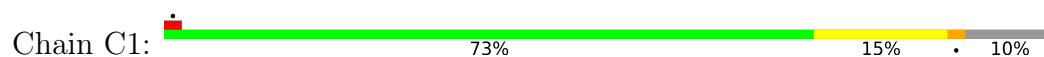
Mol	Chain	Residues	Atoms						AltConf	Trace
79	Sg	312	Total	C	H	N	O	S	0	0
			4717	1514	2334	409	452	8		



• Molecule 4: Phosphoglycerate kinase

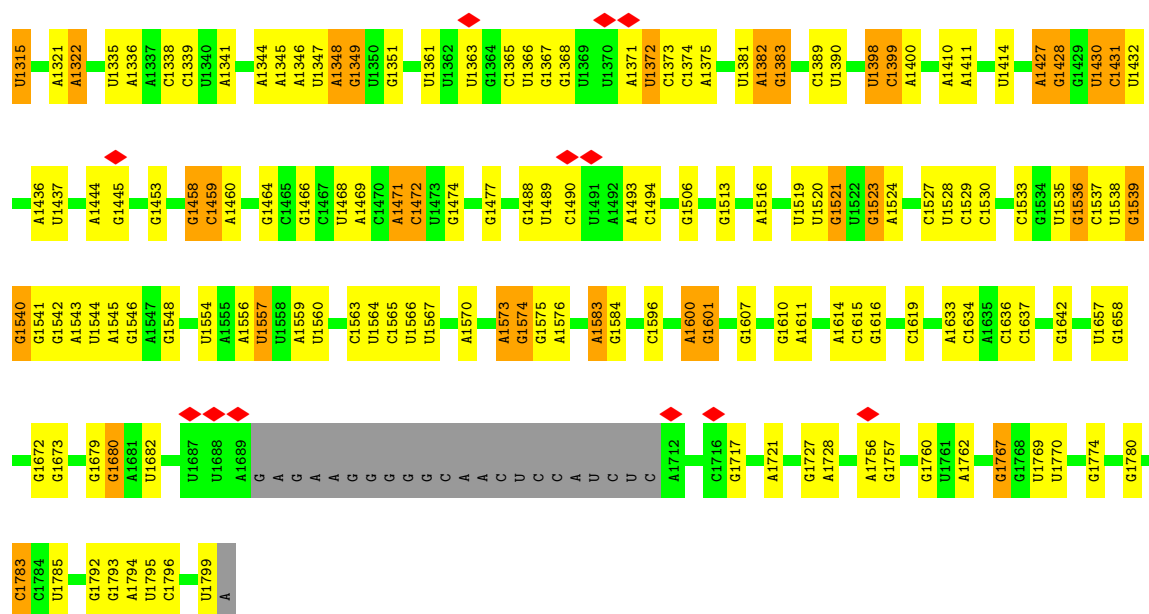


• Molecule 5: 25S ribosomal RNA

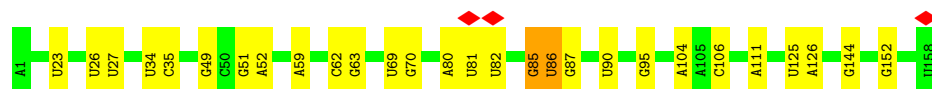
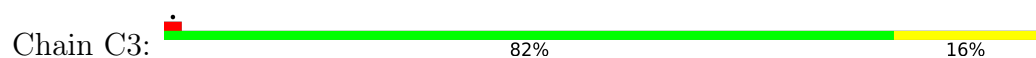


G1021	U1022	C1023	G	A	A	U1028	G1029	A1047	A1048	C1049	A1057	A1064	A1065	G1072	U1081	G1087	U1088	A1093	U1094	U1095	U1096	G1097	A1098	A1102	A1103	G1117	A1129	A1130	G1131	A1135	A1153	A1154	A1159	U1162	G1174	A1180	U1181	C1192	A1193	C1196								
C1201	U1208	G1209	C1219	U1220	A1221	G1222	A1223	G1226	C1227	C1228	G1229	G	A	C	G	U	G	C	C	A	U	G	G	A	A	A	A	A	C	C	C	U	A	G	G	A	U	G	U	U	A	A	C	A				
A	C	U	U	C	C	C	C	A1280	G1281	C1282	G1283	C1284	G1285	A1286	A1287	G1307	A1308	U1309	G1313	A1326	C1327	A1330	U1348	G1349	A1350	U1351	A1352	U1353	G1354	A1355	U1356	G1357	A1366	G1367	U1368	G1371	C1372	A1373	A1381	C1385	A1386	G1392	A1399	G1400	A1418	A1419	G1431	C1432
A1433	G1434	A1435	U1436	C1437	A1446	G1450	C1451	A1452	A1481	A1482	G1483	U1484	A1498	C1499	A1503	C1508	U1523	U1533	G1536	U1555	C1556	A1557	G1561	C1562	C1563	U1564	G1565	A1566	U	U	U	U	A	U1572	G1573	C1574	A1575	G1576	A1580	C1581	C1582	A1588	A1589	A1593				
C1596	C1597	U1607	A1619	U1620	A1621	U1622	C1628	U1629	U1630	C1631	C1639	G1640	U1641	A1642	A1643	C1657	A1683	A1696	A1697	U1705	U1724	C1725	U1741	A1742	G1743	A1750	G1751	A1760	C	C	U	U	U	G1766	C1771	U1772	G1775	G1780	C1781	U1782	U1783	A1797						
G1812	A1813	A1814	U1815	A1816	G1817	U1818	U1819	U1820	U1821	A1835	A1839	U1840	A1841	A1842	C1846	C1849	A1850	C1857	A1858	C1866	A1867	U1871	G1878	A1879	U1880	A1884	A1895	G1906	G1962	G	G	U	U	A	G	A	G	G	C	U	U	G	U	C				
C	A	G	C	A	C	C	C	C	A	G	U	U	A	G	C	U	G	C	U	C	G	U	U	G	U	C	U	G	C	U	U	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
U	U	G	C	U	G	C	C	C	U	G	U	G	A	C	C	G	C	C	U	G	U	A	G	U	C	U	C	U	G	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
U	A	A2093	C2101	U2102	G2111	U2112	A2113	C2114	G2115	G2116	A2117	C2118	A2119	A2120	G2121	G2122	A2131	G2134	A2138	A2139	U2140	A2141	A2142	A2145	A2149	A2158	G2169	U2170	A2188	U2205	G2206	A2207	A2208	U2209	U2225	A2232	A2233	A2244	G2249	A2256	C2257	U2269						
A2270	A2271	G2272	G2273	A2279	A2280	U2281	U2282	C2285	U2298	G2307	C2308	A2309	U2310	A2313	U2314	G2315	U2334	G2335	U2336	A2356	G2369	G2370	A2373	C2374	G2375	G2383	A2397	A2402	G2403	A2404	U2411	G2418	G2435	G2442	A2443	A	U	A	G	A	G	G						
G	U	G	U	A	A	U	A	A	U	G	G	A	C	U	U	C	C	C	C	C	A	G	U	G	A	A	C	C	C	U	U	U	U	A	A	G2503	U2504	U2505	U2506	C2507	U2514	A2515						
G2522	A2523	G2534	A2535	A	U	U	C	A	U	U	U2544	C2545	U2546	C2547	C2548	G2549	U2550	U2551	C2552	U2553	A2554	G2555	C2560	A2561	A2569	U2570	U2571	C2572	G2573	C2582	G2585	G2586	A2593	G2603	G2606	G2607	G2614	A2637	C2638	G2639	U2652	A2656	U2665	A2674				
G2677	A2689	G2690	A2691	A2694	A2695	A2696	A2704	A2705	C2726	A2727	U2728	U2729	G2753	A2762	C2772	C2773	C2774	G2777	G2778	G2784	A2785	G2796	G2800	A2801	A2802	A2803	C2812	G2816	A2817	C2821	A2838	G2841	U	U	C	U	A	A2847	U2861	C2867								
G2871	A2872	U2880	A2887	U2888	A2897	C2898	C2899	A2900	A2903	U2904	G2914	G2917	U2920	U2923	U2935	A2936	A2941	C2942	G2943	U2944	G2945	A2946	G2947	A2971	A2982	C2983	G2997	U3007	A3012	U3013	U3014	A3049	G3053	U3056	U3078	U3079	A3086											

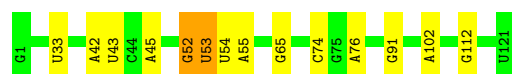
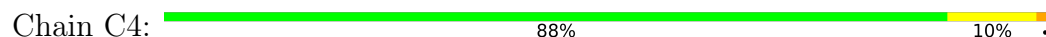




- Molecule 7: 5.8S ribosomal RNA



- Molecule 8: 5S ribosomal RNA



- Molecule 9: 60S ribosomal protein L2-A



- Molecule 10: 60S ribosomal protein L3



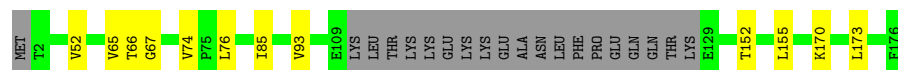
- Molecule 11: 60S ribosomal protein L4-A

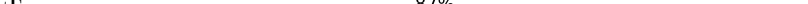
RET 82 T37 T40 V52 R76 T82 883 R84 087 888 889 N92 M99 P102 T103 K104 T105 R119 T122 L150 T154 E157 T162 V172 L187 K193 D259 K321 L325 K342 D362

- Chain LD: 92% 7%



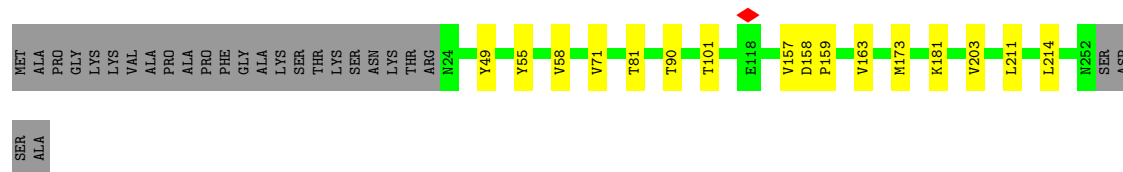
- Chain LE:



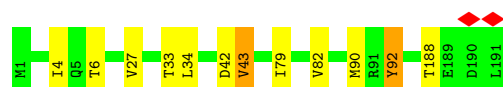
- Chain LF:  87% 9%

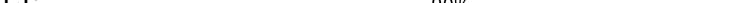


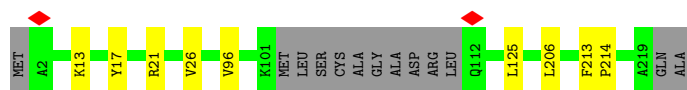
- Chain LG: 



- Chain LH: 94% 5%



- Chain LI:  90% 6%



- Molecule 18: 60S ribosomal protein L11-A

Chain LJ: 90% 7%



- Molecule 19: 60S ribosomal protein L13-A

Chain LL: 93%



- Molecule 20: 60S ribosomal protein L14-A

Chain LM: 95%



- Molecule 21: 60S ribosomal protein L15-A

Chain LN: 95% 5%



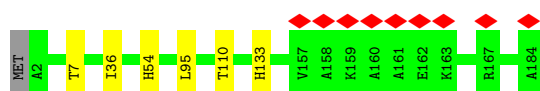
- Molecule 22: 60S ribosomal protein L16-A

Chain LO: 94% 5%



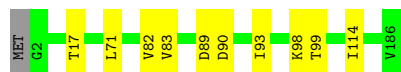
- Molecule 23: 60S ribosomal protein L17-A

Chain LP: 96%

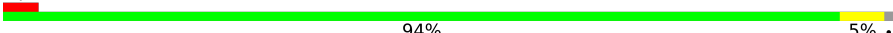


- Molecule 24: 60S ribosomal protein L18-A

Chain LQ:  94% 5%



- Molecule 25: 60S ribosomal protein L19-A

Chain LR:  94% 5%



- Molecule 26: 60S ribosomal protein L20-A

Chain LS:  90% 9%



- Molecule 27: 60S ribosomal protein L21-A

Chain LT:  91% 8%



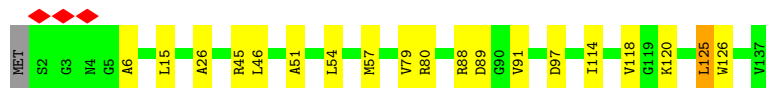
- Molecule 28: 60S ribosomal protein L22-A

Chain LU:  72% 11% 17%



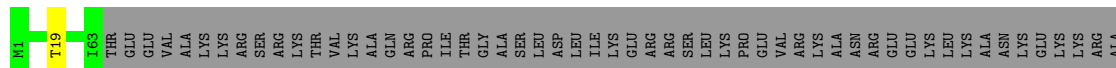
- Molecule 29: 60S ribosomal protein L23-A

Chain LV:  85% 13%



- Molecule 30: Large ribosomal subunit protein eL24B

Chain LW:  40% 59%



GLU
LYS
ALA
ALA
ARG
LYS
ALA
GLU
LYS
LYS
ALA
SER
SER
ALA
GLY
VAL
GLN
GLY
SER
LYS
VAL
SER
LYS
GLN
GLN
ALA
LYS
GLY
ALA
PHE
GLN
LYS
VAL
ALA
ALA
THR
SER
ARG

- Molecule 31: 60S ribosomal protein L25

Chain LX:  79% 6% 15%

MET
ALA
PRO
SER
ALA
LYS
ALA
THR
ALA
LYS
LYS
LYS
LYS
VAL
VAL
LYS
GLY
THR
ASN
GLY
LYS
K22
L38
L57
K61
V62
S69
M73
K96
K97
A98
I142

- Molecule 32: 60S ribosomal protein L26-A

Chain LY:  90% 9%

MET
A2
K3
Q4
K37
V59
K77
F78
A79
V80
K87
K103
L104
V105
L118
K122
L126
GLU

- Molecule 33: 60S ribosomal protein L27-A

Chain LZ:  93% 6%

MET
A2
L5
K9
V24
V53
G58
V62
T66
T83
F136

- Molecule 34: 60S ribosomal protein L28

Chain La:  93% 6%

MET
P2
I22
H40
T43
W79
I32
R87
L91
E97
L147
T148
A149

- Molecule 35: 60S ribosomal protein L29

Chain Lb:  5% 86% 12%

MET
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H7
T8
A9
H10
I21
L32
V35
D36
K58
K59

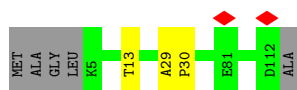
- Molecule 36: 60S ribosomal protein L30

Chain Lc:  84% 8% 9%

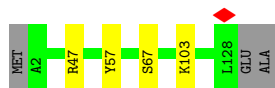
MET
ALA
PRO
VAL
LYS
SER
GLN
GLU
S9
S29
R35
K38
S63
K64
T65
E76
T102
T103
L104
ALA

- Molecule 37: 60S ribosomal protein L31-A

Chain Ld:  93%



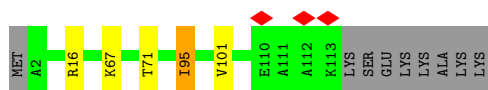
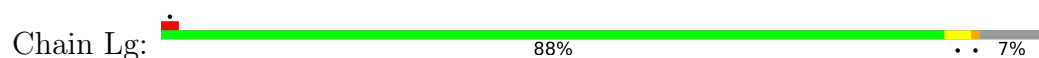
- Molecule 38: 60S ribosomal protein L32



- Molecule 39: 60S ribosomal protein L33-A



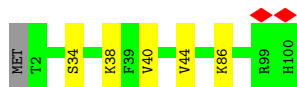
- Molecule 40: 60S ribosomal protein L34-A



- Molecule 41: 60S ribosomal protein L35-A



- Molecule 42: 60S ribosomal protein L36-A

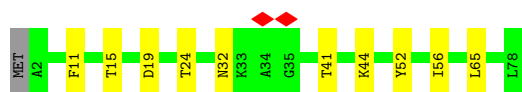


- Molecule 43: 60S ribosomal protein L37-A

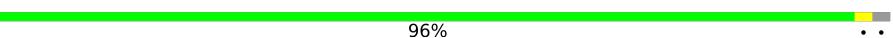


- Molecule 44: 60S ribosomal protein L38

Chain Lk:  86% 13%

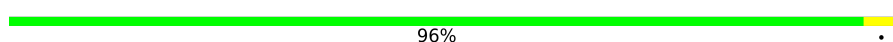


- Molecule 45: 60S ribosomal protein L39

Chain Ll:  96%



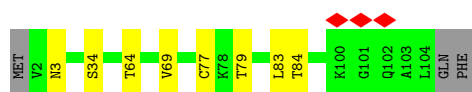
- Molecule 46: Large ribosomal subunit protein eL41B

Chain Ln:  96%

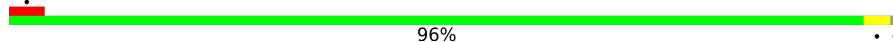


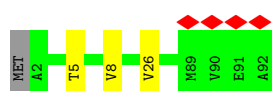
- Molecule 47: 60S ribosomal protein L42-A

Chain Lo:  90% 8%



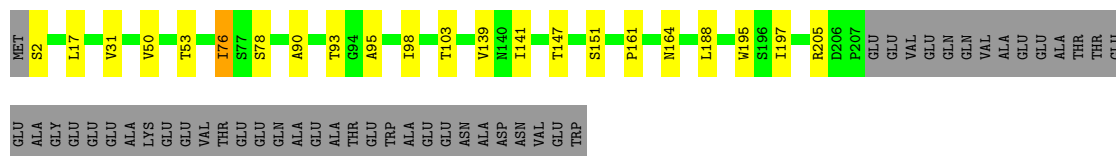
- Molecule 48: 60S ribosomal protein L43-A

Chain Lp:  96%



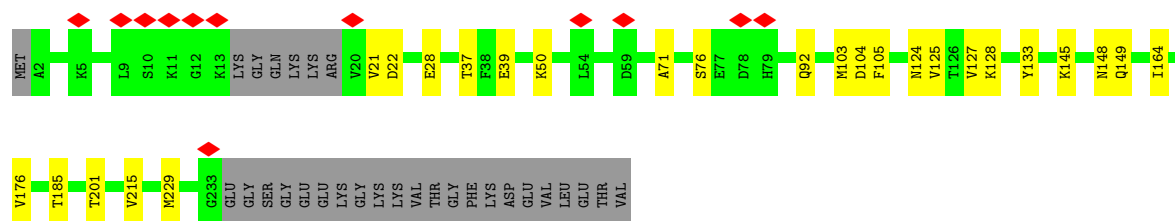
- Molecule 49: 40S ribosomal protein S0-A

Chain SA:  73% 8% 18%



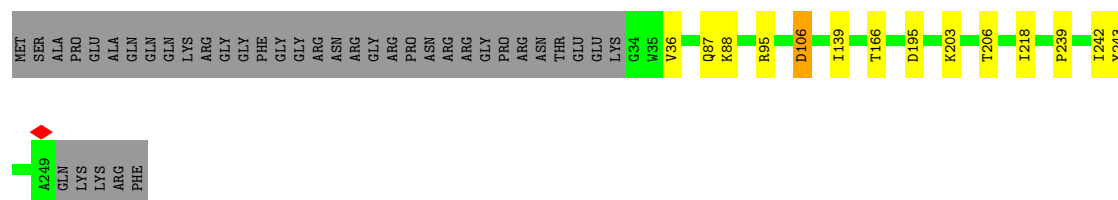
- Molecule 50: 40S ribosomal protein S1-A

Chain SB:  5% 78% 10% 11%



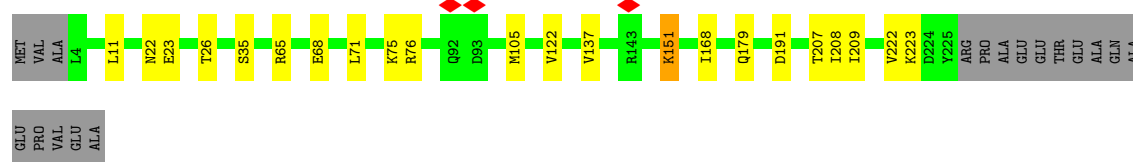
- Molecule 51: 40S ribosomal protein S2

Chain SC: 80% 5% 15%



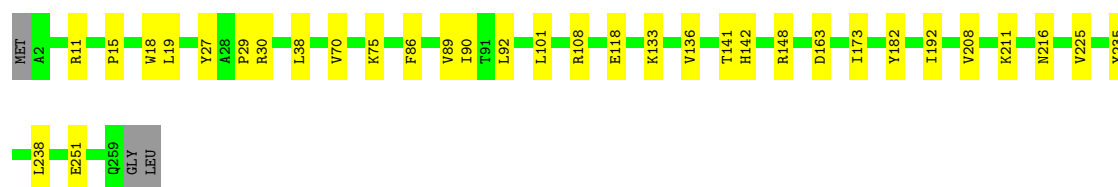
- Molecule 52: Small ribosomal subunit protein uS3

Chain SD: 83% 9% 8%



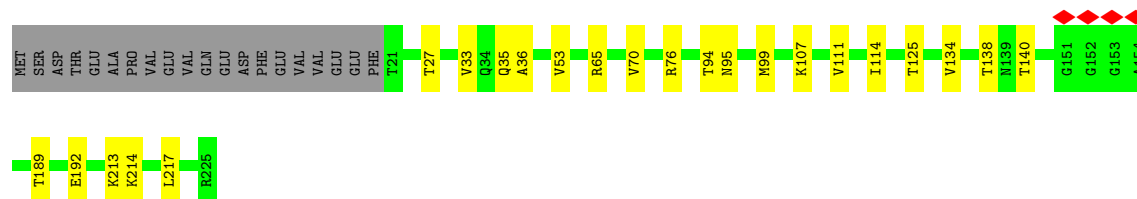
- Molecule 53: 40S ribosomal protein S4-A

Chain SE: 86% 13% 1%

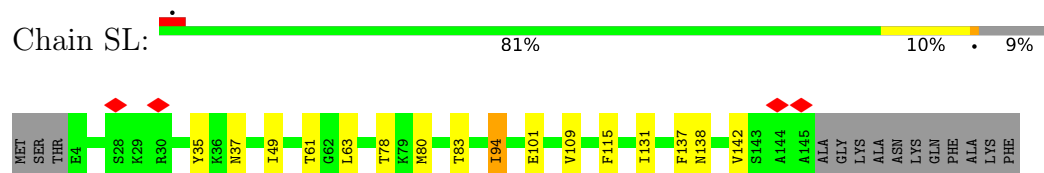


- Molecule 54: 40S ribosomal protein S5

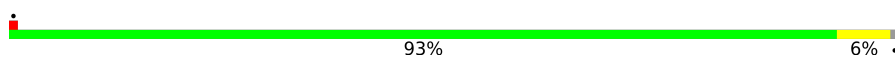
Chain SF: 81% 10% 9%



- Molecule 55: 40S ribosomal protein S6-A



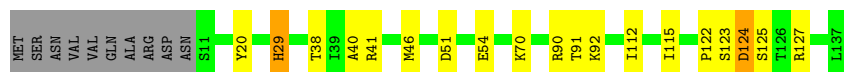
- Molecule 61: 40S ribosomal protein S13

Chain SN:  93% 6%



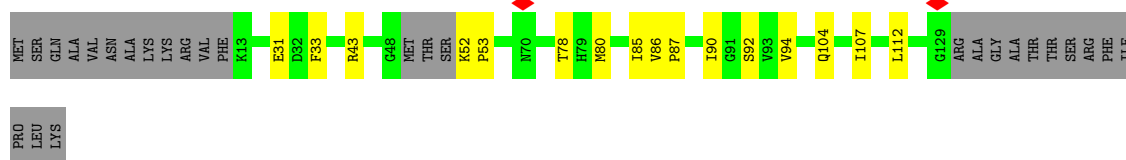
- Molecule 62: 40S ribosomal protein S14-A

Chain SO:  79% 12% 7%



- Molecule 63: 40S ribosomal protein S15

Chain SP:  69% 11% 20%



- Molecule 64: 40S ribosomal protein S16-A

Chain SQ:  90% 9%



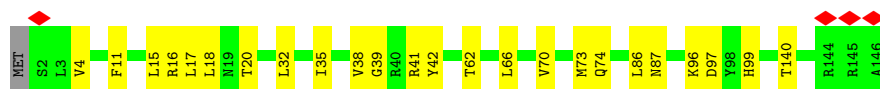
- Molecule 65: 40S ribosomal protein S17-B

Chain SR:  77% 12% 11%



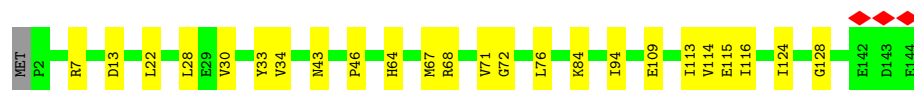
- Molecule 66: 40S ribosomal protein S18-A

Chain SS:  83% 16%



- Molecule 67: 40S ribosomal protein S19-A

Chain ST:  83% 17%



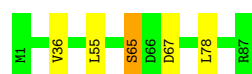
- Molecule 68: Small ribosomal subunit protein uS10

Chain SU: 74% 9% 17%



- Molecule 69: 40S ribosomal protein S21-A

Chain SV: 94% 5%



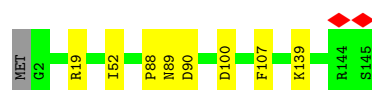
- Molecule 70: 40S ribosomal protein S22-A

Chain SW: 92% 7% ..



- Molecule 71: 40S ribosomal protein S23-A

Chain SX: 94% 6%



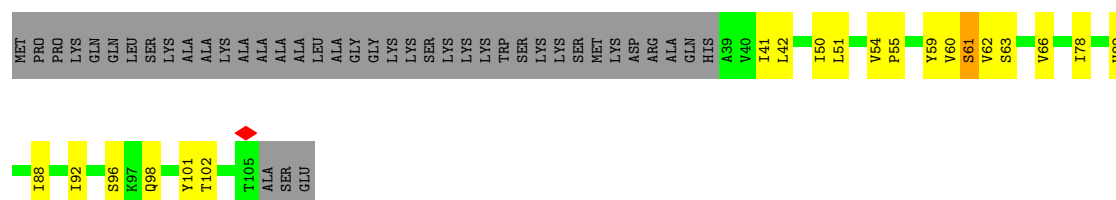
- Molecule 72: 40S ribosomal protein S24-A

Chain SY: 95% ..



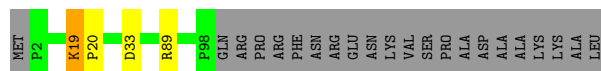
- Molecule 73: 40S ribosomal protein S25-A

Chain SZ: 44% 18% 38%



- Molecule 74: Small ribosomal subunit protein eS26A

Chain Sa:  78% 18%



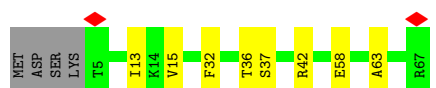
- Molecule 75: 40S ribosomal protein S27-A

Chain Sb:  84% 15%



- Molecule 76: Small ribosomal subunit protein eS28B

Chain Sc:  82% 12% 6%



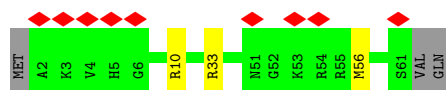
- Molecule 77: Small ribosomal subunit protein uS14A

Chain Sd:  70% 9% 20%



- Molecule 78: 40S ribosomal protein S30-A

Chain Se:  14% 90% 5% 5%



- Molecule 79: Guanine nucleotide-binding protein subunit beta-like protein

Chain Sg:  84% 14%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	32921	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	130000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	2.314	Depositor
Minimum map value	-0.036	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.051	Depositor
Recommended contour level	0.0392	Depositor
Map size ($\text{\AA}$)	476.00003, 476.00003, 476.00003	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.19, 1.19, 1.19	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	5	0.50	0/171	0.97	0/265
2	6	0.31	0/1811	0.32	0/2820
3	A	0.15	0/1305	0.26	0/1785
4	B	0.22	0/144	0.40	0/192
5	C1	0.48	0/73350	0.35	0/114345
6	C2	0.46	0/39167	0.36	0/61016
7	C3	0.48	0/3746	0.35	0/5832
8	C4	0.49	0/2883	0.32	0/4491
9	LA	0.41	0/1933	0.39	0/2598
10	LB	0.39	0/3150	0.36	0/4236
11	LC	0.39	0/2801	0.35	0/3792
12	LD	0.36	0/2400	0.35	0/3239
13	LE	0.37	0/1263	0.36	0/1703
14	LF	0.43	0/1821	0.36	0/2451
15	LG	0.38	0/1811	0.33	0/2447
16	LH	0.28	0/1529	0.33	0/2060
17	LI	0.35	0/1731	0.35	0/2321
18	LJ	0.34	0/1371	0.32	0/1838
19	LL	0.40	0/1568	0.35	0/2106
20	LM	0.40	0/1068	0.35	0/1438
21	LN	0.40	0/1757	0.36	0/2354
22	LO	0.43	0/1585	0.34	0/2128
23	LP	0.38	0/1439	0.35	0/1938
24	LQ	0.41	0/1465	0.36	0/1965
25	LR	0.37	0/1532	0.30	0/2043
26	LS	0.41	0/1473	0.37	0/1980
27	LT	0.39	0/1300	0.36	0/1743
28	LU	0.33	0/812	0.32	0/1099
29	LV	0.38	0/1018	0.36	0/1369
30	LW	0.42	0/529	0.43	0/702
31	LX	0.39	0/980	0.37	0/1321
32	LY	0.35	0/995	0.34	0/1329
33	LZ	0.37	0/1118	0.34	0/1497
34	La	0.41	0/1204	0.37	0/1612

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	Lb	0.34	0/473	0.30	0/629
36	Lc	0.41	0/745	0.34	0/1001
37	Ld	0.37	0/885	0.31	0/1189
38	Le	0.40	0/1038	0.31	0/1390
39	Lf	0.42	0/868	0.36	0/1168
40	Lg	0.38	0/890	0.37	0/1189
41	Lh	0.38	0/978	0.33	0/1301
42	Li	0.36	0/772	0.41	0/1026
43	Lj	0.42	0/685	0.36	0/908
44	Lk	0.30	0/618	0.35	0/826
45	Ll	0.39	0/443	0.30	0/588
46	Ln	0.41	0/230	0.39	0/296
47	Lo	0.35	0/836	0.37	0/1104
48	Lp	0.38	0/701	0.37	0/934
49	SA	0.41	0/1644	0.36	0/2249
50	SB	0.34	0/1823	0.34	0/2447
51	SC	0.42	0/1656	0.35	0/2251
52	SD	0.30	0/1754	0.31	0/2361
53	SE	0.36	0/2097	0.36	0/2823
54	SF	0.35	0/1613	0.37	0/2181
55	SG	0.26	0/1839	0.33	0/2460
56	SH	0.30	0/1498	0.35	0/2019
57	SI	0.38	0/1501	0.34	0/2006
58	SJ	0.35	0/1504	0.35	0/2016
59	SK	0.24	0/701	0.29	0/944
60	SL	0.39	0/1172	0.34	0/1580
61	SN	0.37	0/1215	0.34	0/1638
62	SO	0.38	0/937	0.46	0/1261
63	SP	0.27	0/914	0.35	0/1228
64	SQ	0.39	0/1125	0.36	0/1510
65	SR	0.35	0/957	0.32	0/1283
66	SS	0.30	0/1211	0.35	0/1628
67	ST	0.32	0/1130	0.37	0/1517
68	SU	0.29	0/807	0.36	0/1091
69	SV	0.42	0/682	0.36	0/921
70	SW	0.46	0/1038	0.40	0/1395
71	SX	0.35	0/1139	0.36	0/1518
72	SY	0.32	0/1081	0.34	0/1441
73	SZ	0.29	0/546	0.37	0/734
74	Sa	0.39	0/782	0.37	0/1047
75	Sb	0.39	0/620	0.37	0/838
76	Sc	0.34	0/493	0.41	0/663
77	Sd	0.39	0/376	0.32	0/495

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
78	Se	0.31	0/480	0.31	0/639
79	Sg	0.26	0/2436	0.35	0/3318
All	All	0.43	0/209163	0.35	0/307106

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

Mol	Chain	#Chirality outliers	#Planarity outliers
11	LC	0	1
62	SO	0	1
All	All	0	2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
11	LC	89	ALA	Peptide
62	SO	124	ASP	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	5	153	76	76	0	0
2	6	1620	820	820	5	0
3	A	1294	999	998	0	0
4	B	140	143	142	1	0
5	C1	65532	32926	32936	119	0
6	C2	35015	17607	17617	175	0
7	C3	3353	1695	1695	4	0
8	C4	2579	1304	1304	3	0
9	LA	1899	1958	1957	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
10	LB	3079	3159	3158	17	0
11	LC	2749	2864	2863	16	0
12	LD	2351	2295	2294	11	0
13	LE	1241	1306	1322	9	0
14	LF	1784	1863	1862	5	0
15	LG	1779	1859	1858	8	0
16	LH	1508	1572	1572	8	0
17	LI	1695	1734	1732	5	0
18	LJ	1350	1382	1381	6	0
19	LL	1543	1609	1608	4	0
20	LM	1053	1150	1149	1	0
21	LN	1720	1780	1779	6	0
22	LO	1555	1661	1659	6	0
23	LP	1416	1434	1433	2	0
24	LQ	1441	1545	1543	8	0
25	LR	1515	1607	1606	7	0
26	LS	1437	1476	1475	10	0
27	LT	1276	1324	1323	7	0
28	LU	796	813	812	7	0
29	LV	1003	1049	1048	10	0
30	LW	517	533	540	0	0
31	LX	965	1027	1025	6	0
32	LY	984	1076	1075	6	0
33	LZ	1092	1156	1155	6	0
34	La	1173	1215	1215	5	0
35	Lb	462	492	491	5	0
36	Lc	737	793	792	5	0
37	Ld	871	911	910	2	0
38	Le	1017	1082	1081	2	0
39	Lf	850	881	880	4	0
40	Lg	880	946	945	6	0
41	Lh	969	1079	1078	2	0
42	Li	766	845	844	4	0
43	Lj	670	678	677	1	0
44	Lk	612	683	682	3	0
45	Ll	436	476	475	1	0
46	Ln	229	273	273	1	0
47	Lo	824	893	892	3	0
48	Lp	694	739	738	2	0
49	SA	1603	1611	1610	13	0
50	SB	1798	1892	1890	14	0
51	SC	1626	1716	1715	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
52	SD	1729	1813	1812	14	0
53	SE	2056	2141	2140	20	0
54	SF	1594	1662	1660	24	0
55	SG	1815	1894	1894	20	0
56	SH	1473	1555	1555	15	0
57	SI	1476	1503	1501	17	0
58	SJ	1479	1556	1556	10	0
59	SK	685	677	677	10	0
60	SL	1146	1214	1213	12	0
61	SN	1192	1256	1255	6	0
62	SO	926	951	950	12	0
63	SP	895	921	919	14	0
64	SQ	1105	1167	1166	9	0
65	SR	948	992	990	11	0
66	SS	1192	1223	1222	22	0
67	ST	1112	1124	1124	15	0
68	SU	797	864	863	9	0
69	SV	673	662	662	3	0
70	SW	1021	1061	1060	5	0
71	SX	1121	1197	1196	4	0
72	SY	1067	1129	1127	4	0
73	SZ	539	584	583	17	0
74	Sa	769	818	818	3	0
75	Sb	610	634	633	9	0
76	Sc	491	525	524	5	0
77	Sd	371	378	377	3	0
78	Se	472	522	521	5	0
79	Sg	2383	2334	2332	34	0
All	All	194788	144364	144335	829	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.

All (829) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SS:15:LEU:HD12	66:SS:17:LEU:HD21	1.57	0.86
6:C2:260:U:H3	57:SI:43:ILE:HD12	1.44	0.83
53:SE:192:ILE:HD13	53:SE:238:LEU:HD23	1.61	0.81
75:Sb:55:THR:HG22	75:Sb:62:ILE:HD13	1.64	0.80
56:SH:67:LEU:HD11	56:SH:94:ALA:HB2	1.62	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SF:53:VAL:HG11	54:SF:138:THR:HG21	1.66	0.78
24:LQ:71:LEU:HD13	24:LQ:99:THR:HG21	1.68	0.74
16:LH:27:VAL:HG21	16:LH:79:ILE:HD13	1.69	0.73
73:SZ:78:ILE:HD12	73:SZ:78:ILE:H	1.54	0.73
10:LB:229:VAL:HG11	10:LB:249:VAL:HG23	1.71	0.72
60:SL:78:THR:HG22	60:SL:78:THR:O	1.89	0.72
5:C1:2356:A:H61	5:C1:2983:C:H5	1.36	0.72
54:SF:189:THR:HG21	73:SZ:98:GLN:NE2	2.06	0.71
63:SP:86:VAL:HG22	63:SP:87:PRO:HD2	1.73	0.70
5:C1:2555:G:N7	40:Lg:95:ILE:HD11	2.07	0.69
79:Sg:274:LEU:HD21	79:Sg:313:TRP:CE2	2.28	0.69
6:C2:778:G:H22	72:SY:10:ARG:NH2	1.90	0.68
33:LZ:66:THR:HG22	33:LZ:66:THR:O	1.93	0.68
50:SB:229:MET:HE3	50:SB:229:MET:HA	1.76	0.66
58:SJ:11:THR:HG22	58:SJ:11:THR:O	1.96	0.65
66:SS:4:VAL:HG22	73:SZ:82:HIS:ND1	2.11	0.65
28:LU:84:LEU:HD23	28:LU:89:LEU:HB2	1.79	0.64
56:SH:109:VAL:HG12	56:SH:110:GLN:H	1.61	0.64
61:SN:132:VAL:HG23	61:SN:134:VAL:HG23	1.81	0.63
25:LR:95:TRP:CZ2	25:LR:99:LEU:HD22	2.33	0.62
53:SE:192:ILE:HD13	53:SE:238:LEU:CD2	2.27	0.62
5:C1:1174:G:N2	22:LO:87:MET:HE2	2.14	0.62
67:ST:113:ILE:HD13	67:ST:128:GLY:HA2	1.82	0.61
5:C1:3228:C:H4'	5:C1:3229:G:O5'	2.00	0.61
79:Sg:214:ALA:HB1	79:Sg:240:VAL:HG11	1.83	0.61
6:C2:277:U:O2'	6:C2:278:U:P	2.59	0.61
59:SK:40:LEU:HD12	59:SK:40:LEU:O	2.00	0.60
6:C2:1025:A:H5'	6:C2:1774:G:H4'	1.82	0.60
52:SD:71:LEU:HD22	52:SD:75:LYS:NZ	2.15	0.60
76:Sc:42:ARG:HA	76:Sc:63:ALA:HB3	1.84	0.60
50:SB:201:THR:O	50:SB:201:THR:HG22	2.02	0.59
33:LZ:58:GLY:O	33:LZ:62:VAL:HG23	2.02	0.59
53:SE:19:LEU:HD11	53:SE:108:ARG:HD2	1.84	0.59
52:SD:11:LEU:HD12	68:SU:86:ILE:HD13	1.85	0.59
63:SP:33:PHE:CE1	63:SP:112:LEU:HD13	2.38	0.59
55:SG:141:ILE:HG21	55:SG:153:VAL:HG13	1.84	0.59
62:SO:122:PRO:HB2	62:SO:125:SER:HB3	1.84	0.59
73:SZ:42:LEU:H	73:SZ:42:LEU:HD23	1.68	0.58
67:ST:113:ILE:HG22	67:ST:114:VAL:HG23	1.85	0.58
17:LI:96:VAL:HG12	17:LI:125:LEU:CD2	2.33	0.58
54:SF:33:VAL:O	54:SF:33:VAL:CG1	2.52	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:LS:77:VAL:HG12	26:LS:126:VAL:HG13	1.84	0.57
6:C2:149:C:OP1	72:SY:121:THR:HG22	2.04	0.57
35:Lb:8:THR:HG22	35:Lb:10:HIS:H	1.69	0.57
53:SE:141:THR:HG22	53:SE:142:HIS:N	2.20	0.57
63:SP:85:ILE:HG22	63:SP:112:LEU:HD23	1.85	0.57
77:Sd:31:ILE:HG22	77:Sd:38:ILE:O	2.04	0.57
79:Sg:238:ASP:OD1	79:Sg:238:ASP:C	2.48	0.57
54:SF:134:VAL:O	54:SF:138:THR:HG23	2.05	0.56
70:SW:93:LEU:O	70:SW:94:LEU:HD12	2.05	0.56
54:SF:213:LYS:O	54:SF:217:LEU:HD12	2.06	0.56
56:SH:77:LEU:O	56:SH:81:LEU:HD22	2.05	0.56
79:Sg:188:ILE:HD12	79:Sg:188:ILE:C	2.30	0.56
9:LA:180:LEU:HD11	48:Lp:26:VAL:HG21	1.88	0.56
72:SY:5:VAL:HG23	72:SY:32:ARG:HH22	1.71	0.56
9:LA:72:ARG:HB2	9:LA:72:ARG:NH1	2.20	0.56
25:LR:102:LEU:HD22	25:LR:138:LEU:HD22	1.87	0.56
34:La:79:TRP:CE3	34:La:82:ILE:HD12	2.41	0.56
5:C1:13:A:H5'	5:C1:14:U:OP2	2.06	0.55
5:C1:1174:G:H22	22:LO:87:MET:HE2	1.71	0.55
55:SG:49:VAL:HG22	55:SG:115:LYS:HB3	1.88	0.55
66:SS:20:THR:OG1	66:SS:35:ILE:HD13	2.06	0.55
6:C2:778:G:H22	72:SY:10:ARG:HH21	1.55	0.55
6:C2:895:G:H21	62:SO:38:THR:HG21	1.71	0.55
15:LG:81:THR:HG21	15:LG:181:LYS:HG2	1.87	0.55
16:LH:188:THR:HG22	16:LH:188:THR:O	2.06	0.55
33:LZ:5:LEU:HD11	36:Lc:35:ARG:HG3	1.88	0.55
79:Sg:157:VAL:HG22	79:Sg:168:THR:O	2.07	0.55
50:SB:71:ALA:HB1	50:SB:76:SER:O	2.07	0.55
11:LC:99:MET:HE3	11:LC:102:PRO:HA	1.89	0.54
61:SN:145:THR:HG22	61:SN:145:THR:O	2.07	0.54
5:C1:1895:A:O2'	5:C1:3053:G:H4'	2.08	0.54
29:LV:97:ASP:C	29:LV:97:ASP:OD1	2.50	0.54
52:SD:207:THR:C	52:SD:208:ILE:HD13	2.33	0.54
10:LB:13:HIS:HD1	10:LB:16:PHE:HE2	1.56	0.54
68:SU:96:PRO:O	68:SU:100:VAL:HG23	2.07	0.54
68:SU:50:LEU:HD13	68:SU:95:ALA:HB2	1.89	0.54
5:C1:497:C:H2'	5:C1:498:A:O4'	2.07	0.54
6:C2:447:U:H2'	6:C2:448:C:O4'	2.07	0.54
54:SF:107:LYS:O	54:SF:111:VAL:HG23	2.08	0.54
54:SF:65:ARG:HE	54:SF:65:ARG:HA	1.73	0.54
74:Sa:89:ARG:CZ	74:Sa:89:ARG:HB3	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C2:1367:G:C2	6:C2:1368:G:C8	2.96	0.53
55:SG:132:ARG:C	55:SG:133:LEU:HD23	2.32	0.53
56:SH:109:VAL:HG12	56:SH:110:GLN:N	2.23	0.53
24:LQ:71:LEU:HD13	24:LQ:99:THR:CG2	2.36	0.53
47:Lo:69:VAL:HG22	47:Lo:84:THR:HG22	1.91	0.53
27:LT:48:ILE:HG21	27:LT:94:GLU:OE1	2.07	0.53
10:LB:361:THR:HG22	10:LB:361:THR:O	2.07	0.53
60:SL:94:ILE:HD11	60:SL:101:GLU:OE1	2.07	0.53
61:SN:4:MET:HE2	61:SN:124:ARG:NH2	2.23	0.53
5:C1:1093:A:N3	5:C1:1096:U:N3	2.56	0.53
6:C2:1767:G:OP1	6:C2:1770:U:H4'	2.09	0.53
12:LD:234:ASP:OD1	12:LD:234:ASP:C	2.51	0.53
54:SF:140:THR:HA	54:SF:214:LYS:HD3	1.91	0.53
34:La:22:ILE:HD12	34:La:22:ILE:H	1.73	0.53
79:Sg:224:ASN:ND2	79:Sg:227:ALA:HB3	2.24	0.53
9:LA:224:THR:C	9:LA:225:ILE:HD12	2.33	0.53
13:LE:170:LYS:HE2	13:LE:173:LEU:HD12	1.91	0.53
59:SK:21:VAL:HG11	59:SK:46:LEU:HD21	1.90	0.53
67:ST:67:MET:HA	67:ST:67:MET:HE2	1.91	0.53
2:6:10:G:N7	2:6:26:G:N2	2.58	0.52
35:Lb:32:LEU:HD22	35:Lb:35:VAL:HG21	1.91	0.52
53:SE:136:VAL:HG11	53:SE:148:ARG:CZ	2.39	0.52
13:LE:52:VAL:HG12	13:LE:74:VAL:HG21	1.91	0.52
27:LT:91:LEU:HD12	27:LT:91:LEU:O	2.08	0.52
10:LB:57:VAL:HG12	10:LB:358:TRP:HB3	1.92	0.52
49:SA:139:VAL:HG23	49:SA:141:ILE:HD13	1.89	0.52
76:Sc:15:VAL:HG23	76:Sc:15:VAL:O	2.09	0.52
12:LD:83:LEU:N	12:LD:84:PRO:HD2	2.24	0.52
15:LG:173:MET:HE2	15:LG:173:MET:HA	1.91	0.52
23:LP:36:ILE:CD1	23:LP:95:LEU:HD11	2.40	0.52
6:C2:1600:A:H4'	6:C2:1601:G:OP1	2.09	0.52
10:LB:291:GLU:O	10:LB:292:ALA:HB3	2.10	0.52
15:LG:158:ASP:HB2	15:LG:159:PRO:CD	2.39	0.52
56:SH:81:LEU:HD22	56:SH:81:LEU:H	1.74	0.52
5:C1:3324:C:H4'	37:Ld:13:THR:HG23	1.91	0.52
5:C1:3319:U:H4'	5:C1:3320:A:OP2	2.10	0.52
49:SA:103:THR:HG23	49:SA:103:THR:O	2.10	0.52
79:Sg:9:LEU:HD23	79:Sg:9:LEU:H	1.75	0.52
6:C2:1273:G:H4'	6:C2:1274:C:H3'	1.92	0.52
68:SU:115:GLU:OE1	68:SU:115:GLU:HA	2.10	0.52
79:Sg:214:ALA:CB	79:Sg:240:VAL:HG11	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C1:2256:A:H62	6:C2:1756:A:H2'	1.74	0.52
11:LC:99:MET:HE3	11:LC:103:THR:H	1.75	0.52
13:LE:93:VAL:O	13:LE:93:VAL:CG1	2.57	0.52
21:LN:36:ILE:HG12	21:LN:64:VAL:HG12	1.92	0.52
28:LU:43:VAL:HG12	28:LU:44:GLU:HG2	1.92	0.52
49:SA:17:LEU:HD13	49:SA:50:VAL:CG1	2.39	0.52
15:LG:90:THR:HA	15:LG:214:LEU:HD21	1.92	0.51
52:SD:71:LEU:HD22	52:SD:75:LYS:HZ3	1.74	0.51
59:SK:50:THR:HG22	59:SK:55:VAL:HG13	1.92	0.51
6:C2:288:A:H4'	6:C2:289:U:OP2	2.09	0.51
49:SA:195:TRP:CE2	49:SA:197:ILE:HD12	2.46	0.51
52:SD:191:ASP:OD1	52:SD:191:ASP:C	2.54	0.51
61:SN:138:ASN:OD1	61:SN:138:ASN:C	2.53	0.51
79:Sg:175:ASP:OD1	79:Sg:175:ASP:C	2.52	0.51
6:C2:39:A:H2	6:C2:469:C:H41	1.57	0.51
55:SG:2:LYS:O	55:SG:3:LEU:HD22	2.11	0.51
67:ST:30:VAL:CG1	67:ST:34:VAL:HG21	2.40	0.51
6:C2:156:A:H2'	6:C2:157:A:O4'	2.10	0.51
5:C1:2880:U:O2	10:LB:250:ALA:HB3	2.10	0.51
5:C1:3049:A:C8	10:LB:53:MET:HE2	2.45	0.51
6:C2:819:G:H1'	6:C2:820:U:OP2	2.11	0.51
11:LC:92:ASN:C	11:LC:92:ASN:OD1	2.53	0.51
26:LS:13:ARG:HG2	26:LS:13:ARG:HH11	1.76	0.51
56:SH:45:SER:C	56:SH:46:ILE:HD12	2.35	0.51
63:SP:94:VAL:HG12	63:SP:107:ILE:HD11	1.92	0.51
65:SR:24:LEU:HB2	65:SR:58:MET:HE3	1.92	0.51
6:C2:1040:G:H5'	49:SA:31:VAL:HG21	1.92	0.51
65:SR:38:ILE:O	65:SR:38:ILE:HG22	2.10	0.50
53:SE:30:ARG:HD2	53:SE:38:LEU:HD11	1.93	0.50
79:Sg:211:ILE:HD11	79:Sg:225:LEU:HD23	1.93	0.50
6:C2:767:U:O2	6:C2:767:U:O4'	2.28	0.50
74:Sa:33:ASP:C	74:Sa:33:ASP:OD1	2.55	0.50
40:Lg:67:LYS:O	40:Lg:71:THR:HG22	2.12	0.50
47:Lo:3:ASN:OD1	47:Lo:3:ASN:C	2.55	0.50
75:Sb:43:ILE:C	75:Sb:43:ILE:HD12	2.37	0.50
6:C2:1256:A:H4'	6:C2:1257:U:O5'	2.11	0.50
6:C2:1536:G:C6	6:C2:1538:U:O2	2.65	0.50
9:LA:150:LEU:HD11	9:LA:156:LYS:HD2	1.94	0.50
50:SB:125:VAL:HG12	50:SB:127:VAL:HG13	1.94	0.50
52:SD:65:ARG:O	52:SD:68:GLU:HG2	2.11	0.50
6:C2:1245:G:O2'	6:C2:1246:C:P	2.69	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:LX:69:SER:O	31:LX:73:MET:HG2	2.12	0.50
56:SH:14:THR:HG22	56:SH:15:GLU:H	1.76	0.50
73:SZ:54:VAL:N	73:SZ:55:PRO:HD2	2.27	0.50
6:C2:540:G:N2	6:C2:542:A:H62	2.09	0.50
6:C2:929:A:H1'	62:SO:123:SER:O	2.12	0.50
28:LU:19:VAL:HG22	28:LU:19:VAL:O	2.12	0.50
54:SF:33:VAL:O	54:SF:33:VAL:HG12	2.11	0.50
65:SR:73:LEU:HD12	65:SR:73:LEU:O	2.12	0.50
5:C1:1562:C:H4'	5:C1:1563:C:OP1	2.12	0.50
5:C1:3340:G:H4'	5:C1:3341:U:OP1	2.12	0.50
6:C2:959:U:O2	6:C2:959:U:H2'	2.11	0.50
32:LY:59:VAL:HG22	32:LY:103:LYS:O	2.12	0.50
54:SF:189:THR:HG21	73:SZ:98:GLN:HE22	1.76	0.50
6:C2:639:U:H1'	6:C2:640:U:OP2	2.12	0.49
55:SG:98:ARG:HG3	55:SG:98:ARG:HH11	1.77	0.49
63:SP:92:SER:O	63:SP:107:ILE:HD12	2.12	0.49
6:C2:1471:A:O2'	6:C2:1472:C:P	2.71	0.49
27:LT:11:THR:HG23	27:LT:11:THR:O	2.11	0.49
49:SA:53:THR:HG23	49:SA:161:PRO:O	2.13	0.49
63:SP:43:ARG:HG2	63:SP:43:ARG:HH11	1.76	0.49
66:SS:15:LEU:CD1	66:SS:17:LEU:HD21	2.36	0.49
50:SB:148:ASN:OD1	50:SB:148:ASN:C	2.54	0.49
63:SP:104:GLN:OE1	63:SP:104:GLN:HA	2.12	0.49
6:C2:352:A:H4'	6:C2:353:A:O5'	2.13	0.49
6:C2:820:U:H3'	6:C2:821:U:H5''	1.95	0.49
29:LV:79:VAL:HG13	29:LV:118:VAL:HG13	1.95	0.49
49:SA:205:ARG:HH11	49:SA:205:ARG:HG2	1.78	0.49
55:SG:71:THR:HG22	55:SG:72:ARG:N	2.27	0.49
60:SL:78:THR:O	60:SL:78:THR:CG2	2.60	0.49
5:C1:2897:A:H2'	5:C1:2898:G:C8	2.48	0.49
5:C1:3350:C:HO2'	5:C1:3351:U:P	2.36	0.49
36:Lc:104:LEU:HD12	36:Lc:104:LEU:C	2.38	0.49
6:C2:1245:G:HO2'	6:C2:1246:C:P	2.36	0.49
27:LT:64:VAL:HG13	27:LT:72:VAL:HG13	1.94	0.49
63:SP:87:PRO:HG3	63:SP:112:LEU:HD11	1.95	0.49
67:ST:7:ARG:CG	67:ST:67:MET:HE1	2.42	0.49
5:C1:2298:U:O2	5:C1:2920:U:O2	2.31	0.49
6:C2:623:A:H3'	6:C2:624:G:H5''	1.94	0.49
11:LC:76:ARG:HA	11:LC:87:GLN:O	2.12	0.49
56:SH:67:LEU:HD11	56:SH:94:ALA:CB	2.39	0.49
75:Sb:2:VAL:HG13	75:Sb:3:LEU:H	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Lc:76:GLU:HA	36:Lc:76:GLU:OE1	2.12	0.49
51:SC:242:ILE:HG23	51:SC:243:TYR:CD2	2.48	0.49
66:SS:87:ASN:OD1	66:SS:99:HIS:ND1	2.46	0.49
6:C2:1762:A:H1'	6:C2:1783:C:H5'	1.94	0.49
55:SG:78:THR:HG22	55:SG:79:LYS:N	2.28	0.49
58:SJ:142:ASN:OD1	58:SJ:142:ASN:C	2.55	0.49
6:C2:1287:A:H4'	6:C2:1288:G:OP1	2.13	0.48
44:Lk:32:ASN:C	44:Lk:32:ASN:OD1	2.55	0.48
58:SJ:161:THR:O	58:SJ:161:THR:HG22	2.13	0.48
6:C2:832:U:H3'	6:C2:833:U:H5''	1.95	0.48
11:LC:82:THR:HG22	11:LC:84:ARG:H	1.78	0.48
58:SJ:30:LEU:HB2	58:SJ:42:ILE:HD11	1.95	0.48
5:C1:3305:A:H2'	5:C1:3306:U:O4'	2.12	0.48
36:Lc:102:THR:O	36:Lc:102:THR:HG22	2.13	0.48
50:SB:128:LYS:HA	50:SB:133:TYR:O	2.13	0.48
5:C1:1621:A:H2'	5:C1:1622:U:C6	2.48	0.48
6:C2:65:A:H2	6:C2:84:A:H62	1.59	0.48
26:LS:19:VAL:HG22	26:LS:19:VAL:O	2.14	0.48
51:SC:106:ASP:OD1	51:SC:106:ASP:C	2.55	0.48
60:SL:61:THR:HG22	60:SL:61:THR:O	2.14	0.48
79:Sg:7:LEU:HD13	79:Sg:315:VAL:HG12	1.94	0.48
5:C1:2585:G:N3	5:C1:2585:G:H2'	2.29	0.48
6:C2:1145:U:O2	6:C2:1145:U:O5'	2.31	0.48
10:LB:235:THR:HG21	10:LB:249:VAL:HG22	1.95	0.48
51:SC:106:ASP:OD1	51:SC:106:ASP:O	2.31	0.48
60:SL:35:TYR:CD1	60:SL:35:TYR:C	2.91	0.48
79:Sg:224:ASN:OD1	79:Sg:224:ASN:C	2.56	0.48
5:C1:72:C:H1'	19:LL:61:PRO:O	2.14	0.48
5:C1:916:G:H5'	5:C1:917:A:OP1	2.13	0.48
6:C2:1031:U:H4'	6:C2:1032:G:OP2	2.12	0.48
22:LO:54:TYR:CE1	22:LO:58:LEU:HD13	2.49	0.48
49:SA:188:LEU:HD21	49:SA:195:TRP:CD1	2.49	0.48
5:C1:2550:U:O2	5:C1:2550:U:O5'	2.31	0.48
6:C2:1563:C:OP1	67:ST:84:LYS:HE3	2.14	0.48
15:LG:157:VAL:HG21	15:LG:163:VAL:HG22	1.95	0.48
41:Lh:78:LYS:HA	41:Lh:81:ARG:HD2	1.94	0.48
66:SS:16:ARG:C	66:SS:17:LEU:HD22	2.39	0.48
7:C3:26:U:H2'	7:C3:27:U:C6	2.48	0.48
23:LP:110:THR:HG22	23:LP:110:THR:O	2.13	0.48
50:SB:124:ASN:C	50:SB:124:ASN:OD1	2.56	0.48
6:C2:1546:G:H21	66:SS:87:ASN:HB2	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C2:1583:A:H4'	6:C2:1583:A:OP1	2.13	0.48
27:LT:80:VAL:HG23	27:LT:80:VAL:O	2.13	0.48
36:Lc:63:SER:HB2	36:Lc:65:THR:HG23	1.96	0.48
58:SJ:11:THR:O	58:SJ:11:THR:CG2	2.62	0.48
73:SZ:62:VAL:O	73:SZ:66:VAL:HG23	2.13	0.48
5:C1:1866:C:H5'	5:C1:1867:A:OP2	2.14	0.48
6:C2:1564:U:H2'	6:C2:1565:C:C6	2.49	0.48
18:LJ:117:ASP:C	18:LJ:117:ASP:OD1	2.56	0.47
31:LX:73:MET:HE3	31:LX:142:ILE:HD12	1.96	0.47
5:C1:863:C:H2'	5:C1:864:G:O4'	2.13	0.47
6:C2:277:U:O2'	6:C2:278:U:O5'	2.31	0.47
31:LX:73:MET:HE1	31:LX:142:ILE:HB	1.96	0.47
73:SZ:78:ILE:HD12	73:SZ:78:ILE:N	2.27	0.47
4:B:68:VAL:HG13	4:B:69:LEU:N	2.28	0.47
5:C1:1782:U:H2'	5:C1:1783:U:O4'	2.15	0.47
6:C2:540:G:N2	6:C2:542:A:N7	2.62	0.47
7:C3:85:G:H4'	7:C3:86:U:OP1	2.14	0.47
29:LV:15:LEU:HD13	29:LV:51:ALA:HB3	1.96	0.47
59:SK:32:HIS:ND1	59:SK:33:GLU:N	2.62	0.47
63:SP:31:GLU:N	63:SP:31:GLU:OE1	2.45	0.47
76:Sc:36:THR:O	76:Sc:37:SER:OG	2.25	0.47
6:C2:176:C:H2'	6:C2:177:U:O4'	2.14	0.47
39:Lf:49:ILE:HG23	39:Lf:98:VAL:HG13	1.97	0.47
79:Sg:136:ILE:HD12	79:Sg:136:ILE:N	2.29	0.47
6:C2:386:G:OP1	57:SI:23:LYS:HG2	2.15	0.47
29:LV:45:ARG:HD2	29:LV:46:LEU:H	1.79	0.47
35:Lb:36:ASP:C	35:Lb:36:ASP:OD1	2.58	0.47
69:SV:67:ASP:OD1	69:SV:67:ASP:C	2.58	0.47
5:C1:2941:A:H5''	5:C1:2943:G:H4'	1.96	0.47
75:Sb:23:THR:HG22	75:Sb:24:LEU:N	2.29	0.47
6:C2:555:A:O2'	6:C2:556:A:P	2.72	0.47
6:C2:1203:A:C2	6:C2:1556:A:N3	2.83	0.47
6:C2:1339:C:O2'	6:C2:1341:A:N7	2.47	0.47
21:LN:64:VAL:HG21	21:LN:102:ALA:HB1	1.97	0.47
54:SF:53:VAL:HG21	54:SF:134:VAL:HG12	1.97	0.47
66:SS:18:LEU:HD22	66:SS:18:LEU:N	2.29	0.47
10:LB:377:HIS:HD1	10:LB:377:HIS:C	2.22	0.47
41:Lh:38:ARG:HG3	41:Lh:39:PRO:HD2	1.97	0.47
56:SH:51:VAL:HG12	56:SH:53:GLY:H	1.79	0.47
57:SI:169:ILE:N	57:SI:169:ILE:HD12	2.30	0.47
58:SJ:174:ARG:HB2	58:SJ:174:ARG:CZ	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:Sg:21:THR:HG21	79:Sg:69:GLN:HA	1.97	0.47
5:C1:900:G:H1'	5:C1:1589:A:N6	2.30	0.47
6:C2:187:G:H4'	6:C2:188:A:OP1	2.14	0.47
6:C2:864:U:O4'	6:C2:864:U:O2	2.33	0.47
11:LC:52:VAL:HG11	11:LC:99:MET:HE2	1.97	0.47
12:LD:52:VAL:HG21	12:LD:65:ILE:HD12	1.97	0.47
31:LX:38:LEU:C	31:LX:38:LEU:HD23	2.39	0.47
53:SE:141:THR:HG22	53:SE:142:HIS:H	1.79	0.47
73:SZ:82:HIS:C	73:SZ:82:HIS:CD2	2.93	0.47
79:Sg:169:ILE:HG12	79:Sg:183:LEU:HD13	1.96	0.47
2:6:49:G:O2'	2:6:50:A:P	2.73	0.47
31:LX:73:MET:CE	31:LX:142:ILE:HD12	2.45	0.47
61:SN:137:PRO:O	61:SN:138:ASN:CG	2.58	0.47
63:SP:86:VAL:HG22	63:SP:87:PRO:CD	2.41	0.47
66:SS:17:LEU:HD22	66:SS:17:LEU:N	2.30	0.47
69:SV:55:LEU:HD13	69:SV:65:SER:OG	2.15	0.47
79:Sg:182:ASN:OD1	79:Sg:182:ASN:C	2.58	0.47
5:C1:2553:U:C5	40:Lg:95:ILE:HG22	2.50	0.46
6:C2:766:U:O4	6:C2:769:A:C8	2.68	0.46
6:C2:1642:G:H4'	46:Ln:1:MET:HE3	1.97	0.46
49:SA:164:ASN:C	49:SA:164:ASN:OD1	2.58	0.46
57:SI:76:THR:HG21	57:SI:104:ILE:HB	1.97	0.46
66:SS:96:LYS:HG3	66:SS:97:ASP:H	1.79	0.46
66:SS:140:THR:CG2	66:SS:140:THR:O	2.62	0.46
60:SL:37:ASN:OD1	60:SL:37:ASN:O	2.34	0.46
78:Se:33:ARG:NH1	78:Se:33:ARG:HB3	2.31	0.46
6:C2:992:A:O2'	6:C2:1785:U:O2	2.33	0.46
54:SF:125:THR:O	54:SF:125:THR:HG22	2.14	0.46
55:SG:57:ASP:OD1	55:SG:57:ASP:C	2.57	0.46
5:C1:634:C:O2'	38:Le:47:ARG:HD2	2.15	0.46
42:Li:40:VAL:O	42:Li:44:VAL:HG23	2.16	0.46
57:SI:26:LYS:HG3	57:SI:29:LEU:HD23	1.97	0.46
66:SS:87:ASN:OD1	66:SS:99:HIS:CE1	2.68	0.46
5:C1:2555:G:C5	40:Lg:95:ILE:HD11	2.51	0.46
6:C2:263:C:H2'	6:C2:264:G:O4'	2.16	0.46
10:LB:337:THR:HG23	10:LB:337:THR:O	2.15	0.46
21:LN:35:VAL:O	21:LN:64:VAL:HA	2.15	0.46
39:Lf:93:THR:HG23	39:Lf:96:ALA:HB3	1.97	0.46
53:SE:86:PHE:O	53:SE:101:LEU:O	2.34	0.46
55:SG:121:LEU:N	55:SG:121:LEU:HD22	2.31	0.46
57:SI:37:LYS:HE3	57:SI:93:THR:CG2	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C2:329:G:H5'	57:SI:99:ALA:HB3	1.98	0.46
6:C2:1519:U:H5	6:C2:1520:U:HO2'	1.63	0.46
5:C1:2727:A:C2	34:La:43:ILE:HG23	2.50	0.46
5:C1:2897:A:O2'	5:C1:2898:G:P	2.73	0.46
24:LQ:17:THR:O	24:LQ:17:THR:HG22	2.16	0.46
28:LU:38:ILE:O	28:LU:50:LEU:HD11	2.15	0.46
54:SF:189:THR:HG22	54:SF:192:GLU:CD	2.41	0.46
56:SH:177:THR:HG22	56:SH:179:LYS:HG3	1.98	0.46
6:C2:269:G:H3'	6:C2:270:C:H5''	1.98	0.46
60:SL:80:MET:HG3	60:SL:83:THR:HB	1.98	0.46
5:C1:177:U:N3	5:C1:178:U:C5	2.84	0.46
6:C2:448:C:OP1	53:SE:29:PRO:HD3	2.15	0.46
54:SF:53:VAL:CG1	54:SF:138:THR:HG21	2.41	0.46
5:C1:787:G:H2'	5:C1:788:C:C6	2.51	0.46
5:C1:3121:U:H4'	5:C1:3122:A:OP1	2.16	0.46
19:LL:166:ALA:HB1	34:La:147:LEU:HD21	1.98	0.46
52:SD:137:VAL:HG12	52:SD:151:LYS:HG2	1.98	0.46
6:C2:1539:G:N3	6:C2:1539:G:H5'	2.31	0.45
24:LQ:89:ASP:OD1	24:LQ:90:ASP:N	2.49	0.45
63:SP:87:PRO:O	63:SP:90:ILE:HG23	2.16	0.45
75:Sb:37:CYS:SG	75:Sb:40:CYS:HB3	2.56	0.45
5:C1:263:C:H2'	5:C1:264:G:O4'	2.17	0.45
5:C1:2726:C:O2	5:C1:2726:C:O5'	2.33	0.45
6:C2:539:G:H4'	6:C2:540:G:O5'	2.15	0.45
14:LF:102:VAL:HG13	14:LF:126:LEU:HD22	1.98	0.45
57:SI:110:ARG:HB2	57:SI:110:ARG:CZ	2.47	0.45
79:Sg:80:ALA:C	79:Sg:81:LEU:HD22	2.41	0.45
5:C1:209:A:C4	11:LC:162:THR:HG21	2.52	0.45
6:C2:898:A:H5'	62:SO:46:MET:HE1	1.97	0.45
6:C2:1679:G:H2'	6:C2:1680:G:O4'	2.16	0.45
26:LS:131:LYS:NZ	26:LS:131:LYS:HB3	2.32	0.45
26:LS:132:THR:O	26:LS:133:ALA:HB3	2.15	0.45
40:Lg:16:ARG:CZ	40:Lg:16:ARG:HB3	2.47	0.45
51:SC:139:ILE:HG13	51:SC:218:ILE:HG12	1.99	0.45
67:ST:64:HIS:CE1	67:ST:68:ARG:CZ	3.00	0.45
5:C1:1742:U:H2'	5:C1:1743:G:O4'	2.16	0.45
5:C1:2232:A:H2'	5:C1:2233:A:O4'	2.17	0.45
6:C2:765:G:H1'	6:C2:768:C:OP1	2.16	0.45
6:C2:1182:U:C6	6:C2:1184:A:OP2	2.69	0.45
6:C2:1560:U:O2	6:C2:1560:U:O4'	2.35	0.45
21:LN:46:ASP:OD1	21:LN:47:LYS:N	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:La:87:ARG:O	34:La:91:LEU:HD12	2.15	0.45
79:Sg:136:ILE:HD12	79:Sg:136:ILE:H	1.81	0.45
5:C1:3350:C:O2'	5:C1:3351:U:P	2.75	0.45
6:C2:555:A:C8	6:C2:590:C:O2'	2.69	0.45
6:C2:1427:A:O2'	6:C2:1428:G:OP2	2.32	0.45
14:LF:229:PHE:CD1	14:LF:229:PHE:C	2.94	0.45
21:LN:180:PHE:O	21:LN:184:LYS:HG3	2.17	0.45
25:LR:28:GLU:HA	25:LR:28:GLU:OE1	2.15	0.45
53:SE:118:GLU:O	53:SE:118:GLU:HG2	2.16	0.45
55:SG:61:PHE:CD2	55:SG:72:ARG:HD2	2.52	0.45
67:ST:7:ARG:HG3	67:ST:67:MET:HE1	1.98	0.45
67:ST:109:GLU:OE2	67:ST:116:ILE:HG23	2.15	0.45
68:SU:98:GLN:HG2	68:SU:99:ILE:N	2.31	0.45
75:Sb:2:VAL:HG11	75:Sb:5:GLN:OE1	2.16	0.45
78:Se:33:ARG:HB3	78:Se:33:ARG:CZ	2.46	0.45
6:C2:331:A:H4'	57:SI:31:ARG:O	2.16	0.45
6:C2:1303:U:O2'	6:C2:1322:A:OP2	2.35	0.45
54:SF:27:THR:O	54:SF:27:THR:HG23	2.16	0.45
79:Sg:39:ASP:OD1	79:Sg:39:ASP:C	2.58	0.45
6:C2:819:G:C6	6:C2:853:G:C2	3.05	0.45
6:C2:1672:G:H2'	6:C2:1673:G:C8	2.51	0.45
17:LI:213:PHE:N	17:LI:214:PRO:HD3	2.31	0.45
24:LQ:71:LEU:CD1	24:LQ:99:THR:HG21	2.41	0.45
27:LT:74:VAL:HG12	27:LT:75:ILE:N	2.32	0.45
51:SC:203:LYS:O	51:SC:206:THR:HG22	2.17	0.45
65:SR:21:TYR:CD1	65:SR:58:MET:HE1	2.52	0.45
79:Sg:315:VAL:O	79:Sg:315:VAL:HG23	2.15	0.45
5:C1:1857:C:N4	5:C1:1858:A:N6	2.65	0.45
5:C1:3174:A:C6	5:C1:3175:U:C4	3.04	0.45
6:C2:113:U:O2'	6:C2:115:G:H2'	2.17	0.45
6:C2:640:U:C2'	6:C2:641:G:O5'	2.64	0.45
11:LC:119:ARG:HA	11:LC:122:THR:HG22	1.99	0.45
16:LH:42:ASP:O	16:LH:43:VAL:HG23	2.17	0.45
33:LZ:24:VAL:O	33:LZ:24:VAL:HG13	2.17	0.45
50:SB:127:VAL:HG21	50:SB:176:VAL:HB	1.98	0.45
54:SF:27:THR:O	54:SF:27:THR:CG2	2.64	0.45
54:SF:53:VAL:HG21	54:SF:134:VAL:CG1	2.47	0.45
62:SO:51:ASP:O	62:SO:54:GLU:HG3	2.17	0.45
63:SP:52:LYS:N	63:SP:53:PRO:HD2	2.31	0.45
79:Sg:18:GLY:N	79:Sg:308:ASN:OD1	2.50	0.45
6:C2:613:G:H4'	6:C2:614:C:OP1	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C3:69:U:H2'	7:C3:70:G:O4'	2.16	0.45
11:LC:37:THR:HA	11:LC:40:THR:HG22	1.98	0.45
57:SI:70:GLU:HA	57:SI:70:GLU:OE1	2.17	0.45
60:SL:63:LEU:HD22	60:SL:63:LEU:N	2.31	0.45
75:Sb:36:LYS:CD	75:Sb:43:ILE:HG22	2.47	0.45
5:C1:1097:G:H4'	5:C1:1098:A:O5'	2.17	0.45
5:C1:3153:U:O2	5:C1:3153:U:C2'	2.65	0.45
6:C2:288:A:H3'	6:C2:289:U:H4'	1.99	0.45
6:C2:1566:U:OP1	66:SS:39:GLY:HA3	2.17	0.45
12:LD:115:LEU:O	12:LD:118:THR:O	2.35	0.45
47:Lo:77:CYS:SG	47:Lo:79:THR:HG22	2.57	0.45
52:SD:22:ASN:O	52:SD:26:THR:HG22	2.16	0.45
52:SD:222:VAL:HG12	52:SD:223:LYS:N	2.31	0.45
55:SG:30:LYS:O	55:SG:102:VAL:HG23	2.18	0.45
79:Sg:210:LEU:HA	79:Sg:223:TRP:O	2.17	0.45
5:C1:1818:U:O2'	5:C1:1819:U:P	2.75	0.44
10:LB:86:VAL:HG13	10:LB:160:VAL:CG1	2.47	0.44
18:LJ:7:ASN:HB2	18:LJ:8:PRO:HD2	1.99	0.44
54:SF:125:THR:O	54:SF:125:THR:CG2	2.65	0.44
79:Sg:56:VAL:HG13	79:Sg:57:PRO:HD2	1.99	0.44
5:C1:523:A:N6	5:C1:570:A:C2	2.84	0.44
5:C1:2138:A:C5	43:Lj:3:LYS:HG2	2.53	0.44
5:C1:3013:U:H2'	5:C1:3014:U:C6	2.52	0.44
5:C1:3217:C:O2	5:C1:3217:C:C2'	2.66	0.44
6:C2:1611:A:O2'	54:SF:95:ASN:HB3	2.17	0.44
10:LB:218:ILE:HG23	10:LB:337:THR:HG23	1.98	0.44
79:Sg:238:ASP:OD2	79:Sg:258:THR:HG23	2.17	0.44
5:C1:2523:A:H2'	15:LG:49:TYR:O	2.17	0.44
5:C1:2903:A:H2'	5:C1:2904:U:O4'	2.18	0.44
6:C2:928:U:C5'	62:SO:124:ASP:OD2	2.65	0.44
6:C2:1274:C:H1'	6:C2:1275:A:OP2	2.17	0.44
6:C2:1614:A:H2'	6:C2:1615:C:H5'	2.00	0.44
14:LF:169:ILE:HG23	14:LF:173:LEU:HD21	1.99	0.44
24:LQ:71:LEU:HD22	24:LQ:99:THR:HG21	1.99	0.44
26:LS:81:TYR:HA	26:LS:120:SER:O	2.18	0.44
53:SE:211:LYS:HA	53:SE:216:ASN:O	2.16	0.44
54:SF:36:ALA:HB3	64:SQ:53:LEU:HD23	2.00	0.44
64:SQ:132:LYS:O	64:SQ:132:LYS:HG2	2.16	0.44
73:SZ:60:VAL:HG13	73:SZ:101:TYR:HB2	1.97	0.44
6:C2:1471:A:H4'	6:C2:1472:C:OP1	2.17	0.44
55:SG:26:VAL:O	55:SG:30:LYS:HE3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SW:27:ILE:HG12	70:SW:61:ILE:HB	1.99	0.44
79:Sg:184:ASN:N	79:Sg:184:ASN:HD22	2.14	0.44
6:C2:259:U:O3'	6:C2:260:U:C5	2.70	0.44
6:C2:269:G:H3'	6:C2:270:C:C5'	2.48	0.44
6:C2:640:U:HO2'	6:C2:641:G:P	2.41	0.44
6:C2:1545:A:N1	6:C2:1567:U:C2	2.85	0.44
10:LB:137:TYR:O	10:LB:138:ALA:C	2.59	0.44
77:Sd:30:LEU:HD23	77:Sd:32:ARG:HG3	1.99	0.44
6:C2:1372:U:C4	6:C2:1373:C:C4	3.06	0.44
8:C4:52:G:HO2'	8:C4:53:U:P	2.41	0.44
16:LH:33:THR:C	16:LH:34:LEU:HD22	2.42	0.44
21:LN:42:PRO:HD3	21:LN:61:ILE:HD12	2.00	0.44
25:LR:43:LYS:HB2	25:LR:43:LYS:NZ	2.33	0.44
25:LR:151:ARG:HH11	25:LR:151:ARG:HG3	1.81	0.44
69:SV:36:VAL:HG11	69:SV:78:LEU:HD22	2.00	0.44
79:Sg:115:ILE:HD12	79:Sg:115:ILE:HA	1.89	0.44
5:C1:1087:G:C2	5:C1:1088:U:C5	3.06	0.44
13:LE:66:THR:HB	13:LE:76:LEU:HD22	2.00	0.44
26:LS:109:ASP:OD1	26:LS:109:ASP:C	2.60	0.44
49:SA:76:ILE:HD13	49:SA:98:ILE:HB	1.99	0.44
55:SG:127:THR:HG22	55:SG:128:THR:N	2.33	0.44
64:SQ:69:VAL:HG21	64:SQ:81:ILE:HD11	1.98	0.44
71:SX:90:ASP:OD1	71:SX:90:ASP:C	2.61	0.44
73:SZ:92:ILE:HD11	73:SZ:102:THR:CG2	2.48	0.44
5:C1:2982:A:O3'	5:C1:2983:C:O2	2.35	0.44
6:C2:478:A:O2'	58:SJ:124:HIS:CD2	2.71	0.44
6:C2:1543:A:H2'	6:C2:1544:U:O4'	2.18	0.44
16:LH:34:LEU:HD22	16:LH:34:LEU:N	2.33	0.44
17:LI:17:TYR:O	17:LI:96:VAL:HG22	2.18	0.44
24:LQ:82:VAL:HG23	24:LQ:82:VAL:O	2.18	0.44
26:LS:12:ARG:HB3	26:LS:24:LEU:HD12	1.99	0.44
53:SE:15:PRO:HG2	53:SE:18:TRP:CE2	2.53	0.44
63:SP:52:LYS:N	63:SP:53:PRO:CD	2.80	0.44
5:C1:971:G:O2'	5:C1:972:A:C8	2.69	0.44
5:C1:1596:C:H2'	5:C1:1597:C:C6	2.53	0.44
6:C2:447:U:O2'	53:SE:27:TYR:O	2.35	0.44
6:C2:610:G:H21	71:SX:19:ARG:NH1	2.15	0.44
6:C2:1556:A:C2'	6:C2:1557:U:OP2	2.65	0.44
15:LG:203:VAL:HG21	15:LG:211:LEU:HD13	1.99	0.44
26:LS:139:TYR:CD1	26:LS:140:VAL:HG23	2.53	0.44
29:LV:89:ASP:OD1	29:LV:91:VAL:HG22	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SG:145:PHE:HB2	55:SG:147:LEU:CD2	2.48	0.44
55:SG:196:ARG:HB2	55:SG:196:ARG:CZ	2.48	0.44
5:C1:806:A:H1'	5:C1:2812:C:O2'	2.17	0.43
6:C2:288:A:O3'	6:C2:290:G:OP2	2.35	0.43
6:C2:1315:U:O2	65:SR:4:VAL:HG11	2.18	0.43
10:LB:256:HIS:HA	10:LB:258:ALA:N	2.33	0.43
13:LE:152:THR:OG1	13:LE:155:LEU:HB2	2.18	0.43
42:Li:44:VAL:HG12	42:Li:44:VAL:O	2.18	0.43
49:SA:90:ALA:HB1	49:SA:95:ALA:O	2.18	0.43
70:SW:26:LEU:HD23	70:SW:26:LEU:C	2.43	0.43
5:C1:401:U:H3'	5:C1:402:A:C5'	2.49	0.43
5:C1:2149:A:H4'	9:LA:179:LEU:O	2.18	0.43
5:C1:2897:A:H4'	5:C1:2898:G:OP1	2.18	0.43
6:C2:16:G:H2'	6:C2:17:C:C6	2.53	0.43
6:C2:354:C:H5''	57:SI:16:ALA:HB2	2.00	0.43
6:C2:1410:A:H2'	6:C2:1411:A:O4'	2.18	0.43
13:LE:74:VAL:O	13:LE:74:VAL:HG23	2.17	0.43
62:SO:91:THR:O	62:SO:92:LYS:HB2	2.18	0.43
73:SZ:61:SER:OG	73:SZ:62:VAL:N	2.51	0.43
79:Sg:94:VAL:HG12	79:Sg:94:VAL:O	2.17	0.43
5:C1:549:U:H2'	5:C1:550:A:C8	2.54	0.43
5:C1:971:G:O2'	5:C1:972:A:H8	2.00	0.43
5:C1:1280:C:H2'	5:C1:1281:G:H8	1.83	0.43
6:C2:1521:G:O2'	6:C2:1523:G:OP2	2.29	0.43
11:LC:150:LEU:HD21	11:LC:172:VAL:CG1	2.48	0.43
22:LO:16:VAL:HG13	22:LO:17:GLY:N	2.34	0.43
59:SK:14:TYR:CD1	59:SK:14:TYR:C	2.96	0.43
62:SO:29:HIS:HB2	62:SO:41:ARG:HA	1.99	0.43
5:C1:2269:U:O2	5:C1:2271:A:C8	2.71	0.43
6:C2:555:A:HO2'	6:C2:556:A:P	2.41	0.43
6:C2:1527:C:O2	6:C2:1527:C:H2'	2.18	0.43
25:LR:158:GLU:HA	25:LR:158:GLU:OE1	2.18	0.43
6:C2:1269:U:H4'	6:C2:1270:G:C5'	2.49	0.43
44:Lk:11:PHE:O	44:Lk:15:THR:HG23	2.17	0.43
55:SG:158:ILE:HD12	55:SG:159:ARG:H	1.84	0.43
66:SS:70:VAL:HG12	66:SS:74:GLN:OE1	2.17	0.43
71:SX:88:PRO:O	71:SX:89:ASN:HB2	2.19	0.43
5:C1:1371:G:C6	5:C1:1372:C:N4	2.86	0.43
5:C1:2917:G:OP1	29:LV:46:LEU:O	2.37	0.43
6:C2:534:A:N3	6:C2:534:A:H2'	2.33	0.43
6:C2:1243:G:H4'	6:C2:1244:A:O5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C2:1398:U:H3'	6:C2:1399:C:O4'	2.19	0.43
33:LZ:53:VAL:CG2	33:LZ:62:VAL:HG22	2.49	0.43
57:SI:96:LEU:O	57:SI:97:THR:HG23	2.18	0.43
2:6:58:A:H2'	2:6:60:C:OP2	2.19	0.43
6:C2:1382:A:O2'	6:C2:1383:G:OP1	2.32	0.43
6:C2:1389:C:H3'	6:C2:1389:C:O2	2.18	0.43
11:LC:150:LEU:HD21	11:LC:172:VAL:HG12	2.01	0.43
37:Ld:29:ALA:HB3	37:Ld:30:PRO:HD3	2.00	0.43
78:Se:10:ARG:NH1	78:Se:10:ARG:HG3	2.34	0.43
5:C1:2101:C:O2'	5:C1:2102:U:P	2.76	0.43
5:C1:2207:A:C2	5:C1:2208:A:H1'	2.53	0.43
32:LY:80:VAL:O	32:LY:80:VAL:HG13	2.18	0.43
33:LZ:9:LYS:HE3	33:LZ:83:THR:O	2.19	0.43
56:SH:39:ARG:N	56:SH:40:PRO:HD2	2.34	0.43
57:SI:40:ALA:O	57:SI:59:ARG:HB2	2.18	0.43
64:SQ:55:VAL:O	64:SQ:55:VAL:HG22	2.19	0.43
66:SS:42:TYR:CE2	66:SS:99:HIS:CE1	3.06	0.43
5:C1:2118:C:H6	5:C1:2118:C:O5'	2.01	0.43
6:C2:158:U:O2'	6:C2:159:U:H3'	2.18	0.43
6:C2:589:C:H4'	78:Se:56:MET:O	2.18	0.43
6:C2:625:C:H2'	6:C2:626:U:C6	2.54	0.43
6:C2:1182:U:O2	6:C2:1182:U:O4'	2.35	0.43
6:C2:1348:A:H2'	6:C2:1349:G:O5'	2.19	0.43
6:C2:1366:U:C2	6:C2:1367:G:C8	3.07	0.43
6:C2:1477:G:OP1	67:ST:43:ASN:HB3	2.19	0.43
6:C2:1546:G:N1	6:C2:1566:U:C2	2.87	0.43
12:LD:57:ASN:C	12:LD:58:LYS:HG3	2.44	0.43
15:LG:55:TYR:HA	15:LG:58:VAL:HG12	2.00	0.43
18:LJ:90:GLN:C	18:LJ:91:LEU:HD12	2.44	0.43
50:SB:164:ILE:HG12	50:SB:201:THR:HG23	2.00	0.43
52:SD:35:SER:O	52:SD:35:SER:OG	2.36	0.43
65:SR:66:VAL:HG21	65:SR:69:ILE:HD12	2.01	0.43
79:Sg:9:LEU:HA	79:Sg:313:TRP:CD1	2.54	0.43
5:C1:619:A:H4'	5:C1:620:U:C6	2.54	0.43
6:C2:1174:C:C2	6:C2:1466:G:N2	2.87	0.43
6:C2:1338:C:H1'	6:C2:1410:A:C4	2.54	0.43
6:C2:1533:C:H4'	6:C2:1539:G:O6	2.18	0.43
11:LC:187:LEU:HD22	11:LC:193:LYS:HD3	2.01	0.43
13:LE:93:VAL:O	13:LE:93:VAL:HG12	2.19	0.43
53:SE:163:ASP:OD1	53:SE:163:ASP:N	2.52	0.43
60:SL:35:TYR:CE2	60:SL:49:ILE:HG23	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SR:32:LYS:HD2	65:SR:47:ARG:HH21	1.83	0.43
70:SW:102:VAL:CG2	70:SW:113:HIS:HB3	2.49	0.43
5:C1:109:A:H4'	5:C1:110:G:OP1	2.18	0.42
5:C1:2784:G:H2'	5:C1:2785:A:O4'	2.19	0.42
5:C1:3164:C:C2	5:C1:3165:A:C8	3.06	0.42
6:C2:10:G:H21	51:SC:88:LYS:HA	1.83	0.42
6:C2:755:A:C2'	6:C2:756:A:O5'	2.67	0.42
6:C2:1071:U:H2'	6:C2:1072:C:C6	2.54	0.42
11:LC:321:LYS:O	11:LC:325:LEU:HD23	2.19	0.42
17:LI:21:ARG:O	17:LI:21:ARG:HG2	2.18	0.42
32:LY:118:LEU:O	32:LY:118:LEU:HD23	2.19	0.42
52:SD:105:MET:HE3	52:SD:122:VAL:HG21	2.01	0.42
64:SQ:63:ILE:HG22	64:SQ:64:ASP:N	2.33	0.42
67:ST:94:ILE:HD13	67:ST:94:ILE:HA	1.87	0.42
6:C2:1471:A:C5	6:C2:1540:G:O4'	2.71	0.42
12:LD:89:THR:O	12:LD:89:THR:HG22	2.18	0.42
49:SA:147:THR:HG23	49:SA:151:SER:OG	2.19	0.42
63:SP:78:THR:OG1	63:SP:80:MET:HE2	2.19	0.42
68:SU:50:LEU:HD13	68:SU:95:ALA:CB	2.49	0.42
5:C1:118:U:O2	5:C1:121:A:H5'	2.19	0.42
5:C1:540:U:H2'	5:C1:541:U:C6	2.55	0.42
5:C1:620:U:O2'	5:C1:621:A:P	2.77	0.42
5:C1:992:A:O2'	5:C1:993:G:H5'	2.19	0.42
6:C2:260:U:H3'	6:C2:261:U:H5'	2.01	0.42
6:C2:1489:U:C5	6:C2:1513:G:C6	3.07	0.42
10:LB:57:VAL:CG1	10:LB:358:TRP:HB3	2.49	0.42
62:SO:90:ARG:NH1	62:SO:90:ARG:HG3	2.35	0.42
67:ST:22:LEU:HD23	67:ST:28:LEU:HD22	2.00	0.42
2:6:17:A:C5	2:6:58:A:C2	3.06	0.42
6:C2:640:U:O2'	6:C2:641:G:P	2.77	0.42
27:LT:79:MET:HE2	35:Lb:21:ILE:HG21	2.02	0.42
48:Lp:5:THR:HB	48:Lp:8:VAL:HG22	2.01	0.42
64:SQ:31:VAL:O	64:SQ:31:VAL:HG23	2.20	0.42
64:SQ:55:VAL:HG21	64:SQ:105:LEU:CD2	2.49	0.42
76:Sc:32:PHE:N	76:Sc:32:PHE:CD1	2.87	0.42
5:C1:1135:A:H5'	35:Lb:7:HIS:O	2.20	0.42
5:C1:1482:A:H2'	5:C1:1482:A:N3	2.34	0.42
5:C1:2208:A:H4'	5:C1:2209:U:OP2	2.20	0.42
5:C1:2689:A:H2'	5:C1:2689:A:N3	2.34	0.42
6:C2:1373:C:C2	6:C2:1374:C:C5	3.07	0.42
20:LM:112:LEU:HD23	20:LM:116:GLU:OE1	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SW:11:LEU:HD12	70:SW:74:VAL:HG13	2.00	0.42
79:Sg:275:ARG:HB3	79:Sg:275:ARG:CZ	2.50	0.42
5:C1:1326:A:H2'	5:C1:1327:C:O4'	2.20	0.42
6:C2:820:U:H3'	6:C2:821:U:C5'	2.50	0.42
6:C2:1052:U:P	6:C2:1053:G:H5'	2.60	0.42
10:LB:84:VAL:O	10:LB:202:THR:HA	2.19	0.42
28:LU:107:PHE:O	28:LU:108:TYR:C	2.63	0.42
32:LY:77:LYS:O	32:LY:78:PHE:C	2.62	0.42
32:LY:105:VAL:HG13	32:LY:105:VAL:O	2.19	0.42
50:SB:21:VAL:HG12	50:SB:22:ASP:N	2.35	0.42
50:SB:37:THR:HG21	50:SB:185:THR:CG2	2.50	0.42
55:SG:31:ARG:HG3	55:SG:31:ARG:NH1	2.35	0.42
62:SO:127:ARG:HG3	62:SO:127:ARG:HH11	1.84	0.42
75:Sb:2:VAL:HG13	75:Sb:3:LEU:N	2.34	0.42
6:C2:164:A:C2	6:C2:165:G:C4	3.08	0.42
6:C2:539:G:O2'	6:C2:540:G:P	2.78	0.42
6:C2:1258:U:O2	6:C2:1258:U:O4'	2.37	0.42
6:C2:1351:G:C2	6:C2:1375:A:C2	3.08	0.42
14:LF:84:VAL:HG23	14:LF:117:VAL:HG13	2.02	0.42
29:LV:6:ALA:HB1	29:LV:125:LEU:HD21	2.02	0.42
42:Li:86:LYS:O	42:Li:86:LYS:HG3	2.19	0.42
57:SI:98:LYS:O	57:SI:99:ALA:HB3	2.19	0.42
60:SL:115:PHE:CD1	60:SL:142:VAL:HG23	2.55	0.42
5:C1:566:G:O2'	5:C1:567:G:H5'	2.20	0.42
5:C1:1129:A:OP1	17:LI:13:LYS:HE2	2.20	0.42
6:C2:259:U:H4'	6:C2:260:U:C5	2.55	0.42
6:C2:1596:C:O2	6:C2:1596:C:O5'	2.37	0.42
8:C4:42:A:C5	8:C4:43:U:C5	3.08	0.42
11:LC:105:THR:O	11:LC:105:THR:HG22	2.18	0.42
19:LL:104:ARG:HB2	19:LL:104:ARG:CZ	2.50	0.42
51:SC:36:VAL:O	51:SC:36:VAL:HG13	2.19	0.42
53:SE:70:VAL:HG12	53:SE:92:LEU:CD2	2.50	0.42
60:SL:109:VAL:HG12	60:SL:137:PHE:HB2	2.02	0.42
76:Sc:32:PHE:N	76:Sc:32:PHE:HD1	2.18	0.42
5:C1:763:G:O2'	5:C1:764:U:P	2.77	0.42
5:C1:1498:A:H2'	5:C1:1499:C:C6	2.54	0.42
5:C1:3196:U:O2	5:C1:3196:U:O4'	2.35	0.42
6:C2:482:U:H2'	6:C2:483:A:H5'	2.01	0.42
6:C2:766:U:C2'	6:C2:767:U:OP1	2.67	0.42
6:C2:1211:A:C6	6:C2:1453:G:N1	2.88	0.42
6:C2:1382:A:O2'	6:C2:1383:G:P	2.78	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SF:70:VAL:HG22	54:SF:70:VAL:O	2.19	0.42
60:SL:94:ILE:CD1	60:SL:101:GLU:OE1	2.68	0.42
6:C2:1160:A:H2'	6:C2:1161:C:C6	2.55	0.42
12:LD:193:GLU:OE1	12:LD:193:GLU:HA	2.20	0.42
62:SO:40:ALA:HB2	62:SO:70:LYS:HG2	2.01	0.42
73:SZ:66:VAL:O	73:SZ:66:VAL:HG12	2.20	0.42
6:C2:778:G:N3	6:C2:778:G:O4'	2.53	0.41
9:LA:62:VAL:O	9:LA:62:VAL:HG13	2.18	0.41
12:LD:60:ILE:HB	12:LD:80:SER:HB2	2.02	0.41
51:SC:239:PRO:HA	51:SC:242:ILE:HG22	2.00	0.41
53:SE:208:VAL:HG11	53:SE:225:VAL:HG21	2.02	0.41
5:C1:951:A:C8	5:C1:1368:U:O4	2.73	0.41
5:C1:2285:C:H6	5:C1:2285:C:O5'	2.03	0.41
6:C2:63:G:H5''	6:C2:269:G:P	2.60	0.41
6:C2:556:A:H5'	78:Se:56:MET:HE3	2.02	0.41
6:C2:1762:A:C1'	6:C2:1783:C:H5'	2.49	0.41
11:LC:342:LYS:NZ	11:LC:342:LYS:HB3	2.35	0.41
18:LJ:125:MET:HE2	18:LJ:125:MET:HB3	1.96	0.41
19:LL:27:ASP:O	19:LL:31:LYS:HG2	2.20	0.41
44:Lk:44:LYS:HA	44:Lk:52:TYR:O	2.20	0.41
57:SI:77:ARG:NH1	57:SI:77:ARG:HG2	2.35	0.41
57:SI:165:LEU:HD13	57:SI:183:ILE:HD13	2.01	0.41
62:SO:20:TYR:C	62:SO:20:TYR:CD1	2.98	0.41
65:SR:119:LEU:HD22	65:SR:119:LEU:H	1.84	0.41
67:ST:114:VAL:HG12	67:ST:115:GLU:N	2.35	0.41
79:Sg:274:LEU:HD21	79:Sg:313:TRP:CD2	2.55	0.41
5:C1:700:C:H6	5:C1:700:C:O5'	2.03	0.41
6:C2:478:A:C2	6:C2:511:A:C2	3.09	0.41
6:C2:1235:C:C2	6:C2:1236:A:C8	3.08	0.41
6:C2:1335:U:O2'	6:C2:1336:A:H5'	2.20	0.41
9:LA:28:LYS:HG2	9:LA:123:ARG:HB3	2.02	0.41
9:LA:202:VAL:O	9:LA:202:VAL:HG22	2.21	0.41
14:LF:117:VAL:HG22	14:LF:123:THR:HG21	2.02	0.41
16:LH:4:ILE:HD12	26:LS:142:GLN:HG2	2.01	0.41
24:LQ:98:LYS:O	24:LQ:98:LYS:HG3	2.20	0.41
39:Lf:60:ARG:HG2	39:Lf:60:ARG:O	2.20	0.41
49:SA:90:ALA:O	49:SA:93:THR:O	2.37	0.41
52:SD:23:GLU:HA	52:SD:26:THR:HG22	2.03	0.41
53:SE:141:THR:CG2	53:SE:142:HIS:N	2.84	0.41
66:SS:86:LEU:HD23	66:SS:86:LEU:N	2.36	0.41
5:C1:1771:C:H2'	5:C1:1772:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C1:2112:U:C4'	5:C1:2113:A:OP2	2.69	0.41
6:C2:1082:C:H2'	6:C2:1083:G:H5'	2.01	0.41
10:LB:332:ARG:O	10:LB:333:LYS:HB2	2.20	0.41
18:LJ:131:MET:HA	18:LJ:131:MET:HE3	2.03	0.41
50:SB:145:LYS:HD3	50:SB:149:GLN:OE1	2.20	0.41
54:SF:33:VAL:HG11	64:SQ:49:TYR:CE2	2.56	0.41
55:SG:141:ILE:HD11	55:SG:157:VAL:HA	2.01	0.41
55:SG:199:GLN:HG2	55:SG:202:ARG:HH21	1.84	0.41
5:C1:155:G:H5''	5:C1:156:G:H2'	2.02	0.41
5:C1:1162:U:H4'	38:Le:57:TYR:CE1	2.55	0.41
6:C2:19:A:H2'	6:C2:20:G:O4'	2.21	0.41
6:C2:788:A:C5	53:SE:19:LEU:HD13	2.56	0.41
6:C2:842:C:H2'	6:C2:843:U:O4'	2.19	0.41
50:SB:28:GLU:OE2	50:SB:50:LYS:HG2	2.20	0.41
50:SB:104:ASP:OD1	50:SB:105:PHE:N	2.53	0.41
53:SE:89:VAL:C	53:SE:90:ILE:HD13	2.45	0.41
56:SH:80:GLU:O	56:SH:84:LYS:HG3	2.21	0.41
66:SS:42:TYR:HE1	66:SS:73:MET:HG3	1.85	0.41
73:SZ:50:ILE:HG22	73:SZ:51:LEU:N	2.35	0.41
5:C1:621:A:H4'	5:C1:622:A:OP1	2.20	0.41
5:C1:1640:G:O2'	5:C1:1641:U:H5'	2.21	0.41
5:C1:3228:C:O2'	5:C1:3229:G:OP2	2.37	0.41
6:C2:1529:C:H2'	6:C2:1530:C:C6	2.56	0.41
28:LU:20:SER:OG	28:LU:21:SER:N	2.53	0.41
32:LY:118:LEU:CD2	32:LY:122:LYS:HD2	2.50	0.41
57:SI:37:LYS:HE3	57:SI:93:THR:HG22	2.01	0.41
65:SR:21:TYR:N	65:SR:22:PRO:HD2	2.35	0.41
68:SU:63:LEU:N	68:SU:63:LEU:HD12	2.36	0.41
5:C1:1307:G:H1'	5:C1:1308:A:OP2	2.20	0.41
5:C1:2899:C:H4'	5:C1:2900:A:OP1	2.20	0.41
6:C2:32:U:P	71:SX:139:LYS:HZ1	2.43	0.41
6:C2:85:A:H2'	6:C2:86:A:O4'	2.21	0.41
6:C2:1216:C:C2	6:C2:1444:A:C6	3.09	0.41
6:C2:1458:G:C2	6:C2:1459:C:C4	3.09	0.41
7:C3:52:A:N6	45:Ll:27:ILE:HD13	2.36	0.41
11:LC:154:THR:O	11:LC:157:GLU:HG3	2.20	0.41
12:LD:283:ALA:O	12:LD:286:VAL:HG12	2.21	0.41
16:LH:34:LEU:HD23	16:LH:82:VAL:CG2	2.51	0.41
59:SK:16:PHE:C	59:SK:16:PHE:CD1	2.99	0.41
65:SR:72:LYS:O	65:SR:76:GLU:HG3	2.20	0.41
67:ST:72:GLY:O	67:ST:76:LEU:HD23	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SZ:88:ILE:N	73:SZ:88:ILE:HD12	2.36	0.41
75:Sb:36:LYS:HD2	75:Sb:43:ILE:HG22	2.02	0.41
6:C2:9:U:O2	6:C2:11:A:C8	2.74	0.41
6:C2:453:U:O2	6:C2:453:U:H2'	2.20	0.41
6:C2:1202:A:N3	6:C2:1202:A:H3'	2.36	0.41
6:C2:1680:G:H1'	6:C2:1721:A:N6	2.36	0.41
9:LA:49:VAL:HG22	9:LA:50:HIS:N	2.36	0.41
29:LV:26:ALA:O	29:LV:114:ILE:HA	2.21	0.41
64:SQ:115:THR:O	64:SQ:115:THR:HG22	2.21	0.41
68:SU:63:LEU:O	68:SU:83:GLU:HA	2.21	0.41
79:Sg:110:VAL:HA	79:Sg:126:SER:HB2	2.03	0.41
5:C1:550:A:N6	5:C1:551:A:N6	2.69	0.41
5:C1:662:U:H2'	5:C1:663:C:C6	2.56	0.41
5:C1:769:G:C6	5:C1:770:G:C6	3.09	0.41
5:C1:993:G:N3	5:C1:2637:A:H2'	2.35	0.41
5:C1:2118:C:H2'	5:C1:2119:A:O4'	2.21	0.41
6:C2:454:U:H2'	6:C2:455:C:C5	2.56	0.41
6:C2:1365:C:N3	6:C2:1366:U:C5	2.88	0.41
6:C2:1488:G:O2'	6:C2:1494:C:O2	2.35	0.41
18:LJ:108:GLU:HG3	66:SS:16:ARG:NH1	2.36	0.41
29:LV:57:MET:HE2	29:LV:126:TRP:CH2	2.56	0.41
51:SC:87:GLN:HA	51:SC:95:ARG:O	2.21	0.41
52:SD:137:VAL:HG12	52:SD:151:LYS:CG	2.50	0.41
58:SJ:141:VAL:HG11	58:SJ:146:PHE:CD2	2.56	0.41
59:SK:46:LEU:CD1	59:SK:46:LEU:N	2.84	0.41
65:SR:71:PHE:O	65:SR:72:LYS:C	2.64	0.41
73:SZ:54:VAL:N	73:SZ:55:PRO:CD	2.84	0.41
79:Sg:9:LEU:H	79:Sg:9:LEU:CD2	2.34	0.41
79:Sg:245:PHE:O	79:Sg:294:TRP:CD1	2.74	0.41
2:6:59:A:N3	2:6:59:A:H2'	2.36	0.41
5:C1:2773:C:C2	5:C1:2774:C:C5	3.08	0.41
6:C2:1573:A:H4'	6:C2:1574:G:OP2	2.21	0.41
12:LD:244:HIS:O	12:LD:248:ARG:HG3	2.21	0.41
22:LO:84:LEU:HD13	22:LO:102:LEU:HD21	2.03	0.41
54:SF:94:THR:OG1	54:SF:114:ILE:HD12	2.20	0.41
56:SH:14:THR:HG22	56:SH:15:GLU:N	2.36	0.41
59:SK:7:ASP:O	59:SK:10:LYS:HG3	2.20	0.41
5:C1:1097:G:H1'	5:C1:1098:A:OP2	2.21	0.40
5:C1:1555:U:O4	5:C1:1557:A:N7	2.54	0.40
6:C2:1083:G:O2'	6:C2:1084:A:H5'	2.21	0.40
6:C2:1430:U:H2'	6:C2:1431:C:H5''	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Li:34:SER:O	42:Li:38:LYS:HG3	2.21	0.40
58:SJ:119:ALA:HB1	58:SJ:124:HIS:HB3	2.03	0.40
66:SS:62:THR:O	66:SS:66:LEU:HD22	2.21	0.40
79:Sg:115:ILE:HD13	79:Sg:122:ILE:CD1	2.51	0.40
5:C1:1696:A:H2'	5:C1:1697:A:C8	2.57	0.40
5:C1:2369:G:H2'	5:C1:2370:G:C8	2.57	0.40
6:C2:540:G:N3	6:C2:542:A:N7	2.69	0.40
6:C2:1185:U:O2	6:C2:1185:U:H2'	2.20	0.40
6:C2:1204:A:N6	77:Sd:14:TYR:CE1	2.89	0.40
29:LV:79:VAL:HG12	29:LV:80:ARG:HG3	2.03	0.40
52:SD:76:ARG:CZ	59:SK:63:TYR:CE2	3.04	0.40
54:SF:76:ARG:NH1	54:SF:76:ARG:HG3	2.36	0.40
56:SH:86:GLN:OE1	56:SH:86:GLN:HA	2.20	0.40
59:SK:55:VAL:HG23	59:SK:67:THR:C	2.47	0.40
66:SS:32:LEU:HB3	66:SS:38:VAL:HG11	2.03	0.40
5:C1:763:G:HO2'	5:C1:764:U:P	2.45	0.40
5:C1:2553:U:C4	40:Lg:95:ILE:HG22	2.56	0.40
6:C2:512:A:OP2	58:SJ:172:VAL:HG12	2.21	0.40
6:C2:624:G:C8	6:C2:624:G:OP1	2.74	0.40
6:C2:1574:G:OP2	6:C2:1574:G:C8	2.74	0.40
13:LE:85:ILE:HG23	39:Lf:107:ILE:HG21	2.04	0.40
31:LX:62:VAL:HG11	31:LX:98:ALA:HB2	2.04	0.40
53:SE:173:ILE:HD11	53:SE:235:TYR:CD2	2.56	0.40
66:SS:11:PHE:CD2	73:SZ:41:ILE:HD11	2.56	0.40
68:SU:90:TYR:CD1	68:SU:90:TYR:C	2.99	0.40
5:C1:786:A:H4'	5:C1:787:G:OP1	2.21	0.40
5:C1:3007:U:OP1	22:LO:73:PHE:HA	2.22	0.40
5:C1:3163:A:C6	5:C1:3164:C:C4	3.10	0.40
6:C2:93:A:C6	6:C2:398:G:C6	3.10	0.40
6:C2:1200:G:H4'	6:C2:1201:G:C5'	2.50	0.40
28:LU:43:VAL:C	28:LU:44:GLU:HG2	2.46	0.40
55:SG:5:ILE:HD12	55:SG:16:PHE:CE1	2.56	0.40
56:SH:75:THR:HG23	56:SH:76:LYS:N	2.35	0.40
5:C1:404:G:OP1	5:C1:406:G:O6	2.38	0.40
5:C1:3165:A:H2'	5:C1:3166:C:C6	2.56	0.40
6:C2:850:A:H5''	25:LR:165:LYS:HE3	2.03	0.40
6:C2:1307:U:H5''	6:C2:1307:U:O2	2.20	0.40
6:C2:1540:G:C6	6:C2:1541:G:C4	3.10	0.40
6:C2:1727:G:H2'	6:C2:1728:A:C8	2.56	0.40
8:C4:45:A:H4'	12:LD:154:THR:HG21	2.03	0.40
13:LE:67:GLY:HA2	13:LE:74:VAL:CG2	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LH:92:TYR:CD1	16:LH:92:TYR:N	2.90	0.40
61:SN:43:LYS:HB3	61:SN:43:LYS:HE2	1.89	0.40
66:SS:41:ARG:HH11	67:ST:46:PRO:HD3	1.86	0.40
74:Sa:19:LYS:HG3	74:Sa:20:PRO:HD2	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	A	212/613 (35%)	206 (97%)	6 (3%)	0	100	100
4	B	15/78 (19%)	10 (67%)	5 (33%)	0	100	100
9	LA	249/254 (98%)	238 (96%)	11 (4%)	0	100	100
10	LB	384/387 (99%)	368 (96%)	16 (4%)	0	100	100
11	LC	359/362 (99%)	342 (95%)	17 (5%)	0	100	100
12	LD	292/297 (98%)	282 (97%)	10 (3%)	0	100	100
13	LE	152/176 (86%)	144 (95%)	8 (5%)	0	100	100
14	LF	220/244 (90%)	215 (98%)	5 (2%)	0	100	100
15	LG	227/256 (89%)	225 (99%)	2 (1%)	0	100	100
16	LH	189/191 (99%)	179 (95%)	10 (5%)	0	100	100
17	LI	204/221 (92%)	199 (98%)	5 (2%)	0	100	100
18	LJ	167/174 (96%)	161 (96%)	6 (4%)	0	100	100
19	LL	191/199 (96%)	182 (95%)	8 (4%)	1 (0%)	25	56
20	LM	134/138 (97%)	132 (98%)	2 (2%)	0	100	100
21	LN	201/204 (98%)	196 (98%)	5 (2%)	0	100	100
22	LO	195/199 (98%)	192 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
23	LP	181/184 (98%)	171 (94%)	10 (6%)	0	100	100
24	LQ	183/186 (98%)	176 (96%)	7 (4%)	0	100	100
25	LR	186/189 (98%)	184 (99%)	2 (1%)	0	100	100
26	LS	169/172 (98%)	161 (95%)	8 (5%)	0	100	100
27	LT	157/160 (98%)	150 (96%)	7 (4%)	0	100	100
28	LU	98/121 (81%)	95 (97%)	3 (3%)	0	100	100
29	LV	134/137 (98%)	129 (96%)	5 (4%)	0	100	100
30	LW	61/155 (39%)	57 (93%)	4 (7%)	0	100	100
31	LX	119/142 (84%)	119 (100%)	0	0	100	100
32	LY	123/127 (97%)	118 (96%)	5 (4%)	0	100	100
33	LZ	133/136 (98%)	131 (98%)	2 (2%)	0	100	100
34	La	146/149 (98%)	131 (90%)	14 (10%)	1 (1%)	19	49
35	Lb	56/59 (95%)	53 (95%)	3 (5%)	0	100	100
36	Lc	94/105 (90%)	92 (98%)	2 (2%)	0	100	100
37	Ld	106/113 (94%)	106 (100%)	0	0	100	100
38	Le	125/130 (96%)	124 (99%)	1 (1%)	0	100	100
39	Lf	104/107 (97%)	100 (96%)	4 (4%)	0	100	100
40	Lg	110/121 (91%)	107 (97%)	3 (3%)	0	100	100
41	Lh	117/120 (98%)	114 (97%)	3 (3%)	0	100	100
42	Li	97/100 (97%)	96 (99%)	1 (1%)	0	100	100
43	Lj	83/88 (94%)	79 (95%)	4 (5%)	0	100	100
44	Lk	75/78 (96%)	73 (97%)	2 (3%)	0	100	100
45	Ll	48/51 (94%)	48 (100%)	0	0	100	100
46	Ln	23/25 (92%)	23 (100%)	0	0	100	100
47	Lo	101/106 (95%)	97 (96%)	4 (4%)	0	100	100
48	Lp	89/92 (97%)	82 (92%)	7 (8%)	0	100	100
49	SA	204/252 (81%)	194 (95%)	10 (5%)	0	100	100
50	SB	222/255 (87%)	214 (96%)	8 (4%)	0	100	100
51	SC	214/254 (84%)	211 (99%)	3 (1%)	0	100	100
52	SD	220/240 (92%)	215 (98%)	5 (2%)	0	100	100
53	SE	256/261 (98%)	250 (98%)	6 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	SF	203/225 (90%)	194 (96%)	9 (4%)	0	100	100
55	SG	226/236 (96%)	221 (98%)	5 (2%)	0	100	100
56	SH	182/190 (96%)	175 (96%)	7 (4%)	0	100	100
57	SI	183/200 (92%)	178 (97%)	5 (3%)	0	100	100
58	SJ	182/197 (92%)	180 (99%)	2 (1%)	0	100	100
59	SK	78/105 (74%)	78 (100%)	0	0	100	100
60	SL	140/156 (90%)	137 (98%)	3 (2%)	0	100	100
61	SN	148/151 (98%)	140 (95%)	8 (5%)	0	100	100
62	SO	125/137 (91%)	119 (95%)	6 (5%)	0	100	100
63	SP	110/142 (78%)	104 (94%)	6 (6%)	0	100	100
64	SQ	139/143 (97%)	135 (97%)	4 (3%)	0	100	100
65	SR	117/136 (86%)	114 (97%)	3 (3%)	0	100	100
66	SS	143/146 (98%)	136 (95%)	7 (5%)	0	100	100
67	ST	141/144 (98%)	136 (96%)	5 (4%)	0	100	100
68	SU	98/121 (81%)	96 (98%)	2 (2%)	0	100	100
69	SV	85/87 (98%)	82 (96%)	3 (4%)	0	100	100
70	SW	127/130 (98%)	121 (95%)	6 (5%)	0	100	100
71	SX	142/145 (98%)	136 (96%)	6 (4%)	0	100	100
72	SY	131/135 (97%)	122 (93%)	9 (7%)	0	100	100
73	SZ	65/108 (60%)	62 (95%)	3 (5%)	0	100	100
74	Sa	95/119 (80%)	93 (98%)	2 (2%)	0	100	100
75	Sb	79/82 (96%)	74 (94%)	5 (6%)	0	100	100
76	Sc	61/67 (91%)	57 (93%)	4 (7%)	0	100	100
77	Sd	43/56 (77%)	43 (100%)	0	0	100	100
78	Se	58/63 (92%)	52 (90%)	6 (10%)	0	100	100
79	Sg	310/319 (97%)	289 (93%)	21 (7%)	0	100	100
All	All	10836/12148 (89%)	10445 (96%)	389 (4%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
34	La	40	HIS
19	LL	61	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	A	75/509 (15%)	75 (100%)	0	100	100
4	B	15/73 (20%)	14 (93%)	1 (7%)	13	39
9	LA	190/196 (97%)	190 (100%)	0	100	100
10	LB	321/323 (99%)	316 (98%)	5 (2%)	58	84
11	LC	288/289 (100%)	287 (100%)	1 (0%)	91	97
12	LD	241/245 (98%)	237 (98%)	4 (2%)	56	83
13	LE	135/155 (87%)	134 (99%)	1 (1%)	81	94
14	LF	186/205 (91%)	184 (99%)	2 (1%)	70	90
15	LG	184/208 (88%)	182 (99%)	2 (1%)	70	90
16	LH	168/171 (98%)	164 (98%)	4 (2%)	44	76
17	LI	178/187 (95%)	176 (99%)	2 (1%)	70	90
18	LJ	146/150 (97%)	142 (97%)	4 (3%)	40	73
19	LL	154/159 (97%)	151 (98%)	3 (2%)	52	81
20	LM	107/109 (98%)	104 (97%)	3 (3%)	38	73
21	LN	175/176 (99%)	175 (100%)	0	100	100
22	LO	160/162 (99%)	157 (98%)	3 (2%)	52	81
23	LP	138/146 (94%)	135 (98%)	3 (2%)	47	78
24	LQ	150/151 (99%)	147 (98%)	3 (2%)	50	79
25	LR	152/154 (99%)	151 (99%)	1 (1%)	81	94
26	LS	155/156 (99%)	153 (99%)	2 (1%)	65	88
27	LT	136/137 (99%)	133 (98%)	3 (2%)	47	78
28	LU	87/107 (81%)	85 (98%)	2 (2%)	45	77
29	LV	104/105 (99%)	100 (96%)	4 (4%)	28	63
30	LW	54/128 (42%)	53 (98%)	1 (2%)	52	81
31	LX	104/118 (88%)	101 (97%)	3 (3%)	37	72
32	LY	108/110 (98%)	105 (97%)	3 (3%)	38	73

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
33	LZ	115/116 (99%)	115 (100%)	0	100	100
34	La	118/119 (99%)	117 (99%)	1 (1%)	79	93
35	Lb	46/47 (98%)	46 (100%)	0	100	100
36	Lc	81/88 (92%)	79 (98%)	2 (2%)	42	75
37	Ld	92/97 (95%)	92 (100%)	0	100	100
38	Le	108/111 (97%)	106 (98%)	2 (2%)	52	81
39	Lf	90/91 (99%)	89 (99%)	1 (1%)	70	90
40	Lg	95/103 (92%)	93 (98%)	2 (2%)	48	78
41	Lh	104/105 (99%)	101 (97%)	3 (3%)	37	72
42	Li	80/82 (98%)	80 (100%)	0	100	100
43	Lj	69/71 (97%)	68 (99%)	1 (1%)	62	86
44	Lk	68/69 (99%)	63 (93%)	5 (7%)	11	34
45	Ll	45/46 (98%)	45 (100%)	0	100	100
46	Ln	22/23 (96%)	22 (100%)	0	100	100
47	Lo	87/91 (96%)	84 (97%)	3 (3%)	32	67
48	Lp	71/72 (99%)	71 (100%)	0	100	100
49	SA	170/210 (81%)	167 (98%)	3 (2%)	54	82
50	SB	200/224 (89%)	196 (98%)	4 (2%)	50	79
51	SC	175/205 (85%)	172 (98%)	3 (2%)	56	83
52	SD	182/195 (93%)	178 (98%)	4 (2%)	47	78
53	SE	220/222 (99%)	215 (98%)	5 (2%)	45	77
54	SF	171/191 (90%)	169 (99%)	2 (1%)	67	89
55	SG	189/201 (94%)	188 (100%)	1 (0%)	86	96
56	SH	163/170 (96%)	161 (99%)	2 (1%)	67	89
57	SI	148/161 (92%)	147 (99%)	1 (1%)	81	94
58	SJ	156/166 (94%)	155 (99%)	1 (1%)	84	95
59	SK	74/98 (76%)	74 (100%)	0	100	100
60	SL	127/137 (93%)	124 (98%)	3 (2%)	44	76
61	SN	127/128 (99%)	126 (99%)	1 (1%)	79	93
62	SO	91/105 (87%)	88 (97%)	3 (3%)	33	68
63	SP	92/118 (78%)	92 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
64	SQ	117/119 (98%)	115 (98%)	2 (2%)	56	83
65	SR	101/124 (82%)	100 (99%)	1 (1%)	73	91
66	SS	128/129 (99%)	128 (100%)	0	100	100
67	ST	115/116 (99%)	111 (96%)	4 (4%)	31	66
68	SU	93/114 (82%)	93 (100%)	0	100	100
69	SV	71/74 (96%)	70 (99%)	1 (1%)	62	86
70	SW	110/111 (99%)	108 (98%)	2 (2%)	54	82
71	SX	119/120 (99%)	116 (98%)	3 (2%)	42	75
72	SY	111/113 (98%)	110 (99%)	1 (1%)	75	92
73	SZ	59/89 (66%)	55 (93%)	4 (7%)	13	38
74	Sa	83/101 (82%)	82 (99%)	1 (1%)	67	89
75	Sb	70/71 (99%)	69 (99%)	1 (1%)	62	86
76	Sc	55/60 (92%)	53 (96%)	2 (4%)	30	65
77	Sd	39/49 (80%)	37 (95%)	2 (5%)	20	51
78	Se	50/54 (93%)	50 (100%)	0	100	100
79	Sg	250/262 (95%)	245 (98%)	5 (2%)	50	79
All	All	9058/10197 (89%)	8916 (98%)	142 (2%)	58	84

All (142) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	B	63	HIS
10	LB	201	LYS
10	LB	218	ILE
10	LB	302	LYS
10	LB	318	LYS
10	LB	385	LYS
11	LC	259	ASP
12	LD	54	ARG
12	LD	81	HIS
12	LD	152	ARG
12	LD	222	LEU
13	LE	65	VAL
14	LF	131	GLU
14	LF	187	GLU
15	LG	71	VAL

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Mol	Chain	Res	Type
15	LG	101	THR
16	LH	6	THR
16	LH	43	VAL
16	LH	90	MET
16	LH	92	TYR
17	LI	26	VAL
17	LI	206	LEU
18	LJ	25	GLU
18	LJ	39	GLN
18	LJ	41	SER
18	LJ	84	LEU
19	LL	63	VAL
19	LL	68	LYS
19	LL	108	ILE
20	LM	7	VAL
20	LM	12	TRP
20	LM	98	SER
22	LO	6	VAL
22	LO	58	LEU
22	LO	180	SER
23	LP	7	THR
23	LP	54	HIS
23	LP	133	HIS
24	LQ	83	VAL
24	LQ	93	ILE
24	LQ	114	ILE
25	LR	91	SER
26	LS	3	HIS
26	LS	24	LEU
27	LT	26	HIS
27	LT	27	LEU
27	LT	69	LYS
28	LU	23	THR
28	LU	56	VAL
29	LV	54	LEU
29	LV	88	ARG
29	LV	120	LYS
29	LV	125	LEU
30	LW	19	THR
31	LX	57	LEU
31	LX	61	LYS
31	LX	96	LYS

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Mol	Chain	Res	Type
32	LY	4	GLN
32	LY	37	LYS
32	LY	87	LYS
34	La	97	GLU
36	Lc	29	SER
36	Lc	38	LYS
38	Le	67	SER
38	Le	103	LYS
39	Lf	84	THR
40	Lg	95	ILE
40	Lg	101	VAL
41	Lh	41	LEU
41	Lh	69	LEU
41	Lh	98	SER
43	Lj	35	SER
44	Lk	19	ASP
44	Lk	24	THR
44	Lk	41	THR
44	Lk	56	ILE
44	Lk	65	LEU
47	Lo	34	SER
47	Lo	64	THR
47	Lo	83	LEU
49	SA	2	SER
49	SA	76	ILE
49	SA	78	SER
50	SB	39	GLU
50	SB	92	GLN
50	SB	103	MET
50	SB	215	VAL
51	SC	106	ASP
51	SC	166	THR
51	SC	195	ASP
52	SD	151	LYS
52	SD	168	ILE
52	SD	179	GLN
52	SD	209	ILE
53	SE	11	ARG
53	SE	75	LYS
53	SE	133	LYS
53	SE	182	TYR
53	SE	251	GLU

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Mol	Chain	Res	Type
54	SF	35	GLN
54	SF	99	MET
55	SG	184	LEU
56	SH	139	ARG
56	SH	147	ASN
57	SI	157	GLU
58	SJ	62	ARG
60	SL	94	ILE
60	SL	131	ILE
60	SL	138	ASN
61	SN	28	LEU
62	SO	29	HIS
62	SO	112	ILE
62	SO	115	ILE
64	SQ	26	LYS
64	SQ	136	SER
65	SR	85	VAL
67	ST	13	ASP
67	ST	33	TYR
67	ST	71	VAL
67	ST	124	ILE
69	SV	65	SER
70	SW	76	SER
70	SW	93	LEU
71	SX	52	ILE
71	SX	100	ASP
71	SX	107	PHE
72	SY	8	ARG
73	SZ	59	TYR
73	SZ	61	SER
73	SZ	63	SER
73	SZ	96	SER
74	Sa	19	LYS
75	Sb	59	CYS
76	Sc	13	ILE
76	Sc	58	GLU
77	Sd	28	THR
77	Sd	31	ILE
79	Sg	21	THR
79	Sg	32	LEU
79	Sg	48	THR
79	Sg	243	LEU

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Mol	Chain	Res	Type
79	Sg	250	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (80) such sidechains are listed below:

Mol	Chain	Res	Type
4	B	72	HIS
10	LB	121	ASN
10	LB	177	HIS
10	LB	182	GLN
10	LB	224	HIS
10	LB	231	HIS
10	LB	259	HIS
10	LB	345	ASN
11	LC	43	ASN
11	LC	116	ASN
11	LC	291	ASN
12	LD	244	HIS
14	LF	48	ASN
14	LF	172	ASN
14	LF	194	HIS
14	LF	209	ASN
15	LG	28	HIS
15	LG	138	HIS
15	LG	155	ASN
16	LH	58	HIS
16	LH	139	ASN
16	LH	169	ASN
17	LI	59	GLN
18	LJ	39	GLN
19	LL	137	GLN
23	LP	50	GLN
23	LP	97	ASN
25	LR	47	ASN
25	LR	141	HIS
26	LS	65	ASN
26	LS	89	ASN
26	LS	114	HIS
27	LT	134	GLN
32	LY	42	GLN
32	LY	110	HIS
34	La	49	HIS
34	La	120	ASN

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Mol	Chain	Res	Type
35	Lb	10	HIS
37	Ld	21	HIS
38	Le	13	HIS
38	Le	20	HIS
41	Lh	59	ASN
42	Li	63	ASN
43	Lj	16	HIS
44	Lk	40	GLN
49	SA	28	ASN
50	SB	194	ASN
50	SB	220	GLN
51	SC	59	HIS
51	SC	110	HIS
51	SC	150	GLN
51	SC	201	ASN
52	SD	159	HIS
53	SE	96	ASN
53	SE	188	ASN
54	SF	158	GLN
55	SG	182	GLN
57	SI	159	GLN
58	SJ	124	HIS
59	SK	47	GLN
60	SL	18	HIS
60	SL	81	HIS
61	SN	5	HIS
61	SN	105	ASN
64	SQ	8	GLN
64	SQ	21	HIS
66	SS	122	HIS
66	SS	127	HIS
67	ST	12	GLN
68	SU	72	ASN
68	SU	87	HIS
69	SV	29	HIS
70	SW	12	ASN
71	SX	10	ASN
74	Sa	25	ASN
75	Sb	19	HIS
75	Sb	42	ASN
77	Sd	27	HIS
77	Sd	48	ASN

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Mol	Chain	Res	Type
78	Se	17	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	5	7/234 (2%)	1 (14%)	1 (14%)
2	6	75/76 (98%)	13 (17%)	1 (1%)
5	C1	3052/3396 (89%)	440 (14%)	31 (1%)
6	C2	1632/1800 (90%)	310 (18%)	33 (2%)
7	C3	157/158 (99%)	22 (14%)	1 (0%)
8	C4	120/121 (99%)	10 (8%)	1 (0%)
All	All	5043/5785 (87%)	796 (15%)	68 (1%)

All (796) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	5	43	A
2	6	16	U
2	6	17	A
2	6	19	G
2	6	21	A
2	6	33	U
2	6	42	G
2	6	47	U
2	6	48	C
2	6	50	A
2	6	51	G
2	6	58	A
2	6	59	A
2	6	60	C
5	C1	14	U
5	C1	15	C
5	C1	22	G
5	C1	26	A
5	C1	40	A
5	C1	49	A
5	C1	59	G
5	C1	60	A
5	C1	65	A
5	C1	66	A
5	C1	75	G

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Mol	Chain	Res	Type
5	C1	76	G
5	C1	92	G
5	C1	103	G
5	C1	105	C
5	C1	109	A
5	C1	110	G
5	C1	113	C
5	C1	116	A
5	C1	117	U
5	C1	121	A
5	C1	122	A
5	C1	133	U
5	C1	135	C
5	C1	136	G
5	C1	156	G
5	C1	157	A
5	C1	161	G
5	C1	166	C
5	C1	187	A
5	C1	190	U
5	C1	200	C
5	C1	210	U
5	C1	213	A
5	C1	218	G
5	C1	219	A
5	C1	240	U
5	C1	241	G
5	C1	243	G
5	C1	252	U
5	C1	269	G
5	C1	282	G
5	C1	283	G
5	C1	286	U
5	C1	287	G
5	C1	295	A
5	C1	305	U
5	C1	323	A
5	C1	329	U
5	C1	338	A
5	C1	350	C
5	C1	351	A
5	C1	376	G

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Mol	Chain	Res	Type
5	C1	385	A
5	C1	398	A
5	C1	401	U
5	C1	402	A
5	C1	403	C
5	C1	420	G
5	C1	421	G
5	C1	422	A
5	C1	440	A
5	C1	498	A
5	C1	521	A
5	C1	525	C
5	C1	535	G
5	C1	544	C
5	C1	546	C
5	C1	548	G
5	C1	552	G
5	C1	557	A
5	C1	559	A
5	C1	578	A
5	C1	579	G
5	C1	592	A
5	C1	604	G
5	C1	609	G
5	C1	610	G
5	C1	611	A
5	C1	612	U
5	C1	621	A
5	C1	622	A
5	C1	637	C
5	C1	638	C
5	C1	642	U
5	C1	649	A
5	C1	675	C
5	C1	677	A
5	C1	681	U
5	C1	705	A
5	C1	709	A
5	C1	712	G
5	C1	715	A
5	C1	726	G
5	C1	727	G

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Mol	Chain	Res	Type
5	C1	764	U
5	C1	765	C
5	C1	767	U
5	C1	776	U
5	C1	777	U
5	C1	780	A
5	C1	781	G
5	C1	785	G
5	C1	786	A
5	C1	806	A
5	C1	817	A
5	C1	818	C
5	C1	830	A
5	C1	849	C
5	C1	861	C
5	C1	874	U
5	C1	875	G
5	C1	879	U
5	C1	880	G
5	C1	896	A
5	C1	907	G
5	C1	908	G
5	C1	914	A
5	C1	915	A
5	C1	916	G
5	C1	917	A
5	C1	921	A
5	C1	923	C
5	C1	925	A
5	C1	937	G
5	C1	940	G
5	C1	944	C
5	C1	959	C
5	C1	960	U
5	C1	963	G
5	C1	972	A
5	C1	974	G
5	C1	994	G
5	C1	1001	G
5	C1	1002	A
5	C1	1010	G
5	C1	1013	G

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Mol	Chain	Res	Type
5	C1	1029	G
5	C1	1047	A
5	C1	1049	C
5	C1	1057	A
5	C1	1064	A
5	C1	1065	A
5	C1	1072	G
5	C1	1081	U
5	C1	1095	U
5	C1	1097	G
5	C1	1098	A
5	C1	1102	A
5	C1	1103	A
5	C1	1117	G
5	C1	1131	G
5	C1	1153	A
5	C1	1154	A
5	C1	1159	A
5	C1	1180	A
5	C1	1181	U
5	C1	1192	C
5	C1	1193	A
5	C1	1196	C
5	C1	1201	C
5	C1	1208	U
5	C1	1209	G
5	C1	1222	G
5	C1	1285	G
5	C1	1287	A
5	C1	1307	G
5	C1	1308	A
5	C1	1309	U
5	C1	1313	G
5	C1	1330	A
5	C1	1348	U
5	C1	1349	G
5	C1	1351	U
5	C1	1352	A
5	C1	1354	G
5	C1	1356	U
5	C1	1357	G
5	C1	1366	A

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Mol	Chain	Res	Type
5	C1	1367	G
5	C1	1373	A
5	C1	1381	A
5	C1	1385	C
5	C1	1386	A
5	C1	1392	G
5	C1	1399	A
5	C1	1400	G
5	C1	1418	A
5	C1	1419	A
5	C1	1431	G
5	C1	1433	A
5	C1	1434	G
5	C1	1436	U
5	C1	1437	C
5	C1	1446	A
5	C1	1450	G
5	C1	1452	A
5	C1	1481	A
5	C1	1482	A
5	C1	1483	G
5	C1	1484	U
5	C1	1503	A
5	C1	1508	C
5	C1	1523	U
5	C1	1533	U
5	C1	1536	G
5	C1	1555	U
5	C1	1556	C
5	C1	1561	G
5	C1	1562	C
5	C1	1563	C
5	C1	1565	G
5	C1	1566	A
5	C1	1575	A
5	C1	1576	G
5	C1	1582	C
5	C1	1588	A
5	C1	1589	A
5	C1	1593	A
5	C1	1596	C
5	C1	1607	U

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Mol	Chain	Res	Type
5	C1	1619	A
5	C1	1620	U
5	C1	1629	U
5	C1	1630	U
5	C1	1631	C
5	C1	1639	C
5	C1	1642	A
5	C1	1643	A
5	C1	1657	C
5	C1	1683	A
5	C1	1705	U
5	C1	1724	U
5	C1	1725	C
5	C1	1741	A
5	C1	1742	U
5	C1	1750	A
5	C1	1751	G
5	C1	1775	G
5	C1	1780	G
5	C1	1797	A
5	C1	1812	G
5	C1	1816	A
5	C1	1817	G
5	C1	1819	U
5	C1	1820	U
5	C1	1821	U
5	C1	1835	A
5	C1	1839	A
5	C1	1840	U
5	C1	1842	A
5	C1	1846	C
5	C1	1849	C
5	C1	1850	A
5	C1	1866	C
5	C1	1867	A
5	C1	1871	U
5	C1	1878	G
5	C1	1880	U
5	C1	1884	A
5	C1	1906	G
5	C1	2101	C
5	C1	2102	U

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Mol	Chain	Res	Type
5	C1	2111	G
5	C1	2112	U
5	C1	2113	A
5	C1	2115	G
5	C1	2116	G
5	C1	2121	G
5	C1	2122	G
5	C1	2131	A
5	C1	2134	G
5	C1	2140	U
5	C1	2142	A
5	C1	2145	A
5	C1	2158	A
5	C1	2169	G
5	C1	2170	U
5	C1	2188	A
5	C1	2205	U
5	C1	2206	G
5	C1	2225	U
5	C1	2244	A
5	C1	2249	G
5	C1	2257	C
5	C1	2272	G
5	C1	2273	G
5	C1	2279	A
5	C1	2281	A
5	C1	2282	U
5	C1	2307	G
5	C1	2308	C
5	C1	2310	U
5	C1	2313	A
5	C1	2314	U
5	C1	2315	G
5	C1	2334	U
5	C1	2335	G
5	C1	2336	U
5	C1	2373	A
5	C1	2374	C
5	C1	2375	G
5	C1	2393	G
5	C1	2397	A
5	C1	2402	A

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Mol	Chain	Res	Type
5	C1	2403	G
5	C1	2404	A
5	C1	2411	U
5	C1	2418	G
5	C1	2435	G
5	C1	2506	U
5	C1	2507	C
5	C1	2514	U
5	C1	2515	A
5	C1	2522	G
5	C1	2549	G
5	C1	2552	C
5	C1	2554	A
5	C1	2560	C
5	C1	2561	A
5	C1	2569	A
5	C1	2570	U
5	C1	2571	U
5	C1	2572	C
5	C1	2573	G
5	C1	2582	C
5	C1	2585	G
5	C1	2586	G
5	C1	2593	A
5	C1	2603	G
5	C1	2606	G
5	C1	2607	G
5	C1	2614	G
5	C1	2638	C
5	C1	2639	G
5	C1	2652	U
5	C1	2656	A
5	C1	2665	U
5	C1	2674	A
5	C1	2677	G
5	C1	2689	A
5	C1	2691	A
5	C1	2694	A
5	C1	2696	A
5	C1	2704	A
5	C1	2705	A
5	C1	2728	G

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Mol	Chain	Res	Type
5	C1	2729	U
5	C1	2753	G
5	C1	2762	A
5	C1	2772	C
5	C1	2777	G
5	C1	2778	G
5	C1	2796	G
5	C1	2800	G
5	C1	2801	A
5	C1	2803	A
5	C1	2816	G
5	C1	2817	A
5	C1	2821	C
5	C1	2838	A
5	C1	2861	U
5	C1	2867	C
5	C1	2871	G
5	C1	2872	A
5	C1	2887	A
5	C1	2888	U
5	C1	2898	G
5	C1	2899	C
5	C1	2900	A
5	C1	2914	G
5	C1	2923	U
5	C1	2935	U
5	C1	2936	A
5	C1	2941	A
5	C1	2942	C
5	C1	2945	G
5	C1	2947	G
5	C1	2971	A
5	C1	2983	C
5	C1	2997	G
5	C1	3012	A
5	C1	3056	U
5	C1	3078	U
5	C1	3079	U
5	C1	3086	A
5	C1	3092	C
5	C1	3104	U
5	C1	3122	A

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Mol	Chain	Res	Type
5	C1	3128	G
5	C1	3131	U
5	C1	3142	A
5	C1	3143	C
5	C1	3153	U
5	C1	3155	U
5	C1	3156	U
5	C1	3165	A
5	C1	3167	A
5	C1	3173	G
5	C1	3174	A
5	C1	3175	U
5	C1	3176	G
5	C1	3179	U
5	C1	3180	A
5	C1	3181	C
5	C1	3187	A
5	C1	3196	U
5	C1	3198	U
5	C1	3207	U
5	C1	3217	C
5	C1	3218	A
5	C1	3219	G
5	C1	3229	G
5	C1	3243	A
5	C1	3247	G
5	C1	3259	U
5	C1	3260	G
5	C1	3270	U
5	C1	3276	G
5	C1	3281	U
5	C1	3287	U
5	C1	3289	G
5	C1	3294	A
5	C1	3304	U
5	C1	3313	U
5	C1	3316	A
5	C1	3318	G
5	C1	3319	U
5	C1	3320	A
5	C1	3340	G
5	C1	3341	U

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Mol	Chain	Res	Type
5	C1	3342	A
5	C1	3345	G
5	C1	3347	A
5	C1	3351	U
5	C1	3352	U
5	C1	3369	G
5	C1	3376	A
5	C1	3378	C
5	C1	3390	G
6	C2	2	A
6	C2	3	U
6	C2	4	C
6	C2	17	C
6	C2	25	C
6	C2	26	A
6	C2	34	G
6	C2	42	G
6	C2	45	U
6	C2	46	A
6	C2	47	A
6	C2	51	A
6	C2	56	U
6	C2	57	G
6	C2	63	G
6	C2	66	U
6	C2	68	A
6	C2	74	U
6	C2	76	A
6	C2	78	A
6	C2	79	C
6	C2	102	U
6	C2	104	A
6	C2	114	C
6	C2	127	G
6	C2	138	A
6	C2	140	A
6	C2	141	U
6	C2	153	G
6	C2	155	U
6	C2	159	U
6	C2	161	U
6	C2	170	U

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Mol	Chain	Res	Type
6	C2	171	A
6	C2	178	U
6	C2	179	A
6	C2	180	A
6	C2	185	U
6	C2	187	G
6	C2	188	A
6	C2	204	G
6	C2	216	U
6	C2	218	A
6	C2	246	G
6	C2	250	C
6	C2	259	U
6	C2	260	U
6	C2	265	A
6	C2	269	G
6	C2	270	C
6	C2	273	G
6	C2	274	G
6	C2	277	U
6	C2	278	U
6	C2	279	G
6	C2	281	G
6	C2	289	U
6	C2	290	G
6	C2	299	A
6	C2	314	C
6	C2	316	A
6	C2	319	U
6	C2	322	G
6	C2	337	G
6	C2	338	C
6	C2	352	A
6	C2	353	A
6	C2	359	A
6	C2	361	C
6	C2	370	A
6	C2	373	G
6	C2	388	G
6	C2	399	A
6	C2	400	A
6	C2	401	A

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Mol	Chain	Res	Type
6	C2	402	C
6	C2	404	G
6	C2	417	A
6	C2	419	G
6	C2	423	G
6	C2	424	C
6	C2	425	A
6	C2	426	G
6	C2	431	C
6	C2	434	G
6	C2	436	A
6	C2	437	A
6	C2	439	U
6	C2	444	C
6	C2	445	A
6	C2	448	C
6	C2	468	A
6	C2	475	A
6	C2	477	A
6	C2	483	A
6	C2	484	C
6	C2	487	G
6	C2	502	U
6	C2	506	A
6	C2	507	U
6	C2	509	G
6	C2	510	G
6	C2	515	A
6	C2	520	A
6	C2	538	A
6	C2	539	G
6	C2	540	G
6	C2	541	A
6	C2	542	A
6	C2	549	G
6	C2	556	A
6	C2	557	G
6	C2	558	U
6	C2	559	C
6	C2	565	C
6	C2	571	G
6	C2	582	U

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Mol	Chain	Res	Type
6	C2	594	A
6	C2	595	G
6	C2	597	G
6	C2	606	A
6	C2	610	G
6	C2	611	U
6	C2	619	A
6	C2	620	A
6	C2	622	A
6	C2	623	A
6	C2	624	G
6	C2	638	U
6	C2	639	U
6	C2	640	U
6	C2	641	G
6	C2	688	G
6	C2	694	U
6	C2	696	C
6	C2	697	C
6	C2	741	C
6	C2	742	U
6	C2	743	U
6	C2	756	A
6	C2	765	G
6	C2	766	U
6	C2	774	A
6	C2	775	G
6	C2	780	A
6	C2	781	U
6	C2	782	U
6	C2	783	G
6	C2	789	A
6	C2	794	U
6	C2	812	A
6	C2	813	U
6	C2	814	A
6	C2	815	G
6	C2	816	G
6	C2	819	G
6	C2	820	U
6	C2	821	U
6	C2	833	U

Continued on next page...

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Mol	Chain	Res	Type
6	C2	841	U
6	C2	846	G
6	C2	856	A
6	C2	863	A
6	C2	876	G
6	C2	886	U
6	C2	897	C
6	C2	913	G
6	C2	929	A
6	C2	933	A
6	C2	935	U
6	C2	942	G
6	C2	944	A
6	C2	951	A
6	C2	960	U
6	C2	966	A
6	C2	970	A
6	C2	971	A
6	C2	989	U
6	C2	992	A
6	C2	993	A
6	C2	1028	C
6	C2	1039	A
6	C2	1052	U
6	C2	1055	U
6	C2	1076	A
6	C2	1082	C
6	C2	1083	G
6	C2	1092	A
6	C2	1096	C
6	C2	1097	U
6	C2	1100	G
6	C2	1138	A
6	C2	1141	G
6	C2	1150	G
6	C2	1158	C
6	C2	1160	A
6	C2	1170	G
6	C2	1185	U
6	C2	1186	U
6	C2	1194	A
6	C2	1196	A

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Mol	Chain	Res	Type
6	C2	1197	C
6	C2	1199	G
6	C2	1200	G
6	C2	1217	A
6	C2	1218	G
6	C2	1228	G
6	C2	1229	G
6	C2	1241	G
6	C2	1243	G
6	C2	1244	A
6	C2	1245	G
6	C2	1246	C
6	C2	1252	C
6	C2	1257	U
6	C2	1258	U
6	C2	1274	C
6	C2	1275	A
6	C2	1285	U
6	C2	1286	U
6	C2	1288	G
6	C2	1301	U
6	C2	1306	C
6	C2	1314	U
6	C2	1315	U
6	C2	1321	A
6	C2	1322	A
6	C2	1344	A
6	C2	1345	A
6	C2	1346	A
6	C2	1347	U
6	C2	1348	A
6	C2	1349	G
6	C2	1361	U
6	C2	1363	U
6	C2	1371	A
6	C2	1372	U
6	C2	1381	U
6	C2	1382	A
6	C2	1383	G
6	C2	1390	U
6	C2	1398	U
6	C2	1399	C

Continued on next page...

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Mol	Chain	Res	Type
6	C2	1400	A
6	C2	1414	U
6	C2	1427	A
6	C2	1428	G
6	C2	1431	C
6	C2	1432	U
6	C2	1436	A
6	C2	1437	U
6	C2	1445	G
6	C2	1458	G
6	C2	1459	C
6	C2	1460	A
6	C2	1464	G
6	C2	1468	U
6	C2	1469	A
6	C2	1471	A
6	C2	1472	C
6	C2	1474	G
6	C2	1490	C
6	C2	1493	A
6	C2	1506	G
6	C2	1516	A
6	C2	1521	G
6	C2	1523	G
6	C2	1524	A
6	C2	1528	U
6	C2	1535	U
6	C2	1536	G
6	C2	1537	C
6	C2	1539	G
6	C2	1540	G
6	C2	1542	G
6	C2	1548	G
6	C2	1554	U
6	C2	1557	U
6	C2	1559	A
6	C2	1570	A
6	C2	1574	G
6	C2	1575	G
6	C2	1576	A
6	C2	1583	A
6	C2	1584	G

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Mol	Chain	Res	Type
6	C2	1600	A
6	C2	1601	G
6	C2	1607	G
6	C2	1610	G
6	C2	1616	G
6	C2	1619	C
6	C2	1634	C
6	C2	1637	C
6	C2	1657	U
6	C2	1658	G
6	C2	1680	G
6	C2	1682	U
6	C2	1717	G
6	C2	1757	G
6	C2	1760	G
6	C2	1767	G
6	C2	1769	U
6	C2	1780	G
6	C2	1783	C
6	C2	1792	G
6	C2	1793	G
6	C2	1794	A
6	C2	1795	U
6	C2	1796	C
6	C2	1799	U
7	C3	23	U
7	C3	34	U
7	C3	35	C
7	C3	49	G
7	C3	51	G
7	C3	59	A
7	C3	62	C
7	C3	63	G
7	C3	80	A
7	C3	81	U
7	C3	82	U
7	C3	86	U
7	C3	87	G
7	C3	90	U
7	C3	95	G
7	C3	104	A
7	C3	106	C

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Mol	Chain	Res	Type
7	C3	111	A
7	C3	125	U
7	C3	126	A
7	C3	144	G
7	C3	152	G
8	C4	33	U
8	C4	53	U
8	C4	54	U
8	C4	55	A
8	C4	65	G
8	C4	74	C
8	C4	76	A
8	C4	91	G
8	C4	102	A
8	C4	112	G

All (68) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	5	42	G
2	6	49	G
5	C1	13	A
5	C1	239	G
5	C1	282	G
5	C1	439	C
5	C1	637	C
5	C1	763	G
5	C1	916	G
5	C1	1064	A
5	C1	1097	G
5	C1	1208	U
5	C1	1284	C
5	C1	1307	G
5	C1	1353	U
5	C1	1355	A
5	C1	1562	C
5	C1	1815	U
5	C1	1818	U
5	C1	2101	C
5	C1	2112	U
5	C1	2505	U
5	C1	2897	A

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Mol	Chain	Res	Type
5	C1	2899	C
5	C1	3078	U
5	C1	3121	U
5	C1	3218	A
5	C1	3228	C
5	C1	3269	U
5	C1	3319	U
5	C1	3340	G
5	C1	3350	C
5	C1	3351	U
6	C2	77	U
6	C2	139	C
6	C2	187	G
6	C2	277	U
6	C2	288	A
6	C2	352	A
6	C2	387	A
6	C2	400	A
6	C2	422	G
6	C2	539	G
6	C2	555	A
6	C2	609	U
6	C2	639	U
6	C2	640	U
6	C2	755	A
6	C2	813	U
6	C2	819	G
6	C2	912	U
6	C2	928	U
6	C2	1185	U
6	C2	1243	G
6	C2	1245	G
6	C2	1256	A
6	C2	1273	G
6	C2	1274	C
6	C2	1344	A
6	C2	1382	A
6	C2	1427	A
6	C2	1430	U
6	C2	1471	A
6	C2	1573	A
6	C2	1633	A

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Mol	Chain	Res	Type
6	C2	1636	C
7	C3	85	G
8	C4	52	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

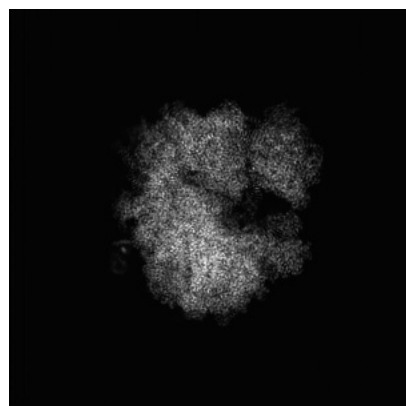
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-53860. These allow visual inspection of the internal detail of the map and identification of artifacts.

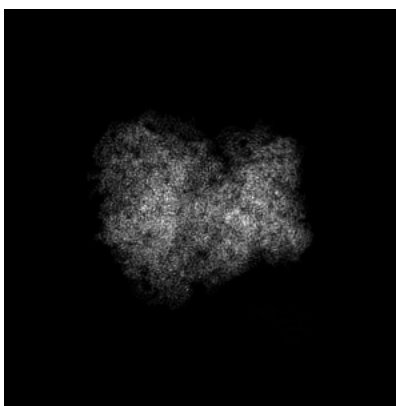
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

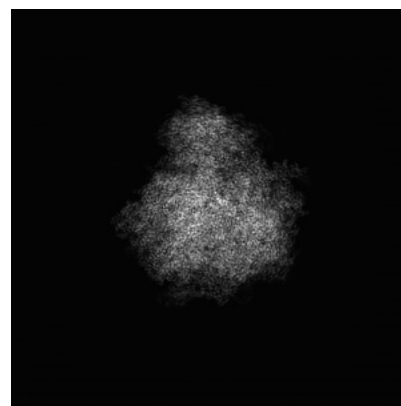
6.1.1 Primary map



X

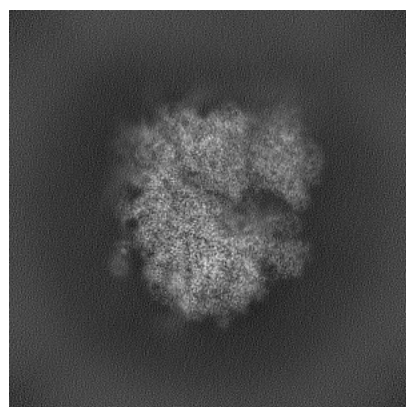


Y

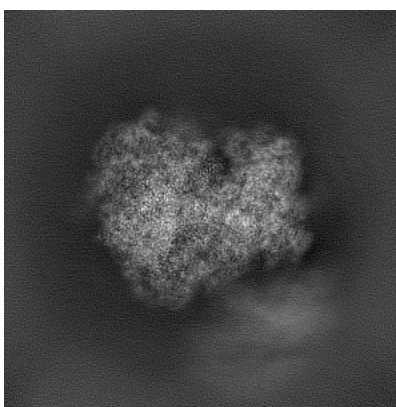


Z

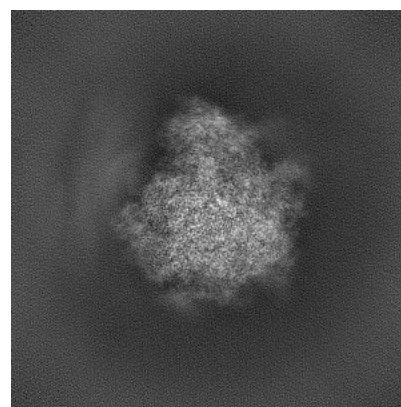
6.1.2 Raw map



X



Y

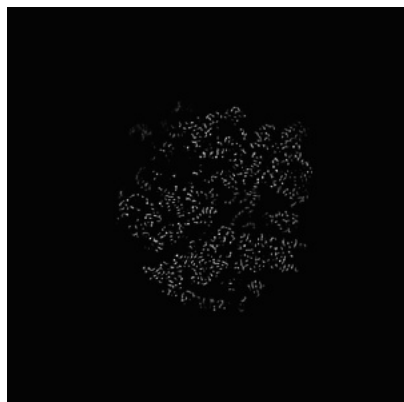


Z

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

6.2 Central slices [i](#)

6.2.1 Primary map



X Index: 200

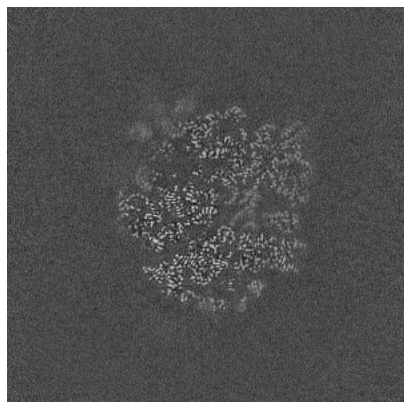


Y Index: 200

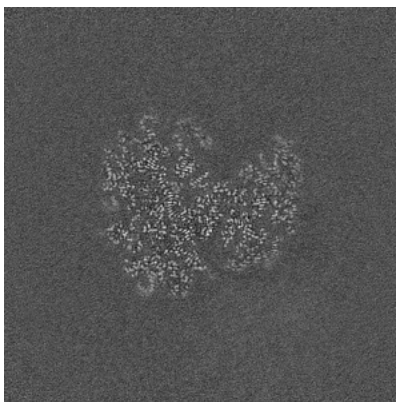


Z Index: 200

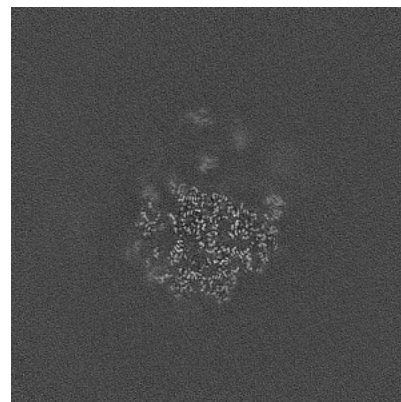
6.2.2 Raw map



X Index: 200



Y Index: 200



Z Index: 200

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: 185

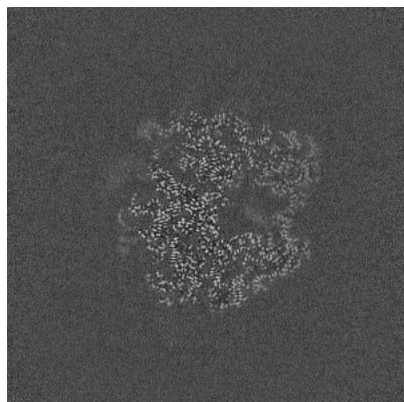


Y Index: 183

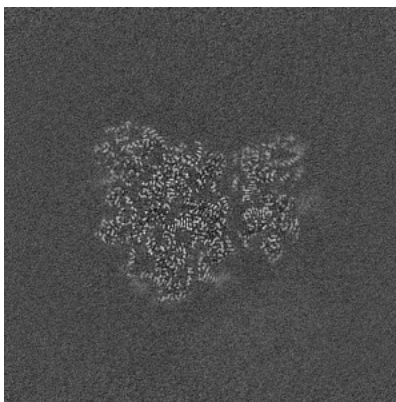


Z Index: 150

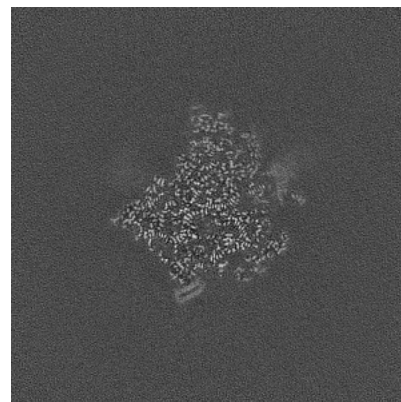
6.3.2 Raw map



X Index: 188



Y Index: 183

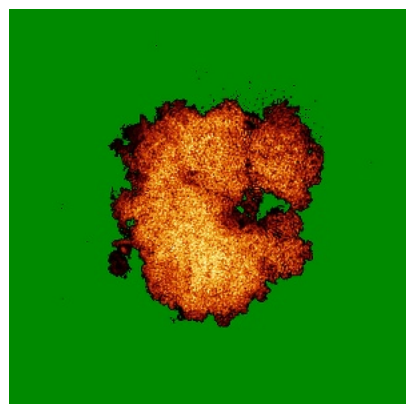


Z Index: 166

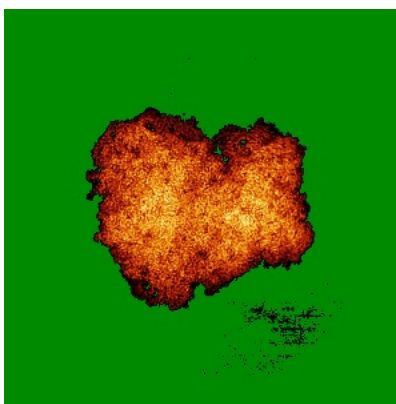
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

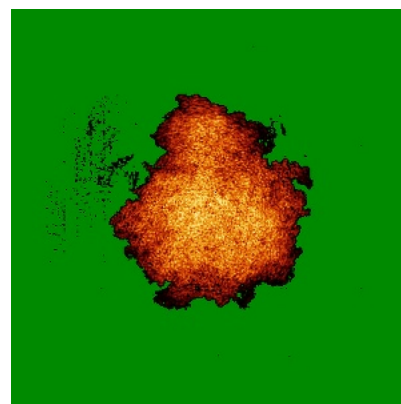
6.4.1 Primary map



X

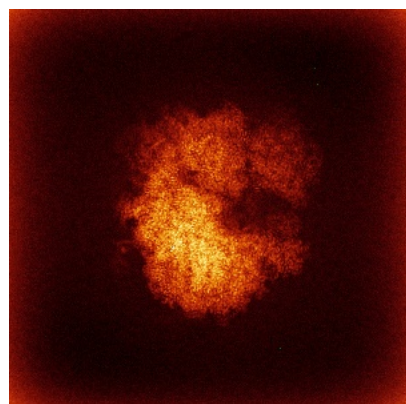


Y

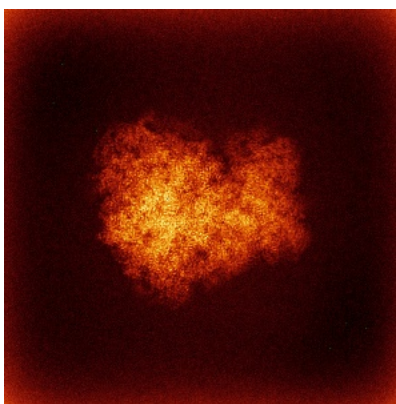


Z

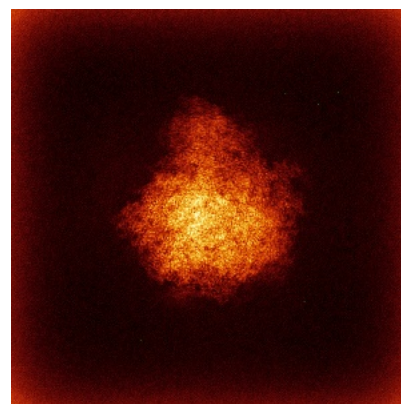
6.4.2 Raw map



X



Y



Z

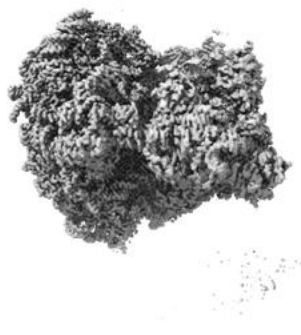
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

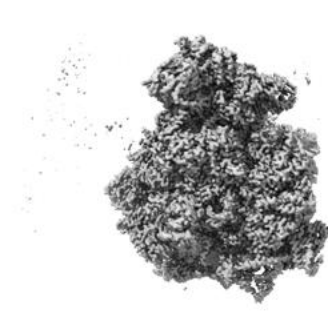
6.5.1 Primary map



X



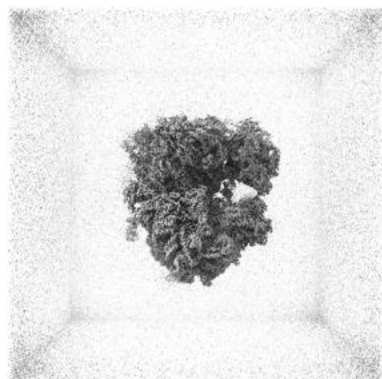
Y



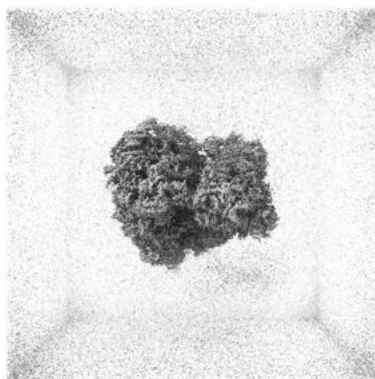
Z

The images above show the 3D surface view of the map at the recommended contour level 0.0392. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

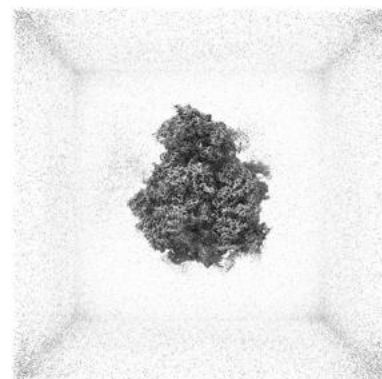
6.5.2 Raw map



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.

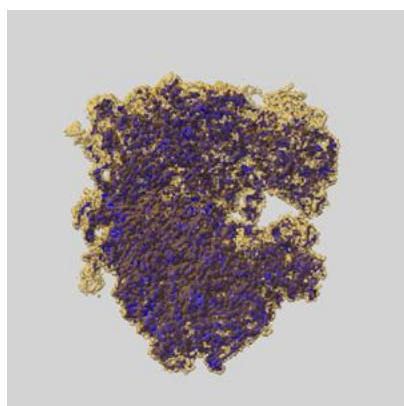
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

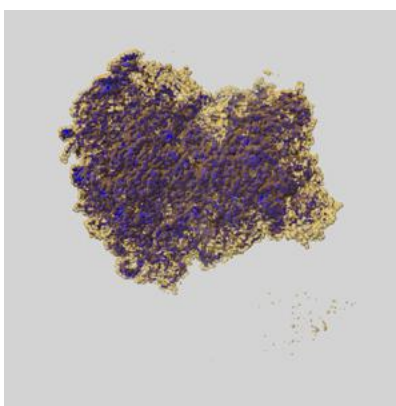
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

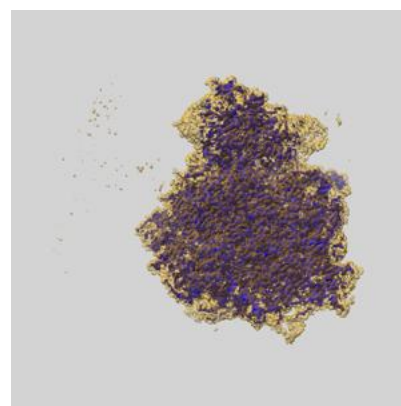
6.6.1 emd_53860_msk_1.map [i](#)



X



Y

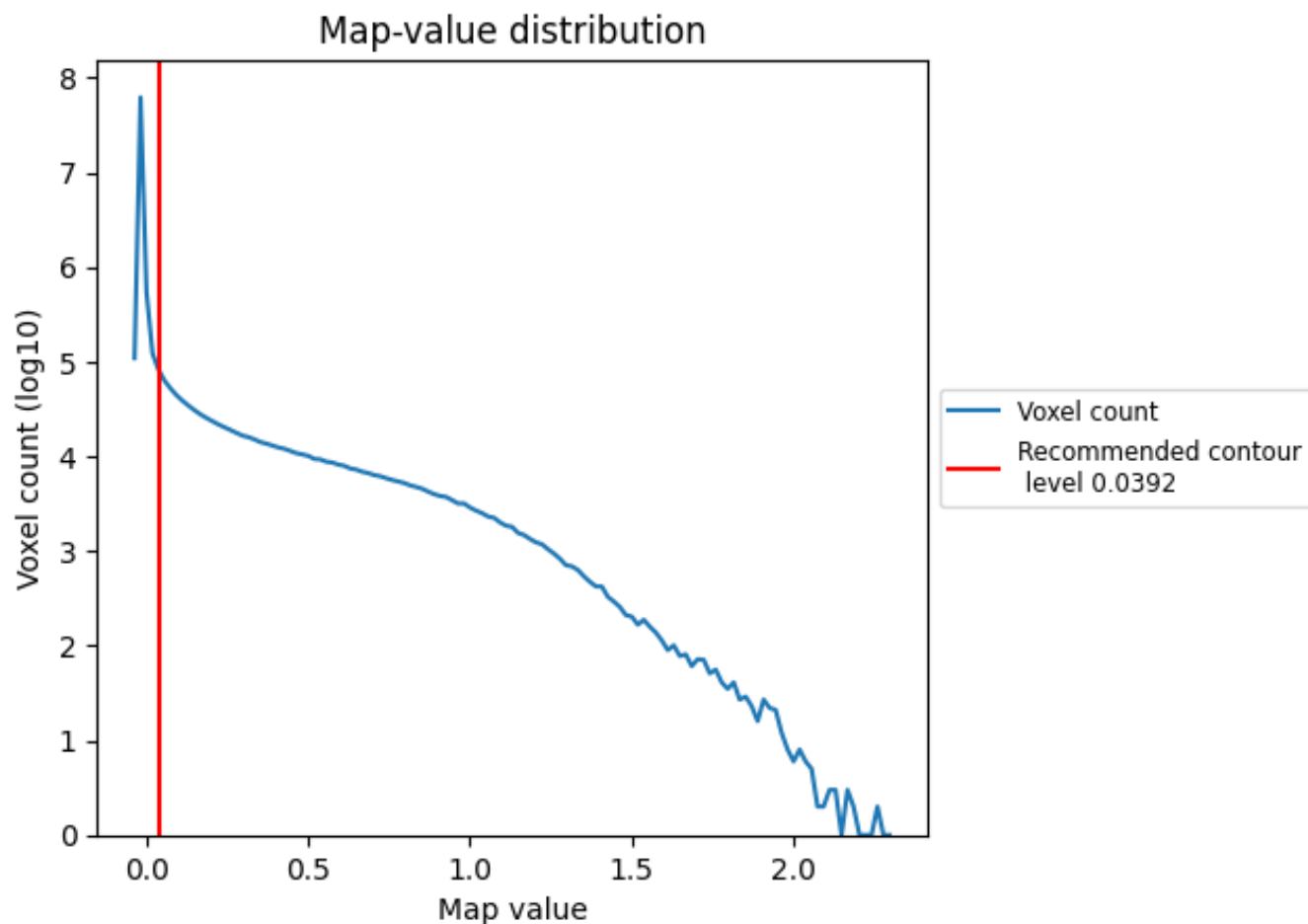


Z

7 Map analysis [i](#)

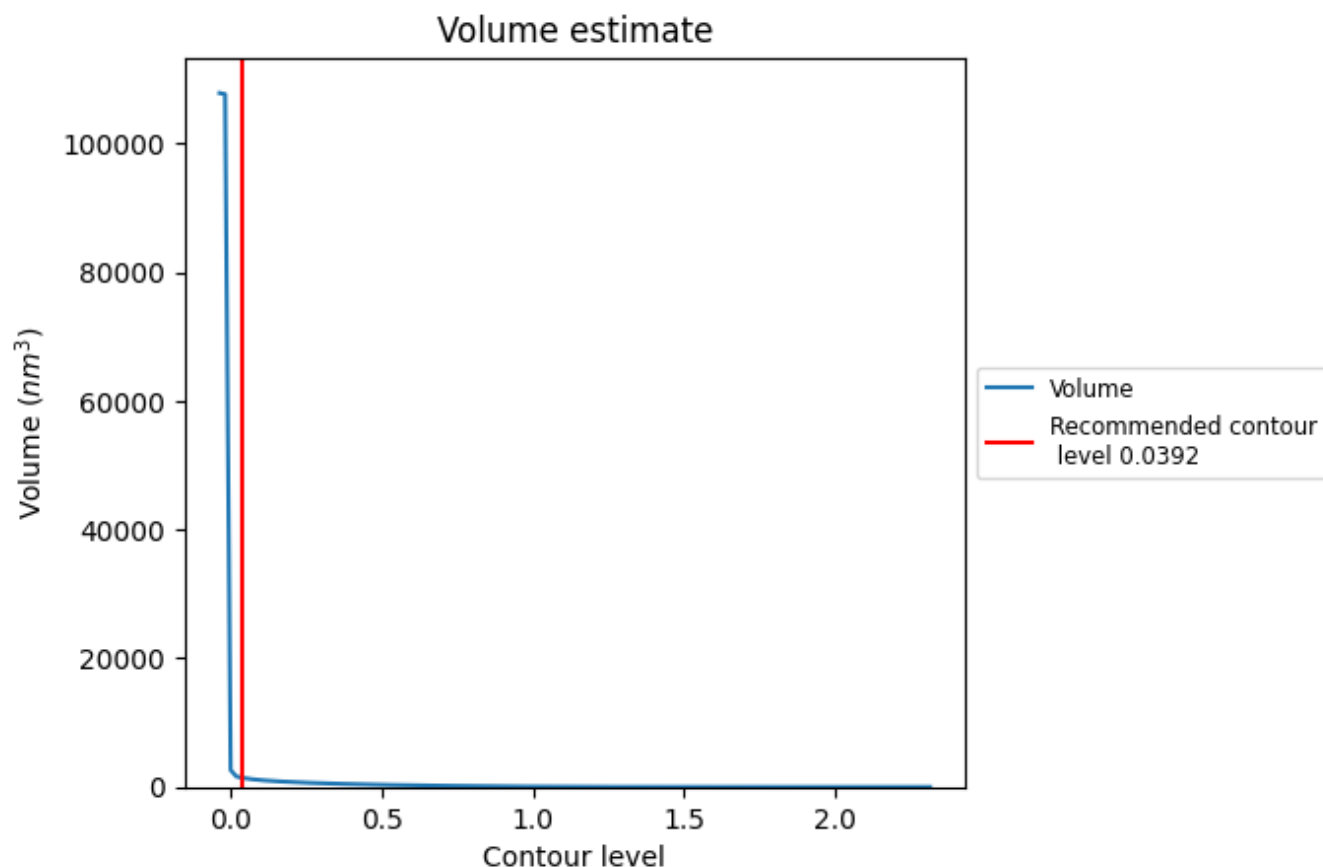
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

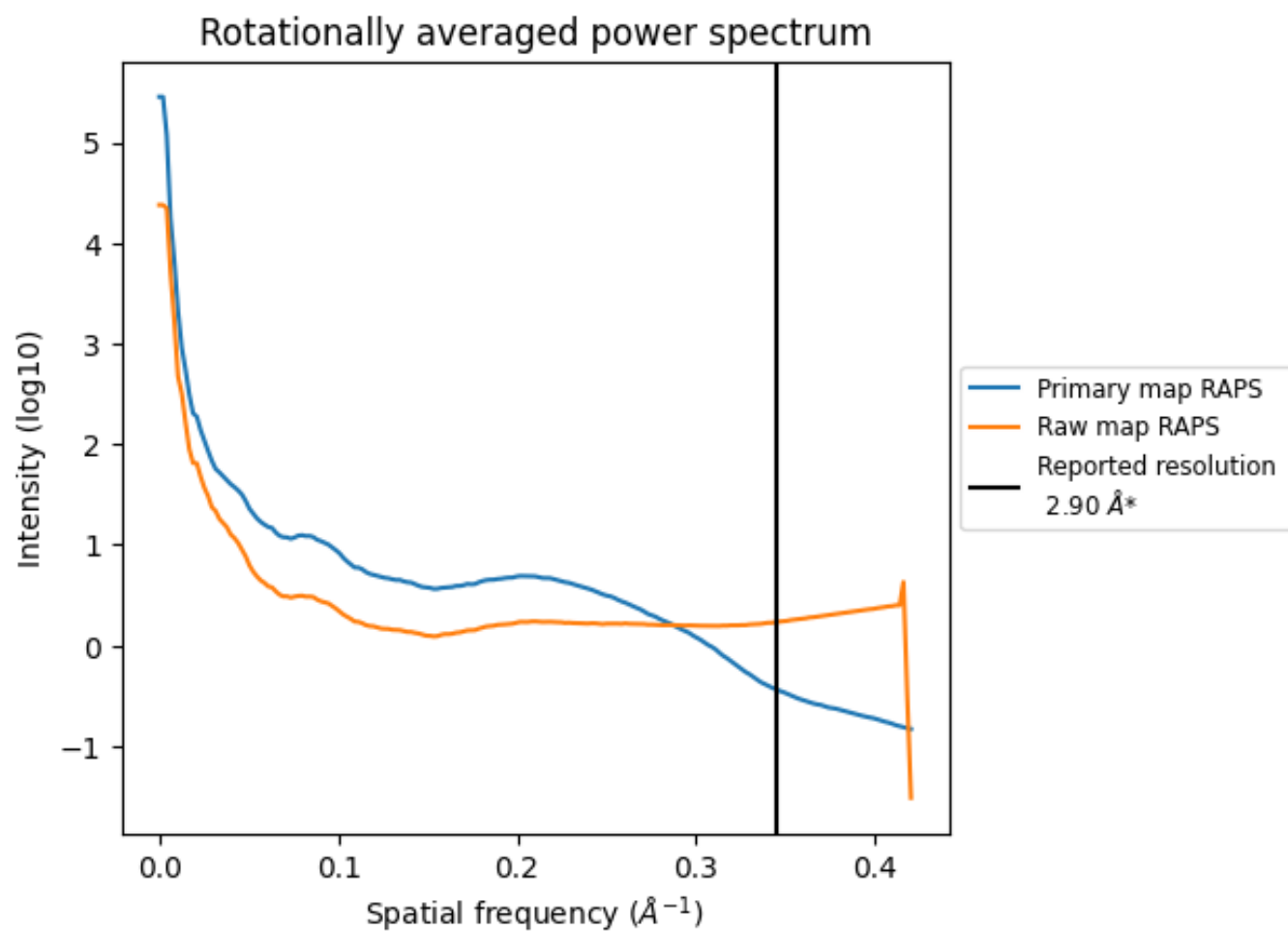
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1425 nm^3 ; this corresponds to an approximate mass of 1288 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

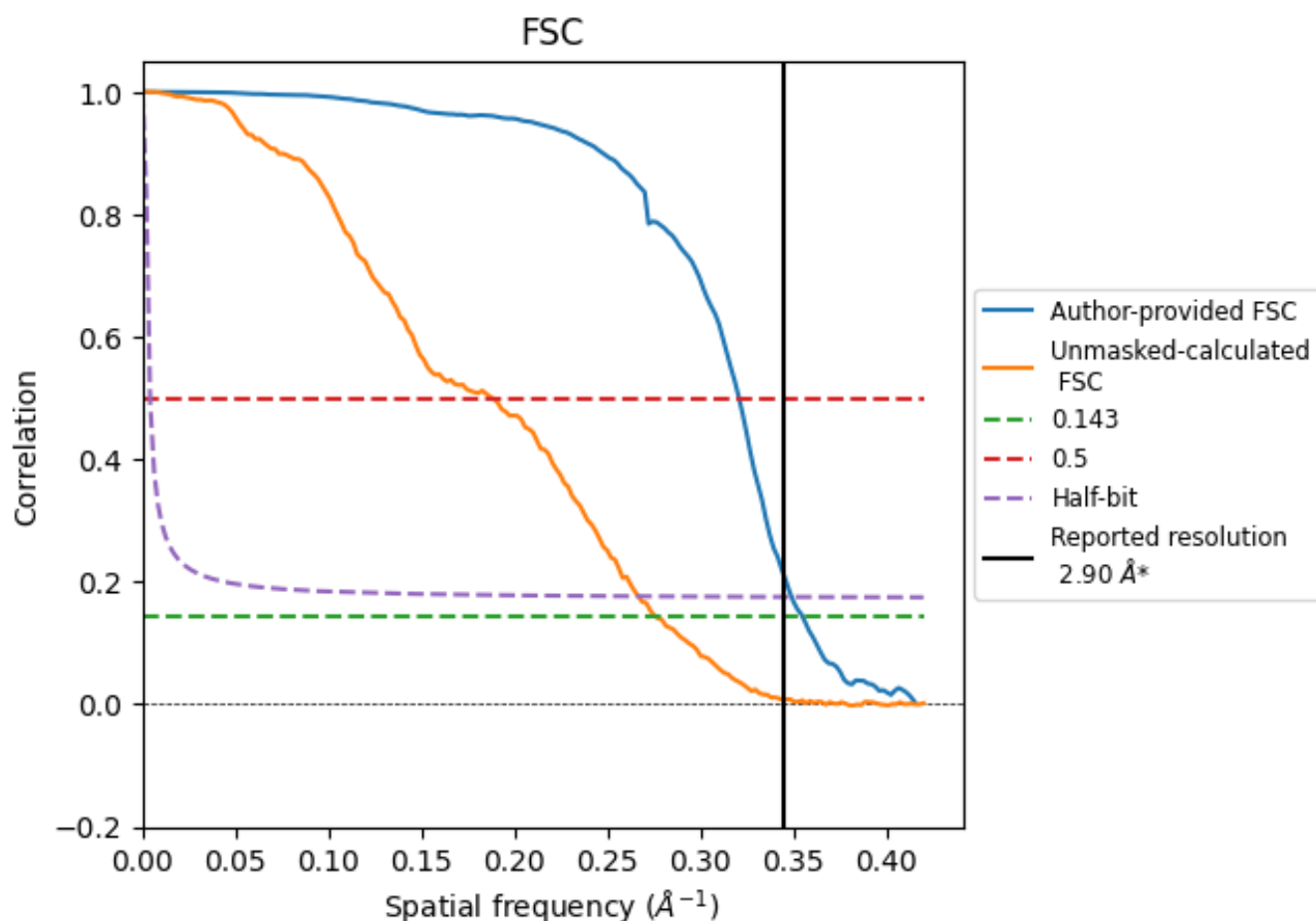


*Reported resolution corresponds to spatial frequency of 0.345 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.345 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

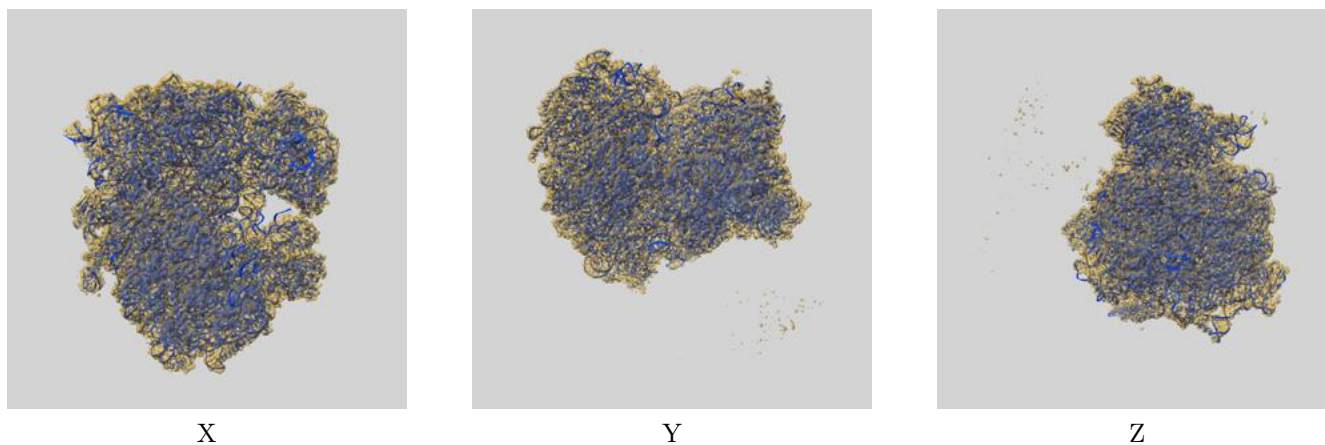
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.90	-	-
Author-provided FSC curve	2.82	3.12	2.86
Unmasked-calculated*	3.62	5.31	3.75

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.62 differs from the reported value 2.9 by more than 10 %

9 Map-model fit [i](#)

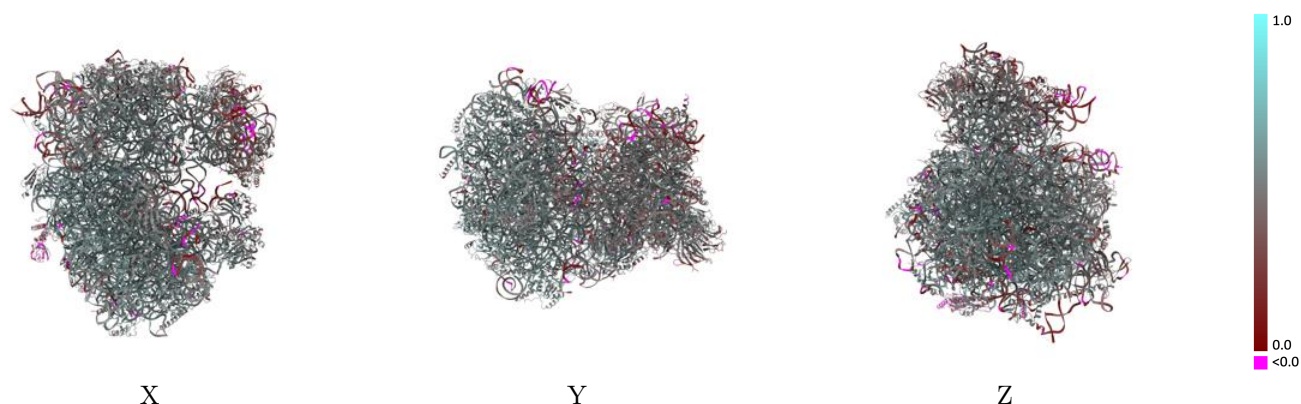
This section contains information regarding the fit between EMDB map EMD-53860 and PDB model 9R9O. Per-residue inclusion information can be found in section [3](#) on page [19](#).

9.1 Map-model overlay [i](#)



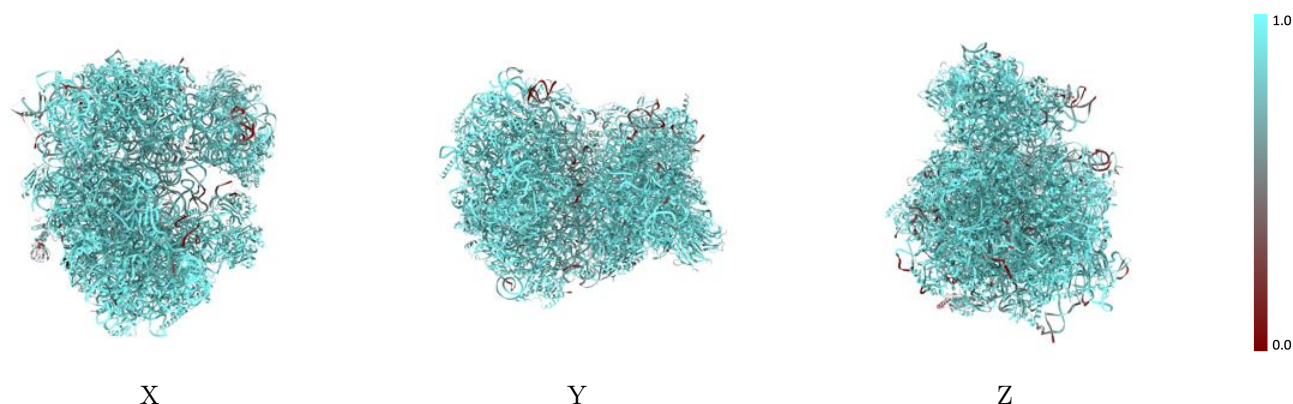
The images above show the 3D surface view of the map at the recommended contour level 0.0392 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



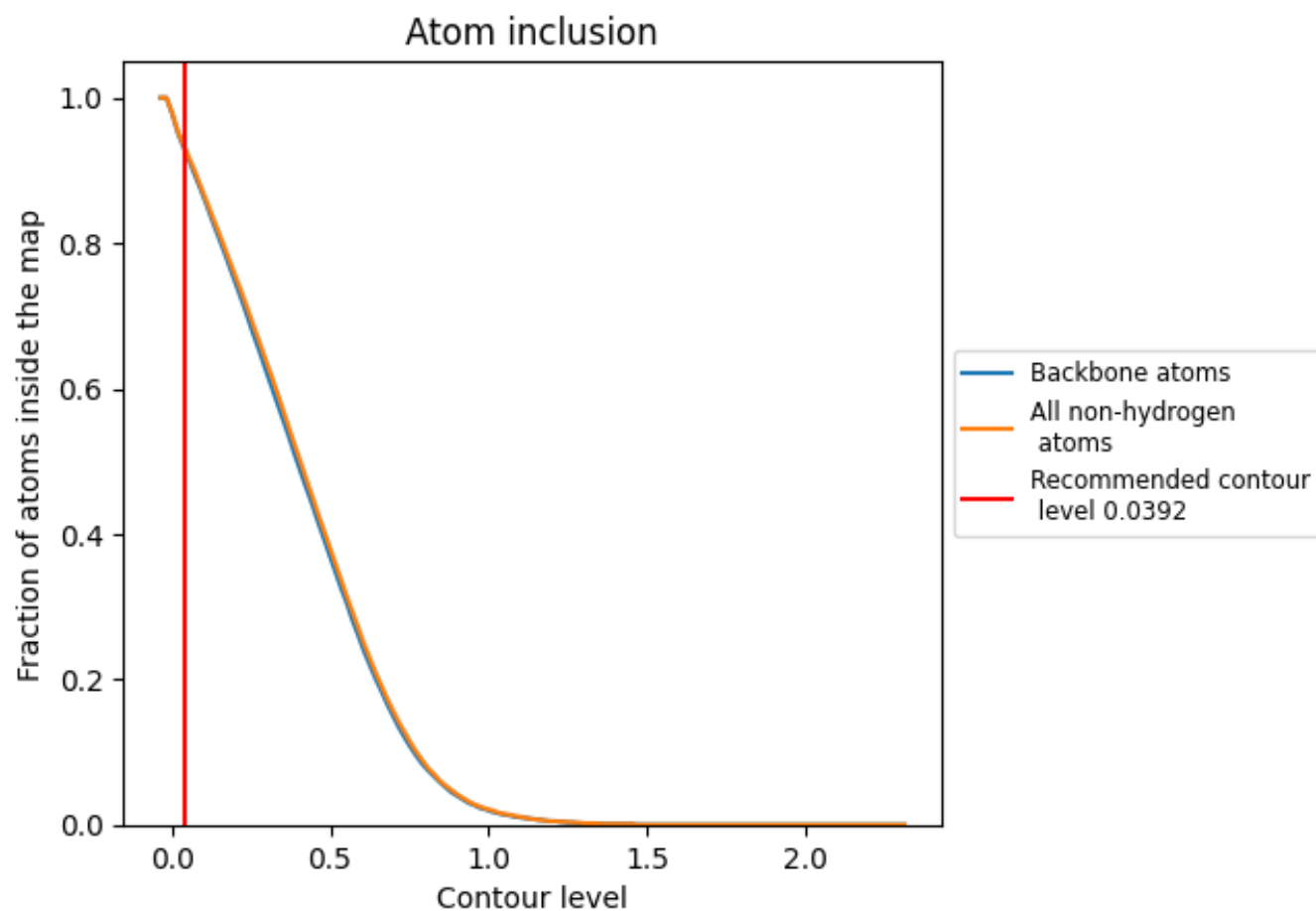
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0392).

9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 93% 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 (0.0392) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9330	 0.5010
5	 0.9410	 0.5090
6	 0.7910	 0.3300
A	 0.5320	 0.1640
B	 0.4670	 0.2320
C1	 0.9530	 0.5240
C2	 0.9230	 0.4650
C3	 0.9700	 0.5560
C4	 0.9810	 0.5240
LA	 0.9730	 0.5710
LB	 0.9710	 0.5570
LC	 0.9670	 0.5660
LD	 0.9000	 0.4740
LE	 0.9400	 0.5250
LF	 0.9660	 0.5480
LG	 0.9400	 0.5350
LH	 0.9000	 0.4540
LI	 0.9270	 0.4850
LJ	 0.9020	 0.4530
LL	 0.9460	 0.5490
LM	 0.9590	 0.5280
LN	 0.9830	 0.5890
LO	 0.9750	 0.5540
LP	 0.9290	 0.5370
LQ	 0.9690	 0.5610
LR	 0.9070	 0.5120
LS	 0.9510	 0.5180
LT	 0.9520	 0.5340
LU	 0.8980	 0.4820
LV	 0.9520	 0.5360
LW	 0.9620	 0.5430
LX	 0.9490	 0.5560
LY	 0.9560	 0.5720
LZ	 0.9180	 0.5260
La	 0.9690	 0.5640



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Chain	Atom inclusion	Q-score
Lb	 0.8610	 0.4770
Lc	 0.9750	 0.5470
Ld	 0.9400	 0.5470
Le	 0.9620	 0.5680
Lf	 0.9700	 0.5600
Lg	 0.9330	 0.5450
Lh	 0.9600	 0.5640
Li	 0.9420	 0.5180
Lj	 0.9720	 0.5740
Lk	 0.9050	 0.5030
Ll	 0.9710	 0.5700
Ln	 0.9330	 0.5190
Lo	 0.9140	 0.5170
Lp	 0.9280	 0.5230
SA	 0.9700	 0.5200
SB	 0.8890	 0.4870
SC	 0.9560	 0.5160
SD	 0.8770	 0.4120
SE	 0.9460	 0.5000
SF	 0.9090	 0.4540
SG	 0.8650	 0.4120
SH	 0.8550	 0.4230
SI	 0.9160	 0.5070
SJ	 0.9200	 0.4680
SK	 0.7870	 0.3100
SL	 0.9360	 0.5200
SN	 0.9350	 0.5180
SO	 0.9620	 0.5270
SP	 0.8530	 0.3650
SQ	 0.9380	 0.4700
SR	 0.9160	 0.4750
SS	 0.8580	 0.3950
ST	 0.8950	 0.4190
SU	 0.8710	 0.4000
SV	 0.9660	 0.5150
SW	 0.9770	 0.5420
SX	 0.9300	 0.5060
SY	 0.9010	 0.4470
SZ	 0.8780	 0.4170
Sa	 0.9580	 0.5290
Sb	 0.9350	 0.5070
Sc	 0.8820	 0.4480

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Chain	Atom inclusion	Q-score
Sd	 0.9410	 0.4770
Se	 0.7810	 0.3930
Sg	 0.8840	 0.4010