



Full wwPDB EM Validation Report ⓘ

Dec 31, 2024 – 09:07 PM EST

PDB ID : 8P2K
EMDB ID : EMD-17367
Title : Ternary complex of translating ribosome, NAC and METAP1
Authors : Jia, M.; Jaskolowski, M.; Scaiola, A.; Jomaa, A.; Ban, N.
Deposited on : 2023-05-16
Resolution : 2.90 Å(reported)
Based on initial models : 7O7Y, 2B3K, 7QWR

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.dev113
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.40

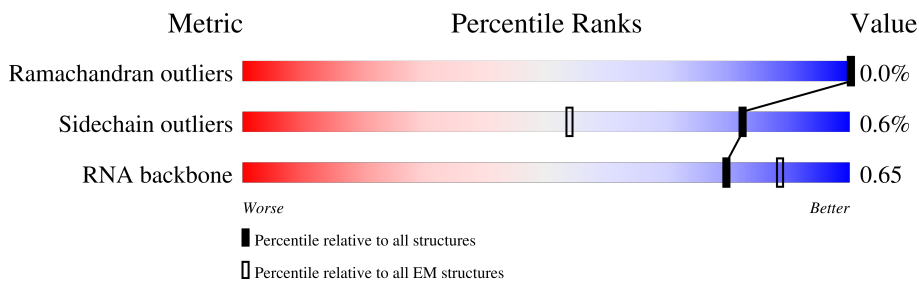
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	B5	4808	
2	B7	120	
3	B8	158	
4	BA	257	
5	BB	403	
6	BC	413	
7	BD	297	
8	BE	291	

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Mol	Chain	Length	Quality of chain
9	BF	247	91% 9%
10	BG	266	6% 86% 12%
11	BH	192	99%
12	BI	214	100%
13	BJ	178	96%
14	BK	65	9% 42% 55%
15	BL	211	99%
16	BM	218	63% 37%
17	BN	204	100%
18	BO	203	97%
19	BP	184	86% 14%
20	BQ	188	98%
21	BR	196	6% 92% 8%
22	BS	176	100%
23	BT	160	99%
24	BU	128	77% 23%
25	BV	140	99%
26	BW	157	24% 77% 23%
27	BX	156	76% 24%
28	BY	145	92% 8%
29	BZ	136	99%
30	Ba	148	98%
31	Bb	245	5% 44% 56%
32	Bc	115	10% 94% 6%
33	Bd	125	86% 14%

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Mol	Chain	Length	Quality of chain
34	Be	135	96%
35	Bf	110	100%
36	Bg	117	96%
37	Bh	123	99%
38	Bi	105	96%
39	Bj	97	89% 11%
40	Bk	70	99%
41	Bl	51	96%
42	Bm	128	41% 59%
43	Bo	106	98%
44	Bp	92	99%
45	Br	137	91% 8%
46	Bs	318	61% 61% 38%
47	Bt	165	94% 93% 5%
48	Bv	217	91% 96%
49	MA	386	37% 81% 18%
50	Na	215	25% 30% 69%
51	Nb	132	48% 78% 20%
52	A2	1870	7% 80% 15% 5%
53	AA	84	98%
54	AB	69	91% 9%
55	AC	156	46% 47% 53%
56	AD	133	6% 42% 57%
57	AE	115	87% 12%
58	AF	317	16% 98%

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Mol	Chain	Length	Quality of chain
59	AG	56	5% 98%
60	AI	76	96%
61	AT	76	5% 83% 17%
62	AZ	295	6% 74% 25%
63	Aa	264	84% 15%
64	Ab	293	74% 25%
65	Ac	281	6% 80% 20%
66	Ad	263	99%
67	Ae	204	94% 6%
68	Af	249	7% 95% 5%
69	Ag	432	14% 44% 56%
70	Ah	208	99%
71	Ai	194	95% 5%
72	Aj	165	5% 58% 42%
73	Ak	158	10% 97%
74	Al	132	94% 92% 6%
75	Am	151	99%
76	An	151	88% 10%
77	Ao	145	88% 12%
78	Ap	172	82% 18%
79	Aq	135	21% 99%
80	Ar	152	5% 96%
81	As	145	99%
82	At	119	19% 87% 13%
83	Au	83	98%

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Mol	Chain	Length	Quality of chain
84	Av	130	 98%
85	Aw	143	 97%
86	Ax	130	 95%
87	Ay	124	 10% 69% 31%
88	Az	25	 100%

2 Entry composition [i](#)

There are 97 unique types of molecules in this entry. The entry contains 231486 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	B5	3764	80772	36003	14762	26243	3764	0	0

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B7	119	2538	1131	451	837	119	0	0

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	B8	156	3319	1481	585	1097	156	0	0

- Molecule 4 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	BA	253	1940	1214	396	324	6	0	0

- Molecule 5 is a protein called Ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	BB	398	3206	2042	605	546	13	0	0

- Molecule 6 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	BC	362	2886	1814	577	481	14	0	0

- Molecule 7 is a protein called Ribosomal protein L5 eukaryotic C-terminal domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	BD	293	2391	1512	438	427	14	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BD	2	UNK	GLY	conflict	UNP G1SYJ6

- Molecule 8 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	BE	243	1960	1258	378	321	3	0	0

- Molecule 9 is a protein called Ribosomal Protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	BF	226	1886	1211	362	304	9	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BF	61	ARG	GLY	conflict	UNP G1TUB1
BF	93	ARG	GLY	conflict	UNP G1TUB1
BF	131	MET	VAL	conflict	UNP G1TUB1
BF	153	ILE	VAL	conflict	UNP G1TUB1

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	BG	233	1877	1197	361	315	4	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BG	184	LEU	ILE	conflict	UNP P62424

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	BH	190	1516	954	284	272	6	0	0

- Molecule 12 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	BI	213	1717	1086	332	285	14	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	BJ	170	1362	861	254	241	6	0	0

- Molecule 14 is a protein called Glucose-6-phosphate isomerase.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	BK	29	237	152	40	40	5	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BK	60	MET	VAL	conflict	UNP P06744
BK	61	MET	-	expression tag	UNP P06744
BK	62	MET	-	expression tag	UNP P06744
BK	63	MET	-	expression tag	UNP P06744
BK	64	MET	-	expression tag	UNP P06744
BK	65	VAL	-	expression tag	UNP P06744

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	BL	210	1702	1065	354	279	4	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BL	74	ARG	HIS	conflict	UNP G1TKB3
BL	190	ARG	HIS	conflict	UNP G1TKB3

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	BM	138	1137	727	221	182	7	0	0

- Molecule 17 is a protein called Ribosomal protein L15.

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

- Molecule 18 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	BO	199	1630	1051	319	255	5	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BO	174	LEU	ILE	conflict	UNP A0A0N8ETI8
BO	194	ASP	GLU	conflict	UNP A0A0N8ETI8

- Molecule 19 is a protein called uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	BP	159	1289	809	249	222	9	0	0

- Molecule 20 is a protein called eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	BQ	187	1515	946	315	250	4	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BQ	134	ARG	CYS	conflict	UNP F6QKI9

- Molecule 21 is a protein called Ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	BR	180	1508	933	328	238	9	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BR	38	ARG	HIS	conflict	UNP G1TYL6
BR	151	ARG	HIS	conflict	UNP G1TYL6

- Molecule 22 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	BS	176	1457	924	288	234	11	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BS	36	ASN	ILE	conflict	UNP A0A1Z5LHJ5

- Molecule 23 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	BT	159	1298	823	252	217	6	0	0

- Molecule 24 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	BU	99	806	516	141	147	2	0	0

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BU	32	GLY	ARG	conflict	UNP G1TSG1
BU	36	ALA	GLU	conflict	UNP G1TSG1

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Chain	Residue	Modelled	Actual	Comment	Reference
BU	39	PHE	SER	conflict	UNP G1TSG1
BU	54	GLY	ARG	conflict	UNP G1TSG1
BU	97	ARG	HIS	conflict	UNP G1TSG1

- Molecule 25 is a protein called Ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	BV	139	1034	648	199	182	5	0	0

- Molecule 26 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	BW	121	991	619	202	166	4	0	0

- Molecule 27 is a protein called Ribosomal_L23eN domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	BX	118	967	618	181	167	1	0	0

- Molecule 28 is a protein called Ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	BY	134	1115	700	226	186	3	0	0

- Molecule 29 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	BZ	135	1107	714	208	182	3	0	0

- Molecule 30 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	Ba	147	1163	734	239	186	4	0	0

- Molecule 31 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Bb	108	Total	C	N	O	S	0	0
			881	548	196	134	3		

- Molecule 32 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Bc	108	Total	C	N	O	S	0	0
			836	530	148	151	7		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Bd	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

- Molecule 34 is a protein called Ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Be	130	Total	C	N	O	S	0	0
			1070	676	221	168	5		

- Molecule 35 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Bf	110	Total	C	N	O	S	0	0
			884	560	175	144	5		

- Molecule 36 is a protein called 60S ribosomal protein L34.

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

- Molecule 37 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Bh	122	Total	C	N	O	S	0	0
			1013	640	204	168	1		

- Molecule 38 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	Bi	102	830	520	176	129	5	0	0

- Molecule 39 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	Bj	86	705	434	155	111	5	0	0

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

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Bk	24	LYS	ASN	conflict	UNP G1U001

- Molecule 41 is a protein called 60S ribosomal protein L39-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	Bl	50	447	286	96	64	1	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	Bm	52	432	269	90	67	6	0	0

- Molecule 43 is a protein called eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	Bo	105	863	543	175	139	6	0	0

- Molecule 44 is a protein called 60S ribosomal protein L37a.

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

- Molecule 45 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	Br	126	1014	629	209	170	6	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Br	103	ARG	HIS	conflict	UNP G1U7L1

- Molecule 46 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	Bs	196	1507	959	263	276	9	0	0

- Molecule 47 is a protein called 60S ribosomal protein L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
47	Bt	156	1178	733	221	220	4	0	0

- Molecule 48 is a protein called Ribosomal protein uL1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
48	Bv	212	1707	1092	308	299	8	0	0

- Molecule 49 is a protein called Methionine aminopeptidase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	MA	315	2485	1562	444	461	18	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
MA	220	ASN	ASP	conflict	UNP P53582

- Molecule 50 is a protein called Nascent polypeptide-associated complex subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	Na	67	531	335	97	98	1	0	0

- Molecule 51 is a protein called Transcription factor BTF3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	Nb	106	821	514	153	151	3	0	0

- Molecule 52 is a RNA chain called 18s rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
52	A2	1770	37833	16911	6781	12371	1770	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A2	1249	B8N	C	conflict	GB GBCT01000564.1
A2	1338	4AC	C	conflict	GB GBCT01000564.1
A2	1843	4AC	C	conflict	GB GBCT01000564.1

- Molecule 53 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	AA	83	651	408	121	115	7	0	0

- Molecule 54 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	AB	63	495	302	98	93	2	0	0

- Molecule 55 is a protein called Ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
55	AC	74	610	385	117	101	7	0	0

- Molecule 56 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	AD	57	Total	C	N	O	S	0	0
			457	282	101	73	1		

- Molecule 57 is a protein called eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	AE	101	Total	C	N	O	S	0	0
			814	507	170	132	5		

- Molecule 58 is a protein called RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	AF	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 59 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	AG	55	Total	C	N	O	S	0	0
			459	286	94	74	5		

- Molecule 60 is a RNA chain called E-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	AI	3	Total	C	N	O	P	0	0
			62	28	11	20	3		

- Molecule 61 is a RNA chain called P-site Val-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	AT	76	Total	C	N	O	P	0	0
			1621	724	290	531	76		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
62	AZ	221	Total	C	N	O	S	0	0
			1743	1107	305	323	8		

- Molecule 63 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
63	Aa	224	1815	1152	328	321	14	0	0

- Molecule 64 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
64	Ab	220	1706	1105	292	300	9	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ab	33	ILE	VAL	conflict	UNP O18789
Ab	101	ALA	SER	conflict	UNP O18789

- Molecule 65 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
65	Ac	225	1751	1116	315	313	7	0	0

- Molecule 66 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
66	Ad	262	2076	1324	386	358	8	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ad	25	GLY	SER	conflict	UNP G1TK17
Ad	51	ARG	LYS	conflict	UNP G1TK17
Ad	78	THR	ALA	conflict	UNP G1TK17
Ad	156	VAL	MET	conflict	UNP G1TK17

- Molecule 67 is a protein called Ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
67	Ae	191	1509	943	286	273	7	0	0

- Molecule 68 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Af	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 69 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Ag	190	Total	C	N	O	S	0	0
			1529	975	281	272	1		

- Molecule 70 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Ah	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ah	47	ARG	GLY	conflict	UNP G1TJW1

- Molecule 71 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Ai	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 72 is a protein called S10_ plectin domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Aj	96	Total	C	N	O	S	0	0
			810	530	143	131	6		

- Molecule 73 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Ak	154	Total	C	N	O	S	0	0
			1262	804	236	216	6		

- Molecule 74 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Al	124	Total	C	N	O	S	0	0
			958	600	170	179	9		

- Molecule 75 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Am	150	Total	C	N	O	S	0	0
			1208	773	229	205	1		

- Molecule 76 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	An	136	Total	C	N	O	S	0	0
			1017	622	199	190	6		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
An	138	5F0	ASP	conflict	UNP G1U472

- Molecule 77 is a protein called 40S ribosomal protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Ao	128	Total	C	N	O	S	0	0
			1048	665	197	179	7		

- Molecule 78 is a protein called uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Ap	141	Total	C	N	O	S	0	0
			1124	715	212	194	3		

- Molecule 79 is a protein called 40S ribosomal protein eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Aq	134	Total	C	N	O	S	0	0
			1080	678	201	197	4		

- Molecule 80 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
80	Ar	148	1217	763	245	208	1	0	0

- Molecule 81 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
81	As	143	1113	698	214	198	3	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
As	119	GLY	TRP	conflict	UNP G1TN62
As	142	ASN	LYS	conflict	UNP G1TN62

- Molecule 82 is a protein called 40S ribosomal protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
82	At	104	821	514	155	148	4	0	0

- Molecule 83 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
83	Au	83	640	394	117	124	5	0	0

- Molecule 84 is a protein called Ribosomal protein S15a.

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

- Molecule 85 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
85	Aw	141	1099	693	219	184	3	0	0

- Molecule 86 is a protein called 40S ribosomal protein S24.

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

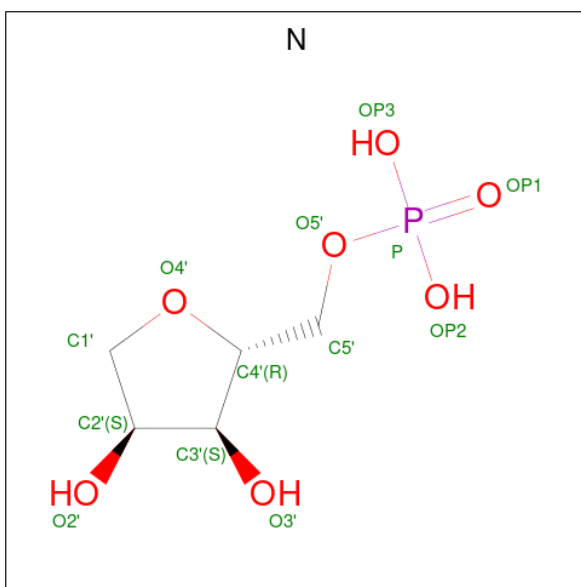
- Molecule 87 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
87	Ay	85	683	439	128	115	1	0	0

- Molecule 88 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
88	Az	25	239	145	64	27	3	0	0

- Molecule 89 is ANY 5'-MONOPHOSPHATE NUCLEOTIDE (three-letter code: N) (formula: C₅H₁₁O₇P).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0

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Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	B5	1	12	5	6	1	0
89	Bo	1	13	5	7	1	0
89	Bo	1	12	5	6	1	0
89	Bo	1	12	5	6	1	0
89	Bo	1	12	5	6	1	0
89	Bo	1	12	5	6	1	0

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Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
89	Bo	1	12	5	6	1	0
89	Bo	1	12	5	6	1	0
89	Bo	1	12	5	6	1	0
89	Bo	1	12	5	6	1	0
89	Bo	1	12	5	6	1	0
89	Bo	1	12	5	6	1	0
89	Bv	1	12	5	6	1	0
89	Bv	1	12	5	6	1	0
89	Bv	1	12	5	6	1	0
89	Bv	1	12	5	6	1	0
89	Bv	1	12	5	6	1	0
89	Bv	1	12	5	6	1	0
89	Bv	1	12	5	6	1	0
89	Bv	1	12	5	6	1	0
89	A2	1	12	5	6	1	0
89	A2	1	12	5	6	1	0
89	A2	1	12	5	6	1	0
89	AI	1	12	5	6	1	0
89	AT	1	12	5	6	1	0
89	AT	1	12	5	6	1	0
89	AT	1	12	5	6	1	0
89	AT	1	12	5	6	1	0

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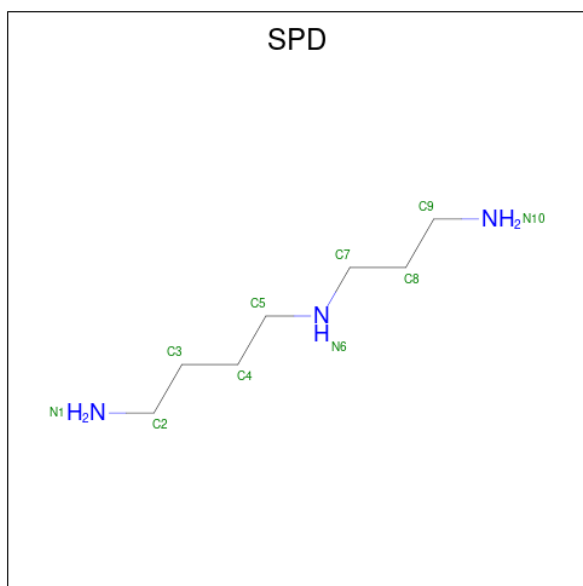
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
89	AT	1	12	5	6	1	0
89	AT	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Aa	1	12	5	6	1	0
89	Ae	1	12	5	6	1	0
89	Ae	1	12	5	6	1	0
89	Ae	1	12	5	6	1	0
89	Ae	1	12	5	6	1	0
89	Ae	1	12	5	6	1	0
89	Ae	1	12	5	6	1	0
89	Ae	1	12	5	6	1	0
89	Ae	1	12	5	6	1	0
89	Ae	1	12	5	6	1	0

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Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
89	Ae	1	Total 12	C 5	O 6	P 1	0
89	Ay	1	Total 12	C 5	O 6	P 1	0
89	Ay	1	Total 12	C 5	O 6	P 1	0
89	Ay	1	Total 12	C 5	O 6	P 1	0
89	Ay	1	Total 12	C 5	O 6	P 1	0
89	Ay	1	Total 12	C 5	O 6	P 1	0

- Molecule 90 is SPERMIDINE (three-letter code: SPD) (formula: $C_7H_{19}N_3$).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	N	
90	B5	1	Total 10	C 7	N 3	0
90	B5	1	Total 10	C 7	N 3	0
90	B5	1	Total 10	C 7	N 3	0
90	B5	1	Total 10	C 7	N 3	0
90	B5	1	Total 10	C 7	N 3	0

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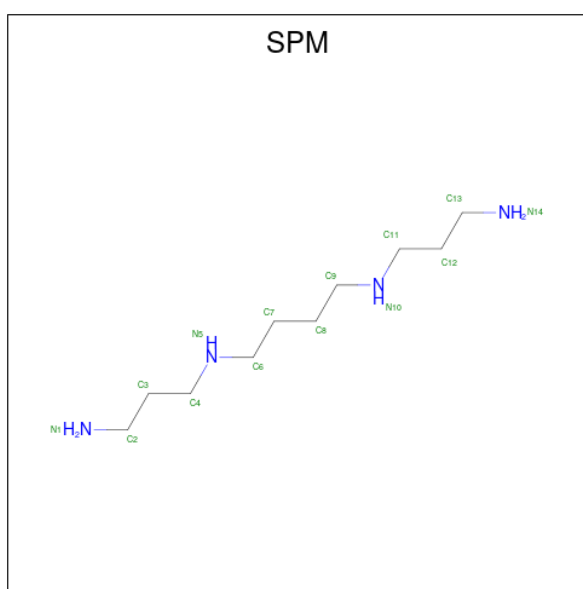
Mol	Chain	Residues	Atoms			AltConf
			Total	C	N	
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	B5	1	10	7	3	0
90	A2	1	10	7	3	0
90	A2	1	10	7	3	0
90	A2	1	10	7	3	0
90	A2	1	10	7	3	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	N	
90	A2	1	10	7	3	0
90	A2	1	10	7	3	0
90	A2	1	10	7	3	0
90	A2	1	10	7	3	0

- Molecule 91 is SPERMINE (three-letter code: SPM) (formula: $C_{10}H_{26}N_4$).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	N	
91	B5	1	14	10	4	0
91	B5	1	14	10	4	0
91	A2	1	14	10	4	0

- Molecule 92 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
92	B5	282	282	282	0
92	B7	9	9	9	0

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Mol	Chain	Residues	Atoms		AltConf
92	B8	9	Total 9	Mg 9	0
92	BI	1	Total 1	Mg 1	0
92	BP	1	Total 1	Mg 1	0
92	BR	1	Total 1	Mg 1	0
92	BV	1	Total 1	Mg 1	0
92	Ba	1	Total 1	Mg 1	0
92	Bj	1	Total 1	Mg 1	0
92	Na	1	Total 1	Mg 1	0
92	A2	108	Total 108	Mg 108	0
92	AT	3	Total 3	Mg 3	0
92	Af	1	Total 1	Mg 1	0
92	An	1	Total 1	Mg 1	0

- Molecule 93 is UNKNOWN ATOM OR ION (three-letter code: UNX) (formula: X).

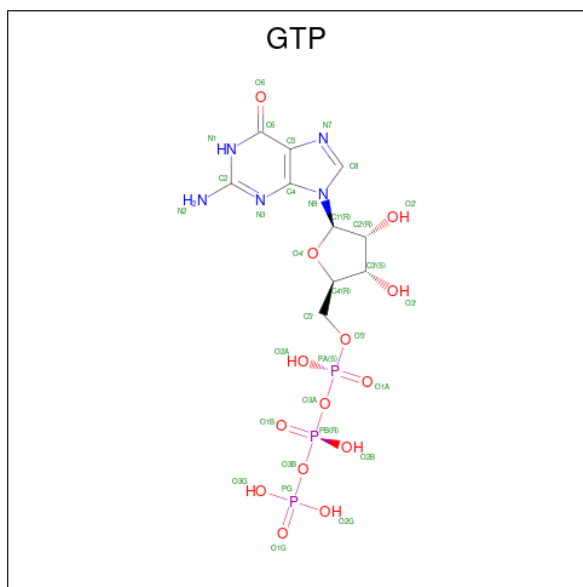
Mol	Chain	Residues	Atoms		AltConf
93	B5	214	Total 214	X 214	0
93	B7	6	Total 6	X 6	0
93	B8	6	Total 6	X 6	0
93	BA	3	Total 3	X 3	0
93	BB	2	Total 2	X 2	0
93	BH	1	Total 1	X 1	0
93	BI	1	Total 1	X 1	0

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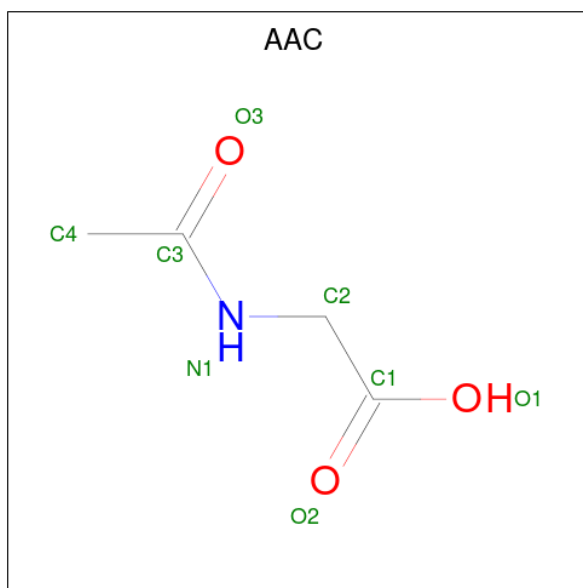
Mol	Chain	Residues	Atoms		AltConf
93	BL	1	Total 1	X 1	0
93	BN	1	Total 1	X 1	0
93	BP	1	Total 1	X 1	0
93	BQ	2	Total 2	X 2	0
93	BT	1	Total 1	X 1	0
93	Bb	2	Total 2	X 2	0
93	Be	3	Total 3	X 3	0
93	Bf	1	Total 1	X 1	0
93	Bl	2	Total 2	X 2	0
93	Bo	1	Total 1	X 1	0
93	A2	56	Total 56	X 56	0
93	AE	1	Total 1	X 1	0
93	AT	2	Total 2	X 2	0
93	Ae	1	Total 1	X 1	0
93	Ak	1	Total 1	X 1	0
93	An	1	Total 1	X 1	0
93	Ar	1	Total 1	X 1	0
93	Az	1	Total 1	X 1	0

- Molecule 94 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
94	B7	1	32	10	5	14	3	0

- Molecule 95 is ACETYLAMINO-ACETIC ACID (three-letter code: AAC) (formula: $C_4H_7NO_3$).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
95	BD	1	7	4	1	2	0

- Molecule 96 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
96	Bg	1	Total 1	Zn 1	0
96	Bj	1	Total 1	Zn 1	0
96	Bm	1	Total 1	Zn 1	0
96	Bo	1	Total 1	Zn 1	0
96	Bp	1	Total 1	Zn 1	0
96	AC	1	Total 1	Zn 1	0
96	AE	1	Total 1	Zn 1	0
96	AG	1	Total 1	Zn 1	0

- Molecule 97 is water.

Mol	Chain	Residues	Atoms		AltConf
97	B5	1388	Total 1388	O 1388	0
97	B7	44	Total 44	O 44	0
97	B8	49	Total 49	O 49	0
97	BA	9	Total 9	O 9	0
97	BB	6	Total 6	O 6	0
97	BC	7	Total 7	O 7	0
97	BD	1	Total 1	O 1	0
97	BF	1	Total 1	O 1	0
97	BH	2	Total 2	O 2	0
97	BI	1	Total 1	O 1	0
97	BL	3	Total 3	O 3	0
97	BN	5	Total 5	O 5	0

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Mol	Chain	Residues	Atoms		AltConf
97	BP	2	Total 2	O 2	0
97	BR	5	Total 5	O 5	0
97	BT	1	Total 1	O 1	0
97	BV	3	Total 3	O 3	0
97	BX	1	Total 1	O 1	0
97	Ba	7	Total 7	O 7	0
97	Bb	1	Total 1	O 1	0
97	Bd	1	Total 1	O 1	0
97	Be	5	Total 5	O 5	0
97	Bg	2	Total 2	O 2	0
97	Bj	2	Total 2	O 2	0
97	Bl	1	Total 1	O 1	0
97	Bo	1	Total 1	O 1	0
97	Na	3	Total 3	O 3	0
97	A2	530	Total 530	O 530	0
97	AI	1	Total 1	O 1	0
97	AT	13	Total 13	O 13	0
97	Aa	2	Total 2	O 2	0
97	Ad	1	Total 1	O 1	0
97	Af	1	Total 1	O 1	0
97	Ak	2	Total 2	O 2	0

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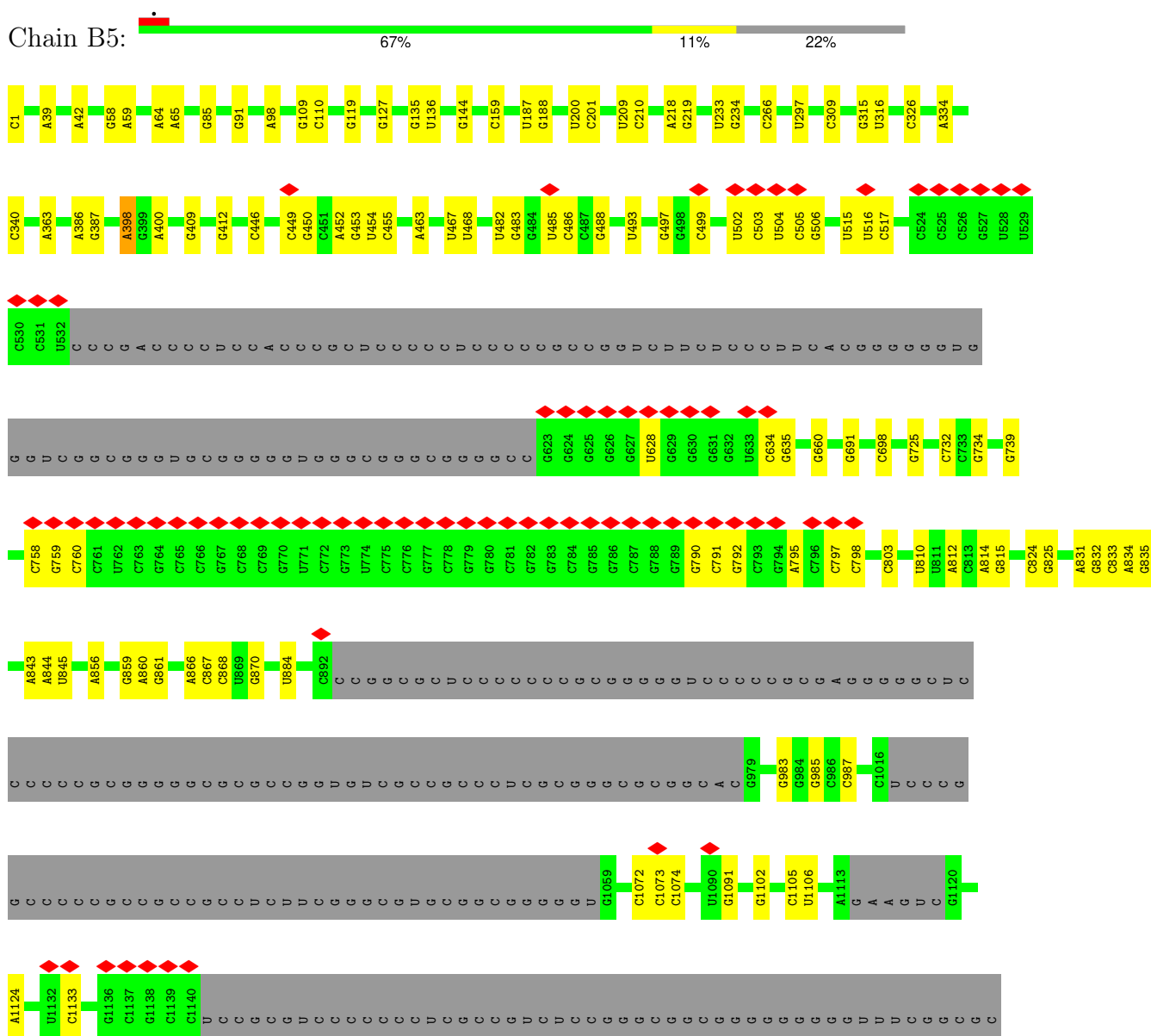
Mol	Chain	Residues	Atoms		AltConf
97	Am	1	Total 1	O 1	0
97	An	3	Total 3	O 3	0
97	Ap	2	Total 2	O 2	0
97	Ar	2	Total 2	O 2	0
97	As	2	Total 2	O 2	0
97	At	1	Total 1	O 1	0
97	Aw	5	Total 5	O 5	0

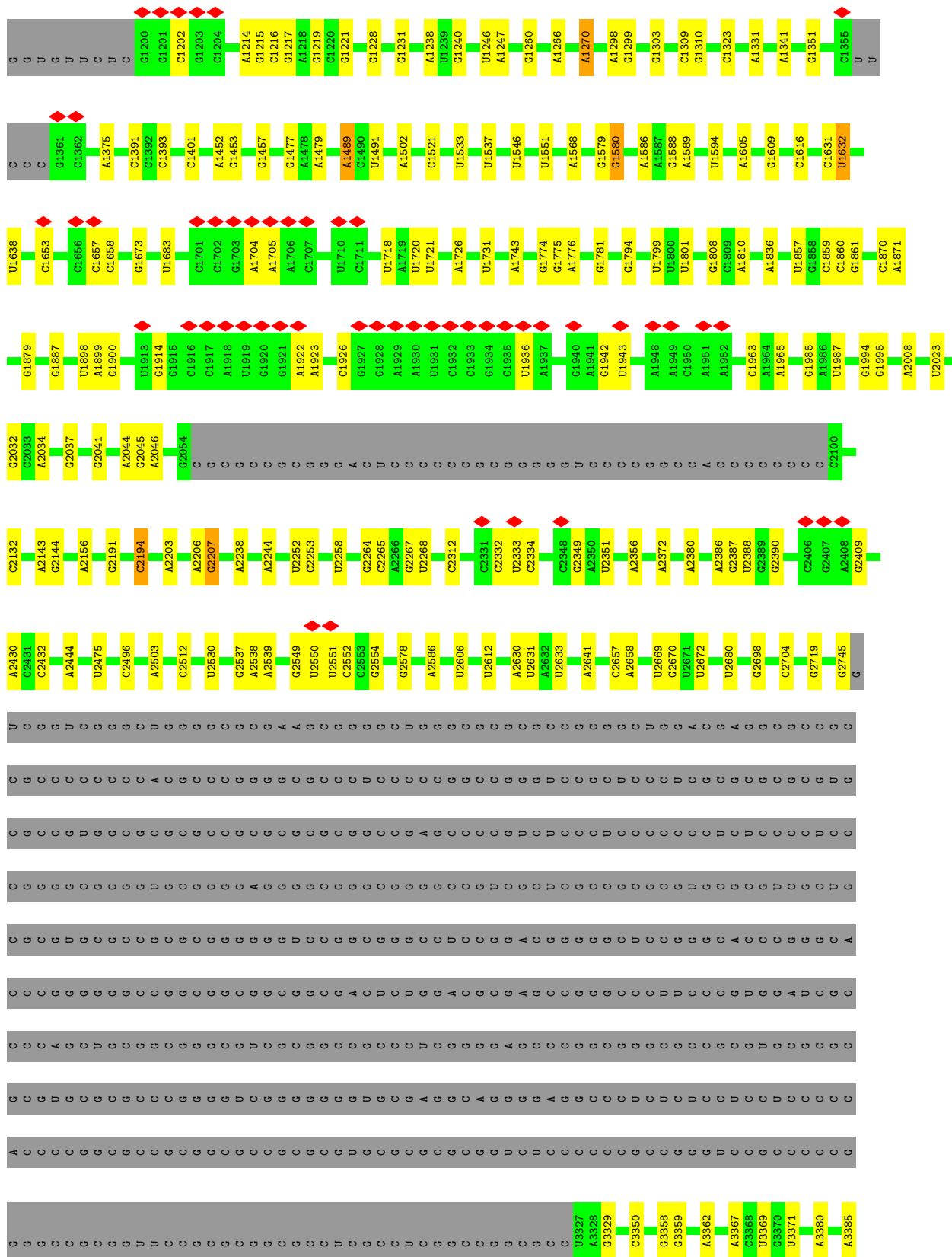
3 Residue-property plots [i](#)

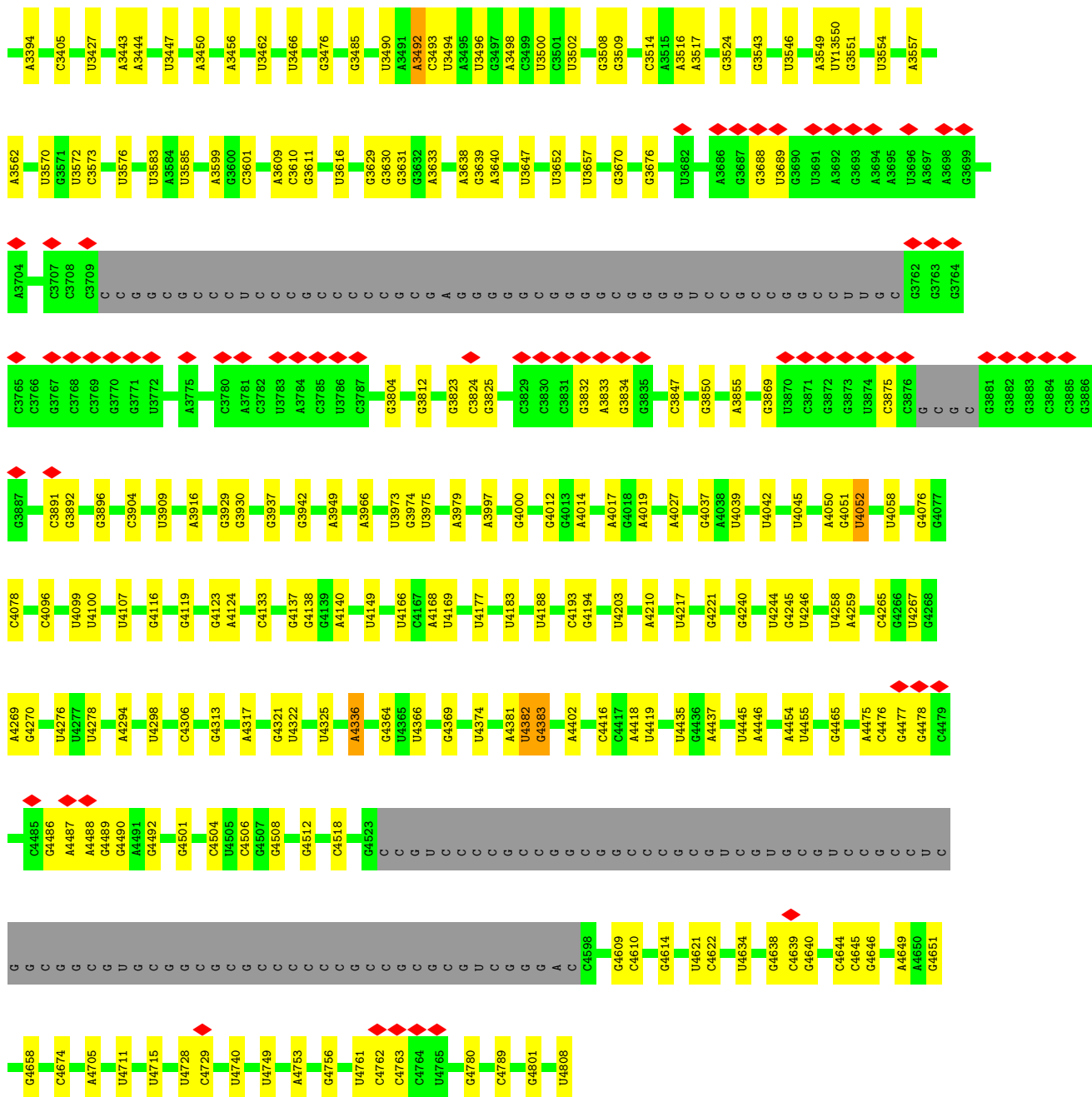
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: 28S rRNA

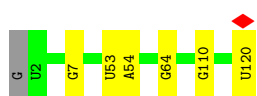
Chain B5:





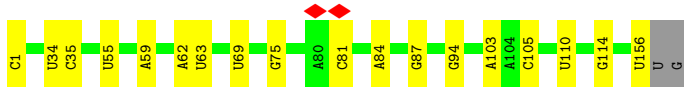


• Molecule 2: 5S rRNA

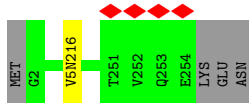


• Molecule 3: 5.8S rRNA

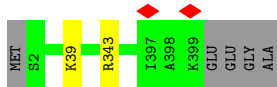




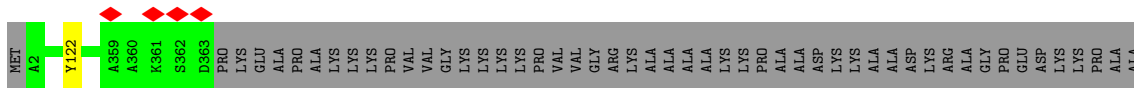
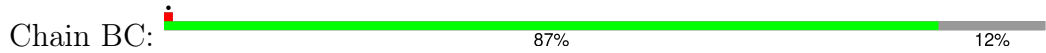
- Molecule 4: 60S ribosomal protein L8



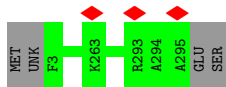
- Molecule 5: Ribosomal protein L3



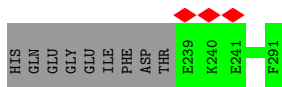
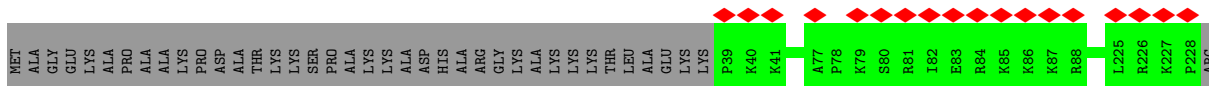
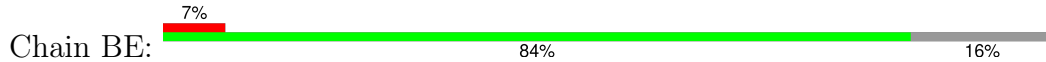
- Molecule 6: 60S ribosomal protein L4



- Molecule 7: Ribosomal protein L5 eukaryotic C-terminal domain-containing protein

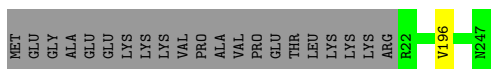


- Molecule 8: 60S ribosomal protein L6

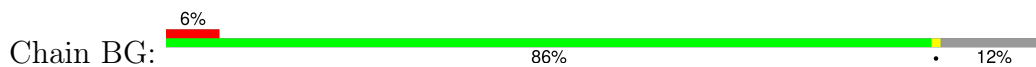


- Molecule 9: Ribosomal Protein uL30

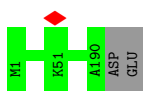




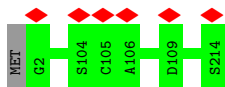
- Molecule 10: 60S ribosomal protein L7a



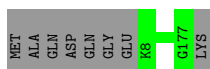
- Molecule 11: 60S ribosomal protein L9



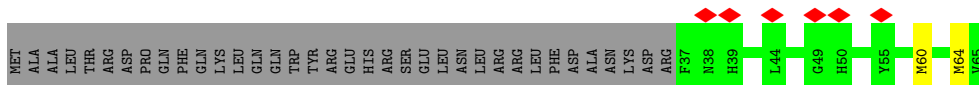
- Molecule 12: 60S ribosomal protein L10



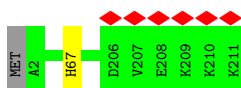
- Molecule 13: 60S ribosomal protein L11



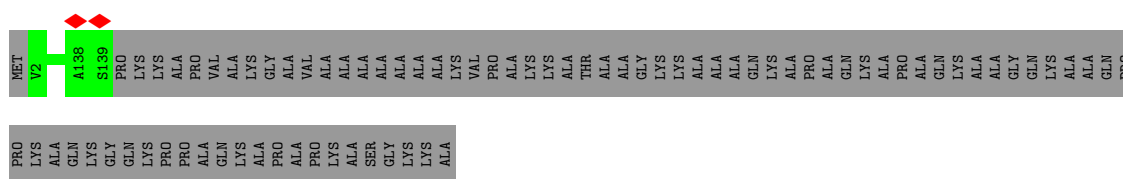
- Molecule 14: Glucose-6-phosphate isomerase



- Molecule 15: 60S ribosomal protein L13



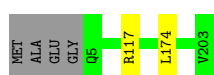
- Molecule 16: 60S ribosomal protein L14



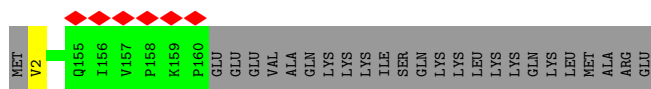
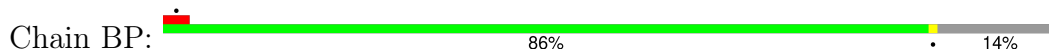
- Molecule 17: Ribosomal protein L15



- Molecule 18: 60S ribosomal protein L13a



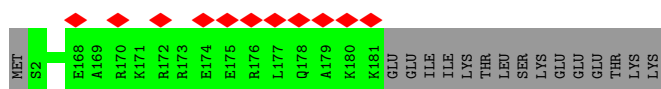
- Molecule 19: uL22



- Molecule 20: eL18



- Molecule 21: Ribosomal protein L19

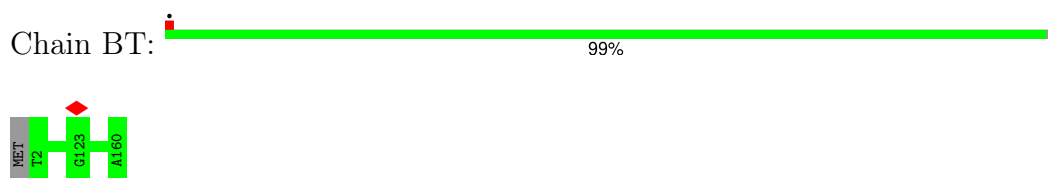


- Molecule 22: 60S ribosomal protein L18a

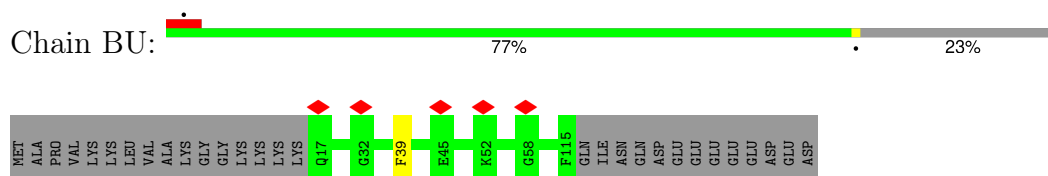


There are no outlier residues recorded for this chain.

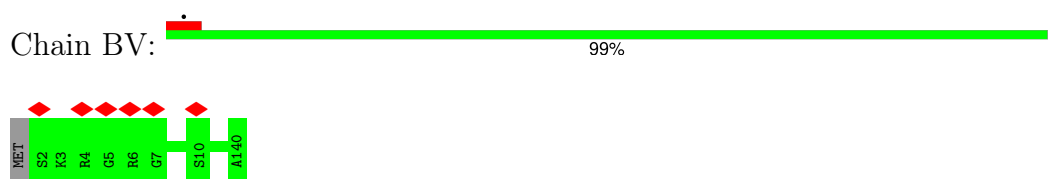
- Molecule 23: 60S ribosomal protein L21



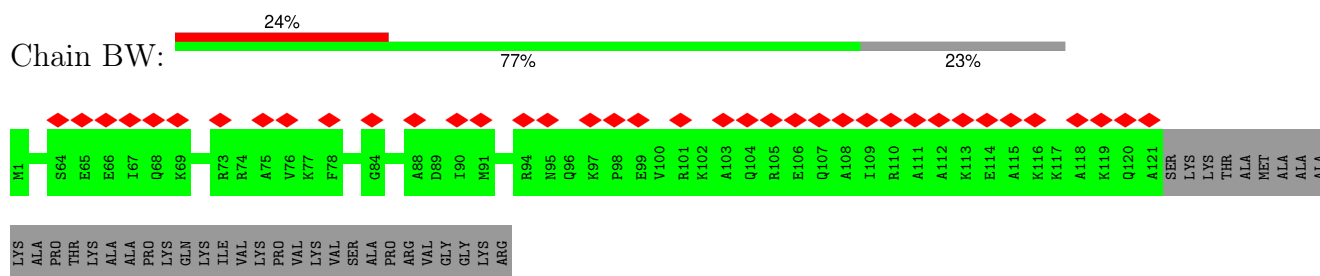
- Molecule 24: 60S ribosomal protein L22



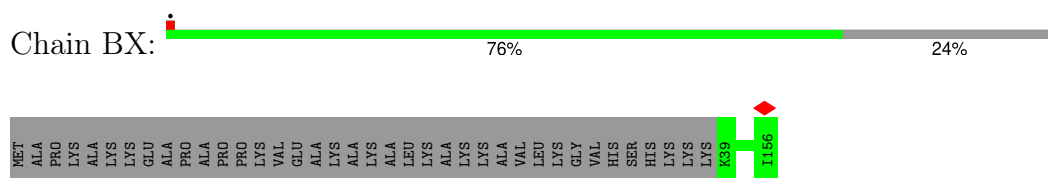
- Molecule 25: Ribosomal protein L23



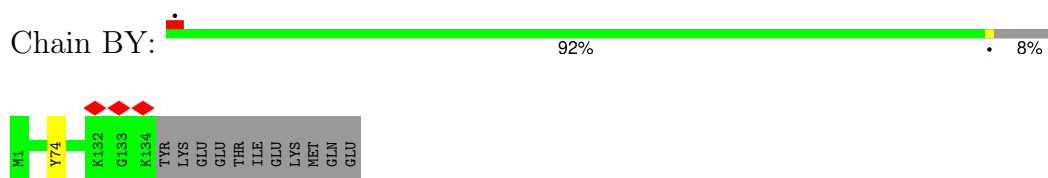
- Molecule 26: Ribosomal protein L24



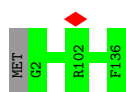
- Molecule 27: Ribosomal_L23eN domain-containing protein



- Molecule 28: Ribosomal protein L26



- Molecule 29: 60S ribosomal protein L27



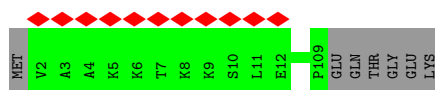
- Molecule 30: 60S ribosomal protein L27a



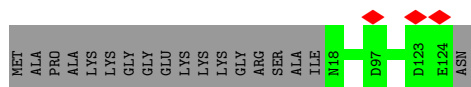
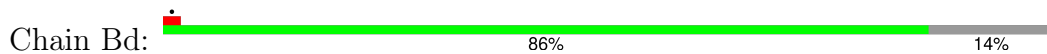
- Molecule 31: 60S ribosomal protein L29



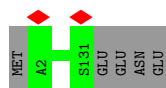
- Molecule 32: 60S ribosomal protein L30



- Molecule 33: 60S ribosomal protein L31



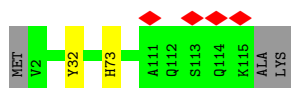
- Molecule 34: Ribosomal protein L32



- Molecule 35: 60S ribosomal protein L35a



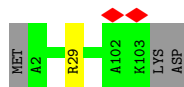
- Molecule 36: 60S ribosomal protein L34



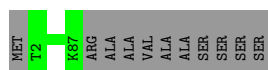
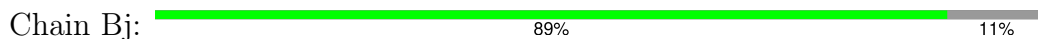
- Molecule 37: 60S ribosomal protein L35



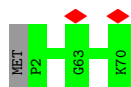
- Molecule 38: 60S ribosomal protein L36



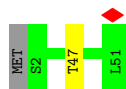
- Molecule 39: Ribosomal protein L37



- Molecule 40: 60S ribosomal protein L38



- Molecule 41: 60S ribosomal protein L39-like



• Molecule 42: Ubiquitin-60S ribosomal protein L40



MET	GLN	ILE	PHE	VAL	LYS	THR	LEU	THR	THR	GLY	LEU	VAL	GLU	PRO	SER	ASP	THR	ILE	LEU	GLU	ASN	VAL	LYS	ALA	LYS	ILE	GLN	ASP	LYS	GLU	GLY	ILE	PRO	PRO	ASP	GLN	GLN	ARG	LEU	ILE	PHE	ALA	GLY	LYS	GLN	LEU	GLU	ASP	GLY	ARG	THR	LEU	SER	ASP	TYR	ASN
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ILE	GLN	LYS	GLU	SER	THR	LEU	HIS	LEU	VAL	LEU	LEU	ARG	LEU	ARG	GLY	I77	K128
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

• Molecule 43: eL42



MET	V2	K53	Q106	F106
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• Molecule 44: 60S ribosomal protein L37a



MET	A2	D91	Q92
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• Molecule 45: 60S ribosomal protein L28

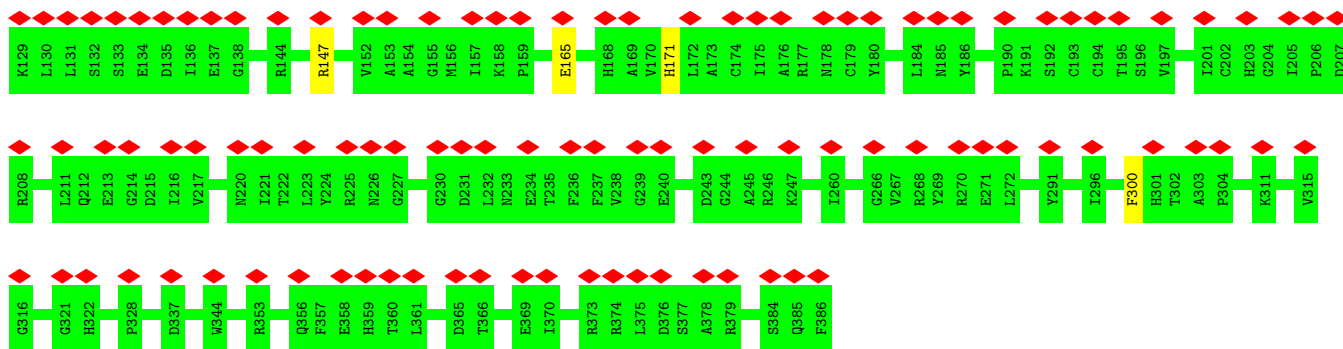


MET	S2	M125	V126	K127	ARG	LYS	ARG	THR	ARG	PRO	THR	LYS	SER	SER
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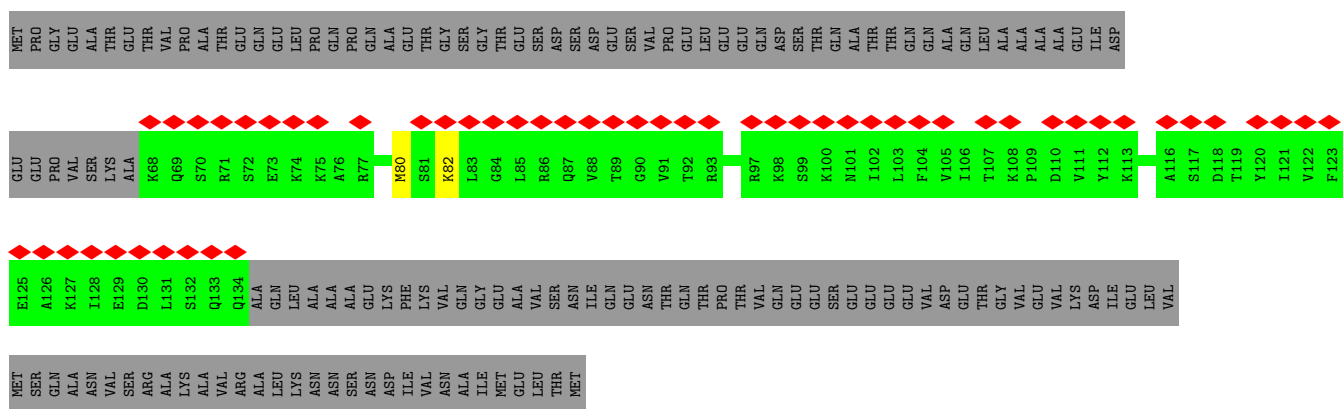
• Molecule 46: 60S acidic ribosomal protein P0



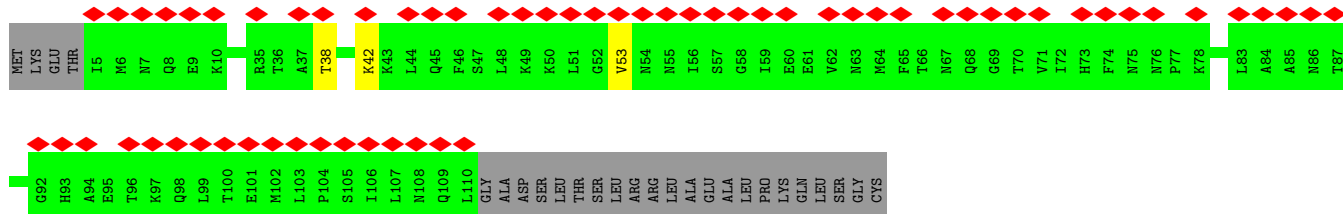
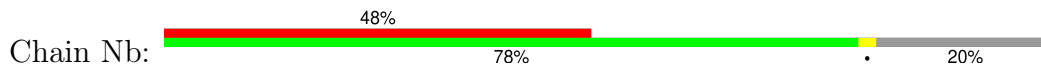
MET	PRO	ARG	GLU	D5	R6	A7	T8	H9	K10	S11	M12	Y13	F14	L15	K16	I17	I18	Q19	L20	L21	D22	D23	Y24	P25	K26	C27	F28	I29	V30	G31	A32	D33	N34	V35	G36	S37	K38	Q39	M40	Q41	Q42	I43	R44	M45	S46	L47	R48	G49	K50	A51	V52	V53	L54	M55	G56	K57	M58	T59	M60	
M61	R62	R63	A64	I65	R66	S67	H68	L69	E70	M71	N72	P73	A74	L75	E76	K77	L78	L79	P80	H81	I82	R83	Y84	G84	M85	V86	G87	F88	H89	F90	T91	K92	E93	D94	L95	T96	E97	I98	R99	D100	M101	L102	L103	A104	M105	K106	V107	P108	A109	A110	A111	R112	A113	G114	A115	I116	M117	P118	C119	E120
V121	T122	V123	P124	A125	Q126	M127	T128	I129	L130	G131	P132	E133	K134	T135	S136	F137	F138	Q139	A140	L141	G142	I143	T144	T145	K146	I147	S148	R149	G150	T151	I152	E153	GLY	I154	L155	S156	D157	V158	Q159	L160	I161	K162	T163	G164	D165	K166	V167	G168	VAL	VAL	S169	PRO	HIS	SER						
S181	P182	F183	S184	F185	G186	L187	I188	I189	Q190	Q191	V192	F193	D194	M195	G196	S197	I198	Y199	PRO	GLU	VAL	LEU	ASP	ILE	THR	GLU	ASP	THR	LEU	HIS	SER	ARG	PHE	LEU	GLY	GLY	VAL	ARG	ASN	VAL	ALA	SER	VAL	CYS	LEU	GLN	ILE	GLY	TYR	PRO	THR	VAL	ALA	SER	VAL	PRO	HIS	SER		



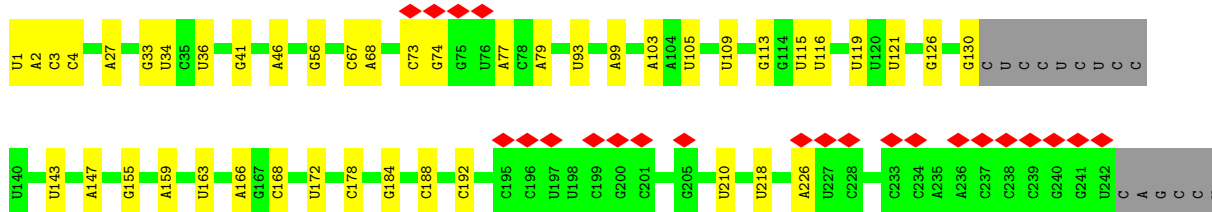
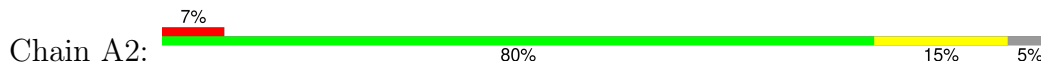
• Molecule 50: Nascent polypeptide-associated complex subunit alpha

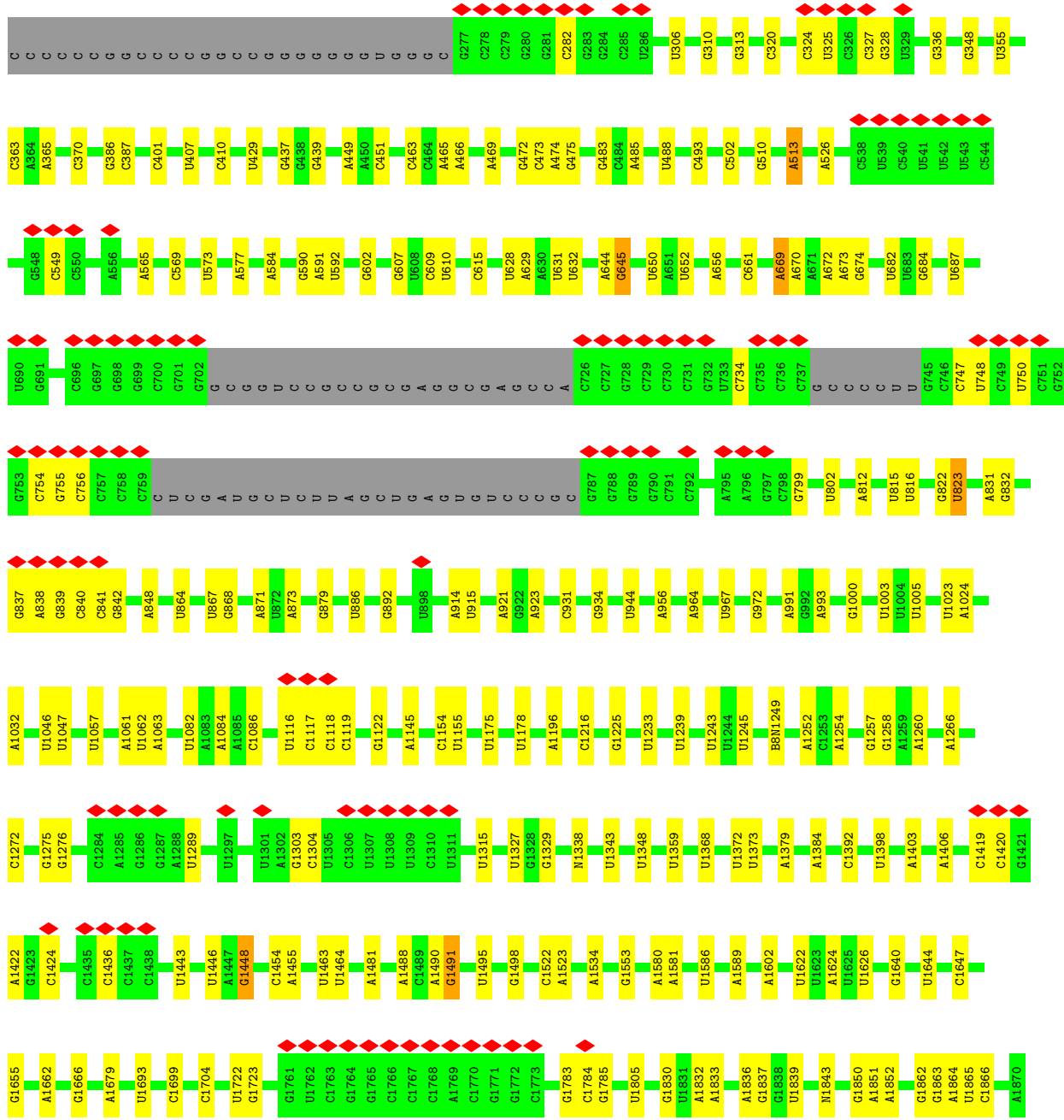


• Molecule 51: Transcription factor BTF3

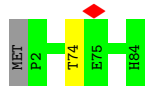


• Molecule 52: 18s rRNA



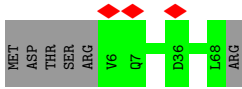


- Molecule 53: 40S ribosomal protein S27

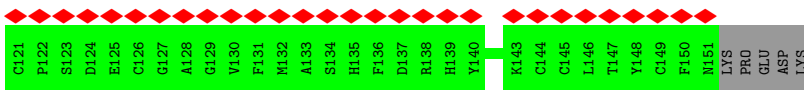
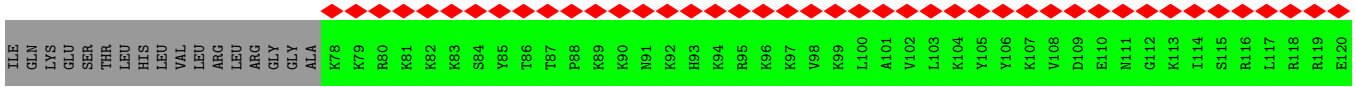
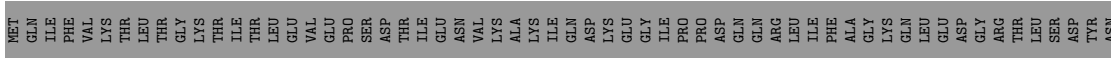


- Molecule 54: 40S ribosomal protein S28

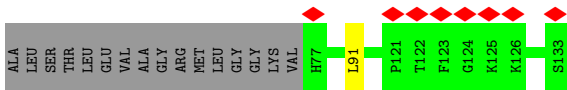
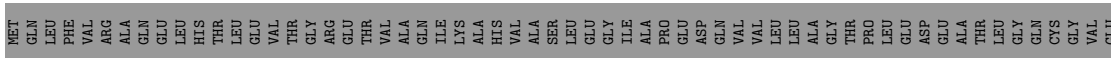




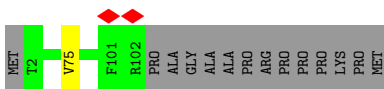
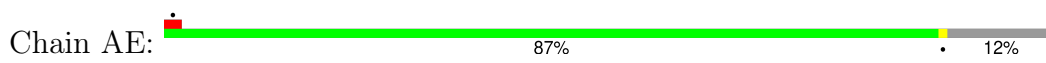
• Molecule 55: Ribosomal protein S27a



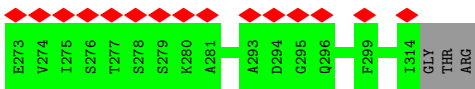
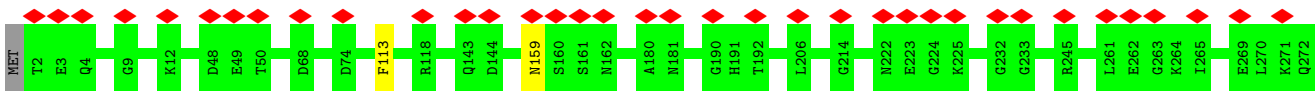
• Molecule 56: 40S ribosomal protein S30



• Molecule 57: eS26

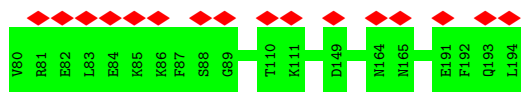


• Molecule 58: RACK1

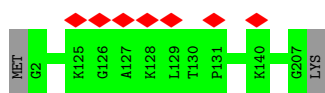


• Molecule 59: 40S ribosomal protein S29

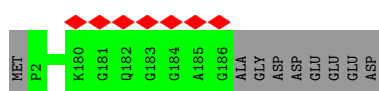




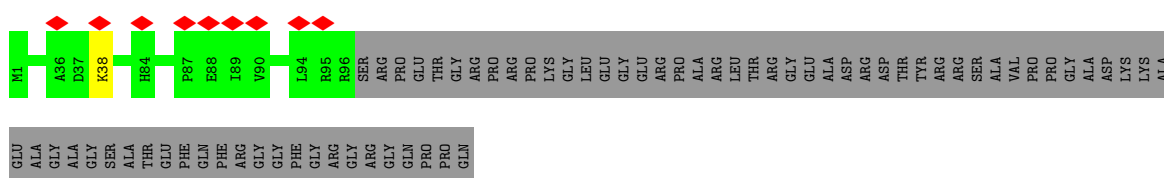
• Molecule 70: 40S ribosomal protein S8



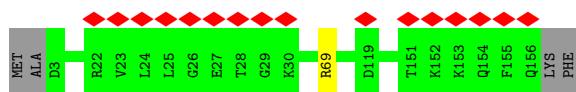
• Molecule 71: 40S ribosomal protein S9



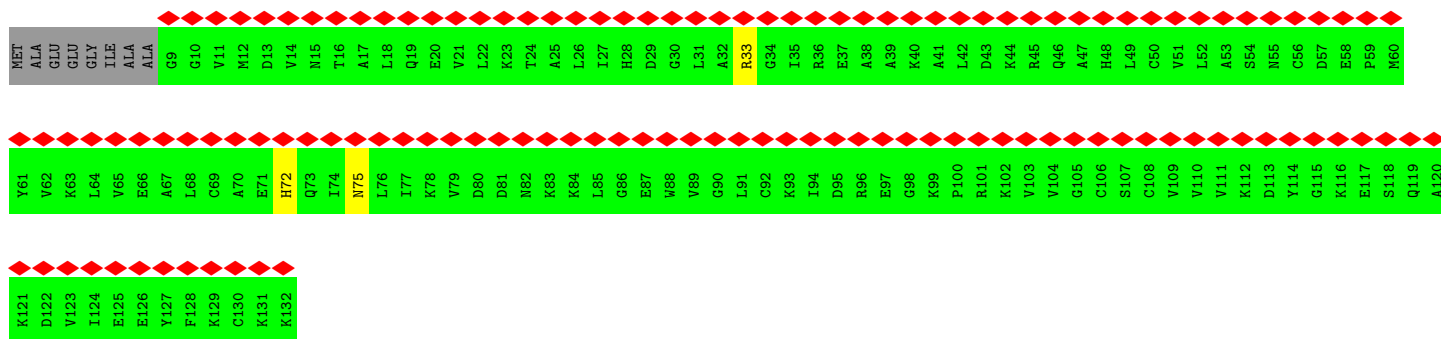
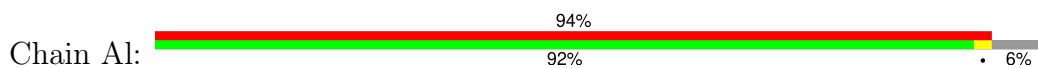
• Molecule 72: S10_ plectin domain-containing protein

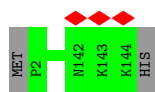


• Molecule 73: 40S ribosomal protein S11

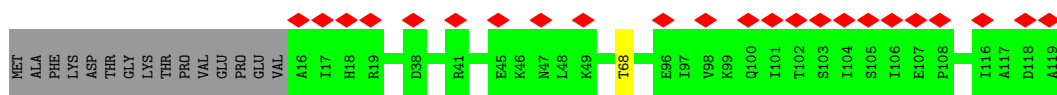
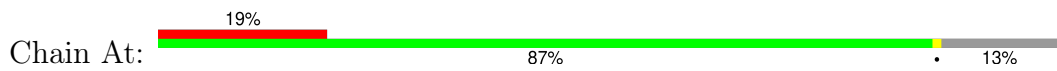


• Molecule 74: 40S ribosomal protein S12

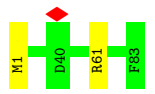




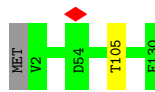
• Molecule 82: 40S ribosomal protein uS10



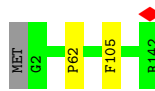
• Molecule 83: 40S ribosomal protein S21



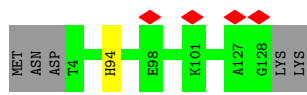
• Molecule 84: Ribosomal protein S15a



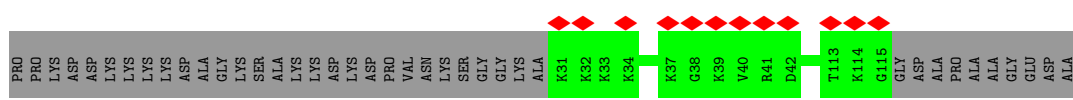
• Molecule 85: 40S ribosomal protein S23



• Molecule 86: 40S ribosomal protein S24



• Molecule 87: 40S ribosomal protein S25



• Molecule 88: 60S ribosomal protein L41

Chain Az:  100%

There are no outlier residues recorded for this chain.

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	21221	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	5.350	Depositor
Minimum map value	-1.922	Depositor
Average map value	0.010	Depositor
Map value standard deviation	0.221	Depositor
Recommended contour level	0.75	Depositor
Map size (Å)	542.717, 542.717, 542.717	wwPDB
Map dimensions	434, 434, 434	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.2505, 1.2505, 1.2505	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 5F0, V5N, MLZ, ZN, UNX, 5MC, OMC, G7M, AAC, SPM, 1MA, SAC, 4AC, SPD, MA6, HIC, NMM, 5MU, B8N, GTP, HY3, OMU, AYA, PSU, UY1, 6MZ, OMG, AME, M3L, MG, A2M, UR3

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	B5	0.17	1/87403 (0.0%)	0.67	10/136359 (0.0%)
2	B7	0.16	0/2835	0.66	0/4418
3	B8	0.24	1/3635 (0.0%)	0.67	0/5661
4	BA	0.25	0/1965	0.55	0/2633
5	BB	0.24	0/3261	0.49	0/4364
6	BC	0.23	0/2932	0.50	0/3939
7	BD	0.24	0/2437	0.48	0/3264
8	BE	0.24	0/1998	0.50	0/2673
9	BF	0.24	0/1922	0.49	0/2563
10	BG	0.24	0/1908	0.47	0/2566
11	BH	0.24	0/1535	0.49	0/2063
12	BI	0.24	0/1756	0.50	0/2346
13	BJ	0.24	0/1385	0.50	0/1852
14	BK	0.26	0/242	0.49	0/324
15	BL	0.24	0/1733	0.53	0/2316
16	BM	0.24	0/1158	0.48	0/1547
17	BN	0.24	0/1746	0.54	0/2338
18	BO	0.24	0/1662	0.48	0/2222
19	BP	0.23	0/1317	0.48	0/1768
20	BQ	0.24	0/1539	0.56	0/2054
21	BR	0.22	0/1524	0.53	0/2013
22	BS	0.25	0/1497	0.52	0/2008
23	BT	0.25	0/1326	0.49	0/1770
24	BU	0.24	0/820	0.47	0/1100
25	BV	0.25	0/1048	0.51	0/1402
26	BW	0.24	0/1006	0.49	0/1334
27	BX	0.24	0/984	0.49	0/1323
28	BY	0.23	0/1132	0.51	0/1504
29	BZ	0.25	0/1130	0.49	0/1507
30	Ba	0.24	0/1179	0.50	0/1572
31	Bb	0.23	0/884	0.51	0/1169

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	Bc	0.24	0/847	0.43	0/1134
33	Bd	0.24	0/903	0.51	0/1216
34	Be	0.23	0/1088	0.51	0/1451
35	Bf	0.25	0/903	0.53	0/1208
36	Bg	0.23	0/916	0.54	0/1220
37	Bh	0.23	0/1021	0.48	0/1348
38	Bi	0.23	0/841	0.51	0/1112
39	Bj	0.24	0/720	0.57	0/952
40	Bk	0.24	0/575	0.45	0/761
41	Bl	0.22	0/459	0.51	0/608
42	Bm	0.23	0/426	0.50	0/564
43	Bo	0.25	0/866	0.51	0/1141
44	Bp	0.23	0/718	0.49	0/953
45	Br	0.23	0/1020	0.53	0/1366
46	Bs	0.24	0/1530	0.45	0/2064
47	Bt	0.23	0/1193	0.47	0/1609
48	Bv	0.23	0/1735	0.45	0/2328
49	MA	0.23	0/2549	0.47	0/3462
50	Na	0.24	0/536	0.49	0/715
51	Nb	0.25	0/829	0.47	0/1112
52	A2	0.16	1/40342 (0.0%)	0.68	14/62877 (0.0%)
53	AA	0.23	0/665	0.46	0/891
54	AB	0.23	0/497	0.56	0/666
55	AC	0.24	0/622	0.48	0/822
56	AD	0.24	0/462	0.53	0/607
57	AE	0.23	0/828	0.53	0/1109
58	AF	0.23	0/2493	0.46	0/3394
59	AG	0.24	0/470	0.50	0/623
60	AI	0.16	0/68	0.65	0/103
61	AT	0.28	1/1766 (0.1%)	0.65	0/2749
62	AZ	0.23	0/1771	0.46	0/2406
63	Aa	0.23	0/1841	0.46	0/2459
64	Ab	0.24	0/1742	0.45	0/2354
65	Ac	0.24	0/1779	0.49	0/2395
66	Ad	0.24	0/2118	0.50	0/2849
67	Ae	0.23	0/1531	0.48	0/2059
68	Af	0.24	0/1946	0.52	0/2590
69	Ag	0.24	0/1552	0.46	0/2079
70	Ah	0.24	0/1715	0.51	0/2287
71	Ai	0.23	0/1550	0.52	0/2069
72	Aj	0.23	0/834	0.42	0/1125
73	Ak	0.25	0/1284	0.51	0/1717
74	Al	0.23	0/968	0.41	0/1296

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	Am	0.23	0/1232	0.47	0/1656
76	An	0.24	0/1020	0.53	0/1366
77	Ao	0.25	0/1069	0.47	0/1429
78	Ap	0.23	0/1142	0.50	0/1528
79	Aq	0.23	0/1094	0.48	0/1469
80	Ar	0.24	0/1226	0.53	0/1643
81	As	0.23	0/1119	0.45	0/1498
82	At	0.23	0/831	0.51	0/1115
83	Au	0.24	0/636	0.48	0/852
84	Av	0.24	0/1051	0.48	0/1406
85	Aw	0.24	0/1107	0.50	0/1475
86	Ax	0.24	0/1032	0.51	0/1371
87	Ay	0.23	0/691	0.46	0/922
88	Az	0.22	0/240	0.65	0/305
All	All	0.20	4/238908 (0.0%)	0.61	24/349857 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
43	Bo	0	1
76	An	0	1
All	All	0	2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B8	1	C	OP3-P	-10.67	1.48	1.61
52	A2	1	U	OP3-P	-10.65	1.48	1.61
1	B5	1	C	OP3-P	-10.53	1.48	1.61
61	AT	1	G	OP3-P	-10.50	1.48	1.61

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	A2	1454	C	C2-N1-C1'	8.98	128.68	118.80
52	A2	1454	C	N1-C2-O2	8.85	124.21	118.90
1	B5	2312	C	N1-C2-O2	8.26	123.86	118.90
1	B5	2312	C	C2-N1-C1'	8.23	127.85	118.80
52	A2	631	U	C2-N1-C1'	7.79	127.05	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	A2	631	U	N1-C2-O2	7.25	127.88	122.80
1	B5	2252	U	C2-N1-C1'	7.00	126.10	117.70
52	A2	1454	C	N3-C2-O2	-6.91	117.06	121.90
52	A2	631	U	N3-C2-O2	-6.66	117.54	122.20
1	B5	2312	C	N3-C2-O2	-6.61	117.27	121.90
52	A2	1315	U	C2-N1-C1'	6.55	125.56	117.70
1	B5	2252	U	N1-C2-O2	6.50	127.35	122.80
1	B5	1594	U	C2-N1-C1'	6.45	125.43	117.70
52	A2	1454	C	C6-N1-C1'	-6.18	113.38	120.80
52	A2	1454	C	C6-N1-C2	-5.97	117.91	120.30
1	B5	2252	U	N3-C2-O2	-5.88	118.09	122.20
52	A2	1315	U	N1-C2-O2	5.82	126.87	122.80
1	B5	2312	C	C6-N1-C1'	-5.67	114.00	120.80
52	A2	1023	U	C2-N1-C1'	5.58	124.39	117.70
52	A2	1315	U	N3-C2-O2	-5.48	118.36	122.20
1	B5	2312	C	C6-N1-C2	-5.45	118.12	120.30
1	B5	1594	U	N1-C2-O2	5.39	126.57	122.80
52	A2	1454	C	C5-C6-N1	5.35	123.67	121.00
52	A2	631	U	C6-N1-C1'	-5.04	114.14	121.20

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
76	An	138	5F0	Peptide
43	Bo	53	MLZ	Mainchain

5.2 Too-close contacts [i](#)

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

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	BA	250/257 (97%)	242 (97%)	8 (3%)	0	100	100
5	BB	395/403 (98%)	390 (99%)	5 (1%)	0	100	100
6	BC	360/413 (87%)	356 (99%)	4 (1%)	0	100	100
7	BD	291/297 (98%)	286 (98%)	5 (2%)	0	100	100
8	BE	239/291 (82%)	235 (98%)	4 (2%)	0	100	100
9	BF	224/247 (91%)	219 (98%)	4 (2%)	1 (0%)	30	60
10	BG	229/266 (86%)	227 (99%)	2 (1%)	0	100	100
11	BH	188/192 (98%)	188 (100%)	0	0	100	100
12	BI	211/214 (99%)	209 (99%)	2 (1%)	0	100	100
13	BJ	168/178 (94%)	167 (99%)	1 (1%)	0	100	100
14	BK	27/65 (42%)	25 (93%)	2 (7%)	0	100	100
15	BL	208/211 (99%)	205 (99%)	3 (1%)	0	100	100
16	BM	136/218 (62%)	134 (98%)	2 (2%)	0	100	100
17	BN	201/204 (98%)	198 (98%)	3 (2%)	0	100	100
18	BO	197/203 (97%)	197 (100%)	0	0	100	100
19	BP	157/184 (85%)	155 (99%)	2 (1%)	0	100	100
20	BQ	185/188 (98%)	182 (98%)	3 (2%)	0	100	100
21	BR	178/196 (91%)	178 (100%)	0	0	100	100
22	BS	174/176 (99%)	173 (99%)	1 (1%)	0	100	100
23	BT	157/160 (98%)	155 (99%)	2 (1%)	0	100	100
24	BU	97/128 (76%)	96 (99%)	1 (1%)	0	100	100
25	BV	137/140 (98%)	134 (98%)	3 (2%)	0	100	100
26	BW	119/157 (76%)	118 (99%)	1 (1%)	0	100	100
27	BX	116/156 (74%)	115 (99%)	1 (1%)	0	100	100
28	BY	132/145 (91%)	131 (99%)	1 (1%)	0	100	100
29	BZ	133/136 (98%)	131 (98%)	2 (2%)	0	100	100
30	Ba	144/148 (97%)	137 (95%)	6 (4%)	1 (1%)	19	49
31	Bb	103/245 (42%)	100 (97%)	3 (3%)	0	100	100
32	Bc	106/115 (92%)	106 (100%)	0	0	100	100
33	Bd	105/125 (84%)	105 (100%)	0	0	100	100
34	Be	128/135 (95%)	126 (98%)	2 (2%)	0	100	100
35	Bf	108/110 (98%)	108 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	Bg	112/117 (96%)	111 (99%)	1 (1%)	0	100	100
37	Bh	120/123 (98%)	119 (99%)	1 (1%)	0	100	100
38	Bi	100/105 (95%)	98 (98%)	2 (2%)	0	100	100
39	Bj	84/97 (87%)	84 (100%)	0	0	100	100
40	Bk	67/70 (96%)	67 (100%)	0	0	100	100
41	Bl	48/51 (94%)	48 (100%)	0	0	100	100
42	Bm	49/128 (38%)	49 (100%)	0	0	100	100
43	Bo	102/106 (96%)	102 (100%)	0	0	100	100
44	Bp	89/92 (97%)	89 (100%)	0	0	100	100
45	Br	124/137 (90%)	123 (99%)	1 (1%)	0	100	100
46	Bs	194/318 (61%)	190 (98%)	4 (2%)	0	100	100
47	Bt	154/165 (93%)	152 (99%)	2 (1%)	0	100	100
48	Bv	210/217 (97%)	202 (96%)	8 (4%)	0	100	100
49	MA	313/386 (81%)	309 (99%)	4 (1%)	0	100	100
50	Na	65/215 (30%)	63 (97%)	2 (3%)	0	100	100
51	Nb	104/132 (79%)	100 (96%)	4 (4%)	0	100	100
53	AA	81/84 (96%)	81 (100%)	0	0	100	100
54	AB	61/69 (88%)	61 (100%)	0	0	100	100
55	AC	72/156 (46%)	71 (99%)	1 (1%)	0	100	100
56	AD	55/133 (41%)	54 (98%)	1 (2%)	0	100	100
57	AE	99/115 (86%)	98 (99%)	1 (1%)	0	100	100
58	AF	311/317 (98%)	305 (98%)	6 (2%)	0	100	100
59	AG	53/56 (95%)	53 (100%)	0	0	100	100
62	AZ	219/295 (74%)	218 (100%)	1 (0%)	0	100	100
63	Aa	220/264 (83%)	217 (99%)	3 (1%)	0	100	100
64	Ab	218/293 (74%)	218 (100%)	0	0	100	100
65	Ac	223/281 (79%)	222 (100%)	1 (0%)	0	100	100
66	Ad	260/263 (99%)	257 (99%)	3 (1%)	0	100	100
67	Ae	189/204 (93%)	188 (100%)	1 (0%)	0	100	100
68	Af	235/249 (94%)	235 (100%)	0	0	100	100
69	Ag	188/432 (44%)	186 (99%)	2 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
70	Ah	204/208 (98%)	202 (99%)	2 (1%)	0	100	100
71	Ai	183/194 (94%)	180 (98%)	3 (2%)	0	100	100
72	Aj	94/165 (57%)	93 (99%)	1 (1%)	0	100	100
73	Ak	152/158 (96%)	150 (99%)	2 (1%)	0	100	100
74	Al	122/132 (92%)	121 (99%)	1 (1%)	0	100	100
75	Am	148/151 (98%)	147 (99%)	1 (1%)	0	100	100
76	An	133/151 (88%)	129 (97%)	4 (3%)	0	100	100
77	Ao	126/145 (87%)	124 (98%)	2 (2%)	0	100	100
78	Ap	139/172 (81%)	134 (96%)	5 (4%)	0	100	100
79	Aq	132/135 (98%)	132 (100%)	0	0	100	100
80	Ar	146/152 (96%)	144 (99%)	2 (1%)	0	100	100
81	As	140/145 (97%)	140 (100%)	0	0	100	100
82	At	102/119 (86%)	99 (97%)	3 (3%)	0	100	100
83	Au	81/83 (98%)	79 (98%)	2 (2%)	0	100	100
84	Av	127/130 (98%)	127 (100%)	0	0	100	100
85	Aw	138/143 (96%)	136 (99%)	2 (1%)	0	100	100
86	Ax	123/130 (95%)	122 (99%)	1 (1%)	0	100	100
87	Ay	83/124 (67%)	82 (99%)	1 (1%)	0	100	100
88	Az	23/25 (92%)	23 (100%)	0	0	100	100
All	All	12418/14635 (85%)	12262 (99%)	154 (1%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	BF	196	VAL
30	Ba	15	VAL

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	BA	194/198 (98%)	194 (100%)	0	100	100
5	BB	344/347 (99%)	342 (99%)	2 (1%)	84	95
6	BC	302/337 (90%)	301 (100%)	1 (0%)	91	97
7	BD	247/250 (99%)	247 (100%)	0	100	100
8	BE	216/251 (86%)	216 (100%)	0	100	100
9	BF	197/215 (92%)	197 (100%)	0	100	100
10	BG	199/223 (89%)	196 (98%)	3 (2%)	60	85
11	BH	169/171 (99%)	169 (100%)	0	100	100
12	BI	180/181 (99%)	180 (100%)	0	100	100
13	BJ	143/149 (96%)	143 (100%)	0	100	100
14	BK	28/61 (46%)	26 (93%)	2 (7%)	12	36
15	BL	175/176 (99%)	174 (99%)	1 (1%)	84	95
16	BM	117/161 (73%)	117 (100%)	0	100	100
17	BN	171/172 (99%)	171 (100%)	0	100	100
18	BO	171/173 (99%)	169 (99%)	2 (1%)	67	89
19	BP	140/163 (86%)	139 (99%)	1 (1%)	81	94
20	BQ	164/165 (99%)	162 (99%)	2 (1%)	67	89
21	BR	159/175 (91%)	159 (100%)	0	100	100
22	BS	154/154 (100%)	154 (100%)	0	100	100
23	BT	139/140 (99%)	139 (100%)	0	100	100
24	BU	88/113 (78%)	87 (99%)	1 (1%)	70	90
25	BV	106/107 (99%)	106 (100%)	0	100	100
26	BW	100/126 (79%)	100 (100%)	0	100	100
27	BX	106/134 (79%)	106 (100%)	0	100	100
28	BY	124/135 (92%)	123 (99%)	1 (1%)	79	93
29	BZ	117/118 (99%)	117 (100%)	0	100	100
30	Ba	118/119 (99%)	118 (100%)	0	100	100
31	Bb	87/183 (48%)	87 (100%)	0	100	100
32	Bc	92/98 (94%)	92 (100%)	0	100	100
33	Bd	98/110 (89%)	98 (100%)	0	100	100
34	Be	116/121 (96%)	116 (100%)	0	100	100
35	Bf	89/89 (100%)	89 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	Bg	98/100 (98%)	96 (98%)	2 (2%)	50	79
37	Bh	109/110 (99%)	109 (100%)	0	100	100
38	Bi	86/89 (97%)	85 (99%)	1 (1%)	67	89
39	Bj	73/80 (91%)	73 (100%)	0	100	100
40	Bk	64/65 (98%)	64 (100%)	0	100	100
41	Bl	47/48 (98%)	46 (98%)	1 (2%)	48	78
42	Bm	47/115 (41%)	47 (100%)	0	100	100
43	Bo	92/93 (99%)	92 (100%)	0	100	100
44	Bp	74/75 (99%)	74 (100%)	0	100	100
45	Br	109/120 (91%)	109 (100%)	0	100	100
46	Bs	164/258 (64%)	163 (99%)	1 (1%)	84	95
47	Bt	128/137 (93%)	126 (98%)	2 (2%)	58	84
48	Bv	191/195 (98%)	187 (98%)	4 (2%)	48	78
49	MA	270/330 (82%)	266 (98%)	4 (2%)	60	85
50	Na	60/183 (33%)	58 (97%)	2 (3%)	33	68
51	Nb	90/111 (81%)	87 (97%)	3 (3%)	33	68
53	AA	75/76 (99%)	74 (99%)	1 (1%)	65	88
54	AB	56/62 (90%)	56 (100%)	0	100	100
55	AC	67/140 (48%)	67 (100%)	0	100	100
56	AD	47/106 (44%)	46 (98%)	1 (2%)	48	78
57	AE	88/98 (90%)	87 (99%)	1 (1%)	70	90
58	AF	272/275 (99%)	270 (99%)	2 (1%)	81	94
59	AG	48/49 (98%)	48 (100%)	0	100	100
62	AZ	182/243 (75%)	180 (99%)	2 (1%)	70	90
63	Aa	203/231 (88%)	200 (98%)	3 (2%)	60	85
64	Ab	185/223 (83%)	183 (99%)	2 (1%)	70	90
65	Ac	189/232 (82%)	188 (100%)	1 (0%)	86	96
66	Ad	224/225 (100%)	223 (100%)	1 (0%)	89	97
67	Ae	161/170 (95%)	161 (100%)	0	100	100
68	Af	207/218 (95%)	206 (100%)	1 (0%)	86	96
69	Ag	170/360 (47%)	170 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
70	Ah	178/180 (99%)	178 (100%)	0	100	100
71	Ai	161/168 (96%)	161 (100%)	0	100	100
72	Aj	87/136 (64%)	86 (99%)	1 (1%)	70	90
73	Ak	139/142 (98%)	138 (99%)	1 (1%)	81	94
74	Al	104/108 (96%)	101 (97%)	3 (3%)	37	72
75	Am	130/131 (99%)	130 (100%)	0	100	100
76	An	105/118 (89%)	103 (98%)	2 (2%)	52	81
77	Ao	114/130 (88%)	114 (100%)	0	100	100
78	Ap	117/140 (84%)	117 (100%)	0	100	100
79	Aq	120/121 (99%)	120 (100%)	0	100	100
80	Ar	127/131 (97%)	126 (99%)	1 (1%)	79	93
81	As	112/114 (98%)	112 (100%)	0	100	100
82	At	94/107 (88%)	93 (99%)	1 (1%)	70	90
83	Au	67/67 (100%)	66 (98%)	1 (2%)	60	85
84	Av	112/113 (99%)	111 (99%)	1 (1%)	75	92
85	Aw	112/114 (98%)	111 (99%)	1 (1%)	75	92
86	Ax	107/112 (96%)	106 (99%)	1 (1%)	75	92
87	Ay	75/102 (74%)	75 (100%)	0	100	100
88	Az	24/24 (100%)	24 (100%)	0	100	100
All	All	10811/12390 (87%)	10747 (99%)	64 (1%)	82	95

All (64) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	BB	39	LYS
5	BB	343	ARG
6	BC	122	TYR
10	BG	88	ASP
10	BG	106	THR
10	BG	220	GLU
14	BK	60	MET
14	BK	64	MET
15	BL	67	HIS
18	BO	117	ARG
18	BO	174	LEU

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Mol	Chain	Res	Type
19	BP	2	VAL
20	BQ	14	ARG
20	BQ	115	LYS
24	BU	39	PHE
28	BY	74	TYR
36	Bg	32	TYR
36	Bg	73	HIS
38	Bi	29	ARG
41	Bl	47	THR
46	Bs	54	LEU
47	Bt	35	LEU
47	Bt	74	VAL
48	Bv	58	THR
48	Bv	60	ARG
48	Bv	73	HIS
48	Bv	96	ASN
49	MA	147	ARG
49	MA	165	GLU
49	MA	171	HIS
49	MA	300	PHE
50	Na	80	MET
50	Na	82	LYS
51	Nb	38	THR
51	Nb	42	LYS
51	Nb	53	VAL
53	AA	74	THR
56	AD	91	LEU
57	AE	75	VAL
58	AF	113	PHE
58	AF	159	ASN
62	AZ	121	LEU
62	AZ	206	ASP
63	Aa	178	THR
63	Aa	190	PRO
63	Aa	208	HIS
64	Ab	121	ARG
64	Ab	236	PHE
65	Ac	105	LEU
66	Ad	54	TYR
68	Af	44	GLU
72	Aj	38	LYS
73	Ak	69	ARG

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Mol	Chain	Res	Type
74	Al	33	ARG
74	Al	72	HIS
74	Al	75	ASN
76	An	100	THR
76	An	113	GLN
80	Ar	83	PHE
82	At	68	THR
83	Au	61	ARG
84	Av	105	THR
85	Aw	105	PHE
86	Ax	94	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (95) such sidechains are listed below:

Mol	Chain	Res	Type
4	BA	50	HIS
4	BA	140	ASN
5	BB	184	GLN
5	BB	289	GLN
6	BC	38	ASN
6	BC	48	ASN
6	BC	61	GLN
6	BC	212	ASN
6	BC	310	HIS
7	BD	122	GLN
7	BD	202	GLN
7	BD	222	GLN
8	BE	131	HIS
10	BG	43	GLN
10	BG	64	GLN
10	BG	81	ASN
11	BH	42	ASN
12	BI	59	GLN
12	BI	147	HIS
12	BI	163	GLN
14	BK	45	ASN
14	BK	50	HIS
16	BM	33	GLN
16	BM	34	ASN
17	BN	109	HIS
18	BO	180	GLN
19	BP	75	GLN

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Mol	Chain	Res	Type
21	BR	39	GLN
21	BR	40	GLN
23	BT	131	GLN
24	BU	17	GLN
26	BW	120	GLN
27	BX	73	HIS
27	BX	111	GLN
28	BY	14	ASN
28	BY	56	GLN
30	Ba	14	HIS
31	Bb	17	HIS
31	Bb	50	ASN
32	Bc	33	GLN
32	Bc	40	GLN
35	Bf	20	ASN
36	Bg	114	GLN
37	Bh	98	HIS
39	Bj	13	ASN
39	Bj	30	GLN
40	Bk	58	GLN
41	Bl	4	HIS
41	Bl	25	GLN
45	Br	4	HIS
45	Br	6	GLN
46	Bs	34	ASN
46	Bs	41	GLN
46	Bs	179	ASN
46	Bs	191	GLN
46	Bs	195	ASN
47	Bt	65	GLN
47	Bt	70	GLN
48	Bv	96	ASN
48	Bv	188	ASN
49	MA	168	HIS
49	MA	171	HIS
49	MA	185	ASN
49	MA	336	GLN
50	Na	69	GLN
51	Nb	7	ASN
51	Nb	34	HIS
53	AA	19	HIS
53	AA	29	ASN

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Mol	Chain	Res	Type
53	AA	51	GLN
56	AD	89	GLN
58	AF	159	ASN
59	AG	37	ASN
62	AZ	141	ASN
65	Ac	145	GLN
66	Ad	98	ASN
66	Ad	142	HIS
67	Ae	65	GLN
69	Ag	91	HIS
70	Ah	7	ASN
70	Ah	146	GLN
70	Ah	167	GLN
72	Aj	77	GLN
74	Al	28	HIS
75	Am	13	GLN
75	Am	36	GLN
75	Am	105	ASN
77	Ao	103	ASN
78	Ap	11	GLN
78	Ap	97	GLN
78	Ap	114	GLN
79	Aq	121	GLN
80	Ar	72	GLN
83	Au	2	GLN
87	Ay	64	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	B5	3750/4808 (77%)	422 (11%)	2 (0%)
2	B7	118/120 (98%)	6 (5%)	0
3	B8	155/158 (98%)	14 (9%)	0
52	A2	1758/1870 (94%)	204 (11%)	0
60	AI	2/76 (2%)	1 (50%)	0
61	AT	75/76 (98%)	10 (13%)	0
All	All	5858/7108 (82%)	657 (11%)	2 (0%)

All (657) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	B5	39	A
1	B5	42	A
1	B5	58	G
1	B5	59	A
1	B5	64	A
1	B5	65	A
1	B5	85	G
1	B5	91	G
1	B5	98	A
1	B5	109	G
1	B5	110	C
1	B5	119	G
1	B5	127	G
1	B5	135	G
1	B5	136	U
1	B5	144	G
1	B5	159	C
1	B5	187	U
1	B5	188	G
1	B5	200	U
1	B5	201	C
1	B5	209	U
1	B5	210	C
1	B5	218	A
1	B5	219	G
1	B5	233	U
1	B5	234	G
1	B5	266	C
1	B5	297	U
1	B5	309	C
1	B5	315	G
1	B5	316	U
1	B5	326	C
1	B5	334	A
1	B5	340	C
1	B5	363	A
1	B5	386	A
1	B5	387	G
1	B5	398	A2M
1	B5	409	G
1	B5	412	G
1	B5	446	C
1	B5	449	C

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Mol	Chain	Res	Type
1	B5	450	G
1	B5	452	A
1	B5	453	G
1	B5	454	U
1	B5	455	C
1	B5	463	A
1	B5	467	U
1	B5	468	U
1	B5	482	U
1	B5	483	G
1	B5	485	U
1	B5	486	C
1	B5	488	G
1	B5	493	U
1	B5	497	G
1	B5	499	C
1	B5	502	U
1	B5	503	C
1	B5	504	U
1	B5	505	C
1	B5	506	G
1	B5	515	U
1	B5	516	U
1	B5	517	C
1	B5	628	U
1	B5	634	C
1	B5	635	G
1	B5	660	G
1	B5	691	G
1	B5	698	C
1	B5	725	G
1	B5	732	C
1	B5	734	G
1	B5	739	G
1	B5	758	C
1	B5	759	G
1	B5	760	C
1	B5	790	G
1	B5	791	C
1	B5	792	G
1	B5	795	A
1	B5	797	C

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Mol	Chain	Res	Type
1	B5	798	C
1	B5	803	C
1	B5	810	U
1	B5	812	A
1	B5	814	A
1	B5	815	G
1	B5	824	C
1	B5	825	G
1	B5	831	A
1	B5	832	G
1	B5	833	C
1	B5	834	A
1	B5	835	G
1	B5	843	A
1	B5	844	A
1	B5	845	U
1	B5	856	A
1	B5	859	G
1	B5	860	A
1	B5	861	G
1	B5	866	A
1	B5	867	C
1	B5	868	C
1	B5	870	G
1	B5	884	U
1	B5	983	G
1	B5	985	G
1	B5	987	C
1	B5	1072	C
1	B5	1073	C
1	B5	1074	C
1	B5	1091	G
1	B5	1102	G
1	B5	1105	C
1	B5	1106	U
1	B5	1124	A
1	B5	1133	C
1	B5	1202	C
1	B5	1214	A
1	B5	1215	G
1	B5	1216	C
1	B5	1217	G

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Mol	Chain	Res	Type
1	B5	1219	G
1	B5	1221	G
1	B5	1228	G
1	B5	1231	G
1	B5	1238	A
1	B5	1240	G
1	B5	1246	U
1	B5	1247	A
1	B5	1270	A2M
1	B5	1298	A
1	B5	1299	G
1	B5	1303	G
1	B5	1309	C
1	B5	1310	G
1	B5	1323	C
1	B5	1331	A
1	B5	1341	A
1	B5	1351	G
1	B5	1375	A
1	B5	1391	C
1	B5	1393	C
1	B5	1401	C
1	B5	1452	A
1	B5	1453	G
1	B5	1457	G
1	B5	1489	A2M
1	B5	1502	A
1	B5	1521	C
1	B5	1533	U
1	B5	1546	U
1	B5	1551	U
1	B5	1568	A
1	B5	1579	G
1	B5	1580	OMG
1	B5	1586	A
1	B5	1588	G
1	B5	1589	A
1	B5	1605	A
1	B5	1609	G
1	B5	1616	C
1	B5	1631	C
1	B5	1632	PSU

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Mol	Chain	Res	Type
1	B5	1653	C
1	B5	1657	C
1	B5	1658	C
1	B5	1673	G
1	B5	1704	A
1	B5	1705	A
1	B5	1726	A
1	B5	1743	A
1	B5	1774	G
1	B5	1775	G
1	B5	1776	A
1	B5	1781	G
1	B5	1794	G
1	B5	1808	G
1	B5	1836	A
1	B5	1857	U
1	B5	1859	C
1	B5	1860	C
1	B5	1861	G
1	B5	1870	C
1	B5	1871	A
1	B5	1879	G
1	B5	1887	G
1	B5	1898	U
1	B5	1899	A
1	B5	1900	G
1	B5	1914	G
1	B5	1922	A
1	B5	1923	A
1	B5	1926	C
1	B5	1936	U
1	B5	1942	G
1	B5	1943	U
1	B5	1963	G
1	B5	1965	A
1	B5	1985	G
1	B5	1987	U
1	B5	1994	G
1	B5	1995	G
1	B5	2008	A
1	B5	2023	U
1	B5	2032	G

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Mol	Chain	Res	Type
1	B5	2034	A
1	B5	2037	G
1	B5	2041	G
1	B5	2044	A
1	B5	2045	G
1	B5	2046	A
1	B5	2132	C
1	B5	2143	A
1	B5	2144	G
1	B5	2156	A
1	B5	2191	G
1	B5	2194	OMC
1	B5	2203	A
1	B5	2207	OMG
1	B5	2238	A
1	B5	2253	C
1	B5	2264	G
1	B5	2268	U
1	B5	2332	C
1	B5	2333	U
1	B5	2334	C
1	B5	2349	G
1	B5	2356	A
1	B5	2372	A
1	B5	2380	A
1	B5	2386	A
1	B5	2387	G
1	B5	2388	U
1	B5	2390	G
1	B5	2409	G
1	B5	2430	A
1	B5	2432	C
1	B5	2444	A
1	B5	2496	C
1	B5	2503	A
1	B5	2512	C
1	B5	2530	U
1	B5	2537	G
1	B5	2538	A
1	B5	2539	A
1	B5	2549	G
1	B5	2550	U

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Mol	Chain	Res	Type
1	B5	2551	U
1	B5	2552	C
1	B5	2554	G
1	B5	2578	G
1	B5	2586	A
1	B5	2606	U
1	B5	2612	U
1	B5	2631	U
1	B5	2633	U
1	B5	2641	A
1	B5	2657	C
1	B5	2669	U
1	B5	2670	G
1	B5	2672	U
1	B5	2698	G
1	B5	2745	G
1	B5	3329	G
1	B5	3350	C
1	B5	3358	G
1	B5	3362	A
1	B5	3367	A
1	B5	3380	A
1	B5	3385	A
1	B5	3394	A
1	B5	3405	C
1	B5	3443	A
1	B5	3444	A
1	B5	3485	G
1	B5	3492	A2M
1	B5	3493	C
1	B5	3498	A
1	B5	3508	G
1	B5	3509	G
1	B5	3516	A
1	B5	3543	G
1	B5	3546	U
1	B5	3549	A
1	B5	3551	G
1	B5	3570	U
1	B5	3572	U
1	B5	3609	A
1	B5	3610	C

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Mol	Chain	Res	Type
1	B5	3611	G
1	B5	3629	G
1	B5	3630	G
1	B5	3633	A
1	B5	3638	A
1	B5	3639	G
1	B5	3640	A
1	B5	3647	U
1	B5	3670	G
1	B5	3688	G
1	B5	3689	U
1	B5	3804	G
1	B5	3812	G
1	B5	3823	G
1	B5	3824	C
1	B5	3825	G
1	B5	3832	G
1	B5	3833	A
1	B5	3834	G
1	B5	3847	C
1	B5	3850	G
1	B5	3855	A
1	B5	3869	G
1	B5	3875	C
1	B5	3891	C
1	B5	3892	G
1	B5	3896	G
1	B5	3904	C
1	B5	3909	U
1	B5	3916	A
1	B5	3929	G
1	B5	3930	G
1	B5	3937	G
1	B5	3949	A
1	B5	3975	U
1	B5	3979	A
1	B5	3997	A
1	B5	4000	G
1	B5	4012	G
1	B5	4014	A
1	B5	4017	A
1	B5	4019	A

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Mol	Chain	Res	Type
1	B5	4027	A
1	B5	4037	G
1	B5	4050	A
1	B5	4051	G
1	B5	4052	OMU
1	B5	4076	G
1	B5	4078	C
1	B5	4096	C
1	B5	4100	U
1	B5	4119	G
1	B5	4123	G
1	B5	4124	A
1	B5	4133	C
1	B5	4137	G
1	B5	4140	A
1	B5	4168	A
1	B5	4183	U
1	B5	4194	G
1	B5	4210	A
1	B5	4221	G
1	B5	4258	U
1	B5	4259	A
1	B5	4265	C
1	B5	4270	G
1	B5	4294	A
1	B5	4306	C
1	B5	4313	G
1	B5	4321	G
1	B5	4336	A2M
1	B5	4381	A
1	B5	4382	PSU
1	B5	4383	OMG
1	B5	4402	A
1	B5	4416	C
1	B5	4418	A
1	B5	4437	A
1	B5	4446	A
1	B5	4454	A
1	B5	4455	U
1	B5	4465	G
1	B5	4475	A
1	B5	4476	C

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Mol	Chain	Res	Type
1	B5	4477	G
1	B5	4478	G
1	B5	4486	G
1	B5	4487	A
1	B5	4488	A
1	B5	4489	G
1	B5	4490	G
1	B5	4492	G
1	B5	4501	G
1	B5	4504	C
1	B5	4506	C
1	B5	4508	G
1	B5	4512	G
1	B5	4518	C
1	B5	4609	G
1	B5	4610	C
1	B5	4614	G
1	B5	4621	U
1	B5	4622	C
1	B5	4634	U
1	B5	4638	G
1	B5	4639	C
1	B5	4640	G
1	B5	4644	C
1	B5	4645	C
1	B5	4646	G
1	B5	4649	A
1	B5	4651	G
1	B5	4658	G
1	B5	4674	C
1	B5	4705	A
1	B5	4715	U
1	B5	4728	U
1	B5	4729	C
1	B5	4753	A
1	B5	4756	G
1	B5	4761	U
1	B5	4762	C
1	B5	4763	C
1	B5	4780	G
1	B5	4789	C
1	B5	4801	G

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Mol	Chain	Res	Type
1	B5	4808	U
2	B7	7	G
2	B7	53	U
2	B7	54	A
2	B7	64	G
2	B7	110	G
2	B7	120	U
3	B8	34	U
3	B8	35	C
3	B8	59	A
3	B8	62	A
3	B8	63	U
3	B8	81	C
3	B8	84	A
3	B8	87	G
3	B8	94	G
3	B8	103	A
3	B8	105	C
3	B8	110	U
3	B8	114	G
3	B8	156	U
52	A2	2	A
52	A2	3	C
52	A2	4	C
52	A2	33	G
52	A2	41	G
52	A2	46	A
52	A2	56	G
52	A2	67	C
52	A2	68	A
52	A2	73	C
52	A2	74	G
52	A2	77	A
52	A2	79	A
52	A2	103	A
52	A2	113	G
52	A2	115	U
52	A2	126	G
52	A2	130	G
52	A2	143	U
52	A2	147	A
52	A2	155	G

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Mol	Chain	Res	Type
52	A2	163	U
52	A2	168	C
52	A2	178	C
52	A2	184	G
52	A2	188	C
52	A2	192	C
52	A2	226	A
52	A2	282	C
52	A2	306	U
52	A2	310	G
52	A2	313	G
52	A2	320	C
52	A2	324	C
52	A2	325	U
52	A2	327	C
52	A2	328	G
52	A2	336	G
52	A2	348	G
52	A2	363	C
52	A2	365	A
52	A2	370	C
52	A2	386	G
52	A2	387	C
52	A2	401	C
52	A2	410	C
52	A2	439	G
52	A2	449	A
52	A2	451	C
52	A2	465	A
52	A2	466	A
52	A2	472	G
52	A2	473	C
52	A2	474	A
52	A2	475	G
52	A2	483	G
52	A2	488	U
52	A2	493	C
52	A2	502	C
52	A2	513	A2M
52	A2	526	A
52	A2	549	C
52	A2	565	A

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Mol	Chain	Res	Type
52	A2	569	C
52	A2	584	A
52	A2	590	G
52	A2	592	U
52	A2	607	G
52	A2	609	C
52	A2	615	C
52	A2	629	A
52	A2	632	U
52	A2	644	A
52	A2	645	OMG
52	A2	656	A
52	A2	661	C
52	A2	669	A2M
52	A2	670	A
52	A2	672	A
52	A2	673	A
52	A2	674	G
52	A2	734	C
52	A2	747	C
52	A2	748	U
52	A2	750	U
52	A2	754	C
52	A2	755	G
52	A2	756	C
52	A2	799	G
52	A2	812	A
52	A2	822	G
52	A2	823	PSU
52	A2	831	A
52	A2	832	G
52	A2	837	G
52	A2	838	A
52	A2	839	G
52	A2	840	C
52	A2	841	C
52	A2	842	G
52	A2	848	A
52	A2	871	A
52	A2	873	A
52	A2	879	G
52	A2	886	U

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Mol	Chain	Res	Type
52	A2	892	G
52	A2	914	A
52	A2	915	U
52	A2	921	A
52	A2	923	A
52	A2	931	C
52	A2	934	G
52	A2	944	U
52	A2	956	A
52	A2	964	A
52	A2	972	G
52	A2	991	A
52	A2	993	A
52	A2	1000	G
52	A2	1003	U
52	A2	1024	A
52	A2	1061	A
52	A2	1062	U
52	A2	1063	A
52	A2	1084	A
52	A2	1086	C
52	A2	1116	U
52	A2	1117	C
52	A2	1118	C
52	A2	1119	C
52	A2	1122	G
52	A2	1145	A
52	A2	1154	C
52	A2	1155	U
52	A2	1196	A
52	A2	1216	C
52	A2	1225	G
52	A2	1243	U
52	A2	1252	A
52	A2	1254	A
52	A2	1257	G
52	A2	1258	G
52	A2	1260	A
52	A2	1266	A
52	A2	1272	C
52	A2	1275	G
52	A2	1276	G

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Mol	Chain	Res	Type
52	A2	1303	G
52	A2	1304	C
52	A2	1343	U
52	A2	1359	U
52	A2	1372	U
52	A2	1373	U
52	A2	1379	A
52	A2	1398	U
52	A2	1403	A
52	A2	1406	A
52	A2	1419	C
52	A2	1420	C
52	A2	1422	A
52	A2	1424	C
52	A2	1436	C
52	A2	1448	OMG
52	A2	1455	A
52	A2	1463	U
52	A2	1464	U
52	A2	1481	A
52	A2	1488	A
52	A2	1490	A
52	A2	1491	OMG
52	A2	1495	U
52	A2	1498	G
52	A2	1522	C
52	A2	1523	A
52	A2	1534	A
52	A2	1553	G
52	A2	1580	A
52	A2	1581	A
52	A2	1586	U
52	A2	1589	A
52	A2	1602	A
52	A2	1622	U
52	A2	1624	A
52	A2	1647	C
52	A2	1655	G
52	A2	1662	A
52	A2	1666	G
52	A2	1699	C
52	A2	1722	U

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Mol	Chain	Res	Type
52	A2	1723	G
52	A2	1783	G
52	A2	1784	C
52	A2	1785	G
52	A2	1830	G
52	A2	1832	A
52	A2	1836	A
52	A2	1837	G
52	A2	1839	U
52	A2	1850	G
52	A2	1862	G
52	A2	1863	G
52	A2	1864	A
52	A2	1865	U
52	A2	1866	C
60	AI	76	A
61	AT	16	U
61	AT	17	G
61	AT	18	G
61	AT	20	U
61	AT	22	U
61	AT	23	C
61	AT	46	G
61	AT	47	U
61	AT	48	C
61	AT	76	A

All (2) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	B5	1588	G
1	B5	4445	U

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

225 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the

expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
52	PSU	A2	610	52	18,21,22	1.36	2 (11%)	21,30,33	2.03	3 (14%)
1	A2M	B5	2630	1,92	18,25,26	0.83	0	20,36,39	1.42	3 (15%)
1	OMG	B5	3942	1,61	19,26,27	0.89	1 (5%)	21,38,41	1.05	2 (9%)
3	PSU	B8	69	3	18,21,22	1.37	2 (11%)	21,30,33	2.05	5 (23%)
52	PSU	A2	573	52	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
1	OMG	B5	2719	1	19,26,27	0.89	1 (5%)	21,38,41	1.04	2 (9%)
52	A2M	A2	99	52,92	18,25,26	0.89	1 (5%)	20,36,39	1.25	2 (10%)
1	OMC	B5	4202	1	19,22,23	0.79	0	25,31,34	0.80	0
1	OMG	B5	4245	1	19,26,27	0.88	1 (5%)	21,38,41	1.05	2 (9%)
1	PSU	B5	4322	1	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
1	PSU	B5	3427	1	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
1	PSU	B5	4246	1	18,21,22	1.35	2 (11%)	21,30,33	2.06	4 (19%)
52	PSU	A2	218	52	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
52	PSU	A2	1047	52	18,21,22	1.37	2 (11%)	21,30,33	2.03	3 (14%)
1	OMG	B5	4138	1	19,26,27	0.88	1 (5%)	21,38,41	1.07	2 (9%)
1	PSU	B5	3466	1	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
52	OMG	A2	645	52	19,26,27	0.90	1 (5%)	21,38,41	1.07	2 (9%)
1	PSU	B5	3554	1	18,21,22	1.38	2 (11%)	21,30,33	2.01	3 (14%)
52	OMU	A2	429	52	19,22,23	1.23	4 (21%)	25,31,34	1.78	4 (16%)
52	PSU	A2	1368	52	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
52	PSU	A2	802	52	18,21,22	1.38	2 (11%)	21,30,33	2.03	4 (19%)
1	PSU	B5	3502	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
3	OMG	B8	75	3	19,26,27	0.89	1 (5%)	21,38,41	1.04	2 (9%)
1	OMU	B5	4244	1	19,22,23	1.23	3 (15%)	25,31,34	1.80	5 (20%)
52	A2M	A2	513	52	18,25,26	0.89	1 (5%)	20,36,39	1.24	2 (10%)
1	PSU	B5	4177	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
52	A2M	A2	469	52	18,25,26	0.89	1 (5%)	20,36,39	1.21	2 (10%)
52	PSU	A2	119	52	18,21,22	1.36	2 (11%)	21,30,33	2.00	3 (14%)
52	MA6	A2	1852	52	19,26,27	1.67	4 (21%)	18,38,41	2.34	4 (22%)
1	PSU	B5	1799	1	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
52	OMG	A2	1448	52	19,26,27	0.90	1 (5%)	21,38,41	1.05	2 (9%)
1	OMU	B5	2680	1	19,22,23	1.23	3 (15%)	25,31,34	1.82	5 (20%)
1	OMC	B5	3433	1	19,22,23	0.78	0	25,31,34	0.76	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	6MZ	B5	3966	1	17,25,26	0.91	1 (5%)	15,36,39	2.21	4 (26%)
3	PSU	B8	55	3	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
52	OMG	A2	602	52	19,26,27	0.89	1 (5%)	21,38,41	1.04	2 (9%)
52	PSU	A2	210	52	18,21,22	1.36	2 (11%)	21,30,33	2.01	4 (19%)
1	OMC	B5	2194	1,92	19,22,23	0.80	0	25,31,34	0.95	1 (4%)
52	OMU	A2	172	52	19,22,23	1.22	3 (15%)	25,31,34	1.80	4 (16%)
52	PSU	A2	1693	52	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
1	OMC	B5	2667	1	19,22,23	0.79	0	25,31,34	0.83	0
1	PSU	B5	4374	1	18,21,22	1.38	2 (11%)	21,30,33	2.05	3 (14%)
1	OMC	B5	1284	1	19,22,23	0.79	0	25,31,34	0.81	0
1	OMC	B5	3619	1	19,22,23	0.78	0	25,31,34	0.85	0
1	OMC	B5	3540	1	19,22,23	0.79	0	25,31,34	0.83	0
1	A2M	B5	3599	1	18,25,26	0.84	0	20,36,39	1.23	2 (10%)
81	NMM	As	67	81	8,11,12	0.53	0	7,12,14	0.43	0
62	SAC	AZ	2	62	7,8,9	0.56	0	7,9,11	0.94	1 (14%)
1	A2M	B5	3557	1	18,25,26	0.89	1 (5%)	20,36,39	1.26	2 (10%)
1	OMG	B5	4240	1	19,26,27	0.90	1 (5%)	21,38,41	1.06	2 (9%)
1	A2M	B5	2658	1,92	18,25,26	0.87	1 (5%)	20,36,39	1.25	2 (10%)
1	PSU	B5	3616	1	18,21,22	1.35	2 (11%)	21,30,33	2.06	4 (19%)
52	PSU	A2	967	52	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
52	PSU	A2	815	52	18,21,22	1.37	2 (11%)	21,30,33	2.01	3 (14%)
1	OMG	B5	1260	1	19,26,27	0.90	1 (5%)	21,38,41	1.10	2 (9%)
1	PSU	B5	3447	1	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
52	PSU	A2	1348	52	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
1	PSU	B5	1683	1	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
1	5MC	B5	3514	1,92	19,22,23	1.60	3 (15%)	26,32,35	1.13	3 (11%)
52	OMU	A2	628	52	19,22,23	1.20	2 (10%)	25,31,34	1.79	5 (20%)
1	OMG	B5	1477	1	19,26,27	0.89	1 (5%)	21,38,41	1.05	2 (9%)
1	PSU	B5	1720	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
1	PSU	B5	1731	1	18,21,22	1.36	2 (11%)	21,30,33	2.05	4 (19%)
52	4AC	A2	1843	52	21,24,25	1.09	1 (4%)	28,34,37	1.38	3 (10%)
52	A2M	A2	1679	52	18,25,26	0.87	1 (5%)	20,36,39	1.40	3 (15%)
1	OMG	B5	3676	1	19,26,27	0.90	1 (5%)	21,38,41	1.06	2 (9%)
1	PSU	B5	4217	1	18,21,22	1.38	2 (11%)	21,30,33	2.02	4 (19%)
1	A2M	B5	398	1	18,25,26	0.87	0	20,36,39	1.34	2 (10%)
1	A2M	B5	3492	1,52	18,25,26	0.85	0	20,36,39	1.41	2 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	A2M	B5	3517	1	18,25,26	0.81	0	20,36,39	1.63	3 (15%)
1	OMU	B5	3973	1	19,22,23	1.25	4 (21%)	25,31,34	1.79	4 (16%)
1	PSU	B5	1632	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
52	OMC	A2	463	52	19,22,23	0.79	0	25,31,34	0.87	1 (4%)
52	OMU	A2	355	52	19,22,23	1.24	3 (15%)	25,31,34	1.81	4 (16%)
1	PSU	B5	4278	1	18,21,22	1.38	2 (11%)	21,30,33	1.99	3 (14%)
61	PSU	AT	55	61	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	A2M	B5	3456	1	18,25,26	0.90	1 (5%)	20,36,39	1.24	2 (10%)
1	PSU	B5	4045	1	18,21,22	1.38	2 (11%)	21,30,33	2.03	4 (19%)
52	PSU	A2	687	52	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	PSU	B5	4042	1	18,21,22	1.36	2 (11%)	21,30,33	2.07	4 (19%)
1	PSU	B5	4169	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	3 (14%)
1	PSU	B5	3583	1	18,21,22	1.37	2 (11%)	21,30,33	2.01	4 (19%)
1	A2M	B5	1810	1,92	18,25,26	0.90	1 (5%)	20,36,39	1.28	3 (15%)
1	A2M	B5	1270	1	18,25,26	0.83	0	20,36,39	1.20	2 (10%)
1	PSU	B5	4382	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	3 (14%)
4	V5N	BA	216	4	4,11,12	0.81	0	5,14,16	1.54	1 (20%)
52	A2M	A2	166	52	18,25,26	0.90	1 (5%)	20,36,39	1.28	2 (10%)
1	OMU	B5	4052	1	19,22,23	1.24	4 (21%)	25,31,34	1.77	4 (16%)
52	PSU	A2	867	52	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
52	OMU	A2	121	52	19,22,23	1.23	3 (15%)	25,31,34	1.79	4 (16%)
52	A2M	A2	485	52	18,25,26	0.86	0	20,36,39	1.29	2 (10%)
1	PSU	B5	4267	1,92	18,21,22	1.37	2 (11%)	21,30,33	2.07	4 (19%)
1	PSU	B5	1801	1	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
52	PSU	A2	864	52	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
1	PSU	B5	3494	1	18,21,22	1.38	2 (11%)	21,30,33	2.04	3 (14%)
1	A2M	B5	3562	1	18,25,26	0.89	1 (5%)	20,36,39	1.26	3 (15%)
1	PSU	B5	4325	1	18,21,22	1.36	2 (11%)	21,30,33	2.02	3 (14%)
52	OMG	A2	510	52,92	19,26,27	0.90	1 (5%)	21,38,41	1.06	2 (9%)
1	OMG	B5	3974	1	19,26,27	0.90	1 (5%)	21,38,41	1.11	2 (9%)
52	OMC	A2	518	52	19,22,23	0.79	0	25,31,34	0.82	0
1	PSU	B5	2351	1	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
52	OMU	A2	1443	52,92	19,22,23	1.27	4 (21%)	25,31,34	1.78	5 (20%)
1	OMG	B5	4369	1	19,26,27	0.89	1 (5%)	21,38,41	1.09	2 (9%)
52	PSU	A2	105	52	18,21,22	1.37	2 (11%)	21,30,33	2.02	3 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	B5	4298	1	18,21,22	1.37	2 (11%)	21,30,33	2.06	4 (19%)
52	OMC	A2	1704	52	19,22,23	0.79	0	25,31,34	0.87	1 (4%)
52	A2M	A2	669	52,92	18,25,26	0.83	0	20,36,39	1.29	2 (10%)
52	PSU	A2	1626	52	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
1	A2M	B5	4317	1	18,25,26	0.87	0	20,36,39	1.26	2 (10%)
52	OMG	A2	1329	52	19,26,27	0.90	1 (5%)	21,38,41	1.04	2 (9%)
52	PSU	A2	1057	52	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
52	OMU	A2	1289	52	19,22,23	1.23	4 (21%)	25,31,34	1.76	4 (16%)
1	PSU	B5	3371	1	18,21,22	1.38	2 (11%)	21,30,33	2.02	3 (14%)
43	MLZ	Bo	53	43	8,9,10	0.51	0	4,9,11	0.07	0
52	A2M	A2	1384	52	18,25,26	0.88	1 (5%)	20,36,39	1.22	2 (10%)
52	G7M	A2	1640	52,61	20,26,27	2.89	7 (35%)	16,39,42	0.96	1 (6%)
1	A2M	B5	2244	1,92	18,25,26	0.86	0	20,36,39	1.27	3 (15%)
1	A2M	B5	3450	1	18,25,26	0.87	1 (5%)	20,36,39	1.23	2 (10%)
1	OMU	B5	3657	1	19,22,23	1.25	3 (15%)	25,31,34	1.85	5 (20%)
1	A2M	B5	4336	1	18,25,26	0.88	1 (5%)	20,36,39	1.24	2 (10%)
52	PSU	A2	1005	52	18,21,22	1.36	2 (11%)	21,30,33	2.01	3 (14%)
52	B8N	A2	1249	52	25,29,30	1.47	4 (16%)	28,42,45	1.37	3 (10%)
52	PSU	A2	682	52	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
1	PSU	B5	4149	1	18,21,22	1.36	2 (11%)	21,30,33	2.06	4 (19%)
1	OMG	B5	4383	1	19,26,27	0.90	1 (5%)	21,38,41	1.07	2 (9%)
1	PSU	B5	4740	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
52	A2M	A2	591	52	18,25,26	0.88	1 (5%)	20,36,39	1.30	3 (15%)
1	PSU	B5	3496	1	18,21,22	1.36	2 (11%)	21,30,33	2.05	4 (19%)
52	OMC	A2	174	52,92	19,22,23	0.79	0	25,31,34	0.82	0
80	SAC	Ar	2	80	7,8,9	0.57	0	7,9,11	0.99	1 (14%)
52	OMU	A2	1805	52	19,22,23	1.25	4 (21%)	25,31,34	1.79	4 (16%)
52	PSU	A2	36	52	18,21,22	1.36	2 (11%)	21,30,33	2.03	3 (14%)
1	PSU	B5	3500	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
1	PSU	B5	4099	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
52	PSU	A2	816	52	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	UY1	B5	3550	1	19,22,23	1.43	3 (15%)	21,31,34	2.04	5 (23%)
52	PSU	A2	407	52	18,21,22	1.36	2 (11%)	21,30,33	2.05	4 (19%)
52	OMU	A2	1327	52,92	19,22,23	1.20	2 (10%)	25,31,34	1.81	5 (20%)
1	PSU	B5	1721	1	18,21,22	1.36	2 (11%)	21,30,33	2.05	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMG	B5	3476	1	19,26,27	0.89	1 (5%)	21,38,41	1.05	2 (9%)
1	PSU	B5	1718	1	18,21,22	1.35	2 (11%)	21,30,33	2.03	4 (19%)
1	A2M	B5	2206	1,92	18,25,26	0.88	1 (5%)	20,36,39	1.23	2 (10%)
1	OMC	B5	2208	1,92	19,22,23	0.79	0	25,31,34	0.80	0
1	OMU	B5	4366	1	19,22,23	1.24	3 (15%)	25,31,34	1.82	4 (16%)
1	OMU	B5	2258	1	19,22,23	1.24	3 (15%)	25,31,34	1.78	4 (16%)
42	M3L	Bm	98	42	10,11,12	0.86	0	9,14,16	0.59	0
1	PSU	B5	4039	1	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
52	OMU	A2	116	52	19,22,23	1.22	3 (15%)	25,31,34	1.77	4 (16%)
5	HIC	BB	245	5	8,11,12	0.90	0	5,14,16	0.93	0
1	PSU	B5	4166	1	18,21,22	1.39	2 (11%)	21,30,33	2.00	4 (19%)
52	PSU	A2	109	52	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
1	A2M	B5	1489	1,92	18,25,26	0.85	0	20,36,39	1.32	2 (10%)
1	OMG	B5	2267	1	19,26,27	0.88	1 (5%)	21,38,41	1.04	2 (9%)
1	OMG	B5	4116	1	19,26,27	0.88	1 (5%)	21,38,41	1.05	2 (9%)
1	OMG	B5	2207	1	19,26,27	0.88	1 (5%)	21,38,41	1.05	2 (9%)
1	PSU	B5	4419	1	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
52	A2M	A2	27	52,92	18,25,26	0.88	1 (5%)	20,36,39	1.23	2 (10%)
1	OMG	B5	1580	1	19,26,27	0.92	1 (5%)	21,38,41	1.10	2 (9%)
30	V5N	Ba	39	30	4,11,12	0.79	0	5,14,16	1.54	1 (20%)
1	PSU	B5	4107	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
52	A2M	A2	159	52	18,25,26	0.86	0	20,36,39	1.31	2 (10%)
52	OMG	A2	684	52	19,26,27	0.89	1 (5%)	21,38,41	1.06	2 (9%)
52	PSU	A2	1178	52	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
1	OMC	B5	3573	1	19,22,23	0.80	0	25,31,34	0.90	1 (4%)
52	PSU	A2	1245	52	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	PSU	B5	3585	1,92	18,21,22	1.37	2 (11%)	21,30,33	2.02	3 (14%)
1	PSU	B5	4058	1	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
52	PSU	A2	1046	52	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
52	PSU	A2	93	52	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	PSU	B5	1638	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
52	A2M	A2	1032	52	18,25,26	0.88	1 (5%)	20,36,39	1.27	2 (10%)
1	PSU	B5	3576	1	18,21,22	1.39	2 (11%)	21,30,33	2.02	3 (14%)
52	PSU	A2	650	52	18,21,22	1.37	2 (11%)	21,30,33	2.05	4 (19%)
6	AYA	BC	2	6	6,7,8	0.73	0	6,8,10	0.62	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
83	AME	Au	1	83	9,10,11	0.51	0	9,11,13	0.89	1 (11%)
1	PSU	B5	3652	1,92	18,21,22	1.38	2 (11%)	21,30,33	2.03	4 (19%)
1	OMC	B5	2647	1	19,22,23	0.79	0	25,31,34	0.83	0
52	PSU	A2	1175	52	18,21,22	1.36	2 (11%)	21,30,33	2.05	4 (19%)
52	PSU	A2	1239	52	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
1	A2M	B5	4269	1,92	18,25,26	0.90	1 (5%)	20,36,39	1.34	3 (15%)
52	A2M	A2	577	52	18,25,26	0.87	0	20,36,39	1.19	2 (10%)
1	OMC	B5	4282	1,92	19,22,23	0.80	0	25,31,34	0.85	0
1	PSU	B5	1491	1	18,21,22	1.37	2 (11%)	21,30,33	2.08	4 (19%)
1	OMC	B5	1820	1,92	19,22,23	0.78	0	25,31,34	0.81	0
52	OMG	A2	868	52	19,26,27	0.89	1 (5%)	21,38,41	1.04	2 (9%)
52	OMG	A2	437	52	19,26,27	0.89	1 (5%)	21,38,41	1.08	2 (9%)
85	HY3	Aw	62	85	7,8,9	1.88	1 (14%)	7,10,12	2.38	2 (28%)
1	OMC	B5	2265	1,92	19,22,23	0.80	0	25,31,34	0.87	1 (4%)
1	PSU	B5	3490	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
52	OMG	A2	1491	52,92	19,26,27	0.90	1 (5%)	21,38,41	1.06	2 (9%)
1	PSU	B5	4188	1	18,21,22	1.37	2 (11%)	21,30,33	2.05	4 (19%)
1	PSU	B5	1537	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
1	OMG	B5	3524	1	19,26,27	0.89	1 (5%)	21,38,41	1.04	2 (9%)
52	PSU	A2	1644	52,92	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
1	OMC	B5	2704	1	19,22,23	0.80	0	25,31,34	0.86	1 (4%)
52	6MZ	A2	1833	52,92	17,25,26	0.92	1 (5%)	15,36,39	2.02	4 (26%)
1	PSU	B5	3369	1	18,21,22	1.37	2 (11%)	21,30,33	2.05	4 (19%)
1	PSU	B5	4749	1	18,21,22	1.36	2 (11%)	21,30,33	2.05	4 (19%)
52	MA6	A2	1851	52	19,26,27	1.66	4 (21%)	18,38,41	2.40	4 (22%)
52	PSU	A2	34	52	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
52	PSU	A2	823	52	18,21,22	1.38	2 (11%)	21,30,33	2.02	4 (19%)
1	A2M	B5	1479	1	18,25,26	0.86	0	20,36,39	1.27	2 (10%)
1	OMG	B5	3359	1	19,26,27	0.90	1 (5%)	21,38,41	1.07	2 (9%)
1	5MC	B5	4193	1	19,22,23	1.64	3 (15%)	26,32,35	1.16	2 (7%)
76	5F0	An	138	76	8,8,9	1.46	2 (25%)	8,9,11	1.64	1 (12%)
52	4AC	A2	1338	52	21,24,25	1.05	1 (4%)	28,34,37	1.26	3 (10%)
1	PSU	B5	4435	1	18,21,22	1.37	2 (11%)	21,30,33	2.05	3 (14%)
1	OMC	B5	3601	1	19,22,23	0.79	0	25,31,34	0.87	1 (4%)
52	PSU	A2	1233	52	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMG	B5	3631	1	19,26,27	0.89	1 (5%)	21,38,41	1.07	2 (9%)
31	MLZ	Bb	5	31	8,9,10	0.51	0	4,9,11	0.13	0
52	PSU	A2	652	52	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
52	OMC	A2	1392	52	19,22,23	0.80	0	25,31,34	0.91	1 (4%)
1	OMG	B5	4364	1	19,26,27	0.89	1 (5%)	21,38,41	1.06	2 (9%)
1	PSU	B5	4711	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	UR3	B5	4276	1	19,22,23	0.99	1 (5%)	26,32,35	1.71	2 (7%)
1	PSU	B5	4203	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
45	SAC	Br	2	45	7,8,9	0.56	0	7,9,11	0.93	1 (14%)
1	1MA	B5	1266	1,92	17,25,26	1.55	2 (11%)	17,37,40	1.12	2 (11%)
1	A2M	B5	400	1	18,25,26	0.87	1 (5%)	20,36,39	1.25	2 (10%)
52	PSU	A2	1082	52	18,21,22	1.39	2 (11%)	21,30,33	2.00	3 (14%)
1	PSU	B5	3462	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	3 (14%)
1	PSU	B5	2475	1	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
52	PSU	A2	1446	52	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
61	5MU	AT	54	61	19,22,23	1.40	6 (31%)	27,32,35	2.06	6 (22%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
52	PSU	A2	610	52	-	0/7/25/26	0/2/2/2
1	A2M	B5	2630	1,92	-	0/5/27/28	0/3/3/3
1	OMG	B5	3942	1,61	-	0/5/27/28	0/3/3/3
3	PSU	B8	69	3	-	0/7/25/26	0/2/2/2
52	PSU	A2	573	52	-	0/7/25/26	0/2/2/2
1	OMG	B5	2719	1	-	0/5/27/28	0/3/3/3
52	A2M	A2	99	52,92	-	2/5/27/28	0/3/3/3
1	OMC	B5	4202	1	-	0/9/27/28	0/2/2/2
1	OMG	B5	4245	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	4322	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	3427	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4246	1	-	1/7/25/26	0/2/2/2
52	PSU	A2	218	52	-	0/7/25/26	0/2/2/2
52	PSU	A2	1047	52	-	0/7/25/26	0/2/2/2
1	OMG	B5	4138	1	-	1/5/27/28	0/3/3/3
1	PSU	B5	3466	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
52	OMG	A2	645	52	-	3/5/27/28	0/3/3/3
1	PSU	B5	3554	1	-	0/7/25/26	0/2/2/2
52	OMU	A2	429	52	-	4/9/27/28	0/2/2/2
52	PSU	A2	1368	52	-	0/7/25/26	0/2/2/2
52	PSU	A2	802	52	-	0/7/25/26	0/2/2/2
1	PSU	B5	3502	1	-	0/7/25/26	0/2/2/2
3	OMG	B8	75	3	-	0/5/27/28	0/3/3/3
1	OMU	B5	4244	1	-	0/9/27/28	0/2/2/2
52	A2M	A2	513	52	-	2/5/27/28	0/3/3/3
1	PSU	B5	4177	1	-	0/7/25/26	0/2/2/2
52	A2M	A2	469	52	-	1/5/27/28	0/3/3/3
52	PSU	A2	119	52	-	0/7/25/26	0/2/2/2
52	MA6	A2	1852	52	-	3/7/29/30	0/3/3/3
1	PSU	B5	1799	1	-	0/7/25/26	0/2/2/2
52	OMG	A2	1448	52	-	3/5/27/28	0/3/3/3
1	OMU	B5	2680	1	-	1/9/27/28	0/2/2/2
1	OMC	B5	3433	1	-	4/9/27/28	0/2/2/2
1	6MZ	B5	3966	1	-	0/5/27/28	0/3/3/3
3	PSU	B8	55	3	-	0/7/25/26	0/2/2/2
52	OMG	A2	602	52	-	0/5/27/28	0/3/3/3
52	PSU	A2	210	52	-	0/7/25/26	0/2/2/2
1	OMC	B5	2194	1,92	-	2/9/27/28	0/2/2/2
52	OMU	A2	172	52	-	0/9/27/28	0/2/2/2
52	PSU	A2	1693	52	-	0/7/25/26	0/2/2/2
1	OMC	B5	2667	1	-	1/9/27/28	0/2/2/2
1	PSU	B5	4374	1	-	0/7/25/26	0/2/2/2
1	OMC	B5	1284	1	-	0/9/27/28	0/2/2/2
1	OMC	B5	3619	1	-	2/9/27/28	0/2/2/2
1	OMC	B5	3540	1	-	0/9/27/28	0/2/2/2
1	A2M	B5	3599	1	-	1/5/27/28	0/3/3/3
81	NMM	As	67	81	-	1/9/11/13	-
62	SAC	AZ	2	62	-	2/7/8/10	-
1	A2M	B5	3557	1	-	0/5/27/28	0/3/3/3
1	OMG	B5	4240	1	-	0/5/27/28	0/3/3/3
1	A2M	B5	2658	1,92	-	0/5/27/28	0/3/3/3
1	PSU	B5	3616	1	-	0/7/25/26	0/2/2/2
52	PSU	A2	967	52	-	0/7/25/26	0/2/2/2
52	PSU	A2	815	52	-	0/7/25/26	0/2/2/2
1	OMG	B5	1260	1	-	1/5/27/28	0/3/3/3
1	PSU	B5	3447	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
52	PSU	A2	1348	52	-	0/7/25/26	0/2/2/2
1	PSU	B5	1683	1	-	0/7/25/26	0/2/2/2
1	5MC	B5	3514	1,92	-	0/7/25/26	0/2/2/2
52	OMU	A2	628	52	-	4/9/27/28	0/2/2/2
1	OMG	B5	1477	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	1720	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	1731	1	-	0/7/25/26	0/2/2/2
52	4AC	A2	1843	52	-	4/11/29/30	0/2/2/2
52	A2M	A2	1679	52	-	0/5/27/28	0/3/3/3
1	OMG	B5	3676	1	-	1/5/27/28	0/3/3/3
1	PSU	B5	4217	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	398	1	-	3/5/27/28	0/3/3/3
1	A2M	B5	3492	1,52	-	0/5/27/28	0/3/3/3
1	A2M	B5	3517	1	-	2/5/27/28	0/3/3/3
1	OMU	B5	3973	1	-	0/9/27/28	0/2/2/2
1	PSU	B5	1632	1	-	0/7/25/26	0/2/2/2
52	OMC	A2	463	52	-	0/9/27/28	0/2/2/2
52	OMU	A2	355	52	-	2/9/27/28	0/2/2/2
1	PSU	B5	4278	1	-	0/7/25/26	0/2/2/2
61	PSU	AT	55	61	-	0/7/25/26	0/2/2/2
1	A2M	B5	3456	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	4045	1	-	0/7/25/26	0/2/2/2
52	PSU	A2	687	52	-	0/7/25/26	0/2/2/2
1	PSU	B5	4042	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4169	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	3583	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	1810	1,92	-	0/5/27/28	0/3/3/3
1	A2M	B5	1270	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	4382	1	-	4/7/25/26	0/2/2/2
4	V5N	BA	216	4	-	1/5/10/12	0/1/1/1
52	A2M	A2	166	52	-	0/5/27/28	0/3/3/3
1	OMU	B5	4052	1	-	0/9/27/28	0/2/2/2
52	PSU	A2	867	52	-	0/7/25/26	0/2/2/2
52	OMU	A2	121	52	-	0/9/27/28	0/2/2/2
52	A2M	A2	485	52	-	0/5/27/28	0/3/3/3
1	PSU	B5	4267	1,92	-	0/7/25/26	0/2/2/2
1	PSU	B5	1801	1	-	0/7/25/26	0/2/2/2
52	PSU	A2	864	52	-	0/7/25/26	0/2/2/2
1	PSU	B5	3494	1	-	1/7/25/26	0/2/2/2
1	A2M	B5	3562	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	4325	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
52	OMG	A2	510	52,92	-	1/5/27/28	0/3/3/3
1	OMG	B5	3974	1	-	0/5/27/28	0/3/3/3
52	OMC	A2	518	52	-	0/9/27/28	0/2/2/2
1	PSU	B5	2351	1	-	0/7/25/26	0/2/2/2
52	OMU	A2	1443	52,92	-	1/9/27/28	0/2/2/2
1	OMG	B5	4369	1	-	1/5/27/28	0/3/3/3
52	PSU	A2	105	52	-	0/7/25/26	0/2/2/2
1	PSU	B5	4298	1	-	0/7/25/26	0/2/2/2
52	OMC	A2	1704	52	-	1/9/27/28	0/2/2/2
52	A2M	A2	669	52,92	-	2/5/27/28	0/3/3/3
52	PSU	A2	1626	52	-	0/7/25/26	0/2/2/2
1	A2M	B5	4317	1	-	0/5/27/28	0/3/3/3
52	OMG	A2	1329	52	-	0/5/27/28	0/3/3/3
52	PSU	A2	1057	52	-	0/7/25/26	0/2/2/2
52	OMU	A2	1289	52	-	0/9/27/28	0/2/2/2
1	PSU	B5	3371	1	-	0/7/25/26	0/2/2/2
43	MLZ	B ₀	53	43	-	0/7/8/10	-
52	A2M	A2	1384	52	-	0/5/27/28	0/3/3/3
52	G7M	A2	1640	52,61	-	2/3/25/26	0/3/3/3
1	A2M	B5	2244	1,92	-	0/5/27/28	0/3/3/3
1	A2M	B5	3450	1	-	0/5/27/28	0/3/3/3
1	OMU	B5	3657	1	-	1/9/27/28	0/2/2/2
1	A2M	B5	4336	1	-	1/5/27/28	0/3/3/3
52	PSU	A2	1005	52	-	0/7/25/26	0/2/2/2
52	B8N	A2	1249	52	-	4/16/34/35	0/2/2/2
52	PSU	A2	682	52	-	0/7/25/26	0/2/2/2
1	PSU	B5	4149	1	-	0/7/25/26	0/2/2/2
1	OMG	B5	4383	1	-	1/5/27/28	0/3/3/3
1	PSU	B5	4740	1	-	0/7/25/26	0/2/2/2
52	A2M	A2	591	52	-	0/5/27/28	0/3/3/3
1	PSU	B5	3496	1	-	0/7/25/26	0/2/2/2
52	OMC	A2	174	52,92	-	0/9/27/28	0/2/2/2
80	SAC	Ar	2	80	-	0/7/8/10	-
52	OMU	A2	1805	52	-	0/9/27/28	0/2/2/2
52	PSU	A2	36	52	-	0/7/25/26	0/2/2/2
1	PSU	B5	3500	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4099	1	-	0/7/25/26	0/2/2/2
52	PSU	A2	816	52	-	0/7/25/26	0/2/2/2
1	UY1	B5	3550	1	-	1/9/27/28	0/2/2/2
52	PSU	A2	407	52	-	0/7/25/26	0/2/2/2
52	OMU	A2	1327	52,92	-	0/9/27/28	0/2/2/2
1	PSU	B5	1721	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMG	B5	3476	1	-	1/5/27/28	0/3/3/3
1	PSU	B5	1718	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	2206	1,92	-	0/5/27/28	0/3/3/3
1	OMC	B5	2208	1,92	-	0/9/27/28	0/2/2/2
1	OMU	B5	4366	1	-	1/9/27/28	0/2/2/2
1	OMU	B5	2258	1	-	0/9/27/28	0/2/2/2
42	M3L	Bm	98	42	-	0/9/10/12	-
1	PSU	B5	4039	1	-	0/7/25/26	0/2/2/2
52	OMU	A2	116	52	-	1/9/27/28	0/2/2/2
5	HIC	BB	245	5	-	2/5/6/8	0/1/1/1
1	PSU	B5	4166	1	-	0/7/25/26	0/2/2/2
52	PSU	A2	109	52	-	0/7/25/26	0/2/2/2
1	A2M	B5	1489	1,92	-	2/5/27/28	0/3/3/3
1	OMG	B5	2267	1	-	0/5/27/28	0/3/3/3
1	OMG	B5	4116	1	-	0/5/27/28	0/3/3/3
1	OMG	B5	2207	1	-	3/5/27/28	0/3/3/3
1	PSU	B5	4419	1	-	0/7/25/26	0/2/2/2
52	A2M	A2	27	52,92	-	1/5/27/28	0/3/3/3
1	OMG	B5	1580	1	-	0/5/27/28	0/3/3/3
30	V5N	Ba	39	30	-	0/5/10/12	0/1/1/1
1	PSU	B5	4107	1	-	0/7/25/26	0/2/2/2
52	A2M	A2	159	52	-	1/5/27/28	0/3/3/3
52	OMG	A2	684	52	-	1/5/27/28	0/3/3/3
52	PSU	A2	1178	52	-	0/7/25/26	0/2/2/2
1	OMC	B5	3573	1	-	0/9/27/28	0/2/2/2
52	PSU	A2	1245	52	-	0/7/25/26	0/2/2/2
1	PSU	B5	3585	1,92	-	0/7/25/26	0/2/2/2
1	PSU	B5	4058	1	-	0/7/25/26	0/2/2/2
52	PSU	A2	1046	52	-	0/7/25/26	0/2/2/2
52	PSU	A2	93	52	-	0/7/25/26	0/2/2/2
1	PSU	B5	1638	1	-	0/7/25/26	0/2/2/2
52	A2M	A2	1032	52	-	0/5/27/28	0/3/3/3
1	PSU	B5	3576	1	-	1/7/25/26	0/2/2/2
52	PSU	A2	650	52	-	0/7/25/26	0/2/2/2
6	AYA	BC	2	6	-	3/5/6/8	-
83	AME	Au	1	83	-	2/9/10/12	-
1	PSU	B5	3652	1,92	-	0/7/25/26	0/2/2/2
1	OMC	B5	2647	1	-	0/9/27/28	0/2/2/2
52	PSU	A2	1175	52	-	0/7/25/26	0/2/2/2
52	PSU	A2	1239	52	-	0/7/25/26	0/2/2/2
1	A2M	B5	4269	1,92	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
52	A2M	A2	577	52	-	2/5/27/28	0/3/3/3
1	OMC	B5	4282	1,92	-	0/9/27/28	0/2/2/2
1	PSU	B5	1491	1	-	0/7/25/26	0/2/2/2
1	OMC	B5	1820	1,92	-	1/9/27/28	0/2/2/2
52	OMG	A2	868	52	-	0/5/27/28	0/3/3/3
52	OMG	A2	437	52	-	0/5/27/28	0/3/3/3
85	HY3	Aw	62	85	-	1/1/12/14	0/1/1/1
1	OMC	B5	2265	1,92	-	2/9/27/28	0/2/2/2
1	PSU	B5	3490	1	-	0/7/25/26	0/2/2/2
52	OMG	A2	1491	52,92	-	0/5/27/28	0/3/3/3
1	PSU	B5	4188	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	1537	1	-	0/7/25/26	0/2/2/2
1	OMG	B5	3524	1	-	0/5/27/28	0/3/3/3
52	PSU	A2	1644	52,92	-	0/7/25/26	0/2/2/2
1	OMC	B5	2704	1	-	0/9/27/28	0/2/2/2
52	6MZ	A2	1833	52,92	-	0/5/27/28	0/3/3/3
1	PSU	B5	3369	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4749	1	-	0/7/25/26	0/2/2/2
52	MA6	A2	1851	52	-	0/7/29/30	0/3/3/3
52	PSU	A2	34	52	-	0/7/25/26	0/2/2/2
52	PSU	A2	823	52	-	0/7/25/26	0/2/2/2
1	A2M	B5	1479	1	-	0/5/27/28	0/3/3/3
1	OMG	B5	3359	1	-	0/5/27/28	0/3/3/3
1	5MC	B5	4193	1	-	4/7/25/26	0/2/2/2
76	5F0	An	138	76	-	1/9/9/10	-
52	4AC	A2	1338	52	-	4/11/29/30	0/2/2/2
1	PSU	B5	4435	1	-	0/7/25/26	0/2/2/2
1	OMC	B5	3601	1	-	0/9/27/28	0/2/2/2
52	PSU	A2	1233	52	-	0/7/25/26	0/2/2/2
1	OMG	B5	3631	1	-	1/5/27/28	0/3/3/3
31	MLZ	Bb	5	31	-	2/7/8/10	-
52	PSU	A2	652	52	-	0/7/25/26	0/2/2/2
52	OMC	A2	1392	52	-	0/9/27/28	0/2/2/2
1	OMG	B5	4364	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	4711	1	-	0/7/25/26	0/2/2/2
1	UR3	B5	4276	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4203	1	-	0/7/25/26	0/2/2/2
45	SAC	Br	2	45	-	0/7/8/10	-
1	1MA	B5	1266	1,92	-	0/3/25/26	0/3/3/3
1	A2M	B5	400	1	-	0/5/27/28	0/3/3/3
52	PSU	A2	1082	52	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	B5	3462	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	2475	1	-	0/7/25/26	0/2/2/2
52	PSU	A2	1446	52	-	0/7/25/26	0/2/2/2
61	5MU	AT	54	61	-	0/7/25/26	0/2/2/2

All (342) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	A2	1640	G7M	C5-C4	7.39	1.53	1.39
52	A2	1640	G7M	O6-C6	6.34	1.38	1.23
1	B5	4193	5MC	C5-C4	5.82	1.48	1.44
1	B5	3514	5MC	C5-C4	5.78	1.48	1.44
1	B5	1266	1MA	C2-N3	4.94	1.34	1.28
52	A2	1852	MA6	C6-C5	-4.59	1.37	1.44
85	Aw	62	HY3	C3-CA	-4.53	1.50	1.55
52	A2	1640	G7M	C2-N2	4.53	1.44	1.34
52	A2	1851	MA6	C6-C5	-4.52	1.37	1.44
52	A2	1640	G7M	C2-N1	3.94	1.47	1.37
1	B5	3550	UY1	C6-C5	3.82	1.39	1.35
52	A2	1249	B8N	C4-C5	-3.64	1.39	1.47
52	A2	1851	MA6	C6-N6	3.62	1.45	1.37
52	A2	1852	MA6	C6-N6	3.60	1.45	1.37
52	A2	1640	G7M	C8-N9	3.49	1.39	1.33
1	B5	4166	PSU	C6-C5	3.43	1.39	1.35
1	B5	1632	PSU	C6-C5	3.40	1.39	1.35
1	B5	3494	PSU	C6-C5	3.38	1.39	1.35
52	A2	210	PSU	C6-C5	3.38	1.39	1.35
52	A2	802	PSU	C6-C5	3.38	1.39	1.35
52	A2	823	PSU	C6-C5	3.37	1.39	1.35
1	B5	2475	PSU	C6-C5	3.36	1.39	1.35
61	AT	55	PSU	C6-C5	3.36	1.39	1.35
52	A2	105	PSU	C6-C5	3.35	1.39	1.35
1	B5	3554	PSU	C6-C5	3.35	1.39	1.35
52	A2	864	PSU	C6-C5	3.35	1.39	1.35
1	B5	1799	PSU	C6-C5	3.35	1.39	1.35
52	A2	1851	MA6	C5-N7	3.35	1.51	1.39
52	A2	34	PSU	C6-C5	3.34	1.39	1.35
52	A2	1368	PSU	C6-C5	3.34	1.39	1.35
1	B5	4382	PSU	C6-C5	3.34	1.39	1.35
52	A2	573	PSU	C6-C5	3.34	1.39	1.35
52	A2	1082	PSU	C6-C5	3.34	1.39	1.35
1	B5	4278	PSU	C6-C5	3.34	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	A2	1047	PSU	C6-C5	3.34	1.39	1.35
1	B5	3466	PSU	C6-C5	3.34	1.39	1.35
52	A2	218	PSU	C6-C5	3.33	1.39	1.35
52	A2	610	PSU	C6-C5	3.33	1.39	1.35
52	A2	1348	PSU	C6-C5	3.33	1.39	1.35
1	B5	4322	PSU	C6-C5	3.33	1.39	1.35
1	B5	3500	PSU	C6-C5	3.33	1.39	1.35
52	A2	1233	PSU	C6-C5	3.33	1.39	1.35
52	A2	1245	PSU	C6-C5	3.32	1.39	1.35
1	B5	3462	PSU	C6-C5	3.32	1.39	1.35
52	A2	652	PSU	C6-C5	3.32	1.39	1.35
1	B5	3576	PSU	C6-C5	3.32	1.39	1.35
1	B5	4740	PSU	C6-C5	3.32	1.39	1.35
52	A2	1852	MA6	C5-N7	3.32	1.51	1.39
1	B5	3427	PSU	C6-C5	3.32	1.39	1.35
52	A2	109	PSU	C6-C5	3.32	1.39	1.35
1	B5	4217	PSU	C6-C5	3.32	1.39	1.35
52	A2	1239	PSU	C6-C5	3.31	1.39	1.35
52	A2	1626	PSU	C6-C5	3.31	1.39	1.35
52	A2	867	PSU	C6-C5	3.31	1.39	1.35
1	B5	3371	PSU	C6-C5	3.31	1.39	1.35
52	A2	119	PSU	C6-C5	3.31	1.39	1.35
52	A2	815	PSU	C6-C5	3.31	1.39	1.35
1	B5	4749	PSU	C6-C5	3.31	1.39	1.35
52	A2	1693	PSU	C6-C5	3.31	1.39	1.35
52	A2	407	PSU	C6-C5	3.31	1.39	1.35
52	A2	1178	PSU	C6-C5	3.30	1.38	1.35
52	A2	1644	PSU	C6-C5	3.30	1.38	1.35
1	B5	4374	PSU	C6-C5	3.30	1.38	1.35
52	A2	93	PSU	C6-C5	3.30	1.38	1.35
52	A2	967	PSU	C6-C5	3.30	1.38	1.35
1	B5	1721	PSU	C6-C5	3.30	1.38	1.35
52	A2	1249	B8N	C4-N3	-3.30	1.34	1.40
1	B5	3502	PSU	C6-C5	3.30	1.38	1.35
1	B5	4177	PSU	C6-C5	3.30	1.38	1.35
1	B5	4419	PSU	C6-C5	3.30	1.38	1.35
1	B5	1683	PSU	C6-C5	3.29	1.38	1.35
1	B5	4039	PSU	C6-C5	3.29	1.38	1.35
52	A2	1446	PSU	C6-C5	3.29	1.38	1.35
3	B8	69	PSU	C6-C5	3.29	1.38	1.35
1	B5	3447	PSU	C6-C5	3.29	1.38	1.35
1	B5	4169	PSU	C6-C5	3.29	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	A2	1057	PSU	C6-C5	3.29	1.38	1.35
1	B5	1537	PSU	C6-C5	3.29	1.38	1.35
1	B5	4058	PSU	C6-C5	3.29	1.38	1.35
52	A2	687	PSU	C6-C5	3.28	1.38	1.35
52	A2	816	PSU	C6-C5	3.28	1.38	1.35
1	B5	1720	PSU	C6-C5	3.28	1.38	1.35
1	B5	3583	PSU	C6-C5	3.28	1.38	1.35
3	B8	55	PSU	C6-C5	3.28	1.38	1.35
1	B5	4711	PSU	C6-C5	3.28	1.38	1.35
1	B5	4188	PSU	C6-C5	3.28	1.38	1.35
1	B5	1801	PSU	C6-C5	3.28	1.38	1.35
1	B5	4107	PSU	C6-C5	3.27	1.38	1.35
1	B5	3496	PSU	C6-C5	3.27	1.38	1.35
1	B5	4099	PSU	C6-C5	3.27	1.38	1.35
1	B5	1491	PSU	C6-C5	3.27	1.38	1.35
1	B5	1638	PSU	C6-C5	3.27	1.38	1.35
52	A2	1005	PSU	C6-C5	3.27	1.38	1.35
1	B5	3490	PSU	C6-C5	3.27	1.38	1.35
52	A2	650	PSU	C6-C5	3.27	1.38	1.35
1	B5	4435	PSU	C6-C5	3.27	1.38	1.35
1	B5	1731	PSU	C6-C5	3.27	1.38	1.35
52	A2	1175	PSU	C6-C5	3.26	1.38	1.35
1	B5	4267	PSU	C6-C5	3.26	1.38	1.35
1	B5	1718	PSU	C6-C5	3.26	1.38	1.35
1	B5	3652	PSU	C6-C5	3.26	1.38	1.35
52	A2	1046	PSU	C6-C5	3.26	1.38	1.35
1	B5	4045	PSU	C6-C5	3.26	1.38	1.35
52	A2	36	PSU	C6-C5	3.26	1.38	1.35
1	B5	4325	PSU	C6-C5	3.25	1.38	1.35
1	B5	4203	PSU	C6-C5	3.25	1.38	1.35
1	B5	4298	PSU	C6-C5	3.25	1.38	1.35
1	B5	2351	PSU	C6-C5	3.24	1.38	1.35
1	B5	4042	PSU	C6-C5	3.24	1.38	1.35
52	A2	682	PSU	C6-C5	3.24	1.38	1.35
1	B5	4246	PSU	C6-C5	3.24	1.38	1.35
1	B5	3585	PSU	C6-C5	3.23	1.38	1.35
52	A2	1640	G7M	C2-N3	3.22	1.41	1.33
1	B5	4149	PSU	C6-C5	3.22	1.38	1.35
52	A2	1640	G7M	C6-N1	3.19	1.42	1.37
1	B5	3369	PSU	C6-C5	3.19	1.38	1.35
1	B5	1266	1MA	C6-N6	3.16	1.35	1.27
1	B5	3616	PSU	C6-C5	3.15	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	A2	1843	4AC	C4-N4	-2.98	1.35	1.39
76	An	138	5F0	OD1-C1	2.90	1.40	1.33
52	A2	1249	B8N	C6-C5	2.89	1.39	1.35
52	A2	1338	4AC	C4-N4	-2.85	1.35	1.39
1	B5	3550	UY1	C2-N1	2.85	1.40	1.36
1	B5	4193	5MC	C6-C5	2.83	1.39	1.34
1	B5	3369	PSU	C4-N3	-2.75	1.33	1.38
1	B5	3657	OMU	C4-N3	-2.74	1.33	1.38
61	AT	54	5MU	C6-C5	2.73	1.39	1.34
1	B5	4042	PSU	C4-N3	-2.71	1.33	1.38
1	B5	4039	PSU	C4-N3	-2.71	1.33	1.38
1	B5	3616	PSU	C4-N3	-2.70	1.33	1.38
1	B5	4045	PSU	C4-N3	-2.70	1.33	1.38
1	B5	4298	PSU	C4-N3	-2.70	1.33	1.38
1	B5	3652	PSU	C4-N3	-2.69	1.33	1.38
1	B5	3514	5MC	C6-C5	2.69	1.39	1.34
1	B5	4419	PSU	C4-N3	-2.69	1.33	1.38
52	A2	1443	OMU	C4-N3	-2.69	1.34	1.38
1	B5	4382	PSU	C4-N3	-2.68	1.33	1.38
1	B5	1720	PSU	C4-N3	-2.68	1.33	1.38
52	A2	121	OMU	C4-N3	-2.68	1.34	1.38
1	B5	4244	OMU	C4-N3	-2.68	1.34	1.38
1	B5	4188	PSU	C4-N3	-2.68	1.33	1.38
1	B5	4052	OMU	C4-N3	-2.68	1.34	1.38
52	A2	1178	PSU	C4-N3	-2.68	1.33	1.38
1	B5	3583	PSU	C4-N3	-2.68	1.33	1.38
1	B5	3585	PSU	C4-N3	-2.68	1.33	1.38
1	B5	4217	PSU	C4-N3	-2.68	1.33	1.38
1	B5	4267	PSU	C4-N3	-2.68	1.33	1.38
1	B5	3490	PSU	C4-N3	-2.68	1.33	1.38
52	A2	967	PSU	C4-N3	-2.67	1.33	1.38
1	B5	2258	OMU	C4-N3	-2.67	1.34	1.38
52	A2	1082	PSU	C4-N3	-2.67	1.33	1.38
1	B5	4203	PSU	C4-N3	-2.67	1.33	1.38
3	B8	55	PSU	C4-N3	-2.67	1.33	1.38
1	B5	1731	PSU	C4-N3	-2.67	1.33	1.38
1	B5	3576	PSU	C4-N3	-2.67	1.33	1.38
1	B5	4366	OMU	C4-N3	-2.67	1.34	1.38
1	B5	3371	PSU	C4-N3	-2.67	1.33	1.38
1	B5	1638	PSU	C4-N3	-2.67	1.33	1.38
1	B5	4058	PSU	C4-N3	-2.67	1.33	1.38
1	B5	1721	PSU	C4-N3	-2.67	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	A2	355	OMU	C4-N3	-2.67	1.34	1.38
1	B5	3973	OMU	C4-N3	-2.67	1.34	1.38
1	B5	4099	PSU	C4-N3	-2.66	1.33	1.38
52	A2	650	PSU	C4-N3	-2.66	1.33	1.38
52	A2	864	PSU	C4-N3	-2.66	1.33	1.38
52	A2	1046	PSU	C4-N3	-2.66	1.33	1.38
1	B5	4711	PSU	C4-N3	-2.66	1.33	1.38
52	A2	652	PSU	C4-N3	-2.66	1.33	1.38
1	B5	1799	PSU	C4-N3	-2.66	1.33	1.38
1	B5	1801	PSU	C4-N3	-2.66	1.33	1.38
52	A2	682	PSU	C4-N3	-2.66	1.33	1.38
52	A2	1693	PSU	C4-N3	-2.66	1.33	1.38
1	B5	4325	PSU	C4-N3	-2.66	1.33	1.38
1	B5	1537	PSU	C4-N3	-2.66	1.33	1.38
1	B5	4177	PSU	C4-N3	-2.66	1.33	1.38
1	B5	1491	PSU	C4-N3	-2.66	1.33	1.38
1	B5	2351	PSU	C4-N3	-2.65	1.33	1.38
61	AT	55	PSU	C4-N3	-2.65	1.33	1.38
52	A2	1348	PSU	C4-N3	-2.65	1.33	1.38
1	B5	4435	PSU	C4-N3	-2.65	1.33	1.38
52	A2	34	PSU	C4-N3	-2.65	1.33	1.38
1	B5	4278	PSU	C4-N3	-2.65	1.33	1.38
1	B5	3427	PSU	C4-N3	-2.65	1.33	1.38
52	A2	1239	PSU	C4-N3	-2.65	1.33	1.38
52	A2	1057	PSU	C4-N3	-2.65	1.33	1.38
1	B5	4169	PSU	C4-N3	-2.65	1.33	1.38
52	A2	407	PSU	C4-N3	-2.65	1.33	1.38
1	B5	4749	PSU	C4-N3	-2.65	1.33	1.38
1	B5	4322	PSU	C4-N3	-2.65	1.33	1.38
1	B5	4740	PSU	C4-N3	-2.65	1.33	1.38
1	B5	3502	PSU	C4-N3	-2.64	1.33	1.38
52	A2	687	PSU	C4-N3	-2.64	1.33	1.38
52	A2	1805	OMU	C4-N3	-2.64	1.34	1.38
52	A2	802	PSU	C4-N3	-2.64	1.33	1.38
52	A2	816	PSU	C4-N3	-2.64	1.33	1.38
52	A2	1644	PSU	C4-N3	-2.64	1.33	1.38
1	B5	1718	PSU	C4-N3	-2.64	1.33	1.38
3	B8	69	PSU	C4-N3	-2.64	1.33	1.38
1	B5	1683	PSU	C4-N3	-2.64	1.33	1.38
52	A2	93	PSU	C4-N3	-2.64	1.33	1.38
52	A2	1005	PSU	C4-N3	-2.64	1.33	1.38
52	A2	1175	PSU	C4-N3	-2.64	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	A2	109	PSU	C4-N3	-2.64	1.33	1.38
1	B5	2475	PSU	C4-N3	-2.64	1.33	1.38
1	B5	4107	PSU	C4-N3	-2.64	1.33	1.38
1	B5	4149	PSU	C4-N3	-2.64	1.33	1.38
1	B5	3500	PSU	C4-N3	-2.64	1.33	1.38
1	B5	4246	PSU	C4-N3	-2.64	1.33	1.38
1	B5	2680	OMU	C4-N3	-2.64	1.34	1.38
52	A2	867	PSU	C4-N3	-2.64	1.33	1.38
1	B5	4374	PSU	C4-N3	-2.63	1.33	1.38
52	A2	218	PSU	C4-N3	-2.63	1.33	1.38
52	A2	815	PSU	C4-N3	-2.63	1.33	1.38
1	B5	3462	PSU	C4-N3	-2.63	1.33	1.38
1	B5	3554	PSU	C4-N3	-2.63	1.33	1.38
52	A2	172	OMU	C4-N3	-2.63	1.34	1.38
52	A2	1233	PSU	C4-N3	-2.63	1.33	1.38
52	A2	1446	PSU	C4-N3	-2.63	1.33	1.38
1	B5	3496	PSU	C4-N3	-2.63	1.33	1.38
52	A2	1368	PSU	C4-N3	-2.63	1.33	1.38
52	A2	429	OMU	C4-N3	-2.63	1.34	1.38
1	B5	3447	PSU	C4-N3	-2.62	1.33	1.38
1	B5	3466	PSU	C4-N3	-2.62	1.33	1.38
52	A2	105	PSU	C4-N3	-2.62	1.33	1.38
52	A2	1047	PSU	C4-N3	-2.62	1.33	1.38
52	A2	1245	PSU	C4-N3	-2.62	1.34	1.38
52	A2	36	PSU	C4-N3	-2.61	1.34	1.38
52	A2	573	PSU	C4-N3	-2.61	1.34	1.38
52	A2	119	PSU	C4-N3	-2.61	1.34	1.38
52	A2	116	OMU	C4-N3	-2.61	1.34	1.38
52	A2	610	PSU	C4-N3	-2.61	1.34	1.38
52	A2	1626	PSU	C4-N3	-2.60	1.34	1.38
52	A2	1289	OMU	C4-N3	-2.60	1.34	1.38
52	A2	823	PSU	C4-N3	-2.60	1.34	1.38
1	B5	3494	PSU	C4-N3	-2.60	1.34	1.38
1	B5	4166	PSU	C4-N3	-2.59	1.34	1.38
52	A2	210	PSU	C4-N3	-2.58	1.34	1.38
52	A2	1327	OMU	C4-N3	-2.58	1.34	1.38
61	AT	54	5MU	C4-N3	-2.57	1.34	1.38
52	A2	628	OMU	C4-N3	-2.57	1.34	1.38
1	B5	1632	PSU	C4-N3	-2.56	1.34	1.38
52	A2	1249	B8N	C2-N3	-2.50	1.34	1.38
61	AT	54	5MU	C4-C5	2.37	1.48	1.44
1	B5	2719	OMG	C6-N1	-2.37	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B5	3524	OMG	C6-N1	-2.36	1.34	1.37
52	A2	1491	OMG	C6-N1	-2.36	1.34	1.37
1	B5	4383	OMG	C6-N1	-2.36	1.34	1.37
52	A2	510	OMG	C6-N1	-2.36	1.34	1.37
1	B5	3942	OMG	C6-N1	-2.36	1.34	1.37
1	B5	4116	OMG	C6-N1	-2.35	1.34	1.37
1	B5	1580	OMG	C6-N1	-2.34	1.34	1.37
1	B5	4240	OMG	C6-N1	-2.34	1.34	1.37
1	B5	1477	OMG	C6-N1	-2.34	1.34	1.37
52	A2	602	OMG	C6-N1	-2.34	1.34	1.37
1	B5	1260	OMG	C6-N1	-2.33	1.34	1.37
1	B5	3657	OMU	C2-N3	-2.32	1.33	1.38
1	B5	3476	OMG	C6-N1	-2.32	1.34	1.37
52	A2	645	OMG	C6-N1	-2.32	1.34	1.37
1	B5	3359	OMG	C6-N1	-2.32	1.34	1.37
1	B5	2267	OMG	C6-N1	-2.32	1.34	1.37
52	A2	1448	OMG	C6-N1	-2.32	1.34	1.37
1	B5	4364	OMG	C6-N1	-2.31	1.34	1.37
1	B5	4369	OMG	C6-N1	-2.31	1.34	1.37
3	B8	75	OMG	C6-N1	-2.31	1.34	1.37
1	B5	4245	OMG	C6-N1	-2.31	1.34	1.37
52	A2	1329	OMG	C6-N1	-2.31	1.34	1.37
1	B5	2207	OMG	C6-N1	-2.31	1.34	1.37
1	B5	4138	OMG	C6-N1	-2.31	1.34	1.37
1	B5	3514	5MC	C6-N1	-2.30	1.34	1.38
1	B5	3631	OMG	C6-N1	-2.30	1.34	1.37
1	B5	3974	OMG	C6-N1	-2.30	1.34	1.37
52	A2	437	OMG	C6-N1	-2.30	1.34	1.37
52	A2	684	OMG	C6-N1	-2.29	1.34	1.37
1	B5	3676	OMG	C6-N1	-2.29	1.34	1.37
1	B5	3966	6MZ	C6-C5	2.29	1.48	1.44
61	AT	54	5MU	C2-N1	2.28	1.42	1.38
52	A2	1443	OMU	C2-N1	2.28	1.42	1.38
1	B5	3550	UY1	C6-N1	-2.28	1.32	1.36
52	A2	868	OMG	C6-N1	-2.27	1.34	1.37
1	B5	4193	5MC	C6-N1	-2.26	1.34	1.38
1	B5	3973	OMU	C2-N3	-2.23	1.34	1.38
1	B5	4244	OMU	C2-N3	-2.23	1.34	1.38
52	A2	355	OMU	C2-N3	-2.23	1.34	1.38
76	An	138	5F0	OD1-CXT	-2.21	1.40	1.45
1	B5	4366	OMU	C2-N3	-2.21	1.34	1.38
61	AT	54	5MU	C6-N1	-2.21	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B5	2258	OMU	C2-N3	-2.21	1.34	1.38
1	B5	2680	OMU	C2-N3	-2.20	1.34	1.38
1	B5	1810	A2M	O4'-C1'	2.20	1.43	1.40
1	B5	4269	A2M	O4'-C1'	2.19	1.43	1.40
1	B5	4052	OMU	C2-N3	-2.19	1.34	1.38
52	A2	121	OMU	C2-N3	-2.19	1.34	1.38
52	A2	1327	OMU	C2-N3	-2.18	1.34	1.38
52	A2	166	A2M	O4'-C1'	2.18	1.43	1.40
1	B5	3456	A2M	O4'-C1'	2.18	1.43	1.40
52	A2	1443	OMU	C2-N3	-2.18	1.34	1.38
52	A2	172	OMU	C2-N3	-2.18	1.34	1.38
52	A2	628	OMU	C2-N3	-2.17	1.34	1.38
52	A2	429	OMU	C2-N3	-2.17	1.34	1.38
52	A2	1805	OMU	C2-N3	-2.16	1.34	1.38
52	A2	1833	6MZ	C6-C5	2.15	1.48	1.44
52	A2	116	OMU	C2-N3	-2.15	1.34	1.38
52	A2	591	A2M	O4'-C1'	2.15	1.43	1.40
52	A2	1805	OMU	C2-N1	2.14	1.41	1.38
52	A2	1289	OMU	C2-N1	2.14	1.41	1.38
52	A2	1852	MA6	C4-N3	-2.14	1.32	1.35
52	A2	1289	OMU	C2-N3	-2.14	1.34	1.38
1	B5	4336	A2M	O4'-C1'	2.13	1.43	1.40
1	B5	3557	A2M	O4'-C1'	2.13	1.43	1.40
1	B5	3562	A2M	O4'-C1'	2.13	1.43	1.40
52	A2	1032	A2M	O4'-C1'	2.12	1.43	1.40
52	A2	99	A2M	O4'-C1'	2.12	1.43	1.40
52	A2	1851	MA6	C4-N3	-2.11	1.32	1.35
52	A2	513	A2M	O4'-C1'	2.11	1.43	1.40
52	A2	116	OMU	C5-C4	-2.09	1.39	1.43
52	A2	469	A2M	O4'-C1'	2.08	1.43	1.40
52	A2	121	OMU	C5-C4	-2.07	1.39	1.43
1	B5	2258	OMU	C5-C4	-2.06	1.39	1.43
1	B5	4366	OMU	C5-C4	-2.06	1.39	1.43
52	A2	429	OMU	C5-C4	-2.06	1.39	1.43
1	B5	4052	OMU	C5-C4	-2.06	1.39	1.43
52	A2	1384	A2M	O4'-C1'	2.05	1.43	1.40
52	A2	355	OMU	C5-C4	-2.05	1.39	1.43
52	A2	429	OMU	C2-N1	2.05	1.41	1.38
1	B5	3450	A2M	O4'-C1'	2.05	1.43	1.40
1	B5	3973	OMU	C2-N1	2.05	1.41	1.38
52	A2	1443	OMU	C5-C4	-2.05	1.39	1.43
1	B5	4244	OMU	C5-C4	-2.04	1.39	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	A2	1805	OMU	C5-C4	-2.04	1.39	1.43
1	B5	4276	UR3	C2-N1	2.03	1.41	1.38
1	B5	2206	A2M	O4'-C1'	2.03	1.43	1.40
1	B5	4052	OMU	C2-N1	2.03	1.41	1.38
1	B5	2680	OMU	C5-C4	-2.03	1.39	1.43
61	AT	54	5MU	C2-N3	-2.02	1.34	1.38
1	B5	3657	OMU	C5-C4	-2.02	1.39	1.43
52	A2	172	OMU	C5-C4	-2.02	1.39	1.43
1	B5	3973	OMU	C5-C4	-2.02	1.39	1.43
52	A2	1679	A2M	O4'-C1'	2.02	1.43	1.40
52	A2	1289	OMU	C5-C4	-2.01	1.39	1.43
1	B5	400	A2M	O4'-C1'	2.01	1.43	1.40
1	B5	2658	A2M	O4'-C1'	2.00	1.43	1.40
52	A2	27	A2M	O4'-C1'	2.00	1.43	1.40

All (640) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B5	4276	UR3	C4-N3-C2	-6.81	119.10	124.58
1	B5	3966	6MZ	C2-N1-C6	6.51	121.66	116.60
1	B5	1491	PSU	N1-C2-N3	6.50	122.02	115.17
1	B5	4267	PSU	N1-C2-N3	6.49	122.02	115.17
1	B5	3494	PSU	N1-C2-N3	6.48	122.00	115.17
1	B5	4042	PSU	N1-C2-N3	6.46	121.98	115.17
1	B5	4246	PSU	N1-C2-N3	6.45	121.98	115.17
1	B5	4374	PSU	N1-C2-N3	6.45	121.97	115.17
52	A2	650	PSU	N1-C2-N3	6.45	121.97	115.17
1	B5	4149	PSU	N1-C2-N3	6.45	121.97	115.17
1	B5	3369	PSU	N1-C2-N3	6.43	121.95	115.17
1	B5	4435	PSU	N1-C2-N3	6.43	121.95	115.17
1	B5	4188	PSU	N1-C2-N3	6.42	121.94	115.17
1	B5	2475	PSU	N1-C2-N3	6.42	121.94	115.17
1	B5	4298	PSU	N1-C2-N3	6.42	121.94	115.17
1	B5	3496	PSU	N1-C2-N3	6.42	121.94	115.17
1	B5	4039	PSU	N1-C2-N3	6.41	121.93	115.17
52	A2	1178	PSU	N1-C2-N3	6.41	121.93	115.17
3	B8	69	PSU	N1-C2-N3	6.41	121.93	115.17
1	B5	1721	PSU	N1-C2-N3	6.41	121.93	115.17
52	A2	687	PSU	N1-C2-N3	6.40	121.92	115.17
1	B5	4749	PSU	N1-C2-N3	6.40	121.92	115.17
1	B5	3616	PSU	N1-C2-N3	6.40	121.92	115.17
1	B5	4382	PSU	N1-C2-N3	6.40	121.92	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	A2	1693	PSU	N1-C2-N3	6.40	121.92	115.17
52	A2	867	PSU	N1-C2-N3	6.40	121.92	115.17
52	A2	1175	PSU	N1-C2-N3	6.40	121.92	115.17
52	A2	652	PSU	N1-C2-N3	6.40	121.92	115.17
1	B5	4322	PSU	N1-C2-N3	6.40	121.92	115.17
52	A2	407	PSU	N1-C2-N3	6.39	121.91	115.17
1	B5	1731	PSU	N1-C2-N3	6.39	121.91	115.17
1	B5	4099	PSU	N1-C2-N3	6.39	121.91	115.17
61	AT	55	PSU	N1-C2-N3	6.39	121.91	115.17
52	A2	816	PSU	N1-C2-N3	6.39	121.91	115.17
1	B5	3502	PSU	N1-C2-N3	6.39	121.91	115.17
1	B5	4058	PSU	N1-C2-N3	6.39	121.91	115.17
52	A2	1057	PSU	N1-C2-N3	6.39	121.91	115.17
52	A2	802	PSU	N1-C2-N3	6.39	121.91	115.17
3	B8	55	PSU	N1-C2-N3	6.39	121.91	115.17
1	B5	4203	PSU	N1-C2-N3	6.39	121.90	115.17
1	B5	4711	PSU	N1-C2-N3	6.38	121.90	115.17
52	A2	93	PSU	N1-C2-N3	6.38	121.90	115.17
52	A2	823	PSU	N1-C2-N3	6.38	121.90	115.17
1	B5	3652	PSU	N1-C2-N3	6.38	121.90	115.17
1	B5	1799	PSU	N1-C2-N3	6.38	121.90	115.17
1	B5	2351	PSU	N1-C2-N3	6.38	121.90	115.17
1	B5	4045	PSU	N1-C2-N3	6.38	121.90	115.17
52	A2	967	PSU	N1-C2-N3	6.38	121.90	115.17
1	B5	3427	PSU	N1-C2-N3	6.38	121.90	115.17
52	A2	682	PSU	N1-C2-N3	6.38	121.89	115.17
1	B5	3490	PSU	N1-C2-N3	6.38	121.89	115.17
1	B5	3576	PSU	N1-C2-N3	6.38	121.89	115.17
1	B5	1537	PSU	N1-C2-N3	6.37	121.89	115.17
52	A2	109	PSU	N1-C2-N3	6.37	121.89	115.17
1	B5	1720	PSU	N1-C2-N3	6.37	121.89	115.17
1	B5	4169	PSU	N1-C2-N3	6.37	121.89	115.17
52	A2	1368	PSU	N1-C2-N3	6.37	121.89	115.17
52	A2	1245	PSU	N1-C2-N3	6.36	121.88	115.17
52	A2	1644	PSU	N1-C2-N3	6.36	121.88	115.17
52	A2	1348	PSU	N1-C2-N3	6.36	121.88	115.17
1	B5	1632	PSU	N1-C2-N3	6.36	121.88	115.17
1	B5	1638	PSU	N1-C2-N3	6.36	121.88	115.17
52	A2	1046	PSU	N1-C2-N3	6.36	121.88	115.17
1	B5	4419	PSU	N1-C2-N3	6.36	121.88	115.17
52	A2	610	PSU	N1-C2-N3	6.36	121.88	115.17
52	A2	864	PSU	N1-C2-N3	6.36	121.88	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	A2	34	PSU	N1-C2-N3	6.36	121.87	115.17
52	A2	1047	PSU	N1-C2-N3	6.36	121.87	115.17
52	A2	1626	PSU	N1-C2-N3	6.36	121.87	115.17
1	B5	3447	PSU	N1-C2-N3	6.36	121.87	115.17
52	A2	105	PSU	N1-C2-N3	6.36	121.87	115.17
52	A2	1446	PSU	N1-C2-N3	6.35	121.87	115.17
1	B5	3500	PSU	N1-C2-N3	6.35	121.87	115.17
1	B5	3554	PSU	N1-C2-N3	6.35	121.87	115.17
1	B5	3462	PSU	N1-C2-N3	6.35	121.87	115.17
1	B5	3585	PSU	N1-C2-N3	6.35	121.87	115.17
1	B5	1718	PSU	N1-C2-N3	6.35	121.87	115.17
52	A2	218	PSU	N1-C2-N3	6.35	121.86	115.17
1	B5	3371	PSU	N1-C2-N3	6.34	121.86	115.17
52	A2	1239	PSU	N1-C2-N3	6.34	121.86	115.17
1	B5	4325	PSU	N1-C2-N3	6.34	121.86	115.17
1	B5	1801	PSU	N1-C2-N3	6.34	121.86	115.17
52	A2	36	PSU	N1-C2-N3	6.33	121.85	115.17
52	A2	573	PSU	N1-C2-N3	6.33	121.85	115.17
1	B5	4217	PSU	N1-C2-N3	6.33	121.85	115.17
1	B5	4740	PSU	N1-C2-N3	6.33	121.85	115.17
1	B5	3583	PSU	N1-C2-N3	6.33	121.85	115.17
1	B5	4107	PSU	N1-C2-N3	6.33	121.84	115.17
52	A2	1233	PSU	N1-C2-N3	6.33	121.84	115.17
1	B5	4177	PSU	N1-C2-N3	6.32	121.83	115.17
52	A2	815	PSU	N1-C2-N3	6.32	121.83	115.17
1	B5	1683	PSU	N1-C2-N3	6.32	121.83	115.17
52	A2	1005	PSU	N1-C2-N3	6.32	121.83	115.17
1	B5	3466	PSU	N1-C2-N3	6.31	121.83	115.17
52	A2	210	PSU	N1-C2-N3	6.30	121.82	115.17
1	B5	4166	PSU	N1-C2-N3	6.29	121.81	115.17
52	A2	1082	PSU	N1-C2-N3	6.29	121.81	115.17
52	A2	119	PSU	N1-C2-N3	6.29	121.80	115.17
1	B5	4278	PSU	N1-C2-N3	6.28	121.79	115.17
52	A2	1833	6MZ	C2-N1-C6	6.19	121.41	116.60
85	Aw	62	HY3	C4-C3-CA	-5.67	96.35	102.51
52	A2	1851	MA6	C4-C5-N7	-5.57	103.45	109.34
52	A2	1852	MA6	C4-C5-N7	-5.51	103.52	109.34
1	B5	3550	UY1	C4-N3-C2	-5.50	118.80	126.37
52	A2	1843	4AC	N4-C4-N3	5.02	122.01	113.87
61	AT	54	5MU	C4-N3-C2	-4.99	120.80	127.34
52	A2	1851	MA6	N3-C2-N1	-4.96	121.94	128.67
1	B5	3657	OMU	C4-N3-C2	-4.93	120.49	126.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	AT	54	5MU	N3-C2-N1	4.91	121.28	114.89
52	A2	1851	MA6	C2-N1-C6	4.88	121.62	116.84
52	A2	1852	MA6	N3-C2-N1	-4.86	122.08	128.67
52	A2	1327	OMU	C4-N3-C2	-4.81	120.64	126.61
1	B5	4244	OMU	C4-N3-C2	-4.81	120.64	126.61
1	B5	2680	OMU	C4-N3-C2	-4.80	120.65	126.61
52	A2	628	OMU	C4-N3-C2	-4.79	120.66	126.61
1	B5	3973	OMU	C4-N3-C2	-4.77	120.69	126.61
1	B5	4366	OMU	C4-N3-C2	-4.76	120.70	126.61
52	A2	172	OMU	C4-N3-C2	-4.75	120.72	126.61
52	A2	355	OMU	C4-N3-C2	-4.72	120.75	126.61
1	B5	2258	OMU	C4-N3-C2	-4.72	120.75	126.61
52	A2	121	OMU	C4-N3-C2	-4.68	120.80	126.61
52	A2	429	OMU	C4-N3-C2	-4.66	120.83	126.61
52	A2	1852	MA6	C2-N1-C6	4.66	121.41	116.84
52	A2	116	OMU	C4-N3-C2	-4.62	120.87	126.61
52	A2	1805	OMU	C4-N3-C2	-4.62	120.88	126.61
52	A2	1338	4AC	N4-C4-N3	4.61	121.34	113.87
52	A2	1289	OMU	C4-N3-C2	-4.58	120.92	126.61
1	B5	4052	OMU	C4-N3-C2	-4.57	120.93	126.61
52	A2	1851	MA6	C1'-N9-C4	-4.55	118.65	126.64
52	A2	1443	OMU	C4-N3-C2	-4.52	121.01	126.61
1	B5	3550	UY1	N1-C2-N3	4.46	119.87	115.17
1	B5	3657	OMU	N3-C2-N1	4.33	120.52	114.89
52	A2	1852	MA6	C1'-N9-C4	-4.33	119.04	126.64
61	AT	54	5MU	C5-C4-N3	4.31	119.07	115.32
1	B5	4244	OMU	N3-C2-N1	4.23	120.40	114.89
1	B5	3616	PSU	C4-N3-C2	-4.21	120.56	126.37
1	B5	4042	PSU	C4-N3-C2	-4.21	120.56	126.37
1	B5	2680	OMU	N3-C2-N1	4.21	120.38	114.89
1	B5	3369	PSU	C4-N3-C2	-4.20	120.58	126.37
1	B5	1491	PSU	C4-N3-C2	-4.19	120.60	126.37
1	B5	3973	OMU	N3-C2-N1	4.18	120.33	114.89
1	B5	4366	OMU	N3-C2-N1	4.18	120.33	114.89
1	B5	4298	PSU	C4-N3-C2	-4.16	120.64	126.37
1	B5	1731	PSU	C4-N3-C2	-4.16	120.64	126.37
1	B5	4267	PSU	C4-N3-C2	-4.16	120.64	126.37
52	A2	355	OMU	N3-C2-N1	4.16	120.30	114.89
1	B5	4039	PSU	C4-N3-C2	-4.16	120.65	126.37
1	B5	1721	PSU	C4-N3-C2	-4.15	120.65	126.37
1	B5	4246	PSU	C4-N3-C2	-4.15	120.65	126.37
52	A2	652	PSU	C4-N3-C2	-4.14	120.66	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	A2	429	OMU	N3-C2-N1	4.14	120.29	114.89
52	A2	121	OMU	N3-C2-N1	4.14	120.28	114.89
52	A2	93	PSU	C4-N3-C2	-4.14	120.67	126.37
52	A2	628	OMU	N3-C2-N1	4.14	120.28	114.89
1	B5	4188	PSU	C4-N3-C2	-4.14	120.67	126.37
52	A2	172	OMU	N3-C2-N1	4.14	120.28	114.89
52	A2	816	PSU	C4-N3-C2	-4.14	120.67	126.37
1	B5	4149	PSU	C4-N3-C2	-4.14	120.67	126.37
1	B5	3490	PSU	C4-N3-C2	-4.14	120.67	126.37
52	A2	1327	OMU	N3-C2-N1	4.13	120.27	114.89
52	A2	407	PSU	C4-N3-C2	-4.13	120.68	126.37
1	B5	2258	OMU	N3-C2-N1	4.13	120.27	114.89
1	B5	4099	PSU	C4-N3-C2	-4.13	120.68	126.37
52	A2	1178	PSU	C4-N3-C2	-4.13	120.68	126.37
1	B5	4749	PSU	C4-N3-C2	-4.13	120.68	126.37
61	AT	55	PSU	C4-N3-C2	-4.13	120.68	126.37
1	B5	4711	PSU	C4-N3-C2	-4.13	120.68	126.37
1	B5	4419	PSU	C4-N3-C2	-4.13	120.69	126.37
1	B5	3502	PSU	C4-N3-C2	-4.13	120.69	126.37
1	B5	4322	PSU	C4-N3-C2	-4.12	120.69	126.37
3	B8	69	PSU	C4-N3-C2	-4.12	120.69	126.37
1	B5	3496	PSU	C4-N3-C2	-4.12	120.69	126.37
52	A2	1175	PSU	C4-N3-C2	-4.12	120.70	126.37
1	B5	4203	PSU	C4-N3-C2	-4.12	120.70	126.37
1	B5	3427	PSU	C4-N3-C2	-4.12	120.70	126.37
52	A2	650	PSU	C4-N3-C2	-4.12	120.70	126.37
52	A2	1805	OMU	N3-C2-N1	4.11	120.25	114.89
52	A2	1368	PSU	C4-N3-C2	-4.11	120.70	126.37
52	A2	1446	PSU	C4-N3-C2	-4.11	120.71	126.37
52	A2	1245	PSU	C4-N3-C2	-4.11	120.71	126.37
1	B5	1801	PSU	C4-N3-C2	-4.11	120.71	126.37
1	B5	1638	PSU	C4-N3-C2	-4.11	120.71	126.37
52	A2	687	PSU	C4-N3-C2	-4.10	120.72	126.37
1	B5	2351	PSU	C4-N3-C2	-4.10	120.72	126.37
1	B5	4107	PSU	C4-N3-C2	-4.10	120.72	126.37
52	A2	1057	PSU	C4-N3-C2	-4.10	120.72	126.37
52	A2	1348	PSU	C4-N3-C2	-4.10	120.72	126.37
1	B5	1718	PSU	C4-N3-C2	-4.10	120.73	126.37
1	B5	1683	PSU	C4-N3-C2	-4.09	120.73	126.37
3	B8	55	PSU	C4-N3-C2	-4.09	120.73	126.37
52	A2	864	PSU	C4-N3-C2	-4.09	120.73	126.37
52	A2	1046	PSU	C4-N3-C2	-4.09	120.73	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	A2	1693	PSU	C4-N3-C2	-4.09	120.74	126.37
1	B5	1720	PSU	C4-N3-C2	-4.09	120.74	126.37
52	A2	1239	PSU	C4-N3-C2	-4.09	120.74	126.37
1	B5	1799	PSU	C4-N3-C2	-4.09	120.74	126.37
52	A2	1443	OMU	N3-C2-N1	4.08	120.21	114.89
52	A2	109	PSU	C4-N3-C2	-4.08	120.75	126.37
52	A2	867	PSU	C4-N3-C2	-4.08	120.75	126.37
1	B5	3466	PSU	C4-N3-C2	-4.08	120.75	126.37
52	A2	1644	PSU	C4-N3-C2	-4.08	120.75	126.37
52	A2	1233	PSU	C4-N3-C2	-4.08	120.75	126.37
1	B5	1537	PSU	C4-N3-C2	-4.08	120.75	126.37
52	A2	1047	PSU	C4-N3-C2	-4.08	120.75	126.37
1	B5	4052	OMU	N3-C2-N1	4.08	120.20	114.89
52	A2	36	PSU	C4-N3-C2	-4.08	120.76	126.37
1	B5	4740	PSU	C4-N3-C2	-4.07	120.76	126.37
52	A2	802	PSU	C4-N3-C2	-4.07	120.76	126.37
52	A2	116	OMU	N3-C2-N1	4.07	120.19	114.89
1	B5	2475	PSU	C4-N3-C2	-4.07	120.76	126.37
1	B5	3517	A2M	O4'-C1'-N9	4.07	114.14	108.75
52	A2	682	PSU	C4-N3-C2	-4.07	120.77	126.37
1	B5	4058	PSU	C4-N3-C2	-4.07	120.77	126.37
52	A2	573	PSU	C4-N3-C2	-4.07	120.77	126.37
1	B5	4374	PSU	C4-N3-C2	-4.06	120.77	126.37
52	A2	610	PSU	C4-N3-C2	-4.06	120.78	126.37
52	A2	1626	PSU	C4-N3-C2	-4.06	120.78	126.37
1	B5	4045	PSU	C4-N3-C2	-4.06	120.78	126.37
52	A2	34	PSU	C4-N3-C2	-4.06	120.78	126.37
1	B5	4217	PSU	C4-N3-C2	-4.06	120.78	126.37
1	B5	4435	PSU	C4-N3-C2	-4.06	120.78	126.37
52	A2	218	PSU	C4-N3-C2	-4.06	120.78	126.37
1	B5	3585	PSU	C4-N3-C2	-4.06	120.78	126.37
1	B5	4325	PSU	C4-N3-C2	-4.05	120.79	126.37
52	A2	1289	OMU	N3-C2-N1	4.05	120.17	114.89
1	B5	3462	PSU	C4-N3-C2	-4.05	120.80	126.37
1	B5	3652	PSU	C4-N3-C2	-4.05	120.80	126.37
52	A2	1005	PSU	C4-N3-C2	-4.04	120.80	126.37
1	B5	3447	PSU	C4-N3-C2	-4.04	120.80	126.37
1	B5	4177	PSU	C4-N3-C2	-4.04	120.81	126.37
52	A2	967	PSU	C4-N3-C2	-4.04	120.81	126.37
1	B5	3500	PSU	C4-N3-C2	-4.04	120.81	126.37
52	A2	105	PSU	C4-N3-C2	-4.03	120.82	126.37
1	B5	4169	PSU	C4-N3-C2	-4.03	120.82	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	A2	815	PSU	C4-N3-C2	-4.03	120.82	126.37
52	A2	210	PSU	C4-N3-C2	-4.02	120.83	126.37
1	B5	3494	PSU	C4-N3-C2	-4.02	120.83	126.37
1	B5	3583	PSU	C4-N3-C2	-4.02	120.83	126.37
1	B5	4382	PSU	C4-N3-C2	-4.01	120.84	126.37
52	A2	119	PSU	C4-N3-C2	-4.01	120.85	126.37
1	B5	3576	PSU	C4-N3-C2	-4.00	120.86	126.37
1	B5	3554	PSU	C4-N3-C2	-3.99	120.87	126.37
1	B5	3371	PSU	C4-N3-C2	-3.98	120.88	126.37
52	A2	823	PSU	C4-N3-C2	-3.98	120.89	126.37
1	B5	4278	PSU	C4-N3-C2	-3.94	120.95	126.37
1	B5	4166	PSU	C4-N3-C2	-3.94	120.95	126.37
52	A2	1082	PSU	C4-N3-C2	-3.92	120.97	126.37
1	B5	1632	PSU	C4-N3-C2	-3.92	120.97	126.37
1	B5	3657	OMU	C5-C4-N3	3.88	120.24	114.80
61	AT	54	5MU	O4-C4-C5	-3.88	120.47	124.92
1	B5	2258	OMU	C5-C4-N3	3.86	120.21	114.80
52	A2	1327	OMU	C5-C4-N3	3.86	120.21	114.80
52	A2	355	OMU	C5-C4-N3	3.86	120.20	114.80
52	A2	628	OMU	C5-C4-N3	3.85	120.20	114.80
1	B5	3973	OMU	C5-C4-N3	3.85	120.20	114.80
1	B5	4244	OMU	C5-C4-N3	3.85	120.19	114.80
52	A2	172	OMU	C5-C4-N3	3.84	120.18	114.80
1	B5	2680	OMU	C5-C4-N3	3.84	120.18	114.80
1	B5	4366	OMU	C5-C4-N3	3.84	120.17	114.80
52	A2	116	OMU	C5-C4-N3	3.82	120.15	114.80
52	A2	429	OMU	C5-C4-N3	3.82	120.15	114.80
1	B5	4149	PSU	O2-C2-N1	-3.82	118.85	122.79
52	A2	1289	OMU	C5-C4-N3	3.82	120.14	114.80
52	A2	121	OMU	C5-C4-N3	3.81	120.14	114.80
1	B5	4435	PSU	O2-C2-N1	-3.80	118.87	122.79
52	A2	1805	OMU	C5-C4-N3	3.79	120.11	114.80
1	B5	4052	OMU	C5-C4-N3	3.78	120.09	114.80
52	A2	1032	A2M	N3-C2-N1	-3.78	123.54	128.67
1	B5	1491	PSU	O2-C2-N1	-3.77	118.90	122.79
1	B5	1489	A2M	N3-C2-N1	-3.76	123.56	128.67
1	B5	4374	PSU	O2-C2-N1	-3.75	118.92	122.79
1	B5	3517	A2M	N3-C2-N1	-3.75	123.58	128.67
52	A2	1443	OMU	C5-C4-N3	3.75	120.05	114.80
1	B5	4267	PSU	O2-C2-N1	-3.74	118.93	122.79
52	A2	591	A2M	N3-C2-N1	-3.74	123.60	128.67
1	B5	3494	PSU	O2-C2-N1	-3.73	118.94	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B5	3496	PSU	O2-C2-N1	-3.73	118.94	122.79
52	A2	1175	PSU	O2-C2-N1	-3.72	118.95	122.79
1	B5	2244	A2M	N3-C2-N1	-3.72	123.63	128.67
1	B5	4298	PSU	O2-C2-N1	-3.71	118.96	122.79
1	B5	398	A2M	N3-C2-N1	-3.71	123.64	128.67
52	A2	650	PSU	O2-C2-N1	-3.70	118.97	122.79
1	B5	3492	A2M	N3-C2-N1	-3.69	123.66	128.67
1	B5	4246	PSU	O2-C2-N1	-3.69	118.98	122.79
1	B5	3371	PSU	O2-C2-N1	-3.68	118.99	122.79
3	B8	55	PSU	O2-C2-N1	-3.68	118.99	122.79
52	A2	1679	A2M	N3-C2-N1	-3.68	123.68	128.67
1	B5	4336	A2M	N3-C2-N1	-3.68	123.68	128.67
52	A2	166	A2M	N3-C2-N1	-3.68	123.68	128.67
52	A2	610	PSU	O2-C2-N1	-3.67	119.00	122.79
1	B5	4749	PSU	O2-C2-N1	-3.67	119.00	122.79
1	B5	4169	PSU	O2-C2-N1	-3.67	119.00	122.79
52	A2	99	A2M	N3-C2-N1	-3.67	123.69	128.67
1	B5	4269	A2M	N3-C2-N1	-3.67	123.70	128.67
1	B5	3456	A2M	N3-C2-N1	-3.66	123.71	128.67
52	A2	867	PSU	O2-C2-N1	-3.66	119.02	122.79
1	B5	1479	A2M	N3-C2-N1	-3.66	123.71	128.67
1	B5	2475	PSU	O2-C2-N1	-3.66	119.02	122.79
1	B5	1632	PSU	O2-C2-N1	-3.65	119.02	122.79
52	A2	36	PSU	O2-C2-N1	-3.65	119.02	122.79
1	B5	3599	A2M	N3-C2-N1	-3.65	123.72	128.67
52	A2	407	PSU	O2-C2-N1	-3.65	119.02	122.79
1	B5	1801	PSU	O2-C2-N1	-3.65	119.02	122.79
52	A2	1245	PSU	O2-C2-N1	-3.65	119.02	122.79
52	A2	1626	PSU	O2-C2-N1	-3.65	119.02	122.79
52	A2	1384	A2M	N3-C2-N1	-3.65	123.72	128.67
1	B5	1810	A2M	N3-C2-N1	-3.65	123.72	128.67
3	B8	69	PSU	O2-C2-N1	-3.64	119.03	122.79
1	B5	1683	PSU	O2-C2-N1	-3.64	119.03	122.79
1	B5	4058	PSU	O2-C2-N1	-3.64	119.03	122.79
1	B5	3554	PSU	O2-C2-N1	-3.64	119.04	122.79
1	B5	400	A2M	N3-C2-N1	-3.64	123.74	128.67
52	A2	485	A2M	N3-C2-N1	-3.63	123.74	128.67
52	A2	1233	PSU	O2-C2-N1	-3.63	119.04	122.79
1	B5	1270	A2M	N3-C2-N1	-3.63	123.74	128.67
1	B5	3562	A2M	N3-C2-N1	-3.63	123.74	128.67
1	B5	1799	PSU	O2-C2-N1	-3.63	119.05	122.79
1	B5	4188	PSU	O2-C2-N1	-3.63	119.05	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B5	2658	A2M	N3-C2-N1	-3.63	123.75	128.67
52	A2	1348	PSU	O2-C2-N1	-3.63	119.05	122.79
1	B5	1718	PSU	O2-C2-N1	-3.63	119.05	122.79
1	B5	4317	A2M	N3-C2-N1	-3.63	123.75	128.67
1	B5	3966	6MZ	N3-C2-N1	-3.63	123.75	128.67
1	B5	3616	PSU	O2-C2-N1	-3.62	119.05	122.79
52	A2	469	A2M	N3-C2-N1	-3.62	123.75	128.67
52	A2	815	PSU	O2-C2-N1	-3.62	119.05	122.79
52	A2	687	PSU	O2-C2-N1	-3.62	119.05	122.79
1	B5	4099	PSU	O2-C2-N1	-3.62	119.05	122.79
1	B5	1537	PSU	O2-C2-N1	-3.62	119.06	122.79
1	B5	2630	A2M	N3-C2-N1	-3.62	123.76	128.67
1	B5	3557	A2M	N3-C2-N1	-3.62	123.76	128.67
1	B5	3502	PSU	O2-C2-N1	-3.62	119.06	122.79
52	A2	573	PSU	O2-C2-N1	-3.62	119.06	122.79
52	A2	1693	PSU	O2-C2-N1	-3.62	119.06	122.79
52	A2	513	A2M	N3-C2-N1	-3.62	123.77	128.67
52	A2	1249	B8N	C4-N3-C2	-3.61	121.17	125.62
52	A2	823	PSU	O2-C2-N1	-3.61	119.06	122.79
52	A2	1046	PSU	O2-C2-N1	-3.61	119.07	122.79
1	B5	4193	5MC	C5-C6-N1	-3.61	119.39	123.31
52	A2	1644	PSU	O2-C2-N1	-3.61	119.07	122.79
52	A2	27	A2M	N3-C2-N1	-3.61	123.78	128.67
52	A2	1057	PSU	O2-C2-N1	-3.61	119.07	122.79
52	A2	1047	PSU	O2-C2-N1	-3.61	119.07	122.79
1	B5	4325	PSU	O2-C2-N1	-3.61	119.07	122.79
52	A2	652	PSU	O2-C2-N1	-3.60	119.07	122.79
52	A2	1446	PSU	O2-C2-N1	-3.60	119.07	122.79
1	B5	4322	PSU	O2-C2-N1	-3.60	119.08	122.79
52	A2	1368	PSU	O2-C2-N1	-3.60	119.08	122.79
1	B5	4203	PSU	O2-C2-N1	-3.60	119.08	122.79
1	B5	3500	PSU	O2-C2-N1	-3.60	119.08	122.79
52	A2	105	PSU	O2-C2-N1	-3.60	119.08	122.79
1	B5	3652	PSU	O2-C2-N1	-3.59	119.08	122.79
1	B5	2351	PSU	O2-C2-N1	-3.59	119.08	122.79
52	A2	109	PSU	O2-C2-N1	-3.59	119.08	122.79
52	A2	93	PSU	O2-C2-N1	-3.59	119.09	122.79
52	A2	669	A2M	N3-C2-N1	-3.59	123.80	128.67
1	B5	2206	A2M	N3-C2-N1	-3.59	123.80	128.67
1	B5	3427	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	3576	PSU	O2-C2-N1	-3.59	119.09	122.79
52	A2	210	PSU	O2-C2-N1	-3.59	119.09	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B5	1638	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	3585	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	4711	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	3447	PSU	O2-C2-N1	-3.58	119.09	122.79
52	A2	119	PSU	O2-C2-N1	-3.58	119.09	122.79
1	B5	1721	PSU	O2-C2-N1	-3.58	119.09	122.79
52	A2	577	A2M	N3-C2-N1	-3.58	123.81	128.67
1	B5	3450	A2M	N3-C2-N1	-3.58	123.81	128.67
52	A2	159	A2M	N3-C2-N1	-3.58	123.82	128.67
1	B5	3462	PSU	O2-C2-N1	-3.58	119.10	122.79
1	B5	4166	PSU	O2-C2-N1	-3.57	119.10	122.79
1	B5	4382	PSU	O2-C2-N1	-3.57	119.10	122.79
1	B5	4107	PSU	O2-C2-N1	-3.57	119.11	122.79
52	A2	802	PSU	O2-C2-N1	-3.57	119.11	122.79
1	B5	1720	PSU	O2-C2-N1	-3.57	119.11	122.79
1	B5	4419	PSU	O2-C2-N1	-3.57	119.11	122.79
52	A2	816	PSU	O2-C2-N1	-3.57	119.11	122.79
1	B5	4278	PSU	O2-C2-N1	-3.56	119.11	122.79
52	A2	218	PSU	O2-C2-N1	-3.56	119.11	122.79
1	B5	3490	PSU	O2-C2-N1	-3.56	119.12	122.79
1	B5	1731	PSU	O2-C2-N1	-3.56	119.12	122.79
52	A2	864	PSU	O2-C2-N1	-3.56	119.12	122.79
1	B5	3466	PSU	O2-C2-N1	-3.56	119.12	122.79
52	A2	1178	PSU	O2-C2-N1	-3.56	119.12	122.79
1	B5	4217	PSU	O2-C2-N1	-3.56	119.12	122.79
52	A2	967	PSU	O2-C2-N1	-3.55	119.12	122.79
1	B5	4045	PSU	O2-C2-N1	-3.55	119.13	122.79
52	A2	1249	B8N	N3-C2-N1	3.55	121.05	116.72
52	A2	1005	PSU	O2-C2-N1	-3.54	119.13	122.79
1	B5	4740	PSU	O2-C2-N1	-3.54	119.14	122.79
61	AT	55	PSU	O2-C2-N1	-3.54	119.14	122.79
52	A2	682	PSU	O2-C2-N1	-3.54	119.14	122.79
1	B5	4042	PSU	O2-C2-N1	-3.54	119.14	122.79
1	B5	4177	PSU	O2-C2-N1	-3.54	119.14	122.79
52	A2	34	PSU	O2-C2-N1	-3.53	119.15	122.79
52	A2	1239	PSU	O2-C2-N1	-3.51	119.17	122.79
1	B5	3369	PSU	O2-C2-N1	-3.51	119.17	122.79
52	A2	1833	6MZ	N3-C2-N1	-3.50	123.92	128.67
1	B5	3583	PSU	O2-C2-N1	-3.49	119.19	122.79
52	A2	1082	PSU	O2-C2-N1	-3.43	119.25	122.79
1	B5	4039	PSU	O2-C2-N1	-3.43	119.25	122.79
61	AT	54	5MU	C5-C6-N1	-3.36	119.66	123.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
76	An	138	5F0	OD1-C1-CA	3.36	120.04	111.50
1	B5	4276	UR3	C5-C4-N3	3.29	119.37	115.04
1	B5	3966	6MZ	C9-N6-C6	-3.21	119.88	122.85
1	B5	4366	OMU	O4-C4-C5	-3.07	119.86	125.16
52	A2	116	OMU	O4-C4-C5	-3.07	119.87	125.16
52	A2	429	OMU	O4-C4-C5	-3.07	119.88	125.16
1	B5	2680	OMU	O4-C4-C5	-3.06	119.88	125.16
52	A2	1327	OMU	O4-C4-C5	-3.06	119.88	125.16
52	A2	121	OMU	O4-C4-C5	-3.06	119.88	125.16
52	A2	355	OMU	O4-C4-C5	-3.06	119.89	125.16
1	B5	3514	5MC	C5-C6-N1	-3.04	120.01	123.31
1	B5	2258	OMU	O4-C4-C5	-3.04	119.92	125.16
1	B5	3973	OMU	O4-C4-C5	-3.03	119.94	125.16
52	A2	172	OMU	O4-C4-C5	-3.03	119.94	125.16
52	A2	628	OMU	O4-C4-C5	-3.02	119.95	125.16
52	A2	1805	OMU	O4-C4-C5	-3.01	119.96	125.16
1	B5	3657	OMU	O4-C4-C5	-3.01	119.97	125.16
1	B5	4244	OMU	O4-C4-C5	-3.01	119.97	125.16
52	A2	1289	OMU	O4-C4-C5	-3.00	119.98	125.16
1	B5	4052	OMU	O4-C4-C5	-2.97	120.05	125.16
52	A2	1443	OMU	O4-C4-C5	-2.95	120.07	125.16
1	B5	4369	OMG	C8-N7-C5	2.94	107.56	102.55
52	A2	1640	G7M	C2-N1-C6	-2.93	119.75	125.11
52	A2	684	OMG	C8-N7-C5	2.92	107.53	102.55
1	B5	1260	OMG	C8-N7-C5	2.91	107.51	102.55
1	B5	3676	OMG	C8-N7-C5	2.91	107.51	102.55
52	A2	645	OMG	C8-N7-C5	2.91	107.50	102.55
1	B5	1477	OMG	C8-N7-C5	2.90	107.48	102.55
1	B5	3631	OMG	C8-N7-C5	2.89	107.47	102.55
1	B5	3974	OMG	C8-N7-C5	2.89	107.47	102.55
1	B5	4383	OMG	C8-N7-C5	2.89	107.47	102.55
1	B5	3476	OMG	C8-N7-C5	2.88	107.46	102.55
52	A2	437	OMG	C8-N7-C5	2.88	107.45	102.55
1	B5	2207	OMG	C8-N7-C5	2.88	107.45	102.55
52	A2	1843	4AC	C5-C4-N4	-2.87	118.10	122.94
1	B5	4364	OMG	C8-N7-C5	2.87	107.43	102.55
1	B5	1266	1MA	C8-N7-C5	2.87	107.43	102.55
52	A2	1448	OMG	C8-N7-C5	2.86	107.42	102.55
1	B5	4240	OMG	C8-N7-C5	2.86	107.42	102.55
52	A2	602	OMG	C8-N7-C5	2.86	107.41	102.55
3	B8	75	OMG	C8-N7-C5	2.85	107.41	102.55
52	A2	1329	OMG	C8-N7-C5	2.85	107.41	102.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B5	3359	OMG	C8-N7-C5	2.85	107.41	102.55
1	B5	2719	OMG	C8-N7-C5	2.85	107.40	102.55
1	B5	4116	OMG	C8-N7-C5	2.85	107.40	102.55
52	A2	510	OMG	C8-N7-C5	2.85	107.39	102.55
1	B5	3942	OMG	C8-N7-C5	2.84	107.39	102.55
1	B5	4245	OMG	C8-N7-C5	2.84	107.39	102.55
1	B5	4138	OMG	C8-N7-C5	2.84	107.38	102.55
1	B5	3524	OMG	C8-N7-C5	2.84	107.38	102.55
52	A2	868	OMG	C8-N7-C5	2.83	107.37	102.55
52	A2	1491	OMG	C8-N7-C5	2.82	107.35	102.55
1	B5	2267	OMG	C8-N7-C5	2.82	107.34	102.55
1	B5	1580	OMG	C8-N7-C5	2.80	107.32	102.55
1	B5	3514	5MC	C5-C4-N3	-2.79	118.90	121.75
1	B5	4193	5MC	C5-C4-N3	-2.72	118.96	121.75
1	B5	3550	UY1	CM2-O2'-C2'	-2.68	107.58	114.47
1	B5	1489	A2M	C4-C5-N7	-2.67	106.51	109.34
52	A2	159	A2M	C4-C5-N7	-2.66	106.53	109.34
52	A2	669	A2M	C4-C5-N7	-2.64	106.55	109.34
52	A2	1679	A2M	C4-C5-N7	-2.64	106.55	109.34
1	B5	2658	A2M	C4-C5-N7	-2.63	106.56	109.34
52	A2	513	A2M	C4-C5-N7	-2.62	106.57	109.34
1	B5	3562	A2M	C4-C5-N7	-2.62	106.57	109.34
52	A2	166	A2M	C4-C5-N7	-2.61	106.57	109.34
1	B5	2244	A2M	C4-C5-N7	-2.61	106.58	109.34
1	B5	2206	A2M	C4-C5-N7	-2.61	106.58	109.34
52	A2	27	A2M	C4-C5-N7	-2.60	106.59	109.34
52	A2	485	A2M	C4-C5-N7	-2.60	106.59	109.34
1	B5	3550	UY1	C6-C5-C4	2.60	119.93	118.17
1	B5	398	A2M	C4-C5-N7	-2.59	106.60	109.34
1	B5	4269	A2M	C4-C5-N7	-2.59	106.60	109.34
52	A2	99	A2M	C4-C5-N7	-2.59	106.60	109.34
52	A2	1032	A2M	C4-C5-N7	-2.58	106.61	109.34
1	B5	4336	A2M	C4-C5-N7	-2.58	106.61	109.34
1	B5	3450	A2M	C4-C5-N7	-2.58	106.61	109.34
1	B5	3599	A2M	C4-C5-N7	-2.58	106.61	109.34
52	A2	577	A2M	C4-C5-N7	-2.57	106.62	109.34
52	A2	469	A2M	C4-C5-N7	-2.56	106.63	109.34
1	B5	4317	A2M	C4-C5-N7	-2.56	106.63	109.34
1	B5	3557	A2M	C4-C5-N7	-2.56	106.63	109.34
1	B5	3456	A2M	C4-C5-N7	-2.54	106.66	109.34
1	B5	1810	A2M	C4-C5-N7	-2.53	106.66	109.34
1	B5	400	A2M	C4-C5-N7	-2.53	106.66	109.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B5	1479	A2M	C4-C5-N7	-2.53	106.66	109.34
52	A2	1384	A2M	C4-C5-N7	-2.51	106.69	109.34
83	Au	1	AME	O-C-CA	-2.51	118.32	124.77
1	B5	3492	A2M	C4-C5-N7	-2.51	106.69	109.34
80	Ar	2	SAC	O-C-CA	-2.49	118.38	124.77
1	B5	1270	A2M	C4-C5-N7	-2.48	106.72	109.34
4	BA	216	V5N	O-C-CA	-2.48	118.40	124.77
1	B5	3550	UY1	O2-C2-N1	-2.46	120.25	122.79
30	Ba	39	V5N	O-C-CA	-2.46	118.45	124.77
1	B5	3966	6MZ	C4-C5-N7	-2.45	106.74	109.34
1	B5	3517	A2M	C4-C5-N7	-2.45	106.75	109.34
52	A2	1443	OMU	C1'-N1-C2	2.42	121.94	117.59
1	B5	2630	A2M	C4-C5-N7	-2.42	106.78	109.34
52	A2	591	A2M	C4-C5-N7	-2.42	106.78	109.34
1	B5	4269	A2M	C2'-C1'-N9	-2.40	107.23	112.56
52	A2	1338	4AC	C6-C5-C4	2.39	119.88	117.00
62	AZ	2	SAC	O-C-CA	-2.39	118.64	124.77
52	A2	1679	A2M	C2'-C1'-N9	-2.38	107.27	112.56
52	A2	1338	4AC	C5-C4-N4	-2.38	118.93	122.94
85	Aw	62	HY3	O-C-CA	-2.37	118.59	124.86
1	B5	2194	OMC	O2-C2-N3	-2.36	118.62	122.33
52	A2	1843	4AC	C6-C5-C4	2.35	119.83	117.00
45	Br	2	SAC	O-C-CA	-2.32	118.80	124.77
1	B5	1266	1MA	C5-C6-N1	2.31	117.27	113.95
1	B5	2265	OMC	O2-C2-N3	-2.29	118.71	122.33
52	A2	1327	OMU	O2-C2-N1	-2.29	119.82	122.80
52	A2	628	OMU	O2-C2-N1	-2.29	119.82	122.80
61	AT	54	5MU	O2-C2-N1	-2.28	119.83	122.80
52	A2	591	A2M	O4'-C1'-N9	2.23	111.70	108.75
52	A2	1249	B8N	C5-C4-N3	2.23	120.20	116.15
52	A2	1392	OMC	O2-C2-N3	-2.22	118.83	122.33
1	B5	3369	PSU	C5-C6-N1	-2.22	119.06	122.14
1	B5	2630	A2M	C4'-O4'-C1'	2.20	111.94	109.92
1	B5	3573	OMC	O2-C2-N3	-2.20	118.86	122.33
1	B5	4042	PSU	C5-C6-N1	-2.20	119.08	122.14
1	B5	3562	A2M	C2'-C1'-N9	-2.19	107.69	112.56
1	B5	1810	A2M	C2'-C1'-N9	-2.18	107.71	112.56
52	A2	1833	6MZ	C4-C5-N7	-2.17	107.04	109.34
1	B5	1731	PSU	C5-C6-N1	-2.17	119.13	122.14
1	B5	4244	OMU	O2-C2-N1	-2.15	119.99	122.80
52	A2	816	PSU	C5-C6-N1	-2.15	119.16	122.14
1	B5	1721	PSU	C5-C6-N1	-2.15	119.16	122.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B5	3514	5MC	O2-C2-N3	-2.14	118.95	122.33
1	B5	4188	PSU	C5-C6-N1	-2.14	119.17	122.14
1	B5	2680	OMU	O2-C2-N1	-2.14	120.01	122.80
61	AT	55	PSU	C5-C6-N1	-2.13	119.18	122.14
1	B5	1491	PSU	C5-C6-N1	-2.13	119.18	122.14
52	A2	407	PSU	C5-C6-N1	-2.13	119.19	122.14
52	A2	1704	OMC	O2-C2-N3	-2.12	118.98	122.33
1	B5	3490	PSU	C5-C6-N1	-2.12	119.19	122.14
52	A2	1446	PSU	C5-C6-N1	-2.12	119.20	122.14
1	B5	2704	OMC	O2-C2-N3	-2.12	118.99	122.33
52	A2	652	PSU	C5-C6-N1	-2.12	119.20	122.14
52	A2	1178	PSU	C5-C6-N1	-2.12	119.20	122.14
1	B5	4711	PSU	C5-C6-N1	-2.12	119.20	122.14
1	B5	3616	PSU	C5-C6-N1	-2.11	119.21	122.14
1	B5	4138	OMG	C5-C6-N1	2.11	118.10	114.07
52	A2	93	PSU	C5-C6-N1	-2.11	119.21	122.14
1	B5	4267	PSU	C5-C6-N1	-2.11	119.21	122.14
1	B5	3657	OMU	O2-C2-N1	-2.10	120.06	122.80
1	B5	4369	OMG	C5-C6-N1	2.10	118.07	114.07
1	B5	3427	PSU	C5-C6-N1	-2.10	119.23	122.14
52	A2	463	OMC	O2-C2-N3	-2.10	119.02	122.33
3	B8	55	PSU	C5-C6-N1	-2.10	119.23	122.14
1	B5	4419	PSU	C5-C6-N1	-2.10	119.23	122.14
1	B5	4322	PSU	C5-C6-N1	-2.09	119.23	122.14
1	B5	4099	PSU	C5-C6-N1	-2.09	119.23	122.14
1	B5	4116	OMG	C5-C6-N1	2.09	118.06	114.07
1	B5	1632	PSU	O4'-C1'-C2'	2.09	108.04	105.15
52	A2	1491	OMG	C5-C6-N1	2.09	118.06	114.07
1	B5	2267	OMG	C5-C6-N1	2.09	118.06	114.07
52	A2	602	OMG	C5-C6-N1	2.09	118.05	114.07
1	B5	2719	OMG	C5-C6-N1	2.09	118.05	114.07
52	A2	687	PSU	C5-C6-N1	-2.09	119.25	122.14
52	A2	1368	PSU	C5-C6-N1	-2.08	119.25	122.14
1	B5	4298	PSU	C5-C6-N1	-2.08	119.25	122.14
1	B5	2207	OMG	C5-C6-N1	2.08	118.04	114.07
52	A2	1239	PSU	C5-C6-N1	-2.08	119.25	122.14
52	A2	1245	PSU	C5-C6-N1	-2.08	119.25	122.14
1	B5	3942	OMG	C5-C6-N1	2.08	118.03	114.07
1	B5	4383	OMG	C5-C6-N1	2.08	118.03	114.07
52	A2	684	OMG	C5-C6-N1	2.08	118.03	114.07
1	B5	4246	PSU	C5-C6-N1	-2.08	119.26	122.14
52	A2	1348	PSU	C5-C6-N1	-2.08	119.26	122.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B5	1260	OMG	C5-C6-N1	2.07	118.03	114.07
1	B5	3502	PSU	C5-C6-N1	-2.07	119.26	122.14
1	B5	1477	OMG	C5-C6-N1	2.07	118.03	114.07
1	B5	1580	OMG	C5-C6-N1	2.07	118.02	114.07
1	B5	3476	OMG	C5-C6-N1	2.07	118.02	114.07
52	A2	650	PSU	C5-C6-N1	-2.07	119.27	122.14
52	A2	1175	PSU	C5-C6-N1	-2.07	119.27	122.14
1	B5	1720	PSU	C5-C6-N1	-2.07	119.27	122.14
1	B5	4749	PSU	C5-C6-N1	-2.07	119.27	122.14
52	A2	1833	6MZ	C9-N6-C6	-2.07	120.93	122.85
52	A2	864	PSU	C5-C6-N1	-2.07	119.27	122.14
1	B5	1638	PSU	C5-C6-N1	-2.07	119.27	122.14
52	A2	645	OMG	C5-C6-N1	2.07	118.01	114.07
1	B5	1537	PSU	C5-C6-N1	-2.06	119.28	122.14
52	A2	437	OMG	C5-C6-N1	2.06	118.00	114.07
1	B5	3496	PSU	C5-C6-N1	-2.06	119.28	122.14
1	B5	3359	OMG	C5-C6-N1	2.06	118.00	114.07
3	B8	69	PSU	C5-C6-N1	-2.06	119.28	122.14
3	B8	75	OMG	C5-C6-N1	2.06	118.00	114.07
1	B5	3676	OMG	C5-C6-N1	2.06	118.00	114.07
1	B5	4245	OMG	C5-C6-N1	2.06	118.00	114.07
1	B5	4045	PSU	C5-C6-N1	-2.06	119.28	122.14
1	B5	4039	PSU	C5-C6-N1	-2.06	119.28	122.14
52	A2	1644	PSU	C5-C6-N1	-2.06	119.29	122.14
52	A2	867	PSU	C5-C6-N1	-2.06	119.29	122.14
1	B5	4149	PSU	C5-C6-N1	-2.05	119.29	122.14
1	B5	3631	OMG	C5-C6-N1	2.05	117.98	114.07
1	B5	4240	OMG	C5-C6-N1	2.05	117.98	114.07
1	B5	3466	PSU	C5-C6-N1	-2.05	119.29	122.14
52	A2	510	OMG	C5-C6-N1	2.05	117.98	114.07
1	B5	4364	OMG	C5-C6-N1	2.05	117.98	114.07
1	B5	2351	PSU	C5-C6-N1	-2.05	119.29	122.14
1	B5	4107	PSU	C5-C6-N1	-2.05	119.29	122.14
52	A2	1046	PSU	C5-C6-N1	-2.05	119.30	122.14
1	B5	3652	PSU	C5-C6-N1	-2.05	119.30	122.14
1	B5	3974	OMG	C5-C6-N1	2.05	117.98	114.07
52	A2	1626	PSU	C5-C6-N1	-2.05	119.30	122.14
1	B5	3601	OMC	O2-C2-N3	-2.05	119.10	122.33
52	A2	1057	PSU	C5-C6-N1	-2.04	119.30	122.14
52	A2	868	OMG	C5-C6-N1	2.04	117.97	114.07
52	A2	1448	OMG	C5-C6-N1	2.04	117.97	114.07
1	B5	2244	A2M	C2'-C1'-N9	-2.04	108.02	112.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	A2	823	PSU	O4'-C1'-C2'	2.04	107.98	105.15
1	B5	1799	PSU	C5-C6-N1	-2.04	119.31	122.14
1	B5	4203	PSU	C5-C6-N1	-2.04	119.31	122.14
52	A2	802	PSU	C5-C6-N1	-2.04	119.31	122.14
1	B5	4217	PSU	C5-C6-N1	-2.04	119.31	122.14
52	A2	1329	OMG	C5-C6-N1	2.04	117.95	114.07
52	A2	109	PSU	C5-C6-N1	-2.03	119.32	122.14
1	B5	1801	PSU	C5-C6-N1	-2.03	119.32	122.14
52	A2	1233	PSU	C5-C6-N1	-2.03	119.32	122.14
52	A2	573	PSU	C5-C6-N1	-2.03	119.32	122.14
1	B5	3524	OMG	C5-C6-N1	2.03	117.94	114.07
1	B5	2475	PSU	C5-C6-N1	-2.03	119.33	122.14
52	A2	34	PSU	C5-C6-N1	-2.02	119.33	122.14
1	B5	4058	PSU	C5-C6-N1	-2.02	119.33	122.14
1	B5	4177	PSU	C5-C6-N1	-2.02	119.34	122.14
52	A2	1693	PSU	C5-C6-N1	-2.02	119.34	122.14
52	A2	967	PSU	C5-C6-N1	-2.02	119.34	122.14
1	B5	4166	PSU	O4'-C1'-C2'	2.02	107.94	105.15
3	B8	69	PSU	O4'-C1'-C2'	2.01	107.94	105.15
52	A2	210	PSU	C5-C6-N1	-2.01	119.34	122.14
1	B5	4740	PSU	C5-C6-N1	-2.01	119.34	122.14
52	A2	218	PSU	C5-C6-N1	-2.01	119.35	122.14
1	B5	1683	PSU	C5-C6-N1	-2.01	119.35	122.14
1	B5	1718	PSU	C5-C6-N1	-2.01	119.35	122.14
1	B5	3447	PSU	C5-C6-N1	-2.01	119.36	122.14
52	A2	682	PSU	C5-C6-N1	-2.00	119.36	122.14
1	B5	3583	PSU	C5-C6-N1	-2.00	119.36	122.14
1	B5	3500	PSU	C5-C6-N1	-2.00	119.36	122.14

There are no chirality outliers.

All (110) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	BA	216	V5N	O-C-CA-CB
5	BB	245	HIC	CA-CB-CG-ND1
5	BB	245	HIC	CA-CB-CG-CD2
6	BC	2	AYA	OT-CT-N-CA
6	BC	2	AYA	CM-CT-N-CA
31	Bb	5	MLZ	C-CA-CB-CG
52	A2	429	OMU	C2'-C1'-N1-C2
52	A2	429	OMU	C2'-C1'-N1-C6
52	A2	645	OMG	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
52	A2	1852	MA6	C5-C6-N6-C10
81	As	67	NMM	O-C-CA-CB
1	B5	3433	OMC	C2'-C1'-N1-C2
1	B5	3433	OMC	C2'-C1'-N1-C6
1	B5	4193	5MC	C2'-C1'-N1-C6
1	B5	4336	A2M	C4'-C5'-O5'-P
1	B5	4382	PSU	O4'-C1'-C5-C4
1	B5	4382	PSU	O4'-C1'-C5-C6
52	A2	1249	B8N	N34-C33-C34-O35
52	A2	1338	4AC	N3-C4-N4-C7
52	A2	1338	4AC	O7-C7-N4-C4
52	A2	1338	4AC	CM7-C7-N4-C4
52	A2	1843	4AC	N3-C4-N4-C7
52	A2	1843	4AC	C5-C4-N4-C7
52	A2	1843	4AC	O7-C7-N4-C4
52	A2	1843	4AC	CM7-C7-N4-C4
52	A2	99	A2M	O4'-C4'-C5'-O5'
52	A2	513	A2M	O4'-C4'-C5'-O5'
52	A2	1448	OMG	C3'-C4'-C5'-O5'
1	B5	398	A2M	O4'-C4'-C5'-O5'
1	B5	2207	OMG	O4'-C4'-C5'-O5'
1	B5	4382	PSU	C3'-C4'-C5'-O5'
52	A2	429	OMU	O4'-C1'-N1-C2
83	Au	1	AME	CT2-CT1-N-CA
83	Au	1	AME	OT-CT1-N-CA
1	B5	4193	5MC	C2'-C1'-N1-C2
52	A2	1249	B8N	N34-C33-C34-O36
52	A2	645	OMG	C3'-C4'-C5'-O5'
52	A2	669	A2M	C3'-C4'-C5'-O5'
52	A2	628	OMU	C2'-C1'-N1-C6
52	A2	429	OMU	O4'-C1'-N1-C6
52	A2	669	A2M	O4'-C4'-C5'-O5'
1	B5	3517	A2M	O4'-C4'-C5'-O5'
1	B5	3517	A2M	C3'-C4'-C5'-O5'
1	B5	4382	PSU	O4'-C4'-C5'-O5'
52	A2	513	A2M	C3'-C4'-C5'-O5'
52	A2	1448	OMG	O4'-C4'-C5'-O5'
1	B5	398	A2M	C3'-C4'-C5'-O5'
1	B5	2207	OMG	C3'-C4'-C5'-O5'
52	A2	99	A2M	C3'-C4'-C5'-O5'
52	A2	577	A2M	C3'-C4'-C5'-O5'
6	BC	2	AYA	C-CA-N-CT

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Mol	Chain	Res	Type	Atoms
62	AZ	2	SAC	C-CA-N-C1A
1	B5	1489	A2M	O4'-C4'-C5'-O5'
52	A2	1640	G7M	O4'-C4'-C5'-O5'
52	A2	1640	G7M	C3'-C4'-C5'-O5'
52	A2	628	OMU	O4'-C1'-N1-C6
52	A2	1249	B8N	C32-C33-C34-O36
52	A2	1852	MA6	C4'-C5'-O5'-P
31	Bb	5	MLZ	N-CA-CB-CG
76	An	138	5F0	O-C-CB-CA
52	A2	577	A2M	O4'-C4'-C5'-O5'
62	AZ	2	SAC	CB-CA-N-C1A
52	A2	1249	B8N	C32-C33-C34-O35
52	A2	628	OMU	C2'-C1'-N1-C2
52	A2	1704	OMC	C3'-C2'-O2'-CM2
1	B5	398	A2M	C3'-C2'-O2'-CM'
52	A2	645	OMG	C4'-C5'-O5'-P
1	B5	3576	PSU	C4'-C5'-O5'-P
1	B5	4246	PSU	C4'-C5'-O5'-P
1	B5	4193	5MC	O4'-C1'-N1-C2
1	B5	3433	OMC	O4'-C1'-N1-C6
1	B5	4193	5MC	O4'-C1'-N1-C6
1	B5	3550	UY1	C4'-C5'-O5'-P
1	B5	3599	A2M	C3'-C4'-C5'-O5'
1	B5	1489	A2M	C3'-C4'-C5'-O5'
52	A2	628	OMU	O4'-C1'-N1-C2
1	B5	1820	OMC	C3'-C2'-O2'-CM2
1	B5	2265	OMC	C3'-C2'-O2'-CM2
1	B5	2680	OMU	C3'-C2'-O2'-CM2
1	B5	3619	OMC	C3'-C2'-O2'-CM2
1	B5	3676	OMG	C3'-C2'-O2'-CM2
1	B5	4366	OMU	C3'-C2'-O2'-CM2
1	B5	4369	OMG	C3'-C2'-O2'-CM2
52	A2	159	A2M	O4'-C4'-C5'-O5'
1	B5	3619	OMC	C4'-C5'-O5'-P
52	A2	116	OMU	O4'-C4'-C5'-O5'
52	A2	684	OMG	O4'-C4'-C5'-O5'
85	Aw	62	HY3	O-C-CA-C3
1	B5	3433	OMC	O4'-C1'-N1-C2
52	A2	510	OMG	O4'-C4'-C5'-O5'
52	A2	355	OMU	C3'-C2'-O2'-CM2
1	B5	1260	OMG	C3'-C2'-O2'-CM2
1	B5	2667	OMC	C3'-C2'-O2'-CM2

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Mol	Chain	Res	Type	Atoms
1	B5	3631	OMG	C3'-C2'-O2'-CM2
1	B5	4138	OMG	C3'-C2'-O2'-CM2
1	B5	4383	OMG	C3'-C2'-O2'-CM2
52	A2	469	A2M	O4'-C4'-C5'-O5'
52	A2	1852	MA6	C3'-C4'-C5'-O5'
1	B5	2194	OMC	O4'-C4'-C5'-O5'
1	B5	2265	OMC	C3'-C4'-C5'-O5'
52	A2	1338	4AC	C5-C4-N4-C7
52	A2	27	A2M	C3'-C2'-O2'-CM'
1	B5	2207	OMG	C3'-C2'-O2'-CM2
1	B5	3476	OMG	C3'-C2'-O2'-CM2
1	B5	3657	OMU	C3'-C2'-O2'-CM2
52	A2	355	OMU	O4'-C4'-C5'-O5'
1	B5	3494	PSU	C3'-C4'-C5'-O5'
52	A2	1448	OMG	C4'-C5'-O5'-P
52	A2	1443	OMU	C2'-C1'-N1-C2
1	B5	2194	OMC	C2'-C1'-N1-C2

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 848 ligands modelled in this entry, 428 are monoatomic and 312 are unknown - leaving 108 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
90	SPD	B5	4937	-	9,9,9	0.15	0	8,8,8	0.17	0
89	N	Aa	309	89	9,12,13	0.60	0	9,16,19	0.70	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
89	N	Ae	309	89	9,12,13	0.60	0	9,16,19	0.70	0
89	N	Ae	303	89	9,12,13	0.59	0	9,16,19	0.69	0
90	SPD	B5	4928	-	9,9,9	0.15	0	8,8,8	0.16	0
89	N	Bo	202	89	13,13,13	0.81	0	16,19,19	0.88	1 (6%)
89	N	B5	4905	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	B5	4919	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	B5	4911	89	9,12,13	0.60	0	9,16,19	0.68	0
94	GTP	B7	201	2	29,34,34	1.01	2 (6%)	35,54,54	0.79	0
89	N	B5	4918	89	9,12,13	0.59	0	9,16,19	0.70	0
90	SPD	B5	4926	-	9,9,9	0.16	0	8,8,8	0.18	0
89	N	Ay	204	89	9,12,13	0.60	0	9,16,19	0.68	0
90	SPD	B5	4940	-	9,9,9	0.15	0	8,8,8	0.19	0
89	N	Ae	306	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	Ae	307	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	B5	4913	89	9,12,13	0.59	0	9,16,19	0.69	0
90	SPD	B5	4936	-	9,9,9	0.15	0	8,8,8	0.17	0
89	N	Aa	310	89	9,12,13	0.60	0	9,16,19	0.71	0
89	N	B5	4917	89	9,12,13	0.61	0	9,16,19	0.70	0
90	SPD	B5	4921	-	9,9,9	0.15	0	8,8,8	0.15	0
89	N	Aa	304	89	9,12,13	0.61	0	9,16,19	0.69	0
89	N	Bv	307	89	9,12,13	0.60	0	9,16,19	0.70	0
89	N	B5	4906	89	9,12,13	0.59	0	9,16,19	0.67	0
89	N	Bo	203	89	9,12,13	0.60	0	9,16,19	0.67	0
89	N	B5	4916	89	9,12,13	0.59	0	9,16,19	0.69	0
89	N	Ay	205	89	9,12,13	0.60	0	9,16,19	0.68	0
89	N	B5	4920	89	9,12,13	0.59	0	9,16,19	0.69	0
95	AAC	BD	301	7	6,6,7	0.86	0	4,6,8	1.11	0
90	SPD	A2	1911	-	9,9,9	0.15	0	8,8,8	0.17	0
91	SPM	B5	4935	-	13,13,13	0.15	0	12,12,12	0.13	0
89	N	Bv	305	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	B5	4902	89	9,12,13	0.60	0	9,16,19	0.68	0
89	N	B5	4904	89	9,12,13	0.59	0	9,16,19	0.70	0
89	N	Ae	304	89	9,12,13	0.60	0	9,16,19	0.70	0
90	SPD	B5	4934	-	9,9,9	0.15	0	8,8,8	0.19	0
91	SPM	A2	1912	-	13,13,13	0.15	0	12,12,12	0.15	0
89	N	B5	4903	89	9,12,13	0.60	0	9,16,19	0.71	0
89	N	Bo	208	89	9,12,13	0.59	0	9,16,19	0.69	0
90	SPD	B5	4923	-	9,9,9	0.15	0	8,8,8	0.18	0
90	SPD	B5	4927	-	9,9,9	0.15	0	8,8,8	0.19	0
90	SPD	B5	4931	-	9,9,9	0.15	0	8,8,8	0.19	0
89	N	B5	4909	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	AT	102	89	9,12,13	0.61	0	9,16,19	0.69	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
89	N	B5	4908	89	9,12,13	0.60	0	9,16,19	0.67	0
90	SPD	B5	4938	-	9,9,9	0.15	0	8,8,8	0.18	0
89	N	A2	1902	89	9,12,13	0.61	0	9,16,19	0.68	0
89	N	AT	101	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	Aa	303	89	9,12,13	0.59	0	9,16,19	0.68	0
89	N	Bv	302	89	9,12,13	0.60	0	9,16,19	0.71	0
89	N	Ay	203	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	Bo	210	89	9,12,13	0.60	0	9,16,19	0.70	0
90	SPD	B5	4941	-	9,9,9	0.15	0	8,8,8	0.17	0
90	SPD	B5	4943	-	9,9,9	0.15	0	8,8,8	0.21	0
90	SPD	B5	4925	-	9,9,9	0.15	0	8,8,8	0.18	0
89	N	Bo	212	89	9,12,13	0.60	0	9,16,19	0.70	0
89	N	Aa	307	89	9,12,13	0.59	0	9,16,19	0.67	0
89	N	AI	101	60,89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	Ae	305	89	9,12,13	0.60	0	9,16,19	0.70	0
89	N	Bv	306	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	B5	4910	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	Ay	201	89	9,12,13	0.60	0	9,16,19	0.70	0
90	SPD	A2	1904	-	9,9,9	0.15	0	8,8,8	0.18	0
89	N	Bo	207	89	9,12,13	0.59	0	9,16,19	0.68	0
89	N	AT	103	89	9,12,13	0.60	0	9,16,19	0.70	0
89	N	Ae	310	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	Bv	303	89	9,12,13	0.61	0	9,16,19	0.69	0
89	N	AT	104	89	9,12,13	0.60	0	9,16,19	0.68	0
89	N	Aa	305	89	9,12,13	0.60	0	9,16,19	0.67	0
89	N	Ae	302	89	9,12,13	0.61	0	9,16,19	0.70	0
89	N	Aa	308	89	9,12,13	0.60	0	9,16,19	0.70	0
90	SPD	A2	1908	-	9,9,9	0.15	0	8,8,8	0.16	0
89	N	A2	1901	89	9,12,13	0.60	0	9,16,19	0.70	0
90	SPD	A2	1907	-	9,9,9	0.15	0	8,8,8	0.19	0
89	N	Aa	301	89	9,12,13	0.60	0	9,16,19	0.70	0
89	N	Aa	306	89	9,12,13	0.61	0	9,16,19	0.68	0
89	N	Bv	304	89	9,12,13	0.60	0	9,16,19	0.68	0
90	SPD	A2	1910	-	9,9,9	0.15	0	8,8,8	0.19	0
89	N	B5	4912	89	9,12,13	0.60	0	9,16,19	0.69	0
90	SPD	B5	4922	-	9,9,9	0.15	0	8,8,8	0.18	0
89	N	B5	4915	89	9,12,13	0.60	0	9,16,19	0.68	0
91	SPM	B5	4932	-	13,13,13	0.15	0	12,12,12	0.20	0
90	SPD	B5	4939	-	9,9,9	0.15	0	8,8,8	0.16	0
90	SPD	B5	4930	-	9,9,9	0.15	0	8,8,8	0.20	0
89	N	AT	106	89	9,12,13	0.60	0	9,16,19	0.67	0
89	N	B5	4914	89	9,12,13	0.59	0	9,16,19	0.71	0
90	SPD	A2	1906	-	9,9,9	0.15	0	8,8,8	0.19	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
89	N	Ae	308	89	9,12,13	0.59	0	9,16,19	0.69	0
89	N	Ae	301	89	9,12,13	0.60	0	9,16,19	0.70	0
90	SPD	B5	4929	-	9,9,9	0.16	0	8,8,8	0.17	0
89	N	AT	105	89	9,12,13	0.60	0	9,16,19	0.67	0
89	N	Bo	204	89	9,12,13	0.60	0	9,16,19	0.68	0
89	N	Bv	301	89	9,12,13	0.60	0	9,16,19	0.69	0
90	SPD	B5	4924	-	9,9,9	0.15	0	8,8,8	0.21	0
90	SPD	A2	1905	-	9,9,9	0.15	0	8,8,8	0.16	0
90	SPD	A2	1909	-	9,9,9	0.15	0	8,8,8	0.17	0
89	N	B5	4907	89	9,12,13	0.60	0	9,16,19	0.69	0
90	SPD	B5	4933	-	9,9,9	0.15	0	8,8,8	0.20	0
89	N	Bo	206	89	9,12,13	0.60	0	9,16,19	0.71	0
89	N	Bo	209	89	9,12,13	0.60	0	9,16,19	0.69	0
89	N	B5	4901	89	9,12,13	0.60	0	9,16,19	0.71	0
89	N	Aa	302	89	9,12,13	0.60	0	9,16,19	0.68	0
90	SPD	B5	4942	-	9,9,9	0.15	0	8,8,8	0.18	0
90	SPD	B5	4944	-	9,9,9	0.15	0	8,8,8	0.15	0
89	N	A2	1903	89	9,12,13	0.60	0	9,16,19	0.66	0
89	N	Bo	211	89	9,12,13	0.60	0	9,16,19	0.70	0
89	N	Bo	205	89	9,12,13	0.60	0	9,16,19	0.70	0
89	N	Ay	202	89	9,12,13	0.59	0	9,16,19	0.70	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
90	SPD	B5	4937	-	-	0/7/7/7	-
89	N	Aa	309	89	-	2/3/18/19	0/1/1/1
89	N	Ae	309	89	-	3/3/18/19	0/1/1/1
89	N	Ae	303	89	-	3/3/18/19	0/1/1/1
90	SPD	B5	4928	-	-	0/7/7/7	-
89	N	Bo	202	89	-	0/6/19/19	0/1/1/1
89	N	B5	4905	89	-	1/3/18/19	0/1/1/1
89	N	B5	4919	89	-	0/3/18/19	0/1/1/1
89	N	B5	4911	89	-	2/3/18/19	0/1/1/1
94	GTP	B7	201	2	-	0/18/38/38	0/3/3/3
89	N	B5	4918	89	-	2/3/18/19	0/1/1/1
90	SPD	B5	4926	-	-	1/7/7/7	-
89	N	Ay	204	89	-	3/3/18/19	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
90	SPD	B5	4940	-	-	0/7/7/7	-
89	N	Ae	306	89	-	3/3/18/19	0/1/1/1
89	N	Ae	307	89	-	0/3/18/19	0/1/1/1
89	N	B5	4913	89	-	3/3/18/19	0/1/1/1
90	SPD	B5	4936	-	-	1/7/7/7	-
89	N	Aa	310	89	-	2/3/18/19	0/1/1/1
89	N	B5	4917	89	-	3/3/18/19	0/1/1/1
90	SPD	B5	4921	-	-	1/7/7/7	-
89	N	Aa	304	89	-	2/3/18/19	0/1/1/1
89	N	Bv	307	89	-	3/3/18/19	0/1/1/1
89	N	B5	4906	89	-	1/3/18/19	0/1/1/1
89	N	Bo	203	89	-	2/3/18/19	0/1/1/1
89	N	B5	4916	89	-	3/3/18/19	0/1/1/1
89	N	Ay	205	89	-	2/3/18/19	0/1/1/1
89	N	B5	4920	89	-	3/3/18/19	0/1/1/1
95	AAC	BD	301	7	-	0/3/4/5	-
90	SPD	A2	1911	-	-	0/7/7/7	-
91	SPM	B5	4935	-	-	0/11/11/11	-
89	N	Bv	305	89	-	2/3/18/19	0/1/1/1
89	N	B5	4902	89	-	2/3/18/19	0/1/1/1
89	N	B5	4904	89	-	0/3/18/19	0/1/1/1
89	N	Ae	304	89	-	3/3/18/19	0/1/1/1
90	SPD	B5	4934	-	-	0/7/7/7	-
91	SPM	A2	1912	-	-	2/11/11/11	-
89	N	B5	4903	89	-	0/3/18/19	0/1/1/1
89	N	Bo	208	89	-	3/3/18/19	0/1/1/1
90	SPD	B5	4923	-	-	1/7/7/7	-
90	SPD	B5	4927	-	-	0/7/7/7	-
90	SPD	B5	4931	-	-	0/7/7/7	-
89	N	B5	4909	89	-	1/3/18/19	0/1/1/1
89	N	AT	102	89	-	0/3/18/19	0/1/1/1
89	N	B5	4908	89	-	2/3/18/19	0/1/1/1
90	SPD	B5	4938	-	-	0/7/7/7	-
89	N	A2	1902	89	-	2/3/18/19	0/1/1/1
89	N	AT	101	89	-	3/3/18/19	0/1/1/1
89	N	Aa	303	89	-	0/3/18/19	0/1/1/1
89	N	Bv	302	89	-	3/3/18/19	0/1/1/1
89	N	Ay	203	89	-	2/3/18/19	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
89	N	Bo	210	89	-	0/3/18/19	0/1/1/1
90	SPD	B5	4941	-	-	0/7/7/7	-
90	SPD	B5	4943	-	-	0/7/7/7	-
90	SPD	B5	4925	-	-	1/7/7/7	-
89	N	Bo	212	89	-	2/3/18/19	0/1/1/1
89	N	Aa	307	89	-	0/3/18/19	0/1/1/1
89	N	AI	101	60,89	-	1/3/18/19	0/1/1/1
89	N	Ae	305	89	-	2/3/18/19	0/1/1/1
89	N	Bv	306	89	-	3/3/18/19	0/1/1/1
89	N	B5	4910	89	-	2/3/18/19	0/1/1/1
89	N	Ay	201	89	-	2/3/18/19	0/1/1/1
90	SPD	A2	1904	-	-	1/7/7/7	-
89	N	Bo	207	89	-	3/3/18/19	0/1/1/1
89	N	AT	103	89	-	3/3/18/19	0/1/1/1
89	N	Ae	310	89	-	0/3/18/19	0/1/1/1
89	N	Bv	303	89	-	0/3/18/19	0/1/1/1
89	N	AT	104	89	-	0/3/18/19	0/1/1/1
89	N	Aa	305	89	-	1/3/18/19	0/1/1/1
89	N	Ae	302	89	-	2/3/18/19	0/1/1/1
89	N	Aa	308	89	-	3/3/18/19	0/1/1/1
90	SPD	A2	1908	-	-	0/7/7/7	-
89	N	A2	1901	89	-	3/3/18/19	0/1/1/1
90	SPD	A2	1907	-	-	0/7/7/7	-
89	N	Aa	301	89	-	0/3/18/19	0/1/1/1
89	N	Aa	306	89	-	1/3/18/19	0/1/1/1
89	N	Bv	304	89	-	1/3/18/19	0/1/1/1
90	SPD	A2	1910	-	-	1/7/7/7	-
89	N	B5	4912	89	-	0/3/18/19	0/1/1/1
90	SPD	B5	4922	-	-	1/7/7/7	-
89	N	B5	4915	89	-	1/3/18/19	0/1/1/1
91	SPM	B5	4932	-	-	1/11/11/11	-
90	SPD	B5	4939	-	-	0/7/7/7	-
90	SPD	B5	4930	-	-	1/7/7/7	-
89	N	AT	106	89	-	2/3/18/19	0/1/1/1
89	N	B5	4914	89	-	1/3/18/19	0/1/1/1
90	SPD	A2	1906	-	-	0/7/7/7	-
89	N	Ae	308	89	-	0/3/18/19	0/1/1/1
89	N	Ae	301	89	-	3/3/18/19	0/1/1/1
90	SPD	B5	4929	-	-	0/7/7/7	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
89	N	AT	105	89	-	1/3/18/19	0/1/1/1
89	N	Bo	204	89	-	0/3/18/19	0/1/1/1
89	N	Bv	301	89	-	0/3/18/19	0/1/1/1
90	SPD	B5	4924	-	-	0/7/7/7	-
90	SPD	A2	1905	-	-	0/7/7/7	-
90	SPD	A2	1909	-	-	0/7/7/7	-
89	N	B5	4907	89	-	0/3/18/19	0/1/1/1
90	SPD	B5	4933	-	-	0/7/7/7	-
89	N	Bo	206	89	-	3/3/18/19	0/1/1/1
89	N	Bo	209	89	-	0/3/18/19	0/1/1/1
89	N	B5	4901	89	-	3/3/18/19	0/1/1/1
89	N	Aa	302	89	-	0/3/18/19	0/1/1/1
90	SPD	B5	4942	-	-	0/7/7/7	-
90	SPD	B5	4944	-	-	1/7/7/7	-
89	N	A2	1903	89	-	2/3/18/19	0/1/1/1
89	N	Bo	211	89	-	2/3/18/19	0/1/1/1
89	N	Bo	205	89	-	0/3/18/19	0/1/1/1
89	N	Ay	202	89	-	2/3/18/19	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
94	B7	201	GTP	C5-C6	-2.68	1.42	1.47
94	B7	201	GTP	C8-N7	-2.12	1.31	1.34

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
89	Bo	202	N	OP2-P-OP1	2.24	119.58	110.83

There are no chirality outliers.

All (128) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
89	B5	4911	N	O4'-C4'-C5'-O5'
89	B5	4908	N	O4'-C4'-C5'-O5'
89	B5	4910	N	O4'-C4'-C5'-O5'
89	Bo	203	N	O4'-C4'-C5'-O5'
89	A2	1902	N	O4'-C4'-C5'-O5'
89	A2	1902	N	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
89	Aa	304	N	O4'-C4'-C5'-O5'
89	Aa	304	N	C3'-C4'-C5'-O5'
89	B5	4910	N	C3'-C4'-C5'-O5'
89	B5	4911	N	C3'-C4'-C5'-O5'
89	Bv	302	N	C3'-C4'-C5'-O5'
89	Bv	305	N	O4'-C4'-C5'-O5'
89	Bv	305	N	C3'-C4'-C5'-O5'
89	Ae	301	N	O4'-C4'-C5'-O5'
89	Ae	301	N	C3'-C4'-C5'-O5'
89	Ae	306	N	O4'-C4'-C5'-O5'
89	Ae	306	N	C3'-C4'-C5'-O5'
89	Ay	201	N	C3'-C4'-C5'-O5'
89	Ay	203	N	O4'-C4'-C5'-O5'
89	Ay	203	N	C3'-C4'-C5'-O5'
89	Ay	201	N	O4'-C4'-C5'-O5'
89	Bv	302	N	O4'-C4'-C5'-O5'
89	Bv	307	N	C3'-C4'-C5'-O5'
89	AT	101	N	C3'-C4'-C5'-O5'
89	Ae	302	N	C3'-C4'-C5'-O5'
89	B5	4902	N	O4'-C4'-C5'-O5'
89	B5	4920	N	O4'-C4'-C5'-O5'
89	Bo	203	N	C3'-C4'-C5'-O5'
89	Bo	212	N	O4'-C4'-C5'-O5'
89	Bv	306	N	O4'-C4'-C5'-O5'
89	A2	1903	N	C3'-C4'-C5'-O5'
89	AT	101	N	O4'-C4'-C5'-O5'
89	Aa	310	N	O4'-C4'-C5'-O5'
89	Ae	305	N	O4'-C4'-C5'-O5'
89	Ae	309	N	O4'-C4'-C5'-O5'
89	Ay	202	N	O4'-C4'-C5'-O5'
89	B5	4902	N	C3'-C4'-C5'-O5'
89	B5	4916	N	O4'-C4'-C5'-O5'
89	B5	4920	N	C3'-C4'-C5'-O5'
89	Bo	207	N	O4'-C4'-C5'-O5'
89	Bo	212	N	C3'-C4'-C5'-O5'
89	Bv	307	N	O4'-C4'-C5'-O5'
89	A2	1901	N	O4'-C4'-C5'-O5'
89	AT	106	N	O4'-C4'-C5'-O5'
89	Aa	309	N	O4'-C4'-C5'-O5'
89	Aa	310	N	C3'-C4'-C5'-O5'
89	Ae	302	N	O4'-C4'-C5'-O5'
89	Ae	304	N	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
89	Ae	305	N	C3'-C4'-C5'-O5'
89	Ay	202	N	C3'-C4'-C5'-O5'
89	B5	4913	N	C4'-C5'-O5'-P
89	Bo	207	N	C3'-C4'-C5'-O5'
89	Bv	306	N	C3'-C4'-C5'-O5'
89	A2	1901	N	C3'-C4'-C5'-O5'
89	Ae	309	N	C3'-C4'-C5'-O5'
89	B5	4901	N	C4'-C5'-O5'-P
89	B5	4916	N	C4'-C5'-O5'-P
89	Bo	206	N	C4'-C5'-O5'-P
89	AT	103	N	C4'-C5'-O5'-P
89	Ae	303	N	C4'-C5'-O5'-P
89	B5	4908	N	C3'-C4'-C5'-O5'
89	B5	4917	N	O4'-C4'-C5'-O5'
89	B5	4918	N	O4'-C4'-C5'-O5'
89	Bo	206	N	O4'-C4'-C5'-O5'
89	Aa	309	N	C3'-C4'-C5'-O5'
89	Ae	304	N	C3'-C4'-C5'-O5'
89	Ay	204	N	O4'-C4'-C5'-O5'
89	Aa	305	N	C4'-C5'-O5'-P
89	B5	4916	N	C3'-C4'-C5'-O5'
89	AT	103	N	O4'-C4'-C5'-O5'
89	Aa	308	N	O4'-C4'-C5'-O5'
89	Bv	306	N	C4'-C5'-O5'-P
91	A2	1912	SPM	C8-C9-N10-C11
89	B5	4901	N	O4'-C4'-C5'-O5'
89	B5	4917	N	C3'-C4'-C5'-O5'
89	B5	4918	N	C3'-C4'-C5'-O5'
89	AT	103	N	C3'-C4'-C5'-O5'
89	Ae	303	N	O4'-C4'-C5'-O5'
89	Ay	204	N	C3'-C4'-C5'-O5'
89	B5	4901	N	C3'-C4'-C5'-O5'
89	Bo	206	N	C3'-C4'-C5'-O5'
89	Bo	211	N	O4'-C4'-C5'-O5'
89	Bo	211	N	C3'-C4'-C5'-O5'
89	Aa	308	N	C3'-C4'-C5'-O5'
89	Ae	303	N	C3'-C4'-C5'-O5'
89	Ay	205	N	C3'-C4'-C5'-O5'
89	Ay	205	N	O4'-C4'-C5'-O5'
89	B5	4906	N	C4'-C5'-O5'-P
89	B5	4917	N	C4'-C5'-O5'-P
89	Bo	208	N	C4'-C5'-O5'-P

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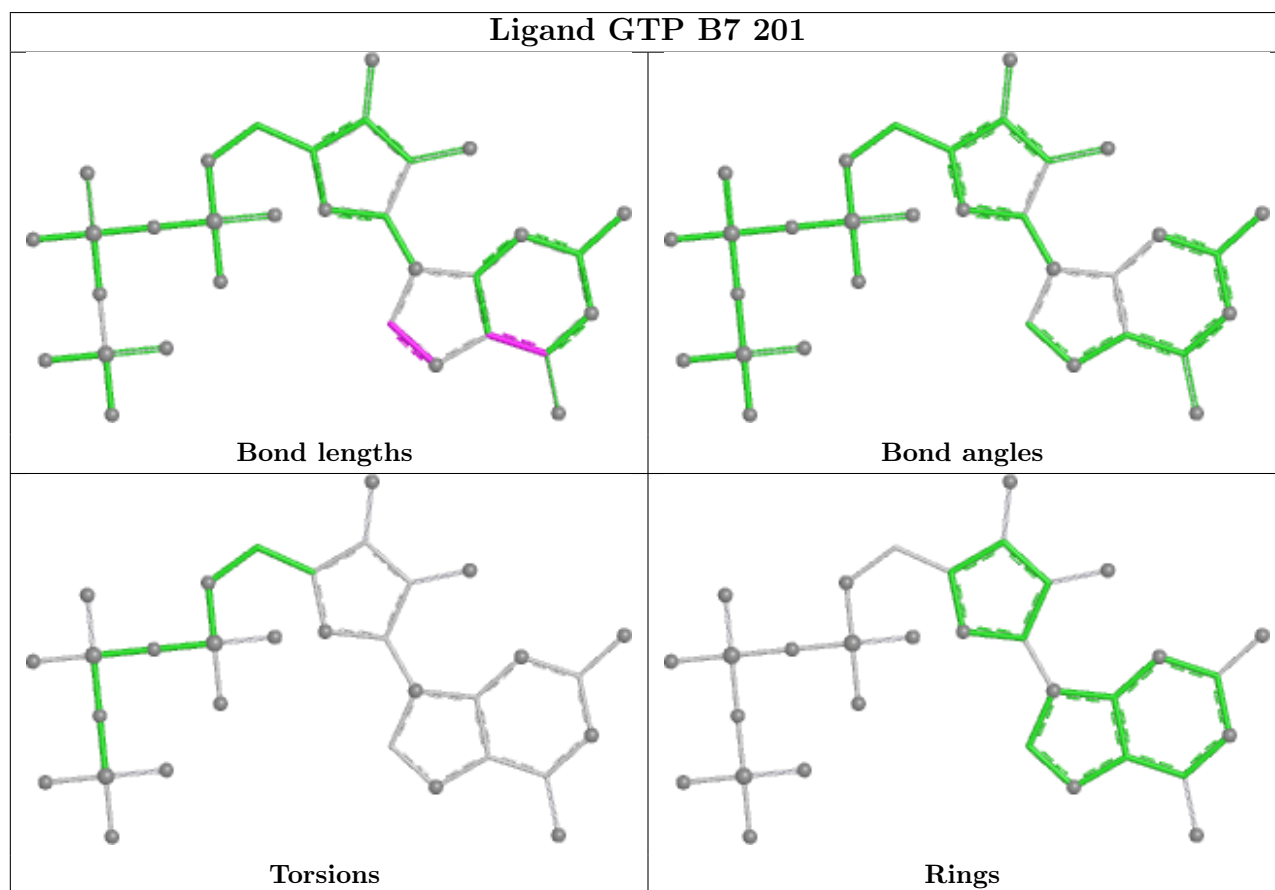
Mol	Chain	Res	Type	Atoms
89	Ae	301	N	C4'-C5'-O5'-P
89	B5	4905	N	C4'-C5'-O5'-P
89	B5	4914	N	C4'-C5'-O5'-P
89	B5	4920	N	C4'-C5'-O5'-P
89	Bv	302	N	C4'-C5'-O5'-P
89	A2	1901	N	C4'-C5'-O5'-P
89	AI	101	N	C4'-C5'-O5'-P
89	AT	105	N	C4'-C5'-O5'-P
89	Ae	304	N	C4'-C5'-O5'-P
89	Ay	204	N	C4'-C5'-O5'-P
89	Bo	208	N	C3'-C4'-C5'-O5'
89	Bv	304	N	C4'-C5'-O5'-P
89	Bo	208	N	O4'-C4'-C5'-O5'
91	A2	1912	SPM	C12-C11-N10-C9
89	Aa	308	N	C4'-C5'-O5'-P
89	Ae	306	N	C4'-C5'-O5'-P
89	AT	101	N	C4'-C5'-O5'-P
89	Aa	306	N	C4'-C5'-O5'-P
90	B5	4930	SPD	C4-C5-N6-C7
89	Ae	309	N	C4'-C5'-O5'-P
90	B5	4921	SPD	C4-C5-N6-C7
90	B5	4926	SPD	C2-C3-C4-C5
89	B5	4915	N	C4'-C5'-O5'-P
90	B5	4936	SPD	C8-C7-N6-C5
90	A2	1904	SPD	C2-C3-C4-C5
89	B5	4913	N	C3'-C4'-C5'-O5'
89	A2	1903	N	O4'-C4'-C5'-O5'
90	B5	4922	SPD	C2-C3-C4-C5
90	B5	4944	SPD	C2-C3-C4-C5
89	Bo	207	N	C4'-C5'-O5'-P
90	B5	4923	SPD	C2-C3-C4-C5
90	B5	4925	SPD	C2-C3-C4-C5
91	B5	4932	SPM	C8-C9-N10-C11
89	AT	106	N	C3'-C4'-C5'-O5'
90	A2	1910	SPD	C2-C3-C4-C5
89	B5	4909	N	C4'-C5'-O5'-P
89	Bv	307	N	C4'-C5'-O5'-P
89	B5	4913	N	O4'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

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



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.

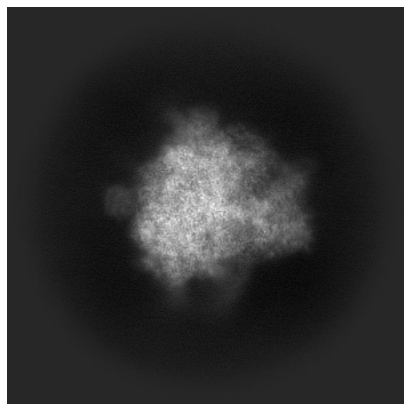
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-17367. These allow visual inspection of the internal detail of the map and identification of artifacts.

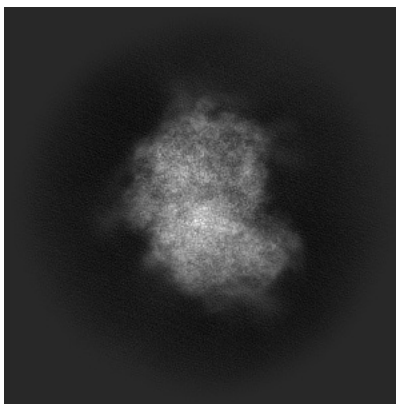
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

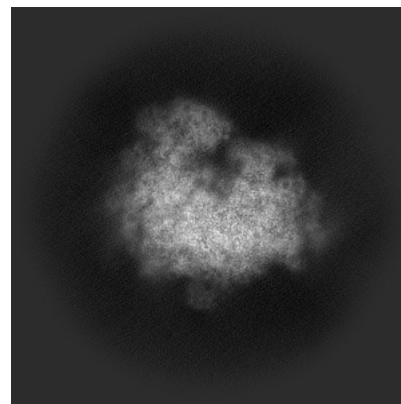
6.1.1 Primary map



X

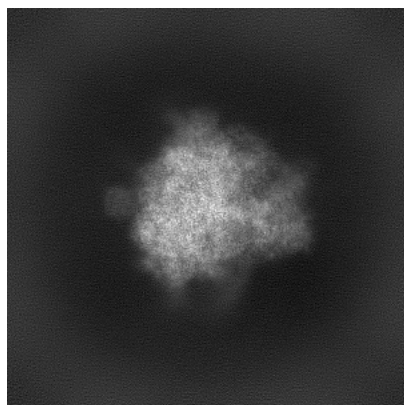


Y

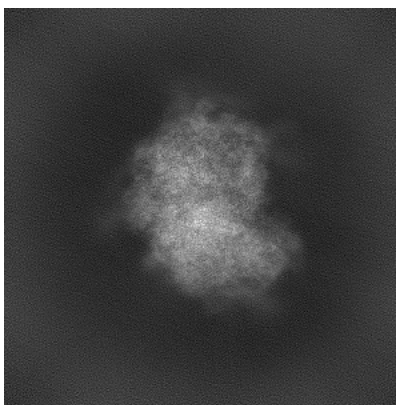


Z

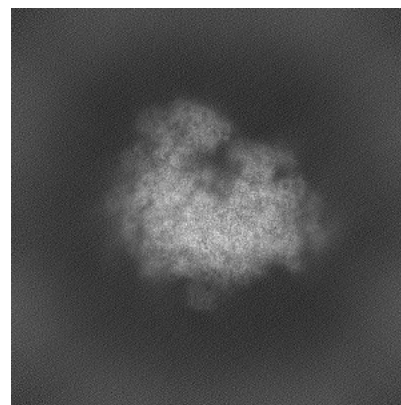
6.1.2 Raw map



X



Y

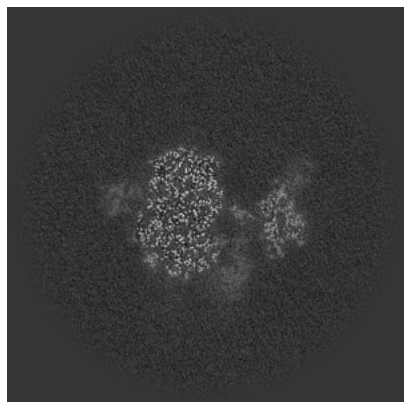


Z

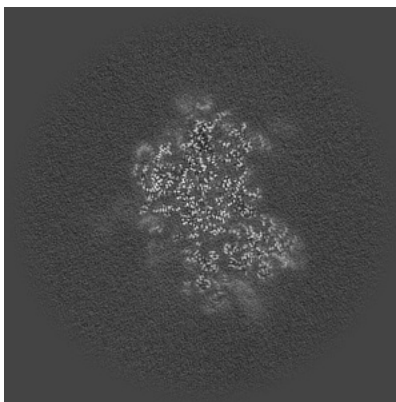
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

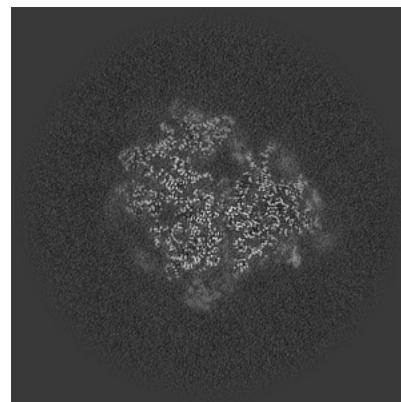
6.2.1 Primary map



X Index: 217

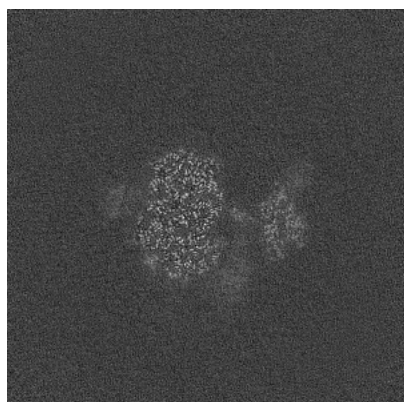


Y Index: 217

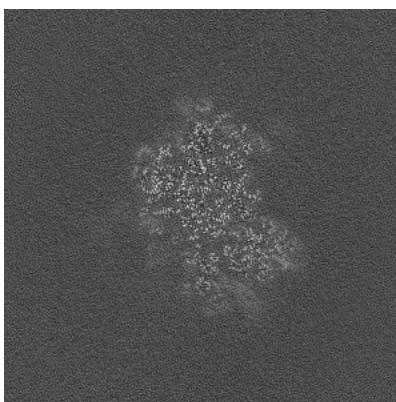


Z Index: 217

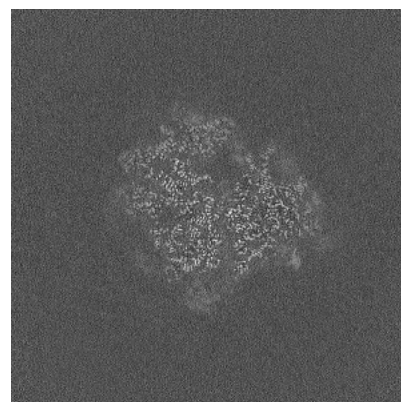
6.2.2 Raw map



X Index: 217



Y Index: 217

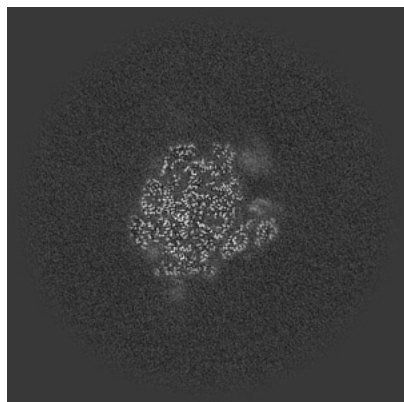


Z Index: 217

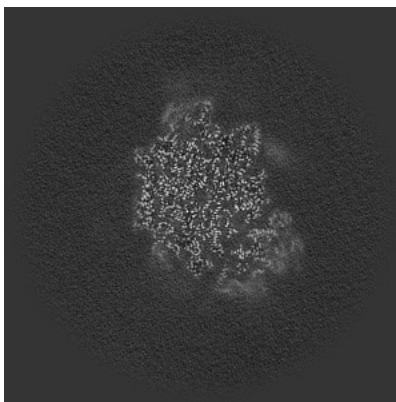
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

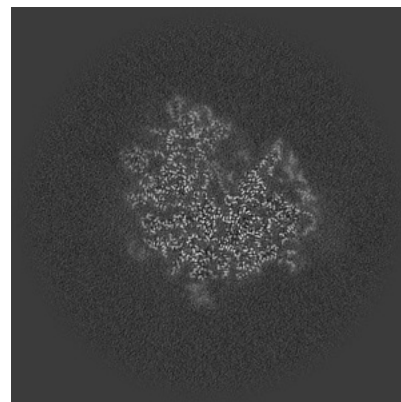
6.3.1 Primary map



X Index: 250

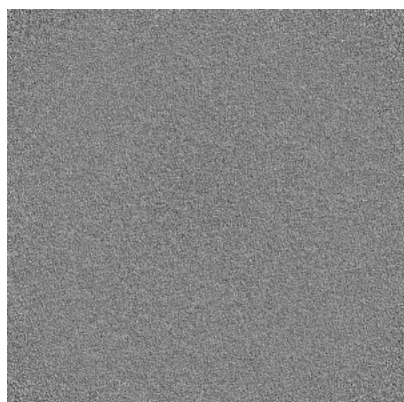


Y Index: 199

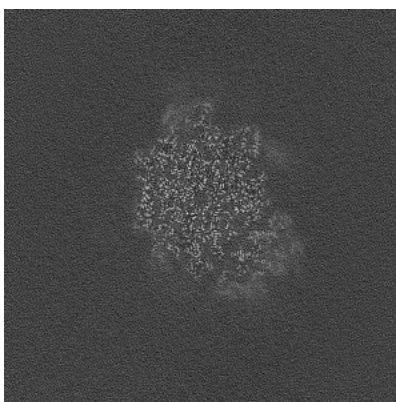


Z Index: 208

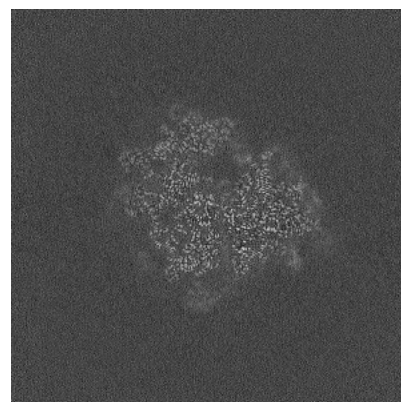
6.3.2 Raw map



X Index: 0



Y Index: 199

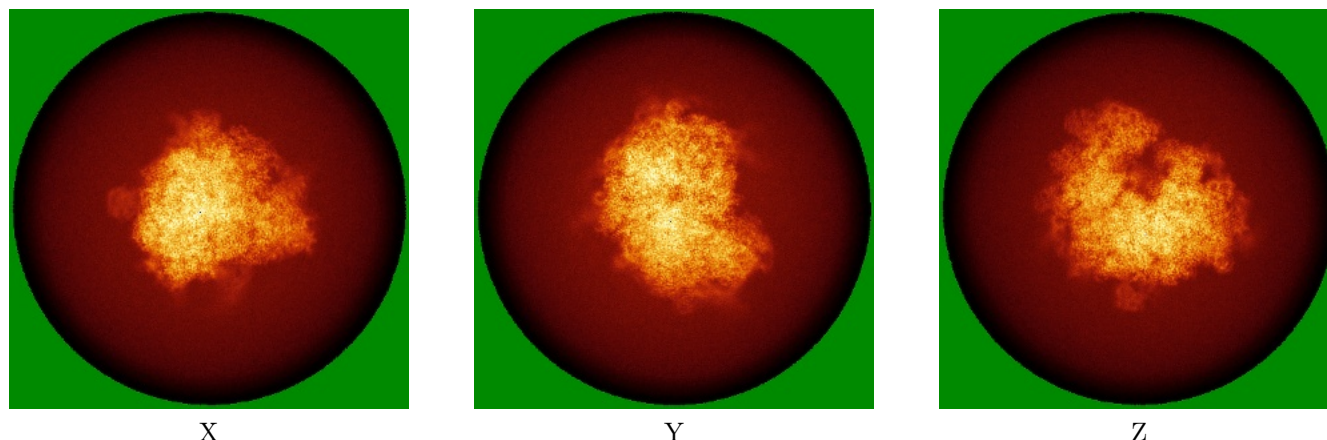


Z Index: 216

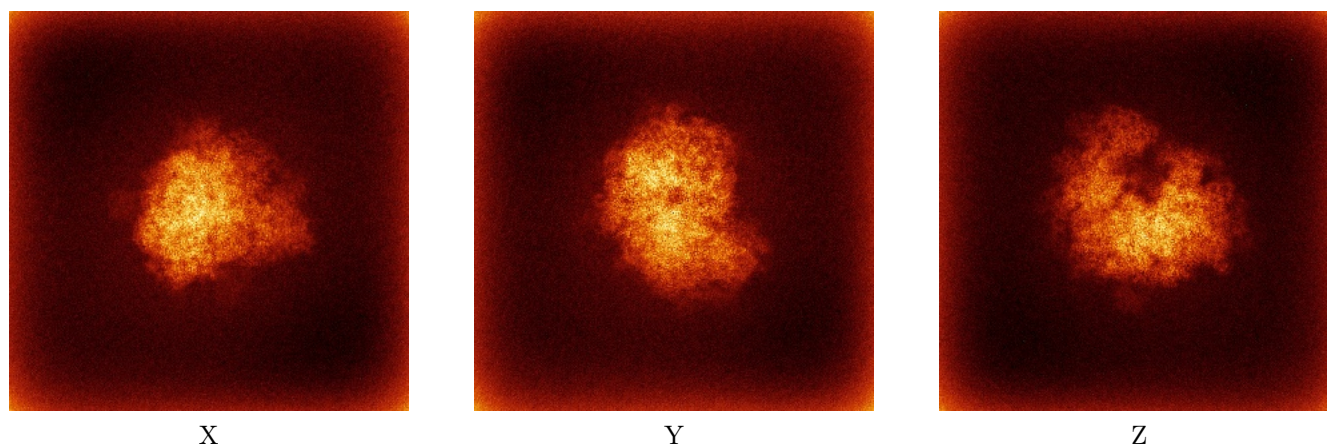
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



6.4.2 Raw map



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



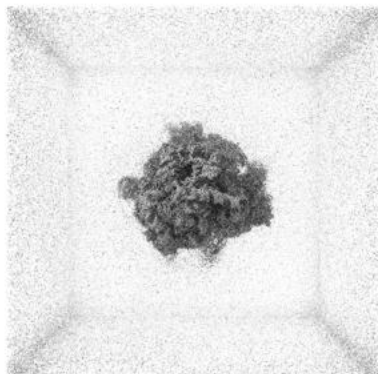
Y



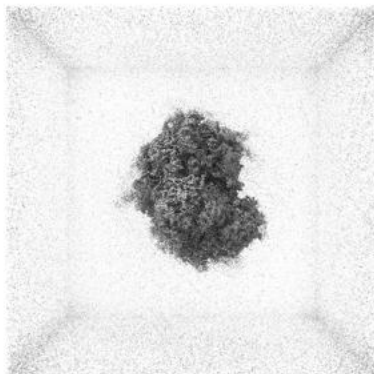
Z

The images above show the 3D surface view of the map at the recommended contour level 0.75. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

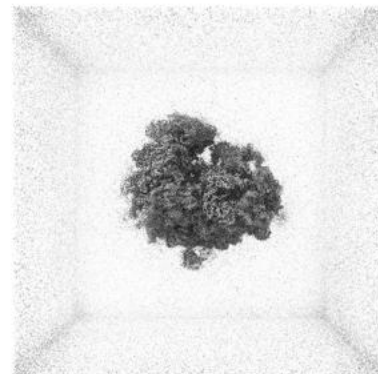
6.5.2 Raw map



X



Y



Z

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

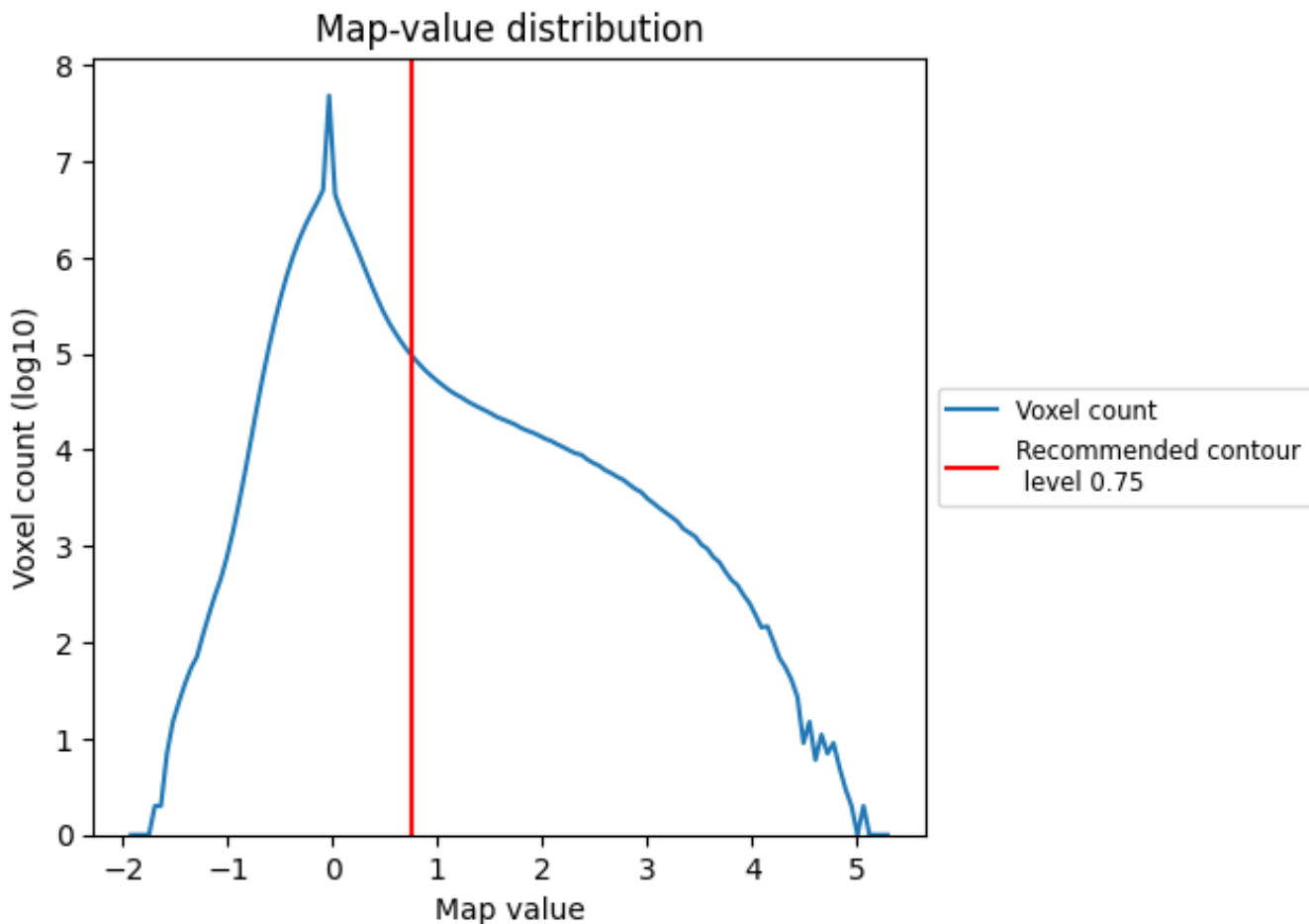
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

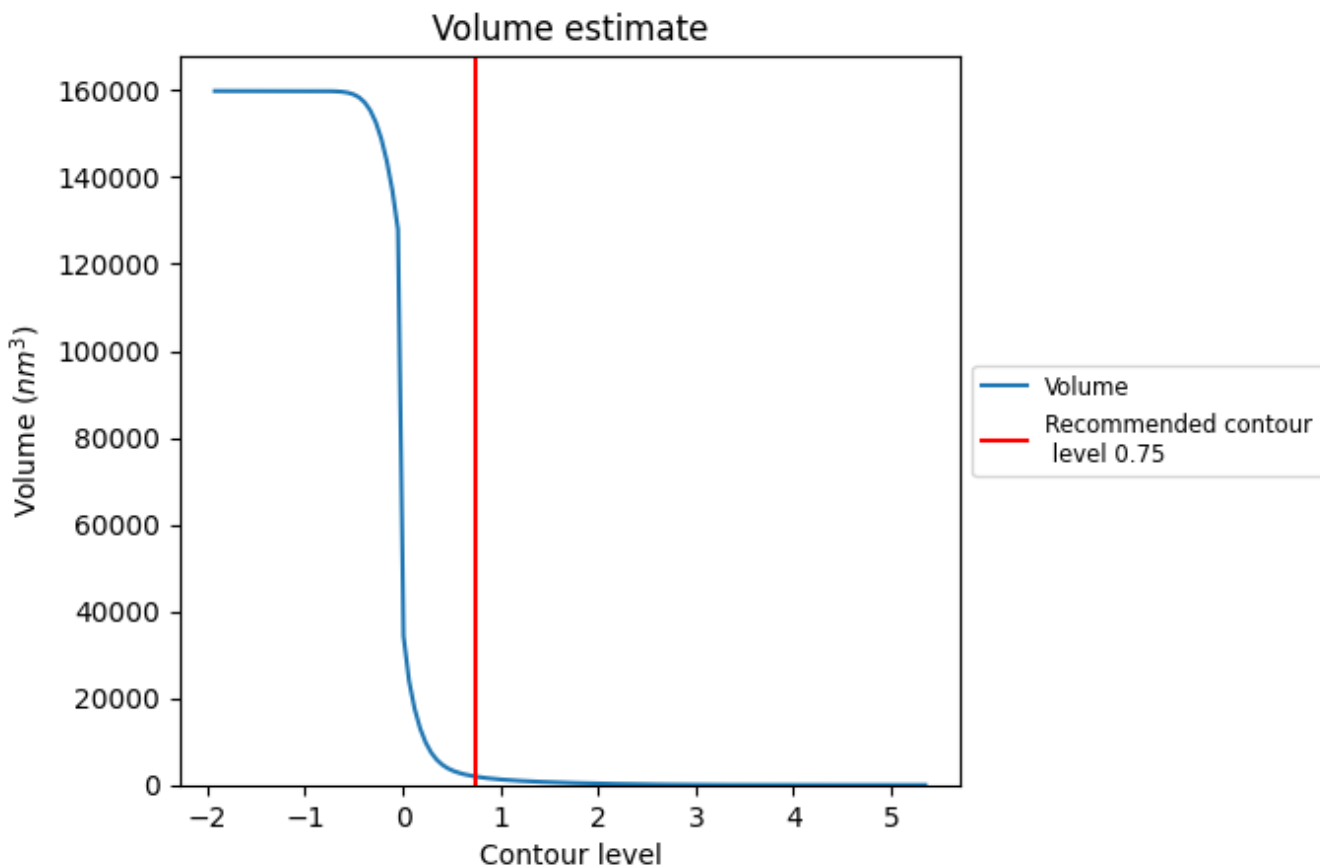
This section contains the results of statistical analysis of the map.

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.

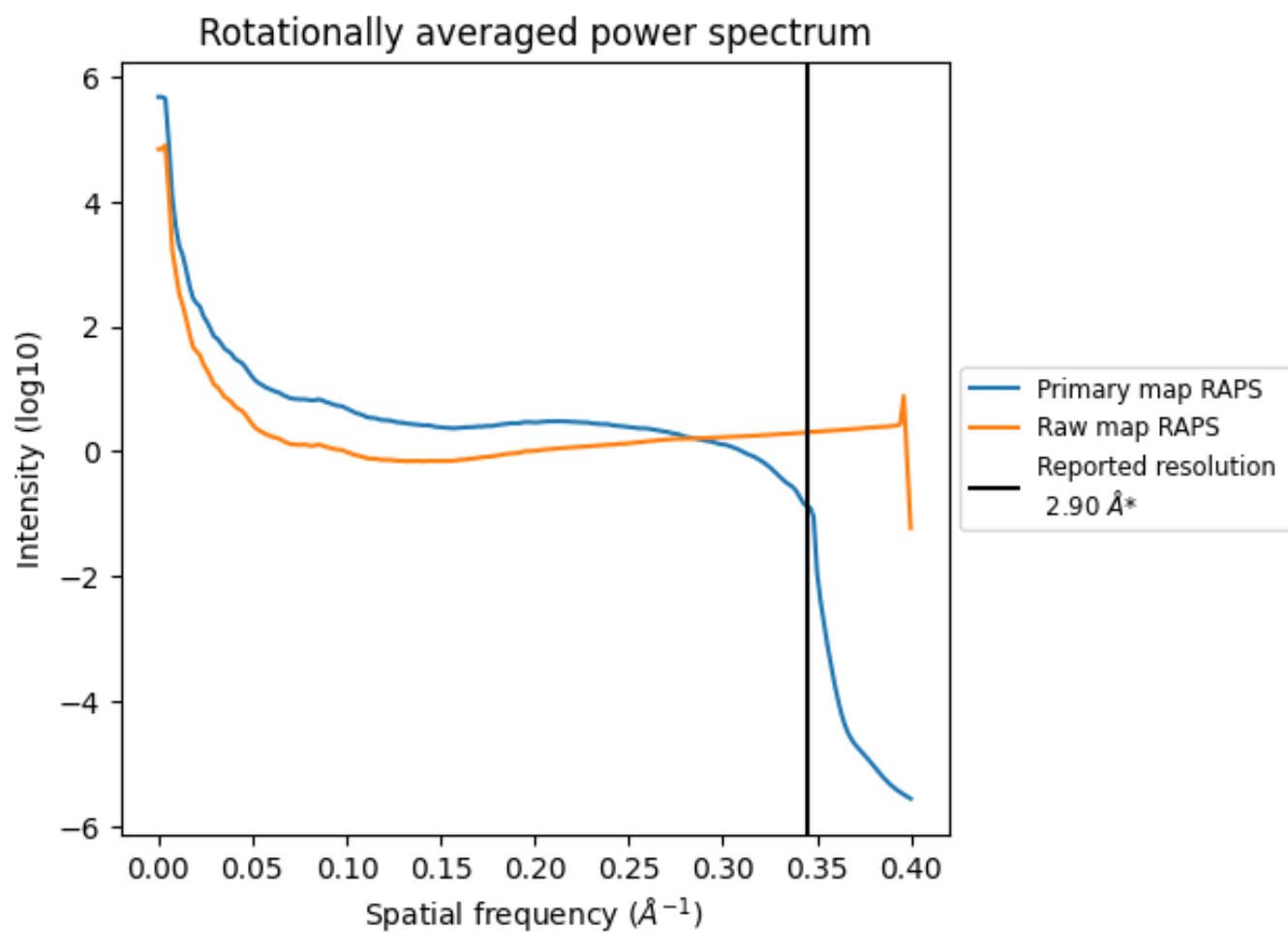
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 1923 nm^3 ; this corresponds to an approximate mass of 1737 kDa.

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

7.3 Rotationally averaged power spectrum i

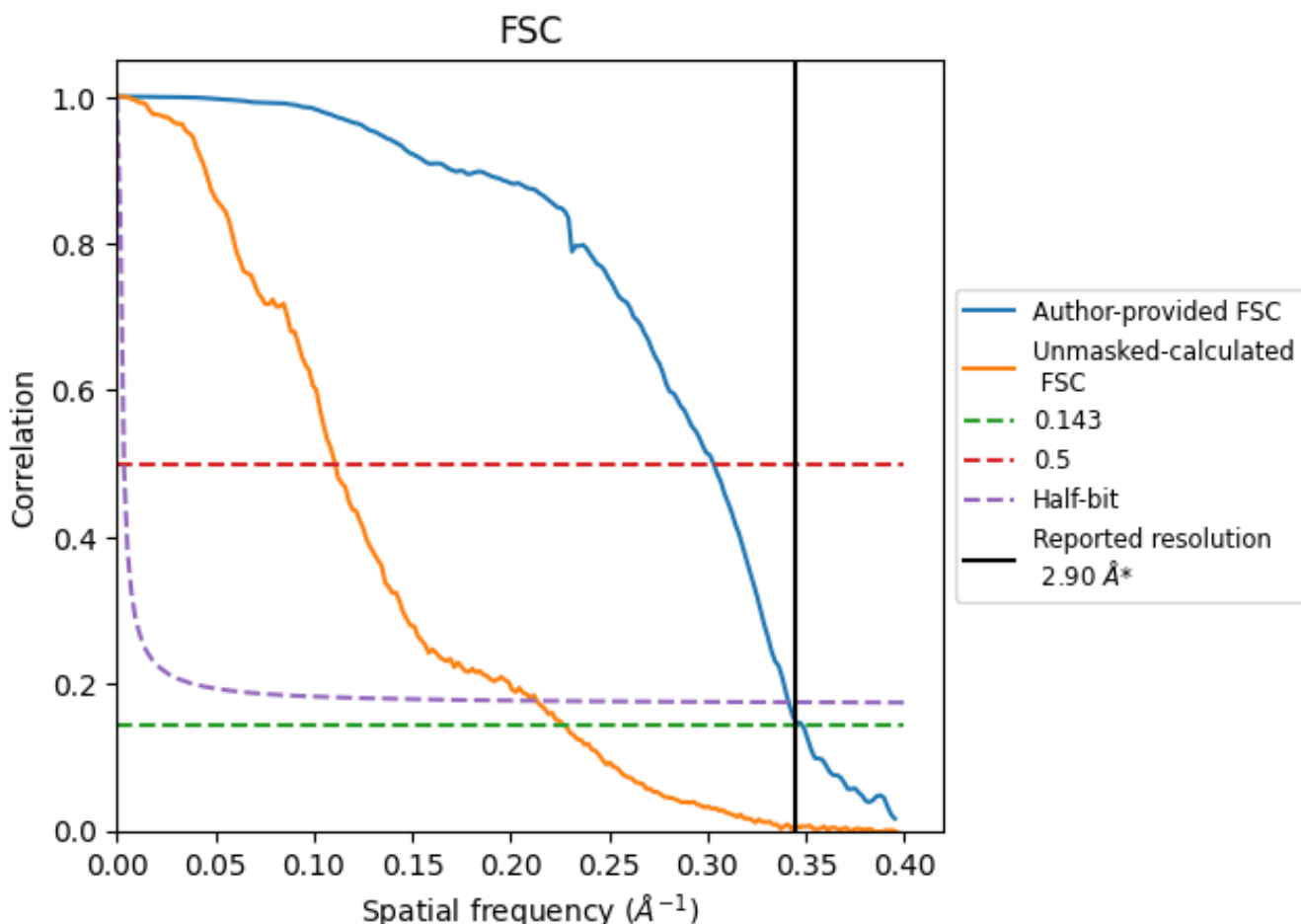


*Reported resolution corresponds to spatial frequency of 0.345 Å⁻¹

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 Å⁻¹

8.2 Resolution estimates [i](#)

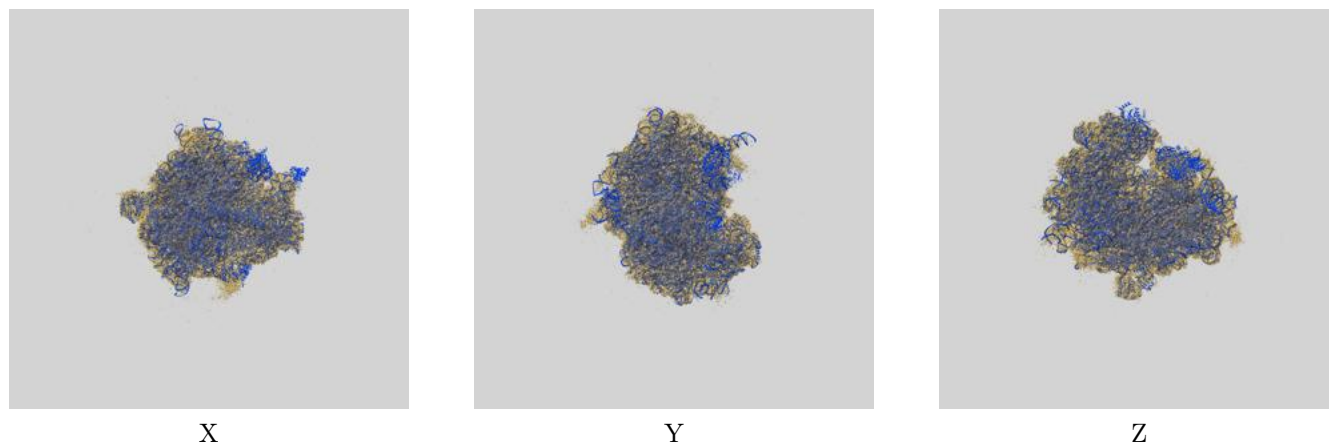
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.90	-	-
Author-provided FSC curve	2.87	3.30	2.93
Unmasked-calculated*	4.40	9.03	4.69

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.40 differs from the reported value 2.9 by more than 10 %

9 Map-model fit [i](#)

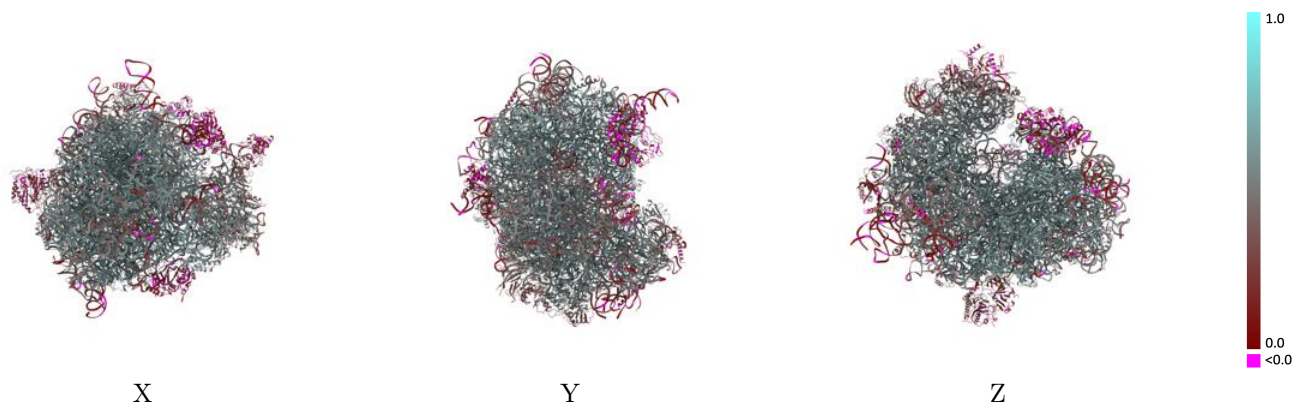
This section contains information regarding the fit between EMDB map EMD-17367 and PDB model 8P2K. Per-residue inclusion information can be found in section 3 on page 35.

9.1 Map-model overlay [i](#)



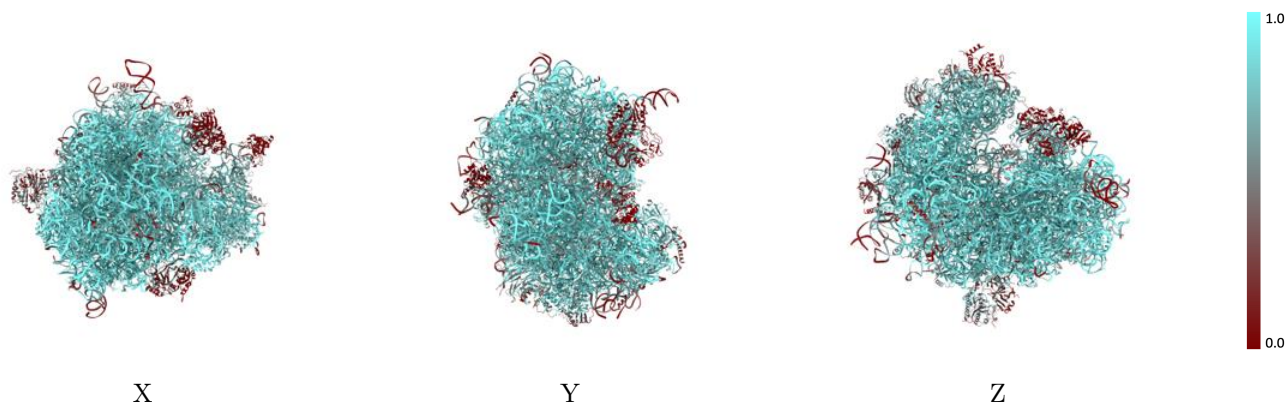
The images above show the 3D surface view of the map at the recommended contour level 0.75 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



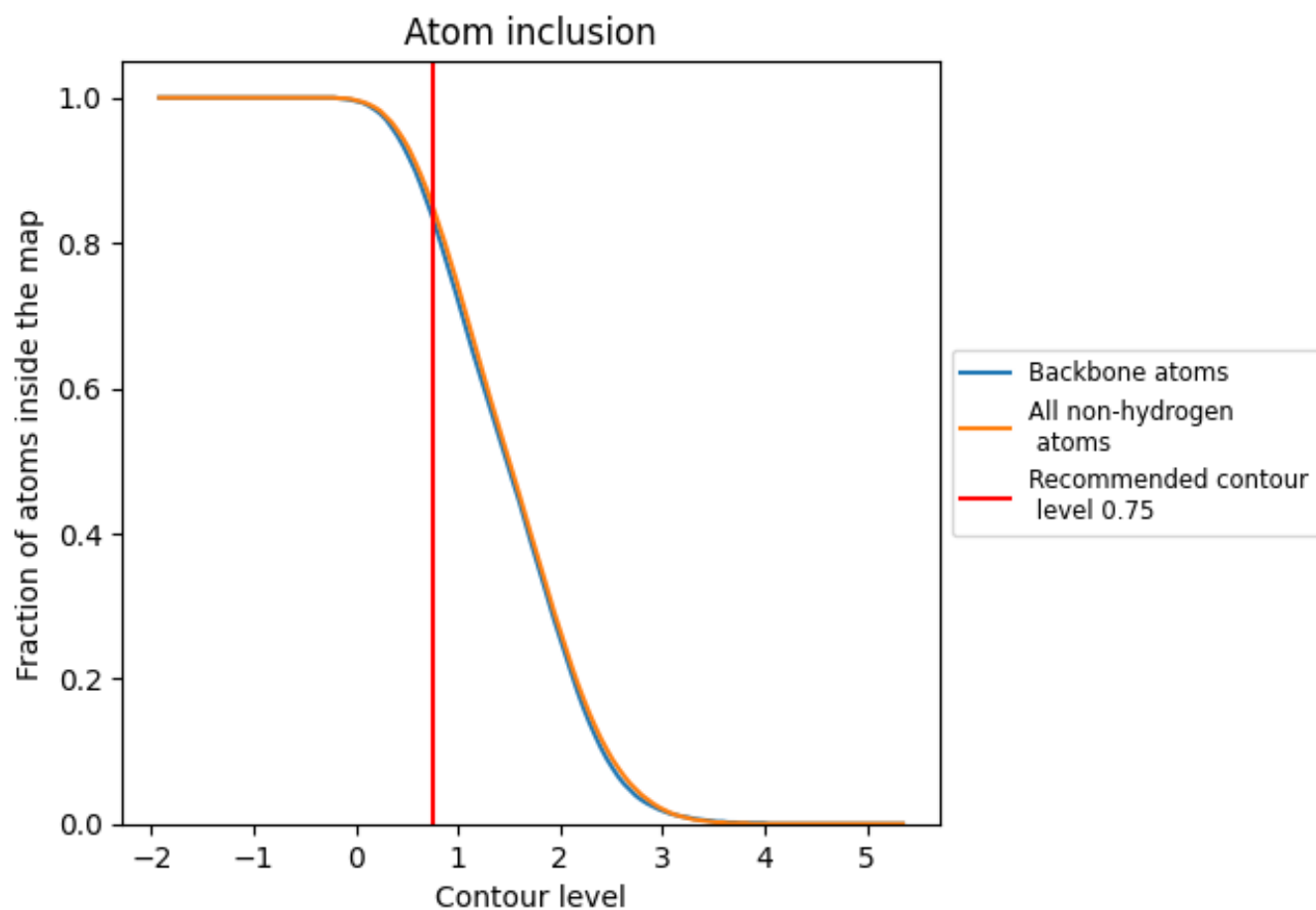
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.75).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 84% of all backbone atoms, 85% 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 (0.75) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8510	 0.4830
A2	 0.8920	 0.4740
AA	 0.8010	 0.4780
AB	 0.7860	 0.4830
AC	 0.0470	 0.1220
AD	 0.7250	 0.4230
AE	 0.8790	 0.5200
AF	 0.6310	 0.3680
AG	 0.8620	 0.4800
AI	 0.7840	 0.4710
AT	 0.7900	 0.4410
AZ	 0.7640	 0.4670
Aa	 0.8090	 0.4860
Ab	 0.8520	 0.5200
Ac	 0.7370	 0.4370
Ad	 0.8850	 0.5090
Ae	 0.7630	 0.4660
Af	 0.7590	 0.4030
Ag	 0.5680	 0.3850
Ah	 0.8530	 0.4960
Ai	 0.8540	 0.4920
Aj	 0.7280	 0.3800
Ak	 0.8270	 0.4980
Al	 0.0090	 0.1370
Am	 0.8810	 0.5250
An	 0.8760	 0.5240
Ao	 0.7610	 0.4290
Ap	 0.8370	 0.4760
Aq	 0.6590	 0.4260
Ar	 0.7960	 0.4620
As	 0.8330	 0.4620
At	 0.6550	 0.3890
Au	 0.7940	 0.4790
Av	 0.8920	 0.5440
Aw	 0.8910	 0.5410



























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Chain	Atom inclusion	Q-score
Ax	0.8200	0.4770
Ay	0.6560	0.4100
Az	0.9450	0.5650
B5	0.9130	0.5000
B7	0.9870	0.5590
B8	0.9570	0.5330
BA	0.9360	0.5690
BB	0.9190	0.5560
BC	0.9350	0.5540
BD	0.8950	0.5230
BE	0.8190	0.4910
BF	0.9180	0.5500
BG	0.8410	0.4870
BH	0.8900	0.5400
BI	0.8970	0.5470
BJ	0.8600	0.5040
BK	0.5890	0.3770
BL	0.8960	0.5310
BM	0.8930	0.5240
BN	0.9680	0.5820
BO	0.9380	0.5590
BP	0.9010	0.5560
BQ	0.9370	0.5670
BR	0.8560	0.5160
BS	0.9410	0.5600
BT	0.9030	0.5390
BU	0.8170	0.4400
BV	0.8960	0.5470
BW	0.6500	0.3800
BX	0.8940	0.5400
BY	0.9020	0.5420
BZ	0.9050	0.5290
Ba	0.9510	0.5770
Bb	0.7830	0.4580
Bc	0.8070	0.4920
Bd	0.8980	0.5430
Be	0.9270	0.5640
Bf	0.9380	0.5650
Bg	0.8970	0.5380
Bh	0.9010	0.5330
Bi	0.9120	0.5230
Bj	0.9660	0.5750

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Chain	Atom inclusion	Q-score
Bk	 0.8040	 0.4830
Bl	 0.9280	 0.5470
Bm	 0.9120	 0.5390
Bo	 0.8170	 0.5170
Bp	 0.9100	 0.5540
Br	 0.9240	 0.5440
Bs	 0.0090	 0.0580
Bt	 0.0190	 0.0570
Bv	 0.1200	 0.1370
MA	 0.4630	 0.1940
Na	 0.2130	 0.1450
Nb	 0.3510	 0.2510