



wwPDB EM Validation Summary Report ⓘ

Sep 21, 2024 – 10:28 am BST

PDB ID : 9F1D
EMDB ID : EMD-50126
Title : Mammalian quaternary complex of a translating 80S ribosome, NAC, MetAP1 and NatA/E-HYPK
Authors : Yudin, D.; Scaiola, A.; Ban, N.
Deposited on : 2024-04-18
Resolution : 3.26 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev112
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : **FAILED**
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) : 2.38.2

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.26 Å.

There are no overall percentile quality scores available for this entry.

MolProbity failed to run properly - the sequence quality summary graphics cannot be shown.

2 Entry composition i

There are 99 unique types of molecules in this entry. The entry contains 237089 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	3706	79525	35447	14532	25840	3706	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B5	3550	UY1	U	conflict	GB GBCN01009604.1

- Molecule 2 is a protein called 60S ribosomal protein L21.

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

- Molecule 3 is a protein called 60S ribosomal protein L29.

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

- Molecule 4 is a protein called 60S ribosomal protein L12.

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

- Molecule 5 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	O	P		
5	AH	3	36	15	18	3	0	0

- Molecule 6 is a protein called 40S ribosomal protein eS17.

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

- Molecule 7 is a RNA chain called 5S rRNA.

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

- Molecule 8 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AT	76	Total	C	N	O	P	0	0
			939	393	11	459	76		

- Molecule 9 is a protein called Small ribosomal subunit protein uS13.

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

- Molecule 10 is a RNA chain called 5.8S rRNA.

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

- Molecule 11 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	BU	102	Total	C	N	O	S	0	0
			831	531	146	152	2		

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BU	32	GLY	ARG	variant	UNP G1TSG1
BU	36	ALA	GLU	variant	UNP G1TSG1
BU	39	PHE	SER	variant	UNP G1TSG1
BU	54	GLY	ARG	variant	UNP G1TSG1
BU	97	ARG	HIS	variant	UNP G1TSG1

- Molecule 12 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	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	variant	UNP G1TN62
As	142	ASN	LYS	variant	UNP G1TN62

- Molecule 13 is a protein called Large ribosomal subunit protein uL2.

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

- Molecule 14 is a protein called Ribosomal protein L23.

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

- Molecule 15 is a protein called 40S ribosomal protein uS10.

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

- Molecule 16 is a protein called Ribosomal protein L3.

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

- Molecule 17 is a protein called Large ribosomal subunit protein uL22.

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

- Molecule 18 is a protein called Ribosomal protein L26.

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

- Molecule 19 is a protein called Ribosomal protein S15a.

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

- Molecule 20 is a protein called Large ribosomal subunit protein uL18.

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

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	176	SER	GLY	variant	UNP G1SZF4
B	248	ARG	GLN	variant	UNP G1SZF4

- Molecule 21 is a protein called Large ribosomal subunit protein uL23.

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

- Molecule 22 is a protein called Large ribosomal subunit protein eL18.

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

- Molecule 23 is a protein called 60S ribosomal protein L27.

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

- Molecule 24 is a protein called 40S ribosomal protein S23.

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

- Molecule 25 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	BE	243	1960	1258	378	321	3	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 Small ribosomal subunit protein eS21.

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

- Molecule 28 is a protein called 60S ribosomal protein L27a.

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

- Molecule 29 is a protein called 40S ribosomal protein S24.

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

- Molecule 30 is a protein called Ribosomal Protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	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	variant	UNP G1TUB1
BF	93	ARG	GLY	variant	UNP G1TUB1
BF	131	MET	VAL	variant	UNP G1TUB1
BF	153	ILE	VAL	variant	UNP G1TUB1

- Molecule 31 is a protein called Ribosomal protein L19.

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

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BR	38	ARG	CYS	variant	UNP G1TJR3
BR	64	ARG	GLN	variant	UNP G1TJR3
BR	94	THR	LYS	variant	UNP G1TJR3

- Molecule 32 is a protein called Small ribosomal subunit protein uS2.

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

- Molecule 33 is a protein called 40S ribosomal protein S25.

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

- Molecule 34 is a protein called Large ribosomal subunit protein eL8.

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

- Molecule 35 is a protein called Large ribosomal subunit protein uL4.

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

- Molecule 36 is a protein called Large ribosomal subunit protein eL20.

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

- Molecule 37 is a protein called 40S ribosomal protein S3a.

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

- Molecule 38 is a protein called 60S ribosomal protein L41.

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

- Molecule 39 is a protein called 60S ribosomal protein L9.

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

- Molecule 40 is a protein called Methionine aminopeptidase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	EA	304	2395	1505	430	442	18	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
EA	220	ASN	ASP	engineered mutation	UNP P53582

- Molecule 41 is a protein called Small ribosomal subunit protein uS5.

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

- Molecule 42 is a protein called 60S ribosomal protein L30.

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

- Molecule 43 is a protein called 60S ribosomal protein L10.

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

- Molecule 44 is a protein called Nascent polypeptide-associated complex subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	Ct	117	908	568	166	170	4	0	0

There are 23 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ct	-22	MET	-	initiating methionine	UNP Q13765
Ct	-21	GLY	-	expression tag	UNP Q13765
Ct	-20	SER	-	expression tag	UNP Q13765
Ct	-19	SER	-	expression tag	UNP Q13765
Ct	-18	HIS	-	expression tag	UNP Q13765
Ct	-17	HIS	-	expression tag	UNP Q13765
Ct	-16	HIS	-	expression tag	UNP Q13765
Ct	-15	HIS	-	expression tag	UNP Q13765
Ct	-14	HIS	-	expression tag	UNP Q13765
Ct	-13	HIS	-	expression tag	UNP Q13765
Ct	-12	SER	-	expression tag	UNP Q13765
Ct	-11	SER	-	expression tag	UNP Q13765
Ct	-10	GLY	-	expression tag	UNP Q13765
Ct	-9	LEU	-	expression tag	UNP Q13765
Ct	-8	GLU	-	expression tag	UNP Q13765
Ct	-7	VAL	-	expression tag	UNP Q13765
Ct	-6	LEU	-	expression tag	UNP Q13765
Ct	-5	PHE	-	expression tag	UNP Q13765
Ct	-4	GLN	-	expression tag	UNP Q13765
Ct	-3	GLY	-	expression tag	UNP Q13765
Ct	-2	PRO	-	expression tag	UNP Q13765
Ct	-1	SER	-	expression tag	UNP Q13765
Ct	0	GLY	-	expression tag	UNP Q13765

- Molecule 45 is a protein called 40S ribosomal protein S3.

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

- Molecule 46 is a protein called 60S ribosomal protein L31.

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

- Molecule 47 is a protein called 60S ribosomal protein L11.

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

- Molecule 48 is a protein called Isoform 2 of Transcription factor BTF3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
48	Cu	107	828	518	154	153	3	0	0

- Molecule 49 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	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	variant	UNP G1TK17
Ad	51	ARG	LYS	variant	UNP G1TK17
Ad	78	THR	ALA	variant	UNP G1TK17
Ad	156	VAL	MET	variant	UNP G1TK17

- Molecule 50 is a protein called Ribosomal protein L32.

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

- Molecule 51 is a protein called Nascent chain.

Mol	Chain	Residues	Atoms				AltConf	Trace
51	BK	27	Total	C	N	O	0	0
			135	81	27	27		

- Molecule 52 is a protein called Glutathione S-transferase class-mu 26 kDa isozyme,N-alpha-acetyltransferase 50,N-alpha-acetyltransferase 50.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	DA	155	Total	C	N	O	S	0	0
			1260	808	221	225	6		

- Molecule 53 is a protein called Ribosomal protein S5.

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

- Molecule 54 is a protein called 60S ribosomal protein L35a.

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

- Molecule 55 is a protein called Large ribosomal subunit protein eL13.

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

There are 2 discrepancies between the modelled and reference sequences:

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

- Molecule 56 is a protein called N-alpha-acetyltransferase 15, NatA auxiliary subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	DB	837	Total	C	N	O	S	0	0
			6900	4391	1192	1276	41		

There are 49 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
DB	-48	MET	-	initiating methionine	UNP Q9BXJ9
DB	-47	GLY	-	expression tag	UNP Q9BXJ9
DB	-46	SER	-	expression tag	UNP Q9BXJ9
DB	-45	SER	-	expression tag	UNP Q9BXJ9
DB	-44	HIS	-	expression tag	UNP Q9BXJ9
DB	-43	HIS	-	expression tag	UNP Q9BXJ9
DB	-42	HIS	-	expression tag	UNP Q9BXJ9
DB	-41	HIS	-	expression tag	UNP Q9BXJ9
DB	-40	HIS	-	expression tag	UNP Q9BXJ9
DB	-39	HIS	-	expression tag	UNP Q9BXJ9
DB	-38	SER	-	expression tag	UNP Q9BXJ9
DB	-37	SER	-	expression tag	UNP Q9BXJ9
DB	-36	GLY	-	expression tag	UNP Q9BXJ9
DB	-35	LEU	-	expression tag	UNP Q9BXJ9
DB	-34	VAL	-	expression tag	UNP Q9BXJ9
DB	-33	PRO	-	expression tag	UNP Q9BXJ9
DB	-32	ARG	-	expression tag	UNP Q9BXJ9
DB	-31	GLY	-	expression tag	UNP Q9BXJ9
DB	-30	SER	-	expression tag	UNP Q9BXJ9
DB	-29	HIS	-	expression tag	UNP Q9BXJ9
DB	-28	MET	-	expression tag	UNP Q9BXJ9
DB	-27	ALA	-	expression tag	UNP Q9BXJ9
DB	-26	SER	-	expression tag	UNP Q9BXJ9
DB	-25	MET	-	expression tag	UNP Q9BXJ9
DB	-24	THR	-	expression tag	UNP Q9BXJ9
DB	-23	GLY	-	expression tag	UNP Q9BXJ9
DB	-22	GLY	-	expression tag	UNP Q9BXJ9
DB	-21	GLN	-	expression tag	UNP Q9BXJ9
DB	-20	GLN	-	expression tag	UNP Q9BXJ9
DB	-19	MET	-	expression tag	UNP Q9BXJ9
DB	-18	GLY	-	expression tag	UNP Q9BXJ9
DB	-17	ARG	-	expression tag	UNP Q9BXJ9
DB	-16	ALA	-	expression tag	UNP Q9BXJ9
DB	-15	ARG	-	expression tag	UNP Q9BXJ9
DB	-14	GLY	-	expression tag	UNP Q9BXJ9
DB	-13	ILE	-	expression tag	UNP Q9BXJ9
DB	-12	GLN	-	expression tag	UNP Q9BXJ9
DB	-11	ARG	-	expression tag	UNP Q9BXJ9
DB	-10	PRO	-	expression tag	UNP Q9BXJ9
DB	-9	THR	-	expression tag	UNP Q9BXJ9
DB	-8	SER	-	expression tag	UNP Q9BXJ9
DB	-7	THR	-	expression tag	UNP Q9BXJ9
DB	-6	SER	-	expression tag	UNP Q9BXJ9

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Chain	Residue	Modelled	Actual	Comment	Reference
DB	-5	SER	-	expression tag	UNP Q9BXJ9
DB	-4	LEU	-	expression tag	UNP Q9BXJ9
DB	-3	VAL	-	expression tag	UNP Q9BXJ9
DB	-2	ALA	-	expression tag	UNP Q9BXJ9
DB	-1	ALA	-	expression tag	UNP Q9BXJ9
DB	0	ALA	-	expression tag	UNP Q9BXJ9

- Molecule 57 is a protein called 40S ribosomal protein S6.

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

- Molecule 58 is a protein called 60S ribosomal protein L34.

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

- Molecule 59 is a protein called 60S ribosomal protein L14.

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

- Molecule 60 is a protein called N-alpha-acetyltransferase 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
60	DC	165	1339	844	242	242	11	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
DC	24	GLN	GLU	engineered mutation	UNP P41227
DC	26	PHE	TYR	engineered mutation	UNP P41227

- Molecule 61 is a protein called 40S ribosomal protein S7.

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

- Molecule 62 is a protein called 60S ribosomal protein L35.

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

- Molecule 63 is a protein called Ribosomal protein L15.

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

- Molecule 64 is a protein called Isoform 2 of Huntingtin-interacting protein K.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
64	DD	57	439	269	78	89	3	0	0

There are 107 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
DD	-106	MET	-	initiating methionine	UNP Q9NX55
DD	-105	LYS	-	expression tag	UNP Q9NX55
DD	-104	HIS	-	expression tag	UNP Q9NX55
DD	-103	HIS	-	expression tag	UNP Q9NX55
DD	-102	HIS	-	expression tag	UNP Q9NX55
DD	-101	HIS	-	expression tag	UNP Q9NX55
DD	-100	HIS	-	expression tag	UNP Q9NX55
DD	-99	HIS	-	expression tag	UNP Q9NX55
DD	-98	PRO	-	expression tag	UNP Q9NX55
DD	-97	MET	-	expression tag	UNP Q9NX55
DD	-96	SER	-	expression tag	UNP Q9NX55
DD	-95	ASP	-	expression tag	UNP Q9NX55
DD	-94	SER	-	expression tag	UNP Q9NX55
DD	-93	GLU	-	expression tag	UNP Q9NX55
DD	-92	VAL	-	expression tag	UNP Q9NX55
DD	-91	ASN	-	expression tag	UNP Q9NX55
DD	-90	GLN	-	expression tag	UNP Q9NX55
DD	-89	GLU	-	expression tag	UNP Q9NX55
DD	-88	ALA	-	expression tag	UNP Q9NX55

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Chain	Residue	Modelled	Actual	Comment	Reference
DD	-87	LYS	-	expression tag	UNP Q9NX55
DD	-86	PRO	-	expression tag	UNP Q9NX55
DD	-85	GLU	-	expression tag	UNP Q9NX55
DD	-84	VAL	-	expression tag	UNP Q9NX55
DD	-83	LYS	-	expression tag	UNP Q9NX55
DD	-82	PRO	-	expression tag	UNP Q9NX55
DD	-81	GLU	-	expression tag	UNP Q9NX55
DD	-80	VAL	-	expression tag	UNP Q9NX55
DD	-79	LYS	-	expression tag	UNP Q9NX55
DD	-78	PRO	-	expression tag	UNP Q9NX55
DD	-77	GLU	-	expression tag	UNP Q9NX55
DD	-76	THR	-	expression tag	UNP Q9NX55
DD	-75	HIS	-	expression tag	UNP Q9NX55
DD	-74	ILE	-	expression tag	UNP Q9NX55
DD	-73	ASN	-	expression tag	UNP Q9NX55
DD	-72	LEU	-	expression tag	UNP Q9NX55
DD	-71	LYS	-	expression tag	UNP Q9NX55
DD	-70	VAL	-	expression tag	UNP Q9NX55
DD	-69	SER	-	expression tag	UNP Q9NX55
DD	-68	ASP	-	expression tag	UNP Q9NX55
DD	-67	GLY	-	expression tag	UNP Q9NX55
DD	-66	SER	-	expression tag	UNP Q9NX55
DD	-65	SER	-	expression tag	UNP Q9NX55
DD	-64	GLU	-	expression tag	UNP Q9NX55
DD	-63	ILE	-	expression tag	UNP Q9NX55
DD	-62	PHE	-	expression tag	UNP Q9NX55
DD	-61	PHE	-	expression tag	UNP Q9NX55
DD	-60	LYS	-	expression tag	UNP Q9NX55
DD	-59	ILE	-	expression tag	UNP Q9NX55
DD	-58	LYS	-	expression tag	UNP Q9NX55
DD	-57	LYS	-	expression tag	UNP Q9NX55
DD	-56	THR	-	expression tag	UNP Q9NX55
DD	-55	THR	-	expression tag	UNP Q9NX55
DD	-54	PRO	-	expression tag	UNP Q9NX55
DD	-53	LEU	-	expression tag	UNP Q9NX55
DD	-52	ARG	-	expression tag	UNP Q9NX55
DD	-51	ARG	-	expression tag	UNP Q9NX55
DD	-50	LEU	-	expression tag	UNP Q9NX55
DD	-49	MET	-	expression tag	UNP Q9NX55
DD	-48	GLU	-	expression tag	UNP Q9NX55
DD	-47	ALA	-	expression tag	UNP Q9NX55
DD	-46	PHE	-	expression tag	UNP Q9NX55

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Chain	Residue	Modelled	Actual	Comment	Reference
DD	-45	ALA	-	expression tag	UNP Q9NX55
DD	-44	LYS	-	expression tag	UNP Q9NX55
DD	-43	ARG	-	expression tag	UNP Q9NX55
DD	-42	GLN	-	expression tag	UNP Q9NX55
DD	-41	GLY	-	expression tag	UNP Q9NX55
DD	-40	LYS	-	expression tag	UNP Q9NX55
DD	-39	GLU	-	expression tag	UNP Q9NX55
DD	-38	MET	-	expression tag	UNP Q9NX55
DD	-37	ASP	-	expression tag	UNP Q9NX55
DD	-36	SER	-	expression tag	UNP Q9NX55
DD	-35	LEU	-	expression tag	UNP Q9NX55
DD	-34	ARG	-	expression tag	UNP Q9NX55
DD	-33	PHE	-	expression tag	UNP Q9NX55
DD	-32	LEU	-	expression tag	UNP Q9NX55
DD	-31	TYR	-	expression tag	UNP Q9NX55
DD	-30	ASP	-	expression tag	UNP Q9NX55
DD	-29	GLY	-	expression tag	UNP Q9NX55
DD	-28	ILE	-	expression tag	UNP Q9NX55
DD	-27	ARG	-	expression tag	UNP Q9NX55
DD	-26	ILE	-	expression tag	UNP Q9NX55
DD	-25	GLN	-	expression tag	UNP Q9NX55
DD	-24	ALA	-	expression tag	UNP Q9NX55
DD	-23	ASP	-	expression tag	UNP Q9NX55
DD	-22	GLN	-	expression tag	UNP Q9NX55
DD	-21	THR	-	expression tag	UNP Q9NX55
DD	-20	PRO	-	expression tag	UNP Q9NX55
DD	-19	GLU	-	expression tag	UNP Q9NX55
DD	-18	ASP	-	expression tag	UNP Q9NX55
DD	-17	LEU	-	expression tag	UNP Q9NX55
DD	-16	ASP	-	expression tag	UNP Q9NX55
DD	-15	MET	-	expression tag	UNP Q9NX55
DD	-14	GLU	-	expression tag	UNP Q9NX55
DD	-13	ASP	-	expression tag	UNP Q9NX55
DD	-12	ASN	-	expression tag	UNP Q9NX55
DD	-11	ASP	-	expression tag	UNP Q9NX55
DD	-10	ILE	-	expression tag	UNP Q9NX55
DD	-9	ILE	-	expression tag	UNP Q9NX55
DD	-8	GLU	-	expression tag	UNP Q9NX55
DD	-7	ALA	-	expression tag	UNP Q9NX55
DD	-6	HIS	-	expression tag	UNP Q9NX55
DD	-5	ARG	-	expression tag	UNP Q9NX55
DD	-4	GLU	-	expression tag	UNP Q9NX55

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Chain	Residue	Modelled	Actual	Comment	Reference
DD	-3	GLN	-	expression tag	UNP Q9NX55
DD	-2	ILE	-	expression tag	UNP Q9NX55
DD	-1	GLY	-	expression tag	UNP Q9NX55
DD	0	GLY	-	expression tag	UNP Q9NX55

- Molecule 65 is a protein called 40S ribosomal protein S8.

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 66 is a protein called 60S ribosomal protein L36.

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

- Molecule 67 is a protein called Large ribosomal subunit protein uL13.

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

- Molecule 68 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
68	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 69 is a protein called 40S ribosomal protein S9.

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

- Molecule 70 is a protein called Ribosomal protein L37.

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

- Molecule 71 is a protein called 40S ribosomal protein S27.

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

- Molecule 72 is a protein called S10_pectin domain-containing protein.

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

- Molecule 73 is a protein called 60S ribosomal protein L38.

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 74 is a protein called 40S ribosomal protein S28.

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

- Molecule 75 is a protein called 40S ribosomal protein S11.

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

- Molecule 76 is a protein called 60S ribosomal protein L39-like.

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

- Molecule 77 is a protein called Ribosomal protein S27a.

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

- Molecule 78 is a protein called 40S ribosomal protein S12.

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

- Molecule 79 is a protein called Ubiquitin-ribosomal protein eL40 fusion protein.

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

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

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

- Molecule 81 is a protein called 40S ribosomal protein S13.

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

- Molecule 82 is a protein called Large ribosomal subunit protein eL42.

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

- Molecule 83 is a protein called Small ribosomal subunit protein eS26.

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

- Molecule 84 is a protein called Small ribosomal subunit protein uS11.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
An	165	IAS	ASP	conflict	UNP A0AAA9WYR1

- Molecule 85 is a protein called 60S ribosomal protein L37a.

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

- Molecule 86 is a protein called Small ribosomal subunit protein RACK1.

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

- Molecule 87 is a protein called 40S ribosomal protein uS19.

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

- Molecule 88 is a protein called Large ribosomal subunit protein eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
88	Br	123	990	613	205	167	5	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 89 is a protein called 40S ribosomal protein S29.

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

- Molecule 90 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 91 is a protein called Large ribosomal subunit protein uL10.

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

- Molecule 92 is UNKNOWN ATOM OR ION (three-letter code: UNX) (formula: X).

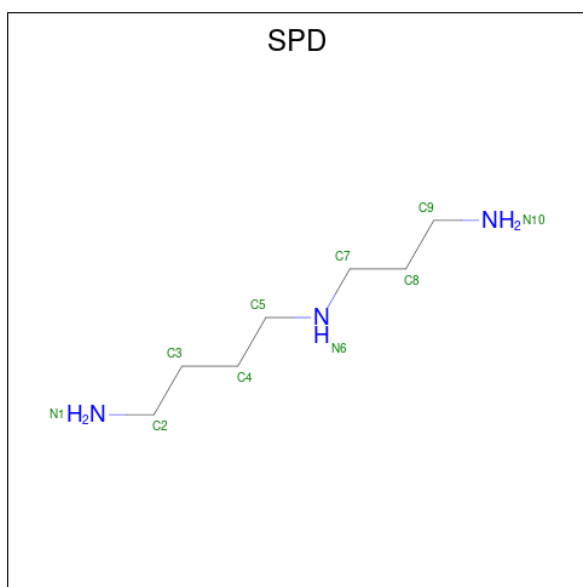
Mol	Chain	Residues	Atoms		AltConf
92	B5	200	Total 200	X 200	0
92	BT	2	Total 2	X 2	0
92	Bb	2	Total 2	X 2	0
92	B7	6	Total 6	X 6	0
92	AT	2	Total 2	X 2	0
92	B8	6	Total 6	X 6	0
92	BA	4	Total 4	X 4	0

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Mol	Chain	Residues	Atoms		AltConf
92	BB	3	Total 3	X 3	0
92	BY	1	Total 1	X 1	0
92	BQ	2	Total 2	X 2	0
92	BH	1	Total 1	X 1	0
92	BI	1	Total 1	X 1	0
92	Ad	1	Total 1	X 1	0
92	Be	3	Total 3	X 3	0
92	Bf	1	Total 1	X 1	0
92	BL	1	Total 1	X 1	0
92	BN	1	Total 1	X 1	0
92	A2	54	Total 54	X 54	0
92	Ak	1	Total 1	X 1	0
92	Bo	1	Total 1	X 1	0
92	AE	1	Total 1	X 1	0
92	An	1	Total 1	X 1	0

- Molecule 93 is SPERMIDINE (three-letter code: SPD) (formula: C₇H₁₉N₃).



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

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

- Molecule 94 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

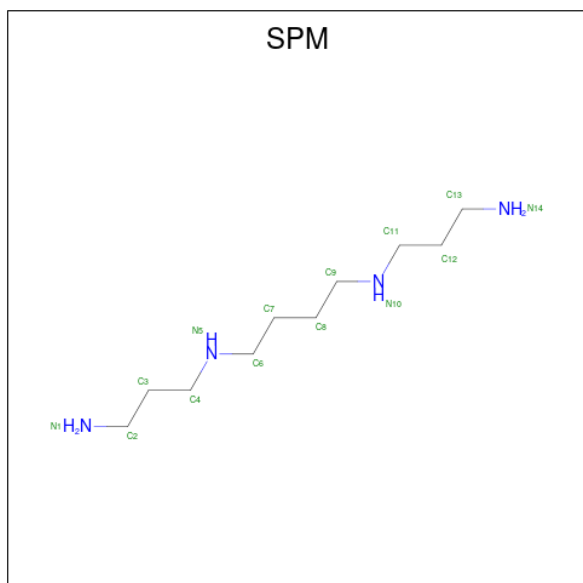
Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
94	B5	283	Total 283	Mg 283	0
94	B7	9	Total 9	Mg 9	0
94	AT	2	Total 2	Mg 2	0

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Mol	Chain	Residues	Atoms		AltConf
94	B8	8	Total	Mg	0
			8	8	
94	BV	1	Total	Mg	0
			1	1	
94	BP	1	Total	Mg	0
			1	1	
94	Ba	1	Total	Mg	0
			1	1	
94	BI	1	Total	Mg	0
			1	1	
94	Ct	1	Total	Mg	0
			1	1	
94	Be	1	Total	Mg	0
			1	1	
94	A2	110	Total	Mg	0
			110	110	
94	Bj	1	Total	Mg	0
			1	1	
94	An	1	Total	Mg	0
			1	1	

- Molecule 95 is SPERMINE (three-letter code: SPM) (formula: $C_{10}H_{26}N_4$).



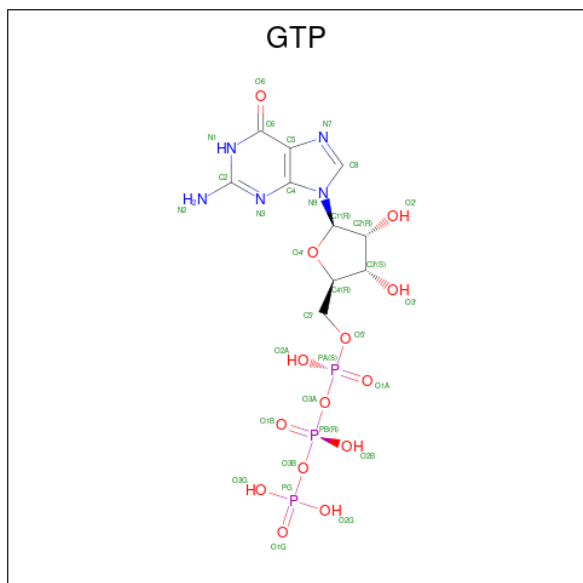
Mol	Chain	Residues	Atoms			AltConf
95	B5	1	Total	C	N	0
			14	10	4	

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

- Molecule 96 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	
96	B7	1	32	10	5	14	3	0

- Molecule 97 is INOSITOL HEXAKISPHOSPHATE (three-letter code: IHP) (formula: $C_6H_{18}O_{24}P_6$).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
97	DB	1	36	6	24	6	0

- Molecule 98 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

- Molecule 99 is water.

Mol	Chain	Residues	Atoms		AltConf
99	B5	1383	Total 1383	O 1383	0
99	BT	2	Total 2	O 2	0
99	Bb	1	Total 1	O 1	0
99	AH	3	Total 3	O 3	0
99	B7	45	Total 45	O 45	0
99	AT	12	Total 12	O 12	0
99	Ar	2	Total 2	O 2	0
99	B8	48	Total 48	O 48	0
99	As	1	Total 1	O 1	0
99	BA	7	Total 7	O 7	0
99	BV	3	Total 3	O 3	0
99	BB	8	Total 8	O 8	0
99	BP	3	Total 3	O 3	0
99	B	1	Total 1	O 1	0
99	BX	1	Total 1	O 1	0
99	Aw	4	Total 4	O 4	0
99	Ba	7	Total 7	O 7	0
99	BR	5	Total 5	O 5	0
99	BC	6	Total 6	O 6	0
99	Aa	3	Total 3	O 3	0
99	BH	2	Total 2	O 2	0
99	BI	1	Total 1	O 1	0

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Mol	Chain	Residues	Atoms		AltConf
99	Ct	3	Total 3	O 3	0
99	Bd	1	Total 1	O 1	0
99	Ad	2	Total 2	O 2	0
99	Be	4	Total 4	O 4	0
99	BL	1	Total 1	O 1	0
99	Af	1	Total 1	O 1	0
99	Bg	3	Total 3	O 3	0
99	BN	6	Total 6	O 6	0
99	A2	531	Total 531	O 531	0
99	Bj	6	Total 6	O 6	0
99	Ak	2	Total 2	O 2	0
99	Bl	3	Total 3	O 3	0
99	Bm	1	Total 1	O 1	0
99	Bo	1	Total 1	O 1	0
99	AE	1	Total 1	O 1	0
99	An	1	Total 1	O 1	0
99	Ap	2	Total 2	O 2	0

MolProbity failed to run properly - this section is therefore empty.

3 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	23034	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 ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.400	Depositor
Minimum map value	-0.732	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.058	Depositor
Recommended contour level	0.25	Depositor
Map size (Å)	593.6, 593.6, 593.6	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

4 Model quality [i](#)

4.1 Standard geometry [i](#)

MolProbity failed to run properly - this section is therefore empty.

4.2 Too-close contacts [i](#)

MolProbity failed to run properly - this section is therefore empty.

4.3 Torsion angles [i](#)

4.3.1 Protein backbone [i](#)

MolProbity failed to run properly - this section is therefore empty.

4.3.2 Protein sidechains [i](#)

MolProbity failed to run properly - this section is therefore empty.

4.3.3 RNA [i](#)

MolProbity failed to run properly - this section is therefore empty.

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

223 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$
68	PSU	A2	407	68	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	B5	1491	1	18,21,22	1.36	2 (11%)	22,30,33	1.90	3 (13%)
1	OMG	B5	4240	1	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	B5	4278	1	18,21,22	1.37	2 (11%)	22,30,33	1.87	3 (13%)
68	A2M	A2	27	68,94	18,25,26	1.03	1 (5%)	18,36,39	1.19	2 (11%)
1	PSU	B5	3576	1	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
68	A2M	A2	485	68	18,25,26	1.03	1 (5%)	18,36,39	1.23	2 (11%)
1	A2M	B5	2630	1,94	18,25,26	1.00	1 (5%)	18,36,39	1.35	2 (11%)
1	PSU	B5	3490	1	18,21,22	1.33	2 (11%)	22,30,33	1.85	3 (13%)
68	PSU	A2	823	68	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
1	PSU	B5	3585	1,94	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
68	PSU	A2	1233	68	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	OMC	B5	2667	1	19,22,23	0.81	0	26,31,34	0.79	0
32	SAC	AZ	2	32	7,8,9	0.52	0	8,9,11	0.86	1 (12%)
68	PSU	A2	867	68	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	B5	3466	1	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	B5	3583	1	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
68	OMU	A2	1289	68	19,22,23	1.22	3 (15%)	26,31,34	1.67	5 (19%)
1	PSU	B5	3371	1	18,21,22	1.36	2 (11%)	22,30,33	1.83	3 (13%)
1	PSU	B5	4177	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
68	OMG	A2	868	68	18,26,27	0.92	1 (5%)	19,38,41	1.09	2 (10%)
1	PSU	B5	4058	1	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
68	OMU	A2	121	68	19,22,23	1.21	2 (10%)	26,31,34	1.68	4 (15%)
1	PSU	B5	4711	1	18,21,22	1.33	2 (11%)	22,30,33	1.86	3 (13%)
84	IAS	An	165	84	6,7,8	0.98	0	6,8,10	1.33	1 (16%)
68	A2M	A2	159	68	18,25,26	1.01	1 (5%)	18,36,39	1.25	2 (11%)
1	OMG	B5	4364	1	18,26,27	0.93	1 (5%)	19,38,41	1.09	2 (10%)
68	PSU	A2	864	68	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
1	OMU	B5	3973	1	19,22,23	1.21	2 (10%)	26,31,34	1.69	4 (15%)
68	PSU	A2	1644	68,94	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
68	PSU	A2	1693	68	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
68	OMU	A2	628	68	19,22,23	1.17	2 (10%)	26,31,34	1.70	5 (19%)
1	PSU	B5	3652	1,94	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
1	OMG	B5	3631	1	18,26,27	0.94	1 (5%)	19,38,41	1.10	2 (10%)
1	OMG	B5	4116	1	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
68	OMU	A2	1443	68,94	19,22,23	1.23	3 (15%)	26,31,34	1.69	4 (15%)
1	OMC	B5	1284	1	19,22,23	0.82	0	26,31,34	0.81	0
1	PSU	B5	1720	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
68	PSU	A2	815	68	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
68	PSU	A2	1175	68	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	B5	3369	1	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
1	OMU	B5	2258	1	19,22,23	1.22	4 (21%)	26,31,34	1.67	4 (15%)
68	4AC	A2	1338	68	21,24,25	1.06	2 (9%)	29,34,37	1.21	3 (10%)
10	OMG	B8	75	10	18,26,27	0.94	1 (5%)	19,38,41	1.07	2 (10%)
1	OMC	B5	2704	1	19,22,23	0.82	0	26,31,34	0.84	1 (3%)
1	OMG	B5	1580	1	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)
68	PSU	A2	210	68	18,21,22	1.35	2 (11%)	22,30,33	1.84	3 (13%)
1	5MC	B5	4193	1	18,22,23	0.99	2 (11%)	26,32,35	1.17	2 (7%)
1	OMC	B5	4202	1	19,22,23	0.81	0	26,31,34	0.82	0
1	PSU	B5	4267	1,94	18,21,22	1.34	2 (11%)	22,30,33	1.90	3 (13%)
1	OMU	B5	4244	1	19,22,23	1.21	2 (10%)	26,31,34	1.68	5 (19%)
1	OMG	B5	1477	1	18,26,27	0.94	1 (5%)	19,38,41	1.06	2 (10%)
1	OMC	B5	2265	1,94	19,22,23	0.83	0	26,31,34	0.89	1 (3%)
79	M3L	Bm	98	79	10,11,12	0.82	0	9,14,16	0.54	0
1	5MC	B5	3514	1,94	18,22,23	0.96	2 (11%)	26,32,35	1.15	3 (11%)
1	OMU	B5	2680	1	19,22,23	1.21	2 (10%)	26,31,34	1.71	4 (15%)
68	A2M	A2	669	68,94	18,25,26	0.98	1 (5%)	18,36,39	1.33	2 (11%)
68	PSU	A2	109	68	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
68	OMG	A2	1491	68,94	18,26,27	0.93	1 (5%)	19,38,41	1.06	2 (10%)
68	4AC	A2	1843	68	21,24,25	1.10	2 (9%)	29,34,37	1.25	3 (10%)
28	V5N	Ba	39	28	4,11,12	0.78	0	5,14,16	1.47	1 (20%)
1	A2M	B5	1479	1	18,25,26	1.03	1 (5%)	18,36,39	1.25	2 (11%)
1	PSU	B5	1801	1	18,21,22	1.36	2 (11%)	22,30,33	1.88	3 (13%)
1	OMC	B5	3601	1	19,22,23	0.80	0	26,31,34	0.80	0
68	PSU	A2	610	68	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
68	OMG	A2	684	68	18,26,27	0.92	1 (5%)	19,38,41	1.07	2 (10%)
68	PSU	A2	687	68	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
68	PSU	A2	93	68	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	PSU	B5	1718	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
10	PSU	B8	69	10	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
1	PSU	B5	1537	1	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
1	OMG	B5	2719	1	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
1	A2M	B5	3492	1,68	18,25,26	1.00	1 (5%)	18,36,39	1.38	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	B5	3554	1	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	B5	4099	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	PSU	B5	4169	1	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	B5	4749	1	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	B5	3502	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
68	OMG	A2	602	68	18,26,27	0.94	1 (5%)	19,38,41	1.06	2 (10%)
1	OMG	B5	1260	1	18,26,27	0.94	1 (5%)	19,38,41	1.12	2 (10%)
68	B8N	A2	1249	68	24,29,30	1.30	3 (12%)	29,42,45	1.29	3 (10%)
68	OMG	A2	510	68,94	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
1	6MZ	B5	3966	1	18,25,26	0.89	1 (5%)	16,36,39	1.99	4 (25%)
1	PSU	B5	3494	1	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	B5	3517	1	18,25,26	0.98	1 (5%)	18,36,39	1.32	2 (11%)
68	PSU	A2	652	68	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
1	OMC	B5	2194	1,94	19,22,23	0.82	0	26,31,34	0.92	1 (3%)
1	PSU	B5	4419	1	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
68	PSU	A2	1368	68	18,21,22	1.33	2 (11%)	22,30,33	1.86	3 (13%)
1	OMG	B5	3676	1	18,26,27	0.93	1 (5%)	19,38,41	1.09	2 (10%)
13	V5N	BA	216	13	4,11,12	0.78	0	5,14,16	1.53	1 (20%)
68	A2M	A2	99	68,94	18,25,26	1.01	1 (5%)	18,36,39	1.20	2 (11%)
1	A2M	B5	1270	1	18,25,26	1.00	1 (5%)	18,36,39	1.23	2 (11%)
68	PSU	A2	1057	68	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
68	PSU	A2	1239	68	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	B5	3500	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
68	A2M	A2	469	68	18,25,26	1.03	1 (5%)	18,36,39	1.22	2 (11%)
1	PSU	B5	1731	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	A2M	B5	3562	1	18,25,26	1.03	1 (5%)	18,36,39	1.20	2 (11%)
1	OMG	B5	3359	1	18,26,27	0.93	1 (5%)	19,38,41	1.11	2 (10%)
68	PSU	A2	1245	68	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	B5	4246	1	18,21,22	1.33	2 (11%)	22,30,33	1.89	3 (13%)
88	SAC	Br	2	88	7,8,9	0.53	0	8,9,11	0.84	1 (12%)
1	PSU	B5	1638	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	B5	3496	1	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	B5	4740	1	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
24	HY3	Aw	62	24	6,8,9	2.03	1 (16%)	5,10,12	1.11	1 (20%)
1	OMC	B5	2208	1,94	19,22,23	0.82	0	26,31,34	0.78	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
68	PSU	A2	105	68	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	OMG	B5	2207	1	18,26,27	0.92	1 (5%)	19,38,41	1.06	2 (10%)
1	OMG	B5	2267	1	18,26,27	0.91	1 (5%)	19,38,41	1.07	2 (10%)
68	OMC	A2	1704	68	19,22,23	0.82	0	26,31,34	0.79	0
1	A2M	B5	3557	1	18,25,26	1.01	1 (5%)	18,36,39	1.21	2 (11%)
1	PSU	B5	4374	1	18,21,22	1.36	2 (11%)	22,30,33	1.90	3 (13%)
9	SAC	Ar	2	9	7,8,9	0.53	0	8,9,11	0.90	1 (12%)
1	A2M	B5	4336	1	18,25,26	1.03	1 (5%)	18,36,39	1.24	2 (11%)
68	OMC	A2	174	68,94	19,22,23	0.82	0	26,31,34	0.81	0
68	A2M	A2	1032	68	18,25,26	1.02	1 (5%)	18,36,39	1.22	2 (11%)
1	OMU	B5	3657	1	19,22,23	1.22	3 (15%)	26,31,34	1.72	4 (15%)
68	PSU	A2	967	68	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
1	PSU	B5	1683	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
1	PSU	B5	4149	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
68	MA6	A2	1851	68	18,26,27	1.09	2 (11%)	19,38,41	2.01	3 (15%)
68	6MZ	A2	1833	68,94	18,25,26	0.92	1 (5%)	16,36,39	1.86	4 (25%)
1	A2M	B5	3456	1	18,25,26	1.01	1 (5%)	18,36,39	1.24	2 (11%)
68	PSU	A2	218	68	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
1	OMG	B5	4138	1	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
1	OMC	B5	4282	1,94	19,22,23	0.82	0	26,31,34	0.85	0
68	OMC	A2	518	68	19,22,23	0.81	0	26,31,34	0.82	0
68	MA6	A2	1852	68	18,26,27	1.09	2 (11%)	19,38,41	1.94	3 (15%)
1	PSU	B5	4298	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
16	HIC	BB	245	16	8,11,12	0.88	0	6,14,16	0.84	0
1	OMG	B5	3524	1	18,26,27	0.93	1 (5%)	19,38,41	1.06	2 (10%)
68	OMC	A2	1392	68	19,22,23	0.82	0	26,31,34	0.84	0
1	A2M	B5	1810	1,94	18,25,26	1.02	1 (5%)	18,36,39	1.25	2 (11%)
68	OMU	A2	172	68	19,22,23	1.19	2 (10%)	26,31,34	1.70	4 (15%)
68	A2M	A2	577	68	18,25,26	1.04	1 (5%)	18,36,39	1.20	2 (11%)
12	NMM	As	67	12	9,11,12	0.60	0	6,12,14	0.52	0
68	OMC	A2	463	68	19,22,23	0.82	0	26,31,34	0.85	0
1	OMC	B5	2647	1	19,22,23	0.81	0	26,31,34	0.83	0
1	A2M	B5	4269	1,94	18,25,26	1.03	1 (5%)	18,36,39	1.23	2 (11%)
1	PSU	B5	4042	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
68	OMU	A2	429	68	19,22,23	1.20	3 (15%)	26,31,34	1.68	4 (15%)
1	PSU	B5	4217	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
68	PSU	A2	1082	68	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
10	PSU	B8	55	10	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
68	OMU	A2	1327	68,94	19,22,23	1.19	2 (10%)	26,31,34	1.70	5 (19%)
1	PSU	B5	4188	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
68	PSU	A2	650	68	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	B5	1632	1	18,21,22	1.38	2 (11%)	22,30,33	1.85	4 (18%)
1	PSU	B5	4107	1	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	B5	2658	1,94	18,25,26	1.02	1 (5%)	18,36,39	1.18	2 (11%)
1	OMG	B5	3476	1	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
68	A2M	A2	591	68	18,25,26	1.05	1 (5%)	18,36,39	1.24	2 (11%)
68	PSU	A2	119	68	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	B5	398	1	18,25,26	1.02	1 (5%)	18,36,39	1.23	2 (11%)
1	PSU	B5	3427	1	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
68	A2M	A2	166	68	18,25,26	1.06	1 (5%)	18,36,39	1.26	2 (11%)
1	PSU	B5	4039	1	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
68	PSU	A2	1178	68	18,21,22	1.32	2 (11%)	22,30,33	1.84	3 (13%)
68	A2M	A2	1384	68	18,25,26	1.03	1 (5%)	18,36,39	1.22	2 (11%)
68	PSU	A2	34	68	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
68	OMG	A2	1329	68	18,26,27	0.94	1 (5%)	19,38,41	1.07	2 (10%)
1	PSU	B5	3462	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	PSU	B5	4322	1	18,21,22	1.33	2 (11%)	22,30,33	1.86	3 (13%)
68	OMG	A2	437	68	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
68	OMU	A2	1805	68	19,22,23	1.22	3 (15%)	26,31,34	1.69	4 (15%)
1	OMU	B5	4366	1	19,22,23	1.23	3 (15%)	26,31,34	1.71	4 (15%)
1	PSU	B5	4325	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
1	OMG	B5	3942	1,8	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
1	PSU	B5	4382	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
68	PSU	A2	36	68	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
68	OMG	A2	645	68	18,26,27	0.93	1 (5%)	19,38,41	1.09	2 (10%)
68	PSU	A2	1005	68	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
68	PSU	A2	1046	68	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
1	OMC	B5	3433	1	19,22,23	0.80	0	26,31,34	0.75	0
3	MLZ	Bb	5	3	8,9,10	0.48	0	4,9,11	0.16	0
1	A2M	B5	3599	1	18,25,26	1.00	1 (5%)	18,36,39	1.26	2 (11%)
1	OMG	B5	4245	1	18,26,27	0.94	1 (5%)	19,38,41	1.05	2 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	B5	4435	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	B5	1799	1	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	B5	2475	1	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	A2M	B5	2206	1,94	18,25,26	1.02	1 (5%)	18,36,39	1.25	2 (11%)
68	PSU	A2	1047	68	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
68	A2M	A2	513	68	18,25,26	1.03	1 (5%)	18,36,39	1.20	2 (11%)
1	OMC	B5	1820	1,94	19,22,23	0.80	0	26,31,34	0.79	0
1	OMG	B5	4369	1	18,26,27	0.93	1 (5%)	19,38,41	1.09	2 (10%)
1	PSU	B5	4203	1	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
1	PSU	B5	2351	1	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
1	UR3	B5	4276	1	19,22,23	0.99	0	26,32,35	1.41	1 (3%)
1	1MA	B5	1266	1,94	16,25,26	1.58	2 (12%)	18,37,40	1.04	2 (11%)
1	OMC	B5	3573	1	19,22,23	0.80	0	26,31,34	0.87	1 (3%)
1	PSU	B5	3616	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	B5	4045	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	OMG	B5	3974	1	18,26,27	0.92	1 (5%)	19,38,41	1.12	2 (10%)
1	PSU	B5	3447	1	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	B5	4166	1	18,21,22	1.39	2 (11%)	22,30,33	1.81	4 (18%)
68	PSU	A2	682	68	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
68	OMG	A2	1448	68	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
68	G7M	A2	1640	68	20,26,27	2.98	7 (35%)	17,39,42	0.95	1 (5%)
1	OMU	B5	4052	1	19,22,23	1.21	2 (10%)	26,31,34	1.68	4 (15%)
1	A2M	B5	3450	1	18,25,26	1.03	1 (5%)	18,36,39	1.19	2 (11%)
1	A2M	B5	2244	1,94	18,25,26	1.01	1 (5%)	18,36,39	1.20	2 (11%)
1	OMG	B5	4383	1	18,26,27	0.95	1 (5%)	19,38,41	1.09	2 (10%)
27	AME	Au	1	27	9,10,11	0.48	0	9,11,13	0.86	1 (11%)
68	PSU	A2	802	68	18,21,22	1.35	2 (11%)	22,30,33	1.84	3 (13%)
68	OMU	A2	116	68	19,22,23	1.19	2 (10%)	26,31,34	1.70	4 (15%)
68	PSU	A2	573	68	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	UY1	B5	3550	1	19,22,23	1.39	3 (15%)	22,31,34	1.87	5 (22%)
68	PSU	A2	1446	68	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
35	AYA	BC	2	35	6,7,8	0.70	0	5,8,10	0.32	0
1	OMC	B5	3540	1	19,22,23	0.81	0	26,31,34	0.85	0
68	PSU	A2	1626	68	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	B5	1489	1,94	18,25,26	0.99	1 (5%)	18,36,39	1.34	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
68	OMU	A2	355	68	19,22,23	1.21	2 (10%)	26,31,34	1.68	4 (15%)
68	A2M	A2	1679	68	18,25,26	1.01	1 (5%)	18,36,39	1.30	2 (11%)
68	PSU	A2	1348	68	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
82	MLZ	B ₀	53	82	8,9,10	0.48	0	4,9,11	0.12	0
1	OMC	B5	3619	1	19,22,23	0.81	0	26,31,34	0.82	0
1	A2M	B5	400	1	18,25,26	1.03	1 (5%)	18,36,39	1.22	2 (11%)
1	A2M	B5	4317	1	18,25,26	1.02	1 (5%)	18,36,39	1.24	2 (11%)
1	PSU	B5	1721	1	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
68	PSU	A2	816	68	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)

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
68	PSU	A2	407	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	1491	1	-	0/7/25/26	0/2/2/2
1	OMG	B5	4240	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	4278	1	-	0/7/25/26	0/2/2/2
68	A2M	A2	27	68,94	-	2/5/27/28	0/3/3/3
1	PSU	B5	3576	1	-	1/7/25/26	0/2/2/2
68	A2M	A2	485	68	-	0/5/27/28	0/3/3/3
1	A2M	B5	2630	1,94	-	0/5/27/28	0/3/3/3
1	PSU	B5	3490	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	823	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	3585	1,94	-	0/7/25/26	0/2/2/2
68	PSU	A2	1233	68	-	0/7/25/26	0/2/2/2
1	OMC	B5	2667	1	-	2/9/27/28	0/2/2/2
32	SAC	AZ	2	32	-	2/7/8/10	-
68	PSU	A2	867	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	3466	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	3583	1	-	0/7/25/26	0/2/2/2
68	OMU	A2	1289	68	-	0/9/27/28	0/2/2/2
1	PSU	B5	3371	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4177	1	-	0/7/25/26	0/2/2/2
68	OMG	A2	868	68	-	0/5/27/28	0/3/3/3
1	PSU	B5	4058	1	-	0/7/25/26	0/2/2/2
68	OMU	A2	121	68	-	0/9/27/28	0/2/2/2
1	PSU	B5	4711	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
84	IAS	An	165	84	-	2/7/7/8	-
68	A2M	A2	159	68	-	0/5/27/28	0/3/3/3
1	OMG	B5	4364	1	-	0/5/27/28	0/3/3/3
68	PSU	A2	864	68	-	0/7/25/26	0/2/2/2
1	OMU	B5	3973	1	-	0/9/27/28	0/2/2/2
68	PSU	A2	1644	68,94	-	0/7/25/26	0/2/2/2
68	PSU	A2	1693	68	-	0/7/25/26	0/2/2/2
68	OMU	A2	628	68	-	4/9/27/28	0/2/2/2
1	PSU	B5	3652	1,94	-	0/7/25/26	0/2/2/2
1	OMG	B5	3631	1	-	2/5/27/28	0/3/3/3
1	OMG	B5	4116	1	-	0/5/27/28	0/3/3/3
68	OMU	A2	1443	68,94	-	1/9/27/28	0/2/2/2
1	OMC	B5	1284	1	-	1/9/27/28	0/2/2/2
1	PSU	B5	1720	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	815	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	1175	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	3369	1	-	0/7/25/26	0/2/2/2
1	OMU	B5	2258	1	-	1/9/27/28	0/2/2/2
68	4AC	A2	1338	68	-	3/11/29/30	0/2/2/2
10	OMG	B8	75	10	-	0/5/27/28	0/3/3/3
1	OMC	B5	2704	1	-	1/9/27/28	0/2/2/2
1	OMG	B5	1580	1	-	0/5/27/28	0/3/3/3
68	PSU	A2	210	68	-	0/7/25/26	0/2/2/2
1	5MC	B5	4193	1	-	4/7/25/26	0/2/2/2
1	OMC	B5	4202	1	-	0/9/27/28	0/2/2/2
1	PSU	B5	4267	1,94	-	0/7/25/26	0/2/2/2
1	OMU	B5	4244	1	-	0/9/27/28	0/2/2/2
1	OMG	B5	1477	1	-	0/5/27/28	0/3/3/3
1	OMC	B5	2265	1,94	-	1/9/27/28	0/2/2/2
79	M3L	Bm	98	79	-	1/9/10/12	-
1	5MC	B5	3514	1,94	-	0/7/25/26	0/2/2/2
1	OMU	B5	2680	1	-	1/9/27/28	0/2/2/2
68	A2M	A2	669	68,94	-	2/5/27/28	0/3/3/3
68	PSU	A2	109	68	-	0/7/25/26	0/2/2/2
68	OMG	A2	1491	68,94	-	0/5/27/28	0/3/3/3
68	4AC	A2	1843	68	-	4/11/29/30	0/2/2/2
28	V5N	Ba	39	28	-	0/5/10/12	0/1/1/1
1	A2M	B5	1479	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	1801	1	-	0/7/25/26	0/2/2/2
1	OMC	B5	3601	1	-	0/9/27/28	0/2/2/2
68	PSU	A2	610	68	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
68	OMG	A2	684	68	-	2/5/27/28	0/3/3/3
68	PSU	A2	687	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	93	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	1718	1	-	0/7/25/26	0/2/2/2
10	PSU	B8	69	10	-	0/7/25/26	0/2/2/2
1	PSU	B5	1537	1	-	0/7/25/26	0/2/2/2
1	OMG	B5	2719	1	-	0/5/27/28	0/3/3/3
1	A2M	B5	3492	1,68	-	1/5/27/28	0/3/3/3
1	PSU	B5	3554	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4099	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	4749	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	3502	1	-	0/7/25/26	0/2/2/2
68	OMG	A2	602	68	-	0/5/27/28	0/3/3/3
1	OMG	B5	1260	1	-	1/5/27/28	0/3/3/3
68	B8N	A2	1249	68	-	4/16/34/35	0/2/2/2
68	OMG	A2	510	68,94	-	1/5/27/28	0/3/3/3
1	6MZ	B5	3966	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	3494	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	3517	1	-	2/5/27/28	0/3/3/3
68	PSU	A2	652	68	-	0/7/25/26	0/2/2/2
1	OMC	B5	2194	1,94	-	2/9/27/28	0/2/2/2
1	PSU	B5	4419	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1368	68	-	0/7/25/26	0/2/2/2
1	OMG	B5	3676	1	-	0/5/27/28	0/3/3/3
13	V5N	BA	216	13	-	1/5/10/12	0/1/1/1
68	A2M	A2	99	68,94	-	2/5/27/28	0/3/3/3
1	A2M	B5	1270	1	-	0/5/27/28	0/3/3/3
68	PSU	A2	1057	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	1239	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	3500	1	-	0/7/25/26	0/2/2/2
68	A2M	A2	469	68	-	2/5/27/28	0/3/3/3
1	PSU	B5	1731	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	3562	1	-	0/5/27/28	0/3/3/3
1	OMG	B5	3359	1	-	0/5/27/28	0/3/3/3
68	PSU	A2	1245	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	4246	1	-	1/7/25/26	0/2/2/2
88	SAC	Br	2	88	-	0/7/8/10	-
1	PSU	B5	1638	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	3496	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4740	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	HY3	Aw	62	24	-	1/1/12/14	0/1/1/1
1	OMC	B5	2208	1,94	-	0/9/27/28	0/2/2/2
68	PSU	A2	105	68	-	0/7/25/26	0/2/2/2
1	OMG	B5	2207	1	-	2/5/27/28	0/3/3/3
1	OMG	B5	2267	1	-	1/5/27/28	0/3/3/3
68	OMC	A2	1704	68	-	0/9/27/28	0/2/2/2
1	A2M	B5	3557	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	4374	1	-	0/7/25/26	0/2/2/2
9	SAC	Ar	2	9	-	0/7/8/10	-
1	A2M	B5	4336	1	-	1/5/27/28	0/3/3/3
68	OMC	A2	174	68,94	-	0/9/27/28	0/2/2/2
68	A2M	A2	1032	68	-	1/5/27/28	0/3/3/3
1	OMU	B5	3657	1	-	0/9/27/28	0/2/2/2
68	PSU	A2	967	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	1683	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4149	1	-	0/7/25/26	0/2/2/2
68	MA6	A2	1851	68	-	0/7/29/30	0/3/3/3
68	6MZ	A2	1833	68,94	-	0/5/27/28	0/3/3/3
1	A2M	B5	3456	1	-	0/5/27/28	0/3/3/3
68	PSU	A2	218	68	-	0/7/25/26	0/2/2/2
1	OMG	B5	4138	1	-	1/5/27/28	0/3/3/3
1	OMC	B5	4282	1,94	-	0/9/27/28	0/2/2/2
68	OMC	A2	518	68	-	0/9/27/28	0/2/2/2
68	MA6	A2	1852	68	-	3/7/29/30	0/3/3/3
1	PSU	B5	4298	1	-	0/7/25/26	0/2/2/2
16	HIC	BB	245	16	-	2/5/6/8	0/1/1/1
1	OMG	B5	3524	1	-	0/5/27/28	0/3/3/3
68	OMC	A2	1392	68	-	0/9/27/28	0/2/2/2
1	A2M	B5	1810	1,94	-	1/5/27/28	0/3/3/3
68	OMU	A2	172	68	-	0/9/27/28	0/2/2/2
68	A2M	A2	577	68	-	2/5/27/28	0/3/3/3
12	NMM	As	67	12	-	0/9/11/13	-
68	OMC	A2	463	68	-	0/9/27/28	0/2/2/2
1	OMC	B5	2647	1	-	1/9/27/28	0/2/2/2
1	A2M	B5	4269	1,94	-	0/5/27/28	0/3/3/3
1	PSU	B5	4042	1	-	0/7/25/26	0/2/2/2
68	OMU	A2	429	68	-	5/9/27/28	0/2/2/2
1	PSU	B5	4217	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1082	68	-	0/7/25/26	0/2/2/2
10	PSU	B8	55	10	-	0/7/25/26	0/2/2/2
68	OMU	A2	1327	68,94	-	0/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	B5	4188	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	650	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	1632	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4107	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	2658	1,94	-	0/5/27/28	0/3/3/3
1	OMG	B5	3476	1	-	2/5/27/28	0/3/3/3
68	A2M	A2	591	68	-	0/5/27/28	0/3/3/3
68	PSU	A2	119	68	-	0/7/25/26	0/2/2/2
1	A2M	B5	398	1	-	3/5/27/28	0/3/3/3
1	PSU	B5	3427	1	-	0/7/25/26	0/2/2/2
68	A2M	A2	166	68	-	0/5/27/28	0/3/3/3
1	PSU	B5	4039	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1178	68	-	0/7/25/26	0/2/2/2
68	A2M	A2	1384	68	-	0/5/27/28	0/3/3/3
68	PSU	A2	34	68	-	0/7/25/26	0/2/2/2
68	OMG	A2	1329	68	-	0/5/27/28	0/3/3/3
1	PSU	B5	3462	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4322	1	-	0/7/25/26	0/2/2/2
68	OMG	A2	437	68	-	0/5/27/28	0/3/3/3
68	OMU	A2	1805	68	-	0/9/27/28	0/2/2/2
1	OMU	B5	4366	1	-	0/9/27/28	0/2/2/2
1	PSU	B5	4325	1	-	0/7/25/26	0/2/2/2
1	OMG	B5	3942	1,8	-	0/5/27/28	0/3/3/3
1	PSU	B5	4382	1	-	4/7/25/26	0/2/2/2
68	PSU	A2	36	68	-	0/7/25/26	0/2/2/2
68	OMG	A2	645	68	-	3/5/27/28	0/3/3/3
68	PSU	A2	1005	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	1046	68	-	0/7/25/26	0/2/2/2
1	OMC	B5	3433	1	-	4/9/27/28	0/2/2/2
3	MLZ	Bb	5	3	-	1/7/8/10	-
1	A2M	B5	3599	1	-	1/5/27/28	0/3/3/3
1	OMG	B5	4245	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	4435	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	1799	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	2475	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	2206	1,94	-	0/5/27/28	0/3/3/3
68	PSU	A2	1047	68	-	0/7/25/26	0/2/2/2
68	A2M	A2	513	68	-	2/5/27/28	0/3/3/3
1	OMC	B5	1820	1,94	-	2/9/27/28	0/2/2/2
1	OMG	B5	4369	1	-	1/5/27/28	0/3/3/3
1	PSU	B5	4203	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	B5	2351	1	-	0/7/25/26	0/2/2/2
1	UR3	B5	4276	1	-	0/7/25/26	0/2/2/2
1	1MA	B5	1266	1,94	-	0/3/25/26	0/3/3/3
1	OMC	B5	3573	1	-	1/9/27/28	0/2/2/2
1	PSU	B5	3616	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4045	1	-	0/7/25/26	0/2/2/2
1	OMG	B5	3974	1	-	0/5/27/28	0/3/3/3
1	PSU	B5	3447	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4166	1	-	4/7/25/26	0/2/2/2
68	PSU	A2	682	68	-	0/7/25/26	0/2/2/2
68	OMG	A2	1448	68	-	3/5/27/28	0/3/3/3
68	G7M	A2	1640	68	-	2/3/25/26	0/3/3/3
1	OMU	B5	4052	1	-	0/9/27/28	0/2/2/2
1	A2M	B5	3450	1	-	0/5/27/28	0/3/3/3
1	A2M	B5	2244	1,94	-	0/5/27/28	0/3/3/3
1	OMG	B5	4383	1	-	0/5/27/28	0/3/3/3
27	AME	Au	1	27	-	2/9/10/12	-
68	PSU	A2	802	68	-	2/7/25/26	0/2/2/2
68	OMU	A2	116	68	-	1/9/27/28	0/2/2/2
68	PSU	A2	573	68	-	0/7/25/26	0/2/2/2
1	UY1	B5	3550	1	-	1/9/27/28	0/2/2/2
68	PSU	A2	1446	68	-	0/7/25/26	0/2/2/2
35	AYA	BC	2	35	-	0/4/6/8	-
1	OMC	B5	3540	1	-	0/9/27/28	0/2/2/2
68	PSU	A2	1626	68	-	0/7/25/26	0/2/2/2
1	A2M	B5	1489	1,94	-	2/5/27/28	0/3/3/3
68	OMU	A2	355	68	-	1/9/27/28	0/2/2/2
68	A2M	A2	1679	68	-	0/5/27/28	0/3/3/3
68	PSU	A2	1348	68	-	0/7/25/26	0/2/2/2
82	MLZ	Bo	53	82	-	0/7/8/10	-
1	OMC	B5	3619	1	-	2/9/27/28	0/2/2/2
1	A2M	B5	400	1	-	0/5/27/28	0/3/3/3
1	A2M	B5	4317	1	-	1/5/27/28	0/3/3/3
1	PSU	B5	1721	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	816	68	-	0/7/25/26	0/2/2/2

The worst 5 of 327 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A2	1640	G7M	C5-C4	7.38	1.53	1.39
68	A2	1640	G7M	O6-C6	7.24	1.38	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B5	1266	1MA	C2-N3	4.84	1.34	1.29
24	Aw	62	HY3	C3-CA	-4.61	1.50	1.55
68	A2	1640	G7M	C2-N2	4.45	1.44	1.34

The worst 5 of 537 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B5	4267	PSU	N1-C2-N3	6.04	121.98	115.13
1	B5	4374	PSU	N1-C2-N3	6.02	121.95	115.13
1	B5	4217	PSU	N1-C2-N3	6.02	121.95	115.13
1	B5	1537	PSU	N1-C2-N3	6.02	121.94	115.13
1	B5	4278	PSU	N1-C2-N3	6.01	121.94	115.13

There are no chirality outliers.

5 of 120 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	B5	2207	OMG	O4'-C4'-C5'-O5'
1	B5	2207	OMG	C3'-C4'-C5'-O5'
1	B5	3433	OMC	C2'-C1'-N1-C2
1	B5	3433	OMC	C2'-C1'-N1-C6
1	B5	3599	A2M	C1'-C2'-O2'-CM'

There are no ring outliers.

No monomer is involved in short contacts.

4.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

4.6 Ligand geometry [i](#)

Of 758 ligands modelled in this entry, 295 are unknown and 428 are monoatomic - leaving 35 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$
93	SPD	B5	5323	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5222	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5019	-	9,9,9	0.16	0	8,8,8	0.19	0
93	SPD	A2	1939	-	9,9,9	0.16	0	8,8,8	0.17	0
93	SPD	B5	4922	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	B5	5366	-	9,9,9	0.16	0	8,8,8	0.22	0
95	SPM	A2	1962	-	13,13,13	0.15	0	12,12,12	0.16	0
93	SPD	A2	1929	-	9,9,9	0.15	0	8,8,8	0.17	0
93	SPD	B5	4941	-	9,9,9	0.15	0	8,8,8	0.18	0
95	SPM	B5	5194	-	13,13,13	0.15	0	12,12,12	0.21	0
93	SPD	B5	5120	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	A2	1922	-	9,9,9	0.16	0	8,8,8	0.18	0
95	SPM	B5	5059	-	13,13,13	0.15	0	12,12,12	0.14	0
97	IHP	DB	901	-	36,36,36	1.55	6 (16%)	54,60,60	1.14	4 (7%)
93	SPD	B5	5387	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	B5	4902	-	9,9,9	0.16	0	8,8,8	0.17	0
93	SPD	B5	4982	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	A2	1947	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5202	-	9,9,9	0.16	0	8,8,8	0.19	0
93	SPD	B5	5241	-	9,9,9	0.16	0	8,8,8	0.16	0
93	SPD	B5	5344	-	9,9,9	0.16	0	8,8,8	0.18	0
93	SPD	B5	5162	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	A2	1930	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5100	-	9,9,9	0.15	0	8,8,8	0.17	0
93	SPD	B5	5039	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	B5	5141	-	9,9,9	0.15	0	8,8,8	0.20	0
93	SPD	B5	5079	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	B5	5000	-	9,9,9	0.15	0	8,8,8	0.17	0
93	SPD	B5	4962	-	9,9,9	0.16	0	8,8,8	0.18	0
93	SPD	A2	1955	-	9,9,9	0.15	0	8,8,8	0.17	0
93	SPD	A2	1915	-	9,9,9	0.16	0	8,8,8	0.17	0
93	SPD	B5	5182	-	9,9,9	0.15	0	8,8,8	0.18	0
96	GTP	B7	214	7	26,34,34	0.94	2 (7%)	32,54,54	0.78	0
93	SPD	A2	1908	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5303	-	9,9,9	0.15	0	8,8,8	0.15	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
93	SPD	B5	5323	-	-	1/7/7/7	-
93	SPD	B5	5222	-	-	0/7/7/7	-
93	SPD	B5	5019	-	-	0/7/7/7	-
93	SPD	A2	1939	-	-	0/7/7/7	-
93	SPD	B5	4922	-	-	0/7/7/7	-
93	SPD	B5	5366	-	-	0/7/7/7	-
95	SPM	A2	1962	-	-	1/11/11/11	-
93	SPD	A2	1929	-	-	0/7/7/7	-
93	SPD	B5	4941	-	-	0/7/7/7	-
95	SPM	B5	5194	-	-	1/11/11/11	-
93	SPD	B5	5120	-	-	0/7/7/7	-
93	SPD	A2	1922	-	-	0/7/7/7	-
95	SPM	B5	5059	-	-	0/11/11/11	-
97	IHP	DB	901	-	-	10/30/54/54	0/1/1/1
93	SPD	B5	5387	-	-	1/7/7/7	-
93	SPD	B5	4902	-	-	1/7/7/7	-
93	SPD	B5	4982	-	-	1/7/7/7	-
93	SPD	A2	1947	-	-	1/7/7/7	-
93	SPD	B5	5202	-	-	1/7/7/7	-
93	SPD	B5	5241	-	-	1/7/7/7	-
93	SPD	B5	5344	-	-	1/7/7/7	-
93	SPD	B5	5162	-	-	0/7/7/7	-
93	SPD	A2	1930	-	-	0/7/7/7	-
93	SPD	B5	5100	-	-	0/7/7/7	-
93	SPD	B5	5039	-	-	0/7/7/7	-
93	SPD	B5	5141	-	-	0/7/7/7	-
93	SPD	B5	5079	-	-	0/7/7/7	-
93	SPD	B5	5000	-	-	0/7/7/7	-
93	SPD	B5	4962	-	-	0/7/7/7	-
93	SPD	A2	1955	-	-	0/7/7/7	-
93	SPD	A2	1915	-	-	0/7/7/7	-
93	SPD	B5	5182	-	-	0/7/7/7	-
96	GTP	B7	214	7	-	0/18/38/38	0/3/3/3
93	SPD	A2	1908	-	-	1/7/7/7	-
93	SPD	B5	5303	-	-	1/7/7/7	-

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
97	DB	901	IHP	P2-O12	3.51	1.65	1.59
97	DB	901	IHP	P5-O15	3.43	1.65	1.59
97	DB	901	IHP	P1-O11	3.27	1.65	1.59
97	DB	901	IHP	P6-O16	3.22	1.65	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
97	DB	901	IHP	P3-O13	3.20	1.65	1.59

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
97	DB	901	IHP	C6-C5-C4	4.35	119.94	110.41
97	DB	901	IHP	C5-C4-C3	3.62	118.33	110.41
97	DB	901	IHP	C5-C6-C1	3.52	118.12	110.41
97	DB	901	IHP	C4-C3-C2	2.19	115.21	110.41

There are no chirality outliers.

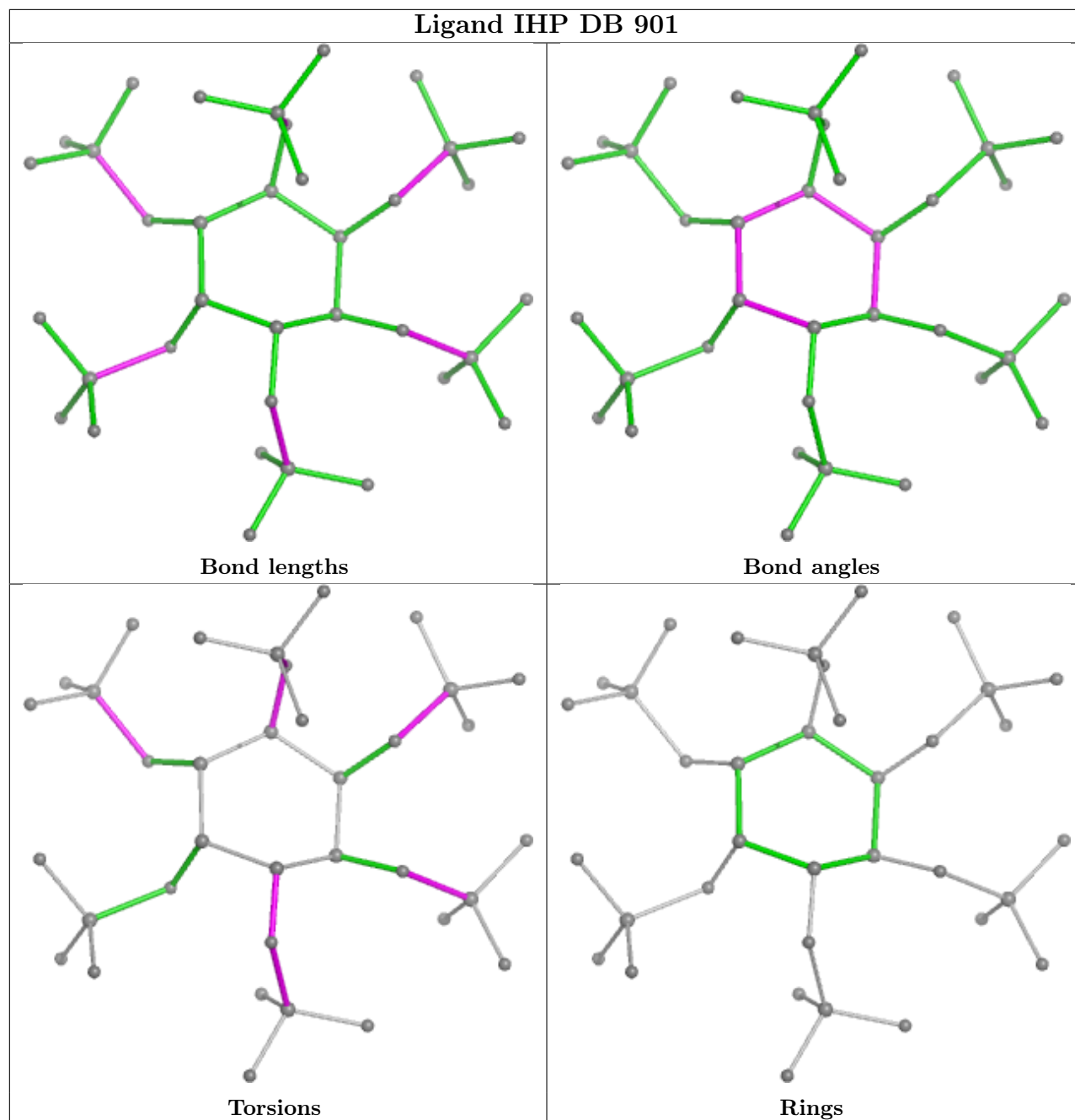
5 of 22 torsion outliers are listed below:

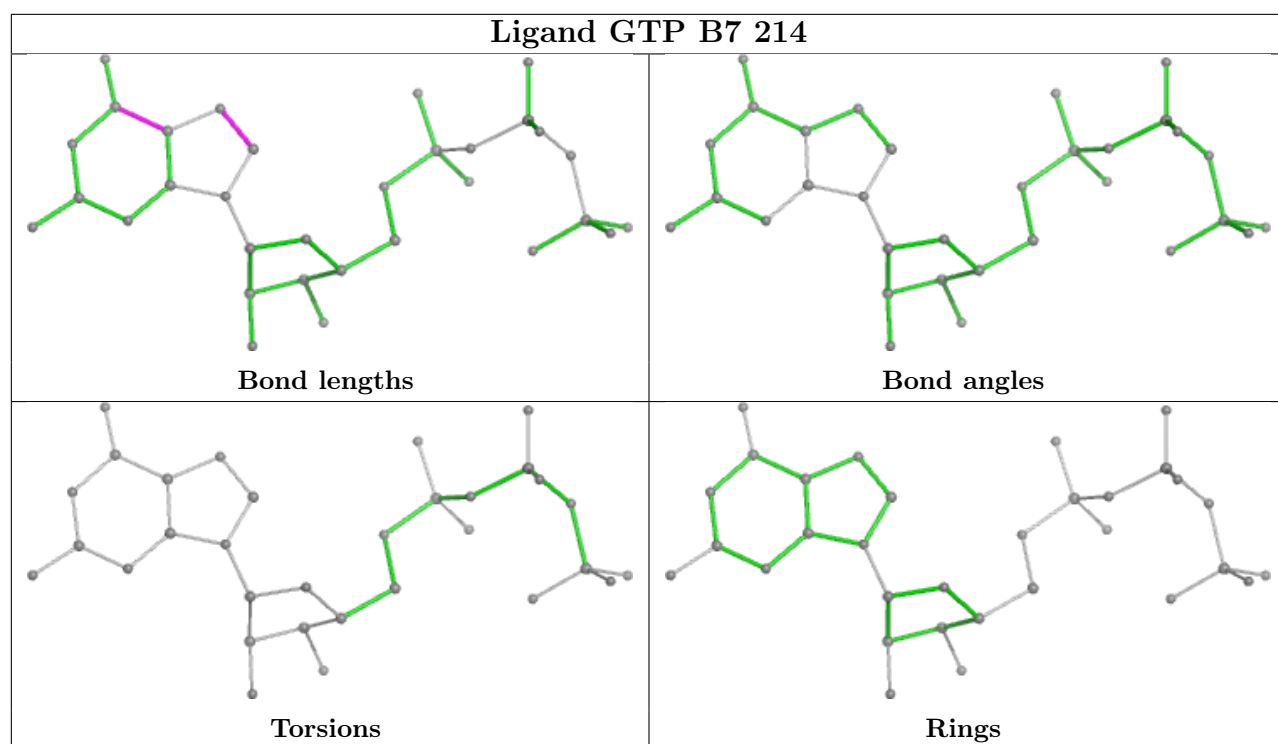
Mol	Chain	Res	Type	Atoms
97	DB	901	IHP	C1-C2-O12-P2
97	DB	901	IHP	C4-C5-O15-P5
97	DB	901	IHP	C4-O14-P4-O24
95	A2	1962	SPM	C8-C9-N10-C11
97	DB	901	IHP	C2-O12-P2-O32

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.





4.7 Other polymers [i](#)

There are no such residues in this entry.

4.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

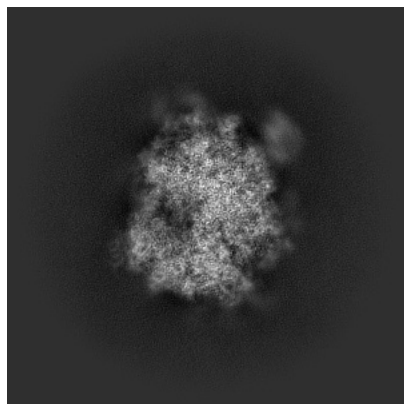
5 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-50126. These allow visual inspection of the internal detail of the map and identification of artifacts.

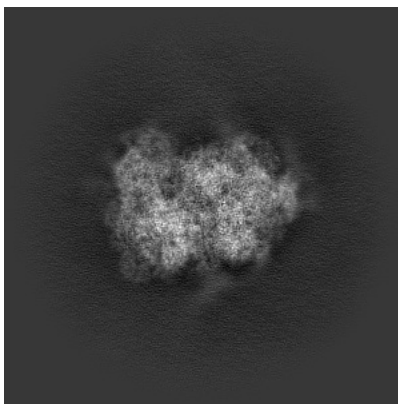
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

5.1 Orthogonal projections [i](#)

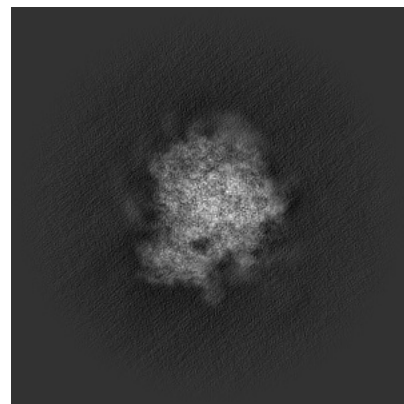
5.1.1 Primary map



X

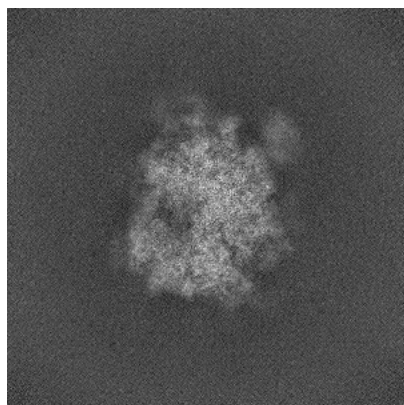


Y

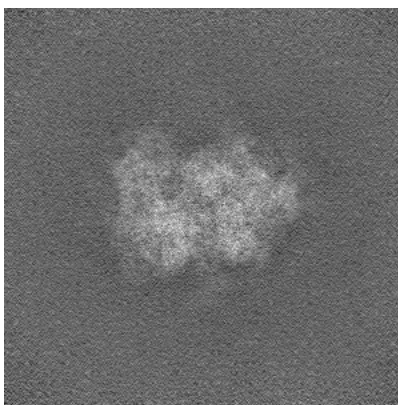


Z

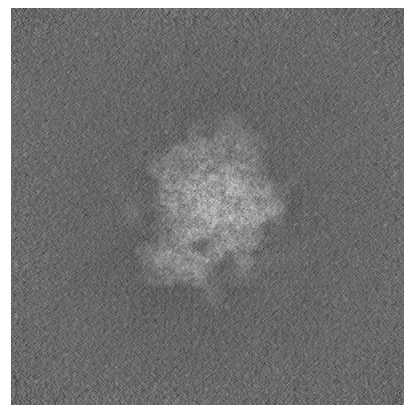
5.1.2 Raw map



X



Y

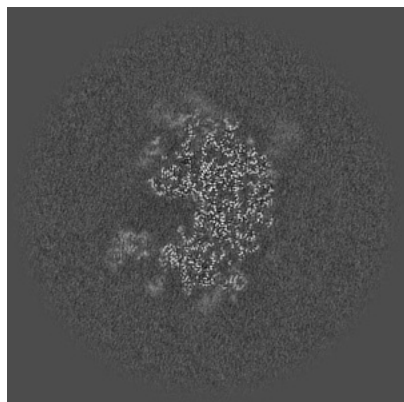


Z

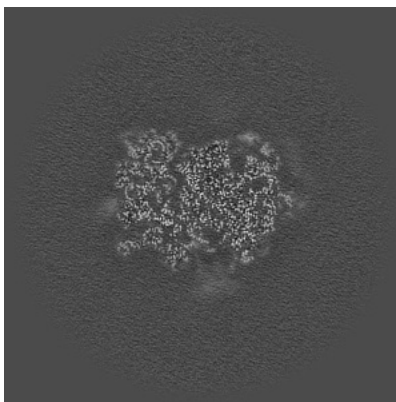
The images above show the map projected in three orthogonal directions.

5.2 Central slices [i](#)

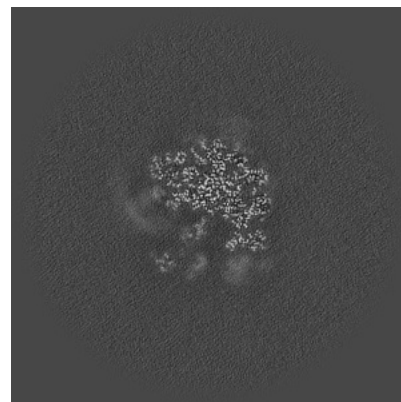
5.2.1 Primary map



X Index: 280

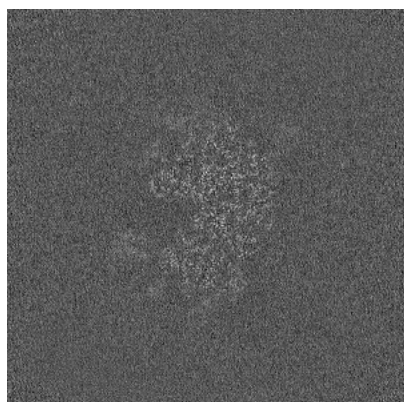


Y Index: 280

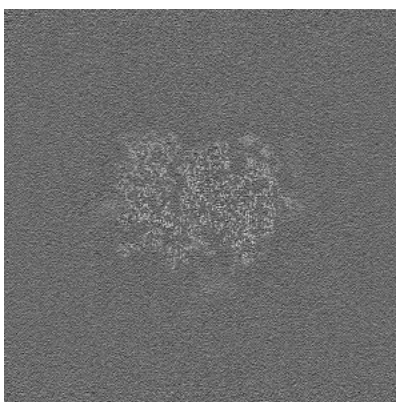


Z Index: 280

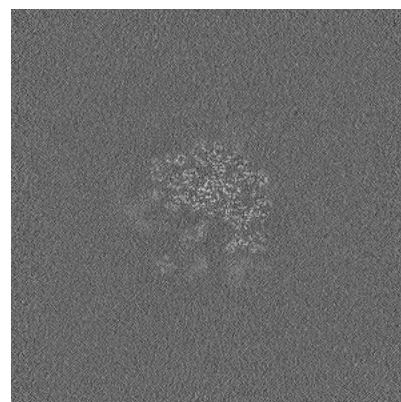
5.2.2 Raw map



X Index: 280



Y Index: 280

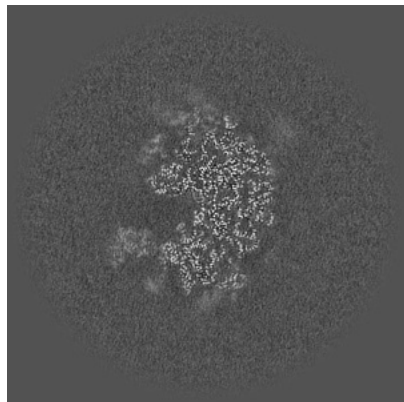


Z Index: 280

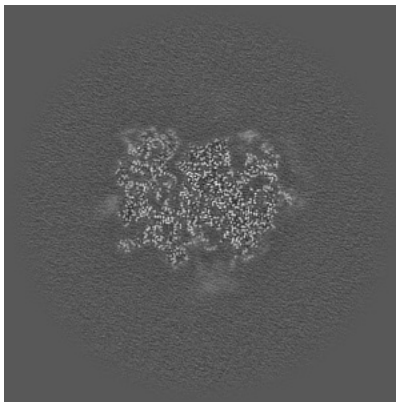
The images above show central slices of the map in three orthogonal directions.

5.3 Largest variance slices [i](#)

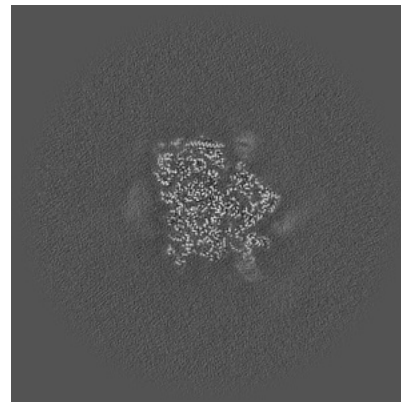
5.3.1 Primary map



X Index: 279

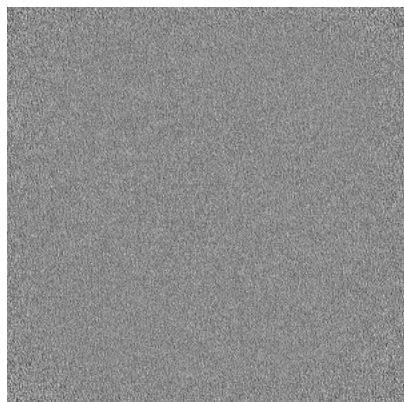


Y Index: 281

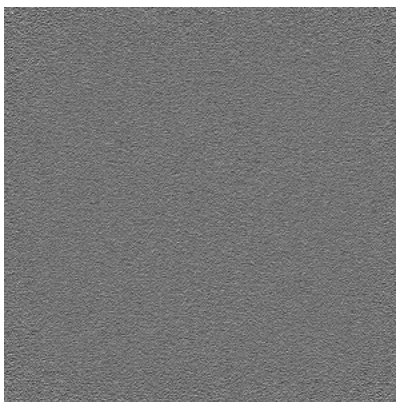


Z Index: 309

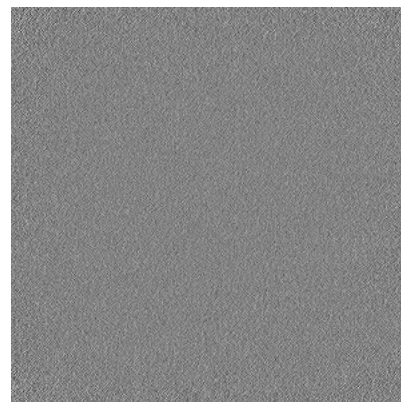
5.3.2 Raw map



X Index: 0



Y Index: 0

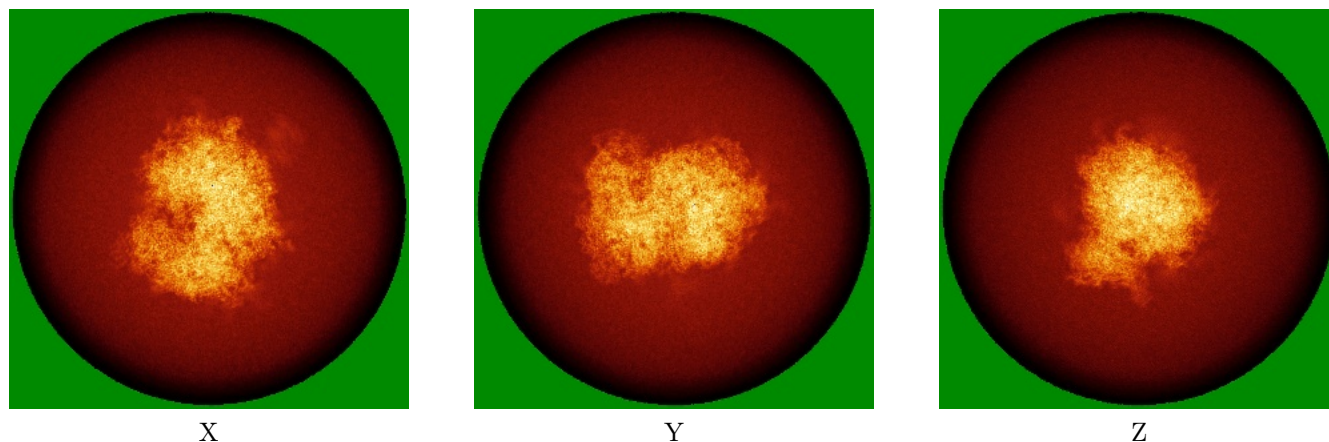


Z Index: 0

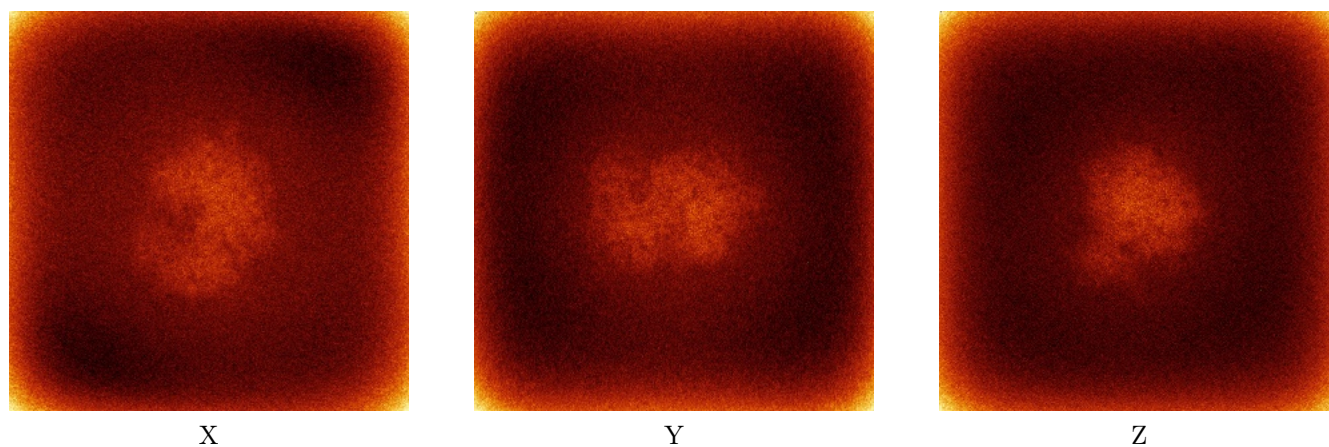
The images above show the largest variance slices of the map in three orthogonal directions.

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

5.4.1 Primary map



5.4.2 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.

5.5 Orthogonal surface views [i](#)

5.5.1 Primary map



X



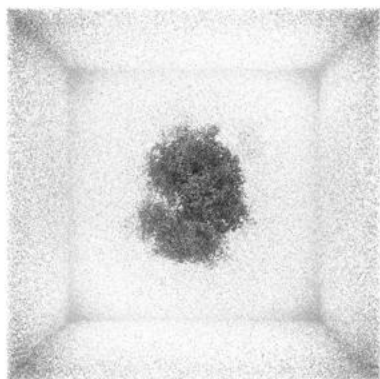
Y



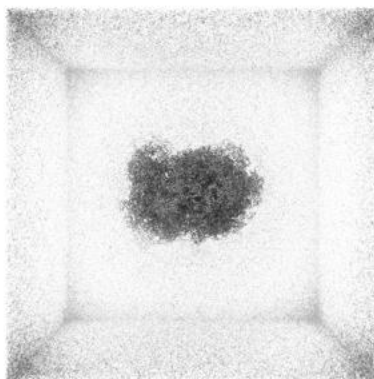
Z

The images above show the 3D surface view of the map at the recommended contour level 0.25. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

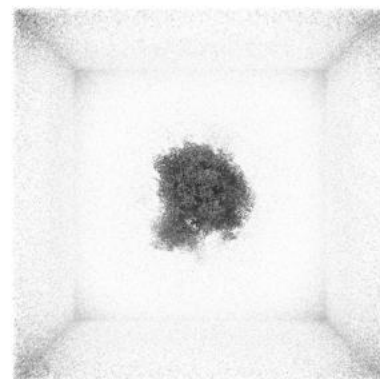
5.5.2 Raw map



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.

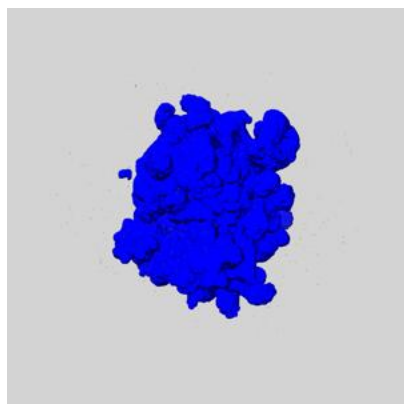
5.6 Mask visualisation [i](#)

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

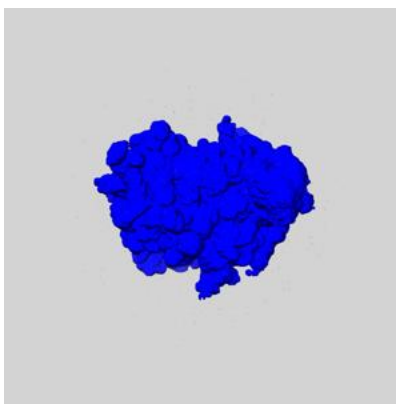
A mask typically either:

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

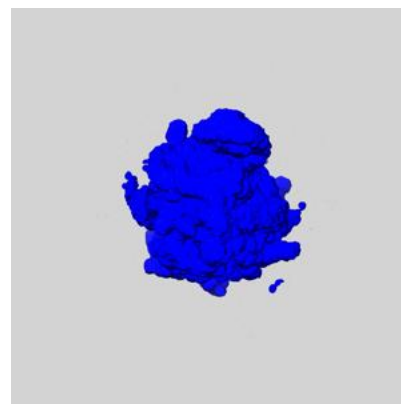
5.6.1 emd_50126_msk_1.map [i](#)



X

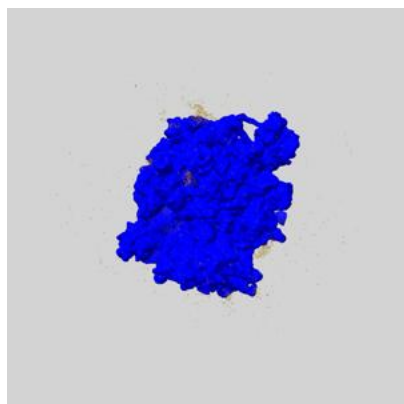


Y

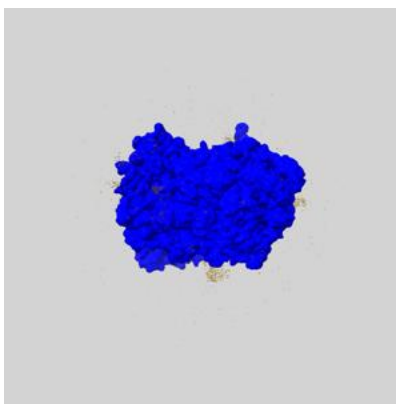


Z

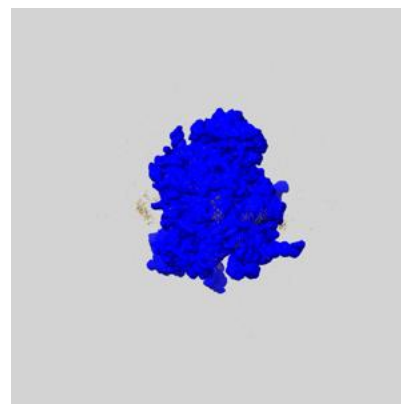
5.6.2 emd_50126_msk_2.map [i](#)



X



Y

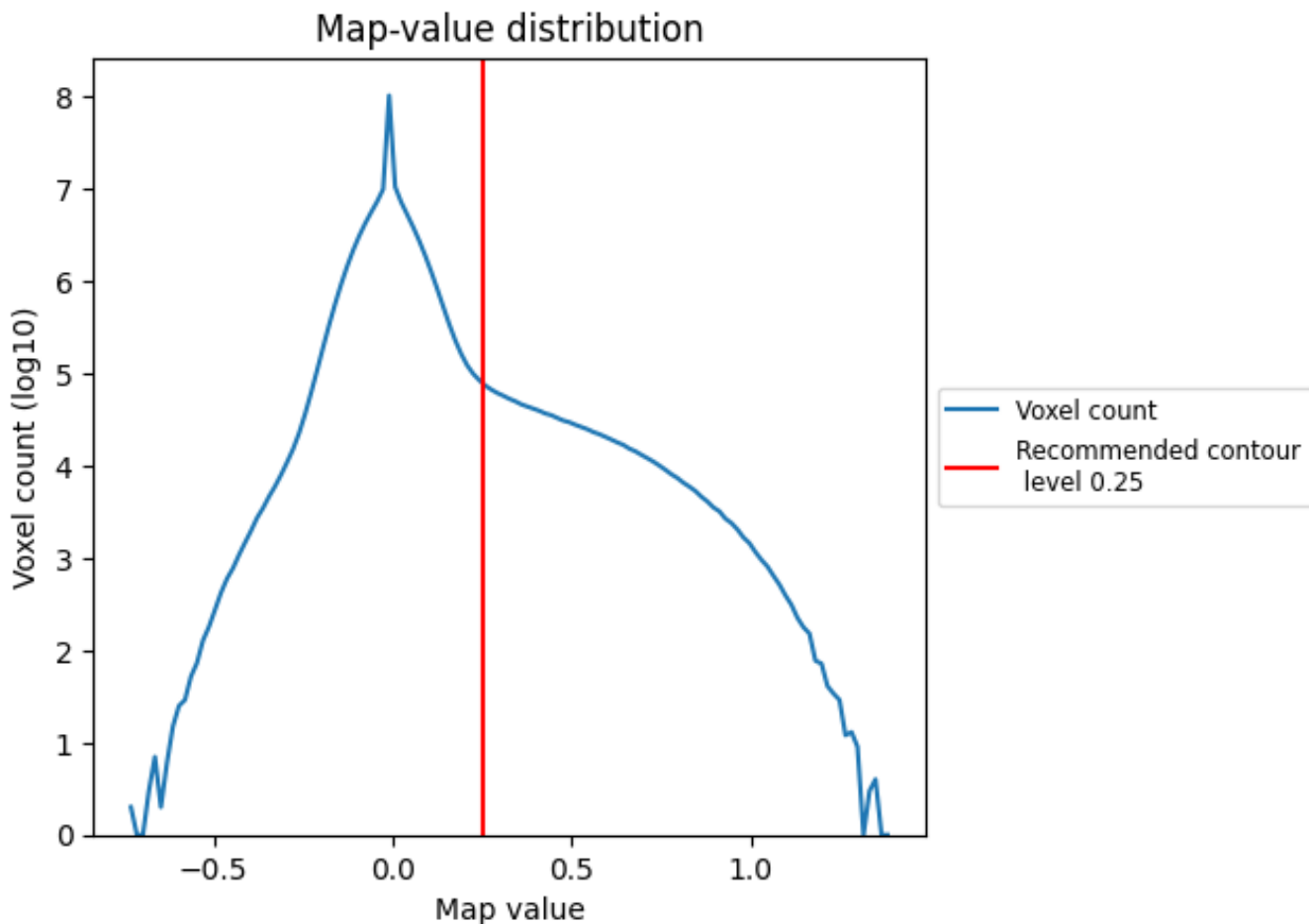


Z

6 Map analysis [i](#)

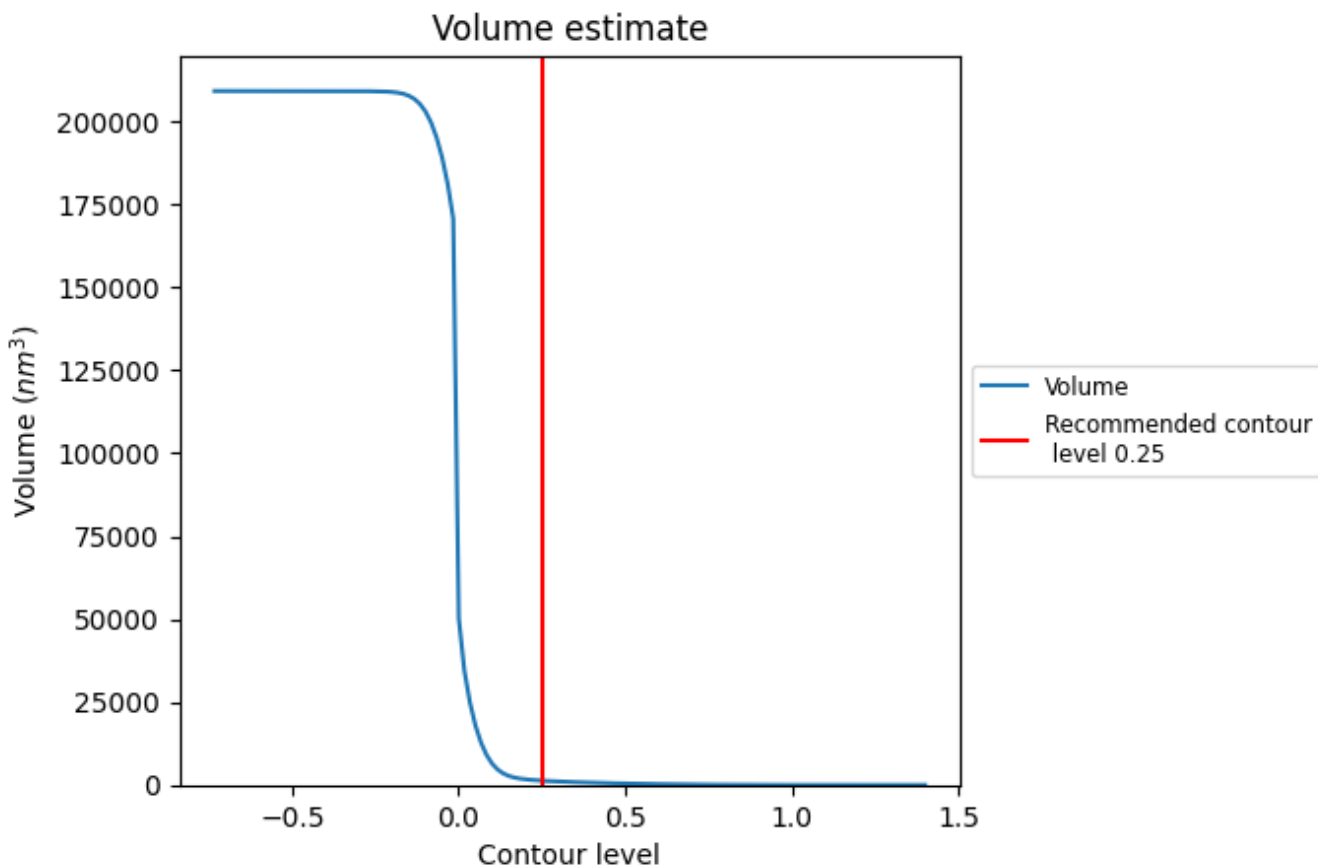
This section contains the results of statistical analysis of the map.

6.1 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.

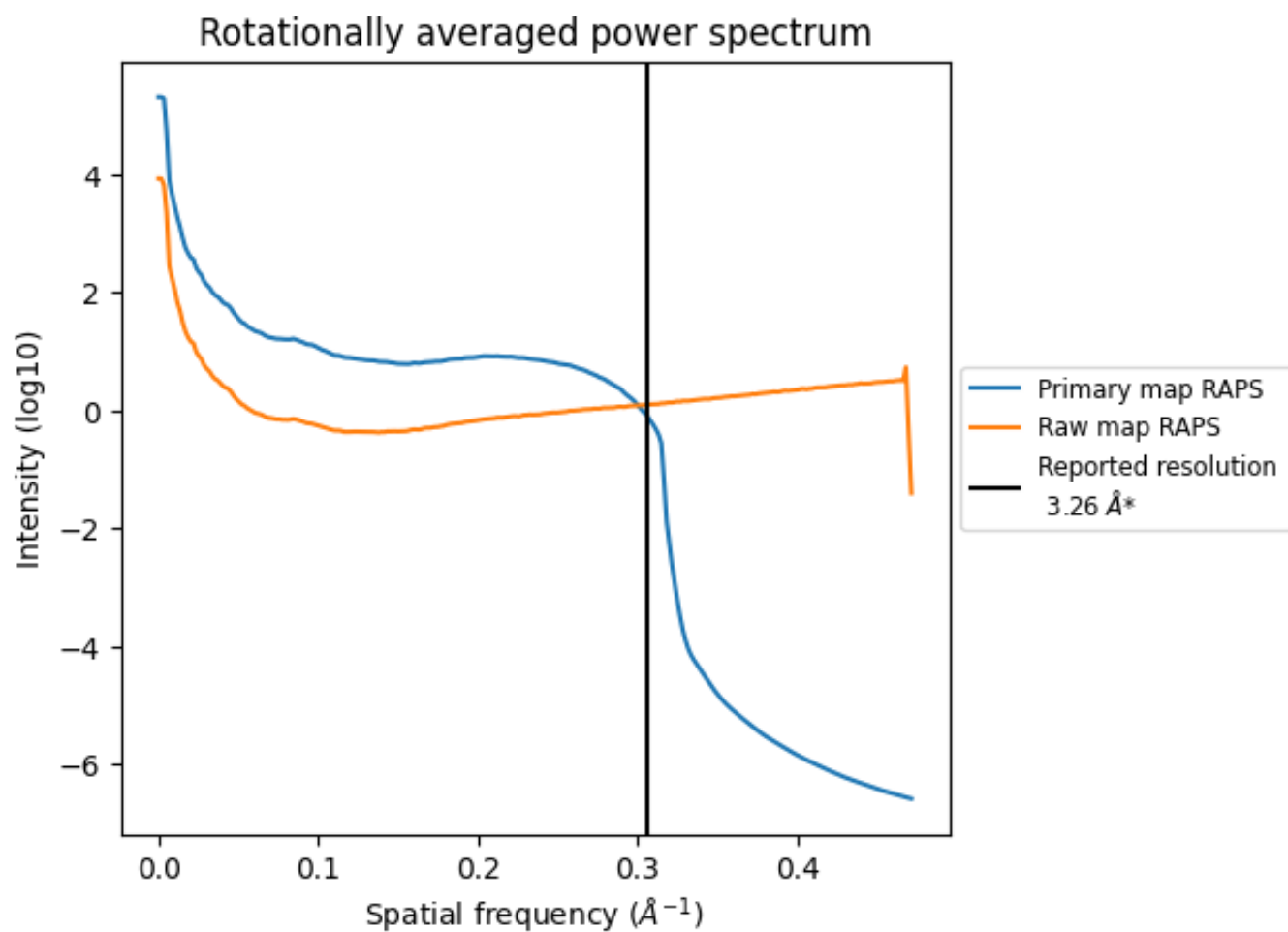
6.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 1299 nm^3 ; this corresponds to an approximate mass of 1173 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.

6.3 Rotationally averaged power spectrum i

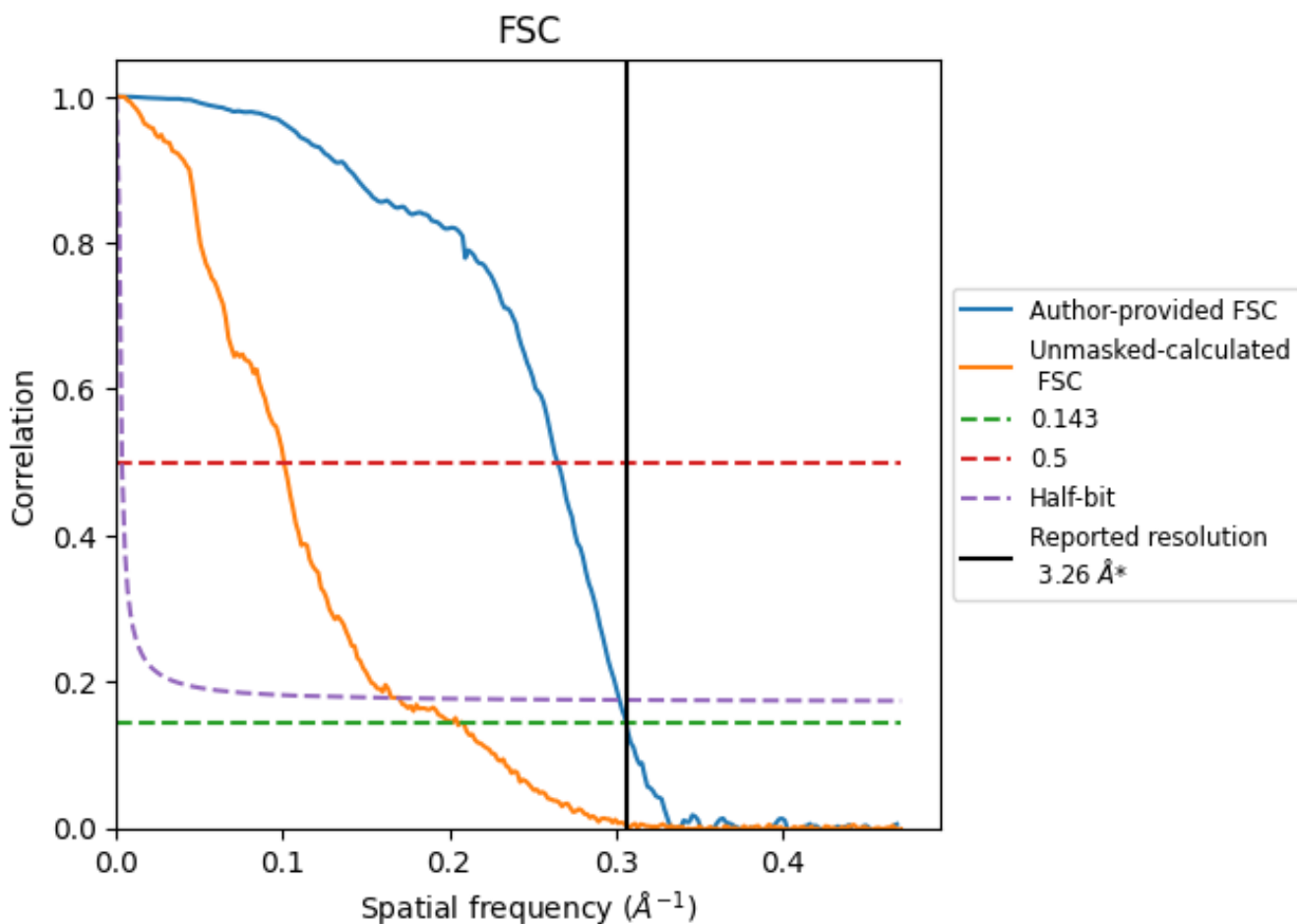


*Reported resolution corresponds to spatial frequency of 0.307 Å⁻¹

7 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.

7.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.307 Å⁻¹

7.2 Resolution estimates [i](#)

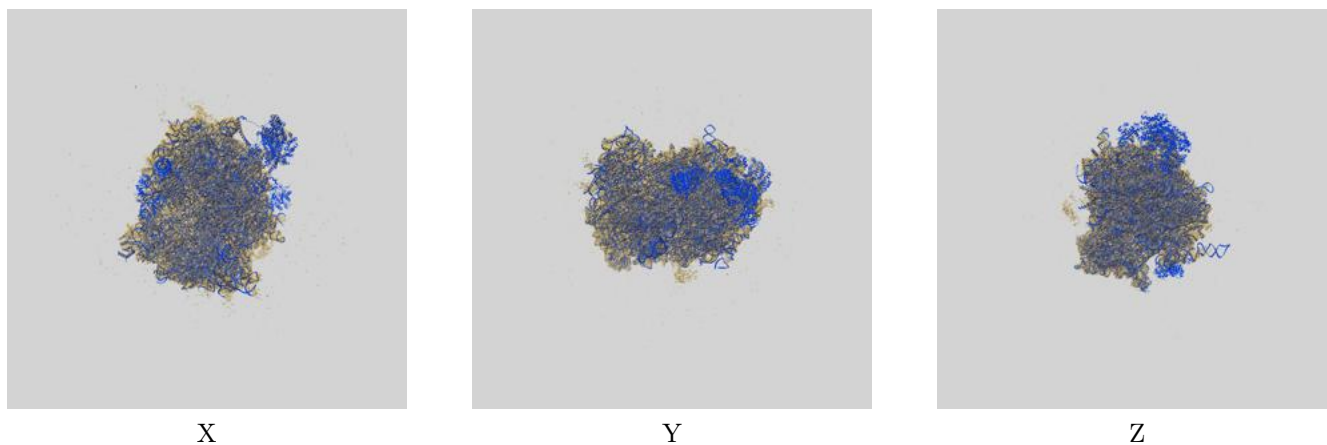
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.26	-	-
Author-provided FSC curve	3.26	3.77	3.31
Unmasked-calculated*	4.88	9.93	5.87

*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 4.88 differs from the reported value 3.26 by more than 10 %

8 Map-model fit [i](#)

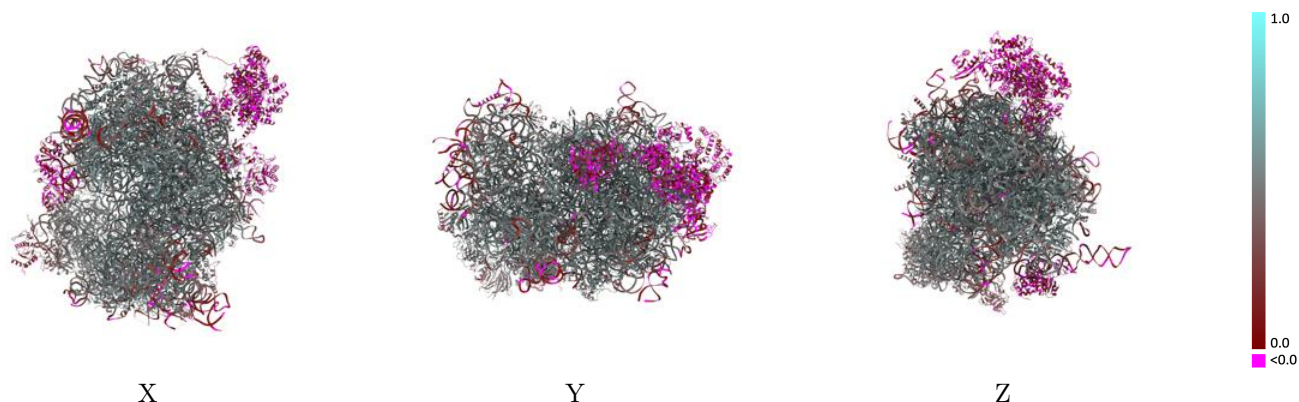
This section contains information regarding the fit between EMDB map EMD-50126 and PDB model 9F1D. Per-residue inclusion information can be found in section ?? on page ??.

8.1 Map-model overlay [i](#)



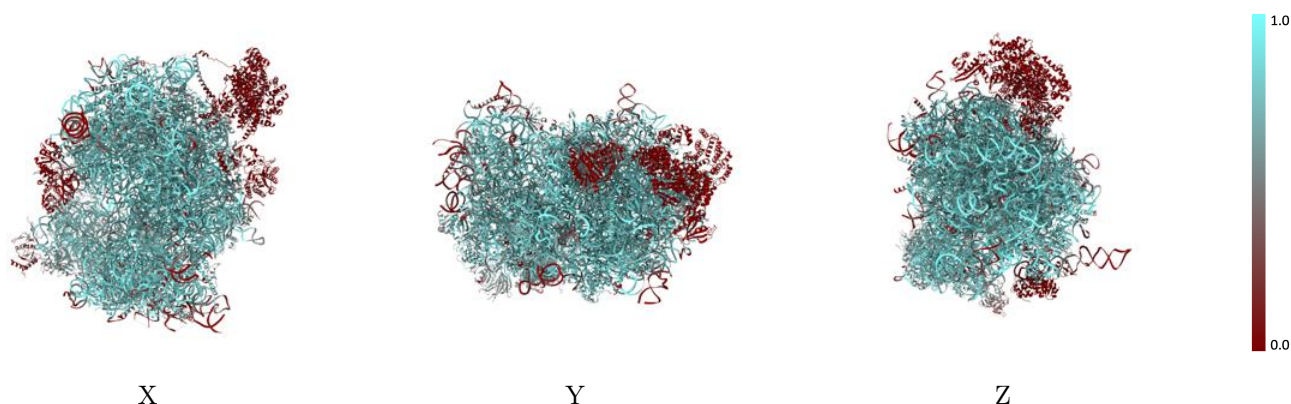
The images above show the 3D surface view of the map at the recommended contour level 0.25 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



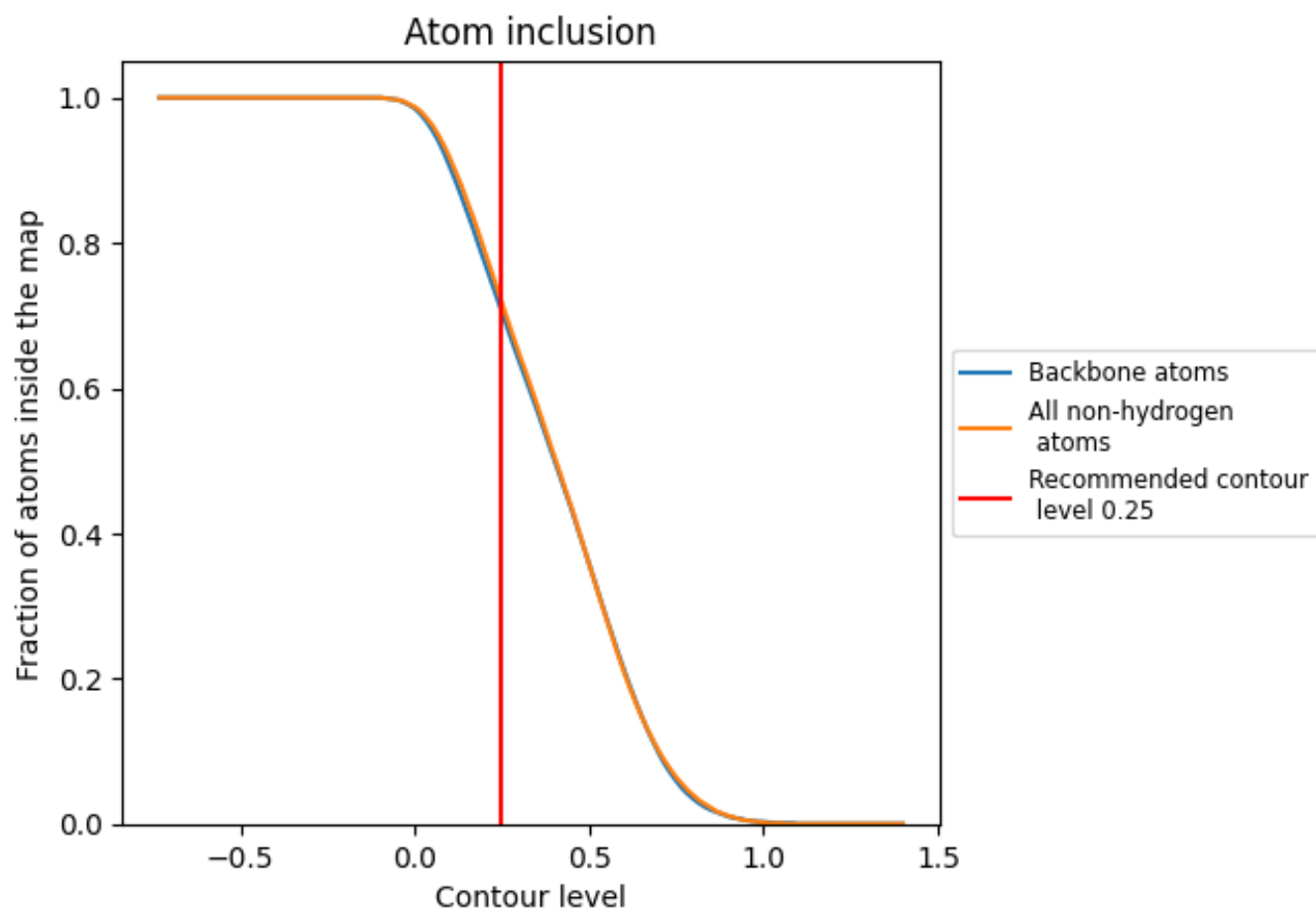
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

8.3 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 (0.25).







































































8.4 Atom inclusion [i](#)



At the recommended contour level, 70% of all backbone atoms, 72% of all non-hydrogen atoms, are inside the map.

8.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.25) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7170	 0.4470
A2	 0.8080	 0.4530
AA	 0.6850	 0.4930
AB	 0.6560	 0.4740
AC	 0.3050	 0.2390
AD	 0.5910	 0.4330
AE	 0.7460	 0.5090
AF	 0.5890	 0.3900
AG	 0.7760	 0.4930
AH	 0.1390	 0.4330
AT	 0.6570	 0.4410
AZ	 0.7330	 0.4930
Aa	 0.6800	 0.4900
Ab	 0.7510	 0.5170
Ac	 0.6280	 0.4370
Ad	 0.7350	 0.5090
Ae	 0.6540	 0.4590
Af	 0.6250	 0.4190
Ag	 0.6330	 0.4300
Ah	 0.7210	 0.4960
Ai	 0.7410	 0.4910
Aj	 0.6380	 0.4050
Ak	 0.6870	 0.4880
Al	 0.2070	 0.1750
Am	 0.7440	 0.5220
An	 0.7090	 0.5030
Ao	 0.5990	 0.4060
Ap	 0.6840	 0.4750
Aq	 0.6850	 0.4660
Ar	 0.6320	 0.4270
As	 0.6770	 0.4480
At	 0.5950	 0.4170
Au	 0.7270	 0.5060
Av	 0.7710	 0.5370
Aw	 0.7310	 0.5300

































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Chain	Atom inclusion	Q-score
Ax	0.6910	0.4590
Ay	0.5290	0.3970
Az	0.6240	0.5030
B	0.7700	0.5000
B5	0.8200	0.4700
B7	0.9110	0.5140
B8	0.8540	0.4930
BA	0.7870	0.5470
BB	0.7850	0.5380
BC	0.7910	0.5390
BE	0.7060	0.4750
BF	0.7870	0.5360
BG	0.6950	0.4820
BH	0.7190	0.5080
BI	0.7680	0.5320
BJ	0.7060	0.4860
BK	0.1700	0.4450
BL	0.7420	0.5090
BM	0.7890	0.5160
BN	0.8280	0.5550
BO	0.7800	0.5350
BP	0.7600	0.5320
BQ	0.7910	0.5450
BR	0.7290	0.4960
BS	0.8040	0.5420
BT	0.7460	0.5190
BU	0.6880	0.4870
BV	0.7030	0.5220
BW	0.5320	0.3540
BX	0.7420	0.5200
BY	0.7450	0.5230
BZ	0.7650	0.5120
Ba	0.8140	0.5480
Bb	0.6580	0.4560
Bc	0.6700	0.4790
Bd	0.7210	0.5170
Be	0.7710	0.5390
Bf	0.8200	0.5510
Bg	0.7350	0.5160
Bh	0.7550	0.5060
Bi	0.7220	0.5030
Bj	0.8430	0.5550

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Chain	Atom inclusion	Q-score
Bk	 0.6550	 0.4630
Bl	 0.7420	 0.5300
Bm	 0.7780	 0.5440
Bo	 0.7290	 0.5210
Bp	 0.7370	 0.5320
Br	 0.7970	 0.5410
Bs	 0.0190	 0.0810
Bt	 0.0130	 0.0520
Ct	 0.0360	 0.0630
Cu	 0.1890	 0.1950
DA	 0.0010	 0.0140
DB	 0.0490	 0.0560
DC	 0.0250	 0.0300
DD	 0.0000	 0.0100
EA	 0.0010	 0.0590