



wwPDB EM Validation Summary Report ⓘ

Feb 18, 2024 – 10:28 AM EST

PDB ID : 7SZK
EMDB ID : EMD-25571
Title : Cryo-EM structure of 27a bound to E. coli RNAP and rrnBP1 promoter complex
Authors : Shin, Y.; Murakami, K.S.
Deposited on : 2021-11-28
Resolution : 2.94 Å(reported)

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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.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

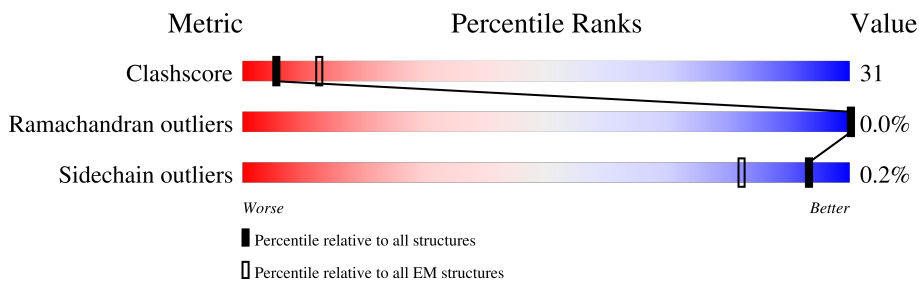
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.94 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)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	A	329	
1	B	329	
2	C	1342	
3	D	1407	
4	E	91	
5	F	613	
6	X	64	
7	Y	64	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
8	D9X	C	3001	X	-	-	-

2 Entry composition [i](#)

There are 10 unique types of molecules in this entry. The entry contains 29840 atoms, of which 81 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	231	Total	C	N	O	S	0	0
			1794	1117	318	353	6		
1	B	230	Total	C	N	O	S	0	0
			1786	1112	317	351	6		

- Molecule 2 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	1340	Total	C	N	O	S	0	0
			10570	6631	1841	2055	43		

- Molecule 3 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	D	1340	Total	C	N	O	S	0	0
			10382	6522	1849	1962	49		

- Molecule 4 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	E	76	Total	C	N	O	S	0	0
			605	368	115	121	1		

- Molecule 5 is a protein called RNA polymerase sigma factor RpoD.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	466	Total	C	N	O	S	0	0
			3799	2384	679	713	23		

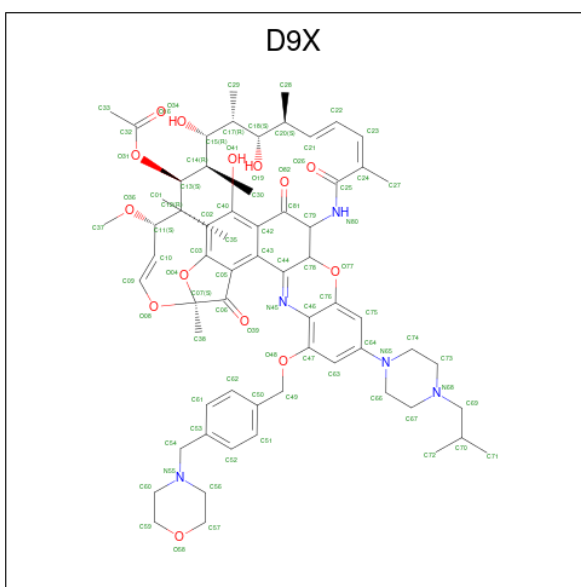
- Molecule 6 is a DNA chain called DNA (5'-D(P*CP*TP*CP*GP*TP*AP*GP*AP*GP*TP*CP*CP*GP*TP*GP*TP*CP*A)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	X	18	370	175	71	106	18	0	0

- Molecule 7 is a DNA chain called DNA (5'-D(P*CP*TP*CP*GP*TP*AP*GP*AP*GP*TP*CP*CP*GP*TP*GP*TP*CP*A)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
7	Y	18	368	175	65	110	18	0	0

- Molecule 8 is (2S,7R,7aR,13aP,16Z,18E,20S,21S,22R,23R,24R,25S,26R,27S,28E)-5,21,23-trihydroxy-27-methoxy-2,4,16,20,22,24,26-heptamethyl-10-[4-(2-methylpropyl)piperazin-1-yl]-12-({4-[(morpholin-4-yl)methyl]phenyl}methoxy)-1,6,15-trioxo-1,2,7,7a-tetrahydro-6H-2,7-(epoxypentadeca[1,11,13]trienoimino)[1]benzofuro[4,5-a]phenoxazin-25-yl acetate (three-letter code: D9X) (formula: C₆₃H₈₁N₅O₁₄).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	H	N	O	
8	C	1	163	63	81	5	14	0

- Molecule 9 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
9	D	1	Total	Mg	0
			1	1	

- Molecule 10 is ZINC ION (three-letter code: ZN) (formula: Zn).

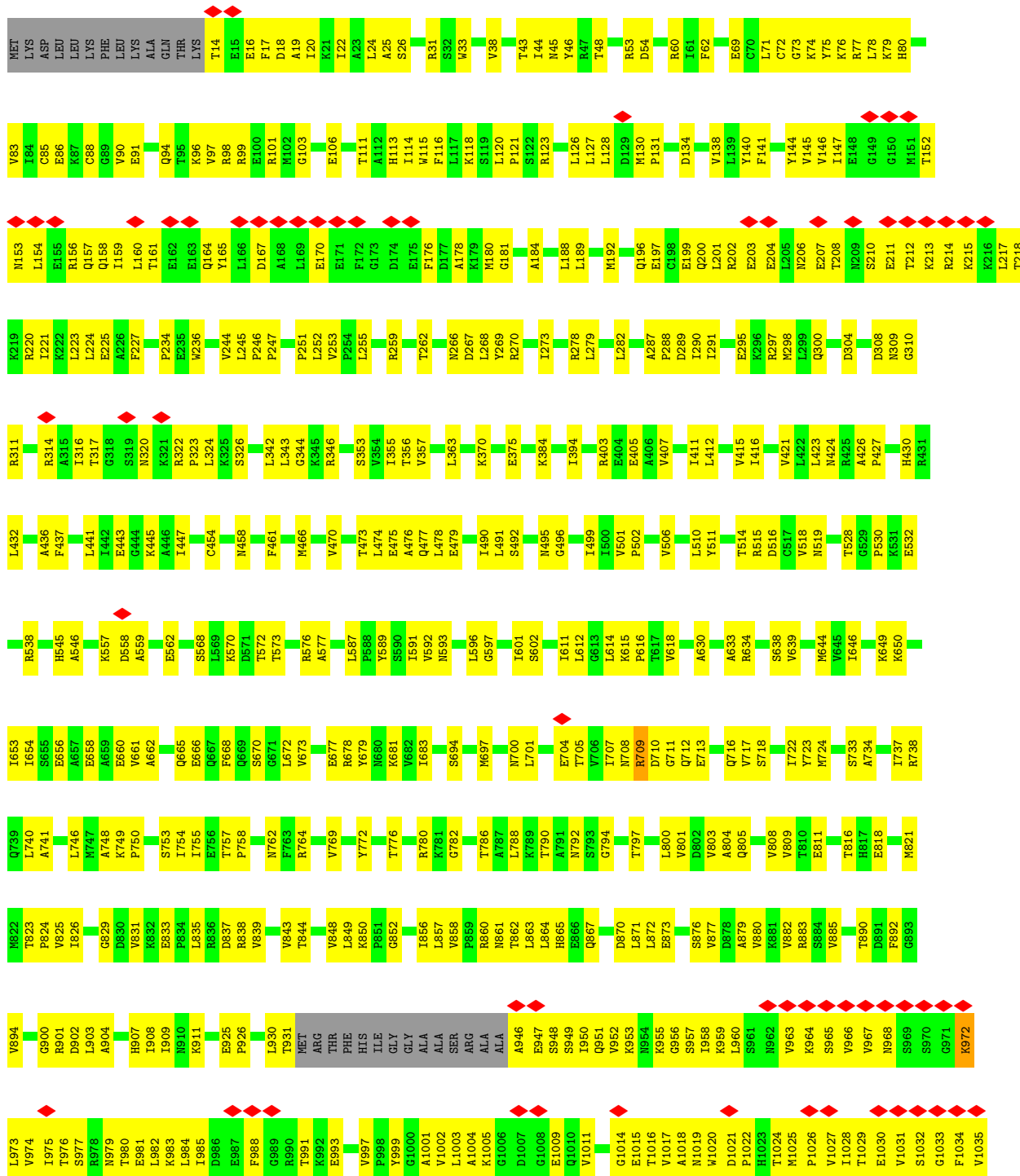
Mol	Chain	Residues	Atoms		AltConf
10	D	2	Total 2	Zn 2	0



RES	VAL
T91	Y3
V98	S4
L102	Y5
V103	T6
L104	E7
Y105	K8
E106	K9
L107	R12
E108	K13
A109	D14
P110	K17
V114	L28
K115	S29
D116	I30
I117	Q31
E119	Q36
Q120	K37
F121	E40
V122	E45
Y123	G45
M124	Q46
G125	Y47
E126	E231
I127	A51
I138	A52
I145	V56
K163	F57
H165	P58
S186	L59
K169	Q60
V170	S61
L171	Y62
P178	G64
Y179	N65
D185	S66
F186	E67
D189	Y70
P190	R74
D192	L75
N193	F80
E84	D81
L194	V82
F195	Q83
V196	E84
I198	C85
D199	R86
R200	I87
K203	R88
L204	
P205	
A206	
T207	
I208	
L209	
T210	
L211	
L213	
N214	
Y215	
T216	
T217	
E218	
Q219	
L220	
L221	
D222	
L223	
E226	
V228	
I229	
F230	
G231	
E232	
I232	
R233	
D234	
N235	
K236	
L237	
Q238	
E240	
L241	
V242	
P243	
E244	
R245	
L246	
R247	
G248	
E249	
T250	
A251	
S252	
F253	
D254	
I255	
E256	
A257	
N258	
Q259	
K260	
Y262	
V263	
E264	
K265	
G266	
R267	
I268	
T269	
L270	
A271	
R272	
H273	
L274	
Q275	
L277	
E278	
K279	
D280	
D281	
V282	
K283	
V282	
L284	
I285	
E286	
V287	
P288	
V289	
Y291	
L292	
G293	
D300	
Y301	
I302	
I303	
E304	
S305	
T306	
G307	
E308	
L309	
C311	
A312	
M315	
L317	
S318	
L319	
D320	
L321	
A322	
K323	
L324	
K325	
S326	
Q327	
S328	
G329	
H330	
K331	
R332	
I333	
E334	
T335	
L336	
F337	
T338	
N339	
D340	
Y346	
T350	
L351	
R352	
V353	
D358	
R359	
L360	
S361	
A362	
L363	
Y367	
R368	
M369	
G373	
E379	
A380	
A381	
N387	
S391	
D396	
L397	
S398	
G401	
N406	
R411	
G418	
K422	
I425	
M429	
D434	
I435	
R436	
K439	
L448	
I453	
V456	
M459	
Q463	
F464	
R465	
L468	
V471	
R472	
R473	
A474	
V475	
K476	
E477	
R478	
L479	
S480	
L481	
G482	
D483	
L484	
D485	
T486	
L487	
M488	
P489	
M492	
I493	
M494	
A495	
K496	
P497	
I498	
F505	
L511	
S512	
Q513	
F514	
L521	
I524	
T525	
R528	
E529	
I530	
L533	
R540	
E541	
R542	
A543	
F545	
R548	
D549	
V550	
T553	
V558	
I561	
E562	
T563	
P564	
E565	
N568	
L571	
I572	
N573	
S574	
S576	
V577	
Q580	
L581	
N582	
G585	
F586	
L587	
E588	
T589	
P590	
K593	
V594	
T595	
D596	
G597	
V598	
V599	
T600	
D601	
E602	
V615	
I616	
S621	
D624	
E625	
E626	
F629	
D632	
L633	
V634	
T635	
R636	
R637	
S638	
E641	
L644	
R647	
D648	
Q649	
V650	
D651	
M653	
V660	
V661	
S662	
A665	
S666	
R678	
M685	
V690	
R694	
A695	
D696	
K697	
P698	
L699	
V714	
T715	
A716	
V717	
S717	
V724	
D727	
D728	
A729	
I734	
E738	
M741	
I748	
N760	
Q761	
N762	
Q767	
E778	
D781	
V782	
L783	
A784	
Q798	
N799	
M800	
N808	
E813	
L817	
E820	
V823	
R827	
H832	
K844	
L845	
E849	
I850	
T851	
A852	
I854	
P855	
N856	
D866	
E867	
S868	
G869	
Y872	
T878	
G879	
K886	
V887	
T888	
P889	
K890	
G891	
E892	
L895	
T896	
P897	
E898	
E899	
K900	
R903	
G907	
E908	
K909	
D912	
V913	
K914	
D915	
P921	
Q924	
I929	
D937	
G938	
K943	
A956	
L960	
S961	
E962	
Q965	
H968	
R974	
I975	
R976	
A977	
V978	
L979	
V980	
A981	
G982	
G983	
V984	
M1066	
G1071	
N1072	
K1073	
I1076	
S1077	
K1078	
I1082	
P1083	
V1103	
P1104	
R1106	
M1107	
N1108	
I1109	
T1115	
K1122	
G1125	
Q1134	
Q1135	
Q1136	
E1137	
K1140	
L1141	
R1142	
L1151	
D1154	
Q1157	
K1158	
V1159	
D1160	
L1161	
T1163	
F1164	
S1165	
D1166	
E1167	
E1168	
V1169	
M1170	
G1179	
M1180	
T1181	
I1182	
A1183	
T1184	
F1185	
V1186	
F1187	
D1188	
G1189	
A1192	
E1193	
E1197	
L1198	
L1201	
T1206	
Y1213	
T1217	
G1218	
E1219	
Q1220	
V1225	
T1227	
G1228	
Y1229	
K1234	
L1235	
M1236	
H1244	
A1245	
R1246	
S1252	
L1253	
V1254	
T1255	
P1258	
L1259	
G1260	
K1261	
K1262	
Q1264	
F1265	
G1266	
R1269	
G1271	



● Molecule 3: DNA-directed RNA polymerase subunit beta'



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	285262	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 ($e^-/\text{\AA}^2$)	45	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	4.617	Depositor
Minimum map value	-2.879	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.092	Depositor
Recommended contour level	0.45	Depositor
Map size (Å)	403.2, 403.2, 403.2	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.12, 1.12, 1.12	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, D9X, MG

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	A	0.24	0/1816	0.51	0/2461
1	B	0.24	0/1808	0.50	0/2450
2	C	0.25	0/10739	0.49	0/14489
3	D	0.24	0/10539	0.49	0/14234
4	E	0.23	0/607	0.49	0/817
5	F	0.24	0/3849	0.49	0/5171
6	X	0.43	0/415	0.81	0/638
7	Y	0.49	0/411	0.89	0/632
All	All	0.25	0/30184	0.51	0/40892

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
3	D	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	D	1344	LEU	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1794	0	1819	81	0
1	B	1786	0	1813	93	0
2	C	10570	0	10582	529	0
3	D	10382	0	10570	719	0
4	E	605	0	612	34	0
5	F	3799	0	3885	408	0
6	X	370	0	202	29	0
7	Y	368	0	204	27	0
8	C	82	81	0	1	0
9	D	1	0	0	0	0
10	D	2	0	0	0	0
All	All	29759	81	29687	1837	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 31.

The worst 5 of 1837 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:344:LEU:HD12	5:F:347:ILE:HD11	1.30	1.13
5:F:151:VAL:HG22	5:F:156:ALA:HB3	1.30	1.12
5:F:383:ASN:HB3	5:F:412:LEU:HD11	1.33	1.09
3:D:201:LEU:HB2	3:D:221:ILE:HD11	1.35	1.09
6:X:63:DT:H2''	6:X:64:DG:H5'	1.32	1.08

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	229/329 (70%)	216 (94%)	13 (6%)	0	100	100
1	B	228/329 (69%)	216 (95%)	12 (5%)	0	100	100
2	C	1338/1342 (100%)	1235 (92%)	103 (8%)	0	100	100
3	D	1334/1407 (95%)	1253 (94%)	80 (6%)	1 (0%)	51	80
4	E	74/91 (81%)	71 (96%)	3 (4%)	0	100	100
5	F	458/613 (75%)	444 (97%)	14 (3%)	0	100	100
All	All	3661/4111 (89%)	3435 (94%)	225 (6%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	1345	ARG

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	199/286 (70%)	199 (100%)	0	100	100
1	B	198/286 (69%)	198 (100%)	0	100	100
2	C	1155/1157 (100%)	1151 (100%)	4 (0%)	92	97
3	D	1113/1168 (95%)	1111 (100%)	2 (0%)	93	98
4	E	65/75 (87%)	65 (100%)	0	100	100
5	F	415/540 (77%)	415 (100%)	0	100	100
All	All	3145/3512 (90%)	3139 (100%)	6 (0%)	93	98

5 of 6 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	C	478	ARG
3	D	709	ARG

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Mol	Chain	Res	Type
3	D	972	LYS
2	C	283	LYS
2	C	272	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 7 such sidechains are listed below:

Mol	Chain	Res	Type
3	D	158	GLN
3	D	792	ASN
3	D	1098	GLN
3	D	962	ASN
3	D	157	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 3 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
8	D9X	C	3001	-	86,90,90	4.46	39 (45%)	114,133,133	1.53	17 (14%)

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
8	D9X	C	3001	-	2/2/27/27	15/72/133/133	0/7/9/9

The worst 5 of 39 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	C	3001	D9X	C47-C46	12.28	1.59	1.40
8	C	3001	D9X	C03-C02	11.88	1.60	1.39
8	C	3001	D9X	C63-C64	9.84	1.57	1.39
8	C	3001	D9X	C75-C76	9.64	1.56	1.38
8	C	3001	D9X	C75-C64	9.54	1.56	1.39

The worst 5 of 17 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	C	3001	D9X	O04-C03-C05	-6.07	110.21	114.36
8	C	3001	D9X	O31-C32-C33	4.85	120.01	111.09
8	C	3001	D9X	C05-C03-C02	-4.02	122.17	125.33
8	C	3001	D9X	O04-C03-C02	3.76	127.61	121.14
8	C	3001	D9X	C74-N65-C66	-3.75	103.23	111.52

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
8	C	3001	D9X	C78
8	C	3001	D9X	C79

5 of 15 torsion outliers are listed below:

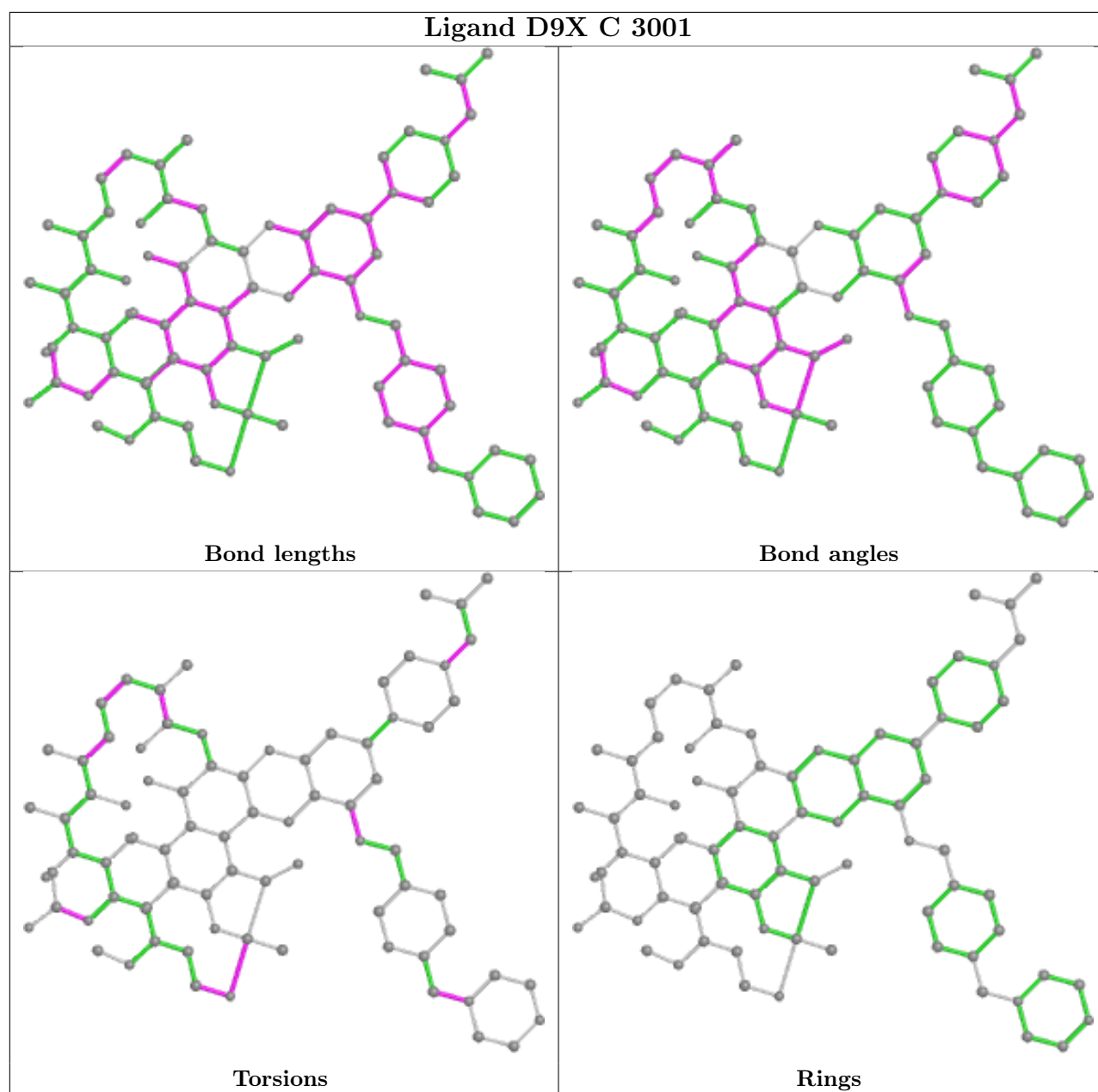
Mol	Chain	Res	Type	Atoms
8	C	3001	D9X	C38-C07-O08-C09
8	C	3001	D9X	O04-C07-O08-C09
8	C	3001	D9X	C33-C32-O31-C13
8	C	3001	D9X	C53-C54-N55-C56
8	C	3001	D9X	C53-C54-N55-C60

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	C	3001	D9X	1	0

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.

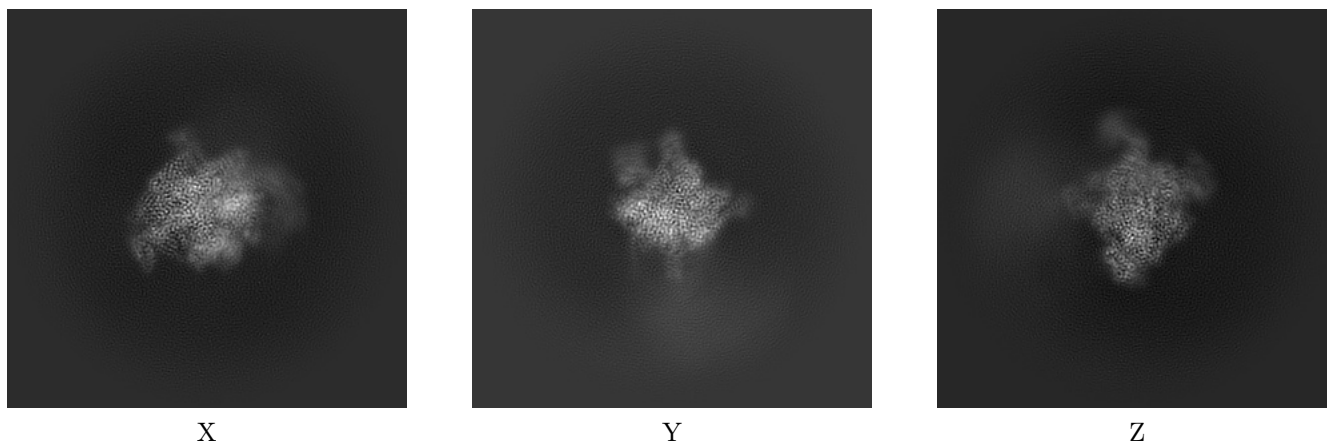
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-25571. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

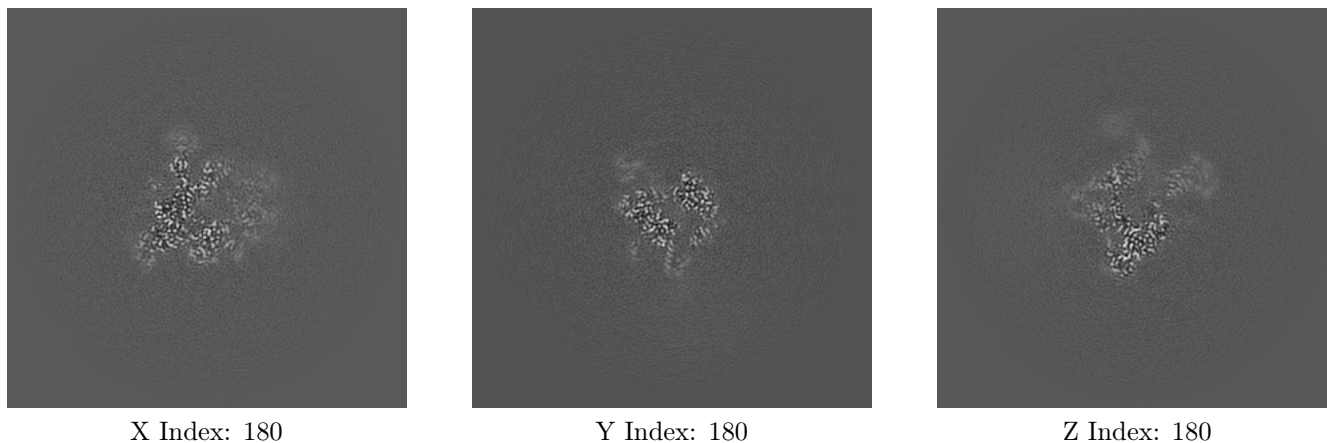
6.1.1 Primary map



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

6.2 Central slices [i](#)

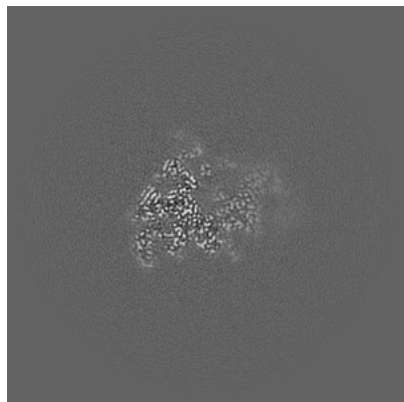
6.2.1 Primary map



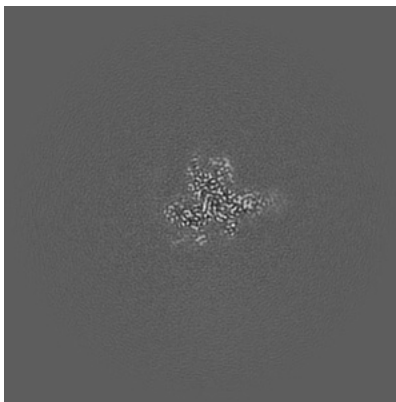
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

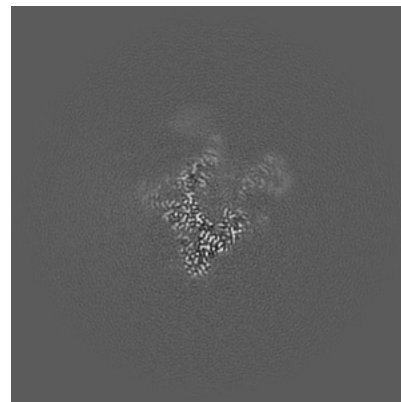
6.3.1 Primary map



X Index: 172



Y Index: 160

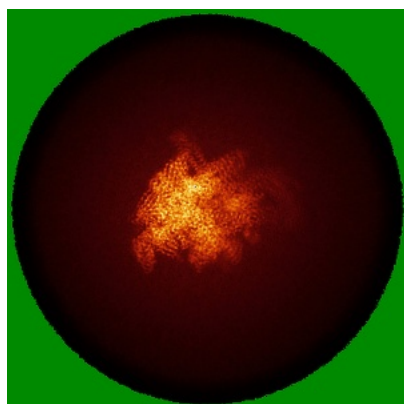


Z Index: 178

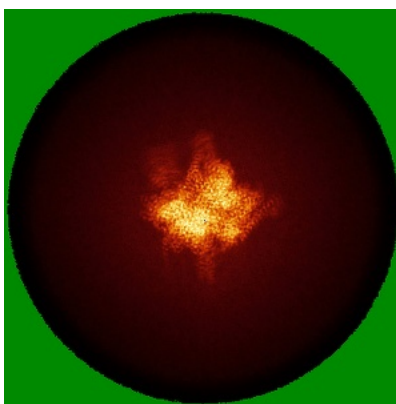
The images above show the largest variance slices of the map in three orthogonal directions.

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

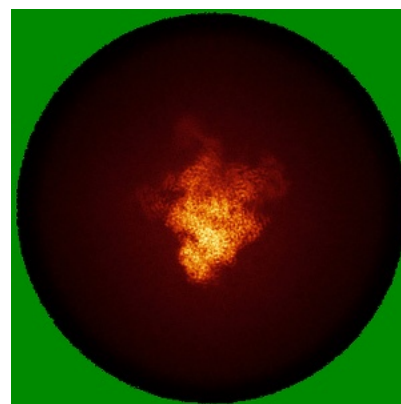
6.4.1 Primary map



X



Y

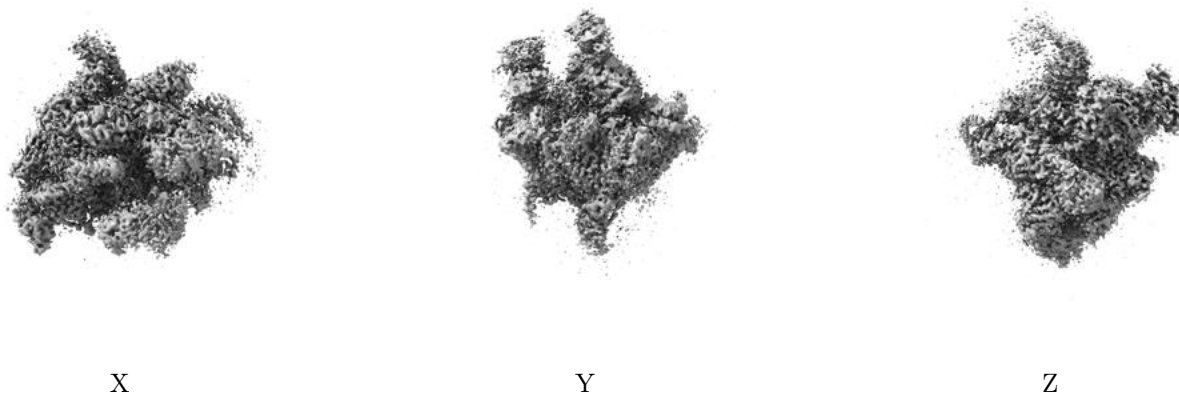


Z

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



The images above show the 3D surface view of the map at the recommended contour level 0.45. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

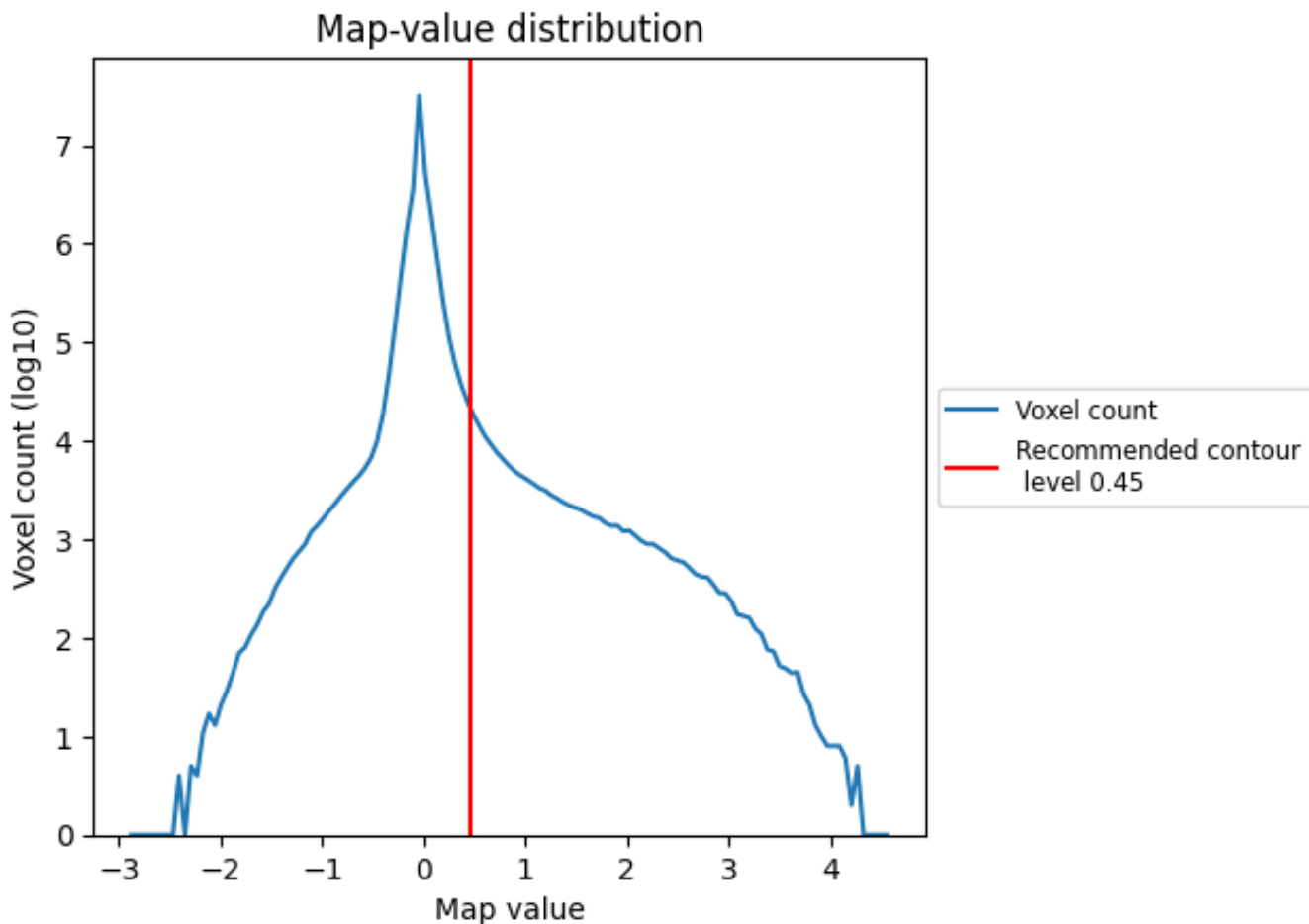
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

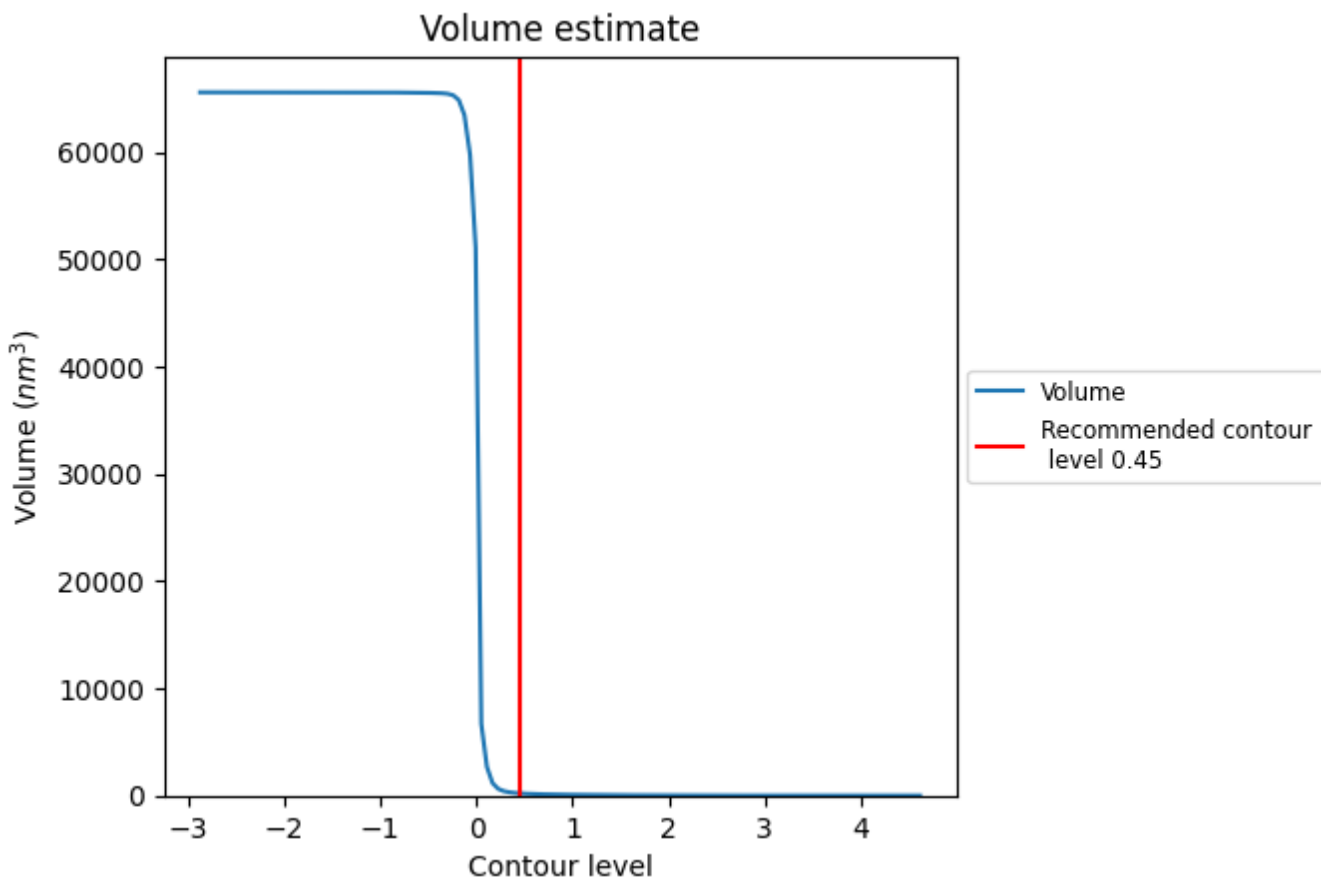
This section contains the results of statistical analysis of the map.

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.

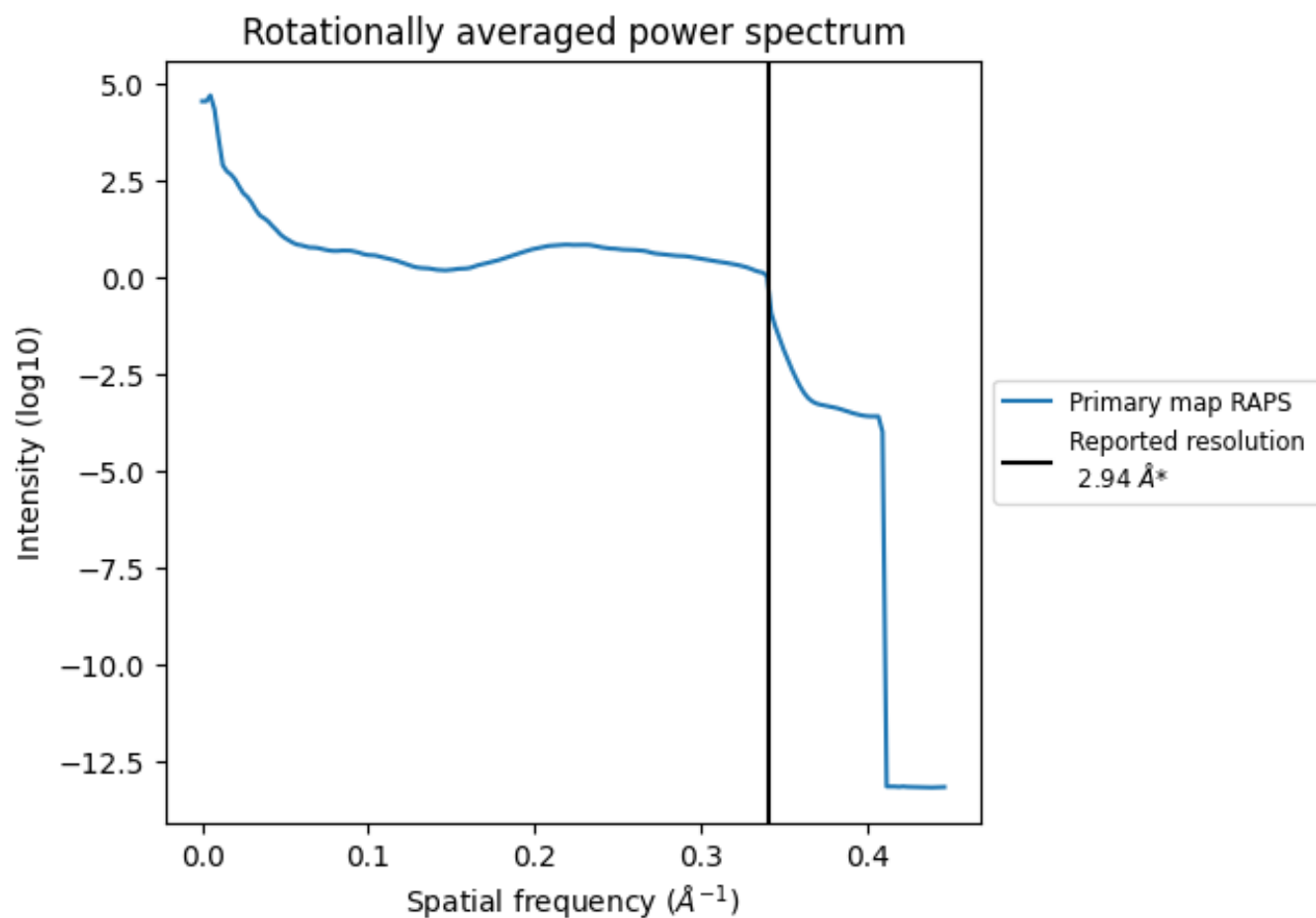
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 208 nm³; this corresponds to an approximate mass of 188 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 0.340 Å⁻¹

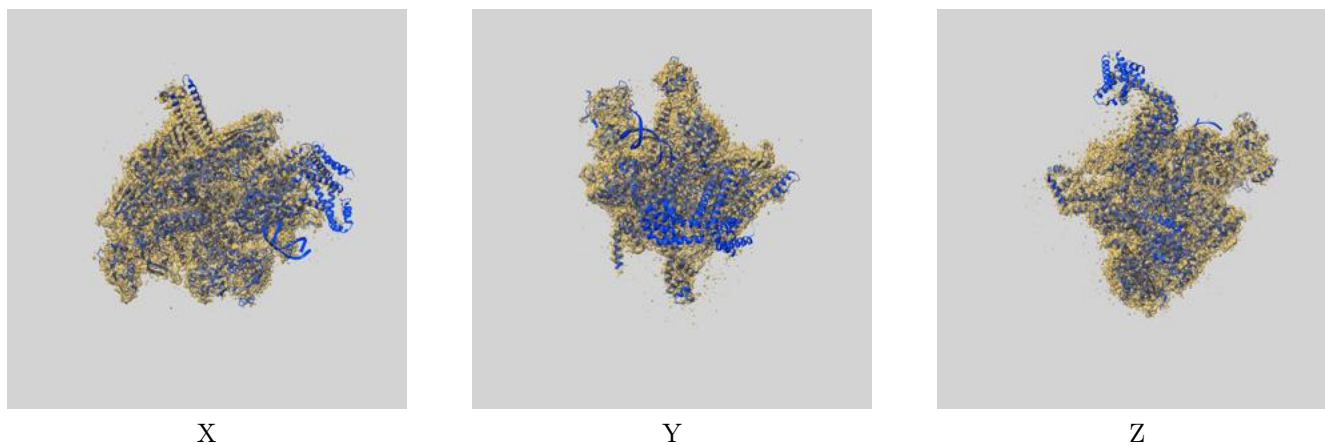
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

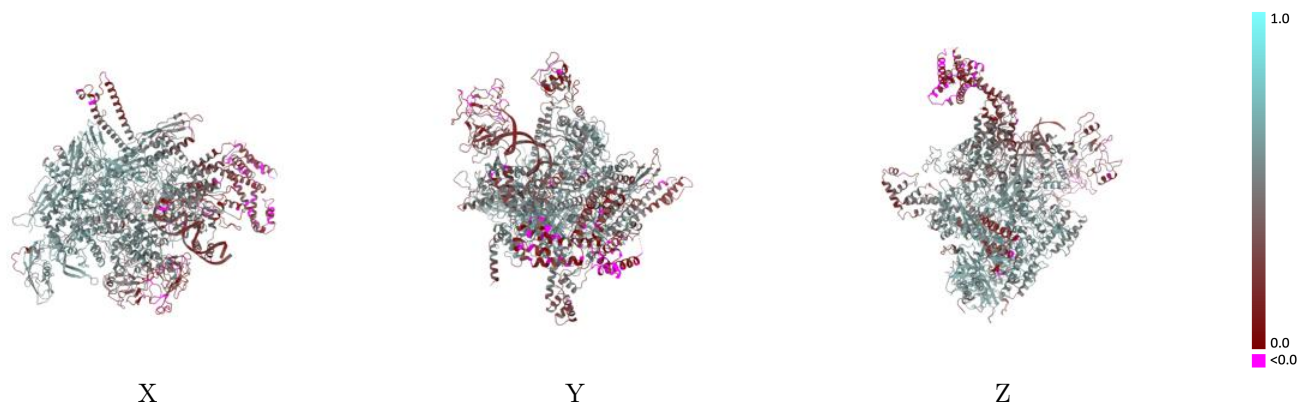
This section contains information regarding the fit between EMDB map EMD-25571 and PDB model 7SZK. Per-residue inclusion information can be found in section [3](#) on page [7](#).

9.1 Map-model overlay [i](#)



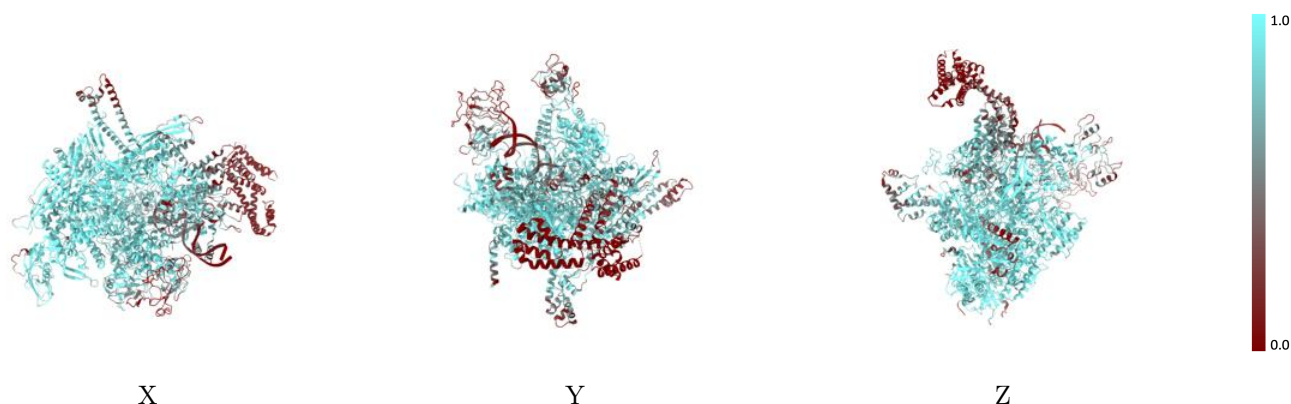
The images above show the 3D surface view of the map at the recommended contour level 0.45 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



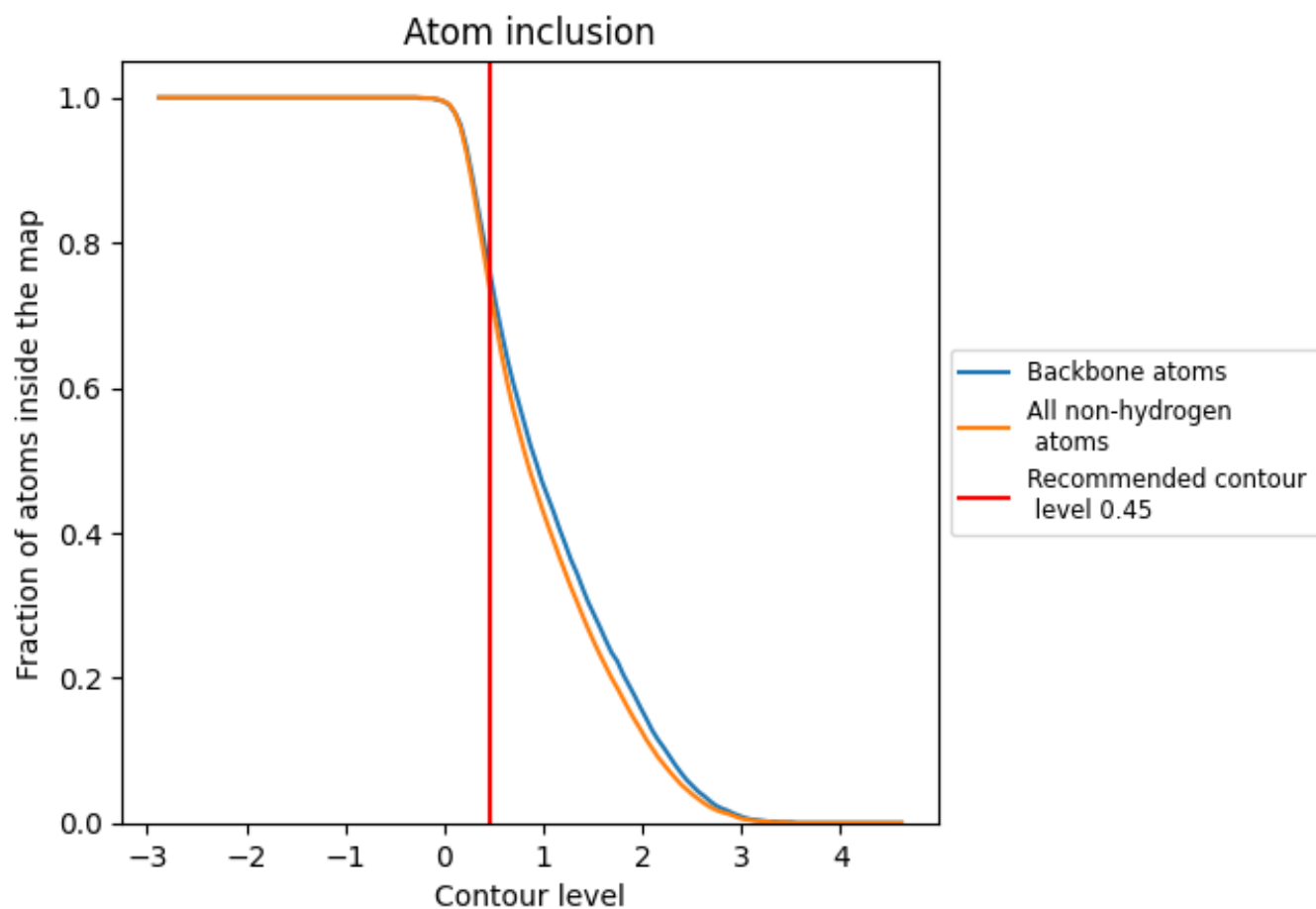
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.45).



















9.4 Atom inclusion [i](#)



At the recommended contour level, 77% of all backbone atoms, 74% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.45) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7430	 0.4620
A	 0.8940	 0.5550
B	 0.8630	 0.5260
C	 0.8400	 0.5060
D	 0.7900	 0.4750
E	 0.7720	 0.4880
F	 0.3080	 0.2590
X	 0.3110	 0.2910
Y	 0.3640	 0.3070

