



wwPDB EM Validation Summary Report ⓘ

Feb 21, 2023 – 12:29 PM JST

PDB ID : 7XEV
EMDB ID : EMD-33160
Title : Structure of mTRPV2_2-APB
Authors : Su, N.
Deposited on : 2022-03-31
Resolution : 3.27 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:

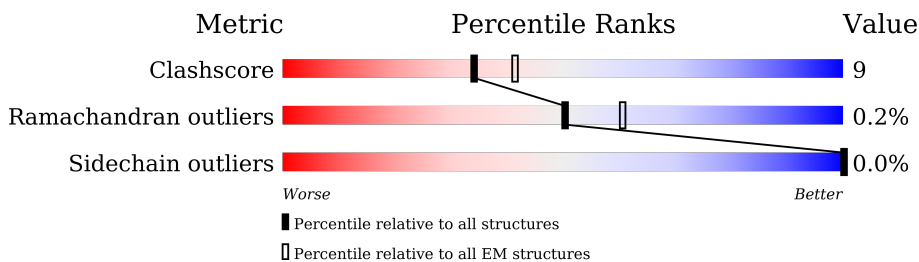
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.32.1

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 3.27 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	756	
1	B	756	
1	C	756	
1	D	756	

2 Entry composition [i](#)

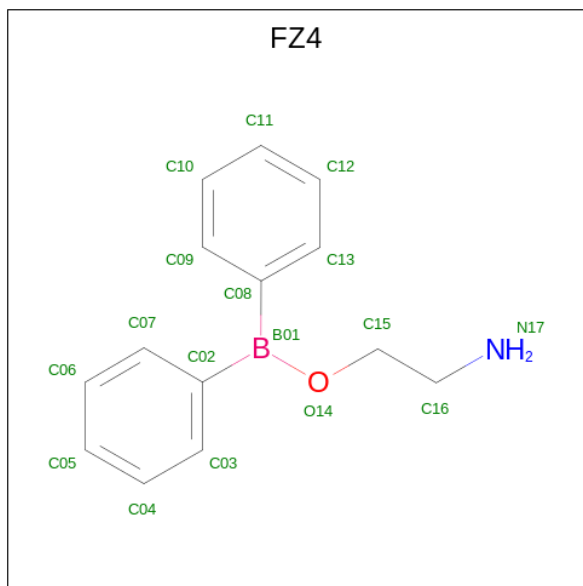
There are 2 unique types of molecules in this entry. The entry contains 40396 atoms, of which 20348 are hydrogens and 0 are deuteriums.

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 Transient receptor potential cation channel subfamily V member 2.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
1	A	614	Total 10066	C 3266	H 5071	N 843	O 859	S 27	0	0
1	B	614	Total 10066	C 3266	H 5071	N 843	O 859	S 27	0	0
1	C	614	Total 10066	C 3266	H 5071	N 843	O 859	S 27	0	0
1	D	614	Total 10066	C 3266	H 5071	N 843	O 859	S 27	0	0

- Molecule 2 is 2-aminoethyl diphenylborinate (three-letter code: FZ4) (formula: C₁₄H₁₆BNO) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf	
			Total	B	C	H	N		O
2	A	1	Total 33	B 1	C 14	H 16	N 1	O 1	0
2	B	1	Total 33	B 1	C 14	H 16	N 1	O 1	0

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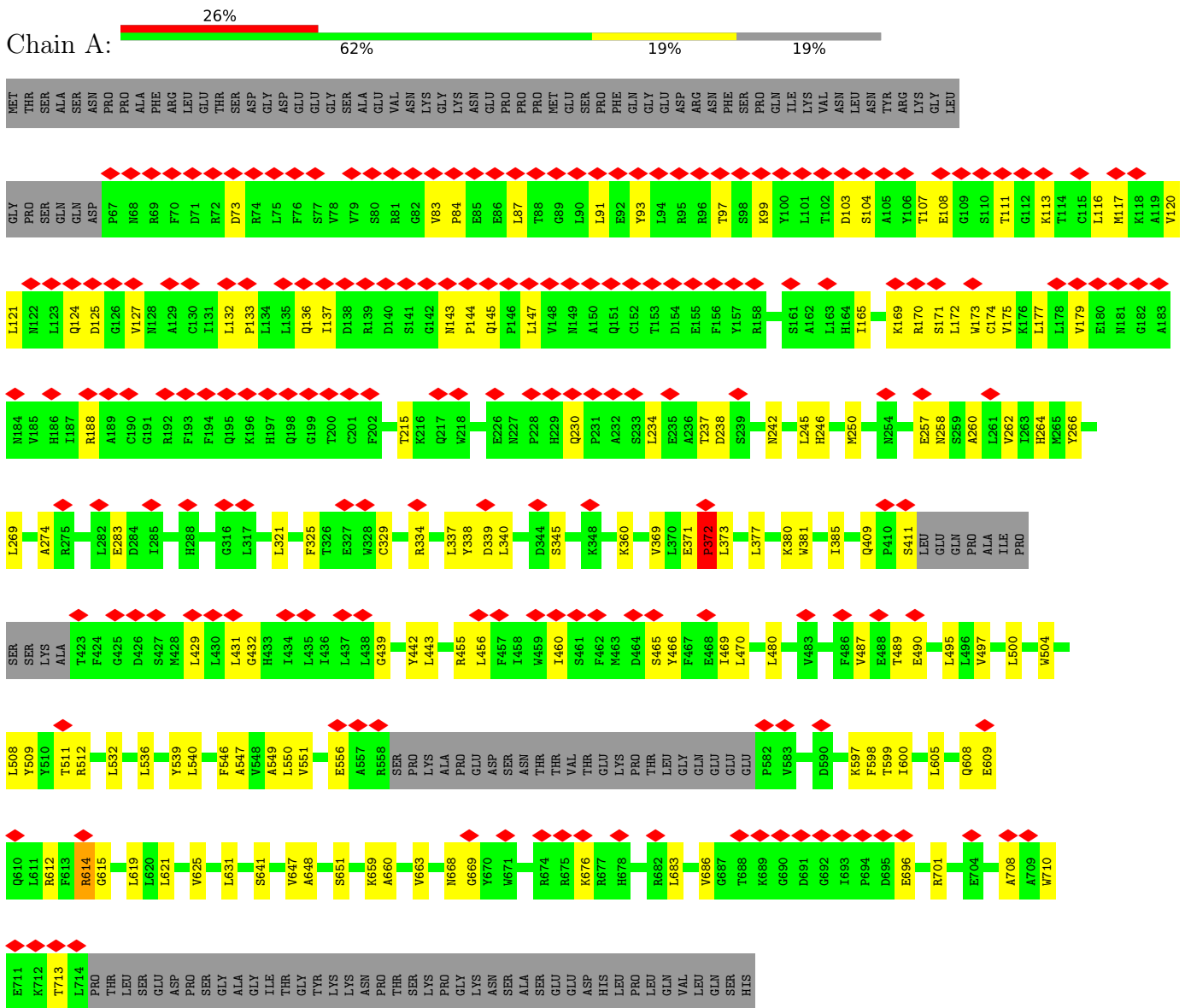
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Mol	Chain	Residues	Atoms					AltConf	
			Total	B	C	H	N		O
2	C	1	Total 33	B 1	C 14	H 16	N 1	O 1	0
2	D	1	Total 33	B 1	C 14	H 16	N 1	O 1	0

3 Residue-property plots i

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

- Molecule 1: Transient receptor potential cation channel subfamily V member 2



- Molecule 1: Transient receptor potential cation channel subfamily V member 2

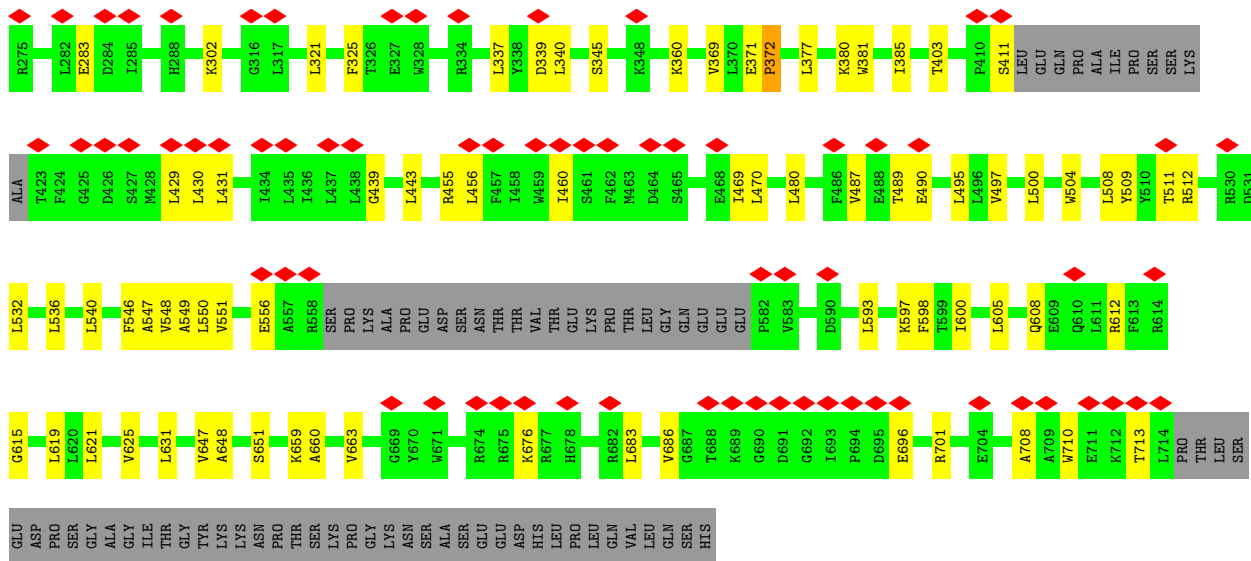


MET	THR	SER	ALA	GLN	ASN	PRO	PRO	ALA	ARG	PHE	ARG	LEU	GLU	THR	SER	ASP	GLY	GLU	GLU	GLY	SER	ALA	ALA	GLU	GLU	VAL	ASN	GLY	LYS	LYS	ASN	GLU	PRO	PRO	PHE	GLN	GLN	ILE	LYS	VAL	ASN	LEU	LEU	ASN	TYR	ARG	GLY	LEU										
GLY	PRO	SER	GLN	GLN	ASP	P67	N68	R69	F70	D71	R72	D73	R74	L75	F76	S77	V78	V79	S80	R81	G82	V83	P84	E85	E86	L87	T88	G89	L90	L91	E92	Y93	L94	R95	R96	T97	S98	K99	Y100	L101	T102	D103	A104	A105	Y106	T107	E108	G109	S110	T111	G112	K113	T114	C115	L116	M117	K118	L121
N122	L123	Q124	D125	G126	V127	M128	A129	C130	I131	L132	P133	L134	L135	I136	I137	D138	R139	D140	S141	G142	M143	P144	Q145	F146	L147	V148	M149	A150	Q151	C152	T153	D154	E155	F156	Y157	R158	S161	A162	L163	K169	R170	S171	L172	M173	C174	V175	K176	L177	L178	V179	E180	M181	G182	A183	M184	V185	H186	
L187	R188	A189	C190	G191	R192	F193	F194	Q195	K196	H197	Q198	G199	T200	C201	F202	Y203	T215	K216	Q217	W218	E226	H229	Q230	P231	A232	S233	E235	D238	M242	L245	M254	E257	M258	A260	A262	L261	V262	L263	H264	M265	Y266	L269	A274	R275	L282	E283	D284											
L285	H288	L303	E304	S315	G316	L317	L321	F325	L326	E327	Q328	C329	Y330	R334	L337	Y338	D339	L340	V343	D344	S345	K348	K360	V369	L370	E371	P372	L377	K380	W381	L385	T403	Q409	F410	S411	L495	L496	V497	L500	W504	L508	Y509																
SER	LYS	ALA	T423	F424	G425	D426	S427	M428	L429	L431	G432	H433	L434	L435	L436	L437	L438	G439	L443	R455	G456	F457	L458	W459	V457	L460	S461	F462	M463	D464	S465	Y466	E467	L468	L470	L480	W483	F486	V487	E488	T489	L495	L496	V497	L500	W504	L508	Y509										
Y510	T511	R512	L532	L536	L540	F546	A547	W548	A549	L550	V551	E556	A557	SER	PRO	LYS	ALA	PRO	GLU	GLU	ASP	ASN	THR	THR	VAL	THR	GLU	LYS	PRO	THR	LEU	GLY	L370	E371	P372	L377	K380	W381	L385	T403	Q409	F410	S411	L495	L496	V497	L500	W504	L508	Y509								
F613	R614	G615	L619	L620	L621	V625	L631	A638	V647	A648	S651	K659	A660	V663	G669	Y670	H671	R674	R675	K676	R677	H678	R682	L683	V686	G687	T688	K689	G690	D691	L693	F694	D695	E696	R701	E704	A708	A709	W710	E711	T713	L714																

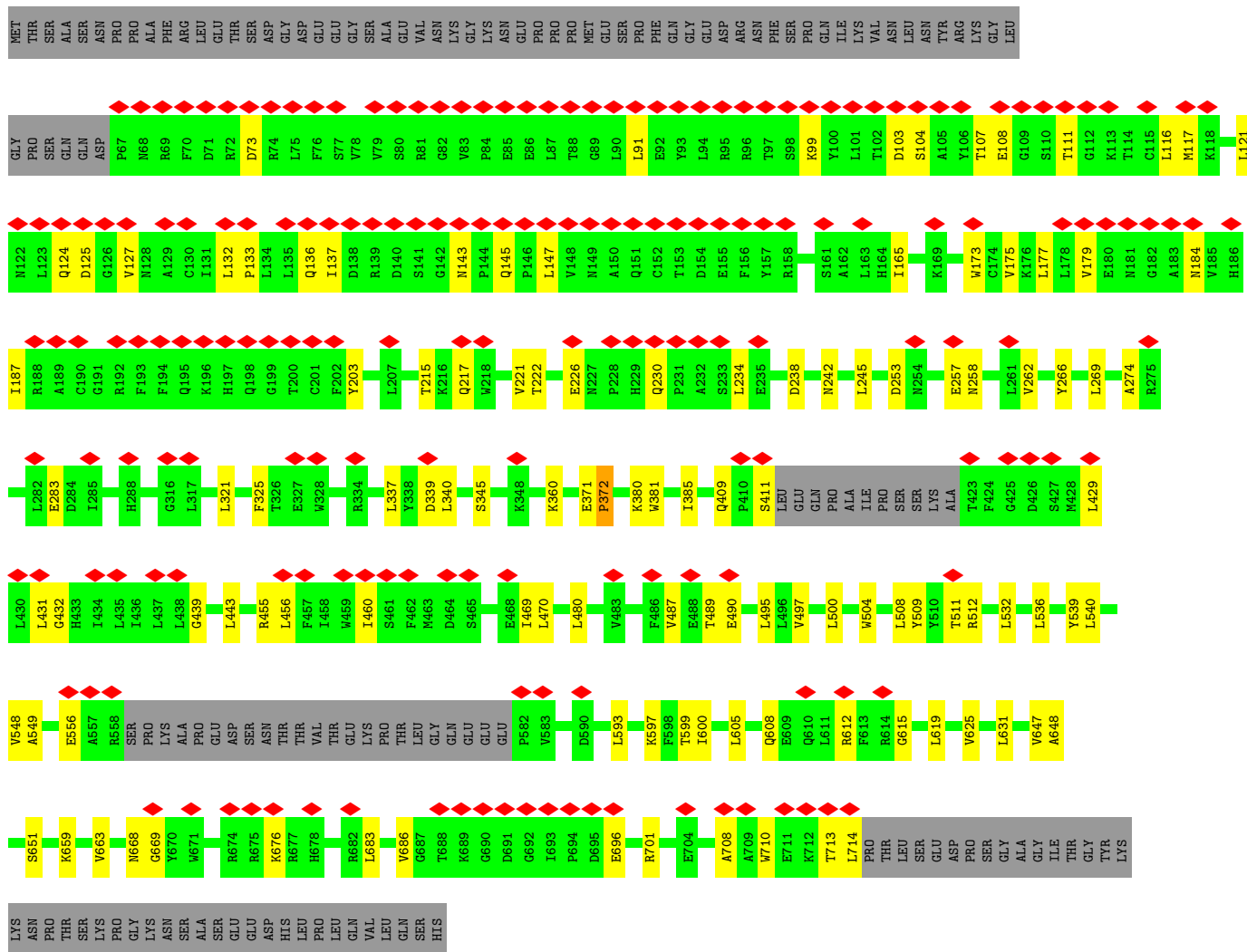
• Molecule 1: Transient receptor potential cation channel subfamily V member 2



MET	THR	SER	ALA	GLN	ASN	PRO	PRO	ALA	ARG	PHE	ARG	LEU	GLU	THR	SER	ASP	GLY	GLU	GLU	GLY	SER	ALA	ALA	GLU	GLU	VAL	ASN	GLY	LYS	LYS	ASN	GLU	PRO	PRO	PHE	GLN	GLN	ILE	LYS	VAL	ASN	LEU	LEU	ASN	TYR	ARG	GLY	LEU										
GLY	PRO	SER	GLN	GLN	ASP	P67	N68	R69	F70	D71	R72	D73	R74	L75	F76	S77	V78	V79	S80	R81	G82	V83	P84	E85	E86	L87	T88	G89	L90	L91	E92	Y93	L94	R95	R96	T97	S98	K99	Y100	L101	T102	D103	A104	A105	Y106	T107	E108	G109	S110	T111	G112	K113	T114	C115	L116	M117	K118	L121
N122	L123	Q124	D125	G126	V127	M128	A129	C130	I131	L132	P133	L134	L135	I136	I137	D138	R139	D140	S141	G142	M143	P144	Q145	F146	L147	V148	M149	A150	Q151	C152	T153	D154	E155	F156	Y157	R158	G159	H160	S161	A162	L163	H164	I165	K169	R170	S171	M173	C174	L178	V179	E180	M181	G182	A183	M184	V185		
H186	L187	R188	A189	C190	G191	F193	F194	Q195	K196	H197	Q198	G199	T200	C201	F202	T215	K216	Q217	W218	E226	W227	P228	H229	Q230	P231	A232	S233	L234	E235	A236	T237	D238	S239	W242	L245	A252	D253	W254	E257	M258	S259	L261	V262	L263	H264	M265	Y266	L269	A274									



• Molecule 1: Transient receptor potential cation channel subfamily V member 2



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	68874	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 ($e^-/\text{\AA}^2$)	62	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.023	Depositor
Minimum map value	-0.016	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.0063	Depositor
Map size (Å)	212.94002, 212.94002, 212.94002	wwPDB
Map dimensions	210, 210, 210	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.014, 1.014, 1.014	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: FZ4

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	0.25	0/5121	0.48	0/6949
1	B	0.25	0/5121	0.48	0/6949
1	C	0.24	0/5121	0.48	0/6949
1	D	0.25	0/5121	0.49	0/6949
All	All	0.25	0/20484	0.48	0/27796

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	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
1	A	372	PRO	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	4995	5071	5071	108	0
1	B	4995	5071	5071	96	0
1	C	4995	5071	5071	100	0
1	D	4995	5071	5071	90	0
2	A	17	16	0	1	0
2	B	17	16	0	1	0
2	C	17	16	0	1	0
2	D	17	16	0	1	0
All	All	20048	20348	20284	360	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 9.

The worst 5 of 360 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)
1:A:539:TYR:HH	1:A:599:THR:HG1	1.10	0.92
1:A:539:TYR:OH	1:A:599:THR:OG1	1.95	0.82
1:C:345:SER:OG	1:C:380:LYS:NZ	2.16	0.79
1:B:345:SER:OG	1:B:380:LYS:NZ	2.16	0.79
1:D:345:SER:OG	1:D:380:LYS:NZ	2.16	0.77

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	608/756 (80%)	580 (95%)	27 (4%)	1 (0%)	47 77
1	B	608/756 (80%)	577 (95%)	30 (5%)	1 (0%)	47 77
1	C	608/756 (80%)	573 (94%)	34 (6%)	1 (0%)	47 77
1	D	608/756 (80%)	578 (95%)	29 (5%)	1 (0%)	47 77

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	2432/3024 (80%)	2308 (95%)	120 (5%)	4 (0%)	50 77

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	372	PRO
1	B	372	PRO
1	C	372	PRO
1	D	372	PRO

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	544/667 (82%)	543 (100%)	1 (0%)	93 97
1	B	544/667 (82%)	544 (100%)	0	100 100
1	C	544/667 (82%)	544 (100%)	0	100 100
1	D	544/667 (82%)	544 (100%)	0	100 100
All	All	2176/2668 (82%)	2175 (100%)	1 (0%)	100 100

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	614	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	143	ASN

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](#)

4 ligands 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
2	FZ4	B	1001	-	16,18,18	0.82	1 (6%)	17,22,22	1.38	2 (11%)
2	FZ4	D	1001	-	16,18,18	0.82	1 (6%)	17,22,22	1.38	2 (11%)
2	FZ4	A	1001	-	16,18,18	0.82	1 (6%)	17,22,22	1.37	2 (11%)
2	FZ4	C	1001	-	16,18,18	0.83	1 (6%)	17,22,22	1.37	2 (11%)

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
2	FZ4	B	1001	-	-	9/12/12/12	0/2/2/2
2	FZ4	D	1001	-	-	9/12/12/12	0/2/2/2
2	FZ4	A	1001	-	-	9/12/12/12	0/2/2/2
2	FZ4	C	1001	-	-	9/12/12/12	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	1001	FZ4	C03-C02	-2.05	1.37	1.40
2	D	1001	FZ4	C03-C02	-2.04	1.37	1.40
2	A	1001	FZ4	C03-C02	-2.03	1.37	1.40
2	B	1001	FZ4	C03-C02	-2.03	1.37	1.40

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

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1001	FZ4	C10-C09-C08	-2.96	118.64	121.57
2	A	1001	FZ4	C10-C09-C08	-2.95	118.65	121.57
2	D	1001	FZ4	C10-C09-C08	-2.91	118.69	121.57
2	C	1001	FZ4	C10-C09-C08	-2.87	118.73	121.57
2	C	1001	FZ4	C06-C07-C02	-2.72	118.87	121.57

There are no chirality outliers.

5 of 36 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1001	FZ4	C02-B01-O14-C15
2	A	1001	FZ4	C08-B01-O14-C15
2	B	1001	FZ4	C02-B01-O14-C15
2	B	1001	FZ4	C08-B01-O14-C15
2	C	1001	FZ4	C02-B01-O14-C15

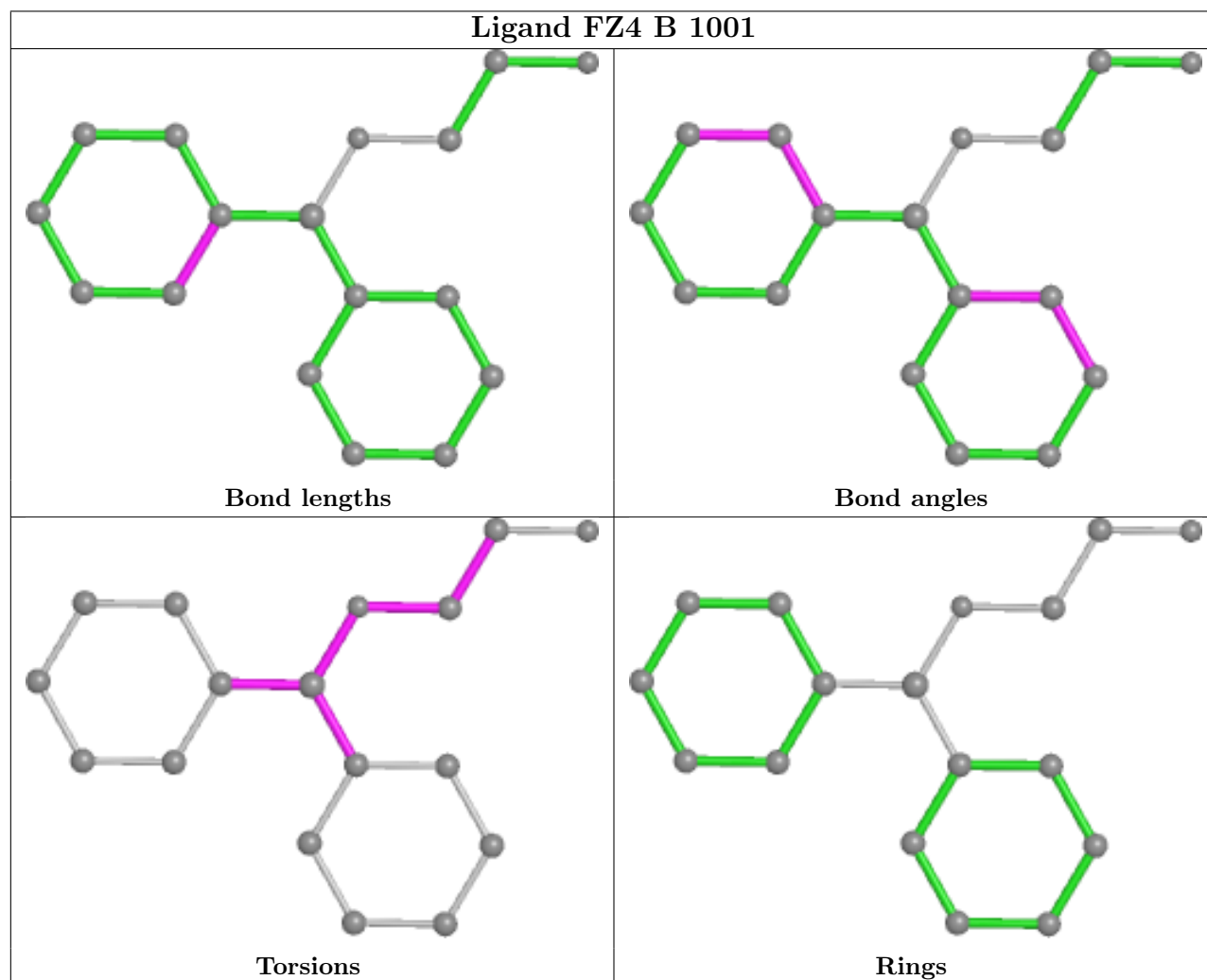
There are no ring outliers.

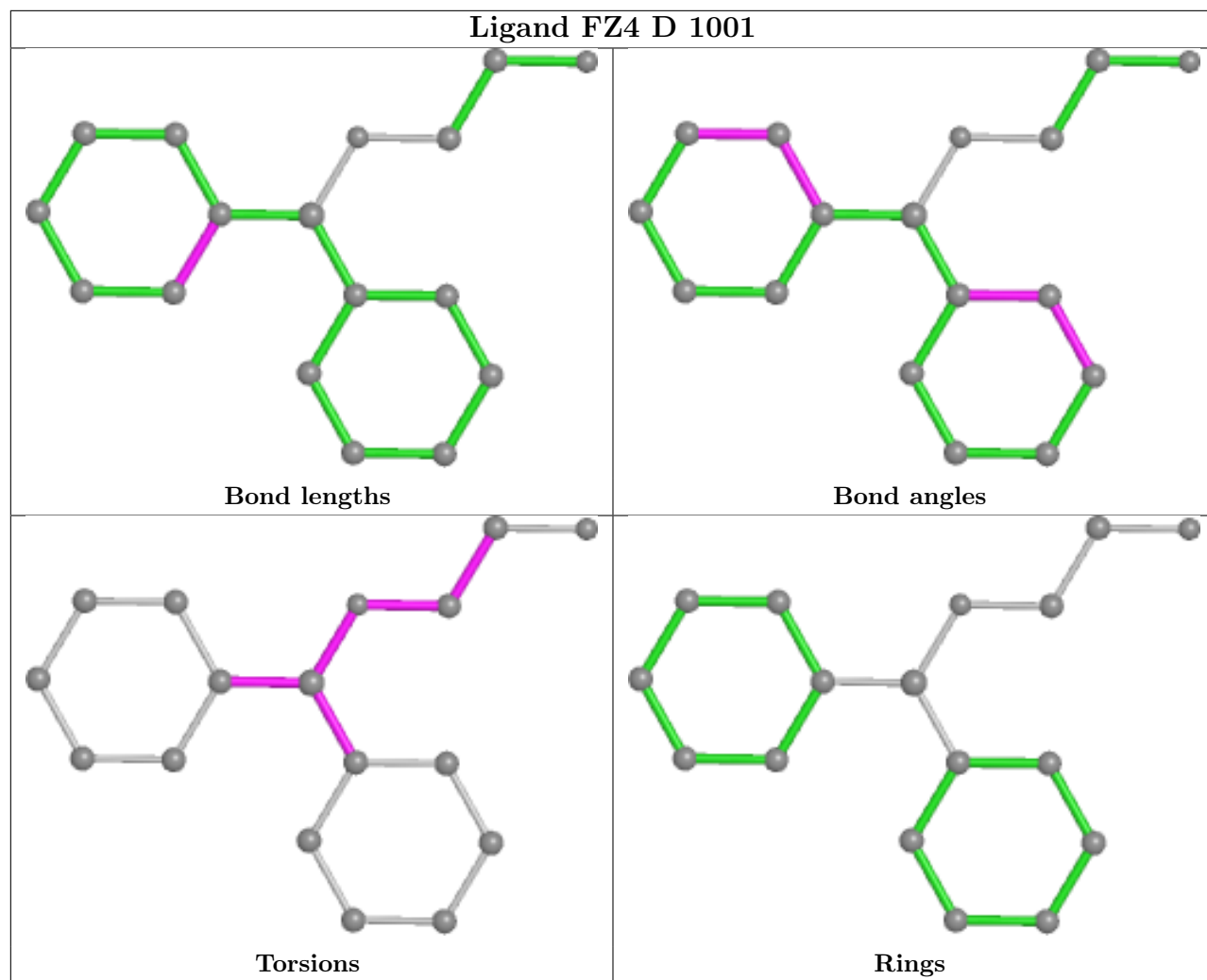
4 monomers are involved in 4 short contacts:

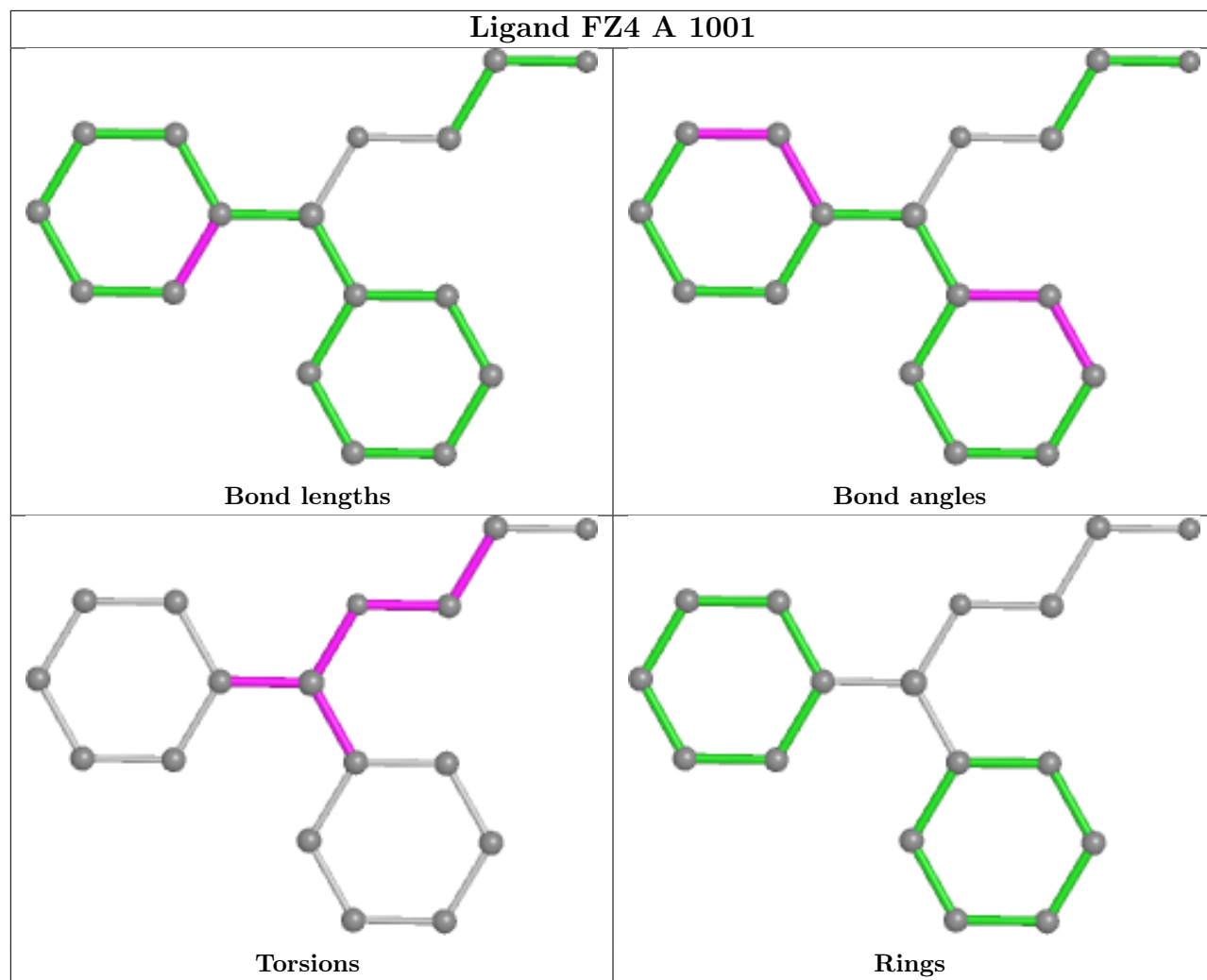
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	1001	FZ4	1	0
2	D	1001	FZ4	1	0
2	A	1001	FZ4	1	0
2	C	1001	FZ4	1	0

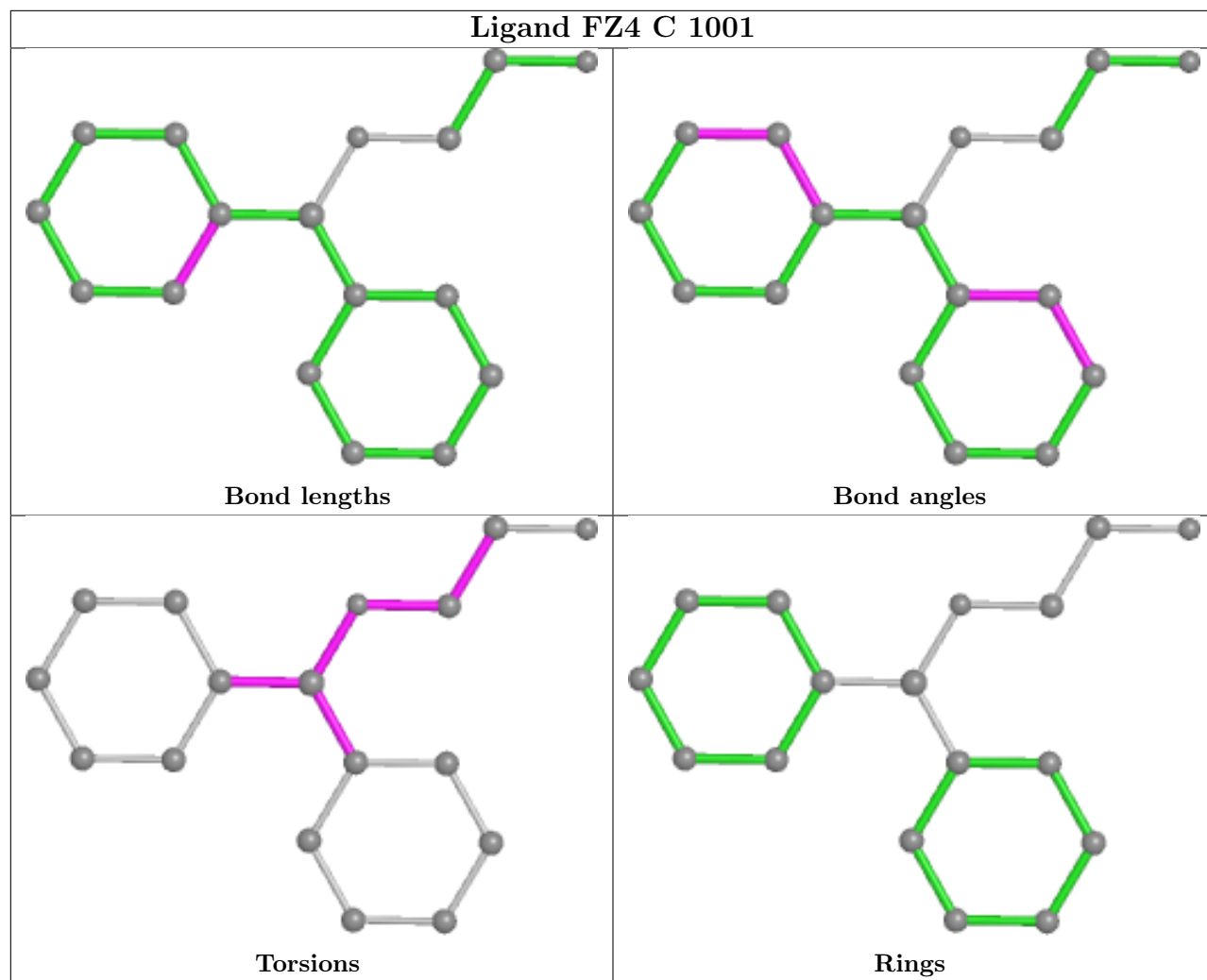
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

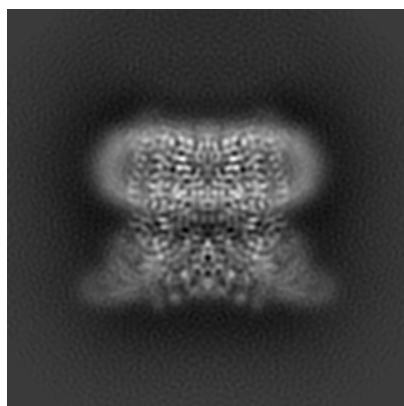
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-33160. These allow visual inspection of the internal detail of the map and identification of artifacts.

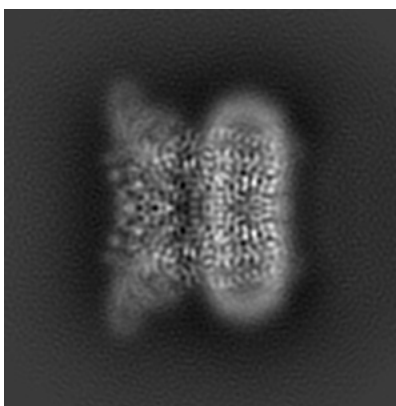
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

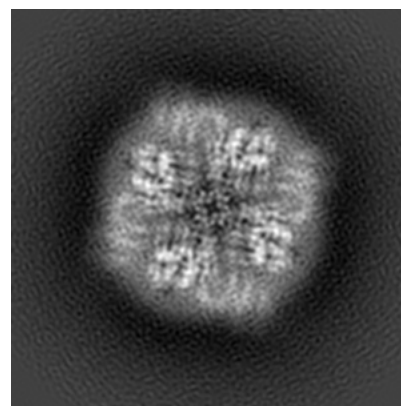
6.1.1 Primary map



X

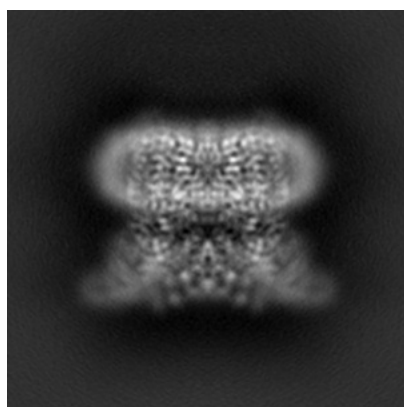


Y

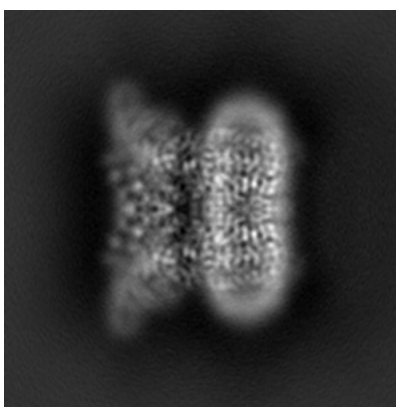


Z

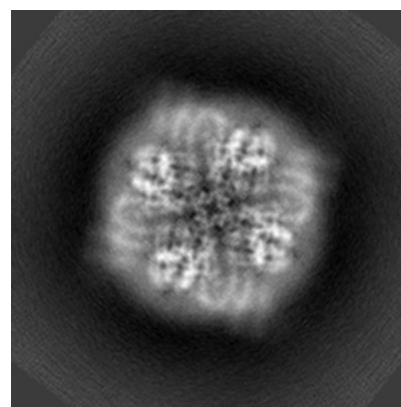
6.1.2 Raw map



X



Y

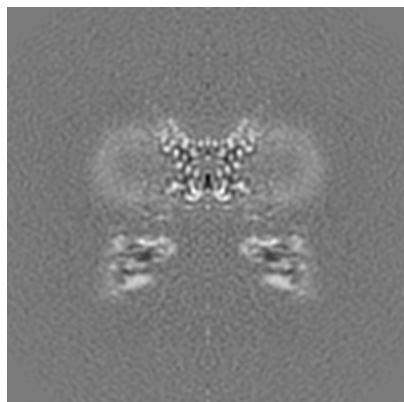


Z

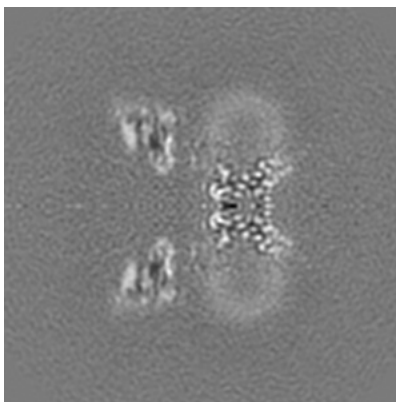
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

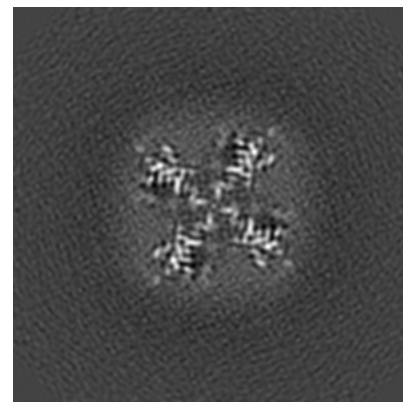
6.2.1 Primary map



X Index: 105

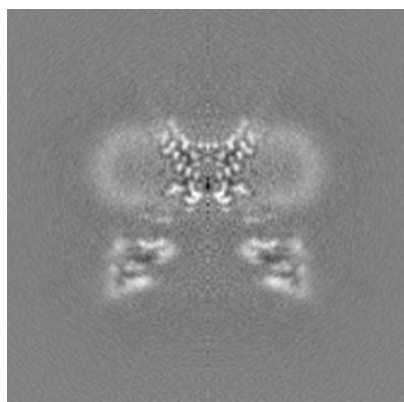


Y Index: 105

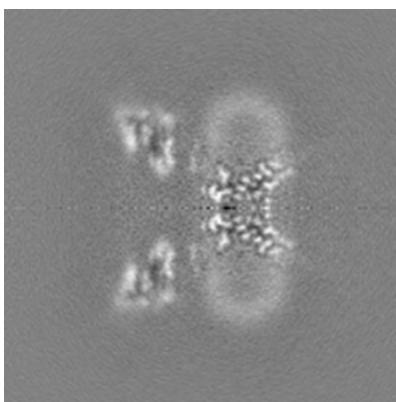


Z Index: 105

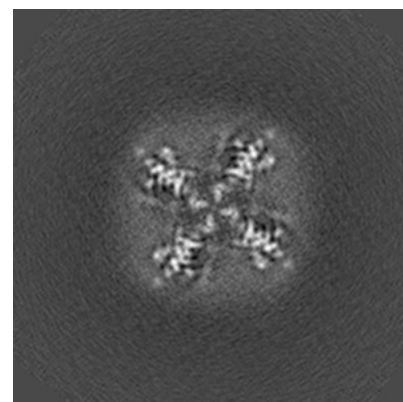
6.2.2 Raw map



X Index: 105



Y Index: 105

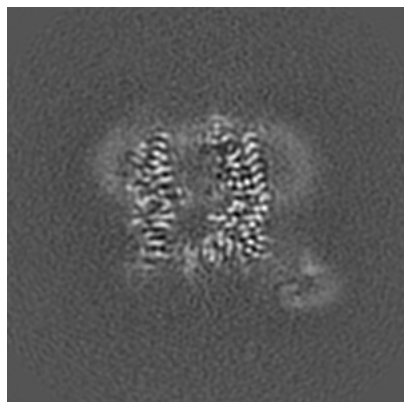


Z Index: 105

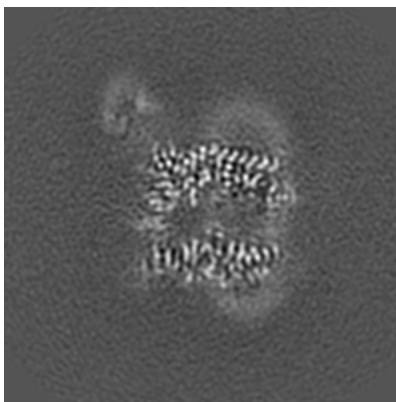
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

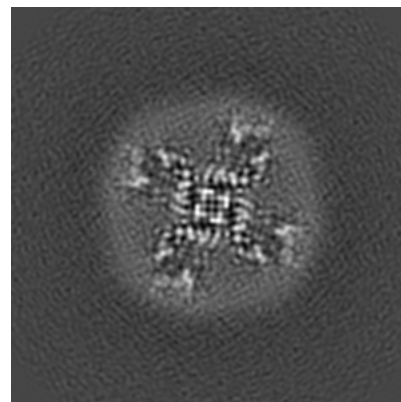
6.3.1 Primary map



X Index: 81

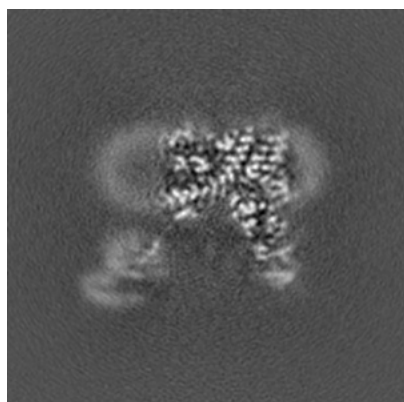


Y Index: 129

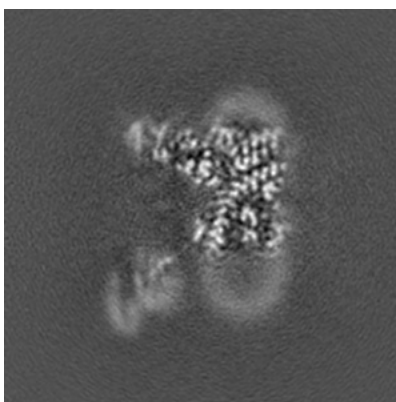


Z Index: 113

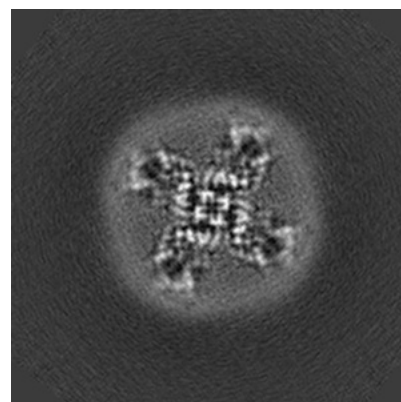
6.3.2 Raw map



X Index: 119



Y Index: 91

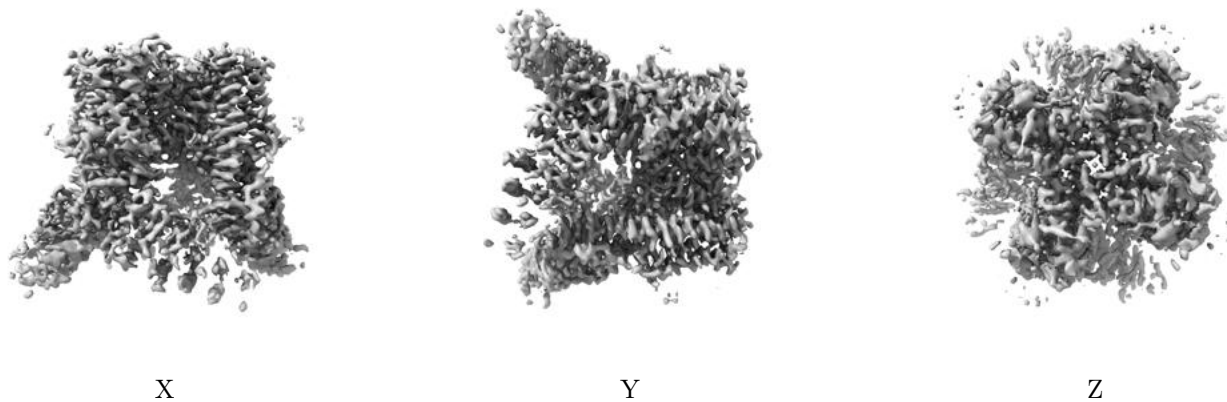


Z Index: 113

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

6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0063. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map



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

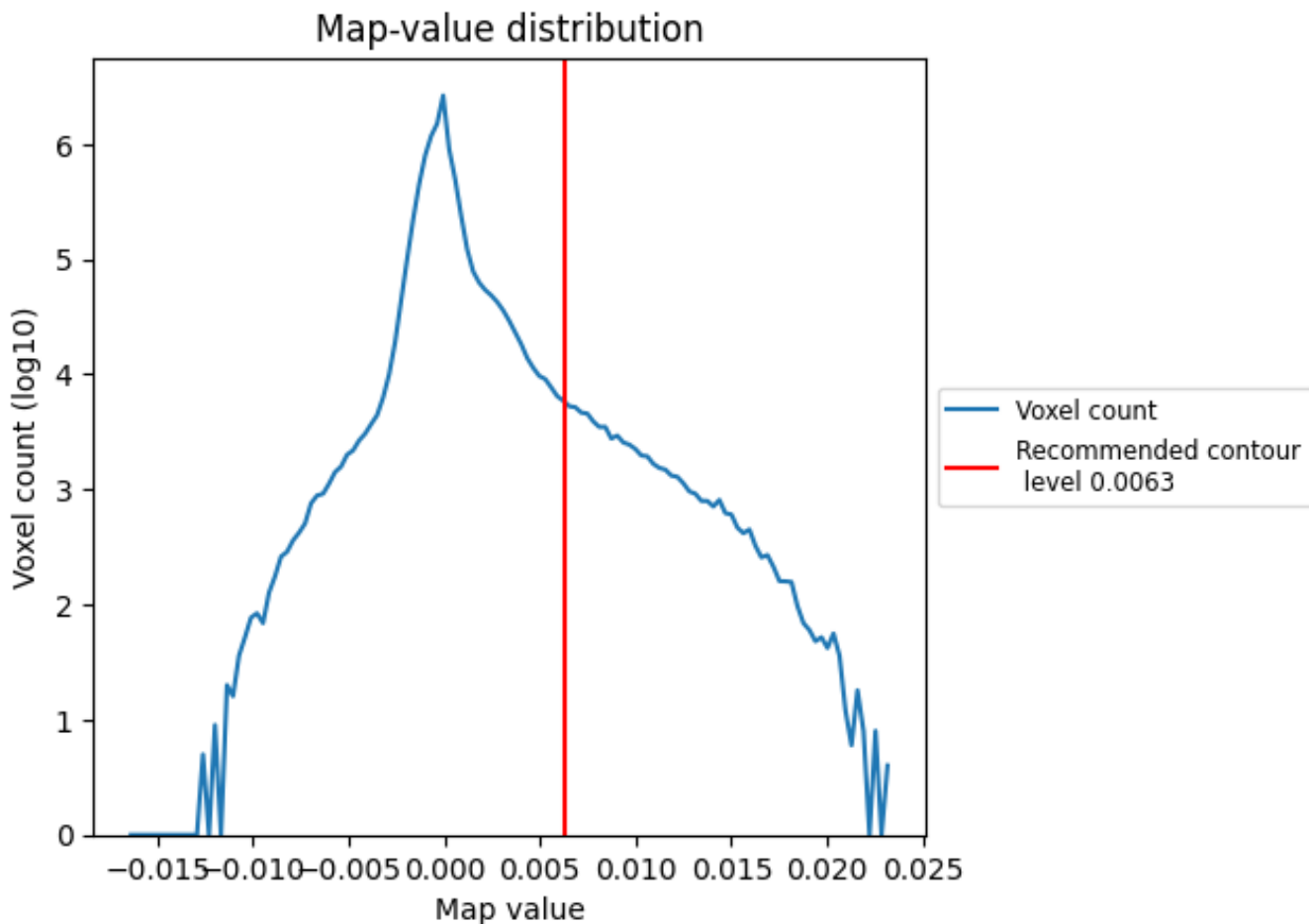
6.5 Mask visualisation [i](#)

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

7 Map analysis [i](#)

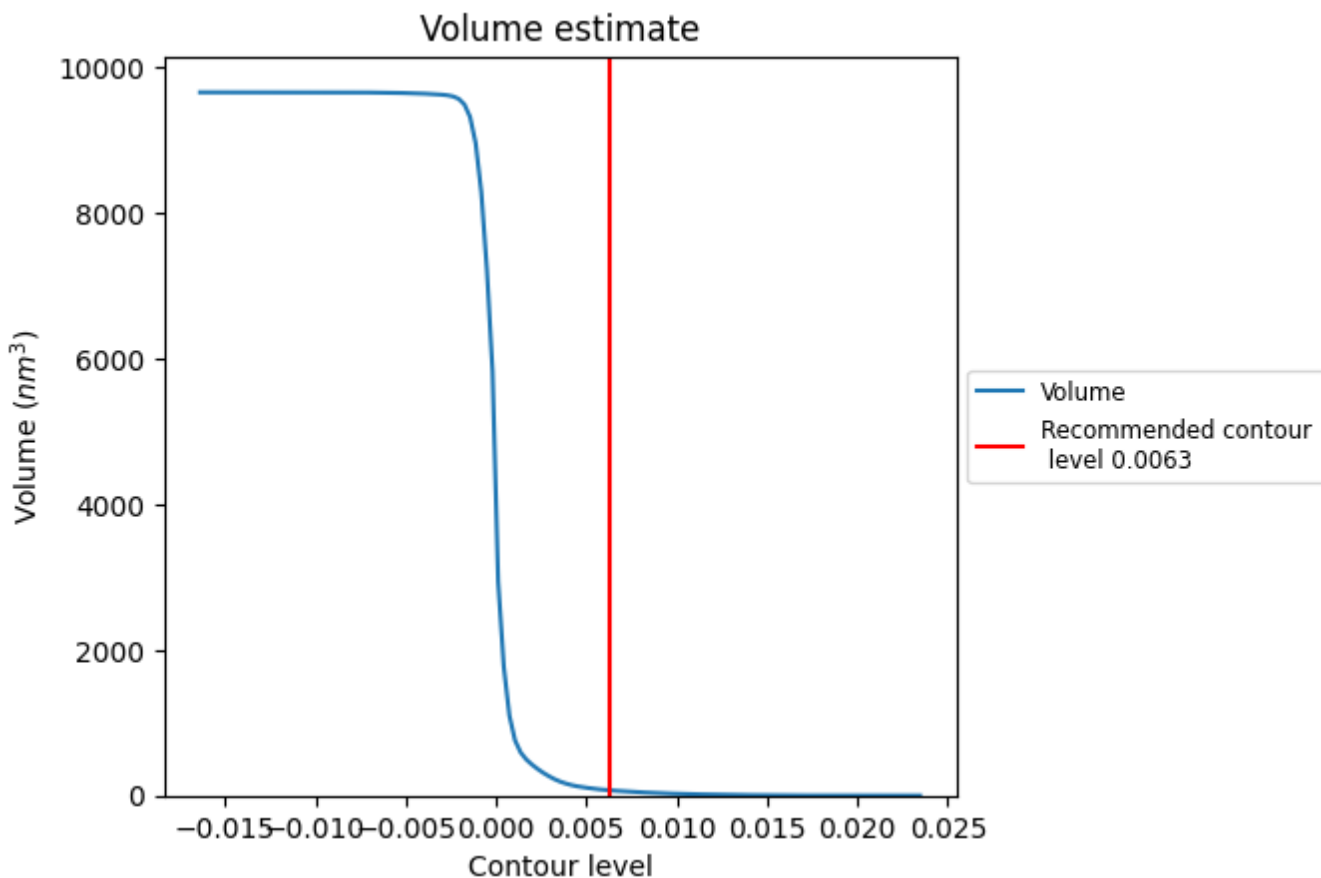
This section contains the results of statistical analysis of the map.

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.

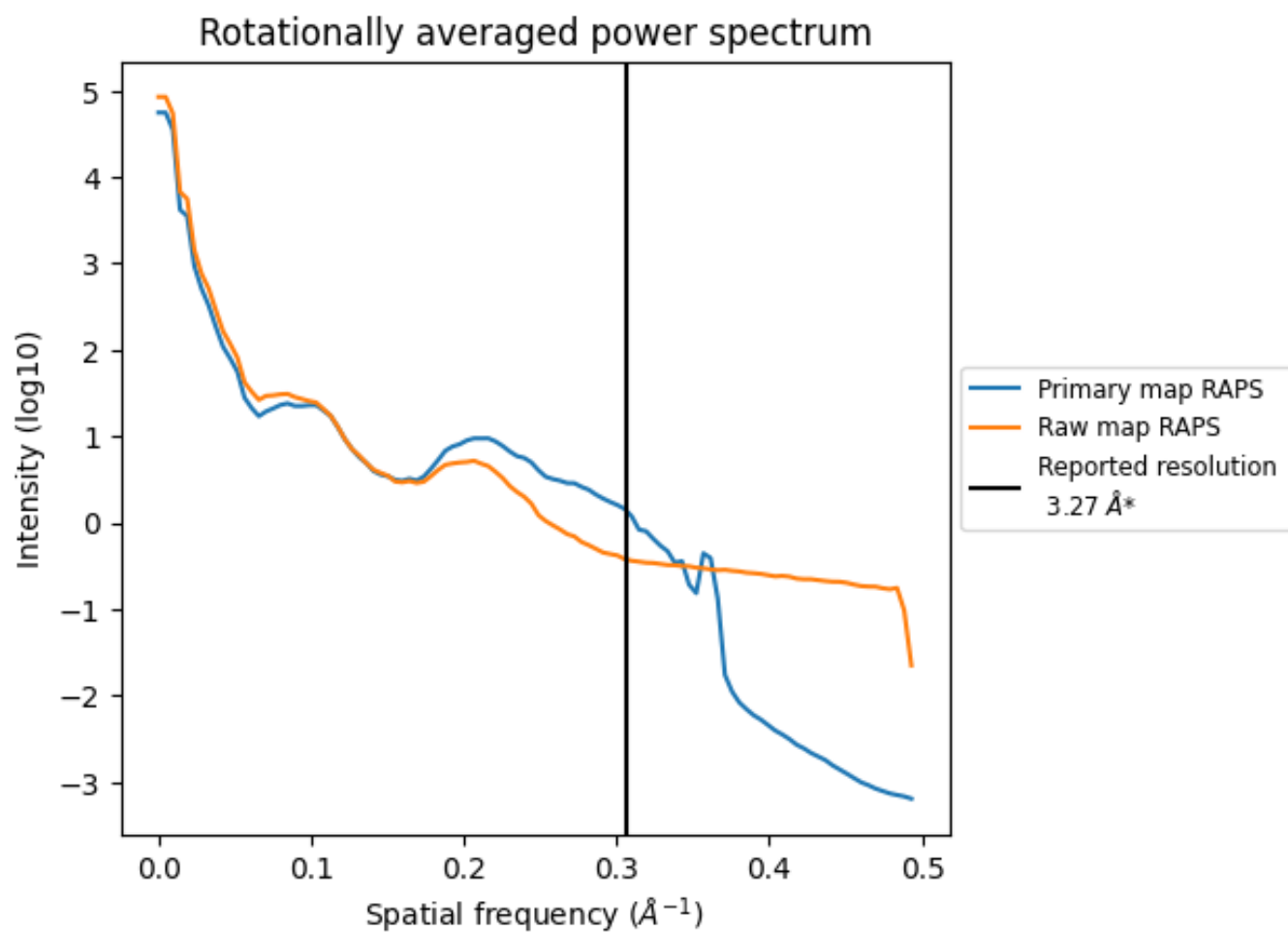
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 73 nm³; this corresponds to an approximate mass of 66 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

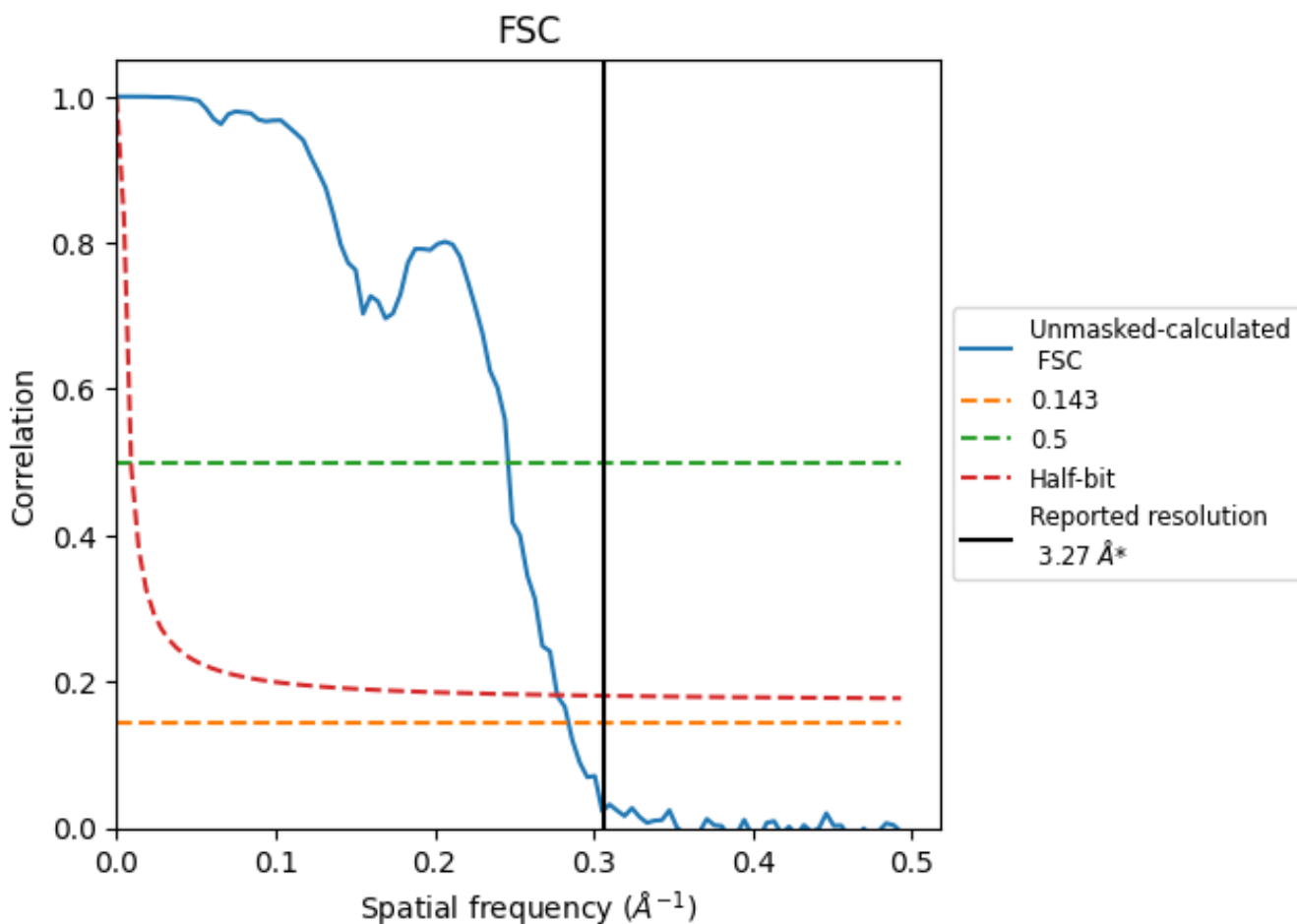


*Reported resolution corresponds to spatial frequency of 0.306 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.306 Å⁻¹

8.2 Resolution estimates [i](#)

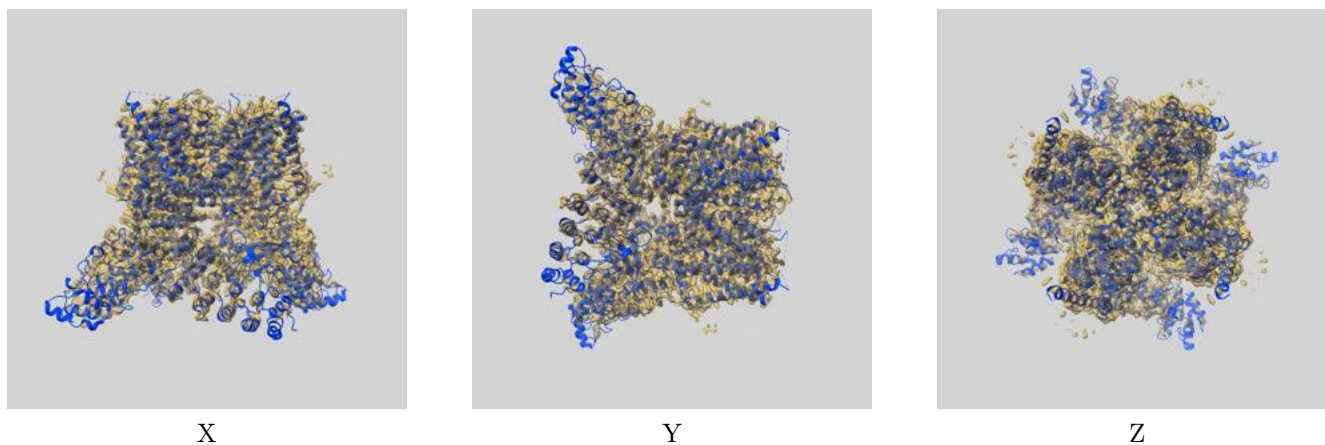
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.27	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.52	4.06	3.61

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

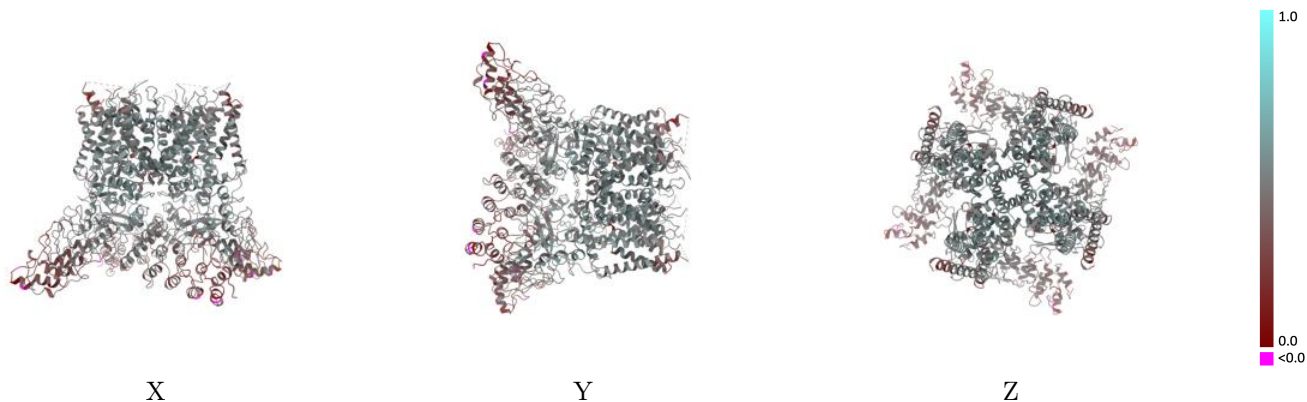
This section contains information regarding the fit between EMDB map EMD-33160 and PDB model 7XEV. Per-residue inclusion information can be found in section 3 on page 5.

9.1 Map-model overlay [i](#)



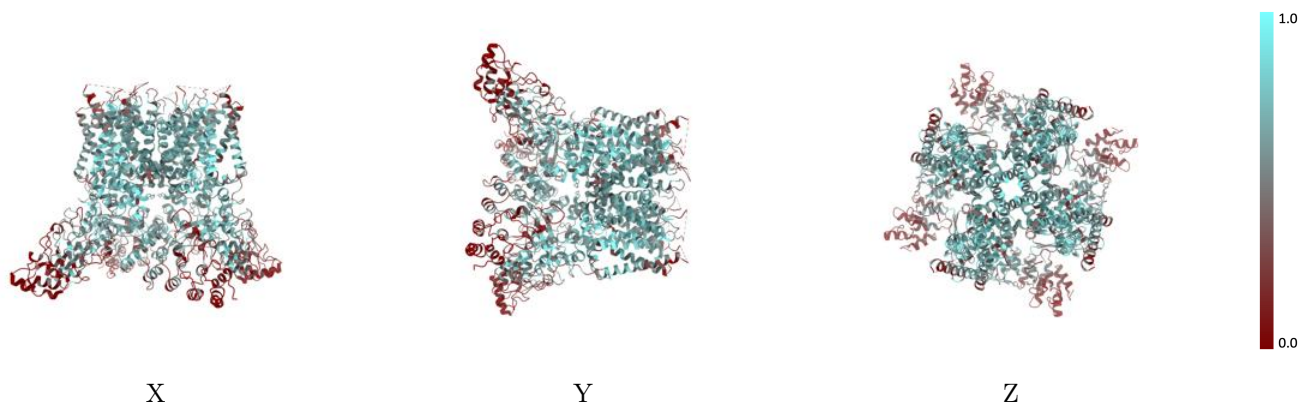
The images above show the 3D surface view of the map at the recommended contour level 0.0063 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



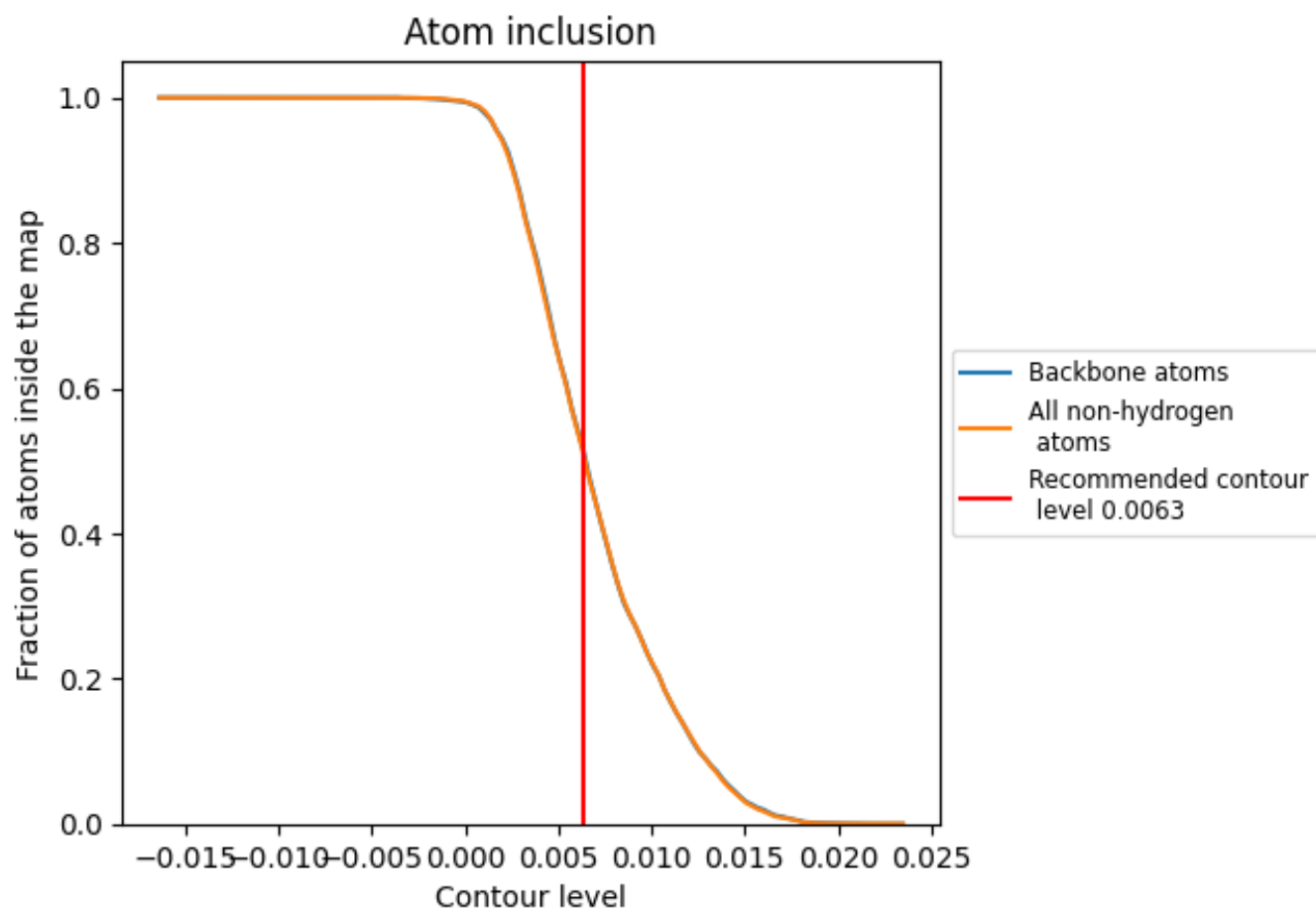
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0063).

9.4 Atom inclusion [i](#)



At the recommended contour level, 52% of all backbone atoms, 52% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (0.0063) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	█ 0.5154	█ 0.4490
A	█ 0.5225	█ 0.4480
B	█ 0.5266	█ 0.4490
C	█ 0.5245	█ 0.4490
D	█ 0.5243	█ 0.4490

