



## wwPDB EM Validation Summary Report ⓘ

Mar 9, 2026 – 04:26 AM UTC

PDB ID : 9INF / pdb\_00009inf  
EMDB ID : EMD-60705  
Title : Cryo-EM structure of human XPR1 in closed state in the presence of KIDINS220-1-432 and 10 mM KH<sub>2</sub>PO<sub>4</sub>  
Authors : Yin, Y.; Zuo, P.; Liang, L.  
Deposited on : 2024-07-06  
Resolution : 3.36 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](mailto: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>.

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

EMDB validation analysis : 0.0.1.dev132  
Mogul : 2022.3.0, CSD as543be (2022)  
MolProbity : 4-5-2 with Phenix2.0  
Buster-report : wwPDB partial adaption of 1.1.7 (2018)  
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)  
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.49

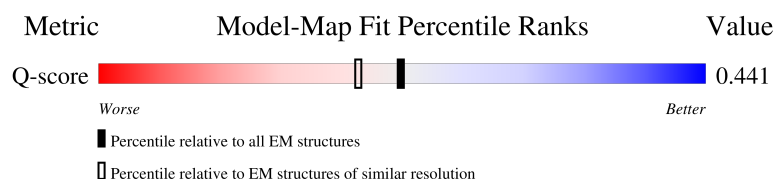
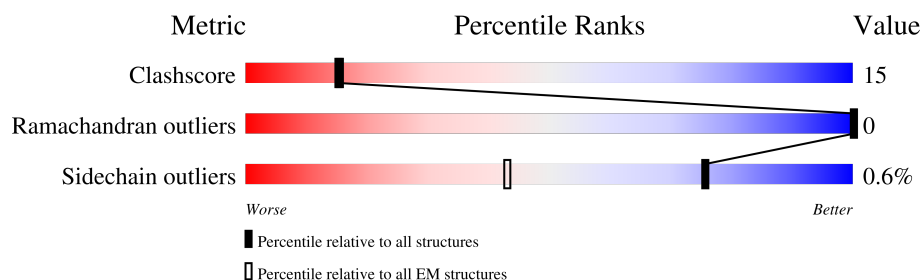
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.36 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	14332 ( 2.86 - 3.86 )

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  $\geq 3$ , 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	704	 5% 37% 20% 43%
1	B	704	 5% 38% 19% 43%

## 2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 7282 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 protein called Solute carrier family 53 member 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	401	Total	C	N	O	S	0	0
			3333	2233	535	549	16		
1	B	401	Total	C	N	O	S	0	0
			3333	2233	535	549	16		

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	697	SER	-	expression tag	UNP Q9UBH6
A	698	ARG	-	expression tag	UNP Q9UBH6
A	699	GLU	-	expression tag	UNP Q9UBH6
A	700	ASN	-	expression tag	UNP Q9UBH6
A	701	LEU	-	expression tag	UNP Q9UBH6
A	702	TYR	-	expression tag	UNP Q9UBH6
A	703	PHE	-	expression tag	UNP Q9UBH6
A	704	GLN	-	expression tag	UNP Q9UBH6
B	697	SER	-	expression tag	UNP Q9UBH6
B	698	ARG	-	expression tag	UNP Q9UBH6
B	699	GLU	-	expression tag	UNP Q9UBH6
B	700	ASN	-	expression tag	UNP Q9UBH6
B	701	LEU	-	expression tag	UNP Q9UBH6
B	702	TYR	-	expression tag	UNP Q9UBH6
B	703	PHE	-	expression tag	UNP Q9UBH6
B	704	GLN	-	expression tag	UNP Q9UBH6

- Molecule 2 is CHOLESTEROL (CCD ID: CLR) (formula: C<sub>27</sub>H<sub>46</sub>O) (labeled as "Ligand of Interest" by depositor).



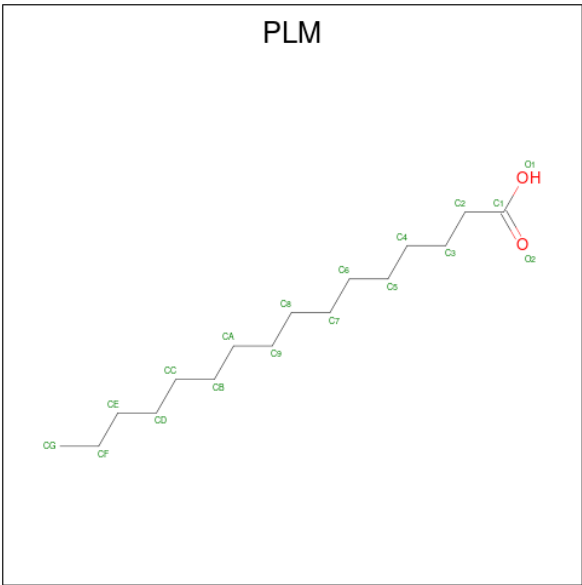
Mol	Chain	Residues	Atoms			AltConf
2	A	1	Total	C	O	0
			28	27	1	
2	A	1	Total	C	O	0
			28	27	1	
2	A	1	Total	C	O	0
			28	27	1	
2	A	1	Total	C	O	0
			28	27	1	
2	A	1	Total	C	O	0
			28	27	1	
2	B	1	Total	C	O	0
			28	27	1	
2	B	1	Total	C	O	0
			28	27	1	
2	B	1	Total	C	O	0
			28	27	1	

- Molecule 3 is 1,2-Distearoyl-sn-glycerophosphoethanolamine (CCD ID: 3PE) (formula:  $C_{41}H_{82}NO_8P$ ) (labeled as "Ligand of Interest" by depositor).



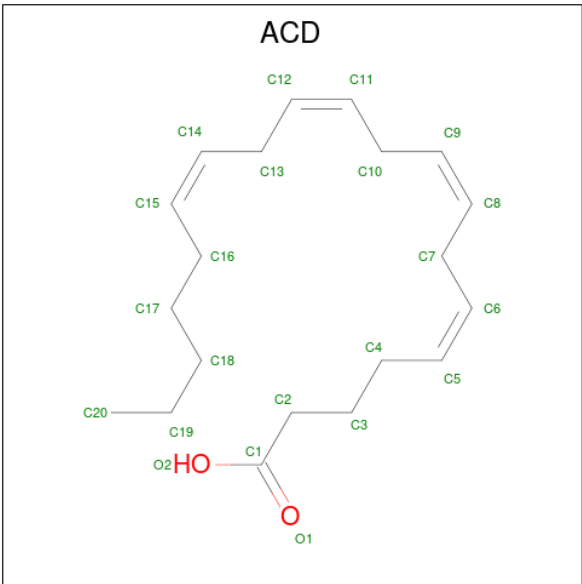
Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	N	O	P	0
			51	41	1	8	1	
3	A	1	Total	C	N	O	P	0
			51	41	1	8	1	
3	A	1	Total	C	N	O	P	0
			51	41	1	8	1	
3	B	1	Total	C	N	O	P	0
			51	41	1	8	1	
3	B	1	Total	C	N	O	P	0
			51	41	1	8	1	
3	B	1	Total	C	N	O	P	0
			51	41	1	8	1	

- Molecule 4 is PALMITIC ACID (CCD ID: PLM) (formula:  $C_{16}H_{32}O_2$ ) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
4	A	1	Total	C	O	0
			18	16	2	
4	B	1	Total	C	O	0
			18	16	2	

- Molecule 5 is ARACHIDONIC ACID (CCD ID: ACD) (formula: C<sub>20</sub>H<sub>32</sub>O<sub>2</sub>) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
5	A	1	Total	C	O	0
			22	20	2	

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Mol	Chain	Residues	Atoms			AltConf
5	B	1	Total	C	O	0
			22	20	2	

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		AltConf
6	A	3	Total	O	0
			3	3	
6	B	3	Total	O	0
			3	3	



- Molecule 1: Solute carrier family 53 member 1





ARG	GLU	GLN	ASP	K556	P475	T383	R263	GLU	THR	MET
GLU	ASN	THR	GLN	A557	H476	A384	A284	VAL	CYS	LYS
LEU	LEU	LEU	LEU	Y558	L477	P385	I265	ALA	GLU	ALA
TYR	TYR	LEU	LEU	Y559	G481	F386	R270	PHE	GLU	GLU
PHE	PHE	GLU	GLU	Y560	K482	F391	I271	ARG	LEU	HIS
GLN	GLN	GLN	GLN	I563	H483	F394	I272	ASN	ALA	LEU
GLN	MET	MET	MET	I564	S484	F394	R273	CYS	LYS	SER
ASP	ASP	ASP	ASP	E565	T485	W395	G274	LYS	ALA	ILE
GLN	GLN	GLN	GLN	W566	K489	Q399	G275	ASP	ASN	HIS
ASP	ASP	ASP	ASP	W567	V490	L400	I279	ILE	THR	ILE
ASP	ASP	ASP	ASP	I568	T491	L401	L282	GLN	PHE	THR
GLY	GLY	GLY	GLY	R570	F492	N401	L285	LEU	ALA	TYR
VAL	VAL	VAL	VAL	A493	A493	Y412	L286	ILE	PHE	GLU
ARG	ARG	ARG	ARG	W573	Y496	Y417	V297	GLU	GLU	LYS
ASN	ASN	ASN	ASN	T574	H496	E420	W290	THR	ALA	GLN
ARG	ARG	ARG	ARG	I577	H499	L421	G291	GLU	GLU	TYR
GLN	GLN	GLN	GLN	S578	X500	L421	W292	ALA	ALA	ILE
ASN	ASN	ASN	ASN	I579	E501	D424	R293	VAL	GLN	GLN
ARG	ARG	ARG	ARG	R502	R502	D424	Q294	VAL	ARG	TYR
SER	SER	SER	SER	T582	S505	S426	V297	ASN	ARG	GLU
LYS	LYS	LYS	LYS	T583	D506	K427	V300	GLU	ALA	PHE
TYR	TYR	TYR	TYR	L584	T507	G428	I302	LEU	GLN	LYS
ASN	ASN	ASN	ASN	L586	H508	L429	L305	ASN	ASN	MET
GLN	GLN	GLN	GLN	P586	SER	L430	ASP	GLY	GLN	LEU
SER	SER	SER	SER	I592	W509	F431	ASP	ASN	GLU	TYR
ILE	ILE	ILE	ILE	A593	F510	N432	ARG	LEU	LEU	SER
SER	SER	SER	SER	T594	F511	R432	R308	GLN	GLN	ALA
LEU	LEU	LEU	LEU	Y512	W514	E435	S312	LYS	SER	GLN
ARG	ARG	ARG	ARG	L513	W514	E436	H313	ALA	THR	ASP
PRO	PRO	PRO	PRO	R603	T515	S437	Q314	MET	GLY	LEU
ARG	ARG	ARG	ARG	W607	W615	G438	ARG	LYS	PHE	ALA
LEU	LEU	LEU	LEU	N608	W616	A320	ARG	ALA	ARG	PRO
ALA	ALA	ALA	ALA	F609	F517	L439	VAL	LYS	LYS	VAL
SER	SER	SER	SER	F610	W518	T439	G321	GLN	ILE	GLU
GLN	GLN	GLN	GLN	R611	L519	C440	VAL	VAL	GLU	VAL
SER	SER	SER	SER	L611	T520	H441	PRO	PRO	LYS	SER
LYS	LYS	LYS	LYS	N614	S521	K442	I325	LEU	THR	THR
ALA	ALA	ALA	ALA	E615	S522	Y443	L331	GLY	GLY	ASP
ARG	ARG	ARG	ARG	H616	G523	T444	L332	ASP	VAL	GLU
ASP	ASP	ASP	ASP	L617	Y524	V447	ALA	LYS	THR	THR
THR	THR	THR	THR	G621	T525	R448	A226	THR	THR	THR
LYS	LYS	LYS	LYS	E622	L526	A449	Q227	VAL	LEU	VAL
VAL	VAL	VAL	VAL	W626	T527	A450	THR	GLN	ARG	LYS
LEU	LEU	LEU	LEU	ARG	W528	V451	SER	ARG	ARG	TYR
ILE	ILE	ILE	ILE	V626	L530	O452	F357	THR	THR	PHE
GLU	GLU	GLU	GLU	ASP	D529	F358	GLY	ARG	ARG	ALA
ASP	ASP	ASP	ASP	ASP	W534	L359	ALA	LYS	PRO	LYS
THR	THR	THR	THR	ASP	D533	I360	ASP	VAL	VAL	PHE
ASP	ASP	ASP	ASP	SER	W534	N361	THR	THR	PHE	GLU
GLU	GLU	GLU	GLU	VAL	E543	L374	ARG	VAL	HIS	GLU
ALA	ALA	ALA	ALA	ASP	R548	L375	THR	VAL	LEU	GLU

## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	230260	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)	1500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	1.095	Depositor
Minimum map value	-0.718	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.013	Depositor
Recommended contour level	0.135	Depositor
Map size (Å)	394.08, 394.08, 394.08	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.821, 0.821, 0.821	Depositor

## 5 Model quality

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 3PE, PLM, ACD, CLR

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	0.15	0/3444	0.36	0/4688
1	B	0.15	0/3444	0.39	0/4688
All	All	0.15	0/6888	0.38	0/9376

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3333	0	3317	102	0
1	B	3333	0	3317	104	0
2	A	140	0	229	7	0
2	B	84	0	138	6	0
3	A	153	0	246	11	0
3	B	153	0	246	11	0
4	A	18	0	31	1	0
4	B	18	0	31	0	0
5	A	22	0	31	0	0
5	B	22	0	31	0	0
6	A	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	B	3	0	0	0	0
All	All	7282	0	7617	219	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 15.

The worst 5 of 219 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:419:LEU:HG	1:A:420:GLU:HG3	1.61	0.81
1:B:560:TYR:HA	1:B:563:ILE:HD12	1.61	0.80
1:A:374:LEU:HD22	3:A:802:3PE:H241	1.68	0.75
1:B:293:ARG:HH12	1:B:312:SER:HA	1.55	0.72
1:B:374:LEU:HD22	3:B:802:3PE:H241	1.73	0.71

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	399/704 (57%)	382 (96%)	17 (4%)	0	100	100
1	B	399/704 (57%)	388 (97%)	11 (3%)	0	100	100
All	All	798/1408 (57%)	770 (96%)	28 (4%)	0	100	100

There are no Ramachandran outliers to report.

### 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	355/629 (56%)	353 (99%)	2 (1%)	78	79
1	B	355/629 (56%)	353 (99%)	2 (1%)	78	79
All	All	710/1258 (56%)	706 (99%)	4 (1%)	76	79

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	297	VAL
1	A	448	ARG
1	B	378	LEU
1	B	394	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	248	ASN
1	A	288	ASN
1	B	544	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 oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

18 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	$\# Z  > 2$
4	PLM	B	807	-	17,17,17	0.93	1 (5%)	17,17,17	0.73	2 (11%)
3	3PE	A	802	-	50,50,50	0.51	0	53,55,55	0.59	2 (3%)
3	3PE	A	806	-	50,50,50	0.52	0	53,55,55	0.54	1 (1%)
2	CLR	A	807	-	31,31,31	0.43	0	48,48,48	1.14	5 (10%)
3	3PE	B	803	-	50,50,50	0.52	0	53,55,55	0.53	1 (1%)
5	ACD	A	810	-	21,21,21	0.58	0	21,21,21	0.58	0
3	3PE	B	805	-	50,50,50	0.52	0	53,55,55	0.55	1 (1%)
3	3PE	B	802	-	50,50,50	0.51	0	53,55,55	0.58	2 (3%)
2	CLR	A	801	-	31,31,31	0.36	0	48,48,48	0.51	0
2	CLR	A	805	-	31,31,31	0.35	0	48,48,48	0.49	0
2	CLR	A	808	-	31,31,31	0.36	0	48,48,48	0.54	0
2	CLR	B	801	-	31,31,31	0.37	0	48,48,48	0.59	0
3	3PE	A	803	-	50,50,50	0.51	0	53,55,55	0.53	1 (1%)
2	CLR	A	804	-	31,31,31	0.36	0	48,48,48	0.54	0
5	ACD	B	808	-	21,21,21	0.58	0	21,21,21	0.58	0
2	CLR	B	806	-	31,31,31	0.35	0	48,48,48	0.57	0
2	CLR	B	804	-	31,31,31	0.37	0	48,48,48	0.50	0
4	PLM	A	809	-	17,17,17	0.92	1 (5%)	17,17,17	0.74	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
4	PLM	B	807	-	-	3/15/15/15	-
3	3PE	A	802	-	-	22/54/54/54	-
3	3PE	A	806	-	-	26/54/54/54	-
2	CLR	A	807	-	-	6/10/68/68	0/4/4/4
3	3PE	B	803	-	-	16/54/54/54	-
5	ACD	A	810	-	-	3/19/19/19	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	3PE	B	805	-	-	16/54/54/54	-
3	3PE	B	802	-	-	23/54/54/54	-
2	CLR	A	801	-	-	3/10/68/68	0/4/4/4
2	CLR	A	805	-	-	7/10/68/68	0/4/4/4
2	CLR	A	808	-	-	6/10/68/68	0/4/4/4
2	CLR	B	801	-	-	2/10/68/68	0/4/4/4
3	3PE	A	803	-	-	16/54/54/54	-
2	CLR	A	804	-	-	5/10/68/68	0/4/4/4
5	ACD	B	808	-	-	4/19/19/19	-
2	CLR	B	806	-	-	8/10/68/68	0/4/4/4
2	CLR	B	804	-	-	7/10/68/68	0/4/4/4
4	PLM	A	809	-	-	4/15/15/15	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	807	PLM	C2-C1	2.93	1.57	1.50
4	A	809	PLM	C2-C1	2.88	1.57	1.50

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

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	807	CLR	C13-C17-C20	3.58	125.03	119.50
2	A	807	CLR	C22-C20-C17	3.36	117.30	110.33
2	A	807	CLR	C17-C13-C14	-3.20	96.42	100.10
2	A	807	CLR	C16-C17-C20	2.51	115.98	112.18
3	B	803	3PE	O12-P-O14	2.44	123.81	112.44

There are no chirality outliers.

5 of 177 torsion outliers are listed below:

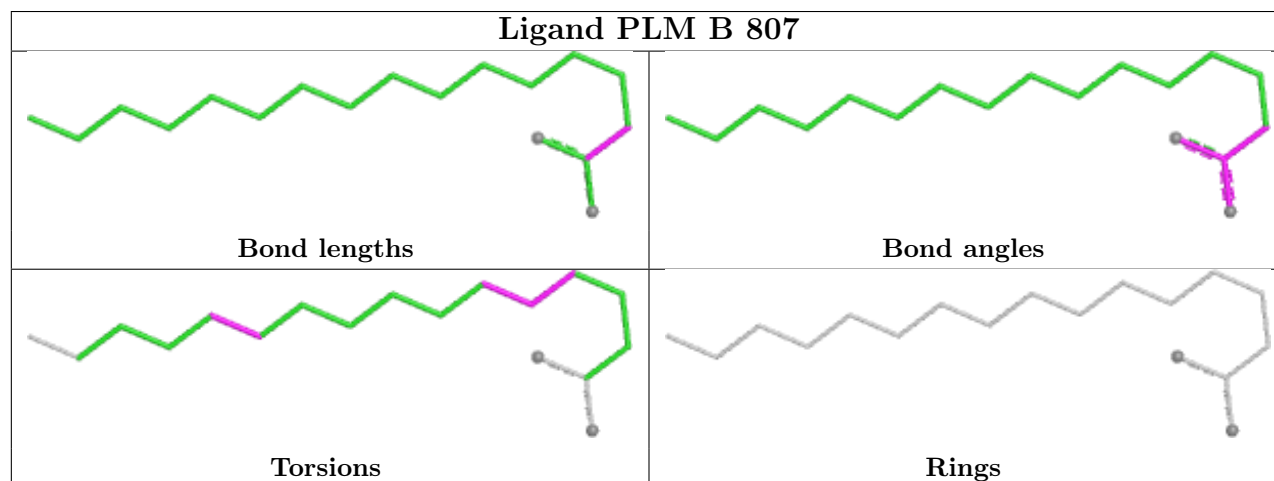
Mol	Chain	Res	Type	Atoms
2	B	806	CLR	C13-C17-C20-C21
2	B	806	CLR	C13-C17-C20-C22
2	B	806	CLR	C16-C17-C20-C22
3	A	802	3PE	C1-O11-P-O12
3	A	802	3PE	C1-O11-P-O13

There are no ring outliers.

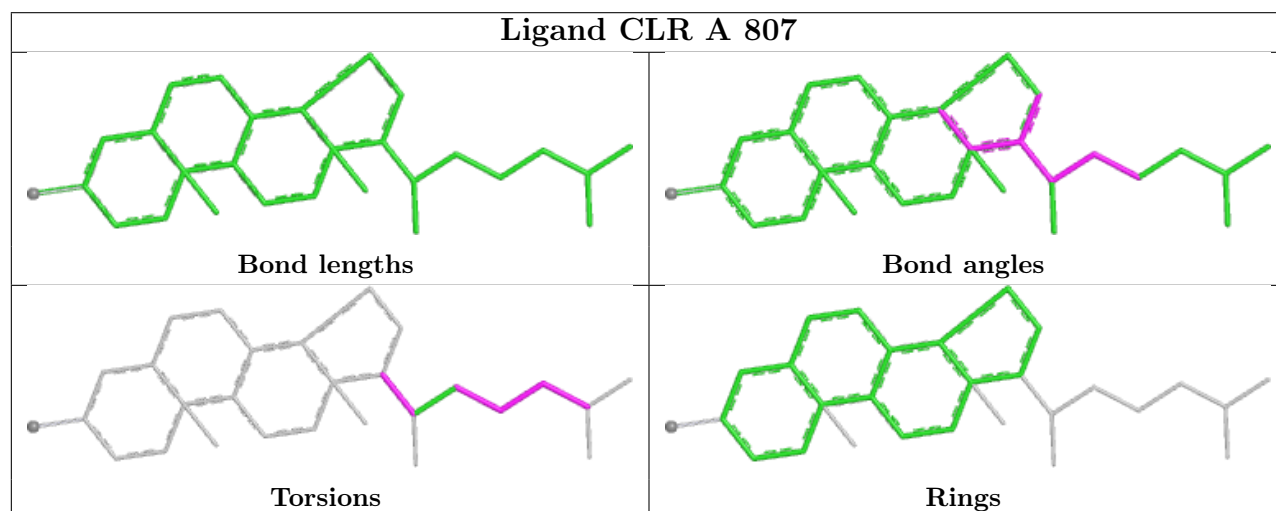
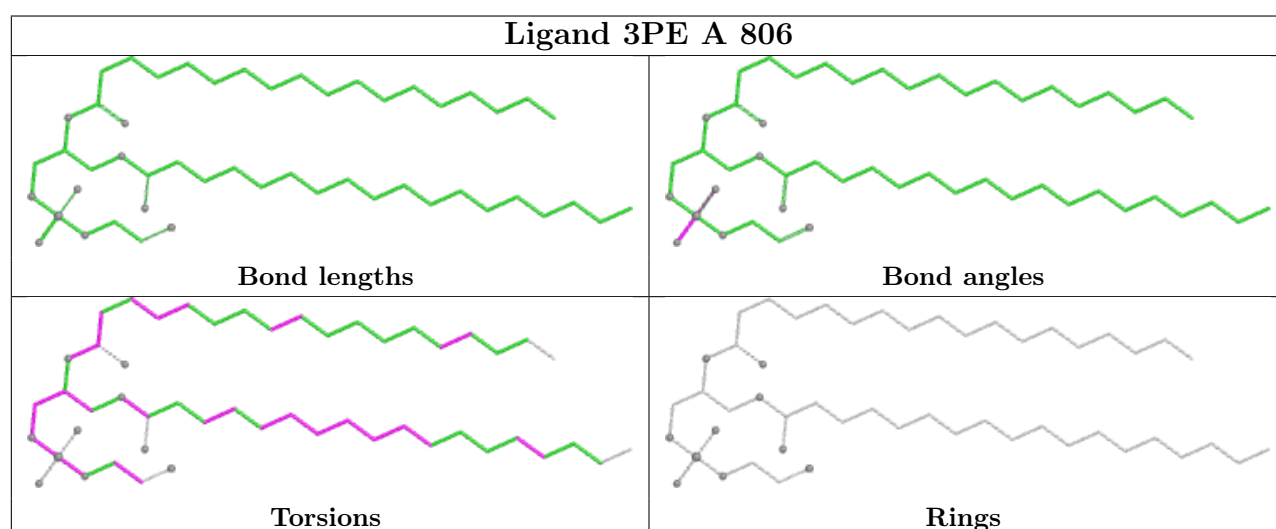
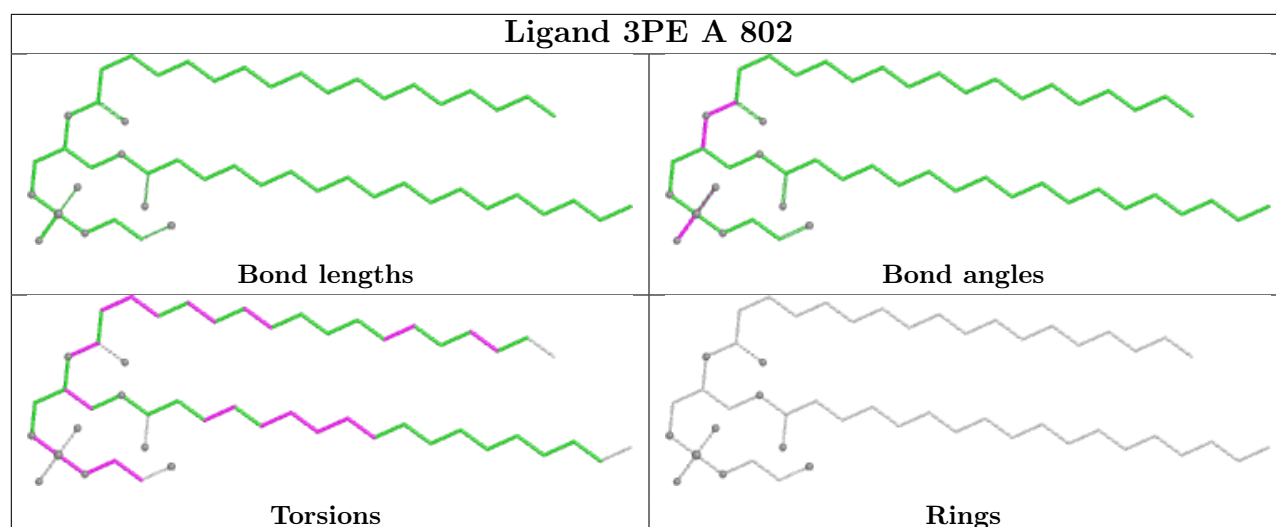
14 monomers are involved in 34 short contacts:

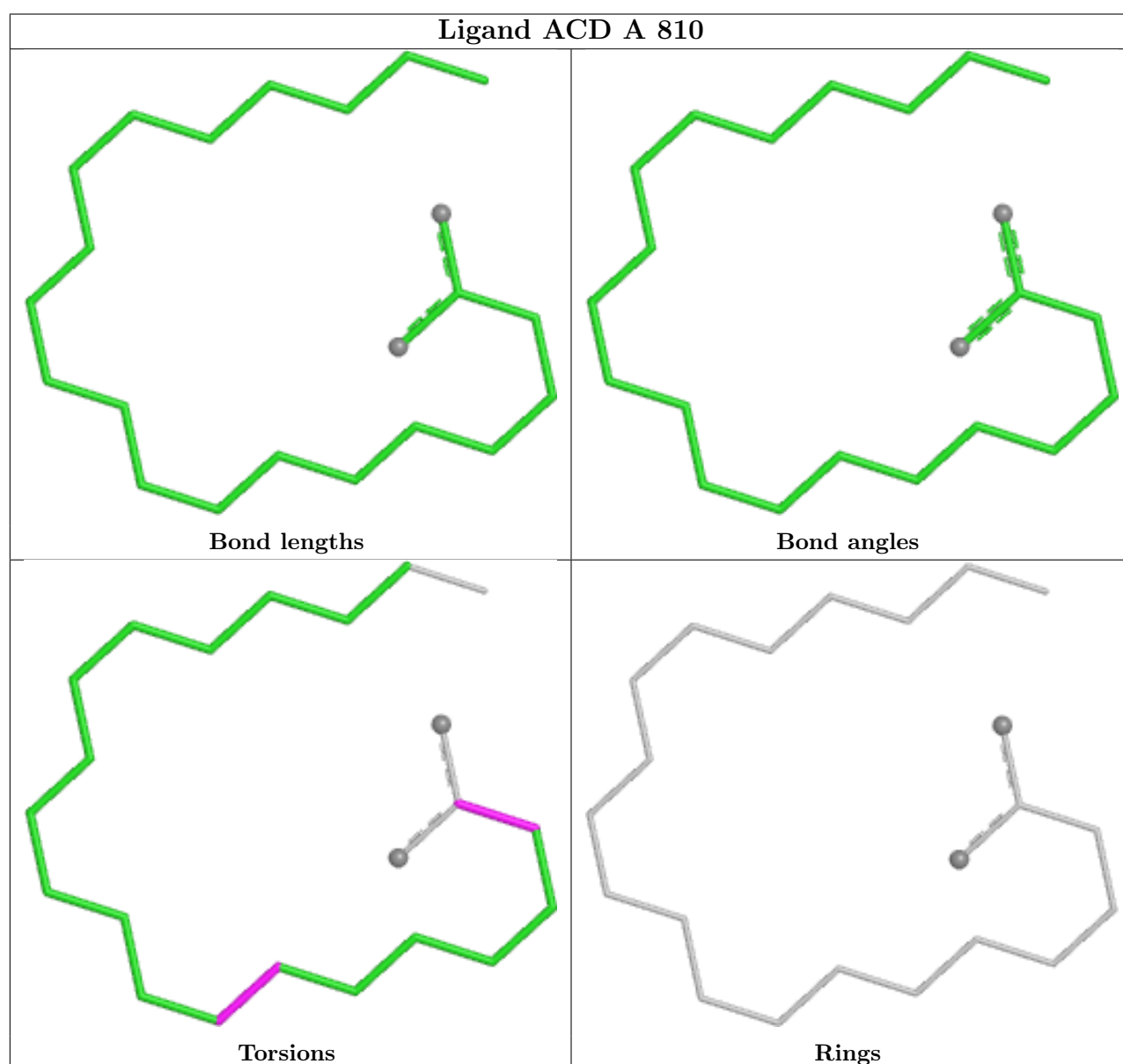
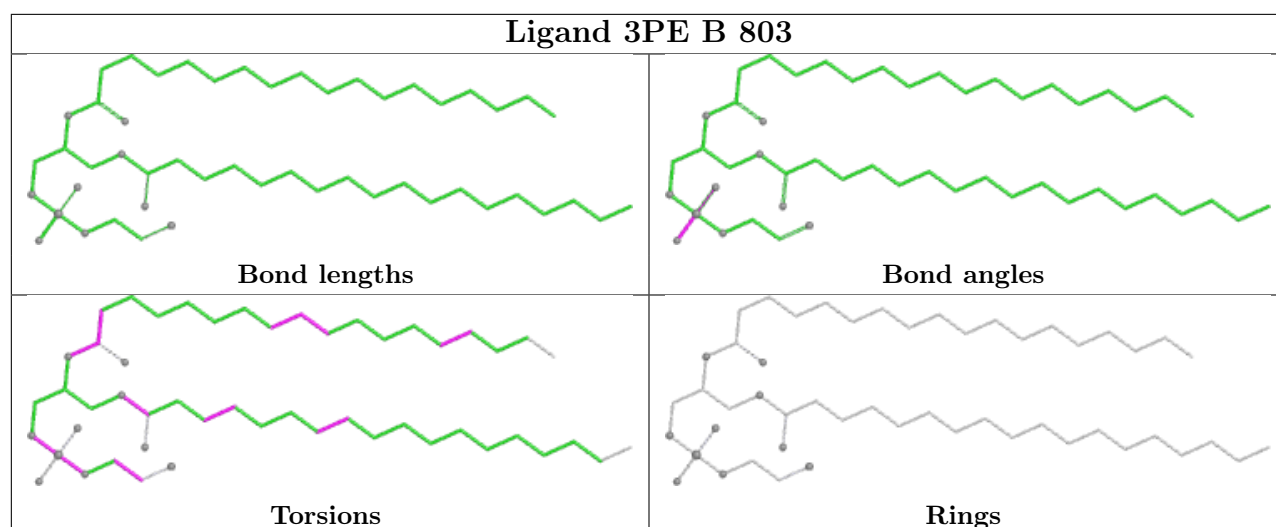
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	802	3PE	3	0
3	A	806	3PE	6	0
2	A	807	CLR	2	0
3	B	803	3PE	4	0
3	B	805	3PE	3	0
3	B	802	3PE	4	0
2	A	801	CLR	2	0
2	A	805	CLR	1	0
2	B	801	CLR	1	0
3	A	803	3PE	2	0
2	A	804	CLR	2	0
2	B	806	CLR	2	0
2	B	804	CLR	3	0
4	A	809	PLM	1	0

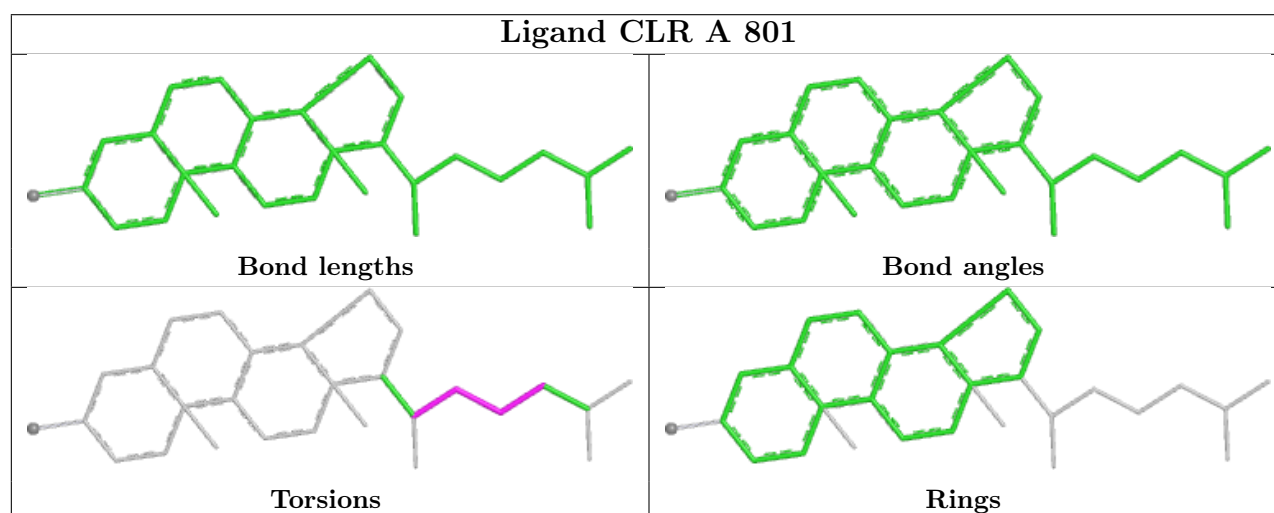
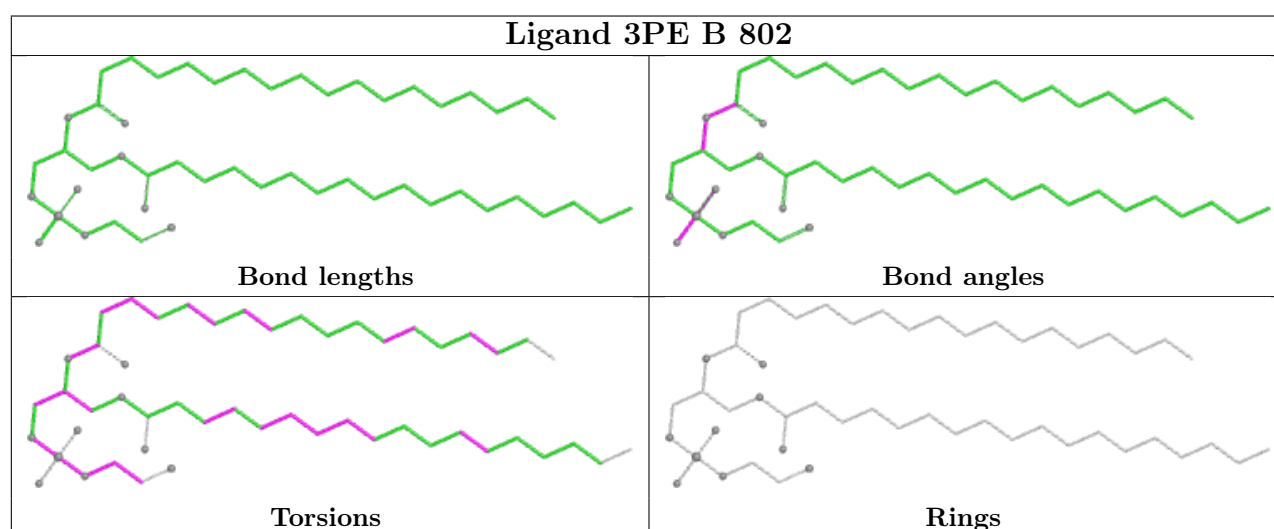
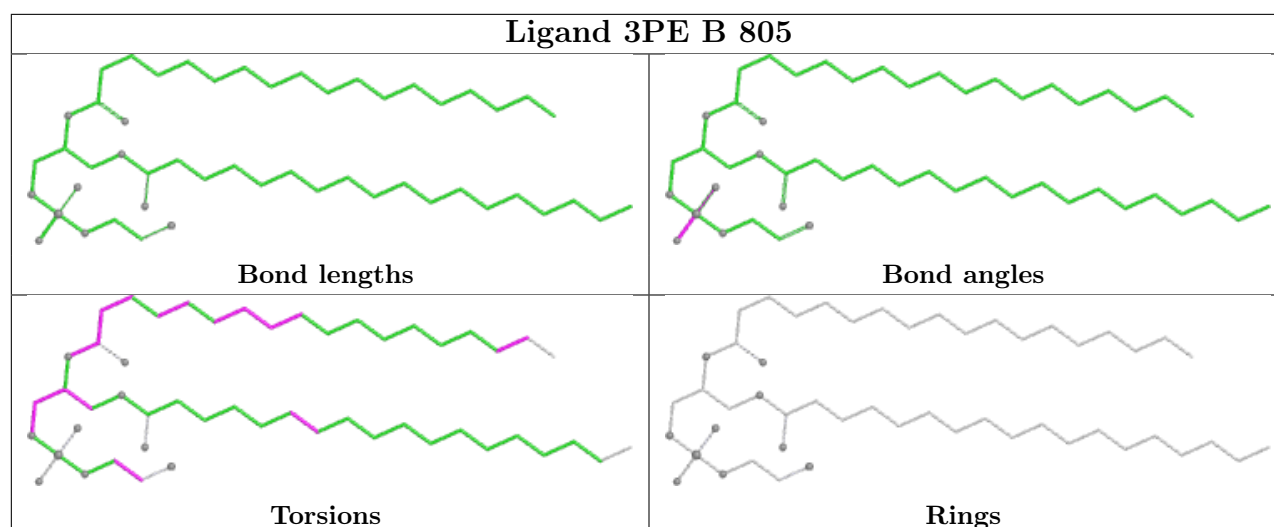
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

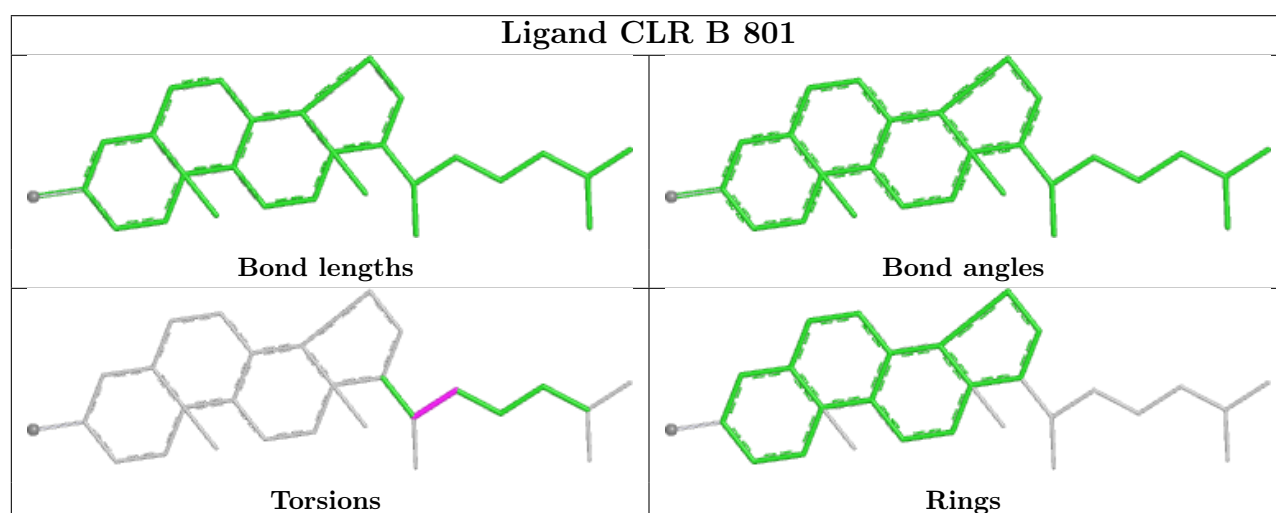
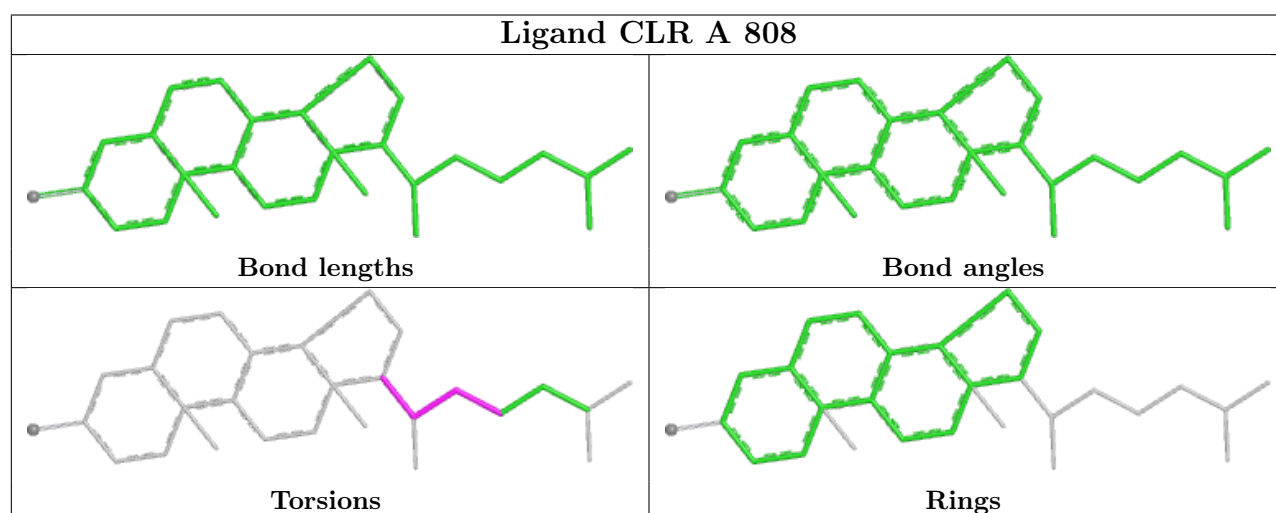
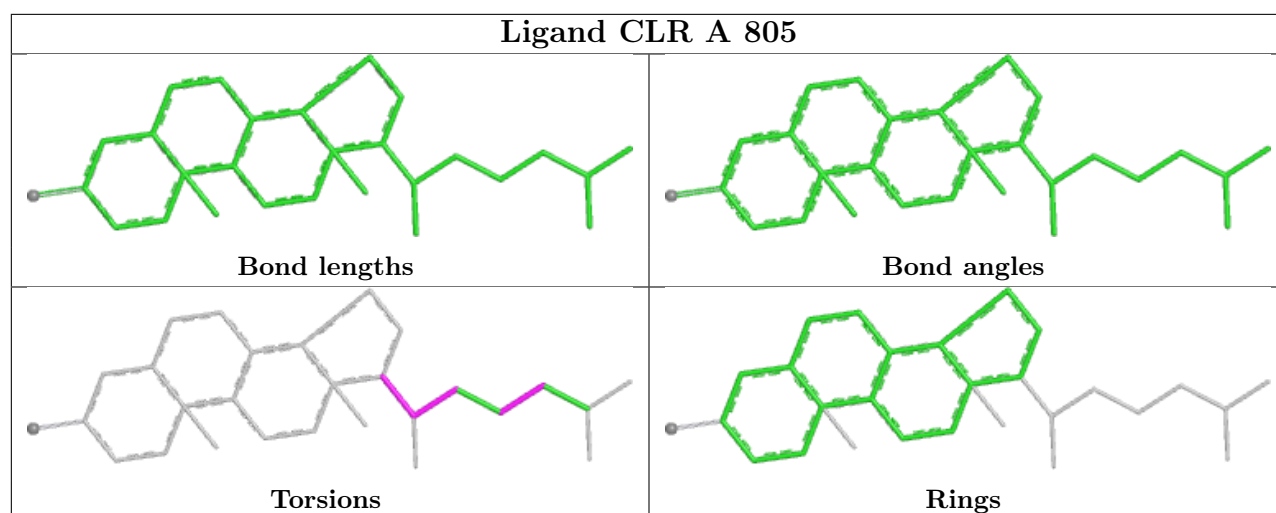


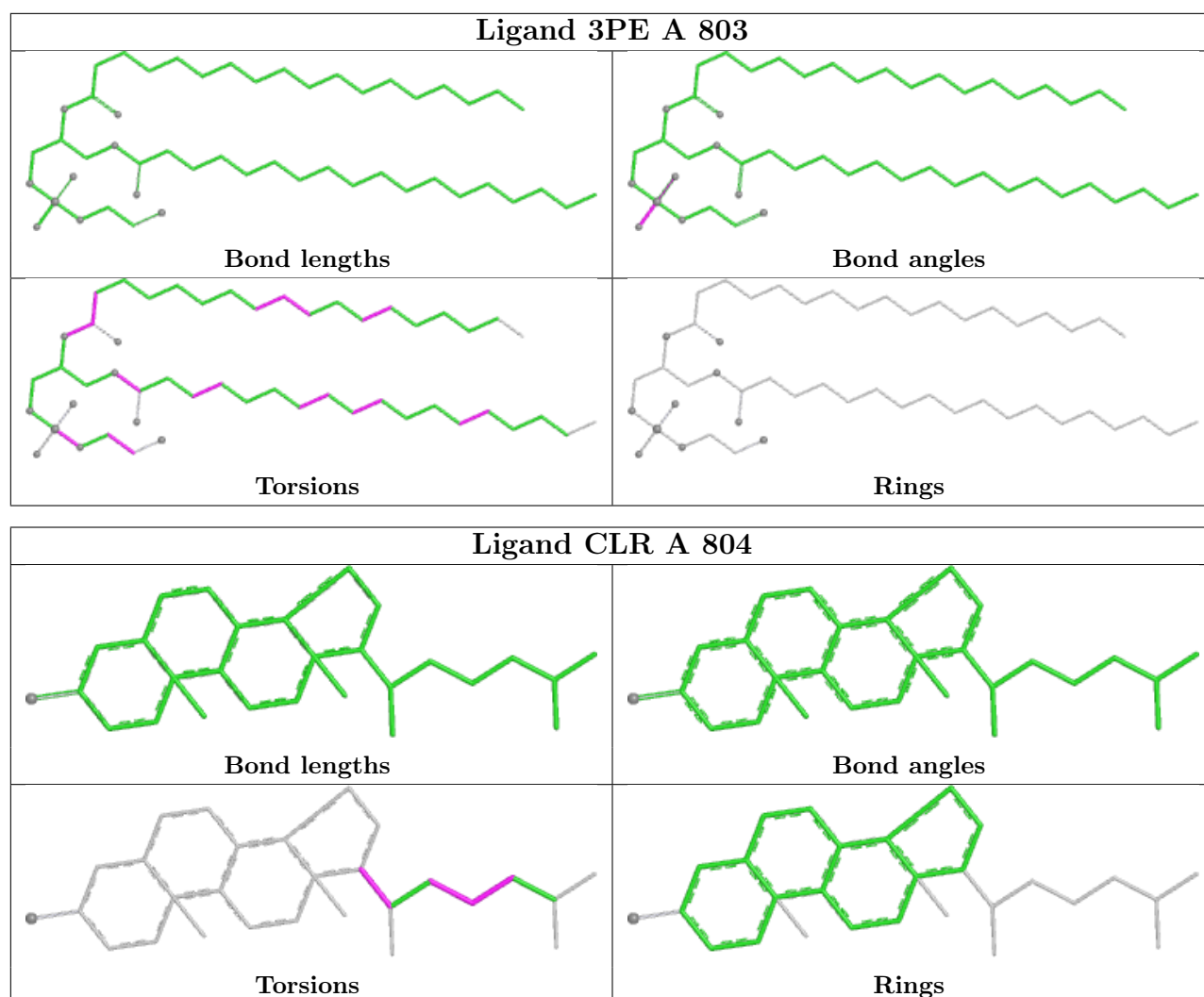


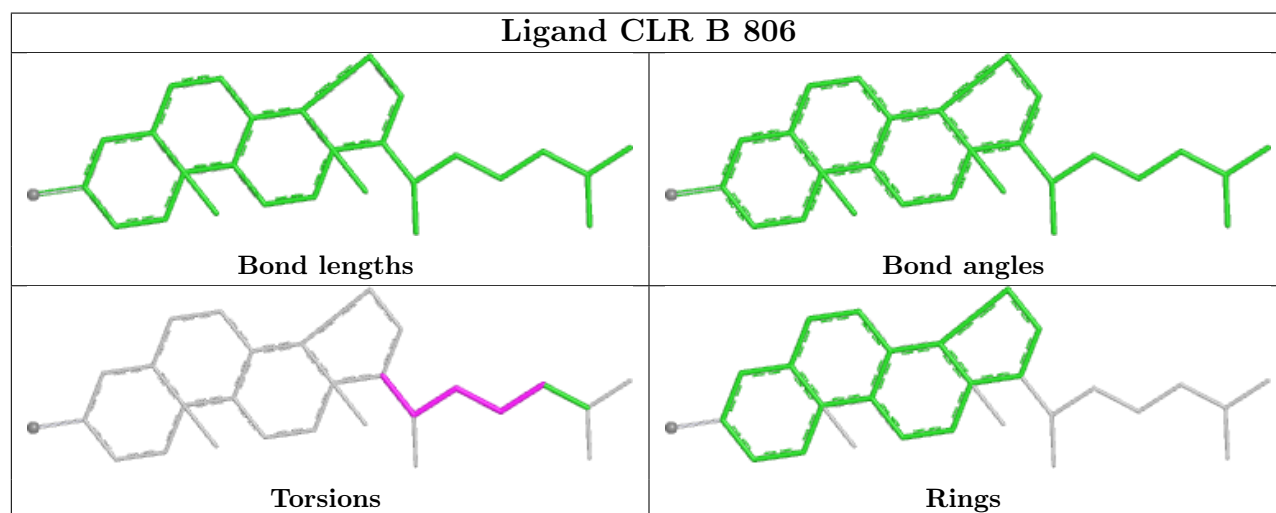
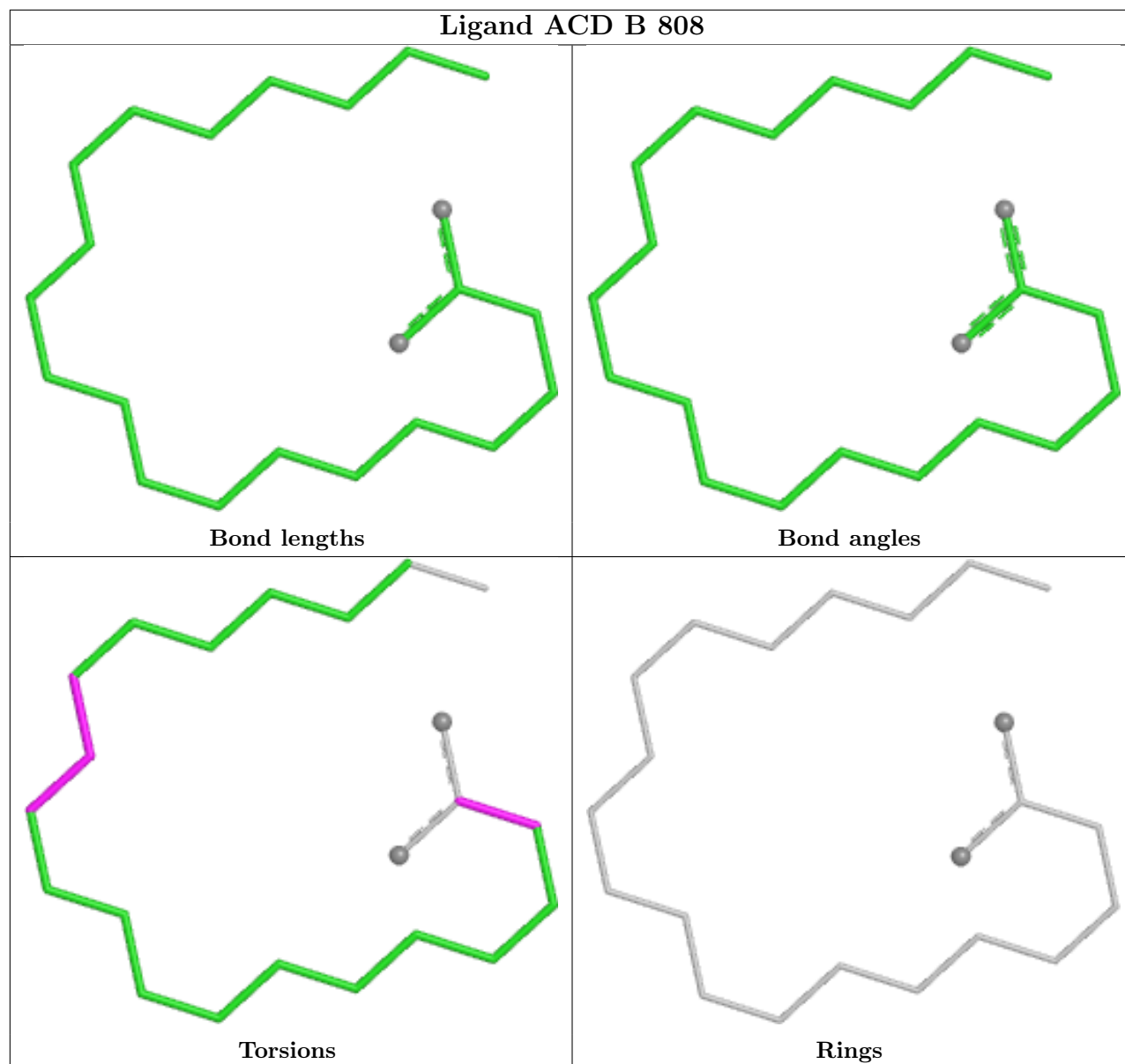


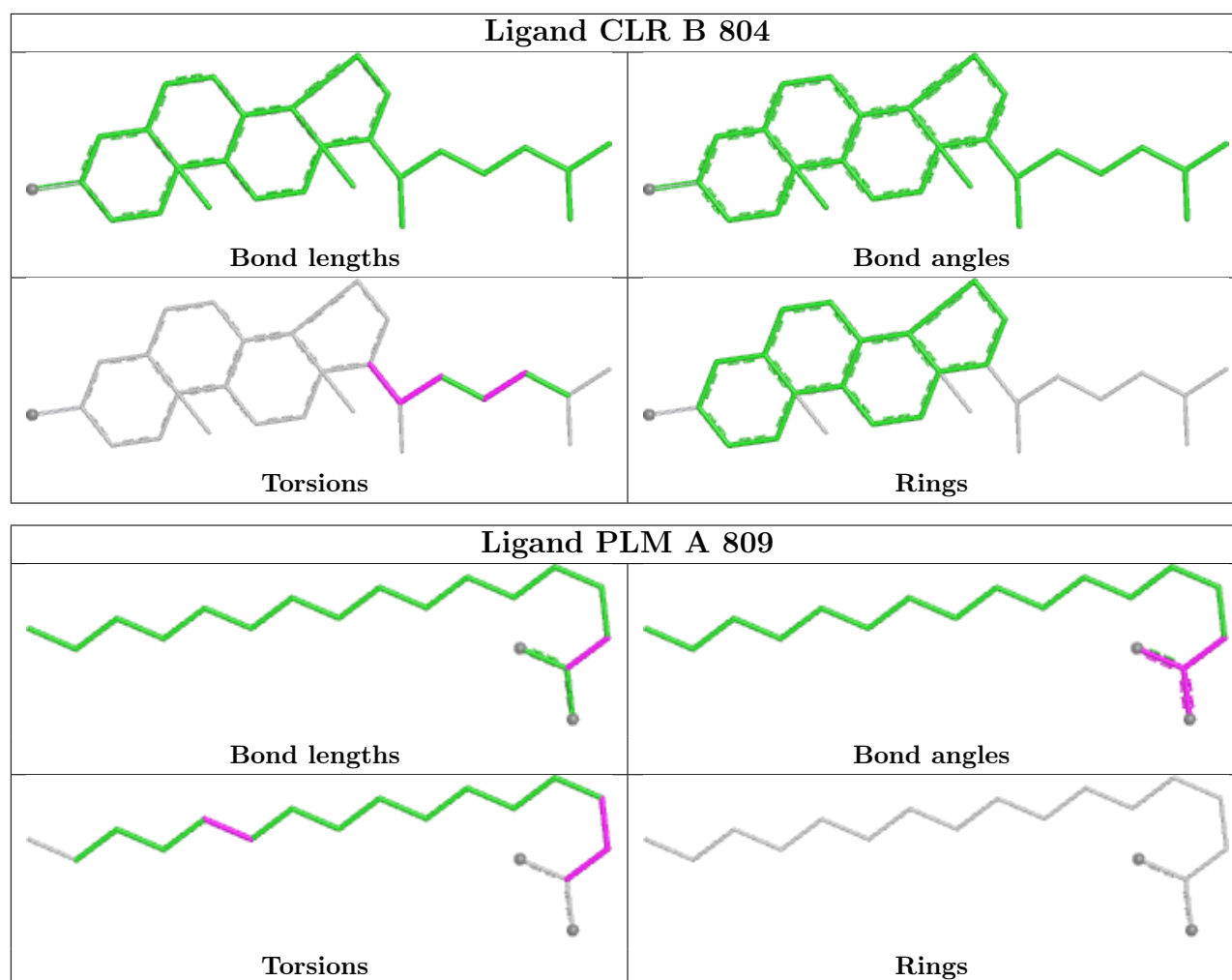












## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

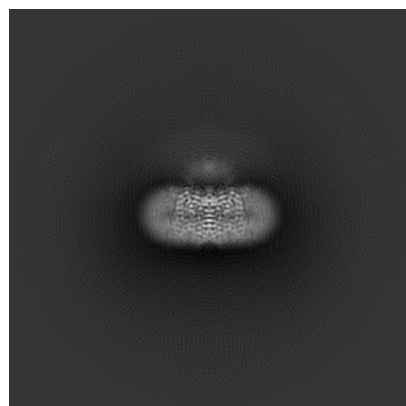
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-60705. These allow visual inspection of the internal detail of the map and identification of artifacts.

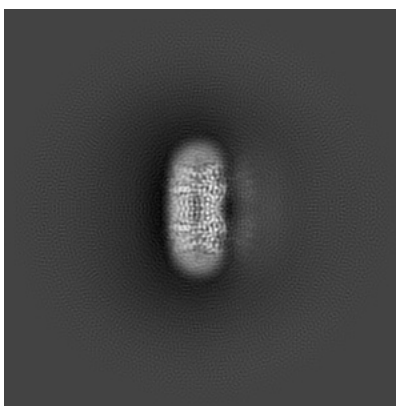
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

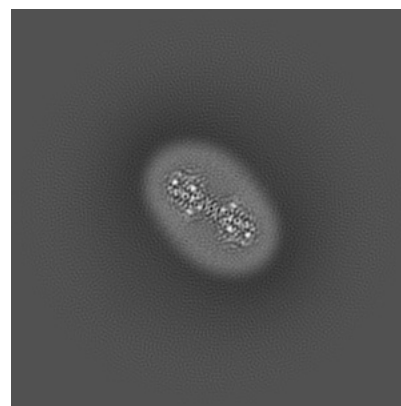
#### 6.1.1 Primary map



X

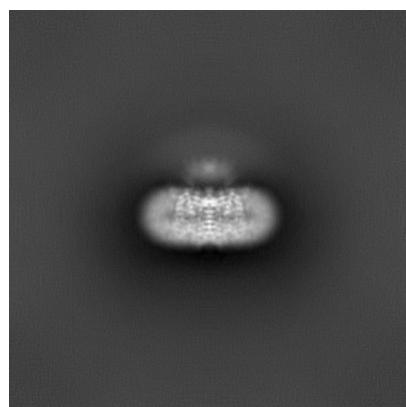


Y

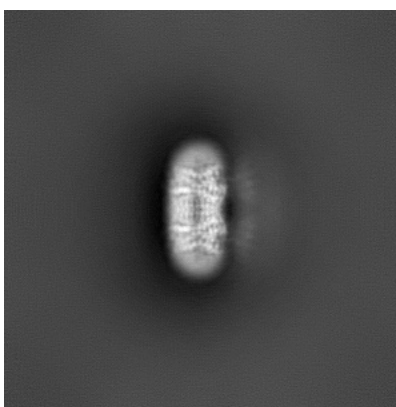


Z

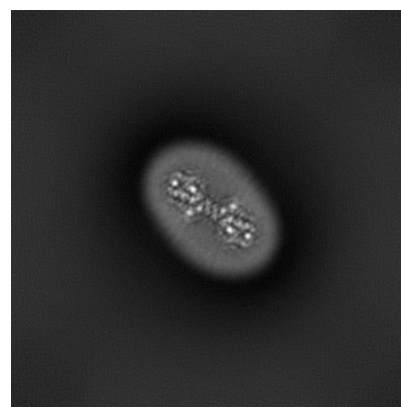
#### 6.1.2 Raw map



X



Y



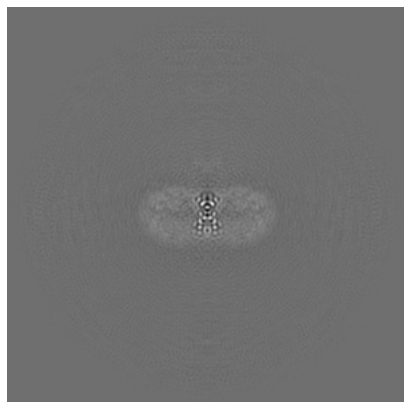
Z

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

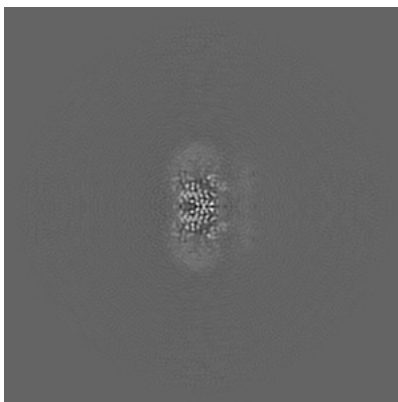


## 6.2 Central slices [i](#)

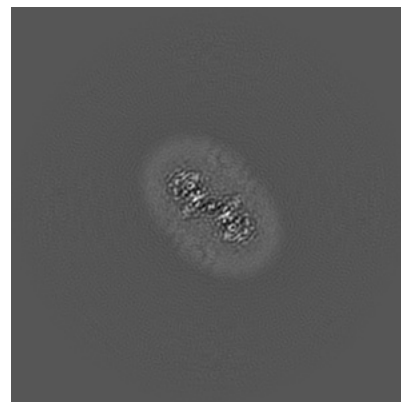
### 6.2.1 Primary map



X Index: 240

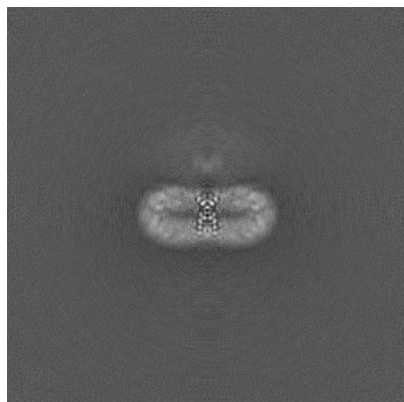


Y Index: 240

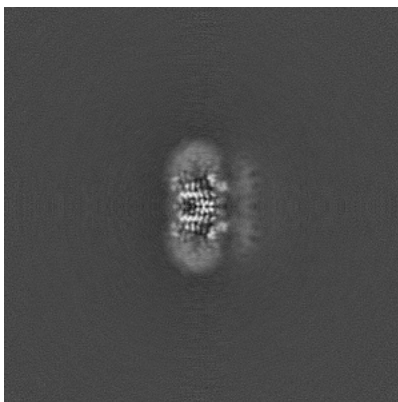


Z Index: 240

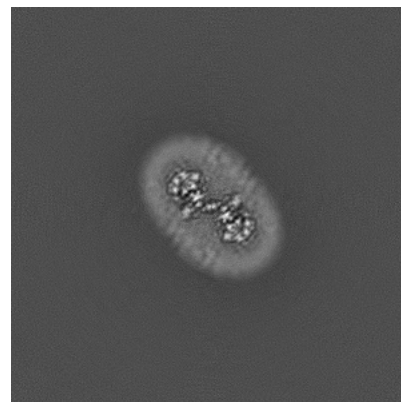
### 6.2.2 Raw map



X Index: 240



Y Index: 240

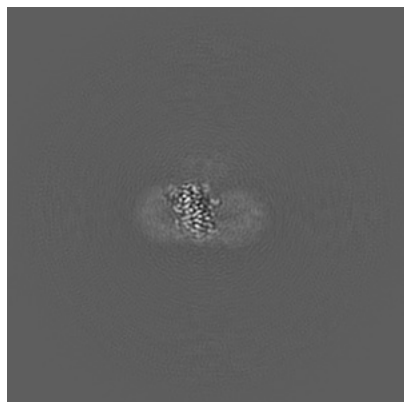


Z Index: 240

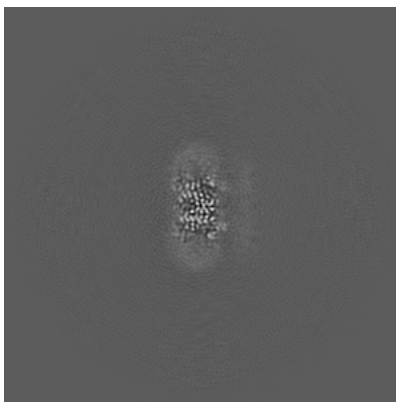
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

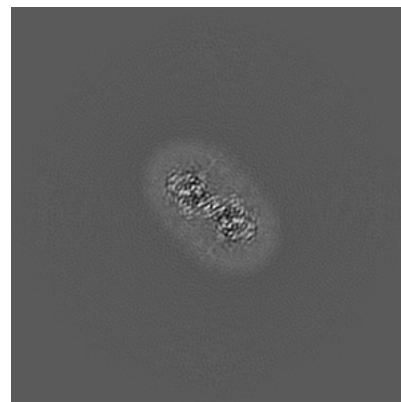
### 6.3.1 Primary map



X Index: 262

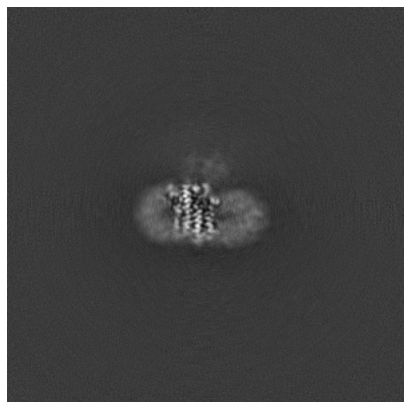


Y Index: 241

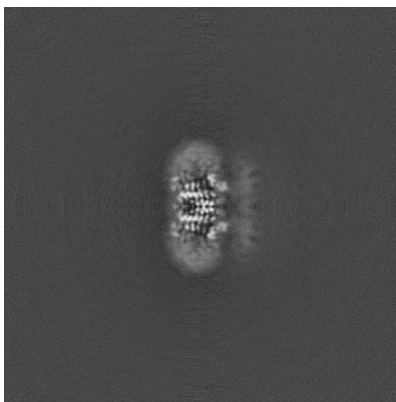


Z Index: 249

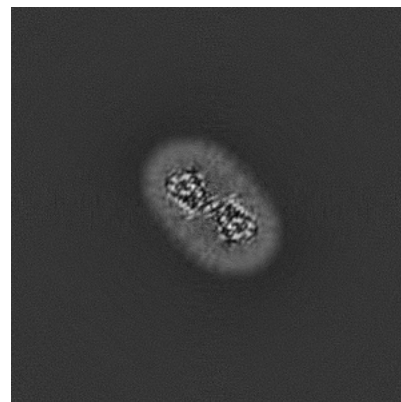
### 6.3.2 Raw map



X Index: 263



Y Index: 240

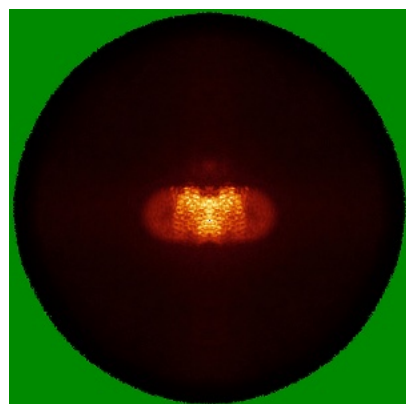


Z Index: 248

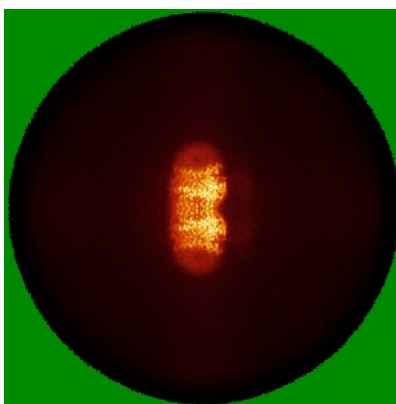
The images above show the largest variance slices of the map in three orthogonal directions.

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

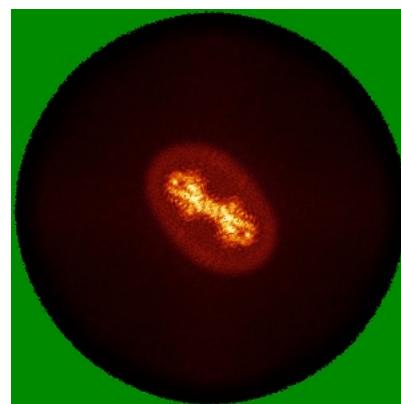
### 6.4.1 Primary map



X

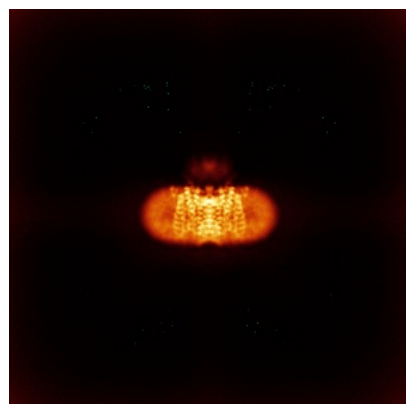


Y

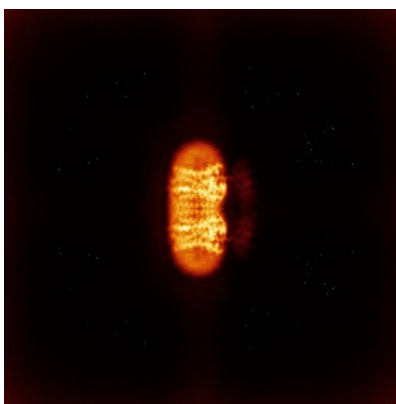


Z

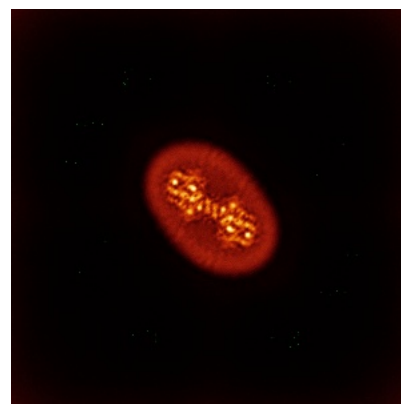
### 6.4.2 Raw map



X



Y



Z

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

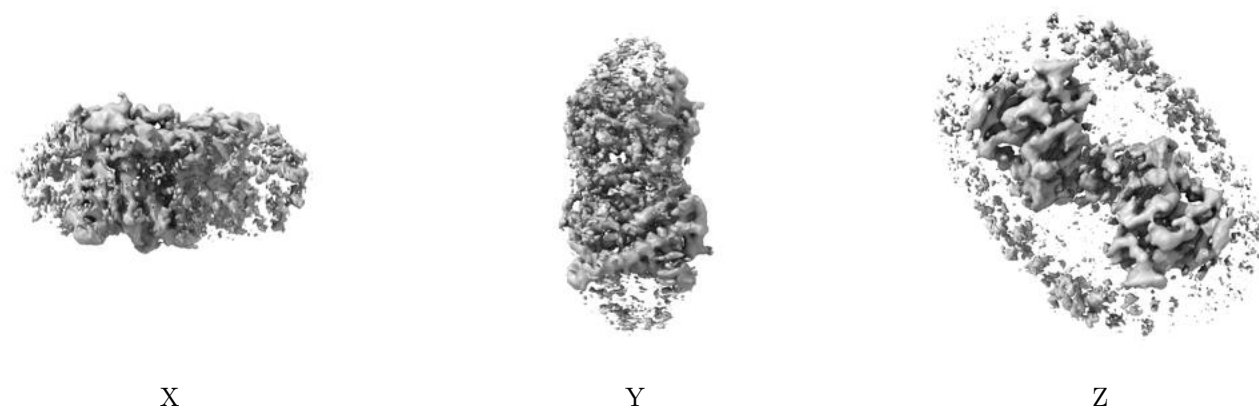
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.135. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



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

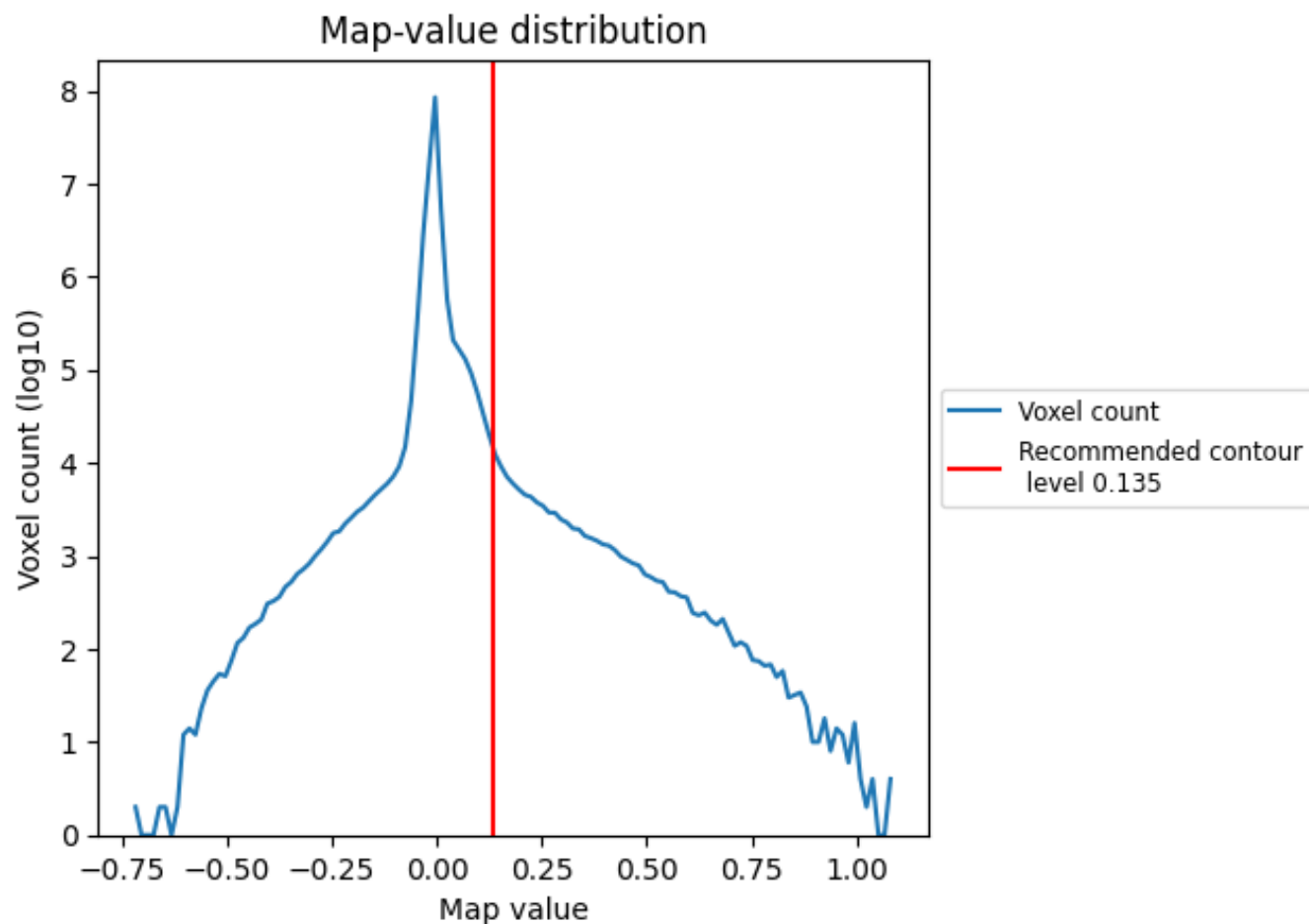
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

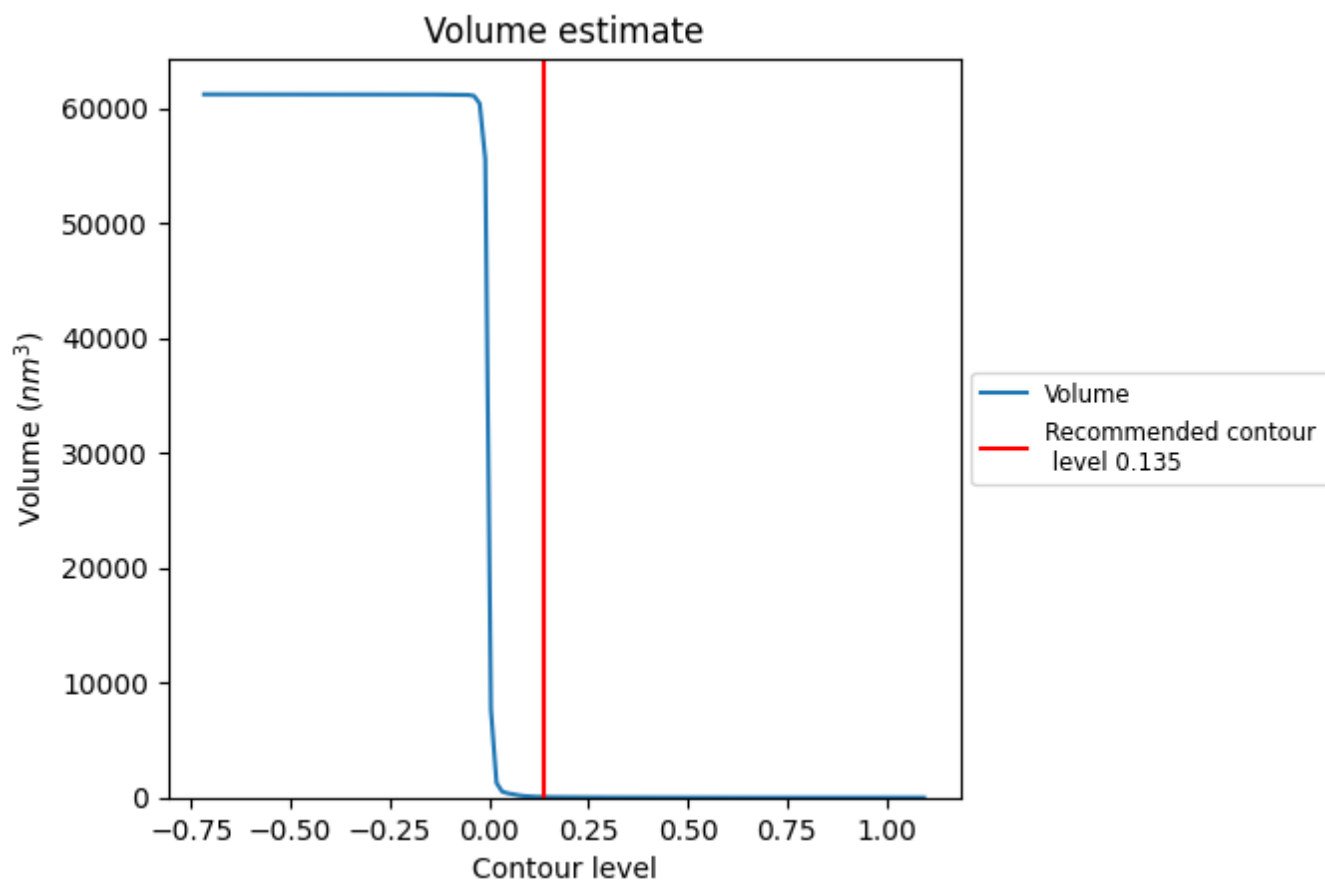
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



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

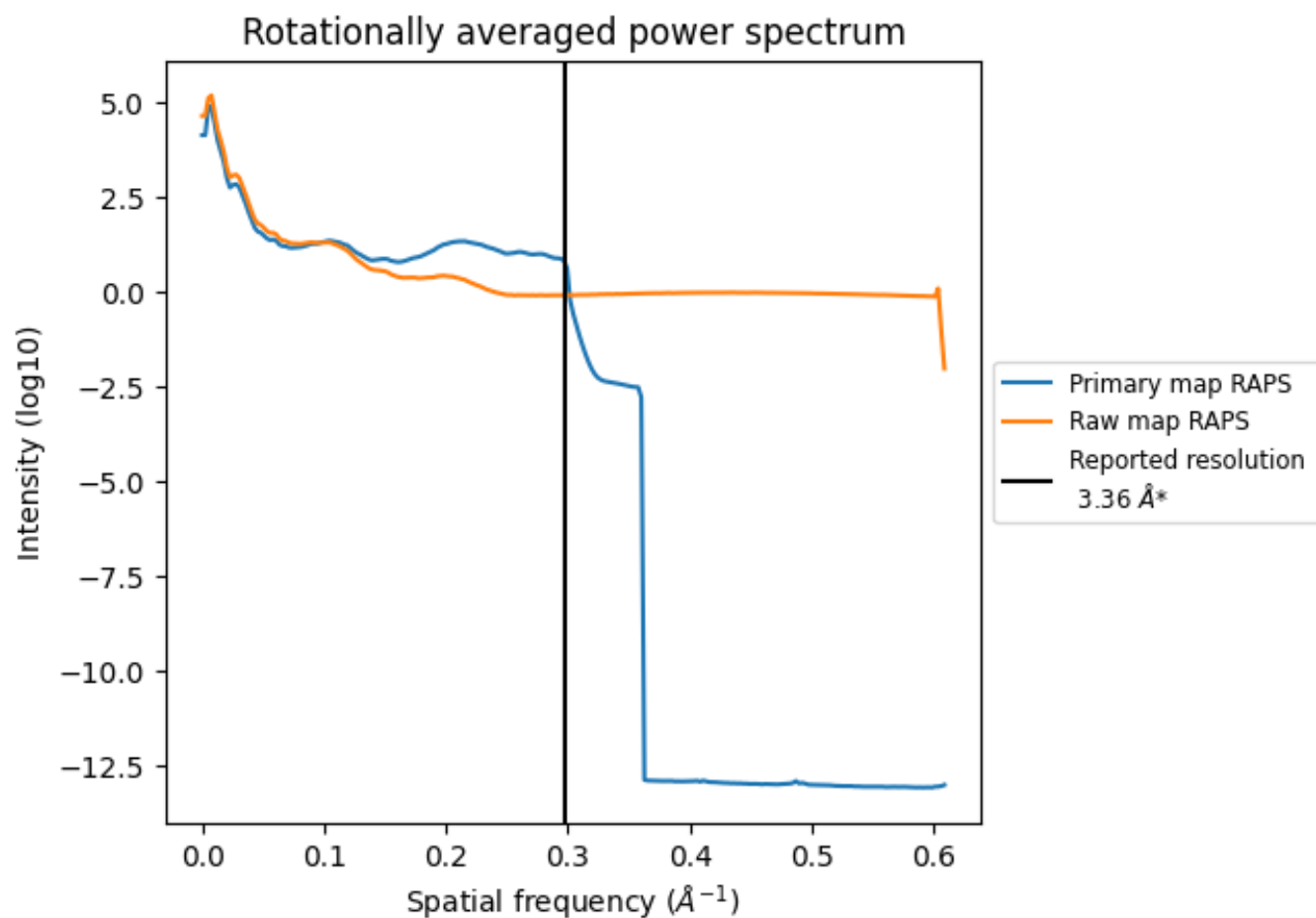
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 52 nm<sup>3</sup>; this corresponds to an approximate mass of 47 kDa.

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

### 7.3 Rotationally averaged power spectrum ⓘ

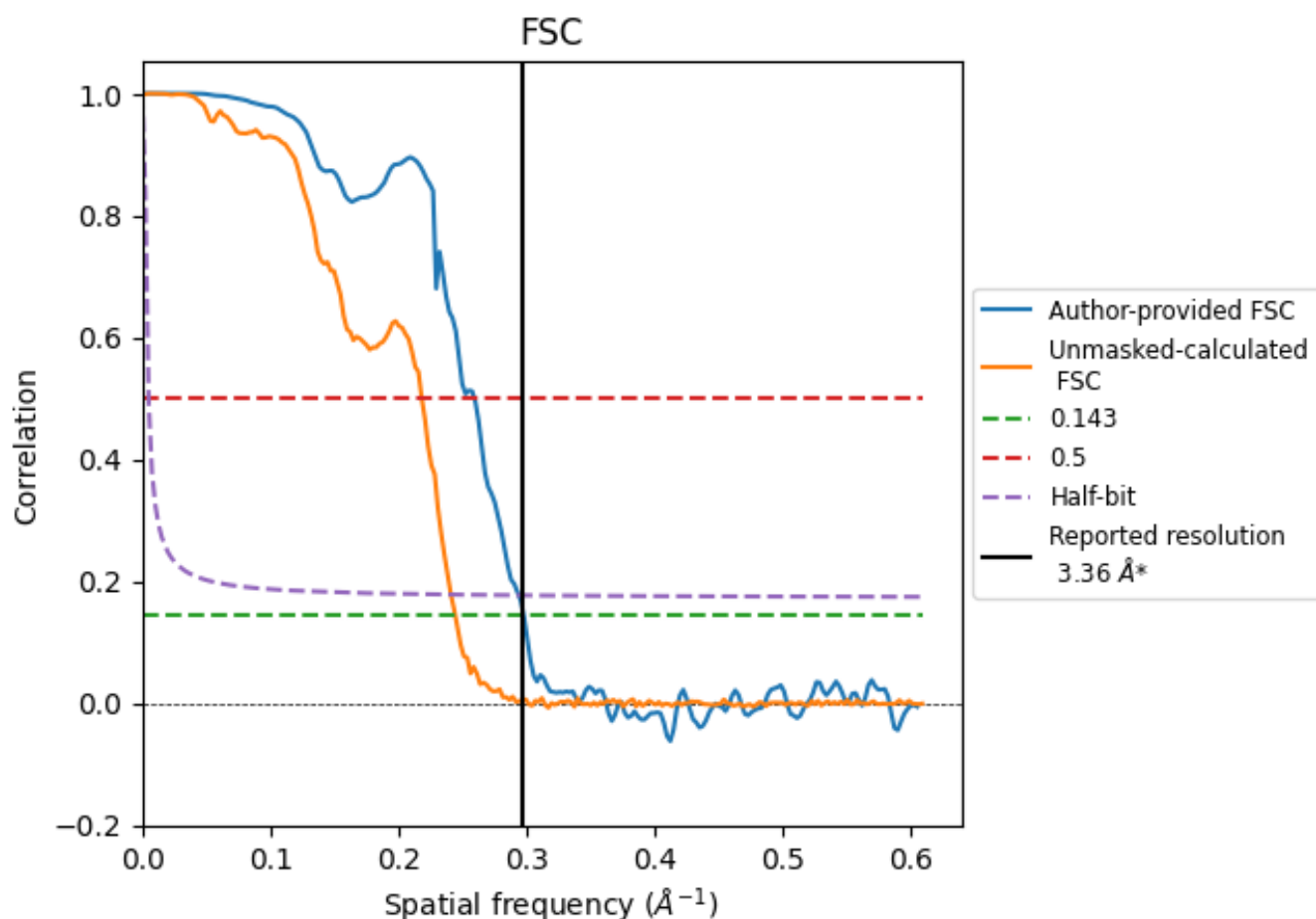


\*Reported resolution corresponds to spatial frequency of 0.298 Å<sup>-1</sup>

## 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 0.298 Å<sup>-1</sup>



## 8.2 Resolution estimates [i](#)

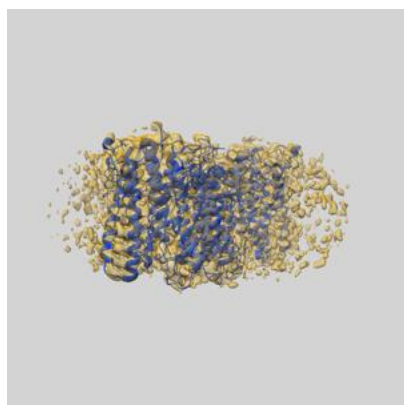
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.36	-	-
Author-provided FSC curve	3.36	3.86	3.40
Unmasked-calculated*	4.09	4.58	4.15

\*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 4.09 differs from the reported value 3.36 by more than 10 %

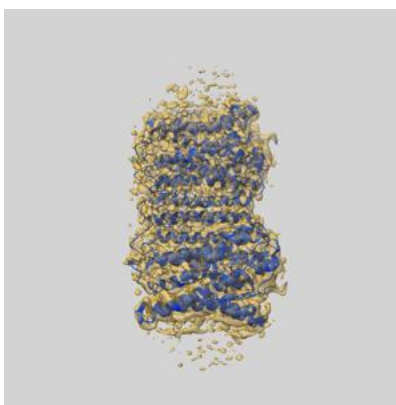
## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-60705 and PDB model 9INF. Per-residue inclusion information can be found in section [3](#) on page [8](#).

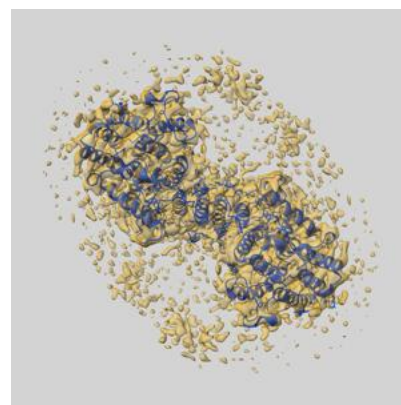
### 9.1 Map-model overlay [i](#)



X



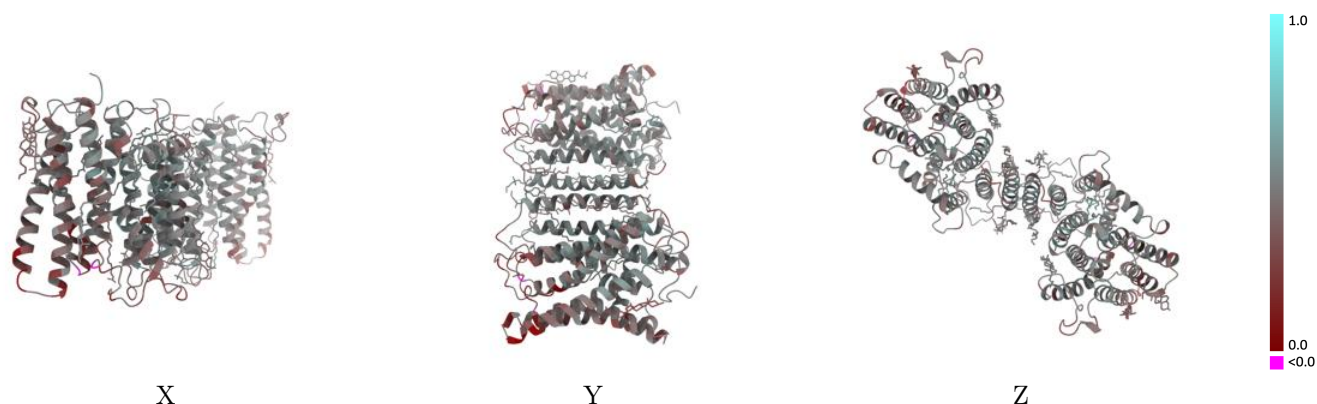
Y



Z

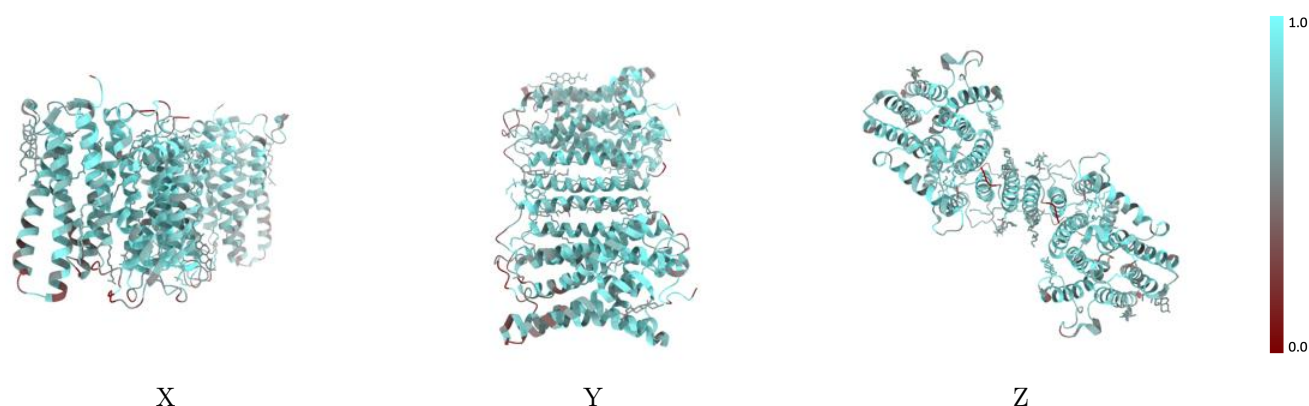
The images above show the 3D surface view of the map at the recommended contour level 0.135 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



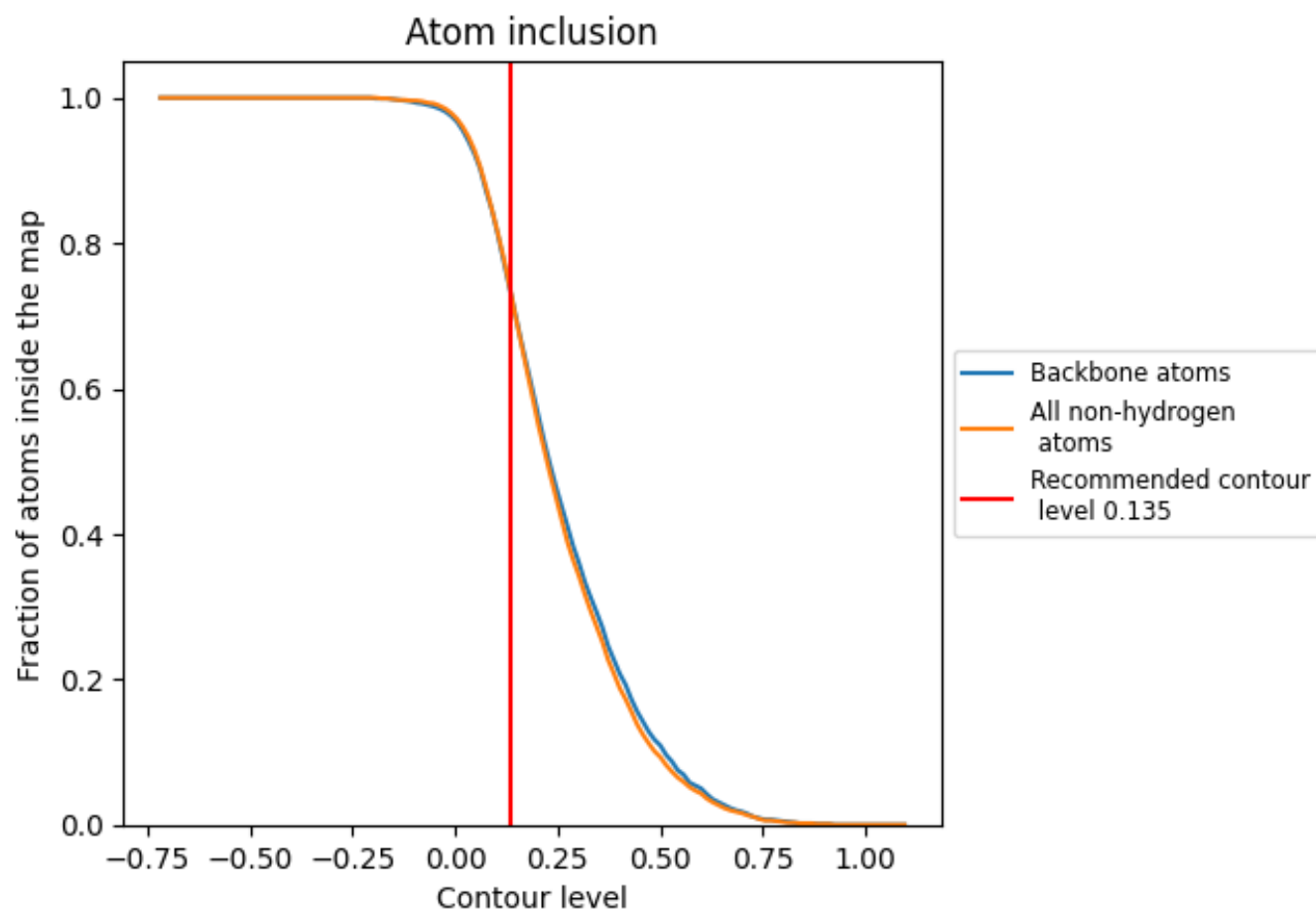
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.135).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 73% of all backbone atoms, 73% 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 (0.135) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div></div> 0.7340	<div></div> 0.4410
A	<div></div> 0.7370	<div></div> 0.4420
B	<div></div> 0.7400	<div></div> 0.4400

