



Full wwPDB EM Validation Report ⓘ

Sep 16, 2025 – 03:45 PM JST

PDB ID : 9L2G / pdb_00009l2g
EMDB ID : EMD-62775
Title : Structure of SARM1 2C-mutant bound to M1
Authors : Huang, Y.; Zhang, J.; Zheng, S.; Wang, X.
Deposited on : 2024-12-17
Resolution : 3.27 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev126
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : **FAILED**
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.45.1

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.

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

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

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 38076 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 NAD(+) hydrolase SARM1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	604	Total	C	N	O	S	0	0
			4740	2996	851	868	25		
1	B	604	Total	C	N	O	S	0	0
			4740	2996	851	868	25		
1	C	604	Total	C	N	O	S	0	0
			4740	2996	851	868	25		
1	D	604	Total	C	N	O	S	0	0
			4740	2996	851	868	25		
1	E	604	Total	C	N	O	S	0	0
			4738	2995	851	868	24		
1	F	603	Total	C	N	O	S	0	0
			4734	2993	850	867	24		
1	G	604	Total	C	N	O	S	0	0
			4740	2996	851	868	25		
1	H	605	Total	C	N	O	S	0	0
			4744	2998	852	869	25		

There are 312 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	379	CYS	SER	conflict	UNP Q6SZW1
A	423	CYS	GLN	conflict	UNP Q6SZW1
A	725	TYR	-	expression tag	UNP Q6SZW1
A	726	PRO	-	expression tag	UNP Q6SZW1
A	727	TYR	-	expression tag	UNP Q6SZW1
A	728	ASP	-	expression tag	UNP Q6SZW1
A	729	VAL	-	expression tag	UNP Q6SZW1
A	730	PRO	-	expression tag	UNP Q6SZW1
A	731	ASP	-	expression tag	UNP Q6SZW1
A	732	TYR	-	expression tag	UNP Q6SZW1
A	733	ALA	-	expression tag	UNP Q6SZW1
A	734	THR	-	expression tag	UNP Q6SZW1
A	735	ARG	-	expression tag	UNP Q6SZW1
A	736	GLY	-	expression tag	UNP Q6SZW1

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Chain	Residue	Modelled	Actual	Comment	Reference
A	737	THR	-	expression tag	UNP Q6SZW1
A	738	SER	-	expression tag	UNP Q6SZW1
A	739	ARG	-	expression tag	UNP Q6SZW1
A	740	ASP	-	expression tag	UNP Q6SZW1
A	741	TYR	-	expression tag	UNP Q6SZW1
A	742	LYS	-	expression tag	UNP Q6SZW1
A	743	ASP	-	expression tag	UNP Q6SZW1
A	744	HIS	-	expression tag	UNP Q6SZW1
A	745	ASP	-	expression tag	UNP Q6SZW1
A	746	GLY	-	expression tag	UNP Q6SZW1
A	747	ASP	-	expression tag	UNP Q6SZW1
A	748	TYR	-	expression tag	UNP Q6SZW1
A	749	LYS	-	expression tag	UNP Q6SZW1
A	750	ASP	-	expression tag	UNP Q6SZW1
A	751	HIS	-	expression tag	UNP Q6SZW1
A	752	ASP	-	expression tag	UNP Q6SZW1
A	753	ILE	-	expression tag	UNP Q6SZW1
A	754	ASP	-	expression tag	UNP Q6SZW1
A	755	TYR	-	expression tag	UNP Q6SZW1
A	756	LYS	-	expression tag	UNP Q6SZW1
A	757	ASP	-	expression tag	UNP Q6SZW1
A	758	ASP	-	expression tag	UNP Q6SZW1
A	759	ASP	-	expression tag	UNP Q6SZW1
A	760	ASP	-	expression tag	UNP Q6SZW1
A	761	LYS	-	expression tag	UNP Q6SZW1
B	379	CYS	SER	conflict	UNP Q6SZW1
B	423	CYS	GLN	conflict	UNP Q6SZW1
B	725	TYR	-	expression tag	UNP Q6SZW1
B	726	PRO	-	expression tag	UNP Q6SZW1
B	727	TYR	-	expression tag	UNP Q6SZW1
B	728	ASP	-	expression tag	UNP Q6SZW1
B	729	VAL	-	expression tag	UNP Q6SZW1
B	730	PRO	-	expression tag	UNP Q6SZW1
B	731	ASP	-	expression tag	UNP Q6SZW1
B	732	TYR	-	expression tag	UNP Q6SZW1
B	733	ALA	-	expression tag	UNP Q6SZW1
B	734	THR	-	expression tag	UNP Q6SZW1
B	735	ARG	-	expression tag	UNP Q6SZW1
B	736	GLY	-	expression tag	UNP Q6SZW1
B	737	THR	-	expression tag	UNP Q6SZW1
B	738	SER	-	expression tag	UNP Q6SZW1
B	739	ARG	-	expression tag	UNP Q6SZW1

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Chain	Residue	Modelled	Actual	Comment	Reference
B	740	ASP	-	expression tag	UNP Q6SZW1
B	741	TYR	-	expression tag	UNP Q6SZW1
B	742	LYS	-	expression tag	UNP Q6SZW1
B	743	ASP	-	expression tag	UNP Q6SZW1
B	744	HIS	-	expression tag	UNP Q6SZW1
B	745	ASP	-	expression tag	UNP Q6SZW1
B	746	GLY	-	expression tag	UNP Q6SZW1
B	747	ASP	-	expression tag	UNP Q6SZW1
B	748	TYR	-	expression tag	UNP Q6SZW1
B	749	LYS	-	expression tag	UNP Q6SZW1
B	750	ASP	-	expression tag	UNP Q6SZW1
B	751	HIS	-	expression tag	UNP Q6SZW1
B	752	ASP	-	expression tag	UNP Q6SZW1
B	753	ILE	-	expression tag	UNP Q6SZW1
B	754	ASP	-	expression tag	UNP Q6SZW1
B	755	TYR	-	expression tag	UNP Q6SZW1
B	756	LYS	-	expression tag	UNP Q6SZW1
B	757	ASP	-	expression tag	UNP Q6SZW1
B	758	ASP	-	expression tag	UNP Q6SZW1
B	759	ASP	-	expression tag	UNP Q6SZW1
B	760	ASP	-	expression tag	UNP Q6SZW1
B	761	LYS	-	expression tag	UNP Q6SZW1
C	379	CYS	SER	conflict	UNP Q6SZW1
C	423	CYS	GLN	conflict	UNP Q6SZW1
C	725	TYR	-	expression tag	UNP Q6SZW1
C	726	PRO	-	expression tag	UNP Q6SZW1
C	727	TYR	-	expression tag	UNP Q6SZW1
C	728	ASP	-	expression tag	UNP Q6SZW1
C	729	VAL	-	expression tag	UNP Q6SZW1
C	730	PRO	-	expression tag	UNP Q6SZW1
C	731	ASP	-	expression tag	UNP Q6SZW1
C	732	TYR	-	expression tag	UNP Q6SZW1
C	733	ALA	-	expression tag	UNP Q6SZW1
C	734	THR	-	expression tag	UNP Q6SZW1
C	735	ARG	-	expression tag	UNP Q6SZW1
C	736	GLY	-	expression tag	UNP Q6SZW1
C	737	THR	-	expression tag	UNP Q6SZW1
C	738	SER	-	expression tag	UNP Q6SZW1
C	739	ARG	-	expression tag	UNP Q6SZW1
C	740	ASP	-	expression tag	UNP Q6SZW1
C	741	TYR	-	expression tag	UNP Q6SZW1
C	742	LYS	-	expression tag	UNP Q6SZW1

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Chain	Residue	Modelled	Actual	Comment	Reference
C	743	ASP	-	expression tag	UNP Q6SZW1
C	744	HIS	-	expression tag	UNP Q6SZW1
C	745	ASP	-	expression tag	UNP Q6SZW1
C	746	GLY	-	expression tag	UNP Q6SZW1
C	747	ASP	-	expression tag	UNP Q6SZW1
C	748	TYR	-	expression tag	UNP Q6SZW1
C	749	LYS	-	expression tag	UNP Q6SZW1
C	750	ASP	-	expression tag	UNP Q6SZW1
C	751	HIS	-	expression tag	UNP Q6SZW1
C	752	ASP	-	expression tag	UNP Q6SZW1
C	753	ILE	-	expression tag	UNP Q6SZW1
C	754	ASP	-	expression tag	UNP Q6SZW1
C	755	TYR	-	expression tag	UNP Q6SZW1
C	756	LYS	-	expression tag	UNP Q6SZW1
C	757	ASP	-	expression tag	UNP Q6SZW1
C	758	ASP	-	expression tag	UNP Q6SZW1
C	759	ASP	-	expression tag	UNP Q6SZW1
C	760	ASP	-	expression tag	UNP Q6SZW1
C	761	LYS	-	expression tag	UNP Q6SZW1
D	379	CYS	SER	conflict	UNP Q6SZW1
D	423	CYS	GLN	conflict	UNP Q6SZW1
D	725	TYR	-	expression tag	UNP Q6SZW1
D	726	PRO	-	expression tag	UNP Q6SZW1
D	727	TYR	-	expression tag	UNP Q6SZW1
D	728	ASP	-	expression tag	UNP Q6SZW1
D	729	VAL	-	expression tag	UNP Q6SZW1
D	730	PRO	-	expression tag	UNP Q6SZW1
D	731	ASP	-	expression tag	UNP Q6SZW1
D	732	TYR	-	expression tag	UNP Q6SZW1
D	733	ALA	-	expression tag	UNP Q6SZW1
D	734	THR	-	expression tag	UNP Q6SZW1
D	735	ARG	-	expression tag	UNP Q6SZW1
D	736	GLY	-	expression tag	UNP Q6SZW1
D	737	THR	-	expression tag	UNP Q6SZW1
D	738	SER	-	expression tag	UNP Q6SZW1
D	739	ARG	-	expression tag	UNP Q6SZW1
D	740	ASP	-	expression tag	UNP Q6SZW1
D	741	TYR	-	expression tag	UNP Q6SZW1
D	742	LYS	-	expression tag	UNP Q6SZW1
D	743	ASP	-	expression tag	UNP Q6SZW1
D	744	HIS	-	expression tag	UNP Q6SZW1
D	745	ASP	-	expression tag	UNP Q6SZW1

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Chain	Residue	Modelled	Actual	Comment	Reference
D	746	GLY	-	expression tag	UNP Q6SZW1
D	747	ASP	-	expression tag	UNP Q6SZW1
D	748	TYR	-	expression tag	UNP Q6SZW1
D	749	LYS	-	expression tag	UNP Q6SZW1
D	750	ASP	-	expression tag	UNP Q6SZW1
D	751	HIS	-	expression tag	UNP Q6SZW1
D	752	ASP	-	expression tag	UNP Q6SZW1
D	753	ILE	-	expression tag	UNP Q6SZW1
D	754	ASP	-	expression tag	UNP Q6SZW1
D	755	TYR	-	expression tag	UNP Q6SZW1
D	756	LYS	-	expression tag	UNP Q6SZW1
D	757	ASP	-	expression tag	UNP Q6SZW1
D	758	ASP	-	expression tag	UNP Q6SZW1
D	759	ASP	-	expression tag	UNP Q6SZW1
D	760	ASP	-	expression tag	UNP Q6SZW1
D	761	LYS	-	expression tag	UNP Q6SZW1
E	379	CYS	SER	conflict	UNP Q6SZW1
E	423	CYS	GLN	conflict	UNP Q6SZW1
E	725	TYR	-	expression tag	UNP Q6SZW1
E	726	PRO	-	expression tag	UNP Q6SZW1
E	727	TYR	-	expression tag	UNP Q6SZW1
E	728	ASP	-	expression tag	UNP Q6SZW1
E	729	VAL	-	expression tag	UNP Q6SZW1
E	730	PRO	-	expression tag	UNP Q6SZW1
E	731	ASP	-	expression tag	UNP Q6SZW1
E	732	TYR	-	expression tag	UNP Q6SZW1
E	733	ALA	-	expression tag	UNP Q6SZW1
E	734	THR	-	expression tag	UNP Q6SZW1
E	735	ARG	-	expression tag	UNP Q6SZW1
E	736	GLY	-	expression tag	UNP Q6SZW1
E	737	THR	-	expression tag	UNP Q6SZW1
E	738	SER	-	expression tag	UNP Q6SZW1
E	739	ARG	-	expression tag	UNP Q6SZW1
E	740	ASP	-	expression tag	UNP Q6SZW1
E	741	TYR	-	expression tag	UNP Q6SZW1
E	742	LYS	-	expression tag	UNP Q6SZW1
E	743	ASP	-	expression tag	UNP Q6SZW1
E	744	HIS	-	expression tag	UNP Q6SZW1
E	745	ASP	-	expression tag	UNP Q6SZW1
E	746	GLY	-	expression tag	UNP Q6SZW1
E	747	ASP	-	expression tag	UNP Q6SZW1
E	748	TYR	-	expression tag	UNP Q6SZW1

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Chain	Residue	Modelled	Actual	Comment	Reference
E	749	LYS	-	expression tag	UNP Q6SZW1
E	750	ASP	-	expression tag	UNP Q6SZW1
E	751	HIS	-	expression tag	UNP Q6SZW1
E	752	ASP	-	expression tag	UNP Q6SZW1
E	753	ILE	-	expression tag	UNP Q6SZW1
E	754	ASP	-	expression tag	UNP Q6SZW1
E	755	TYR	-	expression tag	UNP Q6SZW1
E	756	LYS	-	expression tag	UNP Q6SZW1
E	757	ASP	-	expression tag	UNP Q6SZW1
E	758	ASP	-	expression tag	UNP Q6SZW1
E	759	ASP	-	expression tag	UNP Q6SZW1
E	760	ASP	-	expression tag	UNP Q6SZW1
E	761	LYS	-	expression tag	UNP Q6SZW1
F	379	CYS	SER	conflict	UNP Q6SZW1
F	423	CYS	GLN	conflict	UNP Q6SZW1
F	725	TYR	-	expression tag	UNP Q6SZW1
F	726	PRO	-	expression tag	UNP Q6SZW1
F	727	TYR	-	expression tag	UNP Q6SZW1
F	728	ASP	-	expression tag	UNP Q6SZW1
F	729	VAL	-	expression tag	UNP Q6SZW1
F	730	PRO	-	expression tag	UNP Q6SZW1
F	731	ASP	-	expression tag	UNP Q6SZW1
F	732	TYR	-	expression tag	UNP Q6SZW1
F	733	ALA	-	expression tag	UNP Q6SZW1
F	734	THR	-	expression tag	UNP Q6SZW1
F	735	ARG	-	expression tag	UNP Q6SZW1
F	736	GLY	-	expression tag	UNP Q6SZW1
F	737	THR	-	expression tag	UNP Q6SZW1
F	738	SER	-	expression tag	UNP Q6SZW1
F	739	ARG	-	expression tag	UNP Q6SZW1
F	740	ASP	-	expression tag	UNP Q6SZW1
F	741	TYR	-	expression tag	UNP Q6SZW1
F	742	LYS	-	expression tag	UNP Q6SZW1
F	743	ASP	-	expression tag	UNP Q6SZW1
F	744	HIS	-	expression tag	UNP Q6SZW1
F	745	ASP	-	expression tag	UNP Q6SZW1
F	746	GLY	-	expression tag	UNP Q6SZW1
F	747	ASP	-	expression tag	UNP Q6SZW1
F	748	TYR	-	expression tag	UNP Q6SZW1
F	749	LYS	-	expression tag	UNP Q6SZW1
F	750	ASP	-	expression tag	UNP Q6SZW1
F	751	HIS	-	expression tag	UNP Q6SZW1

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Chain	Residue	Modelled	Actual	Comment	Reference
F	752	ASP	-	expression tag	UNP Q6SZW1
F	753	ILE	-	expression tag	UNP Q6SZW1
F	754	ASP	-	expression tag	UNP Q6SZW1
F	755	TYR	-	expression tag	UNP Q6SZW1
F	756	LYS	-	expression tag	UNP Q6SZW1
F	757	ASP	-	expression tag	UNP Q6SZW1
F	758	ASP	-	expression tag	UNP Q6SZW1
F	759	ASP	-	expression tag	UNP Q6SZW1
F	760	ASP	-	expression tag	UNP Q6SZW1
F	761	LYS	-	expression tag	UNP Q6SZW1
G	379	CYS	SER	conflict	UNP Q6SZW1
G	423	CYS	GLN	conflict	UNP Q6SZW1
G	725	TYR	-	expression tag	UNP Q6SZW1
G	726	PRO	-	expression tag	UNP Q6SZW1
G	727	TYR	-	expression tag	UNP Q6SZW1
G	728	ASP	-	expression tag	UNP Q6SZW1
G	729	VAL	-	expression tag	UNP Q6SZW1
G	730	PRO	-	expression tag	UNP Q6SZW1
G	731	ASP	-	expression tag	UNP Q6SZW1
G	732	TYR	-	expression tag	UNP Q6SZW1
G	733	ALA	-	expression tag	UNP Q6SZW1
G	734	THR	-	expression tag	UNP Q6SZW1
G	735	ARG	-	expression tag	UNP Q6SZW1
G	736	GLY	-	expression tag	UNP Q6SZW1
G	737	THR	-	expression tag	UNP Q6SZW1
G	738	SER	-	expression tag	UNP Q6SZW1
G	739	ARG	-	expression tag	UNP Q6SZW1
G	740	ASP	-	expression tag	UNP Q6SZW1
G	741	TYR	-	expression tag	UNP Q6SZW1
G	742	LYS	-	expression tag	UNP Q6SZW1
G	743	ASP	-	expression tag	UNP Q6SZW1
G	744	HIS	-	expression tag	UNP Q6SZW1
G	745	ASP	-	expression tag	UNP Q6SZW1
G	746	GLY	-	expression tag	UNP Q6SZW1
G	747	ASP	-	expression tag	UNP Q6SZW1
G	748	TYR	-	expression tag	UNP Q6SZW1
G	749	LYS	-	expression tag	UNP Q6SZW1
G	750	ASP	-	expression tag	UNP Q6SZW1
G	751	HIS	-	expression tag	UNP Q6SZW1
G	752	ASP	-	expression tag	UNP Q6SZW1
G	753	ILE	-	expression tag	UNP Q6SZW1
G	754	ASP	-	expression tag	UNP Q6SZW1

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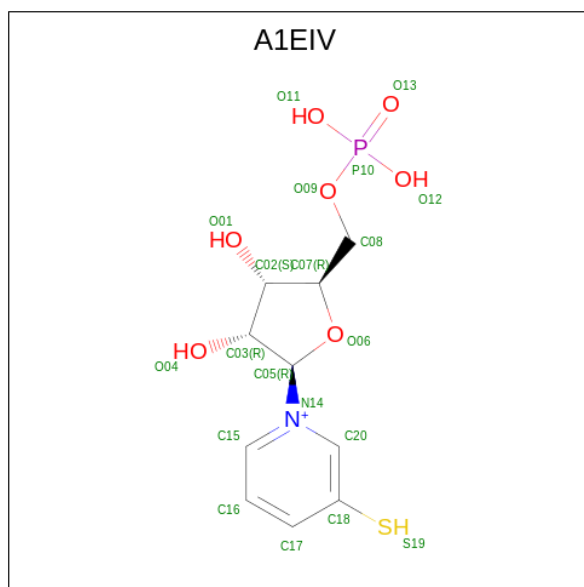
Chain	Residue	Modelled	Actual	Comment	Reference
G	755	TYR	-	expression tag	UNP Q6SZW1
G	756	LYS	-	expression tag	UNP Q6SZW1
G	757	ASP	-	expression tag	UNP Q6SZW1
G	758	ASP	-	expression tag	UNP Q6SZW1
G	759	ASP	-	expression tag	UNP Q6SZW1
G	760	ASP	-	expression tag	UNP Q6SZW1
G	761	LYS	-	expression tag	UNP Q6SZW1
H	379	CYS	SER	conflict	UNP Q6SZW1
H	423	CYS	GLN	conflict	UNP Q6SZW1
H	725	TYR	-	expression tag	UNP Q6SZW1
H	726	PRO	-	expression tag	UNP Q6SZW1
H	727	TYR	-	expression tag	UNP Q6SZW1
H	728	ASP	-	expression tag	UNP Q6SZW1
H	729	VAL	-	expression tag	UNP Q6SZW1
H	730	PRO	-	expression tag	UNP Q6SZW1
H	731	ASP	-	expression tag	UNP Q6SZW1
H	732	TYR	-	expression tag	UNP Q6SZW1
H	733	ALA	-	expression tag	UNP Q6SZW1
H	734	THR	-	expression tag	UNP Q6SZW1
H	735	ARG	-	expression tag	UNP Q6SZW1
H	736	GLY	-	expression tag	UNP Q6SZW1
H	737	THR	-	expression tag	UNP Q6SZW1
H	738	SER	-	expression tag	UNP Q6SZW1
H	739	ARG	-	expression tag	UNP Q6SZW1
H	740	ASP	-	expression tag	UNP Q6SZW1
H	741	TYR	-	expression tag	UNP Q6SZW1
H	742	LYS	-	expression tag	UNP Q6SZW1
H	743	ASP	-	expression tag	UNP Q6SZW1
H	744	HIS	-	expression tag	UNP Q6SZW1
H	745	ASP	-	expression tag	UNP Q6SZW1
H	746	GLY	-	expression tag	UNP Q6SZW1
H	747	ASP	-	expression tag	UNP Q6SZW1
H	748	TYR	-	expression tag	UNP Q6SZW1
H	749	LYS	-	expression tag	UNP Q6SZW1
H	750	ASP	-	expression tag	UNP Q6SZW1
H	751	HIS	-	expression tag	UNP Q6SZW1
H	752	ASP	-	expression tag	UNP Q6SZW1
H	753	ILE	-	expression tag	UNP Q6SZW1
H	754	ASP	-	expression tag	UNP Q6SZW1
H	755	TYR	-	expression tag	UNP Q6SZW1
H	756	LYS	-	expression tag	UNP Q6SZW1
H	757	ASP	-	expression tag	UNP Q6SZW1

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Chain	Residue	Modelled	Actual	Comment	Reference
H	758	ASP	-	expression tag	UNP Q6SZW1
H	759	ASP	-	expression tag	UNP Q6SZW1
H	760	ASP	-	expression tag	UNP Q6SZW1
H	761	LYS	-	expression tag	UNP Q6SZW1

- Molecule 2 is [(2 {R},3 {S},4 {R},5 {R})-3,4-bis(oxidanyl)-5-(3-sulfanylpYridin-1-yl)oxolan-2-yl]methyl dihydrogen phosphate (CCD ID: A1EIV) (formula: C₁₀H₁₅NO₇PS) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						AltConf
2	A	1	Total	C	N	O	P	S	0
			20	10	1	7	1	1	
2	B	1	Total	C	N	O	P	S	0
			20	10	1	7	1	1	
2	C	1	Total	C	N	O	P	S	0
			20	10	1	7	1	1	
2	D	1	Total	C	N	O	P	S	0
			20	10	1	7	1	1	
2	E	1	Total	C	N	O	P	S	0
			20	10	1	7	1	1	
2	F	1	Total	C	N	O	P	S	0
			20	10	1	7	1	1	
2	G	1	Total	C	N	O	P	S	0
			20	10	1	7	1	1	
2	H	1	Total	C	N	O	P	S	0
			20	10	1	7	1	1	

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

3 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	9516	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1090	Depositor
Maximum defocus (nm)	2340	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.872	Depositor
Minimum map value	-0.993	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.049	Depositor
Recommended contour level	0.152	Depositor
Map size (Å)	367.2, 367.2, 367.2	wwPDB
Map dimensions	340, 340, 340	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.08, 1.08, 1.08	Depositor

4 Model quality [i](#)

4.1 Standard geometry [i](#)

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

4.2 Too-close contacts [i](#)

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

4.3 Torsion angles [i](#)

4.3.1 Protein backbone [i](#)

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

4.3.2 Protein sidechains [i](#)

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

4.3.3 RNA [i](#)

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

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

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

4.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

4.6 Ligand geometry [i](#)

8 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	A1EIV	A	801	-	20,21,21	2.53	5 (25%)	25,31,31	1.69	6 (24%)
2	A1EIV	B	801	-	20,21,21	2.52	5 (25%)	25,31,31	1.69	6 (24%)
2	A1EIV	G	801	-	20,21,21	2.52	5 (25%)	25,31,31	1.69	6 (24%)
2	A1EIV	C	801	-	20,21,21	2.52	5 (25%)	25,31,31	1.69	6 (24%)
2	A1EIV	F	801	-	20,21,21	2.52	5 (25%)	25,31,31	1.69	6 (24%)
2	A1EIV	E	801	-	20,21,21	2.53	5 (25%)	25,31,31	1.69	6 (24%)
2	A1EIV	H	801	-	20,21,21	2.53	5 (25%)	25,31,31	1.69	6 (24%)
2	A1EIV	D	801	-	20,21,21	2.52	5 (25%)	25,31,31	1.69	6 (24%)

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	A1EIV	A	801	-	-	5/10/26/26	0/2/2/2
2	A1EIV	B	801	-	-	5/10/26/26	0/2/2/2
2	A1EIV	G	801	-	-	5/10/26/26	0/2/2/2
2	A1EIV	C	801	-	-	5/10/26/26	0/2/2/2
2	A1EIV	F	801	-	-	5/10/26/26	0/2/2/2
2	A1EIV	E	801	-	-	5/10/26/26	0/2/2/2
2	A1EIV	H	801	-	-	5/10/26/26	0/2/2/2
2	A1EIV	D	801	-	-	5/10/26/26	0/2/2/2

All (40) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	801	A1EIV	P10-O09	8.91	1.88	1.60
2	A	801	A1EIV	P10-O09	8.91	1.88	1.60
2	E	801	A1EIV	P10-O09	8.91	1.88	1.60
2	H	801	A1EIV	P10-O09	8.90	1.88	1.60
2	B	801	A1EIV	P10-O09	8.90	1.88	1.60
2	G	801	A1EIV	P10-O09	8.90	1.88	1.60
2	F	801	A1EIV	P10-O09	8.89	1.88	1.60
2	C	801	A1EIV	P10-O09	8.89	1.88	1.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	801	A1EIV	O06-C05	-3.82	1.35	1.41
2	C	801	A1EIV	O06-C05	-3.82	1.35	1.41
2	E	801	A1EIV	O06-C05	-3.81	1.35	1.41
2	A	801	A1EIV	O06-C05	-3.80	1.35	1.41
2	B	801	A1EIV	O06-C05	-3.78	1.35	1.41
2	D	801	A1EIV	O06-C05	-3.77	1.35	1.41
2	F	801	A1EIV	O06-C05	-3.77	1.35	1.41
2	G	801	A1EIV	O06-C05	-3.76	1.35	1.41
2	D	801	A1EIV	O09-C08	-3.12	1.32	1.44
2	H	801	A1EIV	O09-C08	-3.12	1.32	1.44
2	A	801	A1EIV	O09-C08	-3.12	1.32	1.44
2	B	801	A1EIV	O09-C08	-3.11	1.32	1.44
2	G	801	A1EIV	O09-C08	-3.11	1.32	1.44
2	E	801	A1EIV	O09-C08	-3.10	1.32	1.44
2	C	801	A1EIV	O09-C08	-3.10	1.32	1.44
2	F	801	A1EIV	O09-C08	-3.09	1.32	1.44
2	A	801	A1EIV	C08-C07	2.84	1.60	1.51
2	D	801	A1EIV	C08-C07	2.82	1.60	1.51
2	F	801	A1EIV	C08-C07	2.82	1.60	1.51
2	G	801	A1EIV	C08-C07	2.81	1.60	1.51
2	E	801	A1EIV	C08-C07	2.81	1.60	1.51
2	B	801	A1EIV	C08-C07	2.81	1.60	1.51
2	H	801	A1EIV	C08-C07	2.80	1.60	1.51
2	C	801	A1EIV	C08-C07	2.80	1.60	1.51
2	G	801	A1EIV	C20-N14	2.14	1.37	1.35
2	D	801	A1EIV	C20-N14	2.11	1.37	1.35
2	H	801	A1EIV	C20-N14	2.11	1.37	1.35
2	A	801	A1EIV	C20-N14	2.11	1.37	1.35
2	C	801	A1EIV	C20-N14	2.11	1.37	1.35
2	E	801	A1EIV	C20-N14	2.10	1.37	1.35
2	B	801	A1EIV	C20-N14	2.09	1.37	1.35
2	F	801	A1EIV	C20-N14	2.03	1.37	1.35

All (48) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	801	A1EIV	O11-P10-O09	-4.01	96.05	106.73
2	F	801	A1EIV	O11-P10-O09	-4.01	96.06	106.73
2	B	801	A1EIV	O11-P10-O09	-4.01	96.06	106.73
2	A	801	A1EIV	O11-P10-O09	-4.01	96.06	106.73
2	E	801	A1EIV	O11-P10-O09	-4.01	96.06	106.73
2	G	801	A1EIV	O11-P10-O09	-4.00	96.08	106.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	801	A1EIV	O11-P10-O09	-4.00	96.10	106.73
2	H	801	A1EIV	O11-P10-O09	-3.99	96.11	106.73
2	A	801	A1EIV	C15-N14-C20	-3.92	118.40	121.97
2	G	801	A1EIV	C15-N14-C20	-3.90	118.41	121.97
2	E	801	A1EIV	C15-N14-C20	-3.89	118.43	121.97
2	B	801	A1EIV	C15-N14-C20	-3.88	118.44	121.97
2	D	801	A1EIV	C15-N14-C20	-3.88	118.44	121.97
2	H	801	A1EIV	C15-N14-C20	-3.88	118.44	121.97
2	F	801	A1EIV	C15-N14-C20	-3.87	118.45	121.97
2	C	801	A1EIV	C15-N14-C20	-3.82	118.49	121.97
2	C	801	A1EIV	O12-P10-O09	-3.48	97.47	106.73
2	D	801	A1EIV	O12-P10-O09	-3.48	97.48	106.73
2	H	801	A1EIV	O12-P10-O09	-3.48	97.48	106.73
2	F	801	A1EIV	O12-P10-O09	-3.47	97.50	106.73
2	G	801	A1EIV	O12-P10-O09	-3.47	97.50	106.73
2	E	801	A1EIV	O12-P10-O09	-3.47	97.51	106.73
2	A	801	A1EIV	O12-P10-O09	-3.46	97.53	106.73
2	B	801	A1EIV	O12-P10-O09	-3.46	97.53	106.73
2	D	801	A1EIV	O11-P10-O13	2.18	119.22	110.68
2	F	801	A1EIV	O11-P10-O13	2.18	119.20	110.68
2	A	801	A1EIV	O11-P10-O13	2.17	119.16	110.68
2	A	801	A1EIV	O12-P10-O11	2.17	115.91	107.64
2	G	801	A1EIV	O12-P10-O11	2.16	115.90	107.64
2	G	801	A1EIV	O11-P10-O13	2.16	119.14	110.68
2	E	801	A1EIV	O11-P10-O13	2.16	119.14	110.68
2	H	801	A1EIV	O11-P10-O13	2.16	119.14	110.68
2	C	801	A1EIV	O11-P10-O13	2.16	119.14	110.68
2	B	801	A1EIV	O11-P10-O13	2.16	119.14	110.68
2	H	801	A1EIV	O12-P10-O11	2.16	115.89	107.64
2	C	801	A1EIV	O12-P10-O11	2.16	115.88	107.64
2	E	801	A1EIV	O12-P10-O11	2.16	115.88	107.64
2	D	801	A1EIV	O12-P10-O11	2.15	115.87	107.64
2	B	801	A1EIV	O12-P10-O11	2.15	115.86	107.64
2	F	801	A1EIV	O12-P10-O11	2.15	115.85	107.64
2	C	801	A1EIV	O12-P10-O13	2.05	118.72	110.68
2	B	801	A1EIV	O12-P10-O13	2.05	118.71	110.68
2	E	801	A1EIV	O12-P10-O13	2.05	118.70	110.68
2	H	801	A1EIV	O12-P10-O13	2.05	118.69	110.68
2	F	801	A1EIV	O12-P10-O13	2.04	118.67	110.68
2	G	801	A1EIV	O12-P10-O13	2.04	118.66	110.68
2	A	801	A1EIV	O12-P10-O13	2.04	118.65	110.68
2	D	801	A1EIV	O12-P10-O13	2.03	118.64	110.68

There are no chirality outliers.

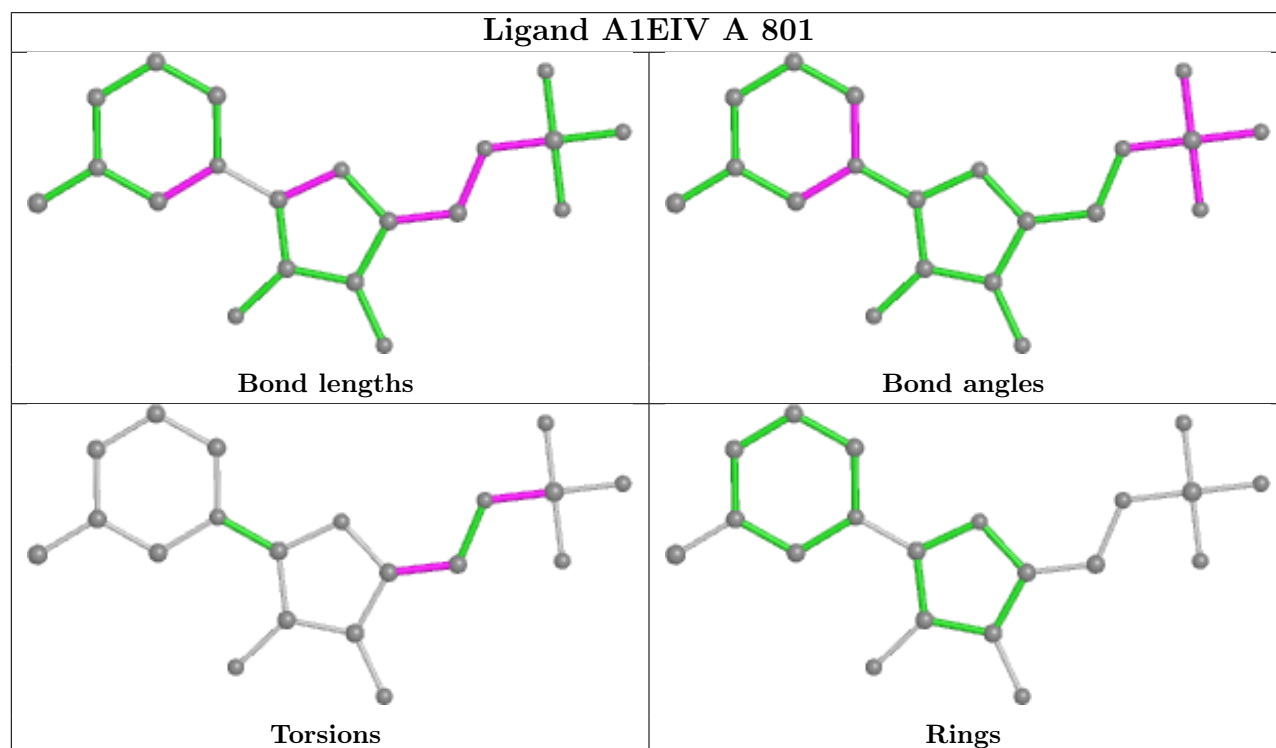
All (40) torsion outliers are listed below:

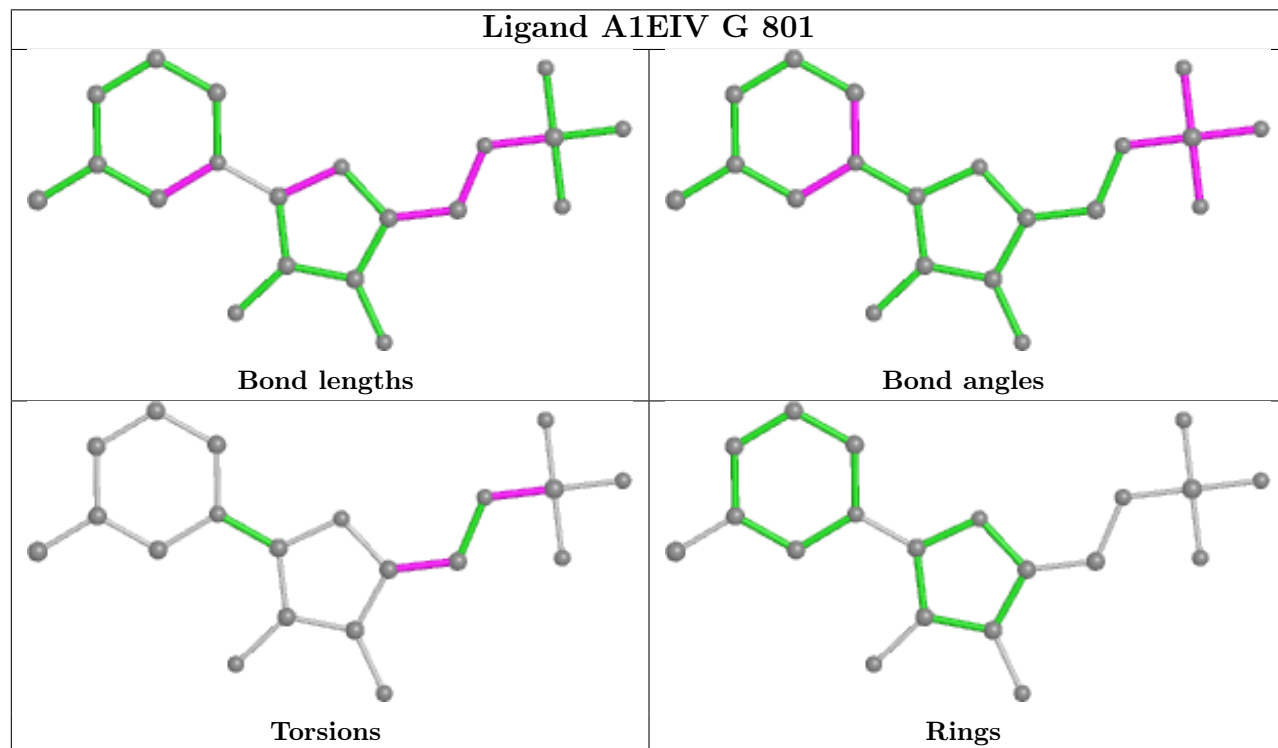
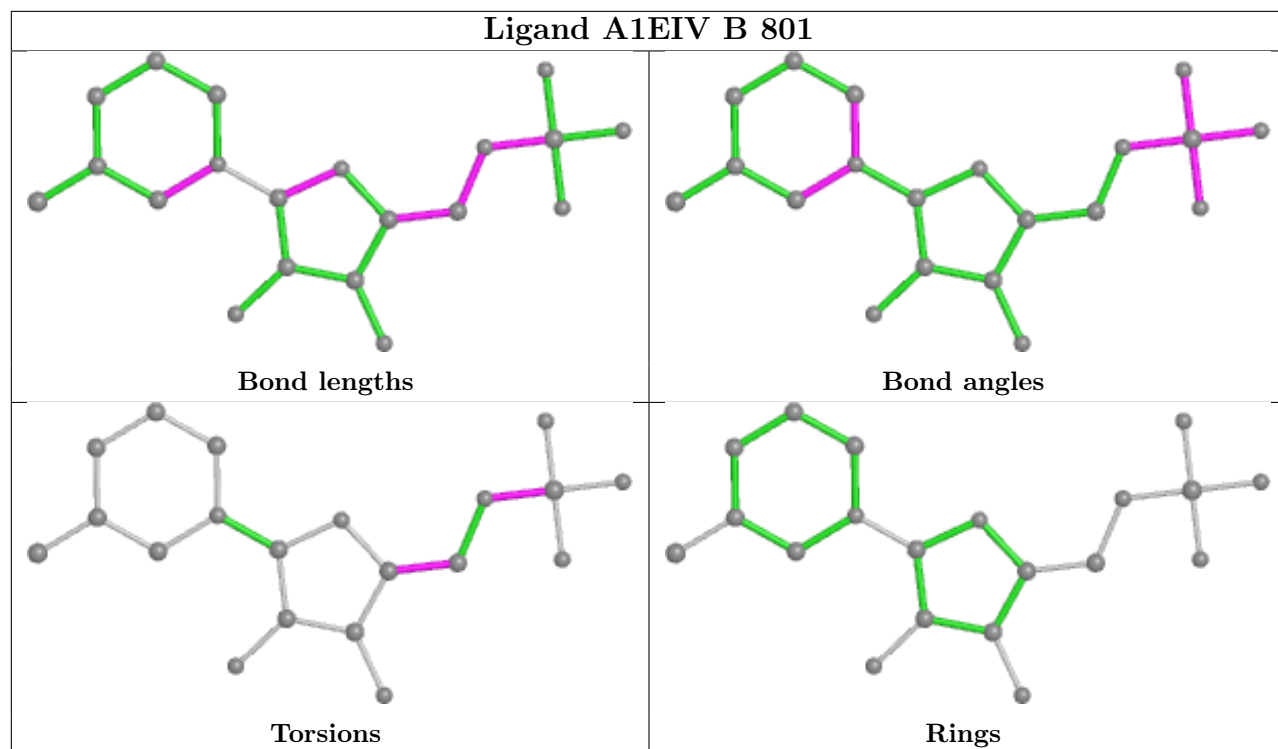
Mol	Chain	Res	Type	Atoms
2	A	801	A1EIV	C08-O09-P10-O11
2	A	801	A1EIV	C08-O09-P10-O12
2	B	801	A1EIV	C08-O09-P10-O11
2	B	801	A1EIV	C08-O09-P10-O12
2	C	801	A1EIV	C08-O09-P10-O11
2	C	801	A1EIV	C08-O09-P10-O12
2	D	801	A1EIV	C08-O09-P10-O11
2	D	801	A1EIV	C08-O09-P10-O12
2	E	801	A1EIV	C08-O09-P10-O11
2	E	801	A1EIV	C08-O09-P10-O12
2	F	801	A1EIV	C08-O09-P10-O11
2	F	801	A1EIV	C08-O09-P10-O12
2	G	801	A1EIV	C08-O09-P10-O11
2	G	801	A1EIV	C08-O09-P10-O12
2	H	801	A1EIV	C08-O09-P10-O11
2	H	801	A1EIV	C08-O09-P10-O12
2	A	801	A1EIV	C02-C07-C08-O09
2	A	801	A1EIV	O06-C07-C08-O09
2	B	801	A1EIV	C02-C07-C08-O09
2	B	801	A1EIV	O06-C07-C08-O09
2	C	801	A1EIV	C02-C07-C08-O09
2	C	801	A1EIV	O06-C07-C08-O09
2	D	801	A1EIV	C02-C07-C08-O09
2	D	801	A1EIV	O06-C07-C08-O09
2	E	801	A1EIV	C02-C07-C08-O09
2	E	801	A1EIV	O06-C07-C08-O09
2	F	801	A1EIV	C02-C07-C08-O09
2	F	801	A1EIV	O06-C07-C08-O09
2	G	801	A1EIV	C02-C07-C08-O09
2	G	801	A1EIV	O06-C07-C08-O09
2	H	801	A1EIV	C02-C07-C08-O09
2	H	801	A1EIV	O06-C07-C08-O09
2	A	801	A1EIV	C08-O09-P10-O13
2	B	801	A1EIV	C08-O09-P10-O13
2	C	801	A1EIV	C08-O09-P10-O13
2	D	801	A1EIV	C08-O09-P10-O13
2	E	801	A1EIV	C08-O09-P10-O13
2	F	801	A1EIV	C08-O09-P10-O13
2	G	801	A1EIV	C08-O09-P10-O13
2	H	801	A1EIV	C08-O09-P10-O13

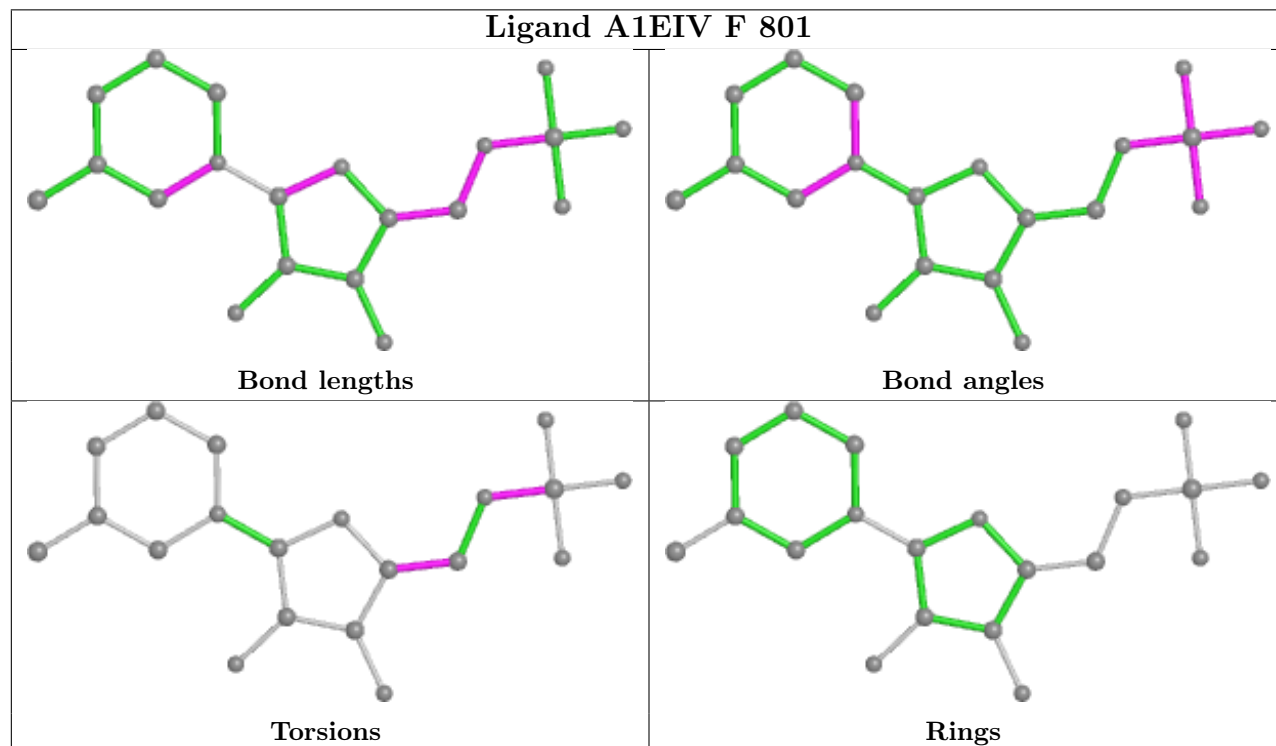
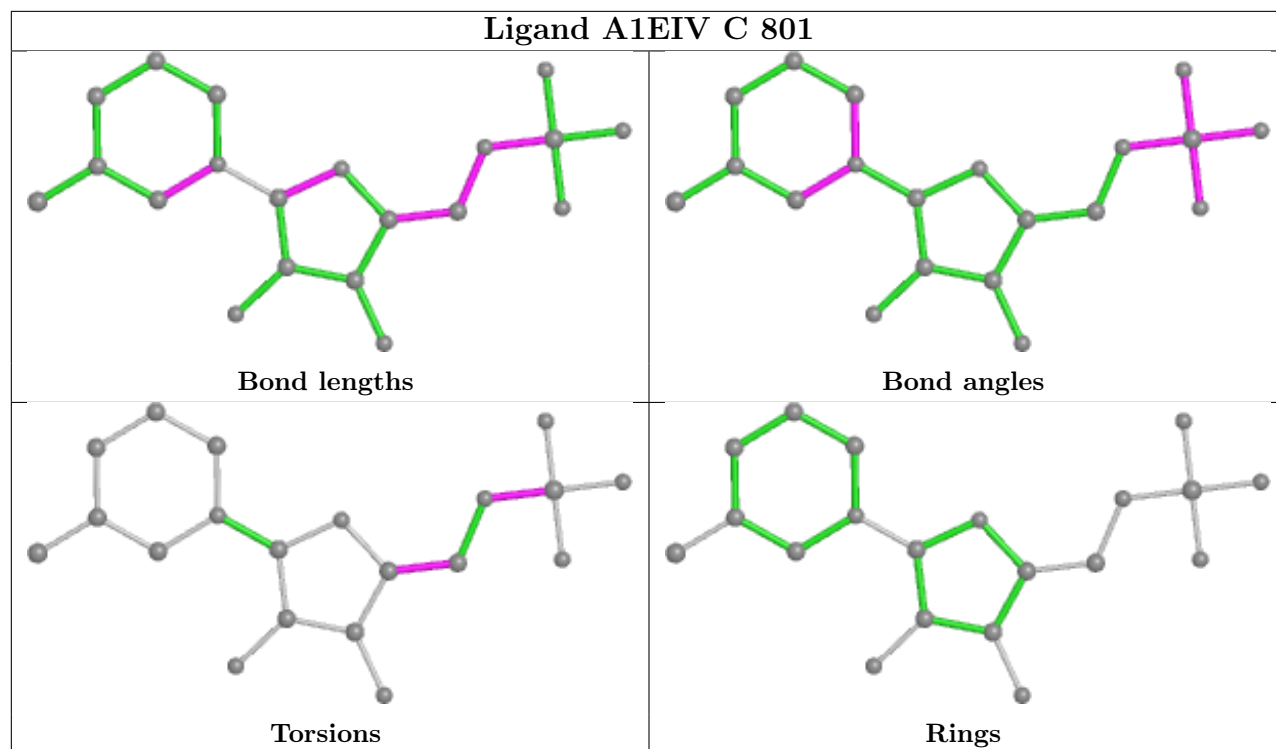
There are no ring outliers.

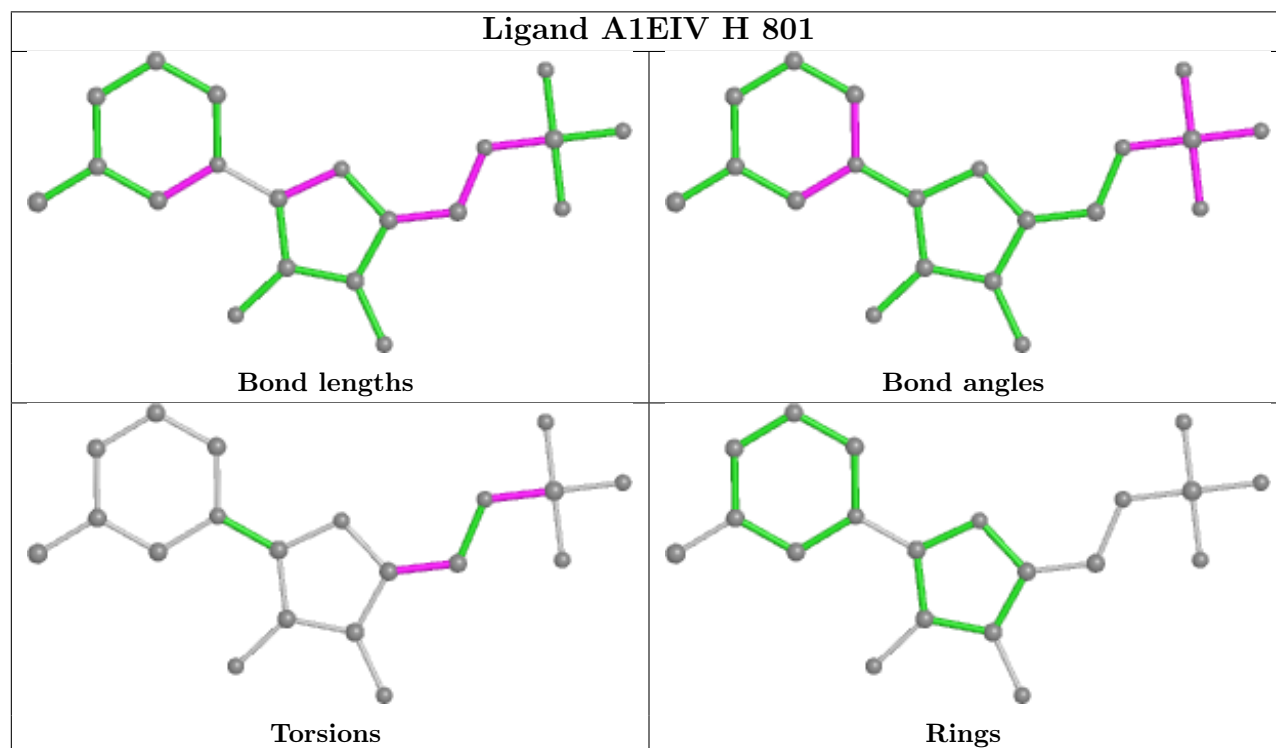
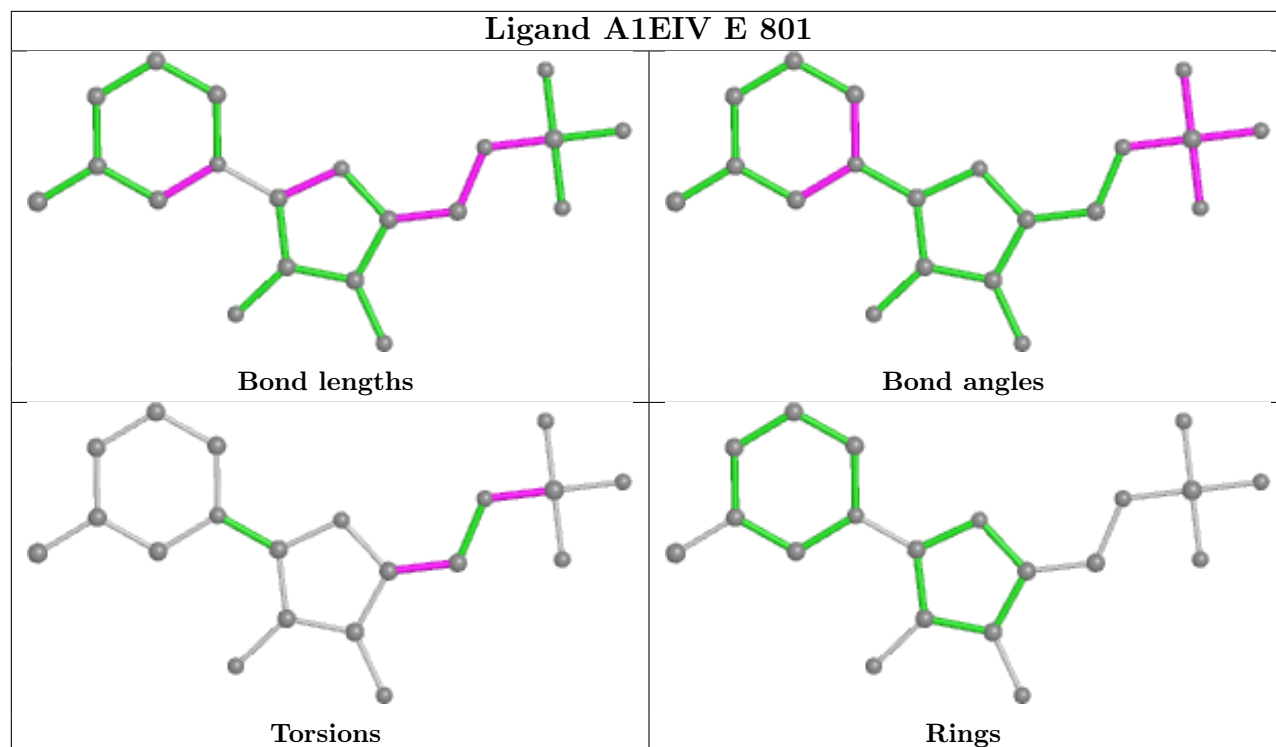
No monomer is involved in short contacts.

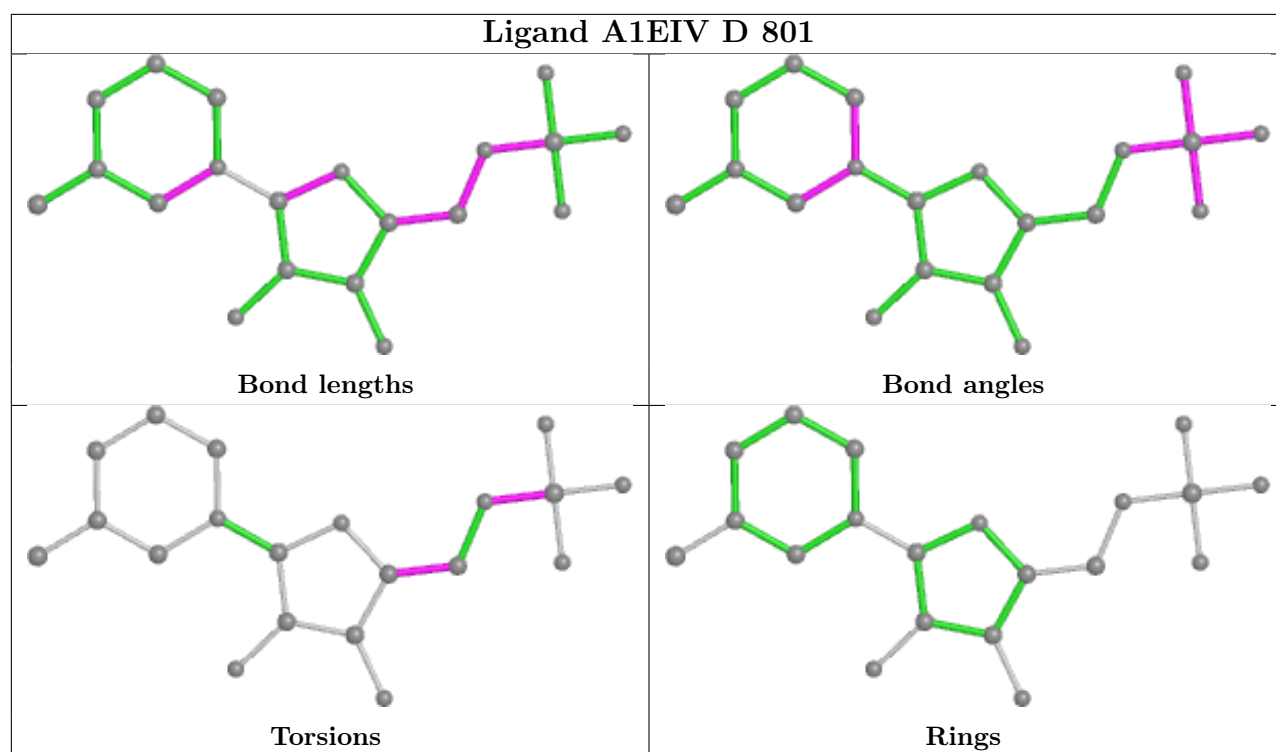
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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











4.7 Other polymers [i](#)

There are no such residues in this entry.

4.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

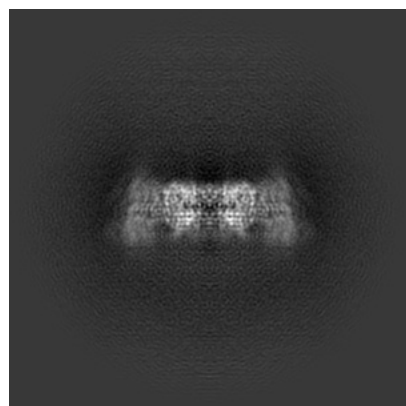
5 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-62775. These allow visual inspection of the internal detail of the map and identification of artifacts.

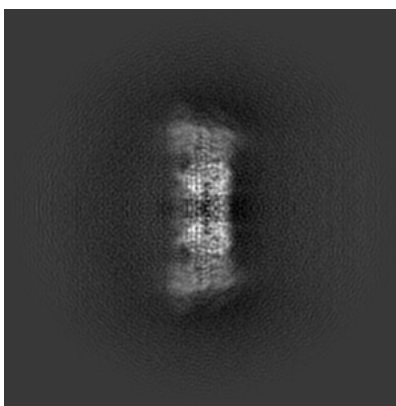
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

5.1 Orthogonal projections [i](#)

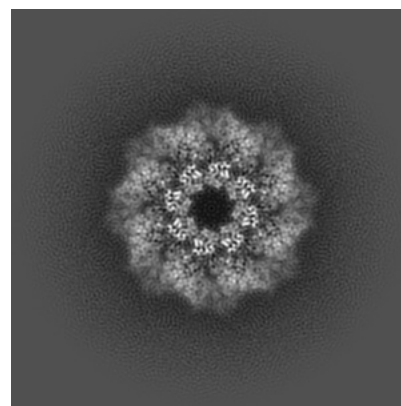
5.1.1 Primary map



X

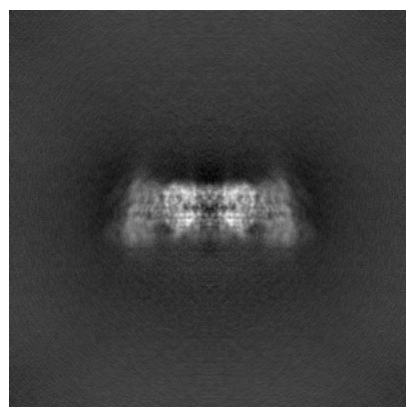


Y

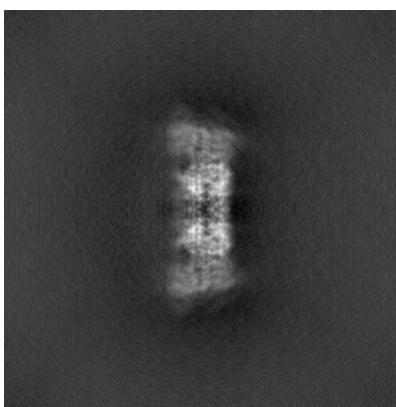


Z

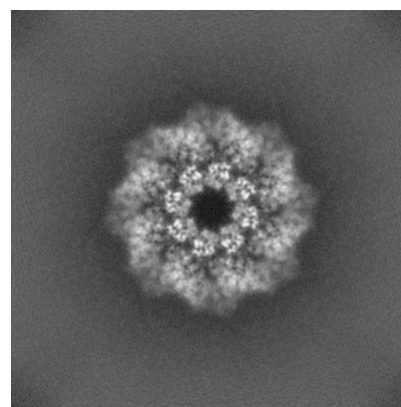
5.1.2 Raw map



X



Y

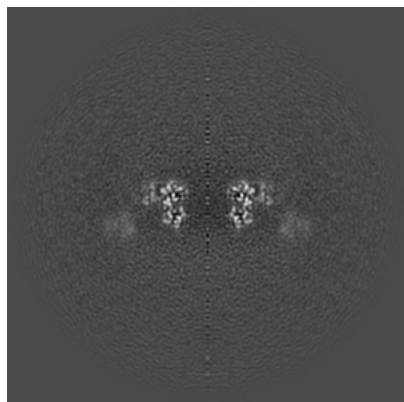


Z

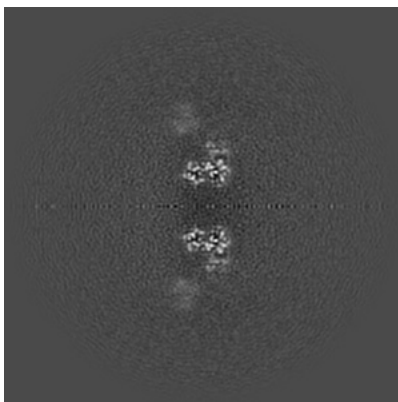
The images above show the map projected in three orthogonal directions.

5.2 Central slices [i](#)

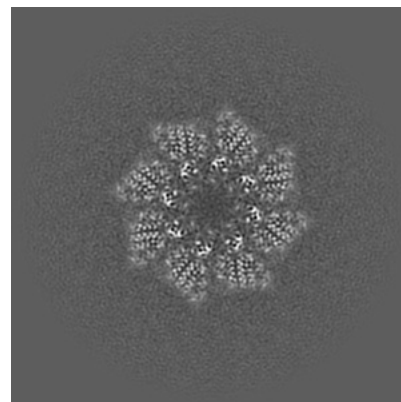
5.2.1 Primary map



X Index: 170

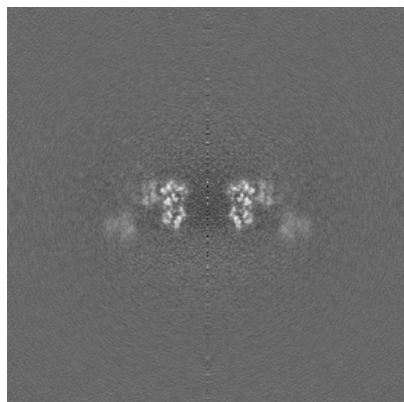


Y Index: 170

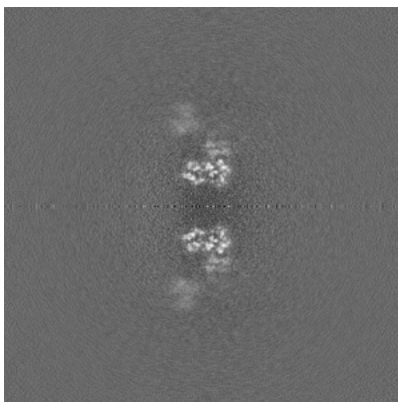


Z Index: 170

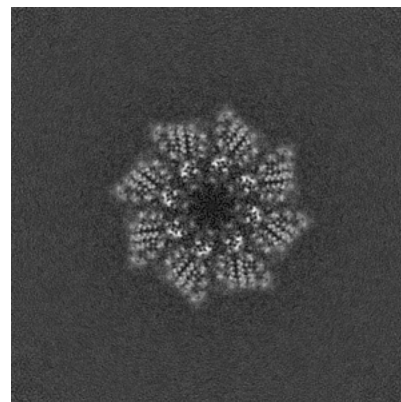
5.2.2 Raw map



X Index: 170



Y Index: 170

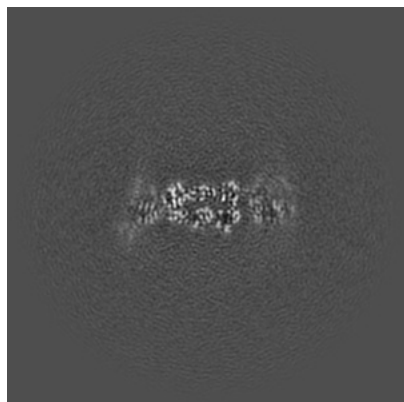


Z Index: 170

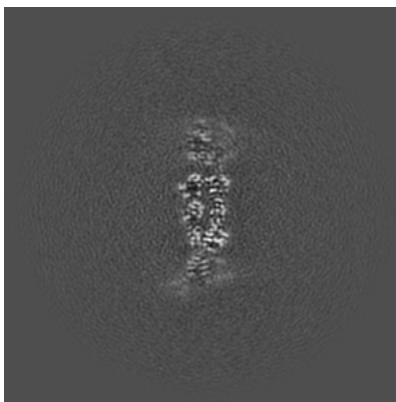
The images above show central slices of the map in three orthogonal directions.

5.3 Largest variance slices [i](#)

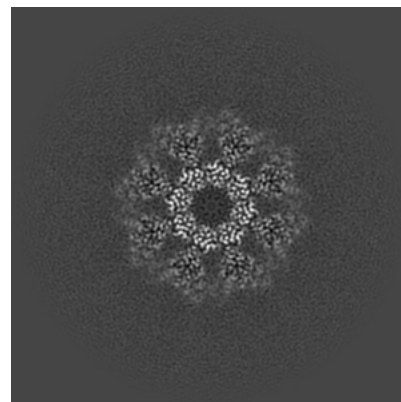
5.3.1 Primary map



X Index: 193

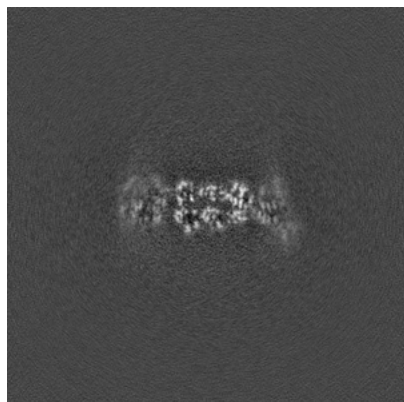


Y Index: 147

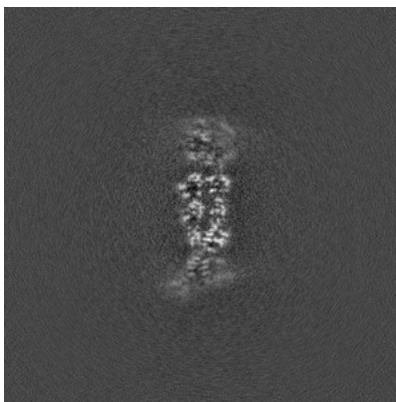


Z Index: 165

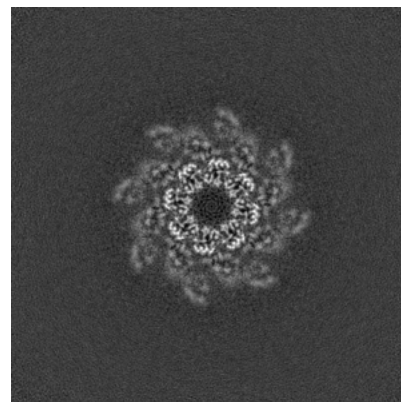
5.3.2 Raw map



X Index: 147



Y Index: 147

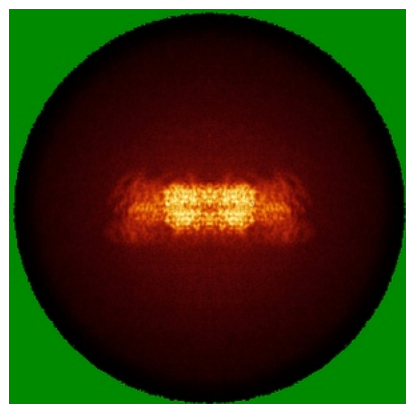


Z Index: 184

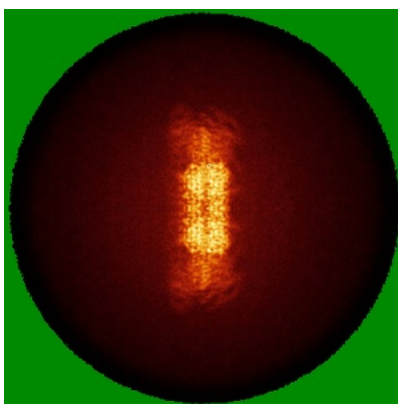
The images above show the largest variance slices of the map in three orthogonal directions.

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

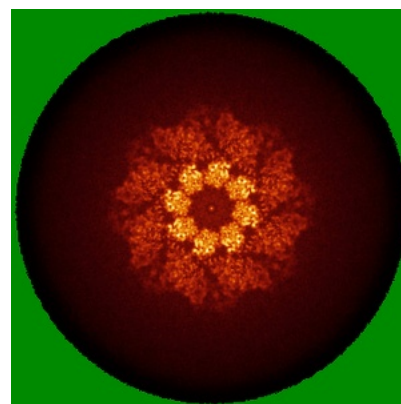
5.4.1 Primary map



X

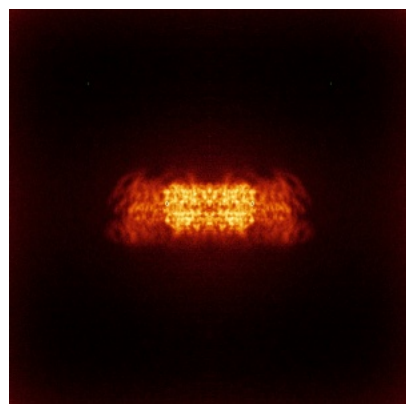


Y

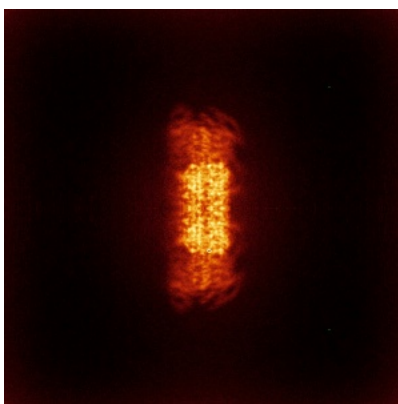


Z

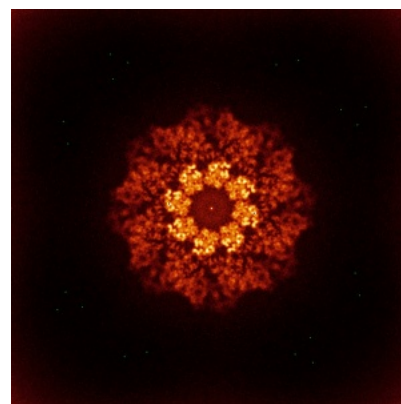
5.4.2 Raw map



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.

5.5 Orthogonal surface views [i](#)

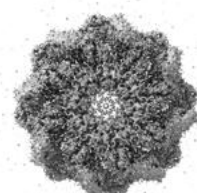
5.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.152. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

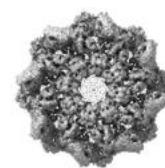
5.5.2 Raw map



X



Y



Z

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

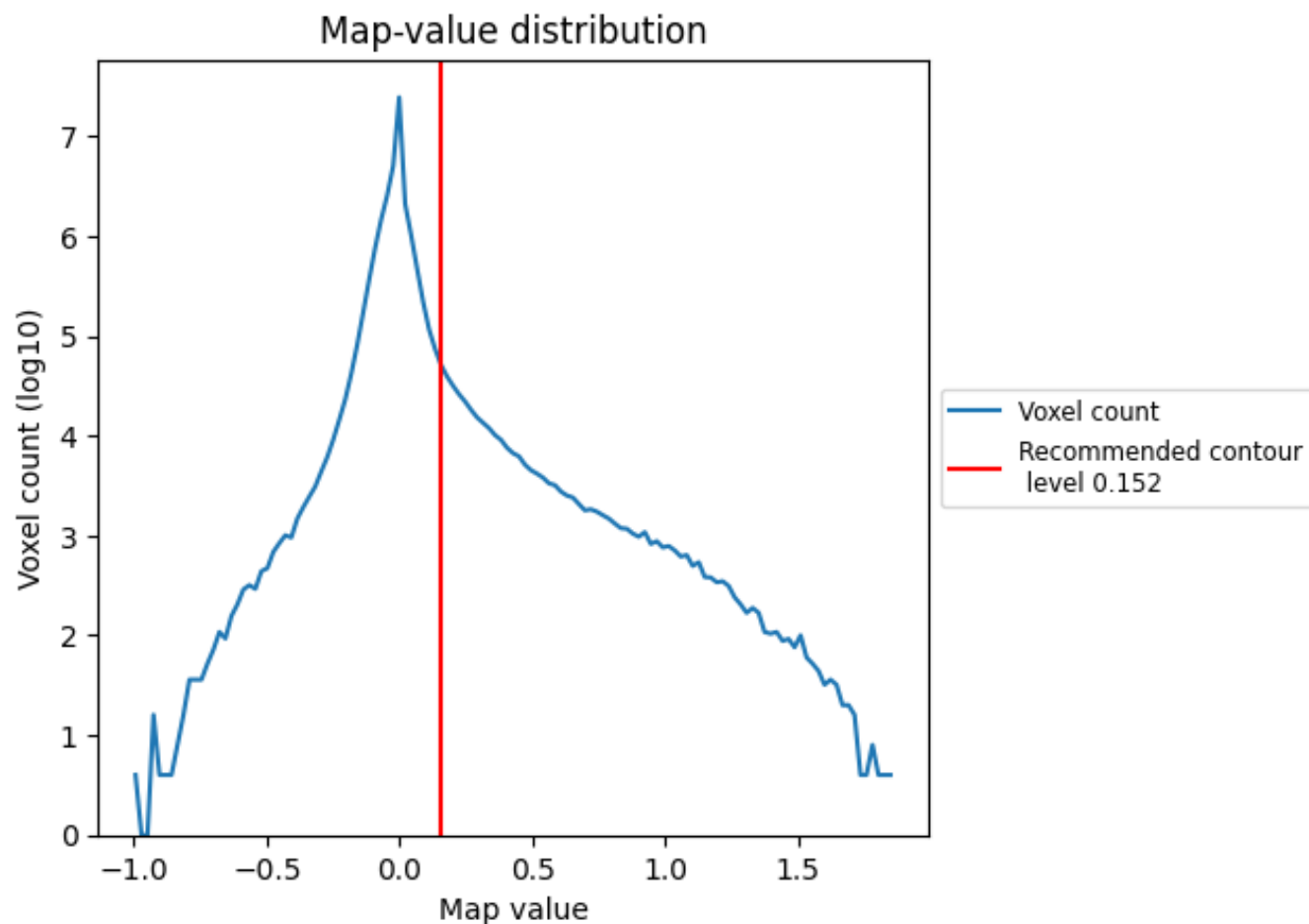
5.6 Mask visualisation [i](#)

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

6 Map analysis [i](#)

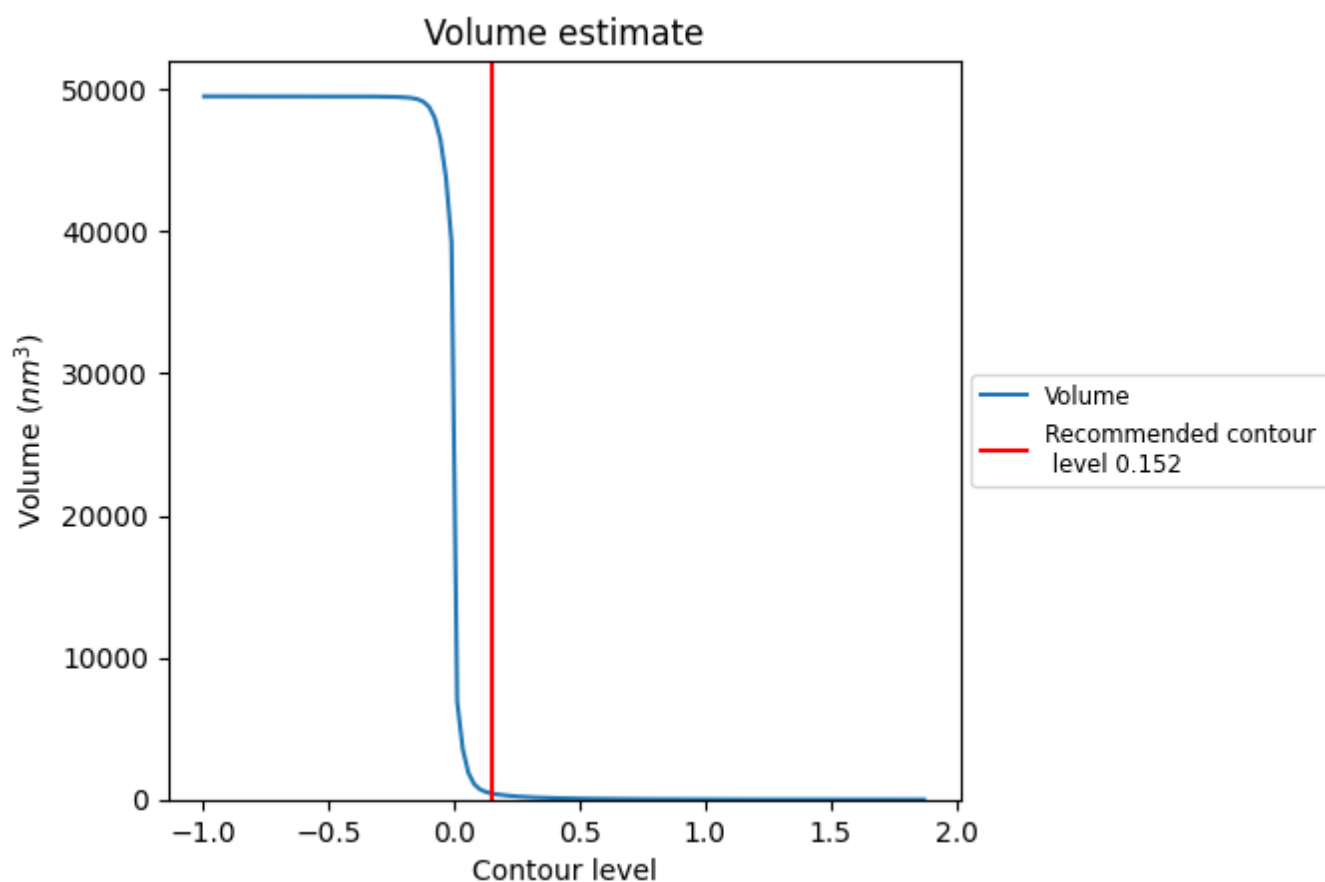
This section contains the results of statistical analysis of the map.

6.1 Map-value distribution [i](#)



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

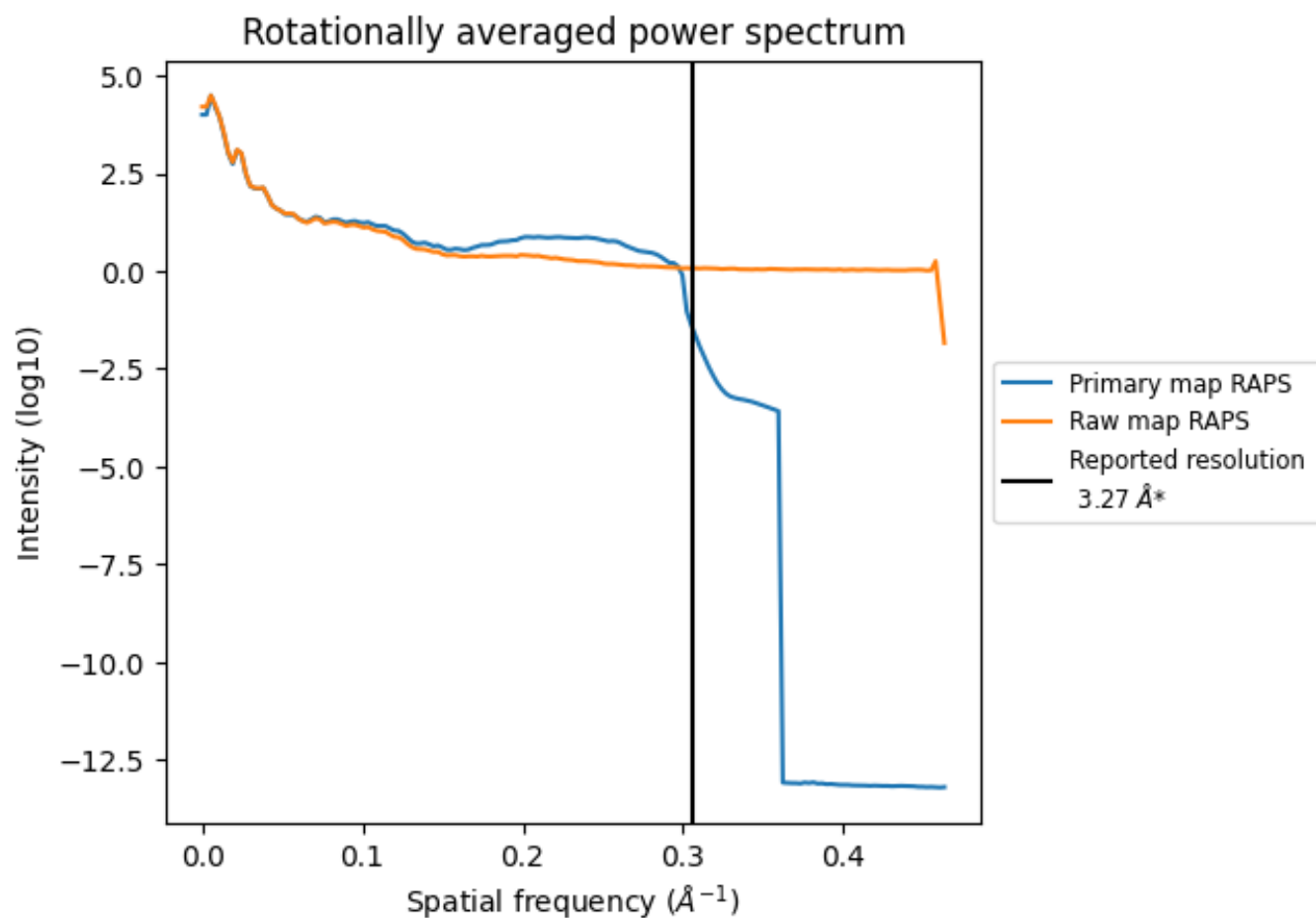
6.2 Volume estimate [i](#)



The volume at the recommended contour level is 432 nm³; this corresponds to an approximate mass of 390 kDa.

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

6.3 Rotationally averaged power spectrum ⓘ

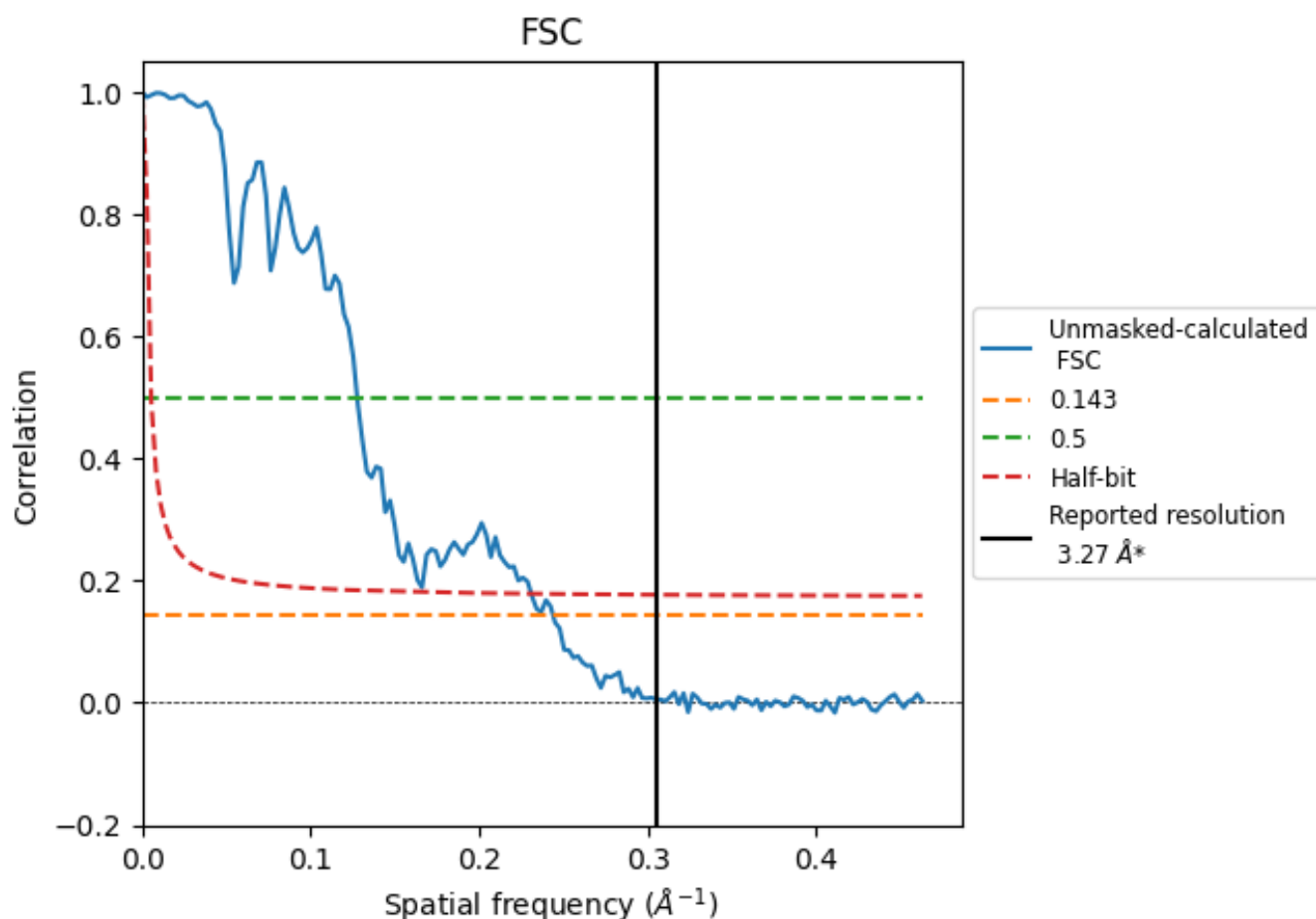


*Reported resolution corresponds to spatial frequency of 0.306 Å⁻¹

7 Fourier-Shell correlation [i](#)

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

7.1 FSC [i](#)



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

7.2 Resolution estimates [i](#)

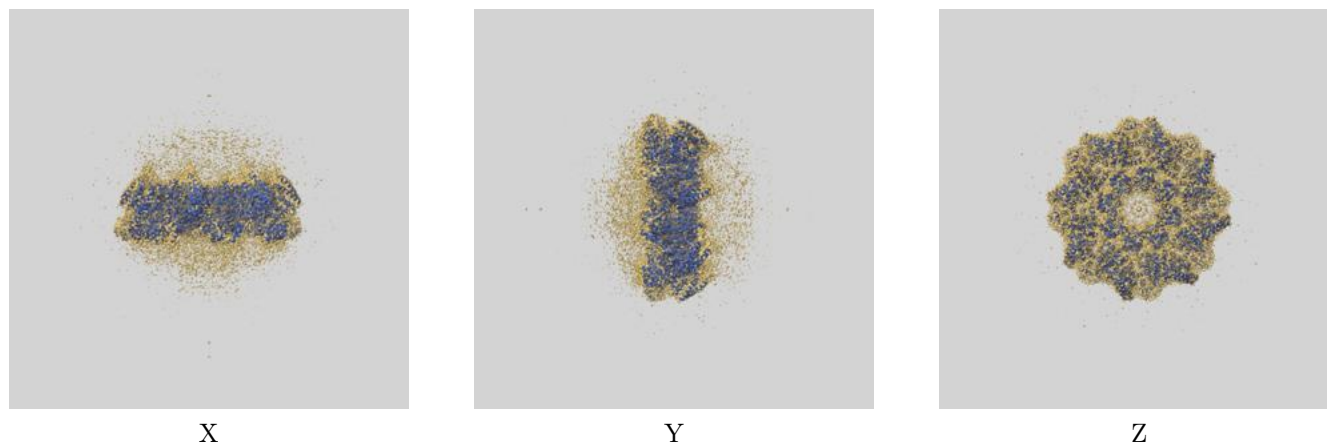
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.27	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.10	7.84	4.33

*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 4.10 differs from the reported value 3.27 by more than 10 %

8 Map-model fit [i](#)

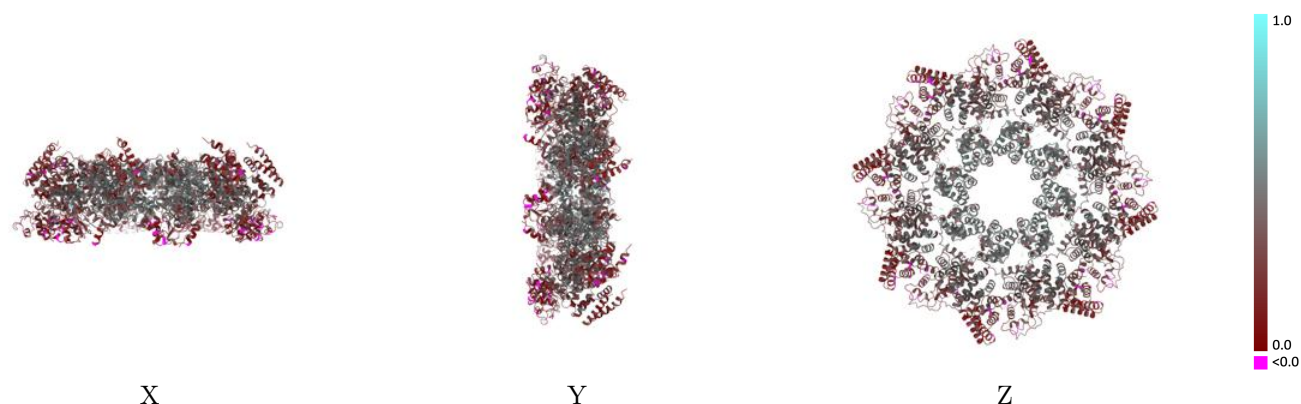
This section contains information regarding the fit between EMDB map EMD-62775 and PDB model 9L2G. Per-residue inclusion information can be found in section ?? on page ??.

8.1 Map-model overlay [i](#)



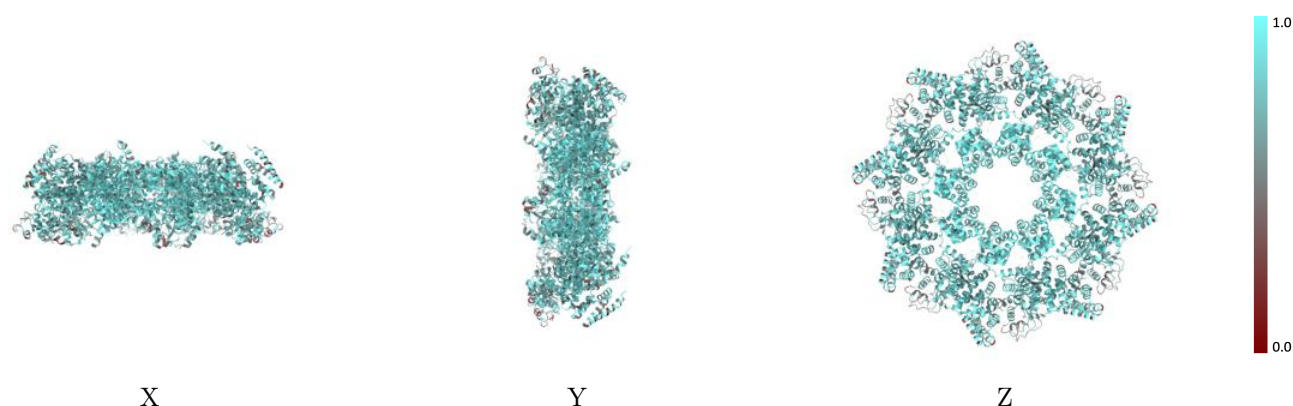
The images above show the 3D surface view of the map at the recommended contour level 0.152 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



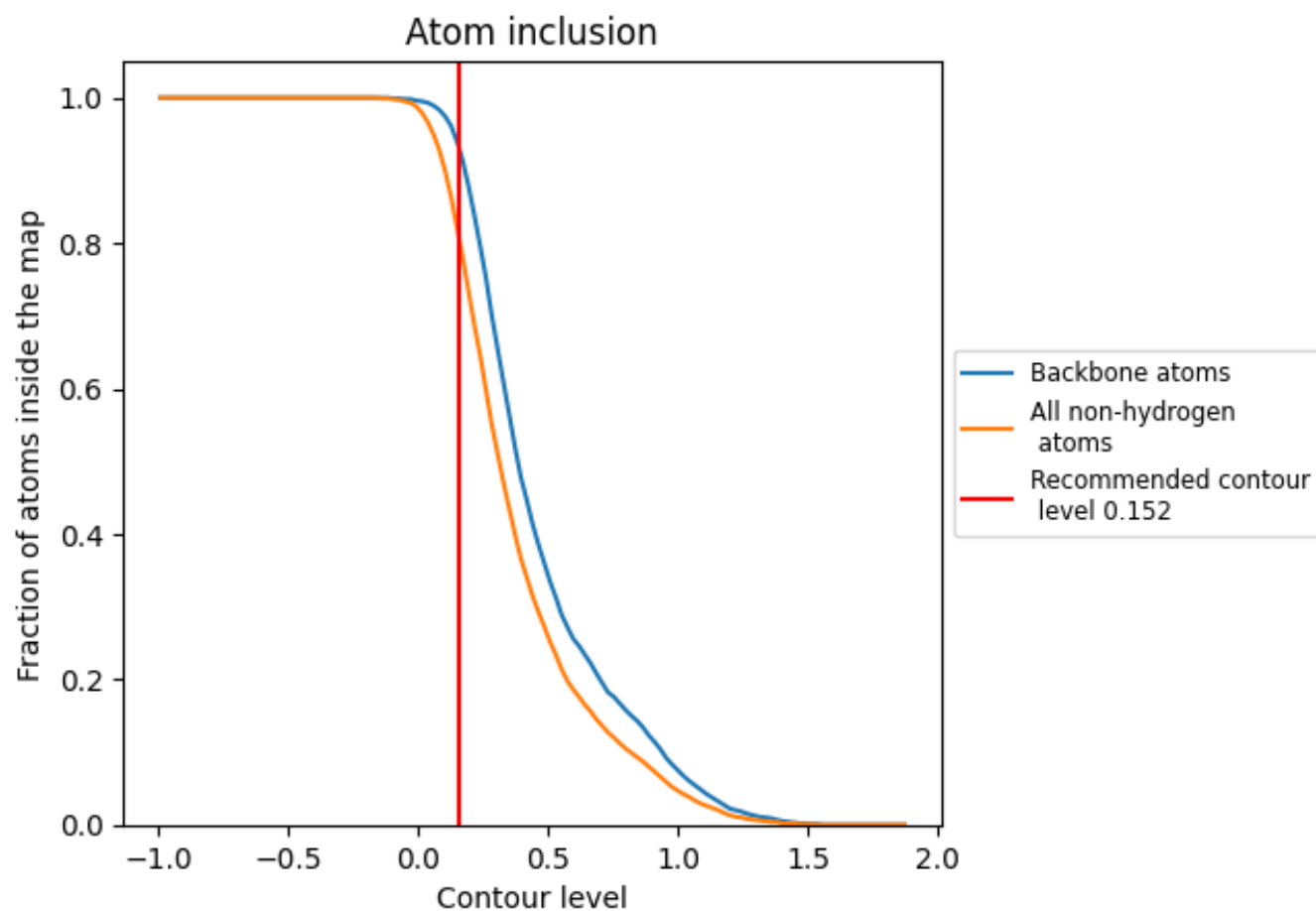
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

8.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.152).

8.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 82% of all non-hydrogen atoms, are inside the map.

8.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.152) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8150	0.3480
A	0.8150	0.3480
B	0.8150	0.3460
C	0.8150	0.3470
D	0.8150	0.3480
E	0.8140	0.3490
F	0.8170	0.3490
G	0.8140	0.3490
H	0.8150	0.3480

1.0

0.0

<0.0