



# Full wwPDB EM Validation Report (i)

Nov 28, 2022 – 06:14 AM EST

PDB ID : 7LB5  
EMDB ID : EMD-23263  
Title : Pyridoxal 5'-phosphate synthase-like subunit PDX1.2 (Arabidopsis thaliana)  
Authors : Novikova, I.V.; Evans, J.E.  
Deposited on : 2021-01-07  
Resolution : 3.16 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](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 (i) 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 \(i\)](#)) were used in the production of this report:

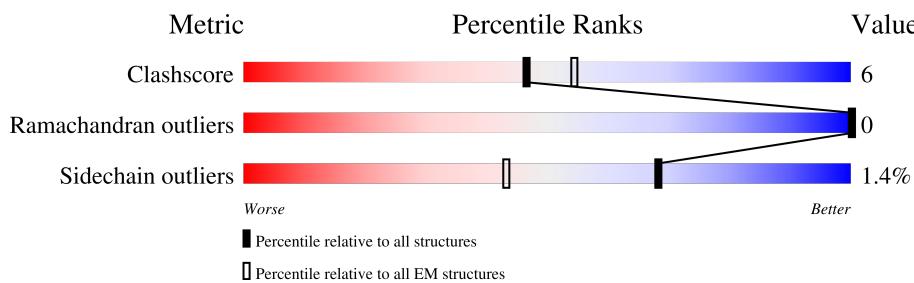
EMDB validation analysis : 0.0.1.dev43  
MolProbitY : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.31.2

# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:  
**ELECTRON MICROSCOPY**

The reported resolution of this entry is 3.16 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 <=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.



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Mol	Chain	Length	Quality of chain		
1	I	348	61%	13%	25%
1	J	348	61%	14%	25%
1	K	348	61%	14%	25%
1	L	348	60%	14%	25%

## 2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 23616 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 Pyridoxal 5'-phosphate synthase-like subunit PDX1.2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	B	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	C	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	D	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	E	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	F	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	G	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	H	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	I	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	J	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	K	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		
1	L	260	Total	C	N	O	S	0	0
			1968	1231	353	371	13		

There are 420 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-34	MET	-	expression tag	UNP Q9ZNR6
A	-33	ASP	-	expression tag	UNP Q9ZNR6
A	-32	TYR	-	expression tag	UNP Q9ZNR6
A	-31	LYS	-	expression tag	UNP Q9ZNR6
A	-30	ASP	-	expression tag	UNP Q9ZNR6
A	-29	HIS	-	expression tag	UNP Q9ZNR6

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-28	ASP	-	expression tag	UNP Q9ZNR6
A	-27	GLY	-	expression tag	UNP Q9ZNR6
A	-26	ASP	-	expression tag	UNP Q9ZNR6
A	-25	TYR	-	expression tag	UNP Q9ZNR6
A	-24	LYS	-	expression tag	UNP Q9ZNR6
A	-23	ASP	-	expression tag	UNP Q9ZNR6
A	-22	HIS	-	expression tag	UNP Q9ZNR6
A	-21	ASP	-	expression tag	UNP Q9ZNR6
A	-20	ILE	-	expression tag	UNP Q9ZNR6
A	-19	ASP	-	expression tag	UNP Q9ZNR6
A	-18	TYR	-	expression tag	UNP Q9ZNR6
A	-17	LYS	-	expression tag	UNP Q9ZNR6
A	-16	ASP	-	expression tag	UNP Q9ZNR6
A	-15	ASP	-	expression tag	UNP Q9ZNR6
A	-14	ASP	-	expression tag	UNP Q9ZNR6
A	-13	ASP	-	expression tag	UNP Q9ZNR6
A	-12	LYS	-	expression tag	UNP Q9ZNR6
A	-11	LEU	-	expression tag	UNP Q9ZNR6
A	-10	ALA	-	expression tag	UNP Q9ZNR6
A	-9	GLY	-	expression tag	UNP Q9ZNR6
A	-8	GLY	-	expression tag	UNP Q9ZNR6
A	-7	GLY	-	expression tag	UNP Q9ZNR6
A	-6	GLY	-	expression tag	UNP Q9ZNR6
A	-5	SER	-	expression tag	UNP Q9ZNR6
A	-4	GLY	-	expression tag	UNP Q9ZNR6
A	-3	GLY	-	expression tag	UNP Q9ZNR6
A	-2	GLY	-	expression tag	UNP Q9ZNR6
A	-1	GLY	-	expression tag	UNP Q9ZNR6
A	0	SER	-	expression tag	UNP Q9ZNR6
B	-34	MET	-	expression tag	UNP Q9ZNR6
B	-33	ASP	-	expression tag	UNP Q9ZNR6
B	-32	TYR	-	expression tag	UNP Q9ZNR6
B	-31	LYS	-	expression tag	UNP Q9ZNR6
B	-30	ASP	-	expression tag	UNP Q9ZNR6
B	-29	HIS	-	expression tag	UNP Q9ZNR6
B	-28	ASP	-	expression tag	UNP Q9ZNR6
B	-27	GLY	-	expression tag	UNP Q9ZNR6
B	-26	ASP	-	expression tag	UNP Q9ZNR6
B	-25	TYR	-	expression tag	UNP Q9ZNR6
B	-24	LYS	-	expression tag	UNP Q9ZNR6
B	-23	ASP	-	expression tag	UNP Q9ZNR6
B	-22	HIS	-	expression tag	UNP Q9ZNR6

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-21	ASP	-	expression tag	UNP Q9ZNR6
B	-20	ILE	-	expression tag	UNP Q9ZNR6
B	-19	ASP	-	expression tag	UNP Q9ZNR6
B	-18	TYR	-	expression tag	UNP Q9ZNR6
B	-17	LYS	-	expression tag	UNP Q9ZNR6
B	-16	ASP	-	expression tag	UNP Q9ZNR6
B	-15	ASP	-	expression tag	UNP Q9ZNR6
B	-14	ASP	-	expression tag	UNP Q9ZNR6
B	-13	ASP	-	expression tag	UNP Q9ZNR6
B	-12	LYS	-	expression tag	UNP Q9ZNR6
B	-11	LEU	-	expression tag	UNP Q9ZNR6
B	-10	ALA	-	expression tag	UNP Q9ZNR6
B	-9	GLY	-	expression tag	UNP Q9ZNR6
B	-8	GLY	-	expression tag	UNP Q9ZNR6
B	-7	GLY	-	expression tag	UNP Q9ZNR6
B	-6	GLY	-	expression tag	UNP Q9ZNR6
B	-5	SER	-	expression tag	UNP Q9ZNR6
B	-4	GLY	-	expression tag	UNP Q9ZNR6
B	-3	GLY	-	expression tag	UNP Q9ZNR6
B	-2	GLY	-	expression tag	UNP Q9ZNR6
B	-1	GLY	-	expression tag	UNP Q9ZNR6
B	0	SER	-	expression tag	UNP Q9ZNR6
C	-34	MET	-	expression tag	UNP Q9ZNR6
C	-33	ASP	-	expression tag	UNP Q9ZNR6
C	-32	TYR	-	expression tag	UNP Q9ZNR6
C	-31	LYS	-	expression tag	UNP Q9ZNR6
C	-30	ASP	-	expression tag	UNP Q9ZNR6
C	-29	HIS	-	expression tag	UNP Q9ZNR6
C	-28	ASP	-	expression tag	UNP Q9ZNR6
C	-27	GLY	-	expression tag	UNP Q9ZNR6
C	-26	ASP	-	expression tag	UNP Q9ZNR6
C	-25	TYR	-	expression tag	UNP Q9ZNR6
C	-24	LYS	-	expression tag	UNP Q9ZNR6
C	-23	ASP	-	expression tag	UNP Q9ZNR6
C	-22	HIS	-	expression tag	UNP Q9ZNR6
C	-21	ASP	-	expression tag	UNP Q9ZNR6
C	-20	ILE	-	expression tag	UNP Q9ZNR6
C	-19	ASP	-	expression tag	UNP Q9ZNR6
C	-18	TYR	-	expression tag	UNP Q9ZNR6
C	-17	LYS	-	expression tag	UNP Q9ZNR6
C	-16	ASP	-	expression tag	UNP Q9ZNR6
C	-15	ASP	-	expression tag	UNP Q9ZNR6

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-14	ASP	-	expression tag	UNP Q9ZNR6
C	-13	ASP	-	expression tag	UNP Q9ZNR6
C	-12	LYS	-	expression tag	UNP Q9ZNR6
C	-11	LEU	-	expression tag	UNP Q9ZNR6
C	-10	ALA	-	expression tag	UNP Q9ZNR6
C	-9	GLY	-	expression tag	UNP Q9ZNR6
C	-8	GLY	-	expression tag	UNP Q9ZNR6
C	-7	GLY	-	expression tag	UNP Q9ZNR6
C	-6	GLY	-	expression tag	UNP Q9ZNR6
C	-5	SER	-	expression tag	UNP Q9ZNR6
C	-4	GLY	-	expression tag	UNP Q9ZNR6
C	-3	GLY	-	expression tag	UNP Q9ZNR6
C	-2	GLY	-	expression tag	UNP Q9ZNR6
C	-1	GLY	-	expression tag	UNP Q9ZNR6
C	0	SER	-	expression tag	UNP Q9ZNR6
D	-34	MET	-	expression tag	UNP Q9ZNR6
D	-33	ASP	-	expression tag	UNP Q9ZNR6
D	-32	TYR	-	expression tag	UNP Q9ZNR6
D	-31	LYS	-	expression tag	UNP Q9ZNR6
D	-30	ASP	-	expression tag	UNP Q9ZNR6
D	-29	HIS	-	expression tag	UNP Q9ZNR6
D	-28	ASP	-	expression tag	UNP Q9ZNR6
D	-27	GLY	-	expression tag	UNP Q9ZNR6
D	-26	ASP	-	expression tag	UNP Q9ZNR6
D	-25	TYR	-	expression tag	UNP Q9ZNR6
D	-24	LYS	-	expression tag	UNP Q9ZNR6
D	-23	ASP	-	expression tag	UNP Q9ZNR6
D	-22	HIS	-	expression tag	UNP Q9ZNR6
D	-21	ASP	-	expression tag	UNP Q9ZNR6
D	-20	ILE	-	expression tag	UNP Q9ZNR6
D	-19	ASP	-	expression tag	UNP Q9ZNR6
D	-18	TYR	-	expression tag	UNP Q9ZNR6
D	-17	LYS	-	expression tag	UNP Q9ZNR6
D	-16	ASP	-	expression tag	UNP Q9ZNR6
D	-15	ASP	-	expression tag	UNP Q9ZNR6
D	-14	ASP	-	expression tag	UNP Q9ZNR6
D	-13	ASP	-	expression tag	UNP Q9ZNR6
D	-12	LYS	-	expression tag	UNP Q9ZNR6
D	-11	LEU	-	expression tag	UNP Q9ZNR6
D	-10	ALA	-	expression tag	UNP Q9ZNR6
D	-9	GLY	-	expression tag	UNP Q9ZNR6
D	-8	GLY	-	expression tag	UNP Q9ZNR6

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-7	GLY	-	expression tag	UNP Q9ZNR6
D	-6	GLY	-	expression tag	UNP Q9ZNR6
D	-5	SER	-	expression tag	UNP Q9ZNR6
D	-4	GLY	-	expression tag	UNP Q9ZNR6
D	-3	GLY	-	expression tag	UNP Q9ZNR6
D	-2	GLY	-	expression tag	UNP Q9ZNR6
D	-1	GLY	-	expression tag	UNP Q9ZNR6
D	0	SER	-	expression tag	UNP Q9ZNR6
E	-34	MET	-	expression tag	UNP Q9ZNR6
E	-33	ASP	-	expression tag	UNP Q9ZNR6
E	-32	TYR	-	expression tag	UNP Q9ZNR6
E	-31	LYS	-	expression tag	UNP Q9ZNR6
E	-30	ASP	-	expression tag	UNP Q9ZNR6
E	-29	HIS	-	expression tag	UNP Q9ZNR6
E	-28	ASP	-	expression tag	UNP Q9ZNR6
E	-27	GLY	-	expression tag	UNP Q9ZNR6
E	-26	ASP	-	expression tag	UNP Q9ZNR6
E	-25	TYR	-	expression tag	UNP Q9ZNR6
E	-24	LYS	-	expression tag	UNP Q9ZNR6
E	-23	ASP	-	expression tag	UNP Q9ZNR6
E	-22	HIS	-	expression tag	UNP Q9ZNR6
E	-21	ASP	-	expression tag	UNP Q9ZNR6
E	-20	ILE	-	expression tag	UNP Q9ZNR6
E	-19	ASP	-	expression tag	UNP Q9ZNR6
E	-18	TYR	-	expression tag	UNP Q9ZNR6
E	-17	LYS	-	expression tag	UNP Q9ZNR6
E	-16	ASP	-	expression tag	UNP Q9ZNR6
E	-15	ASP	-	expression tag	UNP Q9ZNR6
E	-14	ASP	-	expression tag	UNP Q9ZNR6
E	-13	ASP	-	expression tag	UNP Q9ZNR6
E	-12	LYS	-	expression tag	UNP Q9ZNR6
E	-11	LEU	-	expression tag	UNP Q9ZNR6
E	-10	ALA	-	expression tag	UNP Q9ZNR6
E	-9	GLY	-	expression tag	UNP Q9ZNR6
E	-8	GLY	-	expression tag	UNP Q9ZNR6
E	-7	GLY	-	expression tag	UNP Q9ZNR6
E	-6	GLY	-	expression tag	UNP Q9ZNR6
E	-5	SER	-	expression tag	UNP Q9ZNR6
E	-4	GLY	-	expression tag	UNP Q9ZNR6
E	-3	GLY	-	expression tag	UNP Q9ZNR6
E	-2	GLY	-	expression tag	UNP Q9ZNR6
E	-1	GLY	-	expression tag	UNP Q9ZNR6

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Chain	Residue	Modelled	Actual	Comment	Reference
E	0	SER	-	expression tag	UNP Q9ZNR6
F	-34	MET	-	expression tag	UNP Q9ZNR6
F	-33	ASP	-	expression tag	UNP Q9ZNR6
F	-32	TYR	-	expression tag	UNP Q9ZNR6
F	-31	LYS	-	expression tag	UNP Q9ZNR6
F	-30	ASP	-	expression tag	UNP Q9ZNR6
F	-29	HIS	-	expression tag	UNP Q9ZNR6
F	-28	ASP	-	expression tag	UNP Q9ZNR6
F	-27	GLY	-	expression tag	UNP Q9ZNR6
F	-26	ASP	-	expression tag	UNP Q9ZNR6
F	-25	TYR	-	expression tag	UNP Q9ZNR6
F	-24	LYS	-	expression tag	UNP Q9ZNR6
F	-23	ASP	-	expression tag	UNP Q9ZNR6
F	-22	HIS	-	expression tag	UNP Q9ZNR6
F	-21	ASP	-	expression tag	UNP Q9ZNR6
F	-20	ILE	-	expression tag	UNP Q9ZNR6
F	-19	ASP	-	expression tag	UNP Q9ZNR6
F	-18	TYR	-	expression tag	UNP Q9ZNR6
F	-17	LYS	-	expression tag	UNP Q9ZNR6
F	-16	ASP	-	expression tag	UNP Q9ZNR6
F	-15	ASP	-	expression tag	UNP Q9ZNR6
F	-14	ASP	-	expression tag	UNP Q9ZNR6
F	-13	ASP	-	expression tag	UNP Q9ZNR6
F	-12	LYS	-	expression tag	UNP Q9ZNR6
F	-11	LEU	-	expression tag	UNP Q9ZNR6
F	-10	ALA	-	expression tag	UNP Q9ZNR6
F	-9	GLY	-	expression tag	UNP Q9ZNR6
F	-8	GLY	-	expression tag	UNP Q9ZNR6
F	-7	GLY	-	expression tag	UNP Q9ZNR6
F	-6	GLY	-	expression tag	UNP Q9ZNR6
F	-5	SER	-	expression tag	UNP Q9ZNR6
F	-4	GLY	-	expression tag	UNP Q9ZNR6
F	-3	GLY	-	expression tag	UNP Q9ZNR6
F	-2	GLY	-	expression tag	UNP Q9ZNR6
F	-1	GLY	-	expression tag	UNP Q9ZNR6
F	0	SER	-	expression tag	UNP Q9ZNR6
G	-34	MET	-	expression tag	UNP Q9ZNR6
G	-33	ASP	-	expression tag	UNP Q9ZNR6
G	-32	TYR	-	expression tag	UNP Q9ZNR6
G	-31	LYS	-	expression tag	UNP Q9ZNR6
G	-30	ASP	-	expression tag	UNP Q9ZNR6
G	-29	HIS	-	expression tag	UNP Q9ZNR6

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Chain	Residue	Modelled	Actual	Comment	Reference
G	-28	ASP	-	expression tag	UNP Q9ZNR6
G	-27	GLY	-	expression tag	UNP Q9ZNR6
G	-26	ASP	-	expression tag	UNP Q9ZNR6
G	-25	TYR	-	expression tag	UNP Q9ZNR6
G	-24	LYS	-	expression tag	UNP Q9ZNR6
G	-23	ASP	-	expression tag	UNP Q9ZNR6
G	-22	HIS	-	expression tag	UNP Q9ZNR6
G	-21	ASP	-	expression tag	UNP Q9ZNR6
G	-20	ILE	-	expression tag	UNP Q9ZNR6
G	-19	ASP	-	expression tag	UNP Q9ZNR6
G	-18	TYR	-	expression tag	UNP Q9ZNR6
G	-17	LYS	-	expression tag	UNP Q9ZNR6
G	-16	ASP	-	expression tag	UNP Q9ZNR6
G	-15	ASP	-	expression tag	UNP Q9ZNR6
G	-14	ASP	-	expression tag	UNP Q9ZNR6
G	-13	ASP	-	expression tag	UNP Q9ZNR6
G	-12	LYS	-	expression tag	UNP Q9ZNR6
G	-11	LEU	-	expression tag	UNP Q9ZNR6
G	-10	ALA	-	expression tag	UNP Q9ZNR6
G	-9	GLY	-	expression tag	UNP Q9ZNR6
G	-8	GLY	-	expression tag	UNP Q9ZNR6
G	-7	GLY	-	expression tag	UNP Q9ZNR6
G	-6	GLY	-	expression tag	UNP Q9ZNR6
G	-5	SER	-	expression tag	UNP Q9ZNR6
G	-4	GLY	-	expression tag	UNP Q9ZNR6
G	-3	GLY	-	expression tag	UNP Q9ZNR6
G	-2	GLY	-	expression tag	UNP Q9ZNR6
G	-1	GLY	-	expression tag	UNP Q9ZNR6
G	0	SER	-	expression tag	UNP Q9ZNR6
H	-34	MET	-	expression tag	UNP Q9ZNR6
H	-33	ASP	-	expression tag	UNP Q9ZNR6
H	-32	TYR	-	expression tag	UNP Q9ZNR6
H	-31	LYS	-	expression tag	UNP Q9ZNR6
H	-30	ASP	-	expression tag	UNP Q9ZNR6
H	-29	HIS	-	expression tag	UNP Q9ZNR6
H	-28	ASP	-	expression tag	UNP Q9ZNR6
H	-27	GLY	-	expression tag	UNP Q9ZNR6
H	-26	ASP	-	expression tag	UNP Q9ZNR6
H	-25	TYR	-	expression tag	UNP Q9ZNR6
H	-24	LYS	-	expression tag	UNP Q9ZNR6
H	-23	ASP	-	expression tag	UNP Q9ZNR6
H	-22	HIS	-	expression tag	UNP Q9ZNR6

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Chain	Residue	Modelled	Actual	Comment	Reference
H	-21	ASP	-	expression tag	UNP Q9ZNR6
H	-20	ILE	-	expression tag	UNP Q9ZNR6
H	-19	ASP	-	expression tag	UNP Q9ZNR6
H	-18	TYR	-	expression tag	UNP Q9ZNR6
H	-17	LYS	-	expression tag	UNP Q9ZNR6
H	-16	ASP	-	expression tag	UNP Q9ZNR6
H	-15	ASP	-	expression tag	UNP Q9ZNR6
H	-14	ASP	-	expression tag	UNP Q9ZNR6
H	-13	ASP	-	expression tag	UNP Q9ZNR6
H	-12	LYS	-	expression tag	UNP Q9ZNR6
H	-11	LEU	-	expression tag	UNP Q9ZNR6
H	-10	ALA	-	expression tag	UNP Q9ZNR6
H	-9	GLY	-	expression tag	UNP Q9ZNR6
H	-8	GLY	-	expression tag	UNP Q9ZNR6
H	-7	GLY	-	expression tag	UNP Q9ZNR6
H	-6	GLY	-	expression tag	UNP Q9ZNR6
H	-5	SER	-	expression tag	UNP Q9ZNR6
H	-4	GLY	-	expression tag	UNP Q9ZNR6
H	-3	GLY	-	expression tag	UNP Q9ZNR6
H	-2	GLY	-	expression tag	UNP Q9ZNR6
H	-1	GLY	-	expression tag	UNP Q9ZNR6
H	0	SER	-	expression tag	UNP Q9ZNR6
I	-34	MET	-	expression tag	UNP Q9ZNR6
I	-33	ASP	-	expression tag	UNP Q9ZNR6
I	-32	TYR	-	expression tag	UNP Q9ZNR6
I	-31	LYS	-	expression tag	UNP Q9ZNR6
I	-30	ASP	-	expression tag	UNP Q9ZNR6
I	-29	HIS	-	expression tag	UNP Q9ZNR6
I	-28	ASP	-	expression tag	UNP Q9ZNR6
I	-27	GLY	-	expression tag	UNP Q9ZNR6
I	-26	ASP	-	expression tag	UNP Q9ZNR6
I	-25	TYR	-	expression tag	UNP Q9ZNR6
I	-24	LYS	-	expression tag	UNP Q9ZNR6
I	-23	ASP	-	expression tag	UNP Q9ZNR6
I	-22	HIS	-	expression tag	UNP Q9ZNR6
I	-21	ASP	-	expression tag	UNP Q9ZNR6
I	-20	ILE	-	expression tag	UNP Q9ZNR6
I	-19	ASP	-	expression tag	UNP Q9ZNR6
I	-18	TYR	-	expression tag	UNP Q9ZNR6
I	-17	LYS	-	expression tag	UNP Q9ZNR6
I	-16	ASP	-	expression tag	UNP Q9ZNR6
I	-15	ASP	-	expression tag	UNP Q9ZNR6

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Chain	Residue	Modelled	Actual	Comment	Reference
I	-14	ASP	-	expression tag	UNP Q9ZNR6
I	-13	ASP	-	expression tag	UNP Q9ZNR6
I	-12	LYS	-	expression tag	UNP Q9ZNR6
I	-11	LEU	-	expression tag	UNP Q9ZNR6
I	-10	ALA	-	expression tag	UNP Q9ZNR6
I	-9	GLY	-	expression tag	UNP Q9ZNR6
I	-8	GLY	-	expression tag	UNP Q9ZNR6
I	-7	GLY	-	expression tag	UNP Q9ZNR6
I	-6	GLY	-	expression tag	UNP Q9ZNR6
I	-5	SER	-	expression tag	UNP Q9ZNR6
I	-4	GLY	-	expression tag	UNP Q9ZNR6
I	-3	GLY	-	expression tag	UNP Q9ZNR6
I	-2	GLY	-	expression tag	UNP Q9ZNR6
I	-1	GLY	-	expression tag	UNP Q9ZNR6
I	0	SER	-	expression tag	UNP Q9ZNR6
J	-34	MET	-	expression tag	UNP Q9ZNR6
J	-33	ASP	-	expression tag	UNP Q9ZNR6
J	-32	TYR	-	expression tag	UNP Q9ZNR6
J	-31	LYS	-	expression tag	UNP Q9ZNR6
J	-30	ASP	-	expression tag	UNP Q9ZNR6
J	-29	HIS	-	expression tag	UNP Q9ZNR6
J	-28	ASP	-	expression tag	UNP Q9ZNR6
J	-27	GLY	-	expression tag	UNP Q9ZNR6
J	-26	ASP	-	expression tag	UNP Q9ZNR6
J	-25	TYR	-	expression tag	UNP Q9ZNR6
J	-24	LYS	-	expression tag	UNP Q9ZNR6
J	-23	ASP	-	expression tag	UNP Q9ZNR6
J	-22	HIS	-	expression tag	UNP Q9ZNR6
J	-21	ASP	-	expression tag	UNP Q9ZNR6
J	-20	ILE	-	expression tag	UNP Q9ZNR6
J	-19	ASP	-	expression tag	UNP Q9ZNR6
J	-18	TYR	-	expression tag	UNP Q9ZNR6
J	-17	LYS	-	expression tag	UNP Q9ZNR6
J	-16	ASP	-	expression tag	UNP Q9ZNR6
J	-15	ASP	-	expression tag	UNP Q9ZNR6
J	-14	ASP	-	expression tag	UNP Q9ZNR6
J	-13	ASP	-	expression tag	UNP Q9ZNR6
J	-12	LYS	-	expression tag	UNP Q9ZNR6
J	-11	LEU	-	expression tag	UNP Q9ZNR6
J	-10	ALA	-	expression tag	UNP Q9ZNR6
J	-9	GLY	-	expression tag	UNP Q9ZNR6
J	-8	GLY	-	expression tag	UNP Q9ZNR6

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Chain	Residue	Modelled	Actual	Comment	Reference
J	-7	GLY	-	expression tag	UNP Q9ZNR6
J	-6	GLY	-	expression tag	UNP Q9ZNR6
J	-5	SER	-	expression tag	UNP Q9ZNR6
J	-4	GLY	-	expression tag	UNP Q9ZNR6
J	-3	GLY	-	expression tag	UNP Q9ZNR6
J	-2	GLY	-	expression tag	UNP Q9ZNR6
J	-1	GLY	-	expression tag	UNP Q9ZNR6
J	0	SER	-	expression tag	UNP Q9ZNR6
K	-34	MET	-	expression tag	UNP Q9ZNR6
K	-33	ASP	-	expression tag	UNP Q9ZNR6
K	-32	TYR	-	expression tag	UNP Q9ZNR6
K	-31	LYS	-	expression tag	UNP Q9ZNR6
K	-30	ASP	-	expression tag	UNP Q9ZNR6
K	-29	HIS	-	expression tag	UNP Q9ZNR6
K	-28	ASP	-	expression tag	UNP Q9ZNR6
K	-27	GLY	-	expression tag	UNP Q9ZNR6
K	-26	ASP	-	expression tag	UNP Q9ZNR6
K	-25	TYR	-	expression tag	UNP Q9ZNR6
K	-24	LYS	-	expression tag	UNP Q9ZNR6
K	-23	ASP	-	expression tag	UNP Q9ZNR6
K	-22	HIS	-	expression tag	UNP Q9ZNR6
K	-21	ASP	-	expression tag	UNP Q9ZNR6
K	-20	ILE	-	expression tag	UNP Q9ZNR6
K	-19	ASP	-	expression tag	UNP Q9ZNR6
K	-18	TYR	-	expression tag	UNP Q9ZNR6
K	-17	LYS	-	expression tag	UNP Q9ZNR6
K	-16	ASP	-	expression tag	UNP Q9ZNR6
K	-15	ASP	-	expression tag	UNP Q9ZNR6
K	-14	ASP	-	expression tag	UNP Q9ZNR6
K	-13	ASP	-	expression tag	UNP Q9ZNR6
K	-12	LYS	-	expression tag	UNP Q9ZNR6
K	-11	LEU	-	expression tag	UNP Q9ZNR6
K	-10	ALA	-	expression tag	UNP Q9ZNR6
K	-9	GLY	-	expression tag	UNP Q9ZNR6
K	-8	GLY	-	expression tag	UNP Q9ZNR6
K	-7	GLY	-	expression tag	UNP Q9ZNR6
K	-6	GLY	-	expression tag	UNP Q9ZNR6
K	-5	SER	-	expression tag	UNP Q9ZNR6
K	-4	GLY	-	expression tag	UNP Q9ZNR6
K	-3	GLY	-	expression tag	UNP Q9ZNR6
K	-2	GLY	-	expression tag	UNP Q9ZNR6
K	-1	GLY	-	expression tag	UNP Q9ZNR6

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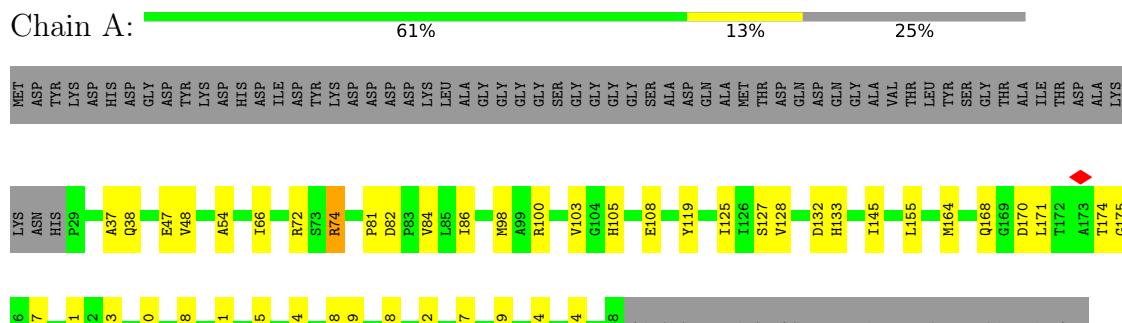
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Chain	Residue	Modelled	Actual	Comment	Reference
K	0	SER	-	expression tag	UNP Q9ZNR6
L	-34	MET	-	expression tag	UNP Q9ZNR6
L	-33	ASP	-	expression tag	UNP Q9ZNR6
L	-32	TYR	-	expression tag	UNP Q9ZNR6
L	-31	LYS	-	expression tag	UNP Q9ZNR6
L	-30	ASP	-	expression tag	UNP Q9ZNR6
L	-29	HIS	-	expression tag	UNP Q9ZNR6
L	-28	ASP	-	expression tag	UNP Q9ZNR6
L	-27	GLY	-	expression tag	UNP Q9ZNR6
L	-26	ASP	-	expression tag	UNP Q9ZNR6
L	-25	TYR	-	expression tag	UNP Q9ZNR6
L	-24	LYS	-	expression tag	UNP Q9ZNR6
L	-23	ASP	-	expression tag	UNP Q9ZNR6
L	-22	HIS	-	expression tag	UNP Q9ZNR6
L	-21	ASP	-	expression tag	UNP Q9ZNR6
L	-20	ILE	-	expression tag	UNP Q9ZNR6
L	-19	ASP	-	expression tag	UNP Q9ZNR6
L	-18	TYR	-	expression tag	UNP Q9ZNR6
L	-17	LYS	-	expression tag	UNP Q9ZNR6
L	-16	ASP	-	expression tag	UNP Q9ZNR6
L	-15	ASP	-	expression tag	UNP Q9ZNR6
L	-14	ASP	-	expression tag	UNP Q9ZNR6
L	-13	ASP	-	expression tag	UNP Q9ZNR6
L	-12	LYS	-	expression tag	UNP Q9ZNR6
L	-11	LEU	-	expression tag	UNP Q9ZNR6
L	-10	ALA	-	expression tag	UNP Q9ZNR6
L	-9	GLY	-	expression tag	UNP Q9ZNR6
L	-8	GLY	-	expression tag	UNP Q9ZNR6
L	-7	GLY	-	expression tag	UNP Q9ZNR6
L	-6	GLY	-	expression tag	UNP Q9ZNR6
L	-5	SER	-	expression tag	UNP Q9ZNR6
L	-4	GLY	-	expression tag	UNP Q9ZNR6
L	-3	GLY	-	expression tag	UNP Q9ZNR6
L	-2	GLY	-	expression tag	UNP Q9ZNR6
L	-1	GLY	-	expression tag	UNP Q9ZNR6
L	0	SER	-	expression tag	UNP Q9ZNR6

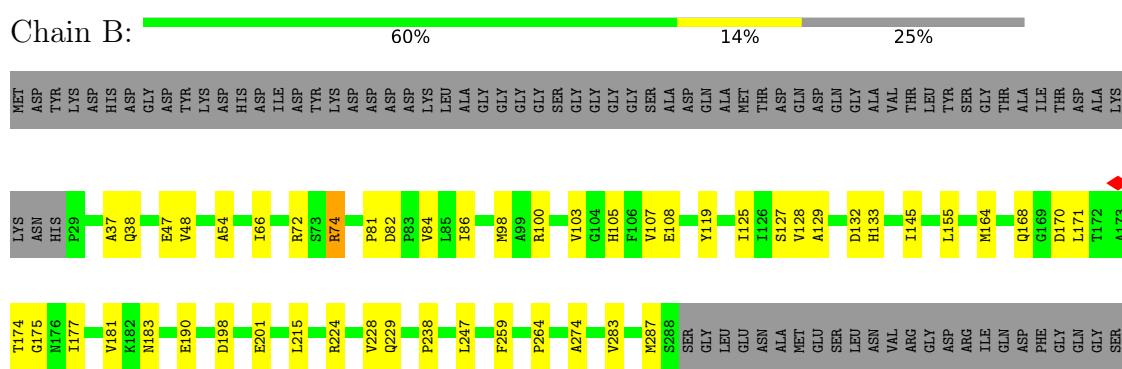
### 3 Residue-property plots [\(i\)](#)

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.

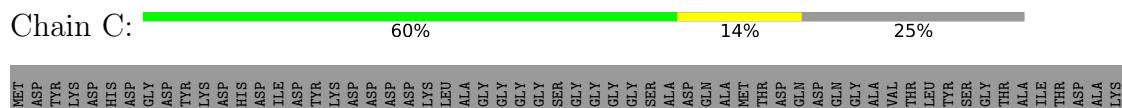
- Molecule 1: Pyridoxal 5'-phosphate synthase-like subunit PDX1.2



- Molecule 1: Pyridoxal 5'-phosphate synthase-like subunit PDX1 2



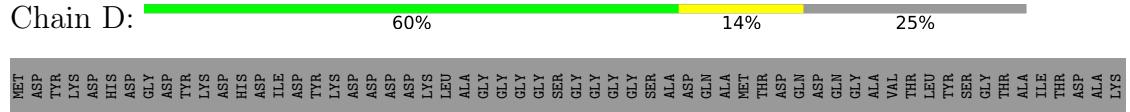
- Molecule 1: Pyridoxal 5'-phosphate synthase-like subunit PDX1.2





I177	A178	V181	K182	N183	E190	D198	E201	L215	R224	V228	Q229	P238	A242	L247	F259	P264	A274	S283	M287	S288	SER	GLY	LEU	GLU	ASN	ALA	MET	GLU	SER	LEU	ASN	VAL	ARG	GLY	ASP	ARG	ILE	GLN	ASP	PHE	GLY	GLN	GLY	GLY	GLY	GLY	GLY	GLY	SER
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

- Molecule 1: Pyridoxal 5'-phosphate synthase-like subunit PDX1.2



<b>W176</b>	<b>W177</b>	<b>W178</b>	<b>W181</b>	<b>W183</b>	<b>E190</b>	<b>D198</b>	<b>E201</b>	<b>L215</b>	<b>R224</b>	<b>P238</b>	<b>V228</b>	<b>Q229</b>	<b>A242</b>	<b>L247</b>	<b>F259</b>	<b>P264</b>	<b>K274</b>	<b>V283</b>	<b>M287</b>	<b>S288</b>
SER	GLY	GLY	LEU	GLU	GLU	GLU	ALA	ALA	MEET	GLU	GLY	GLY	ARG	ILE	ASN	VAL	VAL	GLN	GLN	
GLY	GLY	GLY	LEU	GLU	GLU	GLU	ALA	ALA	MEET	GLU	GLY	GLY	ARG	ILE	ASN	VAL	VAL	GLN	GLN	
GLY	GLY	GLY	LEU	GLU	GLU	GLU	ALA	ALA	MEET	GLU	GLY	GLY	ARG	ILE	ASN	VAL	VAL	GLN	GLN	

- Molecule 1: Pyridoxal 5'-phosphate synthase-like subunit PDX1.2



LIVS  
ASU  
HHS  
GFP29  
A37  
Q38  
E47  
V48  
A54  
I66  
R72  
S73  
S74  
R74  
PB61  
D62  
B63  
V64  
L65  
I66  
R67  
K68  
A69  
R100  
Y103  
G104  
H105  
V106  
E108  
Y119  
I125  
I126  
S127  
V128  
D132  
H133  
I145  
L155  
W164  
G169  
Q168  
L171  
T172  
A173  
T174  
G175

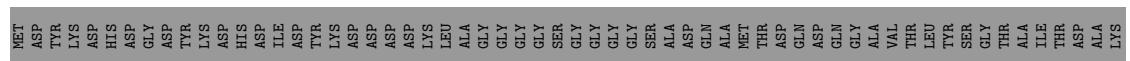
A horizontal bar chart titled "Chain F" showing the percentage distribution across three categories. The total length of the bar is 100%.

Category	Percentage
Red	62%
Yellow	13%
Grey	25%



- Molecule 1: Pyridoxal 5'-phosphate synthase-like subunit PDX1.2

### Chain G:



- Molecule 1: Pyridoxal 5'-phosphate synthase-like subunit PDX1.2

Chain H:



- Molecule 1: Pyridoxal 5'-phosphate synthase-like subunit PDX1.2

### Chain I:



- Molecule 1: Pyridoxal 5'-phosphate synthase-like subunit PDX1.2

## Chain J





## 4 Experimental information i

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, D6	Depositor
Number of particles used	265224	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 ( $e^-/\text{\AA}^2$ )	90	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	3.161	Depositor
Minimum map value	-1.105	Depositor
Average map value	0.008	Depositor
Map value standard deviation	0.120	Depositor
Recommended contour level	0.49	Depositor
Map size (Å)	303.6, 303.6, 303.6	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.759, 0.759, 0.759	Depositor

## 5 Model quality i

### 5.1 Standard geometry i

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	0.27	0/1998	0.42	0/2701
1	B	0.27	0/1998	0.42	0/2701
1	C	0.27	0/1998	0.42	0/2701
1	D	0.27	0/1998	0.42	0/2701
1	E	0.27	0/1998	0.42	0/2701
1	F	0.27	0/1998	0.42	0/2701
1	G	0.27	0/1998	0.42	0/2701
1	H	0.27	0/1998	0.42	0/2701
1	I	0.27	0/1998	0.42	0/2701
1	J	0.27	0/1998	0.42	0/2701
1	K	0.27	0/1998	0.42	0/2701
1	L	0.27	0/1998	0.42	0/2701
All	All	0.27	0/23976	0.42	0/32412

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 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	1968	0	1990	26	0
1	B	1968	0	1990	28	0
1	C	1968	0	1990	28	0
1	D	1968	0	1990	28	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	1968	0	1990	26	0
1	F	1968	0	1990	24	0
1	G	1968	0	1990	26	0
1	H	1968	0	1990	25	0
1	I	1968	0	1990	25	0
1	J	1968	0	1990	26	0
1	K	1968	0	1990	26	0
1	L	1968	0	1990	28	0
All	All	23616	0	23880	308	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 6.

All (308) 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:F:145:ILE:HG13	1:F:164:MET:HB3	1.71	0.73
1:D:145:ILE:HG13	1:D:164:MET:HB3	1.71	0.73
1:G:145:ILE:HG13	1:G:164:MET:HB3	1.71	0.73
1:H:145:ILE:HG13	1:H:164:MET:HB3	1.71	0.73
1:L:145:ILE:HG13	1:L:164:MET:HB3	1.71	0.73
1:E:145:ILE:HG13	1:E:164:MET:HB3	1.71	0.73
1:C:145:ILE:HG13	1:C:164:MET:HB3	1.71	0.72
1:I:145:ILE:HG13	1:I:164:MET:HB3	1.71	0.72
1:J:145:ILE:HG13	1:J:164:MET:HB3	1.71	0.72
1:A:145:ILE:HG13	1:A:164:MET:HB3	1.71	0.72
1:B:145:ILE:HG13	1:B:164:MET:HB3	1.71	0.72
1:K:145:ILE:HG13	1:K:164:MET:HB3	1.71	0.72
1:H:98:MET:HG2	1:H:119:TYR:HB2	1.74	0.70
1:F:98:MET:HG2	1:F:119:TYR:HB2	1.74	0.70
1:B:98:MET:HG2	1:B:119:TYR:HB2	1.74	0.70
1:J:98:MET:HG2	1:J:119:TYR:HB2	1.74	0.70
1:E:98:MET:HG2	1:E:119:TYR:HB2	1.74	0.69
1:A:98:MET:HG2	1:A:119:TYR:HB2	1.74	0.69
1:G:98:MET:HG2	1:G:119:TYR:HB2	1.74	0.69
1:I:98:MET:HG2	1:I:119:TYR:HB2	1.74	0.69
1:K:98:MET:HG2	1:K:119:TYR:HB2	1.74	0.69
1:C:98:MET:HG2	1:C:119:TYR:HB2	1.74	0.69
1:L:98:MET:HG2	1:L:119:TYR:HB2	1.74	0.68
1:D:98:MET:HG2	1:D:119:TYR:HB2	1.74	0.68
1:E:224:ARG:NH2	1:E:229:GLN:OE1	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:224:ARG:NH2	1:D:229:GLN:OE1	2.32	0.62
1:G:224:ARG:NH2	1:G:229:GLN:OE1	2.32	0.62
1:L:224:ARG:NH2	1:L:229:GLN:OE1	2.32	0.62
1:H:224:ARG:NH2	1:H:229:GLN:OE1	2.32	0.62
1:I:224:ARG:NH2	1:I:229:GLN:OE1	2.32	0.62
1:A:224:ARG:NH2	1:A:229:GLN:OE1	2.32	0.62
1:F:224:ARG:NH2	1:F:229:GLN:OE1	2.32	0.62
1:C:224:ARG:NH2	1:C:229:GLN:OE1	2.32	0.61
1:K:224:ARG:NH2	1:K:229:GLN:OE1	2.32	0.61
1:D:81:PRO:HG2	1:D:86:ILE:HD11	1.82	0.61
1:L:81:PRO:HG2	1:L:86:ILE:HD11	1.82	0.61
1:B:224:ARG:NH2	1:B:229:GLN:OE1	2.32	0.61
1:J:224:ARG:NH2	1:J:229:GLN:OE1	2.32	0.61
1:E:81:PRO:HG2	1:E:86:ILE:HD11	1.82	0.61
1:A:81:PRO:HG2	1:A:86:ILE:HD11	1.82	0.61
1:G:81:PRO:HG2	1:G:86:ILE:HD11	1.82	0.61
1:I:81:PRO:HG2	1:I:86:ILE:HD11	1.82	0.61
1:C:81:PRO:HG2	1:C:86:ILE:HD11	1.82	0.61
1:K:81:PRO:HG2	1:K:86:ILE:HD11	1.82	0.61
1:B:81:PRO:HG2	1:B:86:ILE:HD11	1.82	0.60
1:J:81:PRO:HG2	1:J:86:ILE:HD11	1.82	0.60
1:H:81:PRO:HG2	1:H:86:ILE:HD11	1.82	0.60
1:F:81:PRO:HG2	1:F:86:ILE:HD11	1.82	0.59
1:I:181:VAL:HG23	1:I:247:LEU:HD11	1.87	0.57
1:A:181:VAL:HG23	1:A:247:LEU:HD11	1.87	0.57
1:B:181:VAL:HG23	1:B:247:LEU:HD11	1.87	0.56
1:J:181:VAL:HG23	1:J:247:LEU:HD11	1.87	0.56
1:B:72:ARG:O	1:B:74:ARG:NH1	2.38	0.56
1:C:72:ARG:O	1:C:74:ARG:NH1	2.38	0.56
1:J:72:ARG:O	1:J:74:ARG:NH1	2.38	0.56
1:K:72:ARG:O	1:K:74:ARG:NH1	2.38	0.56
1:D:72:ARG:O	1:D:74:ARG:NH1	2.38	0.56
1:F:72:ARG:O	1:F:74:ARG:NH1	2.38	0.56
1:H:72:ARG:O	1:H:74:ARG:NH1	2.38	0.56
1:L:72:ARG:O	1:L:74:ARG:NH1	2.38	0.56
1:C:181:VAL:HG23	1:C:247:LEU:HD11	1.87	0.56
1:K:181:VAL:HG23	1:K:247:LEU:HD11	1.87	0.56
1:F:181:VAL:HG23	1:F:247:LEU:HD11	1.87	0.56
1:I:72:ARG:O	1:I:74:ARG:NH1	2.38	0.56
1:H:181:VAL:HG23	1:H:247:LEU:HD11	1.87	0.56
1:E:72:ARG:O	1:E:74:ARG:NH1	2.38	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:72:ARG:O	1:G:74:ARG:NH1	2.38	0.55
1:A:72:ARG:O	1:A:74:ARG:NH1	2.38	0.55
1:D:181:VAL:HG23	1:D:247:LEU:HD11	1.87	0.55
1:L:181:VAL:HG23	1:L:247:LEU:HD11	1.87	0.55
1:G:181:VAL:HG23	1:G:247:LEU:HD11	1.87	0.55
1:E:181:VAL:HG23	1:E:247:LEU:HD11	1.87	0.55
1:B:198:ASP:HB3	1:B:201:GLU:HG3	1.89	0.54
1:J:198:ASP:HB3	1:J:201:GLU:HG3	1.90	0.54
1:A:198:ASP:HB3	1:A:201:GLU:HG3	1.90	0.54
1:I:198:ASP:HB3	1:I:201:GLU:HG3	1.90	0.54
1:K:198:ASP:HB3	1:K:201:GLU:HG3	1.89	0.54
1:C:198:ASP:HB3	1:C:201:GLU:HG3	1.90	0.53
1:E:198:ASP:HB3	1:E:201:GLU:HG3	1.89	0.53
1:G:198:ASP:HB3	1:G:201:GLU:HG3	1.90	0.53
1:F:198:ASP:HB3	1:F:201:GLU:HG3	1.90	0.53
1:H:198:ASP:HB3	1:H:201:GLU:HG3	1.90	0.53
1:D:198:ASP:HB3	1:D:201:GLU:HG3	1.90	0.53
1:L:198:ASP:HB3	1:L:201:GLU:HG3	1.90	0.53
1:C:129:ALA:O	1:D:178:ALA:HA	2.09	0.52
1:K:103:VAL:HG13	1:K:128:VAL:HG13	1.93	0.51
1:C:103:VAL:HG13	1:C:128:VAL:HG13	1.93	0.51
1:F:103:VAL:HG13	1:F:128:VAL:HG13	1.93	0.51
1:H:103:VAL:HG13	1:H:128:VAL:HG13	1.93	0.51
1:B:103:VAL:HG13	1:B:128:VAL:HG13	1.93	0.50
1:J:103:VAL:HG13	1:J:128:VAL:HG13	1.93	0.50
1:E:103:VAL:HG13	1:E:128:VAL:HG13	1.93	0.50
1:G:103:VAL:HG13	1:G:128:VAL:HG13	1.93	0.50
1:A:103:VAL:HG13	1:A:128:VAL:HG13	1.93	0.50
1:I:103:VAL:HG13	1:I:128:VAL:HG13	1.93	0.50
1:J:82:ASP:OD2	1:J:84:VAL:HG22	2.12	0.50
1:B:82:ASP:OD2	1:B:84:VAL:HG22	2.12	0.50
1:L:103:VAL:HG13	1:L:128:VAL:HG13	1.93	0.50
1:D:103:VAL:HG13	1:D:128:VAL:HG13	1.93	0.50
1:H:82:ASP:OD2	1:H:84:VAL:HG22	2.12	0.50
1:L:82:ASP:OD2	1:L:84:VAL:HG22	2.12	0.50
1:D:82:ASP:OD2	1:D:84:VAL:HG22	2.12	0.49
1:E:82:ASP:OD2	1:E:84:VAL:HG22	2.12	0.49
1:G:82:ASP:OD2	1:G:84:VAL:HG22	2.12	0.49
1:A:82:ASP:OD2	1:A:84:VAL:HG22	2.12	0.49
1:F:82:ASP:OD2	1:F:84:VAL:HG22	2.12	0.49
1:I:82:ASP:OD2	1:I:84:VAL:HG22	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:82:ASP:OD2	1:C:84:VAL:HG22	2.12	0.49
1:D:168:GLN:O	1:D:183:ASN:ND2	2.40	0.49
1:K:82:ASP:OD2	1:K:84:VAL:HG22	2.12	0.49
1:L:168:GLN:O	1:L:183:ASN:ND2	2.40	0.49
1:F:168:GLN:O	1:F:183:ASN:ND2	2.40	0.49
1:G:238:PRO:HB3	1:G:274:ALA:HB2	1.96	0.48
1:K:238:PRO:HB3	1:K:274:ALA:HB2	1.96	0.48
1:E:238:PRO:HB3	1:E:274:ALA:HB2	1.96	0.48
1:C:238:PRO:HB3	1:C:274:ALA:HB2	1.96	0.48
1:D:238:PRO:HB3	1:D:274:ALA:HB2	1.96	0.48
1:L:238:PRO:HB3	1:L:274:ALA:HB2	1.96	0.48
1:H:168:GLN:O	1:H:183:ASN:ND2	2.40	0.48
1:F:238:PRO:HB3	1:F:274:ALA:HB2	1.96	0.48
1:H:238:PRO:HB3	1:H:274:ALA:HB2	1.96	0.48
1:E:47:GLU:OE1	1:E:100:ARG:NH1	2.33	0.48
1:A:238:PRO:HB3	1:A:274:ALA:HB2	1.96	0.47
1:B:238:PRO:HB3	1:B:274:ALA:HB2	1.96	0.47
1:E:168:GLN:O	1:E:183:ASN:ND2	2.40	0.47
1:J:238:PRO:HB3	1:J:274:ALA:HB2	1.96	0.47
1:G:168:GLN:O	1:G:183:ASN:ND2	2.40	0.47
1:G:47:GLU:OE1	1:G:100:ARG:NH1	2.33	0.47
1:I:238:PRO:HB3	1:I:274:ALA:HB2	1.96	0.47
1:L:47:GLU:OE1	1:L:100:ARG:NH1	2.33	0.47
1:A:168:GLN:O	1:A:183:ASN:ND2	2.40	0.47
1:F:38:GLN:HA	1:F:228:VAL:HG21	1.97	0.47
1:H:38:GLN:HA	1:H:228:VAL:HG21	1.97	0.47
1:C:168:GLN:NE2	1:C:171:LEU:HD23	2.30	0.47
1:K:168:GLN:NE2	1:K:171:LEU:HD23	2.30	0.47
1:J:168:GLN:NE2	1:J:171:LEU:HD23	2.30	0.47
1:B:168:GLN:NE2	1:B:171:LEU:HD23	2.30	0.47
1:B:47:GLU:OE1	1:B:100:ARG:NH1	2.33	0.46
1:C:38:GLN:HA	1:C:228:VAL:HG21	1.97	0.46
1:K:38:GLN:HA	1:K:228:VAL:HG21	1.97	0.46
1:L:168:GLN:NE2	1:L:171:LEU:HD23	2.30	0.46
1:D:168:GLN:NE2	1:D:171:LEU:HD23	2.30	0.46
1:E:38:GLN:HA	1:E:228:VAL:HG21	1.97	0.46
1:G:38:GLN:HA	1:G:228:VAL:HG21	1.97	0.46
1:I:38:GLN:HA	1:I:228:VAL:HG21	1.97	0.46
1:I:168:GLN:O	1:I:183:ASN:ND2	2.40	0.46
1:J:47:GLU:OE1	1:J:100:ARG:NH1	2.33	0.46
1:B:38:GLN:HA	1:B:228:VAL:HG21	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:38:GLN:HA	1:A:228:VAL:HG21	1.97	0.46
1:G:168:GLN:NE2	1:G:171:LEU:HD23	2.30	0.46
1:E:168:GLN:NE2	1:E:171:LEU:HD23	2.30	0.46
1:F:168:GLN:NE2	1:F:171:LEU:HD23	2.30	0.46
1:H:168:GLN:NE2	1:H:171:LEU:HD23	2.30	0.46
1:J:38:GLN:HA	1:J:228:VAL:HG21	1.97	0.46
1:A:168:GLN:NE2	1:A:171:LEU:HD23	2.30	0.45
1:B:107:VAL:HG11	1:C:242:ALA:HB3	1.97	0.45
1:I:168:GLN:NE2	1:I:171:LEU:HD23	2.30	0.45
1:K:170:ASP:OD1	1:K:170:ASP:N	2.50	0.45
1:L:38:GLN:HA	1:L:228:VAL:HG21	1.97	0.45
1:C:170:ASP:OD1	1:C:170:ASP:N	2.50	0.45
1:D:38:GLN:HA	1:D:228:VAL:HG21	1.97	0.45
1:C:107:VAL:HG11	1:D:242:ALA:HB3	1.98	0.45
1:B:170:ASP:N	1:B:170:ASP:OD1	2.50	0.45
1:D:170:ASP:N	1:D:170:ASP:OD1	2.50	0.45
1:H:170:ASP:OD1	1:H:170:ASP:N	2.50	0.45
1:C:168:GLN:O	1:C:183:ASN:ND2	2.40	0.45
1:F:170:ASP:OD1	1:F:170:ASP:N	2.50	0.45
1:L:170:ASP:N	1:L:170:ASP:OD1	2.50	0.45
1:K:168:GLN:O	1:K:183:ASN:ND2	2.40	0.44
1:B:168:GLN:O	1:B:183:ASN:ND2	2.40	0.44
1:C:47:GLU:HA	1:C:66:ILE:HG23	2.00	0.44
1:K:47:GLU:HA	1:K:66:ILE:HG23	2.00	0.44
1:K:129:ALA:O	1:L:178:ALA:HA	2.16	0.44
1:B:47:GLU:HA	1:B:66:ILE:HG23	2.00	0.44
1:B:174:THR:OG1	1:B:175:GLY:N	2.51	0.44
1:E:132:ASP:HB2	1:E:133:HIS:CD2	2.53	0.44
1:E:170:ASP:OD1	1:E:170:ASP:N	2.50	0.44
1:F:132:ASP:HB2	1:F:133:HIS:CD2	2.53	0.44
1:G:132:ASP:HB2	1:G:133:HIS:CD2	2.53	0.44
1:H:132:ASP:HB2	1:H:133:HIS:CD2	2.53	0.44
1:J:47:GLU:HA	1:J:66:ILE:HG23	2.00	0.44
1:J:168:GLN:O	1:J:183:ASN:ND2	2.40	0.44
1:A:174:THR:OG1	1:A:175:GLY:N	2.51	0.44
1:E:48:VAL:HG11	1:E:54:ALA:HA	2.00	0.44
1:G:48:VAL:HG11	1:G:54:ALA:HA	2.00	0.44
1:G:170:ASP:N	1:G:170:ASP:OD1	2.50	0.44
1:H:174:THR:OG1	1:H:175:GLY:N	2.51	0.44
1:J:174:THR:OG1	1:J:175:GLY:N	2.51	0.44
1:I:174:THR:OG1	1:I:175:GLY:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:132:ASP:HB2	1:A:133:HIS:CD2	2.53	0.43
1:B:48:VAL:HG11	1:B:54:ALA:HA	2.00	0.43
1:C:48:VAL:HG11	1:C:54:ALA:HA	2.00	0.43
1:D:47:GLU:HA	1:D:66:ILE:HG23	2.00	0.43
1:F:48:VAL:HG11	1:F:54:ALA:HA	2.00	0.43
1:F:174:THR:OG1	1:F:175:GLY:N	2.51	0.43
1:J:48:VAL:HG11	1:J:54:ALA:HA	2.00	0.43
1:D:132:ASP:HB2	1:D:133:HIS:CD2	2.53	0.43
1:H:48:VAL:HG11	1:H:54:ALA:HA	2.00	0.43
1:K:48:VAL:HG11	1:K:54:ALA:HA	2.00	0.43
1:A:100:ARG:CZ	1:A:125:ILE:HD11	2.49	0.43
1:A:242:ALA:HB3	1:F:107:VAL:HG11	2.00	0.43
1:F:47:GLU:HA	1:F:66:ILE:HG23	2.00	0.43
1:H:47:GLU:HA	1:H:66:ILE:HG23	2.00	0.43
1:L:132:ASP:HB2	1:L:133:HIS:CD2	2.53	0.43
1:A:48:VAL:HG11	1:A:54:ALA:HA	2.00	0.43
1:D:48:VAL:HG11	1:D:54:ALA:HA	2.00	0.43
1:E:174:THR:OG1	1:E:175:GLY:N	2.51	0.43
1:F:100:ARG:CZ	1:F:125:ILE:HD11	2.49	0.43
1:G:174:THR:OG1	1:G:175:GLY:N	2.51	0.43
1:I:48:VAL:HG11	1:I:54:ALA:HA	2.00	0.43
1:I:100:ARG:CZ	1:I:125:ILE:HD11	2.49	0.43
1:I:132:ASP:HB2	1:I:133:HIS:CD2	2.53	0.43
1:L:47:GLU:HA	1:L:66:ILE:HG23	2.00	0.43
1:L:48:VAL:HG11	1:L:54:ALA:HA	2.00	0.43
1:H:100:ARG:CZ	1:H:125:ILE:HD11	2.49	0.43
1:L:100:ARG:CZ	1:L:125:ILE:HD11	2.49	0.43
1:B:129:ALA:O	1:C:178:ALA:HA	2.18	0.43
1:C:132:ASP:HB2	1:C:133:HIS:CD2	2.53	0.43
1:D:100:ARG:CZ	1:D:125:ILE:HD11	2.49	0.43
1:A:47:GLU:HA	1:A:66:ILE:HG23	2.00	0.43
1:B:37:ALA:HA	1:B:119:TYR:HE2	1.84	0.43
1:B:132:ASP:HB2	1:B:133:HIS:CD2	2.53	0.43
1:A:170:ASP:OD1	1:A:170:ASP:N	2.50	0.43
1:C:100:ARG:CZ	1:C:125:ILE:HD11	2.49	0.43
1:I:47:GLU:HA	1:I:66:ILE:HG23	2.00	0.43
1:J:37:ALA:HA	1:J:119:TYR:HE2	1.84	0.43
1:J:132:ASP:HB2	1:J:133:HIS:CD2	2.53	0.43
1:K:132:ASP:HB2	1:K:133:HIS:CD2	2.53	0.43
1:D:47:GLU:OE1	1:D:100:ARG:NH1	2.33	0.43
1:G:47:GLU:HA	1:G:66:ILE:HG23	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:129:ALA:O	1:H:178:ALA:HA	2.19	0.43
1:I:170:ASP:N	1:I:170:ASP:OD1	2.50	0.43
1:K:100:ARG:CZ	1:K:125:ILE:HD11	2.49	0.43
1:D:174:THR:OG1	1:D:175:GLY:N	2.51	0.42
1:E:47:GLU:HA	1:E:66:ILE:HG23	2.00	0.42
1:E:259:PHE:HA	1:E:264:PRO:HB3	2.01	0.42
1:L:174:THR:OG1	1:L:175:GLY:N	2.51	0.42
1:B:100:ARG:CZ	1:B:125:ILE:HD11	2.49	0.42
1:G:259:PHE:HA	1:G:264:PRO:HB3	2.01	0.42
1:J:100:ARG:CZ	1:J:125:ILE:HD11	2.49	0.42
1:E:155:LEU:HD22	1:E:215:LEU:HB3	2.02	0.42
1:F:155:LEU:HD22	1:F:215:LEU:HB3	2.01	0.42
1:G:155:LEU:HD22	1:G:215:LEU:HB3	2.02	0.42
1:H:155:LEU:HD22	1:H:215:LEU:HB3	2.01	0.42
1:I:155:LEU:HD22	1:I:215:LEU:HB3	2.01	0.42
1:A:155:LEU:HD22	1:A:215:LEU:HB3	2.02	0.42
1:A:37:ALA:HA	1:A:119:TYR:HE2	1.84	0.42
1:B:155:LEU:HD22	1:B:215:LEU:HB3	2.02	0.42
1:C:155:LEU:HD22	1:C:215:LEU:HB3	2.02	0.42
1:D:37:ALA:HA	1:D:119:TYR:HE2	1.84	0.42
1:D:155:LEU:HD22	1:D:215:LEU:HB3	2.02	0.42
1:J:155:LEU:HD22	1:J:215:LEU:HB3	2.02	0.42
1:K:155:LEU:HD22	1:K:215:LEU:HB3	2.02	0.42
1:L:37:ALA:HA	1:L:119:TYR:HE2	1.84	0.42
1:L:155:LEU:HD22	1:L:215:LEU:HB3	2.01	0.42
1:C:37:ALA:HA	1:C:119:TYR:HE2	1.84	0.42
1:H:47:GLU:OE1	1:H:100:ARG:NH1	2.33	0.42
1:I:259:PHE:HA	1:I:264:PRO:HB3	2.01	0.42
1:A:259:PHE:HA	1:A:264:PRO:HB3	2.01	0.42
1:F:37:ALA:HA	1:F:119:TYR:HE2	1.84	0.42
1:I:37:ALA:HA	1:I:119:TYR:HE2	1.84	0.42
1:J:170:ASP:OD1	1:J:170:ASP:N	2.50	0.42
1:K:37:ALA:HA	1:K:119:TYR:HE2	1.84	0.42
1:B:259:PHE:HA	1:B:264:PRO:HB3	2.01	0.42
1:D:259:PHE:HA	1:D:264:PRO:HB3	2.01	0.42
1:G:100:ARG:CZ	1:G:125:ILE:HD11	2.49	0.42
1:H:37:ALA:HA	1:H:119:TYR:HE2	1.84	0.42
1:L:259:PHE:HA	1:L:264:PRO:HB3	2.01	0.42
1:E:100:ARG:CZ	1:E:125:ILE:HD11	2.49	0.42
1:J:259:PHE:HA	1:J:264:PRO:HB3	2.01	0.42
1:A:47:GLU:OE1	1:A:100:ARG:NH1	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:259:PHE:HA	1:F:264:PRO:HB3	2.01	0.42
1:H:259:PHE:HA	1:H:264:PRO:HB3	2.01	0.42
1:G:177:ILE:O	1:G:181:VAL:HG12	2.20	0.41
1:E:177:ILE:O	1:E:181:VAL:HG12	2.21	0.41
1:C:177:ILE:O	1:C:181:VAL:HG12	2.20	0.41
1:K:177:ILE:O	1:K:181:VAL:HG12	2.21	0.41
1:C:174:THR:OG1	1:C:175:GLY:N	2.51	0.41
1:H:177:ILE:O	1:H:181:VAL:HG12	2.20	0.41
1:B:177:ILE:O	1:B:181:VAL:HG12	2.20	0.41
1:F:177:ILE:O	1:F:181:VAL:HG12	2.21	0.41
1:G:37:ALA:HA	1:G:119:TYR:HE2	1.84	0.41
1:I:47:GLU:OE1	1:I:100:ARG:NH1	2.33	0.41
1:K:259:PHE:HA	1:K:264:PRO:HB3	2.01	0.41
1:D:177:ILE:O	1:D:181:VAL:HG12	2.21	0.41
1:J:177:ILE:O	1:J:181:VAL:HG12	2.21	0.41
1:K:174:THR:OG1	1:K:175:GLY:N	2.51	0.41
1:L:177:ILE:O	1:L:181:VAL:HG12	2.21	0.41
1:E:37:ALA:HA	1:E:119:TYR:HE2	1.84	0.41
1:L:283:VAL:O	1:L:287:MET:HG2	2.21	0.41
1:C:259:PHE:HA	1:C:264:PRO:HB3	2.01	0.41
1:D:283:VAL:O	1:D:287:MET:HG2	2.21	0.41
1:K:107:VAL:HG11	1:L:242:ALA:HB3	2.02	0.41
1:A:105:HIS:CE1	1:A:108:GLU:HG3	2.56	0.41
1:C:283:VAL:O	1:C:287:MET:HG2	2.21	0.41
1:I:105:HIS:CE1	1:I:108:GLU:HG3	2.56	0.41
1:K:283:VAL:O	1:K:287:MET:HG2	2.21	0.41
1:A:177:ILE:O	1:A:181:VAL:HG12	2.20	0.40
1:B:105:HIS:CE1	1:B:108:GLU:HG3	2.56	0.40
1:G:283:VAL:O	1:G:287:MET:HG2	2.21	0.40
1:J:105:HIS:CE1	1:J:108:GLU:HG3	2.56	0.40
1:B:283:VAL:O	1:B:287:MET:HG2	2.21	0.40
1:E:283:VAL:O	1:E:287:MET:HG2	2.21	0.40
1:J:283:VAL:O	1:J:287:MET:HG2	2.21	0.40
1:D:105:HIS:CE1	1:D:108:GLU:HG3	2.56	0.40
1:I:177:ILE:O	1:I:181:VAL:HG12	2.21	0.40
1:L:105:HIS:CE1	1:L:108:GLU:HG3	2.56	0.40
1:E:105:HIS:CE1	1:E:108:GLU:HG3	2.56	0.40

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	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	B	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	C	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	D	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	E	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	F	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	G	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	H	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	I	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	J	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	K	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
1	L	258/348 (74%)	253 (98%)	5 (2%)	0	100 100
All	All	3096/4176 (74%)	3036 (98%)	60 (2%)	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	214/280 (76%)	211 (99%)	3 (1%)	67 85
1	B	214/280 (76%)	211 (99%)	3 (1%)	67 85

*Continued on next page...*

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	214/280 (76%)	211 (99%)	3 (1%)	67	85
1	D	214/280 (76%)	211 (99%)	3 (1%)	67	85
1	E	214/280 (76%)	211 (99%)	3 (1%)	67	85
1	F	214/280 (76%)	211 (99%)	3 (1%)	67	85
1	G	214/280 (76%)	211 (99%)	3 (1%)	67	85
1	H	214/280 (76%)	211 (99%)	3 (1%)	67	85
1	I	214/280 (76%)	211 (99%)	3 (1%)	67	85
1	J	214/280 (76%)	211 (99%)	3 (1%)	67	85
1	K	214/280 (76%)	211 (99%)	3 (1%)	67	85
1	L	214/280 (76%)	211 (99%)	3 (1%)	67	85
All	All	2568/3360 (76%)	2532 (99%)	36 (1%)	68	85

All (36) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	74	ARG
1	A	127	SER
1	A	190	GLU
1	B	74	ARG
1	B	127	SER
1	B	190	GLU
1	C	74	ARG
1	C	127	SER
1	C	190	GLU
1	D	74	ARG
1	D	127	SER
1	D	190	GLU
1	E	74	ARG
1	E	127	SER
1	E	190	GLU
1	F	74	ARG
1	F	127	SER
1	F	190	GLU
1	G	74	ARG
1	G	127	SER
1	G	190	GLU
1	H	74	ARG
1	H	127	SER

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
1	H	190	GLU
1	I	74	ARG
1	I	127	SER
1	I	190	GLU
1	J	74	ARG
1	J	127	SER
1	J	190	GLU
1	K	74	ARG
1	K	127	SER
1	K	190	GLU
1	L	74	ARG
1	L	127	SER
1	L	190	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	52	ASN
1	A	133	HIS
1	B	52	ASN
1	C	52	ASN
1	C	133	HIS
1	D	52	ASN
1	E	52	ASN
1	F	52	ASN
1	F	276	GLN
1	G	52	ASN
1	H	52	ASN
1	H	133	HIS
1	H	276	GLN
1	I	52	ASN
1	J	52	ASN
1	J	133	HIS
1	K	52	ASN
1	K	133	HIS
1	L	52	ASN
1	L	133	HIS

### 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 [\(i\)](#)

There are no ligands in this entry.

## 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.

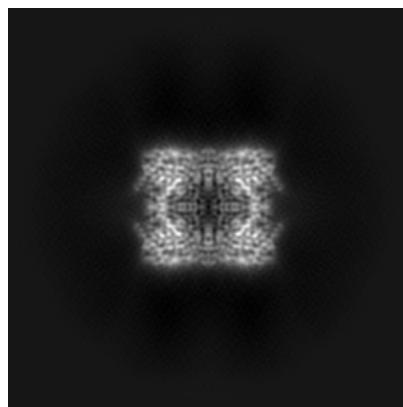
## 6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-23263. These allow visual inspection of the internal detail of the map and identification of artifacts.

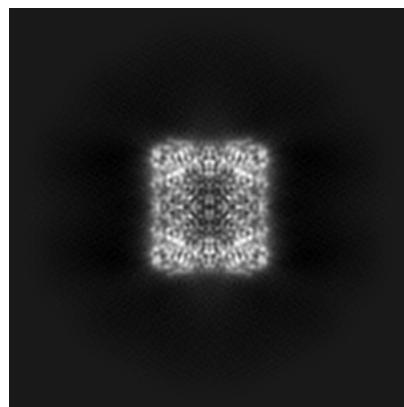
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

### 6.1 Orthogonal projections (i)

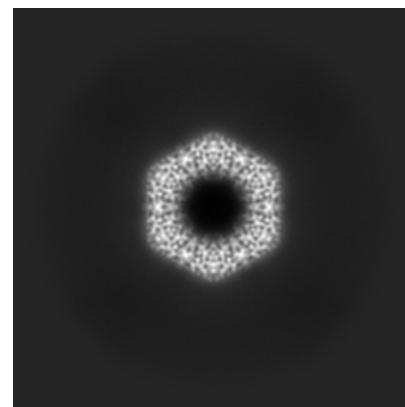
#### 6.1.1 Primary map



X



Y

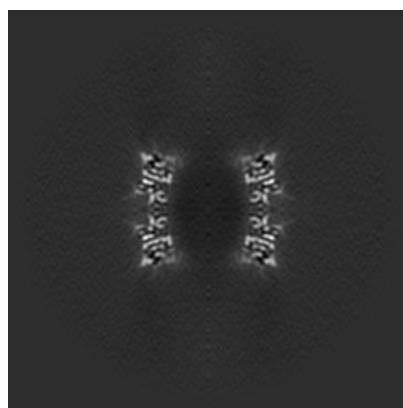


Z

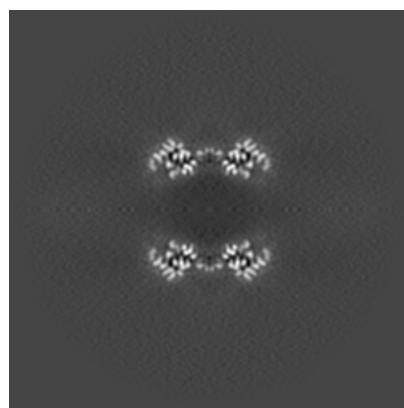
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices (i)

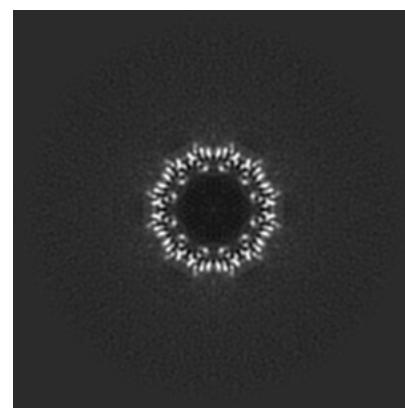
#### 6.2.1 Primary map



X Index: 200



Y Index: 200

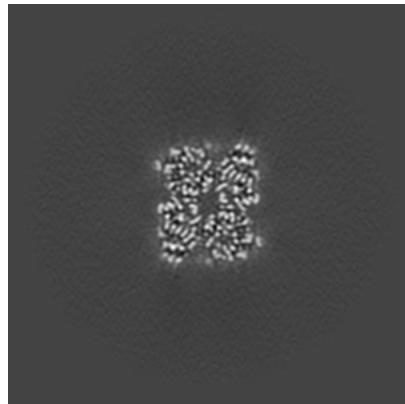


Z Index: 200

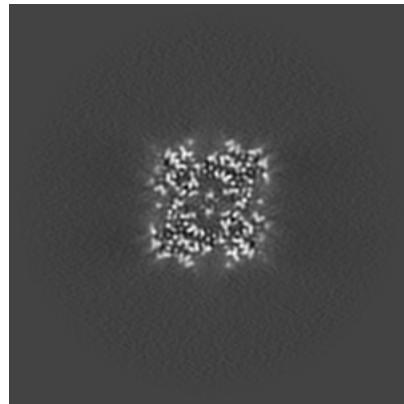
The images above show central slices of the map in three orthogonal directions.

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

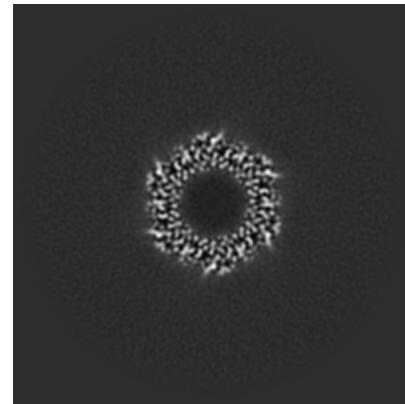
#### 6.3.1 Primary map



X Index: 156



Y Index: 160

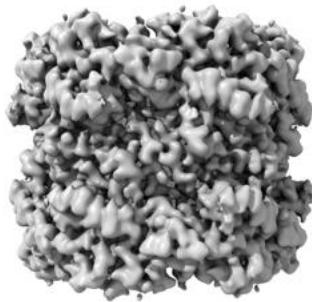


Z Index: 172

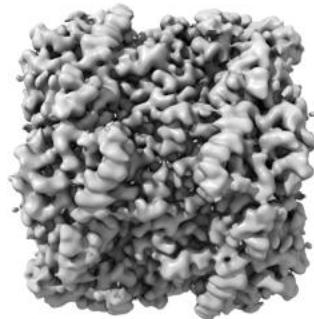
The images above show the largest variance slices of the map in three orthogonal directions.

### 6.4 Orthogonal surface views [\(i\)](#)

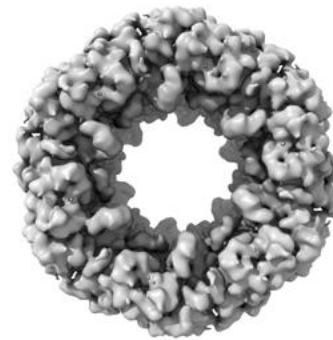
#### 6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.49. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

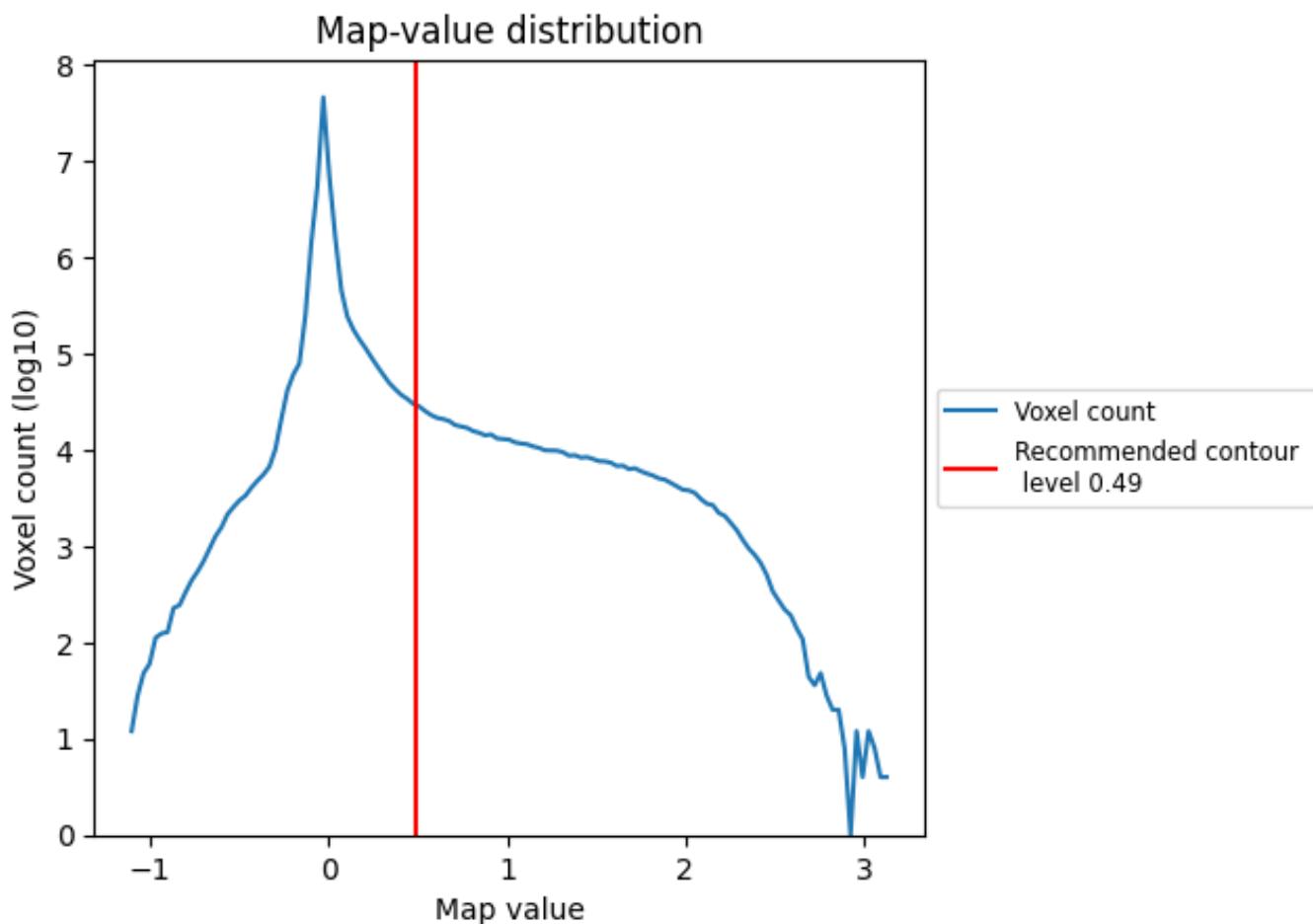
## 6.5 Mask visualisation

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

## 7 Map analysis (i)

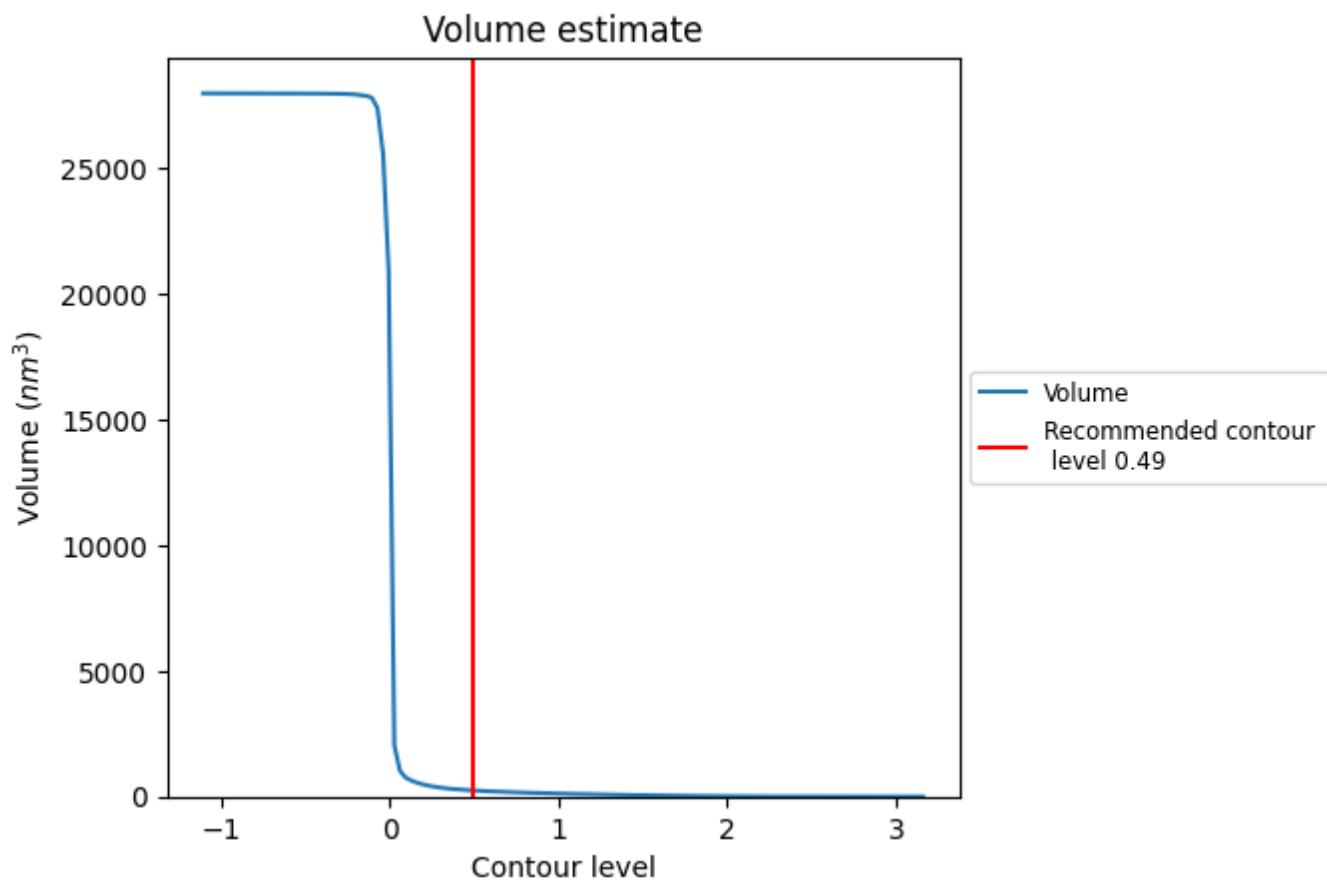
This section contains the results of statistical analysis of the map.

### 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.

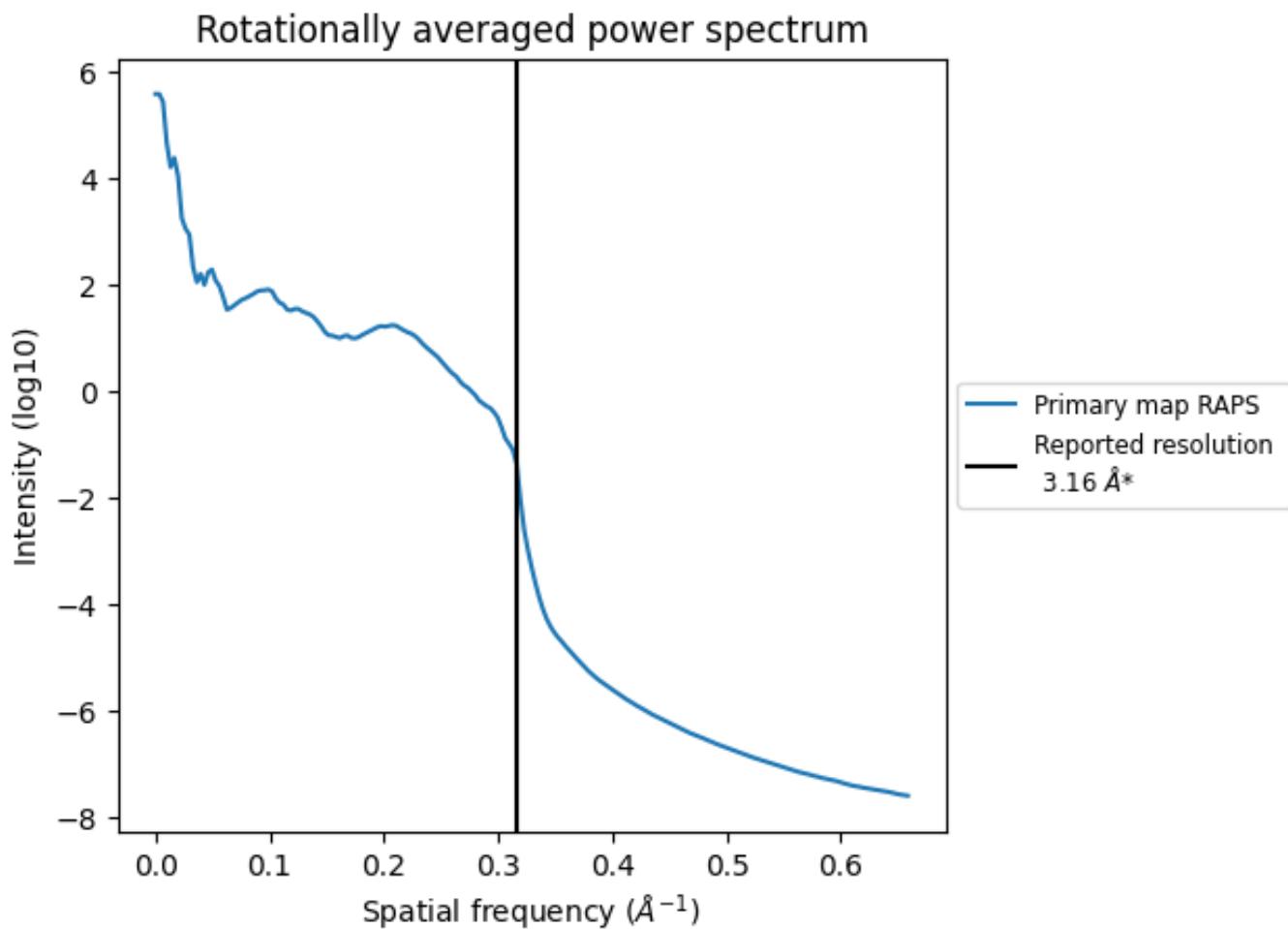
## 7.2 Volume estimate (i)



The volume at the recommended contour level is  $245 \text{ nm}^3$ ; this corresponds to an approximate mass of 221 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 [\(i\)](#)

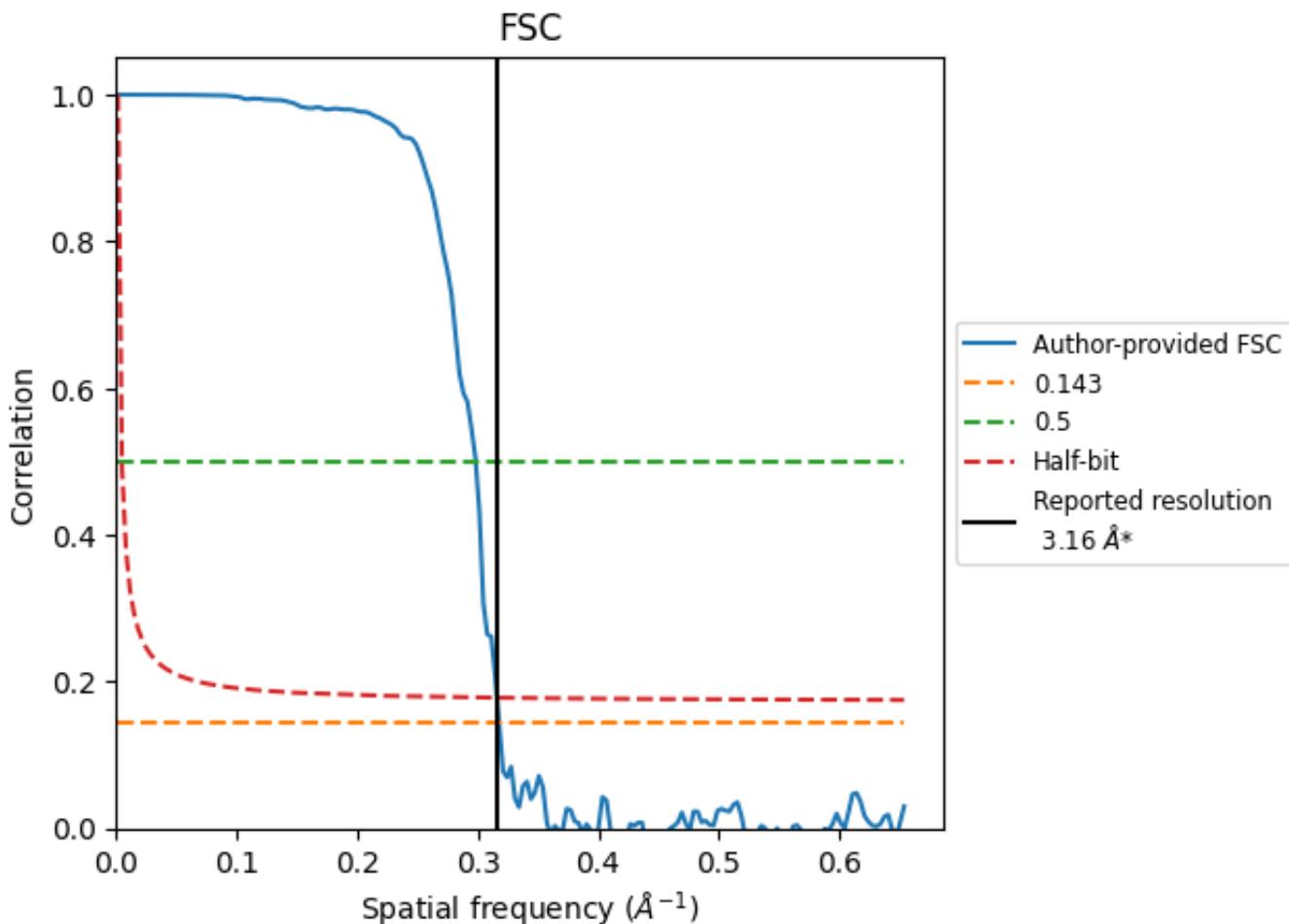


\*Reported resolution corresponds to spatial frequency of  $0.316 \text{\AA}^{-1}$

## 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 0.316  $\text{\AA}^{-1}$

## 8.2 Resolution estimates [\(i\)](#)

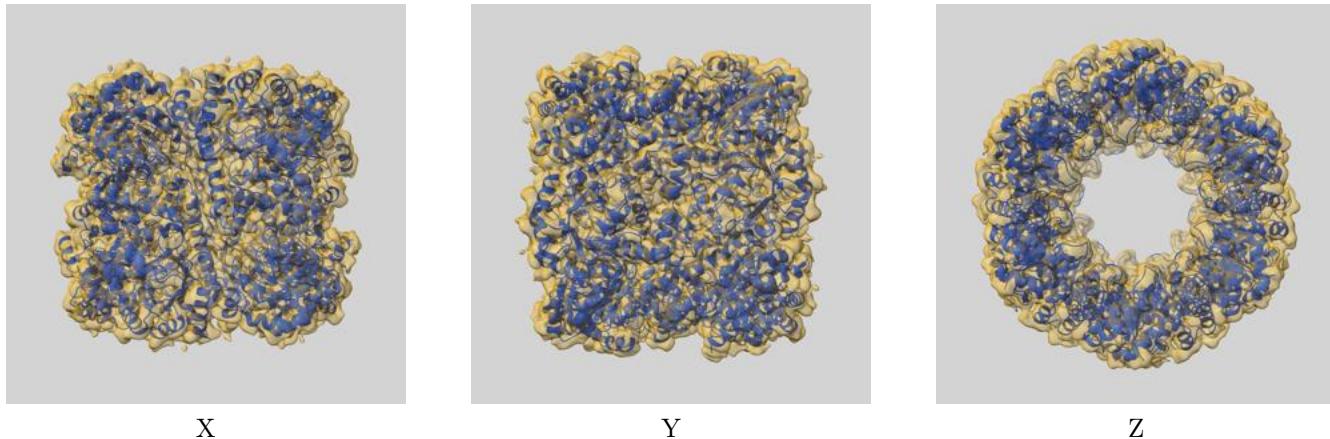
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.16	-	-
Author-provided FSC curve	3.15	3.35	3.16
Unmasked-calculated*	-	-	-

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

## 9 Map-model fit i

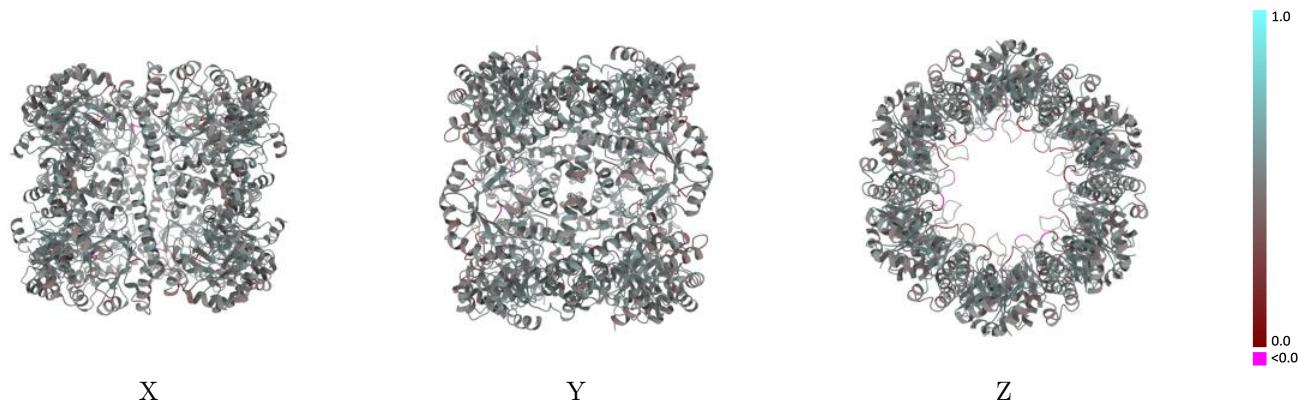
This section contains information regarding the fit between EMDB map EMD-23263 and PDB model 7LB5. Per-residue inclusion information can be found in section 3 on page 15.

### 9.1 Map-model overlay i



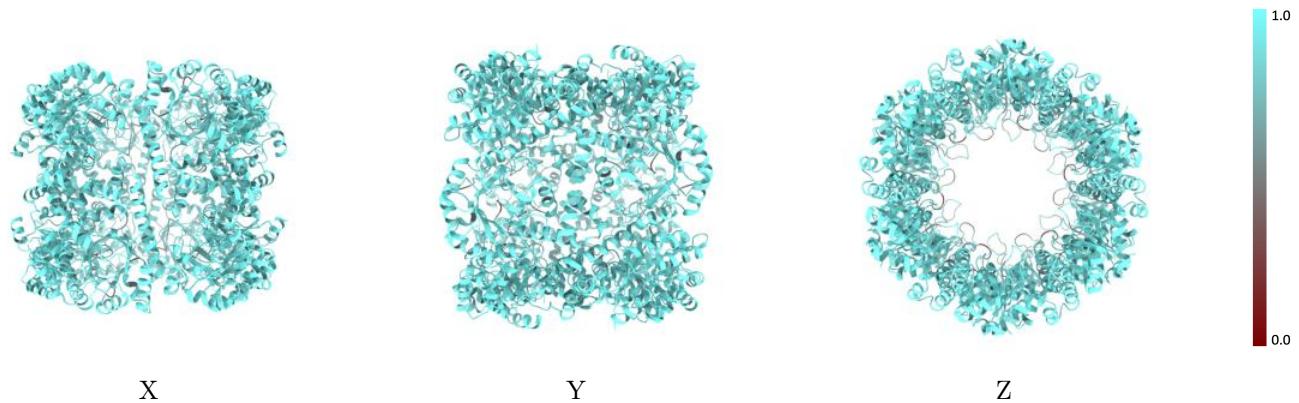
The images above show the 3D surface view of the map at the recommended contour level 0.49 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



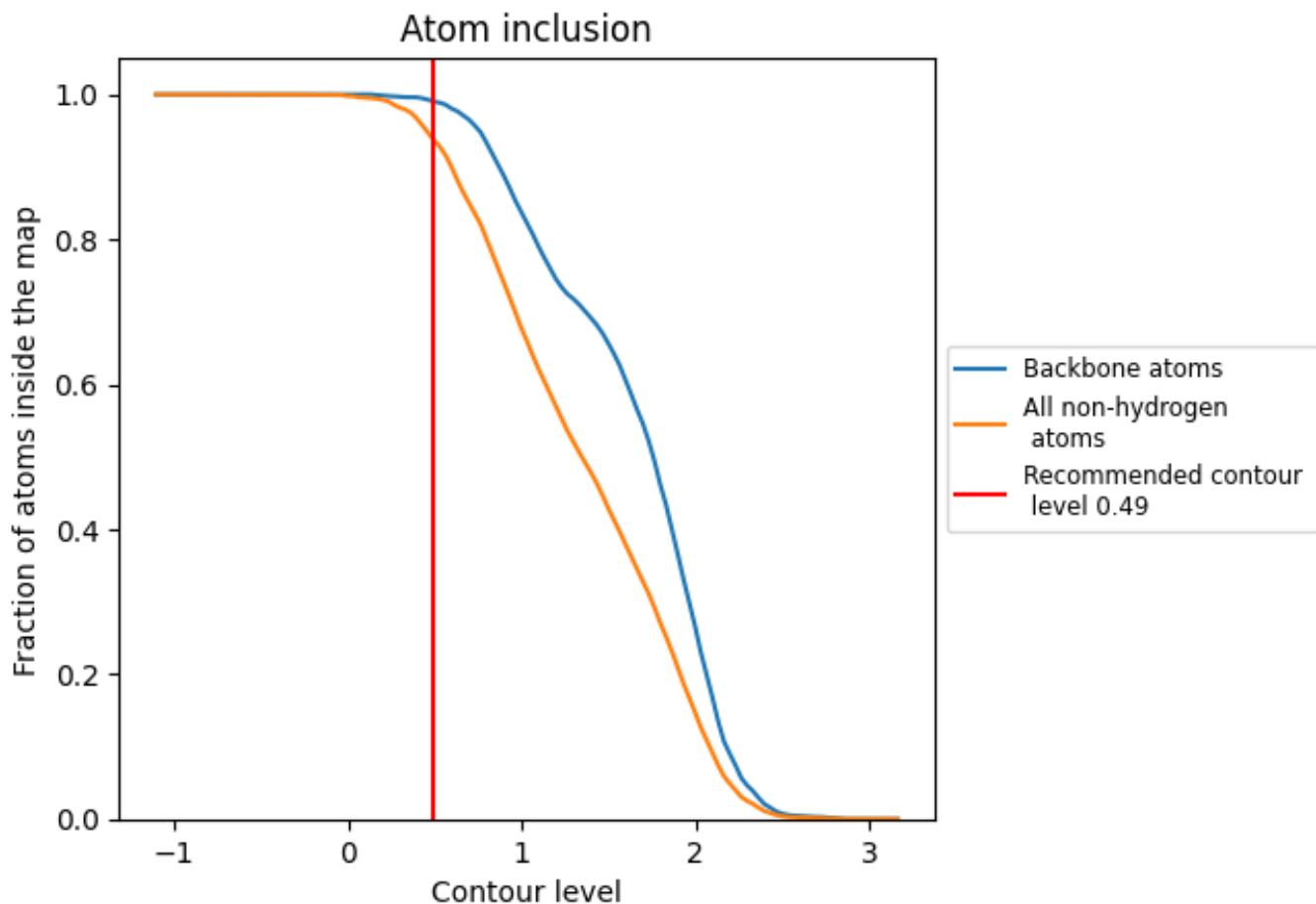
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.49).

## 9.4 Atom inclusion [\(i\)](#)



At the recommended contour level, 99% of all backbone atoms, 94% 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 (0.49) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9376	 0.4950
A	 0.9368	 0.4950
B	 0.9368	 0.4960
C	 0.9357	 0.4950
D	 0.9347	 0.4940
E	 0.9373	 0.4910
F	 0.9378	 0.4970
G	 0.9383	 0.4940
H	 0.9373	 0.4960
I	 0.9388	 0.4940
J	 0.9414	 0.4940
K	 0.9378	 0.4970
L	 0.9383	 0.4950

