



Full wwPDB EM Validation Report ⓘ

Jun 24, 2025 – 05:26 PM JST

PDB ID : 8JCH / pdb_00008jch
EMDB ID : EMD-36162
Title : Cryo-EM structure of yeast Rat1-bound Pol II pre-termination transcription complex 1 (Pol II Rat1-PTTC1)
Authors : Zeng, Y.; Zhang, Y.
Deposited on : 2023-05-11
Resolution : 2.70 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.dev118
MolProbity : 4-5-2 with Phenix2.0rc1
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) : 2.44

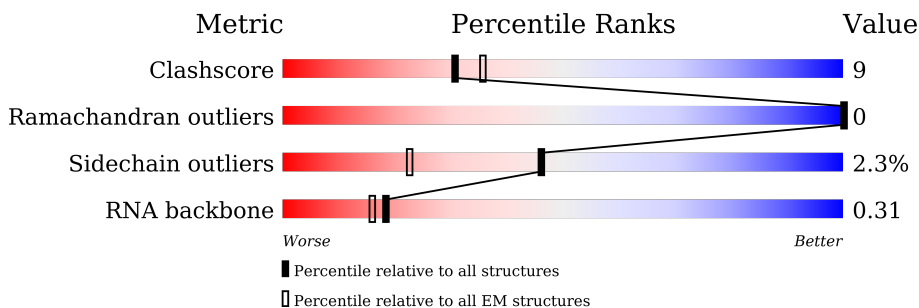
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.70 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.



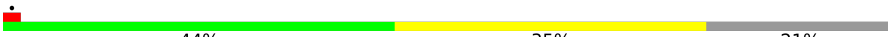
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1733	
2	B	1259	
3	C	318	
4	D	221	
5	E	215	
6	F	155	
7	G	171	

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Mol	Chain	Length	Quality of chain
8	H	146	
9	I	122	
10	J	70	
11	K	120	
12	L	70	
13	M	1019	
14	N	48	
15	O	387	
16	P	23	
17	T	48	
18	W	1063	

2 Entry composition

There are 20 unique types of molecules in this entry. The entry contains 42732 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 DNA-directed RNA polymerase II subunit RPB1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1419	Total	C	N	O	S	0	0
			11132	7019	1949	2106	58		

- Molecule 2 is a protein called DNA-directed RNA polymerase II subunit RPB2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	1157	Total	C	N	O	S	0	0
			9193	5819	1604	1714	56		

There are 35 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	1225	GLU	-	expression tag	UNP P08518
B	1226	ASN	-	expression tag	UNP P08518
B	1227	LEU	-	expression tag	UNP P08518
B	1228	TYR	-	expression tag	UNP P08518
B	1229	PHE	-	expression tag	UNP P08518
B	1230	GLN	-	expression tag	UNP P08518
B	1231	GLY	-	expression tag	UNP P08518
B	1232	HIS	-	expression tag	UNP P08518
B	1233	HIS	-	expression tag	UNP P08518
B	1234	HIS	-	expression tag	UNP P08518
B	1235	HIS	-	expression tag	UNP P08518
B	1236	HIS	-	expression tag	UNP P08518
B	1237	HIS	-	expression tag	UNP P08518
B	1238	ASP	-	expression tag	UNP P08518
B	1239	TYR	-	expression tag	UNP P08518
B	1240	LYS	-	expression tag	UNP P08518
B	1241	ASP	-	expression tag	UNP P08518
B	1242	HIS	-	expression tag	UNP P08518
B	1243	ASP	-	expression tag	UNP P08518
B	1244	GLY	-	expression tag	UNP P08518
B	1245	ASP	-	expression tag	UNP P08518

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1246	TYR	-	expression tag	UNP P08518
B	1247	LYS	-	expression tag	UNP P08518
B	1248	ASP	-	expression tag	UNP P08518
B	1249	HIS	-	expression tag	UNP P08518
B	1250	ASP	-	expression tag	UNP P08518
B	1251	ILE	-	expression tag	UNP P08518
B	1252	ASP	-	expression tag	UNP P08518
B	1253	TYR	-	expression tag	UNP P08518
B	1254	LYS	-	expression tag	UNP P08518
B	1255	ASP	-	expression tag	UNP P08518
B	1256	ASP	-	expression tag	UNP P08518
B	1257	ASP	-	expression tag	UNP P08518
B	1258	ASP	-	expression tag	UNP P08518
B	1259	LYS	-	expression tag	UNP P08518

- Molecule 3 is a protein called DNA-directed RNA polymerase II subunit RPB3.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	270	Total	C	N	O	S	0	0
			2125	1336	353	422	14		

- Molecule 4 is a protein called DNA-directed RNA polymerase II subunit RPB4.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	180	Total	C	N	O	S	0	0
			1455	899	262	292	2		

- Molecule 5 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	215	Total	C	N	O	S	0	0
			1704	1080	305	310	9		

- Molecule 6 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	83	Total	C	N	O	S	0	0
			670	428	113	126	3		

- Molecule 7 is a protein called DNA-directed RNA polymerase II subunit RPB7.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	171	Total	C	N	O	S	0	0
			1340	861	222	249	8		

- Molecule 8 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC3.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	144	Total	C	N	O	S	0	0
			1104	695	184	221	4		

- Molecule 9 is a protein called DNA-directed RNA polymerase II subunit RPB9.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	115	Total	C	N	O	S	0	0
			871	542	147	171	11		

- Molecule 10 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC5.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	66	Total	C	N	O	S	0	0
			540	345	94	95	6		

- Molecule 11 is a protein called DNA-directed RNA polymerase II subunit RPB11.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	111	Total	C	N	O	S	0	0
			895	575	152	166	2		

- Molecule 12 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC4.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	46	Total	C	N	O	S	0	0
			364	224	72	64	4		

- Molecule 13 is a protein called 5'-3' exoribonuclease 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	721	Total	C	N	O	S	0	0
			5834	3756	994	1059	25		

There are 13 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	-12	MET	-	initiating methionine	UNP Q02792
M	-11	GLY	-	expression tag	UNP Q02792
M	-10	SER	-	expression tag	UNP Q02792
M	-9	SER	-	expression tag	UNP Q02792
M	-8	HIS	-	expression tag	UNP Q02792
M	-7	HIS	-	expression tag	UNP Q02792
M	-6	HIS	-	expression tag	UNP Q02792
M	-5	HIS	-	expression tag	UNP Q02792
M	-4	HIS	-	expression tag	UNP Q02792
M	-3	HIS	-	expression tag	UNP Q02792
M	-2	SER	-	expression tag	UNP Q02792
M	-1	GLN	-	expression tag	UNP Q02792
M	0	ASP	-	expression tag	UNP Q02792

- Molecule 14 is a DNA chain called DNA (38-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	38	Total	C	N	O	P	0	0
			787	375	141	233	38		

- Molecule 15 is a protein called Decapping nuclease RAI1.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	350	Total	C	N	O	S	0	0
			2880	1841	487	544	8		

- Molecule 16 is a RNA chain called RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	23	Total	C	N	O	P	0	0
			493	220	90	160	23		

- Molecule 17 is a DNA chain called DNA (38-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
17	T	38	Total	C	N	O	P	0	0
			769	367	137	227	38		

- Molecule 18 is a protein called Transcription elongation factor SPT5.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	W	71	Total	C	N	O	0	0
			565	349	111	105		

- Molecule 19 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
19	A	2	Total 2	Zn 2	0
19	B	1	Total 1	Zn 1	0
19	C	1	Total 1	Zn 1	0
19	I	2	Total 2	Zn 2	0
19	J	1	Total 1	Zn 1	0
19	L	1	Total 1	Zn 1	0

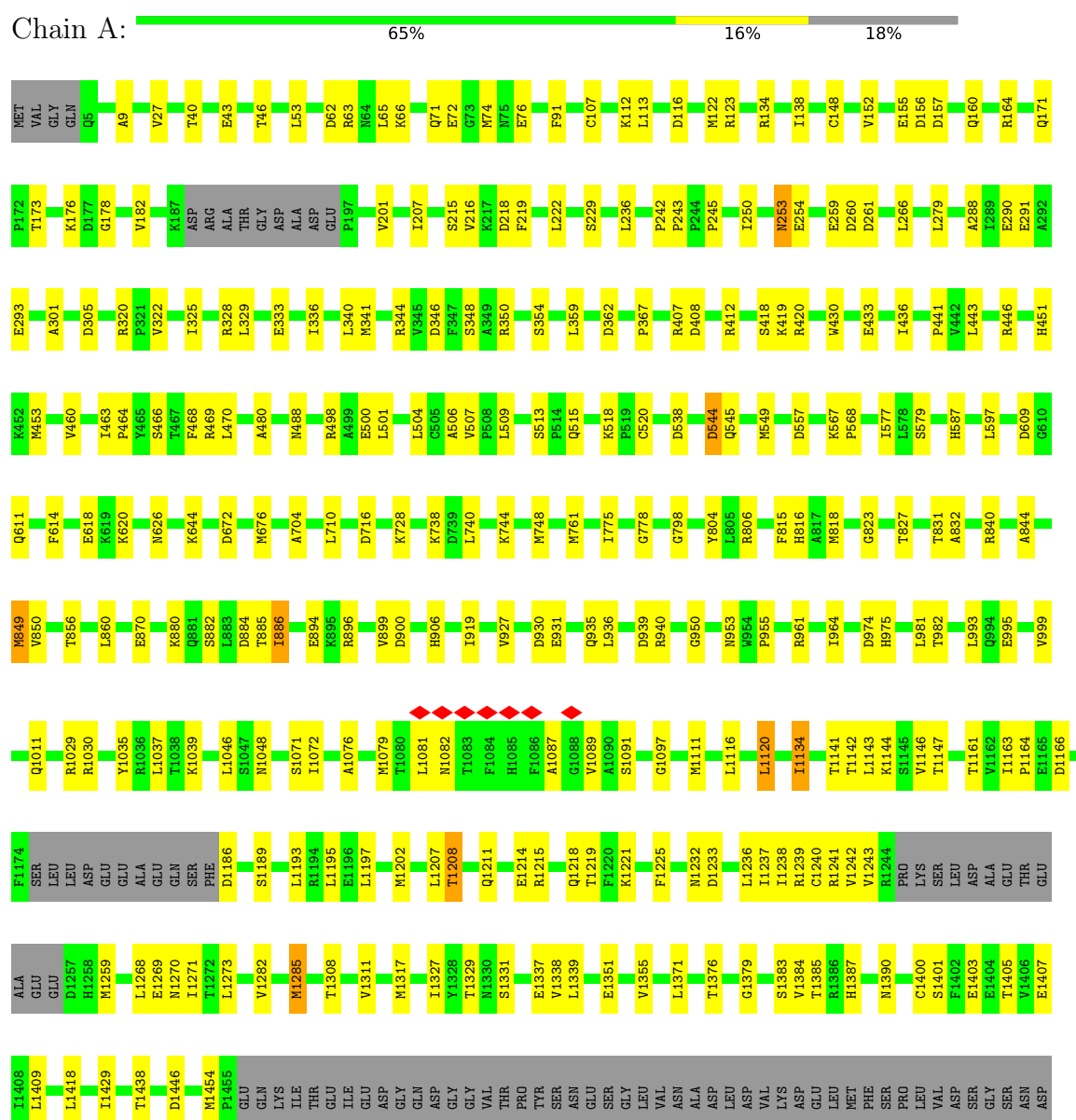
- Molecule 20 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

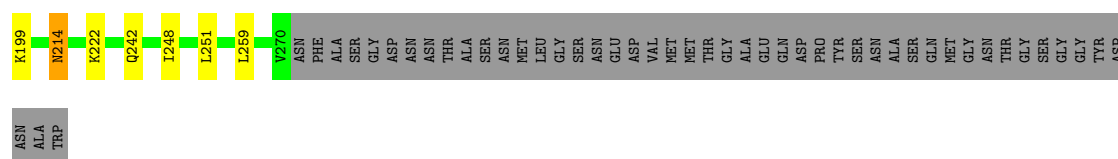
Mol	Chain	Residues	Atoms		AltConf
20	A	1	Total 1	Mg 1	0
20	M	1	Total 1	Mg 1	0
20	O	1	Total 1	Mg 1	0

3 Residue-property plots

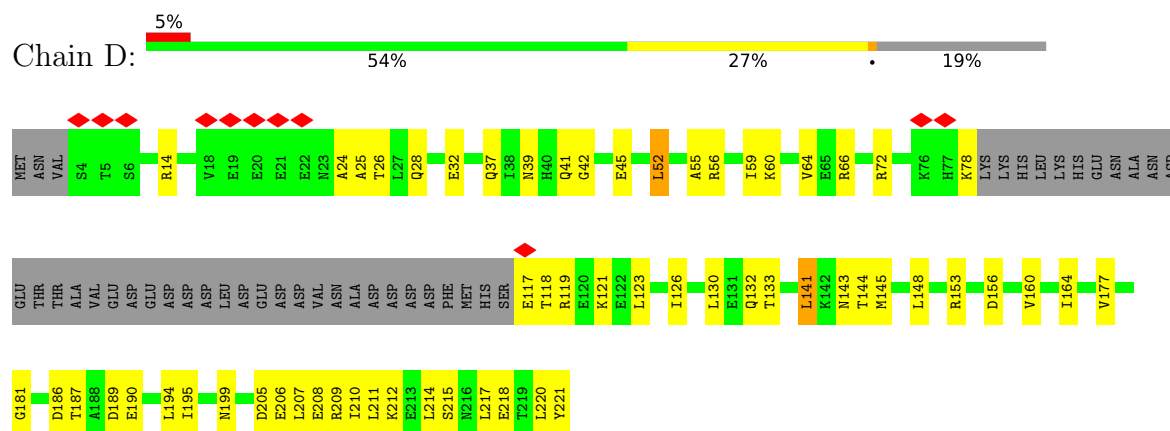
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: DNA-directed RNA polymerase II subunit RPB1

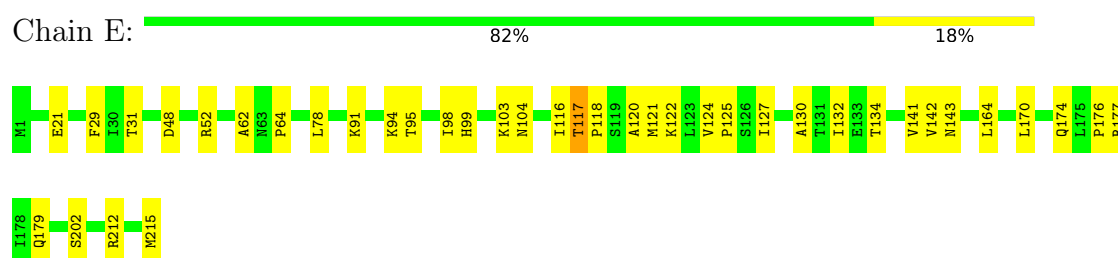




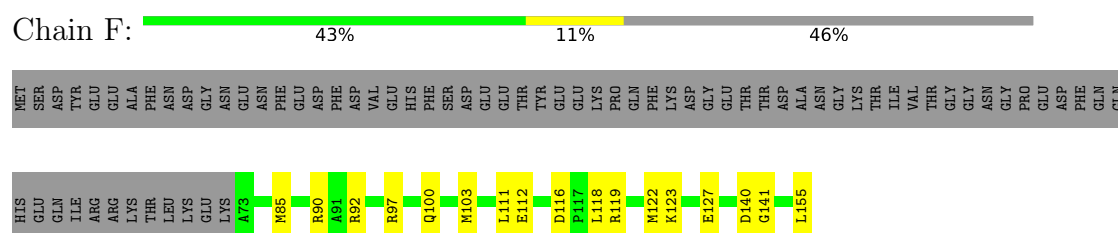
- Molecule 4: DNA-directed RNA polymerase II subunit RPB4



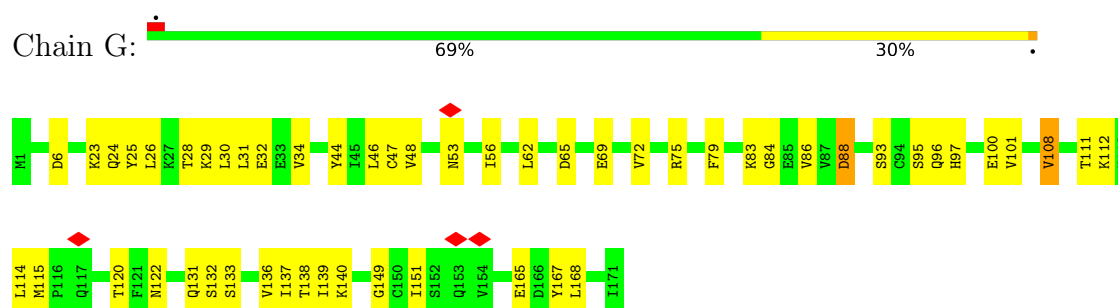
- Molecule 5: DNA-directed RNA polymerases I, II, and III subunit RPABC1



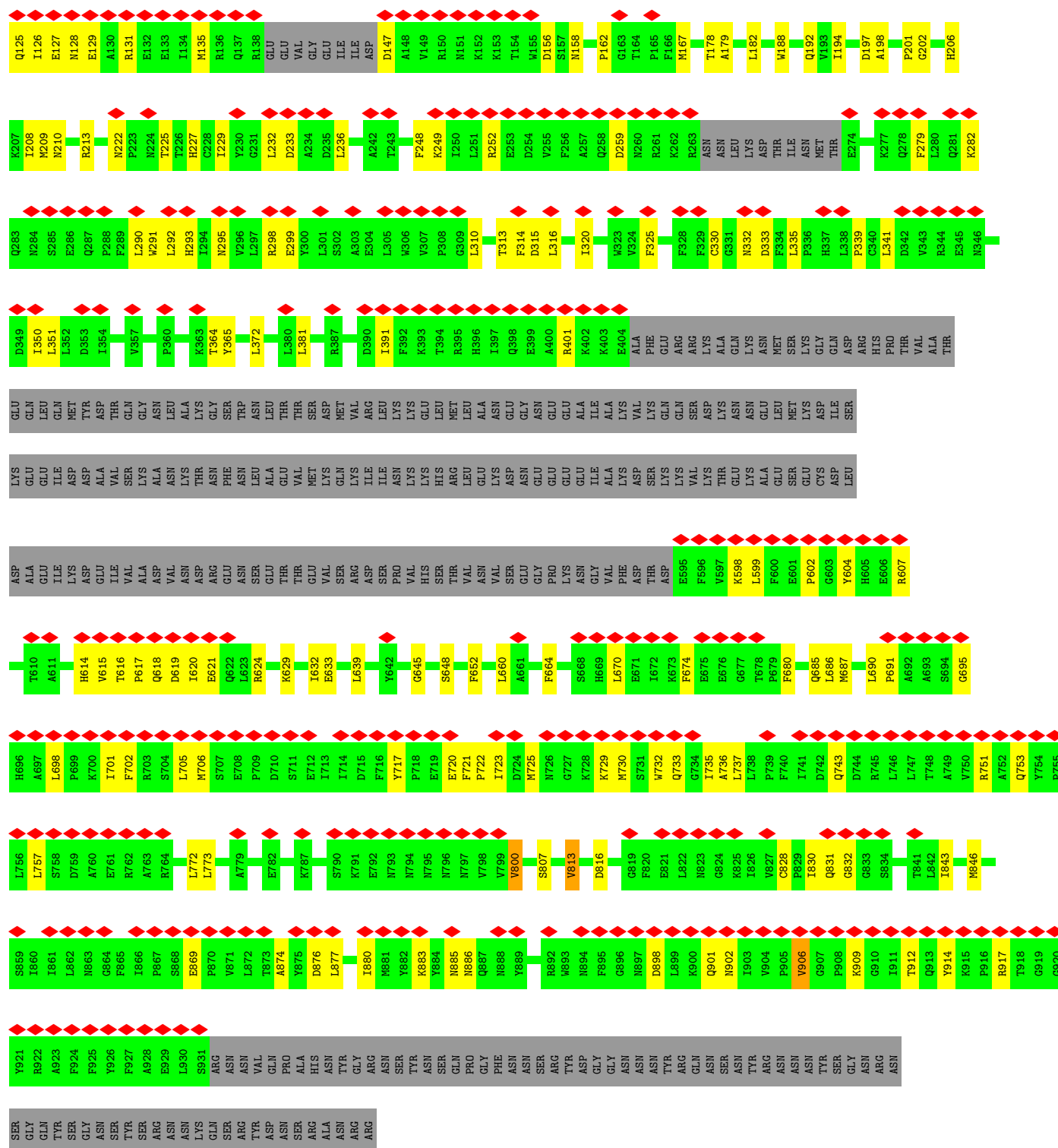
- Molecule 6: DNA-directed RNA polymerases I, II, and III subunit RPABC2



- Molecule 7: DNA-directed RNA polymerase II subunit RPB7

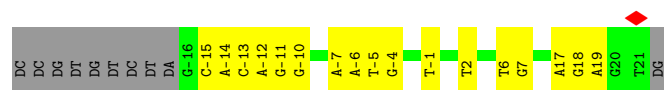


- | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|
| MET | GLY | SER | SER | HIS | HIS | HIS | HIS | SER | GLN | ASP | MET | GLY | V3 | P4 | S5 | P6 | F7 | R8 | V9 | L10 | S11 | R12 | K13 | Y14 | P15 | K16 | L17 | L18 | S19 | P20 | V21 | L22 | E23 | E24 | Q25 | P26 | Q27 | L28 | V29 | D30 | G31 | D32 | V32 | I33 | L34 | P35 | L36 | D37 | A40 | S41 | W42 | P43 | N44 | G45 | E46 | L47 | S48 |
| N49 | L50 | Y51 | I57 | C61 | S62 | H63 | P64 | E65 | N66 | K67 | P68 | P69 | F70 | E71 | T72 | E75 | M76 | L77 | L78 | A79 | E82 | R86 | V87 | L88 | R92 | P93 | V96 | L97 | V98 | M99 | V104 | A105 | P106 | R107 | A108 | K109 | M110 | N111 | Q112 | Q113 | R114 | A115 | R116 | R117 | F118 | R119 | S120 | A121 | R122 | D123 | A124 | | | | | | |

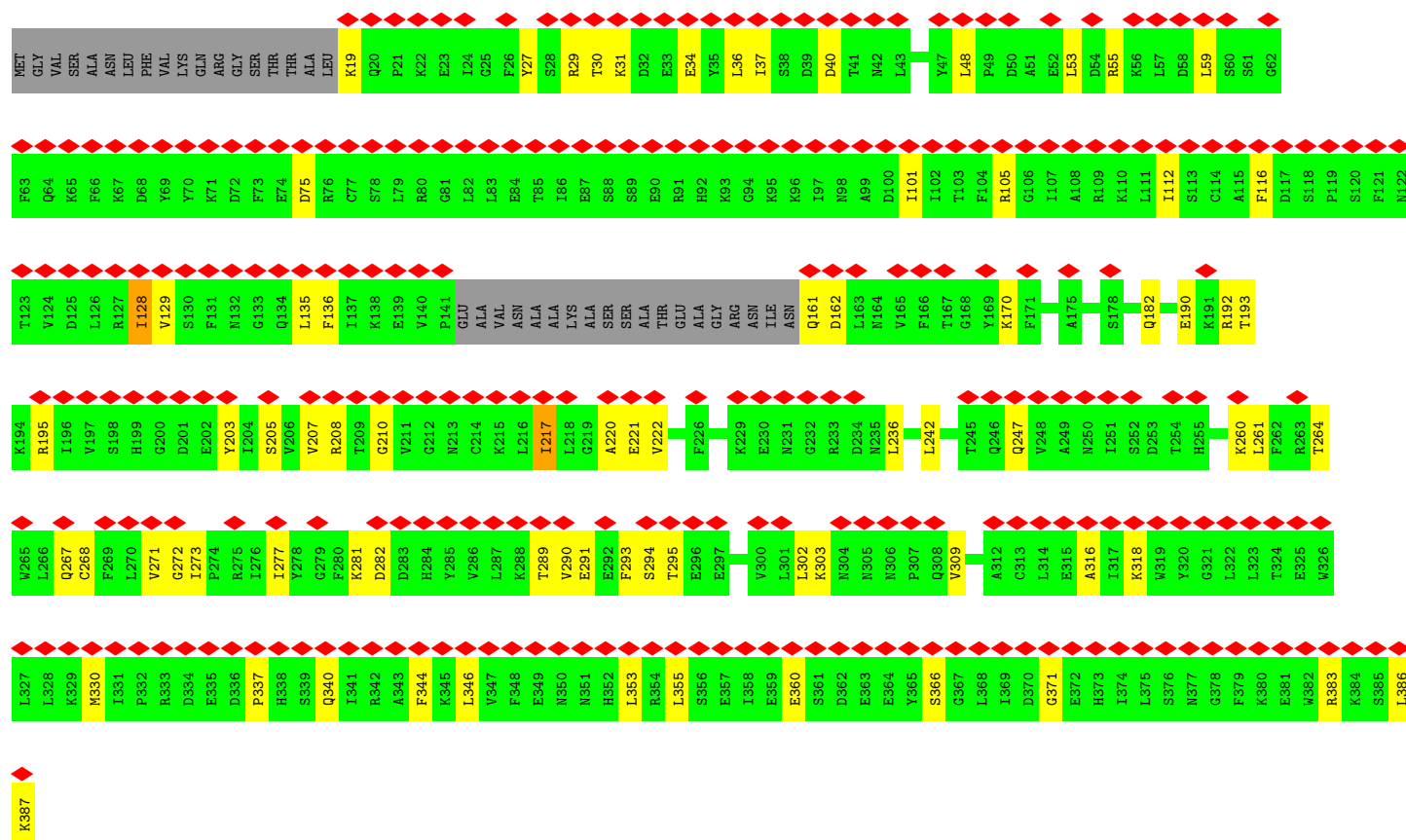


• Molecule 14: DNA (38-MER)

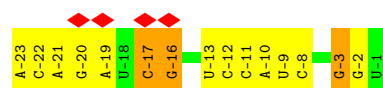




• Molecule 15: Decapping nuclease RAI1



• Molecule 16: RNA



• Molecule 17: DNA (38-MER)



• Molecule 18: Transcription elongation factor SPT5

ASP	ALA	GLY	PRO	GLN	GLY	ALA	GLU	ASP	LEU	ILE	SER	LEU	GLY	ILE	MET
ARG	SER	ALA	PRO	GLN	ALA	GLY	VAL	SER	LEU	LEU	ARG	LEU	SER	PRO	SER
ALA	ALA	ILE	SER	VAL	LEU	LEU	ASN	TYR	ILE	TYR	GLY	ASP	ASP	PRO	ASP
TYR	TRP	ALA	LYS	TYR	HIS	VAL	GLY	TRP	VAL	LEU	ALA	ALA	ARG	LEU	ASN
GLY	GLY	GLY	THR	ILE	ILE	MET	GLU	LYS	ASP	LYS	GLN	GLU	LYS	GLY	ASP
ALA	ALA	ALA	PHE	PHE	GLN	VAL	GLN	SER	GLU	LYS	ARG	VAL	ARG	GLU	THR
GLY	GLY	ALA	GLN	THR	GLY	GLU	ARG	PHE	ILE	LEU	LEU	SER	PRO	GLU	VAL
SER	GLY	ALA	GLN	GLN	VAL	GLN	GLY	VAL	ILE	ASP	LYS	ASP	GLY	GLU	LYS
TRP	SER	SER	ILE	ILE	GLU	GLU	LYS	THR	THR	THR	GLY	GLU	GLU	ALA	MET
GLY	SER	SER	GLN	PHE	VAL	VAL	GLY	HIS	LEU	ASP	LEU	ASP	ASP	LYS	GLN
ALA	ALA	GLY	SER	VAL	THR	THR	ILE	VAL	LYS	ASP	ARG	GLU	SER	GLY	GLN
ASP	TRP	GLY	ARG	VAL	GLY	MET	VAL	VAL	PRO	ALA	ARG	ASP	GLY	PRO	HIS
ASN	GLY	GLY	GLY	LYS	LYS	SER	ARG	ASN	THR	ARG	TYR	ASP	ASN	ASP	PRO
ASN	GLN	GLY	GLY	LYS	SER	THR	THR	ASN	ILE	LYS	GLY	GLY	ASP	GLY	GLN
LYS	GLY	MET	R797	ILE	THR	GLN	THR	ILE	ASP	LYS	ARG	GLU	GLY	PRO	PHE
THR	THR	PRO	E798	VAL	ILE	THR	LYS	ILE	ARG	ASP	ASP	VAL	GLY	GLU	ALA
SER	GLY	PRO	V799	GLU	THR	SER	ASP	PRO	VAL	LEU	SER	VAL	THR	ASP	ASP
ARG	ALA	GLY		ASN	LYS	ARG	ILE	THR	ALA	LEU	SER	ALA	ILE	ASN	PRO
ASP	THR	TRP	K813	ALA	GLY	GLU	THR	VAL	PHE	THR	LYS	LEU	ILE	ASP	VAL
GLY	SER	SER		GLY	SER	VAL	THR	GLU	ALA	HIS	GLN	VAL	GLY	GLU	THR
GLY	THR	SER	V819	VAL	ILE	THR	ILE	GLU	GLY	ASP	THR	ARG	GLY	ARG	ALA
ALA	TRP	PHE	K820	PHE	LEU	ILE	LYS	LEU	GLY	ILE	ARG	GLU	GLY	ASP	PRO
SER	GLY	GLY	D821	VAL	SER	THR	THR	ALA	ASN	ALA	ALA	TYR	GLN	GLY	ALA
ALA	GLY	GLY		VAL	LYS	ARG	ILE	ARG	THR	PRO	ARG	VAL	GLN	THR	SER
TRP	ALA	GLY	V829	ASN	ILE	GLY	GLY	PHE	VAL	ARG	GLN	VAL	ILE	GLU	GLN
GLY	SER	LYS		PRO	ASN	ASN	PHE	ASN	GLN	ASP	GLN	ARG	THR	GLY	VAL
ASN	ALA	THR	L845	SER	THR	THR	THR	SER	LEU	ASN	ASP	ILE	ASN	ASP	VAL
GLN	TRP	PRO		ASN	ALA	SER	PRO	LYS	PHE	LYS	GLY	LYS	THR	GLY	THR
ASP	GLY	ALA	E854	VAL	ARG	LYS	PRO	ASN	THR	THR	TYR	ASP	ASP	ASP	LYS
ASN	ASN	VAL		GLU	ALA	SER	LEU	GLY	GLY	ARG	TYR	PRO	GLY	GLU	ASN
ASN	LYS	ASN	T857	ALA	ARG	ILE	PHE	ALA	THR	ILE	ARG	GLU	ASP	ASN	THR
SER	SER	HIS	Y858	VAL	VAL	SER	PRO	ASP	VAL	TYR	ILE	GLN	ASP	ASP	GLY
ARG	TRP	GLY		ALA	THR	THR	PRO	ASP	LEU	LYS	TYR	ARG	ASP	PRO	PRO
SER	GLY	GLY	L861	SER	THR	THR	ILE	LEU	GLY	ILE	PHE	PHE	GLY	ALA	ALA
ALA	GLY	SER		LYS	VAL	ALA	SER	THR	ASP	GLU	GLU	ARG	ASP	ALA	SER
ASN	ALA	GLY	R864	ASN	ALA	SER	LEU	VAL	ALA	PRO	LYS	SER	ASP	ASP	VAL
ASN	SER	GLY	R865	MET	SER	SER	ARG	SER	GLN	MET	LYS	THR	ASP	ASP	THR
GLN	THR	GLY	G866	LEU	GLY	GLU	LYS	THR	VAL	VAL	GLN	THR	GLY	GLY	ASP
GLY	TRP	GLY	R867	SER	TYR	TYR	ILE	THR	ILE						

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	416223	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.352	Depositor
Minimum map value	-0.895	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.045	Depositor
Recommended contour level	0.15	Depositor
Map size ($\text{\AA}$)	440.0, 440.0, 440.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.1, 1.1, 1.1	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.09	0/11334	0.26	0/15335
2	B	0.09	0/9376	0.25	0/12647
3	C	0.08	0/2163	0.20	0/2930
4	D	0.11	0/1466	0.32	0/1963
5	E	0.12	0/1739	0.31	0/2347
6	F	0.10	0/682	0.27	0/922
7	G	0.14	0/1368	0.38	0/1844
8	H	0.10	0/1123	0.27	0/1529
9	I	0.12	0/889	0.35	0/1207
10	J	0.14	0/549	0.37	0/738
11	K	0.07	0/913	0.21	0/1232
12	L	0.15	0/366	0.39	0/485
13	M	0.21	0/5991	0.37	0/8129
14	N	0.16	0/882	0.34	0/1362
15	O	0.09	0/2941	0.26	0/3963
16	P	0.19	0/551	0.36	0/857
17	T	0.19	0/860	0.37	0/1322
18	W	0.05	0/571	0.17	0/762
All	All	0.12	0/43764	0.29	0/59574

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	11132	0	11172	192	0
2	B	9193	0	9182	132	0
3	C	2125	0	2090	26	0
4	D	1455	0	1477	43	0
5	E	1704	0	1687	23	0
6	F	670	0	688	12	0
7	G	1340	0	1357	34	0
8	H	1104	0	1047	20	0
9	I	871	0	777	21	0
10	J	540	0	553	11	0
11	K	895	0	903	18	0
12	L	364	0	386	6	0
13	M	5834	0	5727	145	0
14	N	787	0	432	15	0
15	O	2880	0	2849	49	0
16	P	493	0	248	16	0
17	T	769	0	428	18	0
18	W	565	0	580	3	0
19	A	2	0	0	0	0
19	B	1	0	0	0	0
19	C	1	0	0	0	0
19	I	2	0	0	0	0
19	J	1	0	0	0	0
19	L	1	0	0	0	0
20	A	1	0	0	0	0
20	M	1	0	0	0	0
20	O	1	0	0	0	0
All	All	42732	0	41583	729	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 9.

All (729) 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)
13:M:107:ARG:HG2	13:M:652:PHE:HB3	1.58	0.86
13:M:110:MET:HE2	13:M:685:GLN:HG3	1.63	0.81
13:M:615:VAL:HG23	13:M:620:ILE:HG22	1.66	0.77
8:H:35:GLN:N	8:H:35:GLN:OE1	2.20	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1111:MET:HE3	2:B:1112:GLN:H	1.52	0.75
13:M:113:GLN:HG3	13:M:116:ARG:HH22	1.53	0.73
5:E:116:ILE:HG12	5:E:121:MET:HE3	1.70	0.73
2:B:1120:GLU:N	2:B:1120:GLU:OE2	2.22	0.73
13:M:732:TRP:CH2	16:P:-21:A:H2'	2.23	0.72
2:B:239:GLU:OE2	2:B:239:GLU:N	2.22	0.72
2:B:799:PRO:HB2	2:B:818:PRO:HG2	1.71	0.72
2:B:95:ILE:HD11	2:B:128:LEU:HD12	1.71	0.72
15:O:182:GLN:OE1	15:O:182:GLN:N	2.21	0.71
5:E:29:PHE:HB2	5:E:64:PRO:HG3	1.73	0.71
1:A:1215:ARG:HG2	1:A:1273:LEU:HA	1.73	0.71
14:N:19:DA:N1	17:T:-18:DC:N4	2.40	0.69
1:A:333:GLU:OE2	1:A:333:GLU:N	2.26	0.69
2:B:195:CYS:HB2	2:B:784:ASN:HB2	1.74	0.69
2:B:270:LYS:HB3	2:B:279:ASP:HB3	1.76	0.68
1:A:1195:LEU:HB2	1:A:1238:ILE:HB	1.76	0.68
13:M:874:ALA:HA	13:M:877:LEU:HD12	1.74	0.67
14:N:-5:DT:H4'	14:N:-4:DG:H5'	1.77	0.67
1:A:1076:ALA:HA	1:A:1079:MET:HE2	1.77	0.67
13:M:51:TYR:HB3	13:M:208:ILE:HD12	1.77	0.67
2:B:199:MET:SD	2:B:199:MET:N	2.68	0.67
15:O:105:ARG:HG2	15:O:267:GLN:HE22	1.60	0.66
7:G:44:TYR:HB2	7:G:79:PHE:HB3	1.77	0.66
13:M:869:GLU:HG3	13:M:909:LYS:HE2	1.77	0.66
1:A:1329:THR:HG22	1:A:1331:SER:H	1.60	0.66
1:A:961:ARG:HH11	1:A:961:ARG:HG3	1.61	0.66
5:E:121:MET:HE1	5:E:134:THR:HG21	1.79	0.65
12:L:49:LYS:HE3	12:L:49:LYS:HA	1.78	0.65
1:A:676:MET:HE2	1:A:806:ARG:HH21	1.61	0.65
13:M:12:ARG:NH1	16:P:-17:C:O2	2.30	0.65
13:M:725:MET:SD	13:M:737:LEU:HB2	2.37	0.65
13:M:210:ASN:OD1	13:M:213:ARG:NH2	2.30	0.64
1:A:618:GLU:N	1:A:618:GLU:OE1	2.30	0.64
1:A:975:HIS:O	1:A:975:HIS:ND1	2.30	0.64
2:B:654:ARG:H	2:B:657:HIS:HD2	1.44	0.64
2:B:776:GLN:HE22	16:P:-2:G:H5'	1.62	0.64
1:A:1141:THR:HG22	1:A:1142:THR:H	1.63	0.64
1:A:804:TYR:HH	1:A:816:HIS:HE2	1.43	0.64
1:A:1407:GLU:N	1:A:1407:GLU:OE1	2.29	0.64
13:M:49:ASN:ND2	13:M:51:TYR:OH	2.31	0.64
1:A:544:ASP:N	1:A:544:ASP:OD1	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:88:ASP:OD1	7:G:88:ASP:N	2.31	0.64
13:M:706:MET:HA	13:M:706:MET:HE2	1.78	0.64
2:B:277:LYS:H	2:B:277:LYS:HD2	1.64	0.63
1:A:157:ASP:HB2	1:A:160:GLN:HE21	1.64	0.63
14:N:-11:DG:H2'	14:N:-10:DG:C8	2.34	0.62
15:O:192:ARG:HG2	15:O:195:ARG:HD2	1.80	0.62
13:M:729:LYS:HG2	13:M:733:GLN:HB3	1.81	0.62
2:B:908:GLU:N	2:B:908:GLU:OE2	2.31	0.62
1:A:243:PRO:HB2	1:A:245:PRO:HD2	1.81	0.62
2:B:278:GLN:HE21	2:B:337:ARG:HD2	1.65	0.62
1:A:62:ASP:OD1	1:A:63:ARG:N	2.32	0.62
2:B:287:ARG:NH1	2:B:324:ILE:O	2.32	0.62
13:M:632:ILE:HD11	13:M:670:LEU:HD23	1.80	0.62
17:T:-1:DT:H2'	17:T:0:DA:H8	1.65	0.62
4:D:164:ILE:HD12	4:D:164:ILE:H	1.65	0.62
14:N:18:DG:O6	14:N:19:DA:N6	2.33	0.62
1:A:123:ARG:HH22	1:A:155:GLU:HG2	1.65	0.61
17:T:7:DG:H2'	17:T:8:DA:C8	2.36	0.61
1:A:1390:ASN:HD21	1:A:1403:GLU:CD	2.09	0.61
2:B:621:GLU:N	2:B:621:GLU:OE1	2.34	0.61
13:M:886:ASN:HD21	16:P:-16:G:H4'	1.65	0.61
1:A:464:PRO:HB2	11:K:4:PRO:HG3	1.83	0.60
7:G:24:GLN:O	7:G:28:THR:HG23	2.02	0.60
8:H:27:GLU:N	8:H:27:GLU:OE2	2.34	0.60
13:M:105:ALA:HB3	13:M:110:MET:SD	2.41	0.60
2:B:529:GLU:CD	2:B:529:GLU:H	2.08	0.60
13:M:732:TRP:HH2	16:P:-21:A:H2'	1.66	0.60
2:B:1048:THR:HG23	2:B:1050:ILE:H	1.65	0.60
2:B:432:MET:HE2	2:B:432:MET:HA	1.84	0.60
8:H:22:LYS:O	8:H:43:ASN:ND2	2.34	0.60
13:M:725:MET:HE3	13:M:737:LEU:HD13	1.83	0.60
17:T:-1:DT:H2'	17:T:0:DA:C8	2.36	0.59
17:T:-18:DC:H6	17:T:-18:DC:H5'	1.66	0.59
15:O:27:TYR:HH	15:O:29:ARG:HH11	1.51	0.59
3:C:151:GLN:HE21	10:J:65:PRO:HB3	1.67	0.59
13:M:617:PRO:O	13:M:620:ILE:HG13	2.02	0.59
1:A:182:VAL:HG12	1:A:201:VAL:HG22	1.85	0.59
1:A:113:LEU:O	1:A:164:ARG:NH2	2.36	0.59
2:B:883:LEU:HD22	2:B:932:HIS:HB3	1.85	0.59
1:A:823:GLY:O	1:A:827:THR:HG23	2.02	0.59
1:A:433:GLU:OE2	2:B:1108:ARG:NH2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:832:ALA:HB2	17:T:-1:DT:H71	1.84	0.58
3:C:26:ASP:OD2	3:C:26:ASP:N	2.34	0.58
4:D:186:ASP:O	4:D:212:LYS:NZ	2.36	0.58
13:M:330:CYS:HA	13:M:341:LEU:HD23	1.85	0.58
2:B:957:ASN:HD21	2:B:961:LEU:HB2	1.68	0.58
13:M:19:SER:HB3	13:M:291:TRP:HB2	1.84	0.58
13:M:705:LEU:HD13	13:M:753:GLN:HE21	1.68	0.58
15:O:291:GLU:OE1	15:O:293:PHE:N	2.32	0.58
13:M:232:LEU:HA	13:M:252:ARG:HD3	1.85	0.58
8:H:105:GLU:HG2	8:H:113:ALA:HB3	1.85	0.58
1:A:672:ASP:OD1	1:A:672:ASP:N	2.37	0.58
2:B:296:GLU:OE1	9:I:11:ASN:ND2	2.37	0.58
13:M:680:PHE:HZ	13:M:743:GLN:HE22	1.52	0.58
15:O:268:CYS:O	15:O:272:GLY:N	2.35	0.58
13:M:381:LEU:HD22	13:M:664:PHE:HB3	1.85	0.58
2:B:793:ALA:HB3	2:B:856:PHE:HB2	1.86	0.58
8:H:116:TYR:HB2	8:H:123:MET:HE2	1.86	0.58
13:M:107:ARG:O	13:M:110:MET:HB2	2.04	0.58
13:M:117:ARG:HH11	13:M:158:ASN:HA	1.69	0.57
13:M:122:ARG:NH1	13:M:721:PHE:O	2.37	0.57
3:C:100:THR:HG22	3:C:156:THR:HG23	1.86	0.57
1:A:1214:GLU:O	1:A:1218:GLN:NE2	2.38	0.57
2:B:286:PHE:HB3	2:B:297:ILE:HD12	1.87	0.57
1:A:219:PHE:HA	1:A:222:LEU:HB2	1.86	0.57
7:G:29:LYS:HA	7:G:29:LYS:HE2	1.87	0.57
1:A:587:HIS:HD2	1:A:609:ASP:H	1.52	0.57
9:I:44:TYR:HE2	9:I:46:HIS:HB2	1.69	0.57
1:A:1161:THR:HG21	1:A:1239:ARG:HH21	1.70	0.57
13:M:147:ASP:OD1	13:M:147:ASP:N	2.36	0.57
1:A:1146:VAL:HG23	1:A:1197:LEU:HD22	1.86	0.57
1:A:1269:GLU:OE1	1:A:1270:ASN:ND2	2.38	0.57
10:J:14:VAL:HG12	10:J:17:LYS:HG3	1.87	0.57
6:F:97:ARG:NH1	6:F:100:GLN:OE1	2.38	0.57
13:M:339:PRO:HG2	13:M:660:LEU:HD22	1.87	0.57
15:O:205:SER:O	15:O:220:ALA:N	2.38	0.57
1:A:1376:THR:O	5:E:212:ARG:NH2	2.38	0.56
2:B:881:ASN:OD1	2:B:881:ASN:N	2.38	0.56
15:O:340:GLN:NE2	15:O:360:GLU:OE2	2.38	0.56
1:A:91:PHE:HZ	1:A:207:ILE:HD12	1.70	0.56
13:M:122:ARG:NH1	13:M:720:GLU:OE2	2.38	0.56
1:A:107:CYS:SG	1:A:171:GLN:NE2	2.78	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:350:ARG:NH1	1:A:488:ASN:OD1	2.37	0.56
7:G:100:GLU:OE2	7:G:100:GLU:N	2.38	0.56
2:B:840:ILE:HG12	2:B:992:ILE:HG22	1.87	0.56
3:C:165:LYS:HG2	11:K:9:LEU:HD11	1.88	0.56
8:H:110:ASP:OD1	8:H:110:ASP:N	2.36	0.56
13:M:615:VAL:HB	13:M:619:ASP:HB3	1.88	0.56
7:G:111:THR:HB	7:G:114:LEU:HD23	1.86	0.56
4:D:55:ALA:O	4:D:59:ILE:HG22	2.05	0.56
1:A:122:MET:HE2	1:A:122:MET:HA	1.87	0.56
3:C:214:ASN:OD1	3:C:214:ASN:N	2.36	0.56
5:E:121:MET:HE2	5:E:121:MET:HA	1.88	0.56
2:B:518:HIS:HB3	2:B:522:VAL:HG22	1.88	0.55
1:A:579:SER:HB3	1:A:611:GLN:HA	1.88	0.55
1:A:1225:PHE:O	1:A:1241:ARG:N	2.39	0.55
2:B:639:ILE:HD11	2:B:691:GLU:HB3	1.88	0.55
15:O:53:LEU:HD11	15:O:290:VAL:HB	1.88	0.55
11:K:10:PHE:HA	11:K:37:LYS:HB3	1.88	0.55
1:A:336:ILE:HD12	1:A:1405:THR:HG21	1.89	0.55
2:B:955:THR:HG23	2:B:963:PHE:HB3	1.89	0.55
4:D:56:ARG:HG3	4:D:145:MET:HE1	1.89	0.55
12:L:42:ARG:HG3	12:L:42:ARG:HH11	1.71	0.55
1:A:896:ARG:HD3	1:A:1030:ARG:HD3	1.87	0.55
3:C:196:ASP:HB3	3:C:199:LYS:HG3	1.88	0.55
13:M:131:ARG:O	13:M:135:MET:HE3	2.05	0.55
1:A:76:GLU:N	1:A:76:GLU:OE1	2.38	0.55
15:O:337:PRO:HG2	15:O:387:LYS:HB2	1.88	0.55
2:B:1082:MET:HG2	3:C:189:THR:HA	1.89	0.55
13:M:71:GLU:HB2	13:M:75:GLU:HB2	1.87	0.55
14:N:6:DT:H2'	14:N:7:DG:C8	2.42	0.55
1:A:545:GLN:O	1:A:549:MET:HG3	2.07	0.54
5:E:177:ARG:HB3	5:E:215:MET:HG2	1.88	0.54
13:M:332:ASN:HD21	13:M:335:LEU:HB2	1.71	0.54
2:B:370:PHE:HB2	2:B:374:LYS:HE3	1.88	0.54
4:D:132:GLN:NE2	4:D:133:THR:OG1	2.40	0.54
13:M:816:ASP:HB2	13:M:846:MET:HA	1.88	0.54
13:M:730:MET:SD	13:M:730:MET:N	2.81	0.54
9:I:26:LEU:HD12	9:I:35:VAL:HG13	1.90	0.54
9:I:29:CYS:SG	9:I:30:ARG:N	2.80	0.54
13:M:108:ALA:O	13:M:112:GLN:HG2	2.06	0.54
13:M:110:MET:HE1	13:M:685:GLN:HE21	1.72	0.54
4:D:60:LYS:O	4:D:64:VAL:HG22	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:29:LYS:HE2	7:G:32:GLU:OE1	2.07	0.54
1:A:43:GLU:O	1:A:46:THR:OG1	2.24	0.54
7:G:56:ILE:HG12	7:G:72:VAL:HG12	1.89	0.54
10:J:32:GLU:N	10:J:32:GLU:OE2	2.41	0.54
13:M:162:PRO:HB3	13:M:198:ALA:HB1	1.90	0.54
1:A:346:ASP:OD1	2:B:1106:ARG:NH1	2.40	0.54
1:A:325:ILE:HA	1:A:328:ARG:HB2	1.88	0.54
1:A:367:PRO:HB3	1:A:466:SER:HA	1.90	0.54
9:I:13:MET:C	9:I:13:MET:HE2	2.32	0.54
1:A:412:ARG:HG3	1:A:412:ARG:HH11	1.72	0.54
13:M:15:PRO:O	13:M:16:LYS:HG3	2.07	0.54
3:C:89:GLU:H	3:C:89:GLU:CD	2.16	0.53
1:A:325:ILE:HB	2:B:1210:MET:HE1	1.91	0.53
3:C:8:VAL:HG21	11:K:105:PHE:HA	1.90	0.53
7:G:83:LYS:HB2	7:G:149:GLY:HA2	1.90	0.53
9:I:102:VAL:HG22	9:I:109:ILE:HG12	1.89	0.53
13:M:47:LEU:HD13	13:M:249:LYS:HE3	1.89	0.53
1:A:418:SER:O	1:A:420:ARG:NE	2.42	0.53
1:A:463:ILE:HD13	1:A:469:ARG:HG3	1.91	0.53
16:P:-10:A:H2'	16:P:-9:U:C6	2.42	0.53
1:A:626:ASN:N	1:A:626:ASN:OD1	2.42	0.53
2:B:594:ALA:HB3	2:B:595:ARG:HE	1.73	0.53
13:M:50:LEU:HD22	13:M:93:PRO:HG3	1.90	0.53
13:M:800:VAL:HG22	13:M:813:VAL:HG22	1.90	0.53
1:A:840:ARG:NH1	1:A:1384:VAL:O	2.41	0.53
2:B:693:ILE:HG23	2:B:697:GLU:HB3	1.91	0.53
2:B:895:ASP:N	2:B:895:ASP:OD1	2.41	0.53
3:C:248:ILE:HG21	11:K:102:LYS:HB2	1.90	0.53
2:B:301:ILE:HD13	2:B:379:GLY:HA2	1.91	0.53
13:M:88:LEU:HD21	13:M:97:LEU:HD22	1.91	0.53
13:M:773:LEU:HB3	13:M:843:ILE:HD11	1.90	0.53
14:N:-7:DA:H2''	14:N:-5:DT:H3	1.74	0.53
13:M:828:CYS:O	13:M:831:GLN:NE2	2.42	0.53
1:A:597:LEU:HD13	8:H:103:LYS:HG2	1.91	0.53
13:M:117:ARG:O	13:M:118:PHE:C	2.52	0.53
15:O:105:ARG:HB2	15:O:220:ALA:HA	1.91	0.53
1:A:744:LYS:HG2	1:A:748:MET:HE2	1.91	0.52
2:B:95:ILE:HG13	2:B:130:VAL:HG12	1.89	0.52
2:B:1002:THR:HG23	2:B:1072:MET:HE3	1.91	0.52
13:M:233:ASP:HB3	13:M:236:LEU:HD23	1.92	0.52
13:M:917:ARG:HD2	15:O:53:LEU:HD13	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1197:LEU:HD11	1:A:1238:ILE:HD11	1.92	0.52
8:H:95:TYR:HD2	8:H:144:ILE:HD12	1.74	0.52
5:E:21:GLU:OE1	5:E:143:ASN:ND2	2.42	0.52
3:C:54:ASN:ND2	3:C:60:ASP:OD1	2.43	0.52
6:F:112:GLU:N	6:F:112:GLU:OE2	2.42	0.52
13:M:107:ARG:HA	13:M:110:MET:HG2	1.92	0.52
15:O:208:ARG:HA	15:O:217:ILE:HA	1.91	0.52
13:M:621:GLU:O	13:M:624:ARG:HG2	2.10	0.52
1:A:1400:CYS:HB2	1:A:1405:THR:HG23	1.92	0.52
7:G:120:THR:OG1	7:G:122:ASN:OD1	2.28	0.52
8:H:124:ARG:NH1	8:H:126:GLU:OE2	2.37	0.52
1:A:549:MET:HE2	1:A:577:ILE:HG21	1.91	0.52
7:G:131:GLN:HE21	7:G:136:VAL:HG23	1.73	0.52
8:H:128:ASN:HB2	8:H:132:LEU:HD23	1.91	0.52
2:B:892:LYS:NZ	2:B:909:ASP:OD2	2.39	0.51
7:G:65:ASP:OD2	7:G:65:ASP:N	2.43	0.51
7:G:139:ILE:HG22	7:G:140:LYS:HG3	1.92	0.51
13:M:876:ASP:O	13:M:880:ILE:HG12	2.10	0.51
1:A:9:ALA:O	2:B:1193:GLN:NE2	2.42	0.51
9:I:14:LEU:HB3	9:I:27:PHE:HB3	1.92	0.51
13:M:917:ARG:HG3	15:O:289:THR:HG23	1.93	0.51
15:O:273:ILE:O	15:O:295:THR:OG1	2.28	0.51
2:B:661:LEU:HD11	2:B:684:LEU:HD11	1.92	0.51
4:D:118:THR:OG1	4:D:119:ARG:N	2.40	0.51
13:M:687:MET:HE3	13:M:687:MET:O	2.11	0.51
17:T:-12:DA:H2''	17:T:-11:DT:H5''	1.92	0.51
1:A:1143:LEU:HD22	1:A:1143:LEU:H	1.75	0.51
2:B:830:TYR:OH	2:B:1074:ASN:O	2.24	0.51
15:O:30:THR:OG1	15:O:31:LYS:N	2.42	0.51
15:O:190:GLU:O	15:O:193:THR:OG1	2.28	0.51
2:B:435:THR:OG1	2:B:439:ALA:O	2.22	0.51
7:G:112:LYS:HA	7:G:115:MET:HE1	1.92	0.51
14:N:-12:DA:H2''	14:N:-11:DG:N7	2.26	0.51
1:A:618:GLU:HG2	1:A:620:LYS:H	1.75	0.51
1:A:1072:ILE:HD13	1:A:1371:LEU:HD22	1.91	0.51
1:A:744:LYS:O	1:A:748:MET:HG3	2.11	0.51
9:I:73:ARG:HB3	9:I:83:ASN:HD21	1.76	0.51
4:D:37:GLN:N	4:D:45:GLU:O	2.44	0.51
17:T:7:DG:H2'	17:T:8:DA:H8	1.73	0.51
1:A:336:ILE:HA	1:A:340:LEU:HB2	1.91	0.50
1:A:900:ASP:OD1	1:A:900:ASP:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:993:LEU:HD22	1:A:1046:LEU:HD22	1.92	0.50
15:O:383:ARG:HA	15:O:386:LEU:HD12	1.92	0.50
1:A:354:SER:N	1:A:468:PHE:O	2.43	0.50
1:A:567:LYS:HB3	1:A:568:PRO:HD3	1.92	0.50
1:A:806:ARG:NH1	2:B:727:LYS:O	2.43	0.50
4:D:220:LEU:HD13	4:D:221:TYR:HD1	1.76	0.50
7:G:95:SER:OG	7:G:96:GLN:N	2.44	0.50
11:K:1:MET:HG3	11:K:3:ALA:H	1.76	0.50
13:M:18:ILE:HG23	13:M:290:LEU:HB2	1.92	0.50
13:M:98:VAL:HG22	13:M:194:ILE:HB	1.92	0.50
16:P:-23:A:H3'	16:P:-22:C:H6	1.76	0.50
1:A:176:LYS:NZ	1:A:178:GLY:O	2.44	0.50
2:B:590:HIS:CD2	2:B:596:LEU:HD22	2.47	0.50
1:A:513:SER:HB3	1:A:520:CYS:HB3	1.93	0.50
1:A:1259:MET:SD	1:A:1259:MET:N	2.79	0.50
11:K:30:ALA:HB2	11:K:76:GLN:HG3	1.92	0.50
13:M:735:ILE:HG22	13:M:736:ALA:N	2.26	0.50
16:P:-9:U:H2'	16:P:-8:C:C6	2.47	0.50
1:A:443:LEU:HD13	1:A:501:LEU:HD11	1.93	0.50
15:O:75:ASP:OD1	15:O:75:ASP:N	2.44	0.50
1:A:259:GLU:HA	1:A:259:GLU:OE2	2.12	0.50
1:A:880:LYS:HA	1:A:955:PRO:HA	1.94	0.50
2:B:595:ARG:H	2:B:595:ARG:NE	2.09	0.50
5:E:118:PRO:HB3	17:T:-13:DG:H4'	1.94	0.50
14:N:17:DA:H2''	14:N:18:DG:C8	2.47	0.50
1:A:557:ASP:N	1:A:557:ASP:OD1	2.38	0.50
1:A:1409:LEU:HD13	2:B:1207:LEU:HD21	1.93	0.50
2:B:464:GLY:HA2	2:B:480:SER:HB3	1.94	0.50
2:B:1156:ASP:OD1	2:B:1156:ASP:N	2.45	0.50
6:F:85:MET:HE2	6:F:90:ARG:HA	1.94	0.50
1:A:65:LEU:HD23	1:A:65:LEU:H	1.77	0.49
1:A:818:MET:HG2	2:B:514:LEU:HB3	1.94	0.49
1:A:1116:LEU:HD21	1:A:1327:ILE:HD11	1.94	0.49
1:A:1438:THR:O	6:F:92:ARG:NH1	2.44	0.49
1:A:348:SER:HB2	2:B:1128:LEU:HD23	1.92	0.49
2:B:654:ARG:H	2:B:657:HIS:CD2	2.28	0.49
3:C:41:ILE:HB	3:C:172:PRO:HG3	1.93	0.49
5:E:94:LYS:O	5:E:98:ILE:HG13	2.13	0.49
9:I:56:ALA:HB2	9:I:89:GLN:HE21	1.78	0.49
13:M:110:MET:CE	13:M:685:GLN:HE21	2.25	0.49
1:A:961:ARG:O	1:A:964:ILE:HG13	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:181:GLY:HA2	4:D:214:LEU:HD21	1.94	0.49
2:B:293:PRO:HG2	2:B:296:GLU:HB2	1.95	0.49
2:B:487:THR:OG1	2:B:777:ALA:O	2.31	0.49
13:M:604:TYR:HA	13:M:607:ARG:HH21	1.78	0.49
13:M:629:LYS:HG3	13:M:670:LEU:HD21	1.95	0.49
1:A:446:ARG:HD2	1:A:480:ALA:HB2	1.95	0.49
4:D:208:GLU:O	4:D:212:LYS:HG2	2.13	0.49
13:M:104:VAL:HB	13:M:201:PRO:HB3	1.95	0.49
1:A:419:LYS:HD2	1:A:419:LYS:O	2.13	0.49
1:A:1166:ASP:HB3	1:A:1239:ARG:HH12	1.77	0.49
7:G:131:GLN:NE2	7:G:137:ILE:O	2.35	0.49
13:M:118:PHE:HA	13:M:691:PRO:HB3	1.93	0.49
2:B:277:LYS:NZ	2:B:338:GLY:O	2.45	0.49
8:H:138:GLU:HG2	8:H:139:ASN:HB2	1.94	0.49
10:J:36:LEU:HD22	10:J:47:ARG:HG2	1.95	0.49
13:M:79:ALA:O	13:M:82:GLU:HG3	2.13	0.49
13:M:310:LEU:HD11	13:M:314:PHE:HB2	1.93	0.49
13:M:772:LEU:HD12	13:M:773:LEU:H	1.77	0.49
2:B:324:ILE:HG23	2:B:329:THR:HG23	1.95	0.48
2:B:868:MET:O	2:B:868:MET:HE3	2.13	0.48
2:B:872:GLU:HG2	2:B:916:THR:HB	1.94	0.48
3:C:116:LYS:HD3	3:C:140:ASN:HA	1.95	0.48
11:K:49:GLU:HG3	11:K:94:ILE:HG13	1.95	0.48
12:L:51:CYS:SG	12:L:53:HIS:HB2	2.53	0.48
13:M:197:ASP:N	13:M:197:ASP:OD1	2.45	0.48
1:A:518:LYS:HG2	1:A:626:ASN:HB3	1.94	0.48
4:D:66:ARG:NH2	7:G:48:VAL:O	2.45	0.48
13:M:233:ASP:HA	16:P:-22:C:H4'	1.94	0.48
15:O:105:ARG:HD3	15:O:221:GLU:H	1.77	0.48
1:A:72:GLU:N	1:A:72:GLU:OE1	2.46	0.48
1:A:882:SER:OG	1:A:953:ASN:OD1	2.31	0.48
2:B:276:ILE:HG21	2:B:280:ILE:HD11	1.95	0.48
13:M:182:LEU:HD23	13:M:188:TRP:HB3	1.95	0.48
15:O:128:ILE:HG12	15:O:344:PHE:HB2	1.95	0.48
1:A:961:ARG:HG3	1:A:961:ARG:NH1	2.27	0.48
13:M:192:GLN:NE2	13:M:807:SER:OG	2.46	0.48
7:G:165:GLU:HB3	7:G:168:LEU:HD22	1.95	0.48
9:I:13:MET:HE1	9:I:15:TYR:CD2	2.48	0.48
13:M:279:PHE:HA	13:M:282:LYS:HZ2	1.78	0.48
1:A:885:THR:HG22	1:A:940:ARG:HB2	1.95	0.48
2:B:597:MET:HE1	2:B:615:MET:HB2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:9:TRP:HA	13:M:12:ARG:HE	1.78	0.48
13:M:112:GLN:HG3	13:M:333:ASP:O	2.14	0.48
15:O:19:LYS:N	15:O:210:GLY:O	2.46	0.48
13:M:233:ASP:O	13:M:252:ARG:NH1	2.47	0.48
1:A:418:SER:O	1:A:419:LYS:HG3	2.14	0.48
1:A:453:MET:HE3	1:A:513:SER:HB2	1.96	0.48
15:O:366:SER:O	15:O:371:GLY:N	2.46	0.48
2:B:508:LEU:HD11	14:N:2:DT:H5'	1.95	0.48
13:M:125:GLN:HA	13:M:128:ASN:ND2	2.28	0.48
1:A:260:ASP:OD1	1:A:261:ASP:N	2.47	0.47
1:A:407:ARG:HG2	1:A:430:TRP:CE2	2.49	0.47
16:P:-10:A:H2'	16:P:-9:U:H6	1.79	0.47
1:A:242:PRO:HD2	1:A:266:LEU:HD11	1.96	0.47
1:A:1446:ASP:OD1	1:A:1446:ASP:N	2.39	0.47
2:B:1104:HIS:NE2	2:B:1126:GLY:O	2.36	0.47
4:D:144:THR:HG21	7:G:46:LEU:HD22	1.95	0.47
16:P:-20:G:P	16:P:-20:G:H21	2.37	0.47
1:A:738:LYS:HD3	1:A:740:LEU:HD11	1.97	0.47
1:A:1189:SER:HB3	1:A:1241:ARG:HD3	1.96	0.47
13:M:119:ARG:O	13:M:122:ARG:N	2.47	0.47
15:O:346:LEU:HD21	15:O:353:LEU:HD13	1.95	0.47
1:A:587:HIS:CD2	1:A:609:ASP:H	2.33	0.47
1:A:886:ILE:HD11	1:A:950:GLY:HA2	1.96	0.47
1:A:899:VAL:HG22	1:A:1029:ARG:HE	1.80	0.47
2:B:299:GLU:HG2	2:B:571:PRO:HG2	1.96	0.47
4:D:25:ALA:HB2	7:G:84:GLY:HA3	1.96	0.47
9:I:78:CYS:SG	9:I:80:SER:OG	2.67	0.47
13:M:37:ASP:O	13:M:92:ARG:NH1	2.47	0.47
2:B:797:TYR:HE1	2:B:854:LEU:HG	1.79	0.47
13:M:110:MET:HE3	13:M:110:MET:HA	1.97	0.47
18:W:819:VAL:HG12	18:W:829:VAL:HG22	1.96	0.47
1:A:538:ASP:OD1	1:A:538:ASP:N	2.43	0.47
1:A:1379:GLY:HA3	5:E:179:GLN:HG2	1.95	0.47
2:B:249:ARG:NH1	14:N:-1:DT:O4	2.47	0.47
13:M:114:ARG:HH22	13:M:717:TYR:HD1	1.62	0.47
13:M:118:PHE:CD1	13:M:721:PHE:HD2	2.31	0.47
2:B:287:ARG:NH2	2:B:294:ASP:OD2	2.35	0.47
4:D:209:ARG:HD3	4:D:210:ILE:HG23	1.96	0.47
11:K:21:ILE:HG12	11:K:33:ILE:HG12	1.97	0.47
13:M:315:ASP:OD1	13:M:315:ASP:N	2.46	0.47
2:B:760:ASP:OD1	2:B:760:ASP:N	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:801:LYS:O	2:B:822:ASN:ND2	2.48	0.47
7:G:101:VAL:HB	7:G:108:VAL:HG13	1.97	0.47
2:B:364:ILE:HG22	2:B:365:THR:HG22	1.97	0.47
2:B:1112:GLN:HB2	2:B:1117:GLN:O	2.15	0.47
5:E:48:ASP:OD1	5:E:52:ARG:N	2.48	0.47
5:E:176:PRO:HB2	5:E:212:ARG:HG2	1.96	0.47
17:T:14:DT:H2''	17:T:15:DG:H5''	1.97	0.47
1:A:116:ASP:OD1	1:A:116:ASP:N	2.48	0.47
1:A:999:VAL:HG12	1:A:1011:GLN:HG2	1.95	0.47
1:A:1385:THR:HG23	1:A:1387:HIS:H	1.80	0.47
2:B:441:ASP:OD1	2:B:441:ASP:N	2.47	0.47
2:B:1111:MET:HE3	2:B:1112:GLN:N	2.26	0.47
4:D:194:LEU:HD22	7:G:86:VAL:HG11	1.96	0.47
7:G:30:LEU:O	7:G:34:VAL:HG22	2.15	0.47
8:H:137:GLN:HG2	8:H:138:GLU:H	1.79	0.47
16:P:-3:G:H2'	16:P:-2:G:C8	2.50	0.47
18:W:857:THR:OG1	18:W:858:TYR:N	2.48	0.47
1:A:500:GLU:O	1:A:504:LEU:HB2	2.14	0.46
2:B:226:PHE:HA	2:B:395:GLN:HG3	1.96	0.46
3:C:14:SER:OG	3:C:15:LYS:N	2.48	0.46
9:I:61:ASP:O	9:I:64:SER:OG	2.33	0.46
13:M:125:GLN:HA	13:M:128:ASN:HD21	1.80	0.46
14:N:-6:DA:H1'	14:N:-5:DT:H2'	1.97	0.46
15:O:207:VAL:HG21	15:O:236:LEU:HD21	1.97	0.46
1:A:250:ILE:HG23	16:P:-10:A:H1'	1.97	0.46
3:C:142:VAL:HG13	10:J:15:GLY:HA3	1.95	0.46
5:E:91:LYS:O	5:E:95:THR:HG23	2.15	0.46
1:A:1087:ALA:HB1	1:A:1091:SER:HA	1.97	0.46
2:B:322:PHE:CZ	9:I:30:ARG:HG3	2.50	0.46
3:C:86:CYS:SG	3:C:95:CYS:HB3	2.55	0.46
1:A:336:ILE:HG23	1:A:340:LEU:HD12	1.97	0.46
1:A:935:GLN:NE2	1:A:939:ASP:OD2	2.46	0.46
1:A:1166:ASP:OD1	1:A:1166:ASP:N	2.49	0.46
3:C:36:VAL:HG21	3:C:251:LEU:HD13	1.98	0.46
4:D:186:ASP:OD1	7:G:167:TYR:OH	2.25	0.46
6:F:155:LEU:HD23	6:F:155:LEU:H	1.80	0.46
13:M:107:ARG:O	13:M:107:ARG:HG3	2.16	0.46
15:O:203:TYR:HB3	15:O:222:VAL:HB	1.98	0.46
1:A:340:LEU:HD13	1:A:1429:ILE:HG12	1.96	0.46
1:A:1143:LEU:O	1:A:1147:THR:N	2.42	0.46
8:H:49:VAL:HA	8:H:146:ARG:HH22	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:96:SER:OG	9:I:97:MET:N	2.49	0.46
13:M:313:THR:OG1	15:O:55:ARG:NH1	2.49	0.46
2:B:1001:PHE:HE2	3:C:178:PHE:HB3	1.80	0.46
3:C:39:ALA:HA	3:C:164:ALA:HB3	1.96	0.46
5:E:29:PHE:HB3	5:E:62:ALA:HB3	1.97	0.46
6:F:103:MET:O	6:F:103:MET:HG3	2.15	0.46
1:A:1454:MET:HA	1:A:1454:MET:HE2	1.97	0.46
2:B:121:ASN:HA	2:B:207:GLY:HA3	1.97	0.46
4:D:207:LEU:O	4:D:210:ILE:HD12	2.16	0.46
1:A:156:ASP:OD1	1:A:156:ASP:N	2.38	0.46
2:B:1128:LEU:HD22	2:B:1128:LEU:H	1.81	0.46
1:A:1120:LEU:HD11	1:A:1134:ILE:HG21	1.98	0.46
4:D:32:GLU:O	4:D:37:GLN:NE2	2.34	0.46
4:D:39:ASN:OD1	4:D:42:GLY:N	2.29	0.46
4:D:195:ILE:HD12	4:D:195:ILE:O	2.16	0.46
5:E:170:LEU:HD22	5:E:174:GLN:HB3	1.98	0.46
13:M:912:THR:HG22	13:M:914:TYR:H	1.81	0.46
15:O:116:PHE:HE2	15:O:316:ALA:HB2	1.81	0.46
15:O:247:GLN:N	15:O:281:LYS:O	2.49	0.46
2:B:915:THR:HG22	2:B:936:ASP:HA	1.97	0.46
1:A:134:ARG:O	1:A:138:ILE:HG12	2.15	0.45
2:B:818:PRO:HG3	10:J:54:VAL:HG21	1.98	0.45
8:H:35:GLN:HE21	8:H:128:ASN:ND2	2.14	0.45
13:M:126:ILE:O	13:M:129:GLU:HG3	2.15	0.45
15:O:267:GLN:O	15:O:271:VAL:HG12	2.16	0.45
1:A:1082:ASN:HB3	1:A:1097:GLY:HA3	1.98	0.45
1:A:1193:LEU:O	1:A:1240:CYS:N	2.45	0.45
5:E:141:VAL:HG12	5:E:142:VAL:HG23	1.99	0.45
6:F:97:ARG:HD2	6:F:97:ARG:HA	1.75	0.45
8:H:77:ARG:HB3	8:H:77:ARG:CZ	2.46	0.45
9:I:33:SER:OG	9:I:34:TYR:N	2.48	0.45
1:A:290:GLU:O	1:A:293:GLU:HG3	2.16	0.45
4:D:199:ASN:OD1	4:D:199:ASN:N	2.49	0.45
10:J:42:LYS:HB3	10:J:42:LYS:HE3	1.84	0.45
1:A:362:ASP:OD1	1:A:362:ASP:N	2.39	0.45
1:A:927:VAL:HA	1:A:930:ASP:OD2	2.15	0.45
8:H:17:PRO:HB3	8:H:24:CYS:HA	1.99	0.45
10:J:50:ILE:HD12	10:J:50:ILE:C	2.41	0.45
2:B:776:GLN:HB3	2:B:1096:ARG:HG2	1.97	0.45
7:G:62:LEU:HD21	7:G:69:GLU:HG3	1.98	0.45
13:M:18:ILE:HG13	13:M:290:LEU:HD13	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:-15:DC:H2'	14:N:-14:DA:C8	2.51	0.45
1:A:614:PHE:HB3	8:H:122:LEU:HD21	1.99	0.45
1:A:1189:SER:HB2	1:A:1243:VAL:HG22	1.98	0.45
3:C:86:CYS:O	18:W:813:LYS:NZ	2.50	0.45
4:D:52:LEU:HD13	4:D:148:LEU:HD23	1.99	0.45
13:M:249:LYS:HB3	13:M:293:HIS:ND1	2.32	0.45
15:O:101:ILE:HG12	15:O:135:LEU:HB2	1.98	0.45
15:O:346:LEU:HD11	15:O:353:LEU:HB3	1.99	0.45
1:A:261:ASP:N	1:A:261:ASP:OD1	2.50	0.45
1:A:408:ASP:N	1:A:408:ASP:OD1	2.48	0.45
2:B:662:MET:HA	2:B:662:MET:HE3	1.99	0.45
4:D:205:ASP:O	4:D:208:GLU:HG3	2.17	0.45
7:G:53:ASN:ND2	7:G:53:ASN:O	2.50	0.45
13:M:687:MET:HB2	13:M:702:PHE:HE2	1.81	0.45
15:O:162:ASP:OD1	15:O:162:ASP:N	2.48	0.45
16:P:-23:A:H3'	16:P:-22:C:C6	2.52	0.45
1:A:229:SER:O	1:A:229:SER:OG	2.35	0.45
2:B:293:PRO:HB2	9:I:11:ASN:HB3	1.99	0.45
13:M:179:ALA:HA	13:M:843:ILE:HD12	1.98	0.45
1:A:66:LYS:HZ1	1:A:71:GLN:HB3	1.82	0.45
2:B:1180:PHE:HB2	2:B:1191:ILE:HG13	1.99	0.45
4:D:153:ARG:HH21	4:D:218:GLU:HG2	1.82	0.45
5:E:117:THR:HG23	5:E:120:ALA:HB2	1.99	0.45
13:M:295:ASN:HD21	13:M:906:VAL:HG12	1.81	0.45
1:A:894:GLU:OE2	1:A:906:HIS:NE2	2.51	0.45
12:L:50:ASP:OD1	12:L:50:ASP:N	2.50	0.45
1:A:288:ALA:O	1:A:291:GLU:HG3	2.16	0.44
1:A:320:ARG:HB2	1:A:320:ARG:NH1	2.32	0.44
1:A:850:VAL:HG22	1:A:856:THR:HG22	1.98	0.44
2:B:843:GLN:NE2	2:B:847:ASP:OD1	2.49	0.44
13:M:772:LEU:HD23	13:M:846:MET:HE2	2.00	0.44
1:A:761:MET:HG3	2:B:1021:MET:HG3	1.99	0.44
1:A:1116:LEU:HB3	1:A:1308:THR:HB	2.00	0.44
13:M:206:HIS:HA	13:M:209:MET:HE3	1.99	0.44
17:T:1:DC:H2'	17:T:2:DC:C6	2.52	0.44
1:A:1163:ILE:HD12	1:A:1164:PRO:HD2	1.99	0.44
1:A:1208:THR:HB	1:A:1211:GLN:HB2	1.99	0.44
4:D:117:GLU:HA	4:D:121:LYS:HB2	1.99	0.44
4:D:206:GLU:O	4:D:210:ILE:HG13	2.18	0.44
5:E:122:LYS:O	5:E:125:PRO:HD2	2.17	0.44
8:H:40:LEU:HD11	8:H:97:MET:HE1	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:51:LEU:HA	11:K:51:LEU:HD23	1.80	0.44
13:M:167:MET:HE2	13:M:167:MET:N	2.32	0.44
15:O:59:LEU:HA	15:O:170:LYS:HG2	1.99	0.44
2:B:273:LEU:HD13	2:B:274:PRO:HD2	2.00	0.44
2:B:444:MET:C	2:B:444:MET:HE2	2.42	0.44
2:B:1013:ASN:HD22	2:B:1015:HIS:HB2	1.83	0.44
2:B:1219:ASP:OD1	4:D:14:ARG:NH2	2.50	0.44
11:K:39:ASP:OD1	11:K:39:ASP:N	2.51	0.44
13:M:729:LYS:HG2	13:M:733:GLN:CG	2.47	0.44
1:A:63:ARG:HA	1:A:74:MET:HG3	1.98	0.44
2:B:886:LYS:HE3	2:B:940:PRO:HD3	1.99	0.44
13:M:44:ASN:HD22	13:M:291:TRP:HE1	1.66	0.44
13:M:725:MET:CE	13:M:737:LEU:HD13	2.47	0.44
2:B:1065:GLN:HG3	2:B:1067:ARG:H	1.81	0.44
1:A:1186:ASP:N	1:A:1186:ASP:OD1	2.51	0.44
2:B:132:VAL:HG23	2:B:133:LYS:H	1.82	0.44
4:D:39:ASN:OD1	4:D:41:GLN:N	2.49	0.44
7:G:25:TYR:O	7:G:29:LYS:HG2	2.18	0.44
13:M:292:LEU:HD23	13:M:292:LEU:HA	1.89	0.44
13:M:648:SER:HB3	13:M:674:PHE:HB3	2.00	0.44
14:N:6:DT:H2'	14:N:7:DG:H8	1.81	0.44
1:A:1111:MET:H	1:A:1111:MET:HG2	1.66	0.44
13:M:259:ASP:OD1	13:M:259:ASP:N	2.49	0.44
15:O:261:LEU:HA	15:O:264:THR:HG22	1.98	0.44
17:T:12:DT:H2''	17:T:13:DG:C8	2.53	0.44
2:B:473:MET:SD	2:B:473:MET:N	2.91	0.44
2:B:691:GLU:OE2	2:B:740:HIS:NE2	2.35	0.44
4:D:186:ASP:OD2	4:D:187:THR:N	2.50	0.44
7:G:132:SER:OG	7:G:133:SER:N	2.50	0.44
17:T:3:DT:H2'	17:T:4:DC:H6	1.83	0.44
1:A:362:ASP:HB3	1:A:507:VAL:HB	2.00	0.43
1:A:870:GLU:OE1	5:E:202:SER:OG	2.30	0.43
1:A:1141:THR:HG22	1:A:1142:THR:N	2.30	0.43
2:B:357:GLN:NE2	2:B:366:GLN:O	2.51	0.43
2:B:526:GLU:HG2	2:B:538:ASN:HB2	2.00	0.43
5:E:124:VAL:HG13	5:E:132:ILE:HB	2.00	0.43
9:I:19:ASP:O	9:I:21:GLU:N	2.51	0.43
2:B:67:SER:HB2	2:B:92:PHE:HB2	1.99	0.43
2:B:197:PHE:O	2:B:488:TYR:OH	2.34	0.43
2:B:308:TRP:CD1	2:B:308:TRP:H	2.36	0.43
2:B:841:MET:HE3	2:B:841:MET:HB2	1.88	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:863:GLU:OE1	2:B:962:LYS:HB2	2.17	0.43
6:F:112:GLU:OE2	6:F:123:LYS:NZ	2.51	0.43
11:K:2:ASN:OD1	11:K:2:ASN:N	2.51	0.43
13:M:107:ARG:CG	13:M:652:PHE:HB3	2.39	0.43
15:O:330:MET:C	15:O:330:MET:HE2	2.44	0.43
2:B:444:MET:HE2	2:B:444:MET:O	2.18	0.43
7:G:96:GLN:HE22	7:G:97:HIS:CD2	2.36	0.43
9:I:36:GLU:HG2	9:I:38:ALA:H	1.83	0.43
13:M:213:ARG:NH2	13:M:645:GLY:H	2.15	0.43
13:M:229:ILE:HD13	13:M:248:PHE:CZ	2.54	0.43
13:M:325:PHE:HB2	13:M:639:LEU:HD11	2.00	0.43
14:N:-13:DC:H2"	14:N:-12:DA:C8	2.53	0.43
15:O:36:LEU:HD22	15:O:37:ILE:H	1.83	0.43
1:A:215:SER:OG	1:A:218:ASP:OD1	2.32	0.43
13:M:298:ARG:HG2	13:M:316:LEU:HD21	2.00	0.43
1:A:506:ALA:HB3	1:A:509:LEU:HG	2.01	0.43
1:A:644:LYS:HD2	1:A:644:LYS:HA	1.83	0.43
1:A:1351:GLU:O	1:A:1355:VAL:HG23	2.18	0.43
2:B:313:MET:O	2:B:316:PRO:HD2	2.18	0.43
2:B:1149:GLU:HA	2:B:1153:GLU:HG2	2.00	0.43
11:K:12:LEU:HD12	11:K:12:LEU:HA	1.92	0.43
1:A:515:GLN:HG3	1:A:1071:SER:HB3	2.00	0.43
1:A:1202:MET:HA	1:A:1207:LEU:HG	2.00	0.43
2:B:106:ASP:OD1	2:B:106:ASP:N	2.52	0.43
5:E:103:LYS:C	5:E:104:ASN:OD1	2.61	0.43
13:M:109:LYS:HA	13:M:109:LYS:HD3	1.73	0.43
13:M:701:ILE:HG12	13:M:757:LEU:HD13	2.01	0.43
3:C:29:MET:HE3	3:C:29:MET:HB2	1.84	0.43
1:A:152:VAL:HG23	1:A:164:ARG:HB2	2.01	0.43
4:D:164:ILE:HD12	4:D:164:ILE:N	2.33	0.43
6:F:140:ASP:OD1	6:F:141:GLY:N	2.51	0.43
12:L:29:TYR:C	12:L:30:ILE:HD13	2.44	0.43
13:M:722:PRO:HG2	13:M:737:LEU:HB3	2.01	0.43
1:A:1219:THR:HG21	1:A:1271:ILE:HG23	1.99	0.43
2:B:1106:ARG:NH2	2:B:1110:PRO:O	2.52	0.43
4:D:189:ASP:OD2	4:D:190:GLU:N	2.52	0.43
8:H:101:ALA:HB2	8:H:116:TYR:CZ	2.53	0.43
11:K:26:LYS:HD2	11:K:26:LYS:HA	1.78	0.43
13:M:616:THR:O	13:M:620:ILE:HG23	2.19	0.43
1:A:1144:LYS:HA	1:A:1147:THR:HG22	2.01	0.42
1:A:1403:GLU:CD	1:A:1403:GLU:H	2.27	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:98:ILE:HD12	5:E:99:HIS:N	2.34	0.42
13:M:725:MET:SD	13:M:735:ILE:HB	2.59	0.42
1:A:1259:MET:H	1:A:1259:MET:CE	2.32	0.42
2:B:950:ASP:OD1	2:B:950:ASP:N	2.46	0.42
4:D:130:LEU:HD13	4:D:141:LEU:HD12	2.01	0.42
4:D:215:SER:O	4:D:218:GLU:HG3	2.19	0.42
6:F:119:ARG:HA	6:F:122:MET:HG3	2.01	0.42
11:K:91:CYS:O	11:K:95:ILE:HG12	2.20	0.42
15:O:40:ASP:OD1	15:O:203:TYR:OH	2.29	0.42
1:A:53:LEU:HD23	1:A:53:LEU:HA	1.91	0.42
1:A:1282:VAL:HG22	1:A:1308:THR:HG23	2.00	0.42
2:B:329:THR:HA	2:B:332:ASP:OD2	2.20	0.42
2:B:711:GLU:HB2	2:B:733:HIS:HE1	1.85	0.42
4:D:212:LYS:N	4:D:212:LYS:HE2	2.35	0.42
10:J:62:ARG:HD2	10:J:62:ARG:HA	1.83	0.42
13:M:599:LEU:O	13:M:602:PRO:HD2	2.19	0.42
2:B:860:MET:HB3	2:B:860:MET:HE3	1.75	0.42
9:I:55:THR:OG1	9:I:56:ALA:N	2.52	0.42
13:M:686:LEU:HD11	13:M:690:LEU:HD22	2.01	0.42
1:A:340:LEU:HD23	1:A:340:LEU:HA	1.92	0.42
2:B:246:LYS:HD3	2:B:246:LYS:HA	1.90	0.42
2:B:293:PRO:O	2:B:297:ILE:HG12	2.18	0.42
2:B:955:THR:OG1	2:B:956:THR:N	2.50	0.42
7:G:31:LEU:HD23	7:G:31:LEU:HA	1.81	0.42
13:M:162:PRO:HA	13:M:167:MET:HG3	2.01	0.42
13:M:751:ARG:HA	13:M:751:ARG:HD2	1.86	0.42
1:A:844:ALA:HB2	1:A:1384:VAL:HG13	2.02	0.42
1:A:1035:TYR:O	1:A:1037:LEU:HG	2.20	0.42
4:D:24:ALA:HB3	4:D:28:GLN:HB3	2.01	0.42
7:G:26:LEU:HD12	7:G:56:ILE:HD13	2.02	0.42
8:H:103:LYS:HB3	8:H:115:TYR:HB2	2.02	0.42
13:M:618:GLN:CD	13:M:618:GLN:H	2.27	0.42
14:N:-14:DA:H2''	14:N:-13:DC:H5'	2.00	0.42
2:B:118:ARG:NH2	2:B:194:GLU:OE2	2.53	0.42
2:B:595:ARG:HE	2:B:595:ARG:H	1.65	0.42
3:C:146:LYS:HE3	10:J:57:ILE:HG21	2.02	0.42
15:O:53:LEU:HD21	15:O:290:VAL:HG23	2.01	0.42
1:A:341:MET:HE2	1:A:1401:SER:HB2	2.01	0.42
1:A:931:GLU:OE1	1:A:931:GLU:C	2.63	0.42
1:A:1268:LEU:HD12	1:A:1268:LEU:HA	1.87	0.42
2:B:1074:ASN:ND2	2:B:1076:HIS:HB2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:51:ASN:OD1	9:I:51:ASN:N	2.53	0.42
17:T:-17:DT:H2''	17:T:-16:DA:C8	2.55	0.42
17:T:4:DC:H2'	17:T:5:DT:H6	1.84	0.42
1:A:112:LYS:HE3	1:A:112:LYS:HB3	1.88	0.42
1:A:173:THR:O	1:A:173:THR:OG1	2.36	0.42
1:A:441:PRO:HG2	1:A:498:ARG:HG2	2.00	0.42
13:M:299:GLU:H	13:M:299:GLU:HG3	1.71	0.42
13:M:372:LEU:HD12	13:M:372:LEU:HA	1.94	0.42
17:T:-19:DT:H2'	17:T:-18:DC:C5	2.55	0.42
1:A:253:ASN:O	1:A:254:GLU:HB3	2.20	0.41
1:A:279:LEU:HD11	1:A:288:ALA:HB1	2.01	0.41
1:A:728:LYS:HB2	1:A:728:LYS:HE3	1.75	0.41
13:M:44:ASN:N	13:M:44:ASN:OD1	2.52	0.41
13:M:330:CYS:SG	13:M:351:LEU:HD21	2.60	0.41
1:A:419:LYS:HD2	1:A:419:LYS:C	2.45	0.41
1:A:704:ALA:HB2	1:A:710:LEU:HG	2.01	0.41
1:A:778:GLY:HA3	2:B:516:ASN:HB2	2.01	0.41
1:A:860:LEU:HD23	1:A:860:LEU:HA	1.90	0.41
2:B:1152:MET:HE3	2:B:1152:MET:HB3	1.80	0.41
3:C:89:GLU:OE2	3:C:89:GLU:N	2.30	0.41
6:F:127:GLU:H	6:F:127:GLU:HG2	1.69	0.41
7:G:6:ASP:OD1	7:G:75:ARG:NH1	2.53	0.41
13:M:120:SER:HA	13:M:123:ASP:OD2	2.20	0.41
13:M:124:ALA:O	13:M:127:GLU:HG3	2.19	0.41
1:A:436:ILE:HG22	1:A:460:VAL:HG11	2.02	0.41
2:B:878:GLN:HG3	13:M:401:ARG:HH22	1.85	0.41
3:C:75:MET:HE1	3:C:242:GLN:HG3	2.02	0.41
13:M:729:LYS:HG2	13:M:733:GLN:CB	2.48	0.41
15:O:192:ARG:HA	15:O:195:ARG:HB3	2.02	0.41
16:P:-23:A:C5	16:P:-22:C:C4	3.08	0.41
1:A:1207:LEU:HD23	1:A:1207:LEU:HA	1.95	0.41
15:O:346:LEU:HD13	15:O:355:LEU:HD13	2.02	0.41
1:A:849:MET:O	1:A:856:THR:HA	2.20	0.41
7:G:23:LYS:HE2	7:G:23:LYS:HB3	1.91	0.41
15:O:129:VAL:HB	15:O:136:PHE:HB2	2.02	0.41
15:O:242:LEU:HA	15:O:277:ILE:O	2.20	0.41
1:A:359:LEU:HD23	1:A:359:LEU:HA	1.91	0.41
1:A:919:ILE:H	1:A:919:ILE:HG13	1.69	0.41
1:A:1269:GLU:OE2	1:A:1269:GLU:N	2.52	0.41
2:B:1138:MET:HE3	2:B:1143:ALA:HB3	2.02	0.41
4:D:217:LEU:HD23	4:D:220:LEU:HD21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:830:ILE:HG23	13:M:832:GLY:H	1.86	0.41
15:O:318:LYS:HA	15:O:318:LYS:HD2	1.76	0.41
1:A:1317:MET:HG2	1:A:1327:ILE:HG21	2.02	0.41
1:A:1338:VAL:HG23	1:A:1339:LEU:HG	2.01	0.41
2:B:592:ASN:HB3	2:B:595:ARG:CZ	2.50	0.41
13:M:23:GLU:O	13:M:25:GLN:NE2	2.53	0.41
13:M:632:ILE:HG13	13:M:633:GLU:N	2.35	0.41
15:O:34:GLU:OE1	15:O:36:LEU:HB2	2.20	0.41
17:T:-11:DT:H2''	17:T:-10:DA:C8	2.56	0.41
1:A:974:ASP:OD1	1:A:974:ASP:N	2.54	0.41
2:B:1038:SER:HB3	2:B:1062:HIS:CE1	2.55	0.41
3:C:222:LYS:HE2	3:C:222:LYS:HB2	1.90	0.41
9:I:13:MET:HE2	9:I:14:LEU:N	2.36	0.41
13:M:364:THR:OG1	13:M:365:TYR:N	2.54	0.41
13:M:598:LYS:HA	13:M:598:LYS:HD3	1.79	0.41
1:A:74:MET:HB3	1:A:74:MET:HE3	1.81	0.41
1:A:216:VAL:HA	1:A:219:PHE:CE2	2.56	0.41
1:A:301:ALA:O	1:A:305:ASP:N	2.49	0.41
1:A:344:ARG:HA	2:B:1129:ARG:HA	2.03	0.41
1:A:798:GLY:HA2	1:A:815:PHE:CD2	2.56	0.41
1:A:1039:LYS:HE3	1:A:1039:LYS:HB2	1.87	0.41
2:B:416:LEU:HD23	2:B:457:LEU:HD23	2.03	0.41
2:B:418:LYS:HE3	2:B:418:LYS:HB2	1.85	0.41
2:B:886:LYS:HB2	2:B:886:LYS:HE2	1.75	0.41
2:B:1121:GLY:O	2:B:1126:GLY:N	2.54	0.41
4:D:143:ASN:OD1	4:D:143:ASN:N	2.51	0.41
5:E:127:ILE:HG22	5:E:130:ALA:HB3	2.03	0.41
11:K:11:LEU:HD23	11:K:11:LEU:HA	1.91	0.41
11:K:37:LYS:HA	11:K:37:LYS:HD3	1.92	0.41
11:K:110:ASN:HD22	11:K:110:ASN:HA	1.68	0.41
13:M:34:LEU:HD13	13:M:35:PRO:HD2	2.03	0.41
13:M:99:MET:HE2	13:M:99:MET:HB3	2.00	0.41
13:M:114:ARG:O	13:M:115:ALA:C	2.63	0.41
13:M:156:ASP:OD2	13:M:158:ASN:ND2	2.54	0.41
13:M:222:ASN:HB3	13:M:225:THR:HG23	2.01	0.41
16:P:-22:C:H2'	16:P:-21:A:C8	2.56	0.41
1:A:236:LEU:HD13	1:A:236:LEU:HA	1.94	0.41
1:A:1089:VAL:HG21	1:A:1285:MET:HE1	2.02	0.41
4:D:156:ASP:O	4:D:160:VAL:HG12	2.20	0.41
7:G:96:GLN:O	7:G:112:LYS:NZ	2.39	0.41
10:J:10:CYS:SG	10:J:11:GLY:N	2.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:320:ILE:H	13:M:320:ILE:HG12	1.69	0.41
13:M:695:GLY:HA2	13:M:698:LEU:HD12	2.02	0.41
15:O:260:LYS:HA	15:O:260:LYS:HD2	1.87	0.41
1:A:1221:LYS:HE3	1:A:1221:LYS:HB3	1.92	0.40
2:B:133:LYS:HE2	2:B:133:LYS:HA	2.03	0.40
13:M:117:ARG:O	13:M:120:SER:N	2.55	0.40
13:M:232:LEU:H	13:M:232:LEU:HD23	1.86	0.40
13:M:350:ILE:HG21	13:M:391:ILE:HD11	2.03	0.40
13:M:883:LYS:NZ	13:M:885:ASN:HB2	2.36	0.40
15:O:161:GLN:HB2	15:O:162:ASP:H	1.58	0.40
17:T:4:DC:H2'	17:T:5:DT:C6	2.56	0.40
1:A:827:THR:O	1:A:831:THR:HG22	2.22	0.40
2:B:834:ASN:HB3	2:B:840:ILE:HG13	2.03	0.40
3:C:167:HIS:CD2	12:L:70:ARG:HG3	2.56	0.40
15:O:282:ASP:OD1	15:O:282:ASP:N	2.52	0.40
2:B:324:ILE:HG21	2:B:330:ALA:HB2	2.03	0.40
4:D:60:LYS:HB3	4:D:60:LYS:HE2	1.92	0.40
4:D:78:LYS:HG2	15:O:303:LYS:HD3	2.03	0.40
13:M:178:THR:HG21	13:M:773:LEU:HD13	2.03	0.40
13:M:333:ASP:OD1	13:M:333:ASP:N	2.53	0.40
1:A:775:ILE:HG23	1:A:818:MET:HE1	2.02	0.40
2:B:615:MET:H	2:B:615:MET:HG2	1.79	0.40
4:D:211:LEU:HD23	4:D:211:LEU:HA	1.90	0.40
6:F:116:ASP:OD2	6:F:116:ASP:C	2.64	0.40
13:M:104:VAL:O	13:M:202:GLY:N	2.44	0.40
13:M:107:ARG:HA	13:M:110:MET:HB2	2.03	0.40
13:M:898:ASP:HA	13:M:901:GLN:NE2	2.36	0.40
4:D:123:LEU:HA	4:D:126:ILE:HD11	2.03	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	1411/1733 (81%)	1356 (96%)	55 (4%)	0	100	100
2	B	1147/1259 (91%)	1106 (96%)	41 (4%)	0	100	100
3	C	268/318 (84%)	261 (97%)	7 (3%)	0	100	100
4	D	176/221 (80%)	168 (96%)	8 (4%)	0	100	100
5	E	213/215 (99%)	206 (97%)	7 (3%)	0	100	100
6	F	81/155 (52%)	78 (96%)	3 (4%)	0	100	100
7	G	169/171 (99%)	154 (91%)	15 (9%)	0	100	100
8	H	142/146 (97%)	132 (93%)	10 (7%)	0	100	100
9	I	113/122 (93%)	103 (91%)	10 (9%)	0	100	100
10	J	64/70 (91%)	60 (94%)	4 (6%)	0	100	100
11	K	109/120 (91%)	108 (99%)	1 (1%)	0	100	100
12	L	44/70 (63%)	41 (93%)	3 (7%)	0	100	100
13	M	713/1019 (70%)	677 (95%)	36 (5%)	0	100	100
15	O	346/387 (89%)	333 (96%)	13 (4%)	0	100	100
18	W	69/1063 (6%)	64 (93%)	5 (7%)	0	100	100
All	All	5065/7069 (72%)	4847 (96%)	218 (4%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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	1231/1520 (81%)	1199 (97%)	32 (3%)	41	70
2	B	998/1094 (91%)	978 (98%)	20 (2%)	50	78
3	C	238/274 (87%)	233 (98%)	5 (2%)	48	76
4	D	162/200 (81%)	157 (97%)	5 (3%)	35	64
5	E	181/197 (92%)	177 (98%)	4 (2%)	47	76
6	F	73/137 (53%)	71 (97%)	2 (3%)	40	69

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	G	152/152 (100%)	146 (96%)	6 (4%)	27	56
8	H	116/128 (91%)	114 (98%)	2 (2%)	56	81
9	I	95/116 (82%)	93 (98%)	2 (2%)	48	76
10	J	61/65 (94%)	61 (100%)	0	100	100
11	K	96/102 (94%)	95 (99%)	1 (1%)	73	89
12	L	40/57 (70%)	40 (100%)	0	100	100
13	M	632/909 (70%)	618 (98%)	14 (2%)	47	76
15	O	320/346 (92%)	313 (98%)	7 (2%)	47	76
18	W	59/876 (7%)	58 (98%)	1 (2%)	56	81
All	All	4454/6173 (72%)	4353 (98%)	101 (2%)	46	74

All (101) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	27	VAL
1	A	40	THR
1	A	148	CYS
1	A	253	ASN
1	A	322	VAL
1	A	329	LEU
1	A	451	HIS
1	A	470	LEU
1	A	544	ASP
1	A	716	ASP
1	A	849	MET
1	A	884	ASP
1	A	886	ILE
1	A	936	LEU
1	A	981	LEU
1	A	982	THR
1	A	995	GLU
1	A	1048	ASN
1	A	1081	LEU
1	A	1120	LEU
1	A	1134	ILE
1	A	1208	THR
1	A	1232	ASN
1	A	1233	ASP
1	A	1236	LEU

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Mol	Chain	Res	Type
1	A	1237	ILE
1	A	1242	VAL
1	A	1285	MET
1	A	1311	VAL
1	A	1337	GLU
1	A	1383	SER
1	A	1418	LEU
2	B	187	SER
2	B	253	THR
2	B	393	LYS
2	B	498	THR
2	B	500	THR
2	B	502	ILE
2	B	731	VAL
2	B	764	SER
2	B	787	VAL
2	B	871	THR
2	B	881	ASN
2	B	1026	LEU
2	B	1032	SER
2	B	1081	LEU
2	B	1093	GLN
2	B	1115	THR
2	B	1123	SER
2	B	1145	SER
2	B	1163	CYS
2	B	1189	ILE
3	C	16	ASP
3	C	23	SER
3	C	155	LEU
3	C	214	ASN
3	C	259	LEU
4	D	26	THR
4	D	52	LEU
4	D	72	ARG
4	D	141	LEU
4	D	177	VAL
5	E	31	THR
5	E	78	LEU
5	E	117	THR
5	E	164	LEU
6	F	111	LEU

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Mol	Chain	Res	Type
6	F	118	LEU
7	G	47	CYS
7	G	88	ASP
7	G	93	SER
7	G	108	VAL
7	G	138	THR
7	G	151	ILE
8	H	36	CYS
8	H	135	LEU
9	I	9	ASP
9	I	29	CYS
11	K	70	ARG
13	M	3	VAL
13	M	61	CYS
13	M	96	VAL
13	M	107	ARG
13	M	109	LYS
13	M	110	MET
13	M	111	ASN
13	M	227	HIS
13	M	614	HIS
13	M	723	ILE
13	M	800	VAL
13	M	813	VAL
13	M	902	ASN
13	M	906	VAL
15	O	48	LEU
15	O	112	ILE
15	O	128	ILE
15	O	217	ILE
15	O	294	SER
15	O	302	LEU
15	O	309	VAL
18	W	845	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (87) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	118	HIS
1	A	160	GLN
1	A	445	ASN
1	A	471	ASN

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Mol	Chain	Res	Type
1	A	493	GLN
1	A	576	GLN
1	A	587	HIS
1	A	589	GLN
1	A	650	GLN
1	A	659	HIS
1	A	660	ASN
1	A	723	ASN
1	A	736	ASN
1	A	741	ASN
1	A	745	GLN
1	A	802	ASN
1	A	903	ASN
1	A	1008	GLN
1	A	1110	ASN
1	A	1278	ASN
1	A	1390	ASN
1	A	1432	GLN
2	B	115	GLN
2	B	236	HIS
2	B	300	HIS
2	B	383	ASN
2	B	657	HIS
2	B	716	ASN
2	B	762	ASN
2	B	770	GLN
2	B	776	GLN
2	B	1013	ASN
2	B	1062	HIS
2	B	1074	ASN
2	B	1076	HIS
2	B	1084	GLN
2	B	1117	GLN
2	B	1141	HIS
3	C	73	GLN
3	C	135	GLN
3	C	151	GLN
3	C	195	GLN
4	D	34	GLN
4	D	132	GLN
4	D	137	ASN
4	D	157	GLN

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Mol	Chain	Res	Type
5	E	99	HIS
5	E	179	GLN
7	G	10	ASN
7	G	57	GLN
7	G	71	ASN
7	G	96	GLN
7	G	153	GLN
8	H	33	GLN
8	H	71	ASN
8	H	128	ASN
8	H	134	ASN
9	I	87	GLN
9	I	89	GLN
10	J	23	ASN
10	J	53	HIS
10	J	64	ASN
11	K	40	HIS
11	K	96	ASN
11	K	104	ASN
11	K	110	ASN
13	M	27	GLN
13	M	49	ASN
13	M	112	GLN
13	M	192	GLN
13	M	222	ASN
13	M	287	GLN
13	M	373	ASN
13	M	383	HIS
13	M	396	HIS
13	M	685	GLN
13	M	743	GLN
13	M	753	GLN
13	M	776	ASN
13	M	886	ASN
15	O	42	ASN
15	O	132	ASN
15	O	247	GLN
15	O	267	GLN
15	O	308	GLN
18	W	837	HIS
18	W	863	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
16	P	22/23 (95%)	7 (31%)	0

All (7) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
16	P	-19	A
16	P	-17	C
16	P	-16	G
16	P	-13	U
16	P	-12	C
16	P	-11	C
16	P	-3	G

There are no RNA pucker outliers to report.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 11 ligands modelled in this entry, 11 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

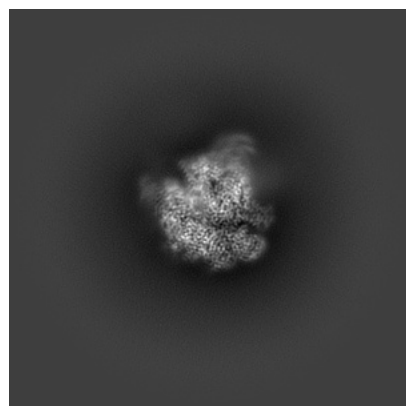
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-36162. These allow visual inspection of the internal detail of the map and identification of artifacts.

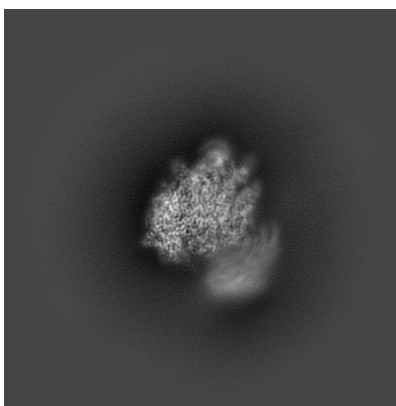
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

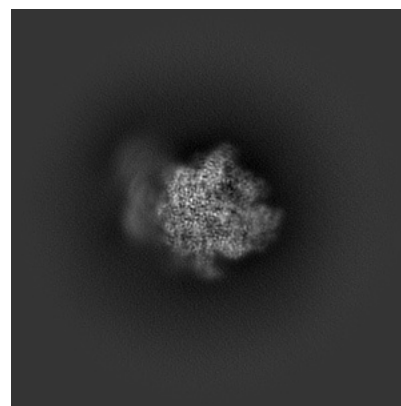
6.1.1 Primary map



X

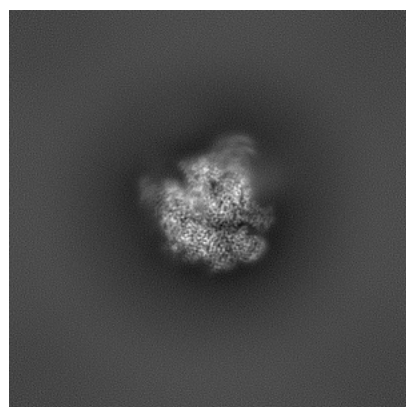


Y

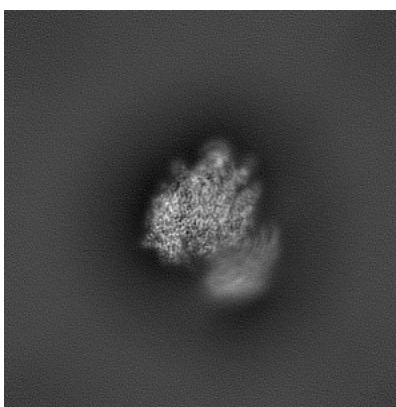


Z

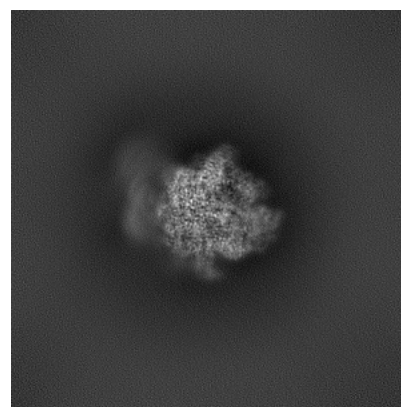
6.1.2 Raw map



X



Y

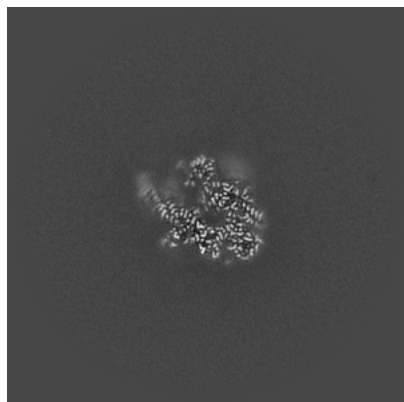


Z

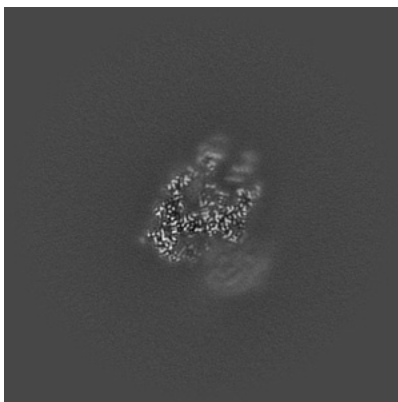
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

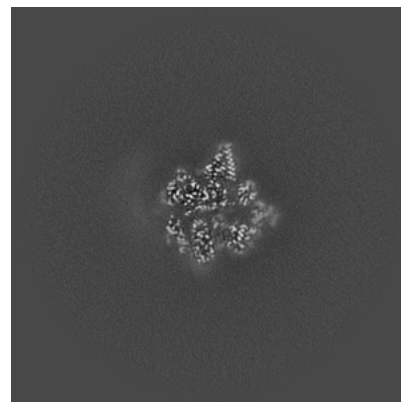
6.2.1 Primary map



X Index: 200

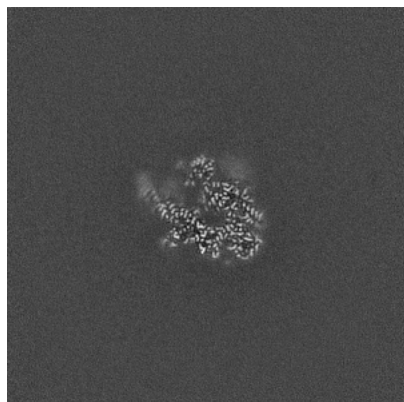


Y Index: 200

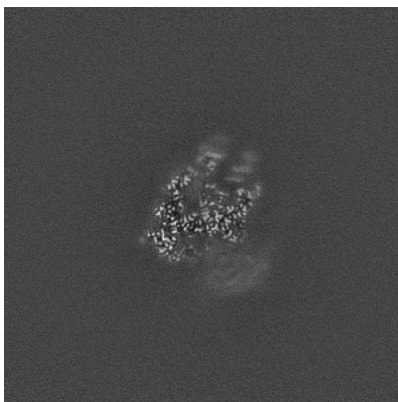


Z Index: 200

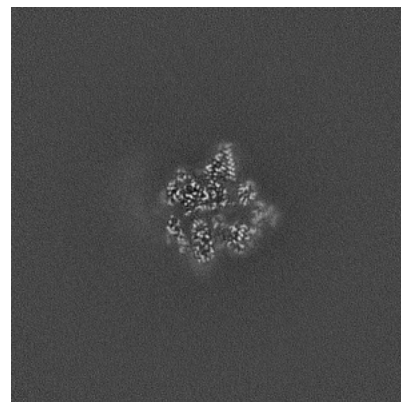
6.2.2 Raw map



X Index: 200



Y Index: 200

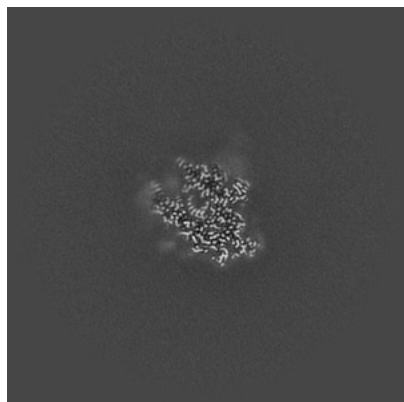


Z Index: 200

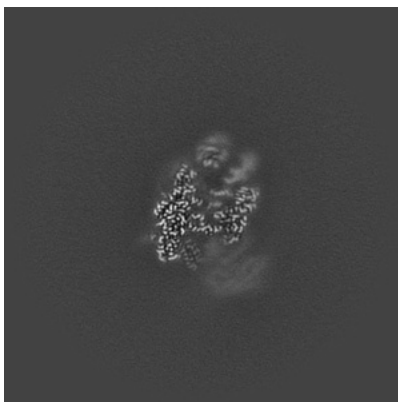
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

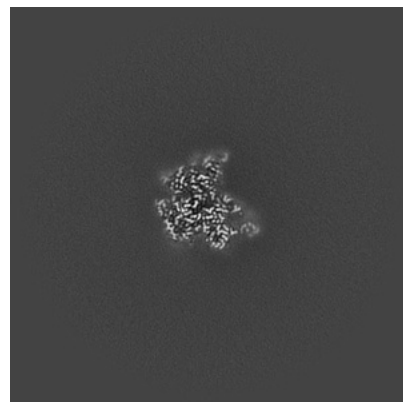
6.3.1 Primary map



X Index: 190

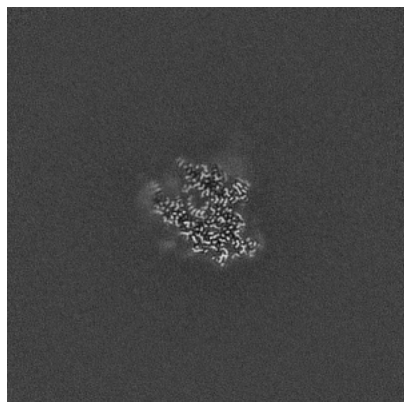


Y Index: 195



Z Index: 171

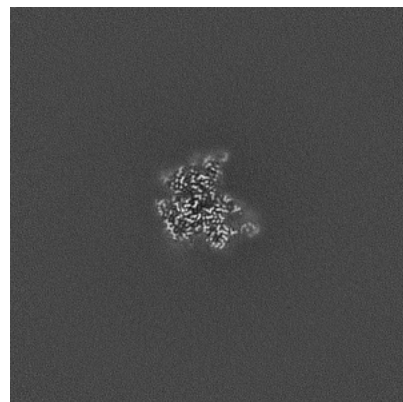
6.3.2 Raw map



X Index: 190



Y Index: 195

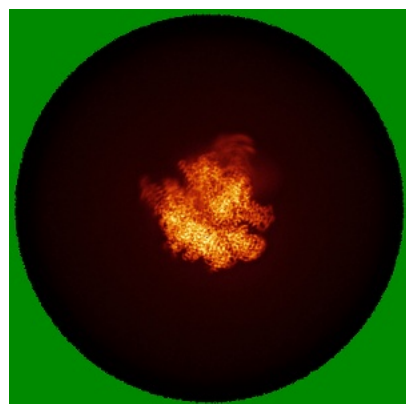


Z Index: 171

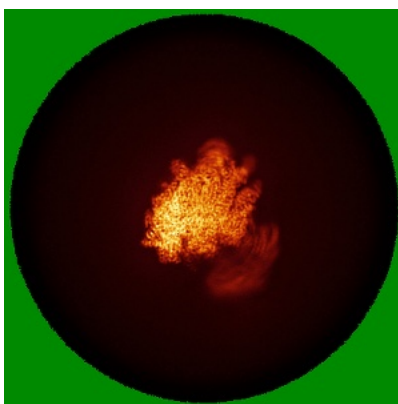
The images above show the largest variance slices of the map in three orthogonal directions.

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

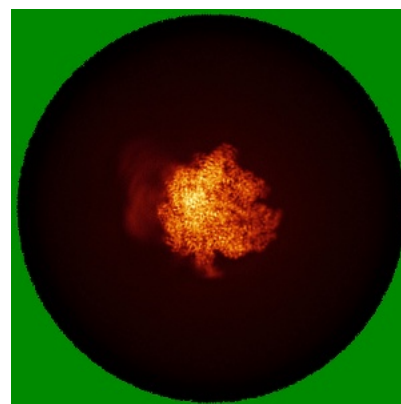
6.4.1 Primary map



X

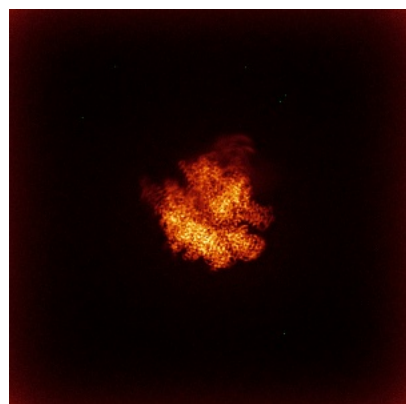


Y

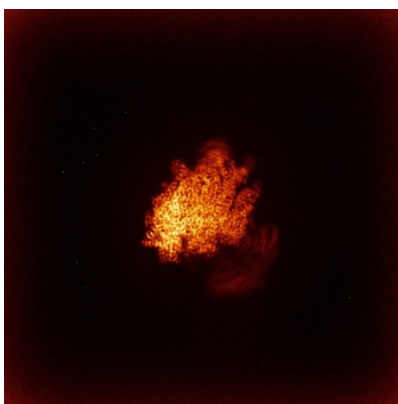


Z

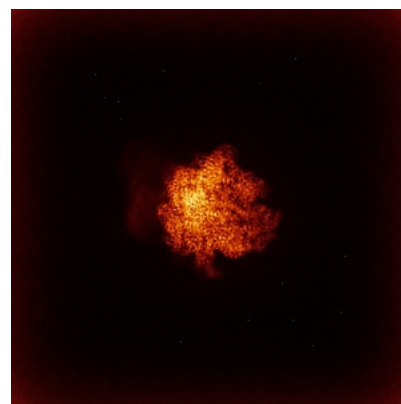
6.4.2 Raw map



X



Y

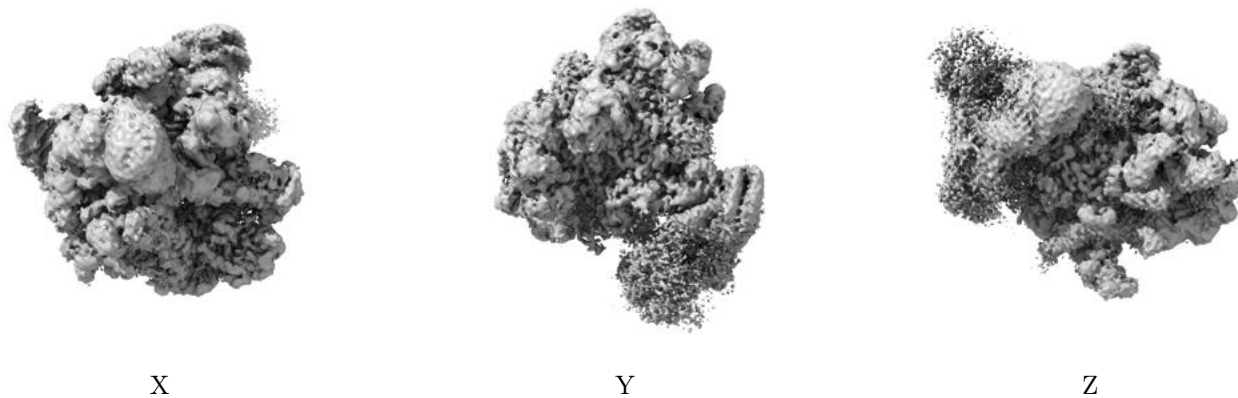


Z

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

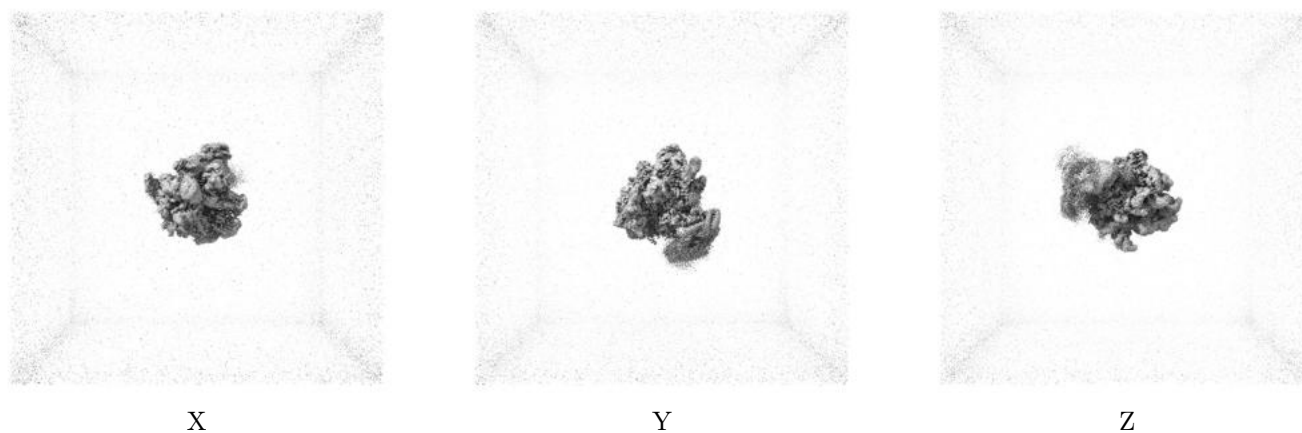
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.15. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

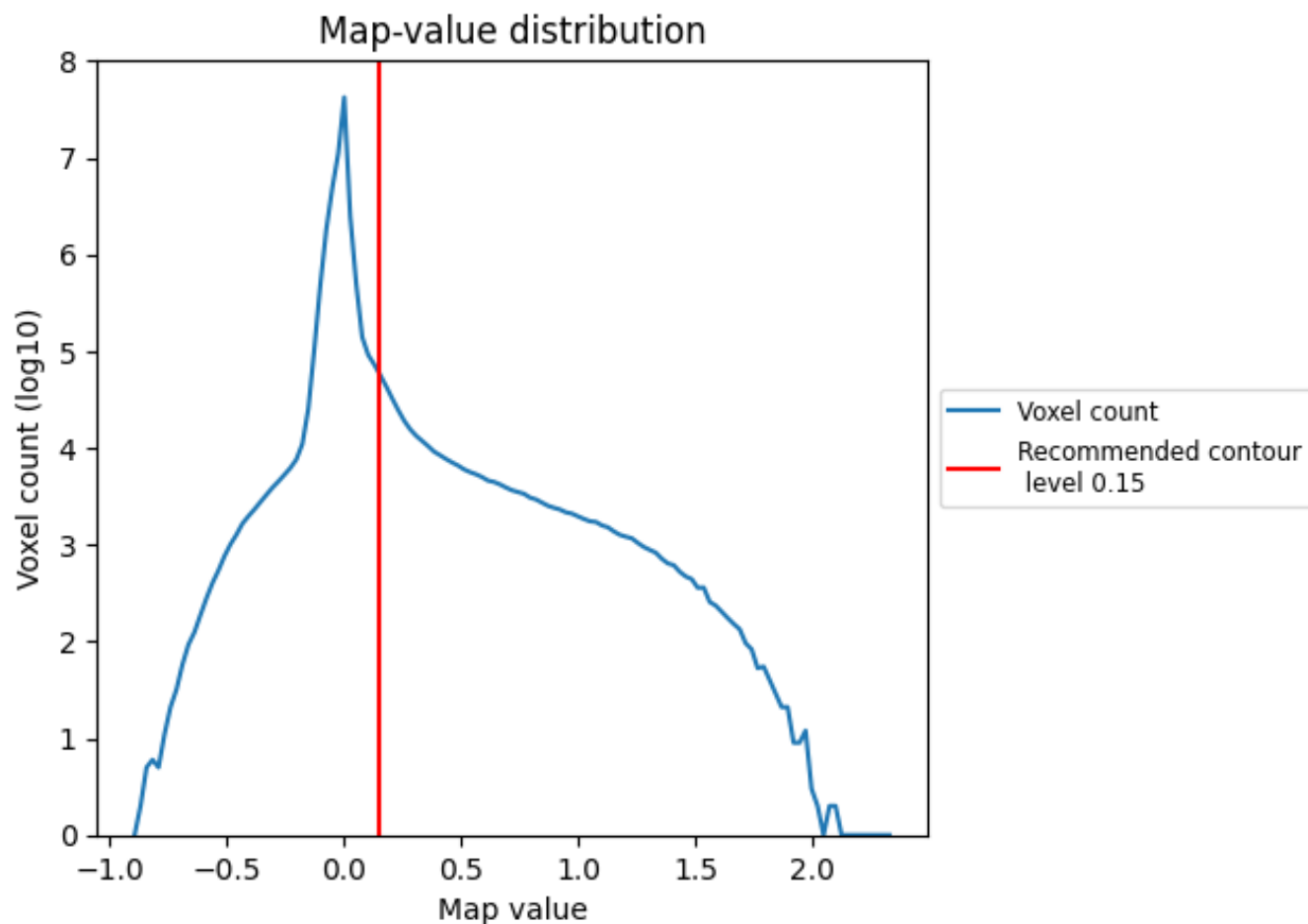
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

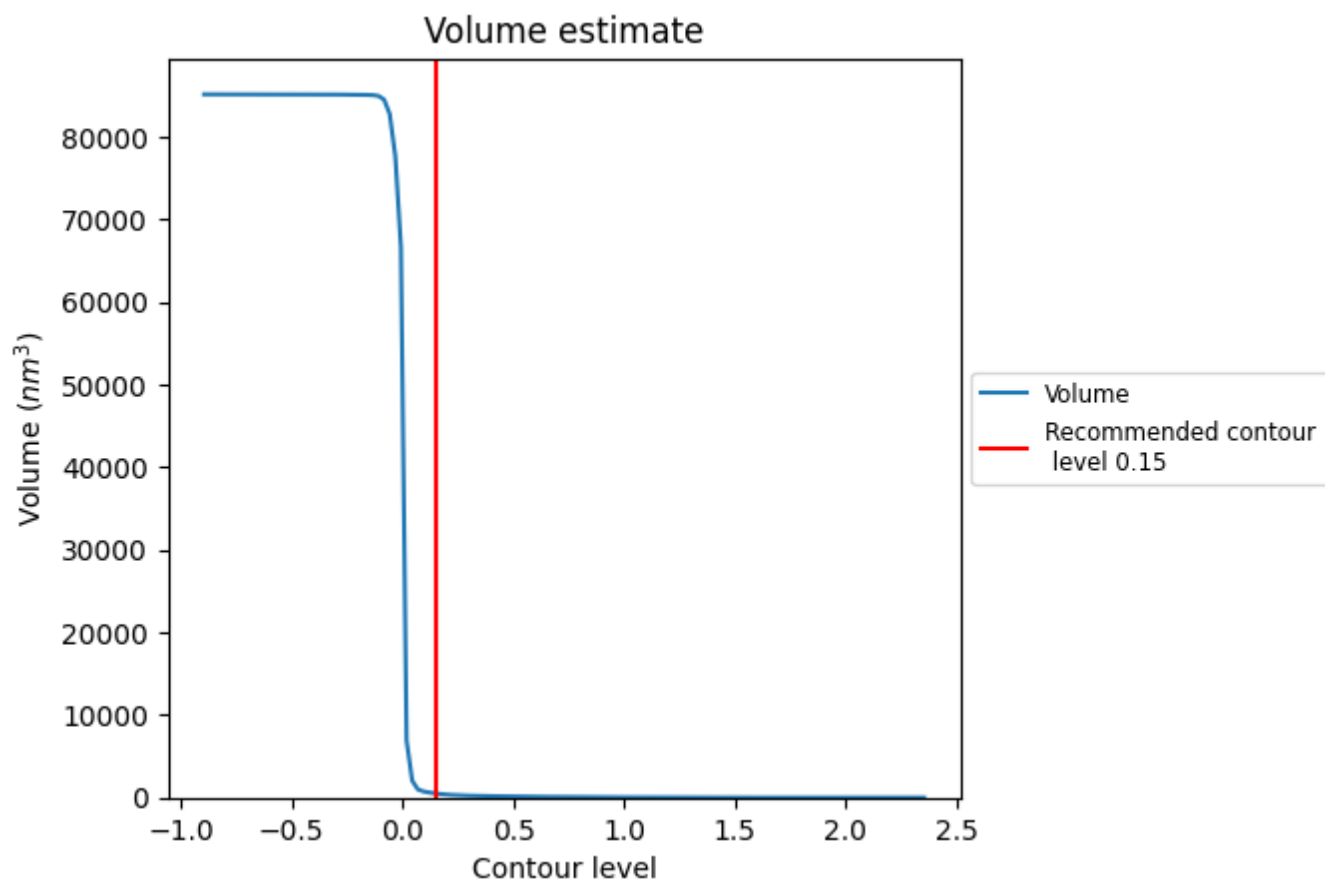
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

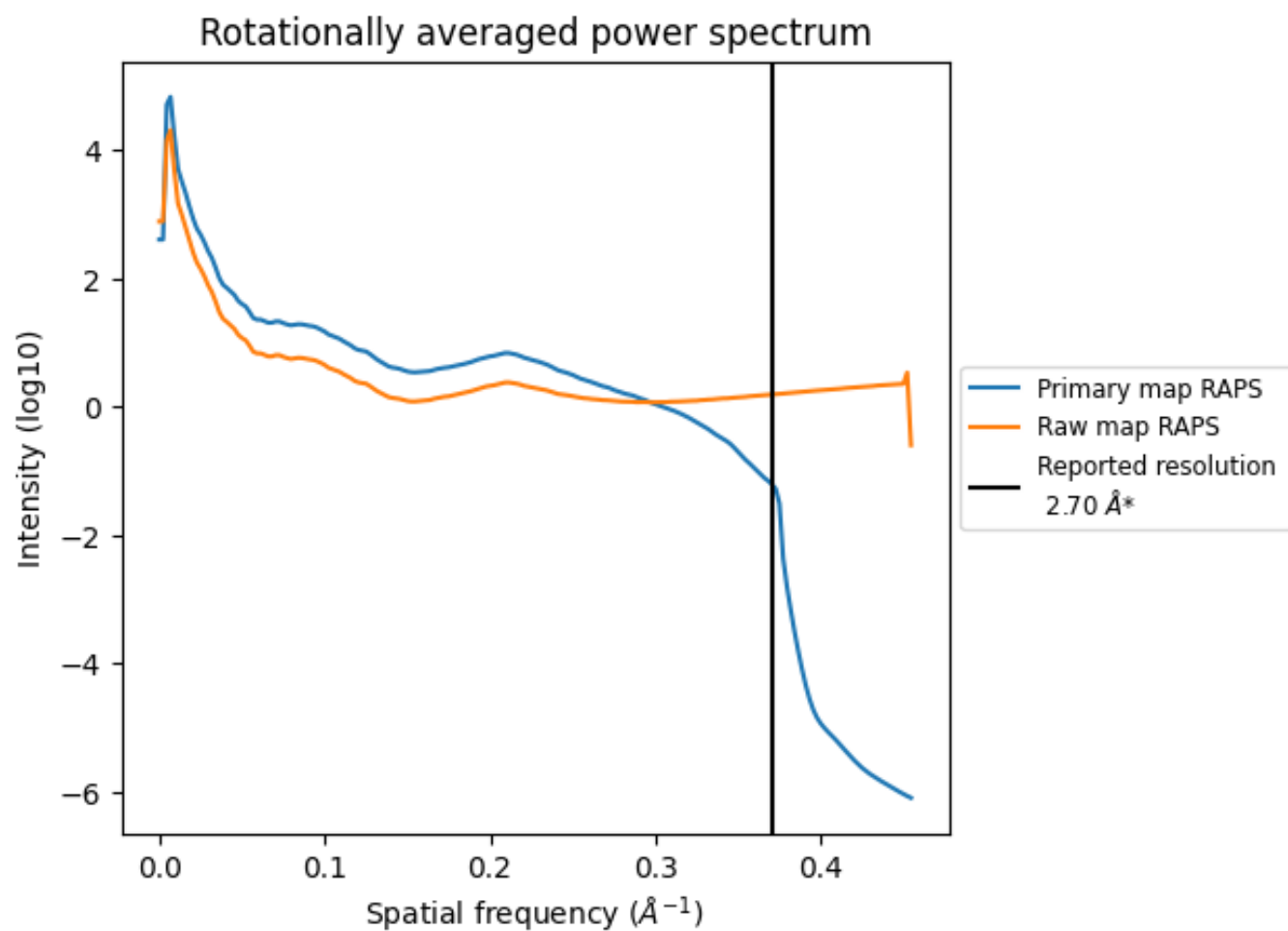
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 493 nm^3 ; this corresponds to an approximate mass of 445 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

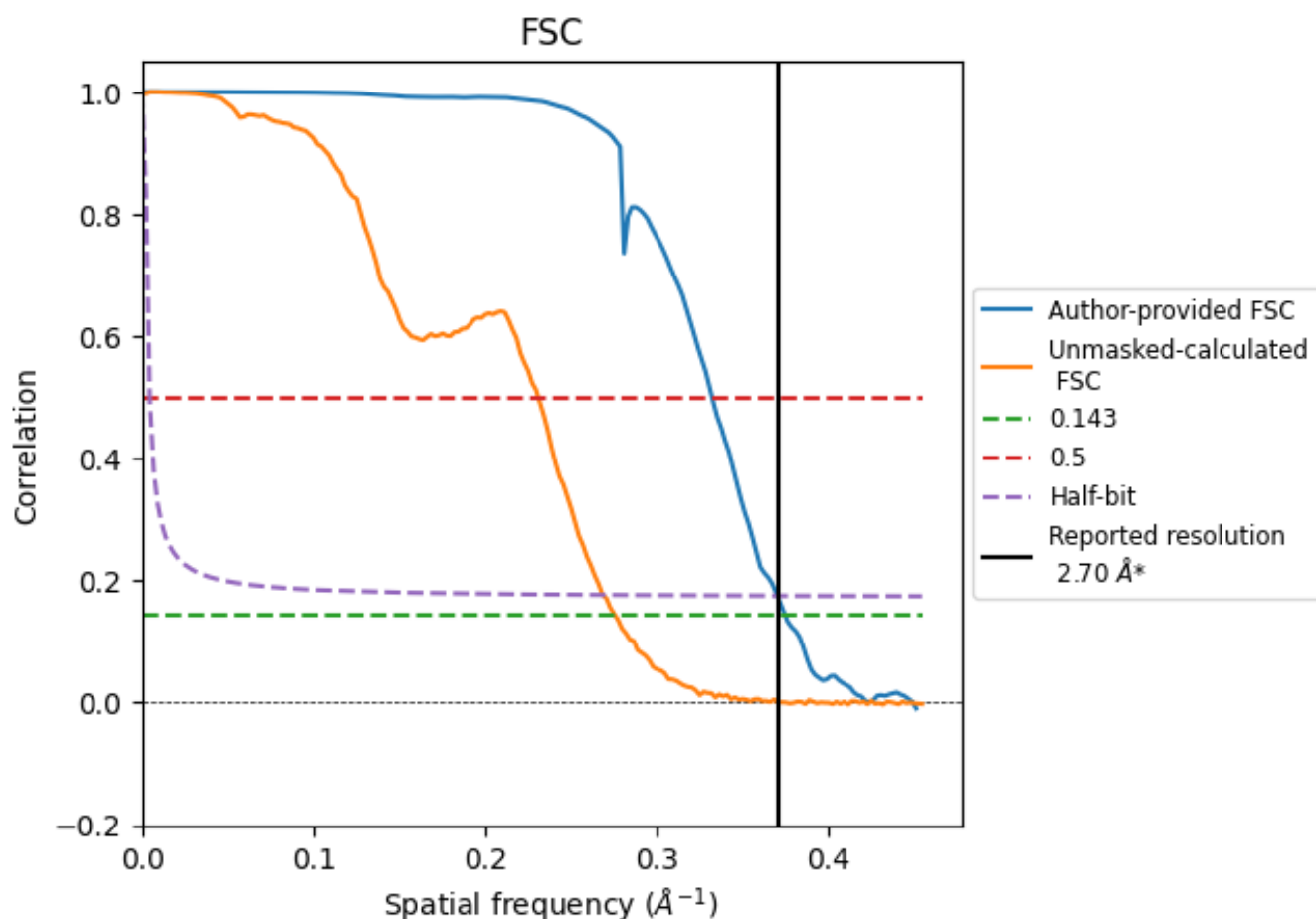


*Reported resolution corresponds to spatial frequency of 0.370 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.370 Å⁻¹

8.2 Resolution estimates [i](#)

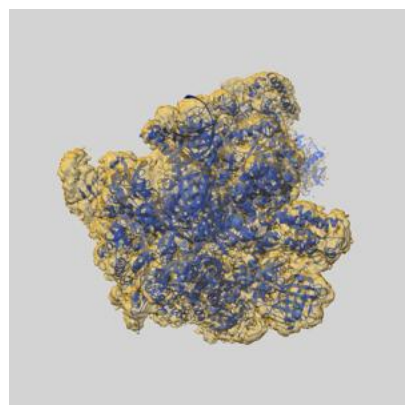
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.70	-	-
Author-provided FSC curve	2.67	3.01	2.70
Unmasked-calculated*	3.63	4.33	3.73

*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 3.63 differs from the reported value 2.7 by more than 10 %

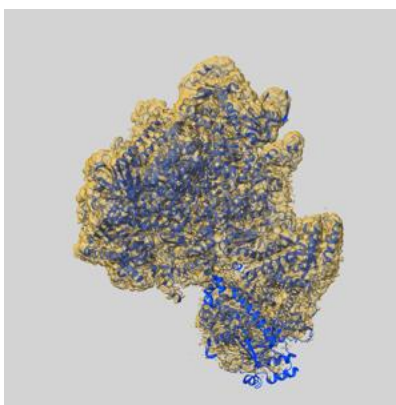
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-36162 and PDB model 8JCH. Per-residue inclusion information can be found in section [3](#) on page [9](#).

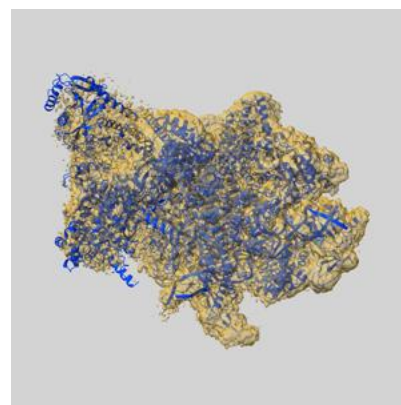
9.1 Map-model overlay [i](#)



X



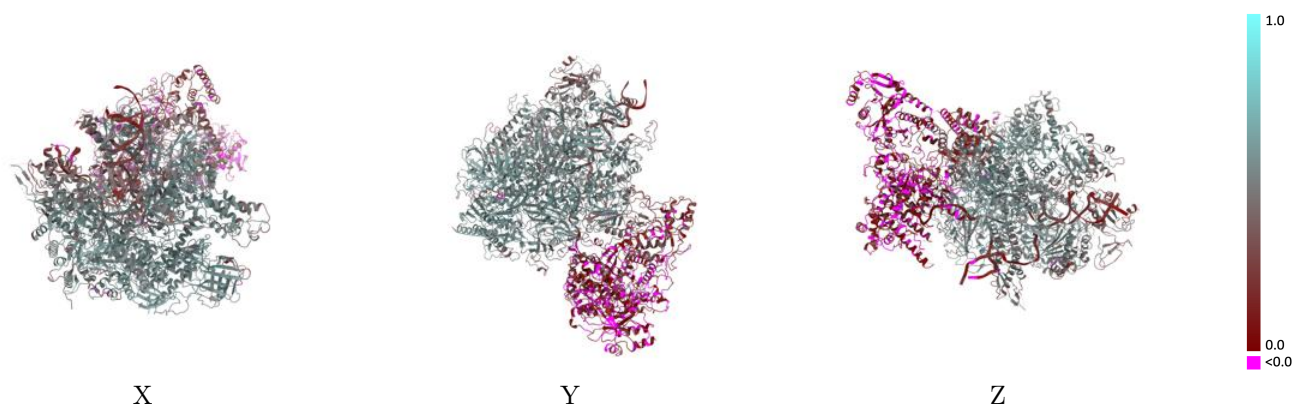
Y



Z

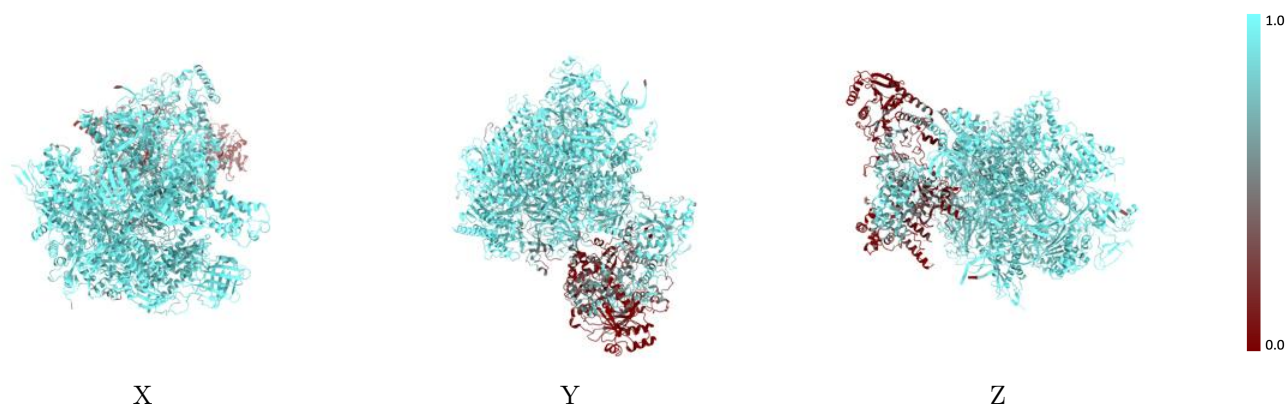
The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



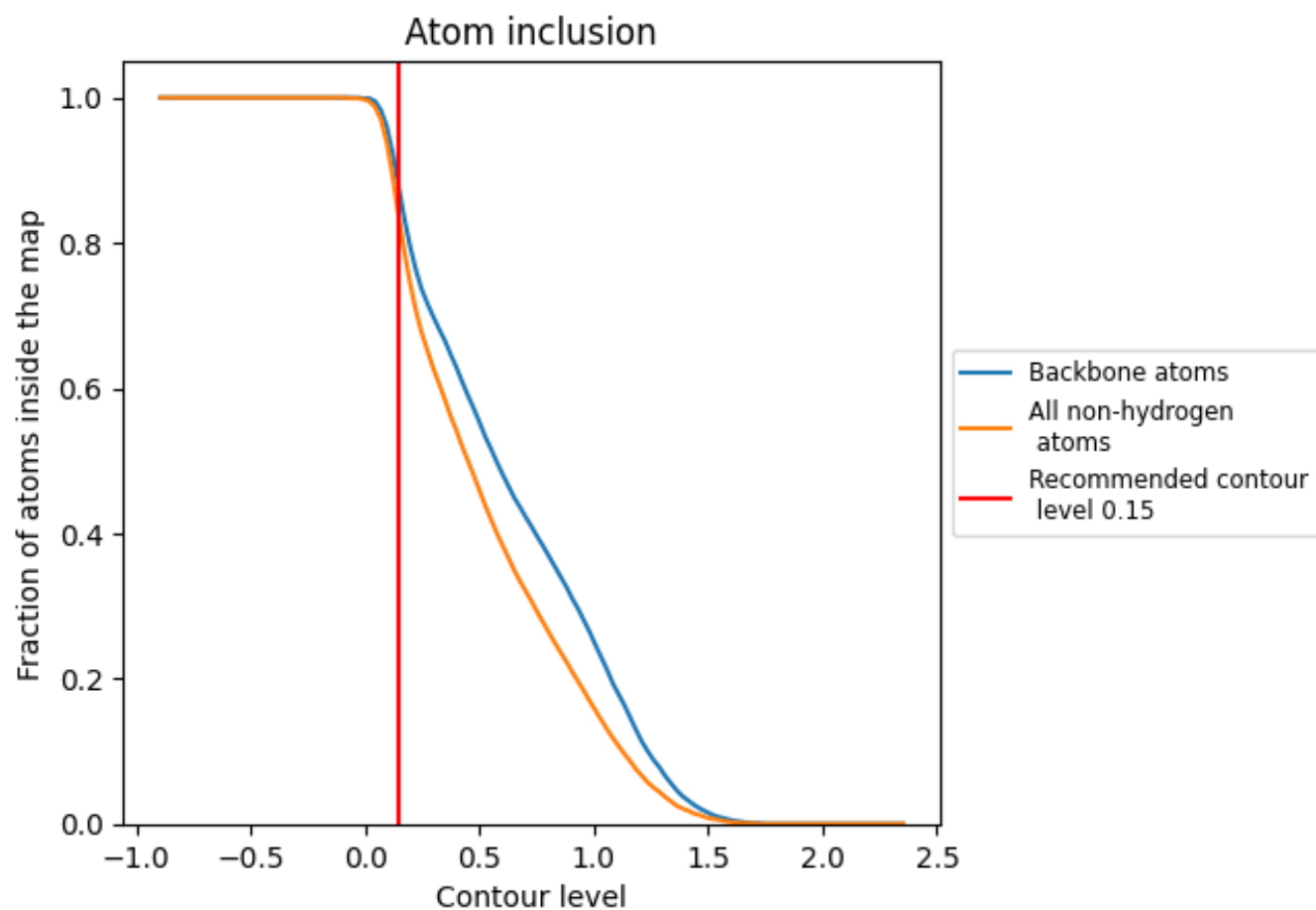
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.15).

9.4 Atom inclusion [i](#)



At the recommended contour level, 87% of all backbone atoms, 83% 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 (0.15) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8300	 0.4030
A	 0.9650	 0.5180
B	 0.9660	 0.5310
C	 0.9860	 0.5660
D	 0.7970	 0.2000
E	 0.9870	 0.5190
F	 0.9760	 0.5550
G	 0.8830	 0.2850
H	 0.9830	 0.5160
I	 0.9780	 0.4450
J	 0.9910	 0.5730
K	 0.9750	 0.5730
L	 0.9460	 0.5030
M	 0.4500	 0.0850
N	 0.9080	 0.2150
O	 0.2250	 0.0740
P	 0.6770	 0.2550
T	 0.8970	 0.3010
W	 0.6400	 0.4680

