WORLDWIDE PDB PROTEIN DATA BANK

Full wwPDB EM Validation Report ⓘ

Nov 20, 2022 – 05:18 AM EST

PDB ID	:	7M7J
EMDB ID	:	EMD-23715
Title	:	6-Deoxyerythronolide B synthase (DEBS) module 1 in complex with antibody fragment 1B2: "turnstile closed" state (TE-free)
Authors	:	Cogan, D.P.; Zhang, K.; Chiu, W.; Khosla, C.
Deposited on	:	2021-03-28
Resolution	:	4.30 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:

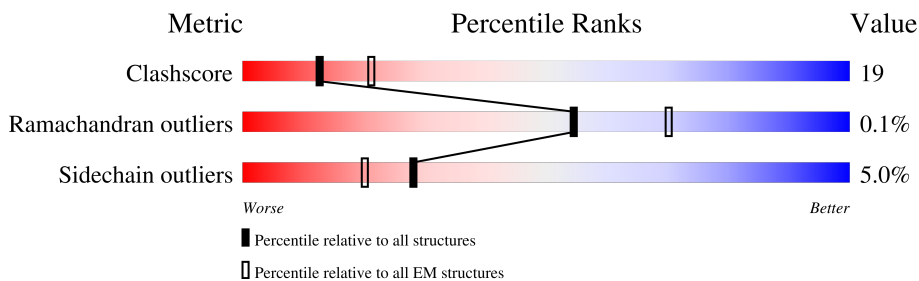|		
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	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 4.30 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	Percentile Ranks	Value
Clashscore		19
Ramachandran outliers		0.1%
Sidechain outliers		5.0%

Worse   *Better*

∎ Percentile relative to all structures

❏ Percentile relative to all EM structures

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.

Mol	Chain	Length	Quality of chain
1	A	1593	18% 57% 30% · 13%
1	B	1593	14% 35% 21% · 43%
2	C	249	46% 35% · 18%
2	E	249	49% 31% · 18%
3	D	236	49% 35% · 13%
3	F	236	50% 33% ·· 13%

2　Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 23224 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 EryAI.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	912	Total 6741	C 4190	N 1233	O 1291	S 27	0	0
1	A	1390	Total 10277	C 6381	N 1890	O 1971	S 35	0	0

There are 102 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	1	MET	-	expression tag	UNP Q5UNP6
B	2	ALA	-	expression tag	UNP Q5UNP6
B	3	SER	-	expression tag	UNP Q5UNP6
B	4	THR	-	expression tag	UNP Q5UNP6
B	5	ASP	-	expression tag	UNP Q5UNP6
B	6	SER	-	expression tag	UNP Q5UNP6
B	7	GLU	-	expression tag	UNP Q5UNP6
B	8	LYS	-	expression tag	UNP Q5UNP6
B	9	VAL	-	expression tag	UNP Q5UNP6
B	10	ALA	-	expression tag	UNP Q5UNP6
B	11	GLU	-	expression tag	UNP Q5UNP6
B	12	TYR	-	expression tag	UNP Q5UNP6
B	13	LEU	-	expression tag	UNP Q5UNP6
B	14	ARG	-	expression tag	UNP Q5UNP6
B	15	ARG	-	expression tag	UNP Q5UNP6
B	16	ALA	-	expression tag	UNP Q5UNP6
B	17	THR	-	expression tag	UNP Q5UNP6
B	18	LEU	-	expression tag	UNP Q5UNP6
B	19	ASP	-	expression tag	UNP Q5UNP6
B	20	LEU	-	expression tag	UNP Q5UNP6
B	21	ARG	-	expression tag	UNP Q5UNP6
B	22	ALA	-	expression tag	UNP Q5UNP6
B	23	ALA	-	expression tag	UNP Q5UNP6
B	24	ARG	-	expression tag	UNP Q5UNP6
B	25	GLN	-	expression tag	UNP Q5UNP6
B	26	ARG	-	expression tag	UNP Q5UNP6

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Chain	Residue	Modelled	Actual	Comment	Reference
B	27	ILE	-	expression tag	UNP Q5UNP6
B	28	ARG	-	expression tag	UNP Q5UNP6
B	29	GLU	-	expression tag	UNP Q5UNP6
B	30	LEU	-	expression tag	UNP Q5UNP6
B	31	GLU	-	expression tag	UNP Q5UNP6
B	1574	PRO	-	expression tag	UNP Q5UNP6
B	1575	ASN	-	expression tag	UNP Q5UNP6
B	1576	SER	-	expression tag	UNP Q5UNP6
B	1577	SER	-	expression tag	UNP Q5UNP6
B	1578	SER	-	expression tag	UNP Q5UNP6
B	1579	VAL	-	expression tag	UNP Q5UNP6
B	1580	ASP	-	expression tag	UNP Q5UNP6
B	1581	LYS	-	expression tag	UNP Q5UNP6
B	1582	LEU	-	expression tag	UNP Q5UNP6
B	1583	ALA	-	expression tag	UNP Q5UNP6
B	1584	ALA	-	expression tag	UNP Q5UNP6
B	1585	ALA	-	expression tag	UNP Q5UNP6
B	1586	LEU	-	expression tag	UNP Q5UNP6
B	1587	GLU	-	expression tag	UNP Q5UNP6
B	1588	HIS	-	expression tag	UNP Q5UNP6
B	1589	HIS	-	expression tag	UNP Q5UNP6
B	1590	HIS	-	expression tag	UNP Q5UNP6
B	1591	HIS	-	expression tag	UNP Q5UNP6
B	1592	HIS	-	expression tag	UNP Q5UNP6
B	1593	HIS	-	expression tag	UNP Q5UNP6
A	1	MET	-	expression tag	UNP Q5UNP6
A	2	ALA	-	expression tag	UNP Q5UNP6
A	3	SER	-	expression tag	UNP Q5UNP6
A	4	THR	-	expression tag	UNP Q5UNP6
A	5	ASP	-	expression tag	UNP Q5UNP6
A	6	SER	-	expression tag	UNP Q5UNP6
A	7	GLU	-	expression tag	UNP Q5UNP6
A	8	LYS	-	expression tag	UNP Q5UNP6
A	9	VAL	-	expression tag	UNP Q5UNP6
A	10	ALA	-	expression tag	UNP Q5UNP6
A	11	GLU	-	expression tag	UNP Q5UNP6
A	12	TYR	-	expression tag	UNP Q5UNP6
A	13	LEU	-	expression tag	UNP Q5UNP6
A	14	ARG	-	expression tag	UNP Q5UNP6
A	15	ARG	-	expression tag	UNP Q5UNP6
A	16	ALA	-	expression tag	UNP Q5UNP6
A	17	THR	-	expression tag	UNP Q5UNP6

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Chain	Residue	Modelled	Actual	Comment	Reference
A	18	LEU	-	expression tag	UNP Q5UNP6
A	19	ASP	-	expression tag	UNP Q5UNP6
A	20	LEU	-	expression tag	UNP Q5UNP6
A	21	ARG	-	expression tag	UNP Q5UNP6
A	22	ALA	-	expression tag	UNP Q5UNP6
A	23	ALA	-	expression tag	UNP Q5UNP6
A	24	ARG	-	expression tag	UNP Q5UNP6
A	25	GLN	-	expression tag	UNP Q5UNP6
A	26	ARG	-	expression tag	UNP Q5UNP6
A	27	ILE	-	expression tag	UNP Q5UNP6
A	28	ARG	-	expression tag	UNP Q5UNP6
A	29	GLU	-	expression tag	UNP Q5UNP6
A	30	LEU	-	expression tag	UNP Q5UNP6
A	31	GLU	-	expression tag	UNP Q5UNP6
A	1574	PRO	-	expression tag	UNP Q5UNP6
A	1575	ASN	-	expression tag	UNP Q5UNP6
A	1576	SER	-	expression tag	UNP Q5UNP6
A	1577	SER	-	expression tag	UNP Q5UNP6
A	1578	SER	-	expression tag	UNP Q5UNP6
A	1579	VAL	-	expression tag	UNP Q5UNP6
A	1580	ASP	-	expression tag	UNP Q5UNP6
A	1581	LYS	-	expression tag	UNP Q5UNP6
A	1582	LEU	-	expression tag	UNP Q5UNP6
A	1583	ALA	-	expression tag	UNP Q5UNP6
A	1584	ALA	-	expression tag	UNP Q5UNP6
A	1585	ALA	-	expression tag	UNP Q5UNP6
A	1586	LEU	-	expression tag	UNP Q5UNP6
A	1587	GLU	-	expression tag	UNP Q5UNP6
A	1588	HIS	-	expression tag	UNP Q5UNP6
A	1589	HIS	-	expression tag	UNP Q5UNP6
A	1590	HIS	-	expression tag	UNP Q5UNP6
A	1591	HIS	-	expression tag	UNP Q5UNP6
A	1592	HIS	-	expression tag	UNP Q5UNP6
A	1593	HIS	-	expression tag	UNP Q5UNP6

- Molecule 2 is a protein called 1B2 (heavy chain).

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	205	Total	C	N	O	S	0	0
			1539	978	257	298	6		
2	E	205	Total	C	N	O	S	0	0
			1539	978	257	298	6		

- Molecule 3 is a protein called 1B2 (light chain).

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	206	Total	C	N	O	S	0	0
			1564	980	261	317	6		
3	F	206	Total	C	N	O	S	0	0
			1564	981	261	316	6		

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: EryAI

- Molecule 1: EryAI

Chain A:

18%

57%　　　30%　　・　13%

ASP ALA LEU GLU ALA ALA LEU PRO GLU VAL PRO ALA THR GLU ARG GLU GLU LEU VAL GLN ARG LEU GLU ARG MET LEU ALA ALA LEU ARG PRO VAL ALA GLN ALA ALA ASP ALA SER GLY THR GLY ALA ASN PRO SER GLY ASP ASP LEU GLU GLU ALA GLY VAL ASP GLU LEU LEU GLU

ALA LEU GLY ARG GLU LEU ASP GLY ASP PRO ASN SER SER VAL ASP LYS LEU ALA ALA ALA LEU GLU HIS HIS HIS HIS HIS HIS

- Molecule 2: 1B2 (heavy chain)

Chain C:

46% 35% 18%

MET ALA E3 V4 Q5 L6 V7 Q8 L13 P16 R21 L22 S23 C24 T25 A26 F29 T30 F31 Y34 A35 M36 S37 W38 V39 R40 Q41 A42 P43 G44 K45 G46 L47 E48 W49 V50 G51 F52 I53 R54 S55 K56 A57 Y58 G59 G60 T61 T62 E63 Y64 V68 R76 D77

K80 S81 I82 A83 Y84 L85 Q86 M87 L90 K91 T95 A96 T101 L106 F107 D108 Y109 W110 G111 Q112 L115 V116 T117 V118 S119 S120 K124 G125 P126 S127 V128 F129 P130 L131 A132 P133 S134 S135 LYS SER THR SER GLY GLY THR A143 G146 C147 L148 V149 Y152

P156 V157 T158 V159 S160 W161 N162 V170 H171 T172 F173 P174 L185 S186 S187 V188 V189 S193 SER SER LEU GLY THR GLN T200 Y201 I202 V205 N206 K213 K216 P220 LYS SER CYS ALA ALA LEU VAL PRO ARG GLY SER ALA HIS HIS HIS HIS HIS ALA ALA

ASP TYR LYS ASP ASP ASP LYS ALA

- Molecule 2: 1B2 (heavy chain)

Chain E:

49% 31% 18%

MET ALA E3 V4 Q5 L6 V7 Q8 L13 P16 R21 L22 S23 C24 T25 A26 F29 T30 F31 G32 D33 Y34 A35 M36 S37 W38 V39 E48 W49 V50 I53 R54 S55 K56 A57 Y58 G59 G60 T61 T62 E63 Y64 A65 V68 R76 D77 K80 A83 M87

L90 K91 T95 T101 L106 F107 D108 Y109 W110 G111 Q112 L115 V116 T117 V118 S119 S120 K124 G125 P126 S127 V128 F129 P130 L131 A132 P133 S134 S135 LYS SER THR SER GLY GLY THR A143 G146 C147 L148 V149 Y152 F153 P154 E155 T158 W161 N162 V170

H171 T172 F173 P174 A175 L185 S186 S187 V188 V189 T190 V191 P192 S193 SER SER LEU GLY THR GLN T200 Y201 I202 N206 K213 K216 P220 LYS SER CYS ALA ALA LEU VAL PRO ARG GLY SER ALA HIS HIS HIS HIS HIS ALA ALA ASP TYR LYS ASP ASP ASP LYS

ALA

- Molecule 3: 1B2 (light chain)

Chain D:

49% 35% 13%

LEU PHE ALA ILE PRO LEU VAL VAL PRO PHE TYR SER HIS SER ALA LEU D17 Q22 S23 L27 P28 V29 T30 P31 S38 C39 R40 S41 S42 Q43 S44 L45 G50 Y51 L54 Y57 L58 Q59 K60 Q63 S64 P65 L68 I69 Y70 L71 N74 R75 A76 G87

S88 D91 F92 K95 R98 V99 E100 A101 E102 D103 V104 G105 V106 Y107 Y108 C109 M110 Q111 S112 L113 Q114 T115 L118 T119 T124 K125 V126 D127 I128 K129 R130 T131 V132 A133 A134 P135 S136 V137 F138 I139 F140 P141 P142 S143 D144 L147 K148 A152 S153 V154 L157

L158 Y162 P163 K167 V168 Q169 W170 K171 V172 ASP ASN ALA LEU Q177 E183 S184 V185 T186 E187 Q188 T194 L197 L203 E209 LYS HIS LYS VAL TYR A215 C216 E217 H220 Q221 S225 P226 K229 S230 F231 ASN ARG GLY GLU CYS

• Molecule 3: 1B2 (light chain)

Chain F: 50%   33%   • •   13%

LEU PHE ALA ILE PRO LEU VAL VAL PRO PHE TYR SER HIS SER ALA LEU D17 Q22 S23 P24 L25 S26 L27 P28 V29 T30 P31 S38 C39 R40 S41 S42 Q43 S44 L45 Y51 L54 Y57 L58 Q59 K60 Q63 S64 P65 L68 I69 Y70 L71 N74 R75 A76

P80 D81 R82 G87 S88 D91 F92 K95 R98 V99 V106 Y107 Y108 C109 M10 Q111 S112 T115 P116 R117 L118 T119 T124 K125 V126 D127 I128 K129 R130 T131 V132 A133 A134 P135 S136 V137 F138 I139 F140 P141 P142 S143 D144 L147 K148 A152 S153 V154 L157 L158

Y162 P163 A166 K167 V168 Q169 W170 K171 V172 ASP ASN ALA LEU GLN S178 E183 S184 V185 Q188 T194 L197 L203 K210 HIS LYS VAL TYR A215 C216 E217 H220 Q221 S224 S225 K229 S230 F231 ASN ARG GLY GLU CYS

4　Experimental information　ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	102772	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 $(e^-/\text{Å}^2)$	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.481	Depositor
Minimum map value	-0.533	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.061	Depositor
Recommended contour level	0.28	Depositor
Map size (Å)	336.0, 336.0, 336.0	wwPDB
Map dimensions	336, 336, 336	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0, 1.0, 1.0	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	0.31	0/10473	0.59	1/14255 (0.0%)
1	B	0.32	0/6875	0.59	1/9353 (0.0%)
2	C	0.32	0/1575	0.61	0/2141
2	E	0.32	0/1575	0.59	0/2141
3	D	0.32	0/1597	0.60	1/2171 (0.0%)
3	F	0.36	0/1597	0.63	2/2170 (0.1%)
All	All	0.32	0/23692	0.60	5/32231 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	250	LEU	C-N-CA	7.61	140.73	121.70
1	B	13	LEU	CA-CB-CG	5.87	128.81	115.30
3	F	183	GLU	CA-CB-CG	5.41	125.30	113.40
3	D	183	GLU	CA-CB-CG	5.40	125.28	113.40
3	F	125	LYS	CA-CB-CG	5.24	124.92	113.40

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	905	ARG	Sidechain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	10277	0	10118	363	0
1	B	6741	0	6618	271	0
2	C	1539	0	1511	71	0
2	E	1539	0	1511	72	0
3	D	1564	0	1517	73	0
3	F	1564	0	1522	72	0
All	All	23224	0	22797	862	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 19.

All (862) 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)
3:F:125:LYS:H	3:F:125:LYS:HD3	1.23	1.02
1:B:151:VAL:HA	1:B:228:MET:HB2	1.62	0.82
1:B:121:PRO:HB2	1:B:234:VAL:HG11	1.61	0.81
1:A:966:ARG:HG2	1:A:976:VAL:HG11	1.62	0.80
1:A:235:MET:HG2	1:A:240:MET:HG3	1.68	0.76
1:A:718:ASN:H	1:A:723:VAL:HG12	1.51	0.75
2:E:155:GLU:HG3	2:E:175:ALA:HB2	1.68	0.74
3:F:125:LYS:H	3:F:125:LYS:CD	2.00	0.74
1:A:653:ILE:HG12	1:A:820:LEU:HD21	1.70	0.73
1:A:120:ASP:HB2	1:A:179:THR:HA	1.71	0.72
2:E:39:VAL:HG22	2:E:49:TRP:HD1	1.55	0.71
2:C:24:CYS:HB3	2:C:83:ALA:HB3	1.71	0.71
2:E:24:CYS:HB3	2:E:83:ALA:HB3	1.73	0.71
1:A:120:ASP:HB3	1:A:123:GLN:HG3	1.72	0.71
1:B:724:VAL:HG22	1:B:745:ARG:HH12	1.56	0.70
1:A:1252:VAL:HG23	1:A:1253:LEU:HD12	1.72	0.70
1:A:318:ARG:O	1:A:322:GLN:NE2	2.23	0.70
1:B:294:LEU:HD11	1:B:452:ALA:HB1	1.72	0.70
2:C:188:VAL:HG11	3:D:157:LEU:HD11	1.74	0.70
3:F:125:LYS:HD3	3:F:125:LYS:N	2.04	0.70
1:A:692:LYS:HD3	1:A:759:HIS:HB3	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:331:PRO:HB3	1:B:359:TYR:HA	1.75	0.69
1:A:330:GLY:N	3:F:98:ARG:HH12	1.90	0.69
1:B:205:CYS:HB2	1:B:444:GLY:HA2	1.75	0.69
1:A:301:SER:HA	1:A:448:THR:HA	1.75	0.69
1:A:628:GLN:HA	1:A:631:MET:HG2	1.75	0.69
3:D:42:SER:OG	3:D:43:GLN:OE1	2.12	0.68
1:B:163:ARG:NH2	1:A:161:GLY:O	2.27	0.68
3:F:42:SER:OG	3:F:43:GLN:OE1	2.12	0.68
1:A:226:LEU:HD12	1:A:227:ALA:H	1.58	0.68
3:D:29:VAL:HB	3:D:99:VAL:HG21	1.76	0.68
1:B:638:LEU:HA	1:B:641:MET:HG2	1.73	0.68
1:B:333:ASP:OD2	3:D:98:ARG:NH1	2.28	0.67
1:A:1332:ARG:HG2	1:A:1337:ILE:HG13	1.77	0.67
2:E:173:PHE:CD2	2:E:186:SER:HB2	2.29	0.67
1:A:558:ALA:HA	1:A:827:THR:HB	1.77	0.67
3:D:40:ARG:NH2	3:D:91:ASP:OD1	2.28	0.67
1:A:561:VAL:HG11	1:A:837:LEU:HD13	1.76	0.67
3:F:29:VAL:HB	3:F:99:VAL:HG21	1.76	0.67
3:F:40:ARG:NH2	3:F:91:ASP:OD1	2.28	0.66
2:C:173:PHE:CD2	2:C:186:SER:HB2	2.29	0.66
2:E:126:PRO:HB3	2:E:152:TYR:HB3	1.78	0.66
1:B:60:GLU:HG3	1:B:62:ARG:HG3	1.78	0.66
3:D:113:LEU:HD23	3:D:114:GLN:HG3	1.77	0.66
1:A:250:LEU:HD11	1:A:268:MET:HG3	1.78	0.65
1:B:558:ALA:HA	1:B:827:THR:HB	1.77	0.65
1:B:208:SER:HB2	1:B:385:VAL:HB	1.77	0.65
1:B:491:ARG:HD3	1:B:902:PRO:HG3	1.79	0.65
1:A:1076:LEU:HD13	1:A:1281:GLY:HA3	1.78	0.65
1:A:29:GLU:HA	1:A:33:GLU:HB2	1.77	0.65
1:B:903:PHE:HB3	1:B:905:ARG:HH11	1.61	0.65
1:A:1205:ARG:HH12	1:A:1253:LEU:HD23	1.61	0.65
2:C:126:PRO:HB3	2:C:152:TYR:HB3	1.79	0.65
1:B:903:PHE:HB3	1:B:905:ARG:NH1	2.12	0.65
1:A:656:SER:HB3	1:A:659:GLU:HG3	1.79	0.65
1:A:390:LYS:HE3	1:A:401:PRO:HG2	1.79	0.64
3:D:130:ARG:HH12	3:D:133:ALA:HB2	1.62	0.64
3:F:130:ARG:HH12	3:F:133:ALA:HB2	1.62	0.64
1:A:1276:PHE:HD1	1:A:1315:GLY:HA2	1.62	0.64
1:B:344:THR:HG23	1:B:347:GLY:H	1.62	0.64
1:B:905:ARG:CZ	1:B:905:ARG:HA	2.26	0.64
1:B:595:GLU:HB2	1:B:671:LEU:HD21	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:681:ARG:HH11	1:B:685:ILE:HD11	1.61	0.64
1:A:1019:LEU:HD13	1:A:1244:ILE:HG22	1.78	0.64
1:A:577:LEU:HB3	1:A:588:ARG:HH12	1.62	0.64
1:A:681:ARG:HH11	1:A:685:ILE:HD11	1.63	0.64
1:A:602:VAL:HG22	1:A:606:LEU:HG	1.80	0.63
1:A:1203:THR:OG1	1:A:1249:ARG:NH1	2.30	0.63
1:A:219:LEU:O	1:A:279:ARG:NH1	2.31	0.63
1:A:36:ALA:N	1:A:278:GLU:O	2.32	0.63
1:A:338:GLU:HB3	1:A:440:VAL:HA	1.81	0.63
1:A:980:VAL:O	1:A:993:ARG:NH1	2.30	0.63
1:A:1363:ASP:HB3	1:A:1365:ARG:HH12	1.64	0.63
1:A:127:LEU:HD23	1:A:188:ILE:HD13	1.81	0.63
1:A:148:PRO:HB2	1:A:224:SER:HA	1.81	0.63
2:E:50:VAL:O	2:E:65:ALA:N	2.31	0.63
2:E:101:THR:HG22	2:E:110:TRP:CD1	2.34	0.63
1:B:561:VAL:HG11	1:B:837:LEU:HD13	1.81	0.62
1:B:716:ALA:HB3	1:B:724:VAL:HB	1.81	0.62
1:A:312:ASN:OD1	1:A:314:ARG:NH1	2.32	0.62
3:D:168:VAL:HA	3:D:217:GLU:O	1.99	0.62
2:E:54:ARG:HD2	2:E:61:THR:H	1.64	0.62
1:B:718:ASN:H	1:B:723:VAL:HG12	1.63	0.62
2:C:54:ARG:HD2	2:C:61:THR:H	1.64	0.62
1:A:1005:SER:HB2	1:A:1045:THR:HA	1.80	0.62
1:B:76:LEU:H	1:B:79:LEU:HD13	1.64	0.62
1:A:379:THR:HB	1:A:382:ALA:HB3	1.82	0.62
1:A:505:ARG:HH21	1:A:894:ARG:HH22	1.47	0.62
2:C:101:THR:HG22	2:C:110:TRP:CD1	2.34	0.62
3:D:185:VAL:HG23	3:D:197:LEU:HD12	1.81	0.62
1:B:13:LEU:HD11	1:A:12:TYR:HB3	1.81	0.62
1:B:42:CYS:HB3	1:B:389:ILE:HD13	1.82	0.62
1:B:296:GLY:HA3	1:B:327:SER:HB3	1.81	0.62
1:A:334:ILE:HD13	1:A:359:TYR:HE1	1.64	0.62
2:C:37:SER:HB2	2:C:101:THR:OG1	2.00	0.62
3:F:185:VAL:HG23	3:F:197:LEU:HD12	1.81	0.62
1:A:71:ASP:O	1:A:907:ARG:NH2	2.33	0.61
1:B:43:ARG:HG3	1:B:129:LEU:HD21	1.82	0.61
1:B:683:ARG:HE	1:B:687:THR:HB	1.64	0.61
1:B:519:PRO:HB3	1:B:552:SER:HB3	1.82	0.61
1:A:35:VAL:HG12	1:A:277:LEU:HD12	1.82	0.61
1:A:334:ILE:O	1:A:363:ARG:NH2	2.33	0.61
1:B:513:THR:O	1:B:895:ARG:NH1	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:683:ARG:HE	1:A:687:THR:HB	1.65	0.61
1:A:1087:ASP:HB3	1:A:1114:ALA:HA	1.82	0.61
2:C:8:GLN:H	2:C:112:GLN:HE22	1.49	0.61
2:C:77:ASP:HB3	2:C:80:LYS:HE3	1.83	0.61
1:A:1176:PRO:HD2	1:A:1199:ALA:HB2	1.83	0.61
1:A:485:LEU:HD21	1:A:522:ALA:HB2	1.81	0.61
1:B:123:GLN:NE2	1:B:180:THR:O	2.34	0.61
1:A:1354:ARG:HB2	1:A:1356:GLU:HG2	1.82	0.61
2:C:149:VAL:N	2:C:185:LEU:O	2.30	0.61
1:B:335:ASP:HB2	1:B:429:TRP:CZ2	2.36	0.61
1:A:208:SER:HB2	1:A:385:VAL:HB	1.83	0.61
2:E:77:ASP:HB3	2:E:80:LYS:HE3	1.83	0.61
1:A:756:HIS:HE1	1:A:788:VAL:HB	1.65	0.60
3:D:110:MET:SD	3:D:117:ARG:HD2	2.41	0.60
2:E:37:SER:HB2	2:E:101:THR:OG1	2.00	0.60
1:A:215:ALA:HB1	1:A:227:ALA:HB1	1.84	0.60
1:A:156:ILE:HG13	1:A:381:ALA:HB2	1.83	0.60
3:F:168:VAL:HA	3:F:217:GLU:O	2.00	0.60
1:B:9:VAL:HG11	1:A:9:VAL:HG13	1.84	0.60
1:A:283:ALA:HB1	1:A:288:HIS:HB2	1.83	0.60
1:A:1222:SER:HB3	1:A:1268:THR:H	1.67	0.60
1:A:694:MET:SD	1:A:724:VAL:HG13	2.42	0.60
1:B:299:VAL:HG11	1:A:199:ILE:HD11	1.84	0.60
1:B:829:LEU:HG	1:B:855:ILE:HD12	1.84	0.59
3:D:128:ILE:HB	3:D:188:GLN:HE22	1.67	0.59
1:A:180:THR:HG22	1:A:182:SER:H	1.67	0.59
2:E:8:GLN:H	2:E:112:GLN:HE22	1.49	0.59
2:E:49:TRP:CZ3	3:F:116:PRO:HB3	2.38	0.59
1:A:257:LYS:HB2	1:A:263:ALA:HA	1.83	0.59
1:B:9:VAL:HG13	1:A:13:LEU:HD21	1.84	0.59
1:B:694:MET:HB2	1:B:749:LEU:HD12	1.85	0.59
1:B:213:HIS:HA	1:B:297:THR:HG21	1.84	0.59
1:B:863:GLY:HA3	1:B:867:ASP:HB3	1.83	0.59
1:A:715:ALA:HB3	1:A:724:VAL:HG12	1.85	0.59
2:E:49:TRP:HZ3	3:F:116:PRO:HB3	1.67	0.59
1:B:561:VAL:HG22	1:B:653:ILE:HD11	1.84	0.59
1:A:337:VAL:HG23	1:A:367:LEU:HD11	1.85	0.59
1:A:1363:ASP:HB3	1:A:1365:ARG:NH1	2.17	0.59
1:B:334:ILE:O	1:B:363:ARG:NH1	2.27	0.59
1:A:340:HIS:N	1:A:351:GLU:OE2	2.32	0.59
1:A:1276:PHE:CD1	1:A:1315:GLY:HA2	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:149:VAL:N	2:E:185:LEU:O	2.30	0.59
1:B:205:CYS:HB3	1:B:378:HIS:HE2	1.67	0.58
1:A:1000:VAL:HG12	1:A:1002:GLY:H	1.68	0.58
1:A:1072:ARG:HG2	1:A:1112:GLN:HE21	1.67	0.58
1:B:553:ARG:HB2	1:B:853:SER:HA	1.84	0.58
1:B:101:ALA:HA	1:B:125:LEU:HD21	1.86	0.58
3:F:128:ILE:HB	3:F:188:GLN:HE22	1.67	0.58
1:B:76:LEU:HD23	1:B:79:LEU:HD22	1.86	0.58
1:B:709:GLY:H	1:B:713:GLU:HB2	1.69	0.58
1:A:437:ARG:HG2	1:A:455:GLU:HG3	1.86	0.58
1:A:74:TRP:NE1	1:A:236:PRO:O	2.25	0.58
1:A:466:VAL:HG23	1:A:505:ARG:HH22	1.67	0.58
1:A:561:VAL:HG13	1:A:654:GLY:HA3	1.85	0.58
1:B:92:GLN:HE22	1:B:268:MET:HB3	1.69	0.58
1:B:670:SER:H	1:B:673:ASP:HB2	1.68	0.57
2:E:129:PHE:O	2:E:148:LEU:N	2.36	0.57
1:B:216:CYS:HB3	1:B:220:ARG:HE	1.68	0.57
1:B:642:TRP:HE3	1:B:829:LEU:HD21	1.69	0.57
1:B:714:ILE:HG22	1:B:725:VAL:HG12	1.86	0.57
1:A:1053:THR:N	1:A:1057:GLU:OE2	2.33	0.57
1:B:332:ALA:O	1:B:434:ARG:NH2	2.38	0.57
2:E:8:GLN:HE21	2:E:38:TRP:HZ3	1.51	0.57
1:A:226:LEU:HD11	1:A:276:LEU:HG	1.86	0.57
2:C:129:PHE:O	2:C:148:LEU:N	2.36	0.57
1:A:597:HIS:HB2	1:A:675:ALA:HB1	1.87	0.57
3:D:29:VAL:N	3:D:127:ASP:O	2.34	0.57
3:F:29:VAL:N	3:F:127:ASP:O	2.34	0.57
1:A:492:LEU:HD23	1:A:536:LEU:HD21	1.86	0.57
2:C:8:GLN:HE21	2:C:38:TRP:HZ3	1.51	0.57
1:B:379:THR:HB	1:B:382:ALA:HB3	1.85	0.56
1:A:1066:ALA:HB1	1:A:1290:PRO:HB3	1.85	0.56
1:B:577:LEU:HD22	1:B:607:ARG:HG2	1.86	0.56
1:A:930:TYR:OH	1:A:1127:ARG:NH1	2.38	0.56
2:C:41:GLN:NE2	2:C:45:LYS:O	2.33	0.56
3:D:29:VAL:O	3:D:128:ILE:HA	2.05	0.56
1:B:149:THR:HB	1:B:194:LEU:HD22	1.88	0.56
1:B:278:GLU:OE2	1:B:283:ALA:HB2	2.05	0.56
1:B:594:LEU:HD22	1:B:675:ALA:HA	1.88	0.56
1:B:503:ASP:OD2	1:B:505:ARG:HG2	2.04	0.56
1:A:930:TYR:O	1:A:1360:ILE:N	2.38	0.56
3:F:59:GLN:HB3	3:F:106:VAL:HB	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:163:ARG:N	1:A:163:ARG:HH22	2.04	0.56
1:A:429:TRP:HH2	1:A:438:ALA:HB2	1.71	0.56
1:A:959:ASP:HB3	1:A:961:THR:HG22	1.88	0.56
1:A:1143:VAL:HG11	1:A:1160:LEU:HD13	1.87	0.56
3:F:43:GLN:OE1	3:F:43:GLN:N	2.36	0.56
1:B:13:LEU:HD22	1:A:13:LEU:HD22	1.88	0.56
1:A:302:ASP:O	1:A:312:ASN:ND2	2.39	0.56
1:A:474:PRO:HG3	1:A:869:GLY:HA2	1.88	0.56
1:A:33:GLU:O	1:A:220:ARG:NE	2.39	0.56
1:A:493:ALA:HB2	1:A:536:LEU:HB3	1.87	0.56
1:A:594:LEU:HD22	1:A:675:ALA:HA	1.87	0.56
1:A:30:LEU:O	1:A:220:ARG:HB3	2.06	0.55
2:E:31:PHE:HE2	2:E:76:ARG:HB2	1.71	0.55
3:F:29:VAL:O	3:F:128:ILE:HA	2.05	0.55
1:A:244:PHE:HB3	1:A:250:LEU:HD21	1.88	0.55
2:C:95:THR:HG23	2:C:117:THR:HG23	1.88	0.55
3:D:27:LEU:O	3:D:126:VAL:HG13	2.06	0.55
1:A:1260:GLU:O	1:A:1263:ARG:NE	2.39	0.55
1:A:1383:ASP:HA	1:A:1389:ARG:HH22	1.71	0.55
1:B:69:PRO:HD3	1:B:97:PHE:CD2	2.42	0.55
3:D:43:GLN:OE1	3:D:43:GLN:N	2.36	0.55
1:B:41:ALA:HB3	1:B:274:MET:HB3	1.88	0.55
1:B:429:TRP:O	1:B:436:ARG:NH1	2.37	0.55
1:A:561:VAL:HG13	1:A:655:HIS:H	1.71	0.55
3:F:27:LEU:O	3:F:126:VAL:HG13	2.06	0.55
3:F:135:PRO:HB2	3:F:158:LEU:HD11	1.88	0.55
1:B:300:ASN:O	1:B:449:ASN:N	2.38	0.55
1:A:69:PRO:HG2	1:A:72:ARG:HH21	1.72	0.55
1:A:709:GLY:H	1:A:713:GLU:HB2	1.71	0.55
1:B:150:GLY:O	1:B:228:MET:N	2.39	0.55
1:B:905:ARG:HA	1:B:905:ARG:NE	2.22	0.55
1:B:597:HIS:HB2	1:B:675:ALA:HB1	1.88	0.55
1:B:700:PRO:HA	1:B:720:PRO:HA	1.89	0.55
2:C:31:PHE:HE2	2:C:76:ARG:HB2	1.71	0.55
3:D:135:PRO:HB2	3:D:158:LEU:HD11	1.88	0.55
1:B:114:ARG:NH2	1:B:172:GLU:H	2.04	0.54
2:E:162:ASN:N	2:E:202:ILE:O	2.32	0.54
1:A:279:ARG:NE	1:A:282:ASP:OD2	2.40	0.54
1:A:992:GLU:HA	1:A:995:ARG:HE	1.73	0.54
2:C:162:ASN:N	2:C:202:ILE:O	2.32	0.54
3:D:54:LEU:HD13	3:D:92:PHE:HD2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:329:LEU:C	3:F:98:ARG:HH12	2.11	0.54
1:A:368:HIS:HB3	1:A:423:LEU:HD21	1.90	0.54
1:A:570:ALA:HA	1:A:630:VAL:HG11	1.89	0.54
3:D:54:LEU:HD13	3:D:92:PHE:CD2	2.42	0.54
1:B:676:ARG:HD3	1:B:772:GLY:H	1.72	0.54
1:B:767:LEU:HD23	1:B:803:TRP:HB2	1.90	0.54
1:A:357:GLU:N	1:A:357:GLU:OE1	2.40	0.54
2:E:95:THR:HG23	2:E:117:THR:HG23	1.88	0.54
3:F:54:LEU:HD13	3:F:92:PHE:CD2	2.42	0.54
1:B:175:LEU:HB2	1:A:243:ASP:OD2	2.07	0.54
1:A:700:PRO:HA	1:A:720:PRO:HA	1.90	0.54
2:C:6:LEU:H	2:C:109:TYR:HE2	1.56	0.54
1:B:724:VAL:HG22	1:B:745:ARG:NH1	2.23	0.54
1:A:1034:MET:HE1	1:A:1043:LEU:HD22	1.89	0.54
2:E:16:PRO:HB3	2:E:91:LYS:HA	1.90	0.54
1:B:1:MET:SD	1:B:3:SER:N	2.81	0.54
1:A:1147:GLY:N	1:A:1171:VAL:O	2.40	0.54
1:B:40:MET:SD	1:B:389:ILE:HG12	2.49	0.54
1:A:1142:THR:HA	1:A:1167:HIS:HB2	1.88	0.54
1:A:121:PRO:HA	1:A:124:ARG:HG2	1.91	0.53
1:A:235:MET:HG2	1:A:240:MET:CG	2.37	0.53
1:A:660:ILE:HG21	1:A:681:ARG:HE	1.74	0.53
1:A:767:LEU:HD23	1:A:803:TRP:HB2	1.90	0.53
1:A:1239:LEU:HD23	1:A:1243:ARG:HD3	1.90	0.53
1:A:43:ARG:O	1:A:272:ALA:N	2.40	0.53
2:C:16:PRO:HB3	2:C:91:LYS:HA	1.90	0.53
3:D:124:THR:HG22	3:D:126:VAL:HG23	1.89	0.53
3:F:54:LEU:HD13	3:F:92:PHE:HD2	1.72	0.53
1:A:618:ALA:HB3	1:A:623:ARG:HD3	1.89	0.53
2:C:161:TRP:NE1	2:C:187:SER:OG	2.38	0.53
3:D:31:PRO:HD3	3:D:128:ILE:HD12	1.91	0.53
3:F:58:LEU:HB3	3:F:68:LEU:HD11	1.91	0.53
3:F:137:VAL:HG12	3:F:229:LYS:HD2	1.90	0.53
1:B:291:LEU:HA	1:B:396:ARG:HH22	1.73	0.53
1:A:776:HIS:ND1	2:C:201:TYR:HE1	2.07	0.53
3:F:59:GLN:HB2	3:F:108:TYR:HE2	1.73	0.53
1:B:44:LEU:HD13	1:B:376:LEU:HD11	1.91	0.53
2:C:56:LYS:NZ	2:C:76:ARG:HE	2.07	0.53
2:E:56:LYS:NZ	2:E:76:ARG:HE	2.07	0.53
3:F:31:PRO:HD3	3:F:128:ILE:HD12	1.91	0.53
1:B:1:MET:SD	1:B:2:ALA:N	2.82	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:219:LEU:HD22	1:B:278:GLU:HA	1.91	0.53
1:B:866:ALA:C	1:B:868:PHE:H	2.10	0.53
1:A:565:GLN:HA	1:A:751:VAL:HG21	1.91	0.53
3:D:183:GLU:OE1	3:D:183:GLU:O	2.26	0.53
1:B:97:PHE:HA	1:B:270:GLU:HG2	1.91	0.53
1:A:372:VAL:HG22	1:A:376:LEU:HD13	1.89	0.53
1:A:429:TRP:O	1:A:436:ARG:NH1	2.40	0.53
1:A:43:ARG:NH1	1:A:49:SER:OG	2.42	0.52
1:A:610:ALA:HB3	1:A:862:ASP:HB2	1.91	0.52
3:D:137:VAL:HG12	3:D:229:LYS:HD2	1.90	0.52
1:B:36:ALA:HB1	1:B:290:VAL:HG13	1.91	0.52
1:B:567:TRP:HE3	1:B:857:SER:HB3	1.73	0.52
1:A:714:ILE:HG22	1:A:725:VAL:HG12	1.90	0.52
1:A:945:LEU:N	1:A:972:ALA:O	2.41	0.52
1:B:91:HIS:N	1:B:245:SER:OG	2.43	0.52
1:A:829:LEU:HG	1:A:855:ILE:HD12	1.92	0.52
1:A:1168:LEU:HD13	1:A:1195:THR:HG22	1.92	0.52
3:F:183:GLU:OE1	3:F:183:GLU:O	2.26	0.52
1:B:120:ASP:HB3	1:B:123:GLN:HG3	1.91	0.52
1:A:26:ARG:HA	1:A:29:GLU:HG2	1.91	0.52
1:B:14:ARG:HB3	2:E:34:TYR:HE1	1.75	0.52
1:B:34:PRO:HG2	1:B:280:LEU:HD22	1.92	0.52
1:A:37:VAL:N	1:A:292:ALA:O	2.34	0.52
1:B:11:GLU:HG3	2:E:106:LEU:HD12	1.91	0.52
1:B:641:MET:HG3	1:B:642:TRP:CD1	2.44	0.52
1:A:14:ARG:HD2	2:C:34:TYR:CE1	2.44	0.52
1:B:331:PRO:O	1:B:363:ARG:NH1	2.43	0.52
1:A:1205:ARG:O	1:A:1209:ARG:HD3	2.10	0.52
2:C:55:SER:O	2:C:59:GLY:N	2.41	0.52
2:E:107:PHE:HB3	2:E:110:TRP:HE1	1.75	0.52
2:E:188:VAL:HG11	3:F:157:LEU:HD11	1.90	0.52
1:B:2:ALA:O	1:B:5:ASP:N	2.43	0.52
1:B:693:GLY:HA3	1:B:732:LEU:HD11	1.90	0.52
1:A:10:ALA:HA	1:A:13:LEU:HD23	1.92	0.52
2:E:133:PRO:HG2	2:E:220:PRO:HB3	1.92	0.52
3:F:25:LEU:HA	3:F:124:THR:HG23	1.91	0.52
3:D:144:ASP:HA	3:D:147:LEU:HD12	1.91	0.51
1:B:717:VAL:O	1:B:814:ALA:N	2.43	0.51
1:A:162:PRO:HB3	1:A:913:LYS:HZ1	1.75	0.51
1:A:676:ARG:HD3	1:A:772:GLY:H	1.75	0.51
2:C:133:PRO:HG2	2:C:220:PRO:HB3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:133:VAL:HG22	1:B:276:LEU:HG	1.91	0.51
1:A:724:VAL:HG22	1:A:745:ARG:HH12	1.74	0.51
1:A:1188:LEU:HB3	1:A:1195:THR:HG21	1.92	0.51
3:D:54:LEU:HA	3:D:111:GLN:HA	1.93	0.51
3:F:163:PRO:HD2	3:F:221:GLN:HE21	1.74	0.51
1:B:49:SER:OG	1:B:100:GLU:OE2	2.27	0.51
1:A:154:GLY:N	1:A:230:GLY:O	2.41	0.51
2:C:107:PHE:HB3	2:C:110:TRP:HE1	1.75	0.51
2:E:6:LEU:H	2:E:109:TYR:HE2	1.56	0.51
3:F:116:PRO:HB2	3:F:118:LEU:HG	1.93	0.51
1:B:12:TYR:CZ	2:E:106:LEU:HD21	2.46	0.51
1:A:141:PRO:HG2	1:A:516:ALA:HB2	1.92	0.51
1:A:717:VAL:O	1:A:814:ALA:N	2.44	0.51
1:A:810:THR:HG23	1:A:812:ARG:HG2	1.92	0.51
2:C:110:TRP:CZ3	3:D:65:PRO:HB2	2.46	0.51
1:B:9:VAL:HG13	1:A:13:LEU:CD2	2.40	0.51
1:B:602:VAL:HG22	1:B:606:LEU:HG	1.93	0.51
1:A:1087:ASP:O	1:A:1115:LEU:N	2.35	0.51
1:B:635:MET:CE	1:B:661:ALA:HB1	2.41	0.51
1:B:776:HIS:ND1	2:E:201:TYR:HE1	2.09	0.51
1:A:945:LEU:HD21	1:A:1105:SER:HB3	1.91	0.51
3:F:144:ASP:HA	3:F:147:LEU:HD12	1.91	0.51
1:A:64:ALA:HB3	1:A:376:LEU:HA	1.92	0.51
1:A:1334:HIS:O	1:A:1334:HIS:ND1	2.44	0.51
1:A:680:LEU:O	1:A:684:VAL:HG23	2.10	0.51
1:A:1068:TRP:HZ2	1:A:1087:ASP:HB2	1.75	0.51
1:A:1317:TRP:HB3	1:A:1320:SER:HB3	1.93	0.51
2:E:161:TRP:NE1	2:E:187:SER:OG	2.38	0.51
1:B:577:LEU:HB2	1:B:607:ARG:HD3	1.93	0.51
1:A:324:LEU:HD11	1:A:330:GLY:CA	2.41	0.51
2:E:39:VAL:HG23	2:E:101:THR:HG21	1.93	0.51
1:B:155:LEU:HB2	1:B:181:THR:HG23	1.93	0.50
3:F:135:PRO:HG3	3:F:220:HIS:HB3	1.93	0.50
1:B:330:GLY:N	3:D:98:ARG:HH12	2.09	0.50
1:A:65:VAL:HG12	1:A:96:GLY:N	2.26	0.50
1:B:68:LEU:HD23	1:B:97:PHE:HE2	1.74	0.50
1:B:316:GLN:O	1:B:320:ILE:HG12	2.10	0.50
1:B:351:GLU:HG3	1:B:443:PHE:HE2	1.76	0.50
1:B:777:PRO:HG3	2:E:191:VAL:HG21	1.91	0.50
1:A:598:LEU:HD21	1:A:679:ALA:HB2	1.92	0.50
1:A:1088:VAL:HG12	1:A:1115:LEU:HD12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4:THR:OG1	1:A:5:ASP:HB2	2.11	0.50
1:B:680:LEU:O	1:B:684:VAL:HG23	2.11	0.50
1:A:657:GLN:HG2	1:A:755:SER:HB2	1.92	0.50
1:A:1336:VAL:HG12	1:A:1364:VAL:HA	1.94	0.50
3:F:51:TYR:HB3	3:F:71:LEU:HD12	1.93	0.50
1:B:92:GLN:HA	1:B:252:PRO:HA	1.94	0.50
1:B:212:VAL:HG12	1:B:229:ALA:HB1	1.94	0.50
1:B:628:GLN:HA	1:B:631:MET:HG3	1.94	0.50
1:B:810:THR:HG23	1:B:812:ARG:HG2	1.94	0.50
3:D:135:PRO:HG3	3:D:220:HIS:HB3	1.94	0.50
1:A:41:ALA:O	1:A:274:MET:N	2.44	0.50
1:A:241:LEU:HG	1:A:268:MET:HE3	1.93	0.50
3:D:87:GLY:HA3	3:D:92:PHE:HD1	1.77	0.50
1:B:388:VAL:HG23	1:B:454:ILE:HG12	1.94	0.49
1:B:519:PRO:O	1:B:520:HIS:ND1	2.45	0.49
1:B:548:ALA:HB3	1:B:874:ARG:HH21	1.76	0.49
1:B:598:LEU:HD21	1:B:679:ALA:HB2	1.93	0.49
1:B:862:ASP:HB2	1:B:868:PHE:HA	1.93	0.49
1:B:55:TRP:CZ3	1:B:401:PRO:HG3	2.47	0.49
1:A:92:GLN:HB3	1:A:241:LEU:HD23	1.95	0.49
1:A:1203:THR:O	1:A:1257:ASN:ND2	2.45	0.49
1:A:1231:LEU:HD13	1:A:1288:TYR:HB2	1.93	0.49
2:C:13:LEU:HD13	2:C:117:THR:HB	1.95	0.49
3:D:130:ARG:HH21	3:D:194:THR:HG22	1.77	0.49
3:D:58:LEU:HD13	3:D:107:TYR:CE1	2.47	0.49
3:D:63:GLN:N	3:D:63:GLN:OE1	2.46	0.49
1:B:141:PRO:HD2	1:B:516:ALA:HB2	1.94	0.49
3:D:51:TYR:HB3	3:D:71:LEU:HD12	1.93	0.49
2:E:36:MET:H	2:E:76:ARG:HH12	1.59	0.49
3:F:87:GLY:HA3	3:F:92:PHE:HD1	1.77	0.49
1:A:1068:TRP:CZ2	1:A:1087:ASP:HB2	2.47	0.49
2:E:107:PHE:HB3	2:E:110:TRP:NE1	2.28	0.49
1:B:176:MET:HG3	1:A:244:PHE:CE1	2.47	0.49
1:B:700:PRO:HB2	1:B:703:GLU:HB2	1.95	0.49
1:A:135:GLU:OE1	1:A:901:TYR:N	2.45	0.49
1:A:340:HIS:HD2	1:A:442:SER:HA	1.77	0.49
2:C:36:MET:H	2:C:76:ARG:HH12	1.59	0.49
2:C:171:HIS:CE1	3:D:186:THR:HG21	2.48	0.49
3:F:130:ARG:HH21	3:F:194:THR:HG22	1.77	0.49
1:B:291:LEU:O	1:B:396:ARG:NH2	2.45	0.49
1:B:338:GLU:OE2	1:B:372:VAL:N	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:577:LEU:HD11	1:B:606:LEU:HB3	1.95	0.49
2:C:107:PHE:HB3	2:C:110:TRP:NE1	2.28	0.49
1:B:39:ALA:HB3	1:B:276:LEU:HD12	1.93	0.49
1:A:15:ARG:HH21	3:D:76:ALA:HB1	1.78	0.49
1:A:928:LEU:HB3	1:A:1361:VAL:HG13	1.94	0.49
1:A:1272:LEU:HD13	1:A:1299:ALA:HB2	1.94	0.49
2:E:34:TYR:O	2:E:76:ARG:NH2	2.44	0.49
3:F:59:GLN:HB2	3:F:108:TYR:CE2	2.47	0.49
3:F:63:GLN:N	3:F:63:GLN:OE1	2.46	0.49
1:A:694:MET:HG3	1:A:836:ILE:HG22	1.95	0.49
1:A:1159:TRP:CG	1:A:1345:CYS:HB2	2.48	0.49
3:F:152:ALA:HB3	3:F:203:LEU:HB3	1.95	0.49
1:B:410:SER:HB3	1:B:413:ILE:HD12	1.93	0.48
1:B:755:SER:OG	1:B:806:ASN:O	2.29	0.48
1:B:892:GLY:O	1:B:894:ARG:NH1	2.46	0.48
3:D:163:PRO:O	3:D:220:HIS:NE2	2.46	0.48
1:B:776:HIS:CG	2:E:201:TYR:HE1	2.31	0.48
1:A:700:PRO:HB2	1:A:703:GLU:HB2	1.95	0.48
1:A:1236:VAL:HA	1:A:1239:LEU:HB2	1.94	0.48
1:B:210:VAL:HG11	1:A:199:ILE:HD12	1.94	0.48
1:A:67:GLY:HA2	1:A:94:GLY:HA2	1.94	0.48
1:B:572:MET:HA	1:B:576:LEU:HD23	1.95	0.48
1:A:324:LEU:HD21	1:A:331:PRO:HD3	1.95	0.48
1:A:1171:VAL:HG21	1:A:1211:LEU:HD21	1.95	0.48
2:E:56:LYS:HZ3	2:E:76:ARG:HE	1.61	0.48
3:F:38:SER:OG	3:F:39:CYS:N	2.47	0.48
1:B:52:GLU:O	1:B:56:GLU:HG3	2.13	0.48
1:B:485:LEU:HD21	1:B:522:ALA:HB2	1.95	0.48
1:A:367:LEU:HB3	1:A:420:ILE:HG12	1.94	0.48
1:A:466:VAL:HG23	1:A:505:ARG:NH2	2.29	0.48
1:A:1043:LEU:HD23	1:A:1082:TRP:HZ3	1.77	0.48
3:D:130:ARG:HH22	3:D:133:ALA:HB2	1.79	0.48
3:F:130:ARG:HH22	3:F:133:ALA:HB2	1.78	0.48
1:B:862:ASP:HB3	1:B:868:PHE:HD1	1.78	0.48
1:A:716:ALA:HB3	1:A:724:VAL:HB	1.96	0.48
1:A:1019:LEU:HG	1:A:1252:VAL:HG21	1.94	0.48
3:D:28:PRO:HB2	3:D:129:LYS:HG3	1.95	0.48
3:D:38:SER:OG	3:D:39:CYS:N	2.47	0.48
1:A:340:HIS:CD2	1:A:443:PHE:H	2.32	0.48
2:C:87:MET:HG3	2:C:90:LEU:HD21	1.96	0.48
2:E:13:LEU:HD13	2:E:117:THR:HB	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:206:ASN:HB2	2:E:213:LYS:NZ	2.29	0.48
1:B:131:TRP:CZ2	1:B:518:LEU:HD21	2.49	0.48
1:A:103:ALA:HB1	1:A:905:ARG:HB3	1.95	0.48
1:A:704:VAL:HG11	1:A:723:VAL:HG11	1.96	0.48
1:A:1274:SER:HB2	1:A:1292:ASN:HB3	1.96	0.48
3:F:70:TYR:CD2	3:F:71:LEU:HD23	2.48	0.48
1:A:1212:LEU:HD13	1:A:1261:LEU:HG	1.95	0.48
3:D:70:TYR:CD2	3:D:71:LEU:HD23	2.48	0.48
3:D:111:GLN:O	3:D:117:ARG:NH1	2.47	0.48
2:E:48:GLU:HA	3:F:119:THR:HA	1.96	0.48
3:F:166:ALA:HB2	3:F:220:HIS:HB2	1.95	0.48
2:C:54:ARG:HD3	2:C:58:TYR:HE2	1.79	0.48
1:B:251:ALA:H	1:B:267:GLY:H	1.62	0.47
1:B:385:VAL:O	1:B:389:ILE:HG13	2.14	0.47
1:B:704:VAL:HG11	1:B:723:VAL:HG11	1.96	0.47
1:A:9:VAL:HA	1:A:12:TYR:HD2	1.79	0.47
1:A:561:VAL:HA	1:A:654:GLY:HA3	1.96	0.47
2:C:206:ASN:HB2	2:C:213:LYS:NZ	2.29	0.47
1:B:202:ASP:O	1:A:200:SER:HB3	2.15	0.47
1:B:338:GLU:HB2	1:B:391:MET:SD	2.54	0.47
1:A:1025:ALA:HB2	1:A:1241:GLY:HA3	1.95	0.47
2:C:174:PRO:HD2	3:D:184:SER:OG	2.14	0.47
3:D:152:ALA:HB3	3:D:203:LEU:HB3	1.95	0.47
2:E:87:MET:HB3	2:E:90:LEU:HD21	1.96	0.47
1:B:618:ALA:HB3	1:B:623:ARG:HD3	1.96	0.47
1:B:705:ARG:HH21	1:B:814:ALA:HB3	1.79	0.47
1:A:12:TYR:CZ	2:C:106:LEU:HD21	2.50	0.47
1:A:162:PRO:HB3	1:A:913:LYS:NZ	2.28	0.47
1:A:717:VAL:HG12	1:A:812:ARG:HA	1.95	0.47
2:C:34:TYR:O	2:C:76:ARG:NH2	2.44	0.47
2:E:87:MET:HG3	2:E:90:LEU:HD21	1.96	0.47
1:B:189:ALA:HA	1:B:194:LEU:HB2	1.95	0.47
3:F:54:LEU:HD11	3:F:109:CYS:SG	2.55	0.47
1:B:817:VAL:HG21	1:B:840:ALA:HB1	1.96	0.47
1:A:30:LEU:O	1:A:30:LEU:HD23	2.15	0.47
1:A:660:ILE:HA	1:A:663:ALA:HB3	1.96	0.47
2:C:41:GLN:O	2:C:96:ALA:HB1	2.15	0.47
3:D:129:LYS:HB2	3:D:129:LYS:HE2	1.52	0.47
1:B:26:ARG:HA	1:B:29:GLU:HG2	1.96	0.47
1:B:862:ASP:HB3	1:B:868:PHE:CD1	2.50	0.47
1:A:226:LEU:HD12	1:A:227:ALA:N	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:476:VAL:HG13	1:A:876:PHE:CE2	2.50	0.47
1:A:705:ARG:HH21	1:A:814:ALA:HB3	1.80	0.47
2:C:87:MET:HB3	2:C:90:LEU:HD21	1.96	0.47
1:A:40:MET:SD	1:A:389:ILE:HA	2.54	0.47
1:B:126:MET:HG3	1:B:153:VAL:HG11	1.96	0.47
1:A:1249:ARG:HD2	1:A:1250:ALA:N	2.31	0.47
1:A:631:MET:O	1:A:635:MET:HB2	2.15	0.46
1:A:1000:VAL:HB	1:A:1039:LEU:HD21	1.95	0.46
1:A:1147:GLY:HA2	1:A:1172:SER:HB3	1.97	0.46
1:B:308:LEU:HD21	1:A:183:VAL:HB	1.96	0.46
1:A:151:VAL:HA	1:A:228:MET:HB3	1.97	0.46
3:D:215:ALA:N	3:D:230:SER:HG	2.13	0.46
2:E:54:ARG:HD3	2:E:58:TYR:CE2	2.50	0.46
3:F:110:MET:SD	3:F:117:ARG:HB3	2.55	0.46
1:B:14:ARG:HB3	2:E:34:TYR:CE1	2.51	0.46
1:B:709:GLY:N	1:B:713:GLU:HB2	2.30	0.46
1:B:828:PHE:HB3	1:B:837:LEU:HD11	1.97	0.46
1:A:994:LEU:HA	1:A:997:VAL:HG12	1.97	0.46
1:A:1133:THR:HG22	1:A:1135:ASP:H	1.80	0.46
2:C:54:ARG:HD3	2:C:58:TYR:CE2	2.50	0.46
2:C:80:LYS:NZ	2:C:82:ILE:O	2.38	0.46
3:D:54:LEU:HD11	3:D:109:CYS:SG	2.55	0.46
2:E:31:PHE:CE2	2:E:76:ARG:HB2	2.50	0.46
2:E:54:ARG:HD3	2:E:58:TYR:HE2	1.79	0.46
1:B:108:PHE:HZ	1:B:131:TRP:CE2	2.34	0.46
1:B:188:ILE:HD12	1:B:188:ILE:H	1.79	0.46
1:A:189:ALA:O	1:A:194:LEU:N	2.47	0.46
1:A:526:PRO:HG3	1:A:532:ALA:HB2	1.97	0.46
1:A:656:SER:HB3	1:A:659:GLU:CG	2.45	0.46
1:A:929:ARG:HH22	1:A:1354:ARG:NH1	2.13	0.46
1:A:987:ARG:NH1	1:A:1239:LEU:O	2.48	0.46
2:C:36:MET:H	2:C:76:ARG:NH1	2.13	0.46
3:F:215:ALA:N	3:F:230:SER:HG	2.13	0.46
1:A:296:GLY:O	1:A:453:ILE:HG22	2.15	0.46
1:A:503:ASP:O	1:A:507:ILE:HD12	2.16	0.46
1:A:511:LEU:HD12	1:A:515:ARG:HD3	1.98	0.46
1:A:1259:HIS:O	1:A:1263:ARG:HD3	2.16	0.46
2:C:7:VAL:HG23	2:C:25:THR:HB	1.98	0.46
2:C:35:ALA:HA	2:C:76:ARG:HH12	1.80	0.46
2:C:49:TRP:CZ2	2:C:51:GLY:HA2	2.51	0.46
3:F:80:PRO:HB2	3:F:82:ARG:HG3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:29:GLU:HA	1:B:33:GLU:HB2	1.98	0.46
1:A:1159:TRP:CZ2	1:A:1349:GLN:HB2	2.50	0.46
2:C:101:THR:HG22	2:C:110:TRP:HD1	1.80	0.46
3:D:100:GLU:H	3:D:103:ASP:HB2	1.81	0.46
2:E:36:MET:H	2:E:76:ARG:NH1	2.13	0.46
1:B:239:GLY:HA2	1:A:165:ALA:HA	1.98	0.46
1:B:635:MET:HE3	1:B:661:ALA:HB1	1.97	0.46
1:B:868:PHE:CE2	1:B:887:VAL:HG13	2.50	0.46
2:C:115:LEU:HD12	2:C:115:LEU:O	2.15	0.46
1:B:92:GLN:NE2	1:B:268:MET:HB3	2.31	0.46
1:B:596:PRO:HD3	1:B:671:LEU:HG	1.97	0.46
1:B:717:VAL:HG12	1:B:812:ARG:HA	1.96	0.46
3:F:60:LYS:HD3	3:F:60:LYS:HA	1.59	0.46
1:B:681:ARG:NH1	1:B:685:ILE:HD11	2.31	0.46
1:A:38:VAL:HB	1:A:276:LEU:HD23	1.97	0.46
1:A:1262:THR:HA	1:A:1265:LEU:HD13	1.97	0.46
1:A:98:LEU:HD13	1:A:100:GLU:HB2	1.97	0.46
3:D:71:LEU:HB2	3:D:74:ASN:HB2	1.98	0.46
1:B:512:ALA:HB1	1:B:884:TRP:HB3	1.98	0.45
1:B:596:PRO:HG3	1:B:672:ASP:OD1	2.16	0.45
1:B:656:SER:HB2	1:B:755:SER:HB3	1.97	0.45
1:A:244:PHE:O	1:A:250:LEU:HD23	2.16	0.45
1:A:1339:MET:HG3	1:A:1363:ASP:OD2	2.16	0.45
1:B:904:GLN:O	1:B:905:ARG:NH2	2.48	0.45
1:A:97:PHE:HA	1:A:270:GLU:HG2	1.98	0.45
1:A:208:SER:HB3	1:A:231:GLY:HA3	1.98	0.45
1:A:596:PRO:HG3	1:A:672:ASP:OD1	2.15	0.45
2:E:7:VAL:HG23	2:E:25:THR:HB	1.98	0.45
1:B:12:TYR:HB3	1:A:13:LEU:HD11	1.98	0.45
1:B:120:ASP:HB2	1:B:178:GLY:O	2.16	0.45
1:A:1310:THR:HG22	1:A:1312:VAL:HG13	1.98	0.45
2:E:55:SER:O	2:E:59:GLY:N	2.41	0.45
1:B:81:HIS:HB2	1:B:89:THR:HG21	1.97	0.45
2:E:35:ALA:HA	2:E:76:ARG:HH12	1.80	0.45
2:E:115:LEU:HD12	2:E:115:LEU:O	2.15	0.45
1:B:275:LEU:HD23	1:B:385:VAL:HG23	1.99	0.45
1:B:329:LEU:HD12	1:B:453:ILE:HG21	1.99	0.45
1:A:335:ASP:HB2	1:A:429:TRP:CZ2	2.51	0.45
1:A:1282:ALA:HB1	1:A:1285:LEU:HD12	1.98	0.45
2:C:56:LYS:HZ3	2:C:76:ARG:HE	1.65	0.45
1:B:97:PHE:HD1	1:B:270:GLU:HG2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:680:LEU:HD12	1:A:770:GLU:HB2	1.97	0.45
1:A:1205:ARG:NE	1:A:1257:ASN:OD1	2.49	0.45
1:A:1291:GLY:O	1:A:1295:LEU:HG	2.16	0.45
3:D:106:VAL:HA	3:D:124:THR:O	2.17	0.45
1:A:11:GLU:HA	1:A:14:ARG:HE	1.82	0.45
1:A:77:ASP:OD1	1:A:78:SER:N	2.50	0.45
1:A:257:LYS:HE3	1:A:257:LYS:HB3	1.72	0.45
1:A:334:ILE:HD13	1:A:359:TYR:CE1	2.48	0.45
1:A:378:HIS:CD2	1:A:380:GLN:H	2.34	0.45
1:A:785:PHE:HD1	1:A:785:PHE:HA	1.65	0.45
2:C:31:PHE:CE2	2:C:76:ARG:HB2	2.50	0.45
1:B:42:CYS:HB2	1:B:44:LEU:HG	1.99	0.45
1:B:55:TRP:HZ3	1:B:401:PRO:HG3	1.82	0.45
1:B:93:ARG:N	1:B:252:PRO:O	2.42	0.45
1:B:121:PRO:HA	1:B:124:ARG:HD2	1.99	0.45
1:B:475:TRP:CD1	1:B:508:ALA:HB2	2.51	0.45
1:A:127:LEU:HD21	1:A:187:ARG:HB3	1.99	0.45
1:A:711:ARG:HH21	1:A:759:HIS:HB2	1.81	0.45
1:A:929:ARG:HG3	1:A:1359:PRO:HB3	1.99	0.45
3:D:58:LEU:HD13	3:D:107:TYR:CD1	2.52	0.45
1:B:15:ARG:HH21	3:F:76:ALA:HB1	1.81	0.45
1:A:139:ILE:HD11	1:A:288:HIS:CG	2.51	0.45
1:B:126:MET:CE	1:B:232:VAL:HB	2.47	0.45
1:A:50:THR:OG1	1:A:136:ARG:NH1	2.37	0.45
1:A:553:ARG:NE	1:A:852:LEU:O	2.49	0.45
1:A:583:PHE:CE2	1:A:587:LEU:HD11	2.52	0.45
1:A:595:GLU:HB2	1:A:671:LEU:HD21	1.97	0.45
1:A:874:ARG:HA	1:A:874:ARG:NE	2.32	0.45
2:C:39:VAL:HG23	2:C:101:THR:HG21	1.99	0.45
1:A:1031:VAL:HG21	1:A:1074:ILE:HD13	1.98	0.44
3:D:169:GLN:O	3:D:216:CYS:HA	2.18	0.44
1:B:30:LEU:HD21	1:A:30:LEU:HD22	1.98	0.44
1:B:104:PHE:HD2	1:B:116:ALA:HB1	1.82	0.44
1:B:256:CYS:SG	1:B:378:HIS:N	2.90	0.44
1:B:342:THR:HG23	1:B:344:THR:HG22	1.99	0.44
1:B:668:ALA:H	1:B:780:GLY:HA2	1.82	0.44
1:A:331:PRO:O	1:A:363:ARG:NH1	2.51	0.44
1:A:1043:LEU:HD23	1:A:1082:TRP:CZ3	2.52	0.44
2:E:101:THR:HG22	2:E:110:TRP:HD1	1.80	0.44
1:B:680:LEU:HD12	1:B:770:GLU:HB2	1.99	0.44
1:A:637:SER:O	1:A:641:MET:HG2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:817:VAL:HG21	1:A:840:ALA:HB1	1.99	0.44
1:A:1076:LEU:HA	1:A:1376:GLN:NE2	2.32	0.44
1:A:1125:TRP:N	1:A:1381:LEU:O	2.49	0.44
1:A:1315:GLY:H	1:A:1339:MET:HE3	1.82	0.44
3:F:71:LEU:HB2	3:F:74:ASN:HB2	1.98	0.44
3:F:112:SER:HA	3:F:117:ARG:CZ	2.47	0.44
3:F:169:GLN:O	3:F:216:CYS:HA	2.18	0.44
1:B:335:ASP:HB2	1:B:429:TRP:HZ2	1.80	0.44
1:B:866:ALA:C	1:B:868:PHE:N	2.70	0.44
1:A:828:PHE:HB3	1:A:837:LEU:HD11	1.98	0.44
1:B:648:GLU:OE2	1:A:314:ARG:NH2	2.51	0.44
1:A:560:PHE:CE1	1:A:829:LEU:HD13	2.52	0.44
1:A:1125:TRP:HD1	1:A:1385:ILE:HD11	1.82	0.44
1:A:1383:ASP:HA	1:A:1389:ARG:HH12	1.83	0.44
2:C:161:TRP:HD1	2:C:170:VAL:HG13	1.82	0.44
1:B:30:LEU:CD2	1:A:30:LEU:HD22	2.48	0.44
1:B:79:LEU:O	1:B:90:ALA:N	2.30	0.44
1:B:189:ALA:O	1:B:194:LEU:N	2.51	0.44
1:B:493:ALA:HB2	1:B:536:LEU:HB3	1.99	0.44
1:B:694:MET:HE1	1:B:715:ALA:HB3	1.99	0.44
2:C:41:GLN:NE2	2:C:42:ALA:O	2.51	0.44
2:E:155:GLU:HG3	2:E:175:ALA:CB	2.43	0.44
2:E:161:TRP:HD1	2:E:170:VAL:HG13	1.82	0.44
1:B:43:ARG:CG	1:B:129:LEU:HD21	2.48	0.44
1:B:215:ALA:HB1	1:B:227:ALA:HB1	1.99	0.44
1:A:502:GLN:HB3	1:A:507:ILE:HD11	2.00	0.44
1:A:665:VAL:O	1:A:781:PHE:HB3	2.17	0.44
1:A:954:TYR:HD2	1:A:956:GLY:H	1.66	0.44
1:A:1259:HIS:CE1	1:A:1302:ARG:HG2	2.52	0.44
2:E:124:LYS:HE2	2:E:124:LYS:HB2	1.66	0.44
1:B:92:GLN:NE2	1:B:241:LEU:HD22	2.32	0.44
1:B:363:ARG:HA	1:B:363:ARG:HD2	1.80	0.44
1:A:1103:VAL:HG13	1:A:1113:LEU:HG	1.98	0.44
1:A:1212:LEU:HD11	1:A:1265:LEU:HD21	2.00	0.44
1:A:1227:ALA:HB2	1:A:1273:PHE:HD2	1.82	0.44
1:B:513:THR:OG1	1:B:895:ARG:NH2	2.51	0.44
1:B:602:VAL:O	1:B:606:LEU:HG	2.18	0.44
1:A:103:ALA:HB1	1:A:905:ARG:HD3	2.00	0.44
1:A:216:CYS:O	1:A:220:ARG:HG2	2.18	0.44
1:A:693:GLY:HA3	1:A:732:LEU:HD11	2.00	0.44
1:A:953:LYS:HA	1:A:1007:LEU:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1068:TRP:CG	1:A:1085:LEU:HD22	2.53	0.44
1:A:1144:LEU:HD22	1:A:1224:VAL:HG13	2.00	0.44
3:D:70:TYR:HD2	3:D:71:LEU:HD23	1.83	0.44
2:E:189:VAL:HG21	2:E:201:TYR:CD2	2.53	0.44
1:B:10:ALA:O	1:B:13:LEU:HB2	2.18	0.43
1:B:339:ALA:HB1	1:B:351:GLU:OE2	2.18	0.43
1:A:108:PHE:HZ	1:A:131:TRP:CE2	2.36	0.43
1:A:264:ASN:O	1:A:345:ARG:NH1	2.51	0.43
1:A:302:ASP:OD1	1:A:449:ASN:ND2	2.40	0.43
1:A:318:ARG:HB3	1:A:322:GLN:HE22	1.83	0.43
1:B:390:LYS:HE2	1:B:401:PRO:HB2	1.99	0.43
1:A:756:HIS:HB3	1:A:810:THR:HA	2.00	0.43
1:A:1262:THR:HG22	1:A:1265:LEU:HD22	2.00	0.43
3:F:130:ARG:NH2	3:F:194:THR:HG22	2.34	0.43
1:A:14:ARG:HA	3:F:51:TYR:OH	2.18	0.43
1:A:55:TRP:HB2	1:A:393:LEU:HD13	1.99	0.43
3:D:45:LEU:HD12	3:D:92:PHE:HE2	1.83	0.43
2:E:22:LEU:HD23	2:E:22:LEU:HA	1.91	0.43
3:F:88:SER:N	3:F:91:ASP:O	2.48	0.43
1:A:220:ARG:NH2	1:A:295:ARG:O	2.51	0.43
1:A:515:ARG:NH2	1:A:899:PRO:O	2.50	0.43
1:A:596:PRO:HD3	1:A:671:LEU:HG	2.01	0.43
1:A:641:MET:HE3	1:A:881:ALA:H	1.83	0.43
1:A:950:LEU:HG	1:A:977:ARG:HB3	2.00	0.43
1:A:1327:VAL:HA	1:A:1330:ARG:HD2	2.00	0.43
1:B:509:TYR:O	1:B:895:ARG:NH2	2.52	0.43
1:B:711:ARG:HH21	1:B:759:HIS:HB2	1.83	0.43
1:A:531:ALA:O	1:A:535:VAL:HG23	2.18	0.43
3:D:59:GLN:HB3	3:D:106:VAL:HB	2.00	0.43
1:B:12:TYR:HE1	3:F:70:TYR:HB2	1.83	0.43
1:B:30:LEU:HD11	1:A:31:GLU:HG3	2.00	0.43
1:A:51:PRO:HD2	1:A:136:ARG:CZ	2.48	0.43
1:A:300:ASN:O	1:A:449:ASN:N	2.51	0.43
1:A:333:ASP:OD2	3:F:98:ARG:NH1	2.52	0.43
2:E:21:ARG:HE	2:E:22:LEU:N	2.17	0.43
3:F:45:LEU:HD12	3:F:92:PHE:HE2	1.83	0.43
3:F:70:TYR:HD2	3:F:71:LEU:HD23	1.83	0.43
1:B:208:SER:O	1:B:212:VAL:HG13	2.19	0.43
1:B:209:LEU:O	1:B:212:VAL:HG22	2.18	0.43
1:A:155:LEU:HD11	1:A:184:ALA:HB3	2.00	0.43
1:A:1013:GLU:HB2	1:A:1061:ASN:HD21	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:21:ARG:HE	2:C:22:LEU:N	2.17	0.43
2:C:87:MET:N	2:C:87:MET:SD	2.91	0.43
2:C:189:VAL:HG21	2:C:201:TYR:CD2	2.53	0.43
1:B:149:THR:C	1:B:196:GLY:HA3	2.39	0.43
1:B:662:ALA:HA	1:B:665:VAL:HG22	2.00	0.43
1:A:861:GLY:HA3	1:A:874:ARG:HG3	2.01	0.43
1:B:235:MET:N	1:B:270:GLU:OE1	2.52	0.43
1:B:774:ASP:HB3	1:B:776:HIS:CD2	2.54	0.43
1:A:479:ALA:O	1:A:520:HIS:N	2.47	0.43
1:A:868:PHE:CE2	1:A:872:LEU:HD11	2.53	0.43
1:B:266:PHE:HB3	1:B:344:THR:HB	2.01	0.43
1:B:621:THR:HB	1:B:751:VAL:HA	2.01	0.43
1:B:802:TYR:O	1:B:805:ARG:HG2	2.19	0.43
1:B:828:PHE:CD2	1:B:852:LEU:HB3	2.54	0.43
1:A:103:ALA:HA	1:A:906:GLU:O	2.19	0.43
1:A:115:GLU:HG3	1:A:174:TYR:CG	2.54	0.43
1:A:561:VAL:HG13	1:A:654:GLY:CA	2.48	0.43
1:A:914:PRO:HA	1:A:918:ARG:HH21	1.84	0.43
2:E:110:TRP:CZ3	3:F:65:PRO:HB2	2.54	0.43
1:B:3:SER:HB3	1:B:6:SER:OG	2.18	0.42
1:B:43:ARG:HD3	1:B:49:SER:HA	2.01	0.42
1:A:124:ARG:NH1	1:A:908:VAL:O	2.52	0.42
1:B:36:ALA:HA	1:B:293:VAL:HA	2.01	0.42
1:B:162:PRO:HA	1:A:163:ARG:HH22	1.83	0.42
1:B:216:CYS:SG	1:B:277:LEU:HD21	2.59	0.42
1:B:249:SER:HG	1:B:266:PHE:HD1	1.66	0.42
1:B:596:PRO:HG2	1:B:597:HIS:ND1	2.34	0.42
1:B:708:ILE:HA	1:B:713:GLU:HG3	2.01	0.42
1:B:908:VAL:HG23	1:B:908:VAL:O	2.19	0.42
1:A:42:CYS:HB3	1:A:389:ILE:HD13	2.00	0.42
1:A:704:VAL:HG21	1:A:723:VAL:HG21	2.01	0.42
1:A:709:GLY:N	1:A:713:GLU:HB2	2.34	0.42
2:C:110:TRP:HH2	3:D:57:TYR:CG	2.36	0.42
1:B:122:GLN:HG3	1:B:234:VAL:HB	2.02	0.42
1:B:158:GLN:HB3	1:B:159:GLU:H	1.58	0.42
1:A:226:LEU:HD21	1:A:276:LEU:HD11	2.01	0.42
3:D:58:LEU:HB3	3:D:68:LEU:HD11	2.01	0.42
2:E:39:VAL:HG13	2:E:49:TRP:HA	1.99	0.42
1:B:402:ARG:HE	1:B:426:PRO:HG3	1.85	0.42
1:B:704:VAL:HG11	1:B:723:VAL:HG21	2.00	0.42
1:A:828:PHE:CD2	1:A:852:LEU:HB3	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:23:SER:HA	3:D:39:CYS:HA	2.02	0.42
3:D:127:ASP:OD2	3:D:162:TYR:HE1	2.02	0.42
2:E:131:LEU:HD21	3:F:140:PHE:CD2	2.54	0.42
3:F:23:SER:HA	3:F:39:CYS:HA	2.02	0.42
1:A:174:TYR:HA	1:A:177:THR:OG1	2.19	0.42
1:A:316:GLN:O	1:A:319:VAL:HG12	2.20	0.42
1:A:1169:LEU:HD23	1:A:1196:THR:HB	2.01	0.42
1:A:1315:GLY:H	1:A:1339:MET:CE	2.32	0.42
3:D:88:SER:N	3:D:91:ASP:O	2.48	0.42
2:E:64:TYR:HB3	2:E:68:VAL:HG23	2.02	0.42
3:F:127:ASP:OD2	3:F:162:TYR:HE1	2.02	0.42
1:B:163:ARG:O	1:B:166:GLU:HG2	2.19	0.42
1:B:506:ASP:OD1	1:B:894:ARG:N	2.39	0.42
1:A:12:TYR:CE1	2:C:106:LEU:HD21	2.55	0.42
1:A:373:LYS:HD3	1:A:378:HIS:HA	2.01	0.42
2:C:110:TRP:CE3	3:D:65:PRO:HB2	2.54	0.42
2:E:87:MET:SD	2:E:87:MET:N	2.91	0.42
2:E:146:GLY:HA2	2:E:161:TRP:CZ2	2.55	0.42
1:B:97:PHE:CD1	1:B:270:GLU:HG2	2.55	0.42
1:A:330:GLY:N	1:A:333:ASP:OD2	2.53	0.42
3:F:138:PHE:O	3:F:157:LEU:N	2.52	0.42
1:B:240:MET:HB3	1:A:164:LEU:HD23	2.00	0.42
1:A:510:SER:HB3	1:A:895:ARG:HA	2.00	0.42
1:A:704:VAL:HG11	1:A:723:VAL:HG21	2.02	0.42
1:A:718:ASN:ND2	1:A:840:ALA:HB2	2.35	0.42
2:C:64:TYR:HB3	2:C:68:VAL:HG23	2.02	0.42
1:B:774:ASP:HB3	1:B:776:HIS:HD2	1.84	0.42
1:A:69:PRO:HG3	1:A:97:PHE:HB3	2.02	0.42
1:A:565:GLN:HB3	1:A:751:VAL:HG11	2.02	0.42
1:A:42:CYS:HA	1:A:273:GLY:HA2	2.01	0.42
1:A:338:GLU:HG2	1:A:440:VAL:HG13	2.01	0.42
3:D:58:LEU:HD11	3:D:105:GLY:HA3	2.02	0.42
2:E:110:TRP:HH2	3:F:57:TYR:CG	2.38	0.42
3:F:70:TYR:O	3:F:74:ASN:N	2.52	0.42
1:B:58:LEU:HB3	1:B:401:PRO:HB3	2.02	0.41
1:A:718:ASN:HD21	1:A:813:PHE:HB3	1.84	0.41
1:A:1159:TRP:CD1	1:A:1345:CYS:HB2	2.54	0.41
1:B:23:ALA:O	1:B:27:ILE:HG12	2.20	0.41
1:B:479:ALA:HA	1:B:901:TYR:HE2	1.85	0.41
1:B:872:LEU:HD21	1:B:882:VAL:HG21	2.02	0.41
1:A:102:THR:HG22	1:A:909:TRP:CD2	2.55	0.41

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Full wwPDB EM Validation Report

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:259:PHE:CE2	1:A:369:LEU:HD21	2.55	0.41
1:A:602:VAL:O	1:A:606:LEU:N	2.50	0.41
1:A:724:VAL:HG21	1:A:836:ILE:O	2.20	0.41
2:C:131:LEU:HD21	3:D:140:PHE:CD2	2.55	0.41
3:D:70:TYR:O	3:D:74:ASN:N	2.52	0.41
1:B:406:ALA:HB1	1:B:422:LEU:HD21	2.02	0.41
1:B:830:GLU:HG2	1:B:837:LEU:HD21	2.02	0.41
1:A:277:LEU:HD11	1:A:294:LEU:HD23	2.02	0.41
1:A:596:PRO:HG2	1:A:597:HIS:ND1	2.35	0.41
1:A:944:ARG:HD3	1:A:944:ARG:HA	1.92	0.41
2:C:171:HIS:HE1	3:D:186:THR:HG21	1.85	0.41
1:B:91:HIS:CG	1:B:245:SER:HB3	2.56	0.41
1:B:313:GLY:O	1:B:317:VAL:HG23	2.20	0.41
1:B:373:LYS:O	1:B:377:GLY:N	2.52	0.41
1:A:126:MET:CE	1:A:232:VAL:HB	2.50	0.41
1:A:681:ARG:NH1	1:A:685:ILE:HD11	2.31	0.41
2:C:53:ILE:HG13	2:C:62:THR:HG22	2.03	0.41
3:D:171:LYS:HD3	3:D:172:VAL:HB	2.02	0.41
1:B:568:GLN:HG2	1:B:634:VAL:HB	2.01	0.41
1:B:660:ILE:HG12	1:B:803:TRP:NE1	2.35	0.41
1:A:119:VAL:O	1:A:124:ARG:NH2	2.38	0.41
1:A:255:ARG:HG2	1:A:405:HIS:NE2	2.36	0.41
1:A:1108:ALA:O	1:A:1380:ARG:NH1	2.53	0.41
3:D:142:PRO:HD3	3:D:154:VAL:HB	2.01	0.41
2:E:189:VAL:HG21	2:E:201:TYR:HD2	1.86	0.41
1:B:10:ALA:O	1:B:14:ARG:HG3	2.21	0.41
1:A:438:ALA:O	1:A:454:ILE:HG22	2.20	0.41
1:A:577:LEU:HD11	1:A:606:LEU:HB3	2.02	0.41
1:A:1277:ALA:HB2	1:A:1285:LEU:HD13	2.03	0.41
2:C:146:GLY:HA2	2:C:161:TRP:CZ2	2.55	0.41
2:C:159:VAL:HG22	2:C:205:VAL:HG13	2.02	0.41
2:C:189:VAL:HG21	2:C:201:TYR:HD2	1.86	0.41
3:D:60:LYS:HA	3:D:60:LYS:HD3	1.59	0.41
1:B:294:LEU:HD12	1:B:453:ILE:O	2.20	0.41
1:B:359:TYR:OH	1:B:451:HIS:NE2	2.53	0.41
1:B:627:VAL:HG12	1:B:631:MET:HG2	2.02	0.41
1:B:635:MET:SD	1:B:661:ALA:HB1	2.60	0.41
1:B:874:ARG:H	1:B:874:ARG:HG2	1.60	0.41
1:A:15:ARG:HD2	1:A:15:ARG:HA	1.84	0.41
1:A:495:HIS:CG	1:A:899:PRO:HD3	2.56	0.41
1:A:694:MET:SD	1:A:695:ALA:N	2.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1123:ARG:HH22	1:A:1279:ALA:HA	1.86	0.41
2:C:56:LYS:HE2	2:C:56:LYS:HB2	1.94	0.41
1:B:378:HIS:CD2	1:B:380:GLN:H	2.39	0.41
1:B:904:GLN:O	1:B:904:GLN:HG2	2.21	0.41
1:A:180:THR:O	1:A:183:VAL:HG22	2.21	0.41
1:A:692:LYS:HE2	1:A:692:LYS:HB3	1.93	0.41
1:A:1339:MET:HE2	1:A:1339:MET:HB2	1.87	0.41
3:D:50:GLY:HA3	2:E:33:ASP:OD1	2.21	0.41
3:D:130:ARG:NH2	3:D:194:THR:HG22	2.34	0.41
1:B:7:GLU:OE2	2:E:58:TYR:CZ	2.74	0.41
1:B:72:ARG:NE	1:B:235:MET:O	2.54	0.41
1:B:121:PRO:HA	1:B:124:ARG:CD	2.50	0.41
1:B:182:SER:HB2	1:A:202:ASP:OD1	2.21	0.41
1:B:559:VAL:HG11	1:B:820:LEU:HD13	2.03	0.41
1:A:40:MET:HG2	1:A:275:LEU:CD1	2.50	0.41
1:A:149:THR:HB	1:A:194:LEU:HD11	2.03	0.41
1:A:744:ILE:HG13	1:A:745:ARG:H	1.86	0.41
1:A:828:PHE:H	1:A:853:SER:H	1.69	0.41
1:A:1068:TRP:O	1:A:1072:ARG:HG3	2.21	0.41
2:C:26:ALA:HB1	2:C:29:PHE:CE1	2.56	0.41
2:E:53:ILE:HG13	2:E:62:THR:HG22	2.03	0.41
1:B:33:GLU:O	1:B:220:ARG:NH1	2.54	0.41
1:B:140:PRO:HB2	1:B:143:SER:HB3	2.02	0.41
1:A:57:LEU:HG	1:A:62:ARG:CG	2.51	0.41
1:A:642:TRP:HE3	1:A:829:LEU:HD21	1.86	0.41
3:F:60:LYS:HG3	3:F:63:GLN:CD	2.41	0.41
3:F:142:PRO:HD3	3:F:154:VAL:HB	2.01	0.41
3:F:171:LYS:HD3	3:F:172:VAL:HB	2.02	0.41
1:B:320:ILE:HG22	1:B:451:HIS:CG	2.56	0.40
1:A:1151:GLY:HA3	1:A:1320:SER:HA	2.02	0.40
2:C:124:LYS:HE2	2:C:124:LYS:HB2	1.91	0.40
3:D:60:LYS:HG3	3:D:63:GLN:CD	2.41	0.40
1:B:164:LEU:HD13	1:B:164:LEU:HA	1.91	0.40
1:B:257:LYS:HG3	1:B:405:HIS:HB3	2.02	0.40
1:B:565:GLN:HA	1:B:751:VAL:HG21	2.03	0.40
1:B:631:MET:O	1:B:635:MET:HB3	2.20	0.40
1:B:715:ALA:HB2	1:B:757:SER:HB2	2.02	0.40
2:C:95:THR:OG1	2:C:118:VAL:O	2.40	0.40
2:E:26:ALA:HB1	2:E:29:PHE:CE1	2.56	0.40
1:B:495:HIS:CG	1:B:899:PRO:HD3	2.55	0.40
1:A:36:ALA:HB1	1:A:290:VAL:HG13	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:49:TRP:CE2	2:C:51:GLY:HA2	2.57	0.40
2:E:56:LYS:HE2	2:E:56:LYS:HB2	1.94	0.40
2:E:128:VAL:HG12	2:E:216:LYS:HZ2	1.86	0.40
3:F:130:ARG:NH1	3:F:131:THR:O	2.55	0.40
1:B:10:ALA:HA	1:B:13:LEU:HD23	2.03	0.40
1:B:124:ARG:HG2	1:B:125:LEU:HD22	2.04	0.40
1:B:485:LEU:HD13	1:B:520:HIS:O	2.22	0.40
1:A:318:ARG:NH1	1:A:321:GLN:OE1	2.54	0.40
1:A:453:ILE:HD12	1:A:453:ILE:HA	1.94	0.40
1:A:906:GLU:HG2	1:A:907:ARG:H	1.87	0.40
3:D:64:SER:HA	3:D:65:PRO:HD3	1.93	0.40
3:D:129:LYS:HA	3:D:162:TYR:OH	2.22	0.40
3:D:130:ARG:NH1	3:D:131:THR:O	2.55	0.40
3:F:139:ILE:HG22	3:F:229:LYS:HD3	2.04	0.40
1:B:218:SER:HA	1:B:221:ARG:CZ	2.52	0.40
1:A:34:PRO:HB2	1:A:280:LEU:HB2	2.04	0.40
1:A:312:ASN:HB3	1:A:315:ALA:HB3	2.02	0.40
1:A:718:ASN:ND2	1:A:813:PHE:HB3	2.36	0.40
2:C:38:TRP:CE2	2:C:85:LEU:HB2	2.57	0.40
2:C:128:VAL:HG12	2:C:216:LYS:HZ2	1.86	0.40
3:D:138:PHE:O	3:D:157:LEU:N	2.53	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	1388/1593 (87%)	1300 (94%)	88 (6%)	0	100	100
1	B	910/1593 (57%)	844 (93%)	65 (7%)	1 (0%)	51	85
2	C	199/249 (80%)	193 (97%)	5 (2%)	1 (0%)	29	68
2	E	199/249 (80%)	191 (96%)	7 (4%)	1 (0%)	29	68

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	D	200/236 (85%)	187 (94%)	13 (6%)	0	100	100
3	F	200/236 (85%)	181 (90%)	19 (10%)	0	100	100
All	All	3096/4156 (74%)	2896 (94%)	197 (6%)	3 (0%)	54	85

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	C	156	PRO
2	E	154	PRO
1	B	864	SER

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	1022/1173 (87%)	989 (97%)	33 (3%)	39	62
1	B	675/1173 (58%)	646 (96%)	29 (4%)	29	55
2	C	170/203 (84%)	157 (92%)	13 (8%)	13	40
2	E	170/203 (84%)	157 (92%)	13 (8%)	13	40
3	D	181/208 (87%)	164 (91%)	17 (9%)	8	30
3	F	181/208 (87%)	165 (91%)	16 (9%)	10	34
All	All	2399/3168 (76%)	2278 (95%)	121 (5%)	28	51

All (121) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	86	ARG
1	B	124	ARG
1	B	155	LEU
1	B	158	GLN
1	B	214	LEU
1	B	537	ASP
1	B	543	ASN

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Mol	Chain	Res	Type
1	B	551	THR
1	B	553	ARG
1	B	555	GLN
1	B	557	ARG
1	B	569	TRP
1	B	572	MET
1	B	574	VAL
1	B	643	ARG
1	B	657	GLN
1	B	692	LYS
1	B	786	SER
1	B	789	THR
1	B	791	ARG
1	B	794	GLN
1	B	857	SER
1	B	858	LEU
1	B	864	SER
1	B	865	LEU
1	B	867	ASP
1	B	872	LEU
1	B	874	ARG
1	B	882	VAL
1	A	194	LEU
1	A	203	THR
1	A	205	CYS
1	A	208	SER
1	A	210	VAL
1	A	235	MET
1	A	314	ARG
1	A	572	MET
1	A	612	ARG
1	A	643	ARG
1	A	653	ILE
1	A	660	ILE
1	A	664	CYS
1	A	669	LEU
1	A	784	PHE
1	A	785	PHE
1	A	788	VAL
1	A	789	THR
1	A	793	THR
1	A	794	GLN

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Mol	Chain	Res	Type
1	A	813	PHE
1	A	859	ARG
1	A	976	VAL
1	A	977	ARG
1	A	1058	ARG
1	A	1173	ARG
1	A	1246	ARG
1	A	1316	THR
1	A	1317	TRP
1	A	1320	SER
1	A	1322	MET
1	A	1350	ASN
1	A	1368	ARG
2	C	5	GLN
2	C	36	MET
2	C	47	LEU
2	C	48	GLU
2	C	63	GLU
2	C	80	LYS
2	C	87	MET
2	C	91	LYS
2	C	120	SER
2	C	134	SER
2	C	157	VAL
2	C	158	THR
2	C	171	HIS
3	D	22	GLN
3	D	59	GLN
3	D	60	LYS
3	D	74	ASN
3	D	95	LYS
3	D	115	THR
3	D	117	ARG
3	D	118	LEU
3	D	119	THR
3	D	129	LYS
3	D	148	LYS
3	D	167	LYS
3	D	183	GLU
3	D	185	VAL
3	D	197	LEU
3	D	221	GLN

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Mol	Chain	Res	Type
3	D	225	SER
2	E	5	GLN
2	E	36	MET
2	E	48	GLU
2	E	63	GLU
2	E	80	LYS
2	E	87	MET
2	E	91	LYS
2	E	120	SER
2	E	124	LYS
2	E	134	SER
2	E	155	GLU
2	E	158	THR
2	E	171	HIS
3	F	22	GLN
3	F	60	LYS
3	F	74	ASN
3	F	95	LYS
3	F	110	MET
3	F	112	SER
3	F	115	THR
3	F	117	ARG
3	F	125	LYS
3	F	148	LYS
3	F	167	LYS
3	F	183	GLU
3	F	185	VAL
3	F	197	LEU
3	F	221	GLN
3	F	225	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	380	GLN
1	B	776	HIS
1	A	322	GLN
1	A	340	HIS
1	A	718	ASN
1	A	794	GLN
1	A	1032	GLN
1	A	1112	GLN

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Mol	Chain	Res	Type
3	F	221	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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 monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

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 ⓘ

This section contains visualisations of the EMDB entry EMD-23715. 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 ⓘ

6.1.1 Primary map

| X | Y | Z |
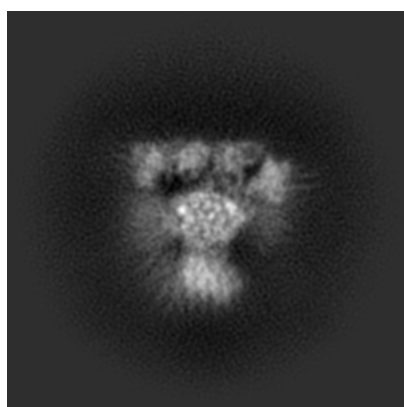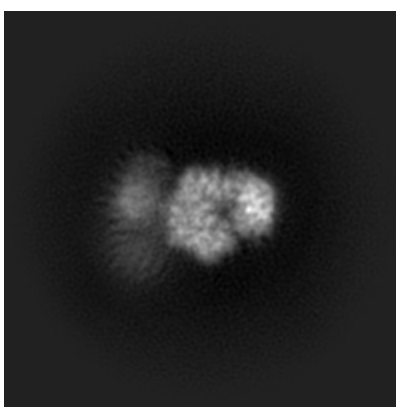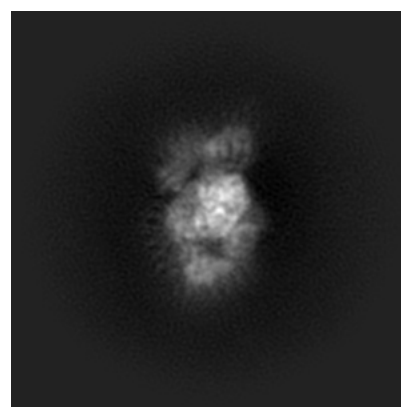
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
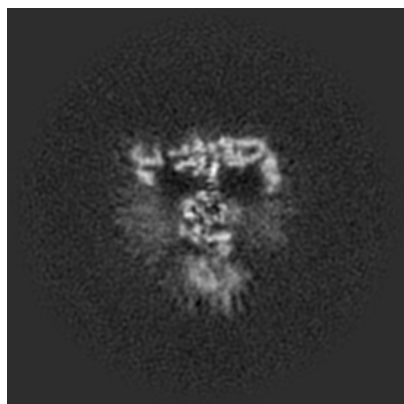
6.2.1 Primary map
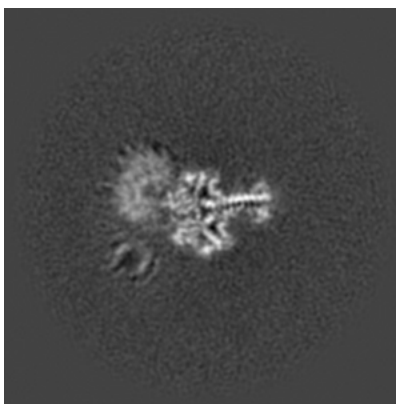
| X Index: 168 | Y Index: 168 | Z Index: 168 |
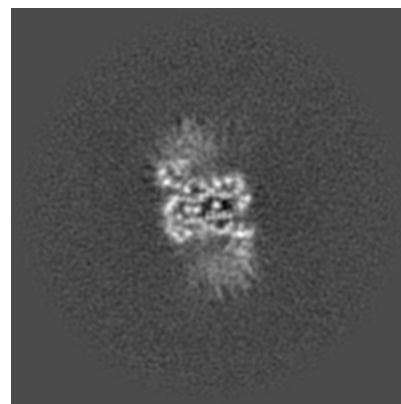
The images above show central slices of the map in three orthogonal directions.

6.3　Largest variance slices ⓘ
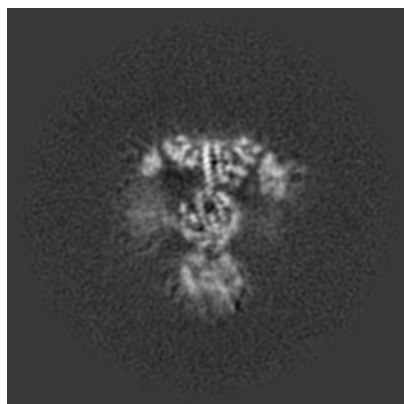
6.3.1　Primary map
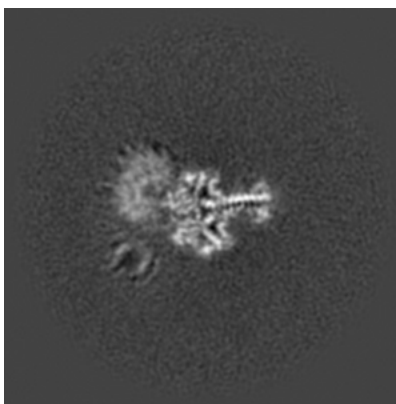
| X Index: 177 | Y Index: 168 | Z Index: 206 |
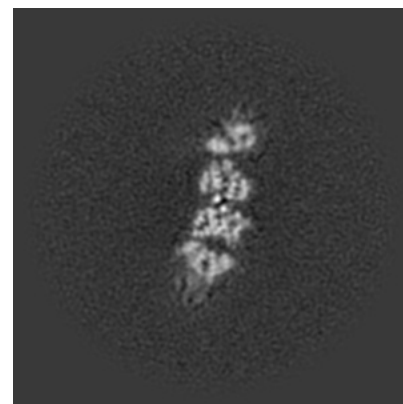
The images above show the largest variance slices of the map in three orthogonal directions.

6.4　Orthogonal surface views ⓘ
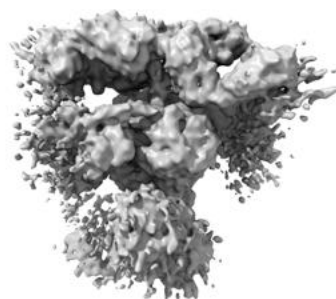
6.4.1　Primary map

| X | Y | Z |
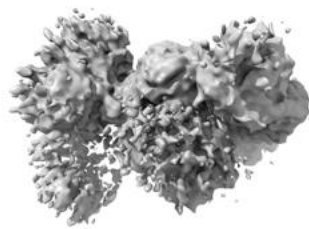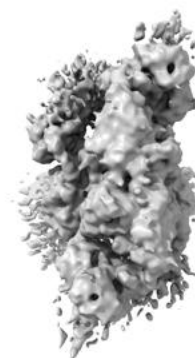
The images above show the 3D surface view of the map at the recommended contour level 0.28. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5 Mask visualisation ⓘ

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

7 Map analysis ⓘ

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

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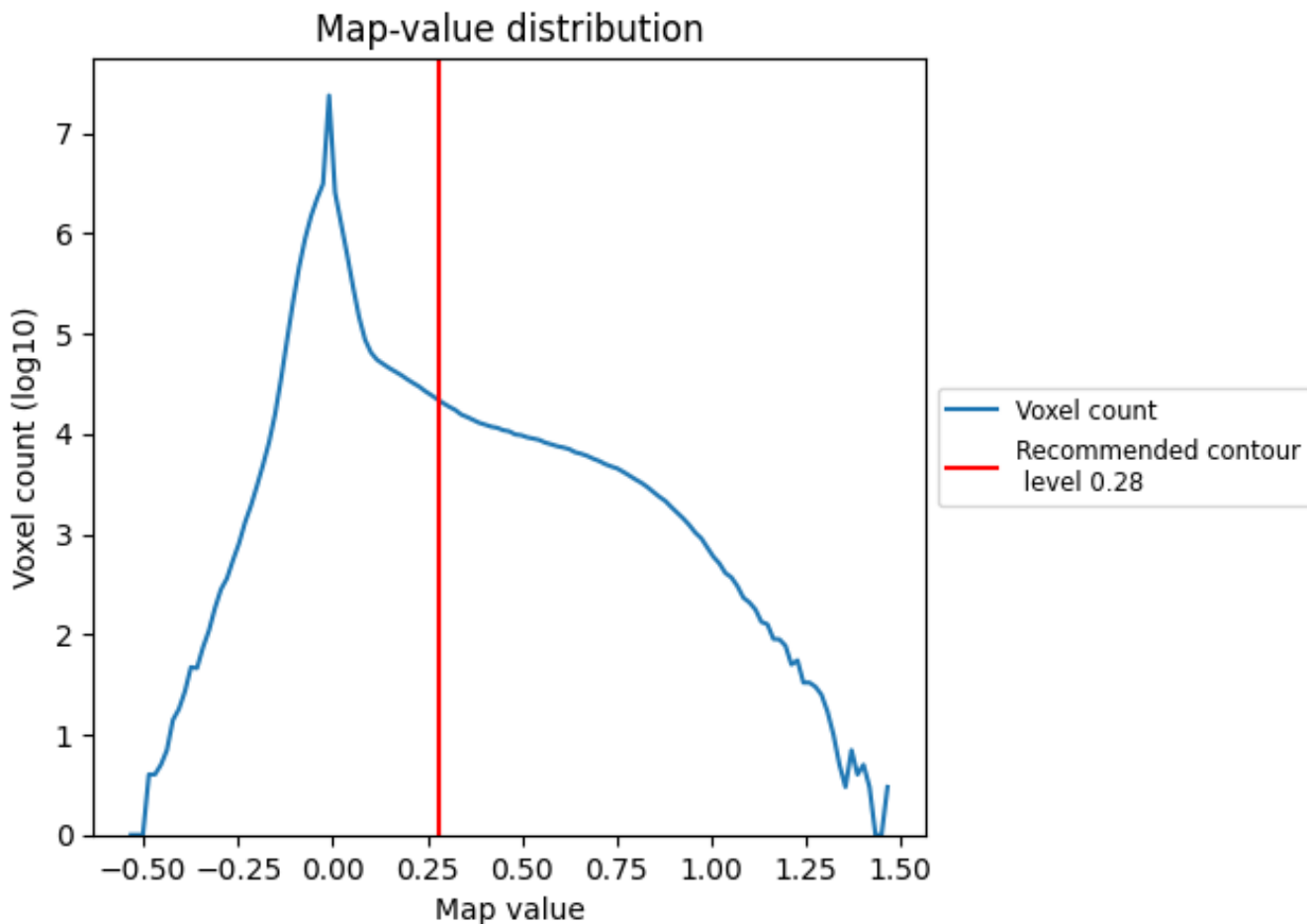
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2 Volume estimate ⓘ
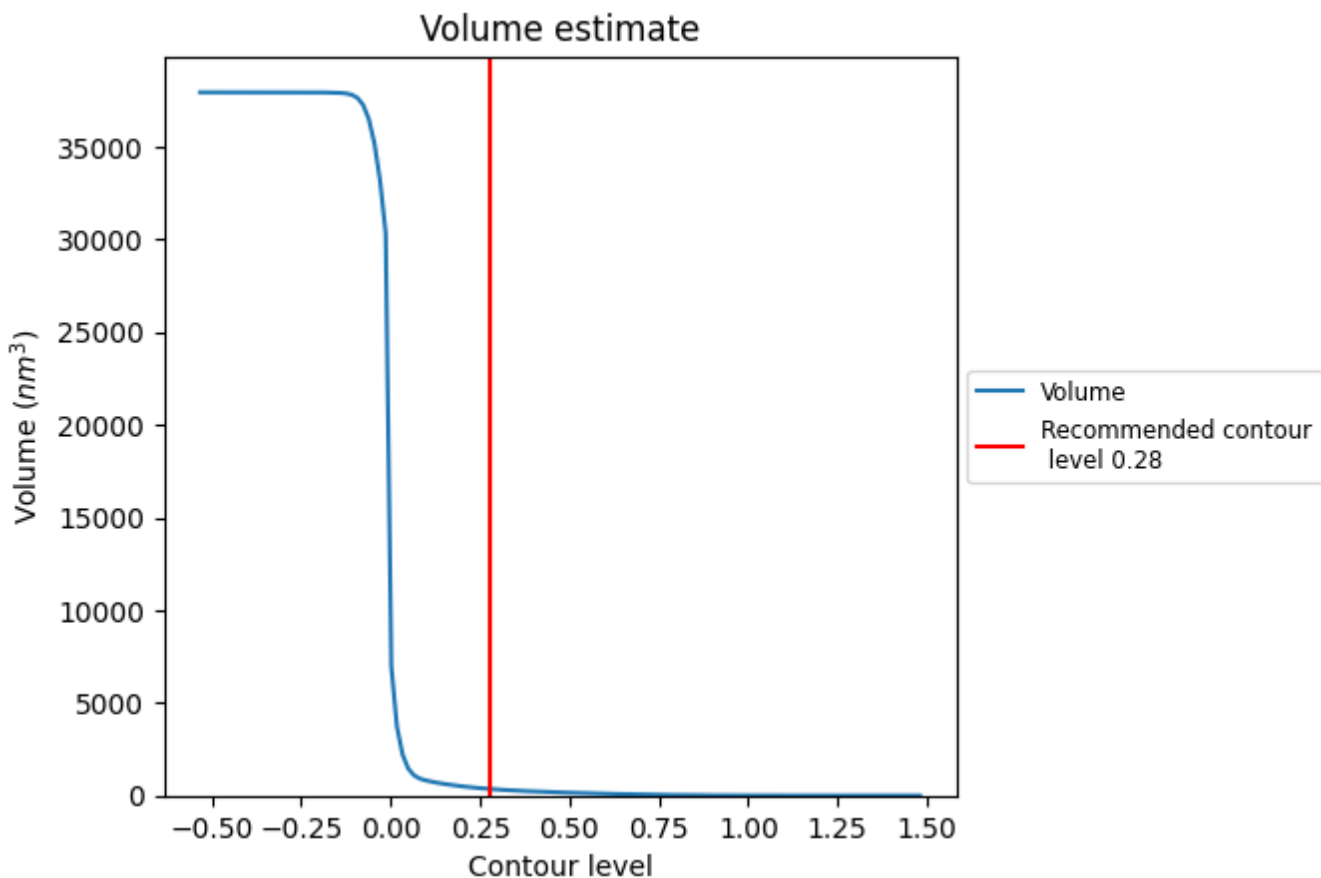
The volume at the recommended contour level is 352 nm^3; this corresponds to an approximate mass of 318 kDa.

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 ⓘ
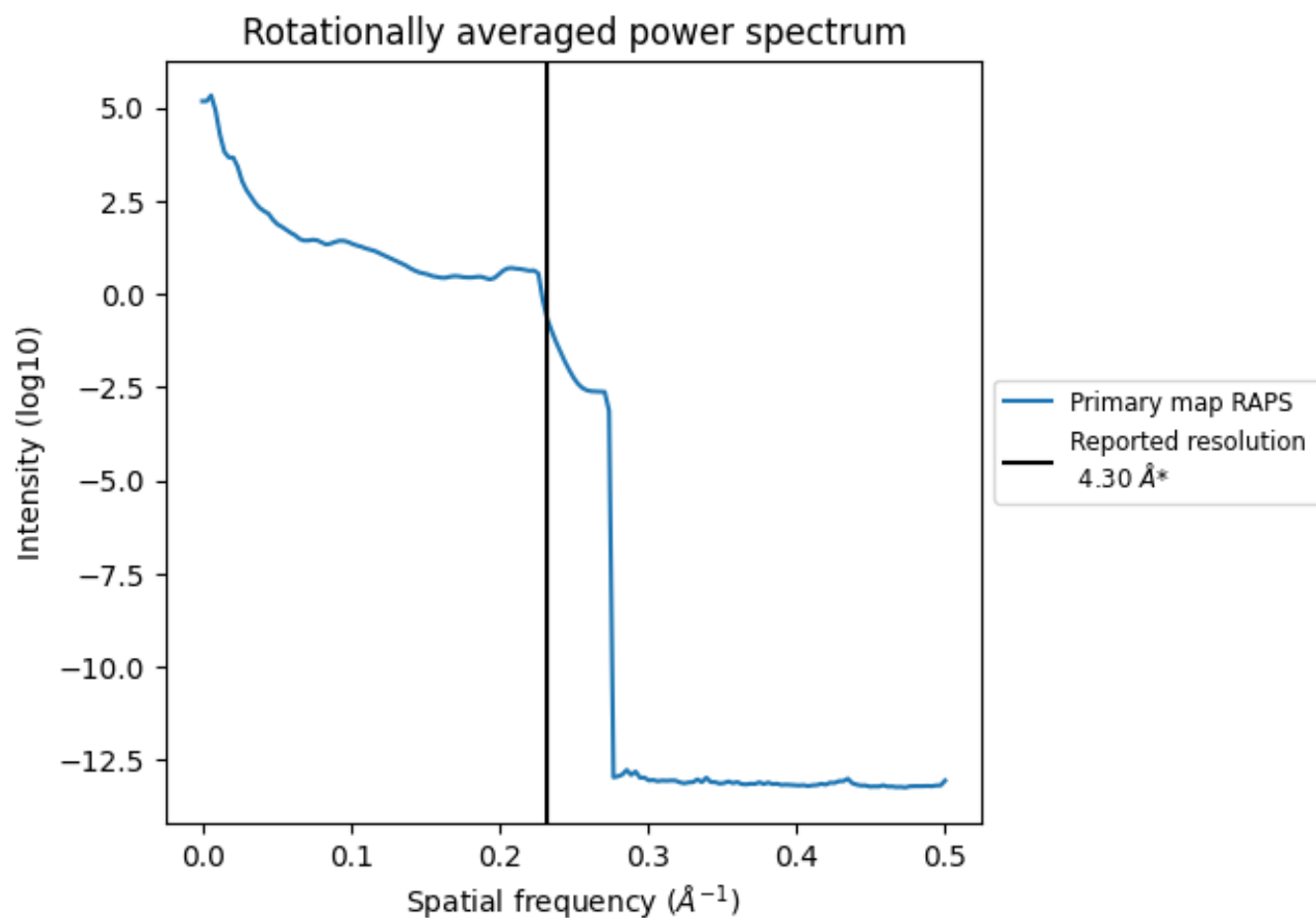
*Reported resolution corresponds to spatial frequency of 0.233 Å^{-1}

8 Fourier-Shell correlation ⓘ

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-23715 and PDB model 7M7J. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay ⓘ

| X | Y | Z |
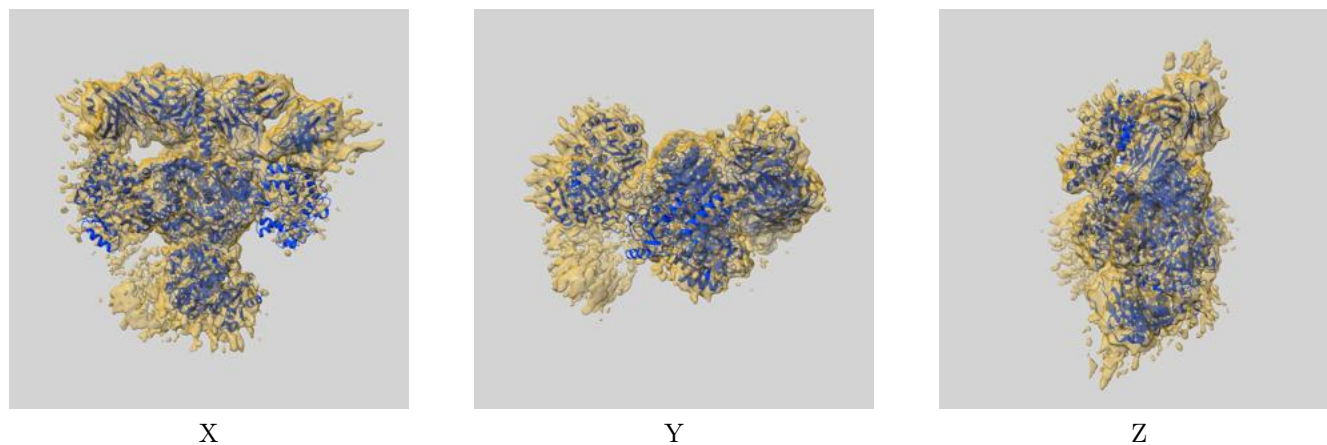
The images above show the 3D surface view of the map at the recommended contour level 0.28 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2　Q-score mapped to coordinate model ⓘ
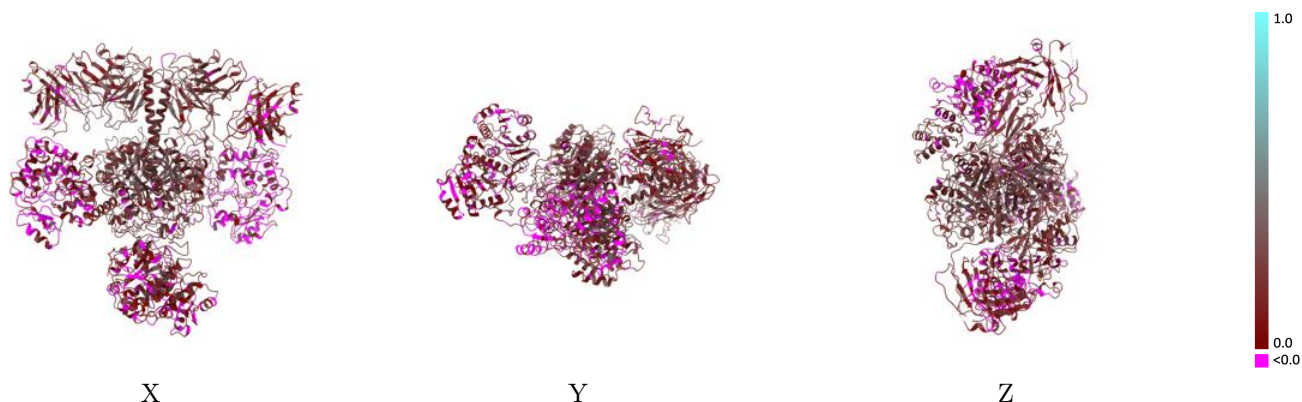
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 ⓘ
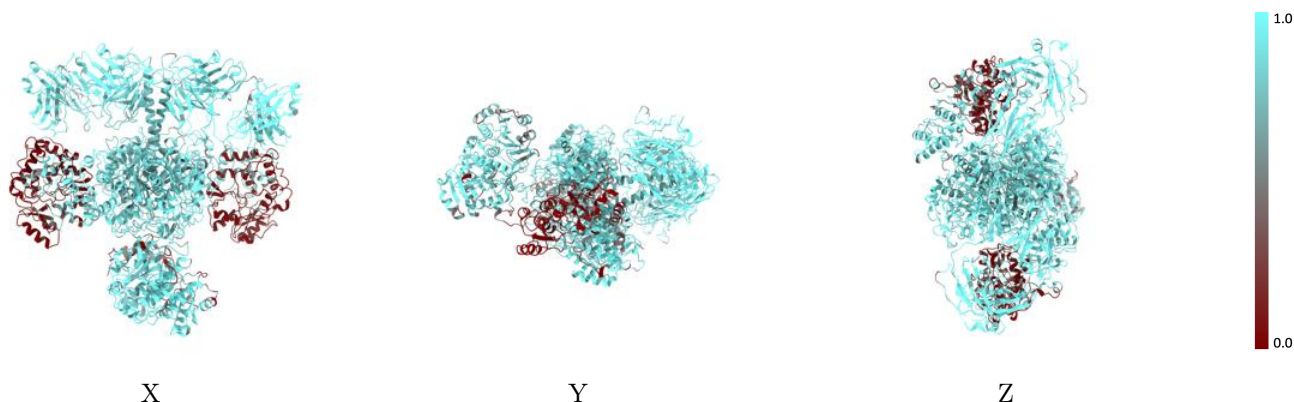
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.28).

9.4 Atom inclusion ⓘ
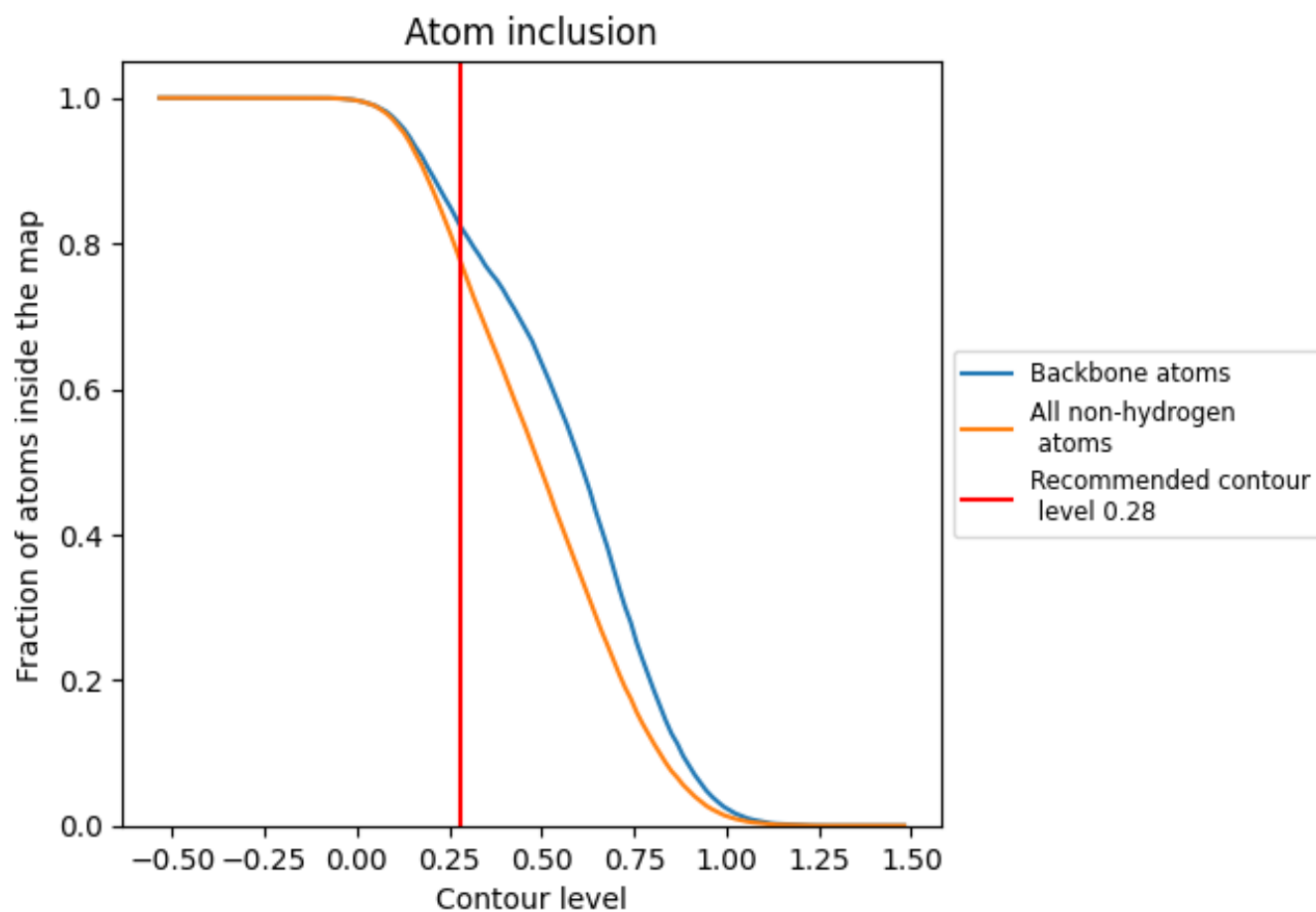
At the recommended contour level, 82% of all backbone atoms, 78% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.28) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7761	0.1660
A	0.7351	0.1410
B	0.6879	0.1610
C	0.9345	0.2010
D	0.9370	0.2120
E	0.9444	0.2050
F	0.9370	0.2280

1.0

0.0
<0.0