



## Full wwPDB EM Validation Report ⓘ

Jun 18, 2024 – 04:38 PM JST

PDB ID : 8JHK  
EMDB ID : EMD-36271  
Title : Cryo-EM structure of the DOCK5/ELMO1 complex, focused on one protomer  
Authors : Kukimoto-Niino, M.; Katsura, K.; Ishizuka-Katsura, Y.; Mishima-Tsumagari, C.; Yonemochi, M.; Inoue, M.; Nakagawa, R.; Kaushik, R.; Zhang, K.Y.J.; Shirouzu, M.  
Deposited on : 2023-05-23  
Resolution : 4.76 Å (reported)  
Based on initial models : 6IE1, 7DPA

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

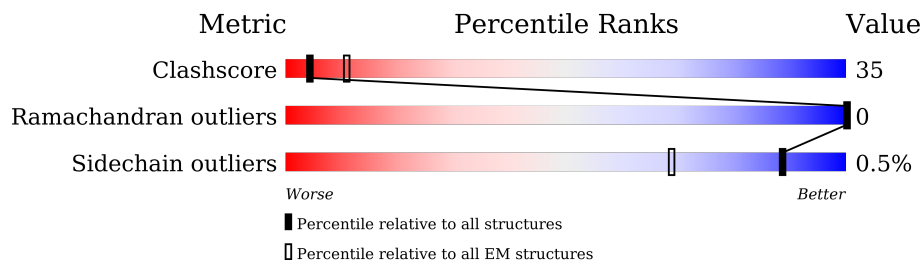
EMDB validation analysis : 0.0.1.dev92  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.37.1

# 1 Overall quality at a glance

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

The reported resolution of this entry is 4.76 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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

Mol	Chain	Length	Quality of chain
1	A	733	
2	B	1648	
2	E	1648	

## 2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 20512 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 Engulfment and cell motility protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	727	5879	3721	1009	1108	41	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-5	GLY	-	expression tag	UNP Q92556
A	-4	GLY	-	expression tag	UNP Q92556
A	-3	SER	-	expression tag	UNP Q92556
A	-2	GLY	-	expression tag	UNP Q92556
A	-1	GLY	-	expression tag	UNP Q92556
A	0	SER	-	expression tag	UNP Q92556

- Molecule 2 is a protein called Deducator of cytokinesis protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	1642	13436	8618	2264	2484	70	0	0
2	E	140	1197	773	197	222	5	0	0

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-5	GLY	-	expression tag	UNP Q9H7D0
B	-4	GLY	-	expression tag	UNP Q9H7D0
B	-3	SER	-	expression tag	UNP Q9H7D0
B	-2	GLY	-	expression tag	UNP Q9H7D0
B	-1	GLY	-	expression tag	UNP Q9H7D0
B	0	SER	-	expression tag	UNP Q9H7D0
B	1285	ARG	LYS	variant	UNP Q9H7D0
E	-5	GLY	-	expression tag	UNP Q9H7D0
E	-4	GLY	-	expression tag	UNP Q9H7D0

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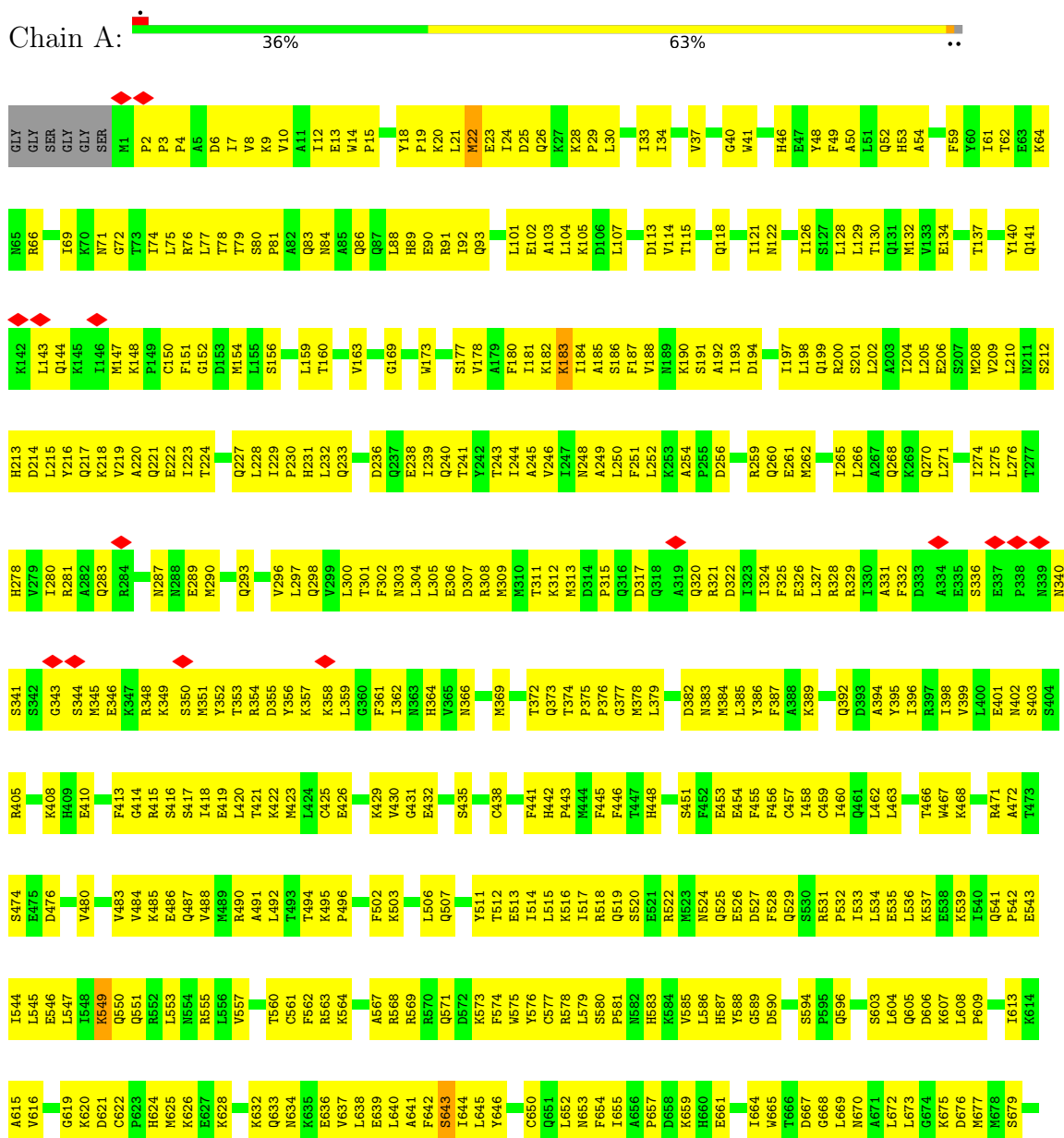
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Chain	Residue	Modelled	Actual	Comment	Reference
E	-3	SER	-	expression tag	UNP Q9H7D0
E	-2	GLY	-	expression tag	UNP Q9H7D0
E	-1	GLY	-	expression tag	UNP Q9H7D0
E	0	SER	-	expression tag	UNP Q9H7D0
E	1285	ARG	LYS	variant	UNP Q9H7D0

### 3 Residue-property plots

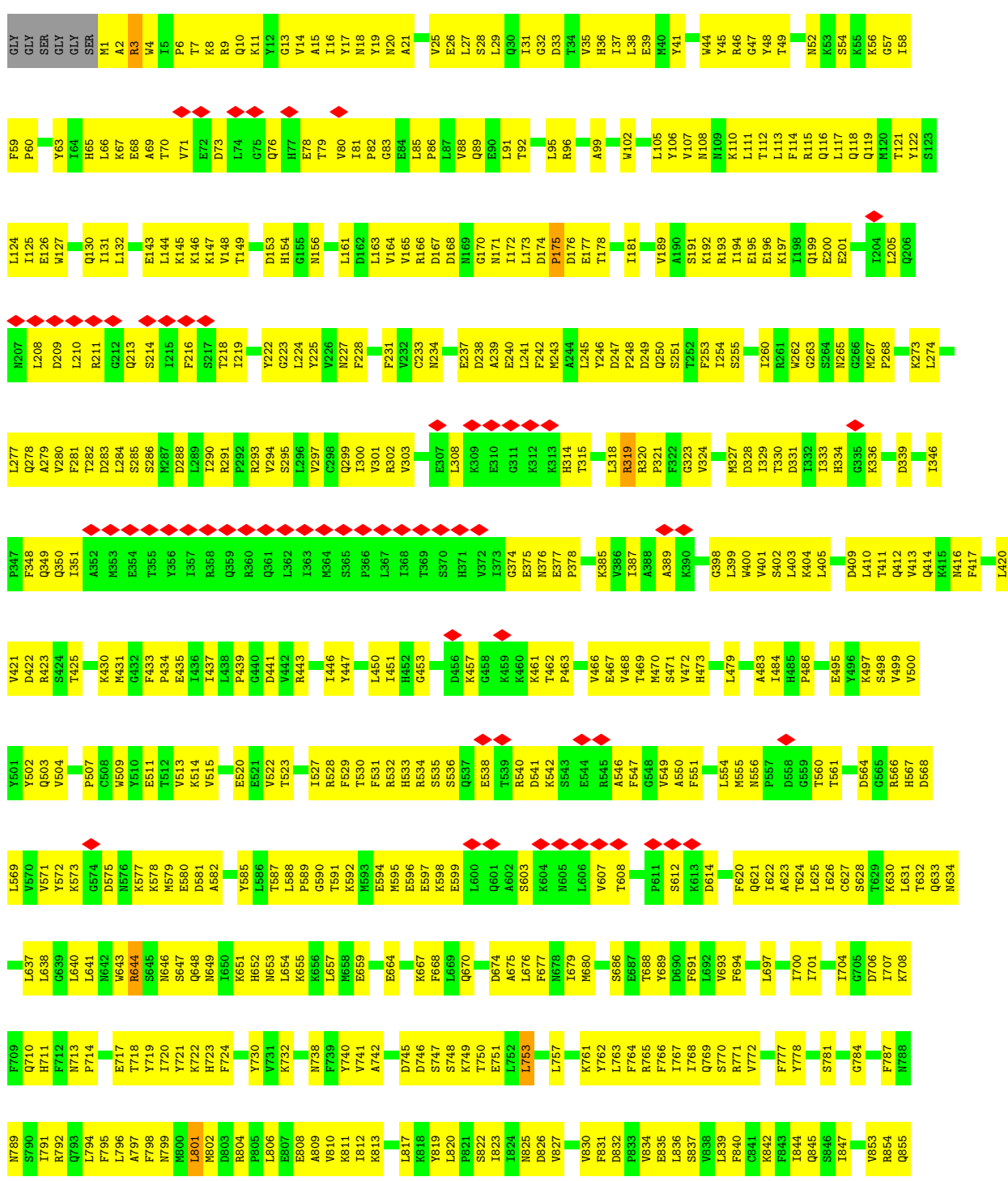
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

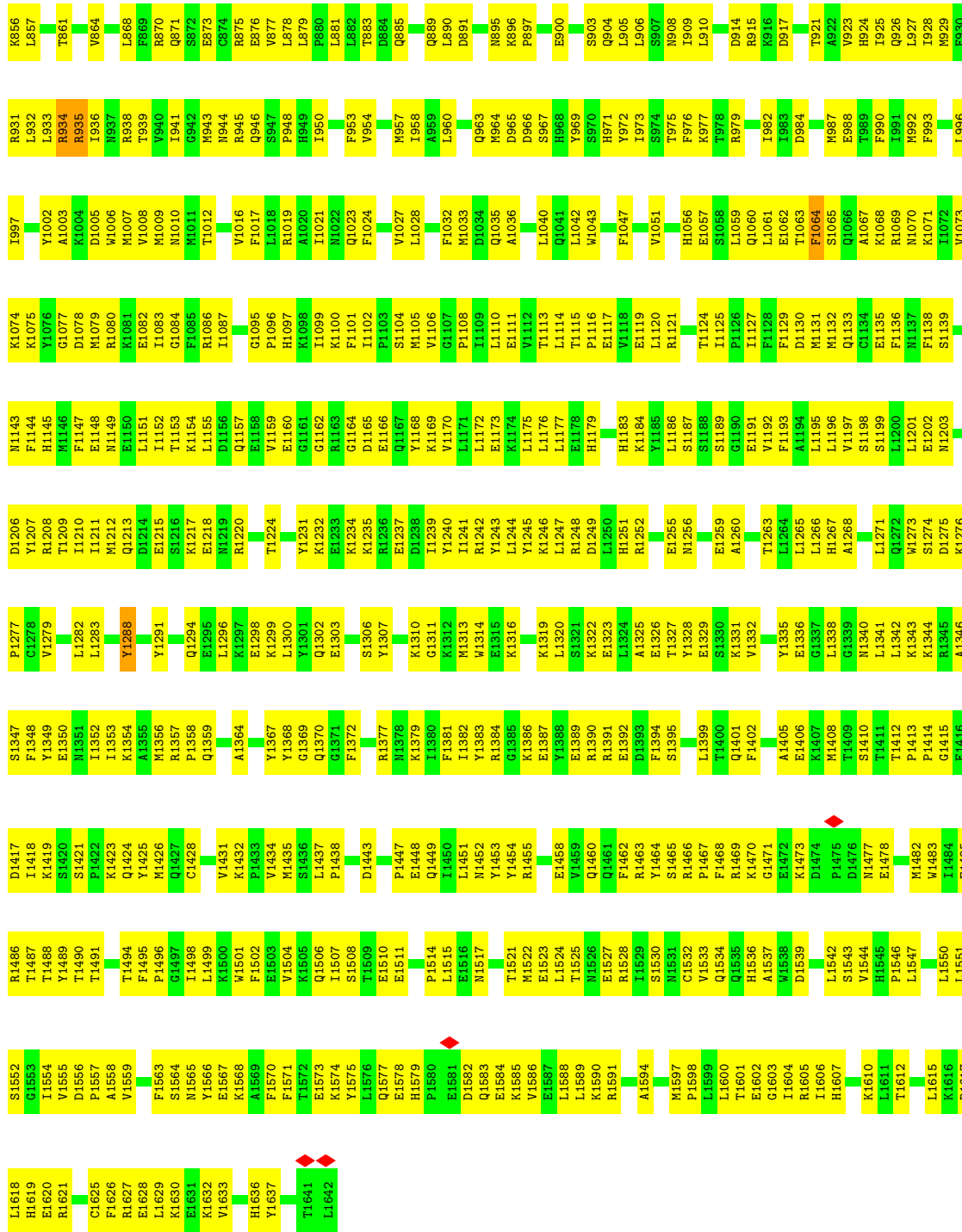
#### • Molecule 1: Engulfment and cell motility protein 1





• Molecule 2: Dedicator of cytokinesis protein 5





• Molecule 2: Deducator of cytokinesis protein 5

Chain E: ■ 5% ■ 92%

GLY	GLY	LYS
GLY	LYS	LYS
GLY	SER	GLY
GLY	GLY	ILE
GLY	GLY	PRO
SER	PRO	THR
MET	GLU	ALA
ALA	THR	THR
ARG	THR	ARG
GLN	THR	GLN
GLN	THR	VAL
LYS	VAL	VAL
TRP	GLU	GLU
GLY	ASP	ASP
VAL	LEU	LEU
VAL	ALA	GLY
ALA	GLN	ILE
TRP	GLU	HIS
ASN	GLU	TRP
TRP	ASN	ASN
ASN	THR	VAL
ASN	THR	VAL
ALA	ILE	ILE
ALA	PRO	PRO
SER	SER	PRO
GLN	GLN	GLY
GLN	GLN	GLU
ASP	ASP	GLU
VAL	VAL	LEU
VAL	VAL	LEU
GLU	PRO	PRO
LEU	LEU	PRO
LEU	LEU	LEU
VAL	VAL	VAL
LEU	GLN	GLN
LEU	GLU	GLU
ILE	LEU	LEU
ILE	ILE	ILE
GLY	GLY	THR
ASP	ASP	SER
THR	THR	THR
THR	THR	THR
VAL	LEU	LEU
VAL	VAL	VAL
ARG	ARG	ARG
HIS	HIS	HIS
ILE	ILE	ILE
LEU	TRP	TRP
LEU	ALA	ALA
GLU	VAL	VAL
MET	MET	VAL
GLU	TRP	TRP
GLY	GLY	TRP
GLY	GLY	LYS
TRP	TRP	LEU
TYR	TYR	LEU
ARG	ARG	TYR
GLY	GLY	VAL
VAL	ASN	ASN
ASN	ASN	ASN
ASN	ASN	LYS
LEU	LEU	LEU
LEU	THR	THR
ASN	ASN	THR
LYS	LYS	ASN
SER	SER	PHE







## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	279838	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	64000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.098	Depositor
Minimum map value	-0.043	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.013	Depositor
Map size ( $\text{\AA}$ )	319.2, 319.2, 319.2	wwPDB
Map dimensions	240, 240, 240	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.33, 1.33, 1.33	Depositor

## 5 Model quality i

### 5.1 Standard geometry i

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.30	0/5992	0.54	0/8086
2	B	0.35	0/13722	0.55	3/18514 (0.0%)
2	E	0.35	0/1223	0.52	0/1643
All	All	0.34	0/20937	0.55	3/28243 (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	A	0	1
2	B	0	2
All	All	0	3

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	801	LEU	CA-CB-CG	6.13	129.40	115.30
2	B	753	LEU	CA-CB-CG	-5.79	101.97	115.30
2	B	175	PRO	C-N-CA	5.46	135.36	121.70

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	643	SER	Peptide
2	B	1064	PHE	Peptide
2	B	1288	TYR	Peptide

## 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	5879	0	5902	456	0
2	B	13436	0	13516	931	0
2	E	1197	0	1194	96	0
All	All	20512	0	20612	1456	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 35.

All (1456) 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)
2:B:761:LYS:HE3	2:B:765:ARG:HE	1.32	0.95
2:B:201:GLU:O	2:B:205:LEU:HB2	1.67	0.93
2:B:36:HIS:HB2	2:B:48:TYR:HB2	1.52	0.88
2:B:1573:GLU:OE1	2:B:1577:GLN:NE2	2.05	0.88
2:E:1265:LEU:O	2:E:1269:GLU:N	2.07	0.88
2:B:1357:ARG:O	2:B:1359:GLN:NE2	2.08	0.87
2:E:1231:TYR:O	2:E:1235:LYS:N	2.09	0.86
2:B:1490:THR:HB	2:B:1506:GLN:HB3	1.56	0.86
2:B:1584:GLU:O	2:B:1588:LEU:HB2	1.74	0.86
2:B:223:GLY:HA3	2:B:280:VAL:HG13	1.58	0.85
2:B:1028:LEU:HD11	2:B:1042:LEU:HD23	1.59	0.85
2:B:664:GLU:HA	2:B:667:LYS:HD3	1.58	0.85
2:B:1059:LEU:HD12	2:B:1116:PRO:HB2	1.58	0.84
2:B:1145:HIS:HA	2:B:1148:GLU:HG3	1.59	0.82
1:A:568:ARG:HE	1:A:569:ARG:HH22	1.27	0.82
2:B:154:HIS:HA	2:B:197:LYS:HZ3	1.42	0.82
1:A:490:ARG:NH1	1:A:513:GLU:O	2.13	0.81
1:A:144:GLN:HA	1:A:147:MET:HG3	1.62	0.80
2:B:1062:GLU:HB3	2:B:1069:ARG:HA	1.63	0.80
2:B:1372:PHE:HB2	2:B:1377:ARG:HG2	1.62	0.80
2:B:91:LEU:HD11	2:B:124:LEU:HD11	1.62	0.79
2:B:1:MET:O	2:B:4:TRP:NE1	2.16	0.78
2:B:1418:ILE:HA	2:B:1421:SER:HB3	1.63	0.78
2:B:283:ASP:HB2	2:B:430:LYS:HB3	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:904:GLN:O	2:B:908:ASN:ND2	2.17	0.77
2:B:224:LEU:H	2:B:281:PHE:H	1.30	0.77
2:B:1117:GLU:OE1	2:B:1119:GLU:N	2.18	0.77
2:B:1582:ASP:O	2:B:1585:LYS:NZ	2.17	0.77
2:B:323:GLY:HA3	2:B:350:GLN:HA	1.67	0.77
2:B:14:VAL:HG23	2:B:65:HIS:HB3	1.66	0.77
1:A:202:LEU:HD12	1:A:246:VAL:HG21	1.66	0.76
2:B:1111:GLU:OE1	2:B:1111:GLU:N	2.18	0.76
1:A:306:GLU:HG3	1:A:431:GLY:HA3	1.66	0.76
2:B:1530:SER:O	2:B:1534:GLN:NE2	2.19	0.76
2:B:1544:VAL:HG22	2:B:1610:LYS:HD2	1.67	0.76
2:B:1346:ALA:HB1	2:E:1339:GLY:HA2	1.66	0.75
1:A:351:MET:HG2	1:A:354:ARG:HH21	1.48	0.75
2:B:1335:TYR:HA	2:B:1338:LEU:HD23	1.69	0.75
2:B:701:ILE:HD11	2:B:762:TYR:HD2	1.51	0.75
1:A:567:ALA:HB3	1:A:573:LYS:HG2	1.68	0.75
2:B:417:PHE:HB3	2:B:420:LEU:HB2	1.68	0.75
2:B:216:PHE:O	2:B:222:TYR:OH	2.06	0.74
2:B:710:GLN:O	2:B:713:ASN:ND2	2.20	0.74
1:A:238:GLU:O	1:A:241:THR:OG1	2.04	0.74
2:B:1465:SER:HA	2:B:1486:ARG:HA	1.69	0.74
1:A:209:VAL:HG11	1:A:249:ALA:HB1	1.67	0.74
2:B:966:ASP:HA	2:B:969:TYR:HD1	1.50	0.74
2:B:1466:ARG:HG3	2:B:1485:GLU:HB2	1.67	0.74
2:B:95:LEU:HD13	2:B:124:LEU:HD23	1.68	0.74
1:A:34:ILE:HG22	1:A:46:HIS:HB2	1.70	0.74
2:B:740:TYR:HB3	2:B:753:LEU:HD21	1.69	0.74
2:E:1291:TYR:HB3	2:E:1296:LEU:HD11	1.70	0.74
2:B:472:VAL:HG21	2:B:483:ALA:HB3	1.70	0.74
1:A:536:LEU:HD13	2:B:18:ASN:HD21	1.52	0.73
2:B:1215:GLU:O	2:B:1220:ARG:NH1	2.21	0.73
2:E:1248:ARG:HH11	2:E:1252:ARG:HH12	1.37	0.73
1:A:306:GLU:HA	1:A:309:MET:HG3	1.69	0.73
2:B:509:TRP:HB3	2:B:511:GLU:HB2	1.70	0.73
2:B:1298:GLU:OE1	2:B:1302:GLN:NE2	2.22	0.72
1:A:408:LYS:HE3	1:A:474:SER:HB2	1.70	0.72
2:B:1464:TYR:O	2:B:1487:THR:N	2.22	0.72
2:E:1294:GLN:N	2:E:1294:GLN:OE1	2.23	0.72
2:B:1209:THR:O	2:B:1213:GLN:NE2	2.23	0.72
2:B:208:LEU:HB3	2:B:211:ARG:HE	1.53	0.72
2:B:114:PHE:O	2:B:118:GLN:NE2	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1559:VAL:HG22	2:B:1629:LEU:HD11	1.72	0.72
1:A:79:THR:O	1:A:84:ASN:ND2	2.23	0.71
1:A:266:LEU:HD22	1:A:271:LEU:HD22	1.72	0.71
2:B:1160:GLU:OE1	2:B:1242:ARG:NH2	2.21	0.71
1:A:670:ASN:ND2	1:A:676:ASP:O	2.21	0.71
2:B:385:LYS:O	2:B:389:ALA:N	2.23	0.71
2:B:801:LEU:O	2:B:813:LYS:NZ	2.21	0.71
2:B:809:ALA:HB1	2:B:812:ILE:HB	1.71	0.71
1:A:140:TYR:HD1	1:A:143:LEU:HD11	1.55	0.71
2:B:126:GLU:OE1	2:B:130:GLN:NE2	2.24	0.71
2:B:761:LYS:NZ	2:B:826:ASP:OD2	2.24	0.71
2:B:1460:GLN:NE2	2:B:1491:THR:O	2.24	0.71
2:B:314:HIS:ND1	2:B:536:SER:O	2.24	0.71
2:B:590:GLY:N	2:B:594:GLU:OE2	2.24	0.70
1:A:514:ILE:O	1:A:518:ARG:NH2	2.23	0.70
2:B:1377:ARG:H	2:B:1379:LYS:HE2	1.55	0.70
2:B:1169:LYS:O	2:B:1173:GLU:HG2	1.91	0.70
2:B:1391:ARG:HH12	2:B:1395:SER:HB2	1.56	0.70
2:B:166:ARG:HG2	2:B:173:LEU:HB2	1.72	0.70
1:A:212:SER:HB3	1:A:215:LEU:HD13	1.73	0.70
2:B:652:HIS:HA	2:B:655:LYS:HD2	1.73	0.70
2:B:10:GLN:NE2	2:B:68:GLU:OE2	2.25	0.70
2:B:149:THR:HG22	2:B:171:ASN:HD21	1.56	0.70
1:A:511:TYR:HD1	1:A:514:ILE:HD12	1.56	0.70
2:E:1280:PRO:HA	2:E:1283:LEU:HB2	1.74	0.70
2:B:628:SER:O	2:B:667:LYS:NZ	2.24	0.69
2:B:944:ASN:O	2:B:946:GLN:NE2	2.25	0.69
2:B:1153:THR:HG22	2:B:1157:GLN:HE22	1.57	0.69
2:B:446:ILE:HA	2:B:626:ILE:HG23	1.72	0.69
1:A:228:LEU:HA	1:A:231:HIS:HD2	1.56	0.69
2:B:654:LEU:HD13	2:B:657:LEU:HD12	1.74	0.69
2:B:1241:ILE:HA	2:B:1244:LEU:HD12	1.72	0.69
2:B:1386:LYS:HB2	2:B:1389:GLU:HB2	1.72	0.69
1:A:512:THR:O	1:A:516:LYS:N	2.26	0.69
1:A:670:ASN:OD1	1:A:675:LYS:HG3	1.92	0.69
2:B:224:LEU:HD11	2:B:245:LEU:HD11	1.73	0.69
2:E:1238:ASP:OD1	2:E:1239:ILE:N	2.25	0.69
1:A:260:GLN:NE2	1:A:307:ASP:OD2	2.25	0.69
1:A:386:TYR:HA	1:A:389:LYS:HD2	1.75	0.69
2:B:315:THR:HA	2:B:538:GLU:HG3	1.74	0.69
2:B:819:TYR:O	2:B:822:SER:OG	2.10	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:356:TYR:HB3	1:A:361:PHE:HB2	1.73	0.69
1:A:287:ASN:HB2	1:A:290:MET:H	1.58	0.69
1:A:541:GLN:HA	1:A:544:ILE:HG12	1.75	0.69
2:B:273:LYS:HB3	2:B:277:LEU:HD21	1.75	0.69
2:B:717:GLU:OE2	2:B:765:ARG:NH1	2.25	0.68
2:B:927:LEU:HD12	2:B:931:ARG:HH22	1.57	0.68
1:A:25:ASP:O	1:A:66:ARG:NH2	2.26	0.68
2:B:154:HIS:NE2	2:B:201:GLU:OE2	2.25	0.68
1:A:443:PRO:HD2	1:A:495:LYS:HZ1	1.57	0.68
2:B:871:GLN:HG3	2:B:875:ARG:HB2	1.76	0.68
2:B:8:LYS:HA	2:B:11:LYS:HD3	1.75	0.68
2:B:864:VAL:HG21	2:B:909:ILE:HG22	1.74	0.68
1:A:518:ARG:O	1:A:522:ARG:NH2	2.26	0.68
2:B:1488:THR:HB	2:B:1508:SER:HB2	1.73	0.68
1:A:62:THR:HG23	1:A:64:LYS:H	1.58	0.68
1:A:408:LYS:HB3	1:A:474:SER:H	1.58	0.68
2:B:36:HIS:HB3	2:B:38:LEU:HD21	1.76	0.68
2:B:1237:GLU:OE1	2:B:1237:GLU:N	2.27	0.68
1:A:441:PHE:HD2	1:A:443:PRO:HD3	1.59	0.67
2:B:1056:HIS:ND1	2:B:1057:GLU:OE2	2.26	0.67
2:B:1384:ARG:HH21	2:B:1495:PHE:HB3	1.60	0.67
2:B:1573:GLU:O	2:B:1577:GLN:NE2	2.28	0.67
2:B:228:PHE:HE2	2:B:399:LEU:HB2	1.59	0.67
2:B:1067:ALA:O	2:B:1071:LYS:N	2.24	0.67
2:B:1458:GLU:HA	2:B:1495:PHE:O	1.94	0.67
2:B:1135:GLU:O	2:B:1139:SER:N	2.28	0.67
2:B:1347:SER:O	2:B:1350:GLU:HG3	1.94	0.67
2:B:675:ALA:O	2:B:679:ILE:HD12	1.94	0.67
2:B:1024:PHE:HA	2:B:1027:VAL:HG12	1.77	0.67
1:A:61:ILE:HG21	1:A:69:ILE:HD11	1.77	0.67
1:A:541:GLN:HB3	1:A:545:LEU:HD23	1.75	0.67
2:B:789:ASN:HA	2:B:792:ARG:HD2	1.76	0.67
1:A:202:LEU:HD13	1:A:205:LEU:HD12	1.76	0.66
2:B:1452:ASN:HA	2:B:1455:ARG:HG2	1.77	0.66
2:B:1389:GLU:OE2	2:B:1394:PHE:N	2.29	0.66
2:B:46:ARG:NH2	2:B:48:TYR:OH	2.28	0.66
2:B:1117:GLU:OE2	2:B:1121:ARG:N	2.22	0.66
2:E:1249:ASP:OD1	2:E:1252:ARG:NH1	2.28	0.66
1:A:245:ALA:N	1:A:293:GLN:HE22	1.94	0.66
2:B:1406:GLU:OE2	2:B:1423:LYS:HG3	1.95	0.66
1:A:147:MET:HB2	1:A:150:CYS:HB2	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:720:ILE:HA	2:B:724:PHE:HB2	1.78	0.66
2:B:1102:ILE:O	2:B:1106:VAL:HG13	1.96	0.66
1:A:214:ASP:HA	1:A:217:GLN:HG2	1.77	0.66
1:A:230:PRO:HA	1:A:233:GLN:HG2	1.77	0.66
1:A:276:LEU:HA	1:A:280:ILE:HB	1.76	0.65
2:B:972:TYR:HA	2:B:975:THR:HB	1.77	0.65
2:B:941:ILE:O	2:B:944:ASN:ND2	2.29	0.65
2:B:1604:ILE:HG23	2:B:1619:HIS:HE2	1.60	0.65
2:E:1301:TYR:HE1	2:E:1320:LEU:HD22	1.60	0.65
1:A:359:LEU:HD22	1:A:413:PHE:H	1.60	0.65
2:B:409:ASP:OD1	2:B:411:THR:OG1	2.12	0.65
2:B:144:LEU:HD23	2:B:147:LYS:HE2	1.79	0.65
2:B:1364:ALA:HA	2:B:1382:ILE:HG13	1.79	0.65
2:B:1583:GLN:O	2:B:1583:GLN:NE2	2.29	0.65
2:E:1248:ARG:NH1	2:E:1249:ASP:OD1	2.28	0.65
2:B:1466:ARG:NH1	2:B:1467:PRO:O	2.28	0.65
2:E:1328:TYR:HA	2:E:1332:VAL:HG12	1.78	0.65
1:A:10:VAL:HG11	1:A:75:LEU:HD13	1.78	0.65
2:B:875:ARG:HD2	2:B:924:HIS:CG	2.32	0.65
2:B:1065:SER:OG	2:B:1068:LYS:N	2.28	0.65
2:B:965:ASP:OD1	2:B:966:ASP:N	2.28	0.65
2:E:1283:LEU:O	2:E:1285:ARG:NH1	2.28	0.65
2:B:231:PHE:CE2	2:B:233:CYS:HB3	2.32	0.64
1:A:233:GLN:OE1	1:A:278:HIS:NE2	2.29	0.64
1:A:18:TYR:O	1:A:41:TRP:NE1	2.26	0.64
2:B:1406:GLU:OE1	2:B:1425:TYR:HD1	1.80	0.64
2:B:1575:TYR:OH	2:B:1585:LYS:HB2	1.97	0.64
1:A:177:SER:H	1:A:180:PHE:HB2	1.61	0.64
1:A:241:THR:O	1:A:293:GLN:NE2	2.31	0.64
2:B:730:TYR:HB2	2:B:767:ILE:HG23	1.79	0.64
2:B:1612:THR:H	2:B:1615:LEU:HB2	1.61	0.64
1:A:169:GLY:HA2	1:A:173:TRP:HZ2	1.62	0.64
1:A:198:LEU:HD11	1:A:231:HIS:CE1	2.32	0.64
2:B:1567:GLU:HG2	2:B:1568:LYS:HD2	1.78	0.64
1:A:20:LYS:HZ3	1:A:40:GLY:HA3	1.62	0.64
2:B:450:LEU:HB2	2:B:511:GLU:HB3	1.79	0.64
2:B:1356:MET:O	2:B:1357:ARG:NH1	2.31	0.64
2:E:1301:TYR:O	2:E:1305:ILE:HG12	1.98	0.64
2:B:1432:LYS:HB3	2:B:1463:ARG:HG2	1.80	0.64
2:B:462:THR:HB	2:B:503:GLN:HG2	1.80	0.64
2:B:640:LEU:HD11	2:B:657:LEU:HD21	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:934:ARG:NH1	2:B:938:ARG:HB2	2.13	0.64
2:B:17:TYR:HA	2:B:31:ILE:HG23	1.80	0.64
2:B:1175:LEU:O	2:B:1179:HIS:ND1	2.31	0.64
1:A:251:PHE:O	1:A:259:ARG:NH2	2.31	0.63
2:B:417:PHE:O	2:B:421:VAL:N	2.26	0.63
2:B:1575:TYR:CZ	2:B:1585:LYS:HD2	2.34	0.63
2:B:1059:LEU:O	2:B:1063:THR:OG1	2.09	0.63
2:B:795:PHE:HD2	2:B:839:LEU:HB3	1.62	0.63
2:B:1151:LEU:O	2:B:1155:LEU:HG	1.99	0.63
1:A:54:ALA:HB2	1:A:76:ARG:H	1.63	0.63
1:A:327:LEU:HD21	1:A:385:LEU:HD23	1.81	0.63
1:A:563:ARG:HB2	1:A:655:ILE:HG21	1.81	0.63
2:B:102:TRP:HA	2:B:105:LEU:HB2	1.80	0.63
1:A:281:ARG:O	1:A:283:GLN:NE2	2.31	0.63
1:A:503:LYS:HD3	1:A:506:LEU:HD12	1.81	0.63
2:B:628:SER:HB2	2:B:631:LEU:HD22	1.80	0.63
2:B:670:GLN:NE2	2:B:674:ASP:OD2	2.31	0.63
2:B:1340:ASN:HA	2:B:1343:LYS:NZ	2.14	0.63
1:A:256:ASP:HA	1:A:259:ARG:HD3	1.80	0.62
2:B:172:ILE:O	2:B:174:ASP:N	2.32	0.62
2:B:451:ILE:HD12	2:B:621:GLN:HE22	1.63	0.62
1:A:86:GLN:HA	1:A:89:HIS:CD2	2.34	0.62
2:B:900:GLU:O	2:B:904:GLN:HG2	2.00	0.62
1:A:202:LEU:HA	1:A:205:LEU:HD12	1.80	0.62
1:A:346:GLU:N	1:A:346:GLU:OE1	2.33	0.62
1:A:560:THR:H	1:A:665:TRP:HZ2	1.46	0.62
1:A:646:TYR:N	1:A:650:CYS:O	2.30	0.62
2:B:653:ASN:O	2:B:657:LEU:HG	2.00	0.62
2:B:789:ASN:OD1	2:B:792:ARG:NH1	2.32	0.62
2:B:1073:VAL:O	2:B:1077:GLY:N	2.32	0.62
2:B:225:TYR:HB3	2:B:404:LYS:H	1.64	0.62
2:E:1307:TYR:O	2:E:1311:GLY:N	2.32	0.62
1:A:562:PHE:N	1:A:575:TRP:O	2.33	0.62
2:B:170:GLY:HA3	2:B:173:LEU:HD13	1.80	0.62
2:B:599:GLU:O	2:B:603:SER:N	2.33	0.62
2:B:1536:HIS:CE1	2:B:1610:LYS:HD3	2.34	0.62
1:A:118:GLN:NE2	1:A:122:ASN:OD1	2.32	0.62
1:A:265:ILE:O	1:A:268:GLN:HG2	1.99	0.62
1:A:551:GLN:O	1:A:555:ARG:HG2	2.00	0.62
1:A:328:ARG:HD3	1:A:348:ARG:HH22	1.64	0.62
1:A:541:GLN:O	1:A:545:LEU:N	2.23	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:79:THR:HB	2:B:85:LEU:HG	1.81	0.62
2:B:446:ILE:HG23	2:B:626:ILE:HG12	1.81	0.62
2:B:327:MET:SD	2:B:346:ILE:HG13	2.40	0.61
1:A:382:ASP:HA	1:A:385:LEU:HD12	1.83	0.61
1:A:383:ASN:ND2	1:A:453:GLU:HA	2.16	0.61
1:A:622:CYS:HB2	1:A:625:MET:HG3	1.81	0.61
2:B:768:ILE:HD12	2:B:830:VAL:HG21	1.81	0.61
1:A:677:MET:O	1:A:683:ARG:NH1	2.33	0.61
2:B:433:PHE:HA	2:B:443:ARG:HH12	1.65	0.61
2:B:810:VAL:HG23	2:B:811:LYS:H	1.65	0.61
1:A:271:LEU:HA	1:A:274:ILE:HG22	1.82	0.61
1:A:356:TYR:HD1	1:A:359:LEU:HB2	1.65	0.61
2:B:112:THR:O	2:B:116:GLN:NE2	2.34	0.61
2:B:319:ARG:NH2	2:B:498:SER:O	2.33	0.61
2:B:1607:HIS:HD2	2:B:1619:HIS:CD2	2.18	0.61
1:A:344:SER:OG	1:A:346:GLU:OE1	2.15	0.61
1:A:491:ALA:O	1:A:494:THR:OG1	2.18	0.61
2:B:1328:TYR:HB3	2:B:1338:LEU:HD22	1.82	0.61
2:E:1242:ARG:HH12	2:E:1284:GLN:HA	1.64	0.61
1:A:2:PRO:HG2	1:A:3:PRO:HD3	1.83	0.61
2:B:14:VAL:HG13	2:B:67:LYS:HD3	1.83	0.61
2:B:450:LEU:O	2:B:511:GLU:N	2.34	0.61
2:B:1486:ARG:NH1	2:B:1510:GLU:OE2	2.34	0.61
1:A:91:ARG:HB2	1:A:103:ALA:HB2	1.82	0.61
1:A:522:ARG:O	1:A:525:GLN:HG3	2.01	0.61
1:A:578:ARG:HB3	1:A:587:HIS:HB2	1.81	0.61
2:B:172:ILE:O	2:B:175:PRO:HD3	2.01	0.61
2:B:677:PHE:HA	2:B:680:MET:HG3	1.83	0.61
2:B:973:ILE:HA	2:B:976:PHE:CE1	2.34	0.61
2:B:208:LEU:O	2:B:211:ARG:NE	2.33	0.61
2:B:556:ASN:N	2:B:560:THR:O	2.34	0.61
2:B:993:PHE:O	2:B:996:LEU:N	2.33	0.61
2:B:1465:SER:HB2	2:B:1486:ARG:HG2	1.82	0.61
1:A:309:MET:HB3	1:A:379:LEU:HD23	1.81	0.61
2:B:607:VAL:HG12	2:B:608:THR:HG23	1.83	0.61
2:B:86:PRO:O	2:B:89:GLN:HG2	2.00	0.60
2:B:596:GLU:HA	2:B:599:GLU:HG2	1.82	0.60
1:A:21:LEU:HD11	2:B:1356:MET:HB2	1.82	0.60
1:A:398:ILE:HD13	1:A:401:GLU:OE2	2.00	0.60
2:B:376:ASN:ND2	2:B:502:TYR:O	2.35	0.60
2:B:239:ALA:HA	2:B:302:ARG:HA	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:248:PRO:HB3	2:B:387:ILE:HG21	1.82	0.60
2:B:1243:TYR:O	2:B:1247:LEU:HD23	2.01	0.60
2:E:1277:PRO:HG2	2:E:1290:VAL:HG22	1.82	0.60
2:B:634:ASN:OD1	2:B:637:LEU:N	2.31	0.60
2:E:1298:GLU:OE1	2:E:1302:GLN:NE2	2.33	0.60
2:B:1082:GLU:OE2	2:B:1082:GLU:N	2.22	0.60
1:A:340:ASN:ND2	1:A:351:MET:SD	2.75	0.60
2:B:1539:ASP:HB3	2:B:1542:LEU:HD12	1.84	0.60
1:A:313:MET:HB2	1:A:378:MET:SD	2.42	0.60
2:E:1225:VAL:HA	2:E:1228:LEU:HD12	1.82	0.60
2:B:233:CYS:SG	2:B:234:ASN:N	2.75	0.60
2:B:1434:VAL:HA	2:B:1463:ARG:HH22	1.66	0.60
1:A:90:GLU:HA	1:A:93:GLN:OE1	2.02	0.59
2:B:569:LEU:HD11	2:B:622:ILE:HG12	1.84	0.59
1:A:441:PHE:CD2	1:A:443:PRO:HD3	2.37	0.59
1:A:557:VAL:HA	1:A:579:LEU:HB3	1.84	0.59
2:B:1368:TYR:CZ	2:B:1414:PRO:HB3	2.37	0.59
2:B:1536:HIS:HA	2:B:1542:LEU:HD13	1.84	0.59
2:B:795:PHE:HA	2:B:798:PHE:HD2	1.68	0.59
1:A:587:HIS:ND1	1:A:606:ASP:OD1	2.36	0.59
2:B:534:ARG:NE	2:B:541:ASP:OD1	2.31	0.59
2:B:1136:PHE:CD1	2:B:1186:LEU:HD22	2.38	0.59
2:B:1159:VAL:O	2:B:1208:ARG:NH2	2.17	0.59
2:B:1165:ASP:O	2:B:1168:TYR:HB3	2.02	0.59
2:B:1307:TYR:O	2:B:1311:GLY:N	2.35	0.59
1:A:262:MET:O	1:A:266:LEU:HG	2.03	0.59
2:B:16:ILE:HG12	2:B:65:HIS:CD2	2.37	0.59
2:E:1258:THR:OG1	2:E:1259:GLU:OE1	2.21	0.59
1:A:88:LEU:O	1:A:92:ILE:HG12	2.02	0.59
1:A:309:MET:HE2	1:A:376:PRO:HA	1.84	0.59
2:E:1224:THR:O	2:E:1228:LEU:HG	2.02	0.59
2:B:900:GLU:O	2:B:903:SER:OG	2.20	0.59
2:B:1369:GLY:HA2	2:B:1418:ILE:HG13	1.85	0.59
2:E:1228:LEU:HB3	2:E:1240:TYR:HE1	1.67	0.59
1:A:692:MET:HE2	1:A:692:MET:HA	1.84	0.58
2:B:189:VAL:O	2:B:193:ARG:HG2	2.03	0.58
2:B:1401:GLN:O	2:B:1401:GLN:NE2	2.35	0.58
1:A:289:GLU:O	1:A:293:GLN:HG2	2.03	0.58
2:B:1328:TYR:HA	2:B:1332:VAL:HG22	1.84	0.58
2:B:954:VAL:HA	2:B:957:MET:HE3	1.85	0.58
2:B:966:ASP:HA	2:B:969:TYR:CD1	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1383:TYR:CD2	2:B:1501:TRP:HB3	2.38	0.58
2:B:1469:ARG:HG3	2:B:1478:GLU:HG2	1.86	0.58
2:B:1532:CYS:O	2:B:1536:HIS:HB2	2.03	0.58
2:B:1607:HIS:HE1	2:B:1615:LEU:HD13	1.68	0.58
1:A:141:GLN:HA	1:A:144:GLN:HB3	1.85	0.58
2:B:909:ILE:HG13	2:B:910:LEU:N	2.18	0.58
2:B:592:LYS:HA	2:B:595:MET:HG2	1.85	0.58
2:B:801:LEU:HD23	2:B:804:ARG:HH21	1.68	0.58
1:A:374:THR:HG22	1:A:377:GLY:HA3	1.84	0.58
2:B:587:THR:O	2:B:598:LYS:NZ	2.36	0.58
2:B:1449:GLN:HA	2:B:1452:ASN:HD21	1.69	0.58
2:B:473:HIS:HE2	2:B:528:ARG:HB3	1.69	0.58
2:B:569:LEU:HD12	2:B:620:PHE:HD2	1.69	0.58
2:B:1327:THR:O	2:B:1331:LYS:HB2	2.03	0.58
2:B:3:ARG:HB3	2:B:41:TYR:CE1	2.39	0.57
2:B:594:GLU:HA	2:B:597:GLU:HG3	1.86	0.57
2:B:1370:GLN:HA	2:B:1377:ARG:HH21	1.69	0.57
1:A:137:THR:O	1:A:141:GLN:NE2	2.37	0.57
1:A:328:ARG:NH2	1:A:355:ASP:HB2	2.19	0.57
2:B:958:ILE:HB	2:B:1016:VAL:HG21	1.86	0.57
1:A:147:MET:SD	1:A:151:PHE:HB2	2.44	0.57
1:A:181:ILE:HD11	1:A:222:GLU:HB2	1.86	0.57
2:B:484:ILE:HA	2:B:515:VAL:HG12	1.85	0.57
2:B:1008:VAL:O	2:B:1012:THR:HG23	2.05	0.57
2:B:1172:LEU:HG	2:B:1176:LEU:HD23	1.85	0.57
2:B:1231:TYR:O	2:B:1235:LYS:N	2.38	0.57
2:B:1525:THR:OG1	2:B:1528:ARG:NH2	2.38	0.57
2:B:1555:VAL:HA	2:B:1559:VAL:HG23	1.85	0.57
2:B:1590:LYS:NZ	2:B:1637:TYR:O	2.37	0.57
2:E:1316:LYS:HG3	2:E:1319:LYS:HE3	1.86	0.57
1:A:54:ALA:HB3	1:A:74:ILE:HG23	1.85	0.57
1:A:567:ALA:HB1	1:A:571:GLN:HB2	1.85	0.57
2:B:1183:HIS:CE1	2:B:1186:LEU:HB3	2.39	0.57
1:A:53:HIS:N	1:A:59:PHE:O	2.29	0.57
2:B:706:ASP:OD1	2:B:708:LYS:N	2.35	0.57
2:E:1221:MET:O	2:E:1224:THR:OG1	2.19	0.57
2:B:463:PRO:HD2	2:B:503:GLN:HB3	1.86	0.57
2:B:575:ASP:OD2	2:B:578:LYS:N	2.32	0.57
2:B:470:MET:SD	2:B:484:ILE:HG12	2.45	0.57
2:B:1336:GLU:O	2:B:1340:ASN:ND2	2.37	0.57
1:A:6:ASP:O	1:A:26:GLN:N	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:28:LYS:O	1:A:66:ARG:NH1	2.37	0.57
1:A:276:LEU:HA	1:A:280:ILE:HD12	1.85	0.57
2:B:412:GLN:O	2:B:416:ASN:N	2.36	0.57
2:B:1195:LEU:O	2:B:1198:SER:OG	2.20	0.57
1:A:194:ASP:HB3	1:A:197:ILE:HD12	1.87	0.57
1:A:486:GLU:O	1:A:490:ARG:HG3	2.04	0.57
2:B:44:TRP:HA	2:B:60:PRO:HA	1.87	0.57
2:B:1136:PHE:HA	2:B:1139:SER:HB2	1.87	0.57
2:B:1431:VAL:HG12	2:B:1464:TYR:HB2	1.87	0.57
2:E:1268:ALA:HA	2:E:1271:LEU:HD13	1.85	0.57
2:B:166:ARG:NH1	2:B:168:ASP:H	2.03	0.56
2:B:1232:LYS:HB2	2:B:1240:TYR:HE1	1.70	0.56
1:A:9:LYS:N	1:A:71:ASN:OD1	2.37	0.56
1:A:20:LYS:NZ	1:A:40:GLY:HA3	2.20	0.56
1:A:503:LYS:O	1:A:507:GLN:NE2	2.38	0.56
2:B:1207:TYR:O	2:B:1211:ILE:HG12	2.04	0.56
1:A:13:GLU:HG3	1:A:19:PRO:HB3	1.86	0.56
1:A:232:LEU:HD22	1:A:275:ILE:HD13	1.86	0.56
1:A:266:LEU:O	1:A:270:GLN:N	2.38	0.56
2:B:68:GLU:N	2:B:78:GLU:OE2	2.38	0.56
2:B:294:VAL:HB	2:B:330:THR:HA	1.87	0.56
2:B:466:VAL:HG22	2:B:547:PHE:HZ	1.70	0.56
2:B:763:LEU:HA	2:B:766:PHE:HD1	1.70	0.56
1:A:49:PHE:HA	1:A:79:THR:HA	1.86	0.56
1:A:485:LYS:HD2	1:A:488:VAL:HB	1.86	0.56
2:B:472:VAL:HA	2:B:527:ILE:HG22	1.86	0.56
2:B:19:TYR:HB3	2:B:28:SER:HA	1.88	0.56
2:B:969:TYR:HA	2:B:973:ILE:HB	1.87	0.56
2:B:1328:TYR:HB3	2:B:1338:LEU:CD2	2.35	0.56
2:B:60:PRO:HG2	2:B:63:TYR:HB2	1.88	0.56
2:B:840:PHE:O	2:B:844:ILE:HG22	2.05	0.56
2:B:939:THR:O	2:B:943:MET:HG3	2.06	0.56
2:B:1273:TRP:HE3	2:B:1294:GLN:HG3	1.70	0.56
2:B:569:LEU:HD21	2:B:622:ILE:HG12	1.87	0.56
2:B:520:GLU:O	2:B:523:THR:OG1	2.17	0.56
2:B:1117:GLU:OE2	2:B:1120:LEU:HG	2.06	0.56
2:B:1249:ASP:OD1	2:B:1252:ARG:NH2	2.25	0.56
2:B:1617:PRO:O	2:B:1620:GLU:HG3	2.06	0.56
1:A:715:LYS:C	2:B:44:TRP:HE1	2.09	0.56
2:B:984:ASP:O	2:B:987:MET:HB2	2.05	0.56
2:B:1600:LEU:HB2	2:B:1626:PHE:HE2	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:817:LEU:HD11	2:B:855:GLN:HB3	1.88	0.55
2:B:1356:MET:SD	2:B:1358:PRO:HD3	2.46	0.55
1:A:306:GLU:HA	1:A:309:MET:CG	2.37	0.55
1:A:443:PRO:HD2	1:A:495:LYS:NZ	2.20	0.55
1:A:615:ALA:HB3	1:A:645:LEU:HD23	1.87	0.55
1:A:9:LYS:O	1:A:72:GLY:N	2.37	0.55
2:B:441:ASP:O	2:B:443:ARG:HG3	2.06	0.55
2:B:750:THR:O	2:B:753:LEU:N	2.39	0.55
2:B:854:ARG:HA	2:B:857:LEU:HD12	1.88	0.55
2:B:1115:THR:O	2:B:1121:ARG:NH2	2.39	0.55
2:B:1329:GLU:HB3	2:B:1338:LEU:HD11	1.88	0.55
2:B:1566:TYR:O	2:B:1570:PHE:HB2	2.07	0.55
1:A:49:PHE:HB3	1:A:77:LEU:HD11	1.88	0.55
1:A:52:GLN:OE1	1:A:76:ARG:NH1	2.36	0.55
1:A:546:GLU:HG2	1:A:549:LYS:HE3	1.88	0.55
2:B:3:ARG:HD3	2:B:3:ARG:O	2.07	0.55
2:B:1017:PHE:O	2:B:1021:ILE:HG12	2.07	0.55
2:E:1251:HIS:NE2	2:E:1256:ASN:HB2	2.21	0.55
1:A:220:ALA:HA	1:A:223:ILE:HD12	1.88	0.55
1:A:387:PHE:CZ	1:A:457:CYS:HB3	2.42	0.55
2:B:1232:LYS:HB2	2:B:1240:TYR:CE1	2.41	0.55
2:B:1340:ASN:HA	2:B:1343:LYS:HZ2	1.70	0.55
2:B:1477:ASN:HD22	2:B:1565:ASN:HA	1.72	0.55
2:B:1491:THR:HG22	2:B:1504:VAL:HA	1.88	0.55
2:E:1216:SER:O	2:E:1220:ARG:N	2.28	0.55
1:A:293:GLN:HA	1:A:296:VAL:HG12	1.89	0.55
2:B:228:PHE:CE2	2:B:399:LEU:HB2	2.40	0.55
1:A:50:ALA:HB2	1:A:81:PRO:HD3	1.88	0.55
1:A:496:PRO:HG2	1:A:502:PHE:HD1	1.72	0.55
2:B:283:ASP:O	2:B:430:LYS:HD2	2.07	0.55
1:A:303:ASN:HA	1:A:306:GLU:HB2	1.89	0.55
2:B:167:ASP:OD1	2:B:168:ASP:N	2.39	0.55
2:B:495:GLU:OE2	2:B:497:LYS:HE3	2.07	0.55
2:B:795:PHE:CD2	2:B:839:LEU:HB3	2.41	0.55
1:A:302:PHE:HB3	1:A:431:GLY:N	2.22	0.54
1:A:325:PHE:HZ	1:A:341:SER:HA	1.72	0.54
1:A:448:HIS:HB3	1:A:451:SER:HB3	1.89	0.54
1:A:531:ARG:HD2	1:A:535:GLU:HG2	1.89	0.54
1:A:580:SER:O	1:A:583:HIS:ND1	2.39	0.54
2:B:1196:LEU:O	2:B:1199:SER:OG	2.25	0.54
2:B:1279:VAL:HG21	2:B:1282:LEU:HD23	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1536:HIS:HE1	2:B:1610:LYS:HD3	1.72	0.54
2:B:1060:GLN:HG2	2:B:1061:LEU:N	2.22	0.54
1:A:325:PHE:O	1:A:329:ARG:HG2	2.07	0.54
2:B:227:ASN:HB3	2:B:402:SER:H	1.72	0.54
2:B:976:PHE:HB2	2:B:982:ILE:HD13	1.89	0.54
2:B:1210:ILE:HA	2:B:1213:GLN:HE21	1.71	0.54
2:B:1217:LYS:HA	2:B:1220:ARG:HG3	1.90	0.54
2:E:1318:ILE:HG22	2:E:1322:LYS:HZ2	1.72	0.54
1:A:519:GLN:HA	1:A:522:ARG:HD3	1.89	0.54
1:A:224:THR:H	1:A:227:GLN:NE2	2.06	0.54
1:A:527:ASP:HB3	1:A:533:ILE:HG21	1.89	0.54
2:B:530:THR:HG22	2:B:549:VAL:HG22	1.88	0.54
2:B:533:HIS:HB2	2:B:547:PHE:CD2	2.43	0.54
2:B:932:LEU:HA	2:B:935:ARG:HB2	1.89	0.54
2:B:149:THR:HG22	2:B:171:ASN:ND2	2.23	0.54
2:B:285:SER:N	2:B:288:ASP:OD2	2.35	0.54
2:B:896:LYS:HG3	2:B:897:PRO:HD3	1.90	0.54
2:B:992:MET:O	2:B:996:LEU:HD23	2.08	0.54
2:B:1372:PHE:CZ	2:B:1424:GLN:HB3	2.43	0.54
2:B:1448:GLU:HA	2:B:1451:LEU:HD12	1.88	0.54
1:A:553:LEU:O	1:A:557:VAL:HG23	2.07	0.54
2:B:127:TRP:O	2:B:131:ILE:HG12	2.08	0.54
2:B:1002:TYR:HB2	2:B:1010:ASN:HD21	1.72	0.54
2:B:1117:GLU:CD	2:B:1120:LEU:HG	2.28	0.54
1:A:208:MET:HG2	1:A:215:LEU:HD23	1.89	0.54
1:A:415:ARG:HA	1:A:418:ILE:HG22	1.90	0.54
2:B:450:LEU:HB3	2:B:620:PHE:HZ	1.73	0.54
2:B:564:ASP:HB3	2:B:625:LEU:HD23	1.89	0.54
2:B:589:PRO:HG3	2:B:598:LYS:HD2	1.90	0.54
2:B:686:SER:HB3	2:B:689:TYR:HB2	1.90	0.54
2:B:1063:THR:HG23	2:B:1069:ARG:HH12	1.72	0.54
2:B:1114:LEU:HD12	2:B:1164:GLY:HA2	1.89	0.54
2:B:1464:TYR:N	2:B:1487:THR:O	2.41	0.54
2:E:1221:MET:O	2:E:1225:VAL:HG23	2.08	0.54
1:A:639:GLU:N	1:A:639:GLU:OE1	2.40	0.54
2:B:143:GLU:HA	2:B:146:LYS:HE3	1.90	0.54
2:B:193:ARG:NH2	2:B:196:GLU:OE2	2.41	0.54
2:B:532:ARG:HA	2:B:546:ALA:HA	1.90	0.54
1:A:419:GLU:O	1:A:423:MET:HG2	2.07	0.53
2:B:764:PHE:CZ	2:B:827:VAL:HG22	2.43	0.53
1:A:329:ARG:HH21	1:A:336:SER:HB3	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:145:LYS:O	2:B:149:THR:HG23	2.09	0.53
2:B:881:LEU:O	2:B:885:GLN:NE2	2.41	0.53
2:B:1313:MET:SD	2:B:1453:TYR:OH	2.65	0.53
2:B:853:VAL:O	2:B:856:LYS:HG2	2.09	0.53
2:B:1040:LEU:HD22	2:B:1043:TRP:CH2	2.43	0.53
2:B:1283:LEU:HG	2:B:1288:TYR:HD1	1.73	0.53
2:B:1080:ARG:HA	2:B:1083:ILE:HD12	1.89	0.53
2:B:1579:HIS:NE2	2:B:1585:LYS:HD3	2.24	0.53
1:A:325:PHE:HA	1:A:348:ARG:NH2	2.23	0.53
1:A:422:LYS:O	1:A:426:GLU:HG2	2.08	0.53
2:B:422:ASP:OD1	2:B:425:THR:OG1	2.22	0.53
2:B:1193:PHE:O	2:B:1197:VAL:HG23	2.09	0.53
2:B:1314:TRP:HZ3	2:B:1357:ARG:HD3	1.72	0.53
1:A:398:ILE:HA	1:A:401:GLU:HG2	1.90	0.53
2:B:701:ILE:HD12	2:B:704:ILE:HD12	1.90	0.53
1:A:329:ARG:HH12	1:A:348:ARG:CZ	2.21	0.53
2:B:931:ARG:C	2:B:935:ARG:HE	2.12	0.53
2:B:1032:PHE:HA	2:B:1036:ALA:HB3	1.91	0.53
1:A:50:ALA:HB2	1:A:80:SER:HA	1.91	0.53
1:A:327:LEU:HD13	1:A:384:MET:SD	2.49	0.53
1:A:387:PHE:CE1	1:A:457:CYS:HB3	2.44	0.53
2:B:1062:GLU:O	2:B:1069:ARG:N	2.41	0.53
1:A:423:MET:CE	1:A:485:LYS:HG3	2.39	0.53
1:A:564:LYS:N	1:A:573:LYS:O	2.42	0.53
1:A:720:TYR:O	2:B:1:MET:N	2.40	0.53
2:B:246:TYR:HB2	2:B:253:PHE:CD1	2.44	0.53
2:B:875:ARG:HA	2:B:879:LEU:HD13	1.91	0.53
2:B:1189:SER:O	2:B:1192:VAL:HG22	2.09	0.53
2:E:1232:LYS:HE3	2:E:1240:TYR:CE1	2.44	0.53
1:A:214:ASP:OD1	1:A:214:ASP:N	2.39	0.53
1:A:383:ASN:HD22	1:A:453:GLU:HA	1.73	0.53
1:A:562:PHE:HB2	1:A:575:TRP:CE2	2.44	0.53
2:B:45:TYR:N	2:B:59:PHE:O	2.40	0.53
2:B:473:HIS:NE2	2:B:528:ARG:HB3	2.24	0.53
2:B:651:LYS:HG3	2:B:652:HIS:H	1.73	0.53
2:B:1157:GLN:O	2:B:1160:GLU:HG2	2.09	0.53
2:E:1322:LYS:HG2	2:E:1345:ARG:NH1	2.23	0.53
1:A:543:GLU:O	1:A:547:LEU:HG	2.09	0.52
1:A:702:GLU:N	1:A:702:GLU:OE1	2.41	0.52
1:A:722:PHE:HB2	1:A:725:ASP:HA	1.91	0.52
2:E:1220:ARG:O	2:E:1224:THR:HG23	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1061:LEU:HA	2:B:1064:PHE:CE2	2.44	0.52
2:B:1368:TYR:O	2:B:1425:TYR:N	2.42	0.52
2:B:1584:GLU:O	2:B:1588:LEU:CB	2.55	0.52
1:A:178:VAL:O	1:A:181:ILE:HG22	2.09	0.52
1:A:348:ARG:HA	1:A:351:MET:HE3	1.91	0.52
1:A:588:TYR:N	1:A:603:SER:OG	2.42	0.52
2:B:528:ARG:HA	2:B:551:PHE:CB	2.39	0.52
2:B:1628:GLU:O	2:B:1632:LYS:HG2	2.09	0.52
1:A:311:THR:HG23	1:A:378:MET:HE3	1.91	0.52
2:B:1417:ASP:OD1	2:B:1418:ILE:N	2.43	0.52
2:E:1272:GLN:OE1	2:E:1293:GLN:NE2	2.40	0.52
2:E:1318:ILE:HG22	2:E:1322:LYS:NZ	2.24	0.52
1:A:386:TYR:HE1	1:A:454:GLU:HB3	1.73	0.52
1:A:682:THR:O	1:A:686:LEU:HD23	2.09	0.52
2:B:13:GLY:HA2	2:B:67:LYS:HG2	1.92	0.52
2:B:889:GLN:OE1	2:B:895:ASN:ND2	2.22	0.52
2:B:1523:GLU:O	2:B:1527:GLU:HG2	2.10	0.52
1:A:20:LYS:HG2	1:A:41:TRP:CZ2	2.45	0.52
1:A:328:ARG:HA	1:A:331:ALA:HB3	1.91	0.52
2:B:154:HIS:HA	2:B:197:LYS:NZ	2.19	0.52
2:B:253:PHE:HE1	2:B:297:VAL:HG11	1.75	0.52
2:B:943:MET:HA	2:B:945:ARG:NH1	2.24	0.52
2:B:1490:THR:O	2:B:1506:GLN:N	2.42	0.52
2:B:1600:LEU:HB2	2:B:1626:PHE:CE2	2.45	0.52
2:E:1249:ASP:HA	2:E:1252:ARG:NH1	2.25	0.52
1:A:354:ARG:O	1:A:357:LYS:HG2	2.10	0.52
2:B:108:ASN:O	2:B:110:LYS:N	2.39	0.52
1:A:143:LEU:HD12	1:A:147:MET:HG2	1.92	0.52
2:B:143:GLU:O	2:B:147:LYS:HG2	2.09	0.52
1:A:199:GLN:OE1	1:A:200:ARG:NH1	2.43	0.52
1:A:687:ASP:OD1	1:A:688:THR:N	2.42	0.52
2:B:15:ALA:C	2:B:65:HIS:HB2	2.30	0.52
2:B:711:HIS:O	2:B:714:PRO:HD2	2.10	0.52
2:B:809:ALA:O	2:B:813:LYS:HG3	2.10	0.52
1:A:118:GLN:HA	1:A:121:ILE:HD12	1.92	0.52
2:B:903:SER:HB3	2:B:953:PHE:CE2	2.45	0.52
2:B:915:ARG:NE	2:B:917:ASP:OD1	2.38	0.52
2:B:1468:PHE:HB3	2:B:1483:TRP:HB2	1.91	0.52
2:B:1517:ASN:O	2:B:1521:THR:HG23	2.10	0.52
2:E:1231:TYR:O	2:E:1234:LYS:N	2.42	0.52
2:B:6:PRO:HG3	2:B:39:GLU:HG2	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:923:VAL:O	2:B:926:GLN:HB3	2.11	0.51
1:A:637:VAL:O	1:A:641:ALA:N	2.41	0.51
1:A:706:ILE:HD11	2:B:65:HIS:CE1	2.45	0.51
2:B:225:TYR:HA	2:B:279:ALA:O	2.09	0.51
2:B:288:ASP:OD1	2:B:291:ARG:NH2	2.43	0.51
2:B:1183:HIS:CG	2:B:1184:LYS:N	2.78	0.51
1:A:48:TYR:HB3	1:A:83:GLN:HG3	1.91	0.51
1:A:91:ARG:HD3	1:A:102:GLU:OE2	2.09	0.51
1:A:353:THR:HA	1:A:364:HIS:CG	2.45	0.51
2:E:1335:TYR:HA	2:E:1338:LEU:HD23	1.93	0.51
2:B:1099:ILE:HA	2:B:1102:ILE:CD1	2.41	0.51
2:B:1348:PHE:O	2:B:1352:ILE:HG13	2.10	0.51
1:A:198:LEU:HD22	1:A:239:ILE:HD11	1.91	0.51
1:A:669:LEU:HA	1:A:672:LEU:HD12	1.91	0.51
1:A:14:TRP:CD1	1:A:15:PRO:HD2	2.46	0.51
1:A:325:PHE:HA	1:A:348:ARG:HH21	1.76	0.51
1:A:336:SER:HB3	1:A:340:ASN:HD21	1.75	0.51
1:A:634:ASN:ND2	1:A:636:GLU:OE2	2.44	0.51
2:B:697:LEU:HA	2:B:700:ILE:HD12	1.92	0.51
2:B:1291:TYR:CD2	2:B:1296:LEU:HD21	2.46	0.51
2:B:1342:LEU:HD11	2:E:1346:ALA:HB2	1.92	0.51
1:A:308:ARG:HH21	1:A:379:LEU:HD11	1.76	0.51
2:B:1135:GLU:OE1	2:B:1144:PHE:HB2	2.11	0.51
2:E:1272:GLN:H	2:E:1293:GLN:NE2	2.09	0.51
2:E:1277:PRO:HG3	2:E:1292:THR:HA	1.92	0.51
2:B:52:ASN:OD1	2:B:54:SER:OG	2.22	0.51
2:B:315:THR:HB	2:B:318:LEU:HD12	1.92	0.51
2:B:575:ASP:OD2	2:B:577:LYS:N	2.44	0.51
1:A:206:GLU:O	1:A:210:LEU:HG	2.10	0.51
1:A:443:PRO:HA	1:A:446:PHE:CD2	2.46	0.51
1:A:578:ARG:HH12	1:A:581:PRO:HD3	1.76	0.51
2:B:319:ARG:HB3	2:B:499:VAL:HG13	1.93	0.51
2:B:688:THR:HA	2:B:691:PHE:CD2	2.46	0.51
2:B:827:VAL:HG11	2:B:836:LEU:HD13	1.93	0.51
2:B:1148:GLU:OE2	2:B:1149:ASN:ND2	2.44	0.51
2:B:1447:PRO:HB2	2:B:1449:GLN:NE2	2.25	0.51
2:B:806:LEU:HG	2:B:810:VAL:HA	1.93	0.50
2:B:1043:TRP:HB3	2:B:1047:PHE:CE2	2.46	0.50
2:E:1266:LEU:HA	2:E:1269:GLU:HB3	1.93	0.50
1:A:511:TYR:CD1	1:A:514:ILE:HD12	2.43	0.50
2:B:111:LEU:O	2:B:115:ARG:NE	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:197:LYS:HA	2:B:200:GLU:HG2	1.92	0.50
2:B:471:SER:OG	2:B:473:HIS:NE2	2.44	0.50
2:B:592:LYS:O	2:B:595:MET:N	2.45	0.50
2:B:1009:MET:O	2:B:1012:THR:OG1	2.23	0.50
2:B:1299:LYS:HA	2:B:1302:GLN:OE1	2.11	0.50
1:A:8:VAL:H	1:A:24:ILE:H	1.60	0.50
1:A:101:LEU:O	1:A:105:LYS:HG3	2.11	0.50
1:A:588:TYR:CZ	1:A:605:GLN:HG2	2.46	0.50
2:B:88:VAL:O	2:B:92:THR:HG23	2.11	0.50
2:E:1335:TYR:HA	2:E:1338:LEU:HB2	1.94	0.50
1:A:373:GLN:HE21	1:A:418:ILE:HG12	1.75	0.50
1:A:376:PRO:HD3	1:A:422:LYS:HB3	1.93	0.50
1:A:563:ARG:HH21	1:A:573:LYS:HE2	1.76	0.50
1:A:589:GLY:HA3	1:A:604:LEU:HD13	1.93	0.50
1:A:673:LEU:HB2	1:A:675:LYS:NZ	2.26	0.50
1:A:700:ASP:HB3	2:B:14:VAL:HG11	1.92	0.50
2:B:224:LEU:HD21	2:B:284:LEU:HD12	1.93	0.50
2:B:1462:PHE:O	2:B:1488:THR:HA	2.12	0.50
1:A:332:PHE:CZ	1:A:355:ASP:HB3	2.46	0.50
1:A:605:GLN:OE1	1:A:605:GLN:N	2.44	0.50
2:B:268:PRO:HG2	2:B:274:LEU:HB2	1.93	0.50
2:B:567:HIS:CD2	2:B:624:THR:HG1	2.30	0.50
2:B:781:SER:OG	2:B:784:GLY:N	2.44	0.50
2:B:823:ILE:O	2:B:827:VAL:HG23	2.11	0.50
2:B:1102:ILE:H	2:B:1102:ILE:HD12	1.75	0.50
2:B:1136:PHE:HA	2:B:1139:SER:CB	2.42	0.50
1:A:305:LEU:O	1:A:308:ARG:HG3	2.12	0.50
1:A:542:PRO:O	1:A:546:GLU:HB3	2.10	0.50
2:B:222:TYR:HB3	2:B:405:LEU:HD12	1.93	0.50
2:B:1612:THR:HG22	2:B:1615:LEU:HB2	1.93	0.50
1:A:445:PHE:HD1	1:A:451:SER:HB2	1.76	0.50
2:B:68:GLU:HB3	2:B:76:GLN:HG2	1.93	0.50
2:B:451:ILE:O	2:B:509:TRP:N	2.23	0.50
2:B:659:GLU:N	2:B:659:GLU:OE1	2.45	0.50
2:B:871:GLN:HG2	2:B:875:ARG:NH1	2.26	0.50
1:A:178:VAL:O	1:A:182:LYS:HG2	2.12	0.50
2:B:176:ASP:HB3	2:B:178:THR:HG23	1.94	0.50
2:B:594:GLU:O	2:B:597:GLU:HG3	2.12	0.50
2:B:706:ASP:OD1	2:B:707:ILE:N	2.45	0.50
2:B:798:PHE:HA	2:B:801:LEU:HD12	1.94	0.50
2:B:881:LEU:HD23	2:B:885:GLN:OE1	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1166:GLU:O	2:B:1169:LYS:HG2	2.12	0.50
2:B:1234:LYS:C	2:B:1235:LYS:HG2	2.32	0.50
2:B:1242:ARG:O	2:B:1246:LYS:HG2	2.11	0.50
1:A:208:MET:SD	1:A:215:LEU:HB3	2.52	0.50
2:B:224:LEU:HG	2:B:281:PHE:HB2	1.93	0.50
2:B:467:GLU:OE1	2:B:534:ARG:NH1	2.45	0.50
2:B:538:GLU:OE1	2:B:542:LYS:NZ	2.27	0.50
2:B:787:PHE:CE2	2:B:791:ILE:HD11	2.47	0.50
2:B:1275:ASP:HA	2:B:1294:GLN:NE2	2.27	0.50
2:B:1432:LYS:O	2:B:1463:ARG:N	2.40	0.50
2:E:1238:ASP:O	2:E:1242:ARG:HG2	2.12	0.50
2:B:375:GLU:HB2	2:B:502:TYR:H	1.76	0.49
2:B:1040:LEU:HD22	2:B:1043:TRP:HH2	1.77	0.49
2:B:1482:MET:N	2:B:1514:PRO:HG3	2.26	0.49
2:B:1618:LEU:HD23	2:B:1621:ARG:NH1	2.27	0.49
1:A:722:PHE:CZ	2:B:56:LYS:HE3	2.46	0.49
2:B:70:THR:HG22	2:B:71:VAL:H	1.76	0.49
2:B:612:SER:OG	2:B:614:ASP:OD1	2.27	0.49
2:B:632:THR:HG21	2:B:638:LEU:HD21	1.93	0.49
2:B:701:ILE:HD11	2:B:762:TYR:CD2	2.38	0.49
2:B:1063:THR:HA	2:B:1069:ARG:NH1	2.27	0.49
2:B:1276:LYS:HD3	2:B:1277:PRO:HD2	1.94	0.49
1:A:12:ILE:O	1:A:20:LYS:N	2.44	0.49
1:A:526:GLU:O	1:A:529:GLN:HG2	2.11	0.49
1:A:586:LEU:HD23	1:A:608:LEU:HB3	1.95	0.49
2:B:333:ILE:HG22	2:B:405:LEU:HD21	1.94	0.49
2:B:471:SER:OG	2:B:528:ARG:O	2.27	0.49
2:B:648:GLN:O	2:B:651:LYS:NZ	2.40	0.49
2:B:891:ASP:OD1	2:B:938:ARG:NH2	2.45	0.49
2:B:1102:ILE:HG21	2:B:1147:PHE:HB2	1.94	0.49
2:B:1323:GLU:HA	2:B:1326:GLU:HG3	1.93	0.49
2:E:1232:LYS:HE2	2:E:1232:LYS:HA	1.94	0.49
2:E:1295:GLU:O	2:E:1298:GLU:HG3	2.12	0.49
1:A:312:LYS:NZ	1:A:374:THR:H	2.10	0.49
1:A:551:GLN:NE2	1:A:555:ARG:HH11	2.11	0.49
2:B:7:THR:HG22	2:B:9:ARG:H	1.77	0.49
2:B:238:ASP:HB2	2:B:303:VAL:HB	1.94	0.49
2:B:348:PHE:HB2	2:B:398:GLY:HA2	1.94	0.49
2:B:582:ALA:HA	2:B:585:TYR:CE1	2.47	0.49
2:B:1283:LEU:HG	2:B:1288:TYR:CD1	2.48	0.49
2:B:1607:HIS:CE1	2:B:1615:LEU:HD13	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:152:GLY:O	1:A:197:ILE:HD11	2.13	0.49
1:A:480:VAL:O	1:A:484:VAL:HG23	2.12	0.49
1:A:528:PHE:HZ	1:A:690:LEU:HD22	1.77	0.49
2:B:831:PHE:CE2	2:B:835:GLU:HB3	2.48	0.49
2:B:934:ARG:HH11	2:B:938:ARG:HB2	1.77	0.49
2:B:1241:ILE:HD11	2:B:1282:LEU:HD13	1.94	0.49
2:B:1251:HIS:O	2:B:1255:GLU:N	2.46	0.49
2:B:1412:THR:OG1	2:B:1413:PRO:HD3	2.12	0.49
1:A:113:ASP:OD1	1:A:114:VAL:N	2.45	0.49
1:A:151:PHE:HD1	1:A:154:MET:HE3	1.78	0.49
1:A:271:LEU:O	1:A:275:ILE:HG12	2.13	0.49
1:A:394:ALA:O	1:A:398:ILE:HG12	2.13	0.49
1:A:399:VAL:HA	1:A:402:ASN:HD21	1.78	0.49
1:A:616:VAL:HG22	1:A:644:ILE:HD13	1.94	0.49
2:B:196:GLU:HA	2:B:199:GLN:HG2	1.94	0.49
2:B:211:ARG:NH2	2:B:336:LYS:O	2.45	0.49
2:B:434:PRO:HG2	2:B:437:ILE:HG12	1.94	0.49
2:B:528:ARG:HA	2:B:551:PHE:HB3	1.93	0.49
2:B:746:ASP:O	2:B:750:THR:HG23	2.13	0.49
1:A:312:LYS:HZ3	1:A:374:THR:H	1.59	0.49
1:A:673:LEU:HB2	1:A:675:LYS:HZ2	1.78	0.49
2:B:641:LEU:O	2:B:644:ARG:NH1	2.40	0.49
2:B:1551:LEU:HA	2:B:1554:ILE:HD12	1.95	0.49
1:A:7:ILE:C	1:A:23:GLU:HB3	2.33	0.49
1:A:186:SER:OG	1:A:190:LYS:NZ	2.44	0.49
2:B:47:GLY:H	2:B:56:LYS:NZ	2.11	0.49
2:B:69:ALA:N	2:B:78:GLU:OE2	2.45	0.49
2:B:794:LEU:HG	2:B:798:PHE:HE2	1.76	0.49
2:B:1079:MET:O	2:B:1083:ILE:HG13	2.12	0.49
2:B:1468:PHE:CZ	2:B:1470:LYS:HB3	2.47	0.49
2:E:1248:ARG:HH11	2:E:1252:ARG:NH1	2.09	0.49
1:A:86:GLN:HA	1:A:89:HIS:HD2	1.77	0.49
1:A:398:ILE:O	1:A:402:ASN:ND2	2.45	0.49
1:A:467:TRP:NE1	1:A:472:ALA:O	2.45	0.49
2:B:35:VAL:HG23	2:B:37:ILE:HG13	1.94	0.49
2:B:73:ASP:HB3	2:B:82:PRO:HB3	1.95	0.49
2:B:1627:ARG:O	2:B:1630:LYS:HB3	2.13	0.49
2:E:1245:TYR:OH	2:E:1267:HIS:NE2	2.43	0.49
1:A:163:VAL:HG12	1:A:204:ILE:HD11	1.95	0.49
2:B:57:GLY:HA3	2:B:59:PHE:CZ	2.47	0.49
2:B:740:TYR:HA	2:B:749:LYS:HE2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:993:PHE:O	2:B:997:ILE:HD12	2.13	0.49
2:B:1121:ARG:O	2:B:1125:ILE:HG12	2.12	0.49
2:B:1384:ARG:NH2	2:B:1495:PHE:HB3	2.28	0.49
2:E:1304:ILE:HA	2:E:1307:TYR:CD2	2.48	0.49
1:A:676:ASP:OD2	1:A:677:MET:N	2.45	0.48
2:B:125:ILE:HG13	2:B:126:GLU:N	2.27	0.48
2:B:241:LEU:HD23	2:B:260:ILE:HD12	1.94	0.48
2:B:1155:LEU:O	2:B:1159:VAL:HG23	2.12	0.48
2:B:1166:GLU:O	2:B:1170:VAL:HG23	2.13	0.48
2:B:1169:LYS:O	2:B:1172:LEU:HB3	2.12	0.48
2:B:1415:GLY:O	2:B:1419:LYS:HG3	2.13	0.48
2:B:1585:LYS:HG3	2:B:1586:VAL:H	1.77	0.48
1:A:198:LEU:O	1:A:202:LEU:HD23	2.13	0.48
1:A:229:ILE:HG21	1:A:274:ILE:HD13	1.95	0.48
1:A:722:PHE:CZ	2:B:58:ILE:HD11	2.48	0.48
2:B:121:THR:O	2:B:125:ILE:HG23	2.12	0.48
2:B:599:GLU:O	2:B:603:SER:OG	2.28	0.48
2:B:718:THR:O	2:B:722:LYS:HB2	2.13	0.48
2:B:1245:TYR:HH	2:B:1267:HIS:CD2	2.32	0.48
2:B:1546:PRO:O	2:B:1550:LEU:HG	2.12	0.48
2:B:1602:GLU:OE1	2:B:1605:ARG:NH2	2.45	0.48
2:B:1604:ILE:HG23	2:B:1619:HIS:NE2	2.27	0.48
2:E:1321:SER:OG	2:E:1345:ARG:NE	2.44	0.48
1:A:159:LEU:HB3	1:A:200:ARG:HB3	1.95	0.48
2:B:549:VAL:HB	2:B:579:MET:HB3	1.95	0.48
2:B:1071:LYS:HG2	2:B:1075:LYS:HZ1	1.78	0.48
2:B:1449:GLN:HA	2:B:1452:ASN:ND2	2.29	0.48
1:A:216:TYR:OH	1:A:250:LEU:O	2.23	0.48
1:A:245:ALA:H	1:A:293:GLN:HE22	1.57	0.48
1:A:531:ARG:O	1:A:535:GLU:N	2.39	0.48
2:B:143:GLU:HG3	2:B:147:LYS:NZ	2.29	0.48
2:B:929:MET:SD	2:B:964:MET:HE3	2.54	0.48
2:B:1176:LEU:HD12	2:B:1177:LEU:N	2.29	0.48
2:B:1392:GLU:OE1	2:B:1392:GLU:N	2.30	0.48
2:B:1410:SER:O	2:B:1413:PRO:HD2	2.13	0.48
1:A:201:SER:O	1:A:205:LEU:HG	2.13	0.48
1:A:325:PHE:CZ	1:A:341:SER:HA	2.48	0.48
1:A:468:LYS:NZ	1:A:471:ARG:HH21	2.11	0.48
1:A:503:LYS:HA	1:A:506:LEU:HD12	1.95	0.48
1:A:534:LEU:HD12	1:A:537:LYS:HE3	1.94	0.48
1:A:619:GLY:H	1:A:642:PHE:HB2	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1191:GLU:O	2:B:1195:LEU:HG	2.12	0.48
2:B:1583:GLN:HE22	2:B:1586:VAL:HG12	1.78	0.48
1:A:376:PRO:HG2	1:A:421:THR:HB	1.95	0.48
2:B:561:THR:HG21	2:B:631:LEU:HB2	1.95	0.48
2:B:837:SER:HB2	2:B:878:LEU:HD11	1.95	0.48
1:A:156:SER:O	1:A:160:THR:HG23	2.14	0.48
1:A:414:GLY:O	1:A:417:SER:OG	2.29	0.48
1:A:580:SER:HB2	1:A:587:HIS:NE2	2.29	0.48
1:A:657:PRO:HD2	1:A:661:GLU:OE2	2.14	0.48
1:A:719:ASN:O	2:B:1:MET:HA	2.14	0.48
2:B:83:GLY:C	2:B:86:PRO:HD2	2.34	0.48
2:B:116:GLN:HA	2:B:119:GLN:OE1	2.14	0.48
2:B:339:ASP:OD1	2:B:404:LYS:NZ	2.46	0.48
2:B:640:LEU:HD11	2:B:657:LEU:CD2	2.43	0.48
2:B:896:LYS:CG	2:B:897:PRO:HD3	2.44	0.48
2:B:1597:MET:CE	2:B:1630:LYS:HB2	2.43	0.48
1:A:185:ALA:HB2	1:A:222:GLU:OE1	2.14	0.48
1:A:562:PHE:HB2	1:A:575:TRP:NE1	2.29	0.48
2:B:4:TRP:CH2	2:B:46:ARG:HG3	2.49	0.48
2:B:20:ASN:OD1	2:B:21:ALA:N	2.47	0.48
2:B:231:PHE:HD1	2:B:399:LEU:HB3	1.77	0.48
2:B:972:TYR:HH	2:B:977:LYS:HZ2	1.58	0.48
2:B:1028:LEU:HA	2:B:1032:PHE:HD2	1.77	0.48
2:B:1288:TYR:HA	2:B:1291:TYR:CE2	2.49	0.48
2:B:1344:LYS:O	2:B:1347:SER:OG	2.26	0.48
2:B:1522:MET:SD	2:B:1566:TYR:OH	2.71	0.48
2:B:1566:TYR:HA	2:B:1570:PHE:CD2	2.49	0.48
2:B:154:HIS:CD2	2:B:197:LYS:HD2	2.49	0.48
2:B:228:PHE:HA	2:B:400:TRP:O	2.13	0.48
2:B:730:TYR:HB3	2:B:770:SER:HB3	1.96	0.48
2:B:777:PHE:HB3	2:B:778:TYR:HD2	1.77	0.48
2:B:1597:MET:HE3	2:B:1630:LYS:HB2	1.95	0.48
1:A:113:ASP:OD2	1:A:115:THR:OG1	2.25	0.48
1:A:297:LEU:HA	1:A:300:LEU:HG	1.96	0.48
1:A:350:SER:O	1:A:354:ARG:HG2	2.14	0.48
1:A:484:VAL:O	1:A:488:VAL:HG23	2.14	0.48
1:A:721:ASP:C	2:B:1:MET:H2	2.16	0.48
2:B:112:THR:OG1	2:B:113:LEU:N	2.47	0.48
2:B:591:THR:N	2:B:594:GLU:OE2	2.28	0.48
2:B:630:LYS:HA	2:B:668:PHE:HZ	1.79	0.48
2:B:751:GLU:N	2:B:751:GLU:OE1	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1101:PHE:O	2:B:1105:MET:HG3	2.13	0.48
2:B:1307:TYR:HA	2:B:1310:LYS:HG2	1.95	0.48
1:A:302:PHE:O	1:A:306:GLU:HG2	2.13	0.47
1:A:531:ARG:O	1:A:535:GLU:HG3	2.14	0.47
1:A:717:PRO:HD2	2:B:1:MET:HE3	1.95	0.47
2:B:746:ASP:OD2	2:B:748:SER:OG	2.25	0.47
2:B:1101:PHE:HB3	2:B:1105:MET:HG2	1.95	0.47
2:E:1304:ILE:HA	2:E:1307:TYR:HD2	1.78	0.47
1:A:256:ASP:O	1:A:259:ARG:HB2	2.15	0.47
1:A:375:PRO:HA	1:A:376:PRO:HA	1.46	0.47
1:A:483:VAL:HG12	1:A:487:GLN:HE22	1.79	0.47
2:B:45:TYR:O	2:B:59:PHE:N	2.47	0.47
2:B:80:VAL:HG23	2:B:81:ILE:HG13	1.96	0.47
2:B:831:PHE:HE2	2:B:835:GLU:HB3	1.79	0.47
2:B:931:ARG:C	2:B:932:LEU:HD12	2.35	0.47
2:B:1115:THR:C	2:B:1121:ARG:HH21	2.18	0.47
2:B:1130:ASP:O	2:B:1133:GLN:NE2	2.47	0.47
1:A:241:THR:HG22	1:A:290:MET:HE2	1.96	0.47
1:A:248:ASN:HD22	1:A:300:LEU:HD11	1.79	0.47
1:A:349:LYS:HA	1:A:352:TYR:CD2	2.50	0.47
1:A:562:PHE:O	1:A:574:PHE:HA	2.15	0.47
1:A:568:ARG:HE	1:A:569:ARG:NH2	2.06	0.47
1:A:667:ASP:HA	1:A:670:ASN:HB3	1.97	0.47
2:B:18:ASN:HA	2:B:29:LEU:O	2.14	0.47
2:B:246:TYR:OH	2:B:251:SER:HA	2.14	0.47
2:B:295:SER:HA	2:B:328:ASP:HA	1.96	0.47
2:B:592:LYS:O	2:B:595:MET:HG2	2.13	0.47
2:B:1078:ASP:OD1	2:B:1080:ARG:HG3	2.14	0.47
2:B:1353:ILE:HG13	2:E:1335:TYR:HB2	1.96	0.47
1:A:392:GLN:O	1:A:396:ILE:HG12	2.13	0.47
2:B:225:TYR:O	2:B:403:LEU:HA	2.14	0.47
2:B:535:SER:HB2	2:B:540:ARG:HH11	1.79	0.47
2:B:1326:GLU:HA	2:B:1329:GLU:HG3	1.96	0.47
2:E:1296:LEU:O	2:E:1300:LEU:HG	2.14	0.47
2:E:1347:SER:HA	2:E:1350:GLU:OE2	2.14	0.47
1:A:423:MET:HE2	1:A:485:LYS:HG3	1.95	0.47
2:E:1228:LEU:HA	2:E:1231:TYR:HD2	1.77	0.47
1:A:193:ILE:HD11	1:A:198:LEU:HB2	1.96	0.47
1:A:261:GLU:O	1:A:265:ILE:HG12	2.14	0.47
2:B:99:ALA:HA	2:B:102:TRP:NE1	2.30	0.47
2:B:302:ARG:HH12	2:B:308:LEU:H	1.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1184:LYS:O	2:B:1187:SER:N	2.33	0.47
2:B:1325:ALA:HB2	2:B:1341:LEU:HD11	1.95	0.47
2:B:1583:GLN:NE2	2:B:1586:VAL:HG12	2.30	0.47
1:A:6:ASP:O	1:A:26:GLN:HG2	2.15	0.47
1:A:7:ILE:HA	1:A:24:ILE:C	2.35	0.47
1:A:187:PHE:HB3	1:A:193:ILE:HD13	1.97	0.47
1:A:218:LYS:HA	1:A:221:GLN:OE1	2.14	0.47
1:A:417:SER:HA	1:A:456:PHE:HZ	1.78	0.47
1:A:542:PRO:O	1:A:546:GLU:CB	2.62	0.47
2:B:410:LEU:O	2:B:414:GLN:HB2	2.14	0.47
2:B:528:ARG:HD3	2:B:585:TYR:OH	2.15	0.47
2:B:761:LYS:HD3	2:B:822:SER:O	2.15	0.47
2:B:842:LYS:HA	2:B:845:GLN:NE2	2.30	0.47
2:B:853:VAL:HG23	2:B:854:ARG:N	2.30	0.47
2:B:921:THR:HA	2:B:924:HIS:ND1	2.30	0.47
2:B:979:ARG:O	2:B:982:ILE:HG22	2.15	0.47
2:B:1024:PHE:O	2:B:1028:LEU:HD23	2.15	0.47
2:B:1136:PHE:CG	2:B:1186:LEU:HD22	2.50	0.47
2:B:1273:TRP:CE3	2:B:1294:GLN:HG3	2.50	0.47
2:E:1312:LYS:HG3	2:E:1312:LYS:O	2.14	0.47
1:A:160:THR:HG22	1:A:200:ARG:HE	1.79	0.47
2:B:10:GLN:O	2:B:37:ILE:HB	2.14	0.47
2:B:92:THR:O	2:B:96:ARG:HG3	2.15	0.47
2:B:175:PRO:C	2:B:177:GLU:H	2.16	0.47
2:B:719:TYR:O	2:B:723:HIS:N	2.44	0.47
2:B:1057:GLU:O	2:B:1080:ARG:NH1	2.47	0.47
2:B:1340:ASN:HB3	2:B:1344:LYS:HZ3	1.80	0.47
2:E:1350:GLU:HA	2:E:1353:ILE:HG12	1.97	0.47
1:A:643:SER:OG	1:A:653:ASN:HA	2.15	0.47
2:B:11:LYS:HG3	2:B:38:LEU:HD23	1.96	0.47
2:B:293:ARG:NH2	2:B:328:ASP:OD2	2.48	0.47
2:B:572:TYR:HB3	2:B:614:ASP:O	2.15	0.47
2:B:802:MET:HE2	2:B:847:ILE:HD13	1.97	0.47
2:B:1212:MET:SD	2:B:1212:MET:N	2.82	0.47
2:B:1399:LEU:HD12	2:B:1405:ALA:HB1	1.97	0.47
2:B:1494:THR:HG22	2:B:1495:PHE:O	2.15	0.47
2:E:1268:ALA:O	2:E:1271:LEU:HB2	2.15	0.47
1:A:20:LYS:HD3	1:A:22:MET:SD	2.55	0.47
2:B:376:ASN:HA	2:B:504:VAL:HG22	1.95	0.47
2:B:1145:HIS:HA	2:B:1148:GLU:CG	2.36	0.47
2:B:1237:GLU:O	2:B:1240:TYR:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1316:LYS:NZ	2:B:1319:LYS:HD2	2.30	0.47
1:A:126:ILE:HD12	1:A:126:ILE:H	1.81	0.46
1:A:495:LYS:HA	1:A:495:LYS:HD2	1.64	0.46
2:B:3:ARG:HB3	2:B:41:TYR:CD1	2.50	0.46
2:B:832:ASP:OD2	2:B:835:GLU:N	2.46	0.46
2:B:1234:LYS:HD2	2:B:1234:LYS:HA	1.68	0.46
2:B:1265:LEU:O	2:B:1268:ALA:N	2.48	0.46
2:B:1565:ASN:OD1	2:B:1565:ASN:N	2.46	0.46
2:B:1606:ILE:O	2:B:1610:LYS:HG3	2.15	0.46
1:A:332:PHE:HA	1:A:399:VAL:HG11	1.96	0.46
2:B:14:VAL:HA	2:B:33:ASP:O	2.16	0.46
2:B:27:LEU:O	2:B:29:LEU:N	2.47	0.46
2:B:861:THR:HA	2:B:864:VAL:HG12	1.97	0.46
2:B:1101:PHE:O	2:B:1104:SER:OG	2.25	0.46
2:B:1166:GLU:OE1	2:B:1166:GLU:N	2.33	0.46
2:E:1275:ASP:OD1	2:E:1275:ASP:N	2.48	0.46
2:B:143:GLU:HG3	2:B:147:LYS:HZ3	1.80	0.46
2:B:286:SER:O	2:B:290:ILE:HG23	2.16	0.46
2:B:825:ASN:OD1	2:B:826:ASP:N	2.48	0.46
2:B:834:VAL:O	2:B:837:SER:OG	2.25	0.46
2:E:1295:GLU:HA	2:E:1298:GLU:HG3	1.97	0.46
1:A:160:THR:HG22	1:A:200:ARG:NE	2.30	0.46
2:B:504:VAL:O	2:B:507:PRO:HD3	2.15	0.46
2:B:1547:LEU:O	2:B:1551:LEU:HG	2.16	0.46
1:A:54:ALA:HB3	1:A:74:ILE:O	2.15	0.46
1:A:144:GLN:O	1:A:148:LYS:HG2	2.15	0.46
2:B:156:ASN:HA	2:B:161:LEU:HB2	1.98	0.46
2:B:324:VAL:N	2:B:349:GLN:O	2.48	0.46
2:B:522:VAL:HG23	2:B:554:LEU:HD13	1.98	0.46
2:B:742:ALA:O	2:B:804:ARG:NH2	2.49	0.46
2:B:801:LEU:HA	2:B:804:ARG:HE	1.80	0.46
1:A:455:PHE:HZ	1:A:492:LEU:HD21	1.80	0.46
2:B:789:ASN:O	2:B:792:ARG:N	2.48	0.46
2:B:868:LEU:HD12	2:B:868:LEU:HA	1.61	0.46
2:B:1095:GLY:HA3	2:B:1096:PRO:HD3	1.81	0.46
2:B:1452:ASN:OD1	2:B:1453:TYR:N	2.48	0.46
2:B:1468:PHE:N	2:B:1483:TRP:O	2.41	0.46
2:B:1471:GLY:O	2:B:1473:LYS:HG2	2.16	0.46
2:B:1607:HIS:CE1	2:B:1615:LEU:HB3	2.49	0.46
2:E:1354:LYS:HA	2:E:1354:LYS:HD2	1.75	0.46
1:A:7:ILE:HA	1:A:24:ILE:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:20:LYS:HD3	1:A:22:MET:HE1	1.97	0.46
1:A:457:CYS:O	1:A:460:ILE:HG22	2.15	0.46
2:B:567:HIS:NE2	2:B:624:THR:OG1	2.43	0.46
2:B:875:ARG:HG3	2:B:879:LEU:HD13	1.98	0.46
1:A:524:ASN:OD1	1:A:525:GLN:N	2.48	0.46
2:B:242:PHE:HB2	2:B:299:GLN:O	2.15	0.46
2:B:247:ASP:OD2	2:B:291:ARG:HB3	2.16	0.46
2:B:528:ARG:NH1	2:B:580:GLU:OE2	2.49	0.46
2:B:798:PHE:O	2:B:801:LEU:HB2	2.15	0.46
2:B:1220:ARG:O	2:B:1224:THR:HG22	2.15	0.46
2:B:1466:ARG:O	2:B:1485:GLU:N	2.35	0.46
1:A:328:ARG:HH22	1:A:355:ASP:HB2	1.81	0.46
1:A:442:HIS:HA	1:A:495:LYS:HZ3	1.81	0.46
1:A:632:LYS:HG3	1:A:633:GLN:OE1	2.16	0.46
1:A:719:ASN:O	2:B:2:ALA:N	2.48	0.46
2:B:181:ILE:HD12	2:B:181:ILE:H	1.81	0.46
2:B:191:SER:O	2:B:194:ILE:HB	2.15	0.46
2:B:214:SER:O	2:B:218:THR:HG23	2.15	0.46
2:B:414:GLN:HA	2:B:423:ARG:HH21	1.81	0.46
2:B:1006:TRP:N	2:B:1006:TRP:CD1	2.82	0.46
2:B:1070:ASN:O	2:B:1074:LYS:HG2	2.15	0.46
2:E:1336:GLU:H	2:E:1336:GLU:CD	2.18	0.46
1:A:668:GLY:O	1:A:672:LEU:HG	2.16	0.46
2:B:241:LEU:HB3	2:B:260:ILE:HB	1.98	0.46
2:B:471:SER:HB2	2:B:479:LEU:HD11	1.98	0.46
2:B:834:VAL:HG22	2:B:873:GLU:HB2	1.98	0.46
1:A:435:SER:OG	1:A:438:CYS:SG	2.58	0.45
1:A:563:ARG:HB2	1:A:655:ILE:CG2	2.45	0.45
2:B:870:ARG:HA	2:B:870:ARG:HH11	1.81	0.45
2:B:1563:PHE:O	2:B:1566:TYR:HB2	2.15	0.45
1:A:324:ILE:O	1:A:328:ARG:HG2	2.14	0.45
1:A:340:ASN:HA	1:A:343:GLY:HA3	1.98	0.45
1:A:719:ASN:HB2	2:B:2:ALA:HB3	1.98	0.45
2:B:738:ASN:HA	2:B:741:VAL:HG12	1.99	0.45
2:B:1391:ARG:NH2	2:B:1392:GLU:HA	2.31	0.45
2:B:1564:SER:HA	2:B:1567:GLU:OE2	2.16	0.45
2:B:1618:LEU:HA	2:B:1621:ARG:HH11	1.82	0.45
2:E:1328:TYR:HD2	2:E:1338:LEU:HD13	1.81	0.45
1:A:578:ARG:HH12	1:A:580:SER:HA	1.81	0.45
2:B:99:ALA:HA	2:B:102:TRP:CD1	2.51	0.45
2:B:115:ARG:HA	2:B:118:GLN:HE21	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:166:ARG:NH1	2:B:167:ASP:OD1	2.49	0.45
2:B:713:ASN:O	2:B:717:GLU:HG2	2.15	0.45
2:B:1274:SER:O	2:B:1294:GLN:NE2	2.48	0.45
2:B:1598:PRO:O	2:B:1601:THR:OG1	2.23	0.45
1:A:561:CYS:SG	1:A:576:TYR:HB3	2.56	0.45
1:A:575:TRP:HB3	1:A:590:ASP:HB2	1.99	0.45
1:A:615:ALA:O	1:A:644:ILE:HD12	2.16	0.45
1:A:723:VAL:H	2:B:4:TRP:HD1	1.64	0.45
2:B:19:TYR:HB3	2:B:27:LEU:O	2.16	0.45
2:B:246:TYR:HA	2:B:253:PHE:HA	1.99	0.45
2:B:439:PRO:HD3	2:B:711:HIS:HB3	1.97	0.45
2:B:945:ARG:NH1	2:B:948:PRO:HG3	2.31	0.45
2:B:950:ILE:O	2:B:954:VAL:HG23	2.16	0.45
1:A:483:VAL:O	1:A:487:GLN:NE2	2.49	0.45
2:B:106:TYR:CD2	2:B:107:VAL:N	2.84	0.45
2:B:144:LEU:O	2:B:148:VAL:HG23	2.16	0.45
2:B:694:PHE:O	2:B:697:LEU:HG	2.15	0.45
2:B:948:PRO:O	2:B:950:ILE:HD12	2.16	0.45
2:B:1499:LEU:HD11	2:B:1501:TRP:CH2	2.52	0.45
1:A:2:PRO:O	1:A:4:PRO:HD3	2.17	0.45
2:B:166:ARG:HH12	2:B:168:ASP:HB2	1.81	0.45
2:B:346:ILE:HD11	2:B:401:VAL:HG22	1.98	0.45
2:B:753:LEU:O	2:B:757:LEU:HG	2.16	0.45
2:B:873:GLU:N	2:B:873:GLU:OE1	2.49	0.45
2:B:1401:GLN:HG3	2:B:1402:PHE:CD2	2.52	0.45
1:A:30:LEU:HG	1:A:34:ILE:HD11	1.99	0.45
2:B:102:TRP:HB3	2:B:117:LEU:HD23	1.99	0.45
2:B:228:PHE:HZ	2:B:231:PHE:HB2	1.82	0.45
2:B:594:GLU:HA	2:B:597:GLU:CG	2.47	0.45
2:B:646:ASN:HA	2:B:648:GLN:HE22	1.82	0.45
2:B:689:TYR:O	2:B:693:VAL:HG23	2.16	0.45
2:B:1567:GLU:HG2	2:B:1568:LYS:N	2.31	0.45
2:B:1588:LEU:HD12	2:B:1591:ARG:HD3	1.98	0.45
2:B:1607:HIS:HA	2:B:1610:LYS:HB2	1.99	0.45
2:B:116:GLN:HA	2:B:119:GLN:CD	2.36	0.45
2:B:589:PRO:HD3	2:B:598:LYS:HZ1	1.81	0.45
1:A:130:THR:HG22	1:A:134:GLU:OE1	2.17	0.45
1:A:180:PHE:O	1:A:183:LYS:HG3	2.17	0.45
2:B:320:ARG:HD3	2:B:500:VAL:HB	1.99	0.45
2:B:566:ARG:HA	2:B:623:ALA:HA	1.98	0.45
2:B:1086:ARG:HG2	2:B:1086:ARG:HH11	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:628:LYS:HB2	1:A:633:GLN:HB2	1.99	0.45
2:B:95:LEU:HD11	2:B:121:THR:HG23	1.99	0.45
2:B:132:LEU:HA	2:B:132:LEU:HD23	1.68	0.45
2:B:934:ARG:HB3	2:B:935:ARG:NH1	2.32	0.45
2:B:1033:MET:H	2:B:1035:GLN:HE21	1.64	0.45
2:E:1280:PRO:O	2:E:1285:ARG:NH1	2.33	0.45
1:A:248:ASN:ND2	1:A:300:LEU:HD11	2.32	0.44
1:A:405:ARG:O	1:A:410:GLU:HB3	2.16	0.44
1:A:621:ASP:O	1:A:626:LYS:NZ	2.49	0.44
2:B:25:VAL:HG23	2:B:26:GLU:OE2	2.17	0.44
2:B:447:TYR:HE2	2:B:627:CYS:HB2	1.81	0.44
2:B:457:LYS:HB3	2:B:461:LYS:HA	1.99	0.44
2:B:581:ASP:OD1	2:B:581:ASP:N	2.50	0.44
2:B:926:GLN:O	2:B:929:MET:HB3	2.16	0.44
2:E:1299:LYS:O	2:E:1303:GLU:OE1	2.35	0.44
1:A:20:LYS:NZ	1:A:37:VAL:O	2.48	0.44
2:B:1245:TYR:HH	2:B:1267:HIS:CE1	2.34	0.44
2:B:1563:PHE:O	2:B:1566:TYR:N	2.50	0.44
2:E:1249:ASP:HA	2:E:1252:ARG:HH11	1.82	0.44
1:A:358:LYS:HE2	1:A:403:SER:HA	1.99	0.44
1:A:609:PRO:HG2	1:A:613:ILE:HG12	1.98	0.44
2:B:210:LEU:HD23	2:B:213:GLN:NE2	2.33	0.44
2:B:294:VAL:HG12	2:B:329:ILE:HG13	1.99	0.44
2:B:447:TYR:CD1	2:B:514:LYS:HG3	2.52	0.44
2:B:993:PHE:CD2	2:B:1021:ILE:HD11	2.53	0.44
1:A:691:SER:HA	1:A:694:ILE:HD11	2.00	0.44
2:B:56:LYS:HA	2:B:56:LYS:HD2	1.77	0.44
2:B:253:PHE:CE1	2:B:297:VAL:HG11	2.52	0.44
2:B:640:LEU:O	2:B:643:TRP:HD1	2.00	0.44
2:B:1320:LEU:HA	2:B:1323:GLU:OE2	2.16	0.44
1:A:466:THR:HG21	1:A:484:VAL:HG13	1.98	0.44
2:B:905:LEU:O	2:B:909:ILE:HG23	2.18	0.44
2:B:1260:ALA:O	2:B:1263:THR:OG1	2.32	0.44
2:B:1552:SER:HA	2:B:1555:VAL:HG12	1.98	0.44
2:B:1625:CYS:HA	2:B:1628:GLU:HG3	2.00	0.44
1:A:216:TYR:HA	1:A:219:VAL:HG12	2.00	0.44
1:A:219:VAL:O	1:A:223:ILE:HG13	2.18	0.44
1:A:229:ILE:O	1:A:232:LEU:N	2.47	0.44
1:A:232:LEU:HD21	1:A:278:HIS:HB2	1.99	0.44
1:A:536:LEU:HD13	2:B:18:ASN:ND2	2.26	0.44
2:B:85:LEU:HA	2:B:88:VAL:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:747:SER:HA	2:B:750:THR:HG23	2.00	0.44
2:B:837:SER:HB2	2:B:878:LEU:CD1	2.47	0.44
2:B:868:LEU:HG	2:B:871:GLN:OE1	2.18	0.44
2:B:933:LEU:HD23	2:B:960:LEU:HD21	2.00	0.44
2:B:1105:MET:C	2:B:1108:PRO:HD2	2.38	0.44
2:B:1533:VAL:O	2:B:1537:ALA:N	2.51	0.44
2:E:1242:ARG:HH22	2:E:1284:GLN:HA	1.82	0.44
2:E:1283:LEU:HD13	2:E:1291:TYR:HB2	1.99	0.44
1:A:29:PRO:O	1:A:33:ILE:HG12	2.18	0.44
2:B:7:THR:HB	2:B:10:GLN:OE1	2.18	0.44
2:B:945:ARG:O	2:B:948:PRO:HD2	2.18	0.44
2:B:1056:HIS:HD1	2:B:1057:GLU:CD	2.18	0.44
2:E:1242:ARG:O	2:E:1246:LYS:HG3	2.17	0.44
1:A:20:LYS:HE3	1:A:41:TRP:CE3	2.53	0.44
1:A:104:LEU:HD21	1:A:154:MET:O	2.18	0.44
1:A:302:PHE:HB3	1:A:431:GLY:H	1.81	0.44
1:A:362:ILE:HD11	1:A:415:ARG:HH12	1.81	0.44
1:A:455:PHE:O	1:A:458:ILE:HG22	2.17	0.44
2:B:209:ASP:CG	2:B:213:GLN:HE21	2.20	0.44
2:B:301:VAL:HG22	2:B:321:PRO:HA	2.00	0.44
2:B:375:GLU:HB2	2:B:502:TYR:N	2.32	0.44
2:B:591:THR:HG22	2:B:592:LYS:N	2.32	0.44
2:B:984:ASP:O	2:B:988:GLU:HG3	2.17	0.44
2:B:1367:TYR:HH	2:B:1383:TYR:HH	1.54	0.44
1:A:49:PHE:HD2	1:A:79:THR:HA	1.82	0.44
1:A:213:HIS:O	1:A:217:GLN:NE2	2.41	0.44
1:A:542:PRO:HA	1:A:545:LEU:HG	1.98	0.44
2:B:932:LEU:N	2:B:935:ARG:HH21	2.14	0.44
2:B:1036:ALA:O	2:B:1040:LEU:HD21	2.18	0.44
2:B:1263:THR:HG22	2:B:1498:ILE:HB	2.00	0.44
2:B:1306:SER:O	2:B:1310:LYS:NZ	2.47	0.44
2:B:1438:PRO:HG3	2:B:1454:TYR:CD2	2.53	0.44
2:E:1344:LYS:O	2:E:1347:SER:OG	2.25	0.44
1:A:50:ALA:O	1:A:77:LEU:HD12	2.18	0.43
1:A:181:ILE:HB	1:A:218:LYS:HZ3	1.83	0.43
1:A:266:LEU:HA	1:A:271:LEU:HD13	2.00	0.43
1:A:287:ASN:HB2	1:A:290:MET:HG2	2.00	0.43
2:B:153:ASP:OD1	2:B:164:VAL:HG22	2.18	0.43
2:B:225:TYR:CE1	2:B:278:GLN:HA	2.54	0.43
2:B:237:GLU:HG3	2:B:308:LEU:HD21	1.99	0.43
2:B:471:SER:HB2	2:B:479:LEU:CD1	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:532:ARG:HD2	2:B:534:ARG:CZ	2.48	0.43
2:B:533:HIS:C	2:B:534:ARG:HD2	2.38	0.43
2:B:568:ASP:HB2	2:B:592:LYS:CG	2.48	0.43
2:B:914:ASP:HB2	2:B:963:GLN:NE2	2.33	0.43
2:B:1542:LEU:HD23	2:B:1543:SER:N	2.32	0.43
1:A:185:ALA:HA	1:A:188:VAL:HG22	1.99	0.43
1:A:459:CYS:O	1:A:462:LEU:HB3	2.18	0.43
1:A:476:ASP:O	1:A:480:VAL:N	2.28	0.43
2:B:21:ALA:HA	2:B:27:LEU:HA	2.00	0.43
2:B:1197:VAL:O	2:B:1201:LEU:HD23	2.18	0.43
2:B:1554:ILE:O	2:B:1558:ALA:HB3	2.18	0.43
2:E:1270:LEU:O	2:E:1272:GLN:NE2	2.50	0.43
2:E:1300:LEU:O	2:E:1304:ILE:HD12	2.18	0.43
1:A:191:SER:OG	1:A:192:ALA:N	2.51	0.43
1:A:425:CYS:SG	1:A:430:VAL:HB	2.59	0.43
2:B:106:TYR:CG	2:B:107:VAL:N	2.86	0.43
2:B:191:SER:O	2:B:195:GLU:OE1	2.35	0.43
2:B:883:THR:HG21	2:B:931:ARG:HE	1.83	0.43
2:B:1299:LYS:O	2:B:1303:GLU:OE1	2.36	0.43
2:B:1320:LEU:HD23	2:B:1323:GLU:OE2	2.19	0.43
2:B:1567:GLU:HA	2:B:1571:PHE:CD2	2.53	0.43
1:A:585:VAL:HG23	1:A:607:LYS:HD2	2.01	0.43
1:A:594:SER:OG	1:A:596:GLN:HG3	2.18	0.43
2:B:240:GLU:O	2:B:300:ILE:HG23	2.18	0.43
2:B:434:PRO:HG2	2:B:437:ILE:HG23	1.99	0.43
2:B:529:PHE:N	2:B:550:ALA:O	2.28	0.43
2:B:967:SER:O	2:B:971:HIS:HB2	2.18	0.43
2:B:1136:PHE:C	2:B:1139:SER:H	2.22	0.43
2:B:1299:LYS:HE2	2:B:1299:LYS:HB2	1.77	0.43
2:B:1482:MET:O	2:B:1514:PRO:HB3	2.17	0.43
2:E:1279:VAL:O	2:E:1283:LEU:HD23	2.18	0.43
1:A:50:ALA:N	1:A:78:THR:O	2.49	0.43
1:A:312:LYS:NZ	1:A:372:THR:O	2.45	0.43
1:A:351:MET:HA	1:A:354:ARG:HE	1.84	0.43
1:A:453:GLU:OE1	1:A:453:GLU:N	2.50	0.43
1:A:534:LEU:O	1:A:537:LYS:HG2	2.17	0.43
2:B:277:LEU:HA	2:B:277:LEU:HD23	1.76	0.43
2:B:853:VAL:HG23	2:B:854:ARG:H	1.83	0.43
2:B:924:HIS:O	2:B:928:ILE:HG13	2.18	0.43
2:B:1266:LEU:CD2	2:B:1498:ILE:HG21	2.48	0.43
2:B:1632:LYS:HA	2:B:1636:HIS:HB3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:317:ASP:HB2	1:A:320:GLN:HB3	2.00	0.43
1:A:492:LEU:HD22	1:A:502:PHE:CZ	2.53	0.43
1:A:578:ARG:NH1	1:A:580:SER:HA	2.33	0.43
1:A:661:GLU:HA	1:A:664:ILE:HD12	2.01	0.43
1:A:716:GLU:HG3	2:B:44:TRP:CE2	2.54	0.43
2:B:70:THR:HG22	2:B:71:VAL:N	2.32	0.43
2:B:331:ASP:HA	2:B:334:HIS:ND1	2.34	0.43
2:B:1082:GLU:O	2:B:1086:ARG:HG2	2.19	0.43
2:B:1340:ASN:HB3	2:B:1344:LYS:NZ	2.33	0.43
2:B:1478:GLU:O	2:B:1478:GLU:HG3	2.18	0.43
2:E:1265:LEU:CD2	2:E:1304:ILE:HD13	2.48	0.43
1:A:229:ILE:HD11	1:A:271:LEU:HD11	1.99	0.43
1:A:383:ASN:HB3	1:A:387:PHE:CZ	2.54	0.43
2:B:375:GLU:HB2	2:B:502:TYR:HB2	2.00	0.43
2:B:439:PRO:HD3	2:B:711:HIS:CB	2.49	0.43
2:B:1133:GLN:O	2:B:1136:PHE:HB3	2.18	0.43
2:B:1206:ASP:HA	2:B:1209:THR:HG22	1.99	0.43
2:B:1240:TYR:CD2	2:B:1244:LEU:HD11	2.53	0.43
2:B:1471:GLY:N	2:B:1473:LYS:HE3	2.34	0.43
2:B:1477:ASN:ND2	2:B:1565:ASN:HA	2.33	0.43
1:A:9:LYS:H	2:B:1390:ARG:HH21	1.65	0.43
1:A:140:TYR:CD1	1:A:143:LEU:HD11	2.45	0.43
1:A:248:ASN:O	1:A:252:LEU:HG	2.18	0.43
1:A:317:ASP:O	1:A:321:ARG:HG2	2.18	0.43
1:A:331:ALA:HB2	1:A:395:TYR:OH	2.18	0.43
2:B:19:TYR:CZ	2:B:59:PHE:HD1	2.36	0.43
2:B:351:ILE:HD13	2:B:374:GLY:O	2.18	0.43
2:B:588:LEU:HA	2:B:598:LYS:HZ1	1.82	0.43
2:B:801:LEU:O	2:B:804:ARG:HG3	2.19	0.43
2:B:810:VAL:HG23	2:B:811:LYS:N	2.32	0.43
2:B:990:PHE:HD2	2:B:1042:LEU:HD11	1.84	0.43
2:B:1003:ALA:C	2:B:1005:ASP:H	2.21	0.43
2:B:1099:ILE:HD13	2:B:1138:PHE:HB2	1.99	0.43
2:B:1575:TYR:HA	2:B:1578:GLU:CD	2.39	0.43
1:A:236:ASP:O	1:A:239:ILE:HG22	2.18	0.43
1:A:329:ARG:NE	1:A:340:ASN:OD1	2.51	0.43
1:A:378:MET:SD	1:A:378:MET:N	2.92	0.43
1:A:652:LEU:HD23	1:A:652:LEU:HA	1.90	0.43
2:B:37:ILE:HG23	2:B:45:TYR:HB3	2.00	0.43
2:B:163:LEU:HD13	2:B:1005:ASP:HB3	2.00	0.43
2:B:507:PRO:HG2	2:B:509:TRP:CH2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:592:LYS:HD3	2:B:595:MET:SD	2.58	0.43
2:B:1169:LYS:NZ	2:B:1198:SER:O	2.44	0.43
2:E:1228:LEU:HB3	2:E:1240:TYR:CE1	2.51	0.43
1:A:695:LYS:HA	1:A:698:LEU:HG	2.01	0.43
2:B:468:VAL:HB	2:B:498:SER:HB3	2.01	0.43
2:B:479:LEU:HA	2:B:479:LEU:HD12	1.72	0.43
2:B:529:PHE:O	2:B:550:ALA:N	2.35	0.43
2:B:1019:ARG:O	2:B:1023:GLN:HG2	2.19	0.43
2:B:1189:SER:HB3	2:B:1193:PHE:CE2	2.54	0.43
2:B:1387:GLU:H	2:B:1387:GLU:CD	2.21	0.43
2:B:1489:TYR:CE1	2:B:1507:ILE:HG23	2.54	0.43
2:B:1632:LYS:O	2:B:1636:HIS:HB3	2.19	0.43
2:E:1228:LEU:O	2:E:1232:LYS:HG2	2.19	0.43
1:A:159:LEU:HD12	1:A:197:ILE:HG23	2.01	0.42
1:A:670:ASN:HA	1:A:675:LYS:NZ	2.34	0.42
2:B:1:MET:SD	2:B:58:ILE:HG21	2.59	0.42
2:B:288:ASP:HA	2:B:291:ARG:HE	1.83	0.42
2:B:649:ASN:O	2:B:652:HIS:N	2.52	0.42
2:B:855:GLN:OE1	2:B:855:GLN:N	2.39	0.42
2:B:1154:LYS:HE2	2:B:1157:GLN:OE1	2.19	0.42
2:B:1162:GLY:HA2	2:B:1208:ARG:NE	2.34	0.42
2:B:1183:HIS:CG	2:B:1184:LYS:H	2.37	0.42
2:B:1415:GLY:O	2:B:1418:ILE:HG22	2.19	0.42
2:E:1242:ARG:HD3	2:E:1242:ARG:N	2.33	0.42
2:E:1245:TYR:HA	2:E:1248:ARG:HE	1.84	0.42
1:A:74:ILE:O	1:A:75:LEU:HD12	2.19	0.42
1:A:240:GLN:O	1:A:244:ILE:HG12	2.19	0.42
1:A:313:MET:SD	1:A:378:MET:HG3	2.59	0.42
2:B:234:ASN:OD1	2:B:265:ASN:HA	2.19	0.42
2:B:637:LEU:O	2:B:640:LEU:HB2	2.20	0.42
2:B:809:ALA:HB3	2:B:813:LYS:HE3	2.01	0.42
2:B:1485:GLU:HG3	2:B:1511:GLU:HB3	2.01	0.42
2:B:1514:PRO:HA	2:B:1517:ASN:HD22	1.83	0.42
2:E:1306:SER:O	2:E:1309:ASP:HB2	2.19	0.42
1:A:251:PHE:HA	1:A:262:MET:HE1	2.01	0.42
2:B:468:VAL:HG22	2:B:531:PHE:CE1	2.54	0.42
2:B:820:LEU:HG	2:B:840:PHE:CE1	2.54	0.42
2:B:1007:MET:SD	2:B:1008:VAL:N	2.92	0.42
2:B:1193:PHE:HA	2:B:1196:LEU:HD12	2.01	0.42
2:B:1384:ARG:CZ	2:B:1496:PRO:HB3	2.49	0.42
2:B:1384:ARG:NH1	2:B:1496:PRO:HB3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1563:PHE:HB3	2:B:1637:TYR:OH	2.19	0.42
2:E:1218:GLU:O	2:E:1221:MET:HG2	2.19	0.42
1:A:216:TYR:CE1	1:A:250:LEU:HA	2.55	0.42
1:A:375:PRO:HG3	1:A:426:GLU:OE2	2.19	0.42
1:A:692:MET:HE1	2:B:122:TYR:CE1	2.55	0.42
2:B:676:LEU:HG	2:B:693:VAL:HG13	2.02	0.42
2:B:771:ARG:HH22	2:B:784:GLY:HA2	1.83	0.42
2:B:835:GLU:O	2:B:839:LEU:HG	2.19	0.42
2:B:1127:ILE:O	2:B:1131:MET:HG2	2.19	0.42
2:B:1192:VAL:O	2:B:1196:LEU:HG	2.19	0.42
2:B:1251:HIS:ND1	2:B:1256:ASN:HB2	2.34	0.42
2:B:1408:MET:HB3	2:B:1426:MET:O	2.20	0.42
1:A:88:LEU:HD21	1:A:107:LEU:HB2	2.01	0.42
1:A:418:ILE:O	1:A:422:LYS:HG2	2.19	0.42
1:A:531:ARG:HG3	1:A:532:PRO:HD3	2.01	0.42
1:A:562:PHE:HB3	1:A:655:ILE:O	2.20	0.42
2:B:250:GLN:NE2	2:B:291:ARG:HG2	2.35	0.42
2:B:330:THR:O	2:B:334:HIS:ND1	2.46	0.42
2:B:791:ILE:O	2:B:794:LEU:HB3	2.19	0.42
2:B:972:TYR:OH	2:B:977:LYS:NZ	2.39	0.42
2:B:1097:HIS:HB3	2:B:1100:LYS:HZ3	1.84	0.42
2:B:1143:ASN:OD1	2:B:1145:HIS:N	2.47	0.42
2:B:1555:VAL:HG13	2:B:1556:ASP:N	2.34	0.42
1:A:180:PHE:O	1:A:184:ILE:HG12	2.19	0.42
1:A:301:THR:O	1:A:305:LEU:HG	2.19	0.42
1:A:345:MET:O	1:A:348:ARG:HB2	2.19	0.42
1:A:585:VAL:HG23	1:A:607:LYS:HA	2.02	0.42
1:A:701:LEU:HD11	2:B:32:GLY:HA3	2.02	0.42
2:B:861:THR:O	2:B:864:VAL:HG12	2.18	0.42
2:B:906:LEU:HA	2:B:909:ILE:HG12	2.02	0.42
2:B:1240:TYR:O	2:B:1244:LEU:HG	2.19	0.42
2:B:1391:ARG:NH1	2:B:1395:SER:HB2	2.30	0.42
2:B:1477:ASN:HD21	2:B:1568:LYS:HB2	1.85	0.42
2:B:1618:LEU:HD23	2:B:1621:ARG:HH11	1.84	0.42
1:A:20:LYS:HE3	1:A:41:TRP:CZ3	2.54	0.42
2:B:430:LYS:HG2	2:B:431:MET:N	2.35	0.42
2:B:932:LEU:O	2:B:936:ILE:HG12	2.19	0.42
2:B:1152:ILE:HD13	2:B:1155:LEU:HD12	2.02	0.42
2:B:1570:PHE:O	2:B:1575:TYR:HD2	2.03	0.42
2:B:876:GLU:HG2	2:B:877:VAL:HG13	2.02	0.42
2:B:890:LEU:HD22	2:B:935:ARG:HG3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:366:ASN:O	1:A:369:MET:HG2	2.19	0.42
2:B:165:VAL:HB	2:B:174:ASP:OD2	2.20	0.42
2:B:630:LYS:HA	2:B:668:PHE:CZ	2.55	0.42
2:B:1364:ALA:O	2:B:1428:CYS:HA	2.20	0.42
2:E:1242:ARG:HH12	2:E:1284:GLN:CA	2.32	0.42
1:A:259:ARG:HB3	1:A:304:LEU:HD11	2.01	0.42
1:A:376:PRO:HG2	1:A:421:THR:CB	2.49	0.42
2:B:222:TYR:O	2:B:282:THR:HA	2.20	0.42
2:B:467:GLU:HG2	2:B:500:VAL:HG22	2.01	0.42
2:B:1110:LEU:O	2:B:1114:LEU:N	2.51	0.42
2:B:1113:THR:HG22	2:B:1168:TYR:HE1	1.85	0.42
2:B:1218:GLU:OE1	2:B:1218:GLU:N	2.42	0.42
1:A:181:ILE:HG12	1:A:222:GLU:OE1	2.20	0.41
1:A:244:ILE:HB	1:A:293:GLN:NE2	2.35	0.41
1:A:541:GLN:HA	1:A:544:ILE:CG1	2.47	0.41
2:B:82:PRO:HA	2:B:85:LEU:HD23	2.01	0.41
2:B:351:ILE:HG21	2:B:374:GLY:O	2.19	0.41
2:B:413:VAL:HG12	2:B:417:PHE:HD2	1.84	0.41
2:B:870:ARG:HA	2:B:870:ARG:HD2	1.86	0.41
2:B:1525:THR:HA	2:B:1528:ARG:NE	2.34	0.41
2:B:1598:PRO:O	2:B:1602:GLU:HG2	2.19	0.41
2:B:1615:LEU:HD23	2:B:1618:LEU:HD12	2.01	0.41
2:B:102:TRP:CZ3	2:B:114:PHE:HE1	2.38	0.41
2:B:435:GLU:HB3	2:B:708:LYS:HE2	2.02	0.41
2:B:777:PHE:HB3	2:B:778:TYR:CD2	2.55	0.41
2:B:844:ILE:HD12	2:B:847:ILE:HG13	2.02	0.41
2:B:1084:GLY:HA2	2:B:1087:ILE:HD12	2.03	0.41
2:B:1268:ALA:HB2	2:B:1300:LEU:HD13	2.02	0.41
2:B:1349:TYR:HA	2:B:1352:ILE:HD12	2.02	0.41
2:B:1452:ASN:O	2:B:1455:ARG:HG2	2.20	0.41
2:E:1237:GLU:O	2:E:1241:ILE:HG12	2.20	0.41
2:E:1279:VAL:HG21	2:E:1282:LEU:HD23	2.01	0.41
1:A:287:ASN:O	1:A:290:MET:HB2	2.21	0.41
1:A:328:ARG:CD	1:A:348:ARG:HH22	2.30	0.41
1:A:577:CYS:HA	1:A:588:TYR:HB3	2.02	0.41
2:B:65:HIS:CG	2:B:66:LEU:H	2.38	0.41
2:B:95:LEU:HD12	2:B:95:LEU:HA	1.76	0.41
2:B:218:THR:OG1	2:B:219:ILE:N	2.53	0.41
2:B:472:VAL:HG22	2:B:484:ILE:HD11	2.02	0.41
2:B:1319:LYS:O	2:B:1322:LYS:HB2	2.20	0.41
2:B:1556:ASP:HB3	2:B:1557:PRO:HD3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1242:ARG:O	2:E:1245:TYR:HB2	2.20	0.41
1:A:144:GLN:HG2	1:A:148:LYS:HE2	2.02	0.41
1:A:515:LEU:HA	1:A:518:ARG:NH2	2.35	0.41
1:A:607:LYS:HG3	1:A:608:LEU:N	2.35	0.41
2:B:49:THR:OG1	2:B:52:ASN:N	2.52	0.41
2:B:377:GLU:HA	2:B:378:PRO:HD3	1.95	0.41
2:B:550:ALA:HB2	2:B:571:VAL:HG23	2.02	0.41
2:B:1071:LYS:HA	2:B:1074:LYS:HZ2	1.85	0.41
2:E:1320:LEU:HA	2:E:1323:GLU:OE1	2.21	0.41
2:E:1325:ALA:O	2:E:1328:TYR:HB2	2.20	0.41
1:A:329:ARG:HH21	1:A:336:SER:CB	2.33	0.41
1:A:376:PRO:HD2	1:A:418:ILE:HD12	2.01	0.41
1:A:562:PHE:HE2	1:A:577:CYS:HB3	1.85	0.41
1:A:578:ARG:HH12	1:A:581:PRO:CD	2.33	0.41
2:B:47:GLY:H	2:B:56:LYS:HZ3	1.68	0.41
2:B:243:MET:SD	2:B:243:MET:N	2.90	0.41
2:B:321:PRO:HD3	2:B:499:VAL:HG12	2.02	0.41
2:B:651:LYS:HE2	2:B:652:HIS:CE1	2.56	0.41
2:B:897:PRO:O	2:B:900:GLU:HG3	2.20	0.41
2:B:1129:PHE:O	2:B:1133:GLN:HG3	2.21	0.41
2:B:1144:PHE:HD2	2:B:1147:PHE:HD2	1.67	0.41
2:B:1524:LEU:O	2:B:1528:ARG:HG3	2.20	0.41
2:B:1607:HIS:CD2	2:B:1619:HIS:CD2	3.05	0.41
2:B:1633:VAL:HA	2:B:1637:TYR:HB2	2.03	0.41
2:E:1306:SER:HA	2:E:1309:ASP:OD2	2.20	0.41
1:A:18:TYR:CE1	2:B:1354:LYS:HA	2.55	0.41
1:A:262:MET:HA	1:A:265:ILE:HG12	2.01	0.41
2:B:4:TRP:CZ2	2:B:58:ILE:HD12	2.55	0.41
2:B:1202:GLU:HG2	2:B:1203:ASN:N	2.35	0.41
2:B:1542:LEU:O	2:B:1544:VAL:HG23	2.21	0.41
2:B:1607:HIS:O	2:B:1610:LYS:N	2.53	0.41
1:A:298:GLN:O	1:A:301:THR:OG1	2.34	0.41
1:A:322:ASP:HA	1:A:325:PHE:HB3	2.02	0.41
1:A:348:ARG:HH11	1:A:351:MET:CE	2.34	0.41
1:A:549:LYS:HD2	1:A:550:GLN:N	2.35	0.41
1:A:711:PRO:HG2	2:B:16:ILE:HD12	2.01	0.41
2:B:224:LEU:HD12	2:B:281:PHE:HD2	1.85	0.41
2:B:245:LEU:HB2	2:B:254:ILE:HB	2.01	0.41
2:B:249:ASP:OD2	2:B:293:ARG:N	2.53	0.41
2:B:255:SER:HA	2:B:430:LYS:HA	2.02	0.41
2:B:651:LYS:HE2	2:B:652:HIS:ND1	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:721:TYR:O	2:B:722:LYS:HE2	2.20	0.41
2:B:1586:VAL:HA	2:B:1589:LEU:HG	2.03	0.41
1:A:93:GLN:HE21	1:A:128:LEU:CD1	2.34	0.41
1:A:640:LEU:HA	1:A:640:LEU:HD23	1.88	0.41
1:A:669:LEU:HD23	1:A:672:LEU:HD12	2.01	0.41
2:B:102:TRP:CE3	2:B:114:PHE:HE1	2.39	0.41
2:B:115:ARG:O	2:B:119:GLN:HG3	2.20	0.41
2:B:192:LYS:HA	2:B:195:GLU:CD	2.40	0.41
2:B:263:GLY:N	2:B:267:MET:O	2.51	0.41
2:B:486:PRO:HB3	2:B:513:VAL:HG12	2.03	0.41
2:B:547:PHE:CD1	2:B:573:LYS:HE2	2.55	0.41
2:B:934:ARG:NH2	2:B:988:GLU:OE2	2.54	0.41
2:B:1124:THR:O	2:B:1127:ILE:HG22	2.19	0.41
2:B:1469:ARG:HG2	2:B:1473:LYS:NZ	2.35	0.41
2:E:1308:PHE:HB3	2:E:1313:MET:O	2.20	0.41
1:A:13:GLU:N	1:A:13:GLU:OE1	2.54	0.41
1:A:129:LEU:HA	1:A:132:MET:HG3	2.03	0.41
1:A:254:ALA:HB3	1:A:259:ARG:HE	1.85	0.41
1:A:483:VAL:O	1:A:486:GLU:HB2	2.20	0.41
1:A:561:CYS:HA	1:A:576:TYR:HA	2.03	0.41
1:A:622:CYS:HB3	1:A:624:HIS:ND1	2.36	0.41
2:B:44:TRP:CB	2:B:58:ILE:HG22	2.51	0.41
2:B:108:ASN:O	2:B:110:LYS:HG2	2.19	0.41
2:B:469:THR:HB	2:B:530:THR:OG1	2.21	0.41
2:B:564:ASP:N	2:B:633:GLN:OE1	2.54	0.41
2:B:568:ASP:O	2:B:592:LYS:HG2	2.21	0.41
2:B:796:LEU:HA	2:B:799:ASN:ND2	2.36	0.41
2:B:797:ALA:O	2:B:801:LEU:HG	2.21	0.41
2:B:879:LEU:HD23	2:B:928:ILE:HD11	2.03	0.41
2:B:1051:VAL:HG21	2:B:1108:PRO:HB3	2.02	0.41
2:B:1215:GLU:C	2:B:1220:ARG:HH11	2.24	0.41
2:B:1239:ILE:HD11	2:B:1243:TYR:CZ	2.56	0.41
2:B:1291:TYR:HB3	2:B:1296:LEU:HD11	2.03	0.41
2:E:1291:TYR:HA	2:E:1296:LEU:HD21	2.03	0.41
1:A:12:ILE:HB	1:A:20:LYS:HG3	2.03	0.41
1:A:208:MET:HE1	1:A:219:VAL:HB	2.02	0.41
1:A:302:PHE:CG	1:A:430:VAL:HG13	2.56	0.41
1:A:306:GLU:CA	1:A:309:MET:HG3	2.44	0.41
1:A:351:MET:HA	1:A:354:ARG:HG2	2.03	0.41
1:A:416:SER:O	1:A:420:LEU:HD13	2.20	0.41
1:A:442:HIS:HA	1:A:495:LYS:NZ	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:503:LYS:HG3	1:A:507:GLN:HE22	1.86	0.41
1:A:524:ASN:HD22	1:A:687:ASP:HB3	1.85	0.41
1:A:620:LYS:HB2	1:A:638:LEU:HD13	2.02	0.41
1:A:665:TRP:O	1:A:669:LEU:HG	2.21	0.41
2:B:457:LYS:HB3	2:B:461:LYS:HG3	2.03	0.41
2:B:745:ASP:N	2:B:745:ASP:OD1	2.52	0.41
2:B:1147:PHE:CZ	2:B:1151:LEU:HD22	2.56	0.41
2:B:1148:GLU:HA	2:B:1151:LEU:HB3	2.03	0.41
2:B:1268:ALA:HA	2:B:1271:LEU:HD13	2.02	0.41
2:B:1372:PHE:HB2	2:B:1377:ARG:CG	2.42	0.41
2:B:1381:PHE:HA	2:B:1502:PHE:O	2.21	0.41
2:B:1594:ALA:O	2:B:1598:PRO:HD2	2.21	0.41
1:A:232:LEU:HD12	1:A:240:GLN:HG2	2.03	0.40
1:A:251:PHE:CG	1:A:300:LEU:HD13	2.56	0.40
1:A:468:LYS:O	1:A:471:ARG:HD2	2.21	0.40
2:B:231:PHE:HB3	2:B:262:TRP:NE1	2.36	0.40
2:B:643:TRP:O	2:B:647:SER:N	2.54	0.40
2:B:724:PHE:CD2	2:B:769:GLN:HB3	2.55	0.40
2:B:738:ASN:OD1	2:B:794:LEU:HA	2.20	0.40
2:B:1245:TYR:HA	2:B:1248:ARG:HG2	2.01	0.40
2:B:1300:LEU:HA	2:B:1303:GLU:OE2	2.20	0.40
2:B:1418:ILE:HD12	2:B:1421:SER:HB3	2.03	0.40
2:B:1603:GLY:HA2	2:B:1606:ILE:HG22	2.03	0.40
2:E:1305:ILE:HG23	2:E:1348:PHE:HZ	1.86	0.40
1:A:30:LEU:HA	1:A:33:ILE:CG1	2.51	0.40
1:A:140:TYR:O	1:A:144:GLN:N	2.51	0.40
1:A:641:ALA:HA	1:A:654:PHE:O	2.21	0.40
2:B:701:ILE:HD12	2:B:701:ILE:HA	1.89	0.40
2:B:1259:GLU:HB3	2:B:1498:ILE:O	2.20	0.40
2:B:1443:ASP:OD1	2:B:1443:ASP:N	2.47	0.40
2:B:1482:MET:C	2:B:1514:PRO:HB3	2.41	0.40
2:B:1575:TYR:CE1	2:B:1585:LYS:HD2	2.55	0.40
2:E:1250:LEU:O	2:E:1253:ASP:HB2	2.21	0.40
1:A:52:GLN:HG2	1:A:54:ALA:HA	2.04	0.40
1:A:239:ILE:O	1:A:243:THR:HG23	2.21	0.40
1:A:326:GLU:O	1:A:329:ARG:HB2	2.22	0.40
1:A:420:LEU:HD21	1:A:463:LEU:HD12	2.03	0.40
1:A:502:PHE:O	1:A:506:LEU:HG	2.21	0.40
1:A:517:ILE:HA	1:A:520:SER:OG	2.22	0.40
1:A:624:HIS:CG	1:A:625:MET:N	2.89	0.40
1:A:693:GLU:O	1:A:696:LEU:HG	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:453:GLY:CA	2:B:620:PHE:HA	2.51	0.40
2:B:555:MET:O	2:B:556:ASN:ND2	2.55	0.40
2:B:972:TYR:C	2:B:975:THR:H	2.23	0.40
2:B:1349:TYR:HD1	2:E:1335:TYR:CD2	2.39	0.40
2:B:1354:LYS:HA	2:B:1354:LYS:HE2	2.03	0.40
2:B:1514:PRO:HA	2:B:1517:ASN:HB2	2.03	0.40
2:B:1515:LEU:HD22	2:B:1575:TYR:CE1	2.56	0.40
2:B:1585:LYS:HG3	2:B:1586:VAL:N	2.36	0.40
2:E:1232:LYS:HE3	2:E:1240:TYR:CZ	2.56	0.40
1:A:61:ILE:HD13	1:A:61:ILE:HA	1.90	0.40
1:A:159:LEU:O	1:A:163:VAL:HG13	2.21	0.40
1:A:315:PRO:C	1:A:321:ARG:HH12	2.24	0.40
1:A:387:PHE:CE2	1:A:457:CYS:HB3	2.56	0.40
1:A:692:MET:HG3	2:B:102:TRP:HZ2	1.86	0.40
1:A:710:PRO:HB3	2:B:17:TYR:CZ	2.56	0.40
2:B:263:GLY:HA3	2:B:267:MET:SD	2.62	0.40
2:B:318:LEU:HD23	2:B:318:LEU:HA	1.94	0.40
2:B:925:ILE:O	2:B:928:ILE:N	2.55	0.40
2:B:1129:PHE:CD1	2:B:1179:HIS:HB3	2.56	0.40
2:B:1129:PHE:HA	2:B:1132:MET:HG3	2.03	0.40
2:B:1435:MET:HB3	2:B:1437:LEU:HD22	2.04	0.40
2:B:1632:LYS:O	2:B:1637:TYR:N	2.35	0.40
2:E:1299:LYS:HE2	2:E:1299:LYS:HB2	1.84	0.40
1:A:8:VAL:N	1:A:23:GLU:HB3	2.37	0.40
1:A:331:ALA:O	1:A:399:VAL:HG21	2.21	0.40
1:A:429:LYS:HB3	1:A:432:GLU:HG3	2.02	0.40
1:A:679:SER:O	1:A:682:THR:HB	2.21	0.40
1:A:725:ASP:N	1:A:725:ASP:OD1	2.55	0.40
2:B:29:LEU:HD12	2:B:59:PHE:CZ	2.56	0.40
2:B:209:ASP:O	2:B:213:GLN:HG3	2.21	0.40
2:B:732:LYS:HA	2:B:732:LYS:HD3	1.94	0.40
2:B:769:GLN:HA	2:B:772:VAL:HG22	2.03	0.40
2:B:804:ARG:HD2	2:B:808:GLU:OE2	2.21	0.40
2:B:929:MET:HG3	2:B:933:LEU:HD21	2.02	0.40
2:B:1468:PHE:CZ	2:B:1470:LYS:HE3	2.56	0.40
2:E:1299:LYS:HA	2:E:1302:GLN:OE1	2.21	0.40
2:E:1321:SER:OG	2:E:1341:LEU:HD11	2.22	0.40
2:E:1348:PHE:O	2:E:1352:ILE:HG13	2.21	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	725/733 (99%)	651 (90%)	74 (10%)	0	100	100
2	B	1640/1648 (100%)	1428 (87%)	212 (13%)	0	100	100
2	E	138/1648 (8%)	129 (94%)	9 (6%)	0	100	100
All	All	2503/4029 (62%)	2208 (88%)	295 (12%)	0	100	100

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	662/664 (100%)	657 (99%)	5 (1%)	81	89
2	B	1495/1497 (100%)	1489 (100%)	6 (0%)	91	94
2	E	130/1497 (9%)	130 (100%)	0	100	100
All	All	2287/3658 (62%)	2276 (100%)	11 (0%)	89	93

All (11) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	MET
1	A	183	LYS
1	A	539	LYS
1	A	549	LYS
1	A	659	LYS

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Mol	Chain	Res	Type
2	B	3	ARG
2	B	319	ARG
2	B	644	ARG
2	B	934	ARG
2	B	935	ARG
2	B	1574	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (23) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	118	GLN
1	A	231	HIS
1	A	293	GLN
1	A	402	ASN
1	A	487	GLN
1	A	507	GLN
2	B	65	HIS
2	B	116	GLN
2	B	118	GLN
2	B	171	ASN
2	B	213	GLN
2	B	265	ASN
2	B	648	GLN
2	B	1035	GLN
2	B	1097	HIS
2	B	1157	GLN
2	B	1213	GLN
2	B	1449	GLN
2	B	1477	ASN
2	B	1534	GLN
2	B	1536	HIS
2	B	1577	GLN
2	B	1607	HIS

### 5.3.3 RNA

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

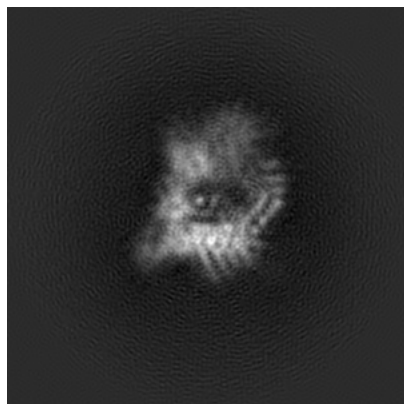
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-36271. These allow visual inspection of the internal detail of the map and identification of artifacts.

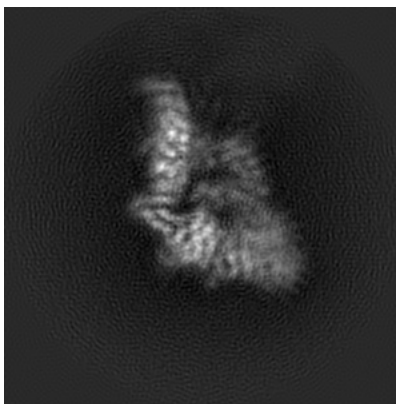
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

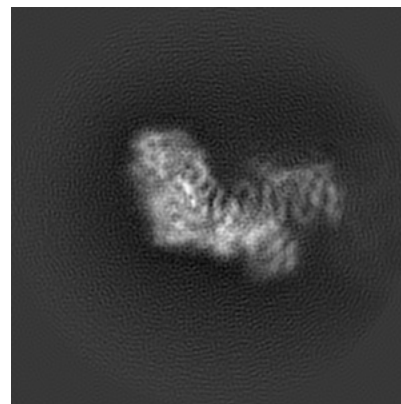
#### 6.1.1 Primary map



X

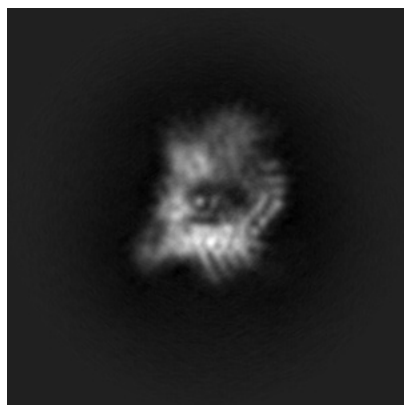


Y

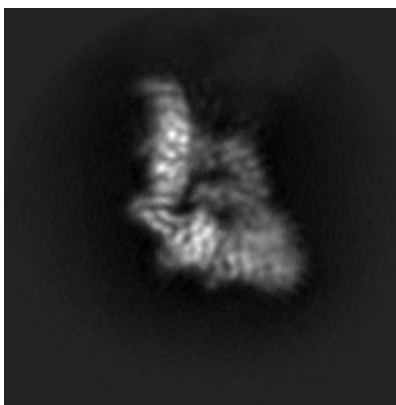


Z

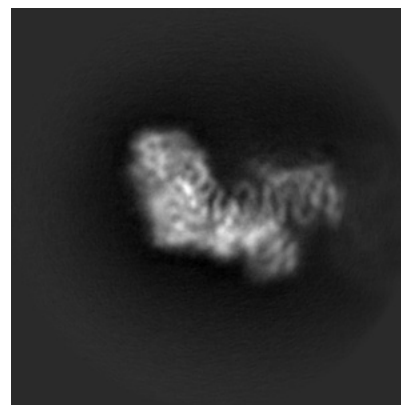
#### 6.1.2 Raw map



X



Y

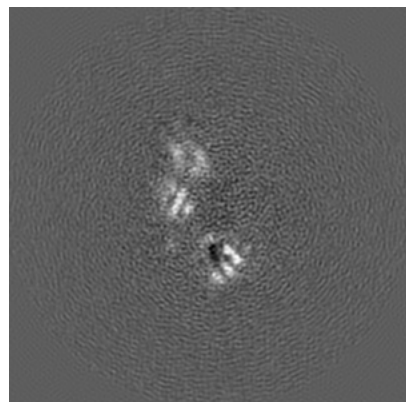


Z

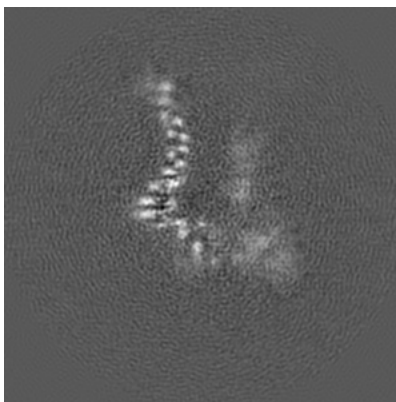
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

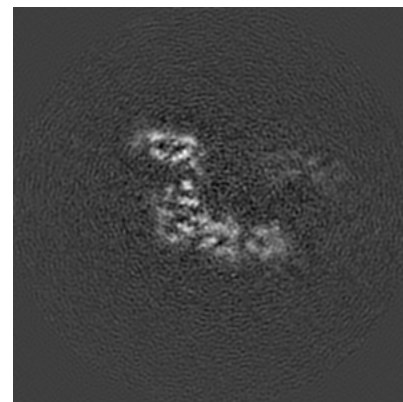
### 6.2.1 Primary map



X Index: 120

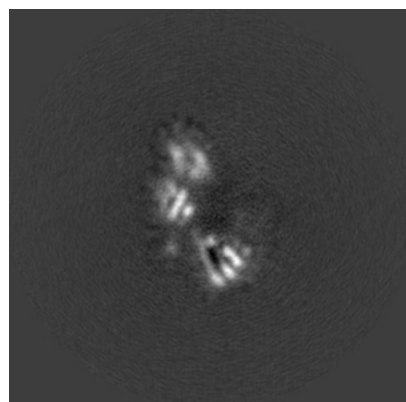


Y Index: 120

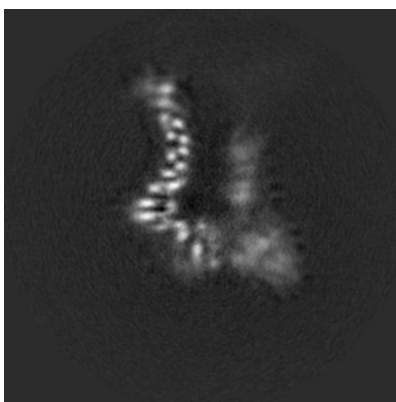


Z Index: 120

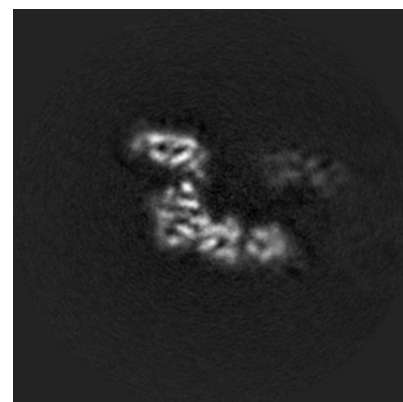
### 6.2.2 Raw map



X Index: 120



Y Index: 120

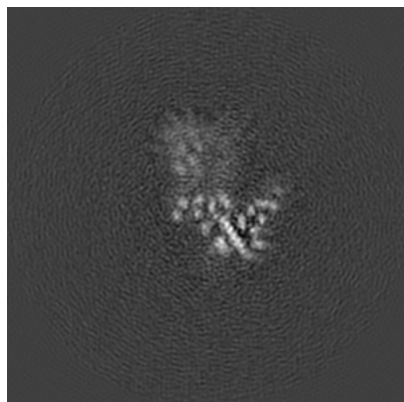


Z Index: 120

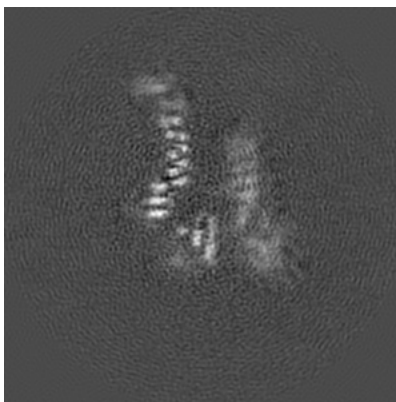
The images above show central slices of the map in three orthogonal directions.

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

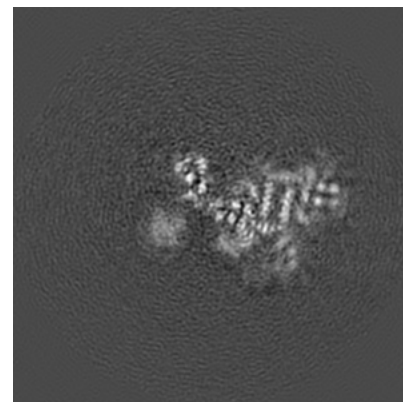
### 6.3.1 Primary map



X Index: 106

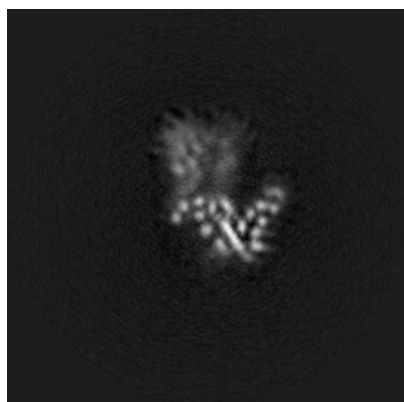


Y Index: 117

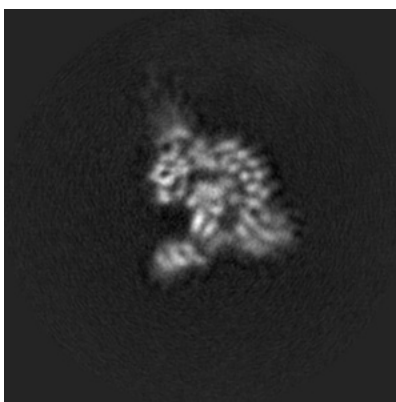


Z Index: 100

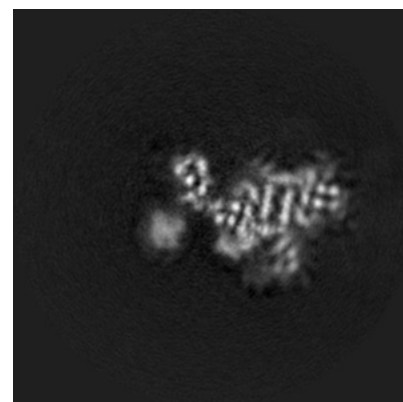
### 6.3.2 Raw map



X Index: 105



Y Index: 104

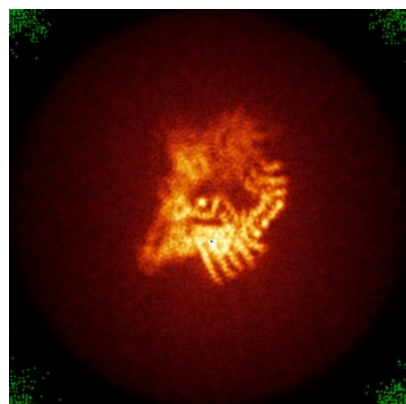


Z Index: 100

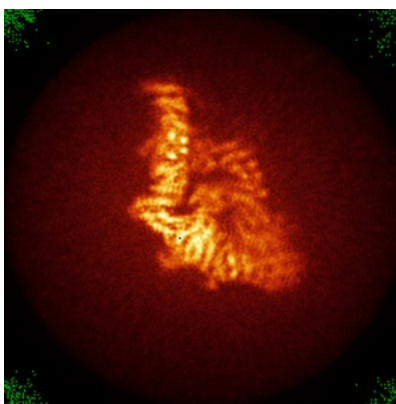
The images above show the largest variance slices of the map in three orthogonal directions.

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

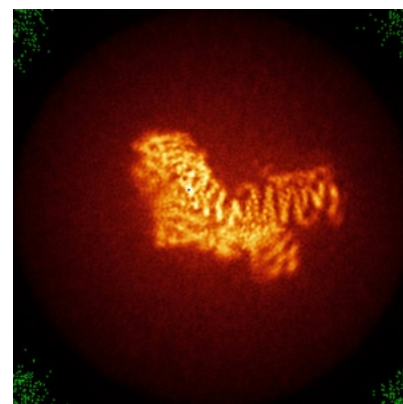
### 6.4.1 Primary map



X



Y

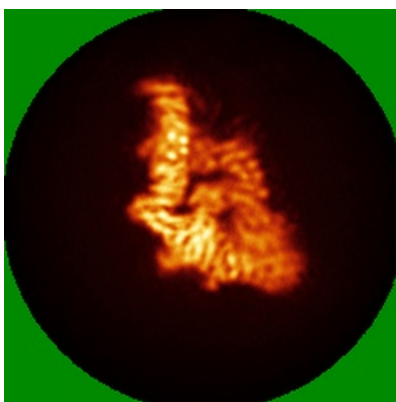


Z

### 6.4.2 Raw map



X



Y



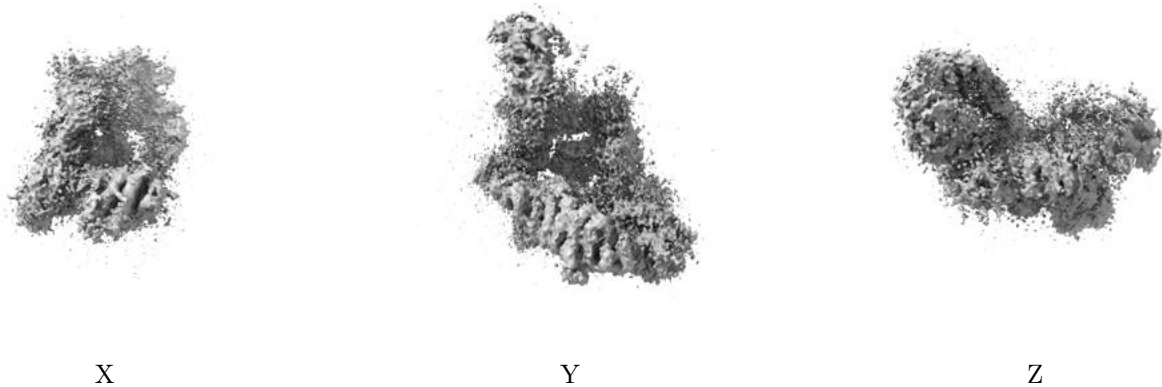
Z

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.



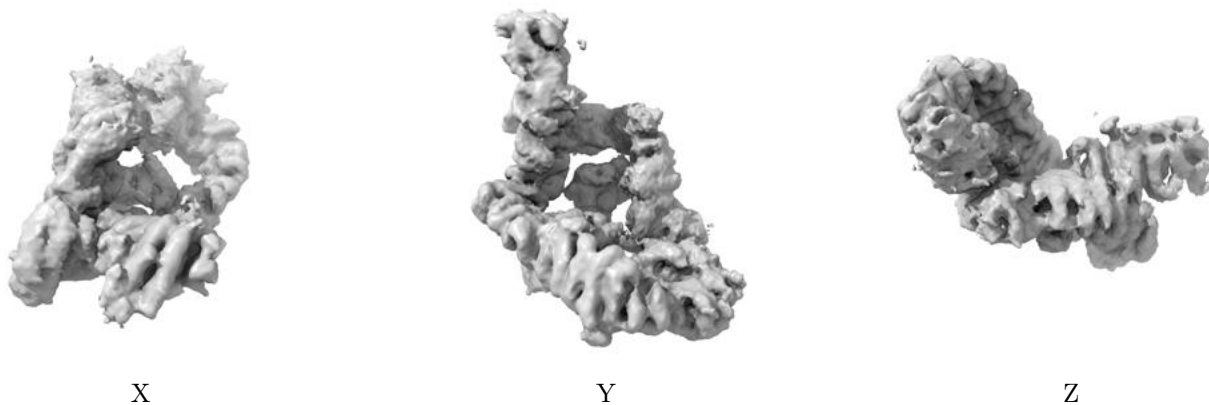
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.013. 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.

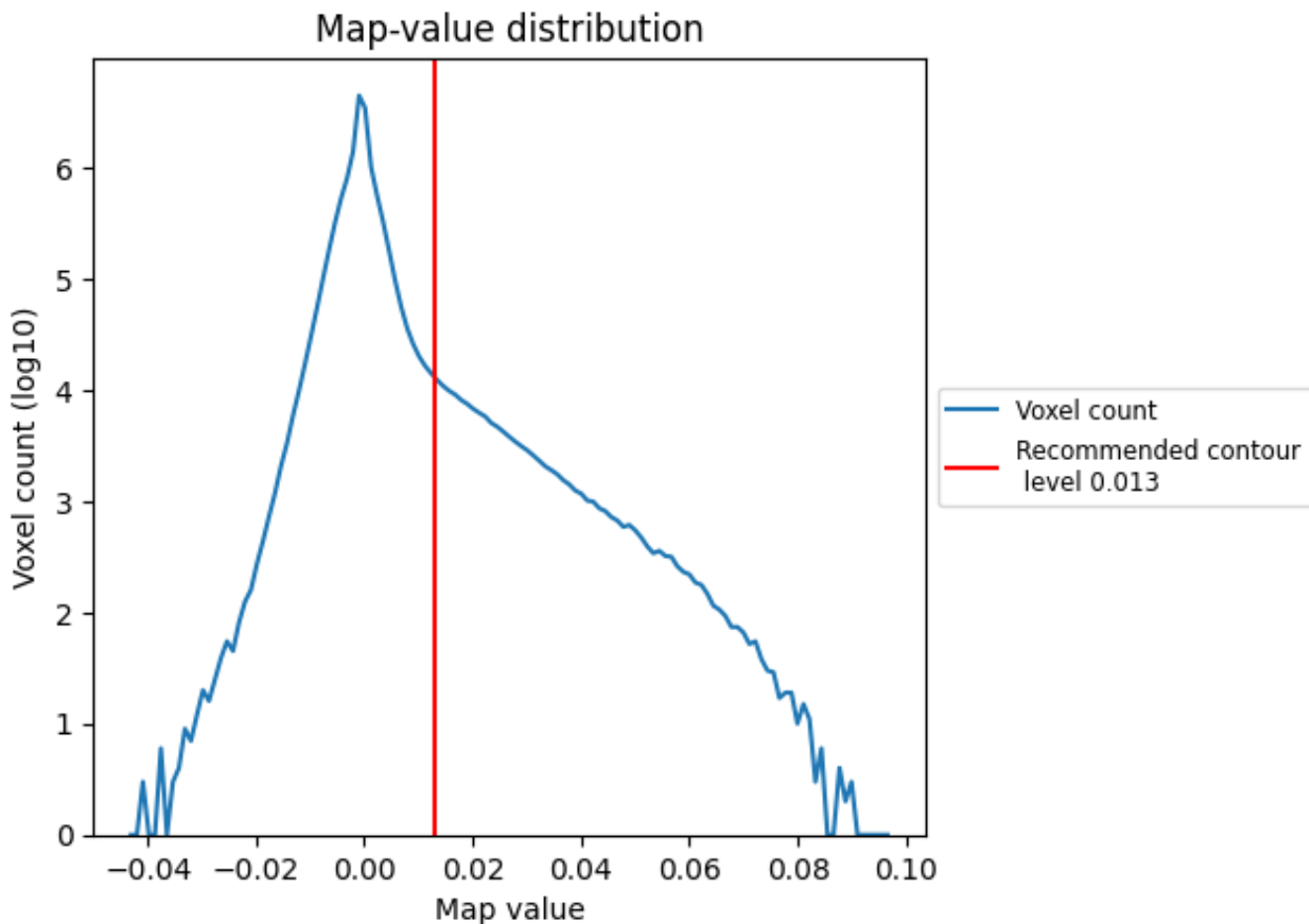
## 6.6 Mask visualisation [i](#)

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.

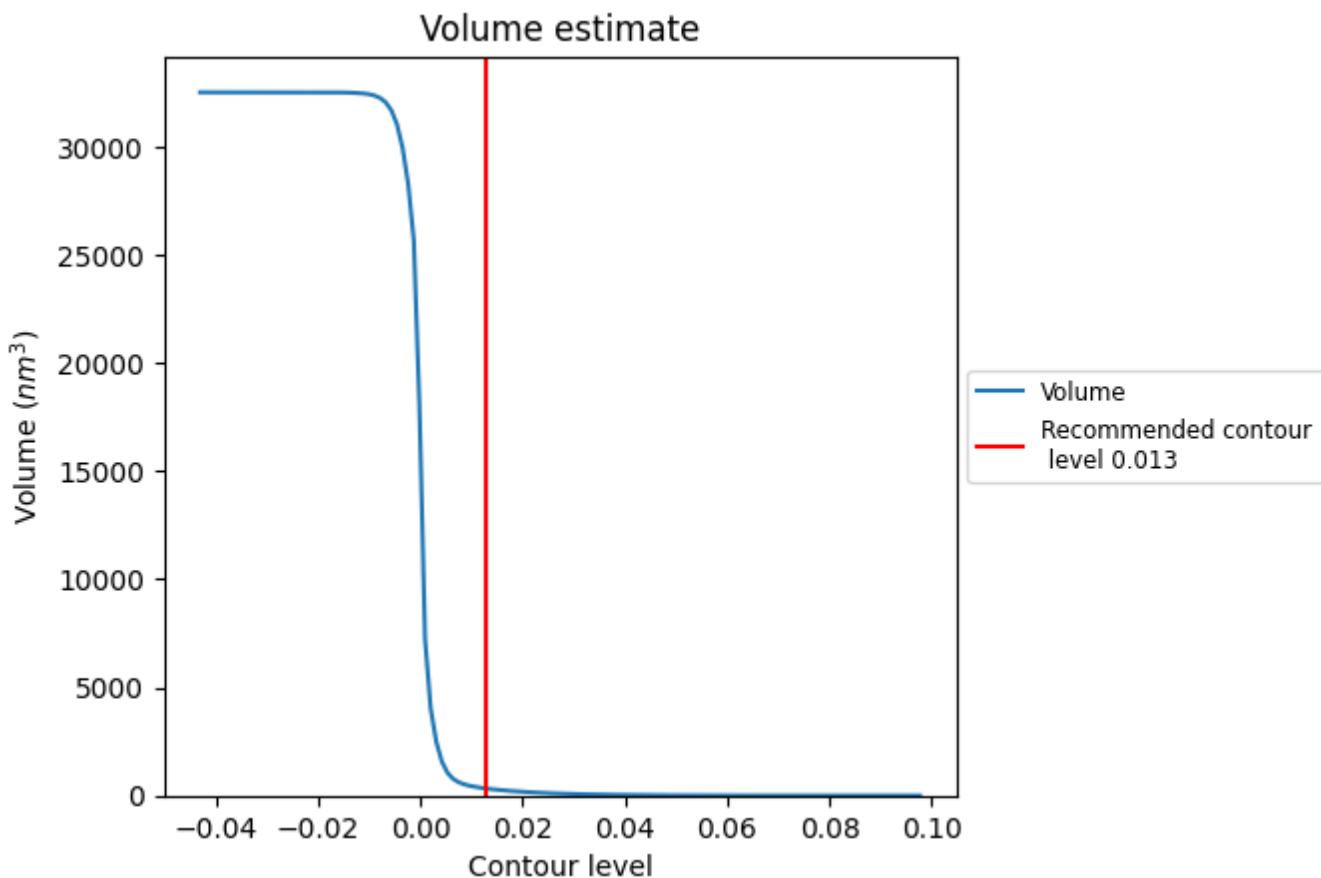
### 7.1 Map-value distribution [i](#)



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.



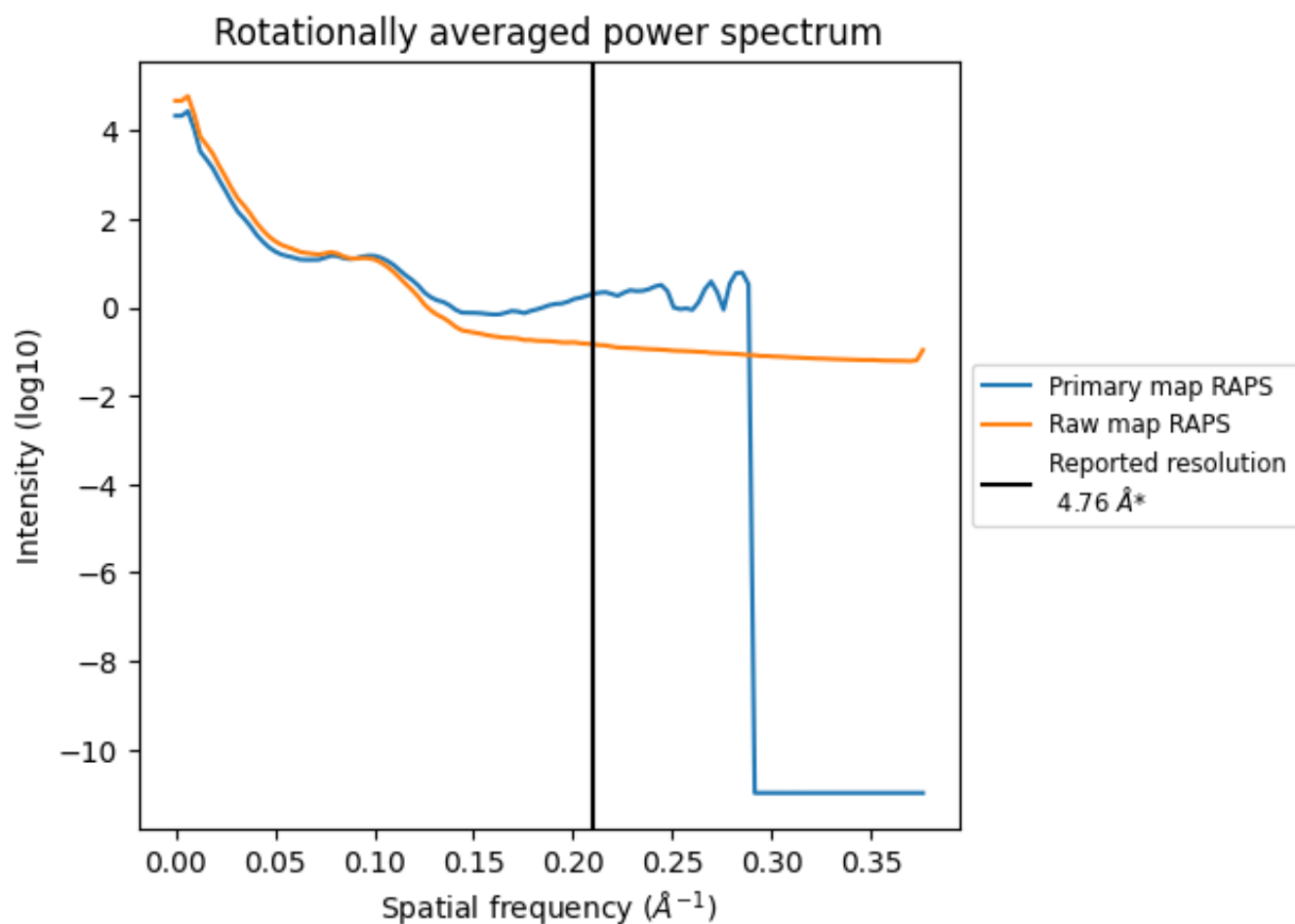
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 321  $\text{nm}^3$ ; this corresponds to an approximate mass of 290 kDa.

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

### 7.3 Rotationally averaged power spectrum [i](#)

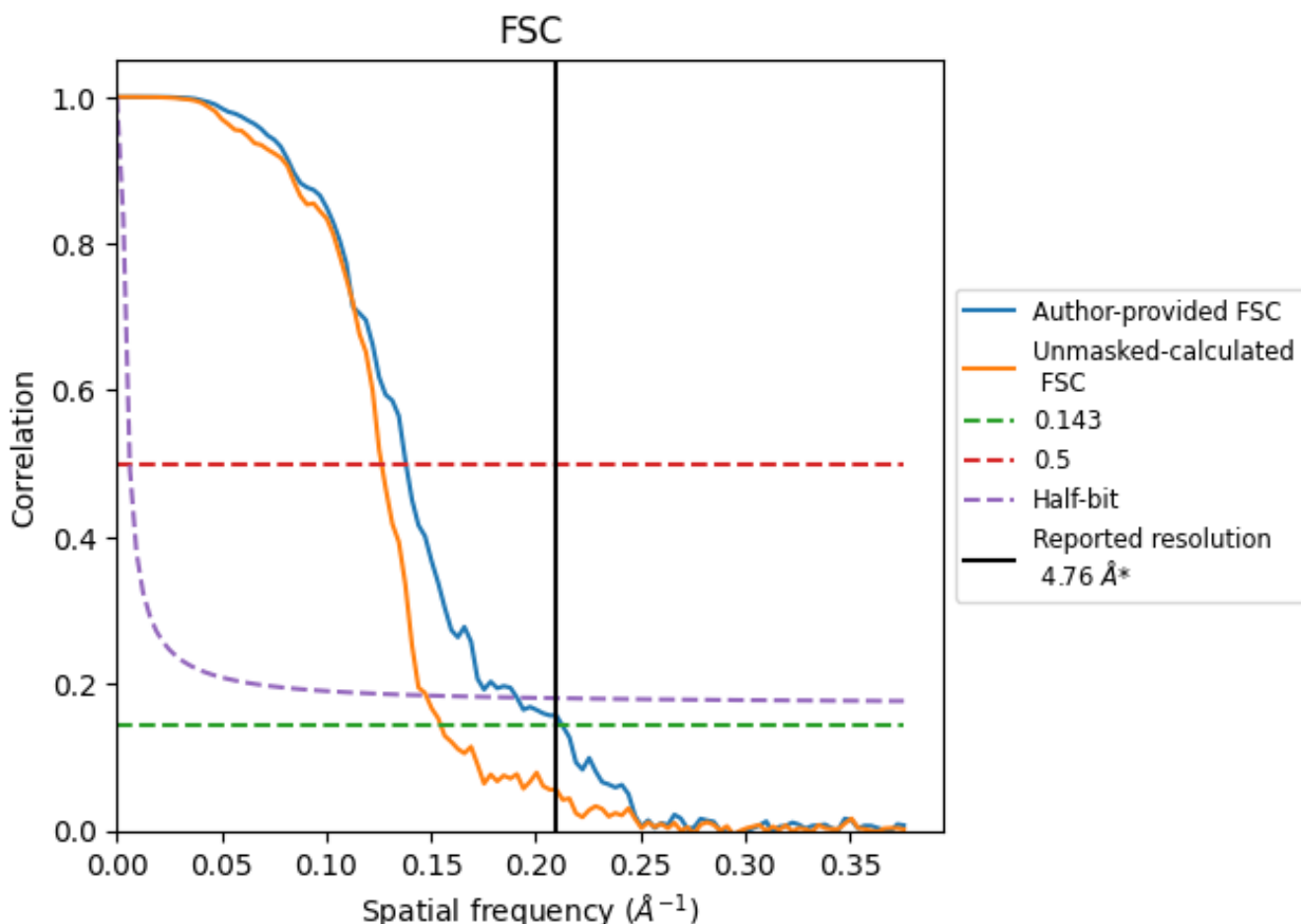


\*Reported resolution corresponds to spatial frequency of 0.210 Å<sup>-1</sup>

## 8 Fourier-Shell correlation [i](#)

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

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.210 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

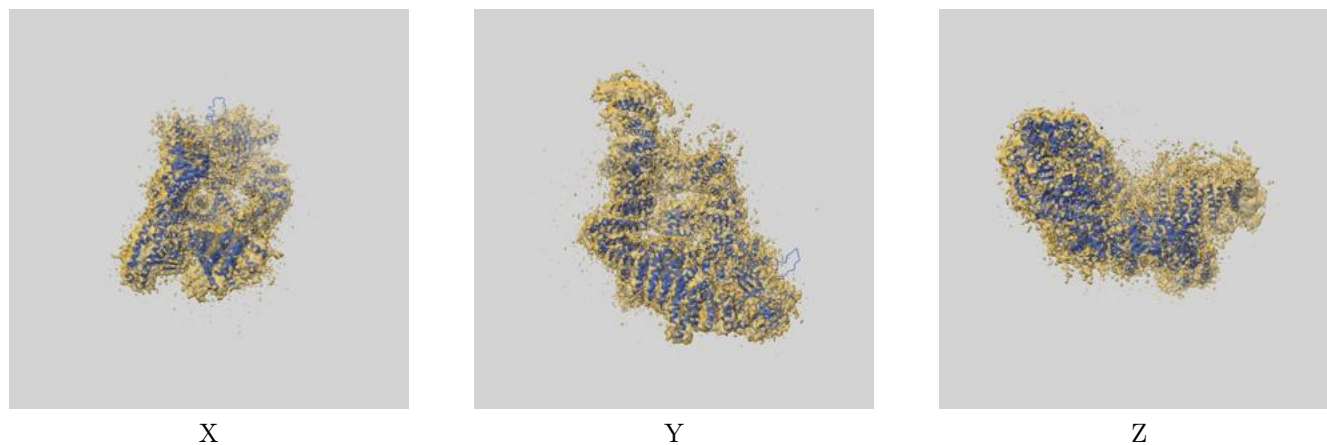
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.76	-	-
Author-provided FSC curve	4.70	7.24	5.23
Unmasked-calculated*	6.46	7.91	6.77

\*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 6.46 differs from the reported value 4.76 by more than 10 %

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

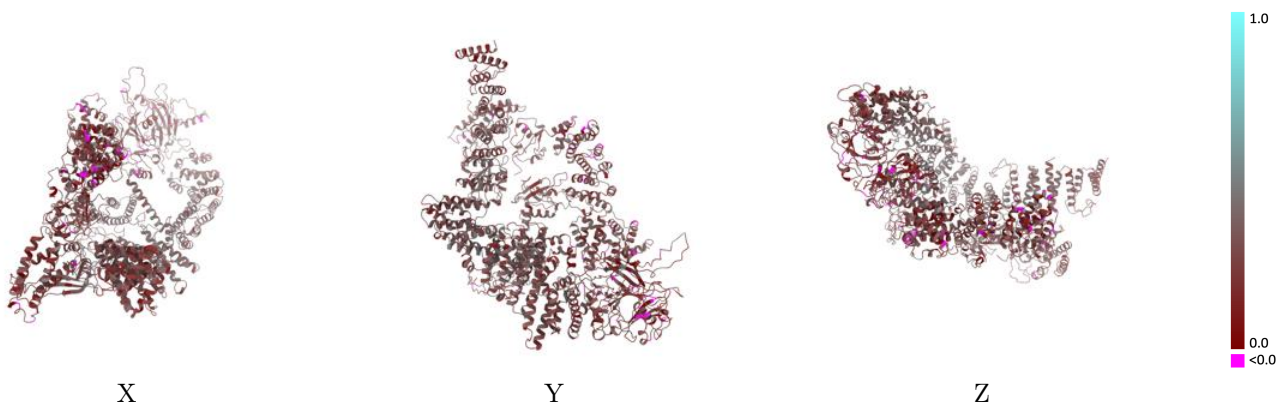
This section contains information regarding the fit between EMDB map EMD-36271 and PDB model 8JHK. Per-residue inclusion information can be found in section 3 on page 5.

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



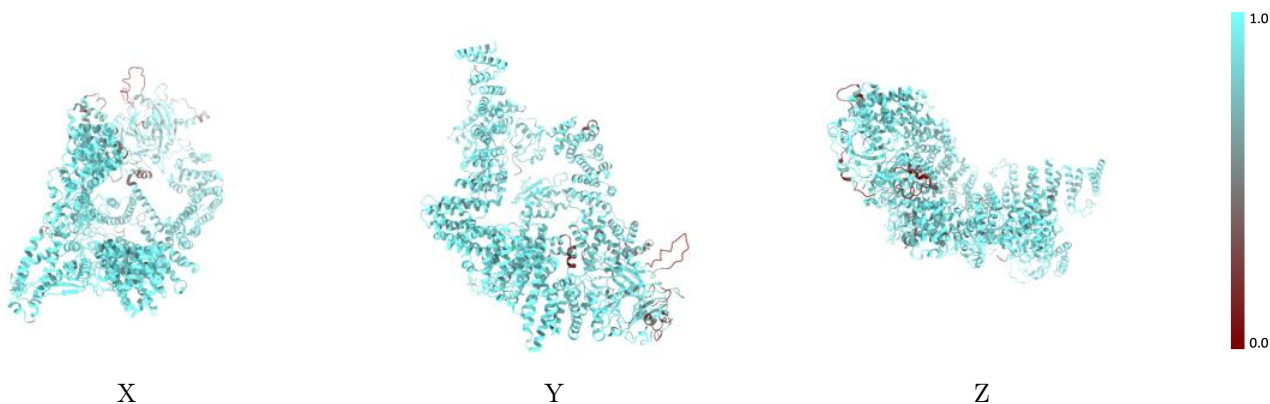
The images above show the 3D surface view of the map at the recommended contour level 0.013 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



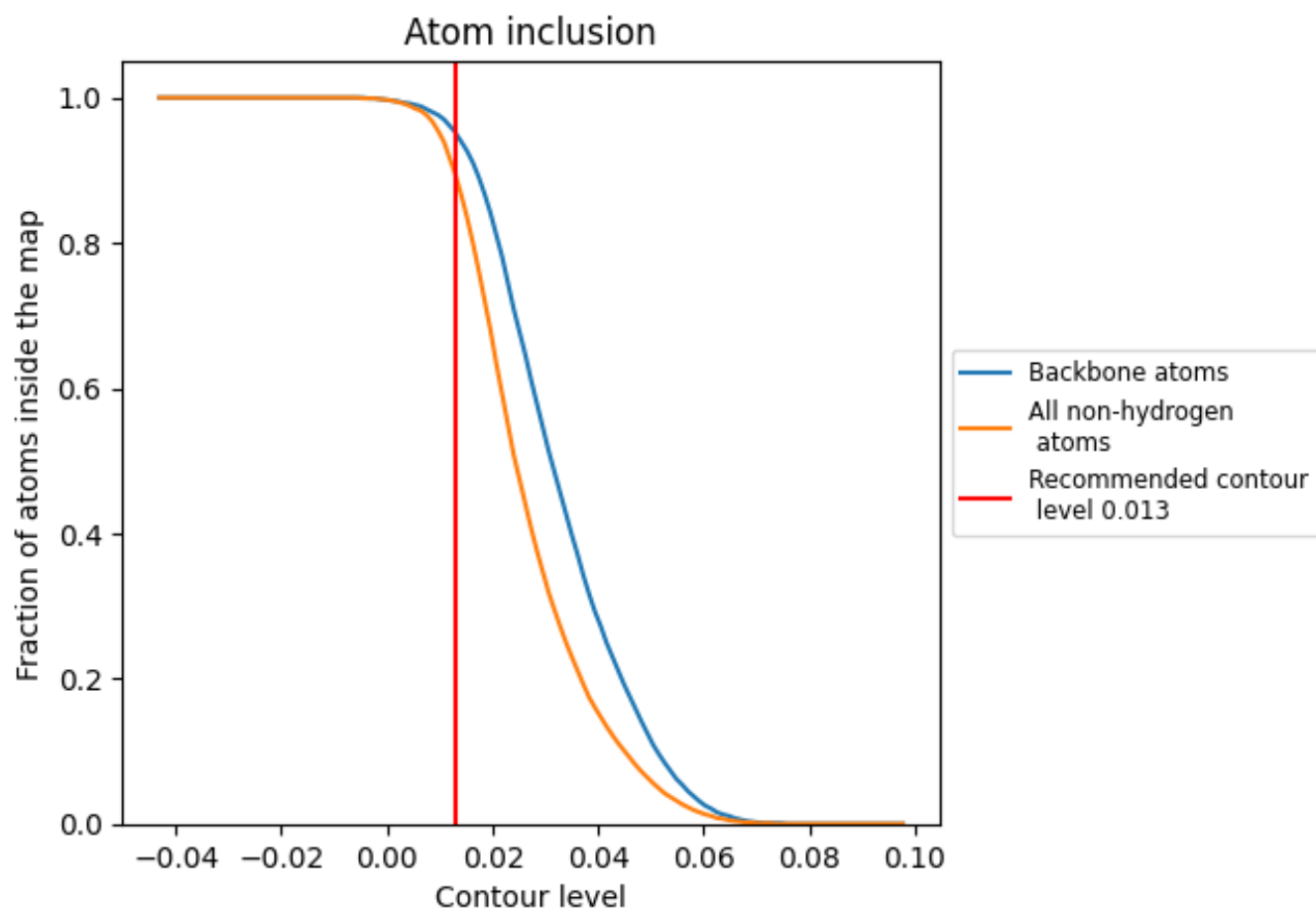
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.013).





## 9.4 Atom inclusion [i](#)



At the recommended contour level, 95% of all backbone atoms, 89% 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 (0.013) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8930	 0.2850
A	 0.8970	 0.2590
B	 0.8890	 0.2980
E	 0.9170	 0.2750

