



Full wwPDB EM Validation Report ⓘ

Nov 27, 2023 – 08:42 PM JST

PDB ID : 8W7M
EMDB ID : EMD-37343
Title : Yeast replisome in state V
Authors : Dang, S.; Zhai, Y.; Feng, J.; Yu, D.; Xu, Z.
Deposited on : 2023-08-30
Resolution : 4.12 Å (reported)
Based on initial model : 6SKL

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:

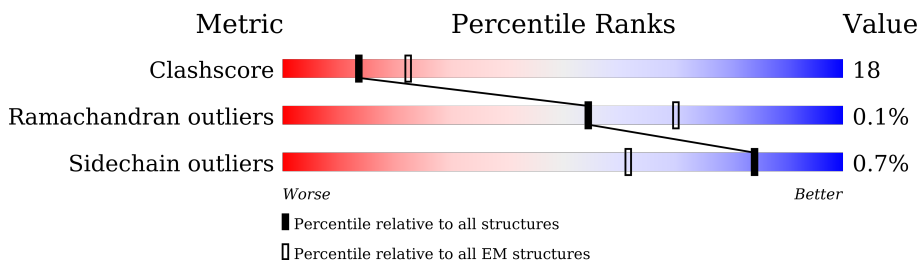
EMDB validation analysis : 0.0.1.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

1 Overall quality at a glance i

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

The reported resolution of this entry is 4.12 Å.

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











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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	2	868	
2	3	971	
3	4	933	
4	5	775	
5	6	1017	
6	7	845	
7	A	208	
8	B	213	

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Mol	Chain	Length	Quality of chain
9	C	194	 61% 27% 11%
10	D	294	 57% 25% 17%
11	E	650	 5% 56% 30% 13%
12	F	927	 30% 15% 54%
12	G	927	 12% 27% 19% 54%
12	H	927	 7% 32% 14% 54%
13	I	71	 8% 89%
14	N	689	 9% 9% 88%

2 Entry composition [i](#)

There are 18 unique types of molecules in this entry. The entry contains 51196 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called DNA replication licensing factor MCM2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	2	627	4955	3124	885	928	18	0	0

- Molecule 2 is a protein called DNA replication licensing factor MCM3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	3	619	4835	3046	860	916	13	0	0

- Molecule 3 is a protein called DNA replication licensing factor MCM4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	4	623	4947	3118	852	948	29	0	0

- Molecule 4 is a protein called Minichromosome maintenance protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	5	529	4176	2644	714	796	22	0	0

- Molecule 5 is a protein called DNA replication licensing factor MCM6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	6	613	4837	3051	839	923	24	0	0

- Molecule 6 is a protein called DNA replication licensing factor MCM7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	7	657	5124	3238	888	970	28	0	0

- Molecule 7 is a protein called DNA replication complex GINS protein PSF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	A	196	Total	C	N	O	S	0	0
			1602	1006	276	311	9		

- Molecule 8 is a protein called DNA replication complex GINS protein PSF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	B	193	Total	C	N	O	S	0	0
			1617	1039	286	287	5		

- Molecule 9 is a protein called DNA replication complex GINS protein PSF3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	C	172	Total	C	N	O	S	0	0
			1387	904	223	253	7		

- Molecule 10 is a protein called DNA replication complex GINS protein SLD5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	D	243	Total	C	N	O	S	0	0
			2004	1276	327	389	12		

- Molecule 11 is a protein called Cell division control protein 45.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	E	568	Total	C	N	O	S	0	0
			4591	2930	774	873	14		

- Molecule 12 is a protein called DNA polymerase alpha-binding protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	F	424	Total	C	N	O	S	0	0
			3404	2188	564	637	15		
12	G	422	Total	C	N	O	S	0	0
			3380	2172	557	636	15		
12	H	425	Total	C	N	O	S	0	0
			3411	2193	565	638	15		

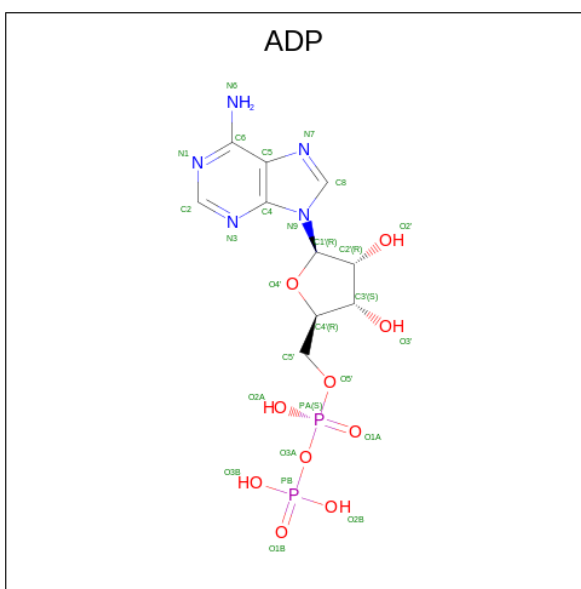
- Molecule 13 is a DNA chain called DNA (71-mer).

Mol	Chain	Residues	Atoms				AltConf	Trace	
			Total	C	N	O			P
13	I	8	160	80	16	56	8	0	0

- Molecule 14 is a protein called DNA polymerase epsilon subunit B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	N	83	641	410	111	119	1	0	0

- Molecule 15 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
15	2	1	27	10	5	10	2	0
15	3	1	27	10	5	10	2	0

- Molecule 16 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
16	2	1	1	1	0
16	3	1	1	1	0

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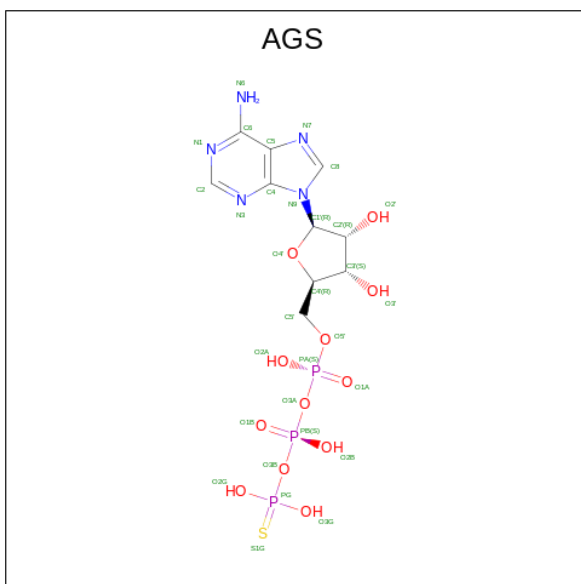
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Mol	Chain	Residues	Atoms		AltConf
16	4	1	Total	Mg	0
			1	1	
16	7	1	Total	Mg	0
			1	1	

- Molecule 17 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
17	2	1	Total	Zn	0
			1	1	
17	4	1	Total	Zn	0
			1	1	
17	5	1	Total	Zn	0
			1	1	
17	6	1	Total	Zn	0
			1	1	
17	7	1	Total	Zn	0
			1	1	

- Molecule 18 is PHOSPHOTHIOPHOSPHORIC ACID-ADENYLATE ESTER (three-letter code: AGS) (formula: C₁₀H₁₆N₅O₁₂P₃S) (labeled as "Ligand of Interest" by depositor).

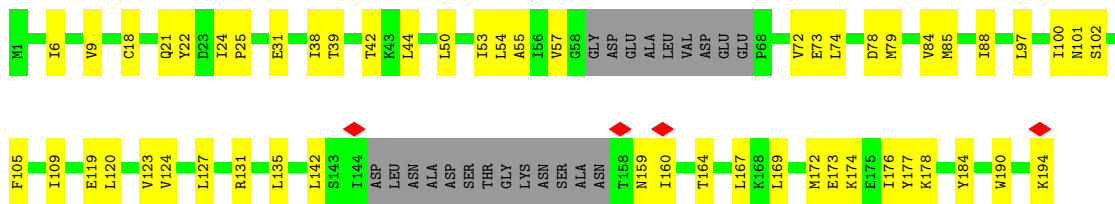


Mol	Chain	Residues	Atoms					AltConf	
18	4	1	Total	C	N	O	P	S	0
			31	10	5	12	3	1	

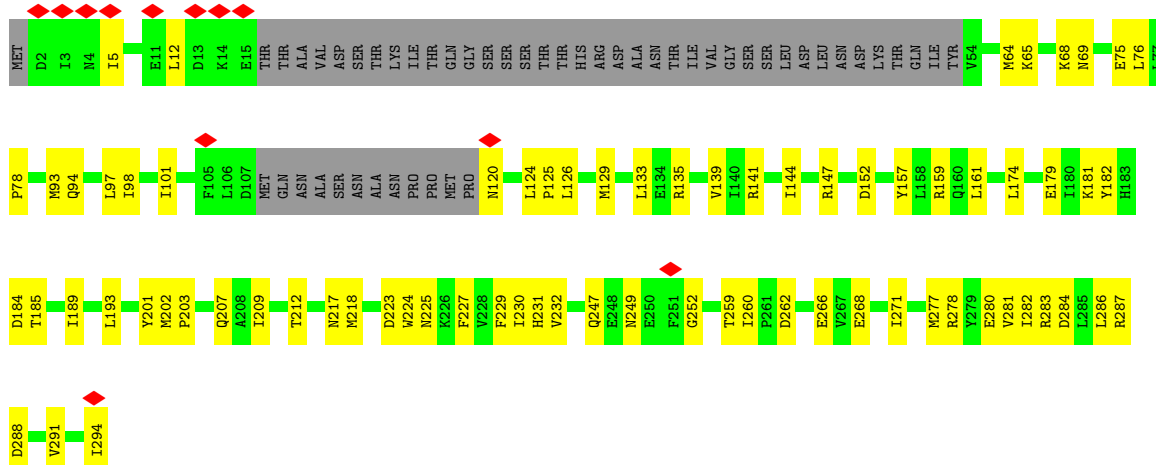
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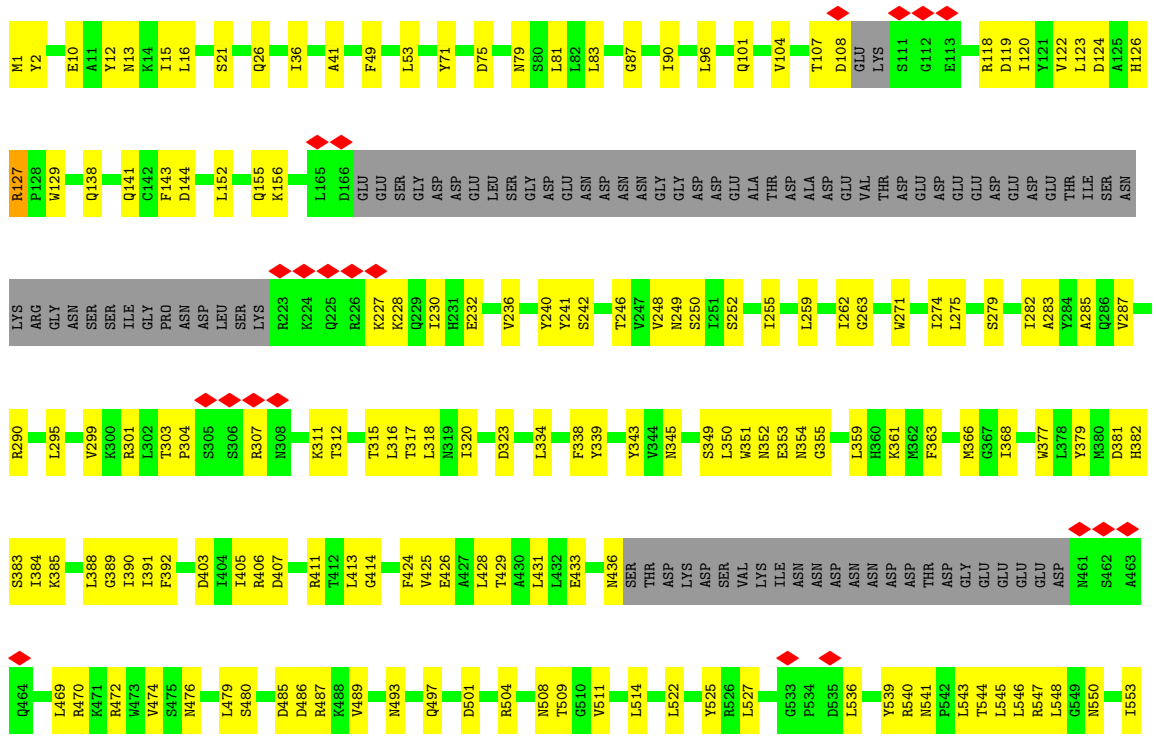
Mol	Chain	Residues	Atoms					AltConf	
			Total	C	N	O	P		S
18	7	1	31	10	5	12	3	1	0



• Molecule 10: DNA replication complex GINS protein SLD5



• Molecule 11: Cell division control protein 45



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	28871	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 ($e^-/\text{\AA}^2$)	53	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.261	Depositor
Minimum map value	-0.265	Depositor
Average map value	0.009	Depositor
Map value standard deviation	0.056	Depositor
Recommended contour level	0.45	Depositor
Map size (\AA)	466.39996, 466.39996, 466.39996	wwPDB
Map dimensions	440, 440, 440	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

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

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	2	0.25	0/5036	0.51	0/6796
2	3	0.27	0/4920	0.49	0/6675
3	4	0.25	0/5020	0.49	0/6785
4	5	0.26	0/4227	0.48	0/5701
5	6	0.26	0/4913	0.49	0/6631
6	7	0.30	0/5204	0.49	0/7039
7	A	0.26	0/1622	0.45	0/2183
8	B	0.27	0/1650	0.47	0/2231
9	C	0.26	0/1420	0.40	0/1918
10	D	0.26	0/2040	0.46	0/2755
11	E	0.28	0/4677	0.47	0/6335
12	F	0.27	0/3489	0.46	0/4724
12	G	0.26	0/3465	0.46	0/4696
12	H	0.26	0/3496	0.47	0/4735
13	I	0.46	0/175	1.28	0/268
14	N	0.31	0/654	0.47	0/883
All	All	0.27	0/52008	0.48	0/70355

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	2	4955	0	5000	178	0
2	3	4835	0	4881	195	0
3	4	4947	0	5020	193	0
4	5	4176	0	4261	162	0
5	6	4837	0	4830	181	0
6	7	5124	0	5175	162	0
7	A	1602	0	1604	49	0
8	B	1617	0	1674	56	0
9	C	1387	0	1405	39	0
10	D	2004	0	2001	60	0
11	E	4591	0	4567	150	0
12	F	3404	0	3352	114	0
12	G	3380	0	3310	147	0
12	H	3411	0	3355	104	0
13	I	160	0	97	2	0
14	N	641	0	622	146	0
15	2	27	0	12	8	0
15	3	27	0	12	6	0
16	2	1	0	0	0	0
16	3	1	0	0	0	0
16	4	1	0	0	0	0
16	7	1	0	0	0	0
17	2	1	0	0	0	0
17	4	1	0	0	0	0
17	5	1	0	0	0	0
17	6	1	0	0	0	0
17	7	1	0	0	0	0
18	4	31	0	12	5	0
18	7	31	0	12	7	0
All	All	51196	0	51202	1834	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 18.

All (1834) 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)
6:7:622:HIS:HB2	6:7:624:LYS:NZ	1.58	1.17
6:7:622:HIS:CB	6:7:624:LYS:NZ	2.08	1.17
14:N:25:LEU:HD13	14:N:63:LEU:HD12	1.42	1.01
11:E:589:PRO:HD2	11:E:592:LEU:HD12	1.44	1.00
6:7:622:HIS:CB	6:7:624:LYS:HZ3	1.73	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:62:PHE:HE2	14:N:85:LYS:HA	1.29	0.97
8:B:20:VAL:HG21	8:B:121:VAL:HG11	1.47	0.97
2:3:466:ASP:OD2	2:3:509:ARG:NH1	1.99	0.95
6:7:622:HIS:HB2	6:7:624:LYS:HZ3	1.19	0.95
6:7:633:VAL:HG12	6:7:637:LYS:HE3	1.49	0.93
6:7:214:ARG:HB2	6:7:218:LYS:HB2	1.50	0.93
6:7:622:HIS:HB3	6:7:624:LYS:NZ	1.82	0.92
1:2:669:LEU:HD22	1:2:673:ILE:HG21	1.49	0.92
12:G:907:LEU:HD23	12:G:910:LEU:HD12	1.52	0.91
1:2:309:LEU:O	1:2:310:ARG:NH1	2.05	0.90
12:G:481:PRO:O	12:G:495:THR:OG1	1.90	0.90
12:G:892:ASP:OD2	12:G:918:ARG:NH2	2.04	0.90
12:G:484:THR:O	12:G:492:ARG:NH1	2.05	0.90
14:N:23:ARG:HA	14:N:27:ARG:HB2	1.52	0.89
12:H:709:LYS:NZ	12:H:835:GLU:OE2	2.06	0.88
6:7:622:HIS:HB3	6:7:624:LYS:HZ1	1.34	0.87
2:3:489:VAL:HG22	2:3:495:VAL:HG22	1.54	0.87
11:E:303:THR:O	12:F:491:ARG:NH1	2.08	0.87
7:A:48:ARG:NH1	10:D:201:TYR:O	2.07	0.86
1:2:310:ARG:NH2	5:6:387:GLU:OE1	2.08	0.86
6:7:344:SER:OG	6:7:347:ASP:OD2	1.92	0.86
5:6:702:THR:O	5:6:705:ILE:HG22	1.75	0.86
3:4:594:LYS:NZ	6:7:532:SER:O	2.08	0.86
8:B:196:HIS:O	8:B:199:SER:OG	1.93	0.86
14:N:40:ALA:O	14:N:43:GLU:HG3	1.76	0.86
2:3:193:ARG:NH2	6:7:360:TYR:OH	2.09	0.85
5:6:277:ARG:NH2	5:6:373:MET:O	2.10	0.85
3:4:763:THR:OG1	3:4:817:VAL:O	1.94	0.85
8:B:12:SER:OG	8:B:15:GLU:OE1	1.93	0.85
9:C:21:GLN:NE2	9:C:73:GLU:OE2	2.10	0.85
3:4:587:ARG:NH1	3:4:625:ASP:O	2.10	0.84
14:N:62:PHE:HA	14:N:88:ILE:HG13	1.58	0.84
3:4:258:TYR:OH	3:4:308:VAL:O	1.96	0.84
12:H:737:THR:HG21	12:H:740:ILE:HD12	1.59	0.83
5:6:633:ASN:N	5:6:675:ARG:O	2.11	0.83
12:G:544:THR:OG1	12:G:559:HIS:NE2	2.11	0.83
6:7:530:ASP:OD2	6:7:532:SER:OG	1.96	0.83
10:D:259:THR:OG1	10:D:266:GLU:OE1	1.96	0.82
2:3:400:ARG:NH1	2:3:490:MET:SD	2.51	0.82
12:F:676:TYR:O	12:F:680:ASN:N	2.13	0.82
2:3:56:TYR:H	6:7:216:ARG:HA	1.43	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:141:SER:O	11:E:379:TYR:OH	1.97	0.82
9:C:119:GLU:OE1	9:C:119:GLU:N	2.13	0.81
1:2:353:GLN:NE2	1:2:357:GLU:O	2.14	0.81
2:3:242:THR:OG1	2:3:244:GLU:OE2	1.99	0.81
6:7:656:VAL:HG13	6:7:713:VAL:HG21	1.60	0.81
4:5:350:THR:OG1	4:5:353:GLU:OE1	1.99	0.80
6:7:670:ASP:OD1	6:7:673:ARG:NH2	2.14	0.80
12:F:541:GLU:OE1	12:F:541:GLU:N	2.13	0.80
14:N:32:SER:HB3	14:N:74:GLU:H	1.46	0.80
4:5:184:ARG:N	4:5:240:PRO:O	2.13	0.80
14:N:72:GLN:NE2	14:N:80:ASP:OD2	2.15	0.79
1:2:500:SER:OG	1:2:756:SER:OG	1.99	0.79
11:E:312:THR:O	11:E:315:THR:OG1	1.98	0.79
12:G:776:ILE:O	12:G:777:ARG:NH1	2.16	0.79
14:N:13:GLN:OE1	14:N:15:PRO:HG2	1.84	0.78
14:N:14:PRO:HB3	14:N:38:LEU:HG	1.63	0.78
1:2:763:LEU:O	1:2:767:ILE:HD12	1.83	0.78
1:2:236:GLU:OE2	11:E:361:LYS:NZ	2.17	0.78
14:N:15:PRO:HB3	14:N:18:ARG:HH21	1.48	0.78
3:4:206:ARG:NH1	3:4:244:ASP:OD2	2.17	0.78
14:N:62:PHE:CE2	14:N:85:LYS:HA	2.17	0.78
2:3:663:ALA:O	2:3:667:VAL:HG12	1.84	0.78
6:7:214:ARG:HB3	6:7:217:LYS:HB2	1.66	0.78
6:7:622:HIS:CB	6:7:624:LYS:HZ1	1.84	0.78
3:4:714:GLU:OE1	3:4:714:GLU:N	2.16	0.78
4:5:23:ASP:OD1	4:5:24:ASN:N	2.17	0.77
5:6:547:ILE:HD11	5:6:584:PHE:CE2	2.19	0.77
2:3:300:SER:HG	4:5:245:HIS:HD1	1.29	0.77
12:H:680:ASN:ND2	12:H:684:ILE:O	2.18	0.77
2:3:415:LYS:NZ	15:3:1001:ADP:O2B	2.16	0.77
6:7:465:ALA:N	18:7:902:AGS:O1B	2.16	0.77
14:N:17:LEU:HB2	14:N:20:LEU:HD11	1.65	0.77
4:5:182:MET:HB2	4:5:244:ILE:HD11	1.67	0.76
1:2:701:ASP:OD2	1:2:705:ARG:NH2	2.18	0.76
3:4:572:THR:O	3:4:573:SER:OG	2.03	0.76
15:2:901:ADP:O3'	5:6:801:GLU:OE2	2.03	0.76
6:7:529:MET:O	6:7:534:ARG:NH2	2.18	0.76
11:E:489:VAL:O	11:E:493:ASN:ND2	2.19	0.76
5:6:757:TYR:O	5:6:760:THR:OG1	2.03	0.76
6:7:233:ASP:O	6:7:237:GLN:NE2	2.19	0.76
5:6:570:ASN:OD1	5:6:678:ILE:N	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:6:279:ILE:O	5:6:280:ARG:NH1	2.19	0.75
5:6:408:THR:OG1	5:6:409:GLN:OE1	2.03	0.75
5:6:685:VAL:HG23	5:6:699:LEU:HA	1.68	0.75
2:3:569:HIS:O	4:5:398:LYS:NZ	2.16	0.75
4:5:483:ASP:HB3	4:5:525:PRO:HG2	1.69	0.75
5:6:769:ALA:HB1	5:6:824:ILE:HD11	1.68	0.75
12:G:492:ARG:NH1	12:G:493:TYR:O	2.20	0.75
4:5:544:THR:HG22	4:5:547:LEU:HD13	1.69	0.75
2:3:490:MET:O	2:3:493:GLN:NE2	2.20	0.74
3:4:532:GLU:OE1	3:4:716:ASN:ND2	2.20	0.74
12:H:587:ARG:NH1	12:H:599:SER:OG	2.21	0.74
3:4:428:ARG:NH1	3:4:429:ALA:O	2.20	0.74
12:F:582:ALA:HB3	12:F:589:ILE:HB	1.70	0.74
14:N:45:VAL:HG13	14:N:52:ASN:ND2	2.02	0.74
2:3:308:GLN:NE2	4:5:207:LEU:O	2.21	0.74
2:3:495:VAL:HG23	2:3:508:ALA:HB2	1.68	0.73
3:4:563:ASN:N	3:4:703:ASP:OD2	2.22	0.73
3:4:571:SER:O	18:4:1001:AGS:H8	1.88	0.73
2:3:491:GLU:OE1	18:7:902:AGS:O2A	2.05	0.73
6:7:195:ASN:O	6:7:306:LYS:NZ	2.19	0.73
12:H:702:ASN:O	12:H:724:SER:N	2.20	0.73
8:B:72:VAL:HG12	8:B:75:ILE:HD12	1.70	0.73
5:6:634:GLY:O	5:6:676:THR:OG1	2.06	0.73
3:4:284:ILE:HD11	3:4:293:LEU:HD13	1.70	0.73
14:N:57:PRO:O	14:N:60:ILE:HG22	1.88	0.73
14:N:34:LYS:HB3	14:N:76:GLY:O	1.88	0.73
3:4:320:ASN:O	3:4:324:LYS:NZ	2.17	0.73
15:3:1001:ADP:H1'	4:5:650:ILE:HG21	1.71	0.73
7:A:12:GLU:OE1	7:A:15:ARG:NH1	2.22	0.72
14:N:13:GLN:HG3	14:N:16:LEU:HB2	1.71	0.72
12:F:624:ARG:NH2	12:F:844:ASP:OD2	2.22	0.72
14:N:66:PHE:HD2	14:N:84:VAL:HG21	1.55	0.72
3:4:314:MET:N	3:4:401:GLU:OE2	2.23	0.72
1:2:824:ARG:NH2	1:2:833:ASP:OD2	2.22	0.72
14:N:40:ALA:HB2	14:N:78:PHE:CD1	2.24	0.72
2:3:489:VAL:HG13	2:3:508:ALA:HB1	1.70	0.72
11:E:12:TYR:CZ	11:E:16:LEU:HD11	2.25	0.72
14:N:54:ARG:O	14:N:57:PRO:HD2	1.89	0.72
2:3:300:SER:OG	4:5:245:HIS:ND1	2.19	0.72
3:4:284:ILE:HD13	3:4:296:ILE:HD12	1.72	0.72
3:4:577:ILE:O	3:4:581:VAL:HG23	1.90	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:663:LEU:HA	4:5:666:LEU:HD12	1.69	0.72
6:7:110:ALA:O	6:7:114:THR:HG23	1.89	0.72
14:N:54:ARG:NH1	14:N:54:ARG:HA	2.05	0.72
6:7:198:ARG:O	6:7:306:LYS:NZ	2.23	0.71
11:E:556:CYS:O	11:E:559:SER:OG	2.08	0.71
8:B:105:GLU:OE2	8:B:113:SER:N	2.23	0.71
11:E:299:VAL:O	11:E:303:THR:OG1	2.08	0.71
2:3:390:GLU:OE1	2:3:392:ASN:ND2	2.23	0.71
14:N:52:ASN:ND2	14:N:55:GLN:OE1	2.23	0.71
3:4:775:VAL:HG21	5:6:725:THR:HG22	1.72	0.71
12:F:530:ASP:OD2	12:F:534:TYR:N	2.22	0.71
12:H:781:PHE:HB3	12:H:786:LEU:HD11	1.71	0.71
1:2:331:PHE:HD2	4:5:323:ILE:HD11	1.56	0.71
3:4:342:MET:HG2	5:6:437:VAL:HG11	1.73	0.71
11:E:312:THR:OG1	11:E:315:THR:HG23	1.91	0.71
14:N:17:LEU:O	14:N:20:LEU:HG	1.91	0.71
1:2:527:VAL:HG22	1:2:532:SER:N	2.06	0.70
14:N:82:SER:HA	14:N:85:LYS:HE2	1.72	0.70
3:4:709:LEU:HD12	3:4:850:VAL:HG11	1.71	0.70
12:G:684:ILE:HG12	12:G:697:ILE:HD11	1.72	0.70
2:3:354:SER:HB3	2:3:717:LEU:HD12	1.74	0.70
14:N:83:GLY:HA2	14:N:86:GLU:CD	2.12	0.70
10:D:94:GLN:OE1	10:D:97:LEU:HD11	1.91	0.70
14:N:26:SER:O	14:N:30:GLY:HA2	1.92	0.70
12:G:601:ASN:OD1	12:G:604:GLY:N	2.25	0.70
12:H:507:ASN:ND2	12:H:512:SER:OG	2.25	0.69
1:2:335:LYS:N	1:2:381:VAL:O	2.24	0.69
14:N:41:LEU:O	14:N:45:VAL:HG23	1.92	0.69
14:N:43:GLU:O	14:N:47:THR:HG23	1.92	0.69
2:3:689:ASP:O	2:3:693:LYS:NZ	2.26	0.69
3:4:650:GLU:OE1	3:4:796:ARG:NE	2.25	0.69
2:3:419:LEU:HD11	2:3:515:ALA:HB2	1.75	0.69
4:5:370:LEU:O	4:5:374:ILE:HD12	1.93	0.69
2:3:197:ILE:HD11	2:3:249:THR:HG22	1.72	0.69
11:E:573:ASP:O	11:E:577:ASP:N	2.25	0.69
12:F:634:HIS:NE2	12:H:657:LEU:O	2.26	0.69
10:D:202:MET:O	10:D:207:GLN:NE2	2.26	0.69
12:F:895:LEU:HD21	12:F:917:ILE:HG22	1.74	0.69
12:F:910:LEU:O	12:F:914:ILE:HD12	1.92	0.69
2:3:363:LEU:O	2:3:366:SER:OG	2.11	0.69
2:3:423:LEU:HD12	2:3:429:ALA:HB3	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:336:THR:O	3:4:395:GLN:NE2	2.26	0.69
5:6:612:VAL:HG22	5:6:623:ILE:CD1	2.23	0.69
14:N:18:ARG:HG2	14:N:19:PRO:HD3	1.75	0.69
11:E:596:HIS:O	11:E:598:LYS:N	2.24	0.69
6:7:114:THR:HG22	6:7:204:PHE:HE2	1.58	0.68
8:B:164:ASN:OD1	8:B:165:GLU:N	2.26	0.68
11:E:592:LEU:CD2	11:E:594:THR:HG23	2.22	0.68
1:2:307:ARG:NH2	1:2:402:LEU:O	2.25	0.68
6:7:83:ASP:OD1	6:7:84:ASP:N	2.27	0.68
7:A:137:LEU:HD13	10:D:185:THR:HG21	1.75	0.68
11:E:126:HIS:O	11:E:248:VAL:HG13	1.93	0.68
12:F:498:GLU:OE2	12:F:499:VAL:HG23	1.94	0.68
14:N:44:PHE:O	14:N:47:THR:OG1	2.05	0.68
1:2:219:THR:HG22	1:2:225:SER:HA	1.74	0.68
12:H:581:VAL:HG12	12:H:590:VAL:HG13	1.74	0.68
2:3:410:ASP:O	2:3:413:THR:OG1	2.04	0.68
12:F:629:HIS:O	12:F:637:SER:OG	2.04	0.68
1:2:280:GLU:OE2	1:2:285:ASP:N	2.26	0.68
1:2:705:ARG:O	1:2:751:LYS:NZ	2.26	0.68
2:3:312:ASN:OD1	2:3:313:THR:N	2.26	0.68
12:G:722:LEU:HD21	12:G:776:ILE:HA	1.75	0.68
4:5:393:MET:HA	4:5:603:ILE:HD11	1.75	0.68
7:A:198:ARG:NE	14:N:26:SER:HB3	2.09	0.68
3:4:592:SER:O	3:4:596:SER:OG	2.05	0.68
11:E:323:ASP:N	11:E:406:ARG:O	2.25	0.68
12:G:626:PHE:CE2	12:G:687:LEU:HD11	2.28	0.68
12:H:546:PHE:O	12:H:555:GLN:N	2.26	0.68
2:3:571:TYR:O	4:5:398:LYS:NZ	2.23	0.68
11:E:316:LEU:HD12	11:E:413:LEU:HD13	1.76	0.68
14:N:66:PHE:CZ	14:N:72:GLN:HG3	2.29	0.68
12:F:582:ALA:HB2	12:F:618:LEU:HB3	1.74	0.68
11:E:353:GLU:OE2	11:E:354:ASN:ND2	2.26	0.68
12:H:504:THR:HG22	12:H:513:ILE:HG23	1.76	0.68
1:2:617:ARG:HH12	1:2:669:LEU:HD23	1.58	0.67
12:F:846:GLU:OE1	12:F:846:GLU:N	2.27	0.67
12:G:836:LEU:O	12:G:840:THR:HG23	1.93	0.67
7:A:124:SER:OG	7:A:126:GLN:OE1	2.12	0.67
11:E:41:ALA:HB1	11:E:255:ILE:HD12	1.75	0.67
14:N:65:GLN:HB2	14:N:88:ILE:HD11	1.75	0.67
14:N:66:PHE:HZ	14:N:72:GLN:HG3	1.58	0.67
3:4:686:LEU:O	3:4:691:ASN:ND2	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:7:633:VAL:HG23	6:7:638:MET:SD	2.35	0.67
12:F:601:ASN:OD1	12:F:604:GLY:N	2.27	0.67
12:H:746:ALA:O	12:H:753:ASN:N	2.27	0.67
12:H:776:ILE:O	12:H:777:ARG:NE	2.26	0.67
14:N:51:ALA:HB1	14:N:53:TRP:HE3	1.59	0.67
14:N:83:GLY:HA2	14:N:86:GLU:OE2	1.93	0.67
14:N:20:LEU:HA	14:N:23:ARG:HG2	1.74	0.67
12:G:882:ALA:HB3	12:G:910:LEU:HD11	1.75	0.67
6:7:287:GLU:O	6:7:291:GLN:N	2.26	0.67
11:E:377:TRP:O	11:E:385:LYS:NZ	2.28	0.67
11:E:539:TYR:CZ	11:E:548:LEU:HD22	2.30	0.67
1:2:539:VAL:HG13	1:2:679:ILE:HG23	1.77	0.67
2:3:435:ARG:HB3	4:5:491:VAL:HG21	1.77	0.67
8:B:14:GLU:OE1	8:B:14:GLU:N	2.28	0.67
11:E:249:ASN:OD1	11:E:250:SER:N	2.28	0.67
12:H:584:THR:OG1	12:H:587:ARG:O	2.12	0.67
12:F:685:LYS:NZ	12:F:702:ASN:OD1	2.17	0.66
2:3:48:TYR:CD1	2:3:92:LEU:HG	2.30	0.66
14:N:60:ILE:O	14:N:64:GLU:HG2	1.95	0.66
2:3:438:SER:O	2:3:442:LEU:N	2.27	0.66
5:6:142:PHE:HA	5:6:145:ILE:HD12	1.77	0.66
12:H:502:VAL:HG21	12:H:537:CYS:SG	2.36	0.66
12:H:745:LEU:HD11	12:H:755:ILE:HG13	1.77	0.66
14:N:81:GLN:O	14:N:85:LYS:HG3	1.95	0.66
3:4:561:ASP:O	3:4:803:ARG:NH1	2.28	0.66
5:6:545:LYS:HD2	5:6:830:LEU:HD21	1.77	0.66
6:7:476:ILE:O	6:7:639:ARG:NE	2.28	0.66
11:E:388:LEU:HA	11:E:391:ILE:HD12	1.76	0.66
2:3:294:VAL:HG22	2:3:326:VAL:HG13	1.78	0.66
12:G:734:GLY:HA2	12:G:815:ILE:HD11	1.78	0.66
11:E:493:ASN:O	11:E:497:GLN:NE2	2.29	0.66
12:H:676:TYR:O	12:H:680:ASN:N	2.25	0.66
14:N:65:GLN:HG3	14:N:70:TRP:HZ3	1.61	0.66
7:A:177:GLU:HA	14:N:19:PRO:HA	1.77	0.66
12:F:571:PRO:HA	12:H:782:VAL:HG12	1.78	0.66
2:3:223:THR:O	2:3:224:ARG:NE	2.29	0.65
3:4:647:GLU:OE1	3:4:647:GLU:N	2.26	0.65
5:6:764:ILE:N	5:6:817:ASP:O	2.29	0.65
9:C:105:PHE:O	9:C:109:ILE:HD12	1.96	0.65
11:E:546:LEU:O	11:E:550:ASN:ND2	2.29	0.65
12:H:587:ARG:NH2	12:H:625:VAL:HG21	2.11	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:82:SER:HA	14:N:85:LYS:CE	2.26	0.65
2:3:716:ARG:NH2	2:3:720:THR:O	2.30	0.65
4:5:665:LYS:O	4:5:668:LEU:HD23	1.97	0.65
6:7:534:ARG:O	6:7:538:HIS:ND1	2.30	0.65
4:5:377:SER:O	4:5:564:ARG:NH2	2.29	0.65
12:G:737:THR:HG21	12:G:740:ILE:HD12	1.79	0.65
2:3:700:ARG:NH2	18:7:902:AGS:O2B	2.30	0.65
3:4:284:ILE:HD13	3:4:296:ILE:CD1	2.27	0.65
5:6:767:LYS:HA	5:6:770:ARG:HE	1.62	0.65
12:H:874:CYS:O	12:H:877:GLN:NE2	2.29	0.65
5:6:600:GLY:N	5:6:639:ASP:O	2.28	0.65
10:D:157:TYR:CZ	10:D:161:LEU:HD11	2.31	0.65
12:F:730:LYS:HA	12:F:815:ILE:HD12	1.78	0.65
1:2:534:ARG:NH1	1:2:536:ASP:O	2.30	0.65
2:3:418:LEU:O	2:3:422:VAL:HG23	1.97	0.65
4:5:385:LYS:O	4:5:389:VAL:HG23	1.96	0.65
5:6:585:LEU:HD11	5:6:681:ALA:CB	2.25	0.65
11:E:425:VAL:O	11:E:429:THR:HG23	1.97	0.65
1:2:842:VAL:O	1:2:846:VAL:HG23	1.97	0.65
14:N:51:ALA:HB1	14:N:53:TRP:CE3	2.32	0.65
14:N:80:ASP:OD1	14:N:81:GLN:N	2.30	0.65
1:2:310:ARG:N	1:2:313:ASN:OD1	2.30	0.64
11:E:596:HIS:C	11:E:598:LYS:H	1.99	0.64
12:F:918:ARG:NH2	12:F:922:TYR:OH	2.31	0.64
2:3:414:ALA:HB2	15:3:1001:ADP:H2'	1.79	0.64
2:3:402:ASP:O	2:3:707:ARG:NH1	2.29	0.64
14:N:15:PRO:HA	14:N:18:ARG:HB3	1.79	0.64
12:H:587:ARG:NE	12:H:643:LEU:HD21	2.13	0.64
14:N:72:GLN:NE2	14:N:75:ARG:HA	2.13	0.64
3:4:625:ASP:OD1	3:4:668:ARG:N	2.30	0.64
12:G:515:VAL:HG22	12:G:526:TYR:O	1.96	0.64
3:4:536:VAL:HG22	3:4:706:TYR:CD2	2.33	0.64
1:2:488:SER:HB2	1:2:825:LEU:HD12	1.80	0.64
7:A:177:GLU:O	14:N:18:ARG:HG3	1.97	0.64
3:4:639:ASP:OD1	3:4:640:SER:N	2.31	0.64
6:7:496:ALA:O	6:7:509:GLU:N	2.28	0.64
11:E:411:ARG:NH2	11:E:486:ASP:OD2	2.30	0.64
2:3:244:GLU:OE1	6:7:109:ASN:ND2	2.31	0.64
8:B:58:LYS:O	8:B:62:ASN:ND2	2.30	0.64
12:G:840:THR:O	12:G:844:ASP:N	2.31	0.64
5:6:308:SER:OG	5:6:351:SER:N	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:6:728:ALA:O	5:6:732:VAL:HG23	1.98	0.63
7:A:94:THR:HG23	7:A:130:TYR:CE2	2.33	0.63
14:N:35:SER:O	14:N:38:LEU:HB3	1.97	0.63
1:2:539:VAL:HG22	1:2:679:ILE:HG22	1.78	0.63
2:3:685:ASP:O	2:3:689:ASP:N	2.31	0.63
4:5:573:ILE:O	4:5:577:THR:HG22	1.98	0.63
14:N:40:ALA:HB1	14:N:85:LYS:HZ2	1.62	0.63
3:4:259:HIS:O	3:4:263:ASN:ND2	2.31	0.63
4:5:282:LEU:HD22	4:5:333:ILE:CD1	2.28	0.63
5:6:184:GLY:O	5:6:188:VAL:HG23	1.99	0.63
5:6:541:GLU:OE1	5:6:541:GLU:N	2.31	0.63
6:7:138:VAL:HG21	6:7:303:ARG:HD3	1.80	0.63
11:E:10:GLU:OE1	11:E:10:GLU:N	2.31	0.63
12:G:895:LEU:HD13	12:G:918:ARG:HA	1.80	0.63
14:N:25:LEU:HD13	14:N:63:LEU:CD1	2.23	0.63
1:2:217:GLU:O	1:2:219:THR:HG23	1.97	0.63
12:G:711:ARG:NH2	12:G:844:ASP:OD2	2.32	0.63
3:4:578:LEU:HD11	3:4:674:SER:HB2	1.79	0.63
6:7:78:VAL:O	6:7:203:TYR:N	2.31	0.63
15:2:901:ADP:HI'	5:6:797:VAL:CG1	2.29	0.63
2:3:557:ARG:O	2:3:561:ILE:HD12	1.99	0.63
4:5:101:ILE:O	8:B:154:ILE:HD11	1.98	0.63
12:G:484:THR:HG23	12:G:496:MET:HE1	1.81	0.63
12:G:903:GLU:OE2	12:G:911:VAL:HG21	1.99	0.63
6:7:225:LEU:O	6:7:241:VAL:HG23	1.99	0.63
7:A:93:ARG:NE	7:A:127:GLU:OE2	2.32	0.63
11:E:579:TYR:CG	11:E:637:LEU:HD22	2.33	0.63
12:F:680:ASN:ND2	12:F:684:ILE:O	2.31	0.63
1:2:659:SER:OG	1:2:684:ARG:NH1	2.31	0.63
5:6:796:THR:N	5:6:799:GLN:OE1	2.32	0.63
6:7:643:ALA:O	6:7:647:THR:HG23	1.99	0.63
11:E:274:ILE:HG13	11:E:295:LEU:HD12	1.81	0.63
14:N:37:GLY:O	14:N:41:LEU:HG	1.99	0.63
11:E:592:LEU:HD22	11:E:597:THR:HG21	1.80	0.62
12:F:695:PRO:O	12:F:706:LEU:HD12	1.98	0.62
15:2:901:ADP:O2B	5:6:798:ARG:NH2	2.32	0.62
6:7:103:VAL:HG22	6:7:214:ARG:HH21	1.63	0.62
12:F:727:GLU:N	12:F:727:GLU:OE1	2.33	0.62
12:G:683:GLY:O	12:G:700:SER:N	2.31	0.62
2:3:445:ALA:O	2:3:458:GLU:N	2.32	0.62
3:4:178:ARG:O	3:4:187:ILE:N	2.31	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:6:543:VAL:HG12	5:6:584:PHE:CE2	2.34	0.62
14:N:14:PRO:CB	14:N:38:LEU:HG	2.29	0.62
1:2:260:LEU:HD12	1:2:264:PRO:HA	1.81	0.62
5:6:671:THR:C	5:6:672:LEU:HD12	2.19	0.62
7:A:130:TYR:CD1	10:D:189:ILE:HG22	2.35	0.62
10:D:5:ILE:HD13	12:F:871:ALA:HB2	1.81	0.62
14:N:37:GLY:HA3	14:N:76:GLY:C	2.20	0.62
14:N:58:ALA:O	14:N:62:PHE:HD1	1.82	0.62
5:6:656:MET:SD	5:6:657:GLU:N	2.73	0.62
6:7:633:VAL:HG12	6:7:637:LYS:CE	2.28	0.62
12:F:879:VAL:CG2	12:F:907:LEU:HD22	2.29	0.62
14:N:36:ASP:C	14:N:78:PHE:HB2	2.20	0.62
3:4:256:ASP:OD1	3:4:257:LEU:N	2.33	0.62
3:4:606:THR:N	3:4:615:VAL:O	2.28	0.62
14:N:32:SER:O	14:N:75:ARG:N	2.28	0.62
3:4:541:LEU:HA	3:4:544:LEU:HD12	1.82	0.62
6:7:519:GLY:O	6:7:561:THR:OG1	2.18	0.62
6:7:654:GLU:N	6:7:654:GLU:OE1	2.33	0.62
7:A:154:SER:O	10:D:141:ARG:NH2	2.33	0.62
12:G:907:LEU:HD23	12:G:910:LEU:CD1	2.27	0.62
14:N:14:PRO:O	14:N:38:LEU:HD11	1.99	0.62
1:2:439:ASN:O	1:2:443:GLY:N	2.33	0.61
1:2:707:HIS:O	1:2:710:ASN:ND2	2.31	0.61
2:3:197:ILE:HD11	2:3:249:THR:CG2	2.30	0.61
7:A:26:ASP:OD2	7:A:103:ASN:ND2	2.32	0.61
12:H:582:ALA:HB3	12:H:589:ILE:HB	1.82	0.61
12:H:768:LEU:HD23	12:H:769:PRO:O	2.00	0.61
14:N:83:GLY:HA2	14:N:86:GLU:OE1	2.00	0.61
5:6:721:GLU:O	5:6:725:THR:HG23	1.98	0.61
11:E:577:ASP:OD1	11:E:634:ARG:NE	2.31	0.61
1:2:515:VAL:O	1:2:519:LEU:HD23	2.00	0.61
2:3:483:ARG:O	2:3:487:HIS:ND1	2.33	0.61
7:A:54:LEU:HD11	7:A:68:ALA:HA	1.83	0.61
12:G:744:PRO:CB	12:G:752:LEU:HD11	2.29	0.61
7:A:173:GLU:O	14:N:34:LYS:HD2	2.00	0.61
14:N:34:LYS:HG3	14:N:35:SER:N	2.15	0.61
5:6:516:LEU:HA	5:6:519:MET:SD	2.41	0.61
5:6:579:THR:O	5:6:580:SER:OG	2.16	0.61
6:7:114:THR:HG22	6:7:204:PHE:CE2	2.35	0.61
4:5:415:LEU:O	4:5:556:VAL:N	2.33	0.61
11:E:41:ALA:HB1	11:E:255:ILE:CD1	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:749:TYR:HE1	12:G:837:LEU:HD11	1.65	0.61
15:2:901:ADP:H1'	5:6:797:VAL:HG11	1.82	0.61
2:3:435:ARG:HG2	4:5:491:VAL:HG11	1.81	0.61
3:4:254:THR:HG23	3:4:257:LEU:HD23	1.83	0.61
3:4:348:LYS:CB	3:4:385:ILE:HD11	2.30	0.61
3:4:561:ASP:OD1	3:4:562:ILE:N	2.34	0.61
7:A:40:ILE:O	7:A:44:VAL:HG23	2.00	0.61
12:G:746:ALA:O	12:G:752:LEU:HD12	1.99	0.61
14:N:24:VAL:HG12	14:N:25:LEU:HD22	1.83	0.61
5:6:143:MET:O	5:6:147:ASP:N	2.31	0.61
6:7:137:ASP:O	6:7:141:VAL:HG23	2.01	0.61
8:B:20:VAL:HG21	8:B:121:VAL:CG1	2.26	0.61
14:N:14:PRO:N	14:N:15:PRO:HD2	2.15	0.61
14:N:33:ILE:HA	14:N:76:GLY:H	1.66	0.61
1:2:673:ILE:HG22	1:2:677:PHE:HE2	1.66	0.61
11:E:2:TYR:OH	11:E:138:GLN:O	2.15	0.61
12:H:582:ALA:HB2	12:H:618:LEU:HB3	1.83	0.61
1:2:617:ARG:NH1	1:2:669:LEU:HD23	2.16	0.60
5:6:383:GLY:O	5:6:386:VAL:HG22	2.00	0.60
12:H:684:ILE:HG21	12:H:687:LEU:HD11	1.83	0.60
2:3:656:LEU:O	2:3:660:VAL:HG23	2.01	0.60
3:4:188:GLN:O	3:4:192:THR:HG23	2.01	0.60
2:3:483:ARG:HA	2:3:486:ILE:HD12	1.81	0.60
2:3:569:HIS:ND1	4:5:657:ILE:HG21	2.16	0.60
3:4:457:TYR:CE2	6:7:255:VAL:HG13	2.36	0.60
10:D:179:GLU:OE1	10:D:179:GLU:N	2.32	0.60
14:N:45:VAL:HA	14:N:55:GLN:HE22	1.65	0.60
3:4:273:ASP:OD1	3:4:303:VAL:HG12	2.01	0.60
4:5:563:GLU:HA	4:5:566:ILE:HD12	1.84	0.60
5:6:149:ASN:OD1	5:6:150:THR:N	2.34	0.60
12:H:570:ILE:CD1	12:H:590:VAL:HG11	2.32	0.60
5:6:340:ASN:ND2	5:6:342:ALA:O	2.34	0.60
9:C:31:GLU:HG2	9:C:44:LEU:HD11	1.83	0.60
12:F:690:SER:N	12:F:694:ASP:O	2.35	0.60
12:H:840:THR:O	12:H:845:GLY:N	2.34	0.60
12:H:899:VAL:HG23	12:H:914:ILE:HG21	1.81	0.60
1:2:411:LEU:O	1:2:415:VAL:HG13	2.02	0.60
9:C:164:THR:HA	9:C:167:LEU:HD12	1.81	0.60
11:E:543:LEU:HA	11:E:546:LEU:HD12	1.84	0.60
2:3:392:ASN:OD1	2:3:398:HIS:ND1	2.34	0.60
3:4:295:GLU:O	3:4:299:LYS:N	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:578:LEU:HD11	3:4:674:SER:CB	2.32	0.60
4:5:136:GLN:OE1	4:5:281:TYR:N	2.35	0.60
4:5:58:ASN:OD1	4:5:60:SER:OG	2.20	0.60
5:6:185:LEU:O	5:6:189:VAL:HG23	2.01	0.60
4:5:70:GLY:O	11:E:311:LYS:NZ	2.34	0.60
2:3:366:SER:HA	2:3:650:LEU:HD22	1.84	0.60
2:3:678:VAL:HG21	2:3:723:LYS:HG3	1.83	0.60
3:4:345:ALA:O	3:4:358:VAL:N	2.35	0.60
3:4:569:ASP:OD2	3:4:710:ASP:N	2.33	0.60
10:D:247:GLN:OE1	10:D:247:GLN:N	2.35	0.60
1:2:526:ASN:OD1	1:2:527:VAL:N	2.35	0.59
5:6:198:ASN:OD1	5:6:199:THR:N	2.34	0.59
12:F:687:LEU:CD1	12:F:697:ILE:HG22	2.32	0.59
12:F:741:HIS:HB3	12:F:762:ILE:HG23	1.84	0.59
14:N:26:SER:OG	14:N:31:LEU:O	2.16	0.59
14:N:32:SER:CB	14:N:74:GLU:H	2.12	0.59
4:5:330:ILE:HG21	4:5:333:ILE:HD11	1.84	0.59
12:F:601:ASN:OD1	12:F:605:VAL:N	2.36	0.59
12:F:756:LEU:HD11	12:F:774:MET:HE1	1.84	0.59
12:H:740:ILE:HG23	12:H:756:LEU:HD21	1.84	0.59
5:6:625:ALA:HB1	5:6:629:MET:HB2	1.82	0.59
1:2:334:LEU:HD23	1:2:337:VAL:HG12	1.85	0.59
1:2:541:LEU:N	1:2:648:ALA:O	2.34	0.59
2:3:495:VAL:HG23	2:3:508:ALA:CB	2.32	0.59
5:6:144:LYS:CA	5:6:196:LEU:HD11	2.31	0.59
3:4:233:MET:O	3:4:237:GLY:N	2.34	0.59
4:5:235:ASN:OD1	4:5:237:GLY:N	2.35	0.59
14:N:40:ALA:HB1	14:N:85:LYS:NZ	2.17	0.59
3:4:190:CYS:SG	3:4:257:LEU:HD13	2.42	0.59
3:4:571:SER:HA	18:4:1001:AGS:H5'2	1.84	0.59
4:5:412:VAL:O	4:5:521:ALA:N	2.34	0.59
12:G:850:ASN:O	12:G:854:VAL:HG23	2.03	0.59
11:E:304:PRO:O	11:E:307:ARG:NH1	2.36	0.59
12:G:751:THR:HG22	12:G:773:GLU:HG2	1.84	0.59
15:3:1001:ADP:H1'	4:5:650:ILE:CG2	2.33	0.59
4:5:594:ILE:HD12	4:5:599:MET:SD	2.43	0.59
10:D:262:ASP:OD2	10:D:278:ARG:NH1	2.36	0.59
10:D:268:GLU:OE1	10:D:268:GLU:N	2.35	0.59
12:G:676:TYR:O	12:G:680:ASN:N	2.30	0.59
14:N:31:LEU:HD12	14:N:63:LEU:HG	1.85	0.59
3:4:572:THR:O	3:4:572:THR:HG22	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:841:LEU:HD21	12:G:851:GLU:HB2	1.85	0.59
1:2:340:ASN:N	1:2:374:ARG:O	2.35	0.59
3:4:348:LYS:HB3	3:4:385:ILE:HD11	1.84	0.59
14:N:82:SER:HA	14:N:85:LYS:NZ	2.18	0.59
4:5:684:PHE:O	4:5:688:THR:HG23	2.03	0.58
4:5:282:LEU:HD22	4:5:333:ILE:HD12	1.84	0.58
5:6:124:VAL:O	5:6:135:VAL:HG13	2.02	0.58
12:G:494:LEU:HD12	12:G:502:VAL:HG11	1.86	0.58
2:3:535:LEU:HB2	2:3:540:LEU:HD21	1.85	0.58
3:4:199:MET:HB3	3:4:227:ILE:HD11	1.85	0.58
11:E:587:ARG:HA	11:E:601:ILE:HD11	1.84	0.58
12:F:734:GLY:HA2	12:F:815:ILE:HD11	1.85	0.58
12:H:533:GLY:O	12:H:548:GLN:NE2	2.36	0.58
2:3:533:ILE:HG21	2:3:540:LEU:HD11	1.84	0.58
5:6:613:VAL:O	5:6:622:THR:N	2.31	0.58
12:G:475:ARG:NH2	12:G:477:MET:SD	2.76	0.58
12:H:826:GLU:OE1	12:H:868:ARG:NH2	2.36	0.58
12:H:846:GLU:OE2	12:H:852:ASN:ND2	2.36	0.58
5:6:615:ASP:N	5:6:620:ASP:O	2.36	0.58
12:G:676:TYR:CD2	12:G:762:ILE:HD11	2.37	0.58
12:G:833:LEU:O	12:G:837:LEU:HD12	2.03	0.58
12:H:741:HIS:O	12:H:757:VAL:N	2.36	0.58
3:4:581:VAL:HG21	3:4:672:LEU:CD2	2.33	0.58
14:N:15:PRO:HB3	14:N:18:ARG:NH2	2.16	0.58
4:5:414:LEU:HD23	4:5:554:PHE:HB2	1.85	0.58
4:5:477:VAL:CG1	4:5:519:VAL:HG22	2.33	0.58
5:6:308:SER:O	5:6:347:ASN:N	2.36	0.58
11:E:388:LEU:HD12	11:E:389:GLY:N	2.18	0.58
11:E:589:PRO:HB2	11:E:592:LEU:HB2	1.86	0.58
12:H:549:SER:OG	12:H:578:ILE:N	2.37	0.58
14:N:66:PHE:HA	14:N:70:TRP:HE3	1.68	0.58
4:5:686:ALA:HA	4:5:689:MET:HE2	1.86	0.58
12:F:687:LEU:HD11	12:F:697:ILE:HG22	1.86	0.58
12:G:484:THR:HG23	12:G:496:MET:CE	2.34	0.58
14:N:66:PHE:HA	14:N:70:TRP:CE3	2.39	0.58
14:N:82:SER:HA	14:N:85:LYS:HZ1	1.69	0.58
1:2:361:ILE:HD11	1:2:373:PHE:CG	2.38	0.58
2:3:443:THR:HG22	2:3:489:VAL:HG21	1.86	0.58
8:B:193:ARG:NH2	10:D:223:ASP:OD2	2.37	0.58
12:F:729:TRP:NE1	12:F:734:GLY:O	2.37	0.58
12:G:749:TYR:CE1	12:G:837:LEU:HD11	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:462:MET:HG3	2:3:489:VAL:HG11	1.85	0.58
5:6:550:GLN:NE2	5:6:569:ILE:O	2.37	0.58
10:D:224:TRP:O	10:D:280:GLU:N	2.37	0.58
2:3:195:LYS:NZ	2:3:218:THR:OG1	2.37	0.57
5:6:625:ALA:HB1	5:6:629:MET:CB	2.34	0.57
8:B:152:ARG:O	8:B:156:VAL:HG23	2.04	0.57
12:F:602:GLN:OE1	12:F:602:GLN:N	2.33	0.57
12:G:591:GLY:HA3	12:G:618:LEU:HD11	1.86	0.57
12:G:825:GLU:OE1	12:G:829:ARG:NH1	2.36	0.57
1:2:359:ILE:HG22	1:2:361:ILE:HG23	1.86	0.57
1:2:813:ILE:HG13	1:2:841:VAL:HG21	1.86	0.57
5:6:543:VAL:HG22	5:6:713:PHE:CD1	2.39	0.57
9:C:101:ASN:OD1	9:C:102:SER:N	2.36	0.57
12:G:737:THR:CG2	12:G:740:ILE:HD12	2.34	0.57
2:3:217:ALA:HB1	2:3:301:LEU:HD21	1.87	0.57
12:F:864:LYS:HA	12:F:867:LEU:HD12	1.85	0.57
4:5:413:LEU:HA	4:5:521:ALA:HB3	1.86	0.57
7:A:168:LEU:N	7:A:204:TYR:O	2.37	0.57
9:C:159:ASN:OD1	9:C:160:ILE:N	2.37	0.57
10:D:249:ASN:O	10:D:252:GLY:N	2.35	0.57
1:2:707:HIS:NE2	5:6:763:PRO:O	2.38	0.57
5:6:771:SER:O	5:6:774:VAL:HG22	2.04	0.57
7:A:57:GLN:O	7:A:61:GLY:N	2.37	0.57
6:7:225:LEU:HB3	6:7:229:GLN:HB3	1.85	0.57
2:3:706:ILE:HD13	6:7:620:HIS:CE1	2.39	0.57
4:5:92:THR:O	4:5:95:THR:OG1	2.20	0.57
14:N:13:GLN:CG	14:N:16:LEU:HB2	2.34	0.57
14:N:58:ALA:HA	14:N:61:LYS:HE2	1.87	0.57
3:4:797:GLN:O	3:4:800:SER:OG	2.19	0.57
10:D:230:ILE:HD11	10:D:277:MET:HG2	1.86	0.57
12:G:685:LYS:NZ	12:G:702:ASN:OD1	2.29	0.57
3:4:257:LEU:HD11	3:4:268:VAL:HG13	1.85	0.57
5:6:270:LEU:HD12	5:6:289:SER:HB3	1.86	0.57
12:F:544:THR:HG23	12:F:559:HIS:NE2	2.19	0.57
12:G:587:ARG:HD2	12:G:643:LEU:HD22	1.86	0.57
12:H:892:ASP:HA	12:H:895:LEU:HD12	1.86	0.57
3:4:573:SER:HB3	18:4:1001:AGS:H2'	1.86	0.57
4:5:412:VAL:HG22	4:5:552:MET:HB2	1.86	0.57
5:6:144:LYS:N	5:6:196:LEU:HD11	2.20	0.57
6:7:149:ARG:NH2	6:7:265:CYS:O	2.37	0.57
8:B:16:ILE:HG23	8:B:175:LEU:HD22	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:39:THR:O	9:C:42:THR:OG1	2.18	0.57
3:4:261:LEU:HB2	3:4:268:VAL:HG11	1.87	0.56
8:B:126:LEU:O	8:B:130:ALA:N	2.38	0.56
11:E:122:VAL:N	11:E:141:GLN:O	2.37	0.56
12:F:827:TYR:CE1	12:F:866:LEU:HD21	2.39	0.56
12:H:545:LEU:HD22	12:H:588:VAL:HG13	1.85	0.56
1:2:704:VAL:O	1:2:710:ASN:ND2	2.36	0.56
4:5:360:LEU:O	4:5:366:LEU:HD22	2.05	0.56
12:F:756:LEU:HD11	12:F:774:MET:CE	2.35	0.56
1:2:402:LEU:HD21	5:6:625:ALA:HB2	1.87	0.56
2:3:344:ASP:OD1	2:3:345:PHE:N	2.38	0.56
2:3:408:VAL:CG1	2:3:548:VAL:HG22	2.35	0.56
4:5:415:LEU:N	4:5:554:PHE:O	2.38	0.56
6:7:615:HIS:O	6:7:619:VAL:HG23	2.06	0.56
12:G:555:GLN:OE1	12:G:567:THR:OG1	2.22	0.56
12:G:744:PRO:HB3	12:G:752:LEU:HD11	1.86	0.56
14:N:36:ASP:OD1	14:N:37:GLY:N	2.37	0.56
14:N:66:PHE:HE1	14:N:72:GLN:H	1.53	0.56
14:N:82:SER:CA	14:N:85:LYS:HZ1	2.18	0.56
2:3:370:SER:O	2:3:564:HIS:NE2	2.39	0.56
2:3:653:ILE:HG22	2:3:654:PRO:HD3	1.87	0.56
2:3:712:HIS:ND1	2:3:725:ASP:OD1	2.38	0.56
4:5:483:ASP:OD2	4:5:525:PRO:HB2	2.05	0.56
11:E:120:ILE:O	11:E:141:GLN:N	2.36	0.56
14:N:82:SER:O	14:N:86:GLU:OE1	2.22	0.56
7:A:173:GLU:OE2	14:N:35:SER:HB2	2.05	0.56
12:G:863:ASP:O	12:G:867:LEU:HD23	2.06	0.56
4:5:166:ILE:O	4:5:289:GLY:N	2.36	0.56
5:6:771:SER:O	5:6:775:GLU:OE1	2.23	0.56
11:E:155:GLN:N	11:E:155:GLN:OE1	2.37	0.56
11:E:485:ASP:OD1	11:E:486:ASP:N	2.38	0.56
14:N:23:ARG:HB3	14:N:27:ARG:NH1	2.19	0.56
3:4:841:LYS:O	3:4:842:THR:OG1	2.19	0.56
5:6:104:ASP:OD1	5:6:106:VAL:HG13	2.06	0.56
5:6:816:VAL:HG12	5:6:818:GLU:H	1.70	0.56
6:7:607:ASP:OD2	6:7:608:ASP:N	2.39	0.56
12:F:694:ASP:OD1	12:F:710:TRP:NE1	2.35	0.56
12:H:746:ALA:O	12:H:752:LEU:HD12	2.06	0.56
2:3:38:TYR:OH	2:3:99:SER:N	2.36	0.56
5:6:434:ASN:OD1	5:6:435:SER:N	2.39	0.56
2:3:48:TYR:CE1	2:3:92:LEU:HG	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:178:TYR:HD1	4:5:193:THR:HG22	1.71	0.56
12:F:694:ASP:CB	12:F:706:LEU:HD11	2.36	0.56
6:7:211:CYS:HB2	6:7:213:ARG:HG2	1.88	0.56
11:E:79:ASN:O	11:E:119:ASP:N	2.39	0.56
12:H:833:LEU:O	12:H:837:LEU:HD23	2.05	0.56
14:N:40:ALA:HB2	14:N:78:PHE:HD1	1.71	0.56
2:3:470:VAL:N	2:3:511:SER:O	2.39	0.55
3:4:345:ALA:N	3:4:358:VAL:O	2.38	0.55
3:4:538:LYS:O	3:4:542:LEU:HD23	2.07	0.55
5:6:134:LYS:O	5:6:137:ARG:N	2.38	0.55
5:6:526:TYR:O	5:6:530:VAL:HG23	2.07	0.55
12:H:755:ILE:CD1	12:H:768:LEU:HD21	2.36	0.55
3:4:724:LEU:HD21	6:7:690:LEU:HD21	1.87	0.55
4:5:429:VAL:O	4:5:433:SER:OG	2.16	0.55
7:A:32:TYR:CE2	7:A:37:ILE:HD13	2.42	0.55
9:C:172:MET:SD	9:C:173:GLU:N	2.80	0.55
11:E:129:TRP:N	11:E:240:TYR:OH	2.40	0.55
11:E:366:MET:SD	11:E:391:ILE:HG22	2.46	0.55
11:E:13:ASN:HA	11:E:16:LEU:HD12	1.88	0.55
12:F:502:VAL:HG22	12:F:515:VAL:HA	1.87	0.55
6:7:464:VAL:HG23	6:7:466:LYS:HG3	1.86	0.55
10:D:181:LYS:O	10:D:185:THR:HG22	2.06	0.55
12:F:560:ASP:OD1	12:F:561:SER:N	2.40	0.55
12:F:728:ILE:HD12	12:F:740:ILE:HG21	1.88	0.55
12:G:701:ASP:OD2	12:G:703:THR:OG1	2.24	0.55
14:N:89:GLN:OE1	14:N:92:LYS:HG2	2.05	0.55
3:4:644:VAL:HG23	5:6:601:LYS:HE2	1.88	0.55
1:2:580:VAL:CG2	1:2:591:LEU:HD12	2.37	0.55
2:3:21:PHE:O	2:3:25:VAL:HG23	2.07	0.55
11:E:589:PRO:CD	11:E:592:LEU:HD12	2.29	0.55
12:G:658:PRO:O	12:H:611:LYS:NZ	2.33	0.55
12:G:680:ASN:ND2	12:G:684:ILE:O	2.35	0.55
1:2:539:VAL:HG22	1:2:679:ILE:CG2	2.36	0.55
4:5:212:LEU:O	4:5:213:SER:OG	2.15	0.55
2:3:570:ARG:HG3	4:5:614:LEU:HD11	1.89	0.55
4:5:358:LEU:O	4:5:361:SER:OG	2.16	0.55
11:E:596:HIS:C	11:E:598:LYS:N	2.60	0.55
3:4:658:LYS:NZ	13:I:8:DT:OP2	2.40	0.55
12:F:694:ASP:HB2	12:F:706:LEU:HD11	1.88	0.55
2:3:444:ALA:HB1	2:3:457:LEU:HD11	1.89	0.55
6:7:456:VAL:HG22	6:7:596:ILE:HB	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:70:TRP:CE3	14:N:84:VAL:HG22	2.41	0.55
3:4:245:ALA:HB1	3:4:258:TYR:CE1	2.42	0.54
4:5:47:ARG:NH2	8:B:147:ASP:OD1	2.38	0.54
5:6:189:VAL:O	5:6:193:ALA:N	2.39	0.54
5:6:547:ILE:HD11	5:6:584:PHE:CZ	2.41	0.54
11:E:359:LEU:HD11	11:E:363:PHE:CE2	2.42	0.54
12:G:895:LEU:HD11	12:G:921:ARG:CZ	2.37	0.54
1:2:324:VAL:HG23	1:2:420:PRO:HA	1.87	0.54
12:H:587:ARG:HH21	12:H:625:VAL:HG21	1.72	0.54
14:N:26:SER:HA	14:N:31:LEU:N	2.23	0.54
4:5:39:ARG:O	4:5:40:LEU:HD23	2.08	0.54
4:5:407:ARG:NH1	4:5:409:ASP:O	2.40	0.54
11:E:246:THR:HG23	11:E:246:THR:O	2.08	0.54
12:F:757:VAL:HG11	12:F:761:HIS:O	2.08	0.54
12:G:503:SER:O	12:G:514:THR:N	2.40	0.54
12:G:553:GLN:HE21	12:G:567:THR:HG21	1.73	0.54
14:N:32:SER:HB3	14:N:73:GLN:HB3	1.89	0.54
1:2:458:ARG:NH1	1:2:459:ARG:O	2.40	0.54
2:3:49:ASN:HA	2:3:91:ILE:HD12	1.88	0.54
3:4:500:GLN:NE2	3:4:501:ILE:O	2.40	0.54
5:6:368:ILE:O	5:6:368:ILE:HG22	2.07	0.54
2:3:343:THR:O	2:3:347:ILE:HD12	2.07	0.54
2:3:462:MET:CG	2:3:489:VAL:HG11	2.37	0.54
7:A:51:THR:HG23	7:A:75:THR:HG21	1.89	0.54
7:A:167:VAL:O	7:A:167:VAL:HG23	2.07	0.54
12:F:649:ARG:NH1	12:F:650:TYR:O	2.41	0.54
1:2:386:GLN:O	1:2:410:LEU:N	2.37	0.54
2:3:133:ALA:O	2:3:137:ASP:N	2.38	0.54
2:3:481:VAL:O	2:3:484:VAL:HG22	2.07	0.54
1:2:244:VAL:O	1:2:298:SER:N	2.40	0.54
5:6:502:GLU:HA	5:6:505:LEU:HD12	1.89	0.54
7:A:10:VAL:HG11	9:C:9:VAL:HG11	1.90	0.54
11:E:413:LEU:HD12	11:E:414:GLY:N	2.23	0.54
1:2:271:PHE:CD2	1:2:295:VAL:HG11	2.43	0.54
3:4:408:ASP:OD2	6:7:560:ARG:NH2	2.40	0.54
3:4:721:ALA:O	3:4:725:THR:HG23	2.08	0.54
6:7:670:ASP:O	6:7:674:GLU:N	2.39	0.54
12:F:734:GLY:CA	12:F:815:ILE:HD11	2.37	0.54
2:3:171:LEU:HD21	2:3:298:PHE:CE1	2.42	0.54
7:A:33:HIS:O	7:A:37:ILE:HD12	2.08	0.54
11:E:120:ILE:N	11:E:141:GLN:OE1	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:693:GLU:O	1:2:697:THR:HG23	2.08	0.54
3:4:775:VAL:CG2	5:6:725:THR:HG22	2.38	0.54
10:D:152:ASP:OD1	10:D:182:TYR:OH	2.16	0.54
14:N:20:LEU:HA	14:N:23:ARG:CG	2.38	0.54
1:2:549:LYS:NZ	15:2:901:ADP:O3B	2.39	0.53
1:2:813:ILE:CG1	1:2:841:VAL:HG21	2.39	0.53
2:3:554:ASN:O	2:3:557:ARG:N	2.42	0.53
2:3:724:VAL:O	2:3:728:VAL:HG23	2.08	0.53
4:5:164:GLY:HA3	4:5:258:LEU:HD11	1.90	0.53
12:G:515:VAL:O	12:G:515:VAL:HG23	2.09	0.53
12:G:586:VAL:HG21	12:G:623:TYR:HD1	1.72	0.53
14:N:13:GLN:HG3	14:N:16:LEU:CB	2.36	0.53
2:3:430:ILE:HB	2:3:470:VAL:HG13	1.90	0.53
3:4:445:ARG:HA	3:4:453:LEU:HD23	1.89	0.53
12:F:839:ASP:O	12:F:843:ASN:ND2	2.41	0.53
12:G:754:CYS:O	12:G:772:SER:N	2.41	0.53
12:G:514:THR:HG23	12:G:527:HIS:CD2	2.43	0.53
12:G:753:ASN:ND2	12:G:773:GLU:OE2	2.42	0.53
14:N:15:PRO:O	14:N:18:ARG:HG2	2.08	0.53
1:2:386:GLN:OE1	1:2:416:ASP:N	2.41	0.53
3:4:274:GLN:NE2	3:4:278:ASP:OD1	2.40	0.53
11:E:232:GLU:O	11:E:236:VAL:HG23	2.08	0.53
11:E:579:TYR:CD2	11:E:637:LEU:HD22	2.44	0.53
12:F:511:TYR:O	12:F:530:ASP:N	2.37	0.53
12:F:902:SER:OG	12:F:911:VAL:HG22	2.09	0.53
3:4:624:SER:O	3:4:627:GLY:N	2.42	0.53
3:4:771:VAL:O	3:4:775:VAL:HG23	2.08	0.53
12:G:909:SER:OG	12:G:913:LYS:NZ	2.42	0.53
14:N:23:ARG:HB3	14:N:27:ARG:HH12	1.71	0.53
1:2:778:LEU:HB3	1:2:783:MET:SD	2.49	0.53
3:4:547:GLY:N	3:4:560:GLY:O	2.38	0.53
3:4:850:VAL:HG12	3:4:851:GLN:HG2	1.89	0.53
5:6:275:ARG:NH1	5:6:367:GLU:O	2.42	0.53
6:7:249:SER:O	6:7:311:GLN:NE2	2.42	0.53
3:4:345:ALA:HB1	3:4:384:LEU:CD1	2.39	0.53
3:4:587:ARG:NH2	3:4:622:VAL:O	2.42	0.53
6:7:248:VAL:HG22	6:7:313:CYS:SG	2.48	0.53
6:7:463:GLY:N	18:7:902:AGS:O2B	2.36	0.53
9:C:120:LEU:O	9:C:124:VAL:HG23	2.07	0.53
11:E:618:ALA:HB1	11:E:636:ASP:HB3	1.91	0.53
2:3:343:THR:O	2:3:346:ASP:N	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:576:LEU:HD23	1:2:595:ALA:HB3	1.89	0.53
4:5:297:ILE:CD1	4:5:331:LEU:HD11	2.39	0.53
12:F:743:TRP:HZ3	12:F:762:ILE:HG22	1.74	0.53
9:C:31:GLU:CG	9:C:44:LEU:HD11	2.40	0.52
1:2:426:VAL:HG22	1:2:456:ILE:HG13	1.91	0.52
5:6:803:MET:CE	5:6:831:LEU:HD12	2.39	0.52
12:F:717:LYS:HG3	12:F:719:LEU:HD21	1.90	0.52
12:H:755:ILE:HD11	12:H:768:LEU:HD21	1.91	0.52
1:2:520:PHE:CE1	1:2:767:ILE:HG13	2.44	0.52
2:3:412:SER:O	15:3:1001:ADP:H8	1.91	0.52
5:6:144:LYS:HA	5:6:196:LEU:HD11	1.89	0.52
6:7:22:THR:O	6:7:26:VAL:HG22	2.09	0.52
2:3:375:ASP:OD2	2:3:375:ASP:N	2.42	0.52
3:4:548:THR:HG21	3:4:760:PRO:O	2.10	0.52
1:2:564:VAL:HG11	1:2:595:ALA:HB1	1.92	0.52
3:4:243:LEU:O	3:4:306:TYR:N	2.37	0.52
3:4:349:CYS:SG	3:4:351:VAL:HG12	2.50	0.52
4:5:207:LEU:HD11	4:5:241:TYR:HB3	1.90	0.52
5:6:283:LYS:O	5:6:286:SER:OG	2.18	0.52
5:6:358:LYS:HA	5:6:380:ILE:HD13	1.90	0.52
9:C:135:LEU:HD21	9:C:177:TYR:HA	1.90	0.52
12:H:519:ASP:OD2	12:H:522:ARG:NE	2.43	0.52
14:N:38:LEU:HA	14:N:41:LEU:HD12	1.92	0.52
1:2:827:GLU:OE1	1:2:827:GLU:N	2.43	0.52
4:5:38:PHE:CZ	4:5:40:LEU:HD21	2.44	0.52
6:7:518:ASN:N	6:7:560:ARG:O	2.29	0.52
6:7:634:GLU:CD	6:7:637:LYS:HB2	2.30	0.52
11:E:579:TYR:N	11:E:632:ILE:O	2.41	0.52
12:H:501:TYR:CG	12:H:768:LEU:HD13	2.45	0.52
14:N:17:LEU:HB2	14:N:20:LEU:CD1	2.39	0.52
2:3:200:VAL:N	2:3:248:SER:OG	2.43	0.52
3:4:217:ASN:N	3:4:221:ASP:OD2	2.43	0.52
3:4:361:ASP:O	3:4:364:VAL:HG12	2.10	0.52
11:E:49:PHE:O	11:E:53:LEU:N	2.43	0.52
11:E:127:ARG:O	11:E:129:TRP:N	2.43	0.52
1:2:244:VAL:HG21	1:2:295:VAL:HG13	1.91	0.52
1:2:849:GLN:HB3	1:2:853:VAL:HG22	1.91	0.52
2:3:424:ASN:OD1	2:3:425:THR:N	2.43	0.52
5:6:367:GLU:C	5:6:368:ILE:HD12	2.30	0.52
5:6:821:PRO:HA	5:6:824:ILE:HD12	1.91	0.52
8:B:16:ILE:O	8:B:20:VAL:HG23	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:7:276:ARG:NH2	6:7:359:PRO:O	2.42	0.52
6:7:622:HIS:HB2	6:7:624:LYS:HZ2	1.67	0.52
12:F:864:LYS:HB3	12:F:868:ARG:NH1	2.25	0.52
4:5:606:CYS:SG	4:5:668:LEU:HD21	2.49	0.52
4:5:656:ILE:HA	4:5:659:ILE:HD12	1.92	0.52
5:6:557:LYS:HG3	5:6:565:LEU:HD12	1.91	0.52
11:E:596:HIS:C	11:E:597:THR:HG23	2.29	0.52
12:G:580:SER:O	12:G:618:LEU:HD12	2.09	0.52
3:4:332:VAL:HG13	3:4:397:ILE:CG2	2.39	0.51
4:5:334:GLN:NE2	4:5:335:SER:O	2.42	0.51
5:6:548:LEU:O	5:6:552:LEU:HD13	2.10	0.51
11:E:259:LEU:O	11:E:263:GLY:N	2.43	0.51
1:2:439:ASN:ND2	1:2:444:PHE:O	2.42	0.51
5:6:324:SER:OG	5:6:325:PHE:N	2.42	0.51
5:6:409:GLN:OE1	5:6:409:GLN:N	2.42	0.51
11:E:541:ASN:OD1	11:E:544:THR:N	2.37	0.51
12:F:743:TRP:CZ3	12:F:762:ILE:HG22	2.45	0.51
1:2:249:LEU:HD22	1:2:257:ALA:HB2	1.91	0.51
2:3:479:THR:OG1	2:3:482:ASP:OD2	2.28	0.51
2:3:673:GLN:OE1	2:3:677:ASN:ND2	2.41	0.51
6:7:530:ASP:OD2	6:7:532:SER:N	2.43	0.51
11:E:71:TYR:CD2	11:E:96:LEU:HD13	2.45	0.51
11:E:527:LEU:HD21	11:E:641:LEU:HD13	1.91	0.51
1:2:393:ALA:O	1:2:397:VAL:HG23	2.10	0.51
4:5:437:VAL:HG21	4:5:472:ALA:HB2	1.91	0.51
4:5:521:ALA:HB2	4:5:550:PHE:CE1	2.44	0.51
5:6:105:ASP:OD1	5:6:108:GLY:N	2.41	0.51
12:G:747:LEU:HD11	12:G:749:TYR:O	2.10	0.51
12:H:536:LEU:HB3	12:H:581:VAL:HG22	1.93	0.51
12:H:730:LYS:HA	12:H:815:ILE:HG12	1.92	0.51
1:2:777:LYS:N	1:2:827:GLU:O	2.43	0.51
3:4:631:ILE:HG23	3:4:631:ILE:O	2.11	0.51
6:7:260:TYR:CB	6:7:298:LEU:HD22	2.40	0.51
7:A:90:GLN:O	7:A:90:GLN:NE2	2.43	0.51
8:B:66:MET:HA	8:B:66:MET:HE3	1.91	0.51
12:F:743:TRP:N	12:F:755:ILE:O	2.35	0.51
12:H:734:GLY:N	12:H:815:ILE:HD11	2.26	0.51
6:7:627:ASP:O	6:7:628:LEU:HG	2.10	0.51
7:A:1:MET:N	7:A:4:ASP:OD2	2.36	0.51
7:A:198:ARG:HH12	14:N:32:SER:HB2	1.75	0.51
11:E:588:TYR:CD2	11:E:597:THR:HA	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:H:887:HIS:CE1	12:H:917:ILE:HD11	2.44	0.51
2:3:481:VAL:HG12	6:7:486:LYS:NZ	2.25	0.51
3:4:261:LEU:HD12	3:4:265:PRO:HA	1.93	0.51
8:B:17:GLN:O	8:B:21:GLU:OE1	2.28	0.51
11:E:596:HIS:O	11:E:597:THR:HG23	2.11	0.51
12:G:837:LEU:HB2	12:G:855:LEU:HD21	1.93	0.51
1:2:783:MET:HE2	4:5:573:ILE:HG23	1.93	0.51
2:3:324:ASN:OD1	2:3:325:THR:N	2.43	0.51
3:4:767:LYS:HB2	5:6:732:VAL:HG11	1.93	0.51
6:7:516:ALA:O	6:7:561:THR:OG1	2.29	0.51
8:B:33:THR:HG21	8:B:50:TRP:CH2	2.46	0.51
9:C:78:ASP:OD1	9:C:79:MET:N	2.44	0.51
11:E:406:ARG:HH22	11:E:590:ARG:HG2	1.76	0.51
12:G:778:MET:N	12:G:825:GLU:OE2	2.38	0.51
14:N:80:ASP:O	14:N:84:VAL:HG23	2.11	0.51
3:4:445:ARG:NH1	3:4:450:GLN:O	2.44	0.51
5:6:156:GLN:NE2	5:6:269:ASN:O	2.39	0.51
8:B:115:LEU:HD13	8:B:119:TRP:CD2	2.46	0.51
10:D:135:ARG:O	10:D:139:VAL:HG23	2.10	0.51
11:E:392:PHE:HB3	11:E:405:ILE:HD11	1.93	0.51
11:E:536:LEU:HD21	11:E:572:ILE:O	2.11	0.51
12:H:587:ARG:HE	12:H:643:LEU:HD21	1.76	0.51
12:H:853:GLU:OE1	12:H:853:GLU:N	2.40	0.51
14:N:20:LEU:HD12	14:N:21:ALA:N	2.25	0.51
1:2:411:LEU:C	1:2:415:VAL:HG13	2.31	0.51
1:2:546:GLY:HA2	15:2:901:ADP:H5'1	1.93	0.51
1:2:559:THR:O	1:2:559:THR:HG22	2.11	0.51
3:4:454:LYS:HA	6:7:277:THR:HG22	1.91	0.51
12:G:541:GLU:OE1	12:G:541:GLU:N	2.40	0.51
12:G:546:PHE:N	12:G:555:GLN:O	2.44	0.51
1:2:186:LEU:HD22	1:2:203:VAL:HG13	1.93	0.50
1:2:520:PHE:CD1	1:2:823:MET:HG2	2.47	0.50
1:2:658:ASN:ND2	1:2:660:THR:OG1	2.43	0.50
2:3:435:ARG:CG	4:5:491:VAL:HG11	2.41	0.50
4:5:20:ASN:O	4:5:23:ASP:N	2.44	0.50
6:7:656:VAL:CG1	6:7:713:VAL:HG21	2.35	0.50
11:E:75:ASP:O	11:E:118:ARG:NH2	2.43	0.50
12:G:672:ALA:HB1	12:G:761:HIS:HA	1.92	0.50
14:N:18:ARG:CG	14:N:19:PRO:HD3	2.39	0.50
1:2:556:VAL:O	1:2:560:ALA:N	2.44	0.50
2:3:406:LEU:HB3	2:3:543:PHE:CZ	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:6:356:TRP:HE1	5:6:380:ILE:HD12	1.77	0.50
6:7:397:VAL:HG13	6:7:640:GLU:CG	2.42	0.50
6:7:479:ARG:NH2	6:7:517:ASP:O	2.38	0.50
11:E:123:LEU:HD21	11:E:143:PHE:CD2	2.46	0.50
12:F:589:ILE:HD11	12:F:643:LEU:HD11	1.93	0.50
12:G:497:ASN:C	12:G:745:LEU:HD23	2.32	0.50
14:N:14:PRO:CD	14:N:15:PRO:HD2	2.40	0.50
3:4:254:THR:HG22	3:4:254:THR:O	2.10	0.50
4:5:463:TYR:OH	4:5:465:GLU:HB3	2.11	0.50
5:6:756:LYS:O	5:6:760:THR:HG23	2.11	0.50
12:F:708:SER:N	12:F:717:LYS:O	2.44	0.50
2:3:196:LEU:HD21	2:3:214:TYR:CZ	2.47	0.50
3:4:284:ILE:HG21	3:4:296:ILE:CD1	2.42	0.50
4:5:169:THR:HG22	4:5:256:LEU:HD22	1.94	0.50
4:5:552:MET:CE	4:5:659:ILE:HD11	2.42	0.50
12:F:629:HIS:N	12:F:637:SER:O	2.44	0.50
14:N:54:ARG:C	14:N:57:PRO:HD2	2.31	0.50
1:2:542:LEU:HD22	1:2:663:LEU:HD11	1.93	0.50
4:5:366:LEU:O	4:5:370:LEU:HD23	2.12	0.50
11:E:87:GLY:HA2	11:E:90:ILE:HG22	1.93	0.50
12:G:730:LYS:HA	12:G:815:ILE:HD12	1.93	0.50
1:2:354:ASP:O	1:2:355:SER:OG	2.17	0.50
1:2:847:ASP:OD1	1:2:848:ALA:N	2.45	0.50
2:3:98:ILE:HD11	2:3:157:PHE:HE1	1.75	0.50
2:3:215:THR:N	2:3:227:THR:OG1	2.42	0.50
6:7:532:SER:O	6:7:535:THR:OG1	2.25	0.50
10:D:231:HIS:HB3	10:D:294:ILE:HD11	1.93	0.50
12:F:597:PHE:N	12:F:610:GLU:O	2.45	0.50
12:G:770:LEU:HD23	12:G:771:PRO:N	2.26	0.50
2:3:363:LEU:HB2	2:3:382:LEU:HD11	1.94	0.50
3:4:733:PRO:HG2	6:7:444:VAL:HG13	1.94	0.50
6:7:122:ASP:OD2	6:7:198:ARG:NH2	2.45	0.50
12:F:914:ILE:O	12:F:918:ARG:HG2	2.12	0.50
12:G:910:LEU:O	12:G:914:ILE:HD12	2.11	0.50
4:5:320:GLY:O	4:5:323:ILE:HG22	2.12	0.50
5:6:705:ILE:HG13	5:6:709:PHE:CZ	2.46	0.50
5:6:804:ILE:O	5:6:807:SER:OG	2.21	0.50
11:E:1:MET:N	11:E:144:ASP:OD2	2.43	0.50
11:E:345:ASN:O	11:E:349:SER:N	2.45	0.50
12:H:536:LEU:HD11	12:H:578:ILE:O	2.12	0.50
14:N:60:ILE:HG13	14:N:64:GLU:OE2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:495:VAL:O	2:3:506:LEU:N	2.37	0.50
2:3:535:LEU:HD22	2:3:539:LEU:HD23	1.93	0.50
4:5:297:ILE:HD11	4:5:331:LEU:HD11	1.94	0.50
6:7:240:THR:OG1	6:7:352:THR:HG22	2.12	0.50
6:7:385:LYS:H	6:7:385:LYS:HZ3	1.60	0.50
1:2:673:ILE:HG22	1:2:677:PHE:CE2	2.45	0.49
2:3:366:SER:CA	2:3:650:LEU:HD22	2.42	0.49
2:3:529:PRO:O	2:3:533:ILE:N	2.45	0.49
7:A:137:LEU:CD1	10:D:185:THR:HG21	2.43	0.49
8:B:82:GLN:CD	11:E:53:LEU:HD11	2.33	0.49
11:E:522:LEU:HD22	11:E:525:TYR:CE2	2.47	0.49
12:F:762:ILE:H	12:F:762:ILE:HD12	1.77	0.49
1:2:810:LEU:HA	1:2:813:ILE:HD12	1.94	0.49
12:F:863:ASP:OD2	12:F:890:LYS:N	2.44	0.49
12:G:741:HIS:CD2	12:G:762:ILE:HG22	2.47	0.49
12:H:631:SER:OG	12:H:634:HIS:N	2.43	0.49
1:2:353:GLN:OE1	1:2:383:ARG:NH2	2.46	0.49
4:5:614:LEU:HA	4:5:672:ALA:HB3	1.94	0.49
6:7:590:LEU:HD11	6:7:594:PHE:CE2	2.47	0.49
14:N:54:ARG:HA	14:N:54:ARG:CZ	2.42	0.49
12:G:601:ASN:N	12:G:605:VAL:O	2.44	0.49
12:G:833:LEU:HB3	12:G:858:LEU:HD21	1.95	0.49
1:2:414:LEU:O	1:2:417:VAL:HG23	2.12	0.49
1:2:551:GLN:NE2	15:2:901:ADP:O3'	2.46	0.49
2:3:313:THR:O	4:5:175:ARG:NH2	2.43	0.49
4:5:466:GLY:HA3	4:5:470:VAL:HG21	1.94	0.49
4:5:625:ASN:HD22	4:5:681:ILE:HG21	1.78	0.49
6:7:107:GLN:NE2	6:7:221:SER:HB3	2.27	0.49
8:B:19:ILE:HD12	10:D:68:LYS:HD2	1.95	0.49
8:B:124:ARG:NH2	9:C:190:TRP:O	2.46	0.49
14:N:77:LEU:HB3	14:N:80:ASP:OD1	2.11	0.49
1:2:270:ILE:O	1:2:274:VAL:HG23	2.13	0.49
6:7:225:LEU:HD13	6:7:229:GLN:HB3	1.95	0.49
6:7:444:VAL:HG12	6:7:446:ASP:H	1.77	0.49
8:B:113:SER:O	8:B:152:ARG:NH2	2.45	0.49
10:D:284:ASP:O	10:D:288:ASP:N	2.43	0.49
12:G:597:PHE:N	12:G:610:GLU:O	2.45	0.49
1:2:783:MET:CE	4:5:573:ILE:HG23	2.43	0.49
2:3:58:ASP:HB2	6:7:219:ALA:O	2.12	0.49
2:3:419:LEU:HD11	2:3:515:ALA:CB	2.42	0.49
6:7:139:LEU:O	6:7:143:LEU:HB2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:98:ILE:HD11	10:D:129:MET:HB3	1.94	0.49
11:E:21:SER:OG	11:E:26:GLN:NE2	2.44	0.49
11:E:381:ASP:OD2	11:E:383:SER:OG	2.22	0.49
12:G:629:HIS:O	12:G:637:SER:N	2.45	0.49
14:N:14:PRO:HG3	14:N:39:SER:HA	1.94	0.49
1:2:356:ASN:OD1	1:2:433:ASN:ND2	2.45	0.49
1:2:418:SER:OG	1:2:422:GLU:OE1	2.26	0.49
3:4:634:PHE:N	3:4:674:SER:O	2.42	0.49
11:E:250:SER:OG	11:E:252:SER:OG	2.30	0.49
12:H:895:LEU:HD11	12:H:921:ARG:CZ	2.43	0.49
14:N:13:GLN:N	14:N:14:PRO:HD3	2.27	0.49
14:N:81:GLN:HE22	14:N:85:LYS:HD3	1.77	0.49
2:3:552:ASP:OD1	2:3:553:ILE:N	2.45	0.49
3:4:526:ILE:HD12	3:4:540:ILE:HD11	1.95	0.49
3:4:593:GLY:HA3	3:4:637:MET:HB2	1.95	0.49
4:5:165:ILE:N	4:5:258:LEU:HD11	2.28	0.49
5:6:298:SER:O	5:6:357:GLN:NE2	2.46	0.49
5:6:361:ILE:HG21	5:6:397:PHE:HE2	1.78	0.49
12:F:580:SER:C	12:F:618:LEU:HD12	2.34	0.49
12:G:711:ARG:HH22	12:G:840:THR:HG22	1.77	0.49
12:H:570:ILE:HD12	12:H:590:VAL:HG11	1.95	0.49
14:N:62:PHE:CE1	14:N:88:ILE:HG21	2.48	0.49
3:4:605:ILE:CG2	3:4:614:LEU:HD11	2.43	0.49
8:B:102:ILE:HG13	8:B:148:LEU:HD21	1.94	0.49
12:F:638:TYR:HB3	12:F:657:LEU:HD12	1.94	0.49
14:N:14:PRO:HD2	14:N:15:PRO:HD2	1.93	0.49
14:N:45:VAL:HG13	14:N:52:ASN:CG	2.33	0.49
1:2:244:VAL:N	1:2:296:ARG:O	2.43	0.48
1:2:331:PHE:CD2	4:5:323:ILE:HD11	2.43	0.48
5:6:128:ASP:O	5:6:129:THR:HG22	2.13	0.48
11:E:12:TYR:CE2	11:E:16:LEU:HD11	2.47	0.48
11:E:343:TYR:OH	11:E:403:ASP:OD2	2.30	0.48
12:G:545:LEU:HD12	12:G:546:PHE:H	1.78	0.48
12:G:757:VAL:HG21	12:G:764:PRO:HA	1.95	0.48
14:N:88:ILE:HA	14:N:91:MET:HE2	1.95	0.48
1:2:197:TRP:O	1:2:203:VAL:HG11	2.13	0.48
3:4:341:ASP:O	3:4:392:ALA:N	2.30	0.48
5:6:141:GLU:OE2	5:6:145:ILE:HD11	2.13	0.48
5:6:410:LEU:HD12	5:6:443:LEU:HD21	1.94	0.48
8:B:178:ILE:HG23	10:D:229:PHE:CD2	2.47	0.48
11:E:152:LEU:O	11:E:156:LYS:N	2.39	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E:352:ASN:OD1	11:E:355:GLY:N	2.42	0.48
12:G:823:ALA:HB2	12:G:868:ARG:HE	1.77	0.48
12:H:741:HIS:CD2	12:H:762:ILE:HG22	2.48	0.48
1:2:785:LYS:O	1:2:789:VAL:HG23	2.13	0.48
15:2:901:ADP:O2A	5:6:798:ARG:NH2	2.46	0.48
5:6:519:MET:HB2	5:6:525:ILE:HD13	1.94	0.48
6:7:260:TYR:HB3	6:7:298:LEU:HD22	1.95	0.48
12:G:484:THR:HG22	12:G:763:TRP:HB2	1.95	0.48
12:G:676:TYR:CG	12:G:762:ILE:HD11	2.48	0.48
12:G:706:LEU:HD23	12:G:707:LEU:N	2.28	0.48
14:N:15:PRO:HA	14:N:18:ARG:HE	1.77	0.48
14:N:20:LEU:O	14:N:24:VAL:HG23	2.13	0.48
14:N:70:TRP:CZ3	14:N:84:VAL:HG22	2.48	0.48
1:2:306:LEU:HD23	1:2:320:VAL:HG11	1.94	0.48
2:3:553:ILE:HG23	4:5:630:ARG:HG2	1.95	0.48
3:4:356:MET:N	3:4:356:MET:SD	2.85	0.48
5:6:585:LEU:HD11	5:6:681:ALA:HB3	1.94	0.48
5:6:628:LEU:O	5:6:632:ASP:N	2.46	0.48
8:B:48:THR:HG23	10:D:120:ASN:O	2.13	0.48
9:C:135:LEU:HD12	9:C:169:LEU:HD11	1.94	0.48
11:E:351:TRP:HA	11:E:511:VAL:HG12	1.96	0.48
12:G:866:LEU:HD13	12:G:889:LEU:HD23	1.96	0.48
14:N:14:PRO:CG	14:N:39:SER:HA	2.44	0.48
1:2:261:ALA:O	1:2:316:SER:OG	2.27	0.48
1:2:821:ALA:N	1:2:833:ASP:OD1	2.46	0.48
6:7:626:PRO:O	6:7:628:LEU:HD23	2.14	0.48
11:E:612:ILE:O	11:E:616:THR:HG22	2.13	0.48
12:F:588:VAL:N	12:F:600:PHE:O	2.41	0.48
11:E:228:LYS:O	11:E:232:GLU:OE1	2.32	0.48
5:6:363:GLU:OE2	5:6:368:ILE:N	2.45	0.48
5:6:603:SER:HB2	5:6:608:LEU:HD11	1.95	0.48
5:6:627:ALA:HA	5:6:630:LEU:HD12	1.95	0.48
6:7:195:ASN:HA	6:7:198:ARG:HD2	1.96	0.48
11:E:613:THR:OG1	11:E:620:VAL:HG21	2.14	0.48
14:N:92:LYS:O	14:N:95:GLU:HG3	2.13	0.48
2:3:342:LEU:HB3	2:3:347:ILE:HD11	1.95	0.48
3:4:662:ILE:HG23	3:4:662:ILE:O	2.14	0.48
4:5:413:LEU:O	4:5:554:PHE:N	2.46	0.48
5:6:199:THR:O	5:6:261:ARG:NH2	2.47	0.48
5:6:552:LEU:O	5:6:812:ARG:NH1	2.46	0.48
5:6:764:ILE:O	5:6:819:ILE:N	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:53:ILE:O	9:C:57:VAL:HG22	2.14	0.48
11:E:227:LYS:HA	11:E:230:ILE:HG22	1.96	0.48
1:2:238:ASN:O	1:2:290:HIS:NE2	2.47	0.48
1:2:850:LYS:O	1:2:854:ARG:HB3	2.14	0.48
4:5:393:MET:CE	4:5:666:LEU:HD23	2.44	0.48
5:6:576:ASP:O	5:6:579:THR:HG23	2.14	0.48
10:D:159:ARG:NH2	10:D:184:ASP:OD1	2.45	0.48
11:E:486:ASP:O	11:E:489:VAL:HG13	2.14	0.48
12:G:514:THR:HG23	12:G:527:HIS:NE2	2.29	0.48
12:G:737:THR:O	12:G:737:THR:HG23	2.14	0.48
1:2:570:GLY:O	5:6:665:LYS:NZ	2.47	0.48
2:3:223:THR:N	4:5:246:GLU:OE2	2.46	0.48
3:4:686:LEU:HD23	3:4:690:GLU:HG2	1.95	0.48
5:6:653:HIS:HA	5:6:705:ILE:HD13	1.95	0.48
8:B:124:ARG:NH2	9:C:194:LYS:O	2.47	0.48
9:C:22:TYR:HB2	9:C:24:ILE:HD11	1.96	0.48
12:G:489:THR:HG22	12:G:490:ASP:N	2.29	0.48
2:3:339:ARG:NE	2:3:340:GLN:O	2.47	0.47
2:3:537:ASP:OD1	2:3:538:SER:N	2.47	0.47
2:3:721:VAL:HG12	2:3:722:ASN:N	2.29	0.47
3:4:364:VAL:HG23	5:6:438:THR:HG23	1.96	0.47
3:4:370:ARG:NE	3:4:377:ASN:O	2.47	0.47
5:6:584:PHE:O	5:6:588:VAL:HG23	2.14	0.47
5:6:705:ILE:HG13	5:6:709:PHE:CE1	2.49	0.47
5:6:736:MET:HG3	5:6:737:LYS:HD2	1.96	0.47
6:7:73:ARG:NH1	6:7:133:ASP:HB2	2.29	0.47
6:7:383:GLN:HB3	6:7:385:LYS:HZ3	1.79	0.47
11:E:581:VAL:N	11:E:630:ILE:O	2.47	0.47
12:G:535:ASP:OD1	12:G:536:LEU:N	2.47	0.47
4:5:572:VAL:HG13	4:5:576:HIS:CE1	2.50	0.47
6:7:313:CYS:O	6:7:333:ILE:N	2.45	0.47
11:E:576:THR:HG22	11:E:578:THR:HG23	1.96	0.47
12:F:661:LEU:HD12	12:G:633:PHE:CZ	2.49	0.47
12:F:893:ARG:O	12:F:896:THR:OG1	2.25	0.47
12:G:696:CYS:SG	12:G:704:LEU:HD11	2.54	0.47
12:G:761:HIS:ND1	12:G:765:GLU:OE2	2.41	0.47
12:H:601:ASN:OD1	12:H:605:VAL:HB	2.13	0.47
12:H:899:VAL:HG23	12:H:914:ILE:CG2	2.44	0.47
3:4:294:ASP:O	3:4:298:THR:N	2.43	0.47
6:7:265:CYS:HB3	6:7:289:CYS:SG	2.53	0.47
12:F:643:LEU:HD22	12:F:648:LYS:CD	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:70:TRP:CH2	14:N:84:VAL:HA	2.49	0.47
1:2:669:LEU:HB2	1:2:674:LEU:HD21	1.95	0.47
2:3:367:LEU:O	2:3:378:LYS:NZ	2.24	0.47
4:5:614:LEU:HD12	4:5:614:LEU:O	2.15	0.47
5:6:287:LEU:C	5:6:288:LEU:HD12	2.34	0.47
8:B:196:HIS:CE1	8:B:200:LEU:HD11	2.49	0.47
11:E:596:HIS:CE1	11:E:597:THR:HG22	2.48	0.47
12:H:524:ARG:NH1	12:H:526:TYR:HB3	2.29	0.47
1:2:704:VAL:HG21	5:6:770:ARG:HH11	1.79	0.47
3:4:227:ILE:O	3:4:231:ASN:ND2	2.48	0.47
3:4:308:VAL:HG11	3:4:325:LEU:HB3	1.97	0.47
12:F:636:LEU:HD21	12:F:661:LEU:HD11	1.97	0.47
1:2:322:GLY:C	1:2:390:LEU:HD11	2.35	0.47
3:4:272:MET:HE2	3:4:272:MET:HB3	1.77	0.47
3:4:345:ALA:HB1	3:4:384:LEU:HD11	1.96	0.47
5:6:629:MET:HE1	5:6:674:ALA:HA	1.96	0.47
12:F:598:ARG:HG2	12:F:609:VAL:HG22	1.95	0.47
12:F:833:LEU:HB2	12:F:858:LEU:HD21	1.96	0.47
12:G:826:GLU:OE1	12:G:868:ARG:NH2	2.47	0.47
1:2:187:SER:HA	1:2:255:ILE:HD11	1.97	0.47
2:3:365:GLN:O	2:3:378:LYS:NZ	2.47	0.47
4:5:165:ILE:O	4:5:258:LEU:HD12	2.14	0.47
4:5:211:CYS:O	4:5:241:TYR:OH	2.11	0.47
4:5:434:PRO:C	4:5:435:ILE:HD12	2.35	0.47
5:6:360:ARG:NH1	5:6:378:ASP:OD1	2.47	0.47
6:7:228:ARG:NH2	6:7:329:ARG:HG3	2.30	0.47
6:7:437:VAL:HG11	6:7:702:LEU:CD2	2.44	0.47
6:7:635:PRO:HA	6:7:638:MET:HE2	1.96	0.47
6:7:700:ALA:O	6:7:704:LEU:N	2.48	0.47
10:D:78:PRO:HA	10:D:174:LEU:HD12	1.97	0.47
10:D:212:THR:O	10:D:212:THR:HG22	2.15	0.47
10:D:282:ILE:CG2	10:D:291:VAL:HG21	2.45	0.47
12:G:510:GLN:NE2	12:G:529:GLU:HB3	2.30	0.47
12:G:728:ILE:HD12	12:G:740:ILE:HG21	1.97	0.47
12:G:749:TYR:CG	12:G:750:ASP:N	2.82	0.47
12:H:510:GLN:OE1	12:H:510:GLN:N	2.48	0.47
14:N:66:PHE:HZ	14:N:72:GLN:HE21	1.62	0.47
1:2:219:THR:HG22	1:2:225:SER:CA	2.42	0.47
4:5:494:HIS:ND1	4:5:549:ARG:HG3	2.30	0.47
5:6:308:SER:OG	5:6:347:ASN:O	2.33	0.47
7:A:177:GLU:O	14:N:19:PRO:HG3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:12:LEU:CD2	12:F:867:LEU:HD13	2.44	0.47
11:E:282:ILE:HG23	11:E:283:ALA:N	2.30	0.47
11:E:285:ALA:HB2	11:E:590:ARG:NH2	2.30	0.47
2:3:442:LEU:O	2:3:461:ALA:N	2.48	0.47
3:4:457:TYR:HE2	6:7:255:VAL:HG13	1.80	0.47
5:6:154:ASP:OD1	5:6:156:GLN:N	2.42	0.47
6:7:525:GLU:O	6:7:528:LYS:N	2.48	0.47
6:7:622:HIS:N	6:7:622:HIS:CD2	2.82	0.47
9:C:18:CYS:SG	9:C:74:LEU:HD13	2.55	0.47
12:H:587:ARG:HE	12:H:643:LEU:HD11	1.79	0.47
12:H:898:ALA:HA	12:H:901:ILE:HD12	1.96	0.47
2:3:494:THR:CA	2:3:508:ALA:HB3	2.45	0.47
3:4:376:CYS:O	3:4:377:ASN:OD1	2.32	0.47
3:4:529:SER:O	3:4:723:HIS:NE2	2.48	0.47
4:5:274:LEU:HD23	4:5:275:THR:N	2.30	0.47
11:E:536:LEU:HD21	11:E:572:ILE:HG23	1.97	0.47
12:G:513:ILE:HD12	12:G:530:ASP:HB2	1.96	0.47
1:2:388:VAL:N	1:2:407:GLU:OE2	2.49	0.46
2:3:143:ASN:O	2:3:147:VAL:HG23	2.15	0.46
2:3:198:ARG:NE	2:3:213:ASP:OD1	2.40	0.46
10:D:97:LEU:O	10:D:101:ILE:HG12	2.15	0.46
10:D:202:MET:SD	10:D:203:PRO:HD2	2.55	0.46
1:2:606:ILE:HG22	1:2:647:ILE:O	2.15	0.46
2:3:263:GLU:OE1	2:3:263:GLU:N	2.40	0.46
2:3:365:GLN:HA	2:3:378:LYS:HZ1	1.79	0.46
3:4:213:GLU:HA	3:4:216:ILE:HG23	1.97	0.46
6:7:67:LEU:HD22	6:7:121:ILE:HG23	1.95	0.46
6:7:581:LEU:HD21	6:7:681:PHE:C	2.36	0.46
10:D:212:THR:HG23	10:D:217:ASN:CG	2.36	0.46
11:E:426:GLU:OE2	11:E:547:ARG:NH1	2.39	0.46
11:E:501:ASP:O	11:E:504:ARG:HG2	2.15	0.46
11:E:546:LEU:HD11	11:E:629:ILE:HD11	1.96	0.46
12:G:482:ALA:O	12:G:496:MET:N	2.49	0.46
12:H:692:TYR:HH	12:H:749:TYR:HD1	1.61	0.46
1:2:260:LEU:N	1:2:267:MET:SD	2.89	0.46
1:2:603:VAL:HG13	1:2:647:ILE:HG12	1.97	0.46
2:3:192:VAL:HG13	2:3:283:VAL:HG11	1.96	0.46
3:4:281:VAL:HG22	3:4:293:LEU:CD1	2.45	0.46
6:7:315:ILE:CG2	6:7:333:ILE:HD11	2.45	0.46
12:G:687:LEU:HD12	12:G:697:ILE:HB	1.96	0.46
12:H:741:HIS:N	12:H:757:VAL:O	2.37	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:34:LYS:HG3	14:N:35:SER:H	1.80	0.46
1:2:794:ARG:NH1	1:2:805:ILE:O	2.48	0.46
1:2:811:GLU:HA	1:2:814:LEU:HD12	1.96	0.46
3:4:601:LEU:O	3:4:620:ALA:N	2.48	0.46
3:4:797:GLN:O	3:4:801:MET:HE2	2.15	0.46
5:6:639:ASP:OD1	5:6:640:GLU:HG2	2.14	0.46
6:7:437:VAL:HG21	6:7:702:LEU:CD2	2.46	0.46
12:G:515:VAL:HG21	12:G:526:TYR:CE1	2.51	0.46
12:H:918:ARG:O	12:H:922:TYR:CD1	2.68	0.46
1:2:341:CYS:O	1:2:345:GLY:HA3	2.16	0.46
2:3:217:ALA:HB1	2:3:301:LEU:CD2	2.45	0.46
3:4:634:PHE:HZ	3:4:698:LEU:HD21	1.79	0.46
3:4:764:GLU:O	3:4:768:THR:HG23	2.16	0.46
4:5:393:MET:HE3	4:5:666:LEU:HD23	1.97	0.46
4:5:649:THR:OG1	4:5:650:ILE:N	2.47	0.46
6:7:502:VAL:O	6:7:503:THR:HG22	2.15	0.46
11:E:81:LEU:HD12	11:E:120:ILE:HG12	1.97	0.46
12:G:485:PRO:HB3	12:G:679:PHE:HB2	1.97	0.46
1:2:344:CYS:SG	1:2:345:GLY:N	2.88	0.46
4:5:623:SER:O	4:5:627:VAL:HG22	2.15	0.46
5:6:115:PHE:CE2	5:6:119:LEU:HD11	2.51	0.46
6:7:224:PRO:HG2	6:7:242:ARG:NH2	2.30	0.46
8:B:175:LEU:C	8:B:175:LEU:HD23	2.35	0.46
11:E:339:TYR:CD1	11:E:350:LEU:HD21	2.50	0.46
11:E:612:ILE:HD12	11:E:643:LYS:HB3	1.98	0.46
12:G:517:PHE:O	12:G:520:VAL:HG23	2.16	0.46
12:H:585:PRO:O	12:H:602:GLN:NE2	2.48	0.46
12:H:743:TRP:N	12:H:755:ILE:O	2.38	0.46
14:N:34:LYS:HG2	14:N:36:ASP:OD1	2.16	0.46
2:3:45:ILE:HA	2:3:92:LEU:HD12	1.96	0.46
2:3:167:SER:N	2:3:170:THR:OG1	2.47	0.46
8:B:166:SER:OG	8:B:167:HIS:N	2.49	0.46
10:D:101:ILE:CG2	10:D:126:LEU:HD11	2.45	0.46
2:3:256:ILE:HD13	2:3:278:LEU:HD11	1.98	0.46
2:3:570:ARG:CG	4:5:614:LEU:HD11	2.45	0.46
3:4:237:GLY:O	3:4:299:LYS:NZ	2.31	0.46
3:4:597:SER:O	3:4:601:LEU:N	2.45	0.46
4:5:669:SER:OG	4:5:671:ILE:O	2.28	0.46
5:6:642:ASP:N	5:6:642:ASP:OD1	2.49	0.46
6:7:494:THR:HA	6:7:513:LEU:HD12	1.97	0.46
12:F:491:ARG:HB3	12:F:505:VAL:HG13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:566:TRP:NE1	12:G:602:GLN:O	2.48	0.46
14:N:17:LEU:HD11	14:N:38:LEU:HD12	1.96	0.46
14:N:78:PHE:O	14:N:82:SER:OG	2.33	0.46
3:4:226:TYR:O	3:4:230:LEU:HD13	2.15	0.46
3:4:403:PRO:HA	3:4:406:VAL:HG22	1.97	0.46
3:4:629:CYS:N	3:4:670:SER:O	2.47	0.46
4:5:412:VAL:HG13	4:5:552:MET:HB2	1.98	0.46
6:7:354:ILE:O	6:7:376:LEU:HD12	2.16	0.46
12:H:489:THR:HG22	12:H:491:ARG:H	1.81	0.46
1:2:691:ALA:O	1:2:695:LEU:HD23	2.16	0.46
2:3:103:LEU:HD11	2:3:110:PHE:CD2	2.51	0.46
3:4:305:PRO:HG2	3:4:464:VAL:HG21	1.98	0.46
5:6:766:THR:O	5:6:770:ARG:N	2.39	0.46
6:7:633:VAL:CG1	6:7:637:LYS:HE3	2.34	0.46
7:A:137:LEU:HD21	10:D:182:TYR:CD1	2.50	0.46
10:D:260:ILE:HG22	10:D:281:VAL:HG21	1.98	0.46
12:G:567:THR:HG22	12:G:568:LYS:N	2.31	0.46
1:2:306:LEU:HD12	1:2:392:GLU:HG3	1.98	0.45
2:3:476:ASP:N	2:3:476:ASP:OD1	2.49	0.45
4:5:323:ILE:O	4:5:324:ARG:NE	2.49	0.45
5:6:143:MET:HG3	5:6:196:LEU:HD13	1.98	0.45
9:C:119:GLU:O	9:C:123:VAL:HG23	2.15	0.45
11:E:262:ILE:O	11:E:262:ILE:HG22	2.17	0.45
12:G:708:SER:N	12:G:717:LYS:O	2.49	0.45
12:G:781:PHE:HB3	12:G:786:LEU:HD11	1.97	0.45
12:H:581:VAL:HG23	12:H:581:VAL:O	2.16	0.45
1:2:340:ASN:O	1:2:374:ARG:N	2.48	0.45
2:3:48:TYR:HA	2:3:51:ASN:OD1	2.16	0.45
3:4:435:VAL:HG12	3:4:466:VAL:HG22	1.98	0.45
3:4:574:LYS:N	18:4:1001:AGS:O2B	2.40	0.45
3:4:817:VAL:HG12	3:4:818:GLU:N	2.31	0.45
5:6:632:ASP:N	5:6:632:ASP:OD1	2.49	0.45
7:A:67:VAL:HG22	9:C:25:PRO:HD2	1.98	0.45
11:E:83:LEU:HD12	11:E:83:LEU:N	2.31	0.45
12:F:879:VAL:HG23	12:F:907:LEU:HD22	1.97	0.45
12:G:536:LEU:CD1	12:G:578:ILE:HG22	2.47	0.45
12:G:711:ARG:NH2	12:G:840:THR:HG22	2.31	0.45
12:G:741:HIS:NE2	12:G:762:ILE:HG22	2.32	0.45
14:N:62:PHE:CE2	14:N:88:ILE:HB	2.51	0.45
1:2:246:TYR:CZ	1:2:257:ALA:HB1	2.51	0.45
1:2:482:ARG:HB3	1:2:486:LYS:NZ	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:756:SER:OG	1:2:758:ILE:O	2.28	0.45
2:3:668:ILE:HG22	2:3:670:GLN:HE22	1.79	0.45
12:F:640:LEU:HD21	12:F:710:TRP:CE3	2.51	0.45
12:F:850:ASN:O	12:F:854:VAL:HG23	2.15	0.45
12:G:496:MET:O	12:G:497:ASN:ND2	2.49	0.45
12:G:741:HIS:O	12:G:757:VAL:N	2.44	0.45
14:N:79:ILE:O	14:N:82:SER:HB2	2.16	0.45
1:2:273:LEU:O	1:2:276:MET:HB2	2.16	0.45
2:3:301:LEU:N	2:3:318:LYS:O	2.39	0.45
2:3:393:LEU:HG	2:3:399:LEU:HD11	1.98	0.45
2:3:428:LEU:HD21	2:3:465:ALA:HA	1.99	0.45
3:4:402:THR:HG23	3:4:405:PHE:H	1.81	0.45
3:4:726:ASN:HA	3:4:729:LEU:HD12	1.98	0.45
4:5:164:GLY:CA	4:5:258:LEU:HD11	2.46	0.45
4:5:389:VAL:HG12	4:5:666:LEU:HD21	1.98	0.45
5:6:448:LEU:HD23	5:6:450:TYR:OH	2.15	0.45
5:6:514:ASN:O	5:6:518:GLU:HG2	2.16	0.45
7:A:123:LEU:O	7:A:128:GLN:NE2	2.48	0.45
12:G:752:LEU:N	12:G:774:MET:O	2.48	0.45
1:2:306:LEU:HD12	1:2:404:ARG:O	2.17	0.45
2:3:395:ASN:OD1	2:3:396:GLY:N	2.49	0.45
2:3:489:VAL:CG1	2:3:508:ALA:HB1	2.45	0.45
4:5:278:CYS:HB3	4:5:330:ILE:HD12	1.98	0.45
4:5:616:PRO:O	4:5:620:GLU:OE1	2.35	0.45
5:6:794:ARG:NH2	5:6:835:ILE:O	2.49	0.45
10:D:65:LYS:O	10:D:69:ASN:ND2	2.49	0.45
10:D:223:ASP:OD1	10:D:225:ASN:N	2.50	0.45
11:E:301:ARG:O	12:F:491:ARG:NH2	2.46	0.45
12:G:866:LEU:HD12	12:G:890:LYS:HZ3	1.81	0.45
12:H:892:ASP:OD1	12:H:895:LEU:HD12	2.17	0.45
2:3:294:VAL:HG13	2:3:326:VAL:HG22	1.99	0.45
2:3:405:ILE:O	2:3:513:ILE:HA	2.17	0.45
2:3:430:ILE:HG21	2:3:461:ALA:HB1	1.98	0.45
2:3:703:GLU:HA	2:3:706:ILE:HD12	1.99	0.45
5:6:766:THR:H	5:6:769:ALA:HB3	1.81	0.45
6:7:428:VAL:O	6:7:432:LEU:HD13	2.16	0.45
7:A:175:GLN:HB3	14:N:33:ILE:HG13	1.98	0.45
12:F:502:VAL:HG22	12:F:515:VAL:HG13	1.99	0.45
1:2:425:GLU:O	1:2:457:LYS:N	2.49	0.45
2:3:727:LYS:O	2:3:731:ASN:ND2	2.39	0.45
5:6:702:THR:HG23	5:6:705:ILE:HG22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:7:402:MET:HA	6:7:405:ILE:HD12	1.98	0.45
7:A:25:GLN:NE2	7:A:27:VAL:HG22	2.31	0.45
7:A:176:THR:HG22	7:A:177:GLU:N	2.32	0.45
12:F:570:ILE:HD13	12:F:590:VAL:HG11	1.99	0.45
12:F:629:HIS:O	12:F:637:SER:N	2.48	0.45
12:F:881:LYS:O	12:F:885:LEU:HD13	2.17	0.45
12:G:722:LEU:HD12	12:G:752:LEU:HD22	1.99	0.45
1:2:861:PHE:O	1:2:865:THR:HG22	2.17	0.45
2:3:38:TYR:O	2:3:42:VAL:HG23	2.16	0.45
2:3:235:ASP:OD1	2:3:236:THR:N	2.49	0.45
3:4:200:SER:H	3:4:224:LEU:HD13	1.81	0.45
3:4:314:MET:HB2	3:4:328:LEU:HD11	1.99	0.45
3:4:342:MET:HG3	3:4:360:ILE:HG13	1.99	0.45
4:5:207:LEU:HD21	4:5:241:TYR:O	2.16	0.45
8:B:104:TYR:OH	8:B:111:ARG:NH2	2.45	0.45
11:E:541:ASN:OD1	11:E:543:LEU:N	2.50	0.45
12:G:570:ILE:CD1	12:G:590:VAL:HG11	2.47	0.45
1:2:826:SER:OG	1:2:828:PHE:O	2.35	0.45
2:3:462:MET:CE	2:3:470:VAL:HG11	2.46	0.45
2:3:543:PHE:CG	2:3:544:ASP:N	2.83	0.45
3:4:522:LEU:HD22	3:4:747:LEU:CD1	2.47	0.45
3:4:531:TYR:OH	3:4:719:GLU:OE1	2.35	0.45
4:5:45:ILE:HG13	4:5:46:TYR:N	2.32	0.45
4:5:616:PRO:O	4:5:619:ALA:HB3	2.16	0.45
5:6:105:ASP:O	5:6:108:GLY:N	2.50	0.45
5:6:525:ILE:HG13	5:6:529:LEU:HD11	1.98	0.45
6:7:463:GLY:O	18:7:902:AGS:H5'2	2.17	0.45
6:7:579:SER:O	6:7:583:ASN:ND2	2.50	0.45
7:A:37:ILE:HD12	7:A:37:ILE:H	1.82	0.45
11:E:589:PRO:O	11:E:592:LEU:HB2	2.16	0.45
12:F:538:PHE:HB2	12:F:581:VAL:HG23	1.99	0.45
12:F:552:GLY:C	12:F:569:ILE:HG23	2.37	0.45
12:H:504:THR:CG2	12:H:513:ILE:HG23	2.45	0.45
12:H:703:THR:HA	12:H:723:ASP:HA	1.99	0.45
14:N:16:LEU:O	14:N:19:PRO:HD2	2.17	0.45
1:2:249:LEU:CD2	1:2:257:ALA:HB2	2.46	0.45
1:2:621:HIS:HA	1:2:624:MET:HE2	1.99	0.45
3:4:615:VAL:HG12	3:4:616:LEU:N	2.32	0.45
6:7:260:TYR:HD2	6:7:298:LEU:HD13	1.82	0.45
8:B:189:MET:HB3	10:D:227:PHE:CD2	2.52	0.45
12:H:899:VAL:HG21	12:H:918:ARG:HH22	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:482:ARG:HB3	1:2:486:LYS:HZ3	1.83	0.44
1:2:520:PHE:O	1:2:822:LYS:NZ	2.39	0.44
1:2:660:THR:HG22	1:2:851:VAL:HG11	2.00	0.44
1:2:812:SER:OG	1:2:815:ARG:NH2	2.50	0.44
2:3:475:PHE:HB2	2:3:514:ALA:HB1	1.99	0.44
3:4:634:PHE:CZ	3:4:698:LEU:HD21	2.52	0.44
3:4:820:GLU:OE1	3:4:820:GLU:N	2.45	0.44
10:D:93:MET:SD	10:D:94:GLN:N	2.89	0.44
12:F:610:GLU:OE1	12:F:610:GLU:N	2.50	0.44
12:G:516:SER:OG	12:G:525:GLU:OE2	2.27	0.44
1:2:572:SER:O	1:2:576:LEU:N	2.46	0.44
2:3:413:THR:HG22	2:3:413:THR:O	2.17	0.44
3:4:232:GLU:O	3:4:236:LEU:HD23	2.16	0.44
4:5:182:MET:O	4:5:241:TYR:HA	2.17	0.44
4:5:395:GLY:N	4:5:408:GLY:O	2.51	0.44
6:7:463:GLY:C	18:7:902:AGS:H5'2	2.38	0.44
8:B:173:LEU:HD23	8:B:178:ILE:CG1	2.47	0.44
10:D:260:ILE:HG13	10:D:260:ILE:O	2.17	0.44
11:E:643:LYS:O	11:E:647:SER:N	2.50	0.44
12:G:570:ILE:HD12	12:G:590:VAL:HG11	1.98	0.44
2:3:408:VAL:HG12	2:3:548:VAL:HG22	1.98	0.44
3:4:512:VAL:HG21	3:4:746:PHE:CE2	2.52	0.44
3:4:814:LYS:NZ	3:4:821:ASP:OD2	2.50	0.44
5:6:153:ILE:HD12	5:6:265:ILE:HG23	1.98	0.44
5:6:270:LEU:HD12	5:6:289:SER:CB	2.46	0.44
5:6:608:LEU:O	5:6:627:ALA:N	2.51	0.44
6:7:398:GLU:O	6:7:401:VAL:HG22	2.17	0.44
6:7:482:TYR:OH	6:7:524:ASP:OD2	2.15	0.44
9:C:39:THR:OG1	9:C:42:THR:OG1	2.23	0.44
11:E:126:HIS:O	11:E:127:ARG:CB	2.65	0.44
11:E:436:ASN:O	11:E:472:ARG:NH2	2.51	0.44
12:G:704:LEU:CD2	12:G:721:ILE:HD11	2.47	0.44
12:H:748:ALA:O	12:H:750:ASP:N	2.50	0.44
1:2:540:LEU:HD23	1:2:542:LEU:H	1.81	0.44
2:3:201:HIS:O	2:3:210:HIS:N	2.48	0.44
3:4:544:LEU:O	3:4:755:LYS:NZ	2.48	0.44
6:7:624:LYS:HG2	6:7:625:GLN:O	2.18	0.44
9:C:142:LEU:HD11	9:C:184:TYR:HB3	1.99	0.44
11:E:553:ILE:HD11	11:E:584:LEU:HB3	2.00	0.44
12:G:744:PRO:HB3	12:G:752:LEU:HD21	2.00	0.44
3:4:420:TYR:C	3:4:424:VAL:HG23	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:570:ASN:HA	4:5:573:ILE:HD12	2.00	0.44
6:7:206:PRO:HG3	6:7:352:THR:HG21	2.00	0.44
6:7:258:ILE:O	6:7:271:GLN:N	2.51	0.44
7:A:137:LEU:O	7:A:141:LEU:HD23	2.17	0.44
8:B:27:ILE:HD11	8:B:71:VAL:CG2	2.47	0.44
12:F:688:PHE:O	12:F:696:CYS:N	2.49	0.44
12:H:737:THR:HG23	12:H:737:THR:O	2.17	0.44
1:2:527:VAL:HG23	1:2:527:VAL:O	2.18	0.44
1:2:580:VAL:HA	1:2:591:LEU:HA	1.99	0.44
2:3:421:PHE:O	2:3:425:THR:HG22	2.17	0.44
3:4:580:TYR:OH	6:7:448:MET:HB2	2.18	0.44
3:4:750:TYR:CZ	3:4:813:LEU:HD21	2.52	0.44
4:5:59:TYR:N	4:5:281:TYR:OH	2.43	0.44
6:7:230:ILE:O	6:7:231:LYS:HD3	2.18	0.44
6:7:624:LYS:HB3	6:7:624:LYS:HE3	1.42	0.44
9:C:6:ILE:H	9:C:6:ILE:HD12	1.82	0.44
11:E:638:SER:OG	11:E:639:PRO:HD3	2.17	0.44
12:G:690:SER:N	12:G:694:ASP:O	2.51	0.44
12:G:692:TYR:CB	12:G:840:THR:HG21	2.47	0.44
14:N:14:PRO:N	14:N:15:PRO:CD	2.81	0.44
1:2:341:CYS:HB3	1:2:345:GLY:CA	2.48	0.44
1:2:632:SER:HB3	1:2:637:VAL:HG22	1.98	0.44
2:3:98:ILE:N	2:3:156:SER:O	2.50	0.44
2:3:103:LEU:HD11	2:3:110:PHE:HD2	1.83	0.44
2:3:694:LYS:HG2	2:3:737:LEU:O	2.17	0.44
3:4:195:ARG:NH1	3:4:279:CYS:SG	2.91	0.44
3:4:605:ILE:HG23	3:4:614:LEU:HD11	1.99	0.44
4:5:437:VAL:HG21	4:5:472:ALA:CB	2.48	0.44
5:6:811:ALA:O	5:6:815:CYS:N	2.50	0.44
8:B:173:LEU:HD23	8:B:178:ILE:HG13	1.98	0.44
12:G:577:ARG:O	12:G:593:SER:N	2.49	0.44
2:3:466:ASP:O	2:3:510:CYS:N	2.51	0.44
3:4:428:ARG:HG3	3:4:431:ASP:OD1	2.18	0.44
4:5:210:SER:OG	4:5:212:LEU:HD21	2.17	0.44
6:7:398:GLU:O	6:7:402:MET:SD	2.76	0.44
7:A:130:TYR:CB	10:D:193:LEU:HD22	2.48	0.44
12:G:618:LEU:HD23	12:G:627:SER:HB3	1.98	0.44
12:H:782:VAL:HG23	12:H:785:LYS:HB2	1.98	0.44
14:N:36:ASP:O	14:N:39:SER:OG	2.25	0.44
14:N:70:TRP:CD2	14:N:84:VAL:HG22	2.52	0.44
3:4:364:VAL:HG22	3:4:365:ILE:N	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:426:LEU:HG	4:5:520:LEU:HD23	2.00	0.44
6:7:483:THR:HG22	6:7:484:THR:N	2.33	0.44
6:7:599:LEU:HD11	6:7:601:LEU:HD21	1.99	0.44
8:B:23:GLU:O	8:B:73:LEU:N	2.46	0.44
11:E:287:VAL:HG22	11:E:290:ARG:HH21	1.82	0.44
12:G:866:LEU:HD11	12:G:888:GLU:HB3	2.00	0.44
12:H:774:MET:N	12:H:774:MET:SD	2.90	0.44
2:3:41:SER:O	2:3:44:SER:OG	2.28	0.43
3:4:764:GLU:HA	3:4:767:LYS:HG2	2.00	0.43
4:5:276:MET:HG3	4:5:328:ILE:HB	2.00	0.43
5:6:703:ALA:N	5:6:704:PRO:HD2	2.33	0.43
6:7:556:THR:C	6:7:557:LEU:HD22	2.38	0.43
12:F:538:PHE:CD1	12:F:583:ALA:HB3	2.53	0.43
12:G:501:TYR:N	12:G:516:SER:O	2.51	0.43
12:G:672:ALA:HB2	12:G:760:LYS:HG2	1.98	0.43
12:G:685:LYS:N	12:G:698:PHE:O	2.50	0.43
12:G:910:LEU:O	12:G:911:VAL:C	2.57	0.43
14:N:17:LEU:CB	14:N:20:LEU:HD21	2.48	0.43
14:N:63:LEU:C	14:N:63:LEU:HD23	2.38	0.43
3:4:196:ASN:OD1	3:4:253:GLN:NE2	2.45	0.43
3:4:644:VAL:HG23	5:6:601:LYS:CE	2.48	0.43
3:4:777:MET:HB3	3:4:793:ALA:HB2	2.00	0.43
4:5:614:LEU:HD13	4:5:619:ALA:HB2	2.01	0.43
5:6:402:ILE:O	5:6:453:SER:N	2.46	0.43
6:7:122:ASP:OD2	6:7:198:ARG:NE	2.51	0.43
6:7:535:THR:O	6:7:538:HIS:HB2	2.18	0.43
9:C:79:MET:O	9:C:84:VAL:HG11	2.18	0.43
12:F:529:GLU:OE1	12:F:529:GLU:N	2.39	0.43
12:G:740:ILE:HG23	12:G:756:LEU:HD22	1.99	0.43
12:G:756:LEU:HD11	12:G:774:MET:HE2	2.00	0.43
12:H:497:ASN:OD1	12:H:498:GLU:N	2.51	0.43
12:H:573:GLN:OE1	12:H:576:GLU:OE1	2.36	0.43
1:2:485:ARG:NH2	1:2:488:SER:OG	2.51	0.43
3:4:282:SER:HA	3:4:285:VAL:HG22	2.00	0.43
3:4:342:MET:HE1	3:4:389:CYS:HB3	1.99	0.43
3:4:658:LYS:N	3:4:661:ILE:O	2.52	0.43
3:4:683:ASN:N	3:4:691:ASN:OD1	2.48	0.43
3:4:764:GLU:O	3:4:767:LYS:HG2	2.19	0.43
4:5:497:MET:O	4:5:500:GLN:NE2	2.51	0.43
5:6:591:PHE:O	5:6:591:PHE:CG	2.72	0.43
5:6:769:ALA:CB	5:6:824:ILE:HD11	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:51:GLN:O	10:D:129:MET:HE1	2.18	0.43
12:H:848:TYR:N	12:H:851:GLU:OE1	2.45	0.43
12:H:889:LEU:O	12:H:921:ARG:NH1	2.51	0.43
3:4:320:ASN:OD1	3:4:321:ASP:N	2.51	0.43
3:4:606:THR:OG1	3:4:607:ARG:N	2.51	0.43
5:6:659:GLN:O	5:6:673:ASN:O	2.36	0.43
6:7:491:VAL:O	6:7:495:ALA:N	2.51	0.43
7:A:130:TYR:CG	10:D:193:LEU:HD22	2.52	0.43
8:B:115:LEU:HD13	8:B:119:TRP:CE2	2.52	0.43
11:E:390:ILE:H	11:E:390:ILE:HD12	1.82	0.43
11:E:431:LEU:HD23	11:E:480:SER:HA	2.01	0.43
12:H:491:ARG:N	12:H:505:VAL:HG23	2.33	0.43
14:N:37:GLY:HA3	14:N:76:GLY:O	2.18	0.43
2:3:181:SER:OG	2:3:294:VAL:O	2.35	0.43
2:3:653:ILE:N	2:3:654:PRO:CD	2.82	0.43
3:4:349:CYS:HA	3:4:382:MET:HE2	2.00	0.43
4:5:185:ASN:HB2	4:5:236:CYS:SG	2.59	0.43
5:6:563:ILE:H	5:6:563:ILE:HD12	1.83	0.43
6:7:493:LEU:HD12	6:7:512:ALA:HB3	2.00	0.43
6:7:652:MET:CE	6:7:657:ASN:OD1	2.66	0.43
6:7:692:ILE:HD11	6:7:720:VAL:HG21	1.99	0.43
10:D:75:GLU:OE1	10:D:283:ARG:NH1	2.51	0.43
12:G:584:THR:OG1	12:G:587:ARG:O	2.23	0.43
1:2:757:PRO:HG2	1:2:758:ILE:HD12	2.01	0.43
2:3:393:LEU:HD23	6:7:623:ASN:CG	2.39	0.43
4:5:361:SER:HB3	4:5:668:LEU:HD12	2.00	0.43
5:6:259:THR:HG21	5:6:352:ARG:HD3	2.00	0.43
6:7:454:ILE:HA	6:7:595:ASP:OD2	2.19	0.43
11:E:476:ASN:HA	11:E:479:LEU:HD12	2.00	0.43
11:E:566:PRO:HB3	11:E:605:PHE:CZ	2.54	0.43
12:F:739:ASP:OD1	12:F:740:ILE:N	2.52	0.43
12:H:749:TYR:CG	12:H:750:ASP:N	2.86	0.43
1:2:784:ASP:O	1:2:787:SER:OG	2.24	0.43
3:4:244:ASP:C	3:4:244:ASP:OD1	2.57	0.43
5:6:598:THR:O	5:6:639:ASP:N	2.44	0.43
5:6:803:MET:HE1	5:6:831:LEU:HD12	2.00	0.43
7:A:191:VAL:HG12	7:A:192:ARG:N	2.34	0.43
12:H:489:THR:HG22	12:H:491:ARG:N	2.34	0.43
1:2:211:LEU:HD22	1:2:271:PHE:CD1	2.53	0.43
1:2:540:LEU:C	1:2:541:LEU:HD22	2.39	0.43
1:2:658:ASN:O	1:2:666:ASN:ND2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:281:ASP:OD1	2:3:281:ASP:N	2.52	0.43
2:3:469:VAL:HG22	2:3:470:VAL:N	2.34	0.43
6:7:248:VAL:HG13	6:7:313:CYS:SG	2.58	0.43
7:A:120:THR:O	7:A:128:GLN:NE2	2.52	0.43
10:D:76:LEU:HD11	10:D:147:ARG:CZ	2.49	0.43
12:G:867:LEU:HD12	12:G:901:ILE:HD12	2.00	0.43
12:H:545:LEU:CD2	12:H:588:VAL:HG13	2.47	0.43
12:H:910:LEU:HD23	12:H:914:ILE:HD11	1.99	0.43
14:N:29:TYR:HD1	14:N:31:LEU:HG	1.84	0.43
14:N:65:GLN:HG3	14:N:70:TRP:CZ3	2.49	0.43
2:3:95:ARG:NH1	2:3:155:LEU:O	2.52	0.43
2:3:406:LEU:N	2:3:543:PHE:HZ	2.17	0.43
3:4:521:LEU:HD21	3:4:742:LEU:CD1	2.48	0.43
3:4:573:SER:H	18:4:1001:AGS:H5'1	1.84	0.43
4:5:25:THR:HA	4:5:28:ILE:HD12	2.01	0.43
6:7:92:LYS:O	6:7:96:GLY:N	2.49	0.43
6:7:283:GLU:O	6:7:298:LEU:HD12	2.19	0.43
8:B:119:TRP:CE2	8:B:120:LEU:HG	2.54	0.43
9:C:85:MET:HA	9:C:88:ILE:HD12	2.01	0.43
11:E:304:PRO:O	11:E:307:ARG:NH2	2.50	0.43
12:F:830:SER:HA	12:F:858:LEU:HD11	2.00	0.43
12:G:600:PHE:HA	12:G:606:PRO:HA	2.01	0.43
12:H:786:LEU:HB3	12:H:815:ILE:HG21	2.01	0.43
1:2:321:THR:HG22	1:2:322:GLY:N	2.34	0.43
1:2:748:GLN:HA	1:2:751:LYS:HB2	2.01	0.43
4:5:77:LYS:HG2	11:E:382:HIS:ND1	2.34	0.43
6:7:66:MET:O	6:7:70:VAL:HG23	2.19	0.43
7:A:150:ASP:OD1	7:A:152:SER:OG	2.24	0.43
9:C:55:ALA:HB2	9:C:74:LEU:HD23	2.00	0.43
11:E:241:TYR:O	11:E:242:SER:OG	2.32	0.43
11:E:596:HIS:CG	11:E:597:THR:N	2.86	0.43
12:F:570:ILE:HD11	12:F:578:ILE:HG12	2.01	0.43
2:3:680:VAL:HG13	6:7:613:ALA:HB3	2.01	0.42
4:5:27:ILE:O	4:5:30:SER:OG	2.31	0.42
4:5:95:THR:HG22	4:5:135:PHE:HD1	1.84	0.42
4:5:370:LEU:O	4:5:373:SER:N	2.43	0.42
4:5:493:ILE:H	4:5:493:ILE:HD12	1.84	0.42
5:6:137:ARG:HA	5:6:140:ILE:HD12	2.01	0.42
5:6:367:GLU:HG2	5:6:368:ILE:HD12	2.01	0.42
5:6:657:GLU:O	5:6:659:GLN:NE2	2.52	0.42
5:6:701:MET:SD	5:6:705:ILE:CG2	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:6:765:LEU:HG	5:6:770:ARG:HD3	2.00	0.42
8:B:21:GLU:HB3	8:B:74:TRP:HB3	2.00	0.42
11:E:12:TYR:HA	11:E:15:ILE:HD12	2.01	0.42
11:E:101:GLN:O	11:E:104:VAL:HG12	2.18	0.42
12:H:884:SER:O	12:H:888:GLU:OE1	2.37	0.42
1:2:579:SER:O	1:2:592:GLU:N	2.46	0.42
2:3:223:THR:OG1	4:5:246:GLU:OE1	2.30	0.42
2:3:403:ILE:HD11	2:3:707:ARG:HB3	2.00	0.42
2:3:572:LEU:HD21	4:5:613:ARG:CD	2.49	0.42
3:4:567:CYS:SG	3:4:692:ILE:HG22	2.59	0.42
4:5:474:GLY:N	4:5:516:ARG:O	2.52	0.42
4:5:497:MET:SD	4:5:498:GLU:N	2.92	0.42
4:5:652:GLN:O	4:5:656:ILE:HD12	2.19	0.42
7:A:198:ARG:CZ	14:N:26:SER:HB3	2.49	0.42
8:B:151:ILE:HA	8:B:154:ILE:HD12	2.01	0.42
12:F:742:VAL:HG23	12:F:742:VAL:O	2.18	0.42
12:G:497:ASN:O	12:G:745:LEU:HD23	2.18	0.42
12:H:572:LEU:HD21	12:H:578:ILE:HD11	2.01	0.42
14:N:29:TYR:CG	14:N:29:TYR:O	2.73	0.42
1:2:709:GLU:O	1:2:710:ASN:C	2.57	0.42
2:3:255:ARG:NH2	2:3:275:ASP:OD2	2.52	0.42
2:3:350:ILE:HG23	2:3:659:TYR:CD2	2.54	0.42
3:4:254:THR:O	3:4:254:THR:CG2	2.67	0.42
3:4:642:ARG:O	3:4:646:HIS:CD2	2.73	0.42
10:D:282:ILE:O	10:D:283:ARG:C	2.57	0.42
11:E:41:ALA:CB	11:E:255:ILE:HD12	2.44	0.42
12:F:833:LEU:CB	12:F:858:LEU:HD21	2.49	0.42
12:G:538:PHE:O	12:G:545:LEU:N	2.45	0.42
1:2:245:ASN:ND2	1:2:299:ASP:OD2	2.52	0.42
1:2:289:ILE:HG22	1:2:290:HIS:CD2	2.54	0.42
1:2:566:ALA:O	1:2:606:ILE:HD12	2.19	0.42
1:2:660:THR:O	1:2:661:LEU:HB2	2.18	0.42
2:3:433:THR:HG22	2:3:473:ASP:HB3	2.01	0.42
2:3:473:ASP:OD1	2:3:474:GLU:N	2.53	0.42
2:3:486:ILE:O	2:3:487:HIS:C	2.57	0.42
3:4:532:GLU:HG2	3:4:533:LEU:H	1.83	0.42
3:4:581:VAL:HG21	3:4:672:LEU:HD22	2.00	0.42
3:4:601:LEU:HD11	3:4:621:LEU:HD21	2.00	0.42
4:5:632:GLN:NE2	4:5:636:ASN:OD1	2.52	0.42
5:6:363:GLU:N	5:6:375:ARG:O	2.50	0.42
6:7:219:ALA:C	6:7:220:ILE:HG13	2.40	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:674:LEU:O	12:F:678:ASN:N	2.39	0.42
12:G:854:VAL:O	12:G:858:LEU:HD13	2.19	0.42
12:G:882:ALA:CB	12:G:910:LEU:HD11	2.48	0.42
12:H:587:ARG:CD	12:H:643:LEU:HD11	2.49	0.42
12:H:782:VAL:HG23	12:H:782:VAL:O	2.19	0.42
14:N:91:MET:HE2	14:N:91:MET:HB2	1.87	0.42
1:2:604:CYS:N	1:2:645:SER:O	2.52	0.42
3:4:792:THR:HG22	3:4:793:ALA:N	2.35	0.42
5:6:571:ILE:HG12	5:6:711:LEU:HD12	2.02	0.42
6:7:414:LEU:HD23	6:7:633:VAL:HG21	2.00	0.42
1:2:292:GLU:CG	1:2:293:ILE:N	2.83	0.42
3:4:258:TYR:CZ	3:4:262:LEU:HD11	2.55	0.42
3:4:350:ASN:N	3:4:381:SER:OG	2.47	0.42
3:4:778:ARG:O	3:4:778:ARG:NH1	2.52	0.42
3:4:830:ARG:NE	3:4:835:ASP:OD2	2.50	0.42
5:6:823:PHE:N	5:6:823:PHE:CD1	2.87	0.42
6:7:311:GLN:HB2	6:7:340:VAL:HG13	2.02	0.42
7:A:29:LEU:O	7:A:122:ASN:ND2	2.48	0.42
11:E:271:TRP:CZ2	11:E:275:LEU:HD21	2.54	0.42
11:E:345:ASN:OD1	11:E:350:LEU:N	2.52	0.42
1:2:417:VAL:HG11	1:2:456:ILE:HG21	2.02	0.42
2:3:190:SER:OG	2:3:255:ARG:O	2.29	0.42
2:3:293:ASN:HB2	2:3:329:LEU:HD11	2.00	0.42
2:3:447:THR:O	2:3:456:ARG:N	2.53	0.42
3:4:308:VAL:HG21	3:4:325:LEU:HB2	2.01	0.42
3:4:525:SER:OG	3:4:742:LEU:N	2.52	0.42
4:5:473:ASP:OD1	4:5:474:GLY:N	2.52	0.42
5:6:116:GLU:HB2	5:6:188:VAL:HG22	2.01	0.42
5:6:585:LEU:HD23	5:6:679:LEU:HD23	2.02	0.42
5:6:645:ASP:OD1	5:6:647:SER:N	2.53	0.42
6:7:214:ARG:HG3	6:7:218:LYS:NZ	2.35	0.42
8:B:16:ILE:HD12	8:B:175:LEU:HD21	2.01	0.42
11:E:316:LEU:HD23	11:E:317:THR:N	2.34	0.42
12:F:879:VAL:HG22	12:F:907:LEU:HD13	2.02	0.42
12:G:748:ALA:HB2	12:G:753:ASN:OD1	2.20	0.42
3:4:564:ILE:HG23	3:4:704:LEU:HB2	2.02	0.42
4:5:599:MET:O	4:5:603:ILE:HG22	2.20	0.42
4:5:657:ILE:HG22	4:5:661:GLU:OE2	2.19	0.42
5:6:820:THR:HG22	5:6:822:SER:H	1.85	0.42
8:B:11:PHE:O	8:B:179:ASN:ND2	2.44	0.42
8:B:57:ASP:OD1	8:B:61:ASN:ND2	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E:568:VAL:C	11:E:569:LEU:HD22	2.41	0.42
12:F:508:SER:O	12:F:509:GLU:HB2	2.20	0.42
2:3:301:LEU:CD1	2:3:320:LEU:HD12	2.50	0.42
3:4:199:MET:O	3:4:200:SER:CB	2.68	0.42
3:4:284:ILE:HD11	3:4:293:LEU:CD1	2.47	0.42
4:5:274:LEU:HD23	4:5:275:THR:O	2.19	0.42
5:6:379:VAL:HG12	5:6:380:ILE:N	2.34	0.42
5:6:438:THR:OG1	5:6:439:GLY:N	2.53	0.42
5:6:598:THR:HG21	5:6:608:LEU:HD21	2.02	0.42
6:7:527:ASP:OD1	6:7:528:LYS:N	2.53	0.42
10:D:76:LEU:HG	10:D:174:LEU:HD11	2.02	0.42
11:E:107:THR:HG23	11:E:108:ASP:N	2.35	0.42
12:F:598:ARG:HG3	12:F:609:VAL:HG13	2.01	0.42
12:F:612:THR:OG1	12:F:615:ILE:HD11	2.20	0.42
12:G:910:LEU:HD22	12:G:914:ILE:HD11	2.01	0.42
14:N:40:ALA:HB3	14:N:81:GLN:OE1	2.20	0.42
1:2:215:LEU:HD12	1:2:274:VAL:HG12	2.01	0.42
1:2:255:ILE:HG23	1:2:256:LEU:N	2.35	0.42
1:2:359:ILE:CG2	1:2:361:ILE:HG23	2.49	0.42
3:4:463:VAL:HG23	3:4:463:VAL:O	2.19	0.42
4:5:75:ILE:H	4:5:75:ILE:HD12	1.85	0.42
5:6:326:LYS:HD3	5:6:410:LEU:HD23	2.01	0.42
5:6:734:LEU:O	5:6:738:ARG:HA	2.20	0.42
8:B:121:VAL:HG23	9:C:190:TRP:CH2	2.55	0.42
11:E:368:ILE:HG23	11:E:368:ILE:O	2.19	0.42
12:F:498:GLU:OE1	12:F:498:GLU:N	2.48	0.42
12:F:547:GLY:HA3	12:F:554:ILE:HD12	2.02	0.42
12:H:743:TRP:O	12:H:755:ILE:N	2.53	0.42
14:N:62:PHE:CD1	14:N:88:ILE:HG21	2.53	0.42
2:3:292:VAL:HG23	2:3:328:PRO:HA	2.01	0.41
3:4:318:ASN:OD1	3:4:320:ASN:OD1	2.38	0.41
3:4:830:ARG:NH2	3:4:835:ASP:OD2	2.52	0.41
4:5:162:LEU:C	4:5:162:LEU:HD12	2.40	0.41
4:5:383:ASP:OD1	4:5:682:ARG:NH1	2.53	0.41
5:6:629:MET:SD	5:6:672:LEU:HD22	2.59	0.41
18:7:902:AGS:O1A	18:7:902:AGS:H3'	2.20	0.41
10:D:209:ILE:O	10:D:218:MET:HE2	2.20	0.41
11:E:509:THR:HG21	11:E:539:TYR:OH	2.19	0.41
12:F:519:ASP:OD1	12:F:522:ARG:N	2.39	0.41
12:F:822:ALA:O	12:F:826:GLU:OE1	2.38	0.41
12:F:900:LYS:O	12:F:904:ARG:HD3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:517:CYS:HA	1:2:819:SER:OG	2.20	0.41
3:4:565:LEU:HD23	3:4:566:LEU:N	2.35	0.41
3:4:696:PRO:N	3:4:697:PRO:CD	2.83	0.41
4:5:181:ILE:HA	4:5:242:ILE:O	2.19	0.41
6:7:464:VAL:HG22	6:7:466:LYS:NZ	2.35	0.41
8:B:50:TRP:O	10:D:129:MET:CE	2.69	0.41
8:B:163:LEU:HD22	8:B:189:MET:HE3	2.02	0.41
11:E:36:ILE:HG21	11:E:279:SER:HB3	2.02	0.41
11:E:470:ARG:O	11:E:474:VAL:HG23	2.20	0.41
12:F:643:LEU:HD22	12:F:648:LYS:HD3	2.02	0.41
12:F:910:LEU:O	12:F:914:ILE:CD1	2.66	0.41
12:H:619:THR:HG23	12:H:619:THR:O	2.20	0.41
1:2:339:PHE:HB2	1:2:348:LEU:HD12	2.01	0.41
2:3:347:ILE:HG23	2:3:662:TYR:CE1	2.55	0.41
3:4:344:VAL:HG22	3:4:359:GLU:HG3	2.02	0.41
4:5:632:GLN:O	4:5:635:ILE:HG22	2.19	0.41
6:7:65:ALA:HB1	6:7:69:LYS:NZ	2.34	0.41
6:7:103:VAL:HG13	6:7:104:SER:N	2.35	0.41
7:A:146:LEU:HD21	10:D:144:ILE:HG13	2.03	0.41
11:E:248:VAL:HG23	11:E:249:ASN:N	2.35	0.41
12:G:486:PHE:HA	12:G:492:ARG:HB3	2.00	0.41
12:H:482:ALA:HB1	12:H:496:MET:HB2	2.02	0.41
12:H:507:ASN:ND2	12:H:512:SER:HG	2.18	0.41
12:H:580:SER:C	12:H:618:LEU:HD12	2.41	0.41
14:N:29:TYR:CD1	14:N:31:LEU:HG	2.55	0.41
14:N:45:VAL:CA	14:N:55:GLN:HE22	2.33	0.41
2:3:122:ILE:N	2:3:123:PRO:HD2	2.35	0.41
2:3:414:ALA:CB	15:3:1001:ADP:H2'	2.49	0.41
2:3:462:MET:HE1	2:3:470:VAL:HG11	2.02	0.41
4:5:323:ILE:O	4:5:323:ILE:HG23	2.21	0.41
4:5:521:ALA:HB2	4:5:550:PHE:CZ	2.56	0.41
5:6:137:ARG:NH2	5:6:192:TYR:OH	2.54	0.41
6:7:81:ASP:HA	6:7:205:LYS:HB3	2.03	0.41
6:7:219:ALA:O	6:7:220:ILE:HG23	2.20	0.41
6:7:398:GLU:HB3	6:7:402:MET:HE1	2.01	0.41
8:B:16:ILE:HG23	8:B:175:LEU:CD2	2.49	0.41
8:B:193:ARG:O	8:B:197:THR:HG23	2.21	0.41
11:E:382:HIS:CG	11:E:383:SER:N	2.88	0.41
11:E:508:ASN:O	11:E:511:VAL:HG22	2.20	0.41
12:F:896:THR:O	12:F:899:VAL:HG12	2.20	0.41
12:G:661:LEU:HD22	12:H:633:PHE:CG	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:918:ARG:O	12:G:922:TYR:CD1	2.73	0.41
12:H:540:ASN:O	12:H:559:HIS:NE2	2.53	0.41
14:N:13:GLN:HG3	14:N:13:GLN:O	2.19	0.41
2:3:351:ASN:O	2:3:354:SER:OG	2.30	0.41
3:4:637:MET:HE3	3:4:642:ARG:HG3	2.03	0.41
4:5:164:GLY:C	4:5:258:LEU:HD11	2.40	0.41
4:5:360:LEU:C	4:5:366:LEU:HD22	2.41	0.41
4:5:685:GLN:HB3	4:5:689:MET:HE1	2.01	0.41
5:6:632:ASP:HA	5:6:676:THR:HB	2.03	0.41
6:7:276:ARG:HG3	6:7:277:THR:HG23	2.02	0.41
6:7:441:ASP:O	6:7:649:ARG:NH2	2.49	0.41
6:7:497:VAL:N	13:I:10:DT:OP1	2.43	0.41
6:7:714:GLU:HA	6:7:717:LEU:HD12	2.01	0.41
8:B:121:VAL:HG23	9:C:190:TRP:CZ2	2.56	0.41
10:D:5:ILE:HD13	12:F:871:ALA:CB	2.49	0.41
10:D:232:VAL:HG11	10:D:271:ILE:HD13	2.02	0.41
11:E:334:LEU:HD11	11:E:338:PHE:HE1	1.86	0.41
11:E:368:ILE:HD13	11:E:384:ILE:HD12	2.01	0.41
11:E:406:ARG:HH12	11:E:590:ARG:NH1	2.18	0.41
11:E:545:LEU:HD23	11:E:582:ALA:HB2	2.02	0.41
12:F:515:VAL:HG21	12:F:526:TYR:CZ	2.56	0.41
12:F:883:LEU:HD13	12:F:913:LYS:HB3	2.02	0.41
12:G:752:LEU:O	12:G:773:GLU:HA	2.20	0.41
1:2:426:VAL:HG12	1:2:427:THR:N	2.35	0.41
1:2:574:VAL:HG13	1:2:578:ALA:O	2.21	0.41
2:3:471:CYS:HA	2:3:513:ILE:O	2.20	0.41
3:4:249:LEU:HD21	3:4:258:TYR:CD2	2.55	0.41
4:5:413:LEU:N	4:5:552:MET:O	2.50	0.41
5:6:266:SER:OG	5:6:457:CYS:O	2.37	0.41
6:7:107:GLN:O	6:7:237:GLN:HA	2.21	0.41
6:7:254:ALA:O	6:7:308:SER:N	2.39	0.41
7:A:175:GLN:HE21	14:N:18:ARG:HD3	1.85	0.41
8:B:21:GLU:HA	8:B:73:LEU:HB3	2.01	0.41
8:B:31:ILE:HG22	8:B:32:THR:N	2.34	0.41
10:D:124:LEU:N	10:D:125:PRO:HD2	2.36	0.41
12:H:704:LEU:HD22	12:H:752:LEU:HD13	2.02	0.41
14:N:54:ARG:HA	14:N:54:ARG:HH11	1.82	0.41
1:2:339:PHE:CB	1:2:348:LEU:HD12	2.50	0.41
1:2:397:VAL:HG21	1:2:403:PRO:HG3	2.01	0.41
1:2:865:THR:HG23	1:2:866:LEU:N	2.36	0.41
2:3:192:VAL:HG12	2:3:193:ARG:N	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:661:GLN:HG3	2:3:662:TYR:N	2.36	0.41
3:4:258:TYR:O	3:4:262:LEU:HD13	2.21	0.41
3:4:637:MET:CE	3:4:642:ARG:HG3	2.51	0.41
3:4:637:MET:SD	3:4:641:THR:HB	2.61	0.41
4:5:596:ILE:HG23	4:5:597:GLU:N	2.36	0.41
5:6:115:PHE:CZ	5:6:119:LEU:HD11	2.56	0.41
5:6:289:SER:HA	5:6:398:THR:HA	2.02	0.41
5:6:291:SER:OG	5:6:462:ILE:HD11	2.21	0.41
6:7:360:TYR:HB2	6:7:365:ALA:HB2	2.02	0.41
8:B:87:ILE:N	8:B:133:ASP:OD2	2.50	0.41
9:C:50:LEU:HD11	9:C:54:LEU:HD21	2.02	0.41
10:D:64:MET:SD	10:D:68:LYS:HD2	2.60	0.41
10:D:286:LEU:HD12	10:D:287:ARG:N	2.36	0.41
12:F:639:SER:OG	12:F:654:GLU:N	2.52	0.41
12:G:546:PHE:O	12:G:555:GLN:N	2.49	0.41
12:G:686:SER:HG	12:G:688:PHE:HD1	1.66	0.41
12:G:704:LEU:HB3	12:G:722:LEU:HB2	2.03	0.41
12:H:589:ILE:HG23	12:H:597:PHE:CZ	2.55	0.41
1:2:816:ILE:HG23	1:2:837:ALA:CB	2.51	0.41
2:3:440:VAL:O	2:3:444:ALA:N	2.54	0.41
2:3:480:ASP:OD1	2:3:483:ARG:NH2	2.53	0.41
3:4:456:LEU:H	3:4:456:LEU:HD23	1.86	0.41
4:5:183:CYS:SG	4:5:240:PRO:HB2	2.61	0.41
5:6:381:LEU:HD13	5:6:385:SER:O	2.21	0.41
11:E:433:GLU:HG2	11:E:543:LEU:HB2	2.02	0.41
12:F:694:ASP:HB3	12:F:706:LEU:HD11	2.02	0.41
12:G:541:GLU:O	12:G:559:HIS:ND1	2.53	0.41
12:H:881:LYS:O	12:H:884:SER:OG	2.31	0.41
1:2:326:ARG:O	1:2:388:VAL:HG13	2.20	0.41
1:2:342:LEU:N	1:2:372:PRO:O	2.52	0.41
1:2:474:PHE:CD1	1:2:474:PHE:C	2.95	0.41
1:2:483:GLU:OE2	1:2:487:ILE:HG21	2.20	0.41
1:2:523:VAL:HG23	1:2:776:PRO:HD2	2.03	0.41
1:2:626:GLN:O	1:2:628:SER:N	2.49	0.41
1:2:783:MET:HE2	4:5:573:ILE:HG12	2.03	0.41
2:3:94:HIS:HB3	2:3:153:TRP:HA	2.03	0.41
2:3:139:VAL:HG22	2:3:139:VAL:O	2.20	0.41
2:3:236:THR:HG23	6:7:5:LEU:HD22	2.03	0.41
2:3:408:VAL:HG13	2:3:408:VAL:O	2.21	0.41
2:3:476:ASP:HB3	2:3:516:ALA:HB1	2.03	0.41
3:4:243:LEU:O	3:4:305:PRO:HA	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:678:ILE:HG23	3:4:679:GLY:N	2.36	0.41
3:4:688:VAL:HG13	3:4:689:THR:N	2.35	0.41
4:5:397:LYS:HD3	4:5:399:ILE:HD11	2.03	0.41
4:5:469:MET:N	4:5:469:MET:SD	2.94	0.41
4:5:469:MET:SD	4:5:470:VAL:HG23	2.61	0.41
4:5:479:ILE:HB	4:5:482:PHE:CE1	2.56	0.41
4:5:614:LEU:CD1	4:5:619:ALA:HB2	2.51	0.41
4:5:629:ILE:HG21	4:5:648:ILE:HG13	2.02	0.41
4:5:689:MET:O	4:5:692:ALA:HB3	2.21	0.41
5:6:543:VAL:HG12	5:6:584:PHE:HE2	1.83	0.41
5:6:585:LEU:HD11	5:6:681:ALA:HB2	2.01	0.41
6:7:21:ILE:HG23	6:7:117:PHE:CE1	2.56	0.41
7:A:173:GLU:OE1	14:N:34:LYS:HD2	2.21	0.41
10:D:94:GLN:CG	10:D:133:LEU:HD21	2.51	0.41
11:E:351:TRP:CG	11:E:514:LEU:HD12	2.55	0.41
11:E:592:LEU:HD22	11:E:594:THR:HG23	2.01	0.41
12:H:492:ARG:N	12:H:504:THR:O	2.50	0.41
14:N:37:GLY:N	14:N:76:GLY:O	2.52	0.41
1:2:280:GLU:OE1	1:2:286:TYR:N	2.54	0.41
2:3:462:MET:HB3	2:3:489:VAL:HG11	2.02	0.41
3:4:606:THR:HG21	3:4:617:GLU:HG2	2.01	0.41
4:5:434:PRO:HA	4:5:600:LYS:HE3	2.03	0.41
4:5:634:LEU:C	4:5:634:LEU:HD23	2.41	0.41
5:6:113:GLU:HA	5:6:116:GLU:HG2	2.02	0.41
5:6:118:PHE:O	5:6:122:PHE:HB2	2.21	0.41
5:6:155:TYR:HB2	5:6:270:LEU:HD23	2.03	0.41
5:6:705:ILE:HD12	5:6:708:ARG:CG	2.50	0.41
5:6:771:SER:O	5:6:772:TYR:C	2.59	0.41
6:7:131:GLU:CD	6:7:135:LYS:HE3	2.41	0.41
6:7:631:THR:HA	6:7:632:PRO:HD3	1.94	0.41
7:A:171:ALA:HB3	7:A:183:LEU:HD12	2.03	0.41
11:E:271:TRP:CE3	11:E:318:LEU:HD11	2.56	0.41
11:E:282:ILE:HA	11:E:590:ARG:NH2	2.36	0.41
11:E:320:ILE:HG22	11:E:407:ASP:OD2	2.20	0.41
12:F:913:LYS:O	12:F:917:ILE:HG12	2.21	0.41
12:H:697:ILE:O	12:H:704:LEU:HD12	2.21	0.41
14:N:20:LEU:HA	14:N:23:ARG:HH11	1.85	0.41
1:2:249:LEU:O	1:2:252:SER:O	2.39	0.40
2:3:172:THR:HG23	4:5:252:ASP:OD2	2.21	0.40
4:5:282:LEU:HD22	4:5:333:ILE:HD13	2.03	0.40
5:6:158:LEU:HD22	5:6:167:ALA:HA	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:6:705:ILE:HD12	5:6:708:ARG:HD2	2.03	0.40
6:7:318:LEU:O	6:7:322:VAL:HG23	2.21	0.40
8:B:166:SER:HG	8:B:167:HIS:CE1	2.39	0.40
11:E:122:VAL:HG12	11:E:124:ASP:H	1.86	0.40
12:F:659:MET:SD	12:F:660:SER:N	2.93	0.40
12:G:704:LEU:HD23	12:G:721:ILE:HD11	2.02	0.40
12:H:827:TYR:CE1	12:H:866:LEU:HG	2.56	0.40
1:2:494:ILE:HD12	1:2:823:MET:HB2	2.03	0.40
1:2:547:THR:OG1	1:2:683:VAL:HG11	2.21	0.40
1:2:842:VAL:HG11	1:2:865:THR:HB	2.02	0.40
4:5:681:ILE:HG13	4:5:682:ARG:N	2.36	0.40
5:6:157:HIS:O	5:6:160:MET:HG2	2.21	0.40
6:7:397:VAL:HG13	6:7:640:GLU:HG3	2.04	0.40
9:C:24:ILE:O	9:C:38:ILE:N	2.54	0.40
9:C:135:LEU:C	9:C:135:LEU:HD23	2.42	0.40
11:E:424:PHE:CE2	11:E:428:LEU:HD11	2.55	0.40
12:F:827:TYR:CE1	12:F:862:TYR:CE2	3.10	0.40
12:G:626:PHE:HE2	12:G:687:LEU:HD11	1.84	0.40
12:G:631:SER:HB3	12:G:634:HIS:HB2	2.03	0.40
12:G:850:ASN:O	12:G:850:ASN:OD1	2.40	0.40
12:H:543:GLY:HA3	12:H:558:PRO:HA	2.03	0.40
14:N:26:SER:OG	14:N:32:SER:HA	2.21	0.40
1:2:240:GLU:HG3	1:2:292:GLU:O	2.20	0.40
1:2:484:PHE:HA	1:2:487:ILE:HG12	2.04	0.40
1:2:567:THR:O	1:2:571:ALA:N	2.54	0.40
2:3:27:ARG:NH2	2:3:109:SER:OG	2.53	0.40
2:3:554:ASN:O	2:3:558:ASP:N	2.41	0.40
4:5:256:LEU:O	4:5:276:MET:N	2.47	0.40
4:5:613:ARG:O	4:5:672:ALA:N	2.47	0.40
5:6:557:LYS:O	5:6:565:LEU:N	2.43	0.40
8:B:184:PHE:HA	9:C:176:ILE:HD11	2.04	0.40
9:C:72:VAL:HG12	9:C:73:GLU:N	2.36	0.40
9:C:127:LEU:HD11	9:C:131:ARG:HD2	2.03	0.40
11:E:469:LEU:HD22	11:E:540:ARG:HD3	2.03	0.40
12:F:766:PHE:O	12:F:768:LEU:N	2.54	0.40
12:G:601:ASN:HB3	12:G:607:PHE:CE1	2.56	0.40
1:2:281:LEU:HD12	1:2:282:HIS:N	2.37	0.40
1:2:851:VAL:O	1:2:855:ARG:NH2	2.54	0.40
2:3:407:MET:HA	2:3:547:PHE:O	2.21	0.40
2:3:434:GLY:O	2:3:478:MET:SD	2.79	0.40
2:3:653:ILE:CG2	2:3:654:PRO:HD3	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:735:PHE:HA	2:3:739:GLY:O	2.22	0.40
3:4:199:MET:O	3:4:200:SER:OG	2.37	0.40
3:4:300:PHE:O	3:4:302:LYS:NZ	2.48	0.40
5:6:317:ILE:HD12	5:6:350:ARG:CZ	2.51	0.40
5:6:589:VAL:HG13	5:6:590:GLY:N	2.37	0.40
5:6:755:ILE:O	5:6:759:ARG:HG2	2.21	0.40
6:7:370:LEU:O	6:7:372:THR:HG23	2.22	0.40
6:7:399:GLU:HA	6:7:402:MET:HE2	2.03	0.40
6:7:540:VAL:HG12	6:7:546:ILE:HG12	2.03	0.40
9:C:18:CYS:O	9:C:44:LEU:N	2.50	0.40
9:C:97:LEU:O	9:C:100:ILE:HG22	2.22	0.40
9:C:174:LYS:O	9:C:178:LYS:HG2	2.21	0.40
11:E:485:ASP:OD2	11:E:487:ARG:NE	2.54	0.40
12:F:696:CYS:SG	12:F:747:LEU:HD23	2.61	0.40
12:F:702:ASN:HB3	12:F:724:SER:OG	2.22	0.40
1:2:278:ALA:O	1:2:281:LEU:HG	2.21	0.40
1:2:820:PHE:HA	1:2:823:MET:CE	2.50	0.40
2:3:44:SER:HA	2:3:47:VAL:HG22	2.03	0.40
2:3:413:THR:O	2:3:414:ALA:HB3	2.20	0.40
2:3:462:MET:CB	2:3:489:VAL:HG11	2.52	0.40
3:4:331:LEU:C	3:4:399:LEU:HD12	2.42	0.40
5:6:529:LEU:HD23	5:6:751:LEU:CD1	2.52	0.40
7:A:136:ASP:O	7:A:139:THR:HG22	2.21	0.40
7:A:174:ILE:CD1	14:N:74:GLU:HB3	2.52	0.40
10:D:282:ILE:O	10:D:282:ILE:HG22	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	2	613/868 (71%)	581 (95%)	32 (5%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	3	609/971 (63%)	579 (95%)	30 (5%)	0	100	100
3	4	613/933 (66%)	583 (95%)	30 (5%)	0	100	100
4	5	503/775 (65%)	484 (96%)	19 (4%)	0	100	100
5	6	599/1017 (59%)	567 (95%)	32 (5%)	0	100	100
6	7	649/845 (77%)	626 (96%)	21 (3%)	2 (0%)	41	76
7	A	192/208 (92%)	191 (100%)	1 (0%)	0	100	100
8	B	189/213 (89%)	180 (95%)	9 (5%)	0	100	100
9	C	166/194 (86%)	161 (97%)	5 (3%)	0	100	100
10	D	237/294 (81%)	228 (96%)	9 (4%)	0	100	100
11	E	560/650 (86%)	529 (94%)	28 (5%)	3 (0%)	29	67
12	F	418/927 (45%)	407 (97%)	11 (3%)	0	100	100
12	G	416/927 (45%)	398 (96%)	18 (4%)	0	100	100
12	H	419/927 (45%)	399 (95%)	19 (4%)	1 (0%)	47	80
14	N	81/689 (12%)	71 (88%)	10 (12%)	0	100	100
All	All	6264/10438 (60%)	5984 (96%)	274 (4%)	6 (0%)	54	85

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	7	220	ILE
11	E	127	ARG
11	E	597	THR
12	H	749	TYR
11	E	596	HIS
6	7	632	PRO

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	2	544/770 (71%)	543 (100%)	1 (0%)	93	96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	3	534/835 (64%)	528 (99%)	6 (1%)	73	84
3	4	561/848 (66%)	561 (100%)	0	100	100
4	5	478/688 (70%)	475 (99%)	3 (1%)	86	92
5	6	531/886 (60%)	530 (100%)	1 (0%)	93	96
6	7	566/753 (75%)	551 (97%)	15 (3%)	44	65
7	A	181/193 (94%)	181 (100%)	0	100	100
8	B	183/198 (92%)	183 (100%)	0	100	100
9	C	155/173 (90%)	155 (100%)	0	100	100
10	D	234/279 (84%)	234 (100%)	0	100	100
11	E	509/586 (87%)	503 (99%)	6 (1%)	71	83
12	F	375/825 (46%)	374 (100%)	1 (0%)	92	95
12	G	372/825 (45%)	371 (100%)	1 (0%)	92	95
12	H	375/825 (46%)	374 (100%)	1 (0%)	92	95
14	N	63/629 (10%)	60 (95%)	3 (5%)	25	52
All	All	5661/9313 (61%)	5623 (99%)	38 (1%)	84	90

All (38) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	2	370	LYS
2	3	51	ASN
2	3	57	ASN
2	3	58	ASP
2	3	90	ASN
2	3	91	ILE
2	3	420	ARG
4	5	161	ARG
4	5	280	ARG
4	5	397	LYS
5	6	770	ARG
6	7	210	ASN
6	7	217	LYS
6	7	218	LYS
6	7	220	ILE
6	7	221	SER
6	7	222	SER
6	7	225	LEU

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Mol	Chain	Res	Type
6	7	229	GLN
6	7	385	LYS
6	7	386	LYS
6	7	622	HIS
6	7	623	ASN
6	7	624	LYS
6	7	628	LEU
6	7	633	VAL
11	E	588	TYR
11	E	590	ARG
11	E	592	LEU
11	E	595	ILE
11	E	597	THR
11	E	601	ILE
12	F	649	ARG
12	G	524	ARG
12	H	524	ARG
14	N	77	LEU
14	N	92	LYS
14	N	93	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (27) such sidechains are listed below:

Mol	Chain	Res	Type
1	2	653	ASN
2	3	151	HIS
2	3	673	GLN
2	3	677	ASN
3	4	263	ASN
3	4	386	HIS
4	5	632	GLN
5	6	750	GLN
6	7	112	HIS
6	7	237	GLN
6	7	622	HIS
8	B	82	GLN
10	D	96	GLN
10	D	100	ASN
10	D	186	HIS
10	D	249	ASN
11	E	269	ASN
11	E	354	ASN

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Mol	Chain	Res	Type
11	E	497	GLN
11	E	550	ASN
12	F	622	ASN
12	F	843	ASN
12	G	510	GLN
12	H	527	HIS
12	H	852	ASN
12	H	877	GLN
14	N	72	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 13 ligands modelled in this entry, 9 are monoatomic - leaving 4 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
18	AGS	4	1001	16	26,33,33	0.71	1 (3%)	26,52,52	1.13	2 (7%)
15	ADP	3	1001	16	24,29,29	0.95	1 (4%)	29,45,45	1.47	4 (13%)
18	AGS	7	902	16	26,33,33	0.72	1 (3%)	26,52,52	1.08	2 (7%)
15	ADP	2	901	16	24,29,29	0.97	1 (4%)	29,45,45	1.48	4 (13%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
18	AGS	4	1001	16	-	8/17/38/38	0/3/3/3
15	ADP	3	1001	16	-	3/12/32/32	0/3/3/3
18	AGS	7	902	16	-	6/17/38/38	0/3/3/3
15	ADP	2	901	16	-	3/12/32/32	0/3/3/3

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	2	901	ADP	C5-C4	2.45	1.47	1.40
15	3	1001	ADP	C5-C4	2.41	1.47	1.40
18	7	902	AGS	PG-S1G	2.13	1.95	1.90
18	4	1001	AGS	PG-S1G	2.13	1.95	1.90

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	4	1001	AGS	PA-O3A-PB	-4.34	117.94	132.83
18	7	902	AGS	PA-O3A-PB	-4.07	118.86	132.83
15	2	901	ADP	PA-O3A-PB	-3.67	120.24	132.83
15	3	1001	ADP	PA-O3A-PB	-3.55	120.63	132.83
15	2	901	ADP	N3-C2-N1	-3.22	123.64	128.68
15	3	1001	ADP	C3'-C2'-C1'	3.18	105.77	100.98
15	3	1001	ADP	N3-C2-N1	-2.99	124.00	128.68
15	2	901	ADP	C4-C5-N7	-2.84	106.44	109.40
15	3	1001	ADP	C4-C5-N7	-2.84	106.44	109.40
15	2	901	ADP	C3'-C2'-C1'	2.70	105.04	100.98
18	4	1001	AGS	C5-C6-N6	2.32	123.89	120.35
18	7	902	AGS	C5-C6-N6	2.27	123.80	120.35

There are no chirality outliers.

All (20) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
15	2	901	ADP	C5'-O5'-PA-O1A
15	2	901	ADP	C5'-O5'-PA-O2A
15	3	1001	ADP	C5'-O5'-PA-O1A
15	3	1001	ADP	C5'-O5'-PA-O2A

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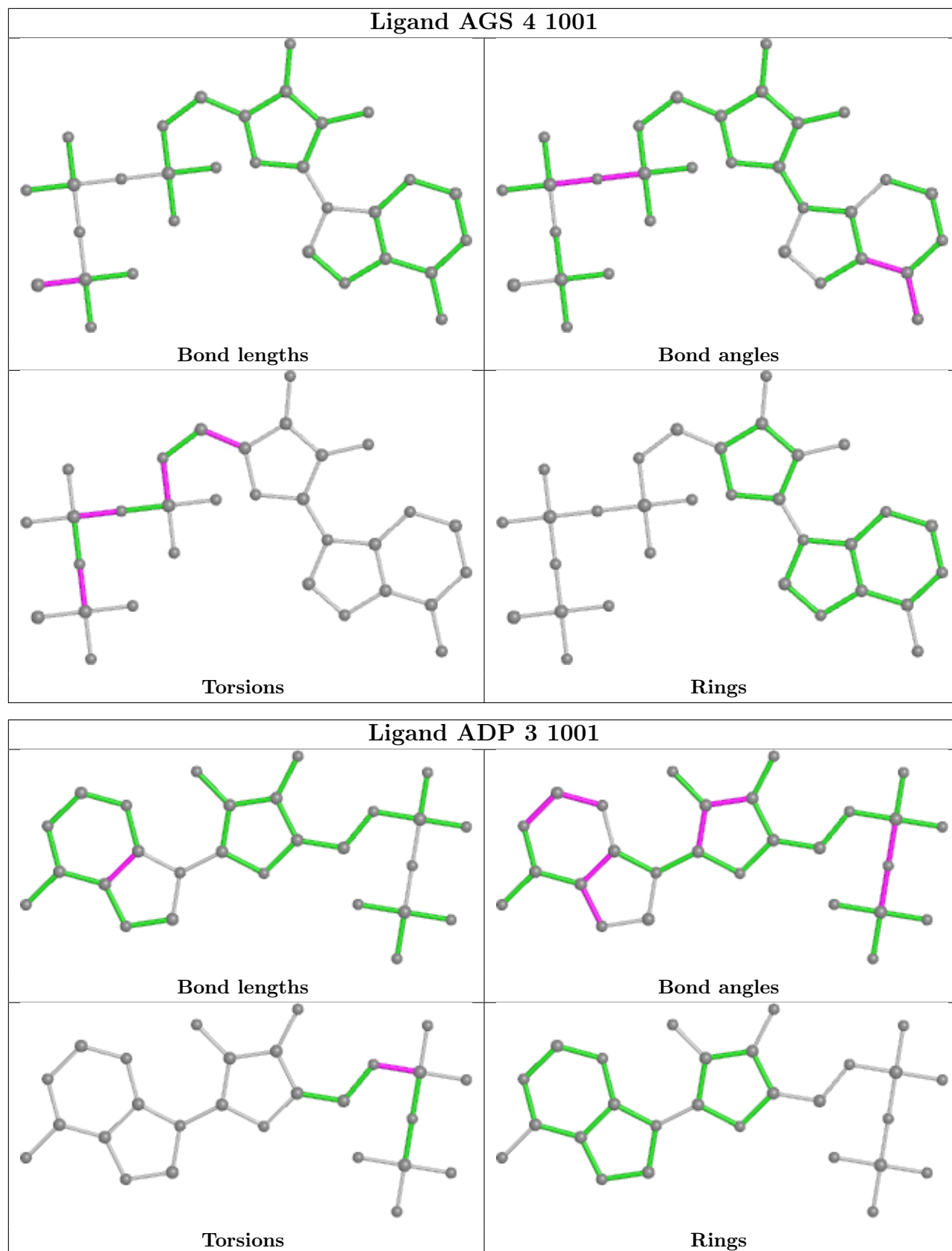
Mol	Chain	Res	Type	Atoms
18	4	1001	AGS	PB-O3B-PG-O3G
18	4	1001	AGS	C5'-O5'-PA-O1A
18	4	1001	AGS	C5'-O5'-PA-O2A
18	4	1001	AGS	C5'-O5'-PA-O3A
18	7	902	AGS	C5'-O5'-PA-O1A
18	7	902	AGS	C5'-O5'-PA-O2A
18	4	1001	AGS	O4'-C4'-C5'-O5'
18	4	1001	AGS	C3'-C4'-C5'-O5'
18	7	902	AGS	C4'-C5'-O5'-PA
18	7	902	AGS	PB-O3A-PA-O5'
15	3	1001	ADP	C5'-O5'-PA-O3A
18	4	1001	AGS	PB-O3B-PG-O2G
15	2	901	ADP	C5'-O5'-PA-O3A
18	7	902	AGS	C5'-O5'-PA-O3A
18	7	902	AGS	O4'-C4'-C5'-O5'
18	4	1001	AGS	PA-O3A-PB-O2B

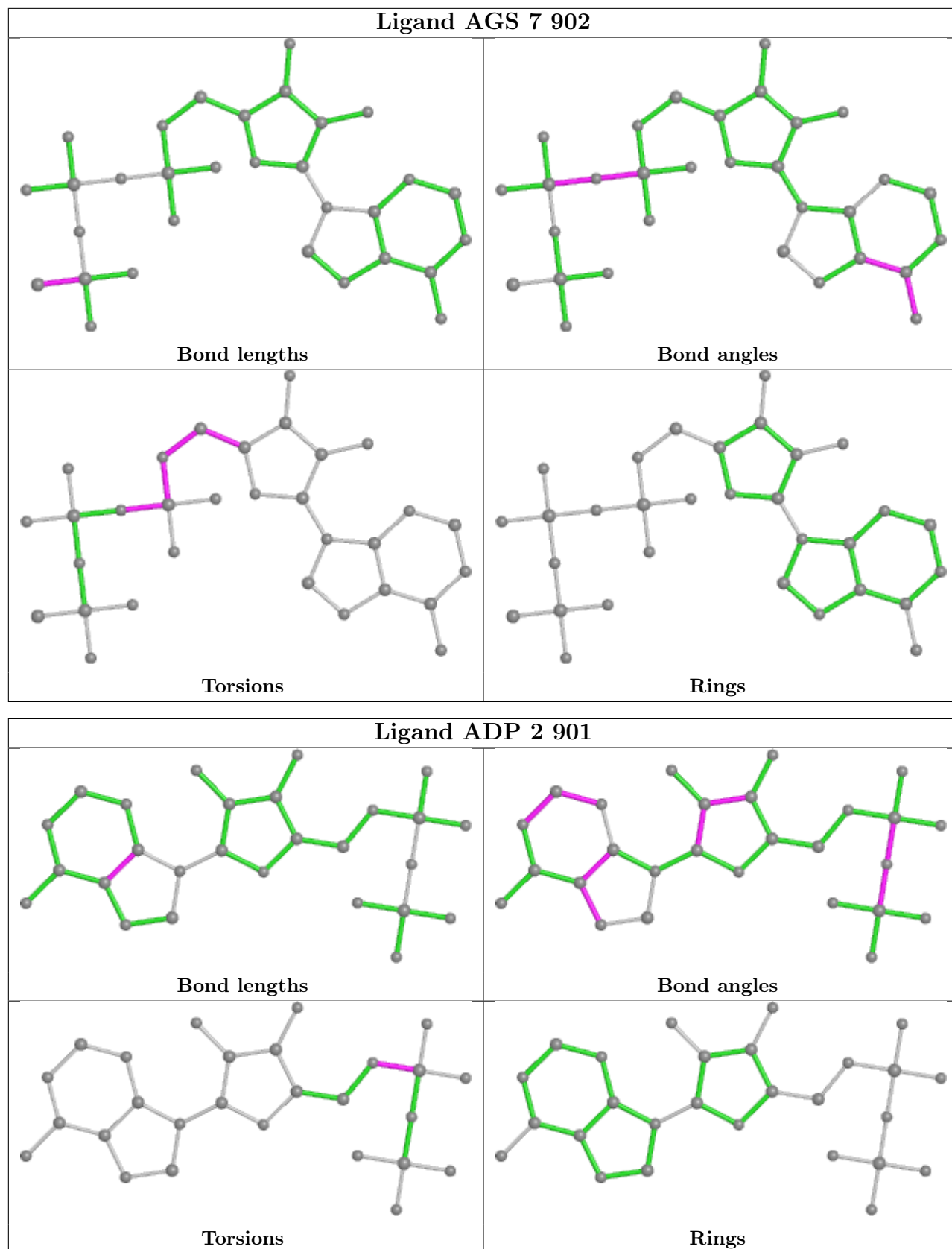
There are no ring outliers.

4 monomers are involved in 26 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
18	4	1001	AGS	5	0
15	3	1001	ADP	6	0
18	7	902	AGS	7	0
15	2	901	ADP	8	0

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





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.

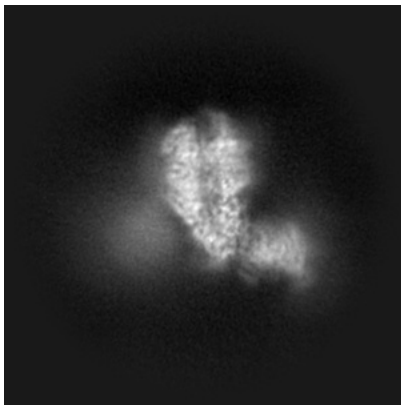
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-37343. These allow visual inspection of the internal detail of the map and identification of artifacts.

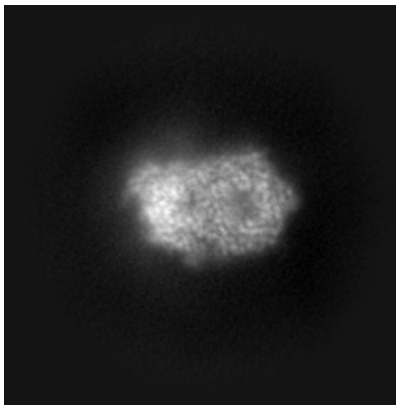
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

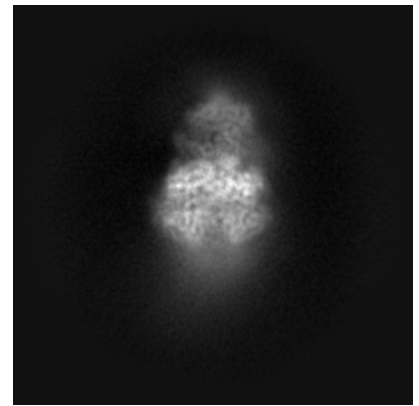
6.1.1 Primary map



X

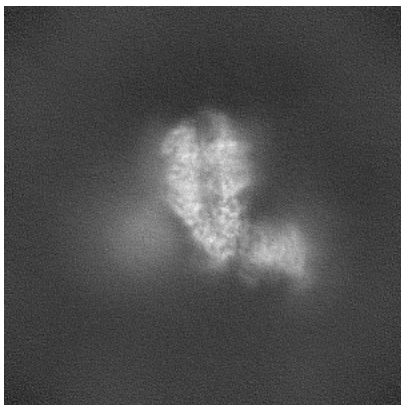


Y

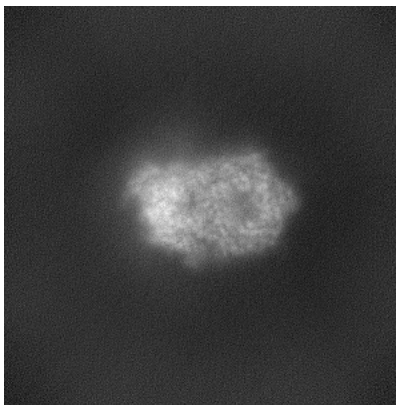


Z

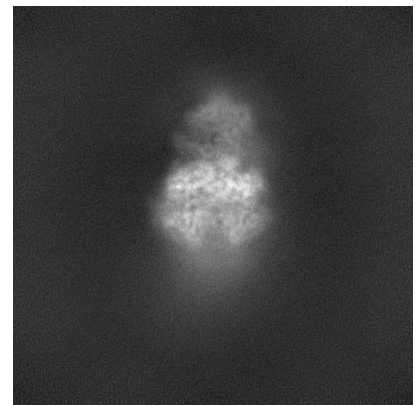
6.1.2 Raw map



X



Y

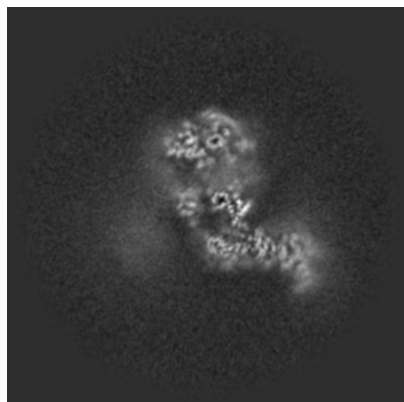


Z

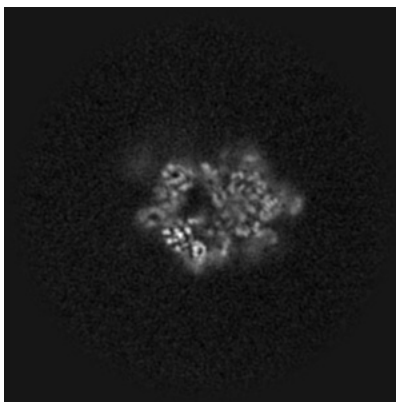
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

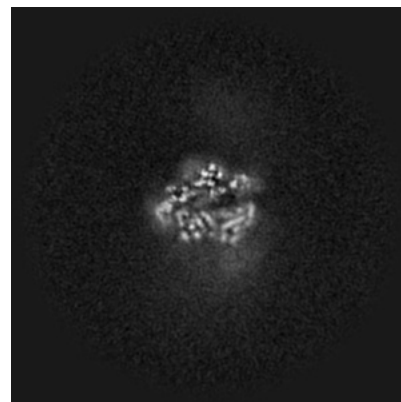
6.2.1 Primary map



X Index: 220

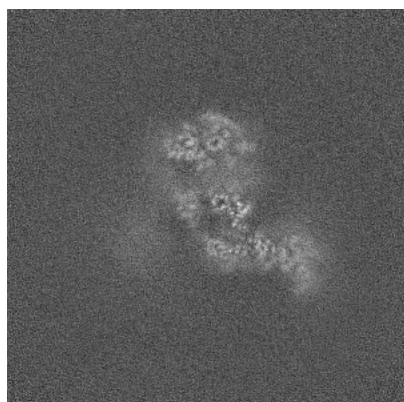


Y Index: 220

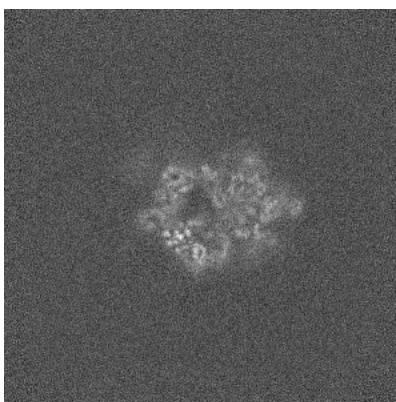


Z Index: 220

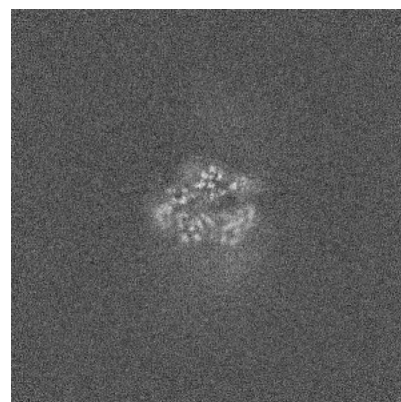
6.2.2 Raw map



X Index: 220



Y Index: 220

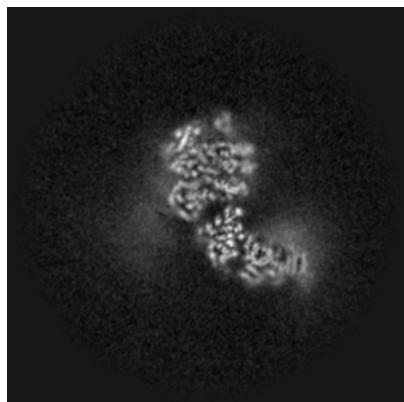


Z Index: 220

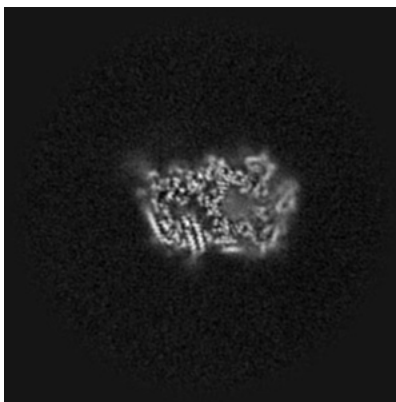
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

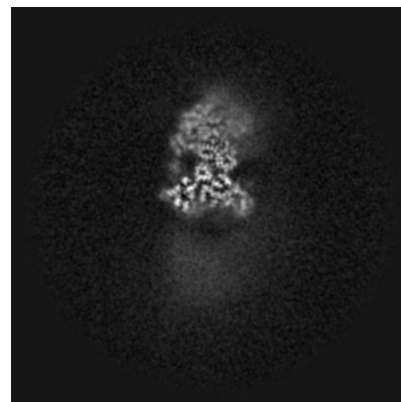
6.3.1 Primary map



X Index: 240

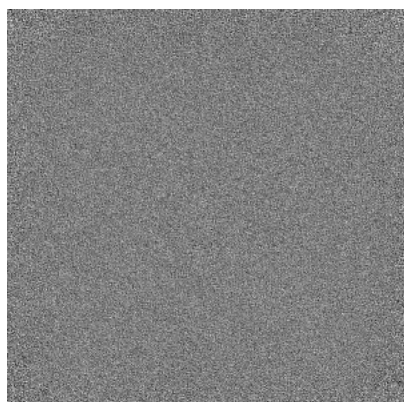


Y Index: 241

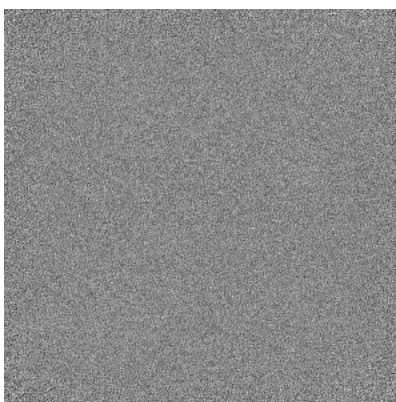


Z Index: 178

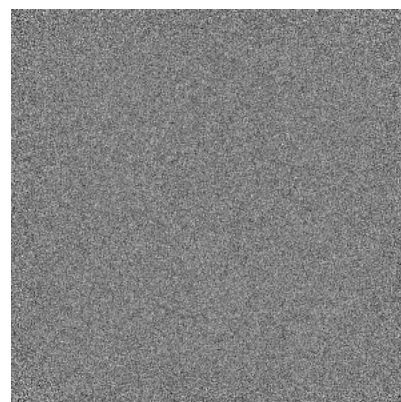
6.3.2 Raw map



X Index: 0



Y Index: 0

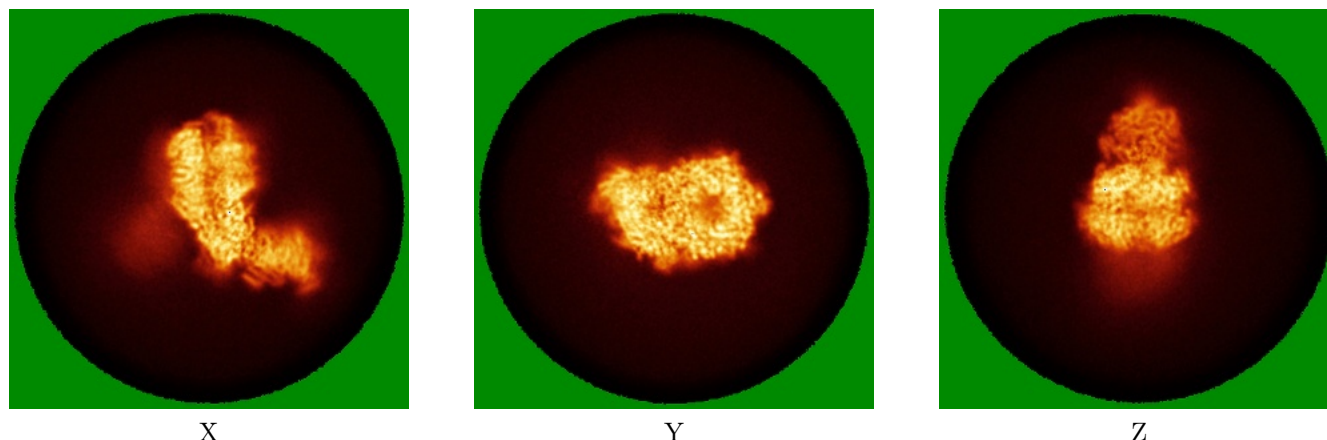


Z Index: 0

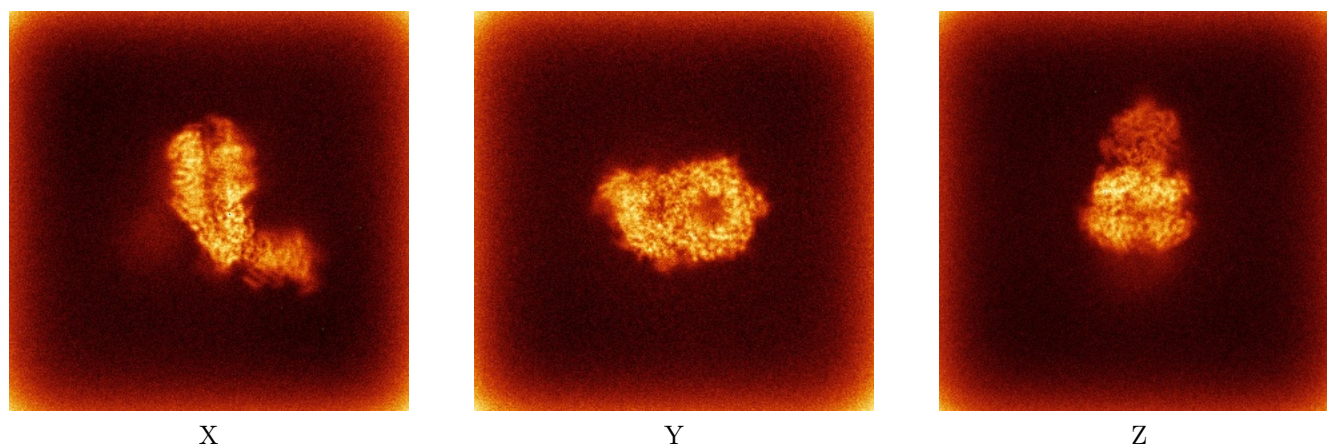
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



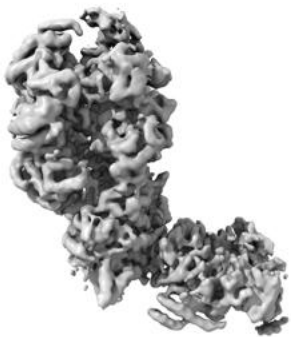
6.4.2 Raw map



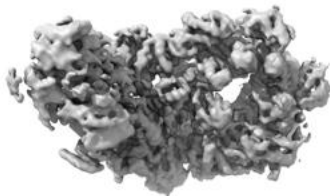
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

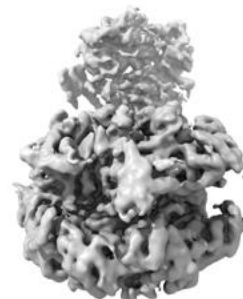
6.5.1 Primary map



X



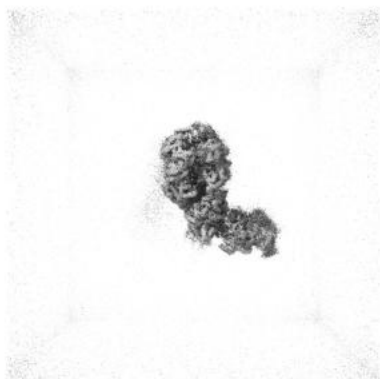
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.45. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

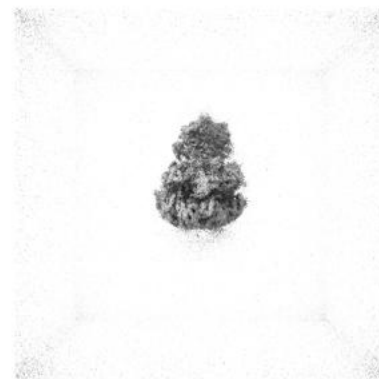
6.5.2 Raw map



X



Y



Z

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

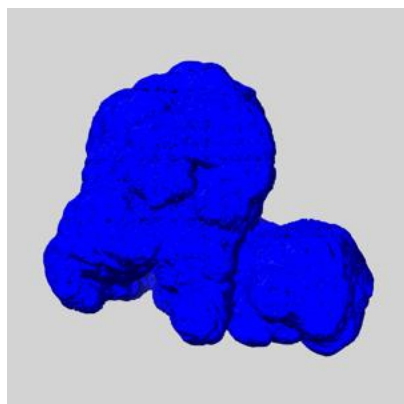
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

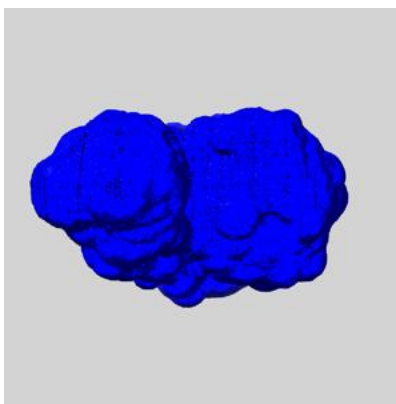
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

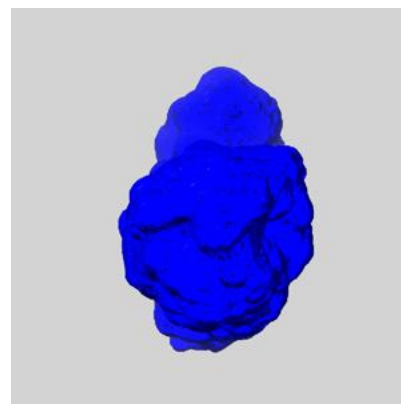
6.6.1 emd_37343_msk_1.map [i](#)



X



Y

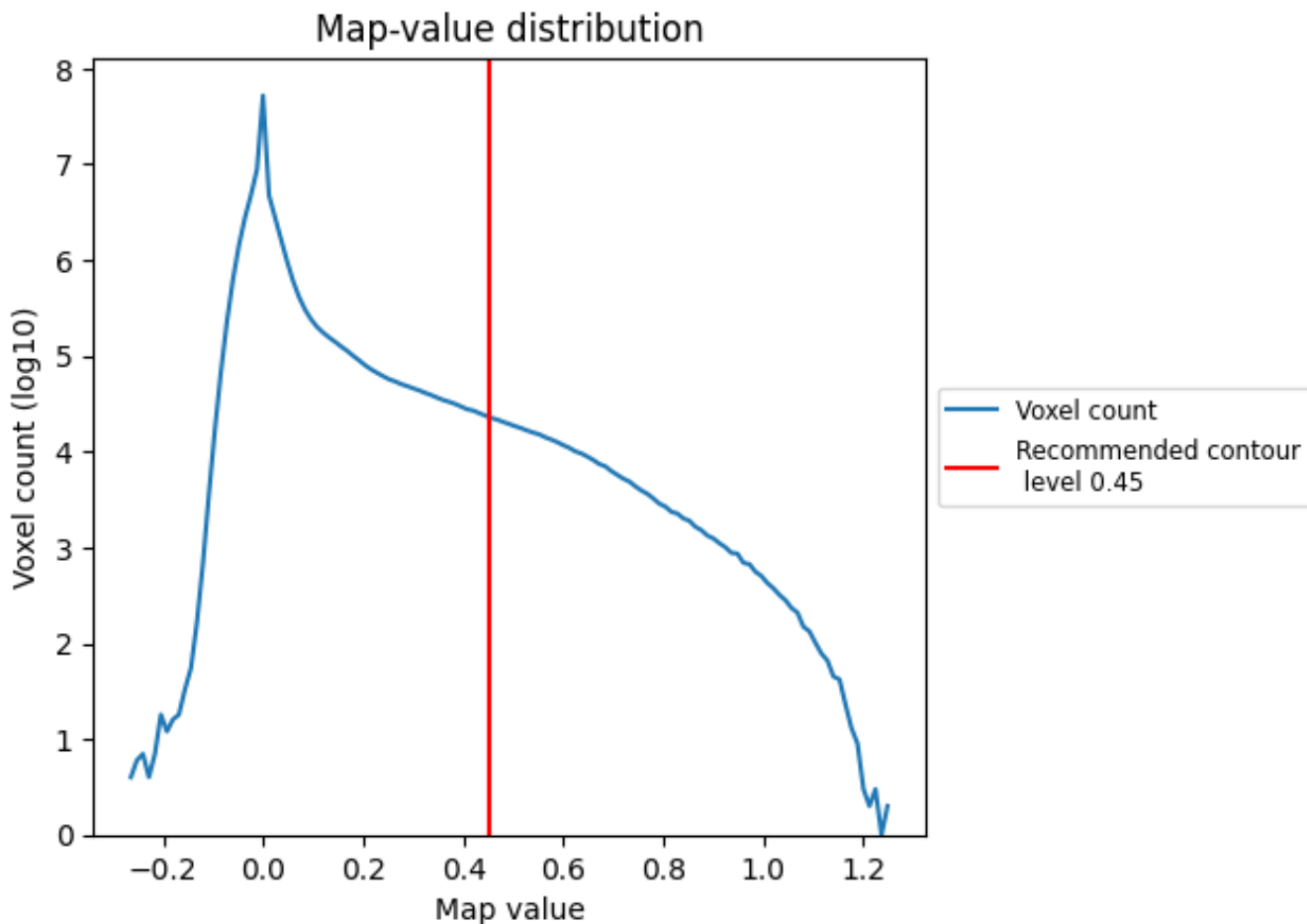


Z

7 Map analysis [i](#)

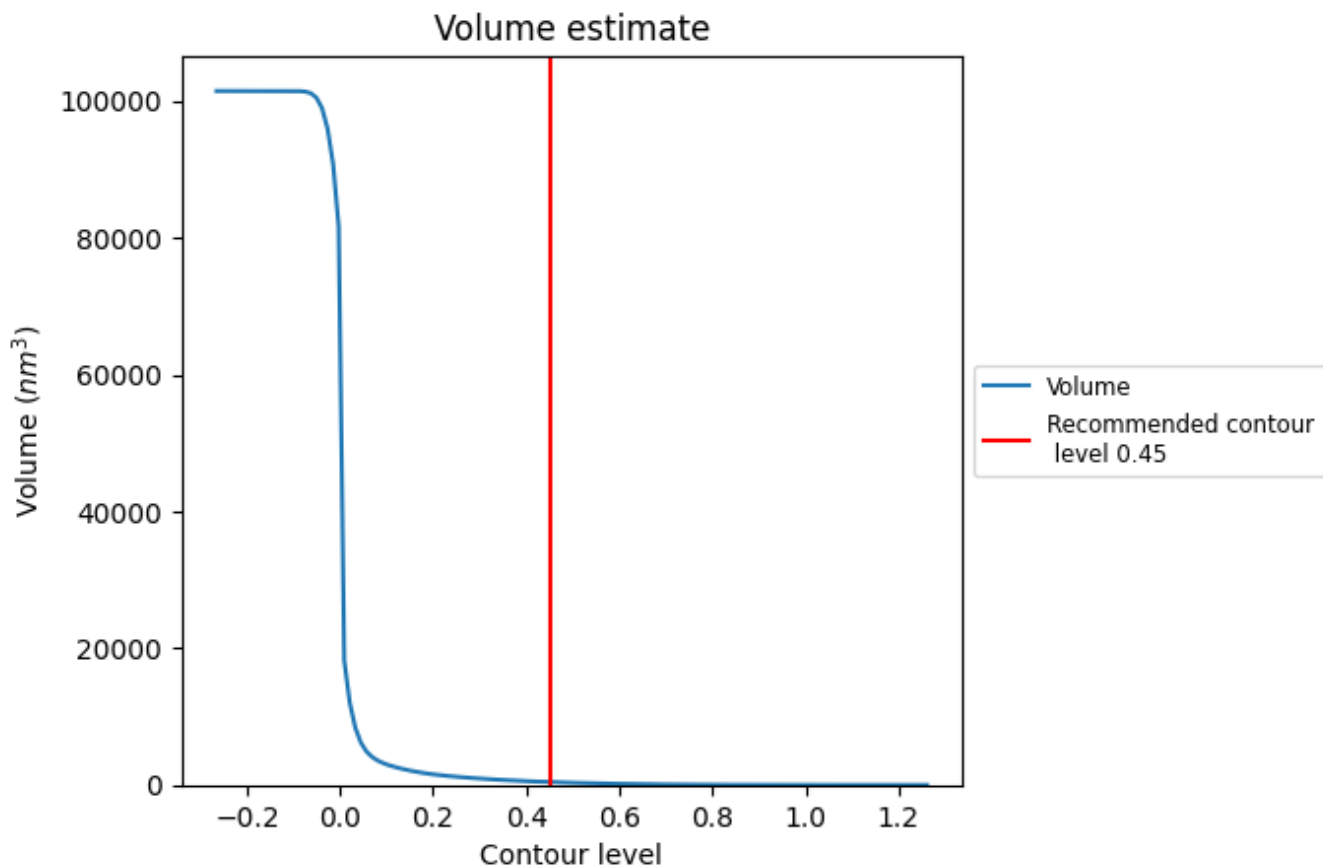
This section contains the results of statistical analysis of the map.

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.

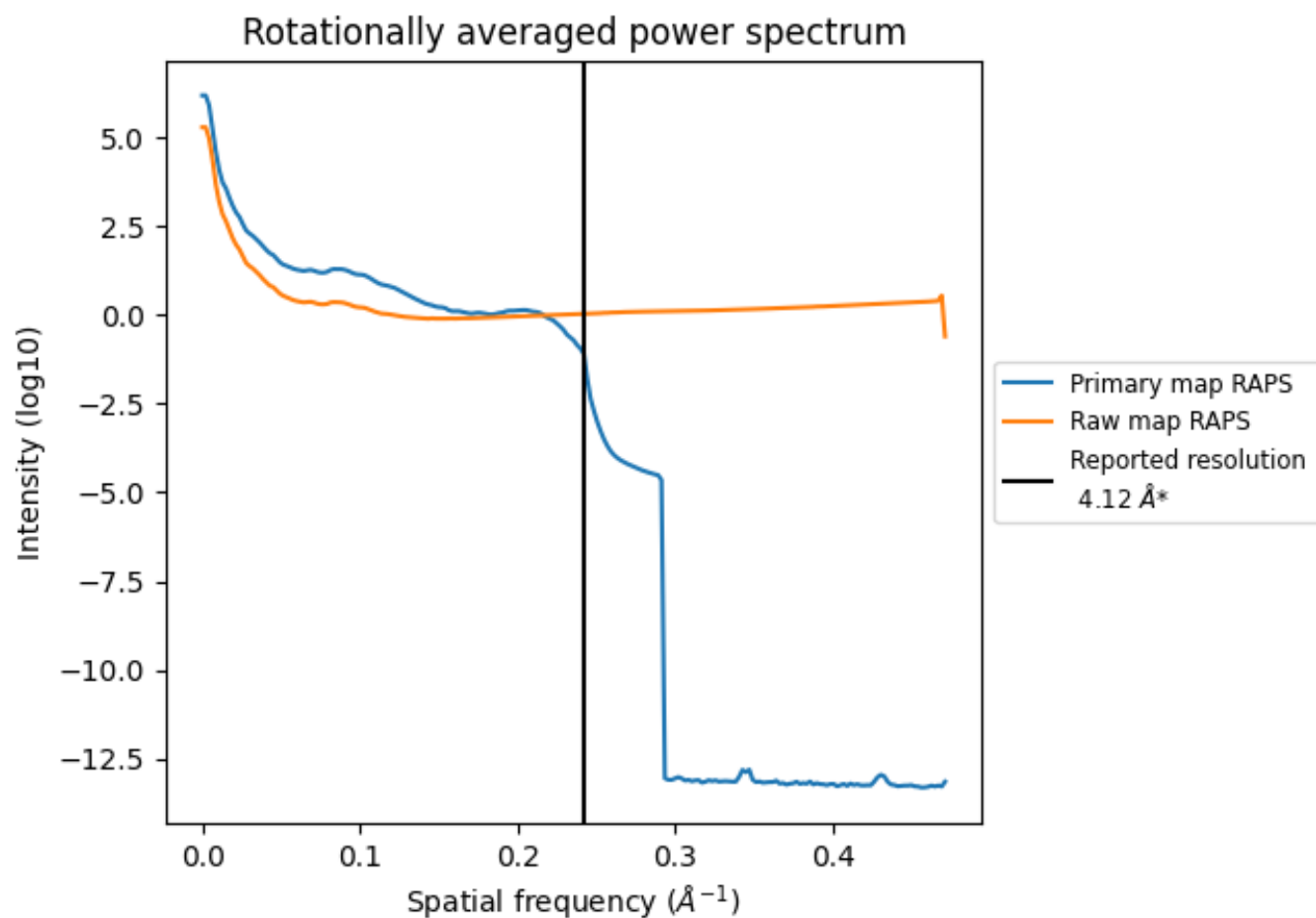
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 427 nm^3 ; this corresponds to an approximate mass of 386 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](#)

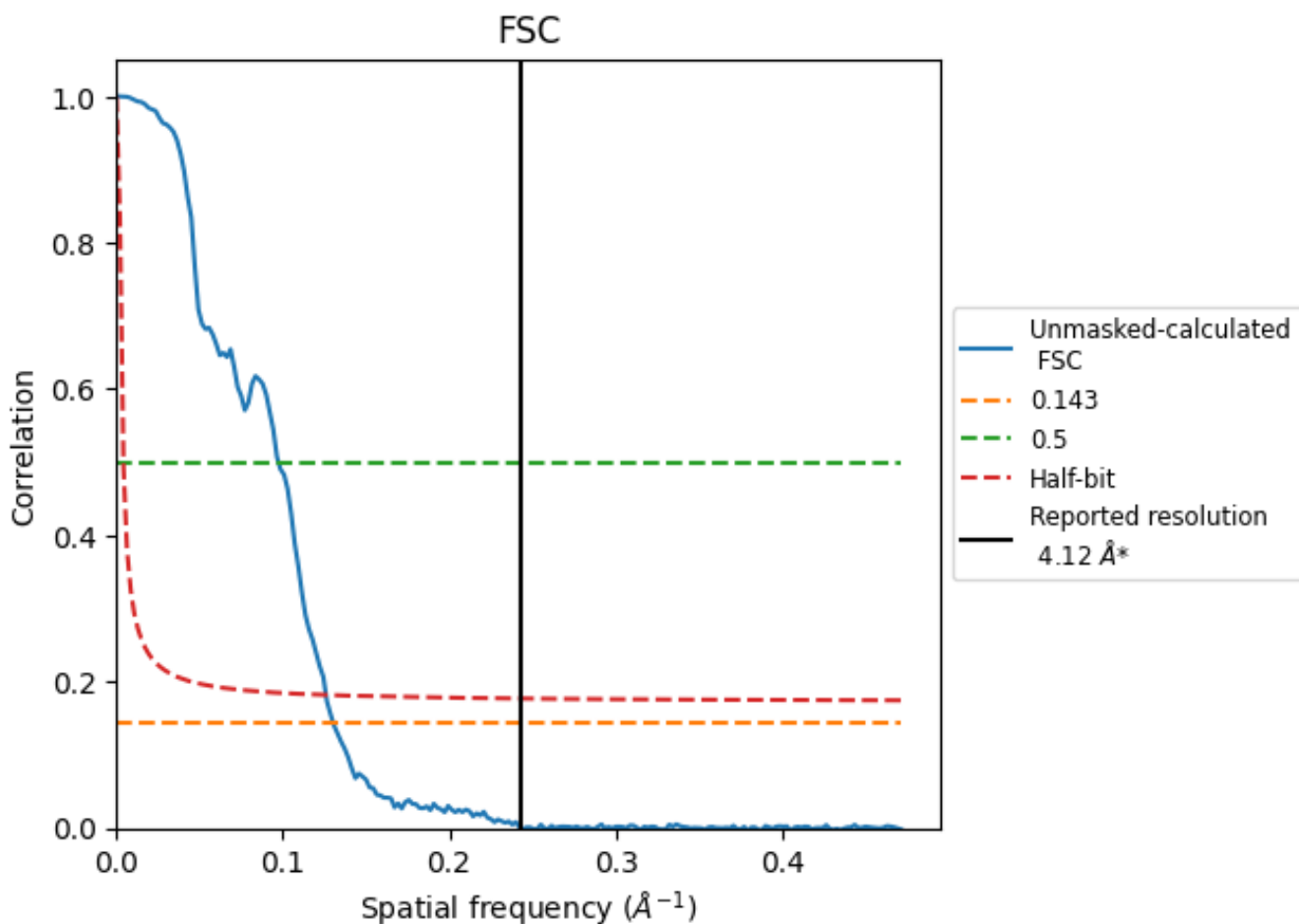


*Reported resolution corresponds to spatial frequency of 0.243 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.243 Å⁻¹

8.2 Resolution estimates [i](#)

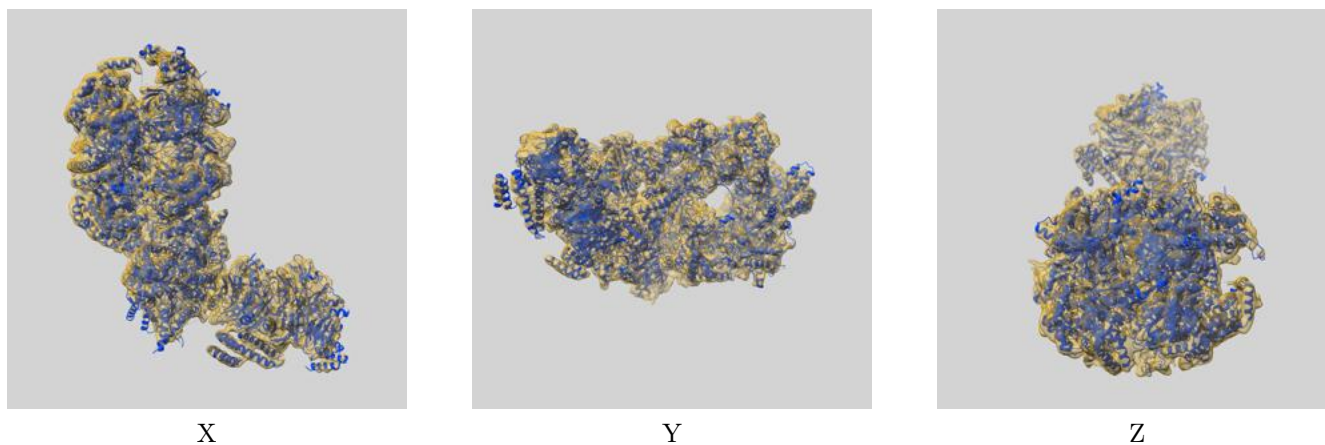
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.12	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	7.67	10.27	7.94

*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 7.67 differs from the reported value 4.12 by more than 10 %

9 Map-model fit [i](#)

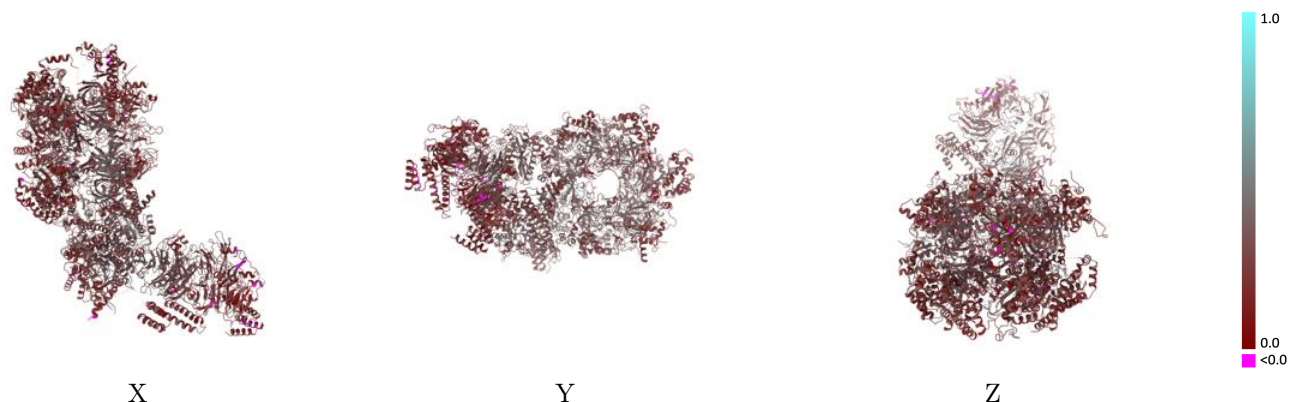
This section contains information regarding the fit between EMDB map EMD-37343 and PDB model 8W7M. Per-residue inclusion information can be found in section [3](#) on page [9](#).

9.1 Map-model overlay [i](#)



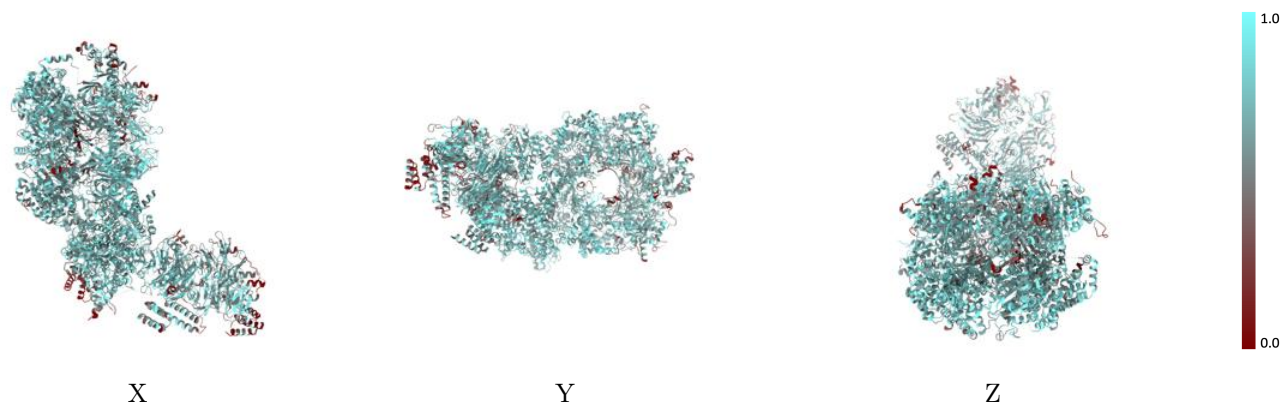
The images above show the 3D surface view of the map at the recommended contour level 0.45 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



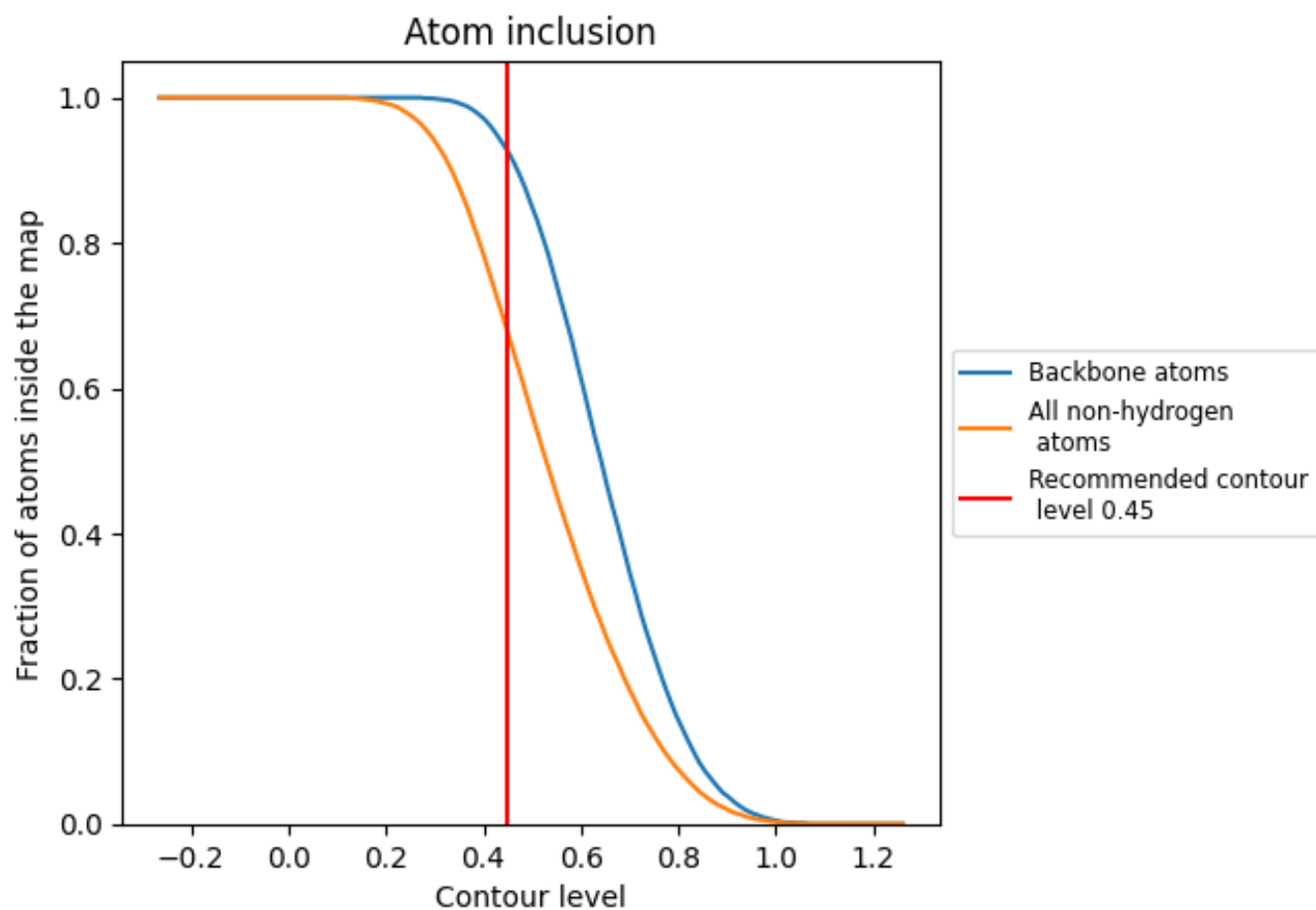
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.45).

































9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 68% 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 (0.45) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6760	 0.2670
2	 0.6790	 0.2610
3	 0.7350	 0.2910
4	 0.6630	 0.2440
5	 0.7140	 0.2920
6	 0.6790	 0.2490
7	 0.6590	 0.2580
A	 0.7130	 0.2750
B	 0.7520	 0.3310
C	 0.7550	 0.2980
D	 0.7450	 0.3110
E	 0.7050	 0.2900
F	 0.6880	 0.2980
G	 0.5560	 0.2050
H	 0.6160	 0.2210
I	 0.4560	 0.2750
N	 0.2230	 0.2120

