



Full wwPDB EM Validation Report ⓘ

Oct 21, 2025 – 04:16 PM JST

PDB ID : 8WFZ / pdb_00008wfz
EMDB ID : EMD-37500
Title : AtGORK Full length 2
Authors : Chen, Y.H.; Li, Q.Y.; Qin, L.; Tang, L.H.; zhang, C.R.
Deposited on : 2023-09-20
Resolution : 4.30 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev129
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.46

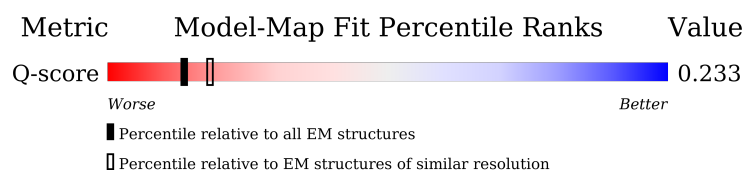
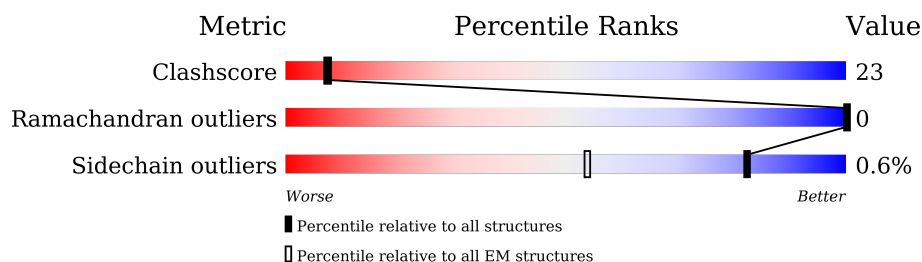
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.30 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	4585 (3.80 - 4.80)

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

Mol	Chain	Length	Quality of chain
1	A	820	14% 45% 35% 20%
1	B	820	15% 45% 35% 20%
1	C	820	16% 44% 36% 20%
1	D	820	13% 48% 32% 20%

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 21266 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.

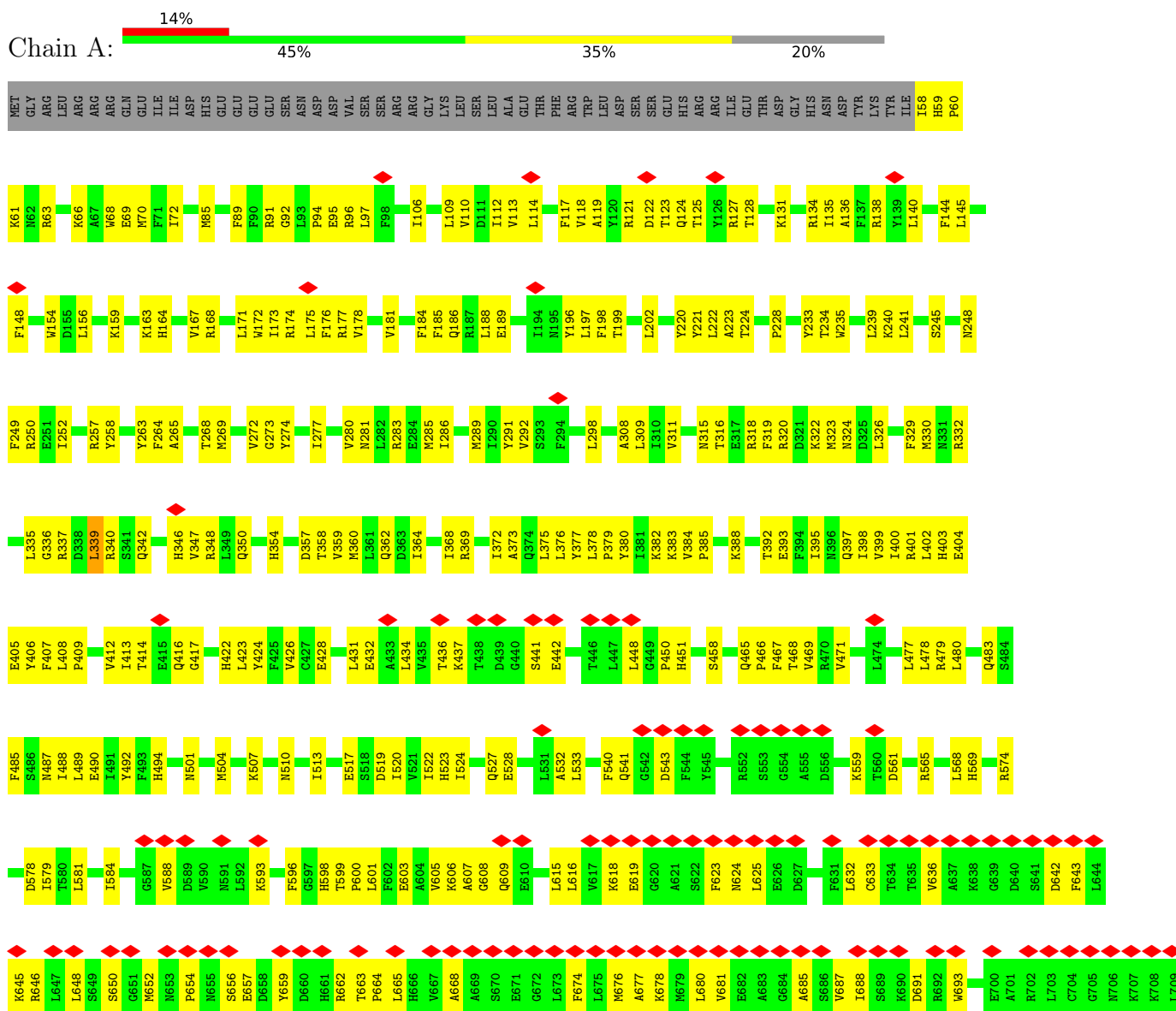
- Molecule 1 is a protein called Potassium channel GORK.

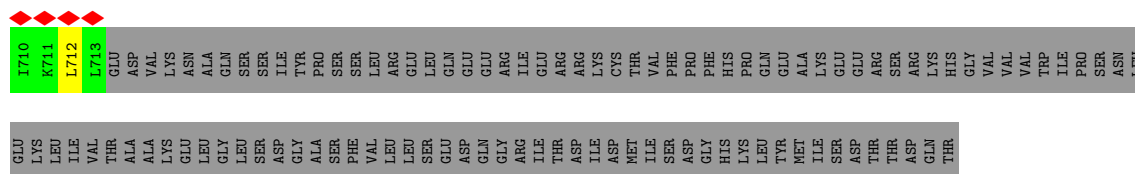
Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	656	Total	C	N	O	S	0	0
			5315	3452	885	953	25		
1	B	656	Total	C	N	O	S	0	0
			5315	3452	885	953	25		
1	C	656	Total	C	N	O	S	0	0
			5321	3455	887	954	25		
1	D	656	Total	C	N	O	S	0	0
			5315	3452	885	953	25		

3 Residue-property plots

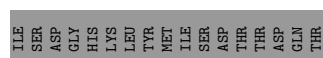
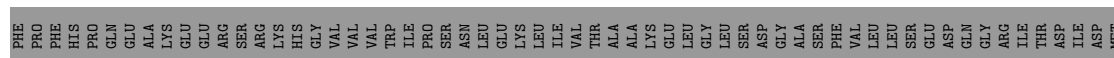
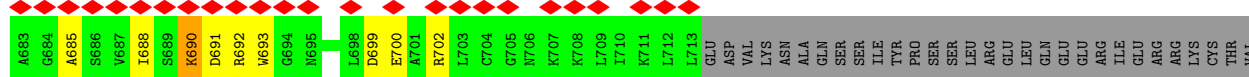
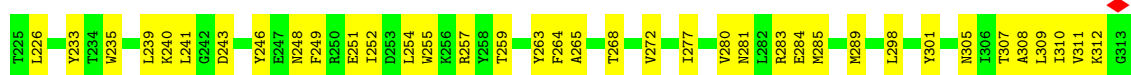
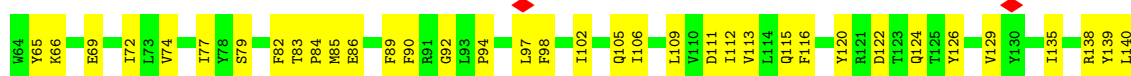
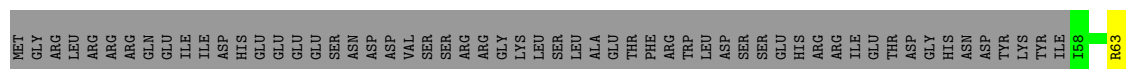
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Potassium channel GORK





● Molecule 1: Potassium channel GORK



Chain C:

The visualization displays the amino acid sequence of Chain C, with the central bar indicating the distribution of amino acids. The sequence is presented in two rows, with the top row showing the amino acid code and the bottom row showing the position. The bar is segmented into four main color-coded regions: red (16%), green (44%), yellow (36%), and grey (20%).

Chain D:

Category	Percentage
Red	13%
Green	48%
Yellow	32%
Grey	20%

ALA	GLU	D658	L592	S509	L431	I343	L252	L140	R63
GLN	K593	R510	K593	R511	L434	V347	D253	K141	R64
SER	D594	R512	K595	R513	V435	R348	R257	S142	Y65
LEU	K596	I513	F596	K514	T436	L349	Y258	H143	K66
ASP	G597	K514	K437	K514	T438	Q350	T259	I149	A67
PRO	H598	H598	T438	T438	D439	T356	L262	W154	W68
SER	T599	T599	D439	D439	G440	D357	Y263	D155	E69
SER	P600	P600	G440	G440	S441	F264	F264	Y158	W70
LEU	L601	Q527	S441	S441	E442	A265	A265	I72	I72
ARG	F602	E530	E442	E442	L361	I266	I266	K159	L73
LEU	E603	L533	V445	V445	Q362	Y267	Y267	K163	I77
LEU	A607	L533	V445	V445	D362	T268	T268	Y78	Y78
GLN	G608	K534	T446	T446	I364	M269	M269	L81	L81
GLU	Q609	V535	L447	L447	P365	V272	V272	V167	F92
ARG	Q610	F540	L448	L448	A366	G273	G273	R168	T83
ILE	G611	D543	S453	S453	R369	Y274	Y274	P84	P84
GLU	V612	D543	S453	S453	Q374	G275	G275	L171	L171
ARG	L615	F544	S458	S458	Q374	D276	D276	R174	R174
ARG	L615	Y545	I459	I459	Q374	I277	I277	G88	G88
LYS	M676	Q546	I460	I460	Q374	N281	N281	F89	F89
ASP	A677	L547	C461	C461	L378	L282	L282	V177	V177
THR	K678	K548	N462	N462	L378	R283	R283	R179	R179
VAL	M679	S549	I463	I463	K382	E284	E284	K180	G92
PHE	M679	S549	I463	I463	K382	M285	M285	V181	L83
PRO	L680	L550	F467	F467	F387	D295	D295	V182	P94
PRO	E681	L550	T468	T468	K388	I303	I303	E183	E95
HIS	V681	I551	V469	V469	G389	F185	F185	F184	F184
GLN	E682	R552	R470	R470	E393	Q186	Q186	F185	F185
GLN	A683	S553	V471	V471	F394	R187	R187	Q186	Q186
GLU	G684	G554	C472	C472	Q397	L188	L188	G104	G104
ALA	A685	A555	E473	E473	I309	E189	E189	Q105	Q105
LYS	S686	D556	L474	L474	I310	K190	K190	I106	I106
GLU	V687	P557	C475	C475	I310	D191	D191	A107	A107
GLU	S628	N558	H476	H476	V311	F108	F108	F108	F108
ARG	G629	K559	L477	L477	F319	L109	L109	L109	L109
SER	S689	T560	L478	L478	E208	I112	I112	I112	I112
ARG	N630	D561	K482	K482	L402	V113	V113	V113	V113
LYS	F631	Y562	F485	F485	L402	L114	L114	L114	L114
HIS	D691	G564	S486	S486	H403	Q115	Q115	Q115	Q115
GLY	L632	R565	N487	N487	E404	R121	R121	R121	R121
VAL	V636	H569	I488	I488	E405	Y126	Y126	Y126	Y126
VAL	A637	L570	L489	L489	Y406	R127	R127	R127	R127
TRP	K638	A571	E490	E490	F407	T234	T234	T234	T234
ILE	G639	A572	D495	D495	P409	W235	W235	W235	W235
PRO	D640	G575	G496	G496	G410	I236	I236	I236	I236
SER	S641	G575	R497	R497	E411	N331	N331	N331	N331
ASN	D642	I579	L500	L500	R332	K332	K332	K332	K332
LEU	D642	I579	L500	L500	K333	K333	K333	K333	K333
LEU	F643	I579	L500	L500	L335	L335	L335	L335	L335
LEU	L644	I584	I503	I503	G336	G336	G336	G336	G336
ILE	K645	Q585	M504	M504	R337	R337	R337	R337	R337
VAL	R646	E586	E505	E505	D338	D338	D338	D338	D338
C704	L647	G587	E506	E506	L339	L339	L339	L339	L339
THR	L648	V588	E507	E507	Y246	Y246	Y246	Y246	Y246
ALA	S649	D589	K507	K507	E427	E427	E427	E427	E427
ALA	S650	D589	K507	K507	E428	E428	E428	E428	E428
LYS	S651	V590	E508	E508	G429	G429	G429	G429	G429
	L709	N591			L430	L430	L430	L430	L430
	L710								
	K711								
	L712								
	L713								
	GLU								
	ASP								
	VAL								
	LYS								
	ASN								

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	39551	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.363	Depositor
Minimum map value	-0.173	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.018	Depositor
Recommended contour level	0.085	Depositor
Map size (Å)	305.27997, 305.27997, 305.27997	wwPDB
Map dimensions	288, 288, 288	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.27	0/5438	0.52	3/7356 (0.0%)
1	B	0.35	0/5438	0.62	5/7356 (0.1%)
1	C	0.30	0/5445	0.56	5/7365 (0.1%)
1	D	0.37	0/5438	0.63	8/7356 (0.1%)
All	All	0.33	0/21759	0.59	21/29433 (0.1%)

There are no bond length outliers.

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	393	GLU	N-CA-C	-9.32	101.10	111.07
1	D	186	GLN	N-CA-C	-7.88	102.69	111.28
1	B	359	VAL	N-CA-C	7.12	117.89	110.62
1	D	95	GLU	N-CA-C	-7.01	103.68	111.82
1	C	326	LEU	N-CA-C	-6.92	103.73	111.28
1	C	267	VAL	N-CA-C	-6.83	103.56	111.00
1	B	184	PHE	N-CA-C	6.11	118.44	111.11
1	D	436	THR	N-CA-C	-5.93	101.64	110.23
1	B	512	ARG	N-CA-C	-5.92	105.71	113.12
1	A	339	LEU	N-CA-C	5.81	117.30	110.97
1	D	267	VAL	N-CA-C	-5.80	104.85	110.42
1	B	516	LEU	N-CA-C	-5.79	103.92	111.74
1	C	186	GLN	N-CA-C	5.76	117.56	111.28
1	C	328	SER	N-CA-C	-5.76	104.91	111.07
1	D	98	PHE	N-CA-C	-5.57	105.21	111.28
1	A	154	TRP	N-CA-C	-5.52	107.55	114.56
1	B	513	ILE	N-CA-C	-5.43	106.53	113.22
1	C	574	ARG	N-CA-C	5.43	118.12	111.82
1	D	250	ARG	N-CA-C	5.20	116.63	111.07
1	D	283	ARG	N-CA-C	-5.11	105.61	111.07
1	D	435	VAL	N-CA-C	-5.05	107.42	111.91

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	A	5315	0	5344	257	0
1	B	5315	0	5344	271	0
1	C	5321	0	5352	268	0
1	D	5315	0	5344	251	0
All	All	21266	0	21384	977	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 23.

All (977) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:339:LEU:CD1	1:A:340:ARG:HG2	1.52	1.36
1:C:271:THR:HA	1:D:272:VAL:CG2	1.63	1.25
1:C:356:THR:HG22	1:C:360:MET:CE	1.68	1.23
1:C:271:THR:CA	1:D:272:VAL:HG22	1.73	1.18
1:A:265:ALA:O	1:A:268:THR:HG22	1.41	1.17
1:B:568:LEU:CD1	1:B:583:LEU:HD21	1.76	1.15
1:A:339:LEU:HD12	1:A:340:ARG:HG2	1.21	1.15
1:B:448:LEU:HD11	1:B:452:THR:HG21	1.30	1.08
1:B:448:LEU:CD1	1:B:452:THR:HG21	1.85	1.07
1:A:339:LEU:HD13	1:A:340:ARG:HG2	1.33	1.06
1:C:356:THR:CG2	1:C:360:MET:HE1	1.90	1.01
1:A:339:LEU:CD1	1:A:340:ARG:CG	2.41	0.99
1:B:568:LEU:HD12	1:B:583:LEU:HD21	1.41	0.99
1:C:356:THR:HG22	1:C:360:MET:HE1	1.01	0.98
1:D:333:LYS:O	1:D:334:LYS:HG2	1.62	0.98
1:A:520:ILE:HD12	1:A:523:HIS:HE1	1.30	0.96
1:C:271:THR:HA	1:D:272:VAL:HG22	0.96	0.95
1:B:568:LEU:HD13	1:B:583:LEU:CD2	1.97	0.95
1:A:339:LEU:HD12	1:A:340:ARG:CG	1.98	0.93
1:D:104:GLY:O	1:D:108:PHE:CD2	2.22	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:240:LYS:HD3	1:C:245:SER:HB3	1.50	0.91
1:B:568:LEU:CD1	1:B:583:LEU:CD2	2.48	0.90
1:A:339:LEU:HD12	1:A:340:ARG:N	1.86	0.89
1:B:357:ASP:O	1:B:361:LEU:HG	1.73	0.89
1:D:73:LEU:HB3	1:D:180:LYS:HZ2	1.37	0.88
1:A:265:ALA:O	1:A:268:THR:CG2	2.22	0.87
1:B:568:LEU:HD13	1:B:583:LEU:HD21	1.55	0.87
1:D:266:ILE:HA	1:D:269:MET:HG2	1.56	0.87
1:B:448:LEU:CG	1:B:452:THR:HG21	2.05	0.86
1:B:568:LEU:HD13	1:B:583:LEU:CD1	2.06	0.85
1:C:376:LEU:HD21	1:D:333:LYS:HD2	1.58	0.85
1:C:356:THR:HG22	1:C:360:MET:SD	2.16	0.84
1:C:289:MET:HE1	1:D:262:LEU:HD23	1.58	0.84
1:C:350:GLN:HG3	1:C:354:HIS:HB2	1.61	0.82
1:A:274:TYR:O	1:D:275:GLY:HA2	1.77	0.82
1:B:373:ALA:HB1	1:B:399:VAL:HG22	1.59	0.82
1:B:448:LEU:HD11	1:B:452:THR:CG2	2.07	0.81
1:A:407:PHE:HE2	1:A:477:LEU:HB2	1.46	0.81
1:B:364:ILE:HG21	1:B:369:ARG:HB2	1.62	0.81
1:D:430:LEU:HD11	1:D:447:LEU:HD13	1.62	0.81
1:B:188:LEU:HD12	1:B:188:LEU:O	1.81	0.81
1:B:514:LYS:NZ	1:B:520:ILE:HG21	1.95	0.81
1:D:281:ASN:HB3	1:D:284:GLU:HG2	1.63	0.79
1:D:333:LYS:O	1:D:334:LYS:CG	2.31	0.79
1:D:104:GLY:O	1:D:108:PHE:HD2	1.62	0.79
1:A:69:GLU:HA	1:A:72:ILE:HG12	1.65	0.78
1:B:289:MET:CE	1:C:266:ILE:HD11	2.13	0.78
1:A:417:GLY:H	1:A:466:PRO:HA	1.49	0.78
1:A:605:VAL:HG11	1:A:650:SER:HB3	1.67	0.77
1:D:266:ILE:O	1:D:269:MET:HG2	1.85	0.77
1:B:568:LEU:HD13	1:B:583:LEU:HD11	1.67	0.77
1:D:272:VAL:O	1:D:274:TYR:CD2	2.37	0.77
1:D:593:LYS:HB3	1:D:597:GLY:HA2	1.67	0.76
1:B:301:TYR:HD1	1:C:306:ILE:HD11	1.48	0.76
1:B:289:MET:HE3	1:C:266:ILE:HD11	1.68	0.76
1:C:289:MET:HE1	1:D:262:LEU:CD2	2.14	0.76
1:A:402:LEU:HD11	1:A:478:LEU:HB3	1.67	0.76
1:A:268:THR:CG2	1:A:291:TYR:HE2	1.99	0.75
1:A:323:MET:HG2	1:A:348:ARG:HD3	1.68	0.75
1:A:369:ARG:NH1	1:A:400:ILE:O	2.20	0.75
1:A:264:PHE:HB2	1:A:277:ILE:HD13	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:330:MET:HG3	1:A:335:LEU:HD12	1.69	0.74
1:C:304:GLY:HA2	1:D:307:THR:HG22	1.69	0.74
1:D:266:ILE:HG13	1:D:269:MET:SD	2.28	0.74
1:A:520:ILE:HD12	1:A:523:HIS:CE1	2.21	0.73
1:B:448:LEU:HD21	1:B:452:THR:HG22	1.68	0.73
1:B:416:GLN:NE2	1:B:466:PRO:O	2.22	0.73
1:D:435:VAL:HG12	1:D:435:VAL:O	1.86	0.73
1:A:528:GLU:OE1	1:A:559:LYS:NZ	2.21	0.73
1:D:330:MET:HG2	1:D:340:ARG:HG2	1.71	0.73
1:D:543:ASP:HB3	1:D:546:GLN:HB2	1.70	0.73
1:D:264:PHE:CE2	1:D:277:ILE:HG22	2.24	0.72
1:A:145:LEU:HA	1:A:148:PHE:CE1	2.23	0.72
1:B:558:ASN:OD1	1:B:558:ASN:O	2.06	0.72
1:B:92:GLY:H	1:B:168:ARG:HH12	1.35	0.72
1:C:470:ARG:NH1	1:C:471:VAL:O	2.22	0.72
1:A:95:GLU:HG2	1:A:96:ARG:HD3	1.72	0.72
1:C:518:SER:CB	1:C:523:HIS:HE1	2.02	0.72
1:C:356:THR:CG2	1:C:360:MET:SD	2.76	0.72
1:A:186:GLN:O	1:A:189:GLU:HG2	1.89	0.72
1:C:518:SER:HB2	1:C:523:HIS:HE1	1.54	0.72
1:C:519:ASP:HB2	1:C:522:ILE:HG12	1.72	0.72
1:D:131:LYS:HE3	1:D:134:ARG:HH12	1.56	0.71
1:B:430:LEU:HB3	1:B:447:LEU:HD12	1.71	0.71
1:C:699:ASP:OD1	1:C:702:ARG:NH2	2.23	0.71
1:D:143:HIS:NE2	1:D:179:ARG:HD3	2.04	0.71
1:B:424:TYR:HB3	1:B:477:LEU:HD12	1.71	0.71
1:D:402:LEU:HD22	1:D:478:LEU:HD12	1.73	0.71
1:A:131:LYS:HG3	1:A:134:ARG:HG2	1.73	0.70
1:D:208:GLU:OE2	1:D:269:MET:HE3	1.90	0.70
1:A:678:LYS:HB2	1:A:712:LEU:HD13	1.73	0.70
1:A:426:VAL:O	1:A:451:HIS:N	2.24	0.70
1:D:266:ILE:CA	1:D:269:MET:HG2	2.21	0.70
1:D:378:LEU:HG	1:D:382:LYS:HE2	1.72	0.70
1:C:404:GLU:HG2	1:C:476:HIS:HE1	1.57	0.70
1:A:265:ALA:C	1:A:268:THR:HG22	2.17	0.69
1:A:263:TYR:CD1	1:D:285:MET:SD	2.85	0.69
1:D:115:GLN:HG2	1:D:139:TYR:CE2	2.26	0.69
1:A:385:PRO:O	1:A:388:LYS:NZ	2.25	0.69
1:C:383:LYS:HD2	1:C:451:HIS:CD2	2.26	0.69
1:A:431:LEU:HB2	1:A:448:LEU:HB2	1.76	0.68
1:C:271:THR:C	1:D:272:VAL:HG22	2.19	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:333:LYS:C	1:D:334:LYS:HG2	2.19	0.68
1:A:402:LEU:HG	1:A:478:LEU:HD12	1.76	0.67
1:C:374:GLN:HA	1:C:399:VAL:HG11	1.76	0.67
1:A:414:THR:HG22	1:A:469:VAL:HG22	1.77	0.67
1:C:518:SER:HB2	1:C:523:HIS:CE1	2.30	0.67
1:A:663:THR:HG22	1:A:665:LEU:H	1.59	0.67
1:C:569:HIS:O	1:C:573:CYS:SG	2.53	0.67
1:C:289:MET:HE1	1:D:262:LEU:CG	2.25	0.67
1:A:268:THR:HG21	1:A:291:TYR:CE2	2.30	0.67
1:C:91:ARG:HD2	1:C:168:ARG:HH11	1.59	0.66
1:B:312:LYS:NZ	1:C:311:VAL:HG23	2.11	0.66
1:D:239:LEU:HD11	1:D:246:TYR:CD2	2.30	0.66
1:D:266:ILE:HA	1:D:269:MET:CG	2.25	0.66
1:B:329:PHE:HA	1:B:332:ARG:HE	1.60	0.66
1:D:281:ASN:HB3	1:D:284:GLU:CG	2.25	0.66
1:A:109:LEU:O	1:A:112:ILE:HG22	1.95	0.66
1:A:510:ASN:HB3	1:A:513:ILE:HG22	1.76	0.66
1:A:642:ASP:HA	1:A:645:LYS:HE3	1.78	0.66
1:C:93:LEU:HD12	1:C:94:PRO:HD2	1.78	0.66
1:D:336:GLY:HA2	1:D:340:ARG:HE	1.61	0.66
1:A:645:LYS:HA	1:A:648:LEU:HD12	1.79	0.65
1:C:404:GLU:HG2	1:C:476:HIS:CE1	2.30	0.65
1:D:220:TYR:CE1	1:D:236:ILE:HD13	2.31	0.65
1:B:593:LYS:HG3	1:B:599:THR:HG22	1.77	0.65
1:B:208:GLU:O	1:B:212:THR:HG23	1.96	0.65
1:B:140:LEU:HA	1:B:144:PHE:HB3	1.79	0.65
1:D:364:ILE:O	1:D:369:ARG:NH2	2.29	0.65
1:A:319:PHE:O	1:A:323:MET:HG3	1.96	0.65
1:A:681:VAL:HA	1:A:685:ALA:HB3	1.77	0.65
1:C:601:LEU:HD13	1:C:616:LEU:HD22	1.77	0.65
1:D:630:ASN:HD22	1:D:659:TYR:HB3	1.61	0.65
1:A:119:ALA:O	1:A:138:ARG:NH2	2.30	0.65
1:C:356:THR:HG21	1:D:329:PHE:CD1	2.32	0.65
1:B:448:LEU:HG	1:B:452:THR:HG21	1.78	0.64
1:B:663:THR:HB	1:B:666:HIS:CG	2.32	0.64
1:D:220:TYR:HE1	1:D:236:ILE:HD13	1.59	0.64
1:D:330:MET:HE1	1:D:339:LEU:HD23	1.79	0.64
1:B:172:TRP:HZ2	1:B:218:ILE:HD11	1.61	0.64
1:B:312:LYS:HZ2	1:C:311:VAL:HG23	1.62	0.64
1:B:345:GLY:HA2	1:B:348:ARG:HE	1.62	0.64
1:B:511:ASP:HA	1:B:514:LYS:HB3	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:61:LYS:O	1:C:66:LYS:NZ	2.31	0.64
1:C:568:LEU:HD21	1:C:590:VAL:HG22	1.79	0.64
1:C:356:THR:CG2	1:C:360:MET:CE	2.61	0.64
1:A:173:ILE:HD12	1:A:176:PHE:HD2	1.62	0.64
1:A:268:THR:CG2	1:A:291:TYR:CE2	2.79	0.64
1:C:573:CYS:SG	1:C:603:GLU:OE1	2.55	0.64
1:D:347:VAL:O	1:D:350:GLN:HG3	1.97	0.64
1:C:408:LEU:HA	1:C:474:LEU:HG	1.80	0.64
1:D:431:LEU:HD22	1:D:448:LEU:HD12	1.80	0.64
1:C:678:LYS:HB2	1:C:712:LEU:HD13	1.80	0.64
1:A:268:THR:HG21	1:A:291:TYR:HE2	1.61	0.64
1:A:156:LEU:HD12	1:A:159:LYS:HE2	1.80	0.63
1:D:208:GLU:OE2	1:D:269:MET:CE	2.46	0.63
1:D:337:ARG:HD2	1:D:339:LEU:H	1.62	0.63
1:B:197:LEU:HB2	1:B:309:LEU:HD13	1.80	0.63
1:D:565:ARG:HD3	1:D:569:HIS:HB3	1.78	0.63
1:B:336:GLY:O	1:B:337:ARG:HG2	1.98	0.63
1:B:507:LYS:HE3	1:B:514:LYS:HE2	1.80	0.63
1:C:599:THR:HB	1:C:624:ASN:HB2	1.80	0.63
1:D:424:TYR:HB3	1:D:477:LEU:HD11	1.79	0.63
1:A:517:GLU:O	1:A:520:ILE:HG22	1.99	0.63
1:B:94:PRO:HG2	1:B:97:LEU:HD13	1.81	0.63
1:C:266:ILE:HA	1:C:269:MET:HB2	1.80	0.63
1:C:535:VAL:HG22	1:C:550:LEU:HD21	1.81	0.63
1:B:568:LEU:HD12	1:B:583:LEU:CD2	2.19	0.62
1:B:329:PHE:O	1:B:332:ARG:HG2	1.99	0.62
1:D:690:LYS:HD2	1:D:694:GLY:HA2	1.81	0.62
1:C:428:GLU:O	1:C:475:CYS:HA	1.99	0.62
1:C:573:CYS:SG	1:C:603:GLU:HB3	2.39	0.62
1:A:140:LEU:HA	1:A:144:PHE:HB3	1.81	0.62
1:B:122:ASP:O	1:B:126:TYR:N	2.28	0.62
1:B:337:ARG:HG3	1:B:338:ASP:H	1.64	0.62
1:C:497:ARG:HA	1:C:500:LEU:HD12	1.82	0.62
1:A:324:ASN:ND2	1:D:192:THR:O	2.33	0.62
1:C:428:GLU:HG3	1:C:476:HIS:HB3	1.82	0.62
1:D:108:PHE:CE1	1:D:177:ARG:HD3	2.35	0.61
1:D:561:ASP:OD1	1:D:565:ARG:N	2.32	0.61
1:A:578:ASP:OD1	1:A:579:ILE:HD12	1.99	0.61
1:B:285:MET:O	1:B:289:MET:HG2	2.00	0.61
1:B:574:ARG:NH2	1:B:576:TYR:OH	2.34	0.61
1:B:632:LEU:HD13	1:B:654:PRO:HA	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:500:LEU:HD22	1:B:524:ILE:HD13	1.81	0.61
1:C:289:MET:HE1	1:D:262:LEU:HG	1.83	0.61
1:A:163:LYS:HG3	1:A:164:HIS:H	1.65	0.61
1:D:401:ARG:HH21	1:D:488:ILE:HD11	1.66	0.61
1:B:693:TRP:HE1	1:C:662:ARG:HH22	1.49	0.61
1:C:268:THR:HG23	1:D:274:TYR:OH	2.01	0.61
1:A:434:LEU:HD22	1:A:442:GLU:HB2	1.82	0.60
1:B:105:GLN:OE1	1:B:174:ARG:NH2	2.34	0.60
1:B:544:PHE:HA	1:B:547:LEU:HD12	1.83	0.60
1:B:252:ILE:O	1:B:257:ARG:NH2	2.34	0.60
1:C:266:ILE:HB	1:C:269:MET:HE3	1.81	0.60
1:D:266:ILE:C	1:D:269:MET:HG2	2.25	0.60
1:D:458:SER:HA	1:D:463:ILE:HG23	1.83	0.60
1:A:364:ILE:HD11	1:A:368:ILE:HB	1.83	0.60
1:D:185:PHE:CD1	1:D:188:LEU:HD12	2.37	0.60
1:A:286:ILE:O	1:A:289:MET:HB2	2.00	0.60
1:A:593:LYS:NZ	1:A:624:ASN:HB2	2.16	0.60
1:C:269:MET:HG2	1:C:295:ASP:OD2	2.01	0.59
1:D:272:VAL:HB	1:D:274:TYR:CE2	2.37	0.59
1:B:360:MET:SD	1:B:403:HIS:HD2	2.25	0.59
1:A:280:VAL:HG12	1:B:241:LEU:HG	1.85	0.59
1:D:115:GLN:HG2	1:D:139:TYR:HE2	1.66	0.59
1:A:196:TYR:O	1:A:199:THR:OG1	2.20	0.59
1:B:514:LYS:CE	1:B:520:ILE:HG21	2.32	0.59
1:D:660:ASP:HB3	1:D:662:ARG:HG3	1.84	0.59
1:C:356:THR:HG21	1:D:329:PHE:CE1	2.37	0.59
1:A:561:ASP:OD1	1:A:565:ARG:N	2.35	0.59
1:B:593:LYS:HB3	1:B:599:THR:HA	1.83	0.59
1:B:417:GLY:N	1:B:465:GLN:O	2.36	0.59
1:D:272:VAL:O	1:D:274:TYR:HD2	1.86	0.59
1:A:323:MET:HE3	1:A:348:ARG:HH11	1.67	0.59
1:B:431:LEU:HB2	1:B:448:LEU:HB3	1.84	0.59
1:D:121:ARG:HD3	1:D:126:TYR:HA	1.85	0.59
1:A:178:VAL:O	1:A:181:VAL:HG12	2.03	0.59
1:D:264:PHE:HE2	1:D:277:ILE:HG22	1.67	0.58
1:A:431:LEU:O	1:A:448:LEU:N	2.36	0.58
1:A:360:MET:HE1	1:B:329:PHE:CE2	2.38	0.58
1:C:394:PHE:HD1	1:C:492:TYR:HD2	1.50	0.58
1:A:66:LYS:O	1:A:70:MET:HG2	2.04	0.58
1:A:369:ARG:HA	1:A:372:ILE:HG12	1.84	0.58
1:D:240:LYS:HG2	1:D:240:LYS:O	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:285:MET:SD	1:B:263:TYR:CD1	2.97	0.58
1:A:339:LEU:HD12	1:A:340:ARG:CB	2.32	0.58
1:A:504:MET:O	1:A:507:LYS:HG2	2.03	0.58
1:B:223:ALA:HB2	1:B:235:TRP:HE1	1.68	0.58
1:B:190:LYS:HD3	1:C:344:THR:HG21	1.85	0.58
1:B:151:CYS:HA	1:B:174:ARG:HH22	1.69	0.58
1:C:266:ILE:HA	1:C:269:MET:CB	2.33	0.58
1:C:385:PRO:HA	1:C:388:LYS:HG3	1.86	0.57
1:A:533:LEU:HD21	1:D:533:LEU:HB3	1.85	0.57
1:B:448:LEU:HD21	1:B:452:THR:CG2	2.34	0.57
1:C:518:SER:CB	1:C:523:HIS:CE1	2.86	0.57
1:D:548:LYS:O	1:D:552:ARG:HG2	2.04	0.57
1:A:409:PRO:HD3	1:D:127:ARG:CZ	2.34	0.57
1:B:448:LEU:CG	1:B:452:THR:CG2	2.81	0.57
1:C:180:LYS:O	1:C:183:GLU:HG3	2.03	0.57
1:C:409:PRO:HD3	1:C:474:LEU:HG	1.87	0.57
1:C:601:LEU:HD23	1:C:623:PHE:HB3	1.86	0.57
1:C:642:ASP:O	1:C:646:ARG:HG2	2.04	0.57
1:D:669:ALA:HA	1:D:709:LEU:HD21	1.86	0.57
1:B:189:GLU:HG2	1:B:192:THR:HG23	1.86	0.57
1:B:356:THR:HG22	1:C:329:PHE:CE1	2.39	0.57
1:B:301:TYR:O	1:B:305:ASN:OD1	2.23	0.57
1:D:366:ALA:HA	1:D:369:ARG:HG2	1.85	0.57
1:A:339:LEU:HD13	1:A:340:ARG:CG	2.19	0.57
1:A:347:VAL:O	1:A:350:GLN:HG2	2.04	0.57
1:B:248:ASN:HB3	1:B:251:GLU:CD	2.30	0.57
1:A:600:PRO:HB2	1:A:616:LEU:HD21	1.87	0.57
1:B:240:LYS:O	1:B:240:LYS:HD3	2.05	0.57
1:C:381:ILE:HG21	1:C:395:ILE:HG23	1.87	0.57
1:C:493:PHE:HB2	1:C:497:ARG:HH12	1.70	0.57
1:A:431:LEU:HD13	1:A:471:VAL:HA	1.84	0.57
1:A:532:ALA:HB2	1:A:559:LYS:HE3	1.87	0.56
1:B:580:THR:O	1:B:583:LEU:HG	2.05	0.56
1:D:264:PHE:CD2	1:D:277:ILE:HG22	2.40	0.56
1:C:518:SER:OG	1:C:523:HIS:CE1	2.59	0.56
1:C:599:THR:HG23	1:C:602:PHE:H	1.69	0.56
1:B:233:TYR:CE2	1:B:281:ASN:HA	2.40	0.56
1:C:662:ARG:NH1	1:C:691:ASP:OD2	2.38	0.56
1:A:134:ARG:HH12	1:A:138:ARG:HE	1.52	0.56
1:C:493:PHE:HB2	1:C:497:ARG:NH1	2.20	0.56
1:D:425:PHE:CD1	1:D:453:SER:HB2	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:417:GLY:N	1:A:466:PRO:HA	2.19	0.56
1:B:153:PRO:HB2	1:B:156:LEU:HD13	1.87	0.56
1:C:374:GLN:O	1:C:378:LEU:HG	2.05	0.56
1:A:329:PHE:CZ	1:D:356:THR:HG22	2.40	0.56
1:A:398:ILE:HD11	1:A:488:ILE:HG21	1.86	0.56
1:A:606:LYS:HG2	1:A:643:PHE:HE1	1.70	0.56
1:C:330:MET:HE2	1:C:343:ILE:HD11	1.88	0.56
1:D:155:ASP:OD1	1:D:159:LYS:NZ	2.37	0.56
1:D:459:ILE:HG12	1:D:482:LYS:HZ2	1.71	0.56
1:B:644:LEU:HD23	1:B:648:LEU:HD23	1.87	0.56
1:B:122:ASP:HB3	1:B:124:GLN:CD	2.31	0.56
1:B:170:LEU:O	1:B:173:ILE:HG12	2.06	0.56
1:C:72:ILE:HD12	1:C:180:LYS:NZ	2.21	0.56
1:D:397:GLN:HB3	1:D:401:ARG:HH22	1.71	0.56
1:A:106:ILE:O	1:A:110:VAL:HG23	2.06	0.55
1:C:466:PRO:HB3	1:C:517:GLU:HG2	1.89	0.55
1:C:507:LYS:HA	1:C:514:LYS:HD2	1.88	0.55
1:A:263:TYR:CG	1:D:285:MET:SD	2.99	0.55
1:D:500:LEU:HA	1:D:503:ILE:HD12	1.88	0.55
1:D:591:ASN:HD21	1:D:624:ASN:HB2	1.71	0.55
1:A:234:THR:HG22	1:A:235:TRP:N	2.21	0.55
1:A:593:LYS:HZ1	1:A:624:ASN:HB2	1.71	0.55
1:B:364:ILE:HG22	1:B:366:ALA:H	1.72	0.55
1:B:692:ARG:HH22	1:C:666:HIS:HB3	1.71	0.55
1:A:407:PHE:CE2	1:A:477:LEU:HB2	2.34	0.55
1:B:337:ARG:HG3	1:B:338:ASP:N	2.21	0.55
1:C:296:MET:HE1	1:D:269:MET:HE2	1.87	0.55
1:D:407:PHE:O	1:D:474:LEU:HA	2.06	0.55
1:B:409:PRO:HD3	1:B:474:LEU:HB3	1.87	0.55
1:B:673:LEU:HD23	1:B:676:MET:HG3	1.87	0.55
1:A:377:TYR:HB2	1:A:399:VAL:HG13	1.89	0.55
1:B:368:ILE:O	1:B:372:ILE:HG12	2.07	0.55
1:A:228:PRO:HG3	1:A:250:ARG:HH12	1.71	0.55
1:A:618:LYS:NZ	1:A:619:GLU:OE2	2.40	0.55
1:D:431:LEU:HD21	1:D:469:VAL:HG23	1.89	0.55
1:A:519:ASP:HA	1:A:522:ILE:HG12	1.89	0.55
1:C:281:ASN:HB3	1:C:284:GLU:OE2	2.07	0.55
1:C:567:PRO:HA	1:C:570:LEU:HD13	1.89	0.55
1:D:330:MET:HE3	1:D:336:GLY:H	1.73	0.55
1:D:572:ALA:HA	1:D:612:VAL:HG11	1.87	0.55
1:A:329:PHE:O	1:A:332:ARG:HG2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:560:THR:HG22	1:B:566:SER:HA	1.89	0.54
1:C:416:GLN:HG3	1:C:436:THR:HB	1.87	0.54
1:C:514:LYS:HB2	1:C:520:ILE:HD11	1.89	0.54
1:A:319:PHE:CZ	1:A:348:ARG:HG2	2.42	0.54
1:B:188:LEU:HD12	1:B:188:LEU:C	2.31	0.54
1:B:380:TYR:CZ	1:B:427:CYS:HA	2.43	0.54
1:B:507:LYS:HB2	1:B:514:LYS:HG2	1.89	0.54
1:C:413:ILE:HB	1:C:469:VAL:HB	1.88	0.54
1:D:446:THR:HG23	1:D:511:ASP:HB2	1.90	0.54
1:A:487:ASN:O	1:A:490:GLU:HG3	2.07	0.54
1:A:523:HIS:O	1:A:527:GLN:N	2.23	0.54
1:B:220:TYR:CZ	1:B:257:ARG:HD3	2.43	0.54
1:B:435:VAL:O	1:B:443:GLU:HG3	2.07	0.54
1:B:109:LEU:O	1:B:112:ILE:HG22	2.06	0.54
1:C:519:ASP:CB	1:C:522:ILE:HG12	2.38	0.54
1:C:355:TYR:O	1:C:358:THR:OG1	2.26	0.54
1:B:79:SER:O	1:B:83:THR:HG23	2.08	0.54
1:C:286:ILE:O	1:C:289:MET:HB2	2.08	0.54
1:D:630:ASN:ND2	1:D:659:TYR:HB3	2.22	0.54
1:B:514:LYS:HZ2	1:B:520:ILE:HG21	1.71	0.54
1:C:657:GLU:HA	1:C:664:PRO:HD3	1.90	0.54
1:D:445:VAL:HG12	1:D:446:THR:N	2.23	0.54
1:A:330:MET:HG2	1:A:337:ARG:HH22	1.73	0.54
1:B:329:PHE:CE2	1:B:333:LYS:HG3	2.43	0.54
1:D:337:ARG:HD2	1:D:338:ASP:N	2.23	0.54
1:B:335:LEU:HD12	1:B:339:LEU:HD22	1.89	0.53
1:C:178:VAL:O	1:C:181:VAL:HG22	2.09	0.53
1:C:394:PHE:CE1	1:C:488:ILE:HG12	2.43	0.53
1:D:691:ASP:OD1	1:D:692:ARG:N	2.38	0.53
1:B:421:ASP:OD1	1:B:482:LYS:HB3	2.08	0.53
1:C:574:ARG:NH2	1:C:576:TYR:OH	2.41	0.53
1:D:86:GLU:HG3	1:D:171:LEU:HD21	1.89	0.53
1:C:409:PRO:HG3	1:C:473:GLU:HA	1.90	0.53
1:C:410:GLY:H	1:C:470:ARG:NH1	2.05	0.53
1:C:669:ALA:HA	1:C:709:LEU:HD21	1.91	0.53
1:B:603:GLU:HA	1:B:606:LYS:HG2	1.91	0.53
1:A:272:VAL:O	1:D:273:GLY:HA3	2.08	0.53
1:A:520:ILE:O	1:A:524:ILE:HG12	2.09	0.53
1:A:593:LYS:NZ	1:A:599:THR:HB	2.24	0.53
1:B:565:ARG:HG3	1:B:594:ASP:OD1	2.08	0.53
1:C:275:GLY:O	1:C:278:HIS:NE2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:623:PHE:HB2	1:B:652:MET:SD	2.48	0.53
1:D:179:ARG:HA	1:D:182:VAL:HG12	1.91	0.53
1:B:180:LYS:HA	1:B:183:GLU:OE1	2.08	0.53
1:A:357:ASP:HA	1:A:360:MET:HE3	1.90	0.53
1:C:413:ILE:HD13	1:C:469:VAL:HG12	1.91	0.53
1:D:69:GLU:O	1:D:180:LYS:NZ	2.41	0.53
1:C:284:GLU:OE2	1:C:284:GLU:N	2.34	0.53
1:D:347:VAL:HG22	1:D:351:TYR:CE2	2.44	0.53
1:C:706:ASN:HB3	1:C:709:LEU:HB3	1.90	0.52
1:D:435:VAL:O	1:D:435:VAL:CG1	2.56	0.52
1:D:615:LEU:HA	1:D:618:LYS:HG2	1.91	0.52
1:B:308:ALA:HA	1:B:312:LYS:HZ3	1.74	0.52
1:A:606:LYS:HE2	1:D:596:PHE:HE1	1.74	0.52
1:B:500:LEU:HA	1:B:503:ILE:HG12	1.90	0.52
1:C:91:ARG:HD2	1:C:168:ARG:NH1	2.24	0.52
1:C:363:ASP:OD1	1:C:364:ILE:N	2.43	0.52
1:D:92:GLY:H	1:D:168:ARG:HH12	1.55	0.52
1:A:607:ALA:HB1	1:A:609:GLN:HE22	1.74	0.52
1:B:249:PHE:O	1:B:257:ARG:NH2	2.23	0.52
1:C:59:HIS:CG	1:C:60:PRO:HD2	2.45	0.52
1:A:189:GLU:HA	1:A:199:THR:HG21	1.91	0.52
1:B:666:HIS:CE1	1:B:691:ASP:HB2	2.43	0.52
1:A:168:ARG:O	1:A:171:LEU:HD23	2.09	0.52
1:A:272:VAL:O	1:D:273:GLY:CA	2.57	0.52
1:A:492:TYR:HD1	1:A:494:HIS:CE1	2.28	0.52
1:A:603:GLU:HA	1:A:606:LYS:HB2	1.92	0.52
1:B:311:VAL:HG12	1:B:312:LYS:HD3	1.92	0.52
1:B:328:SER:HA	1:B:331:ASN:HD21	1.75	0.52
1:B:329:PHE:HA	1:B:332:ARG:NE	2.25	0.52
1:C:369:ARG:NH1	1:C:372:ILE:HD11	2.24	0.52
1:C:393:GLU:HA	1:C:396:ASN:HD21	1.73	0.52
1:C:518:SER:OG	1:C:523:HIS:HE1	1.92	0.52
1:C:543:ASP:OD1	1:C:543:ASP:N	2.43	0.52
1:C:605:VAL:HG11	1:C:652:MET:HE1	1.91	0.52
1:A:128:THR:HB	1:A:135:ILE:HD11	1.91	0.52
1:C:349:LEU:HD21	1:C:406:TYR:HB3	1.92	0.52
1:C:410:GLY:H	1:C:470:ARG:CZ	2.22	0.52
1:D:272:VAL:O	1:D:274:TYR:CE2	2.61	0.52
1:D:336:GLY:HA2	1:D:340:ARG:NE	2.23	0.52
1:A:69:GLU:HG3	1:A:70:MET:HE3	1.92	0.52
1:A:402:LEU:HD21	1:A:478:LEU:HG	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:699:ASP:HA	1:B:702:ARG:NH1	2.26	0.51
1:C:121:ARG:HB2	1:C:128:THR:HG22	1.92	0.51
1:D:329:PHE:CE1	1:D:333:LYS:HE2	2.45	0.51
1:D:445:VAL:HG12	1:D:446:THR:H	1.75	0.51
1:D:540:PHE:HA	1:D:570:LEU:HD21	1.92	0.51
1:B:565:ARG:HG3	1:B:594:ASP:CG	2.35	0.51
1:C:540:PHE:HA	1:C:574:ARG:HG3	1.92	0.51
1:B:205:LEU:O	1:B:208:GLU:HB2	2.10	0.51
1:C:152:PHE:O	1:C:174:ARG:NH2	2.43	0.51
1:C:547:LEU:O	1:C:551:ILE:HG12	2.10	0.51
1:C:319:PHE:CD2	1:C:351:TYR:CD1	2.98	0.51
1:C:415:GLU:HG2	1:C:416:GLN:H	1.76	0.51
1:D:530:GLU:O	1:D:534:LYS:HG2	2.11	0.51
1:A:131:LYS:HZ2	1:A:134:ARG:HB3	1.75	0.51
1:A:174:ARG:HB3	1:A:177:ARG:NH2	2.26	0.51
1:D:70:MET:O	1:D:73:LEU:HG	2.10	0.51
1:A:533:LEU:HD11	1:D:533:LEU:HB3	1.93	0.51
1:D:266:ILE:HA	1:D:269:MET:SD	2.51	0.51
1:C:432:GLU:HG2	1:C:470:ARG:HB3	1.92	0.51
1:B:521:VAL:O	1:B:524:ILE:HG22	2.11	0.51
1:D:109:LEU:O	1:D:112:ILE:HG22	2.11	0.51
1:B:190:LYS:NZ	1:C:337:ARG:HH22	2.08	0.51
1:C:394:PHE:HD1	1:C:492:TYR:CD2	2.29	0.51
1:C:110:VAL:HA	1:C:113:VAL:HG12	1.93	0.51
1:C:281:ASN:OD1	1:C:282:LEU:N	2.44	0.51
1:D:65:TYR:HE1	1:D:114:LEU:HD21	1.76	0.51
1:B:358:THR:HA	1:B:361:LEU:HD12	1.92	0.50
1:C:282:LEU:HD11	1:D:259:THR:HG21	1.92	0.50
1:C:459:ILE:HG12	1:C:482:LYS:HE2	1.92	0.50
1:D:231:GLU:O	1:D:234:THR:OG1	2.27	0.50
1:B:221:TYR:O	1:B:224:THR:OG1	2.20	0.50
1:B:120:TYR:HB3	1:B:135:ILE:HG12	1.93	0.50
1:B:507:LYS:HE3	1:B:514:LYS:CE	2.41	0.50
1:C:531:LEU:O	1:C:535:VAL:HG23	2.11	0.50
1:A:350:GLN:NE2	1:A:405:GLU:OE2	2.44	0.50
1:A:378:LEU:O	1:A:382:LYS:HG2	2.12	0.50
1:D:236:ILE:HA	1:D:239:LEU:HD23	1.92	0.50
1:A:543:ASP:OD1	1:A:543:ASP:N	2.45	0.50
1:B:417:GLY:H	1:B:466:PRO:HA	1.77	0.50
1:D:337:ARG:HH11	1:D:338:ASP:HB3	1.77	0.50
1:A:615:LEU:O	1:A:618:LYS:HG2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:701:ALA:HB2	1:C:713:LEU:HD23	1.94	0.50
1:A:112:ILE:HG13	1:A:144:PHE:CE1	2.47	0.50
1:A:197:LEU:HB3	1:A:309:LEU:HD12	1.94	0.50
1:A:625:LEU:HD21	1:A:652:MET:SD	2.52	0.50
1:B:190:LYS:HZ1	1:C:337:ARG:HH22	1.58	0.50
1:C:212:THR:HG21	1:C:269:MET:HE2	1.93	0.50
1:C:346:HIS:HD2	1:C:349:LEU:HD23	1.77	0.50
1:D:329:PHE:HE1	1:D:333:LYS:HE2	1.77	0.50
1:A:85:MET:O	1:A:89:PHE:N	2.40	0.49
1:A:329:PHE:CD1	1:A:332:ARG:HD3	2.47	0.49
1:A:354:HIS:O	1:A:358:THR:HG23	2.12	0.49
1:B:548:LYS:HZ3	1:B:582:PHE:HD2	1.60	0.49
1:C:87:PHE:HA	1:C:168:ARG:NH2	2.27	0.49
1:A:385:PRO:O	1:A:388:LYS:HG3	2.11	0.49
1:B:138:ARG:O	1:B:141:LYS:HG2	2.12	0.49
1:B:401:ARG:CZ	1:B:481:ASP:HB2	2.42	0.49
1:D:394:PHE:CE2	1:D:488:ILE:HG22	2.47	0.49
1:D:592:LEU:O	1:D:599:THR:HA	2.12	0.49
1:A:319:PHE:CE1	1:A:348:ARG:HG2	2.47	0.49
1:A:404:GLU:O	1:A:479:ARG:NE	2.44	0.49
1:C:289:MET:CE	1:D:262:LEU:HG	2.42	0.49
1:C:575:GLY:HA2	1:C:612:VAL:HG11	1.94	0.49
1:A:424:TYR:HB3	1:A:477:LEU:HD12	1.93	0.49
1:B:422:HIS:HA	1:B:480:LEU:O	2.12	0.49
1:C:272:VAL:HG23	1:C:273:GLY:H	1.76	0.49
1:C:610:GLU:OE2	1:C:646:ARG:NH1	2.46	0.49
1:C:209:VAL:O	1:C:212:THR:OG1	2.24	0.49
1:A:185:PHE:HA	1:A:188:LEU:HD12	1.95	0.49
1:A:601:LEU:HD23	1:A:623:PHE:HD2	1.78	0.49
1:D:154:TRP:CZ3	1:D:170:LEU:HB3	2.48	0.49
1:D:226:LEU:HD21	1:D:281:ASN:HD21	1.78	0.49
1:A:268:THR:HG23	1:A:269:MET:N	2.27	0.49
1:A:569:HIS:HD2	1:A:600:PRO:HG3	1.77	0.49
1:B:522:ILE:O	1:B:526:LYS:HG3	2.12	0.49
1:B:568:LEU:HD13	1:B:583:LEU:CG	2.42	0.49
1:A:66:LYS:O	1:A:69:GLU:HG2	2.13	0.49
1:A:400:ILE:HG13	1:A:401:ARG:HD3	1.95	0.49
1:A:596:PHE:HB2	1:A:598:HIS:CD2	2.48	0.49
1:B:353:SER:O	1:B:356:THR:OG1	2.25	0.49
1:B:386:LEU:HD22	1:B:453:SER:HB2	1.94	0.49
1:C:375:LEU:HD11	1:D:335:LEU:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:643:PHE:HD1	1:A:646:ARG:HH21	1.60	0.49
1:B:401:ARG:NH2	1:B:481:ASP:HB2	2.28	0.49
1:B:551:ILE:HA	1:B:555:ALA:HB3	1.93	0.49
1:D:387:PHE:HE1	1:D:394:PHE:HE1	1.61	0.49
1:D:154:TRP:HZ3	1:D:170:LEU:HB3	1.78	0.49
1:A:240:LYS:HD2	1:A:245:SER:HB2	1.94	0.48
1:B:504:MET:O	1:B:507:LYS:HG2	2.12	0.48
1:C:356:THR:CG2	1:D:329:PHE:CD1	2.96	0.48
1:B:189:GLU:CG	1:B:192:THR:HG23	2.43	0.48
1:C:247:GLU:OE1	1:C:247:GLU:N	2.40	0.48
1:A:426:VAL:HG22	1:A:477:LEU:HD11	1.94	0.48
1:B:328:SER:HA	1:B:331:ASN:ND2	2.27	0.48
1:C:414:THR:HG21	1:C:465:GLN:HG2	1.95	0.48
1:A:346:HIS:HB3	1:A:408:LEU:HG	1.95	0.48
1:A:380:TYR:O	1:A:384:VAL:HG23	2.14	0.48
1:B:565:ARG:HD3	1:C:596:PHE:HZ	1.77	0.48
1:B:612:VAL:O	1:B:615:LEU:HG	2.13	0.48
1:A:136:ALA:O	1:A:140:LEU:HB2	2.13	0.48
1:A:541:GLN:NE2	1:D:562:TYR:OH	2.42	0.48
1:B:368:ILE:HD13	1:C:343:ILE:HG22	1.96	0.48
1:B:448:LEU:HG	1:B:452:THR:CG2	2.43	0.48
1:B:500:LEU:HD23	1:B:503:ILE:HD11	1.95	0.48
1:C:59:HIS:CD2	1:C:60:PRO:HD2	2.49	0.48
1:C:252:ILE:O	1:C:257:ARG:NH1	2.46	0.48
1:C:375:LEU:CD1	1:D:335:LEU:HD12	2.44	0.48
1:A:360:MET:HE1	1:B:329:PHE:CZ	2.49	0.48
1:C:240:LYS:HG3	1:C:240:LYS:O	2.14	0.48
1:C:409:PRO:HA	1:C:471:VAL:HG23	1.96	0.48
1:C:535:VAL:HG22	1:C:550:LEU:HD11	1.96	0.48
1:C:665:LEU:HD22	1:C:713:LEU:HD13	1.95	0.48
1:A:483:GLN:OE1	1:A:487:ASN:ND2	2.46	0.48
1:A:517:GLU:HA	1:A:520:ILE:HG22	1.96	0.48
1:B:63:ARG:HD2	1:B:66:LYS:HZ1	1.78	0.48
1:B:158:TYR:CE2	1:B:163:LYS:HG3	2.49	0.48
1:B:484:SER:O	1:B:488:ILE:HG12	2.14	0.48
1:C:132:PRO:HA	1:C:135:ILE:HD12	1.95	0.48
1:D:86:GLU:O	1:D:168:ARG:NH2	2.47	0.48
1:D:358:THR:HB	1:D:362:GLN:HE22	1.78	0.48
1:A:408:LEU:O	1:A:471:VAL:HG21	2.13	0.48
1:B:323:MET:O	1:B:327:ILE:HG12	2.14	0.48
1:B:565:ARG:NH2	1:C:563:ASP:OD2	2.37	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:364:ILE:HD13	1:A:369:ARG:HB3	1.96	0.48
1:A:416:GLN:CD	1:A:436:THR:HB	2.38	0.48
1:D:143:HIS:CD2	1:D:179:ARG:HD3	2.49	0.48
1:D:331:ASN:OD1	1:D:340:ARG:NH2	2.44	0.48
1:A:268:THR:HG23	1:A:291:TYR:CE2	2.48	0.48
1:A:401:ARG:HH22	1:A:488:ILE:HD13	1.79	0.48
1:A:507:LYS:HA	1:A:513:ILE:HG12	1.96	0.48
1:A:674:PHE:HB2	1:A:712:LEU:HD12	1.95	0.48
1:C:83:THR:OG1	1:C:84:PRO:HD3	2.14	0.48
1:C:385:PRO:HA	1:C:388:LYS:HE2	1.96	0.48
1:C:460:ILE:HD11	1:C:500:LEU:HD23	1.96	0.48
1:A:581:LEU:HA	1:A:584:ILE:HD12	1.95	0.47
1:B:501:ASN:HA	1:B:504:MET:HE3	1.96	0.47
1:C:103:VAL:O	1:C:106:ILE:HG22	2.13	0.47
1:A:59:HIS:CD2	1:A:61:LYS:H	2.32	0.47
1:A:501:ASN:O	1:A:504:MET:HG3	2.14	0.47
1:A:520:ILE:HA	1:A:523:HIS:CE1	2.49	0.47
1:A:615:LEU:O	1:A:618:LYS:N	2.47	0.47
1:B:113:VAL:HA	1:B:116:PHE:HD2	1.78	0.47
1:C:145:LEU:O	1:C:149:ILE:HG13	2.14	0.47
1:C:352:ASP:OD1	1:C:353:SER:N	2.47	0.47
1:D:411:GLU:O	1:D:471:VAL:HG12	2.13	0.47
1:A:323:MET:HG2	1:A:348:ARG:CD	2.42	0.47
1:B:239:LEU:HD23	1:B:246:TYR:CE2	2.49	0.47
1:B:558:ASN:OD1	1:B:558:ASN:C	2.58	0.47
1:B:637:ALA:HB1	1:C:659:TYR:CG	2.49	0.47
1:D:89:PHE:CZ	1:D:258:TYR:HA	2.50	0.47
1:C:356:THR:O	1:C:359:VAL:HG22	2.15	0.47
1:D:108:PHE:CE1	1:D:177:ARG:CD	2.97	0.47
1:A:198:PHE:O	1:A:202:LEU:HD23	2.14	0.47
1:B:150:GLY:O	1:B:174:ARG:NH2	2.47	0.47
1:B:239:LEU:HD23	1:B:246:TYR:HE2	1.80	0.47
1:B:364:ILE:CG2	1:B:369:ARG:HB2	2.38	0.47
1:B:504:MET:HG2	1:B:507:LYS:HZ3	1.79	0.47
1:D:565:ARG:NH2	1:D:594:ASP:OD2	2.47	0.47
1:A:376:LEU:O	1:A:379:PRO:HD2	2.14	0.47
1:A:569:HIS:CD2	1:A:600:PRO:HG3	2.50	0.47
1:D:323:MET:O	1:D:327:ILE:HG12	2.14	0.47
1:D:335:LEU:HD22	1:D:339:LEU:CB	2.45	0.47
1:A:339:LEU:HD12	1:A:340:ARG:H	1.71	0.47
1:A:662:ARG:HH12	1:A:693:TRP:HB2	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:264:PHE:HB2	1:B:277:ILE:HD12	1.96	0.47
1:B:425:PHE:HD1	1:B:453:SER:HG	1.62	0.47
1:B:655:ASN:HB3	1:B:685:ALA:HA	1.97	0.47
1:B:662:ARG:HG3	1:B:663:THR:N	2.30	0.47
1:B:690:LYS:HD2	1:B:690:LYS:HA	1.41	0.47
1:C:431:LEU:HB2	1:C:448:LEU:HB2	1.96	0.47
1:C:550:LEU:HG	1:C:555:ALA:HB3	1.97	0.47
1:D:86:GLU:HG2	1:D:87:PHE:N	2.28	0.47
1:D:319:PHE:O	1:D:323:MET:HG2	2.14	0.47
1:D:640:ASP:OD1	1:D:640:ASP:N	2.48	0.47
1:A:59:HIS:CD2	1:A:61:LYS:HB2	2.50	0.47
1:A:68:TRP:O	1:A:72:ILE:HG23	2.15	0.47
1:B:255:TRP:O	1:B:259:THR:HG23	2.15	0.47
1:B:407:PHE:CD2	1:B:471:VAL:HG21	2.49	0.47
1:B:693:TRP:HE1	1:C:662:ARG:NH2	2.13	0.47
1:C:599:THR:HG21	1:C:624:ASN:H	1.80	0.47
1:D:323:MET:HE1	1:D:347:VAL:HG11	1.95	0.47
1:B:194:ILE:HD12	1:B:199:THR:HG22	1.96	0.47
1:B:416:GLN:NE2	1:B:435:VAL:HG23	2.30	0.47
1:D:235:TRP:CZ3	1:D:277:ILE:HG21	2.50	0.47
1:D:335:LEU:HD22	1:D:339:LEU:HB3	1.97	0.47
1:D:404:GLU:OE1	1:D:476:HIS:NE2	2.48	0.47
1:D:428:GLU:HB3	1:D:476:HIS:HB3	1.97	0.47
1:C:434:LEU:HB3	1:C:442:GLU:OE1	2.15	0.47
1:A:315:ASN:OD1	1:A:316:THR:N	2.48	0.46
1:B:418:ASN:O	1:B:465:GLN:HG2	2.15	0.46
1:D:263:TYR:O	1:D:266:ILE:HG22	2.15	0.46
1:D:264:PHE:CD2	1:D:277:ILE:CG2	2.97	0.46
1:D:357:ASP:O	1:D:361:LEU:HG	2.15	0.46
1:D:461:CYS:HB3	1:D:519:ASP:CG	2.40	0.46
1:D:503:ILE:HA	1:D:506:GLU:OE2	2.16	0.46
1:A:636:VAL:HG21	1:A:664:PRO:HB3	1.97	0.46
1:B:349:LEU:HD23	1:B:408:LEU:HG	1.97	0.46
1:B:431:LEU:HD13	1:B:471:VAL:HG22	1.97	0.46
1:C:112:ILE:HG21	1:C:148:PHE:CE2	2.50	0.46
1:D:181:VAL:HG12	1:D:185:PHE:HE2	1.80	0.46
1:D:556:ASP:O	1:D:559:LYS:HG2	2.16	0.46
1:A:368:ILE:O	1:A:372:ILE:HG23	2.15	0.46
1:A:465:GLN:HE21	1:A:467:PHE:HB2	1.81	0.46
1:B:167:VAL:HA	1:B:170:LEU:HD12	1.98	0.46
1:B:220:TYR:O	1:B:224:THR:HG23	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:527:GLN:O	1:B:530:GLU:HG3	2.15	0.46
1:C:71:PHE:O	1:C:75:TRP:HD1	1.98	0.46
1:D:158:TYR:HE2	1:D:163:LYS:HZ2	1.63	0.46
1:B:102:ILE:O	1:B:106:ILE:HG12	2.15	0.46
1:C:272:VAL:HG23	1:C:273:GLY:N	2.31	0.46
1:C:397:GLN:O	1:C:400:ILE:HG12	2.15	0.46
1:A:606:LYS:HG2	1:A:643:PHE:CE1	2.49	0.46
1:B:642:ASP:O	1:B:645:LYS:HG2	2.15	0.46
1:C:149:ILE:HG23	1:C:154:TRP:HZ2	1.80	0.46
1:C:315:ASN:HA	1:C:318:ARG:CZ	2.45	0.46
1:C:522:ILE:HG13	1:C:523:HIS:CD2	2.51	0.46
1:A:326:LEU:HD11	1:A:348:ARG:NH2	2.30	0.46
1:B:330:MET:HE1	1:B:340:ARG:N	2.30	0.46
1:B:540:PHE:HA	1:B:570:LEU:HD21	1.97	0.46
1:C:189:GLU:HB2	1:C:199:THR:HG21	1.96	0.46
1:C:402:LEU:HD22	1:C:478:LEU:HB3	1.98	0.46
1:C:481:ASP:OD2	1:C:483:GLN:HB3	2.16	0.46
1:C:506:GLU:HA	1:C:509:SER:OG	2.16	0.46
1:A:249:PHE:HA	1:A:252:ILE:HD13	1.97	0.46
1:B:90:PHE:O	1:B:168:ARG:NH2	2.47	0.46
1:B:281:ASN:OD1	1:B:283:ARG:N	2.39	0.46
1:B:336:GLY:C	1:B:337:ARG:HG2	2.41	0.46
1:B:402:LEU:HB3	1:B:478:LEU:HD12	1.98	0.46
1:C:393:GLU:HA	1:C:396:ASN:ND2	2.31	0.46
1:D:420:VAL:O	1:D:482:LYS:HD2	2.15	0.46
1:D:434:LEU:O	1:D:467:PHE:HB2	2.15	0.46
1:D:625:LEU:HD23	1:D:625:LEU:HA	1.77	0.46
1:B:666:HIS:HE1	1:B:691:ASP:HB2	1.81	0.46
1:C:426:VAL:O	1:C:451:HIS:N	2.48	0.46
1:C:636:VAL:HG11	1:C:667:VAL:HG23	1.98	0.46
1:D:73:LEU:HB3	1:D:180:LYS:NZ	2.21	0.46
1:D:83:THR:HA	1:D:86:GLU:CD	2.41	0.46
1:D:671:GLU:HG3	1:D:673:LEU:HG	1.97	0.46
1:A:357:ASP:HA	1:A:360:MET:CE	2.46	0.46
1:B:82:PHE:O	1:B:85:MET:HG2	2.15	0.46
1:C:398:ILE:HG13	1:C:399:VAL:N	2.30	0.46
1:D:129:VAL:HG13	1:D:135:ILE:HD11	1.97	0.46
1:A:668:ALA:HB1	1:A:677:ALA:HB2	1.97	0.46
1:B:523:HIS:HA	1:B:526:LYS:HE2	1.97	0.46
1:C:380:TYR:CE1	1:C:427:CYS:HB3	2.51	0.46
1:C:394:PHE:HA	1:C:488:ILE:HD11	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:561:ASP:OD2	1:C:565:ARG:NH2	2.46	0.46
1:A:164:HIS:O	1:A:167:VAL:HG12	2.15	0.45
1:A:403:HIS:HB2	1:A:479:ARG:HG3	1.97	0.45
1:A:422:HIS:HA	1:A:480:LEU:O	2.17	0.45
1:B:565:ARG:NH2	1:C:565:ARG:NH1	2.64	0.45
1:C:344:THR:O	1:C:348:ARG:HG2	2.17	0.45
1:A:423:LEU:HB2	1:A:480:LEU:HB3	1.97	0.45
1:B:319:PHE:HA	1:B:322:LYS:HE2	1.98	0.45
1:C:271:THR:HA	1:D:272:VAL:HG21	1.81	0.45
1:C:663:THR:HG22	1:C:665:LEU:H	1.82	0.45
1:D:504:MET:O	1:D:507:LYS:HB2	2.16	0.45
1:A:398:ILE:O	1:A:402:LEU:HB2	2.16	0.45
1:B:307:THR:O	1:B:311:VAL:HG23	2.15	0.45
1:B:514:LYS:O	1:B:514:LYS:HG3	2.17	0.45
1:B:603:GLU:HA	1:B:606:LYS:HE3	1.98	0.45
1:C:384:VAL:HG12	1:C:387:PHE:H	1.81	0.45
1:C:465:GLN:CD	1:C:465:GLN:H	2.24	0.45
1:C:525:GLY:O	1:C:528:GLU:HG2	2.16	0.45
1:D:431:LEU:HD21	1:D:469:VAL:CG2	2.46	0.45
1:A:135:ILE:HG12	1:A:138:ARG:NH2	2.31	0.45
1:C:512:ARG:HA	1:C:516:LEU:HD12	1.98	0.45
1:D:565:ARG:HH12	1:D:603:GLU:CD	2.24	0.45
1:A:128:THR:HG21	1:A:134:ARG:HD3	1.98	0.45
1:B:301:TYR:CD1	1:C:306:ILE:HD11	2.39	0.45
1:C:174:ARG:HG3	1:C:177:ARG:NH2	2.30	0.45
1:C:237:GLY:HA2	1:C:247:GLU:HA	1.97	0.45
1:D:628:SER:HB2	1:D:652:MET:SD	2.56	0.45
1:A:397:GLN:HB3	1:A:401:ARG:HH12	1.82	0.45
1:A:485:PHE:CE2	1:A:489:LEU:HD11	2.52	0.45
1:B:226:LEU:HD21	1:B:283:ARG:CZ	2.46	0.45
1:C:115:GLN:O	1:C:118:VAL:HG12	2.17	0.45
1:C:130:TYR:CG	1:C:130:TYR:O	2.68	0.45
1:D:445:VAL:CG1	1:D:446:THR:H	2.30	0.45
1:A:60:PRO:HD3	1:A:118:VAL:HG13	1.98	0.45
1:A:330:MET:HE3	1:A:337:ARG:HH22	1.82	0.45
1:B:514:LYS:HE3	1:B:520:ILE:HG21	1.98	0.45
1:D:623:PHE:CD2	1:D:625:LEU:HB2	2.52	0.45
1:A:94:PRO:HD2	1:A:97:LEU:HD12	1.97	0.45
1:A:184:PHE:O	1:A:188:LEU:HG	2.17	0.45
1:A:380:TYR:HA	1:A:383:LYS:HD2	1.99	0.45
1:B:415:GLU:O	1:B:465:GLN:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:393:GLU:HG2	1:D:394:PHE:N	2.31	0.45
1:A:163:LYS:HG3	1:A:164:HIS:N	2.32	0.45
1:B:120:TYR:CE2	1:B:138:ARG:HG3	2.51	0.45
1:B:402:LEU:HD23	1:B:402:LEU:HA	1.82	0.45
1:B:428:GLU:O	1:B:475:CYS:HB2	2.16	0.45
1:B:433:ALA:HB1	1:B:467:PHE:CE2	2.51	0.45
1:B:662:ARG:NH2	1:C:692:ARG:HH21	2.14	0.45
1:C:223:ALA:HB2	1:C:235:TRP:NE1	2.32	0.45
1:D:394:PHE:O	1:D:398:ILE:HG12	2.16	0.45
1:D:409:PRO:HB3	1:D:473:GLU:HA	1.99	0.45
1:A:298:LEU:HD23	1:A:298:LEU:HA	1.85	0.45
1:A:616:LEU:HD12	1:A:616:LEU:HA	1.85	0.45
1:B:372:ILE:O	1:B:375:LEU:HG	2.17	0.45
1:B:514:LYS:HZ1	1:B:520:ILE:HG21	1.80	0.45
1:C:173:ILE:HD12	1:C:173:ILE:H	1.82	0.45
1:D:174:ARG:HG2	1:D:177:ARG:HH12	1.82	0.45
1:A:221:TYR:O	1:A:224:THR:OG1	2.26	0.44
1:C:239:LEU:HD12	1:C:246:TYR:OH	2.16	0.44
1:D:303:ILE:O	1:D:307:THR:HG23	2.17	0.44
1:C:540:PHE:CD1	1:C:574:ARG:HD3	2.51	0.44
1:D:81:LEU:O	1:D:84:PRO:HD2	2.17	0.44
1:A:222:LEU:HD22	1:A:283:ARG:HB3	1.99	0.44
1:A:372:ILE:HG13	1:A:373:ALA:N	2.32	0.44
1:A:636:VAL:HG13	1:A:676:MET:HE1	1.98	0.44
1:A:654:PRO:HB3	1:A:680:LEU:HD23	2.00	0.44
1:B:539:ALA:HA	1:B:547:LEU:HD11	1.99	0.44
1:C:285:MET:O	1:C:288:VAL:HG12	2.18	0.44
1:D:93:LEU:H	1:D:159:LYS:NZ	2.15	0.44
1:D:547:LEU:HD22	1:D:579:ILE:HD12	1.99	0.44
1:D:547:LEU:O	1:D:551:ILE:HG12	2.16	0.44
1:D:678:LYS:HA	1:D:681:VAL:HG22	2.00	0.44
1:A:110:VAL:O	1:A:114:LEU:HD23	2.18	0.44
1:C:304:GLY:C	1:D:310:ILE:HD11	2.43	0.44
1:D:374:GLN:HA	1:D:399:VAL:HG11	1.99	0.44
1:A:124:GLN:HG2	1:A:125:THR:N	2.32	0.44
1:B:188:LEU:O	1:B:188:LEU:CD1	2.60	0.44
1:B:265:ALA:O	1:B:268:THR:OG1	2.31	0.44
1:B:378:LEU:HB3	1:B:379:PRO:HD3	2.00	0.44
1:C:418:ASN:C	1:C:465:GLN:HE22	2.25	0.44
1:C:538:ALA:HA	1:C:541:GLN:HG2	2.00	0.44
1:C:569:HIS:NE2	1:C:600:PRO:HD3	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:149:ILE:H	1:D:149:ILE:HD12	1.83	0.44
1:D:235:TRP:HZ3	1:D:277:ILE:HG21	1.81	0.44
1:A:140:LEU:HG	1:A:144:PHE:CD2	2.53	0.44
1:A:308:ALA:HA	1:A:311:VAL:HG12	2.00	0.44
1:A:326:LEU:HD11	1:A:348:ARG:HH21	1.82	0.44
1:B:356:THR:HG22	1:C:329:PHE:HE1	1.83	0.44
1:B:568:LEU:CD1	1:B:583:LEU:HD11	2.42	0.44
1:C:121:ARG:HA	1:C:128:THR:HA	2.00	0.44
1:C:418:ASN:O	1:C:465:GLN:NE2	2.50	0.44
1:C:647:LEU:HG	1:C:652:MET:HB2	1.99	0.44
1:D:339:LEU:O	1:D:343:ILE:HD12	2.17	0.44
1:A:122:ASP:OD2	1:A:124:GLN:NE2	2.39	0.44
1:A:659:TYR:CG	1:D:637:ALA:HB1	2.52	0.44
1:B:407:PHE:HD2	1:B:471:VAL:HG21	1.82	0.44
1:B:596:PHE:HB2	1:B:598:HIS:ND1	2.33	0.44
1:C:86:GLU:HG3	1:C:90:PHE:CE1	2.53	0.44
1:C:487:ASN:O	1:C:490:GLU:HG3	2.18	0.44
1:D:251:GLU:C	1:D:251:GLU:CD	2.85	0.44
1:A:239:LEU:CD2	1:A:241:LEU:HB2	2.48	0.44
1:A:432:GLU:OE2	1:A:434:LEU:HB3	2.18	0.44
1:A:593:LYS:HZ3	1:A:599:THR:HB	1.82	0.44
1:A:687:VAL:HG23	1:A:688:ILE:HG23	1.99	0.44
1:B:355:TYR:O	1:B:359:VAL:HG13	2.18	0.44
1:B:564:GLY:N	1:B:595:LYS:HB3	2.32	0.44
1:C:358:THR:O	1:C:362:GLN:OE1	2.35	0.44
1:C:488:ILE:HA	1:C:491:ILE:HG22	1.99	0.44
1:D:115:GLN:HE22	1:D:140:LEU:HA	1.81	0.44
1:A:479:ARG:H	1:A:479:ARG:HG2	1.66	0.44
1:A:608:GLY:HA2	1:A:646:ARG:HD2	2.00	0.44
1:B:437:LYS:HB3	1:B:441:SER:HB3	2.00	0.44
1:B:659:TYR:HB2	1:C:637:ALA:HB2	2.00	0.44
1:C:149:ILE:HG23	1:C:154:TRP:CZ2	2.53	0.44
1:A:124:GLN:HG2	1:A:125:THR:HG23	2.00	0.43
1:A:281:ASN:O	1:A:285:MET:N	2.51	0.43
1:A:330:MET:HE3	1:A:337:ARG:NH2	2.32	0.43
1:B:196:TYR:HB2	1:C:320:ARG:HE	1.83	0.43
1:B:525:GLY:O	1:B:528:GLU:HG3	2.17	0.43
1:B:642:ASP:OD1	1:B:642:ASP:N	2.50	0.43
1:D:137:PHE:O	1:D:141:LYS:HG3	2.17	0.43
1:D:514:LYS:HB3	1:D:514:LYS:HE2	1.71	0.43
1:D:575:GLY:HA2	1:D:612:VAL:HG21	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:375:LEU:HD21	1:B:337:ARG:HH22	1.83	0.43
1:A:382:LYS:HZ3	1:A:392:THR:HA	1.83	0.43
1:C:343:ILE:HG13	1:C:344:THR:N	2.33	0.43
1:C:383:LYS:HD2	1:C:451:HIS:CG	2.53	0.43
1:D:131:LYS:CE	1:D:134:ARG:HH12	2.27	0.43
1:A:172:TRP:O	1:A:175:LEU:HB3	2.19	0.43
1:A:485:PHE:O	1:A:488:ILE:HG22	2.18	0.43
1:C:308:ALA:HA	1:C:311:VAL:HG12	2.01	0.43
1:C:583:LEU:O	1:C:586:GLU:HB2	2.19	0.43
1:D:394:PHE:HB2	1:D:495:ASP:OD2	2.19	0.43
1:D:527:GLN:O	1:D:530:GLU:HG3	2.18	0.43
1:A:59:HIS:ND1	1:A:60:PRO:HD2	2.33	0.43
1:A:91:ARG:HA	1:A:168:ARG:NH1	2.33	0.43
1:A:289:MET:O	1:A:292:VAL:HG22	2.18	0.43
1:D:68:TRP:CZ2	1:D:72:ILE:HD11	2.53	0.43
1:D:393:GLU:O	1:D:397:GLN:HG2	2.18	0.43
1:D:487:ASN:O	1:D:490:GLU:HG3	2.18	0.43
1:D:497:ARG:NH1	1:D:553:SER:O	2.51	0.43
1:A:60:PRO:HG3	1:A:117:PHE:HE2	1.83	0.43
1:A:397:GLN:O	1:A:400:ILE:HG12	2.19	0.43
1:A:485:PHE:CZ	1:A:489:LEU:HD11	2.54	0.43
1:B:527:GLN:O	1:B:531:LEU:HG	2.18	0.43
1:D:106:ILE:HD12	1:D:109:LEU:HD12	1.99	0.43
1:D:507:LYS:C	1:D:509:SER:H	2.26	0.43
1:D:535:VAL:HG12	1:D:550:LEU:HD22	2.00	0.43
1:D:601:LEU:HD11	1:D:621:ALA:HB3	2.01	0.43
1:B:194:ILE:CD1	1:B:199:THR:HG22	2.49	0.43
1:D:269:MET:HA	1:D:295:ASP:OD2	2.18	0.43
1:D:425:PHE:HD1	1:D:453:SER:HB2	1.82	0.43
1:D:547:LEU:O	1:D:550:LEU:HG	2.19	0.43
1:B:384:VAL:HA	1:B:451:HIS:HB3	2.00	0.43
1:B:433:ALA:HB3	1:B:446:THR:OG1	2.19	0.43
1:C:511:ASP:HB2	1:C:515:LYS:HB3	2.01	0.43
1:A:273:GLY:HA3	1:B:272:VAL:O	2.19	0.43
1:B:378:LEU:HA	1:B:381:ILE:HG22	2.00	0.43
1:C:383:LYS:O	1:C:383:LYS:HG2	2.18	0.43
1:C:435:VAL:HG22	1:C:467:PHE:CD1	2.54	0.43
1:C:576:TYR:O	1:C:580:THR:HG23	2.18	0.43
1:A:326:LEU:HD12	1:A:326:LEU:C	2.44	0.43
1:B:507:LYS:CB	1:B:514:LYS:HG2	2.49	0.43
1:C:402:LEU:HD23	1:C:402:LEU:HA	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:239:LEU:HD11	1:D:246:TYR:CE2	2.54	0.43
1:D:589:ASP:OD1	1:D:589:ASP:N	2.51	0.43
1:A:223:ALA:HB2	1:A:235:TRP:HE1	1.83	0.43
1:B:424:TYR:HA	1:B:478:LEU:O	2.18	0.43
1:B:594:ASP:OD1	1:B:595:LYS:N	2.49	0.43
1:C:408:LEU:HD23	1:C:409:PRO:O	2.19	0.43
1:A:412:VAL:HG23	1:A:468:THR:HG23	2.00	0.42
1:A:507:LYS:HA	1:A:513:ILE:HG23	2.01	0.42
1:B:129:VAL:HB	1:B:135:ILE:HD11	2.01	0.42
1:B:345:GLY:HA2	1:B:348:ARG:HG2	2.00	0.42
1:B:410:GLY:N	1:B:471:VAL:O	2.50	0.42
1:C:399:VAL:O	1:C:402:LEU:HB2	2.19	0.42
1:C:582:PHE:HA	1:C:585:GLN:NE2	2.33	0.42
1:C:593:LYS:HD3	1:C:624:ASN:HB3	1.99	0.42
1:D:131:LYS:HE3	1:D:134:ARG:NH1	2.30	0.42
1:D:333:LYS:C	1:D:334:LYS:CG	2.87	0.42
1:A:223:ALA:HB2	1:A:235:TRP:NE1	2.34	0.42
1:B:74:VAL:HA	1:B:77:ILE:HG12	2.01	0.42
1:B:448:LEU:CD2	1:B:452:THR:CG2	2.97	0.42
1:D:561:ASP:OD2	1:D:565:ARG:HB3	2.18	0.42
1:D:645:LYS:HG2	1:D:679:MET:HG2	2.00	0.42
1:A:89:PHE:CZ	1:A:258:TYR:HA	2.54	0.42
1:B:168:ARG:HA	1:B:171:LEU:HD13	2.01	0.42
1:C:549:SER:HA	1:C:552:ARG:HG2	2.01	0.42
1:D:251:GLU:CD	1:D:251:GLU:O	2.63	0.42
1:D:308:ALA:O	1:D:311:VAL:HG12	2.18	0.42
1:D:497:ARG:NH2	1:D:553:SER:HB2	2.34	0.42
1:A:63:ARG:HA	1:A:66:LYS:HG2	2.02	0.42
1:B:280:VAL:HG11	1:C:242:GLY:HA3	2.02	0.42
1:B:336:GLY:O	1:B:337:ARG:CG	2.66	0.42
1:B:374:GLN:HA	1:B:378:LEU:HB2	2.02	0.42
1:B:615:LEU:HA	1:B:618:LYS:HG2	2.00	0.42
1:C:190:LYS:HD3	1:C:190:LYS:HA	1.64	0.42
1:C:349:LEU:HD22	1:C:474:LEU:HD23	1.99	0.42
1:C:396:ASN:O	1:C:400:ILE:HG23	2.19	0.42
1:D:445:VAL:CG1	1:D:446:THR:N	2.83	0.42
1:A:220:TYR:OH	1:A:257:ARG:HD2	2.20	0.42
1:B:72:ILE:HG12	1:B:111:ASP:OD1	2.19	0.42
1:B:83:THR:O	1:B:86:GLU:HG3	2.19	0.42
1:B:115:GLN:HB3	1:B:139:TYR:CZ	2.55	0.42
1:B:194:ILE:O	1:C:320:ARG:NH2	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:222:LEU:HD22	1:B:284:GLU:OE1	2.20	0.42
1:C:270:ALA:O	1:C:272:VAL:HG13	2.19	0.42
1:D:424:TYR:HA	1:D:478:LEU:O	2.19	0.42
1:A:413:ILE:HB	1:A:469:VAL:HG23	2.01	0.42
1:A:691:ASP:OD1	1:A:691:ASP:N	2.52	0.42
1:B:72:ILE:HD12	1:B:72:ILE:HA	1.92	0.42
1:B:393:GLU:H	1:B:393:GLU:CD	2.25	0.42
1:C:339:LEU:HA	1:C:339:LEU:HD23	1.76	0.42
1:C:456:ASP:OD2	1:C:457:ILE:N	2.52	0.42
1:D:185:PHE:HA	1:D:188:LEU:HD12	2.02	0.42
1:D:322:LYS:O	1:D:326:LEU:HB2	2.20	0.42
1:A:122:ASP:O	1:A:123:THR:OG1	2.28	0.42
1:C:579:ILE:HD12	1:C:579:ILE:H	1.85	0.42
1:D:226:LEU:CD2	1:D:281:ASN:HD21	2.32	0.42
1:D:666:HIS:CD2	1:D:700:GLU:HB2	2.54	0.42
1:A:359:VAL:O	1:A:362:GLN:HG2	2.20	0.42
1:B:65:TYR:O	1:B:69:GLU:HG3	2.19	0.42
1:B:172:TRP:O	1:B:175:LEU:HG	2.20	0.42
1:B:700:GLU:H	1:B:700:GLU:HG2	1.63	0.42
1:C:89:PHE:HA	1:C:220:TYR:CD1	2.55	0.42
1:C:507:LYS:HE2	1:C:515:LYS:HD3	2.02	0.42
1:C:533:LEU:HD11	1:C:562:TYR:CE1	2.55	0.42
1:C:673:LEU:HD21	1:C:676:MET:HE3	2.02	0.42
1:D:181:VAL:CG1	1:D:185:PHE:HE2	2.33	0.42
1:A:234:THR:CG2	1:A:235:TRP:N	2.83	0.42
1:B:154:TRP:HE1	1:B:173:ILE:HD11	1.85	0.42
1:B:281:ASN:HD21	1:B:283:ARG:NH2	2.17	0.42
1:B:396:ASN:O	1:B:400:ILE:HG23	2.19	0.42
1:B:433:ALA:HB1	1:B:467:PHE:HE2	1.85	0.42
1:B:504:MET:O	1:B:508:GLU:OE1	2.37	0.42
1:C:584:ILE:HD13	1:C:619:GLU:OE2	2.19	0.42
1:A:248:ASN:O	1:A:252:ILE:HD12	2.20	0.42
1:B:208:GLU:OE1	1:B:298:LEU:HG	2.19	0.42
1:B:310:ILE:HD13	1:B:310:ILE:HA	1.83	0.42
1:B:330:MET:HE2	1:B:336:GLY:HA2	2.02	0.42
1:C:519:ASP:HB2	1:C:522:ILE:CG1	2.45	0.42
1:C:136:ALA:O	1:C:140:LEU:HD23	2.20	0.41
1:A:437:LYS:HD2	1:A:441:SER:OG	2.20	0.41
1:B:90:PHE:CZ	1:B:254:LEU:HD13	2.55	0.41
1:B:239:LEU:CD1	1:B:277:ILE:HG22	2.50	0.41
1:B:418:ASN:O	1:B:465:GLN:N	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:89:PHE:CZ	1:C:258:TYR:HA	2.55	0.41
1:C:540:PHE:HD1	1:C:574:ARG:CG	2.33	0.41
1:C:543:ASP:HB2	1:C:545:TYR:CE2	2.55	0.41
1:D:158:TYR:HD1	1:D:167:VAL:HB	1.85	0.41
1:D:183:GLU:O	1:D:187:ARG:NE	2.50	0.41
1:A:233:TYR:HB3	1:B:243:ASP:HB2	2.01	0.41
1:B:219:PHE:HD1	1:B:284:GLU:OE2	2.04	0.41
1:C:231:GLU:OE2	1:C:248:ASN:HA	2.21	0.41
1:C:360:MET:HG3	1:C:369:ARG:NH2	2.35	0.41
1:D:62:ASN:OD1	1:D:63:ARG:N	2.54	0.41
1:D:264:PHE:HD2	1:D:277:ILE:CG2	2.33	0.41
1:D:548:LYS:HG3	1:D:552:ARG:HH21	1.86	0.41
1:A:632:LEU:HD23	1:A:656:SER:O	2.20	0.41
1:B:352:ASP:O	1:B:356:THR:HG23	2.20	0.41
1:B:642:ASP:O	1:B:646:ARG:HG2	2.20	0.41
1:C:101:ASP:O	1:C:105:GLN:HG2	2.20	0.41
1:C:456:ASP:O	1:C:460:ILE:HG22	2.21	0.41
1:C:493:PHE:HD2	1:C:497:ARG:HH22	1.67	0.41
1:C:578:ASP:OD1	1:C:578:ASP:N	2.48	0.41
1:D:109:LEU:O	1:D:113:VAL:HG23	2.21	0.41
1:D:426:VAL:HG13	1:D:426:VAL:O	2.21	0.41
1:A:95:GLU:HG2	1:A:96:ARG:N	2.35	0.41
1:A:58:ILE:O	1:A:118:VAL:HG12	2.19	0.41
1:C:423:LEU:HD12	1:C:454:PHE:O	2.21	0.41
1:D:281:ASN:O	1:D:284:GLU:HB2	2.20	0.41
1:D:347:VAL:HG22	1:D:351:TYR:HE2	1.83	0.41
1:D:397:GLN:HB3	1:D:401:ARG:NH2	2.33	0.41
1:D:425:PHE:O	1:D:477:LEU:HD12	2.20	0.41
1:A:174:ARG:HG2	1:A:177:ARG:HH12	1.85	0.41
1:A:329:PHE:HZ	1:D:356:THR:HG22	1.82	0.41
1:B:393:GLU:OE2	1:B:393:GLU:N	2.40	0.41
1:C:255:TRP:O	1:C:259:THR:HG23	2.21	0.41
1:A:428:GLU:HA	1:A:450:PRO:HB3	2.02	0.41
1:A:501:ASN:HA	1:A:504:MET:HG3	2.02	0.41
1:B:220:TYR:CE1	1:B:257:ARG:HD3	2.55	0.41
1:C:616:LEU:O	1:C:620:GLY:N	2.52	0.41
1:D:77:ILE:HG13	1:D:78:TYR:N	2.36	0.41
1:D:485:PHE:CE2	1:D:489:LEU:HD11	2.56	0.41
1:A:121:ARG:NH1	1:A:127:ARG:HB2	2.36	0.41
1:A:134:ARG:HG3	1:A:135:ILE:N	2.35	0.41
1:A:336:GLY:O	1:A:339:LEU:HG	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:350:GLN:HB2	1:A:406:TYR:HB2	2.02	0.41
1:A:375:LEU:HD22	1:B:335:LEU:HD11	2.01	0.41
1:A:540:PHE:CE2	1:D:562:TYR:HB3	2.55	0.41
1:B:375:LEU:HD12	1:B:376:LEU:HB2	2.02	0.41
1:B:599:THR:HG21	1:B:623:PHE:O	2.20	0.41
1:B:666:HIS:CG	1:B:700:GLU:HG3	2.55	0.41
1:C:270:ALA:HB3	1:C:272:VAL:HG22	2.02	0.41
1:C:273:GLY:N	1:D:272:VAL:HG13	2.35	0.41
1:C:397:GLN:HB3	1:C:488:ILE:HD12	2.03	0.41
1:C:420:VAL:O	1:C:482:LYS:NZ	2.51	0.41
1:C:486:SER:O	1:C:489:LEU:HG	2.21	0.41
1:D:58:ILE:HD11	1:D:62:ASN:HD22	1.86	0.41
1:D:239:LEU:C	1:D:239:LEU:HD12	2.45	0.41
1:D:257:ARG:H	1:D:257:ARG:HG3	1.73	0.41
1:D:267:VAL:HG22	1:D:274:TYR:CD2	2.56	0.41
1:A:320:ARG:O	1:A:323:MET:HB2	2.20	0.41
1:A:458:SER:OG	1:A:465:GLN:HB2	2.22	0.41
1:B:496:GLY:O	1:B:499:ILE:HG22	2.20	0.41
1:B:524:ILE:HD12	1:B:524:ILE:HA	1.92	0.41
1:D:66:LYS:HB3	1:D:66:LYS:HE3	1.85	0.41
1:D:91:ARG:NH2	1:D:168:ARG:HD2	2.36	0.41
1:B:504:MET:HG2	1:B:507:LYS:NZ	2.35	0.40
1:C:200:ARG:O	1:C:204:LEU:HD23	2.21	0.40
1:D:335:LEU:HD22	1:D:339:LEU:CD2	2.51	0.40
1:D:590:VAL:HB	1:D:619:GLU:HG2	2.03	0.40
1:A:568:LEU:HD22	1:A:588:VAL:HG13	2.03	0.40
1:A:633:CYS:HB3	1:A:657:GLU:O	2.22	0.40
1:B:347:VAL:O	1:B:350:GLN:HG2	2.21	0.40
1:C:361:LEU:HD23	1:C:369:ARG:HD2	2.03	0.40
1:C:582:PHE:HA	1:C:585:GLN:CD	2.46	0.40
1:A:92:GLY:H	1:A:168:ARG:HH12	1.69	0.40
1:A:110:VAL:O	1:A:113:VAL:HG22	2.22	0.40
1:B:89:PHE:HA	1:B:220:TYR:CE2	2.56	0.40
1:B:190:LYS:NZ	1:C:337:ARG:NH2	2.69	0.40
1:B:544:PHE:O	1:B:548:LYS:HD3	2.21	0.40
1:C:205:LEU:HA	1:C:205:LEU:HD12	1.80	0.40
1:C:266:ILE:CG2	1:C:269:MET:HE3	2.52	0.40
1:C:377:TYR:HB2	1:C:399:VAL:HG13	2.04	0.40
1:D:266:ILE:O	1:D:269:MET:CG	2.62	0.40
1:A:318:ARG:C	1:A:322:LYS:HZ2	2.30	0.40
1:A:574:ARG:HA	1:A:574:ARG:HD2	1.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:152:PHE:HA	1:B:153:PRO:HD3	1.97	0.40
1:B:181:VAL:CG1	1:B:185:PHE:HE2	2.33	0.40
1:B:661:HIS:O	1:B:661:HIS:CG	2.75	0.40
1:D:349:LEU:HD21	1:D:406:TYR:HB2	2.04	0.40
1:D:563:ASP:HA	1:D:595:LYS:HG3	2.02	0.40
1:B:84:PRO:HB2	1:B:217:CYS:SG	2.61	0.40
1:B:98:PHE:CE2	1:B:102:ILE:HD11	2.56	0.40
1:B:172:TRP:CZ2	1:B:218:ILE:HD11	2.49	0.40
1:C:220:TYR:O	1:C:224:THR:HG23	2.22	0.40
1:C:356:THR:HG23	1:C:360:MET:SD	2.59	0.40
1:C:572:ALA:HB1	1:C:604:ALA:HB2	2.04	0.40
1:D:190:LYS:HD3	1:D:190:LYS:HA	1.90	0.40
1:D:591:ASN:ND2	1:D:624:ASN:OD1	2.55	0.40
1:D:676:MET:SD	1:D:677:ALA:N	2.95	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	654/820 (80%)	634 (97%)	20 (3%)	0	100	100
1	B	654/820 (80%)	637 (97%)	17 (3%)	0	100	100
1	C	654/820 (80%)	640 (98%)	14 (2%)	0	100	100
1	D	654/820 (80%)	642 (98%)	12 (2%)	0	100	100
All	All	2616/3280 (80%)	2553 (98%)	63 (2%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	577/729 (79%)	575 (100%)	2 (0%)	91	92
1	B	577/729 (79%)	572 (99%)	5 (1%)	75	83
1	C	579/729 (79%)	576 (100%)	3 (0%)	86	90
1	D	577/729 (79%)	574 (100%)	3 (0%)	86	90
All	All	2310/2916 (79%)	2297 (99%)	13 (1%)	82	88

All (13) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	342	GLN
1	A	395	ILE
1	B	359	VAL
1	B	513	ILE
1	B	566	SER
1	B	688	ILE
1	B	690	LYS
1	C	267	VAL
1	C	326	LEU
1	C	327	ILE
1	D	247	GLU
1	D	253	ASP
1	D	267	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (25) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	465	GLN
1	A	487	ASN
1	A	501	ASN
1	A	527	GLN
1	A	666	HIS
1	B	248	ASN

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Mol	Chain	Res	Type
1	B	346	HIS
1	B	350	GLN
1	B	403	HIS
1	B	465	GLN
1	B	558	ASN
1	B	591	ASN
1	B	666	HIS
1	C	186	GLN
1	C	350	GLN
1	C	397	GLN
1	C	487	ASN
1	C	523	HIS
1	C	630	ASN
1	C	653	ASN
1	D	59	HIS
1	D	124	GLN
1	D	502	ASN
1	D	558	ASN
1	D	655	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

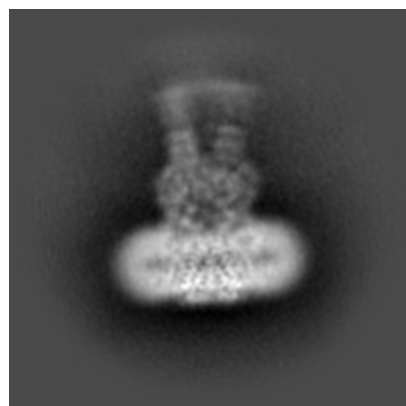
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-37500. These allow visual inspection of the internal detail of the map and identification of artifacts.

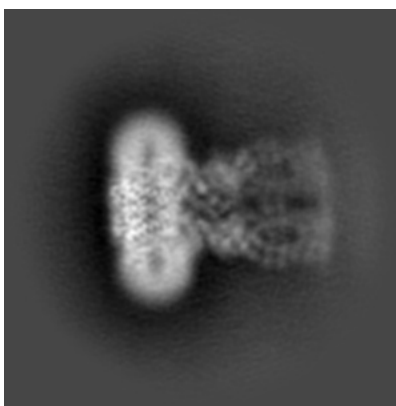
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

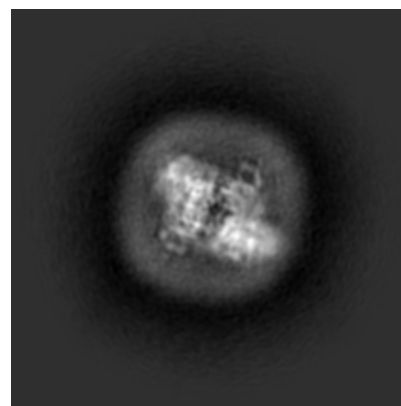
6.1.1 Primary map



X

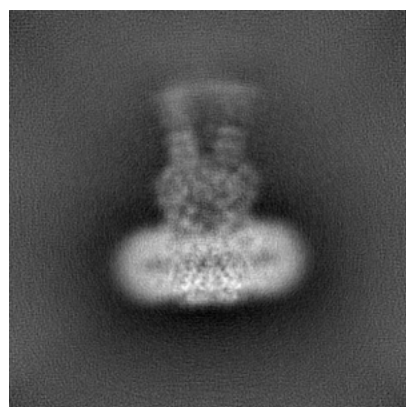


Y

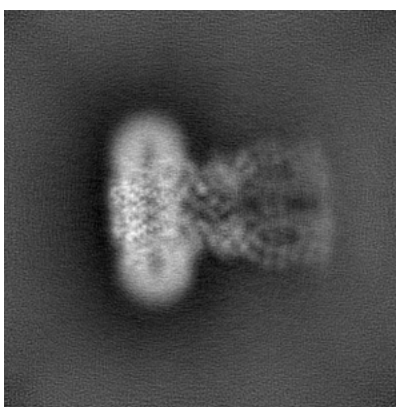


Z

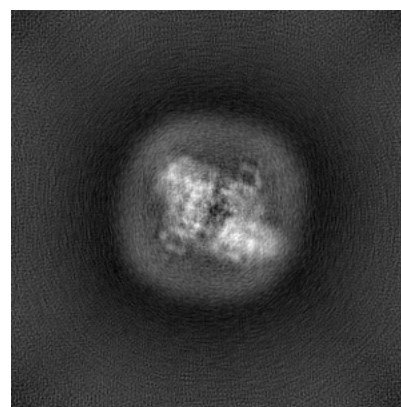
6.1.2 Raw map



X



Y



Z

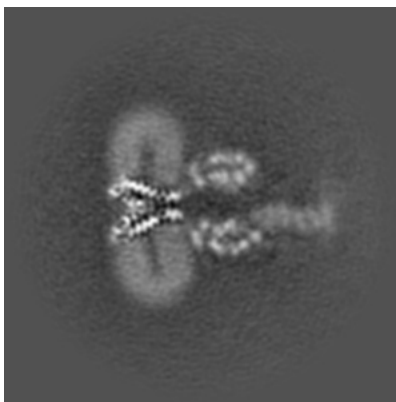
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

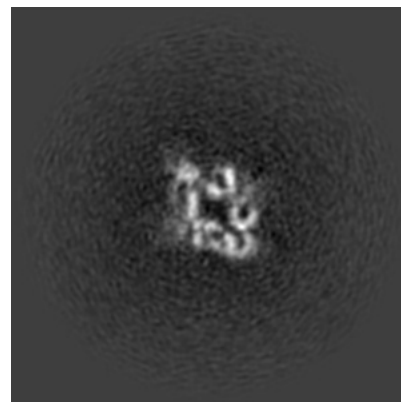
6.2.1 Primary map



X Index: 144

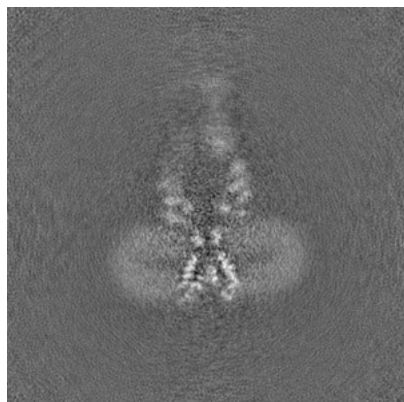


Y Index: 144

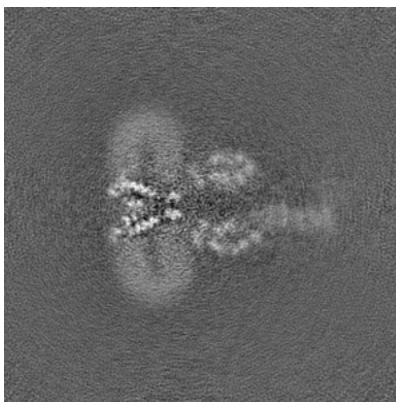


Z Index: 144

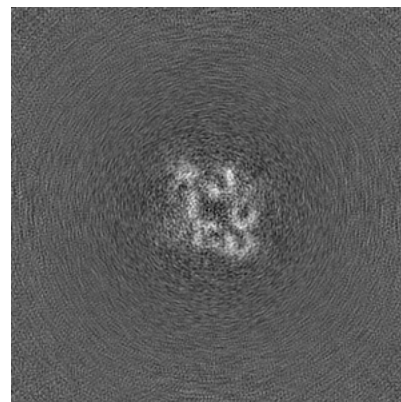
6.2.2 Raw map



X Index: 144



Y Index: 144

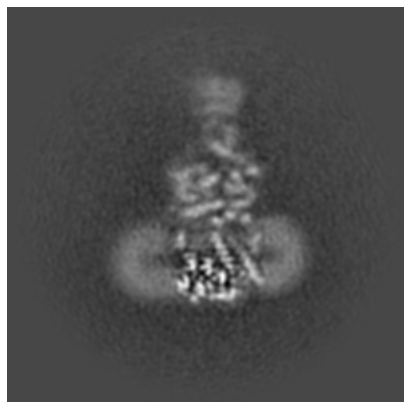


Z Index: 144

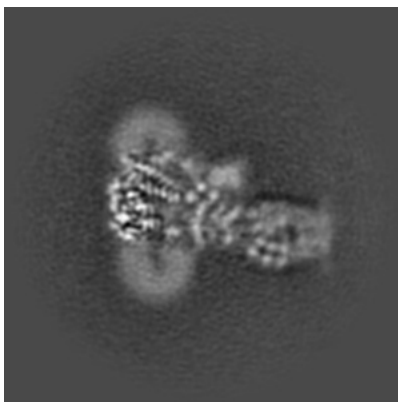
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

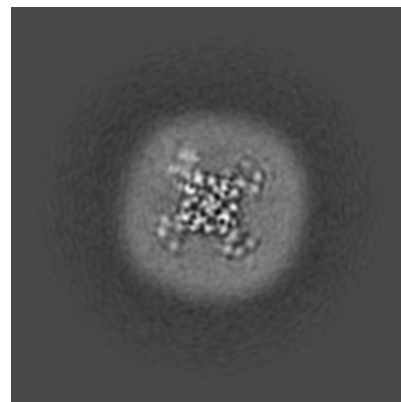
6.3.1 Primary map



X Index: 130

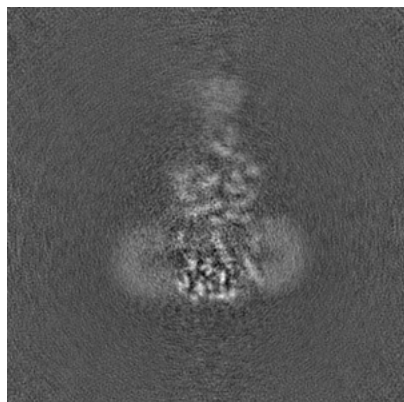


Y Index: 159

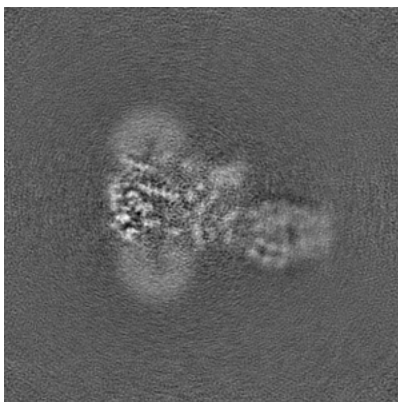


Z Index: 92

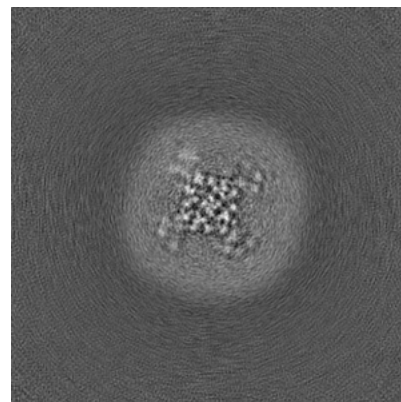
6.3.2 Raw map



X Index: 130



Y Index: 158

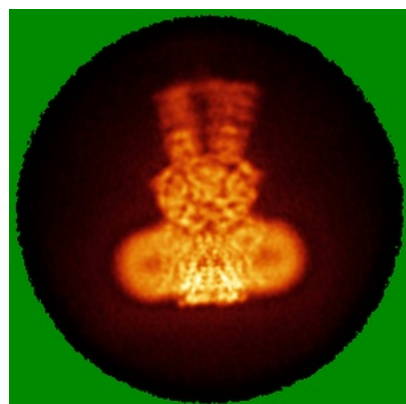


Z Index: 92

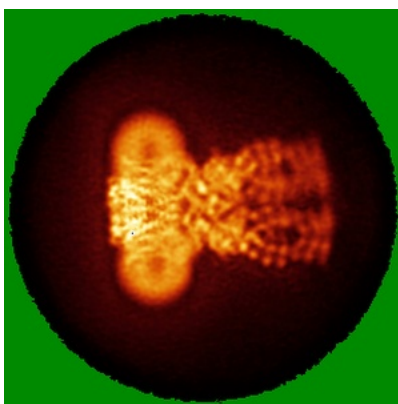
The images above show the largest variance slices of the map in three orthogonal directions.

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

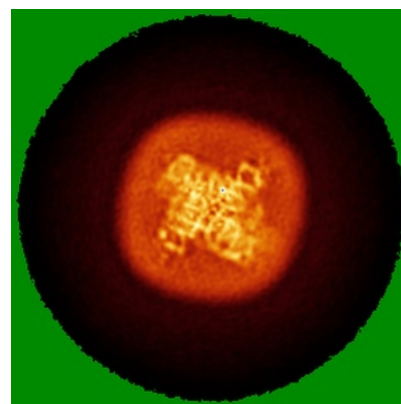
6.4.1 Primary map



X

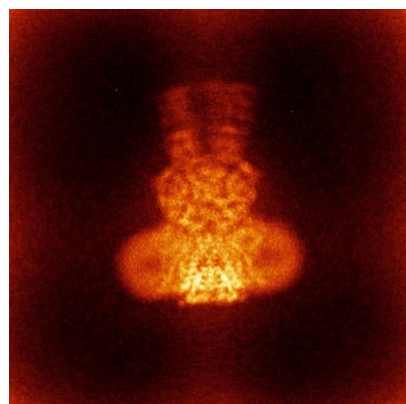


Y

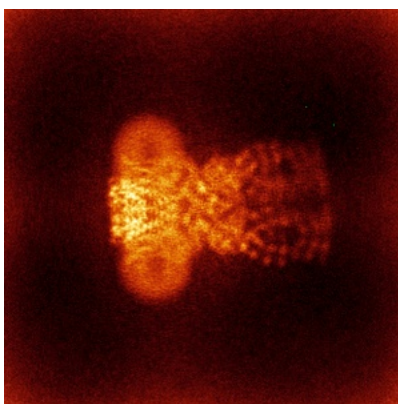


Z

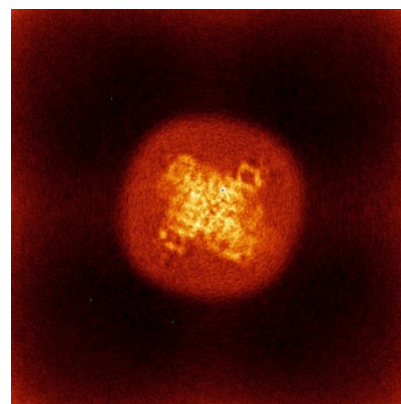
6.4.2 Raw map



X



Y

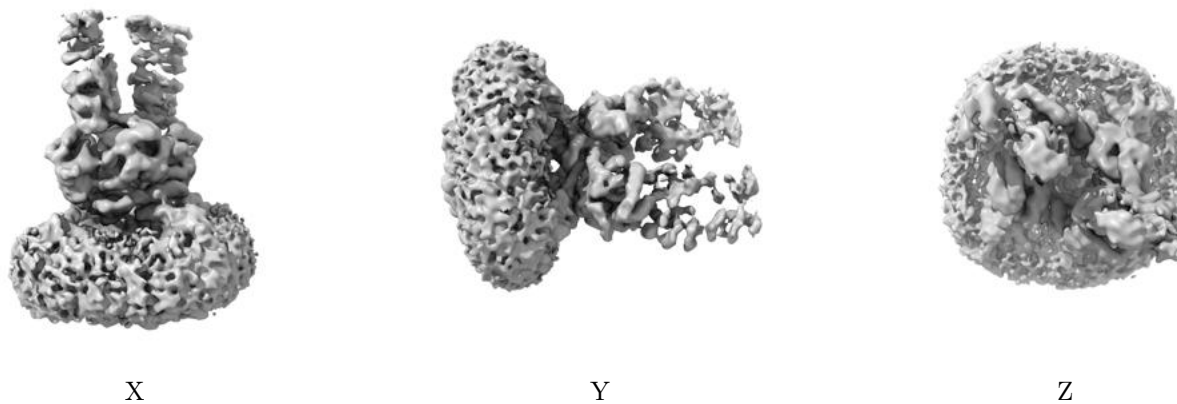


Z

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

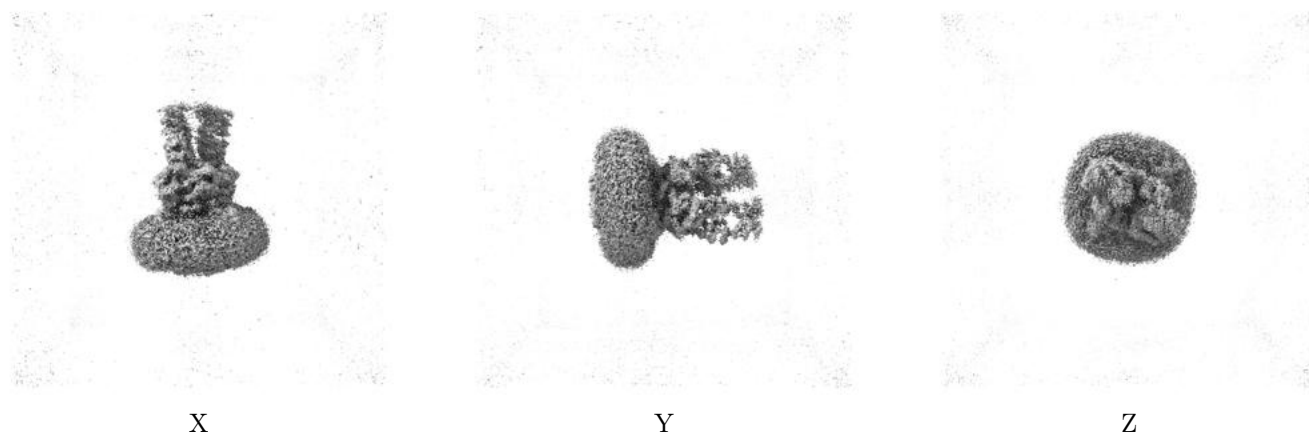
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.085. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

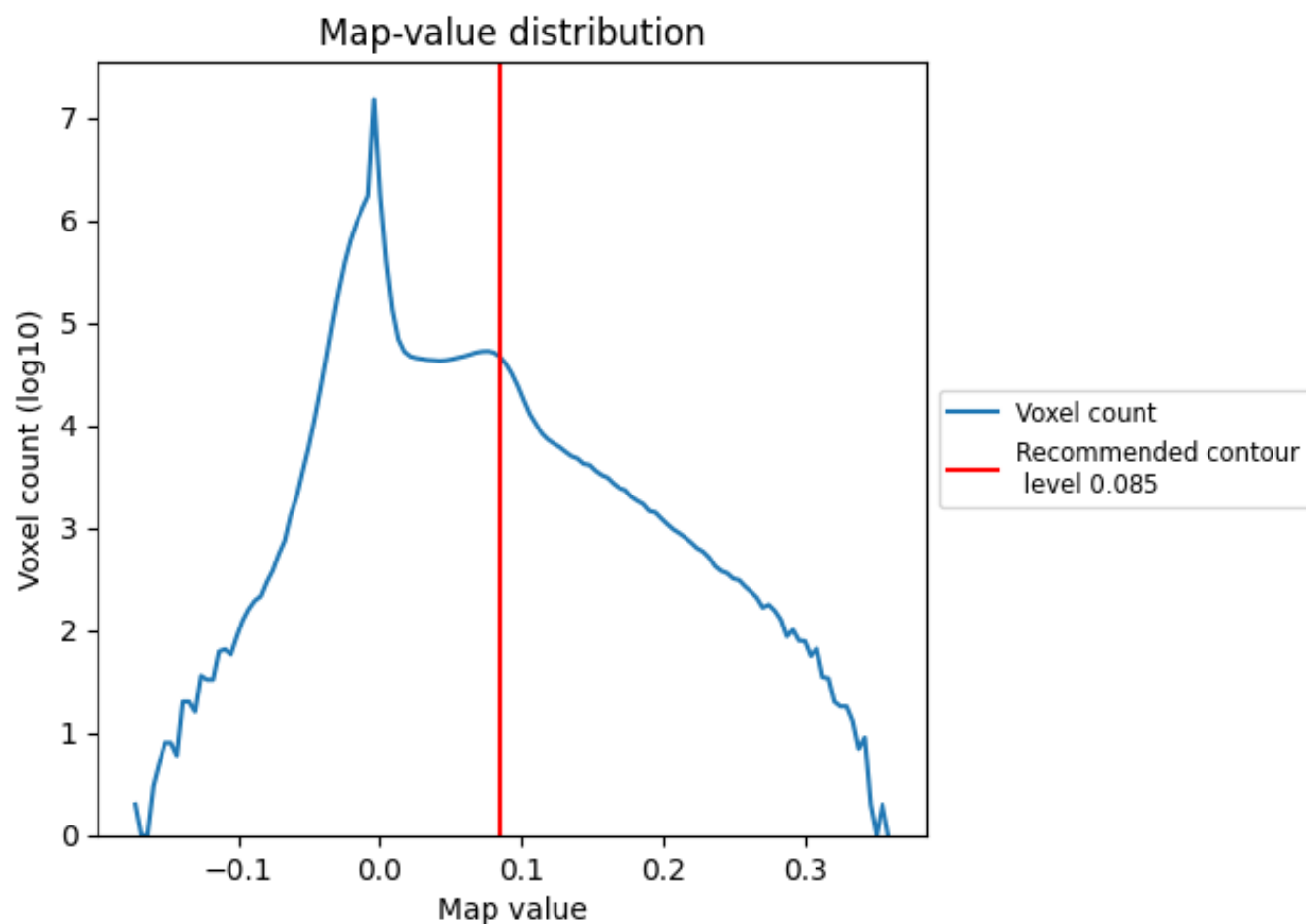
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

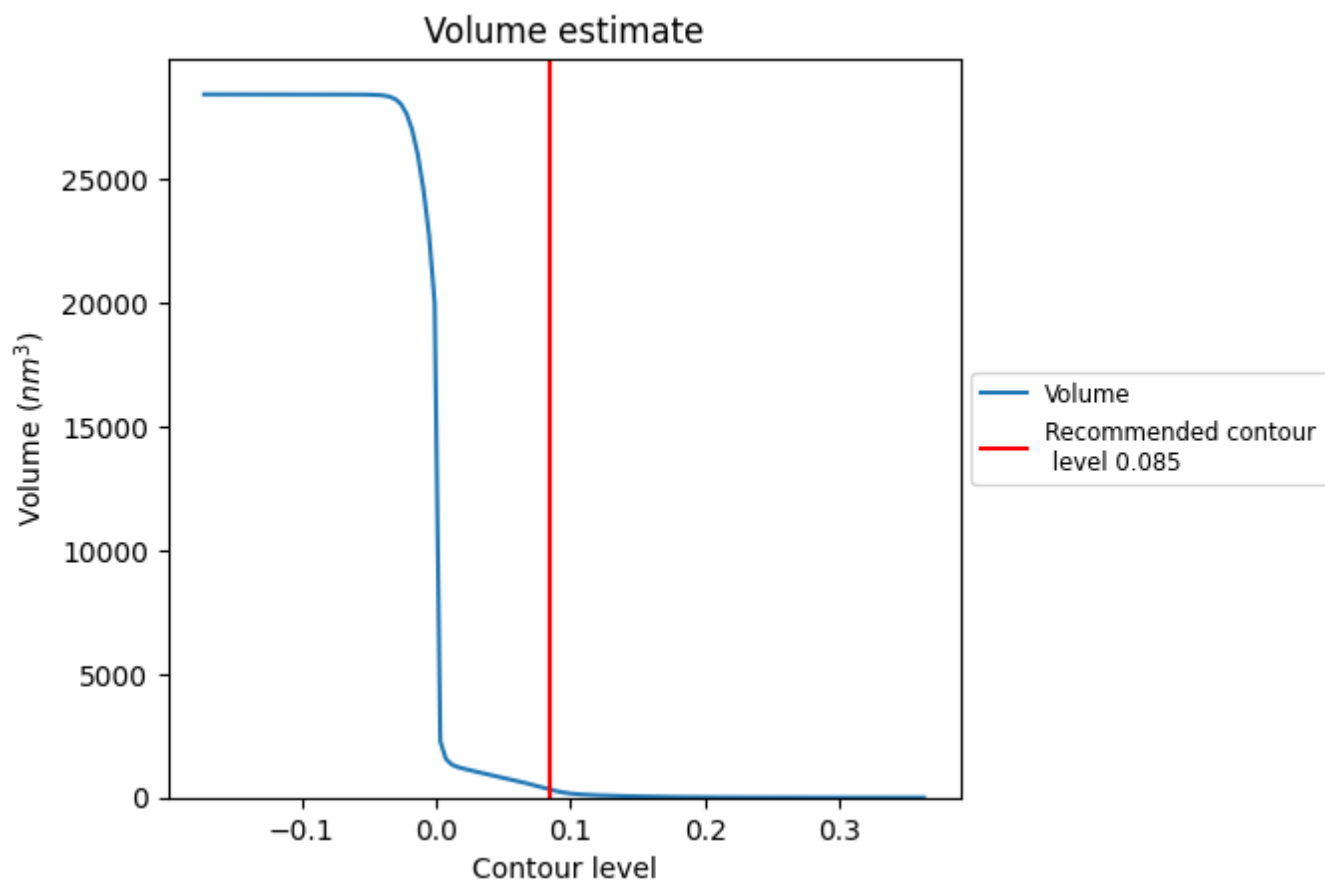
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

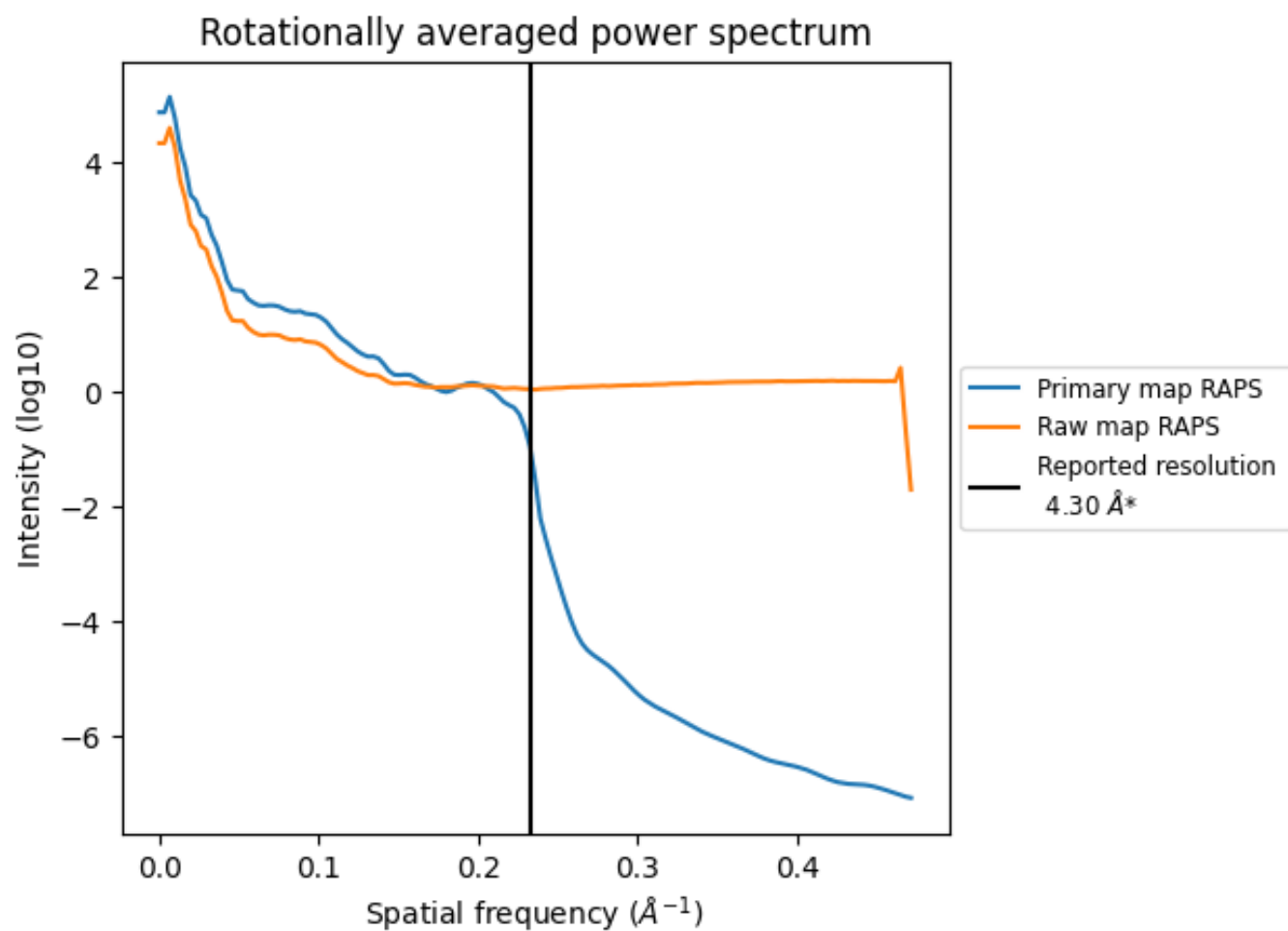
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 321 nm³; this corresponds to an approximate mass of 290 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

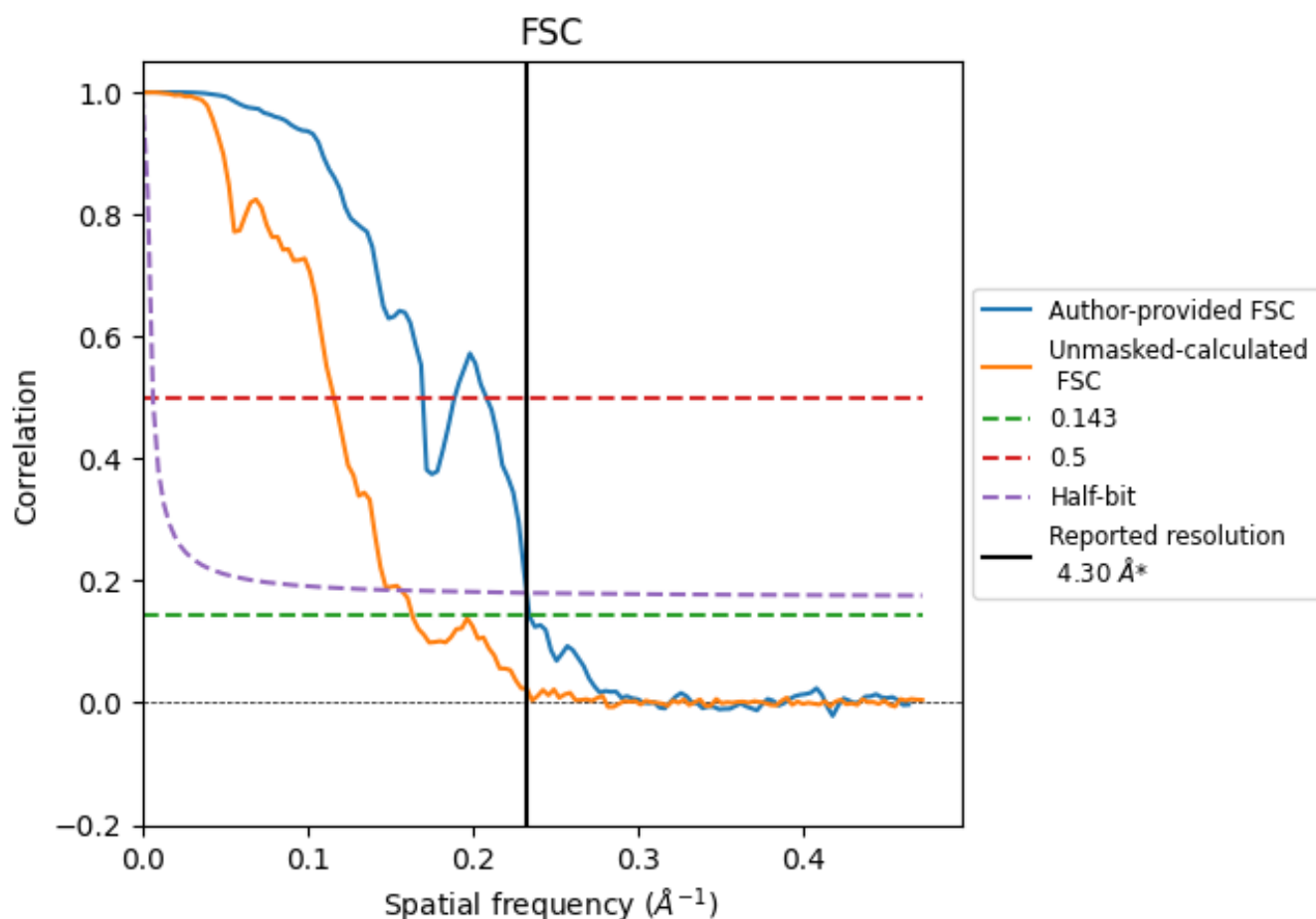


*Reported resolution corresponds to spatial frequency of 0.233 Å⁻¹

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 0.233 Å⁻¹

8.2 Resolution estimates [i](#)

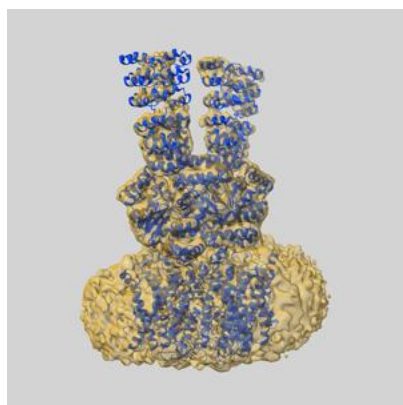
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.30	-	-
Author-provided FSC curve	4.27	5.89	4.30
Unmasked-calculated*	6.12	8.62	6.38

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.12 differs from the reported value 4.3 by more than 10 %

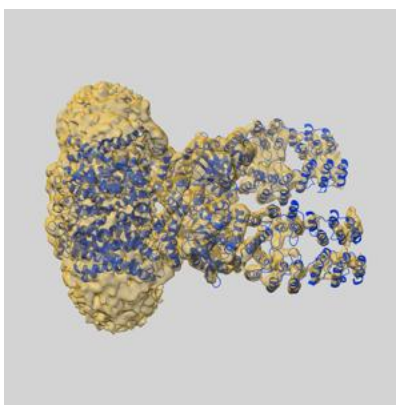
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-37500 and PDB model 8WFZ. Per-residue inclusion information can be found in [section 3](#) on [page 4](#).

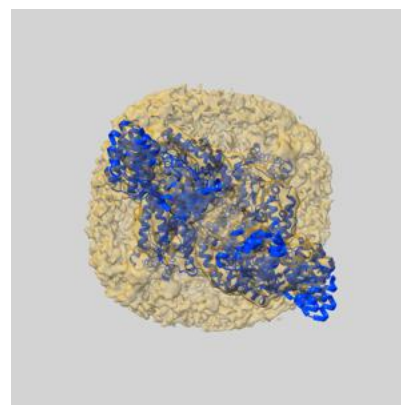
9.1 Map-model overlay [i](#)



X



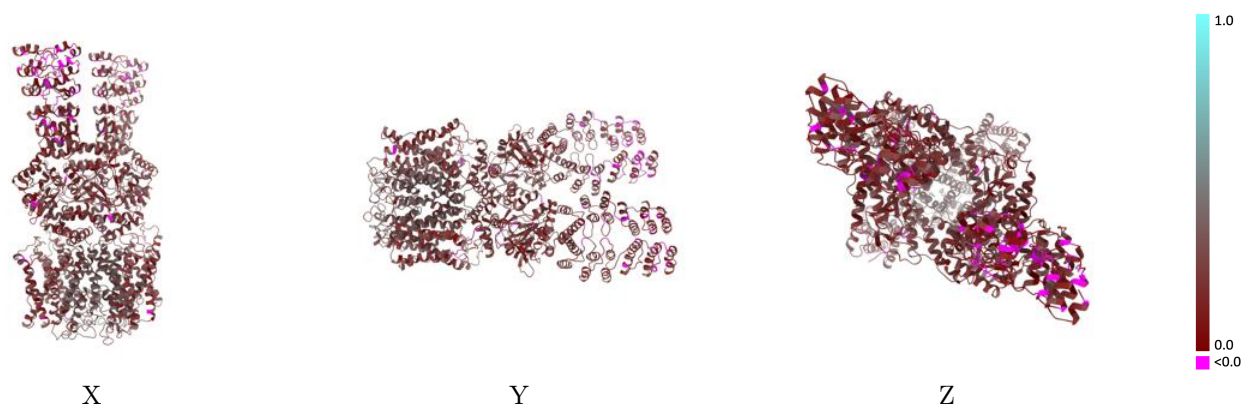
Y



Z

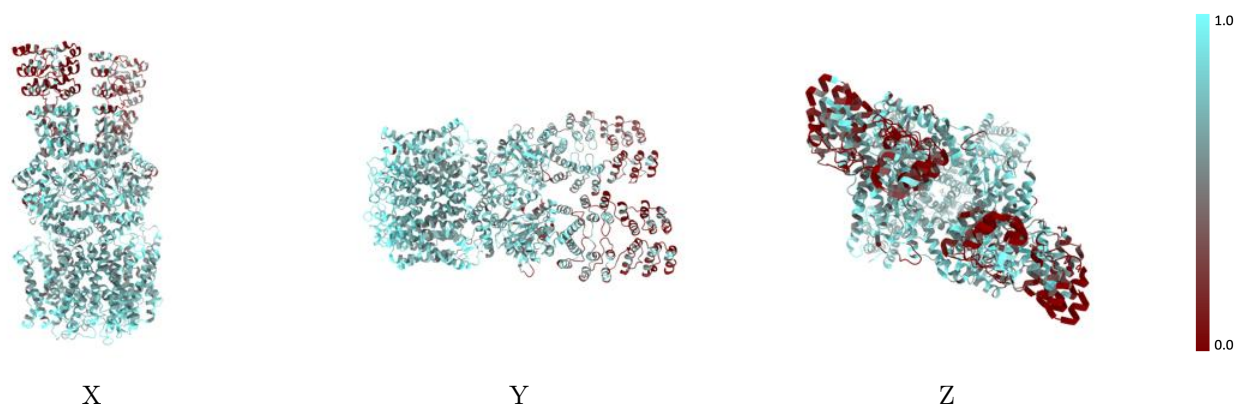
The images above show the 3D surface view of the map at the recommended contour level 0.085 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



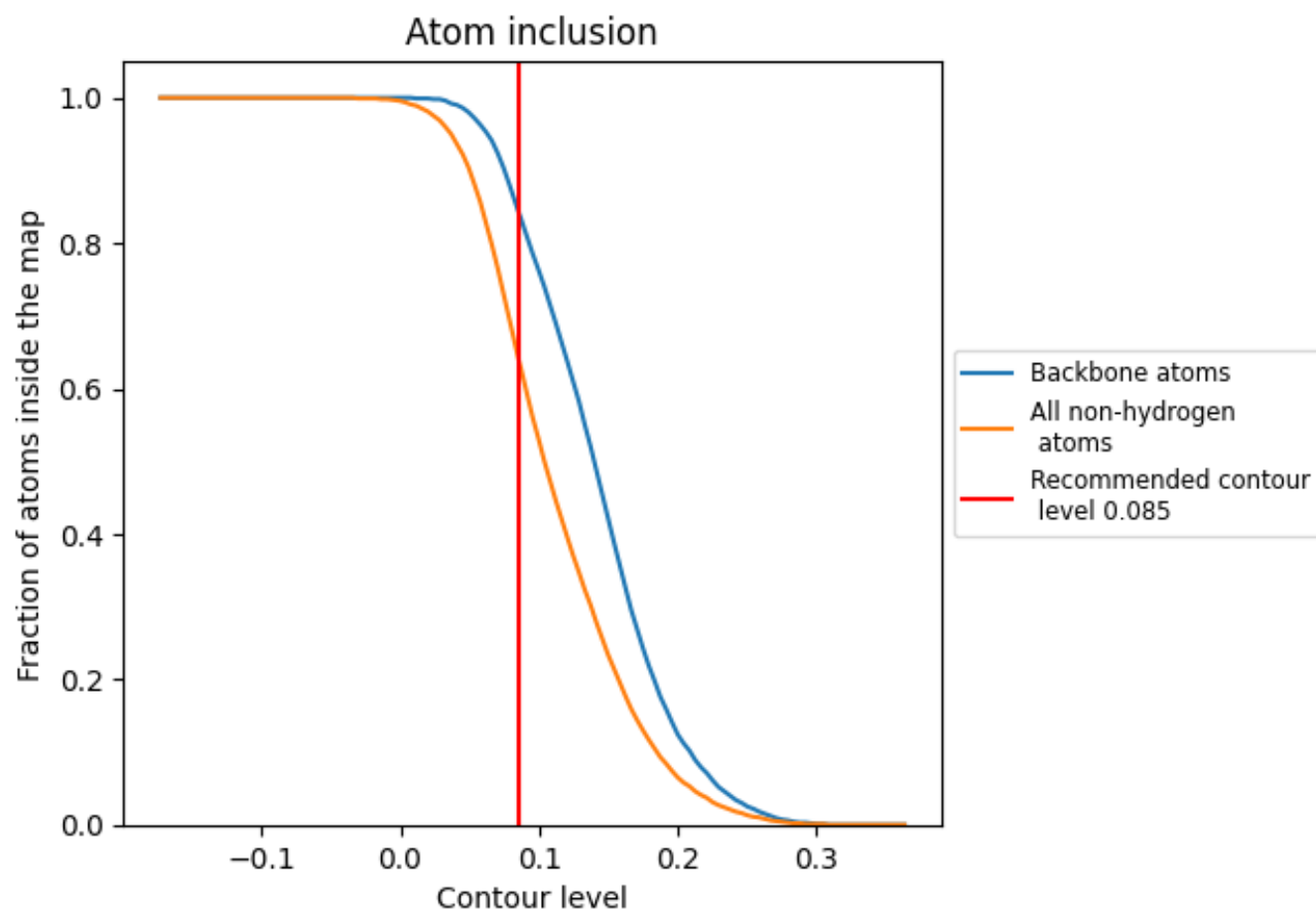
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.085).

9.4 Atom inclusion [i](#)



At the recommended contour level, 84% of all backbone atoms, 64% 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 (0.085) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6420	0.2330
A	0.6580	0.2300
B	0.6370	0.2330
C	0.6230	0.2430
D	0.6480	0.2280

