Full wwPDB EM Validation Report ⓘ

Sep 3, 2024 – 06:42 PM EDT

PDB ID	:	9B9G
EMDB ID	:	EMD-44382
Title	:	Structure of the PI4KA complex bound to Calcineurin
Authors	:	Shaw, A.L.; Suresh, S.; Yip, C.K.; Burke, J.E.
Deposited on	:	2024-04-02
Resolution	:	3.50 Å(reported)
Based on initial models	:	6NUC, 6BQ1

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:

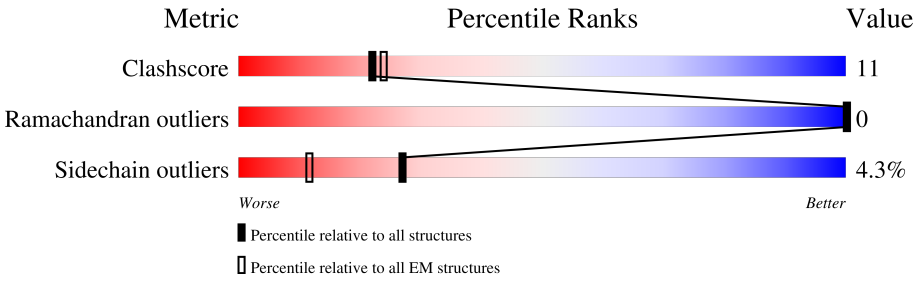
EMDB validation analysis	:	0.0.1.dev112
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.38.3

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 3.50 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	2102	61% 19% • 19%
1	B	2102	58% 21% • 19%
2	D	843	• 50% 18% • 31%
2	F	843	• 51% 16% • 31%
3	E	308	• 58% 24% 18%
3	G	308	5% 50% 30% • 18%
4	H	170	52% 69% 22% 9%
4	J	170	52% 73% 18% 9%

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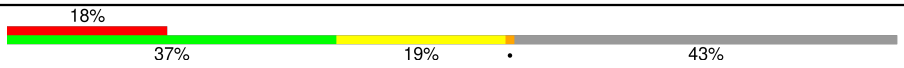
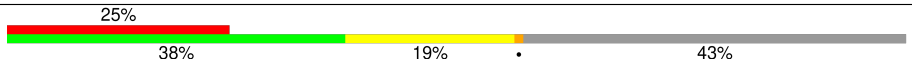
Mol	Chain	Length	Quality of chain
5	I	620	
5	K	620	

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 48676 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 Phosphatidylinositol 4-kinase alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1696	Total	C	N	O	S	0	0
			13625	8815	2266	2447	97		
1	B	1696	Total	C	N	O	S	0	0
			13625	8815	2266	2447	97		

- Molecule 2 is a protein called Tetratricopeptide repeat protein 7B.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	D	578	Total	C	N	O	S	0	0
			4573	2918	793	835	27		
2	F	578	Total	C	N	O	S	0	0
			4573	2918	793	835	27		

- Molecule 3 is a protein called Hyccin.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	254	Total	C	N	O	S	0	0
			2022	1315	325	370	12		
3	G	254	Total	C	N	O	S	0	0
			2022	1315	325	370	12		

- Molecule 4 is a protein called Calcineurin subunit B type 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	H	155	Total	C	N	O	S	1	0
			1236	779	205	246	6		
4	J	155	Total	C	N	O	S	1	0
			1236	779	205	246	6		

- Molecule 5 is a protein called Protein phosphatase 3 catalytic subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	I	353	Total	C	N	O	S	0	0
			2866	1849	478	519	20		
5	K	356	Total	C	N	O	S	0	0
			2890	1863	485	522	20		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	236	PRO	LEU	engineered mutation	UNP Q08209
I	238	ASN	ASP	engineered mutation	UNP Q08209
I	466	PRO	LEU	engineered mutation	UNP Q08209
K	236	PRO	LEU	engineered mutation	UNP Q08209
K	238	ASN	ASP	engineered mutation	UNP Q08209
K	466	PRO	LEU	engineered mutation	UNP Q08209

- Molecule 6 is CALCIUM ION (three-letter code: CA) (formula: Ca).

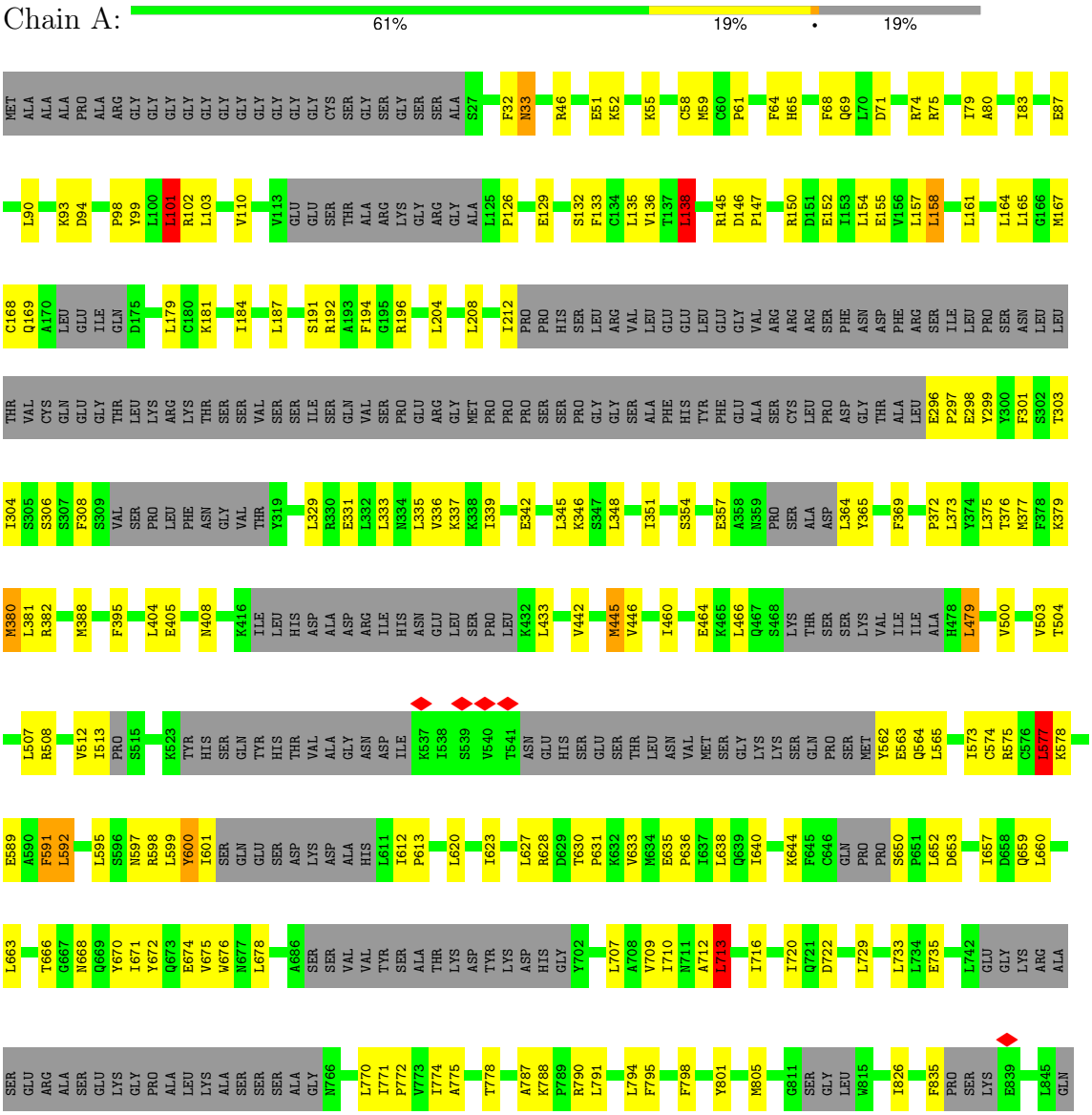
Mol	Chain	Residues	Atoms		AltConf
6	H	4	Total	Ca	0
			4	4	
6	J	4	Total	Ca	0
			4	4	

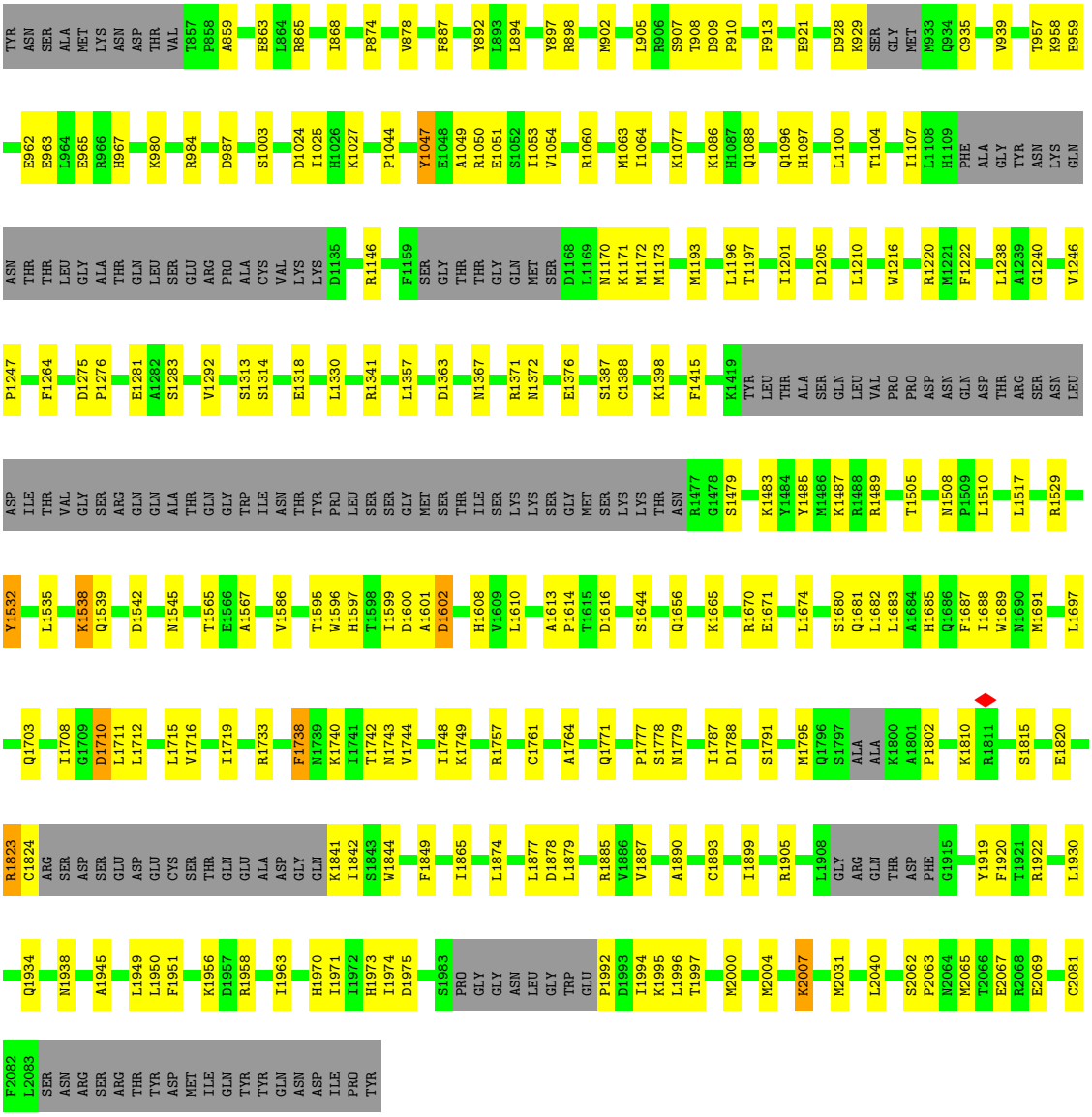
3 Residue-property plots (i)

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: Phosphatidylinositol 4-kinase alpha

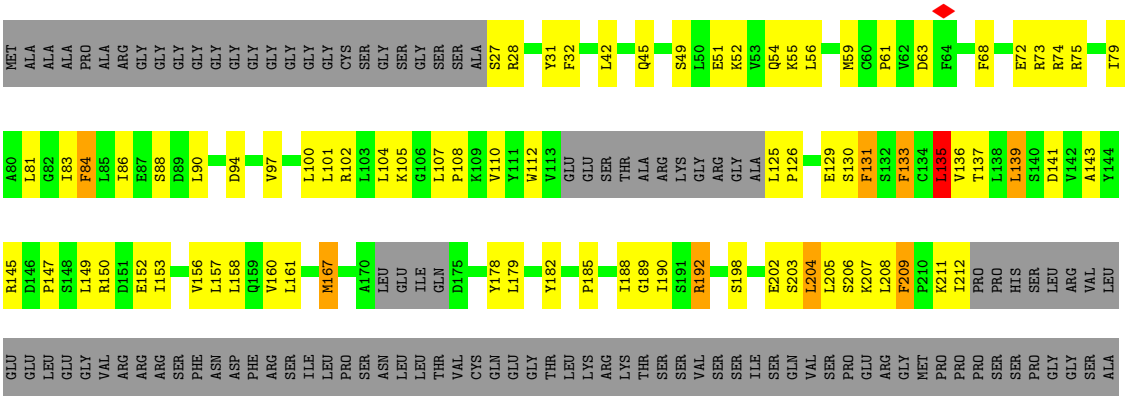
Chain A:

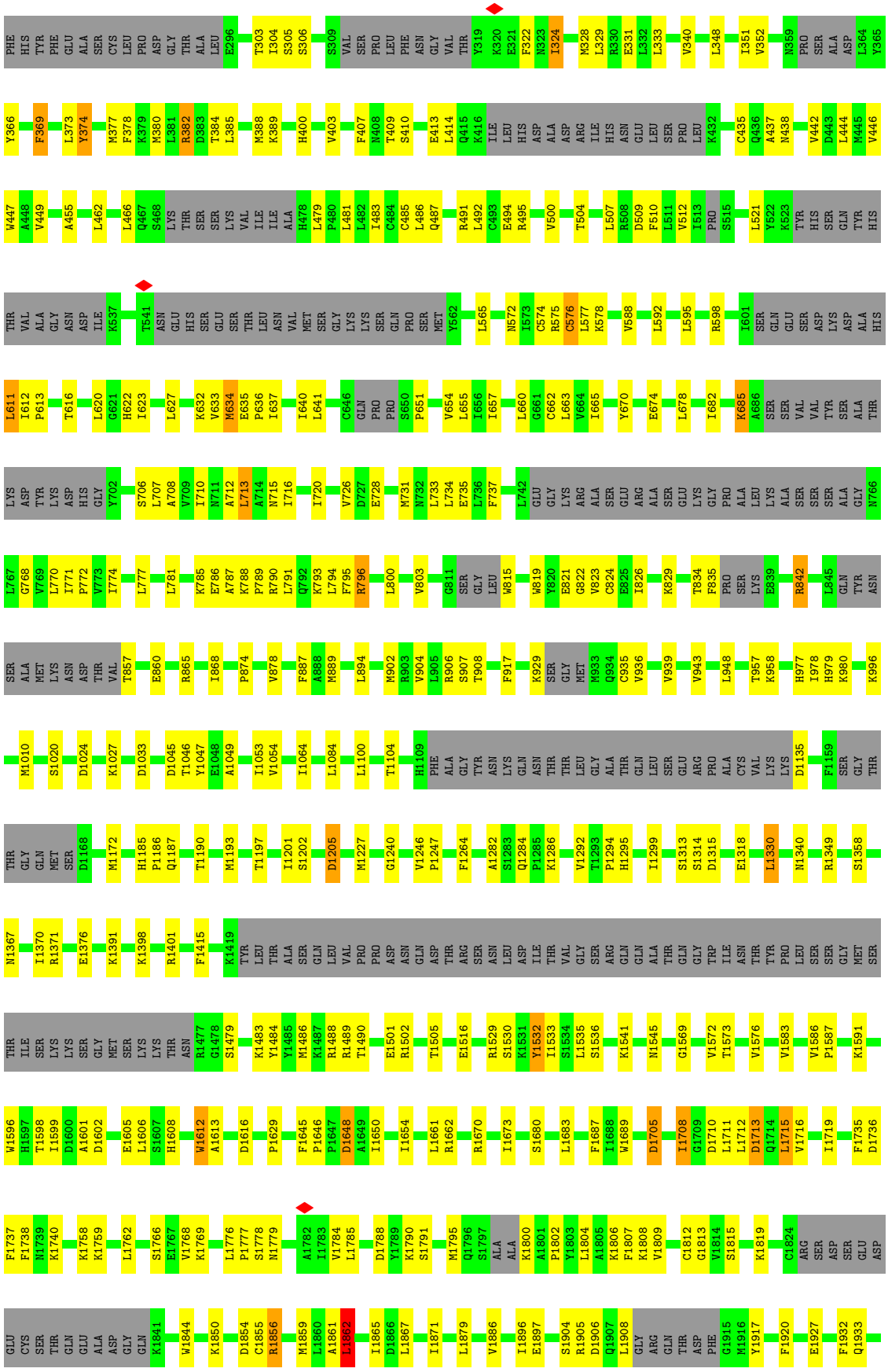


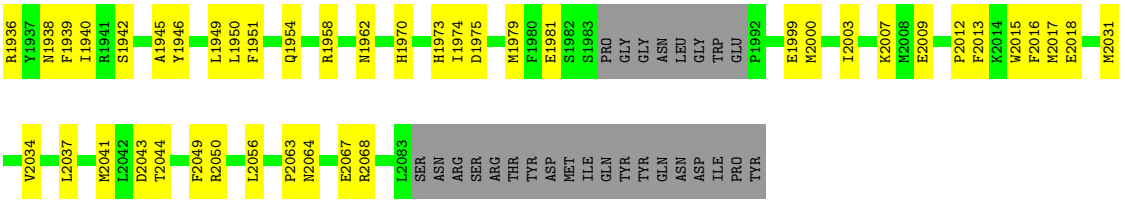


• Molecule 1: Phosphatidylinositol 4-kinase alpha

Chain B:

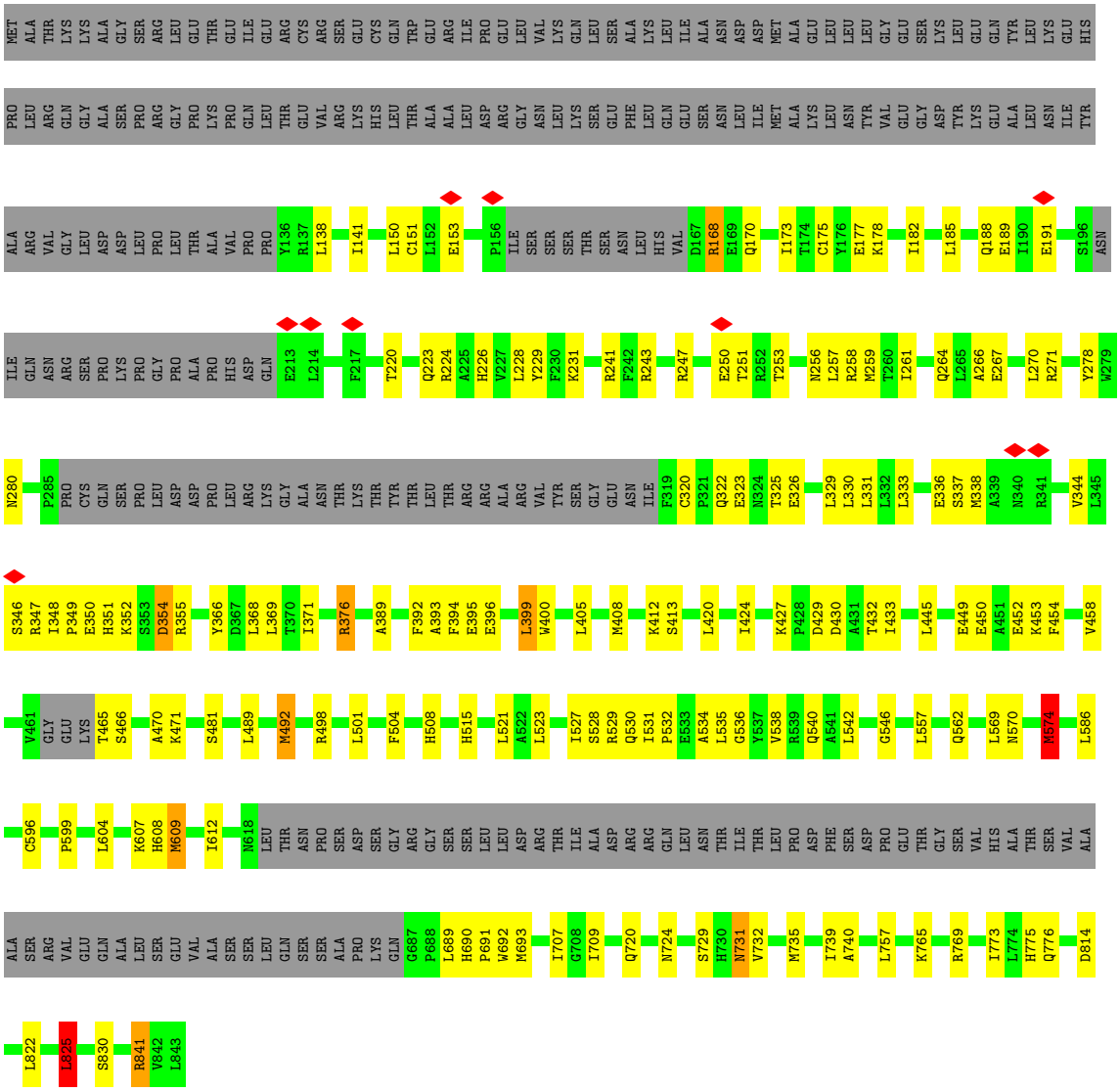






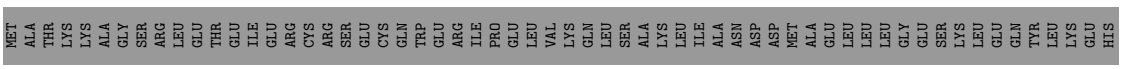
• Molecule 2: Tetratricopeptide repeat protein 7B

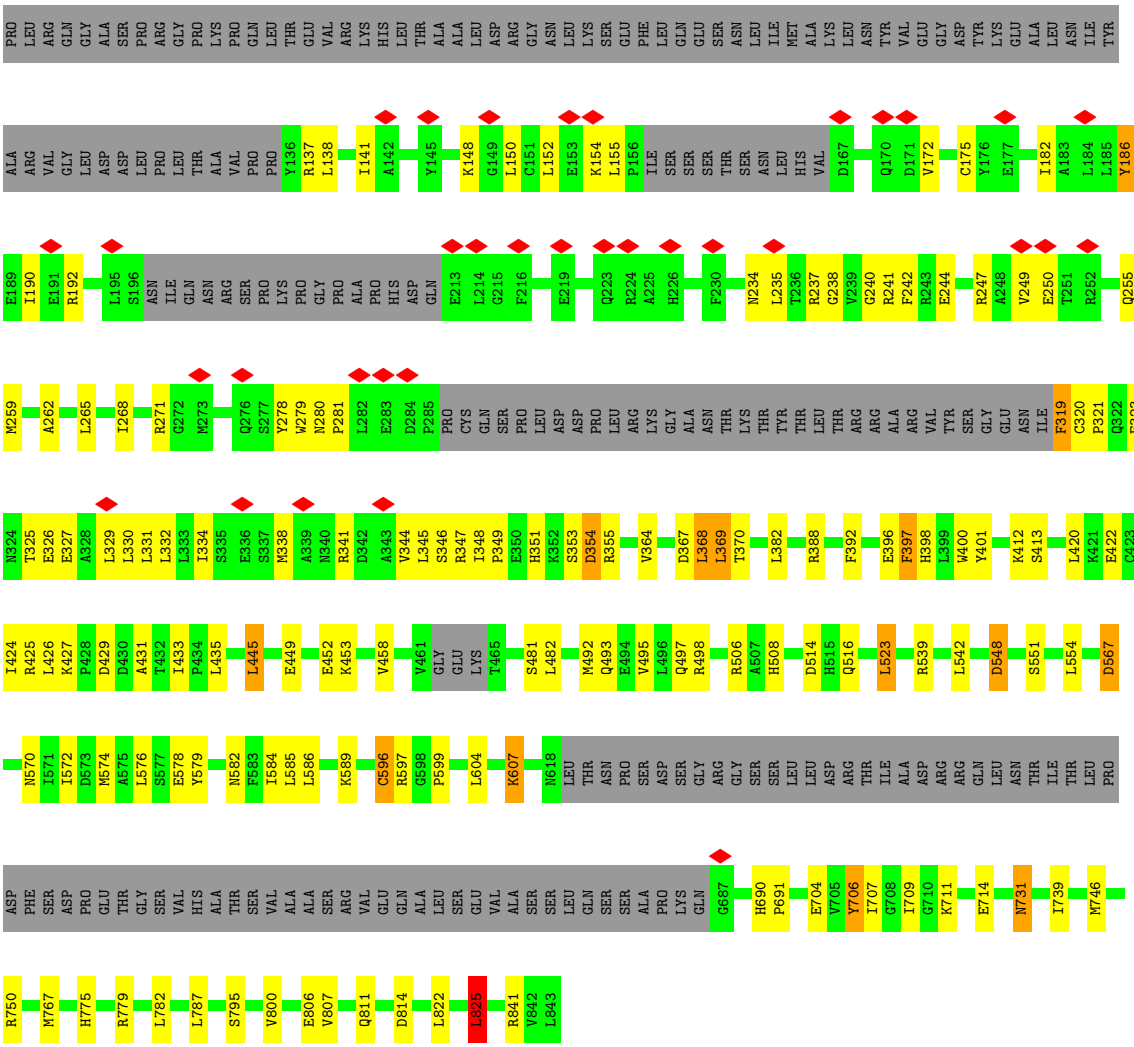
Chain D:



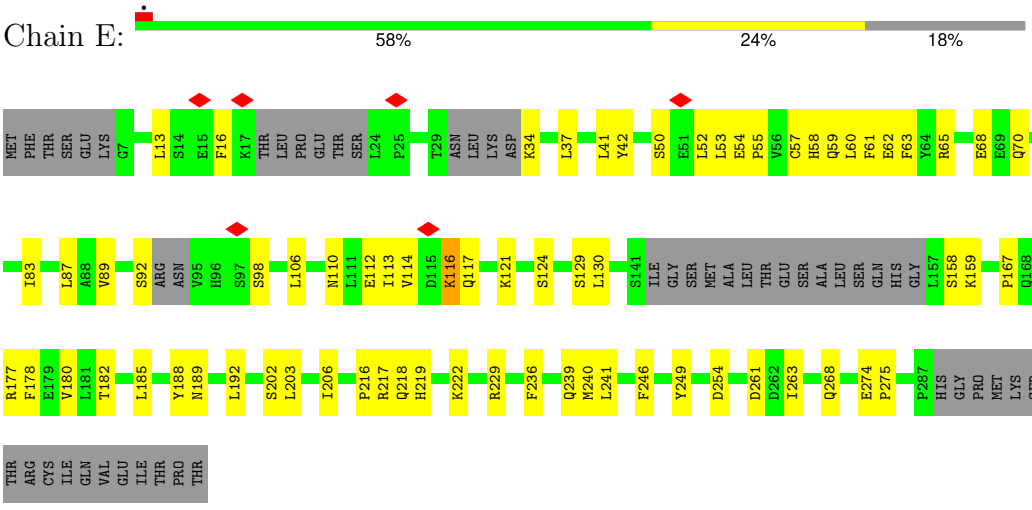
• Molecule 2: Tetratricopeptide repeat protein 7B

Chain F:

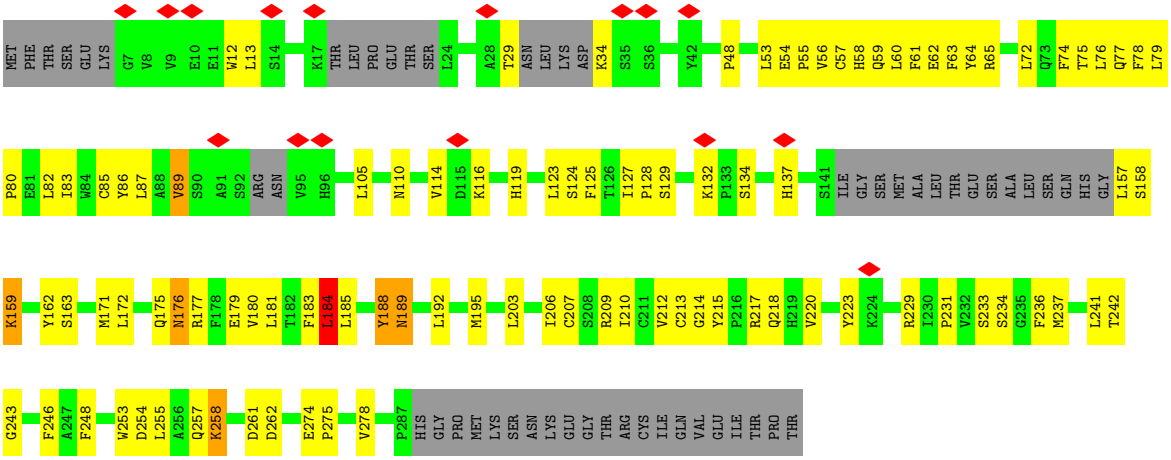




• Molecule 3: Hyccin

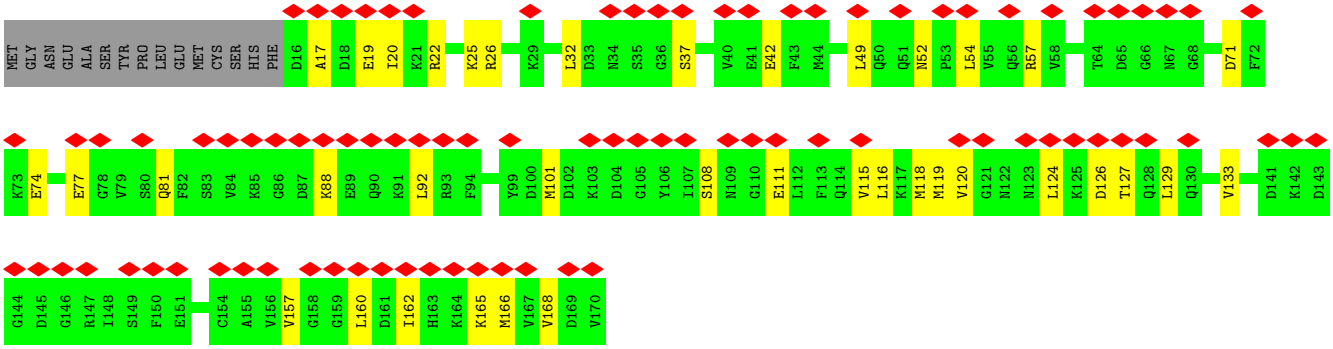


• Molecule 3: Hyccin



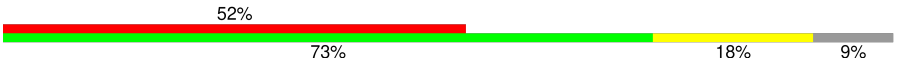
• Molecule 4: Calcineurin subunit B type 1

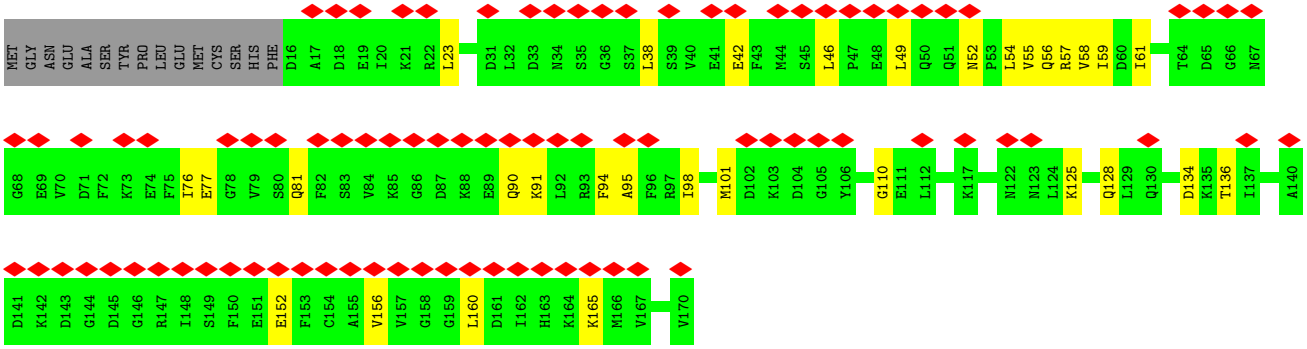
Chain H:



• Molecule 4: Calcineurin subunit B type 1

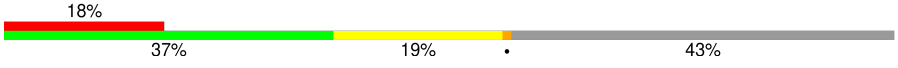
Chain J:

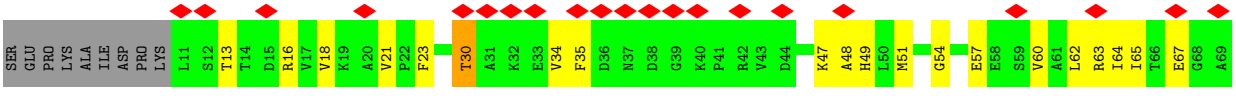


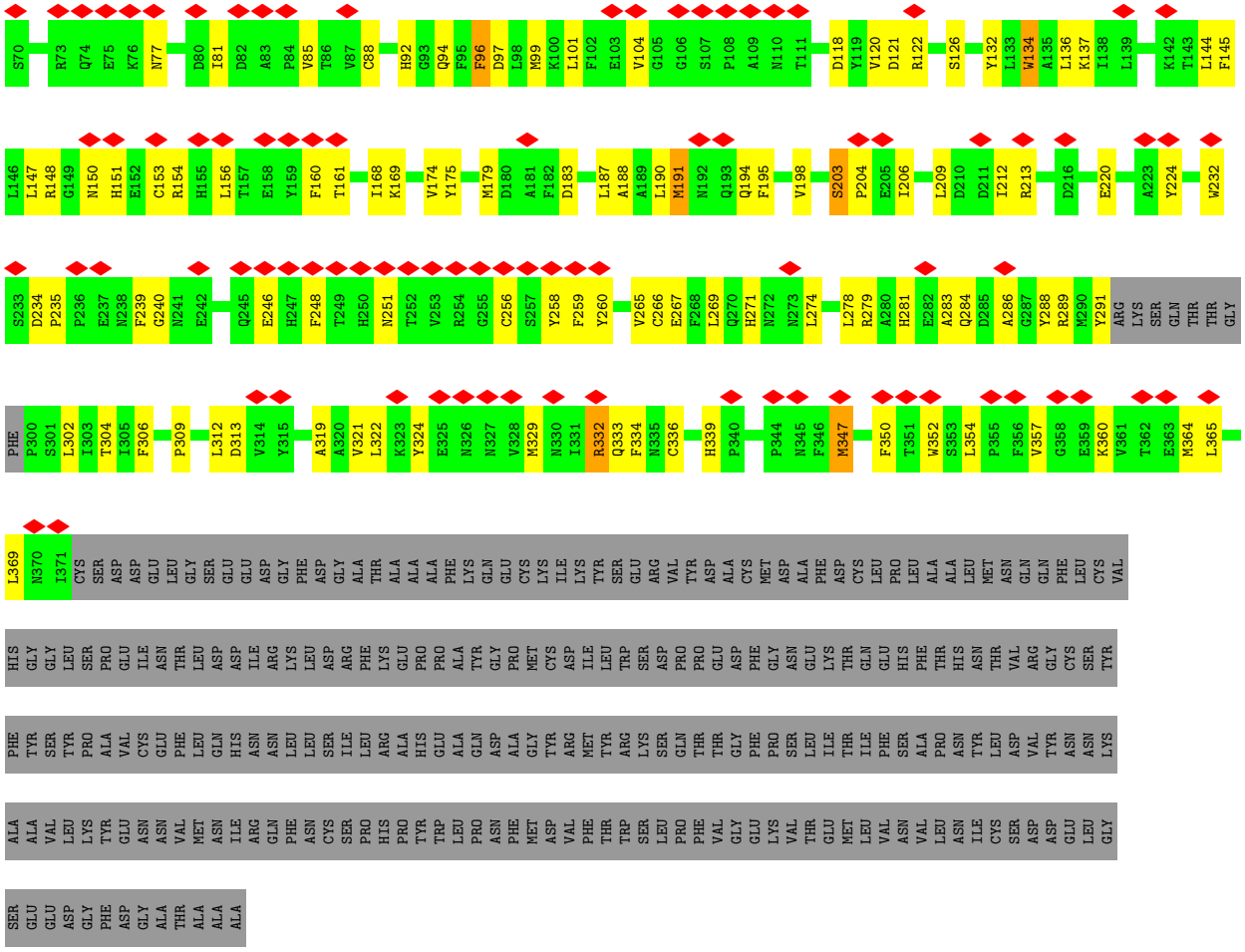


• Molecule 5: Protein phosphatase 3 catalytic subunit alpha

Chain I:

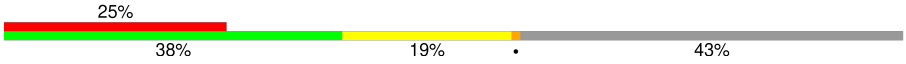


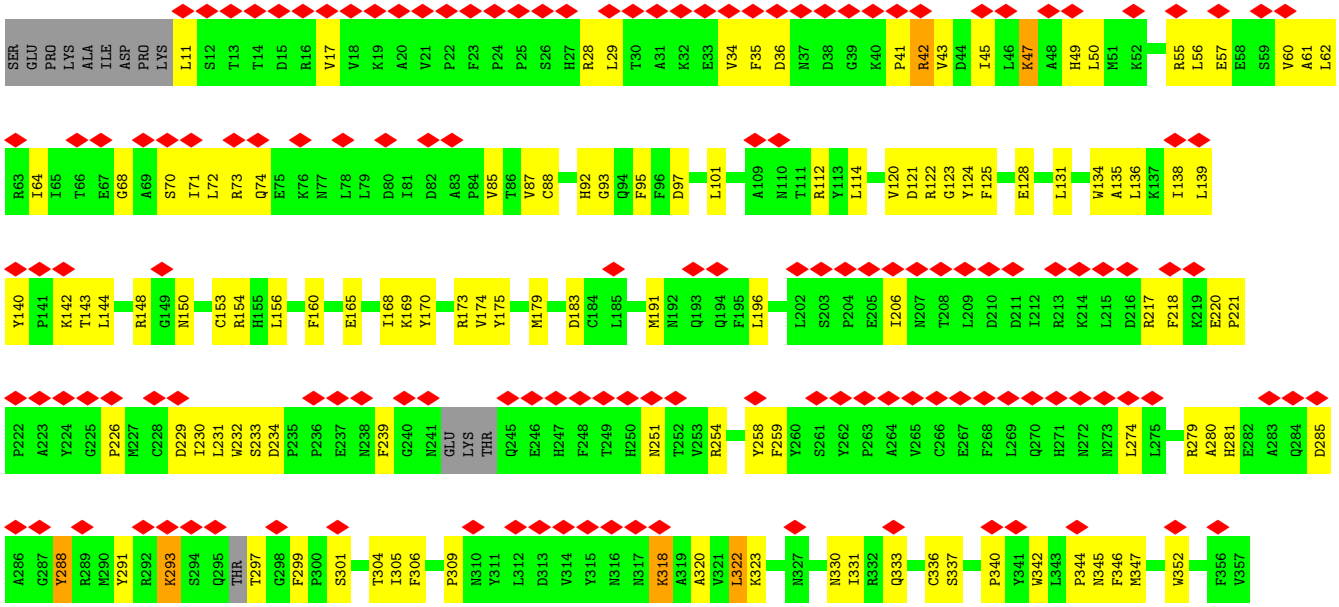


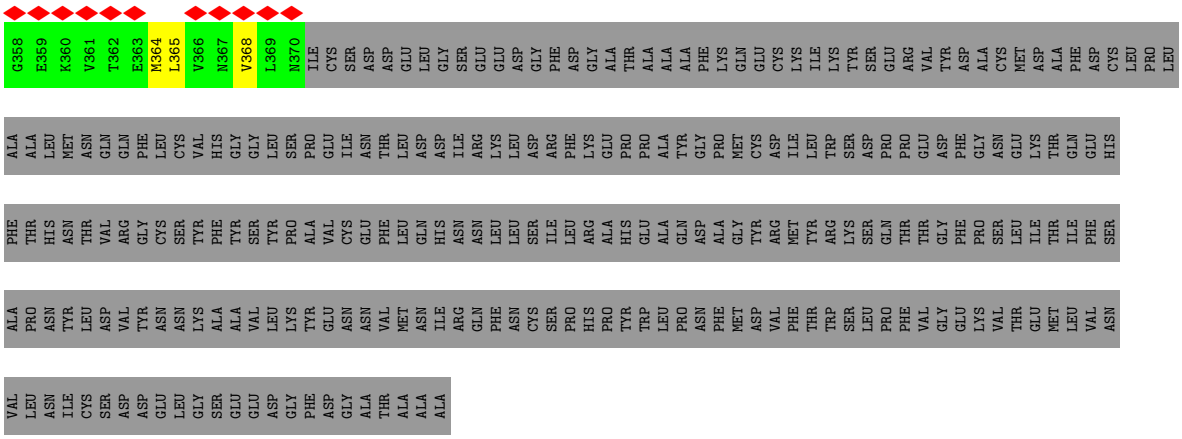


• Molecule 5: Protein phosphatase 3 catalytic subunit alpha

Chain K:






G358 E359 K360 V361 T362 E363 M364 L365 V366 N367 V368 L369 N370 ILE CYS SER ASP ASP GLU LEU GLY SER GLU GLU ASP GLY PHE ASP GLY ALA THR ALA ALA ALA PHE LYS GLN GLU CYS LYS ILE LYS TYR SER GLU ARG VAL TYR ASP ALA CYS MET ASP ALA PHE ASP CYS LEU PRO LEU
ALA ALA LEU MET ASN GLN GLN PHE LEU CYS VAL HIS GLY GLY LEU SER PRO GLU ILE ASN THR LEU ASP ASP ILE ARG LYS LEU ASP ARG PHE LYS GLU PRO PRO ALA TYR GLY PRO MET CYS ASP ILE LEU TRP SER ASP PRO PRO GLU ASP PHE GLY ASN GLU LYS THR GLN GLU HIS
PHE THR HIS ASN THR VAL ARG GLY CYS SER TYR PHE TYR SER TYR PRO ALA VAL CYS GLU PHE LEU GLN HIS ASN ASN LEU LEU SER ILE LEU ARG ALA HIS GLU ALA GLN ASP ALA GLY TYR ARG MET TYR ARG LYS SER GLN THR THR GLY PHE PRO SER LEU ILE THR ILE PHE SER
ALA PRO ASN TYR LEU ASP VAL TYR ASN ASN LYS ALA ALA VAL LEU LYS TYR GLU ASN ASN VAL MET ASN ILE ARG GLN PHE ASN CYS SER PRO HIS PRO TYR TRP LEU PRO ASN PHE MET ASP VAL PHE THR TRP SER LEU PRO PHE VAL GLY GLU LYS VAL THR GLU MET LEU VAL ASN
VAL LEU ASN ILE CYS SER ASP ASP GLU LEU GLY SER GLU GLU ASP GLY PHE ASP GLY ALA THR ALA ALA ALA

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	235760	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 ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	165000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.526	Depositor
Minimum map value	-0.538	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.038	Depositor
Recommended contour level	0.155	Depositor
Map size (Å)	415.8, 415.8, 415.8	wwPDB
Map dimensions	520, 520, 520	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.7996154, 0.7996154, 0.7996154	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.25	0/13924	0.51	7/18834 (0.0%)
1	B	0.25	0/13924	0.51	3/18834 (0.0%)
2	D	0.24	0/4656	0.51	2/6296 (0.0%)
2	F	0.25	0/4656	0.53	2/6296 (0.0%)
3	E	0.25	0/2070	0.49	0/2809
3	G	0.26	0/2070	0.54	1/2809 (0.0%)
4	H	0.25	0/1254	0.52	0/1678
4	J	0.26	0/1254	0.54	0/1678
5	I	0.26	0/2944	0.57	0/3996
5	K	0.26	0/2968	0.57	0/4026
All	All	0.25	0/49720	0.52	15/67256 (0.0%)

There are no bond length outliers.

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	158	LEU	CA-CB-CG	7.81	133.26	115.30
1	B	139	LEU	CA-CB-CG	7.59	132.77	115.30
1	A	101	LEU	CA-CB-CG	6.83	131.01	115.30
2	D	825	LEU	CA-CB-CG	6.38	129.98	115.30
2	D	574	MET	CA-CB-CG	6.29	123.99	113.30
1	A	138	LEU	CA-CB-CG	6.27	129.71	115.30
2	F	825	LEU	CA-CB-CG	6.14	129.43	115.30
1	B	1862	LEU	CA-CB-CG	5.97	129.03	115.30
2	F	368	LEU	CA-CB-CG	5.89	128.84	115.30
1	B	135	LEU	CA-CB-CG	5.69	128.38	115.30
1	A	713	LEU	CA-CB-CG	5.31	127.51	115.30
3	G	184	LEU	CA-CB-CG	5.27	127.42	115.30
1	A	577	LEU	CA-CB-CG	5.25	127.36	115.30
1	A	592	LEU	CA-CB-CG	5.08	126.99	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	466	LEU	CA-CB-CG	5.02	126.84	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	13625	0	13777	260	0
1	B	13625	0	13777	308	0
2	D	4573	0	4632	103	0
2	F	4573	0	4632	100	0
3	E	2022	0	2027	50	0
3	G	2022	0	2027	63	0
4	H	1236	0	1216	33	0
4	J	1236	0	1216	30	0
5	I	2866	0	2805	91	0
5	K	2890	0	2824	89	0
6	H	4	0	0	0	0
6	J	4	0	0	0	0
All	All	48676	0	48933	1106	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 11.

All (1106) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:332:LEU:HD13	2:F:369:LEU:HD22	1.60	0.84
1:B:787:ALA:HB1	1:B:791:LEU:HD12	1.59	0.83
3:G:274:GLU:HG2	3:G:275:PRO:HD3	1.62	0.82
1:A:1865:ILE:HG12	1:A:1949:LEU:HD21	1.60	0.81
3:E:274:GLU:HG2	3:E:275:PRO:HD3	1.63	0.80
3:E:241:LEU:HD11	3:E:263:ILE:HG21	1.63	0.79
1:A:1024:ASP:HB2	1:A:1027:LYS:HD3	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:203:SER:O	1:B:207:LYS:NZ	2.18	0.76
4:H:162:ILE:HG23	4:H:165:LYS:HE3	1.66	0.76
2:D:492:MET:SD	2:D:492:MET:N	2.54	0.76
5:I:251:ASN:ND2	5:I:256:CYS:O	2.19	0.75
1:B:178:TYR:HA	1:B:182:TYR:HD2	1.52	0.74
2:F:141:ILE:HG21	2:F:182:ILE:HG21	1.69	0.74
5:I:77:ASN:HB2	5:I:213:ARG:HD2	1.68	0.73
2:F:152:LEU:HG	2:F:172:VAL:HG22	1.71	0.73
4:J:57:ARG:NH2	4:J:101:MET:SD	2.61	0.72
3:E:167:PRO:HG2	3:E:169:ARG:HH12	1.54	0.72
1:B:135:LEU:O	1:B:139:LEU:HD12	1.90	0.72
1:B:385:LEU:HA	1:B:388:MET:HG2	1.70	0.72
5:K:305:ILE:HG13	5:K:322:LEU:HD22	1.70	0.72
1:A:1810:LYS:HB2	1:A:1842:ILE:HG13	1.72	0.71
1:B:595:LEU:HG	1:B:616:THR:HG23	1.72	0.71
1:B:1201:ILE:HD11	1:B:1240:GLY:HA3	1.71	0.71
1:B:611:LEU:HG	1:B:613:PRO:HD2	1.71	0.70
1:B:72:GLU:HA	1:B:75:ARG:HE	1.55	0.69
1:B:793:LYS:HA	1:B:796:ARG:HD3	1.74	0.69
2:F:278:TYR:OH	2:F:327:GLU:OE2	2.07	0.69
1:A:68:PHE:HB2	1:A:110:VAL:HG22	1.75	0.69
1:A:564:GLN:NE2	5:I:240:GLY:O	2.26	0.69
1:A:1919:TYR:HA	1:A:1922:ARG:HE	1.58	0.69
1:B:1815:SER:OG	1:B:1819:LYS:NZ	2.26	0.69
5:K:64:ILE:HD11	5:K:135:ALA:HB2	1.75	0.69
1:A:1542:ASP:HA	1:A:1545:ASN:HD22	1.57	0.68
1:B:192:ARG:NH1	1:B:306:SER:O	2.26	0.68
2:F:280:ASN:ND2	2:F:320:CYS:SG	2.67	0.68
4:J:128:GLN:OE1	4:J:128:GLN:N	2.24	0.68
1:A:1586:VAL:HB	1:A:1613:ALA:HB3	1.76	0.68
2:F:259:MET:HE1	2:F:338:MET:HG2	1.74	0.68
1:A:154:LEU:O	1:A:158:LEU:HD12	1.94	0.68
1:B:384:THR:HG23	1:B:385:LEU:HG	1.74	0.68
2:F:329:LEU:HD23	3:G:128:PRO:HG2	1.76	0.68
5:I:357:VAL:HA	5:I:360:LYS:HE2	1.74	0.68
1:A:1596:TRP:HE1	1:A:1602:ASP:H	1.40	0.67
1:B:634:MET:SD	1:B:634:MET:N	2.60	0.67
2:F:599:PRO:HG3	2:F:709:ILE:HD11	1.76	0.67
3:G:229:ARG:HH22	3:G:231:PRO:HB3	1.60	0.67
1:B:1505:THR:HG21	1:B:2067:GLU:HB3	1.76	0.67
1:B:137:THR:HB	1:B:204:LEU:HD21	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1201:ILE:HD11	1:A:1240:GLY:HA3	1.77	0.67
2:D:707:ILE:HD11	2:D:739:ILE:HG22	1.76	0.67
3:E:34:LYS:HB3	3:E:37:LEU:HG	1.77	0.67
5:I:81:ILE:HD12	5:I:145:PHE:CD1	2.30	0.66
1:A:1712:LEU:O	1:A:1716:VAL:HG23	1.94	0.66
2:F:234:ASN:O	2:F:237:ARG:NH2	2.28	0.66
3:G:55:PRO:O	3:G:59:GLN:N	2.27	0.66
1:A:512:VAL:O	1:A:598:ARG:NH2	2.29	0.66
1:A:1096:GLN:N	1:A:1096:GLN:OE1	2.28	0.66
1:B:63:ASP:HB2	1:B:102:ARG:HH21	1.61	0.66
5:I:235:PRO:HG3	5:I:279:ARG:HE	1.60	0.66
2:F:321:PRO:HB3	2:F:326:GLU:HB2	1.78	0.66
1:B:147:PRO:HA	1:B:150:ARG:HE	1.60	0.66
5:I:85:VAL:HG11	5:I:191:MET:HE3	1.78	0.66
1:B:1401:ARG:NH2	1:B:1516:GLU:O	2.29	0.65
1:B:1974:ILE:HG22	1:B:1975:ASP:H	1.60	0.65
1:B:735:GLU:OE2	1:B:790:ARG:NH2	2.29	0.65
1:B:512:VAL:O	1:B:598:ARG:NH1	2.30	0.65
1:A:336:VAL:HG11	1:A:381:LEU:HD22	1.79	0.65
5:I:62:LEU:HD21	5:I:174:VAL:HA	1.79	0.65
1:B:824:CYS:SG	1:B:906:ARG:NH1	2.70	0.64
2:D:251:THR:HG23	2:D:253:THR:H	1.61	0.64
1:B:1662:ARG:HH12	1:B:2044:THR:HA	1.63	0.64
3:E:202:SER:O	3:E:206:ILE:HG12	1.97	0.64
3:G:29:THR:HA	3:G:34:LYS:HA	1.80	0.64
3:E:178:PHE:O	3:E:182:THR:HG23	1.97	0.64
2:D:173:ILE:O	2:D:177:GLU:HG3	1.99	0.63
3:E:65:ARG:O	3:E:65:ARG:NE	2.29	0.63
1:A:1963:ILE:HD11	1:A:1971:ILE:HB	1.79	0.63
1:A:868:ILE:HG12	1:A:894:LEU:HD21	1.80	0.63
1:B:388:MET:SD	1:B:388:MET:N	2.71	0.63
5:I:309:PRO:HB2	5:I:336:CYS:HB3	1.81	0.63
1:A:90:LEU:HB3	1:A:93:LYS:HD3	1.81	0.62
1:B:1415:PHE:O	1:B:1489:ARG:NH2	2.30	0.62
1:B:1856:ARG:HD3	1:B:1856:ARG:H	1.64	0.62
4:J:57:ARG:HD2	4:J:98:ILE:HA	1.81	0.62
5:K:150:ASN:HD21	5:K:281:HIS:CE1	2.18	0.62
1:B:1802:PRO:HB3	1:B:1850:LYS:HG2	1.82	0.62
2:D:427:LYS:HE3	2:D:429:ASP:HB2	1.80	0.62
3:G:123:LEU:HB2	3:G:163:SER:HB2	1.80	0.62
2:D:320:CYS:O	2:D:322:GLN:NE2	2.31	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:K:206:ILE:HD11	5:K:230:ILE:HD11	1.81	0.62
1:B:328:MET:SD	1:B:329:LEU:HD22	2.40	0.62
1:B:1759:LYS:HA	1:B:1759:LYS:HE3	1.81	0.62
1:A:187:LEU:O	1:A:191:SER:OG	2.14	0.61
1:A:733:LEU:HD22	1:A:770:LEU:HD21	1.83	0.61
1:A:1596:TRP:NE1	1:A:1602:ASP:O	2.34	0.61
2:D:258:ARG:HA	2:D:261:ILE:HG12	1.83	0.61
1:A:1216:TRP:O	1:A:1220:ARG:NH1	2.33	0.61
5:I:81:ILE:HG23	5:I:191:MET:SD	2.40	0.61
1:B:1662:ARG:NH2	1:B:2043:ASP:O	2.31	0.61
3:E:106:LEU:O	3:E:110:ASN:ND2	2.34	0.61
1:A:1330:LEU:HD23	1:A:1330:LEU:H	1.66	0.60
4:H:157:VAL:HG13	4:H:160:LEU:HD12	1.81	0.60
2:D:481:SER:OG	2:D:841:ARG:NH1	2.34	0.60
2:F:492:MET:SD	2:F:492:MET:N	2.74	0.60
2:F:345:LEU:HB2	2:F:347:ARG:HE	1.65	0.60
2:F:567:ASP:N	2:F:567:ASP:OD1	2.33	0.60
3:G:177:ARG:O	3:G:181:LEU:HD13	2.01	0.60
4:H:108:SER:OG	4:H:111:GLU:OE2	2.20	0.60
1:A:668:ASN:HB3	1:A:671:ILE:HG12	1.82	0.60
1:B:1282:ALA:O	1:B:1284:GLN:NE2	2.34	0.60
5:I:16:ARG:HH22	5:I:21:VAL:HG13	1.66	0.60
1:B:575:ARG:HA	1:B:578:LYS:HG2	1.84	0.60
5:I:120:VAL:O	5:I:121:ASP:HB3	2.01	0.60
1:B:768:GLY:HA3	1:B:819:TRP:CE2	2.36	0.60
1:A:147:PRO:HA	1:A:150:ARG:HG3	1.84	0.60
3:G:255:LEU:HA	3:G:258:LYS:NZ	2.17	0.59
1:B:857:THR:OG1	1:B:860:GLU:OE2	2.19	0.59
5:I:85:VAL:HG11	5:I:191:MET:CE	2.32	0.59
1:A:1508:ASN:ND2	1:A:1510:LEU:O	2.34	0.59
3:G:105:LEU:HD22	3:G:184:LEU:HD22	1.83	0.59
5:K:56:LEU:HD11	5:K:131:LEU:HD21	1.84	0.59
1:B:1587:PRO:O	1:B:1591:LYS:NZ	2.35	0.59
2:F:354:ASP:OD1	2:F:354:ASP:N	2.34	0.59
3:G:242:THR:HG22	3:G:246:PHE:CZ	2.37	0.59
5:I:322:LEU:HD21	5:I:329:MET:HG2	1.84	0.59
5:K:34:VAL:HG13	5:K:35:PHE:CD2	2.38	0.59
1:A:716:ILE:O	1:A:720:ILE:HG12	2.03	0.58
1:B:788:LYS:HG3	1:B:789:PRO:HD2	1.84	0.58
2:F:596:CYS:SG	2:F:597:ARG:N	2.76	0.58
5:I:151:HIS:HA	5:I:156:LEU:HD12	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:K:279:ARG:NH1	5:K:280:ALA:O	2.34	0.58
1:B:303:THR:OG1	1:B:306:SER:OG	2.21	0.58
1:A:1656:GLN:HB3	1:A:2040:LEU:HD23	1.85	0.58
2:D:420:LEU:HD22	2:D:433:ILE:HG23	1.85	0.58
5:K:87:VAL:HB	5:K:322:LEU:HG	1.85	0.58
3:E:189:ASN:HA	3:E:192:LEU:HD21	1.86	0.58
2:F:422:GLU:OE2	2:F:425:ARG:NH2	2.36	0.58
1:B:633:VAL:O	1:B:636:PRO:HD2	2.03	0.58
3:G:255:LEU:HA	3:G:258:LYS:HZ3	1.68	0.58
2:F:481:SER:OG	2:F:841:ARG:NH1	2.36	0.58
1:B:56:LEU:HD11	1:B:81:LEU:HD22	1.86	0.58
1:B:948:LEU:HD21	1:B:996:LYS:HG2	1.84	0.58
1:B:1541:LYS:O	1:B:1545:ASN:ND2	2.34	0.58
2:D:329:LEU:O	2:D:333:LEU:HG	2.04	0.58
1:A:372:PRO:O	1:A:376:THR:OG1	2.21	0.58
1:A:1596:TRP:HZ2	1:A:1601:ALA:HA	1.68	0.58
1:A:1710:ASP:OD1	1:A:1710:ASP:N	2.33	0.58
1:B:328:MET:HA	1:B:331:GLU:HG3	1.86	0.58
3:E:79:LEU:HD21	3:E:188:TYR:HB2	1.84	0.58
1:A:620:LEU:HA	1:A:623:ILE:HD12	1.84	0.58
1:B:635:GLU:CD	1:B:636:PRO:HD3	2.24	0.58
1:B:1024:ASP:HB3	1:B:1027:LYS:HG2	1.86	0.58
2:D:346:SER:HA	2:D:355:ARG:HD3	1.86	0.58
5:I:168:ILE:HG23	5:I:169:LYS:HG3	1.84	0.58
4:J:90:GLN:HG2	4:J:94:PHE:CE1	2.39	0.58
1:A:80:ALA:HA	1:A:83:ILE:HD12	1.85	0.57
1:A:599:LEU:HD21	1:A:644:LYS:HG2	1.84	0.57
1:B:136:VAL:HG21	1:B:190:ILE:HA	1.86	0.57
5:I:224:TYR:HH	5:I:258:TYR:HH	1.52	0.57
5:K:196:LEU:H	5:K:274:LEU:HD11	1.68	0.57
1:A:165:LEU:HA	1:A:168:CYS:SG	2.44	0.57
5:K:168:ILE:HG23	5:K:169:LYS:HG3	1.86	0.57
1:B:1391:LYS:O	1:B:1502:ARG:NH2	2.34	0.57
5:K:122:ARG:HH11	5:K:160:PHE:HD1	1.52	0.57
1:B:1586:VAL:HG11	1:B:1613:ALA:H	1.69	0.57
1:A:1956:LYS:NZ	1:A:1992:PRO:O	2.38	0.57
1:B:868:ILE:HG12	1:B:894:LEU:HD21	1.87	0.57
2:F:234:ASN:HB3	2:F:237:ARG:HH21	1.69	0.57
2:F:338:MET:HG3	2:F:341:ARG:HH12	1.69	0.57
2:F:731:ASN:OD1	2:F:731:ASN:N	2.36	0.57
1:B:707:LEU:HA	1:B:710:ILE:HG12	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:354:ASP:OD1	2:D:354:ASP:N	2.38	0.57
2:D:515:HIS:HE1	3:E:229:ARG:HH11	1.53	0.57
1:A:1205:ASP:OD1	1:A:1205:ASP:N	2.38	0.57
1:B:660:LEU:HD13	1:B:663:LEU:HD12	1.86	0.57
2:F:255:GLN:OE1	2:F:255:GLN:N	2.38	0.57
4:H:25:LYS:HD2	4:H:26:ARG:HH11	1.70	0.57
5:K:71:ILE:HD12	5:K:138:ILE:HG22	1.87	0.56
1:A:377:MET:HA	1:A:380:MET:SD	2.44	0.56
1:A:1100:LEU:O	1:A:1104:THR:HG22	2.05	0.56
1:A:1738:PHE:CE2	1:A:1777:PRO:HG2	2.39	0.56
1:B:728:GLU:HA	1:B:731:MET:SD	2.45	0.56
3:E:274:GLU:OE1	3:E:274:GLU:N	2.36	0.56
2:F:576:LEU:HD11	2:F:585:LEU:HB2	1.87	0.56
1:A:1878:ASP:OD1	1:A:1878:ASP:N	2.38	0.56
2:D:604:LEU:HA	2:D:607:LYS:HD3	1.88	0.56
1:B:153:ILE:HD12	1:B:153:ILE:H	1.68	0.56
1:B:1205:ASP:OD1	1:B:1205:ASP:N	2.37	0.56
5:I:34:VAL:HG23	5:I:35:PHE:HD2	1.70	0.56
5:I:284:GLN:HG2	5:I:288:TYR:O	2.06	0.56
1:A:379:LYS:HD3	1:A:382:ARG:HH21	1.70	0.56
1:A:675:VAL:HA	1:A:678:LEU:HD12	1.87	0.56
1:B:733:LEU:HD23	1:B:774:ILE:HG23	1.88	0.56
1:B:1785:LEU:HD23	1:B:1808:LYS:HG3	1.87	0.56
2:F:345:LEU:HB2	2:F:347:ARG:NE	2.21	0.56
5:I:154:ARG:NH1	5:I:220:GLU:OE1	2.29	0.56
1:A:1077:LYS:HE2	1:A:1107:ILE:HD11	1.88	0.56
1:B:101:LEU:HD13	1:B:156:VAL:HG21	1.87	0.56
1:B:1645:PHE:HD1	1:B:1646:PRO:HD2	1.71	0.56
2:D:465:THR:OG1	2:D:466:SER:N	2.36	0.56
3:G:59:GLN:HA	3:G:62:GLU:HG2	1.87	0.56
1:A:500:VAL:O	1:A:504:THR:HG23	2.06	0.56
1:A:1479:SER:O	1:A:1483:LYS:HG2	2.05	0.56
1:B:572:ASN:HA	1:B:575:ARG:HE	1.70	0.56
1:B:1033:ASP:OD1	1:B:1033:ASP:N	2.38	0.56
2:F:238:GLY:HA2	2:F:241:ARG:HE	1.71	0.56
3:G:58:HIS:O	3:G:61:PHE:HB3	2.06	0.56
5:K:305:ILE:HD12	5:K:331:ILE:HD13	1.88	0.56
1:A:562:TYR:N	1:A:564:GLN:OE1	2.40	0.55
1:A:788:LYS:HB3	1:A:791:LEU:HG	1.88	0.55
1:B:49:SER:OG	1:B:51:GLU:OE1	2.19	0.55
3:G:110:ASN:O	3:G:114:VAL:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:787:ALA:HB1	1:A:791:LEU:HD12	1.88	0.55
1:B:1904:SER:OG	1:B:1906:ASP:OD1	2.19	0.55
2:F:186:TYR:O	2:F:190:ILE:HG12	2.06	0.55
2:F:280:ASN:ND2	2:F:321:PRO:O	2.39	0.55
4:H:52:ASN:HD21	5:K:364:MET:HB2	1.71	0.55
1:A:562:TYR:HE1	5:I:240:GLY:HA3	1.72	0.55
1:A:657:ILE:HA	1:A:660:LEU:HG	1.87	0.55
1:A:1415:PHE:O	1:A:1489:ARG:NH2	2.38	0.55
3:E:50:SER:HB2	3:E:53:LEU:HB2	1.88	0.55
5:I:160:PHE:HD1	5:I:161:THR:H	1.54	0.55
1:B:31:TYR:HE2	1:B:73:ARG:HB3	1.72	0.55
1:B:56:LEU:HA	1:B:59:MET:HG3	1.88	0.55
1:B:1367:ASN:O	1:B:1371:ARG:NH1	2.39	0.55
1:B:1710:ASP:N	1:B:1710:ASP:OD1	2.39	0.55
2:F:787:LEU:HD22	2:F:800:VAL:HG23	1.87	0.55
3:G:233:SER:OG	3:G:234:SER:N	2.39	0.55
4:J:57:ARG:NE	4:J:98:ILE:O	2.40	0.55
1:A:192:ARG:NH1	1:A:304:ILE:O	2.39	0.55
1:B:211:LYS:HG3	1:B:212:ILE:N	2.22	0.55
1:B:788:LYS:HG2	1:B:790:ARG:HG2	1.88	0.55
2:F:427:LYS:HE2	2:F:429:ASP:HB2	1.88	0.55
5:I:354:LEU:HD11	4:J:160:LEU:HD11	1.88	0.55
1:A:1586:VAL:HG21	1:A:1614:PRO:O	2.06	0.55
1:B:874:PRO:HB2	1:B:878:VAL:HG23	1.88	0.55
5:K:297:THR:HG23	5:K:299:PHE:H	1.72	0.55
1:B:1318:GLU:OE1	1:B:1318:GLU:N	2.32	0.55
1:B:1654:ILE:HD11	1:B:1687:PHE:CE1	2.42	0.55
3:E:112:GLU:O	3:E:121:LYS:NZ	2.31	0.55
2:F:431:ALA:HB1	2:F:458:VAL:HG23	1.87	0.55
1:A:1608:HIS:O	1:A:1608:HIS:ND1	2.39	0.55
2:F:344:VAL:HG13	2:F:346:SER:H	1.72	0.55
2:F:353:SER:HA	2:F:355:ARG:HH12	1.72	0.55
1:A:1788:ASP:OD2	1:A:1791:SER:OG	2.26	0.54
1:B:1804:LEU:HD21	1:B:1806:LYS:HG3	1.89	0.54
2:D:138:LEU:HB3	2:D:182:ILE:HD12	1.88	0.54
1:B:1340:ASN:O	1:B:1349:ARG:NH1	2.36	0.54
1:B:1865:ILE:HD12	1:B:1949:LEU:HD11	1.89	0.54
5:I:248:PHE:CE2	5:I:260:TYR:HB3	2.42	0.54
1:A:192:ARG:O	1:A:196:ARG:NH2	2.41	0.54
1:B:94:ASP:OD1	1:B:94:ASP:N	2.39	0.54
1:B:348:LEU:HD13	1:B:351:ILE:HD11	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:438:ASN:O	1:B:442:VAL:HG23	2.06	0.54
2:D:529:ARG:NH1	2:D:830:SER:O	2.40	0.54
2:F:420:LEU:O	2:F:424:ILE:HG12	2.07	0.54
1:A:1788:ASP:HB2	1:A:1844:TRP:HZ2	1.72	0.54
1:B:382:ARG:HH21	1:B:444:LEU:HA	1.72	0.54
5:K:62:LEU:HD21	5:K:173:ARG:HH21	1.72	0.54
5:K:120:VAL:O	5:K:121:ASP:HB2	2.08	0.54
4:H:57:ARG:HG3	4:H:118:MET:HE2	1.90	0.54
5:I:153:CYS:C	5:I:179:MET:HE1	2.28	0.54
1:B:158:LEU:HA	1:B:161:LEU:HD23	1.89	0.54
5:K:304:THR:HB	5:K:306:PHE:CZ	2.41	0.54
1:A:1060:ARG:HA	1:A:1063:MET:HG2	1.90	0.54
1:B:27:SER:OG	1:B:28:ARG:N	2.41	0.54
2:F:319:PHE:CE2	2:F:321:PRO:HG3	2.44	0.54
2:F:364:VAL:HA	2:F:367:ASP:OD2	2.08	0.54
5:K:320:ALA:HB2	5:K:333:GLN:HG3	1.90	0.54
2:D:168:ARG:H	2:D:168:ARG:HD3	1.73	0.53
4:H:22:ARG:O	4:H:26:ARG:HG2	2.07	0.53
1:A:1879:LEU:HD12	1:A:1945:ALA:HB2	1.90	0.53
1:B:822:GLY:O	1:B:826:ILE:HG12	2.08	0.53
3:E:216:PRO:O	3:E:219:HIS:ND1	2.33	0.53
2:F:347:ARG:HD3	2:F:347:ARG:N	2.22	0.53
5:I:62:LEU:HA	5:I:65:ILE:HG12	1.89	0.53
1:A:987:ASP:OD1	1:A:1060:ARG:NH1	2.42	0.53
1:B:781:LEU:O	1:B:829:LYS:NZ	2.41	0.53
3:E:89:VAL:O	3:E:92:SER:OG	2.26	0.53
5:I:360:LYS:O	5:I:364:MET:HG2	2.09	0.53
1:B:389:LYS:HG2	1:B:447:TRP:HE1	1.73	0.53
1:B:842:ARG:NH2	1:B:929:LYS:O	2.41	0.53
1:B:1295:HIS:O	1:B:1299:ILE:HG12	2.08	0.53
1:A:191:SER:HA	1:A:194:PHE:CE1	2.43	0.53
1:A:894:LEU:O	1:A:898:ARG:HG2	2.09	0.53
1:A:1313:SER:OG	1:A:1314:SER:N	2.42	0.53
1:A:1616:ASP:OD1	1:A:1616:ASP:N	2.42	0.53
1:B:713:LEU:HD12	1:B:716:ILE:HD11	1.91	0.53
1:B:84:PHE:O	1:B:88:SER:HB3	2.09	0.53
1:A:1597:HIS:HB3	1:A:1600:ASP:HB3	1.90	0.53
5:I:120:VAL:HG12	5:I:126:SER:HB3	1.90	0.53
5:I:175:TYR:O	5:I:179:MET:HG2	2.09	0.53
1:A:126:PRO:HB2	1:A:129:GLU:HG2	1.91	0.53
1:A:650:SER:OG	1:A:653:ASP:OD2	2.26	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:149:LEU:HB3	1:B:153:ILE:HD11	1.90	0.53
5:I:234:ASP:OD1	5:I:281:HIS:ND1	2.37	0.53
4:J:52:ASN:OD1	4:J:54:LEU:HG	2.08	0.53
1:B:153:ILE:O	1:B:156:VAL:HG22	2.09	0.53
2:D:220:THR:O	2:D:224:ARG:HG2	2.09	0.53
3:G:62:GLU:O	3:G:65:ARG:HG2	2.07	0.53
1:A:1994:ILE:HB	1:A:2081:CYS:HB3	1.90	0.52
1:B:793:LYS:O	1:B:796:ARG:HG2	2.09	0.52
2:D:344:VAL:HG21	2:D:355:ARG:HA	1.92	0.52
4:H:17:ALA:O	4:H:20:ILE:HG22	2.08	0.52
5:K:72:LEU:O	5:K:217:ARG:NH2	2.42	0.52
1:A:1740:LYS:HA	1:A:1743:ASN:HD21	1.75	0.52
1:B:1788:ASP:OD2	1:B:1791:SER:OG	2.25	0.52
1:B:1808:LYS:HD3	1:B:1844:TRP:CD1	2.44	0.52
4:H:168:VAL:HG21	5:K:365:LEU:HD11	1.91	0.52
1:B:1951:PHE:O	1:B:1954:GLN:NE2	2.42	0.52
1:B:178:TYR:HA	1:B:182:TYR:CD2	2.39	0.52
1:A:1930:LEU:HG	1:A:1934:GLN:HE21	1.74	0.52
1:B:716:ILE:O	1:B:720:ILE:HG12	2.08	0.52
1:A:94:ASP:N	1:A:94:ASP:OD1	2.42	0.52
1:A:1196:LEU:HD11	1:A:1210:LEU:HD22	1.92	0.52
1:B:1135:ASP:N	1:B:1135:ASP:OD1	2.43	0.52
1:B:1572:VAL:O	1:B:1576:VAL:HG12	2.09	0.52
2:D:228:LEU:HA	2:D:231:LYS:HG2	1.92	0.52
2:D:347:ARG:HB2	2:D:349:PRO:HD3	1.92	0.52
2:D:348:ILE:H	2:D:355:ARG:NH2	2.08	0.52
2:D:523:LEU:O	2:D:527:ILE:HG12	2.10	0.52
2:F:516:GLN:OE1	2:F:516:GLN:N	2.24	0.52
4:H:88:LYS:O	4:H:92:LEU:HG	2.10	0.52
5:I:132:TYR:O	5:I:136:LEU:HD13	2.09	0.52
5:K:85:VAL:HG12	5:K:112:ARG:HB3	1.91	0.52
2:F:242:PHE:HB3	2:F:265:LEU:HD22	1.91	0.52
1:A:348:LEU:HA	1:A:351:ILE:HG12	1.92	0.52
2:D:323:GLU:OE1	2:D:326:GLU:N	2.42	0.52
2:F:578:GLU:HG3	3:G:175:GLN:HB2	1.92	0.52
3:G:86:TYR:HA	3:G:89:VAL:HB	1.91	0.52
1:A:507:LEU:HD13	1:A:573:ILE:HG12	1.91	0.52
1:A:722:ASP:N	1:A:722:ASP:OD1	2.42	0.52
1:B:1569:GLY:O	1:B:1573:THR:HG23	2.09	0.52
1:A:707:LEU:HA	1:A:710:ILE:HG12	1.92	0.52
1:A:1958:ARG:HH21	1:A:1973:HIS:HB3	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:130:SER:HA	1:B:133:PHE:CD1	2.45	0.52
1:B:1529:ARG:HA	1:B:1532:TYR:HD1	1.74	0.52
2:D:534:ALA:O	2:D:538:VAL:HG12	2.10	0.52
2:F:449:GLU:O	2:F:452:GLU:HG2	2.10	0.52
1:A:1025:ILE:HB	1:A:1047:TYR:CZ	2.44	0.51
3:E:216:PRO:HA	3:E:219:HIS:CE1	2.46	0.51
2:F:514:ASP:OD1	2:F:514:ASP:N	2.43	0.51
1:B:712:ALA:HA	1:B:715:ASN:HD21	1.75	0.51
1:B:1100:LEU:O	1:B:1104:THR:HG22	2.10	0.51
2:D:528:SER:O	2:D:530:GLN:NE2	2.43	0.51
2:D:531:ILE:HG22	2:D:535:LEU:HD23	1.92	0.51
2:F:420:LEU:HD22	2:F:433:ILE:HG23	1.92	0.51
1:A:33:ASN:OD1	1:A:33:ASN:N	2.43	0.51
1:B:409:THR:O	1:B:413:GLU:HG2	2.09	0.51
4:H:37:SER:OG	4:H:71:ASP:OD1	2.28	0.51
1:A:135:LEU:O	1:A:138:LEU:HD12	2.11	0.51
1:B:304:ILE:HG13	1:B:366:TYR:HE2	1.76	0.51
1:B:1185:HIS:HE1	1:B:1187:GLN:HB2	1.75	0.51
1:B:1683:LEU:HD23	1:B:1683:LEU:H	1.75	0.51
5:I:148:ARG:NH2	5:I:183:ASP:OD1	2.44	0.51
1:A:132:SER:HA	1:A:135:LEU:HG	1.92	0.51
1:A:735:GLU:OE2	1:A:790:ARG:NH2	2.42	0.51
1:A:859:ALA:O	1:A:863:GLU:HG2	2.11	0.51
1:A:2000:MET:N	1:A:2000:MET:SD	2.80	0.51
1:B:2013:PHE:O	1:B:2017:MET:HG2	2.10	0.51
2:D:586:LEU:HD13	2:D:609:MET:HB2	1.93	0.51
5:I:289:ARG:HH21	5:I:291:TYR:HA	1.75	0.51
1:A:442:VAL:O	1:A:446:VAL:HG23	2.10	0.51
1:B:1330:LEU:HD23	1:B:1330:LEU:H	1.75	0.51
1:A:636:PRO:O	1:A:640:ILE:HG12	2.11	0.51
1:A:963:GLU:OE2	1:A:967:HIS:NE2	2.43	0.51
1:A:1958:ARG:O	1:A:1995:LYS:NZ	2.44	0.51
1:B:2007:LYS:NZ	1:B:2009:GLU:OE2	2.36	0.51
5:K:233:SER:OG	5:K:258:TYR:O	2.16	0.51
1:A:652:LEU:HD23	1:A:652:LEU:H	1.76	0.51
1:B:1598:THR:OG1	1:B:1599:ILE:N	2.44	0.51
1:B:1670:ARG:O	1:B:1673:ILE:HG22	2.11	0.51
2:D:330:LEU:HA	2:D:333:LEU:HD12	1.92	0.51
3:G:129:SER:HB3	3:G:132:LYS:HB3	1.93	0.51
4:H:115:VAL:HA	4:H:118:MET:HG3	1.92	0.51
5:K:70:SER:O	5:K:74:GLN:HG3	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:61:PRO:HD3	1:B:74:ARG:HD3	1.91	0.51
5:K:43:VAL:O	5:K:47:LYS:HB3	2.10	0.51
1:A:405:GLU:HA	1:A:408:ASN:HD21	1.76	0.51
1:B:129:GLU:OE2	1:B:129:GLU:N	2.38	0.51
3:E:83:ILE:O	3:E:87:LEU:HB2	2.11	0.51
3:E:113:ILE:HG23	3:E:114:VAL:HG23	1.92	0.51
3:G:56:VAL:O	3:G:59:GLN:HB3	2.11	0.51
1:A:659:GLN:O	1:A:663:LEU:HG	2.11	0.50
1:A:1341:ARG:NH1	1:A:1388:CYS:SG	2.85	0.50
1:B:100:LEU:O	1:B:104:LEU:HG	2.11	0.50
1:B:1713:ASP:OD1	1:B:1713:ASP:N	2.44	0.50
1:A:1292:VAL:HG23	1:A:1292:VAL:O	2.11	0.50
1:B:107:LEU:HA	1:B:110:VAL:HG23	1.94	0.50
1:B:1596:TRP:HE1	1:B:1602:ASP:H	1.60	0.50
2:D:226:HIS:HB3	2:D:241:ARG:HE	1.76	0.50
2:D:731:ASN:OD1	2:D:731:ASN:N	2.45	0.50
3:G:206:ILE:O	3:G:210:ILE:HG23	2.11	0.50
1:B:507:LEU:O	1:B:510:PHE:HB3	2.12	0.50
1:B:1586:VAL:HG23	1:B:1587:PRO:HD3	1.93	0.50
5:I:248:PHE:HA	5:I:259:PHE:O	2.11	0.50
5:I:350:PHE:CZ	4:J:136:THR:HG23	2.46	0.50
1:A:1505:THR:HG21	1:A:2067:GLU:HB3	1.94	0.50
1:B:167:MET:HG2	1:B:179:LEU:HD11	1.93	0.50
1:B:1812:CYS:SG	1:B:1813:GLY:N	2.85	0.50
2:D:347:ARG:H	2:D:355:ARG:NH1	2.10	0.50
3:G:76:LEU:O	3:G:188:TYR:OH	2.23	0.50
5:I:278:LEU:HD21	5:I:329:MET:HE2	1.94	0.50
1:A:1565:THR:HG22	1:A:1567:ALA:H	1.75	0.50
2:D:420:LEU:O	2:D:424:ILE:HG12	2.11	0.50
5:I:30:THR:O	5:I:34:VAL:HG22	2.12	0.50
1:B:104:LEU:HA	1:B:107:LEU:HD23	1.94	0.50
1:B:167:MET:HE3	1:B:167:MET:H	1.77	0.50
1:B:907:SER:OG	1:B:908:THR:N	2.45	0.50
2:F:449:GLU:O	2:F:453:LYS:HG2	2.11	0.50
3:G:129:SER:HG	3:G:157:LEU:N	2.10	0.50
4:H:49:LEU:HD21	5:K:368:VAL:HG12	1.94	0.50
1:A:631:PRO:O	1:A:633:VAL:N	2.44	0.50
1:B:107:LEU:HG	1:B:108:PRO:HD3	1.93	0.50
1:B:1715:LEU:O	1:B:1719:ILE:HG22	2.11	0.50
1:B:1886:VAL:HG23	1:B:1896:ILE:HG12	1.94	0.50
3:E:68:GLU:OE1	3:E:70:GLN:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:236:PHE:O	3:E:240:MET:HG2	2.12	0.50
2:F:338:MET:HG3	2:F:341:ARG:HH22	1.77	0.50
1:B:487:GLN:O	1:B:491:ARG:HG2	2.12	0.50
3:G:207:CYS:HA	3:G:210:ILE:HG12	1.94	0.50
5:I:122:ARG:HD3	5:I:160:PHE:CZ	2.45	0.50
1:B:500:VAL:O	1:B:504:THR:HG23	2.11	0.49
1:B:791:LEU:HA	1:B:794:LEU:HG	1.93	0.49
2:D:223:GLN:HE21	2:D:257:LEU:HD11	1.77	0.49
2:D:470:ALA:HB3	2:D:471:LYS:HZ2	1.76	0.49
2:F:782:LEU:HD12	2:F:782:LEU:H	1.77	0.49
5:K:61:ALA:O	5:K:64:ILE:HG22	2.12	0.49
1:A:1246:VAL:HG23	1:A:1247:PRO:HD3	1.94	0.49
1:B:620:LEU:HD11	1:B:637:ILE:HG23	1.94	0.49
1:B:651:PRO:O	1:B:654:VAL:HB	2.12	0.49
2:D:399:LEU:HD12	2:D:399:LEU:H	1.77	0.49
2:F:250:GLU:OE2	2:F:341:ARG:NH2	2.45	0.49
2:F:268:ILE:HD12	2:F:268:ILE:H	1.77	0.49
2:F:445:LEU:H	2:F:445:LEU:HD23	1.77	0.49
2:F:779:ARG:HB3	2:F:782:LEU:HD13	1.94	0.49
5:K:153:CYS:HB2	5:K:221:PRO:HD2	1.94	0.49
1:B:632:LYS:HG3	1:B:635:GLU:OE1	2.13	0.49
1:B:1608:HIS:O	1:B:1608:HIS:ND1	2.45	0.49
1:B:208:LEU:HD23	1:B:209:PHE:N	2.28	0.49
1:B:491:ARG:NH2	1:B:575:ARG:HH12	2.11	0.49
5:I:81:ILE:HD12	5:I:145:PHE:HD1	1.75	0.49
5:I:134:TRP:CE3	5:I:134:TRP:HA	2.46	0.49
5:K:140:TYR:HB3	5:K:143:THR:OG1	2.12	0.49
1:B:1689:TRP:HE1	1:B:1735:PHE:HE1	1.60	0.49
2:D:432:THR:OG1	3:E:268:GLN:NE2	2.33	0.49
1:A:98:PRO:O	1:A:101:LEU:HD12	2.12	0.49
1:A:1738:PHE:HE2	1:A:1777:PRO:HG2	1.75	0.49
1:B:185:PRO:HA	1:B:188:ILE:HD12	1.93	0.49
1:B:1940:ILE:HG23	1:B:2016:PHE:HD2	1.77	0.49
5:K:165:GLU:HB2	5:K:346:PHE:CE2	2.47	0.49
1:A:335:LEU:O	1:A:339:ILE:HG12	2.12	0.49
1:B:657:ILE:HD11	1:B:708:ALA:HB1	1.94	0.49
2:D:368:LEU:HA	2:D:371:ILE:HG22	1.94	0.49
5:I:350:PHE:HZ	4:J:136:THR:HG23	1.78	0.49
1:A:598:ARG:HA	1:A:601:ILE:HG12	1.95	0.49
1:B:657:ILE:O	1:B:660:LEU:HB2	2.12	0.49
1:B:2031:MET:HE1	1:B:2063:PRO:HB3	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:46:ARG:NH2	1:A:87:GLU:O	2.46	0.49
1:A:1951:PHE:HB2	1:A:1994:ILE:HD11	1.95	0.49
1:B:1292:VAL:HG23	1:B:1292:VAL:O	2.12	0.49
1:B:1795:MET:SD	1:B:1795:MET:N	2.85	0.49
1:A:1644:SER:O	1:A:1644:SER:OG	2.25	0.49
1:B:1284:GLN:HB2	1:B:1286:LYS:HE2	1.95	0.49
3:G:63:PHE:HB2	3:G:75:THR:HG21	1.95	0.49
4:J:77:GLU:O	4:J:81[B]:GLN:NE2	2.45	0.49
1:B:657:ILE:HA	1:B:660:LEU:HB2	1.95	0.48
2:D:350:GLU:OE2	2:D:351:HIS:ND1	2.44	0.48
2:D:814:ASP:N	2:D:814:ASP:OD1	2.43	0.48
1:A:1051:GLU:HA	1:A:1054:VAL:HG22	1.95	0.48
1:A:1748:ILE:HD11	1:A:1764:ALA:HB2	1.95	0.48
1:B:202:GLU:HG2	1:B:207:LYS:HZ1	1.78	0.48
2:D:536:GLY:O	2:D:540:GLN:HG3	2.13	0.48
1:A:69:GLN:O	1:A:74:ARG:NH2	2.46	0.48
1:A:1938:ASN:HB3	1:A:1970:HIS:CD2	2.47	0.48
1:B:97:VAL:O	1:B:101:LEU:HG	2.13	0.48
1:B:1784:VAL:HA	1:B:1809:VAL:HG23	1.95	0.48
2:D:729:SER:OG	2:D:731:ASN:OD1	2.19	0.48
3:E:124:SER:HB2	3:E:159:LYS:HD2	1.94	0.48
3:G:83:ILE:O	3:G:87:LEU:HB2	2.12	0.48
4:H:49:LEU:HD11	5:K:368:VAL:HG12	1.94	0.48
4:H:116:LEU:HB3	4:H:129:LEU:HD11	1.95	0.48
5:I:88:CYS:SG	5:I:101:LEU:HD21	2.54	0.48
1:A:337:LYS:O	1:A:337:LYS:NZ	2.39	0.48
1:A:1318:GLU:OE1	1:A:1318:GLU:N	2.38	0.48
1:A:1685:HIS:O	1:A:1688:ILE:HG22	2.13	0.48
1:B:157:LEU:O	1:B:160:VAL:HG22	2.14	0.48
2:F:397:PHE:HB2	2:F:426:LEU:HD22	1.95	0.48
3:G:218:GLN:NE2	3:G:223:TYR:O	2.46	0.48
1:A:770:LEU:O	1:A:774:ILE:HG12	2.14	0.48
1:B:771:ILE:HG13	1:B:772:PRO:HD3	1.96	0.48
2:D:393:ALA:HB2	2:D:399:LEU:HD13	1.94	0.48
3:G:65:ARG:N	3:G:65:ARG:HD2	2.28	0.48
5:K:124:TYR:HD2	5:K:342:TRP:HB2	1.79	0.48
1:A:1063:MET:HG3	1:A:1064:ILE:N	2.27	0.48
1:A:1733:ARG:NH2	1:A:1824:CYS:SG	2.86	0.48
1:B:100:LEU:HD12	1:B:101:LEU:HD23	1.96	0.48
1:B:734:LEU:HD13	1:B:794:LEU:HD13	1.95	0.48
2:D:175:CYS:HA	2:D:178:LYS:HE3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:334:ILE:HG22	2:F:338:MET:SD	2.54	0.48
5:I:48:ALA:O	5:I:51:MET:HG2	2.14	0.48
5:K:112:ARG:NH1	5:K:142:LYS:O	2.47	0.48
1:A:342:GLU:O	1:A:346:LYS:HG3	2.12	0.48
1:A:2004:MET:O	1:A:2004:MET:HG2	2.12	0.48
1:B:712:ALA:HA	1:B:715:ASN:ND2	2.29	0.48
5:I:286:ALA:O	5:I:333:GLN:NE2	2.47	0.48
1:B:1616:ASP:N	1:B:1616:ASP:OD1	2.46	0.48
2:F:523:LEU:HD22	2:F:554:LEU:HD22	1.96	0.48
1:A:965:GLU:OE2	1:A:1003:SER:OG	2.29	0.48
1:B:45:GLN:NE2	2:F:814:ASP:HB3	2.29	0.48
1:B:819:TRP:O	1:B:823:VAL:HG13	2.14	0.48
2:D:267:GLU:HB3	2:D:271:ARG:HE	1.79	0.48
5:I:49:HIS:CD2	5:I:54:GLY:HA3	2.49	0.48
1:A:181:LYS:HA	1:A:364:LEU:HD21	1.95	0.48
1:A:957:THR:OG1	1:A:958:LYS:N	2.45	0.48
2:F:148:LYS:O	2:F:152:LEU:HB2	2.14	0.48
5:I:265:VAL:HG21	5:I:302:LEU:HD11	1.96	0.48
1:A:373:LEU:O	1:A:376:THR:N	2.47	0.47
1:A:375:LEU:HD11	1:A:379:LYS:HE2	1.96	0.47
2:D:562:GLN:HG2	2:D:562:GLN:O	2.13	0.47
2:F:481:SER:HG	2:F:841:ARG:HH11	1.60	0.47
5:I:365:LEU:O	5:I:369:LEU:HD12	2.13	0.47
5:K:251:ASN:HA	5:K:259:PHE:CE2	2.50	0.47
1:A:164:LEU:HA	1:A:167:MET:SD	2.53	0.47
2:D:170:GLN:HA	2:D:173:ILE:HD12	1.96	0.47
2:D:822:LEU:HD12	2:D:825:LEU:HD11	1.95	0.47
4:H:54:LEU:HD22	4:H:118:MET:HE2	1.97	0.47
1:B:79:ILE:O	1:B:83:ILE:HG12	2.14	0.47
1:B:133:PHE:CE2	1:B:189:GLY:HA2	2.49	0.47
1:B:1367:ASN:HD21	1:B:1370:ILE:HG12	1.80	0.47
2:D:188:GLN:O	2:D:191:GLU:HG3	2.14	0.47
2:D:735:MET:O	2:D:739:ILE:HG23	2.14	0.47
3:E:13:LEU:HD13	3:E:59:GLN:NE2	2.29	0.47
4:H:124:LEU:HD11	5:K:352:TRP:HZ3	1.78	0.47
5:I:313:ASP:OD1	5:I:339:HIS:NE2	2.37	0.47
1:A:771:ILE:HG12	1:A:772:PRO:HD3	1.95	0.47
1:A:907:SER:OG	1:A:908:THR:N	2.48	0.47
1:B:1795:MET:HB2	1:B:1802:PRO:HG2	1.95	0.47
1:B:2056:LEU:HD12	1:B:2056:LEU:H	1.80	0.47
3:E:116:LYS:HG2	3:E:121:LYS:HD2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:127:ILE:HG12	3:G:158:SER:HB3	1.95	0.47
4:H:116:LEU:HD23	4:H:119:MET:SD	2.54	0.47
4:H:162:ILE:O	4:H:165:LYS:HG2	2.13	0.47
5:I:104:VAL:HG21	5:I:334:PHE:HB3	1.96	0.47
1:B:1936:ARG:HH12	1:B:2012:PRO:HG2	1.78	0.47
2:D:690:HIS:CG	2:D:691:PRO:HD3	2.49	0.47
3:G:57:CYS:O	3:G:60:LEU:HB2	2.14	0.47
3:G:243:GLY:HA2	3:G:246:PHE:CD1	2.49	0.47
5:K:309:PRO:HB2	5:K:336:CYS:HB3	1.97	0.47
1:A:500:VAL:HA	1:A:503:VAL:HG22	1.97	0.47
1:A:1680:SER:OG	1:A:1681:GLN:N	2.47	0.47
1:B:135:LEU:HD12	1:B:136:VAL:HG23	1.96	0.47
1:B:865:ARG:HA	1:B:868:ILE:HD12	1.96	0.47
1:B:1736:ASP:OD1	1:B:1737:PHE:N	2.48	0.47
2:D:348:ILE:HG12	2:D:355:ARG:NE	2.29	0.47
2:D:498:ARG:HA	2:D:501:LEU:HG	1.96	0.47
3:E:52:LEU:HA	3:E:55:PRO:HG2	1.95	0.47
3:E:55:PRO:HA	3:E:58:HIS:CE1	2.50	0.47
2:F:706:TYR:CE2	2:F:714:GLU:HB3	2.49	0.47
5:I:203:SER:OG	5:I:206:ILE:HG12	2.14	0.47
1:B:521:LEU:HD23	1:B:565:LEU:HD23	1.97	0.47
2:D:765:LYS:O	2:D:769:ARG:HG2	2.15	0.47
1:B:1586:VAL:HG12	1:B:1612:TRP:CE3	2.50	0.47
2:F:493:GLN:NE2	2:F:497:GLN:OE1	2.43	0.47
3:G:237:MET:O	3:G:241:LEU:HD23	2.15	0.47
5:I:13:THR:HG21	4:J:110:GLY:HA2	1.96	0.47
5:I:122:ARG:HD2	5:I:312:LEU:HD21	1.97	0.47
1:B:1648:ASP:N	1:B:1648:ASP:OD1	2.48	0.47
1:B:1938:ASN:HB3	1:B:1970:HIS:CD2	2.50	0.47
3:E:37:LEU:O	3:E:41:LEU:HG	2.15	0.47
5:K:323:LYS:HG3	5:K:330:ASN:HB3	1.97	0.47
4:J:76:ILE:HG13	4:J:77:GLU:N	2.30	0.46
5:K:68:GLY:HA3	5:K:134:TRP:CD1	2.50	0.46
1:A:575:ARG:HA	1:A:578:LYS:HG2	1.96	0.46
2:D:185:LEU:O	2:D:189:GLU:HG2	2.15	0.46
2:D:323:GLU:OE1	2:D:325:THR:OG1	2.28	0.46
2:D:336:GLU:HG3	2:D:337:SER:N	2.30	0.46
1:B:636:PRO:O	1:B:640:ILE:HG12	2.14	0.46
1:B:821:GLU:OE1	1:B:821:GLU:N	2.42	0.46
1:B:1879:LEU:HD23	1:B:1945:ALA:HB2	1.96	0.46
1:A:1275:ASP:OD1	1:A:1275:ASP:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1372:ASN:OD1	1:A:1485:TYR:OH	2.20	0.46
1:A:1670:ARG:O	1:A:1674:LEU:HD22	2.15	0.46
1:B:135:LEU:HD12	1:B:136:VAL:N	2.29	0.46
1:B:1784:VAL:HG13	1:B:1807:PHE:HB3	1.96	0.46
2:D:175:CYS:HA	2:D:178:LYS:HG2	1.97	0.46
3:G:189:ASN:HA	3:G:192:LEU:HD21	1.98	0.46
5:K:88:CYS:HB3	5:K:101:LEU:HD11	1.95	0.46
1:A:1088:GLN:OE1	1:A:1088:GLN:N	2.47	0.46
2:F:449:GLU:OE2	2:F:449:GLU:N	2.47	0.46
5:I:251:ASN:OD1	5:I:251:ASN:N	2.46	0.46
4:J:165:LYS:C	4:J:165:LYS:HD3	2.36	0.46
5:K:28:ARG:NH1	5:K:56:LEU:O	2.46	0.46
5:K:226:PRO:HA	5:K:229:ASP:OD2	2.15	0.46
1:A:79:ILE:HG22	1:A:83:ILE:HD11	1.98	0.46
1:A:164:LEU:HD11	1:A:187:LEU:HB2	1.97	0.46
1:A:670:TYR:O	1:A:674:GLU:HG2	2.16	0.46
1:A:778:THR:HG21	1:A:826:ILE:HD13	1.96	0.46
1:A:1595:THR:O	1:A:1595:THR:HG23	2.15	0.46
1:B:369:PHE:O	1:B:373:LEU:HG	2.15	0.46
1:B:1962:ASN:ND2	1:B:1974:ILE:O	2.48	0.46
5:K:41:PRO:HG2	5:K:139:LEU:HB2	1.96	0.46
1:A:1535:LEU:HB2	1:A:1539:GLN:HE21	1.79	0.46
1:A:2031:MET:HE1	1:A:2063:PRO:HB3	1.98	0.46
5:K:333:GLN:N	5:K:333:GLN:OE1	2.49	0.46
1:A:591:PHE:O	1:A:595:LEU:HD23	2.15	0.46
1:B:462:LEU:HD12	1:B:485:CYS:HB3	1.98	0.46
2:D:266:ALA:HB2	2:D:331:LEU:HD22	1.96	0.46
4:H:32:LEU:HB3	4:H:42:GLU:OE2	2.16	0.46
5:I:92:HIS:NE2	5:I:118:ASP:OD2	2.48	0.46
5:K:42:ARG:O	5:K:45:ILE:HG22	2.16	0.46
5:K:150:ASN:HD22	5:K:232:TRP:HA	1.81	0.46
1:A:61:PRO:HB3	1:A:74:ARG:NE	2.30	0.46
2:D:138:LEU:O	2:D:141:ILE:HG13	2.15	0.46
2:D:226:HIS:HB3	2:D:241:ARG:NE	2.31	0.46
2:F:370:THR:HG22	2:F:382:LEU:HD11	1.97	0.46
3:G:214:GLY:HA3	3:G:229:ARG:HB3	1.97	0.46
5:K:323:LYS:HG3	5:K:323:LYS:O	2.16	0.46
1:B:492:LEU:HA	1:B:495:ARG:HD2	1.98	0.46
1:B:1867:LEU:O	1:B:1871:ILE:HG12	2.16	0.46
2:D:822:LEU:O	2:D:825:LEU:HD12	2.16	0.46
4:J:55:VAL:O	4:J:58:VAL:HG12	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:149:LEU:O	1:B:152:GLU:HB3	2.16	0.45
1:B:726:VAL:HG13	1:B:777:LEU:HD23	1.97	0.45
1:B:1758:LYS:HG2	1:B:1759:LYS:HD2	1.99	0.45
2:D:250:GLU:HB2	2:D:258:ARG:CZ	2.46	0.45
3:E:55:PRO:O	3:E:58:HIS:ND1	2.49	0.45
2:F:332:LEU:HD23	2:F:332:LEU:HA	1.72	0.45
3:G:262:ASP:OD1	3:G:262:ASP:N	2.49	0.45
5:I:347:MET:SD	5:I:352:TRP:HB2	2.56	0.45
1:A:928:ASP:OD1	1:A:929:LYS:N	2.49	0.45
1:B:771:ILE:HG22	1:B:774:ILE:HD11	1.97	0.45
2:D:489:LEU:HB2	2:D:492:MET:SD	2.57	0.45
2:F:348:ILE:HG22	2:F:351:HIS:CD2	2.52	0.45
3:G:60:LEU:HA	3:G:63:PHE:CD1	2.52	0.45
3:G:79:LEU:N	3:G:80:PRO:HD2	2.31	0.45
5:K:154:ARG:N	5:K:220:GLU:OE1	2.48	0.45
1:A:628:ARG:NH2	1:A:666:THR:O	2.49	0.45
1:B:56:LEU:CD1	1:B:81:LEU:HD22	2.46	0.45
2:F:334:ILE:O	2:F:338:MET:SD	2.74	0.45
3:G:53:LEU:HA	3:G:56:VAL:HB	1.98	0.45
3:G:123:LEU:HB3	3:G:162:TYR:CE1	2.50	0.45
5:I:120:VAL:HA	5:I:126:SER:OG	2.16	0.45
1:A:635:GLU:HB3	1:A:636:PRO:HD3	1.98	0.45
1:A:1044:PRO:O	1:A:1050:ARG:NH1	2.32	0.45
1:B:51:GLU:OE1	1:B:51:GLU:N	2.40	0.45
2:D:532:PRO:HA	2:D:535:LEU:HG	1.98	0.45
5:K:34:VAL:HG11	5:K:60:VAL:HG11	1.98	0.45
5:K:279:ARG:NH2	5:K:304:THR:HG21	2.32	0.45
1:A:460:ILE:O	1:A:464:GLU:HG2	2.17	0.45
1:A:712:ALA:O	1:A:716:ILE:HG12	2.16	0.45
1:A:1330:LEU:HD13	1:A:1376:GLU:OE2	2.17	0.45
2:F:582:ASN:O	2:F:586:LEU:HG	2.17	0.45
5:I:62:LEU:HD23	5:I:65:ILE:HD11	1.98	0.45
5:K:365:LEU:HA	5:K:368:VAL:HG22	1.99	0.45
1:A:1958:ARG:NH2	1:A:1974:ILE:O	2.49	0.45
2:F:348:ILE:HA	2:F:351:HIS:HB2	1.97	0.45
3:G:124:SER:HB2	3:G:159:LYS:HD2	1.98	0.45
2:F:604:LEU:O	2:F:607:LYS:HG3	2.17	0.45
5:I:88:CYS:HB3	5:I:101:LEU:HD11	1.97	0.45
5:I:206:ILE:HG13	5:I:206:ILE:O	2.15	0.45
1:A:660:LEU:HA	1:A:663:LEU:HD12	1.98	0.45
1:A:1538:LYS:HD2	1:A:1538:LYS:HA	1.55	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:324:ILE:HG22	1:B:328:MET:SD	2.57	0.45
2:F:396:GLU:O	2:F:400:TRP:HD1	2.00	0.45
2:F:775:HIS:NE2	2:F:806:GLU:OE2	2.49	0.45
5:K:28:ARG:HD3	5:K:57:GLU:HA	1.99	0.45
5:K:97:ASP:OD1	5:K:337:SER:N	2.46	0.45
5:K:148:ARG:NH2	5:K:183:ASP:OD1	2.46	0.45
5:K:150:ASN:HB2	5:K:232:TRP:CE2	2.52	0.45
1:A:196:ARG:HH12	1:A:380:MET:HB3	1.80	0.45
1:A:589:GLU:O	1:A:592:LEU:HD23	2.17	0.45
1:A:1749:LYS:HA	1:A:1757:ARG:HH21	1.81	0.45
1:A:1974:ILE:HG22	1:A:1975:ASP:N	2.32	0.45
1:B:143:ALA:O	1:B:150:ARG:HG2	2.17	0.45
1:B:491:ARG:HA	1:B:494:GLU:HG2	1.98	0.45
1:B:1583:VAL:HG23	1:B:1612:TRP:HZ2	1.82	0.45
1:B:1927:GLU:HA	1:B:1932:PHE:HD2	1.82	0.45
3:E:192:LEU:HD12	3:E:246:PHE:HD1	1.81	0.45
5:I:267:GLU:OE2	5:I:271:HIS:ND1	2.50	0.45
1:A:512:VAL:HG23	1:A:513:ILE:HG13	1.99	0.45
1:A:612:ILE:N	1:A:613:PRO:HD2	2.32	0.45
1:B:81:LEU:HD12	1:B:84:PHE:HD2	1.81	0.45
1:B:509:ASP:HA	1:B:512:VAL:HG22	1.99	0.45
1:B:768:GLY:O	1:B:771:ILE:HG12	2.17	0.45
1:B:1398:LYS:HD2	1:B:1398:LYS:HA	1.74	0.45
1:B:1999:GLU:O	1:B:2003:ILE:HG13	2.17	0.45
2:D:396:GLU:O	2:D:400:TRP:HD1	1.99	0.45
2:D:557:LEU:HD23	2:D:557:LEU:HA	1.80	0.45
4:H:162:ILE:HG22	4:H:166:MET:SD	2.57	0.45
1:A:676:TRP:HH2	1:A:733:LEU:HG	1.82	0.44
1:A:1877:LEU:HD23	1:A:1877:LEU:HA	1.84	0.44
4:H:25:LYS:HD2	4:H:26:ARG:NH1	2.32	0.44
1:A:145:ARG:HA	1:A:145:ARG:HD3	1.69	0.44
1:B:1479:SER:O	1:B:1483:LYS:HG2	2.16	0.44
1:B:1650:ILE:H	1:B:1650:ILE:HG13	1.58	0.44
1:B:1854:ASP:HB3	1:B:1856:ARG:HH11	1.83	0.44
2:D:689:LEU:HA	2:D:692:TRP:HD1	1.82	0.44
2:F:249:VAL:O	2:F:258:ARG:NH1	2.27	0.44
1:A:303:THR:HG1	1:A:306:SER:HG	1.61	0.44
1:A:1367:ASN:O	1:A:1371:ARG:NH1	2.51	0.44
1:B:348:LEU:HA	1:B:351:ILE:HG12	2.00	0.44
3:G:176:ASN:OD1	3:G:176:ASN:N	2.50	0.44
5:K:42:ARG:HB3	5:K:45:ILE:HG22	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:135:LEU:HD12	1:A:136:VAL:N	2.32	0.44
1:A:790:ARG:O	1:A:794:LEU:HG	2.17	0.44
1:B:574:CYS:HB3	1:B:622:HIS:CE1	2.53	0.44
1:B:598:ARG:NH1	1:B:612:ILE:HD12	2.33	0.44
1:B:1712:LEU:O	1:B:1716:VAL:HG23	2.18	0.44
2:D:394:PHE:CD2	2:D:395:GLU:HG2	2.53	0.44
3:G:58:HIS:HA	3:G:61:PHE:HB3	1.99	0.44
3:G:181:LEU:O	3:G:184:LEU:HD12	2.17	0.44
4:H:115:VAL:O	4:H:118:MET:HG3	2.16	0.44
1:A:507:LEU:HD12	1:A:508:ARG:N	2.32	0.44
1:A:1276:PRO:HD3	1:A:1874:LEU:HD22	1.99	0.44
1:B:1010:MET:SD	1:B:1064:ILE:HD11	2.57	0.44
3:G:181:LEU:HA	3:G:184:LEU:CD1	2.48	0.44
4:H:116:LEU:HD12	4:H:133:VAL:HG22	1.99	0.44
5:I:289:ARG:HB3	5:I:304:THR:HG22	2.00	0.44
5:K:50:LEU:HD23	5:K:95:PHE:CZ	2.52	0.44
1:A:348:LEU:HD13	1:A:369:PHE:HB2	2.00	0.44
1:A:935:CYS:O	1:A:939:VAL:HG12	2.18	0.44
1:B:1596:TRP:HZ2	1:B:1601:ALA:HA	1.83	0.44
3:E:177:ARG:O	3:E:180:VAL:HG12	2.17	0.44
4:J:81[A]:GLN:HG2	4:J:94:PHE:CZ	2.52	0.44
1:A:331:GLU:O	1:A:335:LEU:HG	2.18	0.44
1:A:1841:LYS:HB3	1:A:1842:ILE:HD12	2.00	0.44
1:B:125:LEU:HD12	1:B:126:PRO:HD2	1.99	0.44
1:B:1529:ARG:HA	1:B:1532:TYR:CD1	2.52	0.44
2:F:572:ILE:HG21	2:F:589:LYS:HB2	2.00	0.44
4:J:125:LYS:HE3	4:J:125:LYS:HB3	1.79	0.44
5:K:73:ARG:HG3	5:K:218:PHE:CE1	2.53	0.44
1:A:329:LEU:O	1:A:333:LEU:HG	2.18	0.44
1:A:345:LEU:HD23	1:A:348:LEU:HD21	2.00	0.44
1:A:1387:SER:O	1:A:1387:SER:OG	2.33	0.44
1:A:2007:LYS:HD2	1:A:2007:LYS:HA	1.78	0.44
1:B:1486:MET:O	1:B:1490:THR:HG23	2.18	0.44
3:E:60:LEU:HA	3:E:63:PHE:HD1	1.82	0.44
5:K:112:ARG:HG3	5:K:143:THR:HA	1.99	0.44
1:B:641:LEU:HD23	1:B:641:LEU:HA	1.84	0.44
1:B:654:VAL:O	1:B:657:ILE:HG13	2.18	0.44
1:B:1776:LEU:HD12	1:B:1779:ASN:H	1.83	0.44
3:E:60:LEU:HA	3:E:63:PHE:CD1	2.53	0.44
2:F:367:ASP:OD1	2:F:368:LEU:N	2.50	0.44
2:F:582:ASN:OD1	2:F:584:ILE:HG13	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:690:HIS:CG	2:F:691:PRO:HD3	2.52	0.44
3:G:12:TRP:CH2	3:G:34:LYS:HD3	2.53	0.44
5:I:284:GLN:HG3	5:I:286:ALA:H	1.82	0.44
5:K:318:LYS:HE3	5:K:333:GLN:HB3	2.00	0.44
1:A:597:ASN:HA	1:A:600:TYR:CD1	2.53	0.43
1:A:905:LEU:HD23	1:A:905:LEU:HA	1.82	0.43
1:A:1529:ARG:HA	1:A:1532:TYR:HD1	1.82	0.43
1:B:733:LEU:HD11	1:B:770:LEU:HD11	2.00	0.43
1:B:1854:ASP:HB3	1:B:1856:ARG:NH1	2.33	0.43
2:F:138:LEU:HD22	2:F:186:TYR:CD1	2.53	0.43
2:F:413:SER:HB2	2:F:445:LEU:HD22	2.00	0.43
3:G:105:LEU:HD23	3:G:105:LEU:HA	1.86	0.43
3:G:253:TRP:O	3:G:257:GLN:HG2	2.17	0.43
5:K:85:VAL:HG21	5:K:191:MET:SD	2.57	0.43
1:A:1146:ARG:HE	1:A:1146:ARG:HB2	1.58	0.43
1:B:410:SER:O	1:B:414:LEU:HG	2.18	0.43
1:B:977:HIS:CD2	1:B:978:ILE:H	2.36	0.43
1:B:1670:ARG:NH1	2:F:349:PRO:O	2.51	0.43
2:F:192:ARG:HA	2:F:192:ARG:HD3	1.84	0.43
3:G:79:LEU:HA	3:G:82:LEU:HG	1.99	0.43
3:G:209:ARG:O	3:G:213:CYS:HB2	2.18	0.43
4:H:115:VAL:HA	4:H:118:MET:CG	2.48	0.43
5:I:47:LYS:HB2	5:I:132:TYR:HE2	1.83	0.43
5:I:188:ALA:HB3	5:I:212:ILE:HG21	1.99	0.43
5:I:266:CYS:O	5:I:269:LEU:HG	2.18	0.43
4:J:56:GLN:HA	4:J:59:ILE:HG12	2.00	0.43
5:K:11:LEU:HD21	5:K:17:VAL:HG12	2.00	0.43
5:K:92:HIS:O	5:K:123:GLY:HA3	2.18	0.43
5:K:93:GLY:HA3	5:K:123:GLY:HA3	1.99	0.43
1:A:929:LYS:HB2	1:A:929:LYS:HE2	1.81	0.43
1:B:102:ARG:HA	1:B:105:LYS:HG2	2.00	0.43
2:F:420:LEU:CD2	2:F:433:ILE:HG23	2.47	0.43
2:F:435:LEU:HD23	2:F:435:LEU:HA	1.82	0.43
2:F:706:TYR:CZ	2:F:714:GLU:HB3	2.53	0.43
5:K:170:TYR:HB3	5:K:174:VAL:HG21	2.00	0.43
1:A:709:VAL:O	1:A:713:LEU:HG	2.17	0.43
1:A:1778:SER:HA	1:A:1887:VAL:HG21	2.01	0.43
1:B:842:ARG:HD3	1:B:842:ARG:N	2.33	0.43
1:B:1193:MET:O	1:B:1197:THR:HG22	2.18	0.43
1:B:2068:ARG:HD2	1:B:2068:ARG:HA	1.87	0.43
2:D:739:ILE:HG13	2:D:740:ALA:N	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:757:LEU:HD23	2:D:757:LEU:HA	1.84	0.43
4:J:57:ARG:O	4:J:57:ARG:HD3	2.19	0.43
5:K:288:TYR:HB2	5:K:305:ILE:HD13	2.00	0.43
1:A:298:GLU:OE1	1:A:298:GLU:N	2.49	0.43
1:A:635:GLU:O	1:A:638:LEU:HG	2.19	0.43
1:A:644:LYS:HA	1:A:644:LYS:HD3	1.71	0.43
1:A:1744:VAL:O	1:A:1748:ILE:HG12	2.19	0.43
1:B:1778:SER:OG	1:B:1897:GLU:OE2	2.27	0.43
2:D:570:ASN:O	2:D:574:MET:SD	2.77	0.43
2:F:235:LEU:HD12	2:F:268:ILE:HG12	2.00	0.43
2:F:323:GLU:HG3	2:F:325:THR:HG23	2.00	0.43
3:G:171:MET:SD	3:G:172:LEU:N	2.91	0.43
5:I:18:VAL:O	5:I:21:VAL:HG12	2.19	0.43
5:K:135:ALA:HA	5:K:138:ILE:HG12	2.00	0.43
1:A:1665:LYS:HA	1:A:1665:LYS:HD3	1.77	0.43
1:A:1802:PRO:HA	1:A:1849:PHE:O	2.18	0.43
1:B:576:CYS:SG	1:B:577:LEU:N	2.91	0.43
1:B:1227:MET:HG3	1:B:1294:PRO:HB3	2.01	0.43
3:G:212:VAL:HG22	3:G:215:TYR:HB2	2.00	0.43
5:K:36:ASP:N	5:K:36:ASP:OD2	2.45	0.43
1:B:957:THR:OG1	1:B:958:LYS:N	2.52	0.43
1:B:1185:HIS:CE1	1:B:1187:GLN:HB2	2.54	0.43
1:B:2037:LEU:HD23	1:B:2037:LEU:HA	1.86	0.43
4:J:46:LEU:HD12	4:J:49:LEU:HD22	2.00	0.43
5:K:55:ARG:NH1	5:K:128:GLU:OE2	2.51	0.43
5:K:175:TYR:O	5:K:179:MET:HG2	2.18	0.43
5:K:234:ASP:OD2	5:K:254:ARG:NE	2.41	0.43
1:B:28:ARG:HH22	1:B:211:LYS:HG2	1.84	0.43
1:B:51:GLU:O	1:B:54:GLN:HG3	2.19	0.43
1:B:904:VAL:HG11	1:B:943:VAL:HG13	2.01	0.43
2:D:432:THR:HG21	3:E:268:GLN:HG3	2.01	0.43
3:E:34:LYS:HA	3:E:34:LYS:HD2	1.84	0.43
4:H:116:LEU:HA	4:H:119:MET:HG2	1.99	0.43
5:I:204:PRO:HD3	5:I:248:PHE:CD2	2.54	0.43
5:K:136:LEU:HB3	5:K:144:LEU:HD13	2.00	0.43
5:K:139:LEU:HD22	5:K:140:TYR:CZ	2.54	0.43
1:B:623:ILE:HG23	1:B:627:LEU:HD12	2.01	0.43
1:B:1905:ARG:NH1	1:B:1908:LEU:HD23	2.34	0.43
1:B:1920:PHE:CD1	1:B:1920:PHE:N	2.87	0.43
1:B:1927:GLU:O	1:B:1933:GLN:NE2	2.51	0.43
2:D:226:HIS:HA	2:D:229:TYR:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:159:LYS:HB2	3:E:159:LYS:HE2	1.88	0.43
2:F:807:VAL:O	2:F:811:GLN:HG2	2.19	0.43
4:J:125:LYS:HB2	4:J:128:GLN:OE1	2.18	0.43
1:A:775:ALA:HA	1:A:778:THR:HG22	2.01	0.43
1:A:1517:LEU:HD23	1:A:1517:LEU:HA	1.90	0.43
1:A:1682:LEU:HA	1:A:1685:HIS:HD2	1.83	0.43
1:A:1708:ILE:HG13	1:A:1712:LEU:HD12	2.00	0.43
1:A:2062:SER:HB2	1:A:2065:MET:HE3	2.01	0.43
1:B:378:PHE:HD2	1:B:437:ALA:HB1	1.84	0.43
1:B:768:GLY:HA3	1:B:819:TRP:CD2	2.54	0.43
1:B:1859:MET:O	1:B:1862:LEU:HD12	2.19	0.43
1:B:1861:ALA:O	1:B:1865:ILE:HG12	2.19	0.43
1:B:1958:ARG:NH2	1:B:1975:ASP:O	2.52	0.43
3:E:52:LEU:HD23	3:E:52:LEU:H	1.84	0.43
2:F:795:SER:O	2:F:795:SER:OG	2.32	0.43
1:A:627:LEU:O	1:A:630:THR:OG1	2.28	0.42
1:B:1535:LEU:HD12	1:B:1536:SER:O	2.19	0.42
1:B:1601:ALA:HB2	1:B:1629:PRO:HG2	2.01	0.42
2:D:420:LEU:CD2	2:D:433:ILE:HG23	2.49	0.42
2:D:608:HIS:O	2:D:612:ILE:HG12	2.19	0.42
5:I:147:LEU:HD21	5:I:198:VAL:HA	2.01	0.42
5:I:195:PHE:HE2	5:I:324:TYR:CZ	2.37	0.42
5:K:112:ARG:HA	5:K:143:THR:O	2.19	0.42
1:A:98:PRO:HB2	1:A:102:ARG:HH22	1.84	0.42
1:A:404:LEU:O	1:A:408:ASN:ND2	2.52	0.42
1:A:2031:MET:CE	1:A:2063:PRO:HB3	2.49	0.42
2:F:704:GLU:HA	2:F:707:ILE:HG22	2.01	0.42
3:G:13:LEU:HD21	3:G:56:VAL:HG13	2.01	0.42
5:I:92:HIS:N	5:I:118:ASP:O	2.36	0.42
4:J:95:ALA:O	4:J:98:ILE:HB	2.18	0.42
1:A:191:SER:HA	1:A:194:PHE:CD1	2.54	0.42
1:B:131:PHE:O	1:B:135:LEU:HG	2.19	0.42
1:B:800:LEU:HA	1:B:803:VAL:HG22	2.01	0.42
1:B:1053:ILE:HG13	1:B:1054:VAL:N	2.34	0.42
1:B:1202:SER:O	1:B:1202:SER:OG	2.32	0.42
1:B:1705:ASP:OD1	1:B:1708:ILE:HD12	2.18	0.42
1:B:2015:TRP:O	1:B:2018:GLU:HG2	2.20	0.42
2:D:504:PHE:HB3	2:D:521:LEU:HD13	2.00	0.42
3:E:171:MET:SD	3:E:172:LEU:N	2.92	0.42
5:I:35:PHE:HZ	5:I:64:ILE:HG12	1.82	0.42
5:I:63:ARG:O	5:I:67:GLU:HG3	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:150:ASN:HB2	5:I:232:TRP:CE2	2.53	0.42
4:J:57:ARG:HG2	4:J:98:ILE:HG23	2.01	0.42
1:A:574:CYS:O	1:A:577:LEU:HD12	2.19	0.42
1:B:182:TYR:HA	1:B:185:PRO:HG2	2.02	0.42
1:B:446:VAL:O	1:B:449:VAL:HG12	2.19	0.42
2:D:720:GLN:O	2:D:724:ASN:ND2	2.51	0.42
5:I:279:ARG:HH22	5:I:302:LEU:HB3	1.85	0.42
5:K:148:ARG:NH2	5:K:221:PRO:HD3	2.34	0.42
5:K:345:ASN:HB2	5:K:347:MET:SD	2.60	0.42
1:A:980:LYS:HB3	1:A:984:ARG:HH21	1.84	0.42
1:B:51:GLU:HG2	1:B:52:LYS:N	2.35	0.42
1:B:382:ARG:O	1:B:382:ARG:NH1	2.52	0.42
1:B:674:GLU:O	1:B:678:LEU:HG	2.20	0.42
1:B:1530:SER:HA	1:B:1533:ILE:HG22	2.01	0.42
1:B:1800:LYS:NZ	1:B:1850:LYS:HB3	2.35	0.42
2:D:346:SER:O	2:D:346:SER:OG	2.28	0.42
3:G:179:GLU:HG3	3:G:183:PHE:CE2	2.55	0.42
3:G:275:PRO:HA	3:G:278:VAL:HG12	2.02	0.42
1:A:208:LEU:HD21	1:A:301:PHE:HZ	1.85	0.42
1:A:801:TYR:O	1:A:805:MET:HE2	2.19	0.42
1:A:1097:HIS:CD2	1:A:1100:LEU:HD13	2.54	0.42
1:A:1715:LEU:O	1:A:1719:ILE:HG22	2.20	0.42
1:A:1738:PHE:O	1:A:1742:THR:OG1	2.21	0.42
1:A:1899:ILE:H	1:A:1899:ILE:HD12	1.83	0.42
1:A:1956:LYS:HD3	1:A:1956:LYS:HA	1.71	0.42
1:B:682:ILE:O	1:B:685:LYS:HG3	2.20	0.42
2:D:271:ARG:HD2	3:E:249:TYR:CE1	2.54	0.42
2:D:599:PRO:HG2	2:D:709:ILE:HD12	2.02	0.42
2:F:278:TYR:OH	2:F:281:PRO:HD3	2.19	0.42
2:F:495:VAL:HG13	2:F:498:ARG:NH2	2.34	0.42
5:I:92:HIS:CD2	5:I:118:ASP:HB3	2.54	0.42
1:A:157:LEU:O	1:A:161:LEU:HD23	2.20	0.42
1:A:1529:ARG:HA	1:A:1532:TYR:CD1	2.54	0.42
1:A:1670:ARG:HG3	1:A:1671:GLU:N	2.34	0.42
1:B:133:PHE:CD2	1:B:189:GLY:HA2	2.54	0.42
1:B:377:MET:O	1:B:380:MET:HG2	2.20	0.42
1:B:1484:TYR:O	1:B:1488:ARG:HG3	2.19	0.42
2:F:255:GLN:O	2:F:259:MET:HE3	2.20	0.42
2:F:576:LEU:HG	2:F:586:LEU:HD23	2.01	0.42
4:J:23:LEU:HD13	4:J:76:ILE:HG22	2.02	0.42
4:J:94:PHE:O	4:J:98:ILE:HG13	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:962:GLU:N	1:A:962:GLU:OE2	2.51	0.42
1:A:1314:SER:O	1:A:1314:SER:OG	2.29	0.42
3:E:54:GLU:OE2	3:E:98:SER:HB3	2.19	0.42
3:E:217:ARG:NH2	3:E:261:ASP:OD2	2.53	0.42
2:F:240:GLY:HA2	2:F:279:TRP:HZ2	1.83	0.42
5:I:94:GLN:NE2	5:I:97:ASP:OD2	2.48	0.42
5:K:29:LEU:HD21	5:K:49:HIS:CE1	2.54	0.42
1:A:71:ASP:O	1:A:75:ARG:HG3	2.19	0.42
1:A:479:LEU:HD12	1:A:479:LEU:H	1.85	0.42
2:D:413:SER:HB3	2:D:445:LEU:HD11	2.02	0.42
3:G:177:ARG:O	3:G:180:VAL:HG12	2.19	0.42
5:I:104:VAL:HG21	5:I:334:PHE:CB	2.49	0.42
5:I:251:ASN:HB3	5:I:259:PHE:CE1	2.55	0.42
5:I:279:ARG:NH2	5:I:302:LEU:HB3	2.35	0.42
1:A:565:LEU:HD12	1:A:565:LEU:HA	1.88	0.42
1:A:640:ILE:O	1:A:644:LYS:HB2	2.20	0.42
1:B:52:LYS:HB2	1:B:52:LYS:HE2	1.78	0.42
1:B:834:THR:OG1	1:B:835:PHE:N	2.52	0.42
2:D:412:LYS:HA	2:D:412:LYS:HD2	1.77	0.42
2:F:822:LEU:O	2:F:825:LEU:HD12	2.20	0.42
4:J:56:GLN:O	4:J:59:ILE:HG12	2.20	0.42
1:A:55:LYS:O	1:A:58:CYS:HB2	2.19	0.41
1:A:445:MET:HB2	1:A:445:MET:HE2	1.91	0.41
1:A:1357:LEU:HD23	1:A:1357:LEU:HA	1.83	0.41
1:A:1687:PHE:O	1:A:1691:MET:SD	2.78	0.41
1:B:979:HIS:CD2	1:B:980:LYS:H	2.37	0.41
1:B:1045:ASP:OD2	1:B:1046:THR:N	2.51	0.41
1:B:1605:GLU:O	1:B:1606:LEU:HG	2.19	0.41
2:F:256:ASN:O	2:F:259:MET:HB2	2.20	0.41
2:F:690:HIS:ND1	2:F:691:PRO:HD3	2.35	0.41
3:G:258:LYS:HA	3:G:261:ASP:HB3	2.01	0.41
1:A:388:MET:SD	1:A:388:MET:N	2.92	0.41
1:A:433:LEU:HD23	1:A:433:LEU:HA	1.93	0.41
1:A:1398:LYS:HD3	1:A:1398:LYS:HA	1.76	0.41
1:A:1779:ASN:OD1	1:A:1885:ARG:NH1	2.47	0.41
1:A:1958:ARG:NH1	1:A:1975:ASP:O	2.50	0.41
1:B:706:SER:O	1:B:710:ILE:HG23	2.20	0.41
1:B:1946:TYR:CD1	1:B:1973:HIS:HD2	2.38	0.41
2:D:454:PHE:O	2:D:458:VAL:HG12	2.19	0.41
2:F:482:LEU:HD23	2:F:482:LEU:HA	1.82	0.41
1:A:204:LEU:HD11	1:A:308:PHE:CE2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1060:ARG:HE	1:A:1060:ARG:HB3	1.67	0.41
1:A:1281:GLU:OE1	1:A:1283:SER:N	2.39	0.41
1:A:1733:ARG:HD3	1:A:1771:GLN:HG2	2.02	0.41
1:B:400:HIS:HA	1:B:403:VAL:HG12	2.02	0.41
1:B:1049:ALA:O	1:B:1053:ILE:HG23	2.20	0.41
2:D:366:TYR:HA	2:D:369:LEU:HD12	2.02	0.41
2:D:773:ILE:O	2:D:776:GLN:HG3	2.20	0.41
3:G:185:LEU:HD12	3:G:236:PHE:CE1	2.56	0.41
4:H:81[B]:GLN:H	4:H:81[B]:GLN:HG2	1.56	0.41
1:A:1049:ALA:O	1:A:1053:ILE:HG23	2.20	0.41
1:B:479:LEU:HD12	1:B:479:LEU:H	1.84	0.41
1:B:588:VAL:O	1:B:592:LEU:HG	2.20	0.41
1:B:1766:SER:HB3	1:B:1790:LYS:NZ	2.35	0.41
2:D:228:LEU:HA	2:D:228:LEU:HD12	1.90	0.41
2:D:693:MET:HE3	2:D:693:MET:HA	2.02	0.41
2:F:424:ILE:HD11	2:F:433:ILE:HG22	2.02	0.41
3:G:48:PRO:HG3	3:G:85:CYS:SG	2.61	0.41
5:I:332:ARG:HD2	5:I:332:ARG:HA	1.89	0.41
5:K:124:TYR:CD2	5:K:342:TRP:HB2	2.56	0.41
1:A:61:PRO:HB3	1:A:74:ARG:HE	1.86	0.41
1:A:1820:GLU:HA	1:A:1823:ARG:HG2	2.03	0.41
1:B:206:SER:HB2	1:B:207:LYS:NZ	2.35	0.41
1:B:1330:LEU:HD13	1:B:1376:GLU:OE1	2.21	0.41
1:B:1740:LYS:NZ	1:B:1768:VAL:HA	2.35	0.41
2:D:256:ASN:O	2:D:259:MET:HB2	2.20	0.41
2:D:607:LYS:HG2	2:D:608:HIS:N	2.36	0.41
3:E:116:LYS:HG3	3:E:117:GLN:H	1.86	0.41
2:F:262:ALA:HB1	2:F:331:LEU:HD21	2.02	0.41
5:I:49:HIS:NE2	5:I:54:GLY:HA3	2.36	0.41
5:I:57:GLU:O	5:I:60:VAL:HG12	2.20	0.41
5:I:321:VAL:HG13	5:I:334:PHE:HE2	1.85	0.41
1:A:179:LEU:O	1:A:184:ILE:HD12	2.20	0.41
1:B:61:PRO:HG2	1:B:68:PHE:CD2	2.55	0.41
1:B:147:PRO:O	1:B:150:ARG:HG3	2.21	0.41
2:D:450:GLU:O	2:D:454:PHE:HD2	2.04	0.41
3:E:55:PRO:HA	3:E:58:HIS:ND1	2.36	0.41
3:G:54:GLU:O	3:G:58:HIS:ND1	2.53	0.41
4:H:126:ASP:OD1	4:H:127:THR:N	2.54	0.41
1:A:152:GLU:OE1	1:A:152:GLU:N	2.42	0.41
1:A:1086:LYS:HD3	1:A:1086:LYS:HA	1.61	0.41
1:B:483:ILE:HA	1:B:486:LEU:HG	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1762:LEU:O	1:B:1790:LYS:NZ	2.54	0.41
1:B:1808:LYS:HD3	1:B:1844:TRP:HD1	1.85	0.41
1:B:1946:TYR:HD1	1:B:1973:HIS:HD2	1.68	0.41
3:E:263:ILE:HD13	3:E:263:ILE:HA	1.94	0.41
4:J:58:VAL:HA	4:J:61:ILE:HG22	2.03	0.41
5:K:88:CYS:N	5:K:114:LEU:O	2.44	0.41
5:K:293:LYS:HA	5:K:301:SER:H	1.86	0.41
5:K:344:PRO:O	5:K:347:MET:HG2	2.19	0.41
1:A:563:GLU:H	1:A:563:GLU:HG3	1.69	0.41
1:A:874:PRO:HB2	1:A:878:VAL:HB	2.02	0.41
1:A:1599:ILE:HD12	1:A:1599:ILE:HA	1.93	0.41
1:B:1680:SER:HB3	1:B:1683:LEU:HD21	2.03	0.41
2:D:405:LEU:HD23	2:D:405:LEU:HA	1.91	0.41
2:F:548:ASP:OD1	2:F:551:SER:N	2.41	0.41
4:H:119:MET:HG3	4:H:120:VAL:HG13	2.02	0.41
5:I:190:LEU:HD22	5:I:209:LEU:HD13	2.01	0.41
5:I:283:ALA:HA	5:I:306:PHE:CD2	2.55	0.41
1:A:212:ILE:HD12	1:A:212:ILE:HA	1.91	0.41
1:A:296:GLU:N	1:A:297:PRO:HD2	2.36	0.41
1:A:354:SER:O	1:A:357:GLU:HG3	2.21	0.41
1:A:405:GLU:HA	1:A:408:ASN:ND2	2.36	0.41
1:A:835:PHE:HE1	1:A:892:TYR:CZ	2.39	0.41
1:A:1193:MET:O	1:A:1197:THR:HG22	2.20	0.41
1:A:1238:LEU:HD23	1:A:1238:LEU:HA	1.81	0.41
1:A:1483:LYS:O	1:A:1487:LYS:HG3	2.20	0.41
1:A:1697:LEU:HD12	1:A:1703:GLN:HG2	2.03	0.41
1:A:1795:MET:N	1:A:1795:MET:SD	2.94	0.41
1:A:2065:MET:HG2	1:A:2069:GLU:HB2	2.03	0.41
1:B:42:LEU:HD12	1:B:42:LEU:HA	1.89	0.41
1:B:63:ASP:HB2	1:B:102:ARG:NH2	2.34	0.41
1:B:90:LEU:HD11	1:B:145:ARG:HB3	2.03	0.41
1:B:161:LEU:H	1:B:161:LEU:HD22	1.86	0.41
1:B:192:ARG:HA	1:B:192:ARG:HD3	1.88	0.41
1:B:205:LEU:HD23	1:B:208:LEU:HD22	2.02	0.41
1:B:462:LEU:HD13	1:B:462:LEU:HA	1.96	0.41
1:B:1186:PRO:O	1:B:1190:THR:HG23	2.21	0.41
1:B:1708:ILE:HG22	1:B:1711:LEU:HD23	2.01	0.41
2:D:150:LEU:O	2:D:153:GLU:HG2	2.21	0.41
2:D:376:ARG:HA	2:D:376:ARG:HD3	1.75	0.41
3:E:218:GLN:O	3:E:222:LYS:N	2.51	0.41
4:H:124:LEU:HD11	5:K:352:TRP:CZ3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:96:PHE:HA	5:I:99:MET:SD	2.61	0.41
5:I:147:LEU:HD11	5:I:187:LEU:C	2.41	0.41
4:J:38:LEU:HA	4:J:42:GLU:OE1	2.21	0.41
4:J:152:GLU:O	4:J:156:VAL:HG23	2.21	0.41
5:K:156:LEU:HD22	5:K:160:PHE:CE2	2.56	0.41
5:K:165:GLU:O	5:K:168:ILE:HG22	2.21	0.41
1:A:1171:LYS:HG3	1:A:1172:MET:SD	2.61	0.41
1:B:86:ILE:HD13	1:B:86:ILE:HA	1.89	0.41
1:B:112:TRP:HZ2	1:B:182:TYR:CE2	2.39	0.41
1:B:455:ALA:HB1	1:B:492:LEU:HD21	2.03	0.41
1:B:1974:ILE:HG22	1:B:1975:ASP:N	2.31	0.41
2:D:542:LEU:HD12	2:D:546:GLY:HA2	2.02	0.41
3:E:185:LEU:HD13	3:E:239:GLN:HB2	2.03	0.41
2:F:326:GLU:O	2:F:330:LEU:HG	2.21	0.41
3:G:77:GLN:HG3	3:G:78:PHE:CD1	2.56	0.41
4:H:57:ARG:HG3	4:H:118:MET:CE	2.51	0.41
5:I:194:GLN:O	5:I:274:LEU:HB3	2.21	0.41
4:J:55:VAL:O	4:J:59:ILE:HG23	2.21	0.41
1:A:909:ASP:OD1	1:A:910:PRO:HD2	2.21	0.40
1:A:1890:ALA:HB3	1:A:1893:CYS:HB2	2.02	0.40
1:B:340:VAL:HB	1:B:374:TYR:HE1	1.86	0.40
1:B:632:LYS:HG3	1:B:635:GLU:CD	2.41	0.40
1:B:936:VAL:O	1:B:939:VAL:HG12	2.20	0.40
1:B:1661:LEU:HD23	1:B:1661:LEU:O	2.22	0.40
2:D:449:GLU:O	2:D:452:GLU:HG2	2.21	0.40
2:D:769:ARG:O	2:D:773:ILE:HG22	2.22	0.40
3:E:58:HIS:O	3:E:62:GLU:HG2	2.21	0.40
3:G:180:VAL:O	3:G:184:LEU:HG	2.21	0.40
4:H:74:GLU:O	4:H:77:GLU:HG3	2.21	0.40
5:K:150:ASN:HB3	5:K:231:LEU:HB3	2.03	0.40
1:A:135:LEU:HD12	1:A:136:VAL:HG23	2.04	0.40
1:B:662:CYS:O	1:B:665:ILE:HB	2.21	0.40
1:B:1084:LEU:HD23	1:B:1100:LEU:HD22	2.02	0.40
1:B:1314:SER:O	1:B:1314:SER:OG	2.35	0.40
1:B:1501:GLU:OE2	1:B:1529:ARG:NH2	2.54	0.40
1:B:1596:TRP:CZ2	1:B:1601:ALA:HA	2.56	0.40
2:D:729:SER:O	2:D:732:VAL:HG12	2.21	0.40
3:E:216:PRO:HA	3:E:219:HIS:HE1	1.84	0.40
2:F:539:ARG:HA	2:F:542:LEU:HG	2.03	0.40
3:G:123:LEU:HD23	3:G:123:LEU:HA	1.95	0.40
5:I:289:ARG:HB3	5:I:304:THR:CG2	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:51:GLU:HG2	1:A:52:LYS:HE2	2.03	0.40
1:A:146:ASP:HA	1:A:147:PRO:HD3	1.93	0.40
1:A:710:ILE:O	1:A:713:LEU:HD12	2.22	0.40
1:B:435:CYS:SG	1:B:481:LEU:HB2	2.60	0.40
2:D:690:HIS:CD2	2:D:691:PRO:HD3	2.56	0.40
5:I:137:LYS:HE3	5:I:144:LEU:O	2.21	0.40
5:K:125:PHE:CZ	5:K:340:PRO:HD2	2.56	0.40
5:K:364:MET:O	5:K:368:VAL:HG13	2.21	0.40
1:A:61:PRO:O	1:A:99:TYR:OH	2.21	0.40
1:A:1610:LEU:HD13	2:D:400:TRP:CH2	2.57	0.40
1:A:1691:MET:HB3	1:A:1712:LEU:HD22	2.03	0.40
1:A:1788:ASP:HB2	1:A:1844:TRP:CZ2	2.54	0.40
1:B:348:LEU:O	1:B:352:VAL:HG13	2.22	0.40
1:B:1689:TRP:CZ3	1:B:1777:PRO:HB3	2.56	0.40
3:E:42:TYR:OH	3:E:77:GLN:HG2	2.21	0.40
2:F:188:GLN:O	2:F:192:ARG:HG2	2.21	0.40
2:F:244:GLU:HA	2:F:247:ARG:HH21	1.85	0.40
4:H:19:GLU:O	4:H:22:ARG:HG2	2.22	0.40
5:K:150:ASN:HA	5:K:231:LEU:HD13	2.04	0.40
1:A:1996:LEU:HD23	1:A:1996:LEU:HA	1.83	0.40
1:B:329:LEU:O	1:B:333:LEU:HG	2.21	0.40
1:B:462:LEU:O	1:B:466:LEU:HG	2.20	0.40
1:B:842:ARG:NH1	1:B:889:MET:SD	2.94	0.40
1:B:1246:VAL:HG23	1:B:1247:PRO:HD3	2.02	0.40
2:D:243:ARG:O	2:D:247:ARG:HG2	2.22	0.40
2:D:366:TYR:CZ	2:D:389:ALA:HB2	2.56	0.40
3:E:129:SER:OG	3:E:130:LEU:N	2.55	0.40
2:F:150:LEU:HD23	2:F:154:LYS:HD2	2.04	0.40
3:G:217:ARG:O	3:G:220:VAL:HG12	2.22	0.40
5:I:309:PRO:HD3	5:I:319:ALA:HB2	2.04	0.40
5:K:239:PHE:HB3	5:K:291:TYR:CD2	2.57	0.40
5:K:320:ALA:HA	5:K:333:GLN:HA	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1644/2102 (78%)	1552 (94%)	92 (6%)	0	100	100
1	B	1644/2102 (78%)	1542 (94%)	102 (6%)	0	100	100
2	D	566/843 (67%)	549 (97%)	17 (3%)	0	100	100
2	F	566/843 (67%)	546 (96%)	20 (4%)	0	100	100
3	E	244/308 (79%)	236 (97%)	8 (3%)	0	100	100
3	G	244/308 (79%)	231 (95%)	13 (5%)	0	100	100
4	H	154/170 (91%)	154 (100%)	0	0	100	100
4	J	154/170 (91%)	153 (99%)	1 (1%)	0	100	100
5	I	349/620 (56%)	337 (97%)	12 (3%)	0	100	100
5	K	350/620 (56%)	338 (97%)	12 (3%)	0	100	100
All	All	5915/8086 (73%)	5638 (95%)	277 (5%)	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	1508/1841 (82%)	1453 (96%)	55 (4%)	30	59
1	B	1508/1841 (82%)	1438 (95%)	70 (5%)	23	52
2	D	483/712 (68%)	458 (95%)	25 (5%)	19	47
2	F	483/712 (68%)	450 (93%)	33 (7%)	13	39
3	E	229/277 (83%)	222 (97%)	7 (3%)	35	63
3	G	229/277 (83%)	210 (92%)	19 (8%)	9	32
4	H	137/151 (91%)	136 (99%)	1 (1%)	81	89
4	J	137/151 (91%)	136 (99%)	1 (1%)	81	89

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	I	316/547 (58%)	306 (97%)	10 (3%)	34 62
5	K	318/547 (58%)	311 (98%)	7 (2%)	47 70
All	All	5348/7056 (76%)	5120 (96%)	228 (4%)	27 54

All (228) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	32	PHE
1	A	33	ASN
1	A	59	MET
1	A	64	PHE
1	A	65	HIS
1	A	101	LEU
1	A	103	LEU
1	A	133	PHE
1	A	138	LEU
1	A	155	GLU
1	A	169	GLN
1	A	299	TYR
1	A	365	TYR
1	A	380	MET
1	A	395	PHE
1	A	445	MET
1	A	479	LEU
1	A	577	LEU
1	A	591	PHE
1	A	600	TYR
1	A	672	TYR
1	A	713	LEU
1	A	729	LEU
1	A	795	PHE
1	A	798	PHE
1	A	865	ARG
1	A	887	PHE
1	A	897	TYR
1	A	902	MET
1	A	913	PHE
1	A	921	GLU
1	A	959	GLU
1	A	1047	TYR
1	A	1170	ASN

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Mol	Chain	Res	Type
1	A	1173	MET
1	A	1222	PHE
1	A	1264	PHE
1	A	1363	ASP
1	A	1532	TYR
1	A	1538	LYS
1	A	1602	ASP
1	A	1683	LEU
1	A	1689	TRP
1	A	1710	ASP
1	A	1711	LEU
1	A	1738	PHE
1	A	1761	CYS
1	A	1787	ILE
1	A	1815	SER
1	A	1823	ARG
1	A	1905	ARG
1	A	1920	PHE
1	A	1950	LEU
1	A	1997	THR
1	A	2007	LYS
1	B	32	PHE
1	B	55	LYS
1	B	84	PHE
1	B	131	PHE
1	B	133	PHE
1	B	135	LEU
1	B	141	ASP
1	B	167	MET
1	B	192	ARG
1	B	198	SER
1	B	204	LEU
1	B	209	PHE
1	B	305	SER
1	B	322	PHE
1	B	324	ILE
1	B	369	PHE
1	B	374	TYR
1	B	382	ARG
1	B	407	PHE
1	B	576	CYS
1	B	611	LEU

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Mol	Chain	Res	Type
1	B	634	MET
1	B	655	LEU
1	B	670	TYR
1	B	685	LYS
1	B	713	LEU
1	B	737	PHE
1	B	785	LYS
1	B	786	GLU
1	B	795	PHE
1	B	796	ARG
1	B	815	TRP
1	B	842	ARG
1	B	887	PHE
1	B	902	MET
1	B	917	PHE
1	B	935	CYS
1	B	1020	SER
1	B	1047	TYR
1	B	1172	MET
1	B	1205	ASP
1	B	1264	PHE
1	B	1313	SER
1	B	1315	ASP
1	B	1330	LEU
1	B	1358	SER
1	B	1532	TYR
1	B	1612	TRP
1	B	1648	ASP
1	B	1705	ASP
1	B	1708	ILE
1	B	1713	ASP
1	B	1715	LEU
1	B	1738	PHE
1	B	1769	LYS
1	B	1855	CYS
1	B	1856	ARG
1	B	1862	LEU
1	B	1917	TYR
1	B	1939	PHE
1	B	1942	SER
1	B	1950	LEU
1	B	1979	MET

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Mol	Chain	Res	Type
1	B	1981	GLU
1	B	2000	MET
1	B	2034	VAL
1	B	2041	MET
1	B	2049	PHE
1	B	2050	ARG
1	B	2064	ASN
2	D	151	CYS
2	D	168	ARG
2	D	264	GLN
2	D	270	LEU
2	D	278	TYR
2	D	280	ASN
2	D	338	MET
2	D	352	LYS
2	D	354	ASP
2	D	376	ARG
2	D	392	PHE
2	D	399	LEU
2	D	408	MET
2	D	430	ASP
2	D	453	LYS
2	D	492	MET
2	D	508	HIS
2	D	569	LEU
2	D	574	MET
2	D	596	CYS
2	D	609	MET
2	D	731	ASN
2	D	775	HIS
2	D	825	LEU
2	D	841	ARG
3	E	16	PHE
3	E	57	CYS
3	E	61	PHE
3	E	116	LYS
3	E	158	SER
3	E	203	LEU
3	E	254	ASP
2	F	137	ARG
2	F	155	LEU
2	F	175	CYS

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Mol	Chain	Res	Type
2	F	186	TYR
2	F	271	ARG
2	F	319	PHE
2	F	354	ASP
2	F	369	LEU
2	F	388	ARG
2	F	392	PHE
2	F	397	PHE
2	F	398	HIS
2	F	401	TYR
2	F	412	LYS
2	F	445	LEU
2	F	506	ARG
2	F	508	HIS
2	F	523	LEU
2	F	548	ASP
2	F	567	ASP
2	F	570	ASN
2	F	574	MET
2	F	579	TYR
2	F	596	CYS
2	F	607	LYS
2	F	706	TYR
2	F	711	LYS
2	F	731	ASN
2	F	739	ILE
2	F	746	MET
2	F	750	ARG
2	F	767	MET
2	F	825	LEU
3	G	64	TYR
3	G	72	LEU
3	G	74	PHE
3	G	89	VAL
3	G	116	LYS
3	G	119	HIS
3	G	125	PHE
3	G	134	SER
3	G	137	HIS
3	G	159	LYS
3	G	176	ASN
3	G	184	LEU

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Mol	Chain	Res	Type
3	G	188	TYR
3	G	189	ASN
3	G	195	MET
3	G	203	LEU
3	G	248	PHE
3	G	254	ASP
3	G	258	LYS
4	H	101	MET
5	I	23	PHE
5	I	30	THR
5	I	96	PHE
5	I	134	TRP
5	I	191	MET
5	I	203	SER
5	I	239	PHE
5	I	246	GLU
5	I	332	ARG
5	I	347	MET
4	J	134	ASP
5	K	42	ARG
5	K	47	LYS
5	K	285	ASP
5	K	288	TYR
5	K	293	LYS
5	K	318	LYS
5	K	322	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (38) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	45	GLN
1	A	162	HIS
1	A	572	ASN
1	A	732	ASN
1	A	1213	HIS
1	A	1545	ASN
1	A	1685	HIS
1	A	1739	ASN
1	A	1743	ASN
1	A	1934	GLN
1	B	597	ASN
1	B	969	GLN

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Mol	Chain	Res	Type
1	B	979	HIS
1	B	1085	ASN
1	B	1138	ASN
1	B	1188	HIS
1	B	1213	HIS
1	B	1325	GLN
1	B	1372	ASN
1	B	1659	GLN
1	B	1681	GLN
1	B	1743	ASN
1	B	1870	ASN
1	B	1873	GLN
1	B	1962	ASN
2	D	188	GLN
2	D	515	HIS
2	D	524	GLN
2	D	543	GLN
2	D	738	GLN
3	E	110	ASN
2	F	280	ASN
2	F	738	GLN
2	F	811	GLN
3	G	119	HIS
3	G	166	HIS
3	G	257	GLN
5	I	49	HIS

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 (i)

Of 8 ligands modelled in this entry, 8 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

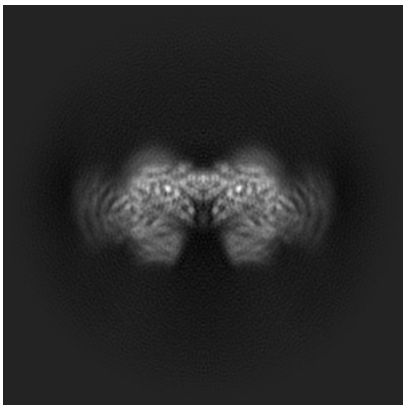
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-44382. These allow visual inspection of the internal detail of the map and identification of artifacts.

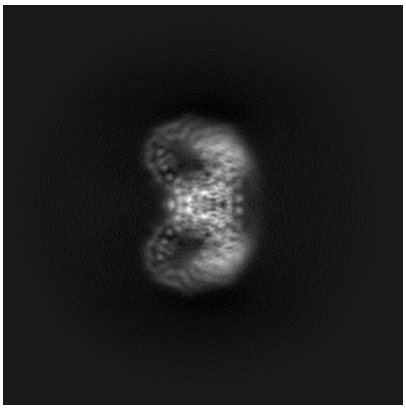
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

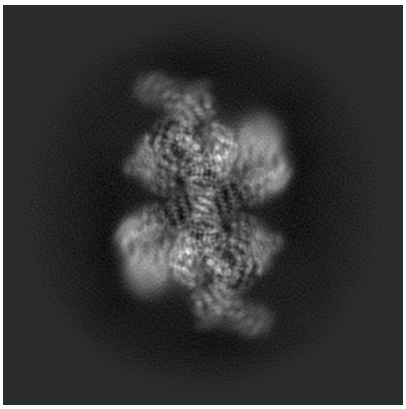
6.1.1 Primary map



X

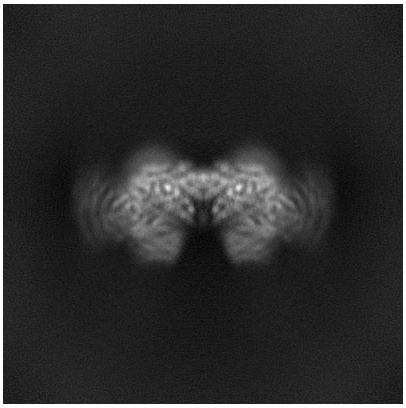


Y

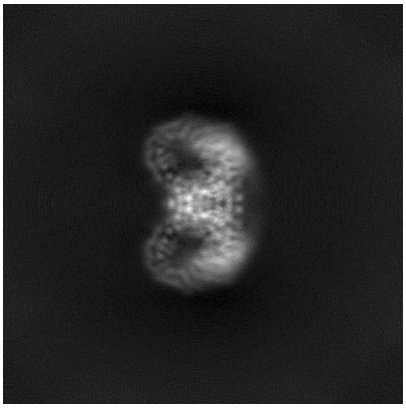


Z

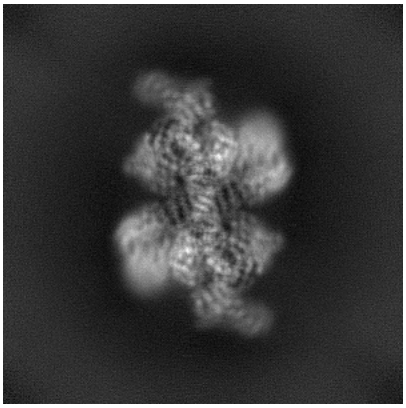
6.1.2 Raw map



X



Y



Z

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

6.2 Central slices (i)

6.2.1 Primary map

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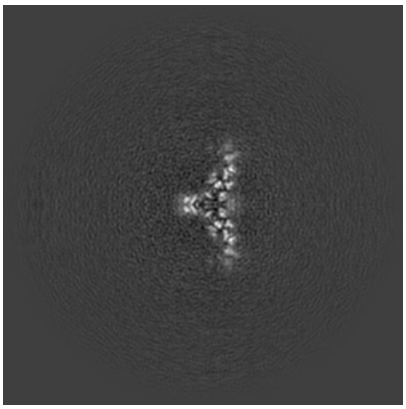
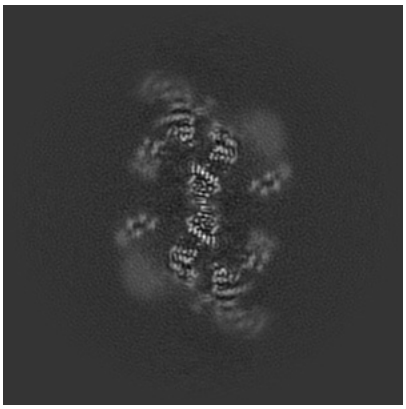
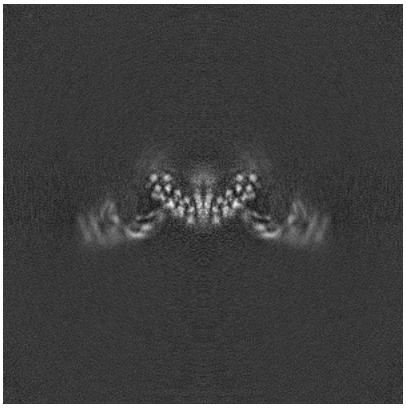


Y Index: 260

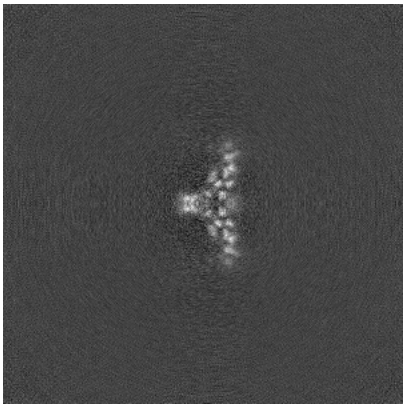


Z Index: 260

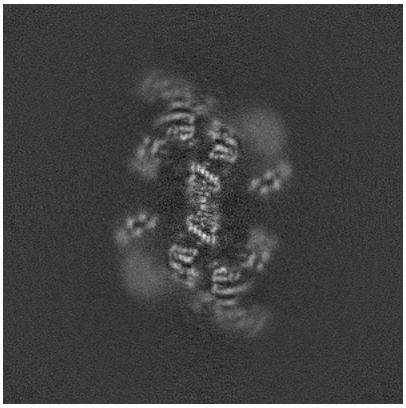
6.2.2 Raw map



X Index: 260



Y Index: 260

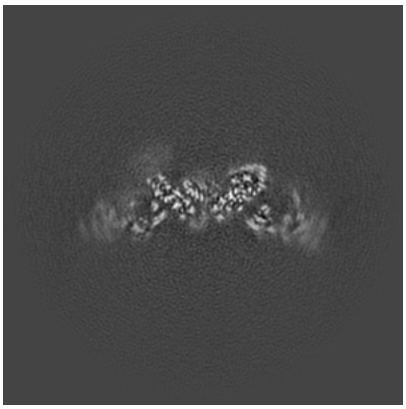


Z Index: 260

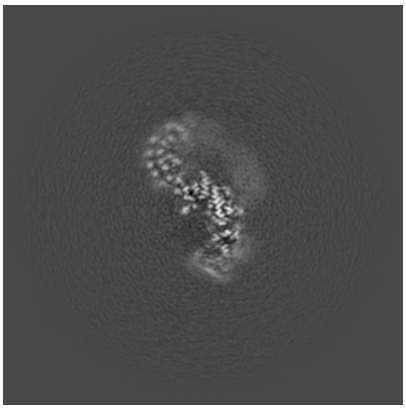
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

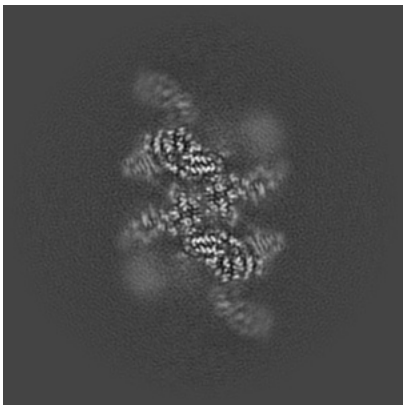
6.3.1 Primary map



X Index: 250

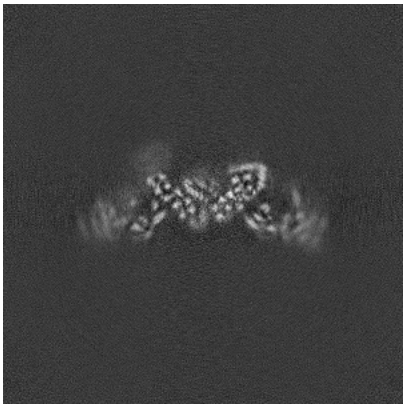


Y Index: 320

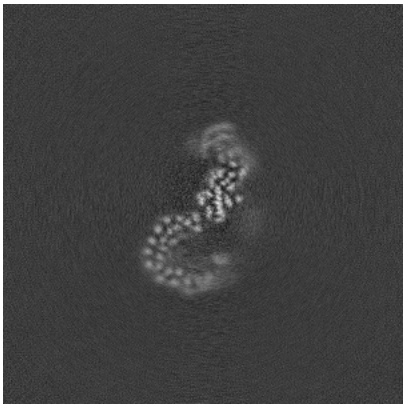


Z Index: 281

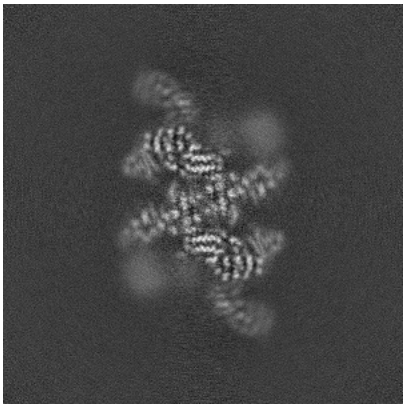
6.3.2 Raw map



X Index: 251



Y Index: 214

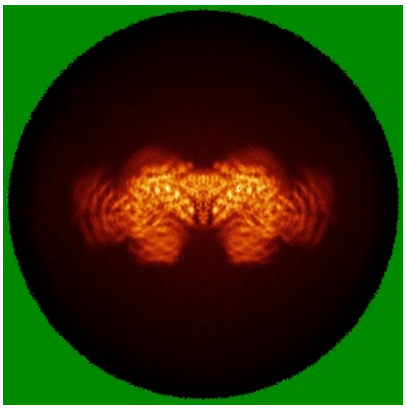


Z Index: 280

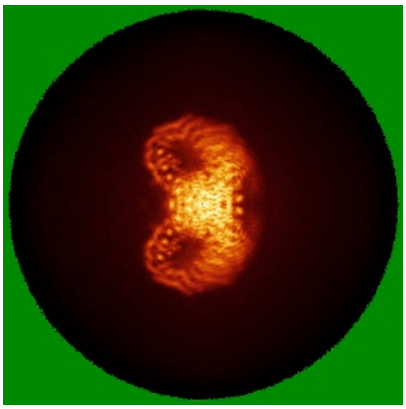
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

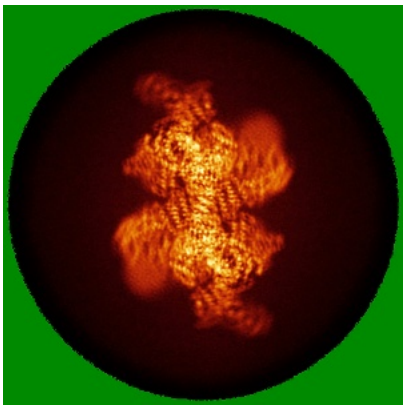
6.4.1 Primary map



X

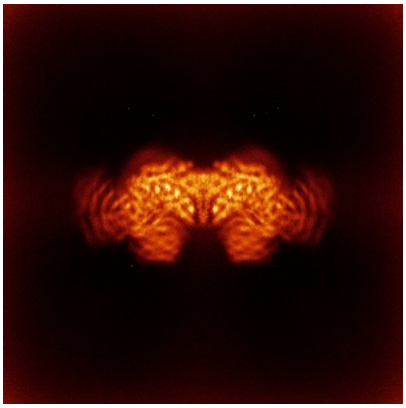


Y

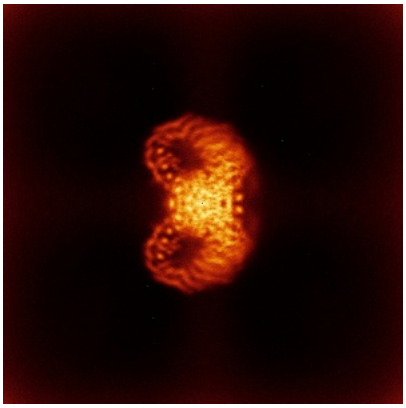


Z

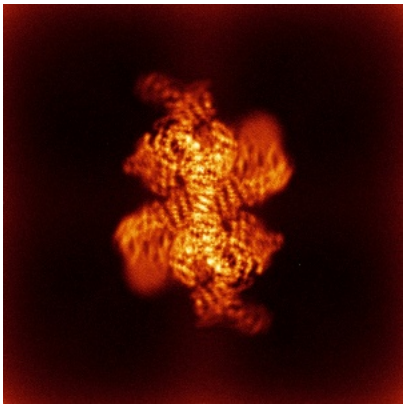
6.4.2 Raw map



X



Y

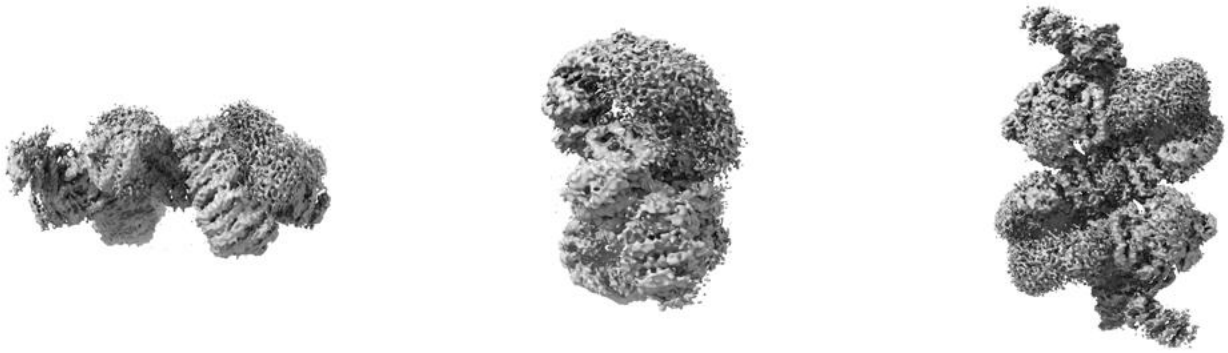


Z

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



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.155. 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.

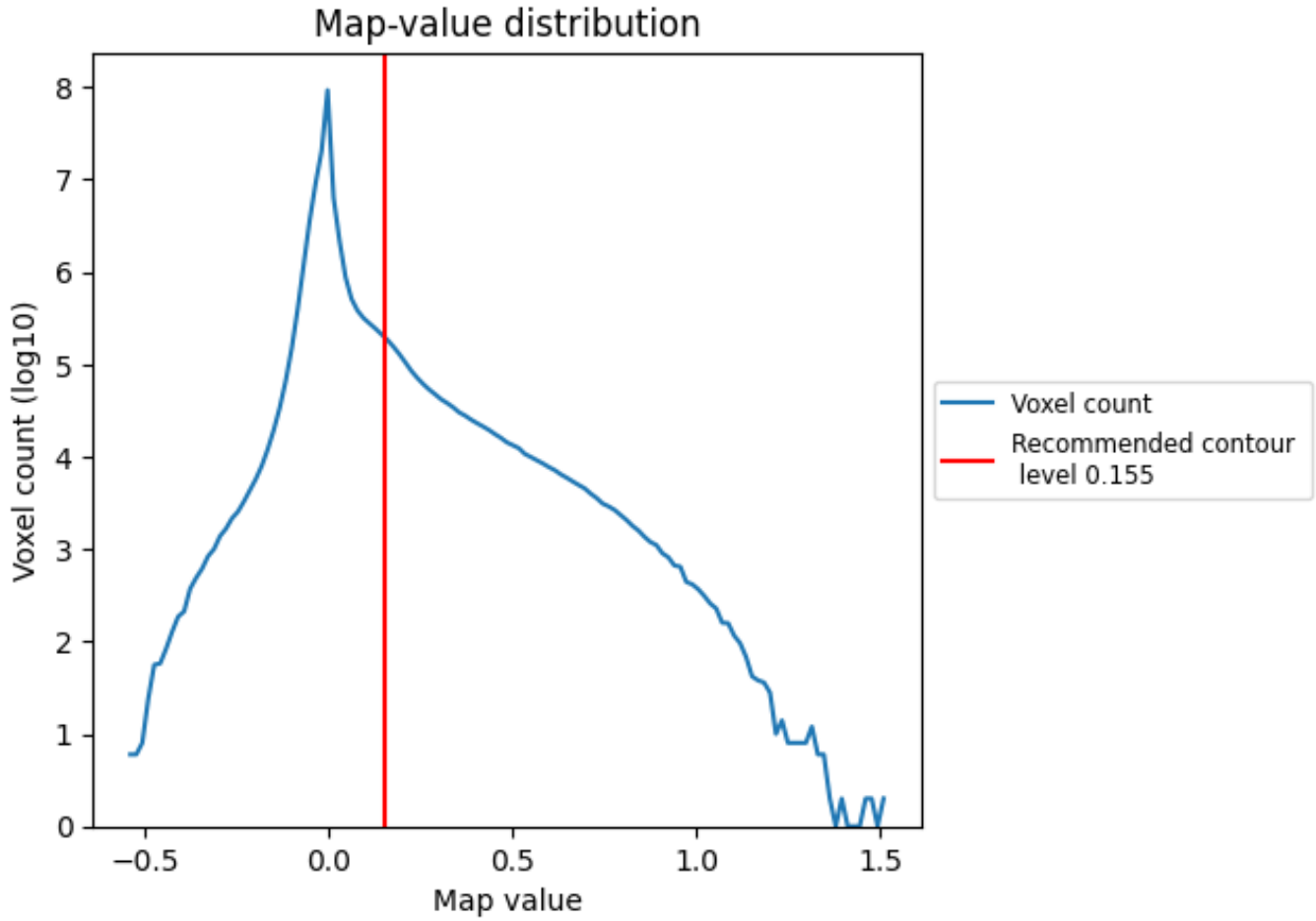
6.6 Mask visualisation (i)

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

7 Map analysis

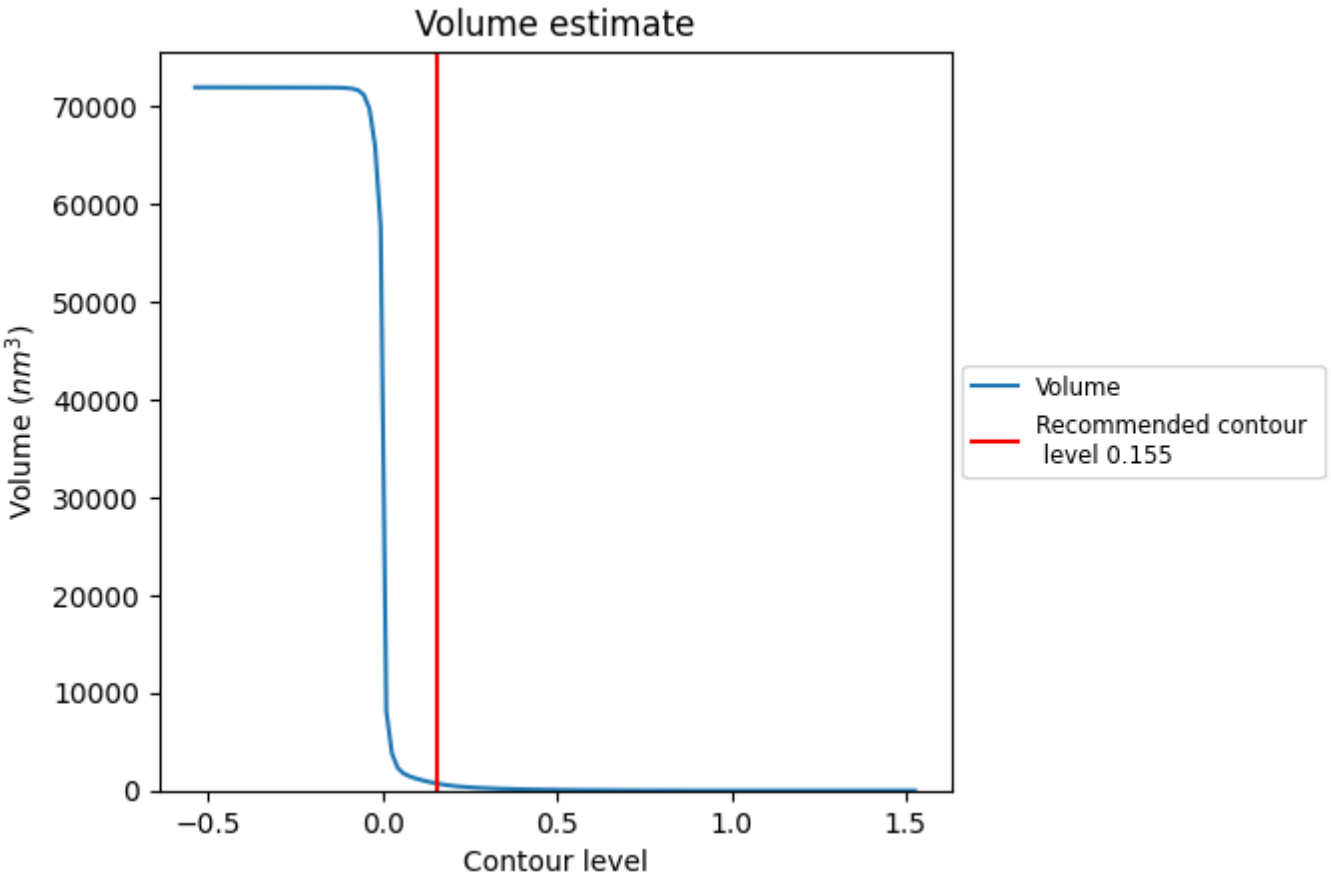
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

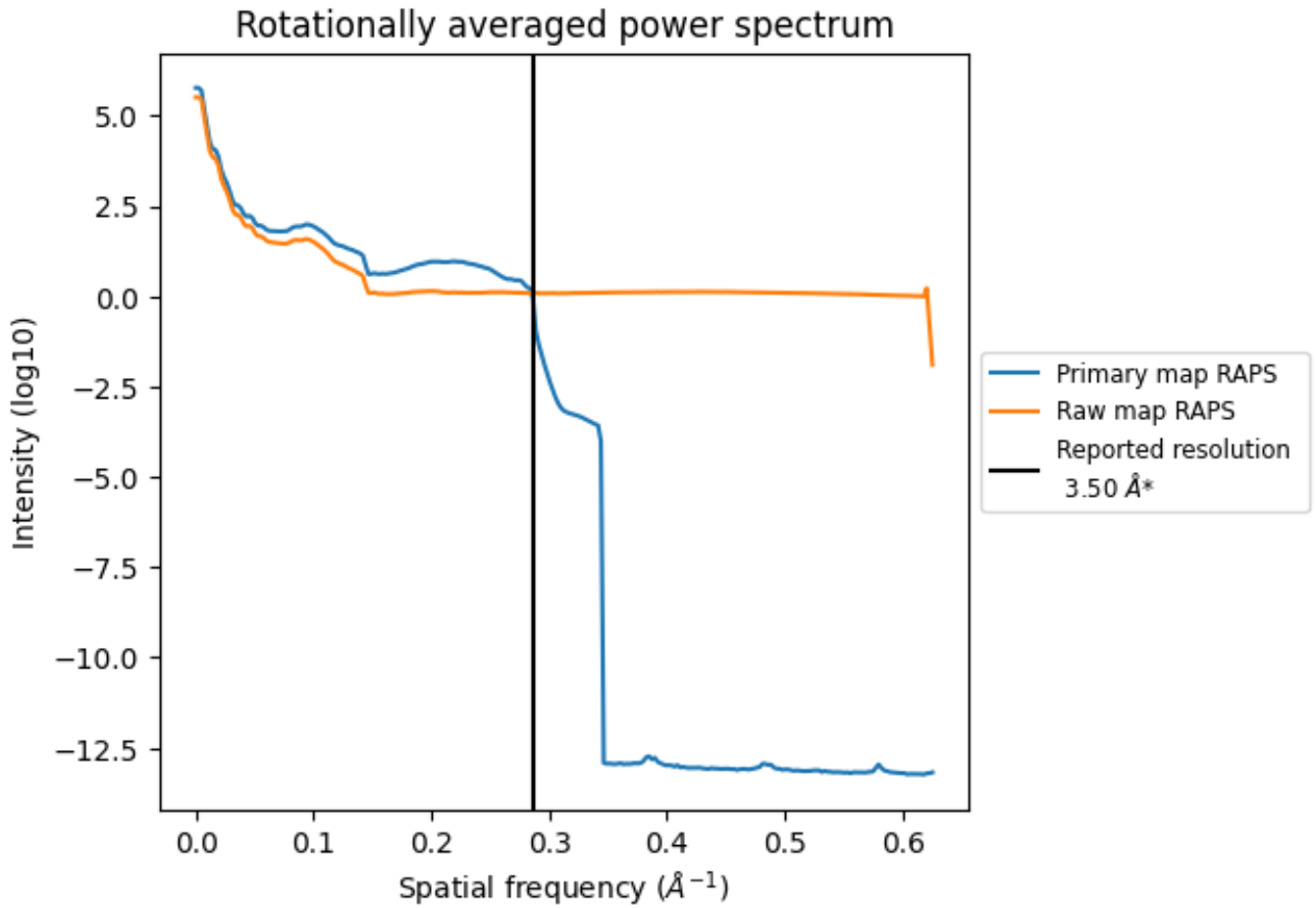
7.2 Volume estimate



The volume at the recommended contour level is 722 nm^3; this corresponds to an approximate mass of 652 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)

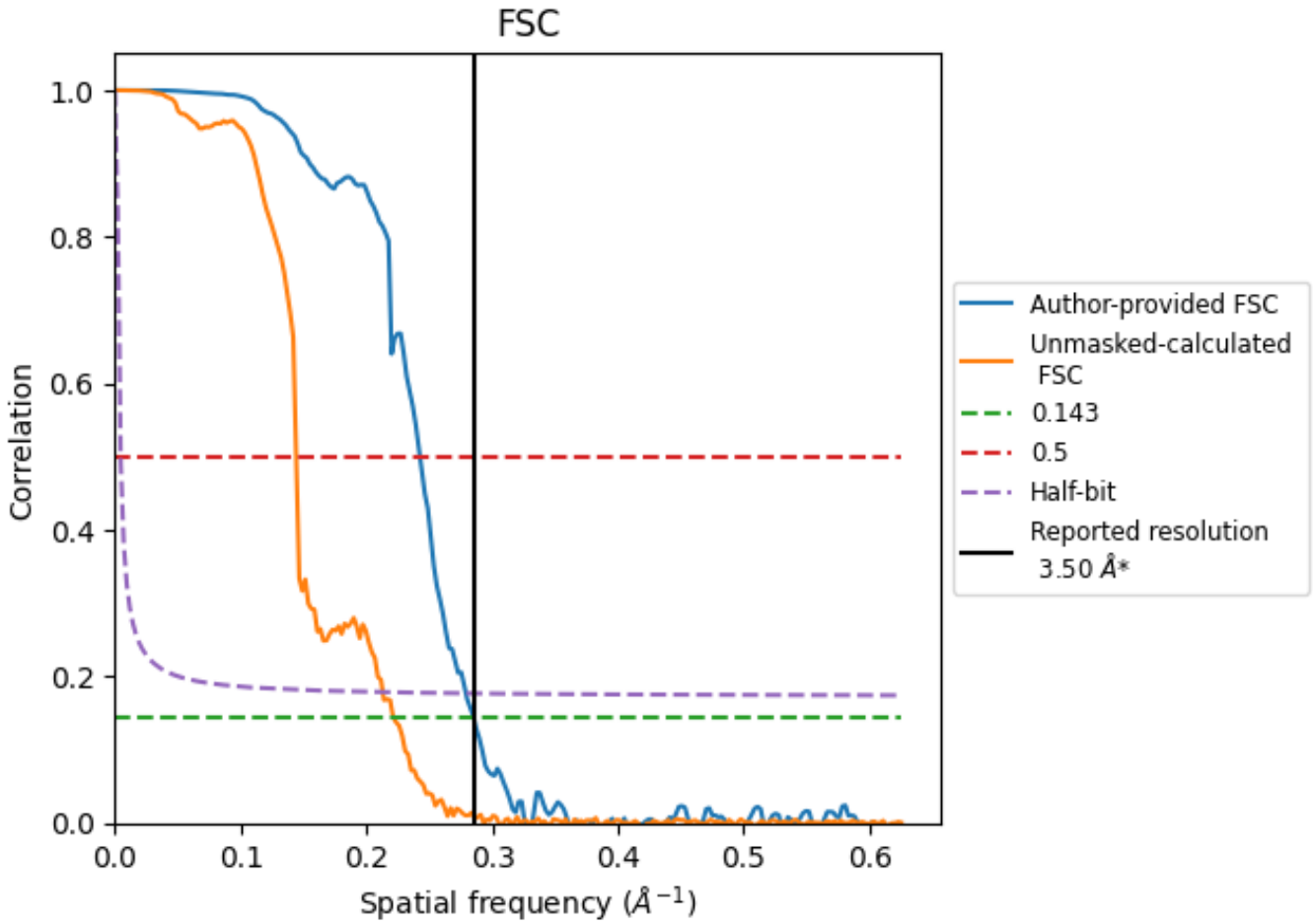


*Reported resolution corresponds to spatial frequency of 0.286 Å^{-1}

8 Fourier-Shell correlation

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



*Reported resolution corresponds to spatial frequency of 0.286 Å^{-1}

8.2 Resolution estimates (i)

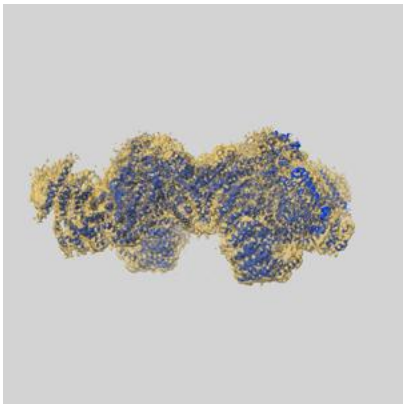
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	3.51	4.12	3.58
Unmasked-calculated*	4.51	6.93	4.69

*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 4.51 differs from the reported value 3.5 by more than 10 %

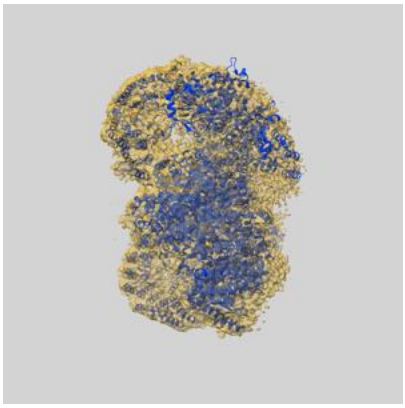
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-44382 and PDB model 9B9G. Per-residue inclusion information can be found in section 3 on page 6.

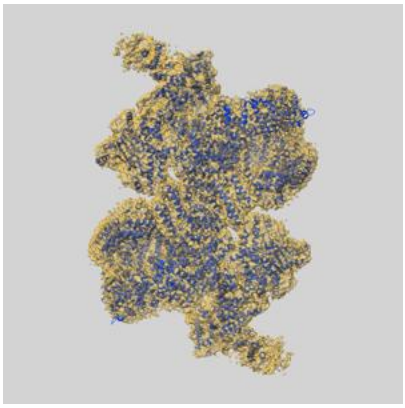
9.1 Map-model overlay



X



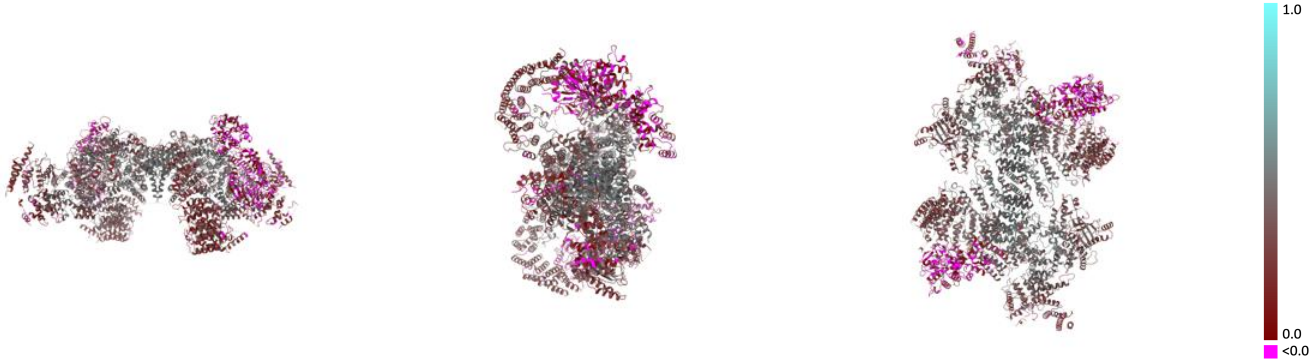
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.155 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.

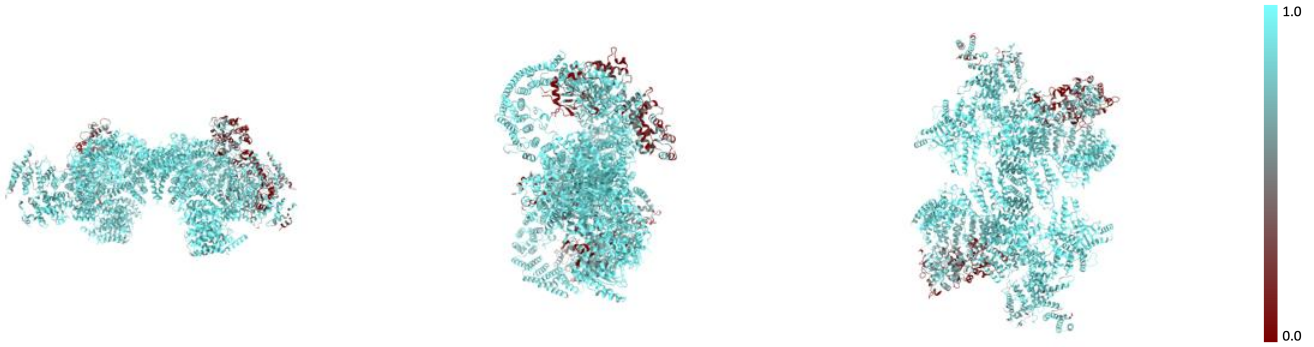
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

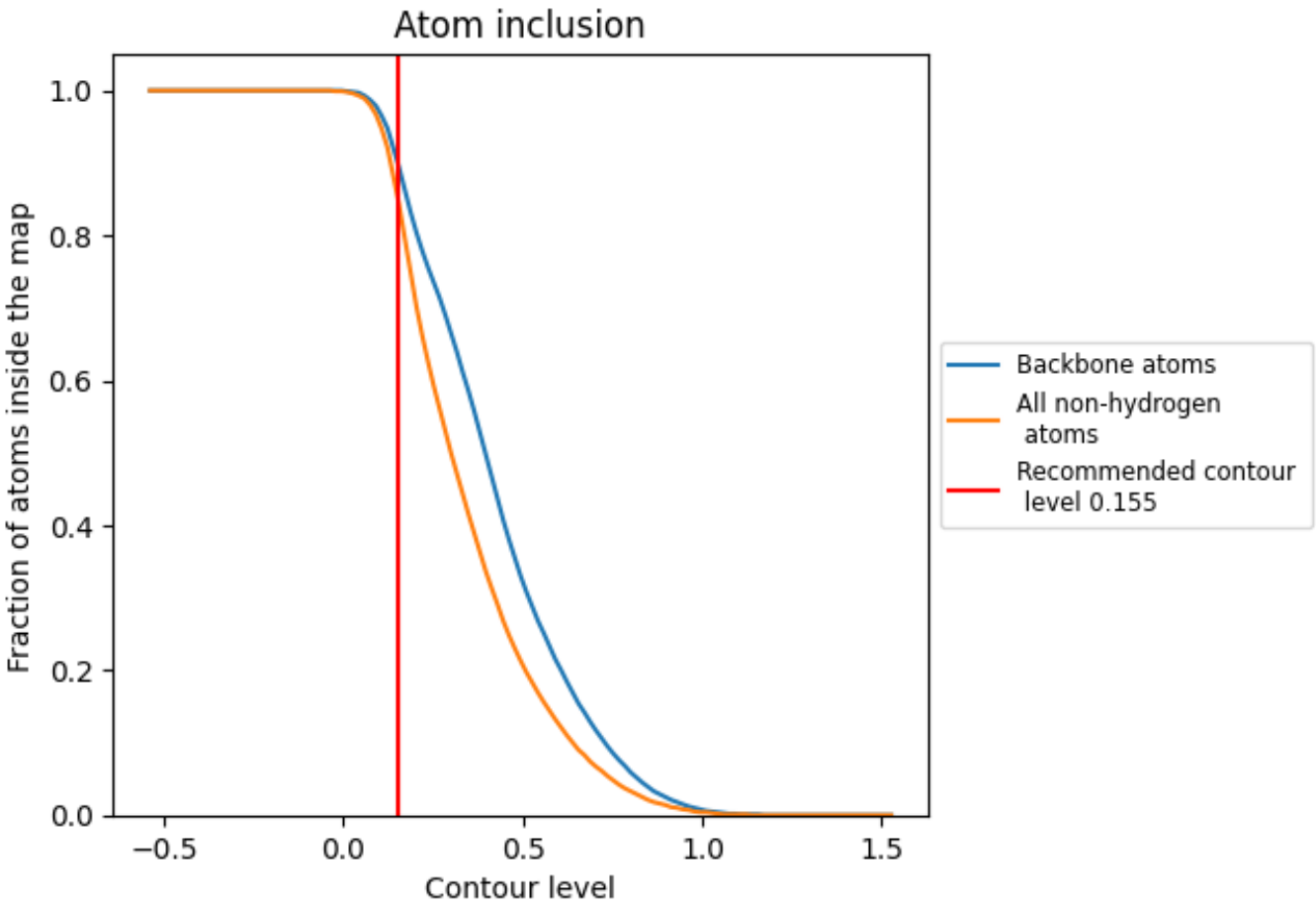
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (0.155).

9.4 Atom inclusion (i)



At the recommended contour level, 90% of all backbone atoms, 84% 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 (0.155) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8440	0.3010
A	0.9470	0.3710
B	0.9400	0.3570
D	0.8880	0.3680
E	0.8760	0.2990
F	0.8560	0.3340
G	0.8120	0.2340
H	0.3890	0.0750
I	0.5740	0.0490
J	0.3630	0.0670
K	0.4960	0.0350