



Full wwPDB EM Validation Report ⓘ

Dec 13, 2022 – 12:48 PM JST

PDB ID : 7YV9
EMDB ID : EMD-34121
Title : Cryo-EM structure of full-length Myosin Va in the autoinhibited state
Authors : Niu, F.; Wei, Z.
Deposited on : 2022-08-19
Resolution : 4.78 Å(reported)
Based on initial models : 1OE9, 2IX7, 3WB8

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

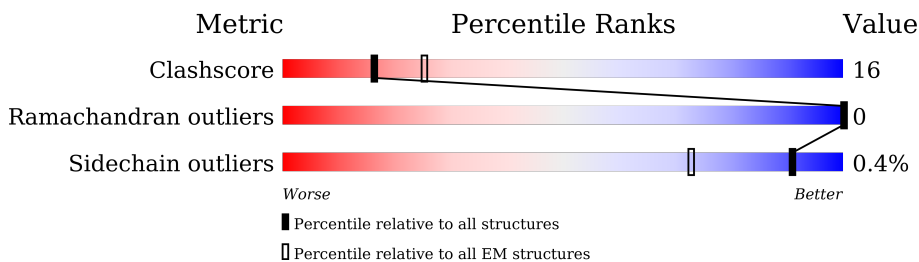
EMDB validation analysis : 0.0.1.dev43
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

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 4.78 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	1828	
1	H	1828	
1	X	1828	
1	Y	1828	
2	B	149	
2	C	149	
2	D	149	
2	E	149	

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Mol	Chain	Length	Quality of chain
2	F	149	<p>20% 63% 35%</p>
2	G	149	<p>21% 60% 38%</p>
2	I	149	<p>11% 64% 34%</p>
2	J	149	<p>19% 59% 40%</p>
2	K	149	<p>21% 64% 34%</p>
2	L	149	<p>32% 62% 35%</p>
2	M	149	<p>25% 64% 35%</p>
2	N	149	<p>23% 60% 39%</p>

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 37510 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 Unconventional myosin-Va.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1067	Total 8806	C 5590	N 1555	O 1610	S 51	0	0
1	H	1061	Total 8766	C 5568	N 1546	O 1601	S 51	0	0
1	X	376	Total 3036	C 1931	N 527	O 556	S 22	0	0
1	Y	373	Total 3015	C 1918	N 523	O 552	S 22	0	0

- Molecule 2 is a protein called Calmodulin-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	147	Total 1161	C 711	N 191	O 250	S 9	0	0
2	C	147	Total 1161	C 711	N 191	O 250	S 9	0	0
2	D	147	Total 1161	C 711	N 191	O 250	S 9	0	0
2	E	144	Total 1136	C 696	N 187	O 244	S 9	0	0
2	F	147	Total 1161	C 711	N 191	O 250	S 9	0	0
2	G	147	Total 1161	C 711	N 191	O 250	S 9	0	0
2	I	147	Total 1161	C 711	N 191	O 250	S 9	0	0
2	J	147	Total 1161	C 711	N 191	O 250	S 9	0	0
2	K	147	Total 1161	C 711	N 191	O 250	S 9	0	0
2	L	144	Total 1136	C 696	N 187	O 244	S 9	0	0
2	M	147	Total 1161	C 711	N 191	O 250	S 9	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	N	148	1166	714	192	251	9	0	0

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	32	GLN	GLU	engineered mutation	UNP P0DP26
B	68	GLN	GLU	engineered mutation	UNP P0DP26
B	105	GLN	GLU	engineered mutation	UNP P0DP26
B	141	GLN	GLU	engineered mutation	UNP P0DP26
C	32	GLN	GLU	engineered mutation	UNP P0DP26
C	68	GLN	GLU	engineered mutation	UNP P0DP26
C	105	GLN	GLU	engineered mutation	UNP P0DP26
C	141	GLN	GLU	engineered mutation	UNP P0DP26
D	32	GLN	GLU	engineered mutation	UNP P0DP26
D	68	GLN	GLU	engineered mutation	UNP P0DP26
D	105	GLN	GLU	engineered mutation	UNP P0DP26
D	141	GLN	GLU	engineered mutation	UNP P0DP26
E	32	GLN	GLU	engineered mutation	UNP P0DP26
E	68	GLN	GLU	engineered mutation	UNP P0DP26
E	105	GLN	GLU	engineered mutation	UNP P0DP26
E	141	GLN	GLU	engineered mutation	UNP P0DP26
F	32	GLN	GLU	engineered mutation	UNP P0DP26
F	68	GLN	GLU	engineered mutation	UNP P0DP26
F	105	GLN	GLU	engineered mutation	UNP P0DP26
F	141	GLN	GLU	engineered mutation	UNP P0DP26
G	32	GLN	GLU	engineered mutation	UNP P0DP26
G	68	GLN	GLU	engineered mutation	UNP P0DP26
G	105	GLN	GLU	engineered mutation	UNP P0DP26
G	141	GLN	GLU	engineered mutation	UNP P0DP26
I	32	GLN	GLU	engineered mutation	UNP P0DP26
I	68	GLN	GLU	engineered mutation	UNP P0DP26
I	105	GLN	GLU	engineered mutation	UNP P0DP26
I	141	GLN	GLU	engineered mutation	UNP P0DP26
J	32	GLN	GLU	engineered mutation	UNP P0DP26
J	68	GLN	GLU	engineered mutation	UNP P0DP26
J	105	GLN	GLU	engineered mutation	UNP P0DP26
J	141	GLN	GLU	engineered mutation	UNP P0DP26
K	32	GLN	GLU	engineered mutation	UNP P0DP26
K	68	GLN	GLU	engineered mutation	UNP P0DP26
K	105	GLN	GLU	engineered mutation	UNP P0DP26
K	141	GLN	GLU	engineered mutation	UNP P0DP26

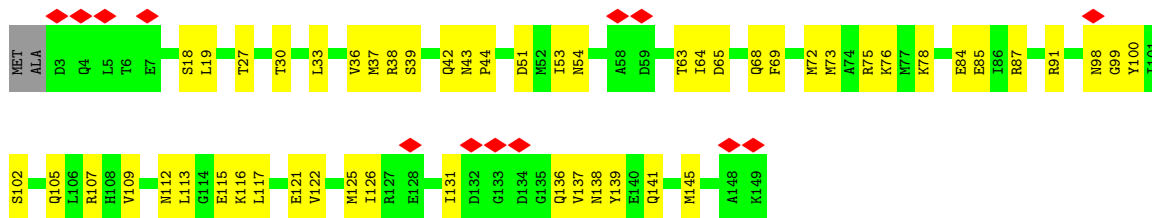
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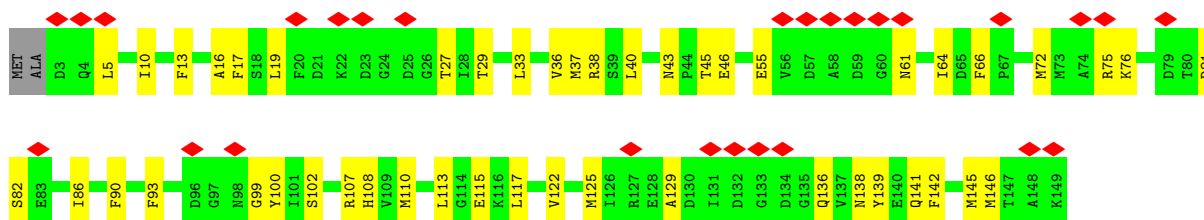
Chain	Residue	Modelled	Actual	Comment	Reference
L	32	GLN	GLU	engineered mutation	UNP P0DP26
L	68	GLN	GLU	engineered mutation	UNP P0DP26
L	105	GLN	GLU	engineered mutation	UNP P0DP26
L	141	GLN	GLU	engineered mutation	UNP P0DP26
M	32	GLN	GLU	engineered mutation	UNP P0DP26
M	68	GLN	GLU	engineered mutation	UNP P0DP26
M	105	GLN	GLU	engineered mutation	UNP P0DP26
M	141	GLN	GLU	engineered mutation	UNP P0DP26
N	32	GLN	GLU	engineered mutation	UNP P0DP26
N	68	GLN	GLU	engineered mutation	UNP P0DP26
N	105	GLN	GLU	engineered mutation	UNP P0DP26
N	141	GLN	GLU	engineered mutation	UNP P0DP26

E705	K715	K716	K717	L720	G721	D722	R723	K724	T725	T726	N729	V730	L731	E732	K733	L736	D737	K740	Y741	F742	F743	G744	K745	T746	K747	I748	F749	F750	R751	A752	G753	Q754	D764	R767	I771	R772	I773	Q774	K776	T777	I778	G779	L782	R785	K789	Q790									
A793	Q797	R798	Y799	V800	R801	G802	Y803	Q804	K810	R814	A818	T819	T820	I821	Q822	K823	Y824	W825	R826	M827	Y828	V829	V830	R831	R832	R833	Y834	K835	I836	R837	R838	A839	A840	T841	I844	Q845	S846	Y847	L848	R849	G850	Y851	L852	T853	R854	M855	R856	Y857	R858	K859	I860	L861	R862	E863	
Y864	K865	A866	V867	I868	Q870	K871	R872	V873	R874	R879	Y882	T885	M886	V887	K888	A888	I889	Q893	C894	R897	R898	M899	M900	R903	K907	I910	E911	A912	R913	S914	V915	E916	R917	Y918	K919	K920	L921	H922	M925	K928	I929	M930	Q931	L932	Q933	R934	K935	V936	D937						
M940	K944	C945	L946	M947	E948	K949	L950	Y957	L964	R965	N966	D967	V968	E969	R970	L971	Q972	L973	S974	E975	E976	L977	E978	K979	V980	A981	T982	G983	R984	V985	L986	S987	L988	Q989	E990	E991	I992	A993	K994	R996	K997	D998	L999	E1000	Q1001	T1002	R1003	S1004	E1005	K1006	K1007	S1008	I1009	E1010	
E1011	R1012	A1013	D1014	K1015	K1017	Q1018	E1019	T1020	D1021	Q1022	L1023	V1024	S1025	N1026	L1027	K1028	E1029	E1030	M1031	T1032	L1033	L1034	K1035	Q1036	E1037	K1038	E1039	T1040	M1041	M1042	H1043	R1044	I1045	V1046	E1047	K1050	E1051	M1052	T1053	E1054	M1056	E1057	R1058	D1073	L1076	R1077	R1087	E1090	R1091	Y1092	E1097				
T1100	LEU	MET	LEU	ASN	VAL	PRO	GLY	HIS	LYS	ARG	THR	ASP	THR	HIS	SER	SER	GLU	ASN	SER	GLU	THR	GLU	PHE	GLU	ALA	ALA	THR	GLU	GLU	ARG	PRO	GLU	ILE	PRO	LYS	VAL	VAL	PRO	LEU	VAL	ARG	GLN	PRO	LEU	LEU	LEU	LEU	LEU							
GLN	LYS	ARG	VAL	THR	GLU	LEU	GLN	GLY	LEU	MET	GLN	ASP	THR	GLN	LYS	GLU	GLN	VAL	PHE	ARG	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR					
LYS	ASN	GLU	VAL	THR	LEU	ARG	LEU	LEU	LYS	LYS	SER	ALA	PRO	GLU	ALA	ALA	PRO	GLY	TYR	ARG	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY					
ALA	ILE	PRO	PRO	ASP	ASP	LYS	ASN	THR	SER	THR	THR	ILE	LEU	LEU	GLN	LYS	MET	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL		
ALA	LEU	ARG	GLY	LEU	ILE	GLN	SER	ASN	ASN	ILE	GLY	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN		
VAL	ARG	LEU	LEU	LYS	LEU	LEU	LEU	LEU	ASN	LYS	ILE	GLY	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	
LYS	LEU	VAL	ASN	LEU	ILE	LEU	LEU	LEU	ARG	GLY	VAL	ALA	VAL	ASN	ASN	ALA	PRO	GLY	TYR	ILE	LEU	PHE	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY		
LYS	ARG	ASP	ASP	PHE	GLU	THR	VAL	TRP	LEU	SER	ASN	THR	THR	CYS	GLY	LEU	LEU	GLN	LYS	TYR	SER	GLY	GLU	GLU	GLY	PHE	MET	ARG	ASN	THR	ASN	ARG	GLN	ASN	ASN	THR	THR	ALA	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU		
ALA	ILE	GLN	TYR	GLN	LEU	VAL	ASN	ILE	GLY	ASN	ILE	LEU	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN
ARG	GLN	LEU	ASN	PHE	HIS	SER	HIS	HIS	GLY	GLY	MET	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL
LEU	GLU	TRP	LEU	ARG	ASP	LYS	ASN	ASN	GLY	GLY	ALA	ALA	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
TYR	THR	VAL	ASN	GLU	PHE	GLY	VAL	SER	VAL	SER	PHE	ILE	ARG	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR

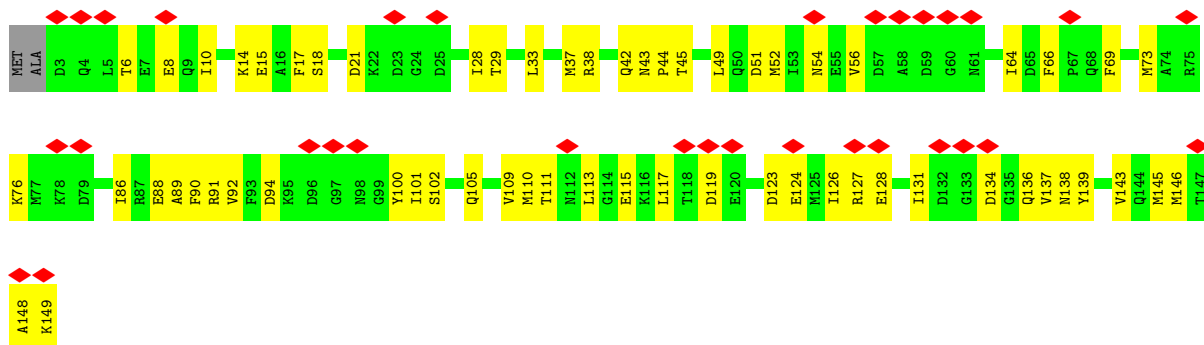
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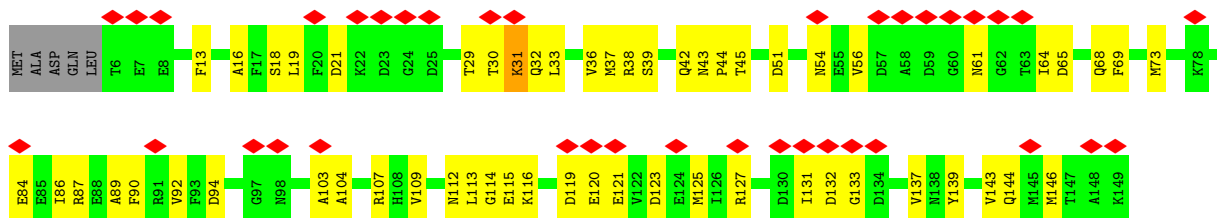
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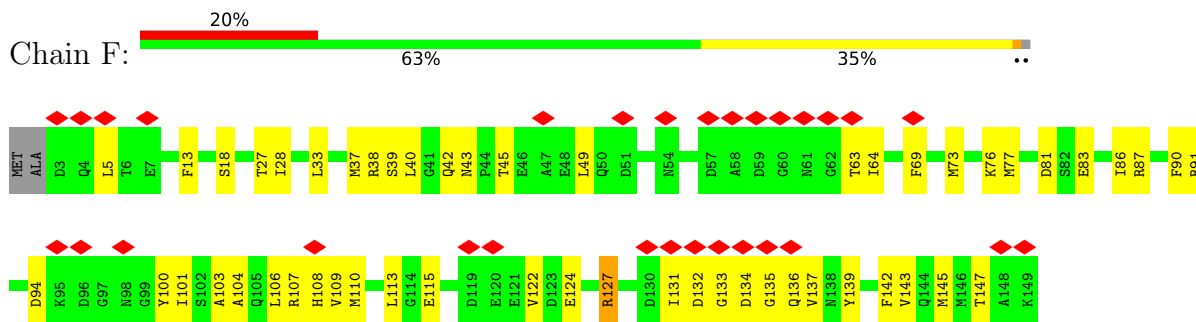
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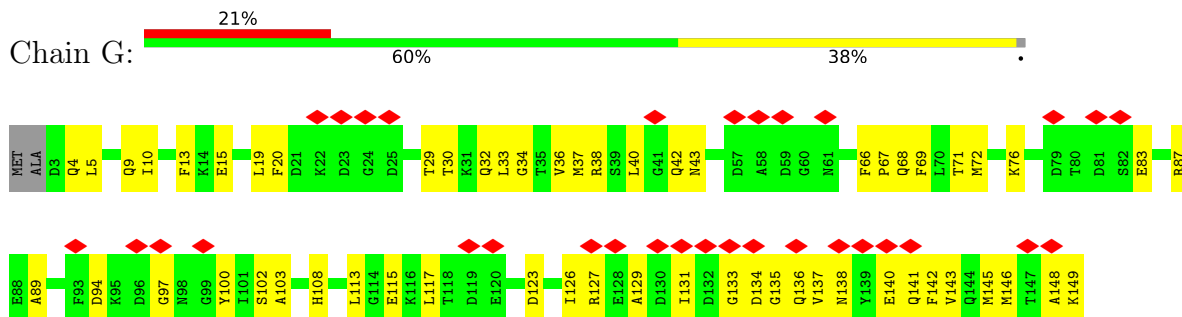
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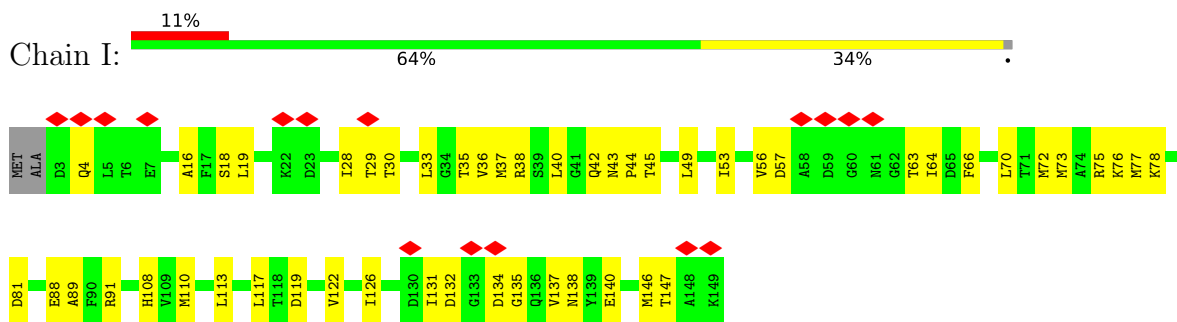
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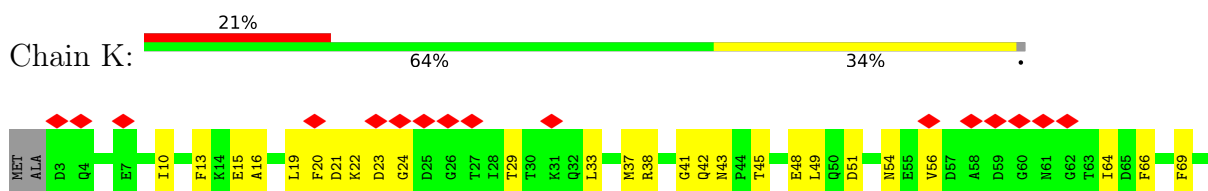
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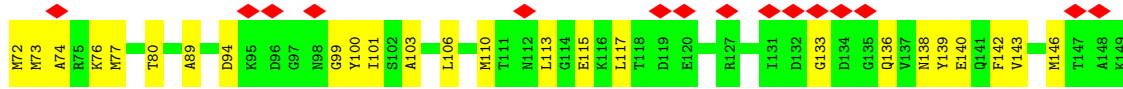


• Molecule 2: Calmodulin-1



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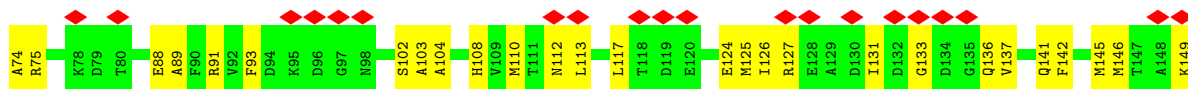




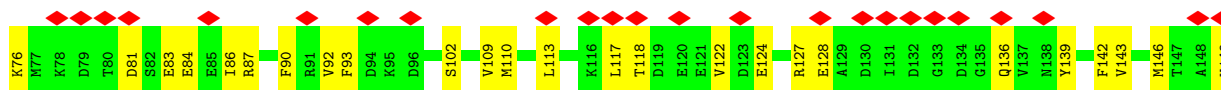
• Molecule 2: Calmodulin-1



• Molecule 2: Calmodulin-1



• Molecule 2: Calmodulin-1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	160273	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.236	Depositor
Minimum map value	-0.406	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.027	Depositor
Recommended contour level	0.35	Depositor
Map size (\AA)	643.2, 643.2, 643.2	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.072, 1.072, 1.072	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.25	0/8971	0.41	0/12051
1	H	0.25	0/8930	0.41	0/11995
1	X	0.27	0/3088	0.43	0/4165
1	Y	0.26	0/3067	0.40	0/4137
2	B	0.25	0/1173	0.41	0/1573
2	C	0.25	0/1173	0.43	0/1573
2	D	0.25	0/1173	0.45	0/1573
2	E	0.26	0/1148	0.44	0/1539
2	F	0.25	0/1173	0.43	0/1573
2	G	0.26	0/1173	0.47	0/1573
2	I	0.25	0/1173	0.41	0/1573
2	J	0.25	0/1173	0.48	0/1573
2	K	0.25	0/1173	0.45	0/1573
2	L	0.25	0/1148	0.43	0/1539
2	M	0.25	0/1173	0.44	0/1573
2	N	0.25	0/1178	0.43	0/1580
All	All	0.25	0/38087	0.42	0/51163

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [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	8806	0	8897	322	0
1	H	8766	0	8858	326	0
1	X	3036	0	3112	88	0
1	Y	3015	0	3090	76	0
2	B	1161	0	1096	42	0
2	C	1161	0	1096	44	0
2	D	1161	0	1096	59	0
2	E	1136	0	1073	52	0
2	F	1161	0	1096	38	0
2	G	1161	0	1096	53	0
2	I	1161	0	1096	38	0
2	J	1161	0	1096	58	0
2	K	1161	0	1096	45	0
2	L	1136	0	1073	47	0
2	M	1161	0	1096	47	0
2	N	1166	0	1101	55	0
All	All	37510	0	37068	1176	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 16.

All (1176) 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:H:248:ARG:HH12	1:H:252:GLN:HG2	1.28	0.95
1:A:827:MET:HG3	2:D:38:ARG:HA	1.49	0.94
1:A:470:PHE:O	1:A:474:GLN:NE2	2.10	0.85
1:A:205:SER:HA	1:A:260:HIS:HB2	1.62	0.81
1:X:1566:PHE:HA	1:Y:1442:LYS:H	1.43	0.81
1:H:549:ILE:HG12	1:H:558:GLU:HG2	1.65	0.79
1:H:879:ARG:NH2	2:M:38:ARG:O	2.17	0.77
2:B:100:TYR:HB3	2:B:136:GLN:HB3	1.67	0.76
1:H:798:ARG:HA	2:J:38:ARG:HH22	1.50	0.76
1:A:802:GLY:HA2	2:C:38:ARG:HB3	1.67	0.75
1:H:379:LYS:HD3	1:H:573:PHE:HB3	1.68	0.75
2:B:109:VAL:HG13	2:B:113:LEU:HD12	1.67	0.75
2:K:56:VAL:HG11	2:K:64:ILE:HG13	1.69	0.75
1:A:822:GLN:NE2	2:D:110:MET:O	2.20	0.75
1:A:751:ARG:HB2	1:A:754:GLN:HE22	1.50	0.74
1:Y:1642:ASN:OD1	1:Y:1702:TRP:NE1	2.22	0.73
1:H:165:SER:O	1:H:214:ASN:ND2	2.22	0.73
1:Y:1664:GLN:HE22	1:Y:1797:ILE:HA	1.52	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:378:ARG:HH11	1:A:391:ILE:HG22	1.53	0.72
1:H:252:GLN:NE2	1:H:287:TYR:O	2.22	0.72
2:C:72:MET:HA	2:C:75:ARG:HE	1.54	0.72
1:H:698:PRO:HA	1:H:700:ARG:HH21	1.55	0.71
2:F:103:ALA:HB3	2:F:133:GLY:HA2	1.72	0.70
2:F:5:LEU:HD21	2:F:77:MET:HG2	1.72	0.70
1:H:802:GLY:HA2	2:J:38:ARG:HB3	1.72	0.70
2:N:21:ASP:OD1	2:N:32:GLN:NE2	2.25	0.70
1:Y:1759:TYR:OH	1:Y:1766:GLU:HG2	1.91	0.70
1:X:1441:ARG:HA	1:Y:1566:PHE:HB3	1.72	0.69
1:A:832:ARG:NH2	2:D:128:GLU:OE1	2.24	0.69
1:A:824:TYR:CE2	2:D:86:ILE:HG13	2.26	0.69
2:B:107:ARG:HG3	2:B:122:VAL:HG11	1.74	0.69
2:I:16:ALA:HA	2:I:19:LEU:HG	1.75	0.69
2:G:30:THR:O	2:G:33:LEU:HB3	1.93	0.69
1:H:12:ARG:HD2	1:H:63:ARG:HD3	1.72	0.69
1:H:803:TYR:CG	2:J:149:LYS:HD3	2.28	0.69
2:C:129:ALA:HB1	2:C:141:GLN:HE22	1.58	0.69
2:F:131:ILE:HB	2:F:137:VAL:HG12	1.72	0.69
2:I:126:ILE:HG23	2:I:131:ILE:HB	1.75	0.69
2:N:109:VAL:HG13	2:N:113:LEU:HD22	1.72	0.69
1:A:449:PHE:HB2	1:A:564:PHE:HA	1.73	0.69
1:H:703:TYR:OH	1:H:744:GLY:O	2.09	0.69
1:A:997:LYS:O	1:A:1001:GLN:NE2	2.25	0.68
2:D:42:GLN:HA	2:D:76:LYS:HE3	1.74	0.68
1:X:1642:ASN:OD1	1:X:1706:LYS:NZ	2.26	0.68
1:A:510:ASP:OD2	1:A:640:ARG:NH2	2.26	0.68
2:B:131:ILE:HG23	2:B:137:VAL:HG21	1.75	0.68
2:D:100:TYR:HB3	2:D:136:GLN:HB3	1.76	0.68
1:H:804:GLN:NE2	2:J:125:MET:SD	2.66	0.68
2:E:123:ASP:HB3	2:E:127:ARG:HH12	1.59	0.68
1:A:828:TYR:HB2	2:D:146:MET:SD	2.34	0.68
1:A:824:TYR:HE2	2:D:86:ILE:HG13	1.56	0.68
1:A:931:GLN:HA	1:A:934:ARG:HD2	1.75	0.68
2:G:42:GLN:HB3	2:G:76:LYS:HD2	1.75	0.68
2:E:112:ASN:O	2:E:116:LYS:NZ	2.27	0.68
1:H:662:LYS:HB2	1:H:680:GLN:HE22	1.59	0.67
2:L:33:LEU:O	2:L:37:MET:HG2	1.94	0.67
2:C:110:MET:HB3	2:C:117:LEU:HD12	1.76	0.67
1:H:205:SER:HB2	1:H:264:GLN:HE22	1.58	0.67
2:N:46:GLU:O	2:N:50:GLN:NE2	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:879:ARG:NH1	2:F:39:SER:O	2.24	0.67
1:A:703:TYR:OH	1:A:744:GLY:O	2.12	0.67
2:F:43:ASN:ND2	2:F:81:ASP:OD1	2.28	0.67
1:H:219:ARG:HH21	1:H:245:GLU:HG2	1.59	0.67
1:H:804:GLN:HE22	2:J:121:GLU:HB3	1.59	0.67
2:D:29:THR:O	2:D:33:LEU:N	2.27	0.67
2:J:33:LEU:HD22	2:J:64:ILE:HG13	1.76	0.67
2:D:109:VAL:HG13	2:D:113:LEU:HD12	1.76	0.66
1:A:156:ASN:HB2	1:A:653:THR:HG22	1.76	0.66
1:A:257:ARG:NH1	1:A:294:PRO:O	2.28	0.66
1:A:379:LYS:HB3	1:A:575:GLU:HG3	1.75	0.66
1:H:925:MET:HE2	2:N:70:LEU:HD11	1.76	0.66
1:Y:1557:ARG:HH11	1:Y:1558:GLN:HG2	1.60	0.66
2:F:134:ASP:OD1	2:F:135:GLY:N	2.29	0.66
2:L:38:ARG:NH2	2:L:46:GLU:OE2	2.29	0.66
1:A:998:ASP:OD2	1:H:1003:ARG:NH2	2.29	0.66
2:E:61:ASN:ND2	2:E:68:GLN:OE1	2.28	0.66
2:C:138:ASN:O	2:C:141:GLN:NE2	2.28	0.66
2:E:103:ALA:HB3	2:E:133:GLY:HA2	1.78	0.66
1:H:195:LYS:NZ	1:H:314:LEU:O	2.29	0.66
2:N:38:ARG:HH22	2:N:49:LEU:HD11	1.60	0.66
1:A:97:LYS:HB2	1:X:1757:ASN:HD21	1.61	0.66
1:H:189:GLU:N	1:H:189:GLU:OE1	2.28	0.66
2:K:103:ALA:HB3	2:K:133:GLY:HA2	1.78	0.66
1:A:122:ASP:OD2	1:X:1789:GLN:NE2	2.29	0.65
2:M:72:MET:HA	2:M:75:ARG:HG2	1.78	0.65
1:A:107:LEU:HB2	1:A:658:VAL:HG12	1.77	0.65
2:F:100:TYR:HB3	2:F:136:GLN:HB3	1.76	0.65
1:H:12:ARG:HH12	1:H:65:PRO:HA	1.62	0.65
1:A:506:LEU:HD11	1:A:636:GLY:HA3	1.77	0.65
2:D:88:GLU:HA	2:D:91:ARG:HD2	1.79	0.65
2:J:122:VAL:HA	2:J:125:MET:HE2	1.79	0.65
1:H:36:LYS:O	1:H:51:ARG:NH1	2.29	0.65
2:N:46:GLU:HA	2:N:49:LEU:HD12	1.79	0.65
2:E:123:ASP:HB3	2:E:127:ARG:NH1	2.13	0.64
1:H:226:ILE:HB	1:H:433:ILE:HG22	1.79	0.64
2:N:40:LEU:HD22	2:N:76:LYS:HD3	1.77	0.64
1:H:455:ASN:ND2	1:H:559:TYR:OH	2.30	0.64
2:M:88:GLU:HG2	2:M:91:ARG:HH22	1.62	0.64
2:K:106:LEU:O	2:K:110:MET:HB2	1.96	0.64
1:A:858:ARG:HB3	1:A:862:ARG:HH21	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:964:LEU:HB3	1:H:964:LEU:HB3	1.80	0.64
2:F:87:ARG:HB2	2:F:143:VAL:HG11	1.79	0.64
1:H:848:LEU:HD22	2:L:125:MET:HG2	1.80	0.64
2:M:10:ILE:HG22	2:M:14:LYS:HE2	1.79	0.64
2:M:19:LEU:HD13	2:N:113:LEU:HD21	1.79	0.64
1:A:100:TYR:HB3	1:A:137:PRO:HB2	1.80	0.64
1:H:107:LEU:HB3	1:H:658:VAL:HG22	1.79	0.64
1:H:448:SER:HB3	1:H:451:GLN:HG3	1.80	0.64
1:A:460:LYS:HG2	1:A:643:LEU:HD21	1.80	0.63
2:N:87:ARG:HA	2:N:90:PHE:HD2	1.63	0.63
1:A:21:VAL:HG21	1:A:678:VAL:HG11	1.79	0.63
2:K:45:THR:O	2:K:49:LEU:N	2.30	0.63
1:A:779:GLY:HA2	2:B:38:ARG:HB3	1.78	0.63
1:H:854:ARG:NH2	2:L:146:MET:O	2.32	0.63
1:A:214:ASN:HB3	1:A:217:SER:HB3	1.80	0.63
2:B:98:ASN:HD21	1:X:1608:ILE:HG22	1.63	0.63
2:C:33:LEU:HD13	2:C:64:ILE:HG21	1.80	0.63
1:H:854:ARG:NE	2:L:41:GLY:HA2	2.14	0.63
1:X:1452:TYR:O	1:X:1454:ARG:NH1	2.32	0.63
1:X:1674:LEU:HD23	1:X:1677:LEU:HD21	1.80	0.63
1:X:1748:THR:OG1	1:X:1751:GLN:NE2	2.31	0.63
1:Y:1585:GLN:OE1	1:Y:1588:ARG:NH1	2.31	0.63
2:B:99:GLY:HA2	2:B:139:TYR:HE1	1.64	0.63
1:H:798:ARG:NH1	2:J:43:ASN:O	2.31	0.63
1:H:822:GLN:NE2	2:K:110:MET:O	2.31	0.63
1:H:40:LEU:HD21	1:H:42:LEU:HG	1.81	0.62
2:K:69:PHE:HA	2:K:72:MET:SD	2.39	0.62
1:A:242:TYR:HD2	1:A:642:SER:HB2	1.65	0.62
1:H:874:ARG:HB3	2:M:38:ARG:HD2	1.81	0.62
1:A:823:LYS:HD3	2:D:45:THR:HA	1.81	0.62
2:E:87:ARG:NH1	2:E:144:GLN:OE1	2.33	0.62
2:K:16:ALA:HA	2:K:19:LEU:HD12	1.81	0.62
1:A:282:ALA:O	1:A:288:THR:OG1	2.16	0.62
1:A:831:ARG:NH2	2:D:149:LYS:O	2.32	0.62
2:I:38:ARG:NH1	2:I:44:PRO:O	2.32	0.62
1:A:480:GLU:HG2	1:A:745:LYS:HG2	1.82	0.62
1:H:520:ASP:HB3	1:H:565:LEU:HD11	1.79	0.62
1:H:854:ARG:HE	2:L:41:GLY:HA2	1.63	0.62
2:D:111:THR:HG22	2:D:117:LEU:HB2	1.82	0.62
2:F:94:ASP:HA	2:F:101:ILE:HD12	1.81	0.62
2:J:100:TYR:HB3	2:J:136:GLN:HG2	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:87:ARG:HB3	2:N:143:VAL:HG11	1.82	0.62
1:A:697:PHE:HB3	1:A:749:PHE:HB3	1.82	0.62
1:A:745:LYS:HG3	1:A:746:THR:HG23	1.80	0.62
1:H:160:ILE:HG22	1:H:657:TYR:HA	1.82	0.62
1:A:822:GLN:NE2	2:D:115:GLU:O	2.31	0.61
1:A:978:ALA:HB2	1:H:978:ALA:HB2	1.82	0.61
2:L:102:SER:OG	2:L:133:GLY:O	2.18	0.61
1:X:1457:GLU:O	1:X:1460:LEU:HB3	1.99	0.61
2:D:90:PHE:O	2:D:94:ASP:N	2.33	0.61
1:H:938:GLU:HA	1:H:941:LYS:HD2	1.83	0.61
1:H:827:MET:HE1	2:K:43:ASN:HA	1.81	0.61
2:N:102:SER:HB2	2:N:136:GLN:HE22	1.65	0.61
2:C:10:ILE:HG23	2:C:66:PHE:HZ	1.63	0.61
2:F:40:LEU:HB3	2:F:76:LYS:HE2	1.82	0.61
1:A:508:LEU:HD12	1:A:527:LEU:HD23	1.83	0.61
1:A:810:LYS:HD3	1:A:814:ARG:HH21	1.65	0.61
2:I:29:THR:HA	2:I:63:THR:HA	1.83	0.61
1:A:214:ASN:ND2	1:A:216:ASN:O	2.34	0.61
2:C:27:THR:HG21	2:C:61:ASN:HD21	1.66	0.61
1:H:540:LYS:HB3	1:H:542:ARG:HH21	1.65	0.61
2:K:21:ASP:HB3	2:K:24:GLY:HA2	1.81	0.61
1:H:154:GLU:OE2	1:H:430:HIS:NE2	2.31	0.61
1:H:456:TYR:HE1	1:H:496:ILE:HG23	1.66	0.61
2:J:142:PHE:O	2:J:146:MET:HG2	2.00	0.61
1:A:929:ILE:HA	1:A:932:LEU:HD12	1.83	0.60
2:B:112:ASN:HA	2:B:116:LYS:HE3	1.83	0.60
1:H:799:TYR:HD1	2:J:43:ASN:HD22	1.49	0.60
2:L:28:ILE:HG13	2:L:64:ILE:HD13	1.83	0.60
2:L:100:TYR:HB3	2:L:136:GLN:HB3	1.83	0.60
1:A:872:ARG:HG3	2:F:86:ILE:HG12	1.83	0.60
2:G:103:ALA:HB3	2:G:133:GLY:HA2	1.82	0.60
1:A:715:LYS:HD3	1:A:717:LYS:HE2	1.83	0.60
1:A:928:LYS:HD2	2:G:67:PRO:HB2	1.83	0.60
2:J:142:PHE:HA	2:J:145:MET:SD	2.41	0.60
2:M:104:ALA:O	2:M:108:HIS:ND1	2.34	0.60
1:A:840:ALA:O	1:A:844:ILE:HG12	2.00	0.60
2:G:140:GLU:HA	2:G:143:VAL:HB	1.82	0.60
2:K:72:MET:O	2:K:76:LYS:HG2	2.00	0.60
1:H:875:GLY:O	1:H:879:ARG:HG2	2.02	0.60
2:D:15:GLU:OE2	2:E:114:GLY:N	2.31	0.60
1:H:767:ARG:HA	2:I:113:LEU:HD21	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:18:SER:OG	2:J:112:ASN:ND2	2.35	0.60
1:H:220:PHE:O	1:H:439:TYR:OH	2.16	0.60
1:A:378:ARG:HE	1:A:380:LEU:HD21	1.67	0.60
1:X:1568:LEU:HB3	1:X:1571:TYR:HB3	1.84	0.60
2:L:29:THR:O	2:L:33:LEU:N	2.32	0.59
1:X:1449:MET:HB2	1:X:1828:VAL:HB	1.84	0.59
1:A:51:ARG:NH1	1:A:53:ASP:OD1	2.35	0.59
1:A:159:ILE:HG22	1:A:656:HIS:HB2	1.84	0.59
1:H:264:GLN:HA	1:H:301:ASP:HB3	1.84	0.59
2:B:33:LEU:HB2	2:B:64:ILE:HG13	1.84	0.59
1:A:22:TRP:CG	1:A:83:PRO:HB3	2.37	0.59
2:D:28:ILE:HG22	2:D:64:ILE:HB	1.83	0.59
2:G:13:PHE:HB3	2:G:69:PHE:CE2	2.38	0.59
1:H:219:ARG:NH2	1:H:248:ARG:HD3	2.18	0.59
2:N:42:GLN:HB2	2:N:76:LYS:HE2	1.85	0.59
1:A:975:GLU:HG2	1:A:979:LYS:HE3	1.85	0.59
1:H:373:HIS:O	1:H:377:HIS:ND1	2.25	0.59
1:A:13:VAL:HB	1:A:60:PRO:HB2	1.85	0.59
1:H:252:GLN:OE1	1:H:291:GLY:N	2.34	0.59
1:H:277:LEU:HG	1:H:327:ARG:HG2	1.84	0.59
2:F:142:PHE:HA	2:F:145:MET:HG2	1.85	0.59
1:A:199:SER:O	1:A:202:ILE:HG12	2.03	0.58
1:H:774:GLN:HG2	2:I:117:LEU:HD11	1.84	0.58
1:H:813:ARG:NH2	2:J:15:GLU:OE2	2.36	0.58
2:L:72:MET:O	2:L:76:LYS:HG2	2.03	0.58
1:A:235:ILE:HD11	1:A:429:GLN:HA	1.85	0.58
1:A:944:LYS:HA	1:A:947:MET:SD	2.44	0.58
1:H:813:ARG:HG3	2:J:19:LEU:HD22	1.85	0.58
1:Y:1693:ARG:NH1	1:Y:1728:GLN:OE1	2.36	0.58
1:A:866:ALA:O	1:A:870:GLN:HG2	2.03	0.58
1:A:377:HIS:HA	1:A:390:PRO:HA	1.86	0.58
1:A:782:LEU:HD12	2:B:38:ARG:HB2	1.84	0.58
1:A:96:SER:O	1:X:1757:ASN:ND2	2.37	0.58
1:H:921:LEU:HD13	2:N:66:PHE:HE2	1.69	0.58
1:A:265:LEU:HD23	1:A:329:LEU:HD22	1.86	0.58
1:A:793:ALA:HA	2:C:93:PHE:HZ	1.66	0.58
2:F:28:ILE:HB	2:F:64:ILE:HB	1.86	0.58
2:F:45:THR:O	2:F:49:LEU:N	2.32	0.58
1:H:539:GLU:HB3	1:H:549:ILE:HB	1.86	0.58
1:A:122:ASP:HA	1:A:125:ASN:HD21	1.68	0.58
1:H:824:TYR:HE2	2:K:146:MET:HB3	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:100:TYR:O	2:L:136:GLN:NE2	2.36	0.58
1:Y:1745:ASN:OD1	1:Y:1746:ALA:N	2.37	0.58
1:A:157:GLN:HB2	1:A:433:ILE:HG12	1.86	0.58
1:A:366:VAL:HA	1:A:584:LYS:HB2	1.85	0.58
1:A:1037:GLU:OE1	1:H:1038:LYS:NZ	2.37	0.58
2:J:102:SER:HA	2:J:136:GLN:HG3	1.85	0.58
1:X:1469:LYS:HE3	1:X:1520:ARG:HH12	1.68	0.58
1:A:936:VAL:HG13	1:H:939:GLN:HE22	1.68	0.57
1:H:889:ILE:HD11	2:N:113:LEU:HD23	1.85	0.57
2:G:30:THR:O	2:G:33:LEU:CB	2.51	0.57
1:Y:1451:GLU:HG2	1:Y:1492:HIS:CE1	2.39	0.57
2:D:126:ILE:HA	2:D:131:ILE:HD12	1.85	0.57
1:H:206:ILE:HB	1:H:412:PHE:HE1	1.69	0.57
1:H:397:THR:HA	1:H:400:ARG:HG2	1.87	0.57
1:A:539:GLU:HB2	1:A:549:ILE:HB	1.86	0.57
2:G:134:ASP:OD1	2:G:135:GLY:N	2.38	0.57
1:A:144:GLU:OE1	1:A:179:TYR:OH	2.23	0.57
1:H:841:THR:HG21	2:L:109:VAL:HG12	1.86	0.57
2:B:18:SER:O	2:C:108:HIS:NE2	2.35	0.57
1:X:1544:TYR:HE1	1:X:1558:GLN:HB3	1.69	0.57
1:X:1697:SER:HA	1:X:1700:GLU:HG2	1.85	0.57
1:X:1748:THR:N	1:X:1751:GLN:OE1	2.38	0.57
1:A:742:GLN:HB3	1:A:749:PHE:HB2	1.87	0.57
2:B:126:ILE:HA	2:B:131:ILE:HB	1.87	0.57
1:H:14:TRP:N	1:H:61:HIS:O	2.33	0.57
1:H:854:ARG:NH1	2:L:41:GLY:O	2.35	0.57
1:H:862:ARG:HH22	2:M:112:ASN:HD21	1.53	0.57
1:A:249:VAL:HG22	1:A:259:TYR:HE2	1.69	0.57
1:H:847:TYR:OH	2:L:143:VAL:O	2.20	0.57
2:J:16:ALA:HA	2:J:19:LEU:HD12	1.87	0.57
2:L:103:ALA:HB3	2:L:133:GLY:HA2	1.87	0.57
1:A:252:GLN:HB2	1:A:290:GLN:HB2	1.87	0.57
1:H:447:ASN:ND2	1:H:558:GLU:O	2.37	0.57
2:I:110:MET:HB3	2:I:117:LEU:HD12	1.86	0.57
2:N:38:ARG:HH12	2:N:49:LEU:HD11	1.70	0.57
2:G:4:GLN:NE2	2:G:5:LEU:O	2.38	0.56
1:Y:1543:GLN:HE22	1:Y:1807:SER:HB3	1.69	0.56
1:A:503:LEU:HG	1:A:530:THR:HB	1.86	0.56
2:F:18:SER:O	2:G:108:HIS:NE2	2.33	0.56
1:A:965:ARG:NH2	1:H:960:GLU:OE2	2.27	0.56
2:K:100:TYR:HB3	2:K:136:GLN:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1697:SER:O	1:X:1700:GLU:HG2	2.05	0.56
1:A:790:GLN:HA	2:C:113:LEU:HD21	1.86	0.56
1:A:868:ILE:HA	1:A:871:LYS:HE3	1.88	0.56
1:H:149:GLN:NE2	1:H:153:ASP:OD2	2.38	0.56
2:I:45:THR:O	2:I:49:LEU:N	2.35	0.56
2:J:72:MET:HA	2:J:75:ARG:HG2	1.87	0.56
2:F:107:ARG:HD3	2:F:122:VAL:HG13	1.88	0.56
2:M:49:LEU:O	2:M:53:ILE:HG12	2.06	0.56
1:A:186:SER:HB2	1:A:189:GLU:HB2	1.87	0.56
2:D:131:ILE:HG23	2:D:137:VAL:HG21	1.88	0.56
2:K:19:LEU:HD21	2:L:113:LEU:HG	1.87	0.56
2:F:104:ALA:O	2:F:108:HIS:ND1	2.38	0.56
2:I:122:VAL:O	2:I:126:ILE:HD12	2.06	0.56
1:H:772:ARG:HH21	2:I:89:ALA:HB2	1.70	0.56
1:Y:1662:VAL:HG21	1:Y:1708:LEU:HD13	1.86	0.56
1:A:640:ARG:O	1:A:644:HIS:ND1	2.39	0.55
2:F:69:PHE:O	2:F:73:MET:HG2	2.05	0.55
1:H:132:MET:SD	1:H:133:GLY:N	2.79	0.55
2:G:37:MET:HE2	2:G:42:GLN:HB2	1.88	0.55
2:G:123:ASP:O	2:G:127:ARG:HG3	2.05	0.55
1:H:477:TYR:HD2	1:H:484:TRP:HA	1.71	0.55
2:J:8:GLU:OE1	2:J:9:GLN:NE2	2.37	0.55
1:A:1027:LEU:HB3	1:H:1027:LEU:HB3	1.88	0.55
1:A:825:TRP:HZ3	2:D:131:ILE:HD11	1.71	0.55
2:L:131:ILE:HG23	2:L:137:VAL:HB	1.88	0.55
1:Y:1726:LEU:HD11	1:Y:1740:ILE:HG23	1.88	0.55
1:A:662:LYS:O	1:A:680:GLN:NE2	2.36	0.55
2:F:109:VAL:O	2:F:113:LEU:N	2.36	0.55
1:H:189:GLU:HG3	1:H:234:ILE:HB	1.89	0.55
2:M:33:LEU:HD13	2:M:64:ILE:HG21	1.89	0.55
1:A:53:ASP:HB2	1:A:57:GLY:HA3	1.88	0.55
2:L:48:GLU:O	2:L:52:MET:HG3	2.06	0.55
2:N:93:PHE:HE1	2:N:109:VAL:HG21	1.72	0.55
1:A:169:LYS:HD2	1:A:437:ASP:HB3	1.89	0.55
1:A:825:TRP:CZ3	2:D:131:ILE:HD11	2.42	0.55
2:G:4:GLN:OE1	1:H:927:ASN:ND2	2.28	0.55
1:H:248:ARG:O	1:H:248:ARG:NH1	2.38	0.55
2:K:45:THR:H	2:K:48:GLU:HB3	1.71	0.55
2:L:27:THR:HB	2:L:63:THR:HB	1.88	0.55
2:M:110:MET:SD	2:M:117:LEU:HD12	2.46	0.55
1:A:347:SER:HA	1:A:390:PRO:HB2	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:798:ARG:HD3	2:C:45:THR:HG22	1.89	0.55
2:F:124:GLU:HG2	2:F:127:ARG:CZ	2.37	0.55
2:J:20:PHE:HD2	2:J:36:VAL:HG22	1.71	0.55
2:D:18:SER:O	2:E:112:ASN:ND2	2.40	0.55
1:H:198:ALA:HB1	1:H:311:ALA:HB1	1.88	0.55
1:A:940:ASN:O	1:A:944:LYS:HG2	2.07	0.54
2:B:30:THR:HB	2:B:53:ILE:HG12	1.89	0.54
1:H:122:ASP:OD1	1:H:123:ILE:HD12	2.08	0.54
2:I:138:ASN:HD21	2:I:140:GLU:HB3	1.71	0.54
2:D:17:PHE:O	2:D:21:ASP:N	2.40	0.54
1:A:874:ARG:HH21	2:F:115:GLU:HG2	1.72	0.54
2:B:33:LEU:HD13	2:B:64:ILE:HG21	1.90	0.54
2:G:143:VAL:HA	2:G:146:MET:HB2	1.88	0.54
1:H:578:LYS:HA	1:H:581:LYS:HE3	1.89	0.54
1:X:1475:VAL:HA	1:X:1481:LEU:HD13	1.88	0.54
2:I:134:ASP:OD1	2:I:135:GLY:N	2.41	0.54
1:A:32:LYS:HB2	1:A:35:ASP:HB2	1.88	0.54
1:A:81:HIS:ND1	1:A:83:PRO:HG2	2.22	0.54
1:X:1442:LYS:H	1:Y:1566:PHE:HA	1.72	0.54
1:A:203:MET:HA	1:A:206:ILE:HG12	1.90	0.54
1:A:593:GLN:NE2	1:A:594:ASP:O	2.40	0.54
1:Y:1681:LYS:HG3	1:Y:1758:LEU:HD12	1.90	0.54
1:A:882:TYR:O	1:A:885:THR:OG1	2.23	0.54
1:A:80:LEU:HD23	1:A:694:ALA:HB2	1.90	0.54
2:G:30:THR:HA	2:G:33:LEU:HB2	1.90	0.54
1:H:225:GLU:OE2	1:H:240:ARG:NH2	2.41	0.54
1:H:795:THR:O	1:H:798:ARG:HG2	2.07	0.54
2:M:19:LEU:HA	2:N:113:LEU:HD11	1.90	0.54
1:A:777:ILE:HG21	2:B:125:MET:SD	2.48	0.53
1:H:493:GLN:HA	1:H:496:ILE:HD12	1.89	0.53
2:M:112:ASN:OD1	2:M:113:LEU:N	2.41	0.53
1:A:925:MET:HB3	1:H:929:ILE:HD11	1.89	0.53
2:G:126:ILE:HG23	2:G:131:ILE:HB	1.90	0.53
1:H:1052:MET:O	1:H:1056:MET:HG2	2.08	0.53
2:M:13:PHE:HD1	2:M:40:LEU:HD11	1.72	0.53
1:A:1087:ARG:NH2	1:A:1090:GLU:OE2	2.36	0.53
2:B:27:THR:HB	2:B:63:THR:HB	1.89	0.53
1:H:28:LEU:HG	1:H:41:HIS:HB2	1.91	0.53
1:H:453:CYS:HB3	1:H:639:PHE:CE1	2.43	0.53
1:A:264:GLN:HA	1:A:301:ASP:HB3	1.89	0.53
1:H:114:GLU:HB2	1:H:669:PRO:HB3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:77:MET:O	2:K:80:THR:OG1	2.26	0.53
1:A:845:GLN:NE2	2:E:113:LEU:O	2.41	0.53
1:A:846:SER:HB3	2:E:45:THR:HA	1.90	0.53
2:F:106:LEU:HB3	2:F:110:MET:HE1	1.90	0.53
2:G:10:ILE:HA	2:G:13:PHE:CD2	2.43	0.53
1:H:474:GLN:HG2	1:H:484:TRP:CD2	2.43	0.53
1:H:632:LYS:HB3	1:H:634:THR:HG23	1.89	0.53
1:H:822:GLN:HG2	2:K:117:LEU:HD11	1.91	0.53
1:A:447:ASN:ND2	1:A:558:GLU:O	2.42	0.53
1:A:797:GLN:HG2	2:C:117:LEU:HD11	1.91	0.53
2:D:119:ASP:N	2:D:119:ASP:OD1	2.42	0.53
2:M:32:GLN:O	2:M:36:VAL:HG23	2.08	0.53
1:A:922:HIS:HA	1:A:925:MET:HE2	1.91	0.53
2:C:142:PHE:O	2:C:146:MET:HG2	2.09	0.53
2:E:131:ILE:HG12	2:E:137:VAL:HB	1.91	0.53
1:H:842:ILE:HG12	2:L:114:GLY:HA3	1.90	0.53
1:H:850:GLY:O	1:H:854:ARG:HG3	2.09	0.53
1:A:189:GLU:HG2	1:A:234:ILE:O	2.08	0.53
1:A:841:THR:HG22	2:E:109:VAL:HG13	1.91	0.53
2:N:83:GLU:OE2	2:N:149:LYS:NZ	2.31	0.53
1:X:1539:HIS:CD2	1:X:1805:ASN:H	2.27	0.53
1:A:703:TYR:OH	1:A:724:LYS:NZ	2.40	0.53
1:A:898:ARG:HE	1:A:899:MET:HE1	1.74	0.53
1:H:51:ARG:NH1	1:H:52:LEU:O	2.42	0.53
1:X:1697:SER:O	1:X:1700:GLU:N	2.42	0.53
1:A:327:ARG:HH21	1:A:363:LEU:HA	1.74	0.52
1:A:957:TYR:CG	1:H:957:TYR:HB3	2.43	0.52
2:E:51:ASP:HA	2:E:54:ASN:ND2	2.24	0.52
1:H:336:GLY:O	1:H:400:ARG:NH2	2.43	0.52
1:X:1503:ARG:HH11	1:Y:1439:ILE:HG13	1.75	0.52
1:Y:1494:ASP:OD1	1:Y:1565:ASN:HB2	2.10	0.52
1:A:483:PRO:HB2	1:A:485:THR:HG23	1.91	0.52
2:L:68:GLN:O	2:L:72:MET:HG3	2.08	0.52
1:A:790:GLN:HG2	2:C:113:LEU:HD21	1.92	0.52
1:A:921:LEU:HD13	2:G:66:PHE:HB2	1.92	0.52
2:C:142:PHE:HA	2:C:145:MET:SD	2.49	0.52
2:F:13:PHE:HB3	2:F:69:PHE:HE2	1.73	0.52
1:H:889:ILE:O	1:H:892:LEU:HG	2.09	0.52
2:J:84:GLU:OE1	2:J:87:ARG:NH1	2.41	0.52
2:M:102:SER:HA	2:M:136:GLN:HA	1.92	0.52
1:A:857:TYR:HD2	2:E:19:LEU:HD13	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:33:LEU:HD13	2:L:64:ILE:HG12	1.90	0.52
1:X:1557:ARG:NH1	1:X:1560:GLU:OE1	2.42	0.52
1:A:392:SER:O	1:A:396:ALA:N	2.38	0.52
1:H:819:THR:HG22	2:K:115:GLU:H	1.75	0.52
1:A:847:TYR:CD1	2:E:86:ILE:HG21	2.44	0.52
1:H:879:ARG:HH11	2:M:149:LYS:HD3	1.75	0.52
2:K:10:ILE:HG23	2:K:66:PHE:HZ	1.74	0.52
1:Y:1775:ARG:NH1	1:Y:1778:GLN:OE1	2.43	0.52
1:A:1042:ASN:HA	1:A:1045:ILE:HD12	1.92	0.52
1:H:72:ASN:HA	1:H:92:ARG:NH2	2.25	0.52
1:H:246:LYS:HZ2	1:H:567:LYS:HB3	1.75	0.52
1:H:782:LEU:HD13	2:I:35:THR:HG23	1.92	0.52
2:L:69:PHE:O	2:L:73:MET:HG2	2.09	0.52
1:X:1459:LYS:O	1:X:1462:LYS:HG3	2.10	0.52
1:X:1715:GLU:HA	1:X:1718:GLU:OE1	2.10	0.52
1:Y:1544:TYR:HB3	1:Y:1562:CYS:HA	1.90	0.52
2:E:90:PHE:HB3	2:E:139:TYR:CE1	2.45	0.52
1:H:580:LEU:HD12	1:H:588:LEU:HD21	1.91	0.52
2:M:66:PHE:HA	2:M:69:PHE:HB3	1.90	0.52
1:A:523:TRP:O	1:A:527:LEU:HG	2.09	0.52
1:A:664:ASN:HA	1:A:676:ARG:HG3	1.91	0.52
1:A:729:ASN:O	1:A:733:LYS:HG2	2.10	0.52
2:B:27:THR:HG22	2:B:65:ASP:HA	1.91	0.52
2:J:109:VAL:HG13	2:J:113:LEU:HB3	1.92	0.52
1:A:872:ARG:CZ	2:F:43:ASN:HD22	2.23	0.52
2:E:18:SER:HA	2:E:21:ASP:HB2	1.92	0.52
1:H:854:ARG:HH22	2:L:147:THR:HA	1.75	0.52
2:N:51:ASP:O	2:N:55:GLU:HG3	2.09	0.52
1:A:166:GLY:H	1:A:169:LYS:HE3	1.75	0.51
1:A:751:ARG:HB2	1:A:754:GLN:NE2	2.22	0.51
1:H:453:CYS:HB3	1:H:639:PHE:CZ	2.45	0.51
2:K:33:LEU:O	2:K:37:MET:HG2	2.10	0.51
2:K:99:GLY:HA2	2:K:139:TYR:CZ	2.45	0.51
1:A:225:GLU:HB2	1:A:238:ASN:HB3	1.93	0.51
1:A:925:MET:HG2	2:G:67:PRO:HB3	1.90	0.51
1:A:1002:THR:HG22	1:H:1002:THR:HG22	1.93	0.51
1:H:219:ARG:HH22	1:H:248:ARG:HD3	1.75	0.51
1:A:500:GLU:OE2	1:A:644:HIS:NE2	2.43	0.51
1:A:771:ILE:O	1:A:775:LYS:HG2	2.10	0.51
1:H:392:SER:O	1:H:396:ALA:N	2.40	0.51
2:M:13:PHE:HB3	2:M:69:PHE:CE2	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:33:LEU:O	2:D:37:MET:HG2	2.10	0.51
1:H:915:VAL:O	1:H:918:TYR:HB3	2.10	0.51
1:H:1086:SER:OG	1:X:1581:GLN:OE1	2.21	0.51
1:A:29:LYS:HB2	1:A:39:LEU:HB3	1.91	0.51
1:A:99:ILE:O	1:A:109:ALA:HA	2.10	0.51
2:L:142:PHE:HD1	2:L:145:MET:HE3	1.75	0.51
2:N:29:THR:O	2:N:33:LEU:N	2.39	0.51
2:B:91:ARG:HD3	2:B:139:TYR:OH	2.10	0.51
1:H:831:ARG:HD2	2:K:41:GLY:HA3	1.91	0.51
1:H:1064:THR:O	1:H:1068:GLU:HB2	2.10	0.51
2:B:37:MET:HG3	2:B:44:PRO:HG3	1.92	0.51
1:H:806:ARG:HH22	2:J:41:GLY:HA2	1.75	0.51
2:N:29:THR:H	2:N:32:GLN:HB2	1.74	0.51
1:A:220:PHE:HE2	1:A:222:LYS:HD3	1.75	0.51
2:D:37:MET:HB3	2:D:44:PRO:HG3	1.92	0.51
2:I:66:PHE:O	2:I:70:LEU:HG	2.10	0.51
2:L:42:GLN:HB2	2:L:76:LYS:HE3	1.93	0.51
1:A:662:LYS:HD3	1:A:676:ARG:HH21	1.76	0.51
2:E:132:ASP:H	2:E:137:VAL:HG21	1.76	0.51
1:H:355:GLU:HG3	1:H:356:PRO:HD3	1.92	0.51
1:H:681:LEU:HD22	1:H:686:VAL:HG21	1.92	0.51
1:H:993:ALA:HB1	1:H:997:LYS:NZ	2.26	0.51
2:K:29:THR:O	2:K:33:LEU:N	2.39	0.51
2:M:66:PHE:CG	2:M:67:PRO:HD3	2.46	0.51
1:Y:1775:ARG:HB3	1:Y:1779:MET:HE1	1.93	0.51
1:A:888:ALA:HA	2:G:89:ALA:HB1	1.93	0.50
2:I:30:THR:HB	2:I:53:ILE:HG12	1.92	0.50
2:N:86:ILE:HG22	2:N:90:PHE:CE2	2.46	0.50
1:A:819:THR:HG22	2:D:115:GLU:H	1.76	0.50
1:A:1041:LEU:HA	1:A:1044:ARG:HD2	1.93	0.50
1:H:12:ARG:NH1	1:H:65:PRO:HA	2.24	0.50
1:H:248:ARG:NH1	1:H:252:GLN:HG2	2.11	0.50
1:Y:1470:PRO:HB3	1:Y:1529:PHE:CG	2.46	0.50
1:H:921:LEU:HD13	2:N:66:PHE:CE2	2.45	0.50
2:J:13:PHE:HB3	2:J:69:PHE:HE2	1.76	0.50
1:A:26:GLU:HB2	1:A:41:HIS:HB3	1.92	0.50
1:A:169:LYS:HZ2	1:A:170:THR:HG23	1.77	0.50
1:A:1056:MET:HG3	1:H:1056:MET:HE1	1.93	0.50
2:B:75:ARG:HA	2:B:78:LYS:HG2	1.94	0.50
2:B:99:GLY:O	2:B:138:ASN:ND2	2.39	0.50
2:D:51:ASP:HA	2:D:54:ASN:ND2	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1569:ALA:O	1:Y:1572:ARG:HG2	2.12	0.50
1:A:861:LEU:HG	2:E:19:LEU:HD21	1.94	0.50
1:H:277:LEU:HD22	1:H:279:LEU:HG	1.94	0.50
1:H:845:GLN:HE21	2:L:110:MET:HA	1.76	0.50
1:H:943:TYR:O	1:H:947:MET:HG2	2.12	0.50
1:Y:1722:GLN:HE22	1:Y:1747:LEU:H	1.58	0.50
1:A:127:TYR:OH	1:A:136:ASP:O	2.28	0.50
1:H:798:ARG:NH2	2:J:81:ASP:OD1	2.45	0.50
2:G:13:PHE:HB3	2:G:69:PHE:HE2	1.76	0.50
1:H:420:ASN:O	1:H:424:HIS:N	2.45	0.50
1:A:134:ASP:OD1	1:X:1680:ARG:NH1	2.45	0.50
1:A:844:ILE:O	1:A:848:LEU:HG	2.12	0.50
1:H:867:VAL:O	1:H:870:GLN:HG2	2.11	0.50
1:H:1088:LEU:HD23	1:H:1091:ARG:HD2	1.93	0.50
2:N:52:MET:SD	2:N:68:GLN:NE2	2.80	0.50
1:H:541:PRO:HG3	1:H:549:ILE:HG13	1.93	0.50
1:H:701:TRP:HD1	1:H:706:PHE:HB2	1.76	0.50
1:H:872:ARG:HH21	2:M:146:MET:HG3	1.77	0.50
1:X:1634:LEU:HD21	1:X:1698:GLN:HG3	1.93	0.50
1:A:1077:ARG:HH21	1:X:1573:GLN:HE22	1.58	0.49
1:X:1591:GLU:OE1	1:X:1795:LYS:NZ	2.45	0.49
1:H:122:ASP:HA	1:H:125:ASN:HD21	1.76	0.49
2:M:30:THR:HB	2:M:53:ILE:HD12	1.93	0.49
2:G:68:GLN:O	2:G:71:THR:OG1	2.24	0.49
2:G:69:PHE:O	2:G:72:MET:HB3	2.12	0.49
1:H:169:LYS:HG3	1:H:170:THR:N	2.27	0.49
1:H:862:ARG:NH1	2:M:113:LEU:HB2	2.27	0.49
1:H:882:TYR:OH	2:M:15:GLU:OE1	2.24	0.49
1:A:537:LEU:HA	1:A:551:LYS:HB3	1.94	0.49
1:A:737:ASP:HB3	1:A:740:LYS:HG2	1.93	0.49
1:H:122:ASP:HA	1:H:125:ASN:ND2	2.27	0.49
1:H:184:SER:HB3	1:H:189:GLU:HG2	1.95	0.49
1:H:228:PHE:HE2	1:H:433:ILE:HB	1.76	0.49
2:C:16:ALA:HA	2:C:19:LEU:HD12	1.95	0.49
2:E:33:LEU:HD13	2:E:64:ILE:HD11	1.95	0.49
2:M:30:THR:HG21	2:M:53:ILE:HG23	1.94	0.49
2:C:10:ILE:HG23	2:C:66:PHE:CZ	2.47	0.49
1:H:400:ARG:HG3	1:H:401:ASP:N	2.27	0.49
1:H:838:ARG:HA	2:L:113:LEU:HD13	1.95	0.49
2:L:56:VAL:HG11	2:L:64:ILE:HG13	1.93	0.49
1:X:1731:LYS:HG2	1:X:1756:LEU:HD11	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:858:ARG:NH1	2:E:39:SER:O	2.45	0.49
1:A:867:VAL:O	1:A:871:LYS:HG3	2.13	0.49
2:D:123:ASP:HB3	2:D:127:ARG:HH12	1.77	0.49
1:H:845:GLN:O	1:H:849:ARG:HG2	2.12	0.49
2:L:42:GLN:OE1	2:L:80:THR:OG1	2.30	0.49
1:A:81:HIS:CE1	1:A:83:PRO:HG2	2.47	0.49
1:A:845:GLN:OE1	2:E:115:GLU:N	2.43	0.49
1:A:984:ARG:O	1:A:988:LEU:HG	2.12	0.49
1:X:1442:LYS:N	1:Y:1565:ASN:O	2.42	0.49
1:A:228:PHE:O	1:A:430:HIS:N	2.46	0.49
1:A:793:ALA:HB3	2:C:113:LEU:HD22	1.95	0.49
2:C:102:SER:HA	2:C:136:GLN:HG2	1.93	0.49
1:H:799:TYR:HA	2:J:43:ASN:HD22	1.77	0.49
1:H:1039:GLU:O	1:H:1043:HIS:ND1	2.46	0.49
2:M:141:GLN:O	2:M:145:MET:HG2	2.13	0.49
1:A:799:TYR:CE2	2:C:86:ILE:HG12	2.48	0.49
2:B:37:MET:HE2	2:B:42:GLN:HB2	1.95	0.49
2:C:55:GLU:OE1	2:C:75:ARG:NH1	2.46	0.49
2:C:100:TYR:CZ	2:C:138:ASN:HB2	2.47	0.49
2:J:27:THR:HG22	2:J:65:ASP:HB3	1.93	0.49
1:Y:1516:VAL:HG13	1:Y:1520:ARG:HE	1.77	0.49
1:A:949:LYS:HE2	1:H:950:LEU:HD11	1.95	0.48
2:B:51:ASP:HA	2:B:54:ASN:ND2	2.29	0.48
2:K:33:LEU:HB2	2:K:64:ILE:HD13	1.94	0.48
2:K:51:ASP:HA	2:K:54:ASN:ND2	2.28	0.48
1:A:585:PHE:HB3	1:A:588:LEU:HB2	1.95	0.48
1:A:837:ARG:O	1:A:841:THR:HG23	2.13	0.48
2:E:31:LYS:HD2	2:E:32:GLN:HG3	1.95	0.48
1:H:38:LEU:HB2	1:H:50:TYR:HD2	1.78	0.48
1:H:261:ILE:HA	1:H:264:GLN:HG2	1.95	0.48
1:H:798:ARG:O	2:J:38:ARG:NH1	2.46	0.48
1:H:935:LYS:O	1:H:938:GLU:HG2	2.13	0.48
2:J:145:MET:HG2	2:J:149:LYS:HE2	1.95	0.48
1:A:377:HIS:HD2	1:A:390:PRO:HG3	1.79	0.48
1:A:798:ARG:NH1	2:C:81:ASP:OD1	2.40	0.48
1:H:10:PHE:N	1:H:27:LEU:O	2.47	0.48
1:H:121:GLU:HA	1:H:124:ILE:HD12	1.95	0.48
1:Y:1666:PHE:HD1	1:Y:1717:LEU:HD21	1.78	0.48
1:A:94:ILE:O	1:A:97:LYS:NZ	2.27	0.48
1:A:831:ARG:HG2	2:D:149:LYS:HD3	1.96	0.48
2:E:29:THR:O	2:E:33:LEU:N	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1726:LEU:HD21	1:X:1756:LEU:HD21	1.95	0.48
2:C:38:ARG:NH1	2:C:46:GLU:OE1	2.33	0.48
1:H:817:ALA:HB1	2:K:89:ALA:HB1	1.96	0.48
2:K:13:PHE:HB3	2:K:69:PHE:HE2	1.78	0.48
2:D:102:SER:HB3	2:D:105:GLN:HE21	1.78	0.48
2:G:15:GLU:O	2:G:19:LEU:HG	2.13	0.48
1:H:12:ARG:NH2	1:H:66:ASP:OD1	2.45	0.48
1:H:862:ARG:HG2	2:M:93:PHE:HE1	1.79	0.48
1:A:829:VAL:O	1:A:832:ARG:HG2	2.14	0.48
2:F:42:GLN:HB2	2:F:76:LYS:HE3	1.96	0.48
2:F:83:GLU:HA	2:F:86:ILE:HG22	1.96	0.48
2:F:132:ASP:OD1	2:F:132:ASP:N	2.46	0.48
1:H:239:MET:HE3	1:H:416:VAL:HG13	1.96	0.48
2:N:38:ARG:HH12	2:N:49:LEU:HD21	1.79	0.48
2:N:65:ASP:C	2:N:67:PRO:HD2	2.33	0.48
1:X:1693:ARG:NH2	1:X:1728:GLN:OE1	2.46	0.48
2:G:10:ILE:HD13	2:G:13:PHE:HE2	1.79	0.48
1:H:720:LEU:HB2	1:H:726:THR:HB	1.94	0.48
1:H:847:TYR:CE2	2:L:146:MET:HE3	2.49	0.48
1:A:1012:ARG:O	1:A:1015:LYS:HG3	2.14	0.48
1:H:448:SER:OG	1:H:567:LYS:HE3	2.14	0.48
1:H:799:TYR:CE2	2:J:86:ILE:HG12	2.49	0.48
1:H:814:ARG:HE	2:K:113:LEU:HD11	1.79	0.48
1:X:1783:ASP:N	1:X:1783:ASP:OD1	2.46	0.48
2:B:84:GLU:HA	2:B:87:ARG:HE	1.78	0.48
2:E:120:GLU:HG2	2:E:121:GLU:N	2.29	0.48
1:H:72:ASN:HA	1:H:92:ARG:HH22	1.79	0.48
1:H:790:GLN:HG2	2:J:113:LEU:HD11	1.96	0.48
2:K:100:TYR:CZ	2:K:138:ASN:HB2	2.49	0.48
2:N:110:MET:SD	2:N:122:VAL:HG22	2.53	0.48
1:Y:1487:PHE:CZ	1:Y:1544:TYR:HB2	2.49	0.48
1:Y:1686:TRP:O	1:Y:1689:GLY:N	2.47	0.48
1:H:102:TYR:CE1	1:H:107:LEU:HD13	2.49	0.47
1:H:228:PHE:HB3	1:H:232:TYR:HA	1.96	0.47
2:M:33:LEU:HD22	2:M:64:ILE:HB	1.96	0.47
2:G:87:ARG:HE	2:G:143:VAL:HG11	1.79	0.47
2:G:138:ASN:HB3	2:G:141:GLN:HG3	1.97	0.47
1:H:379:LYS:NZ	1:H:575:GLU:HG2	2.29	0.47
1:H:806:ARG:NH2	2:J:149:LYS:OXT	2.47	0.47
2:N:139:TYR:O	2:N:143:VAL:HG23	2.14	0.47
1:A:1053:THR:O	1:A:1056:MET:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:122:VAL:HA	2:B:125:MET:HE3	1.95	0.47
2:E:64:ILE:HD12	2:E:69:PHE:HA	1.97	0.47
1:H:792:ALA:HB1	2:J:93:PHE:HB2	1.95	0.47
1:A:124:ILE:HG23	1:A:179:TYR:CD2	2.50	0.47
1:H:661:ILE:HD12	1:H:680:GLN:HB3	1.96	0.47
2:K:20:PHE:HA	2:K:22:LYS:HE2	1.96	0.47
1:X:1700:GLU:HG3	1:X:1704:ARG:NH2	2.29	0.47
1:A:257:ARG:HB3	1:A:263:TYR:CE1	2.49	0.47
1:A:264:GLN:NE2	1:A:304:GLU:OE1	2.48	0.47
2:G:145:MET:HA	2:G:148:ALA:HB3	1.95	0.47
1:A:724:LYS:NZ	1:A:744:GLY:O	2.47	0.47
1:A:857:TYR:CE2	2:E:36:VAL:HG12	2.49	0.47
1:A:871:LYS:HE2	2:F:45:THR:HG23	1.96	0.47
2:C:99:GLY:HA2	2:C:139:TYR:CZ	2.50	0.47
1:H:847:TYR:OH	2:L:147:THR:OG1	2.18	0.47
1:Y:1451:GLU:HB2	1:Y:1826:ALA:HB3	1.97	0.47
1:A:15:ILE:HD11	1:A:40:LEU:HD22	1.96	0.47
1:A:346:ASP:OD1	1:A:347:SER:N	2.48	0.47
1:A:798:ARG:HD2	2:C:43:ASN:O	2.15	0.47
1:A:822:GLN:HG2	2:D:117:LEU:HD21	1.96	0.47
1:A:853:THR:HA	1:A:856:ARG:HE	1.80	0.47
1:A:1009:ILE:O	1:A:1012:ARG:HG3	2.15	0.47
2:D:123:ASP:HB3	2:D:127:ARG:NH1	2.30	0.47
1:H:27:LEU:HD21	1:H:38:LEU:HD22	1.96	0.47
1:H:343:ARG:HG2	1:H:348:CYS:HA	1.96	0.47
1:H:865:LYS:O	1:H:869:ILE:HG12	2.15	0.47
1:H:896:PHE:O	1:H:899:MET:HG3	2.14	0.47
1:X:1539:HIS:CE1	1:X:1805:ASN:HB3	2.50	0.47
1:X:1690:MET:SD	1:X:1690:MET:N	2.87	0.47
1:X:1747:LEU:O	1:X:1784:ARG:NH1	2.33	0.47
1:Y:1666:PHE:HA	1:Y:1669:VAL:HG12	1.96	0.47
1:A:199:SER:O	1:A:202:ILE:N	2.47	0.47
1:A:470:PHE:CD1	1:A:489:PHE:HB2	2.49	0.47
1:H:124:ILE:HG23	1:H:179:TYR:CD1	2.50	0.47
1:H:526:LYS:HA	1:H:529:ASN:HD21	1.79	0.47
1:H:800:VAL:HG11	2:J:125:MET:HE3	1.96	0.47
1:Y:1584:GLN:HA	1:Y:1587:VAL:HG12	1.97	0.47
1:A:801:ARG:HD2	2:C:38:ARG:CZ	2.45	0.47
1:H:307:HIS:O	1:H:310:GLN:HG3	2.15	0.47
1:H:376:CYS:SG	1:H:393:LYS:NZ	2.83	0.47
1:H:650:LEU:HA	1:H:653:THR:HG22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:829:VAL:HG12	1:H:833:ARG:HH21	1.80	0.47
2:J:145:MET:O	2:J:149:LYS:HG3	2.14	0.47
2:K:51:ASP:HA	2:K:54:ASN:HD21	1.79	0.47
1:A:193:GLU:OE2	1:A:234:ILE:HG21	2.15	0.46
1:A:702:THR:HB	1:A:705:GLU:HB3	1.97	0.46
2:F:90:PHE:HB3	2:F:139:TYR:CD1	2.51	0.46
2:G:83:GLU:OE2	2:G:149:LYS:NZ	2.39	0.46
2:N:146:MET:O	2:N:149:LYS:HG3	2.16	0.46
1:A:114:GLU:HG3	1:A:669:PRO:HB3	1.97	0.46
1:A:470:PHE:O	1:A:473:GLU:HG2	2.16	0.46
1:A:864:TYR:O	1:A:868:ILE:HG13	2.16	0.46
2:E:38:ARG:HG2	2:E:44:PRO:HD2	1.97	0.46
1:H:287:TYR:CZ	1:H:336:GLY:HA2	2.50	0.46
1:Y:1506:LEU:HB3	1:Y:1571:TYR:CE1	2.50	0.46
1:A:918:TYR:OH	1:H:922:HIS:HB3	2.15	0.46
1:H:815:THR:HB	2:K:113:LEU:HD22	1.98	0.46
1:H:911:GLU:OE1	1:H:913:ARG:NH2	2.48	0.46
1:Y:1666:PHE:CE1	1:Y:1699:LEU:HD12	2.50	0.46
1:Y:1706:LYS:HB3	1:Y:1708:LEU:HG	1.97	0.46
1:A:37:VAL:HG23	1:A:51:ARG:HA	1.96	0.46
1:H:189:GLU:OE2	1:H:233:ARG:HB3	2.14	0.46
1:H:210:LYS:HB3	1:H:257:ARG:HB3	1.97	0.46
1:H:342:SER:OG	1:H:344:ASP:O	2.30	0.46
1:H:826:ARG:CZ	2:K:38:ARG:HH21	2.29	0.46
1:Y:1771:VAL:HA	1:Y:1774:ILE:HD13	1.98	0.46
1:A:12:ARG:NH1	1:A:66:ASP:OD1	2.44	0.46
1:A:988:LEU:HD22	1:H:992:ILE:HD12	1.97	0.46
1:A:1009:ILE:HG22	1:H:1009:ILE:HG22	1.97	0.46
1:H:261:ILE:HA	1:H:264:GLN:HE21	1.79	0.46
1:H:587:MET:HA	1:H:587:MET:HE2	1.98	0.46
2:J:122:VAL:O	2:J:126:ILE:HG13	2.16	0.46
2:M:13:PHE:HB3	2:M:69:PHE:CZ	2.50	0.46
1:Y:1722:GLN:NE2	1:Y:1744:CYS:HA	2.30	0.46
1:A:916:GLU:OE2	1:A:917:ARG:NE	2.49	0.46
2:F:40:LEU:HD23	2:F:76:LYS:HD3	1.98	0.46
2:G:40:LEU:HD11	2:G:69:PHE:CZ	2.50	0.46
2:I:66:PHE:CZ	2:I:70:LEU:HD21	2.51	0.46
2:K:94:ASP:HA	2:K:101:ILE:HD12	1.96	0.46
2:B:141:GLN:O	2:B:145:MET:HG3	2.16	0.46
1:H:99:ILE:O	1:H:109:ALA:HA	2.16	0.46
1:H:776:THR:HA	2:I:43:ASN:ND2	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:1068:GLU:HA	1:H:1071:LEU:HB3	1.97	0.46
1:X:1704:ARG:HA	1:X:1709:MET:HE1	1.97	0.46
2:D:51:ASP:HA	2:D:54:ASN:HD21	1.79	0.46
1:H:190:ALA:O	1:H:193:GLU:HG3	2.16	0.46
1:H:857:TYR:CZ	1:H:861:LEU:HD11	2.51	0.46
2:M:126:ILE:HA	2:M:131:ILE:HB	1.98	0.46
1:X:1433:PRO:HB3	1:Y:1507:THR:HG22	1.98	0.46
1:Y:1449:MET:HB2	1:Y:1828:VAL:HB	1.98	0.46
1:Y:1568:LEU:HB3	1:Y:1571:TYR:HB3	1.98	0.46
1:Y:1686:TRP:CD1	1:Y:1728:GLN:HA	2.50	0.46
1:A:149:GLN:HG2	1:A:654:THR:HG21	1.98	0.46
2:E:30:THR:HG22	2:E:56:VAL:HG11	1.98	0.46
2:F:103:ALA:O	2:F:107:ARG:HG2	2.16	0.46
2:G:9:GLN:HG3	2:G:13:PHE:CZ	2.50	0.46
1:H:662:LYS:O	1:H:680:GLN:NE2	2.49	0.46
1:H:676:ARG:O	1:H:680:GLN:HG3	2.16	0.46
2:K:42:GLN:HG3	2:K:73:MET:SD	2.56	0.46
2:M:45:THR:HG22	2:M:47:ALA:H	1.81	0.46
2:N:84:GLU:O	2:N:87:ARG:HG2	2.16	0.46
2:N:128:GLU:HG3	2:N:142:PHE:CE1	2.51	0.46
1:Y:1490:VAL:HG12	1:Y:1563:LEU:HD21	1.97	0.46
1:A:171:VAL:HG12	1:A:175:TYR:CE2	2.51	0.46
1:A:1041:LEU:O	1:A:1045:ILE:HG13	2.16	0.46
1:A:1054:GLU:HB3	1:A:1058:ARG:CZ	2.46	0.46
2:B:122:VAL:HA	2:B:125:MET:CE	2.46	0.46
2:E:123:ASP:HB3	2:E:127:ARG:CZ	2.46	0.46
1:H:157:GLN:HB2	1:H:433:ILE:HG13	1.98	0.46
2:I:131:ILE:HA	2:I:137:VAL:HG21	1.97	0.46
2:J:17:PHE:O	2:J:21:ASP:N	2.49	0.46
1:A:823:LYS:O	1:A:827:MET:HE2	2.15	0.45
2:D:33:LEU:HD22	2:D:64:ILE:HG13	1.97	0.45
1:H:73:ASP:HB3	1:H:76:ALA:HB2	1.98	0.45
1:H:344:ASP:OD1	1:H:347:SER:OG	2.26	0.45
2:J:69:PHE:O	2:J:73:MET:HG2	2.16	0.45
2:K:23:ASP:OD1	2:K:23:ASP:N	2.49	0.45
1:X:1437:VAL:HG21	1:Y:1571:TYR:HD1	1.80	0.45
1:X:1816:ILE:HD12	1:X:1822:LEU:HB2	1.98	0.45
1:A:848:LEU:HD22	2:E:125:MET:SD	2.56	0.45
2:B:68:GLN:O	2:B:72:MET:HG2	2.16	0.45
2:C:33:LEU:O	2:C:37:MET:HG2	2.15	0.45
2:L:90:PHE:O	2:L:94:ASP:N	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:109:VAL:HG13	2:L:113:LEU:HD12	1.97	0.45
1:Y:1502:VAL:O	1:Y:1506:LEU:HG	2.16	0.45
1:A:158:SER:N	1:A:654:THR:O	2.48	0.45
1:A:392:SER:HB3	1:A:395:GLN:HB2	1.98	0.45
2:B:30:THR:HG22	2:B:64:ILE:HD11	1.97	0.45
2:F:27:THR:HB	2:F:63:THR:HB	1.98	0.45
1:H:457:ALA:O	1:H:461:LEU:HG	2.17	0.45
1:H:865:LYS:HB3	2:M:89:ALA:HB1	1.98	0.45
1:H:874:ARG:HB3	2:M:38:ARG:CD	2.47	0.45
1:X:1444:LYS:HZ3	1:Y:1565:ASN:HA	1.81	0.45
1:A:7:TYR:OH	1:A:60:PRO:O	2.25	0.45
2:D:52:MET:O	2:D:56:VAL:HG23	2.16	0.45
2:D:143:VAL:O	2:D:146:MET:HB2	2.17	0.45
2:G:100:TYR:HB3	2:G:136:GLN:HB2	1.98	0.45
1:H:537:LEU:HD22	1:H:551:LYS:HD2	1.99	0.45
1:X:1452:TYR:HE2	1:X:1457:GLU:HB2	1.81	0.45
1:A:731:LEU:HD23	1:A:743:PHE:HE1	1.82	0.45
1:A:841:THR:HG22	2:E:109:VAL:CG1	2.46	0.45
2:C:90:PHE:HB3	2:C:139:TYR:CG	2.52	0.45
1:H:219:ARG:HB2	1:H:245:GLU:HB2	1.97	0.45
1:H:225:GLU:HB2	1:H:238:ASN:HB3	1.97	0.45
1:X:1817:PRO:HG2	1:X:1820:LEU:HD13	1.99	0.45
1:Y:1557:ARG:HG2	1:Y:1561:HIS:CE1	2.52	0.45
1:A:150:MET:HA	1:A:150:MET:HE3	1.99	0.45
1:A:473:GLU:O	1:A:476:GLU:HG3	2.17	0.45
1:A:804:GLN:HG3	2:C:125:MET:HE3	1.99	0.45
1:A:853:THR:HG22	1:A:856:ARG:HH21	1.81	0.45
1:A:854:ARG:HA	2:E:39:SER:HA	1.98	0.45
2:N:5:LEU:HD23	2:N:10:ILE:HB	1.99	0.45
2:E:104:ALA:HA	2:E:107:ARG:HG2	1.98	0.45
2:G:34:GLY:C	2:G:38:ARG:HE	2.20	0.45
1:H:780:TRP:CD1	2:I:146:MET:HA	2.52	0.45
2:I:56:VAL:HG11	2:I:64:ILE:HG13	1.99	0.45
2:J:10:ILE:HG12	2:J:70:LEU:HD22	1.99	0.45
2:J:14:LYS:HD3	2:J:66:PHE:CG	2.52	0.45
2:J:50:GLN:OE1	2:J:54:ASN:ND2	2.49	0.45
1:A:771:ILE:HA	1:A:774:GLN:NE2	2.32	0.45
2:B:19:LEU:HD13	2:C:113:LEU:HD12	1.99	0.45
1:H:157:GLN:O	1:H:434:GLY:N	2.48	0.45
1:H:897:ARG:HD2	2:N:38:ARG:NH2	2.32	0.45
2:I:40:LEU:HB2	2:I:42:GLN:HE22	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:131:ILE:HG23	2:M:137:VAL:HG22	1.98	0.45
2:N:5:LEU:HG	2:N:9:GLN:HB2	1.98	0.45
1:A:237:ALA:HB3	1:A:423:LEU:HD13	1.98	0.45
1:A:242:TYR:CD2	1:A:642:SER:HB2	2.49	0.45
1:A:520:ASP:OD1	1:A:561:CYS:HB3	2.17	0.45
2:D:45:THR:O	2:D:49:LEU:N	2.34	0.45
2:M:20:PHE:CD2	2:M:36:VAL:HG22	2.52	0.45
1:A:97:LYS:HB2	1:X:1757:ASN:ND2	2.28	0.45
1:A:1092:TYR:HD1	1:H:1095:LEU:HD11	1.82	0.45
2:E:123:ASP:HB3	2:E:127:ARG:NH2	2.31	0.45
2:G:142:PHE:O	2:G:146:MET:HG2	2.17	0.45
1:H:391:ILE:HG12	1:H:395:GLN:HB3	1.99	0.45
1:X:1556:SER:O	1:X:1560:GLU:HG3	2.17	0.45
1:Y:1730:LYS:HB3	1:Y:1732:LYS:HD2	1.99	0.45
1:A:103:CYS:SG	1:A:690:ILE:HD11	2.57	0.44
1:A:945:CYS:HA	1:A:948:GLU:OE1	2.17	0.44
2:D:10:ILE:HG23	2:D:66:PHE:CZ	2.52	0.44
1:H:889:ILE:HG12	2:N:113:LEU:HB3	1.99	0.44
2:C:76:LYS:HA	2:C:76:LYS:HD3	1.85	0.44
2:D:43:ASN:HD22	2:D:76:LYS:HE2	1.82	0.44
2:E:89:ALA:HA	2:E:92:VAL:HG12	1.98	0.44
1:X:1494:ASP:OD1	1:X:1565:ASN:HB2	2.18	0.44
1:A:720:LEU:HB2	1:A:726:THR:HG21	1.99	0.44
1:A:1003:ARG:O	1:A:1006:LYS:HG2	2.18	0.44
2:C:33:LEU:HB2	2:C:64:ILE:HG13	1.99	0.44
2:D:102:SER:HB2	2:D:136:GLN:HE22	1.81	0.44
1:H:26:GLU:HB2	1:H:41:HIS:HB3	1.99	0.44
2:J:82:SER:O	2:J:86:ILE:HG13	2.17	0.44
1:A:121:GLU:O	1:A:125:ASN:ND2	2.50	0.44
1:A:964:LEU:O	1:A:968:VAL:HG23	2.18	0.44
2:B:36:VAL:HA	2:B:39:SER:HB2	1.99	0.44
2:B:99:GLY:HA2	2:B:139:TYR:CE1	2.49	0.44
2:D:134:ASP:OD1	2:D:134:ASP:N	2.51	0.44
1:H:261:ILE:HA	1:H:264:GLN:NE2	2.32	0.44
1:H:825:TRP:CE2	2:K:142:PHE:HE2	2.35	0.44
2:M:124:GLU:HG2	2:M:127:ARG:HH22	1.82	0.44
1:Y:1670:GLY:O	1:Y:1720:LEU:HD21	2.17	0.44
1:A:502:LYS:HA	1:A:502:LYS:HD3	1.76	0.44
1:A:662:LYS:N	1:A:680:GLN:OE1	2.45	0.44
2:D:37:MET:SD	2:D:42:GLN:HG3	2.57	0.44
1:H:100:TYR:CD2	1:H:138:HIS:HA	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:822:GLN:HG3	2:K:110:MET:SD	2.57	0.44
1:H:870:GLN:HB2	2:M:117:LEU:HD11	2.00	0.44
1:X:1439:ILE:HG12	1:Y:1503:ARG:HE	1.83	0.44
1:X:1698:GLN:HA	1:X:1701:GLU:OE2	2.17	0.44
1:X:1779:MET:O	1:X:1782:ARG:HG2	2.17	0.44
1:A:64:ASN:ND2	1:A:79:TYR:O	2.50	0.44
1:A:374:TRP:CD1	1:A:579:VAL:HG11	2.52	0.44
1:A:480:GLU:HA	1:A:745:LYS:HE3	2.00	0.44
1:A:833:ARG:O	1:A:837:ARG:HG2	2.18	0.44
2:D:110:MET:HE2	2:D:117:LEU:HD11	2.00	0.44
2:J:93:PHE:CE1	2:J:109:VAL:HG11	2.53	0.44
1:A:874:ARG:HB3	2:F:38:ARG:HD3	1.99	0.44
2:G:129:ALA:HB3	2:G:131:ILE:HG13	1.99	0.44
1:H:169:LYS:HG3	1:H:170:THR:H	1.82	0.44
1:H:729:ASN:O	1:H:733:LYS:HG2	2.17	0.44
2:K:15:GLU:OE2	2:L:113:LEU:HD23	2.18	0.44
2:N:128:GLU:HG3	2:N:142:PHE:HE1	1.82	0.44
1:Y:1716:THR:O	1:Y:1719:PRO:HD2	2.18	0.44
1:A:166:GLY:O	1:A:214:ASN:ND2	2.50	0.44
1:A:703:TYR:HE1	1:A:748:ILE:HG13	1.83	0.44
1:A:985:VAL:HG21	1:H:984:ARG:HD3	1.99	0.44
2:B:27:THR:HA	2:B:64:ILE:O	2.17	0.44
1:H:578:LYS:O	1:H:581:LYS:HG2	2.18	0.44
1:H:764:ASP:OD1	1:H:767:ARG:NH2	2.44	0.44
1:H:798:ARG:HA	2:J:38:ARG:NH2	2.25	0.44
2:I:108:HIS:CE1	1:Y:1765:PHE:HE2	2.36	0.44
2:N:33:LEU:HD11	2:N:56:VAL:HG21	2.00	0.44
1:A:129:GLY:N	1:A:144:GLU:OE2	2.38	0.44
2:C:82:SER:O	2:C:86:ILE:HG13	2.18	0.44
1:H:1082:LEU:HD21	1:X:1581:GLN:HB2	2.00	0.44
1:X:1664:GLN:O	1:X:1668:ILE:HG12	2.18	0.44
1:X:1730:LYS:HD3	1:X:1732:LYS:HB3	1.99	0.44
1:Y:1475:VAL:HA	1:Y:1481:LEU:HD12	1.99	0.44
1:A:451:GLN:HE22	1:A:455:ASN:HD21	1.66	0.43
2:B:69:PHE:O	2:B:73:MET:HG2	2.17	0.43
1:H:406:HIS:CG	1:H:572:VAL:HG21	2.53	0.43
1:H:577:ILE:HG23	1:H:592:PHE:CG	2.53	0.43
1:H:694:ALA:HA	1:H:698:PRO:HG3	1.99	0.43
1:H:899:MET:HB3	2:N:146:MET:SD	2.58	0.43
1:A:850:GLY:HA3	2:E:43:ASN:OD1	2.18	0.43
1:A:889:ILE:HG12	2:G:113:LEU:CD2	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:107:ARG:HG3	2:C:122:VAL:HG11	1.99	0.43
2:E:123:ASP:HB3	2:E:127:ARG:HH22	1.83	0.43
2:F:33:LEU:O	2:F:37:MET:HG2	2.18	0.43
2:G:131:ILE:HG23	2:G:137:VAL:HB	2.00	0.43
1:Y:1556:SER:HA	1:Y:1559:ASN:HD22	1.82	0.43
1:A:273:GLU:OE1	1:A:309:ARG:NH1	2.45	0.43
1:A:550:ILE:HB	1:A:559:TYR:HE1	1.83	0.43
1:A:686:VAL:O	1:A:690:ILE:HG12	2.19	0.43
1:A:982:THR:O	1:A:985:VAL:HG12	2.18	0.43
2:E:87:ARG:HG2	2:E:143:VAL:HG11	2.00	0.43
2:E:94:ASP:HB2	2:E:139:TYR:OH	2.17	0.43
1:H:374:TRP:HE1	1:H:579:VAL:HG11	1.83	0.43
2:I:146:MET:HG3	2:I:147:THR:HG23	2.00	0.43
2:J:91:ARG:NH2	2:J:94:ASP:OD2	2.51	0.43
2:D:143:VAL:HA	2:D:146:MET:HG2	2.01	0.43
2:I:72:MET:SD	2:I:75:ARG:HD2	2.58	0.43
2:I:75:ARG:O	2:I:78:LYS:HB3	2.18	0.43
2:L:44:PRO:HB3	2:L:76:LYS:NZ	2.33	0.43
1:X:1537:PHE:HD2	1:X:1575:LEU:HD11	1.83	0.43
1:X:1666:PHE:HD1	1:X:1717:LEU:HD21	1.84	0.43
1:X:1674:LEU:HD23	1:X:1674:LEU:HA	1.87	0.43
1:A:378:ARG:HD2	1:A:573:PHE:CZ	2.53	0.43
1:A:387:TYR:HE2	1:A:389:LYS:HB2	1.83	0.43
1:A:443:THR:HG22	1:A:455:ASN:HD21	1.83	0.43
1:H:40:LEU:N	1:H:48:LEU:O	2.48	0.43
1:H:135:MET:SD	1:Y:1680:ARG:NE	2.92	0.43
1:H:203:MET:HA	1:H:206:ILE:HG12	2.00	0.43
2:M:66:PHE:CD1	2:M:67:PRO:HD3	2.54	0.43
1:A:497:ASN:O	1:A:501:SER:OG	2.32	0.43
1:A:523:TRP:NE1	1:A:527:LEU:HD21	2.34	0.43
1:A:585:PHE:CE2	1:A:587:MET:HB2	2.54	0.43
1:A:820:THR:HA	1:A:823:LYS:HE2	2.00	0.43
2:B:30:THR:HA	2:B:33:LEU:HB3	2.01	0.43
2:E:29:THR:OG1	2:E:32:GLN:OE1	2.27	0.43
2:G:10:ILE:HA	2:G:13:PHE:HD2	1.84	0.43
1:H:257:ARG:NH2	1:H:263:TYR:HB2	2.33	0.43
1:H:566:GLU:OE2	1:H:567:LYS:NZ	2.40	0.43
1:H:868:ILE:O	1:H:871:LYS:HG2	2.18	0.43
2:J:72:MET:HA	2:J:75:ARG:HE	1.84	0.43
2:N:38:ARG:NH2	2:N:49:LEU:HD11	2.31	0.43
1:A:898:ARG:HE	1:A:899:MET:CE	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:117:LEU:HB3	2:B:121:GLU:OE1	2.18	0.43
1:H:93:PHE:CD2	1:H:672:PHE:HB2	2.53	0.43
1:H:325:ILE:HG23	1:H:411:LEU:HD21	2.00	0.43
1:H:374:TRP:CE3	1:H:576:GLN:HG2	2.53	0.43
1:H:526:LYS:HA	1:H:529:ASN:ND2	2.34	0.43
1:H:812:LEU:HA	1:H:815:THR:HG22	2.01	0.43
1:X:1506:LEU:HD22	1:X:1571:TYR:CZ	2.54	0.43
1:Y:1779:MET:HG3	1:Y:1782:ARG:NH2	2.33	0.43
1:A:898:ARG:HD3	2:G:43:ASN:HB3	2.01	0.43
1:H:946:LEU:HD12	1:H:949:LYS:HB2	2.01	0.43
1:H:1014:ASP:HA	1:H:1017:LYS:HE2	2.01	0.43
1:X:1444:LYS:HE3	1:X:1444:LYS:HB2	1.85	0.43
1:X:1551:MET:HA	1:X:1554:ASN:ND2	2.33	0.43
1:Y:1640:GLN:HG3	1:Y:1644:PHE:CE2	2.54	0.43
1:A:846:SER:CB	2:E:45:THR:HA	2.48	0.43
1:A:1028:LYS:HZ2	1:H:1027:LEU:HD11	1.84	0.43
2:E:37:MET:CE	2:E:42:GLN:HB2	2.49	0.43
2:E:94:ASP:HB2	2:E:139:TYR:HH	1.84	0.43
1:H:155:ARG:NH2	1:H:652:ALA:O	2.52	0.43
1:H:353:LYS:N	1:H:368:TYR:OH	2.51	0.43
1:H:360:PHE:O	1:H:364:MET:HG3	2.18	0.43
1:H:699:SER:O	1:H:749:PHE:HA	2.19	0.43
1:H:847:TYR:HE2	2:L:146:MET:HE3	1.84	0.43
1:H:857:TYR:HB2	2:L:39:SER:HB3	2.01	0.43
1:H:862:ARG:HG2	2:M:93:PHE:CE1	2.54	0.43
2:L:14:LYS:HE2	2:L:66:PHE:CZ	2.54	0.43
2:N:11:ALA:O	2:N:15:GLU:HG2	2.18	0.43
1:X:1820:LEU:HB3	1:X:1822:LEU:HG	2.00	0.43
1:A:1016:TYR:CD2	1:H:1017:LYS:HG2	2.54	0.43
2:D:69:PHE:O	2:D:73:MET:HG2	2.19	0.43
1:X:1679:LEU:HD12	1:X:1679:LEU:O	2.19	0.43
1:A:158:SER:O	1:A:656:HIS:N	2.52	0.42
1:A:374:TRP:CH2	1:A:379:LYS:HB2	2.54	0.42
1:A:897:ARG:HA	1:A:900:MET:HG3	1.99	0.42
1:A:950:LEU:HD22	1:H:946:LEU:HD11	2.01	0.42
1:A:1052:MET:O	1:A:1055:THR:OG1	2.31	0.42
1:H:460:LYS:HD3	1:H:643:LEU:HD21	2.00	0.42
2:L:45:THR:O	2:L:49:LEU:N	2.40	0.42
2:N:37:MET:HG3	2:N:44:PRO:HB3	2.00	0.42
1:X:1502:VAL:HG11	1:X:1566:PHE:CZ	2.54	0.42
1:X:1602:MET:HG3	1:X:1603:LEU:HD22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:1461:VAL:O	1:Y:1465:ILE:N	2.44	0.42
1:A:325:ILE:HG23	1:A:411:LEU:HD21	2.00	0.42
1:A:1077:ARG:NH2	1:X:1573:GLN:HE22	2.17	0.42
2:D:101:ILE:HG12	2:D:105:GLN:HE22	1.84	0.42
1:H:913:ARG:NH2	2:N:19:LEU:HA	2.34	0.42
1:X:1475:VAL:HG12	1:X:1481:LEU:HB2	2.00	0.42
1:H:67:ILE:HD11	1:Y:1764:GLU:HA	2.02	0.42
1:H:699:SER:HB2	1:H:750:PHE:HB2	2.00	0.42
1:H:972:GLN:HA	1:H:975:GLU:HG2	2.01	0.42
2:J:104:ALA:O	2:J:107:ARG:HG3	2.19	0.42
1:X:1439:ILE:H	1:Y:1503:ARG:HH21	1.65	0.42
1:A:543:MET:SD	1:A:543:MET:N	2.93	0.42
1:A:772:ARG:NH2	2:B:85:GLU:HB3	2.34	0.42
1:A:897:ARG:NH1	2:G:115:GLU:OE2	2.51	0.42
1:H:806:ARG:NH2	2:J:41:GLY:HA2	2.33	0.42
2:N:64:ILE:HG13	2:N:65:ASP:N	2.35	0.42
1:Y:1484:TYR:CE2	1:Y:1809:LEU:HD22	2.54	0.42
1:Y:1599:VAL:HG13	1:Y:1676:ASN:ND2	2.34	0.42
1:A:102:TYR:CD2	1:A:137:PRO:HG3	2.55	0.42
1:A:193:GLU:OE2	1:A:234:ILE:HD13	2.19	0.42
1:A:204:GLU:HA	1:A:208:ASN:ND2	2.35	0.42
2:D:89:ALA:O	2:D:92:VAL:HG12	2.20	0.42
2:G:43:ASN:OD1	2:G:43:ASN:N	2.52	0.42
1:H:248:ARG:NH2	1:H:256:GLU:HG3	2.34	0.42
1:H:686:VAL:O	1:H:690:ILE:HG12	2.18	0.42
1:H:845:GLN:HA	1:H:848:LEU:HD12	2.00	0.42
1:H:889:ILE:HG23	1:H:893:GLN:HE22	1.84	0.42
2:I:33:LEU:HG	2:I:37:MET:HE1	2.00	0.42
2:J:144:GLN:O	2:J:147:THR:OG1	2.27	0.42
2:L:129:ALA:HB2	2:L:142:PHE:CD2	2.53	0.42
2:N:52:MET:HE1	2:N:75:ARG:HH11	1.84	0.42
2:N:64:ILE:HG13	2:N:65:ASP:H	1.84	0.42
1:Y:1487:PHE:HZ	1:Y:1544:TYR:HB2	1.83	0.42
2:F:91:ARG:HD2	2:F:139:TYR:HE1	1.85	0.42
2:F:143:VAL:O	2:F:147:THR:HG23	2.20	0.42
1:H:144:GLU:OE1	1:H:179:TYR:OH	2.34	0.42
1:H:246:LYS:HZ1	1:H:635:VAL:HG11	1.85	0.42
1:H:248:ARG:HD2	1:H:248:ARG:HA	1.74	0.42
1:H:770:CYS:HB3	2:I:113:LEU:HD22	2.02	0.42
2:K:142:PHE:O	2:K:146:MET:HG2	2.19	0.42
1:Y:1602:MET:HG3	1:Y:1673:THR:HG21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:121:GLU:HA	1:A:124:ILE:HD12	2.01	0.42
1:A:122:ASP:OD1	1:A:122:ASP:N	2.53	0.42
1:A:864:TYR:CE2	1:A:868:ILE:HD11	2.55	0.42
1:A:893:GLN:CD	2:G:113:LEU:HD22	2.40	0.42
2:B:42:GLN:HB3	2:B:76:LYS:HE2	2.00	0.42
2:C:5:LEU:HD13	2:C:13:PHE:HE2	1.84	0.42
2:D:145:MET:HA	2:D:148:ALA:HB3	2.01	0.42
2:E:13:PHE:CZ	2:E:73:MET:HB3	2.54	0.42
2:G:94:ASP:OD2	2:G:97:GLY:N	2.51	0.42
2:G:102:SER:HB2	2:G:136:GLN:HE22	1.85	0.42
1:H:477:TYR:O	1:H:482:ILE:N	2.45	0.42
1:H:904:GLU:O	1:H:907:LYS:HG3	2.19	0.42
2:I:75:ARG:HA	2:I:78:LYS:HE3	2.00	0.42
2:I:88:GLU:HA	2:I:91:ARG:HG2	2.01	0.42
2:N:118:THR:O	2:N:122:VAL:HG23	2.20	0.42
1:X:1448:GLY:C	1:X:1488:MET:HE2	2.40	0.42
1:X:1600:SER:HA	1:X:1604:GLU:HB2	2.02	0.42
1:X:1752:ILE:O	1:X:1756:LEU:HD23	2.19	0.42
1:Y:1544:TYR:HE1	1:Y:1558:GLN:HB3	1.85	0.42
1:Y:1674:LEU:HD21	1:Y:1747:LEU:HD21	2.01	0.42
1:A:14:TRP:HB3	1:A:22:TRP:HB3	2.01	0.42
1:A:222:LYS:NZ	1:A:239:MET:HB3	2.35	0.42
1:A:818:ALA:HB1	2:D:110:MET:HA	2.00	0.42
1:A:838:ARG:HG2	2:E:113:LEU:HD11	2.02	0.42
2:E:65:ASP:N	2:E:65:ASP:OD1	2.53	0.42
2:G:37:MET:SD	2:G:72:MET:HG3	2.60	0.42
2:G:117:LEU:HD23	2:G:117:LEU:HA	1.90	0.42
1:H:100:TYR:HB3	1:H:107:LEU:HD11	2.02	0.42
1:H:474:GLN:HG2	1:H:484:TRP:CE3	2.54	0.42
1:H:508:LEU:HB3	1:H:523:TRP:NE1	2.34	0.42
1:Y:1448:GLY:N	1:Y:1828:VAL:OXT	2.53	0.42
1:Y:1686:TRP:HD1	1:Y:1728:GLN:HA	1.84	0.42
1:A:186:SER:O	1:A:190:ALA:N	2.34	0.42
1:A:439:TYR:HE1	1:A:454:ILE:HG12	1.85	0.42
1:A:889:ILE:HG12	2:G:113:LEU:HD21	2.02	0.42
1:H:517:LYS:HE2	1:H:517:LYS:HB3	1.92	0.42
1:H:632:LYS:HA	1:H:632:LYS:HD3	1.81	0.42
1:H:799:TYR:HA	2:J:43:ASN:ND2	2.35	0.42
2:J:28:ILE:O	2:J:64:ILE:N	2.53	0.42
2:M:137:VAL:HG11	2:M:142:PHE:CZ	2.53	0.42
2:N:109:VAL:HA	2:N:113:LEU:HD13	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:100:TYR:CD2	1:A:138:HIS:HA	2.54	0.42
1:A:675:LYS:HD2	1:A:675:LYS:HA	1.78	0.42
1:A:861:LEU:O	1:A:865:LYS:HG2	2.20	0.42
1:A:894:CYS:SG	2:G:43:ASN:HB2	2.60	0.42
1:A:899:MET:HB3	1:A:903:ARG:NH1	2.35	0.42
2:E:51:ASP:HA	2:E:54:ASN:HD21	1.84	0.42
1:H:256:GLU:O	1:H:291:GLY:HA3	2.19	0.42
1:H:799:TYR:OH	2:J:85:GLU:OE1	2.22	0.42
1:H:921:LEU:O	1:H:925:MET:HG3	2.19	0.42
2:K:69:PHE:O	2:K:73:MET:HG2	2.19	0.42
2:L:46:GLU:HG3	2:L:115:GLU:HB3	2.02	0.42
2:N:72:MET:SD	2:N:73:MET:N	2.93	0.42
1:X:1754:LYS:HG3	1:X:1758:LEU:HD23	2.02	0.42
1:Y:1470:PRO:HB3	1:Y:1529:PHE:CD2	2.55	0.42
1:A:78:SER:OG	1:A:752:ALA:O	2.26	0.41
1:A:198:ALA:O	1:A:201:PRO:HD2	2.19	0.41
1:A:374:TRP:CZ3	1:A:379:LYS:HB2	2.55	0.41
1:A:1035:LYS:HE3	1:A:1035:LYS:HB2	1.81	0.41
2:D:6:THR:HG22	2:D:8:GLU:H	1.86	0.41
1:H:796:VAL:HG22	2:J:90:PHE:CE1	2.55	0.41
1:H:823:LYS:O	1:H:826:ARG:HG2	2.19	0.41
1:A:764:ASP:HA	1:A:767:ARG:HE	1.85	0.41
1:H:171:VAL:HG13	1:H:175:TYR:CD2	2.55	0.41
1:H:476:GLU:HA	1:H:479:LYS:HE3	2.01	0.41
2:I:28:ILE:HG12	2:I:36:VAL:HG21	2.01	0.41
2:I:119:ASP:OD1	2:I:119:ASP:N	2.53	0.41
2:K:140:GLU:HA	2:K:143:VAL:HG12	2.00	0.41
1:A:797:GLN:HB3	1:A:801:ARG:NH2	2.36	0.41
1:A:1024:VAL:HG13	1:A:1028:LYS:HZ2	1.85	0.41
2:G:20:PHE:CD2	2:G:36:VAL:HG22	2.55	0.41
2:I:76:LYS:HE3	2:I:76:LYS:HB3	1.92	0.41
2:J:13:PHE:HB3	2:J:69:PHE:CE2	2.55	0.41
2:L:42:GLN:HG3	2:L:76:LYS:HB3	2.01	0.41
1:X:1547:GLU:HB3	1:X:1550:PHE:HD2	1.86	0.41
1:X:1600:SER:HB3	1:X:1632:TYR:HD2	1.85	0.41
1:Y:1664:GLN:O	1:Y:1668:ILE:HG12	2.20	0.41
1:Y:1773:PHE:O	1:Y:1777:ILE:HG12	2.20	0.41
1:A:378:ARG:HH21	1:A:380:LEU:HD11	1.85	0.41
1:H:772:ARG:O	1:H:775:LYS:HG2	2.20	0.41
1:H:954:GLU:O	1:H:958:ASN:ND2	2.53	0.41
2:K:74:ALA:HA	2:K:77:MET:CE	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:560:GLN:HB3	1:A:562:GLU:OE1	2.21	0.41
1:A:971:LEU:HB3	1:H:971:LEU:HB3	2.02	0.41
1:H:1079:GLN:HE22	1:X:1799:PRO:HA	1.85	0.41
2:M:3:ASP:HB2	2:M:74:ALA:HB1	2.02	0.41
2:M:33:LEU:O	2:M:37:MET:HG2	2.20	0.41
2:M:103:ALA:HB3	2:M:133:GLY:HA2	2.02	0.41
1:A:189:GLU:O	1:A:193:GLU:OE1	2.39	0.41
1:A:822:GLN:HE21	2:D:117:LEU:HG	1.86	0.41
1:A:910:ILE:HG12	1:A:911:GLU:H	1.84	0.41
2:C:17:PHE:CE2	2:C:66:PHE:HD1	2.38	0.41
1:H:566:GLU:OE2	1:H:567:LYS:HG3	2.21	0.41
1:H:578:LYS:HG3	1:H:581:LYS:HE3	2.02	0.41
1:H:820:THR:O	1:H:823:LYS:HG3	2.19	0.41
1:H:873:VAL:HG22	2:M:125:MET:SD	2.60	0.41
2:I:132:ASP:H	2:I:137:VAL:HG21	1.85	0.41
1:X:1450:LEU:HD12	1:X:1489:CYS:N	2.36	0.41
1:X:1516:VAL:HG11	1:X:1530:TRP:NE1	2.35	0.41
1:X:1773:PHE:O	1:X:1777:ILE:HG12	2.21	0.41
1:A:785:ARG:O	1:A:789:MET:HG2	2.21	0.41
1:A:799:TYR:CD2	2:C:86:ILE:HG12	2.56	0.41
1:A:886:MET:O	1:A:889:ILE:HG22	2.20	0.41
2:F:103:ALA:HA	2:F:106:LEU:HD12	2.03	0.41
1:H:111:ASN:HA	1:H:112:PRO:HD3	1.93	0.41
1:H:252:GLN:CD	1:H:290:GLN:HB2	2.40	0.41
1:H:804:GLN:NE2	2:J:121:GLU:HB3	2.33	0.41
2:N:20:PHE:CE2	2:N:32:GLN:HG2	2.56	0.41
1:X:1763:ASN:HB2	1:X:1765:PHE:CE1	2.55	0.41
1:A:22:TRP:CD1	1:A:83:PRO:HB3	2.56	0.41
1:A:521:ASP:HB3	1:A:546:LYS:HE3	2.03	0.41
2:C:29:THR:O	2:C:33:LEU:N	2.48	0.41
2:C:36:VAL:O	2:C:40:LEU:HG	2.20	0.41
1:H:829:VAL:HG22	1:H:832:ARG:HH11	1.85	0.41
1:H:841:THR:HG22	1:H:845:GLN:HE21	1.86	0.41
1:H:1080:ASN:HA	1:H:1083:ASN:ND2	2.36	0.41
2:L:99:GLY:O	2:L:138:ASN:HA	2.21	0.41
1:X:1469:LYS:HE3	1:X:1520:ARG:NH1	2.33	0.41
1:A:94:ILE:HD11	1:A:672:PHE:HB3	2.02	0.41
1:A:247:SER:HB2	1:A:567:LYS:NZ	2.36	0.41
1:A:474:GLN:HG3	1:A:484:TRP:CG	2.55	0.41
1:A:505:ILE:HA	1:A:527:LEU:HD22	2.02	0.41
1:A:587:MET:O	1:A:591:LEU:HG	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:851:TYR:HD1	2:E:146:MET:O	2.04	0.41
1:A:934:ARG:O	1:A:937:ASP:N	2.54	0.41
1:A:957:TYR:CD1	1:H:957:TYR:HB3	2.56	0.41
2:C:33:LEU:HD22	2:C:64:ILE:HG13	2.03	0.41
2:D:14:LYS:O	2:D:17:PHE:HB2	2.21	0.41
2:D:18:SER:HA	2:D:21:ASP:HB2	2.03	0.41
2:D:91:ARG:HG3	2:D:139:TYR:OH	2.21	0.41
2:D:100:TYR:CE1	2:D:138:ASN:HB2	2.56	0.41
2:D:124:GLU:HG3	2:D:127:ARG:HH21	1.85	0.41
2:E:16:ALA:HA	2:E:19:LEU:HD12	2.02	0.41
2:G:29:THR:HG23	2:G:32:GLN:H	1.86	0.41
1:H:122:ASP:OD1	1:H:122:ASP:N	2.54	0.41
1:H:243:LEU:HD11	1:H:639:PHE:HE1	1.86	0.41
1:H:329:LEU:HD21	1:H:411:LEU:HD23	2.02	0.41
1:H:477:TYR:HB3	1:H:482:ILE:O	2.21	0.41
1:H:775:LYS:NZ	2:I:81:ASP:OD2	2.40	0.41
1:H:814:ARG:NE	2:K:113:LEU:HD11	2.35	0.41
1:H:827:MET:CE	2:K:43:ASN:HA	2.48	0.41
1:H:884:ARG:HD2	2:N:92:VAL:HG11	2.02	0.41
1:H:963:LYS:HG3	1:H:964:LEU:N	2.35	0.41
2:I:53:ILE:O	2:I:57:ASP:HB2	2.21	0.41
2:K:22:LYS:H	2:K:22:LYS:HG2	1.67	0.41
2:N:102:SER:N	2:N:136:GLN:OE1	2.53	0.41
2:N:124:GLU:N	2:N:127:ARG:HH21	2.19	0.41
1:X:1439:ILE:HD11	1:Y:1503:ARG:HG3	2.02	0.41
1:A:663:PRO:HB2	1:A:671:THR:O	2.21	0.41
1:A:702:THR:HA	1:A:747:LYS:HG2	2.03	0.41
1:A:774:GLN:HE22	2:B:115:GLU:H	1.68	0.41
1:A:801:ARG:NH2	2:C:115:GLU:OE2	2.54	0.41
1:A:835:LYS:HA	1:A:835:LYS:HD2	1.97	0.41
1:A:1045:ILE:HG12	1:H:1045:ILE:CG1	2.51	0.41
2:G:10:ILE:HD13	2:G:13:PHE:CE2	2.56	0.41
2:G:37:MET:HE3	2:G:40:LEU:HD12	2.02	0.41
1:H:111:ASN:N	1:H:661:ILE:O	2.45	0.41
1:H:364:MET:SD	1:H:365:GLY:N	2.94	0.41
1:H:477:TYR:CD2	1:H:484:TRP:HA	2.54	0.41
2:I:73:MET:O	2:I:77:MET:HG2	2.21	0.41
2:L:74:ALA:HA	2:L:77:MET:HG3	2.03	0.41
1:X:1544:TYR:CE2	1:X:1811:LEU:HD11	2.56	0.41
1:A:219:ARG:O	1:A:245:GLU:HG3	2.21	0.40
1:A:585:PHE:HD2	1:A:588:LEU:HB2	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:771:ILE:O	1:A:774:GLN:HG2	2.20	0.40
2:B:91:ARG:HD3	2:B:139:TYR:CZ	2.56	0.40
2:C:100:TYR:HB3	2:C:136:GLN:HB3	2.03	0.40
2:E:84:GLU:HA	2:E:87:ARG:HG3	2.02	0.40
1:H:82:GLU:N	1:H:83:PRO:HD2	2.37	0.40
1:H:300:ASP:O	1:H:304:GLU:HG2	2.21	0.40
2:J:100:TYR:CZ	2:J:138:ASN:HB2	2.56	0.40
2:J:107:ARG:HD2	2:J:108:HIS:N	2.36	0.40
1:X:1655:PRO:HA	1:X:1658:ILE:HD12	2.03	0.40
1:Y:1532:SER:OG	1:Y:1651:HIS:HB3	2.21	0.40
1:Y:1588:ARG:O	1:Y:1591:GLU:HG3	2.21	0.40
1:A:782:LEU:HD23	1:A:782:LEU:HA	1.79	0.40
1:A:1073:ASP:O	1:A:1076:LEU:HG	2.21	0.40
1:A:1092:TYR:CD1	1:H:1095:LEU:HD11	2.56	0.40
2:E:119:ASP:OD1	2:E:119:ASP:N	2.54	0.40
1:H:208:ASN:OD1	1:H:260:HIS:ND1	2.54	0.40
1:H:539:GLU:HG2	1:H:549:ILE:HD12	2.03	0.40
1:H:921:LEU:HD22	2:N:66:PHE:HD2	1.85	0.40
2:I:113:LEU:HD12	1:Y:1765:PHE:CD1	2.57	0.40
2:L:28:ILE:HD12	2:L:33:LEU:HA	2.04	0.40
2:M:13:PHE:CD1	2:M:40:LEU:HD11	2.55	0.40
2:M:69:PHE:O	2:M:73:MET:HG2	2.22	0.40
1:X:1715:GLU:OE1	1:X:1715:GLU:N	2.50	0.40
1:A:583:SER:HB2	1:A:588:LEU:HD23	2.02	0.40
1:A:775:LYS:HE2	2:B:43:ASN:HB3	2.03	0.40
2:G:102:SER:N	2:G:136:GLN:OE1	2.54	0.40
1:H:219:ARG:HE	1:H:245:GLU:CD	2.24	0.40
1:H:931:GLN:HA	1:H:934:ARG:HD2	2.03	0.40
1:H:1053:THR:O	1:H:1056:MET:HB2	2.22	0.40
2:J:56:VAL:HG11	2:J:64:ILE:HD12	2.04	0.40
2:N:43:ASN:ND2	2:N:81:ASP:OD2	2.50	0.40
1:X:1473:VAL:O	1:X:1477:LEU:HG	2.21	0.40
1:X:1654:ASP:OD2	1:X:1656:GLU:HB2	2.22	0.40
1:Y:1635:ASP:O	1:Y:1639:ARG:NE	2.48	0.40
1:A:9:LYS:NZ	1:A:28:LEU:O	2.34	0.40
1:A:552:HIS:HB2	1:A:555:ASP:O	2.22	0.40
1:H:391:ILE:HG23	1:H:396:ALA:HB2	2.04	0.40
1:H:702:THR:HA	1:H:747:LYS:HG2	2.02	0.40
1:H:907:LYS:HD2	1:H:908:LEU:HG	2.04	0.40
2:N:110:MET:HB2	2:N:117:LEU:HD12	2.03	0.40
1:Y:1473:VAL:O	1:Y:1477:LEU:HG	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:420:ASN:HB3	1:A:424:HIS:CE1	2.57	0.40
1:A:477:TYR:CD2	1:A:484:TRP:HB3	2.57	0.40
1:A:827:MET:HG2	2:D:42:GLN:O	2.21	0.40
2:B:102:SER:HB3	2:B:105:GLN:HG2	2.04	0.40
2:F:13:PHE:HE1	2:F:40:LEU:HD11	1.85	0.40
1:H:21:VAL:HG21	1:H:678:VAL:HG21	2.03	0.40
1:H:498:LEU:HD11	1:H:531:HIS:NE2	2.37	0.40
2:M:65:ASP:HB3	2:M:67:PRO:HD2	2.04	0.40
1:X:1640:GLN:HG3	1:X:1644:PHE:CE2	2.56	0.40
1:Y:1683:MET:SD	1:Y:1683:MET: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	1063/1828 (58%)	1042 (98%)	21 (2%)	0	100	100
1	H	1055/1828 (58%)	1031 (98%)	24 (2%)	0	100	100
1	X	372/1828 (20%)	368 (99%)	4 (1%)	0	100	100
1	Y	369/1828 (20%)	362 (98%)	7 (2%)	0	100	100
2	B	145/149 (97%)	142 (98%)	3 (2%)	0	100	100
2	C	145/149 (97%)	142 (98%)	3 (2%)	0	100	100
2	D	145/149 (97%)	142 (98%)	3 (2%)	0	100	100
2	E	142/149 (95%)	139 (98%)	3 (2%)	0	100	100
2	F	145/149 (97%)	142 (98%)	3 (2%)	0	100	100
2	G	145/149 (97%)	143 (99%)	2 (1%)	0	100	100
2	I	145/149 (97%)	140 (97%)	5 (3%)	0	100	100
2	J	145/149 (97%)	143 (99%)	2 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	K	145/149 (97%)	140 (97%)	5 (3%)	0	100	100
2	L	142/149 (95%)	140 (99%)	2 (1%)	0	100	100
2	M	145/149 (97%)	142 (98%)	3 (2%)	0	100	100
2	N	146/149 (98%)	141 (97%)	5 (3%)	0	100	100
All	All	4594/9100 (50%)	4499 (98%)	95 (2%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	951/1644 (58%)	948 (100%)	3 (0%)	92	95
1	H	948/1644 (58%)	945 (100%)	3 (0%)	92	95
1	X	345/1644 (21%)	342 (99%)	3 (1%)	78	87
1	Y	343/1644 (21%)	340 (99%)	3 (1%)	78	87
2	B	126/127 (99%)	126 (100%)	0	100	100
2	C	126/127 (99%)	126 (100%)	0	100	100
2	D	126/127 (99%)	126 (100%)	0	100	100
2	E	123/127 (97%)	122 (99%)	1 (1%)	81	89
2	F	126/127 (99%)	125 (99%)	1 (1%)	81	89
2	G	126/127 (99%)	126 (100%)	0	100	100
2	I	126/127 (99%)	125 (99%)	1 (1%)	81	89
2	J	126/127 (99%)	126 (100%)	0	100	100
2	K	126/127 (99%)	126 (100%)	0	100	100
2	L	123/127 (97%)	122 (99%)	1 (1%)	81	89
2	M	126/127 (99%)	126 (100%)	0	100	100
2	N	126/127 (99%)	126 (100%)	0	100	100
All	All	4093/8100 (50%)	4077 (100%)	16 (0%)	91	94

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	586	LYS
1	A	920	LYS
1	A	1015	LYS
2	E	31	LYS
2	F	127	ARG
1	H	823	LYS
1	H	907	LYS
1	H	920	LYS
2	I	4	GLN
2	L	87	ARG
1	X	1435	ARG
1	X	1462	LYS
1	X	1497	ASN
1	Y	1434	ILE
1	Y	1438	ASN
1	Y	1639	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (24) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	125	ASN
1	A	200	ASN
1	A	451	GLN
1	A	474	GLN
1	A	552	HIS
1	A	725	GLN
1	A	729	ASN
1	A	754	GLN
1	A	774	GLN
1	A	1001	GLN
2	B	98	ASN
2	C	141	GLN
2	D	43	ASN
2	D	105	GLN
2	F	43	ASN
2	G	4	GLN
1	H	264	GLN
1	H	451	GLN
1	H	804	GLN
1	H	927	ASN
2	I	42	GLN

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Mol	Chain	Res	Type
2	J	43	ASN
2	N	50	GLN
1	X	1573	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

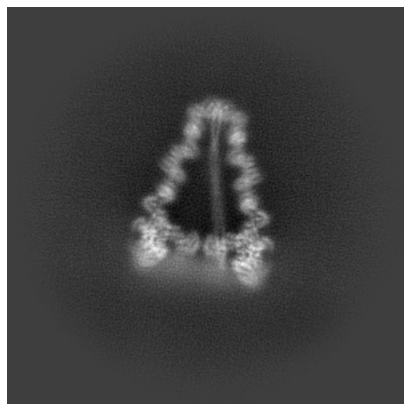
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-34121. These allow visual inspection of the internal detail of the map and identification of artifacts.

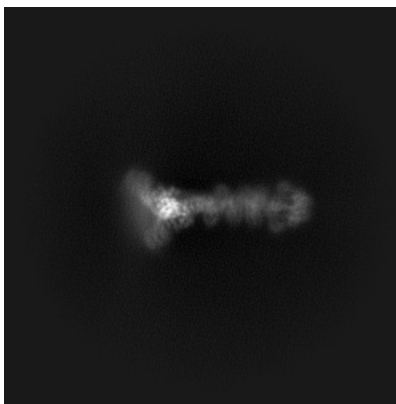
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

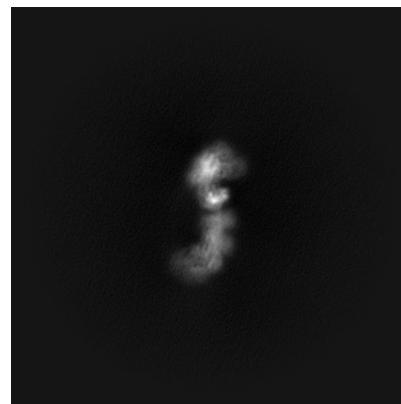
6.1.1 Primary map



X

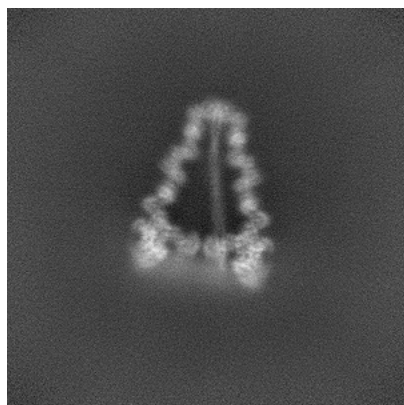


Y

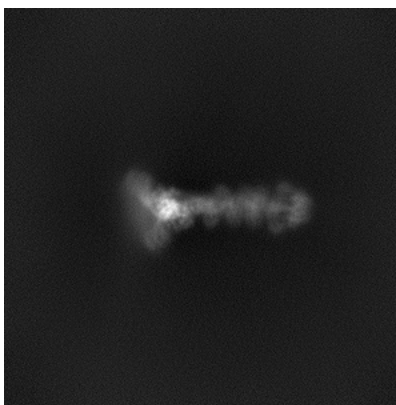


Z

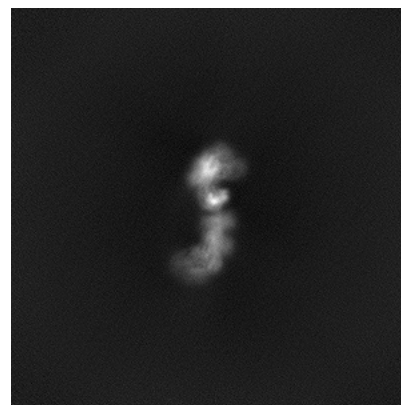
6.1.2 Raw map



X



Y

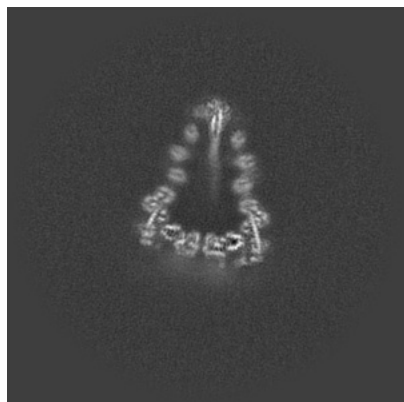


Z

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

6.2 Central slices [i](#)

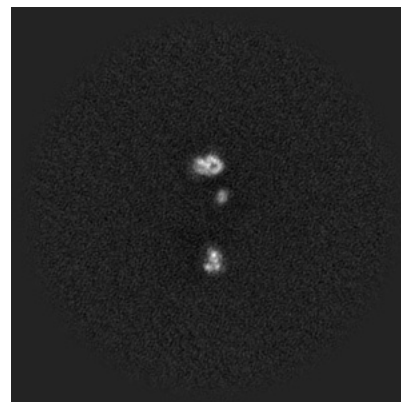
6.2.1 Primary map



X Index: 300

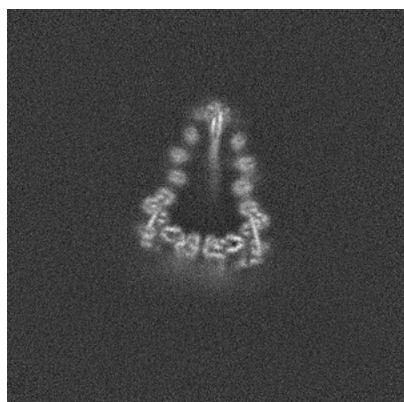


Y Index: 300

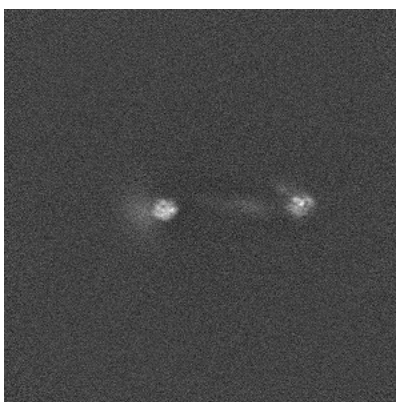


Z Index: 300

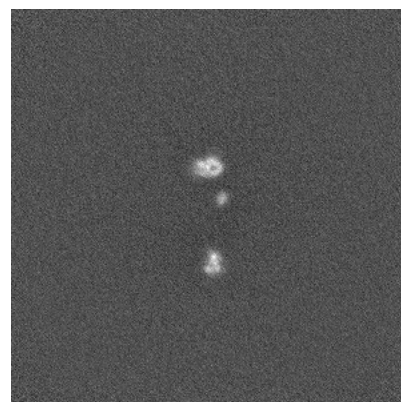
6.2.2 Raw map



X Index: 300



Y Index: 300

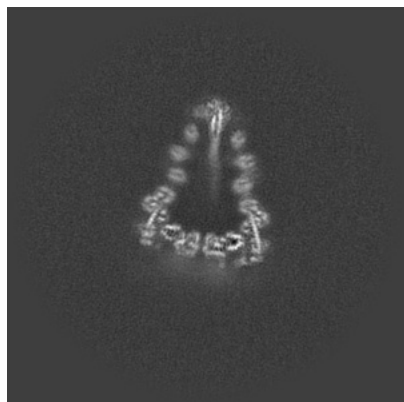


Z Index: 300

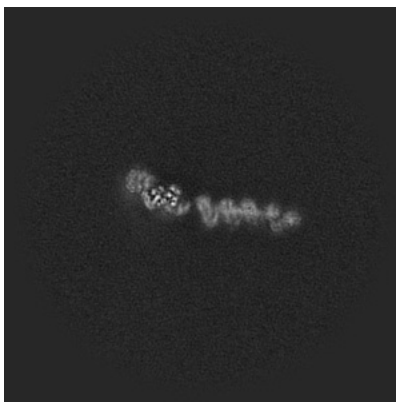
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

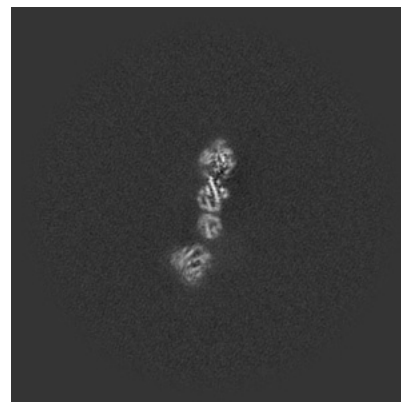
6.3.1 Primary map



X Index: 300

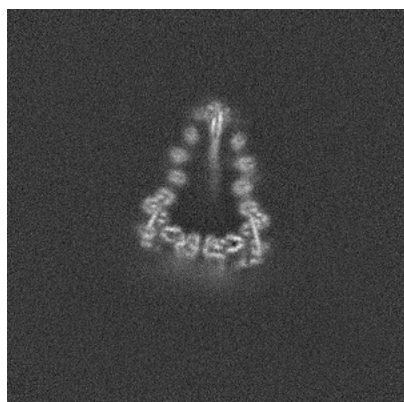


Y Index: 355

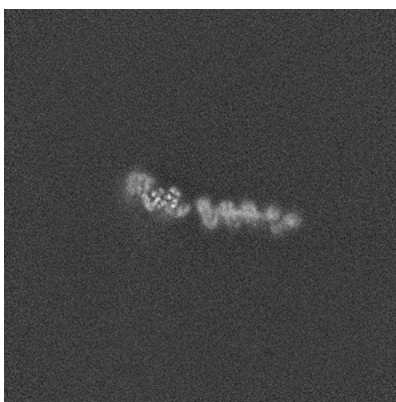


Z Index: 238

6.3.2 Raw map



X Index: 300



Y Index: 355

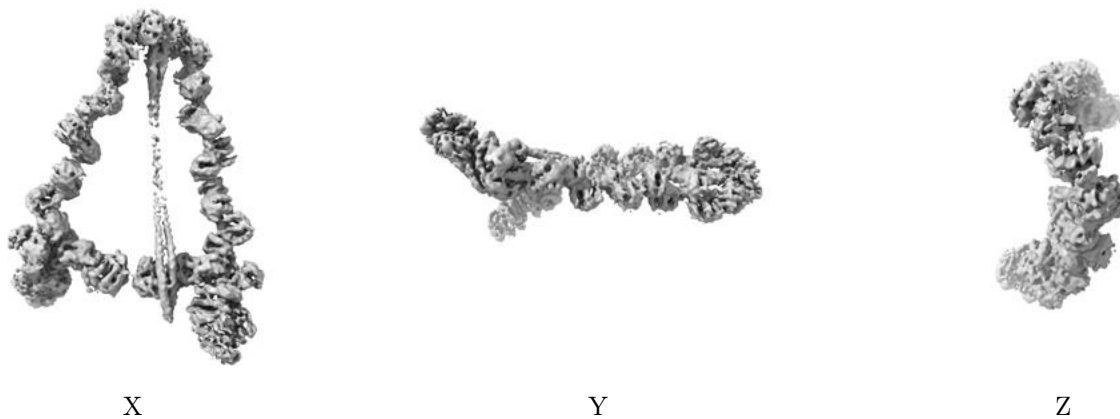


Z Index: 238

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

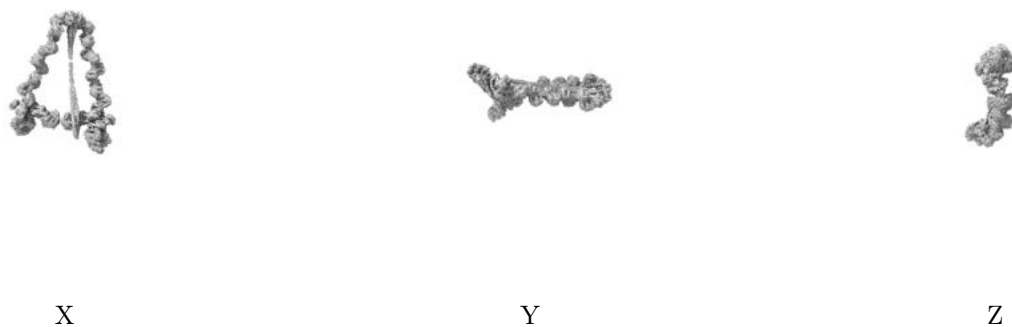
6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.35. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 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.

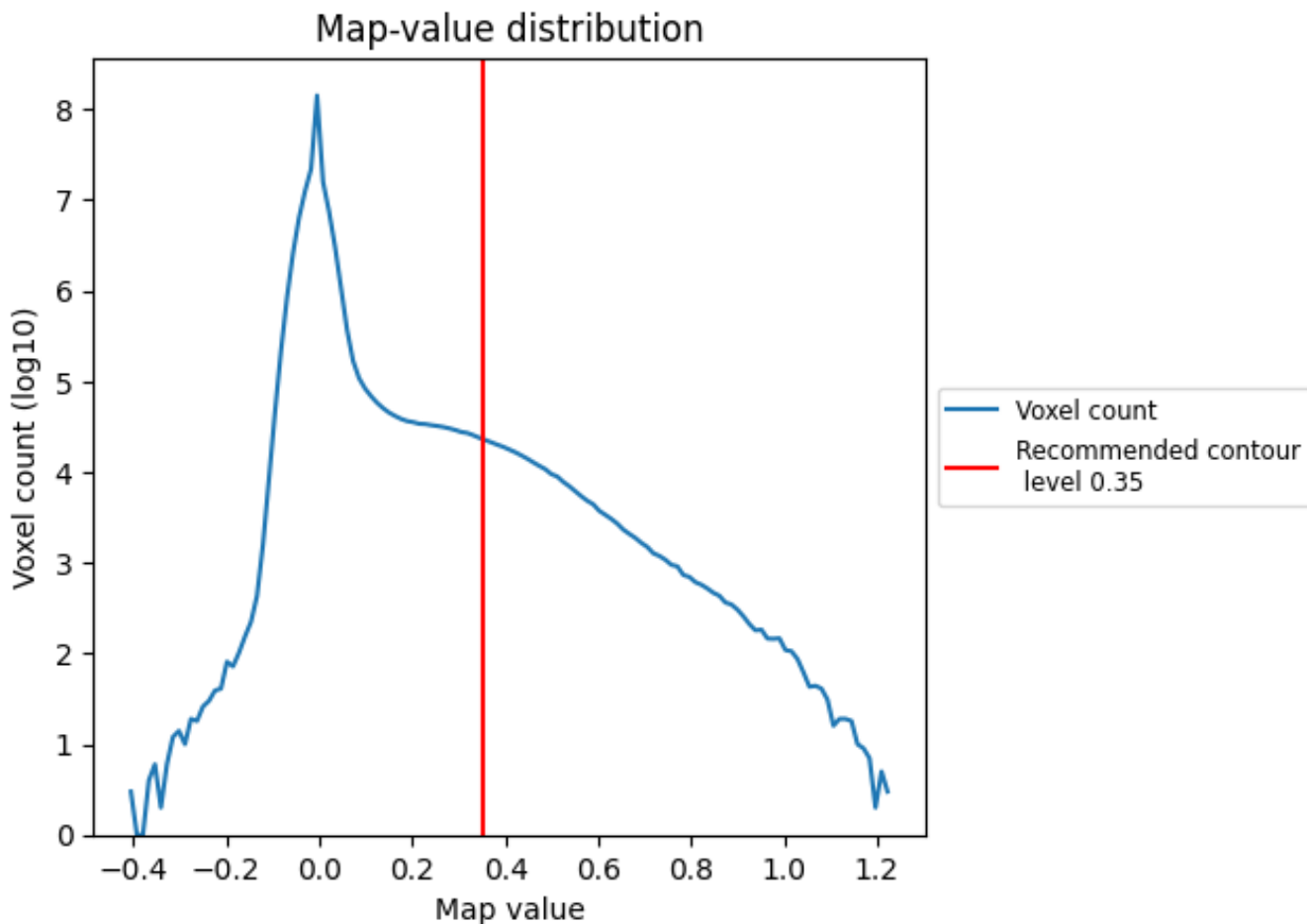
6.5 Mask visualisation [i](#)

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

7 Map analysis [i](#)

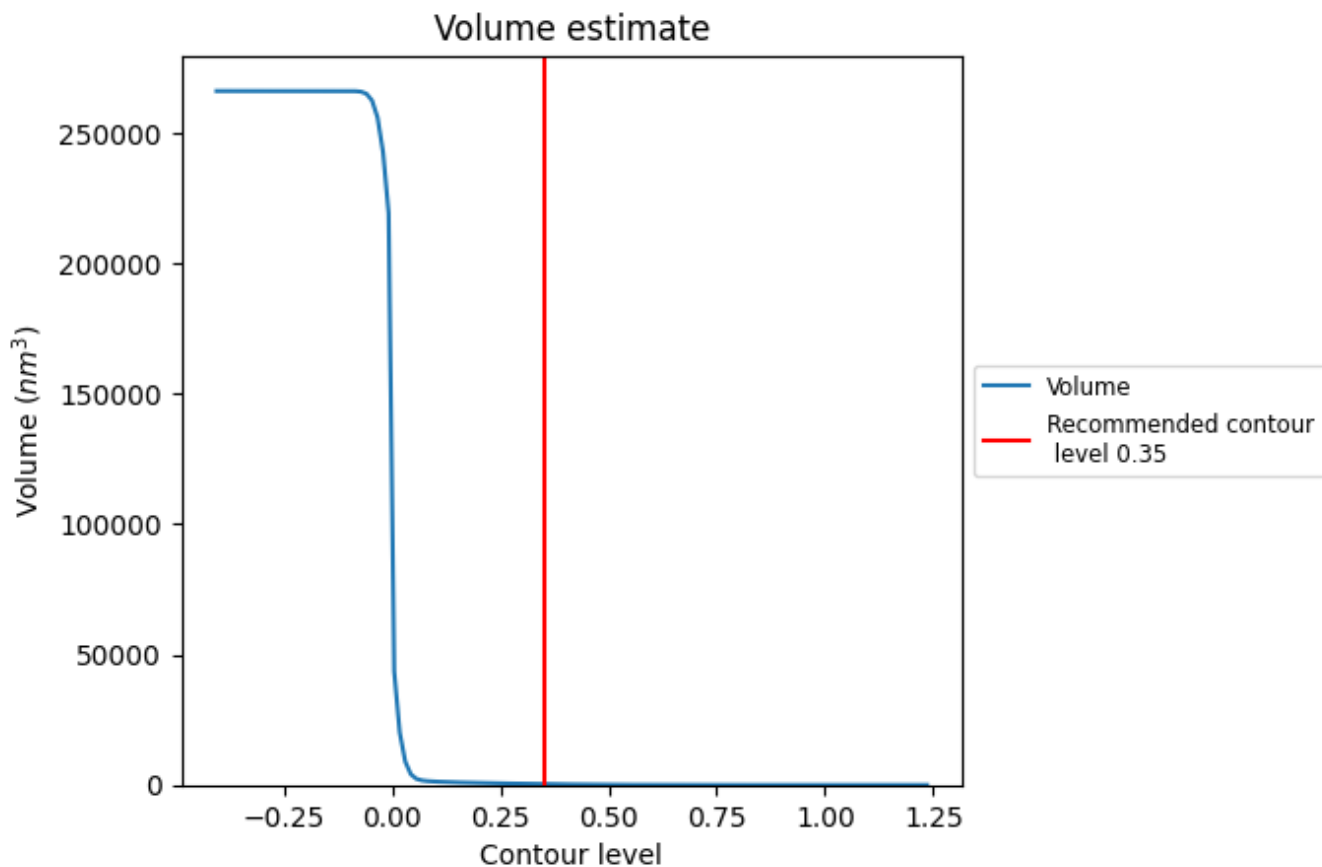
This section contains the results of statistical analysis of the map.

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.

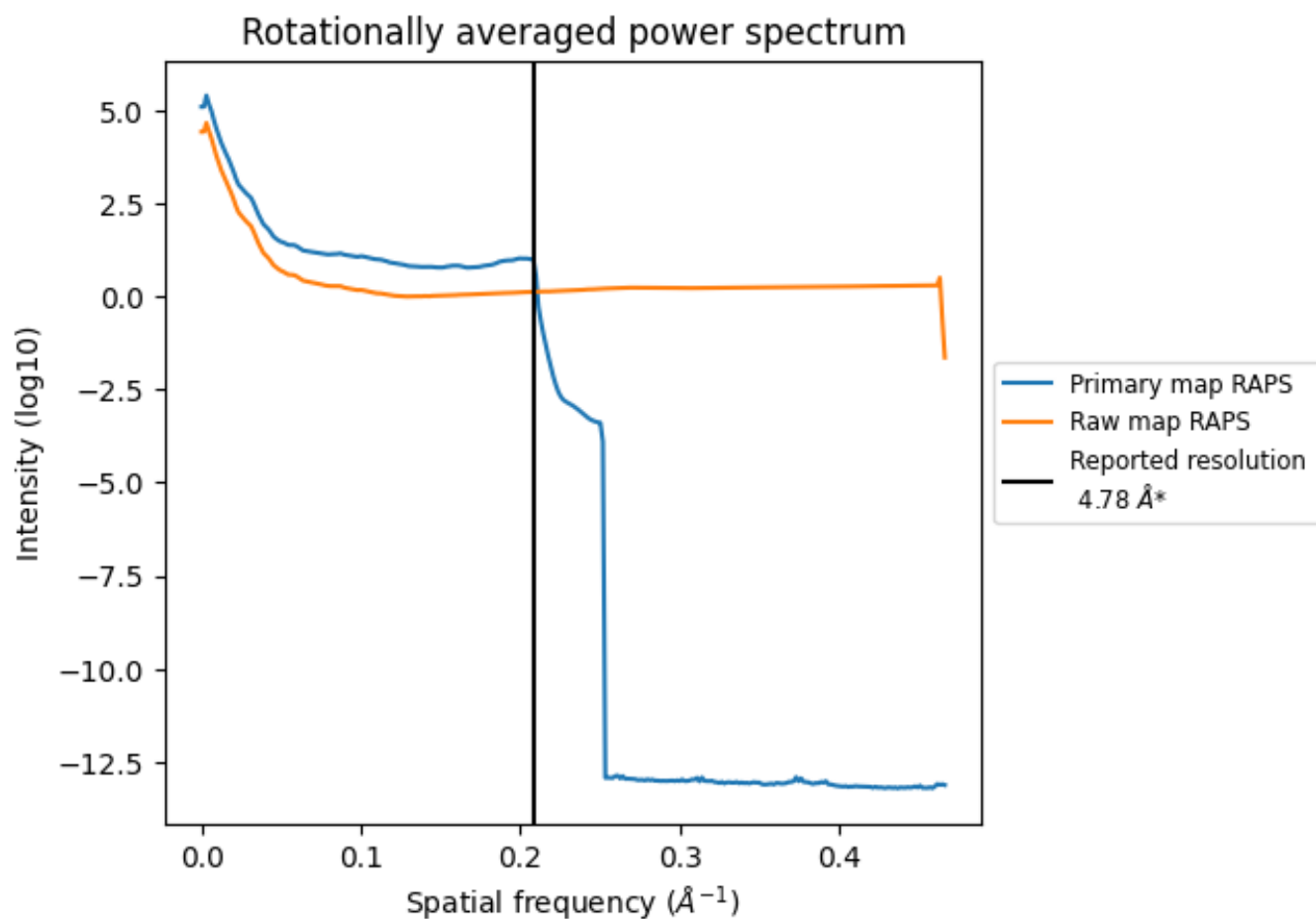
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 349 nm³; this corresponds to an approximate mass of 316 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](#)

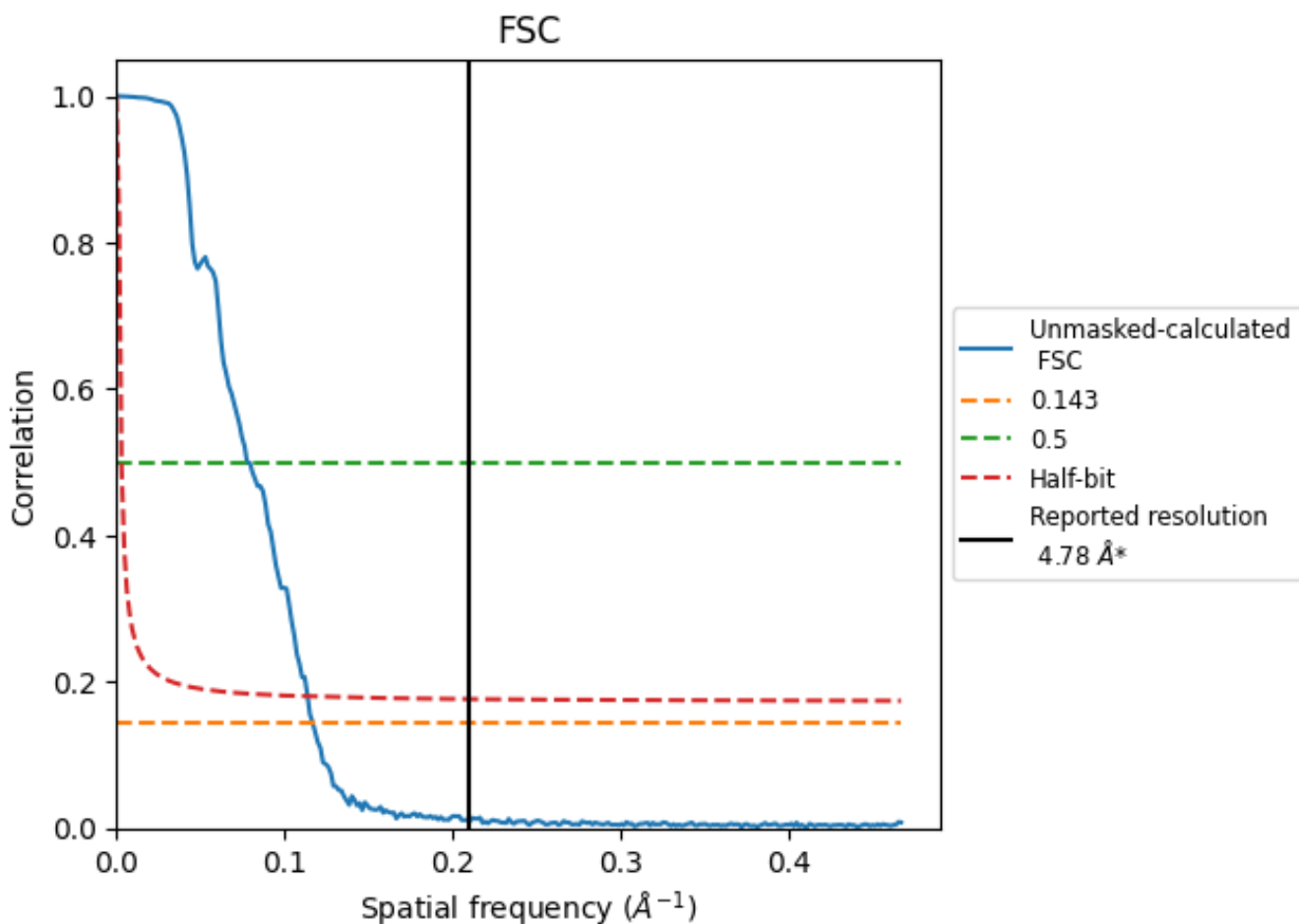


*Reported resolution corresponds to spatial frequency of 0.209 Å⁻¹

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 0.209 Å⁻¹

8.2 Resolution estimates [i](#)

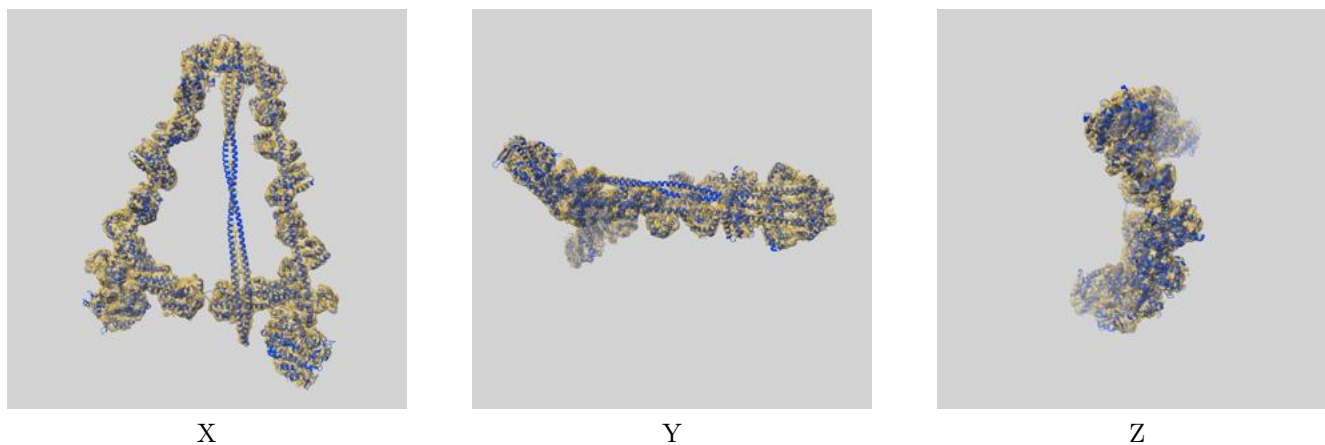
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.78	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	8.57	12.89	8.80

*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 8.57 differs from the reported value 4.78 by more than 10 %

9 Map-model fit [i](#)

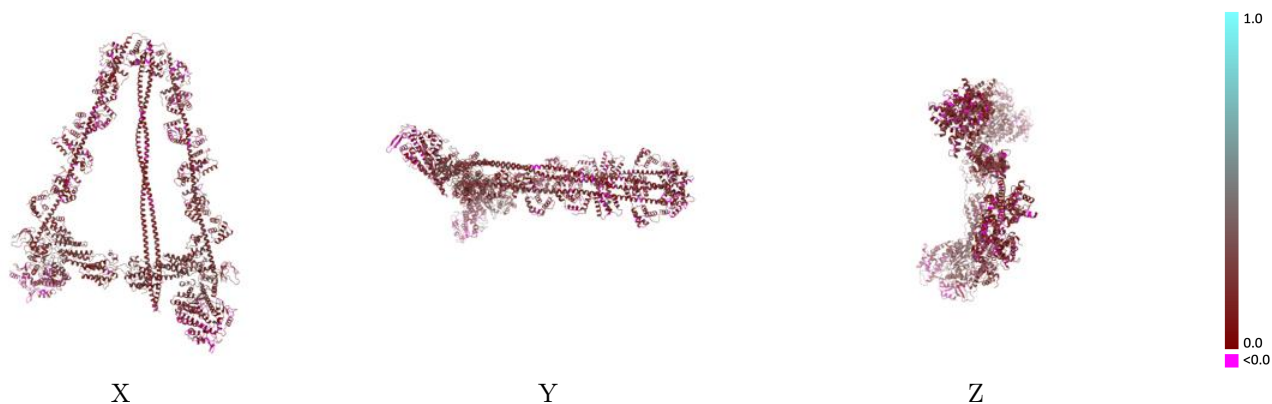
This section contains information regarding the fit between EMDB map EMD-34121 and PDB model 7YV9. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay [i](#)



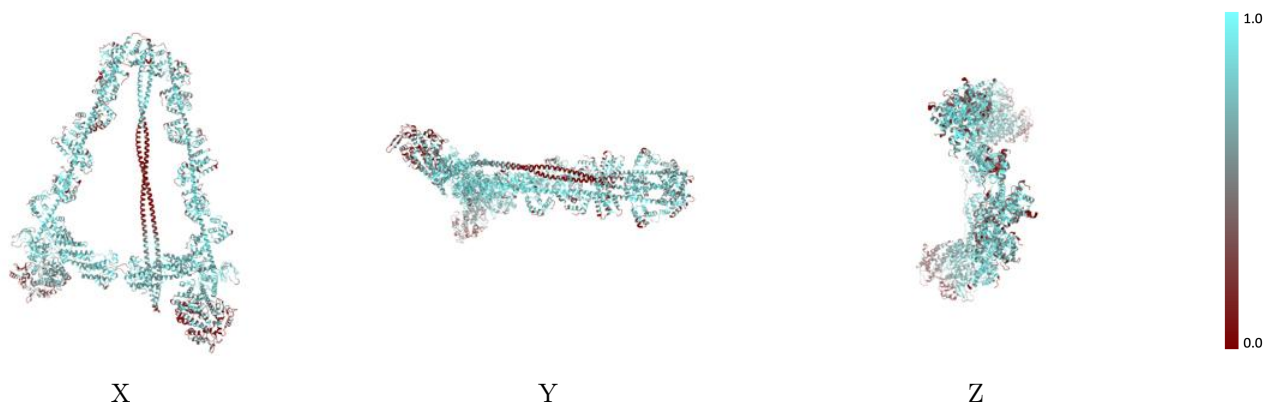
The images above show the 3D surface view of the map at the recommended contour level 0.35 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



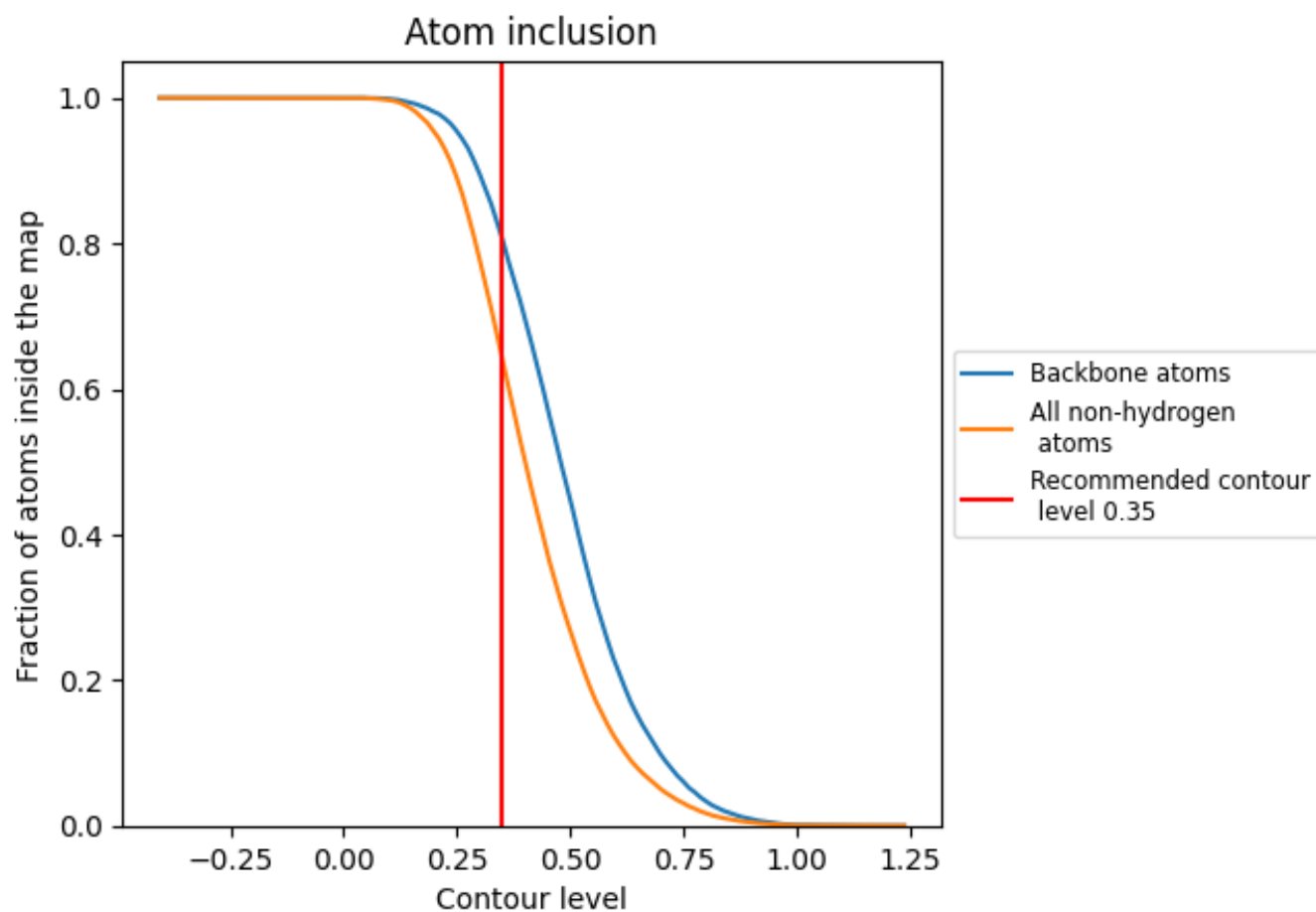
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.35).



































9.4 Atom inclusion [i](#)



At the recommended contour level, 81% 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 (0.35) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6403	 0.1890
A	 0.6009	 0.1860
B	 0.7419	 0.2130
C	 0.6966	 0.1830
D	 0.6643	 0.1590
E	 0.6328	 0.1340
F	 0.6434	 0.1610
G	 0.6513	 0.1720
H	 0.5662	 0.1750
I	 0.7384	 0.2100
J	 0.6652	 0.1720
K	 0.6539	 0.1540
L	 0.5829	 0.1360
M	 0.6225	 0.1690
N	 0.6337	 0.1640
X	 0.7585	 0.2640
Y	 0.7551	 0.2550

