



Full wwPDB EM Validation Report ⓘ

Feb 22, 2024 – 03:29 PM EST

PDB ID : 7K0S
EMDB ID : EMD-22615
Title : Cryo-EM structure of rabbit RyR1 in the presence of Mg²⁺ and AMP-PCP in nanodisc
Authors : Nayak, A.R.; Samso, M.
Deposited on : 2020-09-05
Resolution : 4.50 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

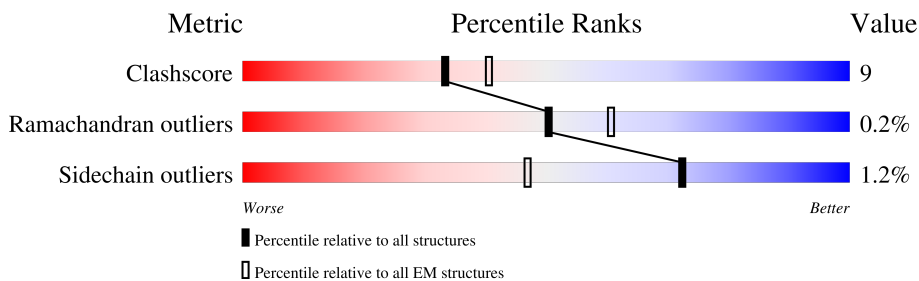
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.50 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	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	5037	
1	B	5037	
1	C	5037	
1	D	5037	

2 Entry composition [i](#)

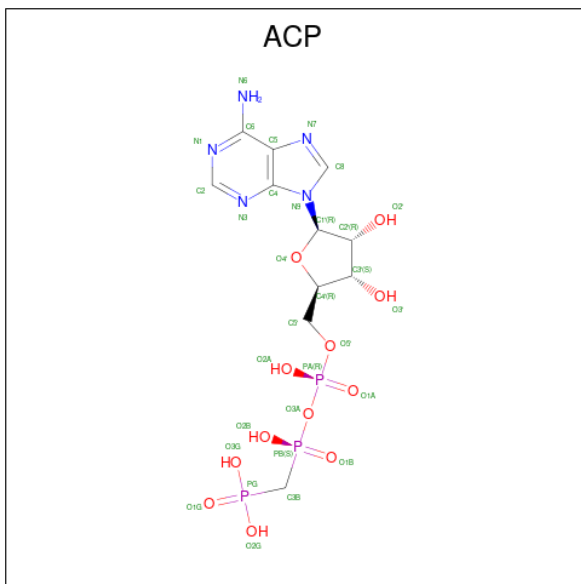
There are 4 unique types of molecules in this entry. The entry contains 115935 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 RyR1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	4110	Total	C	N	O	S	0	0
			28941	18335	5131	5318	157		
1	B	4110	Total	C	N	O	S	0	0
			28940	18334	5135	5315	156		
1	D	4110	Total	C	N	O	S	0	0
			28963	18348	5134	5324	157		
1	C	4110	Total	C	N	O	S	0	0
			28958	18354	5132	5317	155		

- Molecule 2 is PHOSPHOMETHYLPHOSPHONIC ACID ADENYLATE ESTER (three-letter code: ACP) (formula: $C_{11}H_{18}N_5O_{12}P_3$).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
2	A	1	Total	C	N	O	P	0
			31	11	5	12	3	
2	B	1	Total	C	N	O	P	0
			31	11	5	12	3	

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Mol	Chain	Residues	Atoms					AltConf
2	D	1	Total	C	N	O	P	0
			31	11	5	12	3	
2	C	1	Total	C	N	O	P	0
			31	11	5	12	3	

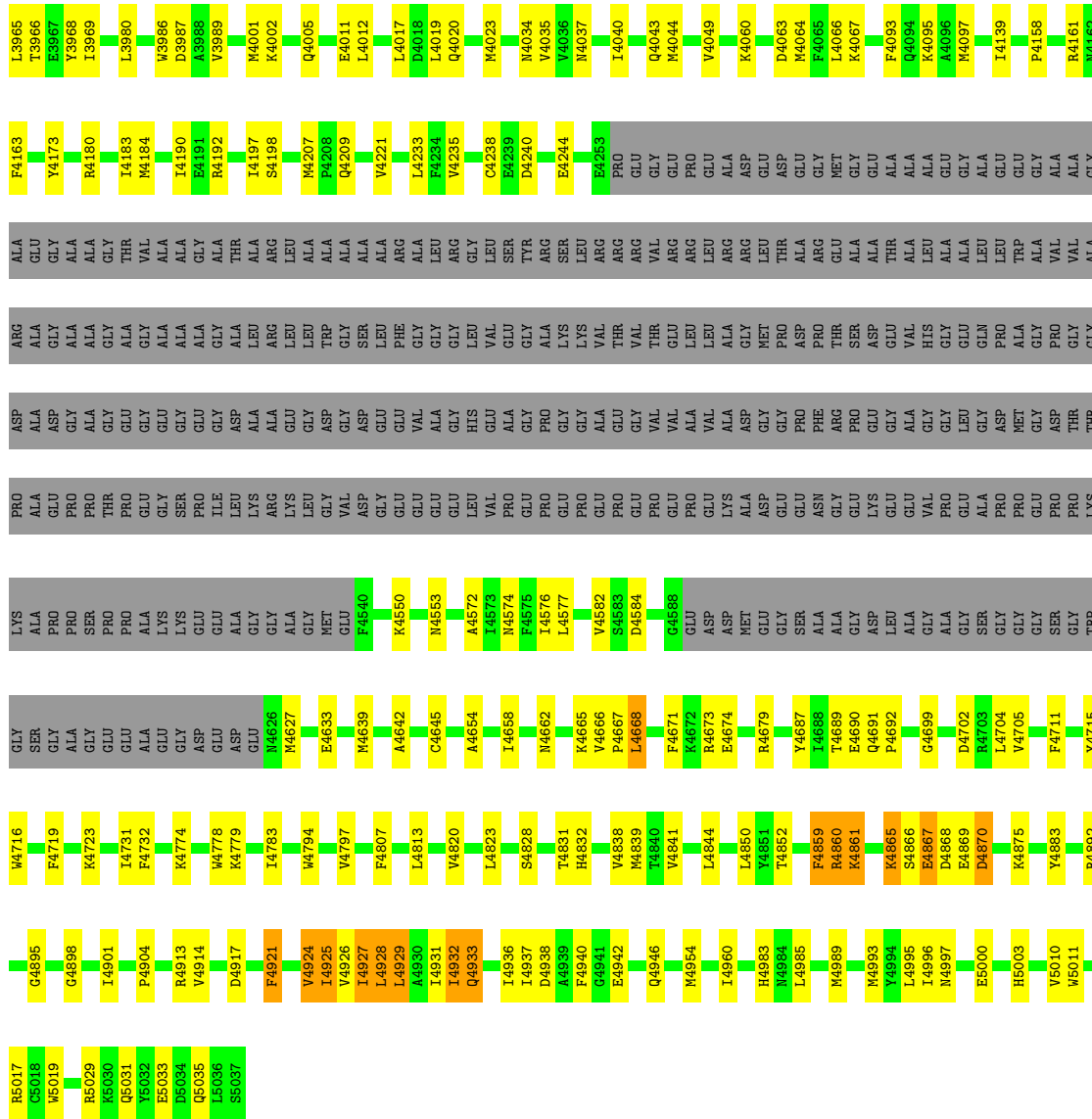
- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
3	A	1	Total	Zn	0
			1	1	
3	B	1	Total	Zn	0
			1	1	
3	D	1	Total	Zn	0
			1	1	
3	C	1	Total	Zn	0
			1	1	

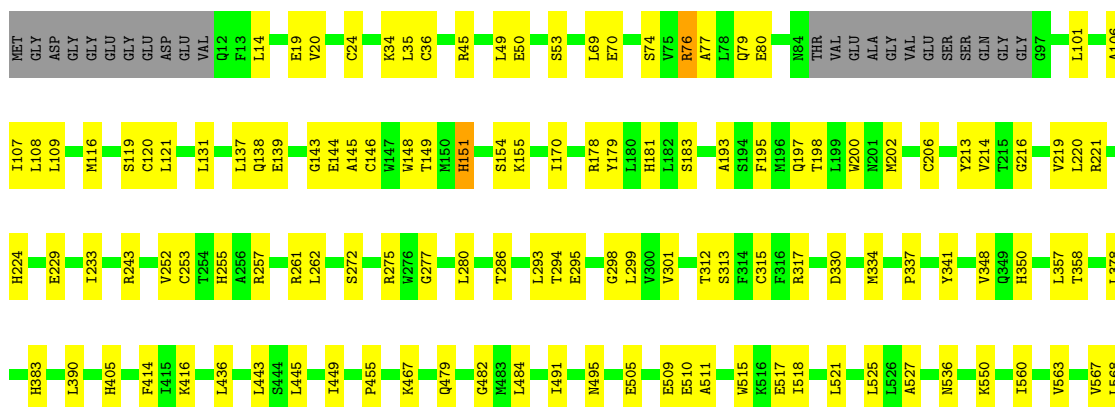
- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
4	A	1	Total	Mg	0
			1	1	
4	B	2	Total	Mg	0
			2	2	
4	D	1	Total	Mg	0
			1	1	
4	C	1	Total	Mg	0
			1	1	

K3821	E3670	X3406	UNK	UNK	L2904	GLU	LYS	ALA	PRO	L2257	E1874	C1724	L1600
K3824	V3702	X3410	UNK	UNK	T2912	LYS	ALA	THR	GLU	T2271	GLU	R1725	M1608
L3835	D3719	X3490	UNK	UNK	L2926	ARG	VAL	ASP	LEU	P2272	GLU	R1727	P1609
S3840	Y3722	X3491	UNK	UNK	E3339	GLY	ALA	ALA	GLU	L2273	GLU	I1735	B1614
N3845	N3729	X3492	UNK	UNK	GLY	GLU	GLU	GLU	GLU	A2276	GLU	V1736	VAL
R3849	N3741	X3493	UNK	UNK	N2734	GLU	F2735	P2477	L2286	L2286	GLU	L1737	GLU
A3853	GLY	X3494	UNK	UNK	D2736	THR	A2287	L2288	A2287	L2288	GLU	L1738	GLU
V3865	GLU	X3495	UNK	UNK	P2737	LYS	GLY	V2299	V2299	V2299	GLU	P1740	ARG
I3866	ALA	X3535	UNK	UNK	T2742	LYS	LYS	C2310	C2310	C2310	GLU	R1743	ALA
D3877	GLU	X3537	UNK	UNK	I2747	LYS	ASP	L2314	L2314	L2314	GLU	L1747	GLY
F3880	E3747	X3544	UNK	UNK	H2763	ARG	ALA	P2114	P2114	P2114	GLU	H1760	R1622
R3886	S3752	X3549	UNK	UNK	W2766	LYS	VAL	E2115	E2115	E2115	GLU	L1771	G1625
F3887	F3753	X3550	UNK	UNK	D2769	THR	X2487	Q2127	Q2127	Q2127	GLU	R1772	W1626
L3888	E3754	X3551	UNK	UNK	N2773	GLN	X2488	Y2128	Y2128	Y2128	GLU	A1784	A1627
Q3889	E3755	X3554	UNK	UNK	W2774	ALA	X2606	F2340	F2340	F2340	LYS	A1784	Q1631
L3890	K3756	X3561	UNK	UNK	W2776	THR	X2607	F2348	E2348	E2348	GLU	LEU	L1639
L3891	F3757	X3562	UNK	UNK	S2776	TTR	X2608	N2349	N2349	N2349	ASP	PRO	L1646
L3892	E3759	X3601	UNK	UNK	Y2777	ASP	X2641	L2356	L2356	L2356	GLU	ALA	R1647
F3899	K3760	X3613	UNK	UNK	Q2778	THR	X2642	I2358	I2358	I2358	GLU	GLY	C1647
Q3906	R3761	LYS	UNK	UNK	E2779	GLY	X2674	R2359	R2359	R2359	GLU	D1649	D1649
R3907	L3763	SER	UNK	UNK	N2780	GLY	X2679	F2364	F2364	F2364	GLU	E1652	E1652
I3913	L3764	LYS	UNK	UNK	W2781	ASN	X2688	L2376	L2376	L2376	LYS	R1651	R1651
L3924	F3765	LYS	UNK	UNK	D2782	PRO	X2689	A2367	A2367	A2367	GLU	L1667	L1667
Q3927	E3766	LYS	UNK	UNK	E2783	GLN	X2691	L2368	L2368	L2368	ASP	L1676	L1676
I3930	R3767	ALA	UNK	UNK	E2784	ALA	X2703	C2158	C2158	C2158	PRO	E1679	E1679
W3935	G3774	VAL	UNK	UNK	L2785	PRO	ALA	I2185	I2185	I2185	GLU	V1689	V1689
Y3937	A3775	TRP	UNK	UNK	K2786	ASP	ILE	L2188	L2188	L2188	GLU	P1840	P1840
D3941	E3777	HIS	UNK	UNK	H2788	LEU	ALA	R2188	R2188	R2188	GLU	V1841	V1841
E3944	M3778	LEU	UNK	UNK	P2789	LEU	GLY	F2191	F2191	F2191	PRO	L1843	L1843
G3947	V3779	ARG	UNK	UNK	R2792	LEU	ALA	GLY	GLY	GLY	GLY	T1847	T1847
M3955	L3805	CYS	UNK	UNK	P2793	PRO	PRO	PRO	PRO	PRO	GLU	V1850	V1850
V3957	L3805	PHE	UNK	UNK	Y2794	VAL	VAL	VAL	VAL	VAL	LYS	M1851	M1851
F3961	G3808	ARG	UNK	UNK	K2795	THR	TYR	ARG	ARG	ARG	GLU	G1852	G1852
F3962	N3809	VAL	UNK	UNK	T2796	VAL	ASP	ASP	ASP	ASP	THR	I1853	I1853
S3964	K3815	ALA	UNK	UNK	F2797	ASP	ALA	ARG	ARG	ARG	VAL	L1922	L1922
		ALA	UNK	UNK	K2800	ALA	ALA	LEU	LEU	LEU	ARG	M1929	M1929
		ALA	UNK	UNK	K2810	THR	THR	LEU	LEU	LEU	VAL	K1930	K1930
		ALA	UNK	UNK	E2896	SER	SER	GLU	GLU	GLU	VAL	L1931	L1931
		ALA	UNK	UNK	K2897	TYR	TYR	GLU	GLU	GLU	VAL	E1857	E1857
		ALA	UNK	UNK	G2898	SER	SER	GLU	GLU	GLU	VAL	Y1711	Y1711
		ALA	UNK	UNK	G2899	LYS	LYS	GLU	GLU	GLU	VAL	K1860	K1860
		ALA	UNK	UNK	G2900	PHE	PHE	GLU	GLU	GLU	VAL	Y1712	Y1712
		ALA	UNK	UNK	G2900	GLY	GLY	GLU	GLU	GLU	VAL	I1866	I1866
		ALA	UNK	UNK	G2900	ALA	ALA	GLU	GLU	GLU	VAL	E1867	E1867
		ALA	UNK	UNK	G2900	ALA	ALA	GLU	GLU	GLU	VAL	Y1719	Y1719
		ALA	UNK	UNK	G2900	ALA	ALA	GLU	GLU	GLU	VAL	H1720	H1720
		ALA	UNK	UNK	G2900	ALA	ALA	GLU	GLU	GLU	VAL	F1870	F1870
		ALA	UNK	UNK	G2900	ALA	ALA	GLU	GLU	GLU	VAL	F1871	F1871

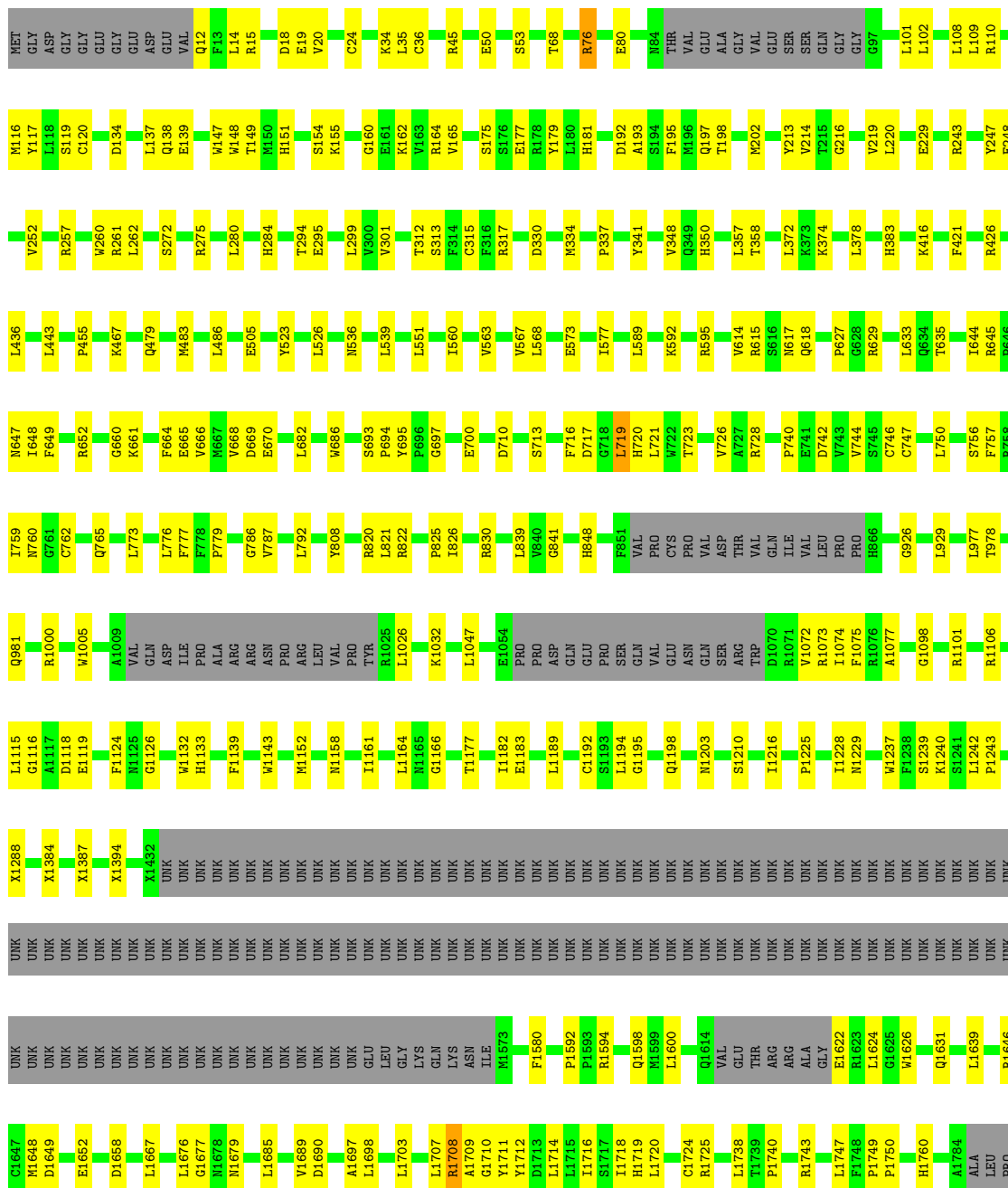


• Molecule 1: RyR1





• Molecule 1: RyR1



S5037	F4921	I4783	GLY	PRO	THR	GLY	PRO	LYS	PRO	THR	GLY	THR	GLY	VAL	ALA	M4097	L3965	Q3830	M3729	VAL	UNK
F4922	F4923	F4784	TRP	LYS	THR	GLY	PRO	LYS	LYS	THR	GLY	THR	GLY	ALA	ALA	K4101	Y3988	Q3833	HIS	TRP	UNK
V4924	V4925	T4785	ASP	LYS	PRO	GLY	ALA	LYS	ALA	ALA	ASP	ALA	GLY	ARG	GLY	Q4102	Y3989	Q3834	HIS	UNK	
L4925	L4926	M4798	GLY	PRO	PRO	GLY	PRO	PRO	PRO	PRO	GLY	PRO	GLY	GLY	GLY	F4103	N3976	L3835	LYS	UNK	
L4928	L4929	H4812	ALA	SER	PRO	ALA	PRO	SER	SER	PRO	ALA	PRO	ALA	ALA	E4107	B3984	S3840	LEU	UNK		
L4930	L4931	I4816	GLY	PRO	THR	GLY	PRO	PRO	PRO	THR	GLY	THR	GLY	ALA	L3985	V3941	V3841	SER	UNK		
L4932	L4933	V4820	ALA	LYS	PRO	GLY	ALA	LYS	ALA	GLY	GLY	GLY	GLY	VAL	W3986	L3842	L3843	GLN	UNK		
L4934	L4935	V4820	GLY	LYS	SER	GLY	GLY	LYS	LYS	GLY	GLY	GLY	GLY	ALA	A3988	L3844	ARG	UNK			
L4936	L4937	L4823	ASP	GLY	PRO	GLY	PRO	GLY	GLY	PRO	GLY	GLY	GLY	ALA	V3989	N3845	ARG	UNK			
L4938	L4939	V4831	GLY	GLY	ILE	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	A3846	A3846	ALA	UNK			
D4938	F4940	V4841	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	F3996	R3849	VAL	UNK			
F4940	R4944	L4844	ASP	ALA	LEU	ASP	ALA	ALA	ALA	THR	THR	THR	THR	THR	M3999	V3751	VAL	UNK			
D4945	Q4946	Y4851	GLY	GLY	LYS	GLY	LYS	GLY	GLY	LYS	LYS	LYS	LYS	ALA	A3853	V3751	ALA	UNK			
Q4949	Q4949	F4859	GLY	GLY	ARG	GLY	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ALA	V3865	E3755	PHE	UNK			
C4958	F4959	R4860	GLY	GLY	LYS	GLY	LYS	GLY	GLY	GLY	GLY	GLY	GLY	ALA	L3866	E3757	ARG	UNK			
F4959	F4959	F4862	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	D3877	K3758	UNK	UNK	UNK	UNK	
D4966	D4966	R4863	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	VAL	ALA	R3877	K3760	UNK	UNK	UNK	UNK	
D4966	D4966	N4864	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	ALA	F3887	K3760	UNK	UNK	UNK	UNK	
H4978	H4978	S4865	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	R3761	R3762	UNK	UNK	UNK	UNK	
H4978	H4978	S4866	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	R3762	R3763	UNK	UNK	UNK	UNK	
E4982	E4982	D4868	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	Q3766	Q3767	UNK	UNK	UNK	UNK	
L4985	L4985	D4870	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	ALA	Q3767	Q3767	UNK	UNK	UNK	UNK	
M4989	M4989	M4874	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	S3768	S3768	UNK	UNK	UNK	UNK	
L4995	L4996	C4875	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	R3769	R3769	UNK	UNK	UNK	UNK	
N4997	N4997	L4704	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ALA	Q3900	Q3900	UNK	UNK	UNK	UNK	
K4998	K4998	V4705	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	ALA	L3903	L3903	UNK	UNK	UNK	UNK	
D4999	D4999	F4711	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	R3904	R3904	UNK	UNK	UNK	UNK	
E5000	E5000	F4711	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	T3905	T3905	UNK	UNK	UNK	UNK	
H5003	H5003	W4716	SER	SER	SER	SER	SER	SER	SER	SER	SER	SER	SER	ALA	F3899	F3899	UNK	UNK	UNK	UNK	
W5011	W5011	F4719	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	Q3906	Q3906	UNK	UNK	UNK	UNK	
R5017	C5018	I4897	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	M3778	M3778	UNK	UNK	UNK	UNK	
W5019	W5019	G4896	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	V3779	V3779	UNK	UNK	UNK	UNK	
R5029	R5029	G4898	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ASP	ALA	L3780	L3780	UNK	UNK	UNK	UNK	
W5030	W5030	P4904	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU	THR	Q3781	Q3781	UNK	UNK	UNK	UNK	
R5031	R5031	I4731	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	A3775	A3775	UNK	UNK	UNK	UNK	
W5052	W5052	F4732	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	M3778	M3778	UNK	UNK	UNK	UNK	
E5033	E5033	I4750	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	V3794	V3794	UNK	UNK	UNK	UNK	
		R4774	SER	SER	SER	SER	SER	SER	SER	SER	SER	SER	SER	ALA	T3797	T3797	UNK	UNK	UNK	UNK	
		I4918	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	C3801	C3801	UNK	UNK	UNK	UNK	
		T4919	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ALA	L3802	L3802	UNK	UNK	UNK	UNK	
		F4920	SER	SER	SER	SER	SER	SER	SER	SER	SER	SER	SER	ALA	S3804	S3804	UNK	UNK	UNK	UNK	
														ALA	L3805	L3805	UNK	UNK	UNK	UNK	
														ALA	M3723	M3723	UNK	UNK	UNK	UNK	
														ALA	Y3725	Y3725	UNK	UNK	UNK	UNK	
														ALA							

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	68155	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	105000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.200	Depositor
Minimum map value	-0.126	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.007	Depositor
Recommended contour level	0.006	Depositor
Map size (Å)	478.72, 478.72, 478.72	wwPDB
Map dimensions	352, 352, 352	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.36, 1.36, 1.36	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.26	0/25057	0.50	1/34021 (0.0%)
1	B	0.27	0/25055	0.50	3/34016 (0.0%)
1	C	0.26	0/25076	0.50	2/34047 (0.0%)
1	D	0.26	0/25078	0.50	2/34045 (0.0%)
All	All	0.26	0/100266	0.50	8/136129 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	1

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	B	3751	VAL	C-N-CA	-5.77	107.27	121.70
1	B	719	LEU	CA-CB-CG	5.62	128.23	115.30
1	D	3751	VAL	C-N-CA	-5.62	107.66	121.70
1	D	719	LEU	CA-CB-CG	5.56	128.08	115.30
1	C	4891	VAL	O-C-N	5.30	131.18	122.70
1	C	4862	PHE	O-C-N	5.27	131.13	122.70
1	B	4872	PRO	CA-N-CD	-5.26	104.13	111.50
1	A	3753	PHE	CB-CA-C	-5.21	99.97	110.40

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	4892	ARG	Sidechain

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	28941	0	24397	483	0
1	B	28940	0	24404	519	0
1	C	28958	0	24429	510	0
1	D	28963	0	24439	493	0
2	A	31	0	14	7	0
2	B	31	0	14	4	0
2	C	31	0	14	3	0
2	D	31	0	14	8	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	1	0	0	0	0
4	B	2	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
All	All	115935	0	97725	1937	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 9.

All (1937) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3773:ARG:CB	1:A:3815:LYS:HE3	1.46	1.45
1:C:3765:TYR:CE1	1:C:4750:ILE:HG23	1.52	1.40
1:A:4921:PHE:O	1:A:4925:ILE:HG22	1.27	1.30
1:A:3767:GLN:O	1:A:3772:THR:HB	1.29	1.28
1:D:3674:ILE:HG12	1:D:3769:ARG:CD	1.64	1.28
1:B:3765:TYR:CE1	1:B:4750:ILE:CG2	2.20	1.24
1:C:3757:GLU:O	1:C:3760:LYS:HG3	1.40	1.20

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3674:ILE:CG1	1:D:3769:ARG:HD2	1.71	1.20
1:A:3702:VAL:HG11	1:A:3775:ALA:HB1	1.28	1.15
1:B:4935:LEU:HD23	1:C:4940:PHE:HE2	1.03	1.15
1:B:4573:ILE:HD13	1:B:4809:PHE:CE2	1.83	1.13
1:A:4904:PRO:HG3	1:A:4913:ARG:NH1	1.65	1.11
1:D:3674:ILE:O	1:D:3769:ARG:HD3	1.52	1.09
1:B:3765:TYR:CE1	1:B:4750:ILE:HG23	1.87	1.08
1:B:4573:ILE:CD1	1:B:4809:PHE:HE2	1.67	1.08
1:A:3773:ARG:CB	1:A:3815:LYS:CE	2.33	1.07
1:B:4577:LEU:HD21	1:B:4807:PHE:CE1	1.90	1.07
1:D:4985:LEU:HG	2:D:5101:ACP:HN61	1.12	1.07
1:C:3765:TYR:CE1	1:C:4750:ILE:CG2	2.38	1.06
1:B:4935:LEU:HD23	1:C:4940:PHE:CE2	1.90	1.06
1:A:4985:LEU:HD23	2:A:5101:ACP:HN61	1.19	1.05
1:B:4865:LYS:HA	1:B:4865:LYS:HE3	1.37	1.02
1:A:3702:VAL:HG11	1:A:3775:ALA:CB	1.88	1.01
1:B:4866:SER:O	1:B:4867:GLU:CG	2.07	1.01
1:D:4985:LEU:CG	2:D:5101:ACP:HN61	1.71	1.01
1:C:100:THR:HG21	1:C:162:LYS:HE3	1.42	1.00
1:B:4577:LEU:HD21	1:B:4807:PHE:CD1	1.97	0.99
1:A:3201:UNK:CB	1:A:3249:UNK:CB	2.41	0.98
1:C:3765:TYR:CZ	1:C:4750:ILE:HG23	1.98	0.97
1:D:3674:ILE:HG12	1:D:3769:ARG:HD2	0.98	0.97
1:B:4801:LEU:HD23	1:B:4808:PHE:CE2	2.01	0.96
1:C:3765:TYR:HE1	1:C:4750:ILE:HG23	1.18	0.95
1:B:3765:TYR:HE1	1:B:4750:ILE:HG21	1.31	0.95
1:B:4573:ILE:HD13	1:B:4809:PHE:HE2	1.14	0.95
1:B:3765:TYR:CE1	1:B:4750:ILE:HG21	2.01	0.94
1:B:3674:ILE:CG2	1:B:3769:ARG:HD2	1.97	0.94
1:B:4574:ASN:HD22	1:B:4813:LEU:HD22	1.31	0.94
1:C:162:LYS:HB2	1:C:164:ARG:HH11	1.33	0.94
1:B:3674:ILE:HG22	1:B:3769:ARG:CD	1.98	0.93
1:B:4866:SER:O	1:B:4867:GLU:HG3	1.67	0.93
1:B:4801:LEU:CD2	1:B:4808:PHE:HE2	1.81	0.92
1:D:4820:VAL:HG11	1:D:4823:LEU:HD23	1.51	0.91
1:B:4865:LYS:HB3	1:B:4875:LYS:HG2	1.49	0.91
1:A:4860:ARG:HH11	1:A:4860:ARG:HG3	1.35	0.91
1:A:3702:VAL:CG1	1:A:3775:ALA:HB1	2.00	0.90
1:A:4932:ILE:O	1:A:4936:ILE:HD13	1.71	0.90
1:A:3549:UNK:O	1:A:3550:UNK:C	2.18	0.90
1:D:3767:GLN:HE22	1:D:3804:ILE:HA	1.36	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:14:LEU:HD12	1:C:163:VAL:O	1.72	0.89
1:C:3765:TYR:HE2	1:C:3769:ARG:NH2	1.71	0.89
1:D:4940:PHE:CE2	1:C:4935:LEU:CD2	2.54	0.89
1:D:5029:ARG:O	1:D:5033:GLU:HB3	1.72	0.89
1:B:4921:PHE:O	1:B:4925:ILE:HG22	1.71	0.88
1:D:4961:CYS:SG	1:D:4983:HIS:CE1	2.67	0.88
1:B:3765:TYR:CD1	1:B:4750:ILE:HG23	2.08	0.88
1:B:4573:ILE:CD1	1:B:4809:PHE:CE2	2.51	0.88
1:A:4921:PHE:O	1:A:4925:ILE:CG2	2.20	0.88
1:B:4016:LEU:HD23	1:B:4020:GLN:HE22	1.38	0.87
1:D:4662:ASN:HA	1:D:4666:VAL:HG21	1.55	0.86
1:B:4801:LEU:HD23	1:B:4808:PHE:HE2	1.36	0.85
1:A:759:ILE:HG22	1:A:762:CYS:HB2	1.57	0.85
1:A:4666:VAL:N	1:A:4667:PRO:HD2	1.91	0.85
1:C:3765:TYR:OH	1:C:4750:ILE:CG2	2.24	0.85
1:C:5029:ARG:O	1:C:5033:GLU:HB3	1.77	0.85
1:A:3760:LYS:HA	1:A:3760:LYS:HZ2	1.42	0.84
1:C:3765:TYR:CZ	1:C:4750:ILE:CG2	2.58	0.84
1:C:2107:GLN:HE22	1:C:3681:GLY:HA2	1.40	0.84
1:B:4921:PHE:O	1:B:4925:ILE:CG2	2.24	0.84
1:C:74:SER:H	1:C:77:ALA:HB3	1.41	0.84
1:D:4985:LEU:HG	2:D:5101:ACP:N6	1.91	0.84
1:C:4944:ARG:HG3	1:C:4944:ARG:HH11	1.40	0.84
1:C:3964:SER:O	1:C:3968:TYR:CE1	2.30	0.84
1:D:4985:LEU:CD2	2:D:5101:ACP:HN61	1.91	0.84
1:B:5029:ARG:O	1:B:5033:GLU:HB3	1.78	0.84
1:A:4940:PHE:CE2	1:D:4935:LEU:CD2	2.61	0.83
1:B:4862:PHE:CE2	1:B:4913:ARG:HD2	2.11	0.83
1:C:4662:ASN:HA	1:C:4666:VAL:HG21	1.59	0.83
1:B:4818:MET:HA	1:B:4823:LEU:HG	1.60	0.83
1:C:162:LYS:HB2	1:C:164:ARG:NH1	1.93	0.83
1:B:4574:ASN:HD22	1:B:4813:LEU:CD2	1.89	0.83
1:C:3765:TYR:HE1	1:C:4750:ILE:CG2	1.85	0.83
1:A:3760:LYS:O	1:A:3760:LYS:HD3	1.79	0.82
1:A:5029:ARG:O	1:A:5033:GLU:HB3	1.79	0.82
1:B:4574:ASN:ND2	1:B:4813:LEU:HD22	1.93	0.82
1:A:4985:LEU:CD2	2:A:5101:ACP:HN61	1.92	0.82
1:B:4812:HIS:ND1	1:B:4812:HIS:O	2.13	0.82
1:B:3674:ILE:HG21	1:B:3769:ARG:HD2	1.60	0.81
1:A:4904:PRO:HG3	1:A:4913:ARG:HH11	1.45	0.81
1:B:4795:TYR:C	1:B:4795:TYR:HD1	1.82	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3965:LEU:HD12	1:C:3965:LEU:O	1.78	0.81
1:B:3674:ILE:CG2	1:B:3769:ARG:CD	2.57	0.81
1:B:4944:ARG:HH11	1:B:4944:ARG:HG3	1.44	0.81
1:D:4865:LYS:HA	1:D:4865:LYS:HZ2	1.46	0.80
1:B:4866:SER:C	1:B:4867:GLU:HG3	2.02	0.80
1:A:4985:LEU:HD23	2:A:5101:ACP:N6	1.97	0.80
1:B:759:ILE:HG22	1:B:762:CYS:HB2	1.62	0.80
1:A:4892:ARG:NH2	1:D:4898:GLY:H	1.79	0.80
1:C:759:ILE:HG22	1:C:762:CYS:HB2	1.63	0.79
1:B:4795:TYR:C	1:B:4795:TYR:CD1	2.54	0.79
1:C:2107:GLN:NE2	1:C:3681:GLY:HA2	1.97	0.79
1:D:4985:LEU:CD2	2:D:5101:ACP:N6	2.45	0.79
1:A:4925:ILE:HD12	1:A:4925:ILE:O	1.83	0.79
1:B:4791:TYR:OH	1:B:4816:ILE:HD13	1.81	0.79
1:A:3544:UNK:CB	1:A:3554:UNK:CB	2.62	0.78
1:A:4823:LEU:HD22	1:D:4839:MET:HE3	1.63	0.78
1:C:742:ASP:HB3	1:C:759:ILE:HD11	1.65	0.78
1:A:4892:ARG:HH22	1:D:4898:GLY:H	1.26	0.78
1:C:2447:LYS:HE2	1:C:2449:GLU:HB2	1.65	0.78
1:A:121:LEU:HD11	1:A:138:GLN:HE22	1.47	0.78
1:A:3729:MET:HG3	1:A:3770:LEU:HD11	1.65	0.78
1:D:4662:ASN:HA	1:D:4666:VAL:CG2	2.13	0.78
1:B:4574:ASN:ND2	1:B:4813:LEU:CD2	2.47	0.77
1:A:4820:VAL:HB	1:A:4823:LEU:HD23	1.66	0.77
1:B:4820:VAL:HB	1:B:4823:LEU:HD23	1.64	0.77
1:B:4866:SER:O	1:B:4867:GLU:HG2	1.83	0.77
1:A:4860:ARG:NH1	1:B:4582:VAL:HG11	1.99	0.77
1:A:2641:UNK:O	1:A:2642:UNK:CB	2.32	0.77
1:A:3490:UNK:CB	1:A:3601:UNK:CB	2.63	0.77
1:C:4919:THR:O	1:C:4923:PHE:HB2	1.85	0.76
1:D:4937:ILE:CD1	1:C:4934:GLY:HA2	2.16	0.76
1:C:4666:VAL:N	1:C:4667:PRO:CD	2.49	0.76
1:A:4240:ASP:OD1	1:A:4668:LEU:HD21	1.86	0.76
1:B:3674:ILE:HG22	1:B:3769:ARG:HD3	1.68	0.76
1:D:3787:LYS:HG3	1:D:3831:SER:HA	1.66	0.75
1:C:4662:ASN:HA	1:C:4666:VAL:CG2	2.15	0.75
1:A:74:SER:H	1:A:77:ALA:HB3	1.52	0.75
1:D:3761:GLN:NE2	1:D:3761:GLN:HA	2.01	0.75
1:D:4871:GLU:HG2	1:D:4871:GLU:O	1.86	0.75
1:B:4865:LYS:HE3	1:B:4865:LYS:CA	2.16	0.75
1:A:4904:PRO:CG	1:A:4913:ARG:NH1	2.49	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3674:ILE:HG21	1:D:3766:GLN:OE1	1.87	0.75
1:D:3767:GLN:NE2	1:D:3804:ILE:HG23	2.01	0.75
1:A:4666:VAL:N	1:A:4667:PRO:CD	2.49	0.74
1:B:3787:LYS:HG3	1:B:3831:SER:HA	1.67	0.74
1:D:4666:VAL:N	1:D:4667:PRO:CD	2.50	0.74
1:B:4865:LYS:CB	1:B:4875:LYS:HG2	2.17	0.74
1:A:4898:GLY:H	1:B:4892:ARG:HH22	1.36	0.74
1:A:76:ARG:NH1	1:B:3935:TRP:O	2.21	0.74
1:C:1152:MET:HB3	1:C:1161:ILE:HB	1.70	0.74
1:A:2452:ARG:NH2	1:D:177:GLU:OE1	2.21	0.74
1:A:1707:LEU:HG	1:A:1708:ARG:H	1.53	0.74
1:A:3761:GLN:OE1	1:A:3761:GLN:HA	1.87	0.74
1:D:1707:LEU:HG	1:D:1708:ARG:H	1.53	0.74
1:C:121:LEU:HD11	1:C:138:GLN:HE22	1.53	0.73
1:D:3674:ILE:HG12	1:D:3769:ARG:CG	2.18	0.73
1:A:1152:MET:HB3	1:A:1161:ILE:HB	1.71	0.73
1:C:645:ARG:HD3	1:C:826:ILE:HG22	1.70	0.73
1:C:1707:LEU:HG	1:C:1708:ARG:H	1.54	0.73
1:B:121:LEU:HD11	1:B:138:GLN:HE22	1.54	0.73
1:B:1152:MET:HB3	1:B:1161:ILE:HB	1.70	0.72
1:A:3773:ARG:CA	1:A:3815:LYS:HE3	2.18	0.72
1:D:759:ILE:HG22	1:D:762:CYS:HB2	1.69	0.72
1:A:3760:LYS:HA	1:A:3760:LYS:NZ	2.04	0.72
1:A:4860:ARG:HG3	1:A:4860:ARG:NH1	2.05	0.72
1:C:103:TYR:CE1	1:C:163:VAL:HG13	2.25	0.72
1:A:3544:UNK:C	1:A:3551:UNK:CB	2.67	0.72
1:A:4860:ARG:HH12	1:B:4582:VAL:HG11	1.51	0.72
1:B:4984:ASN:HA	2:B:5101:ACP:N6	2.04	0.72
1:C:151:HIS:HB2	1:C:170:ILE:HB	1.71	0.72
1:C:162:LYS:CB	1:C:164:ARG:HH11	2.02	0.72
1:C:4223:ASN:HD21	1:C:4946:GLN:HE22	1.38	0.72
1:D:4034:ASN:OD1	1:D:4035:VAL:N	2.23	0.72
1:D:4865:LYS:HA	1:D:4865:LYS:NZ	2.03	0.72
1:C:977:LEU:HB3	1:C:1047:LEU:HD11	1.72	0.72
1:D:1152:MET:HB3	1:D:1161:ILE:HB	1.72	0.72
1:B:977:LEU:HB3	1:B:1047:LEU:HD11	1.72	0.72
2:C:5101:ACP:O2G	2:C:5101:ACP:O2B	2.07	0.72
1:A:3935:TRP:HD1	1:D:76:ARG:HH12	1.38	0.71
1:B:3666:ASP:OD1	1:B:3666:ASP:N	2.20	0.71
1:C:3755:GLU:OE1	1:C:3755:GLU:HA	1.90	0.71
1:D:977:LEU:HB3	1:D:1047:LEU:HD11	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:742:ASP:HB3	1:B:759:ILE:HD11	1.71	0.71
1:D:4892:ARG:NH2	1:C:4917:ASP:OD1	2.23	0.71
1:C:4197:ILE:HG13	1:C:4198:SER:H	1.56	0.71
1:D:645:ARG:HD3	1:D:826:ILE:HG22	1.72	0.71
1:A:977:LEU:HB3	1:A:1047:LEU:HD11	1.71	0.70
1:D:3773:ARG:HA	1:D:3815:LYS:HE3	1.72	0.70
1:C:3765:TYR:CE1	1:C:4750:ILE:HD12	2.26	0.70
1:B:2095:GLN:NE2	1:B:2127:GLN:O	2.25	0.70
1:B:1707:LEU:HG	1:B:1708:ARG:H	1.55	0.70
1:B:479:GLN:OE1	1:B:536:ASN:ND2	2.25	0.70
1:B:4995:LEU:HD21	1:B:5011:TRP:HB2	1.73	0.69
1:D:479:GLN:OE1	1:D:536:ASN:ND2	2.25	0.69
1:D:4197:ILE:HG21	1:D:4990:PHE:HB3	1.73	0.69
1:D:4913:ARG:NH2	1:D:4917:ASP:OD2	2.24	0.69
1:B:3969:ILE:HD11	1:B:3980:LEU:HD12	1.74	0.69
1:B:4577:LEU:CD2	1:B:4807:PHE:CE1	2.72	0.69
1:D:3767:GLN:HE22	1:D:3804:ILE:CA	2.05	0.68
1:C:158:SER:N	1:C:161:GLU:OE1	2.24	0.68
1:C:4936:ILE:HD13	1:C:4936:ILE:N	2.08	0.68
1:D:3751:VAL:O	1:D:3752:SER:C	2.29	0.68
1:D:1116:GLY:HA3	1:D:1132:TRP:HB3	1.74	0.68
1:C:2095:GLN:NE2	1:C:2127:GLN:O	2.27	0.68
1:D:4574:ASN:HD22	1:D:4813:LEU:HD13	1.59	0.68
1:C:4995:LEU:HD21	1:C:5011:TRP:HB2	1.76	0.68
1:A:4197:ILE:HG13	1:A:4198:SER:H	1.57	0.68
1:C:2107:GLN:HE22	1:C:3681:GLY:CA	2.07	0.68
1:D:179:TYR:HB3	1:D:197:GLN:HB2	1.76	0.68
1:B:4182:GLU:OE2	1:B:4192:ARG:NH2	2.25	0.67
1:C:220:LEU:HD22	1:C:262:LEU:HD23	1.76	0.67
1:C:670:GLU:HG3	1:C:788:LYS:H	1.59	0.67
1:A:4244:GLU:CG	1:A:4668:LEU:HD11	2.25	0.67
1:A:4936:ILE:N	1:A:4936:ILE:HD12	2.09	0.67
1:C:4034:ASN:OD1	1:C:4035:VAL:N	2.27	0.67
1:D:2095:GLN:NE2	1:D:2127:GLN:O	2.27	0.67
1:B:1116:GLY:HA3	1:B:1132:TRP:HB3	1.77	0.67
1:D:742:ASP:HB3	1:D:759:ILE:HD11	1.76	0.67
1:A:4839:MET:HE3	1:B:4823:LEU:HD22	1.76	0.67
1:A:4865:LYS:HA	1:A:4865:LYS:HE3	1.77	0.67
1:C:3964:SER:O	1:C:3968:TYR:HE1	1.77	0.67
1:B:664:PHE:HB2	1:B:746:CYS:HB2	1.77	0.66
1:D:4985:LEU:CG	2:D:5101:ACP:N6	2.53	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4820:VAL:CG1	1:D:4823:LEU:HD23	2.24	0.66
1:C:4888:TYR:CE2	1:C:4892:ARG:NH1	2.58	0.66
1:B:131:LEU:HD22	1:B:178:ARG:HH22	1.61	0.66
1:B:4935:LEU:CD2	1:C:4940:PHE:HE2	1.94	0.66
1:A:3767:GLN:HG3	1:A:3809:ASN:HD21	1.61	0.66
1:A:1116:GLY:HA3	1:A:1132:TRP:HB3	1.77	0.66
1:C:3757:GLU:O	1:C:3760:LYS:CG	2.31	0.66
1:B:4020:GLN:HA	1:B:4023:MET:SD	2.34	0.66
1:D:2176:ASN:O	1:D:2180:GLN:NE2	2.29	0.66
1:C:158:SER:H	1:C:161:GLU:CD	1.99	0.66
1:C:3765:TYR:OH	1:C:4750:ILE:HG22	1.96	0.66
1:A:3969:ILE:HD11	1:A:3980:LEU:HD12	1.78	0.66
1:A:4665:LYS:C	1:A:4667:PRO:HD2	2.16	0.65
1:B:3668:SER:O	1:B:3672:ARG:NH2	2.28	0.65
1:D:4892:ARG:HH22	1:C:4898:GLY:H	1.42	0.65
1:C:1243:PRO:HB2	1:C:1600:LEU:HD12	1.78	0.65
1:C:3658:LYS:HA	1:C:3661:TRP:HZ3	1.62	0.65
1:B:719:LEU:O	1:B:720:HIS:ND1	2.30	0.65
1:B:4197:ILE:HG13	1:B:4198:SER:H	1.61	0.65
1:A:2095:GLN:NE2	1:A:2127:GLN:O	2.29	0.65
1:C:4892:ARG:O	1:C:4892:ARG:HG2	1.96	0.65
1:A:4839:MET:HE1	1:B:4826:ILE:HD13	1.78	0.65
1:C:4944:ARG:HG3	1:C:4944:ARG:NH1	2.09	0.65
1:A:3493:UNK:O	1:A:3494:UNK:CB	2.41	0.65
1:C:3674:ILE:HD12	1:C:3769:ARG:HD2	1.79	0.65
1:A:1679:ASN:ND2	1:A:1797:ARG:O	2.30	0.64
1:B:14:LEU:HB3	1:B:101:LEU:HD12	1.78	0.64
1:C:4223:ASN:HD21	1:C:4946:GLN:NE2	1.95	0.64
1:B:4944:ARG:HG3	1:B:4944:ARG:NH1	2.11	0.64
1:A:1229:ASN:HB3	1:A:1826:ALA:HB1	1.79	0.64
1:B:4573:ILE:HD11	1:B:4809:PHE:HE2	1.60	0.64
1:B:4832:HIS:CD2	1:B:4942:GLU:OE1	2.49	0.64
1:A:4240:ASP:CG	1:A:4668:LEU:HD21	2.18	0.64
1:D:4892:ARG:CZ	1:C:4896:GLY:HA3	2.27	0.64
1:C:4937:ILE:HD13	1:C:4937:ILE:N	2.12	0.64
1:D:216:GLY:HA2	1:D:262:LEU:HD11	1.80	0.64
1:A:3729:MET:CG	1:A:3770:LEU:HD11	2.26	0.64
1:D:3986:TRP:NE1	1:D:4043:GLN:OE1	2.29	0.64
1:D:4865:LYS:HZ3	1:D:4865:LYS:HB2	1.62	0.64
1:B:179:TYR:HB3	1:B:197:GLN:HB2	1.80	0.64
1:B:3767:GLN:OE1	1:B:3804:ILE:HA	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3674:ILE:CG2	1:D:3769:ARG:HD2	2.28	0.64
1:A:4844:LEU:HD12	1:A:4928:LEU:HD12	1.79	0.64
1:D:1679:ASN:ND2	1:D:1797:ARG:O	2.31	0.64
1:D:1931:LEU:HB3	1:D:1935:VAL:HB	1.80	0.64
1:A:3763:LEU:C	1:A:3763:LEU:HD13	2.18	0.64
1:A:4197:ILE:HG13	1:A:4198:SER:N	2.13	0.64
1:B:3927:GLN:NE2	1:B:3931:SER:OG	2.31	0.64
1:D:45:ARG:HG2	1:D:443:LEU:HD21	1.78	0.64
1:D:1074:ILE:HG22	1:D:1239:SER:HB2	1.80	0.64
1:D:4885:PHE:O	1:D:4889:VAL:HG12	1.98	0.64
1:C:150:MET:CE	1:C:163:VAL:HG11	2.28	0.64
1:A:4869:GLU:OE1	1:A:4869:GLU:HA	1.98	0.63
1:B:627:PRO:O	1:B:629:ARG:NH1	2.31	0.63
1:D:4959:PHE:CD2	1:D:4985:LEU:CD1	2.82	0.63
1:C:12:GLN:HG2	1:C:165:VAL:HG12	1.80	0.63
1:C:4869:GLU:O	1:C:4870:ASP:O	2.16	0.63
1:D:1724:CYS:SG	1:D:1725:ARG:N	2.70	0.63
1:C:3763:LEU:HD13	1:C:3763:LEU:C	2.19	0.63
1:A:1243:PRO:HB2	1:A:1600:LEU:HD12	1.79	0.63
1:B:34:LYS:HE2	1:B:53:SER:HA	1.79	0.63
1:C:3763:LEU:HD13	1:C:3763:LEU:O	1.97	0.63
1:D:3765:TYR:CD1	1:D:4750:ILE:HG23	2.34	0.63
1:C:3794:VAL:HG11	1:C:3835:LEU:HD21	1.79	0.63
1:C:4869:GLU:HA	1:C:4869:GLU:OE1	1.97	0.63
1:A:647:ASN:HD21	1:A:821:LEU:HA	1.63	0.63
1:B:4865:LYS:HG3	1:B:4875:LYS:CG	2.29	0.63
1:C:1708:ARG:HA	1:C:1711:TYR:HB2	1.79	0.63
1:A:4662:ASN:O	1:A:4666:VAL:HG12	1.98	0.63
1:B:567:VAL:HG13	1:B:568:LEU:HD12	1.81	0.63
1:D:1243:PRO:HB2	1:D:1600:LEU:HD12	1.80	0.63
1:C:4197:ILE:HG13	1:C:4198:SER:N	2.14	0.63
1:D:2185:ILE:O	1:D:2188:ASN:ND2	2.32	0.62
1:D:4892:ARG:HG2	1:C:4895:GLY:O	1.99	0.62
1:C:34:LYS:HE2	1:C:53:SER:HA	1.80	0.62
1:C:4958:CYS:SG	1:C:4978:HIS:CD2	2.91	0.62
1:A:3986:TRP:NE1	1:A:4043:GLN:OE1	2.32	0.62
1:A:4954:MET:HG3	2:A:5101:ACP:HI'	1.81	0.62
1:D:3830:GLN:HA	1:D:3833:GLN:HG2	1.80	0.62
1:A:4020:GLN:HA	1:A:4023:MET:HG2	1.81	0.62
1:B:221:ARG:HH22	1:B:253:CYS:HA	1.64	0.62
1:B:1679:ASN:ND2	1:B:1797:ARG:O	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1724:CYS:SG	1:B:1725:ARG:N	2.72	0.62
1:B:4034:ASN:OD1	1:B:4035:VAL:N	2.32	0.62
1:C:348:VAL:HB	1:C:357:LEU:HD22	1.81	0.62
1:A:647:ASN:ND2	1:A:820:ARG:O	2.33	0.62
1:D:4940:PHE:HE2	1:C:4935:LEU:CD2	2.10	0.62
1:A:4940:PHE:CE2	1:D:4935:LEU:HD23	2.33	0.62
1:B:647:ASN:ND2	1:B:820:ARG:O	2.32	0.62
1:D:3674:ILE:O	1:D:3769:ARG:CD	2.39	0.62
1:D:4940:PHE:CZ	1:C:4935:LEU:HD21	2.34	0.62
1:A:243:ARG:NH1	1:A:301:VAL:O	2.32	0.62
1:B:4865:LYS:HD3	1:B:4865:LYS:C	2.20	0.62
1:D:4027:LEU:HD13	1:D:4030:LEU:HD12	1.82	0.62
1:D:4832:HIS:NE2	1:D:4942:GLU:OE2	2.32	0.62
1:C:719:LEU:O	1:C:720:HIS:ND1	2.32	0.62
1:A:3767:GLN:O	1:A:3772:THR:CB	2.25	0.62
1:B:4860:ARG:HE	1:C:4582:VAL:HG11	1.64	0.62
1:D:4020:GLN:HG3	1:D:4023:MET:HE3	1.81	0.62
1:A:4779:LYS:HE2	1:A:4783:ILE:HD11	1.80	0.62
1:B:4197:ILE:HG13	1:B:4198:SER:N	2.14	0.62
1:D:660:GLY:HA3	1:D:750:LEU:HD13	1.82	0.62
1:D:4183:ILE:HD12	1:D:4193:ILE:HD12	1.82	0.61
1:D:4985:LEU:HD21	2:D:5101:ACP:N6	2.15	0.61
1:C:3986:TRP:NE1	1:C:4043:GLN:OE1	2.32	0.61
1:A:1708:ARG:HA	1:A:1711:TYR:HB2	1.82	0.61
1:D:647:ASN:HD21	1:D:821:LEU:HA	1.65	0.61
1:D:716:PHE:HE1	1:D:720:HIS:H	1.48	0.61
1:C:3766:GLN:OE1	1:C:3766:GLN:HA	2.00	0.61
1:B:3891:LEU:HB3	1:B:3899:PHE:HE2	1.65	0.61
1:D:1240:LYS:NZ	1:D:1242:LEU:O	2.31	0.61
1:A:2688:UNK:CB	1:A:2691:UNK:O	2.48	0.61
1:C:131:LEU:HD22	1:C:178:ARG:HH22	1.64	0.61
1:C:3765:TYR:CE2	1:C:3769:ARG:NH2	2.62	0.61
1:C:4067:LYS:HD2	1:C:4102:GLN:HG3	1.83	0.61
1:A:3941:ASP:HA	1:A:4002:LYS:HE3	1.82	0.61
1:D:3658:LYS:HA	1:D:3661:TRP:HZ3	1.65	0.61
1:A:348:VAL:HB	1:A:357:LEU:HD22	1.82	0.61
1:D:110:ARG:HA	1:D:117:TYR:HA	1.82	0.61
1:C:3941:ASP:HA	1:C:4002:LYS:HE3	1.83	0.61
1:A:3760:LYS:HB2	1:A:3760:LYS:HZ3	1.64	0.61
1:D:2248:ARG:HH21	1:D:3866:ILE:HA	1.65	0.61
1:D:3924:LEU:HD22	1:D:3984:ARG:HE	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4871:GLU:O	1:D:4871:GLU:CG	2.49	0.61
1:C:286:THR:HA	1:C:405:HIS:HB2	1.82	0.61
1:A:1074:ILE:HG22	1:A:1239:SER:HB2	1.82	0.61
1:A:4946:GLN:OE1	1:A:4946:GLN:HA	2.00	0.61
1:A:4995:LEU:HD21	1:A:5011:TRP:HB2	1.82	0.61
1:B:1708:ARG:HA	1:B:1711:TYR:HB2	1.83	0.61
1:C:3684:GLU:C	1:C:3686:GLU:H	2.04	0.61
1:A:4240:ASP:OD1	1:A:4668:LEU:CD2	2.48	0.61
1:B:4719:PHE:O	1:B:4723:LYS:NZ	2.34	0.61
1:A:3658:LYS:HA	1:A:3661:TRP:HZ3	1.64	0.61
1:A:4904:PRO:CG	1:A:4913:ARG:HH11	2.11	0.61
2:A:5101:ACP:H3B1	2:A:5101:ACP:O1A	2.00	0.61
1:B:181:HIS:H	1:B:193:ALA:HA	1.66	0.61
1:D:1708:ARG:HA	1:D:1711:TYR:HB2	1.81	0.61
1:C:1724:CYS:SG	1:C:1725:ARG:N	2.74	0.61
1:A:2196:ASN:OD1	1:A:2199:ARG:NH1	2.34	0.60
1:C:1387:UNK:HA	1:C:1394:UNK:HA	1.82	0.60
1:C:3737:GLU:HA	1:C:3763:LEU:HD23	1.82	0.60
1:C:4666:VAL:N	1:C:4667:PRO:HD3	2.16	0.60
1:A:4901:ILE:CB	1:A:4913:ARG:NH2	2.64	0.60
1:A:4985:LEU:CD2	2:A:5101:ACP:N6	2.62	0.60
1:A:649:PHE:HB3	1:A:776:LEU:HD13	1.83	0.60
1:A:1387:UNK:HA	1:A:1394:UNK:HA	1.84	0.60
1:C:647:ASN:ND2	1:C:820:ARG:O	2.34	0.60
1:C:4958:CYS:HA	2:C:5101:ACP:H2	1.83	0.60
1:B:2291:GLN:OE1	1:B:2294:ASP:N	2.35	0.60
1:B:3986:TRP:NE1	1:B:4043:GLN:OE1	2.35	0.60
1:B:4184:MET:HB2	1:B:4190:ILE:HG22	1.82	0.60
1:B:4801:LEU:HD21	1:B:4808:PHE:HE2	1.63	0.60
1:D:3969:ILE:HD11	1:D:3980:LEU:HD12	1.81	0.60
1:A:4034:ASN:OD1	1:A:4035:VAL:N	2.34	0.60
1:A:4832:HIS:NE2	1:A:4942:GLU:OE1	2.35	0.60
1:A:4865:LYS:HG2	1:A:4875:LYS:HG2	1.83	0.60
1:B:272:SER:HA	1:B:334:MET:HG2	1.82	0.60
1:C:1867:GLU:HA	1:C:1870:VAL:HB	1.84	0.60
1:B:2288:LEU:O	1:B:3849:ARG:NH1	2.34	0.60
1:A:567:VAL:HG13	1:A:568:LEU:HD12	1.84	0.60
1:B:348:VAL:HB	1:B:357:LEU:HD22	1.82	0.60
1:D:4940:PHE:CE2	1:C:4935:LEU:HD21	2.36	0.60
1:D:1387:UNK:HA	1:D:1394:UNK:HA	1.84	0.59
1:A:719:LEU:O	1:A:720:HIS:ND1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:644:ILE:HA	1:D:825:PRO:HA	1.84	0.59
1:C:243:ARG:NH1	1:C:301:VAL:O	2.35	0.59
1:C:647:ASN:HD21	1:C:821:LEU:HA	1.67	0.59
1:C:1679:ASN:ND2	1:C:1797:ARG:O	2.34	0.59
1:B:2248:ARG:HH21	1:B:3866:ILE:HA	1.67	0.59
1:D:647:ASN:ND2	1:D:820:ARG:O	2.36	0.59
1:C:4820:VAL:HB	1:C:4823:LEU:HD23	1.84	0.59
1:B:4801:LEU:CD2	1:B:4808:PHE:CE2	2.66	0.59
1:A:2207:VAL:HG21	1:A:2236:LEU:HD21	1.84	0.59
1:D:3767:GLN:HE21	1:D:3804:ILE:HG23	1.67	0.59
1:D:4892:ARG:NH2	1:C:4898:GLY:H	2.01	0.59
1:C:3758:MET:HE1	1:C:3762:ARG:HH21	1.68	0.59
1:A:3760:LYS:HD3	1:A:3760:LYS:C	2.22	0.59
1:D:567:VAL:HG13	1:D:568:LEU:HD12	1.85	0.59
1:D:765:GLN:O	1:D:1387:UNK:N	2.36	0.59
1:D:3674:ILE:CB	1:D:3769:ARG:HD2	2.32	0.59
1:A:3756:LYS:O	1:A:3760:LYS:N	2.31	0.59
1:B:74:SER:H	1:B:77:ALA:HB3	1.67	0.59
1:C:776:LEU:HG	1:C:848:HIS:HA	1.85	0.59
1:A:3702:VAL:HG21	1:A:3775:ALA:CB	2.33	0.58
1:A:4704:LEU:HB2	1:A:4774:LYS:HE3	1.85	0.58
1:B:1387:UNK:HA	1:B:1394:UNK:HA	1.86	0.58
1:B:3755:GLU:HA	1:B:3755:GLU:OE1	2.02	0.58
1:B:3804:ILE:O	1:B:3809:ASN:ND2	2.36	0.58
1:D:1143:TRP:HD1	1:D:1164:LEU:HD13	1.68	0.58
1:C:2248:ARG:HH21	1:C:3866:ILE:HA	1.67	0.58
1:A:4924:VAL:O	1:A:4924:VAL:HG13	2.03	0.58
1:B:286:THR:HA	1:B:405:HIS:HB2	1.85	0.58
1:D:776:LEU:HG	1:D:848:HIS:HA	1.83	0.58
1:D:4779:LYS:HE2	1:D:4783:ILE:HD11	1.84	0.58
1:D:4959:PHE:CD2	1:D:4985:LEU:HD11	2.38	0.58
1:A:645:ARG:HD3	1:A:826:ILE:HG22	1.84	0.58
1:A:3891:LEU:HB3	1:A:3899:PHE:HE2	1.68	0.58
1:B:3886:ARG:NH1	1:B:3889:GLN:OE1	2.36	0.58
1:D:4719:PHE:O	1:D:4723:LYS:NZ	2.36	0.58
1:C:315:CYS:SG	1:C:317:ARG:NH1	2.76	0.58
1:C:1931:LEU:HB3	1:C:1935:VAL:HB	1.85	0.58
1:C:4704:LEU:HB2	1:C:4774:LYS:HE3	1.86	0.58
1:D:1738:LEU:HB2	1:D:2146:PRO:HD3	1.86	0.58
1:C:2196:ASN:OD1	1:C:2199:ARG:NH1	2.35	0.58
1:A:4852:THR:HG21	1:A:4883:TYR:HA	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4932:ILE:O	1:A:4936:ILE:CD1	2.49	0.58
1:B:315:CYS:SG	1:B:317:ARG:NH1	2.76	0.58
1:D:3667:HIS:NE2	1:D:3671:ASP:OD2	2.36	0.58
1:C:1074:ILE:HG22	1:C:1239:SER:HB2	1.85	0.58
1:C:2257:LEU:HD11	1:C:2276:ALA:HB2	1.86	0.58
1:A:1931:LEU:HB3	1:A:1935:VAL:HB	1.84	0.58
1:D:4666:VAL:N	1:D:4667:PRO:HD3	2.18	0.58
1:C:73:LEU:HD12	1:C:77:ALA:HB1	1.86	0.58
1:C:4665:LYS:C	1:C:4667:PRO:HD2	2.24	0.58
1:A:1724:CYS:SG	1:A:1725:ARG:N	2.76	0.58
1:A:2248:ARG:HH21	1:A:3866:ILE:HA	1.68	0.58
1:B:149:THR:HG23	1:B:151:HIS:HE1	1.68	0.58
1:B:3662:ILE:O	1:B:3662:ILE:HG23	2.03	0.58
1:B:4978:HIS:ND1	1:B:4982:GLU:OE1	2.37	0.58
1:D:315:CYS:SG	1:D:317:ARG:NH1	2.76	0.58
1:D:4820:VAL:HG12	1:D:4823:LEU:HB2	1.85	0.58
1:A:3763:LEU:HD13	1:A:3763:LEU:O	2.04	0.58
1:D:4665:LYS:C	1:D:4667:PRO:HD2	2.24	0.58
1:A:272:SER:HB2	1:A:334:MET:HA	1.84	0.58
1:A:644:ILE:HA	1:A:825:PRO:HA	1.86	0.58
1:D:34:LYS:HE2	1:D:53:SER:HA	1.85	0.58
1:D:294:THR:HG23	1:D:295:GLU:H	1.68	0.58
1:C:4673:ARG:NH1	1:C:4702:ASP:OD2	2.37	0.58
1:B:262:LEU:HB2	1:B:280:LEU:HD23	1.86	0.58
1:D:3941:ASP:HA	1:D:4002:LYS:HE3	1.86	0.58
1:A:315:CYS:SG	1:A:317:ARG:NH1	2.77	0.57
1:A:2358:ILE:HA	1:A:2364:PHE:HZ	1.68	0.57
1:D:12:GLN:HG2	1:D:165:VAL:HG12	1.85	0.57
1:D:2810:LYS:HG2	1:D:2814:LYS:HE3	1.86	0.57
1:B:1738:LEU:HB2	1:B:2146:PRO:HD3	1.84	0.57
1:B:3955:MET:HG3	1:B:4019:LEU:HD22	1.86	0.57
1:C:3891:LEU:HB3	1:C:3899:PHE:HE2	1.67	0.57
1:C:4719:PHE:O	1:C:4723:LYS:NZ	2.37	0.57
1:A:34:LYS:HE2	1:A:53:SER:HA	1.85	0.57
1:B:4872:PRO:HD2	1:B:4873:ASP:N	2.19	0.57
1:C:765:GLN:O	1:C:1387:UNK:N	2.38	0.57
1:C:2185:ILE:O	1:C:2188:ASN:ND2	2.37	0.57
1:A:1238:PHE:HE1	1:A:1608:MET:HB3	1.68	0.57
1:A:3955:MET:HG3	1:A:4019:LEU:HD22	1.86	0.57
1:B:45:ARG:HG2	1:B:443:LEU:HD21	1.84	0.57
1:C:109:LEU:HD23	1:C:148:TRP:HD1	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:150:MET:HE2	1:C:163:VAL:HG11	1.85	0.57
1:C:1116:GLY:HA3	1:C:1132:TRP:HB3	1.85	0.57
1:A:509:GLU:O	1:A:510:GLU:HG3	2.05	0.57
1:B:2869:ARG:NH1	1:B:3106:UNK:O	2.37	0.57
1:B:4690:GLU:HG2	1:B:4691:GLN:N	2.20	0.57
1:C:3765:TYR:HE1	1:C:4750:ILE:HD12	1.66	0.57
1:A:1143:TRP:HD1	1:A:1164:LEU:HD13	1.68	0.57
1:C:116:MET:HG3	1:C:137:LEU:HD12	1.87	0.57
1:C:272:SER:HA	1:C:334:MET:HG2	1.86	0.57
1:A:2773:ASN:O	1:A:2773:ASN:ND2	2.37	0.57
1:A:3770:LEU:HD23	1:A:3770:LEU:O	2.05	0.57
1:A:4940:PHE:CE2	1:D:4935:LEU:HD21	2.40	0.57
1:B:243:ARG:NH1	1:B:301:VAL:O	2.38	0.57
1:B:4795:TYR:HD1	1:B:4795:TYR:O	1.88	0.57
1:D:3828:PHE:CZ	1:D:3832:ILE:HD11	2.39	0.57
1:B:2257:LEU:HD11	1:B:2276:ALA:HB2	1.87	0.57
1:B:4016:LEU:HD23	1:B:4020:GLN:NE2	2.13	0.57
1:B:4673:ARG:NH1	1:B:4702:ASP:OD2	2.38	0.57
1:C:45:ARG:HG2	1:C:443:LEU:HD21	1.86	0.57
1:C:1101:ARG:HE	1:C:1115:LEU:HD12	1.69	0.57
1:A:4719:PHE:O	1:A:4723:LYS:NZ	2.37	0.57
1:D:3765:TYR:CE1	1:D:4750:ILE:CG2	2.87	0.57
1:D:3891:LEU:HB3	1:D:3899:PHE:HE2	1.69	0.57
1:A:3924:LEU:O	1:A:3927:GLN:HG3	2.04	0.57
1:A:4633:GLU:HA	1:A:4639:MET:HG3	1.87	0.57
1:B:788:LYS:HD3	1:B:1629:GLN:HA	1.85	0.56
1:B:1229:ASN:HD21	1:B:1827:ARG:HD3	1.69	0.56
1:B:4037:ASN:HD22	1:B:5035:GLN:HE21	1.51	0.56
1:D:4940:PHE:CE2	1:C:4935:LEU:HD23	2.40	0.56
1:C:3984:ARG:HG2	1:C:3987:ASP:HB2	1.86	0.56
1:A:4993:MET:SD	1:A:4997:ASN:ND2	2.77	0.56
1:B:670:GLU:HG3	1:B:788:LYS:H	1.70	0.56
1:B:2291:GLN:HG3	1:B:2292:GLU:H	1.70	0.56
1:D:4197:ILE:HG13	1:D:4198:SER:H	1.70	0.56
1:A:78:LEU:HD21	1:A:147:TRP:CE2	2.40	0.56
1:A:2288:LEU:O	1:A:3849:ARG:NH1	2.34	0.56
1:A:4244:GLU:HG2	1:A:4668:LEU:HD11	1.87	0.56
1:A:4690:GLU:HG2	1:A:4691:GLN:N	2.20	0.56
1:B:666:VAL:HB	1:B:744:VAL:HB	1.87	0.56
1:B:1243:PRO:HB2	1:B:1600:LEU:HD12	1.87	0.56
1:B:4047:MET:SD	1:B:4048:LEU:HD22	2.45	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:116:MET:HG2	1:D:137:LEU:HD13	1.85	0.56
1:C:262:LEU:HB2	1:C:280:LEU:HD23	1.87	0.56
1:C:1735:ILE:HG22	1:C:2142:TYR:HB3	1.86	0.56
1:C:2869:ARG:NH1	1:C:3106:UNK:O	2.36	0.56
1:C:3804:ILE:HG23	1:C:3805:LEU:HD12	1.87	0.56
1:B:4016:LEU:O	1:B:4020:GLN:NE2	2.37	0.56
1:B:4866:SER:C	1:B:4867:GLU:CG	2.64	0.56
1:D:1124:PHE:HE1	1:D:1139:PHE:HB3	1.70	0.56
1:A:627:PRO:O	1:A:629:ARG:NH1	2.39	0.56
1:A:4940:PHE:CZ	1:D:4935:LEU:HD21	2.41	0.56
1:D:220:LEU:HD22	1:D:262:LEU:HD23	1.87	0.56
1:D:3674:ILE:HG23	1:D:3769:ARG:HD2	1.88	0.56
1:C:179:TYR:HB3	1:C:197:GLN:HB2	1.87	0.56
1:C:1240:LYS:NZ	1:C:1242:LEU:O	2.31	0.56
1:B:3751:VAL:O	1:B:3752:SER:C	2.41	0.56
1:D:1101:ARG:HE	1:D:1115:LEU:HD12	1.71	0.56
1:D:4690:GLU:HG2	1:D:4691:GLN:N	2.21	0.56
1:D:4704:LEU:HB2	1:D:4774:LYS:HE3	1.88	0.56
1:C:1866:ILE:HG22	1:C:1870:VAL:HG23	1.88	0.56
1:D:1106:ARG:NH2	1:D:1183:GLU:OE2	2.38	0.56
1:C:103:TYR:OH	1:C:157:ARG:HG2	2.06	0.56
1:C:2763:HIS:NE2	1:C:2792:ARG:O	2.34	0.56
1:C:4690:GLU:HG2	1:C:4691:GLN:N	2.20	0.56
1:A:1580:PHE:HE2	1:A:1592:PRO:HG2	1.71	0.56
1:A:2257:LEU:HD11	1:A:2276:ALA:HB2	1.87	0.56
1:D:4959:PHE:CD2	1:D:4985:LEU:HD13	2.41	0.56
1:C:216:GLY:HA2	1:C:262:LEU:HD11	1.87	0.56
1:C:1703:LEU:HB2	1:C:1707:LEU:HB3	1.88	0.56
1:D:4219:PHE:O	1:D:4223:ASN:ND2	2.38	0.56
1:C:841:GLY:HA2	1:C:1073:ARG:HD2	1.88	0.56
1:C:4223:ASN:ND2	1:C:4946:GLN:OE1	2.39	0.56
1:A:116:MET:HG3	1:A:137:LEU:HD12	1.88	0.55
1:D:4979:THR:HG21	2:D:5101:ACP:H2'	1.88	0.55
1:C:1238:PHE:HE1	1:C:1608:MET:HB3	1.72	0.55
1:C:4067:LYS:O	1:C:4071:ILE:HG12	2.06	0.55
1:A:294:THR:HG23	1:A:295:GLU:H	1.71	0.55
1:A:682:LEU:HD13	1:A:787:VAL:HG11	1.88	0.55
1:A:742:ASP:HB3	1:A:759:ILE:HD11	1.89	0.55
1:B:647:ASN:HD21	1:B:821:LEU:HA	1.70	0.55
1:C:4017:LEU:HD13	1:C:4020:GLN:NE2	2.21	0.55
1:A:131:LEU:HD22	1:A:178:ARG:HH22	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4795:TYR:CD1	1:B:4795:TYR:O	2.59	0.55
1:C:3955:MET:HG3	1:C:4019:LEU:HD22	1.88	0.55
1:B:1676:LEU:HD13	1:B:2168:VAL:HG22	1.88	0.55
1:B:3828:PHE:CZ	1:B:3832:ILE:HD11	2.42	0.55
1:D:728:ARG:NH1	1:D:1384:UNK:O	2.39	0.55
1:A:1735:ILE:HG22	1:A:2142:TYR:HB3	1.88	0.55
1:B:4872:PRO:HD2	1:B:4873:ASP:H	1.72	0.55
1:D:665:GLU:HB3	1:D:792:LEU:HD12	1.88	0.55
1:D:1851:MET:HB2	1:D:1853:ILE:HG12	1.89	0.55
1:C:627:PRO:O	1:C:629:ARG:NH1	2.40	0.55
1:C:4666:VAL:O	1:C:4666:VAL:HG12	2.07	0.55
1:A:445:LEU:HD13	1:A:521:LEU:HB3	1.88	0.55
1:A:765:GLN:O	1:A:1387:UNK:N	2.40	0.55
1:B:195:PHE:O	1:C:2359:ARG:NH1	2.37	0.55
1:B:294:THR:HG23	1:B:295:GLU:H	1.72	0.55
1:D:4936:ILE:HD13	1:D:4936:ILE:N	2.20	0.55
1:A:728:ARG:NH1	1:A:1384:UNK:O	2.40	0.55
1:A:3776:ALA:O	1:A:3778:MET:N	2.40	0.55
1:A:4895:GLY:O	1:B:4892:ARG:NE	2.39	0.55
1:B:4849:TYR:HB2	1:B:4883:TYR:HE1	1.71	0.55
1:D:262:LEU:HB2	1:D:280:LEU:HD23	1.88	0.55
1:D:4673:ARG:NH1	1:D:4702:ASP:OD2	2.38	0.55
1:B:3813:GLN:OE1	1:B:3896:ASN:ND2	2.40	0.55
1:D:1992:ALA:O	1:D:1996:ARG:NH1	2.39	0.55
1:D:2423:MET:HE1	1:D:2494:UNK:HA	1.88	0.55
1:C:1143:TRP:HD1	1:C:1164:LEU:HD13	1.72	0.55
1:C:1950:GLU:OE2	1:C:2041:HIS:NE2	2.40	0.55
1:A:2869:ARG:NH1	1:A:3106:UNK:O	2.35	0.54
1:A:3544:UNK:O	1:A:3551:UNK:CB	2.55	0.54
1:B:4197:ILE:HG21	1:B:4990:PHE:HB3	1.87	0.54
1:D:2763:HIS:NE2	1:D:2792:ARG:O	2.33	0.54
1:C:615:ARG:NH1	1:C:1677:GLY:O	2.38	0.54
1:C:666:VAL:HB	1:C:744:VAL:HG23	1.89	0.54
1:C:3758:MET:CE	1:C:3762:ARG:HH21	2.21	0.54
1:A:73:LEU:HD12	1:A:77:ALA:HB1	1.89	0.54
1:A:3804:ILE:O	1:A:3809:ASN:OD1	2.25	0.54
1:B:841:GLY:HA2	1:B:1073:ARG:HD2	1.89	0.54
1:C:100:THR:CG2	1:C:162:LYS:HE3	2.26	0.54
1:A:4936:ILE:HD12	1:A:4936:ILE:H	1.72	0.54
1:D:670:GLU:HG3	1:D:787:VAL:HA	1.89	0.54
1:D:1950:GLU:OE2	1:D:2041:HIS:NE2	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3886:ARG:NH1	1:C:3889:GLN:OE1	2.40	0.54
1:A:286:THR:HA	1:A:405:HIS:HB2	1.89	0.54
1:B:4864:ASN:HA	1:B:4874:MET:CE	2.37	0.54
1:D:4066:LEU:HD21	1:D:4173:TYR:CZ	2.43	0.54
1:B:151:HIS:HB2	1:B:170:ILE:HB	1.89	0.54
1:D:4182:GLU:OE2	1:D:4192:ARG:NE	2.31	0.54
1:C:294:THR:HG23	1:C:295:GLU:H	1.73	0.54
1:A:3758:MET:HG3	1:A:3759:GLU:N	2.22	0.54
1:A:4859:PHE:N	1:A:4859:PHE:CD1	2.73	0.54
1:B:4067:LYS:HD2	1:B:4102:GLN:HG3	1.89	0.54
1:C:4851:TYR:HD2	1:C:4920:PHE:HD1	1.56	0.54
1:B:759:ILE:HG13	1:B:760:ASN:H	1.73	0.54
1:C:232:THR:HG21	1:C:252:VAL:HG11	1.88	0.54
1:C:644:ILE:HA	1:C:825:PRO:HA	1.90	0.54
1:A:4673:ARG:NH1	1:A:4702:ASP:OD2	2.39	0.54
1:D:3674:ILE:HG23	1:D:3769:ARG:CD	2.37	0.54
1:D:4940:PHE:CZ	1:C:4935:LEU:CD2	2.90	0.54
1:B:4924:VAL:HA	1:B:4928:LEU:HD23	1.90	0.54
1:D:668:VAL:HG23	1:D:740:PRO:HA	1.90	0.54
1:D:786:GLY:HA2	1:D:1631:GLN:HA	1.89	0.54
1:B:2904:LEU:HD21	1:B:2912:THR:HG23	1.90	0.54
1:D:2904:LEU:HD21	1:D:2912:THR:HG23	1.90	0.54
1:C:445:LEU:HD13	1:C:521:LEU:HB3	1.89	0.54
1:C:546:TRP:O	1:C:550:LYS:NZ	2.41	0.54
1:C:4779:LYS:HE2	1:C:4783:ILE:HD11	1.90	0.54
1:A:2185:ILE:O	1:A:2188:ASN:ND2	2.41	0.53
1:A:4898:GLY:N	1:B:4892:ARG:HH22	2.04	0.53
1:D:14:LEU:HB3	1:D:101:LEU:HD12	1.90	0.53
1:C:1676:LEU:HD13	1:C:2168:VAL:HG22	1.90	0.53
1:B:665:GLU:HB2	1:B:792:LEU:HB2	1.90	0.53
1:B:786:GLY:HA2	1:B:1631:GLN:HA	1.91	0.53
1:D:109:LEU:HD23	1:D:148:TRP:HD1	1.73	0.53
1:C:786:GLY:HA2	1:C:1631:GLN:HA	1.90	0.53
1:B:3773:ARG:HA	1:B:3815:LYS:HE3	1.90	0.53
1:B:4180:ARG:HG3	1:B:4194:TYR:CE1	2.42	0.53
1:A:14:LEU:HB3	1:A:101:LEU:HD12	1.89	0.53
1:A:4940:PHE:CZ	1:D:4935:LEU:CD2	2.92	0.53
1:B:509:GLU:O	1:B:510:GLU:HG3	2.09	0.53
1:B:3963:ASN:O	1:B:3966:THR:OG1	2.26	0.53
1:D:120:CYS:SG	1:D:175:SER:OG	2.66	0.53
1:D:1697:ALA:HB1	1:D:1708:ARG:HD3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:15:ARG:HH21	1:C:208:CYS:HB3	1.73	0.53
1:A:3779:VAL:HG23	1:A:3797:THR:HG22	1.90	0.53
1:B:2199:ARG:NE	1:B:2246:ASN:OD1	2.40	0.53
1:B:3794:VAL:HG21	1:B:3835:LEU:HD11	1.90	0.53
1:B:4577:LEU:CD2	1:B:4807:PHE:HE1	2.19	0.53
1:D:4666:VAL:O	1:D:4666:VAL:HG12	2.07	0.53
1:D:4865:LYS:O	1:D:4865:LYS:HG3	2.07	0.53
1:D:4895:GLY:HA2	1:D:4921:PHE:CE1	2.43	0.53
1:A:3840:SER:OG	1:A:3877:ASP:OD2	2.26	0.53
1:B:4869:GLU:OE2	1:B:4870:ASP:N	2.41	0.53
1:B:4913:ARG:NH1	1:C:4888:TYR:OH	2.42	0.53
1:D:1240:LYS:NZ	1:D:1242:LEU:HB3	2.23	0.53
1:C:1738:LEU:HB2	1:C:2146:PRO:HD3	1.89	0.53
1:C:4874:MET:O	1:C:4876:CYS:N	2.42	0.53
1:C:4958:CYS:O	2:C:5101:ACP:N1	2.42	0.53
1:A:2904:LEU:HD21	1:A:2912:THR:HG23	1.91	0.53
1:B:36:CYS:HB3	1:B:50:GLU:HB3	1.90	0.53
1:B:2185:ILE:O	1:B:2188:ASN:ND2	2.41	0.53
1:C:1106:ARG:NH2	1:C:1183:GLU:OE2	2.41	0.53
1:C:2368:LEU:HD22	1:C:2376:LEU:HD21	1.91	0.53
1:C:665:GLU:HB3	1:C:792:LEU:HD12	1.91	0.53
1:C:788:LYS:HD3	1:C:1629:GLN:HA	1.91	0.53
1:C:3684:GLU:C	1:C:3686:GLU:N	2.63	0.53
1:A:4936:ILE:CD1	1:A:4936:ILE:H	2.21	0.53
1:B:1992:ALA:O	1:B:1996:ARG:NH1	2.42	0.53
1:D:4892:ARG:NH2	1:C:4896:GLY:HA3	2.24	0.53
1:D:4940:PHE:HE2	1:C:4935:LEU:HD22	1.74	0.53
1:C:617:ASN:OD1	1:C:618:GLN:N	2.42	0.53
1:C:1124:PHE:HE1	1:C:1139:PHE:HB3	1.73	0.53
1:C:2288:LEU:HD12	1:C:3853:ALA:HB2	1.91	0.53
1:A:3760:LYS:O	1:A:3763:LEU:HB3	2.09	0.53
1:A:4063:ASP:OD2	1:A:4067:LYS:NZ	2.39	0.53
1:B:2809:ILE:HD11	1:B:2926:LEU:HD13	1.91	0.53
1:B:3663:LEU:N	1:B:3663:LEU:CD1	2.72	0.53
1:D:2156:LEU:HD12	1:D:2159:LEU:HD11	1.91	0.53
1:D:4639:MET:SD	1:D:4639:MET:N	2.80	0.53
1:B:220:LEU:HD12	1:B:390:LEU:HB3	1.91	0.52
1:B:560:ILE:HA	1:B:563:VAL:HG12	1.90	0.52
1:B:765:GLN:O	1:B:1387:UNK:N	2.42	0.52
1:B:1867:GLU:HA	1:B:1870:VAL:HB	1.90	0.52
1:B:2288:LEU:HD12	1:B:3853:ALA:HB2	1.89	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1950:GLU:OE2	1:A:2041:HIS:NE2	2.42	0.52
1:A:2785:LEU:HB3	1:A:2787:THR:HG22	1.92	0.52
1:D:4928:LEU:CD2	1:D:4928:LEU:N	2.72	0.52
1:A:4731:ILE:HA	1:B:4101:LYS:HG3	1.91	0.52
1:D:627:PRO:O	1:D:629:ARG:NH1	2.43	0.52
1:D:4865:LYS:NZ	1:D:4865:LYS:CB	2.72	0.52
1:C:157:ARG:HA	1:C:161:GLU:OE1	2.08	0.52
1:D:1143:TRP:CD1	1:D:1164:LEU:HD13	2.44	0.52
1:C:479:GLN:HE22	1:C:536:ASN:HA	1.74	0.52
1:C:670:GLU:OE2	1:C:788:LYS:HB2	2.10	0.52
1:C:1867:GLU:O	1:C:1871:PHE:N	2.34	0.52
1:A:1738:LEU:HB2	1:A:2146:PRO:HD3	1.91	0.52
1:A:4662:ASN:O	1:A:4666:VAL:CG1	2.57	0.52
1:B:1697:ALA:HB1	1:B:1708:ARG:HD3	1.90	0.52
1:B:4238:CYS:O	1:B:4242:ILE:HG12	2.09	0.52
1:D:2288:LEU:HD12	1:D:3853:ALA:HB2	1.91	0.52
1:C:103:TYR:CZ	1:C:163:VAL:HG13	2.44	0.52
1:C:181:HIS:H	1:C:193:ALA:HA	1.74	0.52
1:C:652:ARG:HD2	1:C:750:LEU:HB3	1.92	0.52
1:B:4731:ILE:HA	1:C:4101:LYS:HG3	1.92	0.52
1:D:682:LEU:HD13	1:D:787:VAL:HG11	1.92	0.52
1:D:1676:LEU:HD13	1:D:2168:VAL:HG22	1.92	0.52
1:D:1697:ALA:HB1	1:D:1708:ARG:HH11	1.74	0.52
1:C:2904:LEU:HD21	1:C:2912:THR:HG23	1.91	0.52
1:A:3760:LYS:NZ	1:A:3760:LYS:CB	2.72	0.52
1:A:4066:LEU:HD21	1:A:4173:TYR:CZ	2.45	0.52
1:A:4933:GLN:O	1:A:4937:ILE:HG12	2.09	0.52
1:A:4940:PHE:HE2	1:D:4935:LEU:CD2	2.17	0.52
1:B:1950:GLU:OE2	1:B:2041:HIS:NE2	2.42	0.52
1:B:4985:LEU:HB2	2:B:5101:ACP:N1	2.25	0.52
1:C:3684:GLU:O	1:C:3686:GLU:N	2.43	0.52
1:C:4937:ILE:N	1:C:4937:ILE:CD1	2.73	0.52
1:A:1101:ARG:HE	1:A:1115:LEU:HD12	1.75	0.52
1:B:449:ILE:HG13	1:B:525:LEU:HD12	1.91	0.52
1:B:2785:LEU:HB3	1:B:2787:THR:HG22	1.92	0.52
1:D:181:HIS:H	1:D:193:ALA:HA	1.75	0.52
1:D:4920:PHE:O	1:D:4924:VAL:HG12	2.10	0.52
1:B:445:LEU:HD13	1:B:521:LEU:HB3	1.92	0.52
1:D:4063:ASP:OD2	1:D:4067:LYS:NZ	2.41	0.52
1:C:728:ARG:NH1	1:C:1384:UNK:O	2.43	0.52
1:C:1237:TRP:HH2	1:C:1652:GLU:HA	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2785:LEU:HB3	1:C:2787:THR:HG22	1.92	0.52
1:A:617:ASN:OD1	1:A:618:GLN:N	2.43	0.52
1:A:3760:LYS:NZ	1:A:3760:LYS:CA	2.71	0.52
1:A:4933:GLN:NE2	1:D:4930:ALA:HA	2.25	0.52
1:B:617:ASN:OD1	1:B:618:GLN:N	2.43	0.52
1:D:3754:GLU:HA	1:D:3754:GLU:OE2	2.10	0.52
1:D:4864:ASN:OD1	1:D:4871:GLU:OE1	2.28	0.52
1:C:3667:HIS:NE2	1:C:3671:ASP:OD2	2.43	0.52
1:A:45:ARG:HG2	1:A:443:LEU:HD21	1.92	0.51
1:A:1697:ALA:HB1	1:A:1708:ARG:HD3	1.92	0.51
1:B:220:LEU:HD22	1:B:262:LEU:HD23	1.92	0.51
1:B:1927:LEU:HD13	1:B:2101:MET:HG3	1.91	0.51
1:B:4003:LEU:HD11	1:B:4009:GLN:HG2	1.92	0.51
1:C:2337:PHE:HA	1:C:2340:PHE:HB2	1.91	0.51
1:C:4207:MET:HE3	1:C:4210:VAL:HG23	1.91	0.51
1:B:1839:VAL:HG13	1:B:1841:VAL:HG22	1.93	0.51
1:D:197:GLN:NE2	1:D:198:THR:O	2.43	0.51
1:D:666:VAL:HB	1:D:744:VAL:HB	1.91	0.51
1:D:2881:ASN:HA	1:D:2884:ASN:HD21	1.75	0.51
1:C:509:GLU:O	1:C:510:GLU:HG3	2.10	0.51
1:C:3758:MET:HE3	1:C:3762:ARG:NH2	2.24	0.51
1:B:3716:LEU:HD23	1:B:3793:MET:HG3	1.92	0.51
1:B:3770:LEU:HD13	1:B:3804:ILE:HD11	1.91	0.51
1:C:4698:LYS:HE3	1:C:4785:THR:HB	1.93	0.51
1:C:4936:ILE:N	1:C:4936:ILE:CD1	2.73	0.51
1:A:2763:HIS:NE2	1:A:2792:ARG:O	2.34	0.51
1:B:1101:ARG:HE	1:B:1115:LEU:HD12	1.76	0.51
1:B:4801:LEU:HD23	1:B:4808:PHE:CD2	2.43	0.51
1:D:617:ASN:OD1	1:D:618:GLN:N	2.43	0.51
1:D:1126:GLY:HA3	1:D:1143:TRP:CZ3	2.45	0.51
1:D:3906:GLN:HE22	1:D:3913:ILE:HB	1.75	0.51
1:C:24:CYS:HB3	1:C:200:TRP:CE3	2.46	0.51
1:C:1240:LYS:NZ	1:C:1242:LEU:HB3	2.26	0.51
1:C:3787:LYS:N	1:C:3787:LYS:HD2	2.25	0.51
1:B:4689:THR:HA	1:B:4732:PHE:HE2	1.75	0.51
1:D:1960:ALA:O	1:D:1963:GLU:HG3	2.10	0.51
1:D:2785:LEU:HB3	1:D:2787:THR:HG22	1.92	0.51
1:C:1126:GLY:HA3	1:C:1143:TRP:CZ3	2.46	0.51
1:A:841:GLY:HA2	1:A:1073:ARG:HD2	1.93	0.51
1:A:2368:LEU:HD22	1:A:2376:LEU:HD21	1.92	0.51
1:B:4865:LYS:HG3	1:B:4875:LYS:HG3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4639:MET:HB2	1:D:4642:ALA:HB3	1.91	0.51
1:C:102:LEU:HD13	1:C:160:GLY:HA2	1.93	0.51
1:C:157:ARG:NH2	1:C:164:ARG:NH2	2.59	0.51
1:A:4860:ARG:NH1	1:A:4860:ARG:CG	2.73	0.51
1:A:4921:PHE:CD2	1:B:4892:ARG:HD2	2.46	0.51
1:B:682:LEU:HD13	1:B:787:VAL:HG11	1.93	0.51
1:D:348:VAL:HB	1:D:357:LEU:HD22	1.91	0.51
1:D:4865:LYS:HG2	1:D:4875:LYS:HG2	1.92	0.51
1:C:102:LEU:HB2	1:C:161:GLU:O	2.11	0.51
1:A:2022:PRO:HB2	1:A:2024:PRO:HD2	1.93	0.51
1:A:2359:ARG:NH1	1:D:195:PHE:O	2.37	0.51
1:A:3753:PHE:C	1:A:3753:PHE:CD2	2.84	0.51
1:A:4584:ASP:HA	1:A:4627:MET:HA	1.93	0.51
1:A:4936:ILE:N	1:A:4936:ILE:CD1	2.73	0.51
1:B:1685:LEU:HD23	1:B:1718:ILE:HD12	1.91	0.51
1:B:4573:ILE:HD11	1:B:4809:PHE:CE2	2.40	0.51
1:C:36:CYS:HB3	1:C:50:GLU:HB3	1.91	0.51
1:C:1076:ARG:HD3	1:C:1109:LEU:HD12	1.92	0.51
1:A:776:LEU:HG	1:A:848:HIS:HA	1.93	0.51
1:A:2688:UNK:O	1:A:2691:UNK:C	2.58	0.51
1:A:2881:ASN:HA	1:A:2884:ASN:HD21	1.76	0.51
1:A:4689:THR:HA	1:A:4732:PHE:HE2	1.75	0.51
1:B:2881:ASN:HA	1:B:2884:ASN:HD21	1.76	0.51
1:D:3751:VAL:O	1:D:3751:VAL:HG23	2.10	0.51
1:D:4865:LYS:NZ	1:D:4865:LYS:CA	2.72	0.51
1:C:682:LEU:HD13	1:C:787:VAL:HG11	1.93	0.51
1:A:414:PHE:HE1	1:A:436:LEU:HD12	1.75	0.50
1:B:69:LEU:HB3	1:B:107:ILE:HD11	1.92	0.50
1:B:76:ARG:O	1:B:79:GLN:HG2	2.11	0.50
1:B:1947:CYS:SG	1:B:2126:ARG:NH2	2.77	0.50
1:B:3984:ARG:HG2	1:B:3987:ASP:HB2	1.91	0.50
1:B:4935:LEU:CD2	1:C:4940:PHE:CE2	2.79	0.50
1:D:3769:ARG:O	1:D:3771:HIS:ND1	2.45	0.50
1:C:2358:ILE:HA	1:C:2364:PHE:HZ	1.75	0.50
1:C:2871:LEU:HD12	1:C:2927:LEU:HD21	1.93	0.50
1:C:3758:MET:CE	1:C:3762:ARG:NH2	2.74	0.50
1:A:455:PRO:HG3	1:A:467:LYS:HB3	1.92	0.50
1:A:687:ALA:HB3	1:A:778:PHE:HB2	1.94	0.50
1:A:1075:PHE:HB2	1:A:1192:CYS:SG	2.51	0.50
1:A:2288:LEU:HD12	1:A:3853:ALA:HB2	1.93	0.50
1:B:710:ASP:OD1	1:B:713:SER:OG	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4141:PHE:CZ	1:B:4196:GLU:HB3	2.46	0.50
1:D:1703:LEU:HB2	1:D:1707:LEU:HB3	1.92	0.50
1:D:2924:GLN:O	1:D:2928:LYS:HG2	2.10	0.50
1:D:4181:ILE:HG12	1:D:4195:PHE:HE1	1.77	0.50
1:A:149:THR:HG23	1:A:151:HIS:CE1	2.46	0.50
1:A:4001:MET:O	1:A:4005:GLN:NE2	2.44	0.50
1:B:1840:PRO:HB3	1:B:1843:LYS:HD3	1.93	0.50
1:D:1698:LEU:HD23	1:D:1810:LYS:HD2	1.93	0.50
1:D:4026:MET:O	1:D:4030:LEU:HG	2.11	0.50
1:D:4661:TYR:O	1:D:4666:VAL:HG23	2.11	0.50
1:D:4888:TYR:OH	1:C:4913:ARG:NH1	2.43	0.50
1:C:1574:PRO:HD2	1:C:1577:ALA:HB2	1.94	0.50
1:C:3965:LEU:O	1:C:3968:TYR:HD1	1.94	0.50
1:B:2810:LYS:HG2	1:B:2814:LYS:HE3	1.93	0.50
1:D:102:LEU:HD13	1:D:160:GLY:HA2	1.93	0.50
1:D:4640:GLU:HB2	1:D:4641:PRO:HD3	1.92	0.50
1:D:4690:GLU:HG2	1:D:4691:GLN:H	1.77	0.50
1:C:3751:VAL:CG2	1:C:3755:GLU:HB3	2.40	0.50
1:C:3773:ARG:HA	1:C:3815:LYS:HE3	1.92	0.50
1:C:3999:MET:HB2	1:C:4003:LEU:HD13	1.94	0.50
1:A:4921:PHE:CD1	1:A:4921:PHE:C	2.85	0.50
1:B:1960:ALA:O	1:B:1963:GLU:HG3	2.12	0.50
1:C:2881:ASN:HA	1:C:2884:ASN:HD21	1.76	0.50
1:C:3889:GLN:HB2	1:C:3964:SER:HA	1.94	0.50
1:C:3927:GLN:NE2	1:C:3931:SER:OG	2.44	0.50
1:A:1851:MET:HB2	1:A:1853:ILE:HG12	1.94	0.50
1:A:4582:VAL:HG11	1:D:4860:ARG:HE	1.76	0.50
1:B:776:LEU:HG	1:B:848:HIS:HA	1.93	0.50
1:B:2022:PRO:HB2	1:B:2024:PRO:HD2	1.94	0.50
1:B:3760:LYS:HD2	1:B:3760:LYS:C	2.31	0.50
1:B:4985:LEU:HD23	1:B:4985:LEU:O	2.12	0.50
1:D:4823:LEU:HD22	1:C:4839:MET:HE3	1.93	0.50
1:D:4865:LYS:C	1:D:4865:LYS:HD3	2.32	0.50
1:C:2113:SER:O	1:C:2113:SER:OG	2.29	0.50
1:B:2165:LEU:HD13	1:B:2178:MET:HB3	1.94	0.50
1:D:560:ILE:HA	1:D:563:VAL:HG12	1.93	0.50
1:D:3840:SER:OG	1:D:3877:ASP:OD2	2.30	0.50
1:D:3888:LEU:HD13	1:D:3891:LEU:HD12	1.94	0.50
1:D:4698:LYS:HE3	1:D:4785:THR:HB	1.93	0.50
1:C:2107:GLN:NE2	1:C:3681:GLY:CA	2.69	0.50
1:C:2812:SER:HB2	1:C:2926:LEU:HD22	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:710:ASP:OD1	1:D:713:SER:OG	2.26	0.50
1:A:1676:LEU:HD22	1:A:2167:ILE:HG22	1.94	0.50
1:A:1698:LEU:HD23	1:A:1810:LYS:HD2	1.94	0.50
1:A:3702:VAL:HG11	1:A:3775:ALA:HB2	1.89	0.50
1:A:4011:GLU:HG2	1:A:4012:LEU:HD12	1.92	0.50
1:A:4240:ASP:OD2	1:A:4668:LEU:HD21	2.12	0.50
1:B:1075:PHE:HB2	1:B:1192:CYS:SG	2.52	0.50
1:B:3804:ILE:HG22	1:B:3805:LEU:HD12	1.94	0.50
1:D:686:TRP:CZ3	1:D:777:PHE:HB3	2.47	0.50
1:D:1867:GLU:HA	1:D:1870:VAL:HB	1.92	0.50
1:A:1106:ARG:NH2	1:A:1183:GLU:OE2	2.44	0.49
1:A:1676:LEU:HD13	1:A:2168:VAL:HG22	1.94	0.49
1:B:299:LEU:HG	1:B:378:LEU:HG	1.94	0.49
1:B:2248:ARG:NH2	1:B:3865:VAL:O	2.45	0.49
1:B:2871:LEU:HD12	1:B:2927:LEU:HD21	1.94	0.49
1:D:1166:GLY:HA3	1:D:1216:ILE:HD13	1.93	0.49
1:D:4223:ASN:OD1	1:D:4946:GLN:NE2	2.42	0.49
1:A:109:LEU:HD23	1:A:148:TRP:HD1	1.76	0.49
1:A:197:GLN:NE2	1:A:198:THR:O	2.44	0.49
1:B:3787:LYS:NZ	1:B:3830:GLN:HG3	2.27	0.49
1:B:4865:LYS:CB	1:B:4875:LYS:CG	2.88	0.49
1:D:214:VAL:HG22	1:D:341:TYR:HE1	1.77	0.49
1:D:1667:LEU:HD21	1:D:1710:GLY:HA3	1.93	0.49
1:D:3761:GLN:HA	1:D:3761:GLN:HE21	1.72	0.49
1:C:1143:TRP:CD1	1:C:1164:LEU:HD13	2.47	0.49
1:C:4892:ARG:O	1:C:4892:ARG:CG	2.60	0.49
1:A:4574:ASN:HD22	1:A:4813:LEU:HD13	1.77	0.49
1:A:4927:ILE:N	1:A:4927:ILE:CD1	2.75	0.49
1:B:2192:TYR:HD1	1:B:2242:ILE:HD13	1.77	0.49
1:B:4849:TYR:OH	1:C:4574:ASN:ND2	2.46	0.49
1:D:719:LEU:HD12	1:D:719:LEU:O	2.13	0.49
1:D:841:GLY:HA2	1:D:1073:ARG:HD2	1.93	0.49
1:D:3767:GLN:NE2	1:D:3804:ILE:HD12	2.27	0.49
1:D:3927:GLN:NE2	1:D:3931:SER:OG	2.44	0.49
1:C:4690:GLU:HG2	1:C:4691:GLN:H	1.78	0.49
1:A:2248:ARG:NH2	1:A:3865:VAL:O	2.46	0.49
1:A:2812:SER:HB2	1:A:2926:LEU:HD22	1.93	0.49
1:B:1229:ASN:HB2	1:B:1826:ALA:HB1	1.95	0.49
1:B:1747:LEU:HB3	1:B:1760:HIS:HB3	1.93	0.49
1:B:3669:PHE:O	1:B:3673:MET:HG2	2.12	0.49
1:B:4812:HIS:HD1	1:B:4812:HIS:C	2.15	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4985:LEU:HD13	2:B:5101:ACP:H2	1.92	0.49
1:D:483:MET:HA	1:D:486:LEU:HD13	1.93	0.49
1:C:759:ILE:HG13	1:C:760:ASN:H	1.76	0.49
1:A:648:ILE:HD13	1:A:779:PRO:HG2	1.93	0.49
1:A:1867:GLU:HA	1:A:1870:VAL:HB	1.94	0.49
1:B:3924:LEU:HD22	1:B:3984:ARG:HD2	1.95	0.49
1:D:717:ASP:OD1	1:D:717:ASP:N	2.45	0.49
1:D:2477:PRO:HB2	1:D:2488:UNK:HA	1.93	0.49
1:D:3887:PHE:O	1:D:3891:LEU:HG	2.12	0.49
1:C:669:ASP:OD1	1:C:669:ASP:N	2.44	0.49
1:C:790:ARG:HD3	1:C:1627:ALA:HB2	1.94	0.49
1:C:1859:VAL:HA	1:C:1862:ILE:HG22	1.93	0.49
1:C:2477:PRO:HB2	1:C:2488:UNK:HA	1.95	0.49
1:A:4850:LEU:HD13	1:B:4814:LEU:HD22	1.94	0.49
1:B:2477:PRO:HB2	1:B:2488:UNK:HA	1.95	0.49
1:B:4066:LEU:HD21	1:B:4173:TYR:CZ	2.48	0.49
1:D:1840:PRO:HB3	1:D:1843:LYS:HD3	1.95	0.49
1:D:2812:SER:HB2	1:D:2926:LEU:HD22	1.94	0.49
1:D:3779:VAL:HG23	1:D:3797:THR:HG22	1.94	0.49
1:C:214:VAL:HG22	1:C:341:TYR:HE1	1.77	0.49
1:C:3737:GLU:CA	1:C:3763:LEU:HD23	2.42	0.49
1:A:1929:MET:N	1:A:1929:MET:SD	2.86	0.49
1:A:3886:ARG:NH1	1:A:3889:GLN:OE1	2.45	0.49
1:A:3987:ASP:OD1	1:D:162:LYS:NZ	2.46	0.49
1:B:719:LEU:O	1:B:719:LEU:HD12	2.11	0.49
1:B:5017:ARG:HH21	1:B:5019:TRP:HE1	1.60	0.49
1:D:36:CYS:HB3	1:D:50:GLU:HB3	1.94	0.49
1:D:2809:ILE:HD11	1:D:2926:LEU:HD13	1.94	0.49
1:D:3767:GLN:NE2	1:D:3804:ILE:CD1	2.75	0.49
1:C:652:ARG:HD3	1:C:773:LEU:HD12	1.94	0.49
1:C:1075:PHE:HB2	1:C:1192:CYS:SG	2.53	0.49
1:C:3840:SER:OG	1:C:3877:ASP:OD2	2.30	0.49
1:A:154:SER:OG	1:A:155:LYS:N	2.46	0.49
1:A:1143:TRP:CD1	1:A:1164:LEU:HD13	2.48	0.49
1:A:3561:UNK:O	1:A:3562:UNK:CB	2.61	0.49
1:A:4550:LYS:HA	1:A:4553:ASN:ND2	2.27	0.49
1:B:667:MET:HB2	1:B:790:ARG:HB2	1.95	0.49
1:B:728:ARG:NH1	1:B:1384:UNK:O	2.46	0.49
1:B:2337:PHE:HA	1:B:2340:PHE:HB2	1.94	0.49
1:B:2763:HIS:NE2	1:B:2792:ARG:O	2.34	0.49
1:B:4066:LEU:HD21	1:B:4173:TYR:CE2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1228:ILE:HG23	1:D:1229:ASN:H	1.77	0.49
1:D:1740:PRO:HA	1:D:1743:ARG:HG2	1.95	0.49
1:D:1747:LEU:HB3	1:D:1760:HIS:HB3	1.95	0.49
1:C:4689:THR:HA	1:C:4732:PHE:HE2	1.78	0.49
1:A:4244:GLU:HG2	1:A:4668:LEU:CD1	2.43	0.49
1:B:24:CYS:HB3	1:B:200:TRP:CE3	2.48	0.49
1:B:2178:MET:SD	1:B:2228:MET:HE1	2.53	0.49
1:B:4872:PRO:CD	1:B:4873:ASP:N	2.76	0.49
1:D:1580:PHE:HE2	1:D:1592:PRO:HG2	1.78	0.49
1:D:3886:ARG:NH1	1:D:3889:GLN:OE1	2.46	0.49
1:C:2810:LYS:HG2	1:C:2814:LYS:HE3	1.94	0.49
1:C:4066:LEU:HD21	1:C:4173:TYR:CE2	2.48	0.49
1:B:1639:LEU:N	1:B:1648:MET:O	2.44	0.48
1:B:4812:HIS:ND1	1:B:4812:HIS:C	2.67	0.48
1:C:483:MET:HA	1:C:486:LEU:HD13	1.95	0.48
1:C:1698:LEU:HD22	1:C:1810:LYS:HG2	1.93	0.48
1:C:4944:ARG:NH1	1:C:4944:ARG:CG	2.76	0.48
1:A:786:GLY:HA2	1:A:1631:GLN:HA	1.95	0.48
1:A:3889:GLN:HG3	1:A:3964:SER:HA	1.95	0.48
1:D:154:SER:OG	1:D:155:LYS:N	2.45	0.48
1:C:567:VAL:HG13	1:C:568:LEU:HD12	1.94	0.48
1:C:3723:MET:HE1	1:C:3793:MET:HA	1.94	0.48
1:A:790:ARG:HD3	1:A:1627:ALA:HB2	1.96	0.48
1:A:1649:ASP:N	1:A:1649:ASP:OD1	2.45	0.48
1:A:1703:LEU:HB2	1:A:1707:LEU:HB3	1.94	0.48
1:A:2736:ASP:N	1:A:2736:ASP:OD1	2.46	0.48
1:B:650:VAL:HB	1:B:777:PHE:HD2	1.77	0.48
1:D:19:GLU:HB3	1:D:68:THR:HG22	1.95	0.48
1:D:1240:LYS:HZ1	1:D:1242:LEU:HB3	1.77	0.48
1:D:2248:ARG:NH2	1:D:3865:VAL:O	2.46	0.48
1:D:3670:GLU:OE1	1:D:3670:GLU:N	2.44	0.48
1:D:4003:LEU:HD11	1:D:4009:GLN:HG2	1.96	0.48
1:D:4141:PHE:CE2	1:D:4196:GLU:HB2	2.48	0.48
1:C:426:ARG:NE	1:C:505:GLU:O	2.41	0.48
1:C:1857:GLU:HA	1:C:1860:LYS:HE2	1.95	0.48
1:C:2022:PRO:HB2	1:C:2024:PRO:HD2	1.95	0.48
1:C:3778:MET:HA	1:C:3781:GLN:HG2	1.96	0.48
1:B:116:MET:HG3	1:B:137:LEU:HD12	1.94	0.48
1:D:149:THR:HG23	1:D:151:HIS:HE1	1.78	0.48
1:D:1075:PHE:HB2	1:D:1192:CYS:SG	2.53	0.48
1:D:2022:PRO:HB2	1:D:2024:PRO:HD2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3968:TYR:O	1:C:3976:ASN:ND2	2.46	0.48
1:A:4238:CYS:HA	1:A:4989:MET:HE1	1.94	0.48
1:B:149:THR:HG23	1:B:151:HIS:CE1	2.49	0.48
1:B:1676:LEU:HD22	1:B:2167:ILE:HG22	1.95	0.48
1:B:1740:PRO:HA	1:B:1743:ARG:HG2	1.95	0.48
1:B:2368:LEU:HD13	1:B:2376:LEU:HD21	1.94	0.48
1:B:4852:THR:HG21	1:B:4883:TYR:HA	1.95	0.48
1:D:248:GLU:HG2	1:D:252:VAL:HG23	1.96	0.48
1:D:1237:TRP:HH2	1:D:1652:GLU:HA	1.78	0.48
1:D:3805:LEU:O	1:D:3890:LEU:HD23	2.14	0.48
1:B:3972:PRO:HB3	1:B:4032:GLU:HG3	1.96	0.48
1:B:4865:LYS:CG	1:B:4875:LYS:CG	2.91	0.48
1:D:1707:LEU:O	1:D:1709:ALA:N	2.47	0.48
1:D:3767:GLN:HE22	1:D:3804:ILE:CD1	2.27	0.48
1:D:4095:LYS:HE2	1:D:4095:LYS:HB3	1.68	0.48
1:C:138:GLN:HG2	1:C:139:GLU:H	1.78	0.48
1:B:138:GLN:HG2	1:B:139:GLU:H	1.78	0.48
1:B:143:GLY:HA2	1:B:146:CYS:SG	2.54	0.48
1:D:455:PRO:HG3	1:D:467:LYS:HB3	1.95	0.48
1:D:1689:VAL:HG13	1:D:1690:ASP:N	2.28	0.48
1:B:2736:ASP:OD1	1:B:2736:ASP:N	2.46	0.48
1:B:4851:TYR:HD2	1:B:4920:PHE:HD1	1.61	0.48
1:D:243:ARG:NH1	1:D:301:VAL:O	2.47	0.48
1:D:1712:TYR:O	1:D:1716:ILE:HG12	2.13	0.48
1:C:3944:GLU:HG2	1:C:3947:GLY:H	1.79	0.48
1:A:664:PHE:CZ	1:A:779:PRO:HG3	2.49	0.48
1:A:1697:ALA:HB1	1:A:1708:ARG:HH11	1.78	0.48
1:A:1712:TYR:O	1:A:1716:ILE:HG12	2.14	0.48
1:A:1747:LEU:HB3	1:A:1760:HIS:HB3	1.94	0.48
1:A:4183:ILE:HD13	1:A:5010:VAL:HG21	1.96	0.48
1:A:4927:ILE:N	1:A:4927:ILE:HD13	2.29	0.48
1:B:700:GLU:HA	1:B:1646:ARG:HA	1.96	0.48
1:C:220:LEU:HD12	1:C:390:LEU:HB3	1.95	0.48
1:A:1689:VAL:HG13	1:A:1690:ASP:N	2.29	0.48
1:A:1740:PRO:HA	1:A:1743:ARG:HG2	1.96	0.48
1:D:2113:SER:OG	1:D:2113:SER:O	2.31	0.48
1:D:2871:LEU:HD12	1:D:2927:LEU:HD21	1.95	0.48
1:C:1698:LEU:HD21	1:C:1814:MET:HB2	1.95	0.48
1:C:3765:TYR:CD1	1:C:4750:ILE:HD12	2.49	0.48
1:B:216:GLY:HA2	1:B:262:LEU:HD11	1.96	0.47
1:B:3835:LEU:HD21	1:B:3880:PHE:CZ	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1580:PHE:HE2	1:C:1592:PRO:HG2	1.78	0.47
1:C:1929:MET:N	1:C:1929:MET:SD	2.87	0.47
1:C:2248:ARG:NH2	1:C:3865:VAL:O	2.47	0.47
1:A:24:CYS:HB3	1:A:200:TRP:CE3	2.49	0.47
1:A:273:HIS:H	1:A:334:MET:HB3	1.80	0.47
1:A:978:THR:HG22	1:A:981:GLN:H	1.79	0.47
1:A:2477:PRO:HB2	1:A:2488:UNK:HA	1.95	0.47
1:A:4244:GLU:HG3	1:A:4668:LEU:HD11	1.96	0.47
1:B:213:TYR:CG	1:B:337:PRO:HB2	2.49	0.47
1:D:3945:GLU:OE1	1:D:3946:GLN:NE2	2.47	0.47
1:D:4892:ARG:HH22	1:C:4897:ILE:N	2.12	0.47
1:D:4929:LEU:N	1:D:4929:LEU:CD2	2.77	0.47
1:C:449:ILE:HG13	1:C:525:LEU:HD12	1.95	0.47
1:C:455:PRO:HG3	1:C:467:LYS:HB3	1.96	0.47
1:C:3763:LEU:O	1:C:3767:GLN:OE1	2.31	0.47
1:C:4555:LEU:HD22	1:C:4656:LEU:HD11	1.95	0.47
1:A:1707:LEU:O	1:A:1709:ALA:N	2.47	0.47
1:A:2113:SER:O	1:A:2113:SER:OG	2.30	0.47
1:B:1703:LEU:HB2	1:B:1707:LEU:HB3	1.97	0.47
1:D:2930:LEU:HD13	1:D:2937:VAL:HG21	1.96	0.47
1:D:3889:GLN:NE2	1:D:3963:ASN:OD1	2.47	0.47
1:D:4582:VAL:HG11	1:C:4860:ARG:HH11	1.80	0.47
1:C:3924:LEU:HD22	1:C:3984:ARG:HD2	1.95	0.47
1:C:4671:PHE:HE1	1:C:4716:TRP:HB2	1.78	0.47
1:A:2742:THR:HG21	1:A:2814:LYS:HD3	1.96	0.47
1:A:3962:PHE:O	1:A:3966:THR:HG23	2.14	0.47
1:D:1077:ALA:HB3	1:D:1189:LEU:HD11	1.96	0.47
1:C:3729:MET:O	1:C:3732:SER:OG	2.30	0.47
1:A:219:VAL:HG12	1:A:261:ARG:HB2	1.96	0.47
1:A:313:SER:HB2	1:A:350:HIS:CE1	2.50	0.47
1:A:2299:VAL:HG11	1:A:2356:LEU:HB3	1.95	0.47
1:A:4865:LYS:HA	1:A:4865:LYS:CE	2.42	0.47
1:A:4921:PHE:HD2	1:B:4892:ARG:HD2	1.79	0.47
1:B:1707:LEU:O	1:B:1709:ALA:N	2.48	0.47
1:D:219:VAL:HG12	1:D:261:ARG:HB2	1.97	0.47
1:C:1707:LEU:O	1:C:1709:ALA:N	2.47	0.47
1:A:670:GLU:HG3	1:A:787:VAL:HA	1.95	0.47
1:A:1026:LEU:HA	1:A:1032:LYS:HE2	1.96	0.47
1:A:1840:PRO:HB3	1:A:1843:LYS:HD3	1.97	0.47
1:B:1580:PHE:HE2	1:B:1592:PRO:HG2	1.78	0.47
1:B:2474:LEU:HD23	1:B:2474:LEU:H	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2257:LEU:HD11	1:D:2276:ALA:HB2	1.94	0.47
1:C:2192:TYR:HD1	1:C:2242:ILE:HD13	1.79	0.47
1:C:2809:ILE:HD11	1:C:2926:LEU:HD13	1.96	0.47
1:A:192:ASP:OD1	1:A:192:ASP:N	2.46	0.47
1:A:646:PRO:HD2	1:A:779:PRO:HB2	1.97	0.47
1:A:3236:UNK:N	1:A:3240:UNK:N	2.61	0.47
1:A:4158:PRO:HA	1:A:4161:ARG:HD3	1.96	0.47
1:B:2181:SER:O	1:B:2185:ILE:HG23	2.14	0.47
1:B:4690:GLU:HG2	1:B:4691:GLN:H	1.78	0.47
1:B:4946:GLN:O	1:B:4949:GLN:N	2.47	0.47
1:D:723:THR:H	1:D:726:VAL:HG12	1.79	0.47
1:D:1026:LEU:HA	1:D:1032:LYS:HE2	1.96	0.47
1:D:1839:VAL:HG13	1:D:1841:VAL:HG22	1.97	0.47
1:D:2192:TYR:HD1	1:D:2242:ILE:HD13	1.80	0.47
1:D:2474:LEU:HD23	1:D:2474:LEU:H	1.80	0.47
1:D:4866:SER:OG	1:D:4867:GLU:N	2.45	0.47
1:C:4011:GLU:HG2	1:C:4012:LEU:HD12	1.97	0.47
1:C:4869:GLU:HB3	1:C:4870:ASP:H	1.36	0.47
1:A:2287:ALA:O	1:A:2349:ASN:ND2	2.43	0.47
1:A:3957:VAL:O	1:A:3961:VAL:HG23	2.15	0.47
1:A:4690:GLU:HG2	1:A:4691:GLN:H	1.78	0.47
1:B:154:SER:OG	1:B:155:LYS:N	2.47	0.47
1:B:1857:GLU:HA	1:B:1860:LYS:HE2	1.97	0.47
1:B:3906:GLN:HE22	1:B:3913:ILE:HB	1.80	0.47
1:D:213:TYR:CD1	1:D:337:PRO:HB2	2.50	0.47
1:D:661:LYS:HB3	1:D:808:TYR:CD2	2.50	0.47
1:D:3937:TYR:OH	1:D:3944:GLU:OE2	2.32	0.47
1:C:978:THR:HG22	1:C:981:GLN:H	1.80	0.47
1:C:1747:LEU:HB3	1:C:1760:HIS:HB3	1.96	0.47
1:C:4716:TRP:HZ2	1:C:4996:ILE:HG21	1.79	0.47
1:A:138:GLN:HG2	1:A:139:GLU:H	1.79	0.47
1:A:1124:PHE:HE1	1:A:1139:PHE:HB3	1.79	0.47
1:D:1194:LEU:HB3	1:D:1198:GLN:HB2	1.96	0.47
1:D:4629:TYR:HE1	1:C:4860:ARG:HH12	1.62	0.47
1:C:2335:LEU:HD22	1:C:2353:VAL:HG21	1.96	0.47
1:C:3758:MET:C	1:C:3758:MET:SD	2.93	0.47
1:A:1204:LEU:HD23	1:A:1227:ALA:HB2	1.97	0.47
1:A:4917:ASP:OD2	1:B:4892:ARG:NH1	2.48	0.47
1:B:4865:LYS:HG3	1:B:4875:LYS:HG2	1.95	0.47
1:D:45:ARG:HD2	1:D:137:LEU:O	2.15	0.47
1:D:2449:GLU:OE2	1:D:2452:ARG:NH1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4019:LEU:O	1:D:4023:MET:HG2	2.15	0.47
1:C:1740:PRO:HA	1:C:1743:ARG:HG2	1.97	0.47
1:C:2474:LEU:HD23	1:C:2474:LEU:H	1.80	0.47
1:A:3887:PHE:O	1:A:3891:LEU:HG	2.15	0.46
1:D:669:ASP:N	1:D:669:ASP:OD1	2.48	0.46
1:D:4978:HIS:HE1	1:D:5027:CYS:HB2	1.80	0.46
1:C:1119:GLU:HA	1:C:1133:HIS:CD2	2.49	0.46
1:C:1960:ALA:O	1:C:1963:GLU:HG3	2.14	0.46
1:C:2736:ASP:OD1	1:C:2736:ASP:N	2.46	0.46
1:A:102:LEU:HD13	1:A:160:GLY:HA2	1.96	0.46
1:A:1727:ARG:HH21	1:A:1772:ARG:HG3	1.79	0.46
1:B:106:ALA:HA	1:B:149:THR:HA	1.97	0.46
1:B:707:VAL:HG12	1:B:713:SER:HB2	1.97	0.46
1:B:4031:LEU:HD23	1:B:4031:LEU:H	1.81	0.46
1:B:4832:HIS:NE2	1:B:4942:GLU:OE1	2.48	0.46
1:A:4017:LEU:HD12	1:A:4139:ILE:HG13	1.98	0.46
1:B:224:HIS:N	1:B:229:GLU:O	2.39	0.46
1:B:1026:LEU:HA	1:B:1032:LYS:HE2	1.96	0.46
1:B:4022:ASP:O	1:B:4025:VAL:HG12	2.15	0.46
1:B:4654:ALA:CB	1:B:4795:TYR:CE1	2.98	0.46
1:D:4689:THR:HA	1:D:4732:PHE:HE2	1.81	0.46
1:C:1026:LEU:HA	1:C:1032:LYS:HE2	1.96	0.46
1:C:1667:LEU:HD21	1:C:1710:GLY:HA3	1.97	0.46
1:C:4219:PHE:CE1	1:C:4946:GLN:OE1	2.69	0.46
1:C:4662:ASN:HA	1:C:4666:VAL:HG23	1.97	0.46
1:A:1867:GLU:O	1:A:1871:PHE:N	2.38	0.46
1:A:2674:UNK:HA	1:A:2679:UNK:CB	2.45	0.46
1:B:358:THR:HG1	1:B:383:HIS:HD1	1.64	0.46
1:B:1667:LEU:HD21	1:B:1710:GLY:HA3	1.97	0.46
1:B:4864:ASN:HA	1:B:4874:MET:SD	2.55	0.46
1:B:4865:LYS:CG	1:B:4875:LYS:HG2	2.45	0.46
1:D:2348:GLU:HG2	1:D:3849:ARG:HE	1.81	0.46
1:D:3889:GLN:HG3	1:D:3964:SER:HA	1.96	0.46
1:A:669:ASP:N	1:A:669:ASP:OD1	2.48	0.46
1:A:2271:THR:HG22	1:A:2273:LEU:H	1.80	0.46
1:B:414:PHE:HE1	1:B:436:LEU:HD12	1.80	0.46
1:B:1851:MET:HB2	1:B:1853:ILE:HG12	1.97	0.46
1:B:2159:LEU:HD13	1:B:2201:LEU:HD23	1.97	0.46
1:B:4818:MET:C	1:B:4818:MET:SD	2.94	0.46
1:C:5000:GLU:HA	1:C:5003:HIS:ND1	2.31	0.46
1:A:560:ILE:HA	1:A:563:VAL:HG12	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2095:GLN:HE21	1:A:2128:TYR:HD1	1.63	0.46
1:A:3491:UNK:O	1:A:3495:UNK:CB	2.64	0.46
1:B:197:GLN:NE2	1:B:198:THR:O	2.48	0.46
1:B:1194:LEU:HB3	1:B:1198:GLN:HB2	1.97	0.46
1:B:5000:GLU:HA	1:B:5003:HIS:ND1	2.31	0.46
1:D:1850:VAL:HA	1:D:1945:TYR:CE1	2.51	0.46
1:C:1194:LEU:HB3	1:C:1198:GLN:HB2	1.97	0.46
1:C:1240:LYS:HZ1	1:C:1242:LEU:HB3	1.80	0.46
1:C:1712:TYR:O	1:C:1716:ILE:HG12	2.15	0.46
1:C:3906:GLN:HE22	1:C:3913:ILE:HB	1.81	0.46
1:C:4223:ASN:ND2	1:C:4946:GLN:NE2	2.63	0.46
1:C:4844:LEU:HD12	1:C:4928:LEU:HG	1.96	0.46
1:A:108:LEU:HD13	1:A:147:TRP:NE1	2.31	0.46
1:A:795:GLY:H	1:A:811:CYS:HB2	1.80	0.46
1:A:1077:ALA:HB3	1:A:1189:LEU:HD11	1.97	0.46
1:A:2337:PHE:HA	1:A:2340:PHE:HB2	1.98	0.46
2:A:5101:ACP:O2G	2:A:5101:ACP:O2B	2.33	0.46
1:B:758:ARG:HG2	1:B:759:ILE:O	2.16	0.46
1:B:4654:ALA:CB	1:B:4795:TYR:HE1	2.29	0.46
1:D:4184:MET:HB2	1:D:4190:ILE:HG22	1.97	0.46
1:C:257:ARG:O	1:C:284:HIS:NE2	2.44	0.46
1:C:1685:LEU:HD23	1:C:1718:ILE:HD12	1.97	0.46
1:C:3771:HIS:O	1:C:3775:ALA:N	2.49	0.46
1:A:710:ASP:OD1	1:A:713:SER:OG	2.31	0.46
1:A:1228:ILE:HD11	1:B:3573:UNK:HA	1.97	0.46
1:A:3941:ASP:OD1	1:A:3941:ASP:N	2.47	0.46
1:B:592:LYS:O	1:B:1594:ARG:HB2	2.16	0.46
1:D:149:THR:HG23	1:D:151:HIS:CE1	2.50	0.46
1:D:4895:GLY:HA2	1:D:4921:PHE:HE1	1.81	0.46
1:C:1141:ARG:NH2	1:C:1144:GLN:OE1	2.49	0.46
1:A:700:GLU:HA	1:A:1646:ARG:HA	1.98	0.46
1:A:1101:ARG:HH21	1:A:1115:LEU:HG	1.79	0.46
1:A:3944:GLU:HG2	1:A:3947:GLY:H	1.81	0.46
1:B:669:ASP:N	1:B:669:ASP:OD1	2.49	0.46
1:B:978:THR:HG22	1:B:981:GLN:H	1.80	0.46
1:B:1712:TYR:O	1:B:1716:ILE:HG12	2.15	0.46
1:B:4816:ILE:HD12	1:B:4816:ILE:HA	1.65	0.46
1:B:4818:MET:HA	1:B:4823:LEU:CG	2.41	0.46
1:D:661:LYS:HE3	1:D:750:LEU:HB3	1.98	0.46
1:D:978:THR:HG22	1:D:981:GLN:H	1.80	0.46
1:D:1072:VAL:HG22	1:D:1195:GLY:HA2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1203:ASN:ND2	1:D:1210:SER:O	2.43	0.46
1:D:1639:LEU:N	1:D:1648:MET:O	2.46	0.46
1:D:2182:ILE:O	1:D:2185:ILE:HG12	2.15	0.46
1:C:3733:CYS:SG	1:C:3803:SER:OG	2.52	0.46
1:A:213:TYR:CD2	1:A:337:PRO:HB2	2.51	0.46
1:A:3888:LEU:HD13	1:A:3891:LEU:HD12	1.97	0.46
1:B:1934:SER:O	1:B:1937:LEU:HG	2.16	0.46
1:D:358:THR:HG1	1:D:383:HIS:HD1	1.64	0.46
1:D:700:GLU:HA	1:D:1646:ARG:HA	1.98	0.46
1:D:4180:ARG:HG2	1:D:4194:TYR:CE1	2.51	0.46
1:D:4235:VAL:HG21	1:D:5019:TRP:CH2	2.51	0.46
1:D:4828:SER:HA	1:D:4831:THR:HG22	1.98	0.46
1:D:4904:PRO:HG3	1:D:4913:ARG:HE	1.81	0.46
1:C:3759:GLU:O	1:C:3762:ARG:N	2.49	0.46
1:A:4914:VAL:HG23	1:B:4888:TYR:HD2	1.80	0.45
1:B:313:SER:HB2	1:B:350:HIS:CE1	2.51	0.45
1:B:4638:TYR:O	1:B:4641:PRO:HD2	2.16	0.45
1:D:2012:PHE:HB3	1:D:2021:CYS:HA	1.98	0.45
1:D:4017:LEU:HA	1:D:4020:GLN:OE1	2.16	0.45
1:C:3996:PHE:HA	1:C:3999:MET:SD	2.56	0.45
1:C:4666:VAL:N	1:C:4667:PRO:HD2	2.31	0.45
1:C:4985:LEU:O	1:C:4989:MET:HG2	2.17	0.45
1:A:1720:LEU:HB2	1:A:1724:CYS:SG	2.57	0.45
1:A:4654:ALA:O	1:A:4658:ILE:HG12	2.16	0.45
1:D:138:GLN:HG2	1:D:139:GLU:N	2.31	0.45
1:D:330:ASP:OD1	1:D:330:ASP:N	2.49	0.45
1:D:652:ARG:HD3	1:D:773:LEU:HD12	1.98	0.45
1:D:1119:GLU:HA	1:D:1133:HIS:CD2	2.51	0.45
1:D:2736:ASP:OD1	1:D:2736:ASP:N	2.46	0.45
1:D:4865:LYS:HZ3	1:D:4865:LYS:CB	2.27	0.45
1:C:1676:LEU:HD22	1:C:2167:ILE:HG22	1.97	0.45
1:C:2012:PHE:HB3	1:C:2021:CYS:HA	1.99	0.45
1:A:162:LYS:O	1:A:164:ARG:NH1	2.49	0.45
1:A:1580:PHE:CE2	1:A:1592:PRO:HG2	2.51	0.45
1:A:3804:ILE:HG22	1:A:3805:LEU:HD12	1.97	0.45
1:A:4716:TRP:HZ2	1:A:4996:ILE:HG21	1.81	0.45
1:B:1101:ARG:HH21	1:B:1115:LEU:HG	1.80	0.45
1:B:2272:PRO:HA	1:B:2275:VAL:HG12	1.98	0.45
1:B:3676:ASP:OD1	1:B:3677:LEU:N	2.50	0.45
1:B:3832:ILE:O	1:B:3836:MET:HG2	2.16	0.45
1:D:759:ILE:HG13	1:D:760:ASN:H	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:213:TYR:CD1	1:C:337:PRO:HB2	2.51	0.45
1:A:543:ASN:O	1:A:547:VAL:HG23	2.17	0.45
1:A:1931:LEU:HD22	1:A:1935:VAL:HG11	1.99	0.45
1:B:3840:SER:OG	1:B:3877:ASP:OD2	2.32	0.45
1:B:4573:ILE:HD13	1:B:4809:PHE:CD2	2.45	0.45
1:B:4821:LYS:HA	1:B:4824:ARG:NH2	2.31	0.45
1:C:214:VAL:HG21	1:C:390:LEU:HD12	1.98	0.45
1:C:4063:ASP:OD2	1:C:4067:LYS:NZ	2.46	0.45
1:A:1857:GLU:HA	1:A:1860:LYS:HE2	1.98	0.45
1:A:2474:LEU:HD23	1:A:2474:LEU:H	1.80	0.45
1:A:3963:ASN:O	1:A:3966:THR:OG1	2.30	0.45
1:A:4221:VAL:HG22	1:A:4233:LEU:HD11	1.98	0.45
1:A:4901:ILE:CB	1:A:4913:ARG:HH21	2.27	0.45
1:A:5017:ARG:HH21	1:A:5019:TRP:HE1	1.63	0.45
1:B:2812:SER:HB2	1:B:2926:LEU:HD22	1.98	0.45
1:B:3845:ASN:O	1:B:3849:ARG:HG2	2.17	0.45
1:B:4024:VAL:HG23	1:B:4142:ASN:ND2	2.32	0.45
1:D:294:THR:HG23	1:D:295:GLU:N	2.32	0.45
1:D:313:SER:HB2	1:D:350:HIS:CE1	2.52	0.45
1:D:3769:ARG:O	1:D:3771:HIS:CE1	2.70	0.45
1:C:293:LEU:HD13	1:C:298:GLY:N	2.31	0.45
1:C:647:ASN:HB3	1:C:822:ARG:NH1	2.31	0.45
1:C:2348:GLU:HG3	1:C:3849:ARG:HH21	1.80	0.45
1:C:4869:GLU:C	1:C:4870:ASP:O	2.55	0.45
1:C:4904:PRO:HB3	1:C:4913:ARG:HD3	1.98	0.45
1:A:119:SER:OG	1:A:120:CYS:N	2.49	0.45
1:B:144:GLU:HG2	1:B:145:ALA:N	2.32	0.45
1:B:1677:GLY:HA2	1:B:1721:GLU:HG2	1.99	0.45
1:B:1866:ILE:HG22	1:B:1870:VAL:HG23	1.99	0.45
1:C:719:LEU:O	1:C:719:LEU:HD12	2.17	0.45
1:C:1677:GLY:HA2	1:C:1721:GLU:HG2	1.99	0.45
1:C:2182:ILE:O	1:C:2185:ILE:HG12	2.16	0.45
1:A:693:SER:N	1:A:694:PRO:HD2	2.31	0.45
1:A:758:ARG:HG2	1:A:759:ILE:O	2.17	0.45
1:A:3763:LEU:C	1:A:3763:LEU:CD1	2.85	0.45
1:D:257:ARG:O	1:D:284:HIS:NE2	2.50	0.45
1:D:1098:GLY:HA3	1:D:1198:GLN:HE22	1.80	0.45
1:C:119:SER:OG	1:C:120:CYS:N	2.50	0.45
1:A:505:GLU:HA	1:A:511:ALA:HB3	1.98	0.45
1:A:1194:LEU:HB3	1:A:1198:GLN:HB2	1.98	0.45
1:A:4937:ILE:CD1	1:D:4934:GLY:HA2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1240:LYS:NZ	1:B:1244:GLN:OE1	2.49	0.45
1:D:2272:PRO:HA	1:D:2275:VAL:HG12	1.98	0.45
1:C:700:GLU:HA	1:C:1646:ARG:HA	1.98	0.45
1:A:22:LEU:HD11	1:A:200:TRP:HB3	1.99	0.45
1:A:131:LEU:HD21	1:B:2456:ILE:HA	1.99	0.45
1:A:1839:VAL:HG13	1:A:1841:VAL:HG22	1.98	0.45
1:A:2367:ALA:HB3	1:A:2379:ALA:HB2	1.98	0.45
1:B:330:ASP:OD1	1:B:330:ASP:N	2.49	0.45
1:B:1143:TRP:CD1	1:B:1164:LEU:HD13	2.52	0.45
1:B:4865:LYS:C	1:B:4865:LYS:CD	2.85	0.45
1:D:24:CYS:SG	1:D:35:LEU:HB2	2.57	0.45
1:D:272:SER:HB2	1:D:334:MET:HA	1.98	0.45
1:D:416:LYS:HA	1:D:416:LYS:HD3	1.77	0.45
1:C:795:GLY:H	1:C:811:CYS:HB2	1.82	0.45
1:C:1101:ARG:HH21	1:C:1115:LEU:HG	1.81	0.45
1:C:1730:MET:SD	1:C:1772:ARG:NH1	2.90	0.45
1:C:3801:GLY:HA2	1:C:3804:ILE:HG22	1.99	0.45
1:C:3842:LEU:HD21	1:C:3954:ALA:HB2	1.99	0.45
1:A:723:THR:H	1:A:726:VAL:HG12	1.82	0.45
1:A:2012:PHE:HB3	1:A:2021:CYS:HA	1.99	0.45
1:A:3937:TYR:O	1:A:4002:LYS:NZ	2.50	0.45
1:A:4926:VAL:HG12	1:A:4927:ILE:CD1	2.47	0.45
1:B:1000:ARG:O	1:B:1005:TRP:N	2.50	0.45
1:B:2734:ASN:HB3	1:B:2735:PHE:H	1.59	0.45
1:B:2781:VAL:HG22	1:B:2789:PRO:HD2	1.99	0.45
1:D:1857:GLU:HA	1:D:1860:LYS:HE2	1.98	0.45
1:D:2794:TYR:HA	1:D:2797:PHE:HD2	1.82	0.45
1:D:4024:VAL:HG13	1:D:4142:ASN:ND2	2.32	0.45
1:D:4101:LYS:HG3	1:C:4731:ILE:HA	1.98	0.45
1:D:4705:VAL:HG22	1:D:4711:PHE:HD1	1.82	0.45
1:C:213:TYR:CG	1:C:337:PRO:HB2	2.51	0.45
1:C:3779:VAL:HG23	1:C:3797:THR:HG22	1.99	0.45
1:C:3845:ASN:O	1:C:3849:ARG:HG2	2.17	0.45
1:C:4922:PHE:CD2	1:C:4922:PHE:O	2.70	0.45
1:A:179:TYR:HB3	1:A:197:GLN:HB2	1.99	0.44
1:A:3808:GLY:HA2	1:A:3893:GLU:OE2	2.17	0.44
1:B:495:ASN:HD21	1:B:550:LYS:HB3	1.82	0.44
1:B:1119:GLU:HB3	1:B:1134:LEU:HD11	2.00	0.44
1:B:1935:VAL:O	1:B:1939:MET:HG2	2.17	0.44
1:B:4183:ILE:HD13	1:B:5010:VAL:HG21	1.99	0.44
1:D:134:ASP:N	1:D:134:ASP:OD1	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:592:LYS:O	1:D:1594:ARG:HB2	2.16	0.44
1:D:1622:GLU:HA	1:D:1626:TRP:CD2	2.52	0.44
1:D:1867:GLU:O	1:D:1871:PHE:N	2.37	0.44
1:D:2191:PHE:HZ	1:D:2239:PHE:HA	1.82	0.44
1:D:2781:VAL:HG22	1:D:2789:PRO:HD2	1.99	0.44
1:C:313:SER:HB2	1:C:350:HIS:CE1	2.52	0.44
1:C:614:VAL:O	1:C:618:GLN:NE2	2.50	0.44
1:C:1840:PRO:HB3	1:C:1843:LYS:HD3	1.98	0.44
1:C:4812:HIS:O	1:C:4816:ILE:HG12	2.17	0.44
1:A:78:LEU:HD11	1:A:147:TRP:CG	2.52	0.44
1:A:1237:TRP:HH2	1:A:1652:GLU:HA	1.81	0.44
1:A:1661:ARG:HA	1:A:1661:ARG:HD2	1.85	0.44
1:A:3729:MET:HG3	1:A:3770:LEU:CD1	2.42	0.44
1:B:213:TYR:CD1	1:B:337:PRO:HB2	2.52	0.44
1:B:3765:TYR:CE1	1:B:4750:ILE:HG22	2.41	0.44
1:B:4869:GLU:CD	1:B:4869:GLU:N	2.71	0.44
1:B:4958:CYS:SG	1:B:4978:HIS:HD2	2.37	0.44
1:D:615:ARG:NH2	1:D:1677:GLY:O	2.48	0.44
1:D:2165:LEU:HD13	1:D:2178:MET:HB3	1.97	0.44
1:D:4868:ASP:HB3	1:D:4869:GLU:H	1.66	0.44
1:C:543:ASN:O	1:C:547:VAL:HG23	2.17	0.44
1:C:4550:LYS:HA	1:C:4553:ASN:HD21	1.81	0.44
1:A:35:LEU:HD23	1:A:49:LEU:HD22	2.00	0.44
1:A:1738:LEU:HD11	1:A:1963:GLU:HG3	1.99	0.44
1:A:4865:LYS:CE	1:A:4865:LYS:CA	2.96	0.44
1:B:35:LEU:HD23	1:B:49:LEU:HD22	1.99	0.44
1:B:119:SER:OG	1:B:120:CYS:N	2.50	0.44
1:B:294:THR:HG23	1:B:295:GLU:N	2.32	0.44
1:B:693:SER:N	1:B:694:PRO:HD2	2.33	0.44
1:B:1736:VAL:HG21	1:B:1956:GLU:HG3	1.99	0.44
1:B:4158:PRO:HA	1:B:4161:ARG:HD3	1.98	0.44
1:D:4205:TRP:O	1:D:4205:TRP:CG	2.70	0.44
1:D:4865:LYS:HD3	1:D:4866:SER:N	2.32	0.44
1:C:150:MET:HE1	1:C:163:VAL:HG11	1.98	0.44
1:C:751:SER:OG	1:C:752:VAL:N	2.50	0.44
1:C:758:ARG:HG2	1:C:759:ILE:O	2.18	0.44
1:C:1851:MET:HB2	1:C:1853:ILE:HG12	1.98	0.44
1:C:2794:TYR:HA	1:C:2797:PHE:HD2	1.82	0.44
1:C:3763:LEU:C	1:C:3763:LEU:CD1	2.85	0.44
1:A:3670:GLU:OE1	1:A:3670:GLU:N	2.44	0.44
1:A:3767:GLN:HG3	1:A:3809:ASN:ND2	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:219:VAL:HG12	1:B:261:ARG:HB2	2.00	0.44
1:B:795:GLY:H	1:B:811:CYS:HB2	1.83	0.44
1:B:4142:ASN:HA	1:B:4145:VAL:HG12	1.99	0.44
1:B:4654:ALA:O	1:B:4658:ILE:HG12	2.17	0.44
1:D:1931:LEU:HD22	1:D:1935:VAL:HG11	1.99	0.44
1:C:629:ARG:HD2	1:C:634:GLN:HG2	1.98	0.44
1:C:1736:VAL:HG21	1:C:1956:GLU:HG3	2.00	0.44
1:C:2348:GLU:HG2	1:C:3849:ARG:HE	1.81	0.44
1:C:4219:PHE:CZ	1:C:4946:GLN:OE1	2.70	0.44
1:B:1158:ASN:HB3	1:B:1182:ILE:HG13	1.99	0.44
1:B:4631:PHE:HE2	1:B:4640:GLU:HA	1.83	0.44
1:B:4895:GLY:O	1:C:4892:ARG:CG	2.65	0.44
1:D:181:HIS:N	1:D:192:ASP:O	2.49	0.44
1:D:2236:LEU:HB3	1:D:2275:VAL:HG21	2.00	0.44
1:C:312:THR:OG1	1:C:313:SER:N	2.51	0.44
1:C:723:THR:H	1:C:726:VAL:HG12	1.82	0.44
1:A:1000:ARG:O	1:A:1005:TRP:N	2.50	0.44
1:A:3772:THR:HG23	1:A:3773:ARG:N	2.32	0.44
1:A:4850:LEU:CD1	1:B:4814:LEU:HD22	2.48	0.44
1:B:668:VAL:O	1:B:741:GLU:N	2.50	0.44
1:D:299:LEU:HG	1:D:378:LEU:HG	1.99	0.44
1:D:426:ARG:NE	1:D:505:GLU:O	2.45	0.44
1:D:4662:ASN:O	1:D:4666:VAL:HB	2.18	0.44
1:C:138:GLN:HG2	1:C:139:GLU:N	2.33	0.44
1:C:219:VAL:HG12	1:C:261:ARG:HB2	1.99	0.44
1:C:675:LEU:HD12	1:C:675:LEU:HA	1.89	0.44
1:C:1961:PHE:HA	1:C:1964:ARG:HG2	2.00	0.44
1:C:2159:LEU:HD22	1:C:2201:LEU:HD23	2.00	0.44
1:C:4095:LYS:HB3	1:C:4095:LYS:HE2	1.68	0.44
1:A:1225:PRO:HG2	1:A:1228:ILE:HB	1.99	0.44
1:A:2115:GLU:H	1:A:2115:GLU:CD	2.20	0.44
1:A:3775:ALA:O	1:A:3778:MET:HG3	2.17	0.44
1:B:312:THR:OG1	1:B:313:SER:N	2.51	0.44
1:B:455:PRO:HG3	1:B:467:LYS:HB3	1.99	0.44
1:B:723:THR:H	1:B:726:VAL:HG12	1.82	0.44
1:D:4666:VAL:N	1:D:4667:PRO:HD2	2.30	0.44
1:D:4818:MET:HE3	1:D:4818:MET:C	2.38	0.44
1:C:1077:ALA:HB3	1:C:1189:LEU:HD11	1.98	0.44
1:C:1239:SER:OG	1:C:1240:LYS:N	2.51	0.44
1:C:4702:ASP:HA	1:C:4778:TRP:HE1	1.83	0.44
1:C:4866:SER:O	1:C:4867:GLU:C	2.56	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:416:LYS:HD3	1:A:416:LYS:HA	1.78	0.44
1:A:1737:PRO:HD3	1:A:1771:LEU:HD21	2.00	0.44
1:A:4828:SER:HA	1:A:4831:THR:HG22	2.00	0.44
1:A:4928:LEU:HD22	1:A:4928:LEU:HA	1.78	0.44
1:B:214:VAL:HG22	1:B:341:TYR:HE1	1.83	0.44
1:B:2005:GLN:HE22	1:B:3641:LEU:HD22	1.83	0.44
1:B:2012:PHE:HB3	1:B:2021:CYS:HA	2.00	0.44
1:A:184:THR:HA	1:A:189:LEU:HG	2.00	0.44
1:A:1639:LEU:N	1:A:1648:MET:O	2.45	0.44
1:A:2781:VAL:HG22	1:A:2789:PRO:HD2	2.00	0.44
1:A:3773:ARG:HA	1:A:3815:LYS:HE3	1.97	0.44
1:B:109:LEU:HD23	1:B:148:TRP:HD1	1.82	0.44
1:B:3895:HIS:HE1	1:B:3970:GLN:HB3	1.82	0.44
1:B:4011:GLU:HG2	1:B:4012:LEU:HD12	1.99	0.44
1:B:4821:LYS:HG3	1:B:4822:THR:N	2.33	0.44
1:D:421:PHE:HE1	1:D:436:LEU:HD21	1.83	0.44
1:D:3720:TYR:HA	1:D:3723:MET:HB2	2.00	0.44
1:D:3903:LEU:HD12	1:D:3903:LEU:HA	1.88	0.44
1:D:4180:ARG:NH1	1:D:4981:GLU:HB3	2.33	0.44
1:D:4820:VAL:CG1	1:D:4823:LEU:H	2.31	0.44
1:C:273:HIS:CD2	1:C:337:PRO:HB3	2.53	0.44
1:C:693:SER:N	1:C:694:PRO:HD2	2.33	0.44
1:A:3845:ASN:O	1:A:3849:ARG:HG2	2.16	0.43
1:B:1961:PHE:HA	1:B:1964:ARG:HG2	2.00	0.43
1:D:20:VAL:HG11	1:D:202:MET:HB3	2.00	0.43
1:D:312:THR:OG1	1:D:313:SER:N	2.51	0.43
1:D:1689:VAL:HG13	1:D:1690:ASP:H	1.82	0.43
1:D:4011:GLU:HG2	1:D:4012:LEU:HD12	1.99	0.43
1:C:1839:VAL:HG13	1:C:1841:VAL:HG22	2.00	0.43
1:C:2734:ASN:HB3	1:C:2735:PHE:H	1.57	0.43
1:A:1119:GLU:HA	1:A:1133:HIS:CD2	2.53	0.43
1:A:2003:GLN:O	1:A:2007:ASN:ND2	2.51	0.43
1:B:670:GLU:H	1:B:740:PRO:HB3	1.83	0.43
1:B:1661:ARG:HD2	1:B:1661:ARG:HA	1.85	0.43
1:D:1158:ASN:HB3	1:D:1182:ILE:HG13	1.99	0.43
1:D:4037:ASN:HB2	1:D:5035:GLN:NE2	2.33	0.43
1:D:4960:ILE:HG12	1:D:4985:LEU:CD2	2.49	0.43
1:D:5000:GLU:HA	1:D:5003:HIS:ND1	2.34	0.43
1:C:294:THR:HG23	1:C:295:GLU:N	2.33	0.43
1:C:299:LEU:HG	1:C:378:LEU:HG	1.99	0.43
1:C:2766:TRP:HA	1:C:2769:ASP:OD2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:5017:ARG:HH21	1:C:5019:TRP:HE1	1.64	0.43
1:A:4642:ALA:HB1	1:A:4645:CYS:SG	2.59	0.43
1:B:233:ILE:HG22	1:B:257:ARG:HB3	2.00	0.43
1:B:615:ARG:NH2	1:B:1677:GLY:O	2.50	0.43
1:B:3663:LEU:N	1:B:3663:LEU:HD12	2.33	0.43
1:B:3765:TYR:HE2	1:B:3769:ARG:HH22	1.66	0.43
1:B:4654:ALA:HB2	1:B:4795:TYR:HE1	1.82	0.43
1:D:747:CYS:SG	1:D:756:SER:HB2	2.58	0.43
1:D:1118:ASP:OD1	1:D:1118:ASP:N	2.52	0.43
1:D:1961:PHE:HA	1:D:1964:ARG:HG2	2.01	0.43
1:D:4866:SER:HB3	1:D:4871:GLU:CD	2.38	0.43
1:C:252:VAL:HA	1:C:255:HIS:ND1	2.33	0.43
1:C:617:ASN:OD1	1:C:618:GLN:HG3	2.18	0.43
1:A:294:THR:HG23	1:A:295:GLU:N	2.32	0.43
1:A:664:PHE:HB2	1:A:746:CYS:HB2	2.01	0.43
1:A:721:LEU:HD12	1:A:721:LEU:HA	1.89	0.43
1:A:1119:GLU:HB3	1:A:1134:LEU:HD11	1.99	0.43
1:A:4235:VAL:HG21	1:A:5019:TRP:CH2	2.53	0.43
1:A:4687:TYR:OH	1:A:4699:GLY:O	2.30	0.43
1:B:1119:GLU:HA	1:B:1133:HIS:CD2	2.53	0.43
1:D:137:LEU:O	1:D:137:LEU:HD12	2.18	0.43
1:D:2348:GLU:HG3	1:D:3849:ARG:HH21	1.84	0.43
1:D:2874:MET:N	1:D:2874:MET:SD	2.92	0.43
1:D:4158:PRO:HA	1:D:4161:ARG:HD3	2.00	0.43
1:D:4177:TYR:HE2	1:D:4199:GLU:HB2	1.84	0.43
1:D:4572:ALA:O	1:D:4576:ILE:HG12	2.18	0.43
1:C:707:VAL:HG12	1:C:713:SER:HB2	2.00	0.43
1:C:1118:ASP:N	1:C:1118:ASP:OD1	2.51	0.43
1:C:3670:GLU:OE1	1:C:3670:GLU:N	2.44	0.43
1:C:3765:TYR:HH	1:C:4750:ILE:HG22	1.82	0.43
1:C:3887:PHE:O	1:C:3891:LEU:HG	2.18	0.43
1:A:181:HIS:CD2	1:A:196:MET:HB3	2.54	0.43
1:A:2248:ARG:HG3	1:A:2286:LEU:HD21	2.00	0.43
1:A:3821:LYS:O	1:A:3824:LYS:NZ	2.37	0.43
1:A:4865:LYS:O	1:A:4867:GLU:N	2.51	0.43
1:B:76:ARG:HB2	1:B:79:GLN:NE2	2.33	0.43
1:D:649:PHE:HB3	1:D:776:LEU:HD22	2.01	0.43
1:D:1000:ARG:O	1:D:1005:TRP:N	2.50	0.43
1:D:4020:GLN:HA	1:D:4023:MET:HE3	2.01	0.43
1:C:1000:ARG:O	1:C:1005:TRP:N	2.51	0.43
1:C:1580:PHE:CE2	1:C:1592:PRO:HG2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3965:LEU:HA	1:C:3968:TYR:CD1	2.53	0.43
1:B:719:LEU:HD22	1:B:735:GLN:HG2	2.01	0.43
1:B:1124:PHE:HE1	1:B:1139:PHE:HB3	1.84	0.43
1:B:3944:GLU:HG2	1:B:3947:GLY:H	1.83	0.43
1:D:614:VAL:O	1:D:618:GLN:NE2	2.51	0.43
1:D:3674:ILE:CD1	1:D:3769:ARG:HD2	2.43	0.43
1:D:4794:TRP:HA	1:D:4797:VAL:HG12	1.99	0.43
1:A:4671:PHE:HE1	1:A:4716:TRP:HB2	1.84	0.43
1:A:4904:PRO:HG3	1:A:4913:ARG:HH12	1.72	0.43
1:B:3957:VAL:O	1:B:3961:VAL:HG23	2.19	0.43
1:B:4586:PRO:HB3	1:B:4628:VAL:HG21	1.99	0.43
1:B:4935:LEU:HD23	1:B:4935:LEU:HA	1.72	0.43
1:D:119:SER:OG	1:D:120:CYS:N	2.50	0.43
1:D:664:PHE:CD2	1:D:746:CYS:HB2	2.53	0.43
1:D:693:SER:N	1:D:694:PRO:HD2	2.33	0.43
1:C:1720:LEU:HB2	1:C:1724:CYS:SG	2.58	0.43
1:C:4838:VAL:HA	1:C:4841:VAL:HG12	2.01	0.43
1:A:138:GLN:HG2	1:A:139:GLU:N	2.34	0.43
1:A:426:ARG:NE	1:A:505:GLU:O	2.42	0.43
1:A:2158:CYS:O	1:A:2162:ILE:HG12	2.19	0.43
1:A:4929:LEU:HD22	1:A:4929:LEU:HA	1.79	0.43
1:B:1580:PHE:CE2	1:B:1592:PRO:HG2	2.54	0.43
1:B:2766:TRP:HA	1:B:2769:ASP:OD2	2.18	0.43
1:D:2105:TRP:HB3	1:D:2120:MET:HE1	2.01	0.43
1:C:110:ARG:HA	1:C:117:TYR:HA	2.00	0.43
1:C:330:ASP:N	1:C:330:ASP:OD1	2.49	0.43
1:C:2005:GLN:HE22	1:C:3641:LEU:HD22	1.84	0.43
1:C:4716:TRP:CZ2	1:C:4996:ILE:HG21	2.54	0.43
1:A:213:TYR:CG	1:A:337:PRO:HB2	2.53	0.43
1:A:617:ASN:OD1	1:A:618:GLN:HG3	2.19	0.43
1:A:4716:TRP:CZ2	1:A:4996:ILE:HG12	2.54	0.43
1:B:138:GLN:HG2	1:B:139:GLU:N	2.33	0.43
1:B:670:GLU:OE2	1:B:788:LYS:HB2	2.18	0.43
1:B:1719:HIS:NE2	1:B:1802:ILE:HD11	2.34	0.43
1:B:2113:SER:O	1:B:2113:SER:OG	2.31	0.43
1:D:1580:PHE:CE2	1:D:1592:PRO:HG2	2.54	0.43
1:D:2030:ASP:N	1:D:2030:ASP:OD1	2.52	0.43
1:D:2766:TRP:HA	1:D:2769:ASP:OD2	2.19	0.43
1:C:142:THR:OG1	1:C:144:GLU:OE1	2.29	0.43
1:C:635:THR:HB	1:C:1639:LEU:HD23	2.00	0.43
1:C:2030:ASP:N	1:C:2030:ASP:OD1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2781:VAL:HG22	1:C:2789:PRO:HD2	2.00	0.43
1:C:4013:LEU:O	1:C:4017:LEU:HD23	2.18	0.43
1:C:4065:PHE:CZ	1:C:4132:PHE:HB2	2.53	0.43
1:C:4158:PRO:HA	1:C:4161:ARG:HD3	2.00	0.43
1:C:4705:VAL:HG22	1:C:4711:PHE:HD1	1.83	0.43
1:C:4922:PHE:O	1:C:4922:PHE:CG	2.70	0.43
1:A:580:GLU:HG2	1:A:583:ILE:HD11	2.00	0.43
1:A:1736:VAL:HG21	1:A:1956:GLU:HG3	2.00	0.43
1:A:1961:PHE:HA	1:A:1964:ARG:HG2	2.00	0.43
1:A:3760:LYS:HZ2	1:A:3760:LYS:CA	2.20	0.43
1:A:3927:GLN:HA	1:A:3930:ILE:HG22	2.00	0.43
1:B:293:LEU:HD13	1:B:298:GLY:N	2.33	0.43
1:B:527:ALA:HA	1:B:563:VAL:HG23	2.01	0.43
1:B:5036:LEU:HD12	1:B:5036:LEU:HA	1.91	0.43
1:D:3804:ILE:HG22	1:D:3805:LEU:HD12	2.00	0.43
1:A:719:LEU:N	1:A:719:LEU:HD23	2.33	0.42
1:A:2030:ASP:N	1:A:2030:ASP:OD1	2.51	0.42
1:B:181:HIS:NE2	1:B:183:SER:HB2	2.34	0.42
1:B:675:LEU:HD12	1:B:675:LEU:HA	1.89	0.42
1:B:1237:TRP:HH2	1:B:1652:GLU:HA	1.84	0.42
1:B:2030:ASP:OD1	1:B:2030:ASP:N	2.52	0.42
1:B:2291:GLN:HG3	1:B:2295:LEU:HG	2.00	0.42
1:B:2794:TYR:HA	1:B:2797:PHE:HD2	1.84	0.42
1:B:4921:PHE:CD1	1:B:4925:ILE:HG21	2.53	0.42
1:D:839:LEU:HD13	1:D:1075:PHE:CZ	2.54	0.42
1:C:695:TYR:O	1:C:697:GLY:N	2.49	0.42
1:C:1072:VAL:HG22	1:C:1195:GLY:HA2	1.99	0.42
1:A:2766:TRP:HA	1:A:2769:ASP:OD2	2.19	0.42
1:A:4060:LYS:NZ	1:A:4064:MET:HB3	2.34	0.42
1:B:1288:UNK:O	1:B:1598:GLN:N	2.45	0.42
1:B:3655:GLU:O	1:B:3658:LYS:HG2	2.19	0.42
1:B:4584:ASP:HA	1:B:4627:MET:HA	1.99	0.42
1:B:4865:LYS:CG	1:B:4875:LYS:HG3	2.48	0.42
1:D:299:LEU:HD23	1:D:299:LEU:HA	1.92	0.42
1:D:2335:LEU:HD22	1:D:2353:VAL:HG21	2.01	0.42
1:D:3767:GLN:NE2	1:D:3804:ILE:HA	2.18	0.42
1:D:3845:ASN:O	1:D:3849:ARG:HG2	2.18	0.42
1:D:4017:LEU:HD12	1:D:4139:ILE:HG13	2.02	0.42
1:C:2738:ARG:HD2	1:C:2819:TRP:HZ2	1.84	0.42
1:C:3964:SER:O	1:C:3968:TYR:CD1	2.72	0.42
1:C:4921:PHE:O	1:C:4925:ILE:HG22	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:131:LEU:O	1:A:194:SER:OG	2.25	0.42
1:A:2794:TYR:HA	1:A:2797:PHE:HD2	1.85	0.42
1:A:3754:GLU:OE1	1:A:3754:GLU:CA	2.67	0.42
1:A:3906:GLN:HE22	1:A:3913:ILE:HB	1.83	0.42
1:A:5000:GLU:HA	1:A:5003:HIS:ND1	2.34	0.42
1:B:614:VAL:O	1:B:618:GLN:NE2	2.52	0.42
1:B:4889:VAL:HG12	1:B:4897:ILE:HG22	2.01	0.42
1:D:2773:ASN:OD1	1:D:2775:TRP:NE1	2.50	0.42
1:D:4998:LYS:HB3	1:D:5003:HIS:NE2	2.34	0.42
1:C:560:ILE:HA	1:C:563:VAL:HG12	2.01	0.42
1:C:1158:ASN:HB3	1:C:1182:ILE:HG13	2.00	0.42
1:C:2367:ALA:HB3	1:C:2379:ALA:HB2	2.00	0.42
1:C:4184:MET:HB2	1:C:4190:ILE:HG22	2.00	0.42
1:A:3965:LEU:HA	1:A:3968:TYR:CD1	2.55	0.42
1:A:4674:GLU:HG2	1:A:4715:TYR:HB2	2.02	0.42
1:B:252:VAL:HA	1:B:255:HIS:CG	2.54	0.42
1:B:1087:ARG:HB3	1:B:1223:PHE:CG	2.54	0.42
1:B:2890:LYS:HA	1:B:2890:LYS:HD2	1.81	0.42
1:B:3842:LEU:HD21	1:B:3954:ALA:HB2	2.00	0.42
1:B:4017:LEU:HA	1:B:4020:GLN:HE21	1.85	0.42
1:B:4235:VAL:HG21	1:B:5019:TRP:CH2	2.55	0.42
1:D:15:ARG:HG3	1:D:18:ASP:OD2	2.20	0.42
1:D:3992:PHE:HD2	1:D:3996:PHE:CE2	2.37	0.42
1:D:4222:VAL:HG11	1:D:4950:VAL:HG23	2.00	0.42
1:C:293:LEU:HD13	1:C:298:GLY:H	1.82	0.42
1:C:2737:PRO:HG3	1:C:2891:LYS:HD3	2.00	0.42
1:A:1992:ALA:O	1:A:1996:ARG:HG2	2.20	0.42
1:B:195:PHE:HE2	1:C:2361:PRO:HB3	1.84	0.42
1:B:650:VAL:HB	1:B:777:PHE:CD2	2.54	0.42
1:B:2215:LEU:HD23	1:B:2215:LEU:HA	1.89	0.42
1:B:2243:SER:OG	1:B:2244:ARG:N	2.52	0.42
1:B:4654:ALA:HB2	1:B:4795:TYR:CE1	2.54	0.42
1:C:839:LEU:HD13	1:C:1075:PHE:CZ	2.53	0.42
1:C:1661:ARG:HA	1:C:1661:ARG:HD2	1.85	0.42
1:C:3830:GLN:O	1:C:3833:GLN:HG2	2.19	0.42
1:C:3941:ASP:OD1	1:C:3941:ASP:N	2.49	0.42
1:A:580:GLU:HG3	1:A:620:LEU:HD22	2.02	0.42
1:A:1624:LEU:HD12	1:A:1624:LEU:HA	1.91	0.42
1:A:2737:PRO:HG3	1:A:2891:LYS:HD3	2.01	0.42
1:A:2810:LYS:HG2	1:A:2814:LYS:HE2	2.02	0.42
1:A:4040:ILE:O	1:A:4044:MET:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3809:ASN:O	1:B:3812:VAL:HG12	2.20	0.42
1:B:4552:LEU:HD12	1:B:4552:LEU:HA	1.90	0.42
1:B:4705:VAL:HG22	1:B:4711:PHE:HD1	1.84	0.42
1:D:719:LEU:O	1:D:720:HIS:CG	2.73	0.42
1:D:3988:ALA:O	1:D:3992:PHE:HD1	2.02	0.42
1:D:4679:ARG:NH1	1:D:5017:ARG:HD3	2.34	0.42
1:C:110:ARG:HH21	1:C:115:ARG:HB3	1.85	0.42
1:C:517:GLU:O	1:C:521:LEU:HD23	2.19	0.42
1:C:3888:LEU:HD13	1:C:3891:LEU:HD12	2.01	0.42
1:C:3901:ASN:OD1	1:C:3904:ARG:NH1	2.47	0.42
1:A:1622:GLU:HA	1:A:1626:TRP:CD2	2.54	0.42
1:A:1719:HIS:NE2	1:A:1802:ILE:HD11	2.34	0.42
1:A:2747:ILE:HD13	1:A:2814:LYS:HA	2.01	0.42
1:A:3835:LEU:HD21	1:A:3880:PHE:CZ	2.55	0.42
1:A:4705:VAL:HG22	1:A:4711:PHE:HD1	1.85	0.42
1:B:3771:HIS:O	1:B:3775:ALA:N	2.52	0.42
1:D:162:LYS:O	1:D:164:ARG:NH1	2.52	0.42
1:D:721:LEU:HB3	1:D:728:ARG:HB2	2.01	0.42
1:D:1649:ASP:OD1	1:D:1652:GLU:HB2	2.20	0.42
1:D:3771:HIS:HB3	1:D:3773:ARG:NH1	2.35	0.42
1:D:3989:VAL:HA	1:D:3992:PHE:HB2	2.00	0.42
1:D:4689:THR:HA	1:D:4732:PHE:CE2	2.55	0.42
1:C:2158:CYS:O	1:C:2162:ILE:HG12	2.20	0.42
1:C:4027:LEU:HA	1:C:4030:LEU:HG	2.02	0.42
1:A:614:VAL:O	1:A:618:GLN:NE2	2.53	0.42
1:A:1667:LEU:HD21	1:A:1710:GLY:HA3	2.00	0.42
1:A:1939:MET:N	1:A:1939:MET:SD	2.92	0.42
1:A:4180:ARG:HH21	1:A:4192:ARG:HD3	1.84	0.42
1:A:4960:ILE:HB	1:A:4983:HIS:CD2	2.55	0.42
1:B:416:LYS:HA	1:B:416:LYS:HD3	1.78	0.42
1:B:1720:LEU:HB2	1:B:1724:CYS:SG	2.60	0.42
1:B:2880:GLU:O	1:B:2884:ASN:ND2	2.53	0.42
1:B:4818:MET:SD	1:B:4818:MET:O	2.78	0.42
1:B:4925:ILE:O	1:B:4925:ILE:HD12	2.20	0.42
1:B:4940:PHE:O	1:B:4944:ARG:HB2	2.20	0.42
1:D:213:TYR:CG	1:D:337:PRO:HB2	2.54	0.42
1:D:1939:MET:N	1:D:1939:MET:SD	2.92	0.42
1:D:2142:TYR:CE2	1:D:2197:LEU:HB2	2.55	0.42
1:D:3655:GLU:O	1:D:3658:LYS:HG2	2.19	0.42
1:D:3965:LEU:HA	1:D:3968:TYR:CD1	2.54	0.42
1:D:4093:PHE:O	1:D:4097:MET:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2121:PHE:O	1:C:3725:TYR:OH	2.34	0.42
1:C:2126:ARG:HE	1:C:2126:ARG:HB3	1.73	0.42
1:A:293:LEU:HD13	1:A:298:GLY:N	2.34	0.42
1:A:719:LEU:HD22	1:A:736:HIS:C	2.40	0.42
1:A:1098:GLY:HA3	1:A:1198:GLN:HE22	1.85	0.42
1:A:3793:MET:O	1:A:3797:THR:OG1	2.26	0.42
1:B:277:GLY:HA2	1:B:315:CYS:SG	2.60	0.42
1:B:1098:GLY:HA3	1:B:1198:GLN:HE22	1.85	0.42
1:B:1225:PRO:HG2	1:B:1228:ILE:HB	2.00	0.42
1:B:1622:GLU:HA	1:B:1626:TRP:CD2	2.55	0.42
1:B:1867:GLU:O	1:B:1871:PHE:N	2.37	0.42
1:B:2292:GLU:H	1:B:2295:LEU:HG	1.85	0.42
1:B:2792:ARG:HD2	1:B:2796:THR:HG21	2.01	0.42
1:B:3535:UNK:O	1:B:3537:UNK:N	2.53	0.42
1:B:3804:ILE:HA	1:B:3804:ILE:HD13	1.93	0.42
1:B:3893:GLU:HG3	1:B:3894:GLY:N	2.34	0.42
1:D:1624:LEU:HD12	1:D:1624:LEU:HA	1.92	0.42
1:C:1095:VAL:HB	1:C:1199:VAL:HG13	2.02	0.42
1:C:2880:GLU:O	1:C:2884:ASN:ND2	2.52	0.42
1:C:3662:ILE:O	1:C:3664:THR:N	2.52	0.42
1:C:4978:HIS:O	1:C:4982:GLU:HB2	2.20	0.42
1:A:214:VAL:HG22	1:A:341:TYR:HE1	1.84	0.42
1:A:2175:GLU:O	1:A:2179:ILE:HG12	2.20	0.42
1:A:2182:ILE:O	1:A:2185:ILE:HG12	2.19	0.42
1:A:2881:ASN:HA	1:A:2884:ASN:ND2	2.35	0.42
1:A:3719:ASP:HB3	1:A:3722:TYR:HB3	2.01	0.42
1:B:20:VAL:HG11	1:B:202:MET:HB3	2.02	0.42
1:B:491:ILE:O	1:B:495:ASN:HB2	2.20	0.42
1:B:595:ARG:HH21	1:B:633:LEU:HD21	1.85	0.42
1:B:617:ASN:OD1	1:B:618:GLN:HG3	2.20	0.42
1:B:1143:TRP:HD1	1:B:1164:LEU:HD13	1.84	0.42
1:B:2158:CYS:O	1:B:2162:ILE:HG12	2.20	0.42
1:B:3965:LEU:HA	1:B:3968:TYR:CD1	2.55	0.42
1:B:4218:ILE:HD11	1:B:4985:LEU:HD11	2.01	0.42
1:D:664:PHE:CZ	1:D:779:PRO:HB3	2.55	0.42
1:D:695:TYR:O	1:D:697:GLY:N	2.48	0.42
1:D:1720:LEU:HB2	1:D:1724:CYS:SG	2.60	0.42
1:D:2871:LEU:HA	1:D:2874:MET:HG2	2.02	0.42
1:D:3662:ILE:O	1:D:3664:THR:N	2.52	0.42
1:D:3721:LEU:HD12	1:D:3722:TYR:N	2.35	0.42
1:D:3842:LEU:HD21	1:D:3954:ALA:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4892:ARG:NH1	1:C:4896:GLY:HA3	2.34	0.42
1:C:926:GLY:O	1:C:929:LEU:HG	2.20	0.42
1:C:3535:UNK:O	1:C:3537:UNK:N	2.53	0.42
1:C:3986:TRP:HA	1:C:3989:VAL:HG22	2.01	0.42
1:C:4549:VAL:O	1:C:4553:ASN:ND2	2.53	0.42
1:A:262:LEU:HB3	1:A:280:LEU:HD23	2.02	0.41
1:A:357:LEU:HD11	1:A:388:LEU:HD11	2.02	0.41
1:A:717:ASP:OD1	1:A:720:HIS:HB2	2.20	0.41
1:A:719:LEU:O	1:A:720:HIS:CG	2.73	0.41
1:A:2099:SER:O	1:A:2103:VAL:HG23	2.20	0.41
1:A:2330:ARG:HA	1:A:2330:ARG:HD2	1.81	0.41
1:A:2368:LEU:HD13	1:A:2376:LEU:HG	2.02	0.41
1:A:4095:LYS:HB3	1:A:4095:LYS:HE2	1.69	0.41
1:A:4184:MET:HB2	1:A:4190:ILE:HG22	2.01	0.41
1:B:482:GLY:O	1:B:484:LEU:HD12	2.18	0.41
1:B:647:ASN:HB3	1:B:822:ARG:NH1	2.35	0.41
1:B:717:ASP:OD1	1:B:720:HIS:HB2	2.20	0.41
1:B:1730:MET:SD	1:B:1772:ARG:NH1	2.93	0.41
1:B:2191:PHE:HZ	1:B:2239:PHE:HA	1.85	0.41
1:B:4572:ALA:O	1:B:4576:ILE:HG12	2.20	0.41
1:B:4936:ILE:HD12	1:B:4936:ILE:HA	1.79	0.41
1:D:138:GLN:HG2	1:D:139:GLU:H	1.85	0.41
1:D:1228:ILE:HG23	1:D:1229:ASN:N	2.34	0.41
1:D:1685:LEU:HD23	1:D:1718:ILE:HD12	2.02	0.41
1:D:2005:GLN:HE22	1:D:3641:LEU:HD22	1.85	0.41
1:D:3890:LEU:HA	1:D:3893:GLU:HB3	2.02	0.41
1:C:197:GLN:NE2	1:C:198:THR:O	2.53	0.41
1:C:322:LYS:HD2	1:C:322:LYS:HA	1.88	0.41
1:C:421:PHE:HE1	1:C:436:LEU:HD21	1.84	0.41
1:C:523:TYR:O	1:C:526:LEU:HG	2.20	0.41
1:C:1225:PRO:HG2	1:C:1228:ILE:HB	2.02	0.41
1:C:1622:GLU:HA	1:C:1626:TRP:CD2	2.55	0.41
1:C:1624:LEU:HD12	1:C:1624:LEU:HA	1.91	0.41
1:C:4093:PHE:O	1:C:4097:MET:HG2	2.19	0.41
1:C:4572:ALA:O	1:C:4576:ILE:HG12	2.20	0.41
1:C:4959:PHE:HE2	1:C:4985:LEU:HD21	1.84	0.41
1:C:4998:LYS:HB3	1:C:5003:HIS:NE2	2.35	0.41
1:A:20:VAL:HG11	1:A:202:MET:HB3	2.02	0.41
1:A:1186:ASP:OD1	1:A:1186:ASP:N	2.50	0.41
1:A:1689:VAL:HG13	1:A:1690:ASP:H	1.84	0.41
1:B:4040:ILE:O	1:B:4044:MET:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4063:ASP:OD2	1:B:4067:LYS:NZ	2.47	0.41
1:B:4878:ASP:O	1:B:4881:THR:OG1	2.29	0.41
1:B:4957:LYS:HA	1:B:4957:LYS:HD2	1.87	0.41
1:B:4993:MET:SD	1:B:4997:ASN:ND2	2.93	0.41
1:D:229:GLU:HG2	1:D:247:TYR:HB3	2.02	0.41
1:D:1288:UNK:O	1:D:1598:GLN:N	2.44	0.41
1:D:2737:PRO:HG3	1:D:2891:LYS:HD3	2.02	0.41
1:C:40:GLU:OE2	1:C:44:ASN:N	2.48	0.41
1:C:104:GLY:H	1:C:150:MET:HB3	1.85	0.41
1:C:181:HIS:CD2	1:C:196:MET:HB2	2.55	0.41
1:C:221:ARG:HB3	1:C:391:THR:HG22	2.02	0.41
1:C:688:LEU:HD21	1:C:777:PHE:HE1	1.83	0.41
1:C:1078:GLU:HG3	1:C:1237:TRP:HE1	1.85	0.41
1:C:2881:ASN:HA	1:C:2884:ASN:ND2	2.36	0.41
1:C:4010:ILE:HG13	1:C:4011:GLU:N	2.35	0.41
1:C:4031:LEU:HD23	1:C:4031:LEU:H	1.85	0.41
1:C:4946:GLN:O	1:C:4949:GLN:N	2.53	0.41
1:A:1574:PRO:HD2	1:A:1577:ALA:HB2	2.01	0.41
1:A:4577:LEU:HD11	1:A:4807:PHE:HD1	1.86	0.41
1:A:4794:TRP:HA	1:A:4797:VAL:HG12	2.02	0.41
1:A:4867:GLU:CG	1:A:4867:GLU:O	2.68	0.41
1:B:24:CYS:SG	1:B:35:LEU:HB2	2.60	0.41
1:B:1240:LYS:NZ	1:B:1242:LEU:HB3	2.35	0.41
1:B:4794:TRP:HA	1:B:4797:VAL:HG12	2.02	0.41
1:D:260:TRP:CZ3	1:D:284:HIS:HD2	2.38	0.41
1:D:3723:MET:HE1	1:D:3793:MET:HA	2.02	0.41
1:D:3927:GLN:O	1:D:3930:ILE:HG22	2.20	0.41
1:C:564:LEU:HA	1:C:567:VAL:HG12	2.02	0.41
1:C:670:GLU:H	1:C:740:PRO:HB3	1.85	0.41
1:C:710:ASP:OD1	1:C:713:SER:OG	2.31	0.41
1:C:750:LEU:HD21	1:C:777:PHE:HE2	1.85	0.41
1:C:3655:GLU:O	1:C:3658:LYS:HG2	2.20	0.41
1:A:1847:THR:O	1:A:1850:VAL:HG12	2.19	0.41
1:B:70:GLU:HG2	1:B:108:LEU:HD23	2.03	0.41
1:B:505:GLU:HA	1:B:511:ALA:HB3	2.01	0.41
1:B:4207:MET:HE1	1:B:4209:GLN:HB3	2.03	0.41
1:B:4577:LEU:HD11	1:B:4807:PHE:CD1	2.55	0.41
1:B:4966:ASP:N	1:B:4966:ASP:OD1	2.53	0.41
1:D:76:ARG:H	1:D:76:ARG:HD3	1.86	0.41
1:D:1719:HIS:NE2	1:D:1802:ILE:HD11	2.35	0.41
1:D:3996:PHE:HA	1:D:3999:MET:CE	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1749:PRO:HA	1:C:1750:PRO:HD3	1.96	0.41
1:C:1931:LEU:HD22	1:C:1935:VAL:HG11	2.03	0.41
1:C:1992:ALA:O	1:C:1996:ARG:HG2	2.19	0.41
1:C:4863:TYR:CE2	1:C:4876:CYS:SG	3.13	0.41
1:C:4966:ASP:OD1	1:C:4966:ASP:N	2.54	0.41
1:A:299:LEU:HG	1:A:378:LEU:HG	2.02	0.41
1:A:4037:ASN:HB2	1:A:5035:GLN:NE2	2.35	0.41
1:A:4550:LYS:HA	1:A:4553:ASN:HD21	1.86	0.41
1:A:4679:ARG:NH1	1:A:5017:ARG:HD3	2.35	0.41
1:A:4869:GLU:O	1:A:4870:ASP:O	2.38	0.41
1:B:2099:SER:O	1:B:2103:VAL:HG23	2.21	0.41
1:B:2182:ILE:O	1:B:2185:ILE:HG12	2.19	0.41
1:B:2287:ALA:HA	1:B:2290:LEU:HG	2.01	0.41
1:B:2775:TRP:CE2	1:B:2786:LYS:HE3	2.56	0.41
1:B:3406:UNK:O	1:B:3410:UNK:N	2.54	0.41
1:D:926:GLY:O	1:D:929:LEU:HG	2.20	0.41
1:D:2099:SER:O	1:D:2103:VAL:HG23	2.21	0.41
1:D:4674:GLU:HG2	1:D:4715:TYR:HB2	2.02	0.41
1:C:221:ARG:NH1	1:C:253:CYS:O	2.46	0.41
1:C:686:TRP:CZ3	1:C:777:PHE:HB3	2.54	0.41
1:C:4223:ASN:ND2	1:C:4946:GLN:CD	2.74	0.41
1:A:2252:ASP:N	1:A:2252:ASP:OD1	2.53	0.41
1:A:2606:UNK:O	1:A:2608:UNK:N	2.53	0.41
1:B:149:THR:CG2	1:B:151:HIS:HE1	2.33	0.41
1:B:515:TRP:HA	1:B:518:ILE:HG22	2.03	0.41
1:B:517:GLU:O	1:B:521:LEU:HD23	2.20	0.41
1:B:1083:VAL:HG21	1:B:1088:TRP:NE1	2.35	0.41
1:B:1574:PRO:HD2	1:B:1577:ALA:HB2	2.01	0.41
1:B:1649:ASP:OD1	1:B:1652:GLU:HB2	2.20	0.41
1:B:2881:ASN:HA	1:B:2884:ASN:ND2	2.35	0.41
1:B:3644:LEU:HG	1:B:3645:PRO:HD2	2.03	0.41
1:B:4553:ASN:HA	1:B:4556:SER:HB3	2.02	0.41
1:B:4821:LYS:CG	1:B:4822:THR:N	2.83	0.41
1:B:4872:PRO:CD	1:B:4873:ASP:H	2.34	0.41
1:D:1667:LEU:HD12	1:D:1714:LEU:HD12	2.02	0.41
1:D:1854:PHE:HD1	1:D:1858:ASP:HB3	1.85	0.41
1:D:4181:ILE:HG12	1:D:4195:PHE:CE1	2.55	0.41
1:C:705:ASN:ND2	1:C:709:ASP:OD2	2.53	0.41
1:C:873:LYS:HA	1:C:873:LYS:HD3	1.93	0.41
1:C:3644:LEU:HG	1:C:3645:PRO:HD2	2.02	0.41
1:A:4093:PHE:O	1:A:4097:MET:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4572:ALA:O	1:A:4576:ILE:HG12	2.20	0.41
1:B:926:GLY:O	1:B:929:LEU:HG	2.20	0.41
1:B:4068:LEU:O	1:B:4071:ILE:HG22	2.20	0.41
1:D:648:ILE:HD13	1:D:779:PRO:HG2	2.02	0.41
1:D:2880:GLU:O	1:D:2884:ASN:ND2	2.53	0.41
1:D:3406:UNK:O	1:D:3410:UNK:N	2.54	0.41
1:D:4091:LYS:HD3	1:D:4091:LYS:HA	1.91	0.41
1:C:2890:LYS:HA	1:C:2890:LYS:HD2	1.80	0.41
1:C:3843:ASP:HB3	1:C:3846:ALA:HB3	2.03	0.41
1:A:517:GLU:O	1:A:521:LEU:HD23	2.20	0.41
1:A:1087:ARG:HB3	1:A:1223:PHE:CG	2.56	0.41
1:A:4207:MET:HE1	1:A:4209:GLN:HB3	2.03	0.41
1:D:1101:ARG:HH21	1:D:1115:LEU:HG	1.85	0.41
1:D:1658:ASP:OD1	1:D:1658:ASP:N	2.54	0.41
1:D:2368:LEU:HD13	1:D:2376:LEU:HD21	2.03	0.41
1:D:3941:ASP:OD1	1:D:3941:ASP:N	2.46	0.41
1:D:4207:MET:HE1	1:D:4210:VAL:HG23	2.02	0.41
1:C:24:CYS:SG	1:C:35:LEU:HB2	2.60	0.41
1:C:1087:ARG:HD3	1:C:1223:PHE:CE1	2.56	0.41
1:C:3668:SER:O	1:C:3672:ARG:NH2	2.46	0.41
1:C:3903:LEU:HD12	1:C:3903:LEU:HA	1.91	0.41
1:C:4798:MET:HB3	1:C:4812:HIS:NE2	2.35	0.41
1:C:4863:TYR:CD2	1:C:4876:CYS:SG	3.14	0.41
1:A:926:GLY:O	1:A:929:LEU:HG	2.20	0.41
1:A:1072:VAL:HG22	1:A:1195:GLY:HA2	2.02	0.41
1:A:2348:GLU:OE1	1:A:3849:ARG:NE	2.54	0.41
1:A:3406:UNK:O	1:A:3410:UNK:N	2.54	0.41
1:A:3535:UNK:O	1:A:3537:UNK:N	2.53	0.41
1:A:3760:LYS:HZ3	1:A:3760:LYS:CB	2.28	0.41
1:A:3761:GLN:OE1	1:A:3764:LEU:HG	2.21	0.41
1:A:4691:GLN:NE2	1:A:4692:PRO:HD2	2.36	0.41
1:A:4860:ARG:HD2	1:A:4861:LYS:N	2.36	0.41
1:B:77:ALA:HA	1:B:80:GLU:CD	2.40	0.41
1:B:1072:VAL:HG22	1:B:1195:GLY:HA2	2.02	0.41
1:B:1866:ILE:HG22	1:B:1866:ILE:O	2.21	0.41
1:B:2310:CYS:O	1:B:2314:LEU:HG	2.21	0.41
1:B:3889:GLN:HB2	1:B:3964:SER:HA	2.03	0.41
1:B:4020:GLN:O	1:B:4024:VAL:HG22	2.21	0.41
1:B:4691:GLN:NE2	1:B:4692:PRO:HD2	2.36	0.41
1:B:4918:ILE:HD13	1:B:4918:ILE:HA	1.89	0.41
1:B:4985:LEU:CB	2:B:5101:ACP:N1	2.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:617:ASN:OD1	1:D:618:GLN:HG3	2.20	0.41
1:D:1866:ILE:O	1:D:1866:ILE:HG22	2.21	0.41
1:D:2881:ASN:HA	1:D:2884:ASN:ND2	2.35	0.41
1:D:3535:UNK:O	1:D:3537:UNK:N	2.53	0.41
1:D:3809:ASN:O	1:D:3812:VAL:HG12	2.21	0.41
1:D:4031:LEU:HD23	1:D:4031:LEU:H	1.85	0.41
1:D:4065:PHE:CZ	1:D:4132:PHE:HB2	2.56	0.41
1:D:4937:ILE:HD11	1:C:4934:GLY:HA2	1.97	0.41
1:C:621:ILE:HD13	1:C:621:ILE:HA	1.92	0.41
1:C:649:PHE:HD1	1:C:776:LEU:HD13	1.86	0.41
1:C:956:PRO:HB2	1:C:958:THR:HG22	2.03	0.41
1:C:1039:LEU:HD23	1:C:1039:LEU:HA	1.85	0.41
1:C:2191:PHE:HZ	1:C:2239:PHE:HB2	1.86	0.41
1:C:2606:UNK:O	1:C:2608:UNK:N	2.54	0.41
1:C:3896:ASN:O	1:C:3896:ASN:ND2	2.51	0.41
1:C:4700:GLN:HE21	1:C:4703:ARG:HE	1.68	0.41
1:C:4859:PHE:HZ	1:C:4912:TYR:HD1	1.69	0.41
1:C:4929:LEU:O	1:C:4933:GLN:HB2	2.21	0.41
1:A:523:TYR:O	1:A:526:LEU:HG	2.21	0.41
1:A:695:TYR:O	1:A:697:GLY:N	2.48	0.41
1:A:705:ASN:ND2	1:A:709:ASP:OD2	2.53	0.41
1:A:1608:MET:HA	1:A:1609:PRO:HD3	1.97	0.41
1:A:3913:ILE:HD13	1:A:3913:ILE:HA	1.91	0.41
1:A:4049:VAL:HA	1:A:4163:PHE:HZ	1.86	0.41
1:B:19:GLU:HB2	1:B:206:CYS:HB3	2.02	0.41
1:B:4700:GLN:HE21	1:B:4703:ARG:HE	1.69	0.41
1:D:108:LEU:HD13	1:D:147:TRP:NE1	2.36	0.41
1:D:372:LEU:HD11	1:D:374:LYS:HZ2	1.85	0.41
1:D:551:LEU:HD21	1:D:589:LEU:HD22	2.03	0.41
1:D:2355:ARG:O	1:D:2358:ILE:HG22	2.21	0.41
1:C:464:LYS:HE3	1:C:464:LYS:HB2	1.96	0.41
1:C:1166:GLY:HA3	1:C:1216:ILE:HD13	2.03	0.41
1:C:3677:LEU:HD22	1:C:3697:PRO:HB2	2.02	0.41
1:C:3751:VAL:HG23	1:C:3755:GLU:HB3	2.03	0.41
1:A:1866:ILE:HG22	1:A:1866:ILE:O	2.21	0.40
1:A:2310:CYS:O	1:A:2314:LEU:HG	2.21	0.40
1:A:2880:GLU:O	1:A:2884:ASN:ND2	2.55	0.40
1:A:3986:TRP:HA	1:A:3989:VAL:HG22	2.02	0.40
1:B:614:VAL:HG12	1:B:2169:GLN:HG2	2.03	0.40
1:B:1118:ASP:OD1	1:B:1118:ASP:N	2.53	0.40
1:B:4027:LEU:HA	1:B:4030:LEU:HD12	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4674:GLU:HG2	1:B:4715:TYR:HB2	2.04	0.40
1:D:1225:PRO:HG2	1:D:1228:ILE:HB	2.03	0.40
1:D:1749:PRO:HA	1:D:1750:PRO:HD3	1.96	0.40
1:D:4160:LEU:HA	1:D:4163:PHE:HD1	1.86	0.40
1:D:4582:VAL:HG21	1:C:4860:ARG:NH1	2.35	0.40
1:D:4838:VAL:HA	1:D:4841:VAL:HG12	2.04	0.40
1:C:3406:UNK:O	1:C:3410:UNK:N	2.54	0.40
1:C:3712:GLU:O	1:C:3712:GLU:HG2	2.21	0.40
1:C:4662:ASN:O	1:C:4666:VAL:HB	2.21	0.40
1:A:661:LYS:HG2	1:A:749:ASP:HA	2.01	0.40
1:A:1676:LEU:HA	1:A:1725:ARG:HH22	1.86	0.40
1:A:3492:UNK:O	1:A:3495:UNK:O	2.40	0.40
1:A:4702:ASP:HA	1:A:4778:TRP:HE1	1.86	0.40
1:B:1929:MET:SD	1:B:1929:MET:N	2.94	0.40
1:B:2447:LYS:HD2	1:B:2447:LYS:HA	1.80	0.40
1:B:4068:LEU:HD12	1:B:4111:LEU:HD11	2.03	0.40
1:B:4865:LYS:HA	1:B:4865:LYS:CE	2.23	0.40
1:D:14:LEU:HD23	1:D:14:LEU:HA	1.86	0.40
1:D:573:GLU:O	1:D:577:ILE:HG12	2.20	0.40
1:D:595:ARG:HH21	1:D:633:LEU:HD21	1.87	0.40
1:D:635:THR:HB	1:D:1639:LEU:HD23	2.03	0.40
1:D:2878:LEU:HD13	1:D:2926:LEU:HD23	2.03	0.40
1:C:717:ASP:OD1	1:C:720:HIS:HB2	2.21	0.40
1:C:2175:GLU:O	1:C:2179:ILE:HG12	2.21	0.40
1:C:4011:GLU:HG2	1:C:4012:LEU:N	2.37	0.40
1:C:4055:VAL:HG22	1:C:4059:LEU:HG	2.02	0.40
1:A:82:LEU:HD21	1:A:143:GLY:C	2.41	0.40
1:A:1220:GLN:NE2	1:B:3527:UNK:O	2.47	0.40
1:A:1224:GLU:HG3	1:A:1225:PRO:HD2	2.04	0.40
1:A:3754:GLU:OE1	1:A:3754:GLU:HA	2.21	0.40
1:A:3887:PHE:CZ	1:A:3891:LEU:HD21	2.57	0.40
1:A:3935:TRP:HD1	1:D:76:ARG:NH1	2.14	0.40
1:B:584:LYS:HE3	1:B:584:LYS:HB2	1.88	0.40
1:B:2192:TYR:CD1	1:B:2242:ILE:HD13	2.56	0.40
1:B:4095:LYS:HB3	1:B:4095:LYS:HE2	1.69	0.40
1:B:4838:VAL:HA	1:B:4841:VAL:HG12	2.04	0.40
1:B:4859:PHE:HZ	1:B:4912:TYR:HD1	1.70	0.40
1:D:2158:CYS:O	1:D:2162:ILE:HG12	2.21	0.40
1:D:2386:ILE:HD13	1:D:2386:ILE:HA	1.92	0.40
1:D:2606:UNK:O	1:D:2608:UNK:N	2.54	0.40
1:D:3771:HIS:O	1:D:3775:ALA:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3835:LEU:HD21	1:D:3880:PHE:CZ	2.57	0.40
1:D:4920:PHE:CZ	1:D:4924:VAL:HG11	2.55	0.40
1:D:4937:ILE:CD1	1:C:4934:GLY:CA	2.95	0.40
1:C:28:VAL:HG11	1:C:189:LEU:HD21	2.03	0.40
1:C:1676:LEU:HA	1:C:1725:ARG:HH22	1.86	0.40
1:C:1731:LEU:HA	1:C:1772:ARG:HH12	1.86	0.40
1:C:4022:ASP:O	1:C:4025:VAL:HG12	2.20	0.40
1:C:4104:THR:OG1	1:C:4107:GLU:OE1	2.37	0.40
1:A:4869:GLU:HB3	1:A:4870:ASP:H	1.35	0.40
1:B:221:ARG:NH2	1:B:253:CYS:HA	2.33	0.40
1:B:2296:GLU:HA	1:B:2299:VAL:HG12	2.02	0.40
1:B:2606:UNK:O	1:B:2608:UNK:N	2.54	0.40
1:B:3887:PHE:O	1:B:3891:LEU:HG	2.22	0.40
1:D:523:TYR:O	1:D:526:LEU:HG	2.21	0.40
1:D:649:PHE:HD1	1:D:776:LEU:HD13	1.86	0.40
1:D:664:PHE:HD2	1:D:746:CYS:HB2	1.87	0.40
1:D:3887:PHE:CZ	1:D:3891:LEU:HD21	2.57	0.40
1:C:1128:ARG:HG3	1:C:1130:GLN:HG2	2.03	0.40
1:A:661:LYS:HB3	1:A:808:TYR:CD2	2.57	0.40
1:A:2191:PHE:HZ	1:A:2239:PHE:HB2	1.86	0.40
1:A:3804:ILE:HD13	1:A:3804:ILE:HA	1.92	0.40
1:A:4838:VAL:O	1:A:4841:VAL:HG12	2.21	0.40
1:A:4933:GLN:HE21	1:D:4930:ALA:HA	1.86	0.40
1:B:299:LEU:HD23	1:B:299:LEU:HA	1.91	0.40
1:B:652:ARG:HH11	1:B:773:LEU:HD12	1.87	0.40
1:B:695:TYR:O	1:B:697:GLY:N	2.51	0.40
1:B:1252:HIS:HE1	1:B:1254:HIS:CE1	2.40	0.40
1:B:2348:GLU:OE1	1:B:3849:ARG:NE	2.53	0.40
1:B:3771:HIS:HB3	1:B:3773:ARG:NH1	2.36	0.40
1:B:3778:MET:HA	1:B:3781:GLN:HG2	2.03	0.40
1:B:4716:TRP:CH2	1:B:4996:ILE:HG12	2.56	0.40
1:B:4936:ILE:HG22	1:B:4937:ILE:HD13	2.03	0.40
1:B:4998:LYS:HB3	1:B:5003:HIS:NE2	2.37	0.40
1:D:80:GLU:OE2	1:D:80:GLU:N	2.54	0.40
1:D:479:GLN:HE21	1:D:539:LEU:HD22	1.87	0.40
1:D:744:VAL:HG13	1:D:757:PHE:HE1	1.86	0.40
1:D:1139:PHE:HZ	1:D:1177:THR:HG22	1.87	0.40
1:D:2126:ARG:HE	1:D:2126:ARG:HB3	1.73	0.40
1:D:4142:ASN:HA	1:D:4145:VAL:HG12	2.04	0.40
1:D:4183:ILE:HG23	1:D:5021:PHE:HB2	2.04	0.40
1:D:4838:VAL:O	1:D:4841:VAL:HG12	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:277:GLY:HA2	1:C:315:CYS:SG	2.62	0.40
1:C:3830:GLN:HA	1:C:3833:GLN:HG2	2.04	0.40
1:C:5031:GLN:HE21	1:C:5031:GLN:HB3	1.74	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	3191/5037 (63%)	2943 (92%)	243 (8%)	5 (0%)	47	81
1	B	3191/5037 (63%)	2934 (92%)	247 (8%)	10 (0%)	41	76
1	C	3191/5037 (63%)	2929 (92%)	254 (8%)	8 (0%)	41	76
1	D	3191/5037 (63%)	2932 (92%)	253 (8%)	6 (0%)	47	81
All	All	12764/20148 (63%)	11738 (92%)	997 (8%)	29 (0%)	50	81

All (29) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	4866	SER
1	A	4870	ASP
1	B	3662	ILE
1	B	3666	ASP
1	B	4867	GLU
1	D	2292	GLU
1	D	3751	VAL
1	D	4867	GLU
1	C	2292	GLU
1	C	4870	ASP
1	C	4875	LYS
1	A	1708	ARG

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Mol	Chain	Res	Type
1	B	1708	ARG
1	B	3668	SER
1	B	4869	GLU
1	D	1708	ARG
1	C	1708	ARG
1	C	3685	GLU
1	C	4867	GLU
1	B	4868	ASP
1	B	3751	VAL
1	B	4866	SER
1	D	1840	PRO
1	B	1840	PRO
1	A	1840	PRO
1	C	1840	PRO
1	A	3774	GLY
1	D	4666	VAL
1	C	4666	VAL

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	2452/3264 (75%)	2421 (99%)	31 (1%)	69	82
1	B	2452/3264 (75%)	2419 (99%)	33 (1%)	69	82
1	C	2455/3264 (75%)	2425 (99%)	30 (1%)	71	84
1	D	2458/3264 (75%)	2431 (99%)	27 (1%)	73	85
All	All	9817/13056 (75%)	9696 (99%)	121 (1%)	72	84

All (121) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	275	ARG
1	A	719	LEU
1	A	822	ARG
1	A	830	ARG

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Mol	Chain	Res	Type
1	A	2773	ASN
1	A	3752	SER
1	A	3758	MET
1	A	3759	GLU
1	A	3760	LYS
1	A	3766	GLN
1	A	3769	ARG
1	A	3770	LEU
1	A	3771	HIS
1	A	4668	LEU
1	A	4859	PHE
1	A	4860	ARG
1	A	4861	LYS
1	A	4865	LYS
1	A	4867	GLU
1	A	4868	ASP
1	A	4921	PHE
1	A	4924	VAL
1	A	4925	ILE
1	A	4927	ILE
1	A	4928	LEU
1	A	4929	LEU
1	A	4931	ILE
1	A	4932	ILE
1	A	4933	GLN
1	A	4938	ASP
1	A	5031	GLN
1	B	76	ARG
1	B	151	HIS
1	B	275	ARG
1	B	822	ARG
1	B	3663	LEU
1	B	3664	THR
1	B	3666	ASP
1	B	3751	VAL
1	B	3758	MET
1	B	3760	LYS
1	B	3769	ARG
1	B	3773	ARG
1	B	3928	GLU
1	B	4000	MET
1	B	4180	ARG

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Mol	Chain	Res	Type
1	B	4795	TYR
1	B	4808	PHE
1	B	4809	PHE
1	B	4816	ILE
1	B	4861	LYS
1	B	4865	LYS
1	B	4867	GLU
1	B	4869	GLU
1	B	4923	PHE
1	B	4925	ILE
1	B	4935	LEU
1	B	4936	ILE
1	B	4937	ILE
1	B	4938	ASP
1	B	4943	LEU
1	B	4944	ARG
1	B	4957	LYS
1	B	5031	GLN
1	D	76	ARG
1	D	275	ARG
1	D	822	ARG
1	D	830	ARG
1	D	2355	ARG
1	D	3675	ASP
1	D	3676	ASP
1	D	3759	GLU
1	D	3773	ARG
1	D	4085	ARG
1	D	4820	VAL
1	D	4821	LYS
1	D	4861	LYS
1	D	4865	LYS
1	D	4867	GLU
1	D	4869	GLU
1	D	4871	GLU
1	D	4918	ILE
1	D	4928	LEU
1	D	4929	LEU
1	D	4931	ILE
1	D	4932	ILE
1	D	4933	GLN
1	D	4935	LEU

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Mol	Chain	Res	Type
1	D	4936	ILE
1	D	4985	LEU
1	D	5031	GLN
1	C	163	VAL
1	C	275	ARG
1	C	822	ARG
1	C	830	ARG
1	C	3755	GLU
1	C	3759	GLU
1	C	3760	LYS
1	C	3761	GLN
1	C	3773	ARG
1	C	3896	ASN
1	C	3928	GLU
1	C	3965	LEU
1	C	4180	ARG
1	C	4574	ASN
1	C	4719	PHE
1	C	4861	LYS
1	C	4863	TYR
1	C	4865	LYS
1	C	4868	ASP
1	C	4875	LYS
1	C	4923	PHE
1	C	4931	ILE
1	C	4932	ILE
1	C	4933	GLN
1	C	4936	ILE
1	C	4937	ILE
1	C	4938	ASP
1	C	4944	ARG
1	C	4946	GLN
1	C	5031	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	536	ASN
1	A	634	GLN
1	A	735	GLN
1	A	2095	GLN
1	A	4223	ASN

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Mol	Chain	Res	Type
1	A	4933	GLN
1	A	4946	GLN
1	B	536	ASN
1	B	634	GLN
1	B	3809	ASN
1	B	3927	GLN
1	B	4020	GLN
1	B	4574	ASN
1	B	5035	GLN
1	D	151	HIS
1	D	536	ASN
1	D	2180	GLN
1	D	3761	GLN
1	D	3767	GLN
1	D	3927	GLN
1	D	4574	ASN
1	C	536	ASN
1	C	2107	GLN
1	C	3761	GLN
1	C	4223	ASN
1	C	4574	ASN
1	C	4933	GLN
1	C	4946	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	ACP	D	5101	4	27,33,33	1.37	5 (18%)	32,52,52	1.46	4 (12%)
2	ACP	A	5101	4	27,33,33	1.35	5 (18%)	32,52,52	1.51	5 (15%)
2	ACP	B	5101	4	27,33,33	0.89	1 (3%)	32,52,52	0.84	2 (6%)
2	ACP	C	5101	4	27,33,33	1.33	5 (18%)	32,52,52	1.50	4 (12%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	ACP	D	5101	4	-	9/15/38/38	0/3/3/3
2	ACP	A	5101	4	-	5/15/38/38	0/3/3/3
2	ACP	B	5101	4	-	8/15/38/38	0/3/3/3
2	ACP	C	5101	4	-	7/15/38/38	0/3/3/3

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	5101	ACP	PG-O3G	2.87	1.61	1.54
2	C	5101	ACP	PG-O3G	2.86	1.61	1.54
2	C	5101	ACP	PG-O2G	2.85	1.61	1.54
2	D	5101	ACP	PG-O3G	2.83	1.61	1.54
2	D	5101	ACP	PG-O2G	2.83	1.61	1.54
2	A	5101	ACP	PG-O2G	2.83	1.61	1.54
2	D	5101	ACP	PB-O3A	2.75	1.61	1.58
2	A	5101	ACP	PB-O3A	2.61	1.61	1.58
2	D	5101	ACP	C5-C4	2.49	1.47	1.40
2	B	5101	ACP	PB-O2B	-2.40	1.50	1.56
2	C	5101	ACP	PB-O3A	2.39	1.61	1.58
2	A	5101	ACP	C5-C4	2.31	1.47	1.40
2	C	5101	ACP	C5-C4	2.26	1.46	1.40
2	D	5101	ACP	PB-O2B	2.15	1.61	1.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	5101	ACP	PB-O2B	2.14	1.61	1.56
2	C	5101	ACP	PB-O2B	2.12	1.61	1.56

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	5101	ACP	PB-O3A-PA	-4.14	119.42	132.56
2	A	5101	ACP	PB-O3A-PA	-4.07	119.65	132.56
2	D	5101	ACP	PB-O3A-PA	-3.87	120.27	132.56
2	A	5101	ACP	N3-C2-N1	-3.70	122.90	128.68
2	C	5101	ACP	N3-C2-N1	-3.65	122.98	128.68
2	D	5101	ACP	C3'-C2'-C1'	3.43	106.14	100.98
2	C	5101	ACP	C3'-C2'-C1'	3.33	105.99	100.98
2	A	5101	ACP	C3'-C2'-C1'	3.31	105.97	100.98
2	D	5101	ACP	N3-C2-N1	-3.20	123.68	128.68
2	D	5101	ACP	C4-C5-N7	-2.72	106.57	109.40
2	A	5101	ACP	C4-C5-N7	-2.52	106.77	109.40
2	C	5101	ACP	C4-C5-N7	-2.51	106.78	109.40
2	B	5101	ACP	O1G-PG-C3B	-2.28	106.32	111.24
2	B	5101	ACP	C5-C6-N6	2.26	123.79	120.35
2	A	5101	ACP	C2-N1-C6	2.05	122.25	118.75

There are no chirality outliers.

All (29) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	5101	ACP	C5'-O5'-PA-O1A
2	A	5101	ACP	C5'-O5'-PA-O3A
2	B	5101	ACP	PG-C3B-PB-O1B
2	B	5101	ACP	PG-C3B-PB-O3A
2	B	5101	ACP	C5'-O5'-PA-O2A
2	B	5101	ACP	C5'-O5'-PA-O3A
2	B	5101	ACP	C4'-C5'-O5'-PA
2	D	5101	ACP	PG-C3B-PB-O1B
2	D	5101	ACP	PG-C3B-PB-O3A
2	D	5101	ACP	C5'-O5'-PA-O1A
2	D	5101	ACP	C5'-O5'-PA-O2A
2	D	5101	ACP	C5'-O5'-PA-O3A
2	D	5101	ACP	C4'-C5'-O5'-PA
2	C	5101	ACP	PB-C3B-PG-O1G
2	C	5101	ACP	PB-C3B-PG-O2G
2	C	5101	ACP	PB-C3B-PG-O3G

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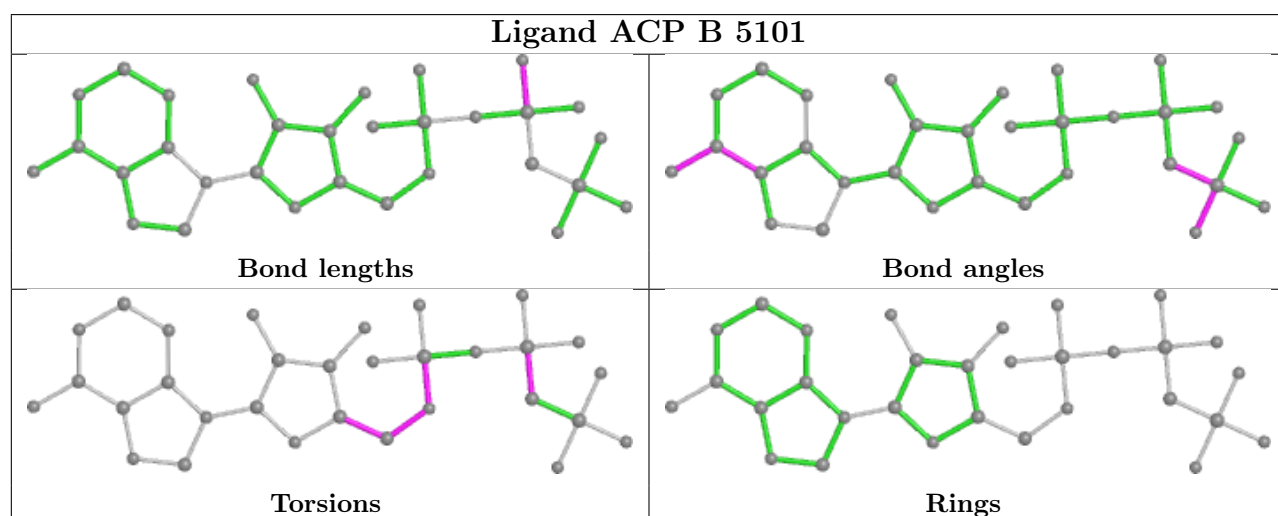
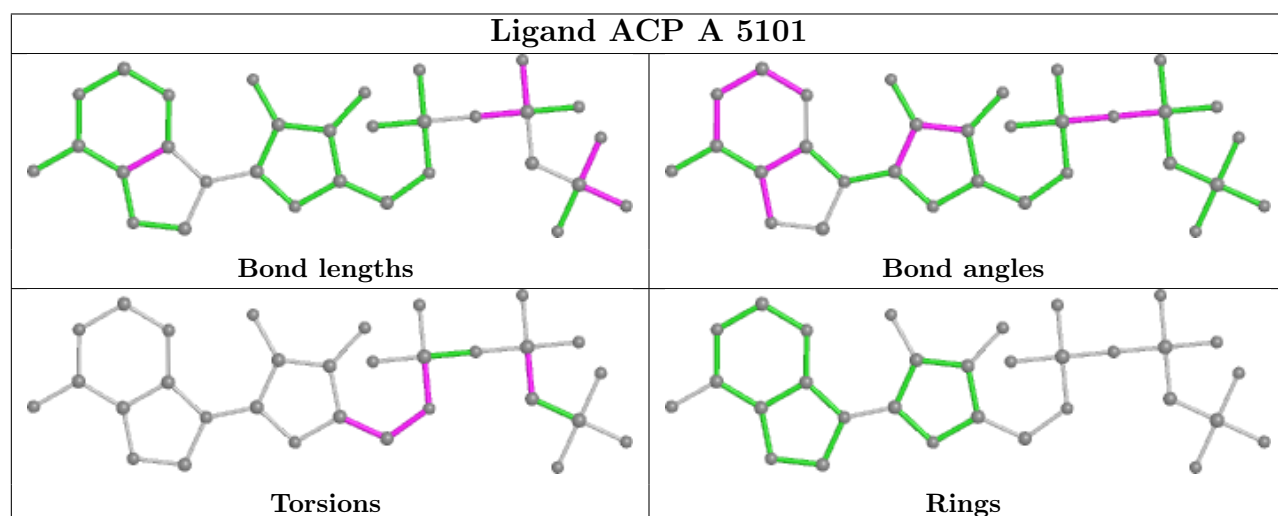
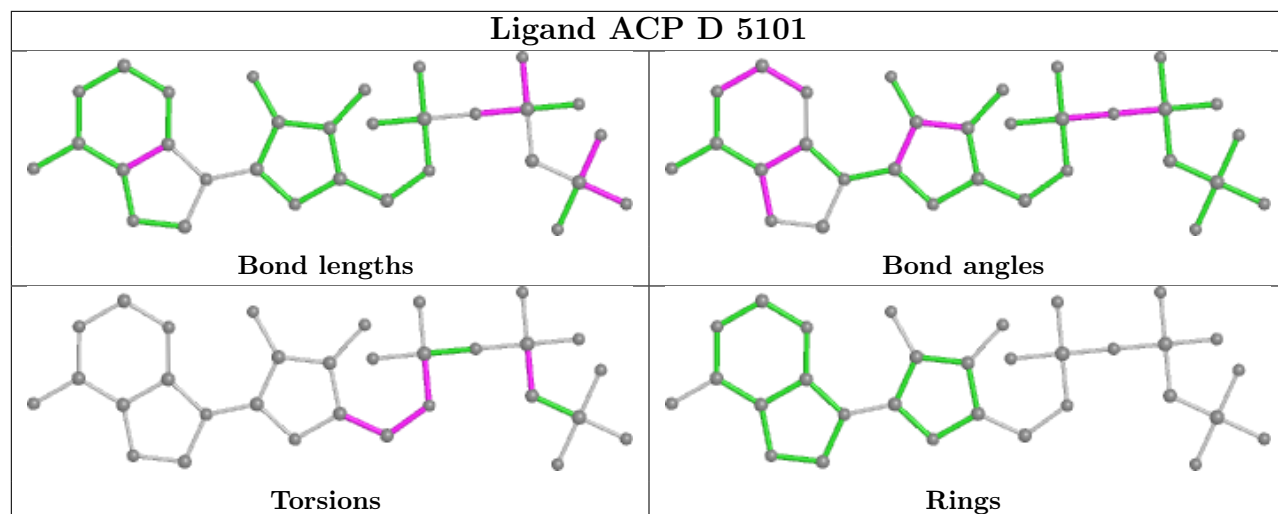
Mol	Chain	Res	Type	Atoms
2	C	5101	ACP	PG-C3B-PB-O1B
2	C	5101	ACP	PG-C3B-PB-O2B
2	C	5101	ACP	PG-C3B-PB-O3A
2	B	5101	ACP	O4'-C4'-C5'-O5'
2	B	5101	ACP	C3'-C4'-C5'-O5'
2	C	5101	ACP	O4'-C4'-C5'-O5'
2	B	5101	ACP	PG-C3B-PB-O2B
2	D	5101	ACP	PG-C3B-PB-O2B
2	D	5101	ACP	C3'-C4'-C5'-O5'
2	A	5101	ACP	C4'-C5'-O5'-PA
2	A	5101	ACP	PG-C3B-PB-O1B
2	D	5101	ACP	O4'-C4'-C5'-O5'
2	A	5101	ACP	C3'-C4'-C5'-O5'

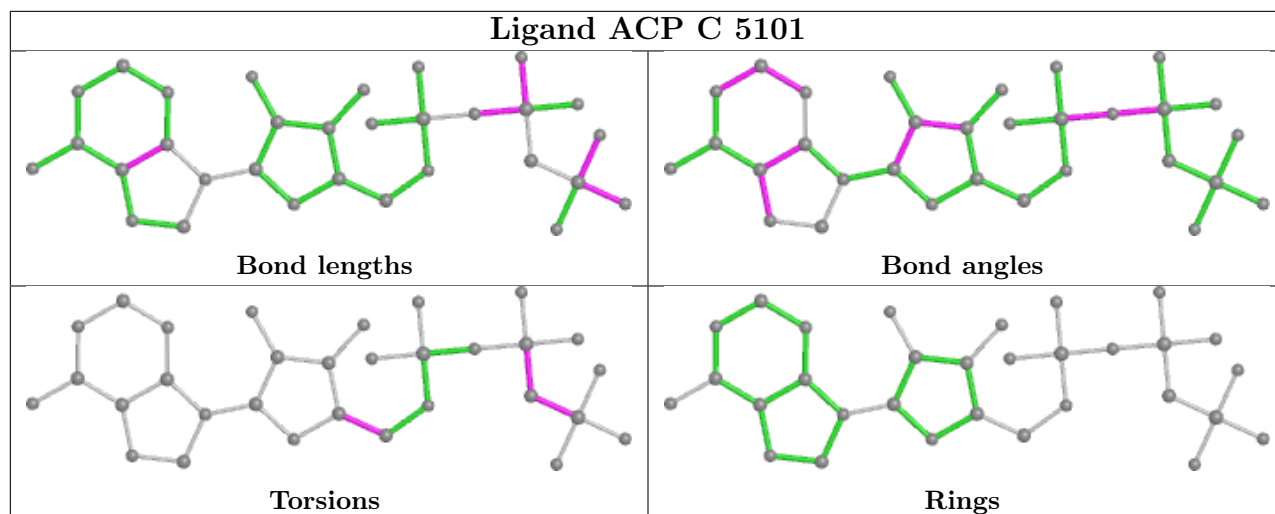
There are no ring outliers.

4 monomers are involved in 22 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	5101	ACP	8	0
2	A	5101	ACP	7	0
2	B	5101	ACP	4	0
2	C	5101	ACP	3	0

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





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	D	6
1	B	6
1	C	6
1	A	6

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	D	3302:UNK	C	3303:UNK	N	17.16
1	B	3302:UNK	C	3303:UNK	N	17.15
1	C	3302:UNK	C	3303:UNK	N	17.10
1	A	3302:UNK	C	3303:UNK	N	17.01
1	A	3510:UNK	C	3511:UNK	N	16.97
1	C	3510:UNK	C	3511:UNK	N	16.95
1	B	3510:UNK	C	3511:UNK	N	16.94
1	D	3510:UNK	C	3511:UNK	N	16.94
1	A	3136:UNK	C	3137:UNK	N	13.76
1	C	3136:UNK	C	3137:UNK	N	13.74
1	B	3136:UNK	C	3137:UNK	N	13.71
1	D	3136:UNK	C	3137:UNK	N	13.71
1	A	3235:UNK	C	3236:UNK	N	12.12

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	3235:UNK	C	3236:UNK	N	11.05
1	D	3235:UNK	C	3236:UNK	N	11.02
1	B	3235:UNK	C	3236:UNK	N	11.01
1	B	3205:UNK	C	3206:UNK	N	5.74
1	D	3205:UNK	C	3206:UNK	N	5.73
1	C	3205:UNK	C	3206:UNK	N	5.67
1	A	3205:UNK	C	3206:UNK	N	5.65
1	C	1297:UNK	C	1298:UNK	N	5.21
1	A	1297:UNK	C	1298:UNK	N	5.20
1	B	1297:UNK	C	1298:UNK	N	5.20
1	D	1297:UNK	C	1298:UNK	N	5.19

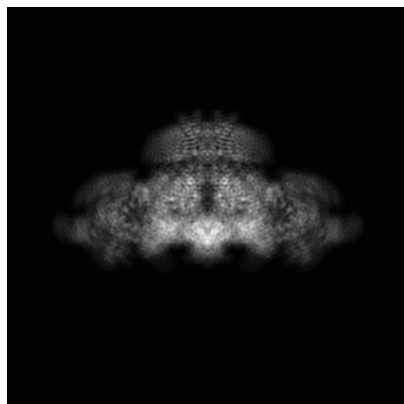
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-22615. These allow visual inspection of the internal detail of the map and identification of artifacts.

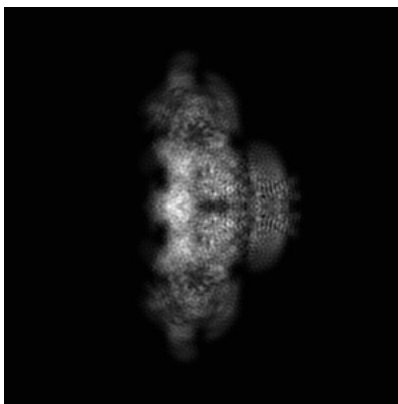
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

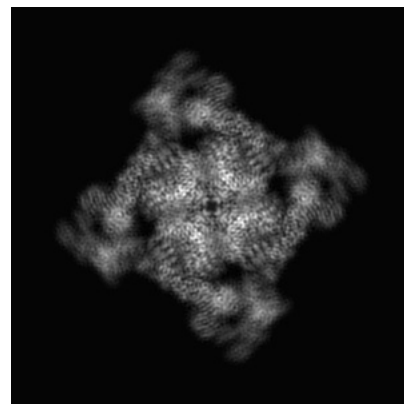
6.1.1 Primary map



X

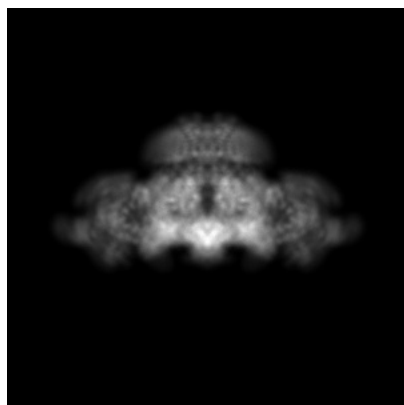


Y

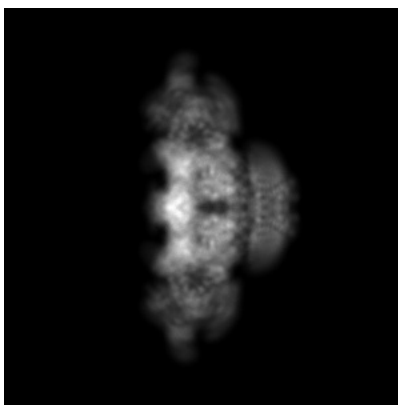


Z

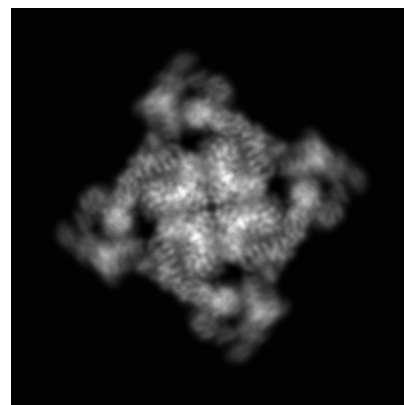
6.1.2 Raw map



X



Y

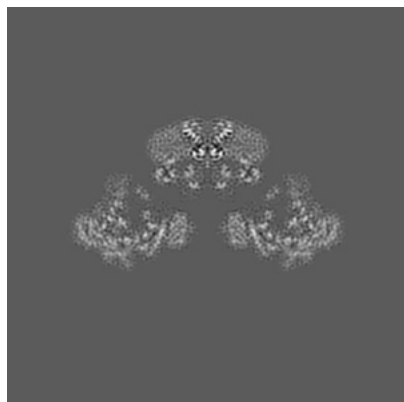


Z

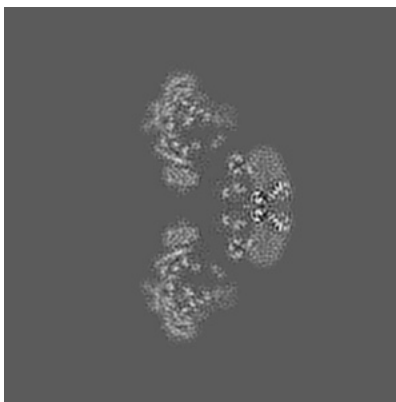
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

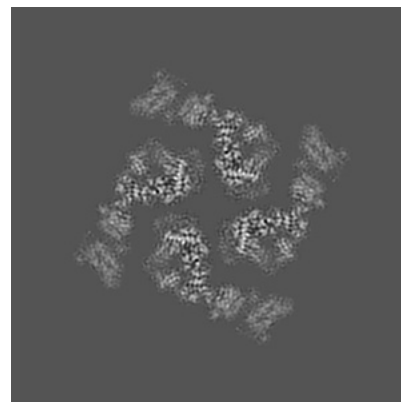
6.2.1 Primary map



X Index: 176

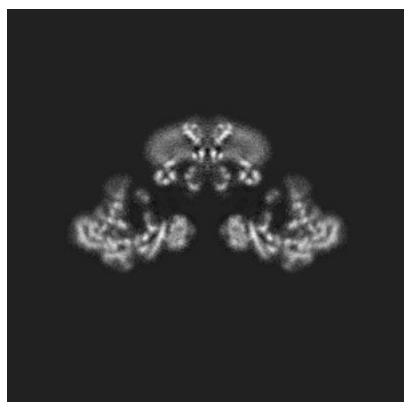


Y Index: 176

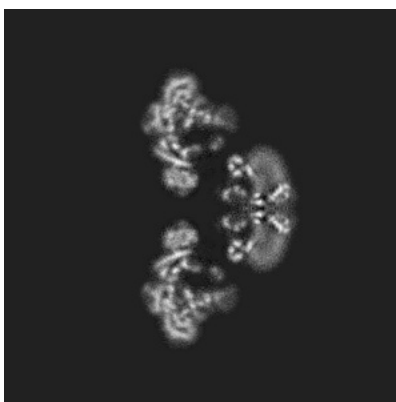


Z Index: 176

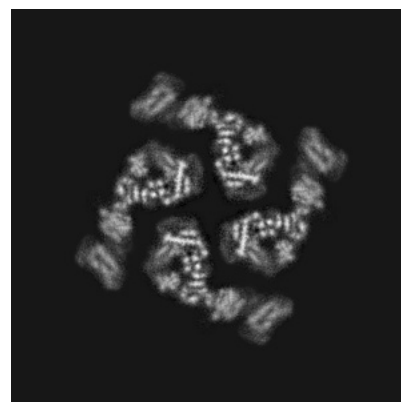
6.2.2 Raw map



X Index: 176



Y Index: 176

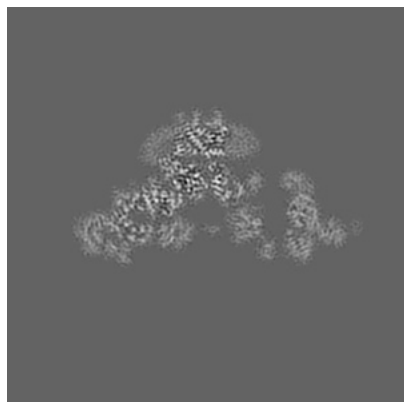


Z Index: 176

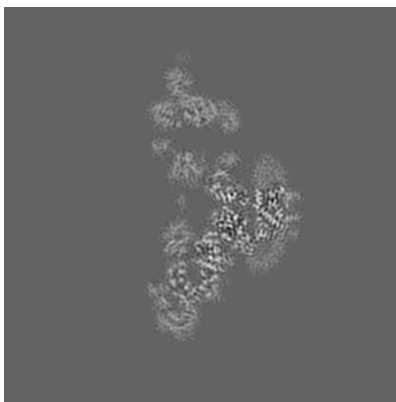
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

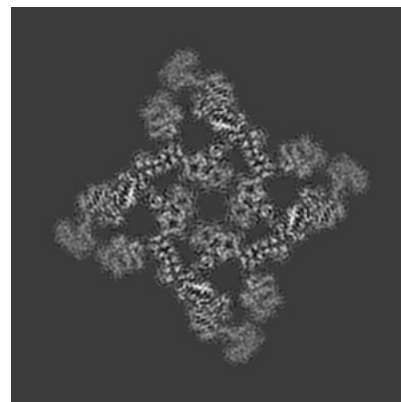
6.3.1 Primary map



X Index: 165

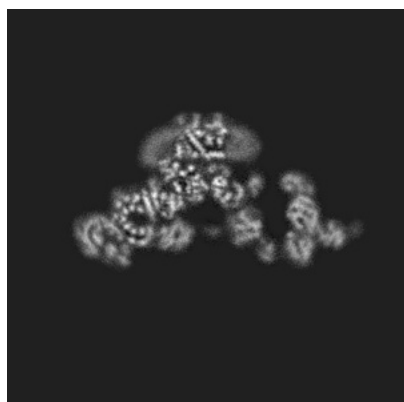


Y Index: 187

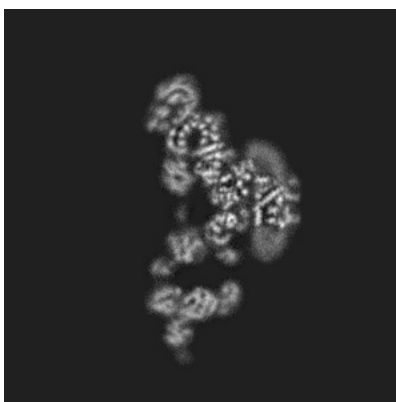


Z Index: 160

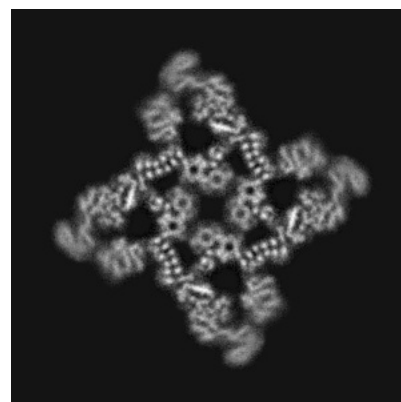
6.3.2 Raw map



X Index: 165



Y Index: 165

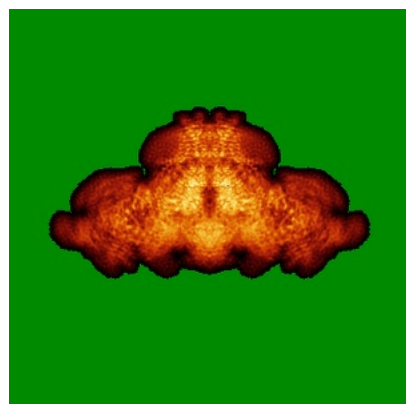


Z Index: 160

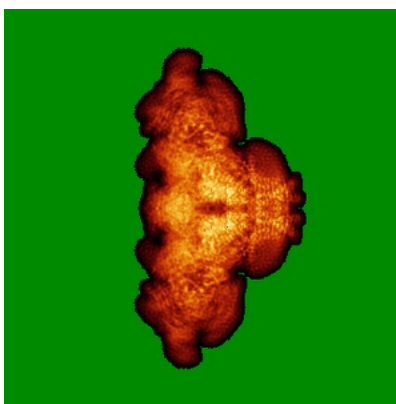
The images above show the largest variance slices of the map in three orthogonal directions.

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

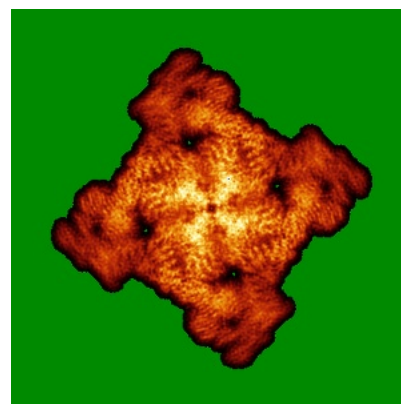
6.4.1 Primary map



X

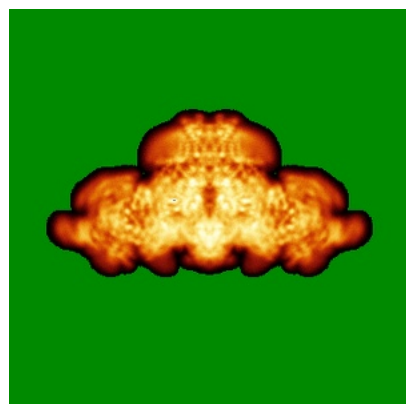


Y

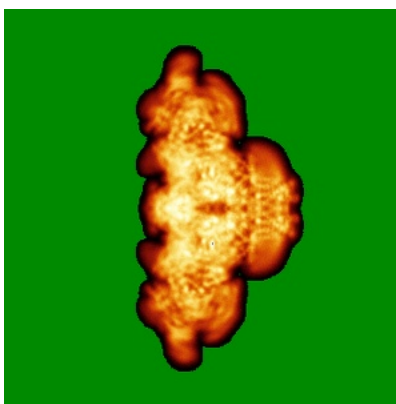


Z

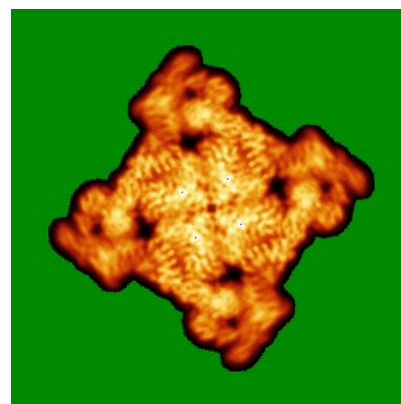
6.4.2 Raw map



X



Y

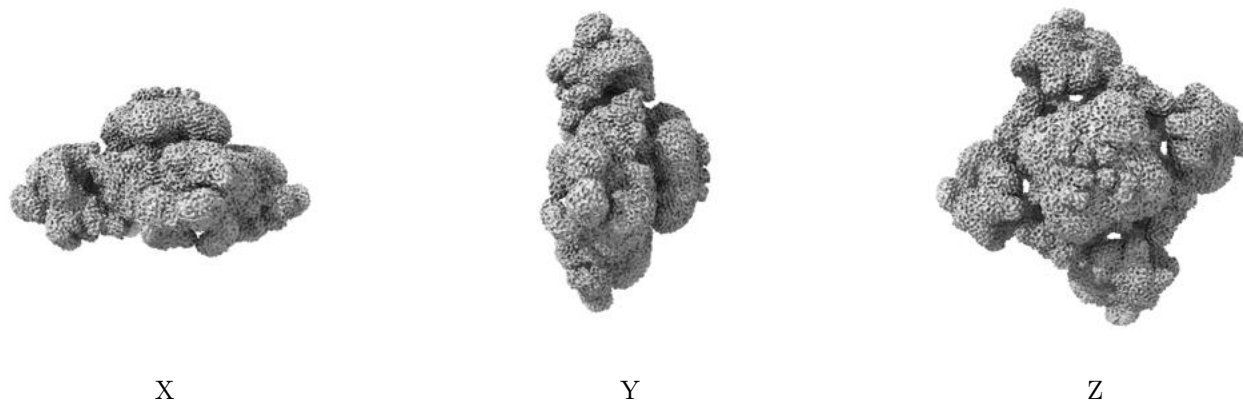


Z

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

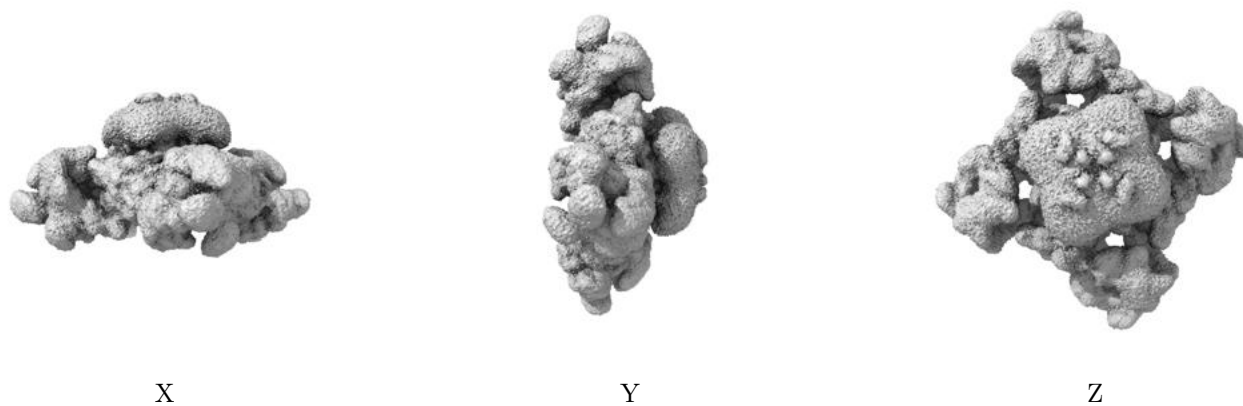
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.006. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

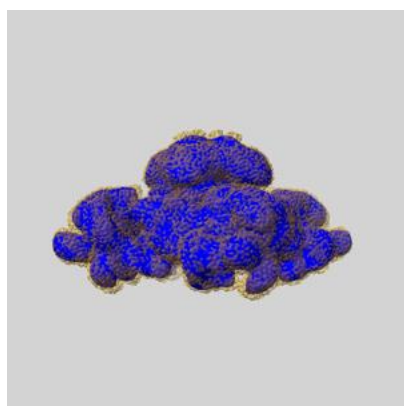
6.6 Mask visualisation [i](#)

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

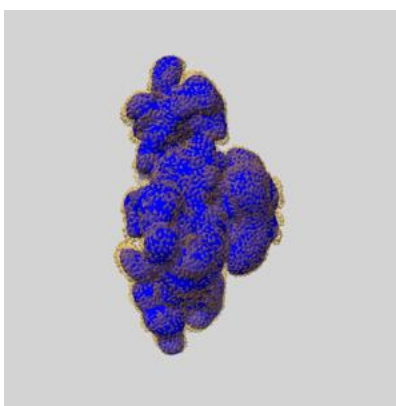
A mask typically either:

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

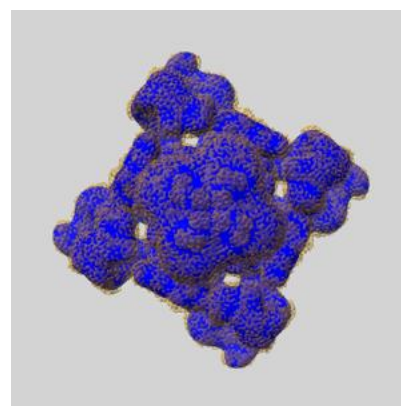
6.6.1 emd_22615_msk_1.map [i](#)



X



Y

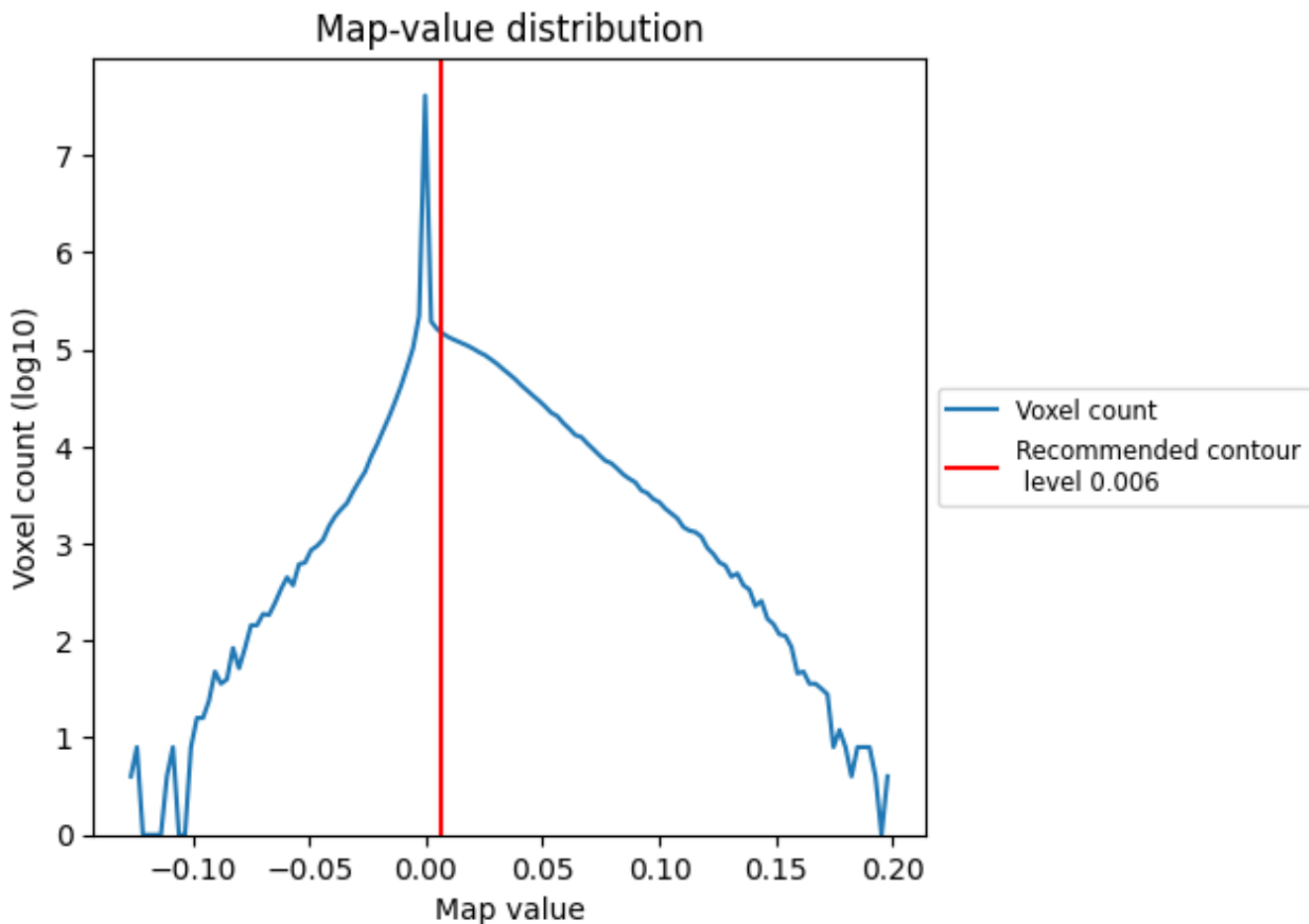


Z

7 Map analysis [i](#)

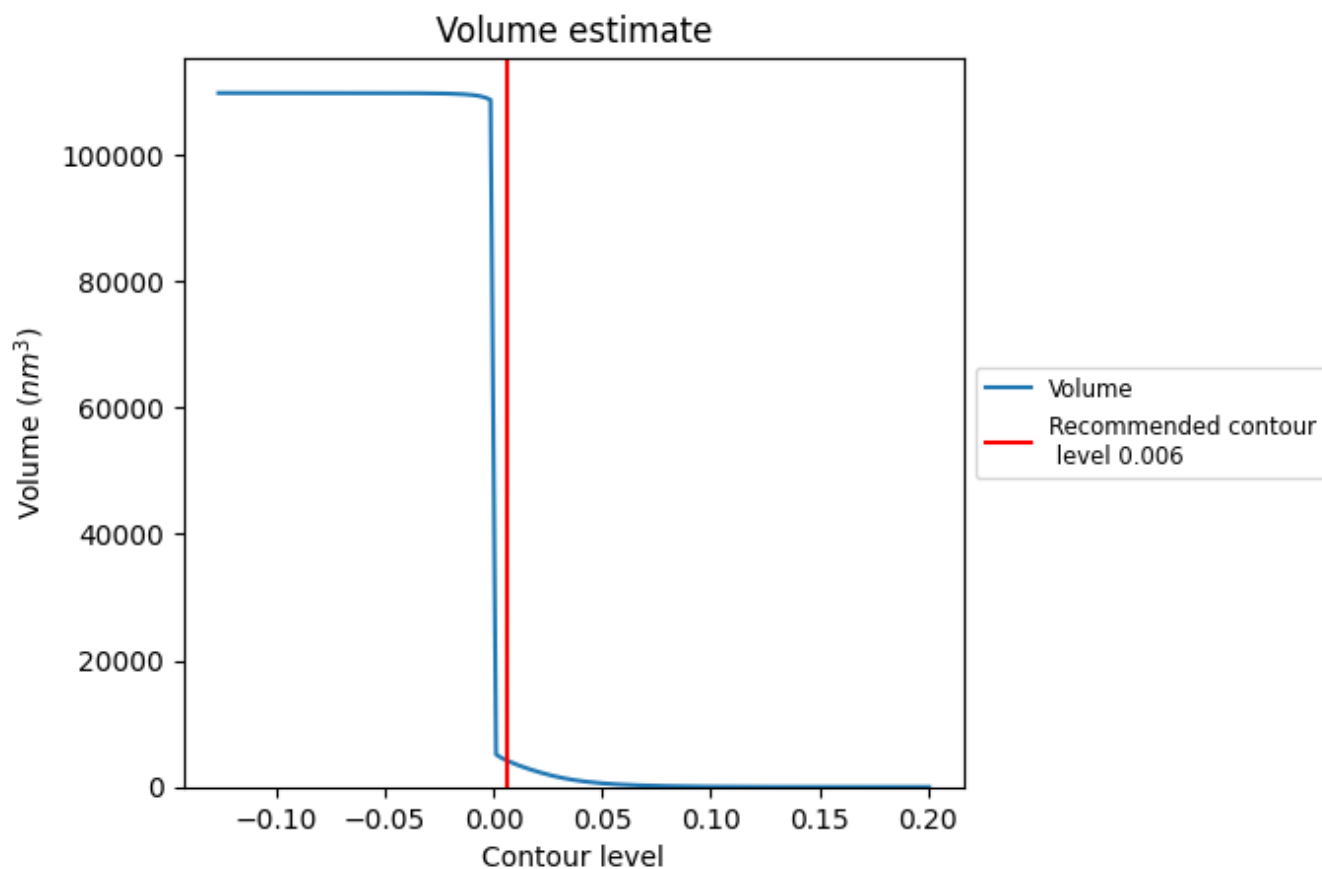
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

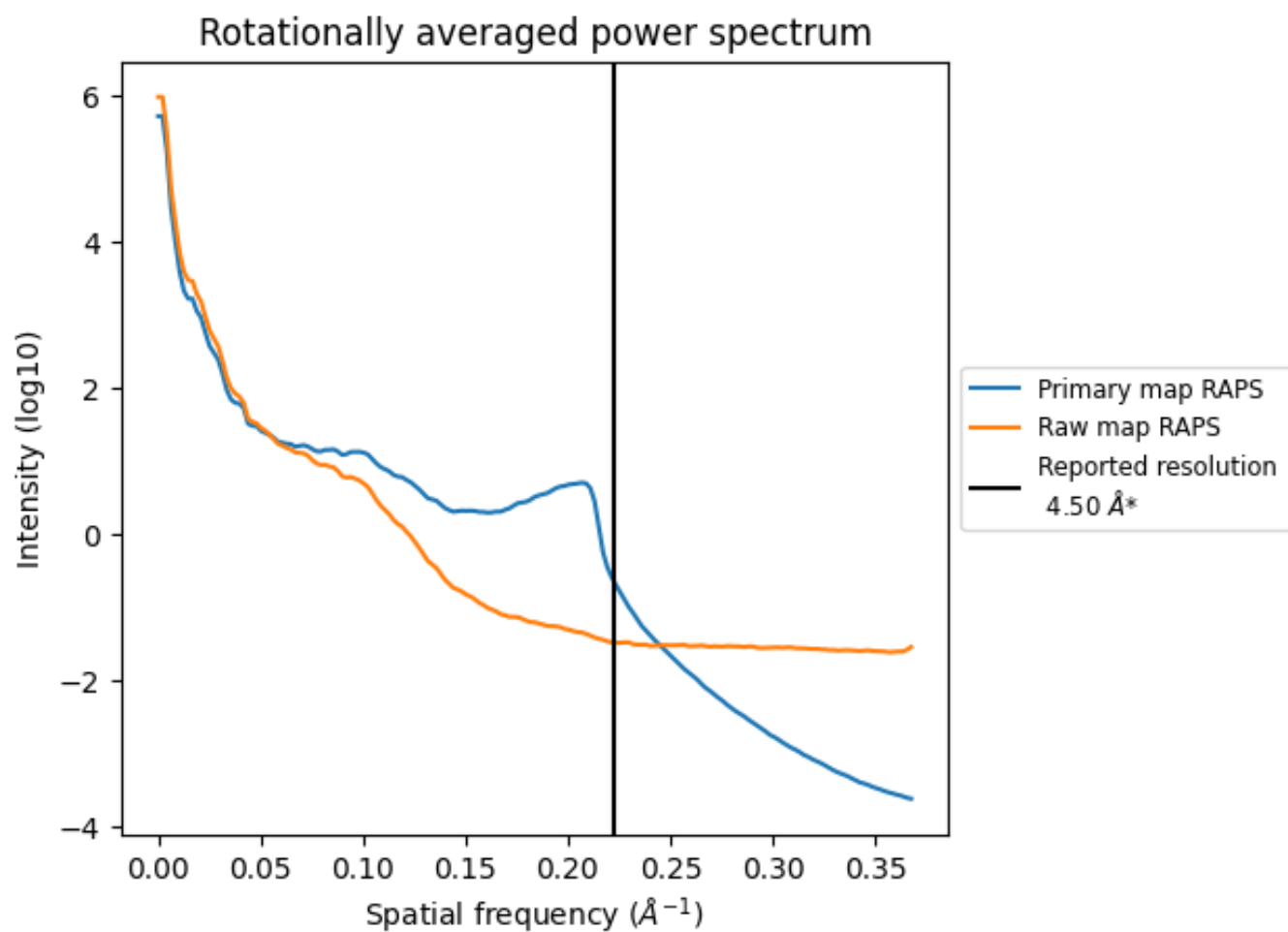
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 4210 nm^3 ; this corresponds to an approximate mass of 3803 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

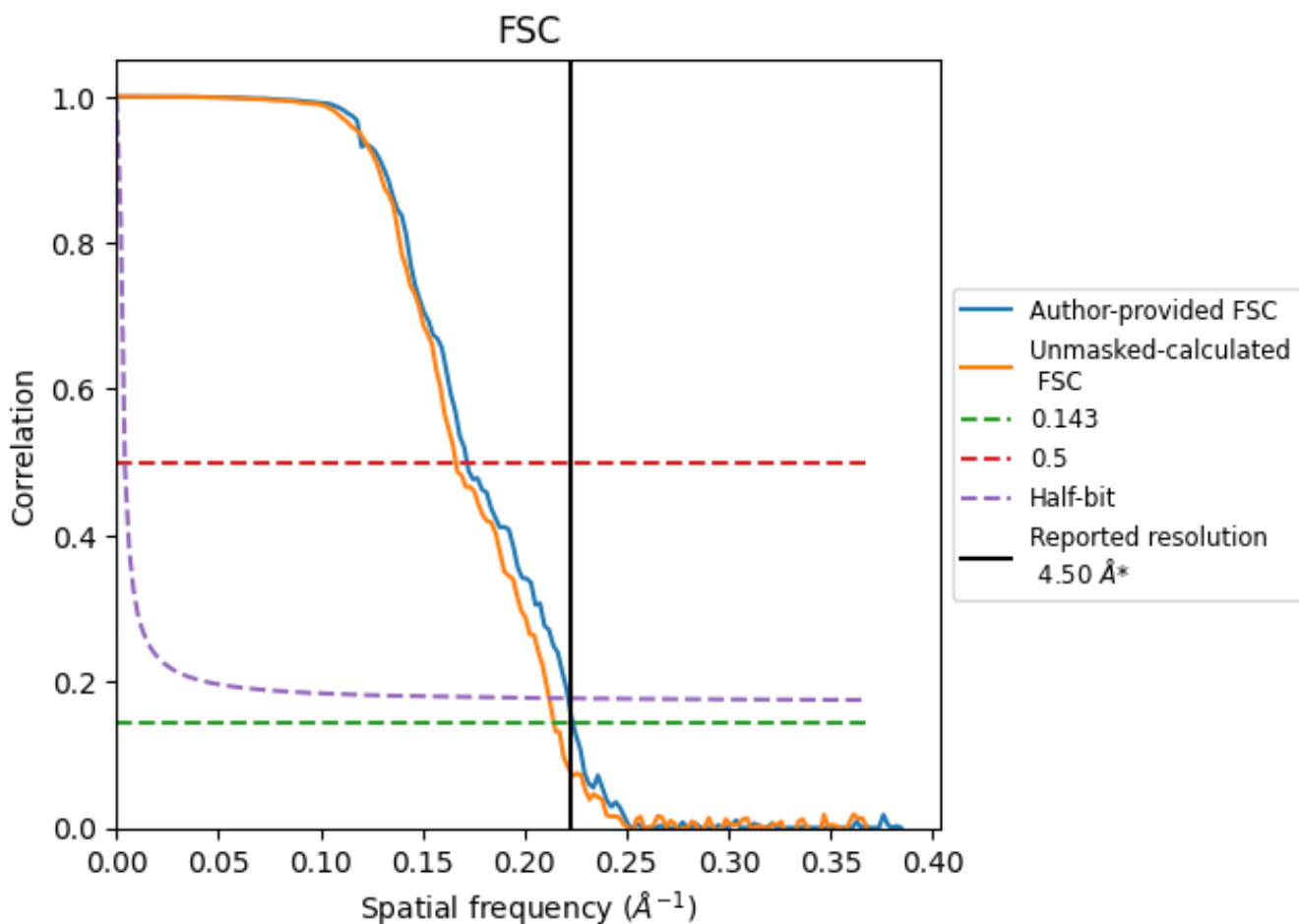


*Reported resolution corresponds to spatial frequency of 0.222 Å⁻¹

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 0.222 Å⁻¹

8.2 Resolution estimates [i](#)

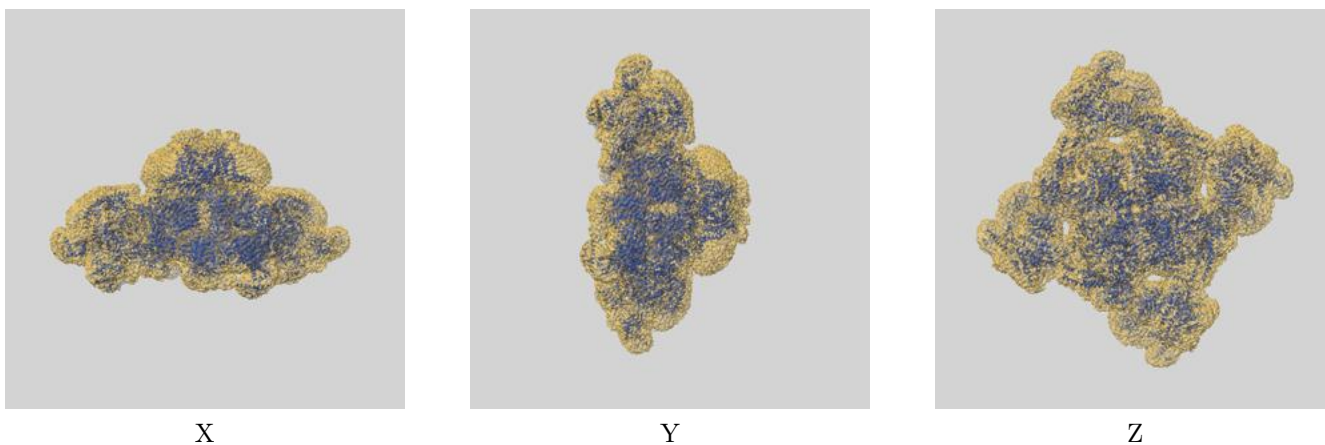
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.50	-	-
Author-provided FSC curve	4.47	5.82	4.52
Unmasked-calculated*	4.66	6.01	4.71

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

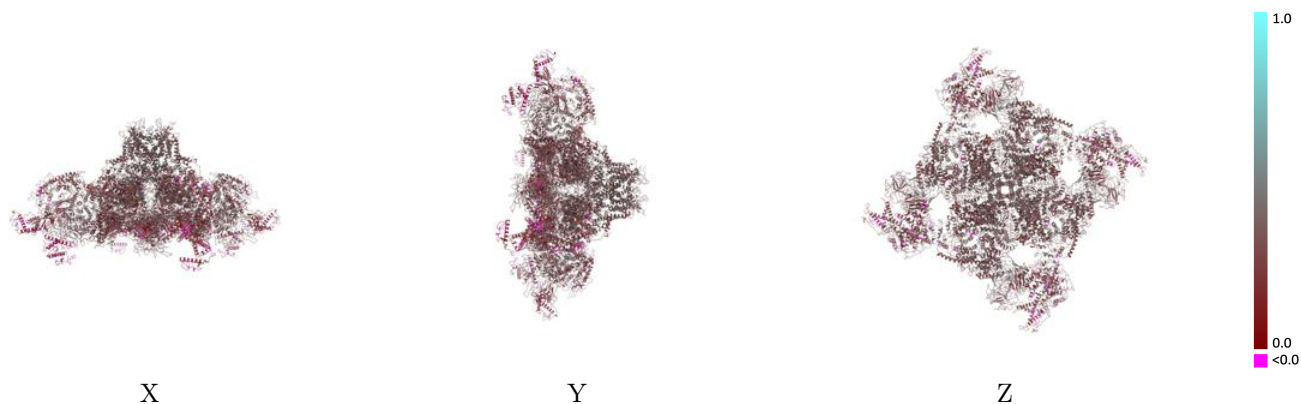
This section contains information regarding the fit between EMDB map EMD-22615 and PDB model 7K0S. Per-residue inclusion information can be found in section 3 on page 5.

9.1 Map-model overlay [i](#)



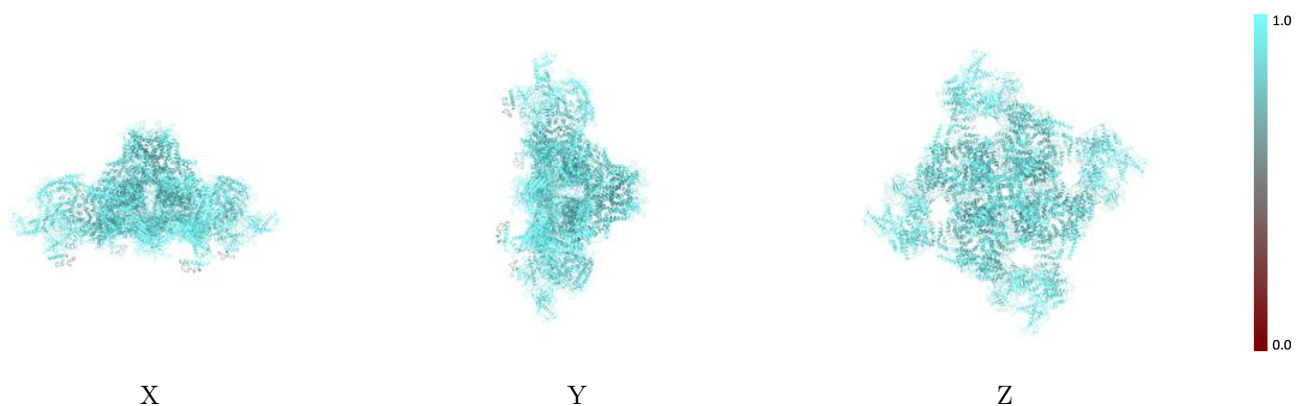
The images above show the 3D surface view of the map at the recommended contour level 0.006 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



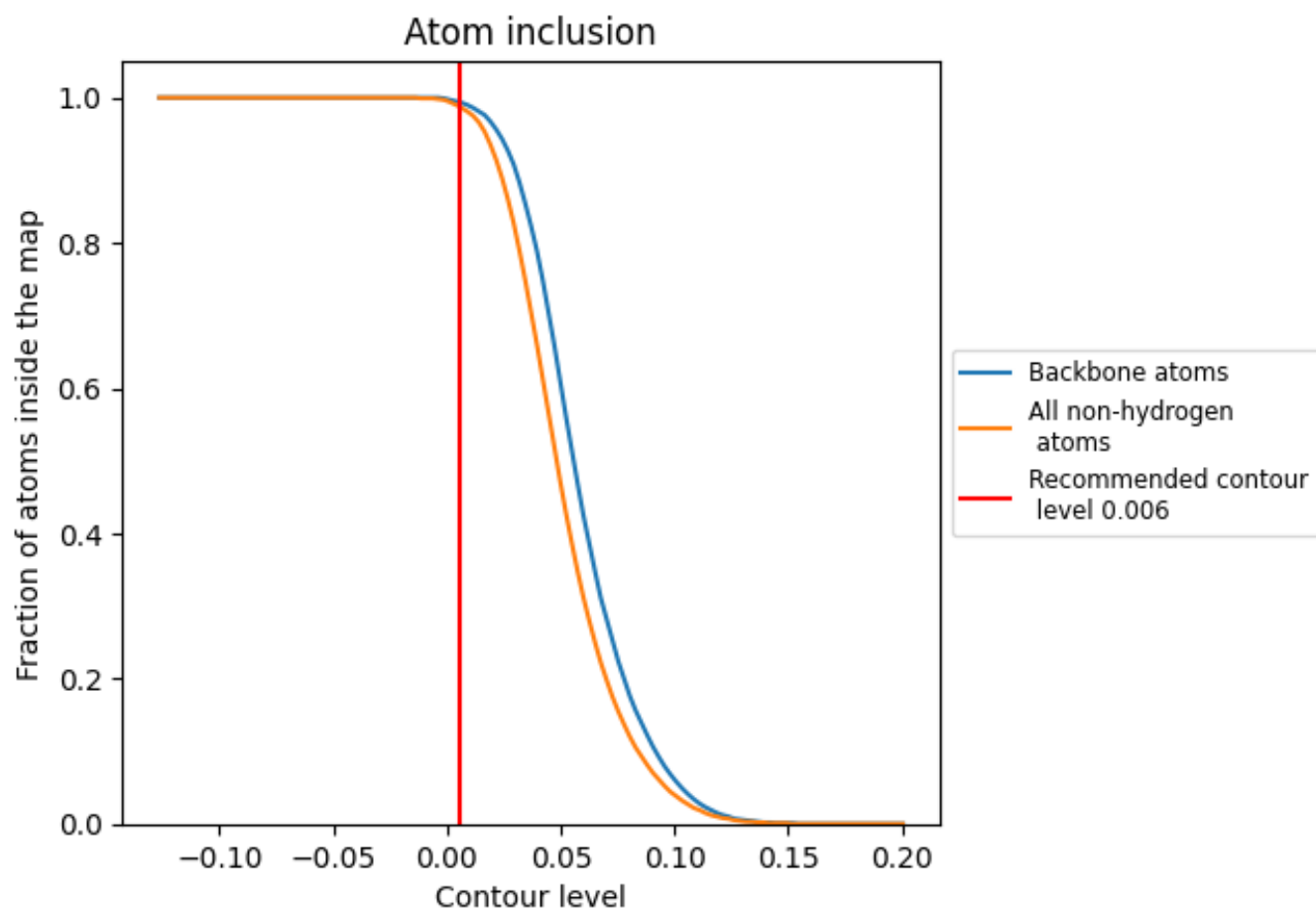
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.006).



9.4 Atom inclusion [i](#)



At the recommended contour level, 99% of all backbone atoms, 99% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (0.006) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9870	 0.3120
A	 0.9870	 0.3110
B	 0.9870	 0.3120
C	 0.9870	 0.3120
D	 0.9870	 0.3110

