



Full wwPDB EM Validation Report ⓘ

Jun 26, 2023 – 12:15 PM EDT

PDB ID : 8DVE
EMDB ID : EMD-27736
Title : RyR1 in presence of IpCa-T26E phosphomimetic and activating ligands
Authors : Haji-Ghassemi, O.; Van Petegm, F.
Deposited on : 2022-07-28
Resolution : 3.84 Å (reported)
Based on initial model : 6M2W

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.dev50
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.33

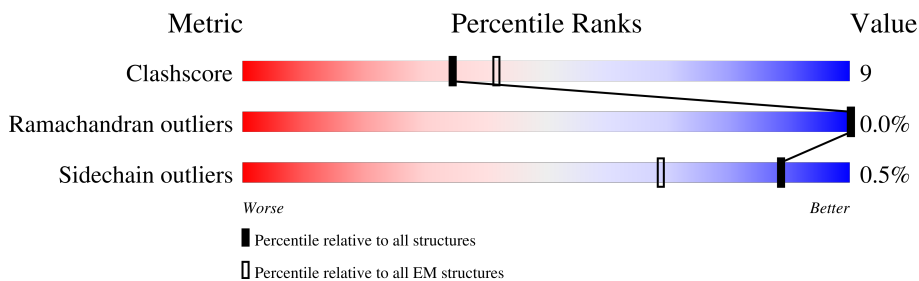
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.84 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.



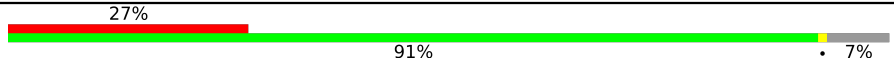
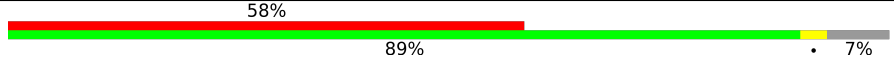
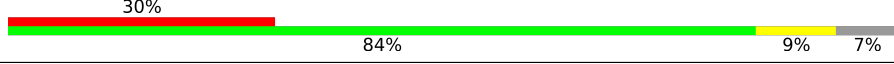

Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	D	5037	
1	G	5037	
1	J	5037	
2	B	107	
2	E	107	
2	H	107	
2	K	107	

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Mol	Chain	Length	Quality of chain
3	C	149	
3	F	149	
3	I	149	
3	L	149	

2 Entry composition i

There are 7 unique types of molecules in this entry. The entry contains 114229 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 Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	D	3942	Total 26818	C 17244	N 4812	O 4614	S 148	0	0
1	A	3943	Total 27274	C 17556	N 4883	O 4676	S 159	0	0
1	G	3944	Total 27137	C 17456	N 4860	O 4662	S 159	0	0
1	J	3943	Total 26962	C 17331	N 4814	O 4668	S 149	0	0

- Molecule 2 is a protein called Peptidyl-prolyl cis-trans isomerase FKBP1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	E	107	Total 743	C 475	N 132	O 133	S 3	0	0
2	B	107	Total 743	C 473	N 134	O 132	S 4	0	0
2	H	107	Total 745	C 474	N 134	O 134	S 3	0	0
2	K	107	Total 728	C 466	N 128	O 131	S 3	0	0

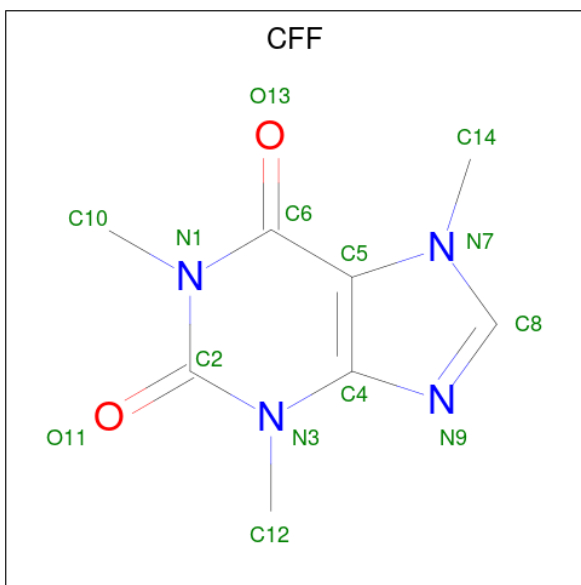
- Molecule 3 is a protein called Calmodulin-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	F	138	Total 715	C 437	N 138	O 139	S 1	0	0
3	C	138	Total 720	C 437	N 139	O 142	S 2	0	0
3	I	138	Total 730	C 447	N 140	O 142	S 1	0	0
3	L	137	Total 726	C 443	N 138	O 141	S 4	0	0

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	32	ALA	GLU	engineered mutation	UNP P0DP23
F	68	ALA	GLU	engineered mutation	UNP P0DP23
F	105	ALA	GLU	engineered mutation	UNP P0DP23
F	141	ALA	GLU	engineered mutation	UNP P0DP23
C	32	ALA	GLU	engineered mutation	UNP P0DP23
C	68	ALA	GLU	engineered mutation	UNP P0DP23
C	105	ALA	GLU	engineered mutation	UNP P0DP23
C	141	ALA	GLU	engineered mutation	UNP P0DP23
I	32	ALA	GLU	engineered mutation	UNP P0DP23
I	68	ALA	GLU	engineered mutation	UNP P0DP23
I	105	ALA	GLU	engineered mutation	UNP P0DP23
I	141	ALA	GLU	engineered mutation	UNP P0DP23
L	32	ALA	GLU	engineered mutation	UNP P0DP23
L	68	ALA	GLU	engineered mutation	UNP P0DP23
L	105	ALA	GLU	engineered mutation	UNP P0DP23
L	141	ALA	GLU	engineered mutation	UNP P0DP23

- Molecule 4 is CAFFEINE (three-letter code: CFF) (formula: C₈H₁₀N₄O₂).

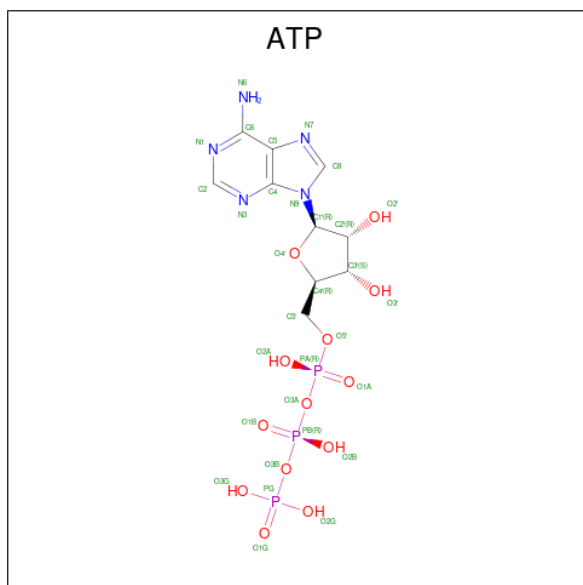


Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
4	D	1	Total	C	N	O	0
			14	8	4	2	
4	A	1	Total	C	N	O	0
			14	8	4	2	
4	G	1	Total	C	N	O	0
			14	8	4	2	
4	J	1	Total	C	N	O	0
			14	8	4	2	

- Molecule 5 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		AltConf
5	D	1	Total	Ca	0
			1	1	
5	A	1	Total	Ca	0
			1	1	
5	G	1	Total	Ca	0
			1	1	
5	J	1	Total	Ca	0
			1	1	

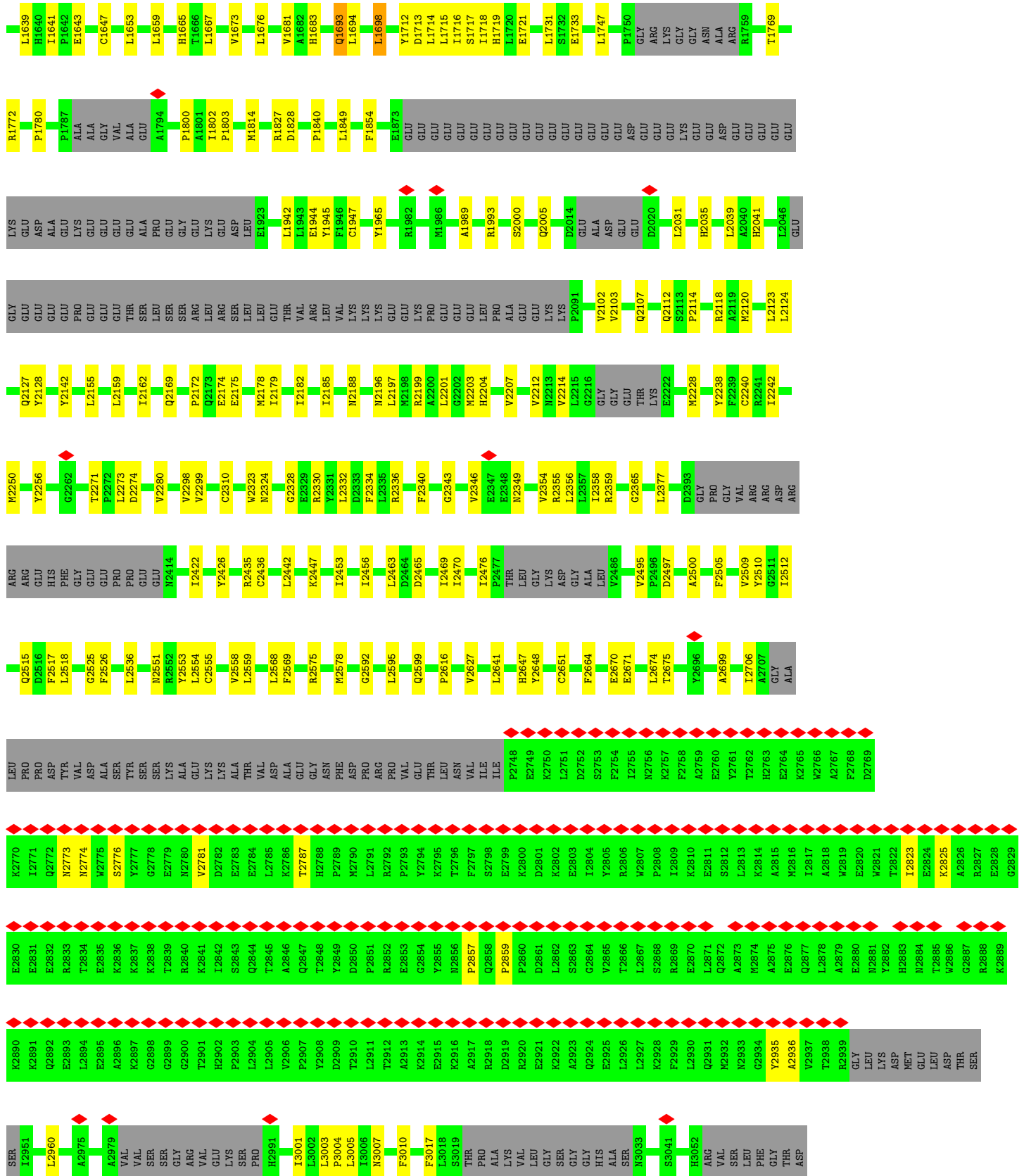
- Molecule 6 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: C₁₀H₁₆N₅O₁₃P₃).

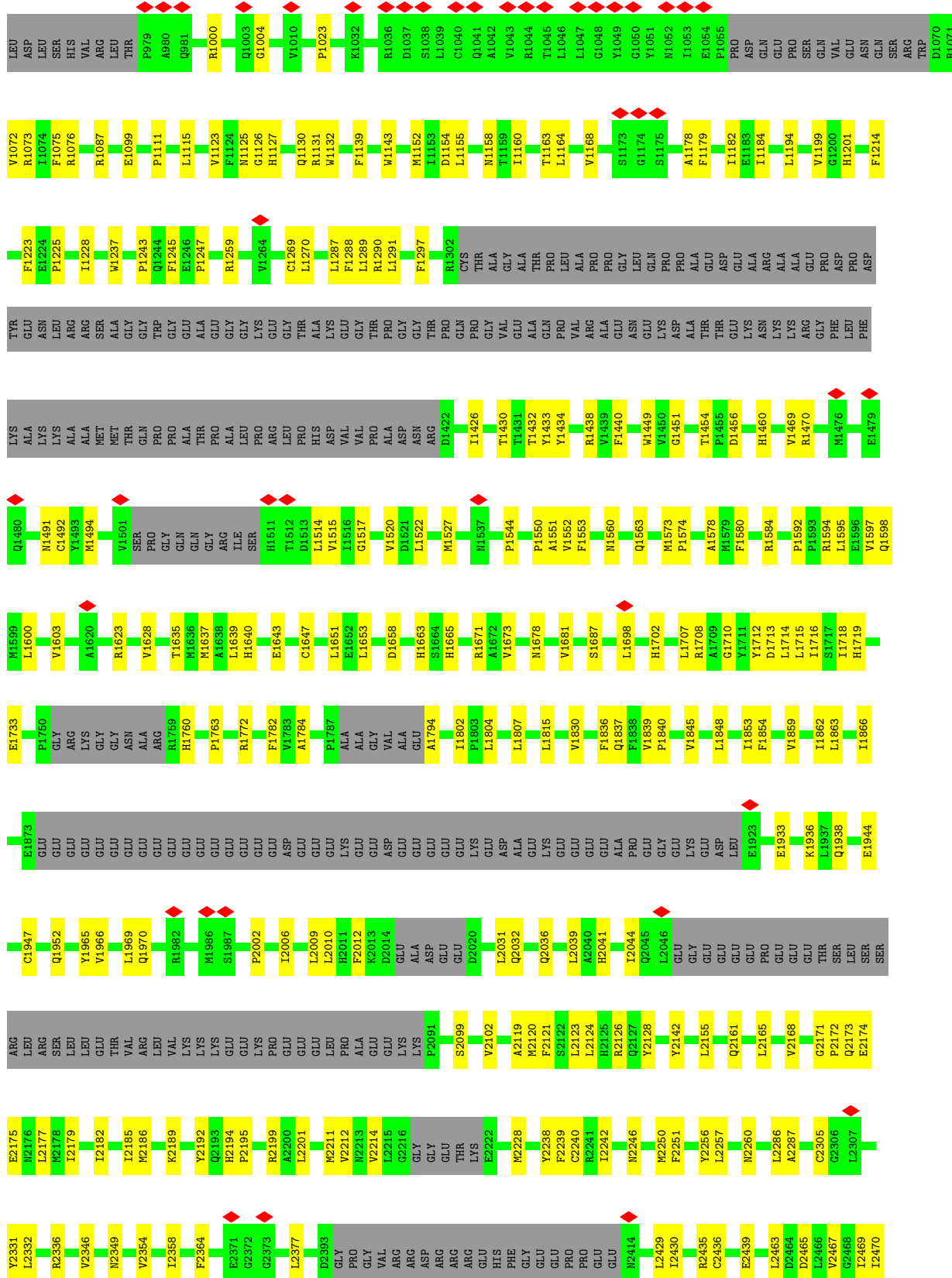


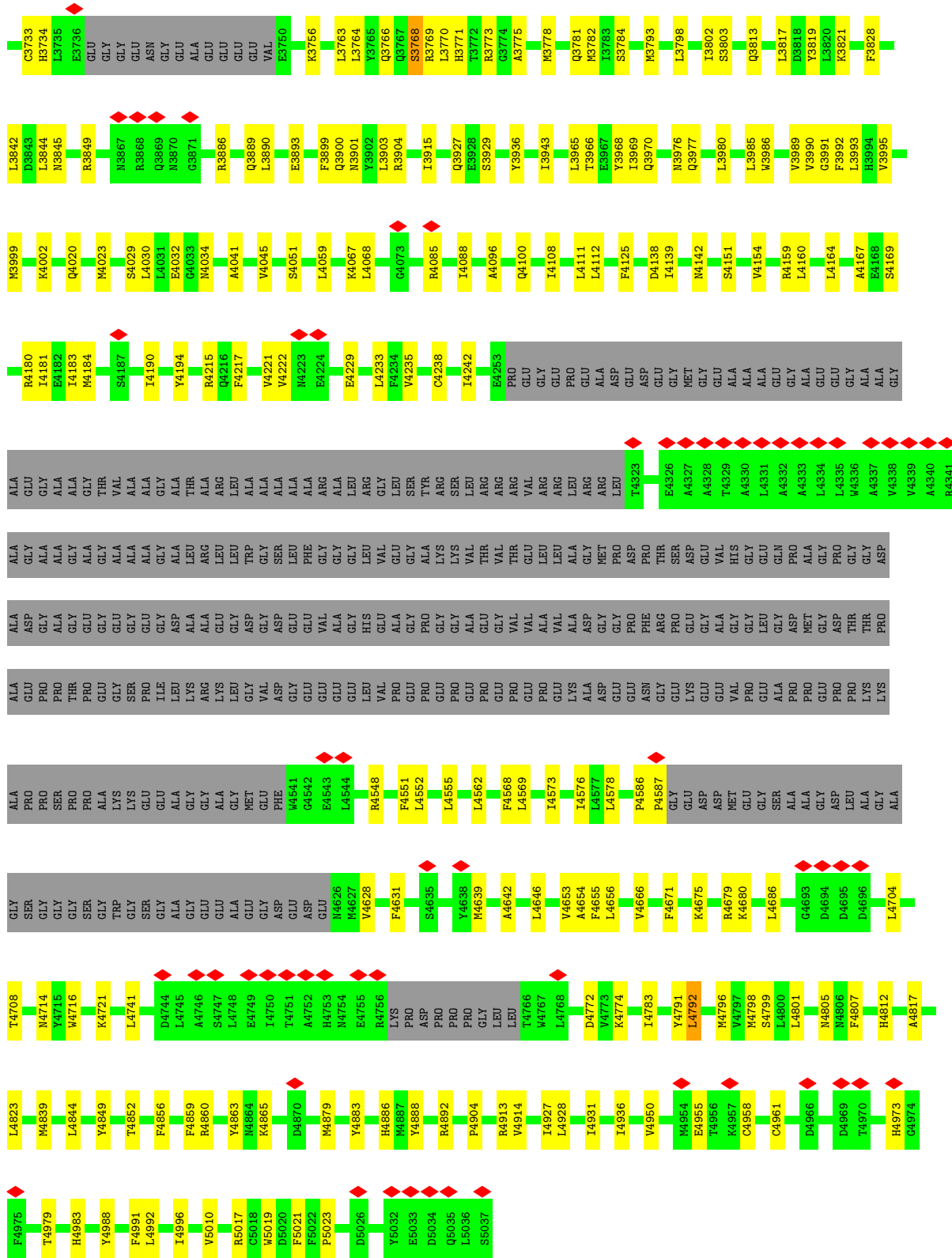
Mol	Chain	Residues	Atoms				AltConf	
6	D	1	Total	C	N	O	P	0
			31	10	5	13	3	
6	A	1	Total	C	N	O	P	0
			31	10	5	13	3	
6	G	1	Total	C	N	O	P	0
			31	10	5	13	3	
6	J	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 7 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
7	D	1	Total 1	Zn 1	0
7	A	1	Total 1	Zn 1	0
7	G	1	Total 1	Zn 1	0
7	J	1	Total 1	Zn 1	0

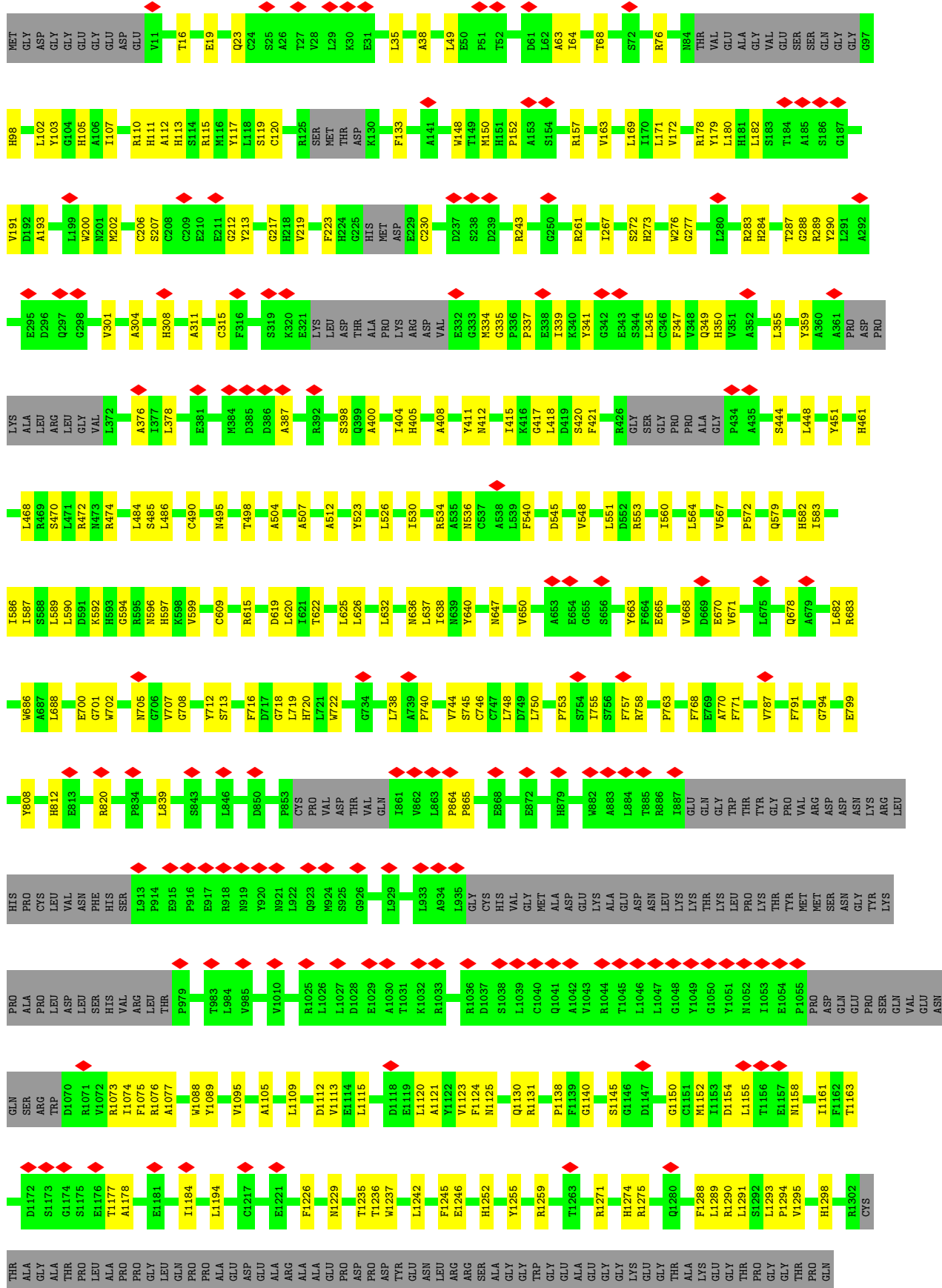


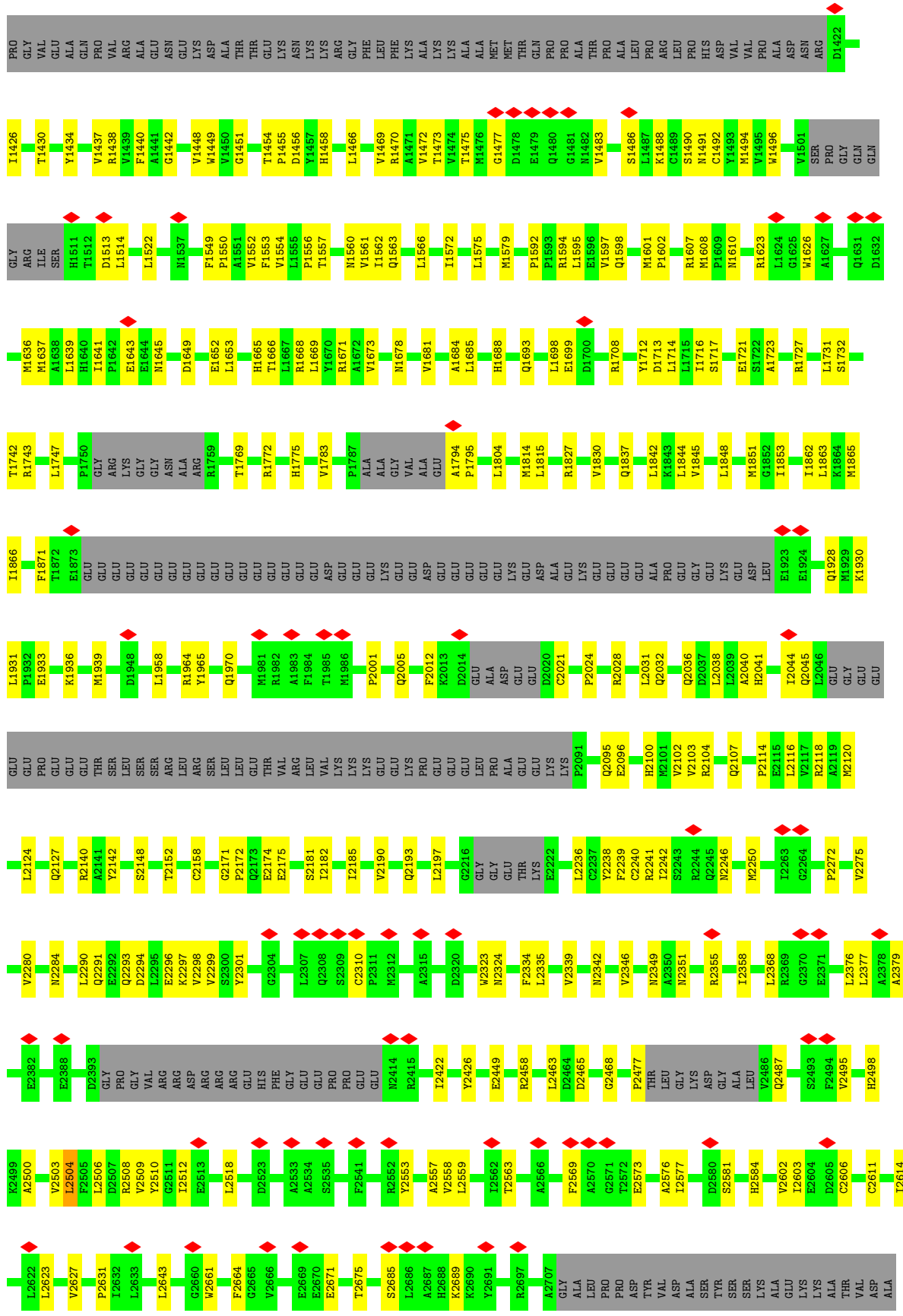




• Molecule 1: Ryanodine receptor 1

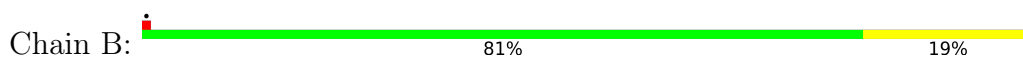




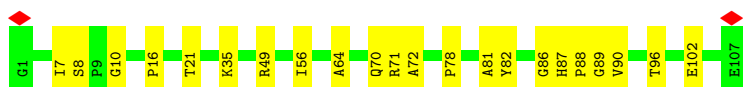
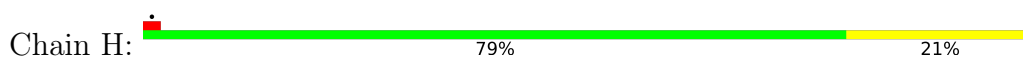


GLU	R2792	R2852	T2912	SER	MET	S9174	ASP	R3337	SER	GLY	I3662	H3771
ASN	P2793	E2853	A2913	PRO	LYS	L3175	ILE	Q3343	LYS	LYS	H3667	I3772
PHE	Y2794	G2854	K2914	H2991	SER	THR	VAL	F3344	MET	ALA	R3670	G3774
ASP	K2795	Y2855	E2915	E2992	GLY	THR	LEU	L3345	ALA	LYS	A3775	A3775
PRO	F2796	M2856	K2916	Q2993	GLU	ASN	ASP	R3248	ALA	SER	I3674	A3776
ARG	T2797	N2857	A2917	E2994	ILE	THR	R3249	R3248	GLY	PRO	S3678	E3777
PRO	S2798	Q2858	R2918	I3001	VAL	TYR	A3257	A3257	ASP	SER	I3674	R3778
VAL	E2799	P2859	D2919	L3002	GLU	VAL	GLU	A3257	ALA	ALA	S3678	V3779
THR	K2800	P2860	E2920	L3003	LYS	LEU	GLY	A3257	GLN	ARG	G3681	L3780
LEU	D2801	D2861	R2921	P3004	LEU	LEU	ALA	A3257	GLY	GLY	G3681	L3780
ASN	K2802	L2862	K2922	N3007	LEU	R3187	ARG	A3257	SER	GLY	G3681	A3785
VAL	E2803	S2863	A2923	F3010	THR	L3190	TYR	A3257	ASP	ALA	G3681	L3805
ILE	I2804	G2864	Q2924	S3019	ALA	A3199	MET	F3267	THR	THR	G3681	L3820
P2748	Y2805	V2865	E2925	THR	THR	ALA	F3267	F3267	THR	LYS	G3681	L3842
E2749	I2806	T2866	L2926	PRO	PRO	VAL	M3276	M3276	LYS	LYS	G3681	F3829
K2750	R2806	L2867	L2927	ALA	ALA	PHE	R3284	R3284	LYS	LYS	G3681	L3842
L2751	W2807	S2868	F2928	LYS	VAL	LEU	TRP	TRP	ARG	ARG	G3681	N3851
D2752	P2808	R2868	F2929	VAL	GLY	GLY	ARG	ARG	GLY	GLY	G3681	K3852
S2753	S2809	E2870	L2930	LEU	LYS	LEU	GLY	GLY	ASP	ASP	G3681	A3853
F2754	K2810	L2871	Q2931	LEU	VAL	LEU	GLY	GLY	ALA	ALA	G3681	L3856
I2755	E2811	L2872	M2932	GLY	VAL	GLY	ARG	ARG	ASP	ASP	G3681	I3862
N2756	S2812	Q2873	M2933	GLY	VAL	GLY	GLY	GLY	TYR	TYR	G3681	N3867
K2757	K2814	A2874	G2934	HIS	ALA	ALA	ALA	ALA	VAL	VAL	G3681	R3868
F2758	A2815	A2875	Y2935	ALA	ARG	ASN	ALA	ALA	VAL	VAL	G3681	I3870
A2759	A2816	E2876	A2936	SER	THR	ASN	PRO	PRO	THR	THR	G3681	M3875
E2760	M2817	Q2877	V2937	N3033	GLN	ASN	PRO	PRO	LEU	LEU	G3681	L3882
Y2761	L2818	R2878	T2938	K3034	LYS	ALA	LEU	LEU	LEU	LEU	G3681	Q3889
T2762	A2818	L2878	T2939	E3035	GLY	CYS	LEU	LEU	VAL	VAL	G3681	L3890
H2763	W2819	A2879	R2939	I3039	VAL	SER	PRO	PRO	THR	THR	G3681	E3893
E2764	E2820	E2880	L2940	GLY	GLY	VAL	ALA	ALA	ALA	ALA	G3681	F3899
K2765	W2821	N2881	L2941	LEU	THR	TYR	GLY	GLY	ALA	ALA	G3681	Y3902
W2766	T2822	Y2882	A2942	ASP	THR	THR	PRO	PRO	PRO	PRO	G3681	L3903
A2767	I2823	M2883	E2824	VAL	LYS	THR	PRO	PRO	PRO	PRO	G3681	R3904
F2768	K2825	H2884	E2824	SER	SER	SER	PRO	PRO	PRO	PRO	G3681	T3905
D2769	A2826	T2885	T2885	LEU	PRO	ARG	THR	THR	THR	THR	G3681	O3906
K2770	R2827	W2886	W2886	PHE	GLY	GLU	VAL	VAL	VAL	VAL	G3681	T3907
I2771	E2828	G2887	G2887	THR	THR	ALA	VAL	VAL	VAL	VAL	G3681	T3910
Q2772	E2828	R2888	R2888	ASP	THR	ALA	THR	THR	THR	THR	G3681	L3923
H2773	E2830	K2889	K2889	ALA	ALA	ILE	THR	THR	THR	THR	G3681	Q3927
N2774	E2831	K2890	K2890	PRO	ALA	LEU	THR	THR	THR	THR	G3681	
W2775	E2832	Q2892	Q2892	ALA	ALA	GLY	THR	THR	THR	THR	G3681	
Y2777	R2833	E2893	E2893	V3064	GLN	LEU	LEU	LEU	LEU	LEU	G3681	
G2778	T2834	L2894	L2894	V3065	PHE	PRO	GLY	GLY	GLY	GLY	G3681	
E2779	E2835	E2895	E2895	N3066	GLY	ASN	ILE	ILE	ILE	ILE	G3681	
H2780	K2836	A2896	A2896	R3073	ASP	VAL	ASP	ASP	ASP	ASP	G3681	
V2781	K2837	K2897	K2897	SER	ASP	GLU	GLU	GLU	GLU	GLU	G3681	
D2782	K2838	G2898	G2898	LEU	LEU	THR	THR	THR	THR	THR	G3681	
E2783	T2839	G2899	G2899	ARG	ARG	THR	THR	THR	THR	THR	G3681	
E2784	K2841	T2901	T2901	THR	THR	VAL	VAL	VAL	VAL	VAL	G3681	
L2785	I2842	H2902	H2902	GLY	GLY	ARG	ARG	ARG	ARG	ARG	G3681	
K2786	S2843	P2903	P2903	VAL	VAL	ARG	ARG	ARG	ARG	ARG	G3681	
T2787	Q2844	L2904	L2904	VAL	VAL	GLU	GLU	GLU	GLU	GLU	G3681	
H2788	T2845	L2905	L2905	GLU	GLU	LYS	LYS	LYS	LYS	LYS	G3681	
F2789	A2846	V2906	V2906	LYS	LYS						G3681	
H2790	Q2847	P2907	P2907								G3681	
L2791	T2848	Y2908	Y2908								G3681	
	D2850	D2909	D2909								G3681	
	P2851	L2911	L2911								G3681	

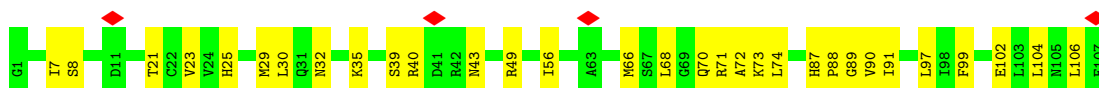
- Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B



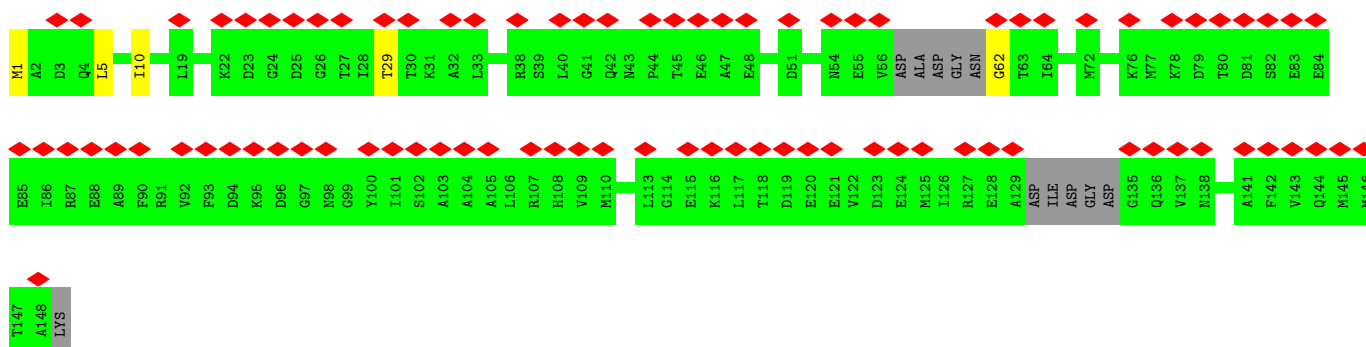
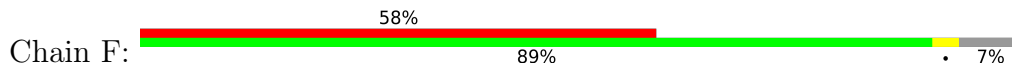
- Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B



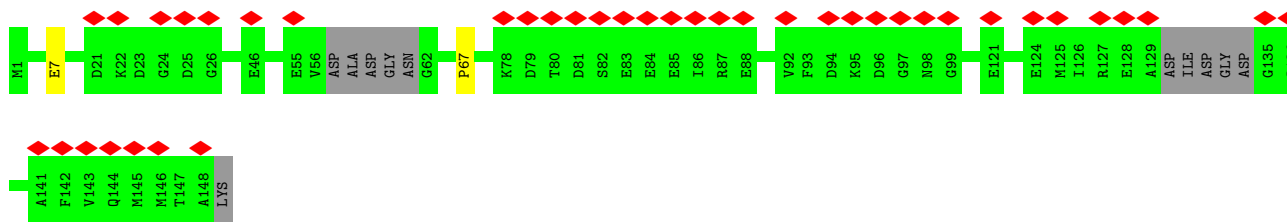
- Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B



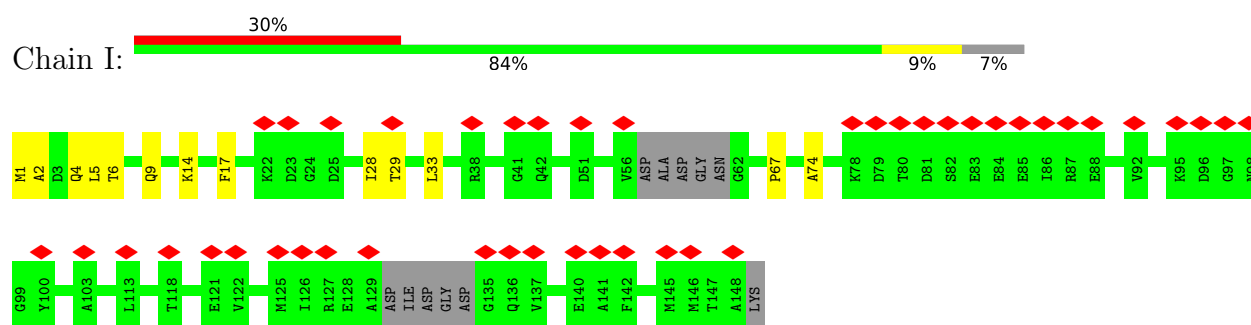
- Molecule 3: Calmodulin-1



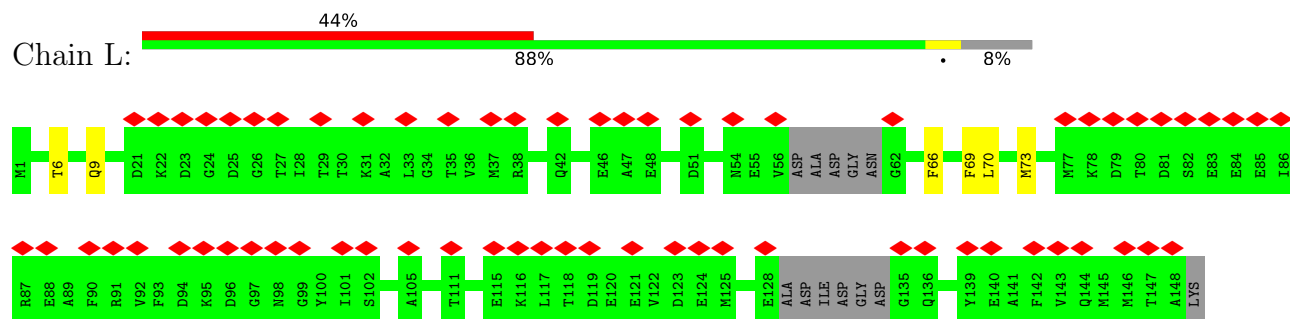
- Molecule 3: Calmodulin-1



- Molecule 3: Calmodulin-1



- Molecule 3: Calmodulin-1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	41834	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 ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.366	Depositor
Minimum map value	-0.097	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.015	Depositor
Recommended contour level	0.09	Depositor
Map size (Å)	481.28, 481.28, 481.28	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.94, 0.94, 0.94	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: CA, ZN, ATP, CFF

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	0/27849	0.47	0/38070
1	D	0.27	0/27383	0.47	0/37497
1	G	0.26	0/27706	0.47	0/37888
1	J	0.26	0/27526	0.47	0/37679
2	B	0.26	0/758	0.51	0/1032
2	E	0.30	0/758	0.50	0/1033
2	H	0.32	0/761	0.54	0/1036
2	K	0.25	0/744	0.51	0/1018
3	C	0.24	0/720	0.37	0/993
3	F	0.24	0/716	0.37	0/989
3	I	0.24	0/731	0.36	0/1007
3	L	0.24	0/727	0.38	0/1001
All	All	0.26	0/116379	0.47	0/159243

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	27274	0	23938	406	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	D	26818	0	23065	467	0
1	G	27137	0	23674	449	0
1	J	26962	0	23301	513	0
2	B	743	0	703	12	0
2	E	743	0	703	17	0
2	H	745	0	694	17	0
2	K	728	0	670	21	0
3	C	720	0	401	2	0
3	F	715	0	391	3	0
3	I	730	0	421	8	0
3	L	726	0	425	3	0
4	A	14	0	10	0	0
4	D	14	0	10	0	0
4	G	14	0	10	1	0
4	J	14	0	10	0	0
5	A	1	0	0	0	0
5	D	1	0	0	0	0
5	G	1	0	0	0	0
5	J	1	0	0	0	0
6	A	31	0	12	0	0
6	D	31	0	12	2	0
6	G	31	0	12	4	0
6	J	31	0	12	2	0
7	A	1	0	0	0	0
7	D	1	0	0	0	0
7	G	1	0	0	0	0
7	J	1	0	0	0	0
All	All	114229	0	98474	1865	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 (1865) 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:D:4577:LEU:HD12	1:D:4580:TYR:HE2	1.12	1.10
1:D:4577:LEU:HD12	1:D:4580:TYR:CE2	1.96	1.00
1:J:4017:LEU:HD12	1:J:4139:ILE:HG21	1.50	0.92
2:H:10:GLY:HA3	2:H:70:GLN:HB2	1.53	0.91
1:D:4577:LEU:CD1	1:D:4580:TYR:HE2	1.85	0.90
1:A:2179:ILE:HD11	1:A:2228:MET:HA	1.54	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:636:ASN:HB3	1:D:702:TRP:HZ2	1.42	0.85
2:E:39:SER:HA	2:E:42:ARG:NH2	1.91	0.85
1:D:2121:PHE:HB3	1:D:3725:TYR:HE2	1.41	0.84
1:G:1712:TYR:HD2	1:G:1840:PRO:HB2	1.43	0.83
1:J:49:LEU:HD11	1:J:191:VAL:HG23	1.61	0.83
1:G:1143:TRP:HB3	1:G:1164:LEU:HD11	1.62	0.82
1:J:103:TYR:CD2	1:J:152:PRO:HB3	2.14	0.82
1:D:1115:LEU:HD21	1:D:1193:SER:HB2	1.61	0.82
1:D:1131:ARG:HB3	1:D:1139:PHE:HE1	1.44	0.82
1:J:2503:VAL:HG21	1:J:2558:VAL:HG12	1.61	0.82
1:A:1440:PHE:HD2	1:A:1560:ASN:HB3	1.45	0.81
1:G:3768:SER:HA	1:G:3771:HIS:CE1	2.16	0.81
1:A:1849:LEU:HD12	1:A:1942:LEU:HD11	1.64	0.80
1:D:2512:ILE:HA	1:D:2517:PHE:HE2	1.45	0.80
1:D:1205:GLY:HA2	1:D:1211:LEU:HD11	1.63	0.80
1:G:3886:ARG:HD2	1:G:3889:GLN:HE21	1.48	0.79
1:D:1651:LEU:HD23	1:D:1702:HIS:HB2	1.64	0.78
1:A:1698:LEU:HA	1:A:1712:TYR:HE1	1.49	0.78
1:J:668:VAL:HG21	1:J:738:LEU:HD21	1.66	0.78
1:J:1743:ARG:HA	1:J:1964:ARG:HH12	1.48	0.77
1:G:3990:VAL:HG23	1:G:4051:SER:HB3	1.66	0.77
1:A:3673:MET:HE3	1:A:3728:ILE:HG21	1.67	0.76
1:G:2670:GLU:HA	1:G:2673:HIS:CE1	2.20	0.76
1:J:594:GLY:HA2	1:J:1594:ARG:HD2	1.68	0.75
1:A:2214:VAL:HG11	1:A:2228:MET:HE1	1.69	0.75
1:J:3969:ILE:HG12	1:J:4030:LEU:HA	1.68	0.75
1:J:63:ALA:HB2	1:J:261:ARG:HH12	1.52	0.74
1:J:2377:LEU:HD21	1:J:2465:ASP:HA	1.68	0.74
1:D:1694:LEU:HB3	1:D:1715:LEU:HD12	1.70	0.74
1:G:2512:ILE:HG21	1:G:2518:LEU:HD12	1.70	0.74
1:A:3817:LEU:HB2	1:A:3899:PHE:HE1	1.53	0.74
1:D:551:LEU:HA	1:D:560:ILE:HG21	1.70	0.73
1:J:2310:CYS:HB2	1:J:2324:ASN:HD22	1.53	0.73
1:J:716:PHE:HD2	1:J:718:GLY:H	1.35	0.73
1:G:2121:PHE:HB3	1:G:3725:TYR:HE2	1.52	0.73
1:G:833:GLY:HA3	1:G:838:HIS:CD2	2.23	0.73
1:J:1289:LEU:HD23	1:J:1597:VAL:HB	1.69	0.73
1:J:2355:ARG:NH1	1:J:2449:GLU:OE2	2.22	0.73
2:H:82:TYR:HB3	2:H:86:GLY:HA2	1.71	0.73
1:G:3817:LEU:HB2	1:G:3899:PHE:HE1	1.51	0.73
1:A:728:ARG:NH2	1:A:1489:CYS:SG	2.62	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1161:ILE:HG13	1:J:1177:THR:HA	1.71	0.72
1:G:3768:SER:HA	1:G:3771:HIS:ND1	2.04	0.72
1:J:682:LEU:HD21	1:J:787:VAL:HG11	1.70	0.72
1:G:1163:THR:HG22	1:G:1168:VAL:HA	1.70	0.72
1:J:4901:ILE:HG21	1:J:4913:ARG:HE	1.55	0.72
1:J:2239:PHE:O	1:J:2246:ASN:ND2	2.23	0.72
1:D:2563:THR:HG23	1:D:2606:CYS:HA	1.71	0.72
1:D:1731:LEU:HD12	1:D:1772:ARG:HH12	1.54	0.72
1:A:411:TYR:HB3	1:A:486:LEU:HD21	1.71	0.72
1:A:1235:THR:HG22	1:A:1610:ASN:HD21	1.53	0.72
1:J:1731:LEU:HG	1:J:1772:ARG:HH22	1.53	0.72
1:D:580:GLU:HA	1:D:620:LEU:HD21	1.72	0.71
1:D:1291:LEU:HD13	1:D:1550:PRO:HB2	1.70	0.71
1:D:1448:VAL:HG22	1:D:1554:VAL:HG23	1.73	0.71
1:G:2781:VAL:HA	1:G:2787:THR:O	1.90	0.71
1:J:708:GLY:HA3	1:J:722:TRP:HB3	1.70	0.71
1:G:4839:MET:HB3	1:J:4823:LEU:HD11	1.71	0.71
1:A:530:ILE:HG22	1:A:536:ASN:HB3	1.72	0.71
1:A:1143:TRP:HB3	1:A:1164:LEU:HD11	1.71	0.71
1:J:1448:VAL:HG22	1:J:1554:VAL:HG23	1.72	0.71
1:D:4215:ARG:NH2	6:D:5103:ATP:O1B	2.23	0.71
1:A:2781:VAL:HA	1:A:2787:THR:O	1.90	0.71
1:A:4911:LEU:HA	1:A:4914:VAL:HG12	1.72	0.71
1:D:4732:PHE:HD2	1:D:4737:ILE:HD11	1.56	0.71
1:G:1969:LEU:HD21	1:G:2009:LEU:HD13	1.73	0.71
1:D:636:ASN:HB3	1:D:702:TRP:CZ2	2.24	0.71
1:G:222:LEU:HD12	1:G:388:LEU:HD13	1.73	0.71
1:A:3969:ILE:HD11	1:A:3980:LEU:HD12	1.70	0.70
1:G:2377:LEU:HA	1:G:2469:ILE:HD11	1.71	0.70
1:D:1115:LEU:HD13	1:D:1123:VAL:HG11	1.73	0.70
1:D:4913:ARG:NH1	1:A:4888:TYR:OH	2.24	0.70
1:A:219:VAL:HG21	1:A:398:SER:HB3	1.71	0.70
1:D:716:PHE:HD2	1:D:718:GLY:H	1.39	0.70
1:A:1673:VAL:HG12	1:A:1681:VAL:HG11	1.73	0.70
1:J:2781:VAL:HA	1:J:2787:THR:O	1.90	0.70
1:G:1430:THR:HG22	1:G:1432:THR:H	1.56	0.70
2:E:78:PRO:HD3	2:E:96:THR:HG22	1.72	0.70
1:A:1161:ILE:HG22	1:A:1177:THR:HA	1.74	0.70
1:D:2271:THR:HG22	1:D:2273:LEU:H	1.56	0.70
1:A:2509:VAL:HG23	1:A:2510:TYR:HD1	1.57	0.69
1:A:2575:ARG:HG3	1:A:2578:MET:HB3	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1225:PRO:HG2	1:G:1228:ILE:HB	1.74	0.69
1:A:4913:ARG:NH1	1:A:4917:ASP:OD2	2.26	0.69
1:J:2879:ALA:HB2	1:J:2920:ARG:HA	1.74	0.69
1:J:4677:LEU:HD22	1:J:4711:PHE:CZ	2.27	0.69
1:D:2625:ARG:CB	1:D:2904:LEU:H	2.06	0.69
1:A:14:LEU:HD23	1:A:101:LEU:HD22	1.75	0.69
1:A:2551:ASN:HD21	1:A:2595:LEU:HG	1.57	0.68
1:A:2512:ILE:HD12	1:A:2518:LEU:HD12	1.75	0.68
1:J:2044:ILE:HG13	1:J:3667:HIS:HD2	1.56	0.68
1:D:1269:CYS:SG	1:D:1563:GLN:NE2	2.66	0.68
1:J:720:HIS:HE1	1:J:722:TRP:HE1	1.38	0.68
1:A:3977:GLN:NE2	1:A:4030:LEU:O	2.26	0.68
1:D:1851:MET:HB3	1:D:1853:ILE:HG13	1.76	0.68
1:D:2376:LEU:HD11	1:D:2430:ILE:HD11	1.76	0.68
1:G:220:LEU:HD23	1:G:390:LEU:HB3	1.75	0.68
1:A:2518:LEU:HD13	1:A:2568:LEU:HD23	1.75	0.67
1:D:4577:LEU:CD1	1:D:4580:TYR:CE2	2.69	0.67
1:G:341:TYR:OH	1:G:392:ARG:N	2.26	0.67
1:D:2522:LEU:HA	1:D:2526:PHE:HB2	1.77	0.67
1:A:3970:GLN:HE22	1:A:5004:THR:HG22	1.59	0.67
1:D:113:HIS:NE2	1:D:402:ARG:HB3	2.10	0.67
1:D:4578:LEU:HD12	1:J:4879:MET:HB3	1.75	0.67
1:J:1863:LEU:HD11	1:J:1871:PHE:HD2	1.59	0.67
1:J:794:GLY:HA3	1:J:812:HIS:HB3	1.76	0.67
1:G:701:GLY:HA3	1:G:725:HIS:NE2	2.10	0.67
1:J:1125:ASN:N	1:J:1130:GLN:O	2.28	0.67
1:J:636:ASN:OD1	1:J:1693:GLN:NE2	2.28	0.67
1:G:1698:LEU:HA	1:G:1712:TYR:HE1	1.60	0.67
1:J:451:TYR:CE2	1:J:474:ARG:HD3	2.30	0.67
1:G:1440:PHE:HD2	1:G:1560:ASN:HB3	1.60	0.66
1:J:647:ASN:ND2	1:J:820:ARG:O	2.28	0.66
1:D:3969:ILE:HD11	1:D:3980:LEU:HD22	1.75	0.66
1:A:2124:LEU:HD21	1:A:3677:LEU:HD11	1.77	0.66
1:A:635:THR:HB	1:A:1693:GLN:HE22	1.60	0.66
1:J:551:LEU:HD21	1:J:589:LEU:HB2	1.77	0.66
1:D:670:GLU:HA	1:D:740:PRO:HB3	1.77	0.66
2:B:71:ARG:HG2	2:B:102:GLU:HB3	1.76	0.66
1:G:180:LEU:O	1:G:200:TRP:NE1	2.27	0.66
1:J:716:PHE:HZ	1:J:744:VAL:HG21	1.59	0.66
1:D:438:ILE:HG23	1:D:518:ILE:HD11	1.77	0.66
1:D:1747:LEU:HD21	1:D:2041:HIS:HB2	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3673:MET:CE	1:A:3728:ILE:HG12	2.25	0.66
1:G:833:GLY:HA3	1:G:838:HIS:HD2	1.60	0.65
1:G:3901:ASN:OD1	1:G:3904:ARG:NH2	2.26	0.65
1:A:4737:ILE:HG23	1:A:4741:LEU:HD23	1.78	0.65
1:J:2661:TRP:CD1	1:J:2664:PHE:HD1	2.14	0.65
1:A:4879:MET:HG3	1:G:4578:LEU:HA	1.77	0.65
1:G:1594:ARG:NH2	1:G:1643:GLU:OE2	2.29	0.65
1:G:1578:ALA:HA	1:G:1584:ARG:HH12	1.62	0.65
2:K:30:LEU:HD23	2:K:32:ASN:H	1.61	0.65
1:D:4816:ILE:HG12	1:D:4823:LEU:HG	1.79	0.64
1:J:171:LEU:HB2	1:J:180:LEU:HD23	1.79	0.64
1:D:4027:LEU:HD22	1:D:4044:MET:HE1	1.79	0.64
2:E:25:HIS:CD2	2:E:45:PRO:HA	2.32	0.64
1:J:102:LEU:HB2	1:J:105:HIS:HE1	1.61	0.64
1:J:758:ARG:HG2	1:J:763:PRO:HA	1.79	0.64
1:J:103:TYR:CE1	1:J:163:VAL:HG13	2.32	0.64
1:J:4085:ARG:HE	1:J:4087:LEU:HD12	1.61	0.64
1:A:3904:ARG:O	1:A:3914:ASN:ND2	2.31	0.64
1:G:1160:ILE:HD11	1:G:1182:ILE:HD13	1.77	0.64
1:G:1639:LEU:HD11	1:G:1653:LEU:HD11	1.80	0.64
1:G:4798:MET:HB3	1:G:4812:HIS:NE2	2.12	0.64
1:J:683:ARG:HH21	1:J:708:GLY:H	1.45	0.64
1:D:2358:ILE:HD11	1:D:2460:LEU:HD11	1.79	0.64
1:D:4578:LEU:O	1:J:4879:MET:HB2	1.97	0.64
1:D:2584:HIS:HA	1:D:2903:PRO:CB	2.28	0.64
1:A:1110:ARG:NH2	1:A:1112:ASP:OD2	2.31	0.64
1:J:4208:PRO:HA	1:J:4211:LYS:HB2	1.78	0.64
1:D:4960:ILE:HD11	1:D:4985:LEU:HA	1.79	0.64
1:A:595:ARG:NH1	1:A:631:LEU:O	2.31	0.64
1:G:3813:GLN:HB3	1:G:3899:PHE:CE2	2.32	0.64
1:J:4673:ARG:HD2	1:J:4782:VAL:HG21	1.79	0.64
1:D:4892:ARG:NH1	1:J:4917:ASP:OD2	2.31	0.63
1:G:618:GLN:O	1:G:621:ILE:HG22	1.98	0.63
1:J:638:ILE:HG22	1:J:678:GLN:HE22	1.63	0.63
1:G:3733:CYS:SG	1:G:3803:SER:HB3	2.38	0.63
1:J:579:GLN:H	1:J:582:HIS:HD2	1.43	0.63
1:J:2293:GLN:OE1	1:J:2293:GLN:N	2.30	0.63
1:D:794:GLY:HA2	1:D:812:HIS:HB3	1.78	0.63
1:D:3676:ASP:HA	1:D:3679:LYS:NZ	2.13	0.63
1:G:4067:LYS:NZ	1:G:4169:SER:OG	2.31	0.63
1:D:3892:CYS:SG	1:D:3900:GLN:NE2	2.72	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2469:ILE:HA	1:G:2472:LEU:HD23	1.79	0.63
1:J:103:TYR:CG	1:J:152:PRO:HB3	2.32	0.63
1:D:2000:SER:O	1:D:2005:GLN:NE2	2.23	0.63
1:D:221:ARG:N	1:D:391:THR:O	2.30	0.63
1:D:4204:GLN:NE2	1:D:4245:MET:O	2.31	0.63
1:A:2470:ILE:HG22	1:A:2525:GLY:HA3	1.81	0.63
1:J:1293:LEU:HD11	1:J:1594:ARG:HG2	1.79	0.63
1:D:232:THR:HG21	1:D:252:VAL:HG11	1.80	0.63
1:D:627:PRO:HD3	2:E:89:GLY:HA2	1.79	0.63
1:D:648:ILE:HD11	1:D:814:ALA:HB3	1.81	0.63
1:A:4909:TYR:HA	1:A:4912:TYR:HD2	1.64	0.63
2:K:25:HIS:NE2	2:K:102:GLU:OE1	2.32	0.63
1:D:4800:LEU:HA	1:D:4803:HIS:HD2	1.64	0.62
1:D:3886:ARG:HD2	1:D:3889:GLN:HE21	1.64	0.62
1:G:3817:LEU:HB2	1:G:3899:PHE:CE1	2.31	0.62
1:G:4961:CYS:HB3	1:G:5023:PRO:HB2	1.80	0.62
1:J:2661:TRP:HD1	1:J:2664:PHE:H	1.47	0.62
1:A:2592:GLY:HA3	1:A:2595:LEU:HD13	1.82	0.62
1:J:2158:CYS:HG	1:J:2181:SER:HG	1.45	0.62
1:J:1150:GLY:N	1:J:1163:THR:O	2.31	0.62
1:D:1139:PHE:HB2	1:D:1171:SER:HA	1.80	0.62
1:A:2495:VAL:HG12	1:A:2497:ASP:H	1.64	0.62
1:G:4238:CYS:O	1:G:4242:ILE:HG12	1.99	0.62
1:D:3676:ASP:HA	1:D:3679:LYS:HZ2	1.63	0.62
1:G:664:PHE:HE1	1:G:686:TRP:HE1	1.45	0.62
1:G:4992:LEU:O	1:G:4996:ILE:HG12	1.99	0.62
1:J:359:TYR:HA	1:J:376:ALA:HA	1.82	0.62
1:J:2158:CYS:SG	1:J:2181:SER:OG	2.53	0.62
1:J:4705:VAL:HG22	1:J:4711:PHE:HD1	1.65	0.62
1:D:341:TYR:OH	1:D:392:ARG:N	2.24	0.62
1:A:2476:ILE:HB	1:A:2536:LEU:HD11	1.81	0.62
1:G:4068:LEU:HD13	1:G:4111:LEU:HD11	1.82	0.62
1:A:1115:LEU:HD13	1:A:1193:SER:HB2	1.82	0.62
1:J:1237:TRP:HH2	1:J:1652:GLU:HG3	1.65	0.62
1:A:3648:ARG:NH2	3:C:7:GLU:OE2	2.33	0.62
1:J:4060:LYS:O	1:J:4064:MET:HG3	1.99	0.62
1:D:4582:VAL:HB	1:J:4856:PHE:HZ	1.63	0.61
1:J:4003:LEU:HD21	1:J:4012:LEU:HD22	1.82	0.61
1:D:1966:VAL:HG21	1:D:3650:CYS:HA	1.80	0.61
1:A:794:GLY:HA3	1:A:812:HIS:HB3	1.82	0.61
1:G:650:VAL:O	1:G:777:PHE:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1454:THR:HG23	1:G:1456:ASP:H	1.64	0.61
1:G:1573:MET:SD	1:G:1574:PRO:HD2	2.39	0.61
1:J:670:GLU:HA	1:J:740:PRO:HB3	1.82	0.61
1:A:1573:MET:SD	1:A:1574:PRO:HD2	2.40	0.61
1:J:1668:ARG:HE	1:J:1671:ARG:NH2	1.97	0.61
1:D:1714:LEU:O	1:D:1718:ILE:HG12	2.01	0.61
1:A:1780:PRO:HG2	2:B:42:ARG:HD3	1.81	0.61
1:J:3724:ALA:O	1:J:3728:ILE:HG13	2.00	0.61
1:D:3847:PHE:O	1:D:3851:ASN:ND2	2.33	0.61
1:A:1698:LEU:HD11	1:A:1814:MET:HE1	1.82	0.61
1:A:1431:THR:HG21	1:A:1523:ALA:HB3	1.82	0.61
1:J:2323:TRP:HH2	1:J:2422:ILE:HG13	1.65	0.61
1:D:1673:VAL:HG12	1:D:1681:VAL:HG11	1.83	0.61
1:J:1732:SER:HB2	1:J:2140:ARG:HH11	1.65	0.61
2:K:29:MET:HA	2:K:35:LYS:HA	1.82	0.61
1:A:839:LEU:HB3	1:A:1075:PHE:HE2	1.65	0.61
1:G:2619:LEU:HD23	1:G:2623:LEU:HB2	1.82	0.61
1:J:418:LEU:HA	1:J:421:PHE:CE1	2.34	0.61
1:A:3837:GLN:OE1	1:A:3837:GLN:HA	2.00	0.61
1:G:2574:HIS:CD2	1:G:2575:ARG:HG2	2.35	0.61
1:J:2495:VAL:HB	1:J:2498:HIS:CG	2.36	0.60
1:G:3977:GLN:NE2	1:G:4030:LEU:O	2.34	0.60
1:J:2518:LEU:HD21	1:J:2569:PHE:CE1	2.35	0.60
1:A:2271:THR:HG23	1:A:2274:ASP:H	1.65	0.60
1:J:284:HIS:ND1	1:J:287:THR:OG1	2.33	0.60
1:J:551:LEU:HA	1:J:560:ILE:HG21	1.82	0.60
1:D:21:VAL:HB	1:D:205:ILE:HD11	1.83	0.60
1:D:2776:SER:O	1:D:2787:THR:HA	2.02	0.60
1:J:1928:GLN:HA	1:J:2104:ARG:HH22	1.66	0.60
1:J:4899:ASP:OD1	1:J:4900:GLU:N	2.34	0.60
2:B:78:PRO:HD3	2:B:96:THR:HG22	1.83	0.60
1:J:223:PHE:HD1	1:J:230:CYS:HB3	1.66	0.60
1:D:157:ARG:HH21	1:D:164:ARG:HG3	1.65	0.60
1:D:1431:THR:HG21	1:D:1523:ALA:HB3	1.84	0.60
1:G:292:ALA:HA	1:G:314:PHE:HZ	1.66	0.60
1:G:4817:ALA:HA	1:G:4823:LEU:HB3	1.83	0.60
1:J:587:ILE:HG12	1:J:625:LEU:HD12	1.83	0.60
1:J:1594:ARG:NH2	1:J:1643:GLU:OE2	2.32	0.60
1:D:4991:PHE:HE2	1:D:5010:VAL:HG11	1.67	0.60
1:D:755:ILE:HG13	1:D:771:PHE:CE2	2.37	0.60
1:A:4895:GLY:O	1:G:4892:ARG:NH1	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1470:ARG:HB2	1:G:1491:ASN:HD21	1.67	0.60
2:H:71:ARG:HB3	2:H:102:GLU:HG3	1.82	0.60
1:J:4979:THR:HG21	6:J:5103:ATP:H2'	1.84	0.60
1:D:2778:GLY:O	1:D:2789:PRO:HA	2.01	0.60
1:D:2994:GLU:HA	1:D:2997:PHE:CE1	2.36	0.60
1:A:1115:LEU:HD21	1:A:1123:VAL:HG11	1.84	0.60
1:A:1639:LEU:HD11	1:A:1653:LEU:HD11	1.84	0.60
1:G:345:LEU:HD23	1:G:389:PHE:HB3	1.82	0.60
1:J:111:HIS:CD2	1:J:113:HIS:HB3	2.37	0.60
1:J:2767:ALA:HB3	1:J:2857:PRO:CB	2.32	0.60
1:D:1427:ILE:HD11	1:D:1571:ASN:HA	1.83	0.60
1:J:1742:THR:HG23	1:J:1769:THR:HG21	1.83	0.60
1:A:830:ARG:HE	1:A:837:PRO:HB3	1.67	0.59
1:D:4927:ILE:HG13	1:A:4936:ILE:HG21	1.84	0.59
1:A:495:ASN:HD22	1:A:550:LYS:HD3	1.67	0.59
1:A:1434:TYR:HB3	1:A:1519:LEU:HD23	1.82	0.59
1:G:4576:ILE:HD11	1:G:4639:MET:HG3	1.84	0.59
1:J:619:ASP:OD1	1:J:620:LEU:N	2.35	0.59
1:D:3845:ASN:OD1	1:D:3846:ALA:N	2.34	0.59
1:G:2165:LEU:HD22	1:G:2177:LEU:HD23	1.84	0.59
1:G:4856:PHE:O	1:G:4860:ARG:NH1	2.34	0.59
1:G:1440:PHE:CD2	1:G:1560:ASN:HB3	2.36	0.59
1:J:2581:SER:HA	1:J:2584:HIS:CE1	2.37	0.59
1:J:3007:ASN:HA	1:J:3010:PHE:CE2	2.38	0.59
1:D:4581:LYS:HB2	1:D:4632:LEU:HD23	1.85	0.59
1:A:1440:PHE:CD2	1:A:1560:ASN:HB3	2.34	0.59
1:J:3977:GLN:NE2	1:J:4030:LEU:O	2.36	0.59
1:J:4992:LEU:O	1:J:4996:ILE:HG12	2.03	0.59
1:D:220:LEU:HA	1:D:392:ARG:HA	1.83	0.59
1:G:1733:GLU:HG2	1:G:2201:LEU:HD12	1.85	0.59
1:D:548:VAL:HG11	1:D:582:HIS:HD2	1.68	0.59
1:J:3829:PHE:HE2	1:J:3902:TYR:HE2	1.49	0.59
1:D:2781:VAL:HA	1:D:2787:THR:O	2.01	0.59
1:D:4820:VAL:HB	1:D:4823:LEU:HD23	1.85	0.59
1:A:195:PHE:CZ	1:G:2358:ILE:HD11	2.38	0.59
1:A:4680:LYS:HD2	1:A:4686:LEU:HD22	1.85	0.59
1:J:102:LEU:HB2	1:J:105:HIS:CE1	2.37	0.59
1:J:495:ASN:OD1	1:J:553:ARG:NH1	2.35	0.59
1:J:1936:LYS:HB2	1:J:2116:LEU:HD11	1.84	0.59
1:J:2503:VAL:O	1:J:2506:LEU:HG	2.03	0.59
1:J:4816:ILE:HG22	1:J:4823:LEU:HD22	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1259:ARG:NH2	1:D:1595:LEU:O	2.34	0.59
1:A:1438:ARG:HD3	1:A:1563:GLN:HE21	1.68	0.59
1:G:4562:LEU:HD21	1:G:4656:LEU:HB3	1.85	0.59
1:J:590:LEU:HB2	1:J:599:VAL:HG11	1.85	0.59
1:D:1109:LEU:HA	1:D:1120:LEU:HD13	1.85	0.58
1:D:4138:ASP:O	1:D:4142:ASN:ND2	2.32	0.58
2:E:62:GLY:HA3	2:E:74:LEU:HD11	1.85	0.58
1:J:1804:LEU:HD11	1:J:1853:ILE:HG13	1.84	0.58
1:J:2032:GLN:O	1:J:2036:GLN:HG2	2.03	0.58
1:J:2500:ALA:O	1:J:2503:VAL:HG12	2.02	0.58
1:A:1714:LEU:O	1:A:1718:ILE:HG12	2.03	0.58
1:G:622:THR:HA	1:G:626:LEU:HD13	1.85	0.58
1:J:3842:LEU:O	1:J:3929:SER:OG	2.20	0.58
1:G:2518:LEU:HD22	1:G:2569:PHE:HE1	1.67	0.58
1:J:755:ILE:HB	1:J:768:PHE:HB2	1.86	0.58
1:G:794:GLY:HA3	1:G:812:HIS:HB3	1.84	0.58
1:G:1713:ASP:HA	1:G:1716:ILE:HG22	1.85	0.58
1:G:3965:LEU:HA	1:G:3968:TYR:HD2	1.69	0.58
1:J:2044:ILE:HG13	1:J:3667:HIS:CD2	2.37	0.58
1:D:1433:TYR:CZ	1:D:1578:ALA:HB2	2.38	0.58
2:H:8:SER:HB2	2:H:71:ARG:HG2	1.86	0.58
2:H:21:THR:HA	2:H:49:ARG:HA	1.86	0.58
1:J:415:ILE:HD11	1:J:490:CYS:SG	2.44	0.58
1:J:2296:GLU:HA	1:J:2299:VAL:HG22	1.85	0.58
1:D:1573:MET:SD	1:D:1574:PRO:HD2	2.43	0.58
1:D:2476:ILE:HD12	1:D:2477:PRO:HD2	1.85	0.58
1:A:1477:GLY:HA2	1:A:1484:HIS:H	1.69	0.58
1:A:1747:LEU:HD21	1:A:2041:HIS:HB2	1.85	0.58
1:G:2155:LEU:HD12	1:G:2185:ILE:HD11	1.83	0.58
2:B:31:GLN:NE2	2:B:96:THR:OG1	2.28	0.58
1:G:1804:LEU:HD11	1:G:1853:ILE:HG13	1.86	0.58
1:G:4799:SER:HB2	1:G:4812:HIS:HE1	1.69	0.58
1:D:221:ARG:NH1	1:D:253:CYS:O	2.36	0.58
1:D:660:GLY:HA2	1:D:750:LEU:HB2	1.84	0.58
1:A:2647:HIS:CE1	1:A:2651:CYS:HG	2.21	0.58
1:G:637:LEU:HA	1:G:1637:MET:HA	1.86	0.58
1:G:1698:LEU:HA	1:G:1712:TYR:CE1	2.38	0.58
1:G:2121:PHE:HB3	1:G:3725:TYR:CE2	2.37	0.58
1:G:4576:ILE:HD11	1:G:4639:MET:CG	2.34	0.58
1:J:799:GLU:H	1:J:1623:ARG:HA	1.67	0.58
1:D:451:TYR:O	1:D:474:ARG:NH2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:839:LEU:HD13	1:D:1075:PHE:HD2	1.68	0.58
1:J:632:LEU:HD23	1:J:1666:THR:HG23	1.86	0.58
1:D:1434:TYR:HB2	1:D:1572:ILE:HG21	1.85	0.57
1:A:670:GLU:HA	1:A:740:PRO:HB3	1.86	0.57
1:G:716:PHE:HE1	1:G:757:PHE:CD1	2.22	0.57
1:G:1269:CYS:SG	1:G:1563:GLN:HB2	2.44	0.57
1:D:4817:ALA:HA	1:D:4823:LEU:HB3	1.86	0.57
1:G:206:CYS:HB2	1:G:271:GLY:HA3	1.86	0.57
1:D:530:ILE:HG22	1:D:536:ASN:HB3	1.86	0.57
1:A:275:ARG:HB3	1:A:336:PRO:HG3	1.85	0.57
1:A:3673:MET:HE1	1:A:3728:ILE:HG12	1.85	0.57
1:G:2607:LEU:HD21	1:G:2643:LEU:HD22	1.86	0.57
1:D:716:PHE:HE1	1:D:757:PHE:CD1	2.22	0.57
2:H:87:HIS:HD2	2:H:88:PRO:HD2	1.68	0.57
1:D:4016:LEU:O	1:D:4019:LEU:HG	2.05	0.57
2:E:39:SER:HA	2:E:42:ARG:HH21	1.66	0.57
1:A:4045:VAL:O	1:A:4049:VAL:HG23	2.05	0.57
1:G:4708:THR:OG1	1:G:4772:ASP:OD2	2.22	0.57
1:J:1743:ARG:O	1:J:1964:ARG:NH2	2.35	0.57
1:A:1301:PHE:HE2	1:A:1544:PRO:HA	1.70	0.57
1:A:2159:LEU:HD13	1:A:2203:MET:HG2	1.85	0.57
1:G:219:VAL:HG12	1:G:259:LEU:HD12	1.86	0.57
1:D:233:ILE:O	1:D:257:ARG:NH1	2.38	0.57
1:D:1733:GLU:N	1:D:1733:GLU:OE2	2.36	0.57
1:D:2477:PRO:HG3	1:D:2546:MET:HG3	1.86	0.57
1:J:2503:VAL:HG11	1:J:2557:ALA:HB1	1.86	0.57
1:D:3658:LYS:HA	1:D:3662:ILE:HD13	1.85	0.57
1:D:4895:GLY:O	1:A:4892:ARG:NH1	2.38	0.57
1:J:1437:VAL:HG21	1:J:1552:VAL:HG21	1.87	0.57
1:D:830:ARG:HH21	1:D:1612:PHE:HB2	1.69	0.57
1:D:2822:THR:O	1:D:2937:VAL:HA	2.04	0.57
1:G:515:TRP:O	1:G:519:VAL:HG23	2.04	0.57
1:G:4029:SER:O	1:G:4032:GLU:HG3	2.05	0.57
1:J:2879:ALA:CB	1:J:2920:ARG:HA	2.35	0.57
1:A:470:SER:OG	1:A:474:ARG:NH1	2.38	0.57
1:A:4580:TYR:OH	1:A:4806:ASN:ND2	2.34	0.57
1:G:452:PHE:HZ	1:G:478:PHE:HD2	1.53	0.57
1:G:551:LEU:HD21	1:G:589:LEU:HD22	1.86	0.57
1:G:842:PRO:HD3	1:G:1073:ARG:HG2	1.85	0.57
1:G:2039:LEU:HD22	1:G:2044:ILE:HG13	1.87	0.57
1:J:1862:ILE:O	1:J:1866:ILE:HG12	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2364:PHE:HD1	1:G:2429:LEU:HD21	1.69	0.56
1:J:1477:GLY:HA2	1:J:1483:VAL:HA	1.86	0.56
1:J:1863:LEU:HD11	1:J:1871:PHE:CD2	2.39	0.56
1:D:1112:ASP:OD1	1:D:1113:VAL:N	2.38	0.56
1:A:603:LEU:HD23	1:A:606:LEU:HD12	1.87	0.56
1:J:1109:LEU:HA	1:J:1120:LEU:HD13	1.87	0.56
1:D:468:LEU:O	1:D:472:ARG:HG2	2.04	0.56
1:D:637:LEU:HA	1:D:1637:MET:HA	1.87	0.56
1:D:4097:MET:HG2	1:D:4108:ILE:HG12	1.87	0.56
1:D:4569:LEU:HD23	1:D:4650:HIS:HA	1.86	0.56
1:A:583:ILE:O	1:A:587:ILE:HG12	2.05	0.56
1:G:3927:GLN:HB2	1:G:3992:PHE:CZ	2.40	0.56
1:J:1747:LEU:HD21	1:J:2041:HIS:HB2	1.87	0.56
1:J:2118:ARG:HD2	1:J:3721:LEU:HD22	1.86	0.56
1:D:291:LEU:HD23	1:D:301:VAL:HG12	1.87	0.56
1:G:1802:ILE:HG21	1:G:1807:LEU:HD11	1.87	0.56
1:J:1649:ASP:HB2	1:J:1652:GLU:HB2	1.85	0.56
2:K:90:VAL:HG23	2:K:91:ILE:HG12	1.87	0.56
1:D:4226:GLY:O	1:D:4230:LYS:N	2.38	0.56
1:G:686:TRP:HZ3	1:G:748:LEU:HD22	1.70	0.56
1:D:1932:PRO:O	1:D:1936:LYS:HG2	2.06	0.56
1:G:1130:GLN:HG3	1:G:1132:TRP:HE1	1.71	0.56
1:G:3775:ALA:O	1:G:3778:MET:HG3	2.06	0.56
1:J:1255:TYR:HE1	1:J:1274:HIS:HD2	1.52	0.56
1:J:2152:THR:HG22	1:J:2190:VAL:HG11	1.88	0.56
1:D:2178:MET:SD	1:D:2210:VAL:HG11	2.46	0.56
1:D:2299:VAL:HG21	1:D:2356:LEU:HB3	1.87	0.56
1:G:4654:ALA:C	1:G:4796:MET:HE1	2.26	0.56
1:A:1449:TRP:HB2	1:A:1553:PHE:HB2	1.88	0.56
1:G:840:VAL:HG22	1:G:1199:VAL:HG22	1.88	0.56
1:J:213:TYR:HB3	1:J:337:PRO:HG3	1.88	0.56
1:J:1931:LEU:HD12	1:J:1939:MET:HE1	1.87	0.56
1:D:3904:ARG:HG2	1:D:3905:THR:HG23	1.88	0.56
1:A:2128:TYR:CD2	1:A:3673:MET:HG2	2.40	0.56
1:G:2349:ASN:OD1	1:G:3849:ARG:NH2	2.39	0.56
1:D:1426:ILE:HG23	1:D:1427:ILE:HD13	1.88	0.56
1:A:615:ARG:NH2	1:A:1676:LEU:O	2.38	0.56
1:A:3001:ILE:HG22	1:A:3005:LEU:HD23	1.87	0.56
1:G:1714:LEU:O	1:G:1718:ILE:HG12	2.06	0.56
1:J:2661:TRP:CD1	1:J:2664:PHE:CD1	2.93	0.56
1:A:2515:GLN:NE2	1:A:2568:LEU:O	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4687:TYR:OH	1:A:4699:GLY:O	2.20	0.55
1:A:733:PRO:HG2	1:A:762:CYS:HB3	1.89	0.55
1:A:1446:SER:O	1:A:1496:TRP:NE1	2.30	0.55
1:G:701:GLY:O	1:G:1640:HIS:HD2	1.89	0.55
1:G:839:LEU:HB3	1:G:1075:PHE:HE2	1.71	0.55
1:G:2522:LEU:HA	1:G:2526:PHE:HD2	1.70	0.55
1:G:4151:SER:HB2	1:G:4164:LEU:HD11	1.86	0.55
1:J:2238:TYR:HA	1:J:2241:ARG:HG2	1.87	0.55
1:D:195:PHE:CE1	1:A:2358:ILE:HD11	2.40	0.55
1:A:4218:ILE:HG23	1:A:4954:MET:HE3	1.87	0.55
1:J:1830:VAL:N	1:J:1837:GLN:OE1	2.38	0.55
1:J:2107:GLN:NE2	1:J:3681:GLY:H	2.04	0.55
1:D:59:PRO:HB3	1:D:281:ARG:HH11	1.72	0.55
1:D:830:ARG:NH2	1:D:1612:PHE:HB2	2.21	0.55
1:D:4666:VAL:HG21	1:D:4783:ILE:HG12	1.89	0.55
2:E:71:ARG:HG2	2:E:102:GLU:HB3	1.88	0.55
1:J:564:LEU:HA	1:J:567:VAL:HG12	1.88	0.55
2:K:68:LEU:HD12	2:K:106:LEU:HD23	1.88	0.55
1:D:2821:TRP:HA	1:D:2938:THR:C	2.27	0.55
1:J:2012:PHE:CG	1:J:2028:ARG:HG2	2.42	0.55
1:J:3927:GLN:HE21	1:J:3991:GLY:HA3	1.71	0.55
1:J:4863:TYR:HD2	1:J:4876:CYS:HB2	1.72	0.55
1:D:1446:SER:O	1:D:1496:TRP:NE1	2.31	0.55
1:A:2377:LEU:HA	1:A:2469:ILE:HD11	1.88	0.55
1:G:291:LEU:HA	1:G:301:VAL:HA	1.88	0.55
1:G:1297:PHE:HD2	1:G:1522:LEU:HA	1.72	0.55
1:G:3813:GLN:HB3	1:G:3899:PHE:HE2	1.72	0.55
1:J:1449:TRP:HB2	1:J:1553:PHE:HB2	1.88	0.55
1:D:1871:PHE:HZ	1:D:2094:LEU:HD13	1.72	0.55
1:J:421:PHE:CE2	1:J:507:ALA:HB2	2.42	0.55
1:J:498:THR:O	1:J:553:ARG:NH2	2.40	0.55
1:D:491:ILE:HD11	1:D:519:VAL:HG23	1.88	0.55
1:D:551:LEU:HD21	1:D:589:LEU:HD22	1.88	0.55
1:D:1947:CYS:SG	1:D:2126:ARG:HD2	2.47	0.55
1:D:4837:LEU:HD22	1:D:4936:ILE:HD11	1.88	0.55
1:J:4954:MET:SD	6:J:5103:ATP:H1'	2.46	0.55
1:G:2142:TYR:HE1	1:G:3651:ASN:HD22	1.55	0.54
1:J:4677:LEU:HD22	1:J:4711:PHE:HZ	1.68	0.54
1:D:3916:ILE:O	1:D:3919:THR:OG1	2.22	0.54
1:D:4577:LEU:O	1:J:4879:MET:HG3	2.07	0.54
1:A:633:LEU:HD21	1:A:1659:LEU:HD12	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:523:TYR:CZ	1:G:560:ILE:HD11	2.41	0.54
1:J:4773:VAL:O	1:J:4777:ILE:HD12	2.07	0.54
1:D:2188:ASN:OD1	1:D:2190:VAL:HG12	2.08	0.54
1:D:2823:ILE:HA	1:D:2936:ALA:O	2.07	0.54
1:A:1947:CYS:HB2	1:A:2127:GLN:HE22	1.73	0.54
1:J:579:GLN:H	1:J:582:HIS:CD2	2.23	0.54
1:J:663:TYR:HB2	1:J:808:TYR:HB3	1.89	0.54
1:J:2272:PRO:HA	1:J:2275:VAL:HG12	1.88	0.54
1:J:3889:GLN:HG3	1:J:3967:GLU:HG3	1.88	0.54
1:D:606:LEU:HD22	1:D:621:ILE:HD11	1.89	0.54
1:A:1733:GLU:OE1	1:A:1733:GLU:N	2.41	0.54
1:A:4992:LEU:O	1:A:4996:ILE:HG12	2.06	0.54
1:G:2099:SER:HB3	1:G:2128:TYR:HE1	1.71	0.54
1:G:4655:PHE:N	1:G:4796:MET:HE1	2.23	0.54
1:G:4721:LYS:HD3	1:G:4741:LEU:HD12	1.89	0.54
1:D:206:CYS:HB2	1:D:271:GLY:HA3	1.89	0.54
1:D:633:LEU:HD23	1:D:1639:LEU:HD13	1.88	0.54
1:A:736:HIS:HB2	2:B:9:PRO:HD3	1.89	0.54
1:A:1260:MET:SD	1:A:1271:ARG:NH1	2.80	0.54
1:G:2679:PHE:HE2	1:G:2959:PHE:HE1	1.54	0.54
1:J:4692:PRO:HG2	1:J:4703:ARG:HH21	1.73	0.54
1:D:3673:MET:CE	1:D:3728:ILE:HG12	2.38	0.54
1:D:4992:LEU:O	1:D:4996:ILE:HG12	2.08	0.54
1:A:202:MET:HG3	1:A:202:MET:O	2.06	0.54
1:J:400:ALA:O	1:J:404:ILE:HG12	2.07	0.54
1:D:2121:PHE:HB3	1:D:3725:TYR:CE2	2.33	0.54
1:D:4673:ARG:HD2	1:D:4782:VAL:HG21	1.90	0.54
1:A:2102:VAL:HG13	1:A:2120:MET:HG2	1.88	0.54
1:G:527:ALA:HA	1:G:530:ILE:HG22	1.90	0.54
1:G:638:ILE:HG13	1:G:678:GLN:OE1	2.08	0.54
1:J:2096:GLU:O	1:J:2100:HIS:ND1	2.41	0.54
1:D:2121:PHE:CZ	1:D:3701:LEU:HB2	2.42	0.54
1:D:3963:ASN:O	1:D:3966:THR:OG1	2.24	0.54
1:G:587:ILE:HD12	1:G:625:LEU:HD13	1.89	0.54
1:J:4952:GLU:O	1:J:4956:THR:HG23	2.07	0.54
1:A:4822:THR:O	1:A:4826:ILE:HG12	2.07	0.54
1:J:2012:PHE:HZ	1:J:2031:LEU:HD13	1.72	0.54
1:J:2114:PRO:HG3	1:J:3707:ARG:HH22	1.72	0.54
2:E:4:ILE:HB	2:E:72:ALA:HB1	1.90	0.54
1:A:3844:LEU:HD21	1:A:3936:TYR:HB2	1.88	0.54
2:B:16:PRO:HG2	2:B:63:ALA:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:636:ASN:OD1	2:H:35:LYS:NZ	2.37	0.54
1:G:1426:ILE:O	1:G:1430:THR:OG1	2.20	0.54
1:J:180:LEU:O	1:J:200:TRP:NE1	2.36	0.54
1:J:1454:THR:HG23	1:J:1456:ASP:H	1.73	0.54
1:J:1712:TYR:OH	1:J:1814:MET:SD	2.66	0.54
1:D:2386:ILE:HG21	1:D:2418:LEU:HD22	1.89	0.53
1:A:113:HIS:NE2	1:A:399:GLN:HA	2.22	0.53
1:G:2332:LEU:HD11	1:G:2429:LEU:HA	1.89	0.53
1:D:400:ALA:O	1:D:404:ILE:HG12	2.08	0.53
2:H:78:PRO:HD3	2:H:96:THR:HG22	1.90	0.53
1:A:2505:PHE:O	1:A:2509:VAL:HG22	2.07	0.53
1:G:1794:ALA:O	1:G:2173:GLN:NE2	2.41	0.53
1:J:3445:TRP:HZ3	1:J:3452:LYS:HA	1.73	0.53
1:D:415:ILE:HD11	1:D:493:ARG:HD2	1.90	0.53
1:D:1452:TRP:CE3	1:D:1548:LEU:HB3	2.43	0.53
1:D:4629:TYR:OH	1:J:4860:ARG:NH2	2.42	0.53
1:A:116:MET:HB2	1:A:137:LEU:HD12	1.90	0.53
1:A:4572:ALA:O	1:A:4576:ILE:HG12	2.08	0.53
1:J:355:LEU:HB2	1:J:378:LEU:HD23	1.91	0.53
1:J:1131:ARG:NH1	1:J:1178:ALA:O	2.42	0.53
1:J:2559:LEU:HD23	1:J:2602:VAL:HG12	1.91	0.53
1:D:4055:VAL:HA	1:D:4058:ILE:HG22	1.90	0.53
1:A:62:LEU:HD12	1:A:65:CYS:HB2	1.90	0.53
1:A:561:LEU:HD21	1:A:598:LYS:HB3	1.91	0.53
1:G:3420:ARG:HA	1:G:3423:TRP:HB3	1.89	0.53
1:J:243:ARG:HA	1:J:301:VAL:HB	1.90	0.53
1:A:418:LEU:HD11	1:A:494:LEU:HG	1.89	0.53
1:G:644:ILE:HD11	1:G:1628:VAL:HG11	1.90	0.53
1:G:3842:LEU:O	1:G:3929:SER:OG	2.21	0.53
1:G:4215:ARG:NH2	6:G:5103:ATP:O2G	2.39	0.53
1:G:4879:MET:HG3	1:J:4578:LEU:HD12	1.89	0.53
1:J:150:MET:HB2	1:J:169:LEU:HD21	1.90	0.53
1:J:4911:LEU:HA	1:J:4914:VAL:HG12	1.91	0.53
1:D:4204:GLN:HE21	1:D:4248:ALA:HB3	1.73	0.53
1:A:1293:LEU:HD11	1:A:1594:ARG:HG2	1.91	0.53
1:G:2010:LEU:HD21	1:G:3653:PHE:CE1	2.43	0.53
1:D:2355:ARG:O	1:D:2359:ARG:HG2	2.09	0.53
1:G:684:VAL:HG21	1:G:744:VAL:HG21	1.90	0.53
1:G:1715:LEU:HD12	1:G:1719:HIS:HD2	1.74	0.53
1:G:2124:LEU:HD11	1:G:2128:TYR:CZ	2.44	0.53
1:G:3927:GLN:HE21	1:G:3991:GLY:HA3	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1087:ARG:NE	1:D:1154:ASP:OD1	2.42	0.53
1:D:2025:GLU:HA	1:D:2028:ARG:HG2	1.91	0.53
1:D:3970:GLN:HE22	1:D:5004:THR:HG22	1.73	0.53
1:A:2555:CYS:SG	1:A:2599:GLN:HA	2.49	0.53
1:A:3927:GLN:HB2	1:A:3992:PHE:CZ	2.44	0.53
1:A:4818:MET:O	1:A:4824:ARG:NH2	2.42	0.53
1:J:4583:SER:HB2	1:J:4630:TYR:HE2	1.72	0.53
1:D:657:THR:HB	1:D:1006:SER:HA	1.91	0.53
1:A:2518:LEU:HD21	1:A:2569:PHE:HE1	1.74	0.53
1:G:484:LEU:HD23	1:G:539:LEU:HD22	1.91	0.53
1:J:2500:ALA:N	1:J:2553:TYR:HE1	2.06	0.53
1:D:209:CYS:SG	1:D:273:HIS:NE2	2.77	0.52
1:D:2134:LEU:O	1:D:2138:LEU:HG	2.09	0.52
1:A:2000:SER:O	1:A:2005:GLN:NE2	2.38	0.52
1:A:2142:TYR:CD2	1:A:2197:LEU:HD13	2.44	0.52
1:G:629:ARG:NH1	2:H:90:VAL:O	2.41	0.52
1:G:2638:LYS:HD2	1:G:2698:MET:HG3	1.91	0.52
1:J:1965:TYR:CZ	1:J:2031:LEU:HB2	2.44	0.52
1:A:4813:LEU:O	1:A:4816:ILE:HG22	2.09	0.52
1:G:113:HIS:NE2	1:G:402:ARG:HB3	2.24	0.52
1:G:1947:CYS:SG	1:G:2126:ARG:NH2	2.82	0.52
1:G:2192:TYR:HD1	1:G:2242:ILE:HD13	1.74	0.52
1:G:2567:PRO:HA	1:G:2613:TYR:HD2	1.75	0.52
2:H:10:GLY:HA3	2:H:70:GLN:CB	2.33	0.52
1:G:1289:LEU:HD23	1:G:1597:VAL:HG21	1.92	0.52
1:G:2257:LEU:HA	1:G:2260:ASN:HD22	1.74	0.52
1:G:2641:LEU:O	1:G:2645:THR:HG23	2.08	0.52
1:G:3890:LEU:HA	1:G:3893:GLU:HB2	1.92	0.52
1:J:4777:ILE:HA	1:J:4780:PHE:CE2	2.43	0.52
1:G:3733:CYS:SG	1:G:3734:HIS:N	2.82	0.52
2:H:70:GLN:NE2	2:H:71:ARG:O	2.41	0.52
1:J:133:PHE:O	1:J:193:ALA:N	2.32	0.52
1:D:4843:LEU:HB2	1:A:4823:LEU:HD21	1.90	0.52
1:A:831:ARG:HE	1:A:840:VAL:HG21	1.73	0.52
1:G:1115:LEU:HD13	1:G:1123:VAL:HG11	1.90	0.52
1:D:3813:GLN:HB3	1:D:3899:PHE:CE2	2.45	0.52
1:D:4235:VAL:HG21	1:D:5019:TRP:NE1	2.24	0.52
1:G:707:VAL:HG13	1:G:782:SER:HB2	1.91	0.52
1:G:1291:LEU:HD23	1:G:1550:PRO:HB2	1.90	0.52
1:G:2332:LEU:HD21	1:G:2429:LEU:N	2.24	0.52
1:D:4180:ARG:HG2	1:D:4192:ARG:HH21	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4713:SER:OG	1:D:4775:TYR:OH	2.26	0.52
1:G:181:HIS:HB3	1:G:194:SER:HB3	1.92	0.52
1:G:4034:ASN:HD21	1:G:4041:ALA:HB2	1.74	0.52
1:J:4577:LEU:HD11	1:J:4807:PHE:CD1	2.45	0.52
1:D:3539:ARG:O	1:D:3543:LYS:N	2.43	0.52
1:D:4713:SER:HG	1:D:4775:TYR:HH	1.58	0.52
1:A:622:THR:HG21	1:A:1681:VAL:HG22	1.91	0.52
1:A:629:ARG:HB3	1:A:634:GLN:OE1	2.10	0.52
1:G:2171:GLY:H	1:G:2174:GLU:HB2	1.74	0.52
1:G:2551:ASN:OD1	1:G:2552:ARG:N	2.43	0.52
1:J:597:HIS:HB2	1:J:1665:HIS:ND1	2.25	0.52
1:J:2323:TRP:CH2	1:J:2422:ILE:HG13	2.44	0.52
1:J:4712:PRO:HB2	1:J:4718:LYS:HA	1.92	0.52
2:K:25:HIS:ND1	2:K:25:HIS:O	2.42	0.52
1:D:3680:ALA:O	1:D:3681:GLY:C	2.48	0.52
1:G:4799:SER:HB2	1:G:4812:HIS:CE1	2.45	0.52
1:J:650:VAL:HG12	1:J:750:LEU:HD11	1.92	0.52
1:J:688:LEU:HD22	1:J:712:TYR:HD2	1.75	0.52
1:D:2894:LEU:O	1:D:2899:GLY:N	2.43	0.52
1:G:2287:ALA:O	1:G:2349:ASN:ND2	2.38	0.52
1:J:103:TYR:CE2	1:J:152:PRO:HB3	2.45	0.52
1:J:1475:THR:HG22	1:J:1486:SER:HA	1.92	0.52
1:J:2103:VAL:O	1:J:2107:GLN:HG3	2.10	0.52
1:D:1452:TRP:HE3	1:D:1548:LEU:HB3	1.75	0.51
1:A:830:ARG:NE	1:A:837:PRO:HB3	2.25	0.51
1:A:1944:GLU:HB2	1:A:2123:LEU:HD21	1.92	0.51
1:A:3959:LYS:HG3	1:A:4022:ASP:OD2	2.10	0.51
1:A:4115:SER:HB2	1:A:4123:ILE:HG23	1.92	0.51
1:G:745:SER:N	1:G:758:ARG:O	2.42	0.51
1:J:1130:GLN:HG2	1:J:1138:PRO:HA	1.91	0.51
1:J:2504:LEU:HD11	1:J:2508:ARG:HH12	1.75	0.51
1:D:4580:TYR:OH	1:D:4643:LEU:HD21	2.10	0.51
1:A:1232:ARG:NH2	1:A:1828:ASP:O	2.41	0.51
1:A:4206:GLU:O	1:A:4211:LYS:NZ	2.43	0.51
1:G:1155:LEU:HD12	1:G:1184:ILE:HG22	1.91	0.51
1:G:2128:TYR:HD2	1:G:3673:MET:SD	2.33	0.51
1:G:2189:LYS:HB3	3:I:14:LYS:HG2	1.91	0.51
1:D:1732:SER:O	1:D:2140:ARG:NE	2.42	0.51
1:D:4031:LEU:O	1:D:4034:ASN:ND2	2.43	0.51
1:D:4060:LYS:O	1:D:4064:MET:HG2	2.11	0.51
1:A:578:ILE:HG23	1:A:582:HIS:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1849:LEU:HB3	1:A:1945:TYR:CE2	2.46	0.51
1:G:1494:MET:HE1	1:G:1553:PHE:HD2	1.75	0.51
1:J:1965:TYR:CE1	1:J:2031:LEU:HB2	2.45	0.51
1:J:2012:PHE:CZ	1:J:2031:LEU:HD13	2.45	0.51
1:J:2095:GLN:OE1	1:J:2127:GLN:NE2	2.43	0.51
1:J:3994:HIS:CD2	1:J:3998:HIS:CD2	2.99	0.51
1:D:537:CYS:SG	1:D:571:SER:HB2	2.50	0.51
1:D:791:PHE:N	1:D:1626:TRP:O	2.41	0.51
1:D:4570:ALA:O	1:D:4573:ILE:HG22	2.10	0.51
1:A:840:VAL:HG22	1:A:1199:VAL:HG22	1.93	0.51
1:G:2251:PHE:CD2	1:G:2286:LEU:HD22	2.45	0.51
1:G:3420:ARG:O	1:G:3424:LEU:HG	2.10	0.51
1:J:1607:ARG:NH2	1:J:1610:ASN:OD1	2.43	0.51
1:D:692:TYR:O	1:D:827:LYS:NZ	2.35	0.51
1:D:1297:PHE:HA	1:D:1522:LEU:HD22	1.92	0.51
1:A:113:HIS:NE2	1:A:402:ARG:HB3	2.26	0.51
1:A:451:TYR:CE2	1:A:474:ARG:HD2	2.46	0.51
1:A:3844:LEU:HD13	1:A:3933:PHE:HA	1.92	0.51
2:B:56:ILE:HD11	2:B:81:ALA:HA	1.91	0.51
1:G:711:LEU:HD22	1:G:1491:ASN:HD22	1.74	0.51
1:G:1772:ARG:NH2	1:G:1952:GLN:OE1	2.43	0.51
1:G:4805:ASN:HD21	1:G:4807:PHE:HB2	1.76	0.51
1:J:2559:LEU:HD21	1:J:2603:ILE:HA	1.92	0.51
1:D:1130:GLN:HG3	1:D:1132:TRP:HE1	1.75	0.51
1:D:2515:GLN:HA	1:D:2518:LEU:HD23	1.92	0.51
1:D:3816:MET:SD	1:D:3891:LEU:HD11	2.49	0.51
1:D:59:PRO:HB3	1:D:281:ARG:NH1	2.26	0.51
1:A:173:SER:HB2	1:A:178:ARG:H	1.76	0.51
1:A:1698:LEU:HA	1:A:1712:TYR:CE1	2.38	0.51
1:G:1243:PRO:HB2	1:G:1600:LEU:HD11	1.91	0.51
1:G:1438:ARG:HB3	1:G:1563:GLN:HE21	1.75	0.51
1:G:2238:TYR:CE2	3:I:67:PRO:HB2	2.46	0.51
1:J:35:LEU:HD21	1:J:182:LEU:HD21	1.92	0.51
1:J:468:LEU:O	1:J:472:ARG:HG2	2.10	0.51
3:L:69:PHE:O	3:L:73:MET:HG3	2.10	0.51
1:D:421:PHE:HE1	1:D:436:LEU:HD21	1.75	0.51
1:A:3992:PHE:HB3	1:A:3996:PHE:CE2	2.46	0.51
3:I:1:MET:O	3:I:4:GLN:NE2	2.44	0.51
1:J:290:TYR:HD1	1:J:304:ALA:HA	1.74	0.51
1:A:2155:LEU:HB2	1:A:2188:ASN:ND2	2.26	0.51
1:J:753:PRO:HB2	1:J:770:ALA:H	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1683:HIS:HD2	1:A:1800:PRO:HG3	1.74	0.51
1:A:4839:MET:HB3	1:G:4823:LEU:HD21	1.93	0.51
1:J:719:LEU:HD11	2:K:7:ILE:HA	1.93	0.51
1:D:257:ARG:O	1:D:284:HIS:NE2	2.43	0.50
1:G:799:GLU:N	1:G:1623:ARG:O	2.39	0.50
1:G:1126:GLY:HA3	1:G:1143:TRP:NE1	2.26	0.50
1:J:1115:LEU:HD21	1:J:1123:VAL:HG11	1.93	0.50
1:J:4145:VAL:HG13	1:J:4194:TYR:HD2	1.76	0.50
1:D:14:LEU:HD21	1:D:204:PRO:HB3	1.93	0.50
1:D:1695:LEU:HD12	1:D:1810:LYS:HE3	1.92	0.50
1:D:3722:TYR:CZ	1:D:3782:MET:SD	3.04	0.50
1:G:627:PRO:HD3	2:H:89:GLY:HA2	1.93	0.50
1:A:551:LEU:HD21	1:A:589:LEU:HD22	1.91	0.50
1:A:1621:GLY:HA3	1:A:1624:LEU:HB2	1.92	0.50
1:A:2627:VAL:HG11	1:A:2674:LEU:HD12	1.94	0.50
1:A:3844:LEU:HD21	1:A:3936:TYR:CG	2.46	0.50
1:G:692:TYR:CZ	1:G:694:PRO:HG3	2.46	0.50
1:G:4927:ILE:HG22	1:G:4928:LEU:HD22	1.93	0.50
1:J:217:GLY:HA2	1:J:261:ARG:HD3	1.93	0.50
1:J:1440:PHE:HD2	1:J:1560:ASN:HB3	1.77	0.50
1:D:568:LEU:HD21	1:D:578:ILE:HD11	1.92	0.50
1:D:1928:GLN:HA	1:D:2104:ARG:HH22	1.76	0.50
1:D:2515:GLN:HB2	1:D:2568:LEU:CD1	2.42	0.50
2:E:74:LEU:HB2	2:E:99:PHE:HB2	1.93	0.50
1:A:3442:PHE:O	1:A:3445:TRP:HB3	2.11	0.50
1:G:838:HIS:ND1	1:G:1201:HIS:HB2	2.26	0.50
1:G:4839:MET:HB3	1:J:4823:LEU:CD1	2.39	0.50
1:J:1713:ASP:HA	1:J:1716:ILE:HG22	1.93	0.50
1:J:4069:LYS:HA	1:J:4072:VAL:HG12	1.93	0.50
1:D:2103:VAL:HG12	1:D:2107:GLN:NE2	2.26	0.50
1:A:794:GLY:O	1:A:798:GLY:N	2.36	0.50
1:A:4072:VAL:HG21	1:A:4129:ALA:HB2	1.93	0.50
1:G:1658:ASP:N	1:G:1658:ASP:OD1	2.45	0.50
1:G:2195:PRO:HB2	1:G:2246:ASN:HD21	1.76	0.50
1:G:3844:LEU:HD11	1:G:3936:TYR:CD2	2.46	0.50
1:J:276:TRP:CZ2	1:J:339:ILE:HG13	2.47	0.50
1:J:640:TYR:CZ	1:J:1636:MET:HG2	2.46	0.50
1:D:2251:PHE:CD2	1:D:2286:LEU:HD22	2.46	0.50
1:A:1125:ASN:HB2	1:A:1132:TRP:HD1	1.76	0.50
1:A:4241:THR:O	1:A:4245:MET:HG3	2.11	0.50
1:A:4928:LEU:HD23	1:A:4931:ILE:HD12	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1839:VAL:HG13	1:G:1938:GLN:HE21	1.76	0.50
1:J:202:MET:N	1:J:202:MET:SD	2.85	0.50
1:J:2825:LYS:HA	1:J:2935:TYR:HA	1.94	0.50
1:D:667:MET:HA	1:D:743:VAL:HA	1.94	0.50
1:D:4574:ASN:HD21	1:D:4810:ALA:HA	1.77	0.50
1:A:1087:ARG:HB3	1:A:1223:PHE:CD2	2.47	0.50
1:A:4677:LEU:HD22	1:A:4702:ASP:HB3	1.94	0.50
1:G:2465:ASP:O	1:G:2469:ILE:HG12	2.11	0.50
1:G:4666:VAL:HG13	1:G:4783:ILE:HD11	1.93	0.50
1:G:4849:TYR:HA	1:G:4852:THR:HG22	1.94	0.50
1:G:4955:GLU:OE2	6:G:5103:ATP:O2'	2.30	0.50
1:J:4786:ASP:O	1:J:4790:LEU:HD23	2.12	0.50
2:K:8:SER:HB2	2:K:71:ARG:HB2	1.94	0.50
1:D:2638:LYS:NZ	1:D:2695:LEU:HA	2.27	0.50
1:A:2470:ILE:HG21	1:A:2526:PHE:HE1	1.75	0.50
1:G:1259:ARG:NH2	1:G:1595:LEU:O	2.45	0.50
1:G:1862:ILE:O	1:G:1866:ILE:HG12	2.12	0.50
1:G:2102:VAL:HG13	1:G:2120:MET:HG2	1.94	0.50
1:G:3679:LYS:O	1:G:3680:ALA:HB3	2.12	0.50
1:J:4574:ASN:HD21	1:J:4810:ALA:HA	1.77	0.50
1:D:1760:HIS:CE1	1:D:2041:HIS:HA	2.47	0.50
1:D:4104:THR:O	1:D:4108:ILE:HG13	2.12	0.50
1:D:4580:TYR:OH	1:D:4643:LEU:CD2	2.60	0.50
1:A:4643:LEU:HD11	1:A:4806:ASN:HD21	1.76	0.50
1:J:417:GLY:O	1:J:420:SER:OG	2.21	0.50
1:J:1298:HIS:CD2	1:J:1522:LEU:HB3	2.46	0.50
1:D:594:GLY:HA2	1:D:1594:ARG:HD2	1.93	0.49
1:A:273:HIS:CG	1:A:337:PRO:O	2.65	0.49
1:A:625:LEU:HD12	1:A:626:LEU:N	2.27	0.49
1:A:4013:LEU:HD12	1:A:4016:LEU:HD23	1.94	0.49
1:G:2242:ILE:HD12	3:I:2:ALA:HB3	1.94	0.49
1:J:686:TRP:NE1	1:J:746:CYS:SG	2.85	0.49
1:J:2458:ARG:HG2	1:J:2510:TYR:CE1	2.47	0.49
1:J:3805:LEU:HG	1:J:3890:LEU:HB3	1.93	0.49
1:D:1735:ILE:HD11	1:D:2156:LEU:HD11	1.94	0.49
1:A:1452:TRP:HE1	1:A:1518:CYS:HB3	1.76	0.49
1:A:1698:LEU:CA	1:A:1712:TYR:HE1	2.22	0.49
1:G:1451:GLY:HA3	1:G:1494:MET:HA	1.93	0.49
1:G:1678:ASN:HB3	1:G:1681:VAL:HB	1.93	0.49
1:J:4567:LEU:HD21	1:J:4816:ILE:HD11	1.93	0.49
1:J:4667:PRO:HA	1:J:4670:ILE:HG22	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1698:LEU:HD11	1:D:1715:LEU:HD13	1.94	0.49
1:D:1719:HIS:CD2	1:D:1802:ILE:HD12	2.47	0.49
1:D:2551:ASN:HD21	1:D:2595:LEU:HD23	1.78	0.49
1:A:597:HIS:HB2	1:A:1665:HIS:ND1	2.26	0.49
1:A:4145:VAL:HG13	1:A:4194:TYR:HD2	1.77	0.49
1:G:2212:VAL:HG22	1:G:2256:TYR:OH	2.13	0.49
1:J:2503:VAL:HA	1:J:2506:LEU:HD21	1.94	0.49
1:J:3965:LEU:HA	1:J:3968:TYR:HD2	1.75	0.49
1:J:3966:THR:O	1:J:3970:GLN:HG3	2.12	0.49
1:D:3788:GLY:HA2	1:D:3835:LEU:HG	1.95	0.49
1:D:4999:ASP:N	1:D:5002:GLU:OE2	2.44	0.49
1:A:800:PHE:HD2	1:A:804:PRO:HG3	1.78	0.49
1:G:709:ASP:HA	1:G:725:HIS:HA	1.94	0.49
1:G:1087:ARG:HB2	1:G:1223:PHE:CD1	2.47	0.49
1:G:4859:PHE:HE2	1:G:4913:ARG:HB2	1.76	0.49
1:J:1470:ARG:O	1:J:1490:SER:OG	2.25	0.49
1:J:2148:SER:O	1:J:2152:THR:HG23	2.12	0.49
1:J:2463:LEU:HD13	1:J:2510:TYR:CD2	2.47	0.49
1:A:291:LEU:HD21	1:A:299:LEU:HD11	1.93	0.49
1:A:1474:VAL:N	1:A:1487:LEU:O	2.31	0.49
1:A:2172:PRO:O	1:A:2175:GLU:HG3	2.11	0.49
1:G:266:ARG:HD2	1:G:268:SER:O	2.12	0.49
1:G:1288:PHE:HB3	1:G:1553:PHE:HE1	1.77	0.49
1:G:2825:LYS:HA	1:G:2935:TYR:HA	1.94	0.49
1:J:347:PHE:HE1	1:J:387:ALA:HA	1.77	0.49
1:D:3770:LEU:HD12	1:D:3804:ILE:HD11	1.94	0.49
1:D:4218:ILE:HA	1:D:4221:VAL:HG12	1.94	0.49
1:A:1448:VAL:HG22	1:A:1554:VAL:HG23	1.93	0.49
1:A:2825:LYS:HA	1:A:2935:TYR:HA	1.94	0.49
1:G:4059:LEU:HD13	1:G:4167:ALA:HB2	1.94	0.49
1:J:534:ARG:HH21	1:J:572:PRO:HD2	1.76	0.49
1:J:4679:ARG:NH2	1:J:4715:TYR:OH	2.45	0.49
1:A:2238:TYR:CE1	3:C:67:PRO:HB2	2.48	0.49
1:G:2182:ILE:O	1:G:2185:ILE:HG22	2.13	0.49
1:G:4183:ILE:O	1:G:4190:ILE:HG13	2.13	0.49
1:D:195:PHE:CZ	1:A:2358:ILE:HD11	2.48	0.49
1:D:2631:PRO:HB3	1:D:2681:GLY:HA2	1.95	0.49
1:A:648:ILE:HG23	1:A:814:ALA:HB3	1.94	0.49
1:A:1594:ARG:NH2	1:A:1643:GLU:OE2	2.41	0.49
1:G:2354:VAL:HG23	1:G:2436:CYS:SG	2.53	0.49
1:J:637:LEU:HA	1:J:1637:MET:HA	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1073:ARG:HG2	1:J:1075:PHE:HE1	1.78	0.49
1:J:1842:LEU:HA	1:J:1845:VAL:HG12	1.95	0.49
1:J:4654:ALA:HB1	1:J:4796:MET:CE	2.43	0.49
1:D:2567:PRO:HA	1:D:2613:TYR:CG	2.47	0.49
1:D:2573:GLU:HA	1:D:2618:MET:HE1	1.95	0.49
1:A:491:ILE:HD11	1:A:519:VAL:HG23	1.94	0.49
1:A:1694:LEU:HD22	1:A:1715:LEU:HB2	1.94	0.49
1:G:1580:PHE:HE2	1:G:1592:PRO:HG2	1.78	0.49
1:G:4573:ILE:HA	1:G:4576:ILE:HG22	1.95	0.49
1:J:2040:ALA:HA	1:J:2045:GLN:HA	1.95	0.49
1:D:3829:PHE:HB3	1:D:3913:ILE:HD11	1.95	0.49
1:G:4991:PHE:HE1	1:G:5010:VAL:HG11	1.78	0.49
1:D:1424:PRO:O	1:D:1428:LEU:HD23	2.13	0.48
1:D:3935:TRP:HB3	1:J:76:ARG:HB3	1.95	0.48
1:D:4892:ARG:HH12	1:J:4898:GLY:HA3	1.77	0.48
1:A:2240:CYS:SG	1:A:2250:MET:HG2	2.53	0.48
1:G:475:GLN:NE2	1:G:528:SER:O	2.45	0.48
1:J:273:HIS:HB3	1:J:337:PRO:HB3	1.94	0.48
1:D:461:HIS:CD2	1:D:3707:ARG:HG3	2.48	0.48
1:D:523:TYR:CZ	1:D:560:ILE:HD11	2.48	0.48
1:D:2654:TYR:HA	1:D:2660:GLY:HA2	1.94	0.48
1:D:2938:THR:O	1:D:2939:ARG:C	2.52	0.48
1:A:829:TYR:HB3	1:A:1073:ARG:HH11	1.78	0.48
1:A:3817:LEU:HB2	1:A:3899:PHE:CE1	2.42	0.48
1:G:214:VAL:HG22	1:G:341:TYR:HD2	1.78	0.48
3:I:6:THR:HG23	3:I:9:GLN:H	1.77	0.48
1:D:162:LYS:HE3	1:A:3984:ARG:HD3	1.95	0.48
1:D:4654:ALA:O	1:D:4658:ILE:HG12	2.12	0.48
1:D:4821:LYS:O	1:D:4825:THR:HG23	2.13	0.48
1:A:484:LEU:O	1:A:488:LEU:HG	2.13	0.48
1:G:3966:THR:O	1:G:3970:GLN:N	2.41	0.48
1:J:1252:HIS:O	1:J:1275:ARG:NE	2.46	0.48
1:J:1958:LEU:HD12	1:J:2038:LEU:HD11	1.95	0.48
1:J:4567:LEU:HD12	1:J:4815:ASP:HB3	1.95	0.48
2:K:21:THR:HA	2:K:49:ARG:HA	1.94	0.48
1:D:4863:TYR:HD2	1:D:4876:CYS:HB2	1.78	0.48
1:J:686:TRP:NE1	1:J:748:LEU:HB2	2.28	0.48
1:J:4235:VAL:HG21	1:J:5019:TRP:NE1	2.29	0.48
1:D:4036:VAL:HB	1:D:5032:TYR:CD1	2.48	0.48
1:A:1639:LEU:O	1:A:1647:CYS:HA	2.14	0.48
1:G:839:LEU:HB3	1:G:1075:PHE:CE2	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3889:GLN:HG3	1:G:3890:LEU:HD12	1.94	0.48
1:G:4863:TYR:HH	1:G:4886:HIS:HE2	1.60	0.48
1:J:4577:LEU:HD12	1:J:4580:TYR:CE2	2.48	0.48
1:D:441:VAL:O	1:D:445:LEU:HD23	2.13	0.48
1:D:636:ASN:OD1	1:D:637:LEU:N	2.46	0.48
1:D:1963:GLU:HA	1:D:3650:CYS:SG	2.54	0.48
1:D:2959:PHE:HE2	1:D:3009:TYR:CE1	2.32	0.48
1:A:4170:ILE:HG23	1:A:4171:LEU:HD12	1.96	0.48
1:D:1621:GLY:HA3	1:D:1624:LEU:HB2	1.95	0.48
1:A:2310:CYS:N	1:A:2324:ASN:HB3	2.28	0.48
1:A:3650:CYS:O	1:A:3654:LEU:HG	2.13	0.48
1:J:1154:ASP:O	1:J:1158:ASN:N	2.47	0.48
1:J:1727:ARG:O	1:J:1731:LEU:HB2	2.13	0.48
1:J:4995:LEU:HD21	1:J:5010:VAL:HG13	1.96	0.48
1:D:1294:PRO:HB3	1:D:1549:PHE:CZ	2.49	0.48
1:D:1699:GLU:HA	1:D:1814:MET:HE1	1.96	0.48
1:G:1152:MET:HB3	1:G:1223:PHE:CE1	2.49	0.48
1:J:150:MET:HE2	1:J:163:VAL:HG21	1.96	0.48
1:J:1566:LEU:HD12	1:J:1575:LEU:HB3	1.95	0.48
1:J:1970:GLN:HG2	1:J:3642:TYR:HA	1.96	0.48
1:D:3981:ALA:O	1:D:3986:TRP:NE1	2.41	0.48
1:A:221:ARG:HH21	1:A:259:LEU:HD21	1.79	0.48
1:A:4218:ILE:HG23	1:A:4954:MET:CE	2.44	0.48
1:A:4844:LEU:HD21	1:A:4891:VAL:HG21	1.96	0.48
1:G:400:ALA:HB1	1:G:478:PHE:CE1	2.49	0.48
1:G:1673:VAL:HG12	1:G:1681:VAL:HG11	1.95	0.48
1:G:2527:LEU:HD21	1:G:2582:MET:HB2	1.95	0.48
1:G:3709:ALA:HB2	1:G:3782:MET:HG2	1.95	0.48
1:G:4568:PHE:HD2	1:G:4569:LEU:HD12	1.79	0.48
1:J:2298:VAL:HG21	1:J:2334:PHE:CE2	2.48	0.48
1:D:839:LEU:HB3	1:D:1075:PHE:HE2	1.79	0.48
1:D:2500:ALA:HB2	1:D:2553:TYR:HD1	1.78	0.48
1:A:23:GLN:OE1	1:A:203:ASN:ND2	2.46	0.48
1:A:2349:ASN:OD1	1:A:3849:ARG:NH2	2.35	0.48
1:G:597:HIS:HB2	1:G:1665:HIS:ND1	2.28	0.48
1:G:1708:ARG:NH1	1:G:1836:PHE:O	2.47	0.48
1:J:2171:GLY:N	1:J:2174:GLU:OE2	2.47	0.48
1:J:2284:ASN:ND2	1:J:2342:ASN:HD22	2.12	0.48
1:D:3934:TYR:CZ	1:D:3998:HIS:HB3	2.49	0.47
1:A:102:LEU:HB2	1:A:105:HIS:CD2	2.49	0.47
1:A:712:TYR:HE1	1:A:1470:ARG:HE	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4843:LEU:HB2	1:G:4823:LEU:HD11	1.96	0.47
1:G:2467:VAL:HA	1:G:2470:ILE:HD12	1.96	0.47
1:G:3781:GLN:NE2	1:G:3819:TYR:OH	2.34	0.47
1:J:1245:PHE:CE2	1:J:1290:ARG:HD3	2.49	0.47
1:J:1451:GLY:HA3	1:J:1494:MET:HA	1.94	0.47
1:J:1685:LEU:HD21	1:J:1714:LEU:HD11	1.96	0.47
1:J:1930:LYS:O	1:J:1931:LEU:HD23	2.13	0.47
1:J:2573:GLU:HA	1:J:2576:ALA:HB2	1.96	0.47
1:D:213:TYR:HE2	1:D:337:PRO:HB2	1.79	0.47
1:D:1432:THR:HA	1:D:1520:VAL:O	2.13	0.47
1:D:2185:ILE:HD13	1:D:2203:MET:CE	2.44	0.47
1:A:1433:TYR:CD1	1:A:1573:MET:HB3	2.49	0.47
1:G:647:ASN:ND2	1:G:820:ARG:O	2.44	0.47
1:G:1944:GLU:HA	1:G:2123:LEU:HD11	1.97	0.47
1:G:2670:GLU:HA	1:G:2673:HIS:ND1	2.29	0.47
1:G:3903:LEU:HD22	1:G:3915:ILE:HG21	1.94	0.47
1:J:530:ILE:HG22	1:J:536:ASN:HB3	1.96	0.47
1:J:671:VAL:HG23	1:J:787:VAL:HG22	1.95	0.47
1:J:2611:CYS:CB	1:J:2643:LEU:HD11	2.44	0.47
1:J:2776:SER:O	1:J:2787:THR:HA	2.15	0.47
1:J:4680:LYS:O	1:J:4685:GLY:N	2.47	0.47
1:D:590:LEU:HD22	1:D:631:LEU:HD23	1.97	0.47
1:D:1579:MET:HG2	1:D:1595:LEU:HD11	1.97	0.47
1:A:1617:THR:HA	1:A:1628:VAL:HG12	1.97	0.47
1:A:2776:SER:O	1:A:2787:THR:HA	2.14	0.47
1:A:3842:LEU:O	1:A:3929:SER:HB3	2.15	0.47
1:G:650:VAL:HG11	1:G:662:TRP:CD1	2.48	0.47
1:G:1639:LEU:O	1:G:1647:CYS:HA	2.14	0.47
1:G:3784:SER:HA	1:G:3828:PHE:HA	1.96	0.47
1:G:3986:TRP:HA	1:G:3989:VAL:HG12	1.96	0.47
1:J:1732:SER:HB2	1:J:2140:ARG:NH1	2.29	0.47
1:D:674:PHE:CE1	1:D:679:ALA:HA	2.49	0.47
1:A:839:LEU:HD13	1:A:1075:PHE:HD2	1.79	0.47
1:G:120:CYS:HA	1:G:135:VAL:HA	1.95	0.47
1:G:1131:ARG:NH1	1:G:1178:ALA:O	2.46	0.47
1:G:1287:LEU:HD13	1:G:1289:LEU:CD1	2.44	0.47
1:G:1469:VAL:HG13	1:G:1492:CYS:HB3	1.96	0.47
1:G:1830:VAL:HB	1:G:1837:GLN:HG2	1.95	0.47
1:G:2161:GLN:HE21	1:G:2177:LEU:HD21	1.78	0.47
1:J:3829:PHE:HE2	1:J:3902:TYR:CE2	2.31	0.47
1:D:587:ILE:HG12	1:D:625:LEU:HD12	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2124:LEU:HD21	1:D:3677:LEU:HD11	1.97	0.47
1:D:4661:TYR:HE1	1:D:4665:LYS:HD2	1.80	0.47
1:D:4802:GLY:HA2	1:D:4808:PHE:HB2	1.96	0.47
1:D:4904:PRO:HG3	1:D:4913:ARG:HD3	1.97	0.47
1:G:530:ILE:HD11	1:G:537:CYS:HA	1.97	0.47
1:G:1123:VAL:HG23	1:G:1132:TRP:HB2	1.96	0.47
1:G:2239:PHE:O	1:G:2242:ILE:HG22	2.14	0.47
1:G:4680:LYS:HD2	1:G:4686:LEU:HD22	1.97	0.47
1:J:523:TYR:CZ	1:J:560:ILE:HD11	2.49	0.47
1:J:707:VAL:O	1:J:713:SER:HB2	2.13	0.47
1:J:1105:ALA:HA	1:J:1121:ALA:HA	1.95	0.47
1:J:1288:PHE:HB3	1:J:1553:PHE:CE1	2.50	0.47
1:J:1291:LEU:HD12	1:J:1550:PRO:HG2	1.96	0.47
1:J:1933:GLU:HA	1:J:1936:LYS:HD2	1.97	0.47
1:J:2623:LEU:O	1:J:2627:VAL:HG23	2.14	0.47
1:J:3821:LYS:HE2	1:J:3902:TYR:HE1	1.80	0.47
1:J:4866:SER:HB3	1:J:4873:ASP:H	1.79	0.47
1:D:3779:VAL:HG13	1:D:3797:THR:HG22	1.95	0.47
1:D:3966:THR:HG22	1:D:4026:MET:HA	1.96	0.47
1:D:4087:LEU:HB3	1:D:4122:MET:HA	1.97	0.47
1:D:4192:ARG:HG3	1:D:5028:PHE:CD1	2.50	0.47
1:D:4548:ARG:O	1:D:4552:LEU:HD23	2.14	0.47
1:D:4927:ILE:O	1:D:4931:ILE:HG13	2.15	0.47
1:A:213:TYR:CG	1:A:338:GLU:CB	2.98	0.47
1:G:2776:SER:O	1:G:2787:THR:HA	2.15	0.47
1:J:2238:TYR:O	1:J:2242:ILE:HG12	2.14	0.47
1:J:3821:LYS:HE2	1:J:3902:TYR:CE1	2.49	0.47
1:D:4028:LEU:O	1:D:4031:LEU:HG	2.15	0.47
1:A:495:ASN:HB3	1:A:550:LYS:HZ1	1.80	0.47
1:A:614:VAL:HG12	1:A:2169:GLN:HG3	1.97	0.47
1:A:1802:ILE:HG13	1:A:1803:PRO:HD2	1.96	0.47
2:B:62:GLY:O	2:B:66:MET:HG2	2.14	0.47
1:G:299:LEU:HD22	1:G:376:ALA:HB3	1.97	0.47
1:G:589:LEU:HD12	1:G:593:HIS:ND1	2.29	0.47
1:G:1580:PHE:CE2	1:G:1592:PRO:HG2	2.50	0.47
1:G:2199:ARG:NH1	1:G:2246:ASN:OD1	2.47	0.47
1:G:2256:TYR:O	1:G:2260:ASN:ND2	2.48	0.47
1:G:3680:ALA:O	1:G:3681:GLY:C	2.53	0.47
1:G:3995:VAL:O	1:G:3999:MET:HG2	2.14	0.47
1:G:5017:ARG:CZ	1:G:5019:TRP:HH2	2.27	0.47
1:J:103:TYR:CD1	1:J:163:VAL:HG22	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:277:GLY:HA2	1:J:315:CYS:HB2	1.96	0.47
1:J:504:ALA:HB2	1:J:512:ALA:HB2	1.97	0.47
1:J:3768:SER:HA	1:J:3771:HIS:CE1	2.50	0.47
1:J:3962:PHE:HZ	1:J:3992:PHE:CE2	2.32	0.47
1:D:4850:LEU:O	1:D:4853:VAL:HG12	2.14	0.47
1:D:5019:TRP:HD1	1:D:5022:PHE:HE2	1.62	0.47
1:A:2238:TYR:O	1:A:2242:ILE:HG12	2.14	0.47
1:A:3965:LEU:HA	1:A:3968:TYR:HD2	1.78	0.47
1:G:753:PRO:HB2	1:G:770:ALA:H	1.80	0.47
1:G:1269:CYS:SG	1:G:1270:LEU:N	2.87	0.47
1:J:212:GLY:HA2	1:J:341:TYR:CD2	2.49	0.47
1:D:444:SER:O	1:D:448:LEU:HD23	2.15	0.47
1:D:4692:PRO:HB3	1:D:4703:ARG:HH12	1.80	0.47
1:A:492:ASP:O	1:A:496:VAL:HG23	2.15	0.47
1:A:1769:THR:HG22	1:A:1769:THR:O	2.15	0.47
1:A:2346:VAL:HG23	1:A:2349:ASN:HB2	1.97	0.47
1:G:3722:TYR:CD2	1:G:3793:MET:SD	3.08	0.47
1:J:619:ASP:HA	1:J:622:THR:HG22	1.96	0.47
1:J:1561:VAL:HG12	1:J:1562:ILE:H	1.80	0.47
1:D:1289:LEU:HD23	1:D:1564:PHE:CZ	2.50	0.47
1:D:3695:PRO:HB2	1:D:3699:HIS:HB3	1.97	0.47
1:D:3733:CYS:SG	1:D:3803:SER:OG	2.72	0.47
1:A:1719:HIS:CD2	1:A:1802:ILE:HD13	2.50	0.47
1:G:4961:CYS:SG	1:G:4983:HIS:HE1	2.17	0.47
1:J:150:MET:CE	1:J:163:VAL:HG21	2.45	0.47
1:D:1225:PRO:HD2	1:D:1228:ILE:HD13	1.97	0.46
1:D:1609:PRO:HD2	1:D:1612:PHE:CZ	2.50	0.46
1:D:1717:SER:HA	1:D:1721:GLU:HB2	1.96	0.46
1:D:2951:ILE:O	1:D:2955:PHE:N	2.44	0.46
3:F:29:THR:HA	3:F:62:GLY:HA2	1.97	0.46
1:A:716:PHE:HB3	1:A:721:LEU:HG	1.96	0.46
1:A:2196:ASN:OD1	1:A:2199:ARG:NH2	2.44	0.46
1:G:1671:ARG:HH22	1:G:1710:GLY:HA2	1.80	0.46
1:G:2142:TYR:OH	1:G:2194:HIS:ND1	2.46	0.46
1:G:3658:LYS:HG3	1:G:3662:ILE:HD11	1.97	0.46
1:G:3813:GLN:O	1:G:3899:PHE:HZ	1.97	0.46
1:G:4184:MET:HB3	1:G:5021:PHE:HA	1.97	0.46
1:J:1717:SER:HA	1:J:1721:GLU:HB2	1.97	0.46
1:J:3853:ALA:HA	1:J:3856:LEU:HD23	1.96	0.46
1:J:3904:ARG:HG2	1:J:3905:THR:HG22	1.96	0.46
1:J:4673:ARG:HD3	1:J:4778:TRP:CZ2	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2567:PRO:HA	1:D:2613:TYR:CB	2.46	0.46
1:D:4708:THR:HB	1:D:4774:LYS:HD2	1.97	0.46
1:D:4888:TYR:CD1	1:J:4914:VAL:HG23	2.50	0.46
1:J:2102:VAL:HG13	1:J:2120:MET:CG	2.45	0.46
1:J:4968:PHE:CE2	1:J:4978:HIS:HB2	2.50	0.46
2:K:23:VAL:HG12	2:K:104:LEU:HB3	1.97	0.46
1:D:1687:SER:OG	2:E:36:PHE:O	2.21	0.46
1:A:687:ALA:HB3	1:A:778:PHE:CE1	2.50	0.46
1:A:2465:ASP:O	1:A:2469:ILE:HG12	2.15	0.46
1:G:214:VAL:HG22	1:G:341:TYR:CD2	2.49	0.46
1:G:1651:LEU:HD23	1:G:1702:HIS:HB2	1.96	0.46
1:G:2499:LYS:O	1:G:2503:VAL:HG12	2.15	0.46
1:G:4108:ILE:O	1:G:4112:LEU:HG	2.15	0.46
1:G:4655:PHE:HA	1:G:4796:MET:HE1	1.97	0.46
1:J:38:ALA:HB1	1:J:64:ILE:HG22	1.96	0.46
1:J:261:ARG:HH21	1:J:283:ARG:HD3	1.80	0.46
1:J:592:LYS:HB3	1:J:1592:PRO:HB3	1.97	0.46
1:J:1246:GLU:O	1:J:1598:GLN:HB2	2.14	0.46
1:J:4658:ILE:CD1	1:J:4792:LEU:HB3	2.45	0.46
1:D:664:PHE:HB2	1:D:793:LEU:HA	1.98	0.46
1:D:2193:GLN:HG2	3:F:10:ILE:HG21	1.97	0.46
1:D:2506:LEU:HD13	1:D:2510:TYR:HD2	1.81	0.46
1:D:2518:LEU:O	1:D:2522:LEU:HB3	2.15	0.46
2:E:39:SER:CA	2:E:42:ARG:NH2	2.70	0.46
1:A:149:THR:HG23	1:A:174:VAL:HG22	1.97	0.46
1:A:663:TYR:HB2	1:A:808:TYR:HB3	1.97	0.46
1:A:755:ILE:HB	1:A:768:PHE:HB2	1.96	0.46
1:A:4167:ALA:O	1:A:4171:LEU:HD13	2.14	0.46
1:A:4843:LEU:HD13	1:G:4823:LEU:HD12	1.98	0.46
1:G:711:LEU:HD13	1:G:1491:ASN:HB3	1.97	0.46
1:G:1247:PRO:HA	1:G:1598:GLN:HG2	1.97	0.46
1:G:4904:PRO:HG3	1:G:4913:ARG:HG2	1.97	0.46
1:G:4973:HIS:ND1	1:G:4973:HIS:O	2.48	0.46
1:J:2182:ILE:O	1:J:2185:ILE:HG22	2.16	0.46
1:D:4687:TYR:HE2	1:D:4703:ARG:HA	1.81	0.46
1:D:4876:CYS:HA	1:D:4882:CYS:HB2	1.97	0.46
1:A:1731:LEU:HD23	1:A:1772:ARG:HH12	1.80	0.46
1:A:3890:LEU:HA	1:A:3893:GLU:HB2	1.97	0.46
1:G:4159:ARG:HD3	1:G:4159:ARG:H	1.81	0.46
1:G:4217:PHE:CE1	1:G:4221:VAL:HG21	2.51	0.46
1:D:2212:VAL:HG22	1:D:2256:TYR:CZ	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3872:GLU:O	1:D:3876:ALA:HB2	2.16	0.46
1:A:241:GLN:O	1:A:243:ARG:NH1	2.49	0.46
1:A:662:TRP:CH2	1:A:814:ALA:HB2	2.49	0.46
1:A:2328:GLY:O	1:A:2332:LEU:HD23	2.15	0.46
1:A:4851:TYR:HD2	1:A:4920:PHE:HD2	1.63	0.46
1:G:607:CYS:SG	1:G:618:GLN:HG3	2.55	0.46
1:G:4704:LEU:O	1:G:4774:LYS:HE2	2.16	0.46
1:J:1124:PHE:HA	1:J:1131:ARG:HA	1.96	0.46
1:J:1673:VAL:HG12	1:J:1681:VAL:HG21	1.97	0.46
1:D:561:LEU:HD11	1:D:599:VAL:HG22	1.98	0.46
1:D:1272:LEU:HD13	1:D:1289:LEU:HD21	1.98	0.46
1:D:1747:LEU:HD11	1:D:2038:LEU:HA	1.98	0.46
1:D:4688:ILE:HG13	1:D:4689:THR:N	2.30	0.46
1:A:1578:ALA:O	1:A:1584:ARG:NH1	2.49	0.46
1:A:2103:VAL:O	1:A:2107:GLN:HG3	2.16	0.46
1:A:3951:PHE:HD2	1:A:4012:LEU:HD11	1.80	0.46
1:A:4994:TYR:OH	1:A:4998:LYS:NZ	2.34	0.46
1:J:206:CYS:SG	1:J:207:SER:N	2.89	0.46
1:J:1669:LEU:O	1:J:1673:VAL:HG23	2.16	0.46
1:J:1815:LEU:HD23	1:J:1862:ILE:HD11	1.96	0.46
1:J:2379:ALA:HB1	1:J:2426:TYR:HE2	1.81	0.46
1:J:4863:TYR:HD2	1:J:4876:CYS:CB	2.27	0.46
1:D:4235:VAL:HG21	1:D:5019:TRP:CD1	2.51	0.46
1:A:2035:HIS:O	1:A:2039:LEU:HD23	2.16	0.46
1:A:4049:VAL:HG21	1:A:4159:ARG:HD2	1.98	0.46
1:G:3679:LYS:HA	1:G:3679:LYS:HD2	1.58	0.46
1:A:114:SER:OG	1:A:116:MET:HG3	2.14	0.46
1:A:652:ARG:NE	1:A:750:LEU:O	2.47	0.46
1:A:1256:GLU:CB	1:A:1275:ARG:HE	2.29	0.46
1:A:2641:LEU:HD21	1:A:2699:ALA:HA	1.98	0.46
1:A:3102:ASP:O	1:A:3106:MET:HG2	2.14	0.46
1:G:544:LEU:HA	1:G:547:VAL:HG12	1.98	0.46
1:G:603:LEU:HB3	1:G:621:ILE:HD11	1.96	0.46
1:G:707:VAL:O	1:G:713:SER:HB2	2.16	0.46
1:G:3943:ILE:HD11	1:G:4002:LYS:NZ	2.29	0.46
2:K:40:ARG:O	2:K:43:ASN:ND2	2.49	0.46
1:D:414:PHE:CD1	1:D:436:LEU:HD12	2.51	0.46
1:A:714:TYR:OH	1:A:1472:VAL:HB	2.16	0.46
1:A:4927:ILE:HD12	1:G:4936:ILE:HG21	1.98	0.46
1:G:1970:GLN:HG3	1:G:3642:TYR:HA	1.97	0.46
1:G:2463:LEU:HB2	1:G:2510:TYR:CE2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:408:ALA:O	1:J:412:ASN:ND2	2.49	0.46
1:J:1473:THR:HA	1:J:1488:LYS:HA	1.97	0.46
1:J:2351:ASN:HB3	1:J:2355:ARG:HH22	1.81	0.46
1:J:2563:THR:HG23	1:J:2606:CYS:HA	1.98	0.46
1:J:3820:LEU:HD21	1:J:3902:TYR:CE2	2.51	0.46
1:D:2336:ARG:HA	1:D:2339:VAL:HG12	1.97	0.45
1:D:3736:GLU:HA	1:D:3766:GLN:HE22	1.80	0.45
1:D:4039:MET:O	1:D:4043:GLN:HG2	2.16	0.45
1:D:4819:GLY:O	1:D:4824:ARG:NH2	2.49	0.45
1:A:149:THR:OG1	1:A:172:VAL:O	2.31	0.45
1:A:634:GLN:HE21	1:A:702:TRP:HH2	1.64	0.45
1:A:2175:GLU:O	1:A:2179:ILE:HG12	2.15	0.45
1:A:2554:LEU:HA	1:A:2558:VAL:HG12	1.99	0.45
1:A:3886:ARG:HD2	1:A:3889:GLN:HE21	1.81	0.45
1:A:4335:LEU:O	1:A:4339:VAL:HG23	2.16	0.45
1:A:4567:LEU:HD11	1:A:4571:PHE:CZ	2.51	0.45
1:A:4679:ARG:HD3	1:A:5017:ARG:CZ	2.46	0.45
1:G:615:ARG:NH2	1:G:2168:VAL:HG11	2.31	0.45
1:G:2620:GLN:HA	1:G:2623:LEU:HB3	1.98	0.45
1:J:665:GLU:HA	1:J:745:SER:HA	1.97	0.45
1:J:2182:ILE:HA	1:J:2185:ILE:HG22	1.98	0.45
1:J:3102:ASP:O	1:J:3106:MET:HG2	2.15	0.45
1:A:180:LEU:HB3	1:A:200:TRP:NE1	2.31	0.45
1:A:551:LEU:HD21	1:A:589:LEU:HB2	1.98	0.45
1:A:1490:SER:HB2	1:A:1493:TYR:CE1	2.52	0.45
1:G:2119:ALA:O	1:G:2123:LEU:HD23	2.16	0.45
1:J:273:HIS:ND1	1:J:335:GLY:O	2.49	0.45
1:J:545:ASP:HA	1:J:548:VAL:HG12	1.97	0.45
1:J:1236:THR:O	1:J:1608:MET:HG3	2.16	0.45
1:J:2021:CYS:SG	1:J:2028:ARG:HD3	2.56	0.45
1:J:2495:VAL:HG12	1:J:2498:HIS:H	1.81	0.45
1:D:575:LEU:HD11	1:D:606:LEU:HA	1.98	0.45
1:D:2628:PHE:CD2	1:D:2906:VAL:CB	3.00	0.45
1:A:180:LEU:HB3	1:A:200:TRP:HE1	1.82	0.45
1:A:4160:LEU:HD12	1:A:4163:PHE:HD2	1.81	0.45
1:G:221:ARG:N	1:G:391:THR:O	2.48	0.45
1:G:3886:ARG:HD2	1:G:3889:GLN:NE2	2.25	0.45
1:J:1295:VAL:HG21	1:J:1575:LEU:HD11	1.98	0.45
1:J:1639:LEU:HD11	1:J:1653:LEU:HD11	1.98	0.45
1:D:1238:PHE:CE2	1:D:1240:LYS:HG3	2.52	0.45
2:E:21:THR:HA	2:E:49:ARG:HA	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:55:VAL:HG11	2:B:59:PHE:HD2	1.82	0.45
1:G:1520:VAL:HG23	1:G:1527:MET:HG2	1.98	0.45
1:J:219:VAL:HG21	1:J:398:SER:HB3	1.97	0.45
1:J:572:PRO:HB3	1:J:609:CYS:SG	2.57	0.45
1:J:716:PHE:CZ	1:J:744:VAL:HG21	2.46	0.45
1:J:2500:ALA:CA	1:J:2553:TYR:HE1	2.29	0.45
1:J:4984:ASN:OD1	1:J:4987:ASN:N	2.41	0.45
1:D:247:TYR:HB2	1:D:374:LYS:HG3	1.98	0.45
1:D:1100:MET:HG2	1:D:1194:LEU:HA	1.97	0.45
1:D:1152:MET:HB3	1:D:1161:ILE:O	2.17	0.45
1:D:2463:LEU:HD13	1:D:2510:TYR:CD2	2.50	0.45
1:D:3673:MET:HE2	1:D:3728:ILE:HG12	1.98	0.45
1:D:3962:PHE:O	1:D:3966:THR:HG23	2.17	0.45
1:D:3965:LEU:HA	1:D:3968:TYR:CD2	2.51	0.45
1:D:4879:MET:HB3	1:A:4578:LEU:O	2.17	0.45
1:D:4927:ILE:HG23	1:D:4928:LEU:N	2.32	0.45
2:E:4:ILE:HG13	2:E:4:ILE:O	2.17	0.45
1:A:1125:ASN:HB2	1:A:1132:TRP:CD1	2.52	0.45
1:A:2204:HIS:HB2	1:A:2250:MET:HE1	1.99	0.45
1:A:2616:PRO:HD2	1:A:2664:PHE:CD2	2.52	0.45
1:A:4180:ARG:HG2	1:A:4194:TYR:CE1	2.51	0.45
1:G:594:GLY:H	1:G:1594:ARG:HB2	1.81	0.45
1:G:2002:PRO:O	1:G:2006:ILE:HG12	2.16	0.45
1:G:2336:ARG:HG3	1:G:2435:ARG:HD2	1.97	0.45
1:J:1088:TRP:HE3	1:J:1226:PHE:HA	1.80	0.45
1:J:2102:VAL:HG11	1:J:2124:LEU:HB2	1.98	0.45
2:K:66:MET:SD	2:K:70:GLN:HB3	2.57	0.45
1:D:2128:TYR:CD2	1:D:3673:MET:HG2	2.52	0.45
1:D:3801:GLY:O	1:D:3805:LEU:HB2	2.17	0.45
1:D:4961:CYS:HB3	1:D:4983:HIS:ND1	2.32	0.45
1:A:1469:VAL:HG13	1:A:1492:CYS:HB3	1.98	0.45
1:A:2118:ARG:HD2	1:A:3721:LEU:HD22	1.99	0.45
1:A:2212:VAL:HG21	1:A:2256:TYR:CE2	2.51	0.45
1:A:2340:PHE:CZ	1:A:2343:GLY:HA2	2.51	0.45
1:A:3966:THR:O	1:A:3970:GLN:HG2	2.16	0.45
1:A:4090:LYS:HG3	1:A:4112:LEU:HD22	1.99	0.45
1:G:1000:ARG:O	1:G:1004:GLY:N	2.49	0.45
1:J:615:ARG:HD3	1:J:1678:ASN:ND2	2.32	0.45
1:J:4654:ALA:HB1	1:J:4796:MET:HE1	1.98	0.45
2:K:91:ILE:HD12	2:K:97:LEU:HD22	1.98	0.45
1:A:790:ARG:HA	1:A:1627:ALA:HA	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1225:PRO:HG2	1:A:1228:ILE:HB	1.99	0.45
1:A:1667:LEU:HD22	1:A:1714:LEU:HD13	1.99	0.45
1:A:2354:VAL:HG23	1:A:2436:CYS:SG	2.57	0.45
2:B:23:VAL:HG12	2:B:47:LYS:HG2	1.98	0.45
1:G:1125:ASN:HD21	1:G:1127:HIS:CE1	2.35	0.45
1:G:1243:PRO:HG3	1:G:1460:HIS:HB2	1.98	0.45
1:G:3766:GLN:HG2	1:G:3769:ARG:HH21	1.81	0.45
1:G:3900:GLN:HB3	1:G:3976:ASN:ND2	2.32	0.45
1:J:152:PRO:HB2	1:J:157:ARG:CB	2.47	0.45
1:J:720:HIS:CE1	1:J:722:TRP:HE1	2.26	0.45
1:J:1426:ILE:O	1:J:1430:THR:N	2.50	0.45
1:J:3923:LEU:HD21	1:J:3962:PHE:CZ	2.52	0.45
1:J:4670:ILE:HD11	1:J:4778:TRP:CZ3	2.52	0.45
1:D:1667:LEU:HD22	1:D:1714:LEU:HD22	1.99	0.45
1:D:2503:VAL:HG11	1:D:2557:ALA:HB1	1.98	0.45
1:D:3725:TYR:HD1	1:D:3725:TYR:HA	1.70	0.45
1:D:4582:VAL:HB	1:J:4856:PHE:CZ	2.49	0.45
1:A:1713:ASP:HA	1:A:1716:ILE:HG22	1.98	0.45
1:G:635:THR:HG22	1:G:1639:LEU:HD23	1.98	0.45
1:G:686:TRP:HE3	1:G:777:PHE:HB3	1.81	0.45
1:G:1434:TYR:HE1	1:G:1517:GLY:HA3	1.81	0.45
1:G:1663:HIS:HD2	1:G:1707:LEU:HD22	1.81	0.45
1:G:3980:LEU:HD11	1:G:3985:LEU:HD22	1.99	0.45
1:J:1723:ALA:HB1	1:J:1775:HIS:CE1	2.52	0.45
1:J:2001:PRO:O	1:J:2005:GLN:HG3	2.16	0.45
1:J:2495:VAL:HB	1:J:2498:HIS:HB2	1.98	0.45
1:J:3986:TRP:HA	1:J:3989:VAL:HG12	1.99	0.45
1:D:636:ASN:HD21	2:E:35:LYS:NZ	2.15	0.45
1:D:3640:PRO:HG2	1:D:3643:ASN:HB2	1.98	0.45
1:D:4031:LEU:HD13	1:D:4149:ASN:ND2	2.32	0.45
1:D:4055:VAL:O	1:D:4058:ILE:HG22	2.16	0.45
1:D:4154:VAL:O	1:D:4154:VAL:HG13	2.17	0.45
1:A:117:TYR:O	1:A:138:GLN:N	2.45	0.45
1:A:4198:SER:HB2	1:A:4201:ASN:ND2	2.32	0.45
1:G:590:LEU:HD22	1:G:631:LEU:HD23	1.99	0.45
1:G:1663:HIS:HD2	1:G:1707:LEU:CD2	2.30	0.45
1:G:1944:GLU:CA	1:G:2123:LEU:HD11	2.47	0.45
1:G:4671:PHE:HB2	1:G:4714:ASN:HB3	1.98	0.45
1:G:4852:THR:HG21	1:G:4883:TYR:HD1	1.82	0.45
1:J:35:LEU:HD13	1:J:49:LEU:HD23	1.99	0.45
1:J:3777:GLU:O	1:J:3781:GLN:HG2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:4631:PHE:CE2	1:J:4639:MET:HG3	2.52	0.45
1:J:4863:TYR:CE1	1:J:4901:ILE:HG12	2.52	0.45
1:D:707:VAL:O	1:D:713:SER:HB2	2.17	0.45
1:D:1432:THR:HA	1:D:1521:ASP:HA	1.99	0.45
1:D:2504:LEU:HD22	1:D:2508:ARG:HG3	1.99	0.45
1:A:2112:GLN:OE1	1:A:2112:GLN:N	2.50	0.45
1:G:1297:PHE:HB2	1:G:1544:PRO:O	2.17	0.45
1:G:2555:CYS:SG	1:G:2599:GLN:HG2	2.57	0.45
1:G:4045:VAL:HG22	1:G:4160:LEU:HD21	1.98	0.45
1:J:753:PRO:HB3	1:J:771:PHE:CE2	2.52	0.45
1:J:1255:TYR:CE1	1:J:1274:HIS:HD2	2.32	0.45
1:J:1561:VAL:HG12	1:J:1562:ILE:N	2.32	0.45
1:D:284:HIS:HB3	1:D:287:THR:HG22	1.99	0.44
1:D:663:TYR:HB2	1:D:808:TYR:HB3	1.99	0.44
1:D:1205:GLY:HA2	1:D:1211:LEU:CD1	2.42	0.44
1:D:2495:VAL:HG12	1:D:2497:ASP:H	1.83	0.44
1:A:209:CYS:SG	1:A:273:HIS:NE2	2.89	0.44
1:A:247:TYR:HB2	1:A:374:LYS:HG3	1.98	0.44
1:A:652:ARG:HD2	1:A:773:LEU:HD22	1.99	0.44
2:B:67:SER:OG	2:B:70:GLN:OE1	2.28	0.44
1:J:110:ARG:HA	1:J:117:TYR:HA	1.97	0.44
1:J:411:TYR:O	1:J:415:ILE:HG12	2.16	0.44
1:J:2346:VAL:HG23	1:J:2349:ASN:HB2	1.99	0.44
1:J:4183:ILE:HG12	1:J:4193:ILE:HD13	1.98	0.44
1:J:4995:LEU:HD23	1:J:5011:TRP:HE3	1.81	0.44
2:K:25:HIS:HB2	2:K:39:SER:HB2	1.97	0.44
1:D:698:GLY:O	1:D:703:GLY:HA2	2.17	0.44
1:D:3897:ASN:OD1	1:D:3898:ASP:N	2.50	0.44
1:A:2114:PRO:HB3	1:A:3707:ARG:HH21	1.82	0.44
1:A:3003:LEU:HB2	1:A:3004:PRO:HD3	2.00	0.44
1:A:4675:LYS:HG3	1:A:4679:ARG:HE	1.82	0.44
1:G:266:ARG:HH21	1:G:272:SER:HB3	1.82	0.44
1:G:491:ILE:HG12	1:G:523:TYR:CE1	2.52	0.44
1:G:2500:ALA:HB2	1:G:2553:TYR:HD1	1.81	0.44
1:G:4154:VAL:O	1:G:4154:VAL:HG13	2.18	0.44
1:J:526:LEU:HD11	1:J:540:PHE:HZ	1.83	0.44
1:J:1469:VAL:HG13	1:J:1492:CYS:HB3	1.99	0.44
1:J:1641:ILE:HG22	1:J:1643:GLU:HG2	2.00	0.44
1:D:790:ARG:HA	1:D:1627:ALA:HA	1.98	0.44
1:D:1101:ARG:HH21	1:D:1125:ASN:HD22	1.65	0.44
1:D:1435:TYR:HE1	1:D:1452:TRP:CZ2	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1676:LEU:HA	1:D:1725:ARG:HH12	1.81	0.44
1:D:2515:GLN:HB2	1:D:2568:LEU:HD11	2.00	0.44
1:D:4149:ASN:ND2	1:D:4153:HIS:HD2	2.14	0.44
1:A:20:VAL:HG21	1:A:202:MET:SD	2.58	0.44
1:A:355:LEU:HB2	1:A:378:LEU:HD23	1.99	0.44
1:A:445:LEU:HB3	1:A:521:LEU:HB3	1.99	0.44
1:A:1641:ILE:HG22	1:A:1643:GLU:HG2	1.99	0.44
1:G:243:ARG:HA	1:G:301:VAL:HG22	1.99	0.44
1:G:2182:ILE:O	1:G:2186:MET:HG2	2.18	0.44
1:G:4548:ARG:HD2	1:G:4552:LEU:HD13	2.00	0.44
1:J:411:TYR:HB3	1:J:486:LEU:HD21	1.99	0.44
1:J:583:ILE:O	1:J:587:ILE:HG13	2.17	0.44
1:J:1271:ARG:HA	1:J:1563:GLN:HB2	1.99	0.44
1:J:1434:TYR:HB3	1:J:1572:ILE:HG21	1.98	0.44
1:J:4226:GLY:O	1:J:4230:LYS:HG3	2.18	0.44
1:J:4687:TYR:HB3	1:J:4740:LEU:HD21	1.98	0.44
1:D:1451:GLY:HA3	1:D:1494:MET:HA	1.98	0.44
1:D:2959:PHE:HE2	1:D:3009:TYR:CZ	2.35	0.44
1:D:4060:LYS:HD2	1:D:4060:LYS:HA	1.83	0.44
1:A:102:LEU:HB2	1:A:105:HIS:HD2	1.82	0.44
1:A:2359:ARG:NE	1:A:2359:ARG:HA	2.33	0.44
1:A:4017:LEU:HD22	1:A:4139:ILE:HG21	1.99	0.44
1:G:37:LEU:HD13	1:G:191:VAL:HG11	1.99	0.44
1:G:551:LEU:HA	1:G:560:ILE:HG21	1.99	0.44
1:G:2439:GLU:OE2	1:G:2508:ARG:NH2	2.50	0.44
1:G:3723:MET:HE3	1:G:3723:MET:HB3	1.76	0.44
1:G:3886:ARG:HG3	1:G:3890:LEU:HD13	1.99	0.44
1:G:4041:ALA:O	1:G:4045:VAL:HG23	2.17	0.44
1:G:4235:VAL:HG21	1:G:5019:TRP:NE1	2.33	0.44
1:J:1601:MET:HE3	1:J:1602:PRO:HD2	1.98	0.44
1:J:2293:GLN:O	1:J:2296:GLU:HG3	2.17	0.44
1:J:3678:SER:HB2	1:J:3773:ARG:HH21	1.82	0.44
1:D:839:LEU:HD13	1:D:1075:PHE:CD2	2.52	0.44
1:D:2959:PHE:CE2	1:D:3009:TYR:CZ	3.05	0.44
1:A:209:CYS:HG	1:A:273:HIS:HE2	1.65	0.44
1:A:2178:MET:O	1:A:2182:ILE:HG12	2.17	0.44
1:A:4323:THR:OG1	1:A:4324:ALA:N	2.50	0.44
1:A:4961:CYS:HB3	1:A:4983:HIS:CE1	2.52	0.44
1:G:20:VAL:HG21	1:G:202:MET:SD	2.57	0.44
1:G:4979:THR:HG21	6:G:5103:ATP:H3'	1.99	0.44
1:J:444:SER:O	1:J:448:LEU:HD23	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1438:ARG:NH2	1:J:1513:ASP:OD2	2.50	0.44
1:J:1451:GLY:CA	1:J:1494:MET:HG2	2.48	0.44
1:J:3003:LEU:HB3	1:J:3004:PRO:HD3	1.99	0.44
1:D:4910:GLU:O	1:D:4914:VAL:HG23	2.18	0.44
1:D:4998:LYS:HD3	1:D:5002:GLU:HG2	2.00	0.44
1:G:2518:LEU:HD13	1:G:2568:LEU:HD23	1.99	0.44
1:G:2671:GLU:O	1:G:2675:THR:HG23	2.17	0.44
1:J:2280:VAL:O	1:J:2280:VAL:HG13	2.17	0.44
1:J:2500:ALA:HB2	1:J:2553:TYR:HD1	1.83	0.44
1:J:4562:LEU:HD12	1:J:4565:LEU:HD11	2.00	0.44
1:D:518:ILE:O	1:D:522:LEU:HD23	2.18	0.44
1:D:1126:GLY:HA3	1:D:1143:TRP:CZ3	2.52	0.44
1:D:3955:MET:HB2	1:D:4019:LEU:HD23	2.00	0.44
1:D:4554:TYR:HA	1:D:4557:ARG:HH21	1.82	0.44
1:A:1450:VAL:HG22	1:A:1552:VAL:HG22	2.00	0.44
1:A:4054:ASN:O	1:A:4058:ILE:HG12	2.17	0.44
1:G:452:PHE:HZ	1:G:478:PHE:CD2	2.33	0.44
1:G:657:THR:HB	1:G:851:PHE:CE2	2.53	0.44
1:G:4096:ALA:O	1:G:4100:GLN:HG2	2.17	0.44
1:G:4180:ARG:HG2	1:G:4194:TYR:CE1	2.53	0.44
1:G:4555:LEU:HD13	1:G:4656:LEU:HG	1.99	0.44
1:G:4586:PRO:HB3	1:G:4628:VAL:HG11	1.99	0.44
1:G:4791:TYR:HD1	1:G:4792:LEU:HD23	1.82	0.44
3:I:29:THR:O	3:I:33:LEU:N	2.47	0.44
1:J:671:VAL:HG12	1:J:740:PRO:HD3	2.00	0.44
1:J:2294:ASP:O	1:J:2298:VAL:HG23	2.17	0.44
1:J:3445:TRP:HE3	1:J:3451:PHE:HD2	1.64	0.44
1:J:4667:PRO:O	1:J:4670:ILE:HG22	2.18	0.44
1:D:716:PHE:HD2	1:D:718:GLY:N	2.12	0.44
1:D:1931:LEU:HD22	1:D:1935:VAL:HG11	1.99	0.44
1:D:2420:HIS:CD2	1:D:2491:SER:HA	2.53	0.44
1:D:2875:ALA:HB1	1:D:2923:ALA:C	2.38	0.44
1:D:3135:ALA:O	1:D:3139:VAL:N	2.45	0.44
1:D:4979:THR:HG21	6:D:5103:ATP:H2'	1.99	0.44
1:A:441:VAL:O	1:A:445:LEU:HD23	2.18	0.44
1:A:667:MET:HA	1:A:743:VAL:HA	1.99	0.44
1:A:1085:SER:OG	1:A:1086:GLY:N	2.51	0.44
1:A:2159:LEU:HD22	1:A:2201:LEU:HD23	2.00	0.44
1:A:4823:LEU:O	1:A:4827:LEU:HD23	2.18	0.44
1:G:1245:PHE:CG	1:G:1290:ARG:HD3	2.52	0.44
1:G:1815:LEU:HD22	1:G:1845:VAL:HG21	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4642:ALA:O	1:G:4646:LEU:HD23	2.18	0.44
1:G:4675:LYS:HD2	1:G:4679:ARG:HH21	1.83	0.44
1:J:1442:GLY:O	1:J:1557:THR:OG1	2.35	0.44
1:J:4185:GLY:HA3	1:J:5009:TYR:CE2	2.52	0.44
1:D:1580:PHE:CE1	1:D:1592:PRO:HG2	2.53	0.44
1:D:1849:LEU:HG	1:D:1854:PHE:HD2	1.81	0.44
1:A:2298:VAL:HG21	1:A:2334:PHE:CE2	2.53	0.44
1:G:1214:PHE:CE2	1:G:1225:PRO:HD3	2.53	0.44
1:G:2611:CYS:CB	1:G:2643:LEU:HD11	2.48	0.44
1:J:3423:TRP:O	1:J:3423:TRP:CG	2.71	0.44
2:K:71:ARG:HG2	2:K:102:GLU:HG3	1.99	0.44
1:D:1289:LEU:HD23	1:D:1564:PHE:CE2	2.52	0.43
1:D:1742:THR:O	1:D:1745:ILE:HG22	2.18	0.43
1:D:2522:LEU:HG	1:D:2523:ASP:N	2.33	0.43
1:D:2638:LYS:HE2	1:D:2695:LEU:HA	1.99	0.43
1:G:660:GLY:HA2	1:G:750:LEU:HD12	2.00	0.43
1:G:2211:MET:HA	1:G:2214:VAL:HG12	2.00	0.43
1:J:1235:THR:HG21	1:J:1607:ARG:HH21	1.82	0.43
1:J:3445:TRP:CE3	1:J:3451:PHE:HD2	2.36	0.43
1:J:3658:LYS:HG3	1:J:3662:ILE:HD11	2.00	0.43
1:J:3889:GLN:O	1:J:3893:GLU:N	2.51	0.43
1:J:4562:LEU:HD21	1:J:4656:LEU:HB3	1.99	0.43
1:J:4926:VAL:HG13	1:J:4927:ILE:HG13	2.00	0.43
1:D:2225:PHE:O	1:D:2229:VAL:HG23	2.18	0.43
1:A:2365:GLY:HA3	1:A:2426:TYR:HE1	1.82	0.43
1:A:4984:ASN:HB3	1:A:4987:ASN:HB2	2.00	0.43
1:G:561:LEU:HD21	1:G:598:LYS:HB2	2.00	0.43
1:G:581:ASN:OD1	1:G:582:HIS:N	2.51	0.43
1:G:2012:PHE:HB2	1:G:3661:TRP:HZ2	1.84	0.43
1:G:4181:ILE:HB	1:G:4988:TYR:CE1	2.53	0.43
1:J:1076:ARG:O	1:J:1237:TRP:N	2.32	0.43
1:J:1077:ALA:HA	1:J:1236:THR:HA	1.99	0.43
1:D:3536:ALA:HB1	1:D:3597:GLN:HA	2.00	0.43
1:A:214:VAL:HG22	1:A:341:TYR:CE1	2.53	0.43
1:A:582:HIS:O	1:A:586:ILE:HG13	2.18	0.43
1:A:1171:SER:OG	1:A:1175:SER:N	2.52	0.43
1:A:1619:ARG:HA	1:A:1626:TRP:HA	2.00	0.43
1:G:540:PHE:HD2	1:G:567:VAL:HG21	1.83	0.43
1:G:1158:ASN:ND2	1:G:1182:ILE:O	2.51	0.43
1:J:1074:ILE:CD1	1:J:1115:LEU:HD12	2.49	0.43
1:J:1556:PRO:HB3	1:J:1561:VAL:HG21	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2293:GLN:HA	1:J:2296:GLU:HG3	1.99	0.43
1:J:4066:LEU:HD13	1:J:4170:ILE:HA	1.99	0.43
1:D:1427:ILE:CD1	1:D:1571:ASN:HA	2.47	0.43
1:D:1771:LEU:HD11	1:D:2153:MET:SD	2.59	0.43
1:A:2323:TRP:HH2	1:A:2422:ILE:HG13	1.82	0.43
1:A:3836:MET:HA	1:A:3839:CYS:SG	2.58	0.43
1:A:4235:VAL:HG11	1:A:5019:TRP:CZ2	2.54	0.43
1:G:2430:ILE:HG21	1:G:2502:MET:HE3	2.01	0.43
1:G:3136:LEU:O	1:G:3140:LEU:N	2.39	0.43
1:G:3695:PRO:HB2	1:G:3699:HIS:HB3	2.01	0.43
2:H:10:GLY:CA	2:H:70:GLN:HB2	2.38	0.43
1:J:2240:CYS:HB2	1:J:2250:MET:HG2	1.99	0.43
1:J:2297:LYS:HG2	1:J:2301:TYR:CE2	2.54	0.43
1:J:2351:ASN:HB3	1:J:2355:ARG:NH2	2.32	0.43
1:J:4020:GLN:HG3	1:J:4139:ILE:CD1	2.49	0.43
1:D:445:LEU:HD11	1:D:522:LEU:HD13	2.00	0.43
1:D:711:LEU:HD12	1:D:1491:ASN:HB3	1.99	0.43
1:D:723:THR:O	1:D:726:VAL:HG12	2.17	0.43
1:D:850:ASP:O	1:D:1023:PRO:HG3	2.19	0.43
1:D:1651:LEU:HD12	1:D:1651:LEU:H	1.82	0.43
1:D:2346:VAL:HG23	1:D:2349:ASN:HB2	2.00	0.43
1:D:2669:GLU:HA	1:D:2672:LEU:HD12	2.01	0.43
1:A:275:ARG:HB3	1:A:336:PRO:CG	2.48	0.43
1:A:3980:LEU:HD23	1:A:3980:LEU:HA	1.78	0.43
1:J:16:THR:HG22	1:J:98:HIS:HA	1.99	0.43
1:J:1074:ILE:HD11	1:J:1115:LEU:HD12	2.01	0.43
1:J:4576:ILE:HG21	1:J:4643:LEU:HB2	1.99	0.43
1:D:495:ASN:OD1	1:D:553:ARG:NH1	2.52	0.43
1:D:4027:LEU:HD23	1:D:4027:LEU:HA	1.90	0.43
1:D:4149:ASN:HD21	1:D:4153:HIS:HD2	1.66	0.43
1:A:590:LEU:HB2	1:A:599:VAL:HG11	2.00	0.43
1:A:2470:ILE:HG21	1:A:2526:PHE:CE1	2.53	0.43
1:A:4705:VAL:HB	1:A:4778:TRP:CG	2.54	0.43
1:A:4883:TYR:CE1	1:A:4887:MET:HE3	2.54	0.43
1:G:2142:TYR:HE1	1:G:3651:ASN:ND2	2.17	0.43
1:G:4655:PHE:CA	1:G:4796:MET:HE1	2.49	0.43
1:J:626:LEU:HB3	1:J:1688:HIS:NE2	2.33	0.43
1:J:716:PHE:CD1	1:J:757:PHE:CD2	3.07	0.43
1:J:3716:LEU:HD21	1:J:3785:ALA:HB1	2.01	0.43
1:D:633:LEU:HD21	1:D:1659:LEU:HD12	1.99	0.43
1:D:647:ASN:OD1	1:D:822:ARG:N	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3351:PRO:O	1:D:3353:LEU:N	2.51	0.43
1:D:4182:GLU:O	1:D:4183:ILE:HD13	2.19	0.43
1:D:4562:LEU:HG	1:D:4653:VAL:HG13	2.01	0.43
1:A:1989:ALA:O	1:A:1993:ARG:HG2	2.18	0.43
1:A:4687:TYR:CG	1:A:4706:LEU:HD11	2.53	0.43
1:G:3729:MET:HB3	1:G:3770:LEU:HD13	2.00	0.43
1:J:23:GLN:HE22	1:J:267:ILE:HD12	1.82	0.43
1:J:107:ILE:N	1:J:148:TRP:O	2.42	0.43
1:J:272:SER:HB2	1:J:334:MET:HA	2.01	0.43
1:J:625:LEU:HD21	1:J:632:LEU:HD11	2.00	0.43
1:J:1454:THR:OG1	1:J:1455:PRO:HD2	2.19	0.43
1:J:2671:GLU:O	1:J:2675:THR:HG23	2.19	0.43
1:J:2823:ILE:HA	1:J:2936:ALA:O	2.18	0.43
1:J:4842:GLY:O	1:J:4846:VAL:HG23	2.18	0.43
1:J:4973:HIS:O	1:J:4977:THR:HG23	2.18	0.43
1:D:688:LEU:HD13	1:D:712:TYR:O	2.19	0.43
1:D:1464:PHE:CE2	1:D:1553:PHE:HD2	2.37	0.43
1:D:4849:TYR:O	1:D:4852:THR:HG22	2.19	0.43
1:D:5000:GLU:HA	1:D:5003:HIS:CD2	2.54	0.43
1:A:979:PRO:HB2	1:A:980:ALA:H	1.66	0.43
1:A:2500:ALA:N	1:A:2553:TYR:HE1	2.16	0.43
1:A:2554:LEU:O	1:A:2559:LEU:HD23	2.18	0.43
1:G:475:GLN:OE1	1:G:532:GLY:HA3	2.19	0.43
1:G:1933:GLU:HA	1:G:1936:LYS:HD3	2.00	0.43
1:J:701:GLY:HA2	1:J:1645:ASN:OD1	2.18	0.43
1:J:1073:ARG:HG2	1:J:1075:PHE:CE1	2.53	0.43
1:J:1237:TRP:CH2	1:J:1652:GLU:HG3	2.47	0.43
1:J:3722:TYR:CE1	1:J:3726:ALA:HB2	2.53	0.43
1:J:4069:LYS:HA	1:J:4069:LYS:HD3	1.91	0.43
1:J:4190:ILE:H	1:J:4190:ILE:HD12	1.84	0.43
1:D:2161:GLN:HE21	1:D:2165:LEU:HG	1.84	0.43
1:D:4017:LEU:HD12	1:D:4139:ILE:HG21	2.01	0.43
1:A:634:GLN:NE2	1:A:702:TRP:HH2	2.17	0.43
1:A:1228:ILE:CG2	1:A:1827:ARG:HH12	2.31	0.43
1:A:2336:ARG:HD3	1:A:2435:ARG:HD2	2.00	0.43
1:A:2960:LEU:HD11	1:A:3017:PHE:HZ	1.83	0.43
1:A:4805:ASN:HB3	1:A:4808:PHE:HD2	1.83	0.43
1:G:737:LEU:HD23	1:G:738:LEU:N	2.33	0.43
1:G:1131:ARG:HD2	1:G:1179:PHE:CE1	2.53	0.43
1:G:1687:SER:HB3	1:G:1782:PHE:CE2	2.53	0.43
1:J:470:SER:OG	1:J:474:ARG:NH2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1293:LEU:HB2	1:J:1579:MET:CE	2.49	0.43
1:J:2500:ALA:HB2	1:J:2553:TYR:CD1	2.54	0.43
1:J:4066:LEU:HD11	1:J:4173:TYR:HB3	2.01	0.43
1:J:4777:ILE:HA	1:J:4780:PHE:CD2	2.53	0.43
1:D:830:ARG:HH21	1:D:1612:PHE:CB	2.31	0.43
1:D:1089:TYR:O	1:D:1225:PRO:HA	2.19	0.43
1:D:1965:TYR:CZ	1:D:2031:LEU:HB2	2.53	0.43
2:E:91:ILE:HD12	2:E:97:LEU:HD21	2.00	0.43
1:A:753:PRO:HB3	1:A:771:PHE:CZ	2.54	0.43
1:A:846:LEU:HD22	1:A:1026:LEU:HD21	2.01	0.43
1:A:1228:ILE:HG23	1:A:1827:ARG:HH12	1.84	0.43
1:A:1433:TYR:CD1	1:A:1578:ALA:HB2	2.53	0.43
1:G:2305:CYS:HG	1:G:2331:TYR:HE2	1.66	0.43
1:G:4586:PRO:HA	1:G:4587:PRO:HD3	1.88	0.43
1:G:4844:LEU:HD12	1:G:4928:LEU:HB3	2.01	0.43
1:J:19:GLU:HA	1:J:68:THR:HA	2.01	0.43
1:J:213:TYR:HB3	1:J:273:HIS:CD2	2.53	0.43
1:J:791:PHE:N	1:J:1626:TRP:O	2.52	0.43
1:J:1684:ALA:HB1	2:K:89:GLY:HA3	2.01	0.43
1:J:4833:ASN:ND2	1:J:4939:ALA:HB2	2.33	0.43
1:J:5017:ARG:CZ	1:J:5019:TRP:HH2	2.32	0.43
1:D:119:SER:OG	1:D:120:CYS:N	2.51	0.42
1:D:597:HIS:HB2	1:D:1665:HIS:ND1	2.33	0.42
1:D:1073:ARG:HB3	1:D:1075:PHE:CE1	2.54	0.42
1:D:1087:ARG:NH1	1:D:1221:GLU:O	2.52	0.42
1:D:1689:VAL:HA	1:D:1693:GLN:OE1	2.18	0.42
1:D:1713:ASP:O	1:D:1716:ILE:HG22	2.19	0.42
1:D:2638:LYS:HZ1	1:D:2695:LEU:HA	1.83	0.42
1:D:4581:LYS:HE2	1:D:4632:LEU:HB3	2.00	0.42
1:D:4701:TRP:CZ2	1:D:4781:GLY:HA3	2.54	0.42
1:D:4715:TYR:CE2	1:D:4717:ASP:HB2	2.54	0.42
1:A:1426:ILE:O	1:A:1430:THR:N	2.52	0.42
1:A:1849:LEU:CD2	1:A:1854:PHE:HD2	2.32	0.42
1:A:2123:LEU:O	1:A:2127:GLN:HG2	2.19	0.42
1:G:2548:LEU:O	1:G:2552:ARG:HG3	2.19	0.42
1:J:582:HIS:O	1:J:586:ILE:HG13	2.19	0.42
1:J:2518:LEU:HD21	1:J:2569:PHE:HE1	1.79	0.42
1:J:4146:LEU:O	1:J:4150:LEU:HD23	2.19	0.42
1:J:4569:LEU:HD21	1:J:4649:LEU:HG	2.01	0.42
1:D:716:PHE:HE1	1:D:757:PHE:CG	2.36	0.42
1:D:1290:ARG:HD2	1:D:1291:LEU:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2437:ALA:HB3	1:D:2508:ARG:HE	1.84	0.42
1:D:2879:ALA:HB2	1:D:2923:ALA:CB	2.49	0.42
1:A:637:LEU:HD23	1:A:1693:GLN:HA	2.01	0.42
1:A:1717:SER:HA	1:A:1721:GLU:HB2	2.01	0.42
1:A:2355:ARG:HA	1:A:2358:ILE:HG22	2.00	0.42
1:A:3701:LEU:HD11	1:A:3705:PHE:CZ	2.54	0.42
1:A:4154:VAL:O	1:A:4154:VAL:HG13	2.19	0.42
1:A:4683:PHE:HZ	1:A:5017:ARG:HG3	1.84	0.42
1:G:2102:VAL:HG13	1:G:2120:MET:CG	2.49	0.42
1:G:2240:CYS:SG	1:G:2250:MET:HG2	2.59	0.42
1:G:3886:ARG:HE	1:G:3890:LEU:HD11	1.85	0.42
1:G:3966:THR:O	1:G:3970:GLN:HG2	2.18	0.42
1:J:1727:ARG:HG3	1:J:1775:HIS:HE1	1.83	0.42
1:D:76:ARG:CZ	1:A:3844:LEU:HD23	2.49	0.42
1:D:2821:TRP:HA	1:D:2939:ARG:N	2.34	0.42
1:D:4068:LEU:O	1:D:4072:VAL:HG23	2.20	0.42
1:D:4338:VAL:HG11	1:J:4838:VAL:HG11	2.01	0.42
2:E:56:ILE:HG23	2:E:59:PHE:H	1.83	0.42
1:A:517:GLU:O	1:A:521:LEU:HD13	2.19	0.42
1:A:1849:LEU:HD23	1:A:1854:PHE:HD2	1.85	0.42
1:A:2823:ILE:HA	1:A:2936:ALA:O	2.18	0.42
1:A:3007:ASN:HA	1:A:3010:PHE:CE1	2.54	0.42
1:A:4040:ILE:H	1:A:4040:ILE:HD12	1.83	0.42
1:G:1966:VAL:HG21	1:G:3649:ALA:HB1	2.02	0.42
1:G:3722:TYR:CE1	1:G:3782:MET:HE1	2.53	0.42
1:J:345:LEU:HD23	1:J:387:ALA:HB1	2.00	0.42
1:J:3650:CYS:O	1:J:3654:LEU:HG	2.19	0.42
1:J:4851:TYR:HE2	1:J:4920:PHE:HA	1.84	0.42
3:L:66:PHE:O	3:L:70:LEU:HD23	2.19	0.42
1:D:535:ALA:O	1:D:539:LEU:HD23	2.20	0.42
1:D:1466:LEU:HD11	1:D:1496:TRP:HB2	2.02	0.42
1:D:2207:VAL:HG21	1:D:2235:PHE:CE2	2.54	0.42
1:D:2505:PHE:CE1	1:D:2509:VAL:HG21	2.54	0.42
1:D:3890:LEU:HA	1:D:3893:GLU:HB2	2.00	0.42
1:A:261:ARG:HB2	1:A:285:VAL:HG12	2.02	0.42
1:G:116:MET:SD	1:G:139:GLU:HA	2.59	0.42
1:G:575:LEU:HD22	1:G:609:CYS:SG	2.59	0.42
1:G:1072:VAL:HG23	1:G:1194:LEU:O	2.19	0.42
1:G:1099:GLU:HA	1:G:1127:HIS:ND1	2.34	0.42
1:G:2641:LEU:O	1:G:2644:LEU:HG	2.18	0.42
1:G:4180:ARG:HG2	1:G:4194:TYR:HE1	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4184:MET:N	1:G:5021:PHE:O	2.48	0.42
1:J:839:LEU:HB3	1:J:1194:LEU:HD11	2.00	0.42
1:J:1259:ARG:NH1	1:J:1595:LEU:O	2.52	0.42
1:J:2335:LEU:O	1:J:2339:VAL:HG23	2.20	0.42
1:D:1235:THR:HG21	1:D:1607:ARG:HH21	1.85	0.42
1:D:3999:MET:HG3	1:D:4016:LEU:HD21	2.01	0.42
1:A:635:THR:CB	1:A:1693:GLN:HE22	2.29	0.42
1:A:645:ARG:HG3	1:A:778:PHE:CD1	2.54	0.42
1:A:3834:ALA:O	1:A:3838:THR:HG23	2.20	0.42
1:G:504:ALA:HB2	1:G:512:ALA:HB2	2.00	0.42
1:J:2290:LEU:HD23	1:J:2291:GLN:O	2.19	0.42
1:J:4901:ILE:HG22	1:J:4902:GLU:O	2.19	0.42
1:J:4974:GLY:O	1:J:4977:THR:OG1	2.22	0.42
1:D:14:LEU:HD23	1:D:14:LEU:HA	1.77	0.42
1:A:400:ALA:O	1:A:404:ILE:HG12	2.20	0.42
1:A:2273:LEU:HD23	1:A:2330:ARG:HB3	2.02	0.42
1:A:2453:ILE:HA	1:A:2456:ILE:HG22	2.02	0.42
1:A:3848:GLU:HA	1:A:3851:ASN:ND2	2.35	0.42
1:G:615:ARG:HD2	1:G:1678:ASN:HD21	1.84	0.42
1:G:4138:ASP:O	1:G:4142:ASN:ND2	2.44	0.42
1:G:4927:ILE:O	1:G:4931:ILE:HG13	2.18	0.42
1:J:2142:TYR:CD2	1:J:2197:LEU:HD12	2.54	0.42
1:J:3829:PHE:CD2	1:J:3906:GLN:HG2	2.55	0.42
1:J:4218:ILE:HD12	1:J:4218:ILE:HA	1.95	0.42
1:D:110:ARG:HD3	1:D:115:ARG:HH21	1.84	0.42
1:D:283:ARG:HH21	1:D:288:GLY:HA2	1.84	0.42
1:D:1794:ALA:HA	1:D:1795:PRO:HD3	1.93	0.42
1:D:2573:GLU:HA	1:D:2618:MET:CE	2.49	0.42
1:D:4104:THR:O	1:D:4108:ILE:N	2.50	0.42
1:A:1451:GLY:HA3	1:A:1494:MET:HA	2.01	0.42
1:A:2670:GLU:O	1:A:2674:LEU:HD23	2.20	0.42
1:A:4666:VAL:O	1:A:4670:ILE:HG12	2.20	0.42
1:G:638:ILE:HD12	1:G:702:TRP:CD1	2.54	0.42
1:G:716:PHE:HE1	1:G:757:PHE:CG	2.37	0.42
1:G:1130:GLN:HG3	1:G:1132:TRP:NE1	2.35	0.42
1:G:2616:PRO:HG2	1:G:2664:PHE:CE2	2.55	0.42
1:G:2823:ILE:HA	1:G:2936:ALA:O	2.18	0.42
1:G:3798:LEU:O	1:G:3802:ILE:HG23	2.20	0.42
1:G:3889:GLN:O	1:G:3893:GLU:N	2.53	0.42
1:G:3943:ILE:HD11	1:G:4002:LYS:HZ1	1.84	0.42
1:J:1775:HIS:NE2	1:J:1851:MET:SD	2.92	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1423:ASP:O	1:D:1427:ILE:HG12	2.20	0.42
1:D:1773:PRO:HA	1:D:2153:MET:HE1	2.02	0.42
1:D:3701:LEU:HD11	1:D:3705:PHE:CZ	2.55	0.42
1:A:3625:SER:OG	1:A:3626:LYS:N	2.53	0.42
1:A:4189:ARG:HA	1:A:5031:GLN:HE22	1.85	0.42
1:G:2670:GLU:HA	1:G:2673:HIS:HE1	1.80	0.42
1:G:4631:PHE:HZ	1:G:4639:MET:SD	2.42	0.42
1:G:4716:TRP:HB3	4:G:5101:CFF:H142	2.01	0.42
1:J:1089:TYR:HB2	1:J:1152:MET:HE1	2.02	0.42
1:J:3775:ALA:O	1:J:3779:VAL:HG23	2.20	0.42
1:J:4243:PHE:O	1:J:4247:ILE:HG13	2.20	0.42
1:D:4072:VAL:HA	1:D:4077:PHE:HD2	1.83	0.42
1:A:1243:PRO:HB2	1:A:1600:LEU:HD11	2.02	0.42
1:A:1698:LEU:HD11	1:A:1814:MET:CE	2.50	0.42
1:G:74:SER:HA	1:G:105:HIS:HD2	1.85	0.42
1:G:1763:PRO:HG2	1:G:1863:LEU:HD11	2.01	0.42
1:G:3965:LEU:O	1:G:3969:ILE:HG12	2.20	0.42
1:G:4805:ASN:ND2	1:G:4807:PHE:HB2	2.34	0.42
1:J:349:GLN:NE2	1:J:350:HIS:O	2.53	0.42
1:J:1844:LEU:O	1:J:1848:LEU:HD23	2.20	0.42
1:J:4668:LEU:CD2	1:J:4672:LYS:HE2	2.49	0.42
1:D:3768:SER:HA	1:D:3771:HIS:CE1	2.55	0.42
1:D:3768:SER:HA	1:D:3771:HIS:ND1	2.35	0.42
1:D:4214:LYS:HE2	1:D:4985:LEU:HD22	2.02	0.42
1:A:274:LEU:HB3	1:A:339:ILE:HD11	2.02	0.42
1:A:1103:GLY:HA2	1:A:1151:CYS:SG	2.59	0.42
1:A:2280:VAL:HG13	1:A:2280:VAL:O	2.20	0.42
1:A:4145:VAL:HG22	1:A:4178:LEU:HD13	2.02	0.42
1:A:4822:THR:O	1:A:4825:THR:OG1	2.28	0.42
1:G:1111:PRO:HG2	1:G:1603:VAL:HG13	2.02	0.42
1:G:1772:ARG:NH1	1:G:1952:GLN:HE22	2.18	0.42
1:G:1859:VAL:O	1:G:1863:LEU:HD23	2.20	0.42
1:G:4222:VAL:HG12	1:G:4950:VAL:HG22	2.02	0.42
1:J:119:SER:OG	1:J:120:CYS:N	2.53	0.42
1:J:548:VAL:HG11	1:J:582:HIS:ND1	2.35	0.42
1:J:3670:GLU:O	1:J:3674:ILE:HG12	2.20	0.42
1:J:3966:THR:O	1:J:3970:GLN:N	2.47	0.42
1:J:4686:LEU:HD11	1:J:4692:PRO:HA	2.02	0.42
1:D:530:ILE:HD11	1:D:563:VAL:HG13	2.01	0.41
1:D:714:TYR:HB3	1:D:768:PHE:CE2	2.55	0.41
1:D:2440:MET:HA	1:D:2443:ILE:HG22	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:681:HIS:CE1	1:A:683:ARG:HH21	2.37	0.41
1:A:2671:GLU:O	1:A:2675:THR:HG23	2.20	0.41
1:A:3675:ASP:O	1:A:3679:LYS:HG2	2.20	0.41
1:G:2179:ILE:HD11	1:G:2228:MET:HA	2.01	0.41
1:G:3756:LYS:HD2	1:G:3756:LYS:HA	1.89	0.41
1:G:4229:GLU:O	1:G:4233:LEU:HD23	2.20	0.41
1:J:112:ALA:HA	1:J:115:ARG:NH1	2.34	0.41
1:J:636:ASN:HB3	1:J:702:TRP:CZ3	2.54	0.41
1:J:1466:LEU:HD11	1:J:1496:TRP:HB2	2.01	0.41
1:J:1699:GLU:OE1	1:J:1699:GLU:N	2.53	0.41
1:J:2685:SER:O	1:J:2689:LYS:N	2.53	0.41
1:D:1087:ARG:HD3	1:D:1223:PHE:CE1	2.55	0.41
1:D:1863:LEU:HA	1:D:1866:ILE:HG22	2.02	0.41
1:D:2181:SER:O	1:D:2185:ILE:HG13	2.20	0.41
1:A:645:ARG:HD2	1:A:649:PHE:HE1	1.84	0.41
1:A:4181:ILE:HD11	1:A:4193:ILE:HB	2.02	0.41
1:G:1076:ARG:O	1:G:1237:TRP:N	2.35	0.41
1:G:1126:GLY:HA3	1:G:1143:TRP:HE1	1.85	0.41
1:G:2470:ILE:HG22	1:G:2525:GLY:HA3	2.00	0.41
2:H:7:ILE:H	2:H:72:ALA:HA	1.84	0.41
1:J:178:ARG:NH1	1:J:193:ALA:O	2.46	0.41
1:J:461:HIS:CE1	1:J:3707:ARG:HG2	2.55	0.41
1:J:1862:ILE:HD12	1:J:1865:MET:SD	2.60	0.41
1:J:2024:PRO:C	1:J:2028:ARG:HH21	2.24	0.41
1:J:2611:CYS:O	1:J:2614:ILE:HG22	2.21	0.41
1:D:1432:THR:HB	1:D:1572:ILE:HD12	2.02	0.41
1:D:1762:LEU:HD23	1:D:1762:LEU:HA	1.89	0.41
1:D:4658:ILE:HG13	1:D:4796:MET:SD	2.60	0.41
1:A:23:GLN:O	1:A:201:ASN:N	2.46	0.41
1:A:3776:ALA:O	1:A:3780:LEU:HD23	2.21	0.41
1:G:650:VAL:HG11	1:G:662:TRP:NE1	2.36	0.41
1:G:853:PRO:HB3	1:G:1023:PRO:HD3	2.01	0.41
1:G:1154:ASP:O	1:G:1158:ASN:N	2.53	0.41
1:G:2102:VAL:HG11	1:G:2124:LEU:HD22	2.02	0.41
1:J:1242:LEU:HD21	1:J:1458:HIS:CD2	2.55	0.41
1:J:1294:PRO:HB3	1:J:1549:PHE:CE1	2.55	0.41
1:J:1698:LEU:O	1:J:1708:ARG:NH1	2.40	0.41
1:J:2190:VAL:HA	1:J:2193:GLN:HB2	2.02	0.41
1:J:3989:VAL:HG23	1:J:4023:MET:HE2	2.01	0.41
1:J:4013:LEU:O	1:J:4017:LEU:HD23	2.20	0.41
1:J:4844:LEU:HD12	1:J:4928:LEU:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:87:HIS:HD2	2:K:88:PRO:HD2	1.85	0.41
1:D:44:ASN:N	1:D:44:ASN:OD1	2.53	0.41
1:D:102:LEU:HB2	1:D:105:HIS:CE1	2.55	0.41
1:D:2418:LEU:O	1:D:2422:ILE:HG12	2.21	0.41
1:D:3943:ILE:HD12	1:D:3943:ILE:HA	1.93	0.41
1:D:4888:TYR:OH	1:J:4913:ARG:NH1	2.53	0.41
1:A:663:TYR:OH	1:A:758:ARG:NH1	2.50	0.41
1:A:805:PRO:HB2	1:A:808:TYR:CD2	2.54	0.41
1:A:1112:ASP:OD1	1:A:1113:VAL:N	2.53	0.41
1:A:1965:TYR:CE2	1:A:2031:LEU:HB2	2.56	0.41
1:A:2648:TYR:HD2	1:A:2706:ILE:HA	1.86	0.41
1:A:2960:LEU:HD11	1:A:3017:PHE:CZ	2.56	0.41
1:A:3768:SER:O	1:A:3772:THR:HG22	2.20	0.41
1:A:4851:TYR:HD2	1:A:4920:PHE:CD2	2.38	0.41
1:A:4914:VAL:HG23	1:G:4888:TYR:CD1	2.55	0.41
1:G:1290:ARG:HA	1:G:1551:ALA:HA	2.01	0.41
1:G:2172:PRO:O	1:G:2175:GLU:HG3	2.20	0.41
1:G:4085:ARG:HE	1:G:4085:ARG:HB2	1.67	0.41
2:H:16:PRO:HG2	2:H:64:ALA:HA	2.01	0.41
1:J:2172:PRO:O	1:J:2175:GLU:HG3	2.20	0.41
1:J:4863:TYR:HE1	1:J:4901:ILE:HG12	1.85	0.41
1:J:5000:GLU:HA	1:J:5003:HIS:CD2	2.55	0.41
1:D:1433:TYR:CE2	1:D:1578:ALA:HB2	2.55	0.41
1:D:1566:LEU:HD13	1:D:1566:LEU:HA	1.81	0.41
1:D:1658:ASP:N	1:D:1658:ASP:OD1	2.54	0.41
1:D:3805:LEU:HD21	1:D:3891:LEU:HD13	2.02	0.41
1:A:483:MET:O	1:A:487:VAL:HG23	2.20	0.41
1:A:2323:TRP:CH2	1:A:2422:ILE:HG13	2.54	0.41
1:A:2512:ILE:HG13	1:A:2512:ILE:O	2.21	0.41
1:A:4794:TRP:O	1:A:4798:MET:HG2	2.20	0.41
1:A:4922:PHE:HA	1:A:4926:VAL:HG12	2.01	0.41
1:G:839:LEU:HD13	1:G:1075:PHE:HD2	1.85	0.41
1:G:1760:HIS:CE1	1:G:2041:HIS:HA	2.55	0.41
1:G:2032:GLN:O	1:G:2036:GLN:HG2	2.19	0.41
1:G:2512:ILE:HD12	1:G:2561:LEU:HD21	2.01	0.41
1:G:3817:LEU:HD11	1:G:3821:LYS:HE2	2.01	0.41
1:J:700:GLU:H	1:J:705:ASN:HD21	1.68	0.41
1:J:1426:ILE:O	1:J:1430:THR:OG1	2.29	0.41
1:J:2627:VAL:O	1:J:2631:PRO:HD3	2.20	0.41
1:D:682:LEU:HB3	1:D:738:LEU:HD12	2.02	0.41
1:D:1433:TYR:N	1:D:1520:VAL:O	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4702:ASP:O	1:D:4705:VAL:HG12	2.20	0.41
1:A:1514:LEU:HD23	1:A:1514:LEU:H	1.85	0.41
1:A:2203:MET:O	1:A:2207:VAL:HG23	2.21	0.41
1:G:1965:TYR:CE2	1:G:2031:LEU:HB2	2.56	0.41
1:G:4958:CYS:HA	6:G:5103:ATP:N7	2.36	0.41
1:J:287:THR:HB	1:J:289:ARG:HH11	1.85	0.41
1:J:337:PRO:O	1:J:339:ILE:HD12	2.21	0.41
1:J:1229:ASN:HB2	1:J:1827:ARG:NE	2.36	0.41
1:J:3875:MET:N	1:J:3875:MET:SD	2.93	0.41
1:J:3927:GLN:NE2	1:J:3991:GLY:HA3	2.33	0.41
1:J:4040:ILE:HD12	1:J:4040:ILE:H	1.86	0.41
1:J:4922:PHE:HA	1:J:4926:VAL:HG12	2.03	0.41
3:L:6:THR:HG23	3:L:9:GLN:H	1.84	0.41
1:D:1237:TRP:CH2	1:D:1652:GLU:HG3	2.54	0.41
1:D:2215:LEU:HD23	1:D:2215:LEU:HA	1.88	0.41
1:A:3916:ILE:HG13	1:A:3980:LEU:HD21	2.02	0.41
1:G:2039:LEU:HD23	1:G:2039:LEU:HA	1.93	0.41
1:G:2467:VAL:HG22	1:G:2524:VAL:HG11	2.03	0.41
1:J:551:LEU:HD11	1:J:589:LEU:HD22	2.02	0.41
1:J:1095:VAL:O	1:J:1145:SER:OG	2.31	0.41
1:J:1112:ASP:OD1	1:J:1113:VAL:N	2.53	0.41
1:J:1454:THR:HG22	1:J:1491:ASN:O	2.19	0.41
1:J:2500:ALA:N	1:J:2553:TYR:CE1	2.87	0.41
2:K:7:ILE:H	2:K:72:ALA:HA	1.86	0.41
1:D:668:VAL:O	1:D:741:GLU:N	2.51	0.41
1:D:1804:LEU:HD21	1:D:1853:ILE:HD13	2.01	0.41
1:D:2570:ALA:HB2	1:D:2613:TYR:O	2.21	0.41
1:D:3723:MET:SD	1:D:3792:ALA:HB1	2.61	0.41
1:A:626:LEU:N	1:A:627:PRO:HD2	2.36	0.41
1:A:2174:GLU:H	1:A:2174:GLU:CD	2.22	0.41
1:A:2346:VAL:HG21	1:A:2349:ASN:HD22	1.84	0.41
1:A:2463:LEU:HD21	1:A:2517:PHE:CE1	2.55	0.41
1:A:3731:LYS:O	1:A:3731:LYS:HG2	2.21	0.41
1:A:3768:SER:HA	1:A:3771:HIS:CE1	2.55	0.41
1:A:4701:TRP:CZ2	1:A:4781:GLY:HA3	2.56	0.41
2:B:38:SER:H	2:B:42:ARG:HH21	1.69	0.41
1:G:265:LEU:HD22	1:G:279:PRO:O	2.21	0.41
1:G:636:ASN:ND2	1:G:637:LEU:H	2.18	0.41
1:G:1449:TRP:O	1:G:1552:VAL:HG13	2.21	0.41
1:G:1514:LEU:H	1:G:1514:LEU:HD23	1.86	0.41
1:G:2654:TYR:HA	1:G:2660:GLY:HA2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:56:ILE:HD13	2:H:81:ALA:HB1	2.02	0.41
1:J:2355:ARG:HA	1:J:2358:ILE:HG22	2.01	0.41
1:J:2512:ILE:HD12	1:J:2518:LEU:HD12	2.03	0.41
1:D:559:GLY:O	1:D:563:VAL:HG23	2.21	0.41
1:D:1500:PHE:CE2	1:D:1531:ALA:HB3	2.56	0.41
1:D:1569:GLN:CB	1:D:1572:ILE:HB	2.51	0.41
1:D:2309:SER:HA	1:D:2324:ASN:HB3	2.02	0.41
1:D:2638:LYS:CE	1:D:2695:LEU:HA	2.50	0.41
1:D:4823:LEU:HD11	1:J:4843:LEU:HB2	2.02	0.41
1:D:5019:TRP:CD1	1:D:5022:PHE:HE2	2.39	0.41
1:A:337:PRO:HB2	1:A:338:GLU:H	1.77	0.41
1:A:1204:LEU:HD23	1:A:1204:LEU:HA	1.96	0.41
1:A:1301:PHE:HB2	1:A:1523:ALA:O	2.21	0.41
1:A:2442:LEU:HD22	1:A:2447:LYS:HD2	2.03	0.41
1:A:2463:LEU:HB2	1:A:2510:TYR:CE2	2.56	0.41
1:G:401:ALA:O	1:G:404:ILE:HG22	2.21	0.41
1:G:564:LEU:O	1:G:568:LEU:HD23	2.21	0.41
1:G:615:ARG:HD2	1:G:1678:ASN:ND2	2.36	0.41
1:G:691:GLY:HA3	1:G:712:TYR:CG	2.56	0.41
1:G:3699:HIS:HB2	1:G:3773:ARG:HD2	2.02	0.41
1:G:4020:GLN:HG3	1:G:4139:ILE:HD11	2.02	0.41
1:G:4914:VAL:HG11	1:J:4884:LEU:HD11	2.01	0.41
1:J:288:GLY:HA3	1:J:405:HIS:CE1	2.56	0.41
1:J:311:ALA:HA	1:J:350:HIS:NE2	2.36	0.41
1:J:484:LEU:HD12	1:J:485:SER:N	2.36	0.41
1:J:1514:LEU:HD23	1:J:1514:LEU:H	1.85	0.41
1:J:1783:VAL:O	2:K:56:ILE:HG23	2.21	0.41
1:J:2477:PRO:HB3	1:J:2487:GLN:HA	2.02	0.41
1:J:3927:GLN:HB2	1:J:3992:PHE:CE1	2.55	0.41
1:J:3986:TRP:O	1:J:3989:VAL:HG12	2.21	0.41
1:J:4555:LEU:HD21	1:J:4656:LEU:HG	2.02	0.41
1:J:4639:MET:HA	1:J:4642:ALA:HB3	2.03	0.41
2:K:7:ILE:HD11	2:K:73:LYS:HB2	2.02	0.41
1:D:2230:THR:HB	1:D:2270:SER:HB2	2.03	0.41
1:A:1712:TYR:CD2	1:A:1840:PRO:HB2	2.56	0.41
1:A:2159:LEU:CD2	1:A:2201:LEU:HD23	2.50	0.41
1:A:2162:ILE:HD11	1:A:2178:MET:HE1	2.03	0.41
1:G:1130:GLN:HA	1:G:1139:PHE:H	1.86	0.41
1:G:1515:VAL:O	1:G:1515:VAL:HG23	2.21	0.41
1:G:2575:ARG:HH21	1:G:2578:MET:CE	2.34	0.41
1:J:223:PHE:CD1	1:J:230:CYS:HB3	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:308:HIS:HB2	1:J:311:ALA:HB3	2.02	0.41
1:J:2368:LEU:HD21	1:J:2376:LEU:HD12	2.01	0.41
1:J:2377:LEU:HD11	1:J:2468:GLY:HA3	2.02	0.41
1:J:3851:ASN:OD1	1:J:3852:LYS:N	2.54	0.41
1:D:491:ILE:HG12	1:D:523:TYR:CE1	2.55	0.40
1:D:561:LEU:HD21	1:D:599:VAL:HG23	2.03	0.40
1:D:614:VAL:HG23	1:D:617:ASN:HB2	2.02	0.40
1:D:698:GLY:HA3	1:D:1647:CYS:O	2.21	0.40
1:D:3934:TYR:CD2	1:D:3995:VAL:HG23	2.56	0.40
1:D:4661:TYR:CE1	1:D:4665:LYS:HD2	2.56	0.40
3:F:1:MET:O	3:F:5:LEU:HG	2.20	0.40
1:A:2159:LEU:HA	1:A:2162:ILE:HG22	2.03	0.40
1:A:4879:MET:O	1:A:4883:TYR:HB2	2.21	0.40
1:G:178:ARG:HB2	1:G:193:ALA:HB1	2.04	0.40
1:G:681:HIS:NE2	1:G:683:ARG:HG3	2.35	0.40
1:G:725:HIS:O	1:G:725:HIS:CG	2.73	0.40
1:G:3701:LEU:HD11	1:G:3705:PHE:CZ	2.56	0.40
1:G:4088:ILE:HG22	1:G:4125:PHE:HD2	1.86	0.40
1:J:2819:TRP:O	1:J:2820:GLU:CB	2.69	0.40
1:J:3829:PHE:CE2	1:J:3906:GLN:HG3	2.57	0.40
1:J:3906:GLN:N	1:J:3906:GLN:CD	2.74	0.40
1:D:415:ILE:HD13	1:D:490:CYS:HA	2.03	0.40
1:D:662:TRP:CH2	1:D:814:ALA:HB2	2.56	0.40
1:D:1105:ALA:HA	1:D:1121:ALA:HA	2.02	0.40
1:D:1716:ILE:HD11	1:D:1847:THR:OG1	2.21	0.40
1:D:2003:GLN:O	1:D:2007:ASN:ND2	2.43	0.40
1:D:4579:PHE:O	1:D:4632:LEU:HG	2.21	0.40
1:D:4732:PHE:CD2	1:D:4737:ILE:HD11	2.46	0.40
1:A:2155:LEU:HB2	1:A:2188:ASN:HD22	1.85	0.40
1:A:3695:PRO:HB2	1:A:3699:HIS:HB3	2.02	0.40
1:A:4150:LEU:HD23	1:A:4150:LEU:HA	1.96	0.40
1:G:600:LEU:HD23	1:G:1665:HIS:HB3	2.02	0.40
1:G:839:LEU:HD13	1:G:1075:PHE:CD2	2.56	0.40
1:G:1848:LEU:HB3	1:G:1854:PHE:HE2	1.85	0.40
1:G:3993:LEU:HG	1:G:4023:MET:HE1	2.03	0.40
1:J:347:PHE:CE1	1:J:387:ALA:HA	2.56	0.40
1:J:1155:LEU:HD12	1:J:1184:ILE:HG23	2.02	0.40
2:K:74:LEU:O	2:K:99:PHE:N	2.37	0.40
1:D:1243:PRO:HB2	1:D:1600:LEU:HD11	2.02	0.40
1:D:1949:GLN:OE1	1:D:1952:GLN:NE2	2.55	0.40
1:D:2630:VAL:N	1:D:2631:PRO:HD2	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4067:LYS:O	1:D:4071:ILE:HG12	2.20	0.40
1:D:4217:PHE:CZ	1:D:4234:PHE:HA	2.57	0.40
1:D:4651:THR:OG1	1:D:4803:HIS:NE2	2.43	0.40
1:A:42:PHE:HA	1:A:447:ASP:OD2	2.21	0.40
1:A:502:HIS:CE1	1:A:506:TYR:CE2	3.09	0.40
1:A:1449:TRP:N	1:A:1553:PHE:O	2.54	0.40
1:A:2299:VAL:HG21	1:A:2356:LEU:HD13	2.03	0.40
1:A:2773:ASN:O	1:A:2774:ASN:CB	2.70	0.40
1:A:3722:TYR:CZ	1:A:3782:MET:SD	3.14	0.40
1:A:4247:ILE:O	1:A:4251:ILE:HG12	2.21	0.40
1:G:567:VAL:HG13	1:G:568:LEU:HD22	2.03	0.40
1:G:2679:PHE:CE1	1:G:2703:LEU:HA	2.56	0.40
1:G:4551:PHE:CD2	1:G:4552:LEU:HD12	2.56	0.40
1:J:172:VAL:HG22	1:J:179:TYR:CE2	2.56	0.40
1:J:596:ASN:HD21	1:J:599:VAL:HG23	1.86	0.40
1:J:771:PHE:HB3	1:J:1472:VAL:HG23	2.03	0.40
1:J:3962:PHE:CZ	1:J:3992:PHE:CE2	3.09	0.40
1:J:4049:VAL:HG21	1:J:4159:ARG:HD2	2.04	0.40
1:J:4716:TRP:CZ3	1:J:4717:ASP:HB2	2.57	0.40
1:D:692:TYR:CZ	1:D:694:PRO:HG3	2.57	0.40
1:D:979:PRO:HB2	1:D:980:ALA:H	1.66	0.40
1:D:1782:PHE:CE1	2:E:90:VAL:HG21	2.56	0.40
1:D:2310:CYS:SG	1:D:2312:MET:HB3	2.62	0.40
1:D:2773:ASN:O	1:D:2774:ASN:CB	2.70	0.40
1:D:4577:LEU:HD21	1:D:4807:PHE:HA	2.02	0.40
1:A:347:PHE:CZ	1:A:387:ALA:HB2	2.56	0.40
1:A:636:ASN:HB3	1:A:702:TRP:HE1	1.85	0.40
1:A:2182:ILE:HA	1:A:2185:ILE:HG22	2.02	0.40
1:A:4648:LEU:HD22	1:A:4803:HIS:HE1	1.85	0.40
1:G:38:ALA:HB2	1:G:65:CYS:SG	2.61	0.40
1:G:1433:TYR:CE1	1:G:1578:ALA:HB2	2.56	0.40
1:G:2346:VAL:HG23	1:G:2349:ASN:HB2	2.04	0.40
3:I:5:LEU:HD11	3:I:74:ALA:HA	2.04	0.40
1:J:1124:PHE:CE1	1:J:1140:GLY:HA3	2.56	0.40
1:J:2236:LEU:HD23	1:J:2236:LEU:HA	1.94	0.40
1:J:3882:GLN:HG3	1:J:3960:GLN:HG3	2.04	0.40
1:J:4336:TRP:CH2	1:J:4568:PHE:HB2	2.56	0.40
1:J:4692:PRO:HG2	1:J:4703:ARG:NH2	2.36	0.40
1:D:61:ASP:HB3	1:D:283:ARG:HH12	1.87	0.40
1:D:1738:LEU:HB2	1:D:2146:PRO:HG3	2.03	0.40
1:A:3892:CYS:SG	1:A:3903:LEU:HD12	2.61	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4235:VAL:HG21	1:A:5019:TRP:CE2	2.57	0.40
1:G:264:PRO:HG2	1:G:270:SER:O	2.22	0.40
1:G:639:ASN:HA	1:G:1635:THR:HA	2.03	0.40
1:G:1707:LEU:HD23	1:G:1707:LEU:HA	1.80	0.40
1:G:1784:ALA:O	2:H:82:TYR:OH	2.37	0.40
1:G:3845:ASN:O	1:G:3849:ARG:HG3	2.22	0.40
1:G:4562:LEU:HG	1:G:4653:VAL:HG13	2.03	0.40
3:I:17:PHE:CE1	3:I:28:ILE:HD12	2.57	0.40
1:J:864:PRO:HA	1:J:865:PRO:HD3	1.98	0.40
1:J:1794:ALA:HA	1:J:1795:PRO:HD3	1.94	0.40
1:J:2577:ILE:HD12	1:J:2577:ILE:H	1.86	0.40
1:J:4020:GLN:HG3	1:J:4139:ILE:HD11	2.03	0.40
1:J:4658:ILE:HG13	1:J:4796:MET:SD	2.61	0.40
1:J:4897:ILE:O	1:J:4901:ILE:HG13	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	3853/5037 (76%)	3782 (98%)	68 (2%)	3 (0%)	51	83
1	D	3852/5037 (76%)	3792 (98%)	60 (2%)	0	100	100
1	G	3854/5037 (76%)	3797 (98%)	57 (2%)	0	100	100
1	J	3853/5037 (76%)	3778 (98%)	75 (2%)	0	100	100
2	B	105/107 (98%)	102 (97%)	3 (3%)	0	100	100
2	E	105/107 (98%)	103 (98%)	2 (2%)	0	100	100
2	H	105/107 (98%)	100 (95%)	5 (5%)	0	100	100
2	K	105/107 (98%)	104 (99%)	1 (1%)	0	100	100
3	C	132/149 (89%)	131 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	F	132/149 (89%)	131 (99%)	1 (1%)	0	100	100
3	I	132/149 (89%)	131 (99%)	1 (1%)	0	100	100
3	L	131/149 (88%)	128 (98%)	3 (2%)	0	100	100
All	All	16359/21172 (77%)	16079 (98%)	277 (2%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	337	PRO
1	A	2859	PRO
1	A	2857	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	2211/4276 (52%)	2202 (100%)	9 (0%)	91	95
1	D	2095/4276 (49%)	2077 (99%)	18 (1%)	78	88
1	G	2176/4276 (51%)	2165 (100%)	11 (0%)	88	94
1	J	2139/4276 (50%)	2130 (100%)	9 (0%)	91	95
2	B	68/88 (77%)	68 (100%)	0	100	100
2	E	68/88 (77%)	68 (100%)	0	100	100
2	H	68/88 (77%)	68 (100%)	0	100	100
2	K	65/88 (74%)	65 (100%)	0	100	100
3	C	11/123 (9%)	11 (100%)	0	100	100
3	F	9/123 (7%)	9 (100%)	0	100	100
3	I	13/123 (11%)	13 (100%)	0	100	100
3	L	15/123 (12%)	15 (100%)	0	100	100
All	All	8938/17948 (50%)	8891 (100%)	47 (0%)	89	94

All (47) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	1426	ILE
1	D	1427	ILE
1	D	2123	LEU
1	D	2503	VAL
1	D	2506	LEU
1	D	2517	PHE
1	D	2518	LEU
1	D	2519	LEU
1	D	2520	HIS
1	D	2522	LEU
1	D	2563	THR
1	D	2581	SER
1	D	3721	LEU
1	D	3723	MET
1	D	3728	ILE
1	D	4569	LEU
1	D	4581	LYS
1	D	4672	LYS
1	A	1693	GLN
1	A	1698	LEU
1	A	3720	TYR
1	A	3721	LEU
1	A	3725	TYR
1	A	3727	ASP
1	A	3728	ILE
1	A	3841	VAL
1	A	3845	ASN
1	G	3674	ILE
1	G	3679	LYS
1	G	3721	LEU
1	G	3727	ASP
1	G	3728	ILE
1	G	3763	LEU
1	G	3764	LEU
1	G	3768	SER
1	G	4792	LEU
1	G	4801	LEU
1	G	4865	LYS
1	J	2504	LEU
1	J	2509	VAL
1	J	3899	PHE
1	J	3903	LEU

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Mol	Chain	Res	Type
1	J	3905	THR
1	J	3907	THR
1	J	3910	THR
1	J	3911	THR
1	J	4137	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (90) such sidechains are listed below:

Mol	Chain	Res	Type
1	D	105	HIS
1	D	465	GLN
1	D	502	HIS
1	D	533	ASN
1	D	1231	GLN
1	D	1563	GLN
1	D	1590	GLN
1	D	2161	GLN
1	D	2515	GLN
1	D	3647	HIS
1	D	3771	HIS
1	D	3781	GLN
1	D	3901	ASN
1	D	4149	ASN
1	D	4153	HIS
1	D	4204	GLN
1	D	4558	ASN
1	D	4574	ASN
1	D	4978	HIS
1	A	495	ASN
1	A	536	ASN
1	A	617	ASN
1	A	1563	GLN
1	A	1590	GLN
1	A	1683	HIS
1	A	1693	GLN
1	A	2551	ASN
1	A	3647	HIS
1	A	4054	ASN
1	A	4201	ASN
1	A	4574	ASN
1	A	4806	ASN
2	B	25	HIS

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Mol	Chain	Res	Type
2	B	32	ASN
1	G	190	GLN
1	G	838	HIS
1	G	1127	HIS
1	G	1133	HIS
1	G	1158	ASN
1	G	1206	GLN
1	G	1491	ASN
1	G	1563	GLN
1	G	1640	HIS
1	G	1663	HIS
1	G	1678	ASN
1	G	1719	HIS
1	G	1938	GLN
1	G	2005	GLN
1	G	2032	GLN
1	G	2036	GLN
1	G	2161	GLN
1	G	2260	ASN
1	G	2515	GLN
1	G	2574	HIS
1	G	2647	HIS
1	G	3651	ASN
1	G	3833	GLN
1	G	3889	GLN
1	G	3900	GLN
1	G	4009	GLN
1	G	4558	ASN
1	G	4574	ASN
2	H	70	GLN
2	H	87	HIS
1	J	23	GLN
1	J	138	GLN
1	J	151	HIS
1	J	349	GLN
1	J	582	HIS
1	J	618	GLN
1	J	678	GLN
1	J	705	ASN
1	J	720	HIS
1	J	1254	HIS
1	J	1274	HIS

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Mol	Chain	Res	Type
1	J	1678	ASN
1	J	1953	HIS
1	J	2107	GLN
1	J	2127	GLN
1	J	2246	ASN
1	J	2260	ASN
1	J	2284	ASN
1	J	2584	HIS
1	J	2599	GLN
1	J	3771	HIS
1	J	3781	GLN
1	J	3994	HIS
1	J	3998	HIS
1	J	4714	ASN
2	K	43	ASN

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 16 ligands modelled in this entry, 8 are monoatomic - leaving 8 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
6	ATP	D	5103	-	26,33,33	0.61	0	31,52,52	0.75	2 (6%)
4	CFF	G	5101	-	8,15,15	1.23	1 (12%)	8,23,23	2.68	3 (37%)
4	CFF	J	5101	-	8,15,15	1.25	1 (12%)	8,23,23	2.69	3 (37%)
6	ATP	G	5103	-	26,33,33	0.61	0	31,52,52	0.79	2 (6%)
6	ATP	J	5103	-	26,33,33	0.60	0	31,52,52	0.80	2 (6%)
4	CFF	D	5101	-	8,15,15	1.24	1 (12%)	8,23,23	2.68	3 (37%)
4	CFF	A	5101	-	8,15,15	1.23	1 (12%)	8,23,23	2.68	3 (37%)
6	ATP	A	5103	-	26,33,33	0.60	0	31,52,52	0.77	2 (6%)

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
6	ATP	D	5103	-	-	8/18/38/38	0/3/3/3
4	CFF	G	5101	-	-	-	0/2/2/2
6	ATP	J	5103	-	-	9/18/38/38	0/3/3/3
6	ATP	G	5103	-	-	4/18/38/38	0/3/3/3
4	CFF	J	5101	-	-	-	0/2/2/2
4	CFF	D	5101	-	-	-	0/2/2/2
4	CFF	A	5101	-	-	-	0/2/2/2
6	ATP	A	5103	-	-	3/18/38/38	0/3/3/3

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	J	5101	CFF	C6-N1	3.08	1.42	1.38
4	D	5101	CFF	C6-N1	3.06	1.42	1.38
4	G	5101	CFF	C6-N1	3.04	1.42	1.38
4	A	5101	CFF	C6-N1	3.02	1.42	1.38

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	J	5101	CFF	C5-C6-N1	-5.33	112.51	118.20
4	D	5101	CFF	C5-C6-N1	-5.25	112.60	118.20
4	A	5101	CFF	C5-C6-N1	-5.25	112.60	118.20
4	G	5101	CFF	C5-C6-N1	-5.21	112.65	118.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	5101	CFF	C4-C5-C6	4.60	122.91	119.96
4	A	5101	CFF	C4-C5-C6	4.51	122.86	119.96
4	G	5101	CFF	C4-C5-C6	4.49	122.84	119.96
4	J	5101	CFF	C4-C5-C6	4.48	122.84	119.96
4	G	5101	CFF	C12-N3-C4	2.61	121.94	118.25
4	J	5101	CFF	C12-N3-C4	2.50	121.79	118.25
4	A	5101	CFF	C12-N3-C4	2.48	121.76	118.25
4	D	5101	CFF	C12-N3-C4	2.35	121.58	118.25
6	G	5103	ATP	C5-C6-N6	2.32	123.88	120.35
6	A	5103	ATP	C5-C6-N6	2.28	123.82	120.35
6	J	5103	ATP	C5-C6-N6	2.28	123.81	120.35
6	D	5103	ATP	C5-C6-N6	2.26	123.79	120.35
6	D	5103	ATP	PB-O3B-PG	2.06	139.89	132.83
6	J	5103	ATP	PB-O3B-PG	2.05	139.87	132.83
6	A	5103	ATP	PB-O3B-PG	2.05	139.86	132.83
6	G	5103	ATP	PB-O3B-PG	2.05	139.86	132.83

There are no chirality outliers.

All (24) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	D	5103	ATP	PB-O3B-PG-O3G
6	D	5103	ATP	C5'-O5'-PA-O1A
6	D	5103	ATP	C5'-O5'-PA-O3A
6	G	5103	ATP	O4'-C4'-C5'-O5'
6	G	5103	ATP	C3'-C4'-C5'-O5'
6	J	5103	ATP	PB-O3B-PG-O2G
6	J	5103	ATP	C5'-O5'-PA-O3A
6	J	5103	ATP	C3'-C4'-C5'-O5'
6	D	5103	ATP	PB-O3B-PG-O1G
6	G	5103	ATP	C4'-C5'-O5'-PA
6	J	5103	ATP	PB-O3A-PA-O5'
6	J	5103	ATP	PB-O3B-PG-O3G
6	G	5103	ATP	PG-O3B-PB-O2B
6	J	5103	ATP	C5'-O5'-PA-O1A
6	D	5103	ATP	C3'-C4'-C5'-O5'
6	A	5103	ATP	C3'-C4'-C5'-O5'
6	J	5103	ATP	O4'-C4'-C5'-O5'
6	D	5103	ATP	O4'-C4'-C5'-O5'
6	D	5103	ATP	PA-O3A-PB-O2B
6	J	5103	ATP	PB-O3A-PA-O1A
6	D	5103	ATP	C5'-O5'-PA-O2A

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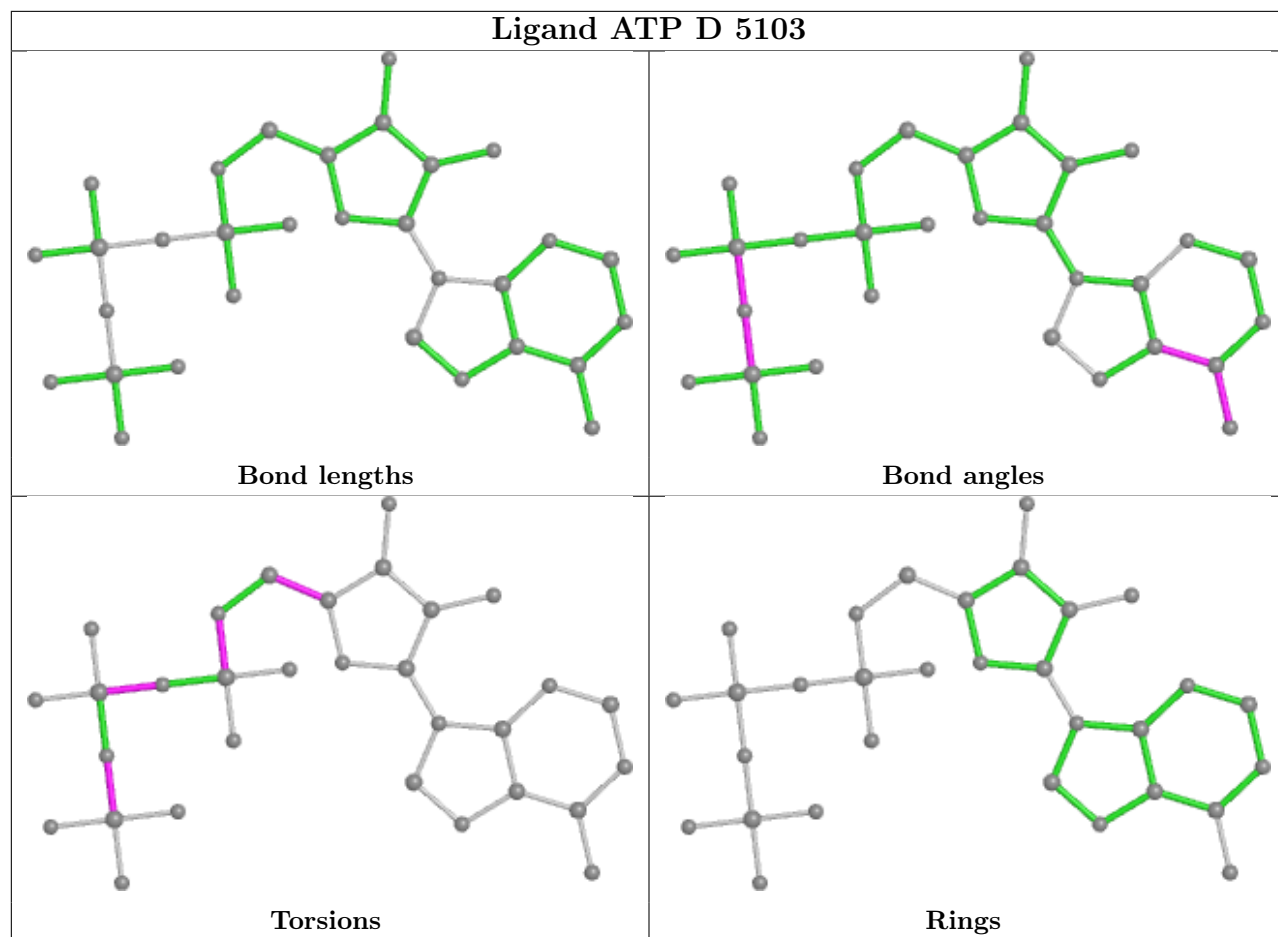
Mol	Chain	Res	Type	Atoms
6	A	5103	ATP	C5'-O5'-PA-O1A
6	J	5103	ATP	PB-O3B-PG-O1G
6	A	5103	ATP	O4'-C4'-C5'-O5'

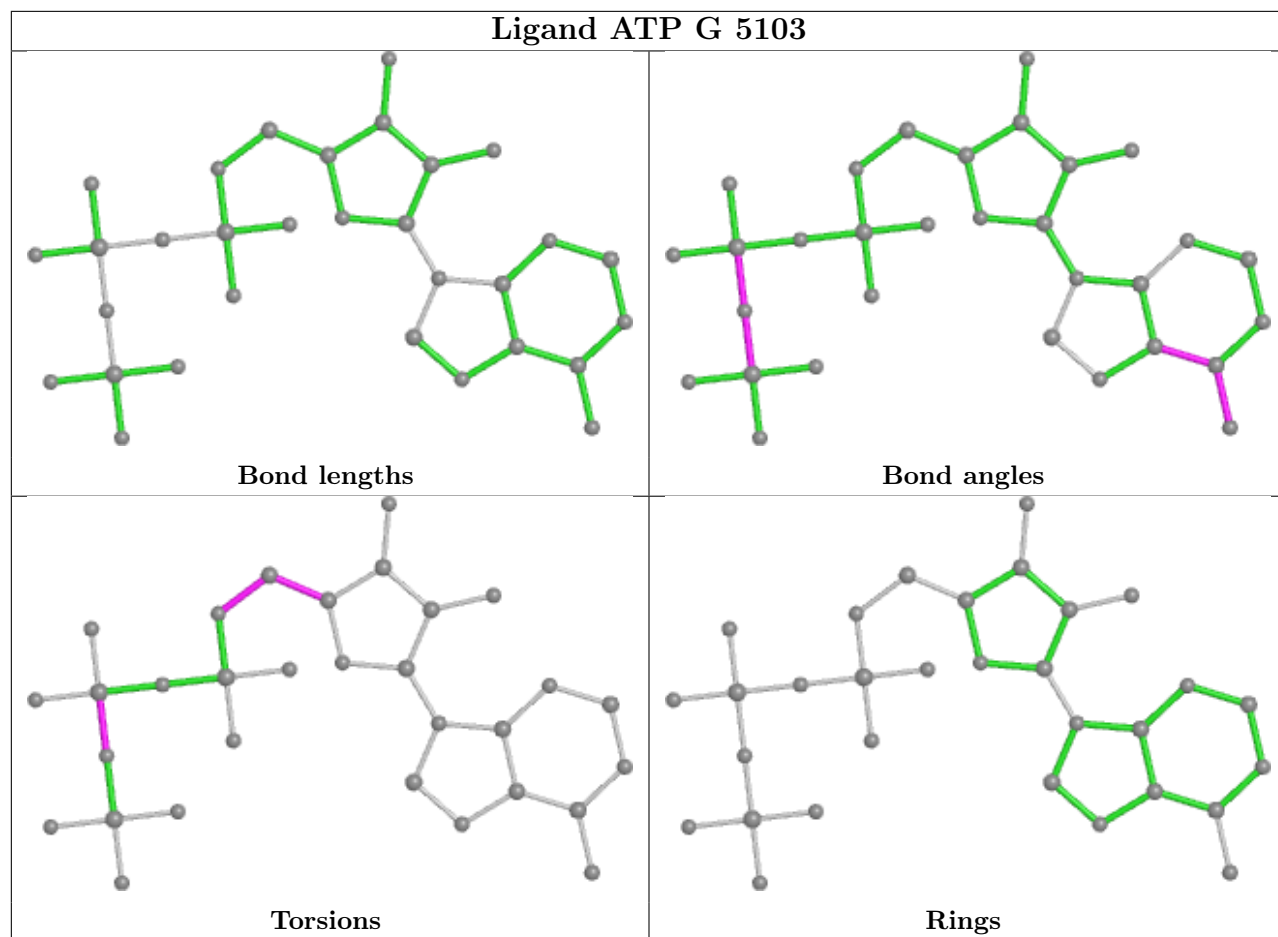
There are no ring outliers.

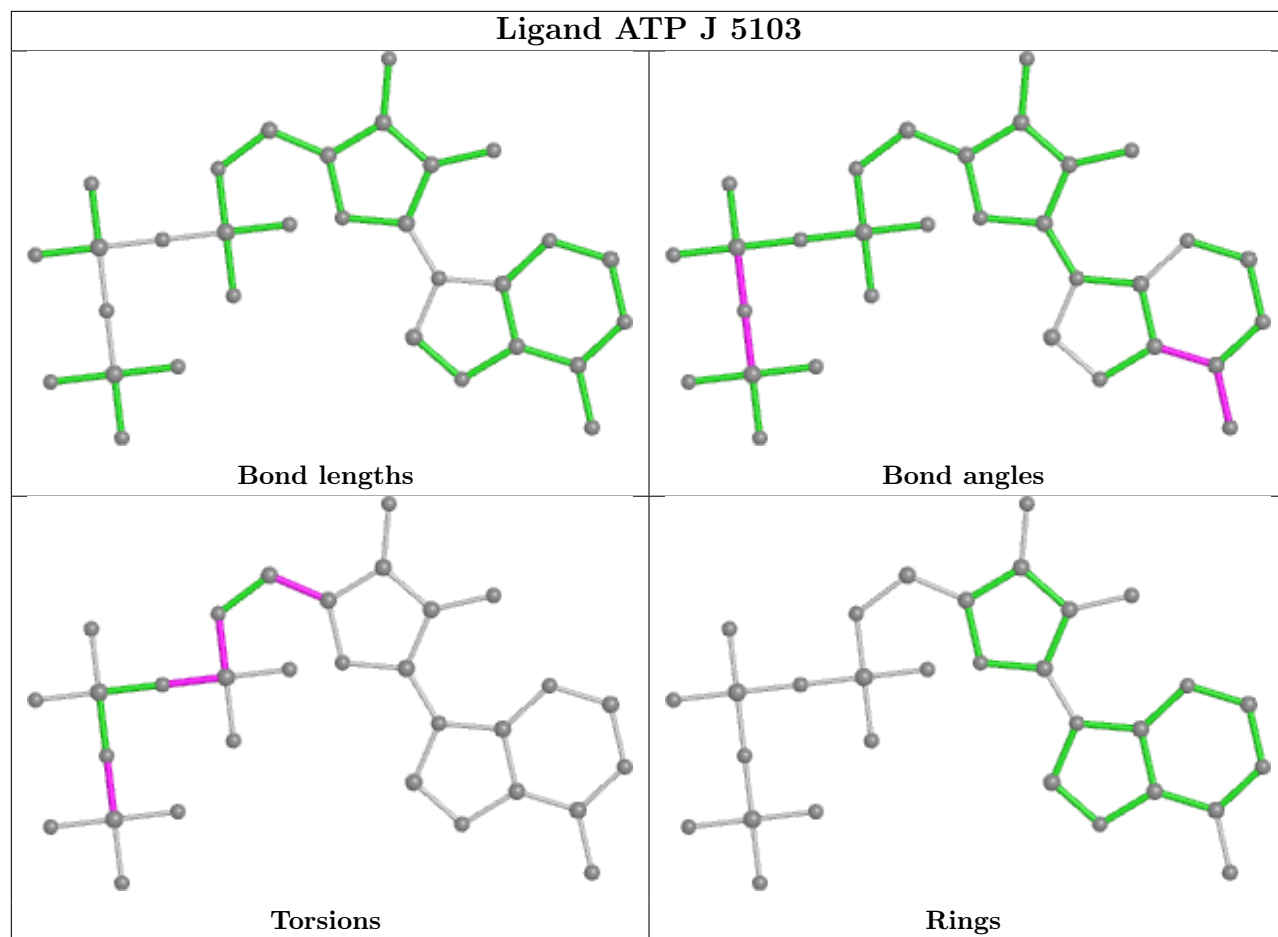
4 monomers are involved in 9 short contacts:

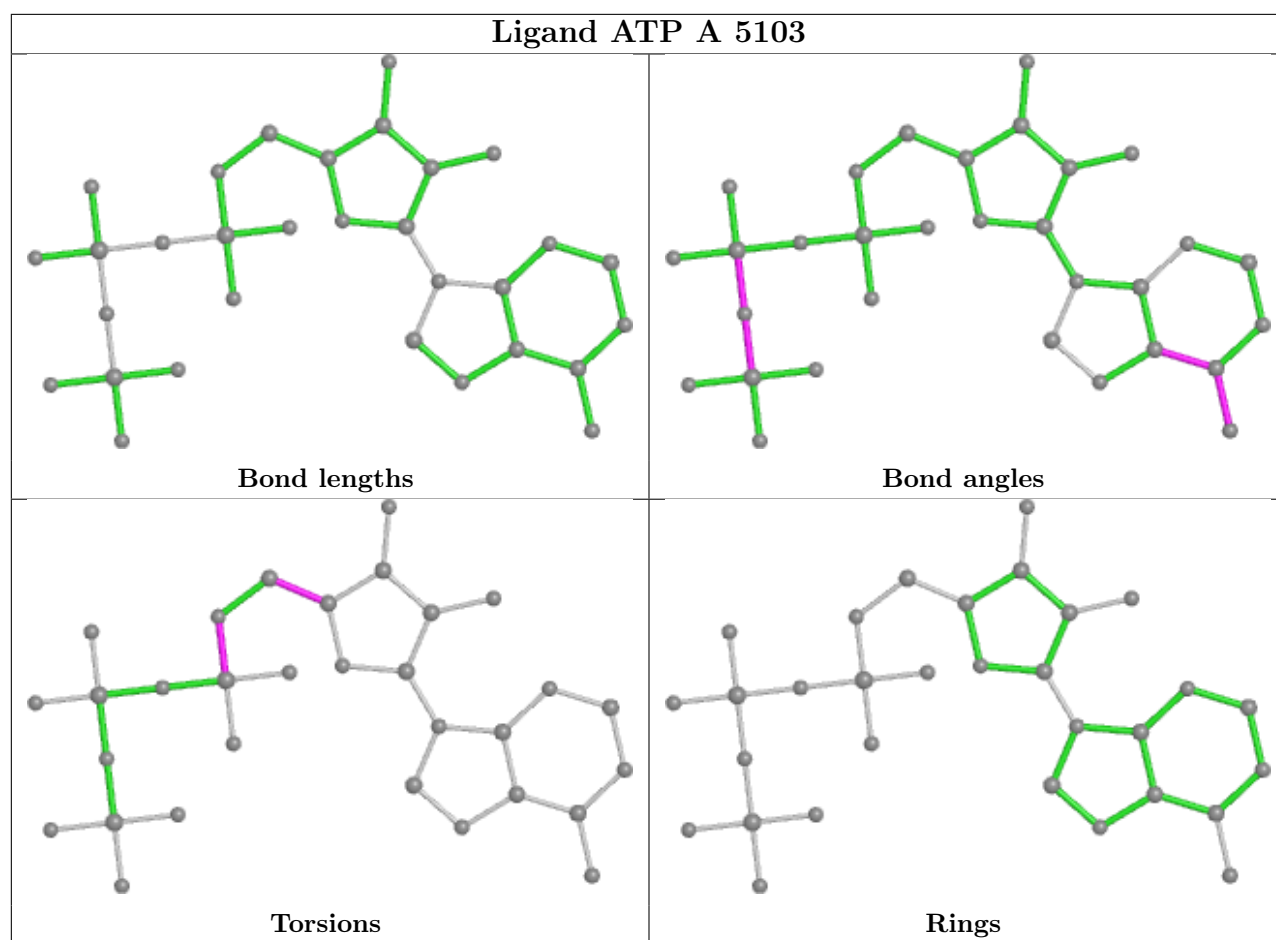
Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	D	5103	ATP	2	0
4	G	5101	CFE	1	0
6	G	5103	ATP	4	0
6	J	5103	ATP	2	0

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









5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

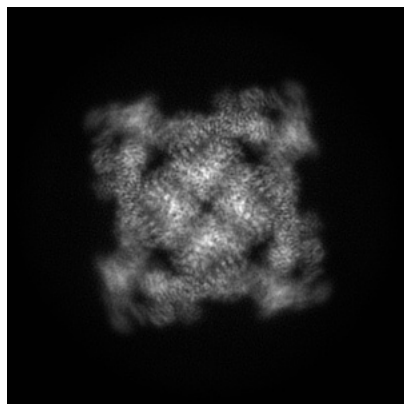
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-27736. These allow visual inspection of the internal detail of the map and identification of artifacts.

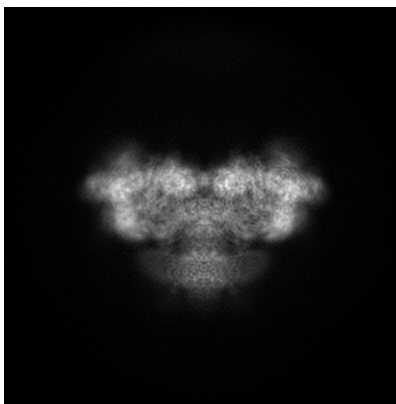
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

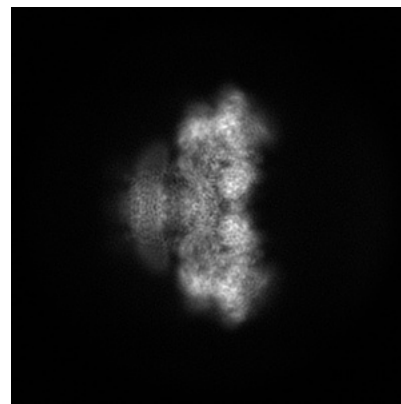
6.1.1 Primary map



X

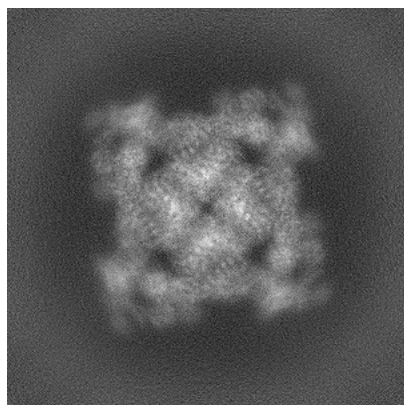


Y

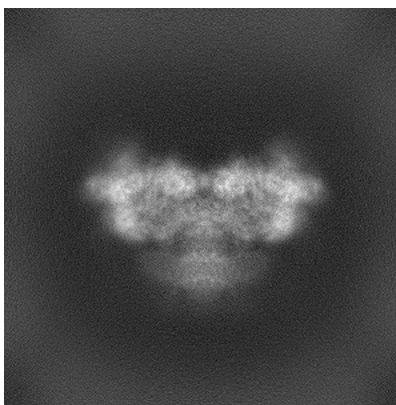


Z

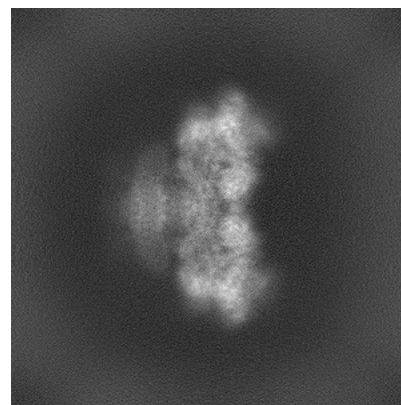
6.1.2 Raw map



X



Y

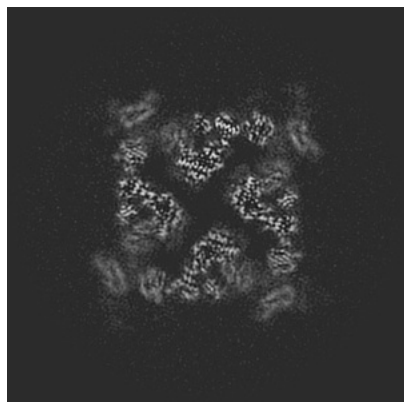


Z

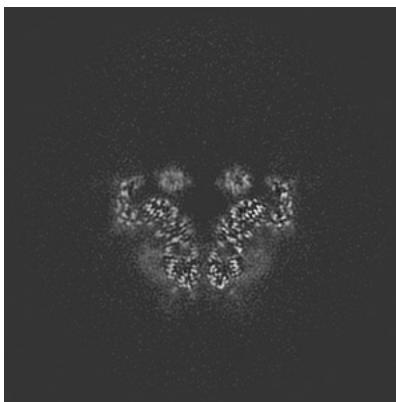
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

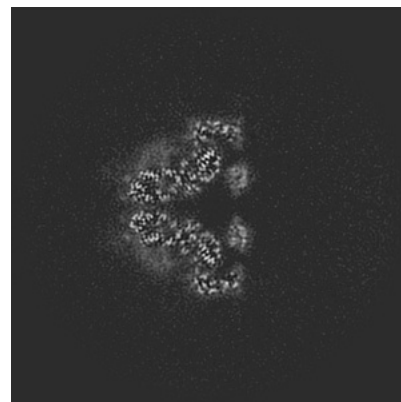
6.2.1 Primary map



X Index: 256

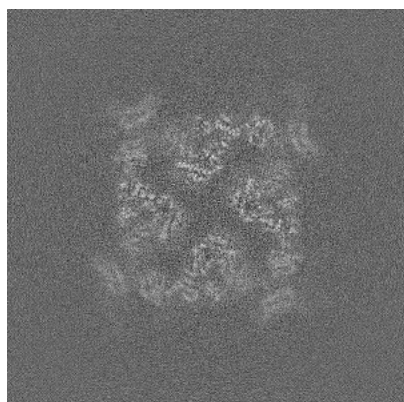


Y Index: 256

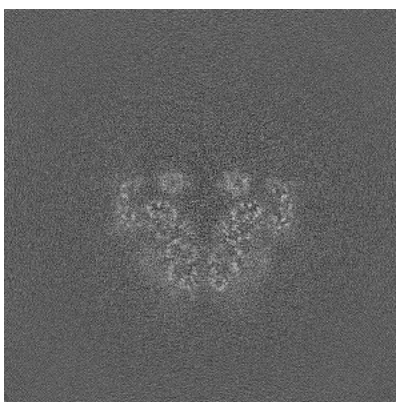


Z Index: 256

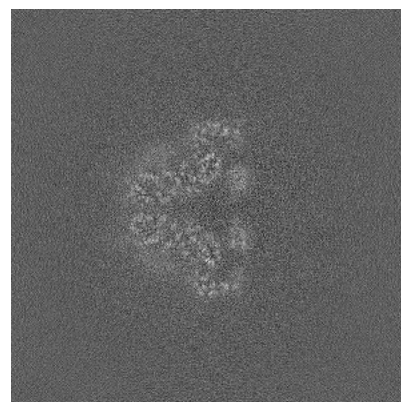
6.2.2 Raw map



X Index: 256



Y Index: 256

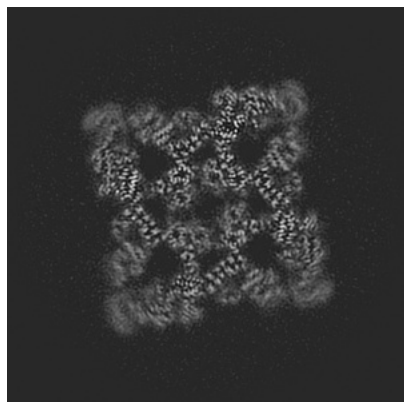


Z Index: 256

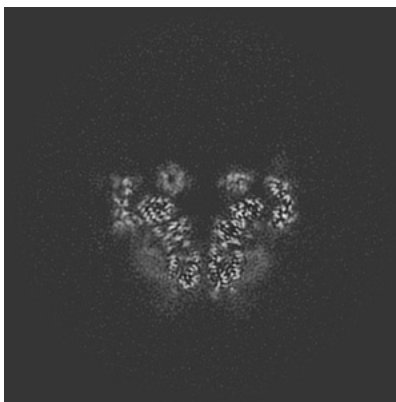
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

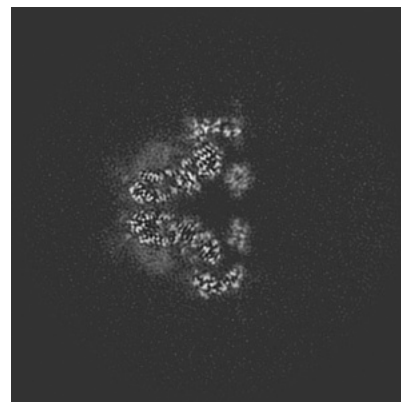
6.3.1 Primary map



X Index: 281

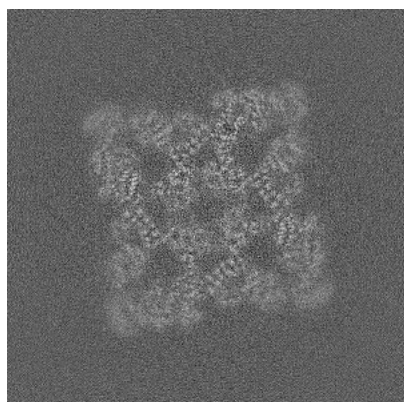


Y Index: 253

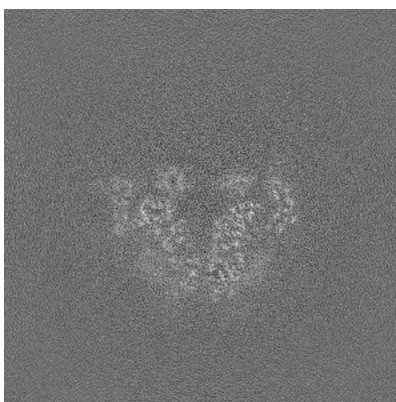


Z Index: 254

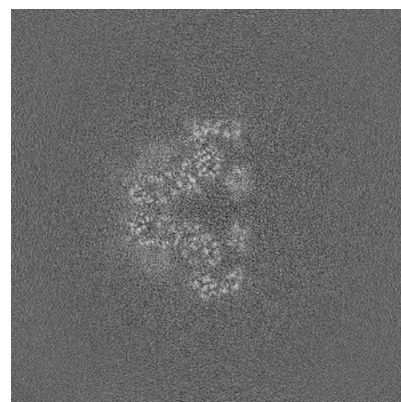
6.3.2 Raw map



X Index: 281



Y Index: 251

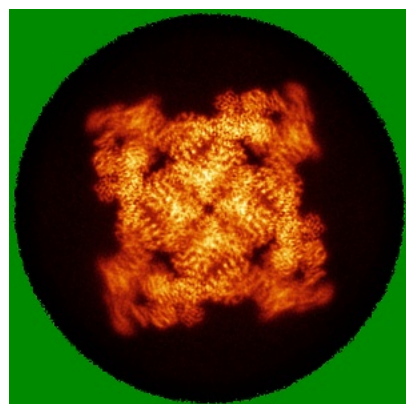


Z Index: 254

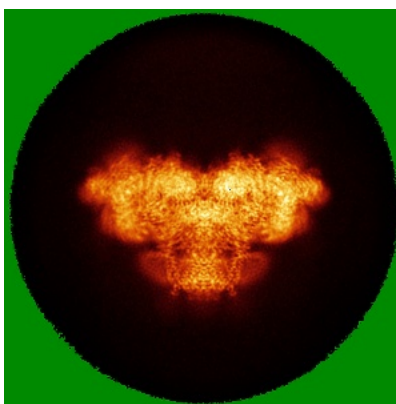
The images above show the largest variance slices of the map in three orthogonal directions.

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

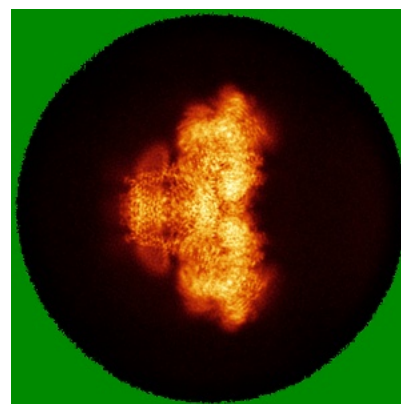
6.4.1 Primary map



X

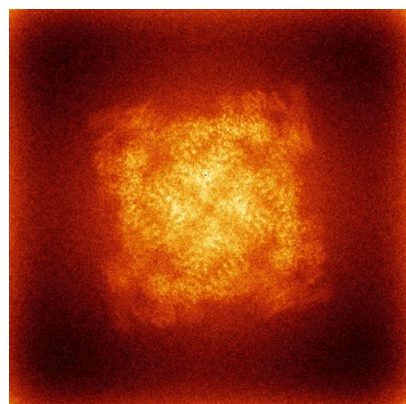


Y

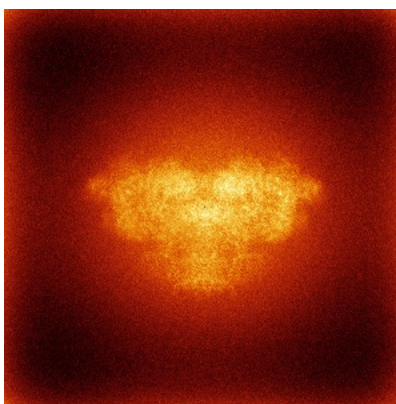


Z

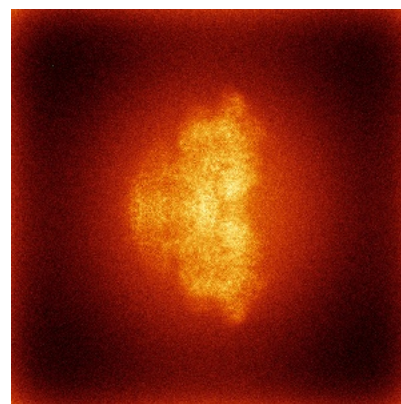
6.4.2 Raw map



X



Y

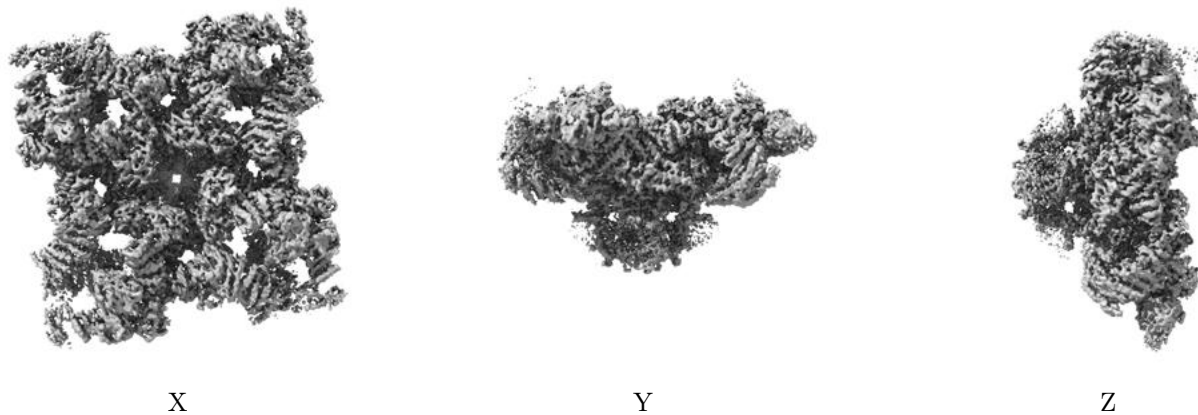


Z

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.

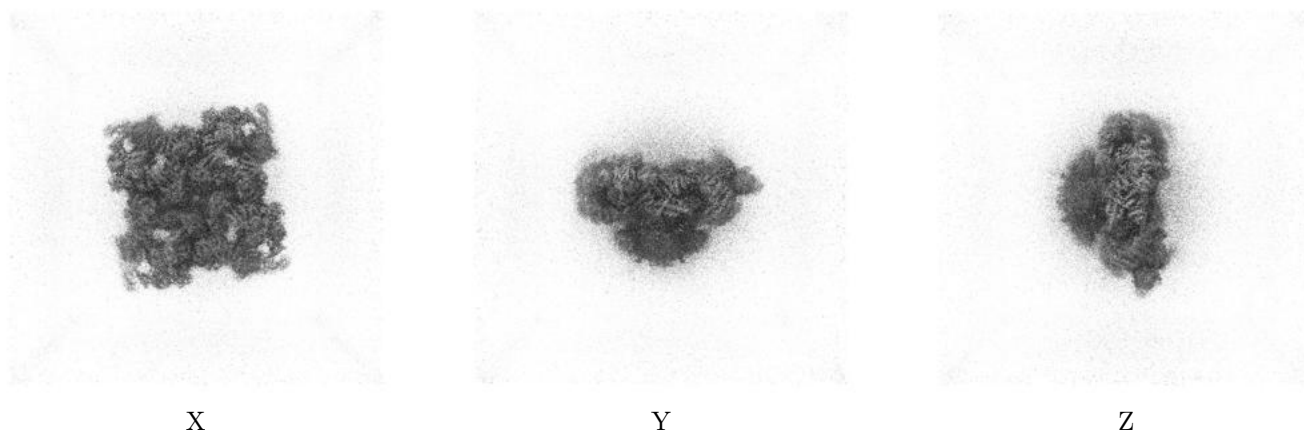
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.09. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

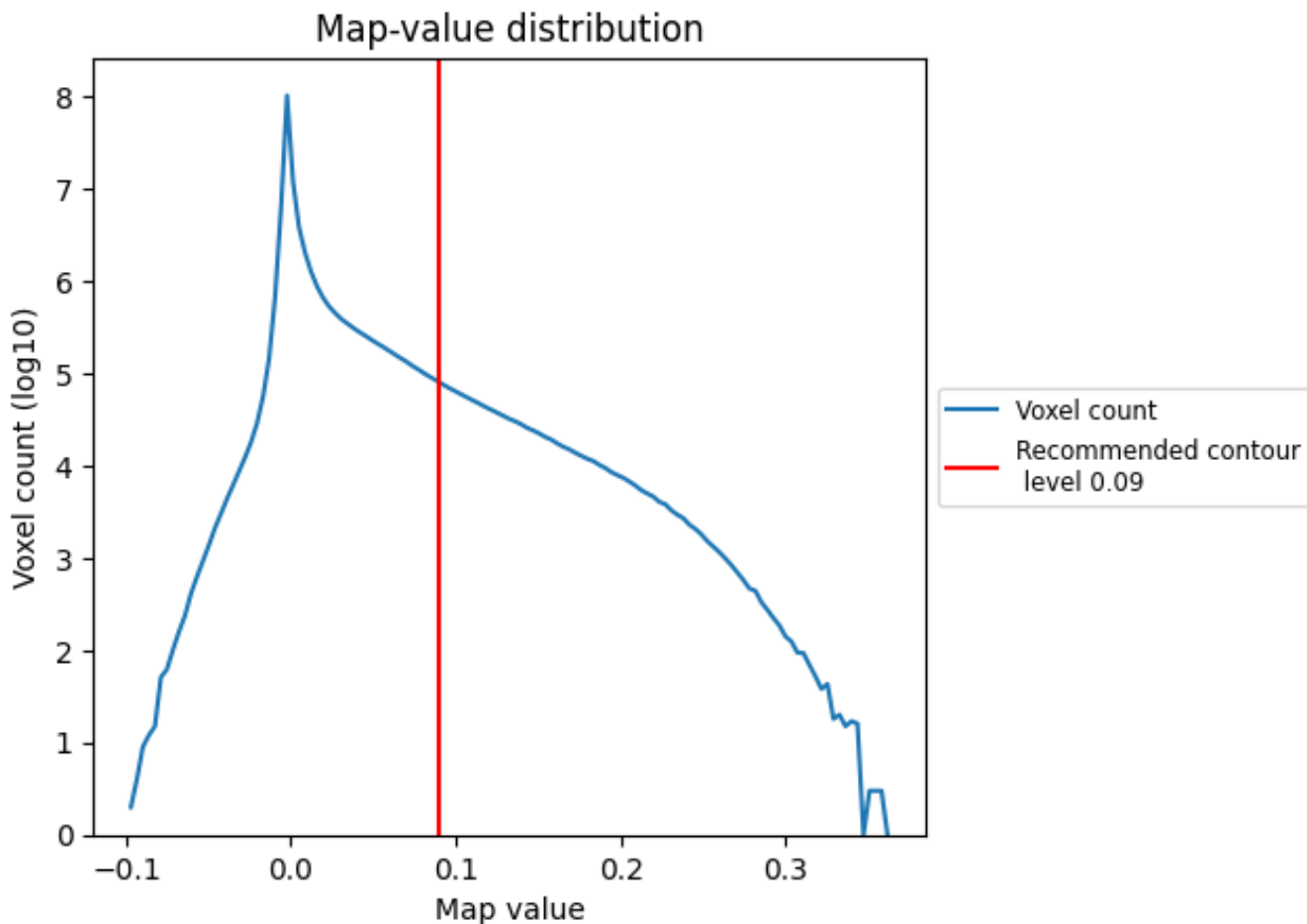
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

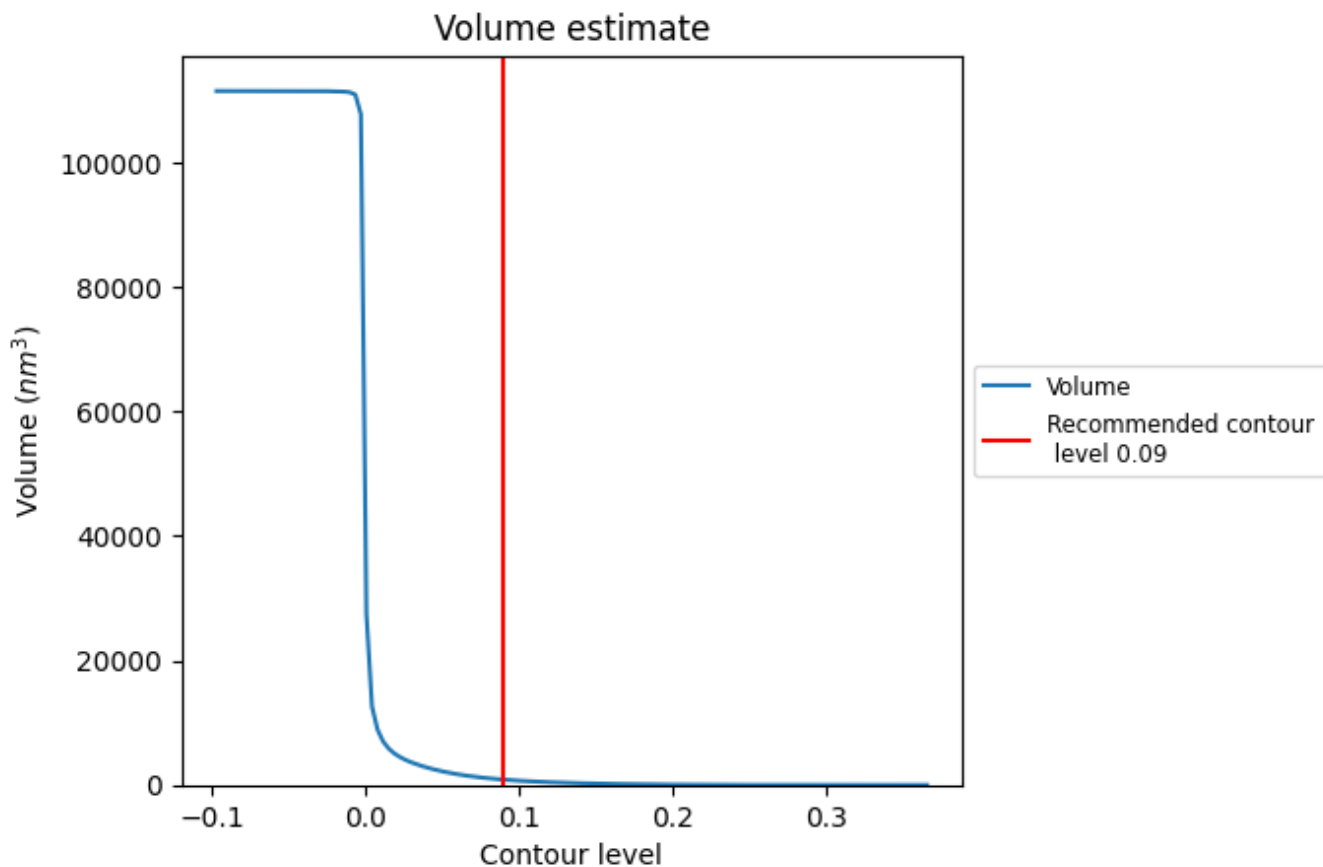
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

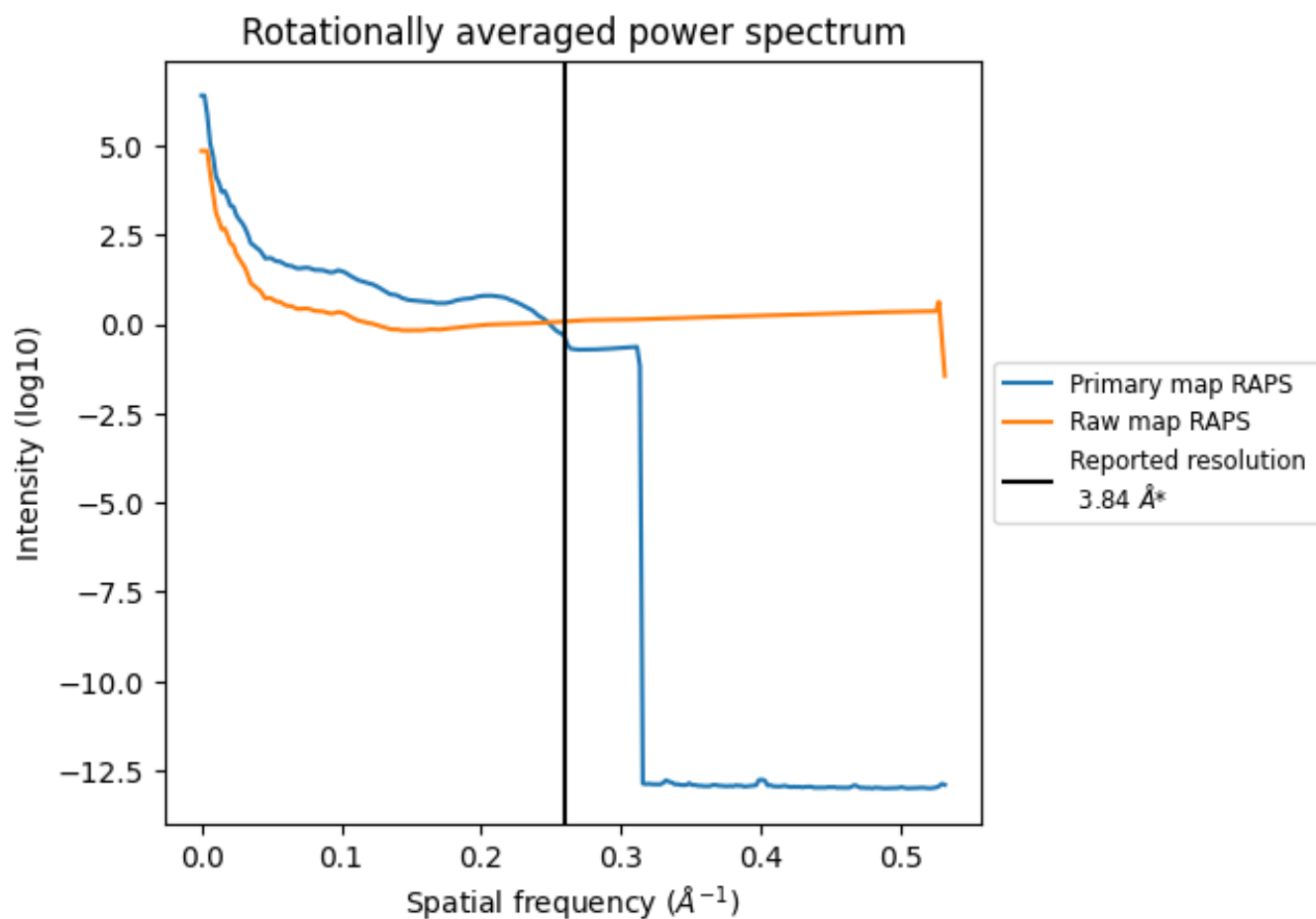
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 854 nm^3 ; this corresponds to an approximate mass of 772 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](#)

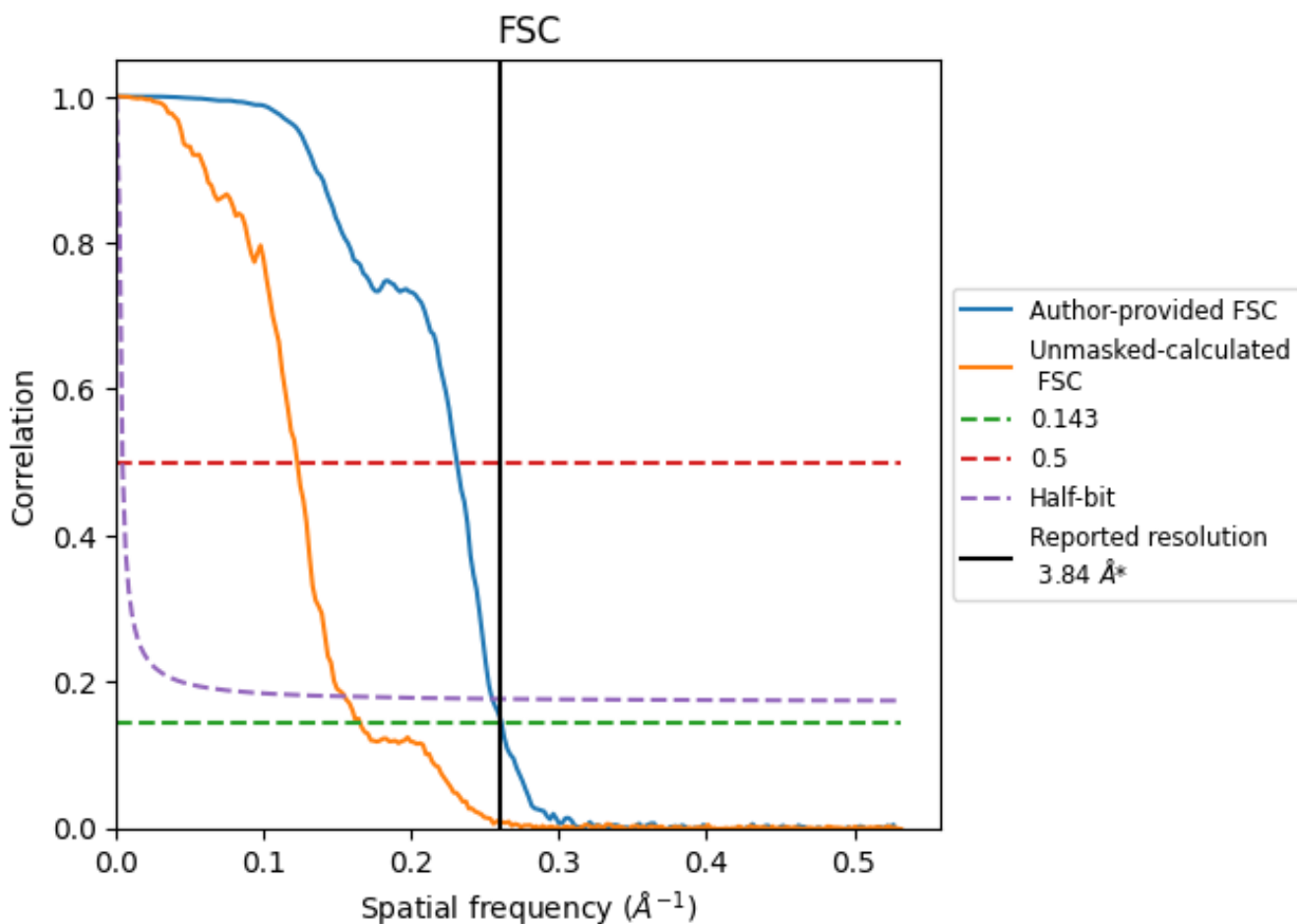


*Reported resolution corresponds to spatial frequency of 0.260 Å⁻¹

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 0.260 Å⁻¹

8.2 Resolution estimates [i](#)

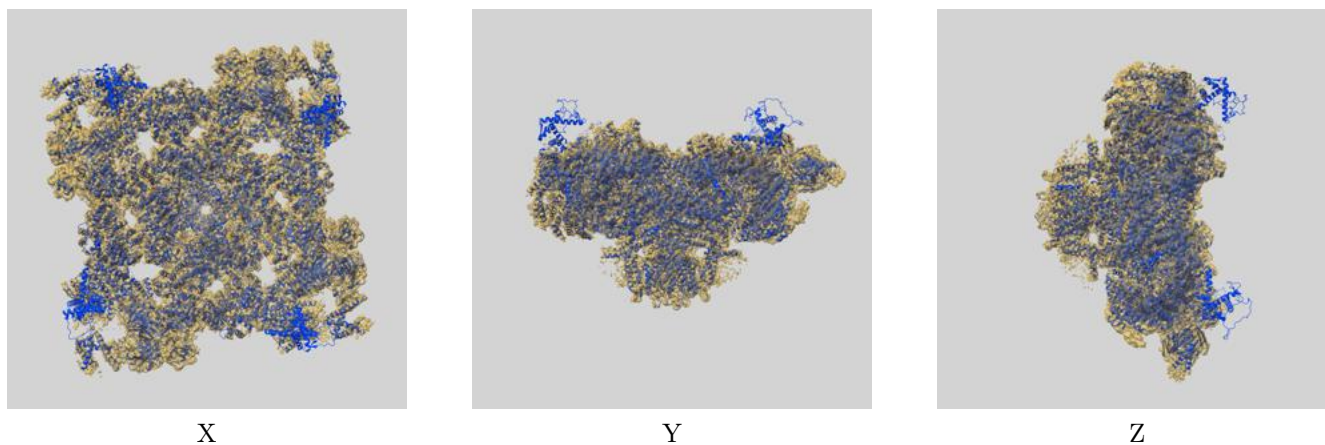
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.84	-	-
Author-provided FSC curve	3.83	4.33	3.93
Unmasked-calculated*	6.05	8.16	6.46

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.05 differs from the reported value 3.84 by more than 10 %

9 Map-model fit [i](#)

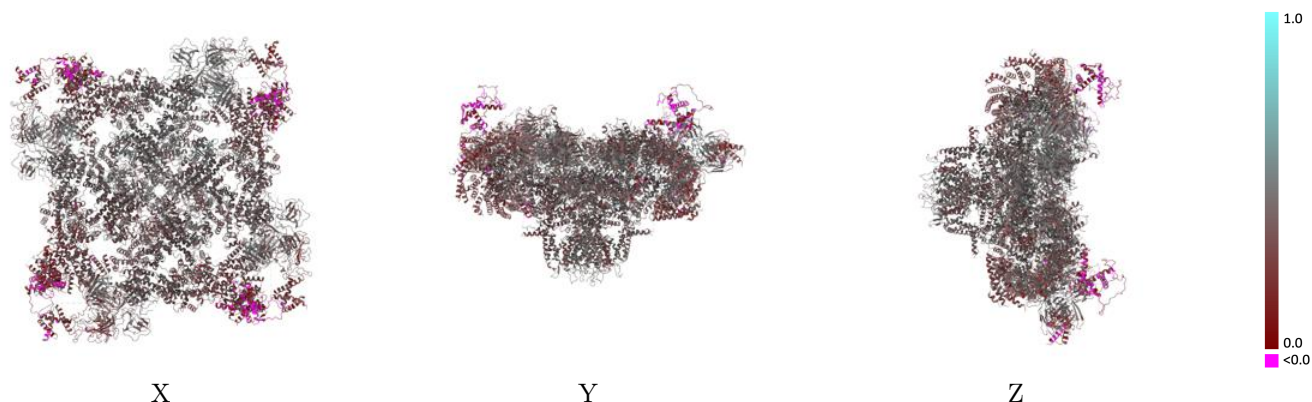
This section contains information regarding the fit between EMDB map EMD-27736 and PDB model 8DVE. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



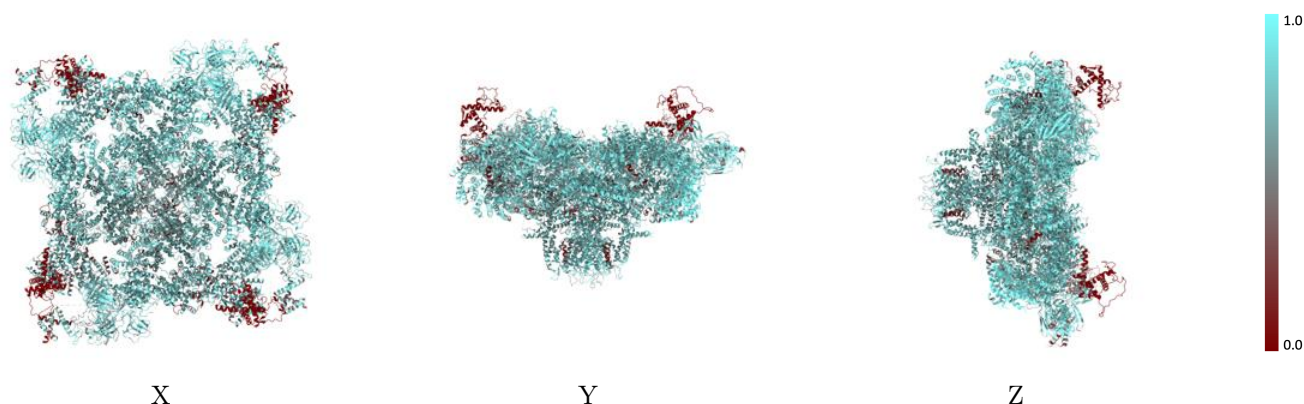
The images above show the 3D surface view of the map at the recommended contour level 0.09 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



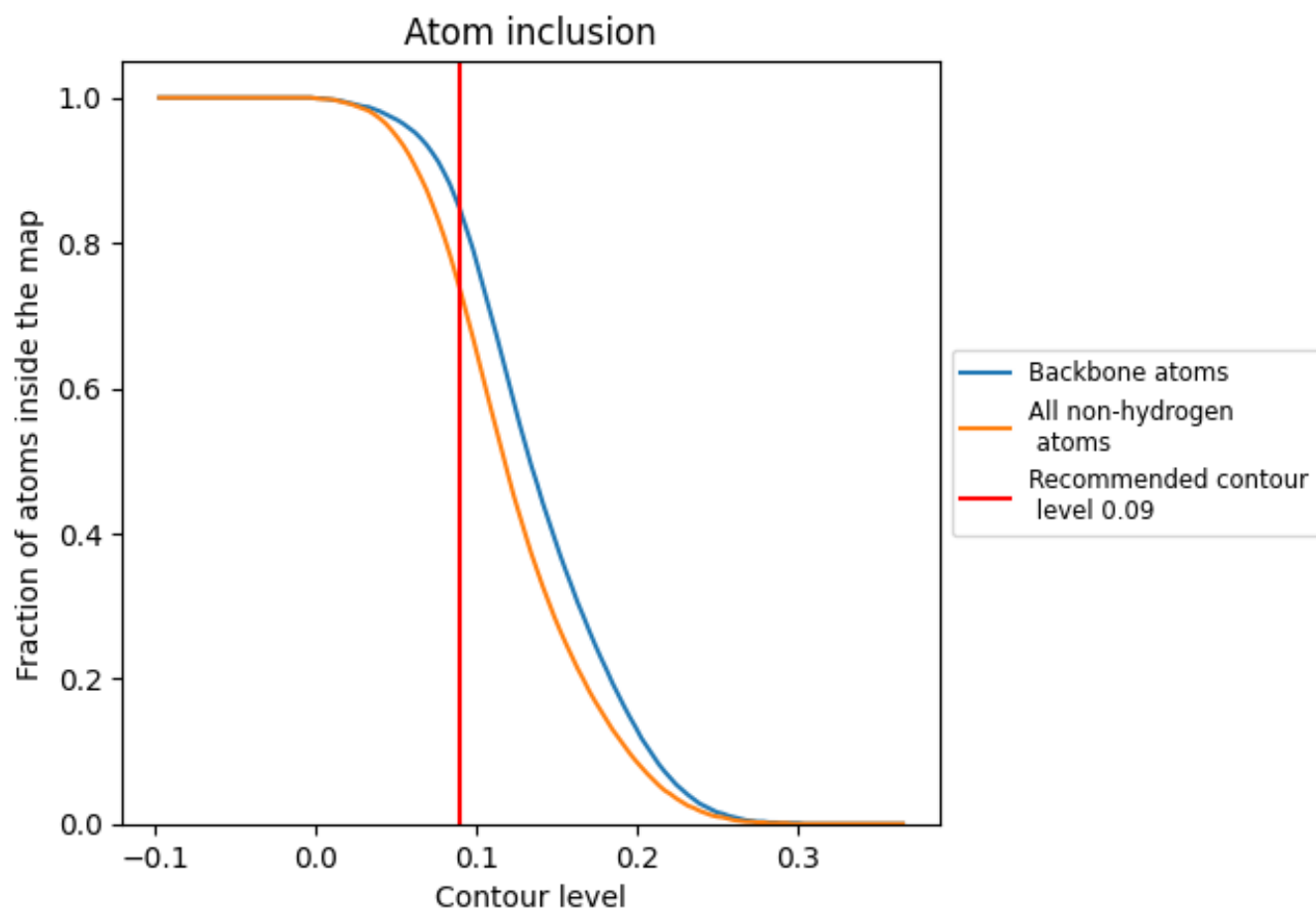
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.09).



























9.4 Atom inclusion [i](#)



At the recommended contour level, 85% of all backbone atoms, 74% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.09) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7350	 0.3920
A	 0.7850	 0.4170
B	 0.8400	 0.4640
C	 0.6260	 0.3710
D	 0.7290	 0.3920
E	 0.8030	 0.4430
F	 0.3730	 0.3380
G	 0.7510	 0.3940
H	 0.7880	 0.4340
I	 0.5750	 0.3400
J	 0.6930	 0.3630
K	 0.7510	 0.4140
L	 0.4590	 0.3390

