



Full wwPDB EM Validation Report ⓘ

Oct 7, 2024 – 01:18 pm BST

PDB ID : 8RRX
EMDB ID : EMD-19468
Title : Structure of RyR1 reconstituted into lipid nanodisc in primed state in complex with Ca²⁺, ATP, caffeine and Nb9657
Authors : Li, C.; Efremov, R.G.
Deposited on : 2024-01-23
Resolution : 3.10 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev113
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

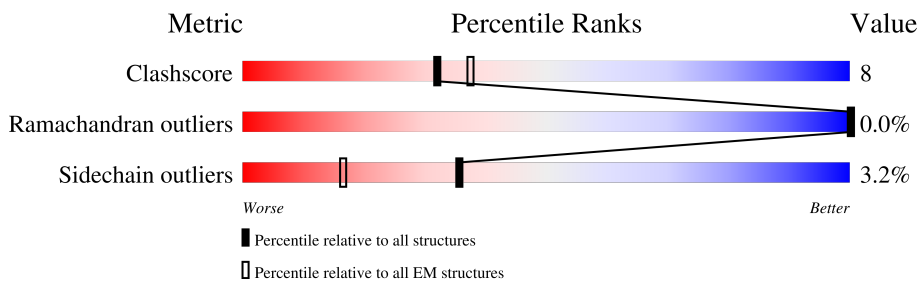
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.10 Å.

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



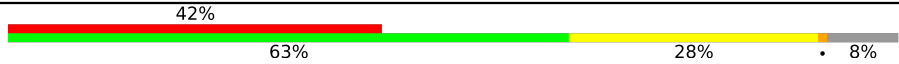

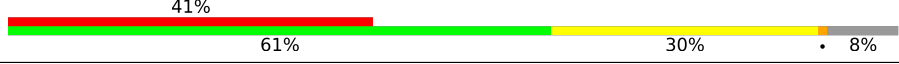
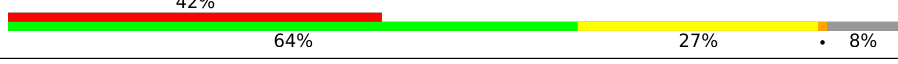
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	F	107	
1	H	107	
1	J	107	
1	L	107	
2	A	5027	
2	D	5027	
2	G	5027	
2	I	5027	

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Mol	Chain	Length	Quality of chain
3	C	137	
3	E	137	
3	K	137	
3	M	137	

2 Entry composition [i](#)

There are 8 unique types of molecules in this entry. The entry contains 144144 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 Peptidyl-prolyl cis-trans isomerase FKBP1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	H	107	818	516	144	154	4	0	0
1	L	107	818	516	144	154	4	0	0
1	J	107	818	516	144	154	4	0	0
1	F	107	818	516	144	154	4	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	100	ASP	GLY	conflict	UNP Q8HYX6
L	100	ASP	GLY	conflict	UNP Q8HYX6
J	100	ASP	GLY	conflict	UNP Q8HYX6
F	100	ASP	GLY	conflict	UNP Q8HYX6

- Molecule 2 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	I	4319	34151	21750	5888	6285	228	1	0
2	A	4319	34153	21752	5888	6285	228	1	0
2	D	4319	34153	21752	5888	6285	228	1	0
2	G	4319	34151	21750	5888	6285	228	1	0

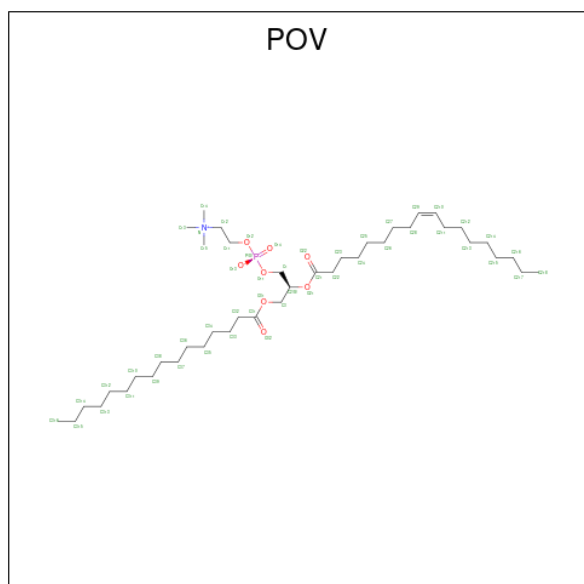
- Molecule 3 is a protein called Nanobody 9657.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	K	126	Total	C	N	O	S	0	0
			967	597	170	195	5		
3	C	126	Total	C	N	O	S	0	0
			967	597	170	195	5		
3	E	126	Total	C	N	O	S	0	0
			967	597	170	195	5		
3	M	126	Total	C	N	O	S	0	0
			967	597	170	195	5		

- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
4	I	1	Total	Zn	0
			1	1	
4	A	1	Total	Zn	0
			1	1	
4	D	1	Total	Zn	0
			1	1	
4	G	1	Total	Zn	0
			1	1	

- Molecule 5 is (2S)-3-(hexadecanoyloxy)-2-[(9Z)-octadec-9-enoyloxy]propyl 2-(trimethylamm onio)ethyl phosphate (three-letter code: POV) (formula: C₄₂H₈₂NO₈P).



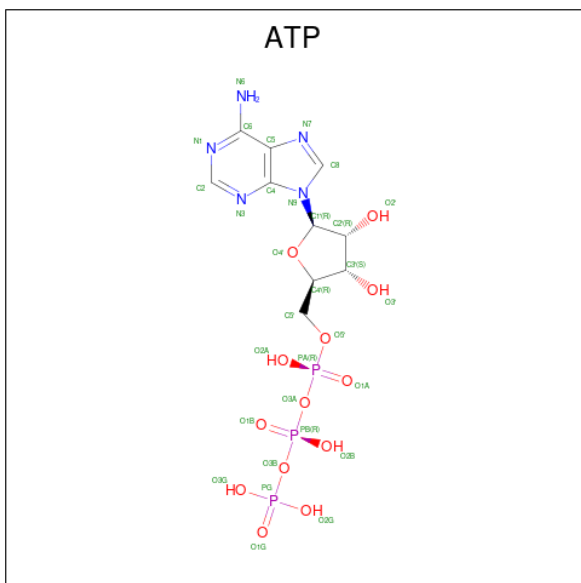
Mol	Chain	Residues	Atoms					AltConf
5	I	1	Total	C	N	O	P	0
			52	42	1	8	1	

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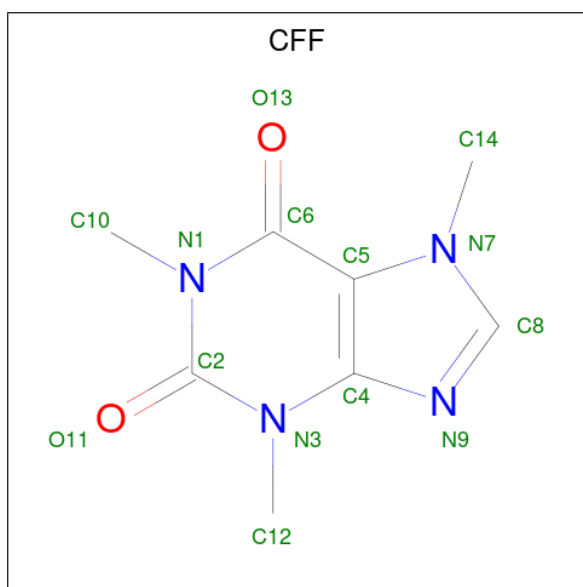
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
5	A	1	Total	C	N	O	P	0
			52	42	1	8	1	
5	D	1	Total	C	N	O	P	0
			52	42	1	8	1	
5	G	1	Total	C	N	O	P	0
			52	42	1	8	1	

- Molecule 6 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
6	I	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	D	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	

- Molecule 7 is CAFFEINE (three-letter code: CFF) (formula: $C_8H_{10}N_4O_2$) (labeled as "Ligand of Interest" by depositor).



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

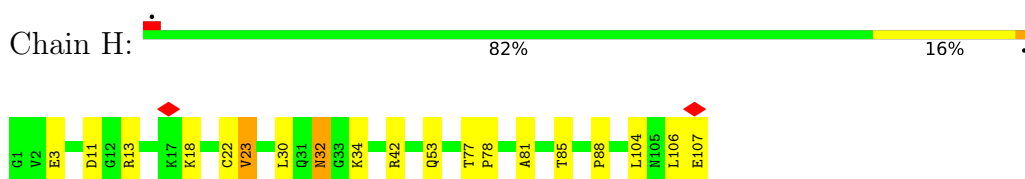
- Molecule 8 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
			Total	Ca	
8	I	1	1	1	0
8	A	1	1	1	0
8	D	1	1	1	0
8	G	1	1	1	0

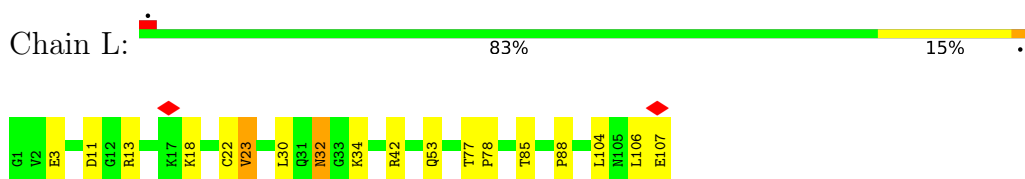
3 Residue-property plots [i](#)

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

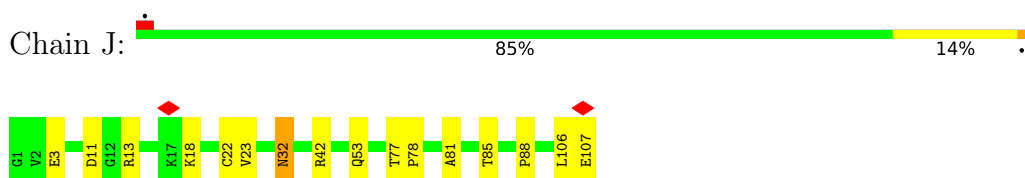
- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B



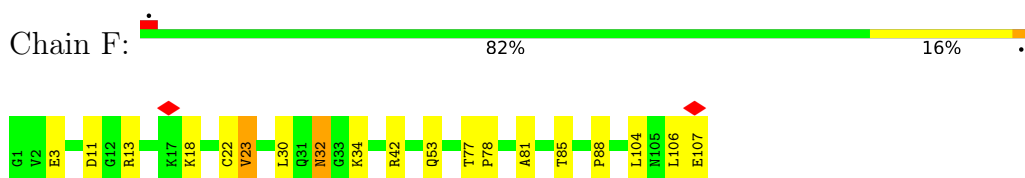
- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B



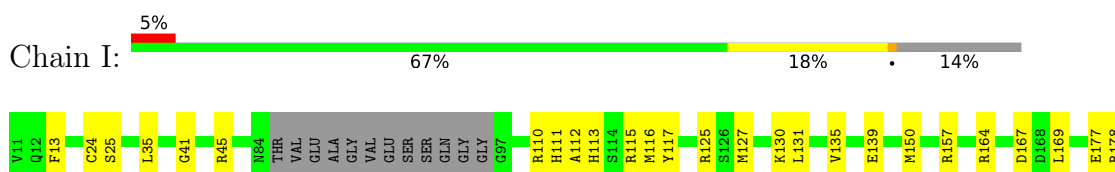
- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

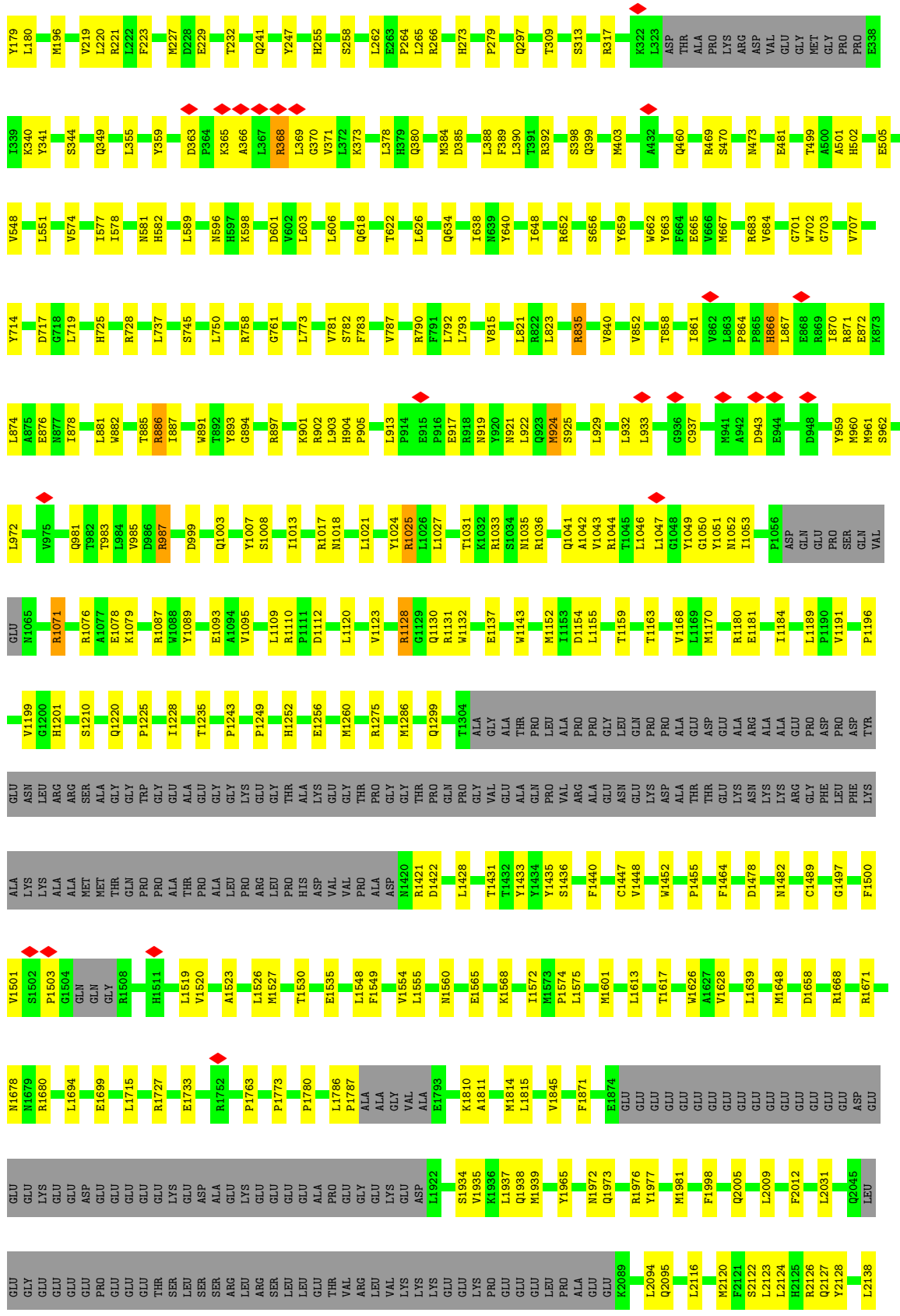


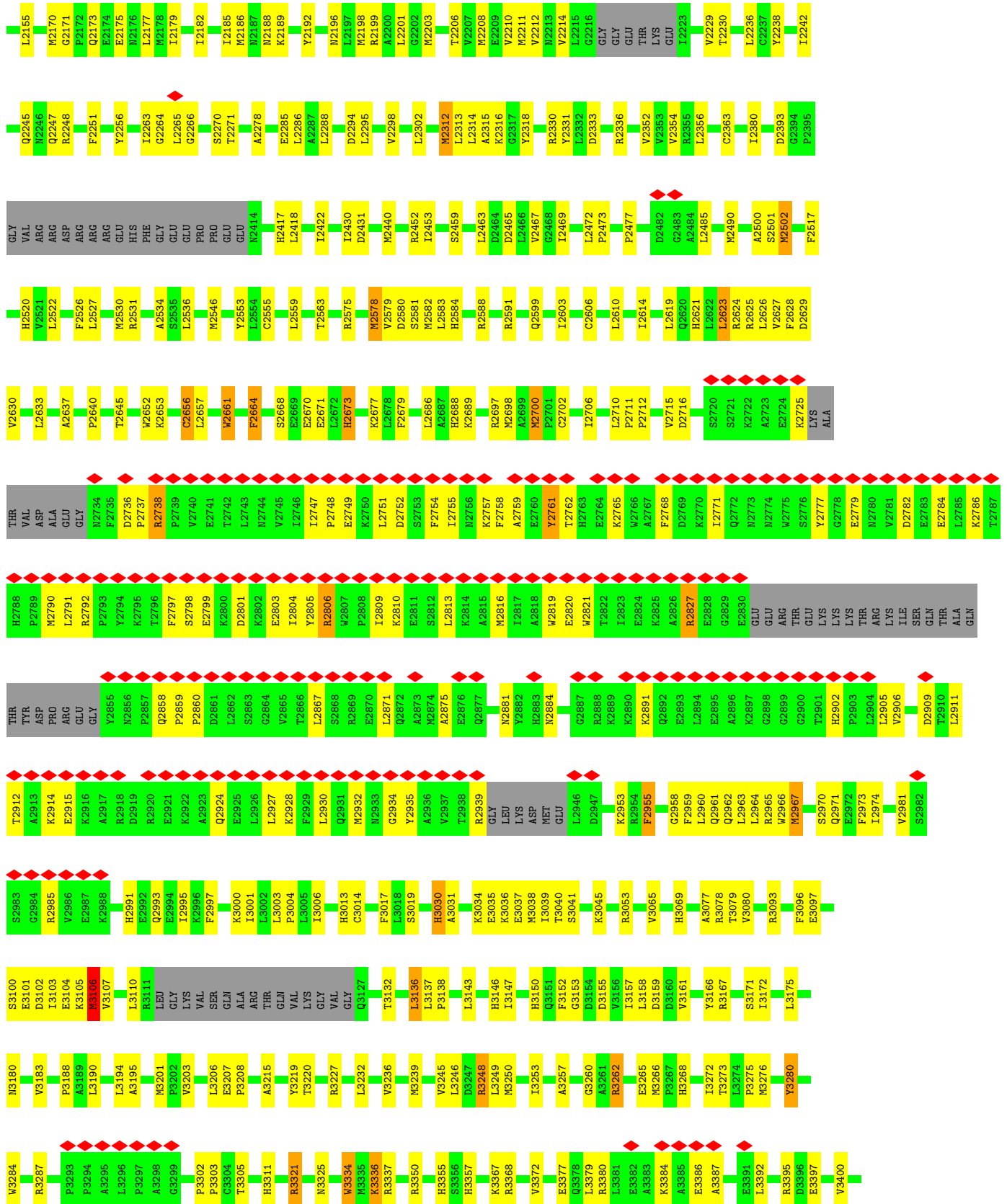
- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

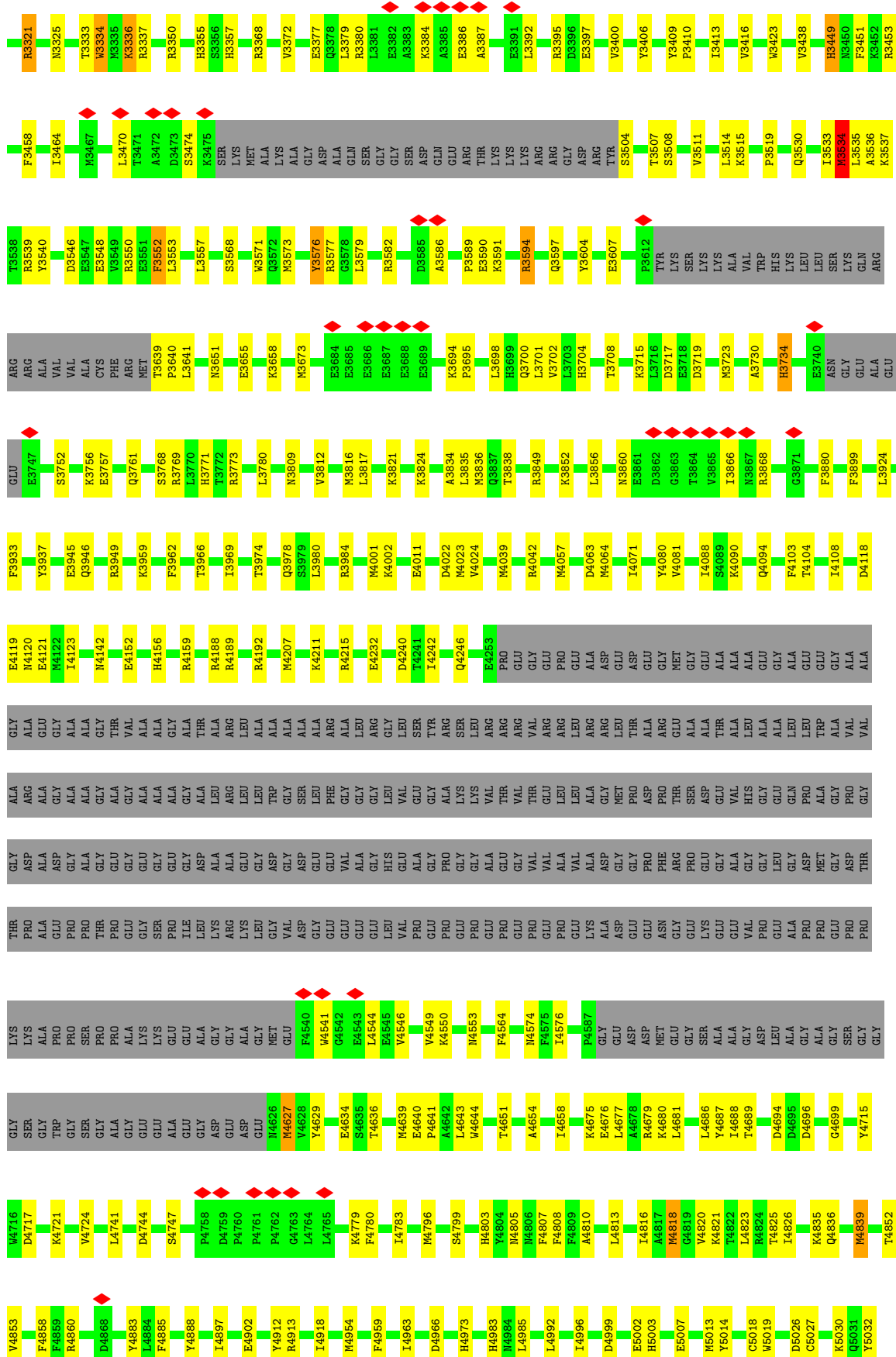


- Molecule 2: Ryanodine receptor 1



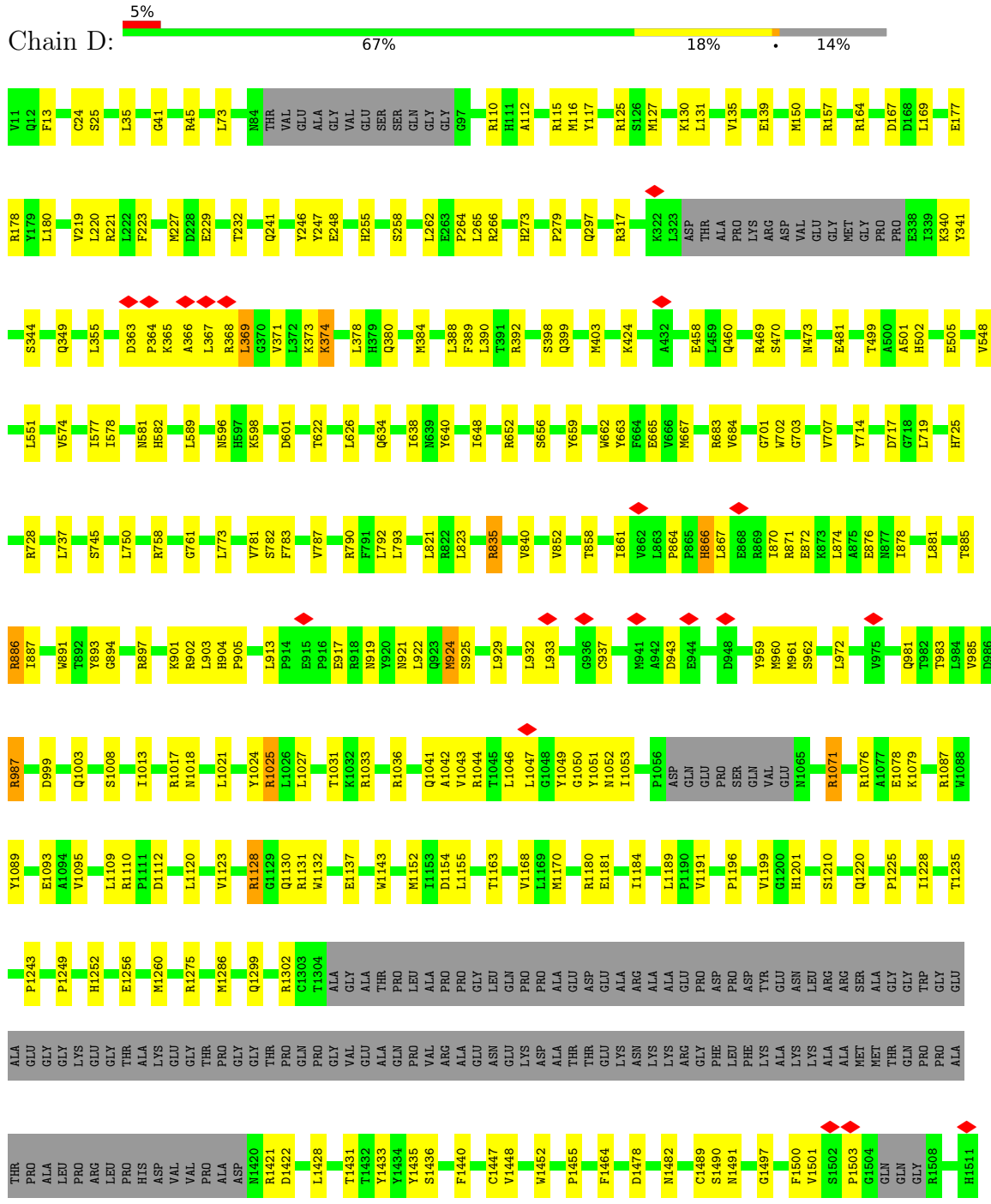






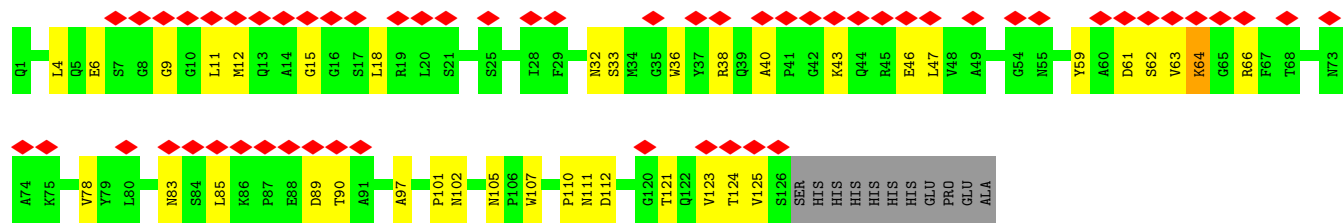
S65037

• Molecule 2: Ryanodine receptor 1



P1773	ALA	L182	S270	L9418	R2575	L9678	F2679	F2754	K2814	K2874	T2938	F3017	VAL
P1760	GLU	I2185	T2271	I2422	M2578	F2684	D2684	I2755	A2815	A2875	R2939	F3018	GLY
L1786	LEU	M2186	A2278	I2430	V2579	L2685	K2757	M2756	M2816	E2876	L3018	S3019	GLY
P1767	GLU	N2187	S2279	D2431	D2580	L2686	L2758	F2758	L2817	Q2877	L3018	S3019	LEU
ALA	THR	K2189	E2285	M2440	S2581	A2687	H2688	A2759	A2818	N2881	H3030	A3031	LYS
GLY	VAL	Y2192	L2286	R2452	H2582	K2689	K2689	E2760	V2819	H2882	L3034	A3031	ASP
ARG	LEU	N2196	A2287	I2453	L2583	H2688	K2689	E2761	E2820	H2883	K3034	A3031	MET
VAL	GLY	M2197	L2288	R2453	H2584	H2688	K2689	E2761	V2821	N2884	L3034	A3031	GLU
ALA	ALA	E1793	D2284	S2459	R2588	R2697	M2698	T2762	T2822	G2887	L2946	D2947	LEU
E1793	LYS	K1810	L2302	S2463	R2589	A2699	A2699	H2763	L2823	R2887	K2953	D2947	LYS
K1810	LYS	A1811	M2312	L2463	Q2599	M2700	M2700	E2764	E2824	R2888	R2954	F2955	VAL
A1811	GLU	L1922	L2314	L2464	Q2599	P2701	P2701	K2765	K2824	K2889	F2955	F2955	VAL
M1814	PRO	S1934	L2314	D2464	L2603	C2702	C2702	A2767	A2826	K2891	G2958	G2958	LYS
L1815	PRO	G2202	A2315	D2465	L2610	I2706	I2706	F2768	E2827	Q2892	F2959	F2959	LYS
G1816	GLU	M2203	L2315	D2466	L2614	L2710	L2710	D2769	E2828	E2893	L2960	L2960	LYS
E1817	GLU	K1936	A2315	V2467	L2614	P2711	P2711	K2770	Q2829	L2894	Q2961	Q2961	LYS
V1845	GLU	L1937	Y2318	G2466	L2614	P2712	P2712	I2771	E2830	E2895	L2961	L2961	LYS
V1845	PRO	M1939	Y2318	I2469	L2627	V2715	V2715	Q2772	GLU	A2896	F2973	F2973	ARG
K1860	ALA	Y1965	R2330	L2472	F2628	D2716	D2716	M2773	ARG	K2897	L2974	L2974	LYS
F1871	GLU	Q1973	Y2331	P2473	V2629	K2725	K2725	M2774	THR	G2898	V2967	V2967	ILE
E1874	GLU	Q1973	V2352	P2477	V2630	S2720	S2720	W2775	GLU	G2899	R2967	R2967	GLN
GLU	THR	Y1977	V2353	D2482	L2622	S2721	S2721	S2776	LYS	Q2900	S2970	S2970	ALA
GLU	GLU	M1981	V2354	G2483	R2624	K2722	K2722	Y2777	LYS	G2901	Q2971	Q2971	GLN
GLU	GLU	F1998	R2355	M2490	R2626	A2723	A2723	G2778	THR	L2904	F2973	F2973	THR
GLU	GLU	Q2005	L2356	A2500	L2627	E2724	E2724	E2779	LYS	L2904	A2975	A2975	VAL
GLU	GLU	L2009	L2356	S2501	F2628	K2725	K2725	M2780	ILE	V2906	V2981	V2981	VAL
GLU	GLU	F2012	GLY	M2502	V2630	GLY	GLY	D2782	GLN	D2909	S2982	S2982	GLN
GLU	GLU	L2031	ARG	F2517	L2633	ALA	ALA	E2783	ALA	T2910	S2983	S2983	GLN
GLU	GLU	Q2045	ARG	H2520	F2640	THR	THR	E2784	GLN	L2911	G2984	G2984	THR
ASP	GLY	LEU	ASP	R2522	T2645	ASP	ASP	L2785	GLN	L2912	L2985	L2985	THR
GLY	GLY	GLY	GLY	L2522	T2645	GLY	GLY	K2786	THR	K2913	V2986	V2986	THR
GLY	GLY	GLY	GLY	F2526	K2652	N2734	N2734	T2787	PRO	A2913	E2987	E2987	VAL
GLY	GLY	GLY	GLY	L2527	K2653	F2735	F2735	H2788	ARG	K2914	K2987	K2987	VAL
GLY	GLY	GLY	GLY	L2531	C2656	D2736	D2736	P2789	GLU	E2915	L2988	L2988	GLY
GLY	GLY	GLY	GLY	R2531	L2657	P2737	P2737	M2790	GLY	K2916	H2991	H2991	GLY
GLY	GLY	GLY	GLY	A2534	K2661	R2738	R2738	L2791	M2855	A2917	E2992	E2992	LEU
GLY	GLY	GLY	GLY	L2536	V2661	P2739	P2739	R2792	M2856	R2918	Q2993	Q2993	LEU
GLY	GLY	GLY	GLY	M2546	F2664	V2740	V2740	R2793	P2857	D2919	E2994	E2994	LYS
GLY	GLY	GLY	GLY	Y2563	S2668	E2741	E2741	P2794	Q2858	R2920	L2995	L2995	VAL
GLY	GLY	GLY	GLY	L2554	E2669	T2742	T2742	V2794	P2860	E2921	F2997	F2997	SER
GLY	GLY	GLY	GLY	C2555	E2670	L2743	L2743	F2797	D2861	K2922	L3001	L3001	ALA
GLY	GLY	GLY	GLY	L2559	F2671	M2744	M2744	S2798	L2862	A2923	L3002	L3002	ALA
GLY	GLY	GLY	GLY	K2677	L2672	F2745	F2745	S2798	L2863	Q2924	L3003	L3003	THR
GLY	GLY	GLY	GLY	H2417	H2673	I2746	I2746	E2799	G2864	E2925	P3004	P3004	THR
GLY	GLY	GLY	GLY	T2563	K2677	I2747	I2747	K2800	G2864	L2926	L3006	L3006	GLN
GLY	GLY	GLY	GLY	GLY	GLY	P2748	P2748	D2801	V2865	L2927	L3007	L3007	VAL
GLY	GLY	GLY	GLY	GLY	GLY	E2749	E2749	D2802	T2866	K2928	N3007	N3007	GLY
GLY	GLY	GLY	GLY	GLY	GLY	K2750	K2750	K2802	L2867	F2929	H3013	H3013	GLY
GLY	GLY	GLY	GLY	GLY	GLY	E2803	E2803	E2803	L2930	F2929	C3014	C3014	GLY
GLY	GLY	GLY	GLY	GLY	GLY	L2804	L2804	L2804	S2868	L2930	GLY	GLY	GLY
GLY	GLY	GLY	GLY	GLY	GLY	D2762	D2762	D2762	R2869	L2930	GLY	GLY	GLY
GLY	GLY	GLY	GLY	GLY	GLY	S2763	S2763	S2763	E2870	Q2931	GLY	GLY	GLY
GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	R2806	M2932	GLY	GLY	GLY
GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	W2807	M2933	GLY	GLY	GLY
GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	P2808	G2934	GLY	GLY	GLY
GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	K2810	Y2935	GLY	GLY	GLY
GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	E2811	A2936	GLY	GLY	GLY
GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	S2812	V2937	GLY	GLY	GLY
GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	L2813	GLY	GLY	GLY	GLY





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	175535	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	JEOL CRYO ARM 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.601	Depositor
Minimum map value	-0.040	Depositor
Average map value	0.034	Depositor
Map value standard deviation	0.067	Depositor
Recommended contour level	0.2	Depositor
Map size (\AA)	511.65, 511.65, 511.65	wwPDB
Map dimensions	450, 450, 450	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.137, 1.137, 1.137	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: ATP, CFF, ZN, POV, CA

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	F	0.27	0/834	0.56	0/1123
1	H	0.27	0/834	0.56	0/1123
1	J	0.27	0/834	0.56	0/1123
1	L	0.27	0/834	0.56	0/1123
2	A	0.25	0/34923	0.49	4/47330 (0.0%)
2	D	0.25	0/34923	0.49	4/47330 (0.0%)
2	G	0.25	0/34920	0.49	4/47325 (0.0%)
2	I	0.25	0/34920	0.49	4/47325 (0.0%)
3	C	0.25	0/987	0.52	0/1340
3	E	0.25	0/987	0.52	0/1340
3	K	0.25	0/987	0.52	0/1340
3	M	0.25	0/987	0.52	0/1340
All	All	0.25	0/146970	0.49	16/199162 (0.0%)

There are no bond length outliers.

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	1503	PRO	N-CA-CB	5.72	110.16	103.30
2	I	1503	PRO	N-CA-CB	5.71	110.16	103.30
2	D	1503	PRO	N-CA-CB	5.71	110.16	103.30
2	A	1503	PRO	N-CA-CB	5.68	110.12	103.30
2	D	3136	LEU	CA-CB-CG	5.66	128.32	115.30
2	I	3136	LEU	CA-CB-CG	5.64	128.28	115.30
2	A	3136	LEU	CA-CB-CG	5.64	128.28	115.30
2	G	3136	LEU	CA-CB-CG	5.64	128.28	115.30
2	D	3106	MET	CA-CB-CG	5.49	122.64	113.30
2	I	3106	MET	CA-CB-CG	5.47	122.59	113.30
2	A	3106	MET	CA-CB-CG	5.46	122.57	113.30
2	G	3106	MET	CA-CB-CG	5.45	122.56	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	3534	MET	CA-CB-CG	5.09	121.95	113.30
2	A	3534	MET	CA-CB-CG	5.08	121.94	113.30
2	G	3534	MET	CA-CB-CG	5.08	121.94	113.30
2	D	3534	MET	CA-CB-CG	5.06	121.90	113.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	F	818	0	824	14	0
1	H	818	0	824	13	0
1	J	818	0	824	11	0
1	L	818	0	824	12	0
2	A	34153	0	33544	573	0
2	D	34153	0	33544	576	0
2	G	34151	0	33538	575	0
2	I	34151	0	33538	580	0
3	C	967	0	916	25	0
3	E	967	0	916	25	0
3	K	967	0	916	28	0
3	M	967	0	916	23	0
4	A	1	0	0	0	0
4	D	1	0	0	0	0
4	G	1	0	0	0	0
4	I	1	0	0	0	0
5	A	52	0	82	1	0
5	D	52	0	82	3	0
5	G	52	0	82	3	0
5	I	52	0	82	1	0
6	A	31	0	12	3	0
6	D	31	0	12	3	0
6	G	31	0	12	3	0
6	I	31	0	12	2	0
7	A	14	0	10	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	D	14	0	10	2	0
7	G	14	0	10	2	0
7	I	14	0	10	1	0
8	A	1	0	0	0	0
8	D	1	0	0	0	0
8	G	1	0	0	0	0
8	I	1	0	0	0	0
All	All	144144	0	141540	2394	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 8.

All (2394) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3132:THR:HA	2:A:3136:LEU:HB3	1.61	0.83
2:G:3132:THR:HA	2:G:3136:LEU:HB3	1.61	0.82
2:I:3132:THR:HA	2:I:3136:LEU:HB3	1.61	0.82
2:I:4823:LEU:HD13	2:G:4839:MET:HE2	1.61	0.81
2:I:4839:MET:HE2	2:A:4823:LEU:HD13	1.62	0.81
2:D:3132:THR:HA	2:D:3136:LEU:HB3	1.61	0.80
2:D:1520:VAL:HG23	2:D:1527:MET:HG2	1.64	0.79
2:G:1520:VAL:HG23	2:G:1527:MET:HG2	1.64	0.78
2:I:1520:VAL:HG23	2:I:1527:MET:HG2	1.64	0.78
2:D:2710:LEU:HD12	2:D:2711:PRO:HD2	1.65	0.78
2:I:913:LEU:HB3	2:I:917:GLU:HB2	1.65	0.77
2:D:913:LEU:HB3	2:D:917:GLU:HB2	1.65	0.77
2:A:1520:VAL:HG23	2:A:1527:MET:HG2	1.65	0.77
2:I:2710:LEU:HD12	2:I:2711:PRO:HD2	1.65	0.77
2:A:1973:GLN:HE22	2:A:3641:LEU:H	1.33	0.76
2:A:2710:LEU:HD12	2:A:2711:PRO:HD2	1.65	0.76
2:G:913:LEU:HB3	2:G:917:GLU:HB2	1.65	0.76
2:A:913:LEU:HB3	2:A:917:GLU:HB2	1.65	0.76
2:G:2710:LEU:HD12	2:G:2711:PRO:HD2	1.65	0.76
2:D:1973:GLN:HE22	2:D:3641:LEU:H	1.33	0.76
2:A:2626:LEU:HD22	2:A:2640:PRO:HB3	1.68	0.75
2:I:2626:LEU:HD22	2:I:2640:PRO:HB3	1.68	0.75
2:D:4839:MET:HE2	2:G:4823:LEU:HD13	1.70	0.74
2:G:1973:GLN:HE22	2:G:3641:LEU:H	1.32	0.74
2:G:2626:LEU:HD22	2:G:2640:PRO:HB3	1.68	0.74
2:I:1973:GLN:HE22	2:I:3641:LEU:H	1.33	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:2626:LEU:HD22	2:D:2640:PRO:HB3	1.68	0.73
2:A:4839:MET:HE2	2:D:4823:LEU:HD13	1.71	0.73
2:D:897:ARG:HD3	2:D:905:PRO:HD3	1.70	0.73
2:A:665:GLU:HB3	2:A:792:LEU:HB2	1.71	0.73
2:D:1008:SER:HB2	2:D:1017:ARG:HE	1.54	0.72
2:I:665:GLU:HB3	2:I:792:LEU:HB2	1.71	0.72
2:I:3110:LEU:HD13	2:I:3183:VAL:HG12	1.71	0.72
2:A:897:ARG:HD3	2:A:905:PRO:HD3	1.70	0.72
2:I:972:LEU:HB2	2:I:1044:ARG:HE	1.55	0.72
2:A:1008:SER:HB2	2:A:1017:ARG:HE	1.55	0.72
2:D:665:GLU:HB3	2:D:792:LEU:HB2	1.71	0.72
2:G:665:GLU:HB3	2:G:792:LEU:HB2	1.71	0.72
2:I:220:LEU:HD12	2:I:390:LEU:HB3	1.70	0.72
2:I:2248:ARG:HE	2:I:3868:ARG:HD2	1.55	0.72
2:A:220:LEU:HD12	2:A:390:LEU:HB3	1.71	0.72
2:A:2248:ARG:HE	2:A:3868:ARG:HD2	1.55	0.72
2:G:1008:SER:HB2	2:G:1017:ARG:HE	1.55	0.72
2:D:972:LEU:HB2	2:D:1044:ARG:HE	1.55	0.71
2:D:220:LEU:HD12	2:D:390:LEU:HB3	1.71	0.71
2:I:1008:SER:HB2	2:I:1017:ARG:HE	1.55	0.71
2:A:972:LEU:HB2	2:A:1044:ARG:HE	1.55	0.71
2:G:972:LEU:HB2	2:G:1044:ARG:HE	1.55	0.71
2:G:897:ARG:HD3	2:G:905:PRO:HD3	1.70	0.71
2:G:3110:LEU:HD13	2:G:3183:VAL:HG12	1.71	0.71
2:I:2967:MET:HE2	2:I:3045:LYS:HB3	1.71	0.71
2:A:2967:MET:HE2	2:A:3045:LYS:HB3	1.71	0.71
3:M:66:ARG:HH11	3:M:83:ASN:HB3	1.56	0.71
2:I:897:ARG:HD3	2:I:905:PRO:HD3	1.71	0.71
3:E:66:ARG:HH11	3:E:83:ASN:HB3	1.56	0.70
2:A:3110:LEU:HD13	2:A:3183:VAL:HG12	1.71	0.70
2:G:220:LEU:HD12	2:G:390:LEU:HB3	1.71	0.70
2:D:130:LYS:NZ	2:G:2459:SER:O	2.24	0.70
2:D:2248:ARG:HE	2:D:3868:ARG:HD2	1.55	0.70
3:K:66:ARG:HH11	3:K:83:ASN:HB3	1.56	0.70
2:D:3110:LEU:HD13	2:D:3183:VAL:HG12	1.71	0.70
2:A:130:LYS:NZ	2:D:2459:SER:O	2.25	0.70
2:I:130:LYS:NZ	2:A:2459:SER:O	2.24	0.70
2:G:2248:ARG:HE	2:G:3868:ARG:HD2	1.55	0.70
3:C:66:ARG:HH11	3:C:83:ASN:HB3	1.56	0.70
2:A:2677:LYS:HE3	2:A:2909:ASP:HB2	1.74	0.69
2:I:2459:SER:O	2:G:130:LYS:NZ	2.24	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:2677:LYS:HE3	2:G:2909:ASP:HB2	1.74	0.69
2:D:2967:MET:HE2	2:D:3045:LYS:HB3	1.73	0.69
2:I:4918:ILE:HD11	2:A:4888:TYR:HA	1.75	0.69
2:I:2677:LYS:HE3	2:I:2909:ASP:HB2	1.74	0.68
2:D:2677:LYS:HE3	2:D:2909:ASP:HB2	1.73	0.68
2:G:3534:MET:HA	2:G:3537:LYS:HB2	1.75	0.68
2:I:3107:VAL:HG21	2:I:3171:SER:HB2	1.76	0.68
2:I:3534:MET:HA	2:I:3537:LYS:HB2	1.75	0.68
2:A:2779:GLU:HG3	2:A:2792:ARG:HG2	1.76	0.68
2:A:3107:VAL:HG21	2:A:3171:SER:HB2	1.76	0.68
2:D:3534:MET:HA	2:D:3537:LYS:HB2	1.75	0.68
2:D:2960:LEU:HD13	2:D:3038:MET:HG3	1.76	0.68
2:D:4918:ILE:HD11	2:G:4888:TYR:HA	1.76	0.68
2:G:891:TRP:HA	2:G:902:ARG:HB3	1.76	0.68
2:A:2116:LEU:O	2:A:2120:MET:HG2	1.95	0.67
2:A:2960:LEU:HD13	2:A:3038:MET:HG3	1.76	0.67
2:D:2971:GLN:HA	2:D:2974:ILE:HG12	1.76	0.67
2:G:2967:MET:HE2	2:G:3045:LYS:HB3	1.75	0.67
3:K:38:ARG:HG3	3:K:46:GLU:HG3	1.76	0.67
2:A:3534:MET:HA	2:A:3537:LYS:HB2	1.75	0.67
3:E:38:ARG:HG3	3:E:46:GLU:HG3	1.76	0.67
2:I:2960:LEU:HD13	2:I:3038:MET:HG3	1.76	0.67
2:I:4888:TYR:HA	2:G:4918:ILE:HD11	1.76	0.67
2:I:2971:GLN:HA	2:I:2974:ILE:HG12	1.76	0.67
2:I:891:TRP:HA	2:I:902:ARG:HB3	1.76	0.67
2:I:2116:LEU:O	2:I:2120:MET:HG2	1.95	0.67
2:G:2960:LEU:HD13	2:G:3038:MET:HG3	1.76	0.67
2:D:891:TRP:HA	2:D:902:ARG:HB3	1.76	0.67
2:D:2116:LEU:O	2:D:2120:MET:HG2	1.94	0.67
2:G:220:LEU:HD21	2:G:262:LEU:HD23	1.76	0.67
2:G:2116:LEU:O	2:G:2120:MET:HG2	1.94	0.67
2:I:1180:ARG:HG3	2:I:1181:GLU:HG3	1.78	0.66
2:A:1180:ARG:HG3	2:A:1181:GLU:HG3	1.78	0.66
2:A:2431:ASP:HB2	2:A:2501:SER:HB2	1.78	0.66
2:A:2971:GLN:HA	2:A:2974:ILE:HG12	1.76	0.66
2:D:2431:ASP:HB2	2:D:2501:SER:HB2	1.78	0.66
2:G:2779:GLU:HG3	2:G:2792:ARG:HG2	1.76	0.66
2:I:2431:ASP:HB2	2:I:2501:SER:HB2	1.78	0.66
2:G:2431:ASP:HB2	2:G:2501:SER:HB2	1.78	0.66
2:G:2971:GLN:HA	2:G:2974:ILE:HG12	1.76	0.66
2:D:1180:ARG:HG3	2:D:1181:GLU:HG3	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1180:ARG:HG3	2:G:1181:GLU:HG3	1.78	0.66
2:I:220:LEU:HD21	2:I:262:LEU:HD23	1.76	0.66
2:A:399:GLN:O	2:A:403:MET:HG3	1.96	0.66
2:A:220:LEU:HD21	2:A:262:LEU:HD23	1.76	0.66
2:A:891:TRP:HA	2:A:902:ARG:HB3	1.76	0.66
2:A:4918:ILE:HD11	2:D:4888:TYR:HA	1.77	0.66
2:D:2779:GLU:HG3	2:D:2792:ARG:HG2	1.76	0.66
2:D:3107:VAL:HG21	2:D:3171:SER:HB2	1.76	0.66
2:G:2645:THR:HB	2:G:2702:CYS:HA	1.78	0.66
2:G:3107:VAL:HG21	2:G:3171:SER:HB2	1.76	0.66
2:I:2779:GLU:HG3	2:I:2792:ARG:HG2	1.76	0.66
2:A:1568:LYS:HE2	2:A:1574:PRO:HD3	1.78	0.66
3:C:38:ARG:HG3	3:C:46:GLU:HG3	1.76	0.66
2:D:220:LEU:HD21	2:D:262:LEU:HD23	1.76	0.66
2:D:758:ARG:HH11	2:D:761:GLY:HA2	1.61	0.65
2:I:399:GLN:O	2:I:403:MET:HG3	1.96	0.65
2:I:2645:THR:HB	2:I:2702:CYS:HA	1.78	0.65
2:D:1568:LYS:HE2	2:D:1574:PRO:HD3	1.78	0.65
2:D:3780:LEU:HD11	2:D:3816:MET:HB3	1.78	0.65
2:G:4818:MET:N	2:G:4818:MET:SD	2.70	0.65
2:A:4651:THR:HG22	2:A:4799:SER:HB3	1.78	0.65
2:D:4818:MET:N	2:D:4818:MET:SD	2.70	0.65
3:M:38:ARG:HG3	3:M:46:GLU:HG3	1.76	0.65
2:D:399:GLN:O	2:D:403:MET:HG3	1.96	0.65
2:A:758:ARG:HH11	2:A:761:GLY:HA2	1.61	0.65
2:D:4651:THR:HG22	2:D:4799:SER:HB3	1.78	0.65
2:G:3780:LEU:HD11	2:G:3816:MET:HB3	1.79	0.65
2:I:3780:LEU:HD11	2:I:3816:MET:HB3	1.78	0.65
2:G:399:GLN:O	2:G:403:MET:HG3	1.96	0.65
2:G:2624:ARG:NH2	2:G:2915:GLU:OE2	2.27	0.65
2:D:640:TYR:HB3	2:D:1613:LEU:HD11	1.79	0.65
2:G:4651:THR:HG22	2:G:4799:SER:HB3	1.78	0.65
2:I:4651:THR:HG22	2:I:4799:SER:HB3	1.78	0.65
2:D:2645:THR:HB	2:D:2702:CYS:HA	1.78	0.65
2:A:4818:MET:N	2:A:4818:MET:SD	2.70	0.64
2:I:2624:ARG:NH2	2:I:2915:GLU:OE2	2.27	0.64
2:A:3780:LEU:HD11	2:A:3816:MET:HB3	1.78	0.64
2:G:1568:LYS:HE2	2:G:1574:PRO:HD3	1.78	0.64
2:I:4818:MET:N	2:I:4818:MET:SD	2.70	0.64
2:D:363:ASP:HB3	2:D:366:ALA:HB3	1.79	0.64
2:G:640:TYR:HB3	2:G:1613:LEU:HD11	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:758:ARG:HH11	2:I:761:GLY:HA2	1.61	0.64
2:A:2645:THR:HB	2:A:2702:CYS:HA	1.78	0.64
2:G:601:ASP:OD1	2:G:1668:ARG:NH2	2.31	0.64
2:A:3132:THR:HG23	2:A:3136:LEU:HD12	1.80	0.64
2:I:3132:THR:HG23	2:I:3136:LEU:HD12	1.80	0.64
2:D:985:VAL:HG22	2:D:1043:VAL:HG21	1.80	0.64
2:D:4963:ILE:HG13	2:D:5030:LYS:HZ1	1.63	0.63
2:A:601:ASP:OD1	2:A:1668:ARG:NH2	2.31	0.63
2:D:601:ASP:OD1	2:D:1668:ARG:NH2	2.31	0.63
2:A:2624:ARG:NH2	2:A:2915:GLU:OE2	2.27	0.63
2:A:4963:ILE:HG13	2:A:5030:LYS:HZ1	1.63	0.63
2:G:3535:LEU:HB3	2:G:3539:ARG:HH21	1.64	0.63
2:I:1568:LYS:HE2	2:I:1574:PRO:HD3	1.78	0.63
2:G:758:ARG:HH11	2:G:761:GLY:HA2	1.61	0.63
2:G:985:VAL:HG22	2:G:1043:VAL:HG21	1.80	0.63
2:I:640:TYR:HB3	2:I:1613:LEU:HD11	1.79	0.63
2:I:1110:ARG:NH2	2:I:1112:ASP:OD2	2.32	0.63
2:A:3535:LEU:HB3	2:A:3539:ARG:HH21	1.64	0.63
2:D:1519:LEU:HD11	2:D:1572:ILE:HD13	1.80	0.63
2:G:663:TYR:HE1	2:G:745:SER:HB3	1.64	0.63
2:I:4963:ILE:HG13	2:I:5030:LYS:HZ1	1.64	0.63
2:D:3535:LEU:HB3	2:D:3539:ARG:HH21	1.64	0.63
2:I:601:ASP:OD1	2:I:1668:ARG:NH2	2.31	0.63
2:I:1519:LEU:HD11	2:I:1572:ILE:HD13	1.80	0.63
2:A:1110:ARG:NH2	2:A:1112:ASP:OD2	2.32	0.62
2:D:3157:ILE:HG23	2:D:3161:VAL:HG12	1.81	0.62
2:I:985:VAL:HG22	2:I:1043:VAL:HG21	1.80	0.62
2:A:929:LEU:HA	2:A:932:LEU:HD12	1.81	0.62
2:D:663:TYR:HE1	2:D:745:SER:HB3	1.64	0.62
2:G:3157:ILE:HG23	2:G:3161:VAL:HG12	1.81	0.62
2:G:4852:THR:HG21	2:G:4883:TYR:HA	1.81	0.62
2:A:663:TYR:HE1	2:A:745:SER:HB3	1.64	0.62
2:G:1519:LEU:HD11	2:G:1572:ILE:HD13	1.80	0.62
2:I:663:TYR:HE1	2:I:745:SER:HB3	1.64	0.62
2:I:3245:VAL:HG12	2:I:3248:ARG:HH12	1.65	0.62
2:I:3535:LEU:HB3	2:I:3539:ARG:HH21	1.64	0.62
2:A:640:TYR:HB3	2:A:1613:LEU:HD11	1.79	0.62
2:A:5027:CYS:SG	2:A:5030:LYS:NZ	2.66	0.62
2:G:1110:ARG:NH2	2:G:1112:ASP:OD2	2.32	0.62
2:G:2591:ARG:NH2	2:G:2629:ASP:OD2	2.32	0.62
2:I:929:LEU:HA	2:I:932:LEU:HD12	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1220:GLN:HG3	2:G:3519:PRO:HB3	1.82	0.62
2:D:5027:CYS:SG	2:D:5030:LYS:NZ	2.66	0.62
2:G:3132:THR:HG23	2:G:3136:LEU:HD12	1.80	0.62
2:I:4852:THR:HG21	2:I:4883:TYR:HA	1.81	0.62
2:D:1110:ARG:NH2	2:D:1112:ASP:OD2	2.32	0.62
2:D:4852:THR:HG21	2:D:4883:TYR:HA	1.81	0.62
2:I:2591:ARG:NH2	2:I:2629:ASP:OD2	2.33	0.62
2:D:3132:THR:HG23	2:D:3136:LEU:HD12	1.80	0.62
2:A:985:VAL:HG22	2:A:1043:VAL:HG21	1.80	0.61
2:A:3245:VAL:HG12	2:A:3248:ARG:HH12	1.65	0.61
2:D:2591:ARG:NH2	2:D:2629:ASP:OD2	2.33	0.61
2:A:1220:GLN:HG3	2:D:3519:PRO:HB3	1.81	0.61
2:A:1519:LEU:HD11	2:A:1572:ILE:HD13	1.80	0.61
2:I:3157:ILE:HG23	2:I:3161:VAL:HG12	1.81	0.61
2:A:2591:ARG:NH2	2:A:2629:ASP:OD2	2.33	0.61
2:D:929:LEU:HA	2:D:932:LEU:HD12	1.81	0.61
2:G:783:PHE:HB2	2:G:787:VAL:HG21	1.83	0.61
2:A:4852:THR:HG21	2:A:4883:TYR:HA	1.81	0.61
2:D:3557:LEU:HD21	2:D:3589:PRO:HB3	1.82	0.61
2:G:3245:VAL:HG12	2:G:3248:ARG:HH12	1.65	0.61
2:G:4963:ILE:HG13	2:G:5030:LYS:HZ1	1.66	0.61
2:A:3557:LEU:HD21	2:A:3589:PRO:HB3	1.82	0.61
2:D:783:PHE:HB2	2:D:787:VAL:HG21	1.82	0.61
2:G:929:LEU:HA	2:G:932:LEU:HD12	1.81	0.61
2:A:3157:ILE:HG23	2:A:3161:VAL:HG12	1.81	0.61
2:A:3590:GLU:O	2:A:3594:ARG:HG2	2.01	0.61
2:I:3557:LEU:HD21	2:I:3589:PRO:HB3	1.82	0.61
2:D:3937:TYR:O	2:D:4002:LYS:NZ	2.34	0.61
2:G:3557:LEU:HD21	2:G:3589:PRO:HB3	1.82	0.60
2:I:4576:ILE:HG21	2:I:4643:LEU:HB2	1.83	0.60
2:A:365:LYS:O	2:A:369:LEU:HG	2.02	0.60
2:A:4576:ILE:HG21	2:A:4643:LEU:HB2	1.83	0.60
2:D:3245:VAL:HG12	2:D:3248:ARG:HH12	1.64	0.60
2:I:232:THR:HG22	2:I:258:SER:HB3	1.84	0.60
2:A:265:LEU:HD12	2:A:279:PRO:HB2	1.83	0.60
2:D:1095:VAL:HB	2:D:1199:VAL:HG23	1.84	0.60
2:D:2393:ASP:OD1	2:D:2417:HIS:ND1	2.34	0.60
2:G:232:THR:HG22	2:G:258:SER:HB3	1.84	0.60
2:I:3519:PRO:HB3	2:G:1220:GLN:HG3	1.82	0.60
2:G:2534:ALA:HB1	2:G:2588:ARG:HE	1.67	0.60
2:G:3590:GLU:O	2:G:3594:ARG:HG2	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:983:THR:O	2:I:987:ARG:HD2	2.02	0.60
2:D:2534:ALA:HB1	2:D:2588:ARG:HE	1.67	0.60
2:D:897:ARG:NH1	3:E:102:ASN:O	2.35	0.60
2:D:4576:ILE:HG21	2:D:4643:LEU:HB2	1.83	0.60
2:G:3102:ASP:HA	2:G:3105:LYS:HE2	1.84	0.60
2:G:3937:TYR:O	2:G:4002:LYS:NZ	2.34	0.60
2:I:4241:THR:O	2:I:4245:MET:HG2	2.01	0.60
2:A:232:THR:HG22	2:A:258:SER:HB3	1.84	0.60
2:A:983:THR:O	2:A:987:ARG:HD2	2.02	0.60
2:I:1220:GLN:HG3	2:A:3519:PRO:HB3	1.83	0.60
2:A:3821:LYS:O	2:A:3824:LYS:NZ	2.35	0.60
2:A:3937:TYR:O	2:A:4002:LYS:NZ	2.34	0.60
2:D:1448:VAL:HG12	2:D:1554:VAL:HG23	1.84	0.60
2:D:3102:ASP:HA	2:D:3105:LYS:HE2	1.84	0.60
2:I:340:LYS:O	2:I:344:SER:OG	2.20	0.60
2:I:365:LYS:HD2	2:I:368:ARG:HD2	1.83	0.60
2:I:783:PHE:HB2	2:I:787:VAL:HG21	1.83	0.60
2:I:5014:TYR:HE2	7:I:5104:CFF:H101	1.66	0.60
2:A:4152:GLU:OE1	2:A:4192:ARG:NH1	2.35	0.60
2:G:983:THR:O	2:G:987:ARG:HD2	2.02	0.60
2:G:1095:VAL:HB	2:G:1199:VAL:HG23	1.83	0.60
2:I:265:LEU:HD12	2:I:279:PRO:HB2	1.83	0.60
2:A:783:PHE:HB2	2:A:787:VAL:HG21	1.82	0.60
2:D:232:THR:HG22	2:D:258:SER:HB3	1.84	0.60
2:I:3590:GLU:O	2:I:3594:ARG:HG2	2.01	0.59
2:I:3937:TYR:O	2:I:4002:LYS:NZ	2.34	0.59
2:I:4090:LYS:HG2	2:I:4123:ILE:HD11	1.84	0.59
2:A:1095:VAL:HB	2:A:1199:VAL:HG23	1.84	0.59
2:G:4576:ILE:HG21	2:G:4643:LEU:HB2	1.83	0.59
2:I:551:LEU:HB3	2:I:589:LEU:HD21	1.85	0.59
2:I:897:ARG:NH1	3:K:102:ASN:O	2.34	0.59
2:I:1095:VAL:HB	2:I:1199:VAL:HG23	1.84	0.59
2:A:2534:ALA:HB1	2:A:2588:ARG:HE	1.67	0.59
1:F:3:GLU:N	1:F:3:GLU:OE2	2.35	0.59
2:I:871:ARG:HG2	2:I:925:SER:HB2	1.84	0.59
2:I:5013:MET:HE1	2:I:5021:PHE:HB3	1.84	0.59
1:J:3:GLU:N	1:J:3:GLU:OE2	2.35	0.59
2:G:1448:VAL:HG12	2:G:1554:VAL:HG23	1.84	0.59
2:G:4090:LYS:HG2	2:G:4123:ILE:HD11	1.84	0.59
1:H:3:GLU:N	1:H:3:GLU:OE2	2.35	0.59
2:I:359:TYR:CE1	2:I:385:ASP:HB2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:371:VAL:HG12	2:I:373:LYS:H	1.67	0.59
2:I:2534:ALA:HB1	2:I:2588:ARG:HE	1.67	0.59
2:A:4090:LYS:HG2	2:A:4123:ILE:HD11	1.84	0.59
2:D:3590:GLU:O	2:D:3594:ARG:HG2	2.01	0.59
2:I:2656:CYS:SG	2:I:2657:LEU:N	2.76	0.59
2:D:2777:TYR:HB3	2:D:2791:LEU:HD23	1.85	0.59
2:G:871:ARG:HG2	2:G:925:SER:HB2	1.84	0.59
2:G:4152:GLU:OE1	2:G:4192:ARG:NH1	2.35	0.59
2:I:2393:ASP:OD1	2:I:2417:HIS:ND1	2.34	0.59
2:I:2777:TYR:HB3	2:I:2791:LEU:HD23	1.85	0.59
2:I:3102:ASP:HA	2:I:3105:LYS:HE2	1.84	0.59
2:I:4152:GLU:OE1	2:I:4192:ARG:NH1	2.35	0.59
2:A:2777:TYR:HB3	2:A:2791:LEU:HD23	1.85	0.59
2:I:4836:GLN:O	2:I:4839:MET:HB3	2.03	0.59
3:K:105:ASN:ND2	3:K:112:ASP:OD1	2.36	0.59
2:A:551:LEU:HB3	2:A:589:LEU:HD21	1.85	0.59
2:A:2656:CYS:SG	2:A:2657:LEU:N	2.76	0.59
2:D:2624:ARG:NH2	2:D:2915:GLU:OE2	2.27	0.59
2:A:2472:LEU:HD23	2:A:2473:PRO:HD2	1.85	0.59
2:D:983:THR:O	2:D:987:ARG:HD2	2.01	0.59
2:D:4090:LYS:HG2	2:D:4123:ILE:HD11	1.84	0.59
2:I:3504:SER:O	2:I:3507:THR:OG1	2.21	0.59
1:L:3:GLU:N	1:L:3:GLU:OE2	2.35	0.59
2:A:1448:VAL:HG12	2:A:1554:VAL:HG23	1.84	0.59
2:A:2393:ASP:OD1	2:A:2417:HIS:ND1	2.34	0.59
2:D:4152:GLU:OE1	2:D:4192:ARG:NH1	2.35	0.59
2:G:265:LEU:HD12	2:G:279:PRO:HB2	1.83	0.59
2:G:897:ARG:NH1	3:M:102:ASN:O	2.36	0.59
2:G:2777:TYR:HB3	2:G:2791:LEU:HD23	1.84	0.59
2:I:3219:TYR:HE1	2:I:3232:LEU:HB3	1.68	0.59
2:D:265:LEU:HD12	2:D:279:PRO:HB2	1.83	0.59
3:M:105:ASN:ND2	3:M:112:ASP:OD1	2.36	0.59
2:A:3219:TYR:HE1	2:A:3232:LEU:HB3	1.68	0.58
2:D:551:LEU:HB3	2:D:589:LEU:HD21	1.85	0.58
2:D:3579:LEU:HD23	2:D:3582:ARG:HB2	1.85	0.58
2:G:41:GLY:O	2:G:45:ARG:NH1	2.37	0.58
2:G:551:LEU:HB3	2:G:589:LEU:HD21	1.85	0.58
2:G:2472:LEU:HD23	2:G:2473:PRO:HD2	1.85	0.58
2:I:1448:VAL:HG12	2:I:1554:VAL:HG23	1.84	0.58
2:G:2656:CYS:SG	2:G:2657:LEU:N	2.76	0.58
2:I:2875:ALA:HB2	2:I:2927:LEU:HD22	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:3579:LEU:HD23	2:I:3582:ARG:HB2	1.85	0.58
2:A:41:GLY:O	2:A:45:ARG:NH1	2.37	0.58
2:A:3102:ASP:HA	2:A:3105:LYS:HE2	1.84	0.58
2:D:2875:ALA:HB2	2:D:2927:LEU:HD22	1.84	0.58
2:G:221:ARG:NH2	2:G:255:HIS:O	2.36	0.58
2:A:4836:GLN:O	2:A:4839:MET:HB3	2.03	0.58
2:D:219:VAL:HG21	2:D:398:SER:HB2	1.86	0.58
2:G:366:ALA:HB1	2:G:371:VAL:HG12	1.85	0.58
2:G:596:ASN:OD1	2:G:598:LYS:NZ	2.37	0.58
2:G:3821:LYS:O	2:G:3824:LYS:NZ	2.35	0.58
2:A:3504:SER:O	2:A:3507:THR:OG1	2.21	0.58
3:C:105:ASN:ND2	3:C:112:ASP:OD1	2.36	0.58
2:D:340:LYS:O	2:D:344:SER:OG	2.20	0.58
3:E:105:ASN:ND2	3:E:112:ASP:OD1	2.35	0.58
2:I:596:ASN:OD1	2:I:598:LYS:NZ	2.37	0.58
2:G:219:VAL:HG21	2:G:398:SER:HB2	1.86	0.58
2:I:2123:LEU:O	2:I:2127:GLN:HG2	2.03	0.58
2:A:871:ARG:HG2	2:A:925:SER:HB2	1.84	0.58
2:A:2624:ARG:HH12	2:A:2912:THR:HG22	1.69	0.58
2:D:2123:LEU:O	2:D:2127:GLN:HG2	2.03	0.58
2:D:2656:CYS:SG	2:D:2657:LEU:N	2.76	0.58
2:G:2123:LEU:O	2:G:2127:GLN:HG2	2.03	0.58
2:G:3504:SER:O	2:G:3507:THR:OG1	2.21	0.58
2:G:4836:GLN:O	2:G:4839:MET:HB3	2.03	0.58
2:I:3821:LYS:O	2:I:3824:LYS:NZ	2.35	0.57
2:A:340:LYS:O	2:A:344:SER:OG	2.20	0.57
2:A:2875:ALA:HB2	2:A:2927:LEU:HD22	1.84	0.57
2:A:3031:ALA:O	2:A:3036:LYS:NZ	2.29	0.57
3:C:32:ASN:OD1	3:C:33:SER:N	2.37	0.57
2:D:2472:LEU:HD23	2:D:2473:PRO:HD2	1.85	0.57
2:D:3219:TYR:HE1	2:D:3232:LEU:HB3	1.68	0.57
3:E:32:ASN:OD1	3:E:33:SER:N	2.37	0.57
2:I:41:GLY:O	2:I:45:ARG:NH1	2.37	0.57
3:K:32:ASN:OD1	3:K:33:SER:N	2.37	0.57
2:A:219:VAL:HG21	2:A:398:SER:HB2	1.86	0.57
2:G:340:LYS:O	2:G:344:SER:OG	2.20	0.57
2:G:2875:ALA:HB2	2:G:2927:LEU:HD22	1.84	0.57
2:G:3219:TYR:HE1	2:G:3232:LEU:HB3	1.68	0.57
2:I:2624:ARG:HH12	2:I:2912:THR:HG22	1.69	0.57
2:D:596:ASN:OD1	2:D:598:LYS:NZ	2.37	0.57
2:D:3100:SER:HB3	2:D:3167:ARG:HE	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:2958:GLY:O	2:G:2962:GLN:HG2	2.04	0.57
2:A:469:ARG:O	2:A:473:ASN:ND2	2.37	0.57
2:D:41:GLY:O	2:D:45:ARG:NH1	2.37	0.57
2:D:871:ARG:HG2	2:D:925:SER:HB2	1.84	0.57
2:G:5014:TYR:HE2	7:G:5104:CFF:H101	1.69	0.57
2:I:219:VAL:HG21	2:I:398:SER:HB2	1.86	0.57
2:I:5027:CYS:SG	2:I:5030:LYS:NZ	2.66	0.57
2:A:2123:LEU:O	2:A:2127:GLN:HG2	2.04	0.57
2:D:2624:ARG:HH12	2:D:2912:THR:HG22	1.69	0.57
2:D:4836:GLN:O	2:D:4839:MET:HB3	2.03	0.57
2:G:2393:ASP:OD1	2:G:2417:HIS:ND1	2.34	0.57
2:G:3579:LEU:HD23	2:G:3582:ARG:HB2	1.85	0.57
2:I:2472:LEU:HD23	2:I:2473:PRO:HD2	1.85	0.57
2:A:3579:LEU:HD23	2:A:3582:ARG:HB2	1.85	0.57
2:D:5014:TYR:HE2	7:D:5104:CFF:H101	1.69	0.57
2:G:2624:ARG:HH12	2:G:2912:THR:HG22	1.69	0.57
3:M:32:ASN:OD1	3:M:33:SER:N	2.37	0.57
2:I:469:ARG:O	2:I:473:ASN:ND2	2.38	0.57
2:A:1089:TYR:HD1	2:A:1152:MET:HG3	1.70	0.57
2:I:999:ASP:O	2:I:1003:GLN:HG3	2.05	0.57
2:A:3100:SER:HB3	2:A:3167:ARG:HE	1.70	0.57
2:D:469:ARG:O	2:D:473:ASN:ND2	2.37	0.57
2:D:2958:GLY:O	2:D:2962:GLN:HG2	2.04	0.57
2:I:2958:GLY:O	2:I:2962:GLN:HG2	2.05	0.57
2:I:835:ARG:NH1	2:I:1210:SER:OG	2.38	0.56
3:K:6:GLU:HG3	3:K:121:THR:HG22	1.87	0.56
2:A:835:ARG:NH1	2:A:1210:SER:OG	2.38	0.56
2:A:897:ARG:NH1	3:C:102:ASN:O	2.38	0.56
2:A:2527:LEU:HG	2:A:2531:ARG:HH21	1.70	0.56
2:I:1286:MET:HE2	2:I:1464:PHE:HB3	1.87	0.56
2:A:596:ASN:OD1	2:A:598:LYS:NZ	2.37	0.56
2:A:999:ASP:O	2:A:1003:GLN:HG3	2.05	0.56
2:D:2229:VAL:HG11	2:D:2265:LEU:HD11	1.87	0.56
3:E:6:GLU:HG3	3:E:121:THR:HG22	1.87	0.56
2:G:999:ASP:O	2:G:1003:GLN:HG3	2.05	0.56
2:I:4242:ILE:O	2:I:4246:GLN:HG3	2.04	0.56
3:C:6:GLU:HG3	3:C:121:THR:HG22	1.87	0.56
2:D:24:CYS:SG	2:D:25:SER:N	2.78	0.56
2:D:221:ARG:NH2	2:D:255:HIS:O	2.36	0.56
2:D:835:ARG:NH1	2:D:1210:SER:OG	2.38	0.56
2:D:999:ASP:O	2:D:1003:GLN:HG3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:4983:HIS:O	6:D:5103:ATP:N6	2.38	0.56
2:G:371:VAL:HG22	2:G:373:LYS:H	1.69	0.56
2:G:469:ARG:O	2:G:473:ASN:ND2	2.37	0.56
2:G:835:ARG:NH1	2:G:1210:SER:OG	2.38	0.56
2:G:1286:MET:HE2	2:G:1464:PHE:HB3	1.87	0.56
2:G:2229:VAL:HG11	2:G:2265:LEU:HD11	1.87	0.56
2:G:5026:ASP:HA	2:G:5030:LYS:HE2	1.88	0.56
3:M:6:GLU:HG3	3:M:121:THR:HG22	1.87	0.56
2:I:2527:LEU:HG	2:I:2531:ARG:HH21	1.70	0.56
2:A:135:VAL:HG11	2:A:180:LEU:HD21	1.87	0.56
2:A:5026:ASP:HA	2:A:5030:LYS:HE2	1.88	0.56
2:D:3031:ALA:O	2:D:3036:LYS:NZ	2.29	0.56
2:G:3100:SER:HB3	2:G:3167:ARG:HE	1.69	0.56
2:I:2827:ARG:NH2	2:I:2935:TYR:OH	2.39	0.56
2:A:2958:GLY:O	2:A:2962:GLN:HG2	2.04	0.56
3:C:85:LEU:HD13	3:C:125:VAL:HG13	1.88	0.56
2:D:2527:LEU:HG	2:D:2531:ARG:HH21	1.70	0.56
2:I:177:GLU:OE2	2:A:2452:ARG:NH2	2.37	0.56
2:D:1815:LEU:HD22	2:D:1845:VAL:HG21	1.87	0.56
2:D:2881:ASN:HA	2:D:2884:ASN:ND2	2.21	0.56
2:A:1299:GLN:NE2	1:J:32:ASN:OD1	2.39	0.56
2:A:3410:PRO:HA	2:A:3413:ILE:HD12	1.88	0.56
2:D:110:ARG:NH2	2:D:117:TYR:OH	2.39	0.56
3:E:40:ALA:HB3	3:E:43:LYS:HB3	1.88	0.56
2:I:1089:TYR:HD1	2:I:1152:MET:HG3	1.70	0.56
2:I:5026:ASP:HA	2:I:5030:LYS:HE2	1.88	0.56
2:D:2827:ARG:NH2	2:D:2935:TYR:OH	2.39	0.56
2:D:3147:ILE:HD11	2:D:3153:GLY:HA2	1.87	0.56
2:D:3504:SER:O	2:D:3507:THR:OG1	2.21	0.56
2:I:135:VAL:HG11	2:I:180:LEU:HD21	1.87	0.56
2:I:894:GLY:HA3	2:I:903:LEU:HD13	1.88	0.56
2:I:2314:LEU:HD23	2:I:2314:LEU:H	1.71	0.56
2:A:2827:ARG:NH2	2:A:2935:TYR:OH	2.39	0.56
2:D:5026:ASP:HA	2:D:5030:LYS:HE2	1.88	0.56
2:G:110:ARG:NH2	2:G:117:TYR:OH	2.39	0.56
3:M:40:ALA:HB3	3:M:43:LYS:HB3	1.88	0.56
2:I:221:ARG:NH2	2:I:255:HIS:O	2.36	0.56
2:I:3100:SER:HB3	2:I:3167:ARG:HE	1.69	0.56
3:C:11:LEU:HG	3:C:124:THR:HB	1.88	0.56
2:D:3402:CYS:HG	2:D:3451:PHE:HE1	1.54	0.56
2:D:3410:PRO:HA	2:D:3413:ILE:HD12	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:11:LEU:HG	3:E:124:THR:HB	1.88	0.56
2:G:24:CYS:SG	2:G:25:SER:N	2.78	0.56
2:G:1089:TYR:HD1	2:G:1152:MET:HG3	1.70	0.56
2:G:5027:CYS:SG	2:G:5030:LYS:NZ	2.66	0.56
2:I:110:ARG:NH2	2:I:117:TYR:OH	2.39	0.55
2:I:2624:ARG:HH21	2:I:2906:VAL:HG21	1.71	0.55
2:A:24:CYS:SG	2:A:25:SER:N	2.78	0.55
2:G:135:VAL:HG11	2:G:180:LEU:HD21	1.87	0.55
2:G:157:ARG:NH1	2:G:167:ASP:OD2	2.39	0.55
2:G:894:GLY:HA3	2:G:903:LEU:HD13	1.88	0.55
2:G:2827:ARG:NH2	2:G:2935:TYR:OH	2.39	0.55
2:G:3034:LYS:O	2:G:3037:GLU:HG3	2.06	0.55
2:I:3036:LYS:HD2	2:I:3079:THR:HG21	1.88	0.55
2:A:3034:LYS:O	2:A:3037:GLU:HG3	2.07	0.55
2:D:1089:TYR:HD1	2:D:1152:MET:HG3	1.70	0.55
2:G:4983:HIS:O	6:G:5103:ATP:N6	2.38	0.55
2:I:24:CYS:SG	2:I:25:SER:N	2.78	0.55
2:I:157:ARG:NH1	2:I:167:ASP:OD2	2.39	0.55
2:A:1815:LEU:HD22	2:A:1845:VAL:HG21	1.88	0.55
2:D:2314:LEU:HD23	2:D:2314:LEU:H	1.72	0.55
2:G:2314:LEU:HD23	2:G:2314:LEU:H	1.72	0.55
2:G:3036:LYS:HD2	2:G:3079:THR:HG21	1.88	0.55
2:I:2229:VAL:HG11	2:I:2265:LEU:HD11	1.87	0.55
2:D:3530:GLN:O	2:D:3533:ILE:HB	2.07	0.55
2:I:247:TYR:HE2	2:I:359:TYR:HA	1.71	0.55
2:I:3034:LYS:O	2:I:3037:GLU:HG3	2.07	0.55
2:A:961:MET:HG3	2:A:962:SER:H	1.72	0.55
2:A:2314:LEU:HD23	2:A:2314:LEU:H	1.71	0.55
2:A:2624:ARG:HH21	2:A:2906:VAL:HG21	1.71	0.55
2:G:131:LEU:O	2:G:178:ARG:NH1	2.40	0.55
2:G:1815:LEU:HD22	2:G:1845:VAL:HG21	1.88	0.55
3:M:11:LEU:HG	3:M:124:THR:HB	1.88	0.55
2:I:870:ILE:HD11	2:I:1049:TYR:HB3	1.89	0.55
2:I:3147:ILE:HD11	2:I:3153:GLY:HA2	1.87	0.55
3:K:11:LEU:HG	3:K:124:THR:HB	1.88	0.55
2:A:3147:ILE:HD11	2:A:3153:GLY:HA2	1.88	0.55
2:D:3821:LYS:O	2:D:3824:LYS:NZ	2.35	0.55
2:G:3530:GLN:O	2:G:3533:ILE:HB	2.07	0.55
2:I:2881:ASN:HA	2:I:2884:ASN:ND2	2.21	0.55
2:A:110:ARG:NH2	2:A:117:TYR:OH	2.39	0.55
2:G:2527:LEU:HG	2:G:2531:ARG:HH21	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:3147:ILE:HD11	2:G:3153:GLY:HA2	1.87	0.55
2:G:3410:PRO:HA	2:G:3413:ILE:HD12	1.88	0.55
2:I:359:TYR:HE1	2:I:385:ASP:HB2	1.72	0.55
2:I:3031:ALA:O	2:I:3036:LYS:NZ	2.29	0.55
2:A:221:ARG:NH2	2:A:255:HIS:O	2.36	0.55
2:A:2229:VAL:HG11	2:A:2265:LEU:HD11	1.87	0.55
3:C:40:ALA:HB3	3:C:43:LYS:HB3	1.88	0.55
2:G:2624:ARG:HH21	2:G:2906:VAL:HG21	1.71	0.55
3:M:85:LEU:HD13	3:M:125:VAL:HG13	1.88	0.55
2:I:131:LEU:O	2:I:178:ARG:NH1	2.40	0.55
2:I:3410:PRO:HA	2:I:3413:ILE:HD12	1.88	0.55
2:D:135:VAL:HG11	2:D:180:LEU:HD21	1.87	0.55
2:D:1286:MET:HE2	2:D:1464:PHE:HB3	1.89	0.55
2:D:1299:GLN:NE2	1:F:32:ASN:OD1	2.39	0.55
2:G:870:ILE:HD11	2:G:1049:TYR:HB3	1.89	0.55
2:G:2380:ILE:HG21	2:G:2469:ILE:HD11	1.89	0.55
2:I:622:THR:HG23	2:I:626:LEU:HD22	1.89	0.55
2:I:2867:LEU:HB2	2:I:2928:LYS:HZ3	1.72	0.55
3:K:40:ALA:HB3	3:K:43:LYS:HB3	1.88	0.55
2:A:177:GLU:OE2	2:D:2452:ARG:NH2	2.38	0.55
2:A:2881:ASN:HA	2:A:2884:ASN:ND2	2.21	0.55
3:E:85:LEU:HD13	3:E:125:VAL:HG13	1.88	0.55
2:G:3402:CYS:HG	2:G:3451:PHE:HE1	1.55	0.55
2:I:1815:LEU:HD22	2:I:1845:VAL:HG21	1.88	0.54
2:I:2623:LEU:O	2:I:2627:VAL:HG23	2.07	0.54
2:I:3768:SER:HA	2:I:3771:HIS:CD2	2.42	0.54
2:A:894:GLY:HA3	2:A:903:LEU:HD13	1.88	0.54
2:D:177:GLU:OE2	2:G:2452:ARG:NH2	2.38	0.54
2:D:3768:SER:HA	2:D:3771:HIS:CD2	2.42	0.54
2:A:131:LEU:O	2:A:178:ARG:NH1	2.40	0.54
2:A:317:ARG:NH1	2:A:349:GLN:OE1	2.40	0.54
2:D:317:ARG:NH1	2:D:349:GLN:OE1	2.41	0.54
2:G:2881:ASN:HA	2:G:2884:ASN:ND2	2.21	0.54
2:G:4242:ILE:O	2:G:4246:GLN:HG3	2.06	0.54
2:A:2380:ILE:HG21	2:A:2469:ILE:HD11	1.90	0.54
2:A:4242:ILE:O	2:A:4246:GLN:HG3	2.07	0.54
2:D:894:GLY:HA3	2:D:903:LEU:HD13	1.88	0.54
2:D:961:MET:HG3	2:D:962:SER:H	1.72	0.54
2:D:1033:ARG:HA	2:D:1033:ARG:NE	2.22	0.54
2:D:2624:ARG:HH21	2:D:2906:VAL:HG21	1.71	0.54
2:G:3768:SER:HA	2:G:3771:HIS:CD2	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:793:LEU:HD12	2:I:821:LEU:HD21	1.89	0.54
2:I:858:THR:HA	2:I:861:ILE:HD13	1.89	0.54
2:A:3036:LYS:HD2	2:A:3079:THR:HG21	1.89	0.54
2:A:3768:SER:HA	2:A:3771:HIS:CD2	2.42	0.54
2:D:870:ILE:HD11	2:D:1049:TYR:HB3	1.89	0.54
2:D:2623:LEU:O	2:D:2627:VAL:HG23	2.06	0.54
2:D:4242:ILE:O	2:D:4246:GLN:HG3	2.07	0.54
2:G:3194:LEU:HD21	2:G:3276:MET:SD	2.48	0.54
2:I:3194:LEU:HD21	2:I:3276:MET:SD	2.48	0.54
2:D:2380:ILE:HG21	2:D:2469:ILE:HD11	1.90	0.54
2:G:2623:LEU:O	2:G:2627:VAL:HG23	2.06	0.54
3:K:85:LEU:HD13	3:K:125:VAL:HG13	1.88	0.54
2:A:622:THR:HG23	2:A:626:LEU:HD22	1.89	0.54
2:A:2623:LEU:O	2:A:2627:VAL:HG23	2.06	0.54
2:D:131:LEU:O	2:D:178:ARG:NH1	2.40	0.54
2:D:3017:PHE:HD2	2:D:3039:ILE:HD12	1.73	0.54
2:D:3034:LYS:O	2:D:3037:GLU:HG3	2.06	0.54
2:D:3245:VAL:HG12	2:D:3248:ARG:NH1	2.23	0.54
2:G:793:LEU:HD12	2:G:821:LEU:HD21	1.89	0.54
2:I:2380:ILE:HG21	2:I:2469:ILE:HD11	1.89	0.54
2:I:2452:ARG:NH2	2:G:177:GLU:OE2	2.38	0.54
2:I:4826:ILE:HD12	2:G:4839:MET:SD	2.48	0.54
2:I:5009:TYR:HA	2:I:5012:LYS:HE3	1.89	0.54
2:A:365:LYS:HE2	2:A:369:LEU:HD21	1.90	0.54
2:A:858:THR:HA	2:A:861:ILE:HD13	1.89	0.54
2:A:1033:ARG:NE	2:A:1033:ARG:HA	2.22	0.54
2:A:2247:GLN:NE2	2:A:2278:ALA:O	2.41	0.54
2:A:4853:VAL:HG13	2:D:4807:PHE:HD2	1.72	0.54
2:G:2469:ILE:HD12	2:G:2472:LEU:HD12	1.89	0.54
2:G:2902:HIS:HB3	2:G:2905:LEU:HG	1.90	0.54
2:I:1299:GLN:NE2	1:L:32:ASN:OD1	2.39	0.54
2:A:683:ARG:HG2	2:A:717:ASP:HB3	1.89	0.54
2:G:317:ARG:NH1	2:G:349:GLN:OE1	2.40	0.54
2:A:3530:GLN:O	2:A:3533:ILE:HB	2.07	0.54
2:D:157:ARG:NH1	2:D:167:ASP:OD2	2.39	0.54
2:D:3036:LYS:HD2	2:D:3079:THR:HG21	1.89	0.54
2:G:683:ARG:HG2	2:G:717:ASP:HB3	1.89	0.54
2:G:2867:LEU:HB2	2:G:2928:LYS:HZ3	1.72	0.54
2:I:3530:GLN:O	2:I:3533:ILE:HB	2.07	0.54
2:D:858:THR:HA	2:D:861:ILE:HD13	1.89	0.54
2:D:4839:MET:SD	2:G:4826:ILE:HD12	2.48	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:107:TRP:HE1	3:M:110:PRO:HB2	1.73	0.54
2:I:683:ARG:HG2	2:I:717:ASP:HB3	1.89	0.53
2:I:2902:HIS:HB3	2:I:2905:LEU:HG	1.90	0.53
3:K:107:TRP:HE1	3:K:110:PRO:HB2	1.73	0.53
2:A:3194:LEU:HD21	2:A:3276:MET:SD	2.48	0.53
2:D:3143:LEU:O	2:D:3147:ILE:HG22	2.09	0.53
2:G:858:THR:HA	2:G:861:ILE:HD13	1.89	0.53
2:G:2247:GLN:NE2	2:G:2278:ALA:O	2.41	0.53
2:G:4681:LEU:HD12	2:G:4724:VAL:HG21	1.90	0.53
2:I:1033:ARG:NE	2:I:1033:ARG:HA	2.22	0.53
2:I:4807:PHE:HD2	2:G:4853:VAL:HG13	1.73	0.53
2:A:870:ILE:HD11	2:A:1049:TYR:HB3	1.89	0.53
2:D:622:THR:HG23	2:D:626:LEU:HD22	1.89	0.53
2:D:2599:GLN:O	2:D:2603:ILE:HG12	2.09	0.53
2:I:2599:GLN:O	2:I:2603:ILE:HG12	2.09	0.53
2:I:3017:PHE:HD2	2:I:3039:ILE:HD12	1.73	0.53
2:A:2902:HIS:HB3	2:A:2905:LEU:HG	1.90	0.53
2:A:3245:VAL:HG12	2:A:3248:ARG:NH1	2.23	0.53
2:D:4654:ALA:O	2:D:4658:ILE:HG12	2.09	0.53
2:G:652:ARG:HE	2:G:773:LEU:HD13	1.73	0.53
2:G:3017:PHE:HD2	2:G:3039:ILE:HD12	1.73	0.53
2:I:1699:GLU:HG3	2:I:1810:LYS:HE3	1.91	0.53
2:A:157:ARG:NH1	2:A:167:ASP:OD2	2.39	0.53
2:D:3194:LEU:HD21	2:D:3276:MET:SD	2.48	0.53
2:G:622:THR:HG23	2:G:626:LEU:HD22	1.89	0.53
2:G:1033:ARG:HA	2:G:1033:ARG:NE	2.22	0.53
2:G:2599:GLN:O	2:G:2603:ILE:HG12	2.09	0.53
2:G:3245:VAL:HG12	2:G:3248:ARG:NH1	2.23	0.53
2:I:365:LYS:HE2	2:I:368:ARG:NH1	2.24	0.53
2:I:2247:GLN:NE2	2:I:2278:ALA:O	2.41	0.53
2:I:2469:ILE:HD12	2:I:2472:LEU:HD12	1.89	0.53
2:D:3246:LEU:HA	2:D:3249:LEU:HD13	1.91	0.53
2:D:4681:LEU:HD12	2:D:4724:VAL:HG21	1.90	0.53
2:G:1478:ASP:OD1	2:G:1482:ASN:N	2.42	0.53
2:I:317:ARG:NH1	2:I:349:GLN:OE1	2.40	0.53
2:I:961:MET:HG3	2:I:962:SER:H	1.72	0.53
2:I:2230:THR:HG23	2:I:2270:SER:H	1.74	0.53
2:I:2418:LEU:HD23	2:I:2418:LEU:H	1.74	0.53
2:A:1041:GLN:OE1	2:A:1044:ARG:NH1	2.42	0.53
2:A:2469:ILE:HD12	2:A:2472:LEU:HD12	1.89	0.53
2:A:2599:GLN:O	2:A:2603:ILE:HG12	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:683:ARG:HG2	2:D:717:ASP:HB3	1.89	0.53
2:D:1041:GLN:OE1	2:D:1044:ARG:NH1	2.42	0.53
2:D:2469:ILE:HD12	2:D:2472:LEU:HD12	1.89	0.53
2:D:2867:LEU:HB2	2:D:2928:LYS:HZ3	1.73	0.53
2:D:2902:HIS:HB3	2:D:2905:LEU:HG	1.90	0.53
2:I:652:ARG:HE	2:I:773:LEU:HD13	1.73	0.53
2:I:3078:ARG:HH21	2:I:3152:PHE:HA	1.74	0.53
2:A:2418:LEU:HD23	2:A:2418:LEU:H	1.74	0.53
2:A:3078:ARG:HH21	2:A:3152:PHE:HA	1.74	0.53
2:A:4983:HIS:O	6:A:5103:ATP:N6	2.38	0.53
2:G:2621:HIS:O	2:G:2624:ARG:HG2	2.09	0.53
2:G:3093:ARG:O	2:G:3097:GLU:HG2	2.09	0.53
2:G:3246:LEU:HA	2:G:3249:LEU:HD13	1.90	0.53
2:I:1780:PRO:O	1:L:42:ARG:NH1	2.42	0.53
2:I:4839:MET:SD	2:A:4826:ILE:HD12	2.48	0.53
2:G:4654:ALA:O	2:G:4658:ILE:HG12	2.09	0.53
2:I:3284:TRP:HB3	2:I:3305:THR:HG21	1.91	0.53
2:A:470:SER:HA	2:A:473:ASN:HD21	1.74	0.53
2:A:3017:PHE:HD2	2:A:3039:ILE:HD12	1.73	0.53
2:G:3143:LEU:O	2:G:3147:ILE:HG22	2.09	0.53
2:G:3284:TRP:HB3	2:G:3305:THR:HG21	1.91	0.53
2:I:652:ARG:HD3	2:I:750:LEU:HB3	1.91	0.53
2:I:893:TYR:HA	2:I:904:HIS:H	1.74	0.53
2:I:2288:LEU:O	2:I:3849:ARG:NH1	2.41	0.53
2:I:3368:ARG:O	2:I:3372:VAL:HG23	2.09	0.53
2:A:652:ARG:HE	2:A:773:LEU:HD13	1.73	0.53
2:A:893:TYR:HA	2:A:904:HIS:H	1.74	0.53
2:D:652:ARG:HD3	2:D:750:LEU:HB3	1.91	0.53
2:D:2247:GLN:NE2	2:D:2278:ALA:O	2.41	0.53
2:G:1041:GLN:OE1	2:G:1044:ARG:NH1	2.42	0.53
2:G:1699:GLU:HG3	2:G:1810:LYS:HE3	1.91	0.53
2:G:3078:ARG:HH21	2:G:3152:PHE:HA	1.74	0.53
2:G:4090:LYS:HG3	2:G:4121:GLU:HB3	1.91	0.53
2:I:1478:ASP:OD1	2:I:1482:ASN:N	2.42	0.52
2:I:3093:ARG:O	2:I:3097:GLU:HG2	2.09	0.52
2:I:4853:VAL:HG13	2:A:4807:PHE:HD2	1.74	0.52
2:A:3143:LEU:O	2:A:3147:ILE:HG22	2.09	0.52
2:A:3284:TRP:HB3	2:A:3305:THR:HG21	1.91	0.52
2:A:4654:ALA:O	2:A:4658:ILE:HG12	2.09	0.52
2:G:2230:THR:HG23	2:G:2270:SER:H	1.74	0.52
2:G:3812:VAL:O	2:G:3816:MET:HG3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:4090:LYS:HG3	2:I:4121:GLU:HB3	1.91	0.52
2:A:4240:ASP:OD1	2:A:4675:LYS:NZ	2.36	0.52
2:D:652:ARG:HE	2:D:773:LEU:HD13	1.73	0.52
2:D:793:LEU:HD12	2:D:821:LEU:HD21	1.89	0.52
2:D:2736:ASP:OD1	2:D:2736:ASP:N	2.41	0.52
2:D:2997:PHE:CE2	2:D:3001:ILE:HD11	2.44	0.52
3:E:107:TRP:HE1	3:E:110:PRO:HB2	1.73	0.52
2:G:470:SER:HA	2:G:473:ASN:HD21	1.74	0.52
2:G:2418:LEU:HD23	2:G:2418:LEU:H	1.74	0.52
2:I:2302:LEU:HD23	2:I:2331:TYR:HB2	1.91	0.52
2:I:3143:LEU:O	2:I:3147:ILE:HG22	2.09	0.52
2:I:3245:VAL:HG12	2:I:3248:ARG:NH1	2.23	0.52
2:A:793:LEU:HD12	2:A:821:LEU:HD21	1.90	0.52
2:A:1478:ASP:OD1	2:A:1482:ASN:N	2.42	0.52
2:A:1699:GLU:HG3	2:A:1810:LYS:HE3	1.91	0.52
2:A:2621:HIS:O	2:A:2624:ARG:HG2	2.09	0.52
3:C:107:TRP:HE1	3:C:110:PRO:HB2	1.73	0.52
2:D:470:SER:HA	2:D:473:ASN:HD21	1.74	0.52
2:D:2716:ASP:OD1	2:D:2716:ASP:N	2.42	0.52
2:I:2621:HIS:O	2:I:2624:ARG:HG2	2.09	0.52
2:A:1780:PRO:O	1:J:42:ARG:NH1	2.43	0.52
2:A:2302:LEU:HD23	2:A:2331:TYR:HB2	1.91	0.52
2:D:2621:HIS:O	2:D:2624:ARG:HG2	2.09	0.52
2:D:3078:ARG:HH21	2:D:3152:PHE:HA	1.73	0.52
2:D:3093:ARG:O	2:D:3097:GLU:HG2	2.09	0.52
2:D:4627:MET:SD	2:D:4627:MET:N	2.81	0.52
2:G:652:ARG:HD3	2:G:750:LEU:HB3	1.91	0.52
2:G:893:TYR:HA	2:G:904:HIS:H	1.74	0.52
2:G:2736:ASP:OD1	2:G:2736:ASP:N	2.41	0.52
2:G:2997:PHE:CE2	2:G:3001:ILE:HD11	2.44	0.52
2:I:2012:PHE:CZ	2:I:2031:LEU:HD23	2.45	0.52
2:I:4681:LEU:HD12	2:I:4724:VAL:HG21	1.90	0.52
2:A:574:VAL:HA	2:A:577:ILE:HG12	1.92	0.52
2:A:2867:LEU:HB2	2:A:2928:LYS:HZ3	1.73	0.52
2:A:3093:ARG:O	2:A:3097:GLU:HG2	2.09	0.52
2:A:3368:ARG:O	2:A:3372:VAL:HG23	2.09	0.52
2:A:4681:LEU:HD12	2:A:4724:VAL:HG21	1.90	0.52
2:D:1780:PRO:O	1:F:42:ARG:NH1	2.42	0.52
2:D:2962:GLN:OE1	2:D:2965:ARG:NH1	2.42	0.52
2:D:3284:TRP:HB3	2:D:3305:THR:HG21	1.91	0.52
2:D:3368:ARG:O	2:D:3372:VAL:HG23	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:18:LYS:NZ	1:H:18:LYS:HB3	2.25	0.52
2:I:2997:PHE:CE2	2:I:3001:ILE:HD11	2.44	0.52
2:I:4634:GLU:HG2	2:I:4636:THR:H	1.75	0.52
2:A:2012:PHE:CZ	2:A:2031:LEU:HD23	2.45	0.52
2:A:2230:THR:HG23	2:A:2270:SER:H	1.74	0.52
2:D:1478:ASP:OD1	2:D:1482:ASN:N	2.42	0.52
2:D:1699:GLU:HG3	2:D:1810:LYS:HE3	1.91	0.52
2:G:2962:GLN:OE1	2:G:2965:ARG:NH1	2.42	0.52
1:H:32:ASN:OD1	2:G:1299:GLN:NE2	2.42	0.52
1:H:88:PRO:HB2	2:G:1680:ARG:HH12	1.74	0.52
2:I:1041:GLN:OE1	2:I:1044:ARG:NH1	2.42	0.52
2:I:2716:ASP:OD1	2:I:2716:ASP:N	2.42	0.52
2:A:3812:VAL:O	2:A:3816:MET:HG3	2.10	0.52
2:A:4627:MET:SD	2:A:4627:MET:N	2.81	0.52
2:A:4912:TYR:HD1	5:A:5101:POV:H28	1.75	0.52
2:D:2012:PHE:CZ	2:D:2031:LEU:HD23	2.45	0.52
2:D:2230:THR:HG23	2:D:2270:SER:H	1.74	0.52
2:D:2418:LEU:HD23	2:D:2418:LEU:H	1.74	0.52
2:G:264:PRO:HB2	2:G:266:ARG:HG2	1.92	0.52
2:G:1018:ASN:HB3	2:G:1021:LEU:HD23	1.92	0.52
2:I:264:PRO:HB2	2:I:266:ARG:HG2	1.92	0.52
2:I:3350:ARG:HG2	2:I:3350:ARG:HH11	1.75	0.52
2:D:574:VAL:HA	2:D:577:ILE:HG12	1.92	0.52
2:G:2970:SER:HA	2:G:2973:PHE:CE2	2.45	0.52
2:I:1680:ARG:HH12	1:L:88:PRO:HB2	1.75	0.52
2:I:4992:LEU:O	2:I:4996:ILE:HG13	2.10	0.52
2:A:2962:GLN:OE1	2:A:2965:ARG:NH1	2.42	0.52
2:A:2970:SER:HA	2:A:2973:PHE:CE2	2.45	0.52
2:D:246:TYR:CG	2:D:373:LYS:HE3	2.45	0.52
2:D:1680:ARG:HH12	1:F:88:PRO:HB2	1.75	0.52
2:D:2970:SER:HA	2:D:2973:PHE:CE2	2.45	0.52
2:D:3812:VAL:O	2:D:3816:MET:HG3	2.09	0.52
1:F:18:LYS:NZ	1:F:18:LYS:HB3	2.25	0.52
2:G:961:MET:HG3	2:G:962:SER:H	1.72	0.52
2:G:4680:LYS:HB3	2:G:4686:LEU:HD22	1.92	0.52
2:I:2670:GLU:O	2:I:2673:HIS:ND1	2.43	0.52
2:I:4654:ALA:O	2:I:4658:ILE:HG12	2.09	0.52
2:A:652:ARG:HD3	2:A:750:LEU:HB3	1.91	0.52
2:A:4634:GLU:HG2	2:A:4636:THR:H	1.75	0.52
2:A:4839:MET:CE	2:D:4823:LEU:HA	2.40	0.52
2:D:4240:ASP:OD1	2:D:4675:LYS:NZ	2.36	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:2012:PHE:CZ	2:G:2031:LEU:HD23	2.45	0.52
2:G:4546:VAL:HG22	2:G:4550:LYS:HE3	1.92	0.52
2:I:5013:MET:HE3	2:I:5021:PHE:HD2	1.75	0.51
2:A:3246:LEU:HA	2:A:3249:LEU:HD13	1.90	0.51
2:A:4839:MET:SD	2:D:4826:ILE:HD12	2.50	0.51
2:D:4546:VAL:HG22	2:D:4550:LYS:HE3	1.92	0.51
2:D:4853:VAL:HG13	2:G:4807:PHE:HD2	1.74	0.51
2:D:4912:TYR:HD1	5:D:5102:POV:H28	1.75	0.51
2:G:246:TYR:CB	2:G:373:LYS:HD2	2.39	0.51
2:G:2670:GLU:O	2:G:2673:HIS:ND1	2.43	0.51
2:G:4634:GLU:HG2	2:G:4636:THR:H	1.75	0.51
2:I:548:VAL:HG11	2:I:582:HIS:HD2	1.75	0.51
2:I:3246:LEU:HA	2:I:3249:LEU:HD13	1.90	0.51
1:L:18:LYS:HB3	1:L:18:LYS:NZ	2.25	0.51
2:A:372:LEU:HB3	2:A:374:LYS:NZ	2.25	0.51
2:A:1025:ARG:NE	2:A:1025:ARG:HA	2.25	0.51
2:D:2670:GLU:O	2:D:2673:HIS:ND1	2.43	0.51
2:D:4090:LYS:HG3	2:D:4121:GLU:HB3	1.91	0.51
2:D:4839:MET:CE	2:G:4823:LEU:HA	2.41	0.51
2:I:470:SER:HA	2:I:473:ASN:HD21	1.74	0.51
2:I:2962:GLN:OE1	2:I:2965:ARG:NH1	2.42	0.51
2:I:3812:VAL:O	2:I:3816:MET:HG3	2.09	0.51
2:A:4680:LYS:HB3	2:A:4686:LEU:HD22	1.92	0.51
2:D:264:PRO:HB2	2:D:266:ARG:HG2	1.92	0.51
2:D:893:TYR:HA	2:D:904:HIS:H	1.74	0.51
2:D:4680:LYS:HB3	2:D:4686:LEU:HD22	1.92	0.51
2:G:574:VAL:HA	2:G:577:ILE:HG12	1.92	0.51
2:G:3368:ARG:O	2:G:3372:VAL:HG23	2.09	0.51
2:A:1786:LEU:HD12	2:A:1787:PRO:HD2	1.92	0.51
2:D:2930:LEU:O	2:D:2934:GLY:N	2.41	0.51
2:G:3350:ARG:HH11	2:G:3350:ARG:HG2	1.75	0.51
2:I:2095:GLN:HG3	2:I:2127:GLN:HB3	1.93	0.51
2:A:2670:GLU:O	2:A:2673:HIS:ND1	2.43	0.51
2:A:3194:LEU:HD13	2:A:3272:ILE:HG23	1.92	0.51
2:A:3350:ARG:HG2	2:A:3350:ARG:HH11	1.75	0.51
1:J:18:LYS:NZ	1:J:18:LYS:HB3	2.25	0.51
2:D:1786:LEU:HD12	2:D:1787:PRO:HD2	1.92	0.51
2:D:3194:LEU:HD13	2:D:3272:ILE:HG23	1.92	0.51
2:A:2122:SER:O	2:A:2126:ARG:HG3	2.11	0.51
2:A:2997:PHE:CE2	2:A:3001:ILE:HD11	2.44	0.51
2:A:3262:ARG:HB2	2:A:3265:GLU:HG2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:2122:SER:O	2:D:2126:ARG:HG3	2.11	0.51
2:D:2288:LEU:O	2:D:3849:ARG:NH1	2.41	0.51
2:D:4634:GLU:HG2	2:D:4636:THR:H	1.75	0.51
2:A:4090:LYS:HG3	2:A:4121:GLU:HB3	1.91	0.51
2:A:4546:VAL:HG22	2:A:4550:LYS:HE3	1.92	0.51
2:D:2095:GLN:HG3	2:D:2127:GLN:HB3	1.93	0.51
2:I:1018:ASN:HB3	2:I:1021:LEU:HD23	1.92	0.51
2:I:1025:ARG:NE	2:I:1025:ARG:HA	2.25	0.51
2:I:2170:MET:SD	2:I:2171:GLY:N	2.84	0.51
2:I:4680:LYS:HB3	2:I:4686:LEU:HD22	1.92	0.51
2:A:2881:ASN:HA	2:A:2884:ASN:HD21	1.76	0.51
2:D:116:MET:HG2	2:D:139:GLU:HA	1.93	0.51
2:D:247:TYR:HD2	2:D:374:LYS:HB2	1.76	0.51
2:G:548:VAL:HG11	2:G:582:HIS:HD2	1.75	0.51
2:I:4912:TYR:HD1	5:I:5102:POV:H28	1.75	0.51
2:A:1286:MET:HE2	2:A:1464:PHE:HB3	1.93	0.51
2:G:2170:MET:SD	2:G:2171:GLY:N	2.84	0.51
1:H:42:ARG:NH1	2:G:1780:PRO:O	2.44	0.51
2:I:3321:ARG:HH11	2:I:3325:ASN:HD21	1.59	0.51
2:I:4823:LEU:HA	2:G:4839:MET:CE	2.40	0.51
2:A:3321:ARG:HH11	2:A:3325:ASN:HD21	1.59	0.51
2:D:1025:ARG:NE	2:D:1025:ARG:HA	2.25	0.51
2:D:3350:ARG:HG2	2:D:3350:ARG:HH11	1.75	0.51
2:G:2302:LEU:HD23	2:G:2331:TYR:HB2	1.91	0.51
2:I:574:VAL:HA	2:I:577:ILE:HG12	1.92	0.50
2:A:1018:ASN:HB3	2:A:1021:LEU:HD23	1.92	0.50
2:G:116:MET:HG2	2:G:139:GLU:HA	1.93	0.50
2:G:1025:ARG:NE	2:G:1025:ARG:HA	2.25	0.50
2:I:1786:LEU:HD12	2:I:1787:PRO:HD2	1.92	0.50
2:A:548:VAL:HG11	2:A:582:HIS:HD2	1.75	0.50
2:D:548:VAL:HG11	2:D:582:HIS:HD2	1.75	0.50
2:G:3262:ARG:HB2	2:G:3265:GLU:HG2	1.93	0.50
2:G:4912:TYR:HD1	5:G:5102:POV:H28	1.75	0.50
2:I:2736:ASP:OD1	2:I:2736:ASP:N	2.41	0.50
2:A:1680:ARG:HH12	1:J:88:PRO:HB2	1.76	0.50
2:A:3651:ASN:O	2:A:3655:GLU:HG2	2.11	0.50
2:D:2881:ASN:HA	2:D:2884:ASN:HD21	1.76	0.50
2:G:1786:LEU:HD12	2:G:1787:PRO:HD2	1.92	0.50
2:I:1811:ALA:HA	2:I:1814:MET:HE2	1.94	0.50
2:I:3717:ASP:OD1	2:I:3717:ASP:N	2.43	0.50
2:A:264:PRO:HB2	2:A:266:ARG:HG2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:2313:LEU:HG	2:D:2318:TYR:HB2	1.94	0.50
2:I:701:GLY:HA3	2:I:725:HIS:CE1	2.47	0.50
2:I:4546:VAL:HG22	2:I:4550:LYS:HE3	1.92	0.50
2:A:2173:GLN:O	2:A:2177:LEU:HD23	2.12	0.50
2:D:1018:ASN:HB3	2:D:1021:LEU:HD23	1.92	0.50
2:D:2302:LEU:HD23	2:D:2331:TYR:HB2	1.91	0.50
2:D:3065:VAL:O	2:D:3069:HIS:ND1	2.45	0.50
2:D:3262:ARG:HB2	2:D:3265:GLU:HG2	1.93	0.50
2:G:701:GLY:HA3	2:G:725:HIS:CE1	2.47	0.50
2:G:3194:LEU:HD13	2:G:3272:ILE:HG23	1.92	0.50
2:I:2970:SER:HA	2:I:2973:PHE:CE2	2.45	0.50
2:A:728:ARG:NH2	2:A:1489:CYS:SG	2.85	0.50
2:A:2170:MET:SD	2:A:2171:GLY:N	2.84	0.50
2:D:840:VAL:HG12	2:D:1199:VAL:HG12	1.94	0.50
2:D:2170:MET:SD	2:D:2171:GLY:N	2.84	0.50
2:D:3536:ALA:HB2	2:D:3553:LEU:HD11	1.94	0.50
2:D:3548:GLU:HG3	2:D:3552:PHE:CZ	2.47	0.50
2:G:1811:ALA:HA	2:G:1814:MET:HE2	1.94	0.50
2:G:2313:LEU:HG	2:G:2318:TYR:HB2	1.94	0.50
2:G:3536:ALA:HB2	2:G:3553:LEU:HD11	1.94	0.50
2:I:3550:ARG:HD3	2:I:3594:ARG:NH2	2.27	0.50
2:D:701:GLY:HA3	2:D:725:HIS:CE1	2.47	0.50
2:D:2173:GLN:O	2:D:2177:LEU:HD23	2.12	0.50
2:G:3065:VAL:O	2:G:3069:HIS:ND1	2.45	0.50
2:I:2122:SER:O	2:I:2126:ARG:HG3	2.11	0.50
2:I:3065:VAL:O	2:I:3069:HIS:ND1	2.45	0.50
2:I:3262:ARG:HB2	2:I:3265:GLU:HG2	1.93	0.50
2:I:4627:MET:SD	2:I:4627:MET:N	2.81	0.50
2:A:116:MET:HG2	2:A:139:GLU:HA	1.93	0.50
2:A:840:VAL:HG12	2:A:1199:VAL:HG12	1.94	0.50
2:A:3065:VAL:O	2:A:3069:HIS:ND1	2.45	0.50
2:D:3321:ARG:HH11	2:D:3325:ASN:HD21	1.59	0.50
1:F:53:GLN:N	1:F:53:GLN:OE1	2.45	0.50
2:G:2173:GLN:O	2:G:2177:LEU:HD23	2.12	0.50
2:I:840:VAL:HG12	2:I:1199:VAL:HG12	1.94	0.50
2:I:2175:GLU:O	2:I:2179:ILE:HG12	2.12	0.50
2:D:2924:GLN:O	2:D:2928:LYS:HG2	2.12	0.50
2:G:840:VAL:HG12	2:G:1199:VAL:HG12	1.94	0.50
2:G:2095:GLN:HG3	2:G:2127:GLN:HB3	1.93	0.50
2:G:3548:GLU:HG3	2:G:3552:PHE:CZ	2.47	0.50
2:G:3651:ASN:O	2:G:3655:GLU:HG2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:4574:ASN:HD21	2:G:4810:ALA:HA	1.77	0.50
2:A:684:VAL:HG22	2:A:781:VAL:HG12	1.94	0.49
2:D:867:LEU:O	2:D:871:ARG:HB3	2.12	0.49
2:D:3651:ASN:O	2:D:3655:GLU:HG2	2.11	0.49
2:G:2175:GLU:O	2:G:2179:ILE:HG12	2.12	0.49
1:H:53:GLN:OE1	1:H:53:GLN:N	2.45	0.49
2:I:1977:TYR:HB2	2:I:1998:PHE:CE2	2.47	0.49
2:I:3835:LEU:HD22	2:I:3880:PHE:HZ	1.77	0.49
2:I:4574:ASN:HD21	2:I:4810:ALA:HA	1.77	0.49
2:A:2175:GLU:O	2:A:2179:ILE:HG12	2.12	0.49
2:A:2313:LEU:HG	2:A:2318:TYR:HB2	1.94	0.49
2:A:3550:ARG:HD3	2:A:3594:ARG:NH2	2.27	0.49
2:D:2175:GLU:O	2:D:2179:ILE:HG12	2.12	0.49
2:I:1668:ARG:HG3	2:I:1671:ARG:HH12	1.78	0.49
2:I:2313:LEU:HG	2:I:2318:TYR:HB2	1.94	0.49
2:I:4813:LEU:O	2:I:4816:ILE:HG12	2.13	0.49
1:L:53:GLN:OE1	1:L:53:GLN:N	2.45	0.49
2:A:1977:TYR:HB2	2:A:1998:PHE:CE2	2.47	0.49
2:A:3809:ASN:HB3	2:A:3812:VAL:HG22	1.94	0.49
2:D:728:ARG:NH2	2:D:1489:CYS:SG	2.85	0.49
2:G:2924:GLN:O	2:G:2928:LYS:HG2	2.12	0.49
3:M:15:GLY:H	3:M:85:LEU:HB2	1.78	0.49
2:I:2418:LEU:O	2:I:2422:ILE:HG12	2.13	0.49
2:I:3536:ALA:HB2	2:I:3553:LEU:HD11	1.94	0.49
2:I:3548:GLU:HG3	2:I:3552:PHE:CZ	2.47	0.49
2:I:3651:ASN:O	2:I:3655:GLU:HG2	2.11	0.49
2:A:1811:ALA:HA	2:A:1814:MET:HE2	1.94	0.49
2:A:3546:ASP:O	2:A:3550:ARG:HG3	2.12	0.49
2:A:3548:GLU:HG3	2:A:3552:PHE:CZ	2.47	0.49
2:D:684:VAL:HG22	2:D:781:VAL:HG12	1.94	0.49
2:D:3336:LYS:HD2	2:D:3464:ILE:HD11	1.95	0.49
2:D:3604:TYR:O	2:D:3607:GLU:HG3	2.12	0.49
3:E:15:GLY:H	3:E:85:LEU:HB2	1.77	0.49
2:G:638:ILE:HD12	2:G:703:GLY:HA2	1.95	0.49
2:G:1078:GLU:OE1	2:G:1235:THR:OG1	2.31	0.49
2:G:2288:LEU:O	2:G:3849:ARG:NH1	2.41	0.49
2:G:2930:LEU:O	2:G:2934:GLY:N	2.41	0.49
2:I:2173:GLN:O	2:I:2177:LEU:HD23	2.12	0.49
2:I:3194:LEU:HD13	2:I:3272:ILE:HG23	1.92	0.49
2:I:3695:PRO:HB2	2:I:3700:GLN:HG2	1.94	0.49
2:I:4839:MET:CE	2:A:4823:LEU:HA	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1052:ASN:OD1	2:A:1052:ASN:N	2.45	0.49
2:A:2095:GLN:HG3	2:A:2127:GLN:HB3	1.93	0.49
2:A:2418:LEU:O	2:A:2422:ILE:HG12	2.13	0.49
2:A:4813:LEU:O	2:A:4816:ILE:HG12	2.13	0.49
2:D:1078:GLU:OE1	2:D:1235:THR:OG1	2.31	0.49
2:D:3377:GLU:HA	2:D:3380:ARG:HG2	1.95	0.49
2:D:3550:ARG:HD3	2:D:3594:ARG:NH2	2.27	0.49
2:G:2628:PHE:HZ	2:G:2906:VAL:HA	1.78	0.49
2:G:2981:VAL:HA	2:G:2985:ARG:HD3	1.95	0.49
2:G:3604:TYR:O	2:G:3607:GLU:HG3	2.13	0.49
2:I:684:VAL:HG22	2:I:781:VAL:HG12	1.94	0.49
2:I:728:ARG:NH2	2:I:1489:CYS:SG	2.85	0.49
2:I:2500:ALA:HB2	2:I:2553:TYR:HD1	1.77	0.49
2:I:2871:LEU:HG	2:I:2927:LEU:HD21	1.95	0.49
2:A:1087:ARG:HG2	2:A:1154:ASP:HB3	1.95	0.49
2:A:3536:ALA:HB2	2:A:3553:LEU:HD11	1.94	0.49
2:D:1668:ARG:HG3	2:D:1671:ARG:HH12	1.78	0.49
2:D:2653:LYS:HB2	2:D:2661:TRP:CD1	2.48	0.49
2:D:2871:LEU:HG	2:D:2927:LEU:HD21	1.95	0.49
2:G:1668:ARG:HG3	2:G:1671:ARG:HH12	1.78	0.49
2:G:3321:ARG:HH11	2:G:3325:ASN:HD21	1.59	0.49
2:I:867:LEU:O	2:I:871:ARG:HB3	2.12	0.49
2:I:2930:LEU:O	2:I:2934:GLY:N	2.41	0.49
2:I:2981:VAL:HA	2:I:2985:ARG:HD3	1.95	0.49
2:I:3392:LEU:HA	2:I:3395:ARG:HD2	1.94	0.49
2:A:2500:ALA:HB2	2:A:2553:TYR:HD1	1.77	0.49
2:A:2981:VAL:HA	2:A:2985:ARG:HD3	1.95	0.49
2:A:3336:LYS:HD2	2:A:3464:ILE:HD11	1.95	0.49
2:A:5014:TYR:HE2	7:A:5104:CFF:H101	1.77	0.49
2:D:499:THR:HG23	2:D:502:HIS:H	1.78	0.49
2:D:2263:ILE:HA	2:D:2330:ARG:HH12	1.78	0.49
2:D:2500:ALA:HB2	2:D:2553:TYR:HD1	1.78	0.49
2:D:2981:VAL:HA	2:D:2985:ARG:HD3	1.95	0.49
2:D:3172:ILE:HD13	2:D:3194:LEU:HB2	1.95	0.49
2:G:2871:LEU:HG	2:G:2927:LEU:HD21	1.95	0.49
2:G:2881:ASN:HA	2:G:2884:ASN:HD21	1.76	0.49
2:G:4104:THR:O	2:G:4108:ILE:HG12	2.13	0.49
2:I:116:MET:HG2	2:I:139:GLU:HA	1.93	0.49
2:I:2238:TYR:O	2:I:2242:ILE:HG12	2.13	0.49
2:I:2881:ASN:HA	2:I:2884:ASN:HD21	1.76	0.49
2:I:2924:GLN:O	2:I:2928:LYS:HG2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1087:ARG:HG2	2:D:1154:ASP:HB3	1.95	0.49
2:G:684:VAL:HG22	2:G:781:VAL:HG12	1.94	0.49
2:G:728:ARG:NH2	2:G:1489:CYS:SG	2.85	0.49
2:G:1013:ILE:H	2:G:1013:ILE:HD12	1.78	0.49
2:G:1087:ARG:HG2	2:G:1154:ASP:HB3	1.95	0.49
2:G:1977:TYR:HB2	2:G:1998:PHE:CE2	2.47	0.49
2:G:2500:ALA:HB2	2:G:2553:TYR:HD1	1.77	0.49
2:G:2653:LYS:HB2	2:G:2661:TRP:CD1	2.48	0.49
2:G:3172:ILE:HD13	2:G:3194:LEU:HB2	1.95	0.49
2:G:3546:ASP:O	2:G:3550:ARG:HG3	2.12	0.49
2:G:3550:ARG:HD3	2:G:3594:ARG:NH2	2.27	0.49
2:I:887:ILE:HD13	2:I:959:TYR:HB3	1.95	0.49
2:I:1078:GLU:OE1	2:I:1235:THR:OG1	2.31	0.49
2:I:3172:ILE:HD13	2:I:3194:LEU:HB2	1.95	0.49
3:K:15:GLY:H	3:K:85:LEU:HB2	1.77	0.49
2:A:701:GLY:HA3	2:A:725:HIS:CE1	2.47	0.49
2:A:3604:TYR:O	2:A:3607:GLU:HG3	2.12	0.49
2:D:638:ILE:HD12	2:D:703:GLY:HA2	1.95	0.49
2:D:1052:ASN:OD1	2:D:1052:ASN:N	2.45	0.49
2:D:1811:ALA:HA	2:D:1814:MET:HE2	1.94	0.49
2:D:2628:PHE:HZ	2:D:2906:VAL:HA	1.78	0.49
2:D:3188:PRO:HB3	2:D:3334:TRP:CZ2	2.48	0.49
2:G:3695:PRO:HB2	2:G:3700:GLN:HG2	1.94	0.49
2:G:3809:ASN:HB3	2:G:3812:VAL:HG22	1.94	0.49
2:G:4813:LEU:O	2:G:4816:ILE:HG12	2.13	0.49
1:H:77:THR:OG1	1:H:78:PRO:HD2	2.13	0.49
2:I:1497:GLY:HA2	2:I:1500:PHE:HD2	1.78	0.49
2:I:3546:ASP:O	2:I:3550:ARG:HG3	2.12	0.49
2:A:499:THR:HG23	2:A:502:HIS:H	1.78	0.49
2:A:3215:ALA:HA	2:A:3220:THR:HG21	1.95	0.49
2:A:3717:ASP:OD1	2:A:3717:ASP:N	2.43	0.49
1:J:53:GLN:OE1	1:J:53:GLN:N	2.45	0.49
2:D:246:TYR:CD2	2:D:373:LYS:HB3	2.48	0.49
2:D:1497:GLY:HA2	2:D:1500:PHE:HD2	1.78	0.49
2:D:3268:HIS:CE1	2:D:3272:ILE:HD12	2.48	0.49
2:D:4104:THR:O	2:D:4108:ILE:HG12	2.13	0.49
2:G:372:LEU:O	2:G:374:LYS:HG3	2.12	0.49
2:G:2122:SER:O	2:G:2126:ARG:HG3	2.11	0.49
2:G:3188:PRO:HB3	2:G:3334:TRP:CZ2	2.48	0.49
2:G:4242:ILE:HG22	2:G:4246:GLN:HE21	1.77	0.49
2:I:2768:PHE:O	2:I:2771:ILE:HG22	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:867:LEU:O	2:A:871:ARG:HB3	2.12	0.48
2:A:1076:ARG:HB3	2:A:1191:VAL:HG23	1.95	0.48
2:A:1078:GLU:OE1	2:A:1235:THR:OG1	2.31	0.48
2:A:2238:TYR:O	2:A:2242:ILE:HG12	2.13	0.48
2:A:2559:LEU:O	2:A:2563:THR:HG23	2.13	0.48
2:A:2653:LYS:HB2	2:A:2661:TRP:CD1	2.48	0.48
2:A:2792:ARG:NH2	2:A:2798:SER:OG	2.46	0.48
2:A:2924:GLN:O	2:A:2928:LYS:HG2	2.12	0.48
2:A:3172:ILE:HD13	2:A:3194:LEU:HB2	1.95	0.48
2:A:3188:PRO:HB3	2:A:3334:TRP:CZ2	2.48	0.48
2:A:3695:PRO:HB2	2:A:3700:GLN:HG2	1.94	0.48
2:D:1128:ARG:CZ	2:D:1130:GLN:HG3	2.44	0.48
2:D:2138:LEU:HB3	2:D:3658:LYS:HE2	1.95	0.48
2:D:2418:LEU:O	2:D:2422:ILE:HG12	2.13	0.48
2:D:3695:PRO:HB2	2:D:3700:GLN:HG2	1.94	0.48
2:G:1076:ARG:HB3	2:G:1191:VAL:HG23	1.95	0.48
2:G:2768:PHE:O	2:G:2771:ILE:HG22	2.13	0.48
2:I:2012:PHE:HZ	2:I:2031:LEU:HD23	1.78	0.48
2:I:3268:HIS:CE1	2:I:3272:ILE:HD12	2.48	0.48
2:A:887:ILE:HD13	2:A:959:TYR:HB3	1.95	0.48
2:A:2628:PHE:HZ	2:A:2906:VAL:HA	1.78	0.48
2:A:3103:ILE:O	2:A:3107:VAL:HG13	2.14	0.48
2:A:3835:LEU:HD22	2:A:3880:PHE:HZ	1.77	0.48
2:D:1076:ARG:HB3	2:D:1191:VAL:HG23	1.95	0.48
2:D:1977:TYR:HB2	2:D:1998:PHE:CE2	2.47	0.48
2:D:2559:LEU:O	2:D:2563:THR:HG23	2.13	0.48
2:D:3392:LEU:HA	2:D:3395:ARG:HD2	1.94	0.48
2:D:3546:ASP:O	2:D:3550:ARG:HG3	2.12	0.48
2:D:4813:LEU:O	2:D:4816:ILE:HG12	2.12	0.48
2:I:2759:ALA:HA	2:I:2809:ILE:HG12	1.95	0.48
2:I:3536:ALA:O	2:I:3540:TYR:N	2.46	0.48
2:A:638:ILE:HD12	2:A:703:GLY:HA2	1.95	0.48
2:A:2716:ASP:OD1	2:A:2716:ASP:N	2.42	0.48
2:A:2871:LEU:HG	2:A:2927:LEU:HD21	1.95	0.48
2:A:3195:ALA:HB2	2:A:3275:PRO:HB3	1.96	0.48
2:A:3268:HIS:CE1	2:A:3272:ILE:HD12	2.48	0.48
2:D:1422:ASP:OD1	2:D:1422:ASP:N	2.45	0.48
1:F:77:THR:OG1	1:F:78:PRO:HD2	2.13	0.48
2:G:499:THR:HG23	2:G:502:HIS:H	1.78	0.48
2:G:3268:HIS:CE1	2:G:3272:ILE:HD12	2.48	0.48
2:I:1087:ARG:HG2	2:I:1154:ASP:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2792:ARG:NH2	2:I:2798:SER:OG	2.46	0.48
2:I:3147:ILE:HG13	2:I:3152:PHE:HB2	1.95	0.48
2:I:3377:GLU:HA	2:I:3380:ARG:HG2	1.95	0.48
2:I:3604:TYR:O	2:I:3607:GLU:HG3	2.13	0.48
2:A:1668:ARG:HG3	2:A:1671:ARG:HH12	1.78	0.48
2:A:2288:LEU:O	2:A:3849:ARG:NH1	2.41	0.48
2:A:3392:LEU:HA	2:A:3395:ARG:HD2	1.94	0.48
2:A:4104:THR:O	2:A:4108:ILE:HG12	2.13	0.48
2:D:1013:ILE:H	2:D:1013:ILE:HD12	1.78	0.48
2:D:3103:ILE:O	2:D:3107:VAL:HG13	2.14	0.48
2:G:2196:ASN:OD1	2:G:2199:ARG:NH2	2.46	0.48
2:G:3377:GLU:HA	2:G:3380:ARG:HG2	1.95	0.48
2:G:4954:MET:O	6:G:5103:ATP:O2'	2.27	0.48
2:I:1530:THR:HG22	2:I:1535:GLU:HA	1.95	0.48
2:I:2581:SER:O	2:I:2584:HIS:HB2	2.14	0.48
2:I:2653:LYS:HB2	2:I:2661:TRP:CD1	2.48	0.48
2:I:3215:ALA:HA	2:I:3220:THR:HG21	1.95	0.48
2:I:4104:THR:O	2:I:4108:ILE:HG12	2.13	0.48
1:J:77:THR:OG1	1:J:78:PRO:HD2	2.13	0.48
2:D:1530:THR:HG22	2:D:1535:GLU:HA	1.96	0.48
2:D:2238:TYR:O	2:D:2242:ILE:HG12	2.13	0.48
2:D:3809:ASN:HB3	2:D:3812:VAL:HG22	1.94	0.48
2:G:2138:LEU:HB3	2:G:3658:LYS:HE2	1.95	0.48
2:G:2238:TYR:O	2:G:2242:ILE:HG12	2.13	0.48
2:G:2418:LEU:O	2:G:2422:ILE:HG12	2.13	0.48
2:G:2581:SER:O	2:G:2584:HIS:HB2	2.14	0.48
2:G:3103:ILE:O	2:G:3107:VAL:HG13	2.14	0.48
2:G:3835:LEU:HD22	2:G:3880:PHE:HZ	1.77	0.48
2:I:3103:ILE:O	2:I:3107:VAL:HG13	2.14	0.48
2:A:904:HIS:ND1	2:A:905:PRO:HD2	2.29	0.48
2:A:1013:ILE:H	2:A:1013:ILE:HD12	1.78	0.48
2:A:1497:GLY:HA2	2:A:1500:PHE:HD2	1.78	0.48
2:D:3215:ALA:HA	2:D:3220:THR:HG21	1.95	0.48
2:D:4574:ASN:HD21	2:D:4810:ALA:HA	1.77	0.48
2:G:3536:ALA:O	2:G:3540:TYR:N	2.46	0.48
2:G:4992:LEU:O	2:G:4996:ILE:HG13	2.13	0.48
2:I:499:THR:HG23	2:I:502:HIS:H	1.78	0.48
2:I:861:ILE:HG23	2:I:933:LEU:HD22	1.96	0.48
2:I:2559:LEU:O	2:I:2563:THR:HG23	2.13	0.48
2:A:1530:THR:HG22	2:A:1535:GLU:HA	1.95	0.48
2:A:2768:PHE:O	2:A:2771:ILE:HG22	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:904:HIS:ND1	2:D:905:PRO:HD2	2.29	0.48
2:D:5003:HIS:HD2	2:D:5007:GLU:HB3	1.79	0.48
2:G:2963:LEU:HD13	2:G:3006:ILE:HD13	1.96	0.48
2:I:904:HIS:ND1	2:I:905:PRO:HD2	2.29	0.48
2:I:1076:ARG:HB3	2:I:1191:VAL:HG23	1.95	0.48
2:I:3188:PRO:HB3	2:I:3334:TRP:CZ2	2.48	0.48
2:I:3336:LYS:HD2	2:I:3464:ILE:HD11	1.95	0.48
2:I:3809:ASN:HB3	2:I:3812:VAL:HG22	1.94	0.48
2:A:5003:HIS:HD2	2:A:5007:GLU:HB3	1.79	0.48
2:D:2792:ARG:NH2	2:D:2798:SER:OG	2.46	0.48
2:D:3257:ALA:HB1	2:D:3321:ARG:HB3	1.96	0.48
2:G:904:HIS:ND1	2:G:905:PRO:HD2	2.29	0.48
2:G:2012:PHE:HZ	2:G:2031:LEU:HD23	1.79	0.48
2:G:2559:LEU:O	2:G:2563:THR:HG23	2.13	0.48
2:I:1013:ILE:H	2:I:1013:ILE:HD12	1.78	0.48
2:I:2628:PHE:HZ	2:I:2906:VAL:HA	1.78	0.48
2:A:861:ILE:HG23	2:A:933:LEU:HD22	1.96	0.48
2:A:2263:ILE:HA	2:A:2330:ARG:HH12	1.78	0.48
2:A:2759:ALA:HA	2:A:2809:ILE:HG12	1.95	0.48
2:D:364:PRO:HG2	2:D:365:LYS:HZ2	1.79	0.48
2:D:501:ALA:O	2:D:505:GLU:HG2	2.14	0.48
2:D:861:ILE:HG23	2:D:933:LEU:HD22	1.96	0.48
2:D:2768:PHE:O	2:D:2771:ILE:HG22	2.13	0.48
2:D:4721:LYS:HD2	2:D:4741:LEU:HB3	1.96	0.48
2:G:1256:GLU:HB2	2:G:1275:ARG:HE	1.79	0.48
2:G:2263:ILE:HA	2:G:2330:ARG:HH12	1.78	0.48
2:G:2792:ARG:NH2	2:G:2798:SER:OG	2.46	0.48
2:G:3717:ASP:OD1	2:G:3717:ASP:N	2.43	0.48
2:I:371:VAL:HG12	2:I:373:LYS:HG2	1.96	0.48
2:I:3257:ALA:HB1	2:I:3321:ARG:HB3	1.96	0.48
2:A:3257:ALA:HB1	2:A:3321:ARG:HB3	1.96	0.48
2:A:3377:GLU:HA	2:A:3380:ARG:HG2	1.95	0.48
2:A:3470:LEU:O	2:A:3474:SER:OG	2.28	0.48
2:G:861:ILE:HG23	2:G:933:LEU:HD22	1.96	0.48
2:G:4240:ASP:OD1	2:G:4675:LYS:NZ	2.36	0.48
2:I:2263:ILE:HA	2:I:2330:ARG:HH12	1.78	0.47
2:I:3195:ALA:HB2	2:I:3275:PRO:HB3	1.96	0.47
2:I:4243:PHE:CE2	2:I:4247:ILE:HD11	2.49	0.47
2:A:501:ALA:O	2:A:505:GLU:HG2	2.14	0.47
2:A:2138:LEU:HB3	2:A:3658:LYS:HE2	1.95	0.47
2:A:3147:ILE:HG13	2:A:3152:PHE:HB2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:887:ILE:HD13	2:D:959:TYR:HB3	1.95	0.47
2:G:867:LEU:O	2:G:871:ARG:HB3	2.12	0.47
2:G:1128:ARG:CZ	2:G:1130:GLN:HG3	2.44	0.47
2:G:1497:GLY:HA2	2:G:1500:PHE:HD2	1.78	0.47
2:I:3416:VAL:HG23	2:I:3423:TRP:HZ3	1.79	0.47
2:A:2196:ASN:OD1	2:A:2199:ARG:NH2	2.46	0.47
2:A:2747:ILE:HD12	2:A:2748:PRO:HD2	1.95	0.47
2:D:1256:GLU:HB2	2:D:1275:ARG:HE	1.79	0.47
2:G:2430:ILE:HG21	2:G:2502:MET:HB2	1.96	0.47
2:G:3416:VAL:HG23	2:G:3423:TRP:HZ3	1.79	0.47
2:I:1128:ARG:CZ	2:I:1130:GLN:HG3	2.44	0.47
2:A:363:ASP:HB3	2:A:366:ALA:HB3	1.96	0.47
2:A:1128:ARG:CZ	2:A:1130:GLN:HG3	2.44	0.47
2:A:2012:PHE:HZ	2:A:2031:LEU:HD23	1.79	0.47
2:A:4574:ASN:HD21	2:A:4810:ALA:HA	1.77	0.47
1:J:106:LEU:HD22	1:J:107:GLU:H	1.79	0.47
2:D:2581:SER:O	2:D:2584:HIS:HB2	2.14	0.47
2:D:3835:LEU:HD22	2:D:3880:PHE:HZ	1.77	0.47
2:G:2212:VAL:HG22	2:G:2256:TYR:CZ	2.50	0.47
2:I:368:ARG:HD3	2:I:369:LEU:N	2.29	0.47
2:I:638:ILE:HD12	2:I:703:GLY:HA2	1.95	0.47
2:I:2138:LEU:HB3	2:I:3658:LYS:HE2	1.95	0.47
2:I:2430:ILE:HG21	2:I:2502:MET:HB2	1.96	0.47
2:I:2477:PRO:HG2	2:I:2536:LEU:HD11	1.96	0.47
2:I:4687:TYR:OH	2:I:4699:GLY:O	2.30	0.47
2:A:4721:LYS:HD2	2:A:4741:LEU:HB3	1.96	0.47
2:A:4835:LYS:O	2:A:4839:MET:HB2	2.15	0.47
2:D:3195:ALA:HB2	2:D:3275:PRO:HB3	1.96	0.47
2:G:887:ILE:HD13	2:G:959:TYR:HB3	1.95	0.47
2:G:1046:LEU:HD22	2:G:1051:TYR:CZ	2.50	0.47
2:G:1422:ASP:OD1	2:G:1422:ASP:N	2.45	0.47
2:G:2477:PRO:HG2	2:G:2536:LEU:HD11	1.96	0.47
2:G:3257:ALA:HB1	2:G:3321:ARG:HB3	1.96	0.47
2:G:3336:LYS:HD2	2:G:3464:ILE:HD11	1.95	0.47
2:G:3392:LEU:HA	2:G:3395:ARG:HD2	1.94	0.47
2:I:815:VAL:O	2:I:1007:TYR:OH	2.28	0.47
2:I:1046:LEU:HD22	2:I:1051:TYR:CZ	2.50	0.47
2:I:2212:VAL:HG22	2:I:2256:TYR:CZ	2.50	0.47
2:I:4094:GLN:HG3	2:I:4108:ILE:HG21	1.96	0.47
2:I:5003:HIS:HD2	2:I:5007:GLU:HB3	1.79	0.47
2:A:2755:ILE:HD12	2:A:2813:LEU:HG	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:2212:VAL:HG22	2:D:2256:TYR:CZ	2.50	0.47
2:D:2755:ILE:HD12	2:D:2813:LEU:HG	1.97	0.47
2:D:3147:ILE:HG13	2:D:3152:PHE:HB2	1.95	0.47
2:G:1733:GLU:HG2	2:G:2201:LEU:HD23	1.97	0.47
2:G:2285:GLU:OE2	2:G:3860:ASN:ND2	2.40	0.47
2:I:1763:PRO:HG3	2:I:2094:LEU:HD22	1.97	0.47
2:I:2747:ILE:HD12	2:I:2748:PRO:HD2	1.95	0.47
2:I:2963:LEU:HD13	2:I:3006:ILE:HD13	1.96	0.47
2:I:3103:ILE:HA	2:I:3106:MET:SD	2.55	0.47
1:L:77:THR:OG1	1:L:78:PRO:HD2	2.13	0.47
2:A:1727:ARG:NH2	2:A:1773:PRO:O	2.48	0.47
2:A:2212:VAL:HG22	2:A:2256:TYR:CZ	2.50	0.47
2:A:4242:ILE:HG22	2:A:4246:GLN:HE21	1.79	0.47
3:C:15:GLY:H	3:C:85:LEU:HB2	1.78	0.47
2:D:2579:VAL:O	2:D:2582:MET:HG3	2.15	0.47
3:E:90:THR:HG23	3:E:124:THR:HA	1.97	0.47
2:G:4721:LYS:HD2	2:G:4741:LEU:HB3	1.96	0.47
2:G:5003:HIS:HD2	2:G:5007:GLU:HB3	1.79	0.47
2:I:501:ALA:O	2:I:505:GLU:HG2	2.14	0.47
2:I:2196:ASN:OD1	2:I:2199:ARG:NH2	2.46	0.47
2:I:2799:GLU:O	2:I:2803:GLU:HG2	2.15	0.47
2:I:4835:LYS:O	2:I:4839:MET:HB2	2.14	0.47
2:I:4999:ASP:HB2	2:I:5002:GLU:HG2	1.97	0.47
1:L:106:LEU:HD22	1:L:107:GLU:H	1.79	0.47
2:A:355:LEU:HB3	2:A:378:LEU:HB3	1.97	0.47
2:A:2963:LEU:HD13	2:A:3006:ILE:HD13	1.96	0.47
2:A:3536:ALA:O	2:A:3540:TYR:N	2.47	0.47
2:A:4999:ASP:HB2	2:A:5002:GLU:HG2	1.97	0.47
2:D:943:ASP:HB3	2:D:1050:GLY:HA3	1.96	0.47
2:D:1763:PRO:HG3	2:D:2094:LEU:HD22	1.97	0.47
2:D:2430:ILE:HG21	2:D:2502:MET:HB2	1.96	0.47
2:D:3416:VAL:HG23	2:D:3423:TRP:HZ3	1.79	0.47
2:D:4992:LEU:O	2:D:4996:ILE:HG13	2.13	0.47
1:F:106:LEU:HD22	1:F:107:GLU:H	1.79	0.47
2:G:1052:ASN:OD1	2:G:1052:ASN:N	2.45	0.47
2:G:1530:THR:HG22	2:G:1535:GLU:HA	1.96	0.47
2:G:2747:ILE:HD12	2:G:2748:PRO:HD2	1.95	0.47
2:G:2799:GLU:O	2:G:2803:GLU:HG2	2.15	0.47
2:G:3215:ALA:HA	2:G:3220:THR:HG21	1.95	0.47
3:M:90:THR:HG23	3:M:124:THR:HA	1.97	0.47
2:A:1046:LEU:HD22	2:A:1051:TYR:CZ	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2581:SER:O	2:A:2584:HIS:HB2	2.14	0.47
2:A:3730:ALA:O	2:A:3734:HIS:HB2	2.15	0.47
2:D:2747:ILE:HD12	2:D:2748:PRO:HD2	1.95	0.47
2:D:2799:GLU:O	2:D:2803:GLU:HG2	2.15	0.47
2:D:4835:LYS:O	2:D:4839:MET:HB2	2.14	0.47
2:G:2579:VAL:O	2:G:2582:MET:HG3	2.15	0.47
2:G:3260:GLY:O	2:G:3262:ARG:NH1	2.48	0.47
2:G:4835:LYS:O	2:G:4839:MET:HB2	2.14	0.47
2:I:366:ALA:O	2:I:370:GLY:N	2.47	0.47
2:A:1256:GLU:HB2	2:A:1275:ARG:HE	1.79	0.47
2:A:3103:ILE:HA	2:A:3106:MET:SD	2.55	0.47
2:D:247:TYR:CD2	2:D:374:LYS:HB2	2.50	0.47
2:D:3536:ALA:O	2:D:3540:TYR:N	2.47	0.47
2:G:501:ALA:O	2:G:505:GLU:HG2	2.14	0.47
2:G:1763:PRO:HG3	2:G:2094:LEU:HD22	1.97	0.47
2:G:3103:ILE:HA	2:G:3106:MET:SD	2.55	0.47
2:I:2755:ILE:HD12	2:I:2813:LEU:HG	1.97	0.47
2:A:3031:ALA:HB1	2:A:3035:GLU:HB2	1.97	0.47
2:A:3416:VAL:HG23	2:A:3423:TRP:HZ3	1.79	0.47
2:A:3852:LYS:HE2	2:A:3852:LYS:HB2	1.78	0.47
2:D:872:GLU:O	2:D:876:GLU:HG2	2.15	0.47
2:D:4094:GLN:HG3	2:D:4108:ILE:HG21	1.96	0.47
2:G:355:LEU:HD23	2:G:378:LEU:HB3	1.97	0.47
2:G:1727:ARG:NH2	2:G:1773:PRO:O	2.48	0.47
2:G:3031:ALA:O	2:G:3036:LYS:NZ	2.29	0.47
2:G:3147:ILE:HG13	2:G:3152:PHE:HB2	1.95	0.47
2:G:4999:ASP:HB2	2:G:5002:GLU:HG2	1.97	0.47
2:I:3730:ALA:O	2:I:3734:HIS:HB2	2.15	0.46
2:A:872:GLU:O	2:A:876:GLU:HG2	2.15	0.46
2:A:2155:LEU:HB2	2:A:2188:ASN:HD22	1.80	0.46
2:D:4999:ASP:HB2	2:D:5002:GLU:HG2	1.97	0.46
2:G:355:LEU:HB3	2:G:378:LEU:HB3	1.97	0.46
2:G:1452:TRP:HB3	2:G:1548:LEU:HB3	1.98	0.46
2:G:1617:THR:HG22	2:G:1628:VAL:HG22	1.97	0.46
2:G:3195:ALA:HB2	2:G:3275:PRO:HB3	1.96	0.46
2:I:355:LEU:HD23	2:I:378:LEU:HB3	1.97	0.46
2:I:1256:GLU:HB2	2:I:1275:ARG:HE	1.79	0.46
2:I:1617:THR:HG22	2:I:1628:VAL:HG22	1.97	0.46
2:I:1727:ARG:NH2	2:I:1773:PRO:O	2.48	0.46
2:A:943:ASP:HB3	2:A:1050:GLY:HA3	1.96	0.46
2:A:1452:TRP:HB3	2:A:1548:LEU:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1455:PRO:HG3	2:A:1549:PHE:HE1	1.81	0.46
2:A:1763:PRO:HG3	2:A:2094:LEU:HD22	1.97	0.46
2:A:2579:VAL:O	2:A:2582:MET:HG3	2.15	0.46
2:D:355:LEU:HD23	2:D:378:LEU:HB3	1.97	0.46
2:D:2155:LEU:HB2	2:D:2188:ASN:HD22	1.80	0.46
2:D:3260:GLY:O	2:D:3262:ARG:NH1	2.48	0.46
2:D:3336:LYS:HG2	2:D:3337:ARG:N	2.31	0.46
2:D:4242:ILE:HG22	2:D:4246:GLN:HE21	1.79	0.46
2:G:229:GLU:HG3	2:G:247:TYR:HB3	1.97	0.46
2:I:1155:LEU:HD13	2:I:1184:ILE:HG23	1.97	0.46
2:I:2575:ARG:HB3	2:I:2578:MET:HG2	1.97	0.46
2:I:3754:GLU:HG3	2:I:4719:PHE:CZ	2.49	0.46
2:I:4721:LYS:HD2	2:I:4741:LEU:HB3	1.96	0.46
2:A:870:ILE:O	2:A:874:LEU:HG	2.16	0.46
2:A:1733:GLU:HG2	2:A:2201:LEU:HD23	1.97	0.46
2:A:2430:ILE:HG21	2:A:2502:MET:HB2	1.96	0.46
2:A:2575:ARG:HB3	2:A:2578:MET:HG2	1.97	0.46
2:A:4992:LEU:O	2:A:4996:ILE:HG13	2.16	0.46
2:D:1455:PRO:HG3	2:D:1549:PHE:HE1	1.81	0.46
2:D:2477:PRO:HG2	2:D:2536:LEU:HD11	1.96	0.46
2:D:2759:ALA:HA	2:D:2809:ILE:HG12	1.96	0.46
2:G:3031:ALA:HB1	2:G:3035:GLU:HB2	1.97	0.46
2:G:3730:ALA:O	2:G:3734:HIS:HB2	2.15	0.46
3:M:89:ASP:HB2	3:M:125:VAL:HG21	1.97	0.46
2:I:229:GLU:HG3	2:I:247:TYR:HB3	1.97	0.46
2:I:355:LEU:HB3	2:I:378:LEU:HB3	1.97	0.46
2:I:1042:ALA:O	2:I:1046:LEU:HG	2.16	0.46
2:I:1452:TRP:HB3	2:I:1548:LEU:HB3	1.98	0.46
2:I:1733:GLU:HG2	2:I:2201:LEU:HD23	1.97	0.46
2:A:229:GLU:HG3	2:A:247:TYR:HB3	1.97	0.46
2:A:2736:ASP:OD1	2:A:2736:ASP:N	2.41	0.46
2:A:4546:VAL:HA	2:A:4549:VAL:HG22	1.98	0.46
2:D:1727:ARG:NH2	2:D:1773:PRO:O	2.48	0.46
2:D:2012:PHE:HZ	2:D:2031:LEU:HD23	1.79	0.46
2:D:2155:LEU:HB2	2:D:2188:ASN:ND2	2.30	0.46
2:D:2963:LEU:HD13	2:D:3006:ILE:HD13	1.96	0.46
2:D:3730:ALA:O	2:D:3734:HIS:HB2	2.15	0.46
2:G:247:TYR:HD2	2:G:374:LYS:HB2	1.80	0.46
2:G:981:GLN:HE21	2:G:1043:VAL:HG13	1.81	0.46
2:G:2700:MET:HB2	2:G:3001:ILE:HG22	1.98	0.46
2:I:870:ILE:O	2:I:874:LEU:HG	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:1455:PRO:HG3	2:I:1549:PHE:HE1	1.81	0.46
2:A:1042:ALA:O	2:A:1046:LEU:HG	2.16	0.46
2:A:3962:PHE:O	2:A:3966:THR:HG23	2.16	0.46
2:A:4024:VAL:HG11	2:A:4142:ASN:HB3	1.97	0.46
3:C:90:THR:HG23	3:C:124:THR:HA	1.97	0.46
2:D:1046:LEU:HD22	2:D:1051:TYR:CZ	2.50	0.46
2:D:2575:ARG:HB3	2:D:2578:MET:HG2	1.97	0.46
2:D:2668:SER:HB3	2:D:2671:GLU:HG3	1.98	0.46
3:E:89:ASP:HB2	3:E:125:VAL:HG21	1.97	0.46
1:F:11:ASP:OD2	1:F:13:ARG:HG2	2.16	0.46
2:G:369:LEU:O	2:G:370:GLY:C	2.54	0.46
2:G:943:ASP:HB3	2:G:1050:GLY:HA3	1.96	0.46
2:G:2155:LEU:HB2	2:G:2188:ASN:ND2	2.30	0.46
2:G:2155:LEU:HB2	2:G:2188:ASN:HD22	1.81	0.46
2:G:2575:ARG:HB3	2:G:2578:MET:HG2	1.97	0.46
2:G:4094:GLN:HG3	2:G:4108:ILE:HG21	1.96	0.46
2:I:872:GLU:O	2:I:876:GLU:HG2	2.15	0.46
2:I:943:ASP:HB3	2:I:1050:GLY:HA3	1.96	0.46
2:I:2700:MET:HB2	2:I:3001:ILE:HG22	1.98	0.46
3:K:89:ASP:HB2	3:K:125:VAL:HG21	1.97	0.46
2:A:3260:GLY:O	2:A:3262:ARG:NH1	2.48	0.46
2:A:4094:GLN:HG3	2:A:4108:ILE:HG21	1.96	0.46
3:C:4:LEU:HD21	3:C:97:ALA:HB2	1.98	0.46
2:D:4024:VAL:HG11	2:D:4142:ASN:HB3	1.97	0.46
2:G:707:VAL:HG23	2:G:782:SER:OG	2.16	0.46
2:G:2755:ILE:HD12	2:G:2813:LEU:HG	1.97	0.46
2:G:2759:ALA:HA	2:G:2809:ILE:HG12	1.96	0.46
2:G:3379:LEU:HD12	2:G:3387:ALA:HA	1.98	0.46
1:H:11:ASP:OD2	1:H:13:ARG:HG2	2.16	0.46
2:I:2579:VAL:O	2:I:2582:MET:HG3	2.15	0.46
2:I:4024:VAL:HG11	2:I:4142:ASN:HB3	1.97	0.46
2:A:2155:LEU:HB2	2:A:2188:ASN:ND2	2.30	0.46
2:A:2867:LEU:HD21	2:A:2871:LEU:HB3	1.98	0.46
2:A:3280:TYR:CE2	2:A:3284:TRP:CD1	3.04	0.46
2:A:3379:LEU:HD12	2:A:3387:ALA:HA	1.98	0.46
2:D:150:MET:HB3	2:D:169:LEU:HD22	1.98	0.46
2:D:1452:TRP:HB3	2:D:1548:LEU:HB3	1.98	0.46
2:D:3103:ILE:HA	2:D:3106:MET:SD	2.55	0.46
2:D:4820:VAL:HB	2:D:4823:LEU:HD23	1.98	0.46
2:G:150:MET:HB3	2:G:169:LEU:HD22	1.98	0.46
2:G:872:GLU:O	2:G:876:GLU:HG2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:2206:THR:O	2:G:2210:VAL:HG23	2.16	0.46
2:G:4675:LYS:O	2:G:4679:ARG:HG2	2.16	0.46
2:I:981:GLN:HE21	2:I:1043:VAL:HG13	1.81	0.46
2:I:2155:LEU:HB2	2:I:2188:ASN:ND2	2.30	0.46
2:I:3260:GLY:O	2:I:3262:ARG:NH1	2.48	0.46
2:I:3924:LEU:HD21	2:I:3984:ARG:HH21	1.81	0.46
2:A:1155:LEU:HD13	2:A:1184:ILE:HG23	1.97	0.46
2:A:2199:ARG:NH2	2:A:2245:GLN:OE1	2.49	0.46
2:A:2477:PRO:HG2	2:A:2536:LEU:HD11	1.96	0.46
2:A:2799:GLU:O	2:A:2803:GLU:HG2	2.15	0.46
2:A:3384:LYS:HG2	2:A:3386:GLU:H	1.81	0.46
2:D:355:LEU:HB3	2:D:378:LEU:HB3	1.97	0.46
2:D:823:LEU:HD11	2:D:1626:TRP:HB3	1.98	0.46
2:D:981:GLN:HE21	2:D:1043:VAL:HG13	1.81	0.46
2:D:1042:ALA:O	2:D:1046:LEU:HG	2.16	0.46
2:D:2196:ASN:OD1	2:D:2199:ARG:NH2	2.46	0.46
2:D:2199:ARG:NH2	2:D:2245:GLN:OE1	2.49	0.46
2:D:2206:THR:O	2:D:2210:VAL:HG23	2.16	0.46
2:D:3201:MET:HG3	2:D:3203:VAL:O	2.16	0.46
2:D:4675:LYS:O	2:D:4679:ARG:HG2	2.16	0.46
3:E:4:LEU:HD21	3:E:97:ALA:HB2	1.98	0.46
2:G:246:TYR:CG	2:G:373:LYS:HD2	2.51	0.46
2:G:2463:LEU:O	2:G:2467:VAL:HG22	2.16	0.46
2:G:3384:LYS:HG2	2:G:3386:GLU:H	1.81	0.46
2:I:2206:THR:O	2:I:2210:VAL:HG23	2.16	0.46
1:L:11:ASP:OD2	1:L:13:ARG:HG2	2.16	0.46
2:A:1027:LEU:HD13	2:A:1031:THR:HB	1.98	0.46
2:A:2782:ASP:N	2:A:2782:ASP:OD1	2.49	0.46
2:A:4675:LYS:O	2:A:4679:ARG:HG2	2.16	0.46
2:A:4820:VAL:HB	2:A:4823:LEU:HD23	1.98	0.46
2:A:4839:MET:CE	2:D:4823:LEU:HD13	2.44	0.46
2:D:707:VAL:HG23	2:D:782:SER:OG	2.16	0.46
2:G:2199:ARG:NH2	2:G:2245:GLN:OE1	2.49	0.46
2:G:2668:SER:HB3	2:G:2671:GLU:HG3	1.98	0.46
2:I:2463:LEU:O	2:I:2467:VAL:HG22	2.16	0.46
2:I:2867:LEU:HD21	2:I:2871:LEU:HB3	1.98	0.46
2:I:3379:LEU:HD12	2:I:3387:ALA:HA	1.98	0.46
2:I:3550:ARG:HE	2:I:3597:GLN:NE2	2.14	0.46
2:I:4066:LEU:HD23	2:I:4066:LEU:HA	1.85	0.46
2:A:707:VAL:HG23	2:A:782:SER:OG	2.16	0.46
2:A:1617:THR:HG22	2:A:1628:VAL:HG22	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2522:LEU:HA	2:A:2526:PHE:HB2	1.98	0.46
2:A:2930:LEU:O	2:A:2934:GLY:N	2.41	0.46
3:C:89:ASP:HB2	3:C:125:VAL:HG21	1.97	0.46
2:D:874:LEU:O	2:D:878:ILE:HG12	2.16	0.46
2:D:3511:VAL:HG23	2:D:3515:LYS:HD3	1.98	0.46
2:D:3550:ARG:HE	2:D:3597:GLN:NE2	2.14	0.46
2:G:870:ILE:O	2:G:874:LEU:HG	2.16	0.46
2:G:1027:LEU:HD23	2:G:1027:LEU:HA	1.83	0.46
2:G:1455:PRO:HG3	2:G:1549:PHE:HE1	1.81	0.46
2:G:2715:VAL:HG12	2:G:2953:LYS:HB3	1.98	0.46
2:G:2806:ARG:O	2:G:2810:LYS:HG2	2.16	0.46
2:G:3336:LYS:HG2	2:G:3337:ARG:N	2.31	0.46
2:G:3539:ARG:HH11	2:G:3552:PHE:HB2	1.81	0.46
2:I:2199:ARG:NH2	2:I:2245:GLN:OE1	2.49	0.45
2:I:3962:PHE:O	2:I:3966:THR:HG23	2.16	0.45
3:K:90:THR:HG23	3:K:124:THR:HA	1.97	0.45
2:A:2765:LYS:HA	2:A:2765:LYS:HD3	1.82	0.45
2:A:3336:LYS:HG2	2:A:3337:ARG:N	2.31	0.45
2:A:3924:LEU:HD21	2:A:3984:ARG:HH21	1.81	0.45
2:D:1155:LEU:HD13	2:D:1184:ILE:HG23	1.97	0.45
2:D:3379:LEU:HD12	2:D:3387:ALA:HA	1.98	0.45
2:D:4546:VAL:HA	2:D:4549:VAL:HG22	1.98	0.45
2:G:246:TYR:CD2	2:G:373:LYS:HB3	2.51	0.45
2:G:3550:ARG:HE	2:G:3597:GLN:NE2	2.14	0.45
2:G:4627:MET:SD	2:G:4627:MET:N	2.81	0.45
1:H:106:LEU:HD22	1:H:107:GLU:H	1.79	0.45
2:I:1027:LEU:HD13	2:I:1031:THR:HB	1.98	0.45
2:I:1052:ASN:OD1	2:I:1052:ASN:N	2.45	0.45
2:I:1934:SER:O	2:I:1938:GLN:HG2	2.17	0.45
2:I:2522:LEU:HA	2:I:2526:PHE:HB2	1.98	0.45
2:I:3101:GLU:O	2:I:3105:LYS:HG3	2.16	0.45
2:I:3511:VAL:HG23	2:I:3515:LYS:HD3	1.98	0.45
2:A:1497:GLY:O	2:A:1501:VAL:HG12	2.17	0.45
2:A:4694:ASP:OD1	2:A:4694:ASP:N	2.50	0.45
2:D:229:GLU:HG3	2:D:247:TYR:HB3	1.98	0.45
2:D:2700:MET:HB2	2:D:3001:ILE:HG22	1.98	0.45
2:D:2806:ARG:O	2:D:2810:LYS:HG2	2.16	0.45
2:D:3962:PHE:O	2:D:3966:THR:HG23	2.16	0.45
2:G:246:TYR:HB2	2:G:373:LYS:HD2	1.97	0.45
2:G:823:LEU:HD11	2:G:1626:TRP:HB3	1.98	0.45
2:G:1128:ARG:NH1	2:G:1130:GLN:HG3	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1934:SER:O	2:G:1938:GLN:HG2	2.17	0.45
2:G:1965:TYR:CZ	2:G:2031:LEU:HB2	2.52	0.45
2:I:1128:ARG:NH1	2:I:1130:GLN:HG3	2.32	0.45
2:I:3031:ALA:HB1	2:I:3035:GLU:HB2	1.97	0.45
2:I:3384:LYS:HG2	2:I:3386:GLU:H	1.81	0.45
2:A:355:LEU:HD23	2:A:378:LEU:HB3	1.97	0.45
2:A:2206:THR:O	2:A:2210:VAL:HG23	2.16	0.45
2:A:2668:SER:HB3	2:A:2671:GLU:HG3	1.98	0.45
2:A:2749:GLU:HG3	2:A:2752:ASP:HB2	1.99	0.45
2:A:3969:ILE:HD13	2:A:3980:LEU:HD12	1.99	0.45
2:D:870:ILE:O	2:D:874:LEU:HG	2.16	0.45
2:D:2463:LEU:O	2:D:2467:VAL:HG22	2.16	0.45
2:D:3031:ALA:HB1	2:D:3035:GLU:HB2	1.97	0.45
2:G:618:GLN:OE1	2:G:1678:ASN:ND2	2.46	0.45
2:G:3201:MET:HG3	2:G:3203:VAL:O	2.16	0.45
2:G:3470:LEU:O	2:G:3474:SER:OG	2.28	0.45
2:I:823:LEU:HD11	2:I:1626:TRP:HB3	1.98	0.45
2:I:2155:LEU:HB2	2:I:2188:ASN:HD22	1.80	0.45
2:I:2749:GLU:HG3	2:I:2752:ASP:HB2	1.99	0.45
2:I:2765:LYS:HZ2	2:I:2860:PRO:HA	1.81	0.45
2:I:3206:LEU:HD13	2:I:3246:LEU:HB3	1.98	0.45
2:I:4546:VAL:HA	2:I:4549:VAL:HG22	1.98	0.45
2:A:2661:TRP:HB3	2:A:2664:PHE:CD1	2.52	0.45
2:A:3511:VAL:HG23	2:A:3515:LYS:HD3	1.98	0.45
1:J:85:THR:O	1:J:85:THR:OG1	2.34	0.45
2:D:424:LYS:HE2	2:D:424:LYS:HB2	1.82	0.45
2:D:917:GLU:OE1	3:E:101:PRO:HB2	2.17	0.45
2:D:1617:THR:HG22	2:D:1628:VAL:HG22	1.97	0.45
2:D:1733:GLU:HG2	2:D:2201:LEU:HD23	1.97	0.45
2:D:3539:ARG:HH11	2:D:3552:PHE:HB2	1.81	0.45
2:I:150:MET:HB3	2:I:169:LEU:HD22	1.98	0.45
2:I:707:VAL:HG23	2:I:782:SER:OG	2.16	0.45
2:I:2627:VAL:HA	2:I:2630:VAL:HG12	1.99	0.45
2:I:4688:ILE:HG22	2:I:4689:THR:HG23	1.99	0.45
2:A:823:LEU:HD11	2:A:1626:TRP:HB3	1.98	0.45
2:A:886:ARG:HG2	2:A:891:TRP:CD1	2.51	0.45
2:A:1128:ARG:NH1	2:A:1130:GLN:HG3	2.31	0.45
2:A:3539:ARG:HH11	2:A:3552:PHE:HB2	1.81	0.45
2:D:886:ARG:HG2	2:D:891:TRP:CD1	2.51	0.45
2:D:2867:LEU:HD21	2:D:2871:LEU:HB3	1.98	0.45
2:D:3924:LEU:HD21	2:D:3984:ARG:HH21	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:2627:VAL:HA	2:G:2630:VAL:HG12	1.99	0.45
2:G:3974:THR:O	2:G:3978:GLN:HG2	2.17	0.45
2:G:4546:VAL:HA	2:G:4549:VAL:HG22	1.98	0.45
3:M:59:TYR:HB3	3:M:63:VAL:HG21	1.99	0.45
2:I:2211:MET:HA	2:I:2214:VAL:HG12	1.99	0.45
2:I:2710:LEU:HD23	2:I:2955:PHE:CD1	2.52	0.45
2:I:2962:GLN:HA	2:I:2965:ARG:HH11	1.82	0.45
2:I:3207:GLU:H	2:I:3245:VAL:HG23	1.82	0.45
2:A:150:MET:HB3	2:A:169:LEU:HD22	1.98	0.45
2:A:1436:SER:OG	2:A:1565:GLU:HB2	2.17	0.45
2:A:2286:LEU:HD23	2:A:3868:ARG:HH22	1.81	0.45
2:A:2463:LEU:O	2:A:2467:VAL:HG22	2.16	0.45
2:A:3101:GLU:O	2:A:3105:LYS:HG3	2.16	0.45
2:D:1934:SER:O	2:D:1938:GLN:HG2	2.17	0.45
2:D:2302:LEU:HD12	2:D:2363:CYS:HB3	1.98	0.45
2:D:2661:TRP:HB3	2:D:2664:PHE:CD1	2.52	0.45
2:D:2715:VAL:HG12	2:D:2953:LYS:HB3	1.98	0.45
2:D:3280:TYR:CE2	2:D:3284:TRP:CD1	3.04	0.45
2:D:3384:LYS:HG2	2:D:3386:GLU:H	1.81	0.45
2:G:2286:LEU:HD23	2:G:3868:ARG:HH22	1.81	0.45
2:G:2710:LEU:HD23	2:G:2955:PHE:CD1	2.52	0.45
2:I:1422:ASP:N	2:I:1422:ASP:OD1	2.45	0.45
2:I:2302:LEU:HD12	2:I:2363:CYS:HB3	1.98	0.45
2:I:2668:SER:HB3	2:I:2671:GLU:HG3	1.98	0.45
2:I:3280:TYR:CE2	2:I:3284:TRP:CD1	3.04	0.45
2:I:4820:VAL:HB	2:I:4823:LEU:HD23	1.98	0.45
2:A:1965:TYR:CZ	2:A:2031:LEU:HB2	2.51	0.45
2:A:2211:MET:HA	2:A:2214:VAL:HG12	1.99	0.45
2:A:3206:LEU:HD13	2:A:3246:LEU:HB3	1.98	0.45
2:A:3207:GLU:H	2:A:3245:VAL:HG23	1.82	0.45
2:D:901:LYS:HB3	2:D:903:LEU:HG	1.99	0.45
2:D:1436:SER:OG	2:D:1565:GLU:HB2	2.17	0.45
2:D:1497:GLY:O	2:D:1501:VAL:HG12	2.17	0.45
2:G:874:LEU:O	2:G:878:ILE:HG12	2.16	0.45
2:G:1042:ALA:O	2:G:1046:LEU:HG	2.16	0.45
2:G:4687:TYR:OH	2:G:4699:GLY:O	2.30	0.45
2:I:1436:SER:OG	2:I:1565:GLU:HB2	2.17	0.45
2:I:1447:CYS:HB3	2:I:1555:LEU:HB3	1.99	0.45
2:I:1658:ASP:OD1	2:I:1658:ASP:N	2.43	0.45
2:I:1965:TYR:CZ	2:I:2031:LEU:HB2	2.51	0.45
2:I:2263:ILE:HG13	2:I:2264:GLY:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2715:VAL:HG12	2:I:2953:LYS:HB3	1.98	0.45
2:I:3969:ILE:HD13	2:I:3980:LEU:HD12	1.99	0.45
2:A:2477:PRO:HD3	2:A:2546:MET:HG2	1.99	0.45
2:A:2627:VAL:HA	2:A:2630:VAL:HG12	1.99	0.45
2:A:3041:SER:O	2:A:3045:LYS:HG3	2.17	0.45
2:A:3201:MET:HG3	2:A:3203:VAL:O	2.16	0.45
2:A:3974:THR:O	2:A:3978:GLN:HG2	2.17	0.45
2:D:3104:GLU:HA	2:D:3107:VAL:HG22	1.99	0.45
2:D:3717:ASP:OD1	2:D:3717:ASP:N	2.43	0.45
2:D:3969:ILE:HD13	2:D:3980:LEU:HD12	1.99	0.45
2:G:1155:LEU:HD13	2:G:1184:ILE:HG23	1.97	0.45
2:G:2211:MET:HA	2:G:2214:VAL:HG12	1.99	0.45
2:G:2522:LEU:HA	2:G:2526:PHE:HB2	1.98	0.45
2:G:3206:LEU:HD13	2:G:3246:LEU:HB3	1.98	0.45
2:G:3962:PHE:O	2:G:3966:THR:HG23	2.16	0.45
2:I:921:ASN:HA	2:I:924:MET:HB2	1.99	0.45
3:K:59:TYR:HB3	3:K:63:VAL:HG21	1.99	0.45
2:A:901:LYS:HB3	2:A:903:LEU:HG	1.99	0.45
2:A:2806:ARG:O	2:A:2810:LYS:HG2	2.16	0.45
2:A:4687:TYR:OH	2:A:4699:GLY:O	2.30	0.45
2:D:1027:LEU:HD13	2:D:1031:THR:HB	1.98	0.45
2:D:2286:LEU:HD23	2:D:3868:ARG:HH22	1.81	0.45
2:D:2477:PRO:HD3	2:D:2546:MET:HG2	1.99	0.45
2:G:886:ARG:HG2	2:G:891:TRP:CD1	2.51	0.45
2:G:2263:ILE:HG13	2:G:2264:GLY:N	2.32	0.45
2:G:3511:VAL:HG23	2:G:3515:LYS:HD3	1.98	0.45
2:G:4024:VAL:HG11	2:G:4142:ASN:HB3	1.97	0.45
2:G:4688:ILE:HG22	2:G:4689:THR:HG23	1.99	0.45
3:M:4:LEU:HD21	3:M:97:ALA:HB2	1.98	0.45
2:I:886:ARG:HG2	2:I:891:TRP:CD1	2.52	0.45
2:I:1225:PRO:HG2	2:I:1228:ILE:HB	1.99	0.45
2:I:2286:LEU:HD23	2:I:3868:ARG:HH22	1.81	0.45
2:I:2751:LEU:O	2:I:2755:ILE:HG12	2.16	0.45
2:I:2906:VAL:HG23	2:I:2911:LEU:HD23	1.99	0.45
2:I:3449:HIS:ND1	2:I:3449:HIS:O	2.50	0.45
2:I:3974:THR:O	2:I:3978:GLN:HG2	2.17	0.45
3:K:4:LEU:HD21	3:K:97:ALA:HB2	1.98	0.45
2:A:1422:ASP:N	2:A:1422:ASP:OD1	2.45	0.45
2:A:1934:SER:O	2:A:1938:GLN:HG2	2.17	0.45
2:A:2263:ILE:HG13	2:A:2264:GLY:N	2.32	0.45
2:A:2302:LEU:HD12	2:A:2363:CYS:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2715:VAL:HG12	2:A:2953:LYS:HB3	1.98	0.45
2:A:2751:LEU:O	2:A:2755:ILE:HG12	2.17	0.45
2:A:3040:THR:HG21	2:A:3080:VAL:HG11	1.99	0.45
2:A:3104:GLU:HA	2:A:3107:VAL:HG22	1.99	0.45
2:D:369:LEU:O	2:D:371:VAL:HG23	2.17	0.45
2:D:1965:TYR:CZ	2:D:2031:LEU:HB2	2.51	0.45
2:D:2970:SER:O	2:D:2974:ILE:HG23	2.17	0.45
2:G:2749:GLU:HG3	2:G:2752:ASP:HB2	1.99	0.45
2:G:2867:LEU:HD21	2:G:2871:LEU:HB3	1.98	0.45
2:G:3280:TYR:CE2	2:G:3284:TRP:CD1	3.04	0.45
2:G:3540:TYR:HB3	2:G:3604:TYR:CD1	2.52	0.45
2:I:874:LEU:O	2:I:878:ILE:HG12	2.16	0.44
2:I:1123:VAL:HG12	2:I:1132:TRP:HB2	1.99	0.44
2:I:1497:GLY:O	2:I:1501:VAL:HG12	2.17	0.44
2:I:3041:SER:O	2:I:3045:LYS:HG3	2.17	0.44
2:I:3754:GLU:HG3	2:I:4719:PHE:HZ	1.81	0.44
2:I:4675:LYS:O	2:I:4679:ARG:HG2	2.16	0.44
2:A:981:GLN:HE21	2:A:1043:VAL:HG13	1.81	0.44
2:A:1937:LEU:HD13	2:A:2116:LEU:HA	1.99	0.44
2:A:2962:GLN:HA	2:A:2965:ARG:HH11	1.82	0.44
2:A:2970:SER:O	2:A:2974:ILE:HG23	2.17	0.44
2:A:3550:ARG:HE	2:A:3597:GLN:NE2	2.14	0.44
1:J:11:ASP:OD2	1:J:13:ARG:HG2	2.16	0.44
2:D:365:LYS:O	2:D:368:ARG:HG3	2.17	0.44
2:D:2266:GLY:HA2	2:D:2271:THR:HG21	1.99	0.44
2:D:3201:MET:SD	2:D:3203:VAL:HG12	2.58	0.44
2:D:3245:VAL:CG1	2:D:3248:ARG:HH12	2.30	0.44
2:D:4232:GLU:OE1	2:D:5019:TRP:NE1	2.31	0.44
2:G:1225:PRO:HG2	2:G:1228:ILE:HB	1.99	0.44
2:G:1243:PRO:HA	2:G:1601:MET:O	2.17	0.44
2:G:2302:LEU:HD12	2:G:2363:CYS:HB3	1.98	0.44
2:G:2661:TRP:HB3	2:G:2664:PHE:CD1	2.52	0.44
2:G:2716:ASP:OD1	2:G:2716:ASP:N	2.42	0.44
2:G:3101:GLU:O	2:G:3105:LYS:HG3	2.16	0.44
2:I:2625:ARG:NE	2:I:2625:ARG:HA	2.33	0.44
2:I:2970:SER:O	2:I:2974:ILE:HG23	2.17	0.44
2:I:3040:THR:HG21	2:I:3080:VAL:HG11	1.99	0.44
2:A:180:LEU:HD23	2:A:180:LEU:HA	1.88	0.44
2:A:921:ASN:HA	2:A:924:MET:HB2	1.99	0.44
2:A:1243:PRO:HA	2:A:1601:MET:O	2.17	0.44
2:A:1447:CYS:HB3	2:A:1555:LEU:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3172:ILE:HD11	2:A:3190:LEU:HB3	1.99	0.44
2:A:4063:ASP:OD1	2:A:4064:MET:N	2.51	0.44
2:D:1128:ARG:NH1	2:D:1130:GLN:HG3	2.32	0.44
2:D:2522:LEU:HA	2:D:2526:PHE:HB2	1.99	0.44
2:D:2751:LEU:O	2:D:2755:ILE:HG12	2.16	0.44
2:D:2782:ASP:N	2:D:2782:ASP:OD1	2.50	0.44
2:D:3206:LEU:HD13	2:D:3246:LEU:HB3	1.98	0.44
2:D:4688:ILE:HG22	2:D:4689:THR:HG23	1.99	0.44
2:D:5013:MET:HG2	2:D:5018:CYS:HB3	2.00	0.44
5:D:5102:POV:H35A	5:D:5102:POV:H32	1.86	0.44
3:E:59:TYR:HB3	3:E:63:VAL:HG21	1.99	0.44
2:G:1497:GLY:O	2:G:1501:VAL:HG12	2.17	0.44
2:G:2765:LYS:HZ2	2:G:2860:PRO:HA	1.81	0.44
2:G:2782:ASP:HB2	2:G:2784:GLU:HG3	1.99	0.44
2:G:3023:LYS:HE2	2:G:3023:LYS:HB3	1.78	0.44
2:G:4063:ASP:OD1	2:G:4064:MET:N	2.51	0.44
2:G:4066:LEU:HD23	2:G:4066:LEU:HA	1.86	0.44
2:I:363:ASP:HB3	2:I:366:ALA:HB3	1.98	0.44
2:I:901:LYS:HB3	2:I:903:LEU:HG	1.99	0.44
2:I:2661:TRP:HB3	2:I:2664:PHE:CD1	2.52	0.44
2:I:3336:LYS:HG2	2:I:3337:ARG:N	2.31	0.44
2:A:874:LEU:O	2:A:878:ILE:HG12	2.16	0.44
2:A:1225:PRO:HG2	2:A:1228:ILE:HB	1.99	0.44
2:A:2266:GLY:HA2	2:A:2271:THR:HG21	2.00	0.44
2:A:2782:ASP:HB2	2:A:2784:GLU:HG3	1.99	0.44
2:A:3201:MET:SD	2:A:3203:VAL:HG12	2.58	0.44
2:A:3249:LEU:HD12	2:A:3249:LEU:H	1.83	0.44
2:A:3438:VAL:HG23	2:A:3514:LEU:HD13	2.00	0.44
2:A:3449:HIS:ND1	2:A:3449:HIS:O	2.50	0.44
2:A:4688:ILE:HG22	2:A:4689:THR:HG23	1.99	0.44
2:D:551:LEU:HD13	2:D:589:LEU:HD11	2.00	0.44
2:D:1123:VAL:HG12	2:D:1132:TRP:HB2	1.99	0.44
2:D:1225:PRO:HG2	2:D:1228:ILE:HB	1.99	0.44
2:D:1447:CYS:HB3	2:D:1555:LEU:HB3	1.99	0.44
2:D:3172:ILE:HD11	2:D:3190:LEU:HB3	1.99	0.44
2:G:901:LYS:HB3	2:G:903:LEU:HG	1.99	0.44
2:G:1027:LEU:HD13	2:G:1031:THR:HB	1.98	0.44
2:G:1109:LEU:HA	2:G:1120:LEU:HD13	2.00	0.44
2:G:2906:VAL:HG23	2:G:2911:LEU:HD23	1.99	0.44
2:G:3040:THR:HG21	2:G:3080:VAL:HG11	1.99	0.44
2:G:3146:HIS:CE1	2:G:3150:HIS:HD2	2.36	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:3924:LEU:HD21	2:G:3984:ARG:HH21	1.81	0.44
2:I:2806:ARG:O	2:I:2810:LYS:HG2	2.16	0.44
2:I:2960:LEU:HA	2:I:2963:LEU:HD12	1.99	0.44
2:I:3201:MET:HG3	2:I:3203:VAL:O	2.16	0.44
2:I:4063:ASP:OD1	2:I:4064:MET:N	2.51	0.44
2:A:2700:MET:HB2	2:A:3001:ILE:HG22	1.97	0.44
2:D:574:VAL:O	2:D:578:ILE:HG12	2.18	0.44
2:D:2211:MET:HA	2:D:2214:VAL:HG12	1.99	0.44
2:D:2710:LEU:HD23	2:D:2955:PHE:CD1	2.52	0.44
2:D:3101:GLU:O	2:D:3105:LYS:HG3	2.16	0.44
2:G:4820:VAL:HB	2:G:4823:LEU:HD23	1.98	0.44
2:I:574:VAL:O	2:I:578:ILE:HG12	2.18	0.44
2:I:634:GLN:O	2:I:1639:LEU:HD12	2.18	0.44
2:I:1109:LEU:HA	2:I:1120:LEU:HD13	2.00	0.44
2:I:3539:ARG:HH11	2:I:3552:PHE:CB	2.31	0.44
2:I:4189:ARG:NH1	2:I:5032:TYR:OH	2.51	0.44
2:A:3003:LEU:HB2	2:A:3004:PRO:HD3	1.99	0.44
2:D:2263:ILE:HG13	2:D:2264:GLY:N	2.32	0.44
2:D:2725:LYS:HE2	2:D:2738:ARG:HH22	1.83	0.44
2:G:551:LEU:HD13	2:G:589:LEU:HD11	2.00	0.44
2:G:574:VAL:O	2:G:578:ILE:HG12	2.18	0.44
2:G:1123:VAL:HG12	2:G:1132:TRP:HB2	1.99	0.44
2:G:2970:SER:O	2:G:2974:ILE:HG23	2.17	0.44
2:G:3539:ARG:HH11	2:G:3552:PHE:CB	2.31	0.44
2:G:3969:ILE:HD13	2:G:3980:LEU:HD12	1.99	0.44
2:I:3172:ILE:HD11	2:I:3190:LEU:HB3	1.99	0.44
2:I:3249:LEU:HD12	2:I:3249:LEU:H	1.83	0.44
2:I:3719:ASP:O	2:I:3723:MET:HG3	2.18	0.44
2:A:574:VAL:O	2:A:578:ILE:HG12	2.17	0.44
2:A:2710:LEU:HD23	2:A:2955:PHE:CD1	2.52	0.44
2:A:2906:VAL:HG23	2:A:2911:LEU:HD23	1.99	0.44
2:D:355:LEU:HB3	2:D:378:LEU:HD22	2.00	0.44
2:D:2749:GLU:HG3	2:D:2752:ASP:HB2	1.98	0.44
2:D:3040:THR:HG21	2:D:3080:VAL:HG11	1.99	0.44
2:D:3438:VAL:HG23	2:D:3514:LEU:HD13	2.00	0.44
2:D:3449:HIS:ND1	2:D:3449:HIS:O	2.50	0.44
2:D:3539:ARG:HH11	2:D:3552:PHE:CB	2.31	0.44
2:D:3974:THR:O	2:D:3978:GLN:HG2	2.17	0.44
2:D:4211:LYS:O	2:D:4215:ARG:HG3	2.18	0.44
2:G:3104:GLU:HA	2:G:3107:VAL:HG22	1.99	0.44
2:G:3172:ILE:HD11	2:G:3190:LEU:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:3249:LEU:H	2:G:3249:LEU:HD12	1.83	0.44
2:G:3719:ASP:O	2:G:3723:MET:HG3	2.18	0.44
2:I:2263:ILE:HG13	2:I:2264:GLY:H	1.83	0.44
2:I:2477:PRO:HD3	2:I:2546:MET:HG2	1.99	0.44
2:A:458:GLU:H	2:A:458:GLU:HG3	1.67	0.44
2:A:3719:ASP:O	2:A:3723:MET:HG3	2.18	0.44
2:A:4651:THR:HG21	2:A:4803:HIS:CE1	2.53	0.44
3:C:59:TYR:HB3	3:C:63:VAL:HG21	1.99	0.44
2:D:2765:LYS:HZ3	2:D:2857:PRO:HB2	1.82	0.44
2:D:3146:HIS:CE1	2:D:3150:HIS:HD2	2.36	0.44
2:D:4081:VAL:HG12	2:D:4088:ILE:HD13	1.99	0.44
2:G:634:GLN:O	2:G:1639:LEU:HD12	2.18	0.44
2:G:2960:LEU:HA	2:G:2963:LEU:HD12	2.00	0.44
2:G:3449:HIS:ND1	2:G:3449:HIS:O	2.50	0.44
2:G:3834:ALA:O	2:G:3838:THR:HG23	2.18	0.44
2:I:130:LYS:O	2:I:130:LYS:HD3	2.18	0.44
2:I:1243:PRO:HA	2:I:1601:MET:O	2.17	0.44
2:I:1937:LEU:HD13	2:I:2116:LEU:HA	2.00	0.44
2:I:2689:LYS:O	2:I:2993:GLN:NE2	2.51	0.44
2:I:4211:LYS:O	2:I:4215:ARG:HG3	2.18	0.44
2:A:551:LEU:HD13	2:A:589:LEU:HD11	2.00	0.44
2:A:5013:MET:HG2	2:A:5018:CYS:HB3	2.00	0.44
2:D:1937:LEU:HD13	2:D:2116:LEU:HA	2.00	0.44
2:D:2759:ALA:HB2	2:D:2810:LYS:HZ1	1.83	0.44
2:D:3003:LEU:HB2	2:D:3004:PRO:HD3	1.99	0.44
2:D:3207:GLU:H	2:D:3245:VAL:HG23	1.82	0.44
2:D:3249:LEU:HD12	2:D:3249:LEU:H	1.83	0.44
2:D:4189:ARG:NH1	2:D:5032:TYR:OH	2.51	0.44
2:G:1041:GLN:HA	2:G:1044:ARG:HH11	1.83	0.44
2:G:2751:LEU:O	2:G:2755:ILE:HG12	2.16	0.44
2:G:3003:LEU:HB2	2:G:3004:PRO:HD3	1.99	0.44
2:G:3201:MET:SD	2:G:3203:VAL:HG12	2.58	0.44
2:G:3207:GLU:H	2:G:3245:VAL:HG23	1.82	0.44
2:G:3568:SER:O	2:G:3571:TRP:NE1	2.51	0.44
2:I:2266:GLY:HA2	2:I:2271:THR:HG21	2.00	0.44
2:I:3540:TYR:HB3	2:I:3604:TYR:CD1	2.52	0.44
2:I:3834:ALA:O	2:I:3838:THR:HG23	2.18	0.44
2:I:4215:ARG:HH21	6:I:5103:ATP:PG	2.41	0.44
2:A:2960:LEU:HA	2:A:2963:LEU:HD12	1.99	0.44
2:A:3245:VAL:CG1	2:A:3248:ARG:HH12	2.31	0.44
2:A:4081:VAL:HG12	2:A:4088:ILE:HD13	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1109:LEU:HA	2:D:1120:LEU:HD13	2.00	0.44
2:D:1860:LYS:HE3	2:D:1860:LYS:HB2	1.84	0.44
2:D:4063:ASP:OD1	2:D:4064:MET:N	2.51	0.44
2:G:2962:GLN:HA	2:G:2965:ARG:HH11	1.82	0.44
2:I:2725:LYS:HE2	2:I:2738:ARG:HH22	1.83	0.43
2:I:2960:LEU:HD22	2:I:3038:MET:HB2	2.00	0.43
2:I:3104:GLU:HA	2:I:3107:VAL:HG22	1.99	0.43
2:I:3273:THR:O	2:I:3276:MET:HB2	2.18	0.43
2:I:4885:PHE:CE2	2:I:4897:ILE:HD11	2.53	0.43
2:A:3586:ALA:HA	2:A:3591:LYS:HD2	2.01	0.43
2:D:921:ASN:HA	2:D:924:MET:HB2	1.99	0.43
2:D:1041:GLN:HA	2:D:1044:ARG:HH11	1.83	0.43
2:D:2627:VAL:HA	2:D:2630:VAL:HG12	1.99	0.43
2:G:1436:SER:OG	2:G:1565:GLU:HB2	2.17	0.43
2:G:2580:ASP:HA	2:G:2583:LEU:HD12	2.00	0.43
2:G:2960:LEU:HD22	2:G:3038:MET:HB2	2.00	0.43
2:G:3041:SER:O	2:G:3045:LYS:HG3	2.17	0.43
2:G:4211:LYS:O	2:G:4215:ARG:HG3	2.18	0.43
2:I:3003:LEU:HB2	2:I:3004:PRO:HD3	1.99	0.43
2:I:3438:VAL:HG23	2:I:3514:LEU:HD13	2.00	0.43
2:I:3539:ARG:HH11	2:I:3552:PHE:HB2	1.82	0.43
2:I:3568:SER:O	2:I:3571:TRP:NE1	2.51	0.43
2:A:1027:LEU:HA	2:A:1027:LEU:HD23	1.82	0.43
2:A:1860:LYS:HE3	2:A:1860:LYS:HB2	1.84	0.43
2:A:1935:VAL:O	2:A:1939:MET:HE2	2.18	0.43
2:A:2638:LYS:HE2	2:A:2638:LYS:HB3	1.87	0.43
2:A:3333:THR:O	2:A:3336:LYS:NZ	2.39	0.43
2:A:3540:TYR:HB3	2:A:3604:TYR:CD1	2.52	0.43
2:A:4189:ARG:NH1	2:A:5032:TYR:OH	2.51	0.43
2:D:2959:PHE:O	2:D:2963:LEU:HG	2.19	0.43
3:E:9:GLY:HA3	3:E:123:VAL:HG22	2.00	0.43
2:G:355:LEU:HB3	2:G:378:LEU:HD22	2.00	0.43
2:G:648:ILE:HD11	2:G:793:LEU:HD13	2.00	0.43
2:G:2440:MET:HE2	2:G:2440:MET:HA	1.98	0.43
2:G:4885:PHE:CE2	2:G:4897:ILE:HD11	2.53	0.43
2:G:5013:MET:HG2	2:G:5018:CYS:HB3	2.00	0.43
2:I:2754:PHE:HB2	2:I:2935:TYR:OH	2.18	0.43
2:A:3568:SER:O	2:A:3571:TRP:NE1	2.51	0.43
2:A:3694:LYS:HB2	2:A:3694:LYS:HE3	1.76	0.43
2:D:130:LYS:O	2:D:130:LYS:HD3	2.18	0.43
2:D:363:ASP:OD1	2:D:365:LYS:HG2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:3041:SER:O	2:D:3045:LYS:HG3	2.17	0.43
2:D:3698:LEU:O	2:D:3702:VAL:HG12	2.18	0.43
2:D:3946:GLN:OE1	2:D:3949:ARG:NH2	2.51	0.43
2:D:4885:PHE:CE2	2:D:4897:ILE:HD11	2.53	0.43
2:G:1447:CYS:HB3	2:G:1555:LEU:HB3	1.99	0.43
2:G:2477:PRO:HD3	2:G:2546:MET:HG2	1.99	0.43
2:G:2765:LYS:HA	2:G:2765:LYS:HD3	1.82	0.43
2:G:3946:GLN:OE1	2:G:3949:ARG:NH2	2.51	0.43
2:I:2759:ALA:HB2	2:I:2810:LYS:HZ1	1.83	0.43
2:I:3201:MET:SD	2:I:3203:VAL:HG12	2.58	0.43
2:I:3946:GLN:OE1	2:I:3949:ARG:NH2	2.51	0.43
2:A:1123:VAL:HG12	2:A:1132:TRP:HB2	1.99	0.43
2:A:2580:ASP:HA	2:A:2583:LEU:HD12	2.00	0.43
2:A:4779:LYS:HE3	2:A:4779:LYS:HB2	1.82	0.43
2:D:246:TYR:HB3	2:D:373:LYS:HA	2.00	0.43
2:D:634:GLN:O	2:D:1639:LEU:HD12	2.18	0.43
2:D:2679:PHE:HB2	2:D:2706:ILE:HG21	2.00	0.43
2:D:2689:LYS:O	2:D:2993:GLN:NE2	2.51	0.43
2:D:2782:ASP:HB2	2:D:2784:GLU:HG3	1.99	0.43
2:D:2906:VAL:HG23	2:D:2911:LEU:HD23	1.99	0.43
2:D:3540:TYR:HB3	2:D:3604:TYR:CD1	2.52	0.43
2:G:921:ASN:HA	2:G:924:MET:HB2	1.99	0.43
2:G:2266:GLY:HA2	2:G:2271:THR:HG21	1.99	0.43
2:G:3273:THR:O	2:G:3276:MET:HB2	2.18	0.43
2:G:3395:ARG:HG2	2:G:3453:ARG:NH1	2.33	0.43
2:I:648:ILE:HD11	2:I:793:LEU:HD13	2.00	0.43
2:I:1249:PRO:HG2	2:I:1252:HIS:HB2	2.01	0.43
2:I:2185:ILE:HD12	2:I:2203:MET:HE1	2.01	0.43
2:I:2782:ASP:HB2	2:I:2784:GLU:HG3	1.99	0.43
2:I:3000:LYS:HA	2:I:3000:LYS:HD3	1.86	0.43
2:I:3245:VAL:CG1	2:I:3248:ARG:HH12	2.31	0.43
2:I:3694:LYS:HB2	2:I:3694:LYS:HE3	1.77	0.43
2:I:4651:THR:HG21	2:I:4803:HIS:CE1	2.53	0.43
2:A:981:GLN:HG2	2:A:1047:LEU:HD11	2.01	0.43
2:A:2189:LYS:HA	2:A:2192:TYR:CE2	2.53	0.43
2:A:2679:PHE:HB2	2:A:2706:ILE:HG21	2.00	0.43
2:A:2725:LYS:HE2	2:A:2738:ARG:HH22	1.83	0.43
2:A:2754:PHE:HB2	2:A:2935:TYR:OH	2.18	0.43
2:A:2801:ASP:HA	2:A:2804:ILE:HG12	2.00	0.43
2:A:3539:ARG:HH11	2:A:3552:PHE:CB	2.31	0.43
2:A:3698:LEU:O	2:A:3702:VAL:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:4211:LYS:O	2:A:4215:ARG:HG3	2.18	0.43
2:D:2580:ASP:HA	2:D:2583:LEU:HD12	2.00	0.43
2:D:2754:PHE:HB2	2:D:2935:TYR:OH	2.18	0.43
2:D:3568:SER:O	2:D:3571:TRP:NE1	2.51	0.43
2:D:3586:ALA:HA	2:D:3591:LYS:HD2	2.01	0.43
2:D:4694:ASP:OD1	2:D:4694:ASP:N	2.50	0.43
2:G:917:GLU:OE1	3:M:101:PRO:HB2	2.19	0.43
2:I:981:GLN:HG2	2:I:1047:LEU:HD11	2.01	0.43
2:I:2189:LYS:HA	2:I:2192:TYR:CE2	2.53	0.43
2:I:4694:ASP:OD1	2:I:4694:ASP:N	2.50	0.43
2:I:5013:MET:CE	2:I:5021:PHE:HB3	2.47	0.43
2:A:634:GLN:O	2:A:1639:LEU:HD12	2.18	0.43
2:A:2182:ILE:O	2:A:2186:MET:HG2	2.19	0.43
2:A:3639:THR:N	2:A:3640:PRO:HD2	2.34	0.43
2:A:4885:PHE:CE2	2:A:4897:ILE:HD11	2.53	0.43
2:D:1243:PRO:HA	2:D:1601:MET:O	2.17	0.43
2:G:1249:PRO:HG2	2:G:1252:HIS:HB2	2.01	0.43
2:G:2782:ASP:N	2:G:2782:ASP:OD1	2.49	0.43
2:I:551:LEU:HD13	2:I:589:LEU:HD11	2.00	0.43
2:I:919:ASN:HA	2:I:922:LEU:HB2	2.01	0.43
2:I:2124:LEU:HD11	2:I:2128:TYR:HE2	1.84	0.43
2:I:3107:VAL:HA	2:I:3175:LEU:HD21	2.01	0.43
2:I:3146:HIS:CE1	2:I:3150:HIS:HD2	2.36	0.43
2:A:223:PHE:O	2:A:388:LEU:HB2	2.19	0.43
2:A:648:ILE:HD11	2:A:793:LEU:HD13	2.00	0.43
2:A:1041:GLN:HA	2:A:1044:ARG:HH11	1.83	0.43
2:A:1109:LEU:HA	2:A:1120:LEU:HD13	2.00	0.43
2:A:2625:ARG:NE	2:A:2625:ARG:HA	2.33	0.43
2:D:648:ILE:HD11	2:D:793:LEU:HD13	2.00	0.43
2:I:659:TYR:O	2:I:662:TRP:NE1	2.51	0.43
2:I:3586:ALA:HA	2:I:3591:LYS:HD2	2.01	0.43
2:A:3946:GLN:OE1	2:A:3949:ARG:NH2	2.51	0.43
2:D:180:LEU:HD23	2:D:180:LEU:HA	1.88	0.43
2:D:2182:ILE:O	2:D:2186:MET:HG2	2.19	0.43
2:D:2625:ARG:NE	2:D:2625:ARG:HA	2.33	0.43
2:D:2960:LEU:HA	2:D:2963:LEU:HD12	2.00	0.43
2:D:3639:THR:N	2:D:3640:PRO:HD2	2.34	0.43
2:D:4651:THR:HG21	2:D:4803:HIS:CE1	2.53	0.43
2:G:223:PHE:O	2:G:388:LEU:HB2	2.19	0.43
2:G:919:ASN:HA	2:G:922:LEU:HB2	2.01	0.43
2:G:1871:PHE:HZ	2:G:2094:LEU:HD13	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1937:LEU:HD13	2:G:2116:LEU:HA	2.00	0.43
2:G:2182:ILE:O	2:G:2186:MET:HG2	2.19	0.43
2:G:2263:ILE:HG13	2:G:2264:GLY:H	1.83	0.43
2:G:2625:ARG:NE	2:G:2625:ARG:HA	2.32	0.43
2:G:3438:VAL:HG23	2:G:3514:LEU:HD13	2.00	0.43
2:G:4694:ASP:OD1	2:G:4694:ASP:N	2.50	0.43
2:G:5011:TRP:CH2	7:G:5104:CFF:H102	2.54	0.43
2:I:1041:GLN:HA	2:I:1044:ARG:HH11	1.83	0.43
2:I:3698:LEU:O	2:I:3702:VAL:HG12	2.18	0.43
2:I:4958:CYS:HA	6:I:5103:ATP:N7	2.34	0.43
2:A:130:LYS:O	2:A:130:LYS:HD3	2.18	0.43
2:A:355:LEU:HB3	2:A:378:LEU:HD22	2.00	0.43
2:A:1207:ASP:OD1	2:A:1207:ASP:N	2.50	0.43
2:A:2124:LEU:HD11	2:A:2128:TYR:HE2	1.84	0.43
2:A:3155:ASP:HA	2:A:3158:LEU:HD23	2.01	0.43
2:A:3273:THR:O	2:A:3276:MET:HB2	2.18	0.43
2:A:4780:PHE:HA	2:A:4783:ILE:HG22	2.01	0.43
2:A:4954:MET:O	6:A:5103:ATP:O2'	2.27	0.43
2:D:919:ASN:HA	2:D:922:LEU:HB2	2.01	0.43
2:D:2124:LEU:HD11	2:D:2128:TYR:HE2	1.84	0.43
2:D:2465:ASP:O	2:D:2469:ILE:HG22	2.19	0.43
2:D:2610:LEU:O	2:D:2614:ILE:HG12	2.19	0.43
2:D:3155:ASP:HA	2:D:3158:LEU:HD23	2.01	0.43
2:D:4071:ILE:HD12	2:D:4103:PHE:HE2	1.84	0.43
3:E:105:ASN:HD21	3:E:111:ASN:CB	2.32	0.43
2:G:981:GLN:HG2	2:G:1047:LEU:HD11	2.01	0.43
2:G:2754:PHE:HB2	2:G:2935:TYR:OH	2.18	0.43
2:G:2801:ASP:HA	2:G:2804:ILE:HG12	2.00	0.43
2:G:2996:LYS:HD3	2:G:2996:LYS:HA	1.87	0.43
2:G:3694:LYS:HB2	2:G:3694:LYS:HE3	1.76	0.43
2:G:3698:LEU:O	2:G:3702:VAL:HG12	2.18	0.43
2:G:4189:ARG:NH1	2:G:5032:TYR:OH	2.51	0.43
3:M:9:GLY:HA3	3:M:123:VAL:HG22	2.00	0.43
3:M:105:ASN:HD21	3:M:111:ASN:CB	2.32	0.43
2:I:737:LEU:HD12	2:I:737:LEU:HA	1.93	0.43
2:I:864:PRO:O	2:I:866:HIS:N	2.52	0.43
2:I:1871:PHE:HZ	2:I:2094:LEU:HD13	1.84	0.43
2:I:2580:ASP:HA	2:I:2583:LEU:HD12	2.00	0.43
2:I:2712:PRO:HD3	2:I:3013:HIS:CE1	2.54	0.43
2:I:2858:GLN:HB2	2:I:2859:PRO:HD3	2.01	0.43
2:I:3227:ARG:HB3	2:I:3232:LEU:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:3395:ARG:HG2	2:I:3453:ARG:NH1	2.33	0.43
3:K:68:THR:HG1	3:K:81:GLN:HB3	1.84	0.43
2:A:864:PRO:O	2:A:866:HIS:N	2.52	0.43
2:A:2821:TRP:HD1	2:A:2939:ARG:HA	1.84	0.43
2:A:3137:LEU:HB3	2:A:3138:PRO:HD3	2.01	0.43
3:C:9:GLY:HA3	3:C:123:VAL:HG22	2.00	0.43
2:D:223:PHE:O	2:D:388:LEU:HB2	2.19	0.43
2:D:365:LYS:HE3	2:D:365:LYS:HB3	1.90	0.43
2:D:2821:TRP:HD1	2:D:2939:ARG:HA	1.84	0.43
2:D:3395:ARG:HG2	2:D:3453:ARG:NH1	2.33	0.43
2:D:3834:ALA:O	2:D:3838:THR:HG23	2.18	0.43
2:G:2619:LEU:O	2:G:2623:LEU:HD23	2.19	0.43
2:I:3866:ILE:HG23	2:I:3868:ARG:H	1.84	0.42
2:I:4081:VAL:HG12	2:I:4088:ILE:HD13	1.99	0.42
3:K:47:LEU:O	3:K:62:SER:OG	2.37	0.42
2:A:2465:ASP:O	2:A:2469:ILE:HG22	2.19	0.42
2:A:2638:LYS:H	2:A:2638:LYS:HG2	1.71	0.42
2:A:2689:LYS:O	2:A:2993:GLN:NE2	2.51	0.42
2:A:2959:PHE:O	2:A:2963:LEU:HG	2.19	0.42
2:A:2960:LEU:HD22	2:A:3038:MET:HB2	2.00	0.42
2:A:2973:PHE:CD1	2:A:2995:ILE:HG12	2.54	0.42
2:A:3395:ARG:HG2	2:A:3453:ARG:NH1	2.33	0.42
2:D:2801:ASP:HA	2:D:2804:ILE:HG12	2.00	0.42
2:D:3273:THR:O	2:D:3276:MET:HB2	2.18	0.42
2:D:3694:LYS:HE3	2:D:3694:LYS:HB2	1.76	0.42
2:D:3719:ASP:O	2:D:3723:MET:HG3	2.18	0.42
2:D:4066:LEU:HD23	2:D:4066:LEU:HA	1.86	0.42
2:G:1935:VAL:O	2:G:1939:MET:HE2	2.19	0.42
2:G:2625:ARG:HA	2:G:2625:ARG:HE	1.84	0.42
2:G:2679:PHE:HB2	2:G:2706:ILE:HG21	2.00	0.42
2:G:2959:PHE:O	2:G:2963:LEU:HG	2.19	0.42
2:G:4998:LYS:HB2	2:G:4998:LYS:HE3	1.73	0.42
2:I:223:PHE:O	2:I:388:LEU:HB2	2.18	0.42
2:I:2465:ASP:O	2:I:2469:ILE:HG22	2.19	0.42
2:I:2610:LEU:O	2:I:2614:ILE:HG12	2.19	0.42
2:I:2625:ARG:HA	2:I:2625:ARG:HE	1.84	0.42
2:A:1079:LYS:HA	2:A:1189:LEU:HD11	2.00	0.42
2:A:2625:ARG:HA	2:A:2625:ARG:HE	1.84	0.42
2:A:4071:ILE:HD12	2:A:4103:PHE:HE2	1.84	0.42
2:A:4805:ASN:HB3	2:A:4808:PHE:CD2	2.55	0.42
2:D:248:GLU:HB2	2:D:373:LYS:NZ	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1871:PHE:HZ	2:D:2094:LEU:HD13	1.84	0.42
2:D:2189:LYS:HA	2:D:2192:TYR:CE2	2.53	0.42
2:D:2619:LEU:O	2:D:2623:LEU:HD23	2.19	0.42
2:D:2962:GLN:HA	2:D:2965:ARG:HH11	1.82	0.42
2:D:5011:TRP:CH2	7:D:5104:CFF:H102	2.54	0.42
2:G:2689:LYS:O	2:G:2993:GLN:NE2	2.51	0.42
2:G:3586:ALA:HA	2:G:3591:LYS:HD2	2.01	0.42
2:G:4081:VAL:HG12	2:G:4088:ILE:HD13	2.00	0.42
3:M:47:LEU:O	3:M:62:SER:OG	2.37	0.42
2:I:1079:LYS:HA	2:I:1189:LEU:HD11	2.01	0.42
2:I:2679:PHE:HB2	2:I:2706:ILE:HG21	2.00	0.42
2:I:2765:LYS:HA	2:I:2765:LYS:HD3	1.82	0.42
2:I:2801:ASP:HA	2:I:2804:ILE:HG12	2.00	0.42
2:I:2991:HIS:O	2:I:2995:ILE:HG13	2.20	0.42
2:I:3155:ASP:HA	2:I:3158:LEU:HD23	2.01	0.42
2:I:4780:PHE:HA	2:I:4783:ILE:HG22	2.01	0.42
2:I:5013:MET:HE3	2:I:5021:PHE:CD2	2.54	0.42
2:A:659:TYR:O	2:A:662:TRP:NE1	2.51	0.42
2:A:919:ASN:HA	2:A:922:LEU:HB2	2.01	0.42
2:A:3107:VAL:HA	2:A:3175:LEU:HD21	2.01	0.42
2:A:3146:HIS:CE1	2:A:3150:HIS:HD2	2.36	0.42
2:A:3227:ARG:HB3	2:A:3232:LEU:HB2	2.01	0.42
3:C:105:ASN:HD21	3:C:111:ASN:CB	2.32	0.42
2:D:112:ALA:O	2:D:115:ARG:NH1	2.53	0.42
2:D:2625:ARG:HA	2:D:2625:ARG:HE	1.84	0.42
2:D:2765:LYS:HD3	2:D:2765:LYS:HA	1.81	0.42
2:D:2858:GLN:HB2	2:D:2859:PRO:HD3	2.01	0.42
2:G:2189:LYS:HA	2:G:2192:TYR:CE2	2.53	0.42
2:G:2759:ALA:HB2	2:G:2810:LYS:HZ1	1.84	0.42
2:G:2991:HIS:O	2:G:2995:ILE:HG13	2.20	0.42
2:G:3137:LEU:HB3	2:G:3138:PRO:HD3	2.01	0.42
2:G:4651:THR:HG21	2:G:4803:HIS:CE1	2.53	0.42
2:I:355:LEU:HB3	2:I:378:LEU:HD22	2.00	0.42
2:I:1035:ASN:OD1	3:K:109:THR:OG1	2.37	0.42
2:I:2619:LEU:O	2:I:2623:LEU:HD23	2.19	0.42
2:I:2821:TRP:HD1	2:I:2939:ARG:HA	1.84	0.42
2:I:2959:PHE:O	2:I:2963:LEU:HG	2.19	0.42
2:I:3284:TRP:CE3	2:I:3287:ARG:HD3	2.55	0.42
2:I:4959:PHE:CD1	2:I:4985:LEU:HD11	2.55	0.42
2:A:2185:ILE:HD12	2:A:2203:MET:HE1	2.02	0.42
2:A:2759:ALA:HB2	2:A:2810:LYS:HZ1	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3158:LEU:HD12	2:A:3159:ASP:HB2	2.01	0.42
2:D:659:TYR:O	2:D:662:TRP:NE1	2.51	0.42
2:D:2263:ILE:HG13	2:D:2264:GLY:H	1.83	0.42
2:D:3284:TRP:CE3	2:D:3287:ARG:HD3	2.55	0.42
2:D:4959:PHE:CD1	2:D:4985:LEU:HD11	2.55	0.42
2:D:4998:LYS:HB2	2:D:4998:LYS:HE3	1.73	0.42
2:G:3158:LEU:HD12	2:G:3159:ASP:HB2	2.01	0.42
2:G:3752:SER:O	2:G:3756:LYS:HG3	2.20	0.42
2:G:4071:ILE:HD12	2:G:4103:PHE:HE2	1.84	0.42
2:I:1154:ASP:OD1	2:I:1159:THR:OG1	2.25	0.42
2:I:2312:MET:HA	2:I:2315:ALA:HB3	2.01	0.42
2:I:2973:PHE:CD1	2:I:2995:ILE:HG12	2.54	0.42
2:I:3639:THR:N	2:I:3640:PRO:HD2	2.34	0.42
2:A:2263:ILE:HG13	2:A:2264:GLY:H	1.84	0.42
2:A:2610:LEU:O	2:A:2614:ILE:HG12	2.19	0.42
2:A:2712:PRO:HD3	2:A:3013:HIS:CE1	2.54	0.42
2:A:2858:GLN:HB2	2:A:2859:PRO:HD3	2.02	0.42
2:D:981:GLN:HG2	2:D:1047:LEU:HD11	2.01	0.42
2:D:1163:THR:HG22	2:D:1168:VAL:HA	2.02	0.42
2:D:3107:VAL:HA	2:D:3175:LEU:HD21	2.01	0.42
2:D:3752:SER:O	2:D:3756:LYS:HG3	2.20	0.42
2:G:2465:ASP:O	2:G:2469:ILE:HG22	2.19	0.42
2:G:2712:PRO:HD3	2:G:3013:HIS:CE1	2.54	0.42
2:G:2725:LYS:HE2	2:G:2738:ARG:HH22	1.83	0.42
2:G:3250:MET:O	2:G:3253:ILE:HG22	2.20	0.42
2:G:4188:ARG:HG2	2:G:4188:ARG:HH11	1.85	0.42
2:A:2312:MET:HA	2:A:2315:ALA:HB3	2.01	0.42
2:A:4118:ASP:OD1	2:A:4119:GLU:N	2.53	0.42
2:A:4715:TYR:CE2	2:A:4717:ASP:HB3	2.55	0.42
2:D:2973:PHE:CD1	2:D:2995:ILE:HG12	2.54	0.42
2:D:4188:ARG:HG2	2:D:4188:ARG:HH11	1.85	0.42
2:D:4687:TYR:OH	2:D:4699:GLY:O	2.30	0.42
2:D:4698:LYS:HE3	2:D:4698:LYS:HB2	1.91	0.42
2:G:130:LYS:O	2:G:130:LYS:HD3	2.18	0.42
2:G:2638:LYS:HE2	2:G:2638:LYS:HB3	1.87	0.42
2:G:2686:LEU:HD23	2:G:3001:ILE:HD13	2.02	0.42
2:G:2821:TRP:HD1	2:G:2939:ARG:HA	1.84	0.42
2:G:3227:ARG:HB3	2:G:3232:LEU:HB2	2.01	0.42
2:G:3769:ARG:O	2:G:3773:ARG:NH1	2.53	0.42
3:M:85:LEU:HD23	3:M:85:LEU:HA	1.94	0.42
2:I:618:GLN:OE1	2:I:1678:ASN:ND2	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2182:ILE:O	2:I:2186:MET:HG2	2.19	0.42
2:I:3397:GLU:O	2:I:3400:VAL:HG12	2.20	0.42
2:I:4071:ILE:HD12	2:I:4103:PHE:HE2	1.84	0.42
2:I:4698:LYS:HE3	2:I:4698:LYS:HB2	1.91	0.42
3:K:9:GLY:HA3	3:K:123:VAL:HG22	2.00	0.42
1:L:85:THR:O	1:L:85:THR:OG1	2.34	0.42
2:A:112:ALA:O	2:A:115:ARG:NH1	2.53	0.42
2:A:3757:GLU:O	2:A:3761:GLN:HG2	2.20	0.42
2:D:2960:LEU:HD22	2:D:3038:MET:HB2	2.00	0.42
2:D:4779:LYS:HE3	2:D:4779:LYS:HB2	1.82	0.42
2:D:4780:PHE:HA	2:D:4783:ILE:HG22	2.01	0.42
2:D:4954:MET:O	6:D:5103:ATP:O2'	2.28	0.42
2:G:1079:LYS:HA	2:G:1189:LEU:HD11	2.00	0.42
2:G:2359:ARG:HD3	2:G:2359:ARG:HA	1.92	0.42
2:G:2858:GLN:HB2	2:G:2859:PRO:HD3	2.01	0.42
2:G:2973:PHE:CD1	2:G:2995:ILE:HG12	2.54	0.42
2:G:3107:VAL:HA	2:G:3175:LEU:HD21	2.01	0.42
2:G:3284:TRP:CE3	2:G:3287:ARG:HD3	2.55	0.42
2:G:3959:LYS:HG3	2:G:4022:ASP:OD2	2.20	0.42
2:G:4780:PHE:HA	2:G:4783:ILE:HG22	2.01	0.42
2:I:180:LEU:HD23	2:I:180:LEU:HA	1.88	0.42
2:I:937:CYS:HB3	2:I:1053:ILE:HB	2.01	0.42
2:I:2686:LEU:HD23	2:I:3001:ILE:HD13	2.02	0.42
2:I:2960:LEU:O	2:I:2964:LEU:HG	2.19	0.42
3:K:105:ASN:HD21	3:K:111:ASN:CB	2.32	0.42
2:A:2958:GLY:O	2:A:2961:GLN:HG2	2.20	0.42
2:A:2991:HIS:O	2:A:2995:ILE:HG13	2.20	0.42
2:A:3019:SER:HB3	2:A:3030:HIS:HB3	2.02	0.42
2:A:3250:MET:O	2:A:3253:ILE:HG22	2.20	0.42
2:A:3834:ALA:O	2:A:3838:THR:HG23	2.18	0.42
2:A:3866:ILE:HG23	2:A:3868:ARG:H	1.84	0.42
2:D:2958:GLY:O	2:D:2961:GLN:HG2	2.20	0.42
2:D:2991:HIS:O	2:D:2995:ILE:HG13	2.20	0.42
2:D:3137:LEU:HB3	2:D:3138:PRO:HD3	2.01	0.42
2:D:3227:ARG:HB3	2:D:3232:LEU:HB2	2.01	0.42
2:D:3250:MET:O	2:D:3253:ILE:HG22	2.20	0.42
2:D:3757:GLU:O	2:D:3761:GLN:HG2	2.20	0.42
2:G:667:MET:HG2	2:G:790:ARG:HB3	2.02	0.42
2:G:1440:PHE:CD2	2:G:1560:ASN:HB3	2.55	0.42
2:G:3397:GLU:O	2:G:3400:VAL:HG12	2.20	0.42
2:G:3852:LYS:O	2:G:3856:LEU:HG	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:3866:ILE:HG23	2:G:3868:ARG:H	1.84	0.42
2:I:1071:ARG:HG3	2:I:1196:PRO:HG3	2.02	0.42
2:I:1935:VAL:O	2:I:1939:MET:HE2	2.20	0.42
2:I:2958:GLY:O	2:I:2961:GLN:HG2	2.20	0.42
2:I:3757:GLU:O	2:I:3761:GLN:HG2	2.20	0.42
2:A:1249:PRO:HG2	2:A:1252:HIS:HB2	2.01	0.42
2:A:3000:LYS:HA	2:A:3000:LYS:HD3	1.86	0.42
2:A:3100:SER:HB3	2:A:3167:ARG:NE	2.35	0.42
2:D:1302:ARG:H	2:D:1302:ARG:HG2	1.66	0.42
1:F:85:THR:O	1:F:85:THR:OG1	2.34	0.42
2:G:2974:ILE:HG13	2:G:2975:ALA:N	2.35	0.42
2:G:4959:PHE:CD1	2:G:4985:LEU:HD11	2.55	0.42
5:G:5102:POV:H35A	5:G:5102:POV:H32	1.86	0.42
3:M:18:LEU:HD11	3:M:85:LEU:HD11	2.01	0.42
2:I:3752:SER:O	2:I:3756:LYS:HG3	2.20	0.42
2:I:3852:LYS:O	2:I:3856:LEU:HG	2.20	0.42
2:I:3959:LYS:HG3	2:I:4022:ASP:OD2	2.20	0.42
3:K:18:LEU:HD11	3:K:85:LEU:HD11	2.01	0.42
2:A:372:LEU:HD22	2:A:372:LEU:N	2.35	0.42
2:A:937:CYS:HB3	2:A:1053:ILE:HB	2.01	0.42
2:A:1433:TYR:HB3	2:A:1575:LEU:HD23	2.02	0.42
2:D:380:GLN:OE1	2:D:380:GLN:N	2.53	0.42
2:D:1249:PRO:HG2	2:D:1252:HIS:HB2	2.01	0.42
2:D:3158:LEU:HD12	2:D:3159:ASP:HB2	2.01	0.42
2:G:2124:LEU:HD11	2:G:2128:TYR:HE2	1.84	0.42
2:G:3406:TYR:CZ	2:G:3508:SER:HB2	2.55	0.42
2:G:3757:GLU:O	2:G:3761:GLN:HG2	2.20	0.42
2:G:4188:ARG:HA	2:G:4188:ARG:NE	2.35	0.42
2:I:2463:LEU:HD11	2:I:2517:PHE:HE1	1.85	0.41
2:I:4188:ARG:NE	2:I:4188:ARG:HA	2.35	0.41
2:I:4805:ASN:HB3	2:I:4808:PHE:CD2	2.55	0.41
2:A:1035:ASN:OD1	3:C:109:THR:OG1	2.38	0.41
2:A:2765:LYS:HZ2	2:A:2860:PRO:HA	1.84	0.41
2:A:3284:TRP:CE3	2:A:3287:ARG:HD3	2.55	0.41
2:A:3406:TYR:CZ	2:A:3508:SER:HB2	2.55	0.41
2:A:3769:ARG:O	2:A:3773:ARG:NH1	2.53	0.41
2:D:1071:ARG:HG3	2:D:1196:PRO:HG3	2.02	0.41
2:D:1079:LYS:HA	2:D:1189:LEU:HD11	2.01	0.41
2:D:2285:GLU:OE2	2:D:3860:ASN:ND2	2.40	0.41
2:D:3866:ILE:HG23	2:D:3868:ARG:H	1.84	0.41
2:D:4744:ASP:HB3	2:D:4747:SER:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:656:SER:HA	2:G:852:VAL:HG12	2.02	0.41
2:G:4715:TYR:CE2	2:G:4717:ASP:HB3	2.55	0.41
2:I:112:ALA:O	2:I:115:ARG:NH1	2.53	0.41
2:I:2633:LEU:HB2	2:I:2689:LYS:HE2	2.01	0.41
2:I:2782:ASP:OD1	2:I:2782:ASP:N	2.49	0.41
2:I:3158:LEU:HD12	2:I:3159:ASP:HB2	2.01	0.41
2:A:1871:PHE:HZ	2:A:2094:LEU:HD13	1.84	0.41
2:A:2463:LEU:HD11	2:A:2517:PHE:HE1	1.85	0.41
2:A:2633:LEU:HB2	2:A:2689:LYS:HE2	2.01	0.41
2:A:4188:ARG:HG2	2:A:4188:ARG:HH11	1.85	0.41
2:A:4839:MET:HE2	2:D:4823:LEU:HD22	2.01	0.41
2:A:4959:PHE:CD1	2:A:4985:LEU:HD11	2.55	0.41
2:D:2960:LEU:O	2:D:2964:LEU:HG	2.20	0.41
2:D:3852:LYS:O	2:D:3856:LEU:HG	2.20	0.41
2:D:4715:TYR:CE2	2:D:4717:ASP:HB3	2.55	0.41
3:E:31:ILE:HD13	3:E:31:ILE:HA	1.87	0.41
2:G:2312:MET:HA	2:G:2315:ALA:HB3	2.01	0.41
2:G:2610:LEU:O	2:G:2614:ILE:HG12	2.19	0.41
2:G:2960:LEU:O	2:G:2964:LEU:HG	2.20	0.41
2:G:3155:ASP:HA	2:G:3158:LEU:HD23	2.01	0.41
2:G:3639:THR:N	2:G:3640:PRO:HD2	2.34	0.41
2:I:2485:LEU:HD23	2:I:2485:LEU:HA	1.89	0.41
2:I:3367:LYS:HE3	2:I:3367:LYS:HB3	1.87	0.41
2:I:3769:ARG:O	2:I:3773:ARG:NH1	2.53	0.41
2:I:5009:TYR:O	2:I:5012:LYS:HG2	2.20	0.41
2:I:5012:LYS:HG3	2:I:5013:MET:N	2.35	0.41
2:A:1008:SER:HB2	2:A:1017:ARG:NE	2.29	0.41
2:A:2285:GLU:OE2	2:A:3860:ASN:ND2	2.40	0.41
2:A:4744:ASP:HB3	2:A:4747:SER:HB3	2.02	0.41
2:D:937:CYS:HB3	2:D:1053:ILE:HB	2.01	0.41
2:D:1433:TYR:HB3	2:D:1575:LEU:HD23	2.02	0.41
2:D:2165:LEU:HD23	2:D:2165:LEU:HA	1.91	0.41
2:D:2208:MET:HG2	2:D:2236:LEU:HD11	2.03	0.41
2:D:2633:LEU:HB2	2:D:2689:LYS:HE2	2.01	0.41
2:D:2712:PRO:HD3	2:D:3013:HIS:CE1	2.54	0.41
2:D:3769:ARG:O	2:D:3773:ARG:NH1	2.53	0.41
2:D:4677:LEU:HG	2:D:4681:LEU:HD23	2.03	0.41
3:E:18:LEU:HD11	3:E:85:LEU:HD11	2.01	0.41
3:E:47:LEU:O	3:E:62:SER:OG	2.37	0.41
2:G:112:ALA:O	2:G:115:ARG:NH1	2.52	0.41
2:G:937:CYS:HB3	2:G:1053:ILE:HB	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:2463:LEU:HD11	2:G:2517:PHE:HE1	1.85	0.41
2:G:3528:THR:OG1	2:G:3561:GLY:O	2.39	0.41
2:I:1027:LEU:HD23	2:I:1027:LEU:HA	1.82	0.41
2:I:1440:PHE:CD2	2:I:1560:ASN:HB3	2.55	0.41
2:I:4188:ARG:HG2	2:I:4188:ARG:HH11	1.84	0.41
2:A:1163:THR:HG22	2:A:1168:VAL:HA	2.02	0.41
2:A:2960:LEU:O	2:A:2964:LEU:HG	2.20	0.41
2:A:3077:ALA:HA	2:A:3080:VAL:HB	2.03	0.41
2:A:3752:SER:O	2:A:3756:LYS:HG3	2.20	0.41
3:C:36:TRP:HE1	3:C:78:VAL:HG11	1.86	0.41
3:C:61:ASP:O	3:C:64:LYS:HD2	2.21	0.41
2:D:2185:ILE:HD12	2:D:2203:MET:HE1	2.02	0.41
2:D:3077:ALA:HA	2:D:3080:VAL:HB	2.03	0.41
2:D:3406:TYR:CZ	2:D:3508:SER:HB2	2.55	0.41
2:D:3817:LEU:HB2	2:D:3899:PHE:CE1	2.56	0.41
2:D:4188:ARG:NE	2:D:4188:ARG:HA	2.35	0.41
2:G:737:LEU:HD12	2:G:737:LEU:HA	1.93	0.41
2:G:1163:THR:HG22	2:G:1168:VAL:HA	2.02	0.41
2:G:2223:ILE:HD12	2:G:2223:ILE:HA	1.95	0.41
2:G:3019:SER:HB3	2:G:3030:HIS:HB3	2.02	0.41
2:G:4805:ASN:HB3	2:G:4808:PHE:CD2	2.55	0.41
2:G:4899:ASP:OD1	2:G:4900:GLU:N	2.54	0.41
2:I:3137:LEU:HB3	2:I:3138:PRO:HD3	2.01	0.41
2:I:3576:TYR:CE1	2:I:3582:ARG:HG2	2.56	0.41
2:I:4238:CYS:O	2:I:4242:ILE:HG13	2.21	0.41
2:I:4917:ASP:HB2	2:A:4888:TYR:HE1	1.86	0.41
2:A:2208:MET:HG2	2:A:2236:LEU:HD11	2.03	0.41
2:A:2757:LYS:O	2:A:2761:TYR:HB2	2.21	0.41
2:A:3576:TYR:CE1	2:A:3582:ARG:HG2	2.56	0.41
2:A:3959:LYS:HG3	2:A:4022:ASP:OD2	2.20	0.41
2:A:4232:GLU:OE1	2:A:5019:TRP:NE1	2.31	0.41
3:C:47:LEU:O	3:C:62:SER:OG	2.37	0.41
2:D:367:LEU:O	2:D:368:ARG:C	2.59	0.41
2:D:719:LEU:HD12	2:D:737:LEU:HD13	2.03	0.41
2:D:2463:LEU:HD11	2:D:2517:PHE:HE1	1.85	0.41
2:D:3019:SER:HB3	2:D:3030:HIS:HB3	2.02	0.41
2:D:4118:ASP:OD1	2:D:4119:GLU:N	2.53	0.41
2:D:4805:ASN:HB3	2:D:4808:PHE:CD2	2.55	0.41
2:G:1093:GLU:HB3	2:G:1201:HIS:HB3	2.03	0.41
2:G:4902:GLU:O	2:G:4913:ARG:NH2	2.54	0.41
1:H:23:VAL:HG22	1:H:104:LEU:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:78:PRO:HA	1:H:81:ALA:HB3	2.02	0.41
2:I:667:MET:HG2	2:I:790:ARG:HB3	2.02	0.41
2:I:1093:GLU:HB3	2:I:1201:HIS:HB3	2.03	0.41
2:I:3406:TYR:CZ	2:I:3508:SER:HB2	2.55	0.41
2:A:1071:ARG:HG3	2:A:1196:PRO:HG3	2.02	0.41
2:A:1812:LEU:HD12	2:A:1812:LEU:HA	1.95	0.41
2:A:2251:PHE:CG	2:A:2286:LEU:HD22	2.56	0.41
2:A:2619:LEU:O	2:A:2623:LEU:HD23	2.19	0.41
2:A:3817:LEU:HB2	2:A:3899:PHE:CE1	2.56	0.41
2:A:4188:ARG:HA	2:A:4188:ARG:NE	2.35	0.41
3:C:18:LEU:HD11	3:C:85:LEU:HD11	2.01	0.41
1:J:78:PRO:HA	1:J:81:ALA:HB3	2.02	0.41
2:D:2005:GLN:O	2:D:2009:LEU:HG	2.21	0.41
2:D:3536:ALA:HA	2:D:3539:ARG:HB2	2.02	0.41
1:F:23:VAL:HG22	1:F:104:LEU:O	2.21	0.41
2:G:424:LYS:HE2	2:G:424:LYS:HB2	1.82	0.41
2:G:3180:ASN:ND2	2:G:3183:VAL:HG13	2.36	0.41
2:I:309:THR:O	2:I:313:SER:OG	2.32	0.41
2:I:369:LEU:HB3	2:I:371:VAL:HG23	2.01	0.41
2:I:1024:TYR:OH	2:I:1036:ARG:NH2	2.54	0.41
2:I:1431:THR:HG21	2:I:1523:ALA:HB2	2.03	0.41
2:I:2251:PHE:CG	2:I:2286:LEU:HD22	2.56	0.41
2:I:2757:LYS:O	2:I:2761:TYR:HB2	2.21	0.41
2:I:3253:ILE:HD12	2:I:3253:ILE:HA	1.86	0.41
2:I:3284:TRP:CE3	2:I:3287:ARG:HB2	2.56	0.41
3:K:85:LEU:HD23	3:K:85:LEU:HA	1.94	0.41
2:A:424:LYS:HB2	2:A:424:LYS:HE2	1.82	0.41
2:A:719:LEU:HD12	2:A:737:LEU:HD13	2.03	0.41
2:A:2686:LEU:HD23	2:A:3001:ILE:HD13	2.02	0.41
2:A:3180:ASN:ND2	2:A:3183:VAL:HG13	2.36	0.41
2:D:2757:LYS:O	2:D:2761:TYR:HB2	2.21	0.41
2:D:3180:ASN:ND2	2:D:3183:VAL:HG13	2.36	0.41
2:D:3959:LYS:HG3	2:D:4022:ASP:OD2	2.20	0.41
2:D:4919:THR:HG21	5:D:5102:POV:H31H	2.03	0.41
2:G:1024:TYR:OH	2:G:1036:ARG:NH2	2.54	0.41
2:G:1071:ARG:HG3	2:G:1196:PRO:HG3	2.02	0.41
2:G:2633:LEU:HB2	2:G:2689:LYS:HE2	2.01	0.41
2:G:2757:LYS:O	2:G:2761:TYR:HB2	2.21	0.41
2:G:2951:ILE:HG21	2:G:3034:LYS:HZ2	1.86	0.41
2:G:3100:SER:HB3	2:G:3167:ARG:NE	2.35	0.41
2:G:3576:TYR:CE1	2:G:3582:ARG:HG2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:4118:ASP:OD1	2:G:4119:GLU:N	2.53	0.41
3:M:61:ASP:O	3:M:64:LYS:HD2	2.21	0.41
2:I:380:GLN:OE1	2:I:380:GLN:N	2.53	0.41
2:I:882:TRP:O	2:I:885:THR:OG1	2.33	0.41
2:I:1433:TYR:HB3	2:I:1575:LEU:HD23	2.02	0.41
2:I:2312:MET:SD	2:I:2313:LEU:N	2.94	0.41
2:I:2333:ASP:HA	2:I:2336:ARG:NE	2.36	0.41
2:I:2758:PHE:O	2:I:2762:THR:HG23	2.21	0.41
2:I:3077:ALA:HA	2:I:3080:VAL:HB	2.03	0.41
2:I:3180:ASN:ND2	2:I:3183:VAL:HG13	2.36	0.41
2:I:4060:LYS:HA	2:I:4060:LYS:HD3	1.87	0.41
2:I:4118:ASP:OD1	2:I:4119:GLU:N	2.53	0.41
2:A:13:PHE:HA	2:A:164:ARG:HA	2.03	0.41
2:A:1093:GLU:HB3	2:A:1201:HIS:HB3	2.03	0.41
2:A:1128:ARG:HH12	2:A:1132:TRP:HE1	1.68	0.41
2:A:1431:THR:HG21	2:A:1523:ALA:HB2	2.03	0.41
2:A:2312:MET:SD	2:A:2313:LEU:N	2.94	0.41
2:A:3397:GLU:O	2:A:3400:VAL:HG12	2.20	0.41
2:A:3536:ALA:HA	2:A:3539:ARG:HB2	2.03	0.41
2:A:3852:LYS:O	2:A:3856:LEU:HG	2.20	0.41
3:C:44:GLN:HE22	3:C:46:GLU:HG2	1.86	0.41
2:D:1431:THR:HG21	2:D:1523:ALA:HB2	2.03	0.41
2:D:1440:PHE:CD2	2:D:1560:ASN:HB3	2.55	0.41
2:D:2121:PHE:CZ	2:D:3701:LEU:HB2	2.56	0.41
2:D:2312:MET:HA	2:D:2315:ALA:HB3	2.01	0.41
2:D:3284:TRP:CE3	2:D:3287:ARG:HB2	2.56	0.41
2:D:4586:PRO:HA	2:D:4587:PRO:HD3	1.93	0.41
2:D:4715:TYR:HE2	2:D:4717:ASP:HB3	1.85	0.41
3:E:36:TRP:HE1	3:E:78:VAL:HG11	1.86	0.41
3:E:85:LEU:HD23	3:E:85:LEU:HA	1.95	0.41
1:F:18:LYS:HB3	1:F:18:LYS:HZ2	1.84	0.41
1:F:78:PRO:HA	1:F:81:ALA:HB3	2.02	0.41
2:G:803:LEU:HD23	2:G:803:LEU:HA	1.88	0.41
2:G:2121:PHE:CZ	2:G:3701:LEU:HB2	2.56	0.41
2:G:2251:PHE:CG	2:G:2286:LEU:HD22	2.56	0.41
2:G:3817:LEU:HB2	2:G:3899:PHE:CE1	2.56	0.41
2:G:3852:LYS:HE2	2:G:3852:LYS:HB2	1.79	0.41
2:G:4677:LEU:HG	2:G:4681:LEU:HD23	2.02	0.41
2:G:4715:TYR:HE2	2:G:4717:ASP:HB3	1.85	0.41
1:H:85:THR:O	1:H:85:THR:OG1	2.34	0.41
2:I:656:SER:HA	2:I:852:VAL:HG12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:719:LEU:HD12	2:I:737:LEU:HD13	2.03	0.41
2:I:1163:THR:HG22	2:I:1168:VAL:HA	2.02	0.41
2:I:1694:LEU:HB3	2:I:1715:LEU:HD12	2.03	0.41
2:I:2005:GLN:O	2:I:2009:LEU:HG	2.21	0.41
2:I:2285:GLU:OE2	2:I:3860:ASN:ND2	2.40	0.41
2:I:3250:MET:O	2:I:3253:ILE:HG22	2.20	0.41
2:I:3302:PRO:HA	2:I:3303:PRO:HD3	1.98	0.41
3:K:32:ASN:HD21	3:K:101:PRO:HB3	1.86	0.41
2:A:341:TYR:CE1	2:A:392:ARG:HB2	2.56	0.41
2:A:618:GLN:OE1	2:A:1678:ASN:ND2	2.46	0.41
2:A:667:MET:HG2	2:A:790:ARG:HB3	2.02	0.41
2:A:1131:ARG:NH2	2:A:1137:GLU:OE2	2.54	0.41
2:A:2005:GLN:O	2:A:2009:LEU:HG	2.21	0.41
2:A:2138:LEU:HD23	2:A:2138:LEU:HA	1.85	0.41
2:A:2295:LEU:HA	2:A:2298:VAL:HG12	2.03	0.41
2:A:2333:ASP:HA	2:A:2336:ARG:NE	2.36	0.41
2:A:2637:ALA:C	2:A:2640:PRO:HD2	2.41	0.41
2:A:2737:PRO:HD2	2:A:2891:LYS:HD3	2.03	0.41
2:A:2801:ASP:HB2	2:A:2805:TYR:CE2	2.56	0.41
2:A:3208:PRO:HB2	2:A:3236:VAL:HG13	2.02	0.41
2:A:3284:TRP:CE3	2:A:3287:ARG:HB2	2.56	0.41
2:A:3292:PRO:HA	2:A:3293:PRO:HD3	2.00	0.41
2:A:4011:GLU:H	2:A:4011:GLU:HG2	1.72	0.41
2:A:4640:GLU:HB3	2:A:4641:PRO:HD3	2.03	0.41
2:A:4836:GLN:HB3	2:D:4826:ILE:HD11	2.03	0.41
2:A:4839:MET:HE2	2:D:4823:LEU:HA	2.02	0.41
2:A:4902:GLU:O	2:A:4913:ARG:NH2	2.54	0.41
2:D:13:PHE:HA	2:D:164:ARG:HA	2.03	0.41
2:D:341:TYR:CE1	2:D:392:ARG:HB2	2.56	0.41
2:D:656:SER:HA	2:D:852:VAL:HG12	2.02	0.41
2:D:864:PRO:O	2:D:866:HIS:N	2.52	0.41
2:D:2686:LEU:HD23	2:D:3001:ILE:HD13	2.02	0.41
2:D:2758:PHE:O	2:D:2762:THR:HG23	2.21	0.41
2:D:3100:SER:HB3	2:D:3167:ARG:NE	2.35	0.41
2:D:3397:GLU:O	2:D:3400:VAL:HG12	2.20	0.41
2:D:3514:LEU:HD12	2:D:3514:LEU:HA	1.95	0.41
2:D:3704:HIS:O	2:D:3708:THR:HG23	2.21	0.41
2:D:4215:ARG:NH2	6:D:5103:ATP:O2G	2.54	0.41
2:D:4640:GLU:HB3	2:D:4641:PRO:HD3	2.03	0.41
2:D:4899:ASP:OD1	2:D:4900:GLU:N	2.54	0.41
2:D:4902:GLU:O	2:D:4913:ARG:NH2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:360:ALA:O	2:G:361:ALA:C	2.59	0.41
2:G:2208:MET:HG2	2:G:2236:LEU:HD11	2.03	0.41
2:G:2352:VAL:O	2:G:2356:LEU:HG	2.21	0.41
2:G:2563:THR:HG22	2:G:2606:CYS:HA	2.03	0.41
2:G:2737:PRO:HD2	2:G:2891:LYS:HD3	2.03	0.41
2:G:2819:TRP:O	2:G:2820:GLU:HG3	2.21	0.41
2:G:2958:GLY:O	2:G:2961:GLN:HG2	2.20	0.41
2:G:3253:ILE:HG23	2:G:3318:ASN:HD22	1.86	0.41
2:G:3284:TRP:CE3	2:G:3287:ARG:HB2	2.56	0.41
2:G:3367:LYS:HE3	2:G:3367:LYS:HB3	1.87	0.41
2:G:3594:ARG:HA	2:G:3594:ARG:HE	1.86	0.41
3:M:36:TRP:HE1	3:M:78:VAL:HG11	1.85	0.41
2:I:2208:MET:HG2	2:I:2236:LEU:HD11	2.03	0.41
2:I:2295:LEU:HA	2:I:2298:VAL:HG12	2.03	0.41
2:I:3704:HIS:O	2:I:3708:THR:HG23	2.21	0.41
2:I:4630:TYR:OH	2:G:4860:ARG:NH2	2.54	0.41
2:I:4823:LEU:HA	2:G:4839:MET:HE3	2.02	0.41
3:K:44:GLN:HE22	3:K:46:GLU:HG2	1.86	0.41
3:K:61:ASP:O	3:K:64:LYS:HD2	2.21	0.41
2:A:371:VAL:CG1	2:A:373:LYS:HG2	2.51	0.41
2:A:1024:TYR:OH	2:A:1036:ARG:NH2	2.54	0.41
2:A:1440:PHE:CD2	2:A:1560:ASN:HB3	2.55	0.41
2:A:1490:SER:OG	2:A:1491:ASN:N	2.55	0.41
2:A:2121:PHE:CZ	2:A:3701:LEU:HB2	2.56	0.41
2:A:2354:VAL:HG11	2:A:2453:ILE:HD12	2.03	0.41
2:A:3274:LEU:HD23	2:A:3274:LEU:HA	1.90	0.41
2:A:4860:ARG:NH2	2:D:4630:TYR:OH	2.54	0.41
2:D:73:LEU:HD12	2:D:73:LEU:HA	1.96	0.41
2:D:1128:ARG:HH12	2:D:1132:TRP:HE1	1.69	0.41
2:D:2974:ILE:HG13	2:D:2975:ALA:N	2.35	0.41
2:D:3253:ILE:HG23	2:D:3318:ASN:HD22	1.86	0.41
2:D:4821:LYS:O	2:D:4825:THR:HG23	2.21	0.41
2:D:4839:MET:HE2	2:G:4823:LEU:HA	2.03	0.41
2:G:13:PHE:HA	2:G:164:ARG:HA	2.03	0.41
2:G:581:ASN:N	2:G:581:ASN:OD1	2.54	0.41
2:G:659:TYR:O	2:G:662:TRP:NE1	2.51	0.41
2:G:2354:VAL:HG11	2:G:2453:ILE:HD12	2.03	0.41
2:G:2637:ALA:C	2:G:2640:PRO:HD2	2.41	0.41
2:G:3077:ALA:HA	2:G:3080:VAL:HB	2.03	0.41
2:I:1131:ARG:NH2	2:I:1137:GLU:OE2	2.54	0.40
2:I:1972:ASN:O	2:I:1976:ARG:HG3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2352:VAL:O	2:I:2356:LEU:HG	2.21	0.40
2:I:2354:VAL:HG11	2:I:2453:ILE:HD12	2.03	0.40
2:I:2526:PHE:O	2:I:2530:MET:HG3	2.21	0.40
2:I:3038:MET:H	2:I:3038:MET:HG2	1.77	0.40
2:I:3208:PRO:HB2	2:I:3236:VAL:HG13	2.02	0.40
2:I:4888:TYR:HE1	2:G:4917:ASP:HB2	1.86	0.40
2:I:4902:GLU:O	2:I:4913:ARG:NH2	2.54	0.40
1:L:30:LEU:HB2	1:L:34:LYS:HB2	2.03	0.40
2:A:3594:ARG:HA	2:A:3594:ARG:HE	1.86	0.40
2:D:581:ASN:N	2:D:581:ASN:OD1	2.54	0.40
2:D:667:MET:HG2	2:D:790:ARG:HB3	2.02	0.40
2:D:1131:ARG:NH2	2:D:1137:GLU:OE2	2.54	0.40
2:D:1935:VAL:O	2:D:1939:MET:HE2	2.22	0.40
2:D:2251:PHE:CG	2:D:2286:LEU:HD22	2.56	0.40
2:D:2737:PRO:HD2	2:D:2891:LYS:HD3	2.03	0.40
2:D:3001:ILE:HG13	2:D:3002:LEU:N	2.37	0.40
2:D:4541:TRP:CE3	2:D:4544:LEU:HD21	2.56	0.40
3:E:61:ASP:O	3:E:64:LYS:HD2	2.21	0.40
2:G:111:HIS:CE1	2:G:113:HIS:HB3	2.56	0.40
2:G:719:LEU:HD12	2:G:737:LEU:HD13	2.03	0.40
2:G:2333:ASP:HA	2:G:2336:ARG:NE	2.36	0.40
2:G:2638:LYS:H	2:G:2638:LYS:HG2	1.71	0.40
2:G:3713:LYS:NZ	2:G:3715:LYS:O	2.54	0.40
2:G:4232:GLU:OE1	2:G:5019:TRP:NE1	2.31	0.40
2:G:4919:THR:HG21	5:G:5102:POV:H31H	2.03	0.40
2:I:111:HIS:CE1	2:I:113:HIS:HB3	2.56	0.40
2:I:341:TYR:CE1	2:I:392:ARG:HB2	2.56	0.40
2:I:2737:PRO:HD2	2:I:2891:LYS:HD3	2.03	0.40
2:I:2801:ASP:HB2	2:I:2805:TYR:CE2	2.56	0.40
2:I:3524:MET:O	2:I:3576:TYR:OH	2.37	0.40
2:I:3536:ALA:HA	2:I:3539:ARG:HB2	2.03	0.40
2:A:3001:ILE:HG13	2:A:3002:LEU:N	2.36	0.40
2:A:3014:CYS:SG	2:A:3074:SER:HB3	2.62	0.40
2:A:4541:TRP:CE3	2:A:4544:LEU:HD21	2.57	0.40
2:A:4677:LEU:HG	2:A:4681:LEU:HD23	2.02	0.40
2:D:1093:GLU:HB3	2:D:1201:HIS:HB3	2.03	0.40
2:D:2352:VAL:O	2:D:2356:LEU:HG	2.21	0.40
2:D:2801:ASP:HB2	2:D:2805:TYR:CE2	2.56	0.40
2:D:3257:ALA:O	2:D:3325:ASN:ND2	2.54	0.40
1:F:30:LEU:HB2	1:F:34:LYS:HB2	2.03	0.40
2:G:1490:SER:OG	2:G:1491:ASN:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:3034:LYS:O	2:G:3038:MET:HG2	2.21	0.40
2:I:581:ASN:OD1	2:I:581:ASN:N	2.54	0.40
2:I:2563:THR:HG22	2:I:2606:CYS:HA	2.03	0.40
2:I:3409:TYR:N	2:I:3410:PRO:HD2	2.37	0.40
2:I:4779:LYS:HB2	2:I:4779:LYS:HE3	1.82	0.40
3:K:109:THR:OG1	3:K:110:PRO:HD3	2.22	0.40
2:A:4215:ARG:NH2	6:A:5103:ATP:O2G	2.54	0.40
2:A:4715:TYR:HE2	2:A:4717:ASP:HB3	1.86	0.40
2:D:1043:VAL:O	2:D:1047:LEU:HG	2.22	0.40
2:D:2354:VAL:HG11	2:D:2453:ILE:HD12	2.03	0.40
2:D:2819:TRP:O	2:D:2820:GLU:HG3	2.21	0.40
3:E:32:ASN:HD21	3:E:101:PRO:HB3	1.86	0.40
2:G:180:LEU:HD23	2:G:180:LEU:HA	1.88	0.40
2:G:1128:ARG:HH12	2:G:1132:TRP:HE1	1.69	0.40
2:G:1433:TYR:HB3	2:G:1575:LEU:HD23	2.02	0.40
2:G:2138:LEU:HD23	2:G:2138:LEU:HA	1.85	0.40
2:G:2758:PHE:O	2:G:2762:THR:HG23	2.21	0.40
2:G:3704:HIS:O	2:G:3708:THR:HG23	2.21	0.40
2:G:4157:ASP:O	2:G:4161:ARG:HD3	2.22	0.40
2:G:4541:TRP:CE3	2:G:4544:LEU:HD21	2.57	0.40
2:G:4744:ASP:HB3	2:G:4747:SER:HB3	2.02	0.40
2:G:5000:GLU:HA	2:G:5003:HIS:ND1	2.37	0.40
1:H:30:LEU:HB2	1:H:34:LYS:HB2	2.04	0.40
2:I:13:PHE:HA	2:I:164:ARG:HA	2.03	0.40
2:I:179:TYR:HB2	2:I:196:MET:O	2.21	0.40
2:I:371:VAL:CG1	2:I:373:LYS:HG2	2.52	0.40
2:I:881:LEU:O	2:I:885:THR:HG23	2.21	0.40
2:I:2819:TRP:O	2:I:2820:GLU:HG3	2.21	0.40
2:I:3594:ARG:HE	2:I:3594:ARG:HA	1.86	0.40
3:K:36:TRP:HE1	3:K:78:VAL:HG11	1.86	0.40
1:L:23:VAL:HG22	1:L:104:LEU:O	2.21	0.40
2:A:1694:LEU:HB3	2:A:1715:LEU:HD12	2.03	0.40
2:A:2352:VAL:O	2:A:2356:LEU:HG	2.21	0.40
2:A:2526:PHE:O	2:A:2530:MET:HG3	2.22	0.40
2:A:3302:PRO:HA	2:A:3303:PRO:HD3	1.98	0.40
2:A:4813:LEU:HD23	2:A:4813:LEU:HA	1.92	0.40
3:C:32:ASN:HD21	3:C:101:PRO:HB3	1.86	0.40
2:D:458:GLU:H	2:D:458:GLU:HG3	1.67	0.40
2:D:1814:MET:O	2:D:1817:GLU:HG2	2.22	0.40
2:D:2247:GLN:HG3	2:D:2279:SER:HA	2.04	0.40
2:D:2684:ASP:OD1	2:D:2685:SER:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:3345:ILE:HD12	2:D:3345:ILE:HA	1.95	0.40
2:D:3576:TYR:CE1	2:D:3582:ARG:HG2	2.56	0.40
2:G:1534:LYS:HE3	2:G:1534:LYS:HB2	1.93	0.40
2:G:1694:LEU:HB3	2:G:1715:LEU:HD12	2.03	0.40
2:G:2005:GLN:O	2:G:2009:LEU:HG	2.21	0.40
2:G:3644:LEU:HD23	2:G:3644:LEU:HA	1.92	0.40
2:G:4215:ARG:NH2	6:G:5103:ATP:O2G	2.54	0.40
2:G:4821:LYS:O	2:G:4825:THR:HG23	2.21	0.40
2:I:603:LEU:HD23	2:I:606:LEU:HD12	2.04	0.40
2:I:917:GLU:OE1	3:K:101:PRO:HB2	2.21	0.40
2:I:2138:LEU:HD23	2:I:2138:LEU:HA	1.85	0.40
2:I:2312:MET:O	2:I:2316:LYS:HG2	2.22	0.40
2:I:2637:ALA:C	2:I:2640:PRO:HD2	2.41	0.40
2:I:3019:SER:HB3	2:I:3030:HIS:HB3	2.02	0.40
2:I:3550:ARG:HH21	2:I:3597:GLN:HE22	1.70	0.40
2:I:4640:GLU:HB3	2:I:4641:PRO:HD3	2.03	0.40
2:A:111:HIS:CE1	2:A:113:HIS:HB3	2.56	0.40
2:A:363:ASP:HB3	2:A:366:ALA:CB	2.51	0.40
2:A:881:LEU:O	2:A:885:THR:HG23	2.22	0.40
2:A:2974:ILE:HG13	2:A:2975:ALA:N	2.35	0.40
2:A:3034:LYS:O	2:A:3038:MET:HG2	2.21	0.40
2:A:3704:HIS:O	2:A:3708:THR:HG23	2.21	0.40
2:A:4821:LYS:O	2:A:4825:THR:HG23	2.21	0.40
3:C:109:THR:OG1	3:C:110:PRO:HD3	2.22	0.40
2:D:881:LEU:O	2:D:885:THR:HG23	2.21	0.40
2:D:1024:TYR:OH	2:D:1036:ARG:NH2	2.54	0.40
2:D:1490:SER:OG	2:D:1491:ASN:N	2.55	0.40
2:D:3007:ASN:OD1	2:D:3070:ILE:HG13	2.22	0.40
2:G:2697:ARG:C	2:G:2697:ARG:HH11	2.25	0.40
2:G:3001:ILE:HG13	2:G:3002:LEU:N	2.36	0.40
2:G:3245:VAL:CG1	2:G:3248:ARG:HH12	2.31	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	F	105/107 (98%)	101 (96%)	4 (4%)	0	100	100
1	H	105/107 (98%)	101 (96%)	4 (4%)	0	100	100
1	J	105/107 (98%)	101 (96%)	4 (4%)	0	100	100
1	L	105/107 (98%)	101 (96%)	4 (4%)	0	100	100
2	A	4280/5027 (85%)	4203 (98%)	77 (2%)	0	100	100
2	D	4280/5027 (85%)	4201 (98%)	78 (2%)	1 (0%)	100	100
2	G	4280/5027 (85%)	4201 (98%)	79 (2%)	0	100	100
2	I	4280/5027 (85%)	4203 (98%)	77 (2%)	0	100	100
3	C	124/137 (90%)	118 (95%)	6 (5%)	0	100	100
3	E	124/137 (90%)	118 (95%)	6 (5%)	0	100	100
3	K	124/137 (90%)	118 (95%)	6 (5%)	0	100	100
3	M	124/137 (90%)	118 (95%)	6 (5%)	0	100	100
All	All	18036/21084 (86%)	17684 (98%)	351 (2%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	D	374	LYS

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	F	88/88 (100%)	85 (97%)	3 (3%)	32	62
1	H	88/88 (100%)	85 (97%)	3 (3%)	32	62
1	J	88/88 (100%)	85 (97%)	3 (3%)	32	62
1	L	88/88 (100%)	85 (97%)	3 (3%)	32	62
2	A	3674/4270 (86%)	3555 (97%)	119 (3%)	34	63

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	D	3674/4270 (86%)	3553 (97%)	121 (3%)	33	62
2	G	3673/4270 (86%)	3552 (97%)	121 (3%)	33	62
2	I	3673/4270 (86%)	3552 (97%)	121 (3%)	33	62
3	C	104/114 (91%)	102 (98%)	2 (2%)	52	75
3	E	104/114 (91%)	102 (98%)	2 (2%)	52	75
3	K	104/114 (91%)	102 (98%)	2 (2%)	52	75
3	M	104/114 (91%)	102 (98%)	2 (2%)	52	75
All	All	15462/17888 (86%)	14960 (97%)	502 (3%)	36	63

All (502) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	H	22	CYS
1	H	23	VAL
1	H	32	ASN
2	I	35	LEU
2	I	125	ARG
2	I	127	MET
2	I	227	MET
2	I	241	GLN
2	I	273	HIS
2	I	297	GLN
2	I	368	ARG
2	I	384	MET
2	I	389	PHE
2	I	460	GLN
2	I	481	GLU
2	I	702	TRP
2	I	714	TYR
2	I	835	ARG
2	I	866	HIS
2	I	886	ARG
2	I	924	MET
2	I	960	MET
2	I	987	ARG
2	I	1025	ARG
2	I	1071	ARG
2	I	1128	ARG
2	I	1143	TRP
2	I	1170	MET

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Mol	Chain	Res	Type
2	I	1260	MET
2	I	1421	ARG
2	I	1428	LEU
2	I	1435	TYR
2	I	1526	LEU
2	I	1648	MET
2	I	1981	MET
2	I	2198	MET
2	I	2294	ASP
2	I	2312	MET
2	I	2440	MET
2	I	2490	MET
2	I	2502	MET
2	I	2520	HIS
2	I	2555	CYS
2	I	2578	MET
2	I	2623	LEU
2	I	2652	TRP
2	I	2656	CYS
2	I	2661	TRP
2	I	2664	PHE
2	I	2673	HIS
2	I	2688	HIS
2	I	2697	ARG
2	I	2698	MET
2	I	2700	MET
2	I	2738	ARG
2	I	2761	TYR
2	I	2786	LYS
2	I	2790	MET
2	I	2797	PHE
2	I	2806	ARG
2	I	2816	MET
2	I	2827	ARG
2	I	2914	LYS
2	I	2932	MET
2	I	2955	PHE
2	I	2966	TRP
2	I	2967	MET
2	I	3014	CYS
2	I	3030	HIS
2	I	3053	ARG

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Mol	Chain	Res	Type
2	I	3096	PHE
2	I	3106	MET
2	I	3166	TYR
2	I	3239	MET
2	I	3248	ARG
2	I	3262	ARG
2	I	3266	MET
2	I	3280	TYR
2	I	3311	HIS
2	I	3321	ARG
2	I	3334	TRP
2	I	3336	LYS
2	I	3355	HIS
2	I	3357	HIS
2	I	3409	TYR
2	I	3449	HIS
2	I	3451	PHE
2	I	3458	PHE
2	I	3534	MET
2	I	3552	PHE
2	I	3573	MET
2	I	3576	TYR
2	I	3577	ARG
2	I	3594	ARG
2	I	3673	MET
2	I	3715	LYS
2	I	3734	HIS
2	I	3836	MET
2	I	3933	PHE
2	I	3945	GLU
2	I	4001	MET
2	I	4023	MET
2	I	4039	MET
2	I	4042	ARG
2	I	4057	MET
2	I	4080	TYR
2	I	4120	ASN
2	I	4156	HIS
2	I	4159	ARG
2	I	4207	MET
2	I	4553	ASN
2	I	4564	PHE

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Mol	Chain	Res	Type
2	I	4627	MET
2	I	4629	TYR
2	I	4639	MET
2	I	4644	TRP
2	I	4676	GLU
2	I	4696	ASP
2	I	4796	MET
2	I	4818	MET
2	I	4839	MET
2	I	4858	PHE
2	I	4966	ASP
2	I	4973	HIS
3	K	12	MET
3	K	64	LYS
1	L	22	CYS
1	L	23	VAL
1	L	32	ASN
2	A	35	LEU
2	A	125	ARG
2	A	127	MET
2	A	227	MET
2	A	241	GLN
2	A	273	HIS
2	A	297	GLN
2	A	384	MET
2	A	389	PHE
2	A	460	GLN
2	A	481	GLU
2	A	702	TRP
2	A	714	TYR
2	A	835	ARG
2	A	866	HIS
2	A	886	ARG
2	A	924	MET
2	A	987	ARG
2	A	1025	ARG
2	A	1071	ARG
2	A	1128	ARG
2	A	1143	TRP
2	A	1170	MET
2	A	1260	MET
2	A	1421	ARG

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Mol	Chain	Res	Type
2	A	1428	LEU
2	A	1435	TYR
2	A	1526	LEU
2	A	1648	MET
2	A	1981	MET
2	A	2198	MET
2	A	2294	ASP
2	A	2312	MET
2	A	2440	MET
2	A	2490	MET
2	A	2502	MET
2	A	2520	HIS
2	A	2555	CYS
2	A	2578	MET
2	A	2623	LEU
2	A	2652	TRP
2	A	2656	CYS
2	A	2661	TRP
2	A	2664	PHE
2	A	2673	HIS
2	A	2688	HIS
2	A	2697	ARG
2	A	2698	MET
2	A	2700	MET
2	A	2738	ARG
2	A	2761	TYR
2	A	2786	LYS
2	A	2790	MET
2	A	2797	PHE
2	A	2806	ARG
2	A	2816	MET
2	A	2827	ARG
2	A	2914	LYS
2	A	2932	MET
2	A	2955	PHE
2	A	2966	TRP
2	A	2967	MET
2	A	3014	CYS
2	A	3030	HIS
2	A	3053	ARG
2	A	3096	PHE
2	A	3106	MET

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Mol	Chain	Res	Type
2	A	3166	TYR
2	A	3239	MET
2	A	3248	ARG
2	A	3262	ARG
2	A	3266	MET
2	A	3280	TYR
2	A	3311	HIS
2	A	3321	ARG
2	A	3334	TRP
2	A	3336	LYS
2	A	3355	HIS
2	A	3357	HIS
2	A	3409	TYR
2	A	3449	HIS
2	A	3451	PHE
2	A	3458	PHE
2	A	3534	MET
2	A	3552	PHE
2	A	3573	MET
2	A	3576	TYR
2	A	3577	ARG
2	A	3594	ARG
2	A	3673	MET
2	A	3715	LYS
2	A	3734	HIS
2	A	3836	MET
2	A	3933	PHE
2	A	3945	GLU
2	A	4001	MET
2	A	4023	MET
2	A	4039	MET
2	A	4042	ARG
2	A	4057	MET
2	A	4080	TYR
2	A	4120	ASN
2	A	4156	HIS
2	A	4159	ARG
2	A	4207	MET
2	A	4553	ASN
2	A	4564	PHE
2	A	4627	MET
2	A	4629	TYR

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Mol	Chain	Res	Type
2	A	4639	MET
2	A	4644	TRP
2	A	4676	GLU
2	A	4696	ASP
2	A	4796	MET
2	A	4818	MET
2	A	4839	MET
2	A	4858	PHE
2	A	4966	ASP
2	A	4973	HIS
3	C	12	MET
3	C	64	LYS
1	J	22	CYS
1	J	23	VAL
1	J	32	ASN
2	D	35	LEU
2	D	125	ARG
2	D	127	MET
2	D	227	MET
2	D	241	GLN
2	D	273	HIS
2	D	297	GLN
2	D	369	LEU
2	D	384	MET
2	D	389	PHE
2	D	460	GLN
2	D	481	GLU
2	D	702	TRP
2	D	714	TYR
2	D	835	ARG
2	D	866	HIS
2	D	886	ARG
2	D	924	MET
2	D	960	MET
2	D	987	ARG
2	D	1025	ARG
2	D	1071	ARG
2	D	1128	ARG
2	D	1143	TRP
2	D	1170	MET
2	D	1260	MET
2	D	1421	ARG

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Mol	Chain	Res	Type
2	D	1428	LEU
2	D	1435	TYR
2	D	1526	LEU
2	D	1648	MET
2	D	1981	MET
2	D	2198	MET
2	D	2294	ASP
2	D	2312	MET
2	D	2440	MET
2	D	2490	MET
2	D	2502	MET
2	D	2520	HIS
2	D	2555	CYS
2	D	2578	MET
2	D	2623	LEU
2	D	2652	TRP
2	D	2656	CYS
2	D	2661	TRP
2	D	2664	PHE
2	D	2673	HIS
2	D	2688	HIS
2	D	2697	ARG
2	D	2698	MET
2	D	2700	MET
2	D	2738	ARG
2	D	2761	TYR
2	D	2786	LYS
2	D	2790	MET
2	D	2797	PHE
2	D	2806	ARG
2	D	2816	MET
2	D	2827	ARG
2	D	2914	LYS
2	D	2932	MET
2	D	2955	PHE
2	D	2966	TRP
2	D	2967	MET
2	D	3014	CYS
2	D	3030	HIS
2	D	3053	ARG
2	D	3096	PHE
2	D	3106	MET

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Mol	Chain	Res	Type
2	D	3166	TYR
2	D	3239	MET
2	D	3248	ARG
2	D	3262	ARG
2	D	3266	MET
2	D	3280	TYR
2	D	3311	HIS
2	D	3321	ARG
2	D	3334	TRP
2	D	3336	LYS
2	D	3355	HIS
2	D	3357	HIS
2	D	3409	TYR
2	D	3449	HIS
2	D	3451	PHE
2	D	3458	PHE
2	D	3534	MET
2	D	3552	PHE
2	D	3573	MET
2	D	3576	TYR
2	D	3577	ARG
2	D	3594	ARG
2	D	3673	MET
2	D	3715	LYS
2	D	3734	HIS
2	D	3836	MET
2	D	3933	PHE
2	D	3945	GLU
2	D	4001	MET
2	D	4023	MET
2	D	4039	MET
2	D	4042	ARG
2	D	4057	MET
2	D	4080	TYR
2	D	4120	ASN
2	D	4156	HIS
2	D	4159	ARG
2	D	4207	MET
2	D	4553	ASN
2	D	4564	PHE
2	D	4627	MET
2	D	4629	TYR

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Mol	Chain	Res	Type
2	D	4639	MET
2	D	4644	TRP
2	D	4676	GLU
2	D	4696	ASP
2	D	4796	MET
2	D	4818	MET
2	D	4839	MET
2	D	4858	PHE
2	D	4966	ASP
2	D	4973	HIS
3	E	12	MET
3	E	64	LYS
1	F	22	CYS
1	F	23	VAL
1	F	32	ASN
2	G	35	LEU
2	G	125	ARG
2	G	127	MET
2	G	227	MET
2	G	241	GLN
2	G	273	HIS
2	G	297	GLN
2	G	359	TYR
2	G	384	MET
2	G	389	PHE
2	G	460	GLN
2	G	481	GLU
2	G	702	TRP
2	G	714	TYR
2	G	835	ARG
2	G	866	HIS
2	G	886	ARG
2	G	924	MET
2	G	960	MET
2	G	987	ARG
2	G	1025	ARG
2	G	1071	ARG
2	G	1128	ARG
2	G	1143	TRP
2	G	1170	MET
2	G	1260	MET
2	G	1421	ARG

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Mol	Chain	Res	Type
2	G	1428	LEU
2	G	1435	TYR
2	G	1526	LEU
2	G	1648	MET
2	G	1981	MET
2	G	2198	MET
2	G	2294	ASP
2	G	2312	MET
2	G	2440	MET
2	G	2490	MET
2	G	2502	MET
2	G	2520	HIS
2	G	2555	CYS
2	G	2578	MET
2	G	2623	LEU
2	G	2652	TRP
2	G	2656	CYS
2	G	2661	TRP
2	G	2664	PHE
2	G	2673	HIS
2	G	2688	HIS
2	G	2697	ARG
2	G	2698	MET
2	G	2700	MET
2	G	2738	ARG
2	G	2761	TYR
2	G	2786	LYS
2	G	2790	MET
2	G	2797	PHE
2	G	2806	ARG
2	G	2816	MET
2	G	2827	ARG
2	G	2914	LYS
2	G	2932	MET
2	G	2955	PHE
2	G	2966	TRP
2	G	2967	MET
2	G	3014	CYS
2	G	3030	HIS
2	G	3053	ARG
2	G	3096	PHE
2	G	3106	MET

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Mol	Chain	Res	Type
2	G	3166	TYR
2	G	3239	MET
2	G	3248	ARG
2	G	3262	ARG
2	G	3266	MET
2	G	3280	TYR
2	G	3311	HIS
2	G	3321	ARG
2	G	3334	TRP
2	G	3336	LYS
2	G	3355	HIS
2	G	3357	HIS
2	G	3409	TYR
2	G	3449	HIS
2	G	3451	PHE
2	G	3458	PHE
2	G	3534	MET
2	G	3552	PHE
2	G	3573	MET
2	G	3576	TYR
2	G	3577	ARG
2	G	3594	ARG
2	G	3673	MET
2	G	3715	LYS
2	G	3734	HIS
2	G	3836	MET
2	G	3933	PHE
2	G	3945	GLU
2	G	4001	MET
2	G	4023	MET
2	G	4039	MET
2	G	4042	ARG
2	G	4057	MET
2	G	4080	TYR
2	G	4120	ASN
2	G	4156	HIS
2	G	4159	ARG
2	G	4207	MET
2	G	4553	ASN
2	G	4564	PHE
2	G	4627	MET
2	G	4629	TYR

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Mol	Chain	Res	Type
2	G	4639	MET
2	G	4644	TRP
2	G	4676	GLU
2	G	4696	ASP
2	G	4796	MET
2	G	4818	MET
2	G	4839	MET
2	G	4858	PHE
2	G	4966	ASP
2	G	4973	HIS
3	M	12	MET
3	M	64	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35) such sidechains are listed below:

Mol	Chain	Res	Type
1	H	32	ASN
2	I	473	ASN
2	I	981	GLN
2	I	1299	GLN
2	I	3146	HIS
2	I	3597	GLN
2	I	3806	ASN
2	I	4574	ASN
3	K	44	GLN
1	L	32	ASN
2	A	473	ASN
2	A	981	GLN
2	A	3146	HIS
2	A	3597	GLN
2	A	3806	ASN
2	A	4246	GLN
2	A	4574	ASN
3	C	44	GLN
2	D	473	ASN
2	D	981	GLN
2	D	1299	GLN
2	D	3146	HIS
2	D	3597	GLN
2	D	4246	GLN
2	D	4574	ASN
3	E	44	GLN

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Mol	Chain	Res	Type
1	F	32	ASN
2	G	473	ASN
2	G	981	GLN
2	G	1299	GLN
2	G	3146	HIS
2	G	3597	GLN
2	G	4246	GLN
2	G	4574	ASN
3	M	44	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 20 ligands modelled in this entry, 8 are monoatomic - leaving 12 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	$\# Z > 2$
5	POV	D	5102	-	51,51,51	0.49	0	57,59,59	0.45	0
5	POV	I	5102	-	51,51,51	0.49	0	57,59,59	0.45	0
7	CFE	A	5104	-	8,15,15	2.40	3 (37%)	8,23,23	1.20	1 (12%)
6	ATP	I	5103	-	26,33,33	0.91	1 (3%)	31,52,52	1.59	5 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
7	CFF	I	5104	-	8,15,15	2.40	3 (37%)	8,23,23	1.20	1 (12%)
7	CFF	D	5104	-	8,15,15	2.41	3 (37%)	8,23,23	1.19	1 (12%)
7	CFF	G	5104	-	8,15,15	2.38	3 (37%)	8,23,23	1.18	1 (12%)
6	ATP	D	5103	-	26,33,33	0.59	0	31,52,52	0.85	3 (9%)
5	POV	A	5101	-	51,51,51	0.49	0	57,59,59	0.45	0
6	ATP	G	5103	-	26,33,33	0.58	0	31,52,52	0.84	3 (9%)
6	ATP	A	5103	-	26,33,33	0.59	0	31,52,52	0.85	3 (9%)
5	POV	G	5102	-	51,51,51	0.49	0	57,59,59	0.45	0

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
5	POV	D	5102	-	-	17/55/55/55	-
5	POV	I	5102	-	-	17/55/55/55	-
7	CFF	A	5104	-	-	-	0/2/2/2
6	ATP	I	5103	-	-	3/18/38/38	0/3/3/3
7	CFF	I	5104	-	-	-	0/2/2/2
7	CFF	D	5104	-	-	-	0/2/2/2
7	CFF	G	5104	-	-	-	0/2/2/2
6	ATP	D	5103	-	-	5/18/38/38	0/3/3/3
5	POV	A	5101	-	-	17/55/55/55	-
6	ATP	G	5103	-	-	5/18/38/38	0/3/3/3
6	ATP	A	5103	-	-	5/18/38/38	0/3/3/3
5	POV	G	5102	-	-	17/55/55/55	-

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A	5104	CFF	C5-C4	4.54	1.45	1.39
7	I	5104	CFF	C5-C4	4.53	1.45	1.39
7	D	5104	CFF	C5-C4	4.53	1.45	1.39
7	G	5104	CFF	C5-C4	4.52	1.45	1.39
7	D	5104	CFF	C5-C6	4.35	1.48	1.41
7	I	5104	CFF	C5-C6	4.34	1.48	1.41
7	A	5104	CFF	C5-C6	4.34	1.48	1.41
7	G	5104	CFF	C5-C6	4.28	1.48	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	I	5103	ATP	C5-C4	2.33	1.47	1.40
7	D	5104	CFF	C6-N1	2.23	1.41	1.38
7	A	5104	CFF	C6-N1	2.18	1.41	1.38
7	I	5104	CFF	C6-N1	2.17	1.41	1.38
7	G	5104	CFF	C6-N1	2.17	1.41	1.38

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	I	5103	ATP	PA-O3A-PB	-3.89	119.48	132.83
6	I	5103	ATP	PB-O3B-PG	-3.87	119.54	132.83
6	I	5103	ATP	N3-C2-N1	-3.20	123.67	128.68
6	I	5103	ATP	C3'-C2'-C1'	3.07	105.60	100.98
6	I	5103	ATP	C4-C5-N7	-2.42	106.87	109.40
7	A	5104	CFF	C5-C6-N1	-2.34	115.70	118.20
7	D	5104	CFF	C5-C6-N1	-2.34	115.71	118.20
7	I	5104	CFF	C5-C6-N1	-2.33	115.72	118.20
7	G	5104	CFF	C5-C6-N1	-2.33	115.72	118.20
6	D	5103	ATP	C5-C6-N6	2.29	123.83	120.35
6	A	5103	ATP	C5-C6-N6	2.26	123.79	120.35
6	G	5103	ATP	C5-C6-N6	2.26	123.78	120.35
6	A	5103	ATP	C3'-C2'-C1'	2.06	104.08	100.98
6	G	5103	ATP	C3'-C2'-C1'	2.05	104.07	100.98
6	D	5103	ATP	C3'-C2'-C1'	2.05	104.06	100.98
6	A	5103	ATP	PB-O3B-PG	2.01	139.72	132.83
6	D	5103	ATP	PB-O3B-PG	2.01	139.72	132.83
6	G	5103	ATP	PB-O3B-PG	2.01	139.71	132.83

There are no chirality outliers.

All (86) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	I	5102	POV	C1-O11-P-O14
5	A	5101	POV	C1-O11-P-O14
5	D	5102	POV	C1-O11-P-O14
5	G	5102	POV	C1-O11-P-O14
6	I	5103	ATP	C5'-O5'-PA-O1A
6	I	5103	ATP	C5'-O5'-PA-O2A
6	A	5103	ATP	PB-O3B-PG-O2G
6	A	5103	ATP	C5'-O5'-PA-O2A
6	A	5103	ATP	C5'-O5'-PA-O3A
6	D	5103	ATP	PB-O3B-PG-O2G

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Mol	Chain	Res	Type	Atoms
6	D	5103	ATP	C5'-O5'-PA-O2A
6	D	5103	ATP	C5'-O5'-PA-O3A
6	G	5103	ATP	PB-O3B-PG-O2G
6	G	5103	ATP	C5'-O5'-PA-O2A
6	G	5103	ATP	C5'-O5'-PA-O3A
5	I	5102	POV	C22-C21-O21-C2
5	A	5101	POV	C22-C21-O21-C2
5	D	5102	POV	C22-C21-O21-C2
5	G	5102	POV	C22-C21-O21-C2
5	I	5102	POV	C21-C22-C23-C24
5	A	5101	POV	C21-C22-C23-C24
5	D	5102	POV	C21-C22-C23-C24
5	G	5102	POV	C21-C22-C23-C24
5	I	5102	POV	C31-C32-C33-C34
5	A	5101	POV	C31-C32-C33-C34
5	D	5102	POV	C31-C32-C33-C34
5	G	5102	POV	C31-C32-C33-C34
5	I	5102	POV	O22-C21-O21-C2
5	A	5101	POV	O22-C21-O21-C2
5	D	5102	POV	O22-C21-O21-C2
5	G	5102	POV	O22-C21-O21-C2
5	G	5102	POV	C39-C310-C311-C312
5	I	5102	POV	C39-C310-C311-C312
5	A	5101	POV	C39-C310-C311-C312
5	D	5102	POV	C39-C310-C311-C312
5	D	5102	POV	C312-C313-C314-C315
5	I	5102	POV	C312-C313-C314-C315
5	A	5101	POV	C312-C313-C314-C315
5	G	5102	POV	C312-C313-C314-C315
5	I	5102	POV	C211-C212-C213-C214
5	A	5101	POV	C211-C212-C213-C214
5	D	5102	POV	C211-C212-C213-C214
5	G	5102	POV	C211-C212-C213-C214
5	I	5102	POV	O11-C1-C2-O21
5	A	5101	POV	O11-C1-C2-O21
5	D	5102	POV	O11-C1-C2-O21
5	G	5102	POV	O11-C1-C2-O21
5	I	5102	POV	C11-C12-N-C14
5	A	5101	POV	C11-C12-N-C14
5	D	5102	POV	C11-C12-N-C14
5	G	5102	POV	C11-C12-N-C14
6	I	5103	ATP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
5	I	5102	POV	C11-C12-N-C15
5	A	5101	POV	C11-C12-N-C15
5	D	5102	POV	C11-C12-N-C15
5	G	5102	POV	C11-C12-N-C15
5	I	5102	POV	O11-C1-C2-C3
5	A	5101	POV	O11-C1-C2-C3
5	D	5102	POV	O11-C1-C2-C3
5	G	5102	POV	O11-C1-C2-C3
5	I	5102	POV	C11-C12-N-C13
5	A	5101	POV	C11-C12-N-C13
5	D	5102	POV	C11-C12-N-C13
5	G	5102	POV	C11-C12-N-C13
5	I	5102	POV	C29-C210-C211-C212
5	A	5101	POV	C29-C210-C211-C212
5	D	5102	POV	C29-C210-C211-C212
5	G	5102	POV	C29-C210-C211-C212
5	I	5102	POV	C1-O11-P-O12
5	A	5101	POV	C1-O11-P-O12
5	D	5102	POV	C1-O11-P-O12
5	G	5102	POV	C1-O11-P-O12
5	A	5101	POV	C36-C37-C38-C39
5	I	5102	POV	C36-C37-C38-C39
5	D	5102	POV	C36-C37-C38-C39
5	G	5102	POV	C36-C37-C38-C39
6	A	5103	ATP	PB-O3B-PG-O1G
6	D	5103	ATP	PB-O3B-PG-O1G
6	G	5103	ATP	PB-O3B-PG-O1G
6	A	5103	ATP	PB-O3B-PG-O3G
6	D	5103	ATP	PB-O3B-PG-O3G
6	G	5103	ATP	PB-O3B-PG-O3G
5	I	5102	POV	O31-C31-C32-C33
5	A	5101	POV	O31-C31-C32-C33
5	D	5102	POV	O31-C31-C32-C33
5	G	5102	POV	O31-C31-C32-C33

There are no ring outliers.

12 monomers are involved in 25 short contacts:

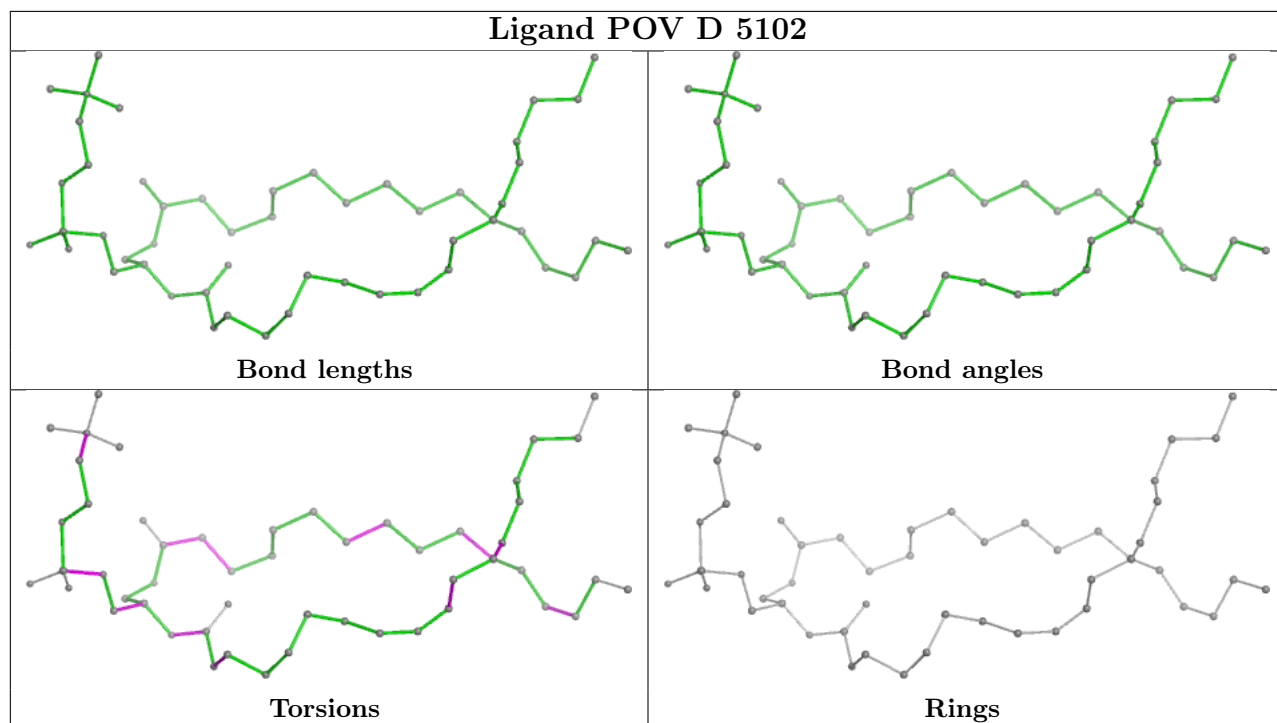
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	D	5102	POV	3	0
5	I	5102	POV	1	0
7	A	5104	CFE	1	0

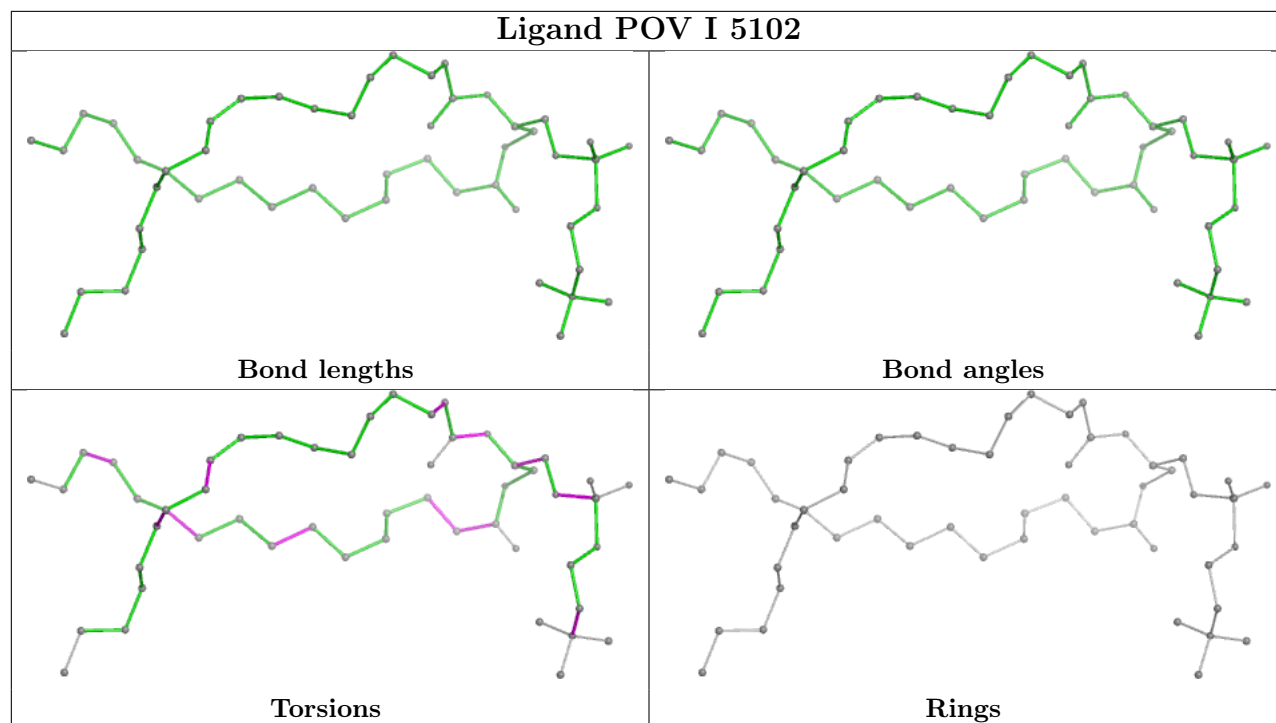
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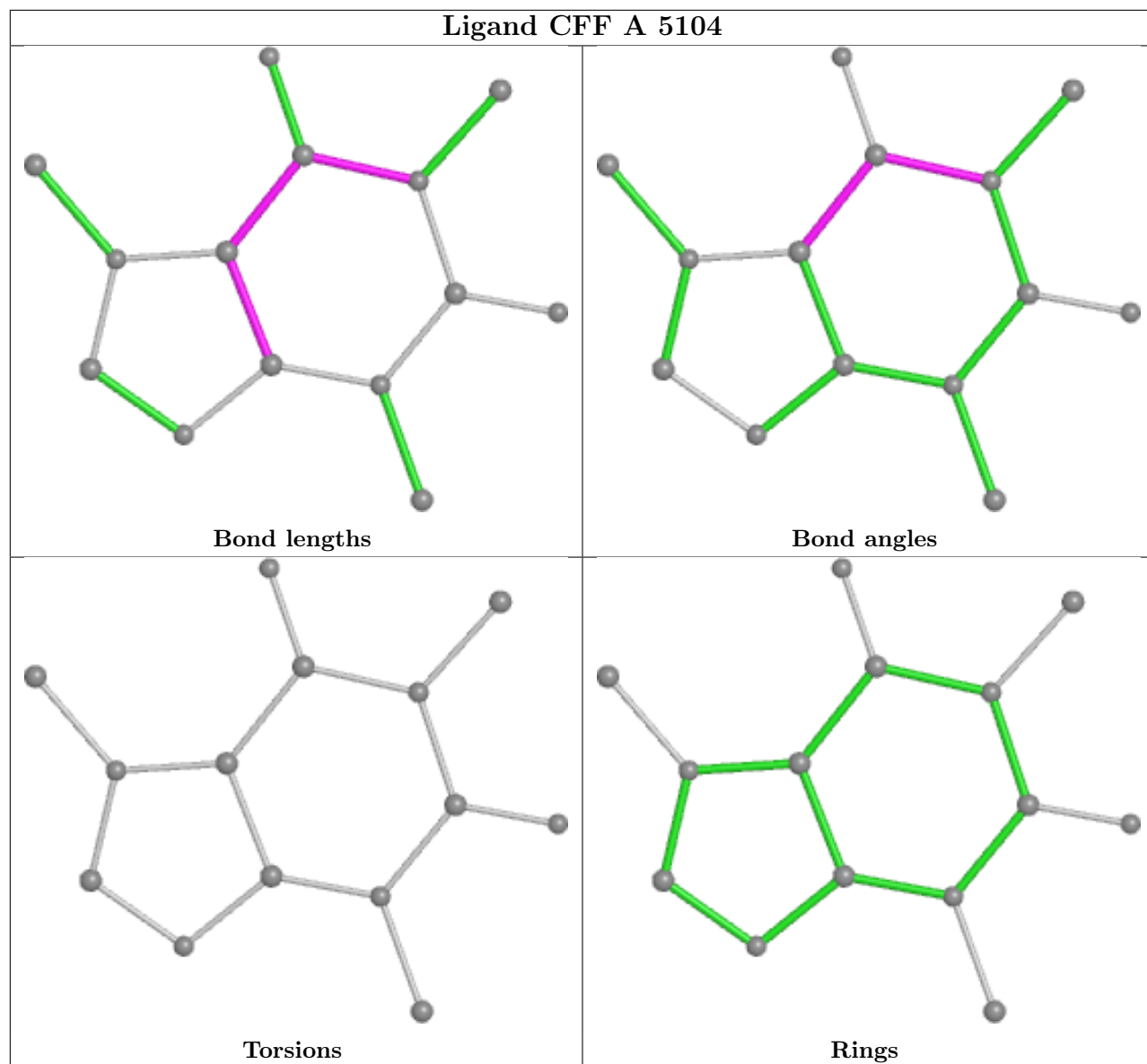
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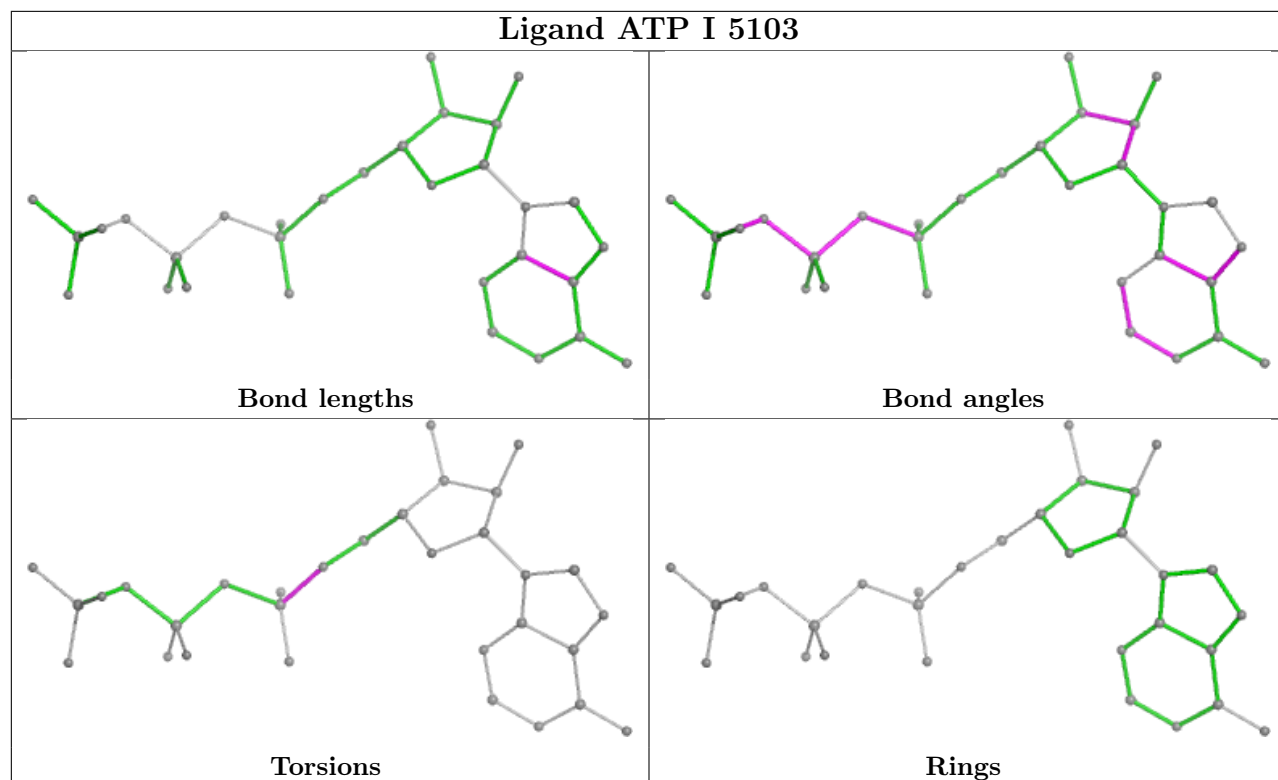
Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	I	5103	ATP	2	0
7	I	5104	CFF	1	0
7	D	5104	CFF	2	0
7	G	5104	CFF	2	0
6	D	5103	ATP	3	0
5	A	5101	POV	1	0
6	G	5103	ATP	3	0
6	A	5103	ATP	3	0
5	G	5102	POV	3	0

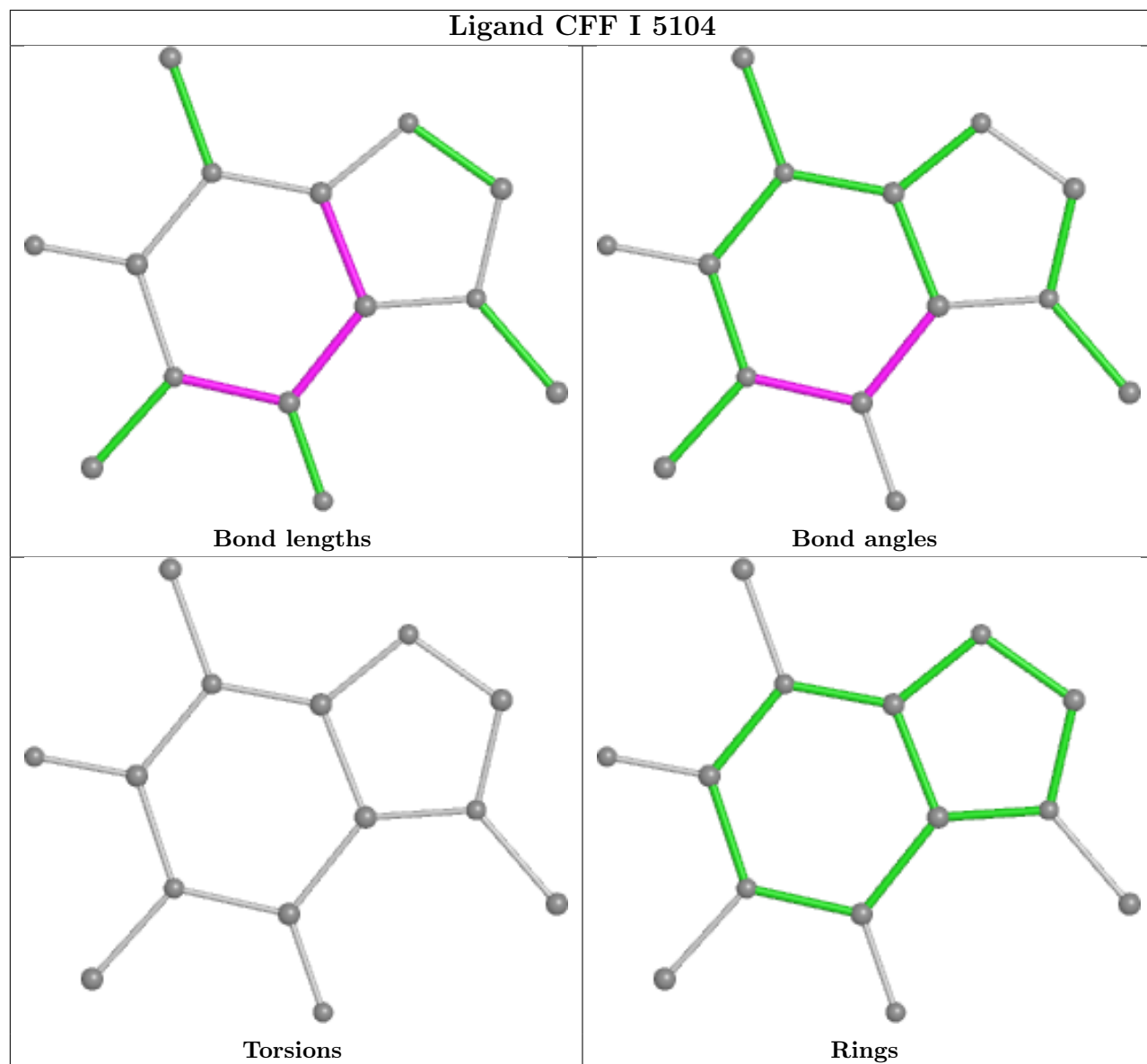
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

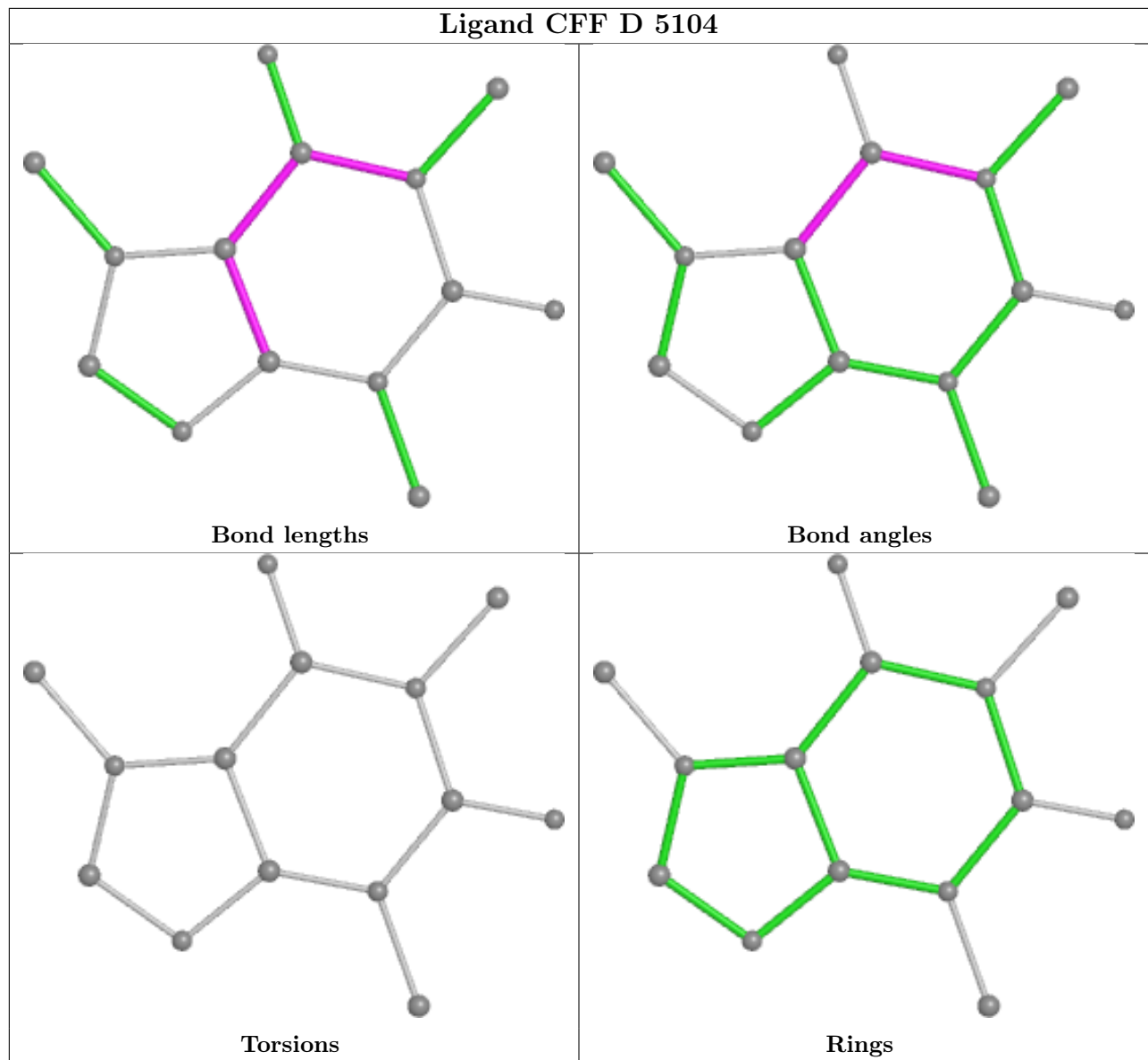


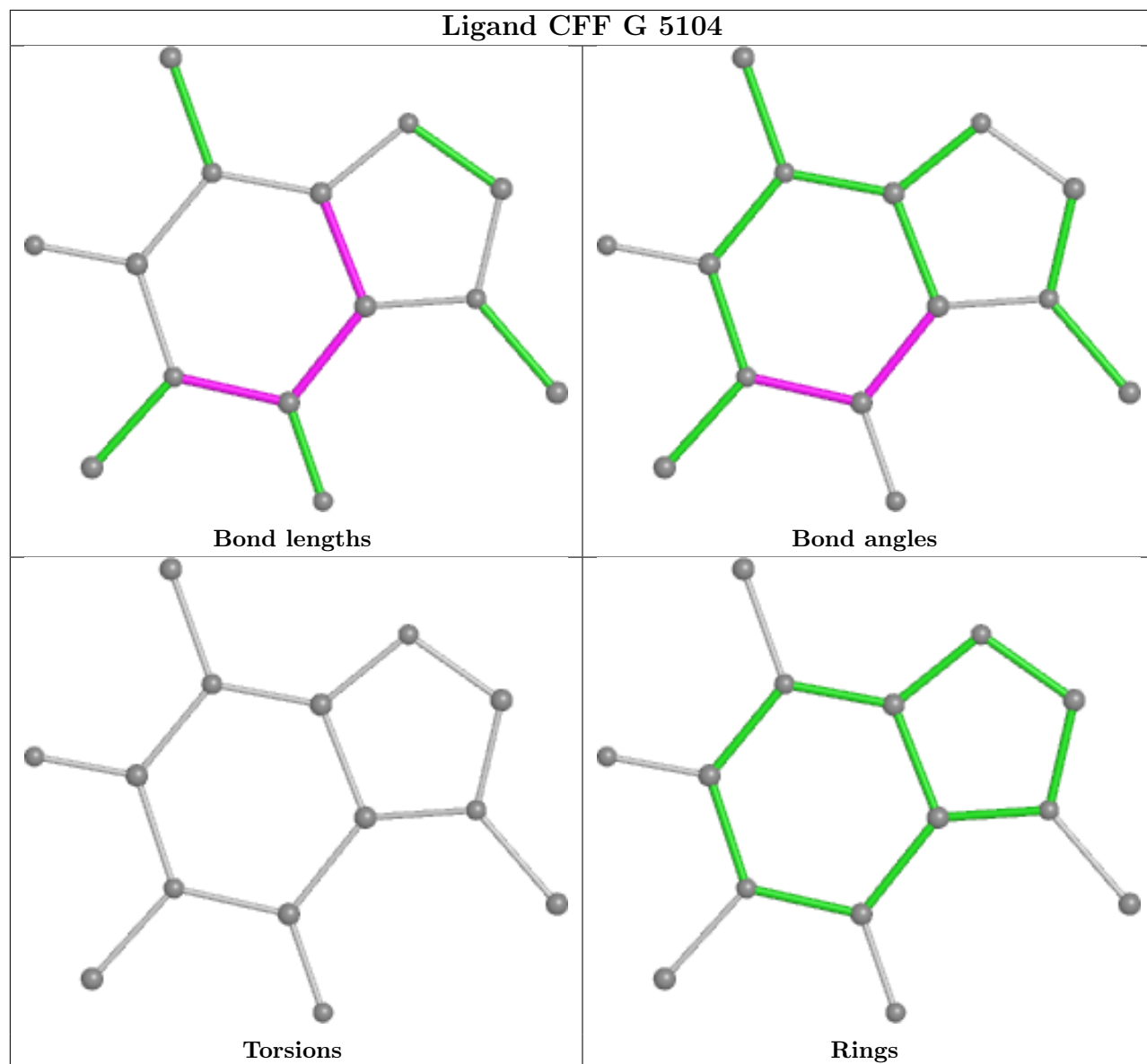


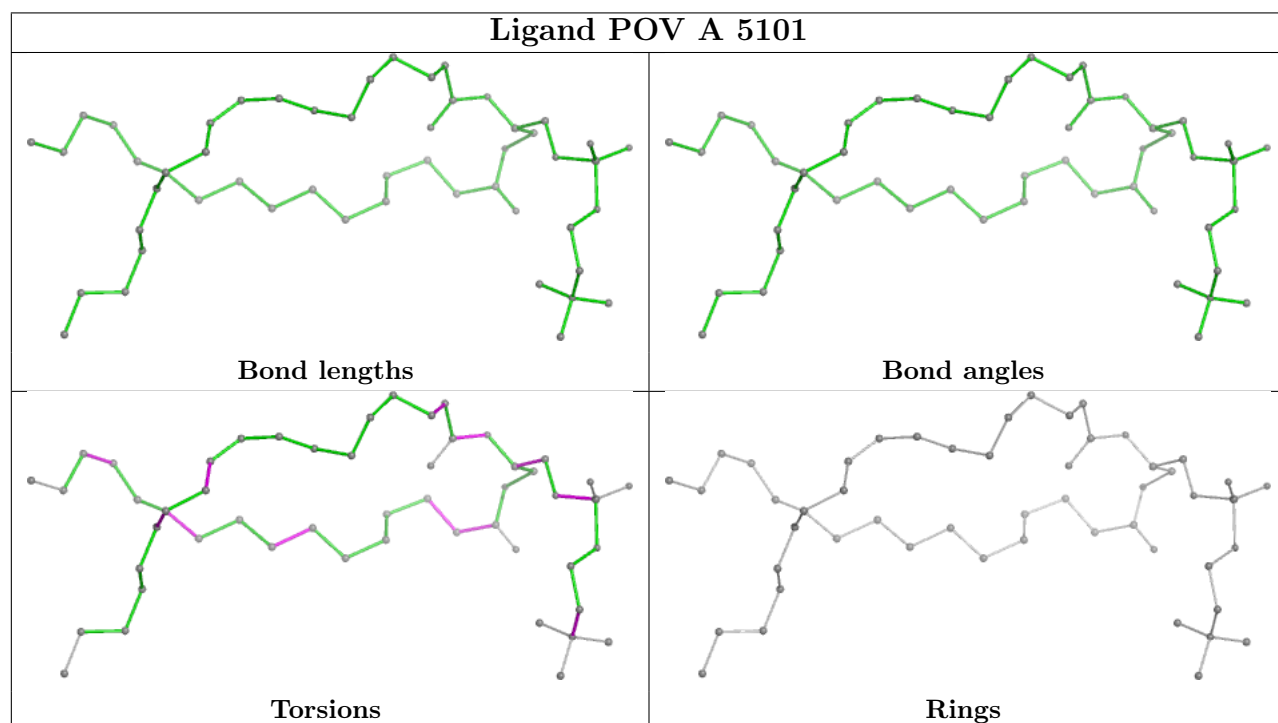
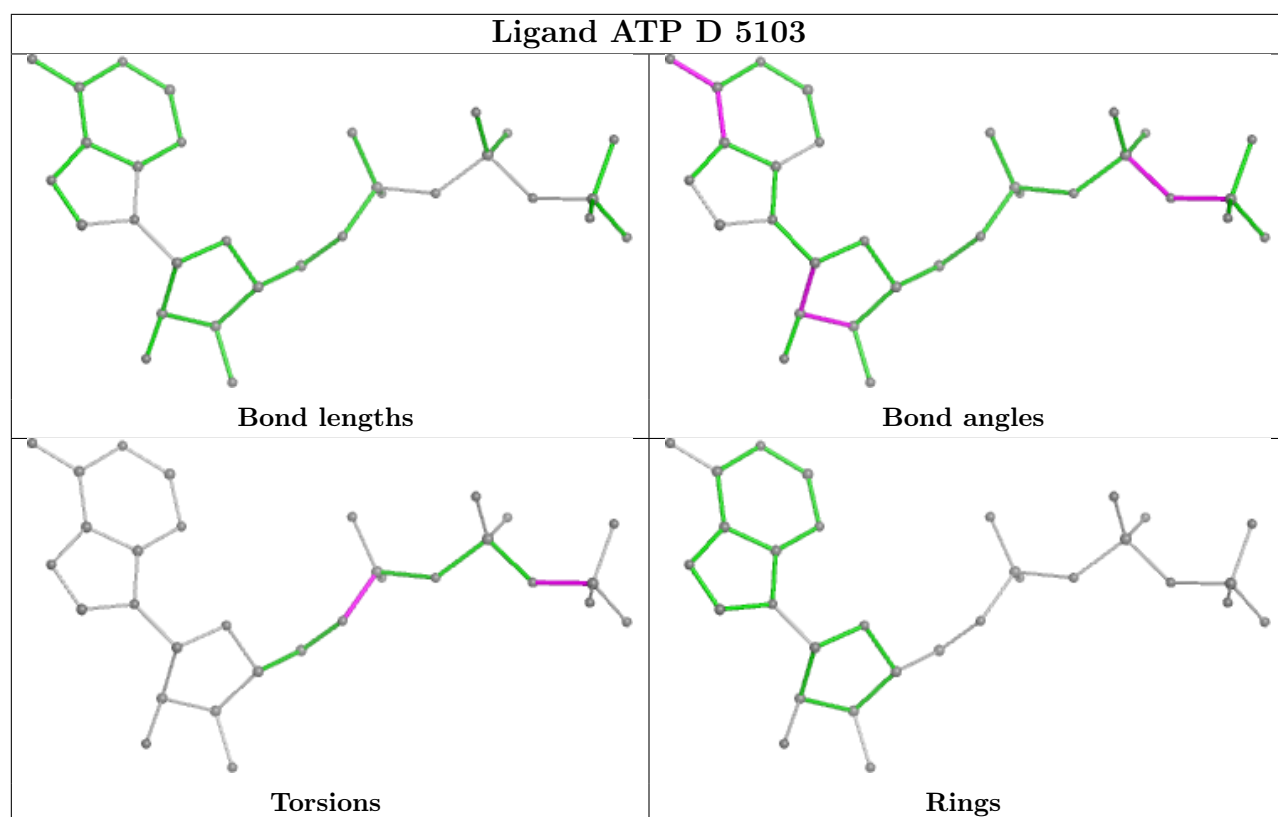


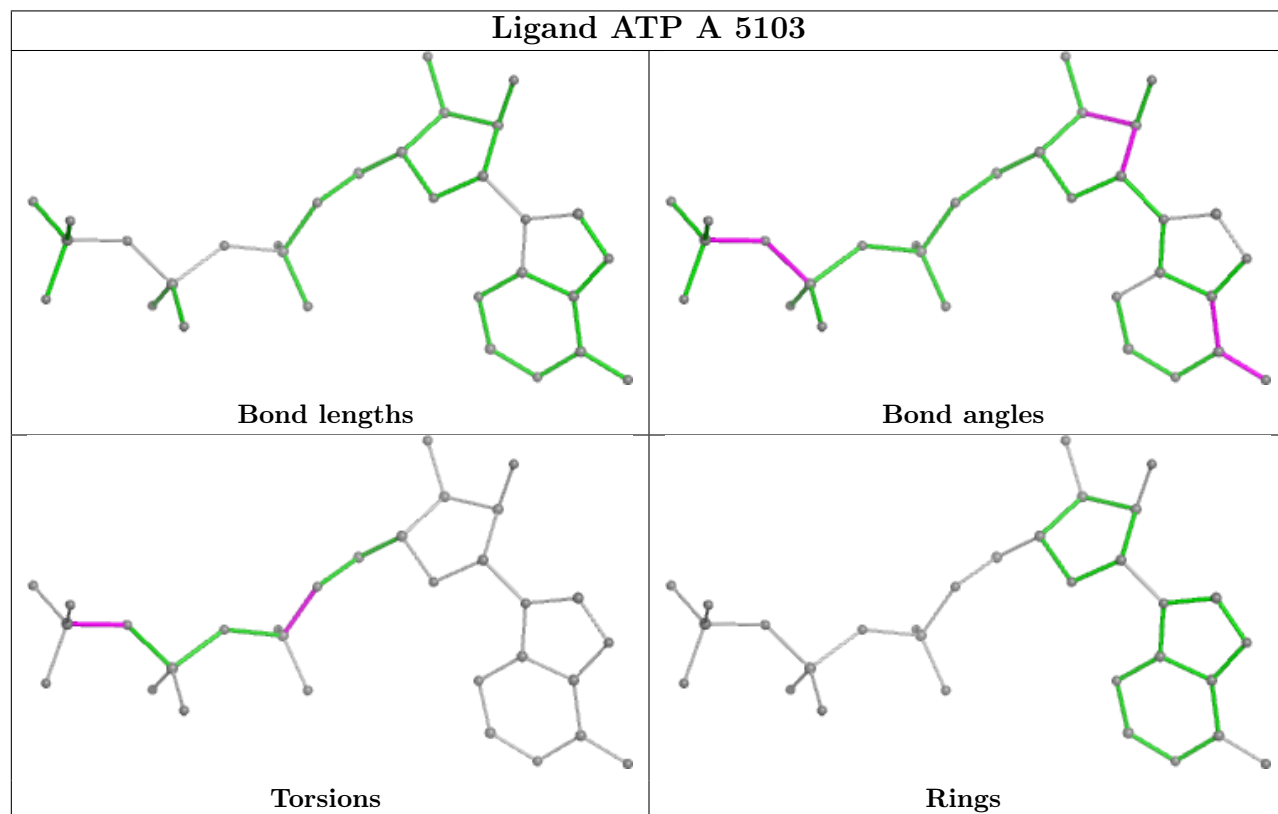
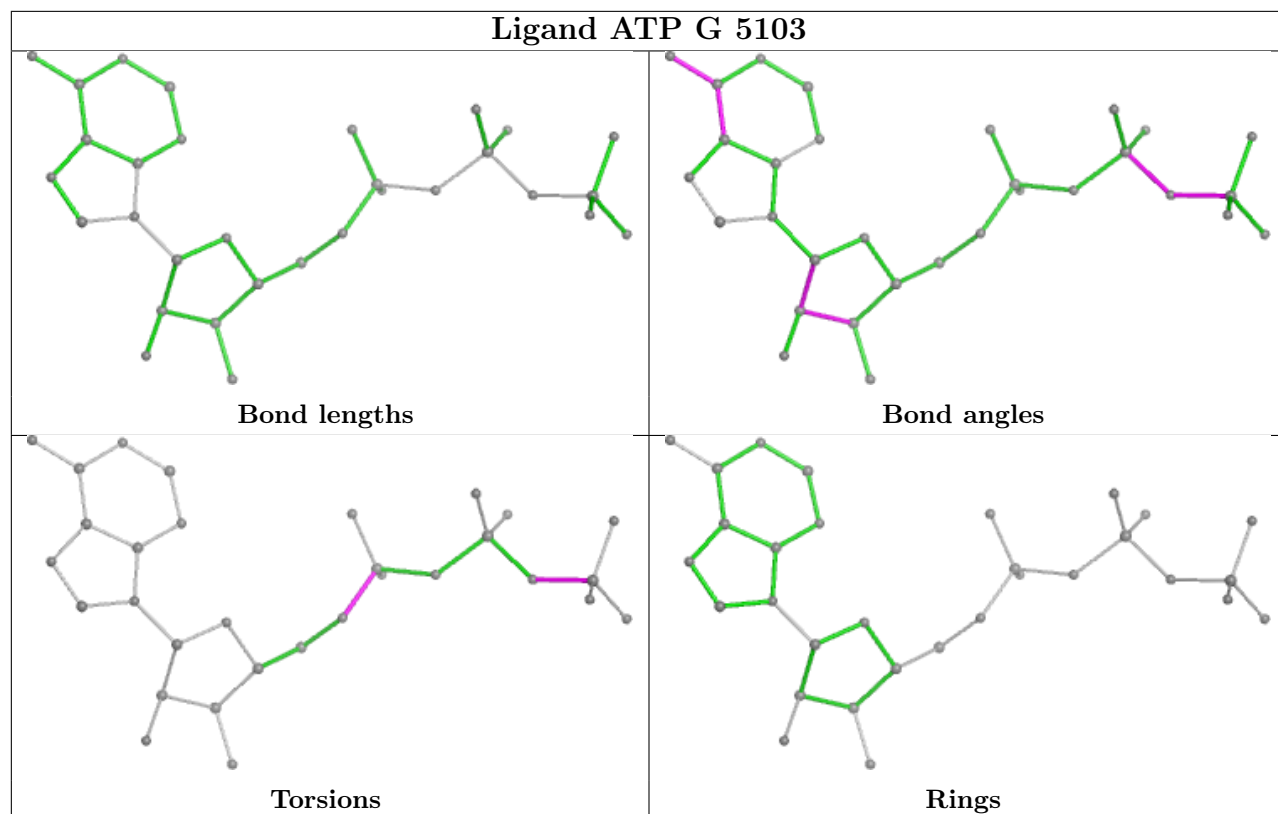


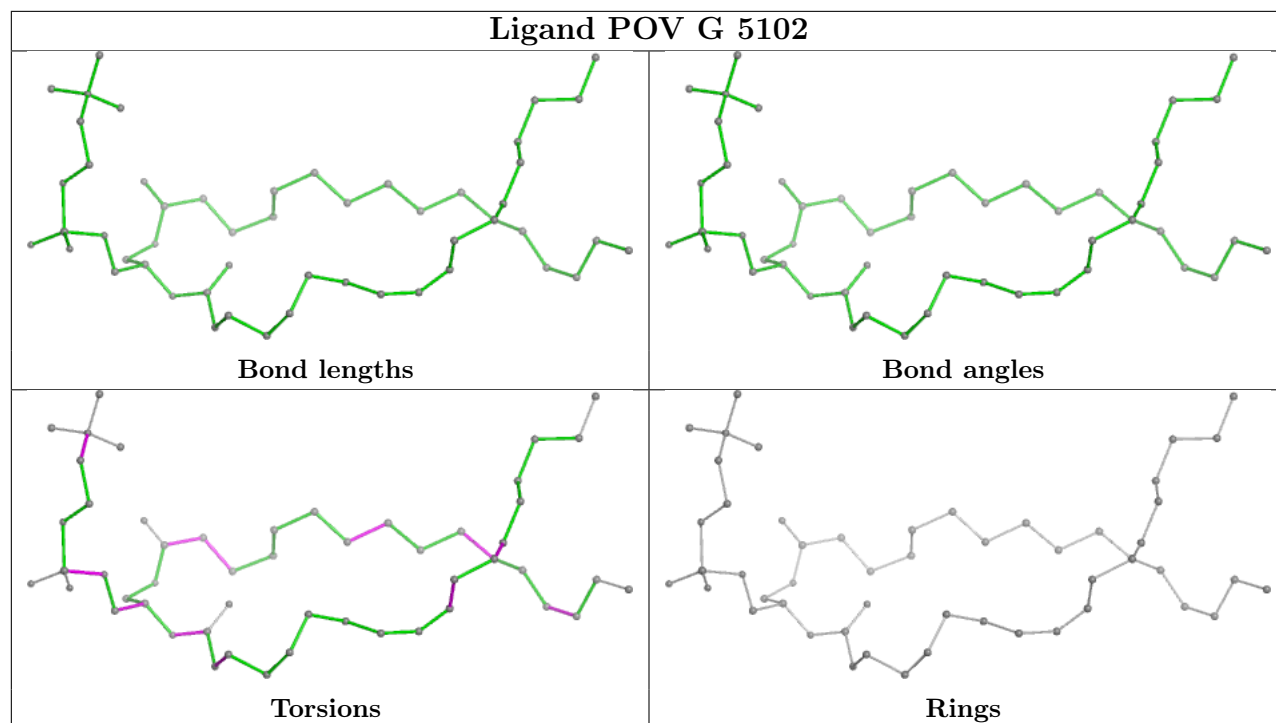












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

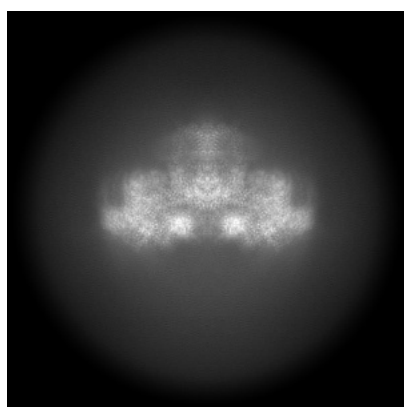
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-19468. These allow visual inspection of the internal detail of the map and identification of artifacts.

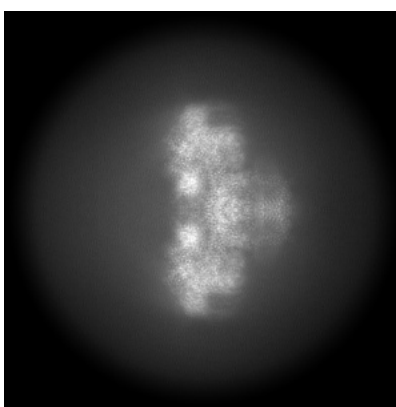
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

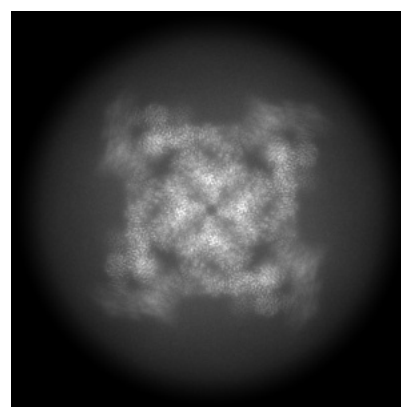
6.1.1 Primary map



X



Y

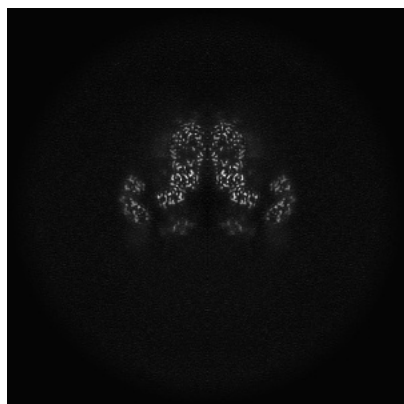


Z

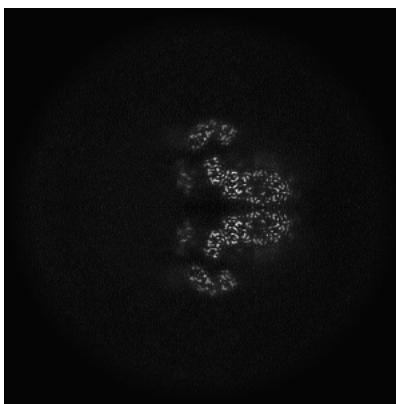
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

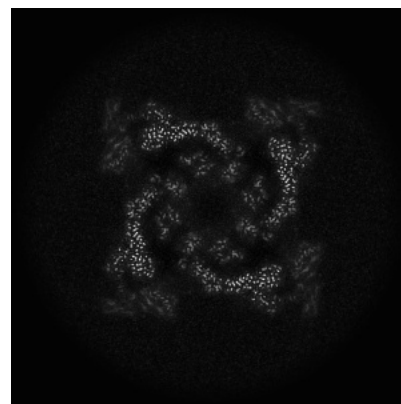
6.2.1 Primary map



X Index: 225



Y Index: 225

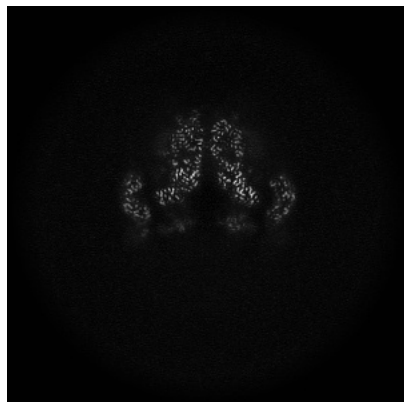


Z Index: 225

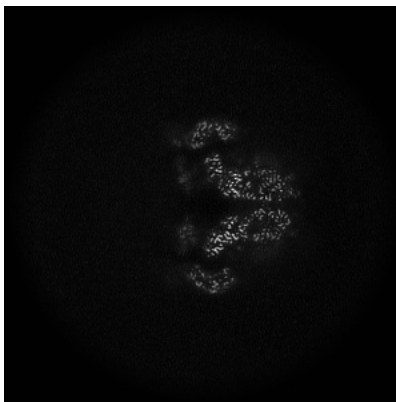
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

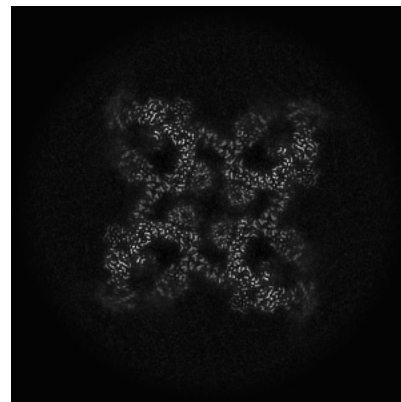
6.3.1 Primary map



X Index: 223



Y Index: 223

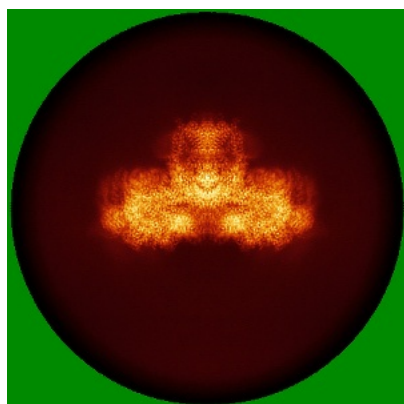


Z Index: 210

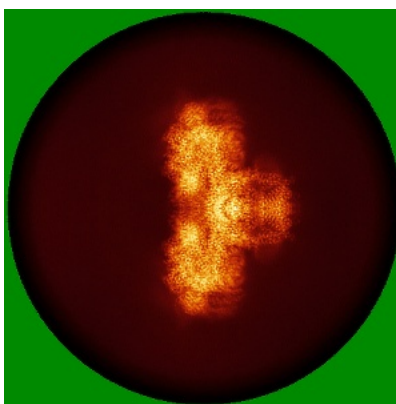
The images above show the largest variance slices of the map in three orthogonal directions.

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

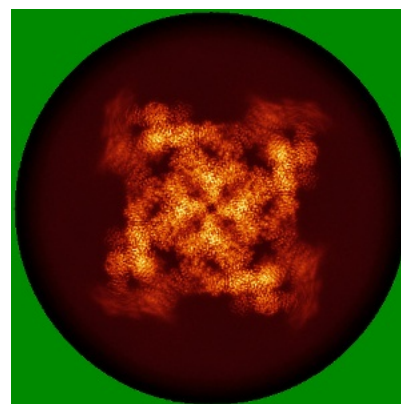
6.4.1 Primary map



X



Y

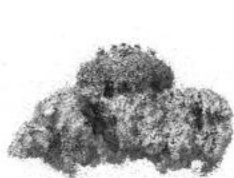


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

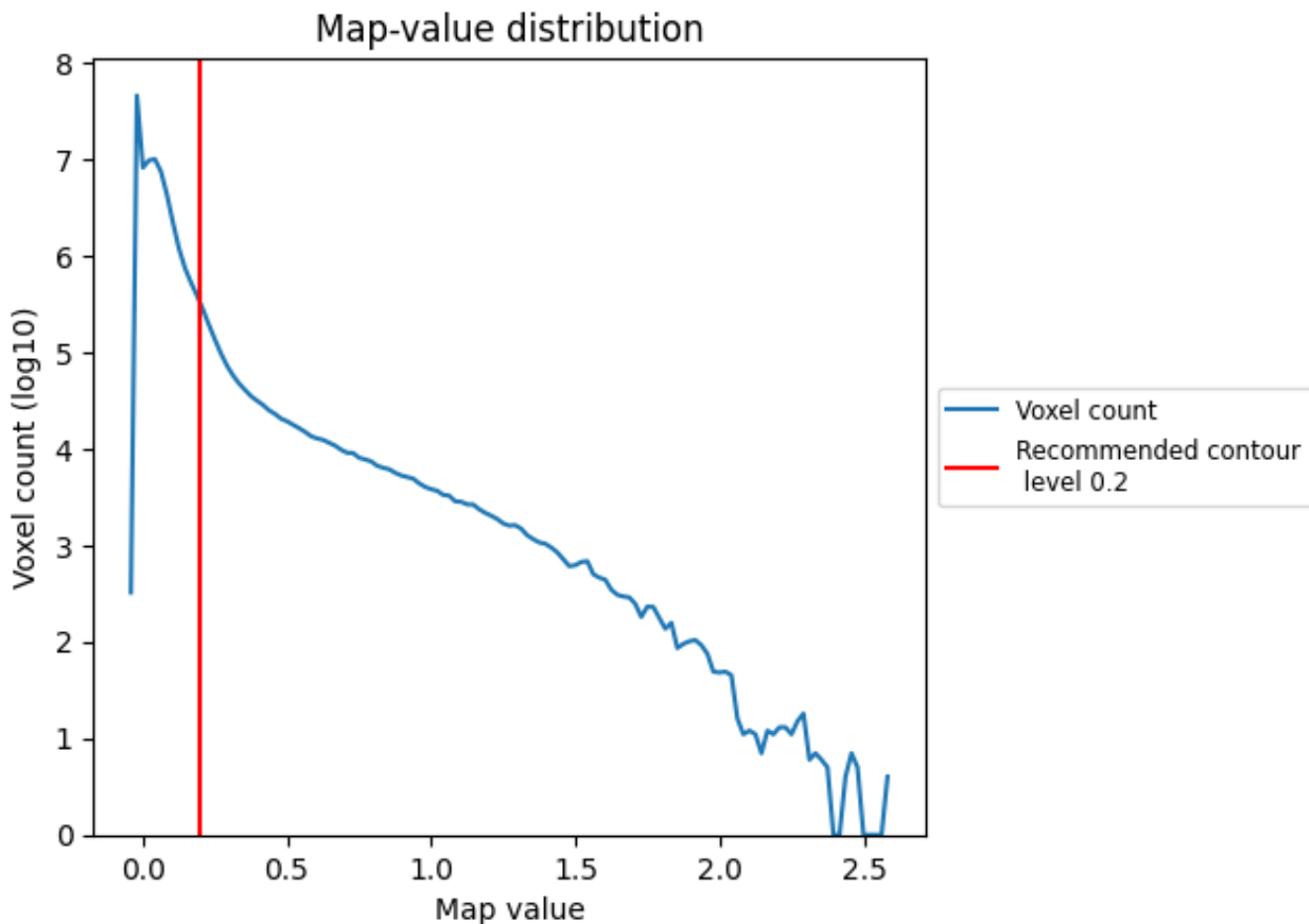
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

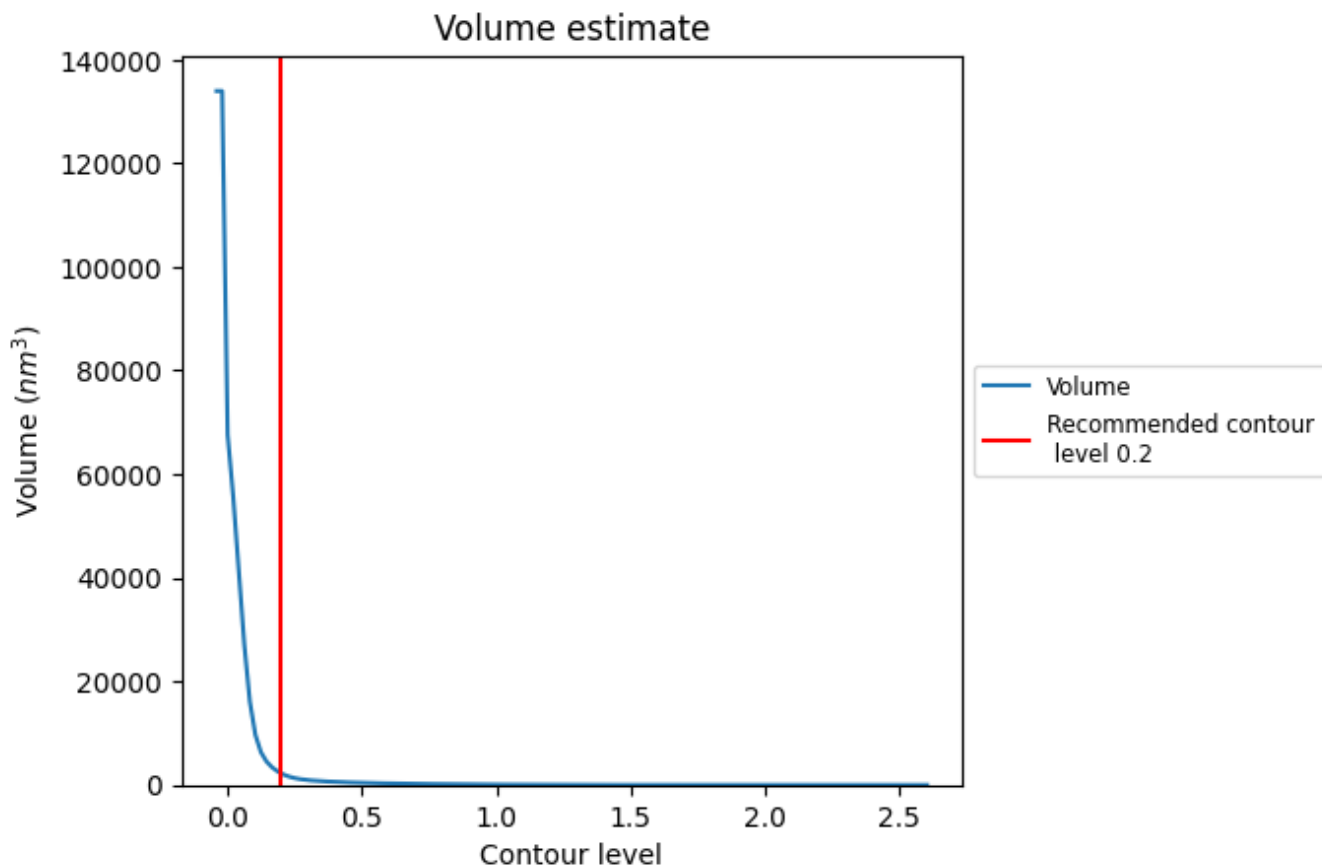
This section contains the results of statistical analysis of the map.

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.

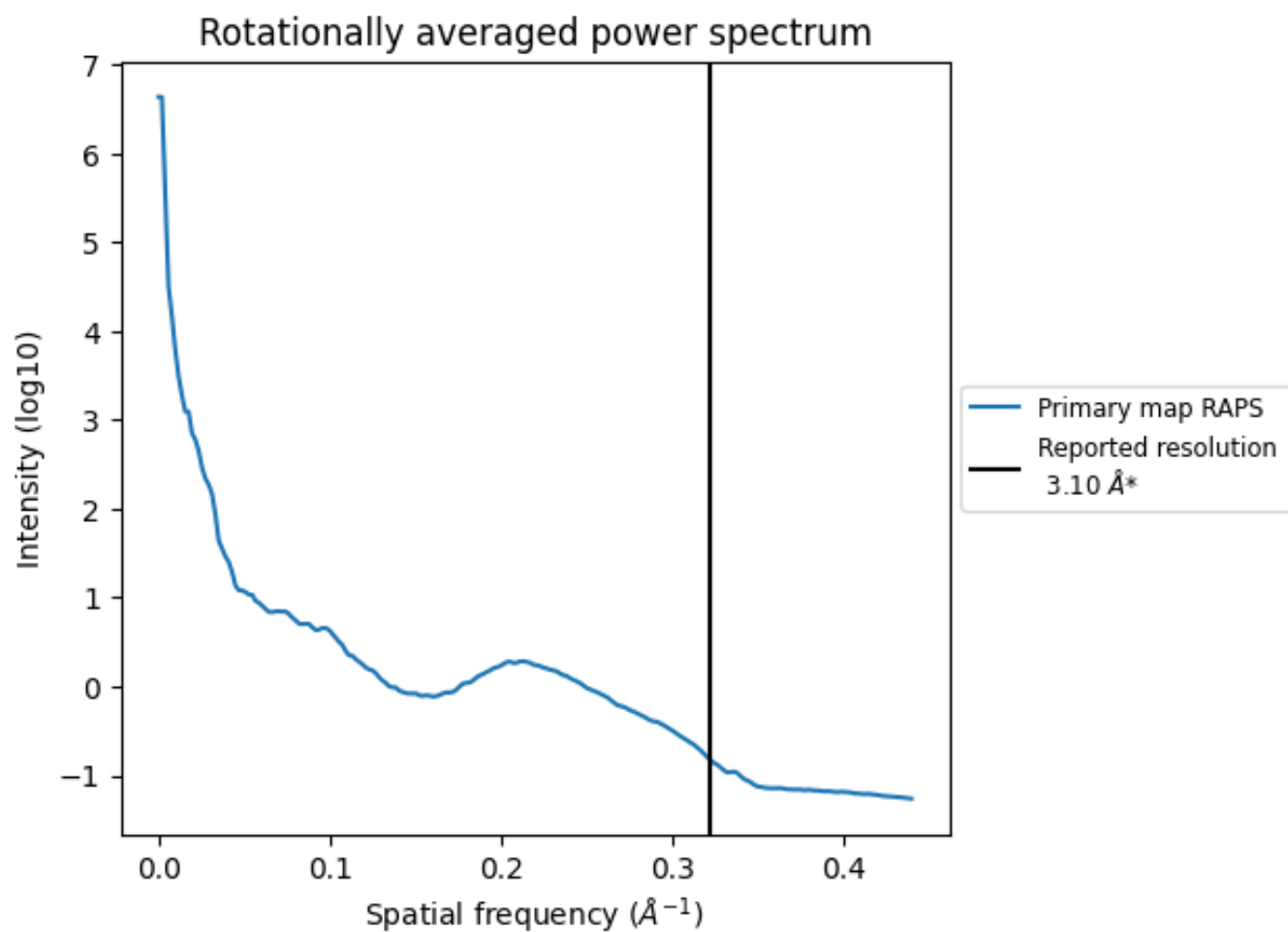
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2259 nm^3 ; this corresponds to an approximate mass of 2041 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](#)

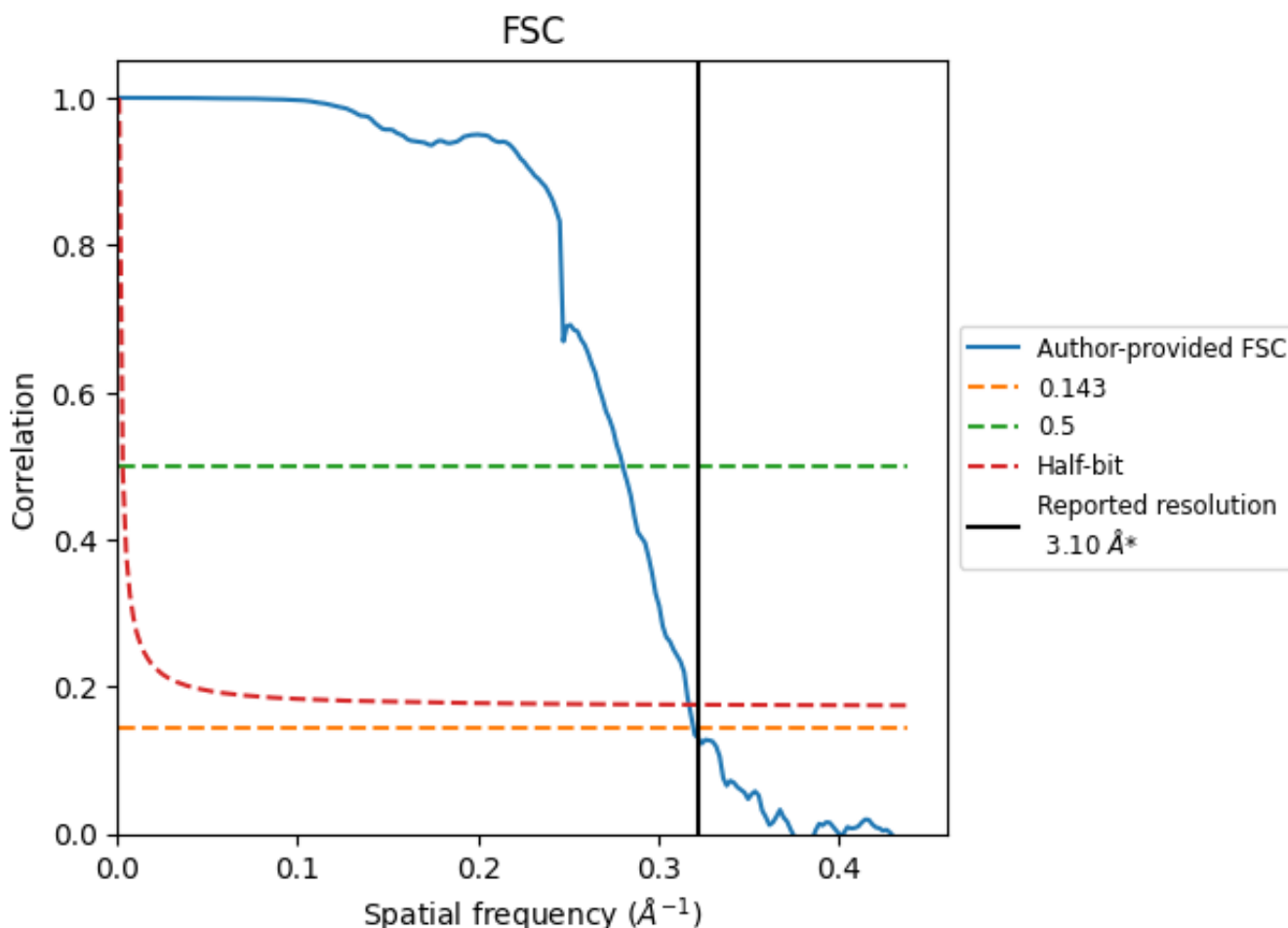


*Reported resolution corresponds to spatial frequency of 0.323 Å⁻¹

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 0.323 Å⁻¹

8.2 Resolution estimates [i](#)

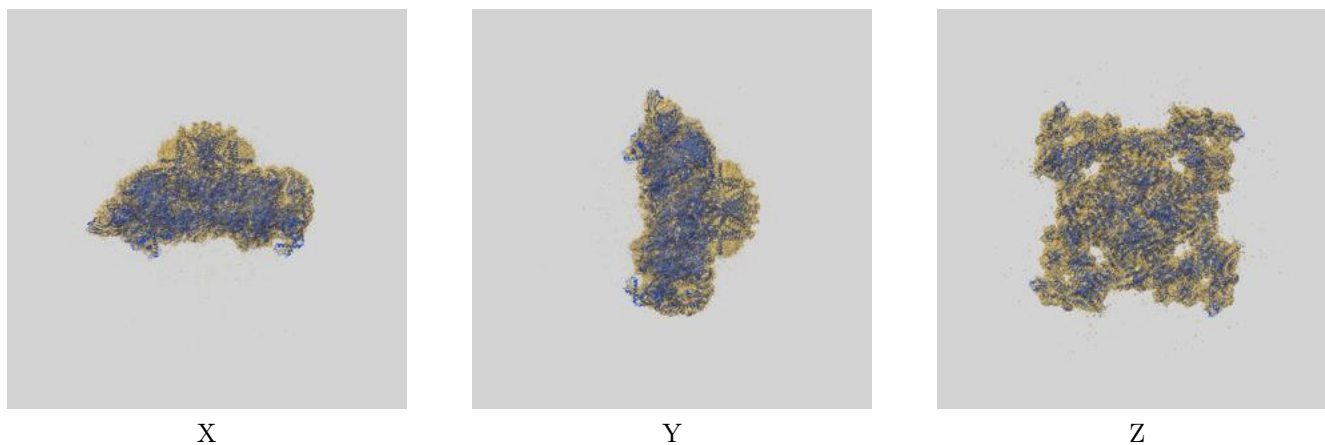
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.10	-	-
Author-provided FSC curve	3.13	3.57	3.15
Unmasked-calculated*	-	-	-

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

9 Map-model fit [i](#)

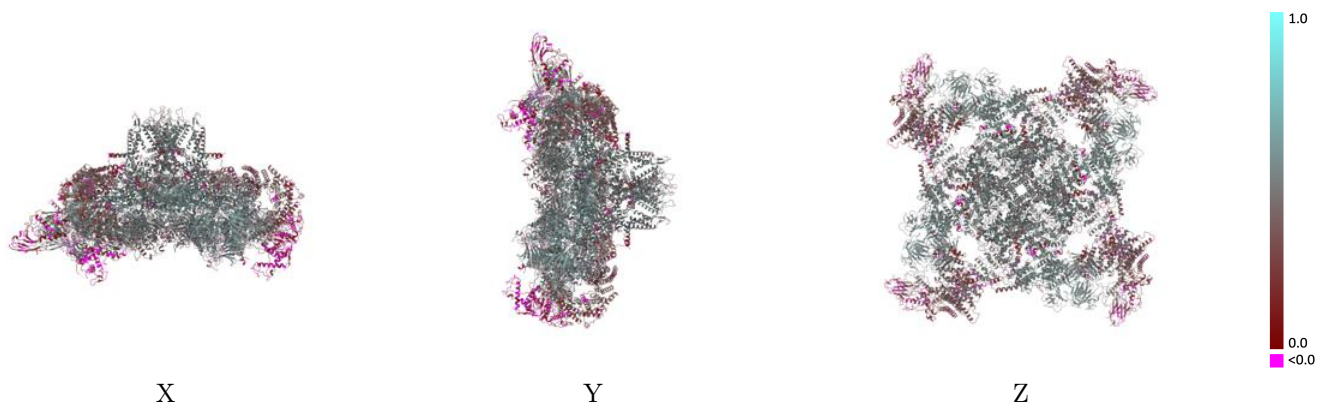
This section contains information regarding the fit between EMDB map EMD-19468 and PDB model 8RRX. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



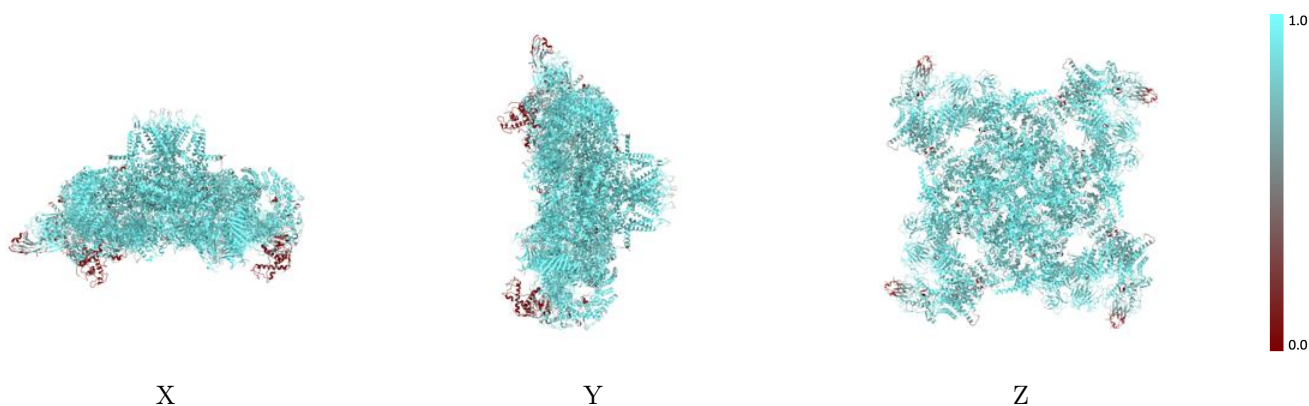
The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



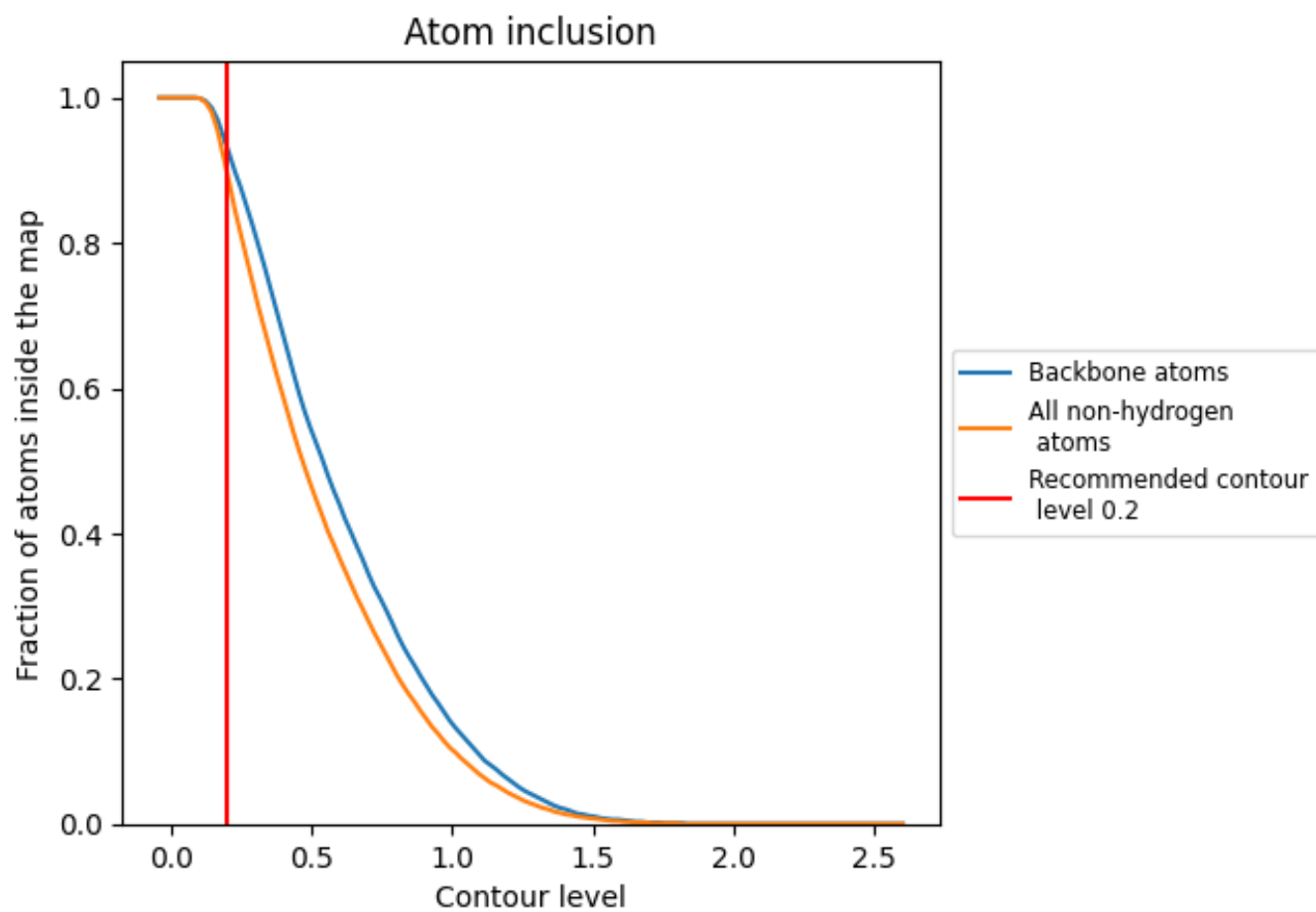
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.2).



























9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 90% of all non-hydrogen atoms, are inside the map.

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

The table lists the average atom inclusion at the recommended contour level (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8980	 0.4240
A	 0.9090	 0.4300
C	 0.4850	 0.1360
D	 0.9090	 0.4300
E	 0.4900	 0.1350
F	 0.9070	 0.5000
G	 0.9090	 0.4300
H	 0.9020	 0.5020
I	 0.9090	 0.4300
J	 0.9070	 0.5040
K	 0.4870	 0.1370
L	 0.9030	 0.5030
M	 0.4910	 0.1370

