



Full wwPDB EM Validation Report ⓘ

Jan 21, 2026 – 04:35 PM EST

PDB ID : 9OL4 / pdb_00009ol4
EMDB ID : EMD-70589
Title : Cryo-EM Structure of Ryanodine Receptor 1: Drug Bound Open Conformation
Authors : Molinarolo, S.M.; Van Petegem, F.
Deposited on : 2025-05-12
Resolution : 3.37 Å(reported)
Based on initial model : 7TZC

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:

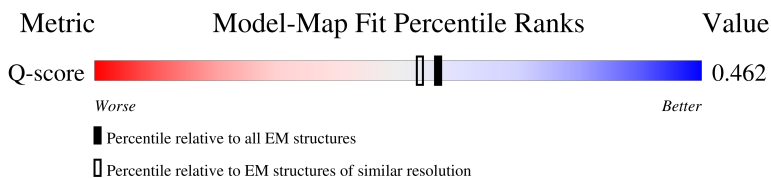
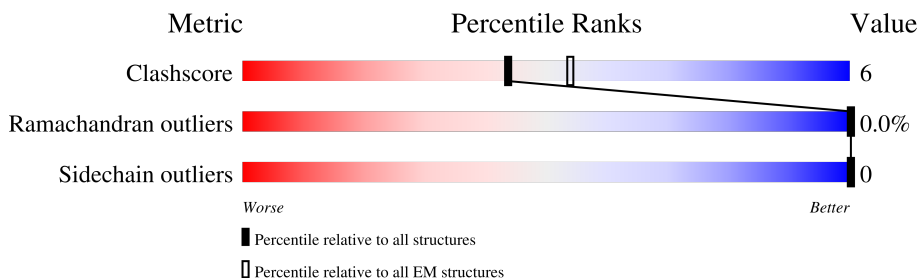
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.37 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	14287 (2.87 - 3.87)

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

Mol	Chain	Length	Quality of chain
1	A	5037	
1	G	5037	
1	M	5037	
1	S	5037	

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Mol	Chain	Length	Quality of chain
2	B	111	 86% 11% •
2	H	111	 86% 11% •
2	N	111	 86% 11% •
2	T	111	 86% 11% •

2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 131292 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4064	Total	C	N	O	S	0	0
			31873	20385	5494	5773	221		
1	G	4064	Total	C	N	O	S	0	0
			31873	20385	5494	5773	221		
1	M	4064	Total	C	N	O	S	0	0
			31873	20385	5494	5773	221		
1	S	4064	Total	C	N	O	S	0	0
			31873	20385	5494	5773	221		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	107	Total	C	N	O	S	0	0
			811	510	143	154	4		
2	H	107	Total	C	N	O	S	0	0
			811	510	143	154	4		
2	N	107	Total	C	N	O	S	0	0
			811	510	143	154	4		
2	T	107	Total	C	N	O	S	0	0
			811	510	143	154	4		

There are 12 discrepancies between the modelled and reference sequences:

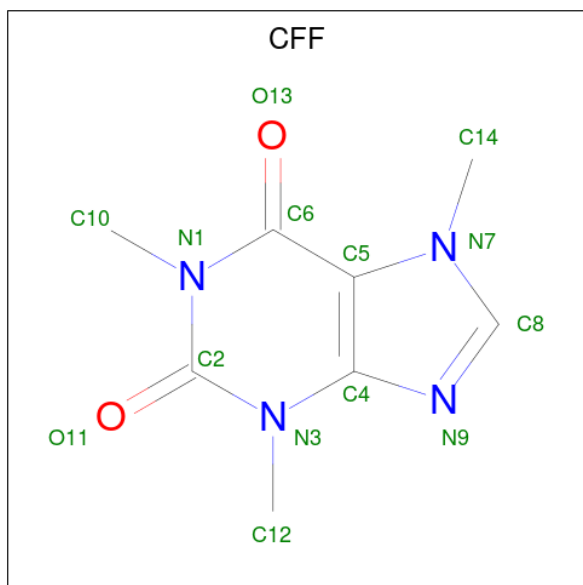
Chain	Residue	Modelled	Actual	Comment	Reference
B	-2	SER	-	expression tag	UNP P68106
B	-1	ASN	-	expression tag	UNP P68106
B	0	ALA	-	expression tag	UNP P68106
H	-2	SER	-	expression tag	UNP P68106
H	-1	ASN	-	expression tag	UNP P68106
H	0	ALA	-	expression tag	UNP P68106
N	-2	SER	-	expression tag	UNP P68106
N	-1	ASN	-	expression tag	UNP P68106
N	0	ALA	-	expression tag	UNP P68106

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Chain	Residue	Modelled	Actual	Comment	Reference
T	-2	SER	-	expression tag	UNP P68106
T	-1	ASN	-	expression tag	UNP P68106
T	0	ALA	-	expression tag	UNP P68106

- Molecule 3 is CAFFEINE (CCD ID: CFF) (formula: $C_8H_{10}N_4O_2$).

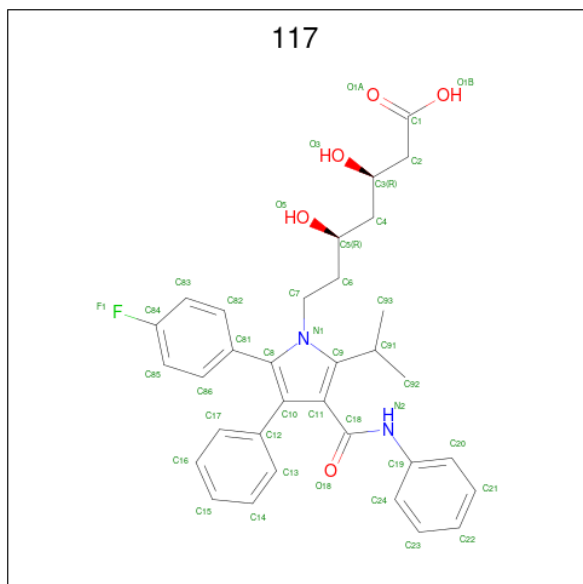


Mol	Chain	Residues	Atoms				AltConf
3	A	1	Total	C	N	O	0
			14	8	4	2	
3	G	1	Total	C	N	O	0
			14	8	4	2	
3	M	1	Total	C	N	O	0
			14	8	4	2	
3	S	1	Total	C	N	O	0
			14	8	4	2	

- Molecule 4 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		AltConf
4	A	1	Total	Ca	0
			1	1	
4	G	1	Total	Ca	0
			1	1	
4	M	1	Total	Ca	0
			1	1	
4	S	1	Total	Ca	0
			1	1	

- Molecule 5 is 7-[2-(4-FLUORO-PHENYL)-5-ISOPROPYL-3-PHENYL-4-PHENYLCARBAMOYL-PYRROL-1-YL]- 3,5-DIHYDROXY-HEPTANOIC ACID (CCD ID: 117) (formula: $C_{33}H_{35}FN_2O_5$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
5	A	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	A	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	A	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	G	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	G	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	G	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	M	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	M	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	M	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	S	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	S	1	Total	C	F	N	O	0
			41	33	1	2	5	
5	S	1	Total	C	F	N	O	0
			41	33	1	2	5	

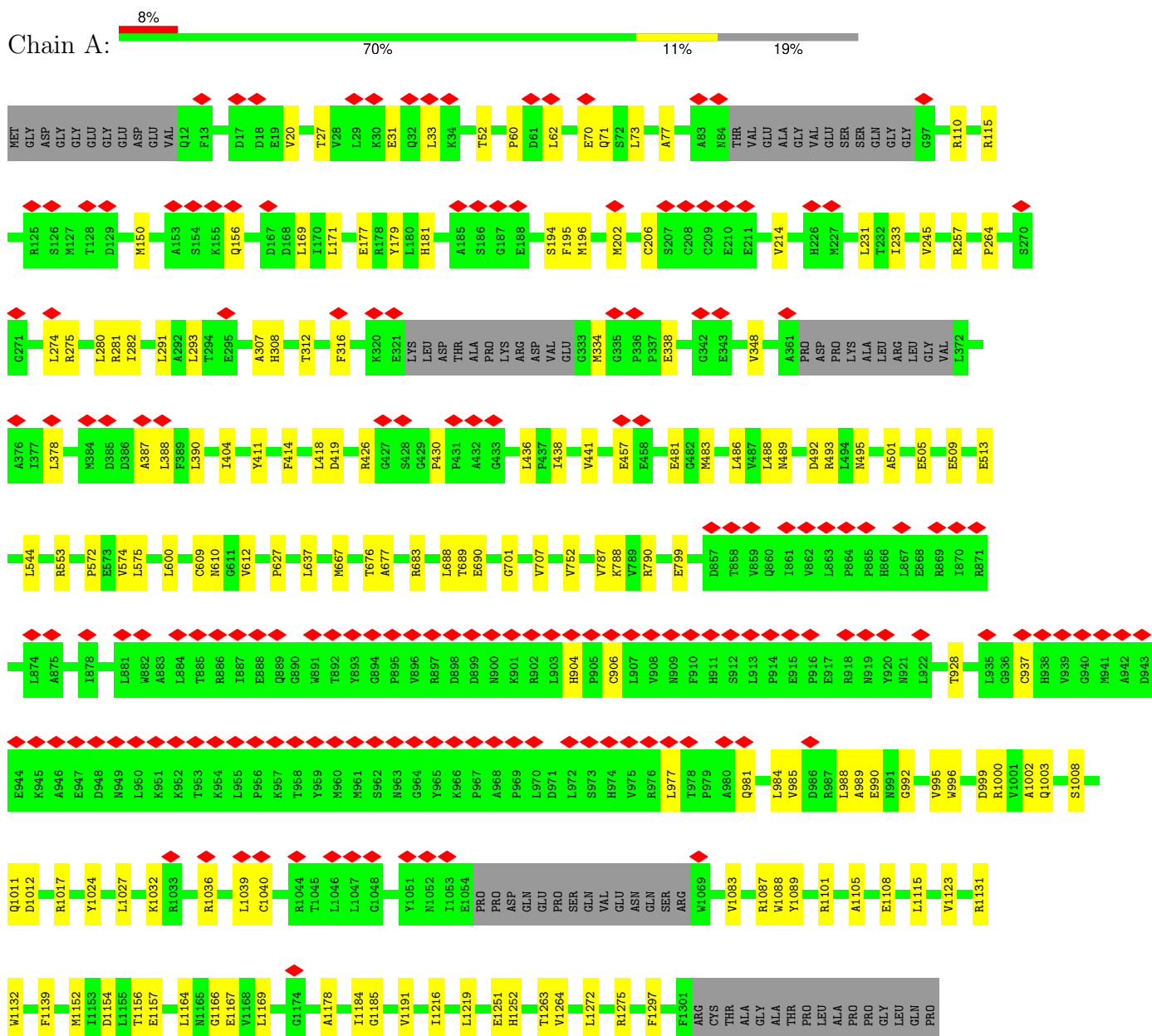
- Molecule 6 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
6	A	1	Total 1	Zn 1	0
6	G	1	Total 1	Zn 1	0
6	M	1	Total 1	Zn 1	0
6	S	1	Total 1	Zn 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.

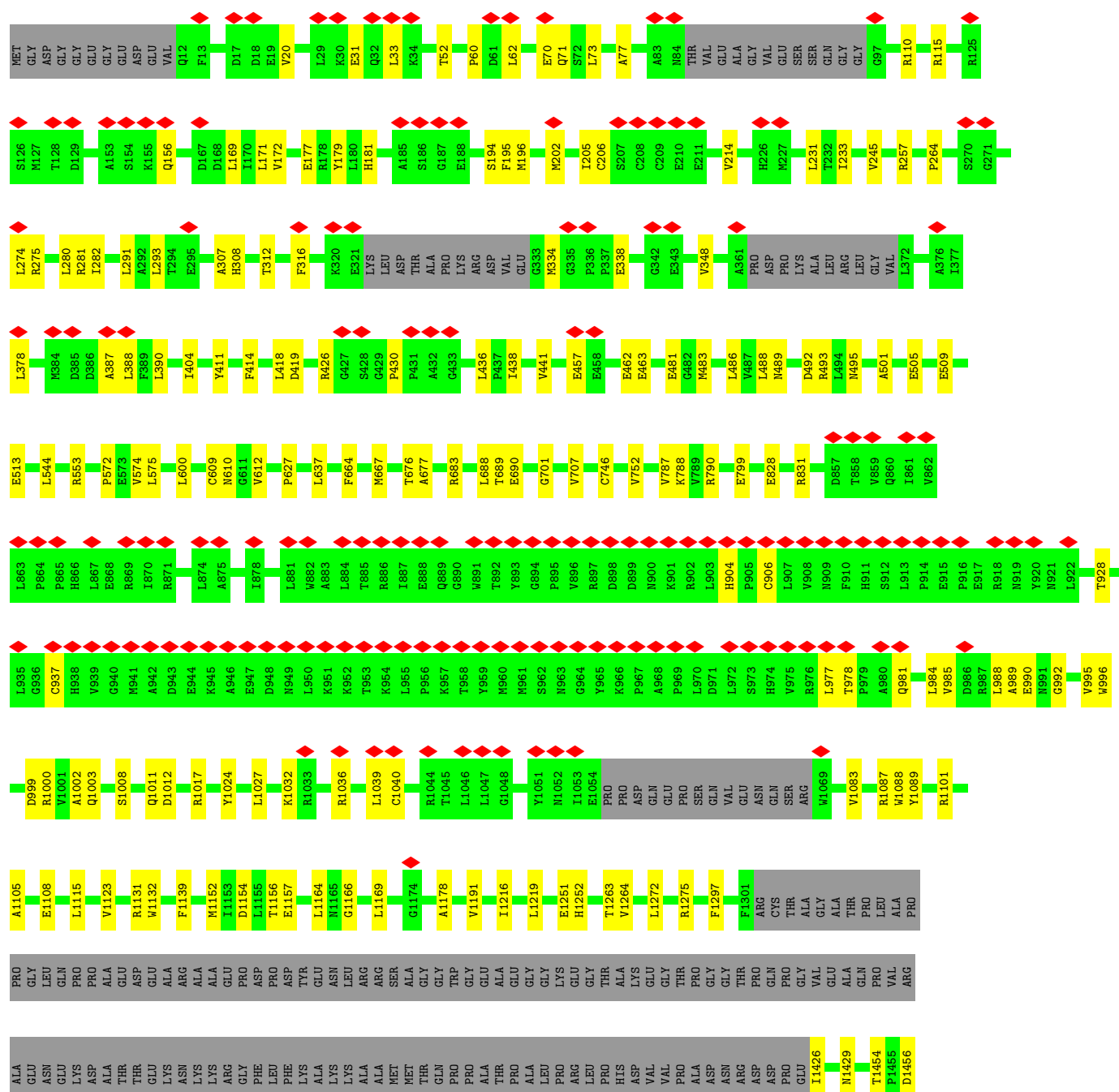
• Molecule 1: Ryanodine receptor 1



PRO	ALA	ASP	LYS	GLU	ALA	GLU	LYS	ALA	GLU	LYS	GLU	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	GLU	LYS	ALA	
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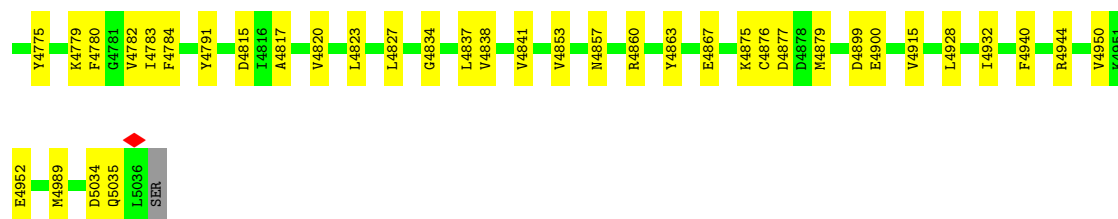


- Molecule 1: Ryanodine receptor 1

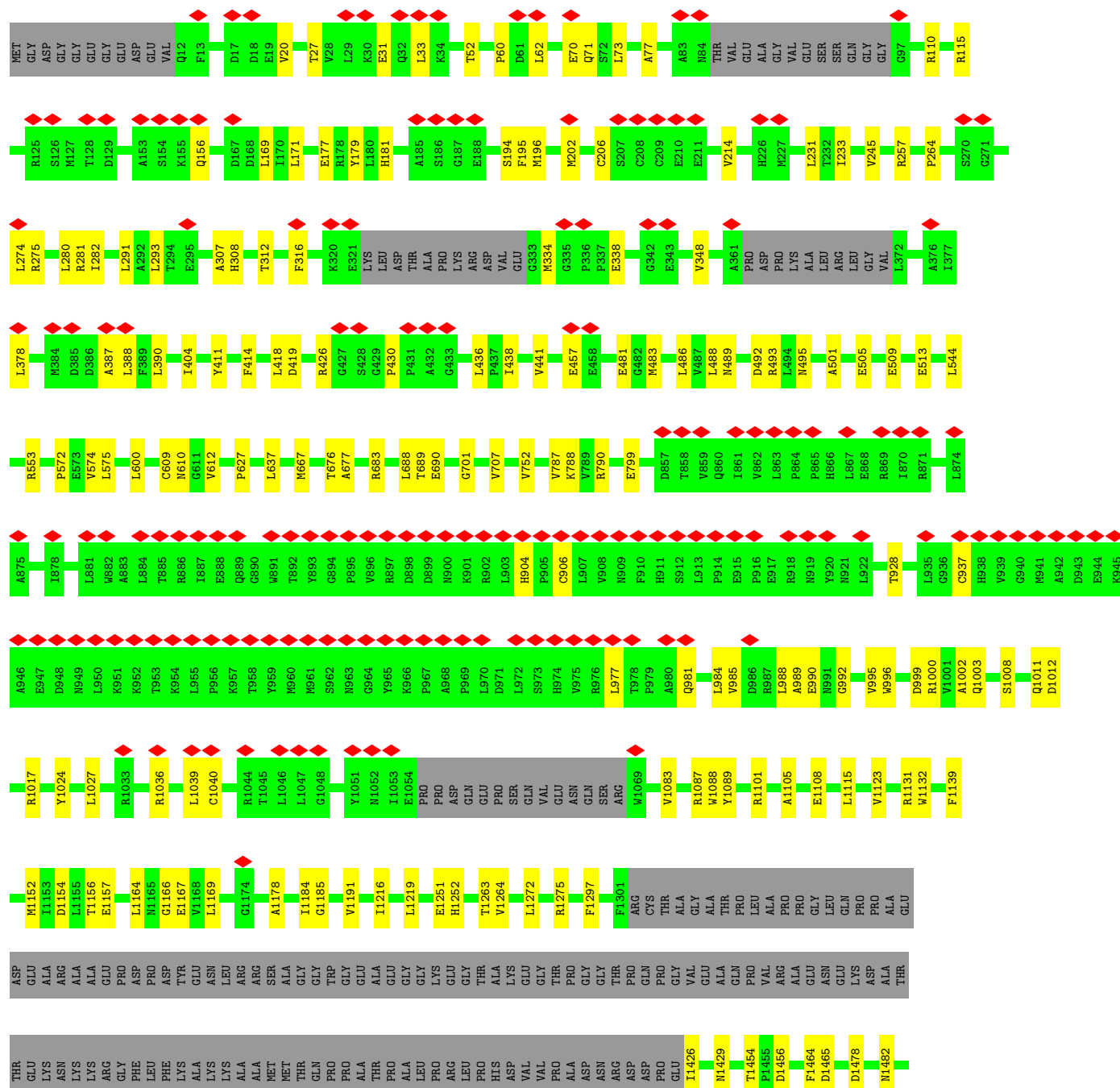


P3004	F1464	LYS	GLY	Q2003	THR	D2389	R2575	P2739	E2799	P2859	D2919	P3004
L3005	D1465	GLY	ASN	L2009	LYS	P2395	A2598	V2740	K2800	P2860	R2920	L3005
N3007	D1478	ALA	R1768	K2013	LYS	M2228	Q2599	E2741	D2801	D2861	K2922	N3007
F3010	H1482	GLY	L1762	ASP	M2091	F2251	V2602	T2742	K2802	L2862	A2923	F3010
T3011	V1501	GLY	V1765	ALA	V2098	Y2256	I2603	L2743	E2803	S2863	A2924	T3011
F3017	SER	GLY	P1773	ASP	M2101	L2258	Q2620	V2745	K2804	G2864	Q2924	F3017
T3020	GLY	LYS	P1773	GLY	D2109	L2258	ARG	L2746	Y2805	V2865	L2925	T3020
P3021	GLN	ASP	L1766	GLY	S2113	G2262	R2624	L2747	K2806	T2866	L2926	P3021
K3036	PRO	ALA	PRO	ASP	L2116	ILE	R2625	P2748	W2807	S2867	L2927	K3036
E3037	GLY	GLY	L1795	ASP	L2117	GLY	L2626	E2749	P2808	S2868	L2928	E3037
M3038	ALA	LYS	E1805	ALA	V2117	PHE	V2627	K2750	L2809	R2869	F2929	M3038
L3046	GLY	GLY	E1808	GLY	M2120	GLY	D2628	L2751	K2810	E2870	L2930	L3046
V3050	ILE	GLY	L1815	GLY	F2121	GLY	V2629	D2752	E2811	L2871	Q2931	V3050
R3051	SER	VAL	V1819	GLY	S2122	GLY	V2630	S2753	L2812	Q2872	M2932	R3051
H3052	ALA	ALA	D1828	GLY	L2123	GLY	P2631	F2754	L2813	A2873	N2933	H3052
F3057	THR	GLU	V1845	GLY	L2124	GLY	E2635	L2755	K2814	M2874	Q2934	F3057
D3060	THR	GLY	E1867	GLY	R2126	GLY	M2639	L2757	L2815	A2875	A2935	D3060
A3061	GLY	LYS	T1872	GLY	Q2127	GLY	P2640	K2757	M2816	E2876	A2936	A3061
P3062	GLY	GLY	GLU	GLY	S2270	GLY	L2643	F2758	L2817	Q2877	T2937	P3062
N3066	GLY	LYS	GLU	GLY	T2271	GLY	L2644	L2759	A2818	L2878	T2938	N3066
A3077	GLY	GLY	GLU	GLY	D2274	GLY	L2645	A2759	W2819	A2879	R2939	A3077
R3078	GLY	GLY	GLU	GLY	V2275	GLY	L2646	E2760	E2820	L2879	G2939	R3078
T3079	GLY	GLY	GLU	GLY	A2276	GLY	R2650	L2761	W2821	E2880	L2940	T3079
V3080	GLY	GLY	GLU	GLY	V2280	GLY	C2651	T2762	T2822	N2881	L2941	V3080
G3084	GLY	GLY	GLU	GLY	L2286	GLY	E2670	H2763	L2823	Y2882	M2937	G3084
P3085	GLY	GLY	GLU	GLY	E2292	GLY	L2678	E2764	E2824	L2883	T2938	P3085
V3088	GLY	GLY	GLU	GLY	D2294	GLY	L2679	K2765	K2825	N2884	Q2939	V3088
M3106	GLY	GLY	GLU	GLY	L2295	GLY	R2697	W2766	A2826	W2886	L2940	M3106
N3109	GLY	GLY	GLU	GLY	E2296	GLY	D2716	A2767	R2827	G2887	F2941	N3109
L3110	GLY	GLY	GLU	GLY	K2297	GLY	ALA	F2768	E2828	R2888	G2942	L3110
R3111	GLY	GLY	GLU	GLY	V2298	GLY	ALA	D2769	Q2829	K2889	G2943	R3111
LEU	GLY	GLY	GLU	GLY	V2299	GLY	ALA	K2770	E2830	K2890	G2944	LEU
GLY	GLY	GLY	GLU	GLY	N2324	GLY	ALA	L2771	GLU	K2891	G2945	GLY
LYS	GLY	GLY	GLU	GLY	P2325	GLY	ALA	Q2772	GLU	Q2892	G2946	LYS
VAL	GLY	GLY	GLU	GLY	C2326	GLY	ALA	N2773	THR	L2893	G2947	VAL
VAL	GLY	GLY	GLU	GLY	R2330	GLY	ALA	W2774	GLU	E2894	G2948	VAL
GLN	GLY	GLY	GLU	GLY	D2333	GLY	ALA	W2775	LYS	L2894	G2949	GLN
ALA	GLY	GLY	GLU	GLY	L2334	GLY	ALA	L2776	LYS	E2895	G2950	ALA
ARG	GLY	GLY	GLU	GLY	F2334	GLY	ALA	Y2777	THR	A2896	G2951	ARG
THR	GLY	GLY	GLU	GLY	E2348	GLY	ALA	G2778	ARG	K2897	G2952	THR
SER	GLY	GLY	GLU	GLY	N2349	GLY	ALA	E2779	LYS	G2898	G2953	SER
GLU	GLY	GLY	GLU	GLY	N2350	GLY	ALA	W2780	ILE	G2899	G2954	GLU
GLU	GLY	GLY	GLU	GLY	N2351	GLY	ALA	V2781	SER	T2901	G2955	GLU
GLU	GLY	GLY	GLU	GLY	V2352	GLY	ALA	D2782	THR	H2902	G2956	GLU
GLU	GLY	GLY	GLU	GLY	V2353	GLY	ALA	E2783	GLN	P2903	G2957	GLU
GLU	GLY	GLY	GLU	GLY	V2354	GLY	ALA	E2784	ALA	L2904	G2958	GLU
GLU	GLY	GLY	GLU	GLY	R2355	GLY	ALA	L2785	THR	L2905	G2959	GLU
GLU	GLY	GLY	GLU	GLY	L2368	GLY	ALA	K2786	TVR	V2906	G2960	GLU
GLU	GLY	GLY	GLU	GLY	L2369	GLY	ALA	T2787	ASP	P2907	G2961	GLU
GLU	GLY	GLY	GLU	GLY	L2370	GLY	ALA	H2788	ARG	Y2908	G2962	GLU
GLU	GLY	GLY	GLU	GLY	L2371	GLY	ALA	P2789	GLY	D2909	G2963	GLU
GLU	GLY	GLY	GLU	GLY	L2372	GLY	ALA	M2790	GLY	T2910	G2964	GLU
GLU	GLY	GLY	GLU	GLY	L2373	GLY	ALA	L2791	GLY	Y2911	G2965	GLU
GLU	GLY	GLY	GLU	GLY	L2374	GLY	ALA	L2792	GLY	T2912	G2966	GLU
GLU	GLY	GLY	GLU	GLY	L2375	GLY	ALA	P2793	GLY	A2913	G2967	GLU
GLU	GLY	GLY	GLU	GLY	L2376	GLY	ALA	Y2794	GLY	K2914	G2968	GLU
GLU	GLY	GLY	GLU	GLY	L2377	GLY	ALA	K2795	GLY	E2915	G2969	GLU
GLU	GLY	GLY	GLU	GLY	L2378	GLY	ALA	T2796	GLY	K2916	G2970	GLU
GLU	GLY	GLY	GLU	GLY	L2379	GLY	ALA	F2797	GLY	A2917	G2971	GLU
GLU	GLY	GLY	GLU	GLY	L2380	GLY	ALA	S2798	GLY	R2918	G2972	GLU





• Molecule 1: Ryanodine receptor 1

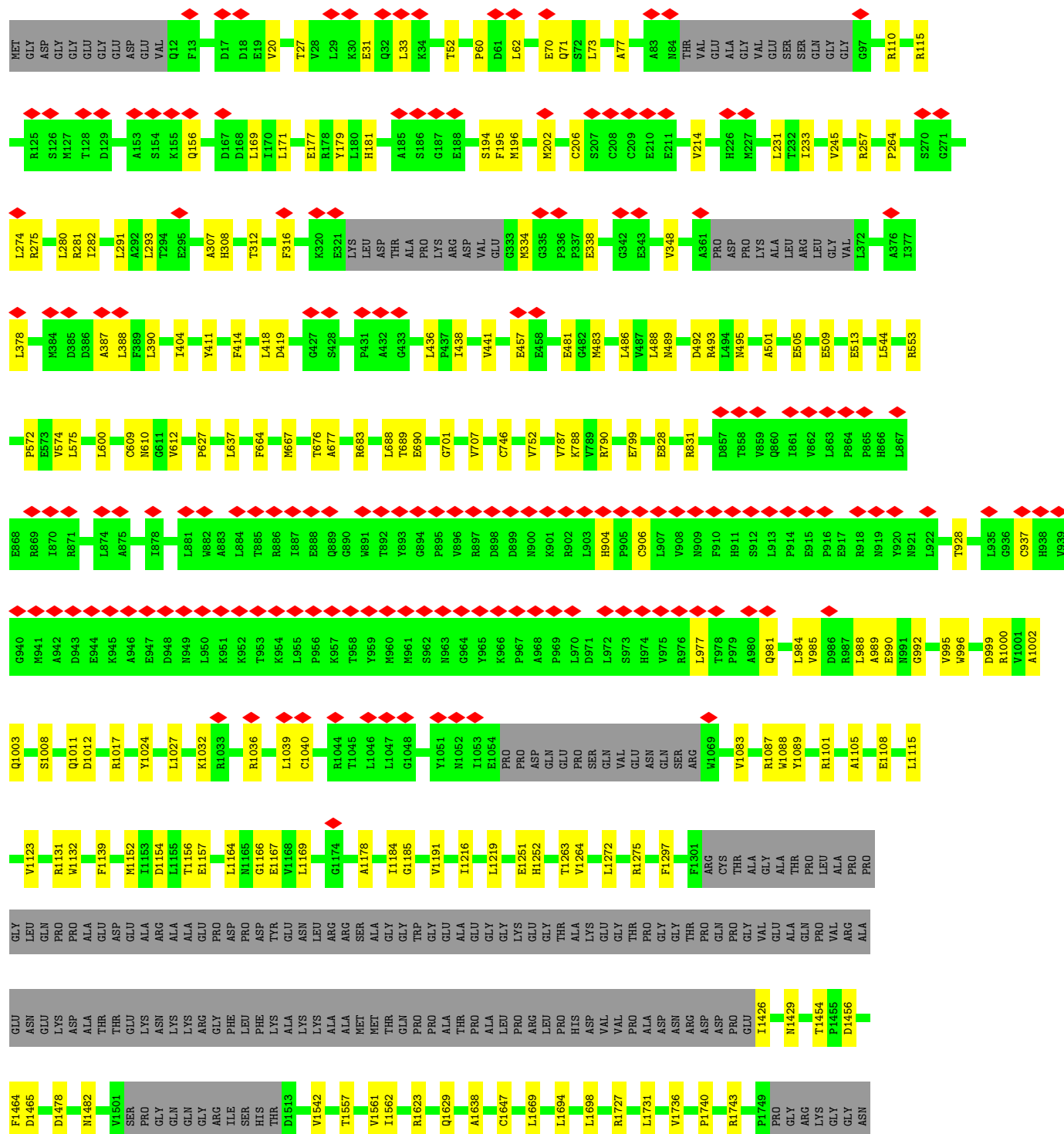






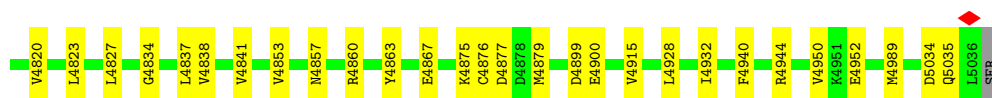


• Molecule 1: Ryanodine receptor 1









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

Chain B: 86% 11% .



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

Chain H: 86% 11% .



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

Chain N: 86% 11% .



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

Chain T: 86% 11% .



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	694588	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.866	Depositor
Minimum map value	0.000	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.022	Depositor
Recommended contour level	0.123	Depositor
Map size (Å)	491.52, 491.52, 491.52	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.96, 0.96, 0.96	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: 117, CA, ZN, CFF

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.37	2/32589 (0.0%)	0.55	7/44174 (0.0%)
1	G	0.37	2/32589 (0.0%)	0.55	7/44174 (0.0%)
1	M	0.37	2/32589 (0.0%)	0.55	7/44174 (0.0%)
1	S	0.37	2/32589 (0.0%)	0.55	7/44174 (0.0%)
2	B	0.18	0/827	0.38	0/1111
2	H	0.18	0/827	0.38	0/1111
2	N	0.18	0/827	0.38	0/1111
2	T	0.18	0/827	0.38	0/1111
All	All	0.36	8/133664 (0.0%)	0.54	28/181140 (0.0%)

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	4915	VAL	C-O	-5.97	1.17	1.24
1	G	4915	VAL	C-O	-5.97	1.17	1.24
1	M	4915	VAL	C-O	-5.97	1.17	1.24
1	S	4915	VAL	C-O	-5.97	1.17	1.24
1	A	4640	GLU	N-CA	5.53	1.50	1.46
1	G	4640	GLU	N-CA	5.53	1.50	1.46
1	M	4640	GLU	N-CA	5.53	1.50	1.46
1	S	4640	GLU	N-CA	5.53	1.50	1.46

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4697	VAL	N-CA-C	-7.50	104.00	113.22
1	G	4697	VAL	N-CA-C	-7.50	104.00	113.22
1	M	4697	VAL	N-CA-C	-7.50	104.00	113.22
1	S	4697	VAL	N-CA-C	-7.50	104.00	113.22
1	A	4164	LEU	N-CA-C	-5.56	105.23	112.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	4164	LEU	N-CA-C	-5.56	105.23	112.23
1	M	4164	LEU	N-CA-C	-5.56	105.23	112.23
1	S	4164	LEU	N-CA-C	-5.56	105.23	112.23
1	A	1012	ASP	CA-C-N	5.48	123.69	120.24
1	A	1012	ASP	C-N-CA	5.48	123.69	120.24
1	G	1012	ASP	CA-C-N	5.48	123.69	120.24
1	G	1012	ASP	C-N-CA	5.48	123.69	120.24
1	M	1012	ASP	CA-C-N	5.48	123.69	120.24
1	M	1012	ASP	C-N-CA	5.48	123.69	120.24
1	S	1012	ASP	CA-C-N	5.48	123.69	120.24
1	S	1012	ASP	C-N-CA	5.48	123.69	120.24
1	A	4867	GLU	N-CA-C	-5.23	107.03	113.41
1	G	4867	GLU	N-CA-C	-5.23	107.03	113.41
1	M	4867	GLU	N-CA-C	-5.23	107.03	113.41
1	S	4867	GLU	N-CA-C	-5.23	107.03	113.41
1	A	1011	GLN	N-CA-C	5.21	117.65	110.35
1	G	1011	GLN	N-CA-C	5.21	117.65	110.35
1	M	1011	GLN	N-CA-C	5.21	117.65	110.35
1	S	1011	GLN	N-CA-C	5.21	117.65	110.35
1	A	4877	ASP	N-CA-C	-5.14	107.00	113.28
1	G	4877	ASP	N-CA-C	-5.14	107.00	113.28
1	M	4877	ASP	N-CA-C	-5.14	107.00	113.28
1	S	4877	ASP	N-CA-C	-5.14	107.00	113.28

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	31873	0	31185	400	0
1	G	31873	0	31185	408	0
1	M	31873	0	31185	403	0
1	S	31873	0	31185	406	0
2	B	811	0	806	8	0
2	H	811	0	806	8	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	N	811	0	806	8	0
2	T	811	0	806	8	0
3	A	14	0	10	1	0
3	G	14	0	10	1	0
3	M	14	0	10	1	0
3	S	14	0	10	1	0
4	A	1	0	0	0	0
4	G	1	0	0	0	0
4	M	1	0	0	0	0
4	S	1	0	0	0	0
5	A	123	0	102	8	0
5	G	123	0	102	10	0
5	M	123	0	102	10	0
5	S	123	0	102	9	0
6	A	1	0	0	0	0
6	G	1	0	0	0	0
6	M	1	0	0	0	0
6	S	1	0	0	0	0
All	All	131292	0	128412	1642	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 6.

All (1642) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4629:TYR:OH	1:S:4860:ARG:NH1	1.94	1.00
1:M:4860:ARG:NH1	1:S:4629:TYR:OH	1.94	0.99
1:G:4860:ARG:NH1	1:M:4629:TYR:OH	1.94	0.98
1:A:4860:ARG:NH1	1:G:4629:TYR:OH	1.94	0.98
1:A:2626:LEU:HD22	1:A:2640:PRO:HB3	1.47	0.96
1:M:2626:LEU:HD22	1:M:2640:PRO:HB3	1.47	0.96
1:G:2626:LEU:HD22	1:G:2640:PRO:HB3	1.47	0.96
1:S:2626:LEU:HD22	1:S:2640:PRO:HB3	1.47	0.96
1:A:4205:TRP:CZ3	1:A:4989:MET:HE1	2.05	0.91
1:S:4205:TRP:CZ3	1:S:4989:MET:HE1	2.05	0.91
1:G:2324:ASN:OD1	1:G:2326:CYS:SG	2.29	0.90
1:M:2324:ASN:OD1	1:M:2326:CYS:SG	2.29	0.90
1:G:4205:TRP:CZ3	1:G:4989:MET:HE1	2.05	0.90
1:A:1638:ALA:HB1	1:A:1647:CYS:SG	2.12	0.90
1:S:2324:ASN:OD1	1:S:2326:CYS:SG	2.29	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:4205:TRP:CZ3	1:M:4989:MET:HE1	2.05	0.89
1:A:2324:ASN:OD1	1:A:2326:CYS:SG	2.29	0.89
1:G:1638:ALA:HB1	1:G:1647:CYS:SG	2.12	0.89
1:M:1638:ALA:HB1	1:M:1647:CYS:SG	2.12	0.89
1:S:1638:ALA:HB1	1:S:1647:CYS:SG	2.12	0.88
1:G:206:CYS:SG	1:G:334:MET:HE1	2.17	0.85
1:M:206:CYS:SG	1:M:334:MET:HE1	2.17	0.85
1:S:206:CYS:SG	1:S:334:MET:HE1	2.17	0.84
1:A:206:CYS:SG	1:A:334:MET:HE1	2.17	0.83
1:G:989:ALA:HB2	1:G:1039:LEU:HD12	1.60	0.83
1:G:1426:ILE:CG2	1:G:1429:ASN:HB2	2.09	0.83
1:M:989:ALA:HB2	1:M:1039:LEU:HD12	1.60	0.83
1:A:989:ALA:HB2	1:A:1039:LEU:HD12	1.60	0.83
1:A:1426:ILE:CG2	1:A:1429:ASN:HB2	2.09	0.83
1:M:1426:ILE:CG2	1:M:1429:ASN:HB2	2.09	0.83
1:S:1426:ILE:CG2	1:S:1429:ASN:HB2	2.09	0.82
1:S:989:ALA:HB2	1:S:1039:LEU:HD12	1.60	0.82
1:S:3324:VAL:HG21	1:S:3361:THR:HG22	1.61	0.82
1:A:3324:VAL:HG21	1:A:3361:THR:HG22	1.61	0.82
1:G:2670:GLU:OE2	1:G:2916:LYS:HE3	1.81	0.81
1:G:3324:VAL:HG21	1:G:3361:THR:HG22	1.61	0.81
1:A:2670:GLU:OE2	1:A:2916:LYS:HE3	1.81	0.81
1:G:1156:THR:OG1	1:G:1157:GLU:OE1	1.99	0.81
1:M:3324:VAL:HG21	1:M:3361:THR:HG22	1.61	0.81
1:S:1156:THR:OG1	1:S:1157:GLU:OE1	1.99	0.81
1:A:3575:LEU:HD13	1:S:1219:LEU:CD1	2.11	0.81
1:A:1219:LEU:CD1	1:G:3575:LEU:HD13	2.11	0.80
1:M:1219:LEU:CD1	1:S:3575:LEU:HD13	2.11	0.80
1:M:2670:GLU:OE2	1:M:2916:LYS:HE3	1.81	0.80
1:S:2670:GLU:OE2	1:S:2916:LYS:HE3	1.81	0.80
1:G:1219:LEU:CD1	1:M:3575:LEU:HD13	2.11	0.80
1:G:4205:TRP:CH2	1:G:4989:MET:HE1	2.17	0.80
1:M:4205:TRP:CH2	1:M:4989:MET:HE1	2.17	0.79
1:S:4205:TRP:CH2	1:S:4989:MET:HE1	2.17	0.79
1:A:1156:THR:OG1	1:A:1157:GLU:OE1	1.99	0.79
1:M:1156:THR:OG1	1:M:1157:GLU:OE1	1.99	0.79
1:M:1272:LEU:HD23	1:M:1561:VAL:HG21	1.65	0.79
1:A:4205:TRP:CH2	1:A:4989:MET:HE1	2.17	0.79
1:G:1272:LEU:HD23	1:G:1561:VAL:HG21	1.65	0.78
1:S:1272:LEU:HD23	1:S:1561:VAL:HG21	1.65	0.78
1:A:1272:LEU:HD23	1:A:1561:VAL:HG21	1.65	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:181:HIS:ND1	1:G:196:MET:HB2	2.01	0.76
1:M:667:MET:SD	1:M:790:ARG:NH2	2.59	0.76
1:A:181:HIS:ND1	1:A:196:MET:HB2	2.01	0.76
1:G:667:MET:SD	1:G:790:ARG:NH2	2.59	0.76
1:A:667:MET:SD	1:A:790:ARG:NH2	2.59	0.76
1:S:181:HIS:ND1	1:S:196:MET:HB2	2.01	0.76
1:S:667:MET:SD	1:S:790:ARG:NH2	2.59	0.75
1:A:2172:PRO:O	1:A:2176:ASN:ND2	2.20	0.75
1:M:2172:PRO:O	1:M:2176:ASN:ND2	2.20	0.75
1:M:2196:ASN:OD1	1:M:2199:ARG:NH2	2.20	0.75
1:M:181:HIS:ND1	1:M:196:MET:HB2	2.01	0.75
1:A:110:ARG:NH2	1:A:115:ARG:NH2	2.36	0.74
1:G:2172:PRO:O	1:G:2176:ASN:ND2	2.20	0.74
1:G:2196:ASN:OD1	1:G:2199:ARG:NH2	2.20	0.74
1:A:788:LYS:HG2	1:A:1629:GLN:HG3	1.70	0.74
1:A:2196:ASN:OD1	1:A:2199:ARG:NH2	2.20	0.74
1:G:110:ARG:NH2	1:G:115:ARG:NH2	2.36	0.74
1:S:2196:ASN:OD1	1:S:2199:ARG:NH2	2.20	0.74
1:M:414:PHE:CE2	1:M:418:LEU:HD11	2.23	0.74
1:G:414:PHE:CE2	1:G:418:LEU:HD11	2.23	0.74
1:G:2523:ASP:OD2	1:G:2575:ARG:NH2	2.21	0.74
1:S:788:LYS:HG2	1:S:1629:GLN:HG3	1.70	0.74
1:S:2172:PRO:O	1:S:2176:ASN:ND2	2.20	0.74
1:S:3329:ILE:O	1:S:3403:ARG:NH2	2.21	0.74
1:M:110:ARG:NH2	1:M:115:ARG:NH2	2.36	0.73
1:S:414:PHE:CE2	1:S:418:LEU:HD11	2.23	0.73
1:G:3329:ILE:O	1:G:3403:ARG:NH2	2.21	0.73
1:S:110:ARG:NH2	1:S:115:ARG:NH2	2.36	0.73
5:S:5104:117:H83	5:S:5105:117:H931	1.70	0.73
5:G:5104:117:H83	5:G:5105:117:H931	1.70	0.73
1:M:2523:ASP:OD2	1:M:2575:ARG:NH2	2.21	0.73
5:M:5104:117:H83	5:M:5105:117:H931	1.70	0.73
1:S:2523:ASP:OD2	1:S:2575:ARG:NH2	2.21	0.73
1:A:2523:ASP:OD2	1:A:2575:ARG:NH2	2.21	0.73
1:A:3329:ILE:O	1:A:3403:ARG:NH2	2.21	0.73
5:A:5104:117:H83	5:A:5105:117:H931	1.70	0.73
1:M:3329:ILE:O	1:M:3403:ARG:NH2	2.21	0.73
1:G:4670:ILE:HB	1:G:4714:ASN:HD21	1.54	0.73
1:A:3182:TYR:O	1:A:3186:LEU:HD23	1.89	0.73
1:G:788:LYS:HG2	1:G:1629:GLN:HG3	1.70	0.72
1:M:788:LYS:HG2	1:M:1629:GLN:HG3	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:414:PHE:CE2	1:A:418:LEU:HD11	2.23	0.72
1:S:4205:TRP:CZ3	1:S:4989:MET:CE	2.73	0.72
1:A:1108:GLU:N	1:A:1108:GLU:OE1	2.23	0.72
1:M:4670:ILE:HB	1:M:4714:ASN:HD21	1.54	0.72
1:S:4670:ILE:HB	1:S:4714:ASN:HD21	1.54	0.72
1:G:4205:TRP:CZ3	1:G:4989:MET:CE	2.73	0.72
1:S:1108:GLU:OE1	1:S:1108:GLU:N	2.23	0.72
1:A:4205:TRP:CZ3	1:A:4989:MET:CE	2.73	0.72
1:S:3182:TYR:O	1:S:3186:LEU:HD23	1.89	0.71
1:G:3182:TYR:O	1:G:3186:LEU:HD23	1.89	0.71
1:G:1108:GLU:N	1:G:1108:GLU:OE1	2.23	0.71
1:M:3182:TYR:O	1:M:3186:LEU:HD23	1.89	0.71
1:A:4670:ILE:HB	1:A:4714:ASN:ND2	2.06	0.71
1:M:20:VAL:HG21	1:M:202:MET:HG3	1.73	0.71
1:M:4205:TRP:CZ3	1:M:4989:MET:CE	2.73	0.71
1:A:20:VAL:HG21	1:A:202:MET:HG3	1.73	0.71
1:S:20:VAL:HG21	1:S:202:MET:HG3	1.73	0.71
1:G:20:VAL:HG21	1:G:202:MET:HG3	1.73	0.71
1:G:4670:ILE:HB	1:G:4714:ASN:ND2	2.06	0.71
1:A:4670:ILE:HB	1:A:4714:ASN:HD21	1.54	0.71
1:M:1108:GLU:OE1	1:M:1108:GLU:N	2.23	0.70
1:M:3017:PHE:O	1:M:3036:LYS:NZ	2.24	0.70
1:S:3017:PHE:O	1:S:3036:LYS:NZ	2.24	0.70
1:S:4670:ILE:HB	1:S:4714:ASN:ND2	2.06	0.70
1:G:3017:PHE:O	1:G:3036:LYS:NZ	2.24	0.70
1:M:3534:MET:HA	1:M:3534:MET:HE3	1.72	0.70
1:M:52:THR:O	1:M:52:THR:HG22	1.91	0.70
1:M:4670:ILE:HB	1:M:4714:ASN:ND2	2.06	0.70
1:A:52:THR:HG22	1:A:52:THR:O	1.91	0.70
1:S:52:THR:HG22	1:S:52:THR:O	1.91	0.69
1:S:3534:MET:HA	1:S:3534:MET:HE3	1.72	0.69
1:A:3534:MET:HA	1:A:3534:MET:HE3	1.72	0.69
1:G:52:THR:O	1:G:52:THR:HG22	1.91	0.69
1:A:4205:TRP:CZ3	1:A:4989:MET:SD	2.86	0.69
1:G:4205:TRP:CZ3	1:G:4989:MET:SD	2.86	0.69
1:M:4205:TRP:CZ3	1:M:4989:MET:SD	2.86	0.69
1:A:3017:PHE:O	1:A:3036:LYS:NZ	2.24	0.69
1:G:3534:MET:HA	1:G:3534:MET:HE3	1.72	0.69
1:S:3144:PHE:CE2	1:S:3197:LEU:HD12	2.28	0.69
1:S:4205:TRP:CZ3	1:S:4989:MET:SD	2.86	0.69
1:M:4820:VAL:HG23	5:M:5103:117:C83	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:4820:VAL:HG23	5:S:5103:117:C83	2.23	0.68
2:T:106:ASN:OD1	2:T:107:LEU:N	2.27	0.68
1:M:4863:TYR:CD2	1:M:4876:CYS:SG	2.87	0.68
1:S:4581:LYS:HD2	1:S:4632:LEU:HD22	1.76	0.68
1:A:4863:TYR:CD2	1:A:4876:CYS:SG	2.87	0.68
1:M:4581:LYS:HD2	1:M:4632:LEU:HD22	1.76	0.68
1:S:4863:TYR:CD2	1:S:4876:CYS:SG	2.87	0.68
1:A:3144:PHE:CE2	1:A:3197:LEU:HD12	2.28	0.68
1:G:3144:PHE:CE2	1:G:3197:LEU:HD12	2.28	0.68
1:A:4581:LYS:HD2	1:A:4632:LEU:HD22	1.76	0.67
1:G:4581:LYS:HD2	1:G:4632:LEU:HD22	1.76	0.67
1:G:4820:VAL:HG23	5:G:5103:117:C83	2.23	0.67
1:M:3144:PHE:CE2	1:M:3197:LEU:HD12	2.28	0.67
1:A:4231:MET:HA	1:A:4231:MET:HE3	1.76	0.67
1:A:4820:VAL:HG23	5:A:5103:117:C83	2.23	0.67
2:H:106:ASN:OD1	2:H:107:LEU:N	2.27	0.67
1:G:4863:TYR:CD2	1:G:4876:CYS:SG	2.87	0.67
2:B:106:ASN:OD1	2:B:107:LEU:N	2.27	0.67
1:G:2212:VAL:HG22	1:G:2256:TYR:CE2	2.30	0.67
1:G:4231:MET:HA	1:G:4231:MET:HE3	1.76	0.67
1:S:4231:MET:HA	1:S:4231:MET:HE3	1.76	0.67
1:A:2212:VAL:HG22	1:A:2256:TYR:CE2	2.30	0.67
1:M:4231:MET:HA	1:M:4231:MET:HE3	1.76	0.67
2:N:106:ASN:OD1	2:N:107:LEU:N	2.27	0.67
1:A:2449:GLU:OE1	1:A:2452:ARG:NH2	2.29	0.67
1:M:2212:VAL:HG22	1:M:2256:TYR:CE2	2.30	0.67
1:M:3062:PRO:O	1:M:3066:ASN:ND2	2.28	0.66
1:A:3062:PRO:O	1:A:3066:ASN:ND2	2.28	0.66
1:S:2212:VAL:HG22	1:S:2256:TYR:CE2	2.30	0.66
1:G:3062:PRO:O	1:G:3066:ASN:ND2	2.28	0.66
1:S:3062:PRO:O	1:S:3066:ASN:ND2	2.28	0.66
1:M:2449:GLU:OE1	1:M:2452:ARG:NH2	2.29	0.66
1:G:2449:GLU:OE1	1:G:2452:ARG:NH2	2.29	0.66
1:G:2620:GLN:NE2	1:G:2912:THR:HG22	2.11	0.65
1:S:2620:GLN:NE2	1:S:2912:THR:HG22	2.11	0.65
1:S:2449:GLU:OE1	1:S:2452:ARG:NH2	2.29	0.65
1:G:1105:ALA:HB3	1:G:1191:VAL:HG11	1.78	0.65
1:S:1105:ALA:HB3	1:S:1191:VAL:HG11	1.78	0.64
1:M:1105:ALA:HB3	1:M:1191:VAL:HG11	1.78	0.64
1:A:1105:ALA:HB3	1:A:1191:VAL:HG11	1.78	0.64
1:M:2620:GLN:NE2	1:M:2912:THR:HG22	2.11	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2620:GLN:NE2	1:A:2912:THR:HG22	2.11	0.64
1:G:988:LEU:HD23	1:G:1039:LEU:HD22	1.80	0.64
1:A:1426:ILE:HG23	1:A:1429:ASN:HB2	1.79	0.64
1:M:3969:ILE:HG21	1:M:3980:LEU:HD12	1.80	0.64
1:S:988:LEU:HD23	1:S:1039:LEU:HD22	1.80	0.64
1:G:2967:MET:HA	1:G:2967:MET:HE3	1.80	0.64
1:M:1263:THR:HG22	1:M:1264:VAL:H	1.63	0.64
1:M:988:LEU:HD23	1:M:1039:LEU:HD22	1.80	0.64
1:S:977:LEU:HD22	1:S:981:GLN:HB3	1.80	0.64
1:S:1263:THR:HG22	1:S:1264:VAL:H	1.63	0.64
1:A:977:LEU:HA	1:A:981:GLN:OE1	1.98	0.64
1:M:977:LEU:HA	1:M:981:GLN:OE1	1.98	0.64
1:S:937:CYS:SG	1:S:984:LEU:HD13	2.38	0.64
1:S:3969:ILE:HG21	1:S:3980:LEU:HD12	1.80	0.64
1:A:988:LEU:HD23	1:A:1039:LEU:HD22	1.80	0.63
1:M:4215:ARG:HG2	1:M:4219:PHE:CZ	2.33	0.63
1:S:4205:TRP:HZ3	1:S:4989:MET:HE1	1.62	0.63
1:M:1426:ILE:HG23	1:M:1429:ASN:HB2	1.79	0.63
1:A:4586:PRO:HA	1:A:4628:VAL:HG11	1.80	0.63
1:G:4215:ARG:HG2	1:G:4219:PHE:CZ	2.33	0.63
1:A:977:LEU:HD22	1:A:981:GLN:HB3	1.80	0.63
1:A:2967:MET:HE3	1:A:2967:MET:HA	1.80	0.63
1:S:1426:ILE:HG23	1:S:1429:ASN:HB2	1.79	0.63
1:G:308:HIS:O	1:G:312:THR:HG22	1.98	0.63
1:S:308:HIS:O	1:S:312:THR:HG22	1.98	0.63
1:S:4586:PRO:HA	1:S:4628:VAL:HG11	1.80	0.63
1:A:3969:ILE:HG21	1:A:3980:LEU:HD12	1.80	0.63
1:A:937:CYS:SG	1:A:984:LEU:HD13	2.38	0.63
1:G:3969:ILE:HG21	1:G:3980:LEU:HD12	1.80	0.63
1:M:977:LEU:HD22	1:M:981:GLN:HB3	1.80	0.63
1:M:2967:MET:HA	1:M:2967:MET:HE3	1.80	0.63
1:A:1131:ARG:NH1	1:A:1178:ALA:O	2.32	0.63
1:A:4222:VAL:HG12	1:A:4950:VAL:CG1	2.29	0.63
1:G:179:TYR:N	1:G:194:SER:O	2.32	0.63
1:M:937:CYS:SG	1:M:984:LEU:HD13	2.38	0.63
1:A:1263:THR:HG22	1:A:1264:VAL:H	1.63	0.63
1:M:4586:PRO:HA	1:M:4628:VAL:HG11	1.80	0.63
1:S:4215:ARG:HG2	1:S:4219:PHE:CZ	2.33	0.63
1:S:4222:VAL:HG12	1:S:4950:VAL:CG1	2.29	0.63
1:A:20:VAL:HG11	1:A:202:MET:SD	2.39	0.62
1:A:2520:HIS:O	1:A:2524:VAL:HG22	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2527:LEU:HD12	1:A:2530:MET:HE3	1.81	0.62
1:G:1131:ARG:NH1	1:G:1178:ALA:O	2.32	0.62
1:G:2527:LEU:HD12	1:G:2530:MET:HE3	1.81	0.62
1:G:4222:VAL:HG12	1:G:4950:VAL:CG1	2.29	0.62
1:M:20:VAL:HG11	1:M:202:MET:SD	2.39	0.62
1:M:4222:VAL:HG12	1:M:4950:VAL:CG1	2.29	0.62
1:A:308:HIS:O	1:A:312:THR:HG22	1.98	0.62
1:G:2520:HIS:O	1:G:2524:VAL:HG22	1.99	0.62
1:S:2967:MET:HA	1:S:2967:MET:HE3	1.80	0.62
1:G:20:VAL:HG11	1:G:202:MET:SD	2.39	0.62
1:G:937:CYS:SG	1:G:984:LEU:HD13	2.38	0.62
1:S:977:LEU:HA	1:S:981:GLN:OE1	1.98	0.62
1:A:179:TYR:N	1:A:194:SER:O	2.32	0.62
1:A:701:GLY:O	1:A:1647:CYS:HB2	2.00	0.62
1:G:1426:ILE:HG23	1:G:1429:ASN:HB2	1.79	0.62
1:G:977:LEU:HD22	1:G:981:GLN:HB3	1.80	0.62
1:G:977:LEU:HA	1:G:981:GLN:OE1	1.98	0.62
1:M:2520:HIS:O	1:M:2524:VAL:HG22	1.99	0.62
1:S:2520:HIS:O	1:S:2524:VAL:HG22	1.99	0.62
1:M:308:HIS:O	1:M:312:THR:HG22	1.98	0.62
1:M:1131:ARG:NH1	1:M:1178:ALA:O	2.32	0.62
1:S:20:VAL:HG11	1:S:202:MET:SD	2.39	0.62
1:S:1131:ARG:NH1	1:S:1178:ALA:O	2.32	0.62
1:A:4215:ARG:HG2	1:A:4219:PHE:CZ	2.33	0.62
1:G:1263:THR:HG22	1:G:1264:VAL:H	1.63	0.62
1:G:2862:LEU:CD1	1:G:2932:MET:HE1	2.30	0.62
1:M:179:TYR:N	1:M:194:SER:O	2.32	0.61
1:A:2862:LEU:CD1	1:A:2932:MET:HE1	2.30	0.61
1:G:701:GLY:O	1:G:1647:CYS:HB2	2.00	0.61
1:M:3110:LEU:O	1:M:3110:LEU:HD23	2.00	0.61
1:S:179:TYR:N	1:S:194:SER:O	2.32	0.61
1:S:676:THR:HG22	1:S:677:ALA:H	1.65	0.61
1:M:2626:LEU:CD2	1:M:2640:PRO:HB3	2.27	0.61
1:S:206:CYS:SG	1:S:334:MET:CE	2.88	0.61
1:S:701:GLY:O	1:S:1647:CYS:HB2	2.00	0.61
1:S:2527:LEU:HD12	1:S:2530:MET:HE3	1.81	0.61
1:A:676:THR:HG22	1:A:677:ALA:H	1.65	0.61
1:G:3110:LEU:O	1:G:3110:LEU:HD23	2.00	0.61
1:G:4586:PRO:HA	1:G:4628:VAL:HG11	1.80	0.61
1:G:4820:VAL:HG23	5:G:5103:117:H83	1.83	0.61
1:S:2626:LEU:CD2	1:S:2640:PRO:HB3	2.27	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2485:LEU:HD22	1:A:2541:PHE:HE1	1.65	0.61
1:M:206:CYS:SG	1:M:334:MET:CE	2.88	0.61
1:M:2527:LEU:HD12	1:M:2530:MET:HE3	1.81	0.61
1:G:676:THR:HG22	1:G:677:ALA:H	1.65	0.61
1:G:2161:GLN:O	1:G:2165:LEU:HD22	2.01	0.61
1:G:2485:LEU:HD22	1:G:2541:PHE:HE1	1.65	0.61
1:M:701:GLY:O	1:M:1647:CYS:HB2	2.00	0.61
1:A:4820:VAL:HG23	5:A:5103:117:H83	1.83	0.61
1:G:206:CYS:SG	1:G:334:MET:CE	2.88	0.61
1:A:206:CYS:SG	1:A:334:MET:CE	2.88	0.60
1:G:989:ALA:HB2	1:G:1039:LEU:CD1	2.31	0.60
1:M:2862:LEU:CD1	1:M:2932:MET:HE1	2.30	0.60
1:M:4059:LEU:HD22	1:M:4170:ILE:CD1	2.31	0.60
1:S:4059:LEU:HD22	1:S:4170:ILE:CD1	2.31	0.60
1:A:2626:LEU:CD2	1:A:2640:PRO:HB3	2.27	0.60
1:M:676:THR:HG22	1:M:677:ALA:H	1.65	0.60
1:M:4820:VAL:HG23	5:M:5103:117:H83	1.83	0.60
1:A:989:ALA:HB2	1:A:1039:LEU:CD1	2.31	0.60
1:M:2485:LEU:HD22	1:M:2541:PHE:HE1	1.65	0.60
1:S:2485:LEU:HD22	1:S:2541:PHE:HE1	1.65	0.60
1:A:2116:LEU:O	1:A:2120:MET:HG2	2.02	0.60
1:G:2175:GLU:HA	1:G:2228:MET:HE1	1.83	0.60
1:S:2862:LEU:CD1	1:S:2932:MET:HE1	2.30	0.60
1:S:4820:VAL:HG23	5:S:5103:117:H83	1.83	0.60
1:A:799:GLU:OE1	1:A:1623:ARG:NH1	2.35	0.60
1:A:4059:LEU:HD22	1:A:4170:ILE:CD1	2.31	0.60
1:G:1272:LEU:HD23	1:G:1561:VAL:CG2	2.32	0.60
1:S:2161:GLN:O	1:S:2165:LEU:HD22	2.01	0.60
1:A:2161:GLN:O	1:A:2165:LEU:HD22	2.01	0.60
1:A:3110:LEU:HD23	1:A:3110:LEU:O	2.00	0.60
1:G:2116:LEU:O	1:G:2120:MET:HG2	2.02	0.60
1:G:4059:LEU:HD22	1:G:4170:ILE:CD1	2.31	0.60
1:M:2161:GLN:O	1:M:2165:LEU:HD22	2.01	0.60
1:S:3110:LEU:O	1:S:3110:LEU:HD23	2.00	0.60
1:M:2175:GLU:HA	1:M:2228:MET:HE1	1.83	0.59
1:A:2175:GLU:HA	1:A:2228:MET:HE1	1.83	0.59
1:S:2116:LEU:O	1:S:2120:MET:HG2	2.02	0.59
1:A:457:GLU:OE1	1:A:457:GLU:N	2.35	0.59
1:G:457:GLU:OE1	1:G:457:GLU:N	2.35	0.59
1:G:2598:ALA:O	1:G:2602:VAL:HG23	2.03	0.59
1:M:937:CYS:SG	1:M:984:LEU:CD1	2.91	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1272:LEU:HD23	1:A:1561:VAL:CG2	2.32	0.59
1:A:4215:ARG:O	1:A:4218:ILE:HG22	2.03	0.59
1:S:457:GLU:N	1:S:457:GLU:OE1	2.35	0.59
1:G:4083:ASP:OD2	1:G:4085:ARG:NH2	2.36	0.59
1:M:4083:ASP:OD2	1:M:4085:ARG:NH2	2.36	0.59
1:M:4205:TRP:HZ3	1:M:4989:MET:HE1	1.62	0.59
1:S:156:GLN:OE1	1:S:156:GLN:N	2.36	0.59
1:S:937:CYS:SG	1:S:984:LEU:CD1	2.91	0.59
1:S:2175:GLU:HA	1:S:2228:MET:HE1	1.83	0.59
1:G:4205:TRP:HZ3	1:G:4989:MET:HE1	1.62	0.59
1:G:4215:ARG:O	1:G:4218:ILE:HG22	2.03	0.59
1:S:4059:LEU:HD22	1:S:4170:ILE:HD12	1.85	0.59
1:G:156:GLN:OE1	1:G:156:GLN:N	2.36	0.59
1:M:156:GLN:N	1:M:156:GLN:OE1	2.36	0.59
1:M:2598:ALA:O	1:M:2602:VAL:HG23	2.03	0.59
1:G:281:ARG:NH2	1:G:307:ALA:O	2.36	0.58
1:G:799:GLU:OE1	1:G:1623:ARG:NH1	2.35	0.58
1:G:937:CYS:SG	1:G:984:LEU:CD1	2.91	0.58
1:M:281:ARG:NH2	1:M:307:ALA:O	2.36	0.58
1:M:2116:LEU:O	1:M:2120:MET:HG2	2.02	0.58
1:S:281:ARG:NH2	1:S:307:ALA:O	2.36	0.58
1:S:799:GLU:OE1	1:S:1623:ARG:NH1	2.35	0.58
1:S:3020:THR:HG22	1:S:3021:PRO:HD2	1.85	0.58
1:A:281:ARG:NH2	1:A:307:ALA:O	2.36	0.58
1:A:937:CYS:SG	1:A:984:LEU:CD1	2.91	0.58
1:A:4083:ASP:OD2	1:A:4085:ARG:NH2	2.36	0.58
1:M:457:GLU:OE1	1:M:457:GLU:N	2.35	0.58
1:M:989:ALA:HB2	1:M:1039:LEU:CD1	2.31	0.58
1:M:2544:THR:HG23	1:M:2547:ALA:H	1.68	0.58
1:S:195:PHE:C	1:S:196:MET:HE2	2.29	0.58
1:A:156:GLN:OE1	1:A:156:GLN:N	2.36	0.58
1:M:1272:LEU:HD23	1:M:1561:VAL:CG2	2.32	0.58
1:M:4059:LEU:HD22	1:M:4170:ILE:HD12	1.85	0.58
1:S:4215:ARG:O	1:S:4218:ILE:HG22	2.03	0.58
1:S:4820:VAL:CG2	5:S:5103:117:C83	2.81	0.58
1:A:2598:ALA:O	1:A:2602:VAL:HG23	2.03	0.58
1:G:4059:LEU:HD22	1:G:4170:ILE:HD12	1.85	0.58
1:S:2544:THR:HG23	1:S:2547:ALA:H	1.68	0.58
1:A:3944:GLU:OE1	1:A:3944:GLU:N	2.37	0.58
1:A:169:LEU:HD23	1:A:169:LEU:H	1.69	0.58
1:A:3020:THR:HG22	1:A:3021:PRO:HD2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4820:VAL:CG2	5:A:5103:117:C83	2.81	0.58
1:G:2165:LEU:HB2	1:G:2178:MET:HE2	1.86	0.58
1:M:195:PHE:C	1:M:196:MET:HE2	2.29	0.58
1:M:3944:GLU:OE1	1:M:3944:GLU:N	2.37	0.58
1:G:2544:THR:HG23	1:G:2547:ALA:H	1.68	0.58
1:M:799:GLU:OE1	1:M:1623:ARG:NH1	2.35	0.58
1:M:4215:ARG:O	1:M:4218:ILE:HG22	2.03	0.58
1:S:989:ALA:HB2	1:S:1039:LEU:CD1	2.31	0.58
1:G:195:PHE:C	1:G:196:MET:HE2	2.29	0.58
1:G:3201:MET:HE3	1:G:3203:VAL:HG12	1.86	0.58
1:A:2544:THR:HG23	1:A:2547:ALA:H	1.68	0.58
1:G:3944:GLU:N	1:G:3944:GLU:OE1	2.37	0.58
1:M:4820:VAL:CG2	5:M:5103:117:C83	2.81	0.58
1:A:181:HIS:CE1	1:A:196:MET:HB2	2.39	0.57
1:A:195:PHE:C	1:A:196:MET:HE2	2.29	0.57
1:G:169:LEU:HD23	1:G:169:LEU:H	1.69	0.57
1:S:2598:ALA:O	1:S:2602:VAL:HG23	2.03	0.57
1:S:4573:ILE:HG23	1:S:4643:LEU:HD11	1.86	0.57
1:G:4820:VAL:CG2	5:G:5103:117:C83	2.81	0.57
1:S:4083:ASP:OD2	1:S:4085:ARG:NH2	2.36	0.57
1:A:2165:LEU:HB2	1:A:2178:MET:HE2	1.86	0.57
1:A:2635:GLU:OE1	1:A:2635:GLU:N	2.37	0.57
1:M:3169:LEU:HD13	1:M:3194:LEU:HD11	1.87	0.57
1:M:4573:ILE:HG23	1:M:4643:LEU:HD11	1.86	0.57
1:S:4217:PHE:CE1	1:S:4237:PHE:HB2	2.40	0.57
1:A:4059:LEU:HD22	1:A:4170:ILE:HD12	1.85	0.57
1:G:1157:GLU:OE1	1:G:1157:GLU:N	2.37	0.57
1:G:4576:ILE:HG23	1:G:4639:MET:HE2	1.86	0.57
1:M:3020:THR:HG22	1:M:3021:PRO:HD2	1.85	0.57
1:M:3201:MET:HE3	1:M:3203:VAL:HG12	1.86	0.57
1:G:2635:GLU:OE1	1:G:2635:GLU:N	2.37	0.57
1:M:1219:LEU:HD13	1:S:3575:LEU:HD13	1.86	0.57
1:S:169:LEU:HD23	1:S:169:LEU:H	1.69	0.57
1:S:3169:LEU:HD13	1:S:3194:LEU:HD11	1.87	0.57
1:S:3944:GLU:OE1	1:S:3944:GLU:N	2.37	0.57
1:G:414:PHE:CD1	1:G:436:LEU:HD22	2.40	0.57
1:M:2635:GLU:N	1:M:2635:GLU:OE1	2.37	0.57
1:M:4217:PHE:CE1	1:M:4237:PHE:HB2	2.40	0.57
1:M:181:HIS:CE1	1:M:196:MET:HB2	2.39	0.57
1:S:4576:ILE:HG23	1:S:4639:MET:HE2	1.86	0.57
1:A:1157:GLU:OE1	1:A:1157:GLU:N	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3201:MET:HE3	1:A:3203:VAL:HG12	1.86	0.57
1:G:3020:THR:HG22	1:G:3021:PRO:HD2	1.85	0.57
1:M:414:PHE:CD1	1:M:436:LEU:HD22	2.40	0.57
1:A:4217:PHE:CE1	1:A:4237:PHE:HB2	2.40	0.57
1:A:4576:ILE:HG23	1:A:4639:MET:HE2	1.86	0.57
1:M:1157:GLU:OE1	1:M:1157:GLU:N	2.37	0.57
1:S:1157:GLU:OE1	1:S:1157:GLU:N	2.37	0.57
1:S:2165:LEU:HB2	1:S:2178:MET:HE2	1.86	0.57
1:G:2626:LEU:CD2	1:G:2640:PRO:HB3	2.27	0.56
1:S:1272:LEU:HD23	1:S:1561:VAL:CG2	2.32	0.56
1:M:2165:LEU:HB2	1:M:2178:MET:HE2	1.86	0.56
1:S:181:HIS:CE1	1:S:196:MET:HB2	2.39	0.56
1:S:3201:MET:HE3	1:S:3203:VAL:HG12	1.86	0.56
1:A:414:PHE:CD1	1:A:436:LEU:HD22	2.40	0.56
1:G:181:HIS:CE1	1:G:196:MET:HB2	2.39	0.56
1:M:4670:ILE:CG2	1:M:4714:ASN:ND2	2.69	0.56
1:S:414:PHE:CD1	1:S:436:LEU:HD22	2.40	0.56
1:A:3575:LEU:HD13	1:S:1219:LEU:HD13	1.86	0.56
1:G:3169:LEU:HD13	1:G:3194:LEU:HD11	1.87	0.56
1:G:4217:PHE:CE1	1:G:4237:PHE:HB2	2.40	0.56
1:A:3057:PHE:O	1:A:3060:ASP:OD1	2.24	0.56
1:M:3057:PHE:O	1:M:3060:ASP:OD1	2.24	0.56
1:A:4573:ILE:HG23	1:A:4643:LEU:HD11	1.86	0.56
1:G:2807:TRP:HB3	1:G:2808:PRO:HD3	1.88	0.56
1:G:4670:ILE:CG2	1:G:4714:ASN:ND2	2.69	0.56
1:M:4101:LYS:O	1:M:4101:LYS:HG2	2.06	0.56
1:S:2635:GLU:OE1	1:S:2635:GLU:N	2.37	0.56
1:S:3057:PHE:O	1:S:3060:ASP:OD1	2.24	0.56
1:A:4101:LYS:HG2	1:A:4101:LYS:O	2.06	0.56
1:A:4670:ILE:CG2	1:A:4714:ASN:ND2	2.69	0.56
1:G:4205:TRP:CH2	1:G:4989:MET:CE	2.89	0.56
1:M:169:LEU:H	1:M:169:LEU:HD23	1.69	0.56
1:S:3007:ASN:O	1:S:3011:THR:OG1	2.16	0.56
1:M:4576:ILE:HG23	1:M:4639:MET:HE2	1.86	0.56
1:A:3169:LEU:HD13	1:A:3194:LEU:HD11	1.87	0.56
1:M:3007:ASN:O	1:M:3011:THR:OG1	2.16	0.56
1:S:2807:TRP:HB3	1:S:2808:PRO:HD3	1.88	0.55
1:S:4101:LYS:O	1:S:4101:LYS:HG2	2.06	0.55
1:S:4670:ILE:CG2	1:S:4714:ASN:ND2	2.69	0.55
1:G:3057:PHE:O	1:G:3060:ASP:OD1	2.24	0.55
1:M:2807:TRP:HB3	1:M:2808:PRO:HD3	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:4670:ILE:CB	1:S:4714:ASN:ND2	2.70	0.55
1:G:4101:LYS:O	1:G:4101:LYS:HG2	2.06	0.55
1:A:1943:LEU:HD13	1:A:2098:VAL:HG22	1.88	0.55
1:A:4837:LEU:HD11	1:A:4932:ILE:HG23	1.88	0.55
1:G:4573:ILE:HG23	1:G:4643:LEU:HD11	1.86	0.55
1:G:4670:ILE:CB	1:G:4714:ASN:ND2	2.70	0.55
1:M:2778:GLY:HA3	1:M:2787:THR:HB	1.89	0.55
1:M:20:VAL:HG21	1:M:202:MET:SD	2.47	0.55
1:A:293:LEU:HD12	1:A:378:LEU:HD12	1.89	0.55
1:G:20:VAL:HG21	1:G:202:MET:SD	2.47	0.55
1:G:989:ALA:CB	1:G:1039:LEU:HD12	2.35	0.55
1:G:1219:LEU:HD13	1:M:3575:LEU:HD13	1.86	0.55
1:G:1943:LEU:HD13	1:G:2098:VAL:HG22	1.88	0.55
1:S:293:LEU:HD12	1:S:378:LEU:HD12	1.89	0.55
1:A:2212:VAL:HG22	1:A:2256:TYR:HE2	1.72	0.55
1:A:4670:ILE:CB	1:A:4714:ASN:ND2	2.70	0.55
1:G:177:GLU:O	1:G:177:GLU:HG2	2.07	0.55
1:G:3078:ARG:NH1	1:G:3155:ASP:OD2	2.40	0.55
1:M:4940:PHE:O	1:M:4944:ARG:HG3	2.07	0.55
1:S:4837:LEU:HD11	1:S:4932:ILE:HG23	1.88	0.55
1:S:4940:PHE:O	1:S:4944:ARG:HG3	2.07	0.55
1:A:20:VAL:HG21	1:A:202:MET:SD	2.47	0.55
1:A:4217:PHE:CD1	1:A:4237:PHE:HB2	2.42	0.55
1:M:4217:PHE:CD1	1:M:4237:PHE:HB2	2.42	0.55
1:M:4670:ILE:CB	1:M:4714:ASN:ND2	2.70	0.55
1:M:2212:VAL:HG22	1:M:2256:TYR:HE2	1.72	0.54
1:S:110:ARG:HH22	1:S:115:ARG:HH21	1.55	0.54
1:S:2212:VAL:HG22	1:S:2256:TYR:HE2	1.72	0.54
2:B:80:ASP:OD1	2:B:81:VAL:N	2.41	0.54
1:M:177:GLU:O	1:M:177:GLU:HG2	2.07	0.54
1:S:177:GLU:O	1:S:177:GLU:HG2	2.07	0.54
1:S:4205:TRP:CH2	1:S:4989:MET:CE	2.89	0.54
1:G:3607:GLU:HA	1:G:3610:GLU:HG3	1.89	0.54
1:G:4940:PHE:O	1:G:4944:ARG:HG3	2.07	0.54
1:M:110:ARG:HH22	1:M:115:ARG:HH21	1.55	0.54
1:M:2280:VAL:HG22	1:M:2280:VAL:O	2.08	0.54
2:N:80:ASP:OD1	2:N:81:VAL:N	2.41	0.54
1:A:316:PHE:CE1	1:A:348:VAL:HG22	2.43	0.54
1:A:989:ALA:CB	1:A:1039:LEU:HD12	2.35	0.54
1:A:4205:TRP:HZ3	1:A:4989:MET:HE1	1.62	0.54
1:M:1943:LEU:HD13	1:M:2098:VAL:HG22	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:2280:VAL:O	1:S:2280:VAL:HG22	2.08	0.54
1:A:2807:TRP:HB3	1:A:2808:PRO:HD3	1.88	0.54
1:G:2778:GLY:HA3	1:G:2787:THR:HB	1.89	0.54
1:M:3078:ARG:NH1	1:M:3155:ASP:OD2	2.40	0.54
1:M:3607:GLU:HA	1:M:3610:GLU:HG3	1.89	0.54
1:S:20:VAL:HG21	1:S:202:MET:SD	2.47	0.54
1:S:2778:GLY:HA3	1:S:2787:THR:HB	1.89	0.54
1:S:4217:PHE:CD1	1:S:4237:PHE:HB2	2.42	0.54
1:A:2280:VAL:O	1:A:2280:VAL:HG22	2.08	0.54
1:A:4940:PHE:O	1:A:4944:ARG:HG3	2.07	0.54
1:G:1736:VAL:HG23	1:G:1736:VAL:O	2.08	0.54
1:G:4837:LEU:HD11	1:G:4932:ILE:HG23	1.88	0.54
1:S:4899:ASP:OD1	1:S:4900:GLU:HG3	2.08	0.54
1:A:1219:LEU:HD13	1:G:3575:LEU:HD13	1.86	0.54
1:A:2670:GLU:OE2	1:A:2916:LYS:CE	2.55	0.54
1:G:316:PHE:CE1	1:G:348:VAL:HG22	2.43	0.54
1:G:4217:PHE:CD1	1:G:4237:PHE:HB2	2.42	0.54
1:M:4899:ASP:OD1	1:M:4900:GLU:HG3	2.08	0.54
1:S:20:VAL:HG21	1:S:202:MET:CG	2.38	0.54
1:S:1943:LEU:HD13	1:S:2098:VAL:HG22	1.88	0.54
1:S:3078:ARG:NH1	1:S:3155:ASP:OD2	2.40	0.54
1:G:4682:GLU:OE1	1:G:4683:PHE:CD1	2.61	0.54
1:S:1736:VAL:O	1:S:1736:VAL:HG23	2.08	0.54
1:A:3607:GLU:HA	1:A:3610:GLU:HG3	1.89	0.54
1:M:20:VAL:HG21	1:M:202:MET:CG	2.38	0.54
1:M:4837:LEU:HD11	1:M:4932:ILE:HG23	1.88	0.54
1:A:177:GLU:HG2	1:A:177:GLU:O	2.07	0.54
1:G:4670:ILE:HG22	1:G:4714:ASN:ND2	2.23	0.54
1:M:60:PRO:HG2	1:M:62:LEU:HD11	1.90	0.54
1:S:1454:THR:OG1	1:S:1456:ASP:OD1	2.24	0.54
1:G:3130:THR:HA	1:G:3133:THR:HG22	1.90	0.53
1:G:4837:LEU:CD1	1:G:4932:ILE:HG23	2.38	0.53
1:M:293:LEU:HD12	1:M:378:LEU:HD12	1.89	0.53
1:M:4837:LEU:CD1	1:M:4932:ILE:HG23	2.38	0.53
1:S:60:PRO:HG2	1:S:62:LEU:HD11	1.90	0.53
1:A:4579:PHE:CD2	1:A:4639:MET:HE1	2.44	0.53
1:A:4682:GLU:OE1	1:A:4683:PHE:CD1	2.61	0.53
1:G:293:LEU:HD12	1:G:378:LEU:HD12	1.89	0.53
1:G:4899:ASP:OD1	1:G:4900:GLU:HG3	2.08	0.53
5:M:5104:117:H83	5:M:5105:117:C93	2.39	0.53
1:S:4682:GLU:OE1	1:S:4683:PHE:CD1	2.61	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:110:ARG:HH22	1:M:115:ARG:NH2	2.05	0.53
1:M:3130:THR:HA	1:M:3133:THR:HG22	1.90	0.53
1:M:4670:ILE:HG22	1:M:4714:ASN:ND2	2.23	0.53
2:T:80:ASP:OD1	2:T:81:VAL:N	2.41	0.53
1:A:1561:VAL:HG23	1:A:1562:ILE:H	1.74	0.53
1:A:4670:ILE:HG22	1:A:4714:ASN:ND2	2.23	0.53
1:G:2280:VAL:HG22	1:G:2280:VAL:O	2.08	0.53
1:G:4579:PHE:CD2	1:G:4639:MET:HE1	2.44	0.53
2:H:80:ASP:OD1	2:H:81:VAL:N	2.41	0.53
1:S:4093:PHE:CZ	1:S:4097:MET:HE2	2.44	0.53
1:G:110:ARG:HH22	1:G:115:ARG:HH21	1.55	0.53
1:G:483:MET:HE2	1:G:483:MET:HA	1.90	0.53
1:G:3996:PHE:HD1	1:G:4016:LEU:HD11	1.73	0.53
1:M:4682:GLU:OE1	1:M:4683:PHE:CD1	2.61	0.53
1:S:2670:GLU:OE2	1:S:2916:LYS:CE	2.55	0.53
1:S:3607:GLU:HA	1:S:3610:GLU:HG3	1.89	0.53
1:A:1164:LEU:HB2	1:A:1169:LEU:HD21	1.91	0.53
1:G:1561:VAL:HG23	1:G:1562:ILE:H	1.74	0.53
1:M:1736:VAL:HG23	1:M:1736:VAL:O	2.08	0.53
1:S:3996:PHE:HD1	1:S:4016:LEU:HD11	1.73	0.53
1:A:20:VAL:HG21	1:A:202:MET:CG	2.38	0.53
1:A:2778:GLY:HA3	1:A:2787:THR:HB	1.89	0.53
1:A:3130:THR:HA	1:A:3133:THR:HG22	1.90	0.53
1:G:419:ASP:OD1	1:G:419:ASP:O	2.27	0.53
1:M:316:PHE:CE1	1:M:348:VAL:HG22	2.43	0.53
1:S:4579:PHE:CD2	1:S:4639:MET:HE1	2.44	0.53
1:S:4670:ILE:HG22	1:S:4714:ASN:ND2	2.23	0.53
1:G:110:ARG:HH22	1:G:115:ARG:NH2	2.05	0.53
1:M:4093:PHE:CZ	1:M:4097:MET:HE2	2.44	0.53
1:A:52:THR:O	1:A:52:THR:CG2	2.57	0.53
1:A:627:PRO:HG3	2:B:90:GLY:HA2	1.91	0.53
1:M:52:THR:O	1:M:52:THR:CG2	2.57	0.53
1:M:4205:TRP:CH2	1:M:4989:MET:CE	2.89	0.53
1:M:4579:PHE:CD2	1:M:4639:MET:HE1	2.44	0.53
1:G:627:PRO:HG3	2:H:90:GLY:HA2	1.91	0.53
1:G:1164:LEU:HB2	1:G:1169:LEU:HD21	1.91	0.53
1:M:483:MET:HE2	1:M:483:MET:HA	1.90	0.53
1:M:1008:SER:HB3	1:M:1017:ARG:HB3	1.91	0.53
1:M:3996:PHE:HD1	1:M:4016:LEU:HD11	1.73	0.53
1:S:316:PHE:CE1	1:S:348:VAL:HG22	2.43	0.53
1:S:1164:LEU:HB2	1:S:1169:LEU:HD21	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4207:MET:HA	1:A:4207:MET:HE2	1.91	0.52
1:A:4899:ASP:OD1	1:A:4900:GLU:HG3	2.08	0.52
1:G:60:PRO:HG2	1:G:62:LEU:HD11	1.90	0.52
1:G:989:ALA:HA	1:G:1039:LEU:CD1	2.39	0.52
1:G:4093:PHE:CZ	1:G:4097:MET:HE2	2.44	0.52
1:M:627:PRO:HG3	2:N:90:GLY:HA2	1.91	0.52
1:M:1815:LEU:HD22	1:M:1845:VAL:HG21	1.91	0.52
1:S:627:PRO:HG3	2:T:90:GLY:HA2	1.91	0.52
1:S:1561:VAL:HG23	1:S:1562:ILE:H	1.74	0.52
5:S:5104:117:H83	5:S:5105:117:C93	2.39	0.52
1:A:110:ARG:HH22	1:A:115:ARG:HH21	1.55	0.52
1:A:989:ALA:HA	1:A:1039:LEU:CD1	2.39	0.52
1:A:1736:VAL:HG23	1:A:1736:VAL:O	2.08	0.52
1:A:3996:PHE:HD1	1:A:4016:LEU:HD11	1.73	0.52
1:M:169:LEU:HD12	1:M:171:LEU:HD11	1.92	0.52
1:S:1815:LEU:HD22	1:S:1845:VAL:HG21	1.91	0.52
1:A:60:PRO:HG2	1:A:62:LEU:HD11	1.90	0.52
1:A:1454:THR:OG1	1:A:1456:ASP:OD1	2.24	0.52
1:G:52:THR:O	1:G:52:THR:CG2	2.57	0.52
1:G:110:ARG:NH2	1:G:115:ARG:CZ	2.73	0.52
1:S:419:ASP:OD1	1:S:419:ASP:O	2.27	0.52
1:S:483:MET:HA	1:S:483:MET:HE2	1.90	0.52
1:S:1008:SER:HB3	1:S:1017:ARG:HB3	1.91	0.52
1:A:169:LEU:HD12	1:A:171:LEU:HD11	1.92	0.52
1:A:233:ILE:O	1:A:257:ARG:NH1	2.42	0.52
1:G:2628:PHE:HZ	1:G:2907:PRO:HD3	1.74	0.52
1:G:4207:MET:HE2	1:G:4207:MET:HA	1.91	0.52
1:M:1561:VAL:HG23	1:M:1562:ILE:H	1.74	0.52
1:S:3130:THR:HA	1:S:3133:THR:HG22	1.90	0.52
1:A:110:ARG:NH2	1:A:115:ARG:CZ	2.73	0.52
1:G:1008:SER:HB3	1:G:1017:ARG:HB3	1.91	0.52
1:G:1561:VAL:HG23	1:G:1562:ILE:N	2.25	0.52
1:M:2628:PHE:HZ	1:M:2907:PRO:HD3	1.74	0.52
1:S:233:ILE:O	1:S:257:ARG:NH1	2.42	0.52
1:S:989:ALA:HA	1:S:1039:LEU:CD1	2.39	0.52
1:S:1561:VAL:HG23	1:S:1562:ILE:N	2.25	0.52
1:S:4837:LEU:CD1	1:S:4932:ILE:HG23	2.38	0.52
1:A:419:ASP:O	1:A:419:ASP:OD1	2.27	0.52
1:A:483:MET:HE2	1:A:483:MET:HA	1.90	0.52
1:A:4093:PHE:CZ	1:A:4097:MET:HE2	2.44	0.52
1:A:4837:LEU:CD1	1:A:4932:ILE:HG23	2.38	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:3545:THR:O	1:M:3549:VAL:HG22	2.10	0.52
1:S:52:THR:O	1:S:52:THR:CG2	2.57	0.52
1:A:4205:TRP:CH2	1:A:4989:MET:CE	2.89	0.52
1:G:169:LEU:HD12	1:G:171:LEU:HD11	1.92	0.52
1:G:2670:GLU:OE2	1:G:2916:LYS:CE	2.55	0.52
1:G:4791:TYR:OH	1:G:4815:ASP:OD1	2.28	0.52
1:S:3545:THR:O	1:S:3549:VAL:HG22	2.10	0.52
1:A:1561:VAL:HG23	1:A:1562:ILE:N	2.25	0.52
1:M:1024:TYR:HA	1:M:1027:LEU:HD12	1.92	0.52
1:S:1024:TYR:HA	1:S:1027:LEU:HD12	1.92	0.52
1:G:4207:MET:O	1:G:4210:VAL:HG22	2.10	0.52
1:M:989:ALA:CB	1:M:1039:LEU:HD12	2.35	0.52
1:A:275:ARG:NH1	1:A:338:GLU:OE1	2.43	0.52
1:A:1008:SER:HB3	1:A:1017:ARG:HB3	1.91	0.52
1:A:1024:TYR:HA	1:A:1027:LEU:HD12	1.92	0.52
1:A:3545:THR:O	1:A:3549:VAL:HG22	2.10	0.52
1:G:1024:TYR:HA	1:G:1027:LEU:HD12	1.92	0.52
1:S:110:ARG:NH2	1:S:115:ARG:CZ	2.73	0.52
1:S:2628:PHE:HZ	1:S:2907:PRO:HD3	1.74	0.52
1:S:4220:ASP:C	1:S:4220:ASP:OD2	2.53	0.52
1:A:110:ARG:HH22	1:A:115:ARG:NH2	2.05	0.51
1:A:4834:GLY:O	1:A:4838:VAL:HG23	2.10	0.51
1:G:20:VAL:HG21	1:G:202:MET:CG	2.38	0.51
1:G:1815:LEU:HD22	1:G:1845:VAL:HG21	1.91	0.51
1:G:4220:ASP:OD2	1:G:4220:ASP:C	2.53	0.51
1:A:390:LEU:HD23	1:A:390:LEU:H	1.75	0.51
1:A:4207:MET:O	1:A:4210:VAL:HG22	2.10	0.51
1:G:1928:GLN:HG3	1:G:1928:GLN:O	2.10	0.51
1:G:2970:SER:HA	1:G:2973:PHE:CE2	2.46	0.51
1:M:390:LEU:HD23	1:M:390:LEU:H	1.75	0.51
1:M:419:ASP:OD1	1:M:419:ASP:O	2.27	0.51
1:M:1557:THR:O	1:M:1557:THR:HG22	2.11	0.51
1:M:1561:VAL:HG23	1:M:1562:ILE:N	2.25	0.51
1:M:3992:PHE:HB3	1:M:4023:MET:HE1	1.92	0.51
1:S:4834:GLY:O	1:S:4838:VAL:HG23	2.10	0.51
1:A:1815:LEU:HD22	1:A:1845:VAL:HG21	1.91	0.51
1:A:2970:SER:HA	1:A:2973:PHE:CE2	2.46	0.51
1:M:1164:LEU:HB2	1:M:1169:LEU:HD21	1.91	0.51
1:M:4207:MET:HE2	1:M:4207:MET:HA	1.91	0.51
1:S:169:LEU:HD12	1:S:171:LEU:HD11	1.92	0.51
1:A:2628:PHE:HZ	1:A:2907:PRO:HD3	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:275:ARG:NH1	1:G:338:GLU:OE1	2.43	0.51
1:G:390:LEU:HD23	1:G:390:LEU:H	1.75	0.51
1:G:999:ASP:O	1:G:1002:ALA:HB3	2.11	0.51
1:M:110:ARG:NH2	1:M:115:ARG:CZ	2.73	0.51
1:M:999:ASP:O	1:M:1002:ALA:HB3	2.11	0.51
1:M:1426:ILE:HG21	1:M:1429:ASN:HD22	1.76	0.51
1:M:1928:GLN:O	1:M:1928:GLN:HG3	2.10	0.51
1:M:4791:TYR:OH	1:M:4815:ASP:OD1	2.28	0.51
1:S:3052:HIS:O	1:S:3127:GLN:NE2	2.44	0.51
1:A:1928:GLN:HG3	1:A:1928:GLN:O	2.10	0.51
1:A:3916:ILE:O	1:A:3920:VAL:HG23	2.11	0.51
1:M:989:ALA:HA	1:M:1039:LEU:CD1	2.39	0.51
1:S:989:ALA:CB	1:S:1039:LEU:HD12	2.35	0.51
1:A:1557:THR:O	1:A:1557:THR:HG22	2.11	0.51
1:G:233:ILE:O	1:G:257:ARG:NH1	2.42	0.51
1:G:1454:THR:OG1	1:G:1456:ASP:OD1	2.24	0.51
1:G:1557:THR:HG22	1:G:1557:THR:O	2.11	0.51
5:G:5104:117:H83	5:G:5105:117:C93	2.39	0.51
1:M:1773:PRO:HA	1:M:2153:MET:HE1	1.93	0.51
1:M:4834:GLY:O	1:M:4838:VAL:HG23	2.10	0.51
1:S:1557:THR:O	1:S:1557:THR:HG22	2.11	0.51
1:S:1773:PRO:HA	1:S:2153:MET:HE1	1.93	0.51
1:A:1426:ILE:HG21	1:A:1429:ASN:HD22	1.76	0.51
1:M:3916:ILE:O	1:M:3920:VAL:HG23	2.11	0.51
1:S:3916:ILE:O	1:S:3920:VAL:HG23	2.11	0.51
1:A:3052:HIS:O	1:A:3127:GLN:NE2	2.44	0.51
1:A:3078:ARG:NH1	1:A:3155:ASP:OD2	2.40	0.51
1:G:3545:THR:O	1:G:3549:VAL:HG22	2.10	0.51
1:G:3916:ILE:O	1:G:3920:VAL:HG23	2.11	0.51
2:H:106:ASN:OD1	2:H:106:ASN:C	2.54	0.51
1:M:3052:HIS:O	1:M:3127:GLN:NE2	2.44	0.51
1:S:275:ARG:NH1	1:S:338:GLU:OE1	2.43	0.51
1:A:3992:PHE:HB3	1:A:4023:MET:HE1	1.92	0.51
1:G:3951:PHE:O	1:G:3955:MET:HG3	2.11	0.51
1:M:985:VAL:HG12	1:M:1036:ARG:HG3	1.93	0.51
1:S:985:VAL:HG12	1:S:1036:ARG:HG3	1.93	0.51
1:A:2355:ARG:NH2	1:A:2449:GLU:OE2	2.44	0.51
1:A:4940:PHE:CE2	1:A:4944:ARG:HD2	2.46	0.51
1:G:4834:GLY:O	1:G:4838:VAL:HG23	2.10	0.51
1:M:233:ILE:O	1:M:257:ARG:NH1	2.42	0.51
1:M:275:ARG:NH1	1:M:338:GLU:OE1	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:3245:VAL:HG12	1:M:3246:LEU:N	2.26	0.51
1:S:4207:MET:HE2	1:S:4207:MET:HA	1.91	0.51
1:S:4207:MET:O	1:S:4210:VAL:HG22	2.10	0.51
1:A:999:ASP:O	1:A:1002:ALA:HB3	2.11	0.50
1:S:1928:GLN:HG3	1:S:1928:GLN:O	2.10	0.50
2:T:106:ASN:OD1	2:T:106:ASN:C	2.54	0.50
1:G:985:VAL:HG12	1:G:1036:ARG:HG3	1.93	0.50
1:G:3052:HIS:O	1:G:3127:GLN:NE2	2.44	0.50
1:G:3992:PHE:HB3	1:G:4023:MET:HE1	1.92	0.50
1:M:2970:SER:HA	1:M:2973:PHE:CE2	2.46	0.50
1:A:4160:LEU:O	1:A:4164:LEU:HD23	2.12	0.50
1:M:3951:PHE:O	1:M:3955:MET:HG3	2.11	0.50
2:N:106:ASN:OD1	2:N:106:ASN:C	2.54	0.50
1:S:390:LEU:HD23	1:S:390:LEU:H	1.75	0.50
1:S:2970:SER:HA	1:S:2973:PHE:CE2	2.46	0.50
1:S:4940:PHE:CE2	1:S:4944:ARG:HD2	2.46	0.50
1:S:214:VAL:HG21	1:S:390:LEU:HD11	1.93	0.50
1:S:404:ILE:HG21	1:S:481:GLU:HG2	1.93	0.50
1:S:3245:VAL:HG12	1:S:3246:LEU:N	2.26	0.50
2:B:106:ASN:OD1	2:B:106:ASN:C	2.54	0.50
1:G:4160:LEU:O	1:G:4164:LEU:HD23	2.12	0.50
1:G:4217:PHE:CE1	1:G:4237:PHE:CB	2.95	0.50
1:M:2670:GLU:OE2	1:M:2916:LYS:CE	2.55	0.50
1:M:4217:PHE:CE1	1:M:4237:PHE:CB	2.95	0.50
1:S:999:ASP:O	1:S:1002:ALA:HB3	2.11	0.50
1:A:985:VAL:HG12	1:A:1036:ARG:HG3	1.93	0.50
1:A:4791:TYR:OH	1:A:4815:ASP:OD1	2.28	0.50
5:A:5104:117:H83	5:A:5105:117:C93	2.39	0.50
1:M:31:GLU:O	1:M:33:LEU:HD12	2.12	0.50
1:M:4207:MET:O	1:M:4210:VAL:HG22	2.10	0.50
1:S:3992:PHE:HB3	1:S:4023:MET:HE1	1.92	0.50
1:A:3951:PHE:O	1:A:3955:MET:HG3	2.11	0.50
1:A:3077:ALA:HA	1:A:3080:VAL:HG12	1.94	0.50
1:A:3245:VAL:HG12	1:A:3246:LEU:N	2.26	0.50
1:G:4940:PHE:CE2	1:G:4944:ARG:HD2	2.46	0.50
1:M:404:ILE:HG21	1:M:481:GLU:HG2	1.93	0.50
1:M:1166:GLY:HA3	1:M:1216:ILE:HG21	1.94	0.50
1:A:1773:PRO:HA	1:A:2153:MET:HE1	1.93	0.50
1:A:4220:ASP:C	1:A:4220:ASP:OD2	2.53	0.50
1:G:989:ALA:CA	1:G:1039:LEU:CD1	2.90	0.50
1:G:3007:ASN:O	1:G:3011:THR:OG1	2.16	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3245:VAL:HG12	1:G:3246:LEU:N	2.26	0.50
1:M:4160:LEU:O	1:M:4164:LEU:HD23	2.12	0.50
1:M:4940:PHE:CE2	1:M:4944:ARG:HD2	2.46	0.50
1:S:509:GLU:O	1:S:513:GLU:OE1	2.30	0.50
1:S:1166:GLY:HA3	1:S:1216:ILE:HG21	1.94	0.50
1:G:1426:ILE:HG21	1:G:1429:ASN:HD22	1.76	0.49
1:S:1426:ILE:HG21	1:S:1429:ASN:HD22	1.76	0.49
1:A:404:ILE:HG21	1:A:481:GLU:HG2	1.93	0.49
1:A:989:ALA:CA	1:A:1039:LEU:CD1	2.90	0.49
1:A:2350:ALA:O	1:A:2354:VAL:HG23	2.13	0.49
1:G:1773:PRO:HA	1:G:2153:MET:HE1	1.93	0.49
1:G:2355:ARG:NH2	1:G:2449:GLU:OE2	2.44	0.49
1:M:214:VAL:HG21	1:M:390:LEU:HD11	1.93	0.49
1:M:2355:ARG:NH2	1:M:2449:GLU:OE2	2.44	0.49
1:M:4220:ASP:OD2	1:M:4220:ASP:C	2.53	0.49
1:A:1166:GLY:HA3	1:A:1216:ILE:HG21	1.94	0.49
1:G:2212:VAL:HG22	1:G:2256:TYR:HE2	1.72	0.49
1:M:989:ALA:CA	1:M:1039:LEU:CD1	2.90	0.49
1:M:1740:PRO:HA	1:M:1743:ARG:HG2	1.95	0.49
1:M:4204:GLN:HB3	1:M:4245:MET:HE2	1.94	0.49
1:S:4791:TYR:OH	1:S:4815:ASP:OD1	2.28	0.49
1:G:3708:THR:O	1:G:3711:THR:HG22	2.13	0.49
1:S:3951:PHE:O	1:S:3955:MET:HG3	2.11	0.49
1:A:509:GLU:O	1:A:513:GLU:OE1	2.30	0.49
1:G:1166:GLY:HA3	1:G:1216:ILE:HG21	1.94	0.49
1:G:2123:LEU:O	1:G:2127:GLN:HG2	2.13	0.49
1:M:3708:THR:O	1:M:3711:THR:HG22	2.13	0.49
1:S:4217:PHE:CE1	1:S:4237:PHE:CB	2.95	0.49
1:A:3708:THR:O	1:A:3711:THR:HG22	2.13	0.49
1:M:1454:THR:OG1	1:M:1456:ASP:OD1	2.24	0.49
1:M:2159:LEU:HD21	1:M:2163:ARG:CZ	2.43	0.49
1:G:404:ILE:HG21	1:G:481:GLU:HG2	1.93	0.49
1:G:4823:LEU:O	1:G:4827:LEU:HD13	2.13	0.49
1:S:31:GLU:O	1:S:33:LEU:HD12	2.12	0.49
1:A:214:VAL:HG21	1:A:390:LEU:HD11	1.93	0.49
1:A:1105:ALA:HB2	1:A:1191:VAL:HG21	1.95	0.49
1:A:4217:PHE:CE1	1:A:4237:PHE:CB	2.95	0.49
1:G:3077:ALA:HA	1:G:3080:VAL:HG12	1.94	0.49
1:M:509:GLU:O	1:M:513:GLU:OE1	2.30	0.49
1:M:2123:LEU:O	1:M:2127:GLN:HG2	2.13	0.49
1:M:3322:ILE:O	1:M:3326:ASN:ND2	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:M:5105:117:H922	5:M:5105:117:N2	2.28	0.49
1:S:989:ALA:CA	1:S:1039:LEU:CD1	2.90	0.49
1:S:1105:ALA:HB2	1:S:1191:VAL:HG21	1.95	0.49
1:S:2355:ARG:NH2	1:S:2449:GLU:OE2	2.44	0.49
1:G:1740:PRO:HA	1:G:1743:ARG:HG2	1.95	0.49
1:G:2350:ALA:O	1:G:2354:VAL:HG23	2.13	0.49
5:G:5105:117:N2	5:G:5105:117:H922	2.28	0.49
1:M:2292:GLU:O	1:M:2296:GLU:HG3	2.13	0.49
1:M:2628:PHE:CZ	1:M:2907:PRO:HD3	2.48	0.49
1:S:110:ARG:HH22	1:S:115:ARG:NH2	2.05	0.49
1:S:3077:ALA:HA	1:S:3080:VAL:HG12	1.94	0.49
1:S:4160:LEU:O	1:S:4164:LEU:HD23	2.12	0.49
1:G:214:VAL:HG21	1:G:390:LEU:HD11	1.93	0.49
1:G:4204:GLN:HB3	1:G:4245:MET:HE2	1.94	0.49
1:S:2350:ALA:O	1:S:2354:VAL:HG23	2.13	0.49
1:S:4204:GLN:HB3	1:S:4245:MET:HE2	1.94	0.49
1:A:31:GLU:O	1:A:33:LEU:HD12	2.12	0.48
1:A:2159:LEU:HD21	1:A:2163:ARG:CZ	2.43	0.48
1:G:282:ILE:HD11	1:G:291:LEU:HD23	1.95	0.48
1:M:990:GLU:HA	1:M:1024:TYR:CD1	2.48	0.48
1:S:2159:LEU:HD21	1:S:2163:ARG:CZ	2.43	0.48
1:S:3708:THR:O	1:S:3711:THR:HG22	2.13	0.48
2:T:53:LYS:C	2:T:54:GLN:OE1	2.56	0.48
1:A:495:ASN:OD1	1:A:553:ARG:CZ	2.61	0.48
1:A:2292:GLU:O	1:A:2296:GLU:HG3	2.13	0.48
1:G:31:GLU:O	1:G:33:LEU:HD12	2.12	0.48
1:G:509:GLU:O	1:G:513:GLU:OE1	2.30	0.48
1:G:2292:GLU:O	1:G:2296:GLU:HG3	2.13	0.48
2:H:53:LYS:C	2:H:54:GLN:OE1	2.56	0.48
1:M:1101:ARG:NH1	1:M:1115:LEU:O	2.46	0.48
1:M:2350:ALA:O	1:M:2354:VAL:HG23	2.13	0.48
1:M:4823:LEU:O	1:M:4827:LEU:HD13	2.13	0.48
5:S:5105:117:H922	5:S:5105:117:N2	2.28	0.48
1:A:274:LEU:HD22	1:A:280:LEU:HD11	1.96	0.48
1:A:4204:GLN:HB3	1:A:4245:MET:HE2	1.94	0.48
5:A:5105:117:H922	5:A:5105:117:N2	2.28	0.48
2:B:53:LYS:C	2:B:54:GLN:OE1	2.56	0.48
1:M:1105:ALA:HB2	1:M:1191:VAL:HG21	1.95	0.48
1:S:2628:PHE:CZ	1:S:2907:PRO:HD3	2.48	0.48
1:A:2124:LEU:HD11	1:A:2128:TYR:HE1	1.79	0.48
1:G:688:LEU:HD23	1:G:690:GLU:H	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1252:HIS:O	1:G:1275:ARG:NH1	2.47	0.48
1:G:3249:LEU:O	1:G:3253:ILE:HD12	2.14	0.48
1:G:3456:GLN:O	1:G:3460:VAL:HG22	2.14	0.48
1:M:2124:LEU:HD11	1:M:2128:TYR:HE1	1.79	0.48
1:M:3768:SER:HA	1:M:3771:HIS:CD2	2.49	0.48
1:S:495:ASN:OD1	1:S:553:ARG:CZ	2.61	0.48
1:S:990:GLU:HA	1:S:1024:TYR:CD1	2.48	0.48
1:S:2292:GLU:O	1:S:2296:GLU:HG3	2.13	0.48
1:G:274:LEU:HD22	1:G:280:LEU:HD11	1.96	0.48
1:G:3768:SER:HA	1:G:3771:HIS:CD2	2.49	0.48
2:B:6:GLU:N	2:B:6:GLU:OE2	2.47	0.48
1:G:2159:LEU:HD21	1:G:2163:ARG:CZ	2.43	0.48
1:M:3249:LEU:O	1:M:3253:ILE:HD12	2.14	0.48
1:M:3456:GLN:O	1:M:3460:VAL:HG22	2.14	0.48
1:M:4860:ARG:HH12	1:S:4629:TYR:HH	1.54	0.48
1:A:264:PRO:HA	1:A:280:LEU:HD23	1.96	0.48
1:A:282:ILE:HD11	1:A:291:LEU:HD23	1.95	0.48
1:A:2628:PHE:CZ	1:A:2907:PRO:HD3	2.48	0.48
1:A:3336:LYS:O	1:A:3340:VAL:HG13	2.13	0.48
1:G:264:PRO:HA	1:G:280:LEU:HD23	1.96	0.48
1:G:495:ASN:OD1	1:G:553:ARG:CZ	2.61	0.48
1:G:990:GLU:HA	1:G:1024:TYR:CD1	2.48	0.48
1:G:3336:LYS:O	1:G:3340:VAL:HG13	2.13	0.48
1:M:3077:ALA:HA	1:M:3080:VAL:HG12	1.94	0.48
1:S:2123:LEU:O	1:S:2127:GLN:HG2	2.13	0.48
1:A:2123:LEU:O	1:A:2127:GLN:HG2	2.13	0.48
2:N:6:GLU:N	2:N:6:GLU:OE2	2.47	0.48
2:N:53:LYS:C	2:N:54:GLN:OE1	2.56	0.48
1:S:3183:VAL:O	1:S:3187:ARG:HG3	2.14	0.48
1:S:3249:LEU:O	1:S:3253:ILE:HD12	2.14	0.48
1:A:1740:PRO:HA	1:A:1743:ARG:HG2	1.95	0.48
1:A:3183:VAL:O	1:A:3187:ARG:HG3	2.14	0.48
1:A:3456:GLN:O	1:A:3460:VAL:HG22	2.14	0.48
1:M:1252:HIS:O	1:M:1275:ARG:NH1	2.47	0.48
1:S:4823:LEU:O	1:S:4827:LEU:HD13	2.13	0.48
1:A:990:GLU:HA	1:A:1024:TYR:CD1	2.48	0.48
2:H:6:GLU:N	2:H:6:GLU:OE2	2.47	0.48
1:S:3546:ASP:O	1:S:3597:GLN:NE2	2.47	0.48
1:S:3768:SER:HA	1:S:3771:HIS:CD2	2.49	0.48
1:A:1251:GLU:N	1:A:1251:GLU:OE1	2.46	0.47
1:A:3768:SER:HA	1:A:3771:HIS:CD2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4823:LEU:O	1:A:4827:LEU:HD13	2.13	0.47
1:G:3546:ASP:O	1:G:3597:GLN:NE2	2.47	0.47
1:M:282:ILE:HD11	1:M:291:LEU:HD23	1.95	0.47
1:M:1219:LEU:HD11	1:S:3575:LEU:HD13	1.96	0.47
1:M:3183:VAL:O	1:M:3187:ARG:HG3	2.14	0.47
1:A:688:LEU:HD23	1:A:690:GLU:H	1.79	0.47
1:G:1105:ALA:HB2	1:G:1191:VAL:HG21	1.95	0.47
1:G:1263:THR:HG22	1:G:1264:VAL:N	2.30	0.47
1:G:3440:GLU:HA	1:G:3443:ILE:HG12	1.96	0.47
1:M:495:ASN:OD1	1:M:553:ARG:CZ	2.61	0.47
1:M:688:LEU:HD23	1:M:690:GLU:H	1.79	0.47
1:S:274:LEU:HD22	1:S:280:LEU:HD11	1.96	0.47
1:S:3440:GLU:HA	1:S:3443:ILE:HG12	1.96	0.47
2:T:6:GLU:N	2:T:6:GLU:OE2	2.47	0.47
1:A:1727:ARG:NH2	1:A:1773:PRO:O	2.47	0.47
1:A:2294:ASP:O	1:A:2298:VAL:HG23	2.15	0.47
1:G:1251:GLU:OE1	1:G:1251:GLU:N	2.46	0.47
1:G:2628:PHE:CZ	1:G:2907:PRO:HD3	2.48	0.47
1:M:1251:GLU:OE1	1:M:1251:GLU:N	2.46	0.47
1:M:3440:GLU:HA	1:M:3443:ILE:HG12	1.96	0.47
1:S:688:LEU:HD23	1:S:690:GLU:H	1.79	0.47
1:G:977:LEU:HD11	1:G:1040:CYS:SG	2.55	0.47
1:M:2294:ASP:O	1:M:2298:VAL:HG23	2.15	0.47
1:M:3336:LYS:O	1:M:3340:VAL:HG13	2.13	0.47
1:S:1251:GLU:OE1	1:S:1251:GLU:N	2.46	0.47
1:S:2650:ARG:NH1	1:S:2651:CYS:SG	2.88	0.47
1:A:1252:HIS:O	1:A:1275:ARG:NH1	2.47	0.47
1:A:3440:GLU:HA	1:A:3443:ILE:HG12	1.96	0.47
1:G:2650:ARG:NH1	1:G:2651:CYS:SG	2.88	0.47
1:S:282:ILE:HD11	1:S:291:LEU:HD23	1.95	0.47
1:S:3336:LYS:O	1:S:3340:VAL:HG13	2.13	0.47
1:S:4740:LEU:HD23	1:S:4741:LEU:HD23	1.96	0.47
1:A:1727:ARG:O	1:A:1731:LEU:HG	2.15	0.47
1:A:3322:ILE:O	1:A:3326:ASN:ND2	2.44	0.47
1:G:1727:ARG:NH2	1:G:1773:PRO:O	2.47	0.47
1:G:2124:LEU:HD11	1:G:2128:TYR:HE1	1.79	0.47
1:M:274:LEU:HD22	1:M:280:LEU:HD11	1.96	0.47
1:M:977:LEU:HD11	1:M:1040:CYS:SG	2.55	0.47
1:M:2650:ARG:NH1	1:M:2651:CYS:SG	2.88	0.47
1:M:3169:LEU:HD21	1:M:3197:LEU:CD2	2.45	0.47
1:M:3546:ASP:O	1:M:3597:GLN:NE2	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:1740:PRO:HA	1:S:1743:ARG:HG2	1.95	0.47
1:S:2294:ASP:O	1:S:2298:VAL:HG23	2.15	0.47
1:S:3106:MET:HA	1:S:3109:ASN:ND2	2.30	0.47
1:A:2650:ARG:NH1	1:A:2651:CYS:SG	2.88	0.47
1:A:3249:LEU:O	1:A:3253:ILE:HD12	2.14	0.47
1:A:3546:ASP:O	1:A:3597:GLN:NE2	2.47	0.47
1:G:1969:LEU:C	1:G:1969:LEU:HD23	2.40	0.47
1:G:3183:VAL:O	1:G:3187:ARG:HG3	2.14	0.47
1:G:3322:ILE:O	1:G:3326:ASN:ND2	2.44	0.47
1:M:264:PRO:HA	1:M:280:LEU:HD23	1.96	0.47
1:M:488:LEU:O	1:M:492:ASP:OD2	2.33	0.47
1:M:600:LEU:CD2	1:M:1669:LEU:HD22	2.45	0.47
1:M:1727:ARG:O	1:M:1731:LEU:HG	2.15	0.47
1:M:4740:LEU:HD23	1:M:4741:LEU:HD23	1.96	0.47
1:S:1252:HIS:O	1:S:1275:ARG:NH1	2.47	0.47
1:A:1263:THR:HG22	1:A:1264:VAL:N	2.30	0.47
1:A:2644:LEU:HD13	1:A:2678:LEU:HD21	1.96	0.47
1:A:3106:MET:HA	1:A:3109:ASN:ND2	2.30	0.47
1:G:488:LEU:O	1:G:492:ASP:OD2	2.33	0.47
1:S:600:LEU:CD2	1:S:1669:LEU:HD22	2.45	0.47
1:S:3456:GLN:O	1:S:3460:VAL:HG22	2.14	0.47
1:A:977:LEU:HD11	1:A:1040:CYS:SG	2.55	0.47
1:A:2251:PHE:CG	1:A:2286:LEU:HD23	2.50	0.47
1:G:3169:LEU:HD21	1:G:3197:LEU:CD2	2.45	0.47
1:M:1164:LEU:CB	1:M:1169:LEU:HD21	2.45	0.47
1:M:2644:LEU:HD13	1:M:2678:LEU:HD21	1.96	0.47
1:M:609:CYS:O	1:M:612:VAL:HG22	2.15	0.47
1:M:2862:LEU:HD11	1:M:2932:MET:HE1	1.97	0.47
1:S:264:PRO:HA	1:S:280:LEU:HD23	1.96	0.47
1:S:488:LEU:O	1:S:492:ASP:OD2	2.33	0.47
1:S:1727:ARG:O	1:S:1731:LEU:HG	2.15	0.47
1:S:2124:LEU:HD11	1:S:2128:TYR:HE1	1.79	0.47
1:A:1969:LEU:HD23	1:A:1969:LEU:C	2.40	0.46
1:A:2624:ARG:NH1	1:A:2906:VAL:HG11	2.31	0.46
1:G:609:CYS:O	1:G:612:VAL:HG22	2.15	0.46
1:G:1101:ARG:NH1	1:G:1115:LEU:O	2.46	0.46
1:G:1164:LEU:CB	1:G:1169:LEU:HD21	2.45	0.46
1:G:3106:MET:HA	1:G:3109:ASN:ND2	2.30	0.46
1:M:3106:MET:HA	1:M:3109:ASN:ND2	2.30	0.46
1:S:2644:LEU:HD13	1:S:2678:LEU:HD21	1.96	0.46
1:A:609:CYS:O	1:A:612:VAL:HG22	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:2624:ARG:NH1	1:M:2906:VAL:HG11	2.31	0.46
1:M:3256:LEU:HB3	1:M:3266:MET:SD	2.56	0.46
1:S:489:ASN:O	1:S:493:ARG:HG2	2.15	0.46
1:S:3256:LEU:HB3	1:S:3266:MET:SD	2.56	0.46
1:S:3322:ILE:O	1:S:3326:ASN:ND2	2.44	0.46
1:A:3169:LEU:HD21	1:A:3197:LEU:CD2	2.45	0.46
1:A:3521:GLY:HA2	1:A:3524:MET:HE2	1.97	0.46
1:G:2251:PHE:CG	1:G:2286:LEU:HD23	2.50	0.46
1:G:2644:LEU:HD13	1:G:2678:LEU:HD21	1.96	0.46
1:S:1164:LEU:CB	1:S:1169:LEU:HD21	2.45	0.46
1:S:1969:LEU:HD23	1:S:1969:LEU:C	2.40	0.46
1:S:2251:PHE:CG	1:S:2286:LEU:HD23	2.50	0.46
1:A:1101:ARG:NH1	1:A:1115:LEU:O	2.46	0.46
1:A:4740:LEU:HD23	1:A:4741:LEU:HD23	1.96	0.46
1:M:1727:ARG:NH2	1:M:1773:PRO:O	2.47	0.46
1:M:2897:LYS:O	1:M:2897:LYS:HG2	2.16	0.46
1:S:609:CYS:O	1:S:612:VAL:HG22	2.15	0.46
1:S:992:GLY:O	1:S:995:VAL:HG12	2.16	0.46
1:S:3169:LEU:HD21	1:S:3197:LEU:CD2	2.45	0.46
1:A:3521:GLY:O	1:A:3524:MET:HG2	2.16	0.46
1:S:2624:ARG:NH1	1:S:2906:VAL:HG11	2.31	0.46
1:A:488:LEU:O	1:A:492:ASP:OD2	2.33	0.46
1:G:2330:ARG:O	1:G:2333:ASP:OD1	2.34	0.46
1:G:2624:ARG:NH1	1:G:2906:VAL:HG11	2.31	0.46
1:G:4838:VAL:O	5:M:5103:117:H20	2.16	0.46
1:M:489:ASN:O	1:M:493:ARG:HG2	2.15	0.46
1:M:683:ARG:NE	1:M:707:VAL:O	2.48	0.46
1:S:977:LEU:HD11	1:S:1040:CYS:SG	2.55	0.46
1:A:600:LEU:CD2	1:A:1669:LEU:HD22	2.45	0.46
1:A:992:GLY:O	1:A:995:VAL:HG12	2.16	0.46
1:A:1464:PHE:O	1:A:1465:ASP:OD1	2.34	0.46
1:A:2348:GLU:O	1:A:2352:VAL:HG23	2.16	0.46
1:A:2825:LYS:HE3	1:A:2827:ARG:O	2.16	0.46
1:A:3256:LEU:HB3	1:A:3266:MET:SD	2.56	0.46
1:A:4217:PHE:CZ	1:A:4234:PHE:HA	2.51	0.46
1:G:489:ASN:O	1:G:493:ARG:HG2	2.15	0.46
1:G:600:LEU:CD2	1:G:1669:LEU:HD22	2.45	0.46
1:G:2897:LYS:O	1:G:2897:LYS:HG2	2.16	0.46
1:M:3521:GLY:O	1:M:3524:MET:HG2	2.16	0.46
1:S:1727:ARG:NH2	1:S:1773:PRO:O	2.47	0.46
1:S:2330:ARG:O	1:S:2333:ASP:OD1	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:489:ASN:O	1:A:493:ARG:HG2	2.15	0.46
1:G:1464:PHE:O	1:G:1465:ASP:OD1	2.34	0.46
1:G:2294:ASP:O	1:G:2298:VAL:HG23	2.15	0.46
1:G:3256:LEU:HB3	1:G:3266:MET:SD	2.56	0.46
1:G:4740:LEU:HD23	1:G:4741:LEU:HD23	1.96	0.46
1:A:387:ALA:C	1:A:388:LEU:HD22	2.41	0.46
1:A:1164:LEU:CB	1:A:1169:LEU:HD21	2.45	0.46
1:A:4952:GLU:OE1	1:A:4952:GLU:HA	2.16	0.46
5:A:5103:117:H20	1:S:4838:VAL:O	2.16	0.46
1:G:1727:ARG:O	1:G:1731:LEU:HG	2.15	0.46
1:G:4222:VAL:HG12	1:G:4950:VAL:HG11	1.98	0.46
1:M:2330:ARG:O	1:M:2333:ASP:OD1	2.34	0.46
1:A:150:MET:SD	1:A:150:MET:N	2.81	0.46
1:A:4567:LEU:HD22	5:A:5104:117:C85	2.46	0.46
1:G:387:ALA:C	1:G:388:LEU:HD22	2.41	0.46
1:G:1087:ARG:HG2	1:G:1154:ASP:CG	2.41	0.46
1:G:2862:LEU:HD11	1:G:2932:MET:HE1	1.97	0.46
1:M:3521:GLY:HA2	1:M:3524:MET:HE2	1.97	0.46
1:M:4838:VAL:O	5:S:5103:117:H20	2.16	0.46
1:G:992:GLY:O	1:G:995:VAL:HG12	2.16	0.45
1:M:2825:LYS:HE3	1:M:2827:ARG:O	2.16	0.45
1:M:4217:PHE:CZ	1:M:4234:PHE:HA	2.51	0.45
1:M:4222:VAL:HG12	1:M:4950:VAL:HG11	1.98	0.45
1:S:62:LEU:HD12	1:S:62:LEU:N	2.31	0.45
1:S:4217:PHE:CZ	1:S:4234:PHE:HA	2.51	0.45
1:S:4567:LEU:HD22	5:S:5104:117:C85	2.46	0.45
1:S:4952:GLU:OE1	1:S:4952:GLU:HA	2.16	0.45
1:A:1087:ARG:HG2	1:A:1154:ASP:CG	2.41	0.45
1:A:4780:PHE:O	1:A:4784:PHE:HD1	1.99	0.45
1:G:4780:PHE:O	1:G:4784:PHE:HD1	1.99	0.45
1:M:62:LEU:N	1:M:62:LEU:HD12	2.31	0.45
1:M:387:ALA:C	1:M:388:LEU:HD22	2.41	0.45
1:M:1464:PHE:O	1:M:1465:ASP:OD1	2.34	0.45
1:S:387:ALA:C	1:S:388:LEU:HD22	2.41	0.45
1:S:989:ALA:HA	1:S:1039:LEU:HD11	1.99	0.45
1:S:1263:THR:HG22	1:S:1264:VAL:N	2.30	0.45
1:A:2330:ARG:O	1:A:2333:ASP:OD1	2.34	0.45
1:M:989:ALA:HA	1:M:1039:LEU:HD11	1.99	0.45
1:M:992:GLY:O	1:M:995:VAL:HG12	2.16	0.45
1:M:1087:ARG:HG2	1:M:1154:ASP:CG	2.41	0.45
1:M:1969:LEU:HD23	1:M:1969:LEU:C	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:62:LEU:HD12	1:A:62:LEU:N	2.31	0.45
1:A:989:ALA:HA	1:A:1039:LEU:HD11	1.99	0.45
1:A:2822:THR:OG1	1:A:2938:THR:OG1	2.35	0.45
1:G:572:PRO:HA	1:G:575:LEU:HD13	1.98	0.45
1:G:2348:GLU:O	1:G:2352:VAL:HG23	2.16	0.45
1:M:2251:PHE:CG	1:M:2286:LEU:HD23	2.50	0.45
1:M:2348:GLU:O	1:M:2352:VAL:HG23	2.16	0.45
1:M:2822:THR:OG1	1:M:2938:THR:OG1	2.35	0.45
1:G:4817:ALA:O	1:G:4823:LEU:HB3	2.17	0.45
1:M:2271:THR:OG1	1:M:2274:ASP:OD2	2.34	0.45
1:M:2624:ARG:HH11	1:M:2906:VAL:HG11	1.82	0.45
1:M:4952:GLU:OE1	1:M:4952:GLU:HA	2.16	0.45
1:S:414:PHE:CE1	1:S:436:LEU:HD22	2.52	0.45
1:S:1087:ARG:HG2	1:S:1154:ASP:CG	2.41	0.45
1:S:3957:VAL:O	1:S:3961:VAL:HG23	2.17	0.45
1:A:414:PHE:CE1	1:A:436:LEU:HD22	2.52	0.45
1:A:3957:VAL:O	1:A:3961:VAL:HG23	2.17	0.45
1:A:4134:GLU:HB2	1:A:4135:PRO:HD3	1.99	0.45
1:A:4716:TRP:CH2	3:A:5101:CFF:H142	2.52	0.45
1:G:414:PHE:CE1	1:G:436:LEU:HD22	2.52	0.45
1:G:4134:GLU:HB2	1:G:4135:PRO:HD3	1.99	0.45
1:G:4217:PHE:CZ	1:G:4234:PHE:HA	2.51	0.45
1:M:414:PHE:CE1	1:M:436:LEU:HD22	2.52	0.45
1:M:2009:LEU:HG	1:M:2023:LEU:HD21	1.99	0.45
1:M:2159:LEU:HD12	1:M:2203:MET:HE2	1.99	0.45
1:M:3080:VAL:O	1:M:3084:GLY:HA3	2.17	0.45
1:S:1464:PHE:O	1:S:1465:ASP:OD1	2.34	0.45
1:S:1819:VAL:HG22	1:S:1926:LEU:HD13	1.98	0.45
1:S:2271:THR:OG1	1:S:2274:ASP:OD2	2.34	0.45
1:A:928:THR:HG23	1:A:988:LEU:HD21	1.98	0.45
1:A:4838:VAL:O	5:G:5103:117:H20	2.16	0.45
1:G:1478:ASP:OD1	1:G:1482:ASN:N	2.50	0.45
1:G:3521:GLY:HA2	1:G:3524:MET:HE2	1.97	0.45
1:G:3521:GLY:O	1:G:3524:MET:HG2	2.16	0.45
1:M:4716:TRP:CH2	3:M:5101:CFF:H142	2.52	0.45
1:S:231:LEU:HD11	1:S:245:VAL:HG12	1.99	0.45
1:S:2009:LEU:HG	1:S:2023:LEU:HD21	1.99	0.45
1:S:2159:LEU:HD12	1:S:2203:MET:HE2	1.99	0.45
1:S:2348:GLU:O	1:S:2352:VAL:HG23	2.16	0.45
1:S:2825:LYS:HE3	1:S:2827:ARG:O	2.16	0.45
1:S:2897:LYS:O	1:S:2897:LYS:HG2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:3521:GLY:O	1:S:3524:MET:HG2	2.16	0.45
1:A:2897:LYS:HG2	1:A:2897:LYS:O	2.16	0.45
1:G:62:LEU:N	1:G:62:LEU:HD12	2.31	0.45
1:M:2151:ASP:OD2	1:M:2189:LYS:NZ	2.41	0.45
1:M:2630:VAL:N	1:M:2631:PRO:HD2	2.32	0.45
1:M:4567:LEU:HD22	5:M:5104:117:C85	2.46	0.45
1:M:4817:ALA:O	1:M:4823:LEU:HB3	2.17	0.45
1:S:2624:ARG:HH11	1:S:2906:VAL:HG11	1.82	0.45
1:S:2862:LEU:HD11	1:S:2932:MET:HE1	1.97	0.45
1:S:3085:PRO:HD2	1:S:3088:VAL:HG21	1.99	0.45
1:S:3569:LEU:HD22	1:S:3569:LEU:H	1.82	0.45
1:S:4716:TRP:CH2	3:S:5101:CFF:H142	2.52	0.45
1:A:990:GLU:HA	1:A:1024:TYR:CG	2.52	0.45
1:A:2630:VAL:N	1:A:2631:PRO:HD2	2.32	0.45
1:A:2862:LEU:HD11	1:A:2932:MET:HE1	1.97	0.45
1:G:1943:LEU:HB2	1:G:2123:LEU:HD21	1.99	0.45
1:G:2825:LYS:HE3	1:G:2827:ARG:O	2.16	0.45
1:G:4853:VAL:O	1:G:4857:ASN:ND2	2.50	0.45
1:M:169:LEU:HD23	1:M:169:LEU:N	2.32	0.45
1:M:2971:GLN:HA	1:M:2974:ILE:HG22	1.99	0.45
1:M:3085:PRO:HD2	1:M:3088:VAL:HG21	1.99	0.45
1:M:3569:LEU:HD22	1:M:3569:LEU:H	1.82	0.45
1:S:928:THR:HG23	1:S:988:LEU:HD21	1.98	0.45
1:S:1101:ARG:NH1	1:S:1115:LEU:O	2.46	0.45
1:S:1123:VAL:HG12	1:S:1132:TRP:HB2	1.99	0.45
1:S:2971:GLN:HA	1:S:2974:ILE:HG22	1.99	0.45
1:S:4569:LEU:CD2	1:S:4646:LEU:HD22	2.47	0.45
1:S:4780:PHE:O	1:S:4784:PHE:HD1	1.99	0.45
1:A:438:ILE:O	1:A:441:VAL:HG12	2.17	0.45
1:A:572:PRO:HA	1:A:575:LEU:HD13	1.98	0.45
1:A:2009:LEU:HG	1:A:2023:LEU:HD21	1.99	0.45
1:A:2971:GLN:HA	1:A:2974:ILE:HG22	1.99	0.45
1:G:990:GLU:HA	1:G:1024:TYR:CG	2.52	0.45
1:G:2009:LEU:HG	1:G:2023:LEU:HD21	1.99	0.45
1:G:4567:LEU:HD22	5:G:5104:117:C85	2.46	0.45
1:M:70:GLU:HG3	1:M:71:GLN:HG2	1.99	0.45
1:S:3521:GLY:HA2	1:S:3524:MET:HE2	1.97	0.45
1:S:3959:LYS:NZ	1:S:4022:ASP:OD2	2.50	0.45
1:S:4853:VAL:O	1:S:4857:ASN:ND2	2.50	0.45
1:A:3969:ILE:HD13	1:A:4030:LEU:HD23	2.00	0.44
1:M:3957:VAL:O	1:M:3961:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:70:GLU:HG3	1:S:71:GLN:HG2	1.99	0.44
1:S:169:LEU:HD23	1:S:169:LEU:N	2.32	0.44
1:S:990:GLU:HA	1:S:1024:TYR:CG	2.52	0.44
1:S:1083:VAL:HG11	1:S:1088:TRP:CD1	2.52	0.44
1:A:989:ALA:CB	1:A:1039:LEU:CD1	2.95	0.44
1:A:2624:ARG:HH11	1:A:2906:VAL:HG11	1.82	0.44
1:A:2763:HIS:HE1	1:A:2790:MET:O	2.01	0.44
1:G:2624:ARG:HH11	1:G:2906:VAL:HG11	1.82	0.44
1:G:2768:PHE:O	1:G:2772:GLN:HG2	2.18	0.44
1:G:3957:VAL:O	1:G:3961:VAL:HG23	2.17	0.44
1:G:4952:GLU:HA	1:G:4952:GLU:OE1	2.16	0.44
1:M:572:PRO:HA	1:M:575:LEU:HD13	1.98	0.44
1:M:600:LEU:HD22	1:M:1669:LEU:HD22	2.00	0.44
1:M:928:THR:HG23	1:M:988:LEU:HD21	1.98	0.44
1:M:1478:ASP:OD1	1:M:1482:ASN:N	2.50	0.44
1:M:1943:LEU:HB2	1:M:2123:LEU:HD21	1.99	0.44
1:M:2768:PHE:O	1:M:2772:GLN:HG2	2.18	0.44
1:M:3571:TRP:CE3	1:M:3575:LEU:HD12	2.53	0.44
1:A:1123:VAL:HG12	1:A:1132:TRP:HB2	1.99	0.44
1:A:1478:ASP:OD1	1:A:1482:ASN:N	2.50	0.44
1:A:3080:VAL:O	1:A:3084:GLY:HA3	2.17	0.44
1:A:4207:MET:HE2	1:A:4207:MET:CA	2.48	0.44
1:G:2763:HIS:HE1	1:G:2790:MET:O	2.01	0.44
1:G:4716:TRP:CH2	3:G:5101:CFF:H142	2.52	0.44
1:M:231:LEU:HD11	1:M:245:VAL:HG12	1.99	0.44
1:S:438:ILE:O	1:S:441:VAL:HG12	2.17	0.44
1:A:73:LEU:HG	1:A:77:ALA:HB3	2.00	0.44
1:A:231:LEU:HD11	1:A:245:VAL:HG12	1.99	0.44
1:A:1083:VAL:HG11	1:A:1088:TRP:CD1	2.52	0.44
1:A:1819:VAL:HG22	1:A:1926:LEU:HD13	1.98	0.44
1:A:2159:LEU:HD12	1:A:2203:MET:HE2	1.99	0.44
1:A:3571:TRP:CE3	1:A:3575:LEU:HD12	2.53	0.44
1:A:4569:LEU:CD2	1:A:4646:LEU:HD22	2.47	0.44
1:A:4817:ALA:O	1:A:4823:LEU:HB3	2.17	0.44
1:G:1123:VAL:HG12	1:G:1132:TRP:HB2	1.99	0.44
1:G:4207:MET:HE2	1:G:4207:MET:CA	2.48	0.44
1:G:4860:ARG:HH12	1:M:4629:TYR:HH	1.51	0.44
1:M:1123:VAL:HG12	1:M:1132:TRP:HB2	1.99	0.44
1:M:1263:THR:HG22	1:M:1264:VAL:N	2.30	0.44
1:M:4134:GLU:HB2	1:M:4135:PRO:HD3	1.99	0.44
1:M:4780:PHE:O	1:M:4784:PHE:HD1	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:600:LEU:HD22	1:S:1669:LEU:HD22	2.00	0.44
1:S:683:ARG:NE	1:S:707:VAL:O	2.48	0.44
1:S:4207:MET:HE2	1:S:4207:MET:CA	2.48	0.44
1:A:2768:PHE:O	1:A:2772:GLN:HG2	2.18	0.44
1:G:169:LEU:HD23	1:G:169:LEU:N	2.32	0.44
1:G:438:ILE:O	1:G:441:VAL:HG12	2.17	0.44
1:G:2630:VAL:N	1:G:2631:PRO:HD2	2.32	0.44
1:M:3969:ILE:HD13	1:M:4030:LEU:HD23	2.00	0.44
1:S:1478:ASP:OD1	1:S:1482:ASN:N	2.50	0.44
1:S:1943:LEU:HB2	1:S:2123:LEU:HD21	1.99	0.44
1:S:3080:VAL:O	1:S:3084:GLY:HA3	2.17	0.44
1:S:4134:GLU:HB2	1:S:4135:PRO:HD3	1.99	0.44
1:A:4708:THR:HG21	1:A:4775:TYR:HB2	2.00	0.44
1:G:70:GLU:HG3	1:G:71:GLN:HG2	1.99	0.44
1:G:73:LEU:HG	1:G:77:ALA:HB3	2.00	0.44
1:G:231:LEU:HD11	1:G:245:VAL:HG12	1.99	0.44
1:M:1819:VAL:HG22	1:M:1926:LEU:HD13	1.98	0.44
1:S:2763:HIS:HE1	1:S:2790:MET:O	2.01	0.44
1:S:4640:GLU:HB3	1:S:4641:PRO:CD	2.48	0.44
1:A:70:GLU:HG3	1:A:71:GLN:HG2	1.99	0.44
1:A:688:LEU:HD23	1:A:689:THR:N	2.33	0.44
1:G:1002:ALA:O	1:G:1003:GLN:C	2.61	0.44
1:G:1819:VAL:HG22	1:G:1926:LEU:HD13	1.98	0.44
1:G:2159:LEU:HD12	1:G:2203:MET:HE2	1.99	0.44
1:G:4569:LEU:CD2	1:G:4646:LEU:HD22	2.47	0.44
1:G:4670:ILE:C	1:G:4714:ASN:HD22	2.26	0.44
1:M:990:GLU:HA	1:M:1024:TYR:CG	2.52	0.44
1:M:3571:TRP:HE3	1:M:3575:LEU:HD12	1.83	0.44
1:M:4207:MET:HE2	1:M:4207:MET:CA	2.48	0.44
1:S:2822:THR:OG1	1:S:2938:THR:OG1	2.35	0.44
1:A:683:ARG:NE	1:A:707:VAL:O	2.48	0.44
1:A:752:VAL:O	1:A:752:VAL:HG13	2.18	0.44
1:G:2295:LEU:O	1:G:2299:VAL:HG23	2.18	0.44
1:G:2822:THR:OG1	1:G:2938:THR:OG1	2.35	0.44
1:G:2874:MET:HE1	1:G:2937:VAL:HG12	2.00	0.44
1:G:2971:GLN:HA	1:G:2974:ILE:HG22	1.99	0.44
1:G:4875:LYS:C	1:G:4876:CYS:SG	3.01	0.44
1:M:438:ILE:O	1:M:441:VAL:HG12	2.17	0.44
1:M:1083:VAL:HG11	1:M:1088:TRP:CD1	2.52	0.44
1:S:4817:ALA:O	1:S:4823:LEU:HB3	2.17	0.44
1:A:2295:LEU:O	1:A:2299:VAL:HG23	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4853:VAL:O	1:A:4857:ASN:ND2	2.50	0.44
1:G:609:CYS:O	1:G:610:ASN:OD1	2.36	0.44
1:G:928:THR:HG23	1:G:988:LEU:HD21	1.98	0.44
1:G:2212:VAL:HG13	1:G:2256:TYR:OH	2.17	0.44
1:G:3080:VAL:O	1:G:3084:GLY:HA3	2.17	0.44
1:M:688:LEU:HD23	1:M:689:THR:N	2.33	0.44
1:M:2295:LEU:O	1:M:2299:VAL:HG23	2.18	0.44
1:M:4875:LYS:C	1:M:4876:CYS:SG	3.01	0.44
1:S:2630:VAL:N	1:S:2631:PRO:HD2	2.32	0.44
1:A:2258:LEU:CD1	1:A:2294:ASP:HB3	2.48	0.43
1:A:3007:ASN:O	1:A:3011:THR:OG1	2.16	0.43
1:A:3569:LEU:H	1:A:3569:LEU:HD22	1.82	0.43
1:G:3569:LEU:H	1:G:3569:LEU:HD22	1.82	0.43
1:M:609:CYS:O	1:M:610:ASN:OD1	2.36	0.43
1:M:4569:LEU:CD2	1:M:4646:LEU:HD22	2.47	0.43
1:M:4853:VAL:O	1:M:4857:ASN:ND2	2.50	0.43
1:M:4879:MET:HG2	1:S:4578:LEU:HA	2.00	0.43
1:S:73:LEU:HG	1:S:77:ALA:HB3	2.00	0.43
1:S:181:HIS:HD1	1:S:196:MET:HB2	1.80	0.43
1:S:688:LEU:HD23	1:S:689:THR:N	2.33	0.43
1:A:609:CYS:O	1:A:610:ASN:OD1	2.36	0.43
1:A:787:VAL:O	1:A:788:LYS:HG3	2.18	0.43
1:A:2271:THR:OG1	1:A:2274:ASP:OD2	2.34	0.43
1:A:3110:LEU:HD21	1:A:3183:VAL:HG22	2.01	0.43
1:A:3959:LYS:NZ	1:A:4022:ASP:OD2	2.50	0.43
1:A:4640:GLU:HB3	1:A:4641:PRO:CD	2.48	0.43
1:A:4875:LYS:C	1:A:4876:CYS:SG	3.01	0.43
1:G:600:LEU:HD22	1:G:1669:LEU:HD22	2.00	0.43
1:G:989:ALA:HA	1:G:1039:LEU:HD11	1.99	0.43
1:G:2151:ASP:OD2	1:G:2189:LYS:NZ	2.41	0.43
1:G:4879:MET:HG2	1:M:4578:LEU:HA	2.00	0.43
1:M:73:LEU:HG	1:M:77:ALA:HB3	2.00	0.43
1:M:752:VAL:HG13	1:M:752:VAL:O	2.18	0.43
1:M:2258:LEU:CD1	1:M:2294:ASP:HB3	2.48	0.43
1:M:4636:THR:C	1:M:4638:TYR:H	2.27	0.43
1:M:4640:GLU:HB3	1:M:4641:PRO:CD	2.48	0.43
1:M:4670:ILE:C	1:M:4714:ASN:HD22	2.26	0.43
2:N:38:ASP:OD1	2:N:39:SER:N	2.51	0.43
1:S:572:PRO:HA	1:S:575:LEU:HD13	1.98	0.43
1:S:3133:THR:HG23	1:S:3134:VAL:HG23	2.01	0.43
1:A:3874:VAL:HG13	1:A:3874:VAL:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4138:ASP:O	1:A:4142:ASN:ND2	2.44	0.43
1:A:4222:VAL:HG12	1:A:4950:VAL:HG11	1.98	0.43
1:A:4838:VAL:O	1:A:4841:VAL:HG22	2.18	0.43
2:B:38:ASP:OD1	2:B:39:SER:N	2.51	0.43
1:G:752:VAL:O	1:G:752:VAL:HG13	2.18	0.43
1:G:1083:VAL:HG11	1:G:1088:TRP:CD1	2.52	0.43
1:G:2965:ARG:HA	1:G:2968:ASP:OD2	2.19	0.43
1:G:3571:TRP:CE3	1:G:3575:LEU:HD12	2.53	0.43
1:G:4640:GLU:HB3	1:G:4641:PRO:CD	2.48	0.43
1:G:4708:THR:HG21	1:G:4775:TYR:HB2	2.00	0.43
1:M:787:VAL:O	1:M:788:LYS:HG3	2.18	0.43
1:M:2212:VAL:HG13	1:M:2256:TYR:OH	2.17	0.43
1:M:3874:VAL:O	1:M:3874:VAL:HG13	2.18	0.43
1:S:2295:LEU:O	1:S:2299:VAL:HG23	2.18	0.43
1:S:3110:LEU:HD21	1:S:3183:VAL:HG22	2.01	0.43
1:S:3571:TRP:CE3	1:S:3575:LEU:HD12	2.53	0.43
1:S:4222:VAL:HG12	1:S:4950:VAL:HG11	1.98	0.43
2:T:38:ASP:OD1	2:T:39:SER:N	2.51	0.43
1:A:1943:LEU:HB2	1:A:2123:LEU:HD21	1.99	0.43
1:A:3400:VAL:HG13	1:A:3403:ARG:HH21	1.83	0.43
1:A:3779:VAL:HG13	1:A:3797:THR:HG22	2.00	0.43
1:A:4636:THR:C	1:A:4638:TYR:H	2.27	0.43
1:G:688:LEU:HD23	1:G:689:THR:N	2.33	0.43
1:G:787:VAL:O	1:G:788:LYS:HG3	2.18	0.43
1:G:2258:LEU:CD1	1:G:2294:ASP:HB3	2.48	0.43
1:G:2599:GLN:O	1:G:2603:ILE:HG13	2.19	0.43
1:G:3874:VAL:O	1:G:3874:VAL:HG13	2.18	0.43
1:G:4838:VAL:O	1:G:4841:VAL:HG22	2.18	0.43
1:M:1002:ALA:O	1:M:1003:GLN:C	2.61	0.43
1:M:2965:ARG:HA	1:M:2968:ASP:OD2	2.19	0.43
1:M:3110:LEU:HD21	1:M:3183:VAL:HG22	2.01	0.43
1:M:3133:THR:HG23	1:M:3134:VAL:HG23	2.01	0.43
1:S:2368:LEU:HD23	1:S:2368:LEU:O	2.19	0.43
1:S:3400:VAL:HG13	1:S:3403:ARG:HH21	1.83	0.43
1:S:3969:ILE:HD13	1:S:4030:LEU:HD23	2.00	0.43
1:S:4636:THR:C	1:S:4638:TYR:H	2.27	0.43
1:S:4838:VAL:O	1:S:4841:VAL:HG22	2.18	0.43
1:A:2368:LEU:HD23	1:A:2368:LEU:O	2.19	0.43
1:A:2599:GLN:O	1:A:2603:ILE:HG13	2.19	0.43
1:A:3060:ASP:OD1	1:A:3060:ASP:N	2.43	0.43
1:A:4041:ALA:O	1:A:4045:VAL:HG23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3110:LEU:HD21	1:G:3183:VAL:HG22	2.01	0.43
1:G:3571:TRP:HE3	1:G:3575:LEU:HD12	1.83	0.43
1:S:2768:PHE:O	1:S:2772:GLN:HG2	2.18	0.43
1:S:4875:LYS:C	1:S:4876:CYS:SG	3.01	0.43
1:A:2122:SER:O	1:A:2126:ARG:HG3	2.19	0.43
1:A:2151:ASP:OD2	1:A:2189:LYS:NZ	2.41	0.43
1:A:2212:VAL:HG13	1:A:2256:TYR:OH	2.17	0.43
1:A:3085:PRO:HD2	1:A:3088:VAL:HG21	1.99	0.43
1:A:3758:MET:SD	1:A:3758:MET:C	3.02	0.43
1:G:2515:GLN:O	1:G:2519:LEU:HG	2.19	0.43
1:G:3085:PRO:HD2	1:G:3088:VAL:HG21	1.99	0.43
1:G:3969:ILE:HD13	1:G:4030:LEU:HD23	2.00	0.43
1:M:989:ALA:CB	1:M:1039:LEU:CD1	2.95	0.43
1:M:3400:VAL:HG13	1:M:3403:ARG:HH21	1.83	0.43
1:M:3838:THR:HG22	1:M:3838:THR:O	2.19	0.43
1:S:2109:ASP:N	1:S:2109:ASP:OD1	2.52	0.43
1:S:2122:SER:O	1:S:2126:ARG:HG3	2.19	0.43
1:S:3758:MET:SD	1:S:3758:MET:C	3.02	0.43
1:A:600:LEU:HD22	1:A:1669:LEU:HD22	2.00	0.43
1:A:2874:MET:HE1	1:A:2937:VAL:HG12	2.00	0.43
1:A:4670:ILE:C	1:A:4714:ASN:HD22	2.26	0.43
1:G:2109:ASP:OD1	1:G:2109:ASP:N	2.52	0.43
1:G:2368:LEU:O	1:G:2368:LEU:HD23	2.19	0.43
1:G:3363:GLY:O	1:G:3367:LYS:HG2	2.19	0.43
1:G:3838:THR:O	1:G:3838:THR:HG22	2.19	0.43
1:M:2599:GLN:O	1:M:2603:ILE:HG13	2.19	0.43
1:M:3261:ALA:HB3	1:M:3266:MET:SD	2.59	0.43
1:M:3959:LYS:NZ	1:M:4022:ASP:OD2	2.50	0.43
1:A:3133:THR:HG23	1:A:3134:VAL:HG23	2.01	0.43
1:A:3363:GLY:O	1:A:3367:LYS:HG2	2.19	0.43
1:G:544:LEU:HD22	1:G:574:VAL:HG13	2.01	0.43
1:G:3400:VAL:HG13	1:G:3403:ARG:HH21	1.83	0.43
1:G:4041:ALA:O	1:G:4045:VAL:HG23	2.19	0.43
1:M:2763:HIS:HE1	1:M:2790:MET:O	2.01	0.43
1:M:3779:VAL:HG13	1:M:3797:THR:HG22	2.00	0.43
1:S:2212:VAL:HG13	1:S:2256:TYR:OH	2.17	0.43
1:S:2258:LEU:CD1	1:S:2294:ASP:HB3	2.48	0.43
1:S:2965:ARG:HA	1:S:2968:ASP:OD2	2.19	0.43
1:S:3261:ALA:HB3	1:S:3266:MET:SD	2.59	0.43
1:S:4006:ASP:HB2	1:S:4009:GLN:OE1	2.19	0.43
1:S:4041:ALA:O	1:S:4045:VAL:HG23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:4708:THR:HG21	1:S:4775:TYR:HB2	2.00	0.43
1:A:544:LEU:HD22	1:A:574:VAL:HG13	2.01	0.43
1:A:1219:LEU:HD11	1:G:3575:LEU:HD13	1.96	0.43
1:A:3085:PRO:O	1:A:3088:VAL:HG22	2.19	0.43
1:A:4006:ASP:HB2	1:A:4009:GLN:OE1	2.19	0.43
1:G:989:ALA:CB	1:G:1039:LEU:CD1	2.95	0.43
1:G:3085:PRO:O	1:G:3088:VAL:HG22	2.19	0.43
1:G:3959:LYS:NZ	1:G:4022:ASP:OD2	2.50	0.43
1:M:996:TRP:CE2	1:M:1000:ARG:HG3	2.54	0.43
1:S:1089:TYR:HD2	1:S:1152:MET:HG2	1.84	0.43
1:S:4670:ILE:C	1:S:4714:ASN:HD22	2.26	0.43
1:A:3550:ARG:CB	1:A:3597:GLN:OE1	2.67	0.43
1:A:4576:ILE:CG2	1:A:4643:LEU:HD13	2.49	0.43
2:H:38:ASP:OD1	2:H:39:SER:N	2.51	0.43
1:M:544:LEU:HD22	1:M:574:VAL:HG13	2.01	0.43
1:M:2515:GLN:O	1:M:2519:LEU:HG	2.19	0.43
1:M:3363:GLY:O	1:M:3367:LYS:HG2	2.19	0.43
1:M:4726:ASP:C	1:M:4726:ASP:OD1	2.62	0.43
1:S:752:VAL:O	1:S:752:VAL:HG13	2.18	0.43
1:S:3874:VAL:O	1:S:3874:VAL:HG13	2.18	0.43
1:A:501:ALA:O	1:A:505:GLU:HG3	2.19	0.42
1:A:1089:TYR:HD2	1:A:1152:MET:HG2	1.84	0.42
1:A:1164:LEU:O	1:A:1167:GLU:N	2.50	0.42
1:A:2499:LYS:O	1:A:2503:VAL:HG23	2.19	0.42
1:A:2750:LYS:HG2	1:A:2750:LYS:O	2.20	0.42
1:A:4091:LYS:O	1:A:4095:LYS:NZ	2.52	0.42
1:A:4879:MET:HG2	1:G:4578:LEU:HA	2.00	0.42
1:G:501:ALA:O	1:G:505:GLU:HG3	2.19	0.42
1:G:3261:ALA:HB3	1:G:3266:MET:SD	2.59	0.42
1:G:4636:THR:C	1:G:4638:TYR:H	2.27	0.42
1:M:575:LEU:HD12	1:M:575:LEU:N	2.35	0.42
1:M:2109:ASP:OD1	1:M:2109:ASP:N	2.52	0.42
1:M:2122:SER:O	1:M:2126:ARG:HG3	2.19	0.42
1:M:3550:ARG:CB	1:M:3597:GLN:OE1	2.67	0.42
1:M:3991:GLY:O	1:M:3995:VAL:HG23	2.19	0.42
1:M:4006:ASP:HB2	1:M:4009:GLN:OE1	2.19	0.42
1:M:4576:ILE:CG2	1:M:4643:LEU:HD13	2.49	0.42
1:S:2499:LYS:O	1:S:2503:VAL:HG23	2.19	0.42
1:S:3363:GLY:O	1:S:3367:LYS:HG2	2.19	0.42
1:A:2515:GLN:O	1:A:2519:LEU:HG	2.19	0.42
1:A:3838:THR:O	1:A:3838:THR:HG22	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3991:GLY:O	1:A:3995:VAL:HG23	2.19	0.42
1:G:411:TYR:HB2	1:G:486:LEU:HD21	2.01	0.42
1:G:2499:LYS:O	1:G:2503:VAL:HG23	2.19	0.42
1:G:3133:THR:HG23	1:G:3134:VAL:HG23	2.01	0.42
1:G:3758:MET:SD	1:G:3758:MET:C	3.02	0.42
1:M:2161:GLN:O	1:M:2165:LEU:CD2	2.67	0.42
1:M:3758:MET:SD	1:M:3758:MET:C	3.02	0.42
1:S:996:TRP:CE2	1:S:1000:ARG:HG3	2.54	0.42
1:S:1164:LEU:O	1:S:1167:GLU:N	2.50	0.42
1:S:2874:MET:HE1	1:S:2937:VAL:HG12	2.00	0.42
1:S:3991:GLY:O	1:S:3995:VAL:HG23	2.19	0.42
1:A:169:LEU:HD23	1:A:169:LEU:N	2.32	0.42
1:A:411:TYR:HB2	1:A:486:LEU:HD21	2.01	0.42
1:A:2965:ARG:HA	1:A:2968:ASP:OD2	2.19	0.42
1:A:3391:GLU:HA	1:A:3394:VAL:HG22	2.01	0.42
1:G:3550:ARG:CB	1:G:3597:GLN:OE1	2.67	0.42
1:M:2499:LYS:O	1:M:2503:VAL:HG23	2.19	0.42
1:M:2639:MET:HB3	1:M:2640:PRO:HD3	2.01	0.42
1:M:3391:GLU:HA	1:M:3394:VAL:HG22	2.01	0.42
1:S:637:LEU:HD12	1:S:637:LEU:N	2.35	0.42
1:S:787:VAL:O	1:S:788:LYS:HG3	2.18	0.42
1:S:2515:GLN:O	1:S:2519:LEU:HG	2.19	0.42
1:S:3571:TRP:HE3	1:S:3575:LEU:HD12	1.83	0.42
1:S:4576:ILE:CG2	1:S:4643:LEU:HD13	2.49	0.42
1:A:2624:ARG:NH1	1:A:2906:VAL:HG21	2.35	0.42
1:G:3046:LEU:O	1:G:3050:VAL:HG23	2.19	0.42
1:G:4576:ILE:CG2	1:G:4643:LEU:HD13	2.49	0.42
1:M:2874:MET:HE1	1:M:2937:VAL:HG12	2.00	0.42
1:M:4682:GLU:OE1	1:M:4682:GLU:C	2.63	0.42
1:M:4708:THR:HG21	1:M:4775:TYR:HB2	2.00	0.42
1:S:501:ALA:O	1:S:505:GLU:HG3	2.19	0.42
1:S:609:CYS:O	1:S:610:ASN:OD1	2.36	0.42
1:S:989:ALA:CB	1:S:1039:LEU:CD1	2.95	0.42
1:S:1935:VAL:O	1:S:1939:MET:HG2	2.20	0.42
1:S:3550:ARG:CB	1:S:3597:GLN:OE1	2.67	0.42
1:A:1297:PHE:CZ	1:A:1542:VAL:HG21	2.55	0.42
1:A:1805:GLU:HA	1:A:1808:ARG:NE	2.35	0.42
1:A:3261:ALA:HB3	1:A:3266:MET:SD	2.59	0.42
1:G:1935:VAL:O	1:G:1939:MET:HG2	2.20	0.42
1:G:2750:LYS:O	1:G:2750:LYS:HG2	2.20	0.42
1:M:3085:PRO:O	1:M:3088:VAL:HG22	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:4041:ALA:O	1:M:4045:VAL:HG23	2.19	0.42
1:S:1272:LEU:CD2	1:S:1561:VAL:HG21	2.44	0.42
1:A:2113:SER:O	1:A:2117:VAL:HG23	2.20	0.42
1:A:2639:MET:HB3	1:A:2640:PRO:HD3	2.01	0.42
1:A:3003:LEU:HB2	1:A:3004:PRO:HD3	2.01	0.42
1:A:4578:LEU:HA	1:S:4879:MET:HG2	2.00	0.42
1:A:4726:ASP:C	1:A:4726:ASP:OD1	2.62	0.42
1:G:1297:PHE:CZ	1:G:1542:VAL:HG21	2.55	0.42
1:G:2122:SER:O	1:G:2126:ARG:HG3	2.19	0.42
1:G:2271:THR:OG1	1:G:2274:ASP:OD2	2.34	0.42
1:G:3536:ALA:HB3	1:G:3600:SER:CB	2.50	0.42
1:G:3991:GLY:O	1:G:3995:VAL:HG23	2.19	0.42
1:M:4838:VAL:O	1:M:4841:VAL:HG22	2.18	0.42
1:M:4928:LEU:O	1:M:4932:ILE:HG13	2.20	0.42
1:S:1297:PHE:CZ	1:S:1542:VAL:HG21	2.55	0.42
1:S:2599:GLN:O	1:S:2603:ILE:HG13	2.19	0.42
1:A:3046:LEU:O	1:A:3050:VAL:HG23	2.19	0.42
1:G:3391:GLU:HA	1:G:3394:VAL:HG22	2.01	0.42
1:G:4006:ASP:HB2	1:G:4009:GLN:OE1	2.19	0.42
1:M:3536:ALA:HB3	1:M:3600:SER:CB	2.50	0.42
1:M:3698:LEU:O	1:M:3702:VAL:HG23	2.20	0.42
1:M:3946:GLN:HA	1:M:3949:ARG:HG2	2.02	0.42
1:S:3085:PRO:O	1:S:3088:VAL:HG22	2.19	0.42
1:S:3391:GLU:HA	1:S:3394:VAL:HG22	2.01	0.42
1:S:4180:ARG:HD3	1:S:4192:ARG:HD3	2.01	0.42
1:S:4726:ASP:C	1:S:4726:ASP:OD1	2.62	0.42
1:A:610:ASN:OD1	1:A:610:ASN:C	2.63	0.42
1:A:3536:ALA:HB3	1:A:3600:SER:CB	2.50	0.42
1:G:2624:ARG:NH1	1:G:2906:VAL:HG21	2.35	0.42
1:G:2639:MET:HB3	1:G:2640:PRO:HD3	2.01	0.42
1:G:4138:ASP:O	1:G:4142:ASN:ND2	2.44	0.42
5:G:5105:117:H71	5:G:5105:117:H91	1.93	0.42
1:M:1089:TYR:HD2	1:M:1152:MET:HG2	1.84	0.42
1:M:2368:LEU:O	1:M:2368:LEU:HD23	2.19	0.42
1:S:3060:ASP:OD1	1:S:3060:ASP:N	2.43	0.42
1:A:1002:ALA:O	1:A:1003:GLN:C	2.61	0.42
1:A:4180:ARG:HD3	1:A:4192:ARG:HD3	2.01	0.42
1:G:996:TRP:CE2	1:G:1000:ARG:HG3	2.54	0.42
1:G:1805:GLU:HA	1:G:1808:ARG:NE	2.35	0.42
1:M:1935:VAL:O	1:M:1939:MET:HG2	2.20	0.42
1:S:575:LEU:N	1:S:575:LEU:HD12	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:2643:LEU:HD23	1:S:2643:LEU:C	2.45	0.42
1:S:3779:VAL:HG13	1:S:3797:THR:HG22	2.00	0.42
1:S:4682:GLU:OE1	1:S:4682:GLU:C	2.63	0.42
1:A:637:LEU:HD12	1:A:637:LEU:N	2.35	0.42
1:A:3571:TRP:HE3	1:A:3575:LEU:HD12	1.83	0.42
1:A:3946:GLN:HA	1:A:3949:ARG:HG2	2.02	0.42
1:G:610:ASN:OD1	1:G:610:ASN:C	2.63	0.42
1:G:2113:SER:O	1:G:2117:VAL:HG23	2.20	0.42
1:G:2643:LEU:HD23	1:G:2643:LEU:C	2.45	0.42
1:G:3006:ILE:HG23	1:G:3010:PHE:CE2	2.55	0.42
1:G:4726:ASP:C	1:G:4726:ASP:OD1	2.62	0.42
1:M:2113:SER:O	1:M:2117:VAL:HG23	2.20	0.42
1:M:2960:LEU:HB3	1:M:3038:MET:HE2	2.02	0.42
1:M:4708:THR:HG22	1:M:4710:SER:H	1.85	0.42
1:S:411:TYR:HB2	1:S:486:LEU:HD21	2.01	0.42
1:S:544:LEU:HD22	1:S:574:VAL:HG13	2.01	0.42
1:S:1805:GLU:HA	1:S:1808:ARG:NE	2.35	0.42
1:S:1805:GLU:HA	1:S:1808:ARG:HE	1.85	0.42
1:S:2750:LYS:O	1:S:2750:LYS:HG2	2.20	0.42
1:A:1935:VAL:O	1:A:1939:MET:HG2	2.20	0.41
1:A:3281:LEU:HB2	1:A:3282:PRO:HD3	2.02	0.41
1:A:4708:THR:HG22	1:A:4710:SER:H	1.85	0.41
1:G:978:THR:N	1:G:981:GLN:OE1	2.50	0.41
1:G:3281:LEU:HB2	1:G:3282:PRO:HD3	2.02	0.41
1:G:4222:VAL:CG1	1:G:4950:VAL:CG1	2.98	0.41
1:G:4928:LEU:O	1:G:4932:ILE:HG13	2.20	0.41
1:M:637:LEU:HD12	1:M:637:LEU:N	2.35	0.41
1:M:1805:GLU:HA	1:M:1808:ARG:HE	1.85	0.41
1:M:2643:LEU:HD23	1:M:2643:LEU:C	2.45	0.41
1:S:2624:ARG:NH1	1:S:2906:VAL:HG21	2.35	0.41
1:S:3536:ALA:HB3	1:S:3600:SER:CB	2.50	0.41
1:A:996:TRP:CE2	1:A:1000:ARG:HG3	2.54	0.41
1:A:2276:ALA:O	1:A:2280:VAL:HG12	2.20	0.41
1:G:390:LEU:H	1:G:390:LEU:CD2	2.32	0.41
1:G:3698:LEU:O	1:G:3702:VAL:HG23	2.20	0.41
1:G:3779:VAL:HG13	1:G:3797:THR:HG22	2.00	0.41
1:M:610:ASN:OD1	1:M:610:ASN:C	2.63	0.41
1:M:2276:ALA:O	1:M:2280:VAL:HG12	2.20	0.41
1:S:1002:ALA:O	1:S:1003:GLN:C	2.61	0.41
1:S:2960:LEU:HB3	1:S:3038:MET:HE2	2.02	0.41
1:S:3006:ILE:HG23	1:S:3010:PHE:CE2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:3838:THR:O	1:S:3838:THR:HG22	2.19	0.41
1:A:390:LEU:H	1:A:390:LEU:CD2	2.32	0.41
1:A:575:LEU:HD12	1:A:575:LEU:N	2.35	0.41
1:A:2109:ASP:N	1:A:2109:ASP:OD1	2.52	0.41
1:A:4682:GLU:OE1	1:A:4682:GLU:C	2.63	0.41
1:G:683:ARG:NE	1:G:707:VAL:O	2.48	0.41
1:G:2333:ASP:OD1	1:G:2334:PHE:N	2.54	0.41
1:G:4682:GLU:OE1	1:G:4682:GLU:C	2.63	0.41
1:M:3003:LEU:HB2	1:M:3004:PRO:HD3	2.01	0.41
1:S:2639:MET:HB3	1:S:2640:PRO:HD3	2.01	0.41
1:S:3046:LEU:O	1:S:3050:VAL:HG23	2.19	0.41
1:G:1089:TYR:HD2	1:G:1152:MET:HG2	1.84	0.41
1:G:1805:GLU:HA	1:G:1808:ARG:HE	1.85	0.41
1:G:2276:ALA:O	1:G:2280:VAL:HG12	2.20	0.41
1:M:501:ALA:O	1:M:505:GLU:HG3	2.19	0.41
1:M:1297:PHE:CZ	1:M:1542:VAL:HG21	2.55	0.41
1:M:1805:GLU:HA	1:M:1808:ARG:NE	2.35	0.41
1:M:3046:LEU:O	1:M:3050:VAL:HG23	2.19	0.41
1:S:610:ASN:OD1	1:S:610:ASN:C	2.63	0.41
1:A:27:THR:HA	1:A:31:GLU:O	2.21	0.41
1:A:2101:MET:HA	1:A:2101:MET:HE3	2.02	0.41
1:A:3316:LEU:HD23	1:A:3353:LEU:CD2	2.51	0.41
1:A:3593:VAL:HA	1:A:3596:VAL:HG22	2.03	0.41
1:G:575:LEU:HD12	1:G:575:LEU:N	2.35	0.41
1:G:1867:GLU:HB2	1:G:1927:LEU:HD12	2.03	0.41
1:G:2161:GLN:O	1:G:2165:LEU:CD2	2.67	0.41
1:G:4020:GLN:O	1:G:4024:VAL:HG23	2.21	0.41
1:M:390:LEU:H	1:M:390:LEU:CD2	2.32	0.41
1:M:411:TYR:HB2	1:M:486:LEU:HD21	2.01	0.41
1:S:1694:LEU:O	1:S:1698:LEU:HG	2.20	0.41
1:S:3003:LEU:HB2	1:S:3004:PRO:HD3	2.01	0.41
1:S:4779:LYS:O	1:S:4783:ILE:HG13	2.21	0.41
1:S:5034:ASP:O	1:S:5035:GLN:HB2	2.21	0.41
1:A:3006:ILE:HG23	1:A:3010:PHE:CE2	2.55	0.41
1:G:637:LEU:HD12	1:G:637:LEU:N	2.35	0.41
1:G:828:GLU:OE2	1:G:831:ARG:NH1	2.51	0.41
1:G:4708:THR:HG22	1:G:4710:SER:H	1.85	0.41
1:G:5034:ASP:O	1:G:5035:GLN:HB2	2.21	0.41
1:M:27:THR:HA	1:M:31:GLU:O	2.21	0.41
1:M:1139:PHE:HZ	1:M:1169:LEU:O	2.04	0.41
1:M:4180:ARG:HD3	1:M:4192:ARG:HD3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:27:THR:HA	1:S:31:GLU:O	2.21	0.41
1:S:390:LEU:H	1:S:390:LEU:CD2	2.32	0.41
1:S:2333:ASP:OD1	1:S:2334:PHE:N	2.54	0.41
1:S:3316:LEU:HD23	1:S:3353:LEU:CD2	2.51	0.41
1:S:3698:LEU:O	1:S:3702:VAL:HG23	2.20	0.41
1:S:3946:GLN:HA	1:S:3949:ARG:HG2	2.02	0.41
1:S:4928:LEU:O	1:S:4932:ILE:HG13	2.20	0.41
1:A:1805:GLU:HA	1:A:1808:ARG:HE	1.85	0.41
1:A:2333:ASP:OD1	1:A:2334:PHE:N	2.54	0.41
1:A:2992:GLU:O	1:A:2995:ILE:HG22	2.21	0.41
1:G:4772:ASP:OD1	1:G:4775:TYR:N	2.46	0.41
2:H:24:VAL:HG22	2:H:48:LYS:HG2	2.02	0.41
1:M:495:ASN:OD1	1:M:553:ARG:NH1	2.54	0.41
1:M:1426:ILE:HG23	1:M:1429:ASN:H	1.85	0.41
1:M:2624:ARG:NH1	1:M:2906:VAL:HG21	2.35	0.41
1:S:1184:ILE:HG23	1:S:1185:GLY:N	2.36	0.41
1:A:1426:ILE:HG23	1:A:1429:ASN:H	1.85	0.41
1:A:2643:LEU:HD23	1:A:2643:LEU:C	2.45	0.41
1:A:3698:LEU:O	1:A:3702:VAL:HG23	2.20	0.41
1:G:3593:VAL:HA	1:G:3596:VAL:HG22	2.03	0.41
1:M:1867:GLU:HB2	1:M:1927:LEU:HD12	2.03	0.41
1:M:2750:LYS:O	1:M:2750:LYS:HG2	2.20	0.41
1:M:3281:LEU:HB2	1:M:3282:PRO:HD3	2.02	0.41
1:M:3409:TYR:N	1:M:3410:PRO:HD2	2.36	0.41
1:M:4020:GLN:O	1:M:4024:VAL:HG23	2.21	0.41
5:M:5105:117:H91	5:M:5105:117:H71	1.93	0.41
1:S:828:GLU:OE2	1:S:831:ARG:NH1	2.51	0.41
1:S:1762:LEU:O	1:S:1765:VAL:HG22	2.21	0.41
1:S:1773:PRO:CA	1:S:2153:MET:HE1	2.51	0.41
1:S:3593:VAL:HA	1:S:3596:VAL:HG22	2.03	0.41
1:S:4708:THR:HG22	1:S:4710:SER:H	1.85	0.41
1:A:426:ARG:HB3	1:A:430:PRO:HA	2.03	0.41
1:A:1543:GLU:HG2	1:A:1544:PRO:HD2	2.03	0.41
1:A:1694:LEU:O	1:A:1698:LEU:HG	2.20	0.41
1:A:3530:GLN:O	1:A:3534:MET:HG2	2.21	0.41
1:A:4671:PHE:N	1:A:4714:ASN:HD22	2.19	0.41
1:G:205:ILE:HG23	1:G:206:CYS:N	2.36	0.41
1:G:904:HIS:HE1	1:G:906:CYS:SG	2.43	0.41
1:G:1543:GLU:HG2	1:G:1544:PRO:HD2	2.03	0.41
1:G:2960:LEU:HB3	1:G:3038:MET:HE2	2.02	0.41
1:G:3003:LEU:HB2	1:G:3004:PRO:HD3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3530:GLN:O	1:G:3534:MET:HG2	2.21	0.41
1:G:3946:GLN:HA	1:G:3949:ARG:HG2	2.02	0.41
1:G:4091:LYS:O	1:G:4095:LYS:NZ	2.52	0.41
1:G:4779:LYS:O	1:G:4782:VAL:HG12	2.21	0.41
1:M:196:MET:HE2	1:M:196:MET:N	2.36	0.41
1:M:426:ARG:HB3	1:M:430:PRO:HA	2.03	0.41
1:M:1164:LEU:O	1:M:1167:GLU:N	2.50	0.41
1:M:1773:PRO:CA	1:M:2153:MET:HE1	2.51	0.41
1:M:3006:ILE:HG23	1:M:3010:PHE:CE2	2.55	0.41
1:M:3593:VAL:HA	1:M:3596:VAL:HG22	2.03	0.41
1:S:664:PHE:CE1	1:S:746:CYS:HB2	2.56	0.41
1:S:2101:MET:HA	1:S:2101:MET:HE3	2.02	0.41
1:S:2113:SER:O	1:S:2117:VAL:HG23	2.20	0.41
1:S:3281:LEU:HB2	1:S:3282:PRO:HD3	2.02	0.41
1:S:3409:TYR:N	1:S:3410:PRO:HD2	2.36	0.41
1:S:4231:MET:O	1:S:4235:VAL:HG23	2.21	0.41
1:A:1024:TYR:CZ	1:A:1032:LYS:HG2	2.56	0.41
1:A:1184:ILE:HG23	1:A:1185:GLY:N	2.36	0.41
1:A:3409:TYR:N	1:A:3410:PRO:HD2	2.36	0.41
1:A:5034:ASP:O	1:A:5035:GLN:HB2	2.21	0.41
1:G:664:PHE:CE1	1:G:746:CYS:HB2	2.56	0.41
1:G:1828:ASP:N	1:G:1828:ASP:OD1	2.54	0.41
1:G:2101:MET:HA	1:G:2101:MET:HE3	2.02	0.41
1:G:3201:MET:HA	1:G:3202:PRO:HD3	1.98	0.41
1:M:1184:ILE:HG23	1:M:1185:GLY:N	2.36	0.41
1:M:1694:LEU:O	1:M:1698:LEU:HG	2.20	0.41
1:M:3812:VAL:O	1:M:3816:MET:HG3	2.21	0.41
2:N:24:VAL:HG22	2:N:48:LYS:HG2	2.02	0.41
1:S:196:MET:HE2	1:S:196:MET:N	2.36	0.41
1:S:1024:TYR:CZ	1:S:1032:LYS:HG2	2.56	0.41
1:S:1867:GLU:HB2	1:S:1927:LEU:HD12	2.03	0.41
2:T:24:VAL:HG22	2:T:48:LYS:HG2	2.02	0.41
1:A:495:ASN:OD1	1:A:553:ARG:NH1	2.54	0.40
1:A:1154:ASP:OD1	1:A:1156:THR:OG1	2.39	0.40
1:A:4020:GLN:O	1:A:4024:VAL:HG23	2.21	0.40
1:G:202:MET:HE2	1:G:202:MET:HB2	1.99	0.40
1:G:3409:TYR:N	1:G:3410:PRO:HD2	2.36	0.40
1:G:4662:ASN:O	1:G:4662:ASN:OD1	2.40	0.40
1:G:4671:PHE:N	1:G:4714:ASN:HD22	2.19	0.40
1:M:1272:LEU:CD2	1:M:1561:VAL:HG21	2.44	0.40
1:M:1762:LEU:O	1:M:1765:VAL:HG22	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:2101:MET:HE3	1:M:2101:MET:HA	2.02	0.40
1:M:4231:MET:O	1:M:4235:VAL:HG23	2.21	0.40
1:S:495:ASN:OD1	1:S:553:ARG:NH1	2.54	0.40
1:S:904:HIS:HE1	1:S:906:CYS:SG	2.43	0.40
1:S:1154:ASP:OD1	1:S:1156:THR:OG1	2.39	0.40
1:S:2276:ALA:O	1:S:2280:VAL:HG12	2.20	0.40
1:S:3916:ILE:CG2	1:S:3980:LEU:HD21	2.51	0.40
1:S:4671:PHE:N	1:S:4714:ASN:HD22	2.19	0.40
1:S:4779:LYS:O	1:S:4782:VAL:HG12	2.21	0.40
1:A:904:HIS:HE1	1:A:906:CYS:SG	2.43	0.40
1:G:462:GLU:HG2	1:G:463:GLU:N	2.37	0.40
1:G:495:ASN:OD1	1:G:553:ARG:NH1	2.54	0.40
1:G:3316:LEU:HD23	1:G:3353:LEU:CD2	2.51	0.40
1:G:3812:VAL:O	1:G:3816:MET:HG3	2.21	0.40
1:G:3916:ILE:CG2	1:G:3980:LEU:HD21	2.51	0.40
1:M:904:HIS:HE1	1:M:906:CYS:SG	2.43	0.40
1:M:1154:ASP:OD1	1:M:1156:THR:OG1	2.39	0.40
1:M:3530:GLN:O	1:M:3534:MET:HG2	2.21	0.40
1:M:4779:LYS:O	1:M:4782:VAL:HG12	2.21	0.40
1:M:4779:LYS:O	1:M:4783:ILE:HG13	2.21	0.40
1:S:1841:VAL:O	1:S:1845:VAL:HG23	2.22	0.40
1:A:1272:LEU:CD2	1:A:1561:VAL:HG21	2.44	0.40
1:A:1846:SER:O	1:A:1850:VAL:HG23	2.22	0.40
1:A:2865:VAL:HG21	1:A:2932:MET:HE2	2.04	0.40
1:A:4779:LYS:O	1:A:4782:VAL:HG12	2.21	0.40
1:G:196:MET:HE2	1:G:196:MET:N	2.36	0.40
1:G:1024:TYR:CZ	1:G:1032:LYS:HG2	2.56	0.40
1:G:4180:ARG:HD3	1:G:4192:ARG:HD3	2.01	0.40
1:G:4779:LYS:O	1:G:4783:ILE:HG13	2.21	0.40
1:M:1543:GLU:HG2	1:M:1544:PRO:HD2	2.03	0.40
1:M:1846:SER:O	1:M:1850:VAL:HG23	2.22	0.40
1:M:2333:ASP:OD1	1:M:2334:PHE:N	2.54	0.40
1:M:3050:VAL:HG21	1:M:3068:LEU:HD11	2.03	0.40
1:M:3316:LEU:HD23	1:M:3353:LEU:CD2	2.51	0.40
1:S:2203:MET:HE2	1:S:2203:MET:HB3	1.97	0.40
1:S:2992:GLU:O	1:S:2995:ILE:HG22	2.21	0.40
1:S:3812:VAL:O	1:S:3816:MET:HG3	2.21	0.40
1:A:1139:PHE:HZ	1:A:1169:LEU:O	2.04	0.40
1:A:1867:GLU:HB2	1:A:1927:LEU:HD12	2.03	0.40
1:A:2527:LEU:HD12	1:A:2530:MET:CE	2.50	0.40
1:A:2960:LEU:HB3	1:A:3038:MET:HE2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3812:VAL:O	1:A:3816:MET:HG3	2.21	0.40
1:G:1154:ASP:OD1	1:G:1156:THR:OG1	2.39	0.40
1:G:1694:LEU:O	1:G:1698:LEU:HG	2.20	0.40
5:G:5105:117:H62	5:G:5105:117:C81	2.52	0.40
1:M:5034:ASP:O	1:M:5035:GLN:HB2	2.21	0.40
5:M:5105:117:H62	5:M:5105:117:C81	2.52	0.40
1:S:1426:ILE:HG23	1:S:1429:ASN:H	1.85	0.40
1:S:1846:SER:O	1:S:1850:VAL:HG23	2.22	0.40
1:S:4222:VAL:CG1	1:S:4950:VAL:CG1	2.98	0.40
1:A:2161:GLN:O	1:A:2165:LEU:CD2	2.67	0.40
1:A:3916:ILE:CG2	1:A:3980:LEU:HD21	2.51	0.40
2:B:24:VAL:HG22	2:B:48:LYS:HG2	2.02	0.40
1:G:172:VAL:HG22	1:G:179:TYR:CD1	2.57	0.40
1:G:426:ARG:HB3	1:G:430:PRO:HA	2.03	0.40
1:G:1139:PHE:HZ	1:G:1169:LEU:O	2.04	0.40
1:G:1426:ILE:HG23	1:G:1429:ASN:H	1.85	0.40
1:G:1762:LEU:O	1:G:1765:VAL:HG22	2.21	0.40
1:G:2525:GLY:O	1:G:2528:PRO:HD2	2.22	0.40
1:M:1841:VAL:O	1:M:1845:VAL:HG23	2.22	0.40
1:M:2638:LYS:HD2	1:M:2698:MET:SD	2.62	0.40
1:M:3388:GLU:O	1:M:3392:LEU:CD2	2.70	0.40
1:M:4662:ASN:O	1:M:4662:ASN:OD1	2.40	0.40
1:S:752:VAL:O	1:S:752:VAL:CG1	2.69	0.40
1:S:1139:PHE:HZ	1:S:1169:LEU:O	2.04	0.40
1:S:2161:GLN:O	1:S:2165:LEU:CD2	2.67	0.40
1:S:2914:LYS:HA	1:S:2914:LYS:HD2	1.94	0.40
1:S:3530:GLN:O	1:S:3534:MET:HG2	2.21	0.40
5:S:5105:117:C81	5:S:5105:117:H62	2.52	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	3992/5037 (79%)	3897 (98%)	94 (2%)	1 (0%)	100	100
1	G	3992/5037 (79%)	3897 (98%)	94 (2%)	1 (0%)	100	100
1	M	3992/5037 (79%)	3897 (98%)	94 (2%)	1 (0%)	100	100
1	S	3992/5037 (79%)	3897 (98%)	94 (2%)	1 (0%)	100	100
2	B	105/111 (95%)	100 (95%)	5 (5%)	0	100	100
2	H	105/111 (95%)	100 (95%)	5 (5%)	0	100	100
2	N	105/111 (95%)	100 (95%)	5 (5%)	0	100	100
2	T	105/111 (95%)	100 (95%)	5 (5%)	0	100	100
All	All	16388/20592 (80%)	15988 (98%)	396 (2%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3971	GLY
1	G	3971	GLY
1	M	3971	GLY
1	S	3971	GLY

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	3379/4276 (79%)	3379 (100%)	0	100	100
1	G	3379/4276 (79%)	3379 (100%)	0	100	100
1	M	3379/4276 (79%)	3379 (100%)	0	100	100
1	S	3379/4276 (79%)	3379 (100%)	0	100	100
2	B	86/91 (94%)	86 (100%)	0	100	100
2	H	86/91 (94%)	86 (100%)	0	100	100
2	N	86/91 (94%)	86 (100%)	0	100	100
2	T	86/91 (94%)	86 (100%)	0	100	100
All	All	13860/17468 (79%)	13860 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (152) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	113	HIS
1	A	201	ASN
1	A	465	GLN
1	A	797	HIS
1	A	909	ASN
1	A	911	HIS
1	A	1429	ASN
1	A	1598	GLN
1	A	1629	GLN
1	A	1640	HIS
1	A	1660	GLN
1	A	1702	HIS
1	A	1928	GLN
1	A	1953	HIS
1	A	2035	HIS
1	A	2100	HIS
1	A	2125	HIS
1	A	2441	HIS
1	A	2515	GLN
1	A	2620	GLN
1	A	2773	ASN
1	A	2780	ASN
1	A	2877	GLN
1	A	2931	GLN
1	A	3146	HIS
1	A	3313	ASN
1	A	3523	ASN
1	A	3608	GLN
1	A	3667	HIS
1	A	3970	GLN
1	A	3976	ASN
1	A	4204	GLN
1	A	4574	ASN
1	A	4714	ASN
1	A	4776	GLN
1	A	4812	HIS
1	A	4947	GLN
1	A	4983	HIS
1	G	113	HIS

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Mol	Chain	Res	Type
1	G	201	ASN
1	G	379	HIS
1	G	465	GLN
1	G	797	HIS
1	G	909	ASN
1	G	911	HIS
1	G	1429	ASN
1	G	1598	GLN
1	G	1629	GLN
1	G	1640	HIS
1	G	1660	GLN
1	G	1702	HIS
1	G	1928	GLN
1	G	1953	HIS
1	G	2035	HIS
1	G	2100	HIS
1	G	2441	HIS
1	G	2515	GLN
1	G	2620	GLN
1	G	2773	ASN
1	G	2780	ASN
1	G	2856	ASN
1	G	2858	GLN
1	G	2877	GLN
1	G	2931	GLN
1	G	3146	HIS
1	G	3313	ASN
1	G	3523	ASN
1	G	3608	GLN
1	G	3667	HIS
1	G	3970	GLN
1	G	3976	ASN
1	G	4204	GLN
1	G	4209	GLN
1	G	4574	ASN
1	G	4714	ASN
1	G	4776	GLN
1	G	4812	HIS
1	G	4983	HIS
1	M	113	HIS
1	M	201	ASN
1	M	379	HIS

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Mol	Chain	Res	Type
1	M	465	GLN
1	M	797	HIS
1	M	909	ASN
1	M	911	HIS
1	M	1429	ASN
1	M	1598	GLN
1	M	1629	GLN
1	M	1640	HIS
1	M	1660	GLN
1	M	1702	HIS
1	M	1928	GLN
1	M	1953	HIS
1	M	2035	HIS
1	M	2100	HIS
1	M	2441	HIS
1	M	2515	GLN
1	M	2620	GLN
1	M	2773	ASN
1	M	2780	ASN
1	M	2877	GLN
1	M	3109	ASN
1	M	3146	HIS
1	M	3313	ASN
1	M	3523	ASN
1	M	3608	GLN
1	M	3667	HIS
1	M	3970	GLN
1	M	4204	GLN
1	M	4209	GLN
1	M	4714	ASN
1	M	4776	GLN
1	M	4812	HIS
1	S	113	HIS
1	S	201	ASN
1	S	465	GLN
1	S	797	HIS
1	S	909	ASN
1	S	911	HIS
1	S	1429	ASN
1	S	1598	GLN
1	S	1629	GLN
1	S	1640	HIS

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Mol	Chain	Res	Type
1	S	1660	GLN
1	S	1702	HIS
1	S	1928	GLN
1	S	1953	HIS
1	S	2035	HIS
1	S	2100	HIS
1	S	2125	HIS
1	S	2441	HIS
1	S	2515	GLN
1	S	2620	GLN
1	S	2773	ASN
1	S	2780	ASN
1	S	2877	GLN
1	S	2931	GLN
1	S	3109	ASN
1	S	3146	HIS
1	S	3313	ASN
1	S	3422	HIS
1	S	3523	ASN
1	S	3608	GLN
1	S	3667	HIS
1	S	3970	GLN
1	S	3976	ASN
1	S	4204	GLN
1	S	4209	GLN
1	S	4714	ASN
1	S	4776	GLN
1	S	4812	HIS
1	S	4947	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 24 ligands modelled in this entry, 8 are monoatomic - leaving 16 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	117	A	5104	-	38,44,44	0.93	1 (2%)	44,61,61	0.75	1 (2%)
5	117	S	5103	-	38,44,44	0.99	2 (5%)	44,61,61	1.06	4 (9%)
3	CFF	A	5101	-	8,15,15	0.95	0	8,23,23	0.95	0
5	117	S	5104	-	38,44,44	0.93	1 (2%)	44,61,61	0.75	1 (2%)
3	CFF	M	5101	-	8,15,15	0.95	0	8,23,23	0.95	0
5	117	S	5105	-	38,44,44	1.02	2 (5%)	44,61,61	0.83	2 (4%)
5	117	G	5105	-	38,44,44	1.02	2 (5%)	44,61,61	0.83	2 (4%)
5	117	M	5103	-	38,44,44	0.99	2 (5%)	44,61,61	1.06	4 (9%)
5	117	G	5103	-	38,44,44	0.99	2 (5%)	44,61,61	1.06	4 (9%)
5	117	M	5105	-	38,44,44	1.02	2 (5%)	44,61,61	0.83	2 (4%)
5	117	G	5104	-	38,44,44	0.93	1 (2%)	44,61,61	0.75	1 (2%)
3	CFF	S	5101	-	8,15,15	0.95	0	8,23,23	0.95	0
3	CFF	G	5101	-	8,15,15	0.95	0	8,23,23	0.95	0
5	117	A	5105	-	38,44,44	1.02	2 (5%)	44,61,61	0.83	2 (4%)
5	117	M	5104	-	38,44,44	0.93	1 (2%)	44,61,61	0.75	1 (2%)
5	117	A	5103	-	38,44,44	0.99	2 (5%)	44,61,61	1.06	4 (9%)

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	117	A	5104	-	-	0/21/33/33	0/4/4/4
5	117	S	5103	-	-	2/21/33/33	0/4/4/4
3	CFF	A	5101	-	-	-	0/2/2/2
5	117	S	5104	-	-	0/21/33/33	0/4/4/4
3	CFF	M	5101	-	-	-	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	117	S	5105	-	-	6/21/33/33	0/4/4/4
5	117	G	5105	-	-	6/21/33/33	0/4/4/4
5	117	M	5103	-	-	2/21/33/33	0/4/4/4
5	117	G	5103	-	-	2/21/33/33	0/4/4/4
5	117	M	5105	-	-	6/21/33/33	0/4/4/4
5	117	G	5104	-	-	0/21/33/33	0/4/4/4
3	CFF	S	5101	-	-	-	0/2/2/2
3	CFF	G	5101	-	-	-	0/2/2/2
5	117	A	5105	-	-	6/21/33/33	0/4/4/4
5	117	M	5104	-	-	0/21/33/33	0/4/4/4
5	117	A	5103	-	-	2/21/33/33	0/4/4/4

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	A	5105	117	C10-C8	-2.90	1.39	1.42
5	G	5105	117	C10-C8	-2.90	1.39	1.42
5	M	5105	117	C10-C8	-2.90	1.39	1.42
5	S	5105	117	C10-C8	-2.90	1.39	1.42
5	A	5103	117	C10-C8	-2.86	1.39	1.42
5	G	5103	117	C10-C8	-2.86	1.39	1.42
5	M	5103	117	C10-C8	-2.86	1.39	1.42
5	S	5103	117	C10-C8	-2.86	1.39	1.42
5	A	5105	117	C11-C18	-2.67	1.45	1.51
5	G	5105	117	C11-C18	-2.67	1.45	1.51
5	M	5105	117	C11-C18	-2.67	1.45	1.51
5	S	5105	117	C11-C18	-2.67	1.45	1.51
5	A	5104	117	C10-C8	-2.60	1.39	1.42
5	G	5104	117	C10-C8	-2.60	1.39	1.42
5	M	5104	117	C10-C8	-2.60	1.39	1.42
5	S	5104	117	C10-C8	-2.60	1.39	1.42
5	A	5103	117	C11-C18	-2.47	1.46	1.51
5	G	5103	117	C11-C18	-2.47	1.46	1.51
5	M	5103	117	C11-C18	-2.47	1.46	1.51
5	S	5103	117	C11-C18	-2.47	1.46	1.51

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	A	5103	117	C19-N2-C18	-3.76	116.69	126.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	G	5103	117	C19-N2-C18	-3.76	116.69	126.61
5	M	5103	117	C19-N2-C18	-3.76	116.69	126.61
5	S	5103	117	C19-N2-C18	-3.76	116.69	126.61
5	A	5105	117	C6-C7-N1	2.72	117.93	111.83
5	G	5105	117	C6-C7-N1	2.72	117.93	111.83
5	M	5105	117	C6-C7-N1	2.72	117.93	111.83
5	S	5105	117	C6-C7-N1	2.72	117.93	111.83
5	A	5103	117	C5-C4-C3	2.62	118.43	114.28
5	G	5103	117	C5-C4-C3	2.62	118.43	114.28
5	M	5103	117	C5-C4-C3	2.62	118.43	114.28
5	S	5103	117	C5-C4-C3	2.62	118.43	114.28
5	A	5105	117	C5-C4-C3	2.49	118.22	114.28
5	G	5105	117	C5-C4-C3	2.49	118.22	114.28
5	M	5105	117	C5-C4-C3	2.49	118.22	114.28
5	S	5105	117	C5-C4-C3	2.49	118.22	114.28
5	A	5103	117	C4-C5-C6	-2.27	107.62	112.42
5	G	5103	117	C4-C5-C6	-2.27	107.62	112.42
5	M	5103	117	C4-C5-C6	-2.27	107.62	112.42
5	S	5103	117	C4-C5-C6	-2.27	107.62	112.42
5	A	5104	117	C9-C11-C10	-2.12	105.50	108.22
5	G	5104	117	C9-C11-C10	-2.12	105.50	108.22
5	M	5104	117	C9-C11-C10	-2.12	105.50	108.22
5	S	5104	117	C9-C11-C10	-2.12	105.50	108.22
5	A	5103	117	O3-C3-C4	-2.05	104.71	109.25
5	G	5103	117	O3-C3-C4	-2.05	104.71	109.25
5	M	5103	117	O3-C3-C4	-2.05	104.71	109.25
5	S	5103	117	O3-C3-C4	-2.05	104.71	109.25

There are no chirality outliers.

All (32) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	5105	117	O5-C5-C6-C7
5	A	5105	117	C6-C7-N1-C8
5	G	5105	117	O5-C5-C6-C7
5	G	5105	117	C6-C7-N1-C8
5	M	5105	117	O5-C5-C6-C7
5	M	5105	117	C6-C7-N1-C8
5	S	5105	117	O5-C5-C6-C7
5	S	5105	117	C6-C7-N1-C8
5	A	5103	117	C20-C19-N2-C18
5	G	5103	117	C20-C19-N2-C18

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Mol	Chain	Res	Type	Atoms
5	M	5103	117	C20-C19-N2-C18
5	S	5103	117	C20-C19-N2-C18
5	A	5103	117	C24-C19-N2-C18
5	G	5103	117	C24-C19-N2-C18
5	M	5103	117	C24-C19-N2-C18
5	S	5103	117	C24-C19-N2-C18
5	A	5105	117	C4-C5-C6-C7
5	G	5105	117	C4-C5-C6-C7
5	M	5105	117	C4-C5-C6-C7
5	S	5105	117	C4-C5-C6-C7
5	A	5105	117	N1-C9-C91-C93
5	G	5105	117	N1-C9-C91-C93
5	M	5105	117	N1-C9-C91-C93
5	S	5105	117	N1-C9-C91-C93
5	A	5105	117	O1A-C1-C2-C3
5	G	5105	117	O1A-C1-C2-C3
5	M	5105	117	O1A-C1-C2-C3
5	S	5105	117	O1A-C1-C2-C3
5	A	5105	117	N1-C9-C91-C92
5	G	5105	117	N1-C9-C91-C92
5	M	5105	117	N1-C9-C91-C92
5	S	5105	117	N1-C9-C91-C92

There are no ring outliers.

16 monomers are involved in 41 short contacts:

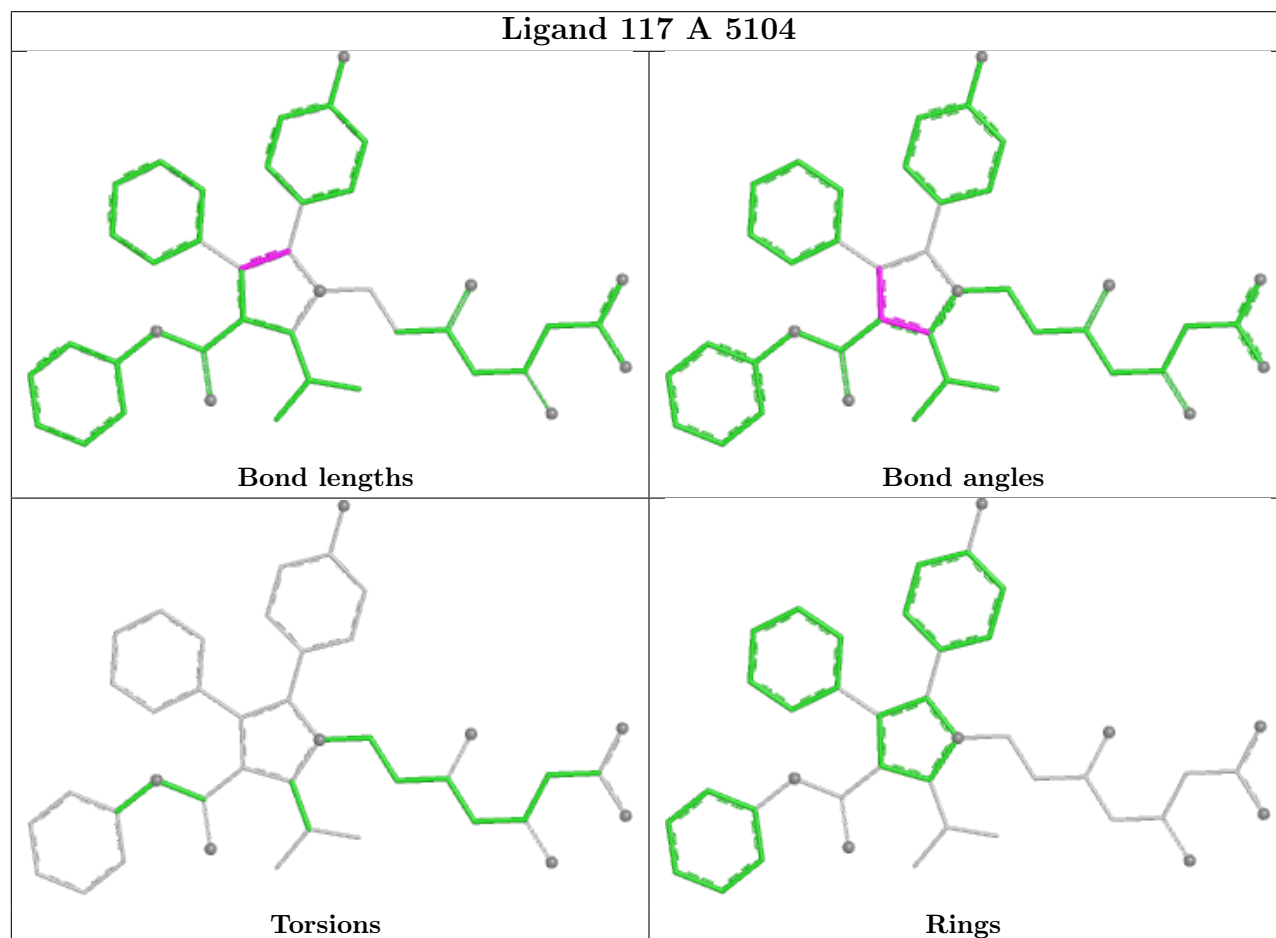
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	5104	117	3	0
5	S	5103	117	4	0
3	A	5101	CFF	1	0
5	S	5104	117	3	0
3	M	5101	CFF	1	0
5	S	5105	117	4	0
5	G	5105	117	5	0
5	M	5103	117	4	0
5	G	5103	117	4	0
5	M	5105	117	5	0
5	G	5104	117	3	0
3	S	5101	CFF	1	0
3	G	5101	CFF	1	0
5	A	5105	117	3	0
5	M	5104	117	3	0

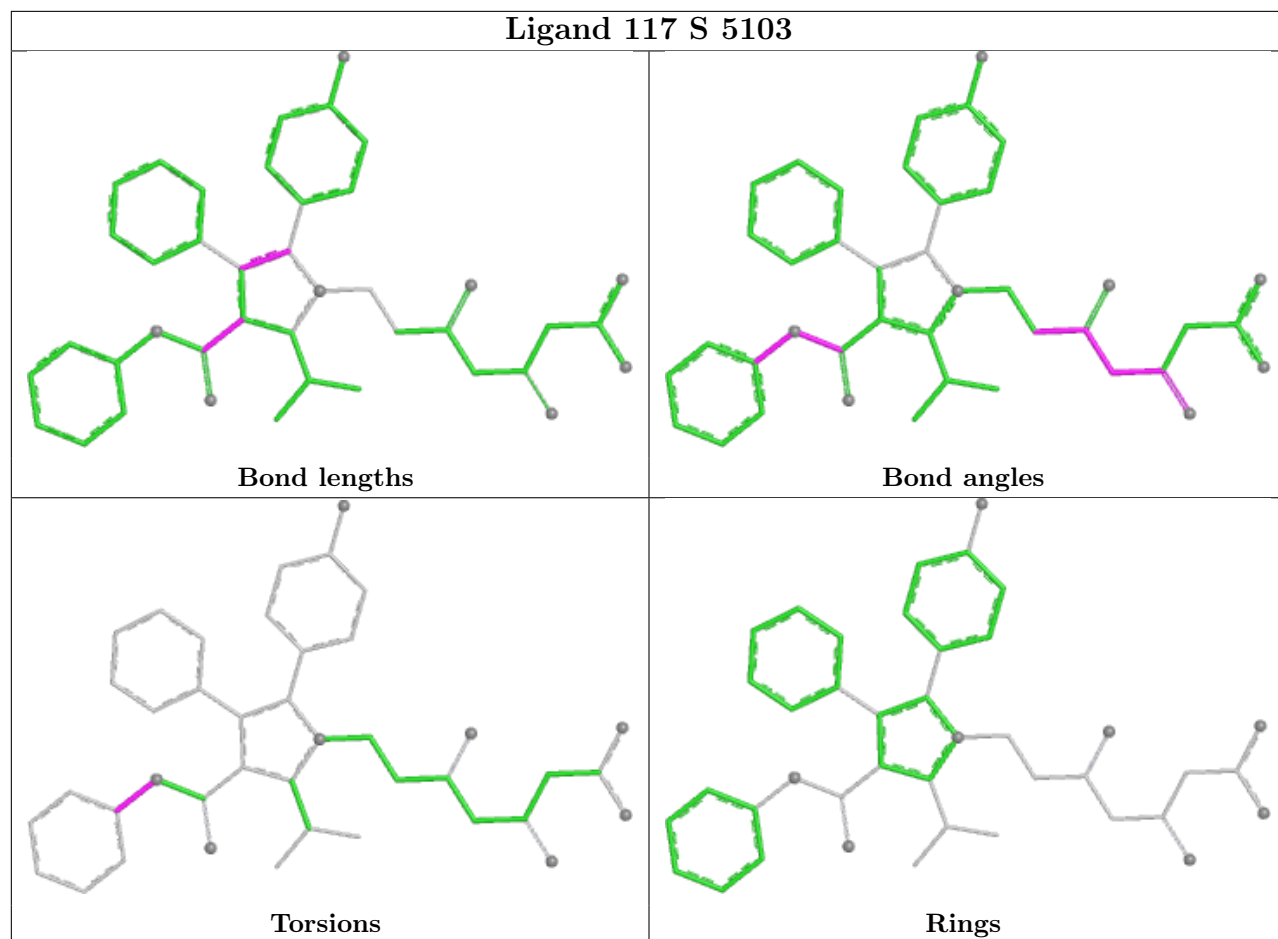
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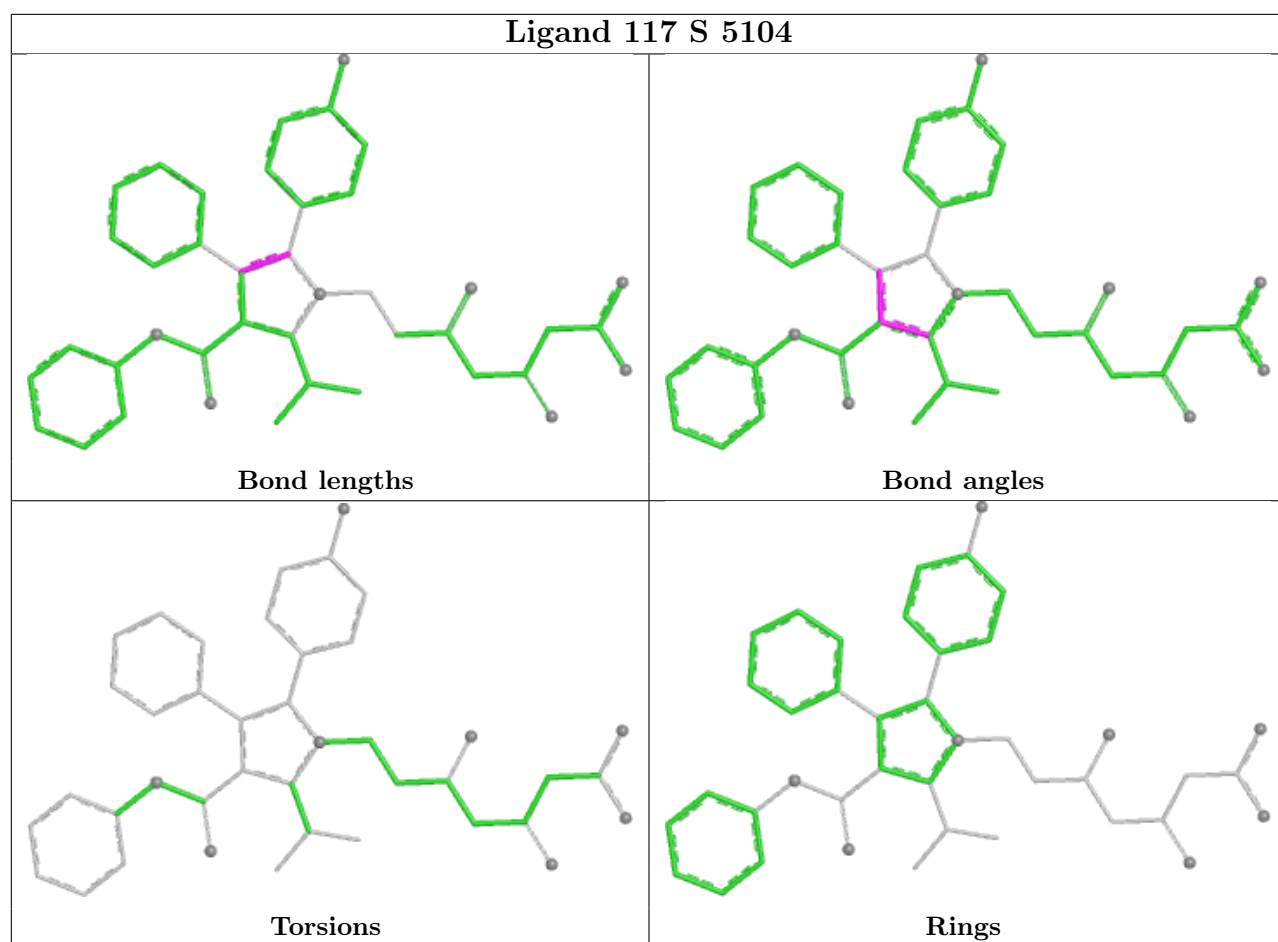
Continued from previous page...

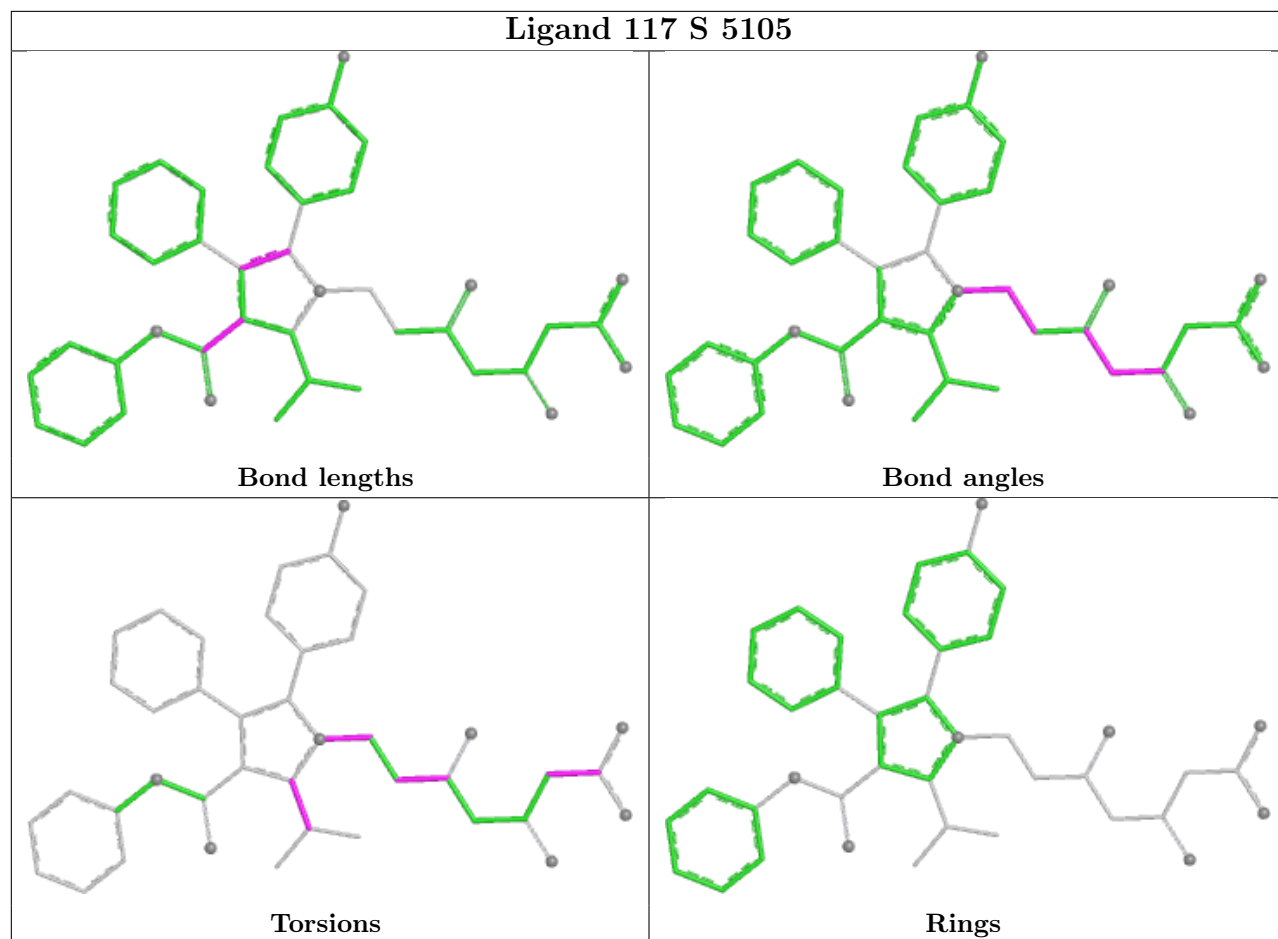
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	5103	117	4	0

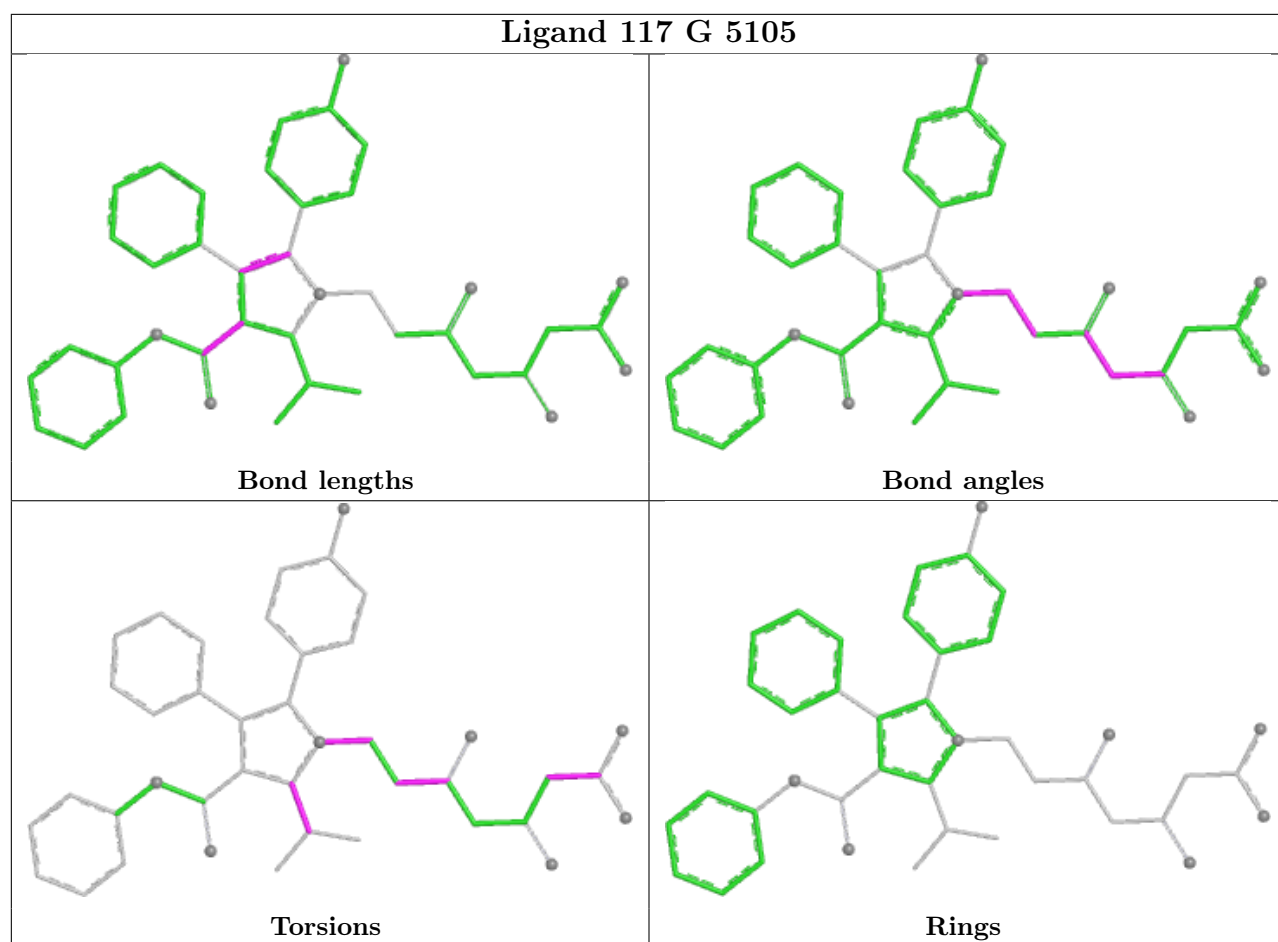
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

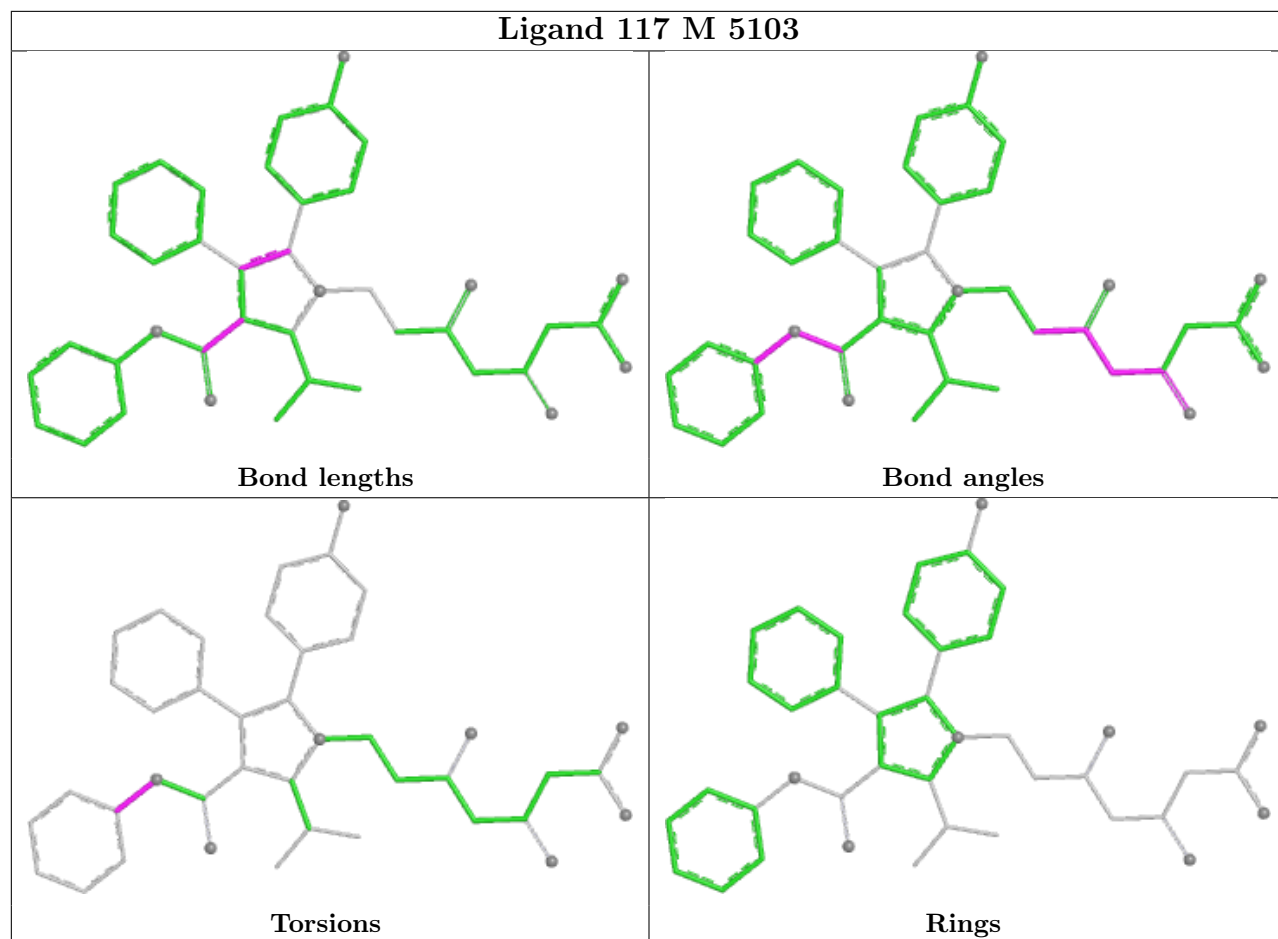


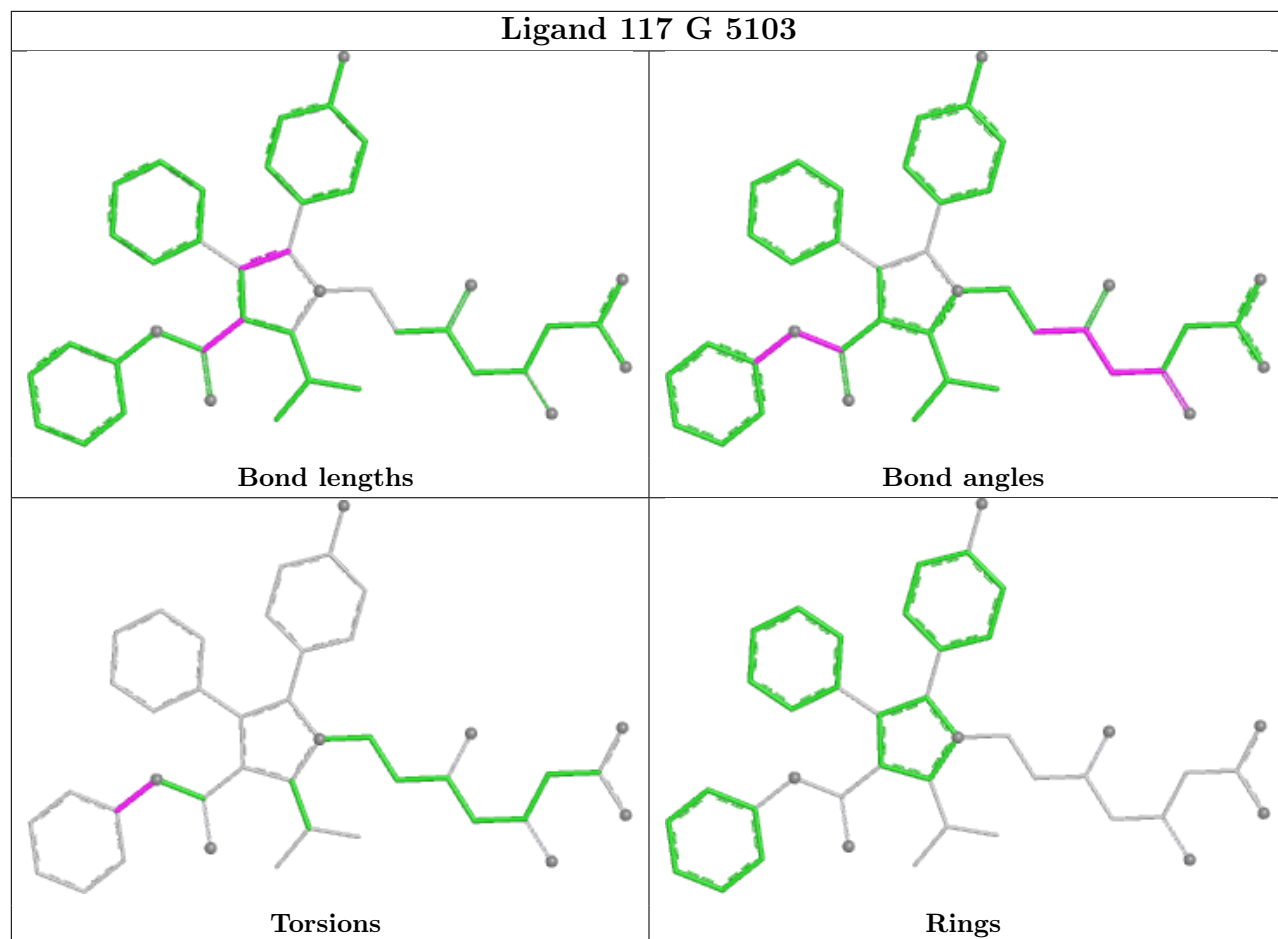


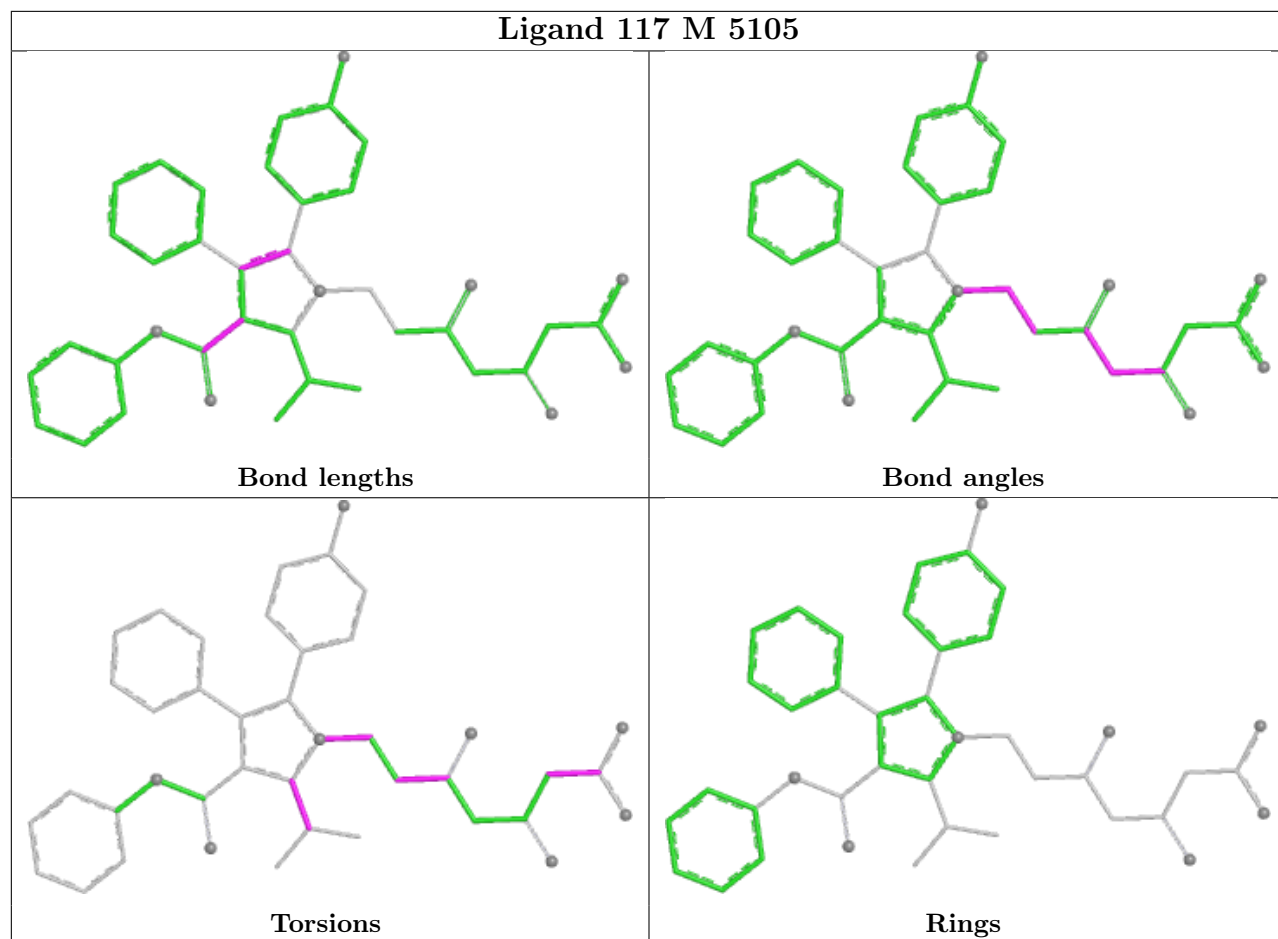


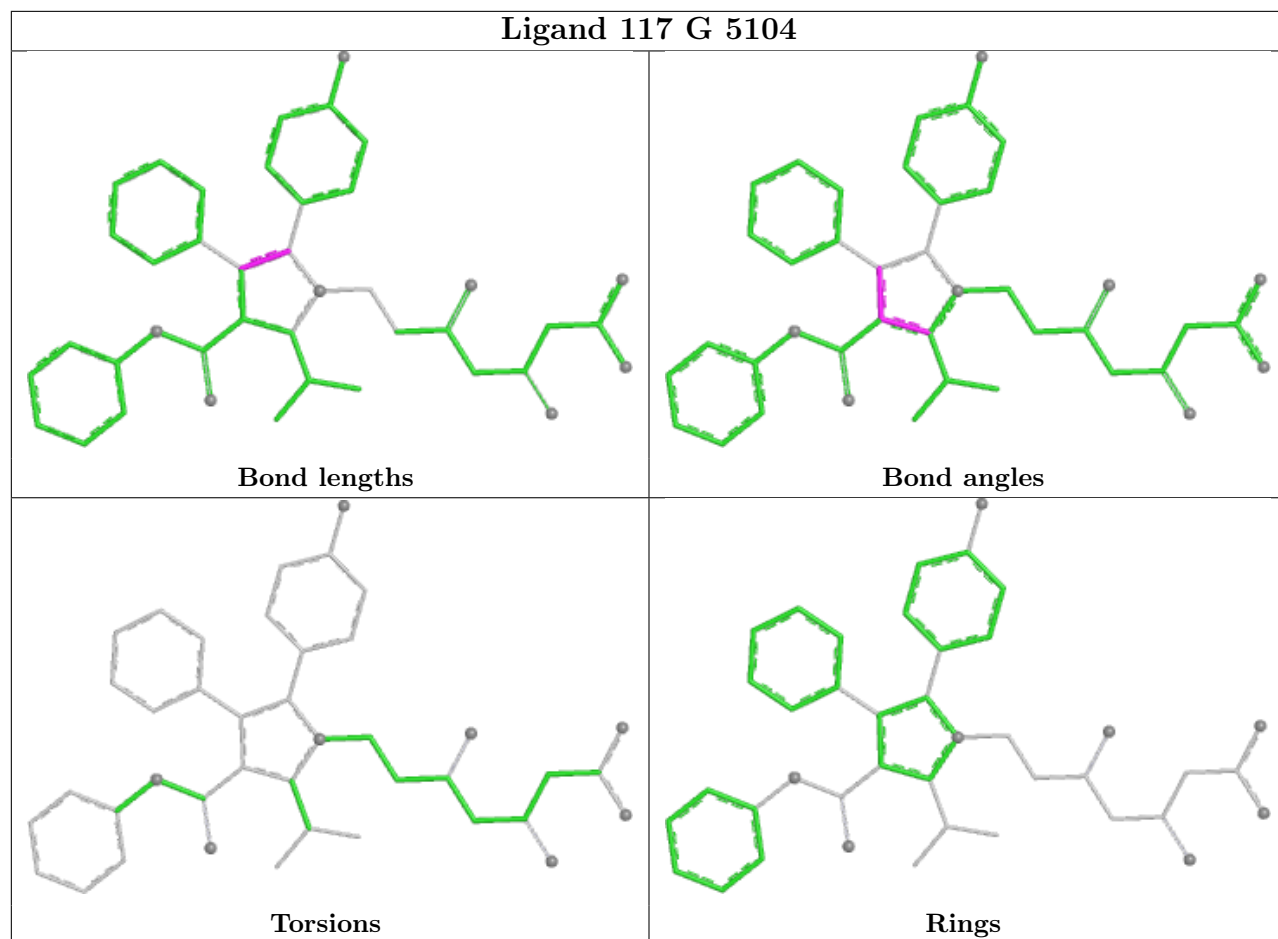


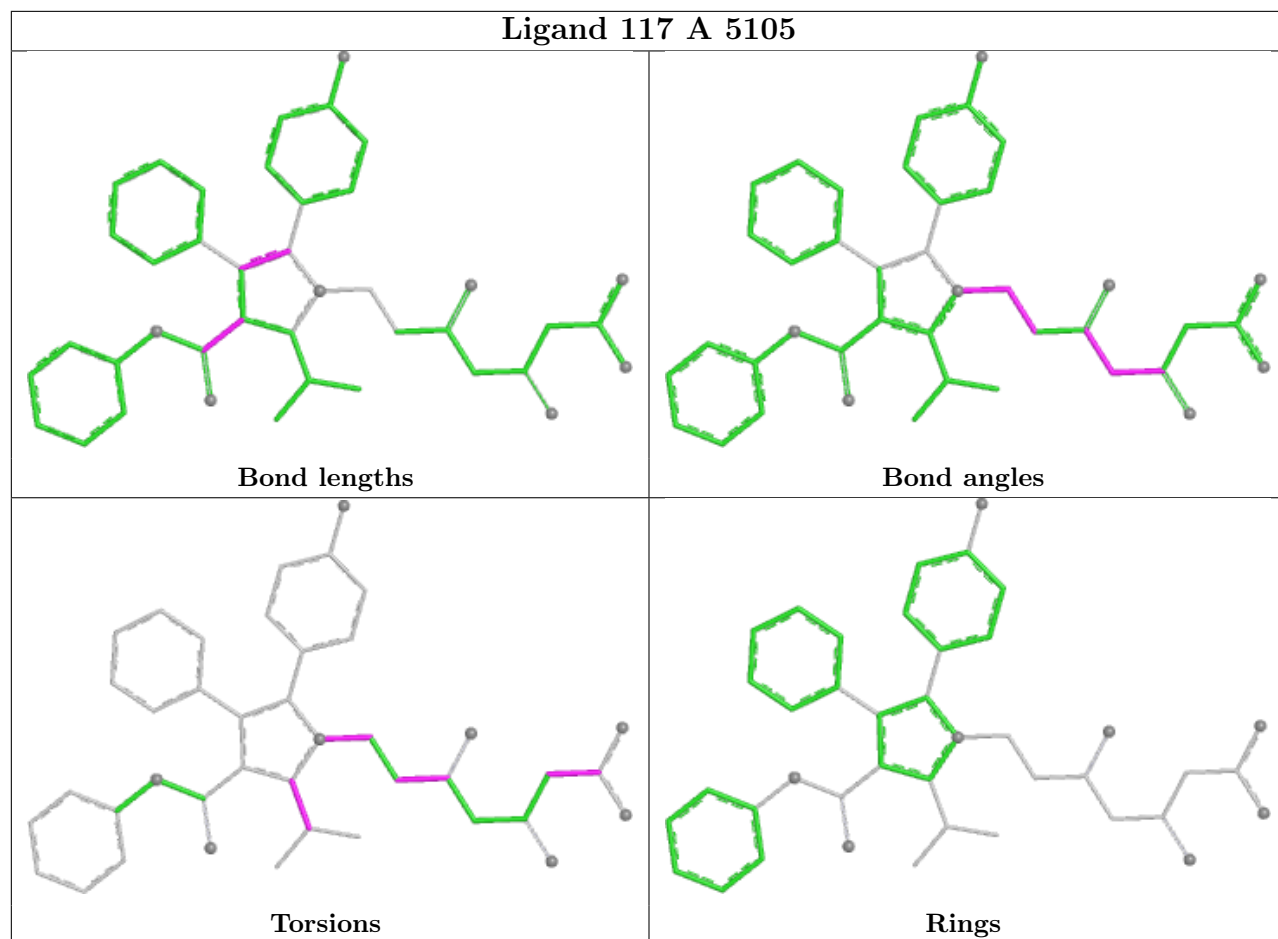


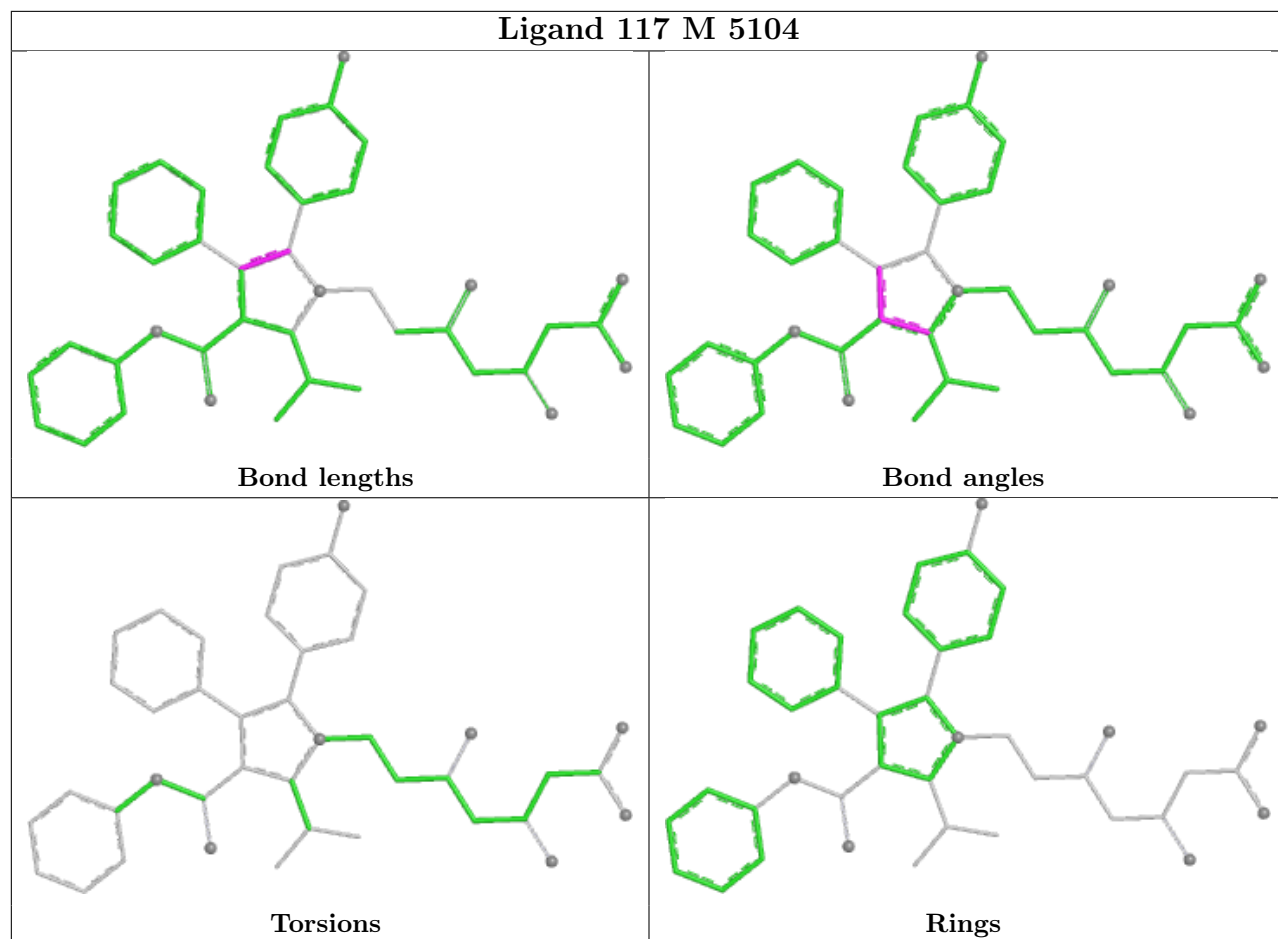


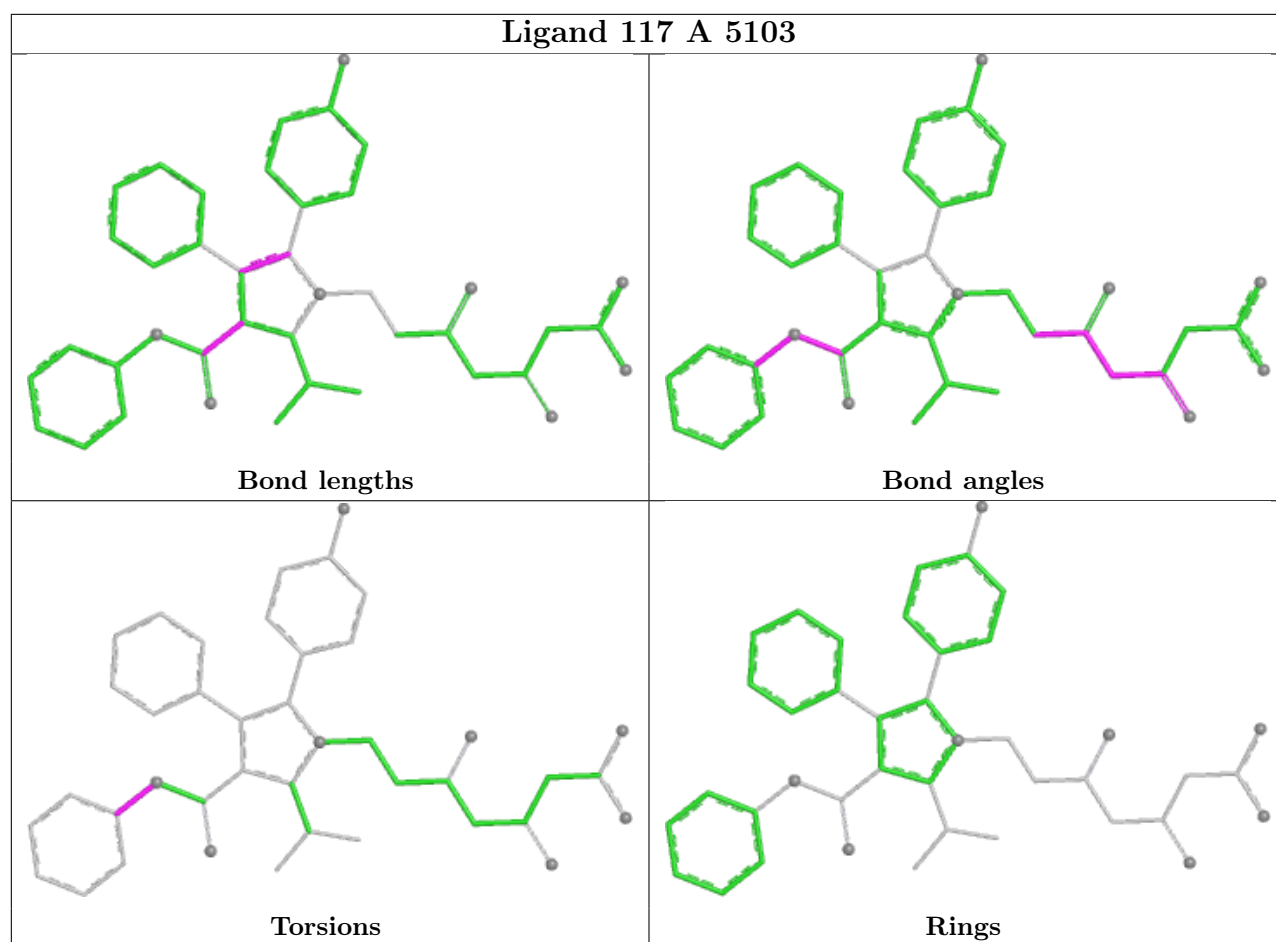












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

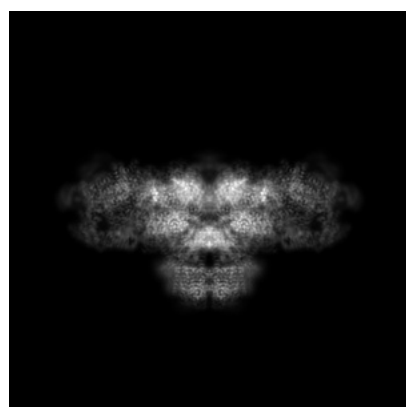
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-70589. These allow visual inspection of the internal detail of the map and identification of artifacts.

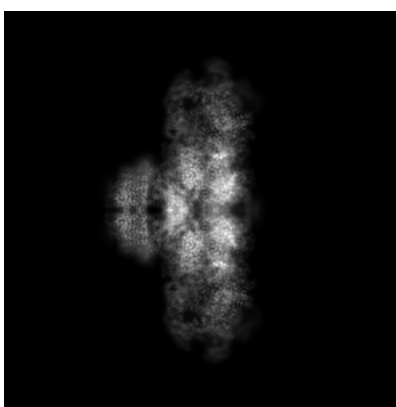
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

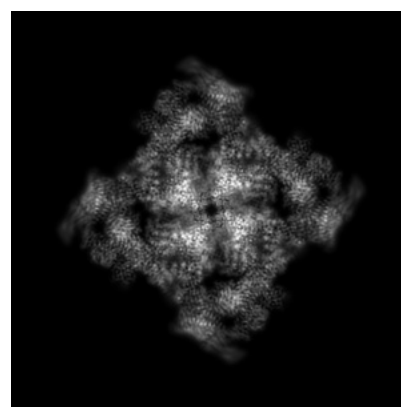
6.1.1 Primary map



X



Y

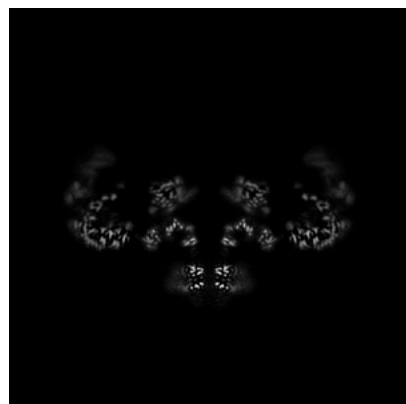


Z

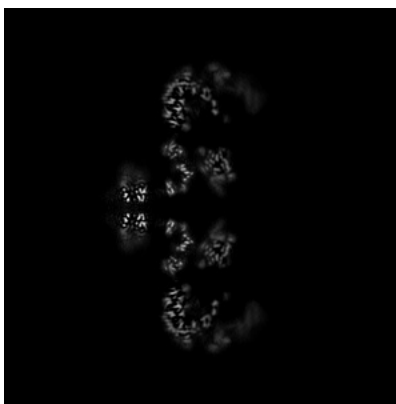
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

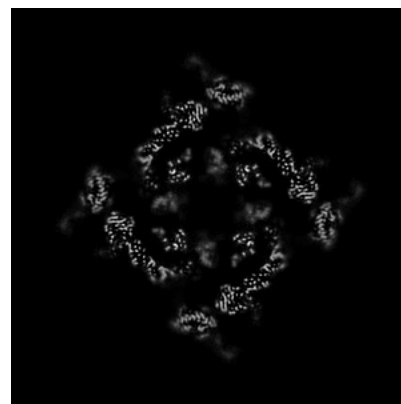
6.2.1 Primary map



X Index: 256



Y Index: 256



Z Index: 256

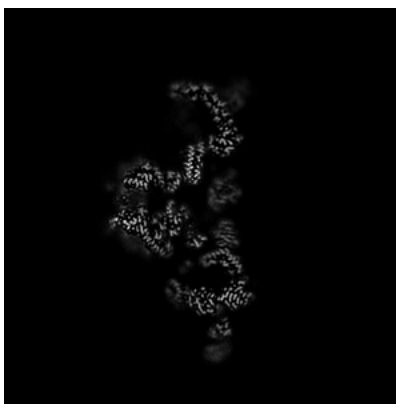
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

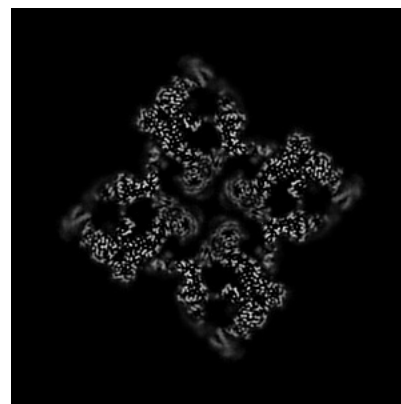
6.3.1 Primary map



X Index: 227



Y Index: 227

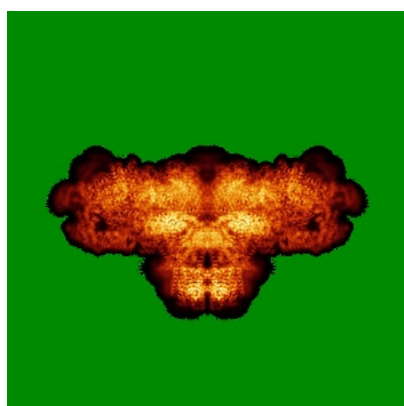


Z Index: 282

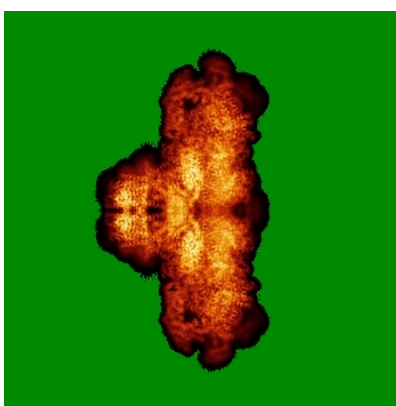
The images above show the largest variance slices of the map in three orthogonal directions.

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

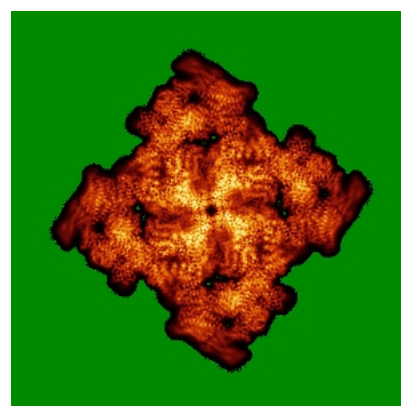
6.4.1 Primary map



X



Y

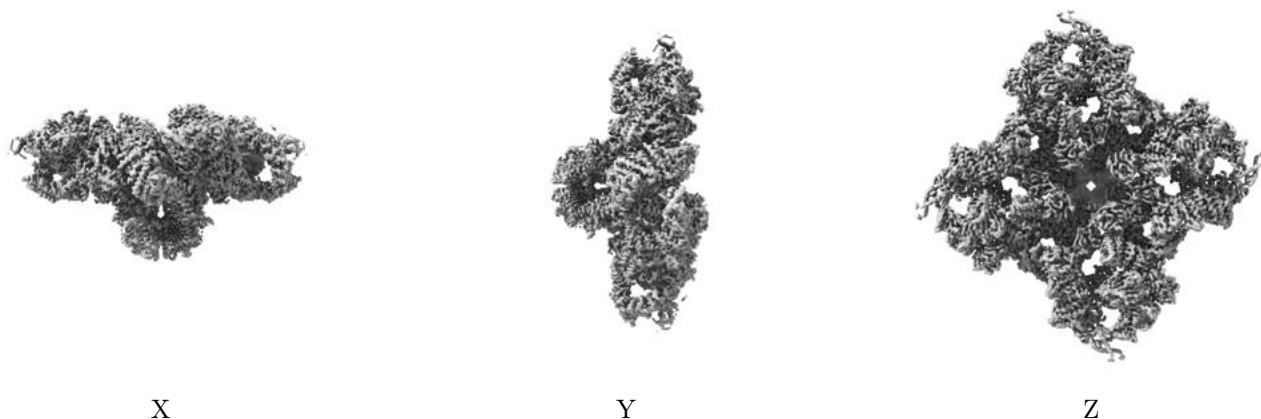


Z

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



The images above show the 3D surface view of the map at the recommended contour level 0.123. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

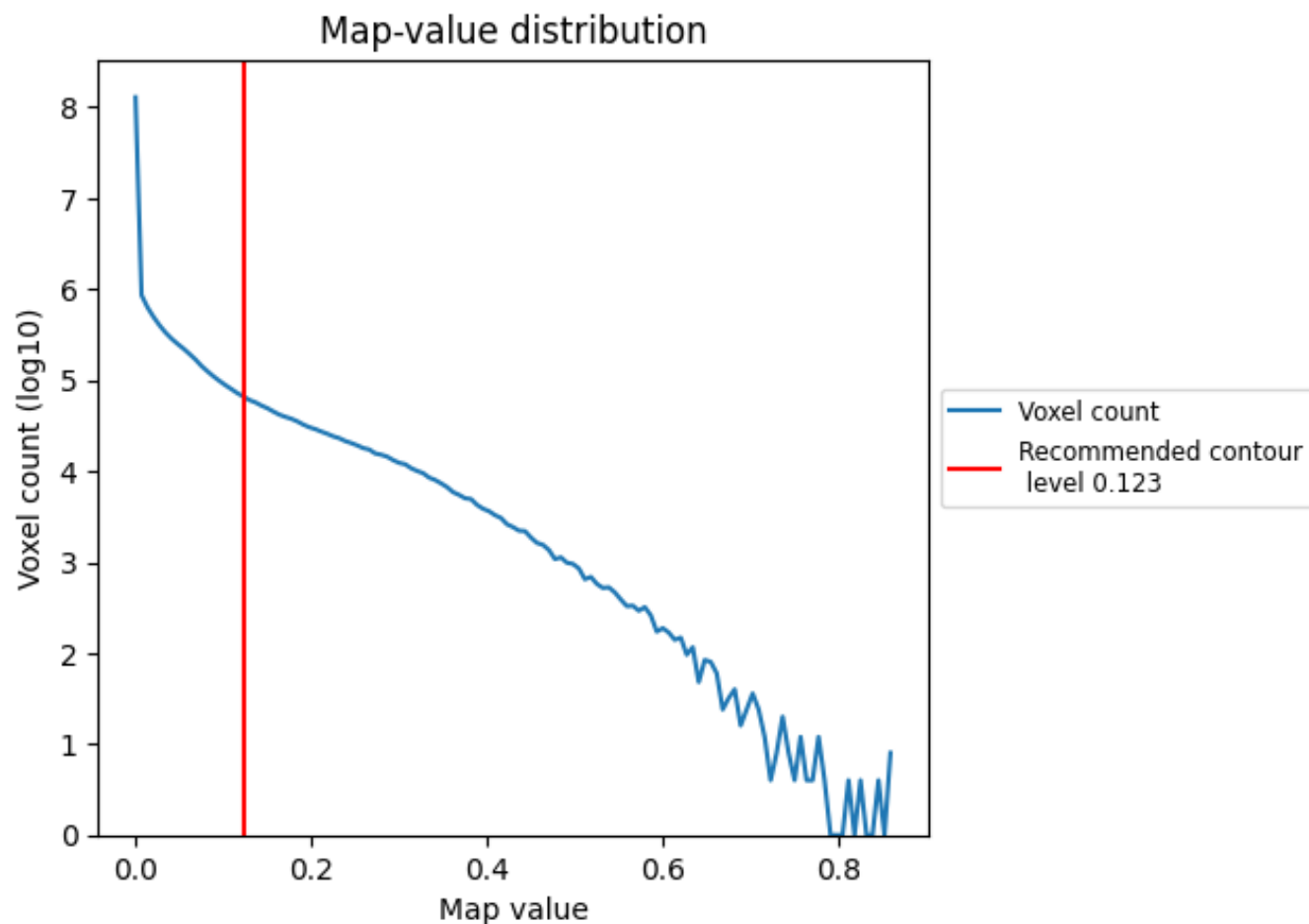
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

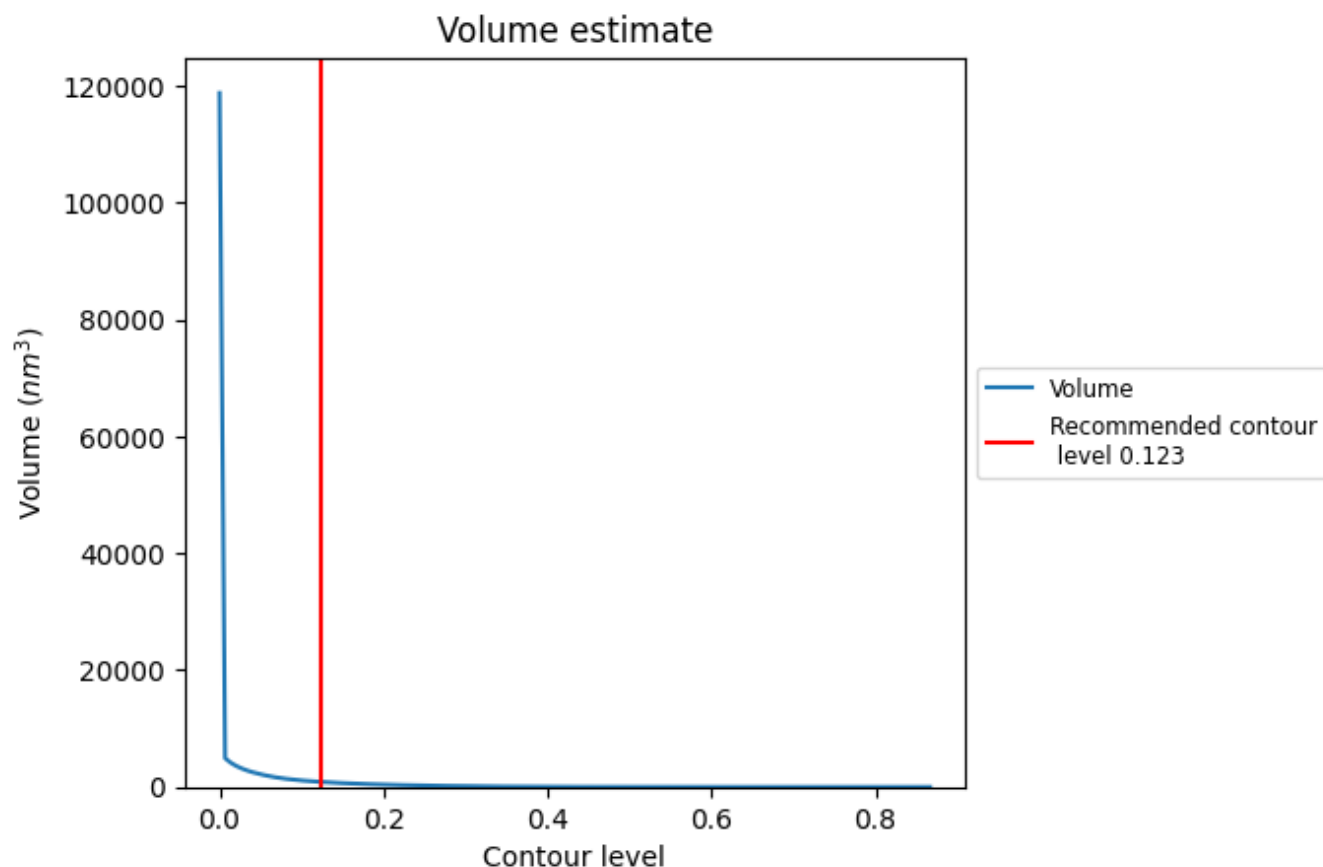
This section contains the results of statistical analysis of the map.

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.

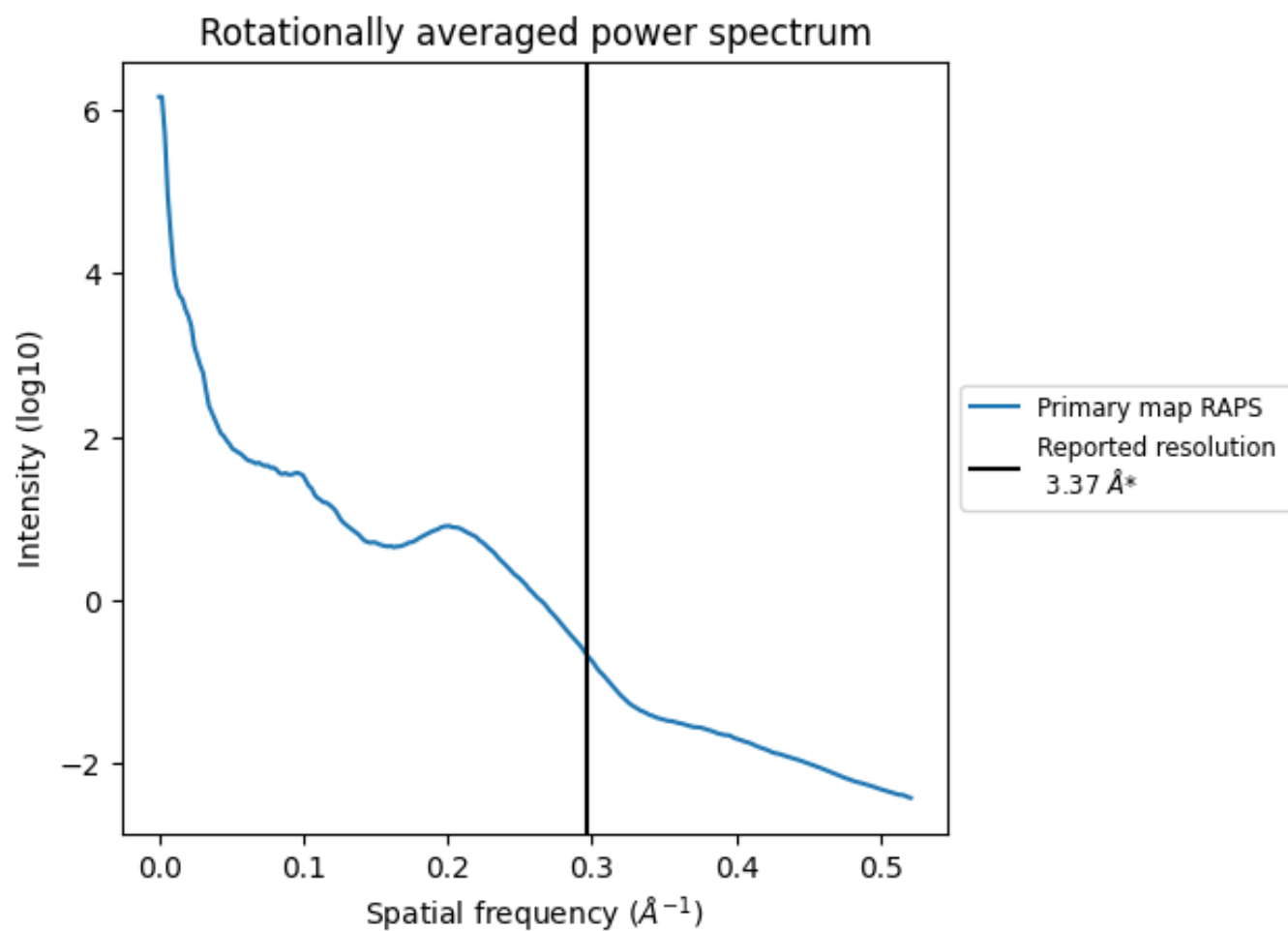
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 869 nm^3 ; this corresponds to an approximate mass of 785 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 ⓘ



*Reported resolution corresponds to spatial frequency of 0.297 Å⁻¹

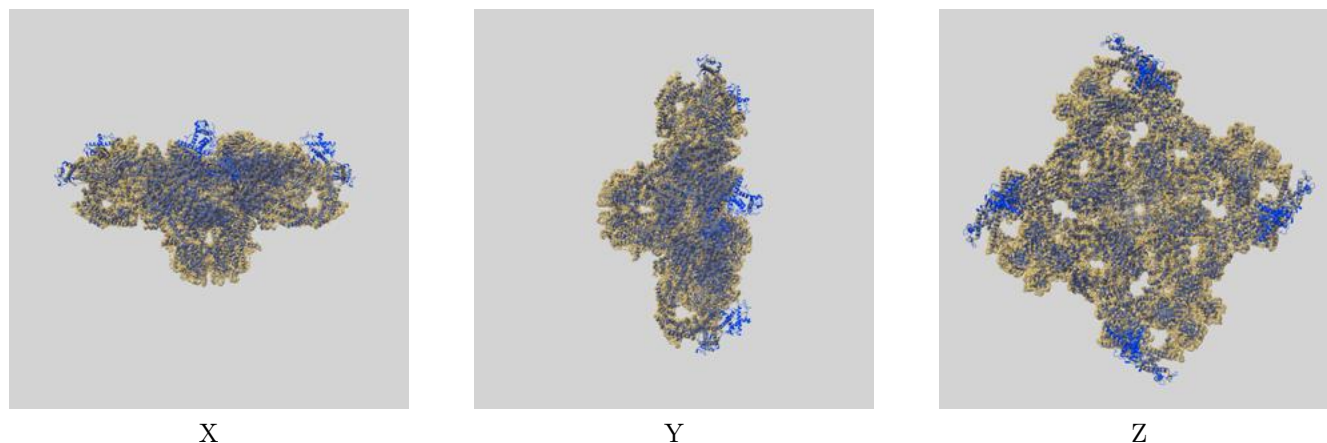
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

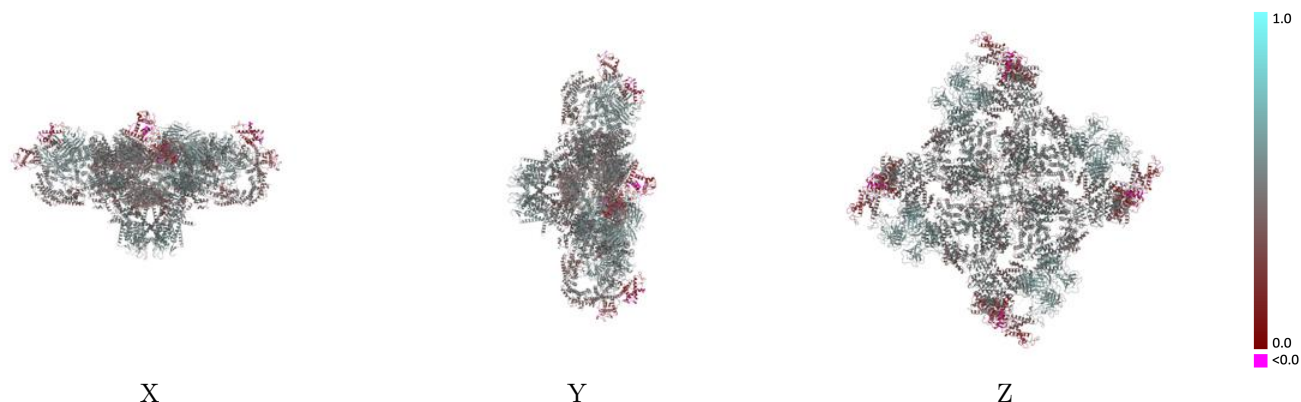
This section contains information regarding the fit between EMDB map EMD-70589 and PDB model 9OL4. Per-residue inclusion information can be found in section [3](#) on page [8](#).

9.1 Map-model overlay [i](#)



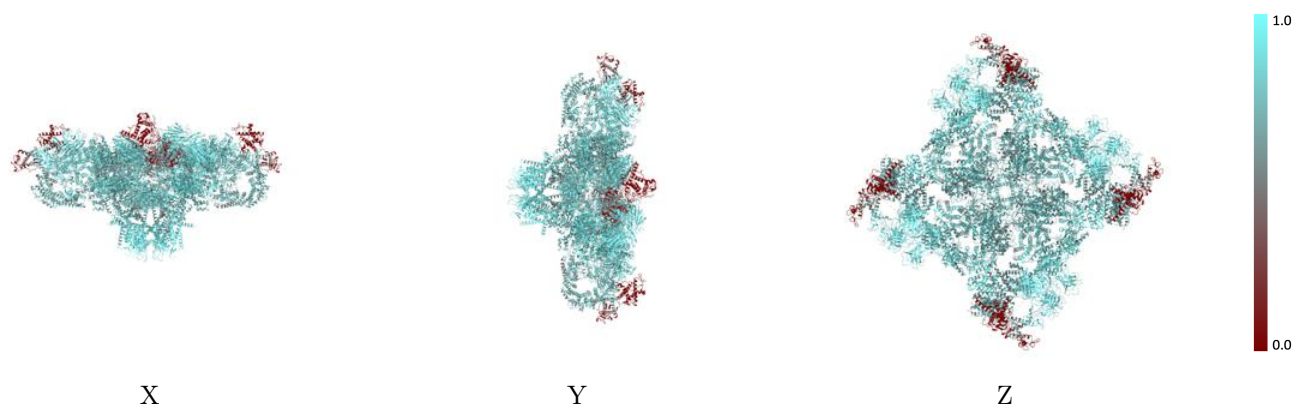
The images above show the 3D surface view of the map at the recommended contour level 0.123 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



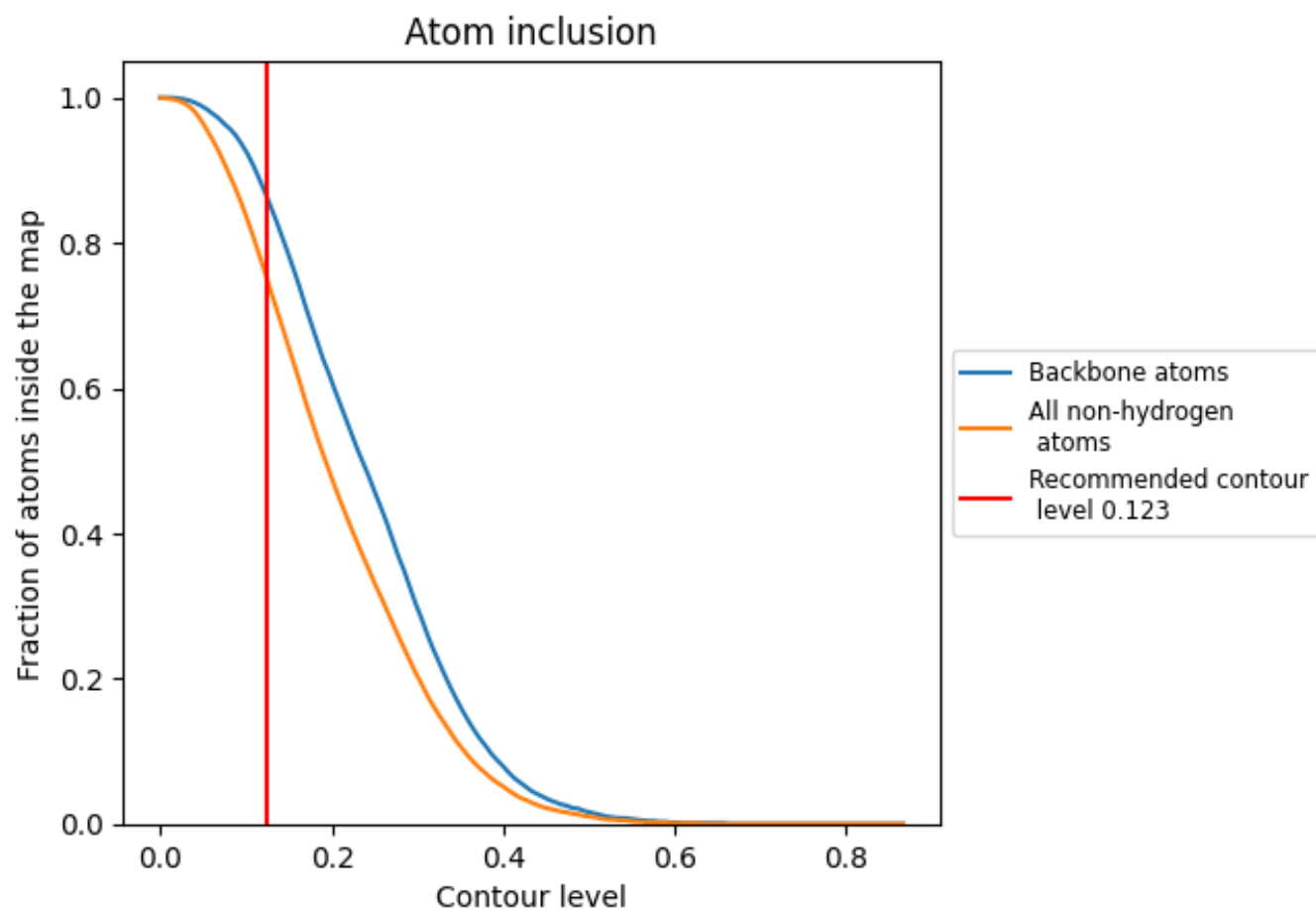
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.123).

9.4 Atom inclusion [i](#)



At the recommended contour level, 87% of all backbone atoms, 76% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.123) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7560	0.4620
A	0.7530	0.4600
B	0.8570	0.5390
G	0.7530	0.4600
H	0.8570	0.5390
M	0.7530	0.4600
N	0.8570	0.5410
S	0.7530	0.4610
T	0.8570	0.5400

1.0

0.0

<0.0