



Full wwPDB EM Validation Report ⓘ

Mar 19, 2024 – 10:15 PM JST

PDB ID : 6JIU
EMDB ID : EMD-9836
Title : Structure of RyR2 (F/A/C/L-Ca²⁺/Ca²⁺+CaM dataset)
Authors : Gong, D.S.; Chi, X.M.; Zhou, G.W.; Huang, G.X.Y.; Lei, J.L.; Yan, N.
Deposited on : 2019-02-23
Resolution : 4.20 Å (reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

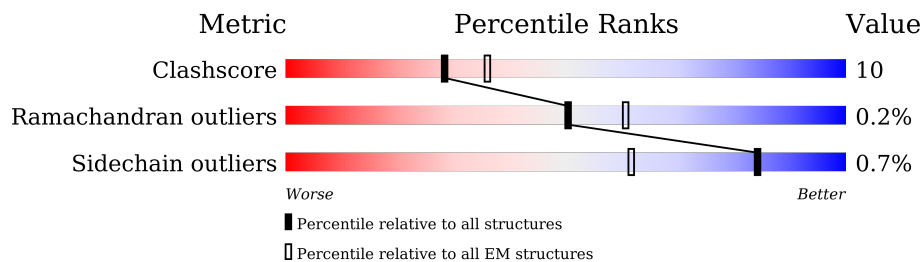
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.20 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	4968	
1	D	4968	
1	G	4968	
1	J	4968	
2	B	108	
2	E	108	
2	H	108	
2	K	108	

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

2 Entry composition [i](#)

There are 7 unique types of molecules in this entry. The entry contains 112212 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 RyR2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	3496	26661	16986	4571	4947	157	0	0
1	D	3496	26661	16986	4571	4947	157	0	0
1	G	3496	26661	16986	4571	4947	157	0	0
1	J	3496	26661	16986	4571	4947	157	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	107	819	516	144	155	4	0	0
2	E	107	819	516	144	155	4	0	0
2	H	107	819	516	144	155	4	0	0
2	K	107	819	516	144	155	4	0	0

- Molecule 3 is a protein called Calmodulin-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	68	524	326	83	110	5	0	0
3	F	68	524	326	83	110	5	0	0
3	I	68	524	326	83	110	5	0	0
3	L	68	524	326	83	110	5	0	0

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

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

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

Mol	Chain	Residues	Atoms		AltConf
5	A	1	Total 1	Ca 1	0
5	C	2	Total 2	Ca 2	0
5	D	1	Total 1	Ca 1	0
5	F	2	Total 2	Ca 2	0
5	G	1	Total 1	Ca 1	0
5	I	2	Total 2	Ca 2	0
5	J	1	Total 1	Ca 1	0
5	L	2	Total 2	Ca 2	0

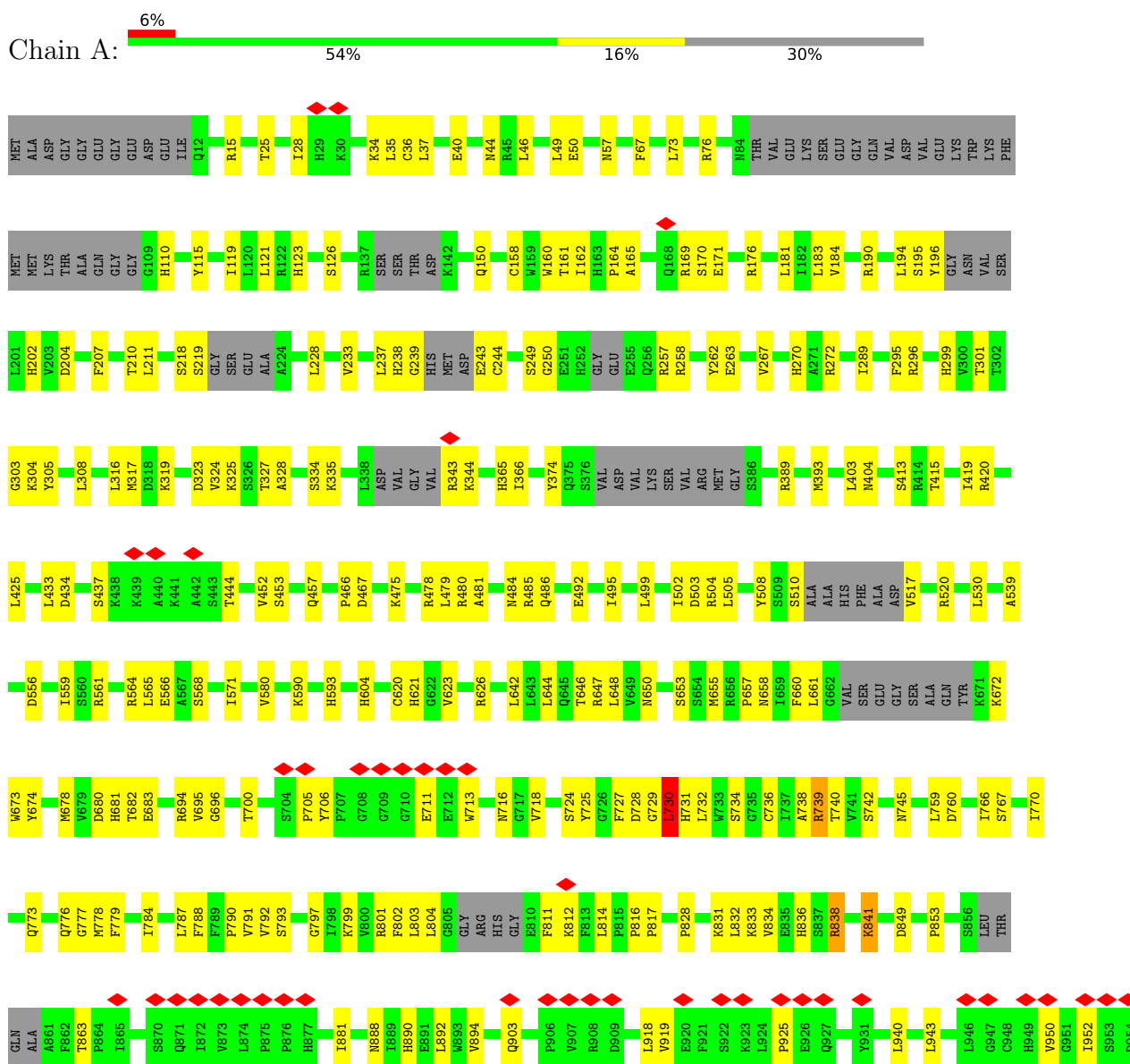
- Molecule 6 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).

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

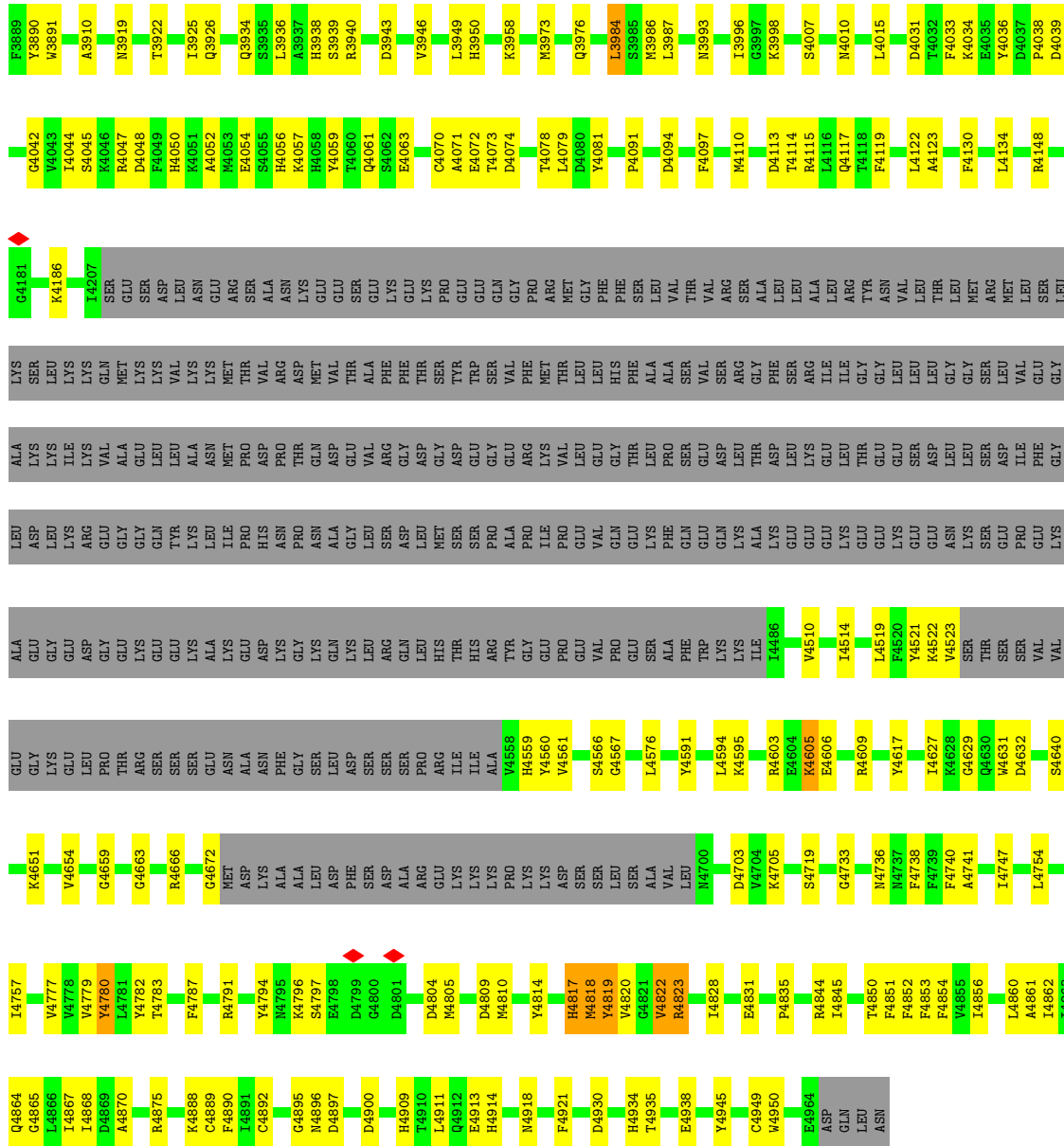
• Molecule 1: RyR2



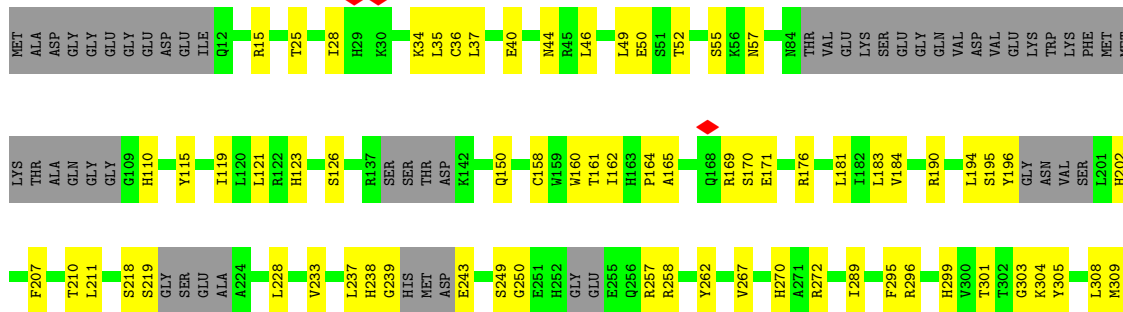
● Molecule 1: RyR2



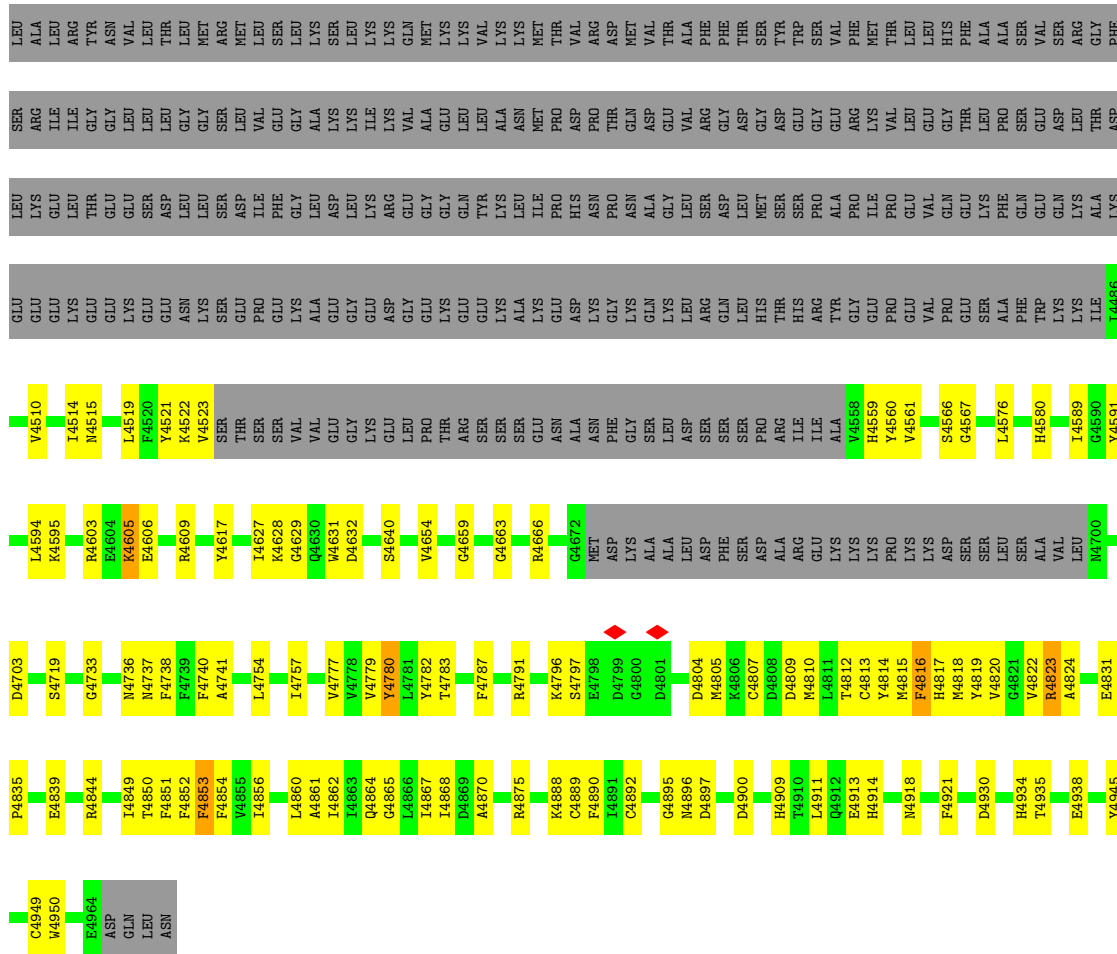
MET	ALA	ASP	GLY	GLY	GLU	GLY	GLU	ASP	GLU	ILE	Q12	R15	T25	I28	H29	K30	K34	L35	C36	L37	E40	M44	R45	L46	L49	E50	S51	T52	S55	K56	M57	L73	R76	H84	THR	VAL	GLU	LYS	LYS	GLU	GLY	GLY	VAL	VAL	ASP	ASN	VAL	GLU	LYS	TRP		
LYS	PHE	MET	MET	LYS	THR	ALA	GLN	GLY	GLY	G109	H110	Y115	I119	H123	S126	R137	SER	SER	THR	ASP	K142	Q150	C158	W159	W160	T161	E162	H163	P164	Q168	R169	S170	E171	R176	L181	L182	L183	V184	R190	L194	S195	Y196	GLY	ASN	VAL	VAL	SER	L201				
H202	V203	D204	F207	T210	S218	S219	V324	GLY	SER	GLU	ALA	A224	L228	V233	L237	H238	G239	HIS	MET	ASP	E243	S249	G250	F261	H262	GLY	ASP	GLU	E255	Q256	R257	R258	Y262	V267	H270	A271	R272	S273	L274	L289	F295	R296	H299	W300	T301	F302	G303	K304				
L308	L316	D318	K319	D323	V324	K325	S326	T327	A328	S334	K335	L338	ASP	VAL	GLY	VAL	R343	H365	I366	Y374	S375	Q376	W377	VAL	ASP	VAL	VAL	LYS	SER	VAL	Y508	S509	S510	ALA	ALA	HIS	PHE	ALA	ASP	V517	R520	L530	R296	A539	R420	D556	I559	S560	R561			
S437	K438	K439	A440	K441	D442	S443	T444	V452	S453	Q457	P466	D467	K475	R478	R480	A481	M484	R485	Q486	Y374	Q376	S377	VAL	ASP	VAL	D503	D503	R504	L505	Y508	S509	S510	ALA	HIS	PHE	ALA	ASP	V517	R520	L530	R296	A539	R420	D556	I559	S560	R561					
R564	L565	E566	A567	S568	I571	V580	K590	H593	H604	L611	H621	V625	R626	L479	S627	L642	L643	L644	Q645	T646	R647	L648	V649	M650	S653	S654	M655	R656	P657	M658	F660	L661	G662	VAL	SER	GLU	GLY	SER	ALA	GLN	TYR	K671	K672	V673	V674	M678	V679	D680				
H681	T682	E683	R694	V695	G696	T700	S704	P705	Y706	K799	V800	R801	F802	L803	L804	G805	GLY	ARG	HIS	GLY	F811	K812	F813	L814	R815	P816	D728	G729	L730	H731	L732	W733	G734	C735	G736	L737	A738	R739	T740	S742	M745	L759	D760	L766	S767	Q773	Q776	G777	M778	F779		
I784	L787	F788	F789	V790	W791	V792	S793	A796	G797	I798	K799	V800	R801	F802	L803	L804	G805	GLY	ARG	HIS	GLY	F811	K812	F813	L814	R815	P816	D728	G729	L730	H731	L732	W733	G734	C735	G736	L737	A738	R739	T740	S742	M745	L759	D760	L766	S767	Q773	Q776	G777	M778	F779	
S870	Q871	I872	W873	L874	P875	P876	H877	I881	M888	I889	H890	E891	L892	M893	W894	Q903	P906	V907	R908	D909	L918	V919	E920	F921	S922	K923	L924	P925	E926	Q927	Y931	L940	L943	L946	G947	C948	H949	V950	G951	I952	S953	D954	E955	H956	A957	GLU	GLU	LYS	VAL			
LYS	LYS	MET	LEU	PRO	LYS	ASN	Y970	Q971	L972	T973	S974	G975	Y976	K977	P978	A979	P980	H981	D982	L983	S984	F985	I986	K987	T989	P990	A991	E992	E993	A994	H995	K998	E1001	H1004	M1005	A1008	R1011	H1012	R1013	Q1014	GLY	THR	THR	TYR	GLY	ILE	GLN	GLN	ASP	VAL	LYS	ASN
R1027	V1033	L1038	K1044	K1047	D1048	R1051	A1052	A1053	V1054	L1057	Y1060	G1061	Y1062	M1063	L1064	E1065	A1066	PRO	ASP	GLN	ASP	HIS	ALA	ALA	ARG	ALA	GLU	VAL	CYS	SER	THR	GLY	R1084	R1089	A1090	E1091	K1092	R1100	W1101	Y1102	F1103	E1104	T1109	A1110	G1111	R1114						
V1115	G1116	R1119	C1122	G1123	F1124	E1127	L1128	D1131	E1132	A1136	F1137	A1142	Q1143	R1144	W1145	H1146	E1150	H1151	Y1152	G1153	W1156	G1163	C1164	M1165	V1166	Q1257	D1167	H1171	T1172	M1173	L1177	L1182	L1183	D1184	D1185	L1190	A1191	F1192	K1193	D1194	F1195	D1196	P1203	S1206								
V1209	A1210	Q1211	V1212	G1213	R1214	K1219	D1220	V1221	L1224	F1227	T1228	L1232	Y1236	E1237	P1238	F1239	A1240	V1241	R1245	D1246	M1249	V1250	R1254	L1255	P1256	Q1257	F1258	H1265	E1266	H1267	R1272	I1273	D1274	GLY	THR	ILE	ASP	SER	SER	PRO	CYS	LEU	LYS	V1285	Q1289	M1300	F1301					



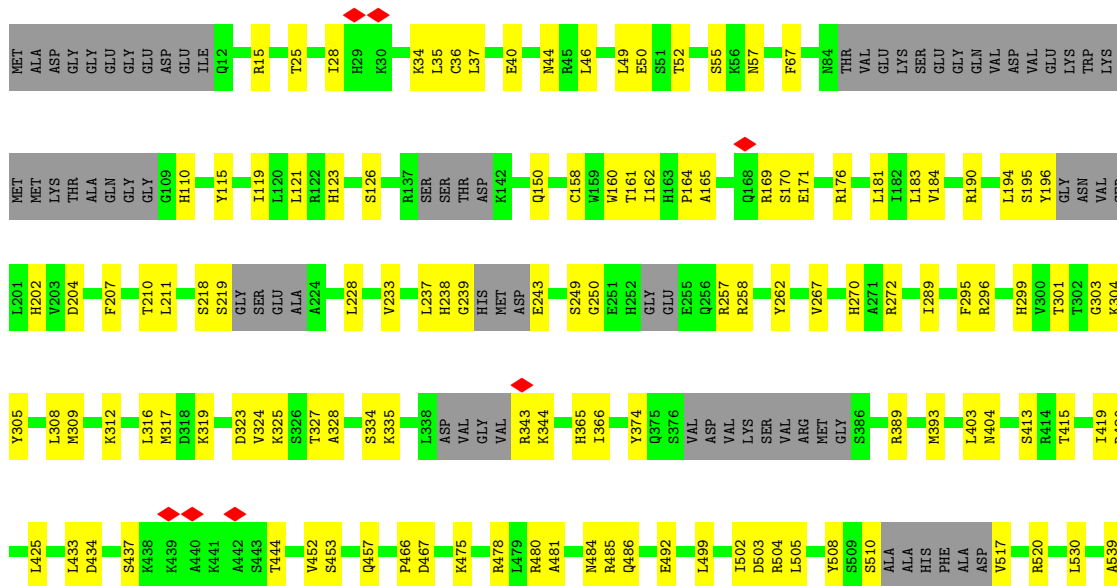
• Molecule 1: RyR2



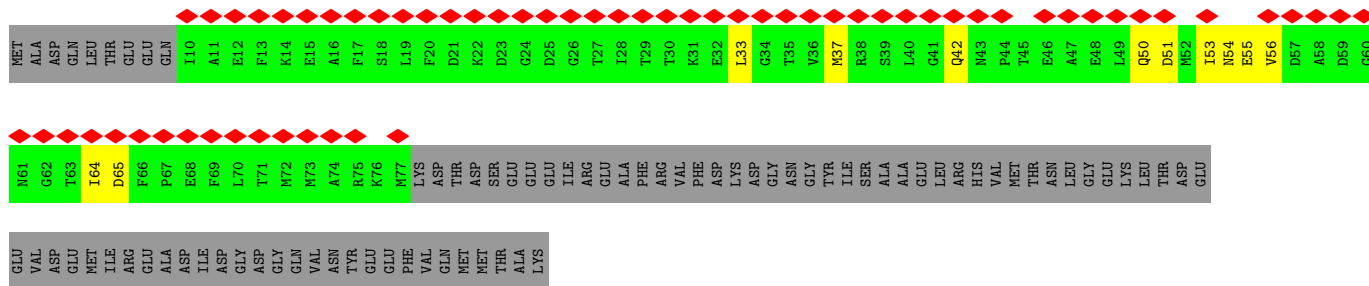
A2846	E2847	N2848	Y2849	H2850	N2851	I2852	W2853	A2854	K2855	K2856	K2857	K2858	L2859	E2860	L2861	E2862	S2863	K2864	G2865	G2866	G2867	N2868	H2869	P2870	L2871	L2872	V2873	P2874	Y2875	T2876	T2877	L2878	T2879	A2880	K2881	E2882	K2883	A2884	K2885	D2886	R2887	E2888	K2889	A2890	Q2891	D2892	I2893	L2894	K2895	F2896	L2897	Q2898	I2899	N2900	G2901	Y2902	A2903	V2904	S2905
A2726	E2727	H2728	S2729	H2730	D2731	K2732	W2733	S2734	M2735	D2736	K2737	L2738	A2739	N2740	G2741	W2742	I2743	Y2744	G2745	E2746	Y2747	Y2748	S2749	D2750	S2751	S2752	K2753	Y2754	Q2755	P2756	L2757	M2758	K2759	P2760	Y2761	L2762	L2763	L2764	S2765	E2766	K2767	E2768	K2769	E2770	L2771	Y2772	R2773	W2774	P2775	L2776	K2777	E2778	S2779	L2780	K2781	T2782	M2783	L2784	A2785
W2786	G2787	W2788	R2789	I2790	E2791	R2792	T2793	R2794	E2795	G2796	D2797	SER	MET	ALA	LEU	TYR	ASN	VAL	ARG	THR	ARG	ILE	SER	GLN	THR	SER	GLN	VAL	SER	ASP	G2818	A2819	H2820	G2821	S2822	S2823	P2824	R2825	A2826	L2827	D2828	N2829	S2830	N2831	W2832	L2833	S2835	R2836	D2837	L2838	H2839	A2840	N2841	A2842	E2843	N2844	N2845		
R2643	K2644	G2648	L2653	SER	GLN	LYS	LYS	Y2658	P2679	ASP	TYR	MET	GLU	SER	ASN	VAL	MET	GLU	LYS	GLN	SER	SER	MET	ASP	SER	GLU	W2701	F2702	M2703	P2704	Q2705	P2706	V2707	D2708	T2709	S2710	M2711	I2712	T2713	I2714	P2715	E2716	K2717	L2718	E2719	Y2720	F2721	M2722	N2723	K2724	Y2725								
R2421	S2422	I2423	P2429	L2433	V2434	W2435	V2436	S2438	Q2442	MET	THR	ILE	ALA	LYS	ASP	ASN	VAL	GLU	PRO	ASP	MET	ALA	GLY	F2461	D2464	H2465	R2475	V2476	Y2477	GLY	ILE	GLU	V2481	Q2482	L2485	L2503	ASP	THR	ALA	ALA	LEU	SER	ALA	T2511	A2514	L2515													
M2518	L2528	L2529	THR	ARG	CYS	ALA	PRO	L2535	A2543	I2546	L2550	W2553	TYR	ARG	LEU	SER	K2558	L2562	Q2566	R2567	D2568	S2576	ILE	CYS	GLY	H2465	R2475	V2476	Y2477	GLY	ILE	GLU	HIS	ALA	K2605	P2607	L2611	G2627	TRP	GLY	ASN	PHE	GLY	ALA	A2634	L2639													
R2643	K2644	G2648	L2653	SER	GLN	LYS	LYS	Y2658	P2679	ASP	TYR	MET	GLU	SER	ASN	VAL	MET	GLU	LYS	GLN	SER	SER	MET	ASP	SER	GLU	W2701	F2702	M2703	P2704	Q2705	P2706	V2707	D2708	T2709	S2710	M2711	I2712	T2713	I2714	P2715	E2716	K2717	L2718	E2719	Y2720	F2721	M2722	N2723	K2724	Y2725								



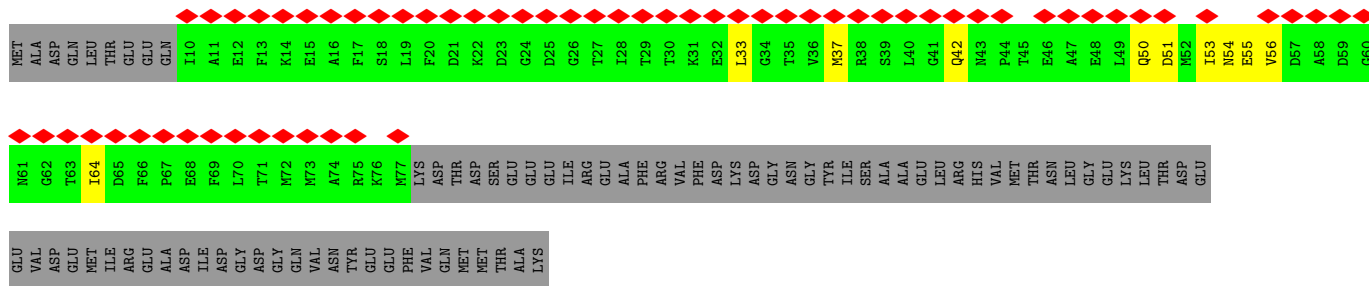
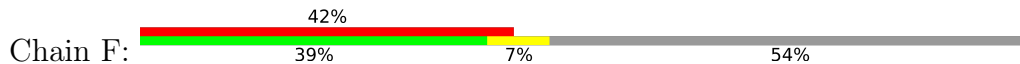
● Molecule 1: RyR2



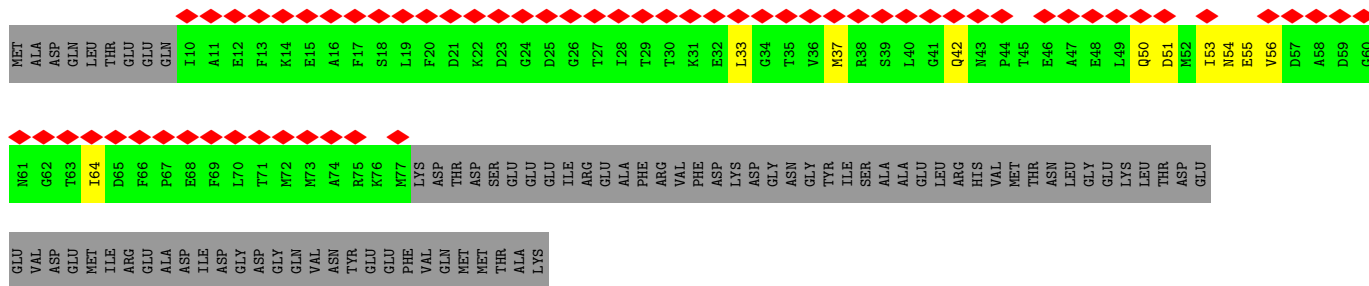
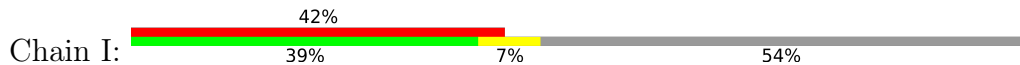
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R1598	R1598	ARG	ASP	ASP	V1285	P1203	A1110	ASP	GLU	Q871	F779	V679	S680
P1600	P1600	GLN	ASP	LYS	Q1293	S1206	G1111	VAL	LYS	I874	I784	T682	R561
K1605	K1605	THR	THR	LYS	M1300	V1209	R1114	ASN	VAL	L787	L787	E683	R564
S1609	S1609	ALA	GLU	ALA	F1301	A1210	V1115	R1027	LYS	F788	F788	R694	L566
R1610	R1610	THR	THR	THR	Y1302	Q1211	G1116	V1033	MET	P875	P875	V695	E566
I1611	I1611	LYS	PRO	LYS	G1213	V1212	R1119	V1033	LYS	P876	P876	G696	A567
S1612	S1612	PRO	PRO	PRO	L1304	G1213	R1119	L1038	LEU	V792	V792	S568	S568
E1613	E1613	PHE	PHE	PHE	R1214	R1214	C1122	L1038	PRO	H877	H877	I571	I571
R1614	R1614	ASN	ASN	ASN	K1219	K1219	Q1123	K1044	LYS	I881	I881	V650	V650
W1617	W1617	ASN	ASN	ASN	V1220	V1220	P1124	K1047	ASN	I797	I797	S704	S704
L1618	L1618	VAL	VAL	VAL	D1221	D1221	E1127	K1047	GLY	I798	I798	P705	P705
V1619	V1619	LYS	LYS	LYS	S1222	S1222	L1128	D1048	VAL	K799	K799	Y706	Y706
Q1620	Q1620	ASP	ASP	ASP	T1223	T1223	L1128	R1051	THR	R801	R801	P707	P707
C1621	C1621	THR	THR	THR	L1224	L1224	D1131	E1052	LYS	F802	F802	G708	G708
L1622	L1622	ALA	ALA	ALA	K1225	K1225	A1136	A1053	THR	L803	L803	G709	G709
Q1626	Q1626	GLU	GLU	GLU	Y1226	Y1226	F1137	V1054	ALA	L804	L804	G710	G710
F1627	F1627	LYS	LYS	LYS	F1227	F1227	A1142	L1057	GLY	G805	G805	E711	E711
M1628	M1628	PRO	PRO	PRO	T1228	T1228	Q1143	L1057	ARG	E712	E712	W713	W713
S1629	S1629	SER	SER	SER	L1232	L1232	R1144	Y1060	HIS	W713	W713	N716	N716
L1630	L1630	ARG	ARG	ARG	Y1236	Y1236	R1144	G1061	GLY	E810	E810	G717	G717
L1639	L1639	LEU	LEU	LEU	E1237	E1237	H1150	Y1062	LEU	P906	P906	V718	V718
E1634	E1634	GLN	GLN	GLN	P1238	P1238	H1150	M1063	PRO	V907	V907	S724	S724
E1635	E1635	ARG	ARG	ARG	F1239	F1239	Y1152	H1151	ASP	R908	R908	G726	G726
M1636	M1636	PHE	PHE	PHE	A1240	A1240	G1153	L1064	THR	D909	D909	F727	F727
R1637	R1637	LEU	LEU	LEU	V1241	V1241	W1156	E1065	THR	K812	K812	V649	V649
I1641	I1641	LEU	LEU	LEU	R1246	R1246	G1163	A1066	PRO	H915	H915	D728	D728
T1645	T1645	ARG	ARG	ARG	D1246	D1246	M1165	PRD	C917	P816	P816	G729	G729
Y1655	Y1655	ARG	ARG	ARG	M1249	M1249	V1166	ASP	R985	P816	P816	L731	L731
R1659	R1659	ILE	THR	THR	W1250	W1250	D1167	GLN	R987	P817	P817	L832	L832
L1660	L1660	LYS	LYS	LYS	R1254	R1254	M1167	HIS	E920	P828	P828	W733	W733
Y1661	Y1661	ASN	ASN	ASN	L1255	L1255	T1171	ALA	S921	K831	K831	S734	S734
Y1661	Y1661	ASN	ASN	ASN	P1256	P1256	T1172	ALA	S922	L833	L833	W734	W734
G1668	G1668	VAL	THR	THR	Q1257	Q1257	M1173	ARG	K923	V834	V834	G735	G735
M1669	M1669	MET	ASP	ASP	F1258	F1258	M1174	ALA	L924	E835	E835	P657	P657
H1670	H1670	PRO	ASP	ASP	H1265	H1265	F1175	GLU	P925	H836	H836	I689	I689
L1676	L1676	SER	ASP	ASP	E1266	E1266	T1176	VAL	E926	S837	S837	P660	P660
E1682	E1682	LEU	ALA	ALA	H1267	H1267	L1177	SER	Q927	R838	R838	L661	L661
P1683	P1683	LEU	ARG	ARG	H1272	H1272	L1182	GLY	Y931	K841	K841	G662	G662
L1685	L1685	LEU	THR	THR	I1273	I1273	L1183	THR	E938	D849	D849	VAL	VAL
K1692	K1692	VAL	ASP	ASP	D1274	D1274	D1184	GLU	T939	S742	S742	SER	SER
P1695	P1695	THR	GLY	GLY	GLY	GLY	D1185	R1084	L940	N745	N745	GLY	GLY
R1699	R1699	ASP	ASP	ASP	ILE	ILE	L1190	A1089	L943	S856	S856	ALA	ALA
		ASP	ASP	ASP	THR	THR	A1191	A1090	L943	LEU	LEU	GLN	GLN
		ASP	ASP	ASP	ASP	ASP	K1193	K1092	L946	THR	THR	TYR	TYR
		ASP	ASP	ASP	ASP	ASP	D1194	E1091	G947	GLM	GLM	K671	K671
		ASP	ASP	ASP	ASP	ASP	F1195	K1100	C948	ALA	ALA	K672	K672
		ASP	ASP	ASP	ASP	ASP		W1101	C948	ALA	ALA	K673	K673
		ASP	ASP	ASP	ASP	ASP		Y1102	H949	ALA	ALA	K674	K674
		ASP	ASP	ASP	ASP	ASP		Y1102	H949	ALA	ALA	K675	K675
		ASP	ASP	ASP	ASP	ASP		F1103	H949	ALA	ALA	K676	K676
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K677	K677
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K678	K678
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K679	K679
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K680	K680
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K681	K681
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K682	K682
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K683	K683
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K684	K684
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K685	K685
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K686	K686
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K687	K687
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K688	K688
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K689	K689
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K690	K690
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K691	K691
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K692	K692
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K693	K693
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K694	K694
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K695	K695
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K696	K696
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K697	K697
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K698	K698
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K699	K699
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K700	K700
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K701	K701
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K702	K702
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K703	K703
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K704	K704
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K705	K705
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K706	K706
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K707	K707
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K708	K708
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K709	K709
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K710	K710
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K711	K711
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K712	K712
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K713	K713
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K714	K714
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K715	K715
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K716	K716
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K717	K717
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K718	K718
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K719	K719
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K720	K720
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K721	K721
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K722	K722
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K723	K723
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K724	K724
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K725	K725
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K726	K726
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K727	K727
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K728	K728
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K729	K729
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K730	K730
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K731	K731
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K732	K732
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K733	K733
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K734	K734
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K735	K735
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K736	K736
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K737	K737
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K738	K738
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K739	K739
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K740	K740
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K741	K741
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K742	K742
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K743	K743
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K744	K744
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K745	K745
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K746	K746
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K747	K747
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K748	K748
		ASP	ASP	ASP	ASP	ASP			G951	ALA	ALA	K749	K749



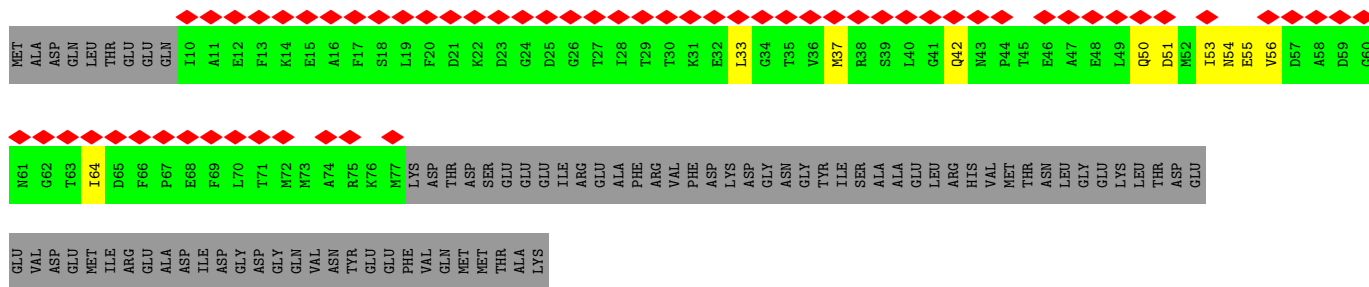
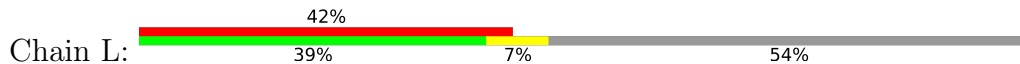
• Molecule 3: Calmodulin-1



• Molecule 3: Calmodulin-1



• Molecule 3: Calmodulin-1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	77092	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	45.6	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.121	Depositor
Minimum map value	-0.046	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.023	Depositor
Map size (Å)	535.2, 535.2, 535.2	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.338, 1.338, 1.338	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: ZN, ATP, CA, 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	0.35	2/27161 (0.0%)	0.55	7/36737 (0.0%)
1	D	0.34	0/27161	0.55	9/36737 (0.0%)
1	G	0.34	0/27161	0.55	5/36737 (0.0%)
1	J	0.34	0/27161	0.55	6/36737 (0.0%)
2	B	0.33	0/835	0.53	0/1123
2	E	0.33	0/835	0.53	0/1123
2	H	0.33	0/835	0.53	0/1123
2	K	0.33	0/835	0.53	0/1123
3	C	0.29	0/530	0.49	0/711
3	F	0.29	0/530	0.49	0/711
3	I	0.29	0/530	0.49	0/711
3	L	0.29	0/530	0.49	0/711
All	All	0.34	2/114104 (0.0%)	0.55	27/154284 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	23
1	D	0	23
1	G	0	23
1	J	0	23
All	All	0	92

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	4521	TYR	N-CA	7.55	1.61	1.46
1	A	4522	LYS	CA-C	-6.22	1.36	1.52

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	4823	ARG	N-CA-C	10.38	139.02	111.00
1	D	4823	ARG	CB-CA-C	-7.98	94.43	110.40
1	A	730	LEU	CA-CB-CG	6.89	131.16	115.30
1	D	730	LEU	CA-CB-CG	6.89	131.16	115.30
1	G	730	LEU	CA-CB-CG	6.89	131.16	115.30
1	J	730	LEU	CA-CB-CG	6.89	131.16	115.30
1	A	4522	LYS	N-CA-CB	-6.62	98.69	110.60
1	A	2326	ILE	CB-CA-C	5.51	122.62	111.60
1	G	2326	ILE	CB-CA-C	5.51	122.62	111.60
1	A	4821	GLY	N-CA-C	-5.44	99.49	113.10
1	G	2130	LEU	CA-CB-CG	5.42	127.77	115.30
1	A	3984	LEU	CA-CB-CG	5.42	127.75	115.30
1	D	3984	LEU	CA-CB-CG	5.42	127.75	115.30
1	G	3984	LEU	CA-CB-CG	5.42	127.75	115.30
1	J	3984	LEU	CA-CB-CG	5.42	127.75	115.30
1	D	2130	LEU	CA-CB-CG	5.41	127.74	115.30
1	A	2130	LEU	CA-CB-CG	5.40	127.73	115.30
1	J	2130	LEU	CA-CB-CG	5.40	127.73	115.30
1	J	4521	TYR	CB-CA-C	-5.36	99.68	110.40
1	D	4823	ARG	N-CA-CB	-5.18	101.28	110.60
1	J	4821	GLY	N-CA-C	-5.14	100.25	113.10
1	D	4822	VAL	CB-CA-C	5.08	121.06	111.40
1	A	1128	LEU	CA-CB-CG	5.04	126.90	115.30
1	D	1128	LEU	CA-CB-CG	5.04	126.90	115.30
1	G	1128	LEU	CA-CB-CG	5.04	126.90	115.30
1	J	1128	LEU	CA-CB-CG	5.04	126.90	115.30
1	D	2326	ILE	CB-CA-C	5.00	121.60	111.60

There are no chirality outliers.

All (92) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1127	GLU	Peptide
1	A	1447	THR	Peptide
1	A	1579	VAL	Peptide
1	A	1596	TRP	Peptide
1	A	1635	GLU	Peptide
1	A	1759	PRO	Peptide
1	A	1775	CYS	Peptide
1	A	1808	ASP	Peptide
1	A	1809	PRO	Peptide

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Mol	Chain	Res	Type	Group
1	A	1847	GLU	Peptide
1	A	2037	VAL	Peptide
1	A	2429	PRO	Peptide
1	A	295	PHE	Peptide
1	A	3829	LYS	Peptide
1	A	4074	ASP	Peptide
1	A	4091	PRO	Peptide
1	A	728	ASP	Peptide
1	A	729	GLY	Peptide
1	A	739	ARG	Peptide
1	A	816	PRO	Peptide
1	A	817	PRO	Peptide
1	A	838	ARG	Peptide
1	A	841	LYS	Peptide
1	D	1127	GLU	Peptide
1	D	1447	THR	Peptide
1	D	1579	VAL	Peptide
1	D	1596	TRP	Peptide
1	D	1635	GLU	Peptide
1	D	1759	PRO	Peptide
1	D	1775	CYS	Peptide
1	D	1808	ASP	Peptide
1	D	1809	PRO	Peptide
1	D	1847	GLU	Peptide
1	D	2037	VAL	Peptide
1	D	2429	PRO	Peptide
1	D	295	PHE	Peptide
1	D	3829	LYS	Peptide
1	D	4074	ASP	Peptide
1	D	4091	PRO	Peptide
1	D	728	ASP	Peptide
1	D	729	GLY	Peptide
1	D	739	ARG	Peptide
1	D	816	PRO	Peptide
1	D	817	PRO	Peptide
1	D	838	ARG	Peptide
1	D	841	LYS	Peptide
1	G	1127	GLU	Peptide
1	G	1447	THR	Peptide
1	G	1579	VAL	Peptide
1	G	1596	TRP	Peptide
1	G	1635	GLU	Peptide

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Mol	Chain	Res	Type	Group
1	G	1759	PRO	Peptide
1	G	1775	CYS	Peptide
1	G	1808	ASP	Peptide
1	G	1809	PRO	Peptide
1	G	1847	GLU	Peptide
1	G	2037	VAL	Peptide
1	G	2429	PRO	Peptide
1	G	295	PHE	Peptide
1	G	3829	LYS	Peptide
1	G	4074	ASP	Peptide
1	G	4091	PRO	Peptide
1	G	728	ASP	Peptide
1	G	729	GLY	Peptide
1	G	739	ARG	Peptide
1	G	816	PRO	Peptide
1	G	817	PRO	Peptide
1	G	838	ARG	Peptide
1	G	841	LYS	Peptide
1	J	1127	GLU	Peptide
1	J	1447	THR	Peptide
1	J	1579	VAL	Peptide
1	J	1596	TRP	Peptide
1	J	1635	GLU	Peptide
1	J	1759	PRO	Peptide
1	J	1775	CYS	Peptide
1	J	1808	ASP	Peptide
1	J	1809	PRO	Peptide
1	J	1847	GLU	Peptide
1	J	2037	VAL	Peptide
1	J	2429	PRO	Peptide
1	J	295	PHE	Peptide
1	J	3829	LYS	Peptide
1	J	4074	ASP	Peptide
1	J	4091	PRO	Peptide
1	J	728	ASP	Peptide
1	J	729	GLY	Peptide
1	J	739	ARG	Peptide
1	J	816	PRO	Peptide
1	J	817	PRO	Peptide
1	J	838	ARG	Peptide
1	J	841	LYS	Peptide

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	26661	0	25136	600	0
1	D	26661	0	25136	589	0
1	G	26661	0	25136	605	0
1	J	26661	0	25136	598	0
2	B	819	0	824	15	0
2	E	819	0	824	15	0
2	H	819	0	824	14	0
2	K	819	0	824	14	0
3	C	524	0	504	8	0
3	F	524	0	504	7	0
3	I	524	0	504	7	0
3	L	524	0	504	7	0
4	A	1	0	0	0	0
4	D	1	0	0	0	0
4	G	1	0	0	0	0
4	J	1	0	0	0	0
5	A	1	0	0	0	0
5	C	2	0	0	0	0
5	D	1	0	0	0	0
5	F	2	0	0	0	0
5	G	1	0	0	0	0
5	I	2	0	0	0	0
5	J	1	0	0	0	0
5	L	2	0	0	0	0
6	A	31	0	12	0	0
6	D	31	0	12	0	0
6	G	31	0	12	0	0
6	J	31	0	12	0	0
7	A	14	0	10	1	0
7	D	14	0	10	1	0
7	G	14	0	10	1	0
7	J	14	0	10	1	0
All	All	112212	0	105944	2282	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 10.

All (2282) 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:4852:PHE:CZ	1:D:4823:ARG:HA	1.59	1.37
1:G:4861:ALA:CB	1:J:4864:GLN:HE21	1.53	1.22
1:D:4861:ALA:CB	1:G:4864:GLN:HE21	1.52	1.22
1:A:4861:ALA:CB	1:D:4864:GLN:HE21	1.52	1.21
1:A:4782:TYR:CD2	1:A:4851:PHE:CD1	2.30	1.20
1:A:4864:GLN:HE21	1:J:4861:ALA:CB	1.54	1.20
1:A:4861:ALA:HB1	1:D:4864:GLN:HE21	1.08	1.17
1:A:4782:TYR:HD2	1:A:4851:PHE:CE1	1.60	1.17
1:G:4782:TYR:HD2	1:G:4851:PHE:CE1	1.63	1.17
1:G:4782:TYR:CD2	1:G:4851:PHE:CD1	2.32	1.17
1:D:4782:TYR:CD2	1:D:4851:PHE:CD1	2.33	1.16
1:D:4782:TYR:HD2	1:D:4851:PHE:CE1	1.64	1.15
1:D:4861:ALA:HB1	1:G:4864:GLN:HE21	1.08	1.14
1:J:4782:TYR:CD2	1:J:4851:PHE:CD1	2.35	1.14
1:A:4822:VAL:HG12	1:J:4852:PHE:HE2	1.05	1.14
1:D:4787:PHE:HE2	1:G:4521:TYR:CE2	1.67	1.13
1:A:4521:TYR:CE2	1:J:4787:PHE:HE2	1.64	1.13
1:A:4861:ALA:HB1	1:D:4868:ILE:HD11	1.28	1.13
1:A:4787:PHE:HE2	1:D:4521:TYR:CE2	1.67	1.12
1:G:4787:PHE:HE2	1:J:4521:TYR:CE2	1.66	1.12
1:J:4782:TYR:HD2	1:J:4851:PHE:CE1	1.67	1.12
1:G:4852:PHE:HE2	1:J:4822:VAL:HG12	1.07	1.11
1:A:4868:ILE:HD11	1:J:4861:ALA:HB1	1.26	1.11
1:D:4852:PHE:HE2	1:G:4822:VAL:HG12	0.96	1.11
1:D:4852:PHE:CE2	1:G:4822:VAL:HG12	1.86	1.09
1:G:4861:ALA:HB1	1:J:4868:ILE:HD11	1.28	1.09
1:A:4864:GLN:HE21	1:J:4861:ALA:HB1	1.11	1.07
1:D:4861:ALA:HB1	1:G:4868:ILE:HD11	1.28	1.07
1:G:4861:ALA:HB1	1:J:4864:GLN:HE21	1.09	1.06
1:A:4852:PHE:CZ	1:D:4823:ARG:CA	2.37	1.06
1:A:4782:TYR:HD2	1:A:4851:PHE:CD1	1.71	1.03
1:G:4782:TYR:HD2	1:G:4851:PHE:CD1	1.74	1.03
1:J:4782:TYR:HD2	1:J:4851:PHE:CD1	1.75	1.03
1:G:4861:ALA:CB	1:J:4864:GLN:NE2	2.23	1.02
1:A:4822:VAL:HG12	1:J:4852:PHE:CE2	1.93	1.02
1:G:4852:PHE:CE2	1:J:4822:VAL:HG12	1.95	1.01
1:A:4861:ALA:CB	1:D:4864:GLN:NE2	2.22	1.01
1:D:4861:ALA:CB	1:G:4864:GLN:NE2	2.22	1.00
1:G:4782:TYR:CD2	1:G:4851:PHE:CE1	2.49	1.00
1:A:4782:TYR:CD2	1:A:4851:PHE:CE1	2.46	0.99
1:A:4852:PHE:CE1	1:D:4823:ARG:CA	2.45	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4864:GLN:NE2	1:J:4861:ALA:CB	2.25	0.99
1:D:4782:TYR:CD2	1:D:4851:PHE:CE1	2.51	0.99
1:D:4782:TYR:HD2	1:D:4851:PHE:CD1	1.74	0.99
1:A:4521:TYR:CE2	1:J:4787:PHE:CE2	2.51	0.99
1:G:4787:PHE:CE2	1:J:4521:TYR:CE2	2.53	0.96
1:D:4787:PHE:CE2	1:G:4521:TYR:CE2	2.53	0.96
1:J:4782:TYR:CD2	1:J:4851:PHE:CE1	2.54	0.96
1:A:4787:PHE:CE2	1:D:4521:TYR:CE2	2.53	0.95
1:D:4782:TYR:CD2	1:D:4851:PHE:HD1	1.81	0.95
1:A:4861:ALA:HB2	1:D:4864:GLN:NE2	1.82	0.94
1:G:4861:ALA:HB2	1:J:4864:GLN:NE2	1.82	0.94
1:J:4782:TYR:CD2	1:J:4851:PHE:HD1	1.82	0.94
1:A:4852:PHE:CE1	1:D:4823:ARG:HA	2.01	0.94
1:A:4523:VAL:HB	1:J:4791:ARG:HH22	1.32	0.94
1:A:4779:VAL:HG12	1:A:4851:PHE:HZ	1.33	0.94
1:D:4861:ALA:HB2	1:G:4864:GLN:NE2	1.82	0.93
1:A:4852:PHE:CE1	1:D:4823:ARG:O	2.22	0.93
1:A:4849:ILE:HD11	1:D:4819:TYR:CD1	2.04	0.93
1:D:4787:PHE:HE2	1:G:4521:TYR:HE2	1.12	0.93
1:G:4782:TYR:CD2	1:G:4851:PHE:HD1	1.81	0.93
1:A:4787:PHE:HE2	1:D:4521:TYR:HE2	1.12	0.92
1:A:4864:GLN:NE2	1:J:4861:ALA:HB2	1.83	0.92
1:D:4791:ARG:HH22	1:G:4523:VAL:HB	1.32	0.91
1:G:4791:ARG:HH21	1:J:4523:VAL:HG11	1.35	0.91
1:A:4791:ARG:HH22	1:D:4523:VAL:HB	1.33	0.91
1:A:207:PHE:CB	1:D:2326:ILE:HB	2.01	0.90
1:A:4521:TYR:HE2	1:J:4787:PHE:HE2	1.10	0.90
1:D:4791:ARG:HH21	1:G:4523:VAL:HG11	1.36	0.90
1:G:4791:ARG:HH22	1:J:4523:VAL:HB	1.31	0.90
1:A:2326:ILE:HB	1:J:207:PHE:CB	2.02	0.90
1:G:4779:VAL:HG12	1:G:4851:PHE:HZ	1.37	0.90
1:A:4782:TYR:CD2	1:A:4851:PHE:HD1	1.79	0.89
1:D:207:PHE:CB	1:G:2326:ILE:HB	2.02	0.89
1:G:4787:PHE:HE2	1:J:4521:TYR:HE2	1.12	0.88
1:A:4523:VAL:HG11	1:J:4791:ARG:HH21	1.37	0.88
1:G:207:PHE:CB	1:J:2326:ILE:HB	2.02	0.88
1:A:4779:VAL:HG12	1:A:4851:PHE:CZ	2.09	0.88
1:A:4791:ARG:HH21	1:D:4523:VAL:HG11	1.37	0.88
1:D:4779:VAL:HG12	1:D:4851:PHE:HZ	1.38	0.88
1:D:4845:ILE:HG23	1:G:4819:TYR:CD1	2.08	0.88
1:D:4861:ALA:CB	1:G:4868:ILE:HD11	2.04	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4868:ILE:HD11	1:J:4861:ALA:CB	2.03	0.87
1:J:4779:VAL:HG12	1:J:4851:PHE:HZ	1.39	0.87
1:A:4861:ALA:CB	1:D:4868:ILE:HD11	2.04	0.87
1:G:4861:ALA:CB	1:J:4868:ILE:HD11	2.04	0.86
1:A:4852:PHE:HE1	1:D:4823:ARG:O	1.58	0.85
1:G:4779:VAL:HG12	1:G:4851:PHE:CZ	2.12	0.85
1:G:4813:CYS:O	1:G:4817:HIS:HB2	1.77	0.84
1:J:4779:VAL:HG12	1:J:4851:PHE:CZ	2.13	0.84
1:D:4779:VAL:HG12	1:D:4851:PHE:CZ	2.12	0.84
1:D:4852:PHE:HE2	1:G:4822:VAL:CG1	1.88	0.83
1:A:4810:MET:CB	1:D:4521:TYR:O	2.26	0.83
1:G:4791:ARG:NH2	1:J:4523:VAL:HG11	1.93	0.83
1:D:4791:ARG:NH2	1:G:4523:VAL:HG11	1.94	0.83
1:A:4791:ARG:NH2	1:D:4523:VAL:HG11	1.94	0.81
1:A:4852:PHE:CZ	1:D:4822:VAL:O	2.34	0.80
1:A:4515:ASN:HB3	1:J:4780:TYR:OH	1.80	0.80
1:G:4777:VAL:O	1:G:4780:TYR:HD2	1.63	0.80
1:A:4523:VAL:HG11	1:J:4791:ARG:NH2	1.96	0.80
1:G:4736:ASN:OD1	1:G:4738:PHE:HD2	1.66	0.79
1:D:4736:ASN:OD1	1:D:4738:PHE:HD2	1.66	0.79
1:A:4822:VAL:CG1	1:J:4852:PHE:HE2	1.91	0.79
1:G:4791:ARG:HH22	1:J:4523:VAL:CB	1.94	0.79
1:D:4791:ARG:HH22	1:G:4523:VAL:CB	1.96	0.79
1:J:4736:ASN:OD1	1:J:4738:PHE:HD2	1.66	0.78
1:J:4822:VAL:C	1:J:4824:ALA:H	1.87	0.78
1:A:4813:CYS:O	1:A:4817:HIS:HB2	1.84	0.78
1:A:4736:ASN:OD1	1:A:4738:PHE:HD2	1.66	0.78
1:A:4849:ILE:HD11	1:D:4819:TYR:HA	1.66	0.78
1:A:4849:ILE:HD11	1:D:4819:TYR:HD1	1.47	0.77
1:A:4791:ARG:HH22	1:D:4523:VAL:CB	1.96	0.77
1:A:4864:GLN:HG2	1:A:4868:ILE:CD1	2.15	0.77
1:G:4864:GLN:HG2	1:G:4868:ILE:CD1	2.15	0.77
1:A:190:ARG:NH1	1:D:2423:ILE:HG23	1.99	0.77
1:A:4868:ILE:CD1	1:J:4861:ALA:HB1	2.12	0.77
1:D:4864:GLN:HG2	1:D:4868:ILE:CD1	2.15	0.77
1:A:2423:ILE:HG23	1:J:190:ARG:NH1	2.00	0.77
1:A:4861:ALA:HB1	1:D:4868:ILE:CD1	2.13	0.77
1:A:4523:VAL:CB	1:J:4791:ARG:HH22	1.96	0.76
1:A:4521:TYR:HE2	1:J:4787:PHE:CE2	1.98	0.76
1:J:4864:GLN:HG2	1:J:4868:ILE:CD1	2.15	0.76
1:D:190:ARG:NH1	1:G:2423:ILE:HG23	2.01	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:190:ARG:NH1	1:J:2423:ILE:HG23	2.01	0.76
1:G:4852:PHE:HE2	1:J:4822:VAL:CG1	1.92	0.76
1:G:4861:ALA:HB1	1:J:4864:GLN:NE2	1.93	0.75
1:A:4522:LYS:CB	1:J:4809:ASP:HA	2.16	0.75
1:A:4521:TYR:O	1:J:4810:MET:CB	2.34	0.75
1:D:4861:ALA:HB1	1:G:4868:ILE:CD1	2.13	0.75
1:J:4559:HIS:ND1	1:J:4738:PHE:CZ	2.55	0.75
1:D:4559:HIS:ND1	1:D:4738:PHE:CZ	2.55	0.74
1:G:4559:HIS:ND1	1:G:4738:PHE:CZ	2.55	0.74
1:A:4559:HIS:ND1	1:A:4738:PHE:CZ	2.55	0.74
1:D:4852:PHE:CE2	1:G:4823:ARG:HA	2.22	0.74
1:G:4791:ARG:NH2	1:J:4523:VAL:CG1	2.50	0.74
1:A:4822:VAL:C	1:A:4824:ALA:H	1.87	0.74
1:A:4864:GLN:NE2	1:J:4861:ALA:HB1	1.95	0.74
1:G:4809:ASP:HA	1:J:4522:LYS:CB	2.17	0.74
1:A:4809:ASP:HA	1:D:4522:LYS:CB	2.18	0.74
1:D:4852:PHE:CD2	1:G:4823:ARG:HA	2.23	0.73
1:G:4787:PHE:CE2	1:J:4521:TYR:HE2	2.00	0.73
1:A:4861:ALA:HB1	1:D:4864:GLN:NE2	1.92	0.73
1:D:4809:ASP:HA	1:G:4522:LYS:CB	2.18	0.73
1:D:4791:ARG:NH2	1:G:4523:VAL:CG1	2.51	0.73
1:G:4861:ALA:HB1	1:J:4868:ILE:CD1	2.14	0.73
2:B:21:THR:H	2:B:107:GLU:HB2	1.54	0.73
2:E:21:THR:H	2:E:107:GLU:HB2	1.54	0.72
2:K:21:THR:H	2:K:107:GLU:HB2	1.54	0.72
1:G:4791:ARG:NH2	1:J:4523:VAL:HB	2.04	0.72
2:H:21:THR:H	2:H:107:GLU:HB2	1.54	0.72
1:J:4864:GLN:HG2	1:J:4868:ILE:HD12	1.72	0.71
1:A:4791:ARG:NH2	1:D:4523:VAL:CG1	2.52	0.71
1:G:4864:GLN:HG2	1:G:4868:ILE:HD12	1.72	0.71
1:A:4523:VAL:CB	1:J:4791:ARG:NH2	2.54	0.71
1:A:4787:PHE:CE2	1:D:4521:TYR:HE2	2.00	0.71
1:D:4791:ARG:NH2	1:G:4523:VAL:HB	2.06	0.71
1:D:4861:ALA:HB1	1:G:4864:GLN:NE2	1.93	0.71
1:D:4845:ILE:HG23	1:G:4819:TYR:CE1	2.25	0.71
1:A:4822:VAL:O	1:A:4824:ALA:N	2.22	0.71
1:G:4791:ARG:NH2	1:J:4523:VAL:CB	2.53	0.71
1:J:4822:VAL:O	1:J:4824:ALA:N	2.22	0.71
1:A:4523:VAL:CG1	1:J:4791:ARG:NH2	2.52	0.71
1:J:4813:CYS:O	1:J:4817:HIS:HB2	1.90	0.71
1:A:4864:GLN:HG2	1:A:4868:ILE:HD12	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4864:GLN:HG2	1:D:4868:ILE:HD12	1.72	0.70
1:D:4814:TYR:O	1:D:4818:MET:N	2.24	0.70
1:D:4791:ARG:NH2	1:G:4523:VAL:CB	2.54	0.70
1:A:4849:ILE:CD1	1:D:4819:TYR:CD1	2.75	0.69
1:A:4791:ARG:NH2	1:D:4523:VAL:CB	2.55	0.69
1:A:4791:ARG:NH2	1:D:4523:VAL:HB	2.07	0.69
1:G:4807:CYS:SG	1:G:4816:PHE:CE2	2.85	0.68
1:G:4822:VAL:C	1:G:4824:ALA:H	1.96	0.68
1:A:4862:ILE:HG22	1:D:4868:ILE:HG12	1.76	0.68
1:G:4807:CYS:SG	1:G:4816:PHE:CD2	2.82	0.68
1:A:4523:VAL:HB	1:J:4791:ARG:NH2	2.05	0.68
1:A:4852:PHE:CE1	1:D:4823:ARG:C	2.66	0.68
1:D:4862:ILE:HG22	1:G:4868:ILE:HG12	1.76	0.68
1:A:4807:CYS:SG	1:A:4816:PHE:CD2	2.85	0.67
1:D:2025:THR:O	1:D:2029:ARG:NH1	2.27	0.67
1:A:2025:THR:O	1:A:2029:ARG:NH1	2.27	0.67
1:D:4787:PHE:CE2	1:G:4521:TYR:HE2	2.00	0.67
1:G:2025:THR:O	1:G:2029:ARG:NH1	2.27	0.67
1:G:4862:ILE:HG22	1:J:4868:ILE:HG12	1.77	0.66
1:J:1111:GLY:HA3	1:J:1211:GLN:HE21	1.60	0.66
1:G:1111:GLY:HA3	1:G:1211:GLN:HE21	1.60	0.66
1:J:2025:THR:O	1:J:2029:ARG:NH1	2.27	0.66
1:D:4810:MET:CB	1:G:4521:TYR:O	2.42	0.66
1:A:4829:GLY:HA3	1:D:4819:TYR:OH	1.94	0.66
1:J:4888:LYS:HA	1:J:4895:GLY:HA2	1.78	0.66
1:A:4888:LYS:HA	1:A:4895:GLY:HA2	1.78	0.65
1:D:4820:VAL:CG1	1:D:4831:GLU:OE2	2.44	0.65
1:A:4852:PHE:HZ	1:D:4822:VAL:O	1.80	0.65
1:J:233:VAL:HG21	1:J:413:SER:HB3	1.78	0.65
1:A:4797:SER:HB3	1:A:4805:MET:H	1.62	0.65
1:A:4849:ILE:CD1	1:D:4819:TYR:HD1	2.10	0.65
1:A:4819:TYR:CD1	1:J:4849:ILE:HD11	2.32	0.65
1:D:233:VAL:HG21	1:D:413:SER:HB3	1.78	0.65
1:A:4868:ILE:HG12	1:J:4862:ILE:HG22	1.78	0.65
1:A:1111:GLY:HA3	1:A:1211:GLN:HE21	1.60	0.65
1:D:1111:GLY:HA3	1:D:1211:GLN:HE21	1.60	0.65
1:D:4797:SER:HB3	1:D:4805:MET:H	1.62	0.65
1:G:4888:LYS:HA	1:G:4895:GLY:HA2	1.78	0.65
1:G:1173:MET:HB3	1:G:1192:PHE:HB2	1.79	0.64
1:G:4820:VAL:CG1	1:G:4831:GLU:HG3	2.27	0.64
1:D:1173:MET:HB3	1:D:1192:PHE:HB2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:233:VAL:HG21	1:A:413:SER:HB3	1.78	0.64
1:D:4888:LYS:HA	1:D:4895:GLY:HA2	1.78	0.64
1:D:3993:ASN:HD22	1:D:4110:MET:HG3	1.62	0.64
1:A:3993:ASN:HD22	1:A:4110:MET:HG3	1.62	0.64
1:J:3993:ASN:HD22	1:J:4110:MET:HG3	1.62	0.64
1:A:681:HIS:HB2	1:A:799:LYS:HG2	1.80	0.64
1:A:2076:ILE:H	1:A:3667:GLN:HE22	1.45	0.64
1:J:4797:SER:HB3	1:J:4805:MET:H	1.62	0.64
1:D:1482:ARG:HH11	1:D:1531:TYR:HA	1.63	0.63
1:G:4797:SER:HB3	1:G:4805:MET:H	1.62	0.63
1:J:681:HIS:HB2	1:J:799:LYS:HG2	1.80	0.63
1:G:233:VAL:HG21	1:G:413:SER:HB3	1.78	0.63
1:J:1482:ARG:HH11	1:J:1531:TYR:HA	1.63	0.63
1:G:1645:THR:HG22	1:G:1695:PRO:HG3	1.81	0.63
1:G:3993:ASN:HD22	1:G:4110:MET:HG3	1.62	0.63
1:J:1241:VAL:HB	1:J:1807:ARG:HH22	1.64	0.63
1:A:1645:THR:HG22	1:A:1695:PRO:HG3	1.81	0.63
1:D:681:HIS:HB2	1:D:799:LYS:HG2	1.80	0.63
1:A:1241:VAL:HB	1:A:1807:ARG:HH22	1.63	0.63
2:E:87:HIS:H	2:E:91:ILE:HB	1.63	0.63
1:A:1482:ARG:HH11	1:A:1531:TYR:HA	1.63	0.63
1:G:681:HIS:HB2	1:G:799:LYS:HG2	1.80	0.63
1:J:1645:THR:HG22	1:J:1695:PRO:HG3	1.81	0.63
1:J:4736:ASN:OD1	1:J:4738:PHE:CD2	2.51	0.63
1:A:1173:MET:HB3	1:A:1192:PHE:HB2	1.79	0.63
1:D:2076:ILE:H	1:D:3667:GLN:HE22	1.45	0.63
1:J:2076:ILE:H	1:J:3667:GLN:HE22	1.45	0.63
1:J:4521:TYR:O	1:J:4521:TYR:CD2	2.51	0.63
1:A:4812:THR:O	1:A:4816:PHE:HB3	1.99	0.63
1:D:1645:THR:HG22	1:D:1695:PRO:HG3	1.81	0.63
1:D:4889:CYS:SG	1:D:4890:PHE:N	2.72	0.63
1:G:1482:ARG:HH11	1:G:1531:TYR:HA	1.63	0.63
1:G:4889:CYS:SG	1:G:4890:PHE:N	2.72	0.63
1:A:2323:ARG:O	1:A:2326:ILE:HG13	1.99	0.62
2:B:87:HIS:H	2:B:91:ILE:HB	1.63	0.62
1:G:2076:ILE:H	1:G:3667:GLN:HE22	1.45	0.62
1:G:2876:ASP:OD1	1:G:2876:ASP:N	2.31	0.62
1:G:1241:VAL:HB	1:G:1807:ARG:HH22	1.63	0.62
1:A:4736:ASN:OD1	1:A:4738:PHE:CD2	2.51	0.62
1:G:2323:ARG:O	1:G:2326:ILE:HG13	1.99	0.62
1:J:4889:CYS:SG	1:J:4890:PHE:N	2.72	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1442:TRP:HD1	1:A:1488:VAL:HG13	1.65	0.62
1:D:1241:VAL:HB	1:D:1807:ARG:HH22	1.63	0.62
1:J:1173:MET:HB3	1:J:1192:PHE:HB2	1.79	0.62
1:A:4807:CYS:SG	1:A:4816:PHE:CE2	2.89	0.62
1:D:802:PHE:HB2	1:D:1617:TRP:HB2	1.81	0.62
2:H:87:HIS:H	2:H:91:ILE:HB	1.63	0.62
1:G:802:PHE:HB2	1:G:1617:TRP:HB2	1.81	0.62
1:G:1442:TRP:HD1	1:G:1488:VAL:HG13	1.65	0.62
1:J:1442:TRP:HD1	1:J:1488:VAL:HG13	1.65	0.62
1:J:2323:ARG:O	1:J:2326:ILE:HG13	1.99	0.62
1:J:694:ARG:HB2	1:J:793:SER:HB2	1.82	0.62
1:G:694:ARG:HB2	1:G:793:SER:HB2	1.82	0.62
1:G:4820:VAL:O	1:G:4824:ALA:HB2	1.99	0.62
1:A:4889:CYS:SG	1:A:4890:PHE:N	2.72	0.61
1:A:802:PHE:HB2	1:A:1617:TRP:HB2	1.81	0.61
1:D:694:ARG:HB2	1:D:793:SER:HB2	1.82	0.61
1:G:1303:ARG:HH21	1:G:1595:LEU:HD13	1.64	0.61
2:K:87:HIS:H	2:K:91:ILE:HB	1.63	0.61
2:K:13:ARG:NH2	2:K:14:THR:OG1	2.34	0.61
1:D:4054:GLU:HG3	1:D:4061:GLN:HE21	1.66	0.61
1:A:4850:THR:O	1:A:4854:PHE:HB3	2.00	0.61
1:J:4812:THR:O	1:J:4816:PHE:HB3	2.00	0.61
1:A:694:ARG:HB2	1:A:793:SER:HB2	1.82	0.61
1:A:4849:ILE:HD11	1:D:4819:TYR:CA	2.31	0.61
1:D:2323:ARG:O	1:D:2326:ILE:HG13	1.99	0.61
1:D:1044:LYS:HA	1:D:1047:LYS:HB2	1.83	0.61
1:J:802:PHE:HB2	1:J:1617:TRP:HB2	1.81	0.61
1:A:1303:ARG:HH21	1:A:1595:LEU:HD13	1.64	0.61
1:D:1303:ARG:HH21	1:D:1595:LEU:HD13	1.64	0.61
1:D:1442:TRP:HD1	1:D:1488:VAL:HG13	1.65	0.61
1:D:1507:ILE:HB	1:D:1521:THR:HB	1.83	0.61
1:G:1044:LYS:HA	1:G:1047:LYS:HB2	1.83	0.61
2:H:13:ARG:NH2	2:H:14:THR:OG1	2.34	0.61
1:J:4056:HIS:O	1:J:4057:LYS:HG2	2.01	0.60
1:A:1507:ILE:HB	1:A:1521:THR:HB	1.82	0.60
1:A:4054:GLU:HG3	1:A:4061:GLN:HE21	1.66	0.60
1:D:4056:HIS:O	1:D:4057:LYS:HG2	2.01	0.60
1:A:797:GLY:HA2	1:A:1622:LEU:HA	1.84	0.60
1:A:4849:ILE:CD1	1:D:4819:TYR:HA	2.31	0.60
2:B:13:ARG:NH2	2:B:14:THR:OG1	2.34	0.60
1:J:1044:LYS:HA	1:J:1047:LYS:HB2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4070:CYS:SG	1:D:4071:ALA:N	2.75	0.60
1:G:1507:ILE:HB	1:G:1521:THR:HB	1.82	0.60
1:J:797:GLY:HA2	1:J:1622:LEU:HA	1.84	0.60
1:J:1303:ARG:HH21	1:J:1595:LEU:HD13	1.64	0.60
1:D:415:THR:HG21	1:D:485:ARG:HG2	1.84	0.60
1:G:4054:GLU:HG3	1:G:4061:GLN:HE21	1.66	0.60
1:G:2204:PHE:O	1:G:2211:ASN:ND2	2.35	0.60
1:J:415:THR:HG21	1:J:485:ARG:HG2	1.84	0.60
1:A:4056:HIS:O	1:A:4057:LYS:HG2	2.01	0.60
1:J:4070:CYS:SG	1:J:4071:ALA:N	2.75	0.60
1:D:1089:ARG:NH1	1:D:1122:CYS:SG	2.75	0.60
1:J:4850:THR:O	1:J:4854:PHE:HB3	2.02	0.60
1:D:4007:SER:HG	1:D:4010:ASN:HD21	1.48	0.59
1:G:4812:THR:O	1:G:4816:PHE:HB3	2.02	0.59
1:G:4850:THR:O	1:G:4854:PHE:HB3	2.02	0.59
1:A:508:TYR:O	1:A:564:ARG:NH1	2.36	0.59
1:A:1044:LYS:HA	1:A:1047:LYS:HB2	1.83	0.59
1:A:3891:TRP:HE1	1:A:3950:HIS:HE1	1.50	0.59
1:J:2204:PHE:O	1:J:2211:ASN:ND2	2.35	0.59
1:D:508:TYR:O	1:D:564:ARG:NH1	2.35	0.59
2:E:13:ARG:NH2	2:E:14:THR:OG1	2.34	0.59
1:A:415:THR:HG21	1:A:485:ARG:HG2	1.84	0.59
1:G:1089:ARG:NH1	1:G:1122:CYS:SG	2.75	0.59
1:G:4736:ASN:OD1	1:G:4738:PHE:CD2	2.51	0.59
1:J:4054:GLU:HG3	1:J:4061:GLN:HE21	1.66	0.59
1:A:731:HIS:ND1	1:A:739:ARG:O	2.36	0.59
1:A:2528:LEU:HD11	1:A:2568:ASP:HA	1.85	0.59
1:D:731:HIS:ND1	1:D:739:ARG:O	2.36	0.59
1:D:4736:ASN:OD1	1:D:4738:PHE:CD2	2.51	0.59
1:G:731:HIS:ND1	1:G:739:ARG:O	2.36	0.59
1:G:3891:TRP:HE1	1:G:3950:HIS:HE1	1.50	0.59
1:J:2528:LEU:HD11	1:J:2568:ASP:HA	1.85	0.59
1:J:3891:TRP:HE1	1:J:3950:HIS:HE1	1.50	0.59
1:J:4822:VAL:C	1:J:4824:ALA:N	2.55	0.59
1:A:4777:VAL:O	1:A:4780:TYR:HD2	1.84	0.59
1:D:797:GLY:HA2	1:D:1622:LEU:HA	1.84	0.59
1:D:2204:PHE:O	1:D:2211:ASN:ND2	2.35	0.59
1:G:486:GLN:NE2	1:G:539:ALA:O	2.36	0.59
1:J:486:GLN:NE2	1:J:539:ALA:O	2.36	0.59
1:J:508:TYR:O	1:J:564:ARG:NH1	2.36	0.59
1:A:4515:ASN:CB	1:J:4780:TYR:OH	2.48	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:508:TYR:O	1:G:564:ARG:NH1	2.36	0.59
1:A:4070:CYS:SG	1:A:4071:ALA:N	2.75	0.59
1:G:4056:HIS:O	1:G:4057:LYS:HG2	2.01	0.59
1:A:888:ASN:ND2	1:A:957:ALA:O	2.33	0.59
1:D:207:PHE:CB	1:G:2326:ILE:CB	2.80	0.59
1:J:1507:ILE:HB	1:J:1521:THR:HB	1.82	0.59
1:D:4594:LEU:HB3	1:D:4595:LYS:HZ2	1.68	0.59
1:J:1089:ARG:NH1	1:J:1122:CYS:SG	2.75	0.59
1:A:2204:PHE:O	1:A:2211:ASN:ND2	2.35	0.58
1:A:4782:TYR:CE2	1:A:4851:PHE:CD1	2.87	0.58
1:D:486:GLN:NE2	1:D:539:ALA:O	2.36	0.58
1:G:415:THR:HG21	1:G:485:ARG:HG2	1.84	0.58
2:K:7:ILE:H	2:K:72:ALA:HA	1.68	0.58
1:A:2326:ILE:CB	1:J:207:PHE:CB	2.80	0.58
2:B:7:ILE:H	2:B:72:ALA:HA	1.68	0.58
1:D:3891:TRP:HE1	1:D:3950:HIS:HE1	1.50	0.58
1:G:797:GLY:HA2	1:G:1622:LEU:HA	1.84	0.58
1:G:4822:VAL:O	1:G:4824:ALA:N	2.36	0.58
1:A:3888:ASP:HA	1:A:3891:TRP:HB2	1.85	0.58
1:A:4783:THR:HG21	1:A:4814:TYR:HB2	1.85	0.58
1:J:4783:THR:HG21	1:J:4814:TYR:HB2	1.85	0.58
1:A:1089:ARG:NH1	1:A:1122:CYS:SG	2.75	0.58
1:D:4850:THR:O	1:D:4854:PHE:HB3	2.02	0.58
1:G:2528:LEU:HD11	1:G:2568:ASP:HA	1.85	0.58
1:J:731:HIS:ND1	1:J:739:ARG:O	2.36	0.58
1:A:486:GLN:NE2	1:A:539:ALA:O	2.36	0.58
1:G:4070:CYS:SG	1:G:4071:ALA:N	2.75	0.58
1:G:4663:GLY:H	1:G:4666:ARG:HD2	1.69	0.58
1:A:4819:TYR:HD1	1:J:4849:ILE:HD11	1.67	0.58
1:D:2528:LEU:HD11	1:D:2568:ASP:HA	1.85	0.58
1:A:258:ARG:NH1	1:A:317:MET:SD	2.77	0.58
1:D:3888:ASP:HA	1:D:3891:TRP:HB2	1.85	0.58
1:G:4864:GLN:HG2	1:G:4868:ILE:HD11	1.84	0.58
1:J:3939:SER:OG	1:J:3940:ARG:N	2.37	0.58
2:B:62:GLY:HA3	2:B:74:LEU:HD11	1.86	0.58
1:G:4782:TYR:CE2	1:G:4851:PHE:CD1	2.90	0.58
1:D:258:ARG:NH1	1:D:317:MET:SD	2.77	0.58
1:J:258:ARG:NH1	1:J:317:MET:SD	2.77	0.58
1:J:4594:LEU:HB3	1:J:4595:LYS:HZ2	1.68	0.58
1:J:4663:GLY:H	1:J:4666:ARG:HD2	1.69	0.58
1:J:4864:GLN:HG2	1:J:4868:ILE:HD11	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4782:TYR:CE2	1:D:4851:PHE:CD1	2.91	0.58
1:G:4852:PHE:CD2	1:J:4823:ARG:HA	2.39	0.58
1:J:4186:LYS:NZ	1:J:4890:PHE:O	2.37	0.58
1:J:267:VAL:HA	1:J:270:HIS:HB2	1.87	0.57
1:A:2262:ASP:OD1	1:A:2262:ASP:N	2.37	0.57
1:A:4864:GLN:HG2	1:A:4868:ILE:HD11	1.84	0.57
1:G:267:VAL:HA	1:G:270:HIS:HB2	1.86	0.57
1:G:700:THR:O	1:G:838:ARG:NH1	2.37	0.57
1:G:4186:LYS:NZ	1:G:4890:PHE:O	2.37	0.57
1:G:4782:TYR:CD2	1:G:4851:PHE:HE1	2.16	0.57
2:H:7:ILE:H	2:H:72:ALA:HA	1.68	0.57
1:J:195:SER:HB2	1:J:202:HIS:HB2	1.87	0.57
1:A:767:SER:HA	1:A:777:GLY:HA3	1.86	0.57
1:D:767:SER:HA	1:D:777:GLY:HA3	1.86	0.57
1:A:195:SER:HB2	1:A:202:HIS:HB2	1.87	0.57
1:A:4186:LYS:NZ	1:A:4890:PHE:O	2.37	0.57
1:D:3939:SER:OG	1:D:3940:ARG:N	2.37	0.57
2:E:62:GLY:HA3	2:E:74:LEU:HD11	1.86	0.57
1:D:1256:PRO:O	1:D:1451:HIS:ND1	2.36	0.57
1:D:4663:GLY:H	1:D:4666:ARG:HD2	1.69	0.57
2:E:7:ILE:H	2:E:72:ALA:HA	1.68	0.57
1:G:3888:ASP:HA	1:G:3891:TRP:HB2	1.85	0.57
1:J:3888:ASP:HA	1:J:3891:TRP:HB2	1.85	0.57
1:A:2876:ASP:OD1	1:A:2876:ASP:N	2.31	0.57
1:G:767:SER:HA	1:G:777:GLY:HA3	1.86	0.57
2:K:62:GLY:HA3	2:K:74:LEU:HD11	1.86	0.57
1:A:700:THR:O	1:A:838:ARG:NH1	2.37	0.57
1:D:4864:GLN:HG2	1:D:4868:ILE:HD11	1.84	0.57
1:G:2262:ASP:OD1	1:G:2262:ASP:N	2.37	0.57
1:G:3682:LYS:NZ	1:G:3683:LEU:O	2.38	0.57
1:J:767:SER:HA	1:J:777:GLY:HA3	1.86	0.57
1:A:1256:PRO:O	1:A:1451:HIS:ND1	2.36	0.57
1:D:3682:LYS:NZ	1:D:3683:LEU:O	2.38	0.57
1:G:258:ARG:NH1	1:G:317:MET:SD	2.77	0.57
1:J:1655:TYR:OH	1:J:1659:ARG:NH2	2.38	0.57
1:A:4782:TYR:CD2	1:A:4851:PHE:HE1	2.14	0.57
1:G:1655:TYR:OH	1:G:1659:ARG:NH2	2.38	0.57
1:G:2308:PHE:HA	1:G:2313:SER:HA	1.87	0.57
1:J:4782:TYR:CE2	1:J:4851:PHE:CD1	2.92	0.57
3:L:56:VAL:HG11	3:L:64:ILE:HG23	1.86	0.57
1:A:2308:PHE:HA	1:A:2313:SER:HA	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4663:GLY:H	1:A:4666:ARG:HD2	1.69	0.56
1:D:195:SER:HB2	1:D:202:HIS:HB2	1.87	0.56
1:D:4783:THR:HG21	1:D:4814:TYR:HB2	1.85	0.56
1:G:195:SER:HB2	1:G:202:HIS:HB2	1.87	0.56
1:D:2192:LYS:O	1:D:2196:ASN:ND2	2.38	0.56
1:G:3939:SER:OG	1:G:3940:ARG:N	2.37	0.56
1:G:4796:LYS:NZ	1:G:4805:MET:O	2.38	0.56
1:A:267:VAL:HA	1:A:270:HIS:HB2	1.87	0.56
1:A:1676:LEU:HD23	1:A:1709:ILE:HD11	1.88	0.56
1:A:4566:SER:OG	1:A:4567:GLY:N	2.39	0.56
1:A:4796:LYS:NZ	1:A:4805:MET:O	2.38	0.56
1:D:267:VAL:HA	1:D:270:HIS:HB2	1.87	0.56
1:D:700:THR:O	1:D:838:ARG:NH1	2.37	0.56
3:F:56:VAL:HG11	3:F:64:ILE:HG23	1.86	0.56
1:G:207:PHE:CB	1:J:2326:ILE:CB	2.81	0.56
3:I:56:VAL:HG11	3:I:64:ILE:HG23	1.86	0.56
1:J:700:THR:O	1:J:838:ARG:NH1	2.37	0.56
1:J:1676:LEU:HD23	1:J:1709:ILE:HD11	1.88	0.56
1:J:4521:TYR:O	1:J:4521:TYR:CG	2.54	0.56
3:C:56:VAL:HG11	3:C:64:ILE:HG23	1.86	0.56
1:G:169:ARG:HH12	1:G:176:ARG:HB2	1.71	0.56
1:G:4783:THR:HG21	1:G:4814:TYR:HB2	1.85	0.56
1:A:2192:LYS:O	1:A:2196:ASN:ND2	2.38	0.56
2:H:62:GLY:HA3	2:H:74:LEU:HD11	1.86	0.56
1:D:1655:TYR:OH	1:D:1659:ARG:NH2	2.38	0.56
1:G:1445:TRP:O	1:G:1486:TYR:N	2.39	0.56
1:G:4566:SER:OG	1:G:4567:GLY:N	2.39	0.56
1:J:2192:LYS:O	1:J:2196:ASN:ND2	2.38	0.56
1:D:706:TYR:OH	1:D:1254:ARG:N	2.38	0.56
1:G:888:ASN:ND2	1:G:957:ALA:O	2.33	0.56
1:J:1445:TRP:O	1:J:1486:TYR:N	2.39	0.56
1:J:4007:SER:HG	1:J:4010:ASN:HD21	1.52	0.56
1:J:4796:LYS:NZ	1:J:4805:MET:O	2.38	0.56
1:A:1445:TRP:O	1:A:1486:TYR:N	2.39	0.56
1:D:1676:LEU:HD23	1:D:1709:ILE:HD11	1.87	0.56
1:J:2308:PHE:HA	1:J:2313:SER:HA	1.87	0.56
1:J:2262:ASP:OD1	1:J:2262:ASP:N	2.37	0.56
1:A:503:ASP:OD1	1:A:561:ARG:NH2	2.39	0.56
1:A:1272:ARG:NH1	1:A:1587:HIS:O	2.39	0.56
1:A:1655:TYR:OH	1:A:1659:ARG:NH2	2.38	0.56
1:A:3682:LYS:NZ	1:A:3683:LEU:O	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:169:ARG:HH12	1:D:176:ARG:HB2	1.71	0.56
1:D:903:GLN:NE2	1:D:974:SER:OG	2.39	0.56
1:D:2262:ASP:OD1	1:D:2262:ASP:N	2.37	0.56
1:J:4566:SER:OG	1:J:4567:GLY:N	2.39	0.56
1:A:207:PHE:CB	1:D:2326:ILE:CB	2.80	0.55
1:A:903:GLN:NE2	1:A:974:SER:OG	2.39	0.55
1:A:1728:PRO:HB2	1:A:1730:THR:HG23	1.88	0.55
1:D:2308:PHE:HA	1:D:2313:SER:HA	1.87	0.55
1:G:503:ASP:OD1	1:G:561:ARG:NH2	2.39	0.55
1:G:903:GLN:NE2	1:G:974:SER:OG	2.39	0.55
1:G:2192:LYS:O	1:G:2196:ASN:ND2	2.38	0.55
1:J:706:TYR:OH	1:J:1254:ARG:N	2.38	0.55
1:D:565:LEU:HD22	1:D:604:HIS:HE1	1.72	0.55
1:D:1445:TRP:O	1:D:1486:TYR:N	2.39	0.55
1:D:3800:SER:OG	1:D:3801:CYS:N	2.39	0.55
1:D:4777:VAL:O	1:D:4780:TYR:HD2	1.90	0.55
1:J:169:ARG:HH12	1:J:176:ARG:HB2	1.71	0.55
1:G:565:LEU:HD22	1:G:604:HIS:HE1	1.72	0.55
1:G:718:VAL:HA	1:G:736:CYS:H	1.71	0.55
1:G:1676:LEU:HD23	1:G:1709:ILE:HD11	1.87	0.55
1:J:1256:PRO:O	1:J:1451:HIS:ND1	2.36	0.55
1:J:2730:HIS:NE2	1:J:2759:LYS:O	2.40	0.55
1:J:4782:TYR:CD2	1:J:4851:PHE:HE1	2.21	0.55
1:A:169:ARG:HH12	1:A:176:ARG:HB2	1.71	0.55
1:A:718:VAL:HA	1:A:736:CYS:H	1.71	0.55
1:D:1272:ARG:NH1	1:D:1587:HIS:O	2.39	0.55
1:J:1728:PRO:HB2	1:J:1730:THR:HG23	1.88	0.55
1:D:4782:TYR:CD2	1:D:4851:PHE:HE1	2.18	0.55
1:J:503:ASP:OD1	1:J:561:ARG:NH2	2.39	0.55
1:A:499:LEU:HD12	1:A:502:ILE:HD12	1.89	0.55
1:A:674:TYR:HE2	1:A:814:LEU:HB2	1.72	0.55
1:G:804:LEU:HD13	1:G:832:LEU:HD11	1.88	0.55
1:J:1440:ASN:N	1:J:1490:ALA:O	2.40	0.55
1:J:1846:ILE:HG12	1:J:1894:LEU:HD23	1.89	0.55
1:J:4918:ASN:HA	1:J:4921:PHE:HD2	1.72	0.55
1:A:1011:ARG:HA	1:A:1014:GLN:HB3	1.89	0.55
1:A:3809:PHE:O	1:A:3812:GLN:NE2	2.37	0.55
1:D:503:ASP:OD1	1:D:561:ARG:NH2	2.39	0.55
1:A:2213:LYS:HG2	1:A:2254:LEU:HD11	1.89	0.55
1:D:674:TYR:HE2	1:D:814:LEU:HB2	1.72	0.55
2:E:20:GLN:HB3	2:E:107:GLU:H	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4594:LEU:HB3	1:G:4595:LYS:HZ2	1.70	0.55
1:J:565:LEU:HD22	1:J:604:HIS:HE1	1.72	0.55
1:J:1209:VAL:N	1:J:1211:GLN:OE1	2.40	0.55
1:J:3682:LYS:NZ	1:J:3683:LEU:O	2.38	0.55
1:A:1440:ASN:N	1:A:1490:ALA:O	2.40	0.55
1:A:1613:GLU:HB3	1:A:1618:LEU:H	1.72	0.55
1:A:3683:LEU:HD22	1:A:3748:SER:HB3	1.88	0.55
1:A:4835:PRO:HG3	1:A:4844:ARG:HE	1.72	0.55
1:D:499:LEU:HD12	1:D:502:ILE:HD12	1.89	0.55
1:D:734:SER:O	1:D:739:ARG:NH1	2.40	0.55
1:D:1219:LYS:H	1:D:1240:ALA:HB2	1.72	0.55
1:D:4845:ILE:CG2	1:G:4819:TYR:CD1	2.88	0.55
1:G:1756:SER:OG	1:G:1757:LEU:N	2.40	0.55
1:J:1011:ARG:HA	1:J:1014:GLN:HB3	1.89	0.55
1:A:565:LEU:HD22	1:A:604:HIS:HE1	1.72	0.55
1:A:940:LEU:HA	1:A:943:LEU:HB2	1.90	0.55
1:A:2730:HIS:NE2	1:A:2759:LYS:O	2.40	0.55
1:D:1440:ASN:N	1:D:1490:ALA:O	2.40	0.55
1:D:2876:ASP:OD1	1:D:2876:ASP:N	2.31	0.55
1:D:4835:PRO:HG3	1:D:4844:ARG:HE	1.72	0.55
1:G:1846:ILE:HG12	1:G:1894:LEU:HD23	1.89	0.55
1:G:3683:LEU:HD22	1:G:3748:SER:HB3	1.88	0.55
1:G:4777:VAL:O	1:G:4780:TYR:CD2	2.53	0.55
1:J:903:GLN:NE2	1:J:974:SER:OG	2.39	0.55
1:J:1736:ILE:HG23	1:J:1753:LEU:HD12	1.89	0.55
3:L:37:MET:HG3	3:L:42:GLN:HB3	1.89	0.55
1:A:1738:LEU:HD22	1:A:1925:ALA:HA	1.89	0.54
1:D:1756:SER:OG	1:D:1757:LEU:N	2.40	0.54
1:D:4566:SER:OG	1:D:4567:GLY:N	2.39	0.54
1:G:1440:ASN:N	1:G:1490:ALA:O	2.40	0.54
1:G:4835:PRO:HG3	1:G:4844:ARG:HE	1.72	0.54
1:J:718:VAL:HA	1:J:736:CYS:H	1.71	0.54
1:A:734:SER:O	1:A:739:ARG:NH1	2.40	0.54
1:A:1209:VAL:N	1:A:1211:GLN:OE1	2.40	0.54
1:A:2790:ILE:HG12	1:A:2904:VAL:HG13	1.90	0.54
1:A:4823:ARG:HA	1:J:4852:PHE:CD2	2.42	0.54
1:D:1846:ILE:HG12	1:D:1894:LEU:HD23	1.89	0.54
1:D:2213:LYS:HG2	1:D:2254:LEU:HD11	1.89	0.54
1:D:3683:LEU:HD22	1:D:3748:SER:HB3	1.88	0.54
1:D:4186:LYS:NZ	1:D:4890:PHE:O	2.37	0.54
1:G:674:TYR:HE2	1:G:814:LEU:HB2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1613:GLU:HB3	1:G:1618:LEU:H	1.72	0.54
1:G:2730:HIS:NE2	1:G:2759:LYS:O	2.40	0.54
2:H:20:GLN:HB3	2:H:107:GLU:H	1.72	0.54
1:J:1613:GLU:HB3	1:J:1618:LEU:H	1.72	0.54
1:J:2790:ILE:HG12	1:J:2904:VAL:HG13	1.90	0.54
1:J:4835:PRO:HG3	1:J:4844:ARG:HE	1.72	0.54
1:A:1846:ILE:HG12	1:A:1894:LEU:HD23	1.89	0.54
1:A:4605:LYS:NZ	1:A:4606:GLU:OE1	2.41	0.54
1:A:4918:ASN:HA	1:A:4921:PHE:HD2	1.72	0.54
1:D:718:VAL:HA	1:D:736:CYS:H	1.71	0.54
1:G:517:VAL:HG23	1:G:520:ARG:HE	1.73	0.54
1:G:680:ASP:HB2	1:G:799:LYS:HG3	1.90	0.54
1:G:706:TYR:OH	1:G:1254:ARG:N	2.38	0.54
1:G:1272:ARG:NH1	1:G:1587:HIS:O	2.39	0.54
1:G:4852:PHE:CE2	1:J:4823:ARG:HA	2.42	0.54
1:J:804:LEU:HD13	1:J:832:LEU:HD11	1.88	0.54
1:J:1272:ARG:NH1	1:J:1587:HIS:O	2.39	0.54
1:A:1736:ILE:HG23	1:A:1753:LEU:HD12	1.89	0.54
1:A:3781:TYR:HE1	1:A:3785:LYS:HD2	1.73	0.54
3:C:37:MET:HG3	3:C:42:GLN:HB3	1.89	0.54
1:D:1670:HIS:ND1	1:D:1778:TYR:O	2.41	0.54
1:G:940:LEU:HA	1:G:943:LEU:HB2	1.90	0.54
1:G:1219:LYS:H	1:G:1240:ALA:HB2	1.72	0.54
1:G:1728:PRO:HB2	1:G:1730:THR:HG23	1.88	0.54
1:J:517:VAL:HG23	1:J:520:ARG:HE	1.73	0.54
1:J:2213:LYS:HG2	1:J:2254:LEU:HD11	1.89	0.54
1:J:3781:TYR:HE1	1:J:3785:LYS:HD2	1.73	0.54
1:A:680:ASP:HB2	1:A:799:LYS:HG3	1.90	0.54
1:A:1756:SER:OG	1:A:1757:LEU:N	2.40	0.54
1:G:734:SER:O	1:G:739:ARG:NH1	2.40	0.54
1:G:1736:ILE:HG23	1:G:1753:LEU:HD12	1.89	0.54
1:G:2213:LYS:HG2	1:G:2254:LEU:HD11	1.89	0.54
1:G:3781:TYR:HE1	1:G:3785:LYS:HD2	1.73	0.54
1:J:4807:CYS:SG	1:J:4816:PHE:CE2	2.98	0.54
1:D:2730:HIS:NE2	1:D:2759:LYS:O	2.40	0.54
1:D:2790:ILE:HG12	1:D:2904:VAL:HG13	1.89	0.54
1:G:499:LEU:HD12	1:G:502:ILE:HD12	1.89	0.54
1:G:1011:ARG:HA	1:G:1014:GLN:HB3	1.89	0.54
1:J:499:LEU:HD12	1:J:502:ILE:HD12	1.88	0.54
1:A:4617:TYR:OH	1:A:4629:GLY:O	2.24	0.54
1:D:804:LEU:HD13	1:D:832:LEU:HD11	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3781:TYR:HE1	1:D:3785:LYS:HD2	1.73	0.54
1:J:1738:LEU:HD22	1:J:1925:ALA:HA	1.89	0.54
1:A:2553:VAL:O	1:A:2605:LYS:N	2.41	0.54
1:A:3939:SER:OG	1:A:3940:ARG:N	2.37	0.54
1:A:4044:ILE:HG13	1:A:4045:SER:H	1.73	0.54
2:B:20:GLN:HB3	2:B:107:GLU:H	1.72	0.54
1:D:1728:PRO:HB2	1:D:1730:THR:HG23	1.88	0.54
1:G:1209:VAL:N	1:G:1211:GLN:OE1	2.40	0.54
1:J:3800:SER:OG	1:J:3801:CYS:N	2.39	0.54
1:A:1219:LYS:H	1:A:1240:ALA:HB2	1.72	0.54
1:A:1670:HIS:ND1	1:A:1778:TYR:O	2.41	0.54
1:D:680:ASP:HB2	1:D:799:LYS:HG3	1.90	0.54
1:D:1738:LEU:HD22	1:D:1925:ALA:HA	1.89	0.54
1:D:3984:LEU:HA	1:D:3987:LEU:HD12	1.90	0.54
1:G:2402:ARG:O	1:G:2475:ARG:NH2	2.41	0.54
1:G:2790:ILE:HG12	1:G:2904:VAL:HG13	1.90	0.54
1:J:734:SER:O	1:J:739:ARG:NH1	2.40	0.54
1:A:4594:LEU:HB3	1:A:4595:LYS:HZ2	1.73	0.54
1:D:4780:TYR:OH	1:G:4515:ASN:HB3	2.07	0.54
1:G:2553:VAL:O	1:G:2605:LYS:N	2.41	0.54
1:J:3809:PHE:O	1:J:3812:GLN:NE2	2.37	0.54
1:D:4044:ILE:HG13	1:D:4045:SER:H	1.73	0.53
1:G:2434:VAL:O	1:G:2438:SER:OG	2.26	0.53
1:G:3809:PHE:O	1:G:3812:GLN:NE2	2.37	0.53
1:J:1756:SER:OG	1:J:1757:LEU:N	2.40	0.53
1:J:3683:LEU:HD22	1:J:3748:SER:HB3	1.88	0.53
1:J:4044:ILE:HG13	1:J:4045:SER:H	1.73	0.53
1:A:580:VAL:O	1:A:621:HIS:NE2	2.42	0.53
1:A:660:PHE:HB3	1:A:787:LEU:HD22	1.90	0.53
1:A:804:LEU:HD13	1:A:832:LEU:HD11	1.88	0.53
1:D:580:VAL:O	1:D:621:HIS:NE2	2.42	0.53
1:D:1011:ARG:HA	1:D:1014:GLN:HB3	1.89	0.53
1:D:1209:VAL:N	1:D:1211:GLN:OE1	2.40	0.53
1:G:4918:ASN:HA	1:G:4921:PHE:HD2	1.72	0.53
3:I:37:MET:HG3	3:I:42:GLN:HB3	1.89	0.53
1:A:4521:TYR:CD2	1:J:4787:PHE:CE2	2.95	0.53
1:D:2553:VAL:O	1:D:2605:LYS:N	2.41	0.53
1:G:1670:HIS:ND1	1:G:1778:TYR:O	2.41	0.53
1:G:4617:TYR:OH	1:G:4629:GLY:O	2.24	0.53
1:G:4822:VAL:C	1:G:4824:ALA:N	2.60	0.53
1:J:940:LEU:HA	1:J:943:LEU:HB2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1670:HIS:ND1	1:J:1778:TYR:O	2.41	0.53
1:J:3984:LEU:HA	1:J:3987:LEU:HD12	1.90	0.53
1:J:4052:ALA:O	1:J:4056:HIS:ND1	2.39	0.53
2:K:20:GLN:HB3	2:K:107:GLU:H	1.72	0.53
1:A:2402:ARG:O	1:A:2475:ARG:NH2	2.41	0.53
1:D:3809:PHE:O	1:D:3812:GLN:NE2	2.37	0.53
1:D:4031:ASP:HA	1:D:4034:LYS:HB3	1.91	0.53
1:D:4605:LYS:NZ	1:D:4606:GLU:OE1	2.41	0.53
1:G:4605:LYS:NZ	1:G:4606:GLU:OE1	2.41	0.53
1:J:674:TYR:HE2	1:J:814:LEU:HB2	1.72	0.53
1:J:2116:ASP:OD2	1:J:2155:VAL:N	2.42	0.53
1:D:239:GLY:O	1:D:243:GLU:N	2.42	0.53
1:G:1738:LEU:HD22	1:G:1925:ALA:HA	1.89	0.53
1:G:4804:ASP:N	1:G:4804:ASP:OD1	2.42	0.53
1:A:1589:GLN:NE2	1:A:1634:GLU:OE1	2.42	0.53
1:A:2116:ASP:OD2	1:A:2155:VAL:N	2.42	0.53
1:D:833:LYS:HA	1:D:1614:ARG:HH22	1.74	0.53
1:D:1613:GLU:HB3	1:D:1618:LEU:H	1.72	0.53
1:D:4918:ASN:HA	1:D:4921:PHE:HD2	1.72	0.53
1:G:2644:LYS:O	1:G:2648:GLY:N	2.41	0.53
1:G:3984:LEU:HA	1:G:3987:LEU:HD12	1.90	0.53
1:J:239:GLY:O	1:J:243:GLU:N	2.42	0.53
1:J:657:PRO:HD2	1:J:790:PRO:HG2	1.90	0.53
1:J:680:ASP:HB2	1:J:799:LYS:HG3	1.90	0.53
1:J:888:ASN:ND2	1:J:957:ALA:O	2.33	0.53
1:J:1219:LYS:H	1:J:1240:ALA:HB2	1.72	0.53
1:A:650:ASN:HA	1:A:1626:GLN:HA	1.91	0.53
1:D:517:VAL:HG23	1:D:520:ARG:HE	1.73	0.53
1:D:657:PRO:HD2	1:D:790:PRO:HG2	1.90	0.53
1:D:1736:ILE:HG23	1:D:1753:LEU:HD12	1.89	0.53
1:G:1589:GLN:NE2	1:G:1634:GLU:OE1	2.42	0.53
1:G:4031:ASP:HA	1:G:4034:LYS:HB3	1.91	0.53
1:J:580:VAL:O	1:J:621:HIS:NE2	2.42	0.53
1:J:650:ASN:HA	1:J:1626:GLN:HA	1.91	0.53
1:J:833:LYS:HA	1:J:1614:ARG:HH22	1.74	0.53
1:J:2553:VAL:O	1:J:2605:LYS:N	2.41	0.53
1:A:239:GLY:O	1:A:243:GLU:N	2.42	0.53
1:A:833:LYS:HA	1:A:1614:ARG:HH22	1.74	0.53
1:A:2434:VAL:O	1:A:2438:SER:OG	2.26	0.53
1:A:4823:ARG:HA	1:J:4852:PHE:CE2	2.44	0.53
1:G:1256:PRO:O	1:G:1451:HIS:ND1	2.36	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2402:ARG:O	1:J:2475:ARG:NH2	2.41	0.53
1:J:4617:TYR:OH	1:J:4629:GLY:O	2.24	0.53
1:A:517:VAL:HG23	1:A:520:ARG:HE	1.73	0.53
1:A:657:PRO:HD2	1:A:790:PRO:HG2	1.90	0.53
1:A:1143:GLN:HA	1:A:1151:HIS:HA	1.91	0.53
1:D:1589:GLN:NE2	1:D:1634:GLU:OE1	2.42	0.53
1:D:2402:ARG:O	1:D:2475:ARG:NH2	2.41	0.53
1:G:170:SER:OG	1:G:171:GLU:N	2.42	0.53
1:G:890:HIS:NE2	1:G:919:VAL:O	2.42	0.53
1:G:4810:MET:CB	1:J:4519:LEU:O	2.57	0.53
1:J:1143:GLN:HA	1:J:1151:HIS:HA	1.91	0.53
1:J:4605:LYS:NZ	1:J:4606:GLU:OE1	2.41	0.53
1:G:580:VAL:O	1:G:621:HIS:NE2	2.42	0.53
1:G:650:ASN:HA	1:G:1626:GLN:HA	1.91	0.53
1:G:1172:THR:HG22	1:G:1193:LYS:HG3	1.91	0.53
1:G:4813:CYS:O	1:G:4817:HIS:N	2.38	0.53
1:J:776:GLN:HG2	1:J:1472:GLU:HA	1.91	0.53
1:A:776:GLN:HG2	1:A:1472:GLU:HA	1.91	0.52
1:D:660:PHE:HB3	1:D:787:LEU:HD22	1.90	0.52
1:D:776:GLN:HG2	1:D:1472:GLU:HA	1.91	0.52
1:D:940:LEU:HA	1:D:943:LEU:HB2	1.89	0.52
1:D:4796:LYS:NZ	1:D:4805:MET:O	2.38	0.52
3:F:37:MET:HG3	3:F:42:GLN:HB3	1.89	0.52
1:G:833:LYS:HA	1:G:1614:ARG:HH22	1.74	0.52
1:J:660:PHE:HB3	1:J:787:LEU:HD22	1.90	0.52
1:J:1589:GLN:NE2	1:J:1634:GLU:OE1	2.42	0.52
1:A:890:HIS:NE2	1:A:919:VAL:O	2.42	0.52
1:A:3984:LEU:HA	1:A:3987:LEU:HD12	1.90	0.52
1:D:453:SER:O	1:D:457:GLN:NE2	2.42	0.52
1:J:1172:THR:HG22	1:J:1193:LYS:HG3	1.91	0.52
1:J:2883:LYS:O	1:J:2887:ARG:N	2.42	0.52
1:A:1114:ARG:HB3	1:A:1128:LEU:HD22	1.92	0.52
1:D:678:MET:HB3	1:D:801:ARG:HB2	1.91	0.52
1:D:888:ASN:ND2	1:D:957:ALA:O	2.33	0.52
1:G:239:GLY:O	1:G:243:GLU:N	2.42	0.52
1:G:4044:ILE:HG13	1:G:4045:SER:H	1.73	0.52
1:G:4787:PHE:CE2	1:J:4521:TYR:CD2	2.97	0.52
1:J:28:ILE:HG12	1:J:196:TYR:HE1	1.74	0.52
1:J:1114:ARG:HB3	1:J:1128:LEU:HD22	1.92	0.52
1:A:4052:ALA:O	1:A:4056:HIS:ND1	2.39	0.52
1:A:4780:TYR:OH	1:D:4741:ALA:HB1	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4782:TYR:CE2	1:A:4851:PHE:HD1	2.25	0.52
1:A:4852:PHE:CD1	1:D:4823:ARG:CB	2.93	0.52
1:D:237:LEU:HB3	1:D:404:ASN:HB3	1.91	0.52
1:D:650:ASN:HA	1:D:1626:GLN:HA	1.91	0.52
1:D:1171:HIS:O	1:D:1194:ASP:N	2.41	0.52
1:D:1172:THR:HG22	1:D:1193:LYS:HG3	1.91	0.52
1:D:4052:ALA:O	1:D:4056:HIS:ND1	2.39	0.52
1:D:4617:TYR:OH	1:D:4629:GLY:O	2.24	0.52
1:J:1171:HIS:O	1:J:1194:ASP:N	2.41	0.52
1:A:678:MET:HB3	1:A:801:ARG:HB2	1.91	0.52
1:A:1004:HIS:O	1:A:1008:ALA:N	2.39	0.52
1:A:4031:ASP:HA	1:A:4034:LYS:HB3	1.91	0.52
1:D:1143:GLN:HA	1:D:1151:HIS:HA	1.91	0.52
1:D:2434:VAL:O	1:D:2438:SER:OG	2.26	0.52
1:J:170:SER:OG	1:J:171:GLU:N	2.42	0.52
1:J:2193:MET:HA	1:J:2196:ASN:HD22	1.75	0.52
1:J:2846:ALA:HA	1:J:2849:TYR:HB2	1.92	0.52
1:A:453:SER:O	1:A:457:GLN:NE2	2.42	0.52
1:A:4519:LEU:O	1:J:4810:MET:CB	2.58	0.52
1:G:28:ILE:HG12	1:G:196:TYR:HE1	1.74	0.52
1:G:453:SER:O	1:G:457:GLN:NE2	2.42	0.52
1:G:657:PRO:HD2	1:G:790:PRO:HG2	1.90	0.52
1:G:660:PHE:HB3	1:G:787:LEU:HD22	1.90	0.52
1:G:4119:PHE:HA	1:G:4122:LEU:HD12	1.92	0.52
1:J:890:HIS:NE2	1:J:919:VAL:O	2.42	0.52
1:J:1004:HIS:O	1:J:1008:ALA:N	2.39	0.52
1:J:1699:ARG:NH2	1:J:1703:TYR:OH	2.43	0.52
1:J:4119:PHE:HA	1:J:4122:LEU:HD12	1.92	0.52
1:A:1172:THR:HG22	1:A:1193:LYS:HG3	1.91	0.52
1:A:1699:ARG:NH2	1:A:1703:TYR:OH	2.43	0.52
1:A:2193:MET:HA	1:A:2196:ASN:HD22	1.75	0.52
1:A:2883:LYS:O	1:A:2887:ARG:N	2.42	0.52
1:D:28:ILE:HG12	1:D:196:TYR:HE1	1.74	0.52
1:D:170:SER:OG	1:D:171:GLU:N	2.42	0.52
1:G:2158:GLN:O	1:G:3616:ARG:NH1	2.43	0.52
1:J:237:LEU:HB3	1:J:404:ASN:HB3	1.91	0.52
1:D:2846:ALA:HA	1:D:2849:TYR:HB2	1.92	0.52
1:G:218:SER:OG	1:G:219:SER:N	2.43	0.52
1:J:453:SER:O	1:J:457:GLN:NE2	2.42	0.52
1:J:4015:LEU:HD13	1:J:4123:ALA:HB2	1.92	0.52
1:J:4070:CYS:HB2	1:J:4073:THR:HG23	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:28:ILE:HG12	1:A:196:TYR:HE1	1.74	0.52
1:A:207:PHE:O	1:D:2327:ARG:HA	2.09	0.52
1:A:1736:ILE:HB	1:A:1738:LEU:HD23	1.92	0.52
1:A:2158:GLN:O	1:A:3616:ARG:NH1	2.43	0.52
1:A:4070:CYS:HB2	1:A:4073:THR:HG23	1.92	0.52
1:D:4787:PHE:CE2	1:G:4521:TYR:CD2	2.97	0.52
1:D:4949:CYS:SG	1:D:4950:TRP:N	2.83	0.52
1:G:237:LEU:HB3	1:G:404:ASN:HB3	1.91	0.52
1:G:678:MET:HB3	1:G:801:ARG:HB2	1.91	0.52
1:G:776:GLN:HG2	1:G:1472:GLU:HA	1.91	0.52
1:G:4070:CYS:HB2	1:G:4073:THR:HG23	1.92	0.52
1:J:218:SER:OG	1:J:219:SER:N	2.43	0.52
1:J:678:MET:HB3	1:J:801:ARG:HB2	1.91	0.52
1:J:2107:TYR:CG	1:J:2162:LEU:HD21	2.45	0.52
1:J:2158:GLN:O	1:J:3616:ARG:NH1	2.43	0.52
1:J:4804:ASP:N	1:J:4804:ASP:OD1	2.42	0.52
1:A:2076:ILE:HG21	1:A:2081:LEU:HD22	1.92	0.52
1:A:4059:TYR:HB3	1:A:4063:GLU:HB2	1.92	0.52
1:D:4070:CYS:HB2	1:D:4073:THR:HG23	1.92	0.52
1:G:1114:ARG:HB3	1:G:1128:LEU:HD22	1.92	0.52
1:G:1699:ARG:NH2	1:G:1703:TYR:OH	2.43	0.52
1:G:2116:ASP:OD2	1:G:2155:VAL:N	2.42	0.52
1:G:4059:TYR:HB3	1:G:4063:GLU:HB2	1.92	0.52
1:J:4807:CYS:SG	1:J:4816:PHE:CD2	2.91	0.52
1:D:1114:ARG:HB3	1:D:1128:LEU:HD22	1.92	0.51
1:D:2193:MET:HA	1:D:2196:ASN:HD22	1.75	0.51
1:D:4804:ASP:OD1	1:D:4804:ASP:N	2.42	0.51
1:G:228:LEU:HB3	1:G:289:ILE:HD12	1.92	0.51
1:G:2881:LYS:HA	1:G:2884:ALA:HB3	1.92	0.51
1:G:4015:LEU:HD13	1:G:4123:ALA:HB2	1.92	0.51
1:J:803:LEU:HD13	1:J:812:LYS:H	1.75	0.51
1:J:2881:LYS:HA	1:J:2884:ALA:HB3	1.92	0.51
1:A:2327:ARG:HA	1:J:207:PHE:O	2.11	0.51
1:A:4852:PHE:CE2	1:D:4822:VAL:O	2.63	0.51
1:D:700:THR:HG23	1:D:838:ARG:HD3	1.92	0.51
1:D:1250:TRP:HB3	1:D:1600:PRO:HB2	1.92	0.51
1:D:2158:GLN:O	1:D:3616:ARG:NH1	2.43	0.51
1:D:4119:PHE:HA	1:D:4122:LEU:HD12	1.92	0.51
1:J:228:LEU:HB3	1:J:289:ILE:HD12	1.92	0.51
1:J:1241:VAL:H	1:J:1807:ARG:HH12	1.57	0.51
1:J:4031:ASP:HA	1:J:4034:LYS:HB3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1241:VAL:H	1:A:1807:ARG:HH12	1.57	0.51
1:A:2832:VAL:O	1:A:2895:LYS:NZ	2.43	0.51
1:D:480:ARG:O	1:D:484:ASN:ND2	2.42	0.51
1:D:803:LEU:HD13	1:D:812:LYS:H	1.75	0.51
1:D:4810:MET:CB	1:G:4519:LEU:O	2.59	0.51
1:G:4864:GLN:CG	1:G:4868:ILE:HD11	2.40	0.51
1:J:2558:LYS:O	1:J:2562:LEU:N	2.43	0.51
1:J:4521:TYR:HB2	1:J:4561:VAL:HG22	1.91	0.51
1:A:849:ASP:OD2	1:A:1214:ARG:NH2	2.44	0.51
1:A:3800:SER:OG	1:A:3801:CYS:N	2.39	0.51
1:D:672:LYS:HA	1:D:760:ASP:HA	1.93	0.51
1:D:1699:ARG:NH2	1:D:1703:TYR:OH	2.43	0.51
1:G:328:ALA:O	1:G:365:HIS:ND1	2.42	0.51
1:G:644:LEU:HB3	1:G:1630:LEU:HD12	1.93	0.51
1:G:672:LYS:HA	1:G:760:ASP:HA	1.93	0.51
1:G:1137:PHE:HA	1:G:1144:ARG:HA	1.93	0.51
1:G:1250:TRP:HB3	1:G:1600:PRO:HB2	1.92	0.51
1:G:1719:LEU:HA	1:G:1722:ASN:HD22	1.76	0.51
1:G:1736:ILE:HB	1:G:1738:LEU:HD23	1.92	0.51
1:J:849:ASP:OD2	1:J:1214:ARG:NH2	2.44	0.51
1:A:4804:ASP:OD1	1:A:4804:ASP:N	2.42	0.51
1:A:4949:CYS:SG	1:A:4950:TRP:N	2.83	0.51
1:D:849:ASP:OD2	1:D:1214:ARG:NH2	2.44	0.51
1:D:1690:GLU:OE2	1:D:1790:LYS:NZ	2.36	0.51
1:D:2732:LYS:HD3	1:D:2829:MET:HB2	1.92	0.51
1:D:2881:LYS:HA	1:D:2884:ALA:HB3	1.92	0.51
1:G:1143:GLN:HA	1:G:1151:HIS:HA	1.91	0.51
1:G:2732:LYS:HD3	1:G:2829:MET:HB2	1.92	0.51
1:J:249:SER:OG	1:J:250:GLY:N	2.44	0.51
1:A:218:SER:OG	1:A:219:SER:N	2.43	0.51
1:A:644:LEU:HB3	1:A:1630:LEU:HD12	1.93	0.51
1:A:672:LYS:HA	1:A:760:ASP:HA	1.93	0.51
1:A:2107:TYR:CG	1:A:2162:LEU:HD21	2.45	0.51
1:D:249:SER:OG	1:D:250:GLY:N	2.44	0.51
1:G:849:ASP:OD2	1:G:1214:ARG:NH2	2.44	0.51
1:G:1090:ALA:HA	1:G:1249:MET:HG2	1.93	0.51
1:G:2119:ASN:N	1:G:2119:ASN:OD1	2.44	0.51
1:G:3692:TYR:HA	1:G:3695:ILE:HD12	1.93	0.51
1:J:559:ILE:HD13	1:J:593:HIS:HB3	1.93	0.51
1:J:3934:GLN:OE1	1:J:3938:HIS:NE2	2.44	0.51
1:A:559:ILE:HD13	1:A:593:HIS:HB3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4007:SER:HG	1:A:4010:ASN:HD21	1.52	0.51
1:A:4852:PHE:CE1	1:D:4823:ARG:CB	2.94	0.51
1:D:2832:VAL:O	1:D:2895:LYS:NZ	2.43	0.51
1:G:559:ILE:HD13	1:G:593:HIS:HB3	1.93	0.51
1:G:803:LEU:HD13	1:G:812:LYS:H	1.75	0.51
1:G:3922:THR:O	1:G:3926:GLN:N	2.44	0.51
1:J:4059:TYR:HB3	1:J:4063:GLU:HB2	1.92	0.51
1:A:249:SER:OG	1:A:250:GLY:N	2.44	0.51
1:A:700:THR:HG23	1:A:838:ARG:HD3	1.92	0.51
1:A:1228:THR:HA	1:A:1232:LEU:HD12	1.93	0.51
1:A:4864:GLN:CG	1:A:4868:ILE:HD11	2.40	0.51
1:D:218:SER:OG	1:D:219:SER:N	2.43	0.51
1:D:228:LEU:HB3	1:D:289:ILE:HD12	1.92	0.51
1:D:1090:ALA:HA	1:D:1249:MET:HG2	1.93	0.51
1:D:2107:TYR:CG	1:D:2162:LEU:HD21	2.45	0.51
1:D:3692:TYR:HA	1:D:3695:ILE:HD12	1.93	0.51
1:D:3922:THR:O	1:D:3926:GLN:N	2.44	0.51
1:D:3934:GLN:OE1	1:D:3938:HIS:NE2	2.44	0.51
1:G:480:ARG:O	1:G:484:ASN:ND2	2.42	0.51
1:G:1144:ARG:NH2	1:G:1150:GLU:OE1	2.43	0.51
1:G:1241:VAL:H	1:G:1807:ARG:HH12	1.57	0.51
1:G:2193:MET:HA	1:G:2196:ASN:HD22	1.75	0.51
1:G:2846:ALA:HA	1:G:2849:TYR:HB2	1.92	0.51
1:G:4094:ASP:OD1	1:G:4094:ASP:N	2.44	0.51
1:J:4949:CYS:SG	1:J:4950:TRP:N	2.83	0.51
1:D:559:ILE:HD13	1:D:593:HIS:HB3	1.93	0.51
1:D:1137:PHE:HA	1:D:1144:ARG:HA	1.93	0.51
1:G:467:ASP:O	1:G:475:LYS:NZ	2.40	0.51
1:G:2107:TYR:CG	1:G:2162:LEU:HD21	2.45	0.51
1:G:4521:TYR:HB2	1:G:4561:VAL:HG22	1.91	0.51
1:J:1137:PHE:HA	1:J:1144:ARG:HA	1.93	0.51
1:J:1736:ILE:HB	1:J:1738:LEU:HD23	1.92	0.51
1:J:2076:ILE:HG21	1:J:2081:LEU:HD22	1.92	0.51
1:A:40:GLU:HB3	1:A:44:ASN:HB3	1.93	0.51
1:A:4119:PHE:HA	1:A:4122:LEU:HD12	1.92	0.51
1:D:40:GLU:HB3	1:D:44:ASN:HB3	1.93	0.51
1:D:890:HIS:NE2	1:D:919:VAL:O	2.42	0.51
1:D:1228:THR:HA	1:D:1232:LEU:HD12	1.93	0.51
1:D:1736:ILE:HB	1:D:1738:LEU:HD23	1.92	0.51
1:D:2258:LEU:O	1:D:3811:ARG:NH2	2.44	0.51
1:D:2644:LYS:O	1:D:2648:GLY:N	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:480:ARG:O	1:J:484:ASN:ND2	2.42	0.51
1:J:4754:LEU:H	1:J:4757:ILE:HD12	1.76	0.51
1:A:170:SER:OG	1:A:171:GLU:N	2.42	0.50
1:A:237:LEU:HB3	1:A:404:ASN:HB3	1.91	0.50
1:A:2258:LEU:O	1:A:3811:ARG:NH2	2.44	0.50
1:A:2846:ALA:HA	1:A:2849:TYR:HB2	1.92	0.50
1:A:4015:LEU:HD13	1:A:4123:ALA:HB2	1.92	0.50
1:A:4754:LEU:H	1:A:4757:ILE:HD12	1.76	0.50
1:D:1004:HIS:O	1:D:1008:ALA:N	2.39	0.50
1:D:1699:ARG:HH22	1:D:1821:LEU:HD21	1.76	0.50
1:D:4864:GLN:CG	1:D:4868:ILE:HD11	2.40	0.50
1:G:2076:ILE:HG21	1:G:2081:LEU:HD22	1.92	0.50
1:G:2558:LYS:O	1:G:2562:LEU:N	2.43	0.50
1:J:1092:LYS:H	1:J:1250:TRP:HZ3	1.58	0.50
1:J:3925:ILE:HD11	1:J:3936:LEU:HD13	1.93	0.50
1:A:1090:ALA:HA	1:A:1249:MET:HG2	1.93	0.50
1:A:1699:ARG:HH22	1:A:1821:LEU:HD21	1.76	0.50
1:A:2881:LYS:HA	1:A:2884:ALA:HB3	1.92	0.50
1:G:1228:THR:HA	1:G:1232:LEU:HD12	1.93	0.50
1:G:2258:LEU:O	1:G:3811:ARG:NH2	2.44	0.50
1:G:4052:ALA:O	1:G:4056:HIS:ND1	2.39	0.50
1:G:4949:CYS:SG	1:G:4950:TRP:N	2.83	0.50
1:J:700:THR:HG23	1:J:838:ARG:HD3	1.92	0.50
1:A:228:LEU:HB3	1:A:289:ILE:HD12	1.92	0.50
1:A:480:ARG:O	1:A:484:ASN:ND2	2.42	0.50
1:A:803:LEU:HD13	1:A:812:LYS:H	1.75	0.50
1:A:2138:GLU:O	1:A:2141:LYS:NZ	2.34	0.50
1:A:2732:LYS:HD3	1:A:2829:MET:HB2	1.92	0.50
1:A:3922:THR:O	1:A:3926:GLN:N	2.44	0.50
1:D:1670:HIS:HE1	1:D:1713:SER:HB2	1.77	0.50
1:D:1719:LEU:HA	1:D:1722:ASN:HD22	1.76	0.50
1:D:4015:LEU:HD13	1:D:4123:ALA:HB2	1.92	0.50
1:D:4059:TYR:HB3	1:D:4063:GLU:HB2	1.92	0.50
1:G:2832:VAL:O	1:G:2895:LYS:NZ	2.43	0.50
1:G:3934:GLN:OE1	1:G:3938:HIS:NE2	2.44	0.50
1:J:2832:VAL:O	1:J:2895:LYS:NZ	2.43	0.50
1:A:1119:ARG:NH2	1:A:1196:ASP:O	2.45	0.50
1:A:2159:HIS:HB3	1:A:2162:LEU:HD23	1.93	0.50
2:B:71:ARG:NH2	2:B:100:ASP:OD2	2.44	0.50
1:D:2119:ASN:N	1:D:2119:ASN:OD1	2.44	0.50
1:D:4945:TYR:OH	7:D:6003:CFF:H81	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4945:TYR:OH	7:G:6003:CFF:H81	2.11	0.50
1:J:644:LEU:HB3	1:J:1630:LEU:HD12	1.93	0.50
1:J:711:GLU:OE1	1:J:1448:SER:OG	2.25	0.50
1:J:1228:THR:HA	1:J:1232:LEU:HD12	1.93	0.50
1:J:1766:PRO:HG2	2:K:42:ARG:HH21	1.77	0.50
1:J:2119:ASN:N	1:J:2119:ASN:OD1	2.44	0.50
1:A:1092:LYS:H	1:A:1250:TRP:HZ3	1.58	0.50
1:A:1250:TRP:HB3	1:A:1600:PRO:HB2	1.92	0.50
1:A:3934:GLN:OE1	1:A:3938:HIS:NE2	2.44	0.50
1:A:4787:PHE:CE2	1:D:4521:TYR:CD2	2.98	0.50
2:H:71:ARG:NH2	2:H:100:ASP:OD2	2.44	0.50
1:J:1719:LEU:HA	1:J:1722:ASN:HD22	1.76	0.50
1:J:2732:LYS:HD3	1:J:2829:MET:HB2	1.92	0.50
2:K:71:ARG:NH2	2:K:100:ASP:OD2	2.44	0.50
1:A:706:TYR:OH	1:A:1254:ARG:N	2.38	0.50
1:A:1144:ARG:NH2	1:A:1150:GLU:OE1	2.43	0.50
1:A:3925:ILE:HD11	1:A:3936:LEU:HD13	1.93	0.50
1:D:644:LEU:HB3	1:D:1630:LEU:HD12	1.93	0.50
1:D:731:HIS:HE1	1:D:738:ALA:HB1	1.77	0.50
1:D:1092:LYS:H	1:D:1250:TRP:HZ3	1.58	0.50
1:D:2159:HIS:HB3	1:D:2162:LEU:HD23	1.93	0.50
1:D:4521:TYR:HB2	1:D:4561:VAL:HG22	1.91	0.50
1:G:1109:THR:OG1	1:G:1212:VAL:N	2.45	0.50
1:G:2728:HIS:O	1:G:2732:LYS:N	2.45	0.50
1:J:672:LYS:HA	1:J:760:ASP:HA	1.93	0.50
1:D:658:ASN:ND2	1:D:831:LYS:O	2.45	0.50
1:G:1004:HIS:O	1:G:1008:ALA:N	2.39	0.50
1:G:1301:PHE:HD2	1:G:1595:LEU:HD23	1.77	0.50
1:G:1670:HIS:HE1	1:G:1713:SER:HB2	1.77	0.50
1:G:4754:LEU:H	1:G:4757:ILE:HD12	1.76	0.50
1:J:1250:TRP:HB3	1:J:1600:PRO:HB2	1.92	0.50
1:A:658:ASN:ND2	1:A:831:LYS:O	2.45	0.50
1:A:1425:THR:N	1:A:1510:VAL:O	2.45	0.50
1:A:1766:PRO:HG2	2:B:42:ARG:HH21	1.76	0.50
1:A:2558:LYS:O	1:A:2562:LEU:N	2.43	0.50
1:A:4852:PHE:HZ	1:D:4823:ARG:HA	1.58	0.50
1:D:207:PHE:O	1:G:2327:ARG:HA	2.12	0.50
1:D:3925:ILE:HD11	1:D:3936:LEU:HD13	1.93	0.50
1:G:40:GLU:HB3	1:G:44:ASN:HB3	1.93	0.50
1:G:249:SER:OG	1:G:250:GLY:N	2.44	0.50
1:G:700:THR:HG23	1:G:838:ARG:HD3	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1092:LYS:H	1:G:1250:TRP:HZ3	1.58	0.50
1:G:1766:PRO:HG2	2:H:42:ARG:HH21	1.76	0.50
1:J:655:MET:HG2	1:J:836:HIS:HA	1.94	0.50
1:J:1918:GLN:HE21	1:J:1922:ARG:HH21	1.60	0.50
1:J:2433:LEU:HA	1:J:2436:VAL:HB	1.94	0.50
1:A:467:ASP:O	1:A:475:LYS:NZ	2.40	0.50
1:A:742:SER:OG	1:A:1472:GLU:OE2	2.28	0.50
1:A:2433:LEU:HA	1:A:2436:VAL:HB	1.94	0.50
1:A:3692:TYR:HA	1:A:3695:ILE:HD12	1.93	0.50
1:A:4810:MET:CB	1:D:4519:LEU:O	2.60	0.50
1:D:655:MET:HG2	1:D:836:HIS:HA	1.94	0.50
1:D:1301:PHE:HD2	1:D:1595:LEU:HD23	1.77	0.50
1:D:2076:ILE:HG21	1:D:2081:LEU:HD22	1.92	0.50
1:D:2116:ASP:OD2	1:D:2155:VAL:N	2.42	0.50
1:D:2558:LYS:O	1:D:2562:LEU:N	2.43	0.50
1:D:4754:LEU:H	1:D:4757:ILE:HD12	1.76	0.50
1:G:658:ASN:ND2	1:G:831:LYS:O	2.45	0.50
1:J:1090:ALA:HA	1:J:1249:MET:HG2	1.93	0.50
1:J:3922:THR:O	1:J:3926:GLN:N	2.44	0.50
1:A:655:MET:HG2	1:A:836:HIS:HA	1.94	0.49
1:A:1137:PHE:HA	1:A:1144:ARG:HA	1.93	0.49
1:A:2728:HIS:O	1:A:2732:LYS:N	2.45	0.49
1:D:1144:ARG:NH2	1:D:1150:GLU:OE1	2.43	0.49
1:D:1425:THR:N	1:D:1510:VAL:O	2.45	0.49
2:E:71:ARG:NH2	2:E:100:ASP:OD2	2.44	0.49
1:G:219:SER:O	1:G:219:SER:OG	2.29	0.49
1:G:4853:PHE:CD1	1:G:4853:PHE:C	2.85	0.49
1:J:1144:ARG:NH2	1:J:1150:GLU:OE1	2.43	0.49
1:J:3692:TYR:HA	1:J:3695:ILE:HD12	1.93	0.49
1:A:1670:HIS:HE1	1:A:1713:SER:HB2	1.77	0.49
1:D:2418:ILE:HG23	1:D:2421:ARG:HD3	1.94	0.49
1:G:1918:GLN:HE21	1:G:1922:ARG:HH21	1.60	0.49
1:J:1109:THR:OG1	1:J:1212:VAL:N	2.45	0.49
1:J:1301:PHE:HD2	1:J:1595:LEU:HD23	1.77	0.49
1:J:2159:HIS:HB3	1:J:2162:LEU:HD23	1.93	0.49
1:A:57:ASN:HA	1:A:323:ASP:HA	1.95	0.49
1:A:219:SER:O	1:A:219:SER:OG	2.29	0.49
1:D:328:ALA:O	1:D:365:HIS:ND1	2.42	0.49
1:D:1241:VAL:H	1:D:1807:ARG:HH12	1.57	0.49
3:F:51:ASP:O	3:F:55:GLU:N	2.45	0.49
1:G:655:MET:HG2	1:G:836:HIS:HA	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:40:GLU:HB3	1:J:44:ASN:HB3	1.93	0.49
1:J:467:ASP:O	1:J:475:LYS:NZ	2.40	0.49
1:J:3986:MET:HG2	1:J:3996:ILE:HD11	1.95	0.49
1:J:4864:GLN:CG	1:J:4868:ILE:HD11	2.40	0.49
1:A:4853:PHE:CD1	1:A:4853:PHE:C	2.85	0.49
1:D:2138:GLU:O	1:D:2141:LYS:NZ	2.34	0.49
1:D:2883:LYS:O	1:D:2887:ARG:N	2.42	0.49
1:J:1699:ARG:HH22	1:J:1821:LEU:HD21	1.76	0.49
1:J:4945:TYR:OH	7:J:6003:CFF:H81	2.11	0.49
1:D:2855:LYS:HA	1:D:2858:LYS:HB2	1.95	0.49
1:G:207:PHE:O	1:J:2327:ARG:HA	2.12	0.49
1:G:711:GLU:OE1	1:G:1448:SER:OG	2.25	0.49
1:G:731:HIS:HE1	1:G:738:ALA:HB1	1.77	0.49
1:G:1171:HIS:O	1:G:1194:ASP:N	2.41	0.49
1:G:1425:THR:N	1:G:1510:VAL:O	2.45	0.49
1:J:328:ALA:O	1:J:365:HIS:ND1	2.42	0.49
1:J:658:ASN:ND2	1:J:831:LYS:O	2.45	0.49
1:J:2855:LYS:HA	1:J:2858:LYS:HB2	1.95	0.49
1:A:1719:LEU:HA	1:A:1722:ASN:HD22	1.76	0.49
1:D:1119:ARG:NH2	1:D:1196:ASP:O	2.45	0.49
1:D:1766:PRO:HG2	2:E:42:ARG:HH21	1.77	0.49
1:G:742:SER:OG	1:G:1472:GLU:OE2	2.28	0.49
1:G:1699:ARG:HH22	1:G:1821:LEU:HD21	1.76	0.49
1:J:696:GLY:HA3	1:J:724:SER:HA	1.94	0.49
1:J:2258:LEU:O	1:J:3811:ARG:NH2	2.45	0.49
1:D:57:ASN:HA	1:D:323:ASP:HA	1.95	0.49
1:G:1119:ARG:NH2	1:G:1196:ASP:O	2.45	0.49
1:A:568:SER:HA	1:A:571:ILE:HD12	1.95	0.49
1:A:2119:ASN:OD1	1:A:2119:ASN:N	2.44	0.49
1:A:3986:MET:HG2	1:A:3996:ILE:HD11	1.95	0.49
1:A:4819:TYR:CD1	1:A:4819:TYR:C	2.85	0.49
1:A:4945:TYR:OH	7:A:6003:CFF:H81	2.11	0.49
1:D:568:SER:HA	1:D:571:ILE:HD12	1.95	0.49
1:D:2433:LEU:HA	1:D:2436:VAL:HB	1.94	0.49
1:G:2433:LEU:HA	1:G:2436:VAL:HB	1.94	0.49
1:J:1506:GLU:HA	1:J:1522:ALA:HA	1.95	0.49
1:A:4852:PHE:C	1:A:4852:PHE:CD2	2.85	0.49
1:D:2897:LEU:HD13	1:D:2904:VAL:HG21	1.95	0.49
1:G:2159:HIS:HB3	1:G:2162:LEU:HD23	1.93	0.49
1:G:2418:ILE:HG23	1:G:2421:ARG:HD3	1.94	0.49
1:G:2855:LYS:HA	1:G:2858:LYS:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3925:ILE:HD11	1:G:3936:LEU:HD13	1.93	0.49
1:G:4819:TYR:C	1:G:4819:TYR:CD2	2.85	0.49
3:I:51:ASP:O	3:I:55:GLU:N	2.45	0.49
1:J:57:ASN:HA	1:J:323:ASP:HA	1.95	0.49
1:J:1425:THR:N	1:J:1510:VAL:O	2.45	0.49
1:J:1670:HIS:HE1	1:J:1713:SER:HB2	1.77	0.49
3:L:51:ASP:O	3:L:55:GLU:N	2.45	0.49
1:J:731:HIS:HE1	1:J:738:ALA:HB1	1.77	0.49
1:J:1570:LEU:O	1:J:1573:SER:OG	2.31	0.49
1:A:731:HIS:HE1	1:A:738:ALA:HB1	1.77	0.48
1:A:1301:PHE:HD2	1:A:1595:LEU:HD23	1.77	0.48
1:A:2855:LYS:HA	1:A:2858:LYS:HB2	1.95	0.48
1:A:4640:SER:OG	1:A:4703:ASP:OD2	2.31	0.48
1:D:1918:GLN:HE21	1:D:1922:ARG:HH21	1.60	0.48
1:D:2258:LEU:HD21	1:D:2263:LEU:HD21	1.95	0.48
1:G:696:GLY:HA3	1:G:724:SER:HA	1.94	0.48
1:G:1630:LEU:HD22	1:G:1641:ILE:HD13	1.95	0.48
1:G:4820:VAL:HG11	1:G:4831:GLU:HG3	1.94	0.48
1:J:1449:ASP:N	1:J:1449:ASP:OD1	2.46	0.48
1:J:4640:SER:OG	1:J:4703:ASP:OD2	2.31	0.48
1:A:1918:GLN:HE21	1:A:1922:ARG:HH21	1.60	0.48
1:A:2897:LEU:HD13	1:A:2904:VAL:HG21	1.95	0.48
1:A:4521:TYR:HB2	1:A:4561:VAL:HG22	1.94	0.48
1:D:1506:GLU:HA	1:D:1522:ALA:HA	1.95	0.48
1:J:1119:ARG:NH2	1:J:1196:ASP:O	2.45	0.48
1:A:1445:TRP:HE3	1:A:1539:LEU:HB3	1.78	0.48
1:A:2258:LEU:HD21	1:A:2263:LEU:HD21	1.95	0.48
1:A:2418:ILE:HG23	1:A:2421:ARG:HD3	1.94	0.48
1:J:3900:ASP:OD1	1:J:3900:ASP:N	2.39	0.48
1:D:711:GLU:OE1	1:D:1448:SER:OG	2.25	0.48
1:D:1221:VAL:HA	1:D:1224:LEU:HG	1.96	0.48
1:G:3986:MET:HG2	1:G:3996:ILE:HD11	1.95	0.48
1:G:4849:ILE:HD11	1:J:4819:TYR:CD1	2.48	0.48
1:J:2897:LEU:HD13	1:J:2904:VAL:HG21	1.95	0.48
1:D:696:GLY:HA3	1:D:724:SER:HA	1.94	0.48
1:D:1109:THR:OG1	1:D:1212:VAL:N	2.45	0.48
1:D:1570:LEU:O	1:D:1573:SER:OG	2.31	0.48
1:D:3986:MET:HG2	1:D:3996:ILE:HD11	1.95	0.48
1:D:4794:TYR:OH	1:D:4817:HIS:CE1	2.66	0.48
1:G:1445:TRP:HE3	1:G:1539:LEU:HB3	1.78	0.48
1:G:2897:LEU:HD13	1:G:2904:VAL:HG21	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4810:MET:CB	1:J:4521:TYR:O	2.61	0.48
1:J:2841:MET:O	1:J:2845:MET:N	2.40	0.48
1:A:2122:ALA:O	1:A:2126:GLN:N	2.47	0.48
1:A:2639:LEU:O	1:A:2643:ARG:N	2.44	0.48
1:D:766:ILE:HB	1:D:779:PHE:HB2	1.96	0.48
1:G:568:SER:HA	1:G:571:ILE:HD12	1.95	0.48
1:G:1221:VAL:HA	1:G:1224:LEU:HG	1.96	0.48
1:G:4816:PHE:C	1:G:4816:PHE:CD1	2.86	0.48
1:J:556:ASP:N	1:J:556:ASP:OD1	2.46	0.48
1:J:727:PHE:H	1:J:730:LEU:HD12	1.78	0.48
1:J:2434:VAL:O	1:J:2438:SER:OG	2.26	0.48
1:A:1449:ASP:N	1:A:1449:ASP:OD1	2.46	0.48
1:D:1445:TRP:HE3	1:D:1539:LEU:HB3	1.78	0.48
1:D:1630:LEU:HD22	1:D:1641:ILE:HD13	1.95	0.48
1:G:556:ASP:N	1:G:556:ASP:OD1	2.46	0.48
1:G:4820:VAL:HG12	1:G:4831:GLU:HG3	1.95	0.48
1:A:308:LEU:HD22	1:A:393:MET:HG3	1.96	0.48
1:A:556:ASP:N	1:A:556:ASP:OD1	2.46	0.48
1:A:1661:TYR:HB3	1:A:1676:LEU:HD21	1.96	0.48
1:A:4515:ASN:HB3	1:J:4780:TYR:CZ	2.49	0.48
1:A:4816:PHE:CD1	1:A:4816:PHE:C	2.87	0.48
1:D:15:ARG:HD3	1:D:110:HIS:HB3	1.96	0.48
1:D:2729:SER:HA	1:D:2732:LYS:HB3	1.96	0.48
1:D:4819:TYR:CD1	1:D:4819:TYR:C	2.85	0.48
1:G:57:ASN:HA	1:G:323:ASP:HA	1.95	0.48
1:G:1570:LEU:O	1:G:1573:SER:OG	2.31	0.48
1:G:2176:MET:HE1	1:G:2194:VAL:HG13	1.95	0.48
1:G:4514:ILE:HD11	1:G:4576:LEU:HB3	1.96	0.48
1:J:2122:ALA:O	1:J:2126:GLN:N	2.47	0.48
1:A:766:ILE:HB	1:A:779:PHE:HB2	1.96	0.48
1:A:1245:ARG:HE	1:A:1692:LYS:HB3	1.79	0.48
1:A:2147:LEU:HA	1:A:2150:ILE:HD12	1.95	0.48
1:A:3919:ASN:O	1:A:3922:THR:OG1	2.31	0.48
1:A:4114:THR:HA	1:A:4117:GLN:HB2	1.96	0.48
1:D:1245:ARG:HE	1:D:1692:LYS:HB3	1.79	0.48
1:D:2728:HIS:O	1:D:2732:LYS:N	2.45	0.48
1:D:4033:PHE:HA	1:D:4036:TYR:HB2	1.96	0.48
1:D:4817:HIS:NE2	1:D:4828:ILE:HG12	2.28	0.48
1:G:2258:LEU:HD21	1:G:2263:LEU:HD21	1.95	0.48
1:J:1221:VAL:HA	1:J:1224:LEU:HG	1.96	0.48
1:J:1938:GLN:HA	1:J:3610:TYR:HE2	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2418:ILE:HG23	1:J:2421:ARG:HD3	1.94	0.48
1:A:50:GLU:OE2	1:A:319:LYS:NZ	2.46	0.48
1:A:2644:LYS:O	1:A:2648:GLY:N	2.41	0.48
3:C:51:ASP:O	3:C:55:GLU:N	2.45	0.48
1:D:4514:ILE:HD11	1:D:4576:LEU:HB3	1.96	0.48
1:G:766:ILE:HB	1:G:779:PHE:HB2	1.96	0.48
1:G:2639:LEU:O	1:G:2643:ARG:N	2.44	0.48
1:G:4819:TYR:HD2	1:G:4820:VAL:HG23	1.79	0.48
1:J:1001:GLU:O	1:J:1005:ASN:ND2	2.47	0.48
1:J:2728:HIS:O	1:J:2732:LYS:N	2.45	0.48
1:A:1001:GLU:O	1:A:1005:ASN:ND2	2.47	0.47
1:A:4056:HIS:C	1:A:4057:LYS:HG2	2.35	0.47
1:D:556:ASP:N	1:D:556:ASP:OD1	2.46	0.47
1:D:2122:ALA:O	1:D:2126:GLN:N	2.47	0.47
1:G:727:PHE:H	1:G:730:LEU:HD12	1.78	0.47
1:G:2884:ALA:HA	1:G:2887:ARG:HB3	1.97	0.47
1:G:3623:GLN:O	1:G:3627:LYS:NZ	2.47	0.47
1:J:766:ILE:HB	1:J:779:PHE:HB2	1.96	0.47
1:J:1630:LEU:HD22	1:J:1641:ILE:HD13	1.95	0.47
1:J:3623:GLN:O	1:J:3627:LYS:NZ	2.47	0.47
1:A:1109:THR:OG1	1:A:1212:VAL:N	2.45	0.47
1:A:1221:VAL:HA	1:A:1224:LEU:HG	1.96	0.47
1:A:1304:LEU:HB2	1:A:1541:PRO:HG2	1.96	0.47
1:D:1661:TYR:HB3	1:D:1676:LEU:HD21	1.96	0.47
1:G:1938:GLN:HA	1:G:3610:TYR:HE2	1.79	0.47
1:G:2729:SER:HA	1:G:2732:LYS:HB3	1.95	0.47
1:G:3973:MET:HA	1:G:3976:GLN:HB3	1.96	0.47
1:J:682:THR:OG1	1:J:683:GLU:N	2.47	0.47
1:J:1245:ARG:HE	1:J:1692:LYS:HB3	1.79	0.47
1:J:3919:ASN:O	1:J:3922:THR:OG1	2.31	0.47
1:A:1506:GLU:HA	1:A:1522:ALA:HA	1.95	0.47
1:A:4033:PHE:HA	1:A:4036:TYR:HB2	1.96	0.47
1:D:1001:GLU:O	1:D:1005:ASN:ND2	2.47	0.47
1:D:3973:MET:HA	1:D:3976:GLN:HB3	1.96	0.47
1:G:15:ARG:HD3	1:G:110:HIS:HB3	1.96	0.47
1:G:4033:PHE:HA	1:G:4036:TYR:HB2	1.96	0.47
1:G:4780:TYR:OH	1:J:4741:ALA:HB1	2.14	0.47
1:J:308:LEU:HD22	1:J:393:MET:HG3	1.96	0.47
1:J:568:SER:HA	1:J:571:ILE:HD12	1.95	0.47
1:J:1304:LEU:HB2	1:J:1541:PRO:HG2	1.96	0.47
1:J:1661:TYR:HB3	1:J:1676:LEU:HD21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2070:TRP:O	1:J:2074:SER:OG	2.32	0.47
1:J:4033:PHE:HA	1:J:4036:TYR:HB2	1.96	0.47
1:A:328:ALA:O	1:A:365:HIS:ND1	2.42	0.47
1:A:1570:LEU:O	1:A:1573:SER:OG	2.31	0.47
1:A:4039:ASP:OD2	1:A:4039:ASP:N	2.41	0.47
1:D:1768:PHE:HE1	2:E:90:VAL:HG21	1.80	0.47
1:D:1938:GLN:HA	1:D:3610:TYR:HE2	1.79	0.47
1:G:1104:GLU:HA	1:G:1163:GLY:HA2	1.96	0.47
1:G:1506:GLU:HA	1:G:1522:ALA:HA	1.95	0.47
1:G:1768:PHE:HE1	2:H:90:VAL:HG21	1.80	0.47
1:G:4780:TYR:OH	1:J:4744:LEU:HD23	2.14	0.47
1:J:1445:TRP:HE3	1:J:1539:LEU:HB3	1.78	0.47
1:J:2514:ALA:O	1:J:2518:ASN:ND2	2.48	0.47
1:J:4853:PHE:CD1	1:J:4853:PHE:C	2.85	0.47
1:A:123:HIS:CD2	1:A:126:SER:H	2.33	0.47
1:A:696:GLY:HA3	1:A:724:SER:HA	1.94	0.47
1:A:2176:MET:HE1	1:A:2194:VAL:HG13	1.95	0.47
1:D:123:HIS:CD2	1:D:126:SER:H	2.33	0.47
1:D:3919:ASN:O	1:D:3922:THR:OG1	2.31	0.47
1:G:1001:GLU:O	1:G:1005:ASN:ND2	2.47	0.47
1:G:2147:LEU:HA	1:G:2150:ILE:HD12	1.95	0.47
1:G:3663:ASP:OD2	1:G:3735:ARG:NH2	2.47	0.47
1:J:123:HIS:CD2	1:J:126:SER:H	2.33	0.47
1:A:658:ASN:HB2	1:A:833:LYS:H	1.80	0.47
1:A:3623:GLN:O	1:A:3627:LYS:NZ	2.47	0.47
1:D:299:HIS:N	1:D:304:LYS:O	2.43	0.47
1:D:1104:GLU:HA	1:D:1163:GLY:HA2	1.97	0.47
1:D:2176:MET:HE1	1:D:2194:VAL:HG13	1.96	0.47
1:D:2884:ALA:HA	1:D:2887:ARG:HB3	1.97	0.47
1:D:4591:TYR:HH	1:D:4719:SER:HG	1.60	0.47
1:G:2883:LYS:O	1:G:2887:ARG:N	2.42	0.47
1:J:3890:TYR:HE1	1:J:3958:LYS:HD2	1.79	0.47
1:A:1171:HIS:O	1:A:1194:ASP:N	2.41	0.47
1:A:1630:LEU:HD22	1:A:1641:ILE:HD13	1.95	0.47
1:A:1768:PHE:HE1	2:B:90:VAL:HG21	1.80	0.47
1:A:3663:ASP:OD2	1:A:3735:ARG:NH2	2.47	0.47
1:A:3890:TYR:HE1	1:A:3958:LYS:HD2	1.79	0.47
1:D:50:GLU:OE2	1:D:319:LYS:NZ	2.46	0.47
1:D:467:ASP:O	1:D:475:LYS:NZ	2.40	0.47
1:D:505:LEU:HD23	1:D:530:LEU:HD13	1.96	0.47
1:D:682:THR:OG1	1:D:683:GLU:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:727:PHE:H	1:D:730:LEU:HD12	1.78	0.47
1:D:742:SER:OG	1:D:1472:GLU:OE2	2.28	0.47
1:D:1799:VAL:HG22	1:D:1894:LEU:HD13	1.97	0.47
1:D:2147:LEU:HA	1:D:2150:ILE:HD12	1.95	0.47
1:D:3623:GLN:O	1:D:3627:LYS:NZ	2.47	0.47
1:D:3645:LEU:HB3	1:D:3665:LEU:HB2	1.97	0.47
1:D:3663:ASP:OD2	1:D:3735:ARG:NH2	2.47	0.47
1:D:4056:HIS:O	1:D:4057:LYS:CG	2.63	0.47
1:G:123:HIS:CD2	1:G:126:SER:H	2.33	0.47
1:G:658:ASN:HB2	1:G:833:LYS:H	1.80	0.47
1:G:1449:ASP:OD1	1:G:1449:ASP:N	2.46	0.47
1:G:2138:GLU:O	1:G:2141:LYS:NZ	2.34	0.47
1:G:2404:ALA:HB3	1:G:2475:ARG:HE	1.79	0.47
1:G:2514:ALA:O	1:G:2518:ASN:ND2	2.48	0.47
1:G:3800:SER:OG	1:G:3801:CYS:N	2.39	0.47
1:G:3919:ASN:O	1:G:3922:THR:OG1	2.31	0.47
1:J:15:ARG:HD3	1:J:110:HIS:HB3	1.96	0.47
1:J:510:SER:O	1:J:520:ARG:NH2	2.48	0.47
1:J:1104:GLU:HA	1:J:1163:GLY:HA2	1.97	0.47
1:J:1768:PHE:HE1	2:K:90:VAL:HG21	1.80	0.47
1:J:2258:LEU:HD21	1:J:2263:LEU:HD21	1.95	0.47
1:J:3663:ASP:OD2	1:J:3735:ARG:NH2	2.47	0.47
1:J:4056:HIS:C	1:J:4057:LYS:HG2	2.35	0.47
1:A:15:ARG:HD3	1:A:110:HIS:HB3	1.96	0.47
1:A:4822:VAL:C	1:A:4824:ALA:N	2.56	0.47
1:D:308:LEU:HD22	1:D:393:MET:HG3	1.96	0.47
1:D:2070:TRP:O	1:D:2074:SER:OG	2.32	0.47
1:D:3890:TYR:HE1	1:D:3958:LYS:HD2	1.79	0.47
1:D:4114:THR:HA	1:D:4117:GLN:HB2	1.96	0.47
1:G:505:LEU:HD23	1:G:530:LEU:HD13	1.96	0.47
1:G:682:THR:OG1	1:G:683:GLU:N	2.47	0.47
1:G:2122:ALA:O	1:G:2126:GLN:N	2.47	0.47
1:G:4591:TYR:OH	1:G:4719:SER:OG	2.31	0.47
1:J:303:GLY:HA2	1:J:420:ARG:HH11	1.80	0.47
1:J:1131:ASP:OD1	1:J:1131:ASP:N	2.48	0.47
1:J:2176:MET:HE1	1:J:2194:VAL:HG13	1.96	0.47
1:J:2729:SER:HA	1:J:2732:LYS:HB3	1.95	0.47
1:J:4039:ASP:OD2	1:J:4039:ASP:N	2.41	0.47
1:A:303:GLY:HA2	1:A:420:ARG:HH11	1.80	0.47
1:A:510:SER:O	1:A:520:ARG:NH2	2.48	0.47
1:A:1171:HIS:ND1	1:A:1195:PHE:O	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1770:SER:O	1:A:1770:SER:OG	2.32	0.47
1:A:1938:GLN:HA	1:A:3610:TYR:HE2	1.79	0.47
1:A:4849:ILE:HD11	1:D:4819:TYR:CG	2.48	0.47
1:D:4039:ASP:OD2	1:D:4039:ASP:N	2.41	0.47
1:G:1171:HIS:ND1	1:G:1195:PHE:O	2.48	0.47
1:J:1769:VAL:HB	2:K:55:VAL:HA	1.97	0.47
1:J:1799:VAL:HG22	1:J:1894:LEU:HD13	1.97	0.47
1:J:2884:ALA:HA	1:J:2887:ARG:HB3	1.97	0.47
1:J:4514:ILE:HD11	1:J:4576:LEU:HB3	1.96	0.47
1:A:2070:TRP:O	1:A:2074:SER:OG	2.32	0.47
1:A:2514:ALA:O	1:A:2518:ASN:ND2	2.48	0.47
1:A:2515:LEU:HA	1:A:2518:ASN:HD22	1.80	0.47
1:A:4514:ILE:HD11	1:A:4576:LEU:HB3	1.96	0.47
1:D:510:SER:O	1:D:520:ARG:NH2	2.48	0.47
1:D:1171:HIS:ND1	1:D:1195:PHE:O	2.48	0.47
1:D:4627:ILE:O	1:D:4631:TRP:N	2.48	0.47
1:G:50:GLU:OE2	1:G:319:LYS:NZ	2.46	0.47
1:G:1444:GLY:HA2	1:G:1487:MET:HB2	1.97	0.47
1:G:1718:ARG:O	1:G:1722:ASN:ND2	2.48	0.47
1:G:4114:THR:HA	1:G:4117:GLN:HB2	1.96	0.47
1:A:711:GLU:OE1	1:A:1448:SER:OG	2.25	0.46
1:D:194:LEU:HB3	1:D:210:THR:HG21	1.98	0.46
1:D:425:LEU:HD21	1:D:452:VAL:HG13	1.98	0.46
1:D:1444:GLY:HA2	1:D:1487:MET:HB2	1.97	0.46
1:D:1718:ARG:O	1:D:1722:ASN:ND2	2.48	0.46
1:D:2116:ASP:OD1	1:D:2153:ASN:ND2	2.47	0.46
1:G:194:LEU:HB3	1:G:210:THR:HG21	1.97	0.46
1:G:308:LEU:HD22	1:G:393:MET:HG3	1.96	0.46
1:G:503:ASP:HA	1:G:561:ARG:HH22	1.80	0.46
1:G:3645:LEU:HB3	1:G:3665:LEU:HB2	1.97	0.46
1:J:503:ASP:HA	1:J:561:ARG:HH22	1.80	0.46
1:J:2515:LEU:HA	1:J:2518:ASN:HD22	1.80	0.46
1:J:4056:HIS:O	1:J:4057:LYS:CG	2.63	0.46
1:J:4094:ASP:OD1	1:J:4094:ASP:N	2.44	0.46
1:J:4114:THR:HA	1:J:4117:GLN:HB2	1.96	0.46
1:J:4816:PHE:C	1:J:4816:PHE:CD1	2.87	0.46
1:J:4831:GLU:N	1:J:4831:GLU:OE1	2.49	0.46
1:A:727:PHE:H	1:A:730:LEU:HD12	1.78	0.46
1:A:1104:GLU:HA	1:A:1163:GLY:HA2	1.96	0.46
1:A:1775:CYS:SG	1:A:1776:TYR:N	2.88	0.46
1:A:4094:ASP:OD1	1:A:4094:ASP:N	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:658:ASN:HB2	1:D:833:LYS:H	1.80	0.46
1:D:863:THR:O	1:D:863:THR:OG1	2.33	0.46
1:D:1775:CYS:SG	1:D:1776:TYR:N	2.88	0.46
1:G:590:LYS:H	1:G:593:HIS:CD2	2.34	0.46
1:G:1661:TYR:HB3	1:G:1676:LEU:HD21	1.96	0.46
1:G:3665:LEU:HD23	1:G:3735:ARG:HH11	1.80	0.46
1:G:3890:TYR:HE1	1:G:3958:LYS:HD2	1.79	0.46
1:J:219:SER:O	1:J:219:SER:OG	2.29	0.46
1:J:1227:PHE:HE2	1:J:1238:PRO:HG3	1.81	0.46
1:A:784:ILE:HG23	1:A:788:PHE:HE2	1.80	0.46
1:A:1718:ARG:O	1:A:1722:ASN:ND2	2.48	0.46
1:A:2841:MET:O	1:A:2845:MET:N	2.40	0.46
1:A:2884:ALA:HA	1:A:2887:ARG:HB3	1.97	0.46
1:A:3665:LEU:HD23	1:A:3735:ARG:HH11	1.80	0.46
1:A:4831:GLU:OE1	1:A:4831:GLU:N	2.49	0.46
1:D:303:GLY:HA2	1:D:420:ARG:HH11	1.80	0.46
1:D:503:ASP:HA	1:D:561:ARG:HH22	1.80	0.46
1:D:2514:ALA:O	1:D:2518:ASN:ND2	2.48	0.46
1:G:510:SER:O	1:G:520:ARG:NH2	2.48	0.46
1:G:1245:ARG:HE	1:G:1692:LYS:HB3	1.79	0.46
1:G:4627:ILE:O	1:G:4631:TRP:N	2.48	0.46
1:J:1171:HIS:ND1	1:J:1195:PHE:O	2.48	0.46
1:J:1718:ARG:O	1:J:1722:ASN:ND2	2.48	0.46
1:J:2147:LEU:HA	1:J:2150:ILE:HD12	1.95	0.46
2:K:27:THR:HA	2:K:38:SER:HA	1.98	0.46
1:A:425:LEU:HD21	1:A:452:VAL:HG13	1.98	0.46
1:A:1227:PHE:HE2	1:A:1238:PRO:HG3	1.81	0.46
1:A:1444:GLY:HA2	1:A:1487:MET:HB2	1.97	0.46
1:A:2391:THR:HG22	1:A:2465:HIS:HE1	1.81	0.46
1:A:3973:MET:HA	1:A:3976:GLN:HB3	1.96	0.46
2:B:27:THR:HA	2:B:38:SER:HA	1.98	0.46
1:D:784:ILE:HG23	1:D:788:PHE:HE2	1.80	0.46
1:D:3804:LEU:HD13	1:D:3910:ALA:HB2	1.98	0.46
1:D:4780:TYR:OH	1:G:4741:ALA:HB1	2.15	0.46
1:G:207:PHE:CB	1:J:2326:ILE:C	2.84	0.46
1:G:1131:ASP:OD1	1:G:1131:ASP:N	2.48	0.46
1:G:1227:PHE:HE2	1:G:1238:PRO:HG3	1.81	0.46
1:G:2543:ALA:HA	1:G:2877:THR:HB	1.97	0.46
1:J:194:LEU:HB3	1:J:210:THR:HG21	1.97	0.46
1:J:334:SER:OG	1:J:335:LYS:N	2.49	0.46
1:J:1444:GLY:HA2	1:J:1487:MET:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2404:ALA:HB3	1:J:2475:ARG:HE	1.79	0.46
1:J:3645:LEU:HB3	1:J:3665:LEU:HB2	1.97	0.46
1:A:194:LEU:HB3	1:A:210:THR:HG21	1.97	0.46
1:A:682:THR:OG1	1:A:683:GLU:N	2.47	0.46
1:A:2404:ALA:HB3	1:A:2475:ARG:HE	1.79	0.46
1:D:334:SER:OG	1:D:335:LYS:N	2.49	0.46
1:D:1131:ASP:OD1	1:D:1131:ASP:N	2.48	0.46
1:D:1227:PHE:HE2	1:D:1238:PRO:HG3	1.81	0.46
1:D:2543:ALA:HA	1:D:2877:THR:HB	1.97	0.46
1:D:2841:MET:O	1:D:2845:MET:N	2.40	0.46
1:D:4056:HIS:C	1:D:4057:LYS:HG2	2.35	0.46
1:D:4094:ASP:OD1	1:D:4094:ASP:N	2.44	0.46
1:G:44:ASN:HD21	1:G:46:LEU:HB2	1.81	0.46
1:G:425:LEU:HD21	1:G:452:VAL:HG13	1.98	0.46
1:G:1611:ILE:N	1:G:1620:GLN:O	2.38	0.46
1:G:4056:HIS:C	1:G:4057:LYS:HG2	2.35	0.46
1:G:4737:ASN:OD1	1:G:4737:ASN:N	2.39	0.46
1:J:2391:THR:HG22	1:J:2465:HIS:HE1	1.81	0.46
1:J:4861:ALA:O	1:J:4865:GLY:N	2.47	0.46
1:A:1265:HIS:CD2	1:A:1267:HIS:H	2.34	0.46
1:A:3804:LEU:HD13	1:A:3910:ALA:HB2	1.98	0.46
1:A:4856:ILE:HA	1:A:4860:LEU:HD23	1.97	0.46
1:D:590:LYS:H	1:D:593:HIS:CD2	2.34	0.46
1:D:1304:LEU:HB2	1:D:1541:PRO:HG2	1.96	0.46
1:G:4056:HIS:O	1:G:4057:LYS:CG	2.63	0.46
2:H:27:THR:HA	2:H:38:SER:HA	1.98	0.46
1:A:2729:SER:HA	1:A:2732:LYS:HB3	1.96	0.46
1:A:4056:HIS:O	1:A:4057:LYS:CG	2.63	0.46
1:A:4813:CYS:O	1:A:4817:HIS:N	2.42	0.46
1:D:44:ASN:HD21	1:D:46:LEU:HB2	1.81	0.46
1:G:190:ARG:HH12	1:J:2423:ILE:HG23	1.81	0.46
1:G:4787:PHE:HZ	1:J:4522:LYS:HA	1.81	0.46
1:J:2562:LEU:O	1:J:2566:GLN:N	2.46	0.46
1:J:2848:ASN:O	1:J:2852:ILE:N	2.49	0.46
1:J:3804:LEU:HD13	1:J:3910:ALA:HB2	1.98	0.46
1:A:503:ASP:HA	1:A:561:ARG:HH22	1.80	0.46
1:A:564:ARG:HG3	1:A:566:GLU:HG3	1.98	0.46
1:A:1769:VAL:HB	2:B:55:VAL:HA	1.97	0.46
1:A:1799:VAL:HG22	1:A:1894:LEU:HD13	1.97	0.46
1:A:4603:ARG:NE	1:A:4632:ASP:OD2	2.49	0.46
1:G:881:ILE:HD11	1:G:952:ILE:HG23	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1799:VAL:HG22	1:G:1894:LEU:HD13	1.97	0.46
1:J:658:ASN:HB2	1:J:833:LYS:H	1.80	0.46
1:J:2644:LYS:O	1:J:2648:GLY:N	2.41	0.46
1:J:4603:ARG:NE	1:J:4632:ASP:OD2	2.49	0.46
1:A:169:ARG:HH22	1:A:176:ARG:HD2	1.81	0.46
1:D:881:ILE:HD11	1:D:952:ILE:HG23	1.98	0.46
1:D:1153:GLY:N	1:D:1183:LEU:O	2.49	0.46
1:D:1690:GLU:O	1:D:1692:LYS:NZ	2.45	0.46
1:D:1769:VAL:HB	2:E:55:VAL:HA	1.98	0.46
1:D:2391:THR:HG22	1:D:2465:HIS:HE1	1.81	0.46
1:D:2404:ALA:HB3	1:D:2475:ARG:HE	1.79	0.46
1:G:649:VAL:O	1:G:1627:PHE:N	2.46	0.46
1:G:4782:TYR:CE2	1:G:4851:PHE:HD1	2.27	0.46
1:J:160:TRP:HB3	1:J:183:LEU:HD11	1.98	0.46
1:J:3973:MET:HA	1:J:3976:GLN:HB3	1.96	0.46
1:A:44:ASN:HD21	1:A:46:LEU:HB2	1.81	0.46
1:A:160:TRP:HB3	1:A:183:LEU:HD11	1.98	0.46
1:A:505:LEU:HD23	1:A:530:LEU:HD13	1.96	0.46
1:A:590:LYS:H	1:A:593:HIS:CD2	2.34	0.46
1:A:3943:ASP:N	1:A:3943:ASP:OD1	2.49	0.46
1:A:4045:SER:HB3	1:A:4048:ASP:HB2	1.98	0.46
1:D:160:TRP:HB3	1:D:183:LEU:HD11	1.98	0.46
1:D:1265:HIS:CD2	1:D:1267:HIS:H	2.34	0.46
1:D:1609:SER:OG	1:D:1621:CYS:SG	2.72	0.46
1:D:4603:ARG:NE	1:D:4632:ASP:OD2	2.49	0.46
2:E:27:THR:HA	2:E:38:SER:HA	1.98	0.46
1:G:160:TRP:HB3	1:G:183:LEU:HD11	1.98	0.46
1:G:303:GLY:HA2	1:G:420:ARG:HH11	1.80	0.46
1:G:4733:GLY:HA3	1:G:4740:PHE:HD1	1.81	0.46
1:J:590:LYS:H	1:J:593:HIS:CD2	2.34	0.46
1:J:1265:HIS:CD2	1:J:1267:HIS:H	2.34	0.46
1:J:2543:ALA:HA	1:J:2877:THR:HB	1.97	0.46
1:A:3787:ASP:OD1	1:A:3790:PHE:N	2.49	0.45
1:D:36:CYS:SG	1:D:37:LEU:N	2.89	0.45
1:D:564:ARG:HG3	1:D:566:GLU:HG3	1.98	0.45
1:D:2515:LEU:HA	1:D:2518:ASN:HD22	1.80	0.45
1:G:25:THR:HG22	1:G:34:LYS:HG2	1.99	0.45
1:G:36:CYS:SG	1:G:37:LEU:N	2.89	0.45
1:G:150:GLN:NE2	1:G:158:CYS:SG	2.89	0.45
1:G:1153:GLY:N	1:G:1183:LEU:O	2.49	0.45
1:G:3804:LEU:HD13	1:G:3910:ALA:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:25:THR:HG22	1:J:34:LYS:HG2	1.99	0.45
1:J:44:ASN:HD21	1:J:46:LEU:HB2	1.81	0.45
1:J:505:LEU:HD23	1:J:530:LEU:HD13	1.96	0.45
1:J:784:ILE:HG23	1:J:788:PHE:HE2	1.80	0.45
1:A:3645:LEU:HB3	1:A:3665:LEU:HB2	1.97	0.45
1:A:4849:ILE:HD11	1:D:4819:TYR:CB	2.46	0.45
1:D:649:VAL:O	1:D:1627:PHE:N	2.46	0.45
1:G:161:THR:HG23	1:G:184:VAL:HB	1.98	0.45
1:G:169:ARG:HH22	1:G:176:ARG:HD2	1.81	0.45
1:G:784:ILE:HG23	1:G:788:PHE:HE2	1.80	0.45
1:G:1304:LEU:HB2	1:G:1541:PRO:HG2	1.96	0.45
1:G:1769:VAL:HB	2:H:55:VAL:HA	1.97	0.45
1:G:4831:GLU:N	1:G:4831:GLU:OE1	2.49	0.45
1:J:3665:LEU:HD23	1:J:3735:ARG:HH11	1.80	0.45
1:J:4856:ILE:HA	1:J:4860:LEU:HD23	1.97	0.45
1:A:36:CYS:SG	1:A:37:LEU:N	2.89	0.45
1:A:161:THR:HG23	1:A:184:VAL:HB	1.98	0.45
1:D:162:ILE:HG23	1:D:181:LEU:HD13	1.99	0.45
1:D:1449:ASP:OD1	1:D:1449:ASP:N	2.46	0.45
1:D:3665:LEU:HD23	1:D:3735:ARG:HH11	1.80	0.45
1:D:4911:LEU:HD23	1:D:4911:LEU:HA	1.81	0.45
1:G:1690:GLU:O	1:G:1692:LYS:NZ	2.45	0.45
1:J:36:CYS:SG	1:J:37:LEU:N	2.89	0.45
1:J:881:ILE:HD11	1:J:952:ILE:HG23	1.98	0.45
1:A:2409:LEU:HA	1:A:2412:ALA:HB3	1.98	0.45
1:A:3900:ASP:OD1	1:A:3900:ASP:N	2.39	0.45
1:D:4856:ILE:HA	1:D:4860:LEU:HD23	1.97	0.45
1:G:309:MET:SD	1:G:312:LYS:NZ	2.75	0.45
1:G:1751:ILE:HG13	1:G:1921:HIS:HB2	1.98	0.45
1:G:2409:LEU:HA	1:G:2412:ALA:HB3	1.98	0.45
1:G:2515:LEU:HA	1:G:2518:ASN:HD22	1.80	0.45
1:J:150:GLN:NE2	1:J:158:CYS:SG	2.89	0.45
1:J:425:LEU:HD21	1:J:452:VAL:HG13	1.98	0.45
1:J:3844:LEU:HD23	1:J:3844:LEU:HA	1.78	0.45
1:J:4045:SER:HB3	1:J:4048:ASP:HB2	1.98	0.45
1:A:207:PHE:CB	1:D:2326:ILE:C	2.85	0.45
1:A:1938:GLN:NE2	1:A:3611:ASN:O	2.50	0.45
1:A:2326:ILE:C	1:J:207:PHE:CB	2.85	0.45
1:A:4930:ASP:O	1:A:4934:HIS:NE2	2.50	0.45
1:D:25:THR:HG22	1:D:34:LYS:HG2	1.99	0.45
1:D:169:ARG:HH22	1:D:176:ARG:HD2	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2562:LEU:O	1:G:2566:GLN:N	2.46	0.45
1:J:1751:ILE:HG13	1:J:1921:HIS:HB2	1.98	0.45
1:A:2543:ALA:HA	1:A:2877:THR:HB	1.97	0.45
1:D:1116:GLY:HA3	1:D:1136:ALA:HA	1.99	0.45
1:D:3730:ALA:HA	1:D:3733:HIS:CE1	2.52	0.45
1:D:3880:LEU:HD11	1:D:3940:ARG:HD2	1.99	0.45
1:D:3946:VAL:HA	1:D:3949:LEU:HD12	1.99	0.45
1:D:4831:GLU:OE1	1:D:4831:GLU:N	2.49	0.45
1:G:695:VAL:HG22	1:G:792:VAL:HG23	1.99	0.45
1:G:1116:GLY:HA3	1:G:1136:ALA:HA	1.99	0.45
1:G:3730:ALA:HA	1:G:3733:HIS:CE1	2.52	0.45
1:G:4856:ILE:HA	1:G:4860:LEU:HD23	1.97	0.45
1:J:1116:GLY:HA3	1:J:1136:ALA:HA	1.99	0.45
1:A:334:SER:OG	1:A:335:LYS:N	2.49	0.45
1:A:1116:GLY:HA3	1:A:1136:ALA:HA	1.99	0.45
1:A:1152:TYR:OH	1:A:1175:PHE:O	2.35	0.45
1:D:161:THR:HG23	1:D:184:VAL:HB	1.98	0.45
1:G:974:SER:OG	1:G:974:SER:O	2.35	0.45
1:G:3714:SER:OG	1:G:3717:GLU:OE2	2.31	0.45
1:G:4045:SER:HB3	1:G:4048:ASP:HB2	1.98	0.45
1:G:4820:VAL:O	1:G:4824:ALA:CB	2.65	0.45
1:J:52:THR:O	1:J:55:SER:OG	2.33	0.45
1:J:1611:ILE:N	1:J:1620:GLN:O	2.38	0.45
1:J:1775:CYS:SG	1:J:1776:TYR:N	2.88	0.45
1:A:162:ILE:HG23	1:A:181:LEU:HD13	1.99	0.45
1:D:119:ILE:HD13	1:D:162:ILE:HD11	1.99	0.45
1:D:150:GLN:NE2	1:D:158:CYS:SG	2.89	0.45
1:G:334:SER:OG	1:G:335:LYS:N	2.49	0.45
1:G:564:ARG:HG3	1:G:566:GLU:HG3	1.98	0.45
1:G:1265:HIS:CD2	1:G:1267:HIS:H	2.34	0.45
1:G:1293:GLN:NE2	1:G:1548:THR:O	2.43	0.45
1:J:50:GLU:OE2	1:J:319:LYS:NZ	2.46	0.45
1:J:162:ILE:HG23	1:J:181:LEU:HD13	1.99	0.45
1:J:305:TYR:N	1:J:317:MET:O	2.41	0.45
1:J:3730:ALA:HA	1:J:3733:HIS:CE1	2.52	0.45
1:J:4733:GLY:HA3	1:J:4740:PHE:HD1	1.81	0.45
1:A:25:THR:HG22	1:A:34:LYS:HG2	1.99	0.45
1:A:881:ILE:HD11	1:A:952:ILE:HG23	1.98	0.45
1:D:3787:ASP:OD1	1:D:3790:PHE:N	2.49	0.45
1:D:4733:GLY:HA3	1:D:4740:PHE:HD1	1.81	0.45
1:D:4854:PHE:CD1	1:D:4854:PHE:O	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:119:ILE:HD13	1:G:162:ILE:HD11	1.99	0.45
1:G:992:GLN:HA	1:G:1064:LEU:HD12	1.99	0.45
1:G:1682:GLU:HG2	1:G:1685:LEU:HD12	1.99	0.45
1:G:1775:CYS:SG	1:G:1776:TYR:N	2.88	0.45
1:G:1904:LYS:O	1:G:1908:CYS:N	2.49	0.45
1:G:2391:THR:HG22	1:G:2465:HIS:HE1	1.81	0.45
1:J:4930:ASP:O	1:J:4934:HIS:NE2	2.50	0.45
1:A:150:GLN:NE2	1:A:158:CYS:SG	2.89	0.45
1:A:716:ASN:HD21	1:A:791:VAL:HG23	1.82	0.45
1:A:4819:TYR:CD1	1:A:4819:TYR:O	2.70	0.45
1:D:706:TYR:HH	1:D:1254:ARG:H	1.64	0.45
1:D:2409:LEU:HA	1:D:2412:ALA:HB3	1.98	0.45
1:D:4130:PHE:O	1:D:4134:LEU:N	2.50	0.45
1:G:162:ILE:HG23	1:G:181:LEU:HD13	1.99	0.45
1:G:272:ARG:HA	1:G:301:THR:HG21	1.98	0.45
1:G:778:MET:HE3	1:G:1480:ILE:HD11	1.99	0.45
1:G:3787:ASP:OD1	1:G:3790:PHE:N	2.49	0.45
1:G:3946:VAL:HA	1:G:3949:LEU:HD12	1.99	0.45
1:G:4852:PHE:CD1	1:G:4852:PHE:O	2.70	0.45
1:J:4510:VAL:HG23	1:J:4576:LEU:HD12	1.99	0.45
1:J:4819:TYR:CD1	1:J:4819:TYR:O	2.70	0.45
1:A:4854:PHE:O	1:A:4854:PHE:CD1	2.70	0.44
1:D:716:ASN:HD21	1:D:791:VAL:HG23	1.82	0.44
1:D:778:MET:HE3	1:D:1480:ILE:HD11	1.99	0.44
1:D:1611:ILE:N	1:D:1620:GLN:O	2.38	0.44
1:D:1682:GLU:HG2	1:D:1685:LEU:HD12	1.99	0.44
1:D:2607:PRO:O	1:D:2611:LEU:N	2.51	0.44
1:D:4045:SER:HB3	1:D:4048:ASP:HB2	1.98	0.44
1:G:308:LEU:HD23	1:G:365:HIS:CD2	2.52	0.44
1:G:4603:ARG:NE	1:G:4632:ASP:OD2	2.49	0.44
1:G:4815:MET:O	1:G:4819:TYR:HB3	2.17	0.44
1:J:2162:LEU:O	1:J:2166:LEU:N	2.45	0.44
1:J:2876:ASP:OD1	1:J:2876:ASP:N	2.31	0.44
1:A:119:ILE:HD13	1:A:162:ILE:HD11	1.99	0.44
1:A:308:LEU:HD23	1:A:365:HIS:CD2	2.52	0.44
1:A:1738:LEU:HD21	1:A:1928:ALA:HB3	1.99	0.44
1:A:2790:ILE:HG23	1:A:2904:VAL:HG22	2.00	0.44
1:A:4782:TYR:CB	1:A:4851:PHE:HE1	2.30	0.44
1:A:4816:PHE:CD1	1:A:4816:PHE:O	2.70	0.44
1:A:4861:ALA:HB2	1:D:4864:GLN:CD	2.37	0.44
1:D:695:VAL:HG22	1:D:792:VAL:HG23	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2327:ARG:H	1:D:2327:ARG:HG3	1.49	0.44
1:D:4852:PHE:O	1:D:4852:PHE:CG	2.70	0.44
1:D:4896:ASN:O	1:D:4900:ASP:N	2.50	0.44
1:G:1938:GLN:NE2	1:G:3611:ASN:O	2.50	0.44
1:G:2070:TRP:O	1:G:2074:SER:OG	2.32	0.44
1:G:4640:SER:OG	1:G:4703:ASP:OD2	2.31	0.44
1:J:169:ARG:HH22	1:J:176:ARG:HD2	1.81	0.44
1:J:1153:GLY:N	1:J:1183:LEU:O	2.49	0.44
1:J:1790:LYS:O	1:J:1794:MET:N	2.48	0.44
1:J:4854:PHE:CD1	1:J:4854:PHE:O	2.70	0.44
1:A:1682:GLU:HG2	1:A:1685:LEU:HD12	1.99	0.44
3:C:50:GLN:HA	3:C:53:ILE:HG22	2.00	0.44
1:D:272:ARG:HA	1:D:301:THR:HG21	1.98	0.44
1:D:308:LEU:HD23	1:D:365:HIS:CD2	2.52	0.44
1:D:1712:SER:HA	1:D:1715:ALA:HB3	1.99	0.44
1:G:4930:ASP:O	1:G:4934:HIS:NE2	2.50	0.44
1:J:119:ILE:HD13	1:J:162:ILE:HD11	1.99	0.44
1:J:564:ARG:HG3	1:J:566:GLU:HG3	1.98	0.44
1:J:649:VAL:O	1:J:1627:PHE:N	2.46	0.44
1:J:992:GLN:HA	1:J:1064:LEU:HD12	1.99	0.44
1:J:3943:ASP:OD1	1:J:3943:ASP:N	2.49	0.44
1:A:272:ARG:HA	1:A:301:THR:HG21	1.98	0.44
1:A:1057:LEU:O	1:A:1062:TYR:N	2.47	0.44
1:A:1293:GLN:NE2	1:A:1548:THR:O	2.43	0.44
1:D:1751:ILE:HG13	1:D:1921:HIS:HB2	1.98	0.44
1:D:4782:TYR:CE2	1:D:4851:PHE:HD1	2.27	0.44
1:D:4787:PHE:HZ	1:G:4522:LYS:HA	1.82	0.44
1:D:4930:ASP:O	1:D:4934:HIS:NE2	2.50	0.44
1:G:4861:ALA:O	1:G:4865:GLY:N	2.47	0.44
2:H:35:LYS:HE2	2:H:35:LYS:HB3	1.81	0.44
1:J:1057:LEU:O	1:J:1062:TYR:N	2.47	0.44
1:J:1682:GLU:HG2	1:J:1685:LEU:HD12	1.99	0.44
1:J:2327:ARG:H	1:J:2327:ARG:HG3	1.53	0.44
1:J:2790:ILE:HG23	1:J:2904:VAL:HG22	2.00	0.44
1:J:4852:PHE:O	1:J:4852:PHE:CD1	2.70	0.44
1:A:1153:GLY:N	1:A:1183:LEU:O	2.49	0.44
1:A:1690:GLU:OE2	1:A:1790:LYS:NZ	2.36	0.44
1:A:4733:GLY:HA3	1:A:4740:PHE:HD1	1.81	0.44
2:B:35:LYS:HE2	2:B:35:LYS:HB3	1.81	0.44
1:D:1922:ARG:HH22	1:D:2039:TYR:HD1	1.66	0.44
1:D:3844:LEU:HD23	1:D:3844:LEU:HA	1.78	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4510:VAL:HG23	1:D:4576:LEU:HD12	1.99	0.44
1:D:4852:PHE:O	1:D:4852:PHE:CD1	2.70	0.44
1:G:1922:ARG:HH22	1:G:2039:TYR:HD1	1.66	0.44
1:G:4130:PHE:O	1:G:4134:LEU:N	2.50	0.44
1:G:4854:PHE:CD1	1:G:4854:PHE:O	2.70	0.44
1:J:716:ASN:HD21	1:J:791:VAL:HG23	1.82	0.44
1:J:1190:LEU:HB2	1:J:1193:LYS:HE2	2.00	0.44
1:J:1938:GLN:NE2	1:J:3611:ASN:O	2.50	0.44
1:J:4605:LYS:HE3	1:J:4605:LYS:HB3	1.74	0.44
1:J:4627:ILE:O	1:J:4631:TRP:N	2.48	0.44
1:J:4852:PHE:O	1:J:4852:PHE:CG	2.70	0.44
1:A:328:ALA:HB1	1:A:366:ILE:HD12	2.00	0.44
1:A:1098:ALA:O	1:A:1101:TRP:NE1	2.31	0.44
1:D:190:ARG:HH12	1:G:2423:ILE:HG23	1.80	0.44
1:D:1938:GLN:NE2	1:D:3611:ASN:O	2.50	0.44
1:G:299:HIS:N	1:G:304:LYS:O	2.43	0.44
1:G:1101:TRP:HA	1:G:1237:GLU:HB2	1.99	0.44
1:G:1102:TYR:N	1:G:1237:GLU:O	2.51	0.44
1:G:1246:ASP:HB2	1:G:1605:LYS:HE2	2.00	0.44
1:G:3880:LEU:HD11	1:G:3940:ARG:HD2	1.99	0.44
1:J:308:LEU:HD23	1:J:365:HIS:CD2	2.52	0.44
1:J:505:LEU:HD12	1:J:505:LEU:HA	1.88	0.44
1:J:1246:ASP:HB2	1:J:1605:LYS:HE2	2.00	0.44
1:J:2409:LEU:HA	1:J:2412:ALA:HB3	1.98	0.44
1:J:4605:LYS:HD2	1:J:4609:ARG:HD3	2.00	0.44
1:J:4816:PHE:CD1	1:J:4816:PHE:O	2.70	0.44
1:A:894:VAL:HG22	1:A:918:LEU:HA	2.00	0.44
1:A:1751:ILE:HG13	1:A:1921:HIS:HB2	1.98	0.44
1:A:1790:LYS:O	1:A:1794:MET:N	2.48	0.44
1:A:2848:ASN:O	1:A:2852:ILE:N	2.49	0.44
1:A:3946:VAL:HA	1:A:3949:LEU:HD12	1.99	0.44
1:A:4852:PHE:O	1:A:4852:PHE:CG	2.70	0.44
1:A:4896:ASN:O	1:A:4900:ASP:N	2.50	0.44
1:D:705:PRO:HG3	1:D:838:ARG:HB2	2.00	0.44
1:D:1246:ASP:HB2	1:D:1605:LYS:HE2	2.00	0.44
1:D:4640:SER:OG	1:D:4703:ASP:OD2	2.31	0.44
1:G:1098:ALA:O	1:G:1101:TRP:NE1	2.31	0.44
1:G:3943:ASP:OD1	1:G:3943:ASP:N	2.49	0.44
1:J:343:ARG:HB3	1:J:344:LYS:H	1.72	0.44
1:J:695:VAL:HG22	1:J:792:VAL:HG23	1.99	0.44
1:J:742:SER:OG	1:J:1472:GLU:OE2	2.28	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2061:GLN:O	1:J:2064:SER:OG	2.36	0.44
1:J:4782:TYR:CE2	1:J:4851:PHE:HD1	2.28	0.44
1:J:4853:PHE:CD1	1:J:4853:PHE:O	2.71	0.44
1:A:1131:ASP:N	1:A:1131:ASP:OD1	2.48	0.44
1:A:1190:LEU:HB2	1:A:1193:LYS:HE2	2.00	0.44
1:A:2607:PRO:O	1:A:2611:LEU:N	2.51	0.44
1:A:4787:PHE:HZ	1:D:4522:LYS:HA	1.83	0.44
1:D:207:PHE:CB	1:G:2326:ILE:C	2.86	0.44
1:D:982:ASP:OD2	1:D:982:ASP:N	2.41	0.44
1:D:1738:LEU:HD21	1:D:1928:ALA:HB3	1.99	0.44
1:J:894:VAL:HG22	1:J:918:LEU:HA	2.00	0.44
1:J:1089:ARG:HH21	1:J:1600:PRO:HG3	1.83	0.44
1:J:3787:ASP:OD1	1:J:3790:PHE:N	2.49	0.44
1:J:4796:LYS:HE2	1:J:4805:MET:HB3	2.00	0.44
1:J:4875:ARG:O	1:J:4875:ARG:HD2	2.18	0.44
1:J:4896:ASN:O	1:J:4900:ASP:N	2.50	0.44
3:L:50:GLN:HA	3:L:53:ILE:HG22	2.00	0.44
3:L:50:GLN:O	3:L:54:ASN:HB2	2.18	0.44
1:A:705:PRO:HG3	1:A:838:ARG:HB2	2.00	0.44
1:A:1102:TYR:N	1:A:1237:GLU:O	2.51	0.44
1:A:4510:VAL:HG23	1:A:4576:LEU:HD12	1.99	0.44
1:A:4595:LYS:HA	1:A:4595:LYS:HD3	1.77	0.44
1:D:1057:LEU:O	1:D:1062:TYR:N	2.47	0.44
1:D:1102:TYR:N	1:D:1237:GLU:O	2.51	0.44
1:D:1839:LEU:HA	1:D:1842:ILE:HG22	2.00	0.44
3:F:50:GLN:NE2	3:F:54:ASN:OD1	2.51	0.44
1:G:328:ALA:HB1	1:G:366:ILE:HD12	2.00	0.44
1:G:1210:ALA:N	1:G:1211:GLN:OE1	2.51	0.44
1:G:1258:PHE:HA	1:G:1595:LEU:HA	1.99	0.44
1:G:1839:LEU:HA	1:G:1842:ILE:HG22	2.00	0.44
1:G:4816:PHE:CD1	1:G:4816:PHE:O	2.70	0.44
1:G:4853:PHE:CD1	1:G:4853:PHE:O	2.71	0.44
1:J:121:LEU:HD23	1:J:121:LEU:HA	1.82	0.44
1:J:706:TYR:HH	1:J:1254:ARG:H	1.64	0.44
1:J:1258:PHE:HA	1:J:1595:LEU:HA	1.99	0.44
1:J:1738:LEU:HD21	1:J:1928:ALA:HB3	1.99	0.44
1:J:1839:LEU:HA	1:J:1842:ILE:HG22	2.00	0.44
1:J:3880:LEU:HD11	1:J:3940:ARG:HD2	1.99	0.44
1:J:4819:TYR:CD1	1:J:4819:TYR:C	2.90	0.44
1:A:1246:ASP:HB2	1:A:1605:LYS:HE2	2.00	0.43
1:A:3730:ALA:HA	1:A:3733:HIS:CE1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:505:LEU:HD12	1:D:505:LEU:HA	1.88	0.43
1:D:1210:ALA:N	1:D:1211:GLN:OE1	2.51	0.43
1:D:4034:LYS:HZ2	1:D:4081:TYR:HE2	1.64	0.43
1:D:4861:ALA:O	1:D:4865:GLY:N	2.47	0.43
1:D:4909:HIS:HA	1:D:4913:GLU:HG2	2.00	0.43
2:E:35:LYS:HE2	2:E:35:LYS:HB3	1.81	0.43
1:G:4852:PHE:O	1:G:4852:PHE:CG	2.70	0.43
1:G:4896:ASN:O	1:G:4900:ASP:N	2.50	0.43
1:J:272:ARG:HA	1:J:301:THR:HG21	1.98	0.43
1:J:299:HIS:N	1:J:304:LYS:O	2.43	0.43
1:J:309:MET:SD	1:J:312:LYS:NZ	2.75	0.43
1:J:1102:TYR:N	1:J:1237:GLU:O	2.51	0.43
1:J:1124:PRO:O	1:J:1598:ARG:NE	2.51	0.43
1:J:3946:VAL:HA	1:J:3949:LEU:HD12	1.99	0.43
1:J:4094:ASP:HA	1:J:4097:PHE:HB3	2.00	0.43
1:J:4148:ARG:NH1	1:J:4913:GLU:OE1	2.40	0.43
1:J:4819:TYR:CD1	1:J:4823:ARG:CB	3.01	0.43
1:A:244:CYS:N	1:A:263:GLU:O	2.48	0.43
1:A:1089:ARG:HH21	1:A:1600:PRO:HG3	1.83	0.43
1:A:1101:TRP:HA	1:A:1237:GLU:HB2	1.99	0.43
1:A:1125:ASP:OD1	1:A:1597:SER:OG	2.29	0.43
1:A:1839:LEU:HA	1:A:1842:ILE:HG22	2.00	0.43
3:C:50:GLN:NE2	3:C:54:ASN:OD1	2.51	0.43
1:D:803:LEU:HB3	1:D:811:PHE:HA	2.00	0.43
1:D:992:GLN:HA	1:D:1064:LEU:HD12	1.99	0.43
1:D:1101:TRP:HA	1:D:1237:GLU:HB2	1.99	0.43
1:D:1790:LYS:O	1:D:1794:MET:N	2.48	0.43
1:D:2061:GLN:O	1:D:2064:SER:OG	2.36	0.43
1:D:4747:ILE:HD12	1:D:4747:ILE:HA	1.92	0.43
1:D:4892:CYS:SG	1:D:4914:HIS:NE2	2.92	0.43
1:G:2607:PRO:O	1:G:2611:LEU:N	2.51	0.43
1:G:4595:LYS:HA	1:G:4595:LYS:HD3	1.77	0.43
3:I:50:GLN:HA	3:I:53:ILE:HG22	2.00	0.43
1:J:161:THR:HG23	1:J:184:VAL:HB	1.98	0.43
1:J:626:ARG:NH2	1:J:1668:GLY:O	2.36	0.43
1:J:3677:LEU:HD23	1:J:3677:LEU:HA	1.88	0.43
1:J:3804:LEU:O	1:J:3885:SER:OG	2.26	0.43
1:A:190:ARG:HH12	1:D:2423:ILE:HG23	1.78	0.43
1:A:695:VAL:HG22	1:A:792:VAL:HG23	1.99	0.43
3:C:50:GLN:O	3:C:54:ASN:HB2	2.18	0.43
1:D:4817:HIS:NE2	1:D:4828:ILE:CD1	2.81	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:68:LEU:HA	2:E:103:LEU:HD23	2.00	0.43
3:F:50:GLN:HA	3:F:53:ILE:HG22	2.00	0.43
1:G:647:ARG:NH1	1:G:648:LEU:O	2.51	0.43
1:G:803:LEU:HB3	1:G:811:PHE:HA	2.00	0.43
1:G:1190:LEU:HB2	1:G:1193:LYS:HE2	2.00	0.43
1:G:1738:LEU:HD21	1:G:1928:ALA:HB3	1.99	0.43
1:G:4892:CYS:SG	1:G:4914:HIS:NE2	2.92	0.43
1:J:974:SER:OG	1:J:974:SER:O	2.35	0.43
1:J:1101:TRP:HA	1:J:1237:GLU:HB2	1.99	0.43
1:J:1609:SER:OG	1:J:1621:CYS:SG	2.72	0.43
1:J:3973:MET:O	1:J:3977:LYS:N	2.44	0.43
1:A:2562:LEU:O	1:A:2566:GLN:N	2.46	0.43
1:A:4605:LYS:HD2	1:A:4609:ARG:HD3	2.00	0.43
1:A:4627:ILE:O	1:A:4631:TRP:N	2.48	0.43
1:A:4852:PHE:CD2	1:A:4852:PHE:O	2.70	0.43
1:D:374:TYR:HB2	1:D:389:ARG:HB3	2.00	0.43
1:D:1124:PRO:O	1:D:1598:ARG:NE	2.52	0.43
1:G:1712:SER:HA	1:G:1715:ALA:HB3	1.99	0.43
1:G:2061:GLN:O	1:G:2064:SER:OG	2.36	0.43
1:G:2855:LYS:HA	1:G:2855:LYS:HD2	1.88	0.43
1:A:481:ALA:O	1:A:485:ARG:NE	2.51	0.43
1:A:495:ILE:O	1:A:499:LEU:N	2.51	0.43
1:A:1712:SER:HA	1:A:1715:ALA:HB3	1.99	0.43
1:A:2643:ARG:O	1:A:2647:TRP:N	2.47	0.43
1:A:4515:ASN:HB3	1:J:4780:TYR:HH	1.80	0.43
1:A:4892:CYS:SG	1:A:4914:HIS:NE2	2.92	0.43
1:D:35:LEU:HB3	1:D:49:LEU:HB3	2.01	0.43
1:D:4042:GLY:O	1:D:4081:TYR:N	2.48	0.43
1:D:4796:LYS:HE2	1:D:4805:MET:HB3	2.00	0.43
1:G:374:TYR:HB2	1:G:389:ARG:HB3	2.00	0.43
1:G:1090:ALA:HB3	1:G:1203:PRO:HD2	2.01	0.43
1:G:2845:MET:HB3	1:G:2845:MET:HE2	1.88	0.43
1:G:4589:ILE:HD13	1:G:4589:ILE:HA	1.89	0.43
1:J:2161:ASN:O	1:J:2165:ALA:N	2.48	0.43
1:A:2897:LEU:HD23	1:A:2897:LEU:HA	1.92	0.43
1:A:3880:LEU:HD11	1:A:3940:ARG:HD2	1.99	0.43
1:A:4094:ASP:HA	1:A:4097:PHE:HB3	2.00	0.43
1:A:4850:THR:O	1:A:4854:PHE:CB	2.66	0.43
1:D:2790:ILE:HG23	1:D:2904:VAL:HG22	2.00	0.43
1:G:705:PRO:HG3	1:G:838:ARG:HB2	2.00	0.43
1:G:1124:PRO:O	1:G:1598:ARG:NE	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3879:LEU:HA	1:G:3882:VAL:HB	2.01	0.43
1:G:4047:ARG:HA	1:G:4050:HIS:HB3	2.00	0.43
1:J:1712:SER:HA	1:J:1715:ALA:HB3	1.99	0.43
1:J:2138:GLU:O	1:J:2141:LYS:NZ	2.34	0.43
1:J:3724:LYS:HA	1:J:3724:LYS:HD3	1.81	0.43
1:A:803:LEU:HB3	1:A:811:PHE:HA	2.00	0.43
1:A:1210:ALA:N	1:A:1211:GLN:OE1	2.51	0.43
1:A:1258:PHE:HA	1:A:1595:LEU:HA	1.99	0.43
1:A:1611:ILE:N	1:A:1620:GLN:O	2.38	0.43
1:A:2116:ASP:OD1	1:A:2153:ASN:ND2	2.47	0.43
1:A:4605:LYS:HE3	1:A:4605:LYS:HB3	1.74	0.43
1:D:328:ALA:HB1	1:D:366:ILE:HD12	2.00	0.43
1:D:1089:ARG:HH21	1:D:1600:PRO:HG3	1.83	0.43
1:D:4651:LYS:NZ	1:D:4672:GLY:O	2.40	0.43
1:G:657:PRO:HB3	1:G:834:VAL:HG12	2.01	0.43
1:G:716:ASN:HD21	1:G:791:VAL:HG23	1.82	0.43
1:G:725:TYR:HA	1:G:732:LEU:HA	2.01	0.43
1:G:894:VAL:HG22	1:G:918:LEU:HA	2.00	0.43
1:G:2154:LYS:HA	1:G:2154:LYS:HD2	1.93	0.43
1:G:3804:LEU:O	1:G:3885:SER:OG	2.26	0.43
1:G:4605:LYS:HD2	1:G:4609:ARG:HD3	2.00	0.43
1:G:4909:HIS:HA	1:G:4913:GLU:HG2	2.00	0.43
1:J:657:PRO:HB3	1:J:834:VAL:HG12	2.01	0.43
1:J:778:MET:HE3	1:J:1480:ILE:HD11	2.00	0.43
1:J:1210:ALA:N	1:J:1211:GLN:OE1	2.51	0.43
1:J:4909:HIS:HA	1:J:4913:GLU:HG2	2.00	0.43
1:A:1905:LEU:HB2	1:A:2081:LEU:HD12	2.01	0.43
2:B:68:LEU:HA	2:B:103:LEU:HD23	2.00	0.43
1:D:250:GLY:HA2	1:D:257:ARG:HE	1.84	0.43
1:D:973:THR:HG21	1:D:977:LYS:HA	2.01	0.43
1:D:1258:PHE:HA	1:D:1595:LEU:HA	1.99	0.43
1:D:4817:HIS:CD2	1:D:4828:ILE:CD1	3.02	0.43
1:G:1089:ARG:HH21	1:G:1600:PRO:HG3	1.83	0.43
1:G:2790:ILE:HG23	1:G:2904:VAL:HG22	2.00	0.43
1:G:4796:LYS:HE2	1:G:4805:MET:HB3	2.00	0.43
1:J:1905:LEU:HB2	1:J:2081:LEU:HD12	2.01	0.43
1:J:1922:ARG:HH22	1:J:2039:TYR:HD1	1.66	0.43
2:K:68:LEU:HA	2:K:103:LEU:HD23	2.00	0.43
1:A:992:GLN:HA	1:A:1064:LEU:HD12	1.99	0.43
1:A:1609:SER:OG	1:A:1621:CYS:SG	2.72	0.43
1:A:4853:PHE:CD1	1:A:4853:PHE:O	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:104:LEU:HD23	2:B:104:LEU:HA	1.90	0.43
1:D:745:ASN:ND2	1:D:773:GLN:OE1	2.49	0.43
1:D:1190:LEU:HB2	1:D:1193:LYS:HE2	2.00	0.43
1:D:2537:ALA:O	1:D:2541:HIS:N	2.50	0.43
1:D:3879:LEU:HA	1:D:3882:VAL:HB	2.01	0.43
1:D:3943:ASP:OD1	1:D:3943:ASP:N	2.49	0.43
1:D:4861:ALA:HB2	1:G:4864:GLN:CD	2.38	0.43
1:G:305:TYR:N	1:G:317:MET:O	2.41	0.43
1:G:325:LYS:O	1:G:365:HIS:NE2	2.52	0.43
1:G:4654:VAL:O	1:G:4659:GLY:N	2.52	0.43
1:J:2116:ASP:OD1	1:J:2153:ASN:ND2	2.47	0.43
1:J:2639:LEU:O	1:J:2643:ARG:N	2.44	0.43
1:J:4892:CYS:SG	1:J:4914:HIS:NE2	2.92	0.43
1:A:1256:PRO:HD2	1:A:1451:HIS:HB3	2.01	0.43
1:D:2717:LYS:H	1:D:2717:LYS:HG2	1.60	0.43
1:D:3756:VAL:O	1:D:3759:THR:OG1	2.34	0.43
1:G:1110:ALA:HA	1:G:1156:TRP:CZ2	2.54	0.43
1:G:2116:ASP:OD1	1:G:2153:ASN:ND2	2.47	0.43
1:G:4094:ASP:HA	1:G:4097:PHE:HB3	2.00	0.43
1:J:705:PRO:HG3	1:J:838:ARG:HB2	2.00	0.43
1:J:1166:VAL:HG13	1:J:1173:MET:HG3	2.01	0.43
1:J:3879:LEU:HA	1:J:3882:VAL:HB	2.01	0.43
1:A:262:TYR:HB2	1:A:389:ARG:HB2	2.01	0.42
1:A:745:ASN:ND2	1:A:773:GLN:OE1	2.49	0.42
1:A:778:MET:HE3	1:A:1480:ILE:HD11	2.00	0.42
1:A:1124:PRO:O	1:A:1598:ARG:NE	2.51	0.42
1:A:1945:TYR:OH	1:A:1993:ILE:O	2.35	0.42
1:A:3879:LEU:HA	1:A:3882:VAL:HB	2.01	0.42
1:A:4130:PHE:O	1:A:4134:LEU:N	2.50	0.42
3:C:65:ASP:OD1	3:C:65:ASP:N	2.50	0.42
1:D:894:VAL:HG22	1:D:918:LEU:HA	2.00	0.42
1:D:974:SER:OG	1:D:974:SER:O	2.35	0.42
1:D:3669:ILE:HD13	1:D:3737:ALA:HB2	2.01	0.42
1:D:4047:ARG:HA	1:D:4050:HIS:HB3	2.00	0.42
1:G:35:LEU:HB3	1:G:49:LEU:HB3	2.01	0.42
1:G:673:TRP:HB2	1:G:759:LEU:HB3	2.01	0.42
1:J:296:ARG:HG2	1:J:327:THR:HG23	2.01	0.42
1:J:745:ASN:ND2	1:J:773:GLN:OE1	2.49	0.42
1:J:2607:PRO:O	1:J:2611:LEU:N	2.51	0.42
1:J:4559:HIS:ND1	1:J:4738:PHE:CE2	2.87	0.42
1:A:673:TRP:HB2	1:A:759:LEU:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1922:ARG:HH22	1:A:2039:TYR:HD1	1.66	0.42
1:A:4045:SER:HA	1:A:4078:THR:HA	2.02	0.42
1:D:425:LEU:HD11	1:D:452:VAL:HA	2.01	0.42
1:D:1177:LEU:HB3	1:D:1182:LEU:HD21	2.02	0.42
1:D:1905:LEU:HB2	1:D:2081:LEU:HD12	2.01	0.42
1:D:2222:LEU:HD12	1:D:2222:LEU:HA	1.89	0.42
1:D:3643:GLU:OE2	1:D:3731:ARG:NH2	2.53	0.42
1:D:4045:SER:HA	1:D:4078:THR:HA	2.02	0.42
1:D:4148:ARG:NH1	1:D:4913:GLU:OE1	2.40	0.42
1:D:4605:LYS:HD2	1:D:4609:ARG:HD3	2.00	0.42
3:F:50:GLN:O	3:F:54:ASN:HB2	2.18	0.42
1:G:52:THR:O	1:G:55:SER:OG	2.33	0.42
1:G:4510:VAL:HG23	1:G:4576:LEU:HD12	1.99	0.42
1:J:328:ALA:HB1	1:J:366:ILE:HD12	2.00	0.42
1:J:433:LEU:O	1:J:437:SER:N	2.53	0.42
1:J:731:HIS:CG	1:J:740:THR:HA	2.54	0.42
1:J:1177:LEU:HB3	1:J:1182:LEU:HD21	2.02	0.42
1:A:325:LYS:O	1:A:365:HIS:NE2	2.52	0.42
1:A:374:TYR:HB2	1:A:389:ARG:HB3	2.00	0.42
1:A:725:TYR:HA	1:A:732:LEU:HA	2.01	0.42
1:A:1090:ALA:HB3	1:A:1203:PRO:HD2	2.01	0.42
1:A:1114:ARG:HB2	1:A:1206:SER:HB3	2.01	0.42
1:A:4909:HIS:HA	1:A:4913:GLU:HG2	2.00	0.42
1:D:2154:LYS:HA	1:D:2154:LYS:HD2	1.93	0.42
1:D:2161:ASN:O	1:D:2165:ALA:N	2.48	0.42
1:D:2162:LEU:O	1:D:2166:LEU:N	2.45	0.42
1:D:4654:VAL:O	1:D:4659:GLY:N	2.52	0.42
1:G:851:LEU:HD12	1:G:851:LEU:HA	1.91	0.42
1:G:1054:VAL:HA	1:G:1057:LEU:HB2	2.01	0.42
1:G:1905:LEU:HB2	1:G:2081:LEU:HD12	2.01	0.42
1:G:3016:VAL:O	1:G:3020:ILE:N	2.47	0.42
3:I:50:GLN:NE2	3:I:54:ASN:OD1	2.51	0.42
1:J:647:ARG:NH1	1:J:648:LEU:O	2.51	0.42
1:J:4576:LEU:O	1:J:4580:HIS:N	2.47	0.42
1:A:2061:GLN:O	1:A:2064:SER:OG	2.36	0.42
1:A:3643:GLU:OE2	1:A:3731:ARG:NH2	2.53	0.42
1:D:52:THR:O	1:D:55:SER:OG	2.33	0.42
1:D:296:ARG:HG2	1:D:327:THR:HG23	2.01	0.42
1:D:1033:VAL:HG23	1:D:1038:LEU:HD23	2.02	0.42
1:D:1166:VAL:HG13	1:D:1173:MET:HG3	2.01	0.42
1:D:4605:LYS:HB3	1:D:4605:LYS:HE3	1.74	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:34:LYS:O	1:G:52:THR:N	2.46	0.42
1:G:1166:VAL:HG13	1:G:1173:MET:HG3	2.01	0.42
1:G:3893:TYR:HA	1:G:3896:LYS:HZ3	1.85	0.42
1:G:4839:GLU:H	1:G:4839:GLU:HG3	1.69	0.42
3:I:50:GLN:O	3:I:54:ASN:HB2	2.18	0.42
1:J:1033:VAL:HG23	1:J:1038:LEU:HD23	2.02	0.42
1:J:1256:PRO:HD2	1:J:1451:HIS:HB3	2.01	0.42
1:J:2421:ARG:O	1:J:2425:ARG:NE	2.50	0.42
1:J:2643:ARG:O	1:J:2647:TRP:N	2.47	0.42
1:J:3643:GLU:OE2	1:J:3731:ARG:NH2	2.53	0.42
1:J:4047:ARG:HA	1:J:4050:HIS:HB3	2.00	0.42
1:A:250:GLY:HA2	1:A:257:ARG:HE	1.84	0.42
1:A:433:LEU:O	1:A:437:SER:N	2.53	0.42
1:A:653:SER:O	1:A:653:SER:OG	2.37	0.42
1:A:973:THR:HG21	1:A:977:LYS:HA	2.01	0.42
1:A:2161:ASN:O	1:A:2165:ALA:N	2.48	0.42
1:A:3621:PHE:O	1:A:3625:TYR:N	2.53	0.42
1:A:3844:LEU:HD23	1:A:3844:LEU:HA	1.78	0.42
1:A:4780:TYR:HH	1:D:4741:ALA:HB1	1.84	0.42
1:A:4935:THR:H	1:A:4938:GLU:HB2	1.85	0.42
1:D:262:TYR:HB2	1:D:389:ARG:HB2	2.01	0.42
1:D:325:LYS:O	1:D:365:HIS:NE2	2.52	0.42
1:D:481:ALA:O	1:D:485:ARG:NE	2.51	0.42
1:D:1054:VAL:HA	1:D:1057:LEU:HB2	2.01	0.42
1:D:1110:ALA:HA	1:D:1156:TRP:CZ2	2.54	0.42
1:D:2639:LEU:O	1:D:2643:ARG:N	2.44	0.42
1:G:479:LEU:HD12	1:G:479:LEU:HA	1.90	0.42
1:G:1431:ARG:HE	1:G:1431:ARG:HB2	1.56	0.42
1:G:4045:SER:HA	1:G:4078:THR:HA	2.02	0.42
1:J:325:LYS:O	1:J:365:HIS:NE2	2.52	0.42
1:J:4589:ILE:HD13	1:J:4589:ILE:HA	1.89	0.42
1:A:590:LYS:HE2	1:A:590:LYS:HB2	1.86	0.42
1:A:731:HIS:CG	1:A:740:THR:HA	2.54	0.42
1:A:1177:LEU:HB3	1:A:1182:LEU:HD21	2.02	0.42
1:A:3777:LYS:HE2	1:A:3777:LYS:HB2	1.89	0.42
1:D:1114:ARG:HB2	1:D:1206:SER:HB3	2.01	0.42
1:D:3638:GLU:N	1:D:3638:GLU:OE1	2.53	0.42
1:D:4094:ASP:HA	1:D:4097:PHE:HB3	2.00	0.42
1:D:4559:HIS:ND1	1:D:4738:PHE:CE2	2.87	0.42
1:G:250:GLY:HA2	1:G:257:ARG:HE	1.84	0.42
1:G:973:THR:HG21	1:G:977:LYS:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2841:MET:O	1:G:2845:MET:N	2.40	0.42
1:G:4022:LEU:HD12	1:G:4022:LEU:HA	1.86	0.42
1:G:4521:TYR:O	1:G:4521:TYR:CD2	2.72	0.42
1:J:374:TYR:HB2	1:J:389:ARG:HB3	2.00	0.42
1:J:1293:GLN:NE2	1:J:1548:THR:O	2.43	0.42
1:J:1921:HIS:O	1:J:1925:ALA:N	2.52	0.42
1:J:4113:ASP:OD2	1:J:4115:ARG:NH2	2.53	0.42
1:J:4935:THR:H	1:J:4938:GLU:HB2	1.85	0.42
1:A:419:ILE:HD13	1:A:492:GLU:HG3	2.02	0.42
1:A:1033:VAL:HG23	1:A:1038:LEU:HD23	2.02	0.42
1:A:1110:ALA:HA	1:A:1156:TRP:CZ2	2.54	0.42
1:A:4654:VAL:O	1:A:4659:GLY:N	2.52	0.42
1:A:4861:ALA:O	1:A:4865:GLY:N	2.47	0.42
1:D:433:LEU:O	1:D:437:SER:N	2.53	0.42
1:D:992:GLN:HB3	1:D:1054:VAL:HG11	2.02	0.42
1:D:1293:GLN:NE2	1:D:1548:THR:O	2.43	0.42
1:G:425:LEU:HD11	1:G:452:VAL:HA	2.01	0.42
1:G:433:LEU:O	1:G:437:SER:N	2.53	0.42
1:G:1790:LYS:O	1:G:1794:MET:N	2.48	0.42
1:G:4039:ASP:OD2	1:G:4039:ASP:N	2.41	0.42
1:G:4559:HIS:ND1	1:G:4738:PHE:CE2	2.87	0.42
1:G:4605:LYS:HB3	1:G:4605:LYS:HE3	1.74	0.42
2:H:68:LEU:HA	2:H:103:LEU:HD23	2.00	0.42
1:J:466:PRO:HB3	1:J:478:ARG:HG2	2.02	0.42
1:J:673:TRP:HB2	1:J:759:LEU:HB3	2.01	0.42
1:J:803:LEU:HB3	1:J:811:PHE:HA	2.00	0.42
1:J:973:THR:HG21	1:J:977:LYS:HA	2.01	0.42
1:J:4654:VAL:O	1:J:4659:GLY:N	2.52	0.42
1:J:4737:ASN:OD1	1:J:4737:ASN:N	2.39	0.42
3:L:50:GLN:NE2	3:L:54:ASN:OD1	2.51	0.42
1:A:1166:VAL:HG13	1:A:1173:MET:HG3	2.01	0.42
1:A:1265:HIS:HD2	1:A:1267:HIS:H	1.67	0.42
1:A:1785:ASP:N	1:A:1785:ASP:OD1	2.53	0.42
1:A:3669:ILE:HD13	1:A:3737:ALA:HB2	2.02	0.42
1:A:4047:ARG:HA	1:A:4050:HIS:HB3	2.00	0.42
1:A:4796:LYS:HE2	1:A:4805:MET:HB3	2.00	0.42
1:D:73:LEU:HD23	1:D:73:LEU:HA	1.90	0.42
1:D:995:MET:HA	1:D:998:LYS:HD2	2.02	0.42
1:D:3786:LYS:HB3	1:D:3786:LYS:HE2	1.84	0.42
1:G:892:LEU:HD13	1:G:1052:GLU:HB3	2.02	0.42
1:G:1177:LEU:HB3	1:G:1182:LEU:HD21	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1770:SER:O	1:G:1770:SER:OG	2.32	0.42
1:G:2482:GLN:HA	1:G:2485:LEU:HD13	2.02	0.42
1:G:4576:LEU:O	1:G:4580:HIS:N	2.47	0.42
1:J:35:LEU:HB3	1:J:49:LEU:HB3	2.01	0.42
1:J:892:LEU:HD13	1:J:1052:GLU:HB3	2.01	0.42
1:J:3068:ASP:O	1:J:3072:THR:N	2.47	0.42
1:J:4130:PHE:O	1:J:4134:LEU:N	2.50	0.42
1:A:35:LEU:HB3	1:A:49:LEU:HB3	2.01	0.42
1:A:425:LEU:HD11	1:A:452:VAL:HA	2.01	0.42
1:A:992:GLN:HB3	1:A:1054:VAL:HG11	2.02	0.42
1:D:258:ARG:NH1	1:D:316:LEU:O	2.53	0.42
1:D:731:HIS:CG	1:D:740:THR:HA	2.54	0.42
1:D:993:GLU:HG2	1:D:1051:ARG:HG2	2.02	0.42
1:D:1440:ASN:N	1:D:1440:ASN:OD1	2.53	0.42
1:D:1785:ASP:OD1	1:D:1785:ASP:N	2.53	0.42
1:D:1921:HIS:O	1:D:1925:ALA:N	2.52	0.42
1:D:2079:PRO:HB3	1:D:3674:ARG:HH21	1.85	0.42
1:D:2848:ASN:O	1:D:2852:ILE:N	2.49	0.42
1:D:3016:VAL:O	1:D:3020:ILE:N	2.47	0.42
1:D:4935:THR:H	1:D:4938:GLU:HB2	1.85	0.42
1:G:262:TYR:HB2	1:G:389:ARG:HB2	2.01	0.42
1:G:481:ALA:O	1:G:485:ARG:NE	2.51	0.42
1:G:745:ASN:ND2	1:G:773:GLN:OE1	2.49	0.42
1:J:713:TRP:CH2	1:J:1629:SER:HB2	2.55	0.42
1:J:725:TYR:HA	1:J:732:LEU:HA	2.01	0.42
1:J:992:GLN:HB3	1:J:1054:VAL:HG21	2.02	0.42
1:J:1090:ALA:HB3	1:J:1203:PRO:HD2	2.01	0.42
1:J:1431:ARG:HE	1:J:1431:ARG:HB2	1.56	0.42
1:J:2482:GLN:HA	1:J:2485:LEU:HD13	2.02	0.42
1:J:2769:LYS:HB3	1:J:2769:LYS:HE2	1.91	0.42
1:J:4045:SER:HA	1:J:4078:THR:HA	2.02	0.42
1:A:657:PRO:HB3	1:A:834:VAL:HG12	2.01	0.42
1:A:713:TRP:HZ3	1:A:1627:PHE:HB2	1.85	0.42
1:A:4113:ASP:OD2	1:A:4115:ARG:NH2	2.53	0.42
2:B:87:HIS:HB3	2:B:90:VAL:HB	2.02	0.42
1:D:1734:LYS:HB2	1:D:1734:LYS:HE3	1.78	0.42
1:D:3724:LYS:HD3	1:D:3724:LYS:HA	1.81	0.42
1:D:4113:ASP:OD2	1:D:4115:ARG:NH2	2.53	0.42
1:G:296:ARG:HG2	1:G:327:THR:HG23	2.01	0.42
1:G:938:GLU:OE1	1:G:1002:ASN:ND2	2.45	0.42
1:G:993:GLU:HG2	1:G:1051:ARG:HG2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1599:MET:HE3	1:G:1599:MET:HB2	1.97	0.42
1:G:2079:PRO:HB3	1:G:3674:ARG:HH21	1.85	0.42
1:G:3669:ILE:HD13	1:G:3737:ALA:HB2	2.02	0.42
1:G:3973:MET:O	1:G:3977:LYS:N	2.44	0.42
1:J:211:LEU:HD23	1:J:211:LEU:HA	1.88	0.42
1:J:590:LYS:HE2	1:J:590:LYS:HB2	1.86	0.42
1:J:713:TRP:HZ3	1:J:1627:PHE:HB2	1.85	0.42
1:J:995:MET:HA	1:J:998:LYS:HD2	2.02	0.42
1:J:1114:ARG:HB2	1:J:1206:SER:HB3	2.01	0.42
1:J:1265:HIS:HD2	1:J:1267:HIS:H	1.67	0.42
1:J:1709:ILE:HD13	1:J:1709:ILE:HA	1.90	0.42
1:J:1734:LYS:HE3	1:J:1734:LYS:HB2	1.78	0.42
1:J:1785:ASP:N	1:J:1785:ASP:OD1	2.53	0.42
1:J:3621:PHE:O	1:J:3625:TYR:N	2.53	0.42
1:A:238:HIS:HA	1:A:403:LEU:HD22	2.02	0.41
1:A:2090:HIS:HD2	1:A:3695:ILE:HD11	1.85	0.41
1:A:2162:LEU:O	1:A:2166:LEU:N	2.45	0.41
1:A:3891:TRP:HE1	1:A:3950:HIS:CE1	2.35	0.41
1:A:4867:ILE:HD12	1:A:4870:ALA:HB3	2.02	0.41
1:D:673:TRP:HB2	1:D:759:LEU:HB3	2.01	0.41
1:D:1090:ALA:HB3	1:D:1203:PRO:HD2	2.01	0.41
1:D:1256:PRO:HD2	1:D:1451:HIS:HB3	2.01	0.41
1:D:2546:ILE:O	1:D:2550:LEU:N	2.53	0.41
1:D:4072:GLU:HB2	1:D:4079:LEU:HA	2.01	0.41
1:G:713:TRP:CH2	1:G:1629:SER:HB2	2.55	0.41
1:G:4782:TYR:CB	1:G:4851:PHE:HE1	2.33	0.41
1:J:115:TYR:HB3	1:J:164:PRO:HD3	2.02	0.41
1:J:1110:ALA:HA	1:J:1156:TRP:CZ2	2.54	0.41
1:J:4747:ILE:HD12	1:J:4747:ILE:HA	1.92	0.41
1:A:73:LEU:HD23	1:A:73:LEU:HA	1.90	0.41
1:A:299:HIS:N	1:A:304:LYS:O	2.43	0.41
1:A:647:ARG:NH1	1:A:648:LEU:O	2.51	0.41
1:A:1054:VAL:HA	1:A:1057:LEU:HB2	2.01	0.41
1:D:647:ARG:NH1	1:D:648:LEU:O	2.51	0.41
1:D:713:TRP:HZ3	1:D:1627:PHE:HB2	1.85	0.41
1:D:1809:PRO:HB3	1:D:1817:LEU:HD13	2.02	0.41
1:D:2482:GLN:HA	1:D:2485:LEU:HD13	2.02	0.41
1:D:4521:TYR:HE1	1:D:4560:TYR:H	1.68	0.41
2:E:87:HIS:HB3	2:E:90:VAL:HB	2.02	0.41
1:G:211:LEU:HD23	1:G:211:LEU:HA	1.88	0.41
1:G:466:PRO:HB3	1:G:478:ARG:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:992:GLN:HB3	1:G:1054:VAL:HG21	2.02	0.41
1:J:250:GLY:HA2	1:J:257:ARG:HE	1.84	0.41
1:J:1054:VAL:HA	1:J:1057:LEU:HB2	2.01	0.41
1:J:2090:HIS:HD2	1:J:3695:ILE:HD11	1.85	0.41
1:J:4795:ASN:HB2	1:J:4806:LYS:HZ3	1.85	0.41
1:J:4850:THR:O	1:J:4854:PHE:CB	2.67	0.41
1:J:4911:LEU:HD23	1:J:4911:LEU:HA	1.81	0.41
3:L:33:LEU:O	3:L:37:MET:HB2	2.21	0.41
1:A:466:PRO:HB3	1:A:478:ARG:HG2	2.02	0.41
1:A:2482:GLN:HA	1:A:2485:LEU:HD13	2.02	0.41
1:A:4559:HIS:ND1	1:A:4738:PHE:CE2	2.87	0.41
1:D:657:PRO:HB3	1:D:834:VAL:HG12	2.01	0.41
1:D:2562:LEU:O	1:D:2566:GLN:N	2.46	0.41
1:G:258:ARG:NH1	1:G:316:LEU:O	2.53	0.41
1:G:419:ILE:HD13	1:G:492:GLU:HG3	2.02	0.41
1:G:1033:VAL:HG23	1:G:1038:LEU:HD23	2.02	0.41
1:G:1256:PRO:HD2	1:G:1451:HIS:HB3	2.01	0.41
1:G:3643:GLU:OE2	1:G:3731:ARG:NH2	2.53	0.41
1:G:4521:TYR:HE1	1:G:4560:TYR:H	1.68	0.41
1:J:238:HIS:HA	1:J:403:LEU:HD22	2.02	0.41
1:J:258:ARG:NH1	1:J:316:LEU:O	2.53	0.41
1:J:419:ILE:HD13	1:J:492:GLU:HG3	2.02	0.41
1:A:211:LEU:HD23	1:A:211:LEU:HA	1.88	0.41
1:A:1809:PRO:HB3	1:A:1817:LEU:HD13	2.02	0.41
1:A:1921:HIS:O	1:A:1925:ALA:N	2.52	0.41
1:A:4072:GLU:HB2	1:A:4079:LEU:HA	2.01	0.41
1:A:4897:ASP:OD1	1:A:4897:ASP:N	2.53	0.41
1:D:713:TRP:CH2	1:D:1629:SER:HB2	2.55	0.41
1:D:3804:LEU:O	1:D:3885:SER:OG	2.26	0.41
1:G:238:HIS:HA	1:G:403:LEU:HD22	2.02	0.41
1:G:713:TRP:HZ3	1:G:1627:PHE:HB2	1.85	0.41
1:G:3621:PHE:O	1:G:3625:TYR:N	2.53	0.41
1:G:4911:LEU:HA	1:G:4911:LEU:HD23	1.81	0.41
1:G:4935:THR:H	1:G:4938:GLU:HB2	1.85	0.41
1:J:1828:LEU:HD12	1:J:1828:LEU:HA	1.90	0.41
1:J:2546:ILE:O	1:J:2550:LEU:N	2.53	0.41
1:J:3638:GLU:OE1	1:J:3638:GLU:N	2.53	0.41
1:J:4867:ILE:HD12	1:J:4870:ALA:HB3	2.02	0.41
1:A:296:ARG:HG2	1:A:327:THR:HG23	2.01	0.41
1:A:343:ARG:HB3	1:A:344:LYS:H	1.72	0.41
1:A:434:ASP:OD1	1:A:504:ARG:NE	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:499:LEU:HA	1:A:502:ILE:HD12	2.03	0.41
1:A:1181:ILE:H	1:A:1181:ILE:HG13	1.72	0.41
1:A:4521:TYR:HE1	1:A:4560:TYR:H	1.68	0.41
3:C:33:LEU:O	3:C:37:MET:HB2	2.20	0.41
1:D:115:TYR:HB3	1:D:164:PRO:HD3	2.02	0.41
1:D:661:LEU:O	1:D:788:PHE:N	2.54	0.41
1:G:1785:ASP:OD1	1:G:1785:ASP:N	2.53	0.41
1:G:3638:GLU:OE1	1:G:3638:GLU:N	2.53	0.41
1:G:3777:LYS:HE2	1:G:3777:LYS:HB2	1.89	0.41
1:J:499:LEU:HA	1:J:502:ILE:HD12	2.03	0.41
1:J:1842:ILE:HD12	1:J:1842:ILE:HA	1.90	0.41
1:J:2138:GLU:HB3	1:J:2141:LYS:HZ2	1.85	0.41
2:K:87:HIS:HB3	2:K:90:VAL:HB	2.02	0.41
1:A:76:ARG:CB	1:D:3891:TRP:HE3	2.32	0.41
1:A:892:LEU:HD13	1:A:1052:GLU:HB3	2.02	0.41
1:A:2079:PRO:HB3	1:A:3674:ARG:HH21	1.85	0.41
1:A:2326:ILE:CA	1:J:207:PHE:CB	2.98	0.41
1:D:123:HIS:HD2	1:D:126:SER:H	1.69	0.41
1:D:419:ILE:HD13	1:D:492:GLU:HG3	2.02	0.41
1:D:725:TYR:HA	1:D:732:LEU:HA	2.01	0.41
1:D:4780:TYR:HH	1:G:4741:ALA:HB1	1.85	0.41
3:F:33:LEU:O	3:F:37:MET:HB2	2.20	0.41
1:G:770:ILE:HD13	1:G:770:ILE:HA	1.96	0.41
1:G:1152:TYR:OH	1:G:1175:PHE:O	2.35	0.41
1:G:2464:ASP:OD1	1:G:2464:ASP:N	2.41	0.41
1:G:2546:ILE:O	1:G:2550:LEU:N	2.53	0.41
1:G:3633:GLU:HA	1:G:3635:HIS:HD2	1.86	0.41
1:J:204:ASP:OD1	1:J:204:ASP:N	2.54	0.41
1:J:262:TYR:HB2	1:J:389:ARG:HB2	2.01	0.41
1:J:434:ASP:OD1	1:J:504:ARG:NE	2.52	0.41
1:J:3891:TRP:HE1	1:J:3950:HIS:CE1	2.35	0.41
1:J:4521:TYR:HE1	1:J:4560:TYR:H	1.68	0.41
1:A:642:LEU:HD12	1:A:642:LEU:HA	1.91	0.41
1:A:1989:CYS:SG	1:A:3605:ARG:NH2	2.94	0.41
1:A:2154:LYS:O	1:A:2154:LYS:NZ	2.53	0.41
1:A:2327:ARG:H	1:A:2327:ARG:HG3	1.49	0.41
1:A:2423:ILE:HG23	1:J:190:ARG:HH12	1.79	0.41
1:A:2849:TYR:HB3	1:A:2886:ASP:HB3	2.03	0.41
1:A:3893:TYR:HA	1:A:3896:LYS:HZ3	1.86	0.41
1:A:3911:ILE:HD13	1:A:3911:ILE:HA	1.93	0.41
1:A:4875:ARG:HD2	1:A:4875:ARG:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:274:LEU:HD23	1:D:274:LEU:HA	1.96	0.41
1:D:3621:PHE:O	1:D:3625:TYR:N	2.53	0.41
1:G:731:HIS:CG	1:G:740:THR:HA	2.54	0.41
1:G:995:MET:HA	1:G:998:LYS:HD2	2.02	0.41
1:G:1114:ARG:HB2	1:G:1206:SER:HB3	2.01	0.41
1:G:1440:ASN:N	1:G:1440:ASN:OD1	2.53	0.41
1:G:1475:LYS:HE2	1:G:1475:LYS:HB2	1.90	0.41
1:G:1989:CYS:SG	1:G:3605:ARG:NH2	2.94	0.41
1:G:2849:TYR:HB3	1:G:2886:ASP:HB3	2.03	0.41
1:G:3677:LEU:HA	1:G:3677:LEU:HD23	1.88	0.41
1:G:4072:GLU:HB2	1:G:4079:LEU:HA	2.01	0.41
1:J:653:SER:O	1:J:653:SER:OG	2.37	0.41
1:J:1760:ARG:HA	1:J:1760:ARG:HD3	1.89	0.41
1:J:4072:GLU:HB2	1:J:4079:LEU:HA	2.01	0.41
1:A:165:ALA:HB3	1:A:211:LEU:HD21	2.02	0.41
1:A:995:MET:HA	1:A:998:LYS:HD2	2.02	0.41
1:A:1440:ASN:N	1:A:1440:ASN:OD1	2.53	0.41
1:A:2154:LYS:HA	1:A:2154:LYS:HD2	1.93	0.41
1:D:466:PRO:HB3	1:D:478:ARG:HG2	2.02	0.41
1:D:4705:LYS:HE3	1:D:4705:LYS:HB3	1.92	0.41
1:D:4867:ILE:HD12	1:D:4870:ALA:HB3	2.02	0.41
1:G:115:TYR:HB3	1:G:164:PRO:HD3	2.02	0.41
1:G:499:LEU:HA	1:G:502:ILE:HD12	2.03	0.41
1:G:625:VAL:HG22	1:G:627:SER:H	1.86	0.41
1:G:653:SER:O	1:G:653:SER:OG	2.37	0.41
1:G:1100:ARG:HG2	1:G:1167:ASP:HA	2.03	0.41
1:G:3783:LYS:HD3	1:G:3783:LYS:HA	1.91	0.41
3:I:33:LEU:O	3:I:37:MET:HB2	2.21	0.41
1:J:425:LEU:HD11	1:J:452:VAL:HA	2.01	0.41
1:J:661:LEU:O	1:J:788:PHE:N	2.54	0.41
1:J:1142:ALA:O	1:J:1152:TYR:N	2.48	0.41
1:J:1809:PRO:HB3	1:J:1817:LEU:HD13	2.02	0.41
1:J:1989:CYS:SG	1:J:3605:ARG:NH2	2.94	0.41
1:J:3016:VAL:O	1:J:3020:ILE:N	2.47	0.41
1:J:3669:ILE:HD13	1:J:3737:ALA:HB2	2.02	0.41
1:J:3777:LYS:HE2	1:J:3777:LYS:HB2	1.89	0.41
2:K:104:LEU:HD23	2:K:104:LEU:HA	1.90	0.41
1:A:207:PHE:CB	1:D:2326:ILE:CA	2.99	0.41
1:A:258:ARG:NH1	1:A:316:LEU:O	2.53	0.41
1:A:620:CYS:N	1:A:623:VAL:O	2.43	0.41
1:A:626:ARG:NH2	1:A:1668:GLY:O	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:646:THR:HA	1:A:1630:LEU:HA	2.03	0.41
1:A:863:THR:O	1:A:863:THR:OG1	2.33	0.41
1:A:1709:ILE:HD13	1:A:1709:ILE:HA	1.90	0.41
1:A:2138:GLU:HB3	1:A:2141:LYS:HZ2	1.86	0.41
1:A:3638:GLU:OE1	1:A:3638:GLU:N	2.53	0.41
1:D:238:HIS:HA	1:D:403:LEU:HD22	2.02	0.41
1:D:892:LEU:HD13	1:D:1052:GLU:HB3	2.02	0.41
1:D:1989:CYS:SG	1:D:3605:ARG:NH2	2.94	0.41
1:D:2241:LEU:HD12	1:D:2241:LEU:HA	1.91	0.41
1:D:2849:TYR:HB3	1:D:2886:ASP:HB3	2.03	0.41
1:D:3998:LYS:HB2	1:D:3998:LYS:HE3	1.84	0.41
1:G:2170:GLU:H	1:G:2170:GLU:HG2	1.75	0.41
1:G:3834:ASP:N	1:G:3834:ASP:OD1	2.54	0.41
1:G:4113:ASP:OD2	1:G:4115:ARG:NH2	2.53	0.41
1:G:4154:SER:OG	1:G:4155:GLU:N	2.54	0.41
1:J:481:ALA:O	1:J:485:ARG:NE	2.51	0.41
1:J:632:ILE:HD13	1:J:632:ILE:HA	1.93	0.41
1:J:956:HIS:HA	1:J:1060:TYR:HB3	2.03	0.41
1:J:1100:ARG:HG2	1:J:1167:ASP:HA	2.03	0.41
1:J:1165:MET:HB3	1:J:1236:TYR:CZ	2.56	0.41
1:J:2093:TYR:HD1	1:J:2093:TYR:HA	1.77	0.41
1:J:4888:LYS:HB2	1:J:4888:LYS:HE3	1.84	0.41
1:A:204:ASP:OD1	1:A:204:ASP:N	2.54	0.41
1:A:1792:ILE:O	1:A:1796:THR:OG1	2.31	0.41
1:D:625:VAL:HG22	1:D:627:SER:H	1.86	0.41
1:D:642:LEU:HD12	1:D:642:LEU:HA	1.91	0.41
1:D:646:THR:HA	1:D:1630:LEU:HA	2.03	0.41
1:D:1822:ILE:O	1:D:1826:TYR:N	2.54	0.41
1:D:2090:HIS:HD2	1:D:3695:ILE:HD11	1.85	0.41
1:D:2855:LYS:HA	1:D:2855:LYS:HD2	1.88	0.41
1:D:4782:TYR:CB	1:D:4851:PHE:HE1	2.34	0.41
1:D:4897:ASP:OD1	1:D:4897:ASP:N	2.53	0.41
1:G:956:HIS:HA	1:G:1060:TYR:HB3	2.03	0.41
1:G:1809:PRO:HB3	1:G:1817:LEU:HD13	2.02	0.41
1:G:2090:HIS:HD2	1:G:3695:ILE:HD11	1.85	0.41
1:G:2717:LYS:H	1:G:2717:LYS:HG2	1.60	0.41
1:G:4867:ILE:HD12	1:G:4870:ALA:HB3	2.02	0.41
1:J:1440:ASN:N	1:J:1440:ASN:OD1	2.53	0.41
1:J:2079:PRO:HB3	1:J:3674:ARG:HH21	1.85	0.41
1:A:123:HIS:HD2	1:A:126:SER:H	1.69	0.40
1:A:505:LEU:HD12	1:A:505:LEU:HA	1.88	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:770:ILE:HD13	1:A:770:ILE:HA	1.96	0.40
1:A:1165:MET:HB3	1:A:1236:TYR:CZ	2.56	0.40
1:A:4034:LYS:HZ2	1:A:4081:TYR:HE2	1.70	0.40
1:D:653:SER:O	1:D:653:SER:OG	2.37	0.40
1:G:121:LEU:HD23	1:G:121:LEU:HA	1.82	0.40
1:G:661:LEU:O	1:G:788:PHE:N	2.54	0.40
1:G:1705:LEU:HD12	1:G:1705:LEU:HA	1.95	0.40
1:G:1822:ILE:O	1:G:1826:TYR:N	2.54	0.40
1:G:1921:HIS:O	1:G:1925:ALA:N	2.52	0.40
2:H:87:HIS:HB3	2:H:90:VAL:HB	2.02	0.40
1:J:34:LYS:O	1:J:52:THR:N	2.46	0.40
1:J:1152:TYR:CZ	1:J:1182:LEU:HB2	2.56	0.40
1:J:1548:THR:OG1	1:J:1549:SER:N	2.55	0.40
1:J:4154:SER:OG	1:J:4155:GLU:N	2.54	0.40
1:J:4820:VAL:O	1:J:4831:GLU:OE2	2.39	0.40
1:A:46:LEU:HD23	1:A:46:LEU:HA	1.95	0.40
1:A:661:LEU:O	1:A:788:PHE:N	2.54	0.40
1:A:706:TYR:HH	1:A:1254:ARG:H	1.64	0.40
1:A:713:TRP:CH2	1:A:1629:SER:HB2	2.55	0.40
1:A:956:HIS:HA	1:A:1060:TYR:HB3	2.03	0.40
1:A:2546:ILE:O	1:A:2550:LEU:N	2.53	0.40
1:D:204:ASP:N	1:D:204:ASP:OD1	2.54	0.40
1:D:499:LEU:HA	1:D:502:ILE:HD12	2.03	0.40
1:D:611:LEU:HD12	1:D:611:LEU:HA	1.93	0.40
1:D:956:HIS:HA	1:D:1060:TYR:HB3	2.03	0.40
1:D:1132:GLU:HA	1:D:1146:HIS:CD2	2.56	0.40
1:D:3633:GLU:HA	1:D:3635:HIS:HD2	1.86	0.40
1:D:3645:LEU:HD23	1:D:3645:LEU:HA	1.84	0.40
1:D:4038:PRO:HG3	1:D:4044:ILE:HG22	2.04	0.40
2:E:50:ILE:H	2:E:50:ILE:HG13	1.74	0.40
1:G:1153:GLY:HA3	1:G:1182:LEU:HB3	2.03	0.40
1:G:1165:MET:HB3	1:G:1236:TYR:CZ	2.56	0.40
1:G:1265:HIS:CD2	1:G:1268:ILE:HG13	2.57	0.40
1:G:2162:LEU:O	1:G:2166:LEU:N	2.45	0.40
1:G:2725:TYR:HD1	1:G:2728:HIS:HB3	1.86	0.40
1:G:3724:LYS:HA	1:G:3724:LYS:HD3	1.81	0.40
1:G:4888:LYS:HE3	1:G:4888:LYS:HB2	1.84	0.40
1:J:67:PHE:HB3	1:J:121:LEU:HD22	2.04	0.40
1:J:625:VAL:HG22	1:J:627:SER:H	1.86	0.40
1:J:3633:GLU:HA	1:J:3635:HIS:HD2	1.86	0.40
1:A:1211:GLN:OE1	1:A:1211:GLN:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2430:LEU:HD11	1:A:2473:LEU:HD11	2.04	0.40
1:D:1142:ALA:O	1:D:1152:TYR:N	2.48	0.40
1:D:1152:TYR:CZ	1:D:1182:LEU:HB2	2.56	0.40
1:D:1165:MET:HB3	1:D:1236:TYR:CZ	2.56	0.40
1:D:1945:TYR:OH	1:D:1993:ILE:O	2.35	0.40
1:D:3834:ASP:OD1	1:D:3834:ASP:N	2.54	0.40
1:G:1117:TRP:CE2	1:G:1166:VAL:HG21	2.57	0.40
1:G:1211:GLN:OE1	1:G:1211:GLN:N	2.55	0.40
1:G:1690:GLU:OE2	1:G:1790:LYS:NZ	2.36	0.40
1:G:1809:PRO:O	1:G:1812:GLY:N	2.55	0.40
1:G:1941:GLN:O	1:G:1945:TYR:N	2.37	0.40
1:G:4897:ASP:N	1:G:4897:ASP:OD1	2.53	0.40
1:J:993:GLU:HG2	1:J:1051:ARG:HG2	2.02	0.40
1:J:1941:GLN:O	1:J:1945:TYR:N	2.37	0.40
1:J:2430:LEU:HD11	1:J:2473:LEU:HD11	2.04	0.40
1:J:2845:MET:HE2	1:J:2845:MET:HB3	1.89	0.40
1:J:4042:GLY:O	1:J:4081:TYR:N	2.48	0.40
1:A:305:TYR:N	1:A:317:MET:O	2.41	0.40
1:A:993:GLU:HG2	1:A:1051:ARG:HG2	2.02	0.40
1:A:2296:GLY:HA2	1:A:2299:TYR:HD2	1.87	0.40
1:A:2722:ILE:HG21	1:A:2773:ARG:HH11	1.87	0.40
1:A:4148:ARG:NH1	1:A:4913:GLU:OE1	2.40	0.40
1:A:4888:LYS:HE3	1:A:4888:LYS:HB2	1.84	0.40
1:D:76:ARG:CB	1:G:3891:TRP:HE3	2.34	0.40
1:G:123:HIS:HD2	1:G:126:SER:H	1.69	0.40
1:G:434:ASP:OD1	1:G:504:ARG:NE	2.52	0.40
1:G:706:TYR:HH	1:G:1254:ARG:H	1.63	0.40
1:G:915:HIS:CE1	1:G:917:CYS:HB2	2.57	0.40
1:G:1152:TYR:CZ	1:G:1182:LEU:HB2	2.56	0.40
1:G:1548:THR:OG1	1:G:1549:SER:N	2.55	0.40
1:G:2161:ASN:O	1:G:2165:ALA:N	2.48	0.40
1:G:2327:ARG:H	1:G:2327:ARG:HG3	1.49	0.40
1:J:165:ALA:HB3	1:J:211:LEU:HD21	2.02	0.40
1:J:646:THR:HA	1:J:1630:LEU:HA	2.03	0.40
1:J:915:HIS:CE1	1:J:917:CYS:HB2	2.57	0.40
1:J:938:GLU:OE1	1:J:1002:ASN:ND2	2.45	0.40
1:J:1152:TYR:OH	1:J:1175:PHE:O	2.35	0.40
1:J:1153:GLY:HA3	1:J:1182:LEU:HB3	2.03	0.40
1:J:2849:TYR:HB3	1:J:2886:ASP:HB3	2.03	0.40
1:J:4897:ASP:N	1:J:4897:ASP:OD1	2.53	0.40
1:A:67:PHE:HB3	1:A:121:LEU:HD22	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:115:TYR:HB3	1:A:164:PRO:HD3	2.02	0.40
1:A:479:LEU:HD12	1:A:479:LEU:HA	1.90	0.40
1:A:1152:TYR:CZ	1:A:1182:LEU:HB2	2.56	0.40
1:A:2725:TYR:HD1	1:A:2728:HIS:HB3	1.86	0.40
1:A:4042:GLY:O	1:A:4081:TYR:N	2.48	0.40
1:D:34:LYS:O	1:D:52:THR:N	2.46	0.40
1:D:35:LEU:HD13	1:D:49:LEU:HD13	2.03	0.40
1:D:796:ALA:HB3	1:D:798:ILE:HG13	2.04	0.40
1:D:1100:ARG:HG2	1:D:1167:ASP:HA	2.03	0.40
1:G:165:ALA:HB3	1:G:211:LEU:HD21	2.02	0.40
1:G:748:LEU:HB3	1:G:750:ARG:HG3	2.03	0.40
1:G:870:SER:HA	1:G:941:LYS:HD3	2.03	0.40
1:G:1609:SER:OG	1:G:1621:CYS:SG	2.72	0.40
1:G:1767:SER:OG	1:G:1768:PHE:N	2.55	0.40
1:G:2410:ILE:H	1:G:2410:ILE:HG13	1.69	0.40
1:G:2897:LEU:HD23	1:G:2897:LEU:HA	1.92	0.40
1:G:3891:TRP:HE1	1:G:3950:HIS:CE1	2.35	0.40
1:G:3911:ILE:HD13	1:G:3911:ILE:HA	1.93	0.40
1:G:4628:LYS:H	1:G:4628:LYS:HG2	1.70	0.40
1:G:4861:ALA:HB2	1:J:4864:GLN:CD	2.38	0.40
1:J:35:LEU:HD13	1:J:49:LEU:HD13	2.03	0.40
1:J:1223:THR:HA	1:J:1225:LYS:HE3	2.04	0.40
1:J:1520:PHE:HD2	1:J:1530:TYR:HA	1.86	0.40
1:J:2154:LYS:O	1:J:2154:LYS:NZ	2.53	0.40
1:J:2296:GLY:HA2	1:J:2299:TYR:HD2	1.87	0.40
1:J:2537:ALA:O	1:J:2541:HIS:N	2.50	0.40
1:J:3834:ASP:OD1	1:J:3834:ASP:N	2.54	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	3374/4968 (68%)	3009 (89%)	357 (11%)	8 (0%)	47	80
1	D	3374/4968 (68%)	3012 (89%)	355 (10%)	7 (0%)	47	80
1	G	3374/4968 (68%)	3012 (89%)	354 (10%)	8 (0%)	47	80
1	J	3374/4968 (68%)	3010 (89%)	355 (10%)	9 (0%)	41	76
2	B	105/108 (97%)	99 (94%)	6 (6%)	0	100	100
2	E	105/108 (97%)	99 (94%)	6 (6%)	0	100	100
2	H	105/108 (97%)	99 (94%)	6 (6%)	0	100	100
2	K	105/108 (97%)	99 (94%)	6 (6%)	0	100	100
3	C	66/149 (44%)	64 (97%)	2 (3%)	0	100	100
3	F	66/149 (44%)	64 (97%)	2 (3%)	0	100	100
3	I	66/149 (44%)	63 (96%)	3 (4%)	0	100	100
3	L	66/149 (44%)	64 (97%)	2 (3%)	0	100	100
All	All	14180/20900 (68%)	12694 (90%)	1454 (10%)	32 (0%)	50	80

All (32) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	4823	ARG
1	J	4823	ARG
1	G	4823	ARG
1	A	730	LEU
1	A	853	PRO
1	D	730	LEU
1	D	853	PRO
1	G	730	LEU
1	G	853	PRO
1	J	730	LEU
1	J	853	PRO
1	A	1580	PRO
1	A	1990	PRO
1	D	1580	PRO
1	D	1990	PRO
1	G	1580	PRO
1	G	1990	PRO
1	J	1580	PRO
1	J	1990	PRO
1	A	1535	PRO
1	D	1535	PRO
1	G	1535	PRO

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Mol	Chain	Res	Type
1	J	1535	PRO
1	A	1848	PRO
1	D	1848	PRO
1	G	1848	PRO
1	J	1848	PRO
1	J	4821	GLY
1	A	828	PRO
1	D	828	PRO
1	G	828	PRO
1	J	828	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	2672/4355 (61%)	2653 (99%)	19 (1%)	84	90
1	D	2671/4355 (61%)	2650 (99%)	21 (1%)	81	89
1	G	2671/4355 (61%)	2651 (99%)	20 (1%)	84	90
1	J	2671/4355 (61%)	2653 (99%)	18 (1%)	84	90
2	B	88/89 (99%)	87 (99%)	1 (1%)	73	84
2	E	88/89 (99%)	87 (99%)	1 (1%)	73	84
2	H	88/89 (99%)	87 (99%)	1 (1%)	73	84
2	K	88/89 (99%)	87 (99%)	1 (1%)	73	84
3	C	57/127 (45%)	57 (100%)	0	100	100
3	F	57/127 (45%)	57 (100%)	0	100	100
3	I	57/127 (45%)	57 (100%)	0	100	100
3	L	57/127 (45%)	57 (100%)	0	100	100
All	All	11265/18284 (62%)	11183 (99%)	82 (1%)	84	90

All (82) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	324	VAL
1	A	444	THR
1	A	841	LYS
1	A	925	PRO
1	A	950	VAL
1	A	1013	ARG
1	A	1300	MET
1	A	1637	ARG
1	A	1683	PRO
1	A	1944	ARG
1	A	2328	ARG
1	A	2793	THR
1	A	2836	ARG
1	A	2876	ASP
1	A	4605	LYS
1	A	4780	TYR
1	A	4816	PHE
1	A	4852	PHE
1	A	4853	PHE
2	B	13	ARG
1	D	324	VAL
1	D	444	THR
1	D	841	LYS
1	D	925	PRO
1	D	950	VAL
1	D	1013	ARG
1	D	1300	MET
1	D	1637	ARG
1	D	1683	PRO
1	D	1944	ARG
1	D	2328	ARG
1	D	2793	THR
1	D	2836	ARG
1	D	2876	ASP
1	D	4605	LYS
1	D	4780	TYR
1	D	4817	HIS
1	D	4818	MET
1	D	4819	TYR
1	D	4853	PHE
1	D	4875	ARG
2	E	13	ARG
1	G	324	VAL

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Mol	Chain	Res	Type
1	G	444	THR
1	G	841	LYS
1	G	925	PRO
1	G	950	VAL
1	G	1013	ARG
1	G	1300	MET
1	G	1637	ARG
1	G	1683	PRO
1	G	1944	ARG
1	G	2328	ARG
1	G	2793	THR
1	G	2836	ARG
1	G	2876	ASP
1	G	4605	LYS
1	G	4780	TYR
1	G	4816	PHE
1	G	4818	MET
1	G	4853	PHE
1	G	4875	ARG
2	H	13	ARG
1	J	324	VAL
1	J	444	THR
1	J	841	LYS
1	J	925	PRO
1	J	950	VAL
1	J	1013	ARG
1	J	1300	MET
1	J	1637	ARG
1	J	1683	PRO
1	J	1944	ARG
1	J	2328	ARG
1	J	2793	THR
1	J	2836	ARG
1	J	2876	ASP
1	J	4605	LYS
1	J	4780	TYR
1	J	4816	PHE
1	J	4853	PHE
2	K	13	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (162) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	23	GLN
1	A	32	GLN
1	A	44	ASN
1	A	57	ASN
1	A	123	HIS
1	A	544	ASN
1	A	587	ASN
1	A	593	HIS
1	A	604	HIS
1	A	635	ASN
1	A	716	ASN
1	A	903	GLN
1	A	1005	ASN
1	A	1157	GLN
1	A	1265	HIS
1	A	1294	ASN
1	A	1589	GLN
1	A	1656	HIS
1	A	1684	GLN
1	A	1722	ASN
1	A	2090	HIS
1	A	2196	ASN
1	A	2211	ASN
1	A	2518	ASN
1	A	2755	GLN
1	A	2900	ASN
1	A	3635	HIS
1	A	3667	GLN
1	A	3813	ASN
1	A	3852	ASN
1	A	3902	GLN
1	A	3950	HIS
1	A	3961	GLN
1	A	3990	ASN
1	A	3993	ASN
1	A	4061	GLN
1	A	4089	HIS
1	A	4515	ASN
1	A	4864	GLN
1	A	4937	GLN
2	B	31	GLN
1	D	23	GLN
1	D	32	GLN

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Mol	Chain	Res	Type
1	D	44	ASN
1	D	57	ASN
1	D	123	HIS
1	D	544	ASN
1	D	587	ASN
1	D	593	HIS
1	D	604	HIS
1	D	635	ASN
1	D	716	ASN
1	D	903	GLN
1	D	1005	ASN
1	D	1157	GLN
1	D	1265	HIS
1	D	1294	ASN
1	D	1589	GLN
1	D	1656	HIS
1	D	1722	ASN
1	D	1836	ASN
1	D	2090	HIS
1	D	2196	ASN
1	D	2211	ASN
1	D	2518	ASN
1	D	2755	GLN
1	D	2900	ASN
1	D	3635	HIS
1	D	3667	GLN
1	D	3852	ASN
1	D	3902	GLN
1	D	3950	HIS
1	D	3961	GLN
1	D	3990	ASN
1	D	3993	ASN
1	D	4061	GLN
1	D	4089	HIS
1	D	4515	ASN
1	D	4817	HIS
1	D	4864	GLN
1	D	4937	GLN
2	E	31	GLN
1	G	23	GLN
1	G	32	GLN
1	G	44	ASN

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Mol	Chain	Res	Type
1	G	57	ASN
1	G	123	HIS
1	G	544	ASN
1	G	587	ASN
1	G	593	HIS
1	G	604	HIS
1	G	635	ASN
1	G	716	ASN
1	G	903	GLN
1	G	1005	ASN
1	G	1157	GLN
1	G	1265	HIS
1	G	1294	ASN
1	G	1589	GLN
1	G	1656	HIS
1	G	1722	ASN
1	G	1836	ASN
1	G	2090	HIS
1	G	2196	ASN
1	G	2211	ASN
1	G	2518	ASN
1	G	2755	GLN
1	G	2900	ASN
1	G	3635	HIS
1	G	3667	GLN
1	G	3852	ASN
1	G	3902	GLN
1	G	3950	HIS
1	G	3961	GLN
1	G	3990	ASN
1	G	3993	ASN
1	G	4061	GLN
1	G	4089	HIS
1	G	4515	ASN
1	G	4864	GLN
1	G	4937	GLN
2	H	31	GLN
1	J	23	GLN
1	J	32	GLN
1	J	44	ASN
1	J	57	ASN
1	J	123	HIS

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Mol	Chain	Res	Type
1	J	544	ASN
1	J	587	ASN
1	J	593	HIS
1	J	604	HIS
1	J	635	ASN
1	J	716	ASN
1	J	903	GLN
1	J	1005	ASN
1	J	1157	GLN
1	J	1265	HIS
1	J	1294	ASN
1	J	1589	GLN
1	J	1656	HIS
1	J	1722	ASN
1	J	1836	ASN
1	J	2090	HIS
1	J	2196	ASN
1	J	2211	ASN
1	J	2518	ASN
1	J	2755	GLN
1	J	2900	ASN
1	J	3635	HIS
1	J	3667	GLN
1	J	3852	ASN
1	J	3902	GLN
1	J	3950	HIS
1	J	3961	GLN
1	J	3990	ASN
1	J	3993	ASN
1	J	4061	GLN
1	J	4089	HIS
1	J	4515	ASN
1	J	4864	GLN
1	J	4937	GLN
2	K	31	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 24 ligands modelled in this entry, 16 are monoatomic - leaving 8 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
7	CFF	J	6003	-	8,15,15	2.60	4 (50%)	8,23,23	1.30	1 (12%)
6	ATP	G	6002	-	26,33,33	0.90	1 (3%)	31,52,52	1.46	5 (16%)
7	CFF	A	6003	-	8,15,15	2.60	4 (50%)	8,23,23	1.30	1 (12%)
7	CFF	D	6003	-	8,15,15	2.60	4 (50%)	8,23,23	1.30	1 (12%)
7	CFF	G	6003	-	8,15,15	2.61	4 (50%)	8,23,23	1.31	1 (12%)
6	ATP	J	6002	-	26,33,33	0.90	1 (3%)	31,52,52	1.46	5 (16%)
6	ATP	D	6002	-	26,33,33	0.90	1 (3%)	31,52,52	1.46	5 (16%)
6	ATP	A	6002	-	26,33,33	0.90	1 (3%)	31,52,52	1.46	5 (16%)

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
7	CFF	J	6003	-	-	-	0/2/2/2
6	ATP	G	6002	-	-	7/18/38/38	0/3/3/3
7	CFF	A	6003	-	-	-	0/2/2/2
7	CFF	D	6003	-	-	-	0/2/2/2
7	CFF	G	6003	-	-	-	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	ATP	J	6002	-	-	7/18/38/38	0/3/3/3
6	ATP	D	6002	-	-	7/18/38/38	0/3/3/3
6	ATP	A	6002	-	-	7/18/38/38	0/3/3/3

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	G	6003	CFF	C5-C4	-4.65	1.33	1.39
7	D	6003	CFF	C5-C4	-4.63	1.33	1.39
7	A	6003	CFF	C5-C4	-4.61	1.33	1.39
7	J	6003	CFF	C5-C4	-4.61	1.33	1.39
7	A	6003	CFF	C6-N1	-4.27	1.32	1.38
7	D	6003	CFF	C6-N1	-4.27	1.32	1.38
7	G	6003	CFF	C6-N1	-4.27	1.32	1.38
7	J	6003	CFF	C6-N1	-4.27	1.32	1.38
7	A	6003	CFF	O13-C6	-2.41	1.18	1.24
7	D	6003	CFF	O13-C6	-2.41	1.18	1.24
7	G	6003	CFF	O13-C6	-2.41	1.18	1.24
7	J	6003	CFF	O13-C6	-2.41	1.18	1.24
7	A	6003	CFF	C5-C6	-2.39	1.37	1.41
7	D	6003	CFF	C5-C6	-2.39	1.37	1.41
7	G	6003	CFF	C5-C6	-2.39	1.37	1.41
7	J	6003	CFF	C5-C6	-2.39	1.37	1.41
6	J	6002	ATP	C5-C4	2.28	1.47	1.40
6	A	6002	ATP	C5-C4	2.28	1.47	1.40
6	D	6002	ATP	C5-C4	2.28	1.47	1.40
6	G	6002	ATP	C5-C4	2.28	1.47	1.40

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	A	6002	ATP	C3'-C2'-C1'	3.17	105.75	100.98
6	D	6002	ATP	C3'-C2'-C1'	3.17	105.75	100.98
6	G	6002	ATP	C3'-C2'-C1'	3.17	105.75	100.98
6	J	6002	ATP	C3'-C2'-C1'	3.17	105.75	100.98
6	A	6002	ATP	PB-O3B-PG	-3.15	122.02	132.83
6	D	6002	ATP	PB-O3B-PG	-3.15	122.02	132.83
6	G	6002	ATP	PB-O3B-PG	-3.15	122.02	132.83
6	J	6002	ATP	PB-O3B-PG	-3.15	122.02	132.83
6	J	6002	ATP	N3-C2-N1	-3.11	123.82	128.68
6	A	6002	ATP	N3-C2-N1	-3.08	123.87	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	D	6002	ATP	N3-C2-N1	-3.08	123.87	128.68
6	G	6002	ATP	N3-C2-N1	-3.08	123.87	128.68
6	A	6002	ATP	PA-O3A-PB	-3.03	122.42	132.83
6	D	6002	ATP	PA-O3A-PB	-3.03	122.42	132.83
6	G	6002	ATP	PA-O3A-PB	-3.03	122.42	132.83
6	J	6002	ATP	PA-O3A-PB	-3.03	122.42	132.83
7	A	6003	CFF	C14-N7-C8	-2.77	112.09	125.43
7	D	6003	CFF	C14-N7-C8	-2.77	112.09	125.43
7	G	6003	CFF	C14-N7-C8	-2.77	112.09	125.43
7	J	6003	CFF	C14-N7-C8	-2.77	112.09	125.43
6	A	6002	ATP	C4-C5-N7	-2.09	107.22	109.40
6	D	6002	ATP	C4-C5-N7	-2.09	107.22	109.40
6	G	6002	ATP	C4-C5-N7	-2.09	107.22	109.40
6	J	6002	ATP	C4-C5-N7	-2.06	107.25	109.40

There are no chirality outliers.

All (28) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	6002	ATP	C5'-O5'-PA-O2A
6	A	6002	ATP	C5'-O5'-PA-O3A
6	D	6002	ATP	C5'-O5'-PA-O2A
6	D	6002	ATP	C5'-O5'-PA-O3A
6	G	6002	ATP	C5'-O5'-PA-O2A
6	G	6002	ATP	C5'-O5'-PA-O3A
6	J	6002	ATP	C5'-O5'-PA-O2A
6	J	6002	ATP	C5'-O5'-PA-O3A
6	A	6002	ATP	C3'-C4'-C5'-O5'
6	D	6002	ATP	C3'-C4'-C5'-O5'
6	G	6002	ATP	C3'-C4'-C5'-O5'
6	J	6002	ATP	C3'-C4'-C5'-O5'
6	A	6002	ATP	PB-O3A-PA-O5'
6	D	6002	ATP	PB-O3A-PA-O5'
6	G	6002	ATP	PB-O3A-PA-O5'
6	J	6002	ATP	PB-O3A-PA-O5'
6	A	6002	ATP	C4'-C5'-O5'-PA
6	D	6002	ATP	C4'-C5'-O5'-PA
6	G	6002	ATP	C4'-C5'-O5'-PA
6	J	6002	ATP	C4'-C5'-O5'-PA
6	A	6002	ATP	O4'-C4'-C5'-O5'
6	D	6002	ATP	O4'-C4'-C5'-O5'
6	G	6002	ATP	O4'-C4'-C5'-O5'

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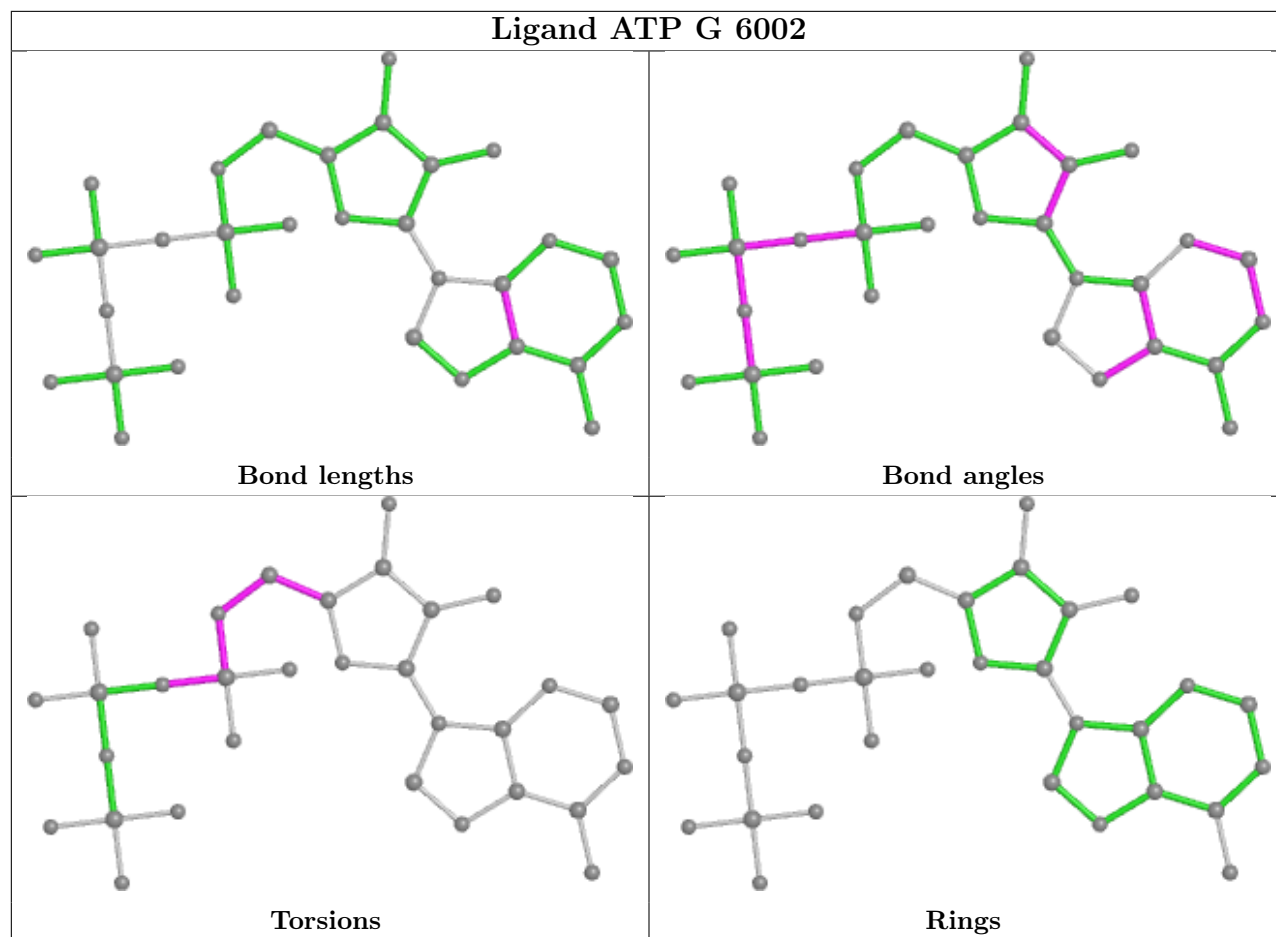
Mol	Chain	Res	Type	Atoms
6	J	6002	ATP	O4'-C4'-C5'-O5'
6	A	6002	ATP	PB-O3A-PA-O2A
6	D	6002	ATP	PB-O3A-PA-O2A
6	G	6002	ATP	PB-O3A-PA-O2A
6	J	6002	ATP	PB-O3A-PA-O2A

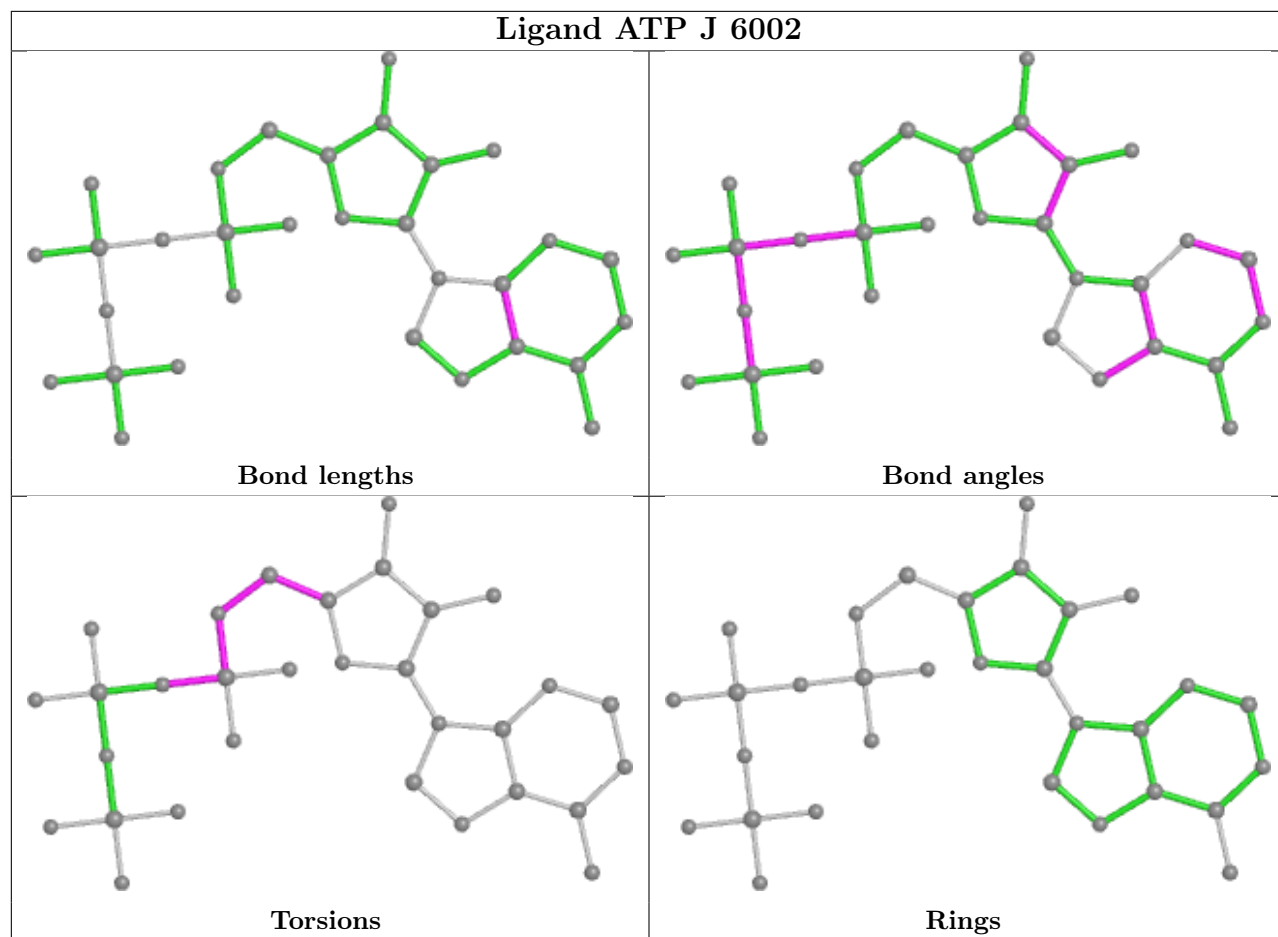
There are no ring outliers.

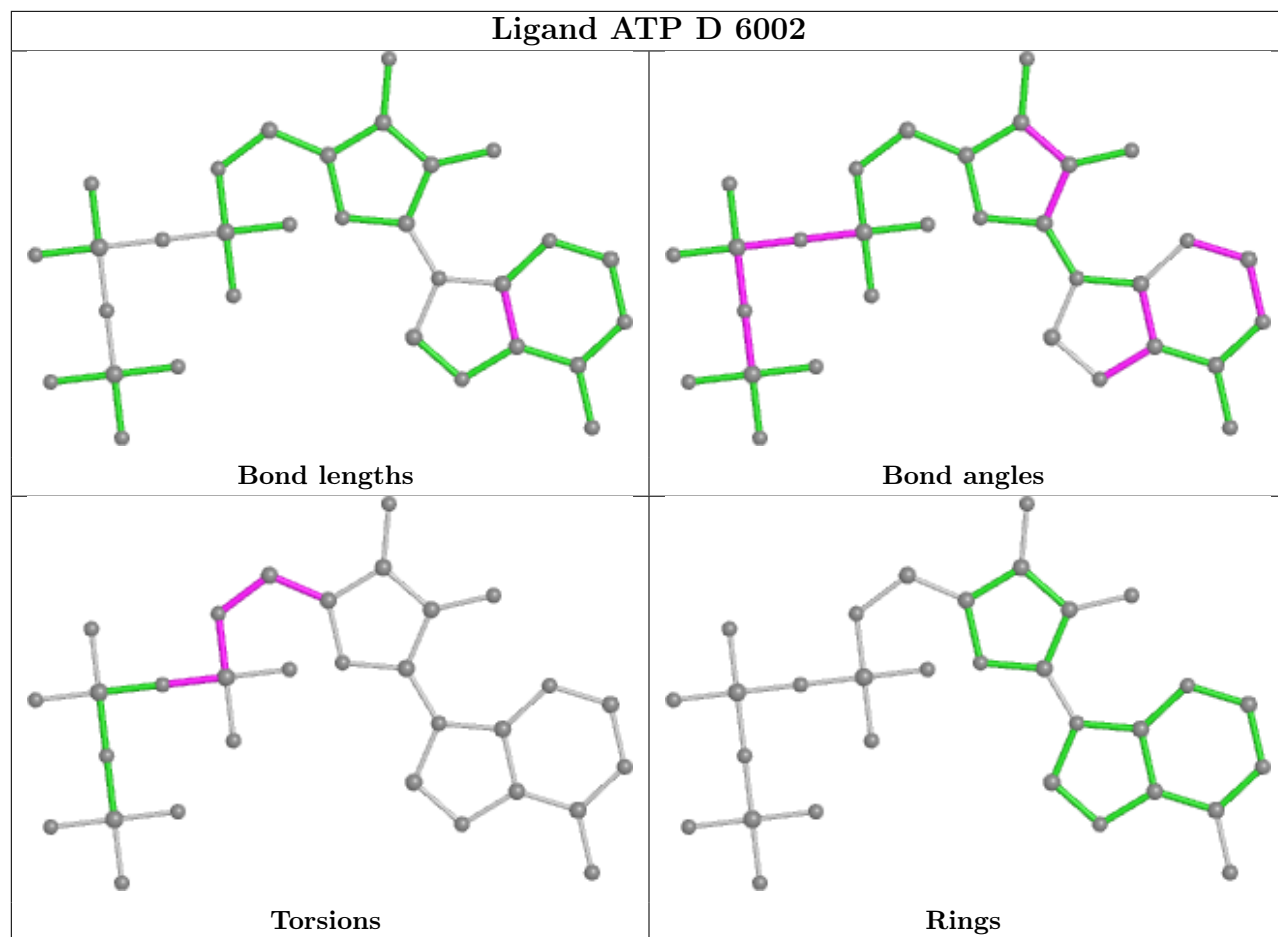
4 monomers are involved in 4 short contacts:

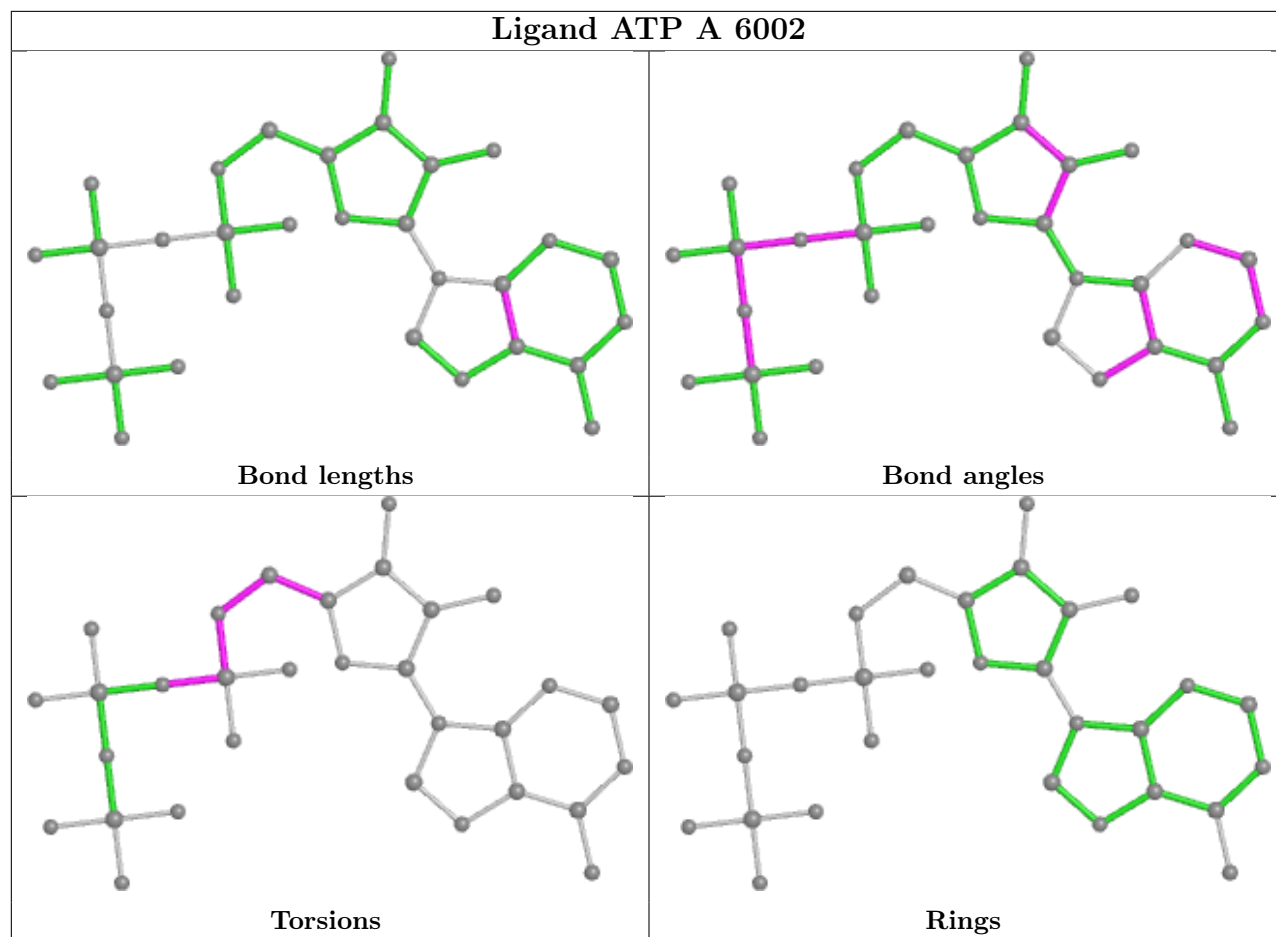
Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	J	6003	CFE	1	0
7	A	6003	CFE	1	0
7	D	6003	CFE	1	0
7	G	6003	CFE	1	0

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.

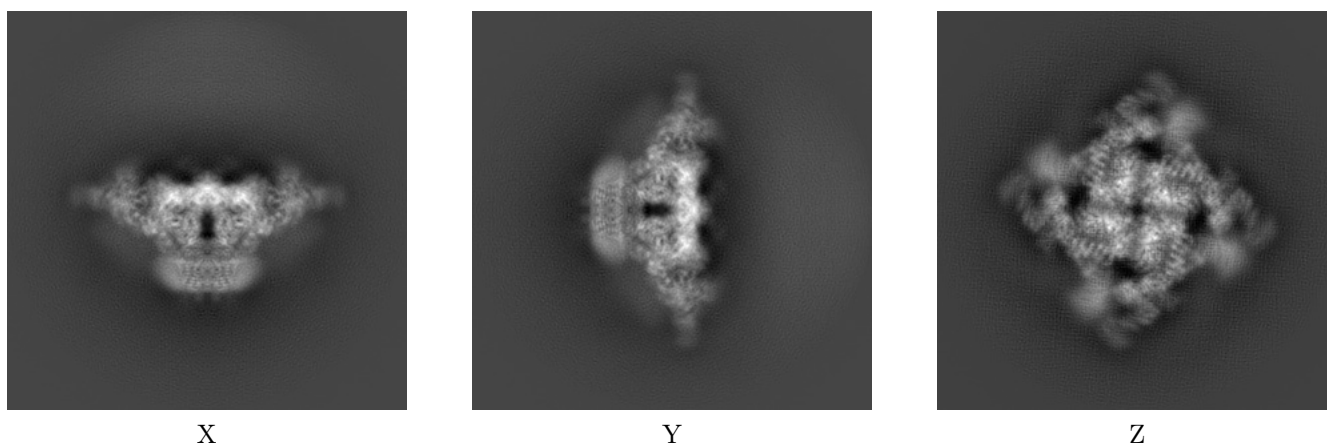
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-9836. 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](#)

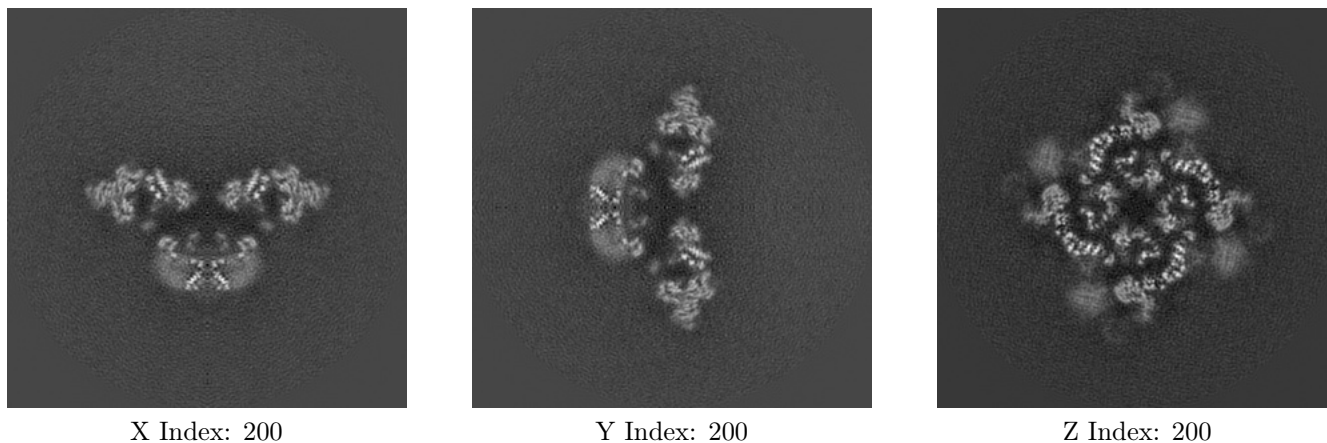
6.1.1 Primary map



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

6.2 Central slices [i](#)

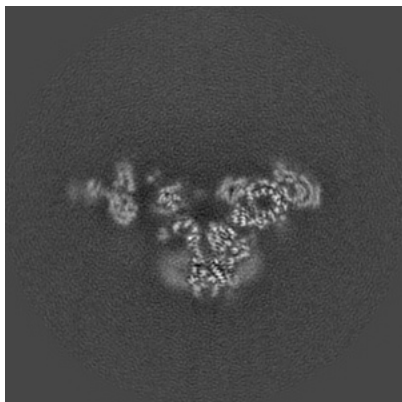
6.2.1 Primary map



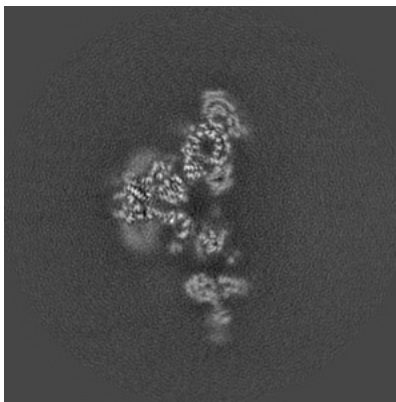
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

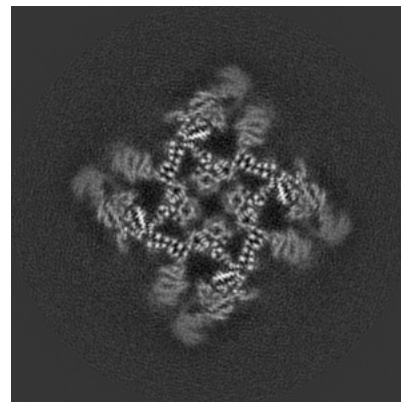
6.3.1 Primary map



X Index: 190



Y Index: 210

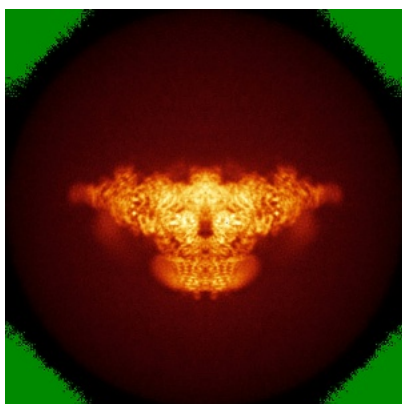


Z Index: 209

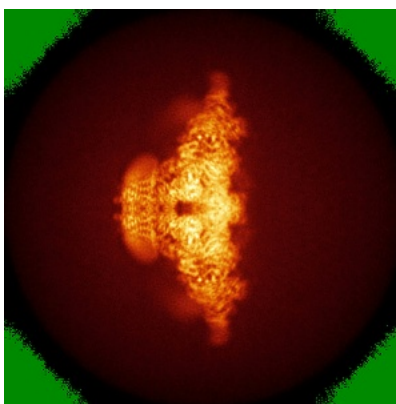
The images above show the largest variance slices of the map in three orthogonal directions.

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

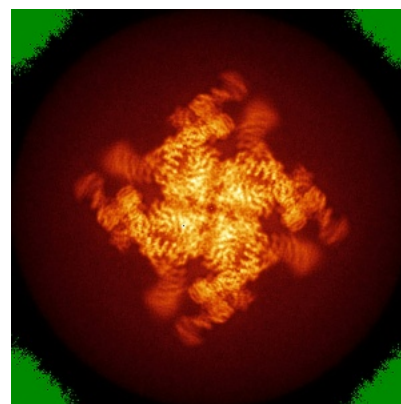
6.4.1 Primary map



X



Y

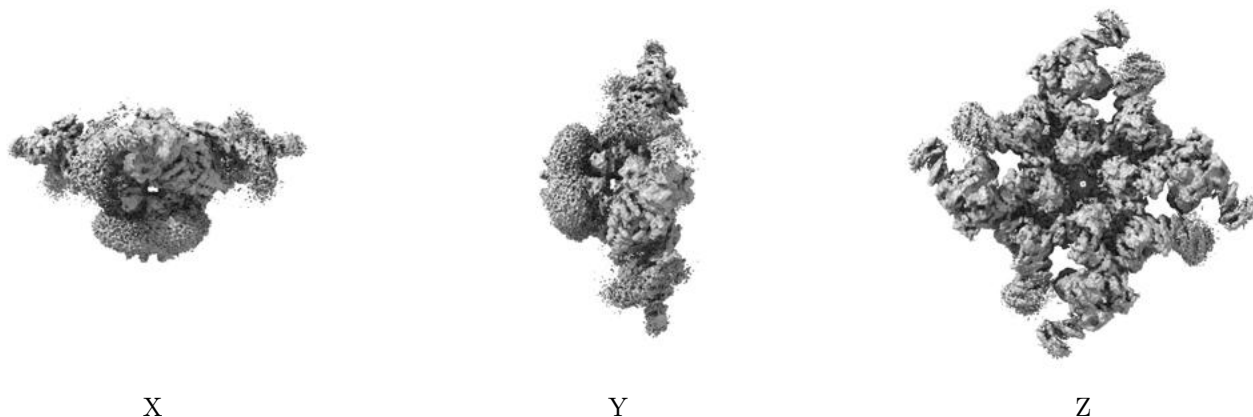


Z

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 0.023. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

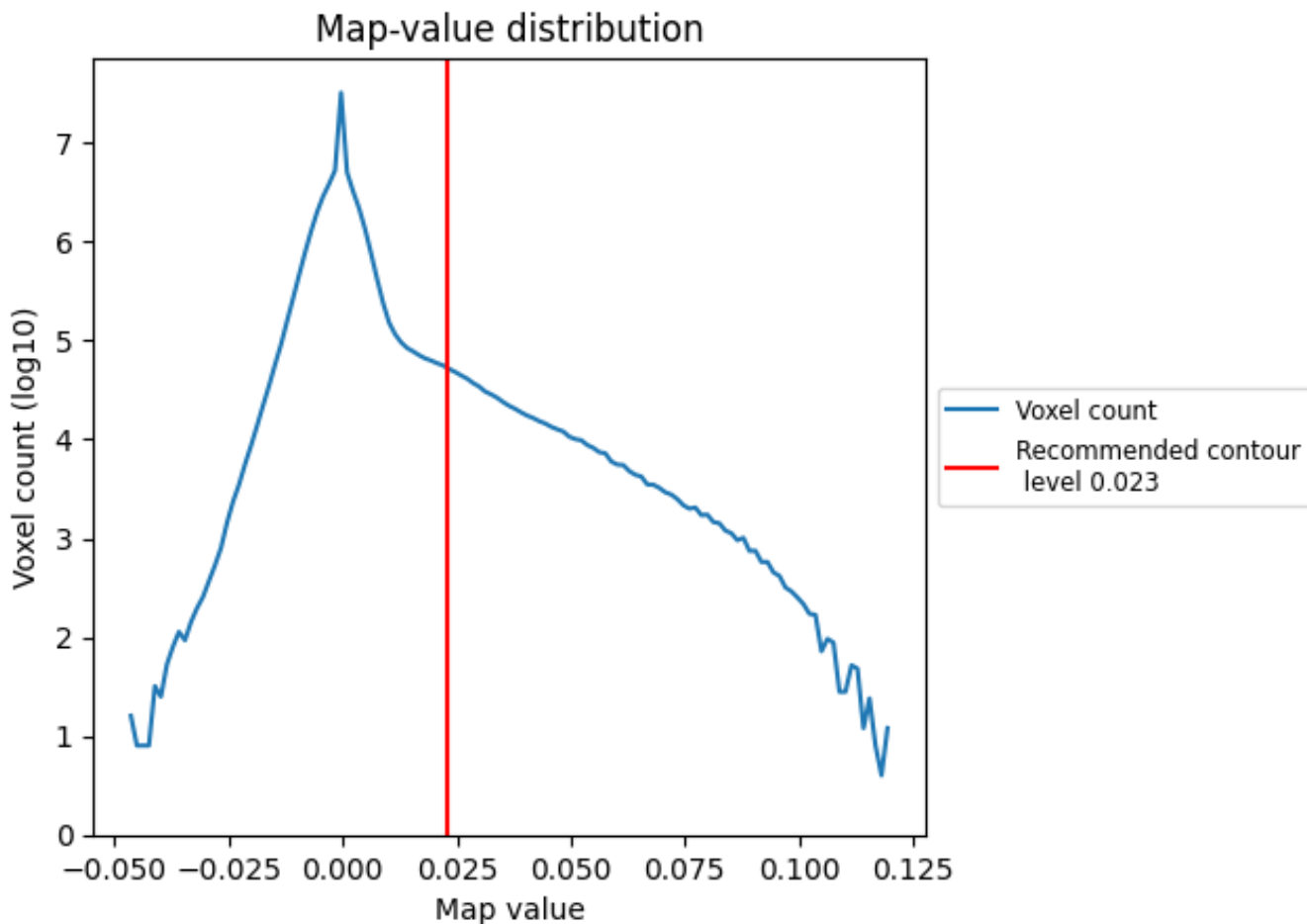
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

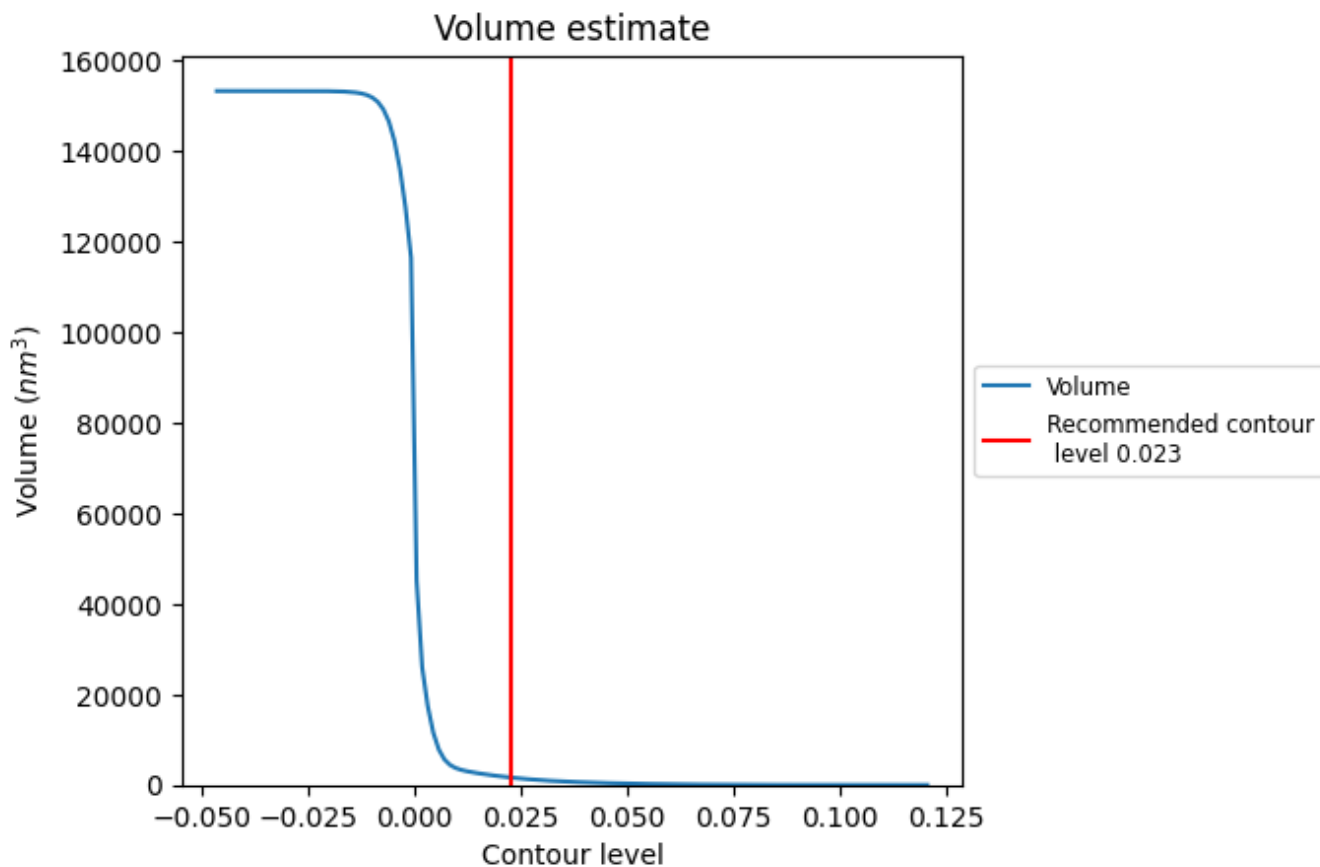
This section contains the results of statistical analysis of the map.

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.

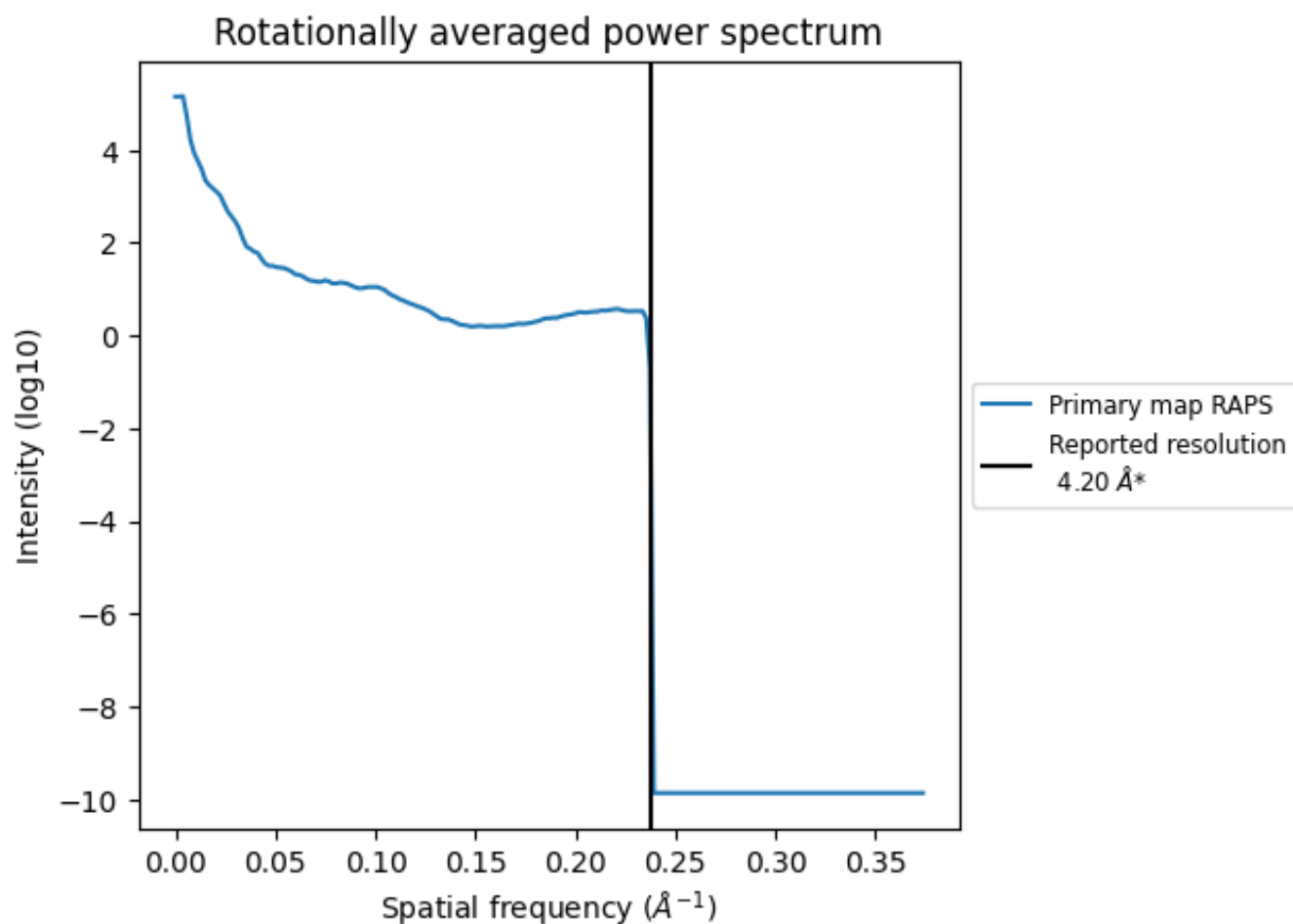
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 1619 nm³; this corresponds to an approximate mass of 1462 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [\(i\)](#)

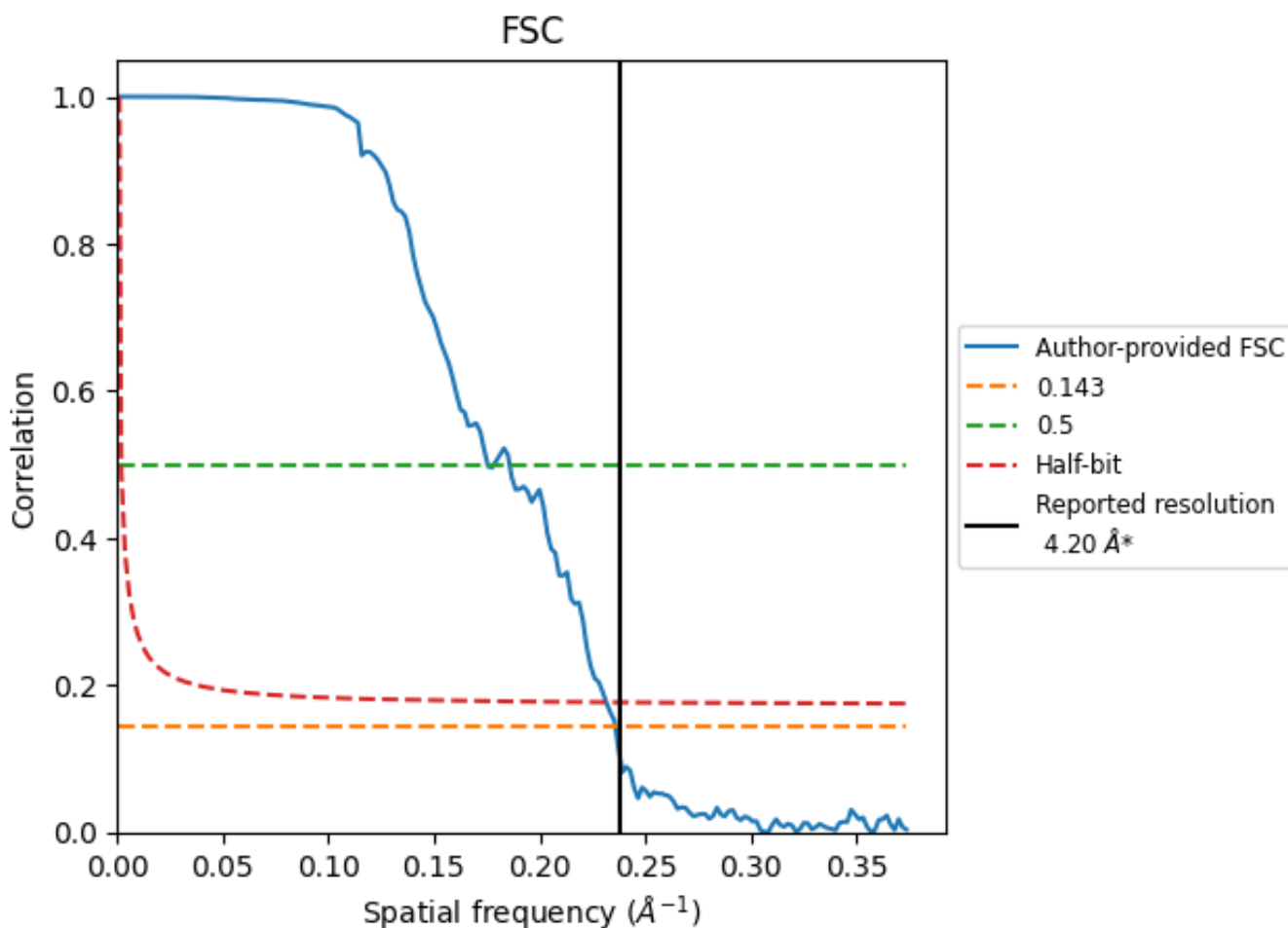


*Reported resolution corresponds to spatial frequency of 0.238 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.238 Å⁻¹

8.2 Resolution estimates [i](#)

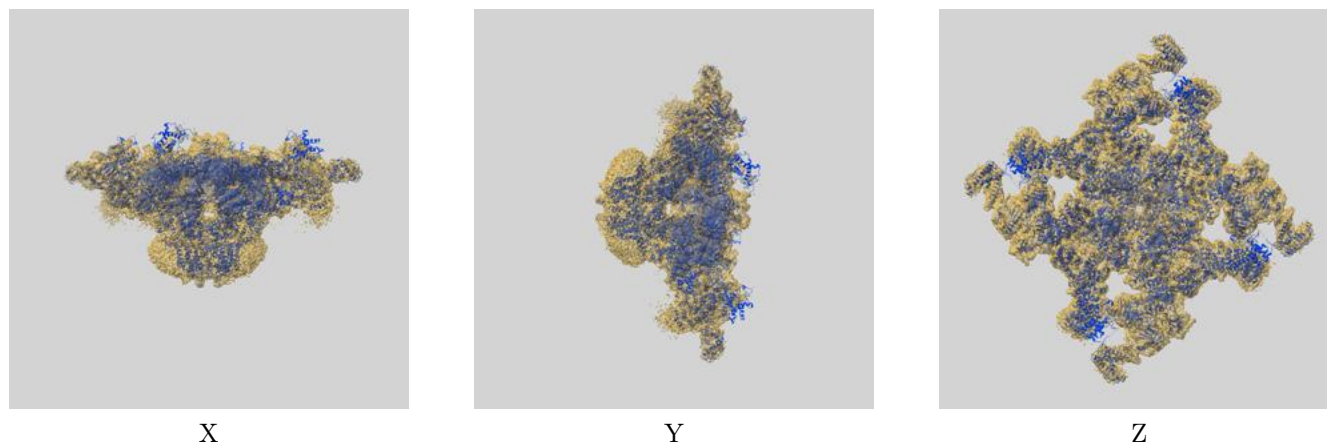
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.20	-	-
Author-provided FSC curve	4.24	5.70	4.32
Unmasked-calculated*	-	-	-

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

9 Map-model fit [i](#)

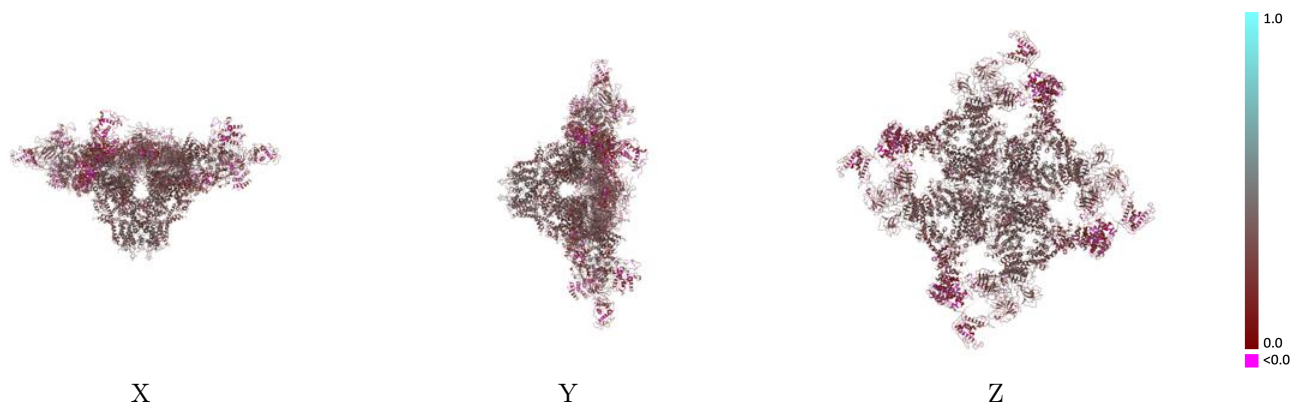
This section contains information regarding the fit between EMDB map EMD-9836 and PDB model 6JIU. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



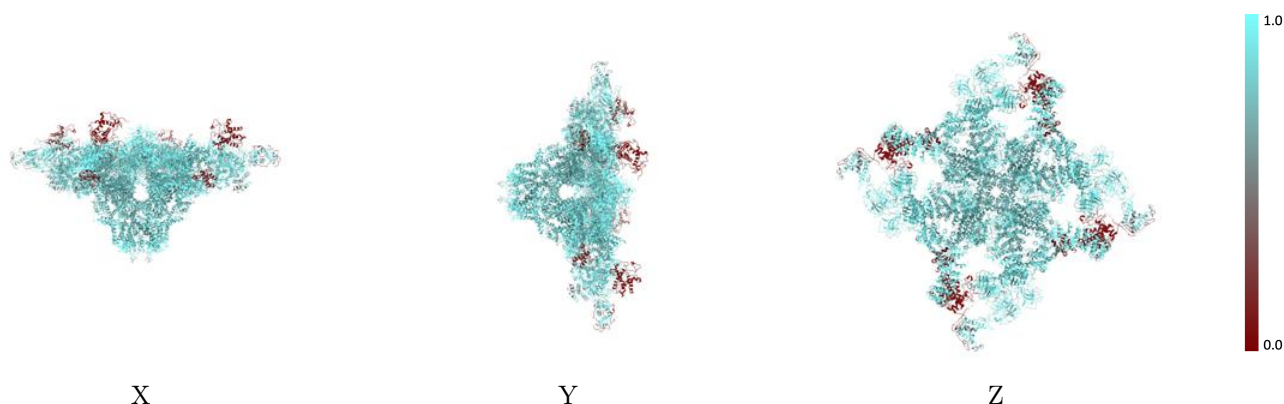
The images above show the 3D surface view of the map at the recommended contour level 0.023 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



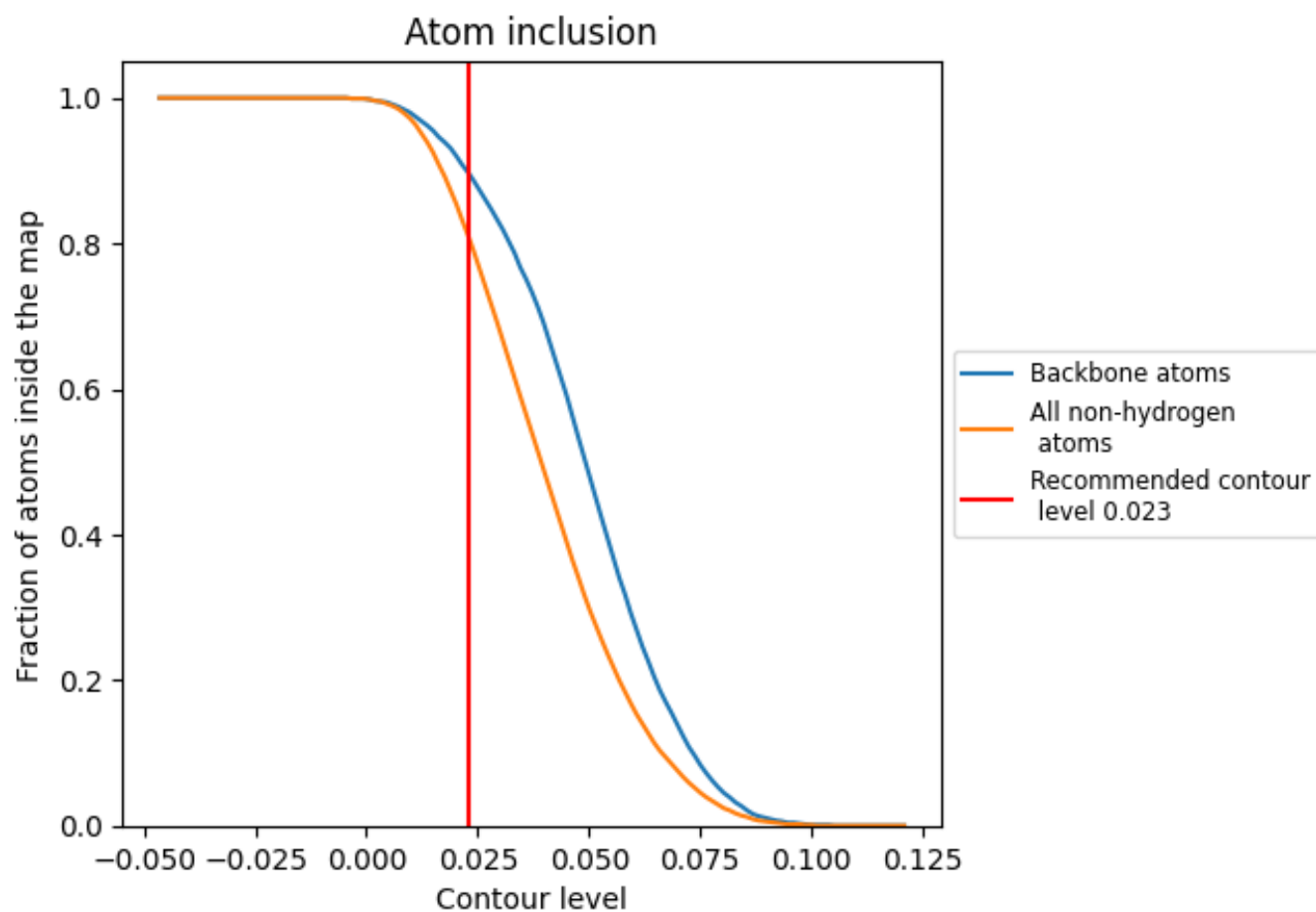
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.023).



























9.4 Atom inclusion [i](#)



At the recommended contour level, 90% of all backbone atoms, 81% 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 (0.023) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8080	 0.3030
A	 0.8200	 0.3050
B	 0.8710	 0.3450
C	 0.1110	 0.1780
D	 0.8200	 0.3050
E	 0.8700	 0.3430
F	 0.1110	 0.1750
G	 0.8200	 0.3040
H	 0.8720	 0.3420
I	 0.1110	 0.1790
J	 0.8210	 0.3040
K	 0.8720	 0.3420
L	 0.1110	 0.1800

