



## Full wwPDB EM Validation Report ⓘ

Mar 2, 2024 – 09:33 AM EST

PDB ID : 5TB2  
EMDB ID : EMD-8393  
Title : Structure of rabbit RyR1 (EGTA-only dataset, class 2)  
Authors : Clarke, O.B.; des Georges, A.; Zalk, R.; Marks, A.R.; Hendrickson, W.A.;  
Frank, J.  
Deposited on : 2016-09-11  
Resolution : 4.60 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](mailto: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>.

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

EMDB validation analysis : 0.0.1.dev70  
MolProbity : 4.02b-467  
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

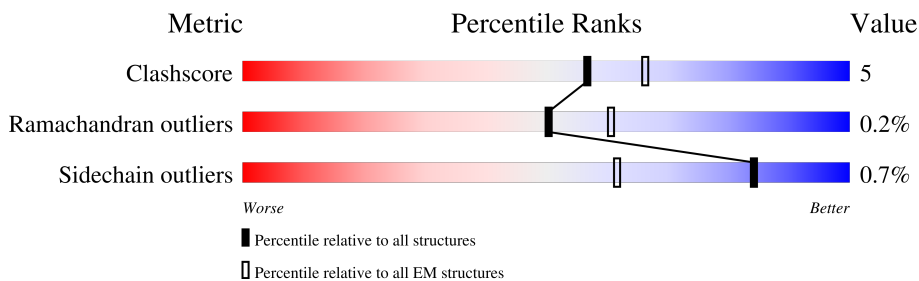
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 4.60 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  $\geq 3$ , 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	108	
1	F	108	
1	H	108	
1	J	108	
2	B	4416	
2	E	4416	
2	G	4416	
2	I	4416	

## 2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 121272 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Peptidyl-prolyl cis-trans isomerase FKBP1B.

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

- Molecule 2 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	4194	29499	18686	5228	5428	157	0	0
2	I	4194	29499	18686	5228	5428	157	0	0
2	E	4194	29499	18686	5228	5428	157	0	0
2	G	4194	29499	18686	5228	5428	157	0	0

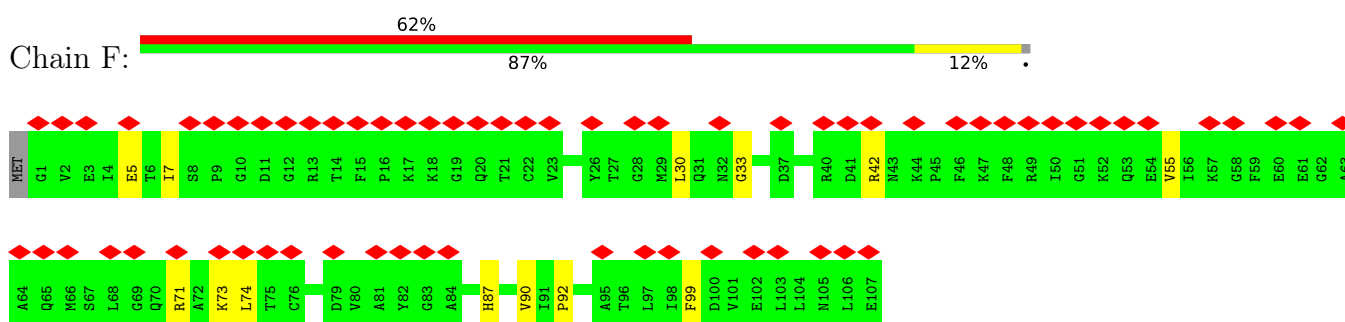
- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
3	B	1	Total	Zn	0
			1	1	
3	I	1	Total	Zn	0
			1	1	
3	E	1	Total	Zn	0
			1	1	
3	G	1	Total	Zn	0
			1	1	

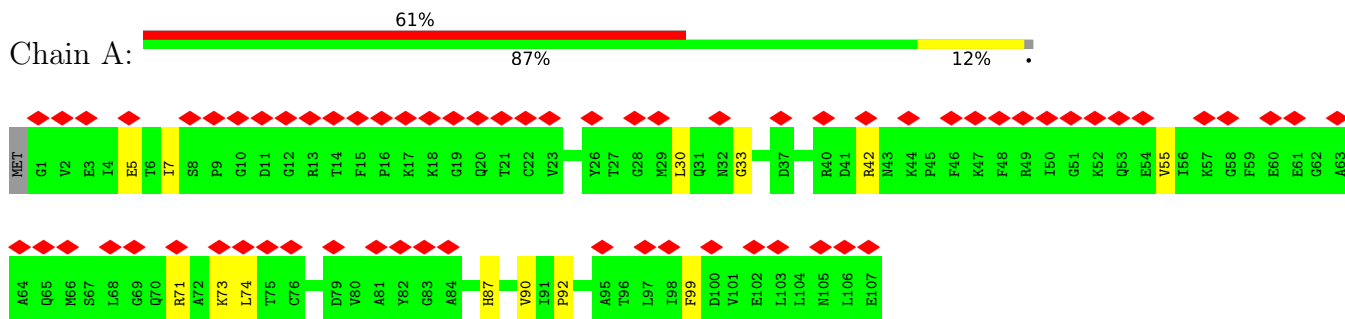
### 3 Residue-property plots [i](#)

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

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



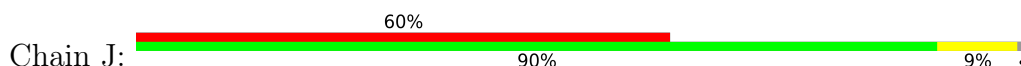
- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

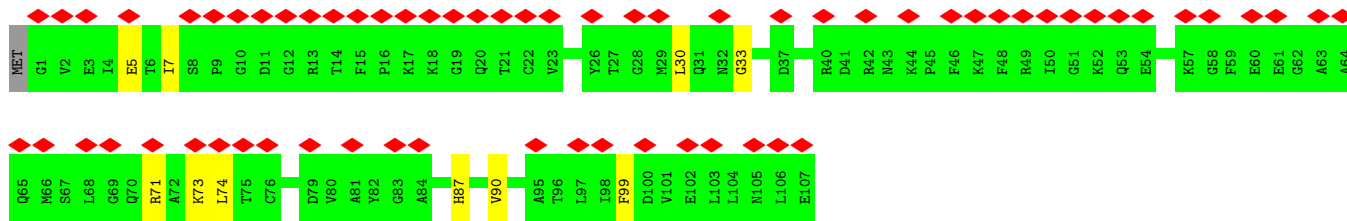


- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

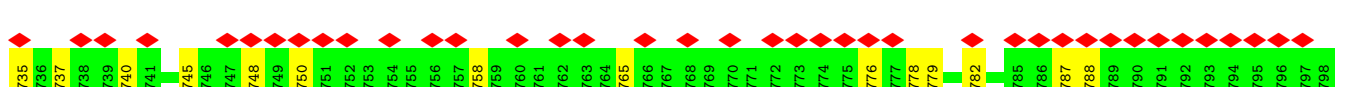
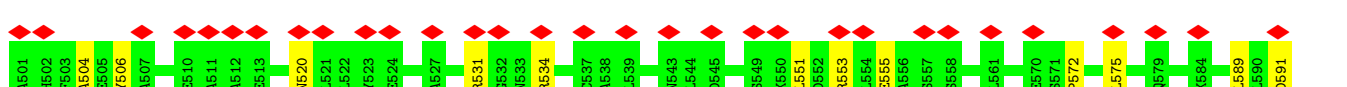
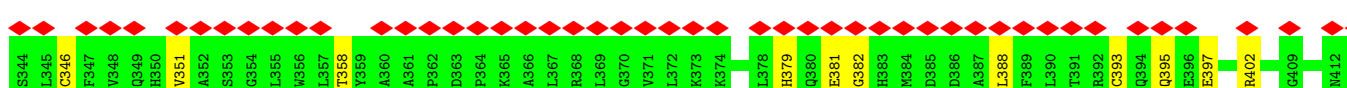
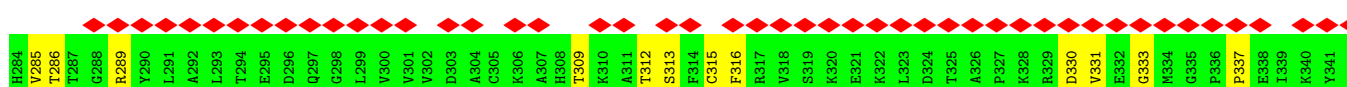
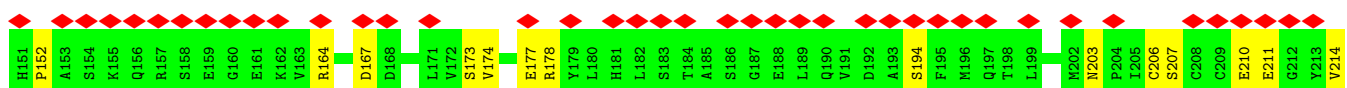
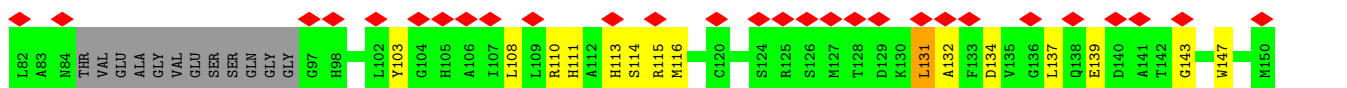
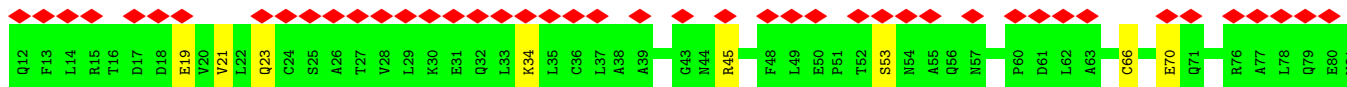
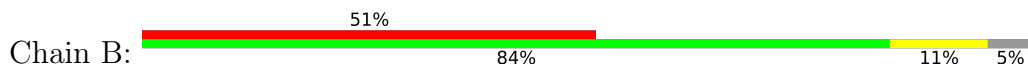


- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B





● Molecule 2: Ryanodine receptor 1

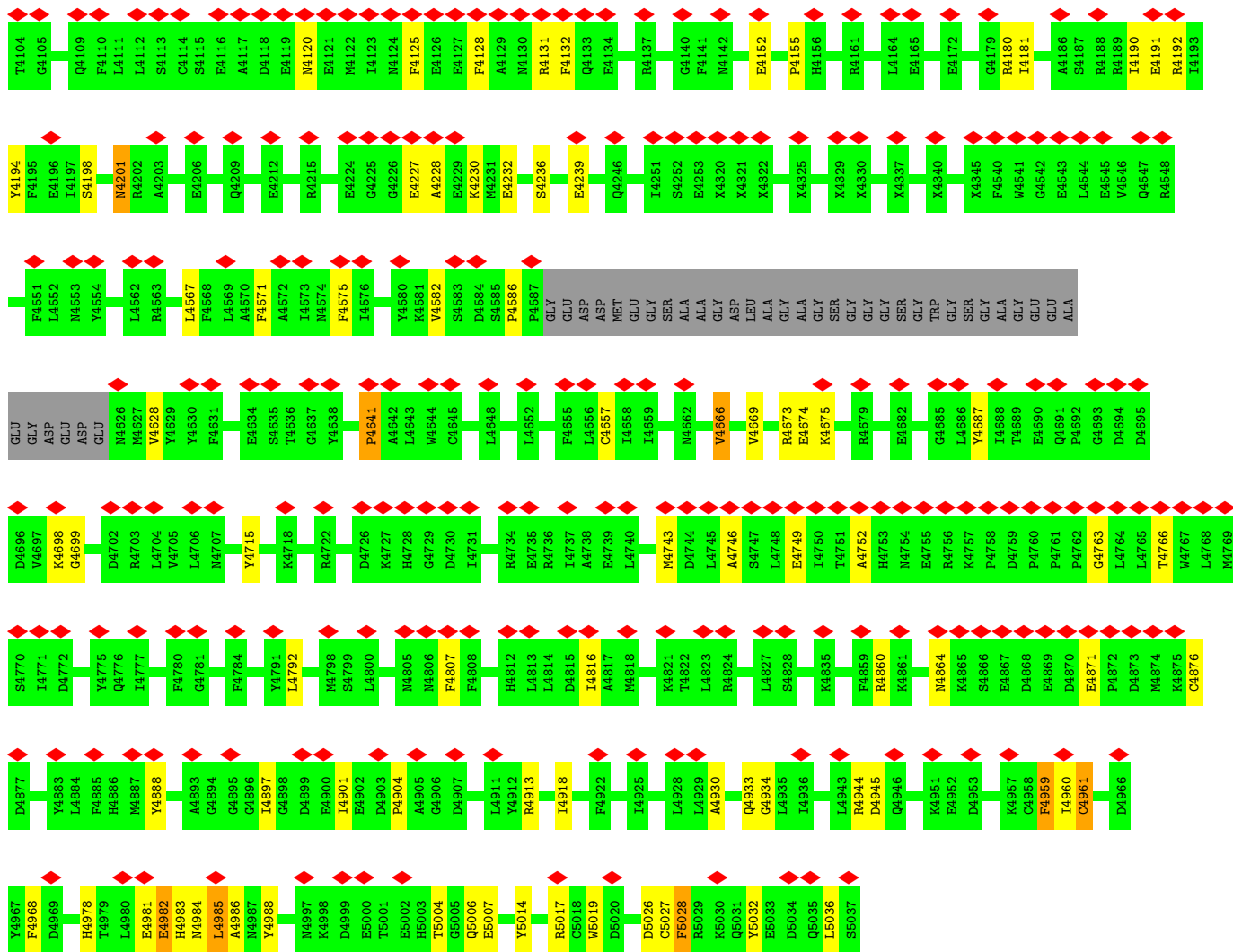


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V985	D986	R987	L988	A989	G992	D993	Y1007	S1008	S1008	A1009	VAL	GLN	ASP	ILE	PRO	ALA	ARG	ARG	ASN	PRO	R1020	L1021	V1022	P1023	Y1024	R1025	L1026	L1027	D1028	E1029	A1030	T1031	K1032	K1033	S1034	N1035	R1036	D1037	S1038	L1039	C1040	Q1041	A1042	V1043	R1044	T1045	L1046	L1047	H1048	Y1049	G1050	Y1051	M1052	I1053	E1054	PRO	PRO																																														
ASP	GLN	GLU	PRO	SER	GLN	VAL	GLU	ASN	SER	TRP	D1070	R1071	V1072	I1074	F1075	R1076	A1077	K1079	Y1089	F1092	E1093	A1094	V1095	T1097	G1098	E1099	M1100	G1103	M1104	A1105	R1106	P1107	L1108	R1110	P1111	D1112	V1113	E1114	L1115	G1116	A1117	L1118	E1119	L1120	A1121	Y1122	V1123	F1124	N1125	G1126	H1127	R1128	L1129	R1130	R1131	W1132	H1133	L1134	G1135	S1136	E1137	G1140	R1141	S1145	G1146	D1147	V1148	V1149	G1150	M1152	I1153	D1154	L1155	T1156	E1157	L1160	I1161	T1163	L1164	M1165	G1166	E1167	V1168	L1169	M1170	S1171	D1172	S1173	G1174	S1175	L1176	T1177	A1178	F1179	R1180	E1181	I1182	E1183	L1184	G1185	D1186	L1189	P1190
L1194	G1195	V1199	G1200	H1201	W1132	L1202	N1203	L1204	G1205	Q1206	D1207	L1211	R1212	F1213	F1214	I1216	C1217	G1218	L1219	L1219	Q1220	E1221	G1222	A1227	I1228	Q1231	R1232	T1235	L1236	W1237	Q1244	E1251	H1254	Y1255	E1256	R1259	M1260	D1261	G1262	V1263	L1264	D1265	C1269	L1270	R1271	E1272	L1273	X1276	L1277																																																						
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GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	LYS	GLU	ASP	GLU	GLU	LYS	GLU	ASP	ALA	GLU	LYS	GLU	GLU	GLU	ALA	PRO	GLY	GLU	LYS	ASP	L1922	E1923	E1924	G1925	P1932	E1933	L1942	L1943	E1944	Q1949	E1950	R1954	L1966	A1969																																																											

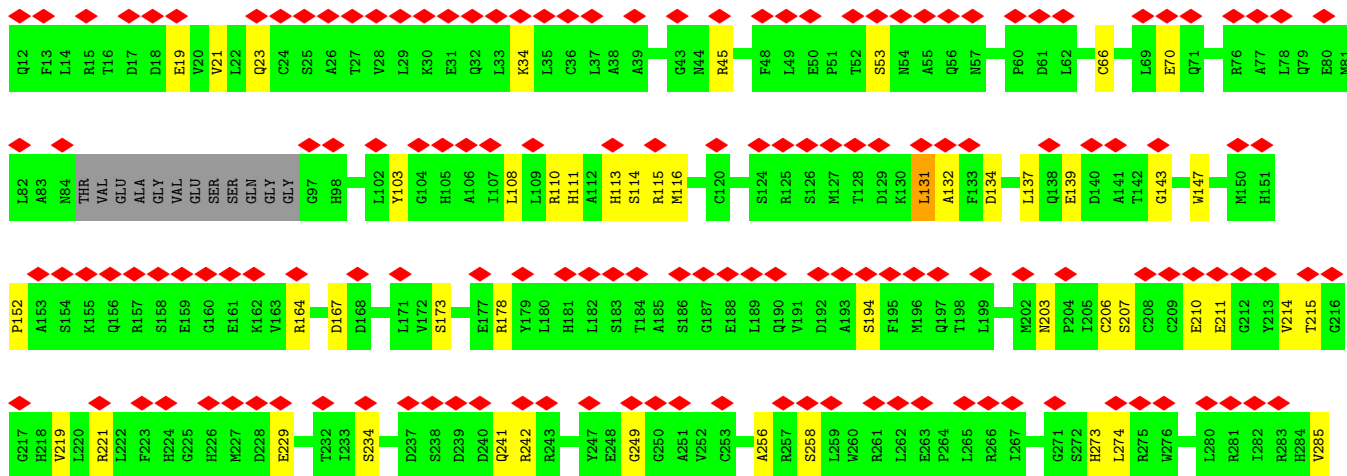
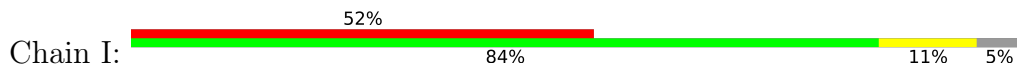
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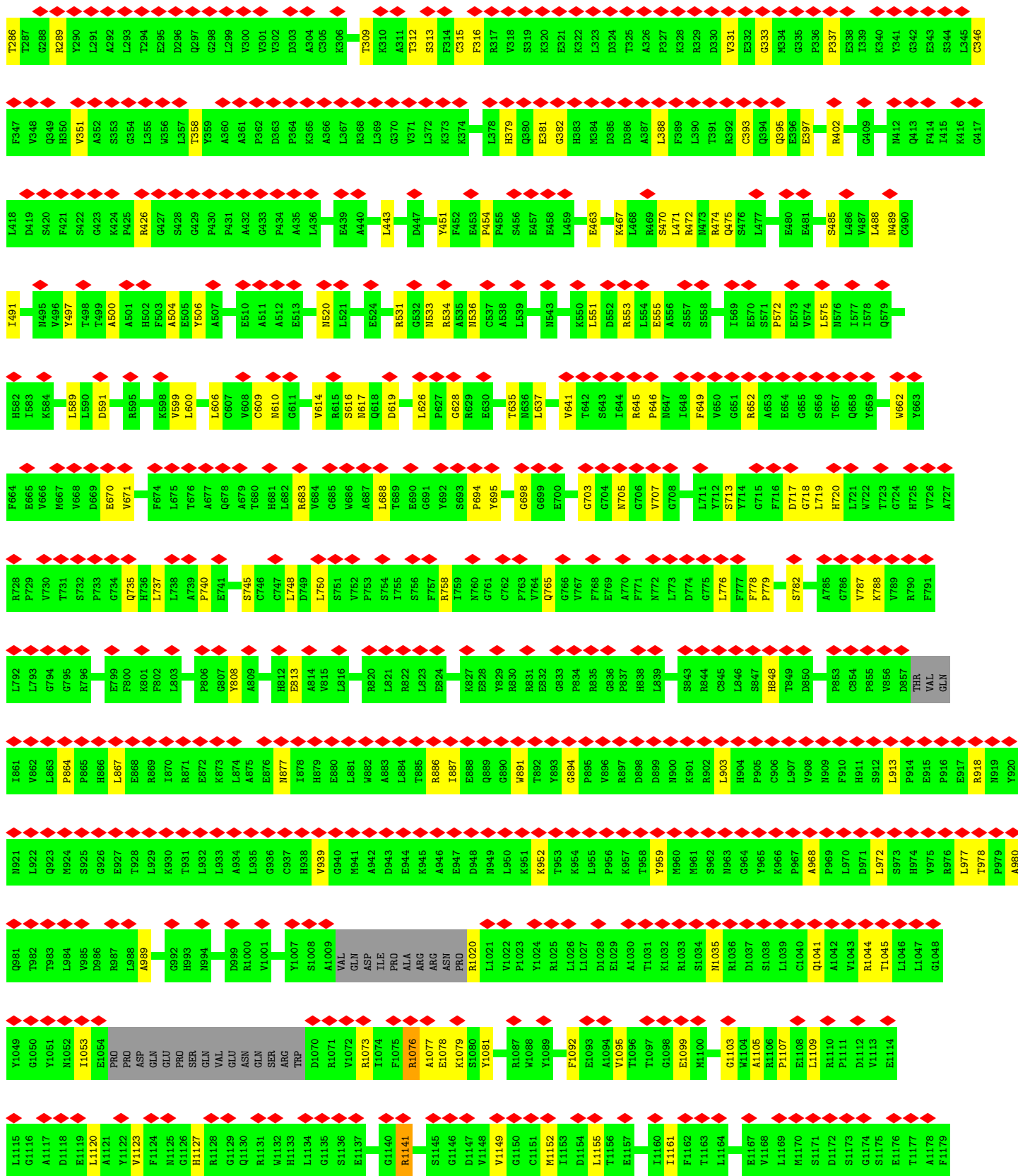
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• Molecule 2: Ryanodine receptor 1

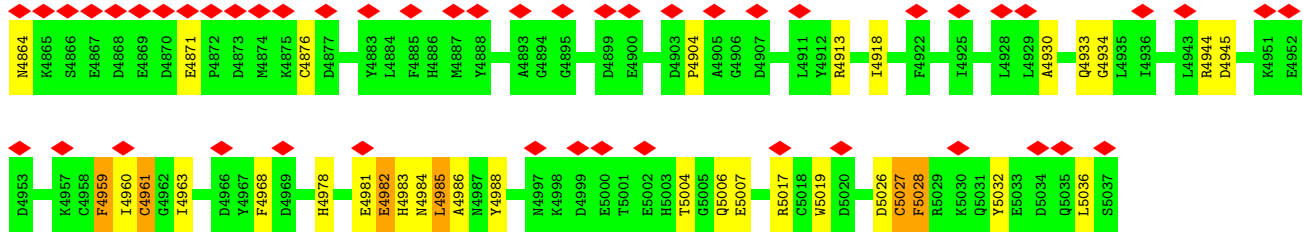




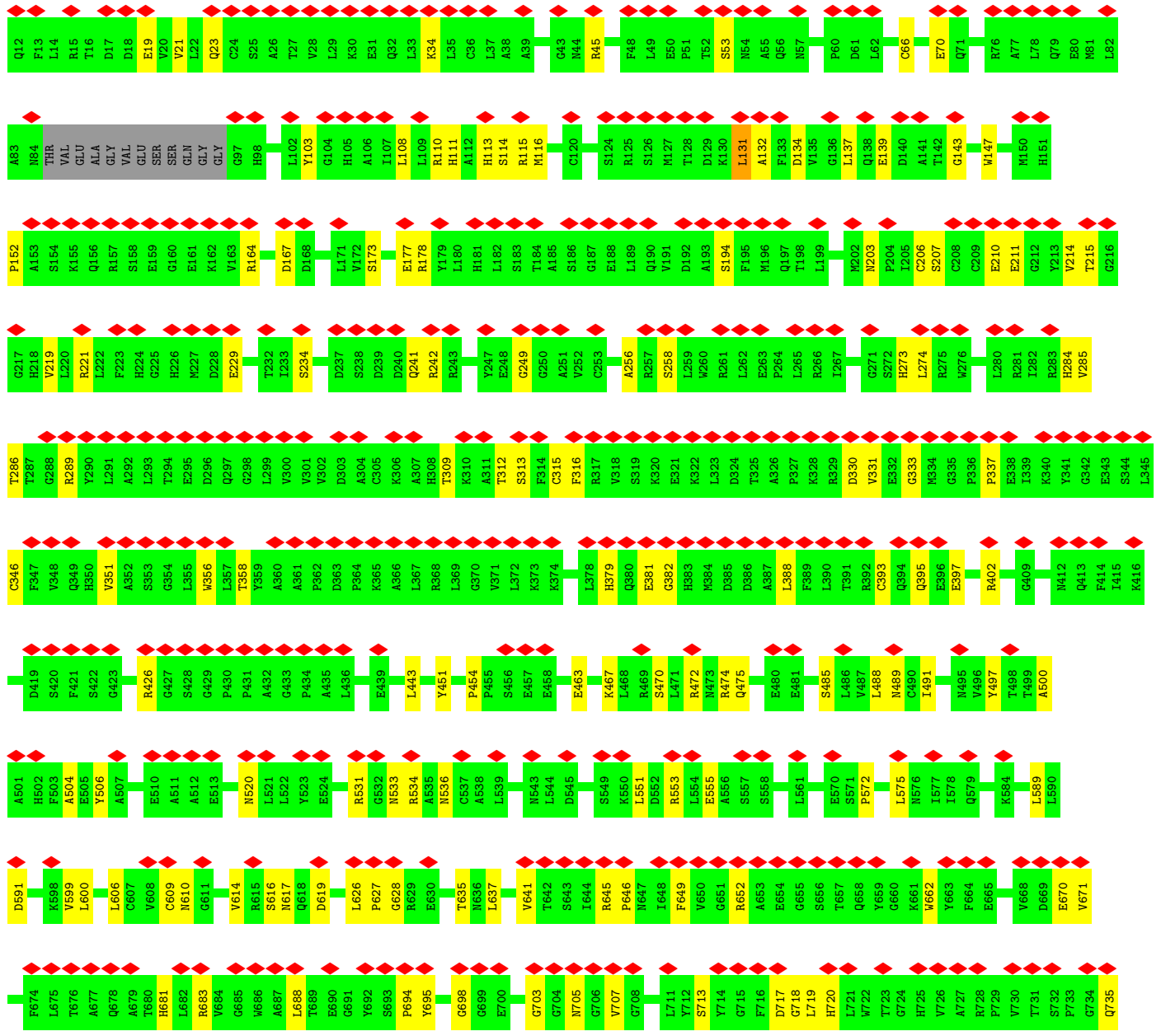
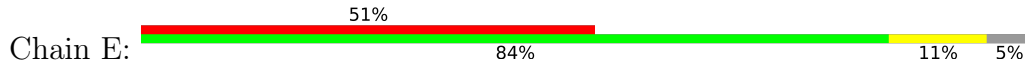
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• Molecule 2: Ryanodine receptor 1

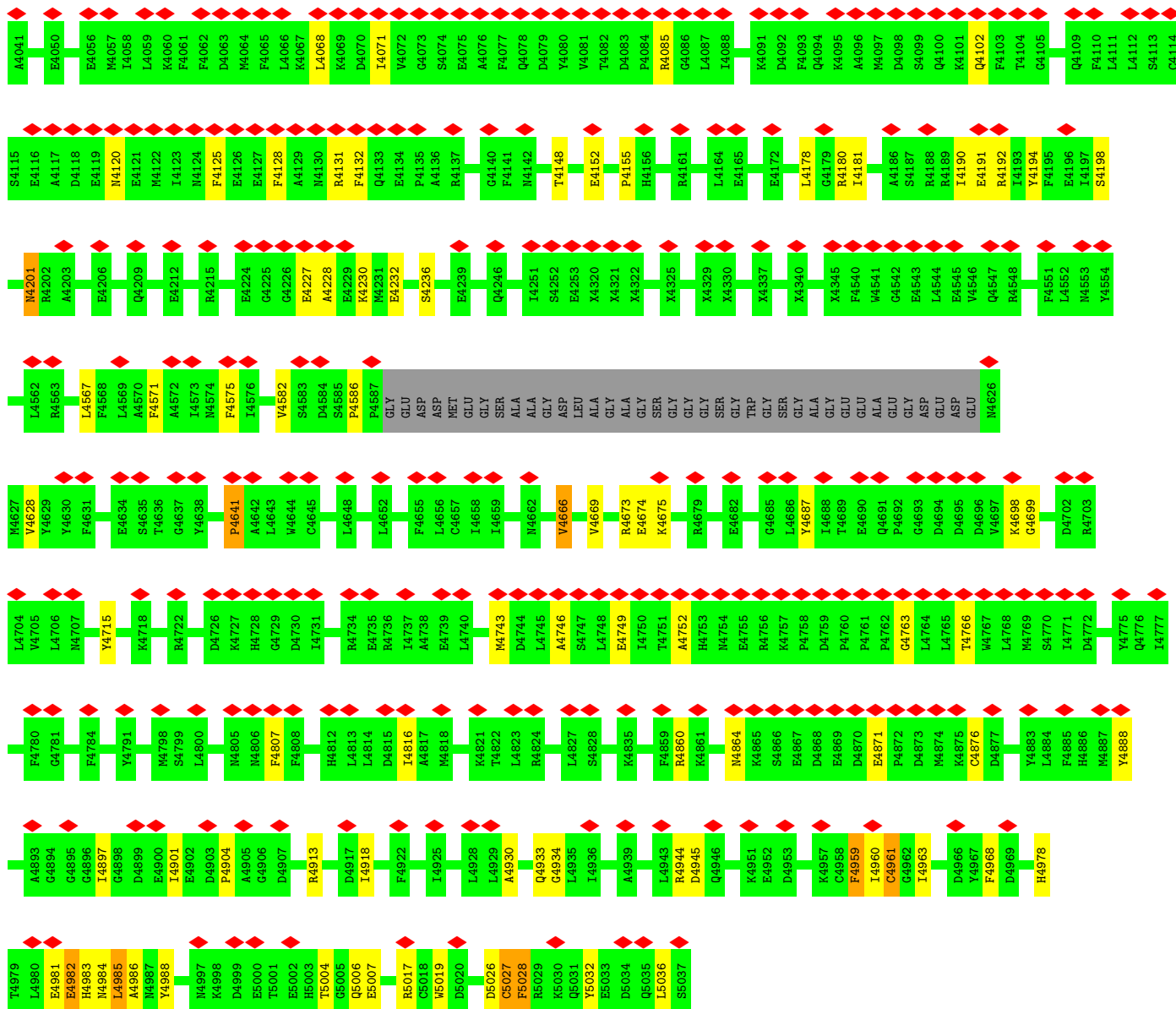


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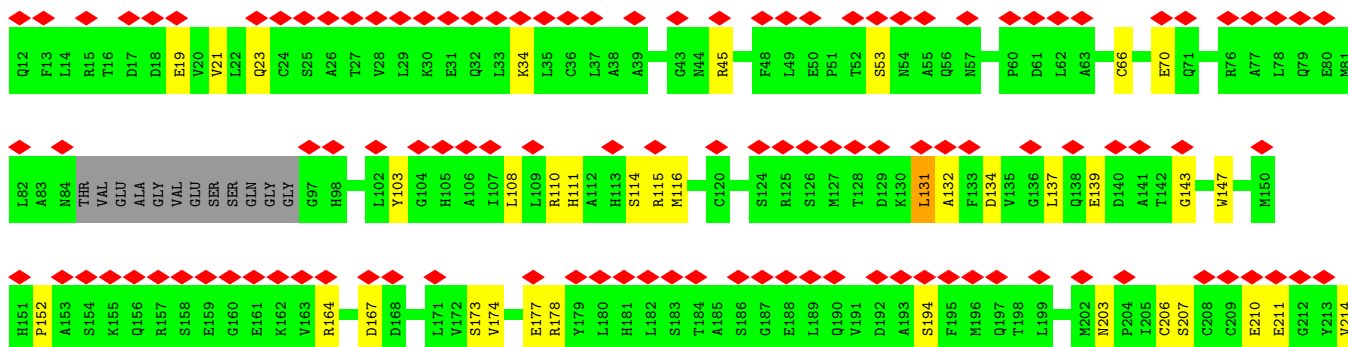
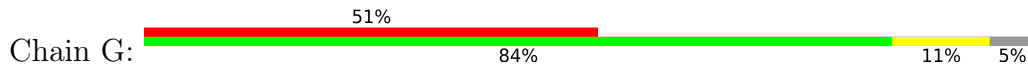
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X2630	G2304	L2307	Q2308	S2309	C2310	P2311	W2312	L2313	L2314	A2315	K2316	G2317	Y2318	P2319	D2320	I2321	C2326	G2327	R2330	L2332	F2334	L2335	F2337	F2340	W2341	N2342	G2343	E2344	S2345	V2346	E2347	E2348	N2349	A2350	N2351	R2355	L2356	L2357	L2358	R2359	K2360	P2361	E2362	C2363	F2364	G2365	P2366	L2368	R2369	G2370													
E2371	G2372	G2373	S2374	G2375	L2376	L2377	A2378	A2379	L2380	E2381	E2382	A2383	I2384	S2387	E2388	D2389	P2390	A2391	R2392	D2393	G2394	GLY	VAL	ARG	ASP	ARG	ARG	ARG	GLU	HIS	GLY	GLU	PRO	PRO	GLU	N2414	R2415	V2416	H2417	L2418	G2419	M2423	I2430	D2431	L2432	L2433	G2434	R2435	P2436														
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X2694	X2695	X2696	X2697	X2698	X2699	X2700	X2701	X2702	X2703	M2734	F2735	D2736	P2737	R2738	P2739	V2740	E2741	T2742	L2743	M2744	L2746	L2747	P2748	E2749	K2750	L2751	D2752	S2753	F2754	L2755	M2756	K2757	F2758	A2759	E2760	Y2761	T2762	H2763	E2764	K2765	M2766	A2767	F2768	G2769	K2770	L2771	Q2772	N2773	M2774	M2775	S2776	Y2777	G2778	E2779	M2780	D2782	E2783						
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L2904	L2905	V2906	P2907	V2908	D2909	T2910	L2911	T2912	A2913	R2914	E2915	A2916	A2917	R2918	D2919	R2920	E2921	L2922	A2923	Q2924	E2925	L2926	L2927	R2928	F2929	L2930	Q2931	R2932	H2933	G2934	V2935	A2936	V2937	T2938	R2939	A2942	L2943	X2944	X2945	X2946	X2947	X2948	X2949	X2950	X2951	X2952	X2955	X2956	X2957	X2958	X2959	X2960	X2961	X2962	X2963	X2964	X2966																																																																						
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X3186	X3187	X3188	X3189	X3190	X3191	X3192	X3193	X3194	X3195	X3196	X3197	X3198	X3199	X3200	X3201	X3202	X3203	X3204	X3207	X3208	X3209	X3210	X3211	X3212	X3213	X3214	X3215	X3216	X3217	X3218	X3219	X3220	X3221	X3222	X3223	X3224	X3225	X3226	X3227	X3228	X3229	X3230	X3231	X3232	X3233	X3234	X3235	X3236	X3241	X3242	X3243	X3244	X3245	X3246	X3247	X3248	X3249	X3250																																																																					
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G3739	E3740	M3741	GLY	ALA	GLU	E3747	E3748	E3750	V3751	S3752	F3753	E3754	E3755	K3756	E3757	M3758	E3759	K3760	Q3761	R3762	L3763	Q3766	R3769	T3772	R3773	V3779	L3780	K3787	S3803	L3804	L3805	N3809	A3810	E3811	K3815	M3816	L3817	K3821	D3822	Q3830	Q3833	L3842	D3843	R3854	Q3855	L3856	G3857	M3858	N3859	N3860	E3861	D3862	G3863	T3864	V3865	L3866	N3867	R3868	Q3869	N3870	G3871	E3872	K3873	R3874	M3875	A3876	D3877	D3878	D3879	M4000	M4001	K4002	L4003	A4004	Q4005	D4006	S4007	S4008	N3896	F3899	Q3906	T3907	L3923	L3924	R3925	E3928	S3929	D3932	Y3937	S3938	G3939	K3940	D3941	V3942																																	
I3943	E3944	E3945	Q3946	G3947	K3948	R3949	N3950	K3953	V3961	F3962	N3963	R3970	Q3978	S3979	L3980	A3981	H3982	L3985	L3993	F3996	A3997	M4000	M4001	K4002	L4003	A4004	Q4005	D4006	S4007	S4008	N3896	F3899	Q3906	T3907	L3923	L3924	R3925	E3928	S3929	D3932	Y3937	S3938	G3939	K3940	D3941	V3942																																																																																	



● Molecule 2: Ryanodine receptor 1

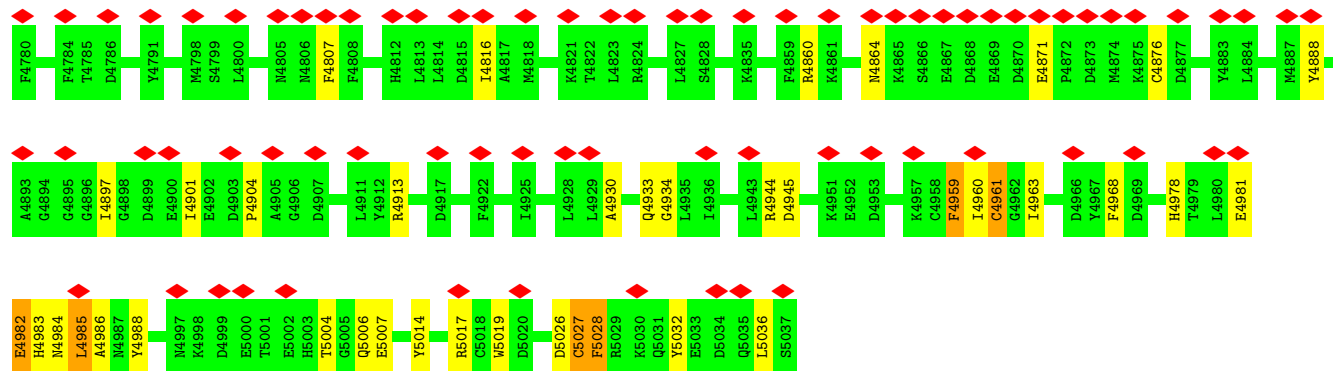


PRO	D986	G926	E799	G734	D669	L589	T499	I415	S344	H984	T215
ASP	R987	E927	F800	Q735	E670	L590	A500	K416	L345	V285	G216
GLN	L988	T928	K801	H736	V671	D591	A501	D419	C346	T286	G217
PRO	A989	L929	F802	L737	V672	R698	H502	S420	F347	G288	H218
SER	G992	K930	P806	L738	F674	R699	F503	S421	V348	R289	V219
GLN	H993	A739	G807	A739	L675	V699	A504	F421	Q349	R290	L220
VAL	H994	P740	T676	P740	L676	L606	E505	S422	H350	R291	R221
ASN	H994	E741	A677	E741	T677	L606	Y506	G423	R351	L292	L222
GLN	D999	S745	Q678	S745	Q678	C607	A507	G423	A292	A292	F223
SER	Y1007	C746	A679	C746	A679	V608	E510	R426	L293	L293	G224
ARG	A1009	C747	A679	C747	A679	C609	E511	R427	H224	H224	G225
TRP	Y1070	L748	L682	L748	L682	N610	A512	S428	T294	T294	H226
D1070	VAL	L750	R683	L750	R683	G611	E513	G429	D296	D296	M227
R1071	GLN	L751	V684	L751	V684	V614	N520	P430	Q297	Q297	D228
V1072	ASP	S751	G685	S751	G685	R615	L521	P431	T358	T358	E229
I1074	ILE	W752	V686	W752	V686	S616	L522	A432	Y359	Y359	T232
P1075	PRO	P753	A687	P753	A687	N617	Y523	G433	I233	I233	I233
R1076	ALA	S754	L688	S754	L688	Q618	Y524	P434	V301	V301	S234
A1077	ARG	L755	T689	L755	T689	D619	E524	A435	D303	D303	D237
E1078	ASN	S756	E690	S756	E690	L626	R531	L436	A304	A304	S238
A1079	PRO	F757	G691	F757	G691	P627	G532	E439	C305	C305	D239
PRO	R1020	R758	R692	R758	R692	G628	N533	L443	K306	K306	D240
L1021	L1021	W760	R693	W760	R693	R629	A535	L443	A307	A307	Q241
V1022	V1022	G761	P694	G761	P694	E630	R536	Y451	R242	R242	R242
P1023	P1023	C762	Y695	C762	Y695	T635	C537	P454	R243	R243	R243
R1024	R1024	P763	G698	P763	G698	M686	A538	P455	K310	K310	Y247
Y1025	Y1025	Q764	E700	Q764	E700	L637	L539	S456	Y247	Y247	E248
L1026	L1026	W765	G703	W765	G703	V641	N543	S457	E248	E248	E248
L1027	L1027	Q766	G704	Q766	G704	T642	L544	E458	G250	G250	G250
D1028	D1028	V767	G705	V767	G705	S643	D545	E458	A251	A251	V252
E1029	E1029	W768	G706	W768	G706	F649	D554	E458	V252	V252	V252
A1030	A1030	F769	N705	F769	N705	R645	A556	E458	G250	G250	G250
I1031	I1031	A770	G706	A770	G706	R646	A557	E458	A256	A256	A256
T1032	T1032	W771	G707	W771	G707	N647	S558	E458	R257	R257	R257
R1033	R1033	N772	G708	N772	G708	P646	S558	E458	S258	S258	S258
M100	M100	L773	L711	L773	L711	T648	L554	E458	L259	L259	L259
G103	G103	D774	Y112	D774	Y112	F650	L554	E458	W260	W260	W260
W104	W104	G775	Y114	G775	Y114	R652	A556	E458	R261	R261	R261
A1105	A1105	F777	G715	F777	G715	R653	A557	E458	L262	L262	L262
R1106	R1106	P779	F716	P779	F716	A653	S558	E458	T325	T325	T325
P1107	P1107	S782	D717	S782	D717	G654	L561	E458	A326	A326	A326
E1108	E1108	A785	G718	A785	G718	G655	L561	E458	P264	P264	P264
L1109	L1109	G786	L719	G786	L719	S656	E570	E458	R266	R266	R266
S1038	S1038	W787	H720	W787	H720	T657	S571	E458	L267	L267	L267
S1038	S1038	R788	L721	R788	L721	Q658	P572	E458	G271	G271	G271
C1040	C1040	K788	W722	K788	W722	Y659	L575	E458	S272	S272	S272
C1041	C1041	R789	T723	R789	T723	G660	N576	E458	H273	H273	H273
Q1041	Q1041	W789	G724	W789	G724	R662	I577	E458	L274	L274	L274
A1042	A1042	R790	H725	R790	H725	Y662	L578	E458	R275	R275	R275
V1043	V1043	F791	W726	F791	W726	G663	I578	E458	W276	W276	W276
R1044	R1044	G792	A727	G792	A727	F664	Q579	E458	L280	L280	L280
A1117	A1117	K788	R728	K788	R728	V666	K584	E458	R281	R281	R281
L1046	L1046	W789	P729	W789	P729	M667		E458	I282	I282	I282
L1046	L1046	R790	W730	R790	W730	V668		E458	R283	R283	R283
G1048	G1048	D857	T731	G1048	T731			E458			
Y1049	Y1049	THR	S732	Y1049	S732			E458			
G1050	G1050	VAL	P733	G1050	P733			E458			
F1051	F1051	GLN		F1051				E458			
M1052	M1052	I861		M1052				E458			
I1053	I1053	V862		I1053				E458			
E1054	E1054	L863		E1054				E458			
PRO	PRO	P864		PRO				E458			
		P865						E458			



X2374	X2375	X2376	X2377	X2378	X2379	X2380	X2381	X2382	X2383	X2384	X2387	X2388	X2389	X2390	X2391	X2392	X2393	X2394	X2395	VAL	ARG	ARG	ASP	ARG	ARG	ARG	GLU	HIS	PHE	GLY	GLU	GLU	PRO	GLU	H2414	H2415	H2416	H2417	L2418	G2419	H2423	L2430	D2431	L2432	L2433	G2434	R2435	P2438	E2439	H2440	H2441																																																																																																																																																										
X2447	G2448	L2451	R2452	L2453	R2454	A2455	R2458	S2459	L2460	L2463	L2466	I2469	I2470	S2471	L2472	P2473	L2474	Q2475	I2476	P2477	L2478	L2479	X2487	X2488	X2489	X2490	X2493	X2494	X2495	X2498	X2499	X2500	X2511	X2512	X2513	X2517	X2518	X2519	X2520	X2521	X2522	X2523	X2524	X2525	X2528	X2529	X2532	X2533																																																																																																																																																													
X2534	X2535	X2536	X2537	X2538	X2539	X2540	X2558	X2561	X2562	X2563	X2567	X2568	X2569	X2570	X2571	X2577	X2580	X2581	X2582	X2583	X2584	X2585	X2586	X2593	X2596	X2597	X2598	X2599	X2600	X2601	X2602	X2605	X2606	X2611	X2612	X2613	X2614	X2618	X2619	X2620	X2621	X2622	X2623	X2624	X2625	X2626	X2627	X2628	X2629																																																																																																																																																												
X2630	X2631	X2632	X2633	X2634	X2635	X2636	X2637	X2638	X2639	X2640	X2641	X2642	X2643	X2644	X2645	X2646	X2647	X2648	X2649	X2650	X2651	X2652	X2658	X2659	X2660	X2661	X2662	X2663	X2664	X2665	X2666	X2667	X2668	X2669	X2670	X2671	X2672	X2673	X2674	X2675	X2676	X2677	X2678	X2679	X2680	X2681	X2682	X2683	X2684	X2685	X2686	X2687	X2688	X2689	X2690	X2691	X2692																																																																																																																																																				
X2694	X2695	X2696	X2697	X2698	X2699	X2700	X2701	X2702	X2703	N2704	F2705	D2706	P2707	R2708	P2709	E2710	T2711	L2712	L2713	N2714	F2715	D2716	R2717	P2718	E2719	K2720	L2721	L2722	L2723	N2724	F2725	I2726	I2727	E2728	K2729	L2730	L2731	L2732	L2733	L2734	L2735	L2736	L2737	L2738	L2739	L2740	L2741	L2742	L2743	L2744	L2745	L2746	L2747	L2748	E2749	K2750	L2751	D2752	S2753	F2754	I2755	N2756	K2757	F2758	A2759	E2760	L2761	T2762	H2763	E2764	K2765	L2766	A2767	F2768	D2769	K2770	I2771	Q2772	N2773	N2774	W2775	S2776	I2777	G2778	E2779	N2780	D2781	D2782	E2783																																																																																																																				
E2784	L2785	K2786	T2787	H2788	P2789	N2790	L2791	R2792	P2793	Y2794	K2795	L2796	F2797	S2798	E2799	D2800	D2801	K2802	E2803	L2804	Y2805	R2806	K2807	P2808	L2809	K2810	E2811	S2812	L2813	K2814	A2815	M2816	L2817	A2818	M2819	E2820	E2821	W2822	T2823	E2824	K2825	A2826	R2827	K2828	K2829	G2830	E2831	GLU	GLU	THR	ARG	GLU	LYS	LYS	LYS	THR	ARG	LYS	ILE	SER																																																																																																																																																	
GLN	THR	ALA	GLN	THR	THR	ASP	PRO	ARG	GLU	Y2855	N2856	P2857	Q2858	P2859	P2860	D2861	L2862	S2863	G2864	E2865	T2866	L2867	S2868	R2869	E2870	L2871	Q2872	A2873	M2874	A2875	E2876	Q2877	L2878	A2879	E2880	N2881	Y2882	H2883	N2884	T2885	V2886	G2887	R2888	K2889	K2890	K2891	Q2892	E2893	GLU	GLU	THR	ARG	GLU	LYS	LYS	LYS	THR	ARG	LYS	ILE	SER																																																																																																																																																
L2904	L2905	Y2906	P2907	Y2908	D2909	T2910	L2911	T2912	A2913	K2914	E2915	A2916	A2917	R2918	D2919	R2920	E2921	K2922	A2923	Q2924	E2925	L2926	L2927	K2928	F2929	L2930	Q2931	M2932	N2933	G2934	Y2935	A2936	Y2937	T2938	R2939	K2942	X2943	X2944	X2945	X2946	X2947	X2948	X2949	X2950	X2951	X2952	X2955	X2956	X2957	X2958	X2959	X2960	X2961	X2962	X2963	X2964	X2965	X2966																																																																																																																																																			
X2967	X2968	X2969	X2970	X2971	X2972	X2973	X2974	X2975	X2976	X2977	X2978	X2979	X2980	X2981	X2982	X2983	X2984	X2985	X2986	X2987	X2988	X2989	X2990	X2991	X2992	X2993	X2994	X2995	X2996	X2997	X2998	X2999	X3000	X3001	X3002	X3003	X3004	X3005	X3006	X3007	X3008	X3009	X3010	X3013	X3014	X3015	X3016	X3017	X3018	X3019	X3020	X3021	X3022	X3023	X3027	X3028	X3029	X3030	X3031	X3032	X3033	X3034	X3035	X3036	X3037	X3038	X3039	X3040	X3041	X3042	X3043	X3044	X3045	X3046	X3047	X3048	X3049	X3050	X3051	X3052	X3053	X3054	X3055	X3056	X3057	X3058	X3059	X3060	X3061	X3062	X3063	X3064	X3065	X3066	X3067	X3068	X3069	X3070	X3071	X3072	X3073	X3074	X3075	X3076	X3077	X3078	X3079	X3080	X3081	X3082	X3083	X3084	X3085	X3086	X3087	X3088	X3089	X3090	X3091	X3092	X3093	X3094	X3095	X3096	X3097	X3098	X3099	X3100	X3101	X3102	X3103	X3104	X3105	X3106	X3107	X3108	X3109	X3110	X3111	X3112	X3113	X3114	X3115	X3116	X3117	X3118	X3119	X3120	X3121	X3122	X3123	X3124	X3125	X3126	X3127	X3128	X3129	X3130	X3131	X3132	X3133	X3134	X3135	X3136	X3137	X3138	X3139	X3140	X3141	X3142	X3143	X3146	X3147	X3148	X3149	X3150	X3151	X3152	X3153	X3154	X3155	X3156	X3157	X3158	X3159	X3160	X3161	X3162	X3163	X3170	X3171	X3172	X3173	X3174	X3175	X3176	X3177	X3178	X3179	X3180	X3181	X3182	X3183	X3184	X3185
X3186	X3187	X3188	X3189	X3190	X3191	X3192	X3193	X3194	X3195	X3196	X3197	X3198	X3199	X3200	X3201	X3202	X3203	X3204	X3207	X3208	X3209	X3210	X3211	X3212	X3213	X3214	X3215	X3216	X3217	X3218	X3219	X3220	X3221	X3222	X3223	X3224	X3225	X3226	X3227	X3228	X3229	X3230	X3231	X3232	X3233	X3234	X3235	X3236	X3237	X3238	X3239	X3240	X3241	X3242	X3243	X3244	X3245	X3246	X3247	X3248	X3249	X3250																																																																																																																																															
X3251	X3252	X3253	X3254	X3261	X3262	X3263	X3264	X3265	X3266	X3267	X3268	X3269	X3270	X3271	X3272	X3273	X3274	X3275	X3276	X3277	X3278	X3279	X3280	X3281	X3282	X3283	X3284	X3285	X3286	X3287	X3288	X3289	X3290	X3291	X3292	X3293	X3294	X3295	X3296	X3297	X3298	X3299	X3300	X3301	X3302	X3303	X3304	X3305	X3306	X3307	X3308	X3309	X3310	X3311	X3312	X3313	X3314	X3315	X3316																																																																																																																																																		
X3317	X3318	X3319	X3320	X3321	X3324	X3325	X3326	X3327	X3328	X3329	X3330	X3331	X3332	X3333	X3334	X3335	X3336	X3337	X3338	X3339	X3340	X3341	X3344	X3345	X3346	X3347	X3348	X3349	X3350	X3351	X3352	X3353	X3354	X3355	X3356	X3357	X3358	X3359	X3360	X3361	X3362	X3363	X3364	X3365	X3366	X3367	X3368	X3369	X3370	X3371	X3372	X3373	X3374	X3375	X3376	X3377	X3378																																																																																																																																																				





## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	55564	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	50	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	0.068	Depositor
Minimum map value	-0.038	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.025	Depositor
Map size (Å)	502.0, 502.0, 502.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.255, 1.255, 1.255	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

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	0.31	0/834	0.52	0/1123
1	F	0.31	0/834	0.52	0/1123
1	H	0.31	0/834	0.52	0/1123
1	J	0.31	0/834	0.52	0/1123
2	B	0.31	0/25428	0.55	9/34534 (0.0%)
2	E	0.31	0/25428	0.55	8/34534 (0.0%)
2	G	0.31	0/25428	0.55	8/34534 (0.0%)
2	I	0.31	0/25428	0.55	8/34534 (0.0%)
All	All	0.31	0/105048	0.55	33/142628 (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
2	B	0	17
2	E	0	17
2	G	0	16
2	I	0	16
All	All	0	66

There are no bond length outliers.

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	131	LEU	CA-CB-CG	8.36	134.52	115.30
2	G	131	LEU	CA-CB-CG	8.35	134.51	115.30
2	B	131	LEU	CA-CB-CG	8.34	134.48	115.30
2	E	131	LEU	CA-CB-CG	8.33	134.46	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	1676	LEU	CA-CB-CG	6.33	129.86	115.30
2	G	1676	LEU	CA-CB-CG	6.33	129.86	115.30
2	B	1676	LEU	CA-CB-CG	6.32	129.84	115.30
2	E	1676	LEU	CA-CB-CG	6.32	129.84	115.30
2	E	1600	LEU	CA-CB-CG	6.29	129.77	115.30
2	B	1600	LEU	CA-CB-CG	6.29	129.75	115.30
2	I	1600	LEU	CA-CB-CG	6.29	129.76	115.30
2	B	4985	LEU	CA-CB-CG	6.28	129.75	115.30
2	E	4985	LEU	CA-CB-CG	6.28	129.74	115.30
2	G	4985	LEU	CA-CB-CG	6.28	129.74	115.30
2	G	1600	LEU	CA-CB-CG	6.28	129.74	115.30
2	I	4985	LEU	CA-CB-CG	6.27	129.73	115.30
2	G	977	LEU	CA-CB-CG	5.57	128.11	115.30
2	E	977	LEU	CA-CB-CG	5.56	128.08	115.30
2	B	977	LEU	CA-CB-CG	5.55	128.08	115.30
2	I	977	LEU	CA-CB-CG	5.54	128.04	115.30
2	I	3663	LEU	CA-CB-CG	5.22	127.30	115.30
2	E	3663	LEU	CA-CB-CG	5.21	127.27	115.30
2	G	3663	LEU	CA-CB-CG	5.20	127.26	115.30
2	B	3663	LEU	CA-CB-CG	5.20	127.25	115.30
2	E	688	LEU	CA-CB-CG	5.08	126.99	115.30
2	I	2290	LEU	CA-CB-CG	5.08	126.98	115.30
2	G	688	LEU	CA-CB-CG	5.08	126.97	115.30
2	B	688	LEU	CA-CB-CG	5.07	126.97	115.30
2	B	2290	LEU	CA-CB-CG	5.07	126.96	115.30
2	I	688	LEU	CA-CB-CG	5.07	126.96	115.30
2	G	2290	LEU	CA-CB-CG	5.07	126.95	115.30
2	E	2290	LEU	CA-CB-CG	5.06	126.94	115.30
2	B	727	ALA	C-N-CA	-5.00	109.19	121.70

There are no chirality outliers.

All (66) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	139	GLU	Peptide
2	B	1676	LEU	Peptide
2	B	1712	TYR	Peptide
2	B	1795	PRO	Peptide
2	B	1828	ASP	Peptide
2	B	2001	PRO	Peptide
2	B	2291	GLN	Peptide
2	B	2343	GLY	Peptide

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
2	B	2472	LEU	Peptide
2	B	2807	TRP	Peptide
2	B	312	THR	Peptide
2	B	4031	LEU	Peptide
2	B	4641	PRO	Peptide
2	B	4666	VAL	Peptide
2	B	4807	PHE	Peptide
2	B	694	PRO	Peptide
2	B	808	TYR	Peptide
2	E	139	GLU	Peptide
2	E	1676	LEU	Peptide
2	E	1712	TYR	Peptide
2	E	1795	PRO	Peptide
2	E	1828	ASP	Peptide
2	E	2001	PRO	Peptide
2	E	2291	GLN	Peptide
2	E	2343	GLY	Peptide
2	E	2472	LEU	Peptide
2	E	2807	TRP	Peptide
2	E	312	THR	Peptide
2	E	4031	LEU	Peptide
2	E	4641	PRO	Peptide
2	E	4666	VAL	Peptide
2	E	4807	PHE	Peptide
2	E	694	PRO	Peptide
2	E	808	TYR	Peptide
2	G	139	GLU	Peptide
2	G	1676	LEU	Peptide
2	G	1712	TYR	Peptide
2	G	1795	PRO	Peptide
2	G	1828	ASP	Peptide
2	G	2001	PRO	Peptide
2	G	2291	GLN	Peptide
2	G	2343	GLY	Peptide
2	G	2472	LEU	Peptide
2	G	2807	TRP	Peptide
2	G	312	THR	Peptide
2	G	4031	LEU	Peptide
2	G	4666	VAL	Peptide
2	G	4807	PHE	Peptide
2	G	694	PRO	Peptide
2	G	808	TYR	Peptide

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Mol	Chain	Res	Type	Group
2	I	139	GLU	Peptide
2	I	1676	LEU	Peptide
2	I	1712	TYR	Peptide
2	I	1795	PRO	Peptide
2	I	1828	ASP	Peptide
2	I	2001	PRO	Peptide
2	I	2291	GLN	Peptide
2	I	2343	GLY	Peptide
2	I	2472	LEU	Peptide
2	I	2807	TRP	Peptide
2	I	312	THR	Peptide
2	I	4031	LEU	Peptide
2	I	4666	VAL	Peptide
2	I	4807	PHE	Peptide
2	I	694	PRO	Peptide
2	I	808	TYR	Peptide

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	818	0	824	8	0
1	F	818	0	824	8	0
1	H	818	0	824	8	0
1	J	818	0	824	5	0
2	B	29499	0	24751	284	0
2	E	29499	0	24751	290	0
2	G	29499	0	24751	288	0
2	I	29499	0	24751	286	0
3	B	1	0	0	0	0
3	E	1	0	0	0	0
3	G	1	0	0	0	0
3	I	1	0	0	0	0
All	All	121272	0	102300	1147	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 5.

All (1147) close contacts within the same asymmetric unit are listed below, sorted by their clash

magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:4190:ILE:CD1	2:I:5026:ASP:OD2	1.76	1.33
2:E:4190:ILE:CD1	2:E:5026:ASP:OD2	1.77	1.33
2:G:4190:ILE:CD1	2:G:5026:ASP:OD2	1.77	1.32
2:B:4190:ILE:CD1	2:B:5026:ASP:OD2	1.76	1.31
2:B:4190:ILE:HD11	2:B:5026:ASP:OD2	1.31	1.26
2:E:4190:ILE:HD11	2:E:5026:ASP:OD2	1.31	1.19
2:G:4190:ILE:HD11	2:G:5026:ASP:OD2	1.31	1.13
2:I:4190:ILE:HD11	2:I:5026:ASP:OD2	1.31	1.11
2:G:5028:PHE:HE1	2:G:5032:TYR:CE2	1.78	1.02
2:I:5028:PHE:HE1	2:I:5032:TYR:CE2	1.78	1.01
2:B:5028:PHE:HE1	2:B:5032:TYR:CE2	1.78	1.01
2:E:5028:PHE:HE1	2:E:5032:TYR:CE2	1.78	1.00
2:I:4968:PHE:CZ	2:I:4978:HIS:ND1	2.31	0.99
2:G:4968:PHE:CZ	2:G:4978:HIS:ND1	2.30	0.99
2:B:4968:PHE:CZ	2:B:4978:HIS:ND1	2.30	0.98
2:E:4968:PHE:CZ	2:E:4978:HIS:ND1	2.30	0.98
2:I:4190:ILE:HD11	2:I:5026:ASP:CG	1.92	0.90
2:B:4190:ILE:HD11	2:B:5026:ASP:CG	1.92	0.90
2:E:4190:ILE:HD11	2:E:5026:ASP:CG	1.92	0.89
2:G:4190:ILE:HD11	2:G:5026:ASP:CG	1.92	0.89
2:G:4968:PHE:CZ	2:G:4978:HIS:CE1	2.61	0.89
2:B:5028:PHE:CE1	2:B:5032:TYR:CD2	2.61	0.89
2:B:4968:PHE:CZ	2:B:4978:HIS:CE1	2.61	0.88
2:E:5028:PHE:CE1	2:E:5032:TYR:CD2	2.61	0.88
2:G:5028:PHE:CE1	2:G:5032:TYR:CD2	2.61	0.88
2:I:5028:PHE:CE1	2:I:5032:TYR:CD2	2.61	0.88
2:I:4968:PHE:CZ	2:I:4978:HIS:CE1	2.61	0.87
2:E:4968:PHE:CZ	2:E:4978:HIS:CE1	2.61	0.87
2:I:5028:PHE:CE1	2:I:5032:TYR:CE2	2.66	0.83
2:E:4960:ILE:HD11	2:E:4985:LEU:HD23	1.60	0.83
2:B:5028:PHE:CE1	2:B:5032:TYR:CE2	2.66	0.82
2:G:4960:ILE:HD11	2:G:4985:LEU:HD23	1.61	0.82
2:B:4190:ILE:CD1	2:B:5026:ASP:CG	2.49	0.81
2:E:4190:ILE:CD1	2:E:5026:ASP:CG	2.49	0.81
2:E:5028:PHE:CE1	2:E:5032:TYR:CE2	2.66	0.81
2:B:4968:PHE:HZ	2:B:4978:HIS:CE1	1.99	0.81
2:B:4960:ILE:HD11	2:B:4985:LEU:HD23	1.60	0.80
2:I:4190:ILE:HD13	2:I:5026:ASP:OD2	1.81	0.80
2:I:4960:ILE:HD11	2:I:4985:LEU:HD23	1.61	0.80
2:E:4190:ILE:HD13	2:E:5026:ASP:OD2	1.81	0.80
2:G:5028:PHE:CE1	2:G:5032:TYR:CE2	2.66	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:4190:ILE:CD1	2:I:5026:ASP:CG	2.49	0.79
2:G:4190:ILE:CD1	2:G:5026:ASP:CG	2.49	0.79
2:B:5028:PHE:HE1	2:B:5032:TYR:CD2	2.01	0.78
2:G:5028:PHE:HE1	2:G:5032:TYR:CD2	2.01	0.78
2:I:4968:PHE:HZ	2:I:4978:HIS:CE1	1.99	0.78
2:I:5028:PHE:HE1	2:I:5032:TYR:CD2	2.01	0.78
2:G:4968:PHE:HZ	2:G:4978:HIS:CE1	1.99	0.78
2:E:4968:PHE:HZ	2:E:4978:HIS:CE1	1.99	0.77
2:E:5028:PHE:HE1	2:E:5032:TYR:CD2	2.01	0.76
2:G:5028:PHE:HE1	2:G:5032:TYR:HE2	1.33	0.76
2:I:4960:ILE:N	2:I:4960:ILE:HD13	2.01	0.75
2:B:5028:PHE:HE1	2:B:5032:TYR:HE2	1.33	0.75
2:B:4190:ILE:HD13	2:B:5026:ASP:OD2	1.81	0.75
2:G:4190:ILE:HD13	2:G:5026:ASP:OD2	1.81	0.74
2:I:5028:PHE:HE1	2:I:5032:TYR:HE2	1.33	0.74
2:B:4960:ILE:N	2:B:4960:ILE:HD13	2.01	0.74
2:G:4960:ILE:N	2:G:4960:ILE:HD13	2.01	0.74
2:E:4960:ILE:HD13	2:E:4960:ILE:N	2.01	0.73
2:E:5028:PHE:HE1	2:E:5032:TYR:HE2	1.33	0.72
2:I:4960:ILE:HG23	2:I:4988:TYR:HE2	1.56	0.71
2:I:4968:PHE:CE2	2:I:4978:HIS:ND1	2.60	0.70
2:G:4960:ILE:HG23	2:G:4988:TYR:HE2	1.56	0.70
2:G:4968:PHE:CE2	2:G:4978:HIS:ND1	2.59	0.70
2:B:4960:ILE:HG23	2:B:4988:TYR:HE2	1.56	0.70
2:E:4968:PHE:CE2	2:E:4978:HIS:ND1	2.59	0.69
2:E:379:HIS:HD2	2:E:382:GLY:H	1.41	0.69
2:E:4960:ILE:HG23	2:E:4988:TYR:HE2	1.56	0.69
2:I:2291:GLN:HB3	2:I:2294:ASP:H	1.57	0.69
2:B:4968:PHE:CE2	2:B:4978:HIS:ND1	2.59	0.69
2:B:379:HIS:HD2	2:B:382:GLY:H	1.41	0.68
2:I:379:HIS:HD2	2:I:382:GLY:H	1.41	0.68
2:E:2291:GLN:HB3	2:E:2294:ASP:H	1.57	0.68
2:G:2291:GLN:HB3	2:G:2294:ASP:H	1.57	0.68
2:B:2291:GLN:HB3	2:B:2294:ASP:H	1.57	0.68
2:G:379:HIS:HD2	2:G:382:GLY:H	1.41	0.67
2:B:4933:GLN:NE2	2:I:4933:GLN:OE1	2.29	0.65
2:B:173:SER:HB3	2:B:178:ARG:H	1.62	0.65
2:E:1721:GLU:OE2	2:E:1725:ARG:NH2	2.30	0.65
2:E:4673:ARG:HH22	2:E:4698:LYS:HB2	1.62	0.65
2:G:1721:GLU:OE2	2:G:1725:ARG:NH2	2.30	0.65
2:G:5028:PHE:CE1	2:G:5032:TYR:HD2	2.13	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:1721:GLU:OE2	2:I:1725:ARG:NH2	2.30	0.64
2:I:5028:PHE:CE1	2:I:5032:TYR:HD2	2.13	0.64
2:G:173:SER:HB3	2:G:178:ARG:H	1.62	0.64
2:G:4673:ARG:HH22	2:G:4698:LYS:HB2	1.62	0.64
2:I:4673:ARG:HH22	2:I:4698:LYS:HB2	1.62	0.64
2:I:173:SER:HB3	2:I:178:ARG:H	1.62	0.64
2:E:1743:ARG:O	2:E:1964:ARG:NH2	2.31	0.64
2:E:5028:PHE:CE1	2:E:5032:TYR:HD2	2.13	0.64
2:G:1743:ARG:O	2:G:1964:ARG:NH2	2.31	0.63
2:E:173:SER:HB3	2:E:178:ARG:H	1.62	0.63
2:B:646:PRO:HD2	2:B:779:PRO:HB2	1.80	0.63
2:I:1743:ARG:O	2:I:1964:ARG:NH2	2.31	0.63
2:B:1743:ARG:O	2:B:1964:ARG:NH2	2.31	0.63
2:B:4673:ARG:HH22	2:B:4698:LYS:HB2	1.62	0.63
2:B:5028:PHE:CE1	2:B:5032:TYR:HD2	2.13	0.63
2:I:4191:GLU:OE1	2:I:5006:GLN:NE2	2.32	0.63
2:G:4191:GLU:OE1	2:G:5006:GLN:NE2	2.32	0.62
2:G:646:PRO:HD2	2:G:779:PRO:HB2	1.80	0.62
2:B:4191:GLU:OE1	2:B:5006:GLN:NE2	2.32	0.62
2:G:1260:MET:HB2	2:G:1269:CYS:H	1.65	0.62
2:E:683:ARG:HB2	2:E:782:SER:HB3	1.82	0.62
2:E:1260:MET:HB2	2:E:1269:CYS:H	1.65	0.62
2:E:646:PRO:HD2	2:E:779:PRO:HB2	1.80	0.62
2:E:4191:GLU:OE1	2:E:5006:GLN:NE2	2.32	0.62
2:B:1260:MET:HB2	2:B:1269:CYS:H	1.65	0.61
2:B:683:ARG:HB2	2:B:782:SER:HB3	1.82	0.61
2:I:1260:MET:HB2	2:I:1269:CYS:H	1.65	0.61
2:G:683:ARG:HB2	2:G:782:SER:HB3	1.82	0.61
2:B:745:SER:HB2	2:B:758:ARG:HB3	1.82	0.61
2:B:1721:GLU:OE2	2:B:1725:ARG:NH2	2.30	0.61
2:I:646:PRO:HD2	2:I:779:PRO:HB2	1.80	0.61
2:I:745:SER:HB2	2:I:758:ARG:HB3	1.82	0.61
2:E:745:SER:HB2	2:E:758:ARG:HB3	1.83	0.61
2:B:4860:ARG:HD2	2:E:4582:VAL:HG11	1.83	0.61
2:G:745:SER:HB2	2:G:758:ARG:HB3	1.83	0.61
2:B:2347:GLU:O	2:B:2351:ASN:N	2.34	0.61
2:E:2347:GLU:O	2:E:2351:ASN:N	2.34	0.61
2:I:683:ARG:HB2	2:I:782:SER:HB3	1.82	0.60
2:E:4860:ARG:HD2	2:G:4582:VAL:HG11	1.83	0.60
2:E:3937:TYR:O	2:E:4002:LYS:NZ	2.35	0.60
2:G:2347:GLU:O	2:G:2351:ASN:N	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3675:ASP:OD1	2:B:3769:ARG:NH2	2.35	0.60
2:I:2347:GLU:O	2:I:2351:ASN:N	2.34	0.60
2:I:3937:TYR:O	2:I:4002:LYS:NZ	2.35	0.60
2:E:3675:ASP:OD1	2:E:3769:ARG:NH2	2.35	0.59
2:G:626:LEU:HG	2:G:628:GLY:H	1.66	0.59
2:G:3937:TYR:O	2:G:4002:LYS:NZ	2.35	0.59
2:B:2346:VAL:HG22	2:B:2348:GLU:H	1.67	0.59
2:I:626:LEU:HG	2:I:628:GLY:H	1.66	0.59
2:E:626:LEU:HG	2:E:628:GLY:H	1.66	0.59
2:G:2346:VAL:HG22	2:G:2348:GLU:H	1.67	0.59
2:B:3937:TYR:O	2:B:4002:LYS:NZ	2.35	0.59
2:E:2346:VAL:HG22	2:E:2348:GLU:H	1.67	0.59
2:G:3675:ASP:OD1	2:G:3769:ARG:NH2	2.35	0.59
2:G:111:HIS:HD2	2:G:114:SER:H	1.51	0.59
2:E:111:HIS:HD2	2:E:114:SER:H	1.51	0.59
2:E:641:VAL:HG21	2:E:705:ASN:HA	1.84	0.59
2:B:111:HIS:HD2	2:B:114:SER:H	1.51	0.59
2:B:2291:GLN:HB2	2:B:2295:LEU:HG	1.85	0.59
2:I:111:HIS:HD2	2:I:114:SER:H	1.51	0.59
2:I:2291:GLN:HB2	2:I:2295:LEU:HG	1.85	0.59
2:I:4944:ARG:NH2	2:G:4945:ASP:OD2	2.36	0.59
2:E:2291:GLN:HB2	2:E:2295:LEU:HG	1.85	0.59
2:G:2291:GLN:HB2	2:G:2295:LEU:HG	1.85	0.59
2:B:626:LEU:HG	2:B:628:GLY:H	1.66	0.58
2:G:1691:GLN:HE22	2:G:1802:ILE:HG12	1.68	0.58
2:E:2770:LYS:HB3	2:E:2775:TRP:HB2	1.85	0.58
2:G:2770:LYS:HB3	2:G:2775:TRP:HB2	1.85	0.58
2:B:641:VAL:HG21	2:B:705:ASN:HA	1.84	0.58
2:B:2770:LYS:HB3	2:B:2775:TRP:HB2	1.85	0.58
2:I:641:VAL:HG21	2:I:705:ASN:HA	1.84	0.58
2:I:2770:LYS:HB3	2:I:2775:TRP:HB2	1.85	0.58
1:F:42:ARG:HG2	2:E:1691:GLN:HG2	1.85	0.58
2:B:1691:GLN:HE22	2:B:1802:ILE:HG12	1.68	0.58
2:B:1519:UNK:HA	2:B:1526:UNK:HA	1.86	0.58
2:I:315:CYS:SG	2:I:316:PHE:N	2.77	0.58
2:I:1691:GLN:HE22	2:I:1802:ILE:HG12	1.68	0.58
2:E:1519:UNK:HA	2:E:1526:UNK:HA	1.86	0.58
2:G:614:VAL:HG22	2:G:616:SER:H	1.69	0.58
2:G:641:VAL:HG21	2:G:705:ASN:HA	1.84	0.58
2:I:1079:LYS:NZ	2:I:1107:PRO:O	2.37	0.58
2:I:614:VAL:HG22	2:I:616:SER:H	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2346:VAL:HG22	2:I:2348:GLU:H	1.67	0.57
2:I:3675:ASP:OD1	2:I:3769:ARG:NH2	2.35	0.57
2:I:4582:VAL:HG11	2:G:4860:ARG:HD2	1.85	0.57
2:E:315:CYS:SG	2:E:316:PHE:N	2.77	0.57
2:G:210:GLU:HG3	2:G:337:PRO:HG3	1.86	0.57
2:G:1519:UNK:HA	2:G:1526:UNK:HA	1.85	0.57
2:B:315:CYS:SG	2:B:316:PHE:N	2.77	0.57
2:E:1079:LYS:NZ	2:E:1107:PRO:O	2.37	0.57
2:E:4933:GLN:OE1	2:G:4933:GLN:NE2	2.36	0.57
2:G:315:CYS:SG	2:G:316:PHE:N	2.77	0.57
1:F:74:LEU:HB2	1:F:99:PHE:HB2	1.86	0.57
2:I:1519:UNK:HA	2:I:1526:UNK:HA	1.86	0.57
2:E:4232:GLU:OE1	2:E:5019:TRP:NE1	2.38	0.57
2:E:132:ALA:HA	2:E:194:SER:HB2	1.87	0.57
2:E:614:VAL:HG22	2:E:616:SER:H	1.69	0.57
1:A:74:LEU:HB2	1:A:99:PHE:HB2	1.86	0.57
2:B:1079:LYS:NZ	2:B:1107:PRO:O	2.37	0.57
2:E:1691:GLN:HE22	2:E:1802:ILE:HG12	1.68	0.57
2:E:210:GLU:HG3	2:E:337:PRO:HG3	1.86	0.57
2:G:497:TYR:HB3	2:G:500:ALA:HB2	1.87	0.57
2:G:1079:LYS:NZ	2:G:1107:PRO:O	2.37	0.57
2:G:4232:GLU:OE1	2:G:5019:TRP:NE1	2.38	0.57
2:G:4960:ILE:HG23	2:G:4988:TYR:CE2	2.40	0.57
2:I:132:ALA:HA	2:I:194:SER:HB2	1.87	0.57
2:E:497:TYR:HB3	2:E:500:ALA:HB2	1.87	0.57
2:B:2748:PRO:HD2	2:B:2751:LEU:HD12	1.86	0.56
2:B:132:ALA:HA	2:B:194:SER:HB2	1.87	0.56
2:B:497:TYR:HB3	2:B:500:ALA:HB2	1.87	0.56
2:B:614:VAL:HG22	2:B:616:SER:H	1.69	0.56
2:B:1700:ASP:OD2	2:B:1708:ARG:NH2	2.38	0.56
2:B:4232:GLU:OE1	2:B:5019:TRP:NE1	2.38	0.56
2:B:4904:PRO:HB3	2:B:4913:ARG:HD3	1.87	0.56
2:I:4960:ILE:HG23	2:I:4988:TYR:CE2	2.40	0.56
2:E:470:SER:O	2:E:474:ARG:NE	2.37	0.56
2:I:4232:GLU:OE1	2:I:5019:TRP:NE1	2.38	0.56
2:E:2748:PRO:HD2	2:E:2751:LEU:HD12	1.86	0.56
2:E:4904:PRO:HB3	2:E:4913:ARG:HD3	1.87	0.56
2:B:210:GLU:HG3	2:B:337:PRO:HG3	1.86	0.56
2:I:210:GLU:HG3	2:I:337:PRO:HG3	1.86	0.56
2:I:497:TYR:HB3	2:I:500:ALA:HB2	1.87	0.56
2:I:1103:GLY:HA3	2:I:1123:VAL:HA	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:132:ALA:HA	2:G:194:SER:HB2	1.87	0.56
2:G:1700:ASP:OD2	2:G:1708:ARG:NH2	2.38	0.56
2:B:609:CYS:SG	2:B:610:ASN:N	2.79	0.56
2:I:1700:ASP:OD2	2:I:1708:ARG:NH2	2.38	0.56
2:I:2748:PRO:HD2	2:I:2751:LEU:HD12	1.87	0.56
2:E:2326:CYS:SG	2:E:2327:GLY:N	2.79	0.56
2:G:609:CYS:SG	2:G:610:ASN:N	2.79	0.56
1:H:74:LEU:HB2	1:H:99:PHE:HB2	1.86	0.55
2:B:1103:GLY:HA3	2:B:1123:VAL:HA	1.88	0.55
2:G:2326:CYS:SG	2:G:2327:GLY:N	2.79	0.55
2:B:2326:CYS:SG	2:B:2327:GLY:N	2.79	0.55
2:E:1700:ASP:OD2	2:E:1708:ARG:NH2	2.38	0.55
2:E:609:CYS:SG	2:E:610:ASN:N	2.79	0.55
2:E:972:LEU:O	2:E:1044:ARG:NH2	2.40	0.55
1:J:74:LEU:HB2	1:J:99:PHE:HB2	1.86	0.55
2:I:2326:CYS:SG	2:I:2327:GLY:N	2.79	0.55
2:E:4960:ILE:HG23	2:E:4988:TYR:CE2	2.40	0.55
2:G:1103:GLY:HA3	2:G:1123:VAL:HA	1.88	0.55
2:G:2748:PRO:HD2	2:G:2751:LEU:HD12	1.86	0.55
2:I:4904:PRO:HB3	2:I:4913:ARG:HD3	1.87	0.55
2:E:887:ILE:HG21	2:E:959:TYR:HA	1.89	0.55
2:G:887:ILE:HG21	2:G:959:TYR:HA	1.89	0.55
2:B:887:ILE:HG21	2:B:959:TYR:HA	1.89	0.55
2:I:3946:GLN:OE1	2:I:3950:ASN:ND2	2.40	0.55
2:B:3946:GLN:OE1	2:B:3950:ASN:ND2	2.40	0.55
2:I:609:CYS:SG	2:I:610:ASN:N	2.79	0.55
2:I:887:ILE:HG21	2:I:959:TYR:HA	1.89	0.55
2:E:2337:PHE:HA	2:E:2340:PHE:HB2	1.89	0.55
2:G:4904:PRO:HB3	2:G:4913:ARG:HD3	1.87	0.55
2:E:1103:GLY:HA3	2:E:1123:VAL:HA	1.88	0.55
2:E:3946:GLN:OE1	2:E:3950:ASN:ND2	2.40	0.55
2:G:470:SER:O	2:G:474:ARG:NE	2.37	0.55
2:G:972:LEU:O	2:G:1044:ARG:NH2	2.39	0.55
2:G:3946:GLN:OE1	2:G:3950:ASN:ND2	2.40	0.55
2:B:4933:GLN:OE1	2:E:4933:GLN:NE2	2.39	0.55
2:I:4933:GLN:NE2	2:G:4933:GLN:OE1	2.40	0.55
2:E:3817:LEU:HD13	2:E:3899:PHE:HD1	1.72	0.55
2:B:19:GLU:HB2	2:B:206:CYS:HB3	1.89	0.54
2:B:4960:ILE:HG23	2:B:4988:TYR:CE2	2.40	0.54
2:I:2452:ARG:NH1	2:G:174:VAL:O	2.40	0.54
2:B:972:LEU:O	2:B:1044:ARG:NH2	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:972:LEU:O	2:I:1044:ARG:NH2	2.39	0.54
2:G:2337:PHE:HA	2:G:2340:PHE:HB2	1.89	0.54
2:B:606:LEU:O	2:B:617:ASN:ND2	2.41	0.54
2:I:214:VAL:HG12	2:I:274:LEU:HD12	1.89	0.54
2:B:2337:PHE:HA	2:B:2340:PHE:HB2	1.89	0.54
2:I:19:GLU:HB2	2:I:206:CYS:HB3	1.89	0.54
2:I:1152:MET:HB2	2:I:1161:ILE:HB	1.90	0.54
2:E:214:VAL:HG12	2:E:274:LEU:HD12	1.89	0.54
2:G:4567:LEU:HD12	2:G:4816:ILE:HD12	1.90	0.54
2:E:520:ASN:ND2	2:E:555:GLU:OE2	2.41	0.54
2:G:2199:ARG:NH2	2:G:2246:ASN:OD1	2.41	0.54
2:G:3817:LEU:HD13	2:G:3899:PHE:HD1	1.72	0.54
1:H:42:ARG:HG2	2:G:1691:GLN:HG2	1.89	0.54
2:B:520:ASN:ND2	2:B:555:GLU:OE2	2.41	0.54
2:I:3817:LEU:HD13	2:I:3899:PHE:HD1	1.72	0.54
2:E:4567:LEU:HD12	2:E:4816:ILE:HD12	1.90	0.54
2:E:4860:ARG:HG3	2:E:4876:CYS:HB3	1.90	0.54
2:G:520:ASN:ND2	2:G:555:GLU:OE2	2.41	0.54
1:A:42:ARG:HG2	2:B:1691:GLN:HG2	1.90	0.54
2:B:331:VAL:HG12	2:B:333:GLY:H	1.73	0.54
2:B:4888:TYR:HA	2:I:4918:ILE:HD11	1.90	0.54
2:I:34:LYS:H	2:I:53:SER:HG	1.54	0.54
2:I:2199:ARG:NH2	2:I:2246:ASN:OD1	2.41	0.54
2:G:606:LEU:O	2:G:617:ASN:ND2	2.41	0.54
2:G:989:ALA:O	2:G:1035:ASN:ND2	2.40	0.54
2:B:470:SER:O	2:B:474:ARG:NE	2.37	0.54
2:I:989:ALA:O	2:I:1035:ASN:ND2	2.41	0.54
2:G:1152:MET:HB2	2:G:1161:ILE:HB	1.90	0.54
2:B:214:VAL:HG12	2:B:274:LEU:HD12	1.89	0.54
2:B:1152:MET:HB2	2:B:1161:ILE:HB	1.90	0.54
2:B:2199:ARG:NH2	2:B:2246:ASN:OD1	2.41	0.54
2:B:3817:LEU:HD13	2:B:3899:PHE:HD1	1.72	0.54
2:I:572:PRO:HA	2:I:575:LEU:HD13	1.90	0.54
2:I:2739:PRO:HB3	2:I:2884:ASN:HB3	1.90	0.54
2:I:4860:ARG:HG3	2:I:4876:CYS:HB3	1.90	0.54
2:E:670:GLU:HG3	2:E:787:VAL:HG13	1.90	0.54
2:B:2739:PRO:HB3	2:B:2884:ASN:HB3	1.90	0.53
2:I:606:LEU:O	2:I:617:ASN:ND2	2.41	0.53
2:I:1109:LEU:HA	2:I:1120:LEU:HD21	1.90	0.53
2:E:331:VAL:HG12	2:E:333:GLY:H	1.73	0.53
2:E:1152:MET:HB2	2:E:1161:ILE:HB	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2739:PRO:HB3	2:E:2884:ASN:HB3	1.90	0.53
2:B:572:PRO:HA	2:B:575:LEU:HD13	1.90	0.53
2:B:4190:ILE:HD13	2:B:5026:ASP:CG	2.26	0.53
2:I:4152:GLU:OE1	2:I:4192:ARG:NH2	2.42	0.53
2:E:1109:LEU:HA	2:E:1120:LEU:HD21	1.90	0.53
2:E:2868:SER:O	2:E:2872:GLN:N	2.41	0.53
2:I:520:ASN:ND2	2:I:555:GLU:OE2	2.41	0.53
2:I:2337:PHE:HA	2:I:2340:PHE:HB2	1.89	0.53
2:I:2803:GLU:OE2	2:I:2806:ARG:NH1	2.42	0.53
2:E:606:LEU:O	2:E:617:ASN:ND2	2.41	0.53
2:B:978:THR:HB	2:B:980:ALA:H	1.73	0.53
2:B:4152:GLU:OE1	2:B:4192:ARG:NH2	2.42	0.53
2:E:2199:ARG:NH2	2:E:2246:ASN:OD1	2.41	0.53
2:E:2755:ILE:HD13	2:E:2810:LYS:HG2	1.91	0.53
2:G:214:VAL:HG12	2:G:274:LEU:HD12	1.89	0.53
2:B:670:GLU:HG3	2:B:787:VAL:HG13	1.91	0.53
2:I:4567:LEU:HD12	2:I:4816:ILE:HD12	1.90	0.53
2:E:4232:GLU:OE2	2:E:5017:ARG:NH1	2.42	0.53
2:G:331:VAL:HG12	2:G:333:GLY:H	1.73	0.53
2:G:1109:LEU:HA	2:G:1120:LEU:HD21	1.90	0.53
2:B:2803:GLU:OE2	2:B:2806:ARG:NH1	2.42	0.53
2:I:331:VAL:HG12	2:I:333:GLY:H	1.73	0.53
2:I:2755:ILE:HD13	2:I:2810:LYS:HG2	1.91	0.53
2:I:3805:LEU:HA	2:I:3809:ASN:HD22	1.74	0.53
2:E:978:THR:HB	2:E:980:ALA:H	1.73	0.53
2:G:1698:LEU:N	2:G:1712:TYR:OH	2.42	0.53
2:G:2803:GLU:OE2	2:G:2806:ARG:NH1	2.42	0.53
2:G:4860:ARG:HG3	2:G:4876:CYS:HB3	1.90	0.53
2:E:19:GLU:HB2	2:E:206:CYS:HB3	1.89	0.53
2:B:4860:ARG:HG3	2:B:4876:CYS:HB3	1.90	0.53
2:E:989:ALA:O	2:E:1035:ASN:ND2	2.40	0.53
2:G:2739:PRO:HB3	2:G:2884:ASN:HB3	1.90	0.53
2:G:2755:ILE:HD13	2:G:2810:LYS:HG2	1.91	0.53
2:B:2755:ILE:HD13	2:B:2810:LYS:HG2	1.91	0.53
2:B:3805:LEU:HA	2:B:3809:ASN:HD22	1.74	0.53
2:B:463:GLU:OE2	2:B:467:LYS:NZ	2.40	0.52
2:B:989:ALA:O	2:B:1035:ASN:ND2	2.40	0.52
2:B:1109:LEU:HA	2:B:1120:LEU:HD21	1.90	0.52
2:B:4567:LEU:HD12	2:B:4816:ILE:HD12	1.90	0.52
2:B:4666:VAL:HG23	2:B:4669:VAL:HB	1.91	0.52
2:I:4232:GLU:OE2	2:I:5017:ARG:NH1	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1698:LEU:N	2:E:1712:TYR:OH	2.42	0.52
2:E:2803:GLU:OE2	2:E:2806:ARG:NH1	2.42	0.52
2:E:4152:GLU:OE1	2:E:4192:ARG:NH2	2.42	0.52
2:G:23:GLN:OE1	2:G:203:ASN:ND2	2.41	0.52
2:G:4190:ILE:HD13	2:G:5026:ASP:CG	2.26	0.52
2:E:23:GLN:OE1	2:E:203:ASN:ND2	2.41	0.52
2:E:463:GLU:OE2	2:E:467:LYS:NZ	2.41	0.52
2:E:4666:VAL:HG23	2:E:4669:VAL:HB	1.91	0.52
2:G:4152:GLU:OE1	2:G:4192:ARG:NH2	2.42	0.52
2:B:1698:LEU:N	2:B:1712:TYR:OH	2.42	0.52
2:B:1812:LEU:HD21	2:B:1861:GLN:HG2	1.91	0.52
2:I:670:GLU:HG3	2:I:787:VAL:HG13	1.91	0.52
2:I:683:ARG:NH1	2:I:707:VAL:O	2.40	0.52
2:E:572:PRO:HA	2:E:575:LEU:HD13	1.90	0.52
2:E:952:LYS:HB3	2:E:968:ALA:HB1	1.92	0.52
2:G:19:GLU:HB2	2:G:206:CYS:HB3	1.89	0.52
2:G:952:LYS:HB3	2:G:968:ALA:HB1	1.92	0.52
2:B:23:GLN:OE1	2:B:203:ASN:ND2	2.41	0.52
2:B:4582:VAL:HG11	2:I:4860:ARG:HD2	1.89	0.52
2:B:952:LYS:HB3	2:B:968:ALA:HB1	1.92	0.52
2:B:4945:ASP:OD2	2:E:4944:ARG:NH2	2.42	0.52
2:I:978:THR:HB	2:I:980:ALA:H	1.73	0.52
2:I:1698:LEU:N	2:I:1712:TYR:OH	2.42	0.52
2:G:4232:GLU:OE2	2:G:5017:ARG:NH1	2.42	0.52
2:B:864:PRO:HD2	2:B:867:LEU:HD12	1.92	0.52
2:B:4232:GLU:OE2	2:B:5017:ARG:NH1	2.42	0.52
2:G:3805:LEU:HA	2:G:3809:ASN:HD22	1.74	0.52
2:I:864:PRO:HD2	2:I:867:LEU:HD12	1.92	0.52
2:B:426:ARG:HB2	2:B:506:TYR:HA	1.92	0.52
2:E:718:GLY:HA3	2:E:737:LEU:HA	1.92	0.52
2:E:4190:ILE:HD13	2:E:5026:ASP:CG	2.26	0.52
2:I:241:GLN:O	2:I:289:ARG:NH1	2.40	0.52
2:E:256:ALA:HB1	2:E:286:THR:HG21	1.92	0.52
2:E:3805:LEU:HA	2:E:3809:ASN:HD22	1.74	0.52
2:B:886:ARG:HB3	2:B:891:TRP:HB2	1.92	0.51
2:I:470:SER:O	2:I:474:ARG:NE	2.37	0.51
2:G:256:ALA:HB1	2:G:286:THR:HG21	1.92	0.51
2:G:978:THR:HB	2:G:980:ALA:H	1.73	0.51
2:G:1812:LEU:HD21	2:G:1861:GLN:HG2	1.91	0.51
2:I:23:GLN:OE1	2:I:203:ASN:ND2	2.41	0.51
2:I:45:ARG:HG2	2:I:443:LEU:HD21	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:886:ARG:HB3	2:E:891:TRP:HB2	1.92	0.51
2:G:111:HIS:CD2	2:G:114:SER:H	2.28	0.51
2:G:572:PRO:HA	2:G:575:LEU:HD13	1.90	0.51
2:I:1812:LEU:HD21	2:I:1861:GLN:HG2	1.91	0.51
2:E:34:LYS:H	2:E:53:SER:HG	1.55	0.51
2:G:718:GLY:HA3	2:G:737:LEU:HA	1.93	0.51
2:G:2342:ASN:OD1	2:G:2342:ASN:N	2.43	0.51
2:I:256:ALA:HB1	2:I:286:THR:HG21	1.92	0.51
2:G:864:PRO:HD2	2:G:867:LEU:HD12	1.92	0.51
2:G:4666:VAL:HG23	2:G:4669:VAL:HB	1.91	0.51
2:B:110:ARG:HH21	2:B:115:ARG:HB3	1.75	0.51
2:I:952:LYS:HB3	2:I:968:ALA:HB1	1.92	0.51
2:I:2342:ASN:OD1	2:I:2342:ASN:N	2.43	0.51
2:E:393:CYS:SG	2:E:395:GLN:NE2	2.84	0.51
2:G:683:ARG:NH1	2:G:707:VAL:O	2.40	0.51
2:B:256:ALA:HB1	2:B:286:THR:HG21	1.92	0.51
2:B:2342:ASN:OD1	2:B:2342:ASN:N	2.43	0.51
2:B:2868:SER:O	2:B:2872:GLN:N	2.41	0.51
2:I:111:HIS:CD2	2:I:114:SER:H	2.28	0.51
2:I:426:ARG:HB2	2:I:506:TYR:HA	1.92	0.51
2:E:551:LEU:HD21	2:E:589:LEU:HD13	1.93	0.51
2:G:4236:SER:OG	2:G:4675:LYS:NZ	2.39	0.51
2:B:485:SER:O	2:B:489:ASN:N	2.42	0.51
2:B:718:GLY:HA3	2:B:737:LEU:HA	1.92	0.51
2:I:1796:ALA:HB1	2:I:1797:ARG:HH21	1.76	0.51
2:I:4190:ILE:HD13	2:I:5026:ASP:CG	2.26	0.51
2:E:111:HIS:CD2	2:E:114:SER:H	2.28	0.51
2:E:221:ARG:NE	2:E:258:SER:OG	2.44	0.51
2:E:864:PRO:HD2	2:E:867:LEU:HD12	1.92	0.51
2:G:110:ARG:HH21	2:G:115:ARG:HB3	1.75	0.51
2:G:426:ARG:HB2	2:G:506:TYR:HA	1.92	0.51
2:G:670:GLU:HG3	2:G:787:VAL:HG13	1.90	0.51
2:G:886:ARG:HB3	2:G:891:TRP:HB2	1.92	0.51
2:G:2104:ARG:HA	2:G:2107:GLN:HB3	1.93	0.51
2:I:637:LEU:HD23	2:I:1637:MET:HB3	1.93	0.51
2:I:2104:ARG:HA	2:I:2107:GLN:HB3	1.93	0.51
2:G:393:CYS:SG	2:G:395:GLN:NE2	2.84	0.51
2:B:34:LYS:H	2:B:53:SER:HG	1.55	0.51
2:I:886:ARG:HB3	2:I:891:TRP:HB2	1.92	0.51
2:E:1637:MET:SD	2:E:1708:ARG:NH1	2.84	0.51
2:E:1812:LEU:HD21	2:E:1861:GLN:HG2	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:309:THR:O	2:G:313:SER:OG	2.29	0.51
2:G:1796:ALA:HB1	2:G:1797:ARG:HH21	1.76	0.51
2:B:683:ARG:NH1	2:B:707:VAL:O	2.40	0.51
2:I:393:CYS:SG	2:I:395:GLN:NE2	2.84	0.51
2:I:718:GLY:HA3	2:I:737:LEU:HA	1.92	0.51
2:I:4666:VAL:HG23	2:I:4669:VAL:HB	1.91	0.51
2:E:2104:ARG:HA	2:E:2107:GLN:HB3	1.93	0.51
2:G:2751:LEU:HD11	2:G:2823:ILE:HG21	1.93	0.51
1:A:7:ILE:HB	1:A:71:ARG:HB3	1.93	0.50
1:H:7:ILE:HB	1:H:71:ARG:HB3	1.93	0.50
2:B:393:CYS:SG	2:B:395:GLN:NE2	2.84	0.50
2:B:1796:ALA:HB1	2:B:1797:ARG:HH21	1.76	0.50
2:B:2104:ARG:HA	2:B:2107:GLN:HB3	1.93	0.50
2:B:2751:LEU:HD11	2:B:2823:ILE:HG21	1.93	0.50
2:I:110:ARG:HH21	2:I:115:ARG:HB3	1.75	0.50
2:E:2751:LEU:HD11	2:E:2823:ILE:HG21	1.93	0.50
2:G:1637:MET:SD	2:G:1708:ARG:NH1	2.84	0.50
2:B:4236:SER:OG	2:B:4675:LYS:NZ	2.39	0.50
2:I:395:GLN:HG3	2:I:397:GLU:H	1.77	0.50
2:I:1637:MET:SD	2:I:1708:ARG:NH1	2.84	0.50
2:I:3758:MET:HG3	2:I:3762:ARG:HD2	1.94	0.50
2:E:110:ARG:HH21	2:E:115:ARG:HB3	1.75	0.50
2:E:309:THR:O	2:E:313:SER:OG	2.29	0.50
2:E:1796:ALA:HB1	2:E:1797:ARG:HH21	1.76	0.50
2:G:3758:MET:HG3	2:G:3762:ARG:HD2	1.94	0.50
2:I:2868:SER:O	2:I:2872:GLN:N	2.41	0.50
2:E:4960:ILE:CG2	2:E:4988:TYR:CE2	2.95	0.50
2:G:34:LYS:H	2:G:53:SER:HG	1.55	0.50
2:G:2131:LEU:HD23	2:G:3662:ILE:HB	1.94	0.50
2:B:4960:ILE:CG2	2:B:4988:TYR:CE2	2.95	0.50
2:E:395:GLN:HG3	2:E:397:GLU:H	1.77	0.50
2:E:426:ARG:HB2	2:E:506:TYR:HA	1.92	0.50
2:G:472:ARG:NH2	2:G:3712:GLU:OE2	2.40	0.50
2:B:1637:MET:SD	2:B:1708:ARG:NH1	2.84	0.50
2:G:45:ARG:HG2	2:G:443:LEU:HD21	1.93	0.50
2:G:488:LEU:HD23	2:G:491:ILE:HD12	1.94	0.50
2:G:637:LEU:HD23	2:G:1637:MET:HB3	1.93	0.50
2:B:488:LEU:HD23	2:B:491:ILE:HD12	1.94	0.50
2:I:635:THR:HB	2:I:1639:LEU:HD23	1.93	0.50
2:E:45:ARG:HG2	2:E:443:LEU:HD21	1.93	0.50
2:G:635:THR:HB	2:G:1639:LEU:HD23	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:4864:ASN:ND2	2:G:4871:GLU:OE1	2.43	0.50
2:B:143:GLY:HA3	2:B:147:TRP:HE1	1.76	0.50
2:I:309:THR:O	2:I:313:SER:OG	2.29	0.50
2:I:695:TYR:OH	2:I:1073:ARG:NH1	2.44	0.50
2:I:4749:GLU:HA	2:I:4752:ALA:HB3	1.94	0.50
2:E:488:LEU:HD23	2:E:491:ILE:HD12	1.94	0.50
2:G:241:GLN:O	2:G:289:ARG:NH1	2.40	0.50
2:G:2868:SER:O	2:G:2872:GLN:N	2.41	0.50
2:B:4198:SER:HB3	2:B:4201:ASN:HB2	1.94	0.50
2:B:4864:ASN:ND2	2:B:4871:GLU:OE1	2.43	0.50
2:I:551:LEU:HD21	2:I:589:LEU:HD13	1.93	0.50
2:E:4749:GLU:HA	2:E:4752:ALA:HB3	1.94	0.50
2:G:4198:SER:HB3	2:G:4201:ASN:HB2	1.94	0.50
2:B:45:ARG:HG2	2:B:443:LEU:HD21	1.93	0.50
2:B:4749:GLU:HA	2:B:4752:ALA:HB3	1.94	0.50
2:I:2751:LEU:HD11	2:I:2823:ILE:HG21	1.93	0.50
2:E:637:LEU:HD23	2:E:1637:MET:HB3	1.93	0.50
2:B:695:TYR:OH	2:B:1073:ARG:NH1	2.44	0.49
2:B:2131:LEU:HD23	2:B:3662:ILE:HB	1.94	0.49
2:B:3758:MET:HG3	2:B:3762:ARG:HD2	1.94	0.49
2:G:395:GLN:HG3	2:G:397:GLU:H	1.77	0.49
2:G:551:LEU:HD21	2:G:589:LEU:HD13	1.93	0.49
2:G:4749:GLU:HA	2:G:4752:ALA:HB3	1.94	0.49
2:B:551:LEU:HD21	2:B:589:LEU:HD13	1.93	0.49
2:I:143:GLY:HA3	2:I:147:TRP:HE1	1.77	0.49
2:I:488:LEU:HD23	2:I:491:ILE:HD12	1.94	0.49
2:E:2131:LEU:HD23	2:E:3662:ILE:HB	1.94	0.49
2:E:3758:MET:HG3	2:E:3762:ARG:HD2	1.94	0.49
2:E:3779:VAL:HG23	2:E:3780:LEU:HD12	1.94	0.49
2:B:395:GLN:HG3	2:B:397:GLU:H	1.77	0.49
2:E:683:ARG:NH1	2:E:707:VAL:O	2.40	0.49
2:G:221:ARG:NE	2:G:258:SER:OG	2.44	0.49
2:G:662:TRP:HB2	2:G:748:LEU:HD23	1.94	0.49
2:B:309:THR:O	2:B:313:SER:OG	2.29	0.49
2:B:717:ASP:OD1	2:B:720:HIS:ND1	2.46	0.49
2:I:3779:VAL:HG23	2:I:3780:LEU:HD12	1.94	0.49
2:I:4864:ASN:ND2	2:I:4871:GLU:OE1	2.43	0.49
2:E:1731:LEU:HA	2:E:1772:ARG:HH12	1.78	0.49
2:G:717:ASP:OD1	2:G:720:HIS:ND1	2.46	0.49
2:G:776:LEU:HG	2:G:848:HIS:HA	1.94	0.49
2:B:3779:VAL:HG23	2:B:3780:LEU:HD12	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:717:ASP:OD1	2:I:720:HIS:ND1	2.46	0.49
2:E:143:GLY:HA3	2:E:147:TRP:HE1	1.76	0.49
2:G:788:LYS:HG2	2:G:1630:CYS:H	1.78	0.49
2:G:3850:GLN:HB3	2:G:3873:LYS:HD3	1.94	0.49
2:G:4960:ILE:CG2	2:G:4988:TYR:CE2	2.95	0.49
1:J:7:ILE:HB	1:J:71:ARG:HB3	1.94	0.49
2:B:241:GLN:O	2:B:289:ARG:NH1	2.40	0.49
2:B:635:THR:HB	2:B:1639:LEU:HD23	1.94	0.49
2:I:103:TYR:HB3	2:I:152:PRO:HD3	1.95	0.49
2:I:662:TRP:HB2	2:I:748:LEU:HD23	1.94	0.49
2:I:788:LYS:HG2	2:I:1630:CYS:H	1.78	0.49
2:I:1960:ALA:O	2:I:1964:ARG:NE	2.45	0.49
2:I:3850:GLN:HB3	2:I:3873:LYS:HD3	1.94	0.49
2:I:4960:ILE:CG2	2:I:4988:TYR:CE2	2.95	0.49
2:G:1960:ALA:O	2:G:1964:ARG:NE	2.45	0.49
1:H:55:VAL:HA	2:G:1784:ALA:HA	1.94	0.49
2:B:103:TYR:HB3	2:B:152:PRO:HD3	1.95	0.49
2:B:1731:LEU:HA	2:B:1772:ARG:HH12	1.78	0.49
2:I:776:LEU:HG	2:I:848:HIS:HA	1.94	0.49
2:E:3850:GLN:HB3	2:E:3873:LYS:HD3	1.94	0.49
2:G:463:GLU:OE2	2:G:467:LYS:NZ	2.40	0.49
2:G:707:VAL:HG23	2:G:713:SER:HB2	1.95	0.49
2:G:2758:PHE:O	2:G:2762:THR:N	2.46	0.49
2:G:3733:CYS:HB2	2:G:3803:SER:HB3	1.95	0.49
1:F:7:ILE:HB	1:F:71:ARG:HB3	1.94	0.49
2:B:637:LEU:HD23	2:B:1637:MET:HB3	1.93	0.49
2:G:1718:ILE:HG13	2:G:1719:HIS:CD2	2.48	0.49
2:I:707:VAL:HG23	2:I:713:SER:HB2	1.95	0.49
2:E:717:ASP:OD1	2:E:720:HIS:ND1	2.46	0.49
2:B:3850:GLN:HB3	2:B:3873:LYS:HD3	1.94	0.49
2:E:472:ARG:NH2	2:E:3712:GLU:OE2	2.40	0.49
2:E:2342:ASN:N	2:E:2342:ASN:OD1	2.43	0.49
2:G:103:TYR:HB3	2:G:152:PRO:HD3	1.95	0.49
2:G:143:GLY:HA3	2:G:147:TRP:HE1	1.76	0.49
2:B:111:HIS:CD2	2:B:114:SER:H	2.28	0.48
2:B:1095:VAL:HB	2:B:1199:VAL:HG23	1.95	0.48
2:B:1718:ILE:HG13	2:B:1719:HIS:CD2	2.48	0.48
2:I:4198:SER:HB3	2:I:4201:ASN:HB2	1.94	0.48
2:E:635:THR:HB	2:E:1639:LEU:HD23	1.94	0.48
2:E:695:TYR:OH	2:E:1073:ARG:NH1	2.44	0.48
2:E:4945:ASP:OD2	2:G:4944:ARG:NH2	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:3779:VAL:HG23	2:G:3780:LEU:HD12	1.95	0.48
2:B:358:THR:HG21	2:B:382:GLY:HA2	1.95	0.48
2:B:1960:ALA:O	2:B:1964:ARG:NE	2.45	0.48
2:I:2042:CYS:SG	2:I:2043:GLY:N	2.85	0.48
2:I:3830:GLN:HA	2:I:3833:GLN:HG2	1.96	0.48
2:E:4571:PHE:O	2:E:4575:PHE:N	2.47	0.48
2:I:467:LYS:HA	2:I:470:SER:HB2	1.96	0.48
2:E:358:THR:HG21	2:E:382:GLY:HA2	1.95	0.48
2:G:2880:GLU:O	2:G:2884:ASN:N	2.46	0.48
2:B:776:LEU:HG	2:B:848:HIS:HA	1.94	0.48
2:B:3830:GLN:HA	2:B:3833:GLN:HG2	1.95	0.48
2:B:4571:PHE:O	2:B:4575:PHE:N	2.47	0.48
2:B:4763:GLY:O	2:B:4766:THR:OG1	2.29	0.48
2:I:234:SER:O	2:I:242:ARG:NE	2.46	0.48
2:I:2131:LEU:HD23	2:I:3662:ILE:HB	1.94	0.48
2:E:707:VAL:HG23	2:E:713:SER:HB2	1.95	0.48
2:E:1960:ALA:O	2:E:1964:ARG:NE	2.45	0.48
2:B:707:VAL:HG23	2:B:713:SER:HB2	1.95	0.48
2:E:103:TYR:HB3	2:E:152:PRO:HD3	1.95	0.48
2:E:662:TRP:HB2	2:E:748:LEU:HD23	1.94	0.48
2:E:776:LEU:HG	2:E:848:HIS:HA	1.94	0.48
2:E:2880:GLU:O	2:E:2884:ASN:N	2.46	0.48
2:E:3733:CYS:HB2	2:E:3803:SER:HB3	1.95	0.48
2:B:788:LYS:HG2	2:B:1630:CYS:H	1.78	0.48
2:I:485:SER:O	2:I:489:ASN:N	2.42	0.48
2:I:1731:LEU:HA	2:I:1772:ARG:HH12	1.78	0.48
1:F:55:VAL:HA	2:E:1784:ALA:HA	1.95	0.48
2:B:2758:PHE:O	2:B:2762:THR:N	2.46	0.48
2:E:1718:ILE:HG13	2:E:1719:HIS:CD2	2.48	0.48
2:E:4864:ASN:ND2	2:E:4871:GLU:OE1	2.43	0.48
2:G:4674:GLU:HB3	2:G:4715:TYR:HB2	1.96	0.48
2:I:1718:ILE:HG13	2:I:1719:HIS:CD2	2.48	0.48
2:E:4586:PRO:HB3	2:E:4628:VAL:HG21	1.95	0.48
2:B:134:ASP:OD1	2:B:134:ASP:N	2.47	0.48
2:B:206:CYS:SG	2:B:207:SER:N	2.87	0.48
2:B:4674:GLU:HB3	2:B:4715:TYR:HB2	1.96	0.48
2:I:221:ARG:NE	2:I:258:SER:OG	2.44	0.48
2:I:358:THR:HG21	2:I:382:GLY:HA2	1.95	0.48
2:I:472:ARG:NH2	2:I:3712:GLU:OE2	2.40	0.48
2:E:206:CYS:SG	2:E:207:SER:N	2.87	0.48
2:E:788:LYS:HG2	2:E:1630:CYS:H	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1095:VAL:HB	2:E:1199:VAL:HG23	1.95	0.48
2:E:2758:PHE:O	2:E:2762:THR:N	2.46	0.48
2:G:467:LYS:HA	2:G:470:SER:HB2	1.96	0.48
1:H:92:PRO:HD3	2:G:627:PRO:HB2	1.95	0.48
2:B:467:LYS:HA	2:B:470:SER:HB2	1.96	0.48
2:I:1095:VAL:HB	2:I:1199:VAL:HG23	1.95	0.48
2:I:4930:ALA:O	2:I:4934:GLY:N	2.47	0.48
2:E:467:LYS:HA	2:E:470:SER:HB2	1.95	0.48
2:E:1838:PHE:HB3	2:E:1842:LEU:HD11	1.96	0.48
2:E:4198:SER:HB3	2:E:4201:ASN:HB2	1.94	0.48
2:G:234:SER:O	2:G:242:ARG:NE	2.46	0.48
2:G:4586:PRO:HB3	2:G:4628:VAL:HG21	1.96	0.48
2:B:3733:CYS:HB2	2:B:3803:SER:HB3	1.94	0.47
2:B:4930:ALA:O	2:B:4934:GLY:N	2.47	0.47
2:I:4674:GLU:HB3	2:I:4715:TYR:HB2	1.96	0.47
2:E:241:GLN:O	2:E:289:ARG:NH1	2.40	0.47
2:G:1731:LEU:HA	2:G:1772:ARG:HH12	1.78	0.47
2:G:4930:ALA:O	2:G:4934:GLY:N	2.47	0.47
2:I:1838:PHE:HB3	2:I:1842:LEU:HD11	1.96	0.47
2:I:3772:THR:OG1	2:I:3815:LYS:NZ	2.43	0.47
2:E:234:SER:O	2:E:242:ARG:NE	2.46	0.47
2:E:939:VAL:HG22	2:E:1053:ILE:HG23	1.96	0.47
2:B:4687:TYR:OH	2:B:4699:GLY:O	2.30	0.47
2:I:3733:CYS:HB2	2:I:3803:SER:HB3	1.95	0.47
2:I:4068:LEU:HD13	2:I:4132:PHE:HE2	1.79	0.47
2:E:134:ASP:N	2:E:134:ASP:OD1	2.47	0.47
2:E:1092:PHE:HB3	2:E:1149:VAL:HB	1.96	0.47
2:E:3830:GLN:HA	2:E:3833:GLN:HG2	1.96	0.47
2:B:234:SER:O	2:B:242:ARG:NE	2.46	0.47
2:B:662:TRP:HB2	2:B:748:LEU:HD23	1.94	0.47
2:E:4674:GLU:HB3	2:E:4715:TYR:HB2	1.96	0.47
2:E:4687:TYR:OH	2:E:4699:GLY:O	2.30	0.47
2:G:358:THR:HG21	2:G:382:GLY:HA2	1.95	0.47
2:G:3830:GLN:HA	2:G:3833:GLN:HG2	1.96	0.47
2:B:939:VAL:HG22	2:B:1053:ILE:HG23	1.96	0.47
1:A:87:HIS:HD2	1:A:90:VAL:HB	1.80	0.47
2:B:3889:GLN:HE22	2:B:3963:ASN:HB3	1.80	0.47
2:E:3889:GLN:HE22	2:E:3963:ASN:HB3	1.80	0.47
2:G:1095:VAL:HB	2:G:1199:VAL:HG23	1.95	0.47
2:G:4180:ARG:NH1	2:G:4981:GLU:OE1	2.33	0.47
2:G:4571:PHE:O	2:G:4575:PHE:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:87:HIS:HD2	1:J:90:VAL:HB	1.80	0.47
2:B:2042:CYS:SG	2:B:2043:GLY:N	2.85	0.47
2:B:4068:LEU:HD13	2:B:4132:PHE:HE2	1.80	0.47
2:I:939:VAL:HG22	2:I:1053:ILE:HG23	1.96	0.47
2:I:4571:PHE:O	2:I:4575:PHE:N	2.47	0.47
2:G:206:CYS:SG	2:G:207:SER:N	2.87	0.47
2:G:1092:PHE:HB3	2:G:1149:VAL:HB	1.96	0.47
2:G:3889:GLN:HE22	2:G:3963:ASN:HB3	1.80	0.47
2:G:4068:LEU:HD13	2:G:4132:PHE:HE2	1.80	0.47
2:G:4239:GLU:OE2	2:G:5014:TYR:OH	2.28	0.47
2:G:4763:GLY:O	2:G:4766:THR:OG1	2.29	0.47
2:B:4586:PRO:HB3	2:B:4628:VAL:HG21	1.95	0.47
2:I:1092:PHE:HB3	2:I:1149:VAL:HB	1.96	0.47
2:I:2452:ARG:HH12	2:G:177:GLU:HG3	1.79	0.47
2:I:2880:GLU:O	2:I:2884:ASN:N	2.46	0.47
2:I:3889:GLN:HE22	2:I:3963:ASN:HB3	1.80	0.47
2:I:4586:PRO:HB3	2:I:4628:VAL:HG21	1.95	0.47
1:F:87:HIS:HD2	1:F:90:VAL:HB	1.80	0.47
2:I:4180:ARG:NH1	2:I:4981:GLU:OE1	2.33	0.47
2:I:4743:MET:HB3	2:I:4746:ALA:HB3	1.97	0.47
2:G:485:SER:O	2:G:489:ASN:N	2.42	0.47
2:G:1838:PHE:HB3	2:G:1842:LEU:HD11	1.96	0.47
1:H:87:HIS:HD2	1:H:90:VAL:HB	1.80	0.46
2:B:4944:ARG:NH2	2:I:4945:ASP:OD2	2.48	0.46
2:I:206:CYS:SG	2:I:207:SER:N	2.87	0.46
2:E:4918:ILE:HD11	2:G:4888:TYR:HA	1.97	0.46
2:G:134:ASP:OD1	2:G:134:ASP:N	2.47	0.46
2:B:2880:GLU:O	2:B:2884:ASN:N	2.46	0.46
2:I:2368:LEU:HD13	2:I:2376:LEU:HD23	1.97	0.46
2:I:2758:PHE:O	2:I:2762:THR:N	2.46	0.46
2:E:4068:LEU:HD13	2:E:4132:PHE:HE2	1.79	0.46
2:G:671:VAL:HG22	2:G:740:PRO:HG3	1.97	0.46
2:G:2368:LEU:HD13	2:G:2376:LEU:HD23	1.97	0.46
2:B:4034:ASN:ND2	2:B:4035:VAL:O	2.49	0.46
2:E:3766:GLN:HE22	2:E:3769:ARG:HH11	1.64	0.46
2:E:4180:ARG:NH1	2:E:4981:GLU:OE1	2.33	0.46
2:G:3766:GLN:HE22	2:G:3769:ARG:HH11	1.64	0.46
2:B:1838:PHE:HB3	2:B:1842:LEU:HD11	1.96	0.46
2:I:1076:ARG:HD3	2:I:1237:TRP:HB2	1.97	0.46
2:B:1092:PHE:HB3	2:B:1149:VAL:HB	1.96	0.46
2:I:2466:LEU:HD23	2:I:2469:ILE:HD12	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:3766:GLN:HE22	2:I:3769:ARG:HH11	1.64	0.46
2:E:671:VAL:HG22	2:E:740:PRO:HG3	1.97	0.46
2:G:4687:TYR:OH	2:G:4699:GLY:O	2.30	0.46
2:I:211:GLU:OE2	2:I:3907:THR:OG1	2.34	0.46
2:E:1076:ARG:HD3	2:E:1237:TRP:HB2	1.97	0.46
2:E:2368:LEU:HD13	2:E:2376:LEU:HD23	1.97	0.46
2:G:395:GLN:NE2	2:G:397:GLU:OE1	2.49	0.46
2:G:939:VAL:HG22	2:G:1053:ILE:HG23	1.96	0.46
2:B:1516:UNK:N	2:B:1529:UNK:O	2.49	0.46
2:I:395:GLN:NE2	2:I:397:GLU:OE1	2.49	0.46
2:I:1516:UNK:N	2:I:1529:UNK:O	2.49	0.46
2:I:2272:PRO:HA	2:I:2275:VAL:HG12	1.98	0.46
2:E:2121:PHE:O	2:E:3725:TYR:OH	2.34	0.46
2:E:4034:ASN:ND2	2:E:4035:VAL:O	2.49	0.46
2:E:4743:MET:HB3	2:E:4746:ALA:HB3	1.97	0.46
1:A:92:PRO:HD3	2:B:627:PRO:HB2	1.97	0.46
2:B:2894:LEU:HD11	2:B:2902:HIS:HB2	1.98	0.46
2:B:4180:ARG:NH1	2:B:4981:GLU:OE1	2.33	0.46
2:B:4743:MET:HB3	2:B:4746:ALA:HB3	1.97	0.46
2:I:463:GLU:OE2	2:I:467:LYS:NZ	2.41	0.46
2:E:485:SER:O	2:E:489:ASN:N	2.42	0.46
2:G:1516:UNK:N	2:G:1529:UNK:O	2.49	0.46
2:B:221:ARG:NE	2:B:258:SER:OG	2.44	0.46
2:B:2368:LEU:HD13	2:B:2376:LEU:HD23	1.97	0.46
2:I:4034:ASN:ND2	2:I:4035:VAL:O	2.49	0.46
2:I:4236:SER:OG	2:I:4675:LYS:NZ	2.39	0.46
2:E:1244:GLN:OE1	2:E:1646:ARG:NH1	2.49	0.46
2:B:3766:GLN:HE22	2:B:3769:ARG:HH11	1.64	0.46
2:I:2265:LEU:HD22	2:I:2330:ARG:HB3	1.97	0.46
2:E:4930:ALA:O	2:E:4934:GLY:N	2.47	0.46
2:G:4034:ASN:ND2	2:G:4035:VAL:O	2.49	0.46
2:B:1076:ARG:HD3	2:B:1237:TRP:HB2	1.97	0.45
2:B:1244:GLN:OE1	2:B:1646:ARG:NH1	2.49	0.45
2:B:2265:LEU:HD22	2:B:2330:ARG:HB3	1.97	0.45
2:I:1244:GLN:OE1	2:I:1646:ARG:NH1	2.49	0.45
2:G:1076:ARG:HD3	2:G:1237:TRP:HB2	1.97	0.45
2:G:2042:CYS:SG	2:G:2043:GLY:N	2.85	0.45
2:G:2466:LEU:HD23	2:G:2469:ILE:HD12	1.98	0.45
2:B:379:HIS:CD2	2:B:381:GLU:H	2.35	0.45
2:B:2272:PRO:HA	2:B:2275:VAL:HG12	1.98	0.45
2:I:4687:TYR:OH	2:I:4699:GLY:O	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:1516:UNK:N	2:E:1529:UNK:O	2.49	0.45
2:G:1244:GLN:OE1	2:G:1646:ARG:NH1	2.49	0.45
1:H:5:GLU:HB2	1:H:73:LYS:HB3	1.99	0.45
2:I:2894:LEU:HD11	2:I:2902:HIS:HB2	1.98	0.45
2:E:379:HIS:CD2	2:E:381:GLU:H	2.35	0.45
2:E:652:ARG:HD2	2:E:750:LEU:HB3	1.98	0.45
2:E:2466:LEU:HD23	2:E:2469:ILE:HD12	1.98	0.45
2:E:2894:LEU:HD11	2:E:2902:HIS:HB2	1.98	0.45
2:G:3362:UNK:O	2:G:3366:UNK:N	2.50	0.45
2:G:4743:MET:HB3	2:G:4746:ALA:HB3	1.97	0.45
2:B:211:GLU:OE2	2:B:3907:THR:OG1	2.34	0.45
2:B:395:GLN:NE2	2:B:397:GLU:OE1	2.49	0.45
2:B:671:VAL:HG22	2:B:740:PRO:HG3	1.97	0.45
2:E:395:GLN:NE2	2:E:397:GLU:OE1	2.49	0.45
2:E:2265:LEU:HD22	2:E:2330:ARG:HB3	1.97	0.45
2:E:3362:UNK:O	2:E:3366:UNK:N	2.50	0.45
2:I:671:VAL:HG22	2:I:740:PRO:HG3	1.97	0.45
2:G:2332:LEU:HD13	2:G:2335:LEU:HD12	1.99	0.45
1:F:5:GLU:HB2	1:F:73:LYS:HB3	1.99	0.45
2:I:4181:ILE:HG13	2:I:4988:TYR:HE1	1.82	0.45
2:E:2272:PRO:HA	2:E:2275:VAL:HG12	1.98	0.45
2:G:2265:LEU:HD22	2:G:2330:ARG:HB3	1.97	0.45
1:J:5:GLU:HB2	1:J:73:LYS:HB3	1.99	0.45
2:B:2332:LEU:HD13	2:B:2335:LEU:HD12	1.99	0.45
2:B:4181:ILE:HG13	2:B:4988:TYR:HE1	1.82	0.45
2:I:1735:ILE:HG23	2:I:1771:LEU:HD23	1.99	0.45
2:I:1865:MET:SD	2:I:1865:MET:N	2.90	0.45
2:E:4181:ILE:HG13	2:E:4988:TYR:HE1	1.82	0.45
2:G:211:GLU:OE2	2:G:3907:THR:OG1	2.33	0.45
2:G:1735:ILE:HG23	2:G:1771:LEU:HD23	1.99	0.45
2:G:4227:GLU:HG3	2:G:4228:ALA:H	1.82	0.45
2:B:652:ARG:HD2	2:B:750:LEU:HB3	1.98	0.45
2:B:1707:LEU:O	2:B:1710:GLY:N	2.33	0.45
2:B:1764:GLY:HA3	2:B:1859:VAL:HG11	1.99	0.45
2:B:2121:PHE:O	2:B:3725:TYR:OH	2.34	0.45
2:I:3362:UNK:O	2:I:3366:UNK:N	2.50	0.45
2:G:229:GLU:HA	2:G:249:GLY:HA2	1.99	0.45
2:G:652:ARG:HD2	2:G:750:LEU:HB3	1.98	0.45
2:G:4230:LYS:HD2	2:G:4959:PHE:CD1	2.52	0.45
1:A:55:VAL:HA	2:B:1784:ALA:HA	1.98	0.45
2:I:788:LYS:HG2	2:I:1629:GLN:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1727:ARG:HH21	2:B:1775:HIS:CE1	2.35	0.45
2:I:134:ASP:OD1	2:I:134:ASP:N	2.47	0.45
2:I:4227:GLU:HG3	2:I:4228:ALA:H	1.82	0.45
2:I:4959:PHE:O	2:I:4959:PHE:CD1	2.70	0.45
2:I:5028:PHE:O	2:I:5028:PHE:CG	2.70	0.45
2:E:1676:LEU:HD23	2:E:2167:ILE:HG23	1.99	0.45
2:E:3658:LYS:HA	2:E:3661:TRP:CE2	2.52	0.45
2:E:4230:LYS:HD2	2:E:4959:PHE:CD1	2.52	0.45
2:E:4763:GLY:O	2:E:4766:THR:OG1	2.29	0.45
2:G:379:HIS:CD2	2:G:381:GLU:H	2.35	0.45
2:G:2196:ASN:OD1	2:G:2199:ARG:NH1	2.43	0.45
2:G:4959:PHE:CD1	2:G:4959:PHE:O	2.70	0.45
2:B:472:ARG:NH2	2:B:3712:GLU:OE2	2.40	0.44
2:B:4230:LYS:HD2	2:B:4959:PHE:CD1	2.52	0.44
2:I:229:GLU:HA	2:I:249:GLY:HA2	1.99	0.44
2:I:4230:LYS:HD2	2:I:4959:PHE:CD1	2.52	0.44
2:G:3842:LEU:O	2:G:3929:SER:OG	2.34	0.44
2:G:4181:ILE:HG13	2:G:4988:TYR:HE1	1.82	0.44
1:A:5:GLU:HB2	1:A:73:LYS:HB3	1.99	0.44
2:B:1865:MET:SD	2:B:1865:MET:N	2.90	0.44
2:B:2189:LYS:HA	2:B:2192:TYR:HD2	1.82	0.44
2:B:2196:ASN:OD1	2:B:2199:ARG:NH1	2.43	0.44
2:B:3658:LYS:HA	2:B:3661:TRP:CE2	2.52	0.44
2:B:5028:PHE:O	2:B:5028:PHE:CD1	2.70	0.44
2:G:2894:LEU:HD11	2:G:2902:HIS:HB2	1.98	0.44
2:B:788:LYS:HG2	2:B:1629:GLN:HA	1.99	0.44
2:B:1105:ALA:HB1	2:B:1109:LEU:HD21	1.99	0.44
2:B:2466:LEU:HD23	2:B:2469:ILE:HD12	1.98	0.44
2:B:5028:PHE:O	2:B:5028:PHE:CG	2.70	0.44
2:I:210:GLU:H	2:I:273:HIS:HE1	1.66	0.44
2:I:379:HIS:CD2	2:I:381:GLU:H	2.35	0.44
2:I:1764:GLY:HA3	2:I:1859:VAL:HG11	1.99	0.44
2:E:2004:GLU:HA	2:E:2007:ASN:HD22	1.82	0.44
2:E:4227:GLU:HG3	2:E:4228:ALA:H	1.82	0.44
2:E:4961:CYS:HB3	2:E:4983:HIS:CE1	2.53	0.44
2:G:1727:ARG:HH21	2:G:1775:HIS:CE1	2.35	0.44
2:G:1865:MET:SD	2:G:1865:MET:N	2.90	0.44
2:B:3772:THR:OG1	2:B:3815:LYS:NZ	2.43	0.44
2:B:4961:CYS:HB3	2:B:4983:HIS:CE1	2.53	0.44
2:I:645:ARG:HH11	2:I:778:PHE:HE1	1.66	0.44
2:I:652:ARG:HD2	2:I:750:LEU:HB3	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:1727:ARG:HH21	2:I:1775:HIS:CE1	2.35	0.44
2:I:2004:GLU:HA	2:I:2007:ASN:HD22	1.82	0.44
2:E:229:GLU:HA	2:E:249:GLY:HA2	1.99	0.44
2:E:1105:ALA:HB1	2:E:1109:LEU:HD21	1.99	0.44
2:E:4961:CYS:HB3	2:E:4983:HIS:HE1	1.82	0.44
2:G:1764:GLY:HA3	2:G:1859:VAL:HG11	1.99	0.44
2:G:5028:PHE:CG	2:G:5028:PHE:O	2.70	0.44
1:A:30:LEU:HD23	1:A:33:GLY:HA3	2.00	0.44
2:I:3842:LEU:O	2:I:3929:SER:OG	2.34	0.44
2:G:695:TYR:OH	2:G:1073:ARG:NH1	2.44	0.44
2:G:1676:LEU:HD23	2:G:2167:ILE:HG23	1.99	0.44
2:G:2272:PRO:HA	2:G:2275:VAL:HG12	1.98	0.44
2:B:4227:GLU:HG3	2:B:4228:ALA:H	1.82	0.44
2:I:4826:ILE:O	2:I:4829:SER:OG	2.29	0.44
2:I:5028:PHE:O	2:I:5028:PHE:CD1	2.70	0.44
2:E:2042:CYS:SG	2:E:2043:GLY:N	2.85	0.44
2:E:2332:LEU:HD13	2:E:2335:LEU:HD12	1.99	0.44
2:G:4961:CYS:HB3	2:G:4983:HIS:HE1	1.82	0.44
1:J:30:LEU:HD23	1:J:33:GLY:HA3	2.00	0.44
2:B:229:GLU:HA	2:B:249:GLY:HA2	1.99	0.44
2:B:1735:ILE:HG23	2:B:1771:LEU:HD23	1.99	0.44
2:B:2271:THR:HG22	2:B:2273:LEU:H	1.83	0.44
2:I:4071:ILE:HD11	2:I:4102:GLN:HE21	1.83	0.44
2:E:210:GLU:H	2:E:273:HIS:HE1	1.66	0.44
2:E:1032:LYS:O	2:E:1036:ARG:N	2.47	0.44
2:E:1077:ALA:HB3	2:E:1189:LEU:HD11	2.00	0.44
2:E:2189:LYS:HA	2:E:2192:TYR:HD2	1.83	0.44
2:E:4236:SER:OG	2:E:4675:LYS:NZ	2.39	0.44
2:G:4961:CYS:HB3	2:G:4983:HIS:CE1	2.53	0.44
2:B:210:GLU:H	2:B:273:HIS:HE1	1.66	0.44
2:B:645:ARG:HH11	2:B:778:PHE:HE1	1.66	0.44
2:B:1171:SER:OG	2:B:1175:SER:N	2.42	0.44
2:I:2189:LYS:HA	2:I:2192:TYR:HD2	1.82	0.44
2:E:4959:PHE:CD1	2:E:4959:PHE:O	2.70	0.44
2:E:5028:PHE:CD1	2:E:5028:PHE:O	2.71	0.44
2:E:5028:PHE:O	2:E:5028:PHE:CG	2.70	0.44
2:G:788:LYS:HG2	2:G:1629:GLN:HA	1.99	0.44
2:G:2004:GLU:HA	2:G:2007:ASN:HD22	1.82	0.44
2:B:177:GLU:HG3	2:E:2452:ARG:HH12	1.83	0.44
2:B:1077:ALA:HB3	2:B:1189:LEU:HD11	2.00	0.44
2:B:3362:UNK:O	2:B:3366:UNK:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3842:LEU:O	2:B:3929:SER:OG	2.35	0.44
2:I:533:ASN:ND2	2:I:536:ASN:OD1	2.40	0.44
2:E:1727:ARG:HH21	2:E:1775:HIS:CE1	2.35	0.44
2:E:3842:LEU:O	2:E:3929:SER:OG	2.35	0.44
2:B:219:VAL:HG13	2:B:285:VAL:HG21	2.00	0.43
2:B:2004:GLU:HA	2:B:2007:ASN:HD22	1.82	0.43
2:B:4959:PHE:CD1	2:B:4959:PHE:O	2.70	0.43
2:B:4961:CYS:HB3	2:B:4983:HIS:HE1	1.82	0.43
2:I:719:LEU:HD22	2:I:735:GLN:HG2	2.00	0.43
2:I:3658:LYS:HA	2:I:3661:TRP:CE2	2.52	0.43
2:I:3980:LEU:HD22	2:I:3985:LEU:HD22	2.00	0.43
2:I:4152:GLU:OE1	2:I:4194:TYR:OH	2.36	0.43
2:I:4228:ALA:O	2:I:4232:GLU:N	2.51	0.43
2:E:219:VAL:HG13	2:E:285:VAL:HG21	2.00	0.43
2:E:1764:GLY:HA3	2:E:1859:VAL:HG11	1.99	0.43
2:G:210:GLU:H	2:G:273:HIS:HE1	1.66	0.43
2:G:3658:LYS:HA	2:G:3661:TRP:CE2	2.52	0.43
2:G:3772:THR:OG1	2:G:3815:LYS:NZ	2.43	0.43
2:E:1865:MET:SD	2:E:1865:MET:N	2.90	0.43
2:E:4228:ALA:O	2:E:4232:GLU:N	2.51	0.43
2:I:1105:ALA:HB1	2:I:1109:LEU:HD21	1.99	0.43
2:G:645:ARG:HH11	2:G:778:PHE:HE1	1.66	0.43
2:G:2024:PRO:O	2:G:2028:ARG:NE	2.46	0.43
2:G:2121:PHE:O	2:G:3725:TYR:OH	2.34	0.43
2:G:2927:LEU:HD23	2:G:2930:LEU:HD12	2.00	0.43
2:G:4071:ILE:HD11	2:G:4102:GLN:HE21	1.83	0.43
2:B:2927:LEU:HD23	2:B:2930:LEU:HD12	2.00	0.43
2:B:4071:ILE:HD11	2:B:4102:GLN:HE21	1.83	0.43
2:I:1077:ALA:HB3	2:I:1189:LEU:HD11	2.00	0.43
2:I:1676:LEU:HD23	2:I:2167:ILE:HG23	1.99	0.43
2:I:2332:LEU:HD13	2:I:2335:LEU:HD12	1.99	0.43
2:E:4152:GLU:OE1	2:E:4194:TYR:OH	2.36	0.43
2:G:471:LEU:O	2:G:475:GLN:N	2.52	0.43
2:G:1105:ALA:HB1	2:G:1109:LEU:HD21	1.99	0.43
2:G:2143:THR:O	2:G:3651:ASN:ND2	2.44	0.43
1:F:30:LEU:HD23	1:F:33:GLY:HA3	2.00	0.43
2:B:3980:LEU:HD22	2:B:3985:LEU:HD22	2.00	0.43
2:I:2271:THR:HG22	2:I:2273:LEU:H	1.83	0.43
2:B:1189:LEU:HD12	2:B:1190:PRO:HD2	2.00	0.43
2:B:1676:LEU:HD23	2:B:2167:ILE:HG23	1.99	0.43
2:I:4961:CYS:HB3	2:I:4983:HIS:HE1	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:765:GLN:NE2	2:E:1521:UNK:O	2.52	0.43
2:E:788:LYS:HG2	2:E:1629:GLN:HA	1.99	0.43
2:G:533:ASN:ND2	2:G:536:ASN:OD1	2.40	0.43
2:G:1189:LEU:HD12	2:G:1190:PRO:HD2	2.00	0.43
2:G:5028:PHE:O	2:G:5028:PHE:CD1	2.71	0.43
2:I:4961:CYS:HB3	2:I:4983:HIS:CE1	2.53	0.43
2:E:719:LEU:HD22	2:E:735:GLN:HG2	2.00	0.43
2:E:1735:ILE:HG23	2:E:1771:LEU:HD23	1.99	0.43
2:E:2271:THR:HG22	2:E:2273:LEU:H	1.83	0.43
2:G:1707:LEU:O	2:G:1710:GLY:N	2.34	0.43
2:B:21:VAL:HG12	2:B:66:CYS:HA	2.00	0.43
2:B:3733:CYS:HA	2:B:3766:GLN:HB2	2.01	0.43
2:E:645:ARG:HH11	2:E:778:PHE:HE1	1.66	0.43
2:E:3980:LEU:HD22	2:E:3985:LEU:HD22	2.00	0.43
2:G:454:PRO:HG2	2:G:531:ARG:HH12	1.84	0.43
2:G:765:GLN:NE2	2:G:1521:UNK:O	2.52	0.43
2:G:2189:LYS:HA	2:G:2192:TYR:HD2	1.83	0.43
1:H:30:LEU:HD23	1:H:33:GLY:HA3	2.00	0.43
2:B:1155:LEU:HD23	2:B:1184:ILE:HD12	2.01	0.43
2:B:2002:PRO:HA	2:B:2005:GLN:HB3	2.01	0.43
2:I:500:ALA:HB1	2:I:504:ALA:HB2	2.00	0.43
2:E:454:PRO:HG2	2:E:531:ARG:HH12	1.84	0.43
2:E:1189:LEU:HD12	2:E:1190:PRO:HD2	2.00	0.43
2:G:1155:LEU:HD23	2:G:1184:ILE:HD12	2.00	0.43
2:G:3980:LEU:HD22	2:G:3985:LEU:HD22	2.00	0.43
2:B:1032:LYS:O	2:B:1036:ARG:N	2.47	0.43
2:I:1189:LEU:HD12	2:I:1190:PRO:HD2	2.00	0.43
2:I:3733:CYS:HA	2:I:3766:GLN:HB2	2.01	0.43
2:E:1155:LEU:HD23	2:E:1184:ILE:HD12	2.00	0.43
2:G:719:LEU:HD22	2:G:735:GLN:HG2	2.00	0.43
2:G:1032:LYS:O	2:G:1036:ARG:N	2.47	0.43
2:G:4152:GLU:OE1	2:G:4194:TYR:OH	2.36	0.43
2:B:500:ALA:HB1	2:B:504:ALA:HB2	2.00	0.42
2:I:4155:PRO:HD2	2:I:5036:LEU:HD23	2.01	0.42
2:I:4763:GLY:O	2:I:4766:THR:OG1	2.29	0.42
2:G:2271:THR:HG22	2:G:2273:LEU:H	1.83	0.42
2:G:2883:HIS:NE2	2:G:2906:VAL:O	2.52	0.42
2:G:3733:CYS:HA	2:G:3766:GLN:HB2	2.01	0.42
2:G:4155:PRO:HD2	2:G:5036:LEU:HD23	2.01	0.42
2:G:4228:ALA:O	2:G:4232:GLU:N	2.51	0.42
2:I:21:VAL:HG12	2:I:66:CYS:HA	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2002:PRO:HA	2:I:2005:GLN:HB3	2.01	0.42
2:I:2024:PRO:O	2:I:2028:ARG:NE	2.46	0.42
2:I:2029:GLN:O	2:I:2033:ASP:N	2.52	0.42
2:I:2121:PHE:O	2:I:3725:TYR:OH	2.34	0.42
2:E:500:ALA:HB1	2:E:504:ALA:HB2	2.00	0.42
2:G:219:VAL:HG13	2:G:285:VAL:HG21	2.00	0.42
2:G:3805:LEU:H	2:G:3805:LEU:HG	1.69	0.42
2:B:4152:GLU:OE1	2:B:4194:TYR:OH	2.36	0.42
2:B:4228:ALA:O	2:B:4232:GLU:N	2.51	0.42
2:I:219:VAL:HG13	2:I:285:VAL:HG21	2.00	0.42
2:I:765:GLN:NE2	2:I:1521:UNK:O	2.52	0.42
2:I:2927:LEU:HD23	2:I:2930:LEU:HD12	2.00	0.42
2:E:21:VAL:HG12	2:E:66:CYS:HA	2.00	0.42
2:E:2927:LEU:HD23	2:E:2930:LEU:HD12	2.00	0.42
2:G:1077:ALA:HB3	2:G:1189:LEU:HD11	2.00	0.42
2:B:4978:HIS:HA	2:B:4982:GLU:HB2	2.02	0.42
2:I:2438:PRO:HB3	2:I:2453:ILE:HB	2.01	0.42
2:I:4101:LYS:HG3	2:G:4731:ILE:HA	2.01	0.42
2:E:2002:PRO:HA	2:E:2005:GLN:HB3	2.01	0.42
2:E:2024:PRO:O	2:E:2028:ARG:NE	2.46	0.42
2:G:3365:UNK:O	2:G:3369:UNK:N	2.53	0.42
2:B:454:PRO:HG2	2:B:531:ARG:HH12	1.84	0.42
2:B:1099:GLU:OE2	2:B:1127:HIS:ND1	2.35	0.42
2:I:471:LEU:O	2:I:475:GLN:N	2.52	0.42
2:E:4125:PHE:HA	2:E:4128:PHE:HB3	2.02	0.42
2:G:500:ALA:HB1	2:G:504:ALA:HB2	2.00	0.42
2:G:1863:LEU:HB3	2:G:1870:VAL:HG21	2.02	0.42
2:G:2002:PRO:HA	2:G:2005:GLN:HB3	2.01	0.42
2:G:2214:VAL:HG23	2:G:2215:LEU:HD12	2.02	0.42
1:F:92:PRO:HD3	2:E:627:PRO:HB2	2.01	0.42
2:I:619:ASP:OD1	2:I:1680:ARG:NH1	2.52	0.42
2:I:1863:LEU:HB3	2:I:1870:VAL:HG21	2.02	0.42
2:E:211:GLU:OE2	2:E:3907:THR:OG1	2.34	0.42
2:G:1259:ARG:HH12	2:G:1593:PRO:HA	1.85	0.42
2:G:4125:PHE:HA	2:G:4128:PHE:HB3	2.02	0.42
2:B:765:GLN:NE2	2:B:1521:UNK:O	2.52	0.42
2:I:913:LEU:O	2:I:918:ARG:NH2	2.53	0.42
2:I:1259:ARG:HH12	2:I:1593:PRO:HA	1.85	0.42
2:E:2214:VAL:HG23	2:E:2215:LEU:HD12	2.02	0.42
2:G:164:ARG:N	2:G:167:ASP:OD2	2.53	0.42
2:G:313:SER:HB3	2:G:351:VAL:HB	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:2438:PRO:HB3	2:G:2453:ILE:HB	2.01	0.42
2:B:619:ASP:OD1	2:B:1680:ARG:NH1	2.52	0.42
2:I:2214:VAL:HG23	2:I:2215:LEU:HD12	2.02	0.42
2:I:2883:HIS:NE2	2:I:2906:VAL:O	2.52	0.42
2:E:2438:PRO:HB3	2:E:2453:ILE:HB	2.01	0.42
2:E:3733:CYS:HA	2:E:3766:GLN:HB2	2.01	0.42
2:E:4071:ILE:HD11	2:E:4102:GLN:HE21	1.83	0.42
2:G:21:VAL:HG12	2:G:66:CYS:HA	2.00	0.42
2:G:472:ARG:HA	2:G:475:GLN:HB2	2.02	0.42
2:B:164:ARG:N	2:B:167:ASP:OD2	2.53	0.42
2:B:719:LEU:HD22	2:B:735:GLN:HG2	2.00	0.42
2:B:913:LEU:O	2:B:918:ARG:NH2	2.53	0.42
2:I:1155:LEU:HD23	2:I:1184:ILE:HD12	2.01	0.42
2:I:3365:UNK:O	2:I:3369:UNK:N	2.53	0.42
2:I:3658:LYS:HA	2:I:3661:TRP:CD2	2.55	0.42
2:E:2776:SER:O	2:E:2788:HIS:N	2.53	0.42
2:E:3365:UNK:O	2:E:3369:UNK:N	2.53	0.42
2:G:2776:SER:O	2:G:2788:HIS:N	2.53	0.42
2:B:472:ARG:HA	2:B:475:GLN:HB2	2.02	0.42
2:B:1259:ARG:HH12	2:B:1593:PRO:HA	1.85	0.42
2:B:1863:LEU:HB3	2:B:1870:VAL:HG21	2.02	0.42
2:B:2029:GLN:O	2:B:2033:ASP:N	2.51	0.42
2:B:3658:LYS:HA	2:B:3661:TRP:CD2	2.55	0.42
2:I:454:PRO:HG2	2:I:531:ARG:HH12	1.84	0.42
2:I:2143:THR:O	2:I:3651:ASN:ND2	2.43	0.42
2:G:451:TYR:O	2:G:474:ARG:NH1	2.53	0.42
2:B:313:SER:HB3	2:B:351:VAL:HB	2.02	0.41
2:B:3365:UNK:O	2:B:3369:UNK:N	2.53	0.41
2:I:472:ARG:HA	2:I:475:GLN:HB2	2.02	0.41
2:I:2095:GLN:NE2	2:I:2127:GLN:O	2.53	0.41
2:E:619:ASP:OD1	2:E:1680:ARG:NH1	2.52	0.41
2:E:1259:ARG:HH12	2:E:1593:PRO:HA	1.85	0.41
2:E:4155:PRO:HD2	2:E:5036:LEU:HD23	2.01	0.41
2:G:4897:ILE:HG12	2:G:4901:ILE:HD13	2.02	0.41
2:B:1972:ASN:O	2:B:1976:ARG:N	2.52	0.41
2:B:4897:ILE:HG12	2:B:4901:ILE:HD13	2.02	0.41
2:I:1041:GLN:O	2:I:1045:THR:OG1	2.31	0.41
2:I:2196:ASN:OD1	2:I:2199:ARG:NH1	2.43	0.41
2:E:533:ASN:ND2	2:E:536:ASN:OD1	2.40	0.41
2:B:599:VAL:HG23	2:B:600:LEU:HD12	2.02	0.41
2:B:940:GLY:O	2:B:1052:ASN:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:4125:PHE:HA	2:B:4128:PHE:HB3	2.02	0.41
2:B:4155:PRO:HD2	2:B:5036:LEU:HD23	2.01	0.41
2:E:356:TRP:O	2:E:379:HIS:N	2.52	0.41
2:E:599:VAL:HG23	2:E:600:LEU:HD12	2.02	0.41
2:E:1171:SER:OG	2:E:1175:SER:N	2.42	0.41
2:E:1863:LEU:HB3	2:E:1870:VAL:HG21	2.02	0.41
2:E:3772:THR:OG1	2:E:3815:LYS:NZ	2.43	0.41
2:G:346:CYS:N	2:G:388:LEU:O	2.52	0.41
2:G:3658:LYS:HA	2:G:3661:TRP:CD2	2.55	0.41
2:B:70:GLU:HB2	2:B:108:LEU:HD23	2.03	0.41
2:B:2438:PRO:HB3	2:B:2453:ILE:HB	2.01	0.41
2:I:4125:PHE:HA	2:I:4128:PHE:HB3	2.02	0.41
2:E:451:TYR:O	2:E:474:ARG:NH1	2.53	0.41
2:E:472:ARG:HA	2:E:475:GLN:HB2	2.02	0.41
2:E:1641:ILE:HA	2:E:1642:PRO:HD3	1.93	0.41
2:E:2285:GLU:HG3	2:E:2286:LEU:HG	2.03	0.41
2:E:3923:LEU:HD13	2:E:3961:VAL:HG11	2.03	0.41
2:E:4978:HIS:HA	2:E:4982:GLU:HB2	2.01	0.41
2:G:599:VAL:HG23	2:G:600:LEU:HD12	2.02	0.41
2:G:913:LEU:O	2:G:918:ARG:NH2	2.53	0.41
2:B:591:ASP:O	2:B:1594:ARG:NH2	2.54	0.41
2:I:116:MET:HB2	2:I:137:LEU:HD12	2.03	0.41
2:I:599:VAL:HG23	2:I:600:LEU:HD12	2.02	0.41
2:I:698:GLY:HA2	2:I:703:GLY:HA2	2.03	0.41
2:I:2776:SER:O	2:I:2788:HIS:N	2.53	0.41
2:E:164:ARG:N	2:E:167:ASP:OD2	2.53	0.41
2:E:177:GLU:HG3	2:G:2452:ARG:HH12	1.86	0.41
2:E:346:CYS:N	2:E:388:LEU:O	2.52	0.41
2:E:591:ASP:O	2:E:1594:ARG:NH2	2.54	0.41
2:E:913:LEU:O	2:E:918:ARG:NH2	2.53	0.41
2:G:698:GLY:HA2	2:G:703:GLY:HA2	2.03	0.41
2:G:877:ASN:HD22	2:G:1045:THR:HG23	1.84	0.41
2:G:1936:LYS:O	2:G:1940:CYS:N	2.49	0.41
2:B:174:VAL:O	2:E:2452:ARG:NH1	2.53	0.41
2:B:346:CYS:N	2:B:388:LEU:O	2.52	0.41
2:B:2214:VAL:HG23	2:B:2215:LEU:HD12	2.02	0.41
2:B:3694:LYS:HA	2:B:3695:PRO:HD3	1.95	0.41
2:B:4918:ILE:HD11	2:E:4888:TYR:HA	2.03	0.41
2:B:4961:CYS:O	2:B:4961:CYS:SG	2.79	0.41
2:I:70:GLU:HB2	2:I:108:LEU:HD23	2.03	0.41
2:I:1973:GLN:HA	2:I:1976:ARG:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:3361:UNK:O	2:I:3365:UNK:N	2.54	0.41
2:E:284:HIS:N	2:E:289:ARG:O	2.42	0.41
2:E:2883:HIS:NE2	2:E:2906:VAL:O	2.52	0.41
2:E:3658:LYS:HA	2:E:3661:TRP:CD2	2.55	0.41
2:G:116:MET:HB2	2:G:137:LEU:HD12	2.03	0.41
2:G:2285:GLU:HG3	2:G:2286:LEU:HG	2.03	0.41
2:G:3923:LEU:HD13	2:G:3961:VAL:HG11	2.03	0.41
2:G:4236:SER:HG	2:G:4675:LYS:HZ1	1.64	0.41
2:G:4978:HIS:HA	2:G:4982:GLU:HB2	2.01	0.41
2:B:2285:GLU:HG3	2:B:2286:LEU:HG	2.03	0.41
2:B:3361:UNK:O	2:B:3365:UNK:N	2.54	0.41
2:I:591:ASP:O	2:I:1594:ARG:NH2	2.54	0.41
2:I:1739:THR:H	2:I:1742:THR:HB	1.86	0.41
2:I:2517:UNK:O	2:I:2521:UNK:N	2.54	0.41
2:I:3923:LEU:HD13	2:I:3961:VAL:HG11	2.03	0.41
2:E:940:GLY:O	2:E:1052:ASN:N	2.54	0.41
2:E:1739:THR:H	2:E:1742:THR:HB	1.86	0.41
2:G:591:ASP:O	2:G:1594:ARG:NH2	2.53	0.41
2:G:2095:GLN:NE2	2:G:2127:GLN:O	2.53	0.41
2:G:2517:UNK:O	2:G:2521:UNK:N	2.54	0.41
2:B:2143:THR:O	2:B:3651:ASN:ND2	2.43	0.41
2:B:3923:LEU:HD13	2:B:3961:VAL:HG11	2.03	0.41
2:I:313:SER:HB3	2:I:351:VAL:HB	2.02	0.41
2:I:451:TYR:O	2:I:474:ARG:NH1	2.53	0.41
2:I:877:ASN:HD22	2:I:1045:THR:HG23	1.84	0.41
2:I:4961:CYS:O	2:I:4961:CYS:SG	2.79	0.41
2:I:5004:THR:H	2:I:5007:GLU:HB2	1.86	0.41
2:E:70:GLU:HB2	2:E:108:LEU:HD23	2.03	0.41
2:E:1685:LEU:HA	2:E:1688:HIS:HD2	1.86	0.41
2:E:1972:ASN:O	2:E:1976:ARG:N	2.52	0.41
2:E:4984:ASN:C	2:E:4986:ALA:H	2.24	0.41
2:G:70:GLU:HB2	2:G:108:LEU:HD23	2.03	0.41
2:G:894:GLY:HA3	2:G:903:LEU:HD22	2.03	0.41
2:G:4961:CYS:O	2:G:4961:CYS:SG	2.79	0.41
2:B:116:MET:HB2	2:B:137:LEU:HD12	2.03	0.41
2:B:330:ASP:N	2:B:330:ASP:OD1	2.54	0.41
2:B:670:GLU:H	2:B:740:PRO:HB3	1.86	0.41
2:B:877:ASN:HD22	2:B:1045:THR:HG23	1.85	0.41
2:B:2517:UNK:O	2:B:2521:UNK:N	2.54	0.41
2:B:5004:THR:H	2:B:5007:GLU:HB2	1.86	0.41
2:I:670:GLU:H	2:I:740:PRO:HB3	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:1657:LEU:HD13	2:I:1657:LEU:HA	1.94	0.41
2:I:1972:ASN:O	2:I:1976:ARG:N	2.52	0.41
2:I:4657:CYS:HB3	2:I:4792:LEU:HD11	2.03	0.41
2:I:4960:ILE:CG2	2:I:4988:TYR:OH	2.69	0.41
2:I:4978:HIS:HA	2:I:4982:GLU:HB2	2.02	0.41
2:I:4984:ASN:C	2:I:4986:ALA:H	2.24	0.41
2:E:649:PHE:HB3	2:E:776:LEU:HD13	2.03	0.41
2:E:3361:UNK:O	2:E:3365:UNK:N	2.54	0.41
2:E:4897:ILE:HG12	2:E:4901:ILE:HD13	2.02	0.41
2:E:4960:ILE:CG2	2:E:4988:TYR:OH	2.69	0.41
2:E:4963:ILE:HD13	2:E:5027:CYS:SG	2.61	0.41
2:G:330:ASP:OD1	2:G:330:ASP:N	2.54	0.41
2:G:619:ASP:OD1	2:G:1680:ARG:NH1	2.52	0.41
2:G:670:GLU:H	2:G:740:PRO:HB3	1.86	0.41
2:G:940:GLY:O	2:G:1052:ASN:N	2.54	0.41
2:G:1685:LEU:HA	2:G:1688:HIS:HD2	1.86	0.41
2:G:1739:THR:H	2:G:1742:THR:HB	1.86	0.41
2:G:2029:GLN:O	2:G:2033:ASP:N	2.51	0.41
2:G:4984:ASN:C	2:G:4986:ALA:H	2.24	0.41
2:B:2883:HIS:NE2	2:B:2906:VAL:O	2.52	0.41
2:B:4960:ILE:CG2	2:B:4988:TYR:OH	2.69	0.41
2:I:164:ARG:N	2:I:167:ASP:OD2	2.53	0.41
2:I:1663:HIS:O	2:I:1667:LEU:N	2.53	0.41
2:I:1685:LEU:HA	2:I:1688:HIS:HD2	1.86	0.41
2:I:2285:GLU:HG3	2:I:2286:LEU:HG	2.03	0.41
2:E:313:SER:HB3	2:E:351:VAL:HB	2.02	0.41
2:E:813:GLU:OE2	2:E:1020:ARG:N	2.54	0.41
2:E:1727:ARG:NH2	2:E:1773:PRO:O	2.52	0.41
2:E:2143:THR:O	2:E:3651:ASN:ND2	2.43	0.41
2:G:215:THR:HG22	2:G:273:HIS:HA	2.03	0.41
2:G:1141:ARG:HD2	2:G:1141:ARG:H	1.86	0.41
2:B:113:HIS:CE1	2:B:402:ARG:HB3	2.56	0.40
2:B:1029:GLU:HB3	2:B:1033:ARG:HH12	1.86	0.40
2:B:1739:THR:H	2:B:1742:THR:HB	1.86	0.40
2:B:4010:ILE:HD12	2:B:4131:ARG:HD2	2.03	0.40
2:B:4239:GLU:OE2	2:B:5014:TYR:OH	2.28	0.40
2:I:215:THR:HG22	2:I:273:HIS:HA	2.03	0.40
2:I:1099:GLU:OE2	2:I:1127:HIS:ND1	2.35	0.40
2:E:1973:GLN:HA	2:E:1976:ARG:HB3	2.03	0.40
2:E:4010:ILE:HD12	2:E:4131:ARG:HD2	2.03	0.40
2:E:4961:CYS:O	2:E:4961:CYS:SG	2.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:5004:THR:H	2:E:5007:GLU:HB2	1.86	0.40
2:G:3361:UNK:O	2:G:3365:UNK:N	2.54	0.40
2:B:698:GLY:HA2	2:B:703:GLY:HA2	2.03	0.40
2:B:1685:LEU:HA	2:B:1688:HIS:HD2	1.86	0.40
2:B:2448:GLY:HA2	2:B:2451:LEU:HD12	2.04	0.40
2:I:4963:ILE:HD13	2:I:5027:CYS:SG	2.61	0.40
2:E:116:MET:HB2	2:E:137:LEU:HD12	2.03	0.40
2:E:215:THR:HG22	2:E:273:HIS:HA	2.03	0.40
2:E:670:GLU:H	2:E:740:PRO:HB3	1.86	0.40
2:E:681:HIS:HB3	2:E:784:SER:HB3	2.04	0.40
2:E:877:ASN:HD22	2:E:1045:THR:HG23	1.85	0.40
2:E:1707:LEU:O	2:E:1710:GLY:N	2.33	0.40
2:E:4148:THR:HG21	2:E:4178:LEU:HD21	2.04	0.40
2:G:734:GLY:O	2:G:736:HIS:ND1	2.52	0.40
2:B:1641:ILE:HA	2:B:1642:PRO:HD3	1.93	0.40
2:B:1973:GLN:HA	2:B:1976:ARG:HB3	2.03	0.40
2:B:2776:SER:O	2:B:2788:HIS:N	2.53	0.40
2:I:113:HIS:CE1	2:I:402:ARG:HB3	2.56	0.40
2:I:649:PHE:HB3	2:I:776:LEU:HD13	2.03	0.40
2:I:1141:ARG:HD2	2:I:1141:ARG:H	1.86	0.40
2:I:2448:GLY:HA2	2:I:2451:LEU:HD12	2.04	0.40
2:E:330:ASP:OD1	2:E:330:ASP:N	2.54	0.40
2:E:698:GLY:HA2	2:E:703:GLY:HA2	2.03	0.40
2:E:2517:UNK:O	2:E:2521:UNK:N	2.54	0.40
2:G:1727:ARG:NH2	2:G:1773:PRO:O	2.52	0.40
2:G:4963:ILE:HD13	2:G:5027:CYS:SG	2.61	0.40
2:B:4657:CYS:HB3	2:B:4792:LEU:HD11	2.03	0.40
2:I:346:CYS:N	2:I:388:LEU:O	2.52	0.40
2:I:813:GLU:OE2	2:I:1020:ARG:N	2.54	0.40
2:E:113:HIS:CE1	2:E:402:ARG:HB3	2.56	0.40
2:E:894:GLY:HA3	2:E:903:LEU:HD22	2.03	0.40
2:E:1029:GLU:HB3	2:E:1033:ARG:HH12	1.86	0.40
2:G:1029:GLU:HB3	2:G:1033:ARG:HH12	1.86	0.40
2:B:649:PHE:HB3	2:B:776:LEU:HD13	2.03	0.40
2:B:4984:ASN:C	2:B:4986:ALA:H	2.24	0.40
2:I:894:GLY:HA3	2:I:903:LEU:HD22	2.03	0.40
2:I:1078:GLU:HB3	2:I:1081:TYR:HD2	1.86	0.40
2:I:4010:ILE:HD12	2:I:4131:ARG:HD2	2.03	0.40
2:G:813:GLU:OE2	2:G:1020:ARG:N	2.54	0.40
2:G:5004:THR:H	2:G:5007:GLU:HB2	1.86	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	105/108 (97%)	93 (89%)	12 (11%)	0	100	100
1	F	105/108 (97%)	93 (89%)	12 (11%)	0	100	100
1	H	105/108 (97%)	93 (89%)	12 (11%)	0	100	100
1	J	105/108 (97%)	93 (89%)	12 (11%)	0	100	100
2	B	3235/4416 (73%)	2892 (89%)	335 (10%)	8 (0%)	47	81
2	E	3235/4416 (73%)	2893 (89%)	334 (10%)	8 (0%)	47	81
2	G	3235/4416 (73%)	2893 (89%)	334 (10%)	8 (0%)	47	81
2	I	3235/4416 (73%)	2891 (89%)	336 (10%)	8 (0%)	47	81
All	All	13360/18096 (74%)	11941 (89%)	1387 (10%)	32 (0%)	50	81

All (32) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	5028	PHE
2	I	5028	PHE
2	E	5028	PHE
2	G	5028	PHE
2	B	1708	ARG
2	B	1932	PRO
2	B	4982	GLU
2	I	1708	ARG
2	I	1932	PRO
2	E	1708	ARG
2	E	1932	PRO
2	E	4982	GLU
2	G	1708	ARG
2	G	1932	PRO
2	G	4982	GLU
2	I	4982	GLU
2	B	1840	PRO

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Mol	Chain	Res	Type
2	B	4641	PRO
2	I	1840	PRO
2	I	4641	PRO
2	E	1840	PRO
2	E	4641	PRO
2	G	1840	PRO
2	G	4641	PRO
2	B	2291	GLN
2	B	3762	ARG
2	I	2291	GLN
2	I	3762	ARG
2	E	2291	GLN
2	E	3762	ARG
2	G	2291	GLN
2	G	3762	ARG

### 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	88/89 (99%)	88 (100%)	0	100	100
1	F	88/89 (99%)	88 (100%)	0	100	100
1	H	88/89 (99%)	88 (100%)	0	100	100
1	J	88/89 (99%)	88 (100%)	0	100	100
2	B	2493/3022 (82%)	2474 (99%)	19 (1%)	81	89
2	E	2493/3022 (82%)	2474 (99%)	19 (1%)	81	89
2	G	2493/3022 (82%)	2474 (99%)	19 (1%)	81	89
2	I	2493/3022 (82%)	2474 (99%)	19 (1%)	81	89
All	All	10324/12444 (83%)	10248 (99%)	76 (1%)	84	90

All (76) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	131	LEU
2	B	534	ARG
2	B	553	ARG
2	B	1076	ARG
2	B	1141	ARG
2	B	1600	LEU
2	B	1676	LEU
2	B	1964	ARG
2	B	3762	ARG
2	B	3787	LYS
2	B	3805	LEU
2	B	3896	ASN
2	B	4034	ASN
2	B	4085	ARG
2	B	4120	ASN
2	B	4201	ASN
2	B	4959	PHE
2	B	4961	CYS
2	B	5027	CYS
2	I	131	LEU
2	I	534	ARG
2	I	553	ARG
2	I	1076	ARG
2	I	1141	ARG
2	I	1600	LEU
2	I	1676	LEU
2	I	1964	ARG
2	I	3762	ARG
2	I	3787	LYS
2	I	3805	LEU
2	I	3896	ASN
2	I	4034	ASN
2	I	4085	ARG
2	I	4120	ASN
2	I	4201	ASN
2	I	4959	PHE
2	I	4961	CYS
2	I	5027	CYS
2	E	131	LEU
2	E	534	ARG
2	E	553	ARG
2	E	1076	ARG
2	E	1141	ARG

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Mol	Chain	Res	Type
2	E	1600	LEU
2	E	1676	LEU
2	E	1964	ARG
2	E	3762	ARG
2	E	3787	LYS
2	E	3805	LEU
2	E	3896	ASN
2	E	4034	ASN
2	E	4085	ARG
2	E	4120	ASN
2	E	4201	ASN
2	E	4959	PHE
2	E	4961	CYS
2	E	5027	CYS
2	G	131	LEU
2	G	534	ARG
2	G	553	ARG
2	G	1076	ARG
2	G	1141	ARG
2	G	1600	LEU
2	G	1676	LEU
2	G	1964	ARG
2	G	3762	ARG
2	G	3787	LYS
2	G	3805	LEU
2	G	3896	ASN
2	G	4034	ASN
2	G	4085	ARG
2	G	4120	ASN
2	G	4201	ASN
2	G	4959	PHE
2	G	4961	CYS
2	G	5027	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (120) such sidechains are listed below:

Mol	Chain	Res	Type
1	F	87	HIS
1	A	87	HIS
1	H	87	HIS
1	J	87	HIS
2	B	57	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	B	111	HIS
2	B	113	HIS
2	B	151	HIS
2	B	224	HIS
2	B	273	HIS
2	B	379	HIS
2	B	395	GLN
2	B	479	GLN
2	B	520	ASN
2	B	582	HIS
2	B	1158	ASN
2	B	1691	GLN
2	B	1719	HIS
2	B	1775	HIS
2	B	2041	HIS
2	B	2127	GLN
2	B	3766	GLN
2	B	3781	GLN
2	B	3896	ASN
2	B	3950	ASN
2	B	3960	GLN
2	B	4034	ASN
2	B	4102	GLN
2	B	4120	ASN
2	B	4153	HIS
2	B	4201	ASN
2	B	4553	ASN
2	B	4806	ASN
2	I	57	ASN
2	I	111	HIS
2	I	113	HIS
2	I	151	HIS
2	I	224	HIS
2	I	273	HIS
2	I	379	HIS
2	I	395	GLN
2	I	479	GLN
2	I	520	ASN
2	I	582	HIS
2	I	1158	ASN
2	I	1691	GLN
2	I	1719	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	I	1775	HIS
2	I	2041	HIS
2	I	2127	GLN
2	I	3766	GLN
2	I	3781	GLN
2	I	3896	ASN
2	I	3950	ASN
2	I	3960	GLN
2	I	4034	ASN
2	I	4102	GLN
2	I	4120	ASN
2	I	4153	HIS
2	I	4201	ASN
2	I	4553	ASN
2	I	4806	ASN
2	E	57	ASN
2	E	111	HIS
2	E	113	HIS
2	E	151	HIS
2	E	224	HIS
2	E	273	HIS
2	E	379	HIS
2	E	395	GLN
2	E	479	GLN
2	E	520	ASN
2	E	582	HIS
2	E	1158	ASN
2	E	1691	GLN
2	E	1719	HIS
2	E	1775	HIS
2	E	2041	HIS
2	E	2127	GLN
2	E	3766	GLN
2	E	3781	GLN
2	E	3896	ASN
2	E	3950	ASN
2	E	3960	GLN
2	E	4034	ASN
2	E	4102	GLN
2	E	4120	ASN
2	E	4153	HIS
2	E	4201	ASN

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Mol	Chain	Res	Type
2	E	4553	ASN
2	E	4806	ASN
2	G	57	ASN
2	G	111	HIS
2	G	113	HIS
2	G	151	HIS
2	G	224	HIS
2	G	273	HIS
2	G	379	HIS
2	G	395	GLN
2	G	479	GLN
2	G	520	ASN
2	G	582	HIS
2	G	1158	ASN
2	G	1691	GLN
2	G	1719	HIS
2	G	1775	HIS
2	G	2007	ASN
2	G	2041	HIS
2	G	2127	GLN
2	G	3766	GLN
2	G	3781	GLN
2	G	3896	ASN
2	G	3950	ASN
2	G	3960	GLN
2	G	4034	ASN
2	G	4102	GLN
2	G	4120	ASN
2	G	4153	HIS
2	G	4553	ASN
2	G	4806	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	B	14
2	I	14
2	E	14
2	G	14

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	4345:UNK	C	4540:PHE	N	73.35
1	I	4345:UNK	C	4540:PHE	N	73.35
1	E	4345:UNK	C	4540:PHE	N	73.35
1	G	4345:UNK	C	4540:PHE	N	73.35
1	B	3613:UNK	C	3639:THR	N	45.90
1	I	3613:UNK	C	3639:THR	N	45.90
1	E	3613:UNK	C	3639:THR	N	45.90
1	G	3613:UNK	C	3639:THR	N	45.90
1	B	4253:GLU	C	4320:UNK	N	27.05

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	I	4253:GLU	C	4320:UNK	N	27.05
1	E	4253:GLU	C	4320:UNK	N	27.05
1	G	4253:GLU	C	4320:UNK	N	27.05
1	B	3163:UNK	C	3170:UNK	N	15.84
1	I	3163:UNK	C	3170:UNK	N	15.84
1	E	3163:UNK	C	3170:UNK	N	15.84
1	G	3163:UNK	C	3170:UNK	N	15.84
1	B	3063:UNK	C	3134:UNK	N	14.98
1	I	3063:UNK	C	3134:UNK	N	14.98
1	E	3063:UNK	C	3134:UNK	N	14.98
1	G	3063:UNK	C	3134:UNK	N	14.98
1	B	3468:UNK	C	3511:UNK	N	14.61
1	I	3468:UNK	C	3511:UNK	N	14.61
1	E	3468:UNK	C	3511:UNK	N	14.61
1	G	3468:UNK	C	3511:UNK	N	14.61
1	B	2703:UNK	C	2734:ASN	N	14.05
1	I	2703:UNK	C	2734:ASN	N	14.05
1	E	2703:UNK	C	2734:ASN	N	14.05
1	G	2703:UNK	C	2734:ASN	N	14.05
1	I	3236:UNK	C	3241:UNK	N	13.51
1	B	3236:UNK	C	3241:UNK	N	13.50
1	E	3236:UNK	C	3241:UNK	N	13.50
1	G	3236:UNK	C	3241:UNK	N	13.50
1	B	2976:UNK	C	2995:UNK	N	12.34
1	I	2976:UNK	C	2995:UNK	N	12.34
1	E	2976:UNK	C	2995:UNK	N	12.34
1	G	2976:UNK	C	2995:UNK	N	12.34
1	B	1564:UNK	C	1573:MET	N	11.71
1	I	1564:UNK	C	1573:MET	N	11.71
1	E	1564:UNK	C	1573:MET	N	11.71
1	G	1564:UNK	C	1573:MET	N	11.71
1	B	3254:UNK	C	3261:UNK	N	8.48
1	I	3254:UNK	C	3261:UNK	N	8.48
1	E	3254:UNK	C	3261:UNK	N	8.48
1	G	3254:UNK	C	3261:UNK	N	8.48
1	B	1297:UNK	C	1430:UNK	N	5.81
1	I	1297:UNK	C	1430:UNK	N	5.81
1	E	1297:UNK	C	1430:UNK	N	5.81
1	G	1297:UNK	C	1430:UNK	N	5.81
1	B	2939:ARG	C	2942:UNK	N	3.79
1	I	2939:ARG	C	2942:UNK	N	3.79
1	E	2939:ARG	C	2942:UNK	N	3.79

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	2939:ARG	C	2942:UNK	N	3.79
1	B	2479:LEU	C	2487:UNK	N	3.33
1	I	2479:LEU	C	2487:UNK	N	3.33
1	E	2479:LEU	C	2487:UNK	N	3.33
1	G	2479:LEU	C	2487:UNK	N	3.33

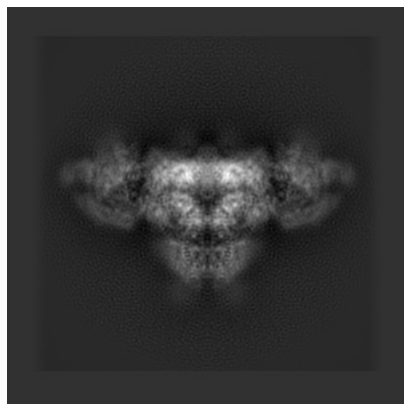
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-8393. These allow visual inspection of the internal detail of the map and identification of artifacts.

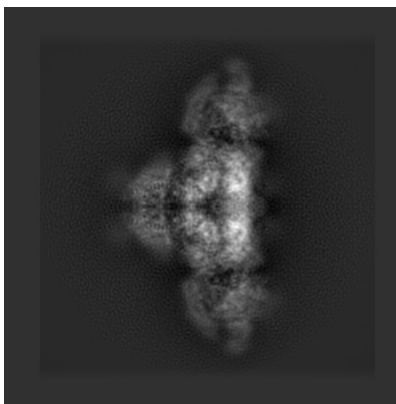
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

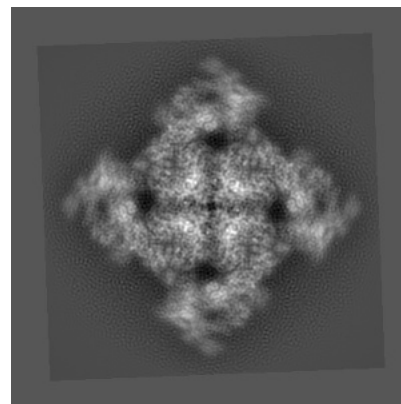
#### 6.1.1 Primary map



X

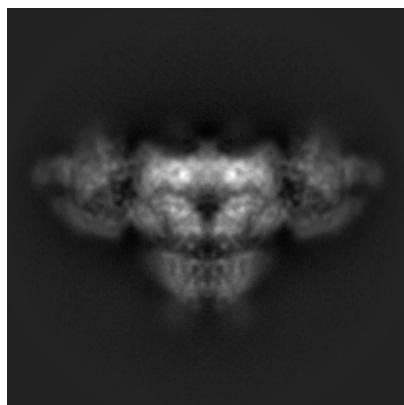


Y

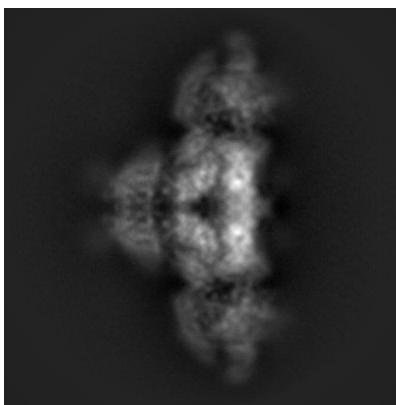


Z

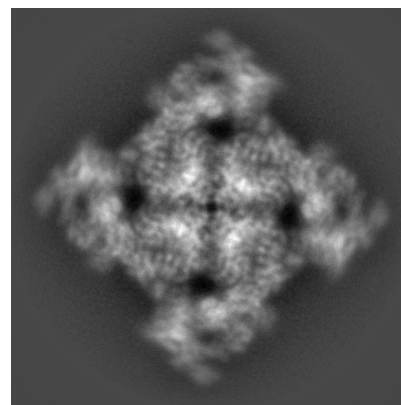
#### 6.1.2 Raw map



X



Y

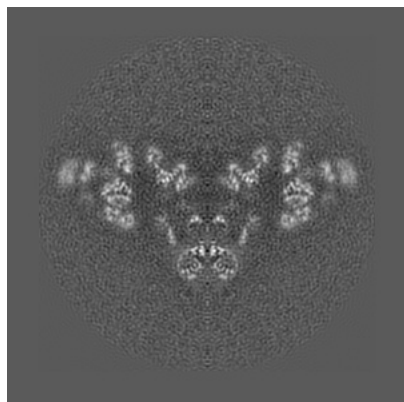


Z

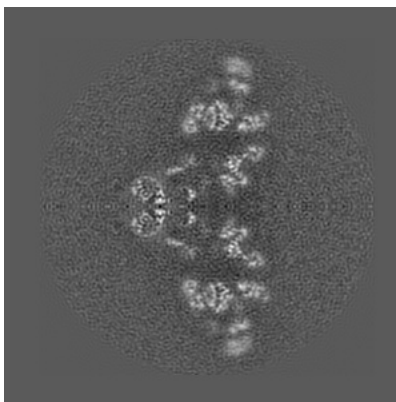
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

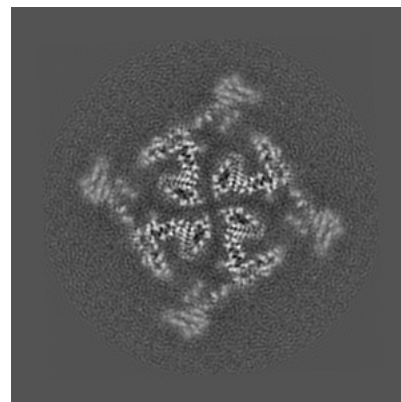
### 6.2.1 Primary map



X Index: 200

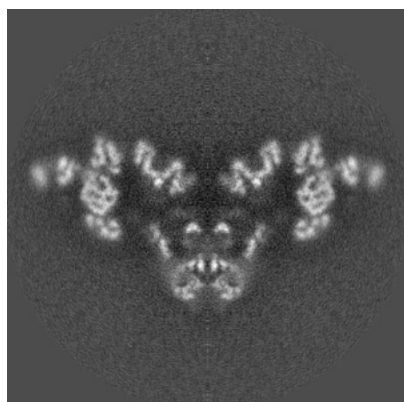


Y Index: 200

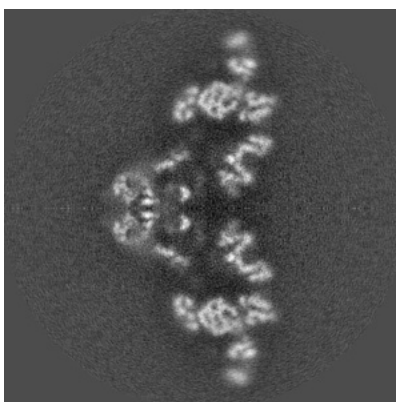


Z Index: 200

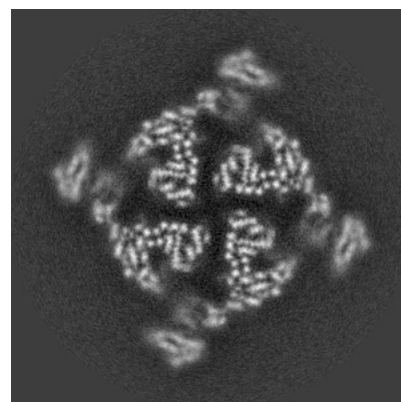
### 6.2.2 Raw map



X Index: 168



Y Index: 168

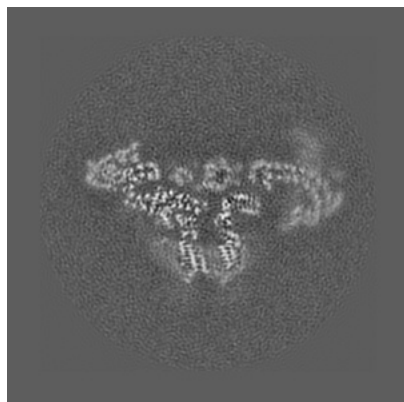


Z Index: 168

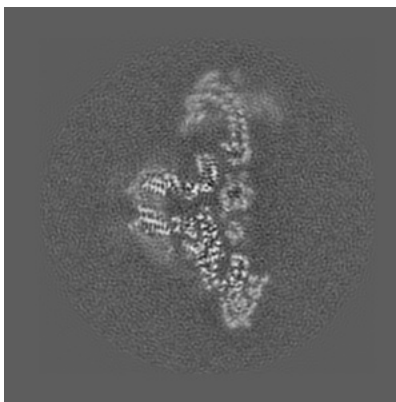
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

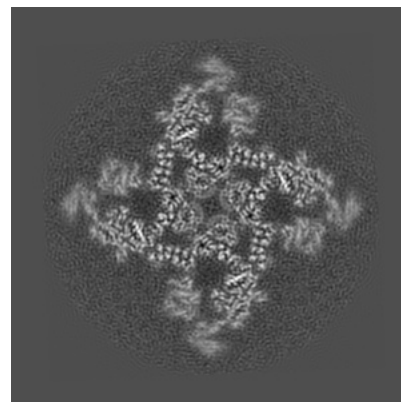
### 6.3.1 Primary map



X Index: 224

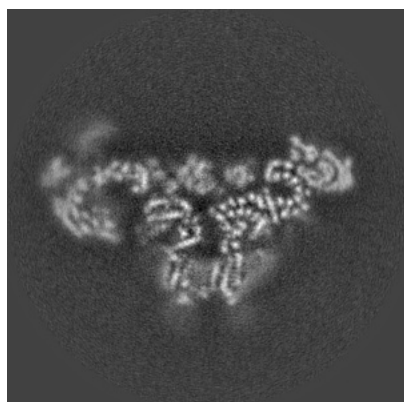


Y Index: 176

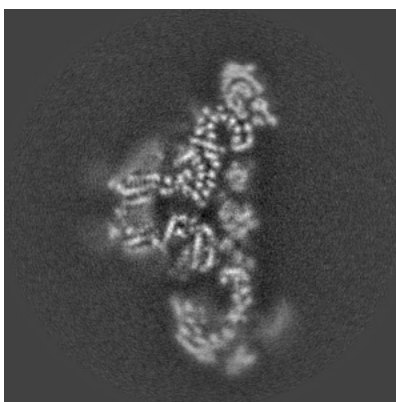


Z Index: 228

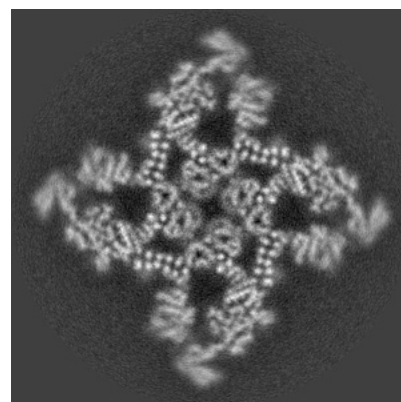
### 6.3.2 Raw map



X Index: 146



Y Index: 190

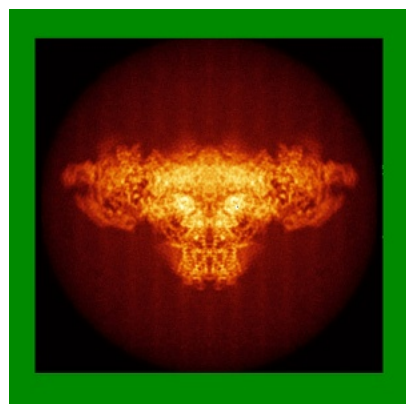


Z Index: 193

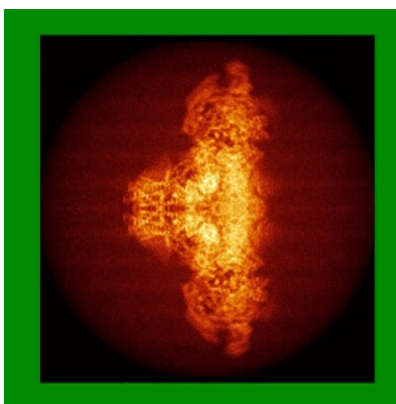
The images above show the largest variance slices of the map in three orthogonal directions.

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

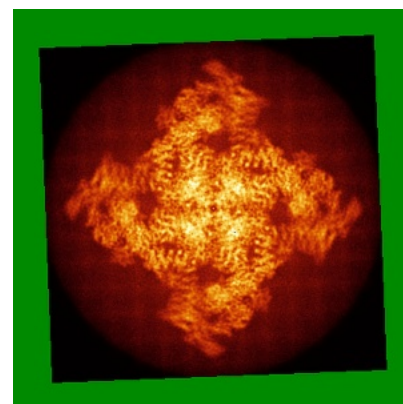
### 6.4.1 Primary map



X

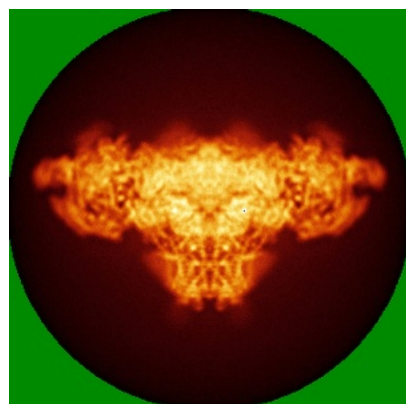


Y

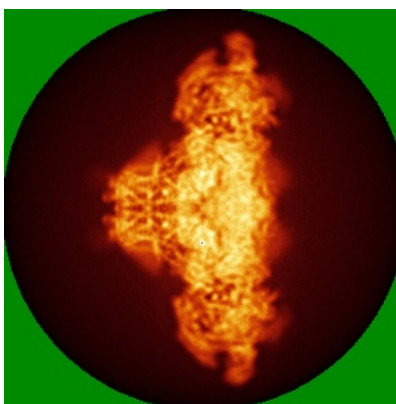


Z

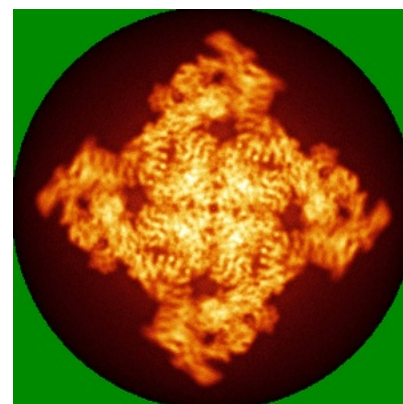
### 6.4.2 Raw map



X



Y



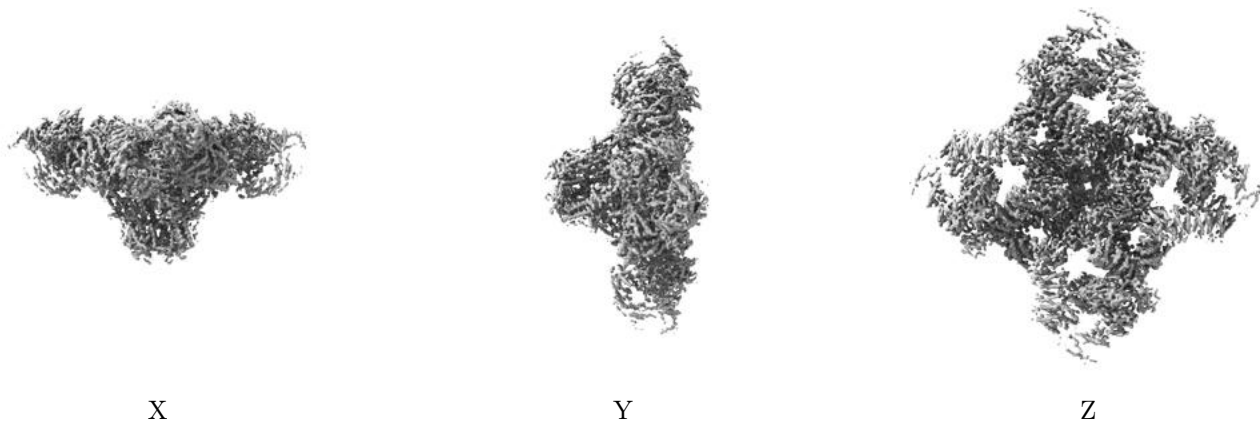
Z

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



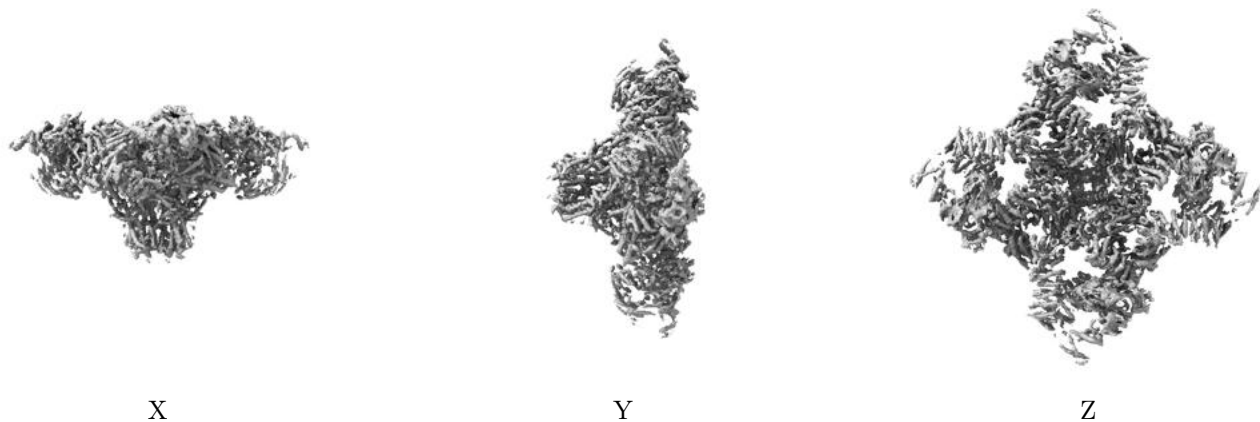
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.025. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



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

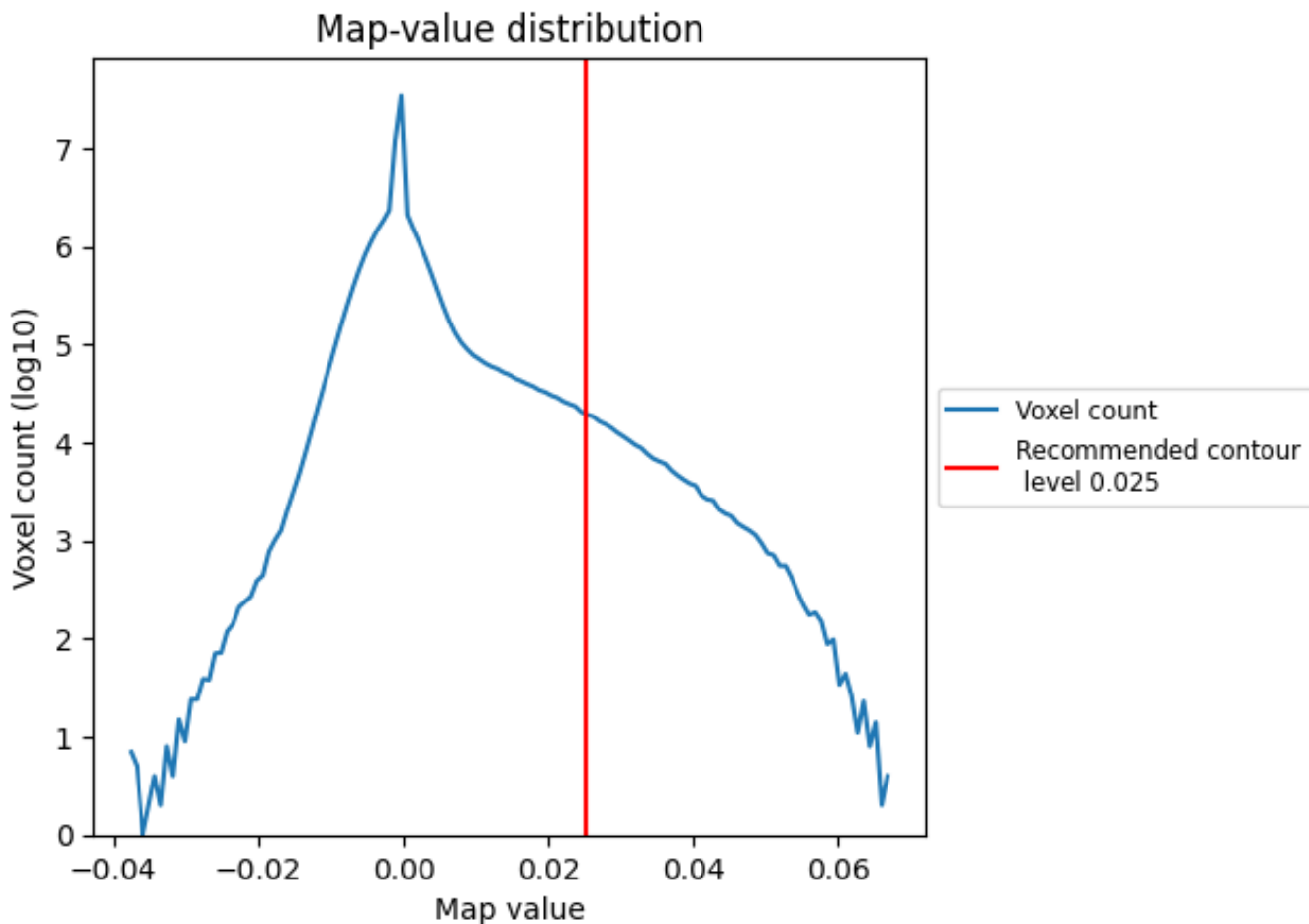
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

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

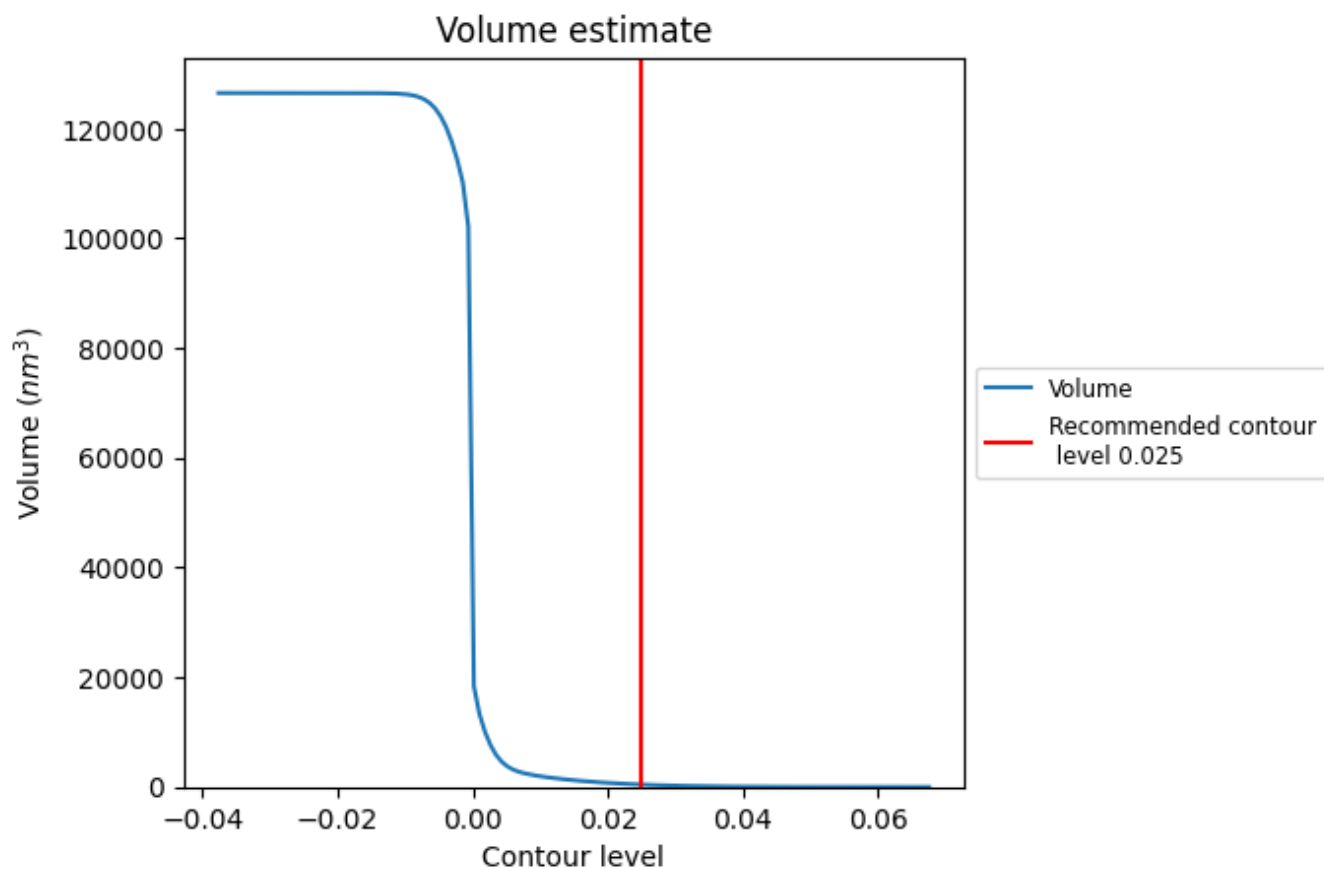
### 7.1 Map-value distribution [i](#)



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



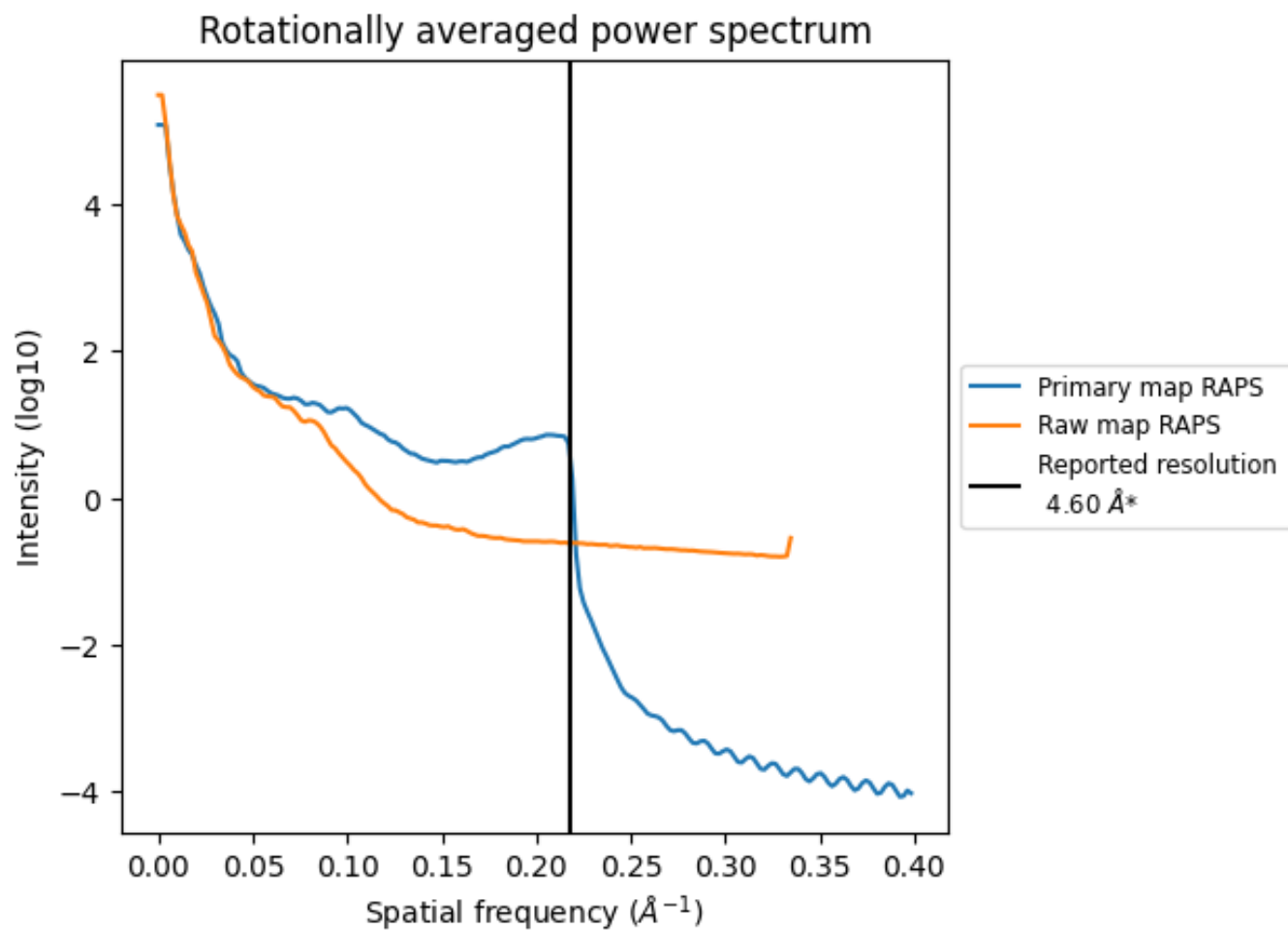
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 431  $\text{nm}^3$ ; this corresponds to an approximate mass of 390 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

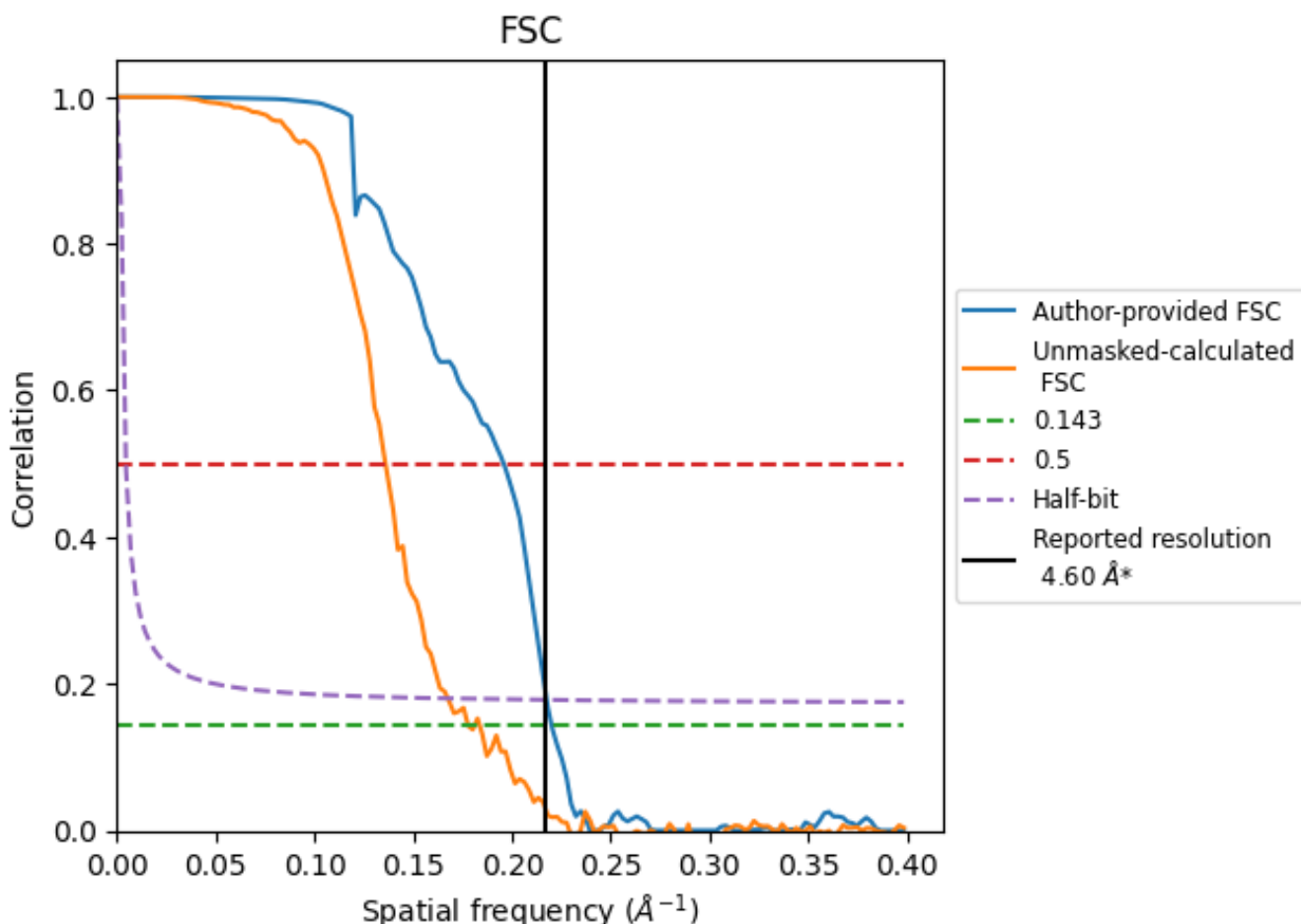


\*Reported resolution corresponds to spatial frequency of 0.217 Å<sup>-1</sup>

## 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 0.217 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

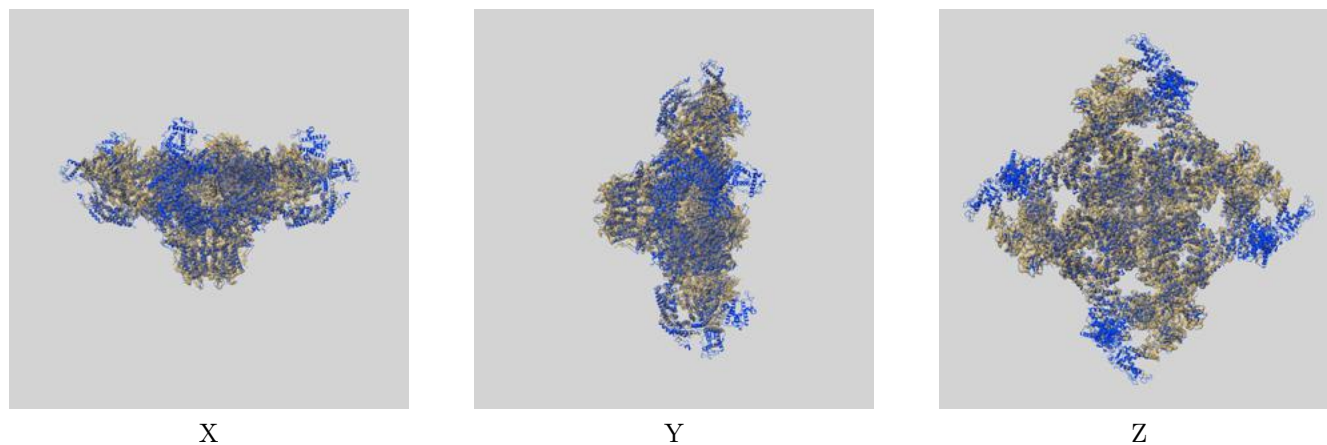
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.60	-	-
Author-provided FSC curve	4.54	5.11	4.60
Unmasked-calculated*	5.62	7.35	5.97

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 5.62 differs from the reported value 4.6 by more than 10 %

## 9 Map-model fit [i](#)

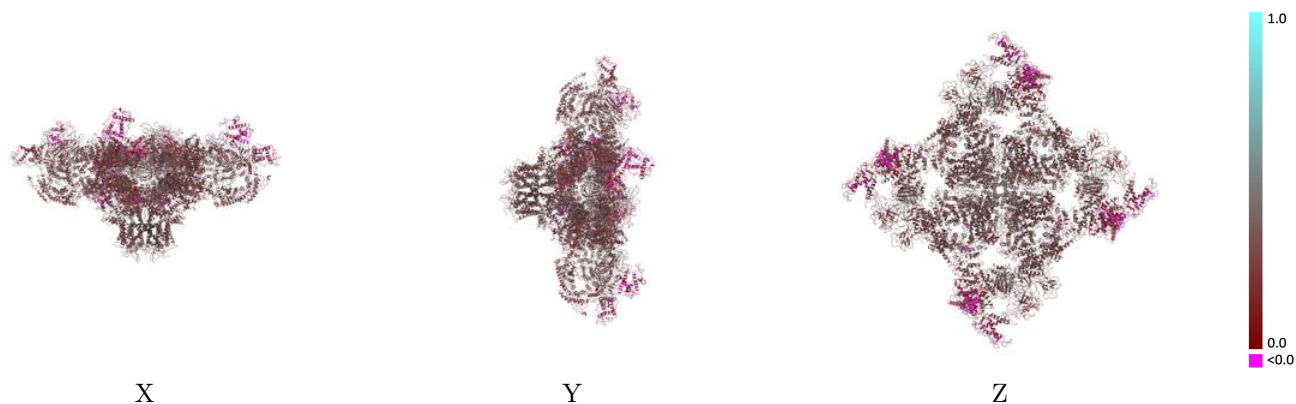
This section contains information regarding the fit between EMDB map EMD-8393 and PDB model 5TB2. Per-residue inclusion information can be found in section 3 on page 4.

### 9.1 Map-model overlay [i](#)



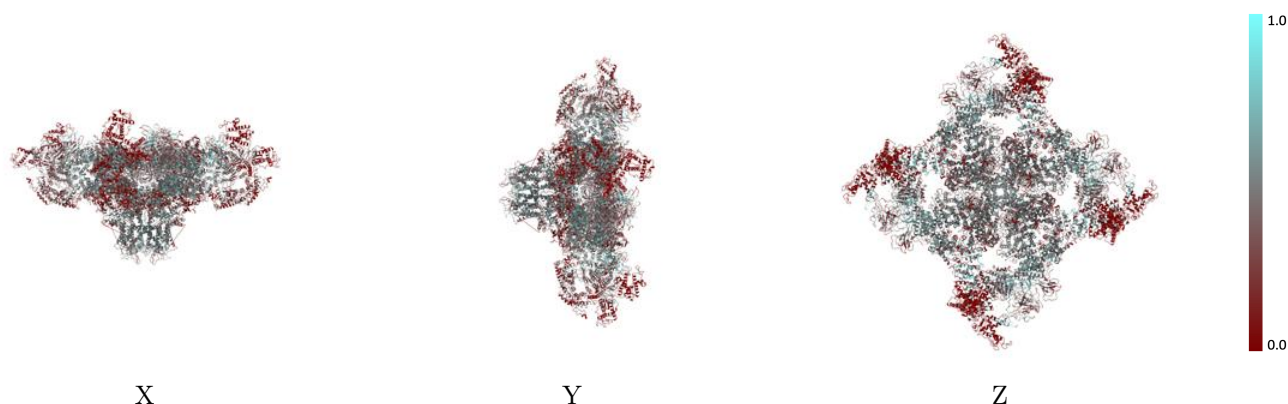
The images above show the 3D surface view of the map at the recommended contour level 0.025 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



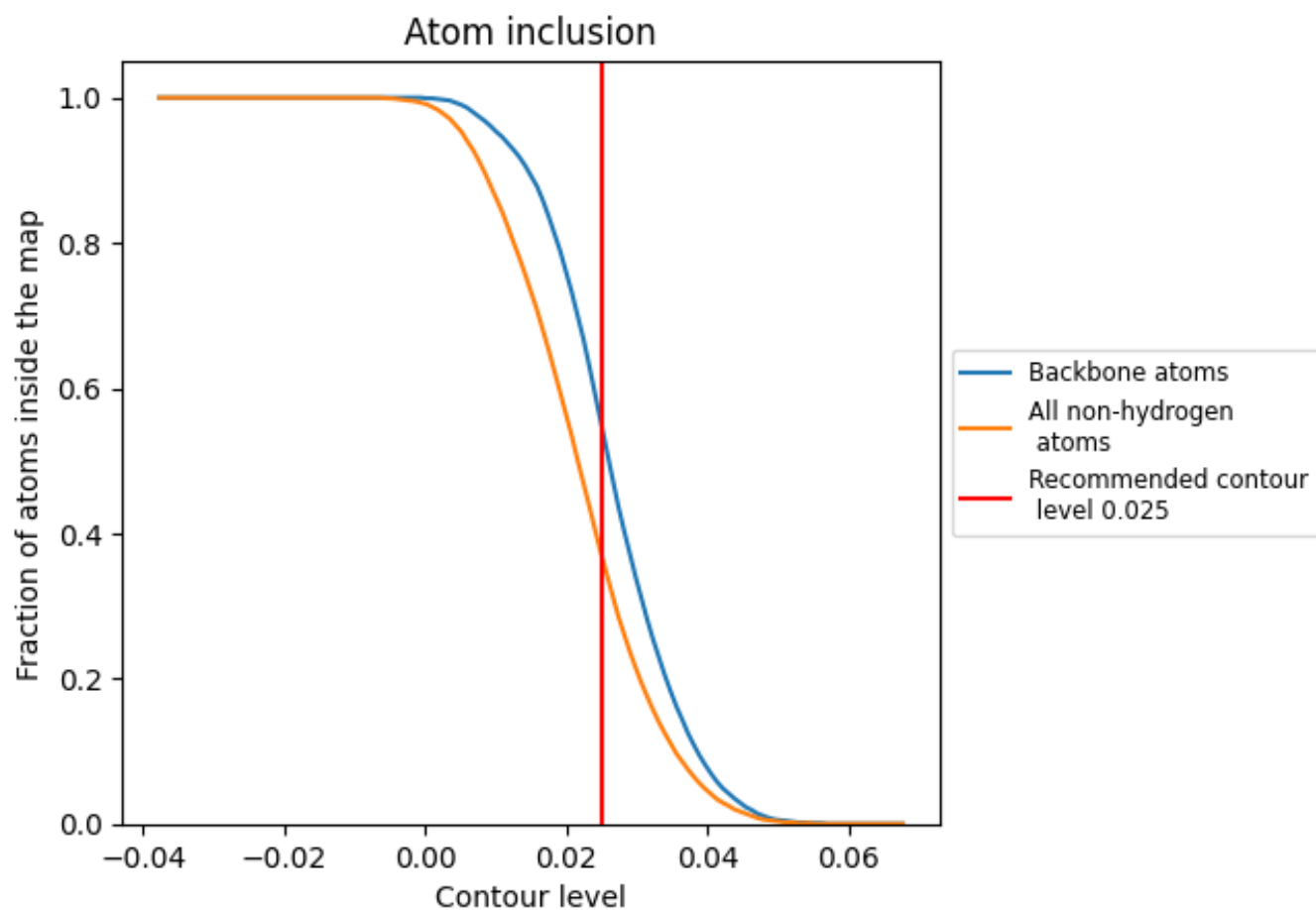
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

## 9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.025).



















## 9.4 Atom inclusion [i](#)



At the recommended contour level, 55% of all backbone atoms, 37% of all non-hydrogen atoms, are inside the map.

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

The table lists the average atom inclusion at the recommended contour level (0.025) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.3690	 0.2880
A	 0.3500	 0.3000
B	 0.3700	 0.2880
E	 0.3690	 0.2880
F	 0.3440	 0.3030
G	 0.3700	 0.2880
H	 0.3490	 0.3040
I	 0.3700	 0.2870
J	 0.3500	 0.3030

