



## Full wwPDB EM Validation Report ⓘ

Jul 10, 2023 – 12:06 PM EDT

PDB ID : 8SEP  
EMDB ID : EMD-40424  
Title : Cryo-EM Structure of RyR1 + ADP  
Authors : Cholak, S.; Saville, J.W.; Zhu, X.; Berezuk, A.M.; Tuttle, K.S.; Haji-Ghassemi, O.; Van Petegem, F.; Subramaniam, S.  
Deposited on : 2023-04-10  
Resolution : 3.57 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.dev50  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
MolProbity : 4.02b-467  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.34

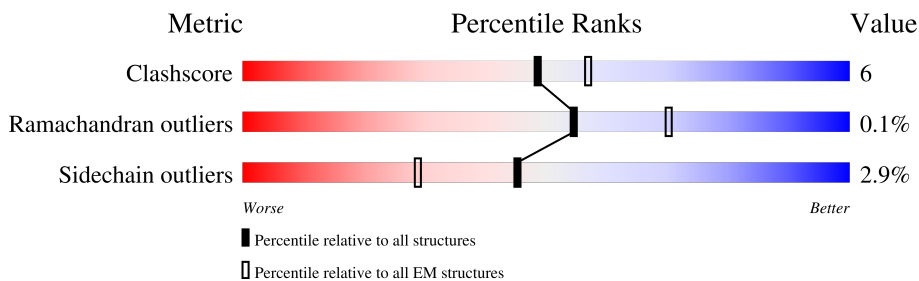
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.57 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	5037	
1	B	5037	
1	C	5037	
1	D	5037	
2	E	350	
2	F	350	
2	G	350	
2	H	350	

## 2 Entry composition i

There are 4 unique types of molecules in this entry. The entry contains 143100 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	4379	34929	22223	6026	6444	236	9	0
1	B	4379	34929	22223	6026	6444	236	9	0
1	C	4379	34929	22223	6026	6444	236	9	0
1	D	4379	34929	22223	6026	6444	236	9	0

- Molecule 2 is a protein called Glutathione S-transferase class-mu 26 kDa isozyme,Peptidyl-prolyl cis-trans isomerase FKBP1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	E	107	818	516	144	154	4	0	0
2	F	107	818	516	144	154	4	0	0
2	G	107	818	516	144	154	4	0	0
2	H	107	818	516	144	154	4	0	0

There are 100 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	-242	MET	-	expression tag	UNP P08515
E	-241	LYS	-	expression tag	UNP P08515
E	-240	SER	-	expression tag	UNP P08515
E	-239	SER	-	expression tag	UNP P08515
E	-238	HIS	-	expression tag	UNP P08515
E	-237	HIS	-	expression tag	UNP P08515
E	-236	HIS	-	expression tag	UNP P08515
E	-235	HIS	-	expression tag	UNP P08515

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Chain	Residue	Modelled	Actual	Comment	Reference
E	-234	HIS	-	expression tag	UNP P08515
E	-233	HIS	-	expression tag	UNP P08515
E	-232	GLY	-	expression tag	UNP P08515
E	-231	SER	-	expression tag	UNP P08515
E	-230	SER	-	expression tag	UNP P08515
E	-11	GLY	-	linker	UNP P08515
E	-10	ILE	-	linker	UNP P08515
E	-9	GLU	-	linker	UNP P08515
E	-8	GLU	-	linker	UNP P08515
E	-7	ASN	-	linker	UNP P08515
E	-6	LEU	-	linker	UNP P08515
E	-5	TYR	-	linker	UNP P08515
E	-4	PHE	-	linker	UNP P08515
E	-3	GLN	-	linker	UNP P08515
E	-2	SER	-	linker	UNP P08515
E	-1	ASN	-	linker	UNP P08515
E	0	ALA	-	linker	UNP P08515
F	-242	MET	-	expression tag	UNP P08515
F	-241	LYS	-	expression tag	UNP P08515
F	-240	SER	-	expression tag	UNP P08515
F	-239	SER	-	expression tag	UNP P08515
F	-238	HIS	-	expression tag	UNP P08515
F	-237	HIS	-	expression tag	UNP P08515
F	-236	HIS	-	expression tag	UNP P08515
F	-235	HIS	-	expression tag	UNP P08515
F	-234	HIS	-	expression tag	UNP P08515
F	-233	HIS	-	expression tag	UNP P08515
F	-232	GLY	-	expression tag	UNP P08515
F	-231	SER	-	expression tag	UNP P08515
F	-230	SER	-	expression tag	UNP P08515
F	-11	GLY	-	linker	UNP P08515
F	-10	ILE	-	linker	UNP P08515
F	-9	GLU	-	linker	UNP P08515
F	-8	GLU	-	linker	UNP P08515
F	-7	ASN	-	linker	UNP P08515
F	-6	LEU	-	linker	UNP P08515
F	-5	TYR	-	linker	UNP P08515
F	-4	PHE	-	linker	UNP P08515
F	-3	GLN	-	linker	UNP P08515
F	-2	SER	-	linker	UNP P08515
F	-1	ASN	-	linker	UNP P08515
F	0	ALA	-	linker	UNP P08515

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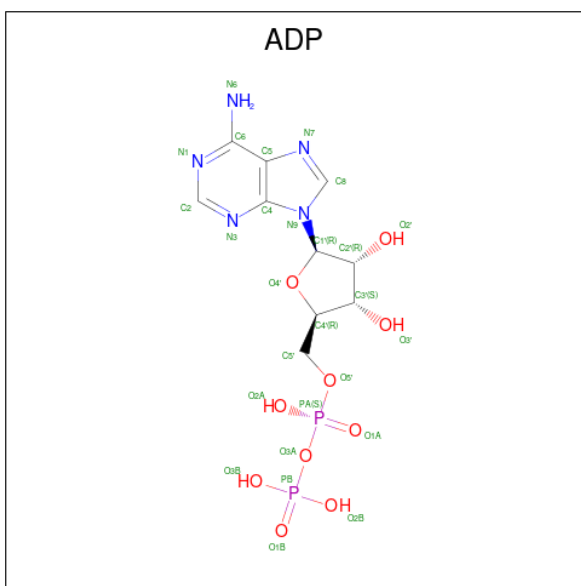
Chain	Residue	Modelled	Actual	Comment	Reference
G	-242	MET	-	expression tag	UNP P08515
G	-241	LYS	-	expression tag	UNP P08515
G	-240	SER	-	expression tag	UNP P08515
G	-239	SER	-	expression tag	UNP P08515
G	-238	HIS	-	expression tag	UNP P08515
G	-237	HIS	-	expression tag	UNP P08515
G	-236	HIS	-	expression tag	UNP P08515
G	-235	HIS	-	expression tag	UNP P08515
G	-234	HIS	-	expression tag	UNP P08515
G	-233	HIS	-	expression tag	UNP P08515
G	-232	GLY	-	expression tag	UNP P08515
G	-231	SER	-	expression tag	UNP P08515
G	-230	SER	-	expression tag	UNP P08515
G	-11	GLY	-	linker	UNP P08515
G	-10	ILE	-	linker	UNP P08515
G	-9	GLU	-	linker	UNP P08515
G	-8	GLU	-	linker	UNP P08515
G	-7	ASN	-	linker	UNP P08515
G	-6	LEU	-	linker	UNP P08515
G	-5	TYR	-	linker	UNP P08515
G	-4	PHE	-	linker	UNP P08515
G	-3	GLN	-	linker	UNP P08515
G	-2	SER	-	linker	UNP P08515
G	-1	ASN	-	linker	UNP P08515
G	0	ALA	-	linker	UNP P08515
H	-242	MET	-	expression tag	UNP P08515
H	-241	LYS	-	expression tag	UNP P08515
H	-240	SER	-	expression tag	UNP P08515
H	-239	SER	-	expression tag	UNP P08515
H	-238	HIS	-	expression tag	UNP P08515
H	-237	HIS	-	expression tag	UNP P08515
H	-236	HIS	-	expression tag	UNP P08515
H	-235	HIS	-	expression tag	UNP P08515
H	-234	HIS	-	expression tag	UNP P08515
H	-233	HIS	-	expression tag	UNP P08515
H	-232	GLY	-	expression tag	UNP P08515
H	-231	SER	-	expression tag	UNP P08515
H	-230	SER	-	expression tag	UNP P08515
H	-11	GLY	-	linker	UNP P08515
H	-10	ILE	-	linker	UNP P08515
H	-9	GLU	-	linker	UNP P08515
H	-8	GLU	-	linker	UNP P08515

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Chain	Residue	Modelled	Actual	Comment	Reference
H	-7	ASN	-	linker	UNP P08515
H	-6	LEU	-	linker	UNP P08515
H	-5	TYR	-	linker	UNP P08515
H	-4	PHE	-	linker	UNP P08515
H	-3	GLN	-	linker	UNP P08515
H	-2	SER	-	linker	UNP P08515
H	-1	ASN	-	linker	UNP P08515
H	0	ALA	-	linker	UNP P08515

- Molecule 3 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula:  $C_{10}H_{15}N_5O_{10}P_2$ ) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
3	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
3	B	1	Total	C	N	O	P	0
			27	10	5	10	2	
3	C	1	Total	C	N	O	P	0
			27	10	5	10	2	
3	D	1	Total	C	N	O	P	0
			27	10	5	10	2	

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

<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>AltConf</b>
4	A	1	Total 1	Zn 1	0
4	B	1	Total 1	Zn 1	0
4	C	1	Total 1	Zn 1	0
4	D	1	Total 1	Zn 1	0

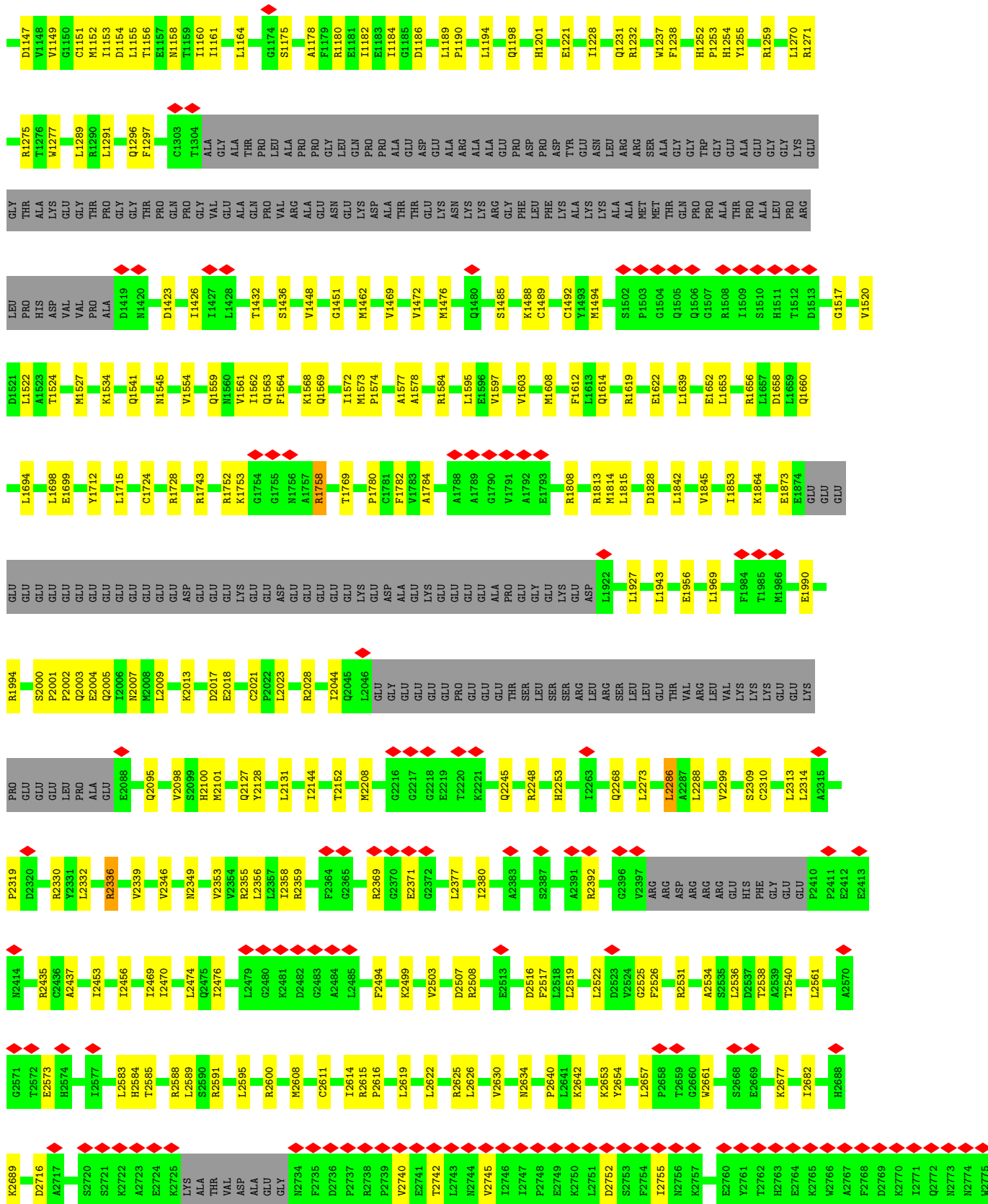
### 3 Residue-property plots

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

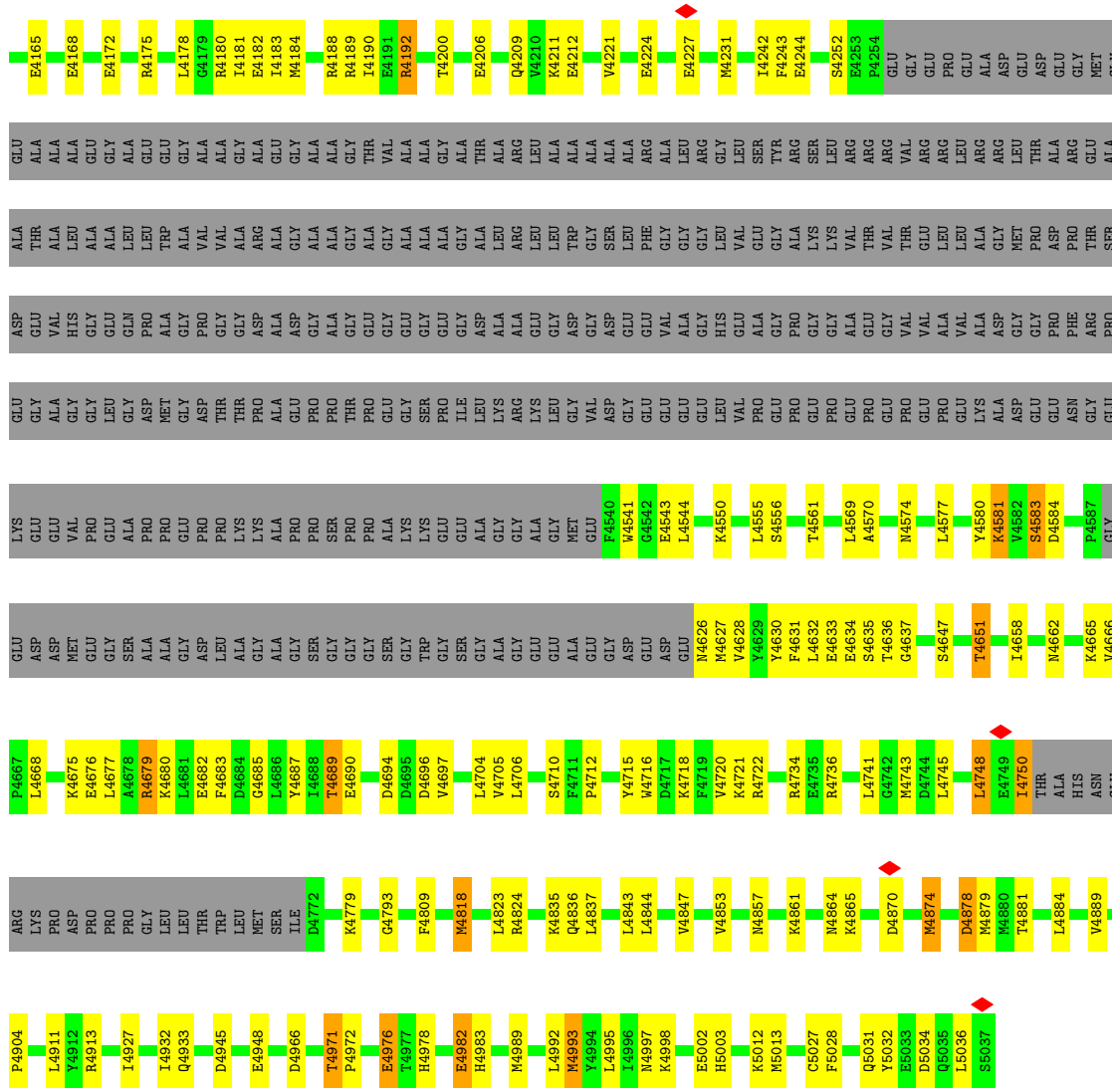
#### • Molecule 1: Ryanodine receptor 1



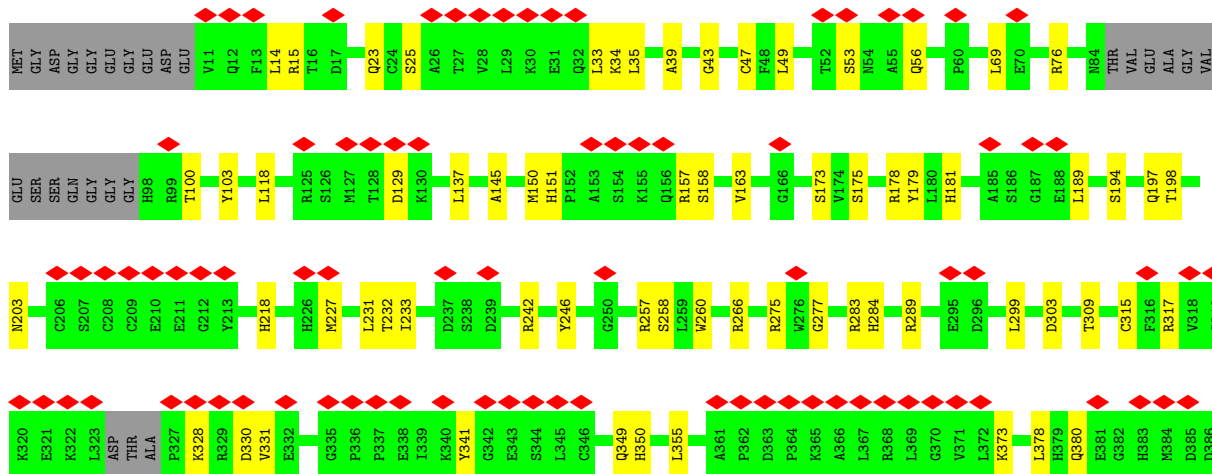


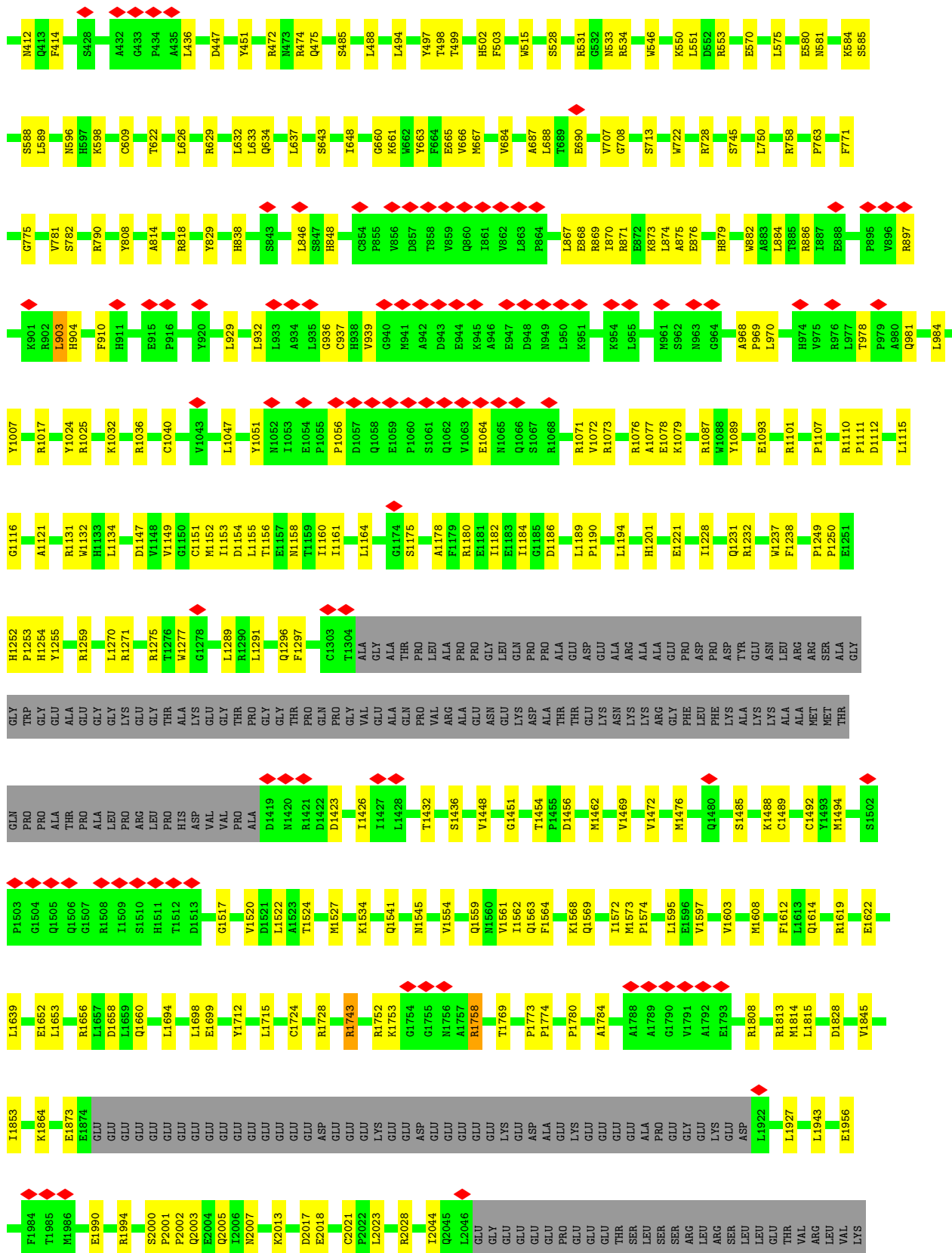


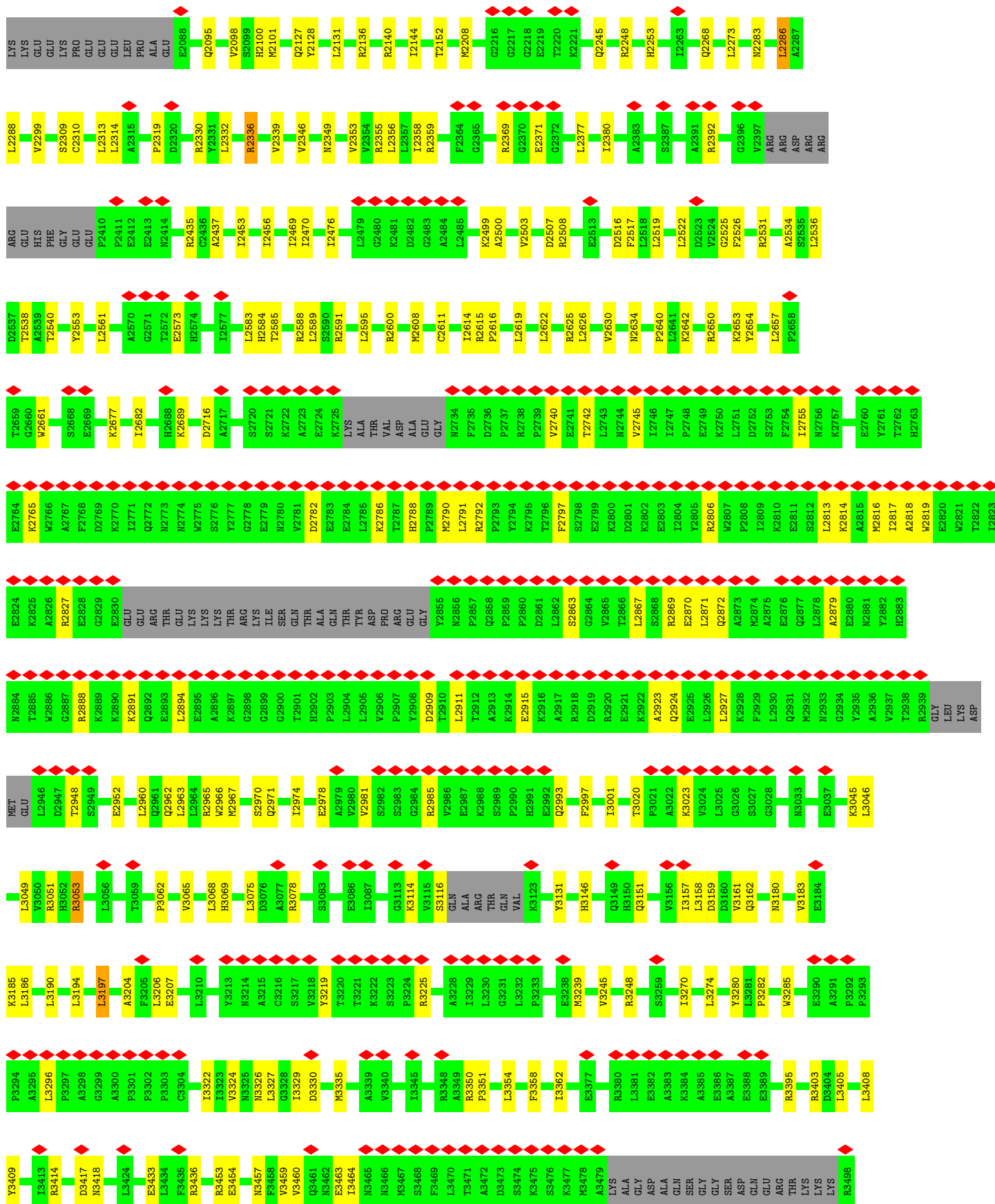
M4057	M4058	D4063	M4064	L4068	K4069	D4070	I4071	S4074	E4075	D4079	T4082	D4083	K4091	D4092	F4093	D4094	K4095	K4096	H4097	S4099	Q4100	K4101	Q4102	F4103	T4104	Q4105	P4106	E4107	I4108	Q4109	F4110	L4111	L4112	S4115	F4116	D4117	P4118	E4119	M4120	E4121	F4125	D4138	M4142	E4152	P4155																																																				
T3864	V3865	I3866	N3867	R3868	Q3869	N3870	E3871	K3873	V3874	M3875	D3878	Q3889	L3890	L3891	F3899	L3924	S3929	V3935	K3940	E3967	L3980	R3984	L3985	V3990	V3995	F3996	A3997	H3998	M3999	K4002	E4011	K4014	V4035	M4039	Q4043	S4051	M4054	D4138	M4142	E4152	P4155																																																								
K3614	S3615	K3616	K3617	A3618	V3619	K3620	H3621	K3622	L3623	L3624	S3625	K3626	Q3627	E3628	R3629	R3630	A3631	V3632	V3633	A3634	C3635	F3636	M3638	L3641	M3652	E3655	A3659	R3660	V3661	I3662	L3663	D3676	A3680	G3681	E3682	Q3683	E3684	E3685	E3686	E3687	E3688	E3689	V3690	E3691	E3692	D3696	C3733	E3735	GLU																																																
D5531	I3532	I3533	M5534	K3537	T5538	R3539	V3540	A3541	L3542	K3543	V3548	V3549	R3550	E3551	N3555	N3556	L3557	H3558	L3559	Q3560	G3561	K3562	V3563	E3564	G3565	S3568	W3571	L3579	R3582	E3583	E3584	D3585	A3586	D3587	I3592	R3595	V3596	L3603	V3604	H3605	L3606	Q3607	Q3608	T3609	H3610	R3611	F3612	V3613																																																	
L3434	F3435	R3436	R3453	E3454	N3457	F3458	V3459	V3460	Q3461	N3462	E3463	I3464	N3465	N3466	M3467	S3468	F3469	L3470	T3471	A3472	D3473	S3474	K3475	S3476	K3477	M3478	A3479	ALA	ALA	ASP	ALA	GLN	SER	GLY	SER	ASP	GLN	GLU	THR	LYS	LYS	LYS	R3498	R3499	G3500	D3501	R3502	G3506	K3515	N3523	M3524																																														
L3210	V3213	N3214	A3215	C3216	S3217	V3218	Y3219	T3220	T3221	K3222	S3223	F3224	R3225	A3228	L3229	L3230	G3231	L3232	F3233	E3238	M3239	V3245	R3248	R3248	E3259	I3270	L3274	V3280	L3281	F3282	V3285	E3290	A3291	F3292	F3293	F3294	A3295	L3296	F3297	A3298	G3299	A3300	P3301	P3302	P3303	C3304	S3309																																																		
V3065	L3068	H3069	L3075	D3076	A3077	R3078	S3083	E3086	I3087	G3113	K3114	V3115	S3116	GLN	ALA	ARG	THR	GLN	VAL	K3123	Y3131	H3146	Q3149	H3150	Q3151	V3156	I3157	L3158	V3161	Q3162	N3180	V3183	E3184	K3185	L3186	L3190	L3194	L3197	A3204	F3205	E3207																																																								
L2963	L2964	R2965	M2966	M2967	S2970	Q2971	L2974	E2978	A2979	V2980	V2981	S2982	S2983	G2984	R2985	V2986	E2987	K2988	E2915	K2916	H2991	R2918	D2919	E2920	E2921	K2922	A2923	Q2924	E2925	L2926	L2927	K2928	F2929	L2930	Q2931	M2932	N2933	G2934	A2936	V2937	T2938	R2939	GLY	LEU	LYS	ASP	NET	GLU	L2946	D2947	T2948	S2949	E2952	L2960	Q2961	Q2962																																									
A2896	K2897	G2898	G2899	G2900	T2901	H2902	P2903	L2904	L2905	V2906	P2907	V2908	D2909	T2910	L2911	T2912	A2913	K2914	E2915	K2916	D2861	L2862	S2863	G2864	V2865	T2866	L2867	S2868	R2869	E2870	L2871	Q2872	A2873	M2874	A2875	E2876	Q2877	L2878	A2879	N2881	Y2882	H2883	N2884	T2885	V2886	T2887	R2888	K2889	K2890	K2891	Q2892	E2893	L2894	E2895																																											
L2882	L2883	L2884	L2885	L2886	L2887	L2888	L2889	L2890	L2891	L2892	L2893	L2894	L2895	L2896	L2897	L2898	L2899	L2900	L2901	L2902	L2903	L2904	L2905	L2906	L2907	L2908	L2909	L2910	L2911	L2912	L2913	L2914	L2915	L2916	L2917	L2918	L2919	L2920	L2921	L2922	L2923	L2924	L2925	L2926	L2927	L2928	L2929	L2930	L2931	L2932	L2933	L2934	L2935	L2936	L2937	L2938	L2939	L2940	L2941	L2942	L2943	L2944	L2945	L2946	L2947	L2948	L2949	L2950	L2951	L2952																											
L2855	L2856	L2857	L2858	L2859	L2860	L2861	L2862	L2863	L2864	L2865	L2866	L2867	L2868	L2869	L2870	L2871	L2872	L2873	L2874	L2875	L2876	L2877	L2878	L2879	L2880	L2881	L2882	L2883	L2884	L2885	L2886	L2887	L2888	L2889	L2890	L2891	L2892	L2893	L2894	L2895	L2896	L2897	L2898	L2899	L2900	L2901	L2902	L2903	L2904	L2905	L2906	L2907	L2908	L2909	L2910	L2911	L2912	L2913	L2914	L2915	L2916	L2917	L2918	L2919	L2920	L2921	L2922	L2923	L2924	L2925	L2926	L2927	L2928	L2929	L2930	L2931	L2932	L2933	L2934	L2935	L2936	L2937	L2938	L2939	L2940	L2941	L2942	L2943	L2944	L2945	L2946	L2947	L2948	L2949	L2950	L2951	L2952
S2776	V2777	G2778	E2779	M2780	V2781	D2782	E2783	L2784	L2785	K2786	T2787	H2788	M2790	L2791	R2792	P2793	L2794	K2795	T2796	F2797	S2798	E2799	K2800	D2801	K2802	E2803	L2804	R2806	W2807	F2808	L2809	K2810	E2811	S2812	L2813	K2814	A2815	M2816	L2817	A2818	W2819	E2820	W2821	T2822	L2823	E2824	A2826	E2828	G2829	E2830	GLU	GLU	ARG	THR	GLU																																										
LYS	LYS	LYS	THR	ARG	LYS	ILE	SER	GLN	THR	ALA	GLN	THR	TYR	ASP	PRO	ARG	GLU	GLY	Y2855	N2856	P2857	Q2858	P2859	P2860	D2861	L2862	S2863	G2864	V2865	T2866	L2867	S2868	R2869	E2870	L2871	Q2872	A2873	M2874	A2875	E2876	Q2877	L2878	A2879	N2881	Y2882	H2883	N2884	T2885	V2886	T2887	R2888	K2889	K2890	K2891	Q2892	E2893	L2894	E2895																																							



● Molecule 1: Ryanodine receptor 1



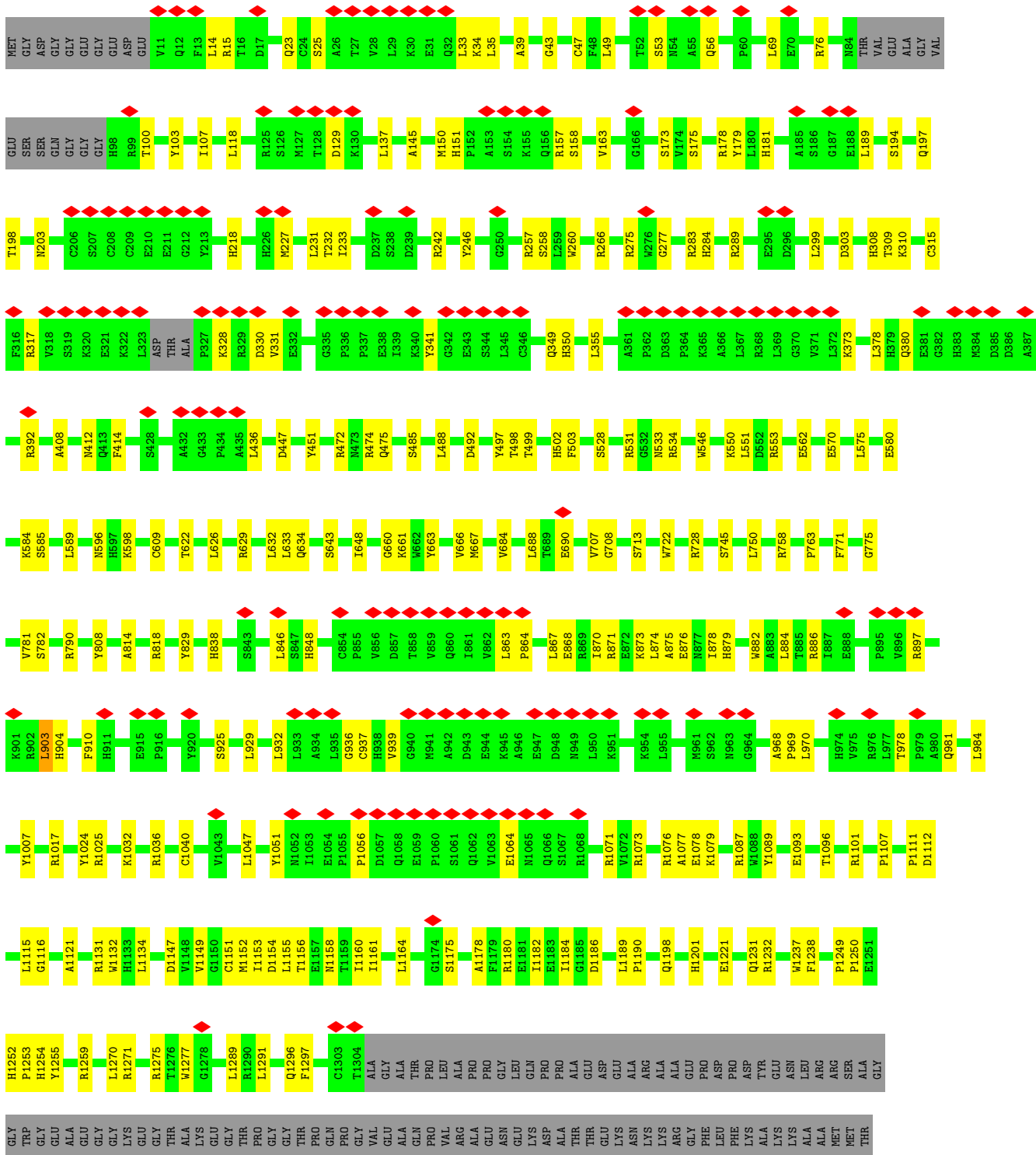


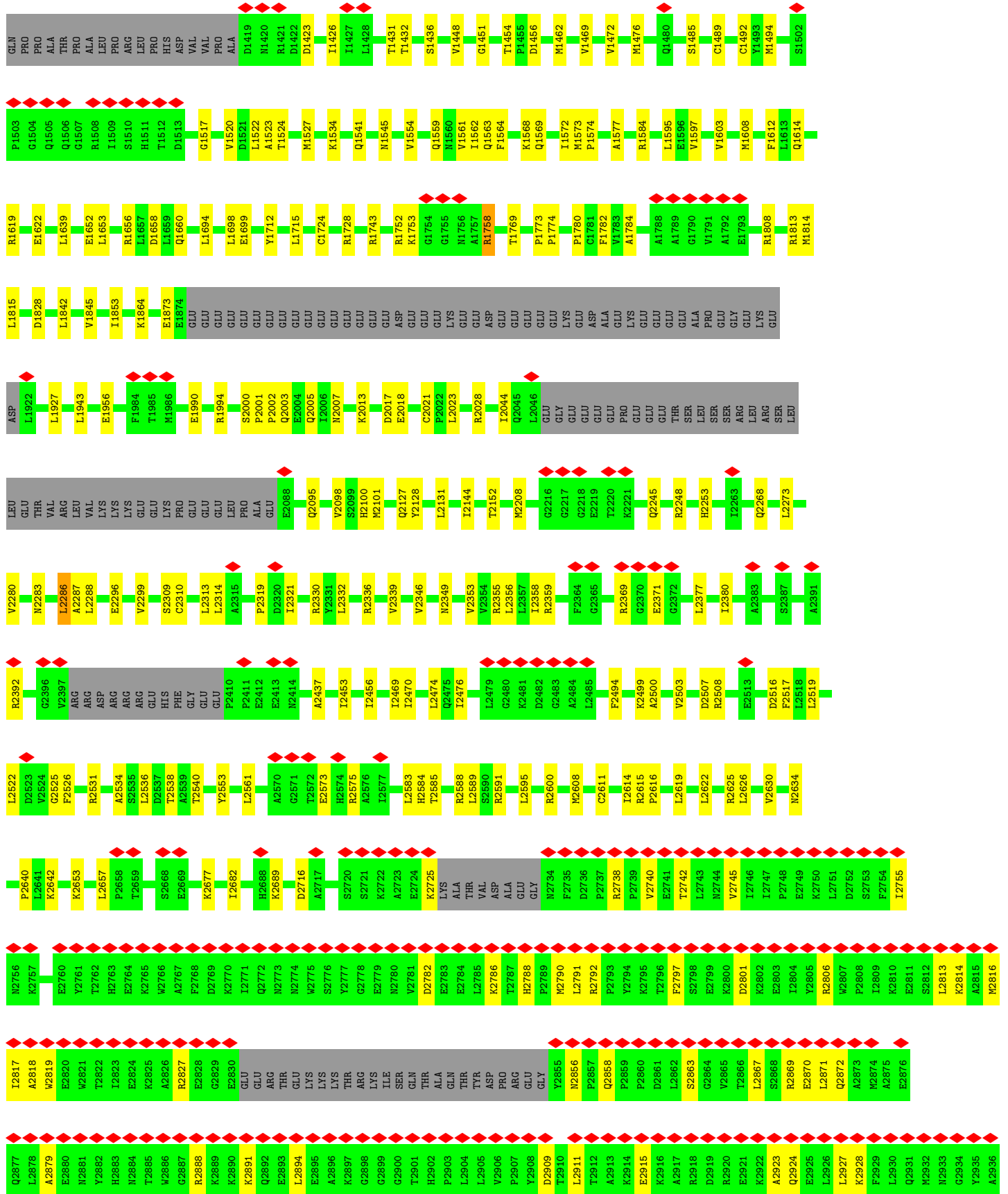






● Molecule 1: Ryanodine receptor 1

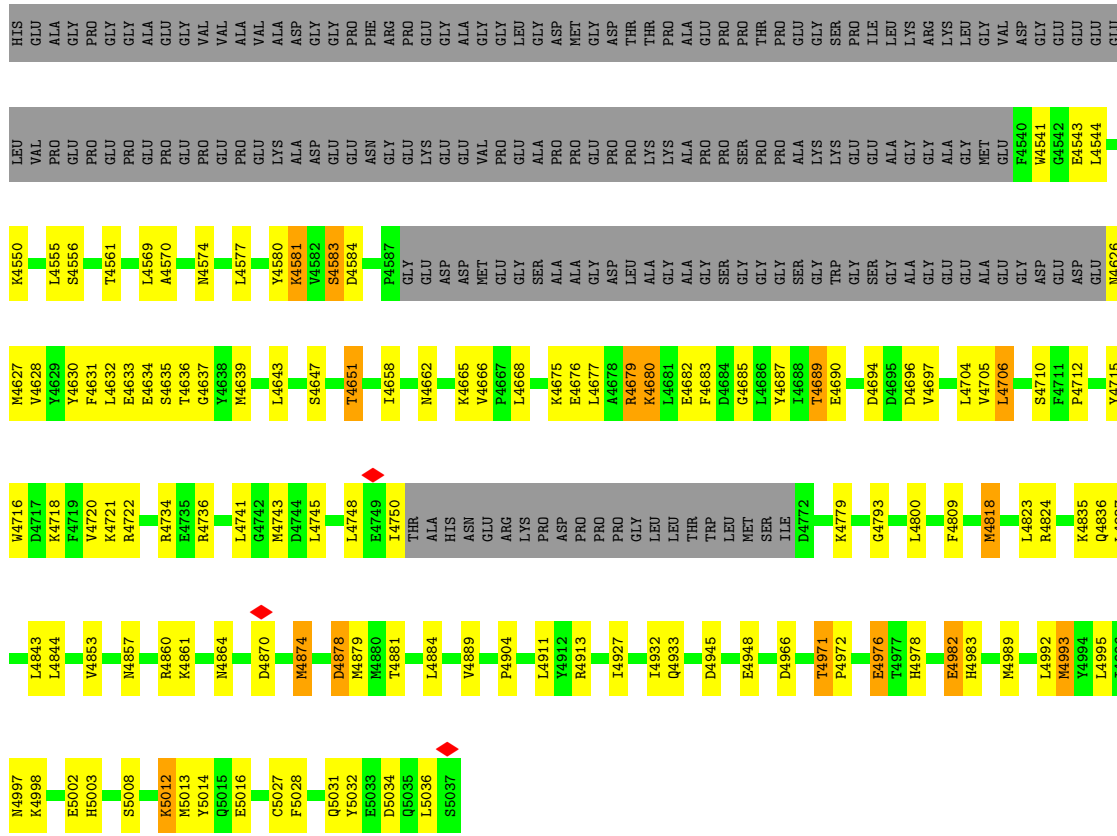




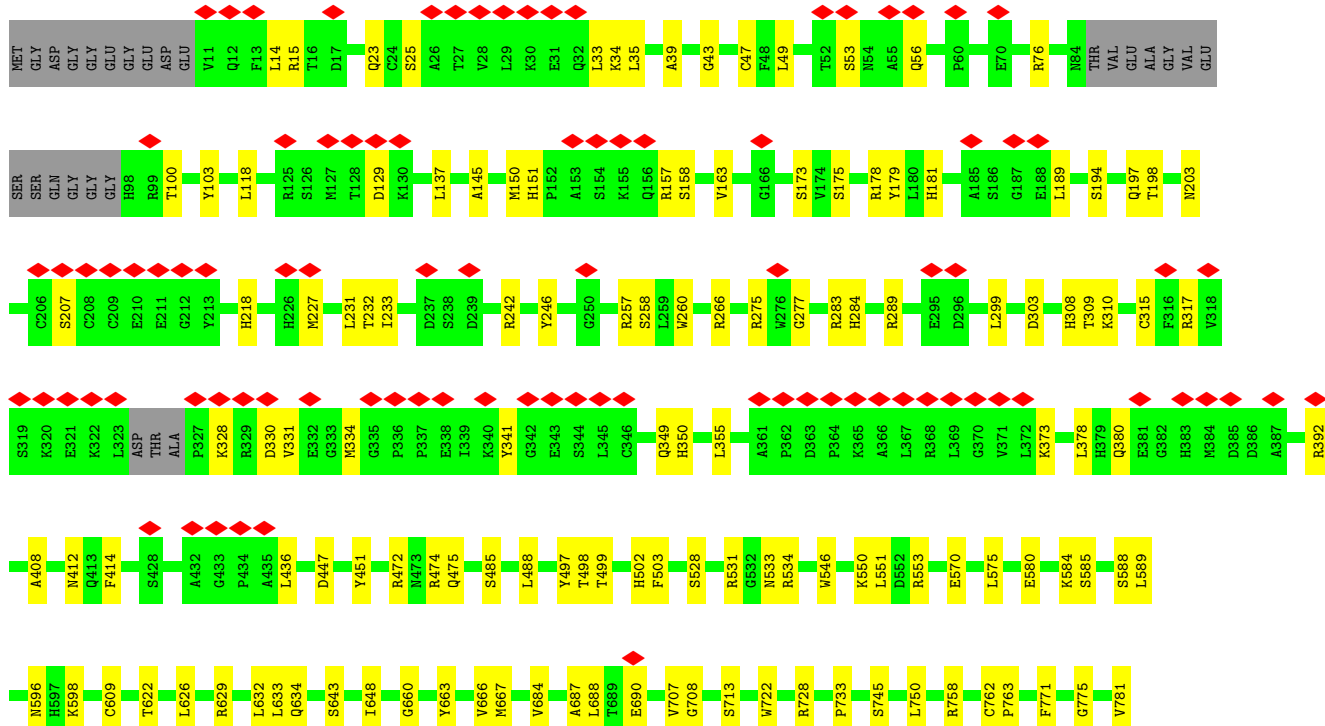


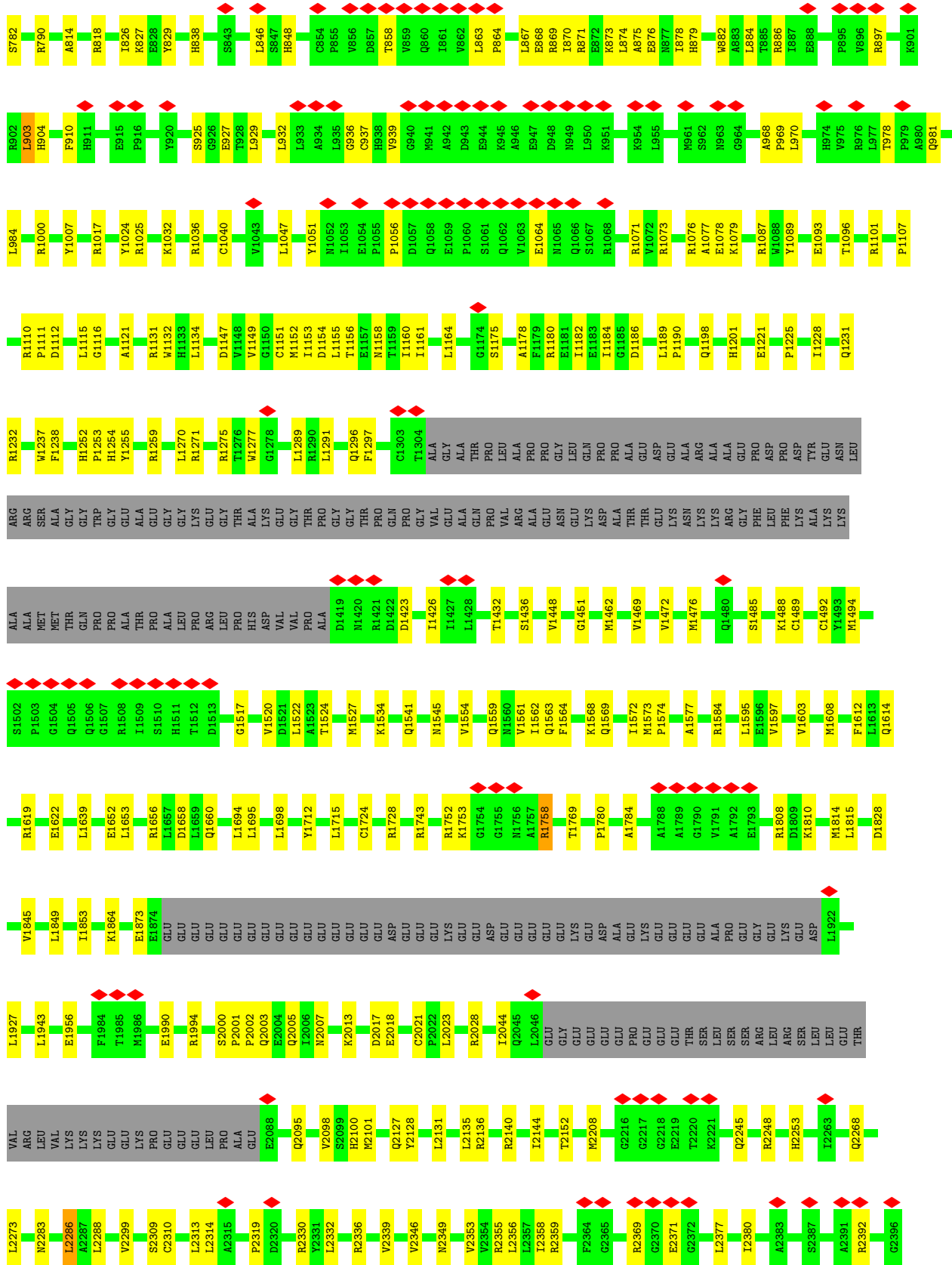
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T2938	G3026	I3157	K3384	E3584	A3680	V3812	R3998	I4108	I4242	LEU
R2939	S3027	L3158	A3385	D3585	G3681	V3811	M3999	Q4109	F4243	SER
LEU	G3028	V3161	E3386	A3586	E3682	L3817	K4002	F4110	E4244	THR
LYS	N3033	Q3162	A3387	D3587	Q3683	L3835	L4003	L4111	S4252	ALA
ASP	E3037	S3171	A3388	I3592	E3684	L3842	Q4009	L4112	S4253	SER
MET	K3045	N3180	E3389	R3595	E3685	A3846	I4010	S4115	F4254	LEU
GLU	L3046	V3183	R3395	R3596	E3686	A3844	E4011	E4116	P4254	ARG
L2946	L3049	E3184	R3403	L3603	E3687	Q3850	K4014	A4117	GLY	THR
L2947	V3050	E3185	D3404	H3604	E3688	M3858	V4035	D4118	GLU	VAL
T2948	R3051	L3186	L3405	L3605	V3690	N3859	M4039	E4119	GLU	ARG
S2949	H3052	L3190	L3408	H3606	E3691	N3860	V4043	M4120	LEU	LEU
E2952	R3053	L3194	Y3409	E3607	E3692	E3861	Q4043	E4121	ALA	ALA
L2960	L3056	L3197	I3413	T3609	D3696	D3862	S4051	F4125	ASP	PRO
H2961	T3059	L3199	R3414	E3610	D3699	G3863	M4054	E4152	GLY	THR
Q2962	P3062	L3210	D3417	E3611	C3733	T3864	M4057	P4155	GLY	THR
L2963	V3065	F3205	N3418	H3612	E3736	V3865	I4058	E4165	ALA	ALA
R2965	V3068	F3206	R3424	Y3613	GLY	I3866	L4059	E4168	ALA	ALA
H2966	H3069	E3207	E3433	K3614	GLY	N3867	D4063	E4172	ALA	ALA
H2967	L3075	E3208	L3434	S3615	GLY	R3868	M4064	E4175	ALA	ALA
S2970	D3076	L3211	L3435	K3616	ASN	Q3869	L4068	R4175	ALA	ALA
Q2971	A3077	Y3213	F3436	R3617	GLU	G3871	K4069	L4178	ALA	ALA
L2974	R3078	N3214	R3437	A3618	GLU	E3872	D4070	G4179	ALA	ALA
E2978	H3086	A3215	R3454	V3619	ALA	R3873	I4071	R4180	ALA	ALA
A2979	I3087	A3216	E3454	W3620	ALA	M3875	S4074	R4181	ALA	ALA
V2981	V3107	S3217	N3457	H3622	GLU	D3878	E4075	E4182	ALA	ALA
S2982	G3113	S3218	F3458	L3623	V3749	Q3889	D4079	E4183	ALA	ALA
S2983	K3114	R3221	V3459	L3624	E3750	L3890	M4079	R4184	ALA	ALA
R2985	V3115	A3220	V3460	S3625	I3751	L3891	T4082	R4188	ALA	ALA
V2986	S3116	T3221	Q3461	K3626	F3752	L3899	T4083	R4189	ALA	ALA
E2987	GLN	T3222	N3462	Q3627	E3753	F3899	D4082	I4190	ALA	ALA
R2988	ALA	K3223	E3463	R3628	E3755	F3899	M4083	E4191	ALA	ALA
F2989	ARG	P3224	L3464	R3629	K3756	L3924	K4090	R4192	ALA	ALA
P2990	THR	R3225	I3466	R3630	E3757	S3929	F4091	T4200	ALA	ALA
H2991	VAL	A3228	M3467	A3631	E3757	W3935	D4092	E4206	ALA	ALA
E2992	VAL	I3229	N3468	V3632	Q3766	M3935	F4093	E4209	ALA	ALA
Q2993	ALA	L3230	F3469	V3633	Q3767	K3940	Q4094	Q4209	ALA	ALA
F2997	GLM	G3231	L3470	A3634	S3768	E3987	K4095	V4210	ALA	ALA
I3001	GLM	L3232	T3471	C3635	R3769	E3987	A4096	K4211	ALA	ALA
N3007	VAL	P3233	A3472	F3636	H3771	L3930	M4097	E4212	ALA	ALA
T3011	K3123	E3238	S3474	M3638	R3772	R3984	D4098	V4221	ALA	ALA
T3020	Y3131	M3239	R3475	L3641	R3773	L3985	S4099	E4224	ALA	ALA
F3021	H3146	N3245	S3476	M3652	G3788	L3985	Q4100	E4227	ALA	ALA
A3022	Q3149	R3248	R3477	E3655	C3801	V3990	Q4102	M4231	ALA	ALA
K3023	H3150	L3249	M3478	A3659	L3805	V3995	F4103	T4104	ALA	ALA
V3024	Q3151	S3259	A3479	R3660	F3996	F3996	T4105	P4106	ALA	ALA
			LYS	ALA	GLY		GLY			
			ALA	GLY						
			ASP							

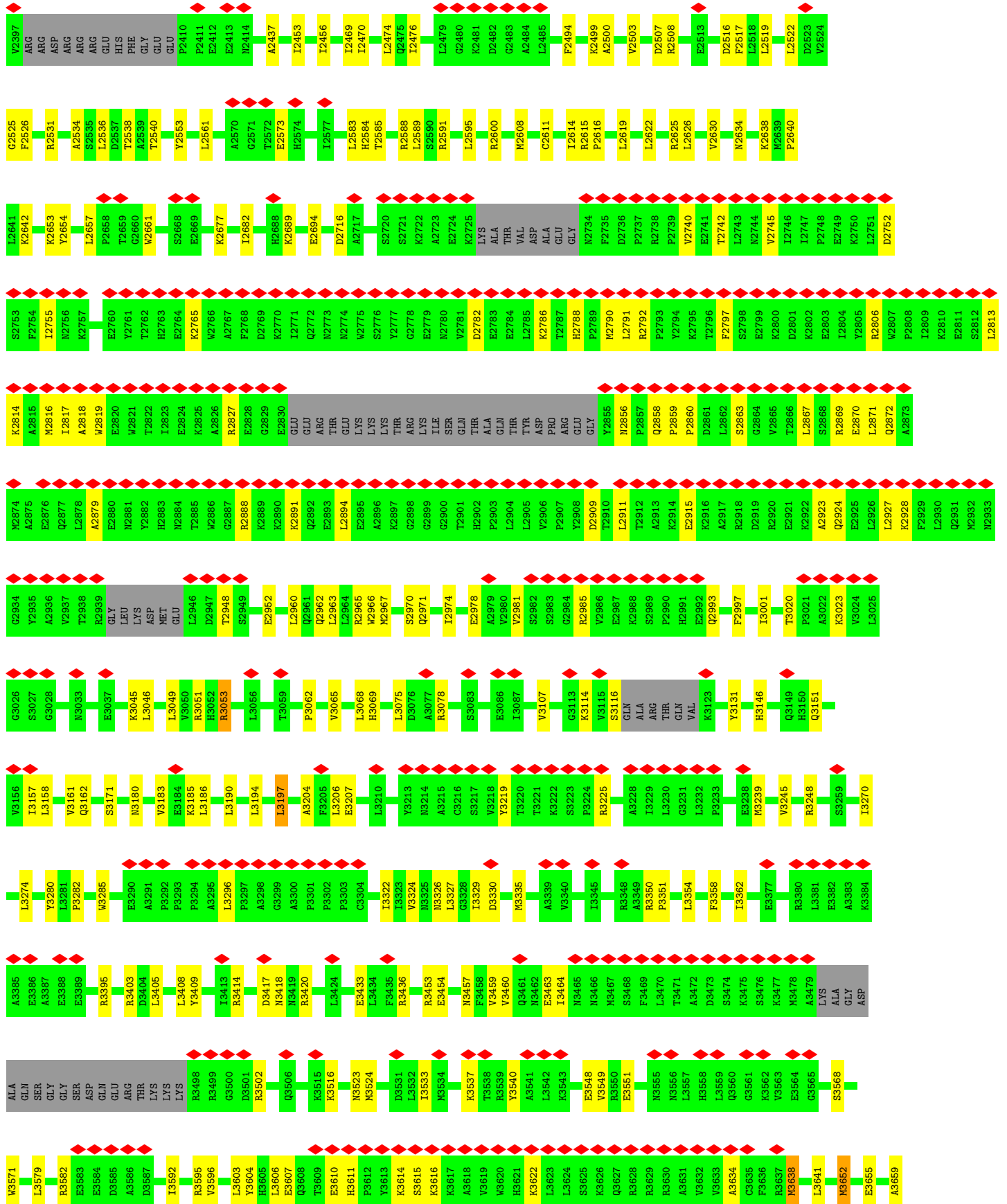


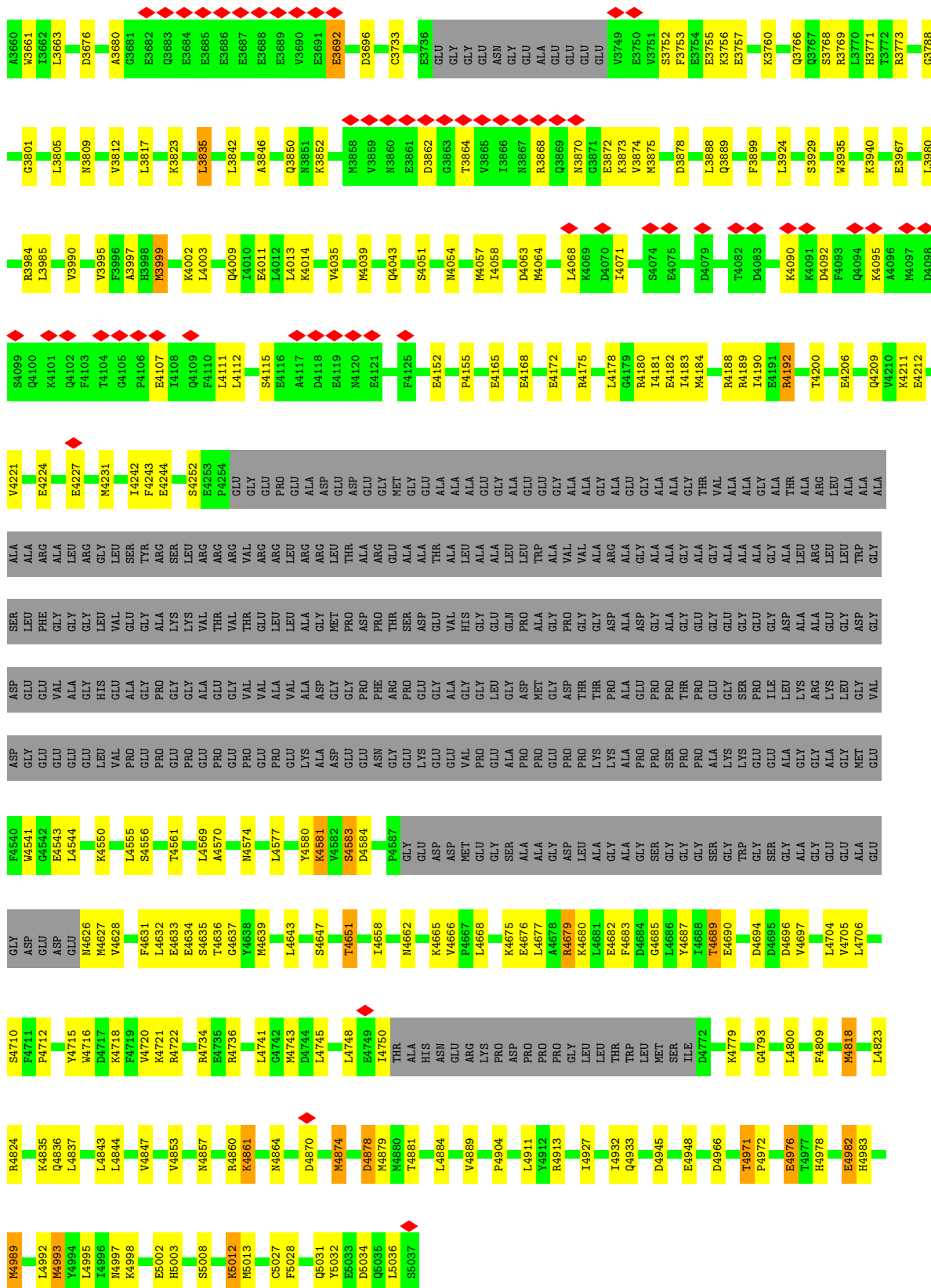


● Molecule 1: Ryanodine receptor 1









• Molecule 2: Glutathione S-transferase class-mu 26 kDa isozyme, Peptidyl-prolyl cis-trans isomerase FKBP1B



- Molecule 2: Glutathione S-transferase class-mu 26 kDa isozyme, Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain H:  23% 7% 69%MET  
LYS  
SER  
SER  
HIS  
HIS  
HIS  
HIS  
HIS  
HIS  
GLY  
SER  
SER  
MET  
MET  
SER  
SER  
PRO  
ILE  
LEU  
LEU  
GLY  
TYRLEU  
GLY  
LEU  
GLU  
ASP  
PHE  
PRO  
ASN  
LEU  
PRO  
TYR  
TYR  
ILE  
ASP  
GLY  
GLY  
VAL  
VAL  
LYS  
LEU  
THR  
GLN  
SER  
MET  
MET  
ALA  
ILE  
ILE  
GLY  
ARG  
TYR  
ILE  
GLNARG  
ILE  
ALA  
TYR  
SER  
LYS  
ASP  
PHE  
GLU  
THR  
LEU  
CYS  
LYS  
VAL  
ASP  
PHE  
LEU  
SER  
ILE  
LEU  
VAL  
SER  
LYS  
LEU  
LEU  
ILE  
PRO  
GLU  
SER  
MET  
ASP  
ALA  
LEU  
LYS  
MET  
PHE  
GLU  
GLY  
ASP  
HIS  
VAL  
THR  
THR  
HIS  
PRO  
ASP  
PHE  
MET  
LEU  
TYR  
TYR  
ASP  
ALA  
LEU  
VAL  
ASP  
VAL  
VAL  
LEU  
TYR  
MET  
ASP  
PROMET  
CYS  
LEU  
ASP  
ALA  
PHE  
PRO  
LYS  
LEU  
VAL  
VAL  
CYS  
PHE  
LYS  
LYS  
ARG  
ILE  
GLU  
ILE  
ALA  
ILE  
PRO  
GLN  
ILE  
ASP  
ASP  
TYR  
LEU  
LEU  
LYS  
SER  
SER  
SER  
TYR  
ILE  
ALA  
TRP  
PRO  
LEU  
GLN  
GLY  
TRP  
GLN  
ALA  
THR  
THR  
PHE  
GLY  
GLY  
GLY  
ASP  
HIS  
PRO  
PRO  
PRO  
LYS  
GLY  
ILE  
GLU  
GLU  
ASN  
LEU  
TYR  
PHE  
GLNSER  
ASN  
ALA  
G1  
I7  
K17  
Q20  
V23  
V24  
T27  
N32  
S38  
S39  
R40  
D41  
R42  
K47  
V55  
G62  
M66  
A72  
K73  
L74  
Y82  
V90  
I98  
F99  
D100  
V101  
E102  
L103  
L106  
E107

## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	171805	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	40	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	96000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.602	Depositor
Minimum map value	-0.818	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.062	Depositor
Recommended contour level	0.263	Depositor
Map size ( $\text{\AA}$ )	515.2, 515.2, 515.2	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.288, 1.288, 1.288	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: ADP, 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	0.33	0/35746	0.66	14/48409 (0.0%)
1	B	0.33	0/35746	0.66	14/48409 (0.0%)
1	C	0.33	0/35746	0.66	14/48409 (0.0%)
1	D	0.33	0/35746	0.66	14/48409 (0.0%)
2	E	0.33	0/834	0.62	0/1123
2	F	0.33	0/834	0.62	0/1123
2	G	0.33	0/834	0.62	0/1123
2	H	0.33	0/834	0.62	0/1123
All	All	0.33	0/146320	0.66	56/198128 (0.0%)

There are no bond length outliers.

All (56) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	4945	ASP	CB-CG-OD1	7.59	125.13	118.30
1	A	4945	ASP	CB-CG-OD1	7.57	125.11	118.30
1	B	4945	ASP	CB-CG-OD1	7.53	125.07	118.30
1	D	4945	ASP	CB-CG-OD1	7.51	125.06	118.30
1	D	903	LEU	CA-CB-CG	6.81	130.97	115.30
1	B	903	LEU	CA-CB-CG	6.81	130.97	115.30
1	C	903	LEU	CA-CB-CG	6.81	130.97	115.30
1	A	903	LEU	CA-CB-CG	6.78	130.89	115.30
1	C	4581	LYS	CA-CB-CG	6.52	127.75	113.40
1	A	4581	LYS	CA-CB-CG	6.52	127.75	113.40
1	B	4581	LYS	CA-CB-CG	6.52	127.75	113.40
1	D	4581	LYS	CA-CB-CG	6.51	127.72	113.40
1	C	1186	ASP	CB-CG-OD1	6.50	124.15	118.30
1	A	1186	ASP	CB-CG-OD1	6.48	124.13	118.30
1	B	1186	ASP	CB-CG-OD1	6.47	124.13	118.30
1	D	1186	ASP	CB-CG-OD1	6.43	124.09	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	227	MET	CA-CB-CG	5.97	123.45	113.30
1	B	227	MET	CA-CB-CG	5.97	123.45	113.30
1	C	227	MET	CA-CB-CG	5.96	123.43	113.30
1	A	227	MET	CA-CB-CG	5.95	123.42	113.30
1	B	2286	LEU	CA-CB-CG	5.74	128.49	115.30
1	A	2286	LEU	CA-CB-CG	5.72	128.45	115.30
1	C	2286	LEU	CA-CB-CG	5.71	128.42	115.30
1	D	2286	LEU	CA-CB-CG	5.70	128.41	115.30
1	D	3197	LEU	CA-CB-CG	5.63	128.24	115.30
1	B	3999	MET	CA-CB-CG	5.62	122.86	113.30
1	C	3999	MET	CA-CB-CG	5.62	122.86	113.30
1	A	3999	MET	CA-CB-CG	5.60	122.83	113.30
1	D	3999	MET	CA-CB-CG	5.60	122.82	113.30
1	C	3197	LEU	CA-CB-CG	5.60	128.18	115.30
1	A	3197	LEU	CA-CB-CG	5.60	128.17	115.30
1	B	3197	LEU	CA-CB-CG	5.59	128.16	115.30
1	B	4878	ASP	CB-CG-OD1	5.45	123.20	118.30
1	A	4878	ASP	CB-CG-OD1	5.45	123.20	118.30
1	D	4878	ASP	CB-CG-OD1	5.44	123.20	118.30
1	C	4878	ASP	CB-CG-OD1	5.41	123.17	118.30
1	C	3835	LEU	CA-CB-CG	5.20	127.25	115.30
1	B	3835	LEU	CA-CB-CG	5.19	127.24	115.30
1	D	3835	LEU	CA-CB-CG	5.18	127.22	115.30
1	A	3835	LEU	CA-CB-CG	5.17	127.20	115.30
1	C	3158	LEU	CA-CB-CG	5.17	127.19	115.30
1	B	3158	LEU	CA-CB-CG	5.16	127.17	115.30
1	D	3158	LEU	CA-CB-CG	5.16	127.17	115.30
1	B	3296	LEU	CA-CB-CG	5.14	127.13	115.30
1	D	3296	LEU	CA-CB-CG	5.14	127.12	115.30
1	A	3158	LEU	CA-CB-CG	5.14	127.11	115.30
1	A	3296	LEU	CA-CB-CG	5.13	127.09	115.30
1	C	3296	LEU	CA-CB-CG	5.12	127.07	115.30
1	A	2332	LEU	CB-CG-CD1	5.11	119.69	111.00
1	C	2332	LEU	CB-CG-CD1	5.11	119.69	111.00
1	D	2332	LEU	CB-CG-CD1	5.09	119.65	111.00
1	B	2332	LEU	CB-CG-CD1	5.09	119.65	111.00
1	A	3638	MET	CA-CB-CG	5.03	121.86	113.30
1	B	3638	MET	CA-CB-CG	5.03	121.84	113.30
1	C	3638	MET	CA-CB-CG	5.02	121.83	113.30
1	D	3638	MET	CA-CB-CG	5.02	121.83	113.30

There are no chirality outliers.

There are no planarity outliers.

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	34929	0	34552	426	0
1	B	34929	0	34552	434	0
1	C	34929	0	34552	436	0
1	D	34929	0	34552	442	0
2	E	818	0	824	18	0
2	F	818	0	824	20	0
2	G	818	0	824	20	0
2	H	818	0	824	18	0
3	A	27	0	12	1	0
3	B	27	0	12	1	0
3	C	27	0	12	1	0
3	D	27	0	12	1	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
All	All	143100	0	141552	1777	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

All (1777) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2248:ARG:HB3	1:B:2286:LEU:HD11	1.72	0.71
1:B:4978:HIS:HA	1:B:4982:GLU:HG3	1.72	0.71
1:C:4978:HIS:HA	1:C:4982:GLU:HG3	1.72	0.71
1:D:2248:ARG:HB3	1:D:2286:LEU:HD11	1.72	0.71
1:A:2248:ARG:HB3	1:A:2286:LEU:HD11	1.72	0.71
1:A:4978:HIS:HA	1:A:4982:GLU:HG3	1.72	0.71
1:C:2248:ARG:HB3	1:C:2286:LEU:HD11	1.72	0.71
1:D:4978:HIS:HA	1:D:4982:GLU:HG3	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:76:ARG:HG2	1:D:3935:TRP:HB3	1.72	0.70
1:B:1520:VAL:HG12	1:B:1527:MET:HG3	1.76	0.68
1:D:1520:VAL:HG12	1:D:1527:MET:HG3	1.75	0.68
1:C:1520:VAL:HG12	1:C:1527:MET:HG3	1.76	0.68
1:A:1520:VAL:HG12	1:A:1527:MET:HG3	1.76	0.67
1:C:3935:TRP:HB3	1:D:76:ARG:HG2	1.77	0.66
1:B:3935:TRP:HB3	1:C:76:ARG:HG2	1.77	0.66
1:D:3980:LEU:HD12	1:D:3985:LEU:HD22	1.77	0.66
1:A:3454:GLU:HA	1:A:3457:ASN:HB2	1.78	0.66
1:A:3935:TRP:HB3	1:B:76:ARG:HG2	1.77	0.66
1:C:3980:LEU:HD12	1:C:3985:LEU:HD22	1.77	0.66
1:B:3454:GLU:HA	1:B:3457:ASN:HB2	1.78	0.65
1:C:3454:GLU:HA	1:C:3457:ASN:HB2	1.78	0.65
1:D:3454:GLU:HA	1:D:3457:ASN:HB2	1.78	0.65
1:B:475:GLN:NE2	1:B:528:SER:O	2.30	0.65
1:C:981:GLN:HG2	1:C:1047:LEU:HD11	1.78	0.65
1:D:981:GLN:HG2	1:D:1047:LEU:HD11	1.78	0.65
1:A:3980:LEU:HD12	1:A:3985:LEU:HD22	1.77	0.65
1:B:3980:LEU:HD12	1:B:3985:LEU:HD22	1.77	0.65
1:A:475:GLN:NE2	1:A:528:SER:O	2.30	0.65
1:D:475:GLN:NE2	1:D:528:SER:O	2.30	0.65
1:C:475:GLN:NE2	1:C:528:SER:O	2.30	0.64
1:A:34:LYS:H	1:A:53:SER:HB3	1.63	0.64
1:A:981:GLN:HG2	1:A:1047:LEU:HD11	1.78	0.64
1:C:3395:ARG:HE	1:C:3453:ARG:HH12	1.45	0.64
1:B:3395:ARG:HE	1:B:3453:ARG:HH12	1.45	0.64
1:C:1024:TYR:O	1:C:1032:LYS:NZ	2.31	0.64
1:B:34:LYS:H	1:B:53:SER:HB3	1.63	0.64
1:B:981:GLN:HG2	1:B:1047:LEU:HD11	1.78	0.64
1:B:1024:TYR:O	1:B:1032:LYS:NZ	2.31	0.64
1:C:3362:ILE:HD11	1:C:3408:LEU:HD22	1.80	0.64
1:D:3395:ARG:HE	1:D:3453:ARG:HH12	1.45	0.64
1:D:3362:ILE:HD11	1:D:3408:LEU:HD22	1.80	0.63
1:A:3362:ILE:HD11	1:A:3408:LEU:HD22	1.79	0.63
1:C:34:LYS:H	1:C:53:SER:HB3	1.63	0.63
1:D:1024:TYR:O	1:D:1032:LYS:NZ	2.31	0.63
1:B:728:ARG:NH2	1:B:1489:CYS:SG	2.72	0.63
1:B:745:SER:HB2	1:B:758:ARG:HB2	1.80	0.63
1:D:1064:GLU:O	1:D:1071:ARG:NH2	2.32	0.63
1:A:728:ARG:NH2	1:A:1489:CYS:SG	2.72	0.63
1:C:3753:PHE:HA	1:C:3756:LYS:HB3	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:745:SER:HB2	1:A:758:ARG:HB2	1.80	0.63
1:C:4878:ASP:HB3	1:C:4881:THR:HG22	1.81	0.63
1:D:1432:THR:HA	1:D:1520:VAL:O	1.99	0.63
1:B:1432:THR:HA	1:B:1520:VAL:O	1.99	0.62
1:D:745:SER:HB2	1:D:758:ARG:HB2	1.80	0.62
1:A:1024:TYR:O	1:A:1032:LYS:NZ	2.31	0.62
1:B:1078:GLU:OE2	1:B:1237:TRP:NE1	2.32	0.62
1:B:3362:ILE:HD11	1:B:3408:LEU:HD22	1.80	0.62
1:C:745:SER:HB2	1:C:758:ARG:HB2	1.80	0.62
1:C:1078:GLU:OE2	1:C:1237:TRP:NE1	2.32	0.62
1:D:1078:GLU:OE2	1:D:1237:TRP:NE1	2.32	0.62
1:B:3753:PHE:HA	1:B:3756:LYS:HB3	1.81	0.62
1:D:34:LYS:H	1:D:53:SER:HB3	1.63	0.62
1:A:1432:THR:HA	1:A:1520:VAL:O	1.99	0.62
1:A:3395:ARG:HE	1:A:3453:ARG:HH12	1.45	0.62
1:C:728:ARG:NH2	1:C:1489:CYS:SG	2.72	0.62
1:A:3875:MET:HB3	1:A:3878:ASP:HB3	1.82	0.62
1:A:4878:ASP:HB3	1:A:4881:THR:HG22	1.81	0.62
2:H:20:GLN:HG3	2:H:106:LEU:HD13	1.82	0.62
1:C:35:LEU:HD13	1:C:49:LEU:HD13	1.82	0.62
1:A:1078:GLU:OE2	1:A:1237:TRP:NE1	2.32	0.62
1:B:3659:ALA:HA	1:B:3663:LEU:HD12	1.82	0.62
1:B:3875:MET:HB3	1:B:3878:ASP:HB3	1.82	0.62
1:D:4878:ASP:HB3	1:D:4881:THR:HG22	1.81	0.62
2:G:20:GLN:HG3	2:G:106:LEU:HD13	1.82	0.62
1:A:978:THR:OG1	1:A:981:GLN:OE1	2.18	0.62
1:A:3753:PHE:HA	1:A:3756:LYS:HB3	1.81	0.62
1:B:1064:GLU:O	1:B:1071:ARG:NH2	2.32	0.62
1:B:978:THR:OG1	1:B:981:GLN:OE1	2.18	0.61
1:B:3414:ARG:O	1:B:3418:ASN:ND2	2.33	0.61
1:C:3114:LYS:HD3	1:C:3116:SER:H	1.66	0.61
1:A:580:GLU:HG3	1:A:584:LYS:HZ2	1.65	0.61
1:C:3659:ALA:HA	1:C:3663:LEU:HD12	1.82	0.61
1:D:728:ARG:NH2	1:D:1489:CYS:SG	2.72	0.61
1:A:3659:ALA:HA	1:A:3663:LEU:HD12	1.82	0.61
1:B:2018:GLU:OE1	1:B:2028:ARG:NH1	2.34	0.61
1:B:35:LEU:HD13	1:B:49:LEU:HD13	1.82	0.61
1:B:4878:ASP:HB3	1:B:4881:THR:HG22	1.81	0.61
1:C:1432:THR:HA	1:C:1520:VAL:O	1.99	0.61
1:A:3414:ARG:O	1:A:3418:ASN:ND2	2.33	0.61
1:B:1289:LEU:HD22	1:B:1562:ILE:HD11	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3680:ALA:HB2	1:B:3696:ASP:HB3	1.83	0.61
1:B:4823:LEU:HD22	1:C:4843:LEU:HD22	1.82	0.61
1:A:3842:LEU:HB2	1:A:3929:SER:HB3	1.83	0.61
1:C:3875:MET:HB3	1:C:3878:ASP:HB3	1.82	0.61
2:E:20:GLN:HG3	2:E:106:LEU:HD13	1.82	0.61
1:A:3114:LYS:HD3	1:A:3116:SER:H	1.66	0.61
1:D:3680:ALA:HB2	1:D:3696:ASP:HB3	1.83	0.61
1:A:1568:LYS:HE2	1:A:1574:PRO:HD3	1.83	0.61
1:D:3875:MET:HB3	1:D:3878:ASP:HB3	1.82	0.61
2:F:20:GLN:HG3	2:F:106:LEU:HD13	1.82	0.61
1:C:580:GLU:HG3	1:C:584:LYS:HZ2	1.65	0.61
1:C:4823:LEU:HD22	1:D:4843:LEU:HD22	1.82	0.61
1:D:2018:GLU:OE1	1:D:2028:ARG:NH1	2.33	0.61
1:D:3659:ALA:HA	1:D:3663:LEU:HD12	1.82	0.61
1:A:35:LEU:HD13	1:A:49:LEU:HD13	1.82	0.60
1:C:1064:GLU:O	1:C:1071:ARG:NH2	2.32	0.60
1:C:978:THR:OG1	1:C:981:GLN:OE1	2.18	0.60
1:C:1289:LEU:HD22	1:C:1562:ILE:HD11	1.83	0.60
1:C:2018:GLU:OE1	1:C:2028:ARG:NH1	2.34	0.60
1:D:978:THR:OG1	1:D:981:GLN:OE1	2.18	0.60
1:D:3753:PHE:HA	1:D:3756:LYS:HB3	1.81	0.60
1:D:3733:CYS:O	1:D:3766:GLN:NE2	2.34	0.60
1:D:3842:LEU:HB2	1:D:3929:SER:HB3	1.83	0.60
1:D:3114:LYS:HD3	1:D:3116:SER:H	1.65	0.60
1:B:3114:LYS:HD3	1:B:3116:SER:H	1.65	0.60
1:C:3414:ARG:O	1:C:3418:ASN:ND2	2.33	0.60
1:D:35:LEU:HD13	1:D:49:LEU:HD13	1.82	0.60
1:D:2630:VAL:HG12	1:D:2682:ILE:HD11	1.84	0.60
1:A:3680:ALA:HB2	1:A:3696:ASP:HB3	1.83	0.60
1:C:633:LEU:HD13	1:C:1639:LEU:HD21	1.83	0.60
1:D:1568:LYS:HE2	1:D:1574:PRO:HD3	1.83	0.60
1:A:2018:GLU:OE1	1:A:2028:ARG:NH1	2.33	0.60
1:A:2630:VAL:HG12	1:A:2682:ILE:HD11	1.84	0.60
1:B:3350:ARG:HE	1:B:3351:PRO:HD2	1.67	0.60
1:C:317:ARG:NH1	1:C:349:GLN:OE1	2.35	0.60
1:D:317:ARG:NH1	1:D:349:GLN:OE1	2.35	0.60
1:D:3350:ARG:HE	1:D:3351:PRO:HD2	1.67	0.60
1:A:1289:LEU:HD22	1:A:1562:ILE:HD11	1.83	0.60
1:A:3350:ARG:HE	1:A:3351:PRO:HD2	1.67	0.60
1:A:3733:CYS:O	1:A:3766:GLN:NE2	2.35	0.60
1:B:882:TRP:O	1:B:886:ARG:NH1	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2630:VAL:HG12	1:C:2682:ILE:HD11	1.84	0.60
1:C:3842:LEU:HB2	1:C:3929:SER:HB3	1.83	0.60
1:A:1064:GLU:O	1:A:1071:ARG:NH2	2.32	0.60
1:B:3733:CYS:O	1:B:3766:GLN:NE2	2.35	0.60
1:C:3769:ARG:O	1:C:3773:ARG:NH1	2.35	0.60
1:A:3769:ARG:O	1:A:3773:ARG:NH1	2.35	0.60
1:C:882:TRP:O	1:C:886:ARG:NH1	2.34	0.60
1:D:882:TRP:O	1:D:886:ARG:NH1	2.34	0.60
1:B:633:LEU:HD13	1:B:1639:LEU:HD21	1.84	0.59
1:C:3350:ARG:HE	1:C:3351:PRO:HD2	1.67	0.59
1:C:3733:CYS:O	1:C:3766:GLN:NE2	2.34	0.59
1:B:3872:GLU:HG3	1:B:3874:VAL:H	1.68	0.59
1:C:3680:ALA:HB2	1:C:3696:ASP:HB3	1.83	0.59
1:D:633:LEU:HD13	1:D:1639:LEU:HD21	1.84	0.59
1:A:882:TRP:O	1:A:886:ARG:NH1	2.34	0.59
1:C:1232:ARG:NH2	1:C:1828:ASP:O	2.35	0.59
1:C:3872:GLU:HG3	1:C:3874:VAL:H	1.67	0.59
1:D:3872:GLU:HG3	1:D:3874:VAL:H	1.68	0.59
1:D:4244:GLU:HG3	1:D:4668:LEU:HD13	1.84	0.59
1:A:317:ARG:NH1	1:A:349:GLN:OE1	2.35	0.59
1:A:1545:ASN:HD21	2:E:32:ASN:HA	1.67	0.59
1:D:688:LEU:HD23	1:D:690:GLU:H	1.68	0.59
1:D:1289:LEU:HD22	1:D:1562:ILE:HD11	1.83	0.59
1:B:317:ARG:NH1	1:B:349:GLN:OE1	2.35	0.59
1:B:1175:SER:OG	1:B:1180:ARG:NH2	2.36	0.59
1:C:2310:CYS:HB3	1:C:2313:LEU:HB2	1.84	0.59
1:C:4244:GLU:HG3	1:C:4668:LEU:HD13	1.84	0.59
1:D:2000:SER:O	1:D:2005:GLN:NE2	2.31	0.59
1:A:897:ARG:HB2	1:A:903:LEU:HD11	1.85	0.59
1:B:1568:LYS:HE2	1:B:1574:PRO:HD3	1.83	0.59
1:C:4039:MET:SD	1:C:4043:GLN:NE2	2.76	0.59
1:A:2974:ILE:HD13	1:A:3049:LEU:HD12	1.85	0.59
1:A:4039:MET:SD	1:A:4043:GLN:NE2	2.76	0.59
1:B:3769:ARG:O	1:B:3773:ARG:NH1	2.35	0.59
1:D:1476:MET:HB3	1:D:1485:SER:HB2	1.85	0.59
1:D:2583:LEU:HD13	1:D:2622:LEU:HB2	1.85	0.59
1:B:1232:ARG:NH2	1:B:1828:ASP:O	2.35	0.59
1:B:2974:ILE:HD13	1:B:3049:LEU:HD12	1.85	0.59
1:C:2380:ILE:HG21	1:C:2469:ILE:HG12	1.85	0.59
1:C:2974:ILE:HD13	1:C:3049:LEU:HD12	1.85	0.59
1:D:1175:SER:OG	1:D:1180:ARG:NH2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1694:LEU:HB3	1:A:1715:LEU:HD12	1.85	0.59
1:A:2380:ILE:HG21	1:A:2469:ILE:HG12	1.85	0.59
1:A:3872:GLU:HG3	1:A:3874:VAL:H	1.67	0.59
1:D:897:ARG:HB2	1:D:903:LEU:HD11	1.85	0.59
1:D:2380:ILE:HG21	1:D:2469:ILE:HG12	1.85	0.59
1:D:3769:ARG:O	1:D:3773:ARG:NH1	2.35	0.59
1:A:4244:GLU:HG3	1:A:4668:LEU:HD13	1.84	0.59
1:B:2630:VAL:HG12	1:B:2682:ILE:HD11	1.84	0.59
1:C:4904:PRO:HB3	1:C:4913:ARG:HG2	1.85	0.59
1:D:580:GLU:HG3	1:D:584:LYS:HZ2	1.66	0.59
1:D:2974:ILE:HD13	1:D:3049:LEU:HD12	1.85	0.59
1:B:3842:LEU:HB2	1:B:3929:SER:HB3	1.83	0.58
1:B:4039:MET:SD	1:B:4043:GLN:NE2	2.76	0.58
1:B:4244:GLU:HG3	1:B:4668:LEU:HD13	1.84	0.58
1:A:2310:CYS:HB3	1:A:2313:LEU:HB2	1.84	0.58
1:B:551:LEU:HB2	1:B:589:LEU:HD21	1.85	0.58
1:B:1694:LEU:HB3	1:B:1715:LEU:HD12	1.85	0.58
1:B:2380:ILE:HG21	1:B:2469:ILE:HG12	1.85	0.58
1:C:1476:MET:HB3	1:C:1485:SER:HB2	1.85	0.58
1:C:1568:LYS:HE2	1:C:1574:PRO:HD3	1.83	0.58
1:D:1232:ARG:NH2	1:D:1828:ASP:O	2.35	0.58
1:A:551:LEU:HB2	1:A:589:LEU:HD21	1.85	0.58
1:A:2583:LEU:HD13	1:A:2622:LEU:HB2	1.84	0.58
1:B:688:LEU:HD23	1:B:690:GLU:H	1.68	0.58
1:A:1476:MET:HB3	1:A:1485:SER:HB2	1.85	0.58
1:D:355:LEU:HD22	1:D:380:GLN:HA	1.86	0.58
1:D:3414:ARG:O	1:D:3418:ASN:ND2	2.33	0.58
2:G:17:LYS:HG2	2:G:20:GLN:HE22	1.69	0.58
1:A:355:LEU:HD22	1:A:380:GLN:HA	1.86	0.58
1:B:1296:GLN:NE2	1:B:1545:ASN:OD1	2.37	0.58
1:D:4039:MET:SD	1:D:4043:GLN:NE2	2.76	0.58
1:A:1175:SER:OG	1:A:1180:ARG:NH2	2.36	0.58
1:A:2095:GLN:HA	1:A:2127:GLN:HE21	1.69	0.58
1:D:2310:CYS:HB3	1:D:2313:LEU:HB2	1.84	0.58
2:E:38:SER:O	2:E:42:ARG:NH2	2.37	0.58
2:G:38:SER:O	2:G:42:ARG:NH2	2.37	0.58
1:A:25:SER:HA	1:A:33:LEU:O	2.04	0.58
1:C:1296:GLN:NE2	1:C:1545:ASN:OD1	2.37	0.58
1:C:2978:GLU:OE2	1:C:3053:ARG:NH1	2.36	0.58
1:D:1296:GLN:NE2	1:D:1545:ASN:OD1	2.37	0.58
1:D:2095:GLN:HA	1:D:2127:GLN:HE21	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3322:ILE:O	1:D:3326:ASN:ND2	2.36	0.58
1:D:4904:PRO:HB3	1:D:4913:ARG:HG2	1.85	0.58
2:F:17:LYS:HG2	2:F:20:GLN:HE22	1.69	0.58
1:A:688:LEU:HD23	1:A:690:GLU:H	1.68	0.58
1:A:2470:ILE:HG22	1:A:2525:GLY:HA3	1.86	0.58
1:B:2583:LEU:HD13	1:B:2622:LEU:HB2	1.84	0.58
1:B:3322:ILE:O	1:B:3326:ASN:ND2	2.36	0.58
1:C:355:LEU:HD22	1:C:380:GLN:HA	1.86	0.58
1:C:688:LEU:HD23	1:C:690:GLU:H	1.67	0.58
1:C:2095:GLN:HA	1:C:2127:GLN:HE21	1.69	0.58
1:D:1694:LEU:HB3	1:D:1715:LEU:HD12	1.85	0.58
1:B:1476:MET:HB3	1:B:1485:SER:HB2	1.85	0.58
1:B:4904:PRO:HB3	1:B:4913:ARG:HG2	1.85	0.58
1:D:25:SER:HA	1:D:33:LEU:O	2.04	0.58
1:C:181:HIS:HD1	1:C:198:THR:HG1	1.51	0.58
1:C:2583:LEU:HD13	1:C:2622:LEU:HB2	1.84	0.58
1:D:551:LEU:HB2	1:D:589:LEU:HD21	1.85	0.58
1:A:886:ARG:HE	1:A:904:HIS:HB2	1.69	0.57
1:C:1694:LEU:HB3	1:C:1715:LEU:HD12	1.85	0.57
1:A:633:LEU:HD13	1:A:1639:LEU:HD21	1.84	0.57
1:A:1296:GLN:NE2	1:A:1545:ASN:OD1	2.37	0.57
1:B:23:GLN:OE1	1:B:203:ASN:ND2	2.38	0.57
1:B:1545:ASN:HD21	2:F:32:ASN:HA	1.69	0.57
1:C:25:SER:HA	1:C:33:LEU:O	2.04	0.57
1:C:886:ARG:HE	1:C:904:HIS:HB2	1.69	0.57
1:B:2310:CYS:HB3	1:B:2313:LEU:HB2	1.84	0.57
1:C:551:LEU:HB2	1:C:589:LEU:HD21	1.85	0.57
1:C:1175:SER:OG	1:C:1180:ARG:NH2	2.36	0.57
1:B:1297:PHE:HD1	1:B:1522:LEU:HA	1.70	0.57
1:B:2095:GLN:HA	1:B:2127:GLN:HE21	1.69	0.57
1:C:1545:ASN:HD21	2:G:32:ASN:HA	1.69	0.57
1:D:23:GLN:OE1	1:D:203:ASN:ND2	2.38	0.57
1:D:886:ARG:HE	1:D:904:HIS:HB2	1.69	0.57
1:D:1545:ASN:HD21	2:H:32:ASN:HA	1.69	0.57
2:H:17:LYS:HG2	2:H:20:GLN:HE22	1.69	0.57
1:B:886:ARG:HE	1:B:904:HIS:HB2	1.69	0.57
1:C:897:ARG:HB2	1:C:903:LEU:HD11	1.85	0.57
1:A:3020:THR:HG23	1:A:3023:LYS:H	1.70	0.57
1:A:3051:ARG:O	1:A:3053:ARG:NE	2.37	0.57
1:B:355:LEU:HD22	1:B:380:GLN:HA	1.86	0.57
1:B:2470:ILE:HG22	1:B:2525:GLY:HA3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1252:HIS:O	1:C:1275:ARG:NH1	2.38	0.57
2:F:38:SER:O	2:F:42:ARG:NH2	2.37	0.57
1:A:4904:PRO:HB3	1:A:4913:ARG:HG2	1.85	0.57
1:B:1712:TYR:OH	1:B:1814:MET:SD	2.63	0.57
1:C:1712:TYR:OH	1:C:1814:MET:SD	2.63	0.57
2:H:38:SER:O	2:H:42:ARG:NH2	2.37	0.57
1:A:498:THR:HA	1:A:553:ARG:HH12	1.70	0.57
1:B:897:ARG:HB2	1:B:903:LEU:HD11	1.85	0.57
1:D:1252:HIS:O	1:D:1275:ARG:NH1	2.38	0.57
1:D:3020:THR:HG23	1:D:3023:LYS:H	1.70	0.57
1:B:25:SER:HA	1:B:33:LEU:O	2.04	0.57
1:B:1252:HIS:O	1:B:1275:ARG:NH1	2.38	0.57
1:C:2470:ILE:HG22	1:C:2525:GLY:HA3	1.86	0.57
1:A:1255:TYR:O	1:A:1275:ARG:NH1	2.38	0.56
1:A:1259:ARG:NH2	1:A:1595:LEU:O	2.39	0.56
1:C:1297:PHE:HD1	1:C:1522:LEU:HA	1.70	0.56
1:C:3051:ARG:O	1:C:3053:ARG:NE	2.37	0.56
1:D:4570:ALA:O	1:D:4574:ASN:ND2	2.38	0.56
2:E:17:LYS:HG2	2:E:20:GLN:HE22	1.69	0.56
1:A:23:GLN:OE1	1:A:203:ASN:ND2	2.38	0.56
1:A:1252:HIS:O	1:A:1275:ARG:NH1	2.38	0.56
1:A:3997:ALA:HB1	1:A:4057:MET:HG2	1.86	0.56
1:A:4823:LEU:HD22	1:B:4843:LEU:HD22	1.86	0.56
1:B:498:THR:HA	1:B:553:ARG:HH12	1.70	0.56
1:B:1255:TYR:O	1:B:1275:ARG:NH1	2.38	0.56
1:B:3051:ARG:O	1:B:3053:ARG:NE	2.37	0.56
1:C:23:GLN:OE1	1:C:203:ASN:ND2	2.38	0.56
1:C:2000:SER:O	1:C:2005:GLN:NE2	2.31	0.56
1:C:3997:ALA:HB1	1:C:4057:MET:HG2	1.86	0.56
1:A:2871:LEU:HG	1:A:2927:LEU:HD11	1.88	0.56
1:B:3020:THR:HG23	1:B:3023:LYS:H	1.70	0.56
1:B:3997:ALA:HB1	1:B:4057:MET:HG2	1.86	0.56
1:C:299:LEU:HD22	1:C:378:LEU:HB2	1.88	0.56
1:C:1259:ARG:NH2	1:C:1595:LEU:O	2.39	0.56
1:C:1277:TRP:HD1	1:C:1559:GLN:HG3	1.71	0.56
1:D:355:LEU:HB2	1:D:378:LEU:HG	1.88	0.56
1:D:1259:ARG:NH2	1:D:1595:LEU:O	2.39	0.56
1:D:2871:LEU:HG	1:D:2927:LEU:HD11	1.88	0.56
2:G:40:ARG:NH2	2:G:102:GLU:OE1	2.39	0.56
1:A:355:LEU:HB2	1:A:378:LEU:HG	1.88	0.56
1:A:1297:PHE:HD1	1:A:1522:LEU:HA	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1423:ASP:HB3	1:A:1426:ILE:HB	1.87	0.56
1:A:4570:ALA:O	1:A:4574:ASN:ND2	2.38	0.56
1:B:2000:SER:O	1:B:2005:GLN:NE2	2.31	0.56
1:D:299:LEU:HD22	1:D:378:LEU:HB2	1.88	0.56
1:D:1297:PHE:HD1	1:D:1522:LEU:HA	1.70	0.56
1:D:3997:ALA:HB1	1:D:4057:MET:HG2	1.86	0.56
1:A:233:ILE:HD12	1:A:242:ARG:HB3	1.88	0.56
1:C:498:THR:HA	1:C:553:ARG:HH12	1.70	0.56
1:C:1451:GLY:HA3	1:C:1494:MET:HA	1.88	0.56
1:D:1712:TYR:OH	1:D:1814:MET:SD	2.63	0.56
1:D:2978:GLU:OE2	1:D:3053:ARG:NH1	2.36	0.56
1:D:3051:ARG:O	1:D:3053:ARG:NE	2.37	0.56
1:B:355:LEU:HB2	1:B:378:LEU:HG	1.88	0.56
1:B:2273:LEU:HD23	1:B:2330:ARG:HG2	1.88	0.56
1:C:2745:VAL:HG11	1:C:2818:ALA:HB2	1.88	0.56
1:D:2745:VAL:HG11	1:D:2818:ALA:HB2	1.88	0.56
1:B:1277:TRP:HD1	1:B:1559:GLN:HG3	1.71	0.56
1:B:1423:ASP:HB3	1:B:1426:ILE:HB	1.87	0.56
1:B:1780:PRO:O	2:F:42:ARG:NH1	2.39	0.56
1:C:1255:TYR:O	1:C:1275:ARG:NH1	2.38	0.56
1:C:3850:GLN:NE2	1:C:3872:GLU:OE1	2.39	0.56
1:A:1780:PRO:O	2:E:42:ARG:NH1	2.39	0.56
1:B:3850:GLN:NE2	1:B:3872:GLU:OE1	2.39	0.56
1:C:4570:ALA:O	1:C:4574:ASN:ND2	2.38	0.56
1:D:181:HIS:HD1	1:D:198:THR:HG1	1.54	0.56
1:D:498:THR:HA	1:D:553:ARG:HH12	1.70	0.56
1:D:1255:TYR:O	1:D:1275:ARG:NH1	2.38	0.56
1:D:1780:PRO:O	2:H:42:ARG:NH1	2.39	0.56
2:F:40:ARG:NH2	2:F:102:GLU:OE1	2.39	0.56
1:B:299:LEU:HD22	1:B:378:LEU:HB2	1.88	0.56
1:B:3752:SER:OG	1:B:3755:GLU:OE1	2.24	0.56
1:C:4172:GLU:HG3	1:C:4175:ARG:HE	1.71	0.56
1:D:1423:ASP:HB3	1:D:1426:ILE:HB	1.87	0.56
1:A:2978:GLU:OE2	1:A:3053:ARG:NH1	2.36	0.56
1:B:1451:GLY:HA3	1:B:1494:MET:HA	1.88	0.56
1:A:829:TYR:HB3	1:A:1073:ARG:HH11	1.72	0.55
1:B:2003:GLN:O	1:B:2007:ASN:ND2	2.40	0.55
1:B:4172:GLU:HG3	1:B:4175:ARG:HE	1.71	0.55
1:A:1712:TYR:OH	1:A:1814:MET:SD	2.63	0.55
1:A:3075:LEU:O	1:A:3146:HIS:NE2	2.37	0.55
1:C:829:TYR:HB3	1:C:1073:ARG:HH11	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2871:LEU:HG	1:C:2927:LEU:HD11	1.88	0.55
1:D:1277:TRP:HD1	1:D:1559:GLN:HG3	1.71	0.55
1:D:1451:GLY:HA3	1:D:1494:MET:HA	1.88	0.55
1:A:867:LEU:HD13	1:A:929:LEU:HB3	1.89	0.55
1:A:1232:ARG:NH2	1:A:1828:ASP:O	2.35	0.55
1:C:355:LEU:HB2	1:C:378:LEU:HG	1.88	0.55
1:C:1423:ASP:HB3	1:C:1426:ILE:HB	1.87	0.55
1:D:2470:ILE:HG22	1:D:2525:GLY:HA3	1.86	0.55
1:A:299:LEU:HD22	1:A:378:LEU:HB2	1.88	0.55
1:A:3752:SER:OG	1:A:3755:GLU:OE1	2.24	0.55
1:B:2871:LEU:HG	1:B:2927:LEU:HD11	1.88	0.55
1:B:4570:ALA:O	1:B:4574:ASN:ND2	2.38	0.55
1:C:233:ILE:HD12	1:C:242:ARG:HB3	1.88	0.55
1:C:1780:PRO:O	2:G:42:ARG:NH1	2.39	0.55
1:B:233:ILE:HD12	1:B:242:ARG:HB3	1.88	0.55
1:B:2745:VAL:HG11	1:B:2818:ALA:HB2	1.88	0.55
1:C:867:LEU:HD13	1:C:929:LEU:HB3	1.89	0.55
1:C:2273:LEU:HD23	1:C:2330:ARG:HG2	1.88	0.55
1:D:233:ILE:HD12	1:D:242:ARG:HB3	1.88	0.55
1:D:3850:GLN:NE2	1:D:3872:GLU:OE1	2.39	0.55
1:B:1259:ARG:NH2	1:B:1595:LEU:O	2.39	0.55
1:C:1131:ARG:NH1	1:C:1178:ALA:O	2.40	0.55
1:D:2003:GLN:O	1:D:2007:ASN:ND2	2.40	0.55
2:E:40:ARG:NH2	2:E:102:GLU:OE1	2.39	0.55
2:H:40:ARG:NH2	2:H:102:GLU:OE1	2.39	0.55
1:A:2745:VAL:HG11	1:A:2818:ALA:HB2	1.88	0.55
1:A:2788:HIS:NE2	1:A:2790:MET:SD	2.80	0.55
1:A:2788:HIS:HD2	1:A:2791:LEU:HB2	1.72	0.55
1:B:632:LEU:O	1:B:634:GLN:NE2	2.40	0.55
1:B:829:TYR:HB3	1:B:1073:ARG:HH11	1.71	0.55
1:B:2371:GLU:HG2	1:C:129:ASP:HA	1.88	0.55
1:C:632:LEU:O	1:C:634:GLN:NE2	2.40	0.55
1:D:867:LEU:HD13	1:D:929:LEU:HB3	1.89	0.55
1:D:4172:GLU:HG3	1:D:4175:ARG:HE	1.71	0.55
1:D:4864:ASN:ND2	1:D:4874:MET:SD	2.80	0.55
1:A:2611:CYS:HA	1:A:2614:ILE:HG22	1.89	0.55
1:A:4843:LEU:HD22	1:D:4823:LEU:HD22	1.89	0.55
1:C:2371:GLU:HG2	1:D:129:ASP:HA	1.88	0.55
1:C:3020:THR:HG23	1:C:3023:LYS:H	1.70	0.55
1:A:49:LEU:HD12	1:A:189:LEU:HB3	1.89	0.55
1:A:4172:GLU:HG3	1:A:4175:ARG:HE	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2788:HIS:NE2	1:C:2790:MET:SD	2.80	0.55
1:C:4864:ASN:ND2	1:C:4874:MET:SD	2.80	0.55
1:D:1131:ARG:NH1	1:D:1178:ALA:O	2.40	0.55
1:D:1561:VAL:HG12	1:D:1562:ILE:HG23	1.89	0.55
1:A:3850:GLN:NE2	1:A:3872:GLU:OE1	2.39	0.54
1:B:1152:MET:HB2	1:B:1161:ILE:HB	1.89	0.54
1:B:3846:ALA:HB1	1:B:3873:LYS:HG3	1.90	0.54
1:D:3752:SER:OG	1:D:3755:GLU:OE1	2.24	0.54
1:A:1152:MET:HB2	1:A:1161:ILE:HB	1.89	0.54
1:A:1277:TRP:HD1	1:A:1559:GLN:HG3	1.71	0.54
1:A:3322:ILE:O	1:A:3326:ASN:ND2	2.36	0.54
1:B:867:LEU:HD13	1:B:929:LEU:HB3	1.89	0.54
1:D:49:LEU:HD12	1:D:189:LEU:HB3	1.89	0.54
2:E:73:LYS:HE2	2:E:98:ILE:HG23	1.90	0.54
1:A:1451:GLY:HA3	1:A:1494:MET:HA	1.88	0.54
1:C:1152:MET:HB2	1:C:1161:ILE:HB	1.89	0.54
1:D:1653:LEU:O	1:D:1660:GLN:NE2	2.40	0.54
1:D:2273:LEU:HD23	1:D:2330:ARG:HG2	1.88	0.54
1:D:3846:ALA:HB1	1:D:3873:LYS:HG3	1.90	0.54
1:A:1131:ARG:NH1	1:A:1178:ALA:O	2.40	0.54
1:A:2003:GLN:O	1:A:2007:ASN:ND2	2.39	0.54
1:B:1653:LEU:O	1:B:1660:GLN:NE2	2.40	0.54
1:C:2003:GLN:O	1:C:2007:ASN:ND2	2.40	0.54
1:B:2788:HIS:NE2	1:B:2790:MET:SD	2.80	0.54
1:C:1561:VAL:HG12	1:C:1562:ILE:HG23	1.89	0.54
1:C:2788:HIS:HD2	1:C:2791:LEU:HB2	1.72	0.54
1:B:2611:CYS:HA	1:B:2614:ILE:HG22	1.88	0.54
1:B:3696:ASP:OD1	1:B:3696:ASP:N	2.41	0.54
1:B:4864:ASN:ND2	1:B:4874:MET:SD	2.80	0.54
1:D:632:LEU:O	1:D:634:GLN:NE2	2.40	0.54
1:C:707:VAL:HG13	1:C:713:SER:HB2	1.90	0.54
1:A:632:LEU:O	1:A:634:GLN:NE2	2.40	0.54
1:B:2978:GLU:OE2	1:B:3053:ARG:NH1	2.36	0.54
1:D:829:TYR:HB3	1:D:1073:ARG:HH11	1.71	0.54
1:D:1152:MET:HB2	1:D:1161:ILE:HB	1.90	0.54
1:D:2021:CYS:O	1:D:2028:ARG:NH2	2.41	0.54
1:D:2788:HIS:NE2	1:D:2790:MET:SD	2.80	0.54
1:D:3990:VAL:HG23	1:D:4051:SER:HB3	1.89	0.54
1:A:1561:VAL:HG12	1:A:1562:ILE:HG23	1.90	0.54
1:A:4864:ASN:ND2	1:A:4874:MET:SD	2.80	0.54
1:B:707:VAL:HG13	1:B:713:SER:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1612:PHE:O	1:B:1614:GLN:NE2	2.41	0.54
1:B:3990:VAL:HG23	1:B:4051:SER:HB3	1.89	0.54
1:C:3846:ALA:HB1	1:C:3873:LYS:HG3	1.90	0.54
1:D:1612:PHE:O	1:D:1614:GLN:NE2	2.41	0.54
2:H:73:LYS:HE2	2:H:98:ILE:HG23	1.90	0.54
1:A:3846:ALA:HB1	1:A:3873:LYS:HG3	1.90	0.54
1:B:2788:HIS:HD2	1:B:2791:LEU:HB2	1.72	0.54
1:C:3322:ILE:O	1:C:3326:ASN:ND2	2.36	0.54
1:D:23:GLN:HE21	1:D:34:LYS:HB3	1.72	0.54
1:D:4689:THR:OG1	1:D:4690:GLU:N	2.41	0.54
1:A:181:HIS:HD1	1:A:198:THR:HG1	1.53	0.53
1:B:3075:LEU:O	1:B:3146:HIS:NE2	2.37	0.53
1:D:2788:HIS:HD2	1:D:2791:LEU:HB2	1.72	0.53
1:A:2371:GLU:HG2	1:B:129:ASP:HA	1.88	0.53
1:A:2888:ARG:HD2	1:A:2891:LYS:HE3	1.90	0.53
1:B:1131:ARG:NH1	1:B:1178:ALA:O	2.40	0.53
1:C:707:VAL:HG23	1:C:782:SER:HB3	1.90	0.53
1:C:2021:CYS:O	1:C:2028:ARG:NH2	2.41	0.53
1:C:3990:VAL:HG23	1:C:4051:SER:HB3	1.89	0.53
2:F:73:LYS:HE2	2:F:98:ILE:HG23	1.90	0.53
1:A:2021:CYS:O	1:A:2028:ARG:NH2	2.41	0.53
1:A:3540:TYR:HE1	1:A:3549:VAL:HG21	1.74	0.53
1:A:4242:ILE:HG12	1:A:4993:MET:HG2	1.90	0.53
1:B:23:GLN:HE21	1:B:34:LYS:HB3	1.72	0.53
1:D:707:VAL:HG23	1:D:782:SER:HB3	1.90	0.53
1:D:4242:ILE:HG12	1:D:4993:MET:HG2	1.89	0.53
1:A:129:ASP:HA	1:D:2371:GLU:HG2	1.91	0.53
1:A:2273:LEU:HD23	1:A:2330:ARG:HG2	1.88	0.53
1:A:4689:THR:OG1	1:A:4690:GLU:N	2.41	0.53
1:C:3414:ARG:NH1	1:C:3417:ASP:OD2	2.41	0.53
1:D:3540:TYR:HE1	1:D:3549:VAL:HG21	1.74	0.53
1:C:2611:CYS:HA	1:C:2614:ILE:HG22	1.88	0.53
1:C:3075:LEU:O	1:C:3146:HIS:NE2	2.37	0.53
1:C:4242:ILE:HG12	1:C:4993:MET:HG2	1.89	0.53
1:D:2611:CYS:HA	1:D:2614:ILE:HG22	1.89	0.53
1:A:707:VAL:HG13	1:A:713:SER:HB2	1.90	0.53
1:A:2000:SER:O	1:A:2005:GLN:NE2	2.31	0.53
1:B:2021:CYS:O	1:B:2028:ARG:NH2	2.41	0.53
1:B:3540:TYR:HE1	1:B:3549:VAL:HG21	1.74	0.53
1:B:4242:ILE:HG12	1:B:4993:MET:HG2	1.89	0.53
1:C:23:GLN:HE21	1:C:34:LYS:HB3	1.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1612:PHE:O	1:C:1614:GLN:NE2	2.41	0.53
1:C:3540:TYR:HE1	1:C:3549:VAL:HG21	1.74	0.53
1:D:173:SER:HB3	1:D:178:ARG:H	1.73	0.53
1:A:23:GLN:HE21	1:A:34:LYS:HB3	1.72	0.53
1:B:1561:VAL:HG12	1:B:1562:ILE:HG23	1.89	0.53
1:B:2888:ARG:HD2	1:B:2891:LYS:HE3	1.90	0.53
1:B:3180:ASN:HB2	1:B:3183:VAL:HG23	1.91	0.53
1:C:173:SER:HB3	1:C:178:ARG:H	1.73	0.53
1:C:2888:ARG:HD2	1:C:2891:LYS:HE3	1.90	0.53
1:D:707:VAL:HG13	1:D:713:SER:HB2	1.89	0.53
1:B:580:GLU:HG3	1:B:584:LYS:HZ2	1.73	0.53
1:B:2867:LEU:HD21	1:B:2871:LEU:HD23	1.91	0.53
2:G:73:LYS:HE2	2:G:98:ILE:HG23	1.90	0.53
1:A:1612:PHE:O	1:A:1614:GLN:NE2	2.41	0.53
1:A:3990:VAL:HG23	1:A:4051:SER:HB3	1.89	0.53
1:B:49:LEU:HD12	1:B:189:LEU:HB3	1.89	0.53
1:C:266:ARG:NH2	1:C:331:VAL:O	2.40	0.53
1:D:2872:GLN:NE2	1:D:2924:GLN:OE1	2.42	0.53
1:A:1153:ILE:HG13	1:A:1160:ILE:HG12	1.91	0.53
1:B:173:SER:HB3	1:B:178:ARG:H	1.73	0.53
1:C:49:LEU:HD12	1:C:189:LEU:HB3	1.89	0.53
1:C:2867:LEU:HD21	1:C:2871:LEU:HD23	1.91	0.53
1:A:708:GLY:HA3	1:A:722:TRP:HB3	1.90	0.52
1:C:2971:GLN:NE2	1:C:3045:LYS:O	2.43	0.52
1:D:3414:ARG:NH1	1:D:3417:ASP:OD2	2.41	0.52
1:A:2872:GLN:NE2	1:A:2924:GLN:OE1	2.42	0.52
1:A:3414:ARG:NH1	1:A:3417:ASP:OD2	2.41	0.52
1:C:1153:ILE:HG13	1:C:1160:ILE:HG12	1.91	0.52
1:A:2971:GLN:NE2	1:A:3045:LYS:O	2.43	0.52
1:C:708:GLY:HA3	1:C:722:TRP:HB3	1.90	0.52
1:C:3078:ARG:NH2	1:C:3151:GLN:O	2.40	0.52
1:A:173:SER:HB3	1:A:178:ARG:H	1.73	0.52
1:A:3940:LYS:O	1:A:4002:LYS:NZ	2.42	0.52
1:B:4818:MET:N	1:B:4818:MET:SD	2.83	0.52
1:C:2974:ILE:HD12	1:C:3053:ARG:HH12	1.75	0.52
1:C:4818:MET:SD	1:C:4818:MET:N	2.83	0.52
1:D:3065:VAL:O	1:D:3069:HIS:ND1	2.43	0.52
1:D:3180:ASN:HB2	1:D:3183:VAL:HG23	1.91	0.52
2:G:7:ILE:HD11	2:G:73:LYS:HB2	1.92	0.52
1:A:2653:LYS:HB3	1:A:2657:LEU:HG	1.92	0.52
1:B:2971:GLN:NE2	1:B:3045:LYS:O	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3078:ARG:NH2	1:B:3151:GLN:O	2.41	0.52
1:C:3219:TYR:OH	1:C:3239:MET:SD	2.60	0.52
1:D:451:TYR:O	1:D:474:ARG:NH1	2.43	0.52
1:D:1112:ASP:HB3	1:D:1603:VAL:HB	1.92	0.52
2:H:7:ILE:HD11	2:H:73:LYS:HB2	1.92	0.52
1:A:3924:LEU:HD21	1:A:3984:ARG:HH21	1.75	0.52
1:C:2538:THR:HG23	1:C:2540:THR:H	1.75	0.52
1:C:2626:LEU:HD22	1:C:2640:PRO:HB3	1.92	0.52
1:C:2872:GLN:NE2	1:C:2924:GLN:OE1	2.42	0.52
1:C:3065:VAL:O	1:C:3069:HIS:ND1	2.43	0.52
1:D:708:GLY:HA3	1:D:722:TRP:HB3	1.90	0.52
1:A:707:VAL:HG23	1:A:782:SER:HB3	1.90	0.52
1:A:1652:GLU:OE2	1:A:1656:ARG:NH1	2.43	0.52
1:B:2653:LYS:HB3	1:B:2657:LEU:HG	1.92	0.52
1:C:575:LEU:HD22	1:C:609:CYS:HB3	1.92	0.52
1:A:1653:LEU:O	1:A:1660:GLN:NE2	2.40	0.52
1:B:707:VAL:HG23	1:B:782:SER:HB3	1.90	0.52
1:B:3065:VAL:O	1:B:3069:HIS:ND1	2.43	0.52
1:B:3889:GLN:HG3	1:B:3967:GLU:HG3	1.92	0.52
1:C:451:TYR:O	1:C:474:ARG:NH1	2.43	0.52
1:C:3180:ASN:HB2	1:C:3183:VAL:HG23	1.91	0.52
1:C:3889:GLN:HG3	1:C:3967:GLU:HG3	1.92	0.52
1:D:2653:LYS:HB3	1:D:2657:LEU:HG	1.92	0.52
1:D:2971:GLN:NE2	1:D:3045:LYS:O	2.42	0.52
1:A:932:LEU:HB3	1:A:937:CYS:HB3	1.92	0.52
1:A:4818:MET:N	1:A:4818:MET:SD	2.83	0.52
1:B:666:VAL:HG21	1:B:684:VAL:HG11	1.92	0.52
1:B:932:LEU:HB3	1:B:937:CYS:HB3	1.92	0.52
1:C:2653:LYS:HB3	1:C:2657:LEU:HG	1.92	0.52
1:D:3075:LEU:O	1:D:3146:HIS:NE2	2.37	0.52
1:D:3924:LEU:HD21	1:D:3984:ARG:HH21	1.75	0.52
1:A:3065:VAL:O	1:A:3069:HIS:ND1	2.43	0.52
1:B:451:TYR:O	1:B:474:ARG:NH1	2.43	0.52
1:B:708:GLY:HA3	1:B:722:TRP:HB3	1.90	0.52
1:B:1153:ILE:HG13	1:B:1160:ILE:HG12	1.91	0.52
1:B:3414:ARG:NH1	1:B:3417:ASP:OD2	2.41	0.52
1:B:4689:THR:OG1	1:B:4690:GLU:N	2.41	0.52
1:D:2595:LEU:O	1:D:2600:ARG:NH2	2.43	0.52
1:D:2888:ARG:HD2	1:D:2891:LYS:HE3	1.90	0.52
1:B:3757:GLU:OE2	1:B:4718:LYS:NZ	2.44	0.51
1:C:4689:THR:OG1	1:C:4690:GLU:N	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1652:GLU:OE2	1:D:1656:ARG:NH1	2.43	0.51
1:D:2538:THR:HG23	1:D:2540:THR:H	1.75	0.51
1:D:2867:LEU:HD21	1:D:2871:LEU:HD23	1.91	0.51
1:A:643:SER:HA	1:A:781:VAL:O	2.11	0.51
1:A:1112:ASP:HB3	1:A:1603:VAL:HB	1.92	0.51
1:B:218:HIS:HD1	1:B:341:TYR:HH	1.58	0.51
1:B:2538:THR:HG23	1:B:2540:THR:H	1.75	0.51
1:B:2626:LEU:HD22	1:B:2640:PRO:HB3	1.92	0.51
1:B:2974:ILE:HD12	1:B:3053:ARG:HH12	1.75	0.51
1:C:1652:GLU:OE2	1:C:1656:ARG:NH1	2.43	0.51
1:C:2595:LEU:O	1:C:2600:ARG:NH2	2.43	0.51
1:D:666:VAL:HG21	1:D:684:VAL:HG11	1.92	0.51
1:D:932:LEU:HB3	1:D:937:CYS:HB3	1.92	0.51
1:D:2974:ILE:HD12	1:D:3053:ARG:HH12	1.75	0.51
1:A:666:VAL:HG21	1:A:684:VAL:HG11	1.92	0.51
1:A:3180:ASN:HB2	1:A:3183:VAL:HG23	1.91	0.51
1:A:3757:GLU:OE2	1:A:4718:LYS:NZ	2.44	0.51
1:B:3924:LEU:HD21	1:B:3984:ARG:HH21	1.75	0.51
1:C:932:LEU:HB3	1:C:937:CYS:HB3	1.92	0.51
1:C:1112:ASP:HB3	1:C:1603:VAL:HB	1.92	0.51
1:D:643:SER:HA	1:D:781:VAL:O	2.11	0.51
1:D:1007:TYR:O	1:D:1017:ARG:NH2	2.43	0.51
1:D:1153:ILE:HG13	1:D:1160:ILE:HG12	1.91	0.51
1:D:2299:VAL:HG11	1:D:2356:LEU:HB3	1.93	0.51
1:D:4818:MET:N	1:D:4818:MET:SD	2.83	0.51
2:F:7:ILE:HD11	2:F:73:LYS:HB2	1.92	0.51
1:A:451:TYR:O	1:A:474:ARG:NH1	2.43	0.51
1:B:534:ARG:HD2	1:B:570:GLU:HG2	1.93	0.51
1:B:2872:GLN:NE2	1:B:2924:GLN:OE1	2.42	0.51
1:C:666:VAL:HG21	1:C:684:VAL:HG11	1.92	0.51
1:D:2591:ARG:HH12	1:D:2634:ASN:HD21	1.58	0.51
1:A:2595:LEU:O	1:A:2600:ARG:NH2	2.43	0.51
1:A:2867:LEU:HD21	1:A:2871:LEU:HD23	1.91	0.51
1:B:575:LEU:HD22	1:B:609:CYS:HB3	1.92	0.51
1:C:3157:ILE:HA	1:C:3161:VAL:HB	1.93	0.51
1:D:1238:PHE:HB3	1:D:1608:MET:HE1	1.93	0.51
1:A:231:LEU:HA	1:A:246:TYR:O	2.11	0.51
1:A:1007:TYR:O	1:A:1017:ARG:NH2	2.43	0.51
1:A:3889:GLN:HG3	1:A:3967:GLU:HG3	1.92	0.51
1:C:1116:GLY:HA3	1:C:1132:TRP:HB3	1.92	0.51
1:C:1658:ASP:N	1:C:1658:ASP:OD1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2299:VAL:HG11	1:C:2356:LEU:HB3	1.93	0.51
1:D:2626:LEU:HD22	1:D:2640:PRO:HB3	1.92	0.51
1:D:3757:GLU:OE2	1:D:4718:LYS:NZ	2.44	0.51
1:A:534:ARG:HD2	1:A:570:GLU:HG2	1.93	0.51
1:B:231:LEU:HA	1:B:246:TYR:O	2.11	0.51
1:B:1112:ASP:HB3	1:B:1603:VAL:HB	1.92	0.51
1:B:1524:THR:O	1:B:1541:GLN:NE2	2.38	0.51
1:C:3270:ILE:HA	1:C:3274:LEU:HD12	1.93	0.51
2:E:7:ILE:HD11	2:E:73:LYS:HB2	1.92	0.51
1:A:575:LEU:HD22	1:A:609:CYS:HB3	1.92	0.51
1:A:1116:GLY:HA3	1:A:1132:TRP:HB3	1.92	0.51
1:B:643:SER:HA	1:B:781:VAL:O	2.11	0.51
1:B:1652:GLU:OE2	1:B:1656:ARG:NH1	2.43	0.51
1:B:2299:VAL:HG11	1:B:2356:LEU:HB3	1.93	0.51
1:B:2948:THR:OG1	1:B:2952:GLU:OE2	2.25	0.51
1:B:3270:ILE:HA	1:B:3274:LEU:HD12	1.93	0.51
1:B:4634:GLU:OE1	1:B:4637:GLY:N	2.42	0.51
1:C:485:SER:HA	1:C:488:LEU:HD12	1.93	0.51
1:C:4068:LEU:HA	1:C:4071:ILE:HB	1.93	0.51
1:D:275:ARG:NH2	1:D:328:LYS:O	2.44	0.51
1:B:181:HIS:HD1	1:B:198:THR:HG1	1.53	0.51
1:C:1784:ALA:HA	2:G:55:VAL:HA	1.93	0.51
1:D:534:ARG:HD2	1:D:570:GLU:HG2	1.93	0.51
1:A:2974:ILE:HD12	1:A:3053:ARG:HH12	1.75	0.51
1:C:643:SER:HA	1:C:781:VAL:O	2.11	0.51
1:C:3324:VAL:HA	1:C:3327:LEU:HB2	1.93	0.51
1:D:3270:ILE:HA	1:D:3274:LEU:HD12	1.93	0.51
1:D:3324:VAL:HA	1:D:3327:LEU:HB2	1.93	0.51
1:B:3157:ILE:HA	1:B:3161:VAL:HB	1.93	0.50
1:C:231:LEU:HA	1:C:246:TYR:O	2.11	0.50
1:D:4112:LEU:O	1:D:4115:SER:OG	2.29	0.50
1:A:485:SER:HA	1:A:488:LEU:HD12	1.93	0.50
1:A:3270:ILE:HA	1:A:3274:LEU:HD12	1.93	0.50
1:B:2591:ARG:HH12	1:B:2634:ASN:HD21	1.58	0.50
1:B:3463:GLU:HA	1:B:3502:ARG:HH22	1.76	0.50
1:C:2339:VAL:HG12	1:C:2349:ASN:HB3	1.93	0.50
1:C:3757:GLU:OE2	1:C:4718:LYS:NZ	2.44	0.50
1:C:4165:GLU:HA	1:C:4168:GLU:HG2	1.93	0.50
1:D:3157:ILE:HA	1:D:3161:VAL:HB	1.93	0.50
1:A:2299:VAL:HG11	1:A:2356:LEU:HB3	1.93	0.50
1:A:2538:THR:HG23	1:A:2540:THR:H	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2591:ARG:HH12	1:A:2634:ASN:HD21	1.58	0.50
1:A:2626:LEU:HD22	1:A:2640:PRO:HB3	1.92	0.50
1:B:1116:GLY:HA3	1:B:1132:TRP:HB3	1.92	0.50
1:B:1270:LEU:HB2	1:B:1564:PHE:HB2	1.94	0.50
1:C:1007:TYR:O	1:C:1017:ARG:NH2	2.43	0.50
1:D:1658:ASP:N	1:D:1658:ASP:OD1	2.44	0.50
1:B:4165:GLU:HA	1:B:4168:GLU:HG2	1.93	0.50
1:C:534:ARG:HD2	1:C:570:GLU:HG2	1.93	0.50
1:C:758:ARG:HG2	1:C:763:PRO:HA	1.94	0.50
1:C:3634:ALA:O	1:C:3638:MET:HB2	2.11	0.50
1:D:231:LEU:HA	1:D:246:TYR:O	2.11	0.50
1:D:575:LEU:HD22	1:D:609:CYS:HB3	1.92	0.50
1:D:3634:ALA:O	1:D:3638:MET:HB2	2.11	0.50
1:A:3607:GLU:HA	1:A:3610:GLU:HG2	1.93	0.50
1:A:4165:GLU:HA	1:A:4168:GLU:HG2	1.93	0.50
1:B:2595:LEU:O	1:B:2600:ARG:NH2	2.43	0.50
1:C:275:ARG:NH2	1:C:328:LYS:O	2.44	0.50
1:C:3940:LYS:O	1:C:4002:LYS:NZ	2.42	0.50
1:D:758:ARG:HG2	1:D:763:PRO:HA	1.94	0.50
1:B:485:SER:HA	1:B:488:LEU:HD12	1.93	0.50
1:B:3607:GLU:HA	1:B:3610:GLU:HG2	1.93	0.50
1:D:218:HIS:ND1	1:D:341:TYR:OH	2.44	0.50
1:D:485:SER:HA	1:D:488:LEU:HD12	1.93	0.50
1:D:3607:GLU:HA	1:D:3610:GLU:HG2	1.93	0.50
1:D:3889:GLN:HG3	1:D:3967:GLU:HG3	1.92	0.50
1:D:4068:LEU:HA	1:D:4071:ILE:HB	1.93	0.50
1:A:758:ARG:HG2	1:A:763:PRO:HA	1.94	0.50
1:A:2716:ASP:OD1	1:A:2716:ASP:N	2.45	0.50
1:A:3157:ILE:HA	1:A:3161:VAL:HB	1.93	0.50
1:A:3634:ALA:O	1:A:3638:MET:HB2	2.11	0.50
1:B:758:ARG:HG2	1:B:763:PRO:HA	1.94	0.50
1:B:1007:TYR:O	1:B:1017:ARG:NH2	2.43	0.50
1:B:1658:ASP:OD1	1:B:1658:ASP:N	2.44	0.50
1:D:1116:GLY:HA3	1:D:1132:TRP:HB3	1.93	0.50
1:A:275:ARG:NH2	1:A:328:LYS:O	2.44	0.50
1:B:2534:ALA:HB2	1:B:2589:LEU:HG	1.94	0.50
1:B:1784:ALA:HA	2:F:55:VAL:HA	1.93	0.50
1:B:2339:VAL:HG12	1:B:2349:ASN:HB3	1.93	0.50
1:B:3634:ALA:O	1:B:3638:MET:HB2	2.11	0.50
1:C:1270:LEU:HB2	1:C:1564:PHE:HB2	1.94	0.50
1:C:2591:ARG:HH12	1:C:2634:ASN:HD21	1.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3924:LEU:HD21	1:C:3984:ARG:HH21	1.75	0.50
1:D:4165:GLU:HA	1:D:4168:GLU:HG2	1.93	0.50
1:B:275:ARG:NH2	1:B:328:LYS:O	2.44	0.49
1:C:3752:SER:OG	1:C:3755:GLU:OE1	2.24	0.49
1:C:4634:GLU:OE1	1:C:4637:GLY:N	2.42	0.49
1:D:3459:VAL:HG13	1:D:3464:ILE:HB	1.94	0.49
1:D:3463:GLU:HA	1:D:3502:ARG:HH22	1.76	0.49
1:C:2144:ILE:HG12	1:C:2152:THR:HG21	1.94	0.49
1:C:3459:VAL:HG13	1:C:3464:ILE:HB	1.94	0.49
1:D:2128:TYR:OH	1:D:3676:ASP:OD2	2.30	0.49
1:A:546:TRP:CE2	1:A:550:LYS:HE2	2.48	0.49
1:A:1808:ARG:NH1	1:A:1853:ILE:O	2.45	0.49
1:B:4112:LEU:O	1:B:4115:SER:OG	2.29	0.49
1:C:2534:ALA:HB2	1:C:2589:LEU:HG	1.94	0.49
1:C:3463:GLU:HA	1:C:3502:ARG:HH22	1.76	0.49
1:C:3607:GLU:HA	1:C:3610:GLU:HG2	1.93	0.49
1:D:1270:LEU:HB2	1:D:1564:PHE:HB2	1.94	0.49
1:D:1784:ALA:HA	2:H:55:VAL:HA	1.93	0.49
1:D:3078:ARG:NH2	1:D:3151:GLN:O	2.40	0.49
1:A:218:HIS:ND1	1:A:341:TYR:OH	2.44	0.49
1:A:2339:VAL:HG12	1:A:2349:ASN:HB3	1.93	0.49
1:A:2960:LEU:HD23	1:A:2963:LEU:HD12	1.94	0.49
1:A:3463:GLU:HA	1:A:3502:ARG:HH22	1.76	0.49
1:D:266:ARG:NH2	1:D:331:VAL:O	2.40	0.49
1:A:870:ILE:HG13	1:A:874:LEU:HD23	1.94	0.49
1:A:1658:ASP:N	1:A:1658:ASP:OD1	2.44	0.49
1:A:4068:LEU:HA	1:A:4071:ILE:HB	1.93	0.49
1:B:546:TRP:CE2	1:B:550:LYS:HE2	2.48	0.49
1:B:870:ILE:HG13	1:B:874:LEU:HD23	1.94	0.49
1:B:939:VAL:HB	1:B:1051:TYR:HB3	1.95	0.49
1:B:1864:LYS:NZ	1:B:1873:GLU:OE1	2.37	0.49
1:C:2531:ARG:HG2	1:C:2585:THR:HG21	1.94	0.49
1:C:4112:LEU:O	1:C:4115:SER:OG	2.29	0.49
1:D:939:VAL:HB	1:D:1051:TYR:HB3	1.95	0.49
1:D:2144:ILE:HG12	1:D:2152:THR:HG21	1.94	0.49
1:A:939:VAL:HB	1:A:1051:TYR:HB3	1.95	0.49
1:A:1270:LEU:HB2	1:A:1564:PHE:HB2	1.94	0.49
1:A:2519:LEU:HD13	1:A:2522:LEU:HD12	1.95	0.49
1:A:3324:VAL:HA	1:A:3327:LEU:HB2	1.93	0.49
1:B:2519:LEU:HD13	1:B:2522:LEU:HD12	1.95	0.49
1:B:3324:VAL:HA	1:B:3327:LEU:HB2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1238:PHE:HB3	1:C:1608:MET:HE1	1.93	0.49
1:D:2531:ARG:HG2	1:D:2585:THR:HG21	1.95	0.49
1:A:2534:ALA:HB2	1:A:2589:LEU:HG	1.94	0.49
1:B:2960:LEU:HD23	1:B:2963:LEU:HD12	1.94	0.49
1:C:475:GLN:OE1	1:C:533:ASN:ND2	2.41	0.49
1:C:2960:LEU:HD23	1:C:2963:LEU:HD12	1.94	0.49
1:D:3768:SER:HA	1:D:3771:HIS:CD2	2.48	0.49
1:A:3405:LEU:O	1:A:3409:TYR:HB2	2.13	0.49
1:C:870:ILE:HG13	1:C:874:LEU:HD23	1.94	0.49
1:C:939:VAL:HB	1:C:1051:TYR:HB3	1.95	0.49
1:C:3696:ASP:OD1	1:C:3696:ASP:N	2.41	0.49
1:D:43:GLY:N	1:D:447:ASP:OD2	2.46	0.49
1:D:875:ALA:O	1:D:879:HIS:ND1	2.46	0.49
1:A:414:PHE:HE1	1:A:436:LEU:HD13	1.77	0.49
1:A:1524:THR:O	1:A:1541:GLN:NE2	2.38	0.49
1:B:2144:ILE:HG12	1:B:2152:THR:HG21	1.94	0.49
1:B:3405:LEU:O	1:B:3409:TYR:HB2	2.13	0.49
1:B:3459:VAL:HG13	1:B:3464:ILE:HB	1.94	0.49
1:C:4190:ILE:H	1:C:5031:GLN:HE22	1.61	0.49
1:C:4818:MET:O	1:C:4824:ARG:NH1	2.46	0.49
1:D:3219:TYR:OH	1:D:3239:MET:SD	2.60	0.49
1:D:3537:LYS:HG3	1:D:3604:TYR:HB2	1.95	0.49
1:D:4190:ILE:H	1:D:5031:GLN:HE22	1.61	0.49
1:A:2144:ILE:HG12	1:A:2152:THR:HG21	1.94	0.48
1:A:4818:MET:O	1:A:4824:ARG:NH1	2.46	0.48
1:B:414:PHE:HE1	1:B:436:LEU:HD13	1.77	0.48
1:B:667:MET:HB3	1:B:790:ARG:HB2	1.95	0.48
1:B:3768:SER:HA	1:B:3771:HIS:CD2	2.48	0.48
1:C:875:ALA:O	1:C:879:HIS:ND1	2.46	0.48
1:C:3768:SER:HA	1:C:3771:HIS:CD2	2.48	0.48
1:D:660:GLY:HA2	1:D:750:LEU:HB2	1.95	0.48
1:D:2339:VAL:HG12	1:D:2349:ASN:HB3	1.93	0.48
1:D:4818:MET:O	1:D:4824:ARG:NH1	2.46	0.48
1:A:43:GLY:N	1:A:447:ASP:OD2	2.46	0.48
1:A:648:ILE:HG23	1:A:814:ALA:HB3	1.95	0.48
1:A:3078:ARG:NH2	1:A:3151:GLN:O	2.41	0.48
1:B:232:THR:HG22	1:B:258:SER:HB3	1.94	0.48
1:B:875:ALA:O	1:B:879:HIS:ND1	2.46	0.48
1:C:408:ALA:O	1:C:412:ASN:HB2	2.14	0.48
1:D:232:THR:HG22	1:D:258:SER:HB3	1.94	0.48
1:D:546:TRP:CE2	1:D:550:LYS:HE2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:266:ARG:NH2	1:A:331:VAL:O	2.40	0.48
1:B:1089:TYR:HA	1:B:1151:CYS:O	2.14	0.48
1:B:3537:LYS:HG3	1:B:3604:TYR:HB2	1.95	0.48
1:C:667:MET:HB3	1:C:790:ARG:HB2	1.95	0.48
1:D:2534:ALA:HB2	1:D:2589:LEU:HG	1.94	0.48
1:D:2960:LEU:HD23	1:D:2963:LEU:HD12	1.94	0.48
1:A:1089:TYR:HA	1:A:1151:CYS:O	2.14	0.48
1:A:2013:LYS:NZ	1:A:3661:TRP:O	2.39	0.48
1:A:2531:ARG:HG2	1:A:2585:THR:HG21	1.95	0.48
1:A:3459:VAL:HG13	1:A:3464:ILE:HB	1.94	0.48
1:B:1189:LEU:HD12	1:B:1190:PRO:HD2	1.96	0.48
1:D:1089:TYR:HA	1:D:1151:CYS:O	2.14	0.48
1:D:1189:LEU:HD12	1:D:1190:PRO:HD2	1.96	0.48
1:D:3940:LYS:O	1:D:4002:LYS:NZ	2.42	0.48
1:A:232:THR:HG22	1:A:258:SER:HB3	1.94	0.48
1:B:4068:LEU:HA	1:B:4071:ILE:HB	1.93	0.48
1:C:232:THR:HG22	1:C:258:SER:HB3	1.94	0.48
1:C:4152:GLU:OE1	1:C:4192:ARG:NH1	2.47	0.48
1:D:408:ALA:O	1:D:412:ASN:HB2	2.14	0.48
1:A:3768:SER:HA	1:A:3771:HIS:CD2	2.48	0.48
1:A:4190:ILE:H	1:A:5031:GLN:HE22	1.61	0.48
1:C:56:GLN:O	1:C:309:THR:OG1	2.28	0.48
1:C:546:TRP:CE2	1:C:550:LYS:HE2	2.48	0.48
1:C:1154:ASP:OD1	1:C:1156:THR:OG1	2.28	0.48
1:C:1653:LEU:O	1:C:1660:GLN:NE2	2.40	0.48
1:C:3405:LEU:O	1:C:3409:TYR:HB2	2.13	0.48
1:D:3329:ILE:O	1:D:3403:ARG:NH2	2.42	0.48
1:A:660:GLY:HA2	1:A:750:LEU:HB2	1.95	0.48
1:A:667:MET:HB3	1:A:790:ARG:HB2	1.95	0.48
1:B:56:GLN:O	1:B:309:THR:OG1	2.28	0.48
1:B:648:ILE:HG23	1:B:814:ALA:HB3	1.95	0.48
1:B:1238:PHE:HB3	1:B:1608:MET:HE1	1.94	0.48
1:B:3817:LEU:HD13	1:B:3899:PHE:HD1	1.79	0.48
1:B:4152:GLU:OE1	1:B:4192:ARG:NH1	2.47	0.48
1:B:4190:ILE:H	1:B:5031:GLN:HE22	1.61	0.48
1:D:56:GLN:O	1:D:309:THR:OG1	2.28	0.48
1:D:648:ILE:HG23	1:D:814:ALA:HB3	1.95	0.48
1:D:3405:LEU:O	1:D:3409:TYR:HB2	2.13	0.48
1:A:1189:LEU:HD12	1:A:1190:PRO:HD2	1.96	0.48
1:A:4152:GLU:OE1	1:A:4192:ARG:NH1	2.47	0.48
1:C:2519:LEU:HD13	1:C:2522:LEU:HD12	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:875:ALA:O	1:A:879:HIS:ND1	2.46	0.48
1:A:2856:ASN:ND2	1:A:2858:GLN:OE1	2.43	0.48
1:B:179:TYR:HD2	1:B:197:GLN:HA	1.79	0.48
1:B:660:GLY:HA2	1:B:750:LEU:HB2	1.95	0.48
1:C:43:GLY:N	1:C:447:ASP:OD2	2.46	0.48
1:C:660:GLY:HA2	1:C:750:LEU:HB2	1.95	0.48
1:C:1189:LEU:HD12	1:C:1190:PRO:HD2	1.96	0.48
1:D:414:PHE:HE1	1:D:436:LEU:HD13	1.77	0.48
1:A:15:ARG:HE	1:A:100:THR:HG22	1.79	0.48
1:A:818:ARG:NH2	1:A:1025:ARG:O	2.47	0.48
1:A:2869:ARG:NH2	1:A:2870[B]:GLU:OE2	2.47	0.48
1:C:414:PHE:HE1	1:C:436:LEU:HD13	1.77	0.48
1:C:2869:ARG:NH2	1:C:2870[B]:GLU:OE2	2.47	0.48
1:D:870:ILE:HG13	1:D:874:LEU:HD23	1.94	0.48
1:D:2869:ARG:NH2	1:D:2870[B]:GLU:OE2	2.47	0.48
1:D:3788:GLY:HA2	1:D:3835:LEU:HD12	1.96	0.48
1:A:3523:ASN:OD1	1:A:3582:ARG:NH2	2.46	0.47
1:A:3537:LYS:HG3	1:A:3604:TYR:HB2	1.95	0.47
1:A:3817:LEU:HD13	1:A:3899:PHE:HD1	1.79	0.47
1:B:15:ARG:HE	1:B:100:THR:HG22	1.79	0.47
1:B:2531:ARG:HG2	1:B:2585:THR:HG21	1.94	0.47
1:B:2869:ARG:NH2	1:B:2870[B]:GLU:OE2	2.47	0.47
1:C:3788:GLY:HA2	1:C:3835:LEU:HD12	1.96	0.47
1:D:1808:ARG:NH1	1:D:1853:ILE:O	2.45	0.47
1:B:218:HIS:ND1	1:B:341:TYR:OH	2.44	0.47
1:C:1116:GLY:O	1:C:1134:LEU:N	2.47	0.47
1:D:1116:GLY:O	1:D:1134:LEU:N	2.47	0.47
1:D:2519:LEU:HD13	1:D:2522:LEU:HD12	1.95	0.47
1:A:2792:ARG:HB2	1:A:2797:PHE:HD1	1.79	0.47
1:B:1116:GLY:O	1:B:1134:LEU:N	2.47	0.47
1:B:4818:MET:O	1:B:4824:ARG:NH1	2.46	0.47
1:C:179:TYR:HD2	1:C:197:GLN:HA	1.79	0.47
1:C:2856:ASN:ND2	1:C:2858:GLN:OE1	2.43	0.47
1:D:3817:LEU:HD13	1:D:3899:PHE:HD1	1.79	0.47
1:A:299:LEU:HD13	1:A:378:LEU:HD22	1.96	0.47
1:A:1238:PHE:HB3	1:A:1608:MET:HE1	1.95	0.47
1:B:408:ALA:O	1:B:412:ASN:HB2	2.14	0.47
1:B:3940:LYS:O	1:B:4002:LYS:NZ	2.42	0.47
1:C:3046:LEU:HB3	1:C:3068:LEU:HD21	1.96	0.47
1:C:3537:LYS:HG3	1:C:3604:TYR:HB2	1.95	0.47
1:C:4583:SER:HB2	1:C:4631:PHE:HE1	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:27:THR:HB	2:E:100:ASP:HB3	1.97	0.47
1:A:3548:GLU:HA	1:A:3551:GLU:HG3	1.96	0.47
1:A:3801:GLY:O	1:A:3805:LEU:HB2	2.14	0.47
1:B:3046:LEU:HB3	1:B:3068:LEU:HD21	1.97	0.47
1:B:3329:ILE:O	1:B:3403:ARG:NH2	2.42	0.47
1:B:3788:GLY:HA2	1:B:3835:LEU:HD12	1.96	0.47
1:C:1089:TYR:HA	1:C:1151:CYS:O	2.14	0.47
1:C:3801:GLY:O	1:C:3805:LEU:HB2	2.14	0.47
1:D:179:TYR:HD2	1:D:197:GLN:HA	1.79	0.47
1:D:667:MET:HB3	1:D:790:ARG:HB2	1.95	0.47
1:D:818:ARG:NH2	1:D:1025:ARG:O	2.47	0.47
1:D:3204:ALA:HB1	1:D:3207:GLU:HB2	1.97	0.47
1:D:4190:ILE:N	1:D:5031:GLN:HE22	2.12	0.47
1:A:408:ALA:O	1:A:412:ASN:HB2	2.14	0.47
1:A:1116:GLY:O	1:A:1134:LEU:N	2.47	0.47
1:A:3788:GLY:HA2	1:A:3835:LEU:HD12	1.96	0.47
1:A:4112:LEU:O	1:A:4115:SER:OG	2.29	0.47
1:A:4190:ILE:N	1:A:5031:GLN:HE22	2.12	0.47
1:A:4583:SER:HB2	1:A:4631:PHE:HE1	1.79	0.47
1:A:4634:GLU:OE1	1:A:4637:GLY:N	2.42	0.47
1:B:551:LEU:HD21	1:B:585:SER:HB3	1.97	0.47
1:C:15:ARG:HE	1:C:100:THR:HG22	1.79	0.47
1:C:818:ARG:NH2	1:C:1025:ARG:O	2.47	0.47
1:C:3809:ASN:HB3	1:C:3812:VAL:HB	1.96	0.47
1:C:3817:LEU:HD13	1:C:3899:PHE:HD1	1.79	0.47
1:C:4182:GLU:HG3	1:C:4192:ARG:HG3	1.97	0.47
1:D:15:ARG:HE	1:D:100:THR:HG22	1.79	0.47
1:D:551:LEU:HD21	1:D:585:SER:HB3	1.97	0.47
1:A:2507:ASP:HB3	1:A:2561:LEU:HD13	1.97	0.47
1:A:3062:PRO:HA	1:A:3065:VAL:HG22	1.97	0.47
1:A:4182:GLU:HG3	1:A:4192:ARG:HG3	1.97	0.47
1:B:299:LEU:HD13	1:B:378:LEU:HD22	1.96	0.47
1:B:622:THR:HA	1:B:626:LEU:HD23	1.96	0.47
1:B:818:ARG:NH2	1:B:1025:ARG:O	2.47	0.47
1:B:1076:ARG:NH1	1:B:1077:ALA:O	2.48	0.47
1:B:2740:VAL:HG21	1:B:2819:TRP:HE1	1.80	0.47
1:B:2863:SER:HB2	1:B:2924:GLN:HB3	1.96	0.47
1:B:3062:PRO:HA	1:B:3065:VAL:HG22	1.97	0.47
1:B:4679:ARG:O	1:B:4683:PHE:HB2	2.15	0.47
1:C:648:ILE:HG23	1:C:814:ALA:HB3	1.95	0.47
1:C:2948:THR:OG1	1:C:2952:GLU:OE2	2.25	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4190:ILE:N	1:C:5031:GLN:HE22	2.12	0.47
1:C:4679:ARG:O	1:C:4683:PHE:HB2	2.15	0.47
1:D:2716:ASP:OD1	1:D:2716:ASP:N	2.45	0.47
1:D:2792:ARG:HB2	1:D:2797:PHE:HD1	1.79	0.47
1:D:3548:GLU:HA	1:D:3551:GLU:HG3	1.97	0.47
1:D:4182:GLU:HG3	1:D:4192:ARG:HG3	1.97	0.47
2:H:27:THR:HB	2:H:100:ASP:HB3	1.97	0.47
1:A:551:LEU:HD21	1:A:585:SER:HB3	1.97	0.47
1:A:1864:LYS:NZ	1:A:1873:GLU:OE1	2.37	0.47
1:A:3046:LEU:HB3	1:A:3068:LEU:HD21	1.97	0.47
1:A:4853:VAL:O	1:A:4857:ASN:ND2	2.48	0.47
1:B:1927:LEU:HD13	1:B:2101:MET:HG3	1.97	0.47
1:B:2507:ASP:HB3	1:B:2561:LEU:HD13	1.97	0.47
1:B:3548:GLU:HA	1:B:3551:GLU:HG3	1.97	0.47
1:B:4011:GLU:O	1:B:4014:LYS:N	2.48	0.47
1:A:475:GLN:OE1	1:A:533:ASN:ND2	2.41	0.47
1:A:3219:TYR:OH	1:A:3239:MET:SD	2.60	0.47
1:A:4011:GLU:O	1:A:4014:LYS:N	2.48	0.47
1:B:3801:GLY:O	1:B:3805:LEU:HB2	2.15	0.47
1:B:4626:ASN:OD1	1:B:4626:ASN:N	2.48	0.47
1:C:1927:LEU:HD13	1:C:2101:MET:HG3	1.97	0.47
1:C:2128:TYR:OH	1:C:3676:ASP:OD2	2.30	0.47
1:C:2585:THR:HG22	1:C:2588:ARG:HH12	1.80	0.47
1:C:4680:LYS:HE3	1:C:4680:LYS:HB3	1.66	0.47
1:D:179:TYR:N	1:D:194:SER:O	2.48	0.47
1:D:3801:GLY:O	1:D:3805:LEU:HB2	2.14	0.47
1:A:1147:ASP:HB3	1:A:1164:LEU:HD11	1.97	0.47
1:A:2740:VAL:HG21	1:A:2819:TRP:HE1	1.80	0.47
1:B:1154:ASP:OD1	1:B:1156:THR:OG1	2.28	0.47
1:C:179:TYR:N	1:C:194:SER:O	2.48	0.47
1:C:2507:ASP:HB3	1:C:2561:LEU:HD13	1.97	0.47
1:D:1147:ASP:HB3	1:D:1164:LEU:HD11	1.97	0.47
1:D:3046:LEU:HB3	1:D:3068:LEU:HD21	1.97	0.47
1:D:3603:LEU:HA	1:D:3606:LEU:HD12	1.97	0.47
1:A:3206:LEU:HB2	1:A:3280:TYR:CZ	2.50	0.46
1:B:103:TYR:HE2	1:B:157:ARG:HG2	1.81	0.46
1:B:475:GLN:OE1	1:B:533:ASN:ND2	2.41	0.46
1:B:1769:THR:N	1:B:1956:GLU:OE2	2.48	0.46
1:B:2585:THR:HG22	1:B:2588:ARG:HH12	1.80	0.46
1:B:4190:ILE:N	1:B:5031:GLN:HE22	2.12	0.46
1:B:4583:SER:HB2	1:B:4631:PHE:HE1	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:299:LEU:HD13	1:C:378:LEU:HD22	1.96	0.46
1:A:2573:GLU:OE2	1:A:2615:ARG:NE	2.49	0.46
1:B:2716:ASP:OD1	1:B:2716:ASP:N	2.45	0.46
1:D:1154:ASP:OD1	1:D:1156:THR:OG1	2.28	0.46
1:D:1769:THR:N	1:D:1956:GLU:OE2	2.48	0.46
1:D:2573:GLU:OE2	1:D:2615:ARG:NE	2.49	0.46
1:D:2863:SER:HB2	1:D:2924:GLN:HB3	1.96	0.46
1:D:4011:GLU:O	1:D:4014:LYS:N	2.48	0.46
1:D:4976:GLU:H	1:D:4976:GLU:HG2	1.50	0.46
1:A:2863:SER:HB2	1:A:2924:GLN:HB3	1.96	0.46
1:A:3204:ALA:HB1	1:A:3207:GLU:HB2	1.96	0.46
1:B:14:LEU:HB2	1:B:163:VAL:HG13	1.97	0.46
1:B:1036:ARG:O	1:B:1040:CYS:HB2	2.15	0.46
1:B:1147:ASP:HB3	1:B:1164:LEU:HD11	1.97	0.46
1:C:1036:ARG:O	1:C:1040:CYS:HB2	2.15	0.46
1:C:1147:ASP:HB3	1:C:1164:LEU:HD11	1.97	0.46
1:C:2522:LEU:HD23	1:C:2526:PHE:HD2	1.80	0.46
1:C:4878:ASP:OD1	1:C:4879:MET:N	2.49	0.46
1:D:4878:ASP:OD1	1:D:4879:MET:N	2.49	0.46
1:A:179:TYR:HD2	1:A:197:GLN:HA	1.79	0.46
1:A:179:TYR:N	1:A:194:SER:O	2.48	0.46
1:A:350:HIS:HB2	1:A:378:LEU:HD21	1.98	0.46
1:A:1111:PRO:HB2	1:A:1603:VAL:HG12	1.98	0.46
1:A:1769:THR:N	1:A:1956:GLU:OE2	2.49	0.46
1:A:3592:ILE:HA	1:A:3595:ARG:HG2	1.97	0.46
1:B:2522:LEU:HD23	1:B:2526:PHE:HD2	1.80	0.46
1:B:3051:ARG:HA	1:B:3131:TYR:CZ	2.50	0.46
1:B:3523:ASN:OD1	1:B:3582:ARG:NH2	2.46	0.46
1:C:622:THR:HA	1:C:626:LEU:HD23	1.96	0.46
1:C:1769:THR:N	1:C:1956:GLU:OE2	2.48	0.46
1:D:299:LEU:HD13	1:D:378:LEU:HD22	1.96	0.46
1:D:2522:LEU:HD23	1:D:2526:PHE:HD2	1.80	0.46
2:F:27:THR:HB	2:F:100:ASP:HB3	1.97	0.46
1:A:3282:PRO:HA	1:A:3285:TRP:HB2	1.98	0.46
1:B:2792:ARG:HB2	1:B:2797:PHE:HD1	1.79	0.46
1:B:4182:GLU:HG3	1:B:4192:ARG:HG3	1.97	0.46
1:C:103:TYR:HE2	1:C:157:ARG:HG2	1.81	0.46
1:D:350:HIS:HB2	1:D:378:LEU:HD21	1.98	0.46
1:D:622:THR:HA	1:D:626:LEU:HD23	1.96	0.46
1:D:1569:GLN:HB2	1:D:1572:ILE:HD12	1.97	0.46
1:D:1927:LEU:HD13	1:D:2101:MET:HG3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2507:ASP:HB3	1:D:2561:LEU:HD13	1.97	0.46
1:D:3206:LEU:HB2	1:D:3280:TYR:CZ	2.50	0.46
1:A:2128:TYR:OH	1:A:3676:ASP:OD2	2.30	0.46
1:A:2288:LEU:HD13	1:A:2346:VAL:HG21	1.98	0.46
1:A:2522:LEU:HD23	1:A:2526:PHE:HD2	1.80	0.46
1:A:3051:ARG:HA	1:A:3131:TYR:CZ	2.50	0.46
1:A:3603:LEU:HA	1:A:3606:LEU:HD12	1.97	0.46
1:A:4878:ASP:OD1	1:A:4879:MET:N	2.49	0.46
1:B:350:HIS:HB2	1:B:378:LEU:HD21	1.98	0.46
1:B:1808:ARG:NH1	1:B:1853:ILE:O	2.45	0.46
1:B:2013:LYS:NZ	1:B:3661:TRP:O	2.39	0.46
1:B:3282:PRO:HA	1:B:3285:TRP:HB2	1.98	0.46
1:B:3809:ASN:HB3	1:B:3812:VAL:HB	1.96	0.46
1:B:4878:ASP:OD1	1:B:4879:MET:N	2.49	0.46
1:C:1116:GLY:H	1:C:1121:ALA:HB3	1.81	0.46
1:C:3282:PRO:HA	1:C:3285:TRP:HB2	1.98	0.46
1:C:3523:ASN:OD1	1:C:3582:ARG:NH2	2.46	0.46
1:D:1111:PRO:HB2	1:D:1603:VAL:HG12	1.98	0.46
1:D:3282:PRO:HA	1:D:3285:TRP:HB2	1.98	0.46
1:D:3592:ILE:HA	1:D:3595:ARG:HG2	1.97	0.46
1:D:4583:SER:HB2	1:D:4631:PHE:HE1	1.79	0.46
1:D:4679:ARG:O	1:D:4683:PHE:HB2	2.15	0.46
1:A:622:THR:HA	1:A:626:LEU:HD23	1.96	0.46
1:B:179:TYR:N	1:B:194:SER:O	2.48	0.46
1:B:266:ARG:NH2	1:B:331:VAL:O	2.40	0.46
1:B:3206:LEU:HB2	1:B:3280:TYR:CZ	2.50	0.46
1:C:551:LEU:HD21	1:C:585:SER:HB3	1.97	0.46
1:C:1291:LEU:HB3	1:C:1595:LEU:HD11	1.98	0.46
1:C:2740:VAL:HG21	1:C:2819:TRP:HE1	1.80	0.46
1:C:2863:SER:HB2	1:C:2924:GLN:HB3	1.96	0.46
1:C:3051:ARG:HA	1:C:3131:TYR:CZ	2.50	0.46
1:C:3062:PRO:HA	1:C:3065:VAL:HG22	1.97	0.46
1:C:3204:ALA:HB1	1:C:3207:GLU:HB2	1.96	0.46
1:C:3548:GLU:HA	1:C:3551:GLU:HG3	1.97	0.46
1:C:3592:ILE:HA	1:C:3595:ARG:HG2	1.97	0.46
1:C:4063:ASP:OD1	1:C:4064:MET:N	2.49	0.46
1:D:1036:ARG:O	1:D:1040:CYS:HB2	2.15	0.46
1:D:2948:THR:OG1	1:D:2952:GLU:OE2	2.25	0.46
1:D:3062:PRO:HA	1:D:3065:VAL:HG22	1.97	0.46
1:D:3809:ASN:HB3	1:D:3812:VAL:HB	1.96	0.46
1:D:4152:GLU:OE1	1:D:4192:ARG:NH1	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4634:GLU:OE1	1:D:4637:GLY:N	2.42	0.46
1:A:14:LEU:HB2	1:A:163:VAL:HG13	1.97	0.46
1:A:103:TYR:HE2	1:A:157:ARG:HG2	1.81	0.46
1:A:3809:ASN:HB3	1:A:3812:VAL:HB	1.96	0.46
1:C:218:HIS:ND1	1:C:341:TYR:OH	2.44	0.46
1:C:350:HIS:HB2	1:C:378:LEU:HD21	1.98	0.46
1:C:1111:PRO:HB2	1:C:1603:VAL:HG12	1.98	0.46
1:C:4011:GLU:O	1:C:4014:LYS:N	2.48	0.46
1:D:585:SER:O	1:D:588:SER:OG	2.28	0.46
1:D:629:ARG:NH1	2:H:90:VAL:O	2.45	0.46
1:A:4679:ARG:O	1:A:4683:PHE:HB2	2.15	0.46
1:B:2128:TYR:OH	1:B:3676:ASP:OD2	2.30	0.46
1:B:3862:ASP:OD1	1:B:3862:ASP:N	2.49	0.46
1:C:2792:ARG:HB2	1:C:2797:PHE:HD1	1.79	0.46
1:C:3206:LEU:HB2	1:C:3280:TYR:CZ	2.50	0.46
1:C:3603:LEU:HA	1:C:3606:LEU:HD12	1.97	0.46
1:D:475:GLN:OE1	1:D:533:ASN:ND2	2.41	0.46
1:D:1093:GLU:HB3	1:D:1201:HIS:HB3	1.98	0.46
1:D:2585:THR:HG22	1:D:2588:ARG:HH12	1.80	0.46
1:D:2740:VAL:HG21	1:D:2819:TRP:HE1	1.80	0.46
1:D:3610:GLU:HG3	1:D:3611:HIS:CE1	2.51	0.46
1:D:3696:ASP:OD1	1:D:3696:ASP:N	2.41	0.46
2:G:27:THR:HB	2:G:100:ASP:HB3	1.97	0.46
1:A:868:GLU:HA	1:A:871:ARG:HB2	1.98	0.46
1:A:1927:LEU:HD13	1:A:2101:MET:HG3	1.97	0.46
1:A:2437:ALA:O	1:A:2508:ARG:NH2	2.49	0.46
1:A:4063:ASP:OD1	1:A:4064:MET:N	2.49	0.46
1:B:2437:ALA:O	1:B:2508:ARG:NH2	2.49	0.46
1:B:3610:GLU:HG3	1:B:3611:HIS:CE1	2.51	0.46
1:C:14:LEU:HB2	1:C:163:VAL:HG13	1.97	0.46
1:C:4853:VAL:O	1:C:4857:ASN:ND2	2.48	0.46
1:D:499:THR:HG23	1:D:502:HIS:H	1.81	0.46
1:D:1116:GLY:H	1:D:1121:ALA:HB3	1.81	0.46
1:D:4063:ASP:OD1	1:D:4064:MET:N	2.49	0.46
2:E:66:MET:HG2	2:E:72:ALA:HB2	1.98	0.46
2:G:66:MET:HG2	2:G:72:ALA:HB2	1.98	0.46
1:A:1036:ARG:O	1:A:1040:CYS:HB2	2.15	0.45
1:A:1569:GLN:HB2	1:A:1572:ILE:HD12	1.98	0.45
1:A:1784:ALA:HA	2:E:55:VAL:HA	1.98	0.45
1:B:2573:GLU:OE2	1:B:2615:ARG:NE	2.49	0.45
1:C:472:ARG:NH2	1:C:531:ARG:O	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:936:GLY:HA3	1:C:1056:PRO:HB3	1.98	0.45
1:C:2573:GLU:OE2	1:C:2615:ARG:NE	2.49	0.45
1:C:3329:ILE:O	1:C:3403:ARG:NH2	2.42	0.45
1:D:3051:ARG:HA	1:D:3131:TYR:CZ	2.50	0.45
2:F:66:MET:HG2	2:F:72:ALA:HB2	1.98	0.45
1:A:2928:LYS:HD3	1:A:2928:LYS:HA	1.79	0.45
1:A:3868:ARG:HH11	1:A:3870:ASN:HB3	1.82	0.45
1:A:4630:TYR:OH	1:B:4860:ARG:NH2	2.49	0.45
1:B:1093:GLU:HB3	1:B:1201:HIS:HB3	1.98	0.45
1:B:1116:GLY:H	1:B:1121:ALA:HB3	1.81	0.45
1:B:1291:LEU:HB3	1:B:1595:LEU:HD11	1.98	0.45
1:B:2288:LEU:HD13	1:B:2346:VAL:HG21	1.98	0.45
1:B:4983:HIS:O	3:B:5101:ADP:N6	2.50	0.45
1:C:868:GLU:HA	1:C:871:ARG:HB2	1.98	0.45
1:C:4983:HIS:O	3:C:5101:ADP:N6	2.50	0.45
1:D:868:GLU:HA	1:D:871:ARG:HB2	1.98	0.45
1:D:4626:ASN:N	1:D:4626:ASN:OD1	2.48	0.45
1:D:4853:VAL:O	1:D:4857:ASN:ND2	2.48	0.45
1:B:1569:GLN:HB2	1:B:1572:ILE:HD12	1.98	0.45
1:C:1569:GLN:HB2	1:C:1572:ILE:HD12	1.97	0.45
1:C:2437:ALA:O	1:C:2508:ARG:NH2	2.49	0.45
1:C:2928:LYS:HD3	1:C:2928:LYS:HA	1.79	0.45
1:D:1291:LEU:HB3	1:D:1595:LEU:HD11	1.98	0.45
1:A:1990:GLU:HG2	1:A:1994:ARG:HH21	1.81	0.45
1:A:2585:THR:HG22	1:A:2588:ARG:HH12	1.80	0.45
1:A:3329:ILE:O	1:A:3403:ARG:NH2	2.42	0.45
1:B:257:ARG:O	1:B:284:HIS:NE2	2.49	0.45
1:B:277:GLY:HA2	1:B:315:CYS:HB3	1.98	0.45
1:B:585:SER:O	1:B:588:SER:OG	2.28	0.45
1:B:1990:GLU:HG2	1:B:1994:ARG:HH21	1.81	0.45
1:B:3204:ALA:HB1	1:B:3207:GLU:HB2	1.96	0.45
1:D:1079:LYS:HG2	1:D:1107:PRO:HB3	1.97	0.45
1:D:1096:THR:OG1	1:D:1198:GLN:OE1	2.34	0.45
1:D:2437:ALA:O	1:D:2508:ARG:NH2	2.49	0.45
1:A:1079:LYS:HG2	1:A:1107:PRO:HB3	1.97	0.45
1:A:1116:GLY:H	1:A:1121:ALA:HB3	1.81	0.45
1:A:1291:LEU:HB3	1:A:1595:LEU:HD11	1.98	0.45
1:A:1469:VAL:HG13	1:A:1492:CYS:HB3	1.98	0.45
1:A:1753:LYS:HB3	1:A:1758:ARG:HG3	1.99	0.45
1:A:2516:ASP:OD1	1:A:2517:PHE:N	2.50	0.45
1:A:2584[B]:HIS:HE1	1:A:2625:ARG:HB2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4983:HIS:O	3:A:5101:ADP:N6	2.50	0.45
1:B:868:GLU:HA	1:B:871:ARG:HB2	1.98	0.45
1:B:1079:LYS:HG2	1:B:1107:PRO:HB3	1.97	0.45
1:C:289:ARG:HG2	1:C:303:ASP:HA	1.98	0.45
1:C:499:THR:HG23	1:C:502:HIS:H	1.81	0.45
1:C:1577:ALA:O	1:C:1584:ARG:NE	2.46	0.45
1:C:1808:ARG:NH1	1:C:1853:ILE:O	2.45	0.45
1:C:2584[B]:HIS:HE1	1:C:2625:ARG:HB2	1.82	0.45
1:C:3610:GLU:HG3	1:C:3611:HIS:CE1	2.51	0.45
1:D:1864:LYS:NZ	1:D:1873:GLU:OE1	2.37	0.45
1:D:4983:HIS:O	3:D:5101:ADP:N6	2.50	0.45
1:B:3592:ILE:HA	1:B:3595:ARG:HG2	1.97	0.45
1:C:1469:VAL:HG13	1:C:1492:CYS:HB3	1.98	0.45
1:C:1653:LEU:HD23	1:C:1660:GLN:HA	1.99	0.45
1:C:1753:LYS:HB3	1:C:1758:ARG:HG3	1.99	0.45
1:C:3157:ILE:HG22	1:C:3162:GLN:HG2	1.98	0.45
1:D:472:ARG:NH2	1:D:531:ARG:O	2.49	0.45
1:D:1076:ARG:NH1	1:D:1077:ALA:O	2.48	0.45
1:D:1990:GLU:HG2	1:D:1994:ARG:HH21	1.81	0.45
1:D:2584[B]:HIS:HE1	1:D:2625:ARG:HB2	1.82	0.45
1:A:1093:GLU:HB3	1:A:1201:HIS:HB3	1.98	0.45
1:A:3610:GLU:HG3	1:A:3611:HIS:CE1	2.51	0.45
1:B:289:ARG:HG2	1:B:303:ASP:HA	1.98	0.45
1:B:499:THR:HG23	1:B:502:HIS:H	1.81	0.45
1:B:3603:LEU:HA	1:B:3606:LEU:HD12	1.97	0.45
1:C:1943:LEU:HD13	1:C:2098:VAL:HG22	1.99	0.45
1:C:1990:GLU:HG2	1:C:1994:ARG:HH21	1.81	0.45
1:C:2288:LEU:HD13	1:C:2346:VAL:HG21	1.98	0.45
1:D:884:LEU:HB2	1:D:969:PRO:HD3	1.99	0.45
1:D:3862:ASP:OD1	1:D:3862:ASP:N	2.49	0.45
1:A:499:THR:HG23	1:A:502:HIS:H	1.81	0.45
1:A:4976:GLU:H	1:A:4976:GLU:HG2	1.49	0.45
1:B:1111:PRO:HB2	1:B:1603:VAL:HG12	1.98	0.45
1:B:1753:LYS:HB3	1:B:1758:ARG:HG3	1.99	0.45
1:C:629:ARG:NH1	2:G:90:VAL:O	2.45	0.45
1:C:863:LEU:HA	1:C:864:PRO:HD3	1.84	0.45
1:C:1093:GLU:HB3	1:C:1201:HIS:HB3	1.98	0.45
1:D:1943:LEU:HD13	1:D:2098:VAL:HG22	1.99	0.45
1:A:1577:ALA:O	1:A:1584:ARG:NE	2.46	0.45
1:A:3157:ILE:HG22	1:A:3162:GLN:HG2	1.98	0.45
1:B:3868:ARG:HH11	1:B:3870:ASN:HB3	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4063:ASP:OD1	1:B:4064:MET:N	2.49	0.45
1:B:4658:ILE:HD11	1:B:4793:GLY:HA2	1.99	0.45
1:C:4626:ASN:OD1	1:C:4626:ASN:N	2.48	0.45
1:C:4976:GLU:H	1:C:4976:GLU:HG2	1.49	0.45
1:D:2516:ASP:OD1	1:D:2517:PHE:N	2.50	0.45
1:A:1228:ILE:HG12	1:D:3571:TRP:CE2	2.52	0.45
1:A:1436:SER:HA	1:A:1517:GLY:HA2	1.99	0.45
1:A:2677:LYS:HE2	1:A:2677:LYS:HB3	1.74	0.45
1:A:4626:ASN:N	1:A:4626:ASN:OD1	2.48	0.45
1:A:4721:LYS:HD3	1:A:4741:LEU:HB3	1.99	0.45
1:B:884:LEU:HB2	1:B:969:PRO:HD3	1.99	0.45
1:B:1653:LEU:HD23	1:B:1660:GLN:HA	1.99	0.45
1:B:3157:ILE:HG22	1:B:3162:GLN:HG2	1.98	0.45
1:B:4188:ARG:HE	1:B:4188:ARG:HB3	1.73	0.45
1:C:3433:GLU:OE1	1:C:3436:ARG:NH1	2.49	0.45
1:C:4721:LYS:HD3	1:C:4741:LEU:HB3	1.99	0.45
1:D:936:GLY:HA3	1:D:1056:PRO:HB3	1.98	0.45
1:D:2856:ASN:ND2	1:D:2858:GLN:OE1	2.43	0.45
1:D:3868:ARG:HH11	1:D:3870:ASN:HB3	1.82	0.45
1:D:4861:LYS:H	1:D:4861:LYS:HG2	1.53	0.45
2:G:62:GLY:HA3	2:G:74:LEU:HD21	1.99	0.45
1:A:1076:ARG:NH1	1:A:1077:ALA:O	2.48	0.44
1:A:4677:LEU:HD11	1:A:4687:TYR:HE2	1.82	0.44
1:B:43:GLY:N	1:B:447:ASP:OD2	2.46	0.44
1:B:3579:LEU:HD23	1:B:3582:ARG:HG2	1.99	0.44
1:B:4721:LYS:HD3	1:B:4741:LEU:HB3	1.99	0.44
1:C:1079:LYS:HG2	1:C:1107:PRO:HB3	1.97	0.44
1:C:4243:PHE:HD2	1:C:4668:LEU:HD12	1.83	0.44
1:D:103:TYR:HE2	1:D:157:ARG:HG2	1.81	0.44
1:D:2013:LYS:NZ	1:D:3661:TRP:O	2.39	0.44
1:A:277:GLY:HA2	1:A:315:CYS:HB3	1.98	0.44
1:B:472:ARG:NH2	1:B:531:ARG:O	2.50	0.44
1:B:1784:ALA:O	2:F:82:TYR:OH	2.36	0.44
1:B:2208:MET:SD	1:B:2253:HIS:ND1	2.91	0.44
1:D:277:GLY:HA2	1:D:315:CYS:HB3	1.98	0.44
1:D:289:ARG:HG2	1:D:303:ASP:HA	1.98	0.44
1:D:1436:SER:HA	1:D:1517:GLY:HA2	1.99	0.44
1:D:3523:ASN:OD1	1:D:3582:ARG:NH2	2.46	0.44
1:A:936:GLY:HA3	1:A:1056:PRO:HB3	1.98	0.44
1:A:1154:ASP:OD1	1:A:1156:THR:OG1	2.28	0.44
1:A:4107:GLU:O	1:A:4111:LEU:HG	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4243:PHE:HD2	1:B:4668:LEU:HD12	1.83	0.44
1:B:4853:VAL:O	1:B:4857:ASN:ND2	2.48	0.44
1:C:277:GLY:HA2	1:C:315:CYS:HB3	1.98	0.44
1:C:2516:ASP:OD1	1:C:2517:PHE:N	2.50	0.44
1:C:3579:LEU:HD23	1:C:3582:ARG:HG2	1.99	0.44
1:C:3862:ASP:N	1:C:3862:ASP:OD1	2.49	0.44
1:D:3157:ILE:HG22	1:D:3162:GLN:HG2	1.98	0.44
1:C:2208:MET:SD	1:C:2253:HIS:ND1	2.91	0.44
1:D:14:LEU:HB2	1:D:163:VAL:HG13	1.97	0.44
1:D:2288:LEU:HD13	1:D:2346:VAL:HG21	1.98	0.44
1:D:4721:LYS:HD3	1:D:4741:LEU:HB3	1.99	0.44
2:E:62:GLY:HA3	2:E:74:LEU:HD21	1.99	0.44
2:H:66:MET:HG2	2:H:72:ALA:HB2	1.98	0.44
1:A:289:ARG:HG2	1:A:303:ASP:HA	1.98	0.44
1:A:472:ARG:NH2	1:A:531:ARG:O	2.50	0.44
1:A:3579:LEU:HD23	1:A:3582:ARG:HG2	1.99	0.44
1:B:936:GLY:HA3	1:B:1056:PRO:HB3	1.98	0.44
1:B:2516:ASP:OD1	1:B:2517:PHE:N	2.50	0.44
1:B:2970:SER:OG	1:B:2971:GLN:OE1	2.36	0.44
1:D:1653:LEU:HD23	1:D:1660:GLN:HA	1.99	0.44
1:D:2135:LEU:HD23	1:D:2135:LEU:HA	1.86	0.44
2:H:74:LEU:HB2	2:H:99:PHE:HB2	2.00	0.44
1:A:4658:ILE:HD11	1:A:4793:GLY:HA2	1.99	0.44
1:B:1469:VAL:HG13	1:B:1492:CYS:HB3	1.98	0.44
1:B:3433:GLU:OE1	1:B:3436:ARG:NH1	2.49	0.44
1:B:4090:LYS:HE2	1:B:4090:LYS:HB3	1.84	0.44
1:B:4861:LYS:H	1:B:4861:LYS:HG2	1.53	0.44
1:C:2616:PRO:HA	1:C:2619:LEU:HD12	2.00	0.44
1:D:1753:LYS:HB3	1:D:1758:ARG:HG3	1.99	0.44
1:D:2616:PRO:HA	1:D:2619:LEU:HD12	2.00	0.44
1:A:2891:LYS:HA	1:A:2894:LEU:HB3	2.00	0.44
1:B:1943:LEU:HD13	1:B:2098:VAL:HG22	1.99	0.44
1:C:2355:ARG:HA	1:C:2358:ILE:HG22	2.00	0.44
1:D:1469:VAL:HG13	1:D:1492:CYS:HB3	1.98	0.44
1:A:884:LEU:HB2	1:A:969:PRO:HD3	1.99	0.44
1:A:1782:PHE:O	2:E:82:TYR:OH	2.35	0.44
1:A:4243:PHE:HD2	1:A:4668:LEU:HD12	1.83	0.44
1:B:581:ASN:HA	1:B:584:LYS:HZ3	1.83	0.44
1:B:2891:LYS:HA	1:B:2894:LEU:HB3	2.00	0.44
1:B:4680:LYS:HE3	1:B:4680:LYS:HB3	1.66	0.44
1:C:1076:ARG:NH1	1:C:1077:ALA:O	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2013:LYS:NZ	1:C:3661:TRP:O	2.39	0.44
1:C:2813:LEU:HA	1:C:2816:MET:HE3	2.00	0.44
1:C:3533:ILE:HD13	1:C:3596:VAL:HG13	2.00	0.44
1:D:1577:ALA:O	1:D:1584:ARG:NE	2.46	0.44
1:D:4243:PHE:HD2	1:D:4668:LEU:HD12	1.83	0.44
2:E:74:LEU:HB2	2:E:99:PHE:HB2	2.00	0.44
1:A:585:SER:O	1:A:588:SER:OG	2.28	0.44
1:A:1943:LEU:HD13	1:A:2098:VAL:HG22	1.99	0.44
1:A:3335:MET:SD	1:A:3403:ARG:NH1	2.91	0.44
1:A:4092:ASP:HA	1:A:4095:LYS:HG2	2.00	0.44
1:A:4647:SER:O	1:A:4651:THR:OG1	2.35	0.44
1:B:1436:SER:HA	1:B:1517:GLY:HA2	1.99	0.44
1:B:2584[B]:HIS:HE1	1:B:2625:ARG:HB2	1.82	0.44
1:C:1784:ALA:O	2:G:82:TYR:OH	2.36	0.44
1:C:4107:GLU:O	1:C:4111:LEU:HG	2.18	0.44
1:D:257:ARG:O	1:D:284:HIS:NE2	2.49	0.44
1:D:2970:SER:OG	1:D:2971:GLN:OE1	2.36	0.44
1:A:56:GLN:O	1:A:309:THR:OG1	2.28	0.43
1:A:4971:THR:HG22	1:A:4972:PRO:HD2	2.00	0.43
1:B:2377:LEU:HA	1:B:2380:ILE:HG22	2.00	0.43
1:B:3194:LEU:HA	1:B:3197:LEU:HG	2.00	0.43
1:C:2377:LEU:HA	1:C:2380:ILE:HG22	2.00	0.43
1:C:3868:ARG:HH11	1:C:3870:ASN:HB3	1.82	0.43
1:C:4639:MET:O	1:C:4643:LEU:N	2.47	0.43
1:C:4647:SER:O	1:C:4651:THR:OG1	2.35	0.43
1:C:4658:ILE:HD11	1:C:4793:GLY:HA2	1.99	0.43
1:D:4647:SER:O	1:D:4651:THR:OG1	2.35	0.43
2:F:62:GLY:HA3	2:F:74:LEU:HD21	1.99	0.43
1:A:2044:ILE:HD11	1:A:2131:LEU:HD23	2.00	0.43
1:A:2911:LEU:HD13	1:A:2915:GLU:HG3	2.00	0.43
1:B:3335:MET:SD	1:B:3403:ARG:NH1	2.91	0.43
1:C:884:LEU:HB2	1:C:969:PRO:HD3	1.99	0.43
1:C:1864:LYS:NZ	1:C:1873:GLU:OE1	2.37	0.43
1:C:2891:LYS:HA	1:C:2894:LEU:HB3	2.00	0.43
1:D:2911:LEU:HD13	1:D:2915:GLU:HG3	2.00	0.43
1:D:4092:ASP:HA	1:D:4095:LYS:HG2	2.00	0.43
1:D:4107:GLU:O	1:D:4111:LEU:HG	2.18	0.43
1:D:4181:ILE:HD12	1:D:4183:ILE:HG23	2.00	0.43
1:D:4677:LEU:HD11	1:D:4687:TYR:HE2	1.82	0.43
1:D:4971:THR:HG22	1:D:4972:PRO:HD2	2.00	0.43
2:F:74:LEU:HB2	2:F:99:PHE:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:24:VAL:HG12	2:G:103:LEU:HA	2.00	0.43
1:A:1653:LEU:HD23	1:A:1660:GLN:HA	1.99	0.43
1:A:2377:LEU:HA	1:A:2380:ILE:HG22	2.00	0.43
1:B:876:GLU:HG2	1:B:910:PHE:CE2	2.53	0.43
1:B:2689:LYS:O	1:B:2993:GLN:NE2	2.51	0.43
1:B:4107:GLU:O	1:B:4111:LEU:HG	2.18	0.43
1:C:876:GLU:HG2	1:C:910:PHE:CE2	2.53	0.43
1:C:1436:SER:HA	1:C:1517:GLY:HA2	1.99	0.43
1:C:4874:MET:H	1:C:4874:MET:HG2	1.61	0.43
1:D:2208:MET:SD	1:D:2253:HIS:ND1	2.91	0.43
1:D:3579:LEU:HD23	1:D:3582:ARG:HG2	1.99	0.43
1:D:3823:LYS:HA	1:D:3823:LYS:HD3	1.78	0.43
1:D:4035:VAL:HG13	1:D:5032:TYR:HE2	1.84	0.43
2:G:74:LEU:HB2	2:G:99:PHE:HB2	2.00	0.43
1:A:257:ARG:O	1:A:284:HIS:NE2	2.49	0.43
1:A:2208:MET:SD	1:A:2253:HIS:ND1	2.91	0.43
1:A:4035:VAL:HG13	1:A:5032:TYR:HE2	1.84	0.43
1:A:4750:ILE:H	1:A:4750:ILE:HG13	1.60	0.43
1:B:260:TRP:HA	1:B:283:ARG:O	2.19	0.43
1:B:1724:CYS:SG	1:B:1728:ARG:NH1	2.92	0.43
1:B:2001:PRO:HG2	1:B:3864:THR:HB	2.01	0.43
1:B:2813:LEU:HA	1:B:2816:MET:HE3	2.00	0.43
1:B:3523:ASN:O	1:B:3582:ARG:NH2	2.51	0.43
1:B:4677:LEU:HD11	1:B:4687:TYR:HE2	1.82	0.43
1:B:4976:GLU:H	1:B:4976:GLU:HG2	1.50	0.43
1:C:2689:LYS:O	1:C:2993:GLN:NE2	2.51	0.43
1:C:3194:LEU:HA	1:C:3197:LEU:HG	2.00	0.43
1:C:4035:VAL:HG13	1:C:5032:TYR:HE2	1.84	0.43
1:D:2377:LEU:HA	1:D:2380:ILE:HG22	2.00	0.43
1:D:2638:LYS:NZ	1:D:2694:GLU:OE2	2.47	0.43
1:D:3245:VAL:HG23	1:D:3248:ARG:H	1.84	0.43
1:D:4658:ILE:HD11	1:D:4793:GLY:HA2	1.99	0.43
1:A:260:TRP:HA	1:A:283:ARG:O	2.19	0.43
1:A:1724:CYS:SG	1:A:1728:ARG:NH1	2.92	0.43
1:A:2002:PRO:HB3	1:A:3641:LEU:HD13	2.00	0.43
1:A:2377:LEU:HA	1:A:2377:LEU:HD23	1.90	0.43
1:A:2970:SER:OG	1:A:2971:GLN:OE1	2.36	0.43
1:A:3533:ILE:HD13	1:A:3596:VAL:HG13	2.00	0.43
1:B:69:LEU:HD12	1:B:69:LEU:HA	1.87	0.43
1:B:150:MET:O	1:B:151:HIS:ND1	2.52	0.43
1:B:3524:MET:HA	1:B:3582:ARG:HH22	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3533:ILE:HD13	1:B:3596:VAL:HG13	2.00	0.43
1:B:4971:THR:HG22	1:B:4972:PRO:HD2	2.00	0.43
1:C:1699:GLU:OE2	1:C:1813:ARG:NH1	2.45	0.43
1:C:1782:PHE:O	2:G:82:TYR:OH	2.30	0.43
1:C:2002:PRO:HB3	1:C:3641:LEU:HD13	2.00	0.43
1:C:2742:THR:HB	1:C:2814:LYS:HG3	2.01	0.43
1:D:260:TRP:HA	1:D:283:ARG:O	2.19	0.43
1:D:1524:THR:O	1:D:1541:GLN:NE2	2.38	0.43
1:D:3523:ASN:O	1:D:3582:ARG:NH2	2.51	0.43
1:D:3582:ARG:HD3	1:D:3582:ARG:HA	1.84	0.43
1:A:150:MET:O	1:A:151:HIS:ND1	2.52	0.43
1:A:2355:ARG:HA	1:A:2358:ILE:HG22	2.00	0.43
1:A:2742:THR:HB	1:A:2814:LYS:HG3	2.01	0.43
1:A:3523:ASN:O	1:A:3582:ARG:NH2	2.51	0.43
1:C:1724:CYS:SG	1:C:1728:ARG:NH1	2.92	0.43
1:C:2044:ILE:HD11	1:C:2131:LEU:HD23	2.00	0.43
1:C:2962:GLN:HA	1:C:2965:ARG:HG2	2.01	0.43
1:C:3524:MET:HA	1:C:3582:ARG:HH22	1.84	0.43
1:D:1724:CYS:SG	1:D:1728:ARG:NH1	2.92	0.43
1:D:4874:MET:H	1:D:4874:MET:HG2	1.61	0.43
1:A:2689:LYS:O	1:A:2993:GLN:NE2	2.51	0.43
1:A:2755:ILE:HD12	1:A:2813:LEU:HG	2.01	0.43
1:A:2963:LEU:O	1:A:2967:MET:HB2	2.19	0.43
1:B:2355:ARG:HA	1:B:2358:ILE:HG22	2.00	0.43
1:C:260:TRP:HA	1:C:283:ARG:O	2.19	0.43
1:C:3245:VAL:HG23	1:C:3248:ARG:H	1.84	0.43
1:C:3335:MET:SD	1:C:3403:ARG:NH1	2.91	0.43
1:D:1110:ARG:HE	1:D:1110:ARG:HB3	1.70	0.43
1:D:2742:THR:HB	1:D:2814:LYS:HG3	2.01	0.43
1:D:2891:LYS:HA	1:D:2894:LEU:HB3	2.00	0.43
1:D:3354:LEU:HA	1:D:3358:PHE:HD2	1.84	0.43
1:D:4639:MET:O	1:D:4643:LEU:N	2.47	0.43
1:A:2616:PRO:HA	1:A:2619:LEU:HD12	2.00	0.43
1:B:2742:THR:HB	1:B:2814:LYS:HG3	2.01	0.43
1:B:2963:LEU:O	1:B:2967:MET:HB2	2.19	0.43
1:B:3354:LEU:HA	1:B:3358:PHE:HD2	1.84	0.43
1:B:4035:VAL:HG13	1:B:5032:TYR:HE2	1.84	0.43
1:B:4639:MET:O	1:B:4643:LEU:N	2.47	0.43
1:B:4647:SER:O	1:B:4651:THR:OG1	2.35	0.43
1:C:1096:THR:OG1	1:C:1198:GLN:OE1	2.34	0.43
1:C:2001:PRO:HG2	1:C:3864:THR:HB	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2476:ILE:HG23	1:C:2536:LEU:HD21	2.01	0.43
1:D:1784:ALA:O	2:H:82:TYR:OH	2.36	0.43
1:D:2755:ILE:HD12	1:D:2813:LEU:HG	2.01	0.43
1:D:4675:LYS:HG3	1:D:4715:TYR:CE1	2.54	0.43
1:A:876:GLU:HG2	1:A:910:PHE:CE2	2.53	0.43
1:A:1101:ARG:NH1	1:A:1115:LEU:O	2.52	0.43
1:A:1158:ASN:HB3	1:A:1182:ILE:H	1.84	0.43
1:A:3862:ASP:OD1	1:A:3862:ASP:N	2.49	0.43
1:A:4675:LYS:HG3	1:A:4715:TYR:CE1	2.54	0.43
1:B:118:LEU:HA	1:B:137:LEU:HD23	2.01	0.43
1:B:2616:PRO:HA	1:B:2619:LEU:HD12	2.00	0.43
1:C:531:ARG:NH1	1:C:562:GLU:OE2	2.52	0.43
1:C:3523:ASN:O	1:C:3582:ARG:NH2	2.51	0.43
1:C:4181:ILE:HD12	1:C:4183:ILE:HG23	2.00	0.43
1:D:873:LYS:HG2	1:D:970:LEU:HD13	2.01	0.43
1:D:2689:LYS:O	1:D:2993:GLN:NE2	2.51	0.43
2:F:24:VAL:HG12	2:F:103:LEU:HA	2.00	0.43
1:A:3354:LEU:HA	1:A:3358:PHE:HD2	1.84	0.43
1:A:4181:ILE:HD12	1:A:4183:ILE:HG23	2.00	0.43
1:B:1454:THR:OG1	1:B:1456:ASP:OD1	2.27	0.43
1:B:2044:ILE:HD11	1:B:2131:LEU:HD23	2.00	0.43
1:B:2476:ILE:HG23	1:B:2536:LEU:HD21	2.01	0.43
1:B:2911:LEU:HD13	1:B:2915:GLU:HG3	2.00	0.43
1:B:2962:GLN:HA	1:B:2965:ARG:HG2	2.01	0.43
1:D:876:GLU:HG2	1:D:910:PHE:CE2	2.53	0.43
1:D:1158:ASN:HB3	1:D:1182:ILE:H	1.84	0.43
1:D:3533:ILE:HD13	1:D:3596:VAL:HG13	2.00	0.43
2:E:20:GLN:HB2	2:E:107:GLU:HG2	2.01	0.43
2:H:24:VAL:HG12	2:H:103:LEU:HA	2.00	0.43
2:H:62:GLY:HA3	2:H:74:LEU:HD21	1.99	0.43
1:A:1000:ARG:HA	1:A:1000:ARG:HD3	1.86	0.42
1:A:3524:MET:HA	1:A:3582:ARG:HH22	1.84	0.42
1:B:157:ARG:HG3	1:B:158:SER:H	1.84	0.42
1:C:69:LEU:HD12	1:C:69:LEU:HA	1.87	0.42
1:C:873:LYS:HG2	1:C:970:LEU:HD13	2.01	0.42
1:C:1842:LEU:HD23	1:C:1842:LEU:HA	1.88	0.42
1:C:2355:ARG:O	1:C:2359:ARG:HG2	2.19	0.42
1:C:2963:LEU:O	1:C:2967:MET:HB2	2.19	0.42
1:C:3756:LYS:HG3	1:C:3760:LYS:NZ	2.34	0.42
1:D:2002:PRO:HB3	1:D:3641:LEU:HD13	2.00	0.42
1:D:2608:MET:HG3	1:D:2642:LYS:HE3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2859:PRO:HA	1:D:2860:PRO:HD3	1.94	0.42
2:H:20:GLN:HB2	2:H:107:GLU:HG2	2.01	0.42
1:A:846:LEU:HD22	1:A:846:LEU:HA	1.92	0.42
1:A:2476:ILE:HG23	1:A:2536:LEU:HD21	2.01	0.42
1:A:3245:VAL:HG23	1:A:3248:ARG:H	1.84	0.42
1:B:2319:PRO:HG3	1:B:2392:ARG:HA	2.01	0.42
1:B:2355:ARG:O	1:B:2359:ARG:HG2	2.19	0.42
1:B:4092:ASP:HA	1:B:4095:LYS:HG2	2.00	0.42
1:C:150:MET:O	1:C:151:HIS:ND1	2.52	0.42
1:C:1271:ARG:HA	1:C:1563:GLN:HA	2.01	0.42
1:C:1454:THR:OG1	1:C:1456:ASP:OD1	2.27	0.42
1:C:2970:SER:OG	1:C:2971:GLN:OE1	2.36	0.42
1:C:3354:LEU:HA	1:C:3358:PHE:HD2	1.84	0.42
1:C:4677:LEU:HD11	1:C:4687:TYR:HE2	1.82	0.42
1:C:4971:THR:HG22	1:C:4972:PRO:HD2	2.00	0.42
1:D:3335:MET:SD	1:D:3403:ARG:NH1	2.91	0.42
1:A:2319:PRO:HG3	1:A:2392:ARG:HA	2.01	0.42
1:A:2608:MET:HG3	1:A:2642:LYS:HE3	2.01	0.42
1:A:2813:LEU:HA	1:A:2816:MET:HE3	2.00	0.42
1:A:2909:ASP:OD1	1:A:2909:ASP:N	2.52	0.42
1:B:2002:PRO:HB3	1:B:3641:LEU:HD13	2.00	0.42
1:B:2339:VAL:HG11	1:B:2353:VAL:HG11	2.01	0.42
1:B:2677:LYS:HB3	1:B:2677:LYS:HE2	1.74	0.42
1:C:257:ARG:O	1:C:284:HIS:NE2	2.49	0.42
1:C:4675:LYS:HG3	1:C:4715:TYR:CE1	2.54	0.42
1:D:39:ALA:HB2	1:D:47:CYS:HA	2.02	0.42
1:D:1231[B]:GLN:H	1:D:1231[B]:GLN:HG3	1.44	0.42
1:D:1253:PRO:HG2	1:D:1254:HIS:CD2	2.54	0.42
1:D:2813:LEU:HA	1:D:2816:MET:HE3	2.00	0.42
1:A:873:LYS:HG2	1:A:970:LEU:HD13	2.01	0.42
1:A:2001:PRO:HG2	1:A:3864:THR:HB	2.01	0.42
1:A:2962:GLN:HA	1:A:2965:ARG:HG2	2.01	0.42
1:B:145:ALA:HA	1:B:175:SER:HB3	2.02	0.42
1:B:873:LYS:HG2	1:B:970:LEU:HD13	2.01	0.42
1:B:1815:LEU:HD22	1:B:1845:VAL:HG21	2.02	0.42
1:B:3756:LYS:HG3	1:B:3760:LYS:NZ	2.35	0.42
1:C:1253:PRO:HG2	1:C:1254:HIS:CD2	2.54	0.42
1:C:2339:VAL:HG11	1:C:2353:VAL:HG11	2.01	0.42
1:C:2755:ILE:HD12	1:C:2813:LEU:HG	2.01	0.42
1:C:2911:LEU:HD13	1:C:2915:GLU:HG3	2.00	0.42
1:D:150:MET:O	1:D:151:HIS:ND1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2355:ARG:HA	1:D:2358:ILE:HG22	2.00	0.42
1:D:3524:MET:HA	1:D:3582:ARG:HH22	1.84	0.42
1:A:157:ARG:HG3	1:A:158:SER:H	1.84	0.42
1:A:596:ASN:HD21	1:A:598:LYS:HE2	1.85	0.42
1:A:863:LEU:HA	1:A:864:PRO:HD3	1.84	0.42
1:A:3756:LYS:HG3	1:A:3760:LYS:NZ	2.35	0.42
1:B:1158:ASN:HB3	1:B:1182:ILE:H	1.84	0.42
1:B:2755:ILE:HD12	1:B:2813:LEU:HG	2.01	0.42
1:B:2997:PHE:O	1:B:3001:ILE:HB	2.19	0.42
1:B:3245:VAL:HG23	1:B:3248:ARG:H	1.84	0.42
1:B:4685:GLY:HA3	1:B:4689:THR:HG23	2.01	0.42
1:C:1158:ASN:HB3	1:C:1182:ILE:H	1.84	0.42
1:D:771:PHE:HB3	1:D:1472:VAL:HG23	2.02	0.42
1:D:1619:ARG:NH2	1:D:1622:GLU:OE1	2.53	0.42
1:D:2963:LEU:O	1:D:2967:MET:HB2	2.19	0.42
1:D:3852:LYS:HE3	1:D:3852:LYS:HB3	1.97	0.42
1:A:1619:ARG:NH2	1:A:1622:GLU:OE1	2.53	0.42
1:A:1815:LEU:HD22	1:A:1845:VAL:HG21	2.02	0.42
1:A:1842:LEU:HD23	1:A:1842:LEU:HA	1.88	0.42
1:A:2309:SER:HB2	1:A:2314:LEU:HD11	2.02	0.42
1:A:3194:LEU:HA	1:A:3197:LEU:HG	2.00	0.42
1:A:4138:ASP:O	1:A:4142:ASN:ND2	2.34	0.42
1:B:1253:PRO:HG2	1:B:1254:HIS:CD2	2.54	0.42
1:B:2765:LYS:HD3	1:B:2765:LYS:HA	1.81	0.42
1:B:3219:TYR:OH	1:B:3239:MET:SD	2.60	0.42
1:C:2725:LYS:HZ3	1:C:2738:ARG:HH22	1.68	0.42
1:C:3007:ASN:O	1:C:3011:THR:OG1	2.27	0.42
1:C:4092:ASP:HA	1:C:4095:LYS:HG2	2.00	0.42
1:D:2001:PRO:HG2	1:D:3864:THR:HB	2.00	0.42
1:D:2453:ILE:HD13	1:D:2456:ILE:HD12	2.02	0.42
1:D:3046:LEU:O	1:D:3049:LEU:HB3	2.20	0.42
1:D:3756:LYS:HG3	1:D:3760:LYS:NZ	2.34	0.42
2:E:24:VAL:HG12	2:E:103:LEU:HA	2.00	0.42
1:A:2017:ASP:N	1:A:2017:ASP:OD1	2.53	0.42
1:A:2948:THR:OG1	1:A:2952:GLU:OE2	2.25	0.42
1:A:4685:GLY:HA3	1:A:4689:THR:HG23	2.01	0.42
1:B:1271:ARG:HA	1:B:1563:GLN:HA	2.01	0.42
1:B:2909:ASP:N	1:B:2909:ASP:OD1	2.52	0.42
1:B:4181:ILE:HD12	1:B:4183:ILE:HG23	2.00	0.42
1:B:4675:LYS:HG3	1:B:4715:TYR:CE1	2.54	0.42
1:C:492:ASP:OD1	1:C:546:TRP:NE1	2.47	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:775:GLY:H	1:C:848:HIS:CE1	2.38	0.42
1:C:1101:ARG:NH1	1:C:1115:LEU:O	2.52	0.42
1:C:1231[B]:GLN:H	1:C:1231[B]:GLN:HG3	1.44	0.42
1:C:1289:LEU:HD23	1:C:1597:VAL:HG11	2.01	0.42
1:C:2017:ASP:OD1	1:C:2017:ASP:N	2.53	0.42
1:C:3582:ARG:HD3	1:C:3582:ARG:HA	1.84	0.42
1:D:1000:ARG:HA	1:D:1000:ARG:HD3	1.85	0.42
1:D:1101:ARG:NH1	1:D:1115:LEU:O	2.52	0.42
1:D:1289:LEU:HD23	1:D:1597:VAL:HG11	2.01	0.42
1:D:2319:PRO:HG3	1:D:2392:ARG:HA	2.01	0.42
1:D:3194:LEU:HA	1:D:3197:LEU:HG	2.00	0.42
1:A:2453:ILE:HD13	1:A:2456:ILE:HD12	2.02	0.42
1:A:2997:PHE:O	1:A:3001:ILE:HB	2.19	0.42
1:B:1101:ARG:NH1	1:B:1115:LEU:O	2.52	0.42
1:B:1110:ARG:HE	1:B:1110:ARG:HB3	1.70	0.42
1:B:2309:SER:HB2	1:B:2314:LEU:HD11	2.02	0.42
1:B:2453:ILE:HD13	1:B:2456:ILE:HD12	2.02	0.42
1:B:2614:ILE:O	1:B:2650:ARG:NH2	2.43	0.42
1:C:771:PHE:HB3	1:C:1472:VAL:HG23	2.02	0.42
1:C:3046:LEU:O	1:C:3049:LEU:HB3	2.20	0.42
1:D:1815:LEU:HD22	1:D:1845:VAL:HG21	2.02	0.42
1:D:2017:ASP:OD1	1:D:2017:ASP:N	2.53	0.42
1:A:145:ALA:HA	1:A:175:SER:HB3	2.02	0.42
1:A:1149:VAL:HG22	1:A:1164:LEU:HD13	2.01	0.42
1:A:1231[B]:GLN:H	1:A:1231[B]:GLN:HG3	1.44	0.42
1:A:2801:ASP:OD1	1:A:2801:ASP:N	2.53	0.42
1:B:596:ASN:HD21	1:B:598:LYS:HE2	1.85	0.42
1:B:637:LEU:HD23	1:B:637:LEU:HA	1.93	0.42
1:B:884:LEU:HD13	1:B:968:ALA:H	1.85	0.42
1:B:1448:VAL:HG22	1:B:1554:VAL:HG23	2.02	0.42
1:B:2017:ASP:N	1:B:2017:ASP:OD1	2.53	0.42
1:B:2965:ARG:HG3	1:B:2966:TRP:CD1	2.55	0.42
1:C:1815:LEU:HD22	1:C:1845:VAL:HG21	2.02	0.42
1:C:2319:PRO:HG3	1:C:2392:ARG:HA	2.01	0.42
1:C:2499:LYS:O	1:C:2503:VAL:HG23	2.20	0.42
1:C:2997:PHE:O	1:C:3001:ILE:HB	2.19	0.42
1:D:775:GLY:H	1:D:848:HIS:CE1	2.38	0.42
1:D:1448:VAL:HG22	1:D:1554:VAL:HG23	2.02	0.42
1:D:1698:LEU:HD21	1:D:1715:LEU:HD13	2.02	0.42
1:D:2245:GLN:HA	1:D:2248:ARG:HG2	2.02	0.42
1:D:2962:GLN:HA	1:D:2965:ARG:HG2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3616:LYS:HD3	1:D:3616:LYS:HA	1.91	0.42
1:A:838:HIS:CE1	1:A:1201:HIS:HB2	2.55	0.42
1:A:2965:ARG:HG3	1:A:2966:TRP:CD1	2.55	0.42
1:B:3888:LEU:HD23	1:B:3888:LEU:HA	1.88	0.42
1:B:4734:ARG:HB3	1:B:4745:LEU:HD11	2.02	0.42
1:C:1619:ARG:NH2	1:C:1622:GLU:OE1	2.53	0.42
1:D:2377:LEU:HA	1:D:2377:LEU:HD23	1.90	0.42
1:D:2677:LYS:HB3	1:D:2677:LYS:HE2	1.74	0.42
1:D:2765:LYS:HD3	1:D:2765:LYS:HA	1.81	0.42
1:D:2909:ASP:OD1	1:D:2909:ASP:N	2.52	0.42
1:D:3433:GLU:OE1	1:D:3436:ARG:NH1	2.49	0.42
1:D:3888:LEU:HD23	1:D:3888:LEU:HA	1.88	0.42
1:D:4685:GLY:HA3	1:D:4689:THR:HG23	2.01	0.42
1:A:1110:ARG:HE	1:A:1110:ARG:HB3	1.70	0.41
1:A:2355:ARG:O	1:A:2359:ARG:HG2	2.19	0.41
1:C:157:ARG:HG3	1:C:158:SER:H	1.85	0.41
1:C:2309:SER:HB2	1:C:2314:LEU:HD11	2.02	0.41
1:C:2879:ALA:HB2	1:C:2923:ALA:HB2	2.02	0.41
1:D:2339:VAL:HG11	1:D:2353:VAL:HG11	2.01	0.41
1:D:2965:ARG:HG3	1:D:2966:TRP:CD1	2.55	0.41
1:D:3330:ASP:O	1:D:3403:ARG:NH2	2.45	0.41
1:D:4998:LYS:HD3	1:D:5003:HIS:HD2	1.85	0.41
1:A:687:ALA:HA	1:A:713:SER:HA	2.02	0.41
1:A:884:LEU:HD13	1:A:968:ALA:H	1.85	0.41
1:A:1087:ARG:NH1	1:A:1221:GLU:O	2.53	0.41
1:A:1096:THR:OG1	1:A:1198:GLN:OE1	2.34	0.41
1:A:1289:LEU:HD23	1:A:1597:VAL:HG11	2.01	0.41
1:A:3046:LEU:O	1:A:3049:LEU:HB3	2.20	0.41
1:B:629:ARG:NH1	2:F:90:VAL:O	2.45	0.41
1:B:1488:LYS:HE3	1:B:1488:LYS:HB2	1.88	0.41
1:B:2608:MET:HG3	1:B:2642:LYS:HE3	2.01	0.41
1:C:2453:ILE:HD13	1:C:2456:ILE:HD12	2.02	0.41
1:C:2677:LYS:HB3	1:C:2677:LYS:HE2	1.74	0.41
1:C:2965:ARG:HG3	1:C:2966:TRP:CD1	2.55	0.41
1:D:2309:SER:HB2	1:D:2314:LEU:HD11	2.02	0.41
1:D:2476:ILE:HG23	1:D:2536:LEU:HD21	2.01	0.41
1:D:2879:ALA:HB2	1:D:2923:ALA:HB2	2.02	0.41
1:D:2997:PHE:O	1:D:3001:ILE:HB	2.19	0.41
1:D:4734:ARG:HB3	1:D:4745:LEU:HD11	2.02	0.41
1:A:497:TYR:HD2	1:A:503:PHE:HD1	1.69	0.41
1:A:1488:LYS:HE3	1:A:1488:LYS:HB2	1.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3186:LEU:HB3	1:A:3190:LEU:HD23	2.02	0.41
1:A:4998:LYS:HD3	1:A:5003:HIS:HD2	1.85	0.41
1:B:1289:LEU:HD23	1:B:1597:VAL:HG11	2.01	0.41
1:B:3046:LEU:O	1:B:3049:LEU:HB3	2.20	0.41
1:B:4843:LEU:O	1:B:4847:VAL:HG13	2.20	0.41
1:C:497:TYR:HD2	1:C:503:PHE:HD1	1.69	0.41
1:C:838:HIS:CE1	1:C:1201:HIS:HB2	2.55	0.41
1:C:1149:VAL:HG22	1:C:1164:LEU:HD13	2.01	0.41
1:C:2608:MET:HG3	1:C:2642:LYS:HE3	2.01	0.41
1:C:4239:GLU:OE2	1:C:5014:TYR:OH	2.33	0.41
1:C:4685:GLY:HA3	1:C:4689:THR:HG23	2.01	0.41
1:D:838:HIS:CE1	1:D:1201:HIS:HB2	2.55	0.41
1:D:2814:LYS:HA	1:D:2817:ILE:HG22	2.03	0.41
1:D:2928:LYS:HA	1:D:2928:LYS:HD3	1.79	0.41
1:D:3107:VAL:HG11	1:D:3171:SER:HB2	2.03	0.41
1:D:4013:LEU:HD12	1:D:4013:LEU:HA	1.94	0.41
1:A:1271:ARG:HA	1:A:1563:GLN:HA	2.01	0.41
1:A:1698:LEU:HD21	1:A:1715:LEU:HD13	2.02	0.41
1:A:3652:MET:HA	1:A:3655:GLU:HG2	2.03	0.41
1:B:497:TYR:HD2	1:B:503:PHE:HD1	1.69	0.41
1:B:1087:ARG:NH1	1:B:1221:GLU:O	2.53	0.41
1:B:1619:ARG:NH2	1:B:1622:GLU:OE1	2.53	0.41
1:B:2245:GLN:HA	1:B:2248:ARG:HG2	2.02	0.41
1:B:2499:LYS:O	1:B:2503:VAL:HG23	2.20	0.41
1:C:1448:VAL:HG22	1:C:1554:VAL:HG23	2.02	0.41
1:C:4003:LEU:HD22	1:C:4009:GLN:HG2	2.02	0.41
1:C:4998:LYS:HD3	1:C:5003:HIS:HD2	1.85	0.41
1:D:207:SER:H	1:D:334:MET:HE2	1.84	0.41
1:D:884:LEU:HD13	1:D:968:ALA:H	1.85	0.41
1:D:1077:ALA:HB3	1:D:1189:LEU:HD11	2.02	0.41
1:D:4989:MET:HE3	1:D:4989:MET:HB3	1.87	0.41
1:A:771:PHE:HB3	1:A:1472:VAL:HG23	2.02	0.41
1:A:1253:PRO:HG2	1:A:1254:HIS:CD2	2.54	0.41
1:A:1448:VAL:HG22	1:A:1554:VAL:HG23	2.02	0.41
1:A:2499:LYS:O	1:A:2503:VAL:HG23	2.20	0.41
1:A:2654:TYR:HA	1:A:2661:TRP:H	1.86	0.41
1:A:3571:TRP:CE2	1:B:1228:ILE:HG12	2.56	0.41
1:A:4843:LEU:O	1:A:4847:VAL:HG13	2.20	0.41
1:B:39:ALA:HB2	1:B:47:CYS:HA	2.02	0.41
1:B:771:PHE:HB3	1:B:1472:VAL:HG23	2.02	0.41
1:B:775:GLY:H	1:B:848:HIS:CE1	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1249:PRO:HA	1:B:1250:PRO:HD3	1.96	0.41
1:B:2023:LEU:O	1:B:2028:ARG:NE	2.54	0.41
1:B:4138:ASP:O	1:B:4142:ASN:ND2	2.34	0.41
1:B:4646:LEU:HD23	1:B:4646:LEU:HA	1.87	0.41
1:C:118:LEU:HA	1:C:137:LEU:HD23	2.01	0.41
1:C:1698:LEU:HD21	1:C:1715:LEU:HD13	2.02	0.41
1:D:118:LEU:HA	1:D:137:LEU:HD23	2.01	0.41
1:D:266:ARG:CZ	1:D:330:ASP:HB2	2.51	0.41
1:D:858:THR:OG1	1:D:927:GLU:OE2	2.31	0.41
1:D:1149:VAL:HG22	1:D:1164:LEU:HD13	2.01	0.41
1:D:2355:ARG:O	1:D:2359:ARG:HG2	2.19	0.41
1:D:2782:ASP:N	1:D:2782:ASP:OD1	2.53	0.41
1:A:39:ALA:HB2	1:A:47:CYS:HA	2.02	0.41
1:A:118:LEU:HA	1:A:137:LEU:HD23	2.01	0.41
1:A:266:ARG:CZ	1:A:330:ASP:HB2	2.51	0.41
1:A:308:HIS:HD2	1:A:310:LYS:HB3	1.86	0.41
1:A:2245:GLN:HA	1:A:2248:ARG:HG2	2.02	0.41
1:A:2622:LEU:O	1:A:2626:LEU:HG	2.21	0.41
1:A:4054:ASN:O	1:A:4058:ILE:HG12	2.21	0.41
1:B:663:TYR:OH	1:B:665:GLU:OE2	2.36	0.41
1:B:4003:LEU:HD22	1:B:4009:GLN:HG2	2.03	0.41
1:B:4630:TYR:OH	1:C:4860:ARG:NH2	2.54	0.41
1:C:1249:PRO:HA	1:C:1250:PRO:HD3	1.96	0.41
1:C:2814:LYS:HA	1:C:2817:ILE:HG22	2.03	0.41
1:C:4630:TYR:OH	1:D:4860:ARG:NH2	2.54	0.41
1:D:497:TYR:HD2	1:D:503:PHE:HD1	1.69	0.41
1:D:596:ASN:HD21	1:D:598:LYS:HE2	1.85	0.41
1:D:2499:LYS:O	1:D:2503:VAL:HG23	2.20	0.41
1:D:4800:LEU:HD23	1:D:4800:LEU:HA	1.89	0.41
2:E:37:ASP:OD1	2:E:42:ARG:NH2	2.54	0.41
1:A:1072:VAL:HA	1:A:1194:LEU:O	2.21	0.41
1:A:1077:ALA:HB3	1:A:1189:LEU:HD11	2.02	0.41
1:A:1699:GLU:OE2	1:A:1813:ARG:NH1	2.45	0.41
1:A:2879:ALA:HB2	1:A:2923:ALA:HB2	2.02	0.41
1:A:3568:SER:HA	1:A:3571:TRP:HE1	1.85	0.41
1:B:838:HIS:CE1	1:B:1201:HIS:HB2	2.55	0.41
1:B:932:LEU:HD22	1:B:984:LEU:HD21	2.03	0.41
1:B:1155:LEU:HD12	1:B:1184:ILE:HD13	2.02	0.41
1:B:2782:ASP:OD1	1:B:2782:ASP:N	2.53	0.41
1:C:39:ALA:HB2	1:C:47:CYS:HA	2.02	0.41
1:C:145:ALA:HA	1:C:175:SER:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:308:HIS:HD2	1:C:310:LYS:HB3	1.86	0.41
1:C:932:LEU:HD22	1:C:984:LEU:HD21	2.03	0.41
1:C:1573:MET:SD	1:C:1574:PRO:HD2	2.61	0.41
1:C:3652:MET:HA	1:C:3655:GLU:HG2	2.03	0.41
1:D:145:ALA:HA	1:D:175:SER:HB3	2.02	0.41
1:D:2044:ILE:HD11	1:D:2131:LEU:HD23	2.00	0.41
2:F:20:GLN:HB2	2:F:107:GLU:HG2	2.01	0.41
2:F:87:HIS:HA	2:F:88:PRO:HD3	1.96	0.41
2:G:20:GLN:HB2	2:G:107:GLU:HG2	2.01	0.41
1:A:69:LEU:HA	1:A:69:LEU:HD12	1.87	0.41
1:A:775:GLY:H	1:A:848:HIS:CE1	2.38	0.41
1:A:2584[B]:HIS:CE1	1:A:2625:ARG:HB2	2.56	0.41
1:B:869:ARG:CZ	1:B:870:ILE:HB	2.51	0.41
1:B:1072:VAL:HA	1:B:1194:LEU:O	2.21	0.41
1:B:1149:VAL:HG22	1:B:1164:LEU:HD13	2.01	0.41
1:B:1743[A]:ARG:HE	1:B:1743[A]:ARG:HB2	1.67	0.41
1:B:3652:MET:HA	1:B:3655:GLU:HG2	2.03	0.41
1:C:663:TYR:HE1	1:C:745:SER:HB3	1.85	0.41
1:C:1773:PRO:HA	1:C:1774:PRO:HD3	1.93	0.41
1:C:4734:ARG:HB3	1:C:4745:LEU:HD11	2.02	0.41
1:D:1087:ARG:NH1	1:D:1221:GLU:O	2.54	0.41
1:D:2474:LEU:HD23	1:D:2494:PHE:HD2	1.86	0.41
1:D:4090:LYS:HE2	1:D:4090:LYS:HB3	1.84	0.41
2:G:37:ASP:OD1	2:G:42:ARG:NH2	2.54	0.41
1:A:1155:LEU:HD12	1:A:1184:ILE:HD13	2.02	0.41
1:A:2814:LYS:HA	1:A:2817:ILE:HG22	2.03	0.41
1:A:3433:GLU:OE1	1:A:3436:ARG:NH1	2.49	0.41
1:A:3460:VAL:HA	1:A:3502:ARG:CZ	2.51	0.41
1:A:3823:LYS:HD3	1:A:3823:LYS:HA	1.78	0.41
1:A:4865:LYS:HD2	1:A:4865:LYS:HA	1.82	0.41
1:B:661:LYS:HB3	1:B:808:TYR:HA	2.02	0.41
1:B:687:ALA:HA	1:B:713:SER:HA	2.03	0.41
1:B:1573:MET:SD	1:B:1574:PRO:HD2	2.61	0.41
1:B:1773:PRO:HA	1:B:1774:PRO:HD3	1.93	0.41
1:B:2500:ALA:HB2	1:B:2553:TYR:HD1	1.86	0.41
1:B:3186:LEU:HB3	1:B:3190:LEU:HD23	2.02	0.41
1:C:884:LEU:HD13	1:C:968:ALA:H	1.85	0.41
1:C:1087:ARG:NH1	1:C:1221:GLU:O	2.54	0.41
1:C:1524:THR:O	1:C:1541:GLN:NE2	2.38	0.41
1:C:1577:ALA:HB1	1:C:1584:ARG:HA	2.03	0.41
1:C:2023:LEU:O	1:C:2028:ARG:NE	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2500:ALA:HB2	1:C:2553:TYR:HD1	1.86	0.41
1:C:3107:VAL:HG11	1:C:3171:SER:HB2	2.03	0.41
1:C:3186:LEU:HB3	1:C:3190:LEU:HD23	2.02	0.41
1:D:863:LEU:HA	1:D:864:PRO:HD3	1.84	0.41
1:D:869:ARG:CZ	1:D:870:ILE:HB	2.51	0.41
1:D:932:LEU:HD22	1:D:984:LEU:HD21	2.03	0.41
1:D:1271:ARG:HA	1:D:1563:GLN:HA	2.01	0.41
1:D:1849:LEU:HA	1:D:1849:LEU:HD23	1.88	0.41
1:D:2023:LEU:O	1:D:2028:ARG:NE	2.54	0.41
1:D:2584[B]:HIS:CE1	1:D:2625:ARG:HB2	2.56	0.41
1:D:2654:TYR:HA	1:D:2661:TRP:H	1.86	0.41
1:D:3186:LEU:HB3	1:D:3190:LEU:HD23	2.02	0.41
1:D:3420:ARG:NH1	1:D:3516:LYS:O	2.52	0.41
1:D:3460:VAL:HA	1:D:3502:ARG:CZ	2.51	0.41
1:D:3568:SER:HA	1:D:3571:TRP:HE1	1.85	0.41
1:D:3652:MET:HA	1:D:3655:GLU:HG2	2.03	0.41
1:D:4843:LEU:O	1:D:4847:VAL:HG13	2.20	0.41
1:A:2339:VAL:HG11	1:A:2353:VAL:HG11	2.01	0.41
1:A:2474:LEU:HD23	1:A:2494:PHE:HD2	1.86	0.41
1:A:4734:ARG:HB3	1:A:4745:LEU:HD11	2.02	0.41
1:B:2288:LEU:HD23	1:B:2288:LEU:HA	1.91	0.41
1:B:2879:ALA:HB2	1:B:2923:ALA:HB2	2.02	0.41
1:C:2245:GLN:HA	1:C:2248:ARG:HG2	2.02	0.41
1:C:2309:SER:OG	1:C:2321:ILE:O	2.28	0.41
1:C:4090:LYS:HE2	1:C:4090:LYS:HB3	1.83	0.41
1:D:826:ILE:HG22	1:D:827:LYS:HG2	2.03	0.41
1:D:1577:ALA:HB1	1:D:1584:ARG:HA	2.03	0.41
1:D:2500:ALA:HB2	1:D:2553:TYR:HD1	1.86	0.41
2:F:37:ASP:OD1	2:F:42:ARG:NH2	2.54	0.41
1:A:932:LEU:HD22	1:A:984:LEU:HD21	2.03	0.40
1:A:2023:LEU:O	1:A:2028:ARG:NE	2.54	0.40
1:A:4748:LEU:HD23	1:A:4748:LEU:HA	1.96	0.40
1:B:266:ARG:CZ	1:B:330:ASP:HB2	2.51	0.40
1:B:2584[B]:HIS:CE1	1:B:2625:ARG:HB2	2.56	0.40
1:B:2814:LYS:HA	1:B:2817:ILE:HG22	2.03	0.40
1:B:2978:GLU:HA	1:B:2981:VAL:HG12	2.03	0.40
1:B:3460:VAL:HA	1:B:3502:ARG:CZ	2.51	0.40
1:B:3568:SER:HA	1:B:3571:TRP:HE1	1.85	0.40
1:B:4054:ASN:O	1:B:4058:ILE:HG12	2.21	0.40
1:C:266:ARG:CZ	1:C:330:ASP:HB2	2.51	0.40
1:C:661:LYS:HB3	1:C:808:TYR:HA	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2716:ASP:OD1	1:C:2716:ASP:N	2.45	0.40
1:C:2782:ASP:OD1	1:C:2782:ASP:N	2.53	0.40
1:C:3460:VAL:HA	1:C:3502:ARG:CZ	2.51	0.40
1:D:1155:LEU:HD12	1:D:1184:ILE:HD13	2.02	0.40
1:D:1488:LYS:HE3	1:D:1488:LYS:HB2	1.88	0.40
2:G:99:PHE:HB3	2:G:101:VAL:HG23	2.03	0.40
1:A:2978:GLU:HA	1:A:2981:VAL:HG12	2.03	0.40
1:B:663:TYR:HE1	1:B:745:SER:HB3	1.85	0.40
1:B:1231[B]:GLN:H	1:B:1231[B]:GLN:HG3	1.44	0.40
1:B:1698:LEU:HD21	1:B:1715:LEU:HD13	2.02	0.40
1:B:3823:LYS:HA	1:B:3823:LYS:HD3	1.78	0.40
1:B:4692:PRO:HG3	1:B:4703:ARG:HD2	2.03	0.40
1:C:878:ILE:HD11	1:C:925:SER:HB2	2.04	0.40
1:C:1077:ALA:HB3	1:C:1189:LEU:HD11	2.02	0.40
1:C:1431:THR:HG21	1:C:1523:ALA:HB2	2.03	0.40
1:C:2283:ASN:HD21	1:C:2286:LEU:HD13	1.86	0.40
1:C:2575:ARG:HA	1:C:2575:ARG:HD2	1.95	0.40
1:C:2978:GLU:HA	1:C:2981:VAL:HG12	2.03	0.40
1:C:3249:LEU:HD12	1:C:3249:LEU:HA	1.91	0.40
1:C:3891:LEU:HB3	1:C:3899:PHE:CE2	2.57	0.40
1:D:663:TYR:HE1	1:D:745:SER:HB3	1.85	0.40
1:D:1573:MET:SD	1:D:1574:PRO:HD2	2.61	0.40
1:D:4155:PRO:HG3	1:D:5036:LEU:HD23	2.04	0.40
1:A:826:ILE:HG22	1:A:827:LYS:HG2	2.03	0.40
1:A:1578:ALA:O	1:A:1584:ARG:NH2	2.53	0.40
1:A:2004:GLU:HA	1:A:2007:ASN:HD22	1.87	0.40
1:A:2336:ARG:HG2	1:A:2435:ARG:HD2	2.04	0.40
1:A:2752:ASP:HA	1:A:2755:ILE:HG12	2.03	0.40
1:A:2782:ASP:OD1	1:A:2782:ASP:N	2.53	0.40
1:A:3696:ASP:OD1	1:A:3696:ASP:N	2.41	0.40
1:A:3891:LEU:HB3	1:A:3899:PHE:CE2	2.57	0.40
1:B:1077:ALA:HB3	1:B:1189:LEU:HD11	2.02	0.40
1:B:2136:ARG:O	1:B:2140:ARG:NH2	2.55	0.40
1:B:2622:LEU:O	1:B:2626:LEU:HG	2.21	0.40
1:B:2654:TYR:HA	1:B:2661:TRP:H	1.86	0.40
1:B:3330:ASP:O	1:B:3403:ARG:NH2	2.45	0.40
1:C:107:ILE:HD13	1:C:107:ILE:HA	1.92	0.40
1:C:596:ASN:HD21	1:C:598:LYS:HE2	1.85	0.40
1:C:2280:VAL:HA	1:C:2287:ALA:HB1	2.04	0.40
1:C:2296:GLU:HA	1:C:2299:VAL:HG12	2.03	0.40
1:C:2474:LEU:HD23	1:C:2494:PHE:HD2	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2909:ASP:OD1	1:C:2909:ASP:N	2.52	0.40
1:C:3995:VAL:O	1:C:3999:MET:HG2	2.22	0.40
1:C:4800:LEU:HD23	1:C:4800:LEU:HA	1.89	0.40
1:D:157:ARG:HG3	1:D:158:SER:H	1.84	0.40
1:D:687:ALA:HA	1:D:713:SER:HA	2.02	0.40
1:D:2283:ASN:HD21	1:D:2286:LEU:HD13	1.86	0.40
1:D:2752:ASP:HA	1:D:2755:ILE:HG12	2.03	0.40
1:D:2978:GLU:HA	1:D:2981:VAL:HG12	2.03	0.40
1:D:5008:SER:O	1:D:5012:LYS:HD2	2.21	0.40
1:A:16:THR:HA	1:A:69:LEU:HD23	2.04	0.40
1:B:1699:GLU:OE2	1:B:1813:ARG:NH1	2.45	0.40
1:B:2283:ASN:HD21	1:B:2286:LEU:HD13	1.86	0.40
1:B:3159:ASP:OD1	1:B:3159:ASP:N	2.54	0.40
1:B:3995:VAL:O	1:B:3999:MET:HG2	2.22	0.40
1:B:4998:LYS:HD3	1:B:5003:HIS:HD2	1.85	0.40
1:C:1155:LEU:HD12	1:C:1184:ILE:HD13	2.02	0.40
1:C:2622:LEU:O	1:C:2626:LEU:HG	2.21	0.40
1:C:4059:LEU:HD13	1:C:4059:LEU:HA	1.96	0.40
1:C:4155:PRO:HG3	1:C:5036:LEU:HD23	2.04	0.40
1:D:1225:PRO:HG2	1:D:1228:ILE:HD13	2.03	0.40
1:D:1695:LEU:HB3	1:D:1810:LYS:NZ	2.37	0.40
1:D:2136:ARG:O	1:D:2140:ARG:NH2	2.55	0.40
1:D:4054:ASN:O	1:D:4058:ILE:HG12	2.21	0.40
2:F:99:PHE:HB3	2:F:101:VAL:HG23	2.03	0.40
1:A:1573:MET:SD	1:A:1574:PRO:HD2	2.61	0.40
1:A:1969:LEU:HD21	1:A:2009:LEU:HD13	2.04	0.40
1:A:3290:GLU:OE1	1:A:3309:SER:N	2.54	0.40
1:A:3995:VAL:O	1:A:3999:MET:HG2	2.22	0.40
1:A:4155:PRO:HG3	1:A:5036:LEU:HD23	2.04	0.40
1:B:494:LEU:HD12	1:B:515:TRP:CD1	2.57	0.40
1:B:2336:ARG:HG2	1:B:2435:ARG:HD2	2.04	0.40
1:B:3891:LEU:HB3	1:B:3899:PHE:CE2	2.57	0.40
1:B:4750:ILE:H	1:B:4750:ILE:HG13	1.60	0.40
1:C:2584[B]:HIS:CE1	1:C:2625:ARG:HB2	2.56	0.40
1:C:2801:ASP:OD1	1:C:2801:ASP:N	2.53	0.40
1:C:4054:ASN:O	1:C:4058:ILE:HG12	2.21	0.40
1:C:4706:LEU:H	1:C:4706:LEU:HG	1.73	0.40
1:C:5008:SER:O	1:C:5012:LYS:HD2	2.21	0.40
1:C:5012:LYS:O	1:C:5016:GLU:HG2	2.21	0.40
1:D:308:HIS:HD2	1:D:310:LYS:HB3	1.86	0.40
1:D:378:LEU:HD12	1:D:378:LEU:HA	1.94	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:733:PRO:HG2	1:D:762:CYS:HB3	2.04	0.40
1:D:878:ILE:HD11	1:D:925:SER:HB2	2.04	0.40
1:D:3995:VAL:O	1:D:3999:MET:HG2	2.22	0.40
1:D:4003:LEU:HD22	1:D:4009:GLN:HG2	2.02	0.40
2:E:23:VAL:HG22	2:E:47:LYS:HG2	2.04	0.40
2:H:23:VAL:HG22	2:H:47:LYS:HG2	2.04	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	4356/5037 (86%)	4216 (97%)	137 (3%)	3 (0%)	51	84
1	B	4356/5037 (86%)	4216 (97%)	137 (3%)	3 (0%)	51	84
1	C	4356/5037 (86%)	4216 (97%)	137 (3%)	3 (0%)	51	84
1	D	4356/5037 (86%)	4216 (97%)	137 (3%)	3 (0%)	51	84
2	E	105/350 (30%)	102 (97%)	3 (3%)	0	100	100
2	F	105/350 (30%)	102 (97%)	3 (3%)	0	100	100
2	G	105/350 (30%)	102 (97%)	3 (3%)	0	100	100
2	H	105/350 (30%)	102 (97%)	3 (3%)	0	100	100
All	All	17844/21548 (83%)	17272 (97%)	560 (3%)	12 (0%)	54	84

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3615	SER
1	A	4712	PRO
1	B	3615	SER
1	B	4712	PRO

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Mol	Chain	Res	Type
1	C	3615	SER
1	C	4712	PRO
1	D	3615	SER
1	D	4712	PRO
1	A	3692	GLU
1	B	3692	GLU
1	C	3692	GLU
1	D	3692	GLU

### 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	3808/4276 (89%)	3691 (97%)	117 (3%)	40	71
1	B	3808/4276 (89%)	3691 (97%)	117 (3%)	40	71
1	C	3808/4276 (89%)	3691 (97%)	117 (3%)	40	71
1	D	3808/4276 (89%)	3691 (97%)	117 (3%)	40	71
2	E	88/304 (29%)	88 (100%)	0	100	100
2	F	88/304 (29%)	88 (100%)	0	100	100
2	G	88/304 (29%)	88 (100%)	0	100	100
2	H	88/304 (29%)	88 (100%)	0	100	100
All	All	15584/18320 (85%)	15116 (97%)	468 (3%)	45	72

All (468) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	373	LYS
1	A	392	ARG
1	A	846	LEU
1	A	1462	MET
1	A	1534	LYS
1	A	1743[A]	ARG
1	A	1743[B]	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1752	ARG
1	A	1758	ARG
1	A	2100[A]	HIS
1	A	2100[B]	HIS
1	A	2268[A]	GLN
1	A	2268[B]	GLN
1	A	2336	ARG
1	A	2369[A]	ARG
1	A	2369[B]	ARG
1	A	2786	LYS
1	A	2806	ARG
1	A	2827	ARG
1	A	2985	ARG
1	A	3053	ARG
1	A	3185	LYS
1	A	3225	ARG
1	A	3614	LYS
1	A	3622	LYS
1	A	3652	MET
1	A	3692	GLU
1	A	4178	LEU
1	A	4180	ARG
1	A	4184	MET
1	A	4188	ARG
1	A	4189	ARG
1	A	4192	ARG
1	A	4200	THR
1	A	4206	GLU
1	A	4209	GLN
1	A	4211	LYS
1	A	4212	GLU
1	A	4221	VAL
1	A	4224	GLU
1	A	4227	GLU
1	A	4231	MET
1	A	4252	SER
1	A	4541	TRP
1	A	4543	GLU
1	A	4544	LEU
1	A	4550	LYS
1	A	4555	LEU
1	A	4556	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	4561	THR
1	A	4569	LEU
1	A	4577	LEU
1	A	4580	TYR
1	A	4581	LYS
1	A	4583	SER
1	A	4584	ASP
1	A	4627	MET
1	A	4628	VAL
1	A	4632	LEU
1	A	4633	GLU
1	A	4635	SER
1	A	4636	THR
1	A	4651	THR
1	A	4662	ASN
1	A	4665	LYS
1	A	4666	VAL
1	A	4676	GLU
1	A	4679	ARG
1	A	4680	LYS
1	A	4682	GLU
1	A	4689	THR
1	A	4694	ASP
1	A	4696	ASP
1	A	4697	VAL
1	A	4704	LEU
1	A	4705	VAL
1	A	4706	LEU
1	A	4710	SER
1	A	4716	TRP
1	A	4720	VAL
1	A	4722	ARG
1	A	4736	ARG
1	A	4743	MET
1	A	4748	LEU
1	A	4750	ILE
1	A	4779	LYS
1	A	4809	PHE
1	A	4818	MET
1	A	4835	LYS
1	A	4836	GLN
1	A	4837	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	4844	LEU
1	A	4861	LYS
1	A	4870	ASP
1	A	4874	MET
1	A	4884	LEU
1	A	4889	VAL
1	A	4911	LEU
1	A	4927	ILE
1	A	4932	ILE
1	A	4933	GLN
1	A	4948	GLU
1	A	4966	ASP
1	A	4971	THR
1	A	4976	GLU
1	A	4982	GLU
1	A	4989	MET
1	A	4992	LEU
1	A	4993	MET
1	A	4995	LEU
1	A	4997	ASN
1	A	5002	GLU
1	A	5012	LYS
1	A	5013	MET
1	A	5027	CYS
1	A	5028	PHE
1	A	5034	ASP
1	B	373	LYS
1	B	392	ARG
1	B	846	LEU
1	B	1462	MET
1	B	1534	LYS
1	B	1743[A]	ARG
1	B	1743[B]	ARG
1	B	1752	ARG
1	B	1758	ARG
1	B	2100[A]	HIS
1	B	2100[B]	HIS
1	B	2268[A]	GLN
1	B	2268[B]	GLN
1	B	2336	ARG
1	B	2369[A]	ARG
1	B	2369[B]	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	2786	LYS
1	B	2806	ARG
1	B	2827	ARG
1	B	2985	ARG
1	B	3053	ARG
1	B	3185	LYS
1	B	3225	ARG
1	B	3614	LYS
1	B	3622	LYS
1	B	3652	MET
1	B	3692	GLU
1	B	4178	LEU
1	B	4180	ARG
1	B	4184	MET
1	B	4188	ARG
1	B	4189	ARG
1	B	4192	ARG
1	B	4200	THR
1	B	4206	GLU
1	B	4209	GLN
1	B	4211	LYS
1	B	4212	GLU
1	B	4221	VAL
1	B	4224	GLU
1	B	4227	GLU
1	B	4231	MET
1	B	4252	SER
1	B	4541	TRP
1	B	4543	GLU
1	B	4544	LEU
1	B	4550	LYS
1	B	4555	LEU
1	B	4556	SER
1	B	4561	THR
1	B	4569	LEU
1	B	4577	LEU
1	B	4580	TYR
1	B	4581	LYS
1	B	4583	SER
1	B	4584	ASP
1	B	4627	MET
1	B	4628	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	4632	LEU
1	B	4633	GLU
1	B	4635	SER
1	B	4636	THR
1	B	4651	THR
1	B	4662	ASN
1	B	4665	LYS
1	B	4666	VAL
1	B	4676	GLU
1	B	4679	ARG
1	B	4680	LYS
1	B	4682	GLU
1	B	4689	THR
1	B	4694	ASP
1	B	4696	ASP
1	B	4697	VAL
1	B	4704	LEU
1	B	4705	VAL
1	B	4706	LEU
1	B	4710	SER
1	B	4716	TRP
1	B	4720	VAL
1	B	4722	ARG
1	B	4736	ARG
1	B	4743	MET
1	B	4748	LEU
1	B	4750	ILE
1	B	4779	LYS
1	B	4809	PHE
1	B	4818	MET
1	B	4835	LYS
1	B	4836	GLN
1	B	4837	LEU
1	B	4844	LEU
1	B	4861	LYS
1	B	4870	ASP
1	B	4874	MET
1	B	4884	LEU
1	B	4889	VAL
1	B	4911	LEU
1	B	4927	ILE
1	B	4932	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	4933	GLN
1	B	4948	GLU
1	B	4966	ASP
1	B	4971	THR
1	B	4976	GLU
1	B	4982	GLU
1	B	4989	MET
1	B	4992	LEU
1	B	4993	MET
1	B	4995	LEU
1	B	4997	ASN
1	B	5002	GLU
1	B	5012	LYS
1	B	5013	MET
1	B	5027	CYS
1	B	5028	PHE
1	B	5034	ASP
1	C	373	LYS
1	C	392	ARG
1	C	846	LEU
1	C	1462	MET
1	C	1534	LYS
1	C	1743[A]	ARG
1	C	1743[B]	ARG
1	C	1752	ARG
1	C	1758	ARG
1	C	2100[A]	HIS
1	C	2100[B]	HIS
1	C	2268[A]	GLN
1	C	2268[B]	GLN
1	C	2336	ARG
1	C	2369[A]	ARG
1	C	2369[B]	ARG
1	C	2786	LYS
1	C	2806	ARG
1	C	2827	ARG
1	C	2985	ARG
1	C	3053	ARG
1	C	3185	LYS
1	C	3225	ARG
1	C	3614	LYS
1	C	3622	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	3652	MET
1	C	3692	GLU
1	C	4178	LEU
1	C	4180	ARG
1	C	4184	MET
1	C	4188	ARG
1	C	4189	ARG
1	C	4192	ARG
1	C	4200	THR
1	C	4206	GLU
1	C	4209	GLN
1	C	4211	LYS
1	C	4212	GLU
1	C	4221	VAL
1	C	4224	GLU
1	C	4227	GLU
1	C	4231	MET
1	C	4252	SER
1	C	4541	TRP
1	C	4543	GLU
1	C	4544	LEU
1	C	4550	LYS
1	C	4555	LEU
1	C	4556	SER
1	C	4561	THR
1	C	4569	LEU
1	C	4577	LEU
1	C	4580	TYR
1	C	4581	LYS
1	C	4583	SER
1	C	4584	ASP
1	C	4627	MET
1	C	4628	VAL
1	C	4632	LEU
1	C	4633	GLU
1	C	4635	SER
1	C	4636	THR
1	C	4651	THR
1	C	4662	ASN
1	C	4665	LYS
1	C	4666	VAL
1	C	4676	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	4679	ARG
1	C	4680	LYS
1	C	4682	GLU
1	C	4689	THR
1	C	4694	ASP
1	C	4696	ASP
1	C	4697	VAL
1	C	4704	LEU
1	C	4705	VAL
1	C	4706	LEU
1	C	4710	SER
1	C	4716	TRP
1	C	4720	VAL
1	C	4722	ARG
1	C	4736	ARG
1	C	4743	MET
1	C	4748	LEU
1	C	4750	ILE
1	C	4779	LYS
1	C	4809	PHE
1	C	4818	MET
1	C	4835	LYS
1	C	4836	GLN
1	C	4837	LEU
1	C	4844	LEU
1	C	4861	LYS
1	C	4870	ASP
1	C	4874	MET
1	C	4884	LEU
1	C	4889	VAL
1	C	4911	LEU
1	C	4927	ILE
1	C	4932	ILE
1	C	4933	GLN
1	C	4948	GLU
1	C	4966	ASP
1	C	4971	THR
1	C	4976	GLU
1	C	4982	GLU
1	C	4989	MET
1	C	4992	LEU
1	C	4993	MET

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	4995	LEU
1	C	4997	ASN
1	C	5002	GLU
1	C	5012	LYS
1	C	5013	MET
1	C	5027	CYS
1	C	5028	PHE
1	C	5034	ASP
1	D	373	LYS
1	D	392	ARG
1	D	846	LEU
1	D	1462	MET
1	D	1534	LYS
1	D	1743[A]	ARG
1	D	1743[B]	ARG
1	D	1752	ARG
1	D	1758	ARG
1	D	2100[A]	HIS
1	D	2100[B]	HIS
1	D	2268[A]	GLN
1	D	2268[B]	GLN
1	D	2336	ARG
1	D	2369[A]	ARG
1	D	2369[B]	ARG
1	D	2786	LYS
1	D	2806	ARG
1	D	2827	ARG
1	D	2985	ARG
1	D	3053	ARG
1	D	3185	LYS
1	D	3225	ARG
1	D	3614	LYS
1	D	3622	LYS
1	D	3652	MET
1	D	3692	GLU
1	D	4178	LEU
1	D	4180	ARG
1	D	4184	MET
1	D	4188	ARG
1	D	4189	ARG
1	D	4192	ARG
1	D	4200	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	4206	GLU
1	D	4209	GLN
1	D	4211	LYS
1	D	4212	GLU
1	D	4221	VAL
1	D	4224	GLU
1	D	4227	GLU
1	D	4231	MET
1	D	4252	SER
1	D	4541	TRP
1	D	4543	GLU
1	D	4544	LEU
1	D	4550	LYS
1	D	4555	LEU
1	D	4556	SER
1	D	4561	THR
1	D	4569	LEU
1	D	4577	LEU
1	D	4580	TYR
1	D	4581	LYS
1	D	4583	SER
1	D	4584	ASP
1	D	4627	MET
1	D	4628	VAL
1	D	4632	LEU
1	D	4633	GLU
1	D	4635	SER
1	D	4636	THR
1	D	4651	THR
1	D	4662	ASN
1	D	4665	LYS
1	D	4666	VAL
1	D	4676	GLU
1	D	4679	ARG
1	D	4680	LYS
1	D	4682	GLU
1	D	4689	THR
1	D	4694	ASP
1	D	4696	ASP
1	D	4697	VAL
1	D	4704	LEU
1	D	4705	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	4706	LEU
1	D	4710	SER
1	D	4716	TRP
1	D	4720	VAL
1	D	4722	ARG
1	D	4736	ARG
1	D	4743	MET
1	D	4748	LEU
1	D	4750	ILE
1	D	4779	LYS
1	D	4809	PHE
1	D	4818	MET
1	D	4835	LYS
1	D	4836	GLN
1	D	4837	LEU
1	D	4844	LEU
1	D	4861	LYS
1	D	4870	ASP
1	D	4874	MET
1	D	4884	LEU
1	D	4889	VAL
1	D	4911	LEU
1	D	4927	ILE
1	D	4932	ILE
1	D	4933	GLN
1	D	4948	GLU
1	D	4966	ASP
1	D	4971	THR
1	D	4976	GLU
1	D	4982	GLU
1	D	4989	MET
1	D	4992	LEU
1	D	4993	MET
1	D	4995	LEU
1	D	4997	ASN
1	D	5002	GLU
1	D	5012	LYS
1	D	5013	MET
1	D	5027	CYS
1	D	5028	PHE
1	D	5034	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (75)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	23	GLN
1	A	203	ASN
1	A	597	HIS
1	A	624	ASN
1	A	1614	GLN
1	A	1631	GLN
1	A	2127	GLN
1	A	2872	GLN
1	A	2924	GLN
1	A	3325	ASN
1	A	3611	HIS
1	A	3766	GLN
1	A	3895	HIS
1	A	4201	ASN
1	A	4626	ASN
1	A	4836	GLN
1	A	4997	ASN
1	A	5031	GLN
1	B	23	GLN
1	B	203	ASN
1	B	597	HIS
1	B	1631	GLN
1	B	2127	GLN
1	B	2634	ASN
1	B	2872	GLN
1	B	2924	GLN
1	B	3325	ASN
1	B	3611	HIS
1	B	3766	GLN
1	B	3895	HIS
1	B	4201	ASN
1	B	4626	ASN
1	B	4836	GLN
1	B	4997	ASN
1	B	5031	GLN
1	C	23	GLN
1	C	203	ASN
1	C	597	HIS
1	C	877	ASN
1	C	1614	GLN
1	C	1631	GLN
1	C	2127	GLN

*Continued on next page...*

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Mol	Chain	Res	Type
1	C	2634	ASN
1	C	2872	GLN
1	C	2924	GLN
1	C	3611	HIS
1	C	3766	GLN
1	C	3895	HIS
1	C	4201	ASN
1	C	4626	ASN
1	C	4836	GLN
1	C	4997	ASN
1	C	5031	GLN
1	D	23	GLN
1	D	203	ASN
1	D	597	HIS
1	D	877	ASN
1	D	1631	GLN
1	D	2127	GLN
1	D	2634	ASN
1	D	2872	GLN
1	D	2924	GLN
1	D	3325	ASN
1	D	3611	HIS
1	D	3766	GLN
1	D	3895	HIS
1	D	4201	ASN
1	D	4626	ASN
1	D	4836	GLN
1	D	4997	ASN
1	D	5031	GLN
2	E	20	GLN
2	F	20	GLN
2	G	20	GLN
2	H	20	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 8 ligands modelled in this entry, 4 are monoatomic - leaving 4 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	ADP	A	5101	-	24,29,29	0.86	1 (4%)	29,45,45	1.29	4 (13%)
3	ADP	B	5101	-	24,29,29	0.86	1 (4%)	29,45,45	1.29	4 (13%)
3	ADP	D	5101	-	24,29,29	0.86	1 (4%)	29,45,45	1.29	4 (13%)
3	ADP	C	5101	-	24,29,29	0.86	1 (4%)	29,45,45	1.29	4 (13%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	ADP	A	5101	-	-	4/12/32/32	0/3/3/3
3	ADP	B	5101	-	-	4/12/32/32	0/3/3/3
3	ADP	D	5101	-	-	4/12/32/32	0/3/3/3
3	ADP	C	5101	-	-	4/12/32/32	0/3/3/3

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	5101	ADP	C5-C4	2.25	1.46	1.40
3	A	5101	ADP	C5-C4	2.24	1.46	1.40
3	C	5101	ADP	C5-C4	2.24	1.46	1.40
3	D	5101	ADP	C5-C4	2.24	1.46	1.40

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	5101	ADP	N3-C2-N1	-3.23	123.63	128.68
3	C	5101	ADP	N3-C2-N1	-3.23	123.63	128.68
3	A	5101	ADP	N3-C2-N1	-3.22	123.64	128.68
3	B	5101	ADP	N3-C2-N1	-3.22	123.64	128.68
3	B	5101	ADP	O4'-C1'-C2'	-2.62	103.10	106.93
3	D	5101	ADP	O4'-C1'-C2'	-2.62	103.10	106.93
3	A	5101	ADP	O4'-C1'-C2'	-2.62	103.10	106.93
3	C	5101	ADP	O4'-C1'-C2'	-2.62	103.10	106.93
3	A	5101	ADP	PA-O3A-PB	-2.49	124.27	132.83
3	B	5101	ADP	PA-O3A-PB	-2.49	124.27	132.83
3	C	5101	ADP	PA-O3A-PB	-2.49	124.28	132.83
3	D	5101	ADP	PA-O3A-PB	-2.49	124.28	132.83
3	B	5101	ADP	C4-C5-N7	-2.18	107.13	109.40
3	D	5101	ADP	C4-C5-N7	-2.18	107.13	109.40
3	C	5101	ADP	C4-C5-N7	-2.18	107.13	109.40
3	A	5101	ADP	C4-C5-N7	-2.17	107.13	109.40

There are no chirality outliers.

All (16) torsion outliers are listed below:

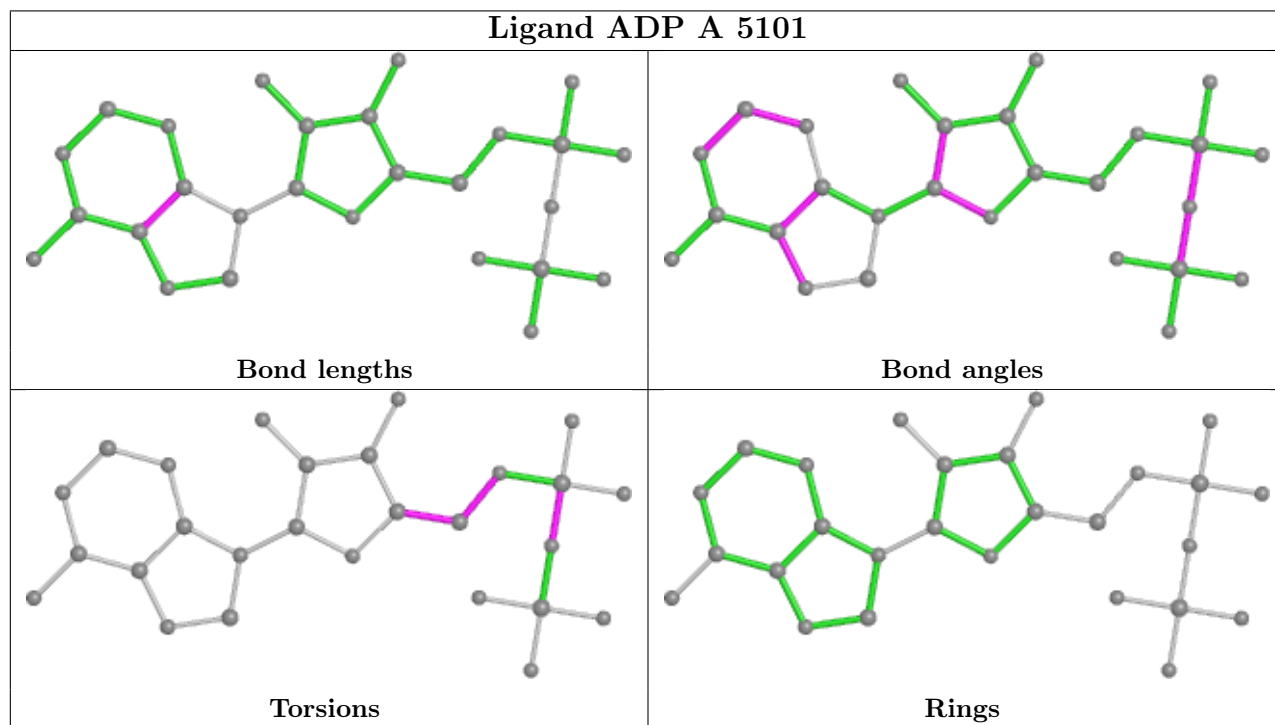
Mol	Chain	Res	Type	Atoms
3	A	5101	ADP	PB-O3A-PA-O5'
3	B	5101	ADP	PB-O3A-PA-O5'
3	C	5101	ADP	PB-O3A-PA-O5'
3	D	5101	ADP	PB-O3A-PA-O5'
3	A	5101	ADP	O4'-C4'-C5'-O5'
3	B	5101	ADP	O4'-C4'-C5'-O5'
3	C	5101	ADP	O4'-C4'-C5'-O5'
3	D	5101	ADP	O4'-C4'-C5'-O5'
3	A	5101	ADP	C3'-C4'-C5'-O5'
3	B	5101	ADP	C3'-C4'-C5'-O5'
3	C	5101	ADP	C3'-C4'-C5'-O5'
3	D	5101	ADP	C3'-C4'-C5'-O5'
3	A	5101	ADP	C4'-C5'-O5'-PA
3	B	5101	ADP	C4'-C5'-O5'-PA
3	C	5101	ADP	C4'-C5'-O5'-PA
3	D	5101	ADP	C4'-C5'-O5'-PA

There are no ring outliers.

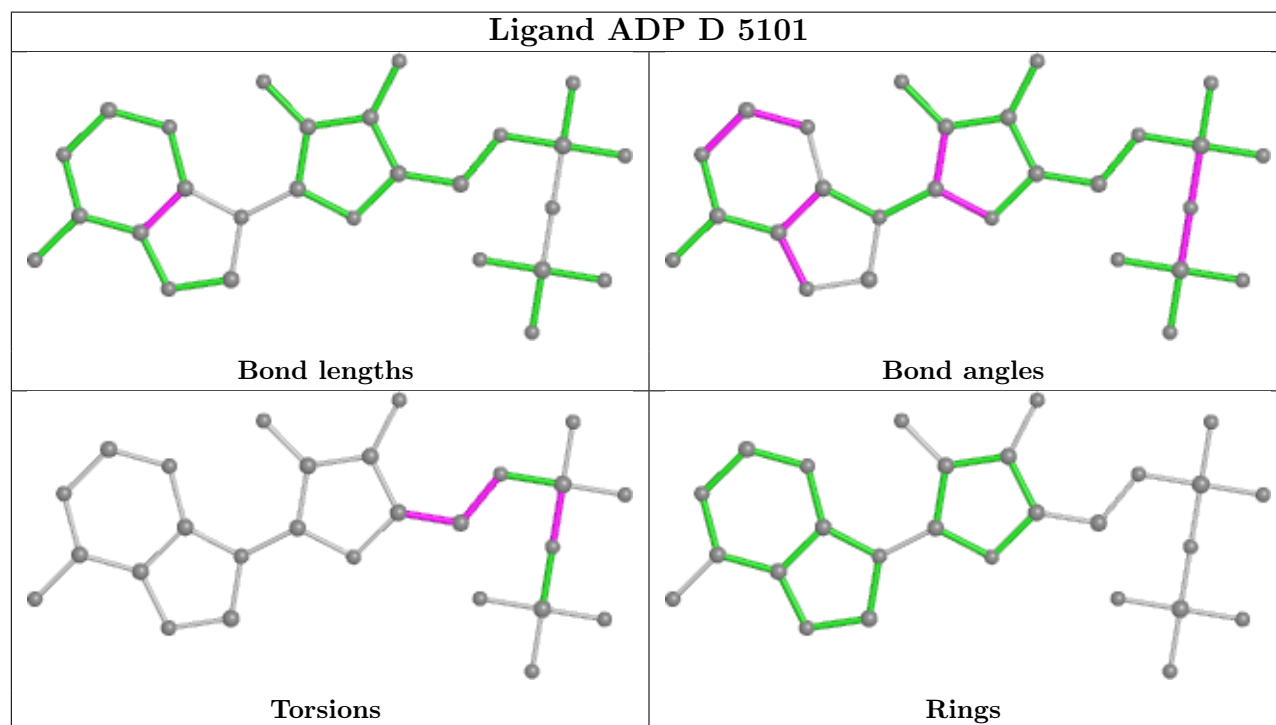
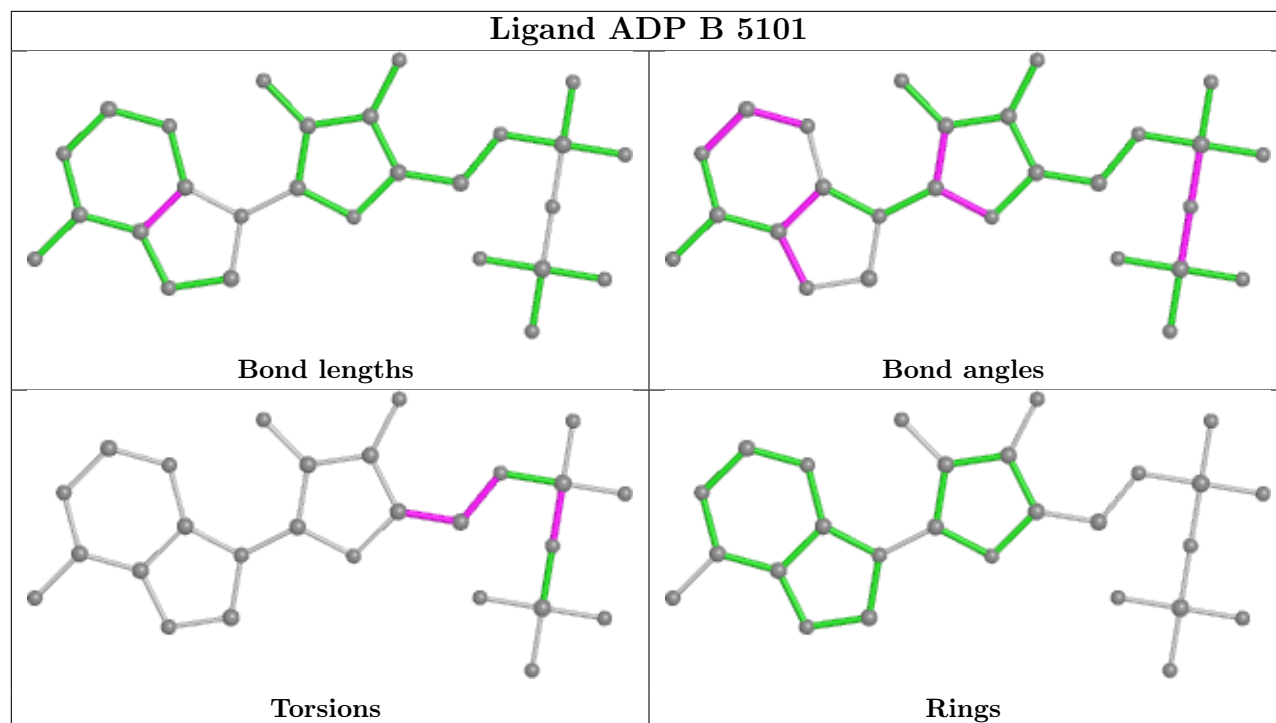
4 monomers are involved in 4 short contacts:

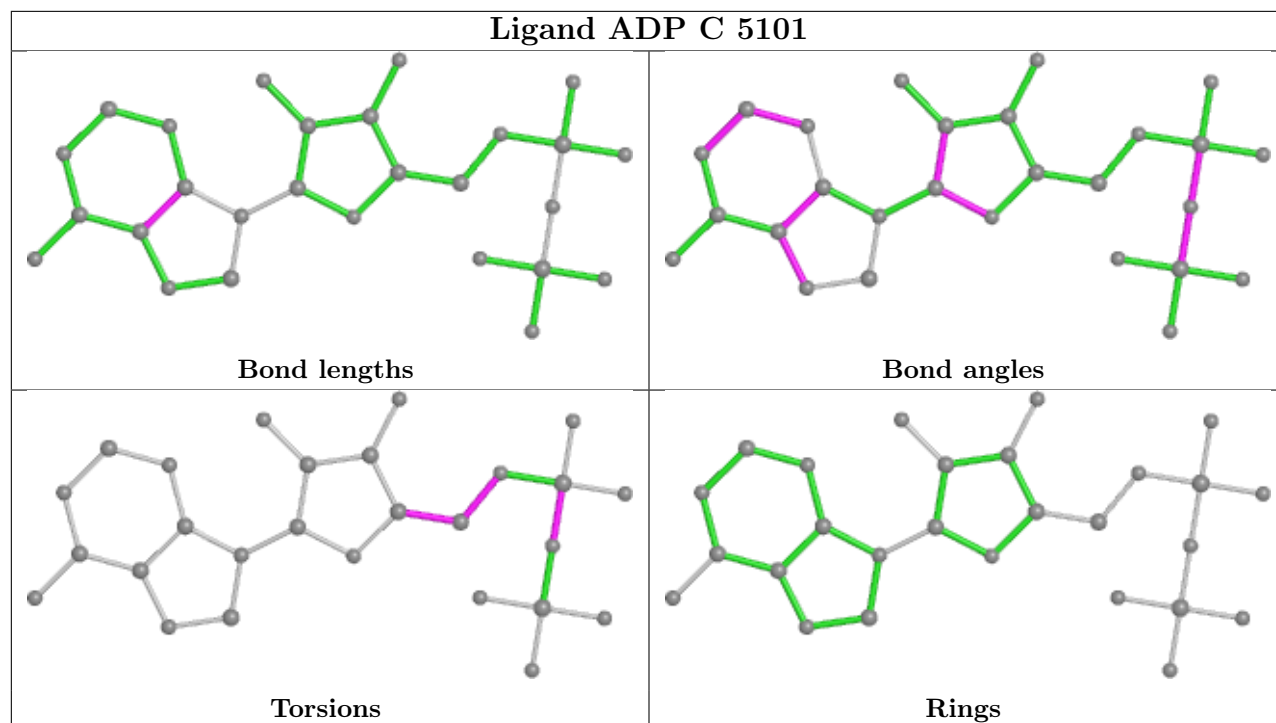
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	5101	ADP	1	0
3	B	5101	ADP	1	0
3	D	5101	ADP	1	0
3	C	5101	ADP	1	0

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









## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

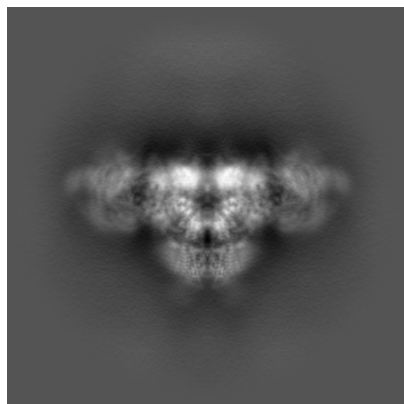
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-40424. These allow visual inspection of the internal detail of the map and identification of artifacts.

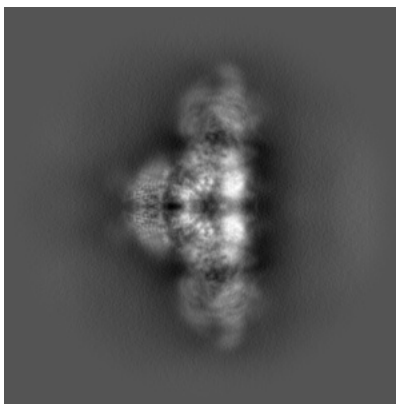
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

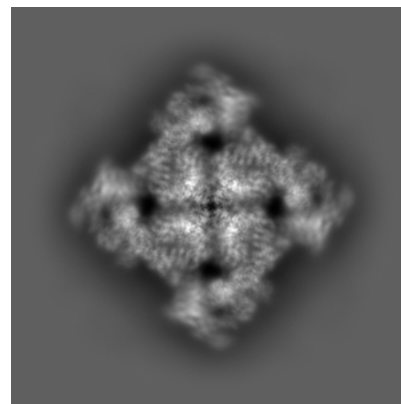
#### 6.1.1 Primary map



X

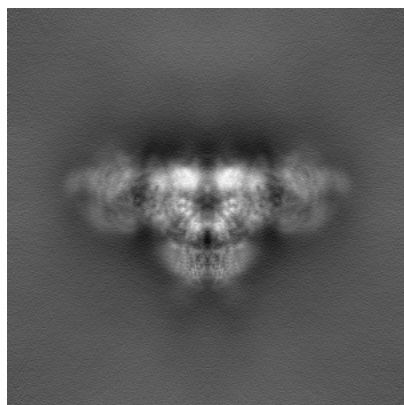


Y

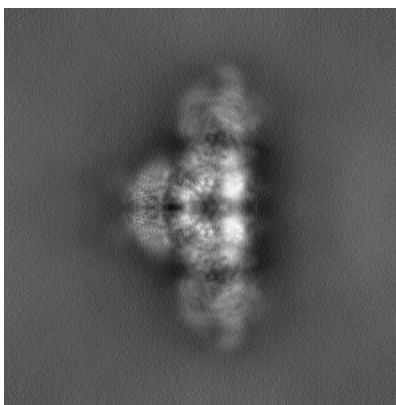


Z

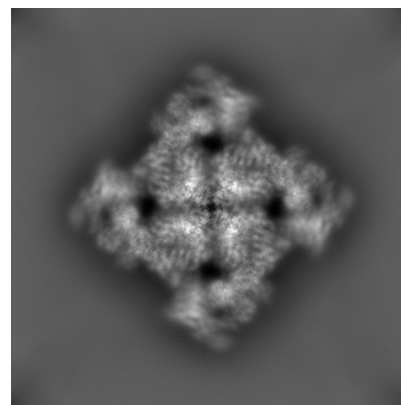
#### 6.1.2 Raw map



X



Y

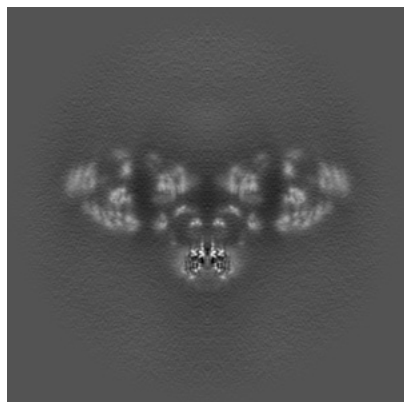


Z

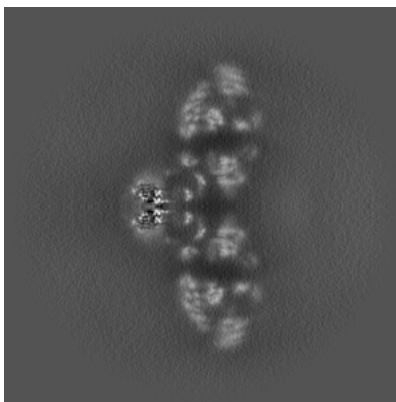
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

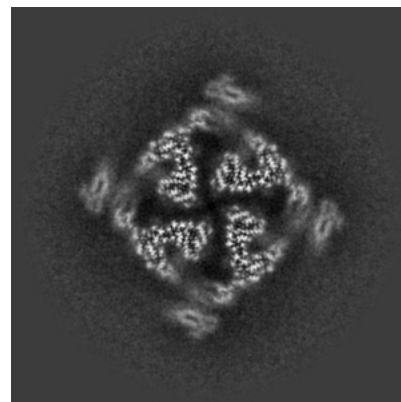
### 6.2.1 Primary map



X Index: 200

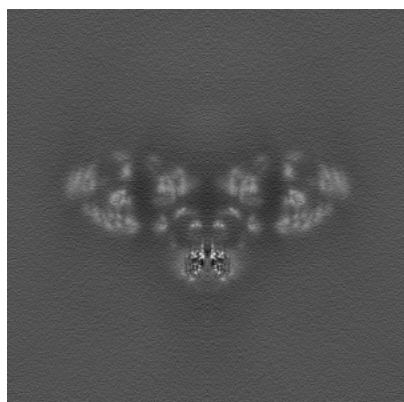


Y Index: 200

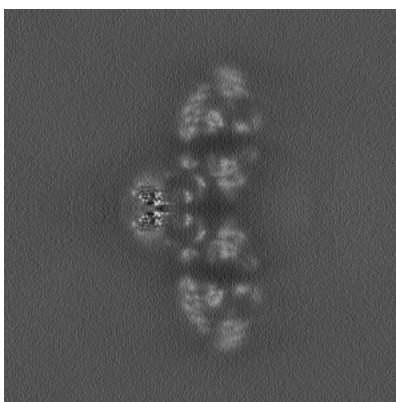


Z Index: 200

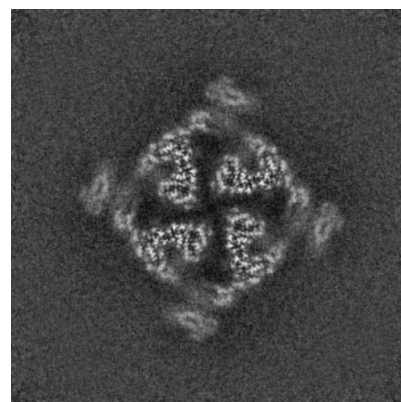
### 6.2.2 Raw map



X Index: 200



Y Index: 200

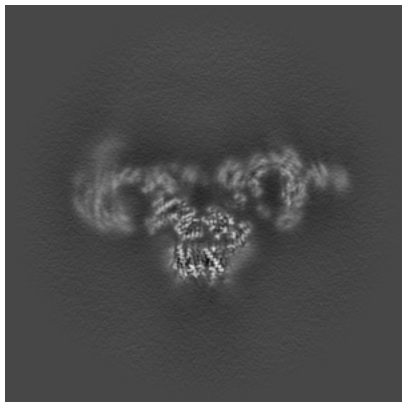


Z Index: 200

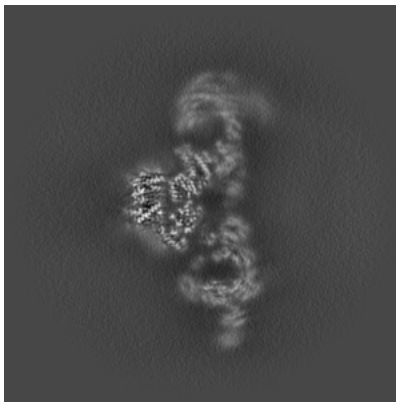
The images above show central slices of the map in three orthogonal directions.

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

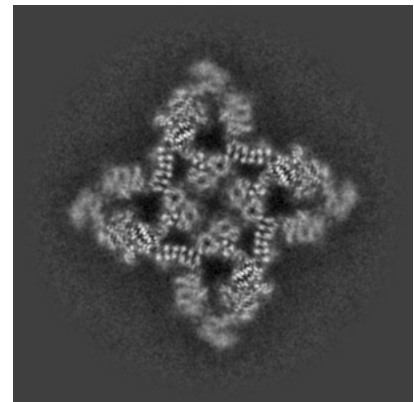
### 6.3.1 Primary map



X Index: 186

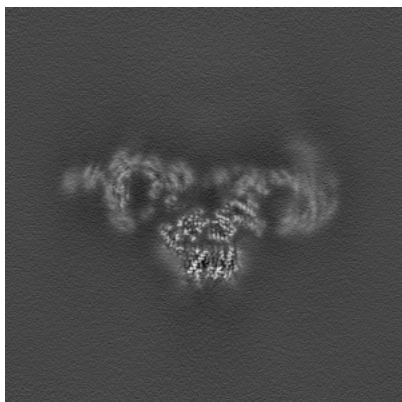


Y Index: 186

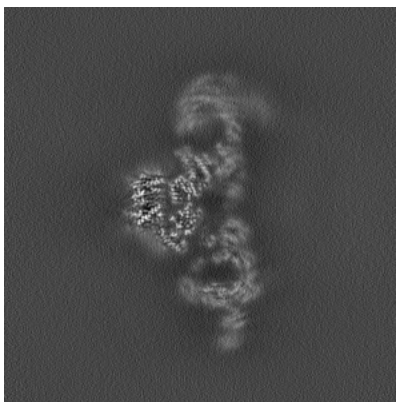


Z Index: 223

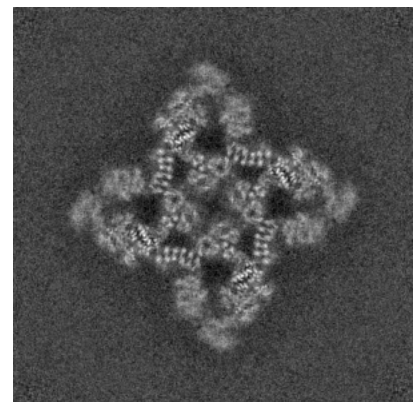
### 6.3.2 Raw map



X Index: 214



Y Index: 186

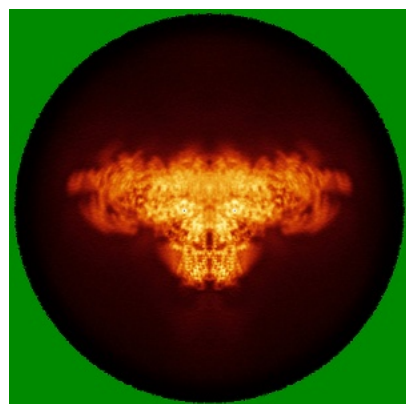


Z Index: 223

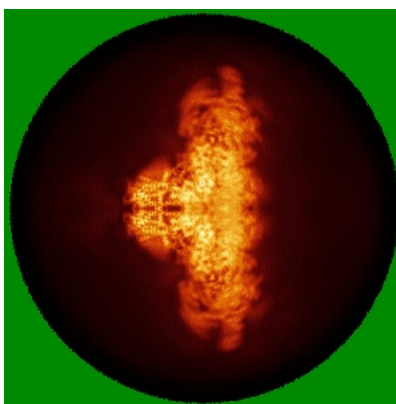
The images above show the largest variance slices of the map in three orthogonal directions.

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

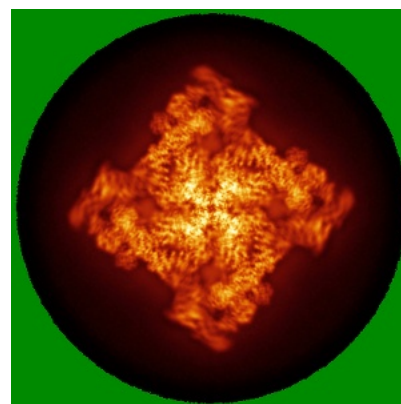
### 6.4.1 Primary map



X

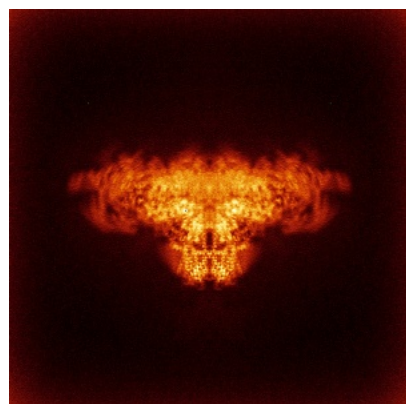


Y

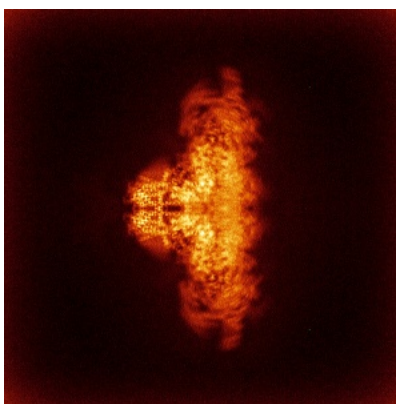


Z

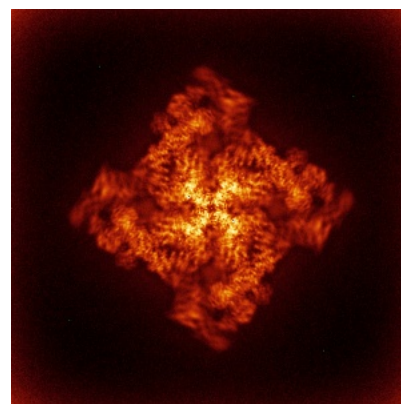
### 6.4.2 Raw map



X



Y

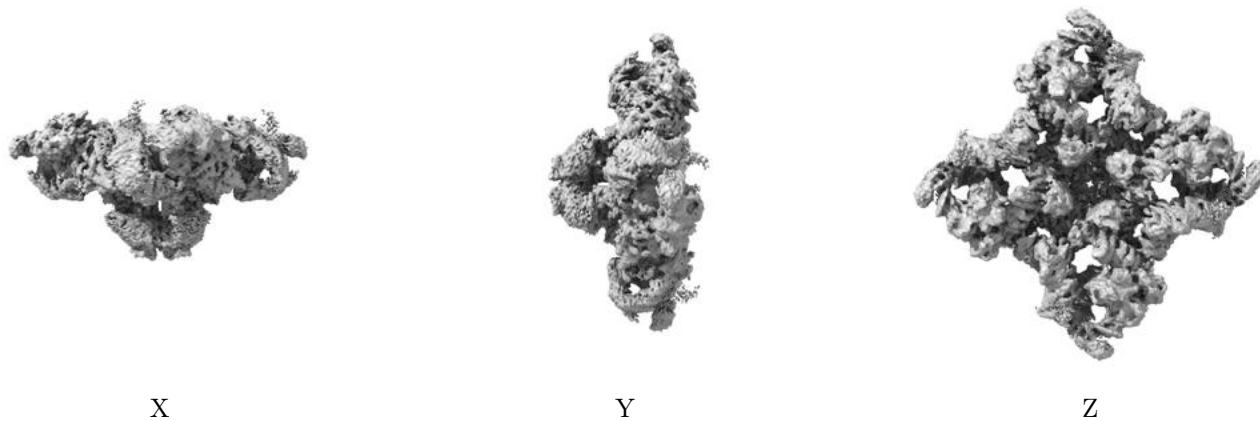


Z

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.

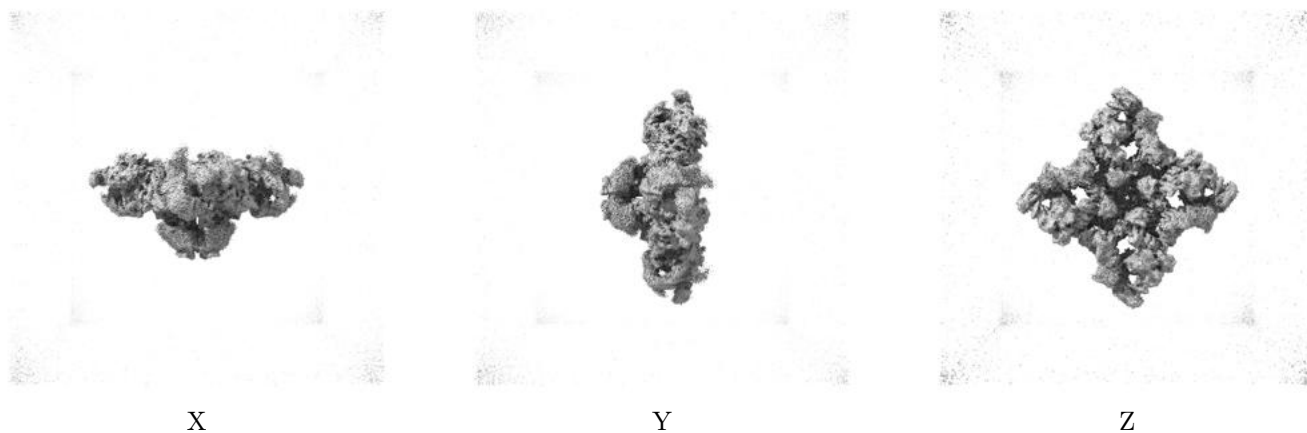
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.263. 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.

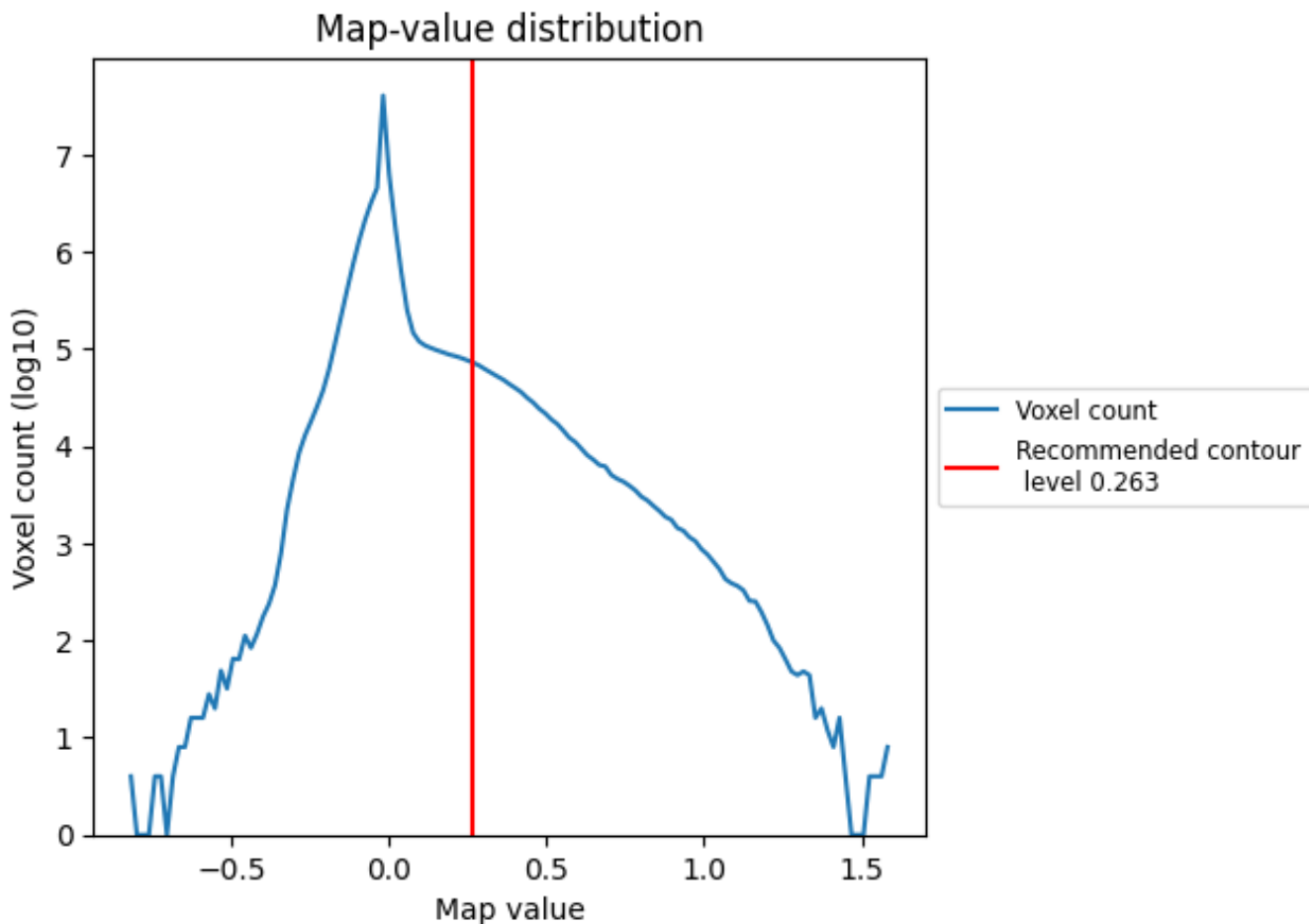
## 6.6 Mask visualisation [i](#)

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.

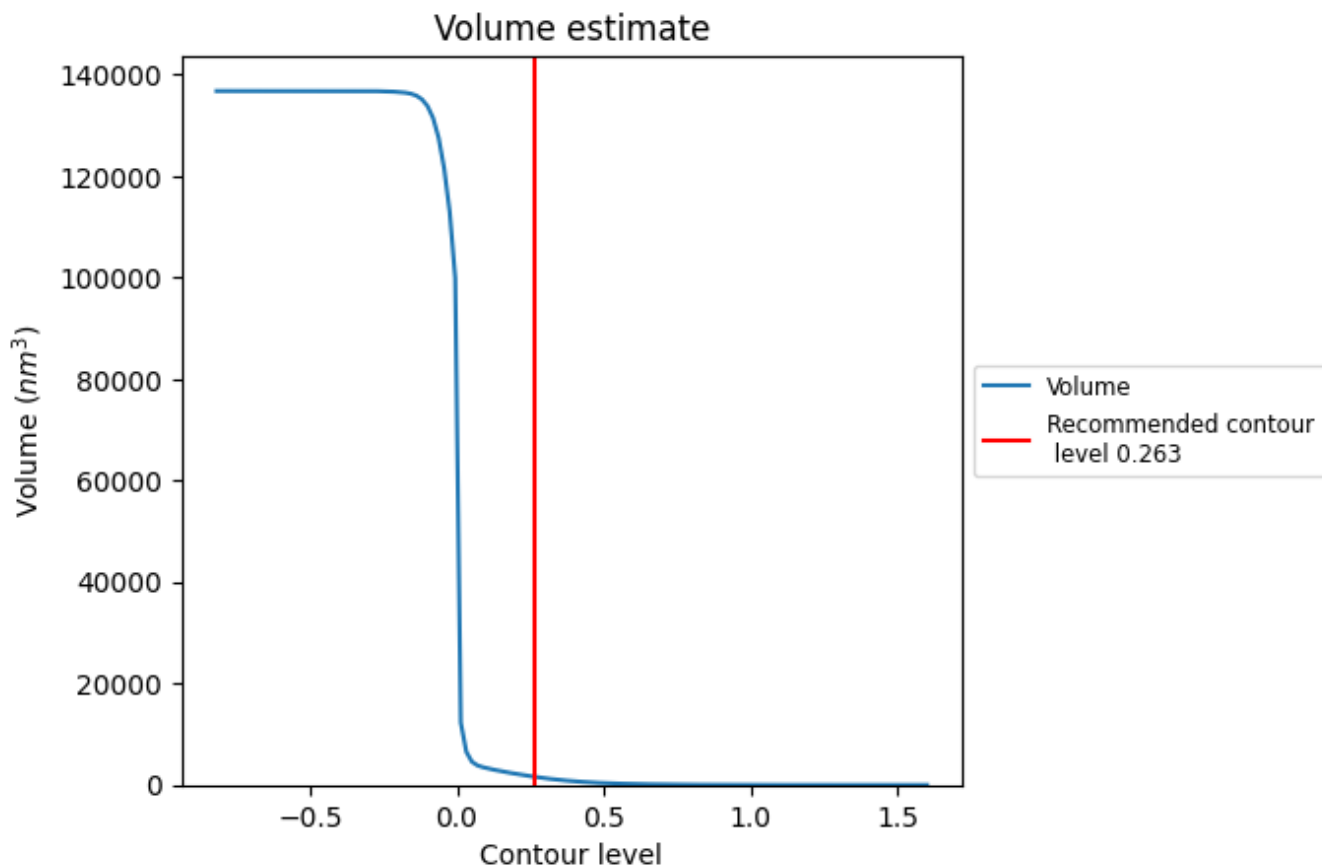
### 7.1 Map-value distribution [i](#)



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.



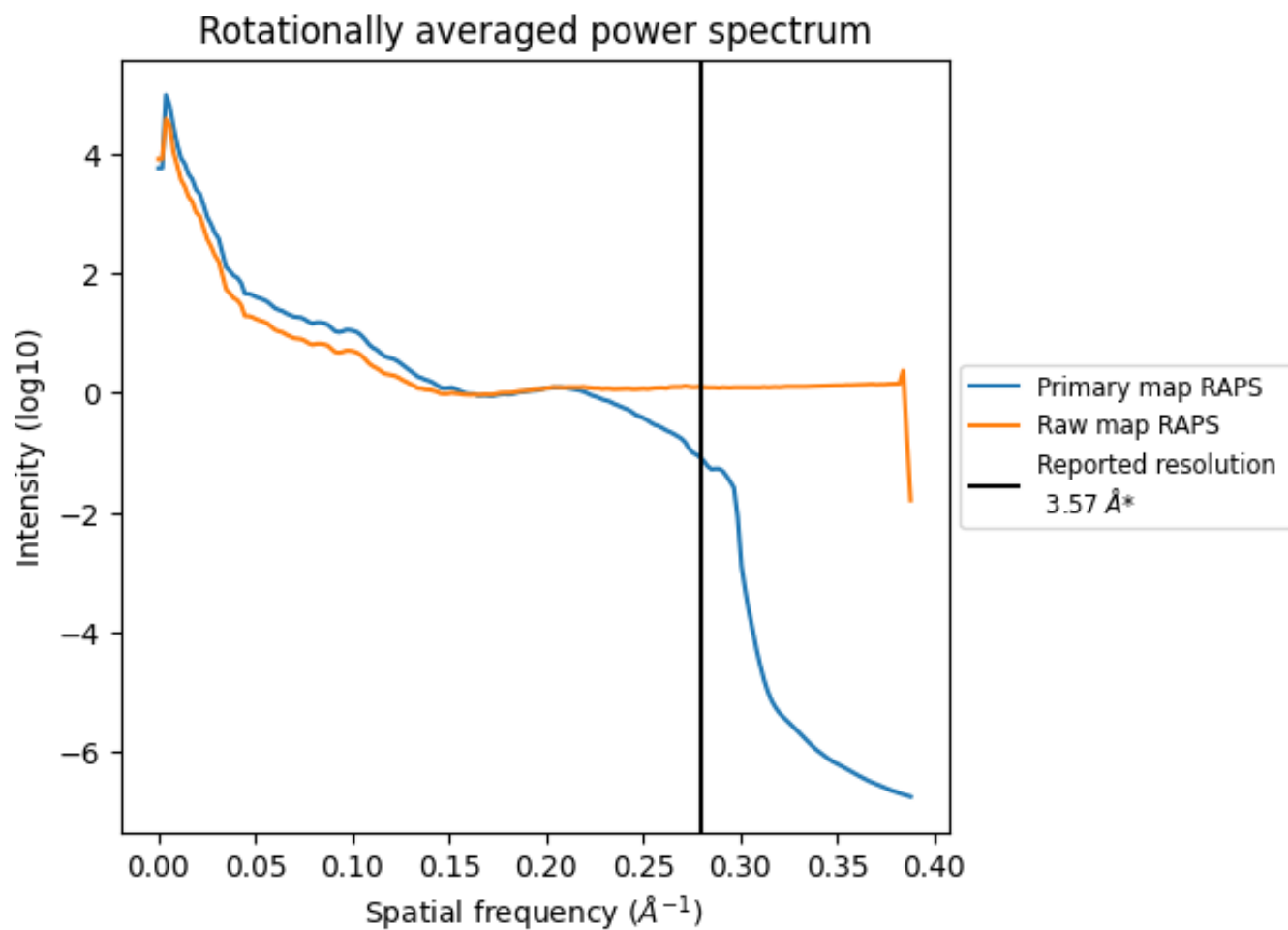
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 1622  $\text{nm}^3$ ; this corresponds to an approximate mass of 1465 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

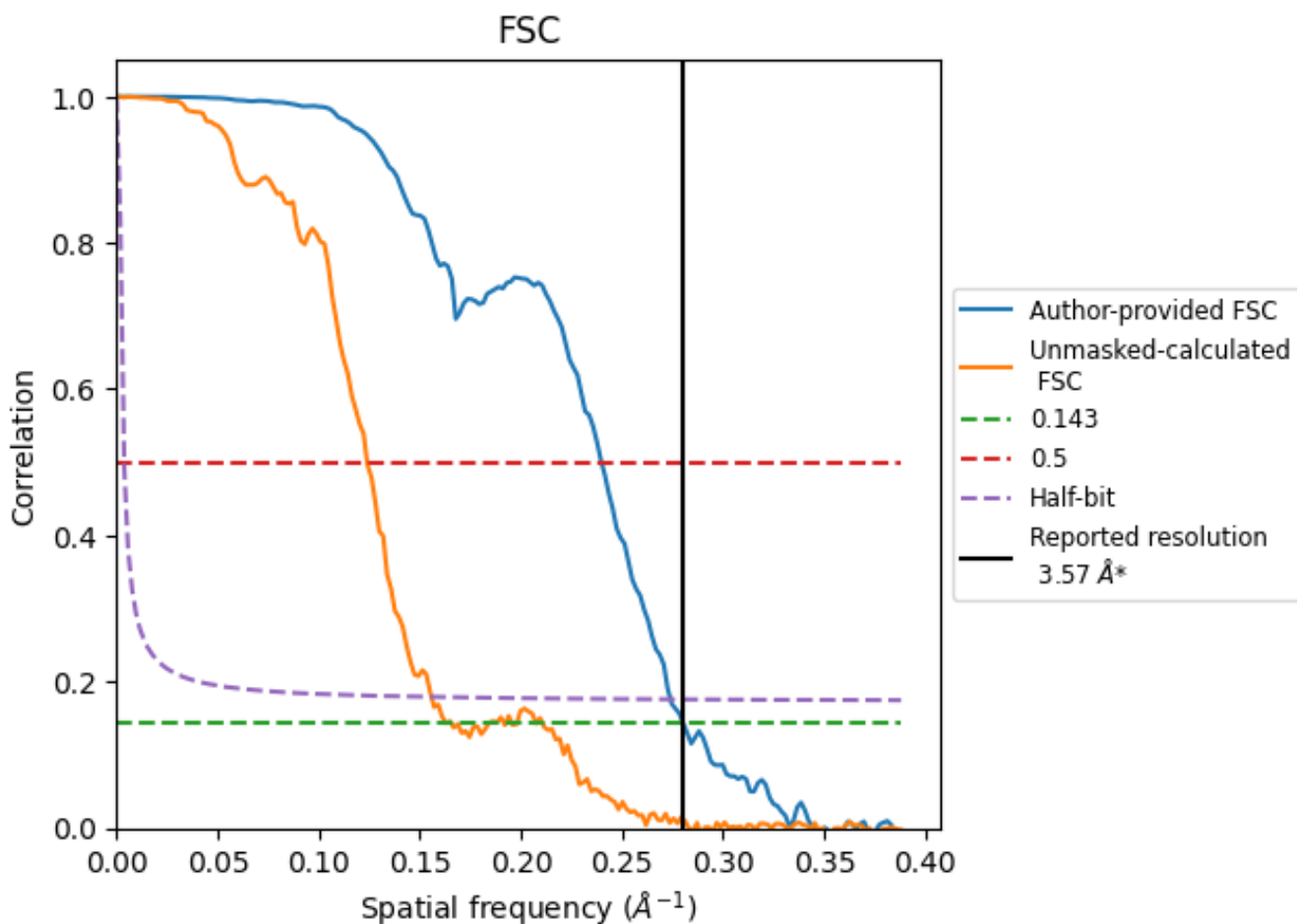


\*Reported resolution corresponds to spatial frequency of 0.280 Å<sup>-1</sup>

## 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 0.280  $\text{\AA}^{-1}$

## 8.2 Resolution estimates [i](#)

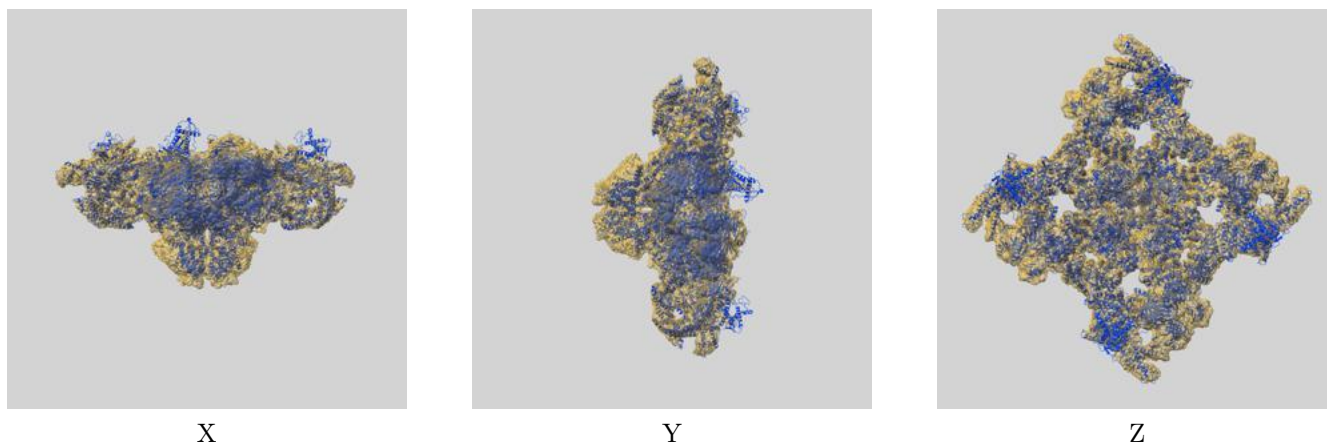
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.57	-	-
Author-provided FSC curve	3.57	4.17	3.65
Unmasked-calculated*	6.04	8.06	6.41

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.04 differs from the reported value 3.57 by more than 10 %

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

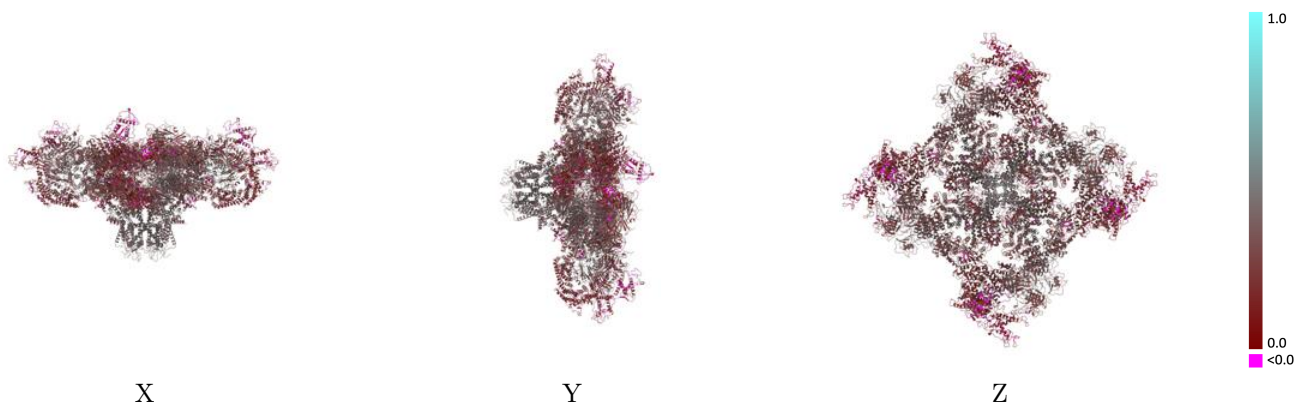
This section contains information regarding the fit between EMDB map EMD-40424 and PDB model 8SEP. Per-residue inclusion information can be found in section 3 on page 8.

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



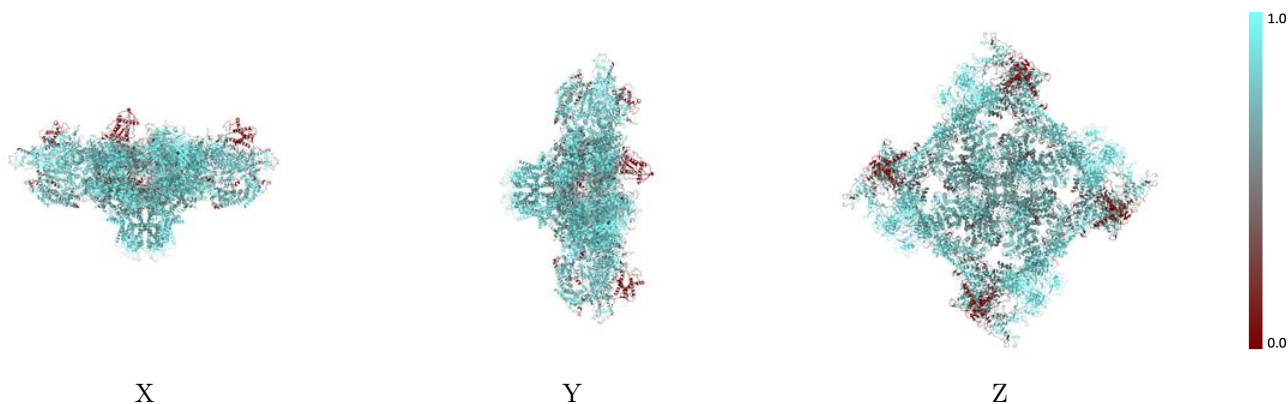
The images above show the 3D surface view of the map at the recommended contour level 0.263 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



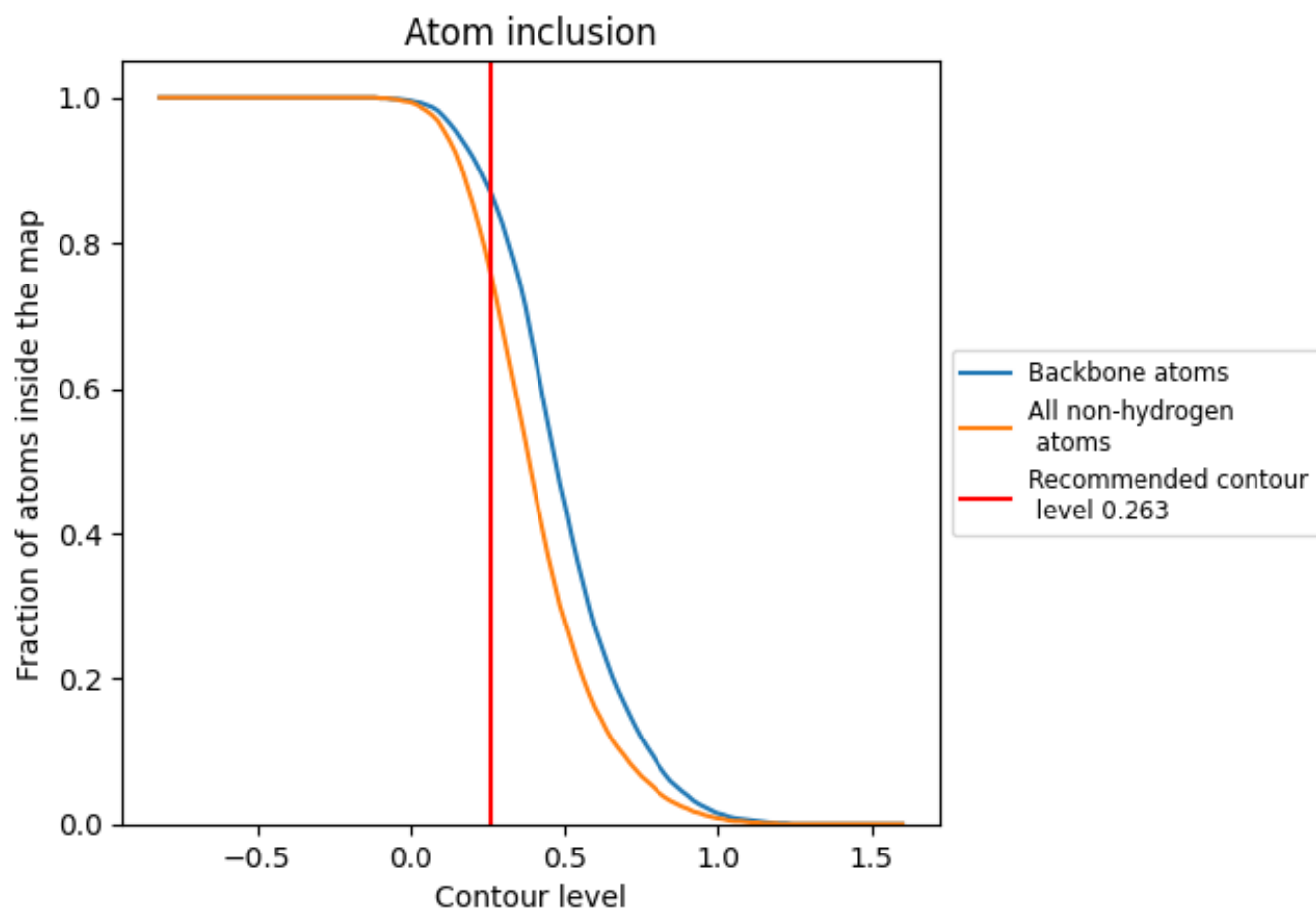
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.263).



















## 9.4 Atom inclusion [i](#)



At the recommended contour level, 87% of all backbone atoms, 75% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.263) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7520	 0.2890
A	 0.7480	 0.2870
B	 0.7490	 0.2880
C	 0.7490	 0.2880
D	 0.7490	 0.2880
E	 0.9160	 0.3620
F	 0.9160	 0.3620
G	 0.9160	 0.3620
H	 0.9160	 0.3620

