



Full wwPDB EM Validation Report ⓘ

Feb 25, 2024 – 12:17 PM EST

PDB ID : 6X35
EMDB ID : EMD-22018
Title : Pig R615C RyR1 in complex with CaM, EGTA (class 1, open)
Authors : Woll, K.W.; Haji-Ghassemi, O.; Van Petegem, F.
Deposited on : 2020-05-21
Resolution : 4.20 Å (reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

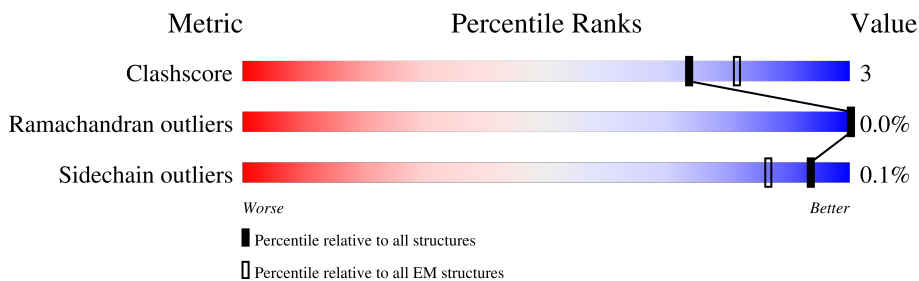
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.20 Å.

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






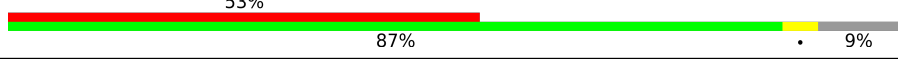
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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

Mol	Chain	Length	Quality of chain
1	A	110	
1	D	110	
1	G	110	
1	J	110	
2	B	3801	
2	E	3801	
2	H	3801	
2	K	3801	

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Mol	Chain	Length	Quality of chain
3	C	148	
3	F	148	
3	I	148	
3	L	148	

2 Entry composition i

There are 4 unique types of molecules in this entry. The entry contains 111888 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	106	740	472	128	137	3	0	0
1	D	106	740	472	128	137	3	0	0
1	G	106	740	472	128	137	3	0	0
1	J	106	740	472	128	137	3	0	0

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	SER	-	expression tag	UNP P68106
A	-1	ASN	-	expression tag	UNP P68106
A	0	ALA	-	expression tag	UNP P68106
D	-2	SER	-	expression tag	UNP P68106
D	-1	ASN	-	expression tag	UNP P68106
D	0	ALA	-	expression tag	UNP P68106
G	-2	SER	-	expression tag	UNP P68106
G	-1	ASN	-	expression tag	UNP P68106
G	0	ALA	-	expression tag	UNP P68106
J	-2	SER	-	expression tag	UNP P68106
J	-1	ASN	-	expression tag	UNP P68106
J	0	ALA	-	expression tag	UNP P68106

- Molecule 2 is a protein called Ryanodine Receptor.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	3801	26463	16948	4708	4641	166	6	0
2	E	3801	26463	16948	4708	4641	166	6	0
2	H	3801	26463	16948	4708	4641	166	6	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	K	3801	26463	16948	4708	4641	166	6	0

- Molecule 3 is a protein called Calmodulin-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	135	768	477	138	151	2	0	0
3	F	135	768	477	138	151	2	0	0
3	I	135	768	477	138	151	2	0	0
3	L	135	768	477	138	151	2	0	0

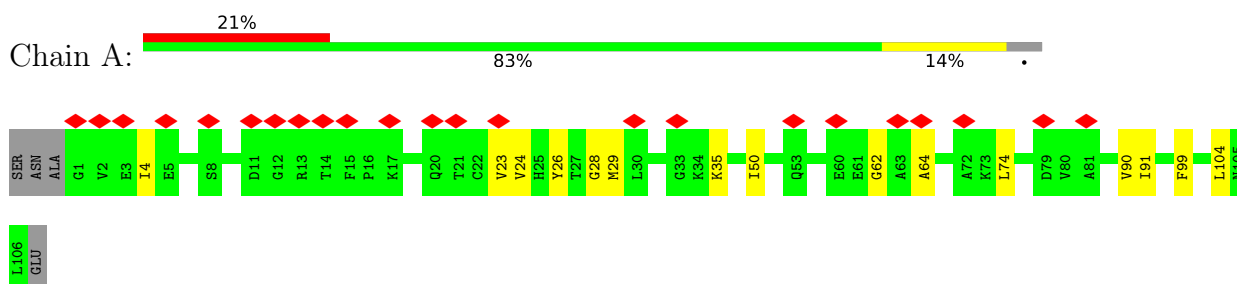
- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
4	B	1	1	1	0
4	E	1	1	1	0
4	H	1	1	1	0
4	K	1	1	1	0

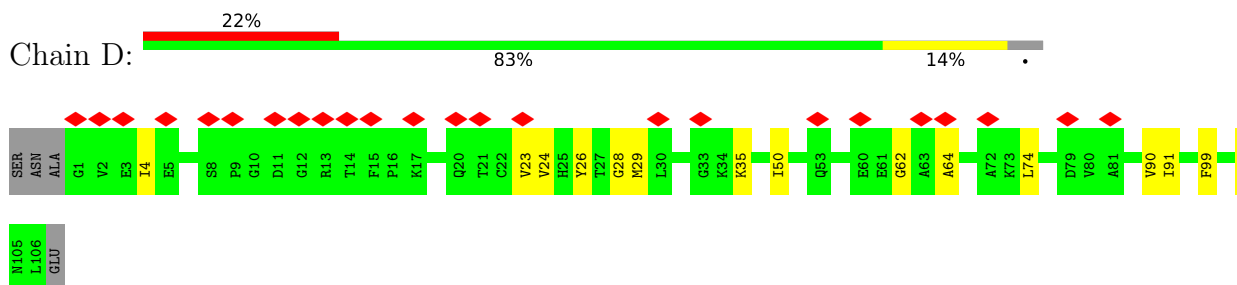
3 Residue-property plots [i](#)

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

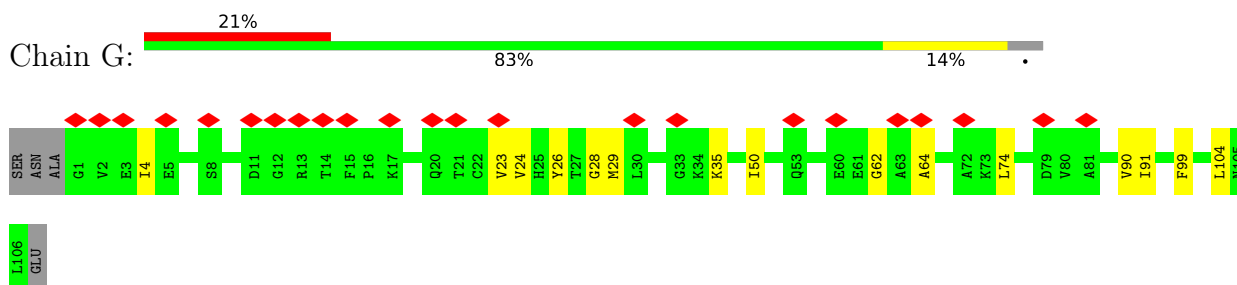
- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B



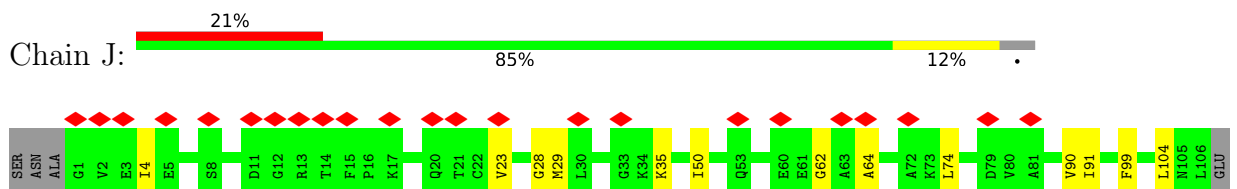
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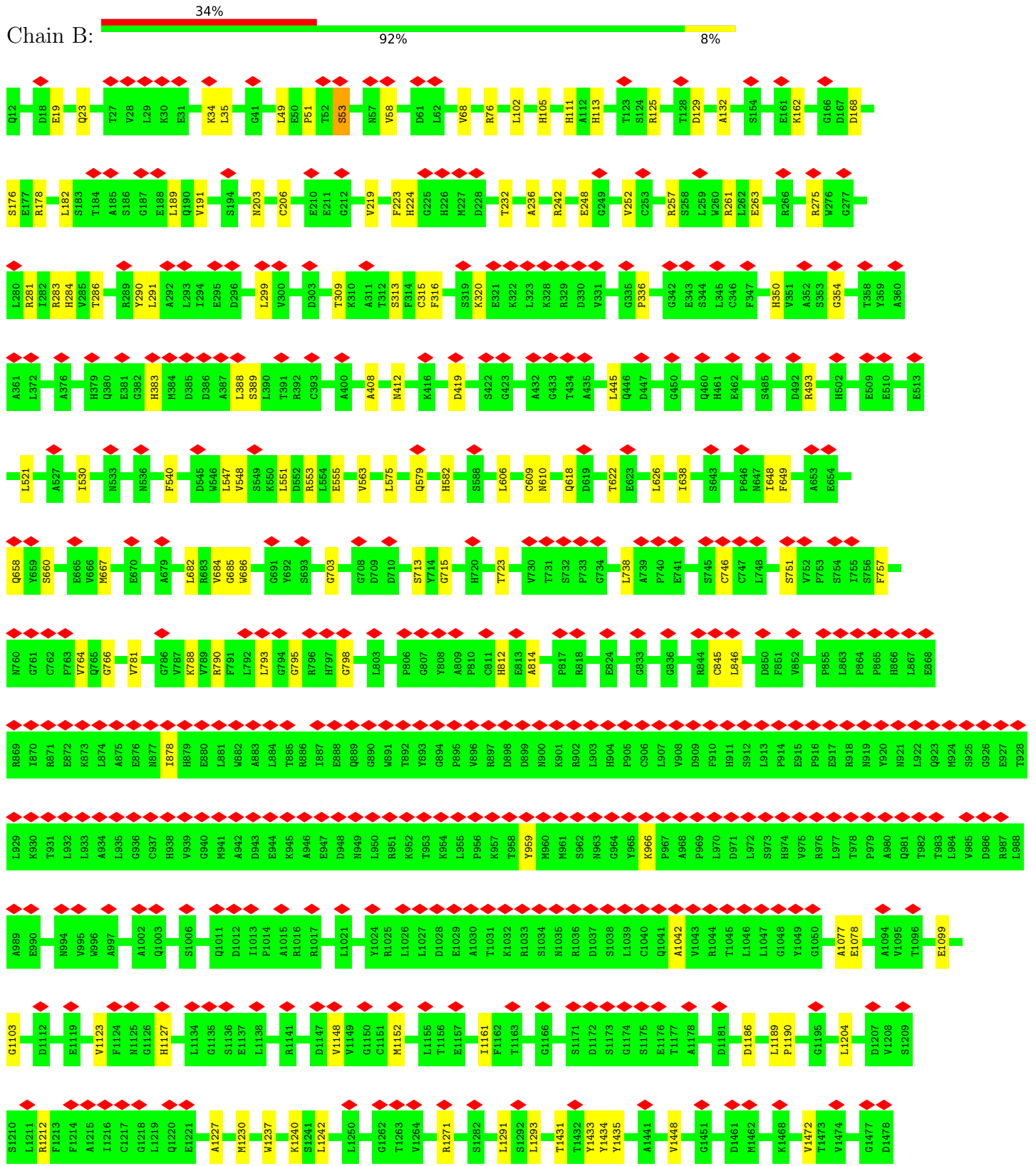
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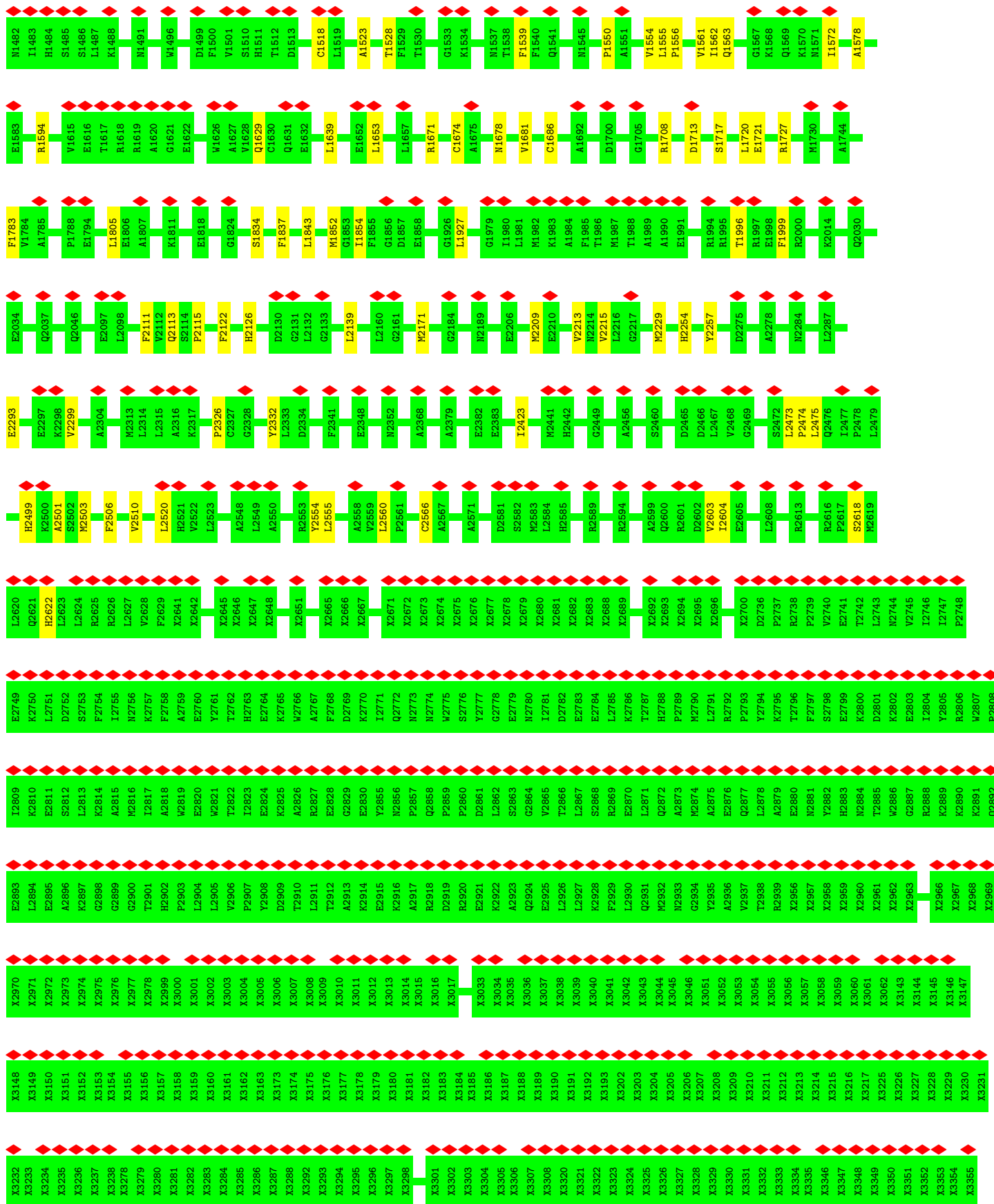


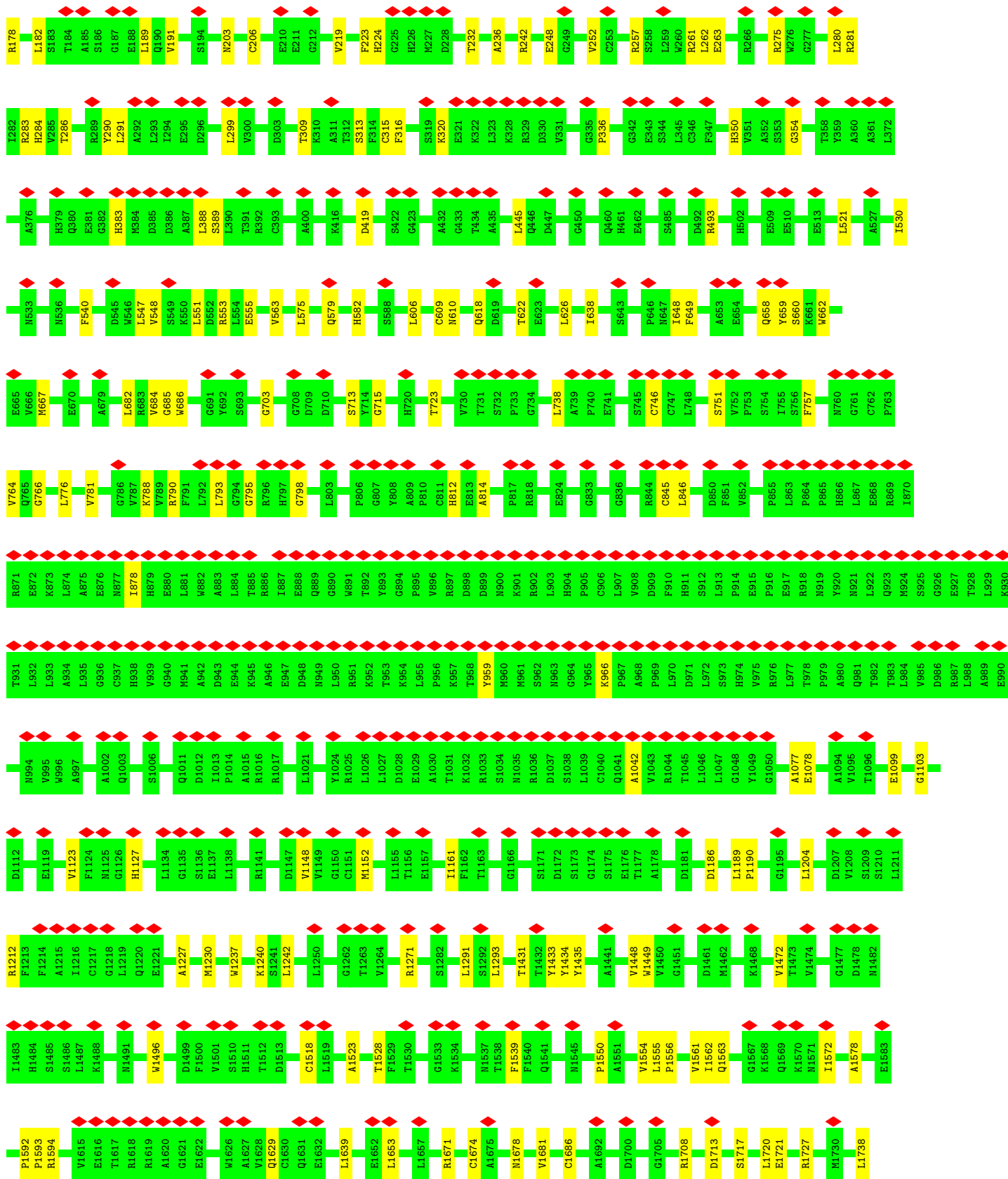
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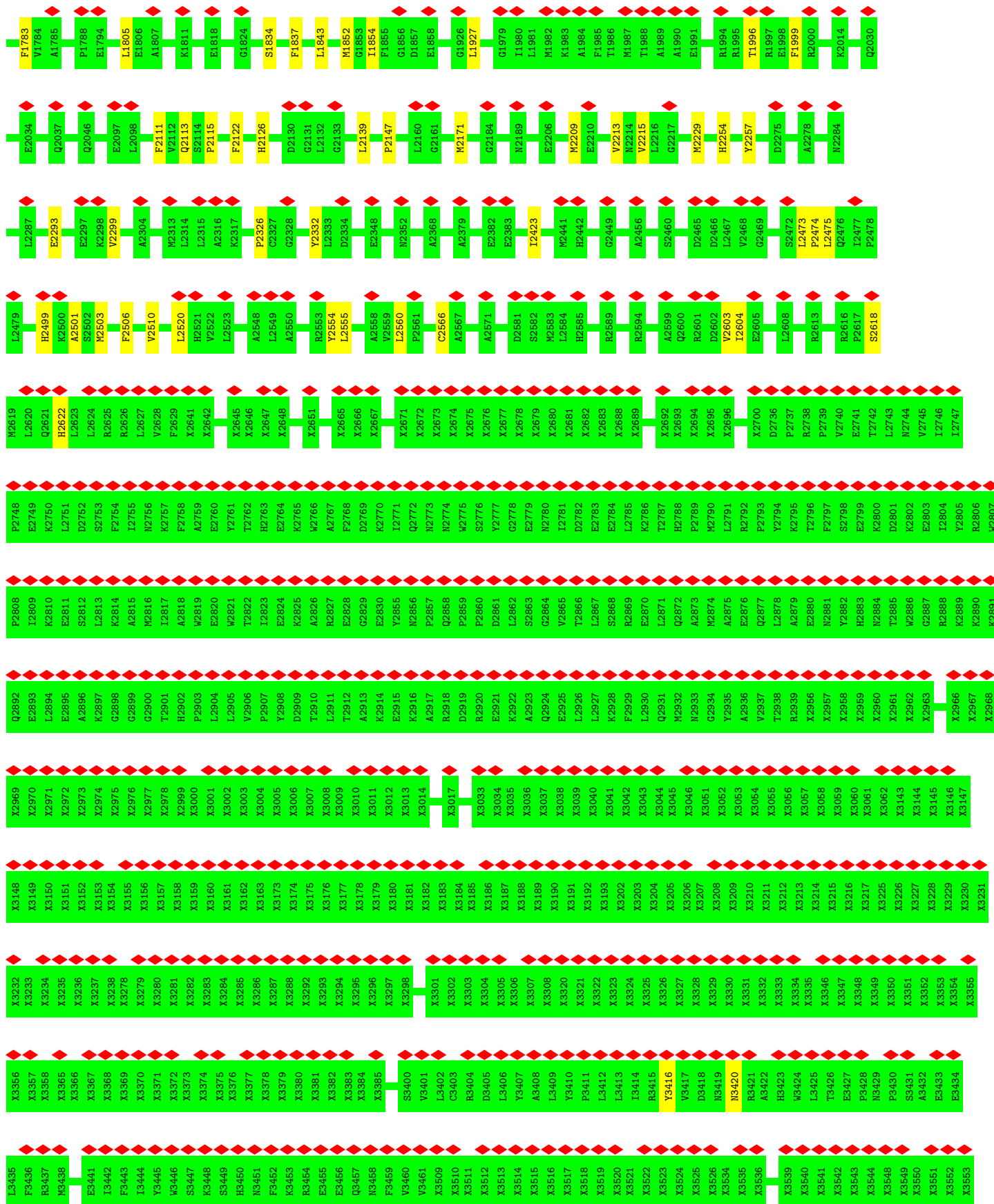


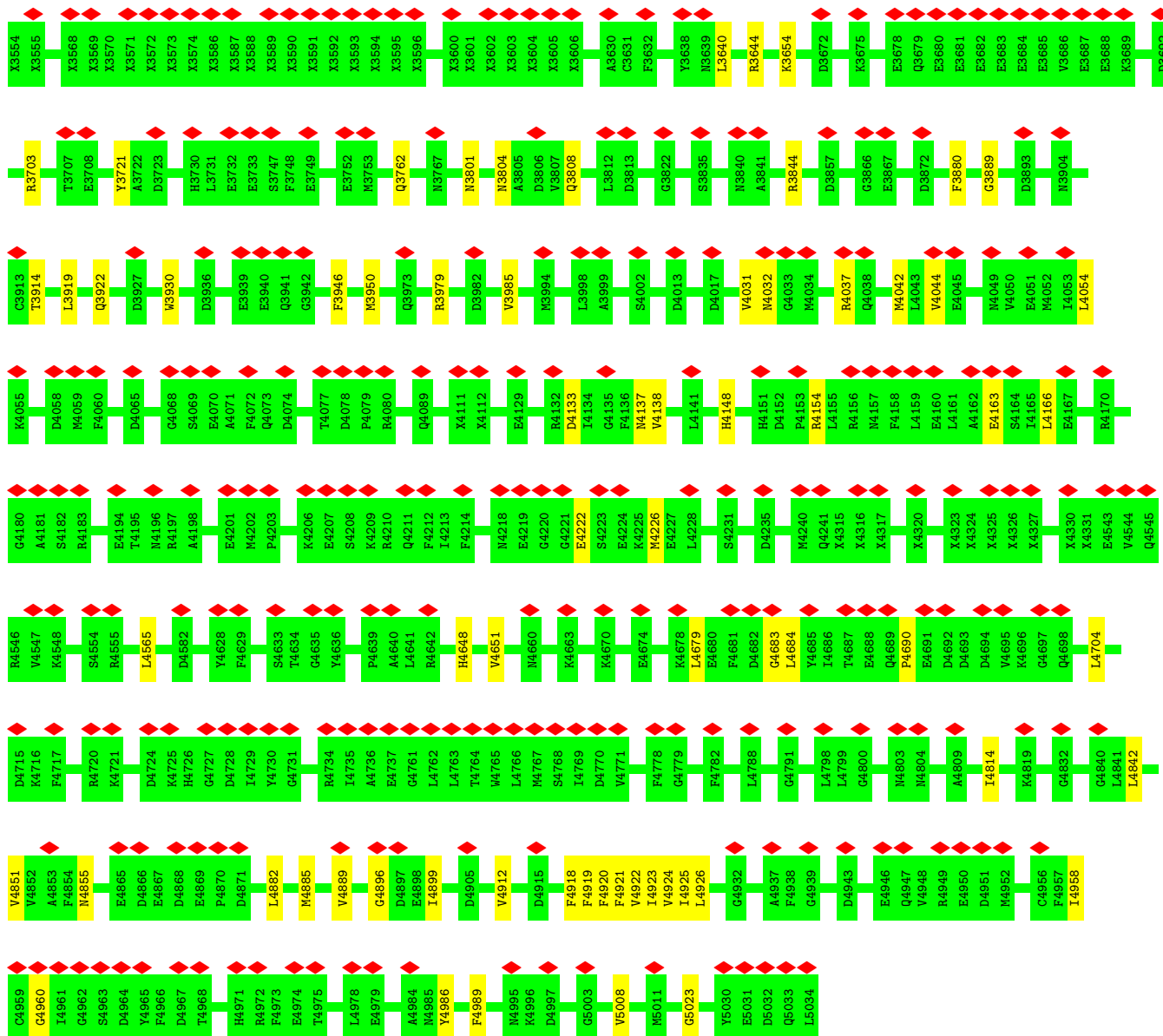
• Molecule 2: Ryanodine Receptor



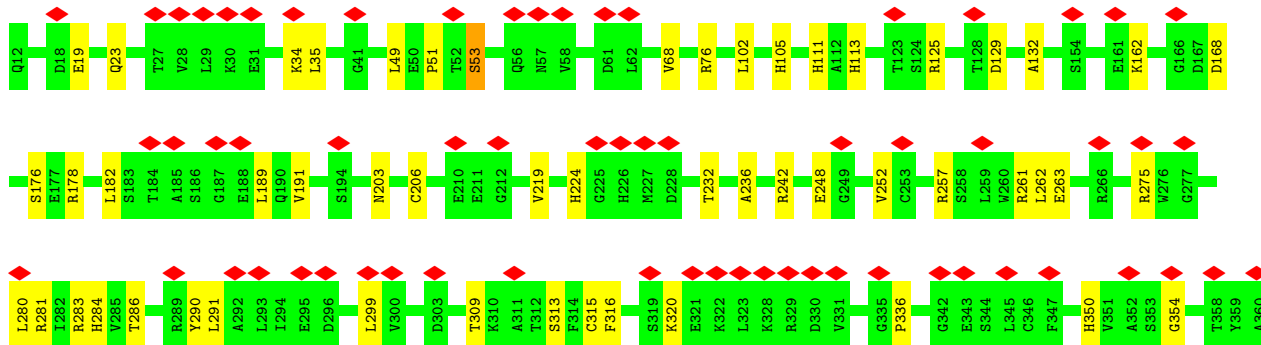
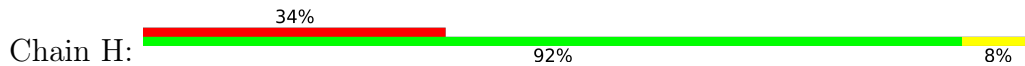




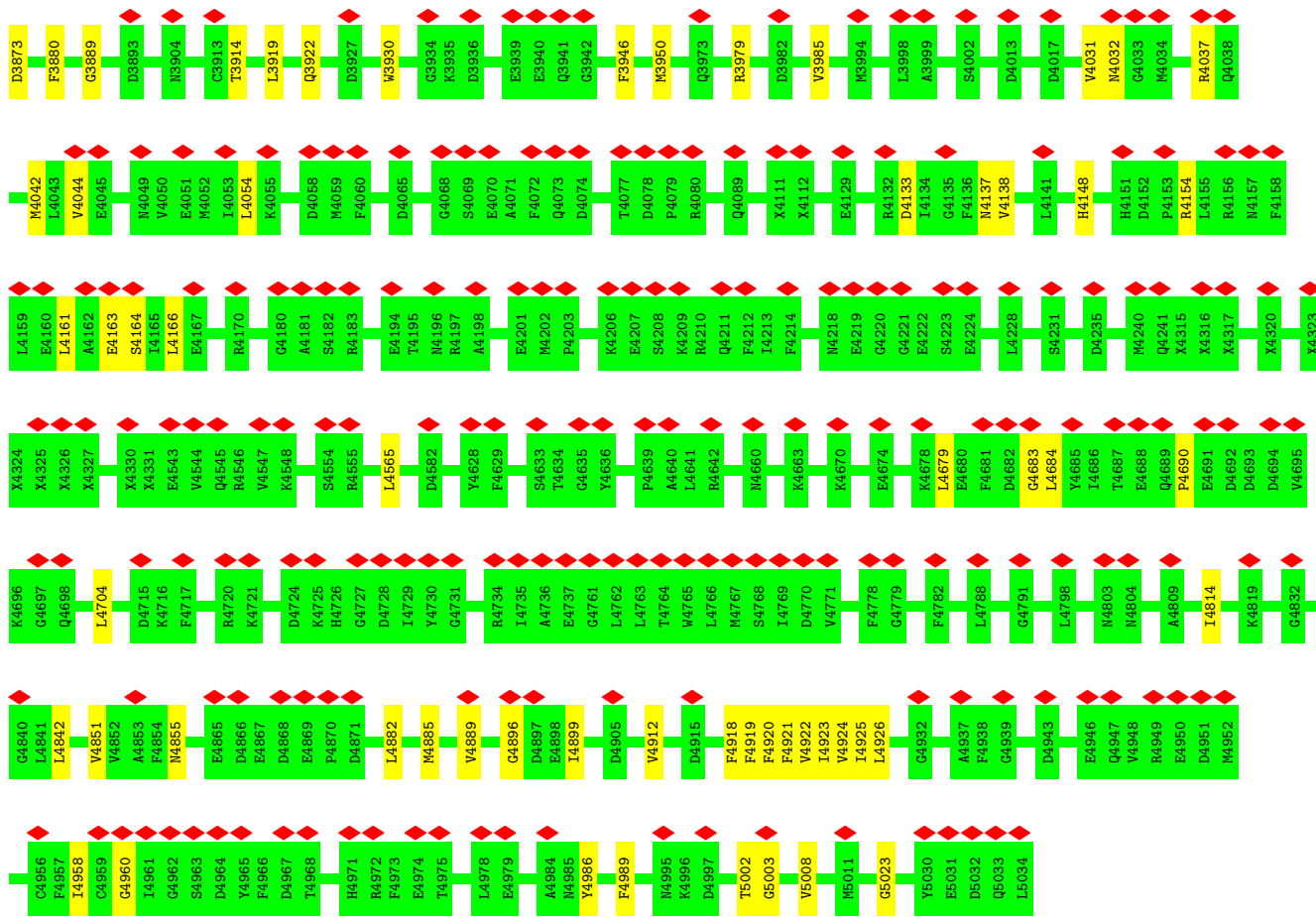




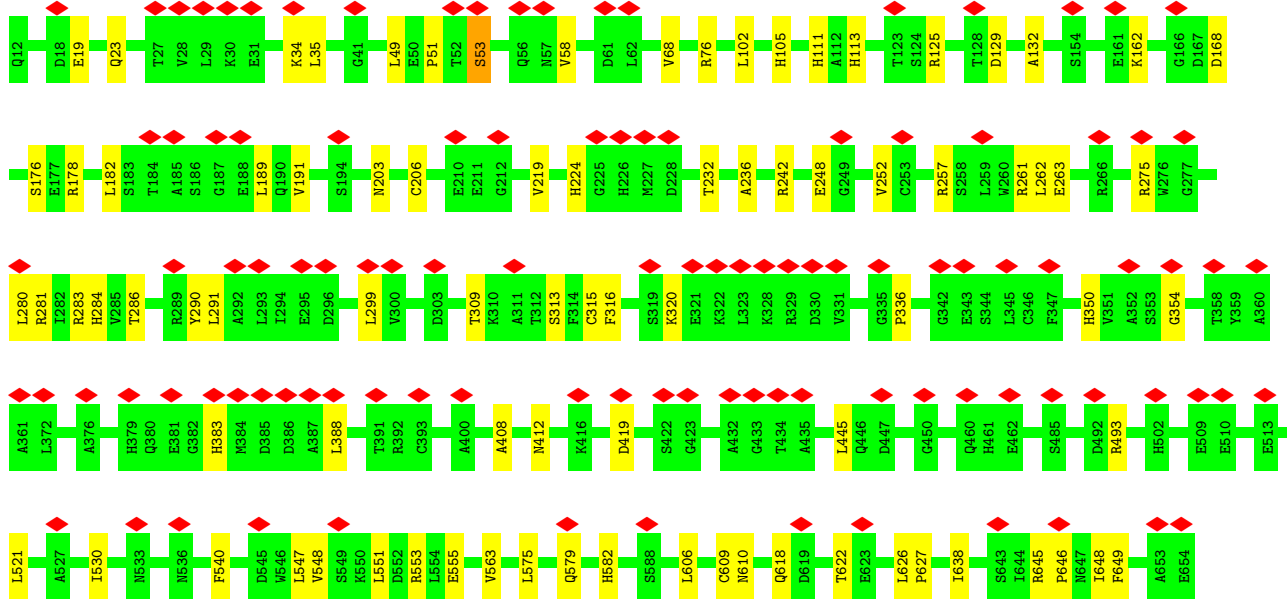
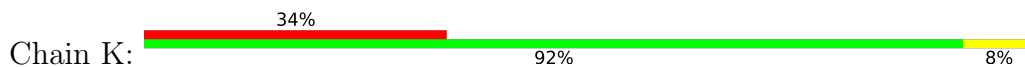
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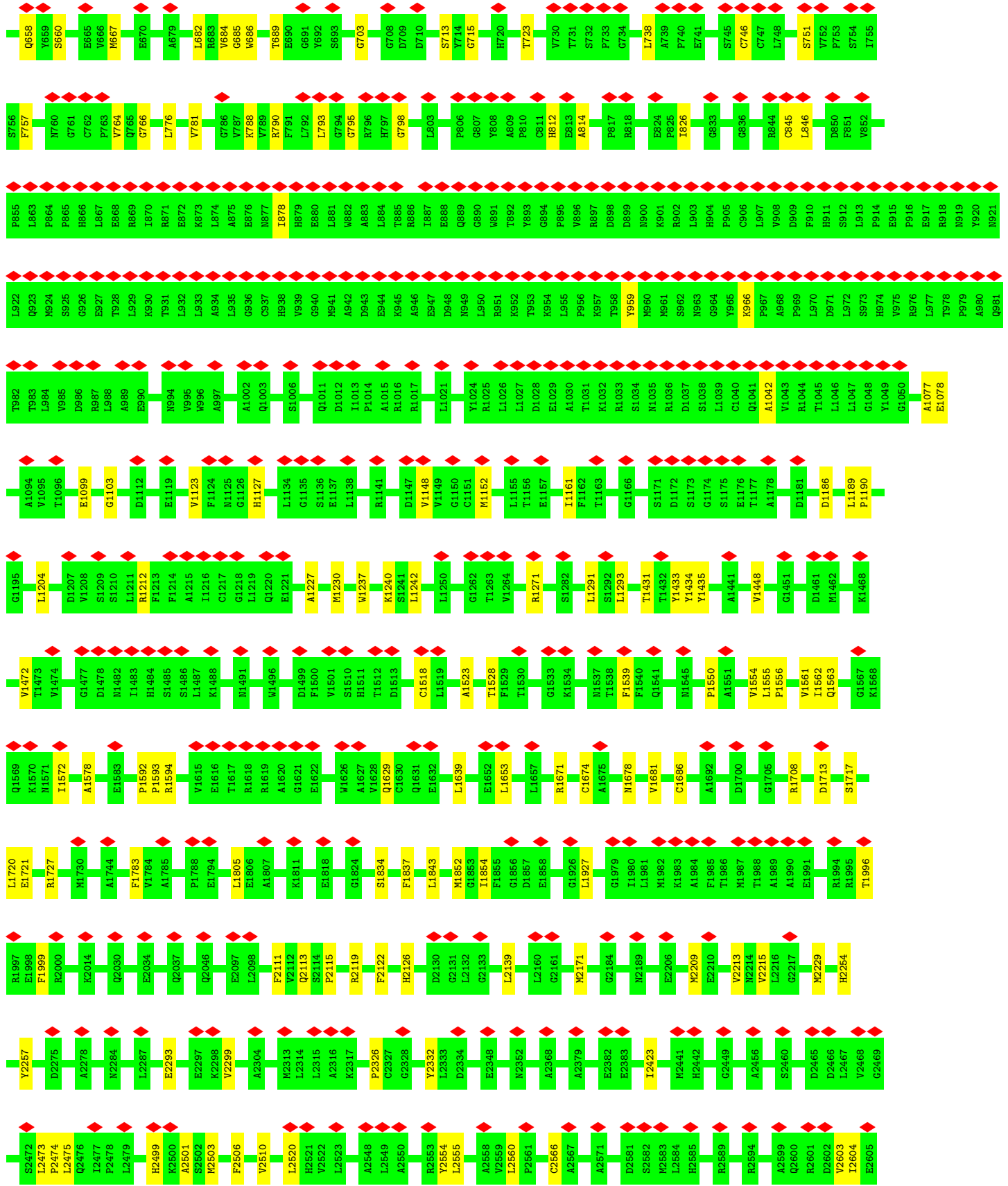


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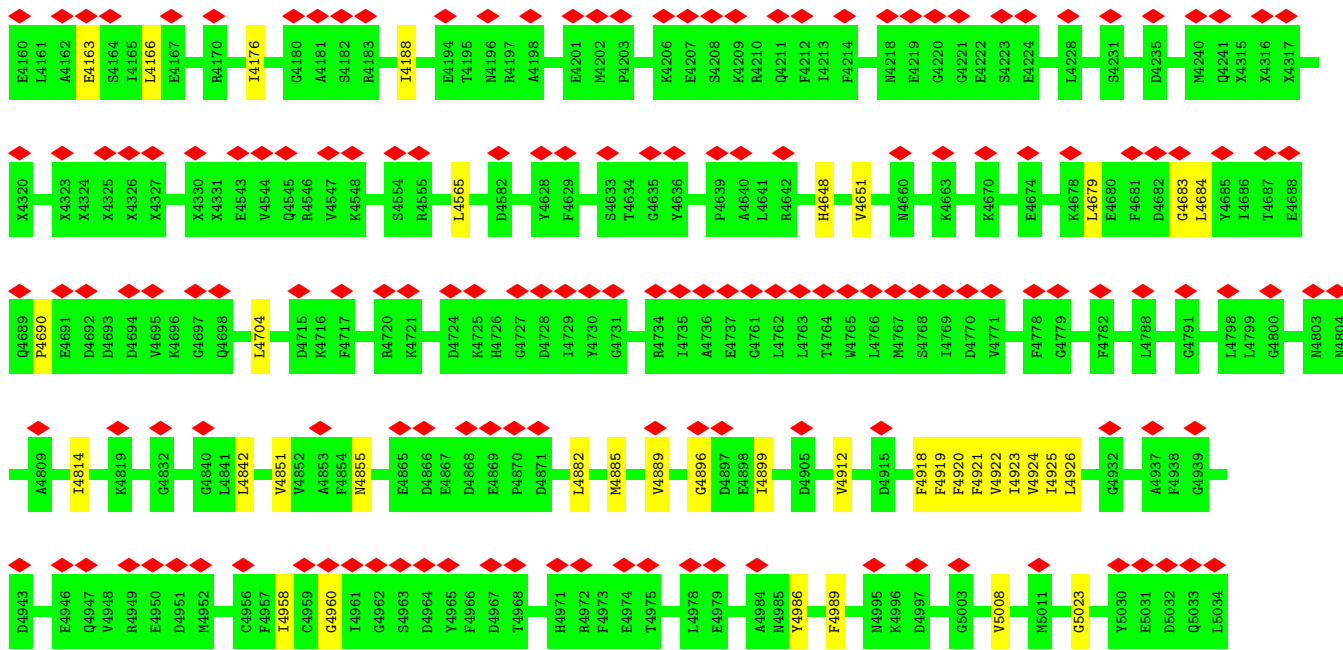


• Molecule 2: Ryanodine Receptor

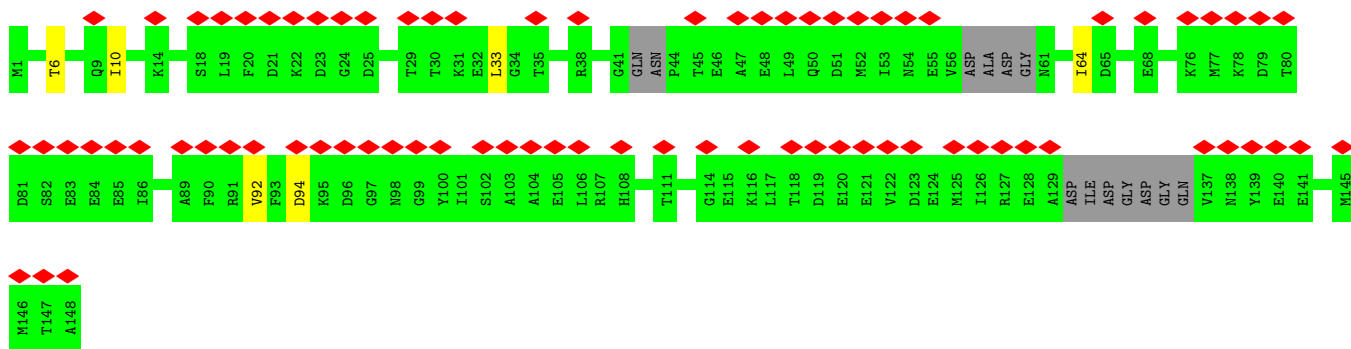
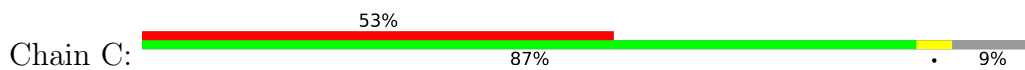




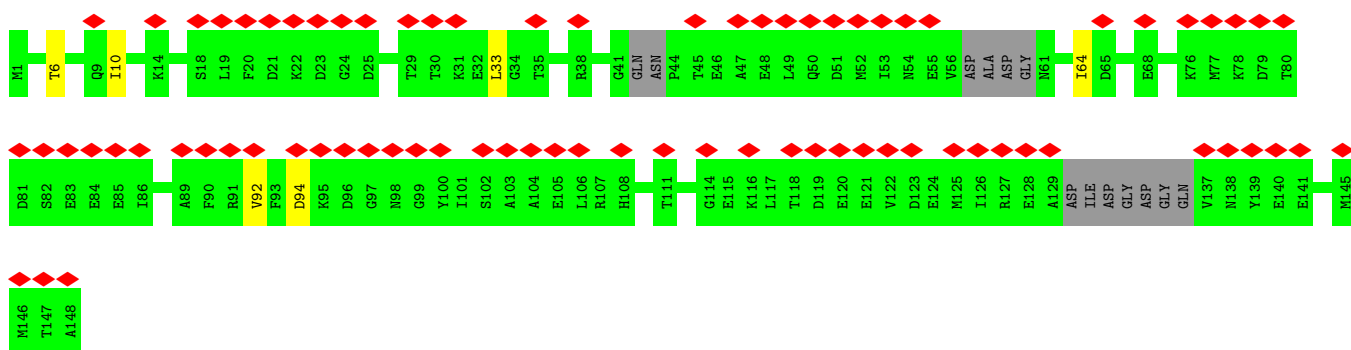
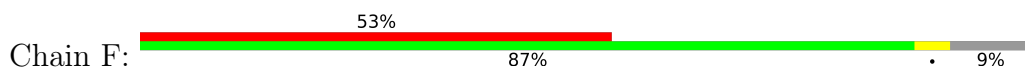
V3869	M4042	E3684	X3543	X3217	X3061	X2960	M2884	K2800	V2740	L2608
M3870	L4043	E3685	X3544	X3225	X3062	X2961	T2885	D2801	E2741	L2613
D3872	V4044	V5686	X3548	X3226	X3062	X2962	M2886	D2802	T2742	R2616
F3880	E4045	E3687	X3549	X3227	X3143	X2963	G2887	E2803	L2743	S2618
G3889	M4049	E3688	X3550	X3228	X3144	X2966	R2888	I2804	M2744	P2617
M3904	V4050	A9452	X3551	X3229	X3145	X2967	K2889	V2805	V2745	S2619
C3913	V4051	E3433	X3552	X3230	X3146	X2968	K2890	K2806	L2746	M2619
T3914	M4052	E3434	X3553	X3231	X3147	X2969	K2891	W2807	L2747	L2620
I3919	L4053	E3436	X3554	X3232	X3148	X2970	Q2892	P2808	P2748	L2621
Q3922	L4054	F3437	X3555	X3233	X3149	X2971	Q2893	L2809	E2749	H2622
D3927	M4055	R3437	X3556	X3234	X3150	X2972	L2894	K2810	K2750	L2623
W3930	D4056	E3441	X3568	X3235	X3151	X2973	E2895	E2811	L2751	L2624
D3936	S4069	I3442	X3569	X3236	X3152	X2974	A2896	S2812	D2752	R2625
E3939	A4070	F3443	X3570	X3237	X3153	X2975	K2897	L2813	S2753	R2626
E3940	A4071	I3444	X3571	X3238	X3154	X2976	G2898	K2814	F2754	L2627
F4072	F4072	I3445	X3572	X3239	X3155	X2977	G2899	A2815	L2755	L2628
Q3941	Q4073	I3446	X3573	X3240	X3156	X2978	G2900	M2816	N2756	F2629
G3942	D4074	K3446	X3574	X3241	X3157	X2978	T2901	I2817	K2757	X2641
F3946	G4068	S3447	X3586	X3242	X3158	X2978	H2902	L2818	F2758	X2642
D3936	S4069	K3448	X3587	X3243	X3159	X2998	P2903	W2819	A2759	X2645
E3939	E4070	K3448	X3588	X3244	X3160	X3000	L2904	E2820	E2760	X2646
E3940	F4072	S3449	X3589	X3245	X3161	X3001	L2905	W2821	Y2761	X2647
Q3941	Q4073	H3450	X3590	X3246	X3162	X3002	L2906	W2822	T2762	X2648
G3942	D4074	N3451	X3591	X3247	X3163	X3003	V2906	L2823	H2763	X2651
F3946	F4077	F3452	X3592	X3248	X3173	X3005	P2907	I2823	E2764	X2665
D4078	D4078	K3453	X3593	X3249	X3174	X3006	V2908	E2824	K2765	X2666
F4079	F4079	R3454	X3594	X3250	X3175	X3007	D2909	A2826	W2766	X2667
R4080	R4080	E3455	X3595	X3251	X3176	X3008	T2910	K2827	A2767	X2671
Q3973	Q3973	E3456	X3596	X3252	X3177	X3008	L2911	E2828	F2768	X2672
R3979	Q4089	Q3457	X3600	X3253	X3178	X3010	T2912	Q2829	D2769	X2673
D3982	X4111	N3458	X3601	X3254	X3179	X3011	A2913	G2829	K2770	X2674
V3985	X4112	F3459	X3602	X3255	X3180	X3012	K2914	E2830	I2771	X2675
M3994	E4129	V3461	X3603	X3256	X3181	X3013	E2915	N2856	Q2772	X2676
L3998	R4132	A3805	X3604	X3257	X3182	X3014	A2916	Q2860	N2773	X2677
A3999	D4133	D3806	X3605	X3258	X3183	X3015	R2918	L2862	N2774	X2678
S4002	F4134	X3511	X3606	X3259	X3184	X3016	D2919	L2863	W2775	X2679
D4013	D4135	X3512	A3630	X3260	X3185	X3017	R2920	D2864	S2776	X2679
D4017	F4136	X3513	F3632	X3261	X3186	X3018	K2922	G2864	Y2777	X2680
V4031	F4137	X3514	X3633	X3262	X3187	X3018	A2923	S2863	G2778	X2681
N4032	F4138	X3515	X3638	X3263	X3188	X3019	Q2924	L2864	N2780	X2682
G4033	F4139	X3516	M3639	X3264	X3189	X3019	Q2925	V2865	I2781	X2683
M4034	V4138	X3517	L3640	X3265	X3190	X3020	L2926	L2867	E2783	X2688
R4037	L4141	X3518	R3644	X3266	X3191	X3021	L2927	L2867	E2784	X2689
V4031	H4148	X3519	K3654	X3267	X3192	X3041	Q2928	S2868	L2785	X2692
G4033	H4151	X3520	X3654	X3268	X3193	X3042	F2929	R2869	K2786	X2693
M4034	D4152	X3521	D3672	X3269	X3194	X3043	L2930	E2870	T2787	X2694
R4037	F4153	X3522	X3675	X3270	X3195	X3044	Q2931	E2871	H2788	X2695
L4155	L4155	X3523	K3675	X3271	X3196	X3045	L2932	L2871	P2789	X2696
R4156	R4156	X3524	E3678	X3272	X3197	X3046	M2933	A2873	M2790	X2700
M4157	F4157	X3525	Q3679	X3273	X3198	X3046	G2934	M2874	L2791	D2736
F4158	F4158	X3526	E3680	X3274	X3199	X3052	Y2935	A2875	R2792	P2737
L4159	L4159	X3527	E3681	X3275	X3200	X3053	V2936	A2876	L2793	P2737
		X3528	E3682	X3276	X3201	X3054	Q2937	E2877	P2794	R2738
		X3529	E3683	X3277	X3202	X3055	M2938	Q2877	K2795	P2739
		X3530	X3530	X3278	X3203	X3056	L2938	E2878	L2796	
		X3531	X3531	X3279	X3204	X3057	R2939	E2880	F2797	
		X3532	X3532	X3280	X3205	X3058	X2956	E2881	S2798	
		X3533	X3533	X3281	X3206	X3059	X2957	E2882	S2799	
		X3534	X3534	X3282	X3207	X3060	X2958	E2883		
		X3535	X3535	X3283	X3208	X3061	X2959	H2883		
		X3536	X3536	X3284	X3209	X3062	X2960			
		X3537	X3537	X3285	X3210	X3063	X2961			
		X3538	X3538	X3286	X3211	X3064	X2962			
		X3539	X3539	X3287	X3212	X3065	X2963			
		X3540	X3540	X3288	X3213	X3066	X2964			
		X3541	X3541	X3289	X3214	X3067	X2965			
		X3542	X3542	X3290	X3215	X3068	X2966			
				X3291	X3216	X3069	X2967			
				X3292			X2968			
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				X3297			X2973			
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				X3301			X2977			
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				X3317			X2993			
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				X3324			X3000			
				X3325			X3001			
				X3326			X3002			
				X3327			X3003			
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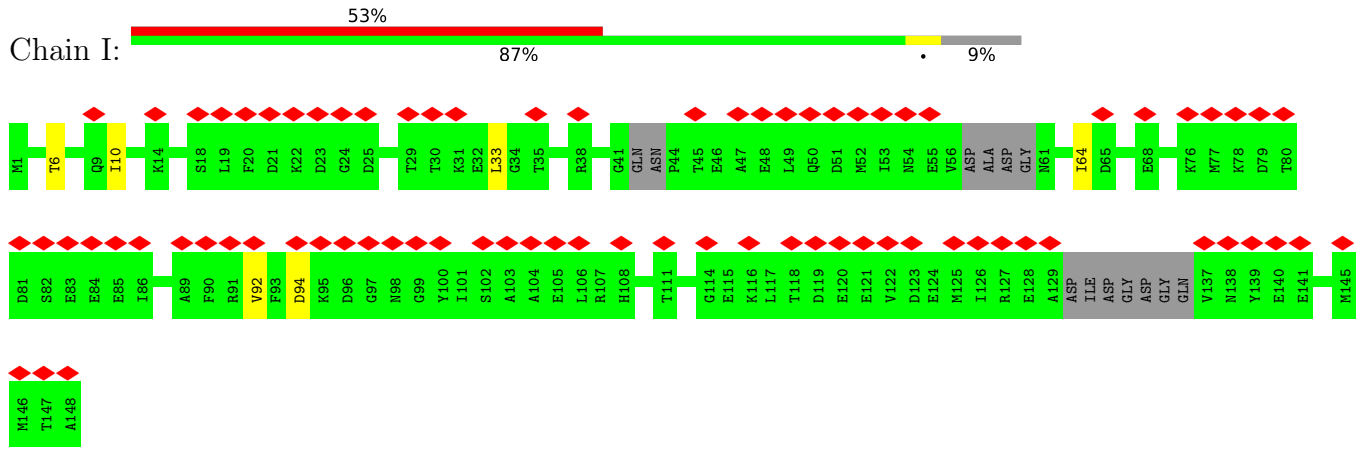
• Molecule 3: Calmodulin-1



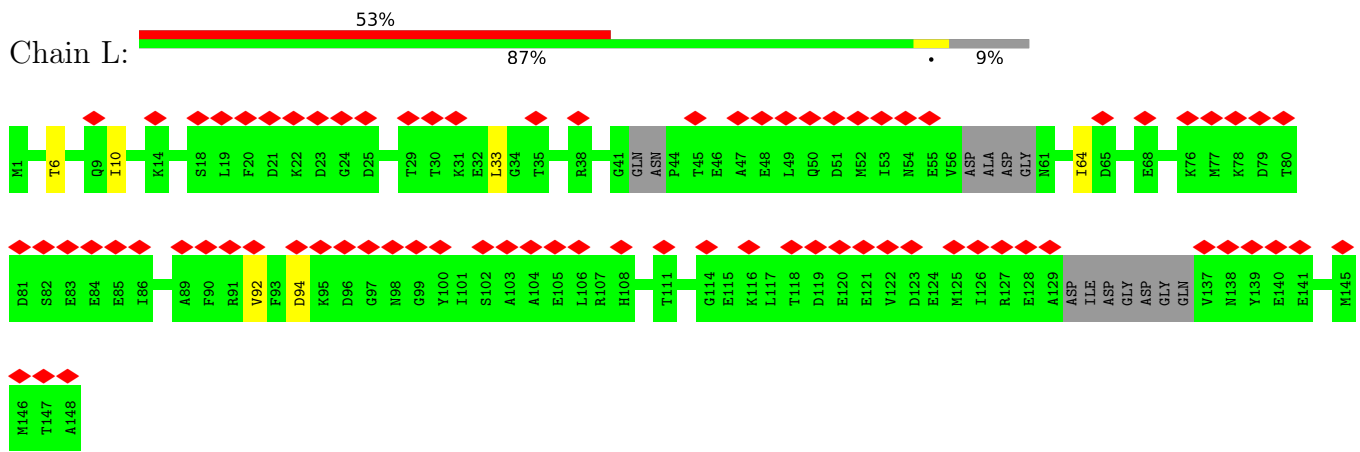
• Molecule 3: Calmodulin-1



• Molecule 3: Calmodulin-1



• Molecule 3: Calmodulin-1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	25122	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.192	Depositor
Minimum map value	-0.147	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.023	Depositor
Map size (\AA)	523.2, 523.2, 523.2	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.09, 1.09, 1.09	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section:
ZN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.25	0/756	0.42	0/1030
1	D	0.25	0/756	0.42	0/1030
1	G	0.25	0/756	0.42	0/1030
1	J	0.25	0/756	0.42	0/1030
2	B	0.24	0/25212	0.37	0/34385
2	E	0.23	0/25212	0.37	0/34385
2	H	0.23	0/25212	0.37	0/34385
2	K	0.24	0/25212	0.37	0/34385
3	C	0.24	0/772	0.36	0/1059
3	F	0.24	0/772	0.36	0/1059
3	I	0.24	0/772	0.36	0/1059
3	L	0.24	0/772	0.36	0/1059
All	All	0.24	0/106960	0.37	0/145896

There are no bond length outliers.

There are no bond angle outliers.

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	740	0	689	8	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	D	740	0	689	8	0
1	G	740	0	689	8	0
1	J	740	0	689	7	0
2	B	26463	0	22978	161	0
2	E	26463	0	22978	161	0
2	H	26463	0	22978	165	0
2	K	26463	0	22978	165	0
3	C	768	0	486	4	0
3	F	768	0	486	4	0
3	I	768	0	486	4	0
3	L	768	0	486	4	0
4	B	1	0	0	0	0
4	E	1	0	0	0	0
4	H	1	0	0	0	0
4	K	1	0	0	0	0
All	All	111888	0	96612	687	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 3.

All (687) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:579:GLN:H	2:H:582:HIS:HD2	1.39	0.70
2:K:4565:LEU:HG	2:K:4814:ILE:HD12	1.73	0.70
2:B:579:GLN:H	2:B:582:HIS:HD2	1.39	0.70
2:E:579:GLN:H	2:E:582:HIS:HD2	1.39	0.70
2:K:579:GLN:H	2:K:582:HIS:HD2	1.39	0.70
2:B:4565:LEU:HG	2:B:4814:ILE:HD12	1.73	0.69
2:H:4565:LEU:HG	2:H:4814:ILE:HD12	1.73	0.69
2:E:4565:LEU:HG	2:E:4814:ILE:HD12	1.73	0.68
2:K:34:LYS:H	2:K:53:SER:HB2	1.56	0.68
2:E:4842:LEU:HD13	2:E:4926:LEU:HG	1.78	0.65
2:B:4842:LEU:HD13	2:B:4926:LEU:HG	1.78	0.65
2:H:350:HIS:HB3	2:H:354:GLY:H	1.62	0.65
2:K:350:HIS:HB3	2:K:354:GLY:H	1.62	0.65
2:E:350:HIS:HB3	2:E:354:GLY:H	1.62	0.65
2:H:4842:LEU:HD13	2:H:4926:LEU:HG	1.78	0.64
2:K:4842:LEU:HD13	2:K:4926:LEU:HG	1.78	0.63
2:K:2560:LEU:HD23	2:K:2603:VAL:HG12	1.81	0.63
2:H:2560:LEU:HD23	2:H:2603:VAL:HG12	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:350:HIS:HB3	2:B:354:GLY:H	1.62	0.63
2:B:2560:LEU:HD23	2:B:2603:VAL:HG12	1.81	0.62
2:K:622:THR:HG23	2:K:626:LEU:HD12	1.81	0.62
2:E:2560:LEU:HD23	2:E:2603:VAL:HG12	1.81	0.62
2:B:49:LEU:HD11	2:B:191:VAL:HG23	1.82	0.62
2:B:622:THR:HG23	2:B:626:LEU:HD12	1.81	0.61
2:E:622:THR:HG23	2:E:626:LEU:HD12	1.81	0.61
2:K:618:GLN:OE1	2:K:1678:ASN:ND2	2.32	0.61
2:K:1727:ARG:HD2	2:K:1852:MET:HA	1.83	0.60
2:B:1727:ARG:HD2	2:B:1852:MET:HA	1.83	0.60
2:E:1727:ARG:HD2	2:E:1852:MET:HA	1.83	0.60
2:H:622:THR:HG23	2:H:626:LEU:HD12	1.81	0.60
2:H:1727:ARG:HD2	2:H:1852:MET:HA	1.83	0.60
2:K:667:MET:SD	2:K:790:ARG:NH2	2.74	0.60
2:K:19:GLU:HG2	2:K:68:VAL:HG12	1.83	0.60
2:K:553:ARG:NH2	2:K:555:GLU:OE1	2.31	0.60
2:B:553:ARG:NH2	2:B:555:GLU:OE1	2.31	0.60
2:H:3762:GLN:OE1	2:H:3804:ASN:ND2	2.35	0.60
2:E:19:GLU:HG2	2:E:68:VAL:HG12	1.83	0.60
2:E:2139:LEU:HD23	2:E:3654:LYS:HB2	1.84	0.60
2:H:3416:TYR:O	2:H:3420:ASN:ND2	2.35	0.60
2:H:19:GLU:HG2	2:H:68:VAL:HG12	1.83	0.60
2:E:3416:TYR:O	2:E:3420:ASN:ND2	2.35	0.60
2:K:3416:TYR:O	2:K:3420:ASN:ND2	2.35	0.60
2:E:667:MET:SD	2:E:790:ARG:NH2	2.74	0.59
2:B:19:GLU:HG2	2:B:68:VAL:HG12	1.83	0.59
2:B:618:GLN:OE1	2:B:1678:ASN:ND2	2.32	0.59
2:B:667:MET:SD	2:B:790:ARG:NH2	2.74	0.59
2:B:2139:LEU:HD23	2:B:3654:LYS:HB2	1.84	0.59
2:B:3416:TYR:O	2:B:3420:ASN:ND2	2.35	0.59
2:B:3762:GLN:OE1	2:B:3804:ASN:ND2	2.35	0.59
2:E:129:ASP:HB2	2:E:132:ALA:HB2	1.84	0.59
2:H:667:MET:SD	2:H:790:ARG:NH2	2.74	0.59
2:B:686:TRP:O	2:B:713:SER:OG	2.20	0.59
2:H:878:ILE:HD11	2:H:1042:ALA:HA	1.84	0.59
2:E:3762:GLN:OE1	2:E:3804:ASN:ND2	2.35	0.59
2:H:129:ASP:HB2	2:H:132:ALA:HB2	1.84	0.59
2:K:3762:GLN:OE1	2:K:3804:ASN:ND2	2.35	0.59
2:E:618:GLN:OE1	2:E:1678:ASN:ND2	2.32	0.59
2:K:878:ILE:HD11	2:K:1042:ALA:HA	1.84	0.59
2:H:2139:LEU:HD23	2:H:3654:LYS:HB2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:2139:LEU:HD23	2:K:3654:LYS:HB2	1.84	0.59
2:K:1271:ARG:HA	2:K:1563:GLN:HG2	1.85	0.58
2:K:129:ASP:HB2	2:K:132:ALA:HB2	1.84	0.58
2:B:129:ASP:HB2	2:B:132:ALA:HB2	1.84	0.58
2:E:1271:ARG:HA	2:E:1563:GLN:HG2	1.85	0.58
2:K:176:SER:HB2	2:K:178:ARG:HH21	1.69	0.58
2:B:878:ILE:HD11	2:B:1042:ALA:HA	1.84	0.58
2:B:1271:ARG:HA	2:B:1563:GLN:HG2	1.85	0.58
2:E:878:ILE:HD11	2:E:1042:ALA:HA	1.84	0.58
2:H:1078:GLU:HG2	2:H:1237:TRP:HE1	1.69	0.58
2:H:2111:PHE:HD2	2:H:2113:GLN:HG2	1.69	0.58
2:B:1435:TYR:HB3	2:B:1518:CYS:HB2	1.86	0.58
2:E:1078:GLU:HG2	2:E:1237:TRP:HE1	1.69	0.58
2:H:176:SER:HB2	2:H:178:ARG:HH21	1.69	0.58
2:H:553:ARG:NH2	2:H:555:GLU:OE1	2.31	0.58
2:H:1271:ARG:HA	2:H:1563:GLN:HG2	1.85	0.58
2:B:4679:LEU:HD12	2:B:4683:GLY:HA2	1.86	0.57
2:B:2111:PHE:HD2	2:B:2113:GLN:HG2	1.69	0.57
2:K:4679:LEU:HD12	2:K:4683:GLY:HA2	1.86	0.57
2:B:648:ILE:HG23	2:B:814:ALA:HB3	1.87	0.57
2:E:291:LEU:HD12	2:E:299:LEU:HD22	1.87	0.57
2:E:1435:TYR:HB3	2:E:1518:CYS:HB2	1.86	0.57
2:H:648:ILE:HG23	2:H:814:ALA:HB3	1.87	0.57
1:A:62:GLY:HA3	1:A:74:LEU:HD22	1.87	0.57
2:B:1078:GLU:HG2	2:B:1237:TRP:HE1	1.69	0.57
2:E:176:SER:HB2	2:E:178:ARG:HH21	1.69	0.57
2:B:176:SER:HB2	2:B:178:ARG:HH21	1.69	0.57
2:H:618:GLN:OE1	2:H:1678:ASN:ND2	2.32	0.57
2:E:686:TRP:O	2:E:713:SER:OG	2.20	0.57
2:K:682:LEU:HB3	2:K:738:LEU:HD11	1.87	0.57
2:K:686:TRP:O	2:K:713:SER:OG	2.20	0.56
2:K:1078:GLU:HG2	2:K:1237:TRP:HE1	1.69	0.56
2:E:4679:LEU:HD12	2:E:4683:GLY:HA2	1.86	0.56
1:J:62:GLY:HA3	1:J:74:LEU:HD22	1.87	0.56
2:K:648:ILE:HG23	2:K:814:ALA:HB3	1.87	0.56
2:K:1435:TYR:HB3	2:K:1518:CYS:HB2	1.86	0.56
2:E:648:ILE:HG23	2:E:814:ALA:HB3	1.87	0.56
2:H:291:LEU:HD12	2:H:299:LEU:HD22	1.87	0.56
2:K:2111:PHE:HD2	2:K:2113:GLN:HG2	1.69	0.56
2:B:76:ARG:HB2	2:K:3930:TRP:HE3	1.71	0.56
2:B:682:LEU:HB3	2:B:738:LEU:HD11	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2111:PHE:HD2	2:E:2113:GLN:HG2	1.69	0.56
2:H:1435:TYR:HB3	2:H:1518:CYS:HB2	1.86	0.56
2:K:291:LEU:HD12	2:K:299:LEU:HD22	1.87	0.56
2:B:3930:TRP:HE3	2:E:76:ARG:HB2	1.71	0.56
2:E:553:ARG:NH2	2:E:555:GLU:OE1	2.31	0.56
2:H:4679:LEU:HD12	2:H:4683:GLY:HA2	1.86	0.56
1:D:62:GLY:HA3	1:D:74:LEU:HD22	1.87	0.56
2:H:682:LEU:HB3	2:H:738:LEU:HD11	1.87	0.56
2:E:682:LEU:HB3	2:E:738:LEU:HD11	1.87	0.56
2:E:3930:TRP:HE3	2:H:76:ARG:HB2	1.71	0.56
1:G:62:GLY:HA3	1:G:74:LEU:HD22	1.87	0.56
2:K:2171:MET:HG3	2:K:2215:VAL:HG12	1.88	0.56
2:E:275:ARG:HD3	2:E:336:PRO:HD2	1.89	0.56
2:B:291:LEU:HD12	2:B:299:LEU:HD22	1.87	0.55
2:H:2326:PRO:HG3	2:H:2423:ILE:HD13	1.89	0.55
2:E:845:CYS:SG	2:E:846:LEU:N	2.80	0.55
2:H:845:CYS:SG	2:H:846:LEU:N	2.80	0.55
2:H:2171:MET:HG3	2:H:2215:VAL:HG12	1.88	0.55
2:B:275:ARG:HD3	2:B:336:PRO:HD2	1.89	0.55
2:E:540:PHE:HE2	2:E:547:LEU:HD22	1.72	0.55
2:E:2326:PRO:HG3	2:E:2423:ILE:HD13	1.89	0.55
2:H:686:TRP:O	2:H:713:SER:OG	2.20	0.55
2:K:2326:PRO:HG3	2:K:2423:ILE:HD13	1.89	0.55
2:B:845:CYS:SG	2:B:846:LEU:N	2.80	0.55
2:B:2326:PRO:HG3	2:B:2423:ILE:HD13	1.89	0.55
2:H:540:PHE:HE2	2:H:547:LEU:HD22	1.72	0.55
2:H:3930:TRP:HE3	2:K:76:ARG:HB2	1.71	0.55
2:B:2171:MET:HG3	2:B:2215:VAL:HG12	1.88	0.55
2:E:2171:MET:HG3	2:E:2215:VAL:HG12	1.88	0.55
2:B:2122:PHE:O	2:B:3721:TYR:OH	2.26	0.54
2:K:275:ARG:HD3	2:K:336:PRO:HD2	1.89	0.54
2:K:723:THR:HG21	2:K:1472:VAL:HG11	1.89	0.54
2:H:1561:VAL:HG12	2:H:1562:ILE:HG12	1.90	0.54
2:K:845:CYS:SG	2:K:846:LEU:N	2.80	0.54
2:B:1561:VAL:HG12	2:B:1562:ILE:HG12	1.90	0.54
2:K:540:PHE:HE2	2:K:547:LEU:HD22	1.72	0.54
2:K:3762:GLN:NE2	2:K:3801:ASN:OD1	2.41	0.54
2:B:320:LYS:NZ	2:B:383:HIS:O	2.41	0.54
2:E:2115:PRO:HB3	2:E:3703:ARG:HH22	1.73	0.54
2:E:3762:GLN:NE2	2:E:3801:ASN:OD1	2.41	0.54
2:K:2115:PRO:HB3	2:K:3703:ARG:HH22	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:540:PHE:HE2	2:B:547:LEU:HD22	1.72	0.54
2:B:3762:GLN:NE2	2:B:3801:ASN:OD1	2.41	0.54
2:E:1561:VAL:HG12	2:E:1562:ILE:HG12	1.90	0.54
2:E:4851:VAL:O	2:E:4855:ASN:ND2	2.31	0.54
2:E:723:THR:HG21	2:E:1472:VAL:HG11	1.89	0.54
2:K:1561:VAL:HG12	2:K:1562:ILE:HG12	1.90	0.54
2:B:2115:PRO:HB3	2:B:3703:ARG:HH22	1.73	0.54
2:E:2122:PHE:O	2:E:3721:TYR:OH	2.26	0.54
2:H:34:LYS:H	2:H:53:SER:HB2	1.70	0.54
2:H:2115:PRO:HB3	2:H:3703:ARG:HH22	1.73	0.54
2:H:3762:GLN:NE2	2:H:3801:ASN:OD1	2.41	0.54
2:H:4960:GLY:H	2:H:5023:GLY:HA2	1.73	0.54
2:H:2122:PHE:O	2:H:3721:TYR:OH	2.26	0.53
2:E:548:VAL:HA	2:E:551:LEU:HD13	1.90	0.53
2:H:723:THR:HG21	2:H:1472:VAL:HG11	1.89	0.53
2:K:3640:LEU:HD12	2:K:3644:ARG:HD3	1.90	0.53
2:E:3640:LEU:HD12	2:E:3644:ARG:HD3	1.90	0.53
2:K:548:VAL:HA	2:K:551:LEU:HD13	1.90	0.53
2:K:2122:PHE:O	2:K:3721:TYR:OH	2.26	0.53
2:B:3640:LEU:HD12	2:B:3644:ARG:HD3	1.90	0.53
2:H:3640:LEU:HD12	2:H:3644:ARG:HD3	1.90	0.53
2:H:4684:LEU:HD23	2:H:4704:LEU:HD11	1.91	0.53
2:H:275:ARG:HD3	2:H:336:PRO:HD2	1.89	0.53
2:E:1555:LEU:HD12	2:E:1556:PRO:HD2	1.91	0.53
2:K:1152:MET:HB2	2:K:1161:ILE:HB	1.91	0.53
2:K:4684:LEU:HD23	2:K:4704:LEU:HD11	1.91	0.53
2:B:1152:MET:HB2	2:B:1161:ILE:HB	1.91	0.53
2:B:23:GLN:NE2	2:B:203:ASN:OD1	2.42	0.53
2:B:1555:LEU:HD12	2:B:1556:PRO:HD2	1.91	0.53
2:E:1152:MET:HB2	2:E:1161:ILE:HB	1.91	0.53
2:E:4684:LEU:HD23	2:E:4704:LEU:HD11	1.91	0.53
2:B:723:THR:HG21	2:B:1472:VAL:HG11	1.89	0.53
2:B:746:CYS:HA	2:B:757:PHE:HA	1.92	0.53
2:K:746:CYS:HA	2:K:757:PHE:HA	1.92	0.53
2:K:4960:GLY:H	2:K:5023:GLY:HA2	1.73	0.53
2:B:548:VAL:HA	2:B:551:LEU:HD13	1.90	0.52
2:E:23:GLN:NE2	2:E:203:ASN:OD1	2.42	0.52
2:E:4960:GLY:H	2:E:5023:GLY:HA2	1.73	0.52
2:H:1152:MET:HB2	2:H:1161:ILE:HB	1.91	0.52
2:K:320:LYS:NZ	2:K:383:HIS:O	2.41	0.52
2:H:1674:CYS:HB3	2:H:1681:VAL:HB	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:4032:ASN:O	2:B:4037:ARG:NH1	2.42	0.52
2:H:548:VAL:HA	2:H:551:LEU:HD13	1.90	0.52
2:H:1555:LEU:HD12	2:H:1556:PRO:HD2	1.91	0.52
2:K:1674:CYS:HB3	2:K:1681:VAL:HB	1.91	0.52
2:B:2618:SER:O	2:B:2622:HIS:ND1	2.43	0.52
2:B:4684:LEU:HD23	2:B:4704:LEU:HD11	1.91	0.52
2:H:320:LYS:NZ	2:H:383:HIS:O	2.41	0.52
2:B:4960:GLY:H	2:B:5023:GLY:HA2	1.73	0.52
2:E:1674:CYS:HB3	2:E:1681:VAL:HB	1.91	0.52
2:B:2506:PHE:O	2:B:2510:VAL:HG22	2.11	0.51
2:E:746:CYS:HA	2:E:757:PHE:HA	1.92	0.51
2:H:23:GLN:NE2	2:H:203:ASN:OD1	2.42	0.51
2:H:746:CYS:HA	2:H:757:PHE:HA	1.92	0.51
2:E:320:LYS:NZ	2:E:383:HIS:O	2.41	0.51
2:K:23:GLN:NE2	2:K:203:ASN:OD1	2.42	0.51
2:K:638:ILE:HD13	2:K:703:GLY:HA2	1.92	0.51
2:H:4918:PHE:O	2:H:4922:VAL:HG22	2.10	0.51
2:E:2499:HIS:O	2:E:2503:MET:HG2	2.11	0.51
2:K:1555:LEU:HD12	2:K:1556:PRO:HD2	1.91	0.51
2:K:2618:SER:O	2:K:2622:HIS:ND1	2.43	0.51
2:B:638:ILE:HD13	2:B:703:GLY:HA2	1.92	0.51
2:E:2618:SER:O	2:E:2622:HIS:ND1	2.43	0.51
1:G:28:GLY:HA3	1:G:99:PHE:HA	1.92	0.51
2:H:2618:SER:O	2:H:2622:HIS:ND1	2.43	0.51
2:B:4918:PHE:O	2:B:4922:VAL:HG22	2.10	0.51
2:H:638:ILE:HD13	2:H:703:GLY:HA2	1.92	0.51
2:E:638:ILE:HD13	2:E:703:GLY:HA2	1.92	0.51
2:H:2499:HIS:O	2:H:2503:MET:HG2	2.11	0.51
2:E:2506:PHE:O	2:E:2510:VAL:HG22	2.11	0.51
2:E:1708:ARG:NH2	2:E:1837:PHE:O	2.44	0.51
2:H:4922:VAL:O	2:H:4926:LEU:HB2	2.11	0.51
1:A:28:GLY:HA3	1:A:99:PHE:HA	1.92	0.51
2:K:609:CYS:SG	2:K:610:ASN:N	2.84	0.51
2:B:1674:CYS:HB3	2:B:1681:VAL:HB	1.91	0.50
2:H:283:ARG:NH1	2:H:290:TYR:OH	2.44	0.50
2:K:49:LEU:HD11	2:K:191:VAL:HG23	1.93	0.50
2:K:2506:PHE:O	2:K:2510:VAL:HG22	2.11	0.50
2:B:283:ARG:NH1	2:B:290:TYR:OH	2.44	0.50
2:B:609:CYS:SG	2:B:610:ASN:N	2.84	0.50
2:E:283:ARG:NH1	2:E:290:TYR:OH	2.44	0.50
2:K:4922:VAL:O	2:K:4926:LEU:HB2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:1708:ARG:NH2	2:H:1837:PHE:O	2.44	0.50
2:K:2499:HIS:O	2:K:2503:MET:HG2	2.11	0.50
2:E:4922:VAL:O	2:E:4926:LEU:HB2	2.11	0.50
2:H:609:CYS:SG	2:H:610:ASN:N	2.84	0.50
2:K:4918:PHE:O	2:K:4922:VAL:HG22	2.10	0.50
2:B:1717:SER:HA	2:B:1721:GLU:HB2	1.93	0.50
2:H:2506:PHE:O	2:H:2510:VAL:HG22	2.11	0.50
2:B:2499:HIS:O	2:B:2503:MET:HG2	2.11	0.50
2:E:49:LEU:HD11	2:E:191:VAL:HG23	1.93	0.50
2:K:1708:ARG:NH2	2:K:1837:PHE:O	2.44	0.50
2:K:1717:SER:HA	2:K:1721:GLU:HB2	1.93	0.50
2:B:1708:ARG:NH2	2:B:1837:PHE:O	2.44	0.50
1:D:28:GLY:HA3	1:D:99:PHE:HA	1.92	0.50
2:E:4918:PHE:O	2:E:4922:VAL:HG22	2.10	0.50
2:K:4032:ASN:O	2:K:4037:ARG:NH1	2.42	0.50
2:E:4133:ASP:O	2:E:4137:ASN:ND2	2.38	0.50
2:H:49:LEU:HD11	2:H:191:VAL:HG23	1.93	0.50
2:H:236:ALA:O	2:H:242:ARG:NH2	2.45	0.50
2:K:236:ALA:O	2:K:242:ARG:NH2	2.45	0.50
2:B:788:LYS:HG3	2:B:1629:GLN:HG2	1.93	0.50
2:B:4922:VAL:O	2:B:4926:LEU:HB2	2.11	0.50
2:E:609:CYS:SG	2:E:610:ASN:N	2.84	0.50
2:E:4989:PHE:HE2	2:E:5008:VAL:HG11	1.77	0.50
2:K:283:ARG:NH1	2:K:290:TYR:OH	2.44	0.50
2:K:4989:PHE:HE2	2:K:5008:VAL:HG11	1.77	0.50
1:J:28:GLY:HA3	1:J:99:PHE:HA	1.92	0.49
2:B:19:GLU:HB2	2:B:206:CYS:H	1.78	0.49
2:E:236:ALA:O	2:E:242:ARG:NH2	2.45	0.49
2:E:1717:SER:HA	2:E:1721:GLU:HB2	1.93	0.49
2:K:1434:TYR:HB2	2:K:1572:ILE:HD11	1.94	0.49
2:B:236:ALA:O	2:B:242:ARG:NH2	2.45	0.49
2:B:408:ALA:O	2:B:412:ASN:ND2	2.36	0.49
2:B:1434:TYR:HB2	2:B:1572:ILE:HD11	1.94	0.49
2:B:4989:PHE:HE2	2:B:5008:VAL:HG11	1.77	0.49
2:H:795:GLY:N	2:H:798:GLY:O	2.37	0.49
2:H:1639:LEU:HD12	2:H:1653:LEU:HD13	1.93	0.49
3:I:33:LEU:HD22	3:I:64:ILE:HG12	1.94	0.49
2:K:445:LEU:HD23	2:K:521:LEU:HB3	1.94	0.49
2:B:315:CYS:SG	2:B:316:PHE:N	2.86	0.49
3:F:33:LEU:HD22	3:F:64:ILE:HG12	1.94	0.49
2:H:419:ASP:OD1	2:H:493:ARG:NH1	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:315:CYS:SG	2:K:316:PHE:N	2.86	0.49
2:B:1639:LEU:HD12	2:B:1653:LEU:HD13	1.93	0.49
2:B:4958:ILE:HG12	2:B:4986:TYR:HE2	1.78	0.49
2:E:315:CYS:SG	2:E:316:PHE:N	2.86	0.49
2:E:419:ASP:OD1	2:E:493:ARG:NH1	2.45	0.49
2:E:3919:LEU:HD11	2:E:3979:ARG:HB2	1.95	0.49
2:E:4958:ILE:HG12	2:E:4986:TYR:HE2	1.78	0.49
2:H:102:LEU:HB2	2:H:105:HIS:CD2	2.48	0.49
2:H:445:LEU:HD23	2:H:521:LEU:HB3	1.94	0.49
2:H:1717:SER:HA	2:H:1721:GLU:HB2	1.93	0.49
2:K:19:GLU:HB2	2:K:206:CYS:H	1.78	0.49
2:K:102:LEU:HB2	2:K:105:HIS:CD2	2.48	0.49
2:K:3919:LEU:HD11	2:K:3979:ARG:HB2	1.95	0.49
3:L:33:LEU:HD13	3:L:64:ILE:HG21	1.95	0.49
2:B:419:ASP:OD1	2:B:493:ARG:NH1	2.45	0.49
2:E:2555:LEU:HD21	2:E:2560:LEU:HD13	1.95	0.49
2:E:4032:ASN:O	2:E:4037:ARG:NH1	2.42	0.49
2:E:445:LEU:HD23	2:E:521:LEU:HB3	1.94	0.49
2:E:788:LYS:HG3	2:E:1629:GLN:HG2	1.93	0.49
3:F:33:LEU:HD13	3:F:64:ILE:HG21	1.95	0.49
2:H:219:VAL:HG22	2:H:261:ARG:HB2	1.95	0.49
2:H:315:CYS:SG	2:H:316:PHE:N	2.86	0.49
2:H:788:LYS:HG3	2:H:1629:GLN:HG2	1.93	0.49
2:K:788:LYS:HG3	2:K:1629:GLN:HG2	1.93	0.49
2:K:2555:LEU:HD21	2:K:2560:LEU:HD13	1.95	0.49
3:C:33:LEU:HD13	3:C:64:ILE:HG21	1.95	0.49
2:B:3919:LEU:HD11	2:B:3979:ARG:HB2	1.95	0.48
2:E:1639:LEU:HD12	2:E:1653:LEU:HD13	1.93	0.48
2:B:102:LEU:HB2	2:B:105:HIS:CD2	2.48	0.48
2:H:4989:PHE:HE2	2:H:5008:VAL:HG11	1.77	0.48
2:K:419:ASP:OD1	2:K:493:ARG:NH1	2.45	0.48
2:K:1639:LEU:HD12	2:K:1653:LEU:HD13	1.93	0.48
2:K:2473:LEU:HD12	2:K:2474:PRO:HD2	1.96	0.48
2:B:219:VAL:HG22	2:B:261:ARG:HB2	1.95	0.48
2:E:102:LEU:HB2	2:E:105:HIS:HD2	1.78	0.48
2:H:4032:ASN:O	2:H:4037:ARG:NH1	2.42	0.48
2:H:4044:VAL:HG11	2:H:4154:ARG:HD2	1.95	0.48
3:I:33:LEU:HD13	3:I:64:ILE:HG21	1.95	0.48
2:E:19:GLU:HB2	2:E:206:CYS:H	1.78	0.48
2:E:102:LEU:HB2	2:E:105:HIS:CD2	2.48	0.48
2:H:4958:ILE:HG12	2:H:4986:TYR:HE2	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:219:VAL:HG22	2:K:261:ARG:HB2	1.95	0.48
2:K:4044:VAL:HG11	2:K:4154:ARG:HD2	1.95	0.48
2:K:4054:LEU:HD21	2:K:4138:VAL:HG11	1.96	0.48
3:L:33:LEU:HD22	3:L:64:ILE:HG12	1.94	0.48
2:B:1528:THR:HG22	2:B:1539:PHE:HB3	1.96	0.48
2:B:2473:LEU:HD12	2:B:2474:PRO:HD2	1.96	0.48
2:E:2473:LEU:HD12	2:E:2474:PRO:HD2	1.96	0.48
2:H:19:GLU:HB2	2:H:206:CYS:H	1.78	0.48
2:H:3919:LEU:HD11	2:H:3979:ARG:HB2	1.95	0.48
2:B:4054:LEU:HD21	2:B:4138:VAL:HG11	1.96	0.48
3:C:33:LEU:HD22	3:C:64:ILE:HG12	1.94	0.48
2:E:3919:LEU:O	2:E:3922:GLN:HG3	2.14	0.48
2:H:168:ASP:OD1	2:H:168:ASP:N	2.46	0.48
2:K:3919:LEU:O	2:K:3922:GLN:HG3	2.14	0.48
2:B:168:ASP:OD1	2:B:168:ASP:N	2.46	0.48
2:K:4958:ILE:HG12	2:K:4986:TYR:HE2	1.78	0.48
2:E:1434:TYR:HB2	2:E:1572:ILE:HD11	1.94	0.48
2:H:2473:LEU:HD12	2:H:2474:PRO:HD2	1.96	0.48
2:H:1843:LEU:HD11	2:H:1927:LEU:HD21	1.96	0.48
2:K:1843:LEU:HD11	2:K:1927:LEU:HD21	1.96	0.48
2:B:248:GLU:OE2	2:B:257:ARG:NH1	2.47	0.48
2:B:1077:ALA:H	2:B:1189:LEU:HD12	1.79	0.48
2:E:1528:THR:HG22	2:E:1539:PHE:HB3	1.96	0.48
2:H:248:GLU:OE2	2:H:257:ARG:NH1	2.47	0.48
2:H:575:LEU:HG	2:H:606:LEU:HD12	1.95	0.48
2:H:1236:THR:OG1	2:H:1608:MET:SD	2.68	0.48
2:E:219:VAL:HG22	2:E:261:ARG:HB2	1.95	0.47
2:E:1099:GLU:HA	2:E:1127:HIS:HB2	1.96	0.47
2:H:102:LEU:HB2	2:H:105:HIS:HD2	1.78	0.47
2:H:1434:TYR:HB2	2:H:1572:ILE:HD11	1.94	0.47
2:H:2555:LEU:HD21	2:H:2560:LEU:HD13	1.95	0.47
2:H:3919:LEU:O	2:H:3922:GLN:HG3	2.14	0.47
2:H:4054:LEU:HD21	2:H:4138:VAL:HG11	1.96	0.47
2:K:795:GLY:N	2:K:798:GLY:O	2.37	0.47
2:B:445:LEU:HD23	2:B:521:LEU:HB3	1.94	0.47
2:E:575:LEU:HG	2:E:606:LEU:HD12	1.95	0.47
2:E:4044:VAL:HG11	2:E:4154:ARG:HD2	1.95	0.47
2:B:2555:LEU:HD21	2:B:2560:LEU:HD13	1.95	0.47
2:H:1099:GLU:HA	2:H:1127:HIS:HB2	1.96	0.47
2:H:2501:ALA:HB2	2:H:2554:TYR:HD1	1.80	0.47
2:K:1077:ALA:H	2:K:1189:LEU:HD12	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:3880:PHE:HE1	2:H:3914:THR:HG23	1.80	0.47
1:J:4:ILE:HD11	1:J:62:GLY:HA2	1.96	0.47
3:F:92:VAL:O	3:F:94:ASP:N	2.47	0.47
3:I:92:VAL:O	3:I:94:ASP:N	2.47	0.47
2:B:102:LEU:HB2	2:B:105:HIS:HD2	1.78	0.47
2:B:685:GLY:HA3	2:B:715:GLY:HA2	1.96	0.47
2:B:3919:LEU:O	2:B:3922:GLN:HG3	2.14	0.47
2:B:4031:VAL:HG12	2:B:4148:HIS:HA	1.97	0.47
2:B:4044:VAL:HG11	2:B:4154:ARG:HD2	1.95	0.47
2:E:1293:LEU:HD11	2:E:1594:ARG:HD3	1.96	0.47
2:K:4031:VAL:HG12	2:K:4148:HIS:HA	1.97	0.47
2:B:1293:LEU:HD11	2:B:1594:ARG:HD3	1.96	0.47
2:B:2501:ALA:HB2	2:B:2554:TYR:HD1	1.80	0.47
2:E:1077:ALA:H	2:E:1189:LEU:HD12	1.79	0.47
2:E:3880:PHE:HE1	2:E:3914:THR:HG23	1.80	0.47
2:H:35:LEU:HD11	2:H:189:LEU:HD13	1.97	0.47
2:H:1293:LEU:HD11	2:H:1594:ARG:HD3	1.96	0.47
2:K:248:GLU:OE2	2:K:257:ARG:NH1	2.47	0.47
2:K:530:ILE:HG21	2:K:563:VAL:HG23	1.97	0.47
2:K:2501:ALA:HB2	2:K:2554:TYR:HD1	1.80	0.47
2:K:3880:PHE:HE1	2:K:3914:THR:HG23	1.80	0.47
2:B:1843:LEU:HD11	2:B:1927:LEU:HD21	1.96	0.47
2:H:685:GLY:HA3	2:H:715:GLY:HA2	1.96	0.47
2:K:102:LEU:HB2	2:K:105:HIS:HD2	1.78	0.47
2:K:685:GLY:HA3	2:K:715:GLY:HA2	1.96	0.47
2:B:224:HIS:HA	2:B:388:LEU:HA	1.97	0.47
2:B:575:LEU:HG	2:B:606:LEU:HD12	1.95	0.47
2:E:248:GLU:OE2	2:E:257:ARG:NH1	2.47	0.47
2:B:3880:PHE:HE1	2:B:3914:THR:HG23	1.80	0.47
2:E:224:HIS:HA	2:E:388:LEU:HA	1.97	0.47
2:E:4054:LEU:HD21	2:E:4138:VAL:HG11	1.96	0.47
2:K:1528:THR:HG22	2:K:1539:PHE:HB3	1.96	0.47
2:B:795:GLY:N	2:B:798:GLY:O	2.37	0.46
2:H:4133:ASP:O	2:H:4137:ASN:ND2	2.38	0.46
2:K:575:LEU:HG	2:K:606:LEU:HD12	1.95	0.46
2:E:1671:ARG:NH1	2:E:1713:ASP:OD2	2.44	0.46
2:H:649:PHE:O	2:H:658:GLN:NE2	2.47	0.46
2:H:1528:THR:HG22	2:H:1539:PHE:HB3	1.96	0.46
2:H:1671:ARG:NH1	2:H:1713:ASP:OD2	2.44	0.46
1:A:4:ILE:HD11	1:A:62:GLY:HA2	1.96	0.46
1:D:4:ILE:HD11	1:D:62:GLY:HA2	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:649:PHE:O	2:E:658:GLN:NE2	2.47	0.46
2:E:685:GLY:HA3	2:E:715:GLY:HA2	1.96	0.46
2:E:1843:LEU:HD11	2:E:1927:LEU:HD21	1.96	0.46
2:E:4919:PHE:CD2	2:E:4923:ILE:HD12	2.51	0.46
2:H:1996:THR:HA	2:H:1999:PHE:HD2	1.81	0.46
2:K:309:THR:O	2:K:313:SER:OG	2.31	0.46
2:E:35:LEU:HD11	2:E:189:LEU:HD13	1.97	0.46
2:E:795:GLY:N	2:E:798:GLY:O	2.37	0.46
2:E:2209:MET:SD	2:E:2254:HIS:ND1	2.89	0.46
2:E:2501:ALA:HB2	2:E:2554:TYR:HD1	1.80	0.46
2:H:1077:ALA:H	2:H:1189:LEU:HD12	1.79	0.46
2:K:224:HIS:HA	2:K:388:LEU:HA	1.97	0.46
2:K:1099:GLU:HA	2:K:1127:HIS:HB2	1.96	0.46
2:B:1099:GLU:HA	2:B:1127:HIS:HB2	1.96	0.46
2:H:530:ILE:HG21	2:H:563:VAL:HG23	1.97	0.46
2:K:35:LEU:HD11	2:K:189:LEU:HD13	1.97	0.46
2:K:649:PHE:O	2:K:658:GLN:NE2	2.47	0.46
2:E:575:LEU:HD22	2:E:609:CYS:HB2	1.98	0.46
2:H:309:THR:O	2:H:313:SER:OG	2.31	0.46
2:H:2209:MET:SD	2:H:2254:HIS:ND1	2.89	0.46
2:K:1996:THR:HA	2:K:1999:PHE:HD2	1.81	0.46
2:K:2560:LEU:HD21	2:K:2604:ILE:HA	1.97	0.46
2:B:2209:MET:SD	2:B:2254:HIS:ND1	2.89	0.46
2:B:4919:PHE:CD2	2:B:4923:ILE:HD12	2.51	0.46
2:B:579:GLN:H	2:B:582:HIS:CD2	2.28	0.46
2:E:309:THR:O	2:E:313:SER:OG	2.31	0.46
2:H:4031:VAL:HG12	2:H:4148:HIS:HA	1.97	0.46
2:K:1293:LEU:HD11	2:K:1594:ARG:HD3	1.96	0.46
2:K:4885:MET:O	2:K:4889:VAL:HG22	2.16	0.46
2:E:4031:VAL:HG12	2:E:4148:HIS:HA	1.97	0.46
2:H:2560:LEU:HD21	2:H:2604:ILE:HA	1.97	0.46
2:H:4919:PHE:CD2	2:H:4923:ILE:HD12	2.51	0.46
2:E:2475:LEU:HD23	2:E:2475:LEU:H	1.81	0.46
1:G:4:ILE:HD11	1:G:62:GLY:HA2	1.96	0.46
2:H:224:HIS:HA	2:H:388:LEU:HA	1.97	0.46
2:B:35:LEU:HD11	2:B:189:LEU:HD13	1.97	0.45
2:B:4133:ASP:O	2:B:4137:ASN:ND2	2.38	0.45
2:B:4885:MET:O	2:B:4889:VAL:HG22	2.16	0.45
2:E:2560:LEU:HD21	2:E:2604:ILE:HA	1.97	0.45
2:H:575:LEU:HD22	2:H:609:CYS:HB2	1.98	0.45
2:H:2299:VAL:HG13	2:H:2332:TYR:HD2	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:2299:VAL:HG13	2:K:2332:TYR:HD2	1.81	0.45
2:B:309:THR:O	2:B:313:SER:OG	2.31	0.45
2:B:2560:LEU:HD21	2:B:2604:ILE:HA	1.97	0.45
2:K:2209:MET:SD	2:K:2254:HIS:ND1	2.89	0.45
2:K:2215:VAL:HG11	2:K:2229:MET:HE1	1.97	0.45
2:K:4919:PHE:CD2	2:K:4923:ILE:HD12	2.51	0.45
2:B:2475:LEU:HD23	2:B:2475:LEU:H	1.81	0.45
2:E:530:ILE:HG21	2:E:563:VAL:HG23	1.97	0.45
2:E:1448:VAL:HG22	2:E:1554:VAL:HG23	1.98	0.45
2:E:1720:LEU:HB2	2:E:1852:MET:SD	2.56	0.45
2:E:1996:THR:HA	2:E:1999:PHE:HD2	1.81	0.45
2:E:4921:PHE:HA	2:E:4925:ILE:HD13	1.98	0.45
2:K:4133:ASP:O	2:K:4137:ASN:ND2	2.38	0.45
2:K:4851:VAL:O	2:K:4855:ASN:ND2	2.31	0.45
2:B:575:LEU:HD22	2:B:609:CYS:HB2	1.98	0.45
2:B:649:PHE:O	2:B:658:GLN:NE2	2.47	0.45
2:B:1720:LEU:HB2	2:B:1852:MET:SD	2.56	0.45
2:B:2299:VAL:HG13	2:B:2332:TYR:HD2	1.81	0.45
2:K:2475:LEU:H	2:K:2475:LEU:HD23	1.81	0.45
1:A:90:VAL:HG23	1:A:91:ILE:HG12	1.99	0.45
2:B:35:LEU:HD13	2:B:49:LEU:HD13	1.97	0.45
3:C:92:VAL:O	3:C:94:ASP:N	2.47	0.45
1:D:90:VAL:HG23	1:D:91:ILE:HG12	1.99	0.45
2:E:4882:LEU:HD11	2:H:4912:VAL:HG11	1.98	0.45
2:H:1448:VAL:HG22	2:H:1554:VAL:HG23	1.98	0.45
2:K:575:LEU:HD22	2:K:609:CYS:HB2	1.98	0.45
2:B:4912:VAL:HG11	2:K:4882:LEU:HD11	1.98	0.45
1:D:50:ILE:HD11	1:D:64:ALA:HB2	1.98	0.45
2:E:2299:VAL:HG13	2:E:2332:TYR:HD2	1.81	0.45
2:H:284:HIS:NE2	2:H:286:THR:OG1	2.50	0.45
2:H:2475:LEU:H	2:H:2475:LEU:HD23	1.81	0.45
2:H:4922:VAL:HA	2:H:4926:LEU:HD23	1.99	0.45
1:A:50:ILE:HD11	1:A:64:ALA:HB2	1.98	0.45
2:E:284:HIS:NE2	2:E:286:THR:OG1	2.50	0.45
2:H:1720:LEU:HB2	2:H:1852:MET:SD	2.56	0.45
2:H:4885:MET:O	2:H:4889:VAL:HG22	2.16	0.45
2:K:4922:VAL:HA	2:K:4926:LEU:HD23	1.99	0.45
2:B:3985:VAL:HG23	2:B:4042:MET:HG2	1.99	0.45
2:E:4885:MET:O	2:E:4889:VAL:HG22	2.16	0.45
1:G:50:ILE:HD11	1:G:64:ALA:HB2	1.98	0.45
2:K:1720:LEU:HB2	2:K:1852:MET:SD	2.56	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:530:ILE:HG21	2:B:563:VAL:HG23	1.97	0.45
2:E:3985:VAL:HG23	2:E:4042:MET:HG2	1.99	0.45
2:E:4922:VAL:HA	2:E:4926:LEU:HD23	1.99	0.45
2:K:168:ASP:OD1	2:K:168:ASP:N	2.46	0.45
2:K:3985:VAL:HG23	2:K:4042:MET:HG2	1.99	0.45
2:K:4921:PHE:HA	2:K:4925:ILE:HD13	1.98	0.45
2:B:1996:THR:HA	2:B:1999:PHE:HD2	1.81	0.44
2:H:4882:LEU:HD11	2:K:4912:VAL:HG11	1.98	0.44
2:K:1671:ARG:NH1	2:K:1713:ASP:OD2	2.44	0.44
2:B:4921:PHE:HA	2:B:4925:ILE:HD13	1.98	0.44
2:H:4921:PHE:HA	2:H:4925:ILE:HD13	1.98	0.44
2:K:4163:GLU:HA	2:K:4166:LEU:HB3	2.00	0.44
2:B:284:HIS:NE2	2:B:286:THR:OG1	2.50	0.44
2:H:3985:VAL:HG23	2:H:4042:MET:HG2	1.99	0.44
2:K:1448:VAL:HG22	2:K:1554:VAL:HG23	1.98	0.44
2:E:3979:ARG:HE	2:H:162:LYS:NZ	2.16	0.44
1:J:50:ILE:HD11	1:J:64:ALA:HB2	1.98	0.44
2:B:1448:VAL:HG22	2:B:1554:VAL:HG23	1.98	0.44
2:B:4882:LEU:HD11	2:E:4912:VAL:HG11	1.98	0.44
2:E:168:ASP:N	2:E:168:ASP:OD1	2.46	0.44
1:G:90:VAL:HG23	1:G:91:ILE:HG12	1.99	0.44
1:J:90:VAL:HG23	1:J:91:ILE:HG12	1.99	0.44
2:B:3979:ARG:HE	2:E:162:LYS:NZ	2.16	0.44
2:H:4851:VAL:O	2:H:4855:ASN:ND2	2.31	0.44
2:B:4684:LEU:HD11	2:B:4690:PRO:HB3	2.00	0.44
2:E:1103:GLY:HA3	2:E:1123:VAL:HA	2.00	0.44
2:H:4163:GLU:HA	2:H:4166:LEU:HB3	2.00	0.44
2:K:4684:LEU:HD11	2:K:4690:PRO:HB3	2.00	0.44
2:B:162:LYS:NZ	2:K:3979:ARG:HE	2.16	0.43
2:B:2215:VAL:HG11	2:B:2229:MET:HE1	1.99	0.43
2:B:4922:VAL:HA	2:B:4926:LEU:HD23	1.99	0.43
2:H:1103:GLY:HA3	2:H:1123:VAL:HA	2.00	0.43
2:H:764:VAL:HG13	2:H:766:GLY:H	1.84	0.43
2:H:35:LEU:HD13	2:H:49:LEU:HD13	2.00	0.43
2:H:3979:ARG:HE	2:K:162:LYS:NZ	2.16	0.43
2:K:408:ALA:O	2:K:412:ASN:ND2	2.36	0.43
2:B:4163:GLU:HA	2:B:4166:LEU:HB3	2.00	0.43
2:K:35:LEU:HD13	2:K:49:LEU:HD13	2.00	0.43
2:K:540:PHE:HZ	2:K:547:LEU:HD13	1.84	0.43
2:K:2293:GLU:OE2	2:K:3844:ARG:NH2	2.52	0.43
2:H:1186:ASP:N	2:H:1186:ASP:OD1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:2213:VAL:HG22	2:H:2257:TYR:CZ	2.54	0.43
2:K:2213:VAL:HG22	2:K:2257:TYR:CZ	2.54	0.43
1:D:29:MET:HG3	1:D:35:LYS:HA	2.01	0.43
2:H:959:TYR:HA	2:H:966:LYS:HA	2.01	0.43
2:H:2215:VAL:HG11	2:H:2229:MET:HE1	2.00	0.43
2:K:1186:ASP:OD1	2:K:1186:ASP:N	2.52	0.43
2:K:284:HIS:NE2	2:K:286:THR:OG1	2.50	0.43
3:L:92:VAL:O	3:L:94:ASP:N	2.47	0.43
1:A:29:MET:HG3	1:A:35:LYS:HA	2.01	0.43
2:B:232:THR:HB	2:B:252:VAL:HG23	2.00	0.43
2:B:1671:ARG:NH1	2:B:1713:ASP:OD2	2.44	0.43
2:B:2213:VAL:HG22	2:B:2257:TYR:CZ	2.54	0.43
3:C:6:THR:O	3:C:10:ILE:HG12	2.19	0.43
2:E:232:THR:HB	2:E:252:VAL:HG23	2.00	0.43
2:E:2213:VAL:HG22	2:E:2257:TYR:CZ	2.54	0.43
2:E:4684:LEU:HD11	2:E:4690:PRO:HB3	2.00	0.43
2:H:540:PHE:HZ	2:H:547:LEU:HD13	1.84	0.43
2:K:3808:GLN:HE22	2:K:3889:GLY:H	1.67	0.43
2:E:684:VAL:HG22	2:E:781:VAL:HG13	2.01	0.43
3:F:6:THR:O	3:F:10:ILE:HG12	2.19	0.43
3:I:6:THR:O	3:I:10:ILE:HG12	2.19	0.43
2:K:764:VAL:HG13	2:K:766:GLY:H	1.84	0.43
2:H:3808:GLN:HE22	2:H:3889:GLY:H	1.67	0.43
2:K:1431:THR:HG21	2:K:1523:ALA:HB2	2.01	0.43
2:B:1227:ALA:HB1	2:B:1230:MET:HB2	2.01	0.42
2:B:2293:GLU:OE2	2:B:3844:ARG:NH2	2.52	0.42
2:B:3808:GLN:HE22	2:B:3889:GLY:H	1.67	0.42
2:E:764:VAL:HG13	2:E:766:GLY:H	1.84	0.42
2:E:1227:ALA:HB1	2:E:1230:MET:HB2	2.01	0.42
2:H:1227:ALA:HB1	2:H:1230:MET:HB2	2.01	0.42
2:H:4684:LEU:HD11	2:H:4690:PRO:HB3	2.00	0.42
2:K:793:LEU:HB3	2:K:812:HIS:HB3	2.01	0.42
2:E:1431:THR:HG21	2:E:1523:ALA:HB2	2.01	0.42
2:E:1834:SER:HB3	2:E:1837:PHE:HD2	1.84	0.42
2:E:4163:GLU:HA	2:E:4166:LEU:HB3	2.00	0.42
2:H:1431:THR:HG21	2:H:1523:ALA:HB2	2.01	0.42
2:H:4161:LEU:O	2:H:4164:SER:OG	2.27	0.42
2:B:4896:GLY:HA2	2:B:4899:ILE:HG22	2.02	0.42
2:H:2293:GLU:OE2	2:H:3844:ARG:NH2	2.52	0.42
2:H:4896:GLY:HA2	2:H:4899:ILE:HG22	2.02	0.42
2:K:959:TYR:HA	2:K:966:LYS:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:1103:GLY:HA3	2:K:1123:VAL:HA	2.00	0.42
2:K:1227:ALA:HB1	2:K:1230:MET:HB2	2.01	0.42
2:B:1431:THR:HG21	2:B:1523:ALA:HB2	2.01	0.42
2:E:793:LEU:HB3	2:E:812:HIS:HB3	2.01	0.42
2:H:1291:LEU:HB2	2:H:1550:PRO:HG2	2.01	0.42
3:L:6:THR:O	3:L:10:ILE:HG12	2.19	0.42
2:H:1190:PRO:HG2	2:H:1204:LEU:HD11	2.02	0.42
2:K:1190:PRO:HG2	2:K:1204:LEU:HD11	2.02	0.42
2:K:1291:LEU:HB2	2:K:1550:PRO:HG2	2.01	0.42
2:K:4896:GLY:HA2	2:K:4899:ILE:HG22	2.02	0.42
2:B:684:VAL:HG22	2:B:781:VAL:HG13	2.01	0.42
2:B:1103:GLY:HA3	2:B:1123:VAL:HA	2.00	0.42
2:E:659:TYR:O	2:E:662:TRP:NE1	2.52	0.42
2:E:1291:LEU:HB2	2:E:1550:PRO:HG2	2.01	0.42
2:E:1433:TYR:CZ	2:E:1578:ALA:HB2	2.55	0.42
2:E:3808:GLN:HE22	2:E:3889:GLY:H	1.67	0.42
2:E:4896:GLY:HA2	2:E:4899:ILE:HG22	2.02	0.42
1:G:29:MET:HG3	1:G:35:LYS:HA	2.01	0.42
2:H:232:THR:HB	2:H:252:VAL:HG23	2.00	0.42
2:K:1592:PRO:HA	2:K:1593:PRO:HD3	1.95	0.42
2:K:1834:SER:HB3	2:K:1837:PHE:HD2	1.84	0.42
2:K:2126:HIS:HB2	2:K:3721:TYR:HE1	1.85	0.42
2:B:1433:TYR:CZ	2:B:1578:ALA:HB2	2.55	0.42
2:B:1834:SER:HB3	2:B:1837:PHE:HD2	1.84	0.42
2:B:2520:LEU:HD11	2:B:2566:CYS:SG	2.60	0.42
2:E:35:LEU:HD13	2:E:49:LEU:HD13	2.00	0.42
2:E:223:PHE:O	2:E:389:SER:N	2.50	0.42
1:J:29:MET:HG3	1:J:35:LYS:HA	2.01	0.42
2:K:1240:LYS:HG2	2:K:1242:LEU:H	1.85	0.42
2:K:2119:ARG:NH1	2:K:3715:ASP:OD2	2.45	0.42
2:K:2520:LEU:HD11	2:K:2566:CYS:SG	2.60	0.42
2:B:764:VAL:HG13	2:B:766:GLY:H	1.84	0.42
2:B:1291:LEU:HB2	2:B:1550:PRO:HG2	2.01	0.42
2:E:1190:PRO:HG2	2:E:1204:LEU:HD11	2.02	0.42
2:E:2293:GLU:OE2	2:E:3844:ARG:NH2	2.52	0.42
2:H:1834:SER:HB3	2:H:1837:PHE:HD2	1.84	0.42
2:K:1433:TYR:CZ	2:K:1578:ALA:HB2	2.55	0.42
2:B:1186:ASP:OD1	2:B:1186:ASP:N	2.52	0.42
2:E:2126:HIS:HB2	2:E:3721:TYR:HE1	1.85	0.42
2:H:2520:LEU:HD11	2:H:2566:CYS:SG	2.60	0.42
2:H:684:VAL:HG22	2:H:781:VAL:HG13	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:684:VAL:HG22	2:K:781:VAL:HG13	2.01	0.42
2:B:34:LYS:H	2:B:53:SER:HB3	1.84	0.41
2:B:540:PHE:HZ	2:B:547:LEU:HD13	1.84	0.41
2:B:959:TYR:HA	2:B:966:LYS:HA	2.01	0.41
2:B:3946:PHE:O	2:B:3950:MET:HG2	2.20	0.41
2:E:263:GLU:HG2	2:E:281:ARG:HB3	2.02	0.41
2:E:540:PHE:HZ	2:E:547:LEU:HD13	1.84	0.41
2:E:1240:LYS:HG2	2:E:1242:LEU:H	1.85	0.41
2:H:2126:HIS:HB2	2:H:3721:TYR:HE1	1.85	0.41
2:B:1148:VAL:HG21	2:B:1212:ARG:HD2	2.02	0.41
2:H:793:LEU:HB3	2:H:812:HIS:HB3	2.01	0.41
2:E:660:SER:HB2	2:E:751:SER:H	1.86	0.41
2:E:2520:LEU:HD11	2:E:2566:CYS:SG	2.60	0.41
2:B:1240:LYS:HG2	2:B:1242:LEU:H	1.85	0.41
2:B:4851:VAL:O	2:B:4855:ASN:ND2	2.31	0.41
2:K:1148:VAL:HG21	2:K:1212:ARG:HD2	2.02	0.41
2:B:263:GLU:HG2	2:B:281:ARG:HB3	2.02	0.41
2:B:793:LEU:HB3	2:B:812:HIS:HB3	2.01	0.41
2:H:263:GLU:HG2	2:H:281:ARG:HB3	2.02	0.41
2:H:660:SER:HB2	2:H:751:SER:H	1.86	0.41
2:K:49:LEU:HD23	2:K:49:LEU:HA	1.94	0.41
2:K:232:THR:HB	2:K:252:VAL:HG23	2.00	0.41
2:B:111:HIS:CE1	2:B:113:HIS:HB3	2.56	0.41
2:B:660:SER:HB2	2:B:751:SER:H	1.86	0.41
2:B:1190:PRO:HG2	2:B:1204:LEU:HD11	2.02	0.41
2:B:2126:HIS:HB2	2:B:3721:TYR:HE1	1.85	0.41
2:E:182:LEU:HG	2:E:191:VAL:HG22	2.02	0.41
2:E:959:TYR:HA	2:E:966:LYS:HA	2.01	0.41
2:K:111:HIS:CE1	2:K:113:HIS:HB3	2.56	0.41
2:K:1686:CYS:HB3	2:K:1783:PHE:HZ	1.86	0.41
1:A:24:VAL:HG12	1:A:26:TYR:HD2	1.86	0.41
2:B:182:LEU:HG	2:B:191:VAL:HG22	2.02	0.41
1:D:23:VAL:HB	1:D:104:LEU:HB2	2.03	0.41
1:D:24:VAL:HG12	1:D:26:TYR:HD2	1.86	0.41
2:H:1433:TYR:CZ	2:H:1578:ALA:HB2	2.55	0.41
2:K:660:SER:HB2	2:K:751:SER:H	1.86	0.41
2:E:1186:ASP:OD1	2:E:1186:ASP:N	2.52	0.41
2:E:1592:PRO:HA	2:E:1593:PRO:HD3	1.95	0.41
2:E:3946:PHE:O	2:E:3950:MET:HG2	2.20	0.41
2:K:689:THR:HG22	2:K:776:LEU:H	1.86	0.41
1:A:23:VAL:HB	1:A:104:LEU:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:4222:GLU:O	2:E:4226:MET:HG2	2.21	0.41
2:H:689:THR:HG22	2:H:776:LEU:H	1.86	0.41
2:H:1240:LYS:HG2	2:H:1242:LEU:H	1.85	0.41
2:H:3946:PHE:O	2:H:3950:MET:HG2	2.20	0.41
2:K:182:LEU:HG	2:K:191:VAL:HG22	2.02	0.41
2:K:645:ARG:HA	2:K:646:PRO:HD3	1.95	0.41
2:K:1805:LEU:HD13	2:K:1854:ILE:HD12	2.03	0.41
2:B:1686:CYS:HB3	2:B:1783:PHE:HZ	1.86	0.41
2:B:4648:HIS:HA	2:B:4651:VAL:HG22	2.03	0.41
2:E:1738:LEU:HB2	2:E:2147:PRO:HD3	2.03	0.41
2:H:1805:LEU:HD13	2:H:1854:ILE:HD12	2.03	0.41
2:K:3946:PHE:O	2:K:3950:MET:HG2	2.20	0.41
2:B:4222:GLU:O	2:B:4226:MET:HG2	2.21	0.40
2:E:111:HIS:CE1	2:E:113:HIS:HB3	2.56	0.40
2:E:262:LEU:HB3	2:E:280:LEU:HD23	2.04	0.40
2:E:649:PHE:HB3	2:E:776:LEU:HD13	2.03	0.40
2:E:2215:VAL:HG11	2:E:2229:MET:HE1	2.03	0.40
1:G:23:VAL:HB	1:G:104:LEU:HB2	2.03	0.40
2:H:408:ALA:O	2:H:412:ASN:ND2	2.36	0.40
2:H:3873:ASP:OD1	2:H:3873:ASP:N	2.53	0.40
2:H:4920:PHE:O	2:H:4924:VAL:HB	2.21	0.40
1:J:23:VAL:HB	1:J:104:LEU:HB2	2.03	0.40
2:K:262:LEU:HB3	2:K:280:LEU:HD23	2.04	0.40
2:K:4648:HIS:HA	2:K:4651:VAL:HG22	2.03	0.40
2:K:4920:PHE:O	2:K:4924:VAL:HB	2.21	0.40
2:B:4161:LEU:O	2:B:4164:SER:OG	2.27	0.40
2:B:5002:THR:OG1	2:B:5003:GLY:N	2.55	0.40
2:B:3722:ALA:HB1	2:B:3795:LEU:HB2	2.04	0.40
2:E:1805:LEU:HD13	2:E:1854:ILE:HD12	2.03	0.40
2:E:4648:HIS:HA	2:E:4651:VAL:HG22	2.03	0.40
2:E:4920:PHE:O	2:E:4924:VAL:HB	2.21	0.40
2:H:499:THR:OG1	2:H:500:ALA:N	2.54	0.40
2:H:1738:LEU:HB2	2:H:2147:PRO:HD3	2.03	0.40
2:H:5002:THR:OG1	2:H:5003:GLY:N	2.55	0.40
2:K:263:GLU:HG2	2:K:281:ARG:HB3	2.02	0.40
2:B:1805:LEU:HD13	2:B:1854:ILE:HD12	2.03	0.40
2:E:1148:VAL:HG21	2:E:1212:ARG:HD2	2.02	0.40
2:E:1686:CYS:HB3	2:E:1783:PHE:HZ	1.86	0.40
1:G:24:VAL:HG12	1:G:26:TYR:HD2	1.86	0.40
2:H:1449:TRP:HE1	2:H:1496:TRP:HD1	1.69	0.40
2:K:622:THR:O	2:K:627:PRO:HD3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:3869:VAL:HG12	2:K:3870:MET:HG3	2.04	0.40
2:K:4176:ILE:HD11	2:K:4188:ILE:HB	2.04	0.40
2:B:223:PHE:O	2:B:389:SER:N	2.50	0.40
2:B:4176:ILE:HD11	2:B:4188:ILE:HB	2.04	0.40
2:E:1449:TRP:HE1	2:E:1496:TRP:HD1	1.69	0.40
2:H:111:HIS:CE1	2:H:113:HIS:HB3	2.56	0.40
2:H:182:LEU:HG	2:H:191:VAL:HG22	2.02	0.40
2:H:262:LEU:HB3	2:H:280:LEU:HD23	2.04	0.40
2:H:649:PHE:HB3	2:H:776:LEU:HD13	2.03	0.40
2:H:1148:VAL:HG21	2:H:1212:ARG:HD2	2.02	0.40
2:H:1686:CYS:HB3	2:H:1783:PHE:HZ	1.86	0.40
2:H:3806:ASP:N	2:H:3806:ASP:OD1	2.53	0.40
2:K:645:ARG:HG2	2:K:826:ILE:HG12	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	104/110 (94%)	95 (91%)	9 (9%)	0	100	100
1	D	104/110 (94%)	95 (91%)	9 (9%)	0	100	100
1	G	104/110 (94%)	95 (91%)	9 (9%)	0	100	100
1	J	104/110 (94%)	95 (91%)	9 (9%)	0	100	100
2	B	3380/3801 (89%)	3327 (98%)	52 (2%)	1 (0%)	100	100
2	E	3380/3801 (89%)	3327 (98%)	53 (2%)	0	100	100
2	H	3380/3801 (89%)	3327 (98%)	52 (2%)	1 (0%)	100	100
2	K	3380/3801 (89%)	3327 (98%)	52 (2%)	1 (0%)	100	100
3	C	127/148 (86%)	122 (96%)	5 (4%)	0	100	100
3	F	127/148 (86%)	122 (96%)	5 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	I	127/148 (86%)	122 (96%)	5 (4%)	0	100	100
3	L	127/148 (86%)	122 (96%)	5 (4%)	0	100	100
All	All	14444/16236 (89%)	14176 (98%)	265 (2%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	H	51	PRO
2	B	51	PRO
2	K	51	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	69/90 (77%)	69 (100%)	0	100	100
1	D	69/90 (77%)	69 (100%)	0	100	100
1	G	69/90 (77%)	69 (100%)	0	100	100
1	J	69/90 (77%)	69 (100%)	0	100	100
2	B	2218/3020 (73%)	2215 (100%)	3 (0%)	93	97
2	E	2218/3020 (73%)	2216 (100%)	2 (0%)	93	97
2	H	2218/3020 (73%)	2216 (100%)	2 (0%)	93	97
2	K	2218/3020 (73%)	2215 (100%)	3 (0%)	93	97
3	C	29/126 (23%)	29 (100%)	0	100	100
3	F	29/126 (23%)	29 (100%)	0	100	100
3	I	29/126 (23%)	29 (100%)	0	100	100
3	L	29/126 (23%)	29 (100%)	0	100	100
All	All	9264/12944 (72%)	9254 (100%)	10 (0%)	93	97

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	53	SER
2	B	58	VAL
2	B	125	ARG
2	E	53	SER
2	E	125	ARG
2	H	53	SER
2	H	125	ARG
2	K	53	SER
2	K	58	VAL
2	K	125	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	23	GLN
2	B	203	ASN
2	B	3420	ASN
2	B	3804	ASN
2	E	23	GLN
2	E	203	ASN
2	E	3420	ASN
2	E	3804	ASN
2	H	23	GLN
2	H	203	ASN
2	H	3420	ASN
2	H	3804	ASN
2	K	23	GLN
2	K	203	ASN
2	K	3420	ASN
2	K	3804	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

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

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	B	57
2	E	57
2	H	57
2	K	57

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	4331:UNK	C	4543:GLU	N	51.63
1	E	4331:UNK	C	4543:GLU	N	51.63
1	H	4331:UNK	C	4543:GLU	N	51.63
1	K	4331:UNK	C	4543:GLU	N	51.63
1	B	1050:GLY	C	1071:ARG	N	45.66
1	E	1050:GLY	C	1071:ARG	N	45.66
1	H	1050:GLY	C	1071:ARG	N	45.66
1	K	1050:GLY	C	1071:ARG	N	45.66
1	B	3606:UNK	C	3625:ARG	N	34.72

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	3606:UNK	C	3625:ARG	N	34.72
1	H	3606:UNK	C	3625:ARG	N	34.72
1	K	3606:UNK	C	3625:ARG	N	34.72
1	B	4737:GLU	C	4761:GLY	N	33.88
1	E	4737:GLU	C	4761:GLY	N	33.88
1	H	4737:GLU	C	4761:GLY	N	33.88
1	K	4737:GLU	C	4761:GLY	N	33.88
1	B	4241:GLN	C	4315:UNK	N	28.24
1	E	4241:GLN	C	4315:UNK	N	28.24
1	H	4241:GLN	C	4315:UNK	N	28.24
1	K	4241:GLN	C	4315:UNK	N	28.24
1	B	2700:UNK	C	2736:ASP	N	27.93
1	E	2700:UNK	C	2736:ASP	N	27.93
1	H	2700:UNK	C	2736:ASP	N	27.93
1	K	2700:UNK	C	2736:ASP	N	27.93
1	B	2939:ARG	C	2956:UNK	N	25.14
1	E	2939:ARG	C	2956:UNK	N	25.14
1	H	2939:ARG	C	2956:UNK	N	25.14
1	K	2939:ARG	C	2956:UNK	N	25.14
1	B	3555:UNK	C	3565:UNK	N	24.53
1	E	3555:UNK	C	3565:UNK	N	24.53
1	H	3555:UNK	C	3565:UNK	N	24.53
1	K	3555:UNK	C	3565:UNK	N	24.53
1	B	2830:GLU	C	2855:TYR	N	23.95
1	E	2830:GLU	C	2855:TYR	N	23.95
1	H	2830:GLU	C	2855:TYR	N	23.95
1	K	2830:GLU	C	2855:TYR	N	23.95
1	B	84:ASN	C	97:GLY	N	22.11
1	E	84:ASN	C	97:GLY	N	22.11
1	H	84:ASN	C	97:GLY	N	22.11
1	K	84:ASN	C	97:GLY	N	22.11
1	B	1299:GLN	C	1428:LEU	N	21.21
1	E	1299:GLN	C	1428:LEU	N	21.21
1	H	1299:GLN	C	1428:LEU	N	21.21
1	K	1299:GLN	C	1428:LEU	N	21.21
1	B	855:PRO	C	863:LEU	N	21.03
1	E	855:PRO	C	863:LEU	N	21.03
1	H	855:PRO	C	863:LEU	N	21.03
1	K	855:PRO	C	863:LEU	N	21.03
1	B	3574:UNK	C	3586:UNK	N	20.43
1	E	3574:UNK	C	3586:UNK	N	20.43
1	H	3574:UNK	C	3586:UNK	N	20.43

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	K	3574:UNK	C	3586:UNK	N	20.43
1	B	2527:PHE	C	2546:GLU	N	19.89
1	E	2527:PHE	C	2546:GLU	N	19.89
1	H	2527:PHE	C	2546:GLU	N	19.89
1	K	2527:PHE	C	2546:GLU	N	19.89
1	B	3733:GLU	C	3747:SER	N	18.58
1	E	3733:GLU	C	3747:SER	N	18.58
1	H	3733:GLU	C	3747:SER	N	18.58
1	K	3733:GLU	C	3747:SER	N	18.58
1	B	3238:UNK	C	3278:UNK	N	18.53
1	E	3238:UNK	C	3278:UNK	N	18.53
1	H	3238:UNK	C	3278:UNK	N	18.53
1	K	3238:UNK	C	3278:UNK	N	18.53
1	B	2046:GLN	C	2092:LEU	N	18.27
1	E	2046:GLN	C	2092:LEU	N	18.27
1	H	2046:GLN	C	2092:LEU	N	18.27
1	K	2046:GLN	C	2092:LEU	N	18.27
1	B	2653:UNK	C	2664:UNK	N	17.22
1	E	2653:UNK	C	2664:UNK	N	17.22
1	H	2653:UNK	C	2664:UNK	N	17.22
1	K	2653:UNK	C	2664:UNK	N	17.22
1	B	3193:UNK	C	3202:UNK	N	16.78
1	E	3193:UNK	C	3202:UNK	N	16.78
1	H	3193:UNK	C	3202:UNK	N	16.78
1	K	3193:UNK	C	3202:UNK	N	16.78
1	B	3062:UNK	C	3143:UNK	N	16.52
1	E	3062:UNK	C	3143:UNK	N	16.52
1	H	3062:UNK	C	3143:UNK	N	16.52
1	K	3062:UNK	C	3143:UNK	N	16.52
1	B	3358:UNK	C	3365:UNK	N	16.06
1	E	3358:UNK	C	3365:UNK	N	16.06
1	H	3358:UNK	C	3365:UNK	N	16.06
1	K	3358:UNK	C	3365:UNK	N	16.06
1	B	2978:UNK	C	2999:UNK	N	16.04
1	E	2978:UNK	C	2999:UNK	N	16.04
1	H	2978:UNK	C	2999:UNK	N	16.04
1	K	2978:UNK	C	2999:UNK	N	16.04
1	B	1871:VAL	C	1924:GLU	N	14.64
1	E	1871:VAL	C	1924:GLU	N	14.64
1	H	1871:VAL	C	1924:GLU	N	14.64
1	K	1871:VAL	C	1924:GLU	N	14.64
1	B	4090:LYS	C	4109:UNK	N	14.47

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	4090:LYS	C	4109:UNK	N	14.47
1	H	4090:LYS	C	4109:UNK	N	14.47
1	K	4090:LYS	C	4109:UNK	N	14.47
1	B	2263:GLY	C	2271:SER	N	13.98
1	E	2263:GLY	C	2271:SER	N	13.98
1	H	2263:GLY	C	2271:SER	N	13.98
1	K	2263:GLY	C	2271:SER	N	13.98
1	B	3385:UNK	C	3398:GLU	N	13.77
1	E	3385:UNK	C	3398:GLU	N	13.77
1	H	3385:UNK	C	3398:GLU	N	13.77
1	K	3385:UNK	C	3398:GLU	N	13.77
1	B	3018:UNK	C	3032:UNK	N	13.76
1	E	3018:UNK	C	3032:UNK	N	13.76
1	H	3018:UNK	C	3032:UNK	N	13.76
1	K	3018:UNK	C	3032:UNK	N	13.76
1	B	3308:UNK	C	3320:UNK	N	13.41
1	E	3308:UNK	C	3320:UNK	N	13.41
1	H	3308:UNK	C	3320:UNK	N	13.41
1	K	3308:UNK	C	3320:UNK	N	13.41
1	B	2479:LEU	C	2491:MET	N	13.28
1	E	2479:LEU	C	2491:MET	N	13.28
1	H	2479:LEU	C	2491:MET	N	13.28
1	K	2479:LEU	C	2491:MET	N	13.28
1	B	323:LEU	C	328:LYS	N	13.18
1	E	323:LEU	C	328:LYS	N	13.18
1	H	323:LEU	C	328:LYS	N	13.18
1	K	323:LEU	C	328:LYS	N	13.18
1	B	3046:UNK	C	3051:UNK	N	12.16
1	E	3046:UNK	C	3051:UNK	N	12.16
1	H	3046:UNK	C	3051:UNK	N	12.16
1	K	3046:UNK	C	3051:UNK	N	12.16
1	B	2629:PHE	C	2641:UNK	N	12.13
1	E	2629:PHE	C	2641:UNK	N	12.13
1	H	2629:PHE	C	2641:UNK	N	12.13
1	K	2629:PHE	C	2641:UNK	N	12.13
1	B	3335:UNK	C	3346:UNK	N	12.09
1	E	3335:UNK	C	3346:UNK	N	12.09
1	H	3335:UNK	C	3346:UNK	N	12.09
1	K	3335:UNK	C	3346:UNK	N	12.09
1	B	4585:PRO	C	4626:VAL	N	11.83
1	E	4585:PRO	C	4626:VAL	N	11.83
1	H	4585:PRO	C	4626:VAL	N	11.83

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	K	4585:PRO	C	4626:VAL	N	11.83
1	B	1501:VAL	C	1510:SER	N	11.80
1	B	2014:LYS	C	2023:PRO	N	11.80
1	E	1501:VAL	C	1510:SER	N	11.80
1	E	2014:LYS	C	2023:PRO	N	11.80
1	H	1501:VAL	C	1510:SER	N	11.80
1	H	2014:LYS	C	2023:PRO	N	11.80
1	K	1501:VAL	C	1510:SER	N	11.80
1	K	2014:LYS	C	2023:PRO	N	11.80
1	B	3526:UNK	C	3534:UNK	N	11.73
1	E	3526:UNK	C	3534:UNK	N	11.73
1	H	3526:UNK	C	3534:UNK	N	11.73
1	K	3526:UNK	C	3534:UNK	N	11.73
1	B	2571:ALA	C	2579:MET	N	11.69
1	E	2571:ALA	C	2579:MET	N	11.69
1	H	2571:ALA	C	2579:MET	N	11.69
1	K	2571:ALA	C	2579:MET	N	11.69
1	B	3461:VAL	C	3509:UNK	N	11.61
1	E	3461:VAL	C	3509:UNK	N	11.61
1	H	3461:VAL	C	3509:UNK	N	11.61
1	K	3461:VAL	C	3509:UNK	N	11.61
1	B	3217:UNK	C	3225:UNK	N	11.48
1	E	3217:UNK	C	3225:UNK	N	11.48
1	H	3217:UNK	C	3225:UNK	N	11.48
1	K	3217:UNK	C	3225:UNK	N	11.48
1	B	361:ALA	C	372:LEU	N	10.68
1	E	361:ALA	C	372:LEU	N	10.68
1	H	361:ALA	C	372:LEU	N	10.68
1	K	361:ALA	C	372:LEU	N	10.68
1	B	1788:PRO	C	1794:GLU	N	10.05
1	E	1788:PRO	C	1794:GLU	N	10.05
1	H	1788:PRO	C	1794:GLU	N	10.05
1	K	1788:PRO	C	1794:GLU	N	10.05
1	B	2370:ARG	C	2377:LEU	N	9.95
1	E	2370:ARG	C	2377:LEU	N	9.95
1	H	2370:ARG	C	2377:LEU	N	9.95
1	K	2370:ARG	C	2377:LEU	N	9.95
1	B	4114:UNK	C	4121:GLU	N	9.86
1	E	4114:UNK	C	4121:GLU	N	9.86
1	H	4114:UNK	C	4121:GLU	N	9.86
1	K	4114:UNK	C	4121:GLU	N	9.86
1	B	1750:PRO	C	1760:ARG	N	9.68

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	1750:PRO	C	1760:ARG	N	9.68
1	H	1750:PRO	C	1760:ARG	N	9.68
1	K	1750:PRO	C	1760:ARG	N	9.68
1	B	2683:UNK	C	2688:UNK	N	9.52
1	E	2683:UNK	C	2688:UNK	N	9.52
1	H	2683:UNK	C	2688:UNK	N	9.52
1	K	2683:UNK	C	2688:UNK	N	9.52
1	B	3163:UNK	C	3173:UNK	N	9.25
1	E	3163:UNK	C	3173:UNK	N	9.25
1	H	3163:UNK	C	3173:UNK	N	9.25
1	K	3163:UNK	C	3173:UNK	N	9.25
1	B	3861:ILE	C	3866:GLY	N	9.14
1	E	3861:ILE	C	3866:GLY	N	9.14
1	H	3861:ILE	C	3866:GLY	N	9.14
1	K	3861:ILE	C	3866:GLY	N	9.14
1	B	2385:ILE	C	2420:GLY	N	9.11
1	E	2385:ILE	C	2420:GLY	N	9.11
1	H	2385:ILE	C	2420:GLY	N	9.11
1	K	2385:ILE	C	2420:GLY	N	9.11
1	B	2514:GLU	C	2518:PHE	N	9.08
1	E	2514:GLU	C	2518:PHE	N	9.08
1	H	2514:GLU	C	2518:PHE	N	9.08
1	K	2514:GLU	C	2518:PHE	N	9.08
1	B	3288:UNK	C	3292:UNK	N	8.98
1	E	3288:UNK	C	3292:UNK	N	8.98
1	H	3288:UNK	C	3292:UNK	N	8.98
1	K	3288:UNK	C	3292:UNK	N	8.98
1	B	3544:UNK	C	3548:UNK	N	8.67
1	E	3544:UNK	C	3548:UNK	N	8.67
1	H	3544:UNK	C	3548:UNK	N	8.67
1	K	3544:UNK	C	3548:UNK	N	8.67
1	B	2217:GLY	C	2225:ARG	N	8.25
1	E	2217:GLY	C	2225:ARG	N	8.25
1	H	2217:GLY	C	2225:ARG	N	8.25
1	K	2217:GLY	C	2225:ARG	N	8.25
1	B	236:ALA	C	240:ASP	N	6.67
1	E	236:ALA	C	240:ASP	N	6.67
1	H	236:ALA	C	240:ASP	N	6.67
1	K	236:ALA	C	240:ASP	N	6.67
1	B	1478:ASP	C	1482:ASN	N	6.29
1	E	1478:ASP	C	1482:ASN	N	6.29
1	H	1478:ASP	C	1482:ASN	N	6.29

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	K	1478:ASP	C	1482:ASN	N	6.29
1	B	426:ARG	C	431:PRO	N	5.81
1	E	426:ARG	C	431:PRO	N	5.81
1	H	426:ARG	C	431:PRO	N	5.81
1	K	426:ARG	C	431:PRO	N	5.81
1	B	1275:ARG	C	1282:SER	N	5.36
1	E	1275:ARG	C	1282:SER	N	5.36
1	H	1275:ARG	C	1282:SER	N	5.36
1	K	1275:ARG	C	1282:SER	N	5.36

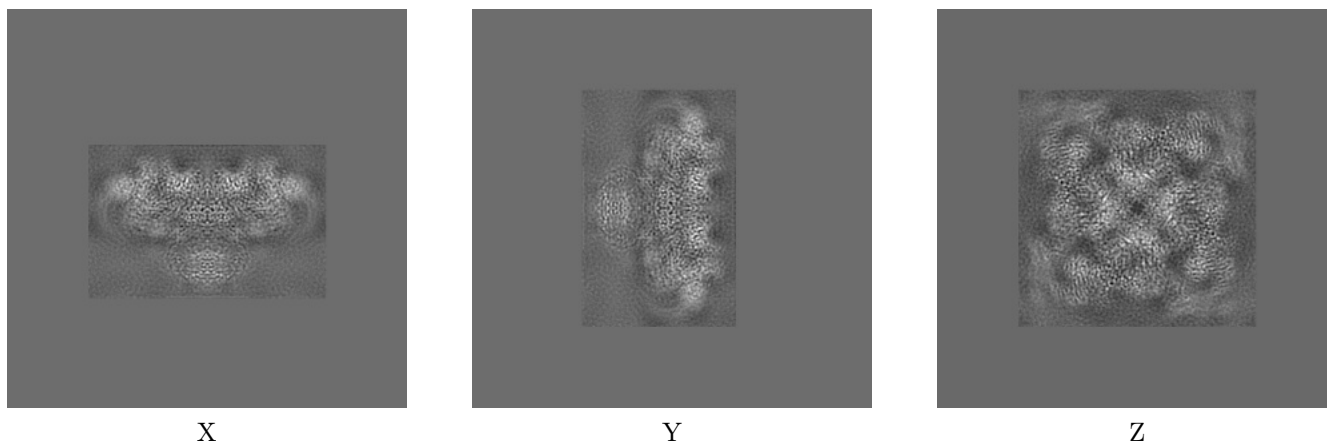
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-22018. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections [i](#)

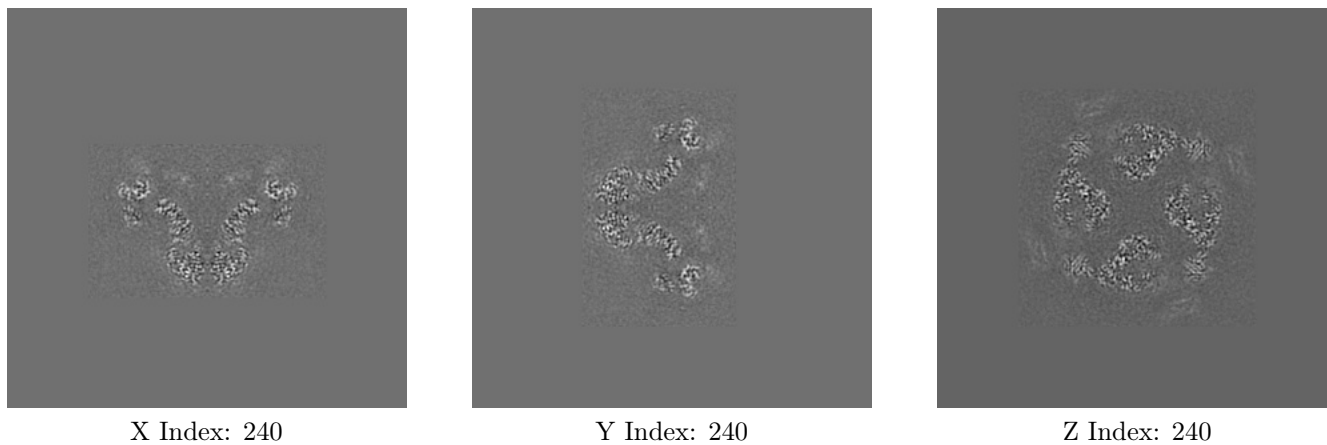
6.1.1 Primary map



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

6.2 Central slices [i](#)

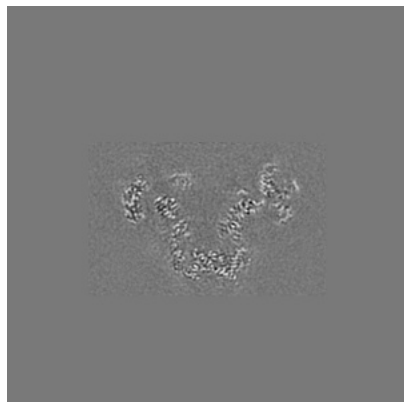
6.2.1 Primary map



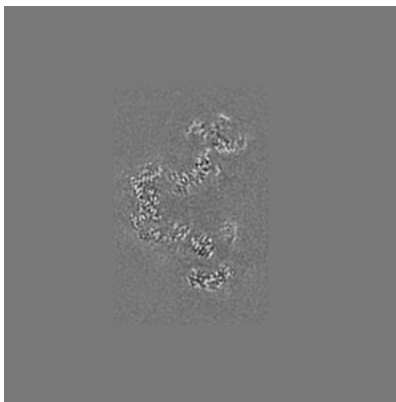
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

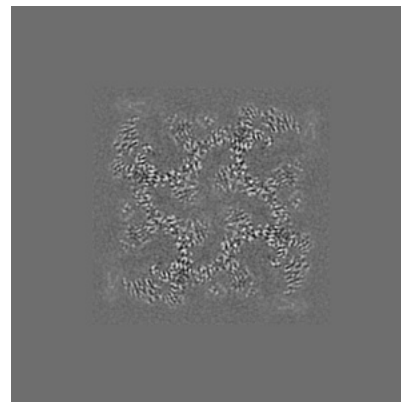
6.3.1 Primary map



X Index: 233



Y Index: 247

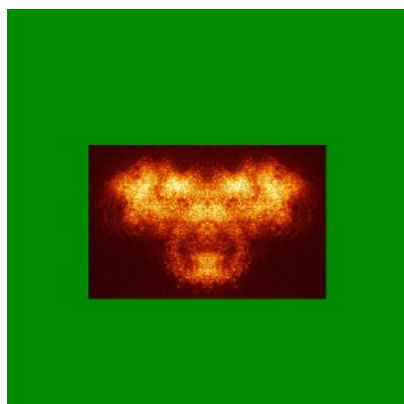


Z Index: 268

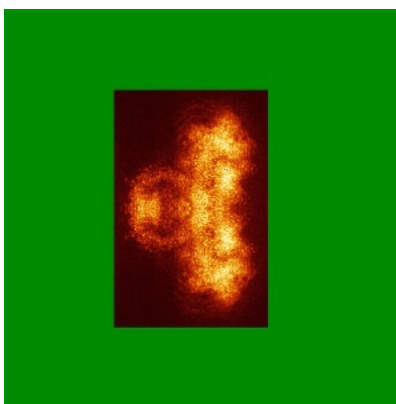
The images above show the largest variance slices of the map in three orthogonal directions.

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

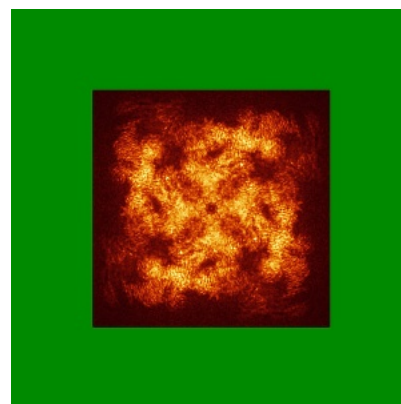
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.023. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

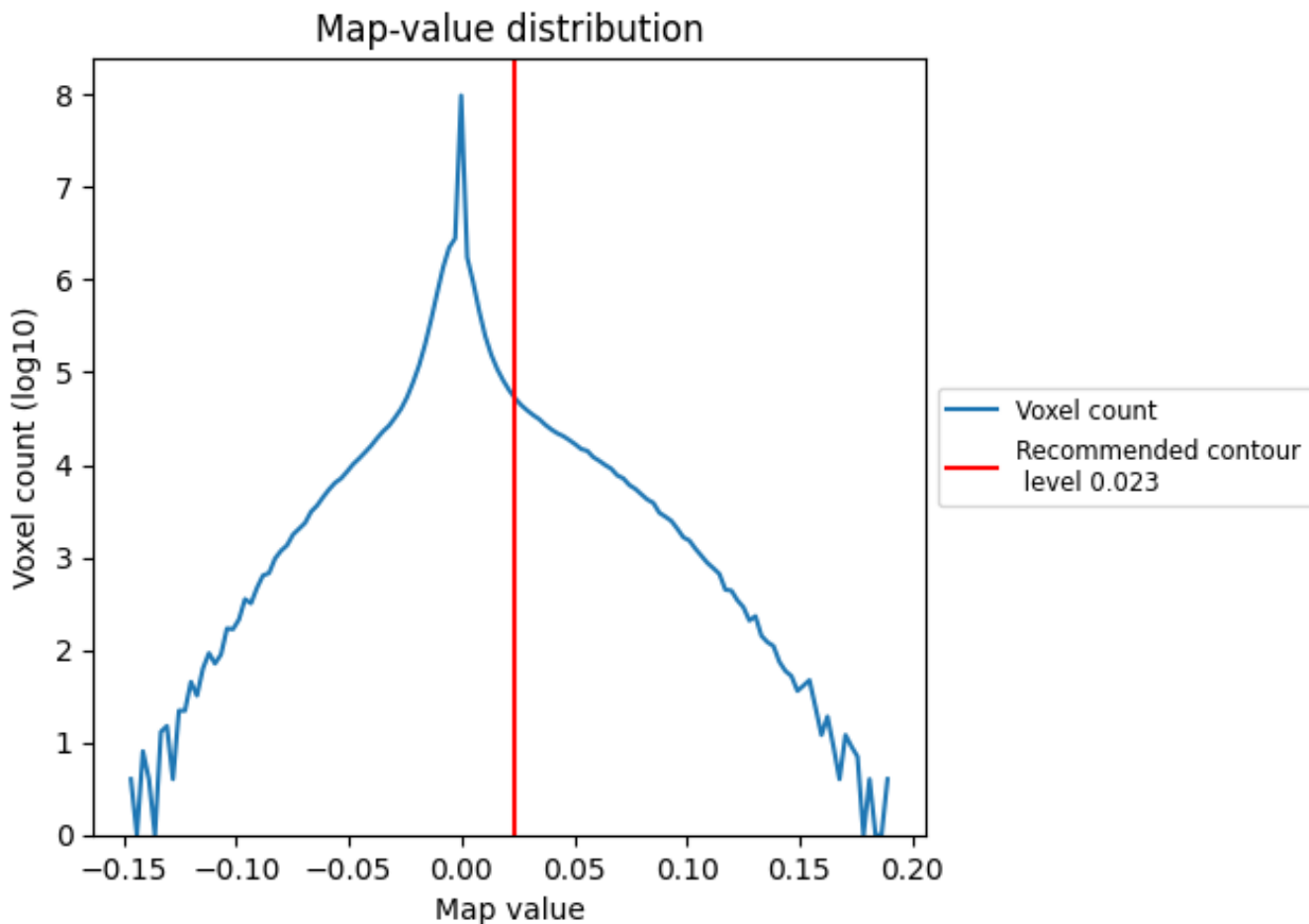
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

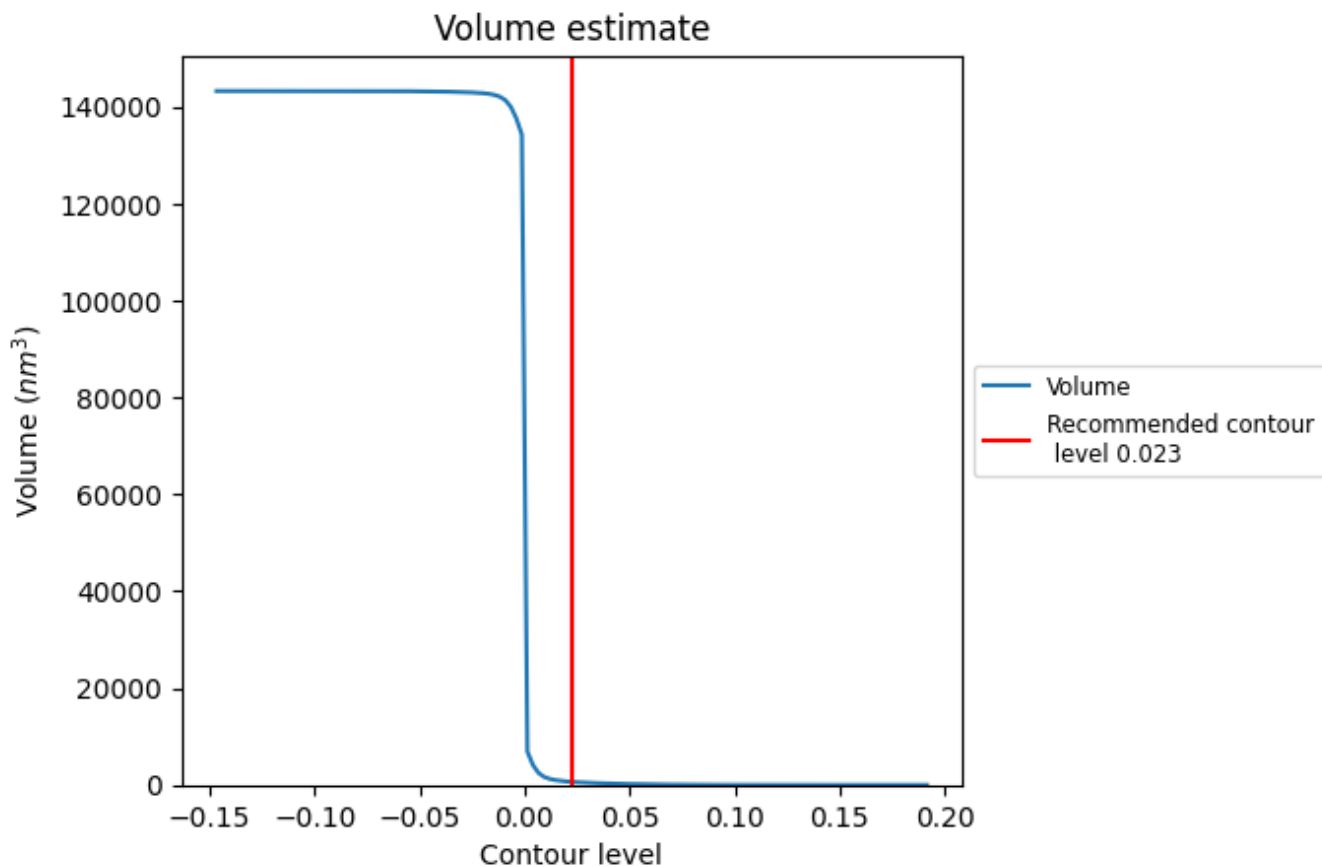
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

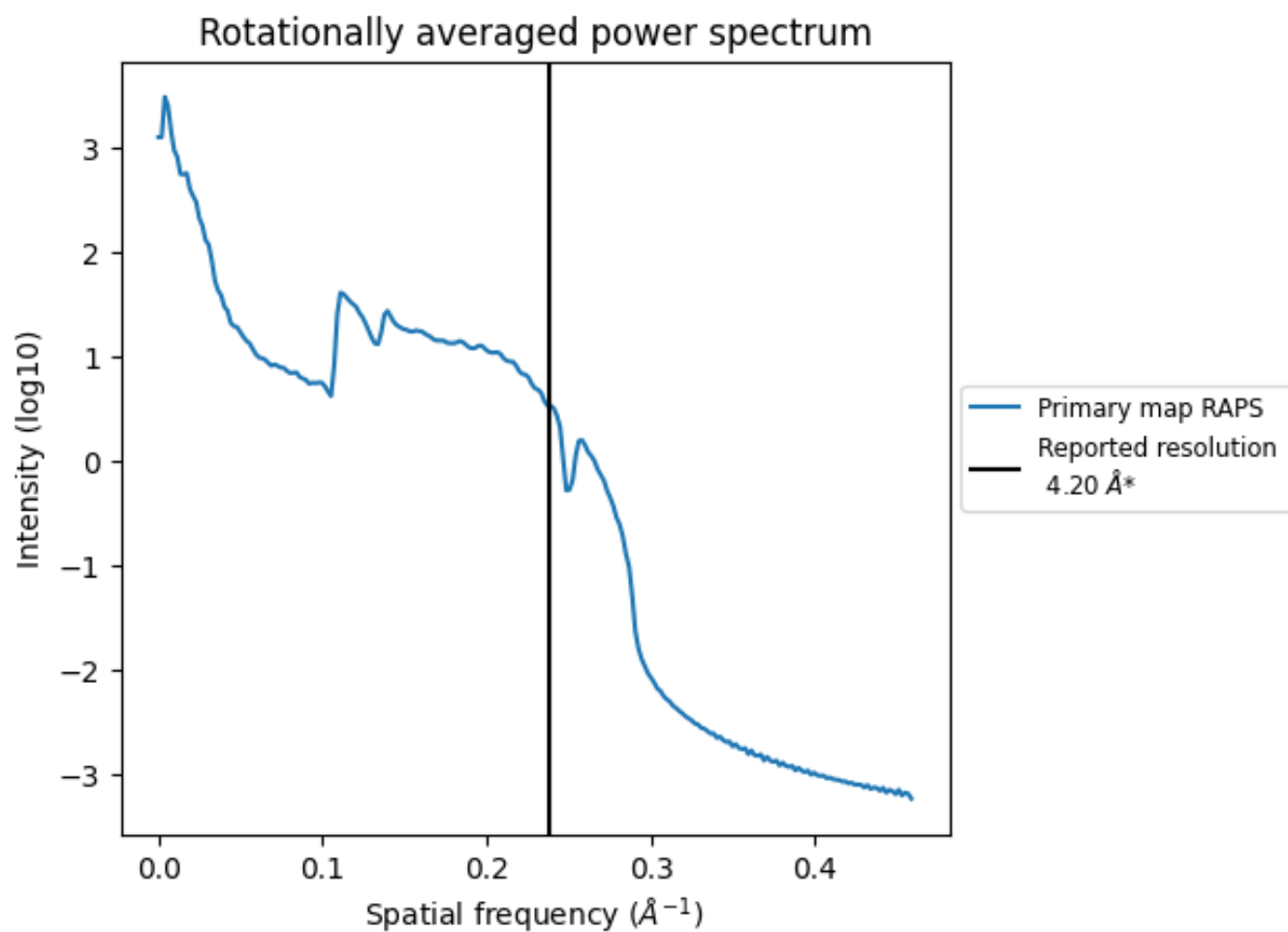
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 622 nm^3 ; this corresponds to an approximate mass of 562 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.238\AA^{-1}

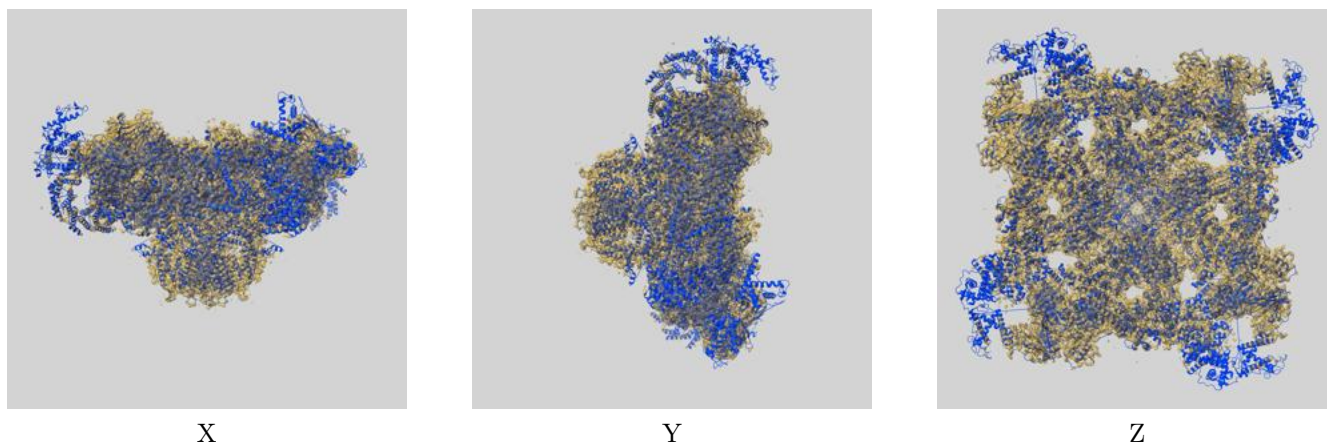
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

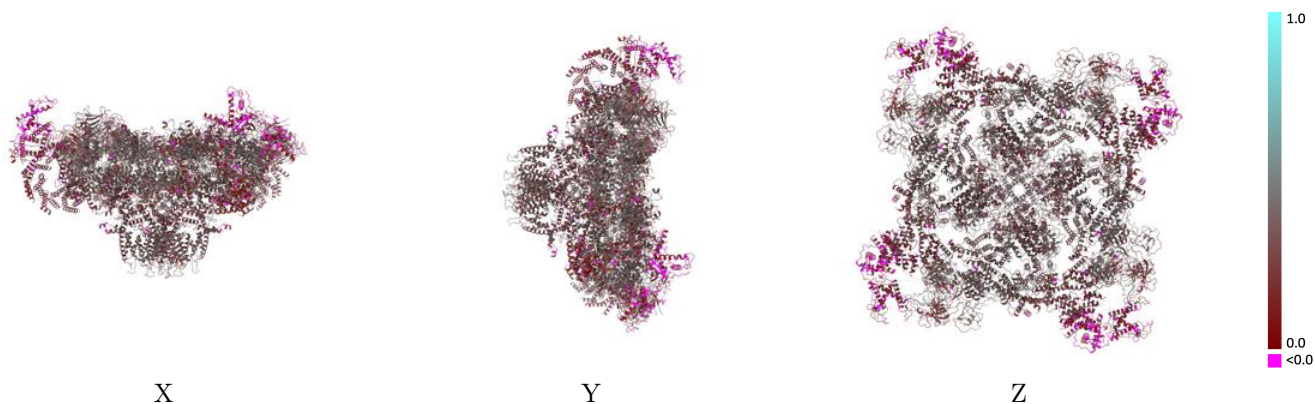
This section contains information regarding the fit between EMDB map EMD-22018 and PDB model 6X35. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay [i](#)



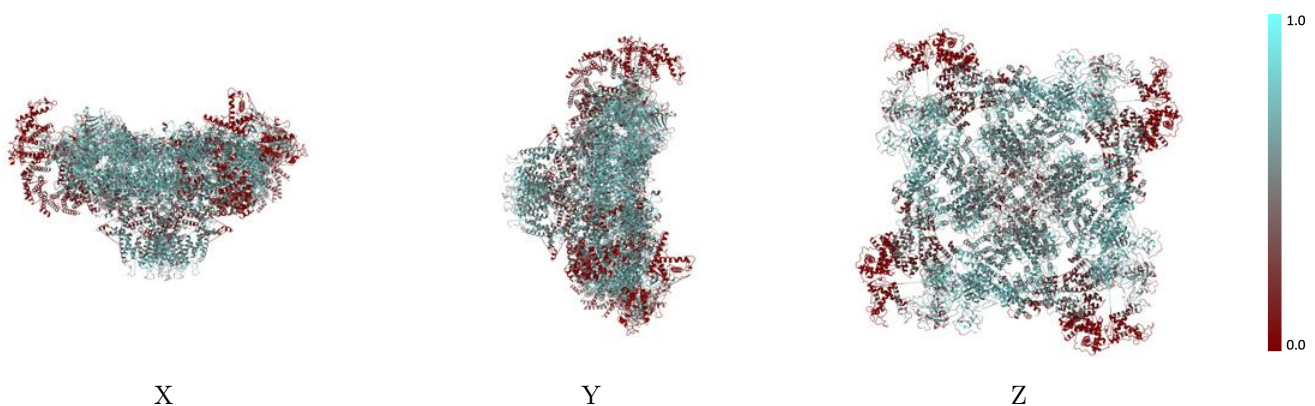
The images above show the 3D surface view of the map at the recommended contour level 0.023 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



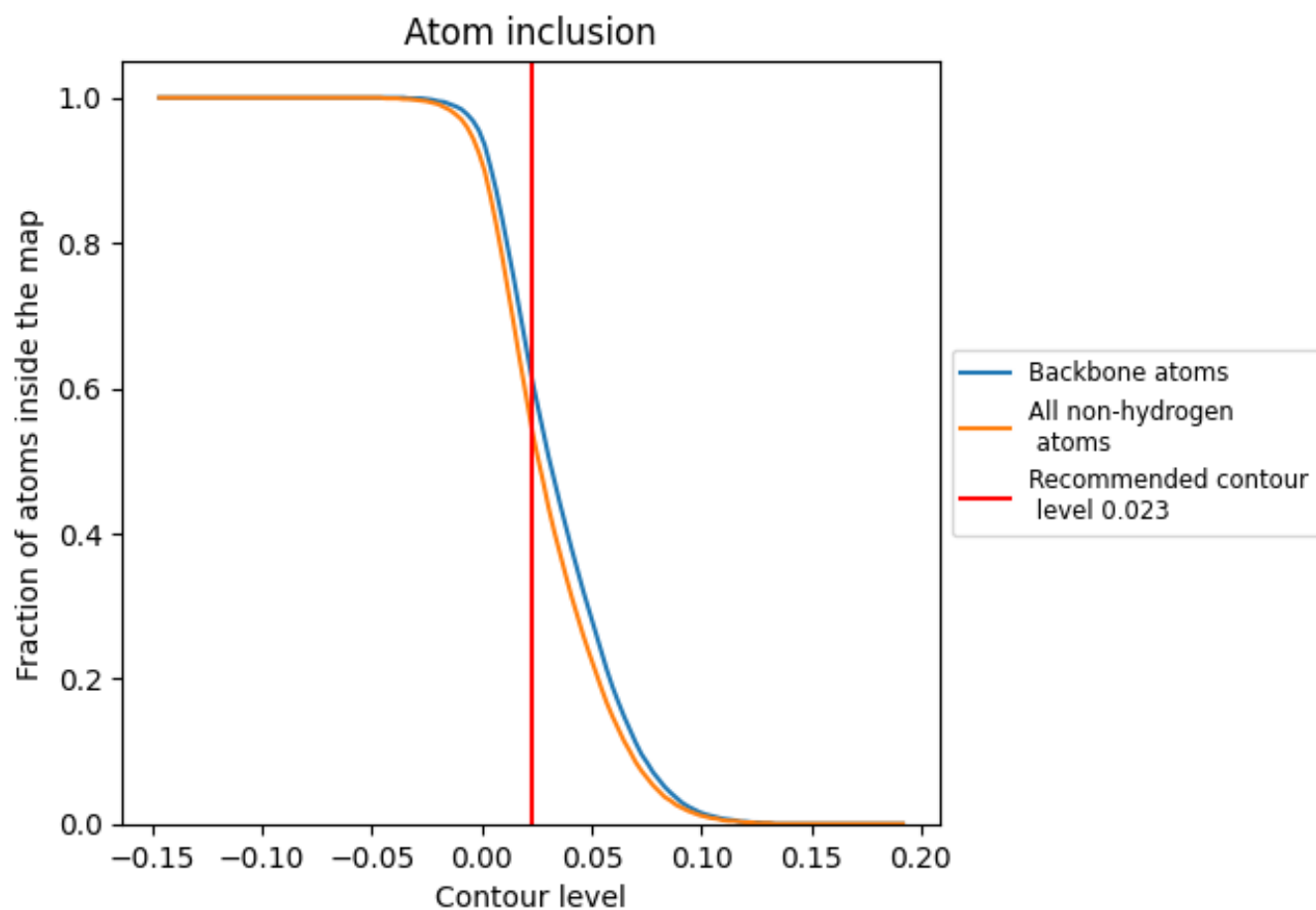
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.023).



























9.4 Atom inclusion [i](#)



At the recommended contour level, 61% of all backbone atoms, 54% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.023) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5410	 0.3310
A	 0.5930	 0.3570
B	 0.5440	 0.3310
C	 0.3760	 0.2830
D	 0.5900	 0.3560
E	 0.5440	 0.3310
F	 0.3760	 0.2810
G	 0.5910	 0.3590
H	 0.5440	 0.3320
I	 0.3750	 0.2790
J	 0.5910	 0.3570
K	 0.5440	 0.3320
L	 0.3760	 0.2820

