



Full wwPDB EM Validation Report ⓘ

Jul 10, 2023 – 05:09 PM EDT

PDB ID : 8SER
EMDB ID : EMD-40426
Title : Cryo-EM Structure of RyR1 + Adenosine
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 : 3.42 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.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

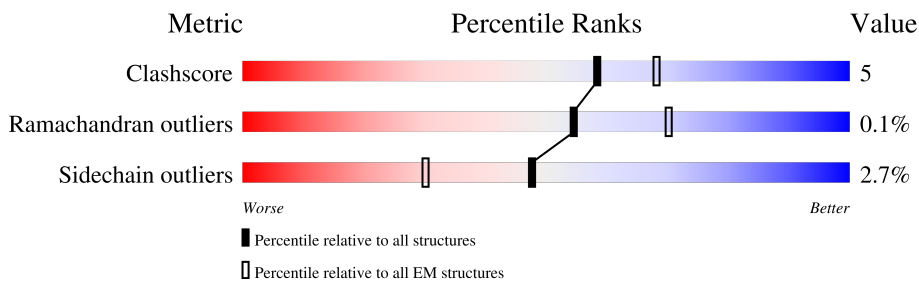
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.42 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	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 142952 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	4376	34900	22201	6022	6441	236	9	0
1	B	4376	34900	22201	6022	6441	236	9	0
1	C	4376	34900	22201	6022	6441	236	9	0
1	D	4376	34900	22201	6022	6441	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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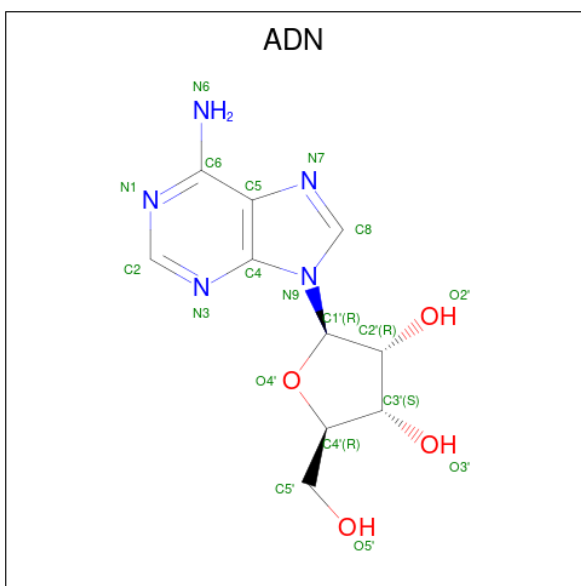
Chain	Residue	Modelled	Actual	Comment	Reference
G	-242	MET	-	expression tag	UNP P08515
G	-241	LYS	-	expression tag	UNP P08515
G	-240	SER	-	expression tag	UNP P08515
G	-239	SER	-	expression tag	UNP P08515
G	-238	HIS	-	expression tag	UNP P08515
G	-237	HIS	-	expression tag	UNP P08515
G	-236	HIS	-	expression 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 (three-letter code: ADN) (formula: $C_{10}H_{13}N_5O_4$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
3	A	1	Total	C	N	O	0
			19	10	5	4	
3	B	1	Total	C	N	O	0
			19	10	5	4	
3	C	1	Total	C	N	O	0
			19	10	5	4	
3	D	1	Total	C	N	O	0
			19	10	5	4	

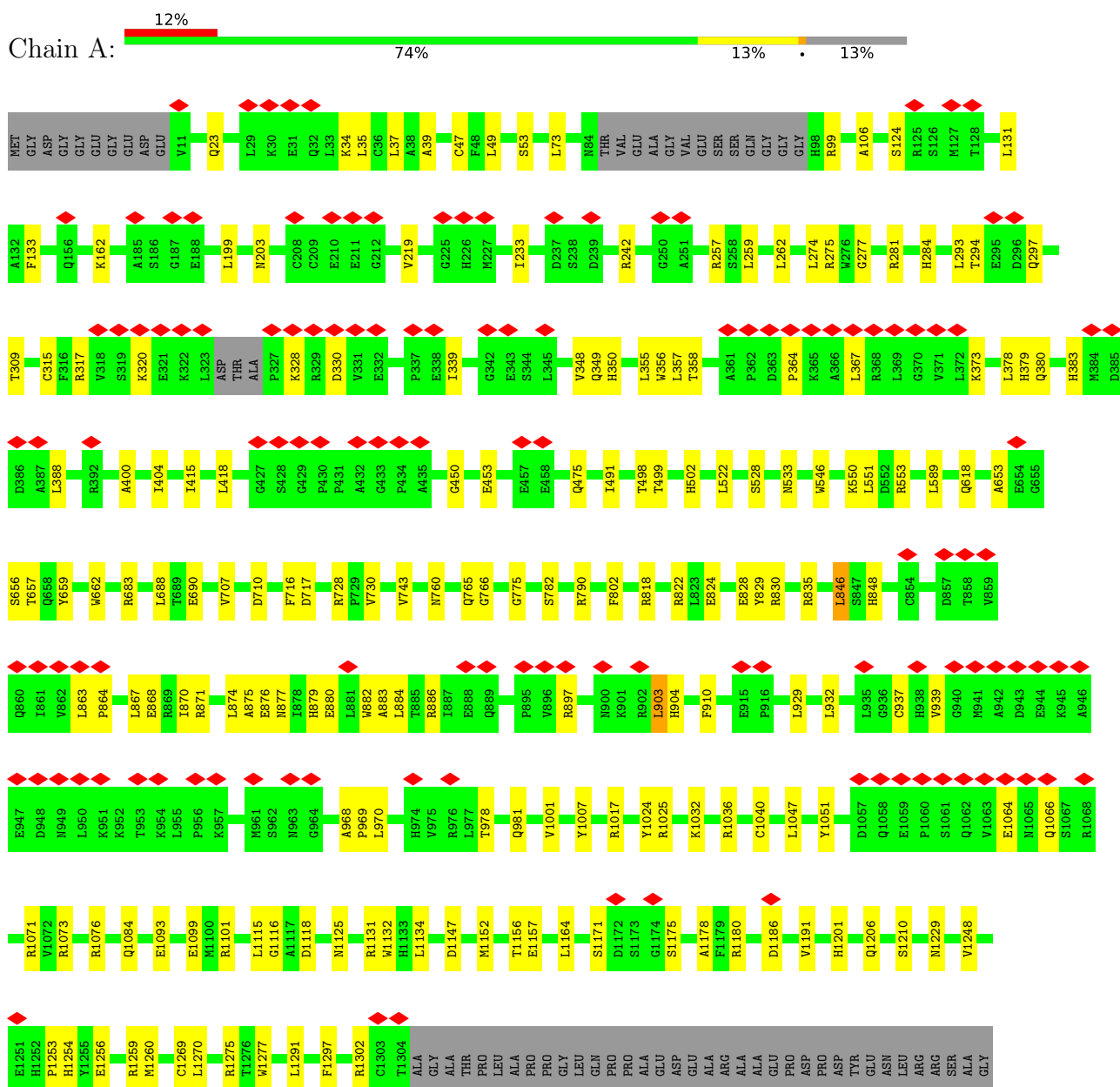
- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

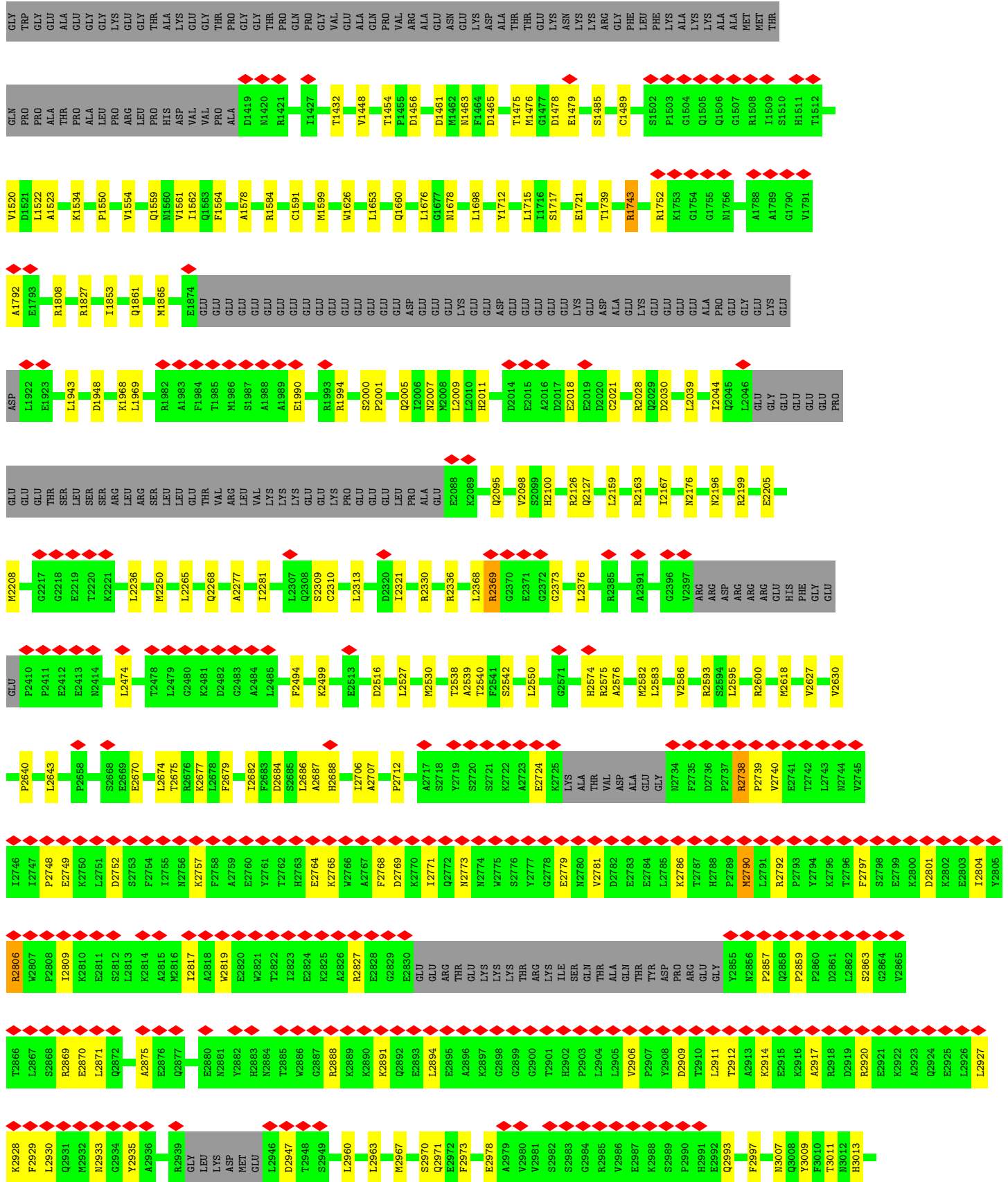
Mol	Chain	Residues	Atoms		AltConf
4	A	1	Total 1	Zn 1	0
4	B	1	Total 1	Zn 1	0
4	C	1	Total 1	Zn 1	0
4	D	1	Total 1	Zn 1	0

3 Residue-property plots

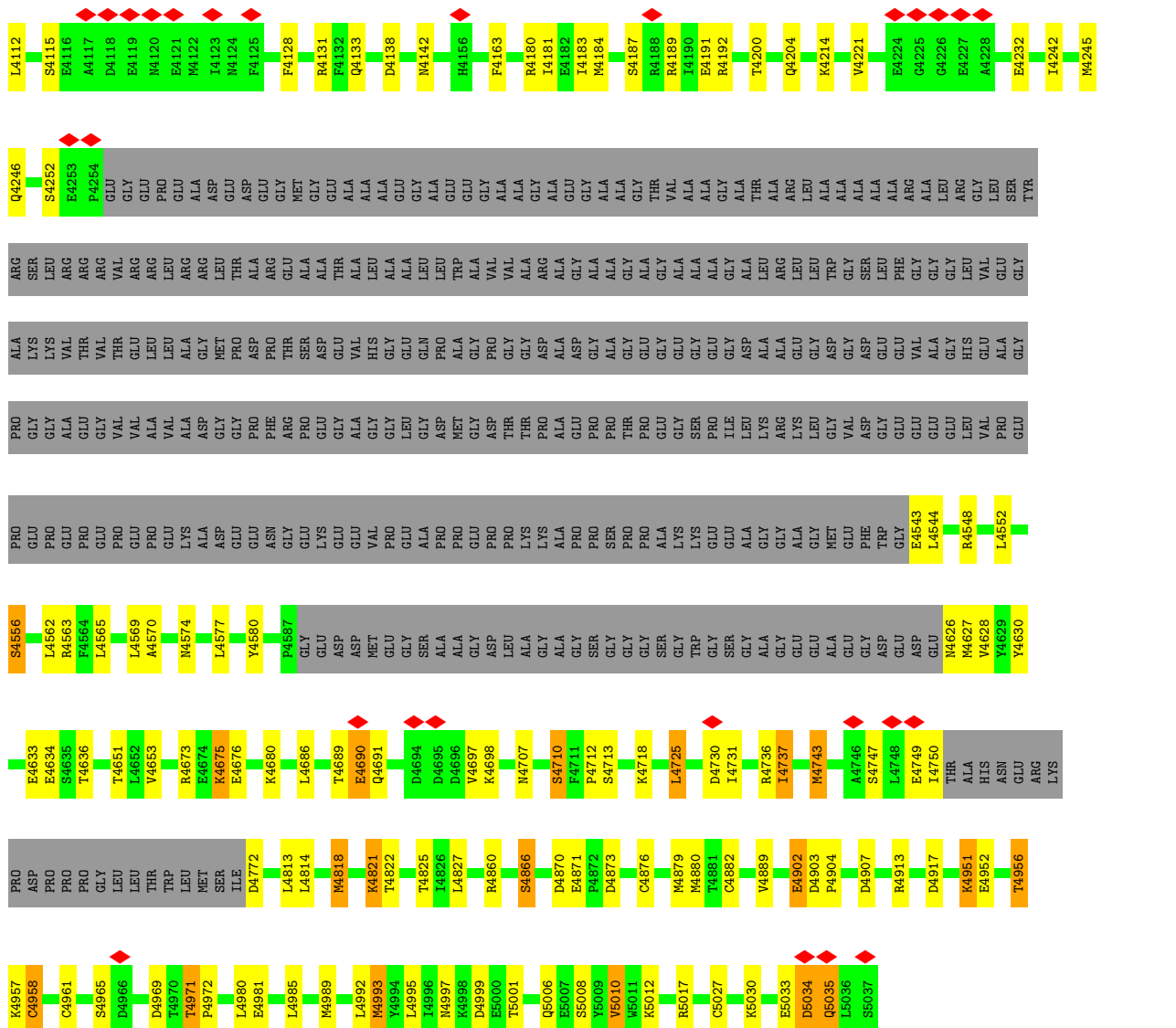
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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

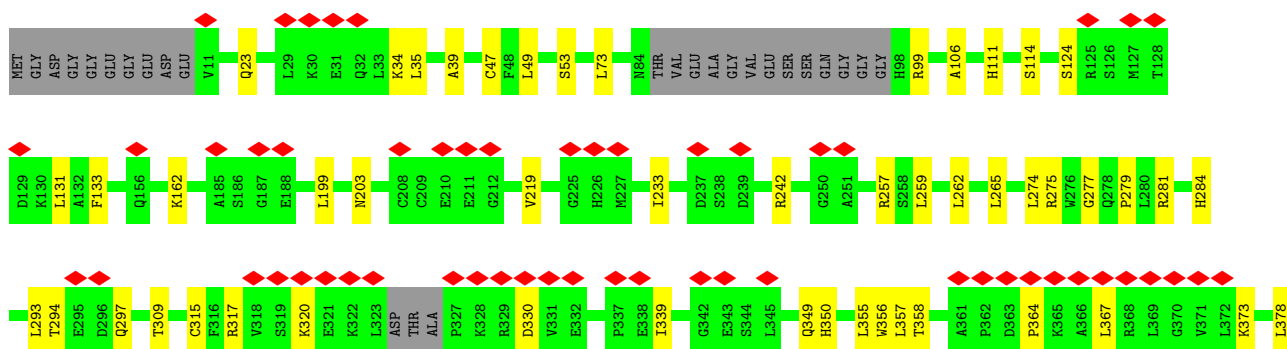
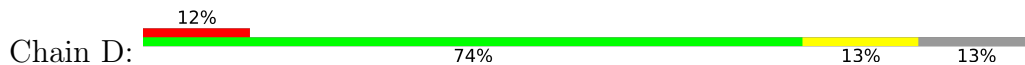


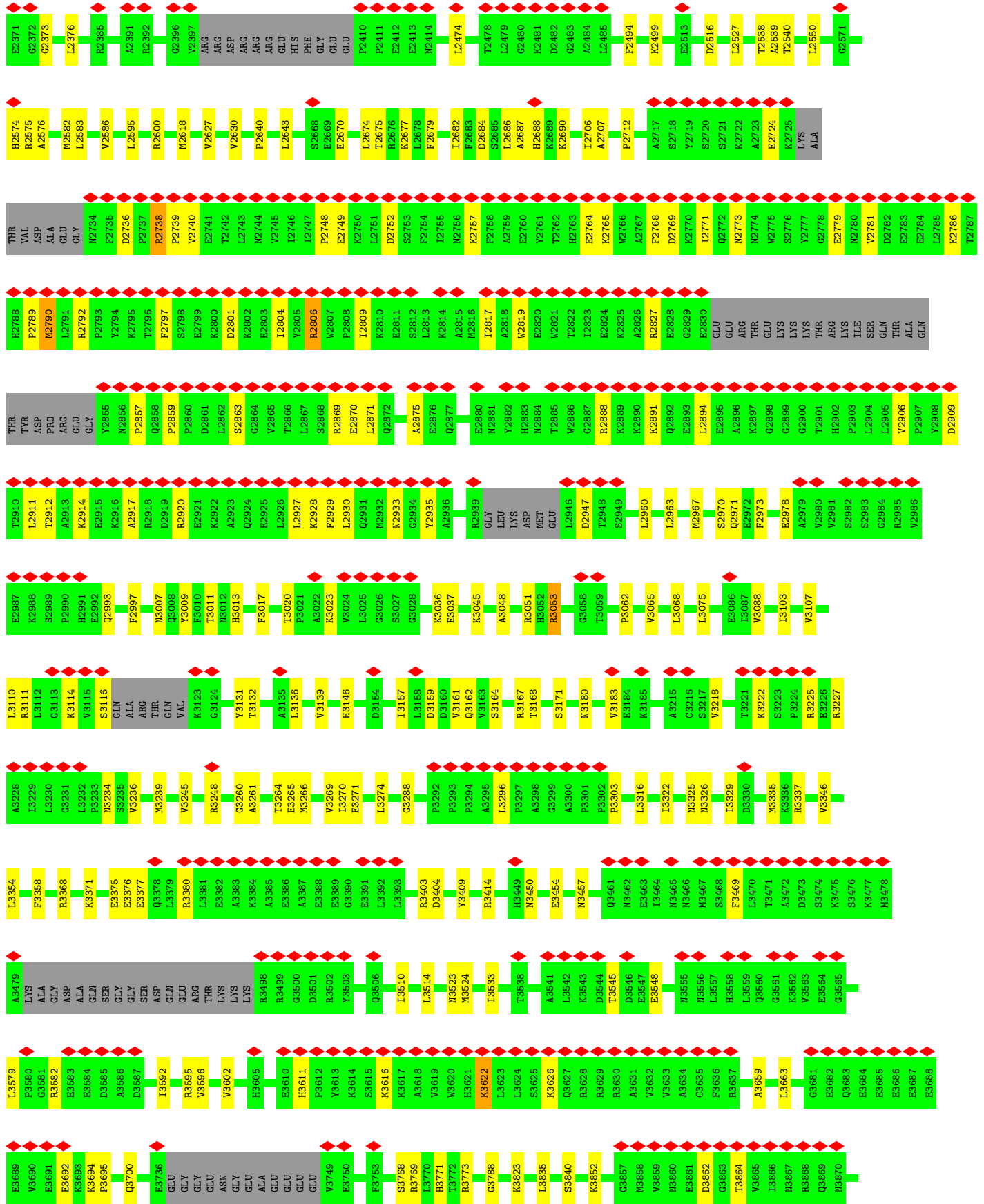


L2686	L2687	H2688	L2706	A2707	P2711	P2712	A2717	S2718	S2719	S2720	S2721	S2722	A2723	E2724	K2725	LYS	ALA	THR	VAL	ASP	ALA	GLU	GLY	H2734	F2735	D2736	P2737	R2738	P2739	V2740	E2741	T2742	L2743	H2744	V2745	L2746	L2747	P2748	E2749	K2750	L2751	D2752	S2753	F2754	L2755	H2756	F2758	A2759	E2760	Y2761	T2762	H2763	E2764	K2765	H2766							
A2767	F2768	D2769	K2770	L2771	Q2772	N2773	N2774	S2775	S2776	G2778	E2779	N2780	V2781	D2782	E2783	E2784	L2785	K2786	T2787	H2788	P2789	M2790	L2791	R2792	P2793	Y2794	K2795	L2796	F2797	S2798	E2799	K2800	D2801	K2802	E2803	L2804	Y2805	R2806	W2807	P2808	L2809	K2810	E2811	S2812	L2813	K2814	A2815	H2816	I2817	A2818	W2819	E2820	W2821	T2822	E2823	E2824	K2825	A2826				
R2827	E2828	G2829	E2830	GLU	GLU	ARG	THR	GLU	LYS	LYS	THR	ARG	LYS	ILE	SER	GLN	THR	ALA	GLN	THR	TVR	ASP	PRO	ARG	GLU	GLY	N2855	N2856	P2857	Q2858	P2859	P2860	D2861	L2862	S2863	Q2864	V2865	T2866	L2867	S2868	R2869	E2870	L2871	Q2872	A2875	E2876	Q2877	L2878	A2879	E2880	N2881	Y2882	H2883	T2884	T2885	W2886	G2887					
R2888	K2889	K2890	K2891	E2892	Q2893	L2894	E2895	A2896	K2897	G2898	G2899	G2900	T2901	H2902	P2903	L2904	L2905	V2906	P2907	V2908	ASP	PRO	ARG	GLU	GLY	N2955	N2956	P2957	Q2958	P2959	T2910	L2911	T2912	A2913	K2914	E2915	Q2916	A2917	R2918	D2919	R2920	K2921	K2922	A2923	Q2924	E2925	L2926	L2927	K2928	F2929	L2930	Q2931	M2932	N2933	E2934	Y2935	A2936	R2939	GLY	L2946	D2947	T2948
S2949	L2960	L2963	M2967	S2970	Q2971	F2972	F2973	E2978	A2979	V2980	V2981	S2982	S2983	G2984	R2985	V2986	E2987	K2988	S2989	P2990	H2991	E2992	Q2993	F2997	N3007	Q3008	Y3009	F3010	T3011	H3013	F3017	T3020	P3021	A3022	K3023	V3024	L3025	S3027	G3028	K3036	E3037	K3045	A3048	R3051																		
H3052	R3053	G3058	T3059	F3062	V3065	L3068	L3075	E3086	L3087	V3088	D3102	L3103	V3107	L3110	R3111	L3112	G3113	K3114	V3115	E2992	Q2993	F2997	N3007	Q3008	Y3009	F3010	T3011	H3013	F3017	T3020	P3021	A3022	K3023	V3024	L3025	S3027	G3028	K3036	E3037	K3045	A3048	R3051																				
R3167	T3166	S3171	M3180	V3183	E3184	K3185	Q3209	L3210	A3215	C3216	S3217	V3218	T3220	T3221	K3222	S3223	P3224	R3225	E3226	R3227	A3228	L3229	S3230	R3231	L3232	P3233	N3234	S3235	V3236	M3239	V3245	R3248	G3260	T3264	E3265	M3266	V3269	L3270	E3271	I3272	L3273	L3274	P3275	M3276	E3286	R3287																
G3288	P3292	P3293	P3294	A3295	L3296	F3297	G3299	A3300	P3301	P3302	P3303	L3316	T3322	N3325	N3326	T3329	D3330	M3335	R3336	R3337	V3346	L3354	F3358	G3358	R3368	K3371	E3375	E3376	E3377	Q3378	L3379	R3380	L3381	F3382	A3383	K3384	A3385	E3386	A3387	E3388	E3389	G3390	E3391	L3392	L3393	R3403																
D3404	Y3409	R3414	H3449	N3450	E3454	N3457	Q3461	N3462	E3463	I3464	N3465	N3466	H3467	S3468	F3469	L3470	T3471	A3472	D3473	S3474	K3475	S3476	K3477	M3478	A3479	LYS	ALA	GLY	ASP	GLN	GLY	GLY	ASP	GLN	GLU	ARG	THR	LYS	LYS	LYS	R3498	R3499	G3500	D3501	P3502	R3503	Y3503	Q3506	T3510													
L3514	N3523	M3524	L3533	T3538	A3541	L3542	K3543	D3544	T3545	D3546	E3547	E3548	N3555	N3556	L3557	H3558	L3559	Q3560	G3561	K3562	V3563	E3564	G3565	L3579	F3580	G3581	R3582	E3583	E3584	D3585	A3586	D3587	I3592	R3595	V3596	S3600	A3601	V3602	H3605	E3610	H3611	P3612	Y3613	K3614	S3615	K3616	R3617															
A3618	V3619	W3620	H3621	K3622	L3623	L3624	S3625	K3626	Q3627	R3628	R3629	R3630	A3631	V3632	V3633	A3634	C3635	F3636	R3637	A3659	L3663	G3661	E3662	Q3663	E3664	E3665	E3666	E3667	E3668	E3669	V3690	E3691	E3692	P3695	D3696	Q3700	E3736	GLU	GLY	GLY	ASN	GLY	GLU	ALA	GLU	GLU	GLU	V3749	E3750	F3753												
S3768	R3769	L3770	H3771	T3772	R3773	G3788	L3835	S3840	K3852	G3857	M3858	V3859	N3860	E3861	D3862	G3863	T3864	V3865	L3866	N3867	R3868	Q3869	N3870	D3877	F3880	L3888	Q3889	L3924	K3940	D3941	K3948	K3959	E3967	Y3968	I3969	T3974	Q3976	L4002	F4103	T4104	L3980	R3984	L3985	P4106	F4107	T4108	Q4109	F4110	L4111													



• Molecule 1: Ryanodine receptor 1





LEU GLY
LEU LEU
LEU GLU
GLU PHE
PRO ASP
ASN LEU
PRO GLU
PRO TYR
TYR TYR
TYR ILE
ASP ASP
GLY GLY

ARG ILE
ALA TYR
SER ASP
LYS PHE
ASP LYS
PHE THR
THR LEU
TYR TYR
LYS ILE
VAL VAL
ASP ASP
PHE LEU
LEU LEU
SER LYS
LEU THR
PRO GLN
SER SER
MET MET
ALA ALA
LYS LYS
LEU THR
GLN GLN

MET CYS
LEU ASP
ALA PHE
PRO LYS
LEU VAL
VAL CYS
PHE PHE
LYS LYS
LYS ARG
ARG ILE
GLU GLU
ALA ALA
ILE ILE
PRO GLN
GLN ILE
ASP ASP
LYS LYS
LEU TYR
LYS ILE
SER SER
SER LYS
LYS TYR
ILE ILE
ALA ALA
TRP TRP
PRO PRO
LEU LEU
GLN GLY
GLY TRP
GLN GLN
ALA ALA
THR THR
PHE PHE
GLY GLY
GLY GLY
ASP ASP
HIS HIS
PRO PRO
PRO PRO
LYS LYS
GLY GLY
ILE ILE
GLU GLU
GLU GLU
ASN ASN
LEU LEU
TYR TYR
PHE PHE
GLN GLN

SER
ASN
ALA
G1
T21
C92
V23
V24
H25
Y26
T27
R40
K47
F48
R49
G62
L74
T75
C76
T77
P78
D79
V80
A81
L87
D100
V101
E102
E107

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	51504	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	1.346	Depositor
Minimum map value	-0.409	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.073	Depositor
Recommended contour level	0.387	Depositor
Map size (Å)	515.2, 515.2, 515.2	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	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: ZN, ADN

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	0.32	0/35714	0.62	6/48365 (0.0%)
1	B	0.32	0/35714	0.62	6/48365 (0.0%)
1	C	0.32	0/35714	0.62	6/48365 (0.0%)
1	D	0.32	0/35714	0.62	6/48365 (0.0%)
2	E	0.34	0/834	0.62	0/1123
2	F	0.34	0/834	0.62	0/1123
2	G	0.34	0/834	0.62	0/1123
2	H	0.34	0/834	0.62	0/1123
All	All	0.32	0/146192	0.62	24/197952 (0.0%)

There are no bond length outliers.

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	903	LEU	CA-CB-CG	6.63	130.54	115.30
1	B	903	LEU	CA-CB-CG	6.63	130.54	115.30
1	C	903	LEU	CA-CB-CG	6.63	130.54	115.30
1	D	903	LEU	CA-CB-CG	6.63	130.54	115.30
1	C	2790	MET	CA-CB-CG	5.77	123.11	113.30
1	D	2790	MET	CA-CB-CG	5.77	123.11	113.30
1	B	2790	MET	CA-CB-CG	5.75	123.08	113.30
1	A	2790	MET	CA-CB-CG	5.72	123.03	113.30
1	D	1478	ASP	CB-CG-OD1	5.67	123.40	118.30
1	B	131	LEU	CA-CB-CG	5.63	128.24	115.30
1	C	131	LEU	CA-CB-CG	5.63	128.24	115.30
1	C	1478	ASP	CB-CG-OD1	5.62	123.35	118.30
1	A	131	LEU	CA-CB-CG	5.61	128.21	115.30
1	D	131	LEU	CA-CB-CG	5.61	128.20	115.30
1	B	1478	ASP	CB-CG-OD1	5.59	123.33	118.30
1	A	1478	ASP	CB-CG-OD1	5.56	123.30	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1152	MET	CA-CB-CG	5.49	122.63	113.30
1	B	1152	MET	CA-CB-CG	5.49	122.63	113.30
1	C	1152	MET	CA-CB-CG	5.47	122.59	113.30
1	D	1152	MET	CA-CB-CG	5.46	122.58	113.30
1	A	3296	LEU	CA-CB-CG	5.42	127.77	115.30
1	D	3296	LEU	CA-CB-CG	5.42	127.76	115.30
1	B	3296	LEU	CA-CB-CG	5.40	127.72	115.30
1	C	3296	LEU	CA-CB-CG	5.40	127.72	115.30

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	34900	0	34530	340	0
1	B	34900	0	34530	336	0
1	C	34900	0	34530	349	0
1	D	34900	0	34530	336	0
2	E	818	0	824	8	0
2	F	818	0	824	8	0
2	G	818	0	824	8	0
2	H	818	0	824	8	0
3	A	19	0	13	0	0
3	B	19	0	13	0	0
3	C	19	0	13	0	0
3	D	19	0	13	0	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	142952	0	141468	1384	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 5.

All (1384) close contacts within the same asymmetric unit are listed below, sorted by their clash

magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3335:MET:SD	1:A:3403:ARG:NH1	2.64	0.70
1:B:3335:MET:SD	1:B:3403:ARG:NH1	2.64	0.69
1:D:3335:MET:SD	1:D:3403:ARG:NH1	2.65	0.68
1:C:3335:MET:SD	1:C:3403:ARG:NH1	2.65	0.68
1:B:3889:GLN:HG3	1:B:3967:GLU:HG3	1.78	0.65
1:C:2978:GLU:OE2	1:C:3053:ARG:NH1	2.29	0.65
1:D:3889:GLN:HG3	1:D:3967:GLU:HG3	1.78	0.65
1:C:3889:GLN:HG3	1:C:3967:GLU:HG3	1.78	0.65
1:A:1476:MET:HB2	1:A:1485:SER:HB3	1.79	0.64
1:A:3889:GLN:HG3	1:A:3967:GLU:HG3	1.78	0.64
1:B:1943:LEU:HD13	1:B:2098:VAL:HG22	1.79	0.64
1:D:1943:LEU:HD13	1:D:2098:VAL:HG22	1.80	0.64
1:B:2978:GLU:OE2	1:B:3053:ARG:NH1	2.29	0.64
1:D:2978:GLU:OE2	1:D:3053:ARG:NH1	2.29	0.64
1:B:3454:GLU:HA	1:B:3457:ASN:HB2	1.80	0.64
1:C:1476:MET:HB2	1:C:1485:SER:HB3	1.79	0.63
1:C:1943:LEU:HD13	1:C:2098:VAL:HG22	1.79	0.63
1:C:3454:GLU:HA	1:C:3457:ASN:HB2	1.80	0.63
1:C:981:GLN:HG2	1:C:1047:LEU:HD11	1.79	0.63
1:D:981:GLN:HG2	1:D:1047:LEU:HD11	1.79	0.63
1:C:3969:ILE:HD11	1:C:3980:LEU:HD13	1.80	0.63
1:A:981:GLN:HG2	1:A:1047:LEU:HD11	1.79	0.63
1:D:3969:ILE:HD11	1:D:3980:LEU:HD13	1.81	0.63
1:D:1476:MET:HB2	1:D:1485:SER:HB3	1.79	0.63
1:A:1943:LEU:HD13	1:A:2098:VAL:HG22	1.80	0.63
1:B:1476:MET:HB2	1:B:1485:SER:HB3	1.79	0.63
1:B:2630:VAL:HG12	1:B:2682:ILE:HD11	1.81	0.62
1:A:3048:ALA:O	1:A:3053:ARG:NH2	2.33	0.62
1:B:2929:PHE:O	1:B:2933:ASN:ND2	2.33	0.62
1:D:2630:VAL:HG12	1:D:2682:ILE:HD11	1.81	0.62
1:A:4138:ASP:O	1:A:4142:ASN:ND2	2.30	0.62
1:B:3048:ALA:O	1:B:3053:ARG:NH2	2.33	0.62
1:B:4138:ASP:O	1:B:4142:ASN:ND2	2.30	0.62
1:C:1024:TYR:O	1:C:1032:LYS:NZ	2.33	0.62
1:A:978:THR:OG1	1:A:981:GLN:OE1	2.18	0.62
1:B:981:GLN:HG2	1:B:1047:LEU:HD11	1.79	0.62
1:D:3048:ALA:O	1:D:3053:ARG:NH2	2.32	0.62
1:C:2929:PHE:O	1:C:2933:ASN:ND2	2.33	0.62
1:D:3454:GLU:HA	1:D:3457:ASN:HB2	1.80	0.62
1:C:2630:VAL:HG12	1:C:2682:ILE:HD11	1.81	0.61
1:A:3969:ILE:HD11	1:A:3980:LEU:HD13	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3969:ILE:HD11	1:B:3980:LEU:HD13	1.81	0.61
1:C:1653:LEU:O	1:C:1660:GLN:NE2	2.32	0.61
1:C:3048:ALA:O	1:C:3053:ARG:NH2	2.33	0.61
1:A:3454:GLU:HA	1:A:3457:ASN:HB2	1.80	0.61
1:A:1024:TYR:O	1:A:1032:LYS:NZ	2.33	0.61
1:B:1024:TYR:O	1:B:1032:LYS:NZ	2.33	0.61
1:A:2630:VAL:HG12	1:A:2682:ILE:HD11	1.81	0.61
1:B:978:THR:OG1	1:B:981:GLN:OE1	2.18	0.61
1:C:978:THR:OG1	1:C:981:GLN:OE1	2.18	0.61
1:A:2929:PHE:O	1:A:2933:ASN:ND2	2.33	0.61
1:D:2929:PHE:O	1:D:2933:ASN:ND2	2.33	0.61
2:H:40:ARG:NH2	2:H:102:GLU:OE1	2.34	0.61
1:D:1561:VAL:HG12	1:D:1562:ILE:HG23	1.83	0.61
1:A:2875:ALA:HB2	1:A:2927:LEU:HD22	1.83	0.61
1:A:2978:GLU:OE2	1:A:3053:ARG:NH1	2.29	0.61
1:C:2875:ALA:HB2	1:C:2927:LEU:HD22	1.83	0.61
1:D:2875:ALA:HB2	1:D:2927:LEU:HD22	1.83	0.61
1:B:3659:ALA:HA	1:B:3663:LEU:HD12	1.82	0.61
1:D:1024:TYR:O	1:D:1032:LYS:NZ	2.33	0.61
1:D:978:THR:OG1	1:D:981:GLN:OE1	2.18	0.60
1:B:2875:ALA:HB2	1:B:2927:LEU:HD22	1.83	0.60
1:D:1653:LEU:O	1:D:1660:GLN:NE2	2.32	0.60
2:F:40:ARG:NH2	2:F:102:GLU:OE1	2.34	0.60
1:C:1116:GLY:HA3	1:C:1132:TRP:HB3	1.83	0.60
1:D:3659:ALA:HA	1:D:3663:LEU:HD12	1.82	0.60
1:C:1561:VAL:HG12	1:C:1562:ILE:HG23	1.83	0.60
1:A:897:ARG:HB2	1:A:903:LEU:HD11	1.84	0.60
1:A:1561:VAL:HG12	1:A:1562:ILE:HG23	1.83	0.60
1:D:1116:GLY:HA3	1:D:1132:TRP:HB3	1.84	0.60
2:E:40:ARG:NH2	2:E:102:GLU:OE1	2.34	0.60
2:G:40:ARG:NH2	2:G:102:GLU:OE1	2.34	0.60
1:D:897:ARG:HB2	1:D:903:LEU:HD11	1.84	0.60
1:C:317:ARG:NH1	1:C:349:GLN:OE1	2.35	0.60
1:C:4138:ASP:O	1:C:4142:ASN:ND2	2.30	0.60
1:D:317:ARG:NH1	1:D:349:GLN:OE1	2.35	0.60
1:A:275:ARG:HH12	1:A:330:ASP:HA	1.67	0.59
1:A:3659:ALA:HA	1:A:3663:LEU:HD12	1.82	0.59
1:B:2749:GLU:HG3	1:B:2752:ASP:HB3	1.85	0.59
1:A:3020:THR:HG23	1:A:3023:LYS:H	1.68	0.59
1:B:1653:LEU:O	1:B:1660:GLN:NE2	2.32	0.59
1:B:3020:THR:HG23	1:B:3023:LYS:H	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2749:GLU:HG3	1:D:2752:ASP:HB3	1.85	0.59
1:C:3659:ALA:HA	1:C:3663:LEU:HD12	1.82	0.59
1:B:1064:GLU:O	1:B:1071:ARG:NH2	2.32	0.59
1:D:1064:GLU:O	1:D:1071:ARG:NH2	2.32	0.59
1:B:3288:GLY:HA2	1:B:3303:PRO:HB3	1.85	0.59
1:A:2007:ASN:O	1:A:2011:HIS:HB2	2.03	0.59
1:D:275:ARG:HH12	1:D:330:ASP:HA	1.67	0.59
1:B:1561:VAL:HG12	1:B:1562:ILE:HG23	1.83	0.59
1:A:1116:GLY:HA3	1:A:1132:TRP:HB3	1.84	0.59
1:D:3020:THR:HG23	1:D:3023:LYS:H	1.68	0.59
1:A:2749:GLU:HG3	1:A:2752:ASP:HB3	1.85	0.59
1:A:4689:THR:OG1	1:A:4690:GLU:N	2.36	0.59
1:B:275:ARG:HH12	1:B:330:ASP:HA	1.67	0.59
1:B:3051:ARG:O	1:B:3053:ARG:NE	2.36	0.59
1:C:2007:ASN:O	1:C:2011:HIS:HB2	2.03	0.58
1:D:4138:ASP:O	1:D:4142:ASN:ND2	2.30	0.58
1:A:3579:LEU:HB2	1:A:3582:ARG:HG2	1.85	0.58
1:B:1116:GLY:HA3	1:B:1132:TRP:HB3	1.84	0.58
1:C:897:ARG:HB2	1:C:903:LEU:HD11	1.84	0.58
1:C:2749:GLU:HG3	1:C:2752:ASP:HB3	1.85	0.58
1:C:3020:THR:HG23	1:C:3023:LYS:H	1.68	0.58
1:C:3051:ARG:O	1:C:3053:ARG:NE	2.36	0.58
1:D:2007:ASN:O	1:D:2011:HIS:HB2	2.03	0.58
1:A:3051:ARG:O	1:A:3053:ARG:NE	2.36	0.58
1:B:317:ARG:NH1	1:B:349:GLN:OE1	2.35	0.58
1:B:2007:ASN:O	1:B:2011:HIS:HB2	2.03	0.58
1:B:4689:THR:OG1	1:B:4690:GLU:N	2.36	0.58
1:C:4068:LEU:HD22	1:C:4111:LEU:HD11	1.86	0.58
1:C:4689:THR:OG1	1:C:4690:GLU:N	2.36	0.58
1:D:4068:LEU:HD22	1:D:4111:LEU:HD11	1.86	0.58
1:D:1259:ARG:NH2	1:D:1591:CYS:SG	2.77	0.58
1:D:3288:GLY:HA2	1:D:3303:PRO:HB3	1.85	0.58
1:A:1066:GLN:NE2	1:A:1461:ASP:OD1	2.37	0.58
1:A:1131:ARG:NH1	1:A:1178:ALA:O	2.37	0.58
1:A:3288:GLY:HA2	1:A:3303:PRO:HB3	1.85	0.58
1:B:897:ARG:HB2	1:B:903:LEU:HD11	1.84	0.58
1:B:1131:ARG:NH1	1:B:1178:ALA:O	2.37	0.58
1:C:275:ARG:HH12	1:C:330:ASP:HA	1.67	0.58
1:D:3051:ARG:O	1:D:3053:ARG:NE	2.36	0.58
1:A:317:ARG:NH1	1:A:349:GLN:OE1	2.35	0.58
1:B:3579:LEU:HB2	1:B:3582:ARG:HG2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1259:ARG:NH2	1:C:1591:CYS:SG	2.77	0.58
1:A:882:TRP:O	1:A:886:ARG:NH1	2.37	0.58
1:A:1259:ARG:NH2	1:A:1591:CYS:SG	2.77	0.58
1:A:4068:LEU:HD22	1:A:4111:LEU:HD11	1.86	0.58
1:B:1259:ARG:NH2	1:B:1591:CYS:SG	2.77	0.58
1:C:3288:GLY:HA2	1:C:3303:PRO:HB3	1.85	0.58
1:A:1653:LEU:O	1:A:1660:GLN:NE2	2.32	0.58
1:B:4068:LEU:HD22	1:B:4111:LEU:HD11	1.86	0.58
1:C:882:TRP:O	1:C:886:ARG:NH1	2.37	0.58
1:D:4689:THR:OG1	1:D:4690:GLU:N	2.36	0.58
1:B:1066:GLN:NE2	1:B:1461:ASP:OD1	2.37	0.58
1:B:320:LYS:NZ	1:B:383:HIS:O	2.37	0.57
1:B:3132:THR:HG23	1:B:3136:LEU:HB3	1.86	0.57
1:D:882:TRP:O	1:D:886:ARG:NH1	2.37	0.57
1:D:320:LYS:NZ	1:D:383:HIS:O	2.37	0.57
1:D:3132:THR:HG23	1:D:3136:LEU:HB3	1.86	0.57
1:B:882:TRP:O	1:B:886:ARG:NH1	2.37	0.57
1:A:2095:GLN:HA	1:A:2127:GLN:HE21	1.70	0.57
1:C:320:LYS:NZ	1:C:383:HIS:O	2.37	0.57
1:C:1131:ARG:NH1	1:C:1178:ALA:O	2.37	0.57
1:D:1066:GLN:NE2	1:D:1461:ASP:OD1	2.37	0.57
1:D:2595:LEU:O	1:D:2600:ARG:NH2	2.38	0.57
1:A:320:LYS:NZ	1:A:383:HIS:O	2.37	0.57
1:B:765:GLN:NE2	1:B:1479:GLU:OE1	2.38	0.57
1:D:765:GLN:NE2	1:D:1479:GLU:OE1	2.37	0.57
1:D:2196:ASN:OD1	1:D:2199:ARG:NH2	2.38	0.57
1:C:1066:GLN:NE2	1:C:1461:ASP:OD1	2.37	0.57
1:D:1131:ARG:NH1	1:D:1178:ALA:O	2.37	0.57
1:A:1064:GLU:O	1:A:1071:ARG:NH2	2.32	0.57
1:B:2196:ASN:OD1	1:B:2199:ARG:NH2	2.38	0.57
1:D:867:LEU:HD13	1:D:929:LEU:HB3	1.87	0.57
1:A:867:LEU:HD13	1:A:929:LEU:HB3	1.87	0.57
1:B:39:ALA:HB2	1:B:47:CYS:HA	1.86	0.57
1:C:3132:THR:HG23	1:C:3136:LEU:HB3	1.86	0.57
1:D:2095:GLN:HA	1:D:2127:GLN:HE21	1.70	0.57
1:D:3579:LEU:HB2	1:D:3582:ARG:HG2	1.85	0.57
1:A:3132:THR:HG23	1:A:3136:LEU:HB3	1.86	0.56
1:B:4902:GLU:O	1:B:4913:ARG:NH1	2.38	0.56
1:C:765:GLN:NE2	1:C:1479:GLU:OE1	2.38	0.56
1:C:828:GLU:O	1:C:1073:ARG:NH1	2.38	0.56
1:C:2595:LEU:O	1:C:2600:ARG:NH2	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:39:ALA:HB2	1:D:47:CYS:HA	1.86	0.56
1:B:828:GLU:O	1:B:1073:ARG:NH1	2.38	0.56
1:D:828:GLU:O	1:D:1073:ARG:NH1	2.38	0.56
1:A:2196:ASN:OD1	1:A:2199:ARG:NH2	2.38	0.56
1:C:867:LEU:HD13	1:C:929:LEU:HB3	1.87	0.56
1:C:3075:LEU:O	1:C:3146:HIS:NE2	2.38	0.56
1:C:3579:LEU:HB2	1:C:3582:ARG:HG2	1.85	0.56
1:B:2095:GLN:HA	1:B:2127:GLN:HE21	1.70	0.56
1:C:4818:MET:SD	1:C:4818:MET:N	2.78	0.56
1:A:39:ALA:HB2	1:A:47:CYS:HA	1.86	0.56
1:C:39:ALA:HB2	1:C:47:CYS:HA	1.86	0.56
1:C:2196:ASN:OD1	1:C:2199:ARG:NH2	2.38	0.56
1:A:4818:MET:SD	1:A:4818:MET:N	2.78	0.56
1:B:2595:LEU:O	1:B:2600:ARG:NH2	2.38	0.56
1:D:4902:GLU:O	1:D:4913:ARG:NH1	2.38	0.56
2:E:21:THR:HG22	2:E:49:ARG:HD2	1.87	0.56
2:G:21:THR:HG22	2:G:49:ARG:HD2	1.87	0.56
1:A:765:GLN:NE2	1:A:1479:GLU:OE1	2.37	0.56
1:C:688:LEU:HD23	1:C:690:GLU:H	1.71	0.56
1:D:4818:MET:SD	1:D:4818:MET:N	2.78	0.56
1:A:828:GLU:O	1:A:1073:ARG:NH1	2.38	0.56
1:B:3075:LEU:O	1:B:3146:HIS:NE2	2.38	0.56
1:B:3157:ILE:HG22	1:B:3162:GLN:HG2	1.87	0.56
1:D:3157:ILE:HG22	1:D:3162:GLN:HG2	1.87	0.56
1:C:1064:GLU:O	1:C:1071:ARG:NH2	2.32	0.56
1:C:2095:GLN:HA	1:C:2127:GLN:HE21	1.70	0.56
1:C:4902:GLU:O	1:C:4913:ARG:NH1	2.38	0.56
1:B:4818:MET:N	1:B:4818:MET:SD	2.78	0.56
1:A:3157:ILE:HG22	1:A:3162:GLN:HG2	1.87	0.55
1:B:867:LEU:HD13	1:B:929:LEU:HB3	1.87	0.55
1:D:2792:ARG:HB2	1:D:2797:PHE:HD1	1.71	0.55
1:D:3075:LEU:O	1:D:3146:HIS:NE2	2.38	0.55
1:A:3075:LEU:O	1:A:3146:HIS:NE2	2.38	0.55
1:A:3377:GLU:HA	1:A:3380:ARG:HG2	1.88	0.55
1:C:35:LEU:HD13	1:C:49:LEU:HD13	1.88	0.55
1:C:3377:GLU:HA	1:C:3380:ARG:HG2	1.88	0.55
1:D:3377:GLU:HA	1:D:3380:ARG:HG2	1.89	0.55
1:A:688:LEU:HD23	1:A:690:GLU:H	1.71	0.55
1:A:2595:LEU:O	1:A:2600:ARG:NH2	2.38	0.55
1:D:2871:LEU:HG	1:D:2927:LEU:HD21	1.89	0.55
2:H:21:THR:HG22	2:H:49:ARG:HD2	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2792:ARG:HB2	1:A:2797:PHE:HD1	1.71	0.55
1:B:3948:LYS:HG2	1:B:4012:LEU:HD22	1.89	0.55
1:B:281:ARG:NH2	1:B:309:THR:OG1	2.40	0.55
1:C:2538:THR:HG23	1:C:2540:THR:H	1.71	0.55
1:B:3377:GLU:HA	1:B:3380:ARG:HG2	1.89	0.55
1:C:2677:LYS:NZ	1:C:2909:ASP:OD2	2.37	0.55
1:A:2871:LEU:HG	1:A:2927:LEU:HD21	1.89	0.55
1:C:3157:ILE:HG22	1:C:3162:GLN:HG2	1.87	0.55
1:D:281:ARG:NH2	1:D:309:THR:OG1	2.40	0.55
1:D:475:GLN:NE2	1:D:528:SER:O	2.40	0.55
1:D:688:LEU:HD23	1:D:690:GLU:H	1.71	0.55
1:C:475:GLN:NE2	1:C:528:SER:O	2.40	0.55
1:C:3948:LYS:HG2	1:C:4012:LEU:HD22	1.89	0.55
1:D:350:HIS:HB2	1:D:378:LEU:HD21	1.89	0.55
2:F:21:THR:HG22	2:F:49:ARG:HD2	1.87	0.55
1:A:475:GLN:NE2	1:A:528:SER:O	2.40	0.54
1:A:2538:THR:HG23	1:A:2540:THR:H	1.71	0.54
1:B:2679:PHE:HB2	1:B:2706:ILE:HG21	1.90	0.54
1:A:35:LEU:HD13	1:A:49:LEU:HD13	1.88	0.54
1:B:688:LEU:HD23	1:B:690:GLU:H	1.70	0.54
1:B:3414:ARG:NH1	1:B:3469:PHE:O	2.38	0.54
1:C:277:GLY:HA2	1:C:315:CYS:HB3	1.90	0.54
1:C:2792:ARG:HB2	1:C:2797:PHE:HD1	1.71	0.54
1:D:2765:LYS:NZ	1:D:2859:PRO:O	2.39	0.54
1:A:281:ARG:NH2	1:A:309:THR:OG1	2.40	0.54
1:A:1175:SER:OG	1:A:1180:ARG:NH2	2.38	0.54
1:A:2679:PHE:HB2	1:A:2706:ILE:HG21	1.89	0.54
1:B:475:GLN:NE2	1:B:528:SER:O	2.40	0.54
1:B:2538:THR:HG23	1:B:2540:THR:H	1.71	0.54
1:C:4904:PRO:HB3	1:C:4913:ARG:HG2	1.89	0.54
1:D:35:LEU:HD13	1:D:49:LEU:HD13	1.88	0.54
1:A:2001:PRO:HG2	1:A:3864:THR:HB	1.90	0.54
1:B:35:LEU:HD13	1:B:49:LEU:HD13	1.88	0.54
1:B:277:GLY:HA2	1:B:315:CYS:HB3	1.90	0.54
1:B:886:ARG:HE	1:B:904:HIS:HB2	1.73	0.54
1:A:350:HIS:HB2	1:A:378:LEU:HD21	1.89	0.54
1:A:3940:LYS:O	1:A:4002:LYS:NZ	2.38	0.54
1:A:4904:PRO:HB3	1:A:4913:ARG:HG2	1.89	0.54
1:B:822:ARG:NH1	1:B:824:GLU:OE1	2.40	0.54
1:C:886:ARG:HE	1:C:904:HIS:HB2	1.73	0.54
1:C:2679:PHE:HB2	1:C:2706:ILE:HG21	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:822:ARG:NH1	1:D:824:GLU:OE1	2.40	0.54
1:A:886:ARG:HE	1:A:904:HIS:HB2	1.73	0.54
1:B:2792:ARG:HB2	1:B:2797:PHE:HD1	1.72	0.54
1:C:2001:PRO:HG2	1:C:3864:THR:HB	1.90	0.54
1:D:1792:ALA:O	1:D:2176:ASN:ND2	2.40	0.54
1:D:3533:ILE:HD13	1:D:3596:VAL:HG13	1.90	0.54
1:D:3948:LYS:HG2	1:D:4012:LEU:HD22	1.89	0.54
1:B:1792:ALA:O	1:B:2176:ASN:ND2	2.41	0.54
1:D:886:ARG:HE	1:D:904:HIS:HB2	1.73	0.54
1:D:2679:PHE:HB2	1:D:2706:ILE:HG21	1.90	0.54
1:A:4902:GLU:O	1:A:4913:ARG:NH1	2.38	0.54
1:C:1175:SER:OG	1:C:1180:ARG:NH2	2.38	0.54
1:C:2871:LEU:HG	1:C:2927:LEU:HD21	1.89	0.54
1:C:281:ARG:NH2	1:C:309:THR:OG1	2.40	0.54
1:D:277:GLY:HA2	1:D:315:CYS:HB3	1.89	0.54
1:A:277:GLY:HA2	1:A:315:CYS:HB3	1.89	0.54
1:A:683:ARG:HG2	1:A:717:ASP:HB3	1.90	0.54
1:C:3533:ILE:HD13	1:C:3596:VAL:HG13	1.90	0.54
1:D:3524:MET:O	1:D:3595:ARG:NH1	2.41	0.53
1:A:3376:GLU:OE2	1:A:3450:ASN:ND2	2.40	0.53
1:A:3948:LYS:HG2	1:A:4012:LEU:HD22	1.89	0.53
1:B:350:HIS:HB2	1:B:378:LEU:HD21	1.89	0.53
1:B:683:ARG:HG2	1:B:717:ASP:HB3	1.90	0.53
1:B:2871:LEU:HG	1:B:2927:LEU:HD21	1.89	0.53
1:C:822:ARG:NH1	1:C:824:GLU:OE1	2.40	0.53
1:D:3322:ILE:O	1:D:3326:ASN:ND2	2.39	0.53
1:D:3376:GLU:OE2	1:D:3450:ASN:ND2	2.40	0.53
1:B:2682:ILE:O	1:B:2686:LEU:HB2	2.09	0.53
1:B:3533:ILE:HD13	1:B:3596:VAL:HG13	1.90	0.53
1:B:4952:GLU:O	1:B:4956:THR:HB	2.09	0.53
1:C:3524:MET:O	1:C:3595:ARG:NH1	2.41	0.53
1:D:2677:LYS:NZ	1:D:2909:ASP:OD2	2.37	0.53
1:D:4904:PRO:HB3	1:D:4913:ARG:HG2	1.89	0.53
1:A:3980:LEU:HD23	1:A:3985:LEU:HD22	1.90	0.53
1:B:1175:SER:OG	1:B:1180:ARG:NH2	2.38	0.53
1:C:829:TYR:HB3	1:C:1073:ARG:HH11	1.73	0.53
1:C:1302:ARG:HG3	1:C:1523:ALA:HB1	1.91	0.53
1:C:2682:ILE:O	1:C:2686:LEU:HB2	2.09	0.53
1:B:2971:GLN:HE22	1:B:3045:LYS:HD3	1.74	0.53
1:B:3769:ARG:O	1:B:3773:ARG:NH1	2.42	0.53
1:B:3980:LEU:HD23	1:B:3985:LEU:HD22	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4232:GLU:OE2	1:B:5017:ARG:NH2	2.41	0.53
1:C:3376:GLU:OE2	1:C:3450:ASN:ND2	2.40	0.53
1:D:683:ARG:HG2	1:D:717:ASP:HB3	1.90	0.53
1:D:829:TYR:HB3	1:D:1073:ARG:HH11	1.73	0.53
1:D:2001:PRO:HG2	1:D:3864:THR:HB	1.90	0.53
1:D:3980:LEU:HD23	1:D:3985:LEU:HD22	1.90	0.53
1:A:499:THR:HG23	1:A:502:HIS:H	1.74	0.53
1:A:2801:ASP:HA	1:A:2804:ILE:HG12	1.91	0.53
1:B:3322:ILE:O	1:B:3326:ASN:ND2	2.39	0.53
1:B:3524:MET:O	1:B:3595:ARG:NH1	2.41	0.53
1:C:350:HIS:HB2	1:C:378:LEU:HD21	1.89	0.53
1:C:683:ARG:HG2	1:C:717:ASP:HB3	1.91	0.53
1:C:1066:GLN:OE1	1:C:1463:ASN:ND2	2.42	0.53
1:C:3227:ARG:NH1	1:C:3234:ASN:OD1	2.42	0.53
1:D:2971:GLN:HE22	1:D:3045:LYS:HD3	1.74	0.53
1:D:3316:LEU:HD11	1:D:3346:VAL:HA	1.91	0.53
1:A:1302:ARG:HG3	1:A:1523:ALA:HB1	1.91	0.53
1:A:1792:ALA:O	1:A:2176:ASN:ND2	2.40	0.53
1:B:1066:GLN:OE1	1:B:1463:ASN:ND2	2.41	0.53
1:B:1302:ARG:HG3	1:B:1523:ALA:HB1	1.91	0.53
1:B:4904:PRO:HB3	1:B:4913:ARG:HG2	1.89	0.53
1:D:2538:THR:HG23	1:D:2540:THR:H	1.71	0.53
1:D:2682:ILE:O	1:D:2686:LEU:HB2	2.09	0.53
1:D:3017:PHE:O	1:D:3036:LYS:NZ	2.42	0.53
1:D:4952:GLU:O	1:D:4956:THR:HB	2.09	0.53
1:A:822:ARG:NH1	1:A:824:GLU:OE1	2.40	0.53
1:A:3227:ARG:NH1	1:A:3234:ASN:OD1	2.42	0.53
1:A:3524:MET:O	1:A:3595:ARG:NH1	2.41	0.53
1:C:2971:GLN:HE22	1:C:3045:LYS:HD3	1.74	0.53
1:D:3227:ARG:NH1	1:D:3234:ASN:OD1	2.42	0.53
1:A:1066:GLN:OE1	1:A:1463:ASN:ND2	2.41	0.53
1:A:2682:ILE:O	1:A:2686:LEU:HB2	2.09	0.53
1:B:499:THR:HG23	1:B:502:HIS:H	1.74	0.53
1:C:2801:ASP:HA	1:C:2804:ILE:HG12	1.91	0.53
1:C:3316:LEU:HD11	1:C:3346:VAL:HA	1.91	0.53
1:A:2971:GLN:HE22	1:A:3045:LYS:HD3	1.74	0.53
1:A:3533:ILE:HD13	1:A:3596:VAL:HG13	1.90	0.53
1:A:743:VAL:HB	1:A:760:ASN:HA	1.90	0.52
1:A:3316:LEU:HD11	1:A:3346:VAL:HA	1.91	0.52
1:C:3414:ARG:NH1	1:C:3469:PHE:O	2.38	0.52
1:D:1066:GLN:OE1	1:D:1463:ASN:ND2	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2687:ALA:O	1:D:2993:GLN:NE2	2.43	0.52
1:D:4232:GLU:OE2	1:D:5017:ARG:NH2	2.41	0.52
1:A:829:TYR:HB3	1:A:1073:ARG:HH11	1.73	0.52
1:B:3376:GLU:OE2	1:B:3450:ASN:ND2	2.40	0.52
1:D:743:VAL:HB	1:D:760:ASN:HA	1.91	0.52
1:D:2801:ASP:HA	1:D:2804:ILE:HG12	1.91	0.52
1:A:3157:ILE:HA	1:A:3161:VAL:HB	1.92	0.52
1:B:3017:PHE:O	1:B:3036:LYS:NZ	2.42	0.52
1:C:707:VAL:HG23	1:C:782:SER:HB3	1.91	0.52
1:C:3322:ILE:O	1:C:3326:ASN:ND2	2.39	0.52
1:C:3769:ARG:O	1:C:3773:ARG:NH1	2.42	0.52
1:C:3980:LEU:HD23	1:C:3985:LEU:HD22	1.90	0.52
1:D:499:THR:HG23	1:D:502:HIS:H	1.74	0.52
1:D:1302:ARG:HG3	1:D:1523:ALA:HB1	1.91	0.52
1:A:3769:ARG:O	1:A:3773:ARG:NH1	2.42	0.52
1:C:2687:ALA:O	1:C:2993:GLN:NE2	2.43	0.52
1:C:4952:GLU:O	1:C:4956:THR:HB	2.09	0.52
1:D:3769:ARG:O	1:D:3773:ARG:NH1	2.42	0.52
1:A:3017:PHE:O	1:A:3036:LYS:NZ	2.42	0.52
1:B:829:TYR:HB3	1:B:1073:ARG:HH11	1.73	0.52
1:B:2001:PRO:HG2	1:B:3864:THR:HB	1.90	0.52
1:B:2677:LYS:NZ	1:B:2909:ASP:OD2	2.37	0.52
1:C:257:ARG:O	1:C:284:HIS:NE2	2.42	0.52
1:A:939:VAL:HB	1:A:1051:TYR:HB3	1.92	0.52
1:B:2687:ALA:O	1:B:2993:GLN:NE2	2.43	0.52
1:C:4020:GLN:HA	1:C:4023:MET:HB3	1.92	0.52
1:D:450:GLY:HA2	1:D:453:GLU:HG3	1.92	0.52
1:A:450:GLY:HA2	1:A:453:GLU:HG3	1.92	0.52
1:A:2765:LYS:NZ	1:A:2859:PRO:O	2.39	0.52
1:A:3322:ILE:O	1:A:3326:ASN:ND2	2.39	0.52
1:A:3414:ARG:NH1	1:A:3469:PHE:O	2.39	0.52
1:B:4020:GLN:HA	1:B:4023:MET:HB3	1.92	0.52
1:C:1792:ALA:O	1:C:2176:ASN:ND2	2.40	0.52
1:D:939:VAL:HB	1:D:1051:TYR:HB3	1.92	0.52
1:D:3835:LEU:HD22	1:D:3880:PHE:HZ	1.75	0.52
1:A:4020:GLN:HA	1:A:4023:MET:HB3	1.92	0.52
1:B:3227:ARG:NH1	1:B:3234:ASN:OD1	2.42	0.52
1:C:499:THR:HG23	1:C:502:HIS:H	1.74	0.52
1:C:3017:PHE:O	1:C:3036:LYS:NZ	2.42	0.52
1:D:3940:LYS:O	1:D:4002:LYS:NZ	2.38	0.52
2:F:27:THR:HB	2:F:100:ASP:HB3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:27:THR:HB	2:H:100:ASP:HB3	1.91	0.52
1:A:4917:ASP:OD2	1:D:4888:TYR:OH	2.18	0.52
1:C:743:VAL:HB	1:C:760:ASN:HA	1.91	0.52
1:C:4112:LEU:O	1:C:4115:SER:OG	2.28	0.52
1:D:1175:SER:OG	1:D:1180:ARG:NH2	2.38	0.52
1:D:3157:ILE:HA	1:D:3161:VAL:HB	1.92	0.52
1:A:4952:GLU:O	1:A:4956:THR:HB	2.09	0.51
1:B:743:VAL:HB	1:B:760:ASN:HA	1.91	0.51
1:B:2801:ASP:HA	1:B:2804:ILE:HG12	1.91	0.51
1:B:3316:LEU:HD11	1:B:3346:VAL:HA	1.91	0.51
1:D:2640:PRO:HA	1:D:2643:LEU:HB3	1.92	0.51
1:D:3368:ARG:NH2	1:D:3404:ASP:OD2	2.43	0.51
1:A:2687:ALA:O	1:A:2993:GLN:NE2	2.43	0.51
1:A:3368:ARG:NH2	1:A:3404:ASP:OD2	2.43	0.51
1:C:450:GLY:HA2	1:C:453:GLU:HG3	1.92	0.51
1:C:1248:VAL:HG22	1:C:1599:MET:HG3	1.93	0.51
2:G:27:THR:HB	2:G:100:ASP:HB3	1.91	0.51
1:A:707:VAL:HG23	1:A:782:SER:HB3	1.91	0.51
1:A:3835:LEU:HD22	1:A:3880:PHE:HZ	1.75	0.51
1:B:3114:LYS:HD3	1:B:3116:SER:H	1.76	0.51
1:B:3368:ARG:NH2	1:B:3404:ASP:OD2	2.43	0.51
1:D:4020:GLN:HA	1:D:4023:MET:HB3	1.92	0.51
1:A:2640:PRO:HA	1:A:2643:LEU:HB3	1.93	0.51
1:B:2640:PRO:HA	1:B:2643:LEU:HB3	1.93	0.51
1:B:3157:ILE:HA	1:B:3161:VAL:HB	1.92	0.51
1:C:2640:PRO:HA	1:C:2643:LEU:HB3	1.92	0.51
1:D:707:VAL:HG23	1:D:782:SER:HB3	1.92	0.51
1:A:3114:LYS:HD3	1:A:3116:SER:H	1.76	0.51
1:B:939:VAL:HB	1:B:1051:TYR:HB3	1.92	0.51
1:C:3157:ILE:HA	1:C:3161:VAL:HB	1.92	0.51
1:C:3368:ARG:NH2	1:C:3404:ASP:OD2	2.43	0.51
1:C:3835:LEU:HD22	1:C:3880:PHE:HZ	1.75	0.51
1:D:4242:ILE:HG12	1:D:4993:MET:HB3	1.93	0.51
1:D:4866:SER:HB2	1:D:4873:ASP:H	1.75	0.51
1:B:3835:LEU:HD22	1:B:3880:PHE:HZ	1.75	0.51
1:A:2369[A]:ARG:HH21	1:A:2373:GLY:HA2	1.75	0.51
1:A:4680:LYS:HE3	1:A:4686:LEU:HD22	1.93	0.51
1:B:274:LEU:HB3	1:B:339:ILE:HD12	1.93	0.51
1:B:4680:LYS:HE3	1:B:4686:LEU:HD22	1.93	0.51
1:A:546:TRP:CE2	1:A:550:LYS:HE2	2.46	0.51
1:A:4866:SER:HB2	1:A:4873:ASP:H	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:450:GLY:HA2	1:B:453:GLU:HG3	1.92	0.51
1:B:707:VAL:HG23	1:B:782:SER:HB3	1.92	0.51
1:B:1248:VAL:HG22	1:B:1599:MET:HG3	1.93	0.51
1:B:4866:SER:HB2	1:B:4873:ASP:H	1.76	0.51
1:D:2369[A]:ARG:HH21	1:D:2373:GLY:HA2	1.75	0.51
1:D:2917:ALA:HA	1:D:2920:ARG:HB3	1.92	0.51
1:B:546:TRP:CE2	1:B:550:LYS:HE2	2.46	0.51
1:C:546:TRP:CE2	1:C:550:LYS:HE2	2.46	0.51
1:C:2369[A]:ARG:HH21	1:C:2373:GLY:HA2	1.75	0.51
1:D:3114:LYS:HD3	1:D:3116:SER:H	1.75	0.51
1:D:3959:LYS:NZ	1:D:4022:ASP:OD2	2.43	0.51
1:A:4242:ILE:HG12	1:A:4993:MET:HB3	1.93	0.51
1:B:4112:LEU:O	1:B:4115:SER:OG	2.28	0.51
1:D:1248:VAL:HG22	1:D:1599:MET:HG3	1.93	0.51
1:A:1990:GLU:HG2	1:A:1994:ARG:HH12	1.76	0.50
1:A:2917:ALA:HA	1:A:2920:ARG:HB3	1.92	0.50
1:C:939:VAL:HB	1:C:1051:TYR:HB3	1.92	0.50
2:E:27:THR:HB	2:E:100:ASP:HB3	1.91	0.50
1:A:274:LEU:HB3	1:A:339:ILE:HD12	1.93	0.50
1:B:1578:ALA:O	1:B:1584:ARG:NH2	2.37	0.50
1:B:2369[A]:ARG:HH21	1:B:2373:GLY:HA2	1.75	0.50
1:C:3114:LYS:HD3	1:C:3116:SER:H	1.75	0.50
1:C:4106:PRO:O	1:C:4110:PHE:HB3	2.11	0.50
1:C:4866:SER:HB2	1:C:4873:ASP:H	1.75	0.50
1:D:546:TRP:CE2	1:D:550:LYS:HE2	2.46	0.50
1:D:1270:LEU:HB2	1:D:1564:PHE:HB2	1.93	0.50
1:A:3159:ASP:OD1	1:A:3159:ASP:N	2.44	0.50
1:A:3523:ASN:OD1	1:A:3582:ARG:NH2	2.44	0.50
1:A:3545:THR:HG22	1:A:3548:GLU:HG3	1.93	0.50
1:A:3695:PRO:HB2	1:A:3700:GLN:HG3	1.94	0.50
1:A:4106:PRO:O	1:A:4110:PHE:HB3	2.11	0.50
1:B:1270:LEU:HB2	1:B:1564:PHE:HB2	1.94	0.50
1:B:403:MET:O	1:B:407:THR:OG1	2.26	0.50
1:C:1270:LEU:HB2	1:C:1564:PHE:HB2	1.94	0.50
1:C:4242:ILE:HG12	1:C:4993:MET:HB3	1.93	0.50
1:D:2930:LEU:HB3	1:D:2935:TYR:HB2	1.93	0.50
1:A:3959:LYS:NZ	1:A:4022:ASP:OD2	2.43	0.50
1:C:4232:GLU:OE2	1:C:5017:ARG:NH2	2.41	0.50
1:D:1969:LEU:HD21	1:D:2009:LEU:HD13	1.94	0.50
1:A:4562:LEU:HD22	1:A:4653:VAL:HG13	1.94	0.50
1:B:2869:ARG:NH2	1:B:2870[B]:GLU:OE2	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2917:ALA:HA	1:B:2920:ARG:HB3	1.92	0.50
1:B:3545:THR:HG22	1:B:3548:GLU:HG3	1.93	0.50
1:C:1260:MET:HB2	1:C:1269:CYS:HB2	1.94	0.50
1:C:3523:ASN:OD1	1:C:3582:ARG:NH2	2.44	0.50
1:A:1270:LEU:HB2	1:A:1564:PHE:HB2	1.93	0.50
1:B:1260:MET:HB2	1:B:1269:CYS:HB2	1.94	0.50
1:B:3695:PRO:HB2	1:B:3700:GLN:HG3	1.94	0.50
1:B:3959:LYS:NZ	1:B:4022:ASP:OD2	2.43	0.50
1:C:3695:PRO:HB2	1:C:3700:GLN:HG3	1.94	0.50
1:C:4562:LEU:HD22	1:C:4653:VAL:HG13	1.94	0.50
1:D:2869:ARG:NH2	1:D:2870[B]:GLU:OE2	2.45	0.50
1:D:3523:ASN:OD1	1:D:3582:ARG:NH2	2.44	0.50
1:D:3695:PRO:HB2	1:D:3700:GLN:HG3	1.94	0.50
1:D:4106:PRO:O	1:D:4110:PHE:HB3	2.11	0.50
1:A:1578:ALA:O	1:A:1584:ARG:NH2	2.37	0.50
1:A:2930:LEU:HB3	1:A:2935:TYR:HB2	1.93	0.50
1:B:4562:LEU:HD22	1:B:4653:VAL:HG13	1.94	0.50
1:C:1969:LEU:HD21	1:C:2009:LEU:HD13	1.94	0.50
1:C:3371:LYS:NZ	1:C:3375:GLU:OE2	2.42	0.50
1:D:4680:LYS:HE3	1:D:4686:LEU:HD22	1.93	0.50
1:A:1248:VAL:HG22	1:A:1599:MET:HG3	1.93	0.50
1:A:2677:LYS:NZ	1:A:2909:ASP:OD2	2.37	0.50
1:A:4232:GLU:OE2	1:A:5017:ARG:NH2	2.41	0.50
1:B:257:ARG:O	1:B:284:HIS:NE2	2.42	0.50
1:B:1969:LEU:HD21	1:B:2009:LEU:HD13	1.94	0.50
1:C:2869:ARG:NH2	1:C:2870[B]:GLU:OE2	2.45	0.50
1:C:2917:ALA:HA	1:C:2920:ARG:HB3	1.92	0.50
1:D:1990:GLU:HG2	1:D:1994:ARG:HH12	1.76	0.50
1:D:3545:THR:HG22	1:D:3548:GLU:HG3	1.93	0.50
1:D:4562:LEU:HD22	1:D:4653:VAL:HG13	1.94	0.50
1:A:551:LEU:HB3	1:A:589:LEU:HD11	1.94	0.49
1:A:618:GLN:OE1	1:A:1678:ASN:ND2	2.40	0.49
1:A:3236:VAL:HA	1:A:3239:MET:HG2	1.94	0.49
1:B:870:ILE:HG13	1:B:874:LEU:HD23	1.94	0.49
1:B:3236:VAL:HA	1:B:3239:MET:HG2	1.94	0.49
1:B:3523:ASN:OD1	1:B:3582:ARG:NH2	2.44	0.49
1:A:2310:CYS:HB3	1:A:2313:LEU:HB2	1.94	0.49
1:B:4106:PRO:O	1:B:4110:PHE:HB3	2.11	0.49
1:C:1093:GLU:HB3	1:C:1201:HIS:HB3	1.94	0.49
1:C:3545:THR:HG22	1:C:3548:GLU:HG3	1.93	0.49
1:D:1260:MET:HB2	1:D:1269:CYS:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1969:LEU:HD21	1:A:2009:LEU:HD13	1.94	0.49
1:A:2869:ARG:NH2	1:A:2870[B]:GLU:OE2	2.45	0.49
1:A:2960:LEU:HD23	1:A:2963:LEU:HD12	1.95	0.49
1:B:1093:GLU:HB3	1:B:1201:HIS:HB3	1.94	0.49
1:B:3159:ASP:OD1	1:B:3159:ASP:N	2.44	0.49
1:B:4242:ILE:HG12	1:B:4993:MET:HB3	1.93	0.49
1:C:2724:GLU:OE1	1:C:2738:ARG:NH2	2.46	0.49
1:C:2930:LEU:HB3	1:C:2935:TYR:HB2	1.93	0.49
1:D:2310:CYS:HB3	1:D:2313:LEU:HB2	1.94	0.49
1:A:2527:LEU:HD13	1:A:2582:MET:HG2	1.95	0.49
1:A:3371:LYS:NZ	1:A:3375:GLU:OE2	2.42	0.49
1:A:4630:TYR:OH	1:B:4860:ARG:NH2	2.42	0.49
1:B:475:GLN:OE1	1:B:533:ASN:ND2	2.46	0.49
1:B:2930:LEU:HB3	1:B:2935:TYR:HB2	1.93	0.49
1:C:274:LEU:HB3	1:C:339:ILE:HD12	1.93	0.49
1:C:3959:LYS:NZ	1:C:4022:ASP:OD2	2.43	0.49
1:D:274:LEU:HB3	1:D:339:ILE:HD12	1.93	0.49
1:D:3236:VAL:HA	1:D:3239:MET:HG2	1.94	0.49
1:A:870:ILE:HG13	1:A:874:LEU:HD23	1.94	0.49
1:A:1260:MET:HB2	1:A:1269:CYS:HB2	1.94	0.49
1:B:2527:LEU:HD13	1:B:2582:MET:HG2	1.95	0.49
1:D:2724:GLU:OE1	1:D:2738:ARG:NH2	2.46	0.49
1:B:1990:GLU:HG2	1:B:1994:ARG:HH12	1.76	0.49
1:B:2724:GLU:OE1	1:B:2738:ARG:NH2	2.46	0.49
1:B:2769:ASP:O	1:B:2773:ASN:HB2	2.13	0.49
1:C:475:GLN:OE1	1:C:533:ASN:ND2	2.46	0.49
1:C:2960:LEU:HD23	1:C:2963:LEU:HD12	1.95	0.49
1:A:932:LEU:HB3	1:A:937:CYS:HB3	1.95	0.49
1:B:2960:LEU:HD23	1:B:2963:LEU:HD12	1.95	0.49
1:A:1093:GLU:HB3	1:A:1201:HIS:HB3	1.94	0.49
1:A:2927:LEU:HD12	1:A:2930:LEU:HD12	1.95	0.49
1:B:551:LEU:HB3	1:B:589:LEU:HD11	1.94	0.49
1:C:3940:LYS:O	1:C:4002:LYS:NZ	2.38	0.49
1:C:4725:LEU:HA	1:C:4737:ILE:HG21	1.95	0.49
1:D:551:LEU:HB3	1:D:589:LEU:HD11	1.95	0.49
1:B:932:LEU:HB3	1:B:937:CYS:HB3	1.95	0.49
1:C:4680:LYS:HE3	1:C:4686:LEU:HD22	1.93	0.49
1:D:2891:LYS:HA	1:D:2894:LEU:HB3	1.95	0.49
1:D:3371:LYS:NZ	1:D:3375:GLU:OE2	2.42	0.49
1:A:475:GLN:OE1	1:A:533:ASN:ND2	2.46	0.49
1:B:3103:ILE:HG21	1:B:3168:THR:HG23	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2960:LEU:HD23	1:D:2963:LEU:HD12	1.95	0.49
1:A:1171:SER:OG	1:A:1175:SER:O	2.24	0.48
1:B:3164:SER:HA	1:B:3167:ARG:HE	1.78	0.48
1:C:1171:SER:OG	1:C:1175:SER:O	2.24	0.48
1:C:1990:GLU:HG2	1:C:1994:ARG:HH12	1.77	0.48
1:C:3103:ILE:HG21	1:C:3168:THR:HG23	1.95	0.48
1:C:3236:VAL:HA	1:C:3239:MET:HG2	1.94	0.48
1:D:358:THR:HG21	1:D:383:HIS:H	1.78	0.48
1:D:932:LEU:HB3	1:D:937:CYS:HB3	1.95	0.48
1:D:3414:ARG:NH1	1:D:3469:PHE:O	2.38	0.48
1:A:358:THR:HG21	1:A:383:HIS:H	1.78	0.48
1:A:818:ARG:NH2	1:A:1025:ARG:O	2.47	0.48
1:A:3218:VAL:O	1:A:3222:LYS:HB2	2.13	0.48
1:B:1698:LEU:HD21	1:B:1715:LEU:HD13	1.95	0.48
1:B:2310:CYS:HB3	1:B:2313:LEU:HB2	1.94	0.48
1:C:870:ILE:HG13	1:C:874:LEU:HD23	1.94	0.48
1:C:2527:LEU:HD13	1:C:2582:MET:HG2	1.95	0.48
1:D:1698:LEU:HD21	1:D:1715:LEU:HD13	1.96	0.48
1:D:2527:LEU:HD13	1:D:2582:MET:HG2	1.95	0.48
1:D:2707:ALA:HB1	1:D:3009:TYR:HD1	1.78	0.48
1:D:3218:VAL:O	1:D:3222:LYS:HB2	2.12	0.48
2:E:77:THR:HG22	2:E:79:ASP:H	1.79	0.48
1:A:2891:LYS:HA	1:A:2894:LEU:HB3	1.95	0.48
1:A:3037:GLU:HB3	1:A:3088:VAL:HG21	1.95	0.48
1:A:4112:LEU:O	1:A:4115:SER:OG	2.28	0.48
1:B:358:THR:HG21	1:B:383:HIS:H	1.78	0.48
1:B:818:ARG:NH2	1:B:1025:ARG:O	2.47	0.48
1:B:1076:ARG:HB3	1:B:1191:VAL:HG23	1.96	0.48
1:B:1448:VAL:HG22	1:B:1554:VAL:HG23	1.95	0.48
1:C:358:THR:HG21	1:C:383:HIS:H	1.78	0.48
1:D:475:GLN:OE1	1:D:533:ASN:ND2	2.46	0.48
1:D:1093:GLU:HB3	1:D:1201:HIS:HB3	1.94	0.48
1:A:1076:ARG:HB3	1:A:1191:VAL:HG23	1.96	0.48
1:A:2769:ASP:O	1:A:2773:ASN:HB2	2.13	0.48
1:C:932:LEU:HB3	1:C:937:CYS:HB3	1.95	0.48
1:C:1698:LEU:HD21	1:C:1715:LEU:HD13	1.95	0.48
1:C:1743[A]:ARG:HE	1:C:1743[A]:ARG:HB2	1.49	0.48
1:C:2891:LYS:HA	1:C:2894:LEU:HB3	1.95	0.48
1:C:3164:SER:HA	1:C:3167:ARG:HE	1.79	0.48
1:C:3218:VAL:O	1:C:3222:LYS:HB2	2.13	0.48
1:D:257:ARG:O	1:D:284:HIS:NE2	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1099:GLU:OE2	1:A:1125:ASN:ND2	2.43	0.48
1:A:2724:GLU:OE1	1:A:2738:ARG:NH2	2.46	0.48
1:B:23:GLN:OE1	1:B:203:ASN:ND2	2.47	0.48
1:C:3840:SER:OG	1:C:3877:ASP:OD1	2.26	0.48
1:D:2927:LEU:HD12	1:D:2930:LEU:HD12	1.95	0.48
1:D:3159:ASP:OD1	1:D:3159:ASP:N	2.44	0.48
2:F:77:THR:HG22	2:F:79:ASP:H	1.78	0.48
2:H:77:THR:HG22	2:H:79:ASP:H	1.79	0.48
1:A:2516:ASP:OD1	1:A:2516:ASP:N	2.46	0.48
1:A:3164:SER:HA	1:A:3167:ARG:HE	1.79	0.48
1:B:1171:SER:OG	1:B:1175:SER:O	2.24	0.48
1:B:2765:LYS:NZ	1:B:2859:PRO:O	2.39	0.48
1:B:3218:VAL:O	1:B:3222:LYS:HB2	2.13	0.48
1:B:4018:ASP:HA	1:B:4021:LYS:HB3	1.96	0.48
1:C:551:LEU:HB3	1:C:589:LEU:HD11	1.95	0.48
1:C:2310:CYS:HB3	1:C:2313:LEU:HB2	1.94	0.48
1:C:2707:ALA:HB1	1:C:3009:TYR:HD1	1.78	0.48
1:D:23:GLN:OE1	1:D:203:ASN:ND2	2.47	0.48
1:D:1076:ARG:HB3	1:D:1191:VAL:HG23	1.95	0.48
1:A:1698:LEU:HD21	1:A:1715:LEU:HD13	1.95	0.48
1:B:2927:LEU:HD12	1:B:2930:LEU:HD12	1.95	0.48
1:C:1076:ARG:HB3	1:C:1191:VAL:HG23	1.96	0.48
1:C:3596:VAL:O	1:C:3600:SER:OG	2.21	0.48
1:D:2769:ASP:O	1:D:2773:ASN:HB2	2.13	0.48
1:D:4725:LEU:HA	1:D:4737:ILE:HG21	1.95	0.48
2:F:62:GLY:HA3	2:F:74:LEU:HD21	1.96	0.48
1:A:2739:PRO:HG3	1:A:2888:ARG:HG2	1.96	0.48
1:B:3371:LYS:NZ	1:B:3375:GLU:OE2	2.42	0.48
1:C:2769:ASP:O	1:C:2773:ASN:HB2	2.13	0.48
1:D:1448:VAL:HG22	1:D:1554:VAL:HG23	1.95	0.48
1:D:2516:ASP:OD1	1:D:2516:ASP:N	2.46	0.48
2:G:62:GLY:HA3	2:G:74:LEU:HD21	1.96	0.48
1:A:1653:LEU:HD23	1:A:1660:GLN:HA	1.96	0.48
1:B:2739:PRO:HG3	1:B:2888:ARG:HG2	1.96	0.48
1:C:2739:PRO:HG3	1:C:2888:ARG:HG2	1.96	0.48
1:C:4018:ASP:HA	1:C:4021:LYS:HB3	1.96	0.48
1:D:233:ILE:HD12	1:D:242:ARG:HB3	1.96	0.48
1:D:1171:SER:OG	1:D:1175:SER:O	2.24	0.48
1:D:3037:GLU:HB3	1:D:3088:VAL:HG21	1.95	0.48
1:D:3164:SER:HA	1:D:3167:ARG:HE	1.79	0.48
1:A:3596:VAL:O	1:A:3600:SER:OG	2.21	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:23:GLN:OE1	1:C:203:ASN:ND2	2.47	0.48
1:C:818:ARG:NH2	1:C:1025:ARG:O	2.47	0.48
1:C:1448:VAL:HG22	1:C:1554:VAL:HG23	1.95	0.48
1:D:818:ARG:NH2	1:D:1025:ARG:O	2.47	0.48
1:D:875:ALA:O	1:D:879:HIS:ND1	2.47	0.48
1:D:1653:LEU:HD23	1:D:1660:GLN:HA	1.96	0.48
1:D:3103:ILE:HG21	1:D:3168:THR:HG23	1.95	0.48
1:A:2576:ALA:HB1	1:A:2618:MET:HG2	1.96	0.47
1:A:2707:ALA:HB1	1:A:3009:TYR:HD1	1.78	0.47
1:A:3110:LEU:O	1:A:3180:ASN:ND2	2.47	0.47
1:A:4725:LEU:HA	1:A:4737:ILE:HG21	1.95	0.47
1:B:618:GLN:OE1	1:B:1678:ASN:ND2	2.40	0.47
1:C:1653:LEU:HD23	1:C:1660:GLN:HA	1.95	0.47
1:D:2576:ALA:HB1	1:D:2618:MET:HG2	1.96	0.47
2:G:77:THR:HG22	2:G:79:ASP:H	1.78	0.47
1:A:23:GLN:OE1	1:A:203:ASN:ND2	2.47	0.47
1:A:1448:VAL:HG22	1:A:1554:VAL:HG23	1.95	0.47
1:A:3354:LEU:HA	1:A:3358:PHE:HB2	1.96	0.47
1:B:4725:LEU:HA	1:B:4737:ILE:HG21	1.95	0.47
1:C:3622:LYS:HB2	1:C:3626:LYS:HG2	1.96	0.47
1:D:870:ILE:HG13	1:D:874:LEU:HD23	1.94	0.47
1:D:3354:LEU:HA	1:D:3358:PHE:HB2	1.96	0.47
2:E:62:GLY:HA3	2:E:74:LEU:HD21	1.96	0.47
1:A:233:ILE:HD12	1:A:242:ARG:HB3	1.96	0.47
1:A:257:ARG:O	1:A:284:HIS:NE2	2.42	0.47
1:A:3103:ILE:HG21	1:A:3168:THR:HG23	1.95	0.47
1:B:3007:ASN:O	1:B:3011:THR:OG1	2.22	0.47
1:C:875:ALA:O	1:C:879:HIS:ND1	2.47	0.47
1:D:4112:LEU:O	1:D:4115:SER:OG	2.28	0.47
1:A:4018:ASP:HA	1:A:4021:LYS:HB3	1.96	0.47
1:B:875:ALA:O	1:B:879:HIS:ND1	2.47	0.47
1:B:2891:LYS:HA	1:B:2894:LEU:HB3	1.95	0.47
1:B:3110:LEU:O	1:B:3180:ASN:ND2	2.47	0.47
1:C:2677:LYS:HE2	1:C:2677:LYS:HB3	1.67	0.47
1:C:3110:LEU:O	1:C:3180:ASN:ND2	2.47	0.47
1:D:1099:GLU:OE2	1:D:1125:ASN:ND2	2.43	0.47
1:A:3622:LYS:HB2	1:A:3626:LYS:HG2	1.96	0.47
1:B:884:LEU:HB2	1:B:969:PRO:HD3	1.97	0.47
1:C:355:LEU:HD22	1:C:380:GLN:HA	1.97	0.47
1:B:355:LEU:HD22	1:B:380:GLN:HA	1.97	0.47
1:B:2576:ALA:HB1	1:B:2618:MET:HG2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2707:ALA:HB1	1:B:3009:TYR:HD1	1.78	0.47
1:B:3037:GLU:HB3	1:B:3088:VAL:HG21	1.95	0.47
1:B:3271:GLU:OE2	1:B:3337:ARG:NH2	2.44	0.47
1:B:3354:LEU:HA	1:B:3358:PHE:HB2	1.96	0.47
1:C:2927:LEU:HD12	1:C:2930:LEU:HD12	1.95	0.47
1:C:3354:LEU:HA	1:C:3358:PHE:HB2	1.96	0.47
1:D:1147:ASP:HB3	1:D:1164:LEU:HD11	1.96	0.47
1:D:1698:LEU:HA	1:D:1712:TYR:HE1	1.80	0.47
1:D:4018:ASP:HA	1:D:4021:LYS:HB3	1.96	0.47
1:A:355:LEU:HD22	1:A:380:GLN:HA	1.97	0.47
1:A:710:ASP:OD1	1:A:710:ASP:N	2.48	0.47
1:A:728:ARG:NH2	1:A:1489:CYS:SG	2.88	0.47
1:A:2018:GLU:OE1	1:A:2028:ARG:NH1	2.48	0.47
1:B:1256:GLU:HB3	1:B:1275:ARG:HD2	1.97	0.47
1:B:4965:SER:O	1:B:4969:ASP:HB2	2.15	0.47
1:C:2021:CYS:O	1:C:2028:ARG:NH2	2.48	0.47
1:C:2474:LEU:HD13	1:C:2550:LEU:HD21	1.96	0.47
1:C:3592:ILE:HG22	1:C:3595:ARG:HH21	1.80	0.47
1:D:2018:GLU:OE1	1:D:2028:ARG:NH1	2.48	0.47
1:D:2739:PRO:HG3	1:D:2888:ARG:HG2	1.96	0.47
1:D:3622:LYS:HB2	1:D:3626:LYS:HG2	1.96	0.47
1:A:1147:ASP:HB3	1:A:1164:LEU:HD11	1.96	0.47
1:A:2159:LEU:HG	1:A:2163:ARG:HE	1.80	0.47
1:B:1147:ASP:HB3	1:B:1164:LEU:HD11	1.96	0.47
1:B:1653:LEU:HD23	1:B:1660:GLN:HA	1.96	0.47
1:B:2474:LEU:HD13	1:B:2550:LEU:HD21	1.96	0.47
1:C:728:ARG:NH2	1:C:1489:CYS:SG	2.88	0.47
1:D:728:ARG:NH2	1:D:1489:CYS:SG	2.88	0.47
1:D:2474:LEU:HD13	1:D:2550:LEU:HD21	1.96	0.47
1:D:2677:LYS:HE2	1:D:2677:LYS:HB3	1.67	0.47
1:A:875:ALA:O	1:A:879:HIS:ND1	2.47	0.47
1:B:233:ILE:O	1:B:257:ARG:NH2	2.48	0.47
1:B:2764:GLU:HG3	1:B:2857:PRO:HB3	1.97	0.47
1:B:3622:LYS:HB2	1:B:3626:LYS:HG2	1.96	0.47
1:C:355:LEU:HB2	1:C:378:LEU:HG	1.97	0.47
1:C:2018:GLU:OE1	1:C:2028:ARG:NH1	2.48	0.47
1:C:3037:GLU:HB3	1:C:3088:VAL:HG21	1.95	0.47
1:C:3159:ASP:OD1	1:C:3159:ASP:N	2.44	0.47
1:D:355:LEU:HD22	1:D:380:GLN:HA	1.97	0.47
2:H:62:GLY:HA3	2:H:74:LEU:HD21	1.96	0.47
1:A:1698:LEU:HA	1:A:1712:TYR:HE1	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1743[A]:ARG:HE	1:A:1743[A]:ARG:HB2	1.49	0.47
1:A:2021:CYS:O	1:A:2028:ARG:NH2	2.48	0.47
1:B:1698:LEU:HA	1:B:1712:TYR:HE1	1.80	0.47
1:B:3592:ILE:HG22	1:B:3595:ARG:HH21	1.80	0.47
1:C:1099:GLU:OE2	1:C:1125:ASN:ND2	2.43	0.47
1:D:2021:CYS:O	1:D:2028:ARG:NH2	2.48	0.47
1:D:2768:PHE:HA	1:D:2771:ILE:HG22	1.97	0.47
1:A:1084:GLN:NE2	1:A:1186:ASP:O	2.42	0.46
1:B:1099:GLU:OE2	1:B:1125:ASN:ND2	2.43	0.46
1:B:3329:ILE:O	1:B:3403:ARG:NH2	2.48	0.46
1:B:3840:SER:OG	1:B:3877:ASP:OD1	2.26	0.46
1:C:2764:GLU:HG3	1:C:2857:PRO:HB3	1.97	0.46
1:D:710:ASP:OD1	1:D:710:ASP:N	2.48	0.46
1:D:1297:PHE:HD1	1:D:1522:LEU:HA	1.80	0.46
1:D:2159:LEU:HG	1:D:2163:ARG:HE	1.80	0.46
1:A:1256:GLU:HB3	1:A:1275:ARG:HD2	1.97	0.46
1:B:233:ILE:HD12	1:B:242:ARG:HB3	1.96	0.46
1:B:3264:THR:OG1	1:B:3265:GLU:OE1	2.33	0.46
1:B:3940:LYS:O	1:B:4002:LYS:NZ	2.38	0.46
1:C:233:ILE:HD12	1:C:242:ARG:HB3	1.96	0.46
1:C:1698:LEU:HA	1:C:1712:TYR:HE1	1.80	0.46
1:C:2159:LEU:HG	1:C:2163:ARG:HE	1.80	0.46
1:C:2576:ALA:HB1	1:C:2618:MET:HG2	1.96	0.46
1:D:3110:LEU:O	1:D:3180:ASN:ND2	2.47	0.46
1:A:4965:SER:O	1:A:4969:ASP:HB2	2.15	0.46
1:A:4971:THR:HG22	1:A:4972:PRO:HD2	1.98	0.46
1:B:355:LEU:HB2	1:B:378:LEU:HG	1.97	0.46
1:B:4823:LEU:HD23	1:B:4823:LEU:HA	1.83	0.46
1:C:1968:LYS:NZ	1:C:2030:ASP:OD2	2.49	0.46
1:C:4065:PHE:O	1:C:4133:GLN:NE2	2.49	0.46
1:D:2765:LYS:HA	1:D:2765:LYS:HD3	1.76	0.46
1:A:884:LEU:HB2	1:A:969:PRO:HD3	1.97	0.46
1:A:1968:LYS:NZ	1:A:2030:ASP:OD2	2.49	0.46
1:A:2768:PHE:HA	1:A:2771:ILE:HG22	1.97	0.46
1:B:2021:CYS:O	1:B:2028:ARG:NH2	2.48	0.46
1:C:618:GLN:OE1	1:C:1678:ASN:ND2	2.40	0.46
1:C:1297:PHE:HD1	1:C:1522:LEU:HA	1.80	0.46
1:C:2684:ASP:O	1:C:2688:HIS:ND1	2.46	0.46
1:C:2765:LYS:NZ	1:C:2859:PRO:O	2.39	0.46
1:D:659:TYR:O	1:D:662:TRP:NE1	2.49	0.46
1:D:4065:PHE:O	1:D:4133:GLN:NE2	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:868:GLU:HA	1:A:871:ARG:HB2	1.98	0.46
1:A:2863:SER:HA	1:A:2928:LYS:HG3	1.98	0.46
1:A:4736:ARG:HE	1:A:4736:ARG:HB3	1.58	0.46
1:B:2863:SER:HA	1:B:2928:LYS:HG3	1.98	0.46
1:C:659:TYR:O	1:C:662:TRP:NE1	2.49	0.46
1:C:884:LEU:HB2	1:C:969:PRO:HD3	1.97	0.46
1:C:3180:ASN:HB2	1:C:3183:VAL:HG23	1.97	0.46
1:D:355:LEU:HB2	1:D:378:LEU:HG	1.97	0.46
1:D:868:GLU:HA	1:D:871:ARG:HB2	1.98	0.46
1:D:3840:SER:OG	1:D:3877:ASP:OD1	2.26	0.46
1:B:728:ARG:NH2	1:B:1489:CYS:SG	2.88	0.46
1:B:2018:GLU:OE1	1:B:2028:ARG:NH1	2.48	0.46
1:B:4065:PHE:O	1:B:4133:GLN:NE2	2.49	0.46
1:B:4971:THR:HG22	1:B:4972:PRO:HD2	1.98	0.46
1:C:1147:ASP:HB3	1:C:1164:LEU:HD11	1.96	0.46
1:D:2740:VAL:HG21	1:D:2819:TRP:HE1	1.81	0.46
1:A:355:LEU:HB2	1:A:378:LEU:HG	1.97	0.46
1:A:2684:ASP:O	1:A:2688:HIS:ND1	2.46	0.46
1:A:3592:ILE:HG22	1:A:3595:ARG:HH21	1.80	0.46
1:B:2684:ASP:O	1:B:2688:HIS:ND1	2.46	0.46
1:C:357:LEU:HD11	1:C:388:LEU:HD11	1.98	0.46
1:D:1968:LYS:NZ	1:D:2030:ASP:OD2	2.49	0.46
1:D:2764:GLU:HG3	1:D:2857:PRO:HB3	1.97	0.46
1:D:3592:ILE:HG22	1:D:3595:ARG:HH21	1.80	0.46
1:A:3180:ASN:HB2	1:A:3183:VAL:HG23	1.97	0.46
1:D:1232:ARG:NH2	1:D:1828:ASP:O	2.37	0.46
1:D:2863:SER:HA	1:D:2928:LYS:HG3	1.98	0.46
1:A:3840:SER:OG	1:A:3877:ASP:OD1	2.26	0.46
1:A:4049:VAL:HA	1:A:4163:PHE:HZ	1.81	0.46
1:B:2159:LEU:HG	1:B:2163:ARG:HE	1.80	0.46
1:B:3107:VAL:O	1:B:3111:ARG:HB2	2.16	0.46
1:B:4049:VAL:HA	1:B:4163:PHE:HZ	1.81	0.46
1:C:2205:GLU:O	1:C:2208:MET:N	2.49	0.46
1:C:2863:SER:HA	1:C:2928:LYS:HG3	1.98	0.46
1:C:4049:VAL:HA	1:C:4163:PHE:HZ	1.81	0.46
1:D:884:LEU:HB2	1:D:969:PRO:HD3	1.97	0.46
1:D:3107:VAL:O	1:D:3111:ARG:HB2	2.16	0.46
1:D:4965:SER:O	1:D:4969:ASP:HB2	2.15	0.46
1:A:491:ILE:HD11	1:A:522:LEU:HB3	1.98	0.46
1:A:2764:GLU:HG3	1:A:2857:PRO:HB3	1.97	0.46
1:B:1968:LYS:NZ	1:B:2030:ASP:OD2	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3180:ASN:HB2	1:B:3183:VAL:HG23	1.97	0.46
1:C:491:ILE:HD11	1:C:522:LEU:HB3	1.98	0.46
1:C:2740:VAL:HG21	1:C:2819:TRP:HE1	1.81	0.46
1:C:3107:VAL:O	1:C:3111:ARG:HB2	2.16	0.46
1:D:3266:MET:HB3	1:D:3269:VAL:HB	1.99	0.46
1:D:4971:THR:HG22	1:D:4972:PRO:HD2	1.98	0.46
1:A:3107:VAL:O	1:A:3111:ARG:HB2	2.16	0.45
1:C:2516:ASP:N	1:C:2516:ASP:OD1	2.46	0.45
1:C:2768:PHE:HA	1:C:2771:ILE:HG22	1.97	0.45
1:C:4965:SER:O	1:C:4969:ASP:HB2	2.15	0.45
1:D:3329:ILE:O	1:D:3403:ARG:NH2	2.48	0.45
1:A:1297:PHE:HD1	1:A:1522:LEU:HA	1.80	0.45
1:A:2205:GLU:O	1:A:2208:MET:N	2.49	0.45
1:A:2474:LEU:HD13	1:A:2550:LEU:HD21	1.96	0.45
1:A:2740:VAL:HG21	1:A:2819:TRP:HE1	1.81	0.45
1:A:3788:GLY:HA2	1:A:3835:LEU:HG	1.98	0.45
1:B:1297:PHE:HD1	1:B:1522:LEU:HA	1.80	0.45
1:D:1118:ASP:OD1	1:D:1118:ASP:N	2.48	0.45
1:D:3409:TYR:HE2	1:D:3510:ILE:HG12	1.82	0.45
1:A:3329:ILE:O	1:A:3403:ARG:NH2	2.48	0.45
1:B:357:LEU:HD11	1:B:388:LEU:HD11	1.98	0.45
1:B:2768:PHE:HA	1:B:2771:ILE:HG22	1.97	0.45
1:C:3980:LEU:HD22	1:C:4030:LEU:HD21	1.98	0.45
1:A:1432:THR:HA	1:A:1520:VAL:O	2.17	0.45
1:A:4823:LEU:HD23	1:A:4823:LEU:HA	1.83	0.45
1:B:3788:GLY:HA2	1:B:3835:LEU:HG	1.98	0.45
1:C:3409:TYR:HE2	1:C:3510:ILE:HG12	1.82	0.45
1:D:1948:ASP:OD1	1:D:2126:ARG:NH2	2.42	0.45
2:E:23:VAL:HG13	2:E:47:LYS:HG2	1.98	0.45
1:A:1465:ASP:OD1	1:A:1465:ASP:N	2.50	0.45
1:B:491:ILE:HD11	1:B:522:LEU:HB3	1.99	0.45
1:C:233:ILE:O	1:C:257:ARG:NH2	2.48	0.45
1:C:868:GLU:HA	1:C:871:ARG:HB2	1.98	0.45
1:C:1578:ALA:O	1:C:1584:ARG:NH2	2.37	0.45
1:C:2670:GLU:HG2	1:C:2912:THR:HB	1.98	0.45
1:C:2765:LYS:HA	1:C:2765:LYS:HD3	1.76	0.45
1:D:2205:GLU:O	1:D:2208:MET:N	2.49	0.45
2:F:23:VAL:HG13	2:F:47:LYS:HG2	1.98	0.45
2:G:23:VAL:HG13	2:G:47:LYS:HG2	1.98	0.45
1:A:4214:LYS:HE2	1:A:4985:LEU:HD11	1.99	0.45
1:B:4214:LYS:HE2	1:B:4985:LEU:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1432:THR:HA	1:C:1520:VAL:O	2.17	0.45
1:C:4725:LEU:HD13	1:C:4743:MET:HE1	1.99	0.45
1:D:357:LEU:HD11	1:D:388:LEU:HD11	1.98	0.45
1:D:1256:GLU:HB3	1:D:1275:ARG:HD2	1.97	0.45
1:A:1007:TYR:O	1:A:1017:ARG:NH2	2.49	0.45
1:A:3980:LEU:HD22	1:A:4030:LEU:HD21	1.98	0.45
1:B:710:ASP:N	1:B:710:ASP:OD1	2.48	0.45
1:B:1036:ARG:O	1:B:1040:CYS:HB2	2.17	0.45
1:B:2265:LEU:O	1:B:2330:ARG:NH1	2.50	0.45
1:B:2670:GLU:HG2	1:B:2912:THR:HB	1.98	0.45
1:C:710:ASP:OD1	1:C:710:ASP:N	2.48	0.45
1:C:2368:LEU:HD11	1:C:2376:LEU:HD12	1.99	0.45
1:C:3219:TYR:OH	1:C:3239:MET:SD	2.65	0.45
1:C:3266:MET:HB3	1:C:3269:VAL:HB	1.99	0.45
1:D:233:ILE:O	1:D:257:ARG:NH2	2.48	0.45
1:D:1698:LEU:HA	1:D:1712:TYR:CE1	2.52	0.45
1:A:653:ALA:HB3	1:A:656:SER:HB2	1.99	0.45
1:A:4065:PHE:O	1:A:4133:GLN:NE2	2.49	0.45
1:B:863:LEU:HA	1:B:864:PRO:HD3	1.85	0.45
1:B:2368:LEU:HD11	1:B:2376:LEU:HD12	1.99	0.45
1:C:775:GLY:H	1:C:848:HIS:CE1	2.35	0.45
1:C:2265:LEU:O	1:C:2330:ARG:NH1	2.50	0.45
1:D:2670:GLU:HG2	1:D:2912:THR:HB	1.98	0.45
1:A:294:THR:HG23	1:A:297:GLN:H	1.82	0.45
1:A:2368:LEU:HD11	1:A:2376:LEU:HD12	1.99	0.45
1:C:293:LEU:HD12	1:C:378:LEU:HD23	1.99	0.45
1:C:743:VAL:HG21	1:C:802:PHE:HE2	1.82	0.45
1:C:790:ARG:HA	1:C:1626:TRP:O	2.17	0.45
1:C:1036:ARG:O	1:C:1040:CYS:HB2	2.17	0.45
1:C:4552:LEU:O	1:C:4556:SER:OG	2.34	0.45
1:D:491:ILE:HD11	1:D:522:LEU:HB3	1.98	0.45
1:D:653:ALA:HB3	1:D:656:SER:HB2	1.99	0.45
1:D:743:VAL:HG21	1:D:802:PHE:HE2	1.82	0.45
1:D:1432:THR:HA	1:D:1520:VAL:O	2.17	0.45
1:D:3980:LEU:HD22	1:D:4030:LEU:HD21	1.98	0.45
2:H:23:VAL:HG13	2:H:47:LYS:HG2	1.98	0.45
1:A:1118:ASP:OD1	1:A:1118:ASP:N	2.48	0.45
1:A:2265:LEU:O	1:A:2330:ARG:NH1	2.50	0.45
1:A:3768:SER:HA	1:A:3771:HIS:CD2	2.52	0.45
1:A:4888:TYR:OH	1:B:4917:ASP:OD2	2.27	0.45
1:B:659:TYR:O	1:B:662:TRP:NE1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:743:VAL:HG21	1:B:802:PHE:HE2	1.82	0.45
1:B:868:GLU:HA	1:B:871:ARG:HB2	1.98	0.45
1:B:1465:ASP:N	1:B:1465:ASP:OD1	2.50	0.45
1:C:1256:GLU:HB3	1:C:1275:ARG:HD2	1.97	0.45
1:C:1698:LEU:HA	1:C:1712:TYR:CE1	2.52	0.45
1:C:2686:LEU:HB3	1:C:2997:PHE:HE1	1.82	0.45
1:C:3924:LEU:HD22	1:C:3984:ARG:HG2	1.99	0.45
1:C:4971:THR:HG22	1:C:4972:PRO:HD2	1.98	0.45
1:D:618:GLN:OE1	1:D:1678:ASN:ND2	2.40	0.45
1:D:2265:LEU:O	1:D:2330:ARG:NH1	2.50	0.45
1:A:1698:LEU:HA	1:A:1712:TYR:CE1	2.52	0.44
1:A:2670:GLU:HG2	1:A:2912:THR:HB	1.98	0.44
1:B:2686:LEU:HB3	1:B:2997:PHE:HE1	1.82	0.44
1:C:3271:GLU:OE2	1:C:3337:ARG:NH2	2.44	0.44
1:D:294:THR:HG23	1:D:297:GLN:H	1.82	0.44
1:D:1036:ARG:O	1:D:1040:CYS:HB2	2.17	0.44
1:D:2368:LEU:HD11	1:D:2376:LEU:HD12	1.99	0.44
1:D:3788:GLY:HA2	1:D:3835:LEU:HG	1.98	0.44
1:A:262:LEU:HD13	1:A:274:LEU:HD11	2.00	0.44
1:A:659:TYR:O	1:A:662:TRP:NE1	2.49	0.44
1:B:790:ARG:HA	1:B:1626:TRP:O	2.17	0.44
1:B:3924:LEU:HD22	1:B:3984:ARG:HG2	1.99	0.44
1:B:3980:LEU:HD22	1:B:4030:LEU:HD21	1.98	0.44
1:C:3270:ILE:HA	1:C:3274:LEU:HD12	2.00	0.44
1:D:34:LYS:H	1:D:53:SER:HB3	1.82	0.44
1:D:3180:ASN:HB2	1:D:3183:VAL:HG23	1.98	0.44
1:D:3924:LEU:HD22	1:D:3984:ARG:HG2	1.99	0.44
1:D:4725:LEU:HD13	1:D:4743:MET:HE1	1.99	0.44
1:A:293:LEU:HD12	1:A:378:LEU:HD23	1.99	0.44
1:A:3051:ARG:NH2	1:A:3102:ASP:OD1	2.50	0.44
1:A:3409:TYR:HE2	1:A:3510:ILE:HG12	1.82	0.44
1:B:1007:TYR:O	1:B:1017:ARG:NH2	2.49	0.44
1:B:3266:MET:HB3	1:B:3269:VAL:HB	1.99	0.44
1:C:34:LYS:H	1:C:53:SER:HB3	1.82	0.44
1:C:1101:ARG:NH1	1:C:1115:LEU:O	2.51	0.44
1:C:2309:SER:OG	1:C:2321:ILE:O	2.26	0.44
1:D:2686:LEU:HB3	1:D:2997:PHE:HE1	1.82	0.44
1:A:1036:ARG:O	1:A:1040:CYS:HB2	2.17	0.44
1:A:1277:TRP:HD1	1:A:1559:GLN:HG3	1.82	0.44
1:A:2000:SER:O	1:A:2005:GLN:NE2	2.50	0.44
1:A:3924:LEU:HD22	1:A:3984:ARG:HG2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:293:LEU:HD12	1:B:378:LEU:HD23	1.99	0.44
1:B:3107:VAL:HG11	1:B:3171:SER:HB2	2.00	0.44
1:C:1007:TYR:O	1:C:1017:ARG:NH2	2.49	0.44
1:C:1864:LYS:NZ	1:C:1871:PHE:O	2.47	0.44
1:D:2018:GLU:HB3	1:D:2028:ARG:HH12	1.82	0.44
1:A:743:VAL:HG21	1:A:802:PHE:HE2	1.82	0.44
1:A:835:ARG:NH2	1:A:1210:SER:O	2.51	0.44
1:A:3301:PRO:HA	1:A:3302:PRO:HD3	1.91	0.44
1:B:1101:ARG:NH1	1:B:1115:LEU:O	2.51	0.44
1:B:1698:LEU:HA	1:B:1712:TYR:CE1	2.52	0.44
1:B:2205:GLU:O	1:B:2208:MET:N	2.49	0.44
1:C:3768:SER:HA	1:C:3771:HIS:CD2	2.52	0.44
1:C:3788:GLY:HA2	1:C:3835:LEU:HG	1.98	0.44
1:D:262:LEU:HD13	1:D:274:LEU:HD11	2.00	0.44
1:D:790:ARG:HA	1:D:1626:TRP:O	2.17	0.44
1:A:34:LYS:H	1:A:53:SER:HB3	1.82	0.44
1:B:1432:THR:HA	1:B:1520:VAL:O	2.17	0.44
1:B:2740:VAL:HG21	1:B:2819:TRP:HE1	1.81	0.44
1:B:3768:SER:HA	1:B:3771:HIS:CD2	2.52	0.44
1:C:73:LEU:O	1:C:106:ALA:N	2.40	0.44
1:D:835:ARG:NH2	1:D:1210:SER:O	2.51	0.44
1:D:3768:SER:HA	1:D:3771:HIS:CD2	2.52	0.44
1:D:3823:LYS:HA	1:D:3823:LYS:HD3	1.82	0.44
1:A:233:ILE:O	1:A:257:ARG:NH2	2.48	0.44
1:B:775:GLY:H	1:B:848:HIS:CE1	2.35	0.44
1:B:2039:LEU:HD22	1:B:2044:ILE:HG13	2.00	0.44
1:B:2869:ARG:NH2	1:B:2947:ASP:OD1	2.51	0.44
1:B:4725:LEU:HD13	1:B:4743:MET:HE1	1.99	0.44
1:B:4736:ARG:HE	1:B:4736:ARG:HB3	1.58	0.44
1:C:835:ARG:NH2	1:C:1210:SER:O	2.51	0.44
1:C:1454:THR:OG1	1:C:1456:ASP:OD1	2.26	0.44
1:C:4958:CYS:HB3	1:C:4961:CYS:SG	2.58	0.44
1:D:775:GLY:H	1:D:848:HIS:CE1	2.35	0.44
1:D:1465:ASP:OD1	1:D:1465:ASP:N	2.50	0.44
1:D:4049:VAL:HA	1:D:4163:PHE:HZ	1.81	0.44
1:D:4214:LYS:HE2	1:D:4985:LEU:HD11	1.99	0.44
1:A:790:ARG:HA	1:A:1626:TRP:O	2.17	0.44
1:A:1454:THR:OG1	1:A:1456:ASP:OD1	2.26	0.44
1:B:3270:ILE:HA	1:B:3274:LEU:HD12	2.00	0.44
1:C:294:THR:HG23	1:C:297:GLN:H	1.82	0.44
1:C:653:ALA:HB3	1:C:656:SER:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2967:MET:HE2	1:C:3045:LYS:HB3	2.00	0.44
1:D:1101:ARG:NH1	1:D:1115:LEU:O	2.51	0.44
1:A:357:LEU:HD11	1:A:388:LEU:HD11	1.98	0.44
1:A:2494:PHE:HE2	1:A:2499:LYS:HE3	1.83	0.44
1:B:653:ALA:HB3	1:B:656:SER:HB2	1.99	0.44
1:B:1277:TRP:HD1	1:B:1559:GLN:HG3	1.83	0.44
1:B:2494:PHE:HE2	1:B:2499:LYS:HE3	1.83	0.44
1:C:1232:ARG:NH2	1:C:1828:ASP:O	2.37	0.44
1:C:1948:ASP:OD1	1:C:2126:ARG:NH2	2.42	0.44
1:C:2159:LEU:HD21	1:C:2163:ARG:HH21	1.83	0.44
1:C:2869:ARG:NH2	1:C:2947:ASP:OD1	2.51	0.44
1:C:4214:LYS:HE2	1:C:4985:LEU:HD11	1.99	0.44
1:D:2869:ARG:NH2	1:D:2947:ASP:OD1	2.51	0.44
1:D:3270:ILE:HA	1:D:3274:LEU:HD12	1.99	0.44
1:D:5034:ASP:OD2	1:D:5035:GLN:NE2	2.51	0.44
1:A:775:GLY:H	1:A:848:HIS:CE1	2.35	0.43
1:A:3264:THR:OG1	1:A:3265:GLU:OE1	2.33	0.43
1:B:1232:ARG:NH2	1:B:1828:ASP:O	2.37	0.43
1:B:1743[A]:ARG:HE	1:B:1743[A]:ARG:HB2	1.49	0.43
1:B:2516:ASP:OD1	1:B:2516:ASP:N	2.46	0.43
1:B:3409:TYR:HE2	1:B:3510:ILE:HG12	1.82	0.43
1:C:2627:VAL:HG21	1:C:2674:LEU:HG	2.00	0.43
1:D:293:LEU:HD12	1:D:378:LEU:HD23	1.99	0.43
1:D:1007:TYR:O	1:D:1017:ARG:NH2	2.49	0.43
1:D:2970:SER:HA	1:D:2973:PHE:CE2	2.53	0.43
1:A:877:ASN:HA	1:A:970:LEU:H	1.84	0.43
1:B:294:THR:HG23	1:B:297:GLN:H	1.82	0.43
1:D:1277:TRP:HD1	1:D:1559:GLN:HG3	1.83	0.43
1:D:3264:THR:OG1	1:D:3265:GLU:OE1	2.33	0.43
1:B:884:LEU:HD13	1:B:968:ALA:H	1.83	0.43
1:C:2018:GLU:HB3	1:C:2028:ARG:HH12	1.82	0.43
1:C:5034:ASP:OD2	1:C:5035:GLN:NE2	2.51	0.43
1:D:2039:LEU:HD22	1:D:2044:ILE:HG13	2.00	0.43
1:D:3107:VAL:HG11	1:D:3171:SER:HB2	1.99	0.43
1:A:2039:LEU:HD22	1:A:2044:ILE:HG13	2.00	0.43
1:A:4725:LEU:HD13	1:A:4743:MET:HE1	1.99	0.43
1:A:4958:CYS:HB3	1:A:4961:CYS:SG	2.58	0.43
1:B:2236:LEU:HD22	1:B:2250:MET:HE1	2.01	0.43
1:C:2675:THR:HG22	1:C:2706:ILE:HG23	2.00	0.43
1:C:4951:LYS:HE3	1:C:4951:LYS:HB3	1.82	0.43
1:D:73:LEU:O	1:D:106:ALA:N	2.40	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3271:GLU:OE2	1:D:3337:ARG:NH2	2.44	0.43
1:A:2018:GLU:HB3	1:A:2028:ARG:HH12	1.82	0.43
1:A:2869:ARG:NH2	1:A:2947:ASP:OD1	2.51	0.43
1:A:3266:MET:HB3	1:A:3269:VAL:HB	1.99	0.43
1:A:5034:ASP:OD2	1:A:5035:GLN:NE2	2.51	0.43
1:B:835:ARG:NH2	1:B:1210:SER:O	2.51	0.43
1:C:111:HIS:ND1	1:C:114:SER:OG	2.39	0.43
1:C:877:ASN:HA	1:C:970:LEU:H	1.84	0.43
1:C:4630:TYR:OH	1:D:4860:ARG:NH2	2.47	0.43
1:D:4570:ALA:O	1:D:4574:ASN:ND2	2.52	0.43
1:A:2686:LEU:HB3	1:A:2997:PHE:HE1	1.82	0.43
1:A:3245:VAL:HG23	1:A:3248:ARG:H	1.84	0.43
1:B:34:LYS:H	1:B:53:SER:HB3	1.82	0.43
1:B:2018:GLU:HB3	1:B:2028:ARG:HH12	1.82	0.43
1:B:2277:ALA:O	1:B:2281:ILE:HG13	2.18	0.43
1:B:2712:PRO:HG3	1:B:3013:HIS:CD2	2.54	0.43
1:C:2277:ALA:O	1:C:2281:ILE:HG13	2.18	0.43
1:C:2970:SER:HA	1:C:2973:PHE:CE2	2.53	0.43
1:C:3007:ASN:O	1:C:3011:THR:OG1	2.22	0.43
1:D:403:MET:O	1:D:407:THR:OG1	2.26	0.43
1:A:1101:ARG:NH1	1:A:1115:LEU:O	2.51	0.43
1:A:2159:LEU:HD21	1:A:2163:ARG:HH21	1.83	0.43
1:A:2277:ALA:O	1:A:2281:ILE:HG13	2.18	0.43
1:A:2677:LYS:HE2	1:A:2677:LYS:HB3	1.67	0.43
1:B:1118:ASP:OD1	1:B:1118:ASP:N	2.48	0.43
1:C:863:LEU:HA	1:C:864:PRO:HD3	1.85	0.43
1:C:1465:ASP:OD1	1:C:1465:ASP:N	2.50	0.43
1:C:2494:PHE:HE2	1:C:2499:LYS:HE3	1.83	0.43
1:D:2494:PHE:HE2	1:D:2499:LYS:HE3	1.83	0.43
1:D:2712:PRO:HG3	1:D:3013:HIS:CD2	2.54	0.43
1:A:884:LEU:HD13	1:A:968:ALA:H	1.83	0.43
1:A:3270:ILE:HA	1:A:3274:LEU:HD12	2.00	0.43
1:A:4570:ALA:O	1:A:4574:ASN:ND2	2.52	0.43
1:B:262:LEU:HD13	1:B:274:LEU:HD11	1.99	0.43
1:B:2675:THR:HG22	1:B:2706:ILE:HG23	2.00	0.43
1:C:262:LEU:HD13	1:C:274:LEU:HD11	2.00	0.43
1:C:884:LEU:HD13	1:C:968:ALA:H	1.83	0.43
1:C:2712:PRO:HG3	1:C:3013:HIS:CD2	2.54	0.43
1:D:274:LEU:HD23	1:D:274:LEU:HA	1.84	0.43
1:D:877:ASN:HA	1:D:970:LEU:H	1.84	0.43
1:D:2159:LEU:HD21	1:D:2163:ARG:HH21	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2574:HIS:CD2	1:D:2575:ARG:HG2	2.54	0.43
1:D:2779:GLU:HG3	1:D:2792:ARG:HG2	2.01	0.43
1:A:37:LEU:HD23	1:A:37:LEU:HA	1.90	0.43
1:C:1291:LEU:HD12	1:C:1550:PRO:HG2	2.01	0.43
1:C:1812:LEU:HD23	1:C:1812:LEU:HA	1.90	0.43
1:C:2779:GLU:HG3	1:C:2792:ARG:HG2	2.01	0.43
1:C:3107:VAL:HG11	1:C:3171:SER:HB2	1.99	0.43
1:C:3888:LEU:HD23	1:C:3888:LEU:HA	1.91	0.43
1:D:2277:ALA:O	1:D:2281:ILE:HG13	2.18	0.43
1:D:2627:VAL:HG21	1:D:2674:LEU:HG	2.00	0.43
1:D:4958:CYS:HB3	1:D:4961:CYS:SG	2.58	0.43
1:A:2779:GLU:HG3	1:A:2792:ARG:HG2	2.01	0.43
1:A:3051:ARG:HA	1:A:3131:TYR:CE1	2.54	0.43
1:A:4652:LEU:HD12	1:A:4652:LEU:HA	1.92	0.43
1:B:1116:GLY:O	1:B:1134:LEU:N	2.52	0.43
1:B:2627:VAL:HG21	1:B:2674:LEU:HG	2.00	0.43
1:B:4958:CYS:HB3	1:B:4961:CYS:SG	2.58	0.43
1:C:716:PHE:HE1	1:C:730:VAL:HG21	1.84	0.43
1:C:1118:ASP:OD1	1:C:1118:ASP:N	2.48	0.43
1:C:1229:ASN:HB2	1:C:1827:ARG:HG3	2.01	0.43
1:C:1277:TRP:HD1	1:C:1559:GLN:HG3	1.83	0.43
1:C:2583:LEU:HA	1:C:2586:VAL:HG12	2.01	0.43
1:C:3245:VAL:HG23	1:C:3248:ARG:H	1.84	0.43
1:D:2000:SER:O	1:D:2005:GLN:NE2	2.50	0.43
1:D:2583:LEU:HA	1:D:2586:VAL:HG12	2.01	0.43
1:A:1116:GLY:O	1:A:1134:LEU:N	2.52	0.42
1:A:4552:LEU:O	1:A:4556:SER:OG	2.34	0.42
1:B:877:ASN:HA	1:B:970:LEU:H	1.83	0.42
1:B:1229:ASN:HB2	1:B:1827:ARG:HG3	2.01	0.42
1:B:1291:LEU:HD12	1:B:1550:PRO:HG2	2.01	0.42
1:B:2159:LEU:HD21	1:B:2163:ARG:HH21	1.83	0.42
1:B:2970:SER:HA	1:B:2973:PHE:CE2	2.53	0.42
1:B:5034:ASP:OD2	1:B:5035:GLN:NE2	2.51	0.42
1:C:1000:ARG:HA	1:C:1000:ARG:HD3	1.83	0.42
1:C:1256:GLU:HB3	1:C:1275:ARG:HH11	1.84	0.42
1:C:3051:ARG:HA	1:C:3131:TYR:CE1	2.54	0.42
1:D:3051:ARG:HA	1:D:3131:TYR:CE1	2.54	0.42
1:A:162:LYS:H	1:A:162:LYS:HG2	1.67	0.42
1:A:2574:HIS:CD2	1:A:2575:ARG:HG2	2.54	0.42
1:A:2712:PRO:HG3	1:A:3013:HIS:CD2	2.54	0.42
1:A:2970:SER:HA	1:A:2973:PHE:CE2	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3107:VAL:HG11	1:A:3171:SER:HB2	2.00	0.42
1:A:4675:LYS:HE3	1:A:4675:LYS:HB3	1.83	0.42
1:C:2000:SER:O	1:C:2005:GLN:NE2	2.50	0.42
1:C:4570:ALA:O	1:C:4574:ASN:ND2	2.52	0.42
1:D:716:PHE:HE1	1:D:730:VAL:HG21	1.84	0.42
1:A:2309:SER:OG	1:A:2321:ILE:O	2.26	0.42
1:A:2583:LEU:HA	1:A:2586:VAL:HG12	2.01	0.42
1:B:1269:CYS:HA	1:B:1564:PHE:O	2.20	0.42
1:B:2583:LEU:HA	1:B:2586:VAL:HG12	2.01	0.42
1:B:2779:GLU:HG3	1:B:2792:ARG:HG2	2.01	0.42
1:C:2039:LEU:HD22	1:C:2044:ILE:HG13	2.00	0.42
1:D:2675:THR:HG22	1:D:2706:ILE:HG23	2.00	0.42
1:D:4181:ILE:HD12	1:D:4183:ILE:HG23	2.01	0.42
1:A:124:SER:HB2	1:A:133:PHE:HA	2.01	0.42
1:A:274:LEU:HD23	1:A:274:LEU:HA	1.84	0.42
1:B:4128:PHE:HA	1:B:4131:ARG:HH21	1.85	0.42
1:B:4710:SER:OG	1:B:4772:ASP:OD2	2.38	0.42
1:C:1116:GLY:O	1:C:1134:LEU:N	2.52	0.42
1:C:2574:HIS:CD2	1:C:2575:ARG:HG2	2.54	0.42
1:C:3264:THR:OG1	1:C:3265:GLU:OE1	2.33	0.42
1:C:4181:ILE:HD12	1:C:4183:ILE:HG23	2.01	0.42
1:D:124:SER:HB2	1:D:133:PHE:HA	2.01	0.42
1:D:1269:CYS:HA	1:D:1564:PHE:O	2.20	0.42
1:D:3007:ASN:O	1:D:3011:THR:OG1	2.22	0.42
1:D:3245:VAL:HG23	1:D:3248:ARG:H	1.84	0.42
1:D:4552:LEU:O	1:D:4556:SER:OG	2.34	0.42
1:A:846:LEU:HD22	1:A:846:LEU:HA	1.91	0.42
1:A:2675:THR:HG22	1:A:2706:ILE:HG23	2.00	0.42
1:A:4677:LEU:HD12	1:A:4677:LEU:HA	1.85	0.42
1:B:716:PHE:HE1	1:B:730:VAL:HG21	1.84	0.42
1:B:1156:THR:OG1	1:B:1157:GLU:OE1	2.29	0.42
1:B:2574:HIS:CD2	1:B:2575:ARG:HG2	2.54	0.42
1:B:2677:LYS:HB3	1:B:2677:LYS:HE2	1.67	0.42
1:B:2967:MET:HE2	1:B:3045:LYS:HB3	2.00	0.42
1:B:4630:TYR:OH	1:C:4860:ARG:NH2	2.47	0.42
1:B:4911:LEU:HD13	1:B:4911:LEU:HA	1.90	0.42
1:C:2825:LYS:HE2	1:C:2825:LYS:HB2	1.91	0.42
1:C:3329:ILE:O	1:C:3403:ARG:NH2	2.49	0.42
1:C:3514:LEU:HD11	1:C:3602:VAL:HG13	2.02	0.42
1:D:111:HIS:ND1	1:D:114:SER:OG	2.39	0.42
1:D:400:ALA:O	1:D:404:ILE:HD12	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:498:THR:HA	1:D:553:ARG:HH12	1.85	0.42
1:D:884:LEU:HD13	1:D:968:ALA:H	1.83	0.42
1:D:1256:GLU:HB3	1:D:1275:ARG:HH11	1.84	0.42
1:D:1422:ASP:OD2	1:D:1568:LYS:NZ	2.38	0.42
1:D:3862:ASP:OD1	1:D:3862:ASP:N	2.52	0.42
1:A:73:LEU:O	1:A:106:ALA:N	2.40	0.42
1:B:2000:SER:O	1:B:2005:GLN:NE2	2.50	0.42
1:B:3062:PRO:HA	1:B:3065:VAL:HG22	2.02	0.42
1:B:3245:VAL:HG23	1:B:3248:ARG:H	1.84	0.42
1:B:3514:LEU:HD11	1:B:3602:VAL:HG13	2.02	0.42
1:C:400:ALA:O	1:C:404:ILE:HD12	2.19	0.42
1:C:3582:ARG:HA	1:C:3582:ARG:HD3	1.87	0.42
1:D:199:LEU:HD12	1:D:199:LEU:HA	1.87	0.42
1:D:1578:ALA:O	1:D:1584:ARG:NH2	2.37	0.42
1:A:1256:GLU:HB3	1:A:1275:ARG:HH11	1.84	0.42
1:A:2627:VAL:HG21	1:A:2674:LEU:HG	2.00	0.42
1:A:3062:PRO:HA	1:A:3065:VAL:HG22	2.02	0.42
1:B:400:ALA:O	1:B:404:ILE:HD12	2.19	0.42
1:B:2587:TYR:O	1:B:2590:SER:OG	2.26	0.42
1:B:3862:ASP:OD1	1:B:3862:ASP:N	2.52	0.42
1:B:4570:ALA:O	1:B:4574:ASN:ND2	2.52	0.42
1:C:1156:THR:OG1	1:C:1157:GLU:OE1	2.29	0.42
1:C:5030:LYS:HB2	1:C:5030:LYS:HE2	1.90	0.42
1:D:162:LYS:H	1:D:162:LYS:HG2	1.67	0.42
1:D:876:GLU:HG2	1:D:910:PHE:CE2	2.55	0.42
1:D:2967:MET:HE2	1:D:3045:LYS:HB3	2.02	0.42
2:H:76:CYS:HB2	2:H:97:LEU:HB2	2.02	0.42
1:A:876:GLU:HG2	1:A:910:PHE:CE2	2.55	0.42
1:A:2236:LEU:HD22	1:A:2250:MET:HE1	2.02	0.42
1:A:2538:THR:OG1	1:A:2539:ALA:N	2.53	0.42
1:A:4181:ILE:HD12	1:A:4183:ILE:HG23	2.01	0.42
1:A:4944:ARG:NE	1:B:4942:GLU:OE1	2.53	0.42
1:B:876:GLU:HG2	1:B:910:PHE:CE2	2.55	0.42
1:B:3823:LYS:HA	1:B:3823:LYS:HD3	1.82	0.42
1:C:876:GLU:HG2	1:C:910:PHE:CE2	2.55	0.42
1:D:1084:GLN:NE2	1:D:1186:ASP:O	2.42	0.42
1:D:4823:LEU:HD23	1:D:4823:LEU:HA	1.83	0.42
2:E:76:CYS:HB2	2:E:97:LEU:HB2	2.02	0.42
1:A:328:LYS:HE2	1:A:328:LYS:HB2	1.92	0.42
1:B:199:LEU:HD12	1:B:199:LEU:HA	1.87	0.42
1:B:1861:GLN:O	1:B:1865:MET:HG3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4675:LYS:HB3	1:C:4675:LYS:HE3	1.83	0.42
1:D:3068:LEU:HG	1:D:3139:VAL:HG11	2.02	0.42
1:A:657:THR:HG22	1:A:1001:VAL:HG21	2.02	0.42
1:A:2781:VAL:HG22	1:A:2790:MET:HB2	2.02	0.42
1:B:498:THR:HA	1:B:553:ARG:HH12	1.85	0.42
1:B:3051:ARG:HA	1:B:3131:TYR:CE1	2.54	0.42
1:C:1422:ASP:OD2	1:C:1568:LYS:NZ	2.38	0.42
1:C:1861:GLN:O	1:C:1865:MET:HG3	2.20	0.42
1:C:2610:LEU:HD23	1:C:2610:LEU:HA	1.94	0.42
1:C:4128:PHE:HA	1:C:4131:ARG:HH21	1.85	0.42
1:D:1291:LEU:HD12	1:D:1550:PRO:HG2	2.01	0.42
1:D:1676:LEU:HD22	1:D:2167:ILE:HD12	2.02	0.42
1:D:1861:GLN:O	1:D:1865:MET:HG3	2.20	0.42
1:D:3062:PRO:HA	1:D:3065:VAL:HG22	2.02	0.42
1:A:1269:CYS:HA	1:A:1564:PHE:O	2.20	0.41
1:B:37:LEU:HD23	1:B:37:LEU:HA	1.90	0.41
1:B:880:GLU:HB3	1:B:883:ALA:HB3	2.02	0.41
1:B:1256:GLU:HB3	1:B:1275:ARG:HH11	1.84	0.41
1:B:2806:ARG:HA	1:B:2809:ILE:HD13	2.02	0.41
1:B:4181:ILE:HD12	1:B:4183:ILE:HG23	2.01	0.41
1:C:1717:SER:HA	1:C:1721:GLU:HG2	2.02	0.41
1:C:2748:PRO:HG2	1:C:2817:ILE:HD13	2.02	0.41
1:C:3062:PRO:HA	1:C:3065:VAL:HG22	2.02	0.41
1:D:1739:THR:O	1:D:1743[B]:ARG:HG3	2.20	0.41
1:D:1808:ARG:HD3	1:D:1853:ILE:HG22	2.01	0.41
1:D:4584:ASP:OD1	1:D:4584:ASP:N	2.51	0.41
1:A:2527:LEU:HA	1:A:2530:MET:HG3	2.02	0.41
1:A:3514:LEU:HD11	1:A:3602:VAL:HG13	2.01	0.41
1:B:1454:THR:OG1	1:B:1456:ASP:OD1	2.26	0.41
1:B:2781:VAL:HG22	1:B:2790:MET:HB2	2.02	0.41
1:B:3068:LEU:HD23	1:B:3139:VAL:HG21	2.02	0.41
1:B:3068:LEU:HG	1:B:3139:VAL:HG11	2.02	0.41
1:C:1676:LEU:HD22	1:C:2167:ILE:HD12	2.02	0.41
1:D:1229:ASN:HB2	1:D:1827:ARG:HG3	2.01	0.41
1:D:1717:SER:HA	1:D:1721:GLU:HG2	2.02	0.41
1:A:219:VAL:HG12	1:A:259:LEU:HD12	2.03	0.41
1:A:348:VAL:HB	1:A:357:LEU:HD22	2.03	0.41
1:A:400:ALA:O	1:A:404:ILE:HD12	2.19	0.41
1:A:1717:SER:HA	1:A:1721:GLU:HG2	2.02	0.41
1:A:1861:GLN:O	1:A:1865:MET:HG3	2.20	0.41
1:A:3261:ALA:HB1	1:A:3265:GLU:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:124:SER:HB2	1:B:133:PHE:HA	2.01	0.41
1:B:1717:SER:HA	1:B:1721:GLU:HG2	2.02	0.41
1:B:3110:LEU:HD23	1:B:3183:VAL:HG22	2.02	0.41
1:B:3582:ARG:HD3	1:B:3582:ARG:HA	1.87	0.41
1:C:219:VAL:HG12	1:C:259:LEU:HD12	2.03	0.41
1:C:322:LYS:HD3	1:C:322:LYS:HA	1.95	0.41
1:C:1269:CYS:HA	1:C:1564:PHE:O	2.20	0.41
1:C:1808:ARG:HD3	1:C:1853:ILE:HG22	2.01	0.41
1:C:2781:VAL:HG22	1:C:2790:MET:HB2	2.02	0.41
1:D:2748:PRO:HG2	1:D:2817:ILE:HD13	2.02	0.41
1:A:199:LEU:HD12	1:A:199:LEU:HA	1.87	0.41
1:A:1291:LEU:HD12	1:A:1550:PRO:HG2	2.01	0.41
1:A:3007:ASN:O	1:A:3011:THR:OG1	2.22	0.41
1:A:3110:LEU:HD23	1:A:3183:VAL:HG22	2.02	0.41
1:C:2538:THR:OG1	1:C:2539:ALA:N	2.53	0.41
1:C:2806:ARG:HA	1:C:2809:ILE:HD13	2.02	0.41
1:C:2878:LEU:HD12	1:C:2878:LEU:HA	1.90	0.41
1:C:3051:ARG:NH2	1:C:3102:ASP:OD1	2.50	0.41
1:D:1253:PRO:HG2	1:D:1254:HIS:CD2	2.56	0.41
1:D:4821:LYS:O	1:D:4825:THR:HG23	2.21	0.41
1:A:2748:PRO:HG2	1:A:2817:ILE:HD13	2.02	0.41
1:A:4710:SER:OG	1:A:4772:ASP:OD2	2.38	0.41
1:A:4821:LYS:O	1:A:4825:THR:HG23	2.21	0.41
1:B:348:VAL:HB	1:B:357:LEU:HD22	2.03	0.41
1:B:2748:PRO:HG2	1:B:2817:ILE:HD13	2.02	0.41
1:B:3078:ARG:NE	1:B:3155:ASP:OD2	2.40	0.41
1:B:3260:GLY:HA2	1:B:3325:ASN:ND2	2.36	0.41
1:B:4888:TYR:OH	1:C:4917:ASP:OD2	2.31	0.41
1:C:498:THR:HA	1:C:553:ARG:HH12	1.85	0.41
1:C:3068:LEU:HG	1:C:3139:VAL:HG11	2.02	0.41
1:D:3694:LYS:HA	1:D:3695:PRO:HD3	1.90	0.41
1:A:498:THR:HA	1:A:553:ARG:HH12	1.85	0.41
1:A:1229:ASN:HB2	1:A:1827:ARG:HG3	2.01	0.41
1:A:1739:THR:O	1:A:1743[B]:ARG:HG3	2.20	0.41
1:A:3068:LEU:HG	1:A:3139:VAL:HG11	2.02	0.41
1:B:219:VAL:HG12	1:B:259:LEU:HD12	2.03	0.41
1:B:657:THR:HG22	1:B:1001:VAL:HG21	2.02	0.41
1:B:2538:THR:OG1	1:B:2539:ALA:N	2.53	0.41
1:C:1739:THR:O	1:C:1743[B]:ARG:HG3	2.21	0.41
1:C:2927:LEU:HD12	1:C:2927:LEU:HA	1.92	0.41
1:C:3260:GLY:HA2	1:C:3325:ASN:ND2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4710:SER:OG	1:C:4772:ASP:OD2	2.37	0.41
1:C:4827:LEU:HD23	1:C:4827:LEU:HA	1.94	0.41
1:D:265:LEU:HD22	1:D:279:PRO:HB2	2.03	0.41
1:D:1249:PRO:HA	1:D:1250:PRO:HD3	1.97	0.41
1:D:2684:ASP:O	1:D:2688:HIS:ND1	2.46	0.41
1:D:3110:LEU:HD23	1:D:3183:VAL:HG22	2.02	0.41
1:D:4098:ASP:OD1	1:D:4098:ASP:N	2.54	0.41
2:F:76:CYS:HB2	2:F:97:LEU:HB2	2.02	0.41
2:G:76:CYS:HB2	2:G:97:LEU:HB2	2.02	0.41
1:A:2806:ARG:HA	1:A:2809:ILE:HD13	2.03	0.41
1:A:2967:MET:HE2	1:A:3045:LYS:HB3	2.02	0.41
1:A:4584:ASP:OD1	1:A:4584:ASP:N	2.51	0.41
1:A:4942:GLU:OE1	1:D:4944:ARG:NE	2.53	0.41
1:B:1808:ARG:HD3	1:B:1853:ILE:HG22	2.02	0.41
1:B:2527:LEU:HA	1:B:2530:MET:HG3	2.03	0.41
1:C:124:SER:HB2	1:C:133:PHE:HA	2.01	0.41
1:C:415:ILE:HA	1:C:418:LEU:HD12	2.03	0.41
1:C:3068:LEU:HD23	1:C:3139:VAL:HG21	2.02	0.41
1:C:3696:ASP:OD1	1:C:3696:ASP:N	2.53	0.41
1:D:219:VAL:HG12	1:D:259:LEU:HD12	2.03	0.41
1:D:2757:LYS:HG2	1:D:2929:PHE:HZ	1.86	0.41
1:A:716:PHE:HE1	1:A:730:VAL:HG21	1.84	0.41
1:A:880:GLU:HB3	1:A:883:ALA:HB3	2.02	0.41
1:A:3068:LEU:HD23	1:A:3139:VAL:HG21	2.02	0.41
1:A:4128:PHE:HA	1:A:4131:ARG:HH21	1.85	0.41
1:B:415:ILE:HA	1:B:418:LEU:HD12	2.03	0.41
1:B:1253:PRO:HG2	1:B:1254:HIS:CD2	2.56	0.41
1:B:1948:ASP:OD1	1:B:2126:ARG:NH2	2.42	0.41
1:B:2736:ASP:N	1:B:2736:ASP:OD1	2.54	0.41
1:B:3261:ALA:HB1	1:B:3265:GLU:HG3	2.03	0.41
1:C:2906:VAL:HG23	1:C:2911:LEU:HD23	2.03	0.41
1:C:3852:LYS:HE3	1:C:3852:LYS:HB3	1.94	0.41
1:D:2109:ASP:N	1:D:2109:ASP:OD1	2.54	0.41
1:D:2781:VAL:HA	1:D:2789:PRO:HB2	2.03	0.41
1:D:2806:ARG:HA	1:D:2809:ILE:HD13	2.03	0.41
1:D:3969:ILE:HD13	1:D:3969:ILE:HA	1.88	0.41
1:D:4710:SER:OG	1:D:4772:ASP:OD2	2.38	0.41
1:A:356:TRP:O	1:A:379:HIS:N	2.54	0.41
1:A:415:ILE:HA	1:A:418:LEU:HD12	2.03	0.41
1:A:863:LEU:HA	1:A:864:PRO:HD3	1.85	0.41
1:A:2542:SER:OG	1:A:2593:ARG:O	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3271:GLU:OE2	1:A:3337:ARG:NH2	2.44	0.41
1:A:3696:ASP:N	1:A:3696:ASP:OD1	2.53	0.41
1:A:3862:ASP:N	1:A:3862:ASP:OD1	2.52	0.41
1:A:4090:LYS:HE2	1:A:4090:LYS:HB3	1.91	0.41
1:B:1739:THR:O	1:B:1743[B]:ARG:HG3	2.20	0.41
1:B:2790:MET:HE3	1:B:2790:MET:HB3	1.91	0.41
1:B:3272:ILE:O	1:B:3276:MET:HG2	2.21	0.41
1:B:3301:PRO:HA	1:B:3302:PRO:HD3	1.91	0.41
1:B:3696:ASP:N	1:B:3696:ASP:OD1	2.53	0.41
1:B:4821:LYS:O	1:B:4825:THR:HG23	2.21	0.41
1:B:4951:LYS:HE3	1:B:4951:LYS:HB3	1.82	0.41
1:C:265:LEU:HD22	1:C:279:PRO:HB2	2.03	0.41
1:C:348:VAL:HB	1:C:357:LEU:HD22	2.03	0.41
1:C:2736:ASP:N	1:C:2736:ASP:OD1	2.54	0.41
1:C:2781:VAL:HA	1:C:2789:PRO:HB2	2.03	0.41
1:C:2790:MET:HE3	1:C:2790:MET:HB3	1.91	0.41
1:D:415:ILE:HA	1:D:418:LEU:HD12	2.03	0.41
1:D:766:GLY:HA2	1:D:1475:THR:O	2.21	0.41
1:D:1762:LEU:HD12	1:D:1863:LEU:HD13	2.03	0.41
1:D:2538:THR:OG1	1:D:2539:ALA:N	2.53	0.41
1:D:2736:ASP:OD1	1:D:2736:ASP:N	2.54	0.41
1:D:2906:VAL:HG23	1:D:2911:LEU:HD23	2.03	0.41
1:D:3260:GLY:HA2	1:D:3325:ASN:ND2	2.36	0.41
1:D:3261:ALA:HB1	1:D:3265:GLU:HG3	2.03	0.41
1:D:3514:LEU:HD11	1:D:3602:VAL:HG13	2.02	0.41
2:G:78:PRO:HA	2:G:81:ALA:HB3	2.03	0.41
1:A:766:GLY:HA2	1:A:1475:THR:O	2.21	0.41
1:A:2757:LYS:HG2	1:A:2929:PHE:HZ	1.86	0.41
1:A:3260:GLY:HA2	1:A:3325:ASN:ND2	2.36	0.41
1:A:3291:ALA:HA	1:A:3292:PRO:HD3	1.88	0.41
1:B:3209:GLN:HG2	1:B:3210:LEU:HG	2.03	0.41
1:B:3713:LYS:HB2	1:B:3713:LYS:HE2	1.93	0.41
1:C:880:GLU:HB3	1:C:883:ALA:HB3	2.02	0.41
1:C:1253:PRO:HG2	1:C:1254:HIS:CD2	2.56	0.41
1:C:3974:THR:O	1:C:3978:GLN:HG2	2.21	0.41
1:C:4821:LYS:O	1:C:4825:THR:HG23	2.21	0.41
1:D:657:THR:HG22	1:D:1001:VAL:HG21	2.02	0.41
1:D:793:LEU:HD12	1:D:821:LEU:HD21	2.03	0.41
1:D:838:HIS:CE1	1:D:1201:HIS:HB2	2.56	0.41
1:D:880:GLU:HB3	1:D:883:ALA:HB3	2.02	0.41
1:D:3068:LEU:HD23	1:D:3139:VAL:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1676:LEU:HD22	1:A:2167:ILE:HD12	2.02	0.40
1:A:1808:ARG:HD3	1:A:1853:ILE:HG22	2.01	0.40
1:A:3694:LYS:HA	1:A:3695:PRO:HD3	1.91	0.40
1:A:5006:GLN:O	1:A:5010:VAL:HG12	2.21	0.40
1:B:73:LEU:O	1:B:106:ALA:N	2.40	0.40
1:B:766:GLY:HA2	1:B:1475:THR:O	2.21	0.40
1:B:793:LEU:HD12	1:B:821:LEU:HD21	2.03	0.40
1:B:2781:VAL:HA	1:B:2789:PRO:HB2	2.03	0.40
1:C:283:ARG:NH1	1:C:290:TYR:OH	2.53	0.40
1:C:766:GLY:HA2	1:C:1475:THR:O	2.21	0.40
1:C:3110:LEU:HD23	1:C:3183:VAL:HG22	2.02	0.40
1:D:4801:LEU:HD23	1:D:4801:LEU:HA	1.93	0.40
2:H:78:PRO:HA	2:H:81:ALA:HB3	2.03	0.40
1:A:1948:ASP:OD1	1:A:2126:ARG:NH2	2.42	0.40
1:A:2906:VAL:HG23	1:A:2911:LEU:HD23	2.03	0.40
1:A:3974:THR:O	1:A:3978:GLN:HG2	2.22	0.40
1:A:4066:LEU:HD22	1:A:4133:GLN:HE22	1.86	0.40
1:B:4552:LEU:O	1:B:4556:SER:OG	2.34	0.40
1:C:1084:GLN:NE2	1:C:1186:ASP:O	2.42	0.40
1:C:2236:LEU:HD22	1:C:2250:MET:HE1	2.03	0.40
1:C:2463:LEU:HA	1:C:2466:LEU:HD12	2.03	0.40
1:C:2527:LEU:HA	1:C:2530:MET:HG3	2.03	0.40
1:C:2542:SER:OG	1:C:2593:ARG:O	2.39	0.40
1:C:3272:ILE:O	1:C:3276:MET:HG2	2.21	0.40
1:D:356:TRP:O	1:D:379:HIS:N	2.54	0.40
1:D:1116:GLY:O	1:D:1134:LEU:N	2.52	0.40
1:D:1156:THR:OG1	1:D:1157:GLU:OE1	2.29	0.40
1:D:2781:VAL:HG22	1:D:2790:MET:HB2	2.02	0.40
1:D:3582:ARG:HD3	1:D:3582:ARG:HA	1.87	0.40
1:D:3852:LYS:HE3	1:D:3852:LYS:HB3	1.93	0.40
1:D:4677:LEU:HD12	1:D:4677:LEU:HA	1.85	0.40
1:A:1156:THR:OG1	1:A:1157:GLU:OE1	2.29	0.40
1:A:3116:SER:O	1:A:3182:TYR:OH	2.36	0.40
1:A:4951:LYS:HE3	1:A:4951:LYS:HB3	1.83	0.40
1:B:869:ARG:CZ	1:B:870:ILE:HB	2.51	0.40
1:B:3051:ARG:NH2	1:B:3102:ASP:OD1	2.50	0.40
1:C:838:HIS:CE1	1:C:1201:HIS:HB2	2.56	0.40
1:C:2258:LEU:HD23	1:C:2258:LEU:HA	1.96	0.40
1:C:2905:LEU:HD23	1:C:2905:LEU:HA	1.95	0.40
1:C:3209:GLN:HG2	1:C:3210:LEU:HG	2.03	0.40
1:C:5006:GLN:O	1:C:5010:VAL:HG12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1466:LEU:HD23	1:D:1466:LEU:HA	1.95	0.40
1:A:1253:PRO:HG2	1:A:1254:HIS:CD2	2.56	0.40
1:A:3272:ILE:O	1:A:3276:MET:HG2	2.21	0.40
1:B:1676:LEU:HD22	1:B:2167:ILE:HD12	2.02	0.40
1:B:2109:ASP:OD1	1:B:2109:ASP:N	2.54	0.40
1:B:3974:THR:O	1:B:3978:GLN:HG2	2.21	0.40
1:C:22:LEU:HD12	1:C:37:LEU:HD12	2.03	0.40
1:C:364:PRO:HD2	1:C:367:LEU:HD12	2.04	0.40
1:C:793:LEU:HD12	1:C:821:LEU:HD21	2.03	0.40
1:C:2109:ASP:OD1	1:C:2109:ASP:N	2.54	0.40
1:D:4675:LYS:HE3	1:D:4675:LYS:HB3	1.83	0.40
2:E:78:PRO:HA	2:E:81:ALA:HB3	2.03	0.40
1:A:364:PRO:HD2	1:A:367:LEU:HD12	2.04	0.40
1:A:4934:GLY:HA2	1:D:4937:ILE:HG12	2.04	0.40
1:B:22:LEU:HD12	1:B:37:LEU:HD12	2.03	0.40
1:B:356:TRP:O	1:B:379:HIS:N	2.54	0.40
1:B:2542:SER:OG	1:B:2593:ARG:O	2.39	0.40
1:B:2906:VAL:HG23	1:B:2911:LEU:HD23	2.03	0.40
1:C:1773:PRO:HA	1:C:1774:PRO:HD3	1.93	0.40
1:C:2711:PRO:HA	1:C:2712:PRO:HD3	2.00	0.40
1:C:4066:LEU:HD22	1:C:4133:GLN:HE22	1.86	0.40
1:D:364:PRO:HD2	1:D:367:LEU:HD12	2.04	0.40
1:D:721:LEU:HD23	1:D:721:LEU:HA	1.90	0.40
1:D:2690:LYS:HA	1:D:2690:LYS:HD2	1.92	0.40
1:D:3974:THR:O	1:D:3978:GLN:HG2	2.21	0.40
1:D:4128:PHE:HA	1:D:4131:ARG:HH21	1.85	0.40
2:F:61:GLU:O	2:F:65:GLN:HG3	2.22	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	4353/5037 (86%)	4168 (96%)	182 (4%)	3 (0%)	51	83
1	B	4353/5037 (86%)	4168 (96%)	182 (4%)	3 (0%)	51	83
1	C	4353/5037 (86%)	4167 (96%)	183 (4%)	3 (0%)	51	83
1	D	4353/5037 (86%)	4167 (96%)	183 (4%)	3 (0%)	51	83
2	E	105/350 (30%)	98 (93%)	7 (7%)	0	100	100
2	F	105/350 (30%)	98 (93%)	7 (7%)	0	100	100
2	G	105/350 (30%)	98 (93%)	7 (7%)	0	100	100
2	H	105/350 (30%)	98 (93%)	7 (7%)	0	100	100
All	All	17832/21548 (83%)	17062 (96%)	758 (4%)	12 (0%)	54	83

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3616	LYS
1	A	4712	PRO
1	B	3616	LYS
1	B	4712	PRO
1	C	3616	LYS
1	C	4712	PRO
1	D	3616	LYS
1	D	4712	PRO
1	A	4691	GLN
1	B	4691	GLN
1	C	4691	GLN
1	D	4691	GLN

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	3806/4276 (89%)	3697 (97%)	109 (3%)	42	72
1	B	3806/4276 (89%)	3697 (97%)	109 (3%)	42	72
1	C	3806/4276 (89%)	3697 (97%)	109 (3%)	42	72

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	D	3806/4276 (89%)	3697 (97%)	109 (3%)	42	72
2	E	88/304 (29%)	87 (99%)	1 (1%)	73	87
2	F	88/304 (29%)	87 (99%)	1 (1%)	73	87
2	G	88/304 (29%)	87 (99%)	1 (1%)	73	87
2	H	88/304 (29%)	87 (99%)	1 (1%)	73	87
All	All	15576/18320 (85%)	15136 (97%)	440 (3%)	48	73

All (440) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	99	ARG
1	A	373	LYS
1	A	830	ARG
1	A	846	LEU
1	A	1534	LYS
1	A	1743[A]	ARG
1	A	1743[B]	ARG
1	A	1752	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	2738	ARG
1	A	2786	LYS
1	A	2806	ARG
1	A	2827	ARG
1	A	2914	LYS
1	A	3053	ARG
1	A	3225	ARG
1	A	3611	HIS
1	A	3622	LYS
1	A	3692	GLU
1	A	4180	ARG
1	A	4184	MET
1	A	4187	SER
1	A	4189	ARG
1	A	4191	GLU

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Mol	Chain	Res	Type
1	A	4192	ARG
1	A	4200	THR
1	A	4204	GLN
1	A	4221	VAL
1	A	4245	MET
1	A	4246	GLN
1	A	4252	SER
1	A	4543	GLU
1	A	4544	LEU
1	A	4548	ARG
1	A	4556	SER
1	A	4563	ARG
1	A	4565	LEU
1	A	4569	LEU
1	A	4577	LEU
1	A	4580	TYR
1	A	4626	ASN
1	A	4627	MET
1	A	4628	VAL
1	A	4633	GLU
1	A	4634	GLU
1	A	4636	THR
1	A	4651	THR
1	A	4673	ARG
1	A	4675	LYS
1	A	4676	GLU
1	A	4690	GLU
1	A	4697	VAL
1	A	4698	LYS
1	A	4707	ASN
1	A	4710	SER
1	A	4713	SER
1	A	4718	LYS
1	A	4725	LEU
1	A	4730	ASP
1	A	4731	ILE
1	A	4736	ARG
1	A	4737	ILE
1	A	4743	MET
1	A	4747	SER
1	A	4749	GLU
1	A	4750	ILE

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Mol	Chain	Res	Type
1	A	4813	LEU
1	A	4814	LEU
1	A	4818	MET
1	A	4821	LYS
1	A	4822	THR
1	A	4866	SER
1	A	4870	ASP
1	A	4871	GLU
1	A	4876	CYS
1	A	4879	MET
1	A	4880	MET
1	A	4882	CYS
1	A	4889	VAL
1	A	4902	GLU
1	A	4903	ASP
1	A	4907	ASP
1	A	4951	LYS
1	A	4956	THR
1	A	4957	LYS
1	A	4958	CYS
1	A	4971	THR
1	A	4980	LEU
1	A	4981	GLU
1	A	4989	MET
1	A	4992	LEU
1	A	4993	MET
1	A	4995	LEU
1	A	4997	ASN
1	A	4999	ASP
1	A	5001	THR
1	A	5008	SER
1	A	5010	VAL
1	A	5012	LYS
1	A	5027	CYS
1	A	5033	GLU
1	A	5034	ASP
1	A	5035	GLN
1	B	99	ARG
1	B	373	LYS
1	B	830	ARG
1	B	846	LEU
1	B	1534	LYS

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Mol	Chain	Res	Type
1	B	1743[A]	ARG
1	B	1743[B]	ARG
1	B	1752	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
1	B	2738	ARG
1	B	2786	LYS
1	B	2806	ARG
1	B	2827	ARG
1	B	2914	LYS
1	B	3053	ARG
1	B	3225	ARG
1	B	3611	HIS
1	B	3622	LYS
1	B	3692	GLU
1	B	4180	ARG
1	B	4184	MET
1	B	4187	SER
1	B	4189	ARG
1	B	4191	GLU
1	B	4192	ARG
1	B	4200	THR
1	B	4204	GLN
1	B	4221	VAL
1	B	4245	MET
1	B	4246	GLN
1	B	4252	SER
1	B	4543	GLU
1	B	4544	LEU
1	B	4548	ARG
1	B	4556	SER
1	B	4563	ARG
1	B	4565	LEU
1	B	4569	LEU
1	B	4577	LEU
1	B	4580	TYR
1	B	4626	ASN

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Mol	Chain	Res	Type
1	B	4627	MET
1	B	4628	VAL
1	B	4633	GLU
1	B	4634	GLU
1	B	4636	THR
1	B	4651	THR
1	B	4673	ARG
1	B	4675	LYS
1	B	4676	GLU
1	B	4690	GLU
1	B	4697	VAL
1	B	4698	LYS
1	B	4707	ASN
1	B	4710	SER
1	B	4713	SER
1	B	4718	LYS
1	B	4725	LEU
1	B	4730	ASP
1	B	4731	ILE
1	B	4736	ARG
1	B	4737	ILE
1	B	4743	MET
1	B	4747	SER
1	B	4749	GLU
1	B	4750	ILE
1	B	4813	LEU
1	B	4814	LEU
1	B	4818	MET
1	B	4821	LYS
1	B	4822	THR
1	B	4866	SER
1	B	4870	ASP
1	B	4871	GLU
1	B	4876	CYS
1	B	4879	MET
1	B	4880	MET
1	B	4882	CYS
1	B	4889	VAL
1	B	4902	GLU
1	B	4903	ASP
1	B	4907	ASP
1	B	4951	LYS

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Mol	Chain	Res	Type
1	B	4956	THR
1	B	4957	LYS
1	B	4958	CYS
1	B	4971	THR
1	B	4980	LEU
1	B	4981	GLU
1	B	4989	MET
1	B	4992	LEU
1	B	4993	MET
1	B	4995	LEU
1	B	4997	ASN
1	B	4999	ASP
1	B	5001	THR
1	B	5008	SER
1	B	5010	VAL
1	B	5012	LYS
1	B	5027	CYS
1	B	5033	GLU
1	B	5034	ASP
1	B	5035	GLN
1	C	99	ARG
1	C	373	LYS
1	C	830	ARG
1	C	846	LEU
1	C	1534	LYS
1	C	1743[A]	ARG
1	C	1743[B]	ARG
1	C	1752	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	2738	ARG
1	C	2786	LYS
1	C	2806	ARG
1	C	2827	ARG
1	C	2914	LYS
1	C	3053	ARG
1	C	3225	ARG

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Mol	Chain	Res	Type
1	C	3611	HIS
1	C	3622	LYS
1	C	3692	GLU
1	C	4180	ARG
1	C	4184	MET
1	C	4187	SER
1	C	4189	ARG
1	C	4191	GLU
1	C	4192	ARG
1	C	4200	THR
1	C	4204	GLN
1	C	4221	VAL
1	C	4245	MET
1	C	4246	GLN
1	C	4252	SER
1	C	4543	GLU
1	C	4544	LEU
1	C	4548	ARG
1	C	4556	SER
1	C	4563	ARG
1	C	4565	LEU
1	C	4569	LEU
1	C	4577	LEU
1	C	4580	TYR
1	C	4626	ASN
1	C	4627	MET
1	C	4628	VAL
1	C	4633	GLU
1	C	4634	GLU
1	C	4636	THR
1	C	4651	THR
1	C	4673	ARG
1	C	4675	LYS
1	C	4676	GLU
1	C	4690	GLU
1	C	4697	VAL
1	C	4698	LYS
1	C	4707	ASN
1	C	4710	SER
1	C	4713	SER
1	C	4718	LYS
1	C	4725	LEU

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Mol	Chain	Res	Type
1	C	4730	ASP
1	C	4731	ILE
1	C	4736	ARG
1	C	4737	ILE
1	C	4743	MET
1	C	4747	SER
1	C	4749	GLU
1	C	4750	ILE
1	C	4813	LEU
1	C	4814	LEU
1	C	4818	MET
1	C	4821	LYS
1	C	4822	THR
1	C	4866	SER
1	C	4870	ASP
1	C	4871	GLU
1	C	4876	CYS
1	C	4879	MET
1	C	4880	MET
1	C	4882	CYS
1	C	4889	VAL
1	C	4902	GLU
1	C	4903	ASP
1	C	4907	ASP
1	C	4951	LYS
1	C	4956	THR
1	C	4957	LYS
1	C	4958	CYS
1	C	4971	THR
1	C	4980	LEU
1	C	4981	GLU
1	C	4989	MET
1	C	4992	LEU
1	C	4993	MET
1	C	4995	LEU
1	C	4997	ASN
1	C	4999	ASP
1	C	5001	THR
1	C	5008	SER
1	C	5010	VAL
1	C	5012	LYS
1	C	5027	CYS

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Mol	Chain	Res	Type
1	C	5033	GLU
1	C	5034	ASP
1	C	5035	GLN
1	D	99	ARG
1	D	373	LYS
1	D	830	ARG
1	D	846	LEU
1	D	1534	LYS
1	D	1743[A]	ARG
1	D	1743[B]	ARG
1	D	1752	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	2738	ARG
1	D	2786	LYS
1	D	2806	ARG
1	D	2827	ARG
1	D	2914	LYS
1	D	3053	ARG
1	D	3225	ARG
1	D	3611	HIS
1	D	3622	LYS
1	D	3692	GLU
1	D	4180	ARG
1	D	4184	MET
1	D	4187	SER
1	D	4189	ARG
1	D	4191	GLU
1	D	4192	ARG
1	D	4200	THR
1	D	4204	GLN
1	D	4221	VAL
1	D	4245	MET
1	D	4246	GLN
1	D	4252	SER
1	D	4543	GLU
1	D	4544	LEU

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Mol	Chain	Res	Type
1	D	4548	ARG
1	D	4556	SER
1	D	4563	ARG
1	D	4565	LEU
1	D	4569	LEU
1	D	4577	LEU
1	D	4580	TYR
1	D	4626	ASN
1	D	4627	MET
1	D	4628	VAL
1	D	4633	GLU
1	D	4634	GLU
1	D	4636	THR
1	D	4651	THR
1	D	4673	ARG
1	D	4675	LYS
1	D	4676	GLU
1	D	4690	GLU
1	D	4697	VAL
1	D	4698	LYS
1	D	4707	ASN
1	D	4710	SER
1	D	4713	SER
1	D	4718	LYS
1	D	4725	LEU
1	D	4730	ASP
1	D	4731	ILE
1	D	4736	ARG
1	D	4737	ILE
1	D	4743	MET
1	D	4747	SER
1	D	4749	GLU
1	D	4750	ILE
1	D	4813	LEU
1	D	4814	LEU
1	D	4818	MET
1	D	4821	LYS
1	D	4822	THR
1	D	4866	SER
1	D	4870	ASP
1	D	4871	GLU
1	D	4876	CYS

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Mol	Chain	Res	Type
1	D	4879	MET
1	D	4880	MET
1	D	4882	CYS
1	D	4889	VAL
1	D	4902	GLU
1	D	4903	ASP
1	D	4907	ASP
1	D	4951	LYS
1	D	4956	THR
1	D	4957	LYS
1	D	4958	CYS
1	D	4971	THR
1	D	4980	LEU
1	D	4981	GLU
1	D	4989	MET
1	D	4992	LEU
1	D	4993	MET
1	D	4995	LEU
1	D	4997	ASN
1	D	4999	ASP
1	D	5001	THR
1	D	5008	SER
1	D	5010	VAL
1	D	5012	LYS
1	D	5027	CYS
1	D	5033	GLU
1	D	5034	ASP
1	D	5035	GLN
2	E	25	HIS
2	F	25	HIS
2	G	25	HIS
2	H	25	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (64) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	475	GLN
1	A	533	ASN
1	A	624	ASN
1	A	877	ASN
1	A	2127	GLN
1	A	2247	GLN

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Mol	Chain	Res	Type
1	A	2872	GLN
1	A	2971	GLN
1	A	3052	HIS
1	A	3419	ASN
1	A	3766	GLN
1	A	3895	HIS
1	A	4201	ASN
1	A	4805	ASN
1	A	5003	HIS
1	A	5035	GLN
1	B	475	GLN
1	B	533	ASN
1	B	624	ASN
1	B	877	ASN
1	B	2127	GLN
1	B	2247	GLN
1	B	2872	GLN
1	B	2971	GLN
1	B	3052	HIS
1	B	3419	ASN
1	B	3766	GLN
1	B	3895	HIS
1	B	4201	ASN
1	B	4805	ASN
1	B	5003	HIS
1	B	5035	GLN
1	C	475	GLN
1	C	533	ASN
1	C	624	ASN
1	C	877	ASN
1	C	2127	GLN
1	C	2247	GLN
1	C	2872	GLN
1	C	2971	GLN
1	C	3052	HIS
1	C	3419	ASN
1	C	3766	GLN
1	C	3895	HIS
1	C	4201	ASN
1	C	4805	ASN
1	C	5003	HIS
1	C	5035	GLN

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Mol	Chain	Res	Type
1	D	475	GLN
1	D	533	ASN
1	D	624	ASN
1	D	877	ASN
1	D	2127	GLN
1	D	2247	GLN
1	D	2872	GLN
1	D	2971	GLN
1	D	3052	HIS
1	D	3419	ASN
1	D	3766	GLN
1	D	3895	HIS
1	D	4201	ASN
1	D	4805	ASN
1	D	5003	HIS
1	D	5035	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	ADN	B	5101	-	18,21,21	0.67	0	18,31,31	0.79	1 (5%)
3	ADN	A	5101	-	18,21,21	0.67	0	18,31,31	0.79	1 (5%)
3	ADN	D	5101	-	18,21,21	0.68	0	18,31,31	0.79	1 (5%)
3	ADN	C	5101	-	18,21,21	0.67	0	18,31,31	0.79	1 (5%)

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	ADN	B	5101	-	-	2/2/22/22	0/3/3/3
3	ADN	A	5101	-	-	2/2/22/22	0/3/3/3
3	ADN	D	5101	-	-	2/2/22/22	0/3/3/3
3	ADN	C	5101	-	-	2/2/22/22	0/3/3/3

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	5101	ADN	C5-C6-N6	2.24	123.75	120.35
3	A	5101	ADN	C5-C6-N6	2.24	123.75	120.35
3	C	5101	ADN	C5-C6-N6	2.24	123.75	120.35
3	B	5101	ADN	C5-C6-N6	2.24	123.75	120.35

There are no chirality outliers.

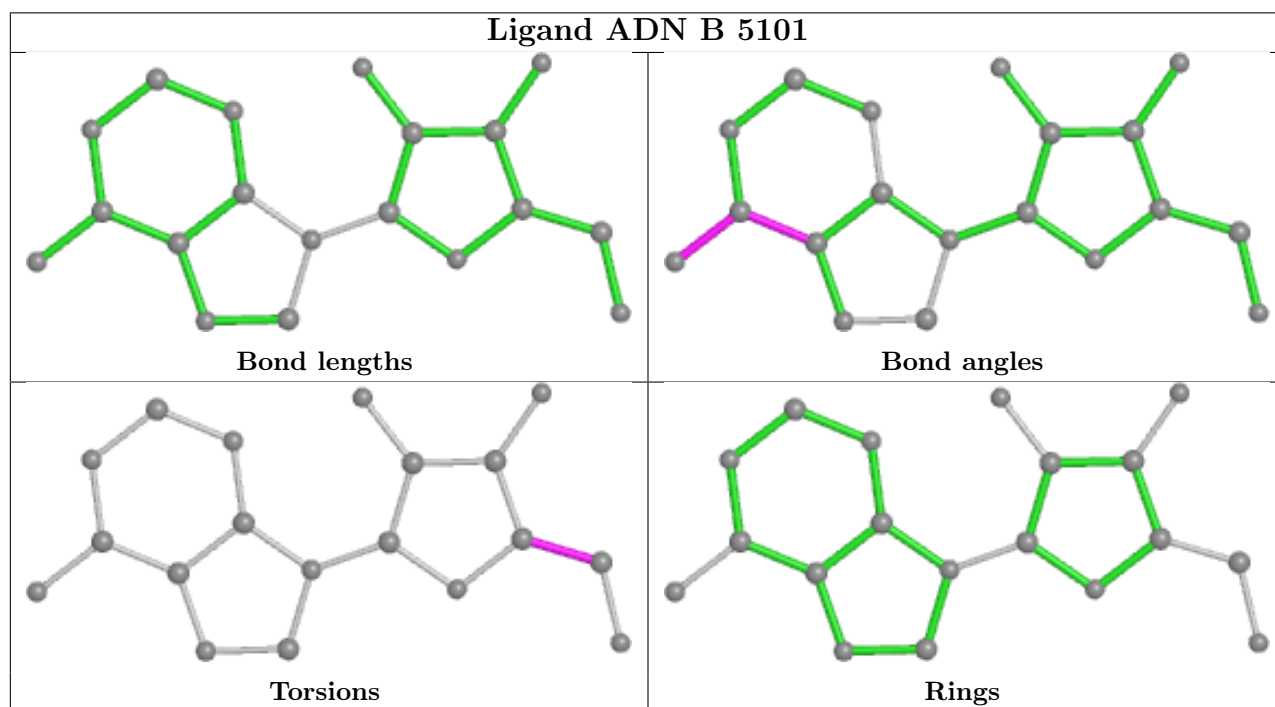
All (8) torsion outliers are listed below:

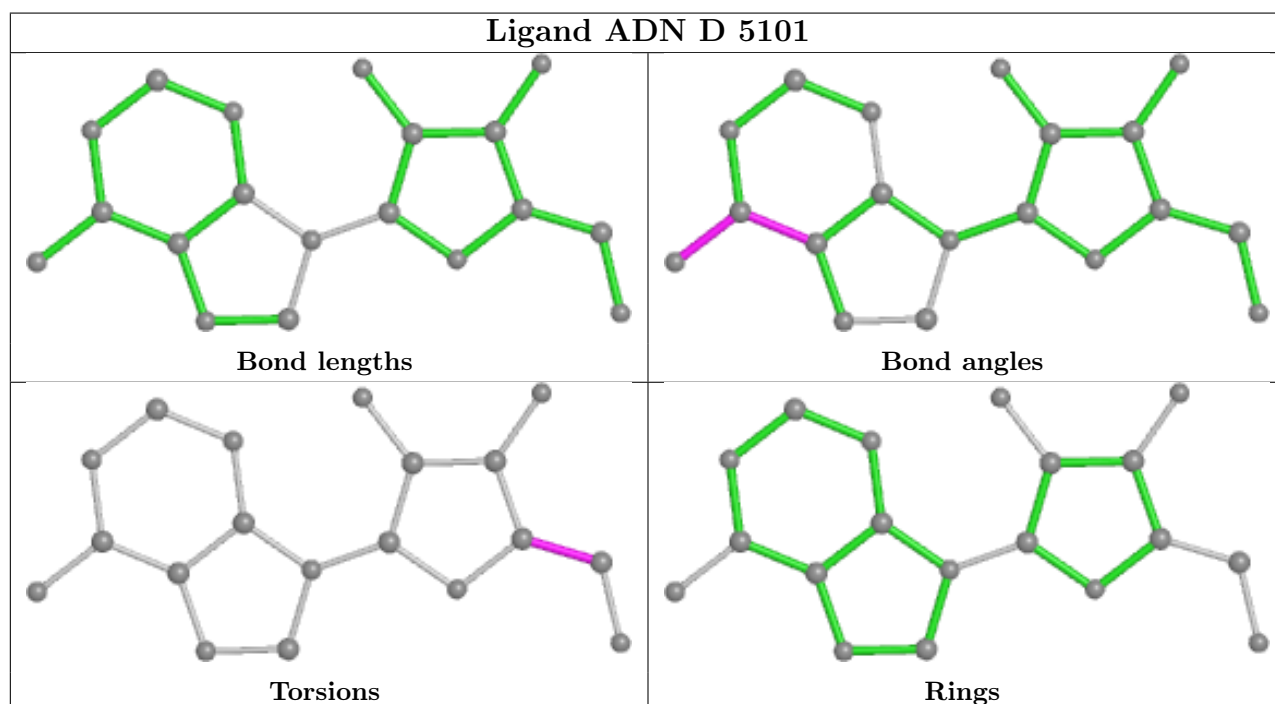
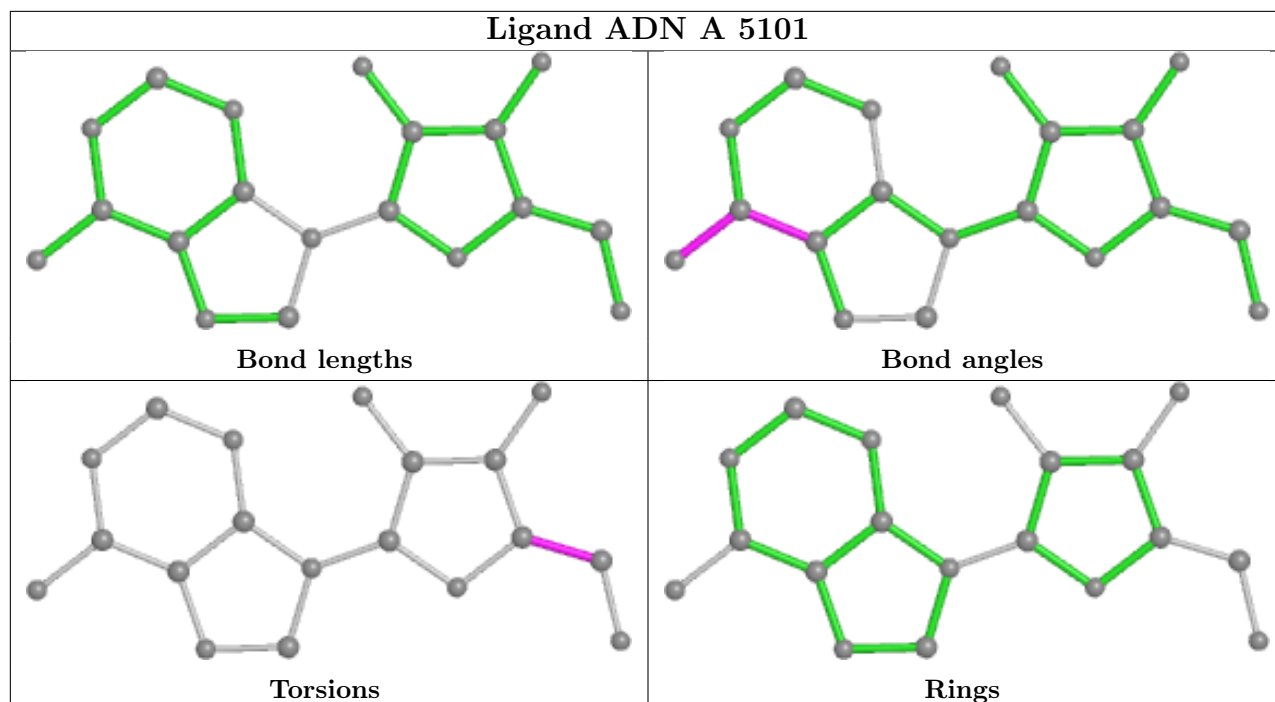
Mol	Chain	Res	Type	Atoms
3	A	5101	ADN	C3'-C4'-C5'-O5'
3	B	5101	ADN	C3'-C4'-C5'-O5'
3	C	5101	ADN	C3'-C4'-C5'-O5'
3	D	5101	ADN	C3'-C4'-C5'-O5'
3	A	5101	ADN	O4'-C4'-C5'-O5'
3	B	5101	ADN	O4'-C4'-C5'-O5'
3	C	5101	ADN	O4'-C4'-C5'-O5'
3	D	5101	ADN	O4'-C4'-C5'-O5'

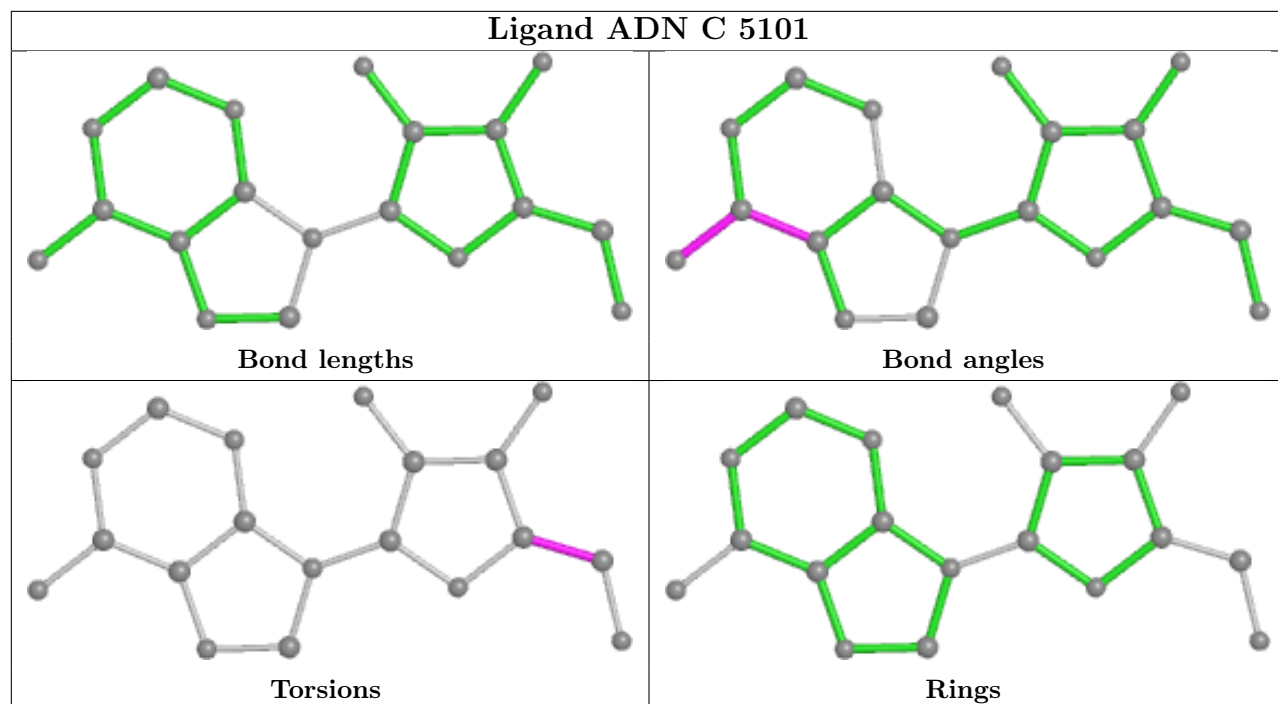
There are no ring outliers.

No monomer is involved in short contacts.

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.

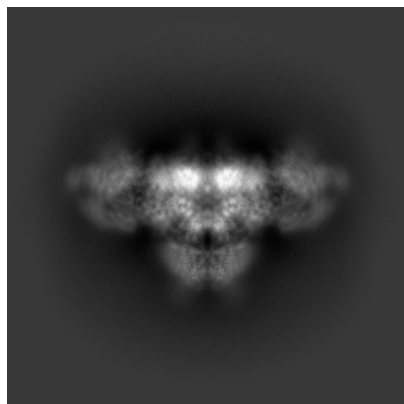
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-40426. These allow visual inspection of the internal detail of the map and identification of artifacts.

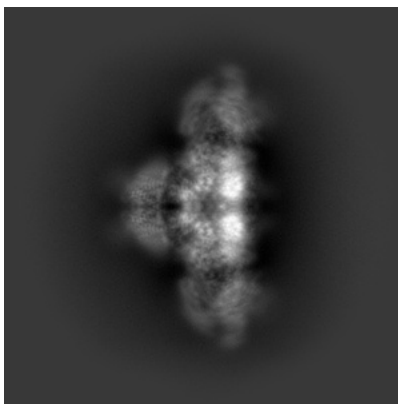
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

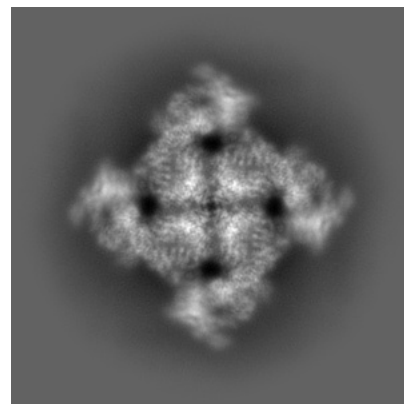
6.1.1 Primary map



X

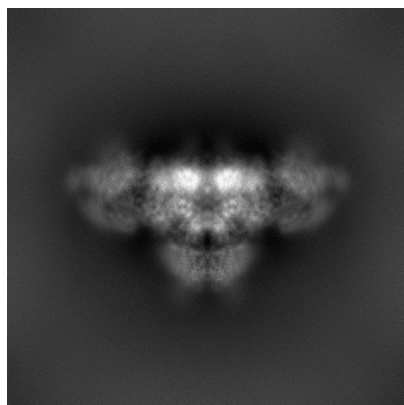


Y

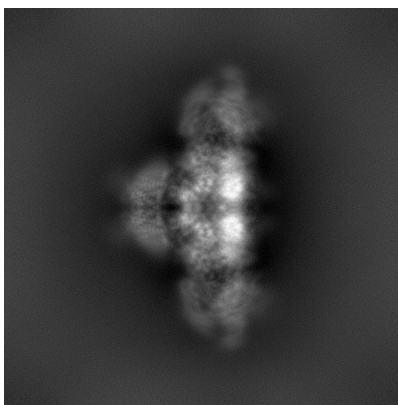


Z

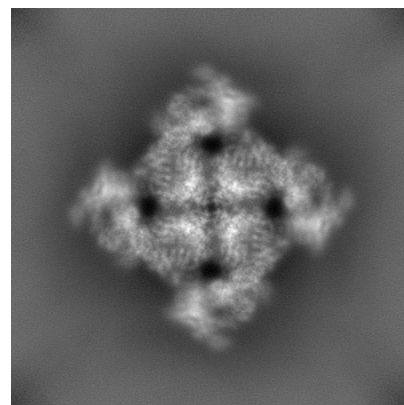
6.1.2 Raw map



X



Y

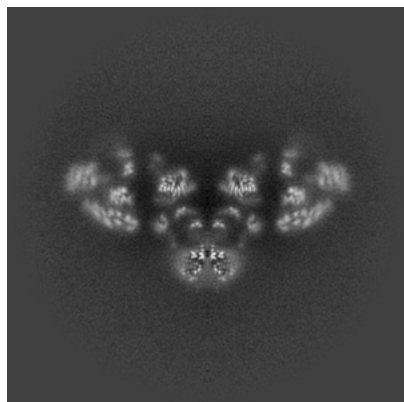


Z

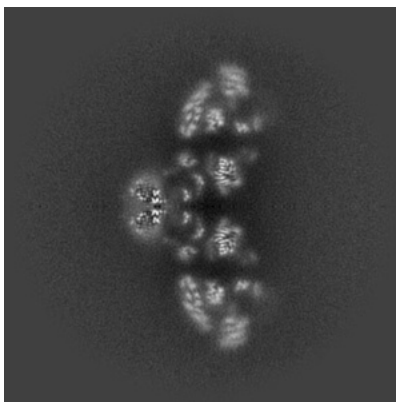
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

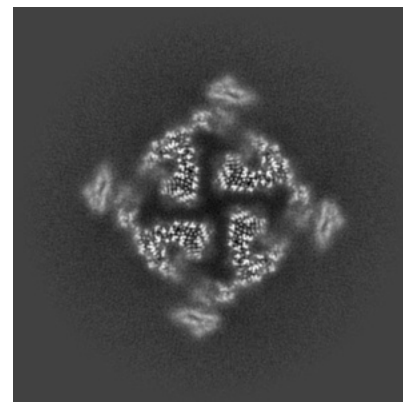
6.2.1 Primary map



X Index: 200

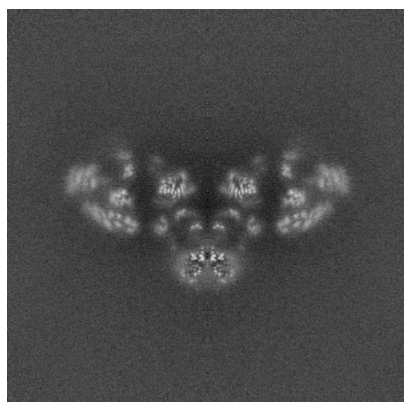


Y Index: 200

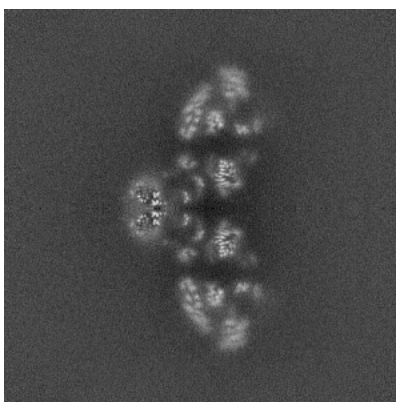


Z Index: 200

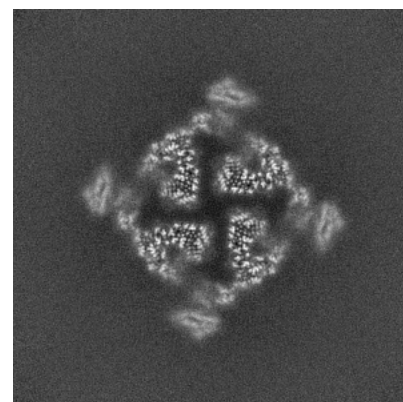
6.2.2 Raw map



X Index: 200



Y Index: 200

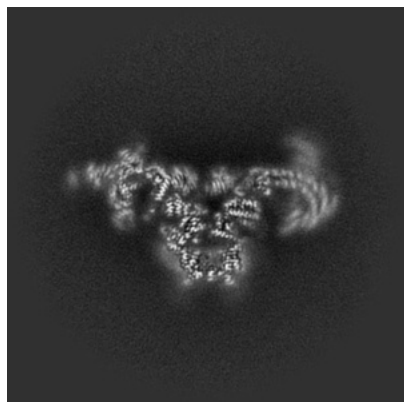


Z Index: 200

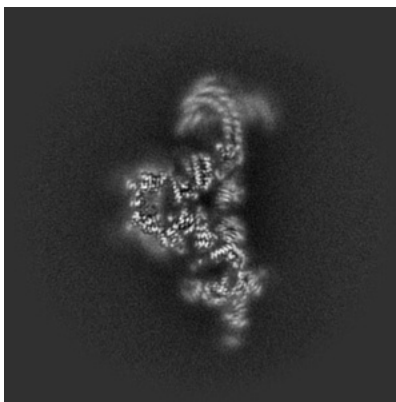
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

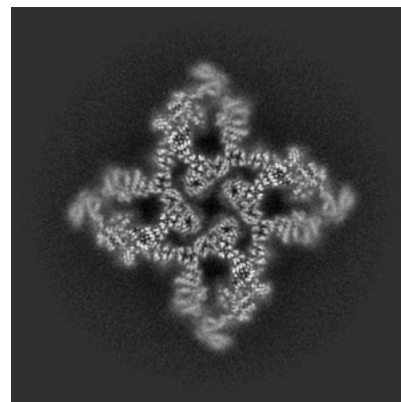
6.3.1 Primary map



X Index: 218

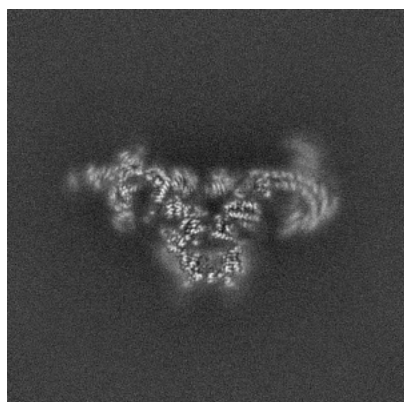


Y Index: 182

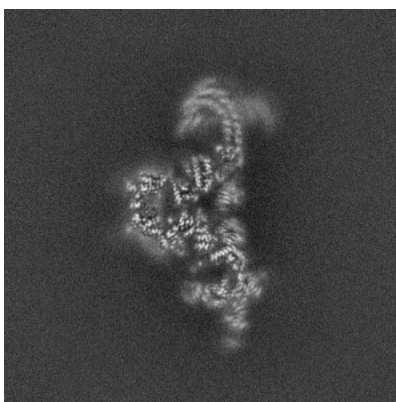


Z Index: 225

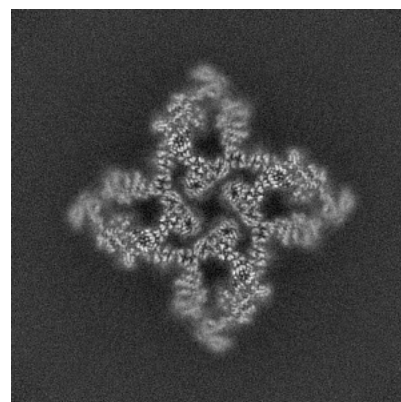
6.3.2 Raw map



X Index: 218



Y Index: 182

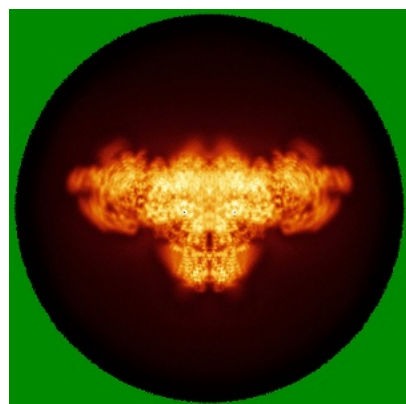


Z Index: 225

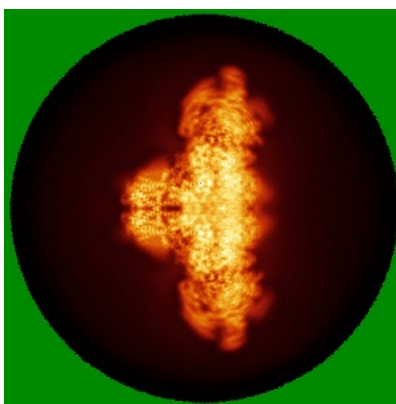
The images above show the largest variance slices of the map in three orthogonal directions.

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

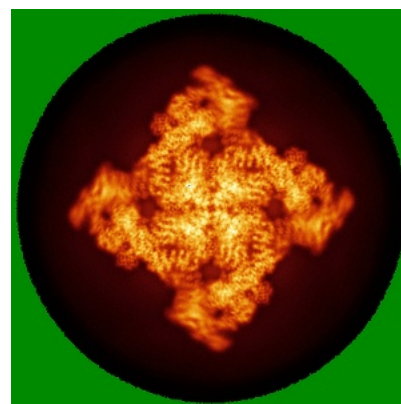
6.4.1 Primary map



X

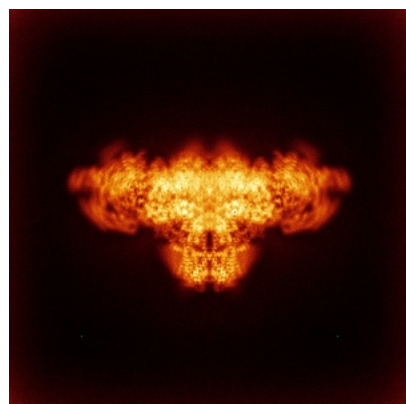


Y

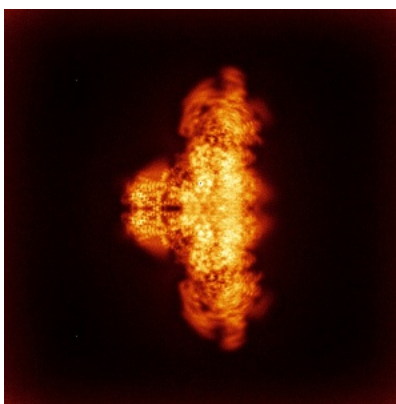


Z

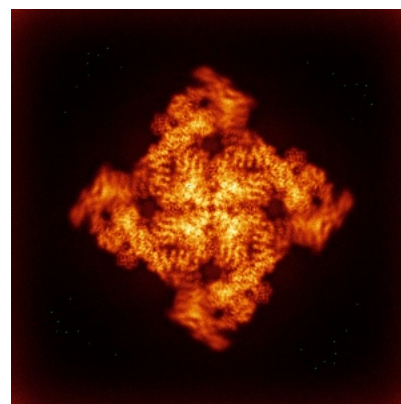
6.4.2 Raw map



X



Y

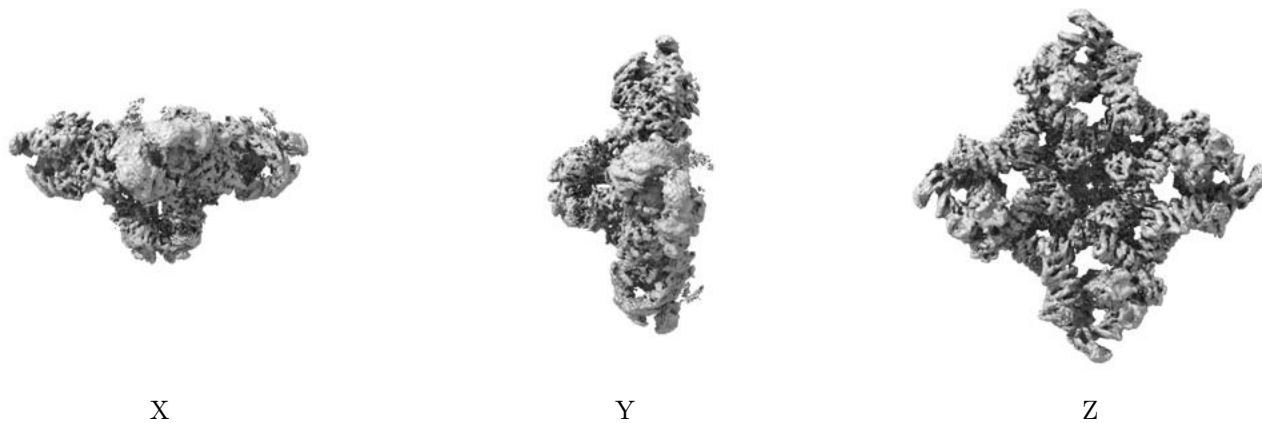


Z

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.

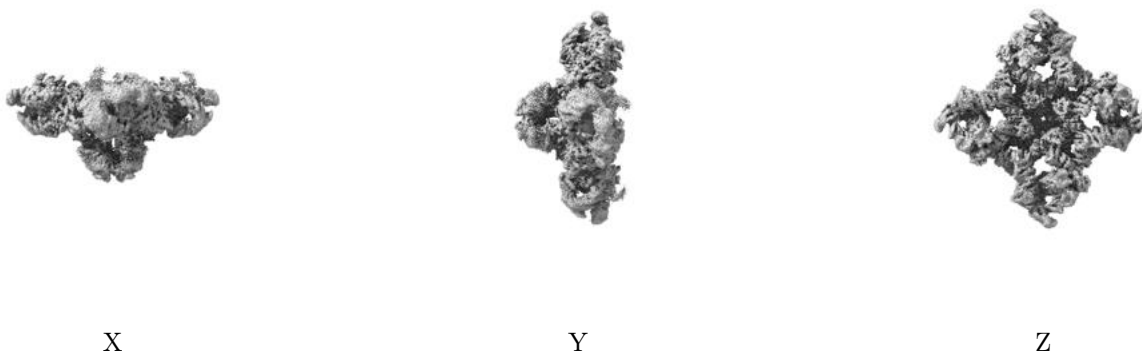
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.387. 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.

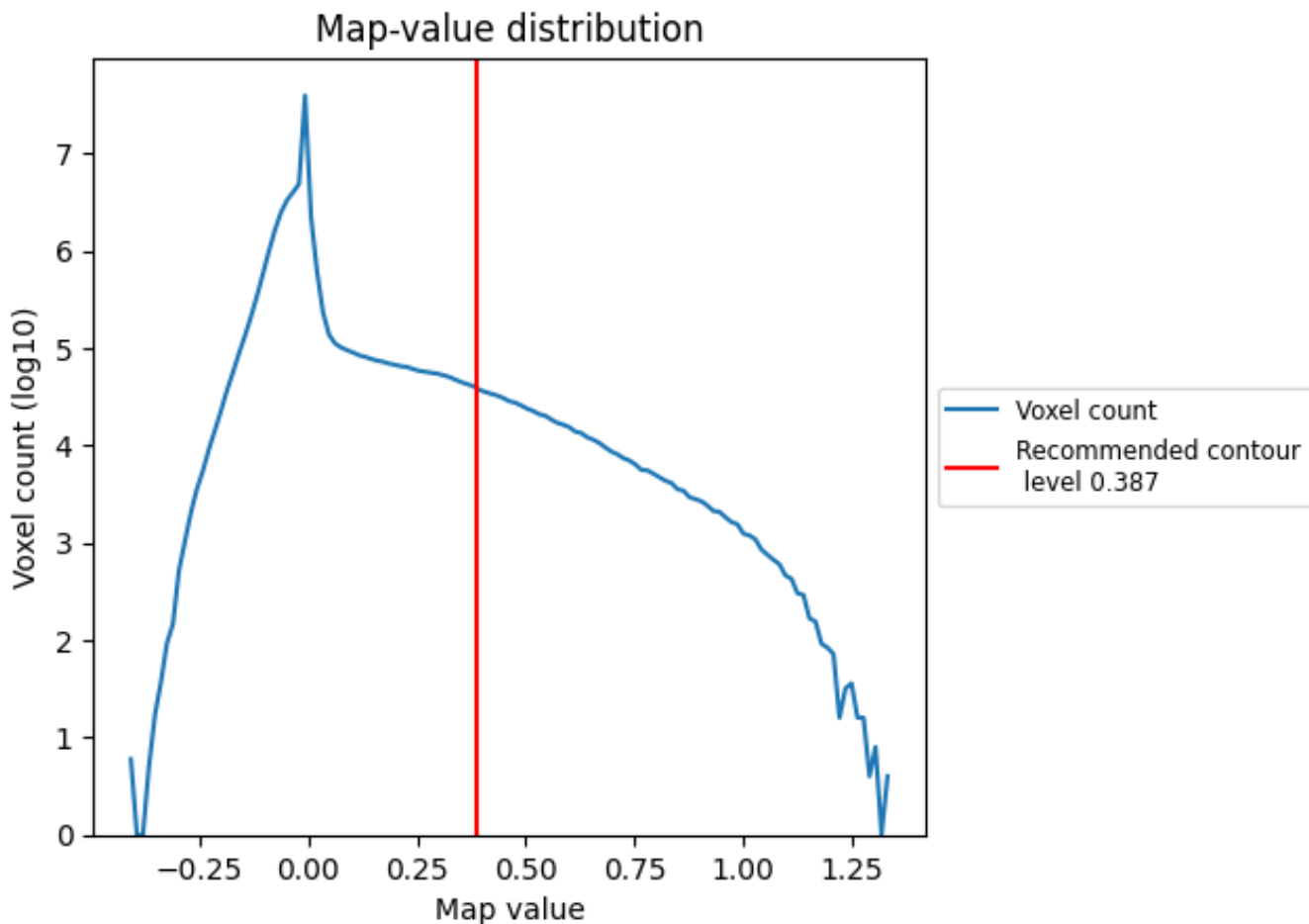
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

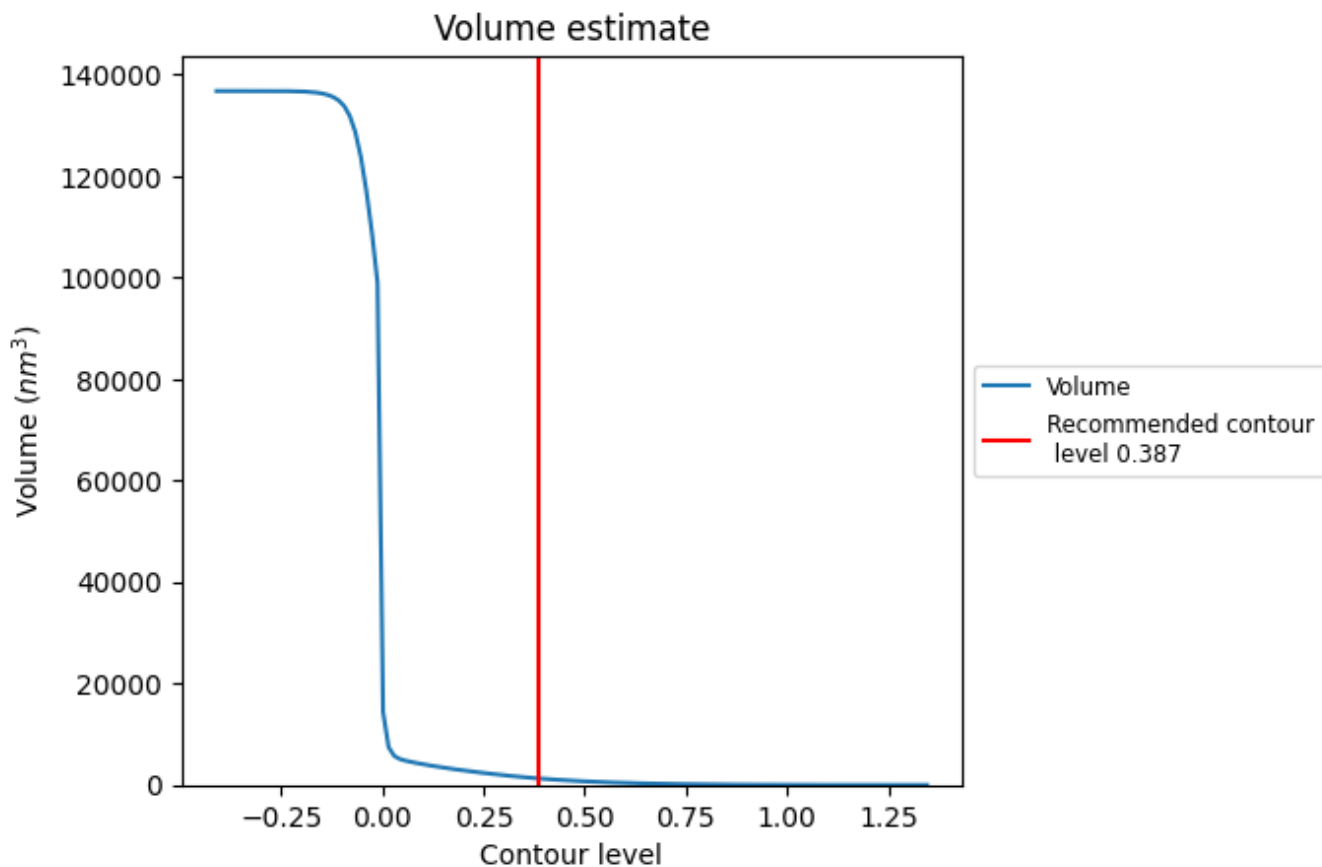
This section contains the results of statistical analysis of the map.

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.

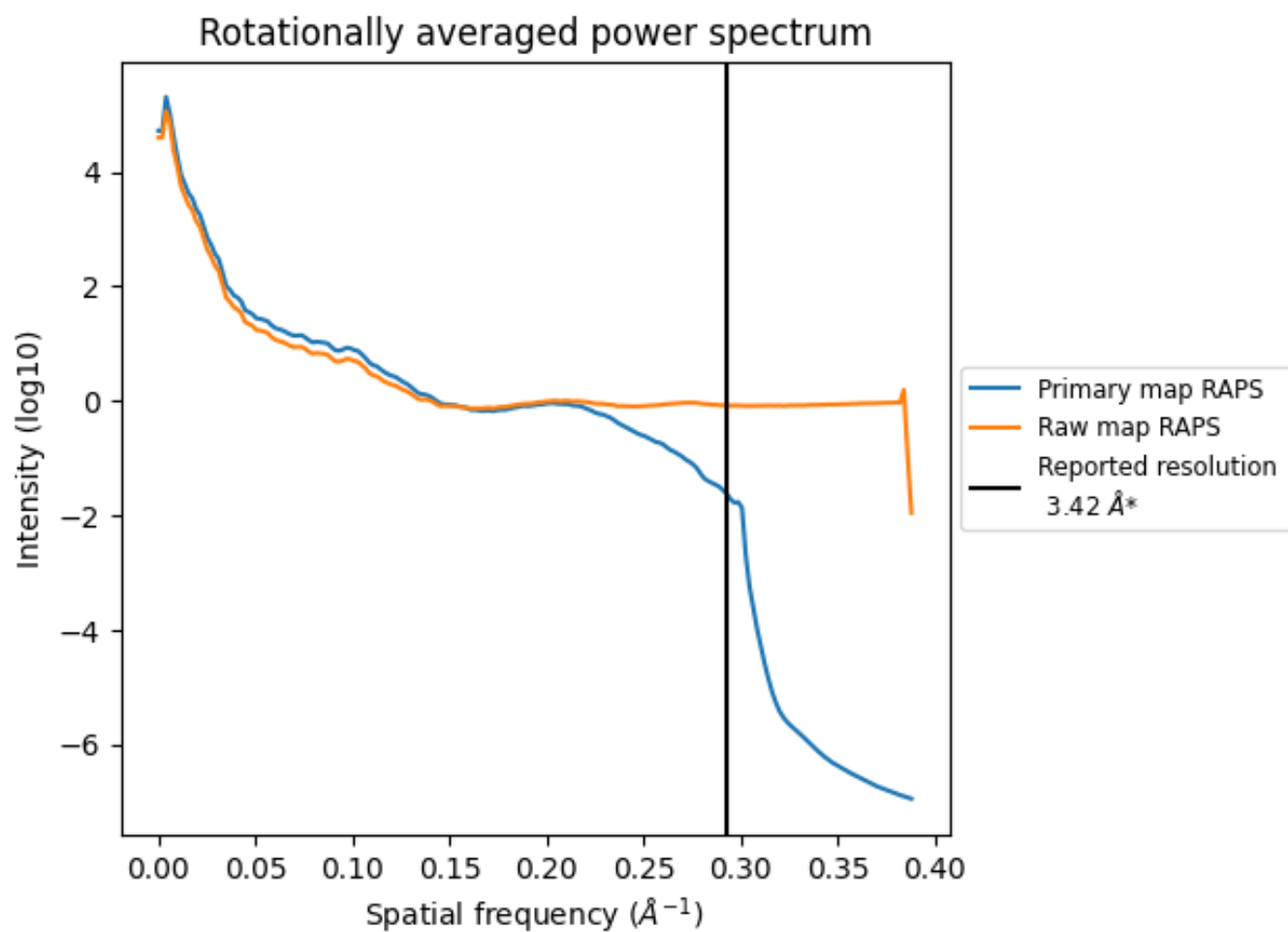
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 1280 nm³; this corresponds to an approximate mass of 1156 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

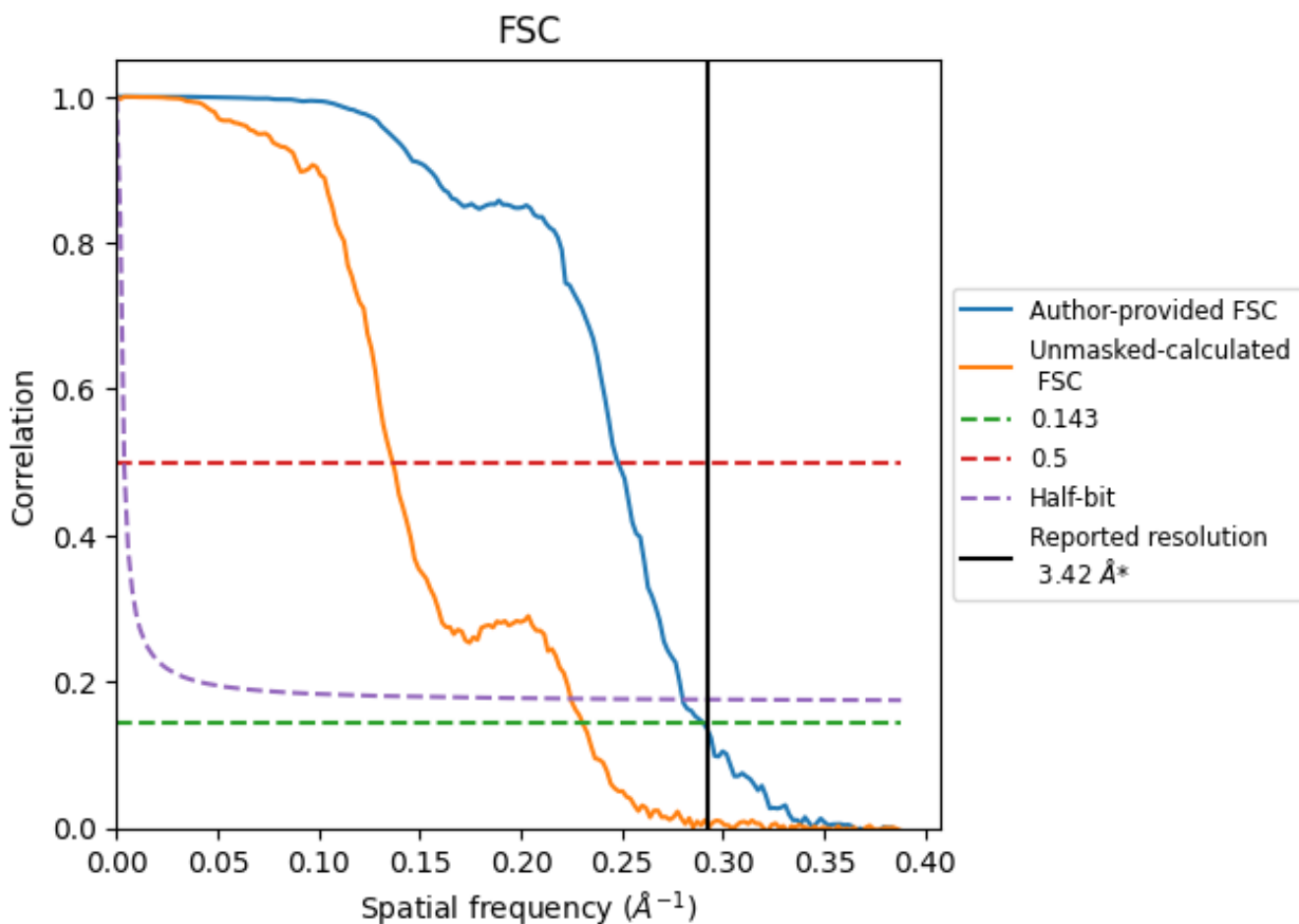


*Reported resolution corresponds to spatial frequency of 0.292 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.292 Å⁻¹

8.2 Resolution estimates [i](#)

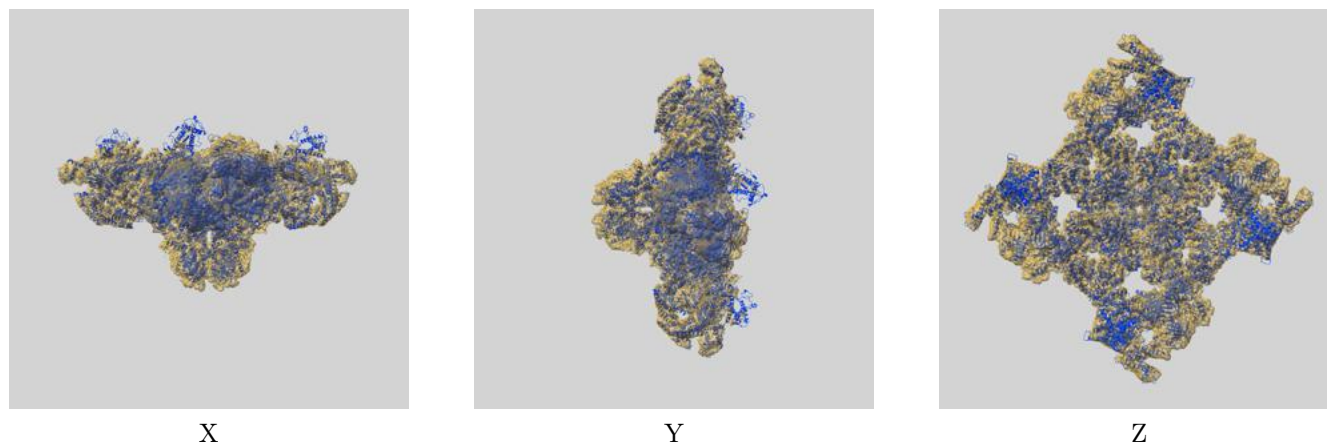
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.42	-	-
Author-provided FSC curve	3.44	4.03	3.57
Unmasked-calculated*	4.33	7.32	4.45

*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 4.33 differs from the reported value 3.42 by more than 10 %

9 Map-model fit [i](#)

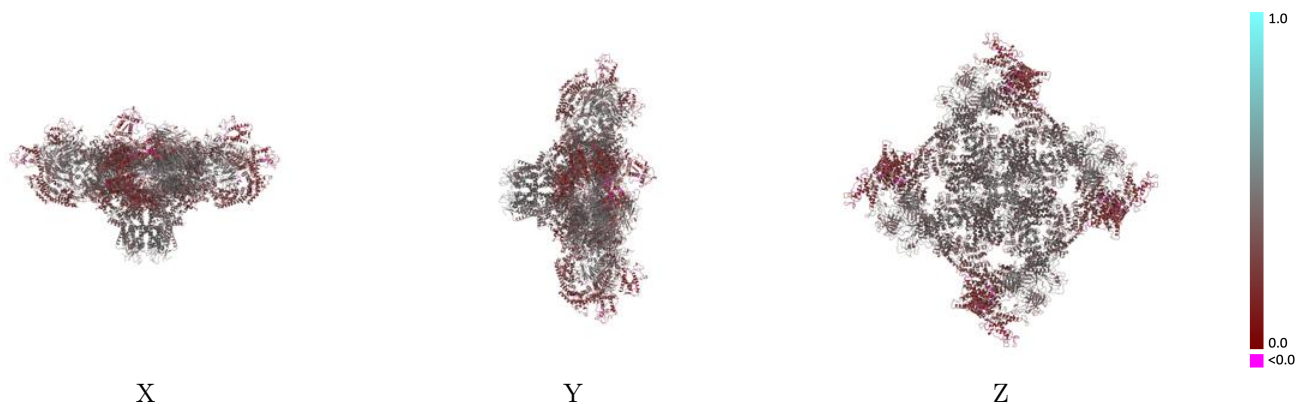
This section contains information regarding the fit between EMDB map EMD-40426 and PDB model 8SER. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



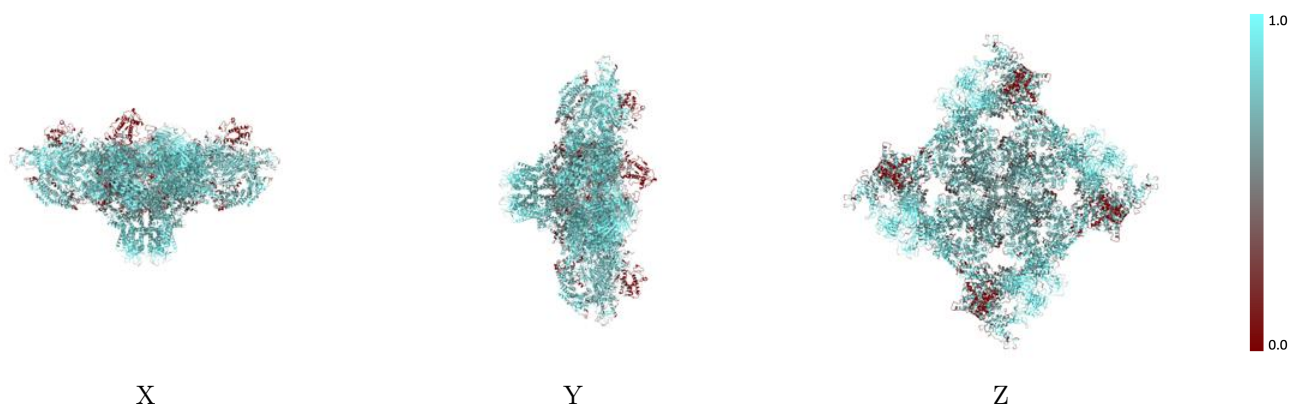
The images above show the 3D surface view of the map at the recommended contour level 0.387 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



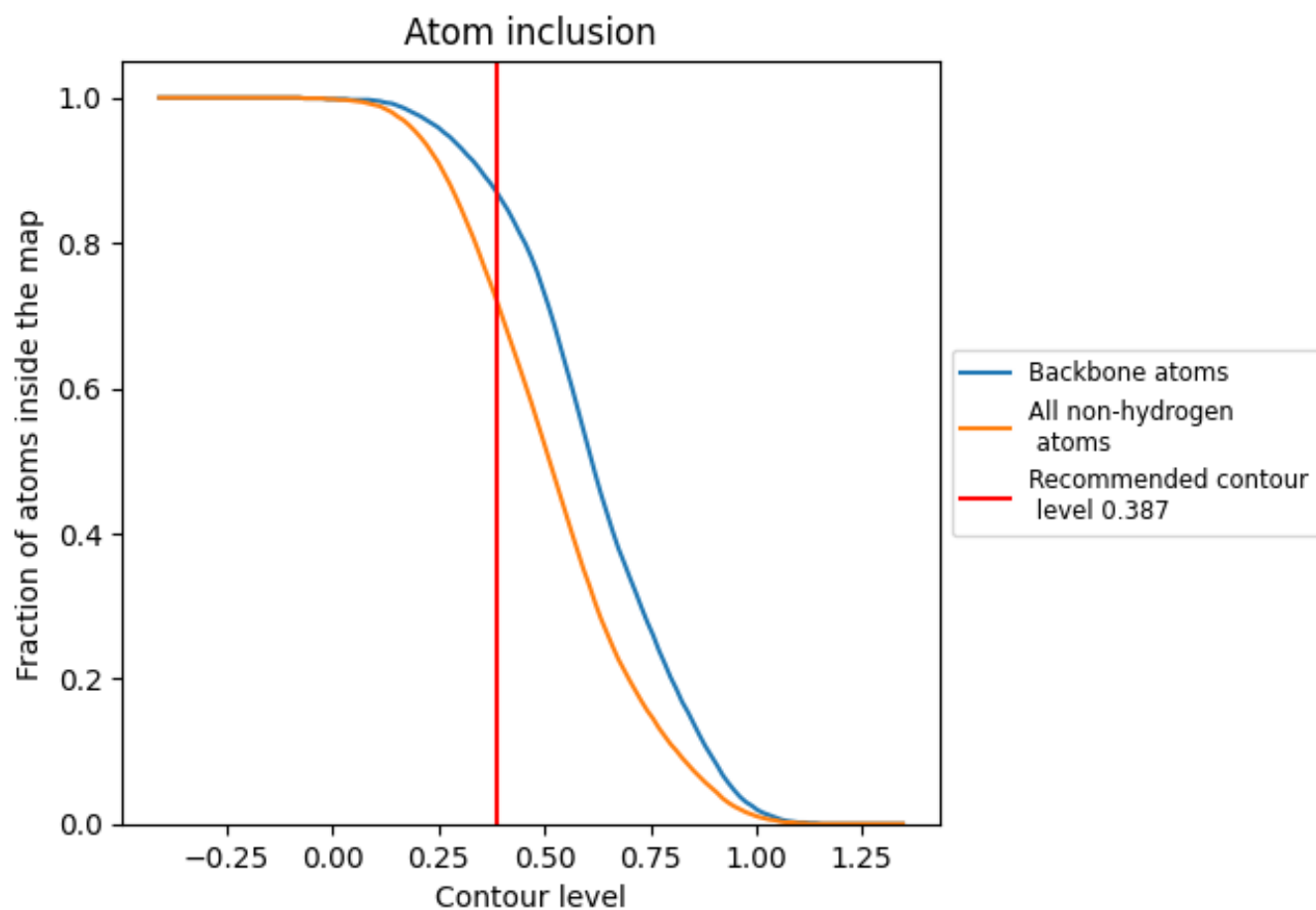
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.387).



















9.4 Atom inclusion [i](#)



At the recommended contour level, 87% of all backbone atoms, 72% 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 (0.387) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7210	 0.3530
A	 0.7170	 0.3510
B	 0.7170	 0.3510
C	 0.7170	 0.3510
D	 0.7170	 0.3520
E	 0.8730	 0.4230
F	 0.8730	 0.4230
G	 0.8730	 0.4240
H	 0.8730	 0.4250

