



## Full wwPDB EM Validation Report ⓘ

Nov 19, 2022 – 08:23 PM EST

PDB ID : 7TDJ  
EMDB ID : EMD-25831  
Title : Rabbit RyR1 with AMP-PCP and high Ca<sup>2+</sup> embedded in nanodisc in closed-inactivated conformation class 1(Dataset-A)  
Authors : Nayak, A.R.; Samsó, M.  
Deposited on : 2021-12-31  
Resolution : 3.70 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev43  
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) : 2.31.3

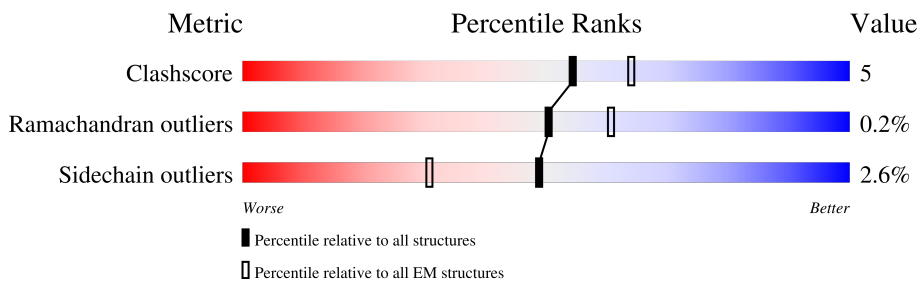
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.70 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	5037	
1	B	5037	
1	C	5037	
1	D	5037	

## 2 Entry composition [i](#)

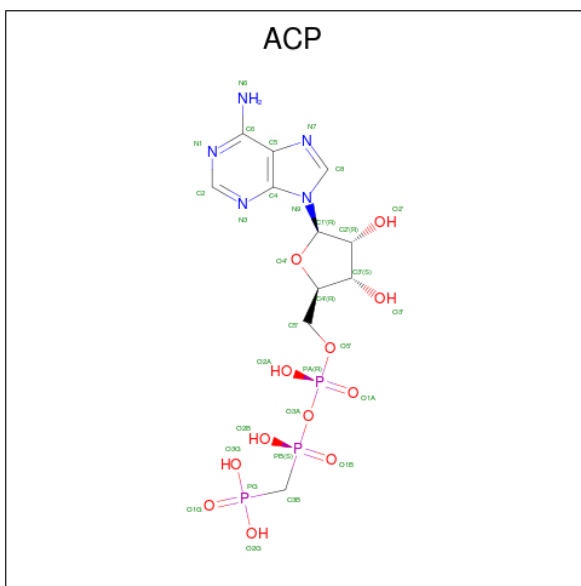
There are 5 unique types of molecules in this entry. The entry contains 117112 atoms, of which 0 are hydrogens and 0 are deuteriums.

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,Ryanodine receptor 1,RyR1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	4133	Total 29242	C 18509	N 5181	O 5395	S 157	0	0
1	B	4133	Total 29242	C 18509	N 5181	O 5395	S 157	0	0
1	C	4133	Total 29242	C 18509	N 5181	O 5395	S 157	0	0
1	D	4133	Total 29242	C 18509	N 5181	O 5395	S 157	0	0

- Molecule 2 is PHOSPHOMETHYLPHOSPHONIC ACID ADENYLATE ESTER (three-letter code: ACP) (formula: C<sub>11</sub>H<sub>18</sub>N<sub>5</sub>O<sub>12</sub>P<sub>3</sub>).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
2	A	1	Total 31	C 11	N 5	O 12	P 3	0
2	B	1	Total 31	C 11	N 5	O 12	P 3	0

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Mol	Chain	Residues	Atoms					AltConf
2	C	1	Total	C	N	O	P	0
			31	11	5	12	3	
2	D	1	Total	C	N	O	P	0
			31	11	5	12	3	

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

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

- Molecule 4 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
4	A	2	Total	Ca	0
			2	2	
4	B	2	Total	Ca	0
			2	2	
4	C	2	Total	Ca	0
			2	2	
4	D	2	Total	Ca	0
			2	2	

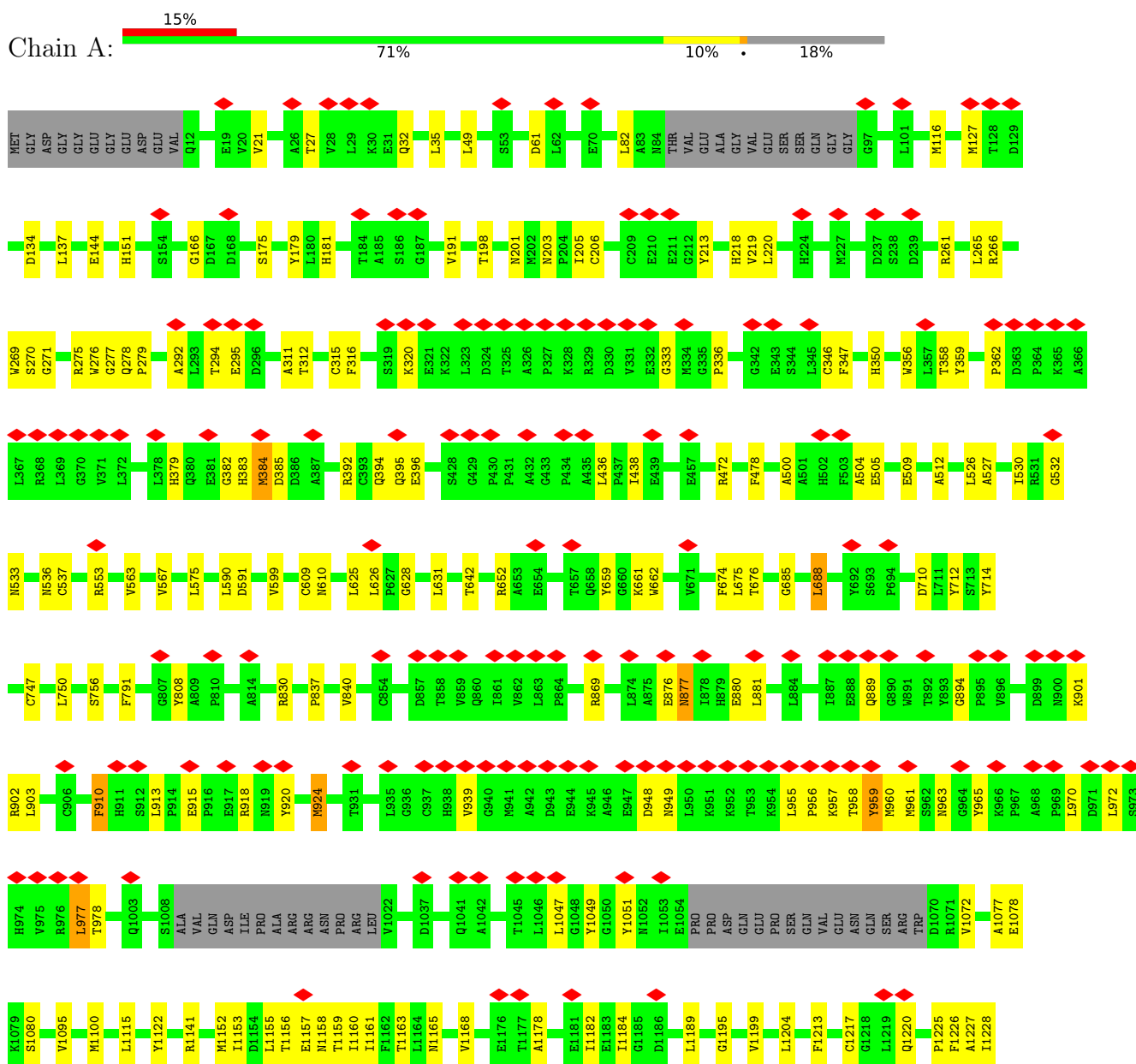
- Molecule 5 is water.

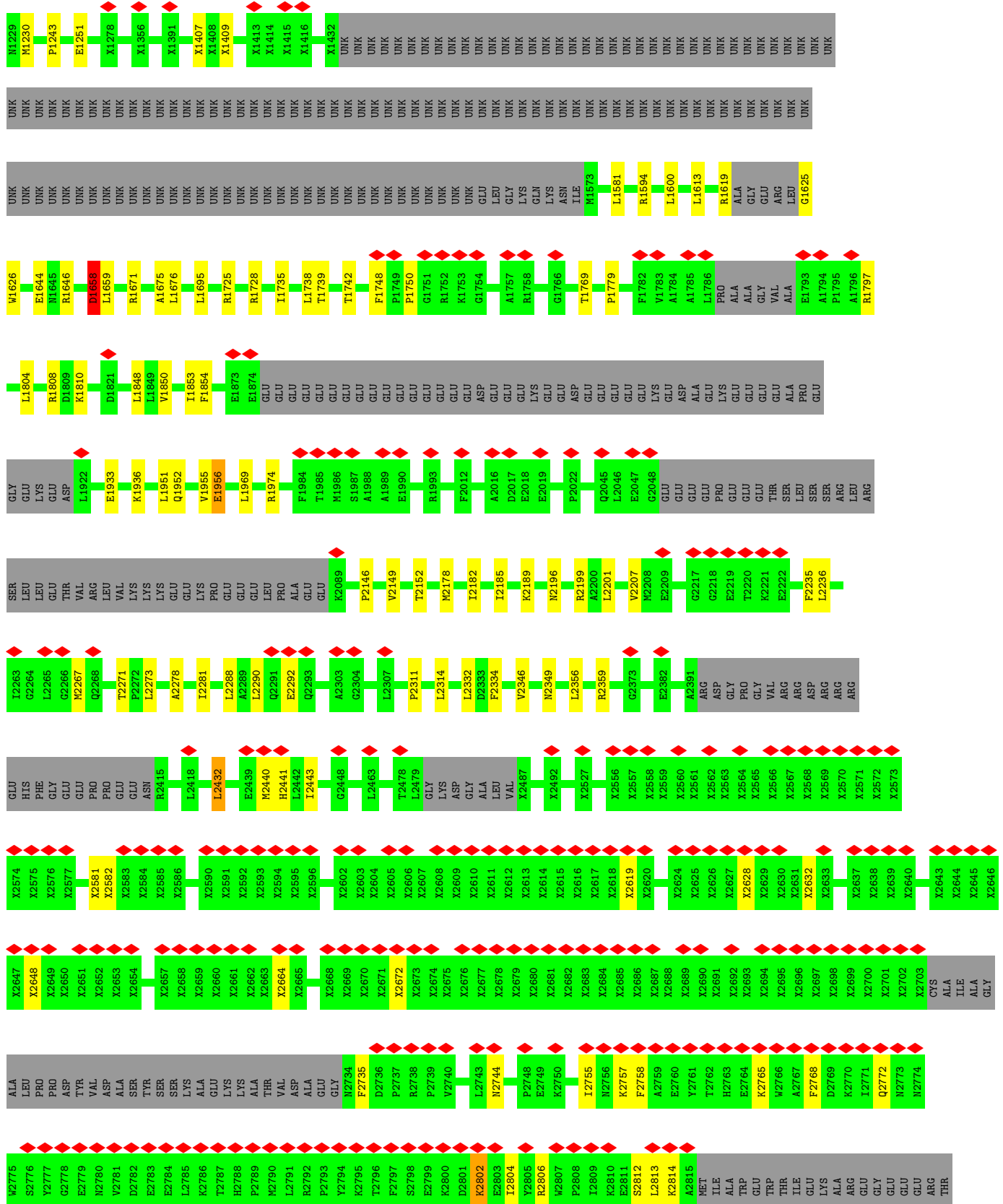
Mol	Chain	Residues	Atoms		AltConf
5	A	2	Total	O	0
			2	2	
5	B	2	Total	O	0
			2	2	
5	C	2	Total	O	0
			2	2	
5	D	2	Total	O	0
			2	2	

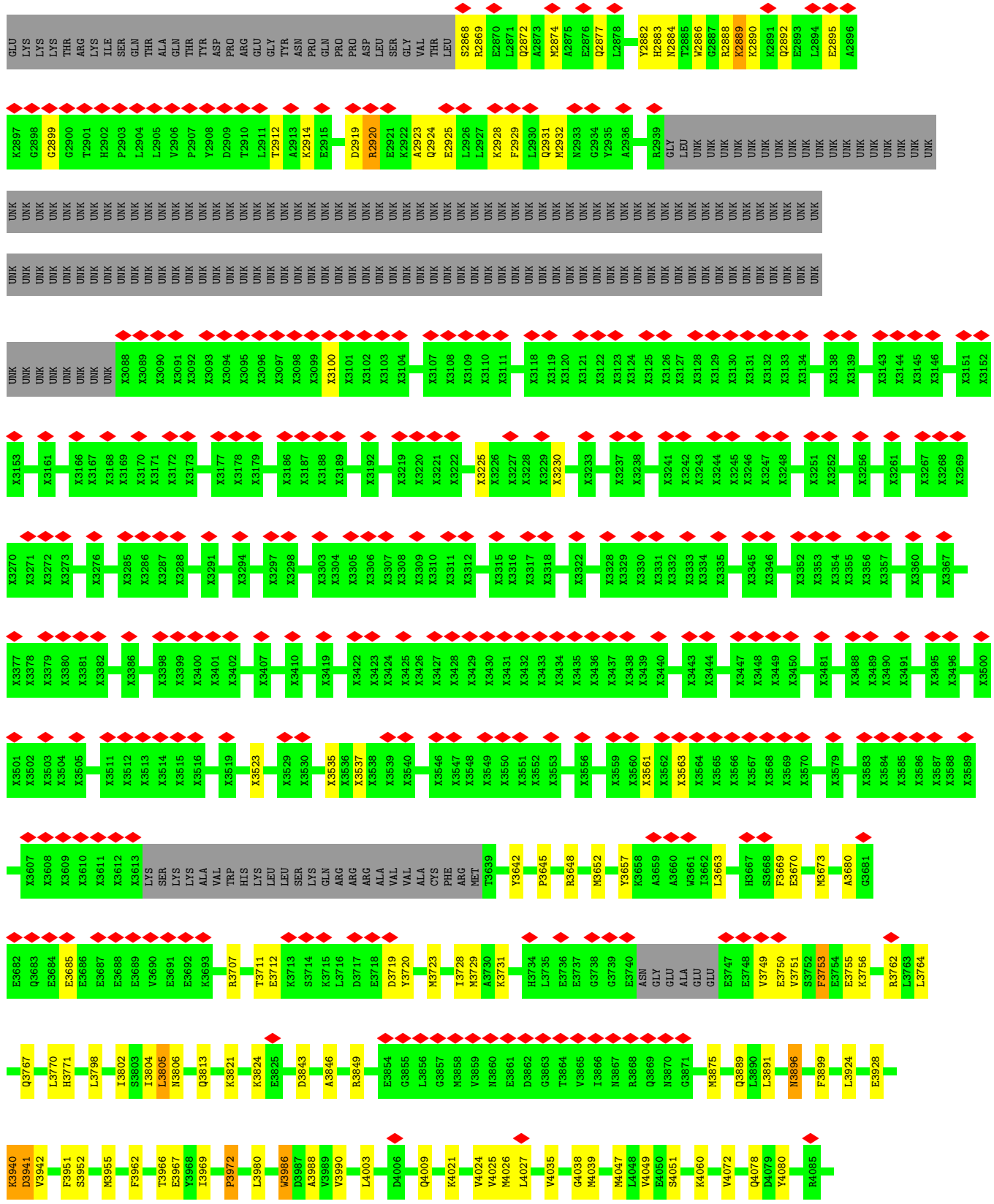
### 3 Residue-property plots

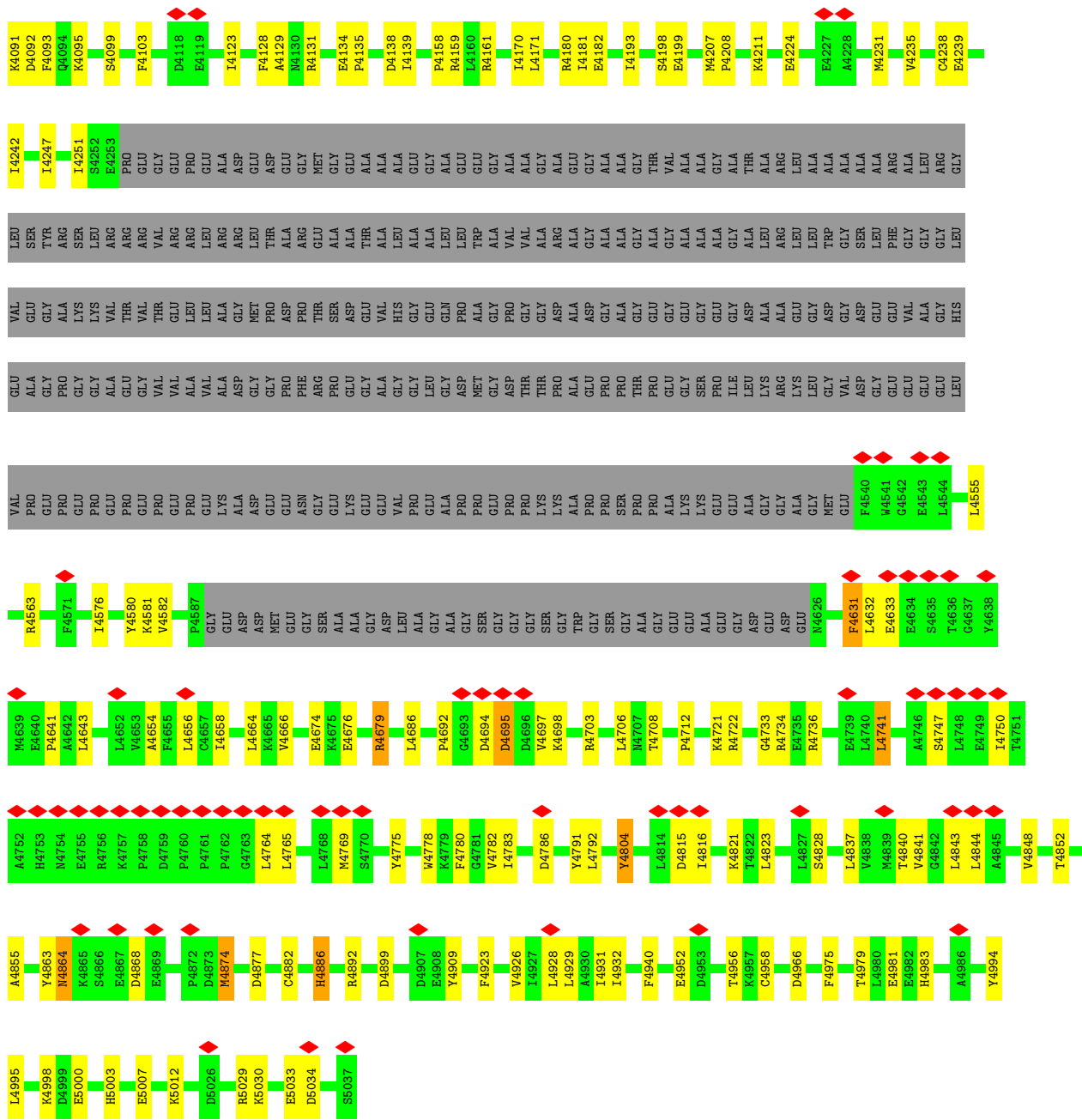
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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,Ryanodine receptor 1,RyR1

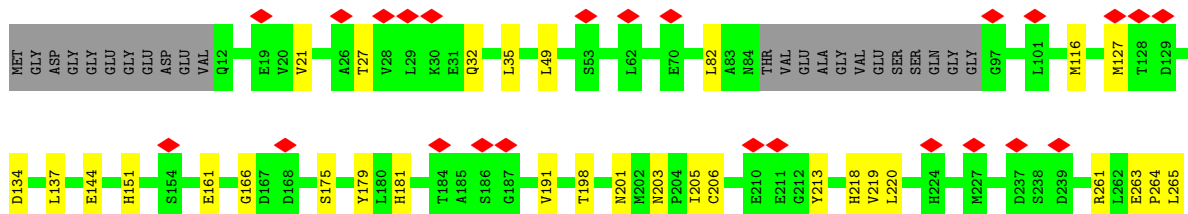






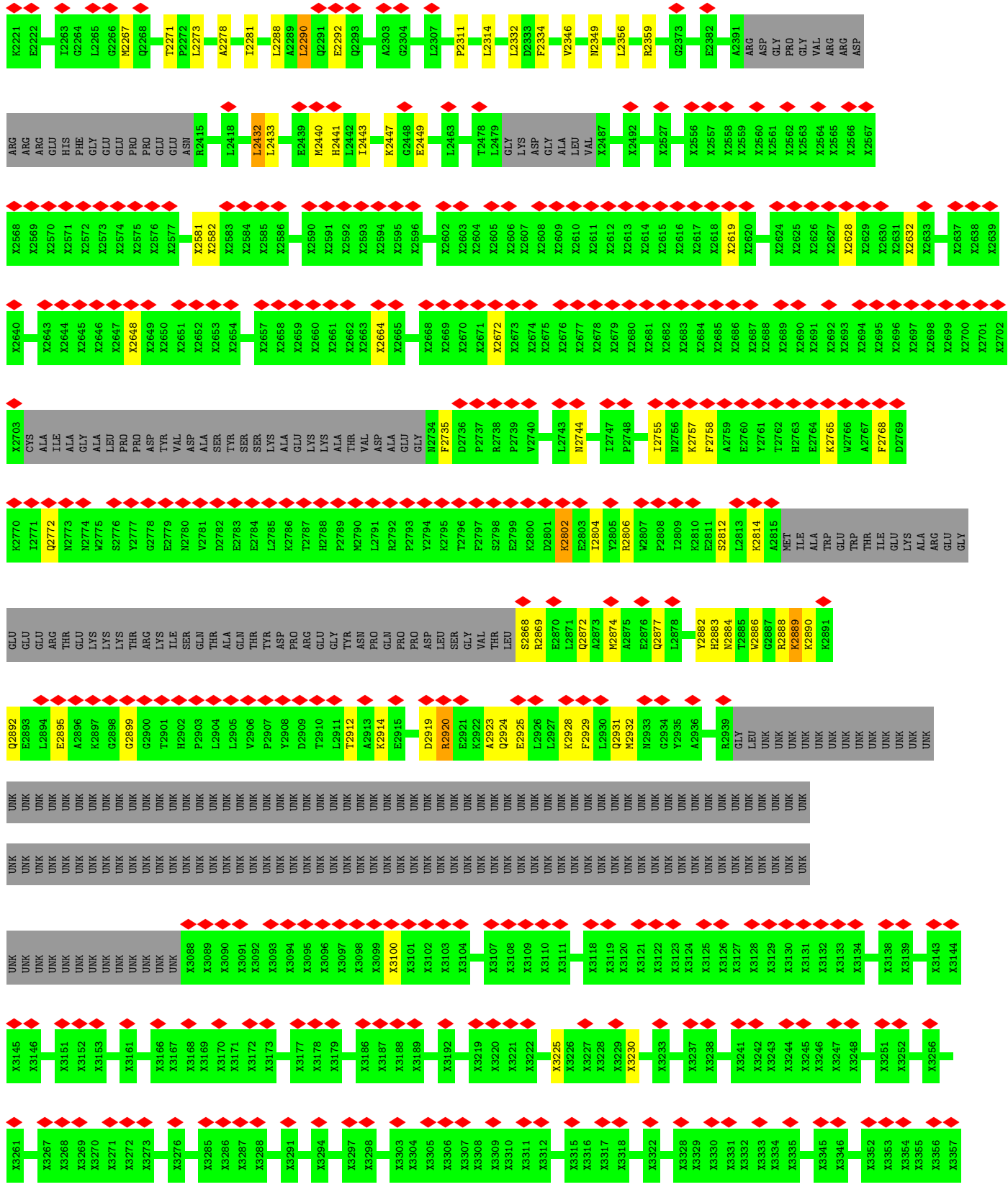


● Molecule 1: Ryanodine receptor 1,Ryanodine receptor 1,RyR1

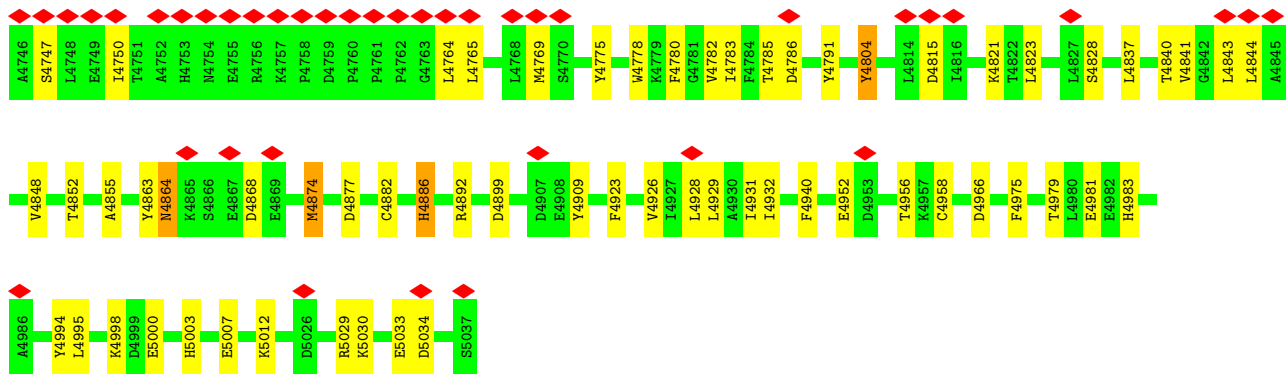




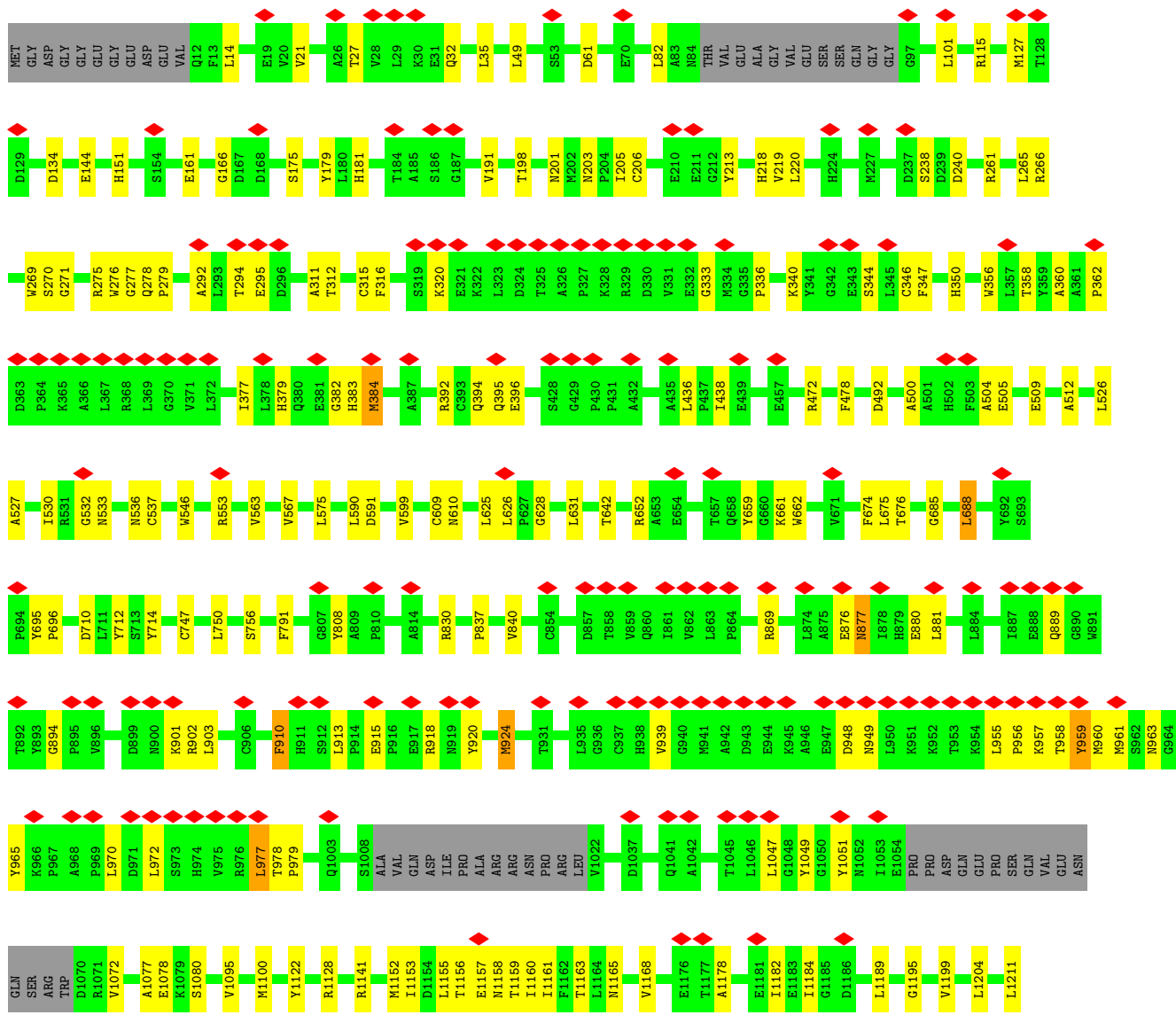






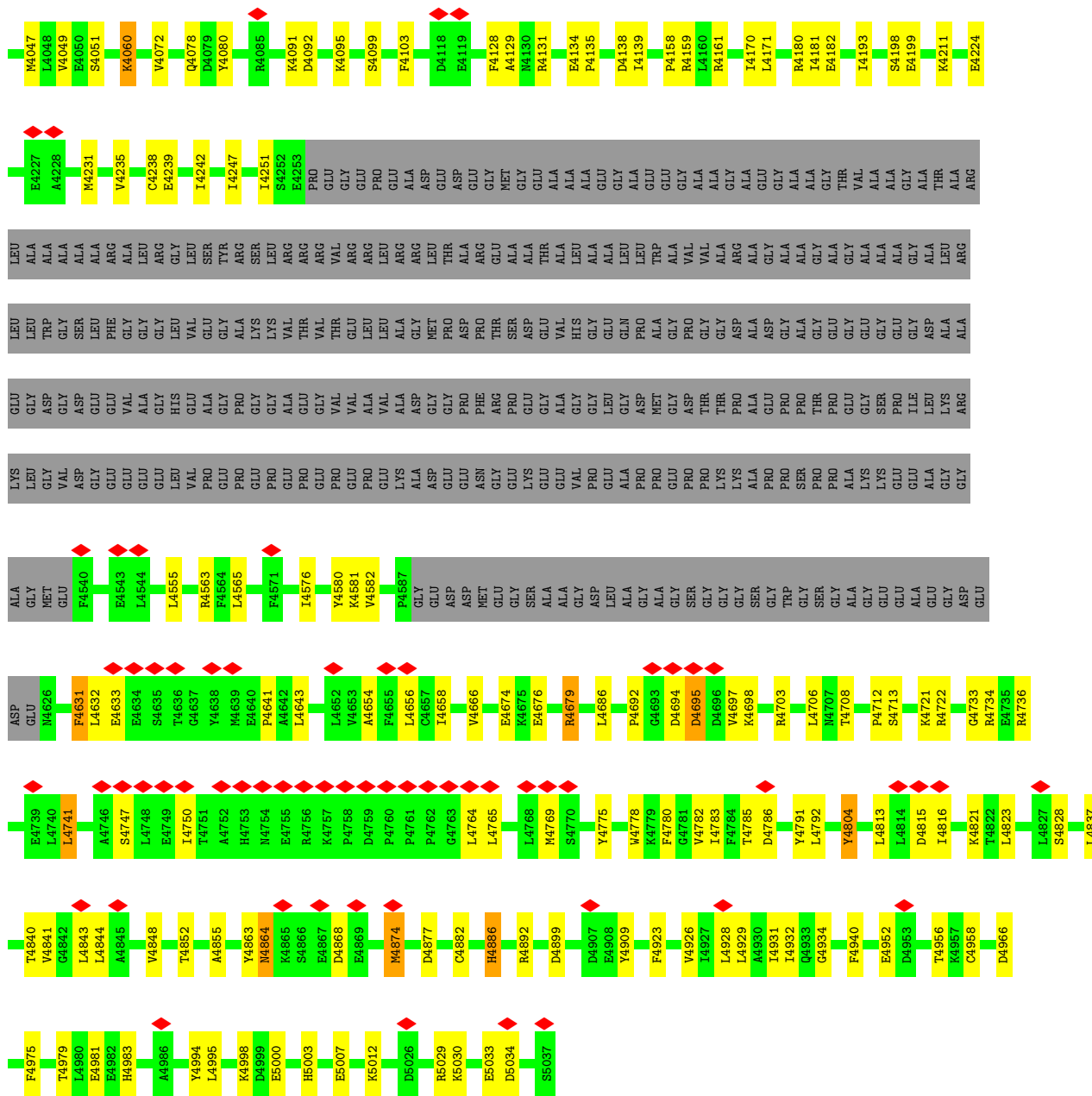


● Molecule 1: Ryanodine receptor 1,Ryanodine receptor 1,RyR1

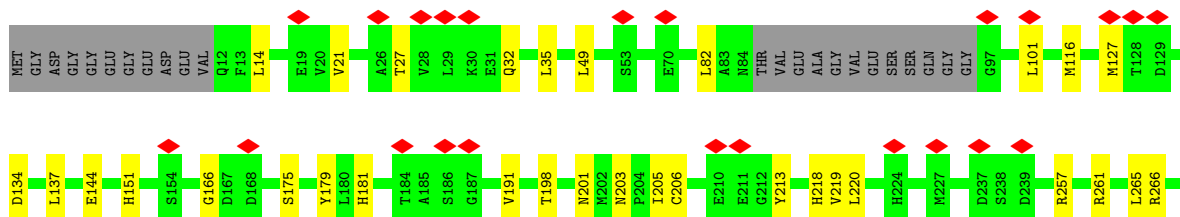


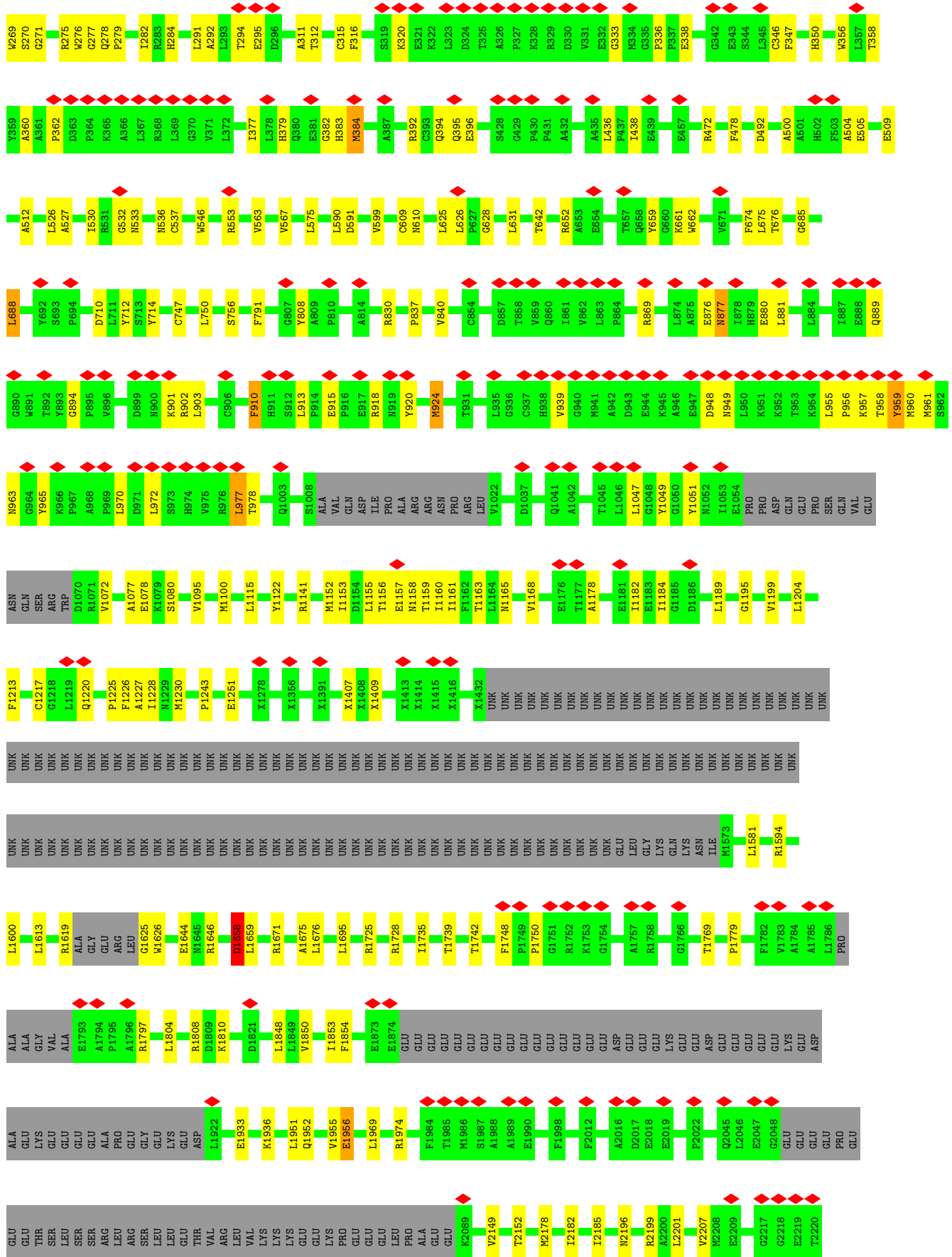




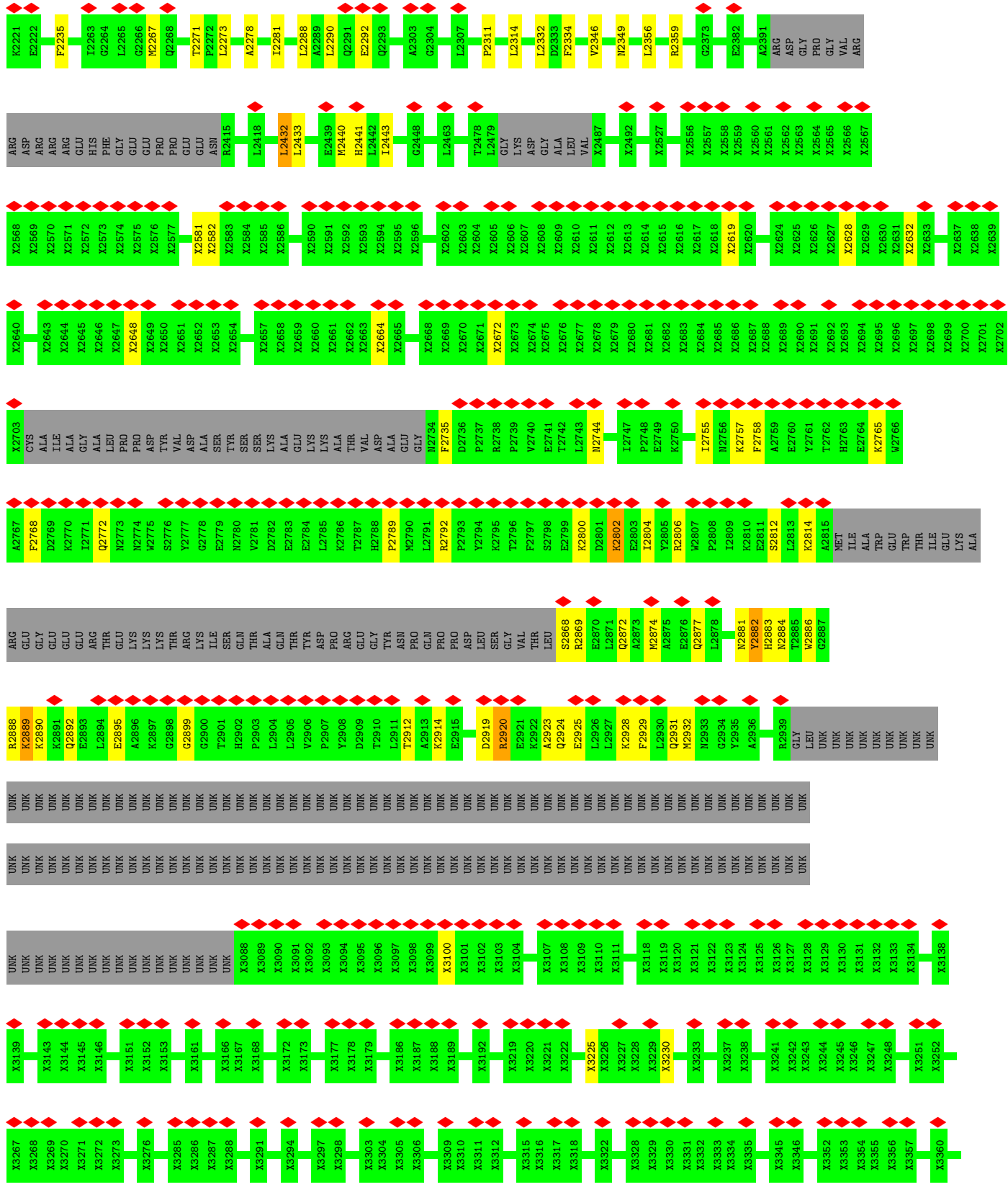


• Molecule 1: Ryanodine receptor 1, Ryanodine receptor 1, RyR1

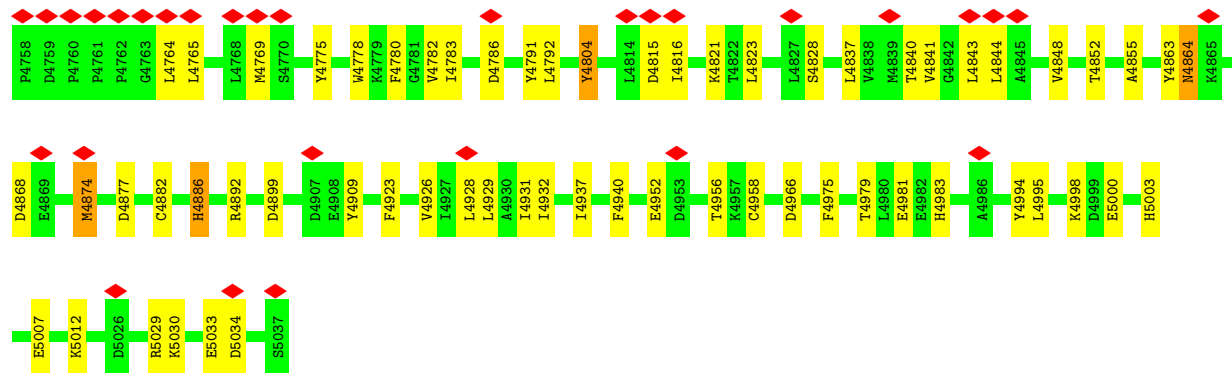








X3377	X3378	X3379	X3380	X3381	X3382	X3398	X3399	X3400	X3401	X3402	X3407	X3419	X3422	X3423	X3424	X3425	X3426	X3427	X3428	X3429	X3430	X3431	X3432	X3433	X3434	X3435	X3436	X3437	X3438	X3439	X3440	X3443	X3444	X3447	X3448	X3449	X3450	X3481	X3488	X3489	X3490	X3491	X3495	X3496	X3497	X3500	X3501	X3502	X3503	
X3504	X3505	X3511	X3512	X3513	X3514	X3515	X3516	X3519	X3523	X3529	X3530	X3535	X3536	X3537	X3538	X3539	X3540	X3541	X3546	X3547	X3548	X3549	X3550	X3551	X3552	X3553	X3556	X3559	X3560	X3561	X3562	X3563	X3564	X3565	X3566	X3567	X3568	X3569	X3570	X3579	X3583	X3584	X3585	X3586	X3587	X3588	X3589	X3607		
X3608	X3610	X3611	X3612	X3613	LYS	SER	LYS	LYS	ALA	VAL	TRP	HIS	LYS	LEU	LEU	SER	LYS	GLN	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
E3684	E3685	E3686	E3687	E3688	E3689	Q3813	K3821	K3824	E3825	D3843	A3846	R3849	E3854	G3855	L3856	G3857	M3858	V3859	M3860	E3861	D3862	G3863	T3864	V3865	I3866	R3867	R3868	Q3869	M3870	G3871	M3875	Q3889	L3890	L3891	N3896	F3899	L3924	E3928	K3940	D3941	V3942	F3951	S3952	Q3767						
M3955	F3962	T3966	E3967	T3968	T3969	P3972	L3980	R3984	L3985	M3986	G3987	A3988	V3989	L4003	D4006	Q4009	K4021	V4024	M4025	M4026	L4027	V4035	G4038	M4039	M4047	V4049	E4051	K4060	V4072	Q4078	M4079	V4080	R4085	K4091	D4092	F4093	Q4094													
K4095	S4099	F4103	D4118	E4119	I4123	F4128	A4129	M4130	R4131	E4134	P4135	D4138	I4139	P4168	R4159	L4160	R4161	I4170	L4171	E4172	R4175	R4180	I4181	E4182	I4193	S4198	E4199	K4211	E4224	E4227	A4228	M4231	V4235	C4238	E4239	I4242	I4247													
I4251	S4252	E4253	PRO	GLY	GLY	PRO	GLY	ALA	ALA	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY					
SER	LEU	ARG	ARG	ARG	VAL	ARG	ARG	ARG	LEU	TRP	THR	ALA	LEU	ALA	GLY	LEU	ALA	VAL	VAL	VAL	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA			
LYS	LYS	VAL	THR	VAL	THR	GLY	LEU	ALA	ALA	MET	THR	PRO	THR	ASP	ASP	ASP	THR	HIS	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY				
GLY	GLY	ALA	GLU	VAL	VAL	ALA	VAL	VAL	VAL	ASP	ASP	ASP	PHE	PRO	ASP	ASP	ASP	ASP	ASP	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR			
GLU	PRO	GLU	PRO	GLU	GLU	PRO	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU	GLU			
I4576	Y4580	K4581	V4582	P4587	GLY	ASP	ASP	LYS	ALA	ASP	ASP	GLY	ASP	ASP	GLY	GLY	VAL	VAL	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	
L4652	V4653	A4654	F4655	L4656	G4657	L4658	V4666	E4674	V4675	E4676	R4679	L4686	P4692	G4693	D4694	D4695	P4696	V4697	K4698	R4703	L4706	H4707	T4708	F4712	S4713	R4721	R4722	G4733	R4734	E4735	R4736	F4739	L4740	L4741	A4746	S4747	L4748	T4636	G4637	Y4638	M4639	E4640	P4641	A4642	L4643					
L4652	V4653	A4654	F4655	L4656	G4657	L4658	V4666	E4674	V4675	E4676	R4679	L4686	P4692	G4693	D4694	D4695	P4696	V4697	K4698	R4703	L4706	H4707	T4708	F4712	S4713	R4721	R4722	G4733	R4734	E4735	R4736	F4739	L4740	L4741	A4746	S4747	L4748	T4636	G4637	Y4638	M4639	E4640	P4641	A4642	L4643					
L4652	V4653	A4654	F4655	L4656	G4657	L4658	V4666	E4674	V4675	E4676	R4679	L4686	P4692	G4693	D4694	D4695	P4696	V4697	K4698	R4703	L4706	H4707	T4708	F4712	S4713	R4721	R4722	G4733	R4734	E4735	R4736	F4739	L4740	L4741	A4746	S4747	L4748	T4636	G4637	Y4638	M4639	E4640	P4641	A4642	L4643					



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	79277	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	70	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.081	Depositor
Minimum map value	-0.013	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.015	Depositor
Map size ( $\text{\AA}$ )	477.36002, 477.36002, 477.36002	wwPDB
Map dimensions	432, 432, 432	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.105, 1.105, 1.105	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, CA, ACP

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	0.29	0/25294	0.61	20/34336 (0.1%)
1	B	0.29	0/25294	0.61	21/34336 (0.1%)
1	C	0.29	0/25294	0.61	21/34336 (0.1%)
1	D	0.29	0/25294	0.61	20/34336 (0.1%)
All	All	0.29	0/101176	0.61	82/137344 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2
1	B	0	2
1	C	0	2
1	D	0	2
All	All	0	8

There are no bond length outliers.

All (82) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	4641	PRO	CA-N-CD	-13.13	93.12	111.50
1	B	4641	PRO	CA-N-CD	-13.10	93.16	111.50
1	A	4641	PRO	CA-N-CD	-13.09	93.17	111.50
1	C	4641	PRO	CA-N-CD	-13.09	93.18	111.50
1	D	3972	PRO	CA-N-CD	-7.97	100.33	111.50
1	C	3972	PRO	CA-N-CD	-7.94	100.38	111.50
1	A	3972	PRO	CA-N-CD	-7.93	100.40	111.50
1	B	3972	PRO	CA-N-CD	-7.93	100.40	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	977	LEU	CA-CB-CG	7.88	133.42	115.30
1	B	977	LEU	CA-CB-CG	7.87	133.39	115.30
1	A	977	LEU	CA-CB-CG	7.87	133.39	115.30
1	C	977	LEU	CA-CB-CG	7.86	133.38	115.30
1	D	4641	PRO	N-CD-CG	-7.33	92.20	103.20
1	B	4641	PRO	N-CD-CG	-7.33	92.20	103.20
1	C	4641	PRO	N-CD-CG	-7.32	92.23	103.20
1	A	4641	PRO	N-CD-CG	-7.31	92.23	103.20
1	C	3805	LEU	CA-CB-CG	7.12	131.69	115.30
1	B	3805	LEU	CA-CB-CG	7.12	131.67	115.30
1	D	3805	LEU	CA-CB-CG	7.11	131.66	115.30
1	A	3805	LEU	CA-CB-CG	7.10	131.63	115.30
1	C	362	PRO	CA-N-CD	-7.06	101.62	111.50
1	B	362	PRO	CA-N-CD	-7.04	101.64	111.50
1	A	362	PRO	CA-N-CD	-7.04	101.65	111.50
1	D	362	PRO	CA-N-CD	-7.00	101.70	111.50
1	B	1658	ASP	CB-CG-OD1	6.70	124.33	118.30
1	D	1658	ASP	CB-CG-OD1	6.64	124.28	118.30
1	A	1658	ASP	CB-CG-OD1	6.64	124.28	118.30
1	B	396	GLU	CA-CB-CG	6.64	128.00	113.40
1	D	396	GLU	CA-CB-CG	6.63	127.98	113.40
1	A	396	GLU	CA-CB-CG	6.62	127.97	113.40
1	C	396	GLU	CA-CB-CG	6.62	127.97	113.40
1	C	1658	ASP	CB-CG-OD1	6.62	124.26	118.30
1	C	2292	GLU	CA-CB-CG	6.60	127.92	113.40
1	D	2292	GLU	CA-CB-CG	6.59	127.90	113.40
1	B	2292	GLU	CA-CB-CG	6.57	127.85	113.40
1	A	2292	GLU	CA-CB-CG	6.56	127.84	113.40
1	A	3663	LEU	CA-CB-CG	6.25	129.66	115.30
1	D	3663	LEU	CA-CB-CG	6.24	129.66	115.30
1	B	3663	LEU	CA-CB-CG	6.24	129.66	115.30
1	C	3663	LEU	CA-CB-CG	6.24	129.64	115.30
1	C	134	ASP	CB-CG-OD1	5.99	123.69	118.30
1	D	134	ASP	CB-CG-OD1	5.99	123.69	118.30
1	B	134	ASP	CB-CG-OD1	5.97	123.67	118.30
1	A	134	ASP	CB-CG-OD1	5.97	123.67	118.30
1	C	688	LEU	CA-CB-CG	5.84	128.73	115.30
1	A	688	LEU	CA-CB-CG	5.83	128.70	115.30
1	B	688	LEU	CA-CB-CG	5.82	128.70	115.30
1	D	688	LEU	CA-CB-CG	5.82	128.68	115.30
1	D	3941	ASP	CB-CG-OD2	5.71	123.44	118.30
1	C	3941	ASP	CB-CG-OD2	5.70	123.43	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	3941	ASP	CB-CG-OD2	5.69	123.42	118.30
1	B	4741	LEU	CA-CB-CG	5.69	128.39	115.30
1	C	4741	LEU	CA-CB-CG	5.68	128.37	115.30
1	A	4741	LEU	CA-CB-CG	5.67	128.35	115.30
1	A	3941	ASP	CB-CG-OD2	5.67	123.41	118.30
1	D	4741	LEU	CA-CB-CG	5.66	128.33	115.30
1	C	4877	ASP	CB-CG-OD2	5.59	123.34	118.30
1	D	4877	ASP	CB-CG-OD2	5.58	123.32	118.30
1	B	4877	ASP	CB-CG-OD2	5.56	123.30	118.30
1	A	4877	ASP	CB-CG-OD2	5.55	123.29	118.30
1	C	2432	LEU	CA-CB-CG	5.50	127.95	115.30
1	B	2432	LEU	CA-CB-CG	5.50	127.94	115.30
1	A	2432	LEU	CA-CB-CG	5.50	127.94	115.30
1	D	2432	LEU	CA-CB-CG	5.48	127.90	115.30
1	A	1581	LEU	CA-CB-CG	5.40	127.72	115.30
1	D	1581	LEU	CA-CB-CG	5.39	127.70	115.30
1	B	1581	LEU	CA-CB-CG	5.39	127.69	115.30
1	C	1581	LEU	CA-CB-CG	5.38	127.67	115.30
1	A	625	LEU	CA-CB-CG	5.25	127.36	115.30
1	D	631	LEU	CA-CB-CG	5.24	127.36	115.30
1	D	625	LEU	CA-CB-CG	5.24	127.35	115.30
1	B	631	LEU	CA-CB-CG	5.24	127.34	115.30
1	C	631	LEU	CA-CB-CG	5.24	127.34	115.30
1	A	631	LEU	CA-CB-CG	5.23	127.33	115.30
1	B	625	LEU	CA-CB-CG	5.23	127.33	115.30
1	C	625	LEU	CA-CB-CG	5.22	127.31	115.30
1	D	2889	LYS	CA-CB-CG	5.13	124.69	113.40
1	C	2889	LYS	CA-CB-CG	5.11	124.64	113.40
1	A	2889	LYS	CA-CB-CG	5.10	124.63	113.40
1	B	2889	LYS	CA-CB-CG	5.10	124.62	113.40
1	B	2290	LEU	CA-CB-CG	5.01	126.83	115.30
1	C	2290	LEU	CA-CB-CG	5.00	126.81	115.30

There are no chirality outliers.

All (8) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	3680	ALA	Peptide
1	A	4804	TYR	Peptide
1	B	3680	ALA	Peptide
1	B	4804	TYR	Peptide
1	C	3680	ALA	Peptide

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Mol	Chain	Res	Type	Group
1	C	4804	TYR	Peptide
1	D	3680	ALA	Peptide
1	D	4804	TYR	Peptide

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	29242	0	24767	292	0
1	B	29242	0	24767	295	0
1	C	29242	0	24769	310	0
1	D	29242	0	24770	298	0
2	A	31	0	13	1	0
2	B	31	0	13	3	0
2	C	31	0	13	2	0
2	D	31	0	13	2	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	2	0	0	0	0
4	B	2	0	0	0	0
4	C	2	0	0	0	0
4	D	2	0	0	0	0
5	A	2	0	0	0	0
5	B	2	0	0	0	0
5	C	2	0	0	0	0
5	D	2	0	0	0	0
All	All	117112	0	99125	1161	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 (1161) 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:C:275:ARG:H	1:C:278:GLN:HE22	1.28	0.80
1:A:275:ARG:H	1:A:278:GLN:HE22	1.28	0.80
1:D:275:ARG:H	1:D:278:GLN:HE22	1.28	0.79
1:B:275:ARG:H	1:B:278:GLN:HE22	1.28	0.79
1:C:4926:VAL:HG21	1:D:4929:LEU:HD12	1.67	0.77
1:B:4926:VAL:HG21	1:C:4929:LEU:HD12	1.67	0.76
1:B:957:LYS:HA	1:B:960:MET:HB2	1.67	0.76
1:D:957:LYS:HA	1:D:960:MET:HB2	1.68	0.74
1:C:957:LYS:HA	1:C:960:MET:HB2	1.67	0.74
1:A:957:LYS:HA	1:A:960:MET:HB2	1.68	0.74
1:A:4926:VAL:HG21	1:B:4929:LEU:HD12	1.71	0.73
1:D:977:LEU:HD12	1:D:978:THR:H	1.55	0.72
1:A:977:LEU:HD12	1:A:978:THR:H	1.55	0.72
1:C:977:LEU:HD12	1:C:978:THR:H	1.55	0.71
1:B:977:LEU:HD12	1:B:978:THR:H	1.55	0.71
1:B:3821:LYS:O	1:B:3824:LYS:NZ	2.24	0.71
1:C:3821:LYS:O	1:C:3824:LYS:NZ	2.24	0.71
1:B:4764:LEU:HG	1:B:4765:LEU:HG	1.74	0.70
1:A:4899:ASP:OD1	1:B:4892:ARG:NH1	2.25	0.70
1:A:4764:LEU:HG	1:A:4765:LEU:HG	1.74	0.70
1:D:3821:LYS:O	1:D:3824:LYS:NZ	2.24	0.69
1:D:4764:LEU:HG	1:D:4765:LEU:HG	1.74	0.69
1:A:1078:GLU:HG3	1:A:1080:SER:H	1.58	0.69
1:C:1078:GLU:HG3	1:C:1080:SER:H	1.58	0.68
1:C:4764:LEU:HG	1:C:4765:LEU:HG	1.74	0.68
1:B:4958:CYS:HA	2:B:5101:ACP:H2	1.76	0.68
1:D:4049:VAL:HG21	1:D:4159:ARG:HD2	1.76	0.68
1:B:1078:GLU:HG3	1:B:1080:SER:H	1.58	0.68
1:C:1220:GLN:NE2	1:D:3523:UNK:O	2.27	0.68
1:D:1078:GLU:HG3	1:D:1080:SER:H	1.58	0.67
1:C:4958:CYS:HA	2:C:5101:ACP:H2	1.77	0.67
1:A:4049:VAL:HG21	1:A:4159:ARG:HD2	1.76	0.67
1:D:2735:PHE:HD2	1:D:2888:ARG:HH22	1.43	0.67
1:C:4049:VAL:HG21	1:C:4159:ARG:HD2	1.76	0.67
1:A:4929:LEU:HD12	1:D:4926:VAL:HG21	1.76	0.67
1:D:2619:UNK:O	1:D:2890:LYS:NZ	2.28	0.67
1:B:2619:UNK:O	1:B:2890:LYS:NZ	2.28	0.67
1:B:2735:PHE:HD2	1:B:2888:ARG:HH22	1.43	0.67
1:A:2735:PHE:HD2	1:A:2888:ARG:HH22	1.43	0.67
1:B:4049:VAL:HG21	1:B:4159:ARG:HD2	1.76	0.66
1:A:2619:UNK:O	1:A:2890:LYS:NZ	2.28	0.66
1:C:2735:PHE:HD2	1:C:2888:ARG:HH22	1.43	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4697:VAL:HG22	1:C:4698:LYS:HG2	1.78	0.66
1:D:4958:CYS:HA	2:D:5101:ACP:H2	1.77	0.66
1:B:4899:ASP:OD1	1:C:4892:ARG:NH1	2.29	0.66
1:C:2619:UNK:O	1:C:2890:LYS:NZ	2.28	0.66
1:A:3821:LYS:O	1:A:3824:LYS:NZ	2.24	0.66
1:A:1220:GLN:NE2	1:B:3523:UNK:O	2.28	0.66
1:C:4708:THR:HG21	1:C:4775:TYR:HB2	1.79	0.65
1:B:4697:VAL:HG22	1:B:4698:LYS:HG2	1.78	0.65
1:C:21:VAL:HG13	1:C:205:ILE:HD11	1.79	0.65
1:D:4708:THR:HG21	1:D:4775:TYR:HB2	1.79	0.65
1:D:4697:VAL:HG22	1:D:4698:LYS:HG2	1.78	0.65
1:A:21:VAL:HG13	1:A:205:ILE:HD11	1.79	0.65
1:C:1952:GLN:NE2	1:C:1956:GLU:OE2	2.30	0.65
1:A:1952:GLN:NE2	1:A:1956:GLU:OE2	2.30	0.65
1:D:21:VAL:HG13	1:D:205:ILE:HD11	1.79	0.65
1:B:21:VAL:HG13	1:B:205:ILE:HD11	1.79	0.65
1:A:4181:ILE:HD11	1:A:4193:ILE:HD12	1.79	0.65
1:B:1220:GLN:NE2	1:C:3523:UNK:O	2.28	0.65
1:D:1952:GLN:NE2	1:D:1956:GLU:OE2	2.30	0.65
1:A:5029:ARG:O	1:A:5033:GLU:HB2	1.97	0.64
1:B:4181:ILE:HD11	1:B:4193:ILE:HD12	1.79	0.64
1:B:4708:THR:HG21	1:B:4775:TYR:HB2	1.79	0.64
1:C:4666:VAL:HG21	1:C:4783:ILE:HG12	1.80	0.64
1:A:4708:THR:HG21	1:A:4775:TYR:HB2	1.79	0.64
1:A:384:MET:SD	1:A:384:MET:N	2.71	0.64
1:B:5029:ARG:O	1:B:5033:GLU:HB2	1.97	0.64
1:C:3670:GLU:HG3	1:C:3728:ILE:HG23	1.79	0.64
1:D:4666:VAL:HG21	1:D:4783:ILE:HG12	1.80	0.64
1:B:1952:GLN:NE2	1:B:1956:GLU:OE2	2.30	0.64
1:B:977:LEU:HB3	1:B:1047:LEU:HD12	1.79	0.64
1:C:384:MET:SD	1:C:384:MET:N	2.71	0.64
1:D:3670:GLU:HG3	1:D:3728:ILE:HG23	1.79	0.64
1:A:4697:VAL:HG22	1:A:4698:LYS:HG2	1.78	0.64
1:A:4874:MET:SD	1:A:4874:MET:N	2.71	0.64
1:B:384:MET:N	1:B:384:MET:SD	2.71	0.64
1:D:5029:ARG:O	1:D:5033:GLU:HB2	1.97	0.64
1:A:830:ARG:HH21	1:A:837:PRO:HB3	1.63	0.64
1:A:977:LEU:HB3	1:A:1047:LEU:HD12	1.79	0.64
1:A:3670:GLU:HG3	1:A:3728:ILE:HG23	1.79	0.64
1:C:5029:ARG:O	1:C:5033:GLU:HB2	1.97	0.64
1:B:830:ARG:HH21	1:B:837:PRO:HB3	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:977:LEU:HB3	1:D:1047:LEU:HD12	1.79	0.63
1:D:4181:ILE:HD11	1:D:4193:ILE:HD12	1.79	0.63
1:C:4181:ILE:HD11	1:C:4193:ILE:HD12	1.79	0.63
1:C:4874:MET:SD	1:C:4874:MET:N	2.71	0.63
1:A:1933:GLU:HA	1:A:1936:LYS:HD3	1.81	0.63
1:B:4666:VAL:HG21	1:B:4783:ILE:HG12	1.80	0.63
1:C:955:LEU:HD21	1:C:959:TYR:HB2	1.81	0.63
1:B:955:LEU:HD21	1:B:959:TYR:HB2	1.81	0.63
1:C:830:ARG:HH21	1:C:837:PRO:HB3	1.63	0.63
1:D:384:MET:SD	1:D:384:MET:N	2.71	0.63
1:B:4874:MET:SD	1:B:4874:MET:N	2.71	0.63
1:C:1933:GLU:HA	1:C:1936:LYS:HD3	1.81	0.63
1:C:4899:ASP:OD1	1:D:4892:ARG:NH1	2.32	0.63
1:A:4666:VAL:HG21	1:A:4783:ILE:HG12	1.80	0.63
1:B:1933:GLU:HA	1:B:1936:LYS:HD3	1.81	0.63
1:C:977:LEU:HB3	1:C:1047:LEU:HD12	1.79	0.63
1:B:3889:GLN:HG3	1:B:3967:GLU:HG3	1.81	0.63
1:C:3889:GLN:HG3	1:C:3967:GLU:HG3	1.81	0.62
1:B:3670:GLU:HG3	1:B:3728:ILE:HG23	1.79	0.62
1:D:3889:GLN:HG3	1:D:3967:GLU:HG3	1.81	0.62
1:D:4874:MET:SD	1:D:4874:MET:N	2.71	0.62
1:A:3889:GLN:HG3	1:A:3967:GLU:HG3	1.81	0.62
1:D:1158:ASN:HB3	1:D:1182:ILE:HG22	1.82	0.62
1:A:1158:ASN:HB3	1:A:1182:ILE:HG22	1.81	0.62
1:B:2886:TRP:HA	1:B:2889:LYS:HG2	1.81	0.62
1:D:830:ARG:HH21	1:D:837:PRO:HB3	1.63	0.62
1:D:955:LEU:HD21	1:D:959:TYR:HB2	1.81	0.62
1:D:2886:TRP:HA	1:D:2889:LYS:HG2	1.82	0.62
1:A:955:LEU:HD21	1:A:959:TYR:HB2	1.81	0.62
1:C:2886:TRP:HA	1:C:2889:LYS:HG2	1.81	0.62
1:D:1933:GLU:HA	1:D:1936:LYS:HD3	1.81	0.61
1:C:1158:ASN:HB3	1:C:1182:ILE:HG22	1.82	0.61
1:A:2886:TRP:HA	1:A:2889:LYS:HG2	1.81	0.61
1:C:2874:MET:HA	1:C:2877:GLN:HB3	1.83	0.61
1:B:527:ALA:HB2	1:B:563:VAL:HG22	1.82	0.60
1:D:537:CYS:HB2	1:D:567:VAL:HG23	1.83	0.60
1:D:2874:MET:HA	1:D:2877:GLN:HB3	1.83	0.60
1:A:2581:UNK:HA	1:A:2895:GLU:HG3	1.84	0.60
1:B:1158:ASN:HB3	1:B:1182:ILE:HG22	1.82	0.60
1:C:527:ALA:HB2	1:C:563:VAL:HG22	1.83	0.60
1:D:2744:ASN:HD22	1:D:2814:LYS:HE3	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2744:ASN:HD22	1:A:2814:LYS:HE3	1.65	0.60
1:B:2744:ASN:HD22	1:B:2814:LYS:HE3	1.65	0.60
1:D:2581:UNK:HA	1:D:2895:GLU:HG3	1.84	0.60
1:B:500:ALA:H	1:B:504:ALA:HB3	1.66	0.60
1:D:500:ALA:H	1:D:504:ALA:HB3	1.66	0.60
1:A:500:ALA:H	1:A:504:ALA:HB3	1.66	0.60
1:B:2581:UNK:HA	1:B:2895:GLU:HG3	1.84	0.60
1:C:2744:ASN:HD22	1:C:2814:LYS:HE3	1.66	0.60
1:C:500:ALA:H	1:C:504:ALA:HB3	1.66	0.60
1:C:537:CYS:HB2	1:C:567:VAL:HG23	1.83	0.60
1:C:2581:UNK:HA	1:C:2895:GLU:HG3	1.84	0.60
1:A:2874:MET:HA	1:A:2877:GLN:HB3	1.83	0.59
1:A:4864:ASN:HB3	1:A:4874:MET:HB3	1.83	0.59
1:C:4864:ASN:HB3	1:C:4874:MET:HB3	1.83	0.59
1:B:2874:MET:HA	1:B:2877:GLN:HB3	1.83	0.59
1:A:527:ALA:HB2	1:A:563:VAL:HG22	1.82	0.59
1:A:537:CYS:HB2	1:A:567:VAL:HG23	1.83	0.59
1:D:4864:ASN:HB3	1:D:4874:MET:HB3	1.83	0.59
1:B:4864:ASN:HB3	1:B:4874:MET:HB3	1.83	0.59
1:D:527:ALA:HB2	1:D:563:VAL:HG22	1.83	0.59
1:D:3729:MET:HB3	1:D:3770:LEU:HD11	1.85	0.59
1:A:3729:MET:HB3	1:A:3770:LEU:HD11	1.85	0.58
1:D:472:ARG:NH1	1:D:532:GLY:O	2.36	0.58
1:D:3990:VAL:HG13	1:D:4051:SER:HB3	1.85	0.58
1:B:537:CYS:HB2	1:B:567:VAL:HG23	1.83	0.58
1:B:472:ARG:NH1	1:B:532:GLY:O	2.36	0.58
1:B:3990:VAL:HG13	1:B:4051:SER:HB3	1.85	0.58
1:A:970:LEU:HB3	1:A:972:LEU:HD23	1.86	0.58
1:C:472:ARG:NH1	1:C:532:GLY:O	2.36	0.58
1:A:127:MET:SD	1:A:127:MET:N	2.77	0.58
1:C:2928:LYS:O	1:C:2931:GLN:NE2	2.31	0.58
1:D:970:LEU:HB3	1:D:972:LEU:HD23	1.86	0.58
1:B:4713:SER:HG	1:B:4775:TYR:HH	1.52	0.57
1:D:1156:THR:OG1	1:D:1157:GLU:OE1	2.22	0.57
1:C:3990:VAL:HG13	1:C:4051:SER:HB3	1.85	0.57
1:B:1695:LEU:O	1:B:1810:LYS:NZ	2.38	0.57
1:A:2755:ILE:HA	1:A:2758:PHE:HD2	1.70	0.57
1:B:275:ARG:HD3	1:B:336:PRO:HG2	1.86	0.57
1:A:3523:UNK:O	1:D:1220:GLN:NE2	2.35	0.57
1:B:127:MET:SD	1:B:127:MET:N	2.77	0.57
1:B:3729:MET:HB3	1:B:3770:LEU:HD11	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:127:MET:SD	1:C:127:MET:N	2.77	0.57
1:A:472:ARG:NH1	1:A:532:GLY:O	2.36	0.57
1:A:3990:VAL:HG13	1:A:4051:SER:HB3	1.85	0.57
1:B:1156:THR:OG1	1:B:1157:GLU:OE1	2.22	0.57
1:B:4694:ASP:OD2	1:B:4695:ASP:N	2.38	0.57
1:D:275:ARG:HD3	1:D:336:PRO:HG2	1.86	0.57
1:D:1695:LEU:O	1:D:1810:LYS:NZ	2.38	0.57
1:D:2755:ILE:HA	1:D:2758:PHE:HD2	1.69	0.57
1:A:206:CYS:HB3	1:A:271:GLY:HA3	1.87	0.57
1:A:4892:ARG:NH1	1:D:4899:ASP:OD1	2.38	0.57
1:C:1156:THR:OG1	1:C:1157:GLU:OE1	2.22	0.57
1:B:970:LEU:HB3	1:B:972:LEU:HD23	1.86	0.57
1:B:2755:ILE:HA	1:B:2758:PHE:HD2	1.69	0.57
1:C:179:TYR:OH	1:D:2359:ARG:NH2	2.38	0.57
1:C:2648:UNK:HA	1:C:2869:ARG:HD3	1.87	0.57
1:D:127:MET:SD	1:D:127:MET:N	2.77	0.57
1:D:2648:UNK:HA	1:D:2869:ARG:HD3	1.87	0.57
1:B:206:CYS:HB3	1:B:271:GLY:HA3	1.87	0.56
1:C:970:LEU:HB3	1:C:972:LEU:HD23	1.86	0.56
1:C:3729:MET:HB3	1:C:3770:LEU:HD11	1.85	0.56
1:D:533:ASN:HB3	1:D:536:ASN:HB2	1.87	0.56
1:A:4694:ASP:OD2	1:A:4695:ASP:N	2.38	0.56
1:B:2648:UNK:HA	1:B:2869:ARG:HD3	1.87	0.56
1:C:1695:LEU:O	1:C:1810:LYS:NZ	2.38	0.56
1:A:275:ARG:HD3	1:A:336:PRO:HG2	1.86	0.56
1:A:4995:LEU:HD21	1:A:5007:GLU:HB3	1.88	0.56
1:D:206:CYS:HB3	1:D:271:GLY:HA3	1.87	0.56
1:C:4694:ASP:OD2	1:C:4695:ASP:N	2.38	0.56
1:A:2648:UNK:HA	1:A:2869:ARG:HD3	1.87	0.56
1:B:533:ASN:HB3	1:B:536:ASN:HB2	1.87	0.56
1:C:2755:ILE:HA	1:C:2758:PHE:HD2	1.69	0.56
1:A:1156:THR:OG1	1:A:1157:GLU:OE1	2.22	0.56
1:C:275:ARG:HD3	1:C:336:PRO:HG2	1.86	0.56
1:C:4995:LEU:HD21	1:C:5007:GLU:HB3	1.88	0.56
1:C:206:CYS:HB3	1:C:271:GLY:HA3	1.87	0.56
1:A:533:ASN:HB3	1:A:536:ASN:HB2	1.87	0.55
1:A:1695:LEU:O	1:A:1810:LYS:NZ	2.38	0.55
1:C:533:ASN:HB3	1:C:536:ASN:HB2	1.87	0.55
1:D:2928:LYS:O	1:D:2931:GLN:NE2	2.31	0.55
1:A:1225:PRO:HG2	1:A:1228:ILE:HB	1.89	0.55
1:B:1225:PRO:HG2	1:B:1228:ILE:HB	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4694:ASP:OD2	1:D:4695:ASP:N	2.38	0.55
1:D:4995:LEU:HD21	1:D:5007:GLU:HB3	1.88	0.55
1:B:4995:LEU:HD21	1:B:5007:GLU:HB3	1.88	0.55
1:A:4848:VAL:O	1:A:4852:THR:OG1	2.23	0.55
1:B:358:THR:HG21	1:B:383:HIS:HB2	1.89	0.55
1:A:4182:GLU:HB2	1:A:4983:HIS:HE2	1.72	0.55
1:A:4958:CYS:HA	2:A:5101:ACP:H2	1.88	0.55
1:D:3969:ILE:HD11	1:D:3980:LEU:HD12	1.89	0.55
1:A:358:THR:HG21	1:A:383:HIS:HB2	1.89	0.55
1:D:2440:MET:HB2	1:D:2443:ILE:HB	1.89	0.55
1:A:1644:GLU:OE1	1:A:1646:ARG:NH1	2.38	0.54
1:B:3969:ILE:HD11	1:B:3980:LEU:HD12	1.89	0.54
1:C:1225:PRO:HG2	1:C:1228:ILE:HB	1.89	0.54
1:D:1225:PRO:HG2	1:D:1228:ILE:HB	1.89	0.54
1:A:2440:MET:HB2	1:A:2443:ILE:HB	1.89	0.54
1:A:4239:GLU:OE1	1:A:4679:ARG:NH2	2.40	0.54
1:B:4182:GLU:HB2	1:B:4983:HIS:HE2	1.72	0.54
1:B:4931:ILE:HG23	1:C:4940:PHE:HZ	1.73	0.54
1:C:4239:GLU:OE1	1:C:4679:ARG:NH2	2.40	0.54
1:D:358:THR:HG21	1:D:383:HIS:HB2	1.89	0.54
1:B:2928:LYS:O	1:B:2931:GLN:NE2	2.31	0.54
1:C:3969:ILE:HD11	1:C:3980:LEU:HD12	1.89	0.54
1:C:4182:GLU:HB2	1:C:4983:HIS:HE2	1.72	0.54
1:A:3969:ILE:HD11	1:A:3980:LEU:HD12	1.89	0.54
1:B:1251:GLU:OE1	1:B:1251:GLU:N	2.41	0.54
1:B:1658:ASP:OD1	1:B:1659:LEU:N	2.41	0.54
1:C:1163:THR:HG22	1:C:1168:VAL:HA	1.90	0.54
1:C:2440:MET:HB2	1:C:2443:ILE:HB	1.89	0.54
1:D:1658:ASP:OD1	1:D:1659:LEU:N	2.41	0.54
1:D:4239:GLU:OE1	1:D:4679:ARG:NH2	2.40	0.54
1:C:4931:ILE:HG23	1:D:4940:PHE:HZ	1.73	0.54
1:D:1251:GLU:N	1:D:1251:GLU:OE1	2.41	0.54
1:A:1251:GLU:N	1:A:1251:GLU:OE1	2.41	0.53
1:B:4239:GLU:OE1	1:B:4679:ARG:NH2	2.40	0.53
1:C:358:THR:HG21	1:C:383:HIS:HB2	1.89	0.53
1:A:4581:LYS:HD3	1:A:4582:VAL:H	1.74	0.53
1:C:1251:GLU:N	1:C:1251:GLU:OE1	2.41	0.53
1:C:3753:PHE:HA	1:C:3756:LYS:HE2	1.90	0.53
1:D:35:LEU:HB3	1:D:49:LEU:HD12	1.91	0.53
1:D:3753:PHE:HA	1:D:3756:LYS:HE2	1.90	0.53
1:D:4581:LYS:HD3	1:D:4582:VAL:H	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4713:SER:HG	1:D:4775:TYR:HH	1.57	0.53
1:B:956:PRO:HB2	1:B:958:THR:HG22	1.90	0.53
1:D:675:LEU:HG	1:D:676:THR:H	1.74	0.53
1:D:4182:GLU:HB2	1:D:4983:HIS:HE2	1.72	0.53
1:B:2440:MET:HB2	1:B:2443:ILE:HB	1.89	0.53
1:C:4848:VAL:O	1:C:4852:THR:OG1	2.23	0.53
1:A:2932:MET:SD	1:A:2932:MET:N	2.79	0.53
1:C:4024:VAL:HA	1:C:4027:LEU:HD12	1.91	0.53
1:D:1163:THR:HG22	1:D:1168:VAL:HA	1.90	0.53
1:A:1163:THR:HG22	1:A:1168:VAL:HA	1.90	0.53
1:A:1243:PRO:HB2	1:A:1600:LEU:HD11	1.91	0.53
1:A:1658:ASP:OD1	1:A:1659:LEU:N	2.41	0.53
1:B:1243:PRO:HB2	1:B:1600:LEU:HD11	1.91	0.53
1:B:4024:VAL:HA	1:B:4027:LEU:HD12	1.91	0.53
1:B:4581:LYS:HD3	1:B:4582:VAL:H	1.74	0.53
1:C:35:LEU:HB3	1:C:49:LEU:HD12	1.91	0.53
1:C:509:GLU:OE2	1:C:509:GLU:N	2.31	0.53
1:C:1658:ASP:OD1	1:C:1659:LEU:N	2.41	0.53
1:D:4791:TYR:OH	1:D:4815:ASP:O	2.26	0.53
1:C:675:LEU:HG	1:C:676:THR:H	1.74	0.53
1:D:4072:VAL:HG21	1:D:4129:ALA:HB2	1.90	0.53
1:A:3753:PHE:HA	1:A:3756:LYS:HE2	1.90	0.53
1:A:4791:TYR:OH	1:A:4815:ASP:O	2.26	0.53
1:C:2196:ASN:OD1	1:C:2199:ARG:NH2	2.42	0.53
1:A:35:LEU:HB3	1:A:49:LEU:HD12	1.91	0.53
1:A:956:PRO:HB2	1:A:958:THR:HG22	1.90	0.53
1:B:2196:ASN:OD1	1:B:2199:ARG:NH2	2.42	0.53
1:B:4791:TYR:OH	1:B:4815:ASP:O	2.26	0.53
1:C:956:PRO:HB2	1:C:958:THR:HG22	1.90	0.53
1:D:2196:ASN:OD1	1:D:2199:ARG:NH2	2.42	0.53
1:A:2196:ASN:OD1	1:A:2199:ARG:NH2	2.42	0.53
1:B:3753:PHE:HA	1:B:3756:LYS:HE2	1.90	0.53
1:C:505:GLU:HG2	1:C:512:ALA:HB2	1.91	0.53
1:D:505:GLU:HG2	1:D:512:ALA:HB2	1.91	0.53
1:D:956:PRO:HB2	1:D:958:THR:HG22	1.90	0.53
1:D:4848:VAL:O	1:D:4852:THR:OG1	2.23	0.53
1:A:675:LEU:HG	1:A:676:THR:H	1.74	0.52
1:A:3924:LEU:HD23	1:A:3988:ALA:HB2	1.91	0.52
1:B:505:GLU:HG2	1:B:512:ALA:HB2	1.91	0.52
1:B:4072:VAL:HG21	1:B:4129:ALA:HB2	1.90	0.52
1:C:1742:THR:HB	1:C:1769:THR:HG21	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4072:VAL:HG21	1:C:4129:ALA:HB2	1.90	0.52
1:C:4199:GLU:OE2	1:C:4199:GLU:N	2.36	0.52
1:D:311:ALA:O	1:D:350:HIS:NE2	2.41	0.52
1:D:1243:PRO:HB2	1:D:1600:LEU:HD11	1.91	0.52
1:D:1742:THR:HB	1:D:1769:THR:HG21	1.91	0.52
1:B:675:LEU:HG	1:B:676:THR:H	1.74	0.52
1:B:1163:THR:HG22	1:B:1168:VAL:HA	1.90	0.52
1:C:652:ARG:HB2	1:C:750:LEU:HD13	1.91	0.52
1:A:505:GLU:HG2	1:A:512:ALA:HB2	1.91	0.52
1:A:652:ARG:HB2	1:A:750:LEU:HD13	1.91	0.52
1:A:4072:VAL:HG21	1:A:4129:ALA:HB2	1.90	0.52
1:A:311:ALA:O	1:A:350:HIS:NE2	2.41	0.52
1:B:144:GLU:O	1:B:175:SER:OG	2.28	0.52
1:C:4791:TYR:OH	1:C:4815:ASP:O	2.26	0.52
1:D:144:GLU:O	1:D:175:SER:OG	2.28	0.52
1:A:4931:ILE:HG23	1:B:4940:PHE:HZ	1.74	0.52
1:B:35:LEU:HB3	1:B:49:LEU:HD12	1.91	0.52
1:C:144:GLU:O	1:C:175:SER:OG	2.28	0.52
1:C:1153:ILE:HG13	1:C:1160:ILE:HG12	1.91	0.52
1:C:4581:LYS:HD3	1:C:4582:VAL:H	1.74	0.52
1:A:5000:GLU:HA	1:A:5003:HIS:CE1	2.45	0.52
1:C:1243:PRO:HB2	1:C:1600:LEU:HD11	1.91	0.52
1:D:1153:ILE:HG13	1:D:1160:ILE:HG12	1.92	0.52
1:D:1739:THR:HG23	1:D:1742:THR:H	1.75	0.52
1:D:2582:UNK:O	1:D:2899:GLY:N	2.43	0.52
1:A:4024:VAL:HA	1:A:4027:LEU:HD12	1.90	0.52
1:B:4840:THR:HG23	1:B:4928:LEU:HD22	1.92	0.52
1:D:509:GLU:OE2	1:D:509:GLU:N	2.31	0.52
1:A:2928:LYS:O	1:A:2931:GLN:NE2	2.31	0.52
1:B:311:ALA:O	1:B:350:HIS:NE2	2.41	0.52
1:C:2582:UNK:O	1:C:2899:GLY:N	2.43	0.52
1:B:659:TYR:O	1:B:662:TRP:NE1	2.43	0.51
1:D:1779:PRO:O	1:D:1797:ARG:NH2	2.44	0.51
1:B:652:ARG:HB2	1:B:750:LEU:HD13	1.91	0.51
1:D:652:ARG:HB2	1:D:750:LEU:HD13	1.91	0.51
1:D:5000:GLU:HA	1:D:5003:HIS:CE1	2.45	0.51
1:A:379:HIS:CD2	1:A:382:GLY:H	2.29	0.51
1:C:3924:LEU:HD23	1:C:3988:ALA:HB2	1.91	0.51
1:A:1742:THR:HB	1:A:1769:THR:HG21	1.91	0.51
1:A:4840:THR:HG23	1:A:4928:LEU:HD22	1.92	0.51
1:B:4138:ASP:OD2	1:B:4139:ILE:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4840:THR:HG23	1:C:4928:LEU:HD22	1.92	0.51
1:D:659:TYR:O	1:D:662:TRP:NE1	2.43	0.51
1:A:1779:PRO:O	1:A:1797:ARG:NH2	2.43	0.51
1:B:1739:THR:HG23	1:B:1742:THR:H	1.75	0.51
1:B:2582:UNK:O	1:B:2899:GLY:N	2.43	0.51
1:C:659:TYR:O	1:C:662:TRP:NE1	2.43	0.51
1:D:379:HIS:CD2	1:D:382:GLY:H	2.29	0.51
1:D:4840:THR:HG23	1:D:4928:LEU:HD22	1.92	0.51
1:A:659:TYR:O	1:A:662:TRP:NE1	2.43	0.51
1:A:1153:ILE:HG13	1:A:1160:ILE:HG12	1.92	0.51
1:C:1739:THR:HG23	1:C:1742:THR:H	1.75	0.51
1:C:5000:GLU:HA	1:C:5003:HIS:CE1	2.45	0.51
1:D:3924:LEU:HD23	1:D:3988:ALA:HB2	1.91	0.51
1:D:4024:VAL:HA	1:D:4027:LEU:HD12	1.91	0.51
1:A:144:GLU:O	1:A:175:SER:OG	2.28	0.51
1:B:1779:PRO:O	1:B:1797:ARG:NH2	2.43	0.51
1:A:1739:THR:HG23	1:A:1742:THR:H	1.75	0.51
1:A:2802:LYS:HA	1:A:2806:ARG:HB2	1.93	0.51
1:B:379:HIS:CD2	1:B:382:GLY:H	2.29	0.51
1:B:1153:ILE:HG13	1:B:1160:ILE:HG12	1.92	0.51
1:B:1742:THR:HB	1:B:1769:THR:HG21	1.91	0.51
1:C:1619:ARG:O	1:C:1625:GLY:N	2.44	0.51
1:D:2802:LYS:HA	1:D:2806:ARG:HB2	1.93	0.51
1:B:5000:GLU:HA	1:B:5003:HIS:CE1	2.45	0.51
1:D:1619:ARG:O	1:D:1625:GLY:N	2.44	0.51
1:A:2582:UNK:O	1:A:2899:GLY:N	2.43	0.51
1:B:179:TYR:OH	1:C:2359:ARG:NH2	2.44	0.51
1:B:1644:GLU:OE1	1:B:1646:ARG:NH1	2.38	0.51
1:B:1951:LEU:O	1:B:1955:VAL:HG23	2.11	0.51
1:A:166:GLY:HA2	1:A:201:ASN:HD21	1.76	0.50
1:B:3924:LEU:HD23	1:B:3988:ALA:HB2	1.91	0.50
1:C:1951:LEU:O	1:C:1955:VAL:HG23	2.11	0.50
1:A:2632:UNK:O	1:A:2884:ASN:ND2	2.44	0.50
1:B:652:ARG:NH1	1:B:750:LEU:O	2.45	0.50
1:B:2802:LYS:HA	1:B:2806:ARG:HB2	1.93	0.50
1:C:4170:ILE:HG23	1:C:4171:LEU:HD12	1.94	0.50
1:D:652:ARG:NH1	1:D:750:LEU:O	2.44	0.50
1:A:4138:ASP:OD2	1:A:4139:ILE:N	2.44	0.50
1:C:652:ARG:NH1	1:C:750:LEU:O	2.45	0.50
1:C:1779:PRO:O	1:C:1797:ARG:NH2	2.44	0.50
1:D:5034:ASP:OD1	1:D:5034:ASP:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:166:GLY:HA2	1:B:201:ASN:HD21	1.76	0.50
1:B:4170:ILE:HG23	1:B:4171:LEU:HD12	1.94	0.50
1:C:2892:GLN:HA	1:C:2895:GLU:HB3	1.94	0.50
1:C:4138:ASP:OD2	1:C:4139:ILE:N	2.44	0.50
1:D:4092:ASP:HA	1:D:4095:LYS:HE2	1.94	0.50
1:A:1951:LEU:O	1:A:1955:VAL:HG23	2.11	0.50
1:C:2802:LYS:HA	1:C:2806:ARG:HB2	1.93	0.50
1:C:4983:HIS:O	2:C:5101:ACP:N6	2.44	0.50
1:D:4138:ASP:OD2	1:D:4139:ILE:N	2.44	0.50
1:A:840:VAL:HG12	1:A:1199:VAL:HG22	1.94	0.50
1:A:963:ASN:ND2	1:A:965:TYR:O	2.45	0.50
1:B:840:VAL:HG12	1:B:1199:VAL:HG22	1.94	0.50
1:C:4092:ASP:HA	1:C:4095:LYS:HE2	1.94	0.50
1:D:266:ARG:O	1:D:270:SER:OG	2.27	0.50
1:D:1644:GLU:OE1	1:D:1646:ARG:NH1	2.38	0.50
1:A:2892:GLN:HA	1:A:2895:GLU:HB3	1.94	0.50
1:B:963:ASN:ND2	1:B:965:TYR:O	2.45	0.50
1:B:5034:ASP:OD1	1:B:5034:ASP:N	2.44	0.50
1:C:2632:UNK:O	1:C:2884:ASN:ND2	2.44	0.50
1:A:4882:CYS:O	1:A:4886:HIS:HB2	2.12	0.50
1:B:4128:PHE:HD1	1:B:4131:ARG:HH21	1.60	0.50
1:C:3648:ARG:O	1:C:3652:MET:HG2	2.12	0.50
1:C:4882:CYS:O	1:C:4886:HIS:HB2	2.12	0.50
1:D:4555:LEU:HB2	1:D:4656:LEU:HD21	1.94	0.50
1:A:652:ARG:NH1	1:A:750:LEU:O	2.45	0.50
1:A:3648:ARG:O	1:A:3652:MET:HG2	2.12	0.50
1:A:4128:PHE:HD1	1:A:4131:ARG:HH21	1.60	0.50
1:B:1155:LEU:HD13	1:B:1184:ILE:HD12	1.94	0.50
1:B:4837:LEU:O	1:B:4841:VAL:HG23	2.12	0.50
1:B:4882:CYS:O	1:B:4886:HIS:HB2	2.12	0.50
1:C:166:GLY:HA2	1:C:201:ASN:HD21	1.76	0.50
1:B:3648:ARG:O	1:B:3652:MET:HG2	2.12	0.49
1:C:201:ASN:OD1	1:C:203:ASN:ND2	2.45	0.49
1:C:379:HIS:CD2	1:C:382:GLY:H	2.29	0.49
1:C:1155:LEU:HD13	1:C:1184:ILE:HD12	1.94	0.49
1:D:166:GLY:HA2	1:D:201:ASN:HD21	1.77	0.49
1:D:840:VAL:HG12	1:D:1199:VAL:HG22	1.94	0.49
1:D:4983:HIS:O	2:D:5101:ACP:N6	2.44	0.49
1:A:509:GLU:OE2	1:A:509:GLU:N	2.31	0.49
1:A:4721:LYS:HG2	1:A:4741:LEU:HD12	1.94	0.49
1:B:2892:GLN:HA	1:B:2895:GLU:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4170:ILE:HG23	1:D:4171:LEU:HD12	1.94	0.49
1:D:4882:CYS:O	1:D:4886:HIS:HB2	2.12	0.49
1:A:1619:ARG:O	1:A:1625:GLY:N	2.44	0.49
1:A:4092:ASP:HA	1:A:4095:LYS:HE2	1.94	0.49
1:C:840:VAL:HG12	1:C:1199:VAL:HG22	1.94	0.49
1:C:4721:LYS:HG2	1:C:4741:LEU:HD12	1.94	0.49
1:C:4928:LEU:HD23	1:C:4931:ILE:HD12	1.95	0.49
1:D:1748:PHE:O	1:D:1750:PRO:HD3	2.13	0.49
1:D:4247:ILE:O	1:D:4251:ILE:HG12	2.13	0.49
1:B:201:ASN:OD1	1:B:203:ASN:ND2	2.45	0.49
1:B:1619:ARG:O	1:B:1625:GLY:N	2.44	0.49
1:B:4091:LYS:HG3	1:B:4095:LYS:NZ	2.28	0.49
1:C:4128:PHE:HD1	1:C:4131:ARG:HH21	1.60	0.49
1:D:2632:UNK:O	1:D:2884:ASN:ND2	2.44	0.49
1:D:3648:ARG:O	1:D:3652:MET:HG2	2.12	0.49
1:B:2632:UNK:O	1:B:2884:ASN:ND2	2.44	0.49
1:C:311:ALA:O	1:C:350:HIS:NE2	2.41	0.49
1:C:4091:LYS:HG3	1:C:4095:LYS:NZ	2.28	0.49
1:C:4837:LEU:O	1:C:4841:VAL:HG23	2.12	0.49
1:D:1951:LEU:O	1:D:1955:VAL:HG23	2.11	0.49
1:D:2892:GLN:HA	1:D:2895:GLU:HB3	1.94	0.49
1:D:4091:LYS:HG3	1:D:4095:LYS:NZ	2.28	0.49
1:D:4928:LEU:HD23	1:D:4931:ILE:HD12	1.95	0.49
1:A:1748:PHE:O	1:A:1750:PRO:HD3	2.12	0.49
1:A:2924:GLN:NE2	1:A:2925:GLU:HG3	2.27	0.49
1:A:4940:PHE:HZ	1:D:4931:ILE:HG23	1.78	0.49
1:A:5034:ASP:N	1:A:5034:ASP:OD1	2.44	0.49
1:B:2924:GLN:NE2	1:B:2925:GLU:HG3	2.27	0.49
1:A:4170:ILE:HG23	1:A:4171:LEU:HD12	1.94	0.49
1:A:4555:LEU:HB2	1:A:4656:LEU:HD21	1.94	0.49
1:C:963:ASN:ND2	1:C:965:TYR:O	2.45	0.49
1:D:963:ASN:ND2	1:D:965:TYR:O	2.45	0.49
1:D:2924:GLN:NE2	1:D:2925:GLU:HG3	2.27	0.49
1:A:2812:SER:HB2	1:A:2886:TRP:CZ3	2.48	0.49
1:A:4928:LEU:HD23	1:A:4931:ILE:HD12	1.95	0.49
1:C:4247:ILE:O	1:C:4251:ILE:HG12	2.13	0.49
1:C:4722:ARG:HH12	1:C:4747:SER:HB2	1.78	0.49
1:D:4837:LEU:O	1:D:4841:VAL:HG23	2.12	0.49
1:A:4247:ILE:O	1:A:4251:ILE:HG12	2.13	0.49
1:B:4247:ILE:O	1:B:4251:ILE:HG12	2.13	0.49
1:B:4555:LEU:HB2	1:B:4656:LEU:HD21	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4555:LEU:HB2	1:C:4656:LEU:HD21	1.94	0.49
1:C:5034:ASP:OD1	1:C:5034:ASP:N	2.44	0.49
1:D:4128:PHE:HD1	1:D:4131:ARG:HH21	1.60	0.49
1:B:4722:ARG:HH12	1:B:4747:SER:HB2	1.78	0.48
1:B:4983:HIS:O	2:B:5101:ACP:N6	2.46	0.48
1:D:1155:LEU:HD13	1:D:1184:ILE:HD12	1.94	0.48
1:D:4713:SER:OG	1:D:4775:TYR:OH	2.27	0.48
1:A:626:LEU:HD23	1:A:628:GLY:H	1.78	0.48
1:A:1155:LEU:HD13	1:A:1184:ILE:HD12	1.94	0.48
1:A:4843:LEU:HD13	1:B:4823:LEU:HD21	1.94	0.48
1:B:626:LEU:HD23	1:B:628:GLY:H	1.78	0.48
1:B:2149:VAL:HA	1:B:2152:THR:HG22	1.95	0.48
1:C:2924:GLN:NE2	1:C:2925:GLU:HG3	2.27	0.48
1:C:3986:TRP:CD1	1:C:4047:MET:HG3	2.49	0.48
1:D:4721:LYS:HG2	1:D:4741:LEU:HD12	1.94	0.48
1:B:1748:PHE:O	1:B:1750:PRO:HD3	2.12	0.48
1:B:4733:GLY:HA3	1:B:4736:ARG:HG3	1.95	0.48
1:B:4928:LEU:HD23	1:B:4931:ILE:HD12	1.95	0.48
1:C:1748:PHE:O	1:C:1750:PRO:HD3	2.12	0.48
1:D:2812:SER:HB2	1:D:2886:TRP:CZ3	2.48	0.48
1:D:2920:ARG:HA	1:D:2923:ALA:HB3	1.96	0.48
1:D:4199:GLU:OE2	1:D:4199:GLU:N	2.37	0.48
1:A:4722:ARG:HH12	1:A:4747:SER:HB2	1.78	0.48
1:B:3670:GLU:HG2	1:B:3731:LYS:HB3	1.96	0.48
1:B:4092:ASP:HA	1:B:4095:LYS:HE2	1.94	0.48
1:A:201:ASN:OD1	1:A:203:ASN:ND2	2.45	0.48
1:C:626:LEU:HD23	1:C:628:GLY:H	1.78	0.48
1:D:626:LEU:HD23	1:D:628:GLY:H	1.78	0.48
1:D:2883:HIS:CE1	1:D:2919:ASP:HB2	2.49	0.48
1:D:3986:TRP:CD1	1:D:4047:MET:HG3	2.48	0.48
1:D:4722:ARG:HH12	1:D:4747:SER:HB2	1.78	0.48
1:A:2883:HIS:CE1	1:A:2919:ASP:HB2	2.49	0.48
1:A:4091:LYS:HG3	1:A:4095:LYS:NZ	2.28	0.48
1:B:3986:TRP:CD1	1:B:4047:MET:HG3	2.49	0.48
1:A:3986:TRP:CD1	1:A:4047:MET:HG3	2.48	0.48
1:A:4837:LEU:O	1:A:4841:VAL:HG23	2.12	0.48
1:B:2332:LEU:HB3	1:B:2432:LEU:HD12	1.95	0.48
1:B:2883:HIS:CE1	1:B:2919:ASP:HB2	2.49	0.48
1:B:2920:ARG:HA	1:B:2923:ALA:HB3	1.96	0.48
1:B:4721:LYS:HG2	1:B:4741:LEU:HD12	1.94	0.48
1:A:277:GLY:HA2	1:A:315:CYS:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2149:VAL:HA	1:A:2152:THR:HG22	1.95	0.48
1:A:3670:GLU:HG2	1:A:3731:LYS:HB3	1.96	0.48
1:B:277:GLY:HA2	1:B:315:CYS:HB3	1.95	0.48
1:B:688:LEU:HB3	1:B:712:TYR:HB3	1.95	0.48
1:B:2812:SER:HB2	1:B:2886:TRP:CZ3	2.48	0.48
1:C:2883:HIS:CE1	1:C:2919:ASP:HB2	2.49	0.48
1:C:2932:MET:SD	1:C:2932:MET:N	2.79	0.48
1:C:3751:VAL:HG12	1:C:3755:GLU:HB3	1.96	0.48
1:D:1619:ARG:HA	1:D:1626:TRP:H	1.79	0.48
1:A:266:ARG:O	1:A:270:SER:OG	2.27	0.48
1:C:575:LEU:HD22	1:C:609:CYS:HB3	1.96	0.48
1:C:688:LEU:HB3	1:C:712:TYR:HB3	1.95	0.48
1:C:3670:GLU:HG2	1:C:3731:LYS:HB3	1.96	0.48
1:D:277:GLY:HA2	1:D:315:CYS:HB3	1.95	0.48
1:D:575:LEU:HD22	1:D:609:CYS:HB3	1.96	0.48
1:D:688:LEU:HB3	1:D:712:TYR:HB3	1.95	0.48
1:D:2149:VAL:HA	1:D:2152:THR:HG22	1.95	0.48
1:D:3751:VAL:HG12	1:D:3755:GLU:HB3	1.96	0.48
1:A:685:GLY:HA3	1:A:714:TYR:O	2.14	0.48
1:B:685:GLY:HA3	1:B:714:TYR:O	2.14	0.48
1:C:2332:LEU:HB3	1:C:2432:LEU:HD12	1.95	0.48
1:C:2765:LYS:HG3	1:C:2929:PHE:HZ	1.79	0.48
1:A:575:LEU:HD22	1:A:609:CYS:HB3	1.96	0.47
1:A:2359:ARG:NH2	1:D:179:TYR:OH	2.47	0.47
1:A:4003:LEU:HD22	1:A:4009:GLN:HB3	1.96	0.47
1:A:4238:CYS:O	1:A:4242:ILE:HG12	2.14	0.47
1:D:3846:ALA:HA	1:D:3849:ARG:HD3	1.96	0.47
1:D:1072:VAL:HG12	1:D:1195:GLY:HA2	1.96	0.47
1:D:4238:CYS:O	1:D:4242:ILE:HG12	2.15	0.47
1:A:2332:LEU:HB3	1:A:2432:LEU:HD12	1.95	0.47
1:C:4238:CYS:O	1:C:4242:ILE:HG12	2.14	0.47
1:A:688:LEU:HB3	1:A:712:TYR:HB3	1.95	0.47
1:A:1072:VAL:HG12	1:A:1195:GLY:HA2	1.96	0.47
1:B:266:ARG:O	1:B:270:SER:OG	2.27	0.47
1:B:2765:LYS:HG3	1:B:2929:PHE:HZ	1.79	0.47
1:B:4238:CYS:O	1:B:4242:ILE:HG12	2.14	0.47
1:C:277:GLY:HA2	1:C:315:CYS:HB3	1.95	0.47
1:D:201:ASN:OD1	1:D:203:ASN:ND2	2.45	0.47
1:A:1619:ARG:HA	1:A:1626:TRP:H	1.79	0.47
1:A:3846:ALA:HA	1:A:3849:ARG:HD3	1.96	0.47
1:B:509:GLU:OE2	1:B:509:GLU:N	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2812:SER:HB2	1:C:2886:TRP:CZ3	2.48	0.47
1:C:2149:VAL:HA	1:C:2152:THR:HG22	1.95	0.47
1:D:3670:GLU:HG2	1:D:3731:LYS:HB3	1.96	0.47
1:A:876:GLU:HA	1:A:910:PHE:CE1	2.50	0.47
1:A:2920:ARG:HA	1:A:2923:ALA:HB3	1.96	0.47
1:A:3762:ARG:HA	1:A:4750:ILE:HG22	1.97	0.47
1:A:3986:TRP:HD1	1:A:4047:MET:HG3	1.80	0.47
1:A:4199:GLU:OE2	1:A:4199:GLU:N	2.37	0.47
1:B:1072:VAL:HG12	1:B:1195:GLY:HA2	1.96	0.47
1:B:1619:ARG:HA	1:B:1626:TRP:H	1.79	0.47
1:B:3846:ALA:HA	1:B:3849:ARG:HD3	1.96	0.47
1:C:685:GLY:HA3	1:C:714:TYR:O	2.14	0.47
1:C:4733:GLY:HA3	1:C:4736:ARG:HG3	1.96	0.47
1:D:4733:GLY:HA3	1:D:4736:ARG:HG3	1.96	0.47
1:A:3225:UNK:O	1:A:3230:UNK:N	2.48	0.47
1:A:3805:LEU:HD11	1:A:3891:LEU:HD23	1.96	0.47
1:B:575:LEU:HD22	1:B:609:CYS:HB3	1.96	0.47
1:B:1152:MET:HG3	1:B:1161:ILE:HB	1.97	0.47
1:B:3762:ARG:HA	1:B:4750:ILE:HG22	1.97	0.47
1:C:2920:ARG:HA	1:C:2923:ALA:HB3	1.96	0.47
1:C:4003:LEU:HD22	1:C:4009:GLN:HB3	1.96	0.47
1:D:876:GLU:HA	1:D:910:PHE:CE1	2.50	0.47
1:D:1152:MET:HG3	1:D:1161:ILE:HB	1.97	0.47
1:D:2332:LEU:HB3	1:D:2432:LEU:HD12	1.95	0.47
1:D:3805:LEU:HD11	1:D:3891:LEU:HD23	1.96	0.47
1:A:1152:MET:HG3	1:A:1161:ILE:HB	1.97	0.47
1:B:3225:UNK:O	1:B:3230:UNK:N	2.48	0.47
1:B:3805:LEU:HD11	1:B:3891:LEU:HD23	1.96	0.47
1:C:3986:TRP:HD1	1:C:4047:MET:HG3	1.80	0.47
1:C:4791:TYR:CE1	1:C:4815:ASP:HB2	2.50	0.47
1:D:3986:TRP:HD1	1:D:4047:MET:HG3	1.80	0.47
1:D:4003:LEU:HD22	1:D:4009:GLN:HB3	1.96	0.47
1:D:4975:PHE:O	1:D:4979:THR:HG23	2.15	0.47
1:C:1072:VAL:HG12	1:C:1195:GLY:HA2	1.96	0.47
1:C:3846:ALA:HA	1:C:3849:ARG:HD3	1.96	0.47
1:D:685:GLY:HA3	1:D:714:TYR:O	2.14	0.47
1:D:2765:LYS:HG3	1:D:2929:PHE:HZ	1.79	0.47
1:B:3986:TRP:HD1	1:B:4047:MET:HG3	1.80	0.46
1:B:4003:LEU:HD22	1:B:4009:GLN:HB3	1.96	0.46
1:D:3225:UNK:O	1:D:3230:UNK:N	2.48	0.46
1:D:4791:TYR:CE1	1:D:4815:ASP:HB2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:910:PHE:CE2	1:A:913:LEU:HD11	2.50	0.46
1:A:3751:VAL:HG12	1:A:3755:GLU:HB3	1.96	0.46
1:A:4733:GLY:HA3	1:A:4736:ARG:HG3	1.96	0.46
1:C:5030:LYS:HE2	1:C:5030:LYS:HB2	1.76	0.46
1:D:219:VAL:HG12	1:D:261:ARG:HB2	1.97	0.46
1:D:910:PHE:CE2	1:D:913:LEU:HD11	2.50	0.46
1:D:1735:ILE:HD11	1:D:2201:LEU:HD11	1.98	0.46
1:A:4975:PHE:O	1:A:4979:THR:HG23	2.15	0.46
1:B:3751:VAL:HG12	1:B:3755:GLU:HB3	1.96	0.46
1:C:3962:PHE:O	1:C:3966:THR:HG23	2.16	0.46
1:D:2932:MET:SD	1:D:2932:MET:N	2.79	0.46
1:D:3762:ARG:HA	1:D:4750:ILE:HG22	1.97	0.46
1:B:910:PHE:CE2	1:B:913:LEU:HD11	2.50	0.46
1:C:1152:MET:HG3	1:C:1161:ILE:HB	1.97	0.46
1:C:1619:ARG:HA	1:C:1626:TRP:H	1.79	0.46
1:C:3225:UNK:O	1:C:3230:UNK:N	2.48	0.46
1:A:294:THR:HG23	1:A:295:GLU:H	1.81	0.46
1:A:2765:LYS:HG3	1:A:2929:PHE:HZ	1.79	0.46
1:A:3962:PHE:O	1:A:3966:THR:HG23	2.16	0.46
1:C:4975:PHE:O	1:C:4979:THR:HG23	2.15	0.46
1:D:3962:PHE:O	1:D:3966:THR:HG23	2.16	0.46
1:A:1735:ILE:HD11	1:A:2201:LEU:HD11	1.98	0.46
1:A:4703:ARG:HA	1:A:4706:LEU:HD12	1.98	0.46
1:B:876:GLU:HA	1:B:910:PHE:CE1	2.50	0.46
1:C:4095:LYS:O	1:C:4099:SER:OG	2.32	0.46
1:A:3673:MET:HE2	1:A:3728:ILE:HG21	1.98	0.46
1:A:3720:TYR:HA	1:A:3723:MET:HG3	1.98	0.46
1:A:4791:TYR:CE1	1:A:4815:ASP:HB2	2.50	0.46
1:B:1407:UNK:O	1:B:1409:UNK:N	2.49	0.46
1:B:4975:PHE:O	1:B:4979:THR:HG23	2.15	0.46
1:C:219:VAL:HG12	1:C:261:ARG:HB2	1.97	0.46
1:C:1407:UNK:O	1:C:1409:UNK:N	2.49	0.46
1:C:1848:LEU:HD12	1:C:1853:ILE:HG21	1.98	0.46
1:A:179:TYR:OH	1:B:2359:ARG:NH2	2.49	0.46
1:B:1671:ARG:O	1:B:1675:ALA:HB2	2.16	0.46
1:B:3673:MET:HE2	1:B:3728:ILE:HG21	1.98	0.46
1:B:4654:ALA:O	1:B:4658:ILE:HG12	2.16	0.46
1:B:4791:TYR:CE1	1:B:4815:ASP:HB2	2.50	0.46
2:B:5101:ACP:H8	2:B:5101:ACP:O5'	2.16	0.46
1:C:266:ARG:O	1:C:270:SER:OG	2.27	0.46
1:C:294:THR:HG23	1:C:295:GLU:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2311:PRO:HA	1:C:2314:LEU:HG	1.98	0.46
1:B:1676:LEU:HA	1:B:1725:ARG:HH22	1.81	0.46
1:C:910:PHE:CE2	1:C:913:LEU:HD11	2.50	0.46
1:C:1644:GLU:OE1	1:C:1646:ARG:NH1	2.38	0.46
1:C:4211:LYS:HE2	1:C:4211:LYS:HB3	1.75	0.46
1:D:1407:UNK:O	1:D:1409:UNK:N	2.49	0.46
1:D:3720:TYR:HA	1:D:3723:MET:HG3	1.98	0.46
1:B:2311:PRO:HA	1:B:2314:LEU:HG	1.98	0.46
1:C:876:GLU:HA	1:C:910:PHE:CE1	2.50	0.46
1:D:294:THR:HG23	1:D:295:GLU:H	1.81	0.46
1:A:219:VAL:HG12	1:A:261:ARG:HB2	1.97	0.45
1:A:1407:UNK:O	1:A:1409:UNK:N	2.49	0.45
1:B:294:THR:HG23	1:B:295:GLU:H	1.81	0.45
1:C:1671:ARG:O	1:C:1675:ALA:HB2	2.16	0.45
1:C:3762:ARG:HA	1:C:4750:ILE:HG22	1.97	0.45
1:D:1676:LEU:HA	1:D:1725:ARG:HH22	1.81	0.45
1:B:1848:LEU:HD12	1:B:1853:ILE:HG21	1.98	0.45
1:B:4952:GLU:O	1:B:4956:THR:HG22	2.16	0.45
1:C:3720:TYR:HA	1:C:3723:MET:HG3	1.98	0.45
1:C:4686:LEU:HD21	1:C:4692:PRO:HG3	1.99	0.45
1:C:4952:GLU:O	1:C:4956:THR:HG22	2.16	0.45
1:A:359:TYR:OH	1:A:385:ASP:OD2	2.29	0.45
1:A:1671:ARG:O	1:A:1675:ALA:HB2	2.16	0.45
1:A:4654:ALA:O	1:A:4658:ILE:HG12	2.16	0.45
1:C:4654:ALA:O	1:C:4658:ILE:HG12	2.16	0.45
1:D:3941:ASP:OD2	1:D:3942:VAL:N	2.50	0.45
1:D:4686:LEU:HD21	1:D:4692:PRO:HG3	1.99	0.45
1:D:4703:ARG:HA	1:D:4706:LEU:HD12	1.98	0.45
1:B:4931:ILE:HG23	1:C:4940:PHE:CZ	2.51	0.45
1:C:2189:LYS:HB2	1:C:2189:LYS:HE2	1.85	0.45
1:C:3805:LEU:HD11	1:C:3891:LEU:HD23	1.96	0.45
1:D:1671:ARG:O	1:D:1675:ALA:HB2	2.16	0.45
1:D:1848:LEU:HD12	1:D:1853:ILE:HG21	1.98	0.45
1:B:2768:PHE:HD2	1:B:2772:GLN:HE22	1.65	0.45
1:B:4843:LEU:HD13	1:C:4823:LEU:HD21	1.98	0.45
1:A:1159:THR:HG23	1:A:1178:ALA:HB1	1.99	0.45
1:A:4823:LEU:HD21	1:D:4843:LEU:HD13	1.97	0.45
1:A:4843:LEU:HD22	1:B:4823:LEU:HD11	1.99	0.45
1:B:219:VAL:HG12	1:B:261:ARG:HB2	1.97	0.45
1:B:1159:THR:HG23	1:B:1178:ALA:HB1	1.99	0.45
1:C:4931:ILE:HG23	1:D:4940:PHE:CZ	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4654:ALA:O	1:D:4658:ILE:HG12	2.16	0.45
1:A:1676:LEU:HA	1:A:1725:ARG:HH22	1.81	0.45
1:A:3941:ASP:OD2	1:A:3942:VAL:N	2.50	0.45
1:A:4211:LYS:HB3	1:A:4211:LYS:HE2	1.75	0.45
1:B:4848:VAL:O	1:B:4852:THR:OG1	2.23	0.45
1:C:1735:ILE:HD11	1:C:2201:LEU:HD11	1.97	0.45
1:D:915:GLU:HA	1:D:918:ARG:HG2	1.98	0.45
1:D:4952:GLU:O	1:D:4956:THR:HG22	2.16	0.45
1:B:3924:LEU:O	1:B:3928:GLU:HG2	2.17	0.45
1:D:2912:THR:OG1	1:D:2914:LYS:NZ	2.45	0.45
1:D:3673:MET:HE2	1:D:3728:ILE:HG21	1.99	0.45
1:B:3941:ASP:OD2	1:B:3942:VAL:N	2.50	0.45
1:B:4703:ARG:HA	1:B:4706:LEU:HD12	1.98	0.45
1:D:661:LYS:HG2	1:D:808:TYR:CD1	2.52	0.45
1:D:2311:PRO:HA	1:D:2314:LEU:HG	1.98	0.45
1:D:2868:SER:O	1:D:2872:GLN:NE2	2.50	0.45
1:B:1735:ILE:HD11	1:B:2201:LEU:HD11	1.97	0.45
1:B:2581:UNK:N	1:B:2899:GLY:O	2.50	0.45
1:B:2932:MET:SD	1:B:2932:MET:N	2.79	0.45
1:B:3962:PHE:O	1:B:3966:THR:HG23	2.16	0.45
1:D:2812:SER:HB2	1:D:2886:TRP:HZ3	1.82	0.45
1:A:1848:LEU:HD12	1:A:1853:ILE:HG21	1.98	0.44
1:A:4868:ASP:N	1:A:4868:ASP:OD2	2.50	0.44
1:C:1676:LEU:HA	1:C:1725:ARG:HH22	1.81	0.44
1:C:2812:SER:HB2	1:C:2886:TRP:HZ3	1.83	0.44
1:C:2868:SER:O	1:C:2872:GLN:NE2	2.50	0.44
1:C:3941:ASP:OD2	1:C:3942:VAL:N	2.50	0.44
1:A:292:ALA:HB2	1:A:312:THR:HG22	1.99	0.44
1:A:877:ASN:O	1:A:880:GLU:HG3	2.18	0.44
1:B:292:ALA:HB2	1:B:312:THR:HG22	1.99	0.44
1:B:5030:LYS:HE2	1:B:5030:LYS:HB2	1.76	0.44
1:C:2768:PHE:HD2	1:C:2772:GLN:HE22	1.65	0.44
1:C:3924:LEU:O	1:C:3928:GLU:HG2	2.17	0.44
1:D:3924:LEU:O	1:D:3928:GLU:HG2	2.17	0.44
1:A:265:LEU:HD23	1:A:279:PRO:HB2	2.00	0.44
1:A:915:GLU:HA	1:A:918:ARG:HG2	1.99	0.44
1:A:2581:UNK:N	1:A:2899:GLY:O	2.50	0.44
1:A:2812:SER:HB2	1:A:2886:TRP:HZ3	1.82	0.44
1:A:4823:LEU:HD11	1:D:4843:LEU:HD22	1.99	0.44
1:A:4952:GLU:O	1:A:4956:THR:HG22	2.16	0.44
1:B:316:PHE:HD1	1:B:346:CYS:SG	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4199:GLU:OE2	1:B:4199:GLU:N	2.37	0.44
1:C:292:ALA:HB2	1:C:312:THR:HG22	1.99	0.44
1:C:877:ASN:O	1:C:881:LEU:HG	2.18	0.44
1:C:915:GLU:HA	1:C:918:ARG:HG2	1.98	0.44
1:C:4843:LEU:HD13	1:D:4823:LEU:HD21	2.00	0.44
1:D:877:ASN:O	1:D:881:LEU:HG	2.18	0.44
1:D:877:ASN:O	1:D:880:GLU:HG3	2.18	0.44
1:A:2311:PRO:HA	1:A:2314:LEU:HG	1.98	0.44
1:A:2868:SER:O	1:A:2872:GLN:NE2	2.50	0.44
1:B:2664:UNK:O	1:B:2806:ARG:NH2	2.51	0.44
1:B:3720:TYR:HA	1:B:3723:MET:HG3	1.98	0.44
1:D:292:ALA:HB2	1:D:312:THR:HG22	1.99	0.44
1:D:1159:THR:HG23	1:D:1178:ALA:HB1	1.99	0.44
1:A:526:LEU:O	1:A:530:ILE:HG22	2.18	0.44
1:B:2912:THR:OG1	1:B:2914:LYS:NZ	2.45	0.44
1:C:275:ARG:NH1	1:C:276:TRP:H	2.16	0.44
1:C:661:LYS:HG2	1:C:808:TYR:CD1	2.52	0.44
1:C:2664:UNK:O	1:C:2806:ARG:NH2	2.51	0.44
1:C:3813:GLN:OE1	1:C:3896:ASN:ND2	2.51	0.44
1:C:4703:ARG:HA	1:C:4706:LEU:HD12	1.98	0.44
1:C:4816:ILE:HD12	1:C:4816:ILE:HA	1.92	0.44
1:A:316:PHE:HD1	1:A:346:CYS:SG	2.40	0.44
1:A:3924:LEU:O	1:A:3928:GLU:HG2	2.17	0.44
1:A:4686:LEU:HD21	1:A:4692:PRO:HG3	1.99	0.44
1:B:265:LEU:HD23	1:B:279:PRO:HB2	2.00	0.44
1:B:269:TRP:NE1	1:B:333:GLY:O	2.51	0.44
1:B:877:ASN:O	1:B:880:GLU:HG3	2.18	0.44
1:B:915:GLU:HA	1:B:918:ARG:HG2	1.98	0.44
1:B:1236:THR:O	1:B:1236:THR:OG1	2.36	0.44
1:C:4091:LYS:HG3	1:C:4095:LYS:HZ3	1.82	0.44
1:C:4868:ASP:OD2	1:C:4868:ASP:N	2.50	0.44
1:D:2359:ARG:HA	1:D:2359:ARG:HD2	1.83	0.44
1:A:4095:LYS:O	1:A:4099:SER:OG	2.32	0.44
1:B:2868:SER:O	1:B:2872:GLN:NE2	2.50	0.44
1:C:265:LEU:HD23	1:C:279:PRO:HB2	2.00	0.44
1:C:2581:UNK:N	1:C:2899:GLY:O	2.50	0.44
1:D:269:TRP:NE1	1:D:333:GLY:O	2.51	0.44
1:D:316:PHE:HD1	1:D:346:CYS:SG	2.40	0.44
1:D:2768:PHE:HD2	1:D:2772:GLN:HE22	1.65	0.44
1:A:877:ASN:O	1:A:881:LEU:HG	2.18	0.44
1:B:661:LYS:HG2	1:B:808:TYR:CD1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2812:SER:HB2	1:B:2886:TRP:HZ3	1.82	0.44
1:B:3813:GLN:OE1	1:B:3896:ASN:ND2	2.51	0.44
1:D:526:LEU:O	1:D:530:ILE:HG22	2.18	0.44
1:D:2581:UNK:N	1:D:2899:GLY:O	2.50	0.44
1:D:2757:LYS:NZ	1:D:2929:PHE:HB3	2.33	0.44
1:D:4091:LYS:HG3	1:D:4095:LYS:HZ3	1.82	0.44
1:A:2768:PHE:HD2	1:A:2772:GLN:HE22	1.65	0.44
1:A:5030:LYS:HE2	1:A:5030:LYS:HB2	1.77	0.44
1:B:877:ASN:O	1:B:881:LEU:HG	2.18	0.44
1:B:1165:ASN:HA	1:B:1213:PHE:HE2	1.83	0.44
1:C:316:PHE:HD1	1:C:346:CYS:SG	2.40	0.44
1:C:4565:LEU:HD12	1:C:4565:LEU:HA	1.87	0.44
1:D:4816:ILE:HD12	1:D:4816:ILE:HA	1.91	0.44
1:A:49:LEU:HD21	1:A:191:VAL:HG13	2.00	0.43
1:A:61:ASP:OD1	1:A:61:ASP:N	2.51	0.43
1:A:275:ARG:NH1	1:A:276:TRP:H	2.16	0.43
1:A:2672:UNK:HA	1:A:2804:ILE:HG13	2.00	0.43
1:B:320:LYS:HA	1:B:356:TRP:HH2	1.83	0.43
1:B:1804:LEU:HB3	1:B:1853:ILE:HD11	2.00	0.43
1:C:49:LEU:HD21	1:C:191:VAL:HG13	2.00	0.43
1:C:4060:LYS:HE3	1:C:4060:LYS:HB2	1.83	0.43
1:C:4813:LEU:HD23	1:C:4813:LEU:HA	1.82	0.43
1:D:1808:ARG:HG3	1:D:1854:PHE:CE1	2.53	0.43
1:A:436:LEU:HD23	1:A:438:ILE:HD11	2.01	0.43
1:A:661:LYS:HG2	1:A:808:TYR:CD1	2.52	0.43
1:A:1808:ARG:HG3	1:A:1854:PHE:CE1	2.53	0.43
1:A:3813:GLN:OE1	1:A:3896:ASN:ND2	2.51	0.43
1:B:3535:UNK:O	1:B:3537:UNK:N	2.51	0.43
1:B:3751:VAL:O	1:B:3756:LYS:NZ	2.51	0.43
1:B:4686:LEU:HD21	1:B:4692:PRO:HG3	1.99	0.43
1:C:61:ASP:OD1	1:C:61:ASP:N	2.52	0.43
1:C:269:TRP:NE1	1:C:333:GLY:O	2.51	0.43
1:C:492:ASP:OD1	1:C:546:TRP:NE1	2.50	0.43
1:C:3751:VAL:O	1:C:3756:LYS:NZ	2.51	0.43
1:D:275:ARG:NH1	1:D:276:TRP:H	2.16	0.43
1:D:3813:GLN:OE1	1:D:3896:ASN:ND2	2.51	0.43
1:A:1804:LEU:HB3	1:A:1853:ILE:HD11	2.00	0.43
1:A:3535:UNK:O	1:A:3537:UNK:N	2.51	0.43
1:A:3561:UNK:O	1:A:3563:UNK:N	2.52	0.43
1:B:2359:ARG:HA	1:B:2359:ARG:HD2	1.83	0.43
1:C:1159:THR:HG23	1:C:1178:ALA:HB1	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1165:ASN:HA	1:D:1213:PHE:HE2	1.83	0.43
1:D:2182:ILE:HA	1:D:2185:ILE:HG22	2.01	0.43
1:A:269:TRP:NE1	1:A:333:GLY:O	2.51	0.43
1:A:320:LYS:HA	1:A:356:TRP:HH2	1.83	0.43
1:A:2236:LEU:HD23	1:A:2236:LEU:HA	1.90	0.43
1:A:2346:VAL:HG23	1:A:2349:ASN:HB2	2.00	0.43
1:B:275:ARG:NH1	1:B:276:TRP:H	2.16	0.43
1:C:1236:THR:O	1:C:1236:THR:OG1	2.36	0.43
1:C:2757:LYS:HZ3	1:C:2929:PHE:HB3	1.83	0.43
1:C:2757:LYS:NZ	1:C:2929:PHE:HB3	2.33	0.43
1:C:4713:SER:OG	1:C:4775:TYR:OH	2.27	0.43
1:D:3535:UNK:O	1:D:3537:UNK:N	2.51	0.43
1:A:2182:ILE:HA	1:A:2185:ILE:HG22	2.01	0.43
1:A:2664:UNK:O	1:A:2806:ARG:NH2	2.51	0.43
1:A:2912:THR:OG1	1:A:2914:LYS:NZ	2.45	0.43
1:B:1695:LEU:HD23	1:B:1695:LEU:HA	1.89	0.43
1:B:2182:ILE:HA	1:B:2185:ILE:HG22	2.01	0.43
1:B:3986:TRP:O	1:B:3990:VAL:HG23	2.19	0.43
1:B:4565:LEU:HD12	1:B:4565:LEU:HA	1.87	0.43
1:B:4576:ILE:HG21	1:B:4643:LEU:HB2	2.01	0.43
1:C:526:LEU:O	1:C:530:ILE:HG22	2.18	0.43
1:C:877:ASN:O	1:C:880:GLU:HG3	2.18	0.43
1:C:1165:ASN:HA	1:C:1213:PHE:HE2	1.83	0.43
1:C:2182:ILE:HA	1:C:2185:ILE:HG22	2.01	0.43
1:C:2346:VAL:HG23	1:C:2349:ASN:HB2	2.00	0.43
1:C:4855:ALA:HB1	1:C:4863:TYR:CE2	2.54	0.43
1:D:436:LEU:HD23	1:D:438:ILE:HD11	2.00	0.43
1:D:2271:THR:HG22	1:D:2273:LEU:H	1.83	0.43
1:A:1165:ASN:HA	1:A:1213:PHE:HE2	1.83	0.43
1:A:2932:MET:HA	1:A:3100:UNK:HA	2.01	0.43
1:B:181:HIS:ND1	1:B:198:THR:OG1	2.52	0.43
1:B:526:LEU:O	1:B:530:ILE:HG22	2.18	0.43
1:C:320:LYS:HA	1:C:356:TRP:HH2	1.83	0.43
1:C:2672:UNK:HA	1:C:2804:ILE:HG13	2.00	0.43
1:D:265:LEU:HD23	1:D:279:PRO:HB2	2.00	0.43
1:D:1115:LEU:HD23	1:D:1115:LEU:HA	1.91	0.43
1:D:1728:ARG:HE	1:D:1850:VAL:HG21	1.84	0.43
1:D:2278:ALA:HA	1:D:2281:ILE:HG12	2.01	0.43
1:A:181:HIS:ND1	1:A:198:THR:OG1	2.52	0.43
1:A:379:HIS:HD2	1:A:382:GLY:H	1.66	0.43
1:A:2271:THR:HG22	1:A:2273:LEU:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4091:LYS:HA	1:A:4091:LYS:HD2	1.86	0.43
1:A:4816:ILE:HD12	1:A:4816:ILE:HA	1.92	0.43
1:B:492:ASP:OD1	1:B:546:TRP:NE1	2.49	0.43
1:C:1808:ARG:HG3	1:C:1854:PHE:CE1	2.53	0.43
1:C:2278:ALA:HA	1:C:2281:ILE:HG12	2.01	0.43
1:D:3561:UNK:O	1:D:3563:UNK:N	2.52	0.43
1:D:3751:VAL:O	1:D:3756:LYS:NZ	2.51	0.43
1:D:4095:LYS:O	1:D:4099:SER:OG	2.32	0.43
1:A:591:ASP:OD1	1:A:1594:ARG:NH1	2.52	0.43
1:A:2757:LYS:NZ	1:A:2929:PHE:HB3	2.33	0.43
1:B:591:ASP:OD1	1:B:1594:ARG:NH1	2.52	0.43
1:B:2757:LYS:NZ	1:B:2929:PHE:HB3	2.33	0.43
1:B:4855:ALA:HB1	1:B:4863:TYR:CE2	2.54	0.43
1:C:920:TYR:O	1:C:924:MET:HG3	2.19	0.43
1:D:181:HIS:ND1	1:D:198:THR:OG1	2.52	0.43
1:D:492:ASP:OD1	1:D:546:TRP:NE1	2.50	0.43
1:D:591:ASP:OD1	1:D:1594:ARG:NH1	2.52	0.43
1:D:2664:UNK:O	1:D:2806:ARG:NH2	2.51	0.43
1:D:4868:ASP:OD2	1:D:4868:ASP:N	2.50	0.43
1:A:2757:LYS:HZ3	1:A:2929:PHE:HB3	1.83	0.43
1:A:3749:VAL:O	1:A:3750:GLU:HG2	2.19	0.43
1:A:3751:VAL:O	1:A:3756:LYS:NZ	2.51	0.43
1:A:3767:GLN:NE2	1:A:3804:ILE:O	2.52	0.43
1:B:49:LEU:HD21	1:B:191:VAL:HG13	2.00	0.43
1:B:379:HIS:HD2	1:B:382:GLY:H	1.66	0.43
1:B:2932:MET:HA	1:B:3100:UNK:HA	2.01	0.43
1:B:3767:GLN:NE2	1:B:3804:ILE:O	2.52	0.43
1:B:4868:ASP:OD2	1:B:4868:ASP:N	2.50	0.43
1:C:436:LEU:HD23	1:C:438:ILE:HD11	2.01	0.43
1:C:591:ASP:OD1	1:C:1594:ARG:NH1	2.52	0.43
1:C:901:LYS:HE3	1:C:903:LEU:HD12	2.01	0.43
1:C:3561:UNK:O	1:C:3563:UNK:N	2.52	0.43
1:C:3749:VAL:O	1:C:3750:GLU:HG2	2.19	0.43
1:C:4791:TYR:HE1	1:C:4815:ASP:HB2	1.84	0.43
1:D:609:CYS:SG	1:D:610:ASN:N	2.92	0.43
1:D:901:LYS:HE3	1:D:903:LEU:HD12	2.01	0.43
1:D:2672:UNK:HA	1:D:2804:ILE:HG13	2.00	0.43
1:A:1115:LEU:HD23	1:A:1115:LEU:HA	1.91	0.43
1:A:4231:MET:O	1:A:4235:VAL:HG23	2.19	0.43
1:C:1804:LEU:HB3	1:C:1853:ILE:HD11	2.00	0.43
1:C:3767:GLN:NE2	1:C:3804:ILE:O	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4231:MET:O	1:C:4235:VAL:HG23	2.19	0.43
1:D:889:GLN:O	1:D:902:ARG:NH1	2.52	0.43
1:D:920:TYR:O	1:D:924:MET:HG3	2.19	0.43
1:D:3749:VAL:O	1:D:3750:GLU:HG2	2.19	0.43
1:A:889:GLN:HB3	1:A:902:ARG:HH12	1.84	0.42
1:A:2189:LYS:HB2	1:A:2189:LYS:HE2	1.85	0.42
1:B:1728:ARG:HE	1:B:1850:VAL:HG21	1.84	0.42
1:B:2346:VAL:HG23	1:B:2349:ASN:HB2	2.00	0.42
1:B:2672:UNK:HA	1:B:2804:ILE:HG13	2.00	0.42
1:B:4158:PRO:HA	1:B:4161:ARG:HH11	1.84	0.42
1:C:889:GLN:O	1:C:902:ARG:NH1	2.52	0.42
1:D:379:HIS:HD2	1:D:382:GLY:H	1.66	0.42
1:D:3940:LYS:HD3	1:D:3940:LYS:N	2.34	0.42
1:D:4821:LYS:HE3	1:D:4821:LYS:HA	2.01	0.42
1:D:4855:ALA:HB1	1:D:4863:TYR:CE2	2.54	0.42
1:A:889:GLN:O	1:A:902:ARG:NH1	2.52	0.42
1:A:2278:ALA:HA	1:A:2281:ILE:HG12	2.01	0.42
1:B:1808:ARG:HG3	1:B:1854:PHE:CE1	2.53	0.42
1:B:2290:LEU:HD11	1:B:2334:PHE:HZ	1.84	0.42
1:C:181:HIS:ND1	1:C:198:THR:OG1	2.52	0.42
1:C:889:GLN:HB3	1:C:902:ARG:HH12	1.84	0.42
1:C:3986:TRP:O	1:C:3990:VAL:HG23	2.19	0.42
1:C:4158:PRO:HA	1:C:4161:ARG:HH11	1.84	0.42
1:D:49:LEU:HD21	1:D:191:VAL:HG13	2.00	0.42
1:D:889:GLN:HB3	1:D:902:ARG:HH12	1.84	0.42
1:A:4158:PRO:HA	1:A:4161:ARG:HH11	1.84	0.42
1:A:4855:ALA:HB1	1:A:4863:TYR:CE2	2.54	0.42
1:B:609:CYS:SG	1:B:610:ASN:N	2.92	0.42
1:B:920:TYR:O	1:B:924:MET:HG3	2.19	0.42
1:B:1095:VAL:HB	1:B:1199:VAL:HB	2.01	0.42
1:B:2278:ALA:HA	1:B:2281:ILE:HG12	2.01	0.42
1:B:3561:UNK:O	1:B:3563:UNK:N	2.52	0.42
1:B:3749:VAL:O	1:B:3750:GLU:HG2	2.19	0.42
1:C:1211:LEU:HD23	1:C:1211:LEU:HA	1.92	0.42
1:C:1728:ARG:HE	1:C:1850:VAL:HG21	1.84	0.42
1:C:4091:LYS:HA	1:C:4091:LYS:HD2	1.86	0.42
1:D:1095:VAL:HB	1:D:1199:VAL:HB	2.01	0.42
1:D:1804:LEU:HB3	1:D:1853:ILE:HD11	2.00	0.42
1:D:1974:ARG:HH21	1:D:3642:TYR:HB2	1.85	0.42
1:D:4231:MET:O	1:D:4235:VAL:HG23	2.19	0.42
1:A:4576:ILE:HG21	1:A:4643:LEU:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:889:GLN:HB3	1:B:902:ARG:HH12	1.84	0.42
1:B:2271:THR:HG22	1:B:2273:LEU:H	1.83	0.42
1:B:2356:LEU:HA	1:B:2359:ARG:HG2	2.01	0.42
1:B:4821:LYS:HE3	1:B:4821:LYS:HA	2.01	0.42
1:C:642:THR:HG23	1:C:1613:LEU:HD12	2.01	0.42
1:A:394:GLN:OE1	1:A:395:GLN:N	2.53	0.42
1:A:2812:SER:H	1:A:2886:TRP:HH2	1.67	0.42
1:A:3986:TRP:O	1:A:3990:VAL:HG23	2.19	0.42
1:A:4821:LYS:HE3	1:A:4821:LYS:HA	2.01	0.42
1:A:4931:ILE:HG23	1:B:4940:PHE:CZ	2.53	0.42
1:B:27:THR:HB	1:B:32:GLN:HA	2.01	0.42
1:B:889:GLN:O	1:B:902:ARG:NH1	2.52	0.42
1:B:901:LYS:HE3	1:B:903:LEU:HD12	2.01	0.42
1:B:2628:UNK:O	1:B:2888:ARG:NE	2.52	0.42
1:B:4091:LYS:HG3	1:B:4095:LYS:HZ3	1.84	0.42
1:B:4095:LYS:O	1:B:4099:SER:OG	2.32	0.42
1:B:4134:GLU:HB2	1:B:4135:PRO:HD3	2.02	0.42
1:B:4207:MET:HA	1:B:4208:PRO:HD3	1.92	0.42
1:C:948:ASP:OD1	1:C:949:ASN:N	2.53	0.42
1:C:3535:UNK:O	1:C:3537:UNK:N	2.51	0.42
1:C:4576:ILE:HG21	1:C:4643:LEU:HB2	2.01	0.42
1:D:275:ARG:NH1	1:D:338:GLU:OE2	2.48	0.42
1:D:2346:VAL:HG23	1:D:2349:ASN:HB2	2.00	0.42
1:D:3645:PRO:HG2	1:D:3648:ARG:HD3	2.01	0.42
1:A:27:THR:HB	1:A:32:GLN:HA	2.01	0.42
1:A:642:THR:HG23	1:A:1613:LEU:HD12	2.01	0.42
1:A:920:TYR:O	1:A:924:MET:HG3	2.19	0.42
1:A:1974:ARG:HH21	1:A:3642:TYR:HB2	1.85	0.42
1:A:3645:PRO:HG2	1:A:3648:ARG:HD3	2.01	0.42
1:A:4791:TYR:HE1	1:A:4815:ASP:HB2	1.84	0.42
1:B:3940:LYS:HD3	1:B:3940:LYS:N	2.34	0.42
1:C:161:GLU:HA	1:D:3984:ARG:HH22	1.84	0.42
1:C:4994:TYR:CZ	1:C:4998:LYS:HD2	2.55	0.42
1:D:27:THR:HB	1:D:32:GLN:HA	2.01	0.42
1:D:320:LYS:HA	1:D:356:TRP:HH2	1.83	0.42
1:D:2356:LEU:HA	1:D:2359:ARG:HG2	2.01	0.42
1:D:2628:UNK:O	1:D:2888:ARG:NE	2.53	0.42
1:D:2932:MET:HA	1:D:3100:UNK:HA	2.01	0.42
1:D:4792:LEU:HD23	1:D:4792:LEU:HA	1.82	0.42
1:A:901:LYS:HE3	1:A:903:LEU:HD12	2.01	0.42
1:A:4134:GLU:HB2	1:A:4135:PRO:HD3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4631:PHE:CE1	1:A:4633:GLU:HB2	2.55	0.42
1:B:394:GLN:OE1	1:B:395:GLN:N	2.53	0.42
1:B:4631:PHE:CE1	1:B:4633:GLU:HB2	2.55	0.42
1:B:4791:TYR:HE1	1:B:4815:ASP:HB2	1.84	0.42
1:D:2812:SER:H	1:D:2886:TRP:HH2	1.67	0.42
1:D:4994:TYR:CZ	1:D:4998:LYS:HD2	2.55	0.42
1:C:2356:LEU:HA	1:C:2359:ARG:HG2	2.01	0.42
1:C:2932:MET:HA	1:C:3100:UNK:HA	2.01	0.42
1:D:257:ARG:O	1:D:284:HIS:NE2	2.44	0.42
1:D:948:ASP:OD1	1:D:949:ASN:N	2.53	0.42
1:D:2290:LEU:HD11	1:D:2334:PHE:HZ	1.84	0.42
1:A:1095:VAL:HB	1:A:1199:VAL:HB	2.01	0.42
1:A:1122:TYR:CZ	1:A:1182:ILE:HD11	2.55	0.42
1:A:1728:ARG:HE	1:A:1850:VAL:HG21	1.84	0.42
1:A:3940:LYS:N	1:A:3940:LYS:HD3	2.34	0.42
1:A:4674:GLU:OE1	1:A:4712:PRO:HA	2.20	0.42
1:B:747:CYS:SG	1:B:756:SER:HB3	2.60	0.42
1:C:2290:LEU:HD11	1:C:2334:PHE:HZ	1.84	0.42
1:C:4631:PHE:CE1	1:C:4633:GLU:HB2	2.55	0.42
1:A:2288:LEU:HD23	1:A:3849:ARG:HB3	2.02	0.42
1:A:4035:VAL:HG22	1:A:4038:GLY:HA2	2.02	0.42
1:A:4091:LYS:HG3	1:A:4095:LYS:HZ3	1.85	0.42
1:A:4792:LEU:HA	1:A:4792:LEU:HD23	1.82	0.42
1:B:346:CYS:SG	1:B:347:PHE:N	2.93	0.42
1:B:436:LEU:HD23	1:B:438:ILE:HD11	2.01	0.42
1:B:4664:LEU:HD23	1:B:4664:LEU:HA	1.94	0.42
1:C:27:THR:HB	1:C:32:GLN:HA	2.01	0.42
1:C:394:GLN:OE1	1:C:395:GLN:N	2.53	0.42
1:C:2271:THR:HG22	1:C:2273:LEU:H	1.83	0.42
1:C:2288:LEU:HD23	1:C:3849:ARG:HB3	2.02	0.42
1:C:4581:LYS:HB2	1:C:4632:LEU:HG	2.02	0.42
1:D:346:CYS:SG	1:D:347:PHE:N	2.93	0.42
1:D:394:GLN:OE1	1:D:395:GLN:N	2.53	0.42
1:D:642:THR:HG23	1:D:1613:LEU:HD12	2.01	0.42
1:D:869:ARG:NH2	1:D:1049:TYR:OH	2.53	0.42
1:D:3986:TRP:O	1:D:3990:VAL:HG23	2.19	0.42
1:D:4837:LEU:HD22	1:D:4932:ILE:HG23	2.02	0.42
1:A:4778:TRP:O	1:A:4782:VAL:HG22	2.20	0.41
1:B:2288:LEU:HD23	1:B:3849:ARG:HB3	2.02	0.41
1:B:3940:LYS:HD3	1:B:3940:LYS:H	1.85	0.41
1:B:4231:MET:O	1:B:4235:VAL:HG23	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4674:GLU:OE1	1:B:4712:PRO:HA	2.20	0.41
1:B:4778:TRP:O	1:B:4782:VAL:HG22	2.20	0.41
1:C:82:LEU:HD11	1:C:144:GLU:HA	2.02	0.41
1:C:609:CYS:SG	1:C:610:ASN:N	2.92	0.41
1:C:1122:TYR:CZ	1:C:1182:ILE:HD11	2.55	0.41
1:C:1155:LEU:HD13	1:C:1184:ILE:HG23	2.02	0.41
1:C:3645:PRO:HG2	1:C:3648:ARG:HD3	2.01	0.41
1:C:4035:VAL:HG22	1:C:4038:GLY:HA2	2.02	0.41
1:C:4134:GLU:HB2	1:C:4135:PRO:HD3	2.02	0.41
1:C:4821:LYS:HE3	1:C:4821:LYS:HA	2.01	0.41
1:D:1122:TYR:CZ	1:D:1182:ILE:HD11	2.55	0.41
1:D:2288:LEU:HD23	1:D:3849:ARG:HB3	2.02	0.41
1:D:3767:GLN:NE2	1:D:3804:ILE:O	2.52	0.41
1:D:4576:ILE:HG21	1:D:4643:LEU:HB2	2.01	0.41
1:D:4631:PHE:CE1	1:D:4633:GLU:HB2	2.55	0.41
1:D:4791:TYR:HE1	1:D:4815:ASP:HB2	1.84	0.41
1:A:220:LEU:HD23	1:A:392:ARG:HH21	1.85	0.41
1:A:747:CYS:SG	1:A:756:SER:HB3	2.60	0.41
1:A:1695:LEU:HD23	1:A:1695:LEU:HA	1.89	0.41
1:A:2356:LEU:HA	1:A:2359:ARG:HG2	2.01	0.41
1:B:2812:SER:H	1:B:2886:TRP:HH2	1.67	0.41
1:B:4994:TYR:CZ	1:B:4998:LYS:HD2	2.55	0.41
1:C:115:ARG:HD3	1:C:115:ARG:HA	1.97	0.41
1:C:346:CYS:SG	1:C:347:PHE:N	2.93	0.41
1:C:894:GLY:HA3	1:C:903:LEU:HB3	2.03	0.41
1:C:1974:ARG:HH21	1:C:3642:TYR:HB2	1.85	0.41
1:C:3940:LYS:HD3	1:C:3940:LYS:N	2.34	0.41
1:C:4778:TRP:O	1:C:4782:VAL:HG22	2.20	0.41
1:D:3951:PHE:O	1:D:3955:MET:HG3	2.21	0.41
1:D:4134:GLU:HB2	1:D:4135:PRO:HD3	2.02	0.41
1:A:869:ARG:NH2	1:A:1049:TYR:OH	2.53	0.41
1:B:3645:PRO:HG2	1:B:3648:ARG:HD3	2.01	0.41
1:B:4843:LEU:HD22	1:C:4823:LEU:HD11	2.02	0.41
1:C:1842:LEU:HD23	1:C:1842:LEU:HA	1.88	0.41
1:D:220:LEU:HD23	1:D:392:ARG:HH21	1.85	0.41
1:D:1204:LEU:HD12	1:D:1226:PHE:HB3	2.03	0.41
1:D:4674:GLU:OE1	1:D:4712:PRO:HA	2.20	0.41
1:D:4778:TRP:O	1:D:4782:VAL:HG22	2.20	0.41
1:A:346:CYS:SG	1:A:347:PHE:N	2.93	0.41
1:A:609:CYS:SG	1:A:610:ASN:N	2.92	0.41
1:B:869:ARG:NH2	1:B:1049:TYR:OH	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1122:TYR:CZ	1:B:1182:ILE:HD11	2.55	0.41
1:B:2433:LEU:HD23	1:B:2433:LEU:HA	1.85	0.41
1:C:220:LEU:HD23	1:C:392:ARG:HH21	1.85	0.41
1:D:4021:LYS:O	1:D:4025:VAL:HG23	2.21	0.41
1:A:948:ASP:OD1	1:A:949:ASN:N	2.53	0.41
1:A:1738:LEU:HB2	1:A:2146:PRO:HD3	2.03	0.41
1:A:3670:GLU:HA	1:A:3728:ILE:HG23	2.03	0.41
1:A:3940:LYS:HD3	1:A:3940:LYS:H	1.85	0.41
1:A:4581:LYS:HB2	1:A:4632:LEU:HG	2.02	0.41
1:B:4837:LEU:HD22	1:B:4932:ILE:HG23	2.02	0.41
1:C:1095:VAL:HB	1:C:1199:VAL:HB	2.01	0.41
1:C:4021:LYS:O	1:C:4025:VAL:HG23	2.21	0.41
1:D:894:GLY:HA3	1:D:903:LEU:HB3	2.03	0.41
1:D:1155:LEU:HD13	1:D:1184:ILE:HG23	2.02	0.41
1:D:3940:LYS:HD3	1:D:3940:LYS:H	1.85	0.41
1:D:4035:VAL:HG22	1:D:4038:GLY:HA2	2.02	0.41
1:A:4664:LEU:HD23	1:A:4664:LEU:HA	1.94	0.41
1:A:4940:PHE:CZ	1:D:4931:ILE:HG23	2.55	0.41
1:B:948:ASP:OD1	1:B:949:ASN:N	2.53	0.41
1:C:379:HIS:HD2	1:C:382:GLY:H	1.66	0.41
1:C:1204:LEU:HD12	1:C:1226:PHE:HB3	2.02	0.41
1:C:1738:LEU:HB2	1:C:2146:PRO:HD3	2.03	0.41
1:C:2433:LEU:HD23	1:C:2433:LEU:HA	1.85	0.41
1:C:3940:LYS:HD3	1:C:3940:LYS:H	1.85	0.41
1:C:3951:PHE:O	1:C:3955:MET:HG3	2.20	0.41
1:C:4792:LEU:HD23	1:C:4792:LEU:HA	1.82	0.41
1:D:939:VAL:HG12	1:D:1051:TYR:CZ	2.56	0.41
1:A:939:VAL:HG12	1:A:1051:TYR:CZ	2.56	0.41
1:B:894:GLY:HA3	1:B:903:LEU:HB3	2.03	0.41
1:B:1860:LYS:HE3	1:B:1860:LYS:HB2	1.83	0.41
1:C:695:TYR:HA	1:C:696:PRO:HD3	1.95	0.41
1:C:3670:GLU:HA	1:C:3728:ILE:HG23	2.03	0.41
1:D:116:MET:HB2	1:D:137:LEU:HD23	2.03	0.41
1:D:1227:ALA:HB1	1:D:1230:MET:HG3	2.03	0.41
1:D:4091:LYS:HA	1:D:4091:LYS:HD2	1.86	0.41
1:D:4158:PRO:HA	1:D:4161:ARG:HH11	1.84	0.41
1:A:2290:LEU:HD11	1:A:2334:PHE:HZ	1.84	0.41
1:A:2628:UNK:O	1:A:2888:ARG:NE	2.52	0.41
1:B:642:THR:HG23	1:B:1613:LEU:HD12	2.01	0.41
1:B:949:ASN:N	1:B:949:ASN:OD1	2.53	0.41
1:B:1227:ALA:HB1	1:B:1230:MET:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3707:ARG:O	1:B:3711:THR:HG23	2.21	0.41
1:C:590:LEU:HD13	1:C:599:VAL:HB	2.03	0.41
1:C:2628:UNK:O	1:C:2888:ARG:NE	2.52	0.41
1:D:949:ASN:N	1:D:949:ASN:OD1	2.53	0.41
1:D:4581:LYS:HB2	1:D:4632:LEU:HG	2.02	0.41
1:A:82:LEU:HD11	1:A:144:GLU:HA	2.02	0.41
1:A:894:GLY:HA3	1:A:903:LEU:HB3	2.03	0.41
1:A:1155:LEU:HD13	1:A:1184:ILE:HG23	2.02	0.41
1:A:1204:LEU:HD12	1:A:1226:PHE:HB3	2.03	0.41
1:A:3798:LEU:O	1:A:3802:ILE:HG13	2.21	0.41
1:B:1155:LEU:HD13	1:B:1184:ILE:HG23	2.02	0.41
1:B:2189:LYS:HB2	1:B:2189:LYS:HE2	1.85	0.41
1:B:3945:GLU:HA	1:B:3948:LYS:HE3	2.03	0.41
1:B:3951:PHE:O	1:B:3955:MET:HG3	2.21	0.41
1:C:360:ALA:HB2	1:C:377:ILE:HB	2.03	0.41
1:C:978:THR:HA	1:C:979:PRO:HD3	1.96	0.41
1:C:1128:ARG:HD3	1:C:1128:ARG:HA	1.93	0.41
1:C:1227:ALA:HB1	1:C:1230:MET:HG3	2.03	0.41
1:C:2359:ARG:HA	1:C:2359:ARG:HD2	1.83	0.41
1:C:2800:LYS:O	1:C:2804:ILE:HG22	2.21	0.41
1:D:82:LEU:HD11	1:D:144:GLU:HA	2.02	0.41
1:D:2433:LEU:HD23	1:D:2433:LEU:HA	1.85	0.41
1:D:2789:PRO:O	1:D:2792:ARG:HG3	2.21	0.41
1:D:4211:LYS:HE2	1:D:4211:LYS:HB3	1.75	0.41
1:A:1077:ALA:HB3	1:A:1189:LEU:HB2	2.03	0.41
1:A:1227:ALA:HB1	1:A:1230:MET:HG3	2.03	0.41
1:A:4994:TYR:CZ	1:A:4998:LYS:HD2	2.55	0.41
1:B:274:LEU:HD23	1:B:274:LEU:HA	1.94	0.41
1:C:238:SER:OG	1:C:240:ASP:OD1	2.35	0.41
1:C:869:ARG:NH2	1:C:1049:TYR:OH	2.53	0.41
1:C:2812:SER:H	1:C:2886:TRP:HH2	1.67	0.41
1:C:4674:GLU:OE1	1:C:4712:PRO:HA	2.20	0.41
1:C:4934:GLY:HA3	1:D:4937:ILE:HG12	2.03	0.41
1:D:590:LEU:HD13	1:D:599:VAL:HB	2.03	0.41
1:D:1969:LEU:HD23	1:D:1969:LEU:HA	1.92	0.41
1:D:3707:ARG:O	1:D:3711:THR:HG23	2.21	0.41
1:D:5030:LYS:HE2	1:D:5030:LYS:HB2	1.76	0.41
1:A:3707:ARG:O	1:A:3711:THR:HG23	2.21	0.40
1:A:3951:PHE:O	1:A:3955:MET:HG3	2.20	0.40
1:A:4837:LEU:HD22	1:A:4932:ILE:HG23	2.02	0.40
1:B:82:LEU:HD11	1:B:144:GLU:HA	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4021:LYS:O	1:B:4025:VAL:HG23	2.21	0.40
1:B:4035:VAL:HG22	1:B:4038:GLY:HA2	2.02	0.40
1:B:4782:VAL:HA	1:B:4785:THR:HG22	2.03	0.40
1:C:747:CYS:SG	1:C:756:SER:HB3	2.60	0.40
1:C:1969:LEU:HD23	1:C:1969:LEU:HA	1.92	0.40
1:C:3707:ARG:O	1:C:3711:THR:HG23	2.21	0.40
1:C:3798:LEU:O	1:C:3802:ILE:HG13	2.21	0.40
1:A:590:LEU:HD13	1:A:599:VAL:HB	2.03	0.40
1:A:4021:LYS:O	1:A:4025:VAL:HG23	2.21	0.40
1:A:4207:MET:HA	1:A:4208:PRO:HD3	1.92	0.40
1:B:116:MET:HB2	1:B:137:LEU:HD23	2.03	0.40
1:B:220:LEU:HD23	1:B:392:ARG:HH21	1.85	0.40
1:B:360:ALA:HB2	1:B:377:ILE:HB	2.03	0.40
1:B:3798:LEU:O	1:B:3802:ILE:HG13	2.21	0.40
1:C:939:VAL:HG12	1:C:1051:TYR:CZ	2.56	0.40
1:C:4843:LEU:HD22	1:D:4823:LEU:HD11	2.04	0.40
1:D:2207:VAL:HG21	1:D:2235:PHE:HE2	1.87	0.40
1:D:4093:PHE:CD1	1:D:4123:ILE:HD11	2.57	0.40
1:A:2207:VAL:HG21	1:A:2235:PHE:HE2	1.87	0.40
1:A:2813:LEU:HD23	1:A:2813:LEU:HA	1.95	0.40
1:B:161:GLU:HA	1:C:3984:ARG:HH22	1.86	0.40
1:B:2447:LYS:HG3	1:B:2449:GLU:H	1.87	0.40
1:B:4091:LYS:HD2	1:B:4091:LYS:HA	1.86	0.40
1:B:4581:LYS:HB2	1:B:4632:LEU:HG	2.02	0.40
1:C:3801:GLY:O	1:C:3805:LEU:HD23	2.22	0.40
1:C:3842:LEU:HD12	1:C:3842:LEU:HA	1.96	0.40
1:C:3945:GLU:HA	1:C:3948:LYS:HE3	2.03	0.40
1:C:4837:LEU:HD22	1:C:4932:ILE:HG23	2.02	0.40
1:D:282:ILE:HB	1:D:291:LEU:HD13	2.03	0.40
1:A:1969:LEU:HD23	1:A:1969:LEU:HA	1.92	0.40
1:B:975:VAL:HG11	1:B:1048:GLY:HA2	2.03	0.40
1:C:1077:ALA:HB3	1:C:1189:LEU:HB2	2.04	0.40
1:C:1717:SER:HA	1:C:1721:GLU:HB2	2.04	0.40
1:C:3694:LYS:HD2	1:C:3694:LYS:HA	1.93	0.40
1:D:4172:GLU:OE1	1:D:4175:ARG:NH2	2.33	0.40
1:A:116:MET:HB2	1:A:137:LEU:HD23	2.03	0.40
1:A:4093:PHE:CD1	1:A:4123:ILE:HD11	2.57	0.40
1:B:263:GLU:HA	1:B:264:PRO:HD3	1.97	0.40
1:B:275:ARG:NH1	1:B:338:GLU:OE2	2.48	0.40
1:B:603:LEU:HD23	1:B:606:LEU:HD12	2.04	0.40
1:B:1204:LEU:HD12	1:B:1226:PHE:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1738:LEU:HB2	1:B:2146:PRO:HD3	2.03	0.40
1:B:1974:ARG:HH21	1:B:3642:TYR:HB2	1.85	0.40
1:C:14:LEU:HD23	1:C:101:LEU:HG	2.04	0.40
1:C:340:LYS:O	1:C:344:SER:OG	2.27	0.40
1:C:1313:UNK:O	1:C:1315:UNK:N	2.55	0.40
1:C:4782:VAL:HA	1:C:4785:THR:HG22	2.03	0.40
1:D:14:LEU:HD23	1:D:101:LEU:HG	2.04	0.40
1:D:360:ALA:HB2	1:D:377:ILE:HB	2.03	0.40
1:D:747:CYS:SG	1:D:756:SER:HB3	2.60	0.40
1:D:1077:ALA:HB3	1:D:1189:LEU:HB2	2.04	0.40
1:D:2800:LYS:O	1:D:2804:ILE:HG22	2.21	0.40
1:D:2881:ASN:OD1	1:D:2882:TYR:N	2.55	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	3202/5037 (64%)	3006 (94%)	190 (6%)	6 (0%)	47	78
1	B	3202/5037 (64%)	3005 (94%)	191 (6%)	6 (0%)	47	78
1	C	3202/5037 (64%)	3006 (94%)	190 (6%)	6 (0%)	47	78
1	D	3202/5037 (64%)	3005 (94%)	191 (6%)	6 (0%)	47	78
All	All	12808/20148 (64%)	12022 (94%)	762 (6%)	24 (0%)	50	78

All (24) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3685	GLU
1	A	3771	HIS
1	A	3843	ASP

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Mol	Chain	Res	Type
1	A	3972	PRO
1	A	4039	MET
1	B	3685	GLU
1	B	3771	HIS
1	B	3843	ASP
1	B	3972	PRO
1	B	4039	MET
1	C	3685	GLU
1	C	3771	HIS
1	C	3843	ASP
1	C	3972	PRO
1	C	4039	MET
1	D	3685	GLU
1	D	3771	HIS
1	D	3843	ASP
1	D	3972	PRO
1	D	4039	MET
1	A	4103	PHE
1	B	4103	PHE
1	C	4103	PHE
1	D	4103	PHE

### 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	2513/3264 (77%)	2447 (97%)	66 (3%)	46	69
1	B	2513/3264 (77%)	2446 (97%)	67 (3%)	44	68
1	C	2513/3264 (77%)	2447 (97%)	66 (3%)	46	69
1	D	2513/3264 (77%)	2447 (97%)	66 (3%)	46	69
All	All	10052/13056 (77%)	9787 (97%)	265 (3%)	49	69

All (265) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	151	HIS
1	A	213	TYR
1	A	218	HIS
1	A	384	MET
1	A	478	PHE
1	A	553	ARG
1	A	674	PHE
1	A	710	ASP
1	A	791	PHE
1	A	877	ASN
1	A	910	PHE
1	A	924	MET
1	A	959	TYR
1	A	961	MET
1	A	1100	MET
1	A	1141	ARG
1	A	1217	CYS
1	A	1658	ASP
1	A	1956	GLU
1	A	2178	MET
1	A	2267	MET
1	A	2441	HIS
1	A	2802	LYS
1	A	2882	TYR
1	A	2920	ARG
1	A	3657	TYR
1	A	3669	PHE
1	A	3712	GLU
1	A	3719	ASP
1	A	3753	PHE
1	A	3764	LEU
1	A	3806	ASN
1	A	3875	MET
1	A	3896	ASN
1	A	3899	PHE
1	A	3940	LYS
1	A	3952	SER
1	A	3986	TRP
1	A	4026	MET
1	A	4060	LYS
1	A	4078	GLN
1	A	4080	TYR
1	A	4180	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	4198	SER
1	A	4224	GLU
1	A	4563	ARG
1	A	4580	TYR
1	A	4631	PHE
1	A	4676	GLU
1	A	4679	ARG
1	A	4695	ASP
1	A	4734	ARG
1	A	4769	MET
1	A	4780	PHE
1	A	4786	ASP
1	A	4804	TYR
1	A	4828	SER
1	A	4844	LEU
1	A	4864	ASN
1	A	4874	MET
1	A	4886	HIS
1	A	4909	TYR
1	A	4923	PHE
1	A	4966	ASP
1	A	4981	GLU
1	A	5012	LYS
1	B	151	HIS
1	B	213	TYR
1	B	218	HIS
1	B	384	MET
1	B	478	PHE
1	B	553	ARG
1	B	674	PHE
1	B	710	ASP
1	B	791	PHE
1	B	877	ASN
1	B	910	PHE
1	B	924	MET
1	B	959	TYR
1	B	961	MET
1	B	1100	MET
1	B	1141	ARG
1	B	1217	CYS
1	B	1658	ASP
1	B	1956	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	2178	MET
1	B	2267	MET
1	B	2441	HIS
1	B	2802	LYS
1	B	2882	TYR
1	B	2920	ARG
1	B	3657	TYR
1	B	3669	PHE
1	B	3712	GLU
1	B	3719	ASP
1	B	3753	PHE
1	B	3764	LEU
1	B	3806	ASN
1	B	3875	MET
1	B	3896	ASN
1	B	3899	PHE
1	B	3940	LYS
1	B	3952	SER
1	B	3986	TRP
1	B	4026	MET
1	B	4060	LYS
1	B	4078	GLN
1	B	4080	TYR
1	B	4180	ARG
1	B	4198	SER
1	B	4224	GLU
1	B	4563	ARG
1	B	4579	PHE
1	B	4580	TYR
1	B	4631	PHE
1	B	4676	GLU
1	B	4679	ARG
1	B	4695	ASP
1	B	4734	ARG
1	B	4769	MET
1	B	4780	PHE
1	B	4786	ASP
1	B	4804	TYR
1	B	4828	SER
1	B	4844	LEU
1	B	4864	ASN
1	B	4874	MET

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	4886	HIS
1	B	4909	TYR
1	B	4923	PHE
1	B	4966	ASP
1	B	4981	GLU
1	B	5012	LYS
1	C	151	HIS
1	C	213	TYR
1	C	218	HIS
1	C	384	MET
1	C	478	PHE
1	C	553	ARG
1	C	674	PHE
1	C	710	ASP
1	C	791	PHE
1	C	877	ASN
1	C	910	PHE
1	C	924	MET
1	C	959	TYR
1	C	961	MET
1	C	1100	MET
1	C	1141	ARG
1	C	1217	CYS
1	C	1658	ASP
1	C	1956	GLU
1	C	2178	MET
1	C	2267	MET
1	C	2441	HIS
1	C	2802	LYS
1	C	2882	TYR
1	C	2920	ARG
1	C	3657	TYR
1	C	3669	PHE
1	C	3712	GLU
1	C	3719	ASP
1	C	3753	PHE
1	C	3764	LEU
1	C	3806	ASN
1	C	3875	MET
1	C	3896	ASN
1	C	3899	PHE
1	C	3940	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	3952	SER
1	C	3986	TRP
1	C	4026	MET
1	C	4060	LYS
1	C	4078	GLN
1	C	4080	TYR
1	C	4180	ARG
1	C	4198	SER
1	C	4224	GLU
1	C	4563	ARG
1	C	4580	TYR
1	C	4631	PHE
1	C	4676	GLU
1	C	4679	ARG
1	C	4695	ASP
1	C	4734	ARG
1	C	4769	MET
1	C	4780	PHE
1	C	4786	ASP
1	C	4804	TYR
1	C	4828	SER
1	C	4844	LEU
1	C	4864	ASN
1	C	4874	MET
1	C	4886	HIS
1	C	4909	TYR
1	C	4923	PHE
1	C	4966	ASP
1	C	4981	GLU
1	C	5012	LYS
1	D	151	HIS
1	D	213	TYR
1	D	218	HIS
1	D	384	MET
1	D	478	PHE
1	D	553	ARG
1	D	674	PHE
1	D	710	ASP
1	D	791	PHE
1	D	877	ASN
1	D	910	PHE
1	D	924	MET

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	959	TYR
1	D	961	MET
1	D	1100	MET
1	D	1141	ARG
1	D	1217	CYS
1	D	1658	ASP
1	D	1956	GLU
1	D	2178	MET
1	D	2267	MET
1	D	2441	HIS
1	D	2802	LYS
1	D	2882	TYR
1	D	2920	ARG
1	D	3657	TYR
1	D	3669	PHE
1	D	3712	GLU
1	D	3719	ASP
1	D	3753	PHE
1	D	3764	LEU
1	D	3806	ASN
1	D	3875	MET
1	D	3896	ASN
1	D	3899	PHE
1	D	3940	LYS
1	D	3952	SER
1	D	3986	TRP
1	D	4026	MET
1	D	4060	LYS
1	D	4078	GLN
1	D	4080	TYR
1	D	4180	ARG
1	D	4198	SER
1	D	4224	GLU
1	D	4563	ARG
1	D	4580	TYR
1	D	4631	PHE
1	D	4676	GLU
1	D	4679	ARG
1	D	4695	ASP
1	D	4734	ARG
1	D	4769	MET
1	D	4780	PHE

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Mol	Chain	Res	Type
1	D	4786	ASP
1	D	4804	TYR
1	D	4828	SER
1	D	4844	LEU
1	D	4864	ASN
1	D	4874	MET
1	D	4886	HIS
1	D	4909	TYR
1	D	4923	PHE
1	D	4966	ASP
1	D	4981	GLU
1	D	5012	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (22) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	278	GLN
1	A	2127	GLN
1	A	2744	ASN
1	A	3895	HIS
1	A	3896	ASN
1	B	278	GLN
1	B	2127	GLN
1	B	2744	ASN
1	B	3895	HIS
1	B	3896	ASN
1	B	5003	HIS
1	C	278	GLN
1	C	2127	GLN
1	C	2744	ASN
1	C	3895	HIS
1	C	3896	ASN
1	C	3960	GLN
1	D	278	GLN
1	D	2127	GLN
1	D	2744	ASN
1	D	3895	HIS
1	D	3896	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 16 ligands modelled in this entry, 12 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
2	ACP	A	5101	-	27,33,33	4.69	10 (37%)	32,52,52	2.02	5 (15%)
2	ACP	C	5101	-	27,33,33	4.73	10 (37%)	32,52,52	2.17	5 (15%)
2	ACP	D	5101	-	27,33,33	4.72	10 (37%)	32,52,52	2.17	5 (15%)
2	ACP	B	5101	-	27,33,33	4.72	9 (33%)	32,52,52	2.07	5 (15%)

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
2	ACP	A	5101	-	-	7/15/38/38	0/3/3/3
2	ACP	C	5101	-	-	6/15/38/38	0/3/3/3
2	ACP	D	5101	-	-	6/15/38/38	0/3/3/3
2	ACP	B	5101	-	-	6/15/38/38	0/3/3/3

All (39) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	5101	ACP	O4'-C1'	15.47	1.62	1.41
2	D	5101	ACP	O4'-C1'	15.40	1.62	1.41
2	B	5101	ACP	O4'-C1'	15.40	1.62	1.41
2	A	5101	ACP	O4'-C1'	15.33	1.62	1.41
2	B	5101	ACP	C2'-C1'	-15.13	1.30	1.53
2	A	5101	ACP	C2'-C1'	-15.09	1.30	1.53
2	C	5101	ACP	C2'-C1'	-15.06	1.30	1.53
2	D	5101	ACP	C2'-C1'	-15.06	1.30	1.53
2	C	5101	ACP	PB-O3A	6.32	1.65	1.58
2	D	5101	ACP	PB-O3A	6.27	1.65	1.58
2	C	5101	ACP	O4'-C4'	-6.21	1.31	1.45
2	D	5101	ACP	O4'-C4'	-6.21	1.31	1.45
2	B	5101	ACP	O4'-C4'	-6.06	1.31	1.45
2	B	5101	ACP	PB-O3A	6.02	1.65	1.58
2	A	5101	ACP	O4'-C4'	-6.01	1.31	1.45
2	A	5101	ACP	PB-O3A	5.80	1.64	1.58
2	A	5101	ACP	C6-N6	3.29	1.46	1.34
2	B	5101	ACP	C6-N6	3.29	1.46	1.34
2	D	5101	ACP	C6-N6	3.24	1.45	1.34
2	C	5101	ACP	C6-N6	3.22	1.45	1.34
2	D	5101	ACP	O2'-C2'	2.95	1.49	1.43
2	C	5101	ACP	O2'-C2'	2.94	1.49	1.43
2	B	5101	ACP	O2'-C2'	2.92	1.49	1.43
2	A	5101	ACP	O2'-C2'	2.89	1.49	1.43
2	A	5101	ACP	O3'-C3'	-2.83	1.36	1.43
2	B	5101	ACP	O3'-C3'	-2.83	1.36	1.43
2	C	5101	ACP	O3'-C3'	-2.83	1.36	1.43
2	D	5101	ACP	O3'-C3'	-2.83	1.36	1.43
2	B	5101	ACP	C5-C4	-2.73	1.33	1.40
2	A	5101	ACP	C5-C4	-2.70	1.33	1.40
2	C	5101	ACP	C5-C4	-2.62	1.34	1.40
2	D	5101	ACP	C5-C4	-2.62	1.34	1.40
2	B	5101	ACP	PB-O2B	-2.17	1.51	1.56
2	A	5101	ACP	PB-O2B	-2.14	1.51	1.56
2	A	5101	ACP	C2-N3	2.06	1.35	1.32
2	C	5101	ACP	PB-O2B	-2.05	1.51	1.56
2	D	5101	ACP	PB-O2B	-2.03	1.51	1.56
2	D	5101	ACP	C2-N3	2.03	1.35	1.32
2	C	5101	ACP	C2-N3	2.03	1.35	1.32

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	5101	ACP	C5-C6-N6	7.42	131.63	120.35
2	D	5101	ACP	C5-C6-N6	7.41	131.61	120.35
2	B	5101	ACP	C5-C6-N6	7.15	131.22	120.35
2	A	5101	ACP	C5-C6-N6	6.89	130.83	120.35
2	A	5101	ACP	N3-C2-N1	-5.62	119.90	128.68
2	D	5101	ACP	N3-C2-N1	-5.51	120.07	128.68
2	C	5101	ACP	N3-C2-N1	-5.51	120.07	128.68
2	B	5101	ACP	N3-C2-N1	-5.38	120.26	128.68
2	D	5101	ACP	N6-C6-N1	-4.90	108.40	118.57
2	C	5101	ACP	N6-C6-N1	-4.89	108.42	118.57
2	B	5101	ACP	N6-C6-N1	-4.71	108.81	118.57
2	A	5101	ACP	N6-C6-N1	-4.50	109.23	118.57
2	D	5101	ACP	C3'-C2'-C1'	4.35	107.53	100.98
2	C	5101	ACP	C3'-C2'-C1'	4.34	107.51	100.98
2	B	5101	ACP	C3'-C2'-C1'	3.31	105.96	100.98
2	A	5101	ACP	C3'-C2'-C1'	3.02	105.53	100.98
2	B	5101	ACP	PB-O3A-PA	-2.72	123.94	132.56
2	C	5101	ACP	PB-O3A-PA	-2.63	124.23	132.56
2	D	5101	ACP	PB-O3A-PA	-2.61	124.27	132.56
2	A	5101	ACP	PB-O3A-PA	-2.38	125.00	132.56

There are no chirality outliers.

All (25) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	5101	ACP	C5'-O5'-PA-O3A
2	A	5101	ACP	O4'-C4'-C5'-O5'
2	A	5101	ACP	C3'-C4'-C5'-O5'
2	B	5101	ACP	C5'-O5'-PA-O1A
2	B	5101	ACP	C5'-O5'-PA-O2A
2	B	5101	ACP	C5'-O5'-PA-O3A
2	B	5101	ACP	O4'-C4'-C5'-O5'
2	B	5101	ACP	C3'-C4'-C5'-O5'
2	C	5101	ACP	C5'-O5'-PA-O3A
2	C	5101	ACP	O4'-C4'-C5'-O5'
2	C	5101	ACP	C3'-C4'-C5'-O5'
2	D	5101	ACP	C5'-O5'-PA-O3A
2	D	5101	ACP	O4'-C4'-C5'-O5'
2	D	5101	ACP	C3'-C4'-C5'-O5'
2	A	5101	ACP	C4'-C5'-O5'-PA
2	B	5101	ACP	C4'-C5'-O5'-PA
2	C	5101	ACP	C4'-C5'-O5'-PA
2	D	5101	ACP	C4'-C5'-O5'-PA

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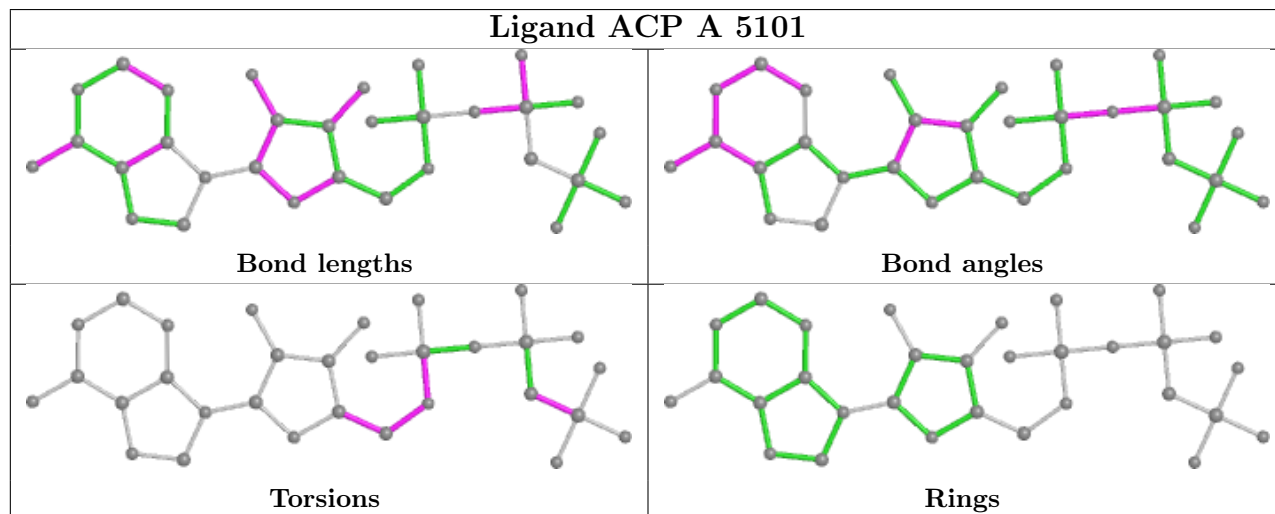
Mol	Chain	Res	Type	Atoms
2	A	5101	ACP	C5'-O5'-PA-O1A
2	A	5101	ACP	C5'-O5'-PA-O2A
2	C	5101	ACP	C5'-O5'-PA-O1A
2	C	5101	ACP	C5'-O5'-PA-O2A
2	D	5101	ACP	C5'-O5'-PA-O1A
2	D	5101	ACP	C5'-O5'-PA-O2A
2	A	5101	ACP	PB-C3B-PG-O1G

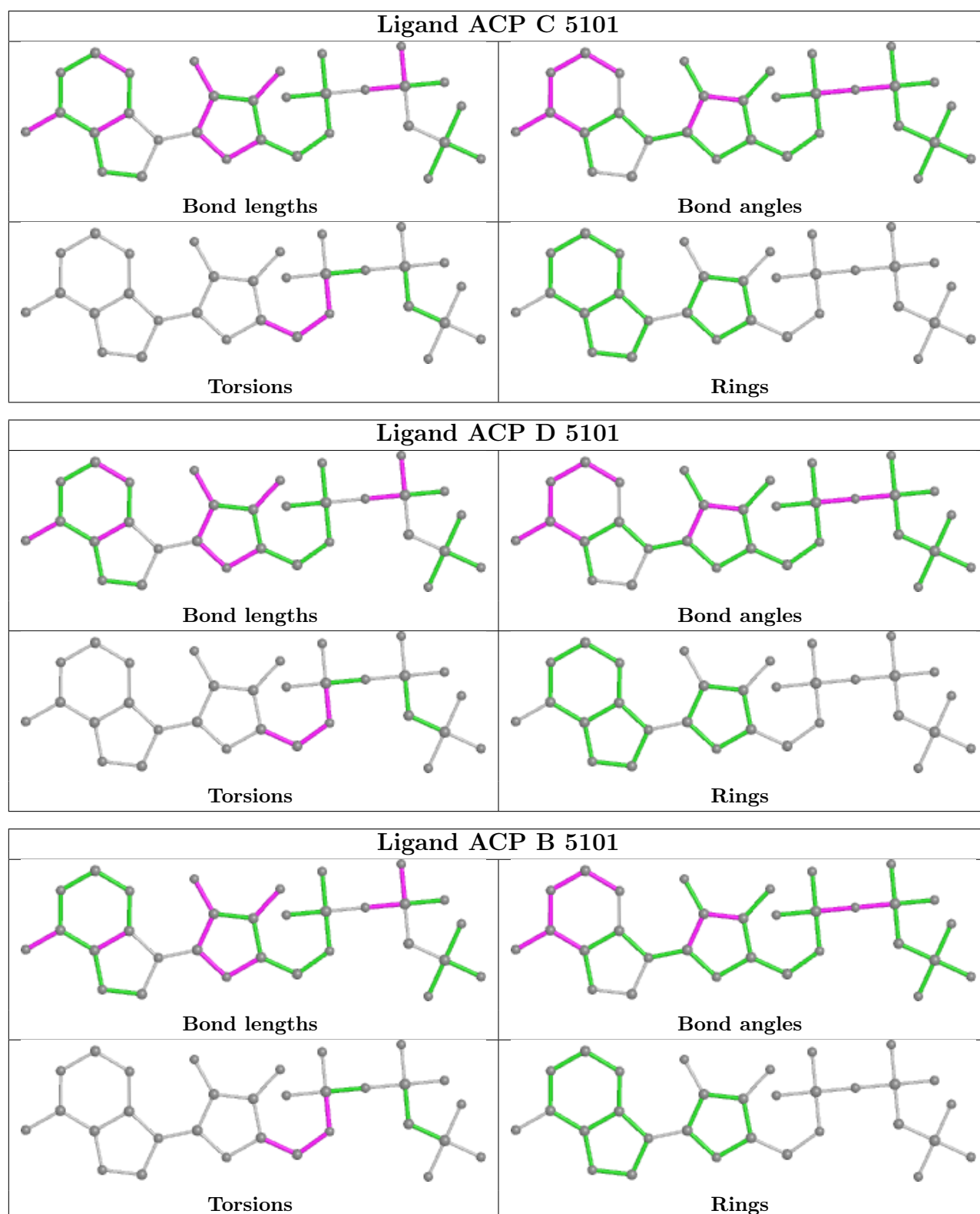
There are no ring outliers.

4 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	5101	ACP	1	0
2	C	5101	ACP	2	0
2	D	5101	ACP	2	0
2	B	5101	ACP	3	0

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





## 5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	7
1	B	7
1	C	7
1	D	7

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	3122:UNK	C	3123:UNK	N	15.11
1	B	3122:UNK	C	3123:UNK	N	15.11
1	C	3122:UNK	C	3123:UNK	N	15.11
1	D	3122:UNK	C	3123:UNK	N	15.11
1	A	3510:UNK	C	3511:UNK	N	13.99
1	B	3510:UNK	C	3511:UNK	N	13.99
1	C	3510:UNK	C	3511:UNK	N	13.99
1	D	3510:UNK	C	3511:UNK	N	13.99
1	A	3221:UNK	C	3222:UNK	N	12.09
1	B	3221:UNK	C	3222:UNK	N	12.09
1	C	3221:UNK	C	3222:UNK	N	12.09
1	D	3221:UNK	C	3222:UNK	N	12.09
1	A	3288:UNK	C	3289:UNK	N	12.00
1	B	3288:UNK	C	3289:UNK	N	12.00
1	C	3288:UNK	C	3289:UNK	N	12.00
1	D	3288:UNK	C	3289:UNK	N	12.00
1	A	3302:UNK	C	3303:UNK	N	11.72
1	B	3302:UNK	C	3303:UNK	N	11.72
1	C	3302:UNK	C	3303:UNK	N	11.72
1	D	3302:UNK	C	3303:UNK	N	11.72
1	A	3191:UNK	C	3192:UNK	N	11.01
1	B	3191:UNK	C	3192:UNK	N	11.01
1	C	3191:UNK	C	3192:UNK	N	11.01
1	D	3191:UNK	C	3192:UNK	N	11.01
1	A	1297:UNK	C	1298:UNK	N	8.04
1	B	1297:UNK	C	1298:UNK	N	8.04
1	C	1297:UNK	C	1298:UNK	N	8.04
1	D	1297:UNK	C	1298:UNK	N	8.04

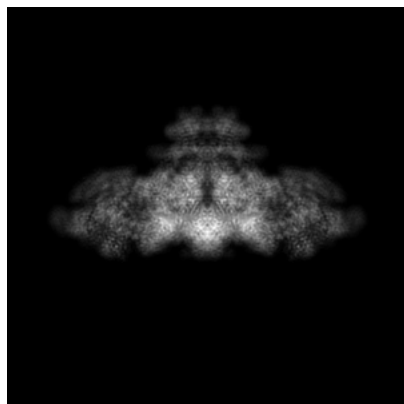
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-25831. These allow visual inspection of the internal detail of the map and identification of artifacts.

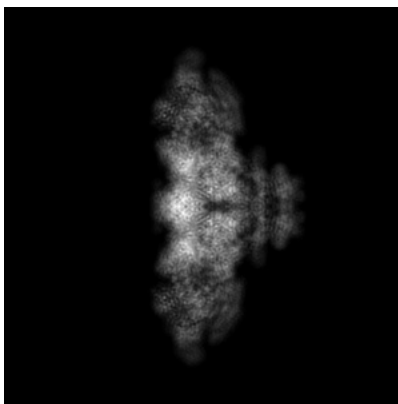
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

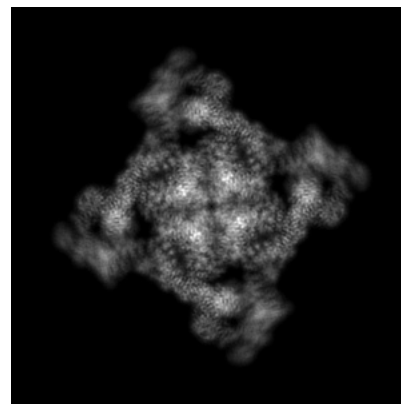
#### 6.1.1 Primary map



X

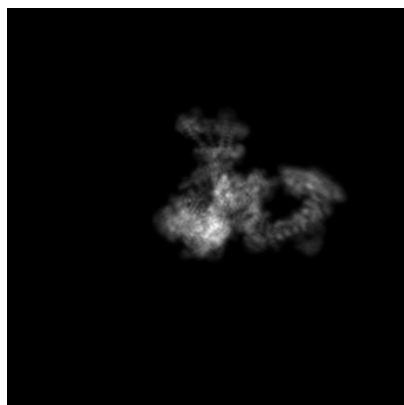


Y

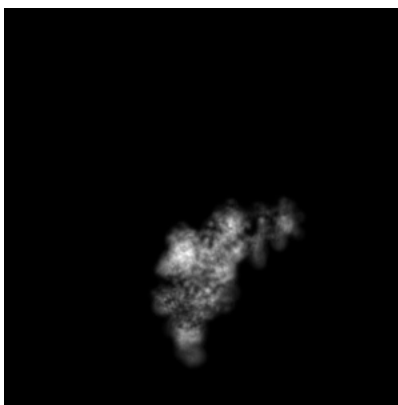


Z

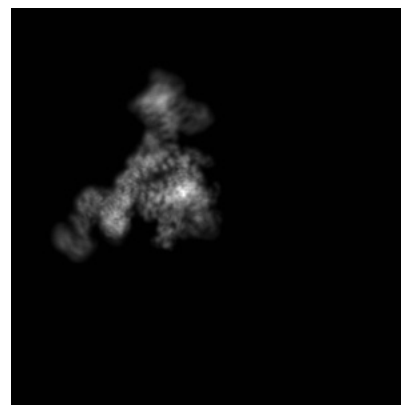
#### 6.1.2 Raw map



X



Y



Z

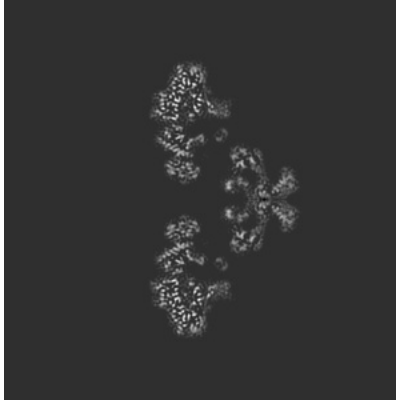
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

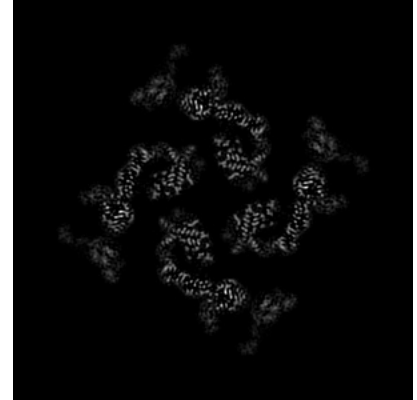
### 6.2.1 Primary map



X Index: 216

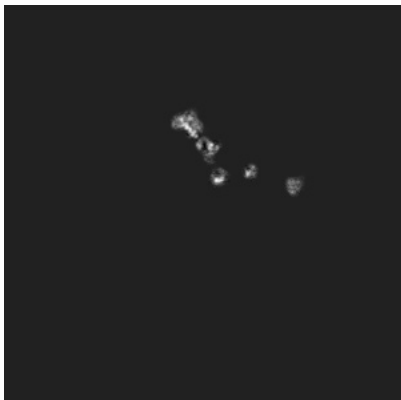


Y Index: 216

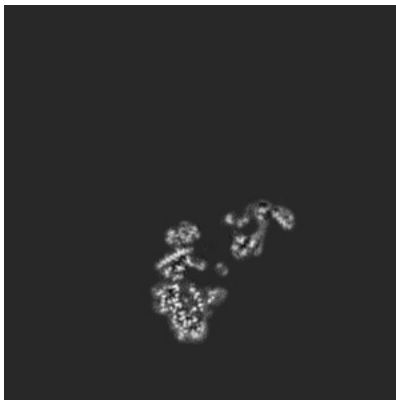


Z Index: 216

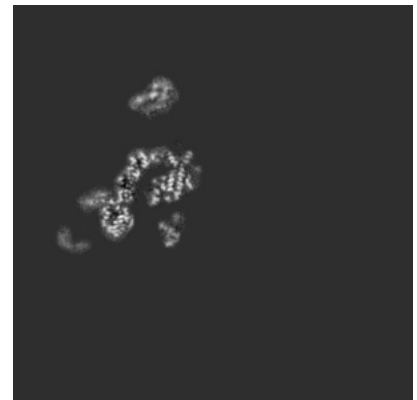
### 6.2.2 Raw map



X Index: 216



Y Index: 216

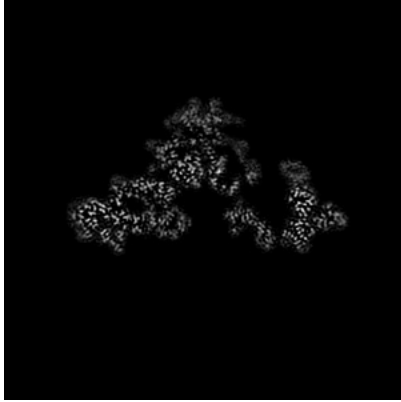


Z Index: 216

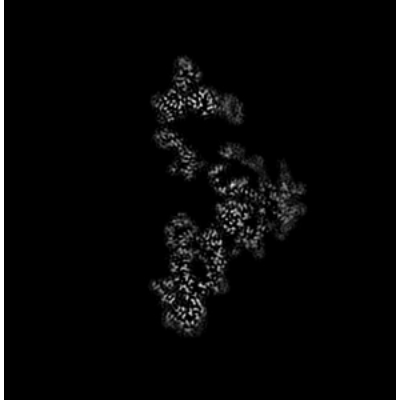
The images above show central slices of the map in three orthogonal directions.

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

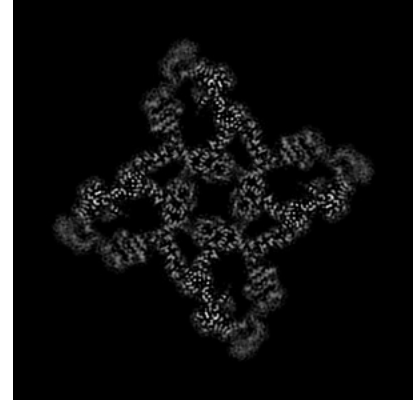
### 6.3.1 Primary map



X Index: 206



Y Index: 226

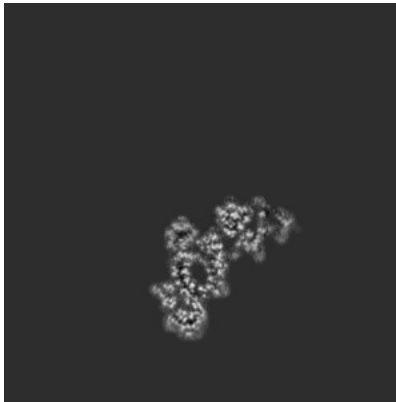


Z Index: 198

### 6.3.2 Raw map



X Index: 167



Y Index: 226

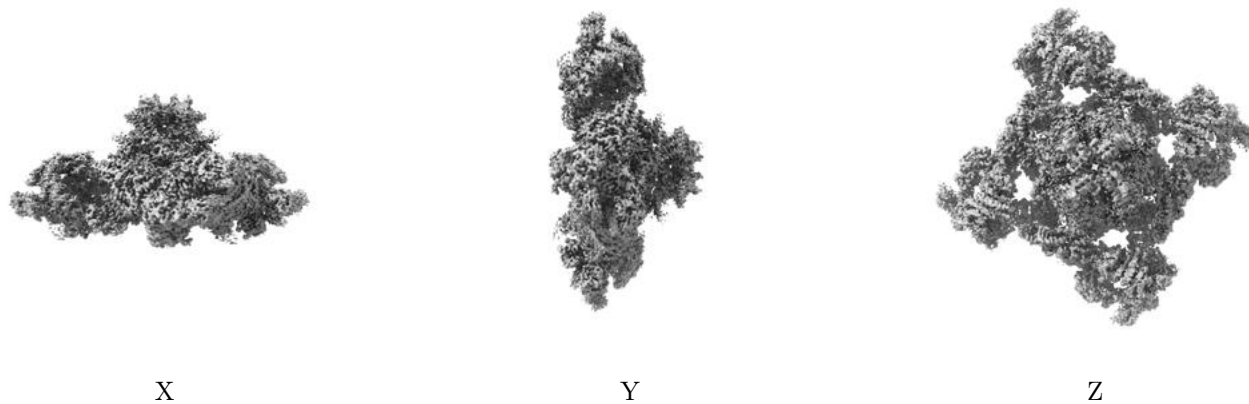


Z Index: 199

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

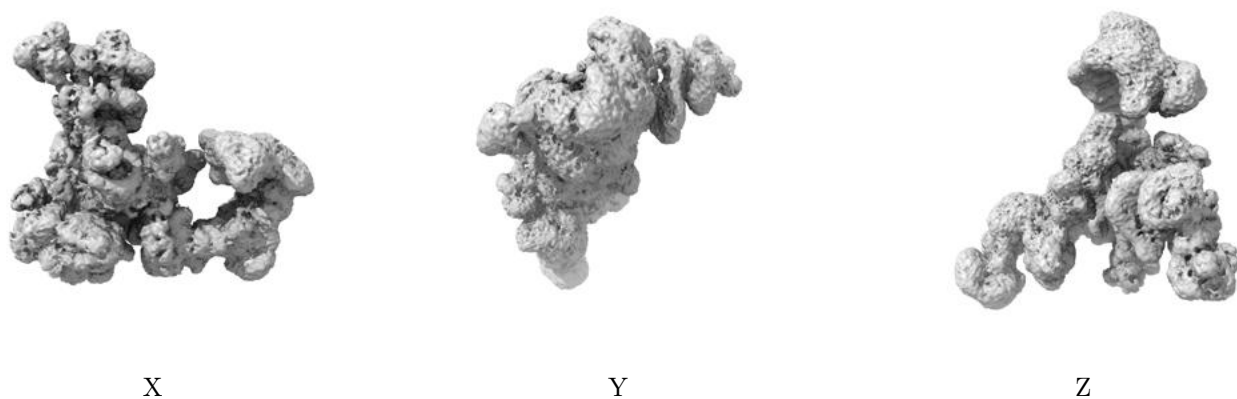
## 6.4 Orthogonal surface views [i](#)

### 6.4.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.015. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.4.2 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.

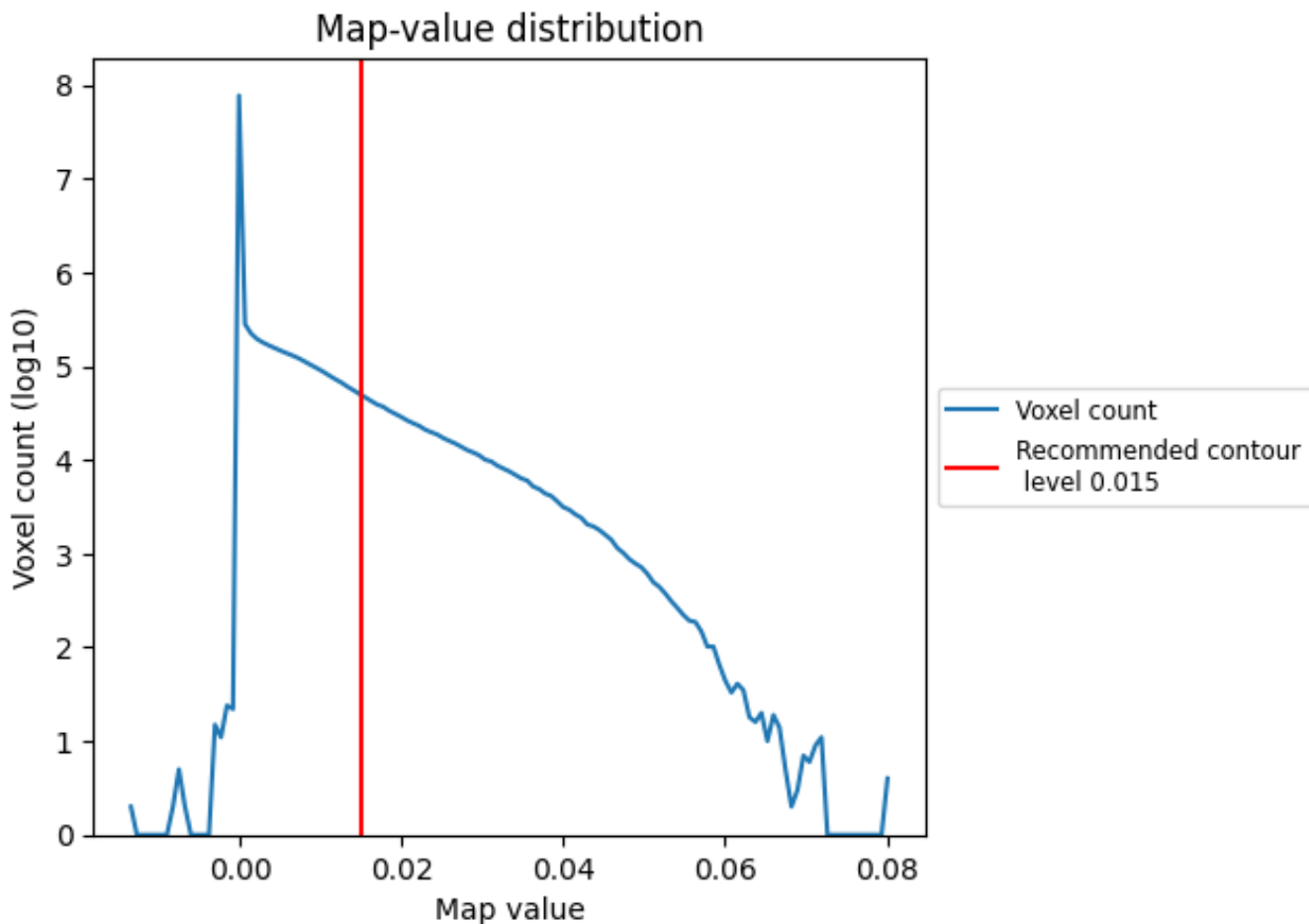
## 6.5 Mask visualisation [i](#)

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.

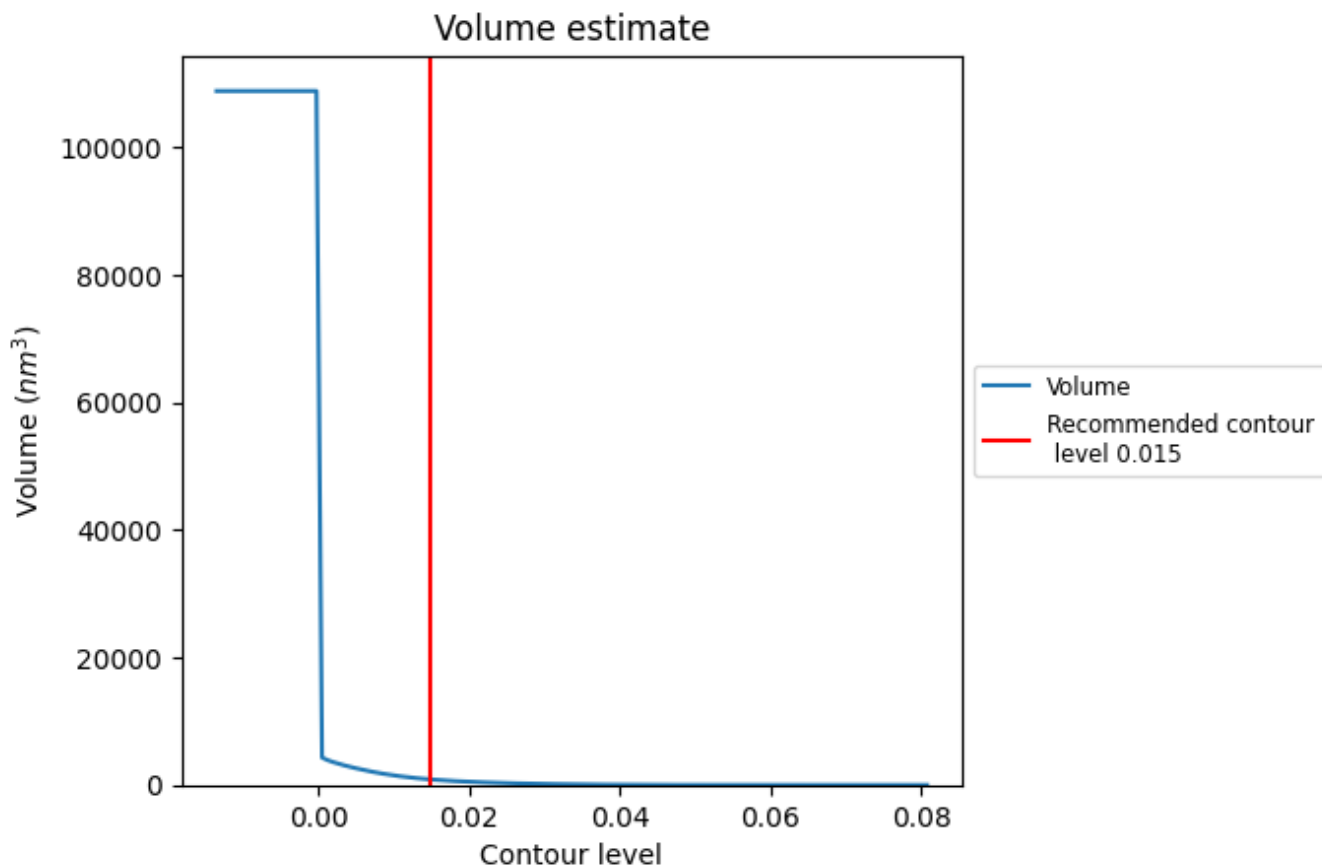
### 7.1 Map-value distribution [i](#)



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.



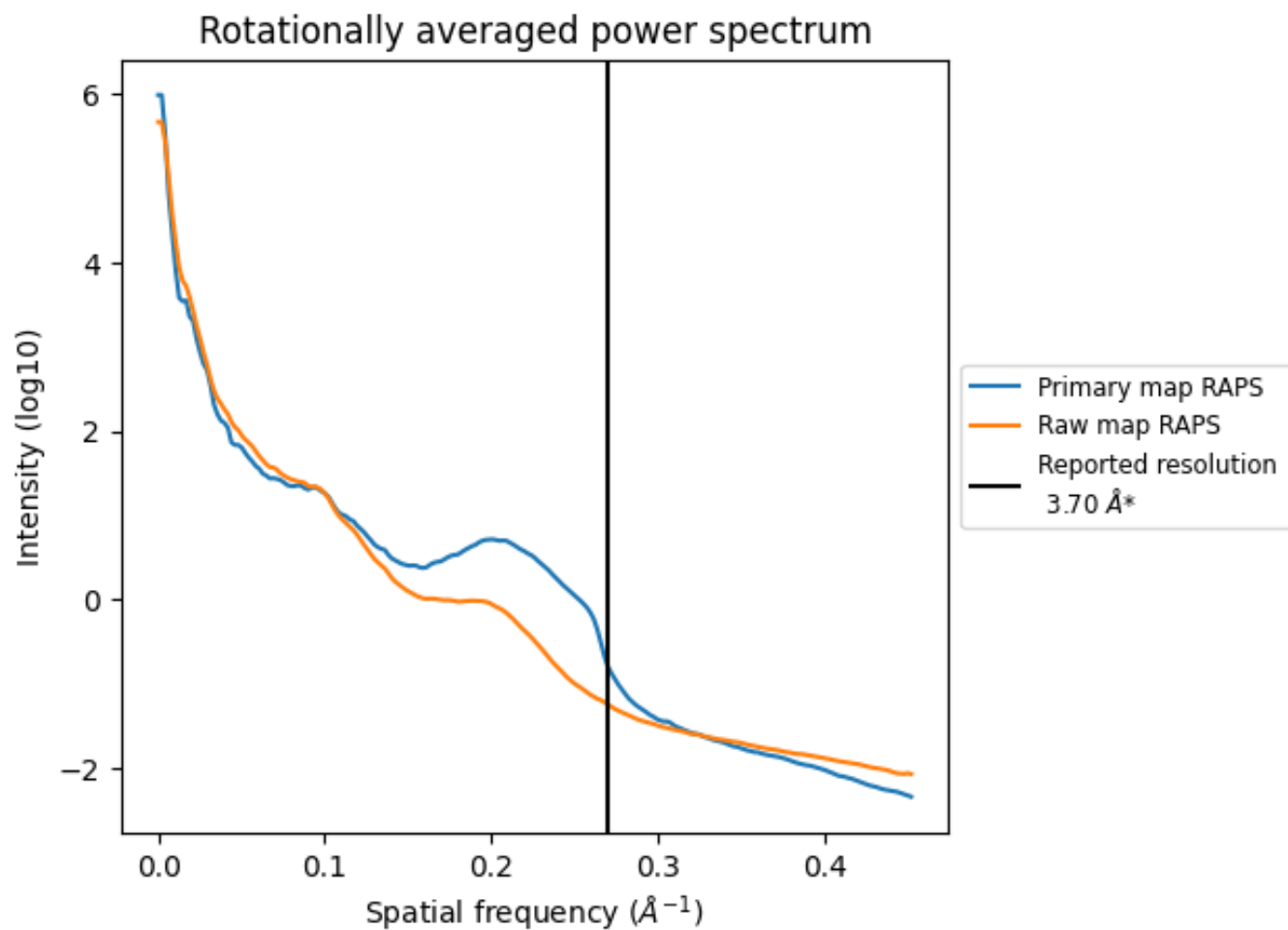
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 863  $\text{nm}^3$ ; this corresponds to an approximate mass of 779 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

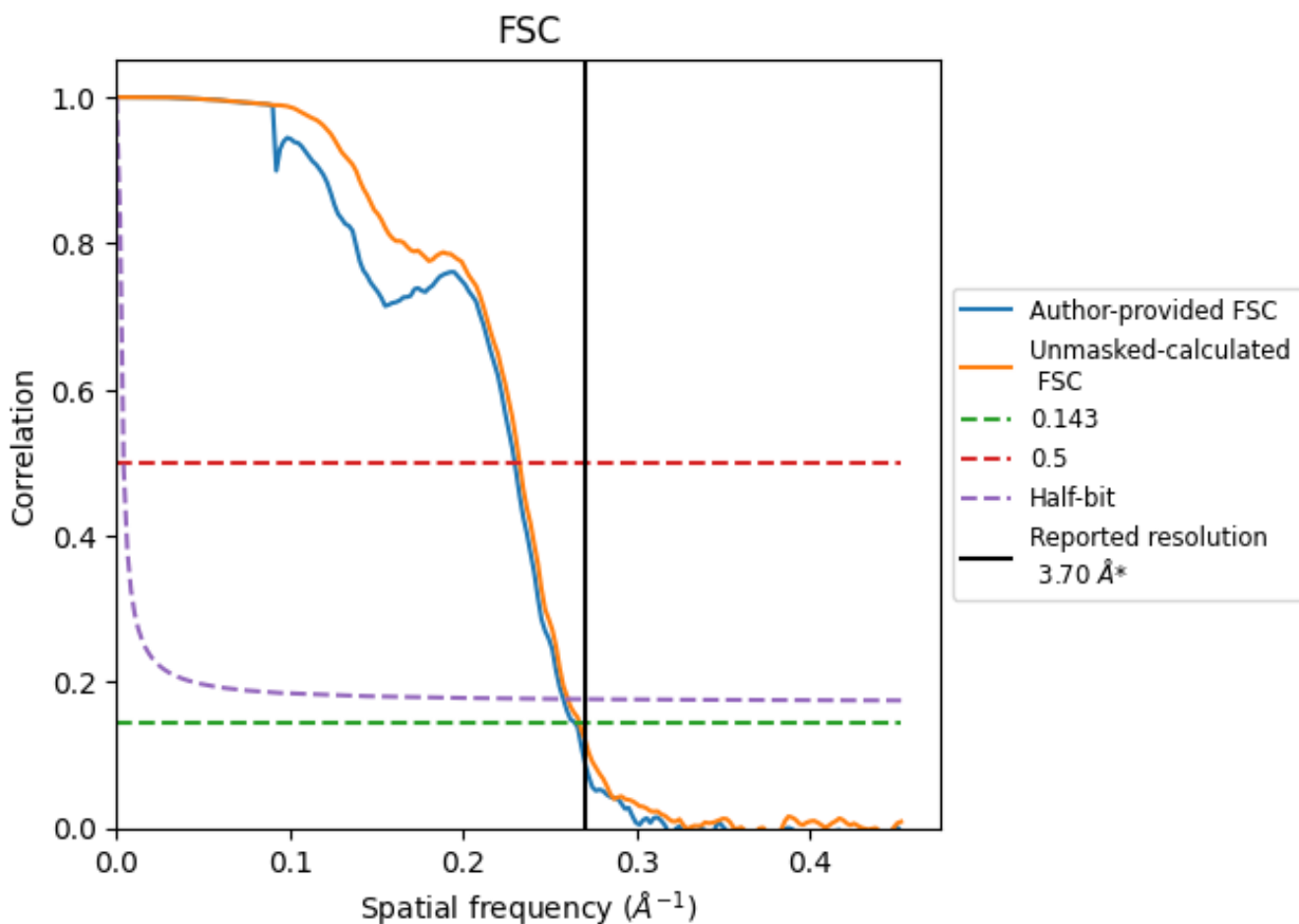


\*Reported resolution corresponds to spatial frequency of 0.270 Å<sup>-1</sup>

## 8 Fourier-Shell correlation [i](#)

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

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.270 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

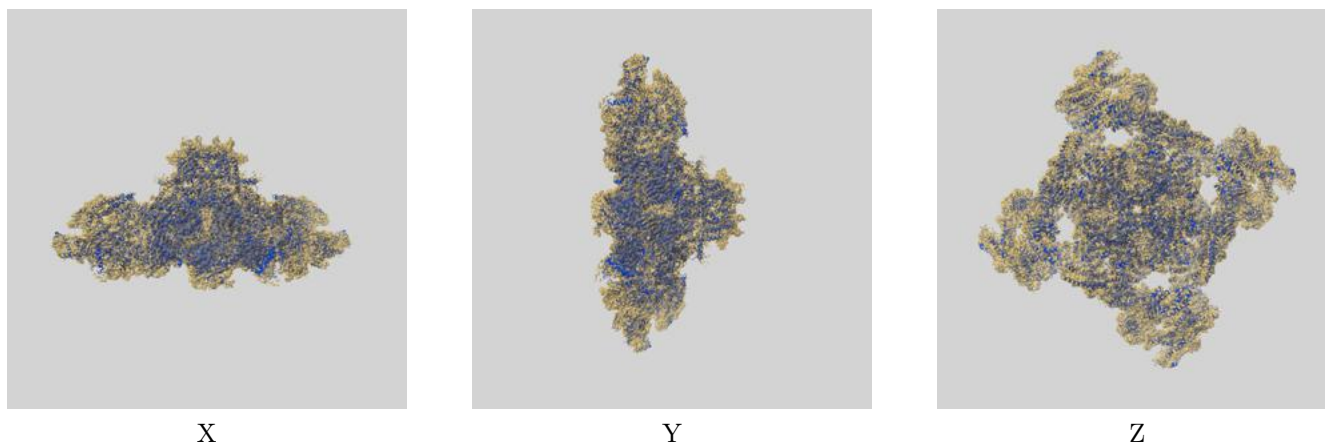
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	3.78	4.35	3.88
Unmasked-calculated*	3.75	4.30	3.84

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

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

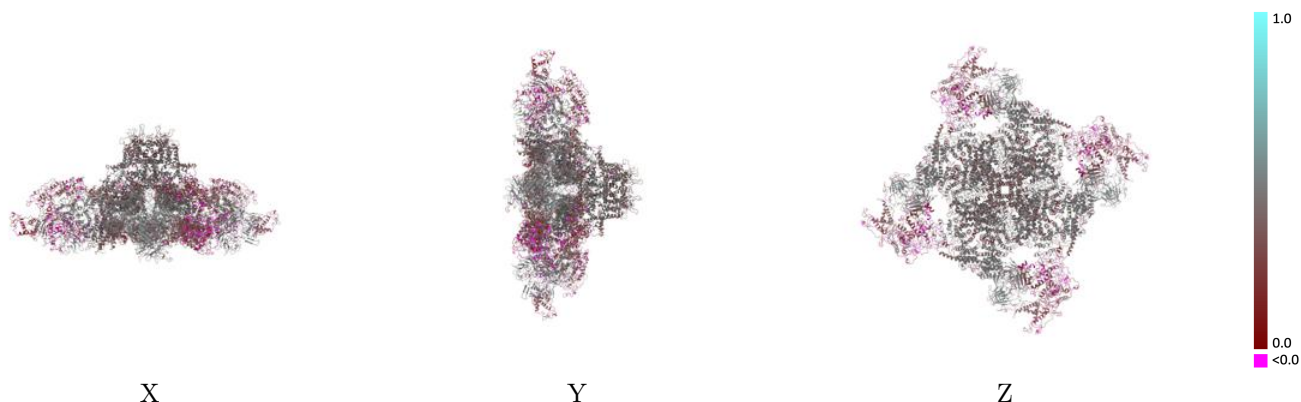
This section contains information regarding the fit between EMDB map EMD-25831 and PDB model 7TDJ. Per-residue inclusion information can be found in section 3 on page 5.

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



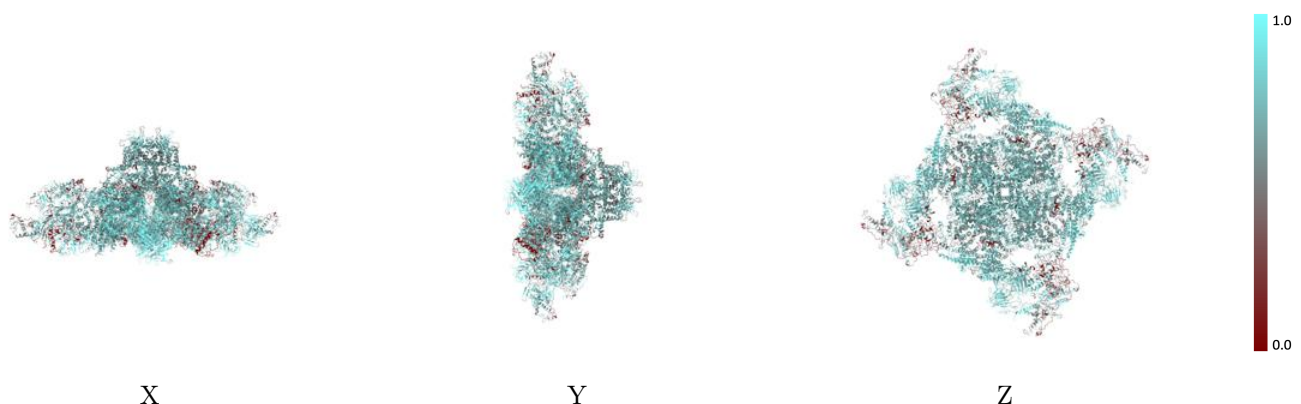
The images above show the 3D surface view of the map at the recommended contour level 0.015 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



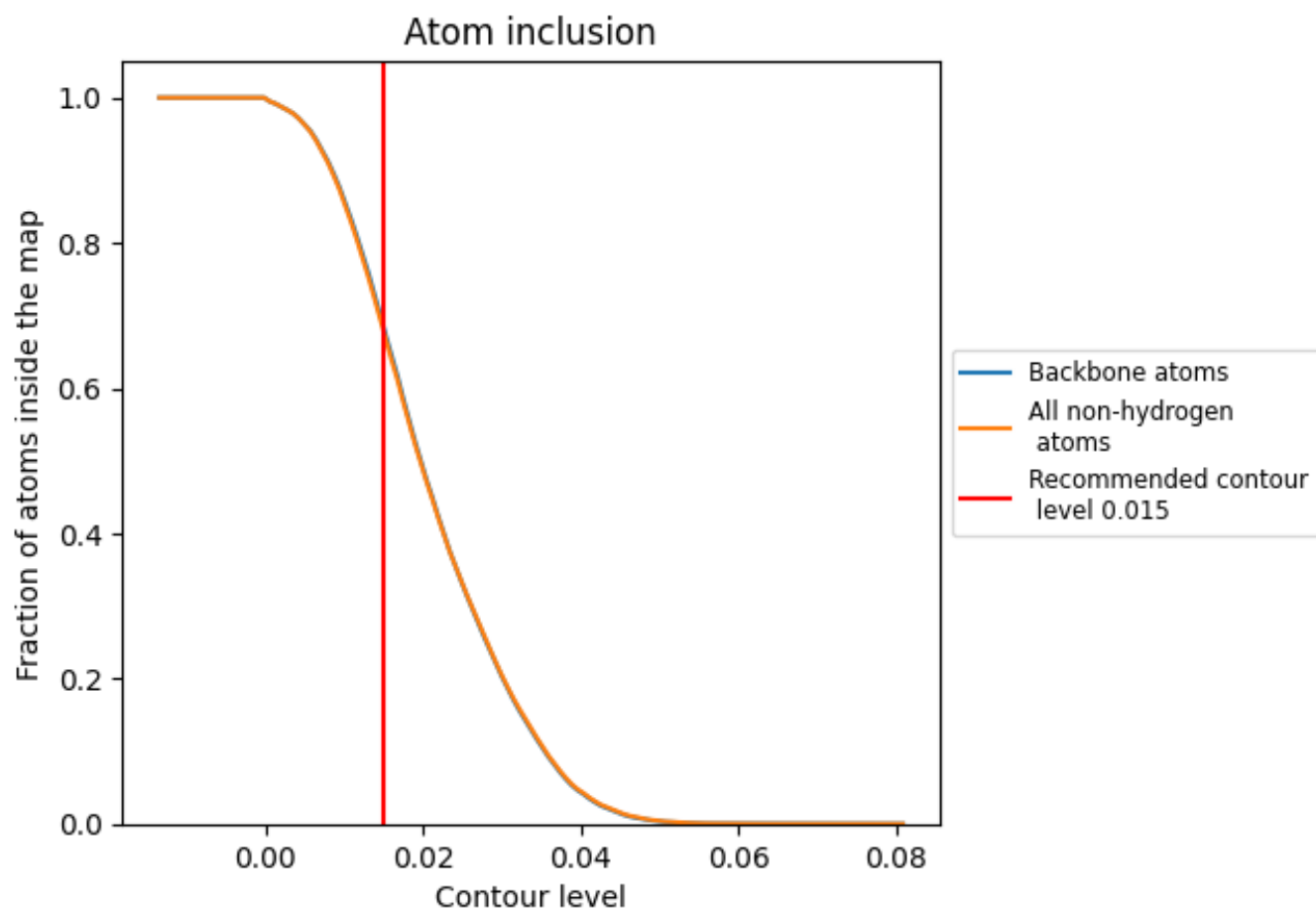
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.015).






## 9.4 Atom inclusion [i](#)



At the recommended contour level, 68% of all backbone atoms, 68% of all non-hydrogen atoms, are inside the map.

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

The table lists the average atom inclusion at the recommended contour level (0.015) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6771	 0.3650
A	 0.6824	 0.3650
B	 0.6822	 0.3650
C	 0.6827	 0.3650
D	 0.6829	 0.3650

