



Full wwPDB EM Validation Report ⓘ

Nov 20, 2022 – 12:53 AM EST

PDB ID : 7TDK
EMDB ID : EMD-25832
Title : Rabbit RyR1 with AMP-PCP and high Ca²⁺ embedded in nanodisc in closed-inactivated conformation class 3 (Dataset-A)
Authors : Nayak, A.R.; Samsó, M.
Deposited on : 2021-12-31
Resolution : 3.80 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.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

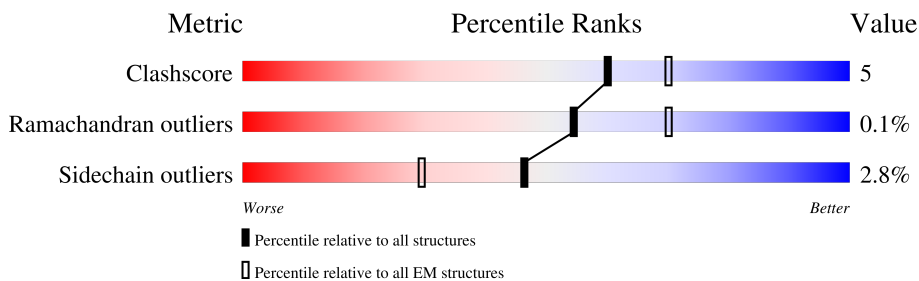
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.80 Å.

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



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

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

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

2 Entry composition [i](#)

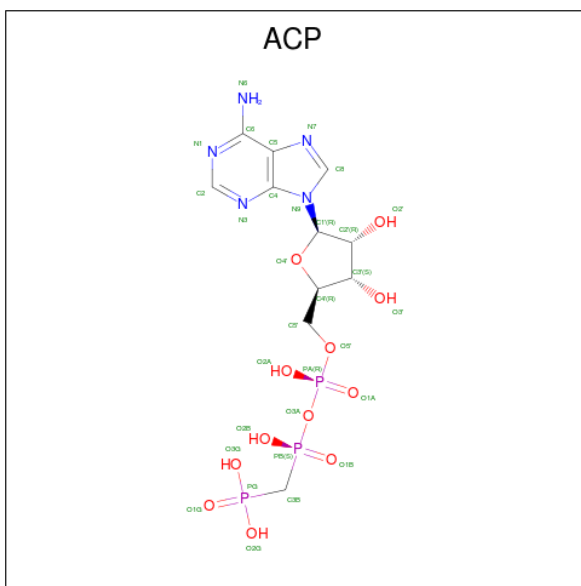
There are 4 unique types of molecules in this entry. The entry contains 117136 atoms, of which 0 are hydrogens and 0 are deuteriums.

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	4134	Total 29250	C 18518	N 5183	O 5393	S 156	0	0
1	B	4134	Total 29250	C 18518	N 5183	O 5393	S 156	0	0
1	C	4134	Total 29250	C 18518	N 5183	O 5393	S 156	0	0
1	D	4134	Total 29250	C 18518	N 5183	O 5393	S 156	0	0

- Molecule 2 is PHOSPHOMETHYLPHOSPHONIC ACID ADENYLATE ESTER (three-letter code: ACP) (formula: $C_{11}H_{18}N_5O_{12}P_3$).



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

Continued on next page...

Continued from previous page...

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	

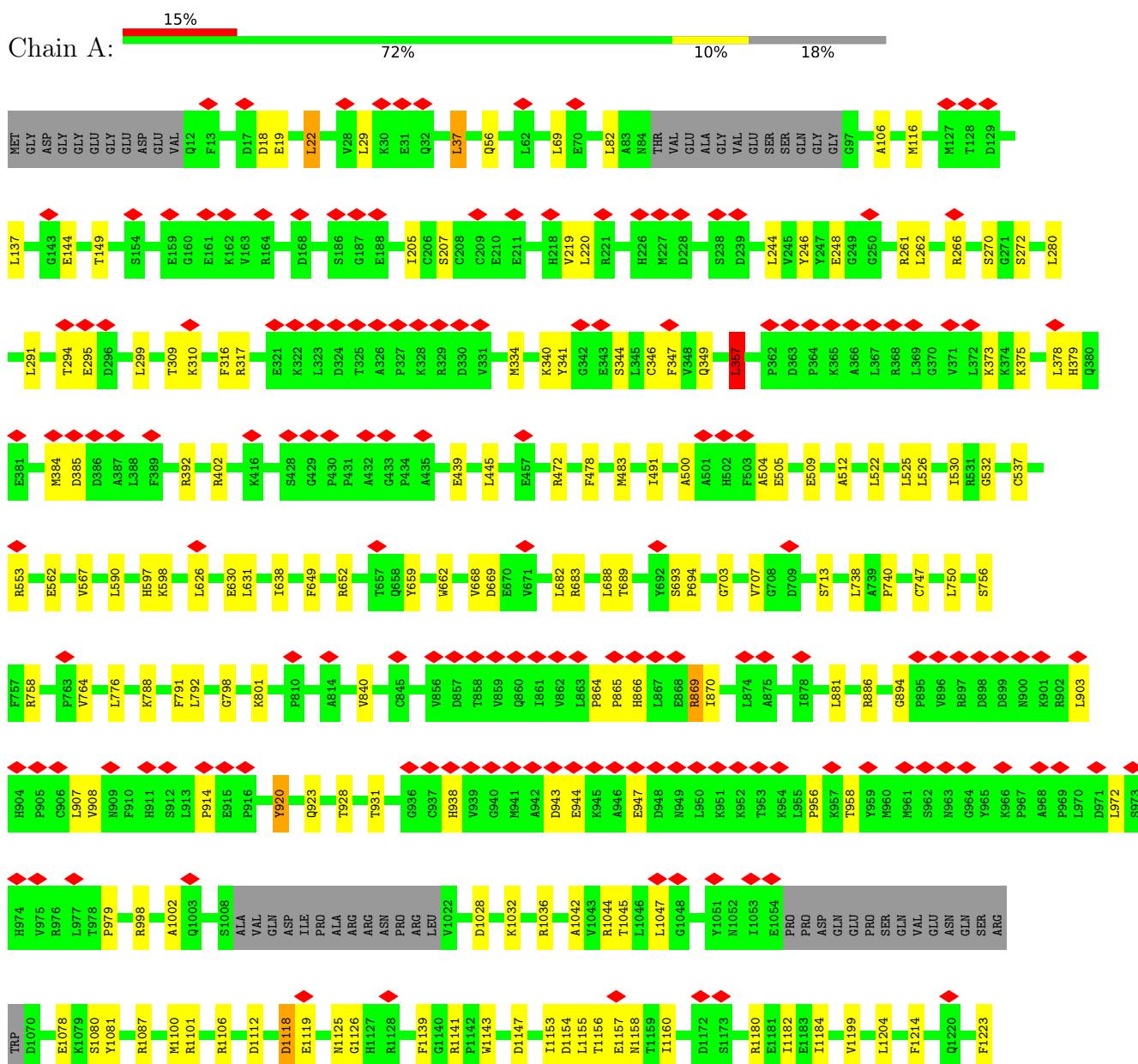
- Molecule 4 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

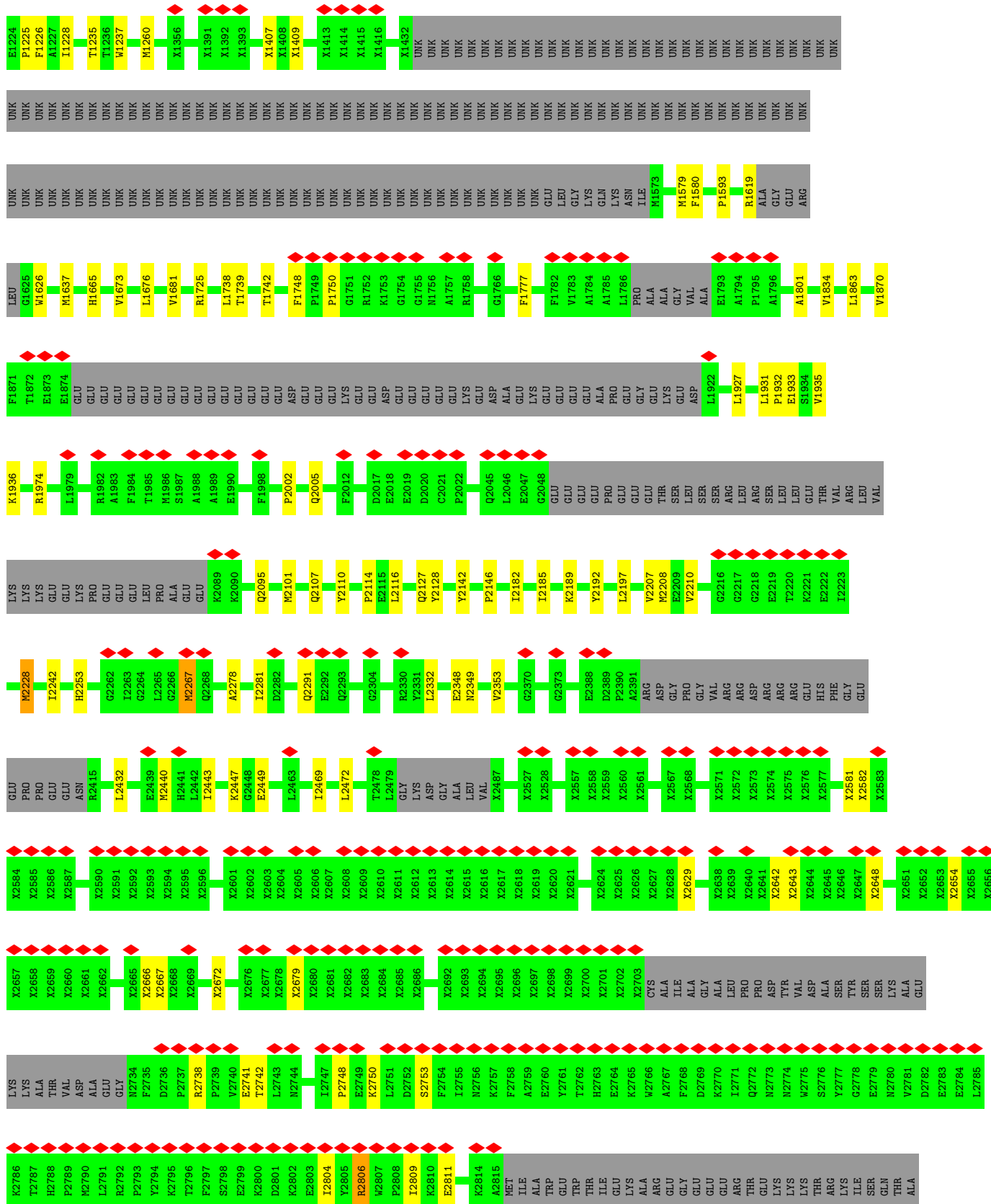
Mol	Chain	Residues	Atoms		AltConf
4	A	2	Total	Ca	0
			2	2	
4	B	2	Total	Ca	0
			2	2	
4	C	2	Total	Ca	0
			2	2	
4	D	2	Total	Ca	0
			2	2	

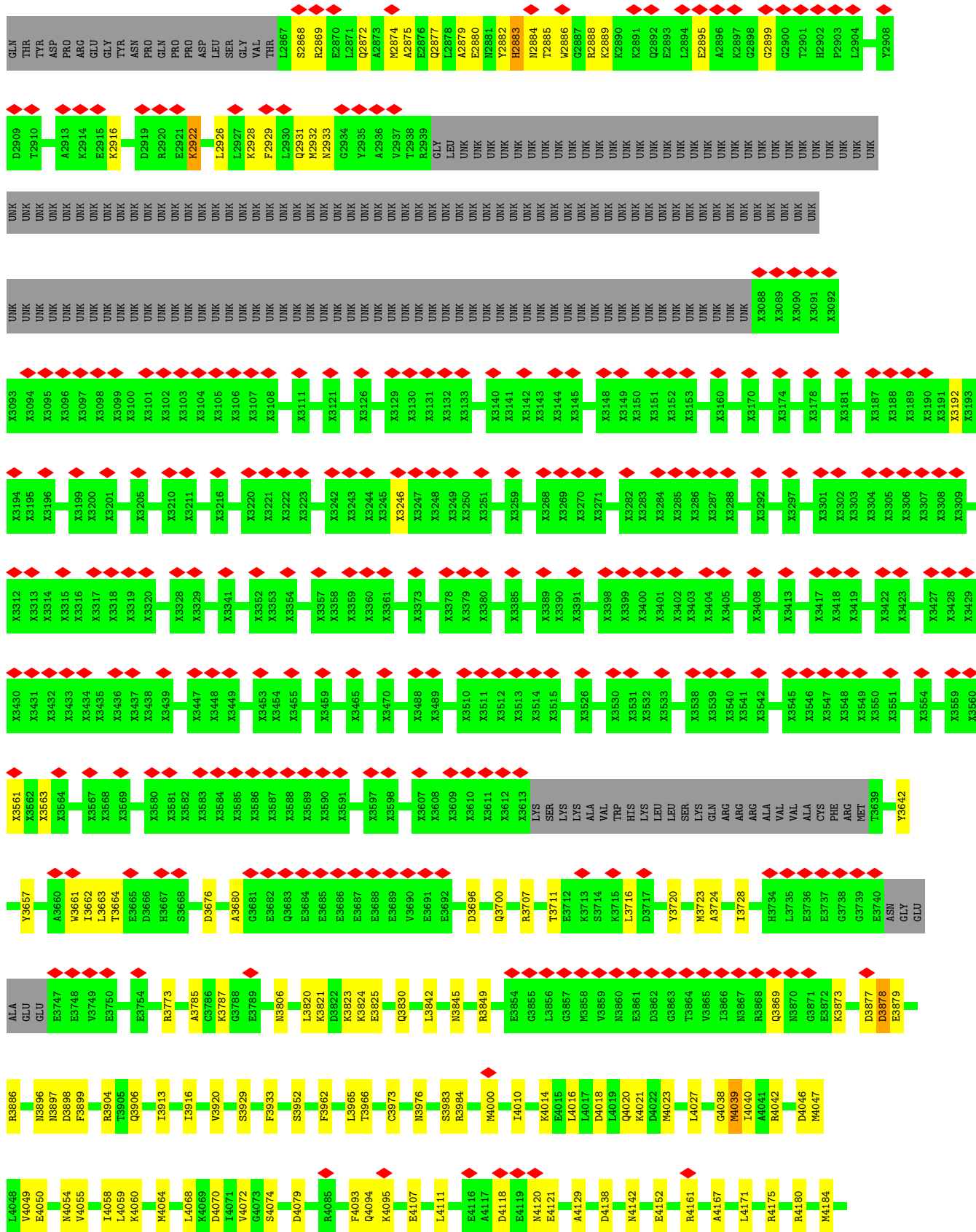
3 Residue-property plots

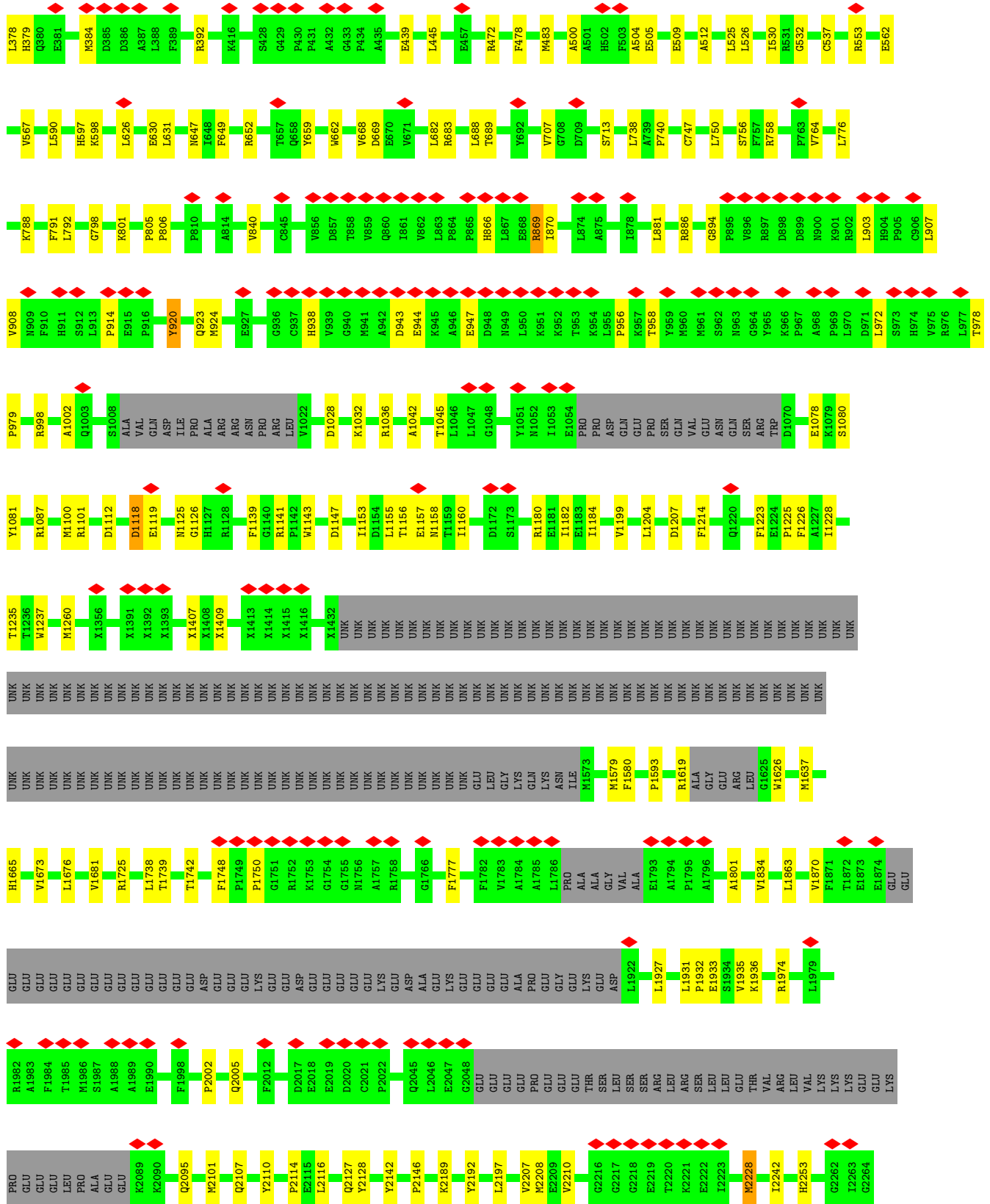
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

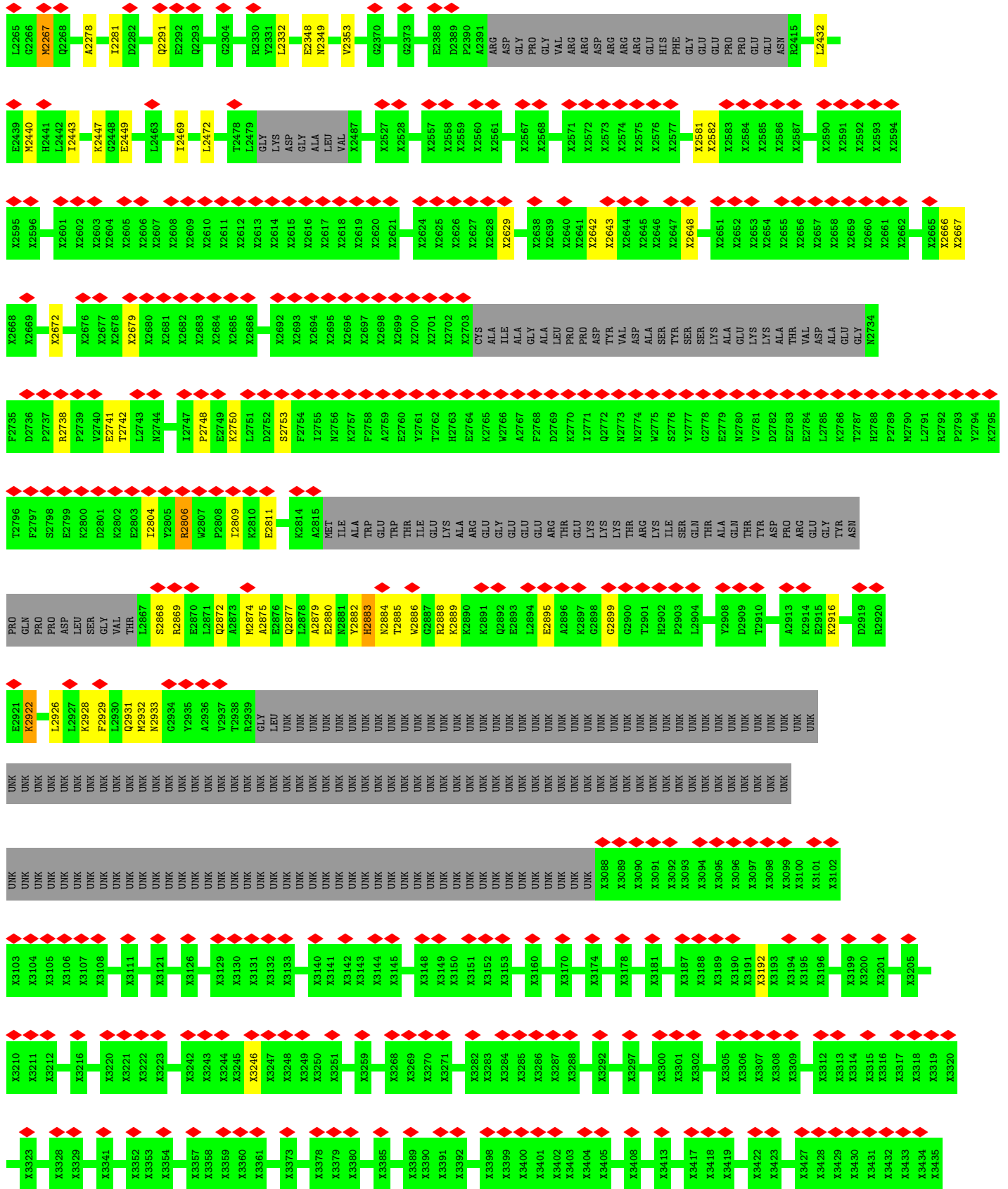
- Molecule 1: Ryanodine receptor 1,Ryanodine receptor 1,RyR1

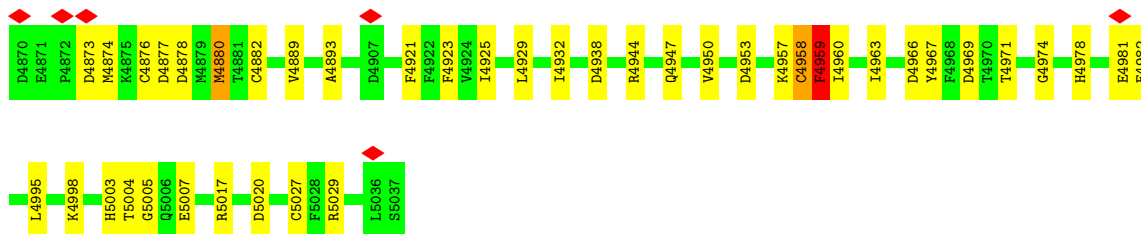




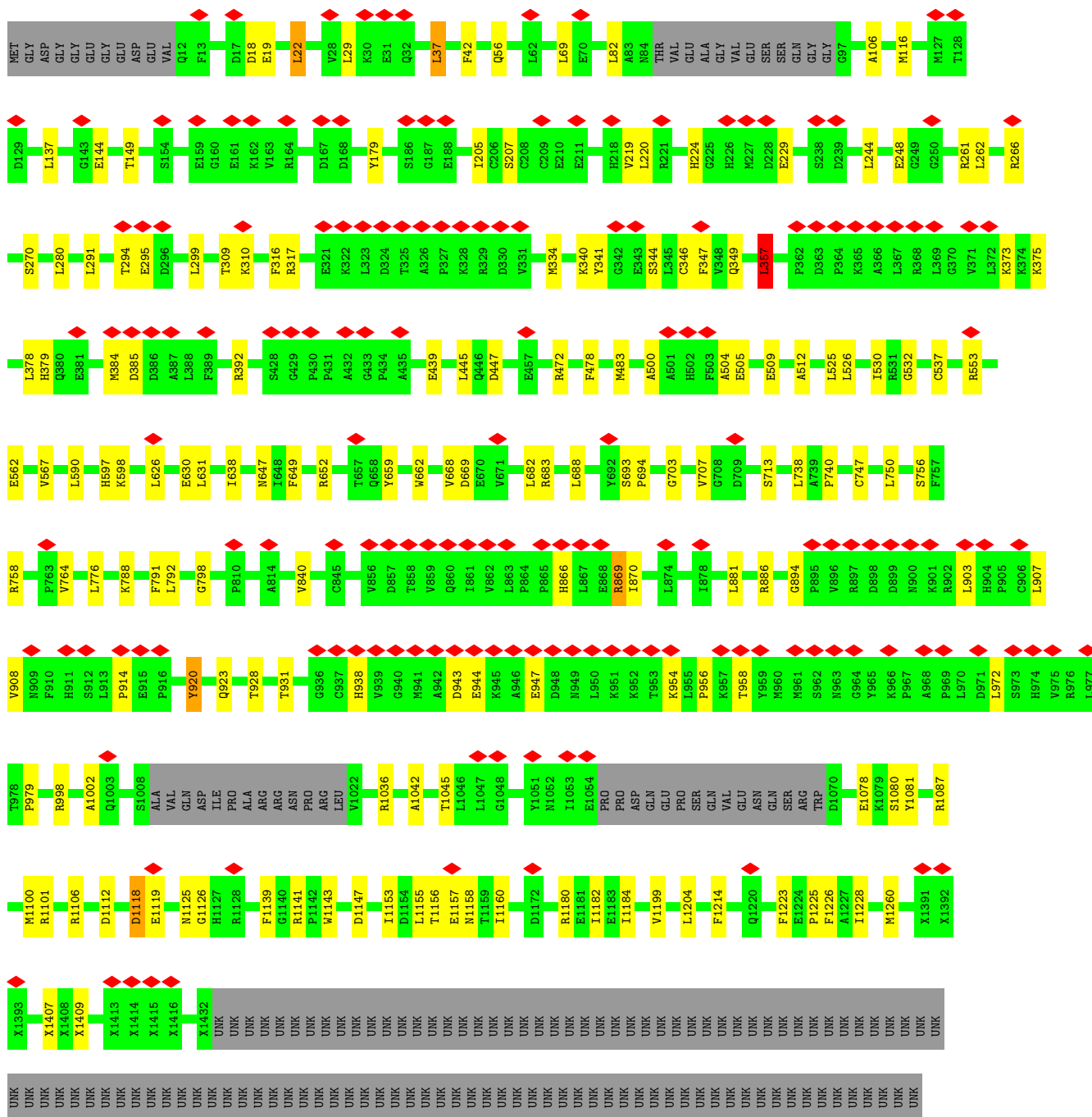


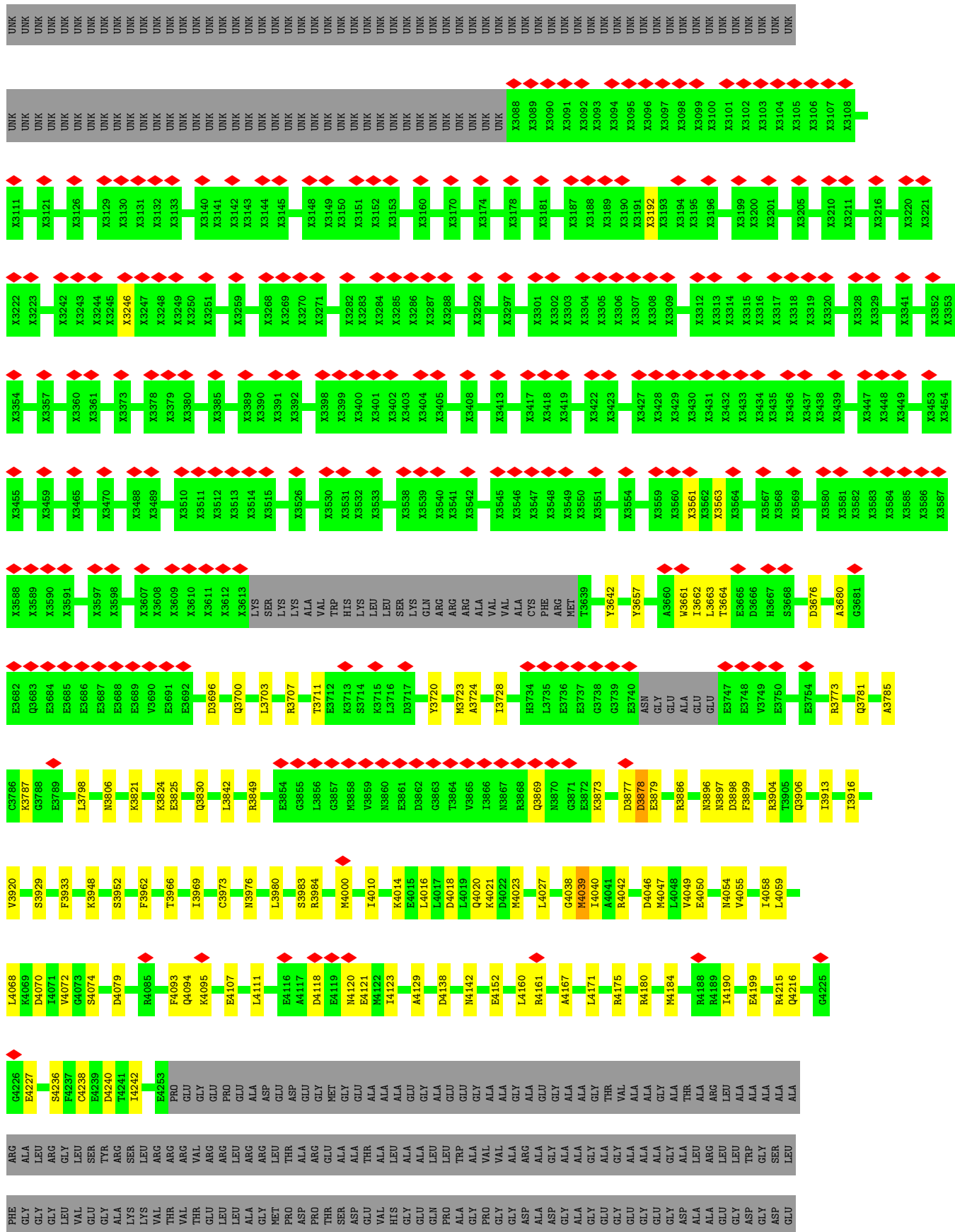


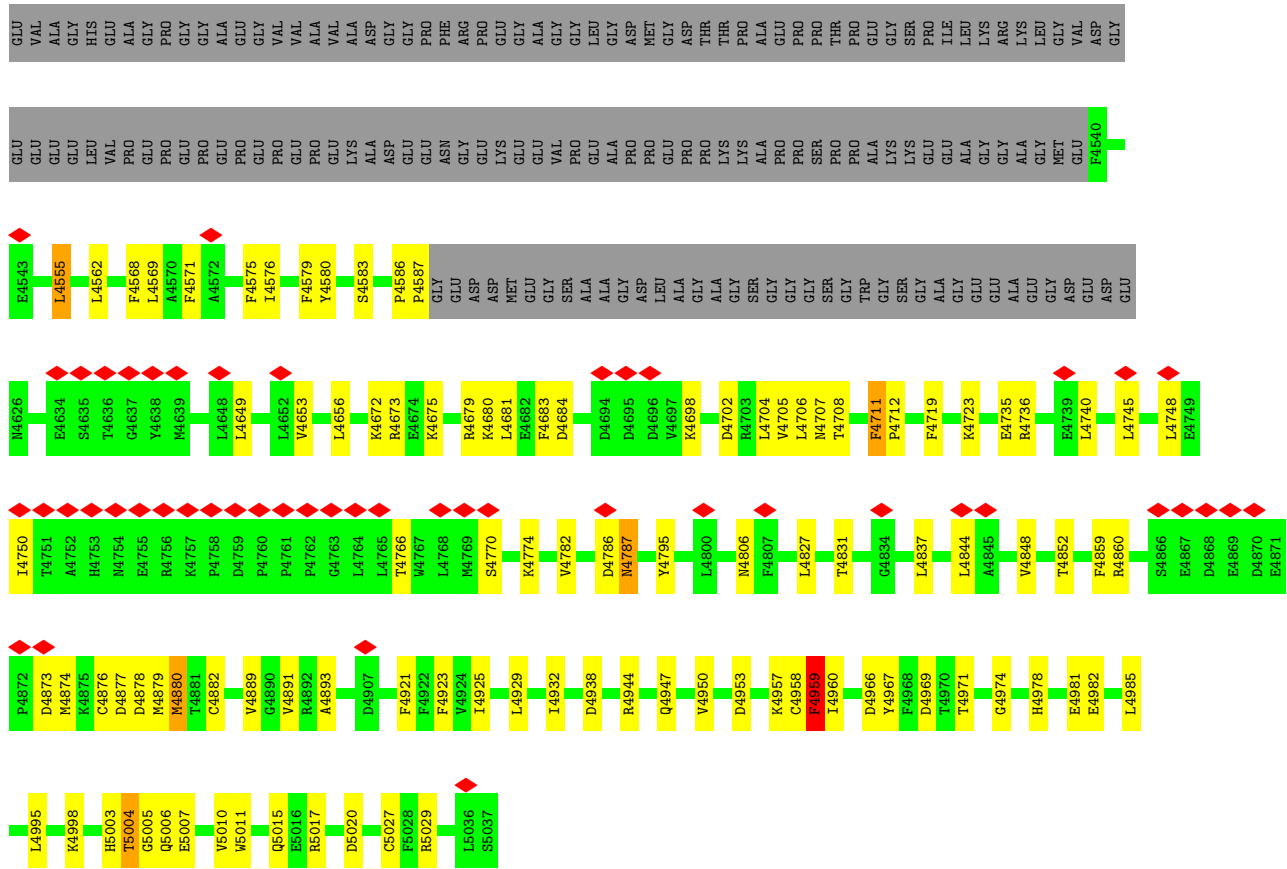




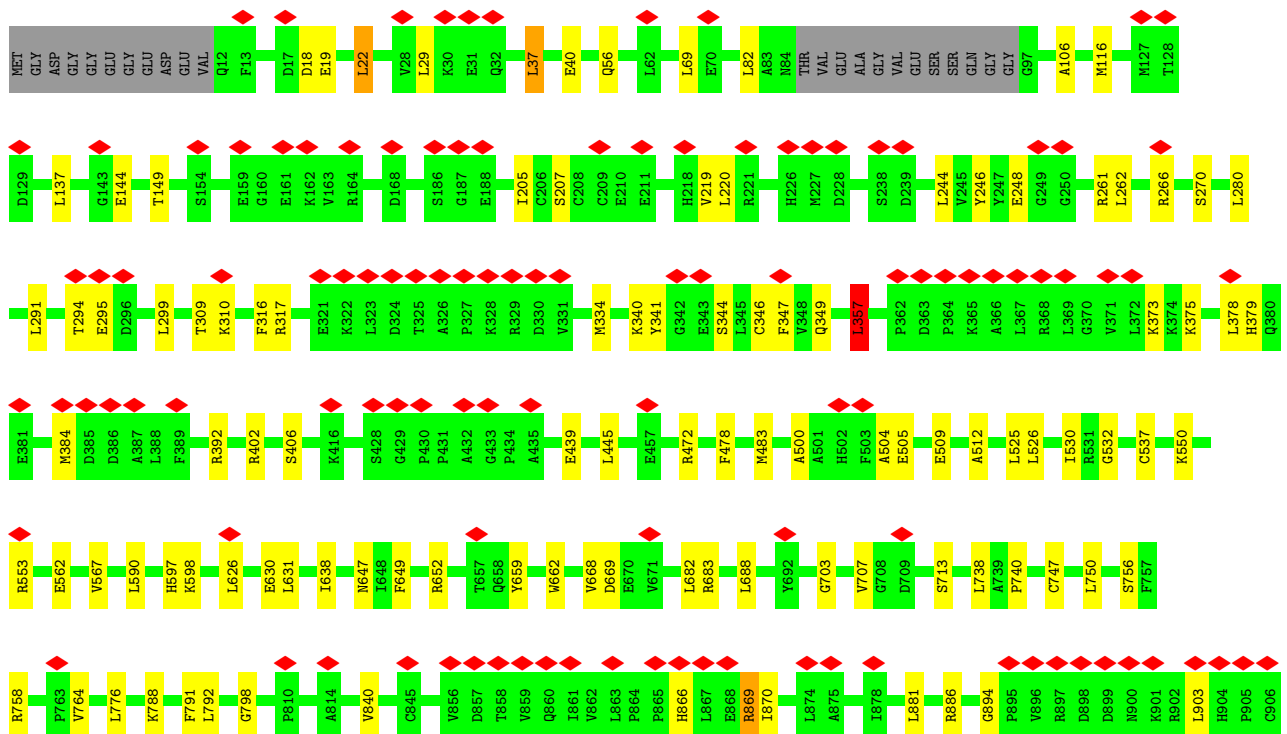
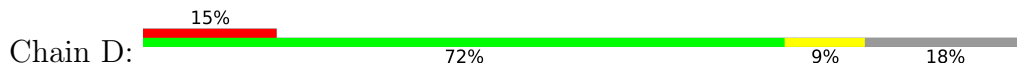
• Molecule 1: Ryanodine receptor 1, Ryanodine receptor 1, RyR1

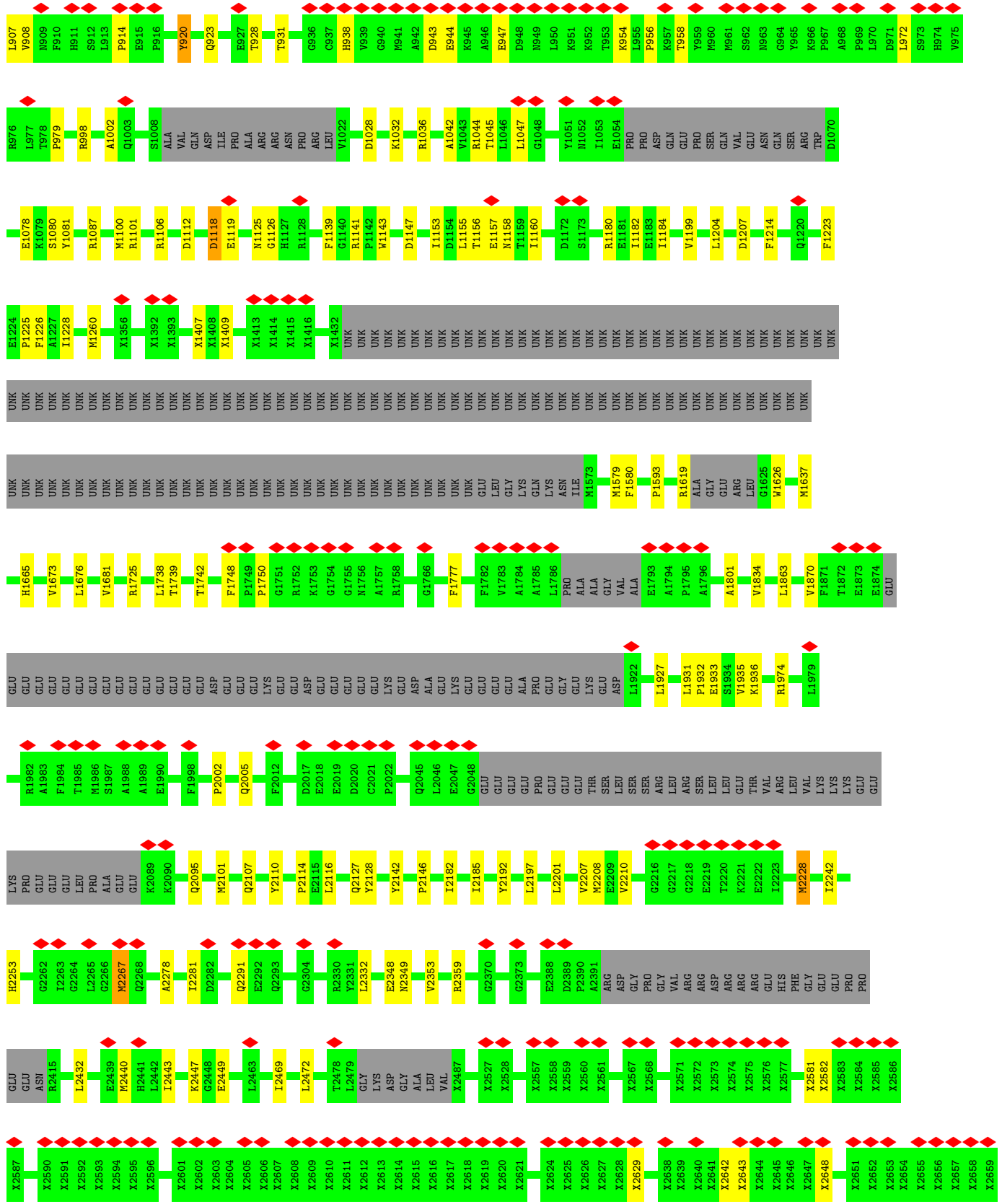


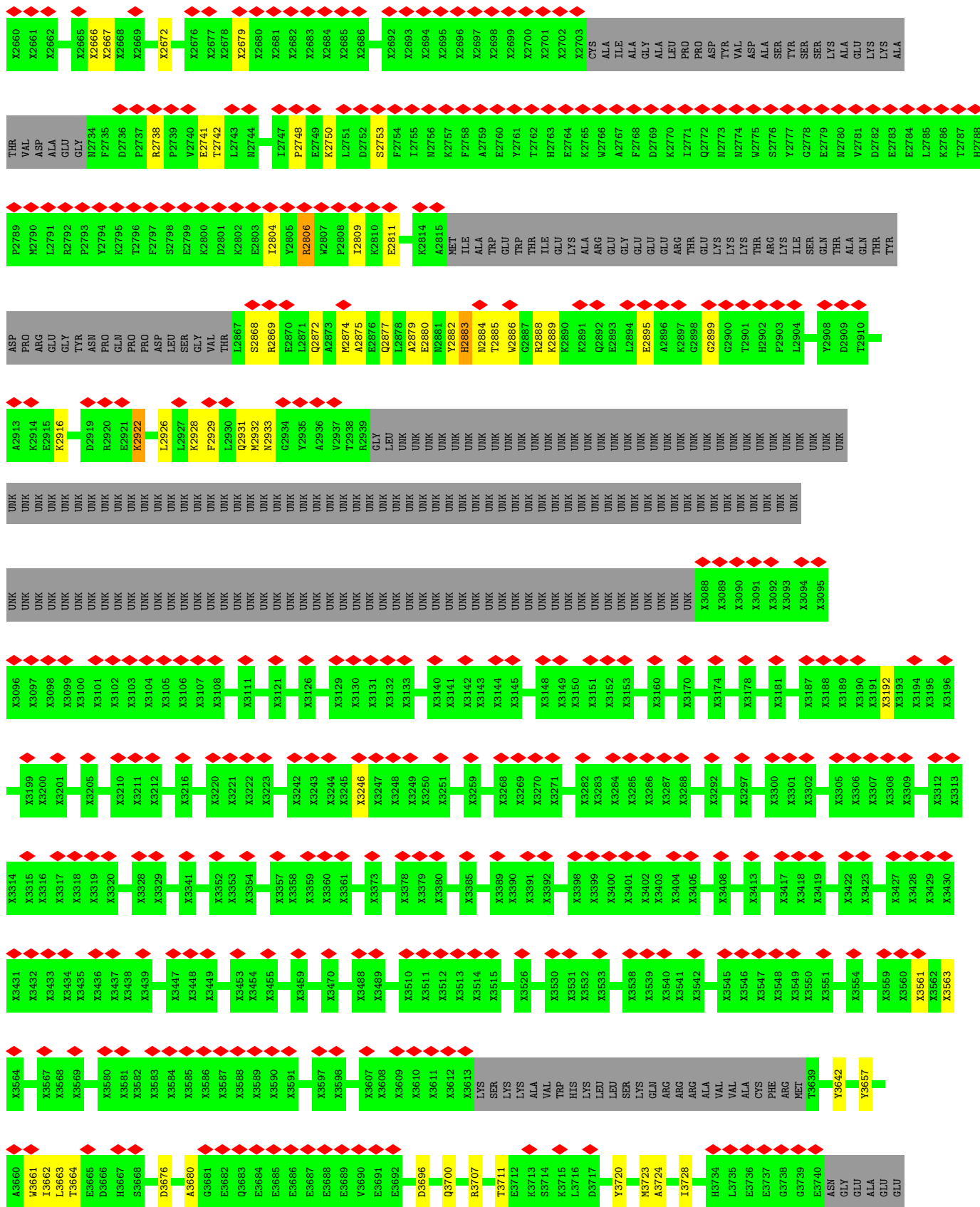




● Molecule 1: Ryanodine receptor 1, Ryanodine receptor 1, RyR1







4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	71499	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	0.070	Depositor
Minimum map value	-0.012	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.015	Depositor
Map size (Å)	477.36002, 477.36002, 477.36002	wwPDB
Map dimensions	432, 432, 432	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	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: CA, ZN, 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	0.28	0/25304	0.59	17/34353 (0.0%)
1	B	0.28	0/25304	0.59	17/34353 (0.0%)
1	C	0.28	0/25304	0.59	17/34353 (0.0%)
1	D	0.28	0/25304	0.59	17/34353 (0.0%)
All	All	0.28	0/101216	0.59	68/137412 (0.0%)

There are no bond length outliers.

All (68) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	4118	ASP	CB-CG-OD2	8.82	126.24	118.30
1	A	4118	ASP	CB-CG-OD2	8.81	126.22	118.30
1	C	4118	ASP	CB-CG-OD2	8.81	126.22	118.30
1	D	4118	ASP	CB-CG-OD2	8.77	126.19	118.30
1	D	1112	ASP	CB-CG-OD2	7.33	124.90	118.30
1	C	1112	ASP	CB-CG-OD2	7.30	124.87	118.30
1	B	1112	ASP	CB-CG-OD2	7.29	124.86	118.30
1	A	1112	ASP	CB-CG-OD2	7.27	124.84	118.30
1	A	4070	ASP	CB-CG-OD1	6.98	124.58	118.30
1	B	4070	ASP	CB-CG-OD1	6.95	124.56	118.30
1	C	4070	ASP	CB-CG-OD1	6.95	124.56	118.30
1	A	4786	ASP	CB-CG-OD1	6.94	124.55	118.30
1	B	688	LEU	CA-CB-CG	6.94	131.26	115.30
1	C	688	LEU	CA-CB-CG	6.94	131.26	115.30
1	D	688	LEU	CA-CB-CG	6.94	131.26	115.30
1	A	688	LEU	CA-CB-CG	6.92	131.21	115.30
1	B	4786	ASP	CB-CG-OD1	6.91	124.52	118.30
1	D	4070	ASP	CB-CG-OD1	6.91	124.52	118.30
1	D	4786	ASP	CB-CG-OD1	6.88	124.49	118.30
1	C	4786	ASP	CB-CG-OD1	6.86	124.47	118.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	4684	ASP	CB-CG-OD2	6.51	124.16	118.30
1	B	4684	ASP	CB-CG-OD2	6.50	124.15	118.30
1	C	4953	ASP	CB-CG-OD1	6.48	124.13	118.30
1	C	4684	ASP	CB-CG-OD2	6.46	124.12	118.30
1	A	4953	ASP	CB-CG-OD1	6.44	124.09	118.30
1	D	4953	ASP	CB-CG-OD1	6.44	124.09	118.30
1	A	4684	ASP	CB-CG-OD2	6.43	124.08	118.30
1	B	4953	ASP	CB-CG-OD1	6.42	124.08	118.30
1	B	4873	ASP	CB-CG-OD1	6.25	123.92	118.30
1	B	4745	LEU	CA-CB-CG	6.24	129.66	115.30
1	C	4745	LEU	CA-CB-CG	6.24	129.66	115.30
1	A	4745	LEU	CA-CB-CG	6.24	129.65	115.30
1	A	4873	ASP	CB-CG-OD1	6.23	123.91	118.30
1	D	4745	LEU	CA-CB-CG	6.23	129.62	115.30
1	C	4873	ASP	CB-CG-OD1	6.21	123.89	118.30
1	D	4873	ASP	CB-CG-OD1	6.21	123.89	118.30
1	C	1118	ASP	CB-CG-OD2	6.17	123.85	118.30
1	A	1118	ASP	CB-CG-OD2	6.16	123.85	118.30
1	D	1118	ASP	CB-CG-OD2	6.16	123.85	118.30
1	B	1118	ASP	CB-CG-OD2	6.10	123.79	118.30
1	D	4844	LEU	CA-CB-CG	5.80	128.65	115.30
1	C	4844	LEU	CA-CB-CG	5.78	128.60	115.30
1	A	4844	LEU	CA-CB-CG	5.76	128.56	115.30
1	B	4844	LEU	CA-CB-CG	5.76	128.55	115.30
1	B	4681	LEU	CA-CB-CG	5.74	128.51	115.30
1	D	4681	LEU	CA-CB-CG	5.74	128.50	115.30
1	C	4681	LEU	CA-CB-CG	5.73	128.48	115.30
1	A	4681	LEU	CA-CB-CG	5.73	128.48	115.30
1	C	357	LEU	CA-CB-CG	5.67	128.33	115.30
1	D	357	LEU	CA-CB-CG	5.66	128.32	115.30
1	A	357	LEU	CA-CB-CG	5.65	128.30	115.30
1	B	357	LEU	CA-CB-CG	5.64	128.28	115.30
1	C	4706	LEU	CA-CB-CG	5.58	128.14	115.30
1	B	4706	LEU	CA-CB-CG	5.58	128.13	115.30
1	A	4706	LEU	CA-CB-CG	5.58	128.12	115.30
1	C	4740	LEU	CA-CB-CG	5.57	128.12	115.30
1	D	4706	LEU	CA-CB-CG	5.56	128.08	115.30
1	B	4740	LEU	CA-CB-CG	5.55	128.07	115.30
1	A	4740	LEU	CA-CB-CG	5.54	128.05	115.30
1	D	4740	LEU	CA-CB-CG	5.54	128.05	115.30
1	C	3878	ASP	CB-CG-OD2	5.48	123.23	118.30
1	A	3878	ASP	CB-CG-OD2	5.46	123.21	118.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	3878	ASP	CB-CG-OD2	5.45	123.21	118.30
1	B	3878	ASP	CB-CG-OD2	5.44	123.19	118.30
1	A	2228	MET	CB-CG-SD	5.29	128.27	112.40
1	B	2228	MET	CB-CG-SD	5.28	128.24	112.40
1	C	2228	MET	CB-CG-SD	5.27	128.20	112.40
1	D	2228	MET	CB-CG-SD	5.26	128.19	112.40

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	29250	0	24776	264	0
1	B	29250	0	24776	251	0
1	C	29250	0	24776	259	0
1	D	29250	0	24777	253	0
2	A	31	0	13	2	0
2	B	31	0	13	2	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
All	All	117136	0	99157	1008	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 (1008) 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:4878:ASP:O	1:C:4882:CYS:HB2	1.62	0.98
1:A:4878:ASP:O	1:A:4882:CYS:HB2	1.62	0.97
1:B:4878:ASP:O	1:B:4882:CYS:HB2	1.62	0.97
1:D:4878:ASP:O	1:D:4882:CYS:HB2	1.62	0.96
1:C:4059:LEU:HD13	1:C:4167:ALA:HB2	1.66	0.77
1:D:4059:LEU:HD13	1:D:4167:ALA:HB2	1.66	0.76
1:A:4059:LEU:HD13	1:A:4167:ALA:HB2	1.66	0.76
1:B:4059:LEU:HD13	1:B:4167:ALA:HB2	1.66	0.75
1:B:4736:ARG:NH1	1:C:4079:ASP:OD2	2.21	0.74
1:B:1078:GLU:HG3	1:B:1080:SER:H	1.54	0.73
1:B:4938:ASP:OD1	1:C:4944:ARG:NH1	2.21	0.73
1:C:1078:GLU:HG3	1:C:1080:SER:H	1.54	0.72
1:A:1078:GLU:HG3	1:A:1080:SER:H	1.54	0.71
1:C:3896:ASN:O	1:C:3898:ASP:N	2.25	0.70
1:B:3896:ASN:O	1:B:3898:ASP:N	2.25	0.70
1:D:3896:ASN:O	1:D:3898:ASP:N	2.25	0.69
1:D:1078:GLU:HG3	1:D:1080:SER:H	1.54	0.69
1:B:4562:LEU:HG	1:B:4653:VAL:HG13	1.75	0.69
1:A:4736:ARG:NH1	1:B:4079:ASP:OD2	2.24	0.69
1:A:3896:ASN:O	1:A:3898:ASP:N	2.25	0.69
1:A:3821:LYS:O	1:A:3824:LYS:NZ	2.24	0.68
1:C:4562:LEU:HG	1:C:4653:VAL:HG13	1.75	0.68
1:D:4562:LEU:HG	1:D:4653:VAL:HG13	1.75	0.68
1:A:4562:LEU:HG	1:A:4653:VAL:HG13	1.75	0.68
1:D:3821:LYS:O	1:D:3824:LYS:NZ	2.25	0.68
1:C:3821:LYS:O	1:C:3824:LYS:NZ	2.25	0.66
1:B:3821:LYS:O	1:B:3824:LYS:NZ	2.25	0.66
1:A:4958:CYS:HA	2:A:5101:ACP:H2	1.78	0.66
1:B:4958:CYS:HA	2:B:5101:ACP:H2	1.78	0.66
1:B:2581:UNK:HA	1:B:2895:GLU:HG3	1.78	0.66
1:C:4736:ARG:NH1	1:D:4079:ASP:OD2	2.27	0.66
1:D:341:TYR:OH	1:D:392:ARG:NH1	2.29	0.66
1:A:4079:ASP:OD2	1:D:4736:ARG:NH1	2.27	0.65
1:C:2581:UNK:HA	1:C:2895:GLU:HG3	1.78	0.65
1:B:341:TYR:OH	1:B:392:ARG:NH1	2.29	0.65
1:C:4240:ASP:OD1	1:C:4672:LYS:NZ	2.30	0.65
1:B:4240:ASP:OD1	1:B:4672:LYS:NZ	2.30	0.64
1:D:3661:TRP:HE3	1:D:3663:LEU:HD22	1.62	0.64
1:A:4240:ASP:OD1	1:A:4672:LYS:NZ	2.30	0.64
1:A:2581:UNK:HA	1:A:2895:GLU:HG3	1.78	0.64
1:C:3661:TRP:HE3	1:C:3663:LEU:HD22	1.62	0.64
1:A:3661:TRP:HE3	1:A:3663:LEU:HD22	1.62	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:357:LEU:HB3	1:A:378:LEU:HD23	1.80	0.64
1:A:4944:ARG:NH1	1:D:4938:ASP:OD1	2.30	0.64
1:D:2581:UNK:HA	1:D:2895:GLU:HG3	1.78	0.64
1:C:2886:TRP:O	1:C:2889:LYS:NZ	2.29	0.63
1:D:357:LEU:HB3	1:D:378:LEU:HD23	1.80	0.63
1:D:4240:ASP:OD1	1:D:4672:LYS:NZ	2.30	0.63
1:C:4938:ASP:OD1	1:D:4944:ARG:NH1	2.31	0.63
1:B:357:LEU:HB3	1:B:378:LEU:HD23	1.80	0.63
1:B:2886:TRP:O	1:B:2889:LYS:NZ	2.29	0.63
1:C:341:TYR:OH	1:C:392:ARG:NH1	2.29	0.63
1:B:3661:TRP:HE3	1:B:3663:LEU:HD22	1.62	0.63
1:A:866:HIS:O	1:A:869:ARG:NH1	2.31	0.62
1:B:866:HIS:O	1:B:869:ARG:NH1	2.31	0.62
1:C:357:LEU:HB3	1:C:378:LEU:HD23	1.80	0.62
1:D:866:HIS:O	1:D:869:ARG:NH1	2.31	0.62
1:D:2666:UNK:HA	1:D:2922:LYS:HE2	1.81	0.62
1:D:2886:TRP:O	1:D:2889:LYS:NZ	2.29	0.62
1:B:2666:UNK:HA	1:B:2922:LYS:HE2	1.81	0.62
1:D:4958:CYS:HA	2:D:5101:ACP:H2	1.79	0.62
1:A:2666:UNK:HA	1:A:2922:LYS:HE2	1.81	0.62
1:D:317:ARG:HH21	1:D:349:GLN:HB2	1.65	0.62
1:A:341:TYR:OH	1:A:392:ARG:NH1	2.29	0.62
1:B:317:ARG:HH21	1:B:349:GLN:HB2	1.65	0.62
1:A:317:ARG:HH21	1:A:349:GLN:HB2	1.65	0.62
1:C:866:HIS:O	1:C:869:ARG:NH1	2.31	0.62
1:C:317:ARG:HH21	1:C:349:GLN:HB2	1.65	0.61
1:C:2666:UNK:HA	1:C:2922:LYS:HE2	1.81	0.61
1:B:4138:ASP:O	1:B:4142:ASN:ND2	2.33	0.61
1:A:4138:ASP:O	1:A:4142:ASN:ND2	2.33	0.61
1:A:4860:ARG:NH1	1:B:4583:SER:OG	2.34	0.61
1:C:2742:THR:HG23	1:C:2811:GLU:HG2	1.83	0.61
1:C:4138:ASP:O	1:C:4142:ASN:ND2	2.33	0.61
1:A:4959:PHE:HB3	1:A:4960:ILE:HD12	1.83	0.61
1:D:4138:ASP:O	1:D:4142:ASN:ND2	2.33	0.61
1:A:2886:TRP:O	1:A:2889:LYS:NZ	2.29	0.60
1:B:2742:THR:HG23	1:B:2811:GLU:HG2	1.83	0.60
1:C:4959:PHE:HB3	1:C:4960:ILE:HD12	1.83	0.60
1:B:649:PHE:HB3	1:B:776:LEU:HD13	1.83	0.60
1:A:2742:THR:HG23	1:A:2811:GLU:HG2	1.83	0.60
1:B:4959:PHE:HB3	1:B:4960:ILE:HD12	1.83	0.60
1:D:4959:PHE:HB3	1:D:4960:ILE:HD12	1.83	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4704:LEU:HD11	1:A:4774:LYS:HB3	1.82	0.60
1:D:649:PHE:HB3	1:D:776:LEU:HD13	1.83	0.60
1:A:649:PHE:HB3	1:A:776:LEU:HD13	1.83	0.60
1:C:649:PHE:HB3	1:C:776:LEU:HD13	1.83	0.60
1:B:2928:LYS:O	1:B:2931:GLN:NE2	2.35	0.59
1:C:4704:LEU:HD11	1:C:4774:LYS:HB3	1.82	0.59
1:D:4704:LEU:HD11	1:D:4774:LYS:HB3	1.82	0.59
1:C:2928:LYS:O	1:C:2931:GLN:NE2	2.35	0.59
1:A:3973:CYS:HB3	1:A:3976:ASN:HB2	1.84	0.59
1:C:478:PHE:HE1	1:C:483:MET:HG2	1.67	0.59
1:C:2648:UNK:HA	1:C:2869:ARG:HD3	1.85	0.59
1:B:4704:LEU:HD11	1:B:4774:LYS:HB3	1.82	0.59
1:D:2928:LYS:O	1:D:2931:GLN:NE2	2.35	0.59
1:C:4107:GLU:OE1	1:C:4107:GLU:N	2.36	0.59
1:A:2928:LYS:O	1:A:2931:GLN:NE2	2.35	0.59
1:B:478:PHE:HE1	1:B:483:MET:HG2	1.67	0.59
1:C:4215:ARG:HH22	2:C:5101:ACP:H3B2	1.67	0.59
1:D:3973:CYS:HB3	1:D:3976:ASN:HB2	1.84	0.59
1:B:2648:UNK:HA	1:B:2869:ARG:HD3	1.84	0.59
1:D:2742:THR:HG23	1:D:2811:GLU:HG2	1.83	0.58
1:A:4152:GLU:OE2	1:A:4180:ARG:NH1	2.36	0.58
1:B:2880:GLU:HA	1:B:2883:HIS:CE1	2.38	0.58
1:C:3973:CYS:HB3	1:C:3976:ASN:HB2	1.84	0.58
1:C:2880:GLU:HA	1:C:2883:HIS:CE1	2.38	0.58
1:A:478:PHE:HE1	1:A:483:MET:HG2	1.67	0.58
1:A:2880:GLU:HA	1:A:2883:HIS:CE1	2.38	0.58
2:B:5101:ACP:H8	2:B:5101:ACP:H5'2	1.84	0.58
1:D:4152:GLU:OE2	1:D:4180:ARG:NH1	2.37	0.58
1:A:2648:UNK:HA	1:A:2869:ARG:HD3	1.85	0.58
1:A:1158:ASN:HB3	1:A:1182:ILE:HG22	1.86	0.58
1:D:478:PHE:HE1	1:D:483:MET:HG2	1.67	0.58
1:D:1158:ASN:HB3	1:D:1182:ILE:HG22	1.86	0.58
1:D:2648:UNK:HA	1:D:2869:ARG:HD3	1.84	0.58
1:D:4995:LEU:HD21	1:D:5007:GLU:HB3	1.86	0.58
1:A:509:GLU:N	1:A:509:GLU:OE2	2.37	0.58
1:A:4107:GLU:N	1:A:4107:GLU:OE1	2.36	0.58
1:D:2880:GLU:HA	1:D:2883:HIS:CE1	2.38	0.58
1:B:4107:GLU:N	1:B:4107:GLU:OE1	2.36	0.58
1:C:509:GLU:N	1:C:509:GLU:OE2	2.36	0.58
1:D:509:GLU:OE2	1:D:509:GLU:N	2.36	0.58
1:B:562:GLU:OE2	1:B:598:LYS:NZ	2.37	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3842:LEU:HB2	1:A:3929:SER:HB2	1.87	0.57
1:B:219:VAL:HG12	1:B:261:ARG:HB2	1.86	0.57
1:A:2629:UNK:O	1:A:2888:ARG:NH1	2.37	0.57
1:C:2629:UNK:O	1:C:2888:ARG:NH1	2.37	0.57
1:C:4995:LEU:HD21	1:C:5007:GLU:HB3	1.86	0.57
1:D:439:GLU:OE2	1:D:439:GLU:N	2.37	0.57
1:D:3842:LEU:HB2	1:D:3929:SER:HB2	1.87	0.57
1:A:4068:LEU:HD12	1:A:4111:LEU:HD13	1.86	0.57
1:B:1933:GLU:HA	1:B:1936:LYS:HD3	1.87	0.57
1:B:3973:CYS:HB3	1:B:3976:ASN:HB2	1.84	0.57
1:B:4068:LEU:HD12	1:B:4111:LEU:HD13	1.86	0.57
1:C:4152:GLU:OE2	1:C:4180:ARG:NH1	2.37	0.57
1:D:2629:UNK:O	1:D:2888:ARG:NH1	2.37	0.57
1:B:509:GLU:OE2	1:B:509:GLU:N	2.37	0.57
1:B:4152:GLU:OE2	1:B:4180:ARG:NH1	2.37	0.57
1:C:3842:LEU:HB2	1:C:3929:SER:HB2	1.86	0.57
1:D:562:GLU:OE2	1:D:598:LYS:NZ	2.37	0.57
1:A:1933:GLU:HA	1:A:1936:LYS:HD3	1.87	0.57
1:A:4555:LEU:HD11	1:A:4656:LEU:HD22	1.87	0.57
1:A:4995:LEU:HD21	1:A:5007:GLU:HB3	1.86	0.57
1:B:2629:UNK:O	1:B:2888:ARG:NH1	2.37	0.57
1:C:972:LEU:HD11	1:C:1045:THR:HA	1.87	0.57
1:A:669:ASP:HA	1:A:740:PRO:HA	1.87	0.57
1:B:3842:LEU:HB2	1:B:3929:SER:HB2	1.87	0.57
1:C:219:VAL:HG12	1:C:261:ARG:HB2	1.86	0.57
1:D:1933:GLU:HA	1:D:1936:LYS:HD3	1.87	0.57
1:D:4107:GLU:N	1:D:4107:GLU:OE1	2.36	0.57
1:A:219:VAL:HG12	1:A:261:ARG:HB2	1.86	0.57
1:A:562:GLU:OE2	1:A:598:LYS:NZ	2.37	0.57
1:B:1158:ASN:HB3	1:B:1182:ILE:HG22	1.86	0.57
1:C:1158:ASN:HB3	1:C:1182:ILE:HG22	1.86	0.57
1:D:4068:LEU:HD12	1:D:4111:LEU:HD13	1.87	0.57
1:C:4068:LEU:HD12	1:C:4111:LEU:HD13	1.86	0.57
1:C:1933:GLU:HA	1:C:1936:LYS:HD3	1.87	0.56
1:D:669:ASP:HA	1:D:740:PRO:HA	1.87	0.56
1:B:4555:LEU:HD11	1:B:4656:LEU:HD22	1.87	0.56
1:B:4995:LEU:HD21	1:B:5007:GLU:HB3	1.86	0.56
1:A:972:LEU:HD11	1:A:1045:THR:HA	1.87	0.56
1:B:972:LEU:HD11	1:B:1045:THR:HA	1.87	0.56
1:C:56:GLN:O	1:C:309:THR:OG1	2.24	0.56
1:C:1739:THR:HG23	1:C:1742:THR:H	1.71	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:972:LEU:HD11	1:D:1045:THR:HA	1.87	0.56
1:B:1739:THR:HG23	1:B:1742:THR:H	1.71	0.56
1:B:3983:SER:OG	1:B:3984:ARG:N	2.39	0.56
1:A:56:GLN:O	1:A:309:THR:OG1	2.24	0.56
1:B:669:ASP:HA	1:B:740:PRO:HA	1.87	0.56
1:D:219:VAL:HG12	1:D:261:ARG:HB2	1.86	0.56
1:A:3983:SER:OG	1:A:3984:ARG:N	2.39	0.56
1:C:562:GLU:OE2	1:C:598:LYS:NZ	2.37	0.56
1:D:979:PRO:O	1:D:1036:ARG:NH2	2.39	0.56
1:D:3983:SER:OG	1:D:3984:ARG:N	2.39	0.56
1:A:979:PRO:O	1:A:1036:ARG:NH2	2.39	0.56
1:A:4938:ASP:OD1	1:B:4944:ARG:NH1	2.39	0.56
1:D:1739:THR:HG23	1:D:1742:THR:H	1.71	0.56
1:D:4555:LEU:HD11	1:D:4656:LEU:HD22	1.87	0.56
1:C:2440:MET:HB2	1:C:2443:ILE:HB	1.89	0.55
1:C:4555:LEU:HD11	1:C:4656:LEU:HD22	1.87	0.55
1:D:56:GLN:O	1:D:309:THR:OG1	2.24	0.55
1:A:2440:MET:HB2	1:A:2443:ILE:HB	1.89	0.55
1:A:2679:UNK:HA	1:A:2741:GLU:HA	1.88	0.55
1:B:56:GLN:O	1:B:309:THR:OG1	2.24	0.55
1:B:2440:MET:HB2	1:B:2443:ILE:HB	1.89	0.55
1:C:669:ASP:HA	1:C:740:PRO:HA	1.87	0.55
1:C:979:PRO:O	1:C:1036:ARG:NH2	2.39	0.55
1:B:2868:SER:O	1:B:2872:GLN:NE2	2.40	0.55
1:D:2440:MET:HB2	1:D:2443:ILE:HB	1.89	0.55
1:D:2868:SER:O	1:D:2872:GLN:NE2	2.40	0.55
1:B:979:PRO:O	1:B:1036:ARG:NH2	2.39	0.55
1:C:2868:SER:O	1:C:2872:GLN:NE2	2.40	0.55
1:D:4184:MET:HB2	1:D:4190:ILE:HD13	1.89	0.55
1:B:439:GLU:OE2	1:B:439:GLU:N	2.37	0.55
1:B:3825:GLU:N	1:B:3825:GLU:OE2	2.39	0.55
1:C:3983:SER:OG	1:C:3984:ARG:N	2.39	0.55
1:C:2748:PRO:HG2	1:C:2750:LYS:HB2	1.89	0.55
1:C:3825:GLU:OE2	1:C:3825:GLU:N	2.39	0.55
1:C:4184:MET:HB2	1:C:4190:ILE:HD13	1.89	0.55
1:A:439:GLU:OE2	1:A:439:GLU:N	2.37	0.55
1:A:652:ARG:NH1	1:A:750:LEU:O	2.40	0.55
1:A:1739:THR:HG23	1:A:1742:THR:H	1.71	0.55
1:B:2679:UNK:HA	1:B:2741:GLU:HA	1.88	0.55
1:D:2679:UNK:HA	1:D:2741:GLU:HA	1.88	0.55
1:D:1119:GLU:OE2	1:D:1119:GLU:N	2.33	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2679:UNK:HA	1:C:2741:GLU:HA	1.88	0.54
1:C:439:GLU:OE2	1:C:439:GLU:N	2.37	0.54
1:A:291:LEU:HD23	1:A:299:LEU:HD11	1.90	0.54
1:A:4184:MET:HB2	1:A:4190:ILE:HD13	1.89	0.54
1:D:3825:GLU:N	1:D:3825:GLU:OE2	2.39	0.54
1:A:4094:GLN:HB3	1:A:4095:LYS:HZ2	1.73	0.54
1:B:291:LEU:HD23	1:B:299:LEU:HD11	1.90	0.54
1:B:2581:UNK:N	1:B:2899:GLY:O	2.41	0.54
1:C:652:ARG:NH1	1:C:750:LEU:O	2.40	0.54
1:D:2581:UNK:N	1:D:2899:GLY:O	2.41	0.54
1:A:4878:ASP:HB2	1:B:4581:LYS:HZ1	1.72	0.54
1:D:2748:PRO:HG2	1:D:2750:LYS:HB2	1.89	0.54
1:D:4094:GLN:HB3	1:D:4095:LYS:HZ2	1.73	0.54
1:A:2868:SER:O	1:A:2872:GLN:NE2	2.40	0.54
1:A:2748:PRO:HG2	1:A:2750:LYS:HB2	1.89	0.54
1:C:5004:THR:OG1	1:C:5005:GLY:N	2.41	0.54
1:A:2672:UNK:HA	1:A:2804:ILE:HG13	1.90	0.54
1:A:2753:SER:HB2	1:A:2932:MET:HE2	1.90	0.54
1:C:2672:UNK:HA	1:C:2804:ILE:HG13	1.90	0.54
1:A:2581:UNK:N	1:A:2899:GLY:O	2.41	0.53
1:A:3825:GLU:OE2	1:A:3825:GLU:N	2.39	0.53
1:C:2581:UNK:N	1:C:2899:GLY:O	2.41	0.53
1:D:5004:THR:OG1	1:D:5005:GLY:N	2.41	0.53
1:B:4184:MET:HB2	1:B:4190:ILE:HD13	1.89	0.53
1:C:2753:SER:HB2	1:C:2932:MET:HE2	1.90	0.53
1:D:652:ARG:NH1	1:D:750:LEU:O	2.40	0.53
1:B:652:ARG:NH1	1:B:750:LEU:O	2.40	0.53
1:D:2672:UNK:HA	1:D:2804:ILE:HG13	1.90	0.53
1:B:2753:SER:HB2	1:B:2932:MET:HE2	1.91	0.53
1:A:5004:THR:OG1	1:A:5005:GLY:N	2.41	0.53
1:B:2748:PRO:HG2	1:B:2750:LYS:HB2	1.89	0.53
1:C:4698:LYS:O	1:C:4702:ASP:HB2	2.09	0.53
1:D:18:ASP:N	1:D:18:ASP:OD1	2.42	0.53
1:D:1927:LEU:HD23	1:D:2101:MET:HG3	1.90	0.53
1:D:2753:SER:HB2	1:D:2932:MET:HE2	1.91	0.53
1:C:291:LEU:HD23	1:C:299:LEU:HD11	1.90	0.53
1:B:1927:LEU:HD23	1:B:2101:MET:HG3	1.90	0.53
1:B:2672:UNK:HA	1:B:2804:ILE:HG13	1.90	0.53
1:B:4094:GLN:HB3	1:B:4095:LYS:HZ2	1.73	0.53
1:B:3661:TRP:CE3	1:B:3663:LEU:HD22	2.44	0.53
1:A:4698:LYS:O	1:A:4702:ASP:HB2	2.09	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:18:ASP:N	1:B:18:ASP:OD1	2.42	0.53
1:B:4837:LEU:HD21	1:B:4932:ILE:HG23	1.91	0.53
1:C:1119:GLU:OE2	1:C:1119:GLU:N	2.33	0.53
1:C:4094:GLN:HB3	1:C:4095:LYS:HZ2	1.73	0.53
1:B:2582:UNK:O	1:B:2899:GLY:N	2.42	0.52
1:B:3878:ASP:OD2	1:B:3879:GLU:N	2.43	0.52
1:C:758:ARG:HH12	1:C:764:VAL:HB	1.75	0.52
1:C:3661:TRP:CE3	1:C:3663:LEU:HD22	2.44	0.52
1:B:758:ARG:HH12	1:B:764:VAL:HB	1.75	0.52
1:B:5004:THR:OG1	1:B:5005:GLY:N	2.41	0.52
1:C:3878:ASP:OD2	1:C:3879:GLU:N	2.43	0.52
1:A:2582:UNK:O	1:A:2899:GLY:N	2.42	0.52
1:A:3192:UNK:H2	1:A:3246:UNK:HA	1.74	0.52
1:A:4837:LEU:HD21	1:A:4932:ILE:HG23	1.91	0.52
1:A:758:ARG:HH12	1:A:764:VAL:HB	1.75	0.52
1:A:2926:LEU:HD12	1:A:2929:PHE:HB2	1.91	0.52
1:B:4698:LYS:O	1:B:4702:ASP:HB2	2.09	0.52
1:C:4199:GLU:OE2	1:C:4199:GLU:N	2.34	0.52
1:B:2926:LEU:HD12	1:B:2929:PHE:HB2	1.91	0.52
1:D:291:LEU:HD23	1:D:299:LEU:HD11	1.90	0.52
1:D:3661:TRP:CE3	1:D:3663:LEU:HD22	2.44	0.52
1:D:3878:ASP:OD2	1:D:3879:GLU:N	2.43	0.52
1:B:3192:UNK:H2	1:B:3246:UNK:HA	1.75	0.52
1:C:3192:UNK:H2	1:C:3246:UNK:HA	1.74	0.52
1:A:505:GLU:HG2	1:A:512:ALA:HB2	1.92	0.52
1:A:4021:LYS:HZ1	1:A:4138:ASP:HB3	1.75	0.52
1:C:2926:LEU:HD12	1:C:2929:PHE:HB2	1.91	0.52
1:D:758:ARG:HH12	1:D:764:VAL:HB	1.75	0.52
1:C:1927:LEU:HD23	1:C:2101:MET:HG3	1.91	0.52
1:A:1927:LEU:HD23	1:A:2101:MET:HG3	1.91	0.52
1:C:4171:LEU:O	1:C:4175:ARG:HB2	2.10	0.52
1:D:4837:LEU:HD21	1:D:4932:ILE:HG23	1.91	0.52
1:A:2667:UNK:HA	1:A:2809:ILE:HD11	1.92	0.52
1:C:2582:UNK:O	1:C:2899:GLY:N	2.42	0.52
1:D:2667:UNK:HA	1:D:2809:ILE:HD11	1.92	0.51
1:D:3192:UNK:H2	1:D:3246:UNK:HA	1.75	0.51
1:D:4171:LEU:O	1:D:4175:ARG:HB2	2.10	0.51
1:D:4698:LYS:O	1:D:4702:ASP:HB2	2.09	0.51
1:A:3878:ASP:OD2	1:A:3879:GLU:N	2.43	0.51
1:A:4583:SER:OG	1:D:4860:ARG:NH1	2.43	0.51
1:C:18:ASP:OD1	1:C:18:ASP:N	2.42	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:669:ASP:OD2	1:D:788:LYS:NZ	2.36	0.51
1:A:4983:HIS:O	2:A:5101:ACP:N6	2.43	0.51
1:B:707:VAL:HG13	1:B:713:SER:HB3	1.93	0.51
1:C:998:ARG:HA	1:C:1002:ALA:HB3	1.91	0.51
1:A:998:ARG:HA	1:A:1002:ALA:HB3	1.92	0.51
1:A:4171:LEU:O	1:A:4175:ARG:HB2	2.10	0.51
1:B:505:GLU:HG2	1:B:512:ALA:HB2	1.92	0.51
1:D:2926:LEU:HD12	1:D:2929:PHE:HB2	1.91	0.51
1:D:2582:UNK:O	1:D:2899:GLY:N	2.42	0.51
1:A:18:ASP:OD1	1:A:18:ASP:N	2.42	0.51
1:A:669:ASP:OD2	1:A:788:LYS:NZ	2.36	0.51
1:C:707:VAL:HG13	1:C:713:SER:HB3	1.93	0.51
1:A:4966:ASP:OD2	1:A:4967:TYR:N	2.44	0.51
1:B:2667:UNK:HA	1:B:2809:ILE:HD11	1.92	0.51
1:B:4171:LEU:O	1:B:4175:ARG:HB2	2.10	0.51
1:C:4837:LEU:HD21	1:C:4932:ILE:HG23	1.92	0.51
1:C:4860:ARG:NH1	1:D:4583:SER:OG	2.44	0.51
1:A:1834:VAL:HG13	1:A:1932:PRO:HG3	1.93	0.51
1:B:1834:VAL:HG13	1:B:1932:PRO:HG3	1.93	0.51
1:C:2667:UNK:HA	1:C:2809:ILE:HD11	1.92	0.51
1:D:707:VAL:HG13	1:D:713:SER:HB3	1.93	0.51
1:D:4921:PHE:HD1	1:D:4925:ILE:HD12	1.76	0.51
1:B:4000:MET:SD	1:B:4020:GLN:NE2	2.83	0.51
1:A:4921:PHE:HD1	1:A:4925:ILE:HD12	1.76	0.50
1:C:505:GLU:HG2	1:C:512:ALA:HB2	1.92	0.50
1:A:840:VAL:HG12	1:A:1199:VAL:HG22	1.93	0.50
1:C:4000:MET:SD	1:C:4020:GLN:NE2	2.83	0.50
1:C:4966:ASP:OD2	1:C:4967:TYR:N	2.44	0.50
1:A:3661:TRP:CE3	1:A:3663:LEU:HD22	2.44	0.50
1:B:998:ARG:HA	1:B:1002:ALA:HB3	1.92	0.50
1:C:1834:VAL:HG13	1:C:1932:PRO:HG3	1.93	0.50
1:C:4921:PHE:HD1	1:C:4925:ILE:HD12	1.76	0.50
1:A:2874:MET:HA	1:A:2877:GLN:HB3	1.94	0.50
1:B:840:VAL:HG12	1:B:1199:VAL:HG22	1.93	0.50
1:D:998:ARG:HA	1:D:1002:ALA:HB3	1.91	0.50
1:D:1834:VAL:HG13	1:D:1932:PRO:HG3	1.93	0.50
1:A:707:VAL:HG13	1:A:713:SER:HB3	1.93	0.50
1:B:340:LYS:O	1:B:344:SER:OG	2.26	0.50
1:D:2874:MET:HA	1:D:2877:GLN:HB3	1.94	0.50
1:A:3962:PHE:O	1:A:3966:THR:HG23	2.12	0.50
1:B:2874:MET:HA	1:B:2877:GLN:HB3	1.94	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2874:MET:HA	1:C:2877:GLN:HB3	1.94	0.50
1:B:262:LEU:HB3	1:B:280:LEU:HD12	1.94	0.50
1:B:1156:THR:OG1	1:B:1157:GLU:OE1	2.30	0.50
1:D:4966:ASP:OD2	1:D:4967:TYR:N	2.44	0.50
1:A:1119:GLU:OE2	1:A:1119:GLU:N	2.33	0.50
1:B:4966:ASP:OD2	1:B:4967:TYR:N	2.44	0.50
1:C:1153:ILE:HG13	1:C:1160:ILE:HG12	1.93	0.50
1:D:1156:THR:OG1	1:D:1157:GLU:OE1	2.30	0.50
1:D:3962:PHE:O	1:D:3966:THR:HG23	2.12	0.50
1:D:4000:MET:SD	1:D:4020:GLN:NE2	2.83	0.50
1:D:262:LEU:HB3	1:D:280:LEU:HD12	1.94	0.50
1:A:1156:THR:OG1	1:A:1157:GLU:OE1	2.30	0.49
1:C:3962:PHE:O	1:C:3966:THR:HG23	2.12	0.49
1:D:505:GLU:HG2	1:D:512:ALA:HB2	1.92	0.49
1:D:840:VAL:HG12	1:D:1199:VAL:HG22	1.93	0.49
1:A:1153:ILE:HG13	1:A:1160:ILE:HG12	1.93	0.49
1:D:1153:ILE:HG13	1:D:1160:ILE:HG12	1.93	0.49
1:C:908:VAL:HG21	1:C:914:PRO:HD3	1.95	0.49
1:C:1156:THR:OG1	1:C:1157:GLU:OE1	2.30	0.49
1:A:4000:MET:SD	1:A:4020:GLN:NE2	2.83	0.49
1:C:2469:ILE:HA	1:C:2472:LEU:HD23	1.95	0.49
1:C:340:LYS:O	1:C:344:SER:OG	2.26	0.49
1:D:2469:ILE:HA	1:D:2472:LEU:HD23	1.95	0.49
1:B:207:SER:OG	1:B:334:MET:SD	2.69	0.49
1:C:262:LEU:HB3	1:C:280:LEU:HD12	1.94	0.49
1:A:2447:LYS:HG3	1:A:2449:GLU:H	1.78	0.49
1:A:2469:ILE:HA	1:A:2472:LEU:HD23	1.95	0.49
1:C:840:VAL:HG12	1:C:1199:VAL:HG22	1.93	0.49
1:B:244:LEU:HD12	1:B:375:LYS:HE2	1.95	0.49
1:B:3962:PHE:O	1:B:3966:THR:HG23	2.12	0.49
1:A:262:LEU:HB3	1:A:280:LEU:HD12	1.93	0.49
1:A:943:ASP:OD1	1:A:943:ASP:N	2.46	0.49
1:B:1119:GLU:OE2	1:B:1119:GLU:N	2.33	0.49
1:B:2469:ILE:HA	1:B:2472:LEU:HD23	1.95	0.49
1:D:908:VAL:HG21	1:D:914:PRO:HD3	1.95	0.49
1:A:669:ASP:OD1	1:A:669:ASP:N	2.46	0.48
1:C:4047:MET:HA	1:C:4050:GLU:HG2	1.95	0.48
1:B:4921:PHE:HD1	1:B:4925:ILE:HD12	1.76	0.48
1:D:340:LYS:O	1:D:344:SER:OG	2.26	0.48
1:D:669:ASP:N	1:D:669:ASP:OD1	2.46	0.48
1:D:2447:LYS:HG3	1:D:2449:GLU:H	1.78	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2208:MET:SD	1:A:2253:HIS:ND1	2.86	0.48
1:A:4874:MET:HG2	1:A:4877:ASP:HB2	1.95	0.48
1:B:1153:ILE:HG13	1:B:1160:ILE:HG12	1.93	0.48
1:B:4806:ASN:OD1	1:B:4806:ASN:N	2.46	0.48
1:C:4704:LEU:O	1:C:4707:ASN:ND2	2.47	0.48
1:D:2208:MET:SD	1:D:2253:HIS:ND1	2.86	0.48
1:D:4047:MET:HA	1:D:4050:GLU:HG2	1.95	0.48
1:A:4806:ASN:OD1	1:A:4806:ASN:N	2.46	0.48
1:B:908:VAL:HG21	1:B:914:PRO:HD3	1.95	0.48
1:B:4874:MET:HG2	1:B:4877:ASP:HB2	1.95	0.48
1:C:4806:ASN:OD1	1:C:4806:ASN:N	2.46	0.48
1:D:943:ASP:OD1	1:D:943:ASP:N	2.46	0.48
1:A:244:LEU:HD12	1:A:375:LYS:HE2	1.95	0.48
1:B:2208:MET:SD	1:B:2253:HIS:ND1	2.87	0.48
1:C:4874:MET:HG2	1:C:4877:ASP:HB2	1.96	0.48
1:D:4704:LEU:O	1:D:4707:ASN:ND2	2.47	0.48
1:D:4874:MET:HG2	1:D:4877:ASP:HB2	1.96	0.48
1:C:2447:LYS:HG3	1:C:2449:GLU:H	1.78	0.48
1:D:4021:LYS:NZ	1:D:4138:ASP:HB3	2.29	0.48
1:A:2349:ASN:O	1:A:2353:VAL:HG12	2.14	0.48
1:B:2447:LYS:HG3	1:B:2449:GLU:H	1.78	0.48
1:C:2654:UNK:O	1:C:2928:LYS:NZ	2.37	0.48
1:C:4021:LYS:NZ	1:C:4138:ASP:HB3	2.29	0.48
1:D:244:LEU:HD12	1:D:375:LYS:HE2	1.95	0.48
1:D:2643:UNK:HA	1:D:2872:GLN:HA	1.96	0.48
1:C:244:LEU:HD12	1:C:375:LYS:HE2	1.95	0.48
1:A:908:VAL:HG21	1:A:914:PRO:HD3	1.95	0.48
1:A:4848:VAL:O	1:A:4852:THR:HG23	2.14	0.48
1:B:944:GLU:HA	1:B:947:GLU:HB2	1.95	0.48
1:B:4021:LYS:NZ	1:B:4138:ASP:HB3	2.29	0.48
1:C:4929:LEU:HA	1:C:4932:ILE:HG12	1.96	0.48
1:D:2349:ASN:O	1:D:2353:VAL:HG12	2.14	0.48
1:A:4929:LEU:HA	1:A:4932:ILE:HG12	1.96	0.48
1:C:944:GLU:HA	1:C:947:GLU:HB2	1.95	0.48
1:C:2208:MET:SD	1:C:2253:HIS:ND1	2.87	0.48
1:D:4848:VAL:O	1:D:4852:THR:HG23	2.14	0.48
1:D:4929:LEU:HA	1:D:4932:ILE:HG12	1.96	0.48
1:B:669:ASP:N	1:B:669:ASP:OD1	2.46	0.47
1:B:4704:LEU:O	1:B:4707:ASN:ND2	2.47	0.47
1:C:669:ASP:OD1	1:C:669:ASP:N	2.46	0.47
1:D:3662:ILE:HG12	1:D:3664:THR:H	1.80	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:944:GLU:HA	1:A:947:GLU:HB2	1.95	0.47
1:A:4704:LEU:O	1:A:4707:ASN:ND2	2.47	0.47
1:B:4848:VAL:O	1:B:4852:THR:HG23	2.14	0.47
1:D:1748:PHE:O	1:D:1750:PRO:HD3	2.14	0.47
1:D:4806:ASN:OD1	1:D:4806:ASN:N	2.46	0.47
1:A:2643:UNK:HA	1:A:2872:GLN:HA	1.96	0.47
1:B:4889:VAL:O	1:B:4893:ALA:HB2	2.15	0.47
1:A:886:ARG:HH21	1:A:907:LEU:HD13	1.78	0.47
1:B:943:ASP:N	1:B:943:ASP:OD1	2.46	0.47
1:B:4047:MET:HA	1:B:4050:GLU:HG2	1.95	0.47
1:C:943:ASP:OD1	1:C:943:ASP:N	2.46	0.47
1:C:4889:VAL:O	1:C:4893:ALA:HB2	2.15	0.47
1:D:886:ARG:HH21	1:D:907:LEU:HD13	1.78	0.47
1:D:4038:GLY:O	1:D:4042:ARG:NH2	2.48	0.47
1:A:1748:PHE:O	1:A:1750:PRO:HD3	2.14	0.47
1:A:2095:GLN:HA	1:A:2127:GLN:HE21	1.79	0.47
1:A:4889:VAL:O	1:A:4893:ALA:HB2	2.15	0.47
1:B:2643:UNK:HA	1:B:2872:GLN:HA	1.96	0.47
1:B:4929:LEU:HA	1:B:4932:ILE:HG12	1.96	0.47
1:C:886:ARG:HH21	1:C:907:LEU:HD13	1.78	0.47
1:D:944:GLU:HA	1:D:947:GLU:HB2	1.95	0.47
1:D:4837:LEU:HD23	1:D:4837:LEU:HA	1.71	0.47
1:A:4047:MET:HA	1:A:4050:GLU:HG2	1.95	0.47
1:A:4827:LEU:O	1:A:4831:THR:HG23	2.14	0.47
1:B:1748:PHE:O	1:B:1750:PRO:HD3	2.14	0.47
1:B:2095:GLN:HA	1:B:2127:GLN:HE21	1.79	0.47
1:B:2114:PRO:HG3	1:B:3707:ARG:NH2	2.30	0.47
1:C:346:CYS:SG	1:C:347:PHE:N	2.88	0.47
1:C:1748:PHE:O	1:C:1750:PRO:HD3	2.14	0.47
1:C:4038:GLY:O	1:C:4042:ARG:NH2	2.48	0.47
1:C:4848:VAL:O	1:C:4852:THR:HG23	2.14	0.47
1:C:4878:ASP:OD2	1:C:4880:MET:HB3	2.15	0.47
1:A:3707:ARG:O	1:A:3711:THR:HG23	2.15	0.47
1:A:4055:VAL:O	1:A:4059:LEU:HG	2.15	0.47
1:B:886:ARG:HH21	1:B:907:LEU:HD13	1.78	0.47
1:B:4878:ASP:OD2	1:B:4880:MET:HB3	2.15	0.47
1:D:4055:VAL:O	1:D:4059:LEU:HG	2.15	0.47
1:A:3662:ILE:HG12	1:A:3664:THR:H	1.79	0.47
1:B:4827:LEU:O	1:B:4831:THR:HG23	2.15	0.47
1:C:2349:ASN:O	1:C:2353:VAL:HG12	2.14	0.47
1:A:4021:LYS:NZ	1:A:4138:ASP:HB3	2.29	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4827:LEU:O	1:D:4831:THR:HG23	2.15	0.47
1:A:3906:GLN:N	1:A:3906:GLN:OE1	2.48	0.46
1:B:346:CYS:SG	1:B:347:PHE:N	2.88	0.46
1:C:2643:UNK:HA	1:C:2872:GLN:HA	1.96	0.46
1:D:346:CYS:SG	1:D:347:PHE:N	2.88	0.46
1:B:82:LEU:HD11	1:B:144:GLU:HA	1.97	0.46
1:B:3707:ARG:O	1:B:3711:THR:HG23	2.15	0.46
1:B:4038:GLY:O	1:B:4042:ARG:NH2	2.48	0.46
1:D:2114:PRO:HG3	1:D:3707:ARG:NH2	2.30	0.46
1:D:4199:GLU:OE2	1:D:4199:GLU:N	2.34	0.46
1:D:4889:VAL:O	1:D:4893:ALA:HB2	2.15	0.46
1:A:4878:ASP:OD2	1:A:4880:MET:HB3	2.15	0.46
1:B:1619:ARG:HA	1:B:1626:TRP:H	1.81	0.46
1:B:2349:ASN:O	1:B:2353:VAL:HG12	2.14	0.46
1:C:4055:VAL:O	1:C:4059:LEU:HG	2.15	0.46
1:C:4879:MET:HE3	1:D:4580:TYR:HB3	1.97	0.46
1:A:346:CYS:SG	1:A:347:PHE:N	2.88	0.46
1:A:1619:ARG:HA	1:A:1626:TRP:H	1.81	0.46
1:A:4010:ILE:O	1:A:4014:LYS:HG3	2.16	0.46
1:C:1619:ARG:HA	1:C:1626:TRP:H	1.81	0.46
1:C:2114:PRO:HG3	1:C:3707:ARG:NH2	2.30	0.46
1:C:3707:ARG:O	1:C:3711:THR:HG23	2.15	0.46
1:C:4569:LEU:HD21	1:C:4649:LEU:HB3	1.98	0.46
1:C:4827:LEU:O	1:C:4831:THR:HG23	2.14	0.46
1:D:3707:ARG:O	1:D:3711:THR:HG23	2.15	0.46
1:A:4719:PHE:O	1:A:4723:LYS:HG3	2.16	0.46
1:B:3906:GLN:N	1:B:3906:GLN:OE1	2.48	0.46
1:B:4010:ILE:O	1:B:4014:LYS:HG3	2.16	0.46
1:C:82:LEU:HD11	1:C:144:GLU:HA	1.97	0.46
1:A:82:LEU:HD11	1:A:144:GLU:HA	1.97	0.46
1:B:3662:ILE:HG12	1:B:3664:THR:H	1.80	0.46
1:C:3662:ILE:HG12	1:C:3664:THR:H	1.80	0.46
1:C:4719:PHE:O	1:C:4723:LYS:HG3	2.16	0.46
1:A:4038:GLY:O	1:A:4042:ARG:NH2	2.48	0.46
1:A:4569:LEU:HD21	1:A:4649:LEU:HB3	1.98	0.46
1:B:1407:UNK:O	1:B:1409:UNK:N	2.49	0.46
1:B:2332:LEU:HB3	1:B:2432:LEU:HD12	1.98	0.46
1:B:4199:GLU:OE2	1:B:4199:GLU:N	2.34	0.46
1:C:1407:UNK:O	1:C:1409:UNK:N	2.49	0.46
1:D:4673:ARG:HH21	1:D:4782:VAL:HG22	1.80	0.46
1:B:1974:ARG:HH21	1:B:3642:TYR:HB2	1.81	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2095:GLN:HA	1:C:2127:GLN:HE21	1.80	0.46
1:D:4010:ILE:O	1:D:4014:LYS:HG3	2.16	0.46
1:A:2114:PRO:HG3	1:A:3707:ARG:NH2	2.30	0.46
1:B:526:LEU:O	1:B:530:ILE:HG22	2.16	0.46
1:B:4569:LEU:HD21	1:B:4649:LEU:HB3	1.98	0.46
1:D:1619:ARG:HA	1:D:1626:TRP:H	1.81	0.46
1:D:4878:ASP:OD2	1:D:4880:MET:HB3	2.15	0.46
1:A:340:LYS:O	1:A:344:SER:OG	2.26	0.46
1:A:1579:MET:HG2	1:A:1580:PHE:CD1	2.51	0.46
1:B:116:MET:HB2	1:B:137:LEU:HD23	1.98	0.46
1:C:4673:ARG:HH21	1:C:4782:VAL:HG22	1.80	0.46
1:D:2095:GLN:HA	1:D:2127:GLN:HE21	1.80	0.46
1:A:526:LEU:O	1:A:530:ILE:HG22	2.16	0.45
1:A:1407:UNK:O	1:A:1409:UNK:N	2.49	0.45
1:B:4673:ARG:HH21	1:B:4782:VAL:HG22	1.80	0.45
1:C:500:ALA:H	1:C:504:ALA:HB3	1.81	0.45
1:D:1407:UNK:O	1:D:1409:UNK:N	2.49	0.45
1:D:3906:GLN:N	1:D:3906:GLN:OE1	2.48	0.45
1:A:956:PRO:HB2	1:A:958:THR:HG22	1.98	0.45
1:A:2332:LEU:HB3	1:A:2432:LEU:HD12	1.98	0.45
1:B:1225:PRO:HG2	1:B:1228:ILE:HB	1.98	0.45
1:C:106:ALA:HB2	1:C:149:THR:HG22	1.99	0.45
1:C:1078:GLU:HB3	1:C:1081:TYR:HD2	1.81	0.45
1:C:1974:ARG:HH21	1:C:3642:TYR:HB2	1.81	0.45
1:C:4985:LEU:HB2	2:C:5101:ACP:HN62	1.81	0.45
1:A:116:MET:HB2	1:A:137:LEU:HD23	1.98	0.45
1:A:266:ARG:O	1:A:270:SER:OG	2.35	0.45
1:A:4673:ARG:HH21	1:A:4782:VAL:HG22	1.80	0.45
1:B:4055:VAL:O	1:B:4059:LEU:HG	2.15	0.45
1:B:4719:PHE:O	1:B:4723:LYS:HG3	2.16	0.45
1:B:4998:LYS:HD3	1:B:5003:HIS:HD2	1.82	0.45
1:C:1579:MET:HG2	1:C:1580:PHE:CD1	2.51	0.45
1:C:1777:PHE:HB3	1:C:1801:ALA:HB2	1.98	0.45
1:D:956:PRO:HB2	1:D:958:THR:HG22	1.98	0.45
1:D:1579:MET:HG2	1:D:1580:PHE:CD1	2.51	0.45
1:D:1738:LEU:HB2	1:D:2146:PRO:HD3	1.99	0.45
1:D:4569:LEU:HD21	1:D:4649:LEU:HB3	1.98	0.45
1:A:1225:PRO:HG2	1:A:1228:ILE:HB	1.99	0.45
1:C:4010:ILE:O	1:C:4014:LYS:HG3	2.16	0.45
1:D:4719:PHE:O	1:D:4723:LYS:HG3	2.16	0.45
1:A:1974:ARG:HH21	1:A:3642:TYR:HB2	1.81	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:500:ALA:H	1:B:504:ALA:HB3	1.81	0.45
1:B:1579:MET:HG2	1:B:1580:PHE:CD1	2.51	0.45
1:B:3965:LEU:HD23	1:B:3965:LEU:HA	1.80	0.45
1:C:526:LEU:O	1:C:530:ILE:HG22	2.16	0.45
1:C:2332:LEU:HB3	1:C:2432:LEU:HD12	1.98	0.45
1:C:3906:GLN:OE1	1:C:3906:GLN:N	2.48	0.45
1:D:1777:PHE:HB3	1:D:1801:ALA:HB2	1.98	0.45
1:D:106:ALA:HB2	1:D:149:THR:HG22	1.99	0.45
1:A:2932:MET:SD	1:A:2933:ASN:N	2.90	0.45
1:B:106:ALA:HB2	1:B:149:THR:HG22	1.99	0.45
1:B:266:ARG:O	1:B:270:SER:OG	2.34	0.45
1:B:4072:VAL:HG21	1:B:4129:ALA:HB2	1.98	0.45
1:C:4998:LYS:HD3	1:C:5003:HIS:HD2	1.82	0.45
1:A:1078:GLU:HB3	1:A:1081:TYR:HD2	1.81	0.45
1:A:1738:LEU:HB2	1:A:2146:PRO:HD3	1.99	0.45
1:A:4199:GLU:OE2	1:A:4199:GLU:N	2.34	0.45
1:B:553:ARG:HD3	1:B:1593:PRO:HD3	1.99	0.45
1:C:266:ARG:O	1:C:270:SER:OG	2.35	0.45
1:D:82:LEU:HD11	1:D:144:GLU:HA	1.97	0.45
1:D:3916:ILE:O	1:D:3920:VAL:HG23	2.17	0.45
1:C:4576:ILE:HA	1:C:4579:PHE:CE1	2.52	0.45
1:A:4966:ASP:HA	1:A:4969:ASP:HB2	1.99	0.45
1:A:4998:LYS:HD3	1:A:5003:HIS:HD2	1.82	0.45
1:B:1738:LEU:HB2	1:B:2146:PRO:HD3	1.99	0.45
1:C:4947:GLN:HA	1:C:4950:VAL:HG12	1.99	0.45
1:D:526:LEU:O	1:D:530:ILE:HG22	2.16	0.45
1:A:500:ALA:H	1:A:504:ALA:HB3	1.81	0.44
1:B:4576:ILE:HA	1:B:4579:PHE:CE1	2.53	0.44
1:D:1974:ARG:HH21	1:D:3642:TYR:HB2	1.81	0.44
1:D:4998:LYS:HD3	1:D:5003:HIS:HD2	1.82	0.44
1:B:294:THR:HG23	1:B:295:GLU:H	1.82	0.44
1:B:956:PRO:HB2	1:B:958:THR:HG22	1.99	0.44
1:B:2142:TYR:CG	1:B:2197:LEU:HD13	2.52	0.44
1:C:116:MET:HB2	1:C:137:LEU:HD23	1.98	0.44
1:D:920:TYR:O	1:D:923:GLN:HG2	2.17	0.44
1:B:2880:GLU:O	1:B:2884:ASN:HB2	2.18	0.44
1:C:668:VAL:HG11	1:C:738:LEU:HD12	1.99	0.44
1:C:920:TYR:O	1:C:923:GLN:HG2	2.17	0.44
1:C:956:PRO:HB2	1:C:958:THR:HG22	1.98	0.44
1:C:1155:LEU:HD13	1:C:1184:ILE:HD12	1.99	0.44
1:C:1225:PRO:HG2	1:C:1228:ILE:HB	1.98	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:294:THR:HG23	1:D:295:GLU:H	1.82	0.44
1:D:500:ALA:H	1:D:504:ALA:HB3	1.81	0.44
1:D:1225:PRO:HG2	1:D:1228:ILE:HB	1.98	0.44
1:D:2002:PRO:HA	1:D:2005:GLN:HB2	2.00	0.44
1:A:106:ALA:HB2	1:A:149:THR:HG22	1.99	0.44
1:A:207:SER:OG	1:A:334:MET:SD	2.69	0.44
1:A:2002:PRO:HA	1:A:2005:GLN:HB2	2.00	0.44
1:A:3916:ILE:O	1:A:3920:VAL:HG23	2.17	0.44
1:A:4072:VAL:HG21	1:A:4129:ALA:HB2	1.98	0.44
1:A:4555:LEU:HD23	1:A:4555:LEU:HA	1.85	0.44
1:A:4576:ILE:HA	1:A:4579:PHE:CE1	2.52	0.44
1:B:920:TYR:O	1:B:923:GLN:HG2	2.17	0.44
1:B:1777:PHE:HB3	1:B:1801:ALA:HB2	1.98	0.44
1:B:4683:PHE:HZ	1:B:5017:ARG:HG3	1.82	0.44
1:B:4860:ARG:NH1	1:C:4583:SER:OG	2.49	0.44
1:C:294:THR:HG23	1:C:295:GLU:H	1.82	0.44
1:C:1101:ARG:HG2	1:C:1125:ASN:HB2	2.00	0.44
1:C:2142:TYR:CG	1:C:2197:LEU:HD13	2.52	0.44
1:D:116:MET:HB2	1:D:137:LEU:HD23	1.98	0.44
1:D:2332:LEU:HB3	1:D:2432:LEU:HD12	1.98	0.44
1:D:4576:ILE:HA	1:D:4579:PHE:CE1	2.52	0.44
1:D:4947:GLN:HA	1:D:4950:VAL:HG12	1.99	0.44
1:A:1235:THR:HG1	1:A:1237:TRP:HD1	1.61	0.44
1:A:2880:GLU:O	1:A:2884:ASN:HB2	2.18	0.44
1:A:4879:MET:HE3	1:B:4580:TYR:HB3	2.00	0.44
1:B:1078:GLU:HB3	1:B:1081:TYR:HD2	1.81	0.44
1:B:4966:ASP:HA	1:B:4969:ASP:HB2	1.99	0.44
1:C:553:ARG:HD3	1:C:1593:PRO:HD3	1.99	0.44
1:C:2932:MET:SD	1:C:2933:ASN:N	2.90	0.44
1:C:3916:ILE:O	1:C:3920:VAL:HG23	2.17	0.44
1:C:4054:ASN:O	1:C:4058:ILE:HG13	2.18	0.44
1:D:2932:MET:SD	1:D:2933:ASN:N	2.90	0.44
1:D:4966:ASP:HA	1:D:4969:ASP:HB2	1.99	0.44
1:A:1863:LEU:HG	1:A:1870:VAL:HG11	1.99	0.44
1:A:1106:ARG:NH1	1:A:1184:ILE:O	2.49	0.44
1:A:1155:LEU:HD13	1:A:1184:ILE:HD12	1.99	0.44
1:A:1777:PHE:HB3	1:A:1801:ALA:HB2	1.98	0.44
1:A:4054:ASN:O	1:A:4058:ILE:HG13	2.18	0.44
1:B:1155:LEU:HD13	1:B:1184:ILE:HD12	1.99	0.44
1:B:1673:VAL:HG12	1:B:1681:VAL:HG11	2.00	0.44
1:C:590:LEU:HD22	1:C:631:LEU:HD21	2.00	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2002:PRO:HA	1:C:2005:GLN:HB2	2.00	0.44
1:C:4072:VAL:HG21	1:C:4129:ALA:HB2	1.98	0.44
1:D:1673:VAL:HG12	1:D:1681:VAL:HG11	2.00	0.44
1:D:2267:MET:HE1	1:D:2267:MET:H	1.82	0.44
1:D:4054:ASN:O	1:D:4058:ILE:HG13	2.18	0.44
1:D:4072:VAL:HG21	1:D:4129:ALA:HB2	1.98	0.44
1:A:894:GLY:HA3	1:A:903:LEU:HB3	2.00	0.44
1:B:2932:MET:SD	1:B:2933:ASN:N	2.90	0.44
1:B:4921:PHE:HE2	1:C:4891:VAL:HG12	1.83	0.44
1:C:682:LEU:HD22	1:C:738:LEU:HG	2.00	0.44
1:C:3869:GLN:O	1:C:3873:LYS:NZ	2.47	0.44
1:C:4683:PHE:HZ	1:C:5017:ARG:HG3	1.82	0.44
1:D:1078:GLU:HB3	1:D:1081:TYR:HD2	1.81	0.44
1:A:1673:VAL:HG12	1:A:1681:VAL:HG11	2.00	0.44
1:B:590:LEU:HD22	1:B:631:LEU:HD21	2.00	0.44
1:B:1204:LEU:HD12	1:B:1226:PHE:HB3	2.00	0.44
1:C:1673:VAL:HG12	1:C:1681:VAL:HG11	2.00	0.44
1:C:2267:MET:HE1	1:C:2267:MET:H	1.83	0.44
1:C:2880:GLU:O	1:C:2884:ASN:HB2	2.18	0.44
1:A:553:ARG:HD3	1:A:1593:PRO:HD3	1.99	0.43
1:A:1676:LEU:HA	1:A:1725:ARG:HH22	1.83	0.43
1:A:4947:GLN:HA	1:A:4950:VAL:HG12	1.99	0.43
1:B:1676:LEU:HA	1:B:1725:ARG:HH22	1.83	0.43
1:B:2278:ALA:HA	1:B:2281:ILE:HG12	2.00	0.43
1:C:894:GLY:HA3	1:C:903:LEU:HB3	2.00	0.43
1:D:2278:ALA:HA	1:D:2281:ILE:HG12	2.00	0.43
1:D:4683:PHE:HZ	1:D:5017:ARG:HG3	1.82	0.43
1:B:668:VAL:HG11	1:B:738:LEU:HD12	1.99	0.43
1:C:4966:ASP:HA	1:C:4969:ASP:HB2	1.99	0.43
1:D:3724:ALA:O	1:D:3728:ILE:HG13	2.19	0.43
1:A:920:TYR:O	1:A:923:GLN:HG2	2.17	0.43
1:A:2142:TYR:CG	1:A:2197:LEU:HD13	2.52	0.43
1:A:4837:LEU:HA	1:A:4837:LEU:HD23	1.71	0.43
1:B:3916:ILE:O	1:B:3920:VAL:HG23	2.17	0.43
1:B:4963:ILE:HD13	1:B:4963:ILE:HA	1.89	0.43
1:C:2278:ALA:HA	1:C:2281:ILE:HG12	2.00	0.43
1:D:1155:LEU:HD13	1:D:1184:ILE:HD12	1.99	0.43
1:D:2142:TYR:CG	1:D:2197:LEU:HD13	2.52	0.43
1:D:2880:GLU:O	1:D:2884:ASN:HB2	2.18	0.43
1:A:2738:ARG:NH2	1:A:2885:THR:OG1	2.51	0.43
1:A:3696:ASP:OD2	1:A:3773:ARG:NH1	2.52	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3724:ALA:O	1:A:3728:ILE:HG13	2.18	0.43
1:A:3842:LEU:HB3	1:A:3933:PHE:CE1	2.53	0.43
1:A:4238:CYS:O	1:A:4242:ILE:HG12	2.19	0.43
1:A:4750:ILE:HD12	1:A:4750:ILE:HA	1.94	0.43
1:B:669:ASP:OD2	1:B:788:LYS:NZ	2.36	0.43
1:B:2738:ARG:NH2	1:B:2885:THR:OG1	2.51	0.43
1:D:1863:LEU:HG	1:D:1870:VAL:HG11	1.99	0.43
1:D:4971:THR:HG21	1:D:5029:ARG:HH22	1.83	0.43
1:A:294:THR:HG23	1:A:295:GLU:H	1.82	0.43
1:A:682:LEU:HD22	1:A:738:LEU:HG	2.00	0.43
1:A:4813:LEU:HD23	1:A:4813:LEU:HA	1.90	0.43
1:B:894:GLY:HA3	1:B:903:LEU:HB3	2.00	0.43
1:B:1235:THR:HG1	1:B:1237:TRP:HD1	1.62	0.43
1:B:3980:LEU:HD12	1:B:3980:LEU:HA	1.85	0.43
1:B:4555:LEU:HD23	1:B:4555:LEU:HA	1.85	0.43
1:C:1738:LEU:HB2	1:C:2146:PRO:HD3	1.99	0.43
1:C:1863:LEU:HG	1:C:1870:VAL:HG11	1.99	0.43
1:C:2348:GLU:HB3	1:C:3849:ARG:CZ	2.49	0.43
1:D:894:GLY:HA3	1:D:903:LEU:HB3	2.00	0.43
1:D:1106:ARG:NH1	1:D:1184:ILE:O	2.49	0.43
1:D:2738:ARG:NH2	1:D:2885:THR:OG1	2.51	0.43
1:A:668:VAL:HG11	1:A:738:LEU:HD12	1.99	0.43
1:A:4683:PHE:HZ	1:A:5017:ARG:HG3	1.82	0.43
1:A:4936:ILE:HD13	1:A:4936:ILE:HA	1.86	0.43
1:B:924:MET:HB2	1:B:924:MET:HE2	1.93	0.43
1:B:4947:GLN:HA	1:B:4950:VAL:HG12	1.99	0.43
1:C:1204:LEU:HD12	1:C:1226:PHE:HB3	2.00	0.43
1:C:4971:THR:HG21	1:C:5029:ARG:HH22	1.83	0.43
1:D:19:GLU:HG2	1:D:205:ILE:HB	2.00	0.43
1:D:652:ARG:HB2	1:D:750:LEU:HD13	2.01	0.43
1:D:4238:CYS:O	1:D:4242:ILE:HG12	2.19	0.43
1:A:652:ARG:HB2	1:A:750:LEU:HD13	2.01	0.43
1:A:1101:ARG:HG2	1:A:1125:ASN:HB2	2.00	0.43
1:A:2278:ALA:HA	1:A:2281:ILE:HG12	2.00	0.43
1:B:689:THR:OG1	1:B:776:LEU:O	2.29	0.43
1:B:1101:ARG:HG2	1:B:1125:ASN:HB2	2.00	0.43
1:B:4023:MET:O	1:B:4027:LEU:HG	2.19	0.43
1:C:19:GLU:HG2	1:C:205:ILE:HB	2.00	0.43
1:C:2882:TYR:HD1	1:C:2886:TRP:CD1	2.37	0.43
1:D:553:ARG:HD3	1:D:1593:PRO:HD3	1.99	0.43
1:D:668:VAL:HG11	1:D:738:LEU:HD12	1.99	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1101:ARG:HG2	1:D:1125:ASN:HB2	2.00	0.43
1:A:3869:GLN:O	1:A:3873:LYS:NZ	2.47	0.43
1:A:5017:ARG:HD2	1:A:5017:ARG:HA	1.90	0.43
1:B:652:ARG:HB2	1:B:750:LEU:HD13	2.01	0.43
1:B:1863:LEU:HG	1:B:1870:VAL:HG11	1.99	0.43
1:B:3696:ASP:OD2	1:B:3773:ARG:NH1	2.52	0.43
1:B:4054:ASN:O	1:B:4058:ILE:HG13	2.18	0.43
1:C:1106:ARG:NH1	1:C:1184:ILE:O	2.49	0.43
1:C:3696:ASP:OD2	1:C:3773:ARG:NH1	2.52	0.43
1:C:3724:ALA:O	1:C:3728:ILE:HG13	2.19	0.43
1:C:4921:PHE:HE2	1:D:4891:VAL:HG12	1.84	0.43
1:D:869:ARG:HG2	1:D:870:ILE:HG13	2.01	0.43
1:D:2882:TYR:HD1	1:D:2886:TRP:CD1	2.37	0.43
1:A:4023:MET:O	1:A:4027:LEU:HG	2.19	0.43
1:B:1207:ASP:OD1	1:B:1207:ASP:N	2.52	0.43
1:B:2002:PRO:HA	1:B:2005:GLN:HB2	2.00	0.43
1:B:4766:THR:HG23	1:B:4770:SER:HB3	2.00	0.43
1:C:3842:LEU:HB3	1:C:3933:PHE:CE1	2.53	0.43
1:C:3980:LEU:HD12	1:C:3980:LEU:HA	1.84	0.43
1:D:3696:ASP:OD2	1:D:3773:ARG:NH1	2.52	0.43
1:A:2882:TYR:HD1	1:A:2886:TRP:CD1	2.37	0.42
1:A:3716:LEU:HD12	1:A:3716:LEU:HA	1.88	0.42
1:A:4878:ASP:HB2	1:B:4581:LYS:NZ	2.33	0.42
1:B:626:LEU:HD22	1:B:630:GLU:H	1.84	0.42
1:B:3716:LEU:HD12	1:B:3716:LEU:HA	1.88	0.42
1:B:3724:ALA:O	1:B:3728:ILE:HG13	2.18	0.42
1:B:4000:MET:HG2	1:B:4016:LEU:HD23	2.01	0.42
1:C:4981:GLU:HB2	1:C:4982:GLU:OE2	2.19	0.42
1:D:445:LEU:HD13	1:D:525:LEU:HD13	2.00	0.42
1:D:954:LYS:HD2	1:D:954:LYS:HA	1.82	0.42
1:A:869:ARG:HG2	1:A:870:ILE:HG13	2.01	0.42
1:C:652:ARG:HB2	1:C:750:LEU:HD13	2.01	0.42
1:C:1931:LEU:HD13	1:C:1935:VAL:HG23	2.01	0.42
1:C:2738:ARG:NH2	1:C:2885:THR:OG1	2.51	0.42
1:C:4766:THR:HG23	1:C:4770:SER:HB3	2.00	0.42
1:D:248:GLU:HG3	1:D:373:LYS:HZ3	1.84	0.42
1:D:3823:LYS:HD3	1:D:3823:LYS:HA	1.80	0.42
1:D:4813:LEU:HD23	1:D:4813:LEU:HA	1.90	0.42
1:A:19:GLU:HG2	1:A:205:ILE:HB	2.00	0.42
1:B:248:GLU:HG3	1:B:373:LYS:HZ3	1.84	0.42
1:B:2348:GLU:HB3	1:B:3849:ARG:CZ	2.49	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3842:LEU:HB3	1:B:3933:PHE:CE1	2.54	0.42
1:B:4813:LEU:HD23	1:B:4813:LEU:HA	1.90	0.42
1:C:869:ARG:HG2	1:C:870:ILE:HG13	2.01	0.42
1:C:2189:LYS:HB2	1:C:2189:LYS:HE2	1.89	0.42
1:C:4023:MET:O	1:C:4027:LEU:HG	2.19	0.42
1:D:590:LEU:HD22	1:D:631:LEU:HD21	2.00	0.42
1:D:682:LEU:HD22	1:D:738:LEU:HG	2.00	0.42
1:D:1676:LEU:HA	1:D:1725:ARG:HH22	1.83	0.42
1:D:4963:ILE:HD13	1:D:4963:ILE:HA	1.89	0.42
1:D:4981:GLU:HB2	1:D:4982:GLU:OE2	2.19	0.42
1:A:2348:GLU:HB3	1:A:3849:ARG:CZ	2.49	0.42
1:A:4039:MET:HE3	1:A:4039:MET:HB3	1.95	0.42
1:B:869:ARG:HG2	1:B:870:ILE:HG13	2.01	0.42
1:B:1028:ASP:OD2	1:B:1032:LYS:N	2.53	0.42
1:C:248:GLU:HG3	1:C:373:LYS:HZ3	1.84	0.42
1:C:1676:LEU:HA	1:C:1725:ARG:HH22	1.83	0.42
1:C:3798:LEU:HD23	1:C:3798:LEU:HA	1.92	0.42
1:D:1931:LEU:HD13	1:D:1935:VAL:HG23	2.01	0.42
1:D:3965:LEU:HD23	1:D:3965:LEU:HA	1.80	0.42
1:D:4649:LEU:HD12	1:D:4649:LEU:HA	1.90	0.42
1:B:22:LEU:HD13	1:B:37:LEU:HD21	2.02	0.42
1:B:4702:ASP:O	1:B:4705:VAL:HG12	2.20	0.42
1:B:4971:THR:HG21	1:B:5029:ARG:HH22	1.83	0.42
1:C:385:ASP:OD1	1:C:385:ASP:N	2.53	0.42
1:C:445:LEU:HD13	1:C:525:LEU:HD13	2.00	0.42
1:C:626:LEU:HD22	1:C:630:GLU:H	1.84	0.42
1:C:4240:ASP:OD2	1:C:4240:ASP:N	2.52	0.42
1:C:4586:PRO:HA	1:C:4587:PRO:HD3	1.89	0.42
1:D:266:ARG:O	1:D:270:SER:OG	2.35	0.42
1:D:1204:LEU:HD12	1:D:1226:PHE:HB3	2.00	0.42
1:D:2348:GLU:HB3	1:D:3849:ARG:CZ	2.49	0.42
1:D:2642:UNK:C	1:D:2875:ALA:HB3	2.50	0.42
1:D:3561:UNK:O	1:D:3563:UNK:N	2.53	0.42
1:A:472:ARG:NE	1:A:532:GLY:O	2.53	0.42
1:A:590:LEU:HD22	1:A:631:LEU:HD21	2.00	0.42
1:A:1204:LEU:HD12	1:A:1226:PHE:HB3	2.00	0.42
1:A:4891:VAL:HG12	1:D:4921:PHE:HE2	1.85	0.42
1:A:4971:THR:HG21	1:A:5029:ARG:HH22	1.83	0.42
1:B:19:GLU:HG2	1:B:205:ILE:HB	2.00	0.42
1:B:682:LEU:HD22	1:B:738:LEU:HG	2.00	0.42
1:B:2642:UNK:C	1:B:2875:ALA:HB3	2.50	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4238:CYS:O	1:B:4242:ILE:HG12	2.19	0.42
1:C:2207:VAL:HA	1:C:2210:VAL:HG12	2.01	0.42
1:D:537:CYS:HB2	1:D:567:VAL:HG23	2.02	0.42
1:D:2192:TYR:HA	1:D:2242:ILE:HD11	2.02	0.42
1:D:3842:LEU:HB3	1:D:3933:PHE:CE1	2.54	0.42
1:D:3969:ILE:HD13	1:D:3969:ILE:HA	1.89	0.42
1:A:1028:ASP:OD2	1:A:1032:LYS:N	2.53	0.42
1:A:1154:ASP:OD2	1:A:1156:THR:OG1	2.28	0.42
1:A:2654:UNK:O	1:A:2928:LYS:NZ	2.37	0.42
1:A:3720:TYR:HA	1:A:3723:MET:HB2	2.02	0.42
1:A:4000:MET:HG2	1:A:4016:LEU:HD23	2.01	0.42
1:B:881:LEU:HD11	1:B:1042:ALA:HA	2.02	0.42
1:B:1126:GLY:HA3	1:B:1143:TRP:CZ3	2.55	0.42
1:B:3561:UNK:O	1:B:3563:UNK:N	2.53	0.42
1:C:3561:UNK:O	1:C:3563:UNK:N	2.53	0.42
1:C:3904:ARG:HH11	1:C:3976:ASN:ND2	2.18	0.42
1:D:4023:MET:O	1:D:4027:LEU:HG	2.19	0.42
1:A:3561:UNK:O	1:A:3563:UNK:N	2.53	0.42
1:B:2882:TYR:HD1	1:B:2886:TRP:CD1	2.37	0.42
1:B:4711:PHE:HB3	1:B:4712:PRO:HD3	2.02	0.42
1:C:207:SER:OG	1:C:334:MET:SD	2.69	0.42
1:D:402:ARG:HD2	1:D:402:ARG:HA	1.90	0.42
1:D:4711:PHE:HB3	1:D:4712:PRO:HD3	2.02	0.42
1:D:4766:THR:HG23	1:D:4770:SER:HB3	2.00	0.42
1:A:1931:LEU:HD13	1:A:1935:VAL:HG23	2.01	0.42
1:A:2642:UNK:C	1:A:2875:ALA:HB3	2.50	0.42
1:A:4766:THR:HG23	1:A:4770:SER:HB3	2.00	0.42
1:B:3904:ARG:HH11	1:B:3976:ASN:ND2	2.18	0.42
1:B:4981:GLU:HB2	1:B:4982:GLU:OE2	2.19	0.42
1:C:537:CYS:HB2	1:C:567:VAL:HG23	2.02	0.42
1:C:792:LEU:HD22	1:C:798:GLY:HA2	2.02	0.42
1:C:1126:GLY:HA3	1:C:1143:TRP:CZ3	2.55	0.42
1:C:4649:LEU:HD12	1:C:4649:LEU:HA	1.90	0.42
1:D:928:THR:HA	1:D:931:THR:HG22	2.02	0.42
1:D:3720:TYR:HA	1:D:3723:MET:HB2	2.02	0.42
1:D:3830:GLN:HG2	1:D:3913:ILE:HD11	2.02	0.42
1:D:4000:MET:HG2	1:D:4016:LEU:HD23	2.01	0.42
1:A:445:LEU:HD13	1:A:525:LEU:HD13	2.00	0.42
1:A:2107:GLN:HE21	1:A:3680:ALA:HA	1.85	0.42
1:A:2207:VAL:HA	1:A:2210:VAL:HG12	2.01	0.42
1:A:3904:ARG:HH11	1:A:3976:ASN:ND2	2.18	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3965:LEU:HD23	1:A:3965:LEU:HA	1.80	0.42
1:A:4702:ASP:O	1:A:4705:VAL:HG12	2.20	0.42
1:A:4981:GLU:HB2	1:A:4982:GLU:OE2	2.19	0.42
1:C:881:LEU:HD11	1:C:1042:ALA:HA	2.02	0.42
1:C:2107:GLN:HE21	1:C:3680:ALA:HA	1.85	0.42
1:C:4238:CYS:O	1:C:4242:ILE:HG12	2.19	0.42
1:D:3904:ARG:HH11	1:D:3976:ASN:ND2	2.18	0.42
1:A:537:CYS:HB2	1:A:567:VAL:HG23	2.02	0.41
1:A:4711:PHE:HB3	1:A:4712:PRO:HD3	2.02	0.41
1:B:445:LEU:HD13	1:B:525:LEU:HD13	2.00	0.41
1:B:3830:GLN:HG2	1:B:3913:ILE:HD11	2.02	0.41
1:C:22:LEU:HD13	1:C:37:LEU:HD21	2.02	0.41
1:C:669:ASP:OD2	1:C:788:LYS:NZ	2.36	0.41
1:C:1087:ARG:HB2	1:C:1223:PHE:CD2	2.55	0.41
1:D:597:HIS:HB2	1:D:1665:HIS:ND1	2.35	0.41
1:D:792:LEU:HD22	1:D:798:GLY:HA2	2.02	0.41
1:D:1126:GLY:HA3	1:D:1143:TRP:CZ3	2.55	0.41
1:D:2107:GLN:HE21	1:D:3680:ALA:HA	1.85	0.41
1:A:22:LEU:HD13	1:A:37:LEU:HD21	2.02	0.41
1:A:4925:ILE:H	1:A:4925:ILE:HG13	1.58	0.41
1:B:1087:ARG:HB2	1:B:1223:PHE:CD2	2.55	0.41
1:C:472:ARG:NE	1:C:532:GLY:O	2.53	0.41
1:C:597:HIS:HB2	1:C:1665:HIS:ND1	2.35	0.41
1:C:928:THR:HA	1:C:931:THR:HG22	2.02	0.41
1:C:2667:UNK:O	1:C:2806:ARG:NH1	2.53	0.41
1:C:3720:TYR:HA	1:C:3723:MET:HB2	2.02	0.41
1:C:4000:MET:HG2	1:C:4016:LEU:HD23	2.01	0.41
1:D:1028:ASP:OD2	1:D:1032:LYS:N	2.53	0.41
1:D:3980:LEU:HD12	1:D:3980:LEU:HA	1.85	0.41
1:A:881:LEU:HD11	1:A:1042:ALA:HA	2.02	0.41
1:A:1126:GLY:HA3	1:A:1143:TRP:CZ3	2.55	0.41
1:A:3820:LEU:HD23	1:A:3820:LEU:HA	1.95	0.41
1:B:978:THR:HA	1:B:979:PRO:HD3	1.95	0.41
1:B:2107:GLN:HE21	1:B:3680:ALA:HA	1.85	0.41
1:C:2642:UNK:C	1:C:2875:ALA:HB3	2.50	0.41
1:D:1936:LYS:HE2	1:D:2116:LEU:HD21	2.03	0.41
1:D:4702:ASP:O	1:D:4705:VAL:HG12	2.20	0.41
1:A:689:THR:OG1	1:A:776:LEU:O	2.29	0.41
1:A:1936:LYS:HE2	1:A:2116:LEU:HD21	2.02	0.41
1:B:472:ARG:NE	1:B:532:GLY:O	2.53	0.41
1:B:2667:UNK:O	1:B:2806:ARG:NH1	2.53	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3720:TYR:HA	1:B:3723:MET:HB2	2.02	0.41
1:C:647:ASN:OD1	1:C:647:ASN:N	2.54	0.41
1:C:1936:LYS:HE2	1:C:2116:LEU:HD21	2.02	0.41
1:C:4711:PHE:HB3	1:C:4712:PRO:HD3	2.02	0.41
1:C:4750:ILE:HD12	1:C:4750:ILE:HA	1.94	0.41
1:D:472:ARG:NE	1:D:532:GLY:O	2.53	0.41
1:D:2201:LEU:HD23	1:D:2201:LEU:HA	1.92	0.41
1:A:626:LEU:HD22	1:A:630:GLU:H	1.85	0.41
1:A:928:THR:HA	1:A:931:THR:HG22	2.02	0.41
1:A:2667:UNK:O	1:A:2806:ARG:NH1	2.53	0.41
1:B:801:LYS:HE2	1:B:801:LYS:HB3	1.92	0.41
1:C:4702:ASP:O	1:C:4705:VAL:HG12	2.20	0.41
1:D:626:LEU:HD22	1:D:630:GLU:H	1.84	0.41
1:D:2207:VAL:HA	1:D:2210:VAL:HG12	2.01	0.41
1:D:2667:UNK:O	1:D:2806:ARG:NH1	2.53	0.41
1:D:4046:ASP:HA	1:D:4049:VAL:HG12	2.03	0.41
1:A:402:ARG:HD2	1:A:402:ARG:HA	1.90	0.41
1:A:1087:ARG:HB2	1:A:1223:PHE:CD2	2.55	0.41
1:A:2189:LYS:HE2	1:A:2189:LYS:HB2	1.89	0.41
1:A:2192:TYR:HA	1:A:2242:ILE:HD11	2.02	0.41
1:D:1087:ARG:HB2	1:D:1223:PHE:CD2	2.55	0.41
1:A:747:CYS:SG	1:A:756:SER:HB3	2.61	0.41
1:A:4668:LEU:HD12	1:A:4668:LEU:HA	1.92	0.41
1:B:1155:LEU:HD13	1:B:1184:ILE:HG23	2.03	0.41
1:B:4974:GLY:O	1:B:4978:HIS:HB3	2.21	0.41
1:C:4123:ILE:H	1:C:4123:ILE:HG12	1.63	0.41
1:D:4586:PRO:HA	1:D:4587:PRO:HD3	1.89	0.41
1:A:385:ASP:OD1	1:A:385:ASP:N	2.53	0.41
1:A:597:HIS:HB2	1:A:1665:HIS:ND1	2.35	0.41
1:A:792:LEU:HD22	1:A:798:GLY:HA2	2.02	0.41
1:A:2879:ALA:O	1:A:2882:TYR:HB3	2.21	0.41
1:A:4675:LYS:HD2	1:A:4679:ARG:HH21	1.86	0.41
1:B:659:TYR:O	1:B:662:TRP:NE1	2.54	0.41
1:B:1931:LEU:HD13	1:B:1935:VAL:HG23	2.01	0.41
1:B:2882:TYR:O	1:B:2886:TRP:HD1	2.04	0.41
1:C:3703:LEU:HD23	1:C:3703:LEU:HA	1.91	0.41
1:D:22:LEU:HD13	1:D:37:LEU:HD21	2.02	0.41
1:D:647:ASN:OD1	1:D:647:ASN:N	2.54	0.41
1:D:659:TYR:O	1:D:662:TRP:NE1	2.54	0.41
1:A:248:GLU:HG3	1:A:373:LYS:HZ3	1.84	0.41
1:A:1044:ARG:HA	1:A:1047:LEU:HD22	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2882:TYR:O	1:A:2886:TRP:HD1	2.04	0.41
1:A:3785:ALA:O	1:A:3787:LYS:HD2	2.21	0.41
1:A:3823:LYS:HA	1:A:3823:LYS:HD3	1.80	0.41
1:A:3830:GLN:HG2	1:A:3913:ILE:HD11	2.02	0.41
1:A:4039:MET:HG2	1:A:4040:ILE:H	1.86	0.41
1:A:4046:ASP:HA	1:A:4049:VAL:HG12	2.03	0.41
1:A:4963:ILE:HD13	1:A:4963:ILE:HA	1.89	0.41
1:B:537:CYS:HB2	1:B:567:VAL:HG23	2.02	0.41
1:B:747:CYS:SG	1:B:756:SER:HB3	2.61	0.41
1:B:792:LEU:HD22	1:B:798:GLY:HA2	2.02	0.41
1:B:2192:TYR:HA	1:B:2242:ILE:HD11	2.02	0.41
1:B:2267:MET:H	1:B:2267:MET:CE	2.34	0.41
1:B:2879:ALA:O	1:B:2882:TYR:HB3	2.21	0.41
1:B:3698:LEU:HD12	1:B:3698:LEU:HA	1.91	0.41
1:B:4039:MET:HG2	1:B:4040:ILE:H	1.86	0.41
1:B:4562:LEU:HD12	1:B:4562:LEU:HA	1.95	0.41
1:C:659:TYR:O	1:C:662:TRP:NE1	2.54	0.41
1:C:1969:LEU:HD23	1:C:1969:LEU:HA	1.95	0.41
1:C:2192:TYR:HA	1:C:2242:ILE:HD11	2.02	0.41
1:C:2879:ALA:O	1:C:2882:TYR:HB3	2.21	0.41
1:C:3830:GLN:HG2	1:C:3913:ILE:HD11	2.02	0.41
1:C:3948:LYS:HB2	1:C:3948:LYS:HE3	1.93	0.41
1:C:4039:MET:HG2	1:C:4040:ILE:N	2.36	0.41
1:C:4039:MET:HG2	1:C:4040:ILE:H	1.86	0.41
1:C:4837:LEU:HD23	1:C:4837:LEU:HA	1.71	0.41
1:C:4974:GLY:O	1:C:4978:HIS:HB3	2.21	0.41
1:D:881:LEU:HD11	1:D:1042:ALA:HA	2.02	0.41
1:D:1044:ARG:HA	1:D:1047:LEU:HD22	2.03	0.41
1:D:2879:ALA:O	1:D:2882:TYR:HB3	2.21	0.41
1:D:4974:GLY:O	1:D:4978:HIS:HB3	2.21	0.41
1:A:246:TYR:HD2	1:A:373:LYS:HE3	1.86	0.41
1:A:801:LYS:HE2	1:A:801:LYS:HB3	1.92	0.41
1:A:864:PRO:HA	1:A:865:PRO:HD3	1.96	0.41
1:A:1155:LEU:HD13	1:A:1184:ILE:HG23	2.03	0.41
1:B:2207:VAL:HA	1:B:2210:VAL:HG12	2.01	0.41
1:B:2267:MET:H	1:B:2267:MET:HE2	1.86	0.41
1:B:3785:ALA:O	1:B:3787:LYS:HD2	2.21	0.41
1:B:4046:ASP:HA	1:B:4049:VAL:HG12	2.03	0.41
1:C:747:CYS:SG	1:C:756:SER:HB3	2.61	0.41
1:C:2267:MET:H	1:C:2267:MET:CE	2.34	0.41
1:C:2882:TYR:O	1:C:2886:TRP:HD1	2.04	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4787:ASN:OD1	1:C:4787:ASN:N	2.54	0.41
1:D:1207:ASP:OD1	1:D:1207:ASP:N	2.52	0.41
1:A:693:SER:N	1:A:694:PRO:HD3	2.37	0.40
1:A:2267:MET:H	1:A:2267:MET:CE	2.34	0.40
1:A:4876:CYS:SG	1:A:4877:ASP:N	2.94	0.40
1:A:4974:GLY:O	1:A:4978:HIS:HB3	2.21	0.40
1:B:4675:LYS:HD2	1:B:4679:ARG:HH21	1.86	0.40
1:C:2874:MET:SD	1:C:2874:MET:N	2.94	0.40
1:C:4046:ASP:HA	1:C:4049:VAL:HG12	2.03	0.40
1:D:2874:MET:N	1:D:2874:MET:SD	2.94	0.40
1:D:4240:ASP:OD2	1:D:4240:ASP:N	2.52	0.40
1:D:4675:LYS:HD2	1:D:4679:ARG:HH21	1.86	0.40
1:A:491:ILE:HD11	1:A:522:LEU:HB3	2.03	0.40
1:A:2182:ILE:HA	1:A:2185:ILE:HG22	2.04	0.40
1:A:2874:MET:N	1:A:2874:MET:SD	2.94	0.40
1:A:4060:LYS:O	1:A:4064:MET:HE2	2.22	0.40
1:B:1936:LYS:HE2	1:B:2116:LEU:HD21	2.02	0.40
1:B:2874:MET:SD	1:B:2874:MET:N	2.95	0.40
1:B:3869:GLN:O	1:B:3873:LYS:NZ	2.47	0.40
1:B:4876:CYS:SG	1:B:4877:ASP:N	2.94	0.40
1:C:638:ILE:HD13	1:C:703:GLY:HA2	2.03	0.40
1:C:693:SER:N	1:C:694:PRO:HD3	2.37	0.40
1:C:3785:ALA:O	1:C:3787:LYS:HD2	2.21	0.40
1:C:3969:ILE:HD13	1:C:3969:ILE:HA	1.89	0.40
1:D:550:LYS:HD3	1:D:550:LYS:HA	1.97	0.40
1:D:638:ILE:HD13	1:D:703:GLY:HA2	2.03	0.40
1:D:2182:ILE:HA	1:D:2185:ILE:HG22	2.04	0.40
1:D:3845:ASN:O	1:D:3849:ARG:HG3	2.21	0.40
1:D:4876:CYS:SG	1:D:4877:ASP:N	2.94	0.40
1:B:597:HIS:HB2	1:B:1665:HIS:ND1	2.35	0.40
1:B:805:PRO:HA	1:B:806:PRO:HD3	1.97	0.40
1:B:2189:LYS:HB2	1:B:2189:LYS:HE2	1.89	0.40
1:B:3969:ILE:HD13	1:B:3969:ILE:HA	1.89	0.40
1:C:42:PHE:HD2	1:C:447:ASP:HB3	1.86	0.40
1:C:5011:TRP:O	1:C:5015:GLN:HG3	2.22	0.40
1:D:207:SER:OG	1:D:334:MET:SD	2.69	0.40
1:D:246:TYR:HD2	1:D:373:LYS:HE3	1.86	0.40
1:D:4039:MET:HG2	1:D:4040:ILE:H	1.86	0.40
1:A:638:ILE:HD13	1:A:703:GLY:HA2	2.03	0.40
1:A:3845:ASN:O	1:A:3849:ARG:HG3	2.21	0.40
1:B:246:TYR:HD2	1:B:373:LYS:HE3	1.86	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3820:LEU:HD23	1:B:3820:LEU:HA	1.95	0.40
1:B:4638:TYR:HB2	1:B:4639:MET:H	1.77	0.40
1:C:224:HIS:O	1:C:229:GLU:HB3	2.22	0.40
1:C:4160:LEU:HD12	1:C:4160:LEU:HA	1.89	0.40
1:C:5006:GLN:O	1:C:5010:VAL:HG23	2.22	0.40
1:D:40:GLU:OE2	1:D:406:SER:OG	2.28	0.40
1:D:747:CYS:SG	1:D:756:SER:HB3	2.61	0.40
1:D:1155:LEU:HD13	1:D:1184:ILE:HG23	2.03	0.40
1:D:2882:TYR:O	1:D:2886:TRP:HD1	2.04	0.40
1:D:3948:LYS:HB2	1:D:3948:LYS:HE3	1.93	0.40
1:A:266:ARG:NH2	1:A:272:SER:OG	2.55	0.40
1:A:659:TYR:O	1:A:662:TRP:NE1	2.54	0.40
1:B:647:ASN:OD1	1:B:647:ASN:N	2.54	0.40
1:B:4787:ASN:OD1	1:B:4787:ASN:N	2.54	0.40
1:C:179:TYR:OH	1:D:2359:ARG:NH2	2.51	0.40
1:C:954:LYS:HA	1:C:954:LYS:HD2	1.82	0.40
1:C:1155:LEU:HD13	1:C:1184:ILE:HG23	2.03	0.40
1:C:2201:LEU:HD23	1:C:2201:LEU:HA	1.92	0.40
1:C:4675:LYS:HD2	1:C:4679:ARG:HH21	1.86	0.40
1:C:4876:CYS:SG	1:C:4877:ASP:N	2.94	0.40
1:C:5017:ARG:HA	1:C:5017:ARG:HD2	1.90	0.40
1:D:3785:ALA:O	1:D:3787:LYS:HD2	2.21	0.40
1:D:4958:CYS:HA	2:D:5101:ACP:C2	2.51	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	3203/5037 (64%)	3015 (94%)	184 (6%)	4 (0%)	51 83
1	B	3203/5037 (64%)	3014 (94%)	185 (6%)	4 (0%)	51 83

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	3203/5037 (64%)	3017 (94%)	182 (6%)	4 (0%)	51	83
1	D	3203/5037 (64%)	3016 (94%)	183 (6%)	4 (0%)	51	83
All	All	12812/20148 (64%)	12062 (94%)	734 (6%)	16 (0%)	54	83

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3806	ASN
1	A	3897	ASN
1	A	4959	PHE
1	B	3806	ASN
1	B	3897	ASN
1	B	4959	PHE
1	C	3806	ASN
1	C	3897	ASN
1	C	4959	PHE
1	D	3806	ASN
1	D	3897	ASN
1	D	4959	PHE
1	A	4748	LEU
1	B	4748	LEU
1	C	4748	LEU
1	D	4748	LEU

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%)	2443 (97%)	70 (3%)	43	68
1	B	2513/3264 (77%)	2443 (97%)	70 (3%)	43	68
1	C	2513/3264 (77%)	2442 (97%)	71 (3%)	43	68
1	D	2513/3264 (77%)	2444 (97%)	69 (3%)	44	69
All	All	10052/13056 (77%)	9772 (97%)	280 (3%)	46	68

All (280) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	LEU
1	A	29	LEU
1	A	37	LEU
1	A	69	LEU
1	A	220	LEU
1	A	310	LYS
1	A	316	PHE
1	A	357	LEU
1	A	379	HIS
1	A	384	MET
1	A	683	ARG
1	A	791	PHE
1	A	869	ARG
1	A	920	TYR
1	A	938	HIS
1	A	1100	MET
1	A	1118	ASP
1	A	1139	PHE
1	A	1141	ARG
1	A	1147	ASP
1	A	1180	ARG
1	A	1214	PHE
1	A	1260	MET
1	A	1637	MET
1	A	2110	TYR
1	A	2128	TYR
1	A	2228	MET
1	A	2267	MET
1	A	2291	GLN
1	A	2806	ARG
1	A	2883	HIS
1	A	2916	LYS
1	A	2922	LYS
1	A	3657	TYR
1	A	3676	ASP
1	A	3700	GLN
1	A	3877	ASP
1	A	3886	ARG
1	A	3899	PHE
1	A	3952	SER
1	A	4018	ASP
1	A	4039	MET

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	4074	SER
1	A	4093	PHE
1	A	4120	ASN
1	A	4121	GLU
1	A	4161	ARG
1	A	4216	GLN
1	A	4227	GLU
1	A	4236	SER
1	A	4555	LEU
1	A	4568	PHE
1	A	4571	PHE
1	A	4575	PHE
1	A	4580	TYR
1	A	4680	LYS
1	A	4708	THR
1	A	4711	PHE
1	A	4735	GLU
1	A	4787	ASN
1	A	4795	TYR
1	A	4859	PHE
1	A	4880	MET
1	A	4923	PHE
1	A	4957	LYS
1	A	4958	CYS
1	A	4959	PHE
1	A	5004	THR
1	A	5020	ASP
1	A	5027	CYS
1	B	22	LEU
1	B	29	LEU
1	B	37	LEU
1	B	69	LEU
1	B	220	LEU
1	B	310	LYS
1	B	316	PHE
1	B	357	LEU
1	B	379	HIS
1	B	384	MET
1	B	683	ARG
1	B	791	PHE
1	B	869	ARG
1	B	920	TYR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	938	HIS
1	B	1100	MET
1	B	1118	ASP
1	B	1139	PHE
1	B	1141	ARG
1	B	1147	ASP
1	B	1180	ARG
1	B	1214	PHE
1	B	1260	MET
1	B	1637	MET
1	B	2110	TYR
1	B	2128	TYR
1	B	2228	MET
1	B	2267	MET
1	B	2291	GLN
1	B	2806	ARG
1	B	2883	HIS
1	B	2916	LYS
1	B	2922	LYS
1	B	3657	TYR
1	B	3676	ASP
1	B	3700	GLN
1	B	3781	GLN
1	B	3877	ASP
1	B	3886	ARG
1	B	3899	PHE
1	B	3952	SER
1	B	4018	ASP
1	B	4039	MET
1	B	4074	SER
1	B	4093	PHE
1	B	4120	ASN
1	B	4121	GLU
1	B	4161	ARG
1	B	4216	GLN
1	B	4227	GLU
1	B	4236	SER
1	B	4555	LEU
1	B	4568	PHE
1	B	4571	PHE
1	B	4575	PHE
1	B	4580	TYR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	4680	LYS
1	B	4708	THR
1	B	4711	PHE
1	B	4735	GLU
1	B	4787	ASN
1	B	4795	TYR
1	B	4859	PHE
1	B	4880	MET
1	B	4923	PHE
1	B	4957	LYS
1	B	4958	CYS
1	B	4959	PHE
1	B	5020	ASP
1	B	5027	CYS
1	C	22	LEU
1	C	29	LEU
1	C	37	LEU
1	C	69	LEU
1	C	220	LEU
1	C	310	LYS
1	C	316	PHE
1	C	357	LEU
1	C	379	HIS
1	C	384	MET
1	C	683	ARG
1	C	791	PHE
1	C	869	ARG
1	C	920	TYR
1	C	938	HIS
1	C	1100	MET
1	C	1118	ASP
1	C	1139	PHE
1	C	1141	ARG
1	C	1147	ASP
1	C	1180	ARG
1	C	1214	PHE
1	C	1260	MET
1	C	1637	MET
1	C	2110	TYR
1	C	2128	TYR
1	C	2228	MET
1	C	2267	MET

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	2291	GLN
1	C	2806	ARG
1	C	2883	HIS
1	C	2916	LYS
1	C	2922	LYS
1	C	3657	TYR
1	C	3676	ASP
1	C	3700	GLN
1	C	3781	GLN
1	C	3877	ASP
1	C	3886	ARG
1	C	3899	PHE
1	C	3952	SER
1	C	4018	ASP
1	C	4039	MET
1	C	4074	SER
1	C	4093	PHE
1	C	4120	ASN
1	C	4121	GLU
1	C	4161	ARG
1	C	4216	GLN
1	C	4227	GLU
1	C	4236	SER
1	C	4555	LEU
1	C	4568	PHE
1	C	4571	PHE
1	C	4575	PHE
1	C	4580	TYR
1	C	4680	LYS
1	C	4708	THR
1	C	4711	PHE
1	C	4735	GLU
1	C	4787	ASN
1	C	4795	TYR
1	C	4859	PHE
1	C	4880	MET
1	C	4923	PHE
1	C	4957	LYS
1	C	4958	CYS
1	C	4959	PHE
1	C	5004	THR
1	C	5020	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	5027	CYS
1	D	22	LEU
1	D	29	LEU
1	D	37	LEU
1	D	69	LEU
1	D	220	LEU
1	D	310	LYS
1	D	316	PHE
1	D	357	LEU
1	D	379	HIS
1	D	384	MET
1	D	683	ARG
1	D	791	PHE
1	D	869	ARG
1	D	920	TYR
1	D	938	HIS
1	D	1100	MET
1	D	1118	ASP
1	D	1139	PHE
1	D	1141	ARG
1	D	1147	ASP
1	D	1180	ARG
1	D	1214	PHE
1	D	1260	MET
1	D	1637	MET
1	D	2110	TYR
1	D	2128	TYR
1	D	2228	MET
1	D	2267	MET
1	D	2291	GLN
1	D	2806	ARG
1	D	2883	HIS
1	D	2916	LYS
1	D	2922	LYS
1	D	3657	TYR
1	D	3676	ASP
1	D	3700	GLN
1	D	3877	ASP
1	D	3886	ARG
1	D	3899	PHE
1	D	3952	SER
1	D	4018	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	4039	MET
1	D	4074	SER
1	D	4093	PHE
1	D	4120	ASN
1	D	4121	GLU
1	D	4161	ARG
1	D	4216	GLN
1	D	4227	GLU
1	D	4236	SER
1	D	4555	LEU
1	D	4568	PHE
1	D	4571	PHE
1	D	4575	PHE
1	D	4580	TYR
1	D	4680	LYS
1	D	4708	THR
1	D	4711	PHE
1	D	4735	GLU
1	D	4787	ASN
1	D	4795	TYR
1	D	4859	PHE
1	D	4880	MET
1	D	4923	PHE
1	D	4957	LYS
1	D	4958	CYS
1	D	4959	PHE
1	D	5020	ASP
1	D	5027	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (24) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	2127	GLN
1	A	3700	GLN
1	A	3781	GLN
1	A	3960	GLN
1	A	3976	ASN
1	A	4142	ASN
1	A	5003	HIS
1	B	3700	GLN
1	B	3960	GLN
1	B	3976	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	4142	ASN
1	B	5003	HIS
1	C	2127	GLN
1	C	3781	GLN
1	C	3960	GLN
1	C	3976	ASN
1	C	4142	ASN
1	C	5003	HIS
1	D	2127	GLN
1	D	3781	GLN
1	D	3960	GLN
1	D	3976	ASN
1	D	4142	ASN
1	D	5003	HIS

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	B	5101	-	27,33,33	4.76	9 (33%)	32,52,52	2.00	5 (15%)
2	ACP	A	5101	-	27,33,33	4.82	9 (33%)	32,52,52	2.18	6 (18%)
2	ACP	D	5101	-	27,33,33	4.76	9 (33%)	32,52,52	2.06	6 (18%)
2	ACP	C	5101	-	27,33,33	4.76	10 (37%)	32,52,52	1.97	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	B	5101	-	-	7/15/38/38	0/3/3/3
2	ACP	A	5101	-	-	3/15/38/38	0/3/3/3
2	ACP	D	5101	-	-	4/15/38/38	0/3/3/3
2	ACP	C	5101	-	-	8/15/38/38	0/3/3/3

All (37) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	5101	ACP	O4'-C1'	15.67	1.62	1.41
2	A	5101	ACP	C2'-C1'	-15.65	1.30	1.53
2	B	5101	ACP	O4'-C1'	15.61	1.62	1.41
2	D	5101	ACP	O4'-C1'	15.49	1.62	1.41
2	C	5101	ACP	O4'-C1'	15.40	1.62	1.41
2	C	5101	ACP	C2'-C1'	-15.36	1.30	1.53
2	D	5101	ACP	C2'-C1'	-15.34	1.30	1.53
2	B	5101	ACP	C2'-C1'	-15.29	1.30	1.53
2	A	5101	ACP	PB-O3A	6.26	1.65	1.58
2	C	5101	ACP	PB-O3A	6.25	1.65	1.58
2	D	5101	ACP	O4'-C4'	-6.24	1.31	1.45
2	D	5101	ACP	PB-O3A	6.10	1.65	1.58
2	C	5101	ACP	O4'-C4'	-6.08	1.31	1.45
2	B	5101	ACP	PB-O3A	6.07	1.65	1.58
2	A	5101	ACP	O4'-C4'	-6.03	1.31	1.45
2	B	5101	ACP	O4'-C4'	-6.01	1.31	1.45
2	B	5101	ACP	C6-N6	3.22	1.45	1.34
2	A	5101	ACP	C6-N6	3.21	1.45	1.34
2	D	5101	ACP	C6-N6	3.16	1.45	1.34
2	C	5101	ACP	C6-N6	3.15	1.45	1.34
2	A	5101	ACP	O2'-C2'	3.14	1.50	1.43

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	5101	ACP	O2'-C2'	3.04	1.50	1.43
2	B	5101	ACP	O3'-C3'	-3.03	1.35	1.43
2	D	5101	ACP	O2'-C2'	3.00	1.50	1.43
2	C	5101	ACP	O2'-C2'	2.99	1.50	1.43
2	C	5101	ACP	O3'-C3'	-2.98	1.36	1.43
2	A	5101	ACP	O3'-C3'	-2.96	1.36	1.43
2	D	5101	ACP	O3'-C3'	-2.96	1.36	1.43
2	D	5101	ACP	C5-C4	-2.58	1.34	1.40
2	B	5101	ACP	C5-C4	-2.53	1.34	1.40
2	A	5101	ACP	C5-C4	-2.52	1.34	1.40
2	C	5101	ACP	C5-C4	-2.42	1.34	1.40
2	C	5101	ACP	C2-N3	2.23	1.35	1.32
2	A	5101	ACP	PB-O2B	-2.17	1.51	1.56
2	D	5101	ACP	PB-O2B	-2.15	1.51	1.56
2	B	5101	ACP	PB-O2B	-2.14	1.51	1.56
2	C	5101	ACP	PB-O2B	-2.13	1.51	1.56

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	5101	ACP	C5-C6-N6	7.85	132.29	120.35
2	D	5101	ACP	C5-C6-N6	7.28	131.42	120.35
2	B	5101	ACP	C5-C6-N6	7.03	131.03	120.35
2	C	5101	ACP	C5-C6-N6	6.83	130.74	120.35
2	C	5101	ACP	N3-C2-N1	-5.35	120.31	128.68
2	A	5101	ACP	N3-C2-N1	-5.24	120.48	128.68
2	A	5101	ACP	N6-C6-N1	-5.21	107.77	118.57
2	B	5101	ACP	N3-C2-N1	-4.98	120.89	128.68
2	D	5101	ACP	N3-C2-N1	-4.92	120.99	128.68
2	D	5101	ACP	N6-C6-N1	-4.72	108.78	118.57
2	C	5101	ACP	N6-C6-N1	-4.63	108.97	118.57
2	B	5101	ACP	N6-C6-N1	-4.53	109.18	118.57
2	D	5101	ACP	PB-O3A-PA	-2.97	123.14	132.56
2	B	5101	ACP	PB-O3A-PA	-2.86	123.49	132.56
2	A	5101	ACP	PB-O3A-PA	-2.76	123.81	132.56
2	D	5101	ACP	C1'-N9-C4	-2.69	121.92	126.64
2	A	5101	ACP	C3'-C2'-C1'	2.57	104.85	100.98
2	C	5101	ACP	PB-O3A-PA	-2.51	124.62	132.56
2	B	5101	ACP	C3'-C2'-C1'	2.29	104.43	100.98
2	A	5101	ACP	C1'-N9-C4	-2.20	122.78	126.64
2	D	5101	ACP	C3'-C2'-C1'	2.11	104.15	100.98
2	C	5101	ACP	C3'-C2'-C1'	2.02	104.02	100.98

There are no chirality outliers.

All (22) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	5101	ACP	C5'-O5'-PA-O3A
2	B	5101	ACP	C3'-C4'-C5'-O5'
2	D	5101	ACP	O4'-C4'-C5'-O5'
2	D	5101	ACP	C3'-C4'-C5'-O5'
2	B	5101	ACP	O4'-C4'-C5'-O5'
2	B	5101	ACP	C4'-C5'-O5'-PA
2	C	5101	ACP	O4'-C4'-C5'-O5'
2	C	5101	ACP	C3'-C4'-C5'-O5'
2	C	5101	ACP	PB-O3A-PA-O5'
2	A	5101	ACP	C4'-C5'-O5'-PA
2	C	5101	ACP	C5'-O5'-PA-O3A
2	B	5101	ACP	C5'-O5'-PA-O1A
2	B	5101	ACP	C5'-O5'-PA-O2A
2	C	5101	ACP	C5'-O5'-PA-O2A
2	A	5101	ACP	PB-C3B-PG-O2G
2	B	5101	ACP	PB-C3B-PG-O2G
2	C	5101	ACP	PB-C3B-PG-O2G
2	C	5101	ACP	PB-C3B-PG-O3G
2	D	5101	ACP	C4'-C5'-O5'-PA
2	C	5101	ACP	PB-C3B-PG-O1G
2	D	5101	ACP	C5'-O5'-PA-O3A
2	A	5101	ACP	C5'-O5'-PA-O1A

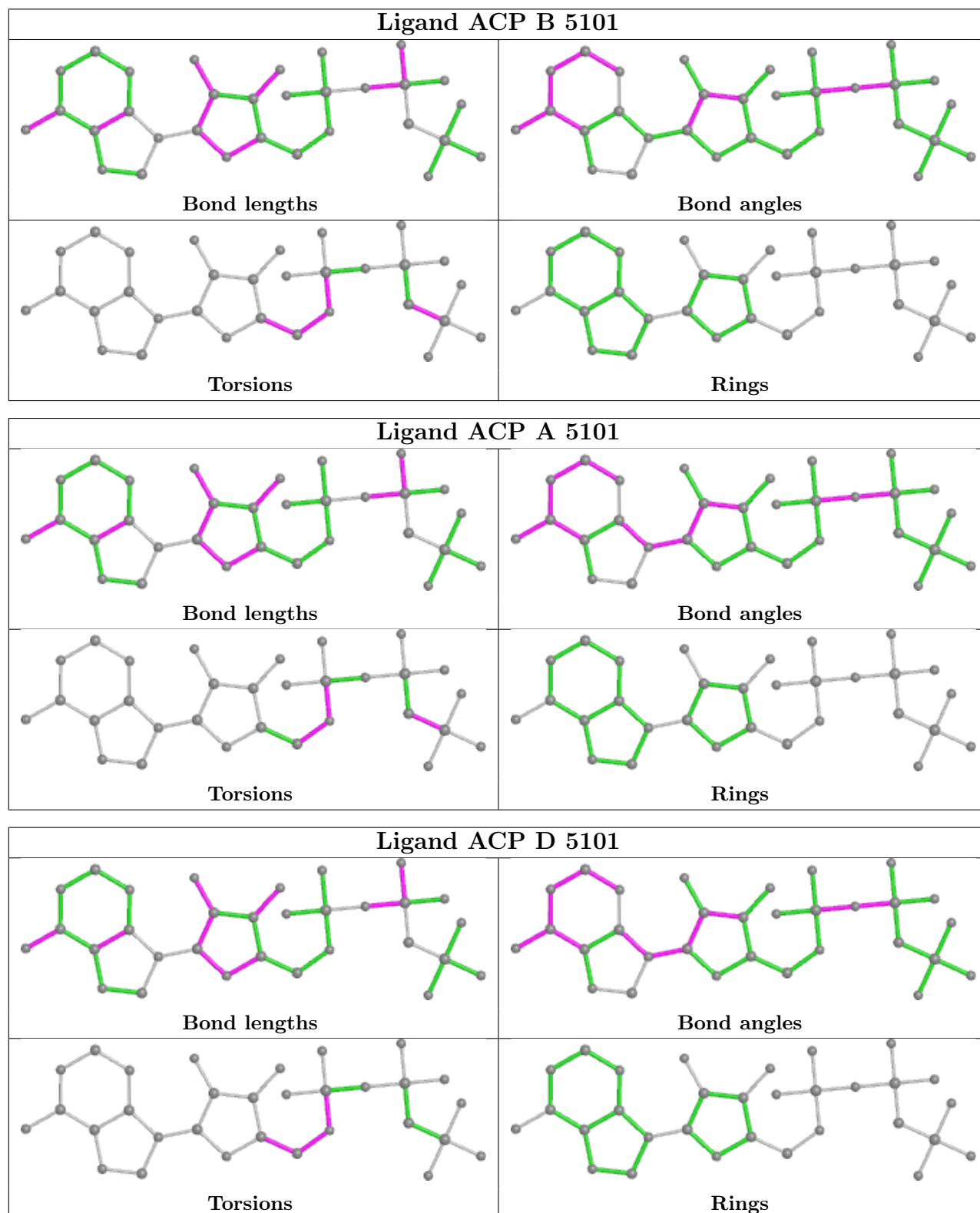
There are no ring outliers.

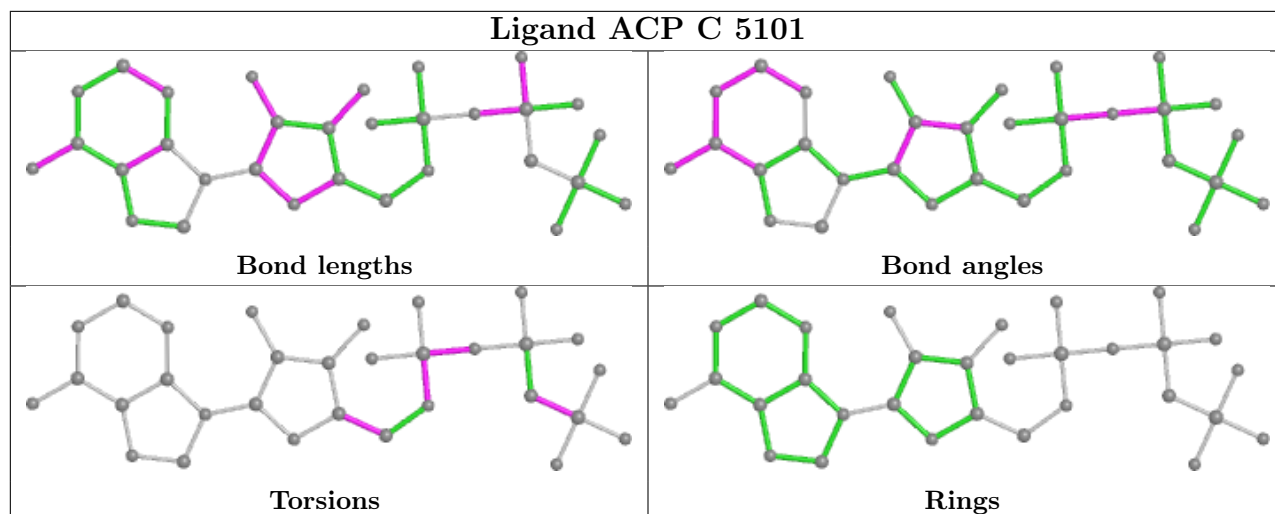
4 monomers are involved in 8 short contacts:

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

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the

average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

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	3288:UNK	C	3289:UNK	N	16.18
1	B	3288:UNK	C	3289:UNK	N	16.18
1	C	3288:UNK	C	3289:UNK	N	16.18
1	D	3288:UNK	C	3289:UNK	N	16.18
1	A	3510:UNK	C	3511:UNK	N	15.21
1	B	3510:UNK	C	3511:UNK	N	15.21
1	C	3510:UNK	C	3511:UNK	N	15.21
1	D	3510:UNK	C	3511:UNK	N	15.21
1	A	3221:UNK	C	3222:UNK	N	12.96
1	B	3221:UNK	C	3222:UNK	N	12.96
1	C	3221:UNK	C	3222:UNK	N	12.96
1	D	3221:UNK	C	3222:UNK	N	12.96
1	A	3122:UNK	C	3123:UNK	N	12.24

Continued on next page...

Continued from previous page...

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	3122:UNK	C	3123:UNK	N	12.24
1	C	3122:UNK	C	3123:UNK	N	12.24
1	D	3122:UNK	C	3123:UNK	N	12.24
1	A	3191:UNK	C	3192:UNK	N	10.82
1	B	3191:UNK	C	3192:UNK	N	10.82
1	C	3191:UNK	C	3192:UNK	N	10.82
1	D	3191:UNK	C	3192:UNK	N	10.82
1	A	3302:UNK	C	3303:UNK	N	8.86
1	B	3302:UNK	C	3303:UNK	N	8.86
1	C	3302:UNK	C	3303:UNK	N	8.86
1	D	3302:UNK	C	3303:UNK	N	8.86
1	A	1297:UNK	C	1298:UNK	N	8.48
1	C	1297:UNK	C	1298:UNK	N	8.48
1	D	1297:UNK	C	1298:UNK	N	8.48
1	B	1297:UNK	C	1298:UNK	N	8.47

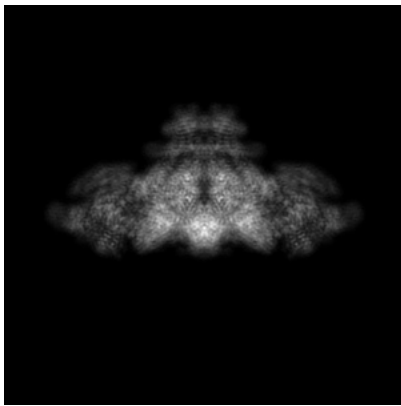
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-25832. These allow visual inspection of the internal detail of the map and identification of artifacts.

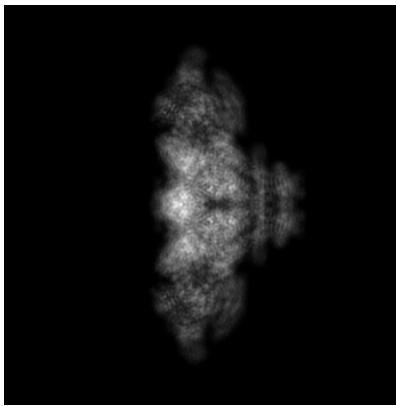
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

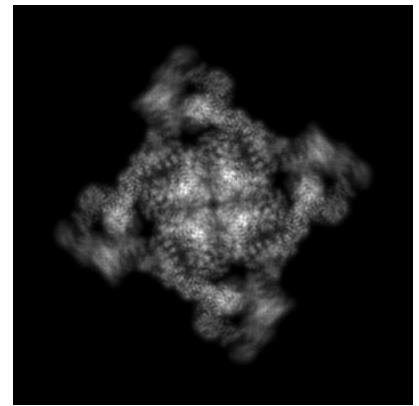
6.1.1 Primary map



X

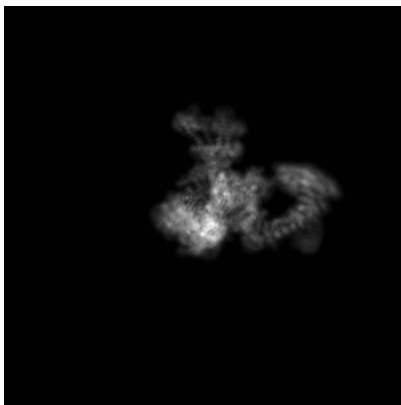


Y

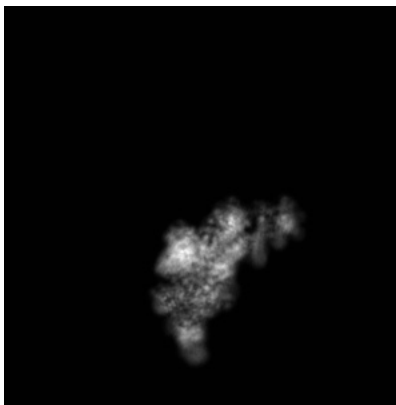


Z

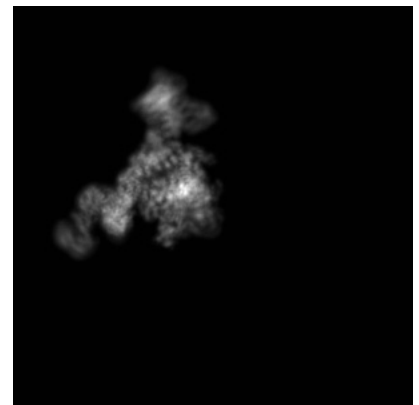
6.1.2 Raw map



X



Y

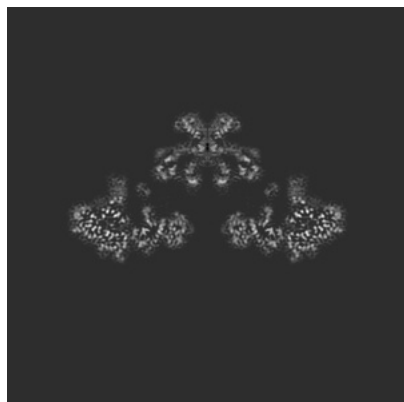


Z

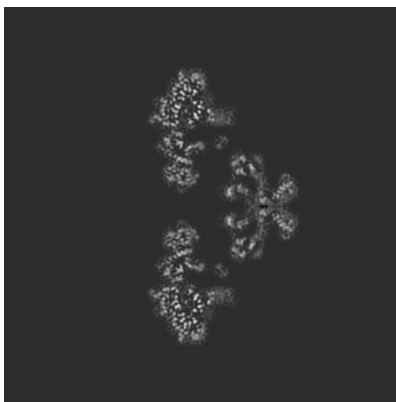
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

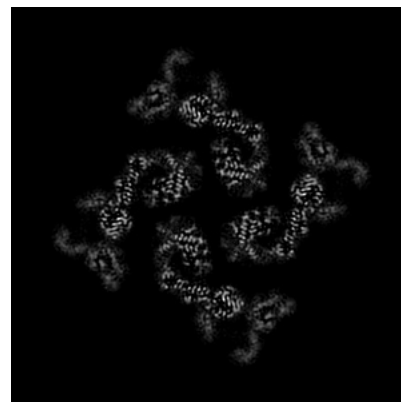
6.2.1 Primary map



X Index: 216

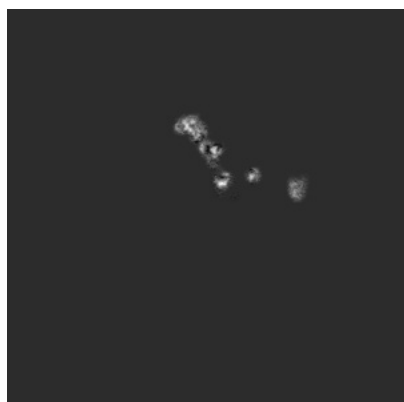


Y Index: 216

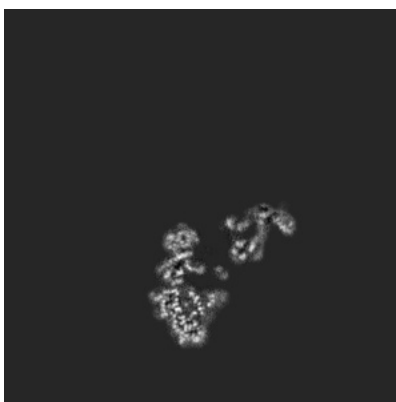


Z Index: 216

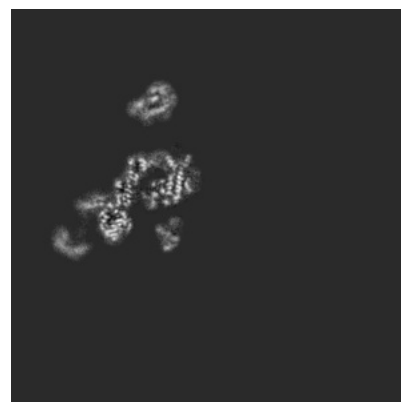
6.2.2 Raw map



X Index: 216



Y Index: 216

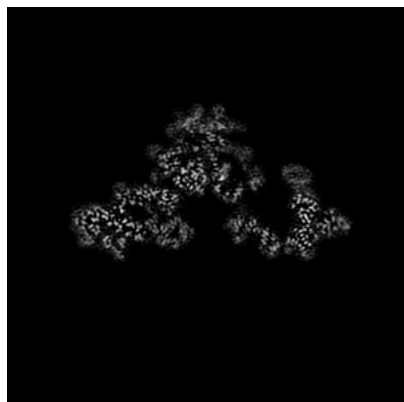


Z Index: 216

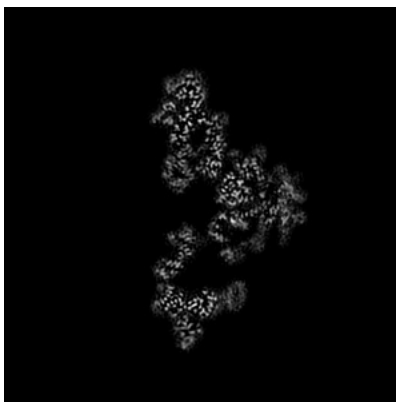
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

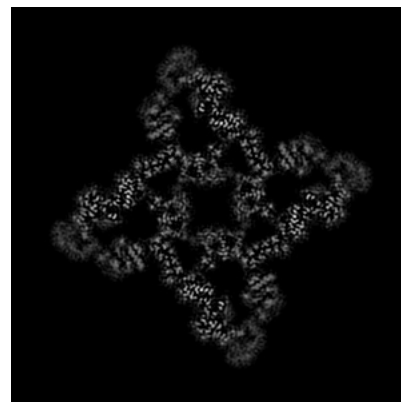
6.3.1 Primary map



X Index: 206



Y Index: 206

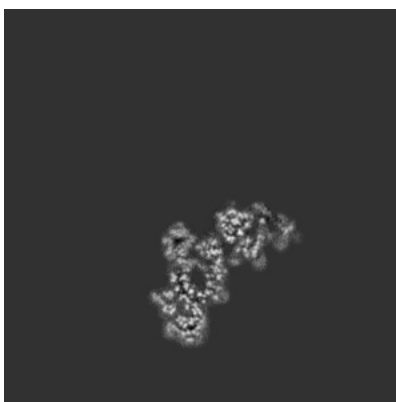


Z Index: 200

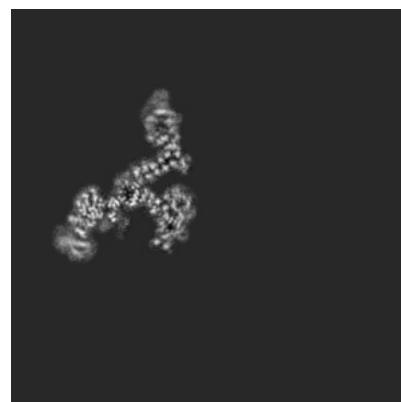
6.3.2 Raw map



X Index: 168



Y Index: 226

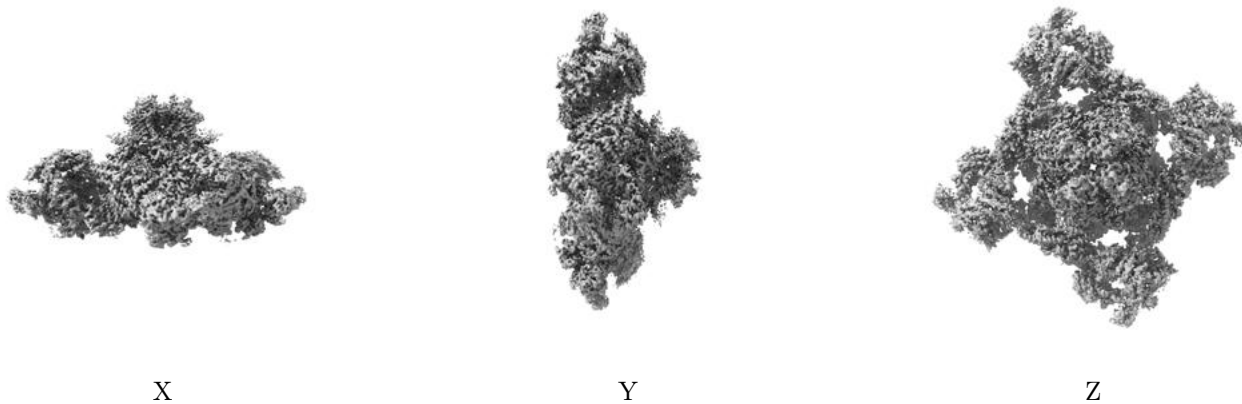


Z Index: 196

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.

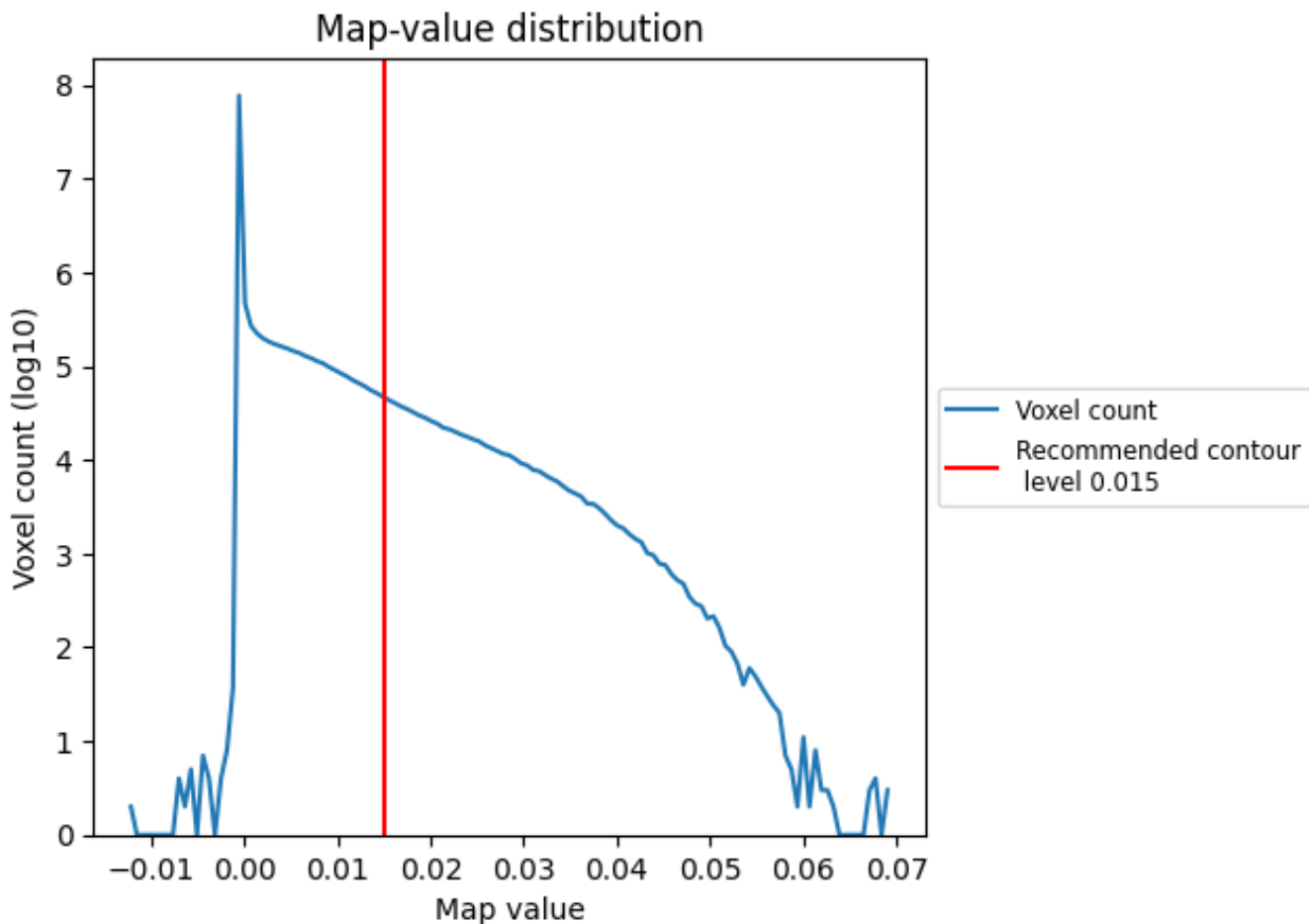
6.5 Mask visualisation [i](#)

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

7 Map analysis [i](#)

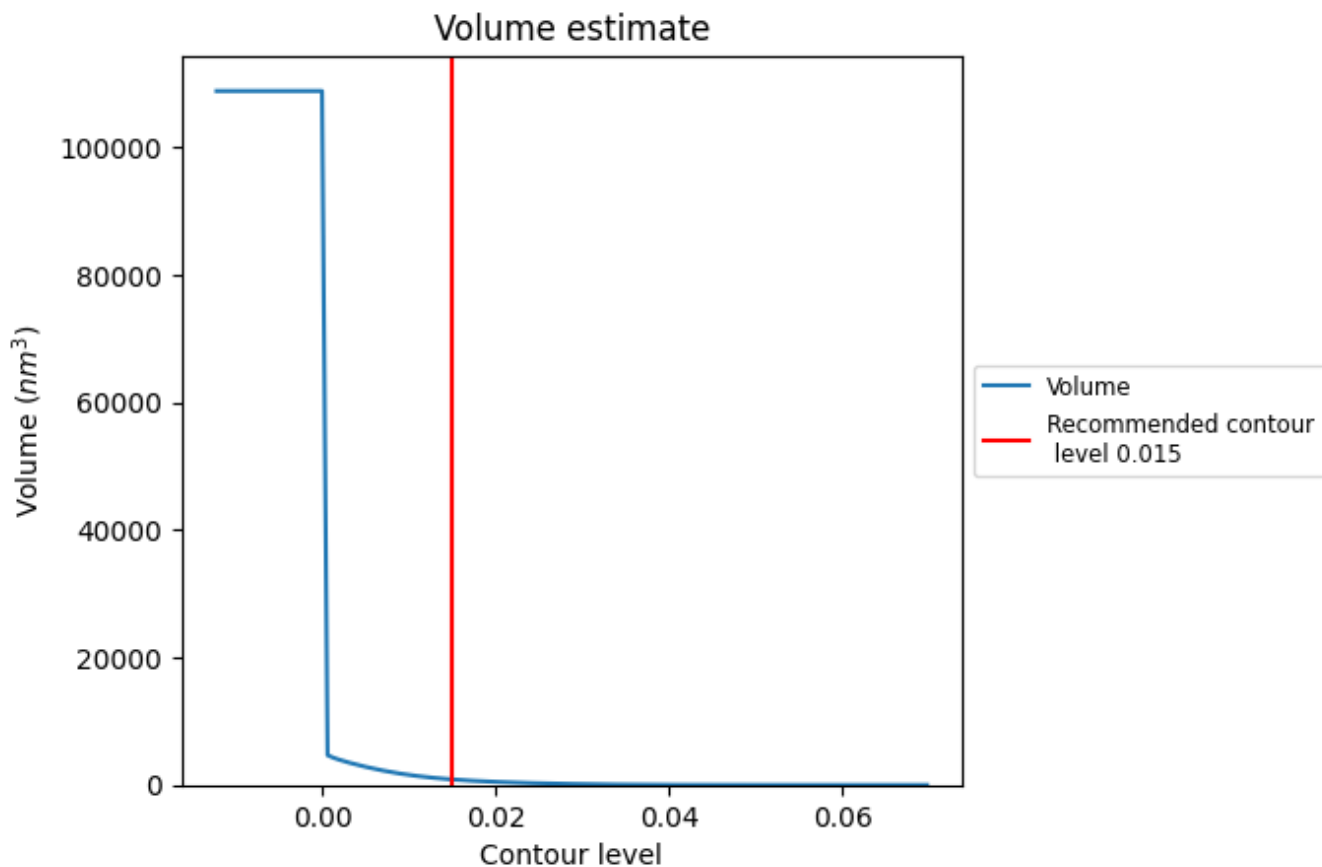
This section contains the results of statistical analysis of the map.

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.

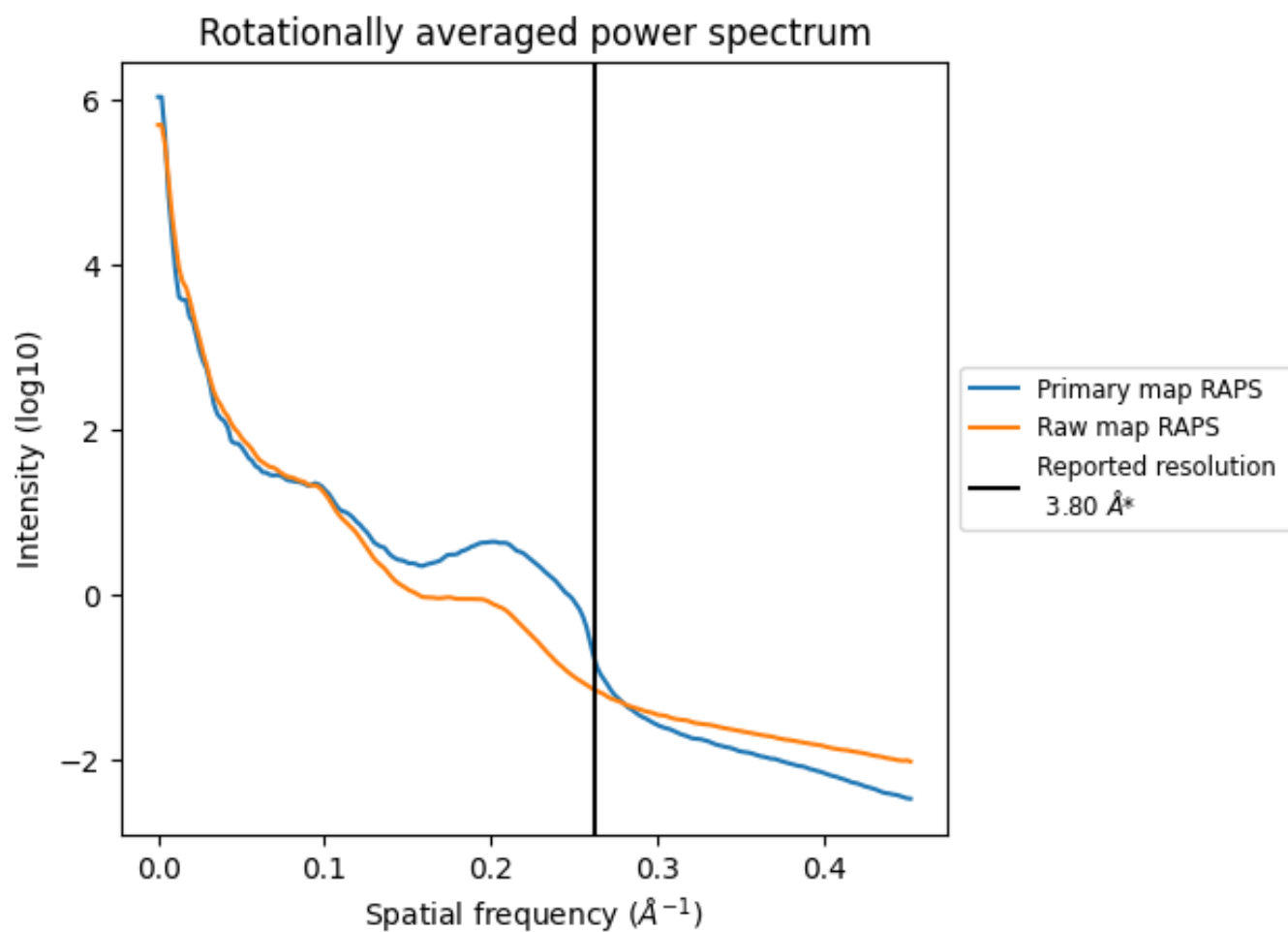
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 866 nm^3 ; this corresponds to an approximate mass of 782 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

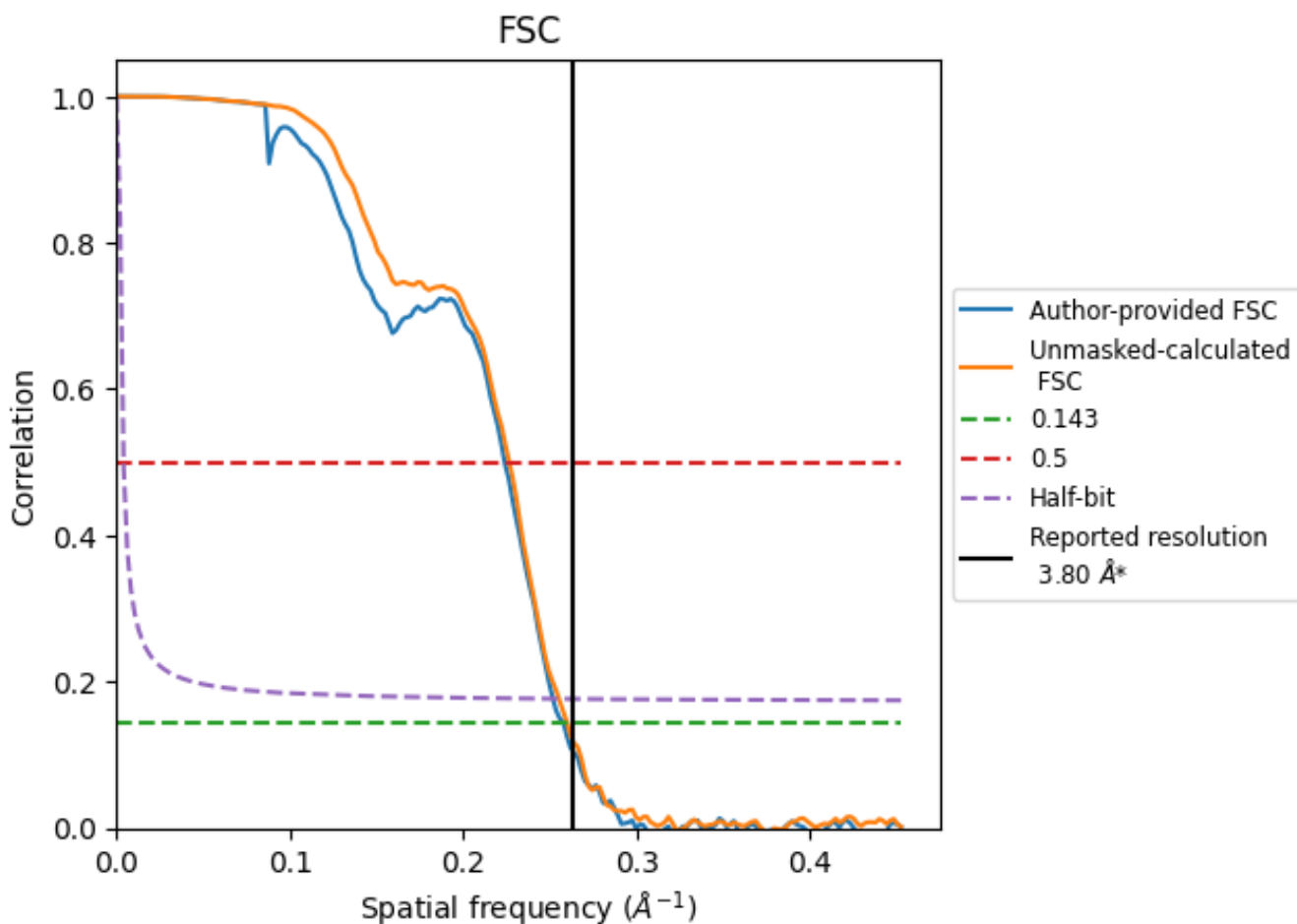


*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

8.2 Resolution estimates [i](#)

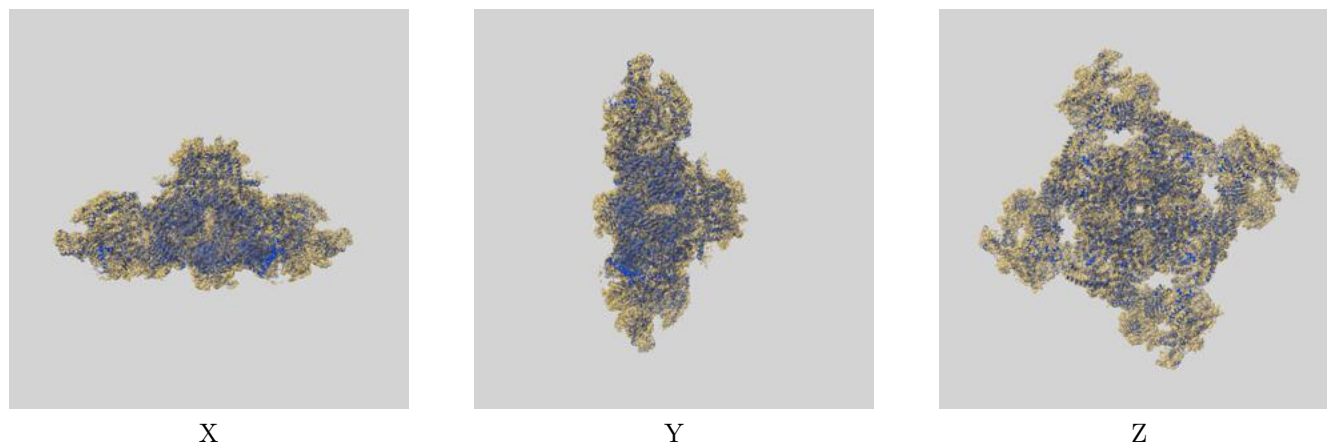
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.88	4.47	3.97
Unmasked-calculated*	3.85	4.41	3.92

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

9 Map-model fit [i](#)

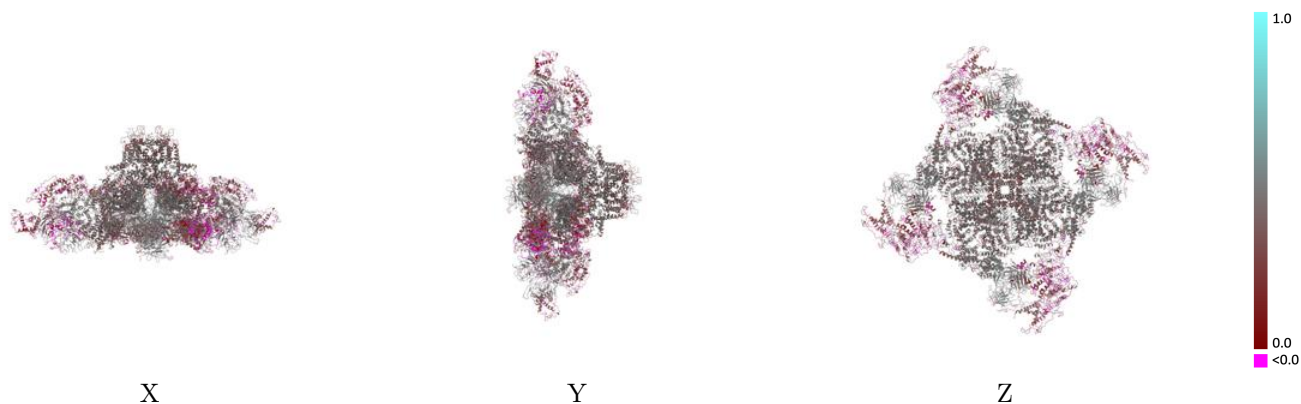
This section contains information regarding the fit between EMDB map EMD-25832 and PDB model 7TDK. Per-residue inclusion information can be found in section [3](#) on page [5](#).

9.1 Map-model overlay [i](#)



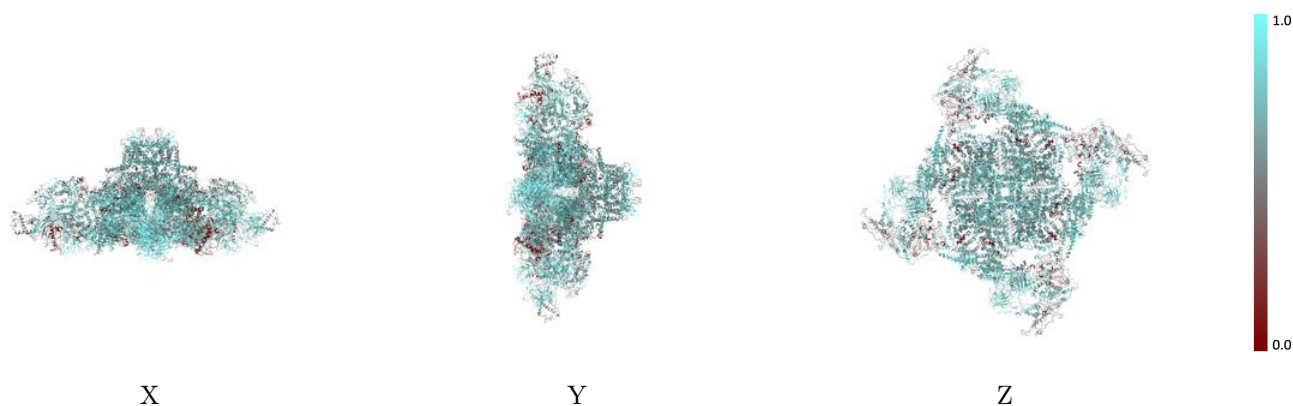
The images above show the 3D surface view of the map at the recommended contour level 0.015 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



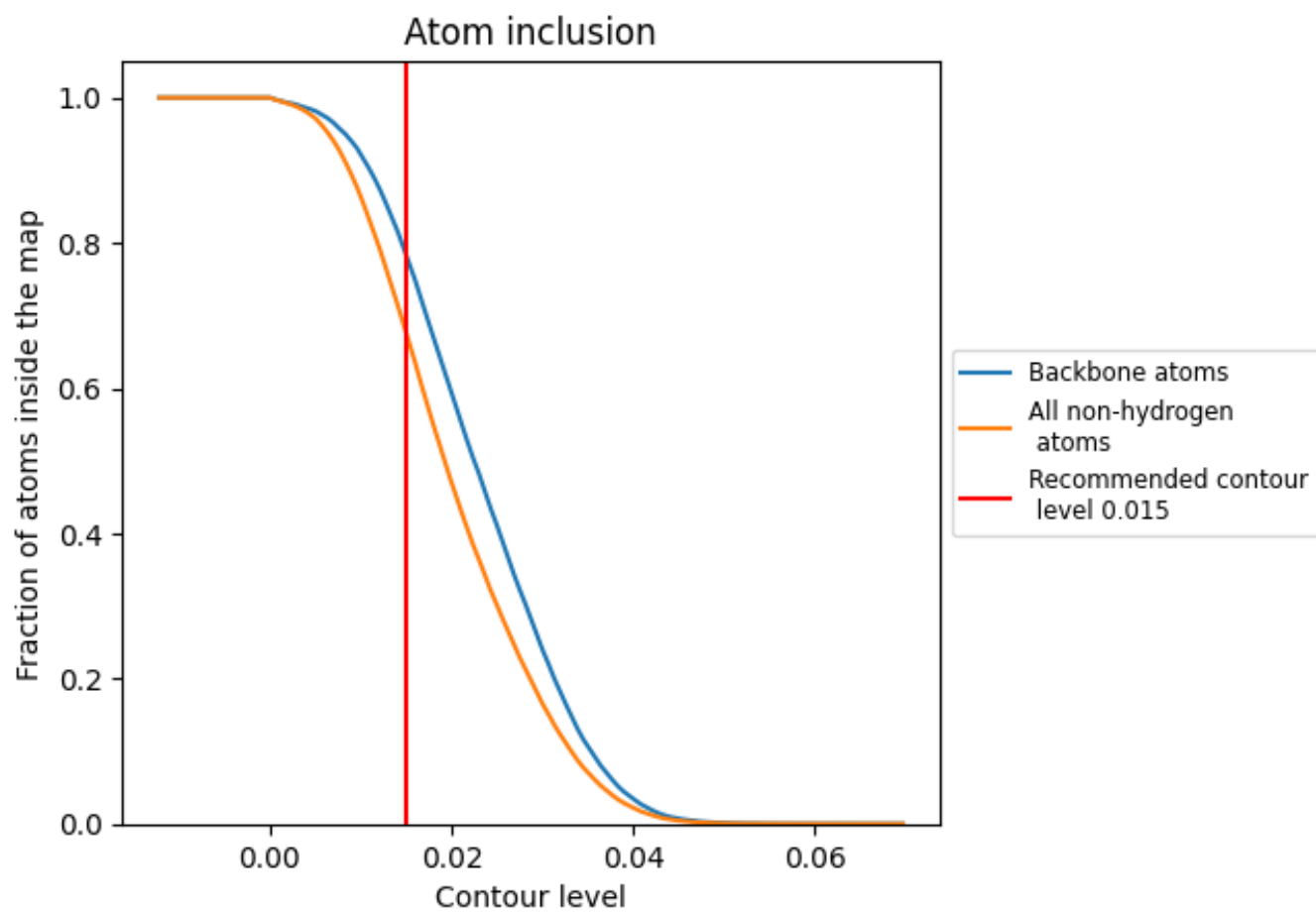
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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, 78% 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	 0.6763	 0.3570
A	 0.6762	 0.3570
B	 0.6765	 0.3570
C	 0.6767	 0.3560
D	 0.6759	 0.3570

