



Full wwPDB EM Validation Report ⓘ

Jan 26, 2026 – 03:21 PM EST

PDB ID : 9MZIP / pdb_00009mzp
EMDB ID : EMD-48764
Title : CryoEM structure of GluK2 bound to glutamate in the shallow desensitized state, composite map
Authors : Chang, P.Z.; Nami, T.
Deposited on : 2025-01-23
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:

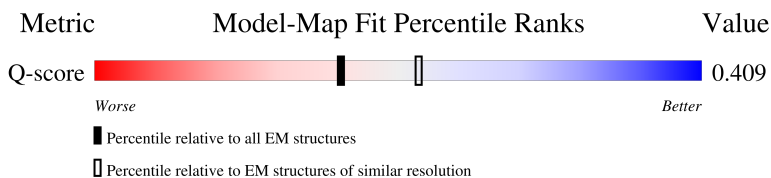
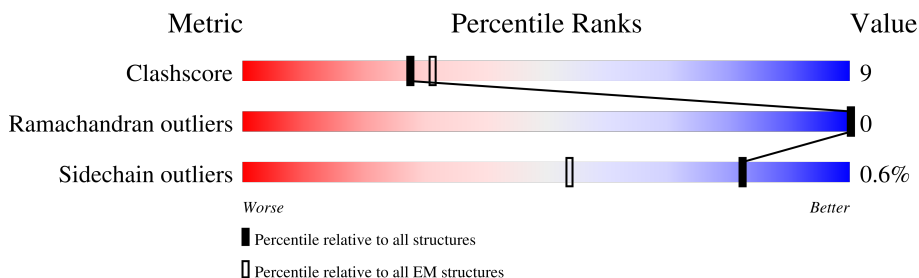
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	10198 (3.30 - 4.30)

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	908	
1	B	908	
1	C	908	
1	D	908	

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Mol	Chain	Length	Quality of chain
2	E	2	 100%
2	F	2	 50%50%
2	G	2	 100%
2	H	2	 50%50%
2	I	2	 50%50%
2	J	2	 50%50%
2	K	2	 100%
2	L	2	 50%50%
2	M	2	 100%

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 24865 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 Glutamate receptor ionotropic, kainate 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	769	Total	C	N	O	S	0	0
			6085	3907	1011	1133	34		
1	B	772	Total	C	N	O	S	0	0
			6108	3923	1014	1136	35		
1	C	772	Total	C	N	O	S	0	0
			6109	3923	1015	1136	35		
1	D	771	Total	C	N	O	S	0	0
			6103	3920	1014	1134	35		

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	676	CYS	LYS	conflict	UNP P42260
A	802	CYS	ASN	conflict	UNP P42260
B	676	CYS	LYS	conflict	UNP P42260
B	802	CYS	ASN	conflict	UNP P42260
C	676	CYS	LYS	conflict	UNP P42260
C	802	CYS	ASN	conflict	UNP P42260
D	676	CYS	LYS	conflict	UNP P42260
D	802	CYS	ASN	conflict	UNP P42260

- Molecule 2 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				AltConf	Trace
2	E	2	Total	C	N	O	0	0
			28	16	2	10		
2	F	2	Total	C	N	O	0	0
			28	16	2	10		

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Mol	Chain	Residues	Atoms				AltConf	Trace
2	G	2	Total	C	N	O	0	0
			28	16	2	10		
2	H	2	Total	C	N	O	0	0
			28	16	2	10		
2	I	2	Total	C	N	O	0	0
			28	16	2	10		
2	J	2	Total	C	N	O	0	0
			28	16	2	10		
2	K	2	Total	C	N	O	0	0
			28	16	2	10		
2	L	2	Total	C	N	O	0	0
			28	16	2	10		
2	M	2	Total	C	N	O	0	0
			28	16	2	10		

- Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



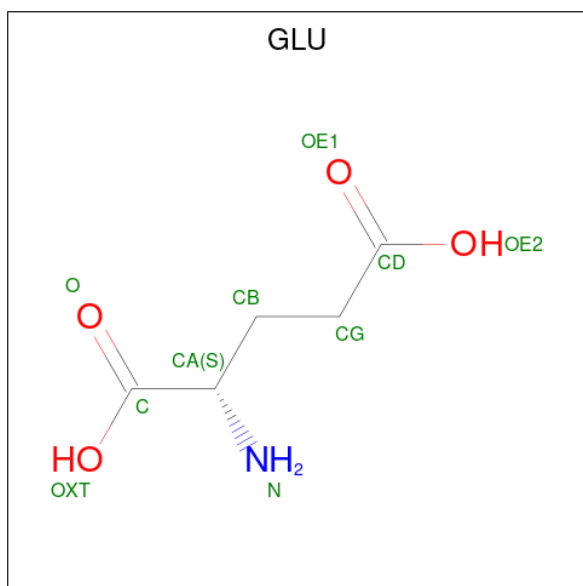
Mol	Chain	Residues	Atoms				AltConf
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	B	1	Total	C	N	O	0
			14	8	1	5	

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Mol	Chain	Residues	Atoms				AltConf
3	B	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	D	1	Total	C	N	O	0
			14	8	1	5	
3	D	1	Total	C	N	O	0
			14	8	1	5	
3	D	1	Total	C	N	O	0
			14	8	1	5	
3	D	1	Total	C	N	O	0
			14	8	1	5	

- Molecule 4 is GLUTAMIC ACID (CCD ID: GLU) (formula: $C_5H_9NO_4$).

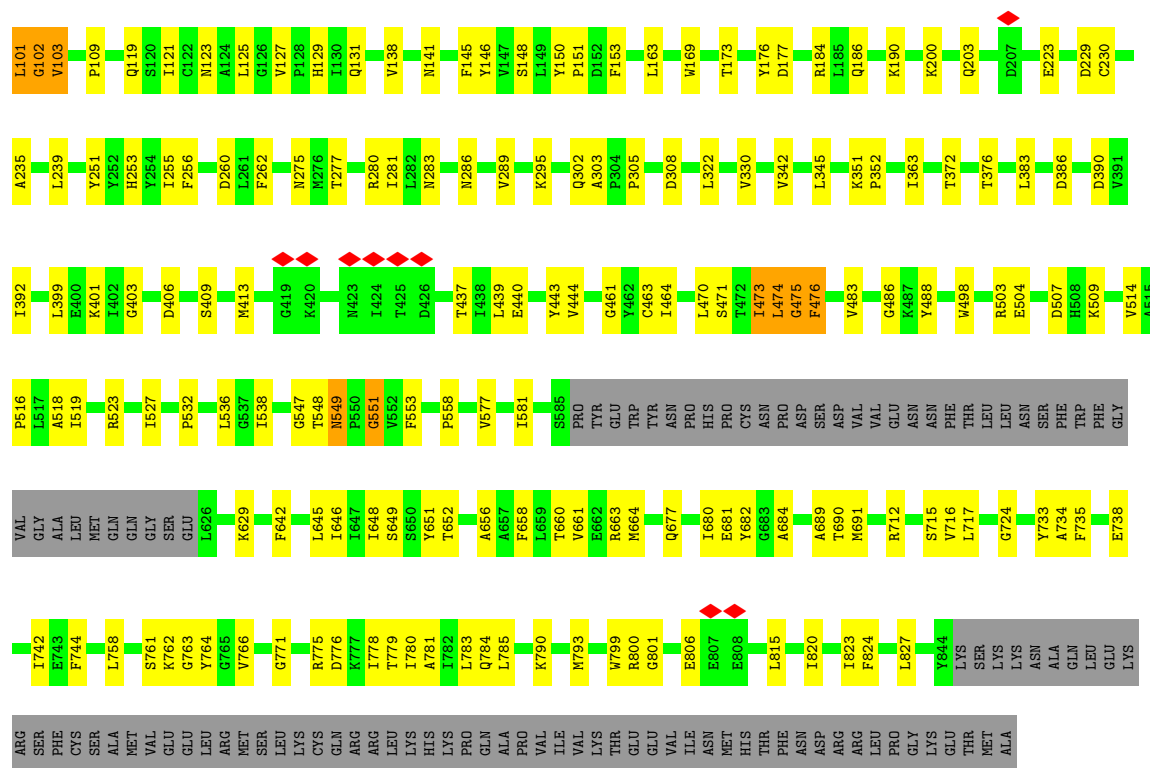


Mol	Chain	Residues	Atoms				AltConf
4	A	1	Total	C	N	O	0
			10	5	1	4	
4	B	1	Total	C	N	O	0
			10	5	1	4	
4	C	1	Total	C	N	O	0
			10	5	1	4	

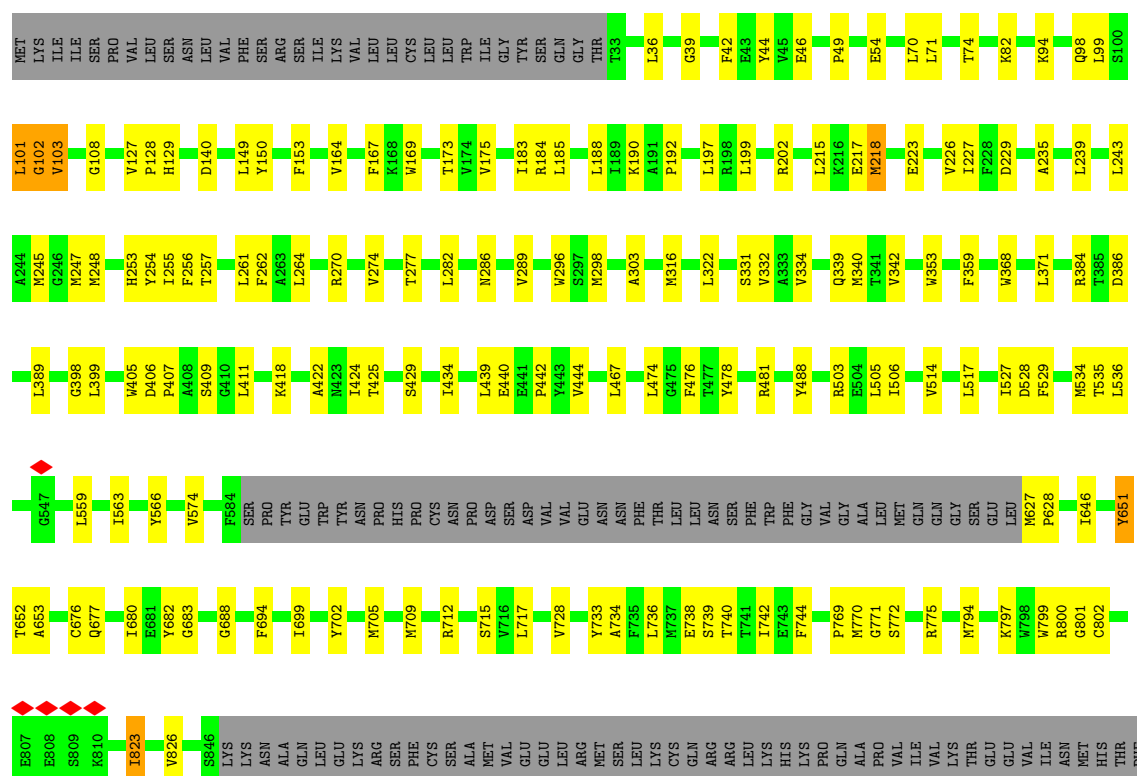
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Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
4	D	1	10	5	1	4	0



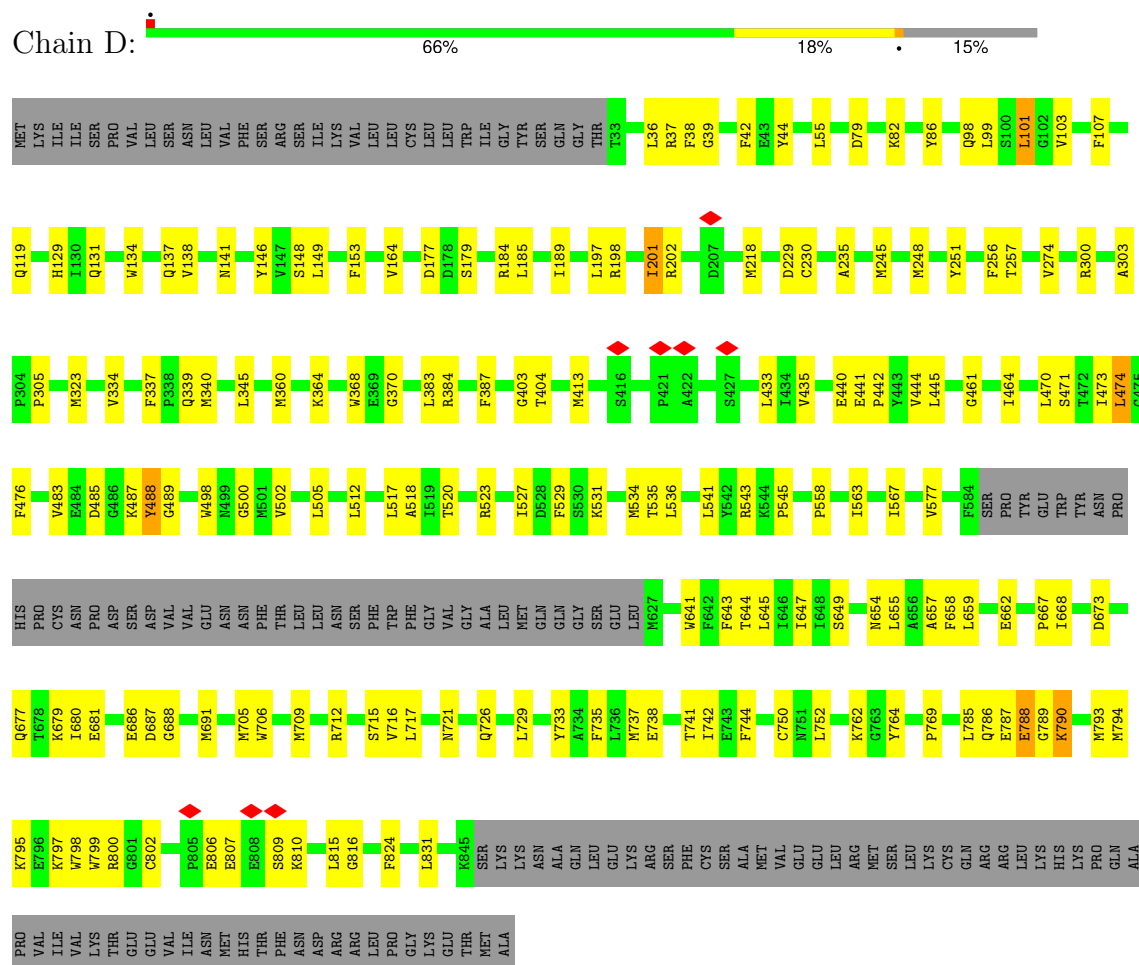
• Molecule 1: Glutamate receptor ionotropic, kainate 2



ASN
ASP
ARG
ARG
LEU
LEU
GLY
LYS
GLU
THR
MET
ALA

- Molecule 1: Glutamate receptor ionotropic, kainate 2

Chain D:



Chain G:  100%

MAG1
MAG2

- Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain H:  50% 50%

MAG1
MAG2

- Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain I:  50% 50%

MAG1
MAG2

- Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J:  50% 50%

MAG1
MAG2

- Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain K:  100%

MAG1
MAG2

- Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain L:  50% 50%

MAG1
MAG2

- Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain M:  100%

MAG1
MAG2

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	81654	Depositor
Resolution determination method	OTHER	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1600	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	3.214	Depositor
Minimum map value	-1.970	Depositor
Average map value	0.009	Depositor
Map value standard deviation	0.086	Depositor
Recommended contour level	0.235	Depositor
Map size (Å)	275.59998, 275.59998, 275.59998	wwPDB
Map dimensions	260, 260, 260	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.16	0/6219	0.60	15/8419 (0.2%)
1	B	0.15	0/6243	0.68	16/8452 (0.2%)
1	C	0.12	0/6244	0.47	8/8452 (0.1%)
1	D	0.13	0/6238	0.60	11/8444 (0.1%)
All	All	0.14	0/24944	0.59	50/33767 (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	1

There are no bond length outliers.

All (50) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	D	474	LEU	N-CA-C	-24.62	72.06	109.24
1	D	788	GLU	N-CA-C	-24.54	75.01	110.59
1	B	474	LEU	N-CA-C	-23.65	69.86	108.41
1	C	101	LEU	N-CA-C	-23.63	75.55	110.52
1	B	475	GLY	N-CA-C	22.03	151.57	115.66
1	B	101	LEU	N-CA-C	-21.40	76.29	110.32
1	A	488	TYR	N-CA-C	-20.86	77.16	110.32
1	D	101	LEU	N-CA-C	-17.83	80.00	109.96
1	A	474	LEU	N-CA-C	-17.48	77.43	108.02
1	B	476	PHE	N-CA-CB	-17.05	85.98	110.36
1	B	476	PHE	N-CA-C	16.55	132.37	110.53
1	D	488	TYR	N-CA-C	-14.57	85.28	109.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	101	LEU	N-CA-C	-13.49	86.74	108.73
1	C	103	VAL	N-CA-C	12.63	125.09	109.30
1	A	803	GLY	N-CA-C	-11.79	92.57	110.97
1	B	103	VAL	N-CA-C	11.72	125.12	108.36
1	A	552	VAL	N-CA-C	11.34	126.82	111.17
1	A	101	LEU	CB-CA-C	-10.46	93.25	110.19
1	D	488	TYR	CB-CA-C	-10.25	92.99	109.80
1	C	102	GLY	N-CA-C	10.02	136.93	113.18
1	A	474	LEU	CB-CA-C	-10.01	94.63	110.74
1	B	103	VAL	N-CA-CB	-9.91	99.10	110.99
1	A	804	CYS	N-CA-C	-9.28	89.29	109.81
1	C	103	VAL	N-CA-CB	-9.08	99.14	110.31
1	A	475	GLY	N-CA-C	8.89	124.81	112.37
1	A	551	GLY	N-CA-C	-8.58	97.28	112.22
1	D	809	SER	CB-CA-C	8.11	123.52	109.65
1	D	809	SER	N-CA-C	-8.08	98.32	110.28
1	B	549	ASN	N-CA-CB	8.03	124.66	110.37
1	B	551	GLY	N-CA-C	-7.86	102.89	111.93
1	B	102	GLY	N-CA-C	7.71	131.46	113.18
1	B	473	ILE	CB-CA-C	-7.33	102.70	111.94
1	B	473	ILE	N-CA-C	7.25	119.27	111.58
1	B	758	LEU	N-CA-C	6.80	118.94	109.15
1	A	651	TYR	CA-C-N	-6.29	111.88	120.44
1	A	651	TYR	C-N-CA	-6.29	111.88	120.44
1	A	489	GLY	N-CA-C	6.19	122.87	113.02
1	B	474	LEU	CB-CA-C	-6.08	100.07	110.16
1	D	404	THR	N-CA-CB	6.01	122.16	111.69
1	C	651	TYR	CA-C-N	-5.96	112.34	120.44
1	C	651	TYR	C-N-CA	-5.96	112.34	120.44
1	D	788	GLU	CB-CA-C	5.56	121.01	110.51
1	A	473	ILE	CB-CA-C	-5.55	103.11	112.16
1	B	806	GLU	CB-CA-C	-5.45	110.27	116.54
1	A	652	THR	N-CA-C	-5.33	105.38	111.14
1	D	404	THR	N-CA-C	-5.31	101.22	109.24
1	C	424	ILE	N-CA-C	-5.12	108.28	113.20
1	D	790	LYS	N-CA-C	5.07	119.50	112.45
1	C	802	CYS	N-CA-C	5.07	118.24	111.75
1	B	399	LEU	N-CA-C	5.05	117.01	109.59

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	800	ARG	Sidechain

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	6085	0	6076	138	0
1	B	6108	0	6104	127	0
1	C	6109	0	6104	114	0
1	D	6103	0	6099	119	0
2	E	28	0	25	0	0
2	F	28	0	25	1	0
2	G	28	0	25	0	0
2	H	28	0	25	0	0
2	I	28	0	25	0	0
2	J	28	0	25	1	0
2	K	28	0	25	0	0
2	L	28	0	25	0	0
2	M	28	0	25	0	0
3	A	42	0	39	0	0
3	B	28	0	26	1	0
3	C	42	0	39	0	0
3	D	56	0	52	1	0
4	A	10	0	5	1	0
4	B	10	0	5	2	0
4	C	10	0	5	0	0
4	D	10	0	5	1	0
All	All	24865	0	24784	471	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 9.

All (471) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:470:LEU:O	1:B:474:LEU:O	1.57	1.22
1:B:102:GLY:O	1:B:342:VAL:HG21	1.45	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:102:GLY:O	1:B:342:VAL:CG2	1.98	1.12
1:A:804:CYS:H	1:A:805:PRO:HD2	1.17	1.10
1:D:98:GLN:O	1:D:101:LEU:O	1.73	1.06
1:B:98:GLN:O	1:B:101:LEU:O	1.81	0.98
1:C:98:GLN:O	1:C:101:LEU:O	1.87	0.92
1:A:804:CYS:N	1:A:805:PRO:HD2	1.86	0.89
1:D:488:TYR:O	1:D:687:ASP:O	1.93	0.85
1:A:804:CYS:H	1:A:805:PRO:CD	1.89	0.84
1:A:712:ARG:HB3	1:A:715:SER:HB3	1.61	0.82
1:A:248:MET:HE2	1:A:274:VAL:HG11	1.64	0.78
1:C:102:GLY:O	1:C:342:VAL:HG21	1.84	0.78
1:B:403:GLY:HA3	1:B:413:MET:HG2	1.66	0.77
1:A:831:LEU:HD12	1:D:577:VAL:HG21	1.66	0.76
1:C:102:GLY:O	1:C:342:VAL:CG2	2.34	0.76
1:A:797:LYS:HG3	1:A:798:TRP:CD1	2.22	0.75
1:D:334:VAL:HG23	1:D:340:MET:HE3	1.69	0.75
1:C:99:LEU:C	1:C:101:LEU:O	2.30	0.74
1:A:804:CYS:N	1:A:805:PRO:CD	2.45	0.73
1:A:386:ASP:HA	1:A:407:PRO:HG2	1.71	0.73
1:B:102:GLY:O	1:B:342:VAL:HG22	1.90	0.72
1:D:686:GLU:HG2	1:D:717:LEU:HB3	1.71	0.72
1:A:501:MET:HG3	1:A:517:LEU:HD11	1.71	0.71
1:C:677:GLN:HE22	1:C:680:ILE:HG12	1.57	0.70
1:C:334:VAL:HG23	1:C:340:MET:HG2	1.74	0.69
1:B:471:SER:O	1:B:475:GLY:HA2	1.92	0.69
1:A:502:VAL:HA	1:A:527:ILE:HD11	1.76	0.68
1:A:215:LEU:HD12	1:A:247:MET:HG3	1.76	0.67
1:A:685:VAL:HG21	4:A:1004:GLU:HB3	1.74	0.67
1:B:799:TRP:HD1	1:B:801:GLY:HA3	1.58	0.67
1:C:728:VAL:HA	1:C:733:TYR:HB3	1.77	0.67
1:A:797:LYS:HG3	1:A:798:TRP:HD1	1.60	0.66
1:C:386:ASP:HA	1:C:407:PRO:HG2	1.77	0.66
1:B:790:LYS:HA	1:B:793:MET:HG2	1.77	0.66
1:D:737:MET:HE3	1:D:742:ILE:HG22	1.78	0.66
1:B:99:LEU:C	1:B:101:LEU:O	2.38	0.66
1:B:444:VAL:HG12	1:B:464:ILE:HG12	1.79	0.65
1:D:787:GLU:C	1:D:788:GLU:O	2.26	0.65
1:C:248:MET:HE2	1:C:274:VAL:HG11	1.78	0.65
1:D:567:ILE:HD12	1:D:647:ILE:HG12	1.78	0.65
1:B:44:TYR:HA	1:B:82:LYS:HE3	1.79	0.64
1:B:440:GLU:HB2	1:B:443:TYR:HB2	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:677:GLN:HE22	1:A:680:ILE:HG13	1.62	0.64
1:B:646:ILE:HG21	1:C:823:ILE:HG21	1.79	0.64
1:C:270:ARG:HD2	1:C:398:GLY:H	1.63	0.64
1:B:177:ASP:HB3	1:B:230:CYS:HB3	1.80	0.64
1:D:137:GLN:HG3	1:D:383:LEU:HD11	1.78	0.63
1:D:470:LEU:HA	1:D:473:ILE:HG12	1.81	0.63
1:B:34:HIS:H	1:B:74:THR:HG22	1.63	0.63
1:D:541:LEU:HD21	1:D:752:LEU:HB3	1.80	0.63
1:A:106:ILE:HD11	1:A:122:CYS:HB3	1.81	0.63
1:D:441:GLU:HG2	1:D:445:LEU:HD21	1.81	0.62
1:B:303:ALA:O	1:B:305:PRO:HD3	2.00	0.62
1:C:702:TYR:HA	1:C:705:MET:HE3	1.79	0.62
1:A:36:LEU:HD11	1:A:340:MET:HB3	1.81	0.62
1:C:218:MET:HE3	1:C:226:VAL:HG21	1.81	0.62
1:A:173:THR:HG22	1:A:200:LYS:HB2	1.82	0.62
1:D:138:VAL:HG13	1:D:141:ASN:HB2	1.82	0.62
1:A:501:MET:HE2	1:A:501:MET:HA	1.82	0.61
1:C:503:ARG:HA	1:C:506:ILE:HG22	1.82	0.61
1:D:790:LYS:HA	1:D:793:MET:HG2	1.83	0.61
1:A:648:ILE:HG13	1:D:645:LEU:HD22	1.81	0.61
1:D:543:ARG:HG3	3:D:1001:NAG:H81	1.81	0.61
1:B:444:VAL:HG13	1:B:463:CYS:HB3	1.83	0.60
1:D:442:PRO:HG3	1:D:741:THR:HG23	1.83	0.60
1:B:99:LEU:HD21	1:B:127:VAL:HG11	1.84	0.60
1:C:71:LEU:HB3	1:C:74:THR:HB	1.84	0.60
1:C:289:VAL:HG23	1:C:371:LEU:HD22	1.82	0.60
1:D:435:VAL:HG22	1:D:512:LEU:HB3	1.82	0.59
1:D:42:PHE:HE1	1:D:323:MET:HE3	1.68	0.59
1:D:337:PHE:CE1	1:D:339:GLN:HG2	2.37	0.59
1:A:270:ARG:HH21	1:A:397:GLU:HA	1.68	0.59
1:C:694:PHE:HE2	1:C:736:LEU:HD13	1.68	0.59
1:B:761:SER:HB3	1:C:535:THR:HG21	1.83	0.59
1:B:785:LEU:HB3	1:B:790:LYS:HE3	1.85	0.59
1:C:574:VAL:HG12	1:D:831:LEU:HD11	1.85	0.59
1:C:108:GLY:HA3	1:C:129:HIS:HE2	1.68	0.59
1:B:548:THR:O	1:B:548:THR:OG1	2.13	0.58
1:B:551:GLY:O	1:B:553:PHE:N	2.35	0.58
1:C:164:VAL:HG11	1:C:197:LEU:HD21	1.84	0.58
1:A:40:GLY:H	1:A:98:GLN:HE22	1.51	0.58
1:B:681:GLU:HG2	1:B:733:TYR:HD1	1.68	0.58
1:B:148:SER:HB3	1:B:383:LEU:HD23	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:504:GLU:HA	1:B:509:LYS:HE2	1.85	0.58
1:A:659:LEU:HD21	1:A:815:LEU:HD21	1.86	0.58
1:A:702:TYR:HA	1:A:705:MET:HE3	1.86	0.57
1:D:677:GLN:NE2	1:D:679:LYS:HG2	2.19	0.57
1:A:797:LYS:HZ2	1:A:798:TRP:CD1	2.22	0.57
1:C:215:LEU:HD12	1:C:247:MET:HG3	1.86	0.57
1:A:261:LEU:HD12	1:A:278:GLY:HA3	1.86	0.57
1:A:748:ARG:HH22	1:A:801:GLY:HA3	1.70	0.57
1:C:406:ASP:HB3	1:C:409:SER:HB3	1.86	0.57
1:D:44:TYR:HA	1:D:82:LYS:HE3	1.85	0.57
1:C:235:ALA:HB1	1:C:256:PHE:HE2	1.69	0.57
1:A:643:PHE:O	1:A:647:ILE:HG22	2.05	0.56
1:A:737:MET:HE3	1:A:741:THR:HG23	1.87	0.56
1:C:262:PHE:HA	1:C:399:LEU:HD12	1.86	0.56
1:C:434:ILE:HG13	1:C:481:ARG:HD3	1.86	0.56
1:B:351:LYS:HD3	1:B:352:PRO:HD2	1.88	0.56
1:A:766:VAL:HG21	1:A:778:ILE:HG21	1.87	0.56
1:D:36:LEU:HD21	1:D:340:MET:HG2	1.88	0.56
1:C:422:ALA:HB3	1:C:425:THR:HG22	1.88	0.55
1:D:403:GLY:HA3	1:D:413:MET:HB2	1.88	0.55
1:D:744:PHE:HB2	1:D:799:TRP:HZ3	1.71	0.55
1:A:738:GLU:O	1:A:742:ILE:HG12	2.07	0.55
1:A:768:THR:HG21	1:A:775:ARG:HB2	1.86	0.55
1:A:800:ARG:HB3	1:A:800:ARG:CZ	2.36	0.55
1:C:102:GLY:O	1:C:342:VAL:HG22	2.07	0.55
1:D:498:TRP:HE3	1:D:502:VAL:HG11	1.71	0.55
1:A:122:CYS:HB2	1:A:127:VAL:HG23	1.87	0.55
1:B:461:GLY:H	1:B:464:ILE:HB	1.70	0.55
1:D:202:ARG:HH12	1:D:218:MET:HA	1.72	0.54
1:B:138:VAL:HG23	1:B:141:ASN:HB2	1.89	0.54
1:D:148:SER:HB3	1:D:383:LEU:HD23	1.89	0.54
1:B:663:ARG:HD3	1:B:664:MET:H	1.73	0.54
1:A:737:MET:HE2	1:A:742:ILE:HD13	1.88	0.54
1:B:322:LEU:HD12	1:B:372:THR:HG21	1.90	0.54
1:B:785:LEU:HD22	1:B:790:LYS:HE2	1.88	0.54
1:C:506:ILE:HB	1:C:527:ILE:HD11	1.89	0.54
1:A:536:LEU:HD12	1:A:738:GLU:HB3	1.90	0.53
1:D:558:PRO:HB3	1:D:654:ASN:HB3	1.91	0.53
1:B:65:ASN:HA	1:B:71:LEU:HD23	1.90	0.53
1:C:286:ASN:HB3	1:C:289:VAL:HG12	1.90	0.53
1:C:439:LEU:HA	1:C:444:VAL:HB	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:536:LEU:HD22	1:C:738:GLU:HG2	1.90	0.53
1:D:677:GLN:HE22	1:D:680:ILE:HG12	1.74	0.53
1:A:567:ILE:HD13	1:B:824:PHE:HZ	1.73	0.53
1:B:779:THR:O	1:B:783:LEU:HD12	2.09	0.53
1:C:190:LYS:HG2	1:D:201:ILE:HG22	1.89	0.53
1:A:747:GLN:HE22	1:A:801:GLY:H	1.57	0.53
1:C:339:GLN:HG2	1:C:340:MET:H	1.74	0.53
1:B:173:THR:HG22	1:B:200:LYS:HB2	1.90	0.52
1:D:705:MET:O	1:D:709:MET:HG2	2.10	0.52
1:A:153:PHE:CD2	1:A:184:ARG:HB3	2.45	0.52
1:A:235:ALA:HB1	1:A:256:PHE:HE2	1.74	0.52
1:A:439:LEU:H	1:A:439:LEU:HD23	1.75	0.52
1:C:440:GLU:HB3	1:C:442:PRO:HD2	1.91	0.52
1:D:433:LEU:HD23	1:D:476:PHE:HB2	1.92	0.52
1:D:461:GLY:H	1:D:464:ILE:HB	1.75	0.52
1:B:744:PHE:HE1	1:B:799:TRP:HA	1.74	0.52
1:B:235:ALA:HB1	1:B:256:PHE:HE2	1.74	0.52
1:D:735:PHE:CD2	1:D:737:MET:HB2	2.45	0.52
1:C:794:MET:HA	1:C:797:LYS:HB3	1.91	0.52
1:C:167:PHE:HE2	1:C:277:THR:HG21	1.74	0.52
1:B:283:ASN:O	1:B:289:VAL:HG21	2.10	0.51
1:D:726:GLN:HA	1:D:729:LEU:HD12	1.92	0.51
1:D:505:LEU:HD13	1:D:527:ILE:HG21	1.92	0.51
1:A:243:LEU:HA	1:A:248:MET:HB2	1.93	0.51
1:B:125:LEU:HD22	1:B:345:LEU:HB3	1.93	0.51
1:D:641:TRP:O	1:D:645:LEU:HD12	2.09	0.51
1:C:467:LEU:HD12	1:C:514:VAL:HG11	1.92	0.51
1:C:559:LEU:HD23	1:C:651:TYR:HD2	1.76	0.51
1:A:648:ILE:O	1:A:652:THR:HG23	2.11	0.51
1:A:790:LYS:O	1:A:794:MET:HE3	2.11	0.51
1:C:140:ASP:HB2	1:D:86:TYR:CE2	2.45	0.51
1:C:255:ILE:HG12	1:C:277:THR:HG23	1.93	0.51
1:C:128:PRO:HG3	1:C:359:PHE:CD2	2.46	0.51
1:C:770:MET:HE3	1:C:771:GLY:H	1.76	0.51
1:A:254:TYR:HB3	1:A:256:PHE:HE1	1.77	0.50
1:A:540:ILE:HG12	1:A:736:LEU:HD23	1.92	0.50
1:A:660:THR:HG22	1:D:657:ALA:HA	1.93	0.50
1:A:709:MET:HB3	1:A:717:LEU:HD11	1.92	0.50
1:D:786:GLN:C	1:D:788:GLU:O	2.54	0.50
1:C:99:LEU:O	1:C:101:LEU:O	2.29	0.50
1:B:406:ASP:HB3	1:B:409:SER:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:668:ILE:HD11	1:D:673:ASP:HB3	1.94	0.50
1:D:686:GLU:HA	1:D:717:LEU:HD12	1.94	0.50
1:A:447:LYS:HE2	1:A:460:GLU:HB3	1.93	0.50
1:A:536:LEU:HD21	1:A:762:LYS:HG3	1.94	0.50
1:D:248:MET:HE1	1:D:274:VAL:HG11	1.93	0.50
1:B:129:HIS:CE1	1:B:131:GLN:HE21	2.30	0.50
1:B:280:ARG:HE	1:B:390:ASP:HB2	1.77	0.50
1:A:122:CYS:SG	1:A:129:HIS:HB2	2.52	0.49
1:A:125:LEU:HD12	1:A:345:LEU:HB3	1.93	0.49
1:D:440:GLU:HG3	1:D:488:TYR:OH	2.11	0.49
1:D:485:ASP:HB3	1:D:487:LYS:HG2	1.94	0.49
1:B:176:TYR:HA	1:B:229:ASP:OD1	2.12	0.49
1:A:248:MET:HE3	1:A:248:MET:HA	1.93	0.49
1:C:254:TYR:HB3	1:C:256:PHE:HE1	1.78	0.49
1:B:437:THR:HG21	1:B:444:VAL:HG11	1.95	0.49
1:D:795:LYS:HD2	1:D:799:TRP:NE1	2.27	0.49
1:A:443:TYR:HD1	1:A:462:TYR:HB3	1.77	0.49
1:A:704:LYS:HG2	1:B:800:ARG:HH21	1.77	0.49
1:C:699:ILE:HD12	1:C:702:TYR:CD2	2.48	0.49
1:C:42:PHE:CG	1:C:54:GLU:HB3	2.48	0.49
1:C:99:LEU:HD21	1:C:127:VAL:HG21	1.95	0.49
1:C:769:PRO:HG2	1:C:772:SER:HB2	1.94	0.49
1:D:99:LEU:HD12	1:D:345:LEU:HB2	1.95	0.49
1:D:360:MET:HE3	1:D:364:LYS:HE3	1.95	0.49
1:D:384:ARG:HH21	1:D:387:PHE:HB3	1.78	0.49
1:B:176:TYR:CZ	1:B:203:GLN:HB2	2.48	0.49
1:B:277:THR:HA	1:B:392:ILE:O	2.12	0.49
1:B:471:SER:HB2	1:B:476:PHE:O	2.13	0.49
1:C:243:LEU:HA	1:C:248:MET:HB2	1.95	0.49
1:D:518:ALA:HB1	1:D:762:LYS:HD3	1.95	0.49
1:A:652:THR:O	1:A:653:ALA:C	2.53	0.48
1:D:786:GLN:O	1:D:788:GLU:O	2.31	0.48
1:A:469:GLU:HB3	1:A:785:LEU:HD11	1.95	0.48
1:C:467:LEU:HD21	1:C:478:TYR:CG	2.47	0.48
1:D:517:LEU:HG	1:D:529:PHE:HE1	1.78	0.48
1:A:173:THR:HG21	1:A:223:GLU:HB3	1.95	0.48
1:C:683:GLY:HA2	1:C:709:MET:SD	2.52	0.48
1:D:39:GLY:H	1:D:103:VAL:HG23	1.77	0.48
1:A:434:ILE:H	1:A:511:ASP:HB3	1.78	0.48
1:B:536:LEU:HD12	1:B:738:GLU:HG2	1.96	0.48
1:D:520:THR:HG22	1:D:523:ARG:HD2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:823:ILE:HA	1:A:826:VAL:HG12	1.95	0.48
1:A:229:ASP:HA	1:A:257:THR:HG22	1.95	0.48
1:B:483:VAL:HG13	1:B:486:GLY:H	1.78	0.48
1:B:488:TYR:CD2	4:B:1003:GLU:HB2	2.49	0.48
1:C:192:PRO:HG3	1:C:199:LEU:HD23	1.94	0.48
1:A:175:VAL:HG21	1:A:218:MET:HE1	1.96	0.48
1:A:379:LYS:HD3	1:A:379:LYS:N	2.29	0.48
1:B:547:GLY:O	1:B:548:THR:C	2.56	0.48
1:B:771:GLY:N	1:B:775:ARG:HH12	2.12	0.48
1:C:188:LEU:HD11	1:C:227:ILE:HD13	1.94	0.48
1:C:652:THR:O	1:C:653:ALA:C	2.57	0.48
1:A:109:PRO:HD2	1:A:118:VAL:HG11	1.96	0.48
1:B:547:GLY:C	1:B:549:ASN:N	2.69	0.48
1:D:744:PHE:HB2	1:D:799:TRP:CZ3	2.48	0.48
1:A:761:SER:HB3	1:D:535:THR:HG21	1.95	0.48
1:B:286:ASN:HB2	1:B:289:VAL:HG22	1.95	0.48
1:B:390:ASP:HB3	1:B:401:LYS:HD3	1.95	0.48
1:C:676:CYS:HB2	1:D:800:ARG:NH1	2.29	0.48
1:A:121:ILE:HG12	1:B:89:PHE:CD1	2.49	0.47
1:C:235:ALA:HB1	1:C:256:PHE:CE2	2.49	0.47
1:A:536:LEU:HD23	1:A:536:LEU:H	1.79	0.47
1:A:40:GLY:N	1:A:98:GLN:HE22	2.13	0.47
1:A:413:MET:HE3	1:A:413:MET:HB3	1.81	0.47
1:A:652:THR:HG22	1:D:649:SER:CB	2.45	0.47
1:B:41:ILE:HB	1:B:109:PRO:HG3	1.96	0.47
1:B:260:ASP:CG	1:B:260:ASP:O	2.57	0.47
1:B:815:LEU:HD23	1:B:820:ILE:HG22	1.96	0.47
1:D:721:ASN:ND2	1:D:741:THR:HG21	2.28	0.47
1:B:538:ILE:HG12	1:B:690:THR:HG22	1.96	0.47
1:A:682:TYR:HB3	1:A:734:ALA:HB3	1.96	0.47
1:B:275:ASN:HD22	3:B:1001:NAG:H83	1.79	0.47
1:B:463:CYS:SG	1:B:514:VAL:HG12	2.54	0.47
1:C:563:ILE:HD11	1:D:816:GLY:C	2.38	0.47
1:D:164:VAL:HG11	1:D:197:LEU:HD21	1.95	0.47
1:B:519:ILE:HG12	1:B:763:GLY:O	2.15	0.47
1:B:684:ALA:O	1:B:717:LEU:HA	2.14	0.47
1:C:98:GLN:HB3	1:C:103:VAL:HG21	1.96	0.47
1:D:444:VAL:HA	1:D:461:GLY:HA3	1.97	0.47
1:D:471:SER:O	1:D:474:LEU:O	2.32	0.47
1:D:721:ASN:HD21	1:D:741:THR:HG21	1.79	0.47
1:A:794:MET:HA	1:A:797:LYS:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:827:LEU:HD12	1:D:643:PHE:CG	2.49	0.47
1:A:559:LEU:HD12	1:A:563:ILE:HD13	1.97	0.47
1:C:153:PHE:CD2	1:C:184:ARG:HB3	2.50	0.47
1:A:222:LYS:HE3	1:A:507:ASP:HA	1.97	0.47
1:A:435:VAL:HG13	1:A:480:ILE:HA	1.97	0.47
1:B:476:PHE:CD1	1:B:476:PHE:N	2.83	0.47
1:D:483:VAL:HG22	1:D:485:ASP:H	1.79	0.47
1:A:447:LYS:HG3	1:A:460:GLU:HG2	1.97	0.46
1:A:473:ILE:HG21	1:A:784:GLN:NE2	2.31	0.46
1:D:229:ASP:HA	1:D:257:THR:HG22	1.97	0.46
1:D:505:LEU:HD22	1:D:769:PRO:HD3	1.97	0.46
1:C:505:LEU:HD11	1:C:769:PRO:HD3	1.97	0.46
1:D:691:MET:HB2	1:D:706:TRP:CZ3	2.51	0.46
1:B:629:LYS:HB2	1:B:629:LYS:HE2	1.77	0.46
1:C:185:LEU:HD21	1:C:257:THR:HG21	1.97	0.46
1:A:191:ALA:HB1	1:A:197:LEU:HD21	1.97	0.46
1:A:474:LEU:HD11	1:A:777:LYS:HB3	1.98	0.46
1:B:251:TYR:HE2	1:D:251:TYR:HE2	1.62	0.46
1:A:541:LEU:HB3	1:A:742:ILE:HD12	1.97	0.46
1:A:44:TYR:HA	1:A:82:LYS:HB3	1.97	0.46
1:B:766:VAL:HG11	1:B:778:ILE:HG21	1.96	0.46
1:C:739:SER:HA	1:C:742:ILE:HB	1.97	0.46
1:B:150:TYR:HA	1:B:322:LEU:HD21	1.97	0.46
1:D:38:PHE:HB3	1:D:107:PHE:HE1	1.81	0.46
1:A:150:TYR:HE2	1:A:153:PHE:HE1	1.64	0.46
1:A:677:GLN:NE2	1:A:679:LYS:HB3	2.31	0.46
1:B:262:PHE:CE2	1:B:280:ARG:HG3	2.50	0.46
1:D:461:GLY:HA2	1:D:798:TRP:CH2	2.51	0.46
1:B:123:ASN:HA	1:B:145:PHE:HB2	1.98	0.46
1:C:169:TRP:HZ2	1:C:253:HIS:CG	2.34	0.46
1:C:627:MET:HB2	1:C:628:PRO:HD3	1.97	0.46
1:B:712:ARG:O	1:B:716:VAL:HG22	2.16	0.45
1:B:153:PHE:HB3	1:B:184:ARG:O	2.16	0.45
1:C:712:ARG:HB3	1:C:715:SER:HB3	1.98	0.45
1:B:439:LEU:HD23	1:B:444:VAL:HG23	1.98	0.45
1:B:507:ASP:HB2	1:B:509:LYS:NZ	2.31	0.45
1:C:709:MET:HB3	1:C:717:LEU:HD11	1.97	0.45
1:D:659:LEU:HD21	1:D:815:LEU:HD11	1.97	0.45
1:C:534:MET:HE2	1:C:534:MET:HB3	1.86	0.45
1:C:202:ARG:HH12	1:C:217:GLU:HG2	1.81	0.45
1:A:550:PRO:HB2	1:A:554:SER:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:70:LEU:HD11	1:C:332:VAL:HG12	1.99	0.45
1:C:488:TYR:HB2	1:C:688:GLY:HA2	1.98	0.45
1:C:800:ARG:HE	1:C:801:GLY:H	1.65	0.45
1:A:518:ALA:HB1	1:A:762:LYS:HD3	1.99	0.45
1:B:799:TRP:HD1	1:B:801:GLY:CA	2.29	0.45
1:C:36:LEU:HG	1:C:334:VAL:HG21	1.99	0.45
1:A:85:LEU:HD12	1:A:85:LEU:HA	1.76	0.45
1:C:474:LEU:HB2	1:C:476:PHE:CD2	2.52	0.45
1:D:55:LEU:HD21	1:D:300:ARG:HB3	1.97	0.45
1:D:531:LYS:HD3	1:D:531:LYS:HA	1.87	0.45
1:D:789:GLY:O	1:D:793:MET:HG2	2.17	0.44
1:A:831:LEU:HD23	1:A:831:LEU:H	1.82	0.44
1:C:49:PRO:HG3	1:C:303:ALA:HB2	1.99	0.44
1:C:298:MET:C	1:C:298:MET:HE2	2.43	0.44
1:A:189:ILE:O	1:A:192:PRO:HD2	2.18	0.44
1:A:552:VAL:HG23	1:A:822:GLY:HA2	1.99	0.44
1:D:198:ARG:HD2	1:D:198:ARG:HA	1.83	0.44
1:D:677:GLN:NE2	1:D:680:ILE:HG12	2.33	0.44
1:D:681:GLU:HG2	1:D:733:TYR:HD1	1.82	0.44
1:B:532:PRO:HB3	1:B:763:GLY:HA3	1.99	0.44
1:B:776:ASP:O	1:B:780:ILE:HG23	2.15	0.44
1:C:149:LEU:HB3	1:C:322:LEU:HD22	1.98	0.44
1:C:261:LEU:HA	1:C:264:LEU:HD23	1.99	0.44
1:D:149:LEU:O	1:D:384:ARG:HD3	2.17	0.44
1:A:559:LEU:HD12	1:A:563:ILE:HG21	2.00	0.44
1:B:119:GLN:HG3	1:B:146:TYR:HB3	1.98	0.44
1:D:303:ALA:O	1:D:305:PRO:HD3	2.17	0.44
1:A:549:ASN:OD1	1:A:818:GLN:HB2	2.18	0.44
1:B:660:THR:HG23	1:B:661:VAL:HG22	2.00	0.44
1:C:46:GLU:CD	1:C:46:GLU:H	2.26	0.44
1:A:683:GLY:HA2	1:A:709:MET:HG2	2.00	0.44
1:B:92:SER:HB2	1:B:121:ILE:HD11	1.99	0.44
1:B:255:ILE:HG13	1:B:277:THR:O	2.18	0.44
1:B:518:ALA:HB1	1:B:762:LYS:HD3	2.00	0.44
1:D:245:MET:HE2	1:D:245:MET:HB2	1.82	0.44
1:A:81:GLN:HG2	1:A:94:LYS:HD2	2.00	0.44
1:B:173:THR:HG21	1:B:223:GLU:HB3	2.00	0.44
1:B:577:VAL:O	1:B:581:ILE:HG12	2.17	0.44
1:C:342:VAL:HA	1:C:353:TRP:HZ2	1.83	0.44
1:A:261:LEU:HD23	1:A:261:LEU:HA	1.78	0.43
1:A:536:LEU:HD13	1:A:764:TYR:CE1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:163:LEU:HD21	1:B:277:THR:HG22	2.00	0.43
1:C:39:GLY:H	1:C:103:VAL:HG13	1.82	0.43
1:C:150:TYR:HE2	1:C:153:PHE:HE1	1.64	0.43
1:C:744:PHE:CE1	1:C:799:TRP:HA	2.53	0.43
1:C:646:ILE:HD13	1:C:646:ILE:HA	1.86	0.43
1:D:189:ILE:HD11	1:D:201:ILE:HD11	2.00	0.43
1:A:646:ILE:HG21	1:B:823:ILE:HD12	2.00	0.43
1:C:405:TRP:HD1	1:C:411:LEU:HD13	1.84	0.43
1:D:433:LEU:O	1:D:435:VAL:HG23	2.18	0.43
1:D:677:GLN:HE21	1:D:679:LYS:HG2	1.81	0.43
1:A:519:ILE:HG12	1:A:763:GLY:O	2.19	0.43
1:A:694:PHE:CE2	1:A:736:LEU:HD13	2.54	0.43
1:A:769:PRO:O	1:A:770:MET:HE2	2.19	0.43
1:B:49:PRO:HG2	1:B:302:GLN:HB2	2.00	0.43
1:B:281:ILE:HG12	1:B:372:THR:HB	2.01	0.43
1:B:781:ALA:O	1:B:784:GLN:HG3	2.19	0.43
1:D:662:GLU:HB2	1:D:810:LYS:HE2	2.01	0.43
1:D:688:GLY:O	1:D:691:MET:HE2	2.18	0.43
1:A:631:LEU:HD23	1:A:631:LEU:H	1.84	0.43
1:A:728:VAL:HG23	1:A:733:TYR:O	2.18	0.43
1:B:523:ARG:NH2	1:B:689:ALA:HB2	2.33	0.43
1:C:740:THR:HG22	1:C:799:TRP:HH2	1.83	0.43
1:C:823:ILE:HA	1:C:826:VAL:HG12	2.01	0.43
1:D:655:LEU:HD12	1:D:659:LEU:HD13	2.01	0.43
1:D:119:GLN:HG3	1:D:146:TYR:HB3	2.00	0.43
1:A:49:PRO:HG3	1:A:302:GLN:HE21	1.83	0.43
1:D:536:LEU:HD12	1:D:738:GLU:HB3	2.00	0.43
1:A:483:VAL:HG22	1:A:485:ASP:H	1.84	0.43
1:D:712:ARG:O	1:D:716:VAL:HG22	2.19	0.43
1:B:498:TRP:O	1:B:503:ARG:HB2	2.19	0.42
1:D:42:PHE:CE1	1:D:323:MET:HE3	2.50	0.42
1:B:103:VAL:O	1:B:103:VAL:HG13	2.19	0.42
1:C:71:LEU:HD11	1:C:331:SER:HB2	2.00	0.42
1:C:227:ILE:HG12	1:C:255:ILE:HB	1.99	0.42
1:A:820:ILE:HD11	1:D:563:ILE:HG21	2.01	0.42
1:B:536:LEU:HD13	1:B:764:TYR:CZ	2.54	0.42
1:C:173:THR:HG21	1:C:223:GLU:HB3	2.01	0.42
1:A:293:ILE:HG12	1:A:316:MET:HG3	2.02	0.42
1:A:394:LEU:HA	1:A:399:LEU:HD23	2.00	0.42
1:A:677:GLN:HE21	1:A:679:LYS:HB3	1.85	0.42
1:C:429:SER:HB2	1:C:476:PHE:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:128:PRO:HG2	1:A:359:PHE:CD2	2.55	0.42
1:A:350:HIS:CD2	1:B:89:PHE:HE2	2.37	0.42
1:A:385:THR:OG1	2:F:1:NAG:H82	2.20	0.42
1:B:738:GLU:OE1	4:B:1003:GLU:HG3	2.20	0.42
1:C:296:TRP:CE3	1:C:316:MET:HG2	2.54	0.42
1:C:676:CYS:HB2	1:D:802:CYS:HB3	1.92	0.42
1:D:534:MET:HB2	1:D:764:TYR:HB2	2.02	0.42
1:B:527:ILE:HD13	1:B:527:ILE:HA	1.90	0.42
1:C:474:LEU:HB2	1:C:476:PHE:CE2	2.55	0.42
1:D:794:MET:HA	1:D:797:LYS:HG2	2.02	0.42
1:A:505:LEU:HD23	1:A:527:ILE:HD13	2.01	0.42
1:B:85:LEU:HD23	1:B:85:LEU:HA	1.81	0.42
1:B:514:VAL:CG2	1:B:766:VAL:HG12	2.50	0.42
1:B:649:SER:CB	1:C:652:THR:HG22	2.49	0.42
1:A:559:LEU:HD23	1:A:651:TYR:HD1	1.85	0.42
1:C:517:LEU:HD23	1:C:529:PHE:HE1	1.85	0.42
1:C:566:TYR:HB3	1:D:824:PHE:CE1	2.55	0.42
1:A:406:ASP:HB2	1:A:409:SER:OG	2.20	0.41
1:C:239:LEU:HD23	1:C:239:LEU:HA	1.86	0.41
1:C:682:TYR:HB3	1:C:734:ALA:HB3	2.02	0.41
1:A:132:THR:HG23	1:A:322:LEU:HB3	2.02	0.41
1:A:519:ILE:HG22	1:A:529:PHE:CG	2.56	0.41
1:A:705:MET:O	1:A:709:MET:HE2	2.20	0.41
1:A:823:ILE:HG13	1:D:643:PHE:HD1	1.84	0.41
1:D:134:TRP:CH2	1:D:184:ARG:HB3	2.56	0.41
1:D:785:LEU:HD13	1:D:790:LYS:HD2	2.03	0.41
1:A:235:ALA:HB1	1:A:256:PHE:CE2	2.53	0.41
1:A:563:ILE:HD11	1:B:820:ILE:HD13	2.02	0.41
1:B:45:VAL:HG21	1:B:50:MET:HA	2.02	0.41
1:B:648:ILE:O	1:B:652:THR:HG23	2.20	0.41
1:C:149:LEU:O	1:C:384:ARG:HD3	2.20	0.41
1:A:45:VAL:HG21	1:A:50:MET:HA	2.03	0.41
1:B:783:LEU:HD12	1:B:783:LEU:H	1.85	0.41
1:A:345:LEU:HD21	1:A:353:TRP:CD1	2.55	0.41
1:C:36:LEU:HD11	1:C:340:MET:HG3	2.02	0.41
1:C:418:LYS:HE3	2:J:2:NAG:H62	2.03	0.41
1:D:735:PHE:CE2	1:D:737:MET:HB2	2.56	0.41
1:B:443:TYR:CD2	1:B:516:PRO:HG3	2.55	0.41
1:D:545:PRO:HG3	1:D:667:PRO:HD3	2.01	0.41
1:A:462:TYR:CE1	1:A:794:MET:HG3	2.55	0.41
1:C:183:ILE:HD11	1:D:179:SER:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:185:LEU:HD23	1:D:185:LEU:HA	1.81	0.41
1:A:725:ILE:HA	1:A:728:VAL:HG12	2.03	0.41
1:D:37:ARG:HD2	1:D:79:ASP:HB2	2.03	0.41
1:D:235:ALA:HB1	1:D:256:PHE:HE2	1.86	0.41
1:D:644:THR:HA	1:D:647:ILE:HG22	2.02	0.41
1:D:712:ARG:HB3	1:D:715:SER:OG	2.21	0.41
1:A:153:PHE:HA	1:A:156:LEU:HB3	2.03	0.41
1:A:226:VAL:HB	1:A:254:TYR:CD1	2.56	0.41
1:A:339:GLN:O	1:A:340:MET:HE2	2.21	0.41
1:A:470:LEU:HD13	1:A:778:ILE:HD12	2.02	0.41
1:A:552:VAL:H	1:A:552:VAL:HG12	1.57	0.41
1:A:656:ALA:O	1:A:660:THR:HG23	2.21	0.41
1:B:151:PRO:HG3	1:B:281:ILE:HD12	2.03	0.41
1:B:308:ASP:OD1	1:B:308:ASP:N	2.53	0.41
1:B:464:ILE:HD13	1:B:464:ILE:HA	1.90	0.41
1:B:682:TYR:HB3	1:B:734:ALA:HB3	2.03	0.41
1:B:724:GLY:HA3	1:B:735:PHE:CE1	2.56	0.41
1:C:94:LYS:HA	1:C:94:LYS:HD3	1.91	0.41
1:C:705:MET:O	1:C:709:MET:HG2	2.21	0.41
1:D:177:ASP:HB3	1:D:230:CYS:HB3	2.02	0.41
1:D:202:ARG:NH1	1:D:218:MET:HA	2.36	0.41
1:D:368:TRP:CZ3	1:D:370:GLY:HA3	2.56	0.41
1:A:104:ALA:O	1:A:128:PRO:HD2	2.21	0.41
1:A:462:TYR:HE1	1:A:794:MET:HG3	1.84	0.41
1:B:169:TRP:HZ2	1:B:253:HIS:CG	2.38	0.41
1:B:656:ALA:O	1:B:660:THR:HG22	2.21	0.41
1:B:677:GLN:HE22	1:B:680:ILE:HB	1.86	0.41
1:C:128:PRO:HG3	1:C:359:PHE:HD2	1.86	0.41
1:C:262:PHE:CE1	1:C:282:LEU:HD21	2.56	0.41
1:D:129:HIS:CE1	1:D:131:GLN:HE21	2.39	0.41
1:B:85:LEU:HD21	1:B:109:PRO:HB3	2.03	0.40
1:B:186:GLN:O	1:B:190:LYS:HB2	2.21	0.40
1:B:330:VAL:HG23	1:B:363:ILE:HD11	2.04	0.40
1:B:744:PHE:CE1	1:B:799:TRP:HA	2.54	0.40
1:C:528:ASP:OD2	1:C:775:ARG:HG3	2.21	0.40
1:D:489:GLY:HA3	1:D:500:GLY:HA3	2.02	0.40
1:A:36:LEU:HD23	1:A:74:THR:HG23	2.04	0.40
1:B:642:PHE:HA	1:B:645:LEU:HD12	2.03	0.40
1:C:229:ASP:HA	1:C:257:THR:OG1	2.20	0.40
1:A:239:LEU:HD23	1:A:239:LEU:HA	1.92	0.40
1:B:712:ARG:HB3	1:B:715:SER:OG	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:44:TYR:HA	1:C:82:LYS:HB3	2.03	0.40
1:C:245:MET:HE3	1:C:245:MET:HB2	1.86	0.40
1:D:37:ARG:HH12	1:D:101:LEU:HB3	1.86	0.40
1:D:488:TYR:CZ	4:D:1005:GLU:HG3	2.56	0.40
1:A:649:SER:HG	1:B:651:TYR:HD1	1.64	0.40
1:B:439:LEU:HA	1:B:444:VAL:HG23	2.04	0.40
1:C:332:VAL:HG11	1:C:368:TRP:CD1	2.57	0.40
1:C:389:LEU:HB2	1:C:405:TRP:HB3	2.04	0.40
1:D:153:PHE:HB3	1:D:184:ARG:O	2.22	0.40
1:A:134:TRP:CH2	1:A:136:HIS:HB3	2.57	0.40
1:A:161:LEU:HA	1:A:164:VAL:HG12	2.04	0.40
1:A:489:GLY:HA3	1:A:499:ASN:O	2.21	0.40
1:B:239:LEU:HD21	1:B:256:PHE:HZ	1.86	0.40
1:B:295:LYS:HE3	1:B:295:LYS:HB2	1.83	0.40
1:B:376:THR:OG1	1:B:386:ASP:HB2	2.22	0.40
1:B:558:PRO:HG2	1:B:651:TYR:CE2	2.56	0.40
1:C:175:VAL:HG22	1:C:202:ARG:HB2	2.03	0.40
1:D:733:TYR:CE2	1:D:735:PHE:HD1	2.40	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	765/908 (84%)	729 (95%)	36 (5%)	0	100	100
1	B	768/908 (85%)	723 (94%)	45 (6%)	0	100	100
1	C	768/908 (85%)	736 (96%)	32 (4%)	0	100	100
1	D	767/908 (84%)	740 (96%)	27 (4%)	0	100	100
All	All	3068/3632 (84%)	2928 (95%)	140 (5%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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	666/794 (84%)	661 (99%)	5 (1%)	79	84
1	B	669/794 (84%)	664 (99%)	5 (1%)	81	86
1	C	669/794 (84%)	667 (100%)	2 (0%)	91	92
1	D	668/794 (84%)	663 (99%)	5 (1%)	81	86
All	All	2672/3176 (84%)	2655 (99%)	17 (1%)	82	88

All (17) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	138	VAL
1	A	552	VAL
1	A	741	THR
1	A	747	GLN
1	A	804	CYS
1	B	473	ILE
1	B	658	PHE
1	B	691	MET
1	B	742	ILE
1	B	827	LEU
1	C	218	MET
1	C	823	ILE
1	D	201	ILE
1	D	658	PHE
1	D	750	CYS
1	D	806	GLU
1	D	807	GLU

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	98	GLN
1	A	119	GLN

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Mol	Chain	Res	Type
1	A	131	GLN
1	A	302	GLN
1	A	430	ASN
1	A	726	GLN
1	A	747	GLN
1	B	81	GLN
1	B	98	GLN
1	B	131	GLN
1	B	749	ASN
1	C	98	GLN
1	C	557	ASN
1	C	677	GLN
1	D	73	ASN
1	D	81	GLN
1	D	123	ASN
1	D	129	HIS
1	D	131	GLN
1	D	137	GLN
1	D	677	GLN
1	D	721	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](#)

18 monosaccharides are modelled in this entry.

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	NAG	E	1	2,1	14,14,15	0.73	0	17,19,21	0.91	1 (5%)
2	NAG	E	2	2	14,14,15	0.75	0	17,19,21	1.26	1 (5%)
2	NAG	F	1	2,1	14,14,15	0.74	0	17,19,21	2.48	4 (23%)
2	NAG	F	2	2	14,14,15	0.76	0	17,19,21	0.92	0
2	NAG	G	1	2,1	14,14,15	0.71	0	17,19,21	0.81	0
2	NAG	G	2	2	14,14,15	0.73	0	17,19,21	0.85	0
2	NAG	H	1	2,1	14,14,15	0.73	0	17,19,21	0.76	0
2	NAG	H	2	2	14,14,15	0.71	0	17,19,21	0.89	1 (5%)
2	NAG	I	1	2,1	14,14,15	0.88	0	17,19,21	1.49	2 (11%)
2	NAG	I	2	2	14,14,15	0.72	0	17,19,21	0.83	0
2	NAG	J	1	2,1	14,14,15	0.80	0	17,19,21	1.72	4 (23%)
2	NAG	J	2	2	14,14,15	0.78	0	17,19,21	0.86	1 (5%)
2	NAG	K	1	2,1	14,14,15	0.71	0	17,19,21	0.81	0
2	NAG	K	2	2	14,14,15	0.72	0	17,19,21	0.87	0
2	NAG	L	1	2,1	14,14,15	0.72	0	17,19,21	0.80	0
2	NAG	L	2	2	14,14,15	0.76	0	17,19,21	1.02	1 (5%)
2	NAG	M	1	2,1	14,14,15	0.74	0	17,19,21	1.24	1 (5%)
2	NAG	M	2	2	14,14,15	0.72	0	17,19,21	0.92	1 (5%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	E	1	2,1	-	2/6/23/26	0/1/1/1
2	NAG	E	2	2	-	2/6/23/26	0/1/1/1
2	NAG	F	1	2,1	-	4/6/23/26	0/1/1/1
2	NAG	F	2	2	-	2/6/23/26	0/1/1/1
2	NAG	G	1	2,1	-	1/6/23/26	0/1/1/1
2	NAG	G	2	2	-	0/6/23/26	0/1/1/1
2	NAG	H	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	H	2	2	-	2/6/23/26	0/1/1/1
2	NAG	I	1	2,1	-	2/6/23/26	0/1/1/1
2	NAG	I	2	2	-	0/6/23/26	0/1/1/1
2	NAG	J	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	J	2	2	-	0/6/23/26	0/1/1/1
2	NAG	K	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	K	2	2	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	L	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	L	2	2	-	2/6/23/26	0/1/1/1
2	NAG	M	1	2,1	-	1/6/23/26	0/1/1/1
2	NAG	M	2	2	-	3/6/23/26	0/1/1/1

There are no bond length outliers.

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	F	1	NAG	C2-N2-C7	8.29	134.01	122.90
2	J	1	NAG	C4-C3-C2	5.00	118.34	111.02
2	I	1	NAG	C4-C3-C2	4.31	117.34	111.02
2	M	1	NAG	C1-O5-C5	4.12	117.71	112.19
2	F	1	NAG	O5-C1-C2	-3.18	106.37	111.29
2	E	2	NAG	C2-N2-C7	3.08	127.03	122.90
2	I	1	NAG	C2-N2-C7	2.85	126.72	122.90
2	F	1	NAG	C8-C7-N2	2.65	120.52	116.12
2	J	1	NAG	O4-C4-C3	-2.56	104.35	110.38
2	J	1	NAG	C2-N2-C7	2.40	126.11	122.90
2	E	1	NAG	O5-C1-C2	-2.37	107.63	111.29
2	F	1	NAG	C1-C2-N2	2.31	114.08	110.43
2	J	2	NAG	O5-C1-C2	-2.14	107.97	111.29
2	J	1	NAG	C1-O5-C5	-2.14	109.32	112.19
2	L	2	NAG	C2-N2-C7	2.14	125.76	122.90
2	M	2	NAG	O5-C1-C2	-2.12	108.02	111.29
2	H	2	NAG	O5-C1-C2	-2.01	108.18	111.29

There are no chirality outliers.

All (23) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	E	1	NAG	O5-C5-C6-O6
2	F	1	NAG	C8-C7-N2-C2
2	F	1	NAG	O7-C7-N2-C2
2	H	2	NAG	C8-C7-N2-C2
2	H	2	NAG	O7-C7-N2-C2
2	K	2	NAG	C8-C7-N2-C2
2	K	2	NAG	O7-C7-N2-C2
2	M	2	NAG	C8-C7-N2-C2
2	M	2	NAG	O7-C7-N2-C2
2	L	2	NAG	O5-C5-C6-O6

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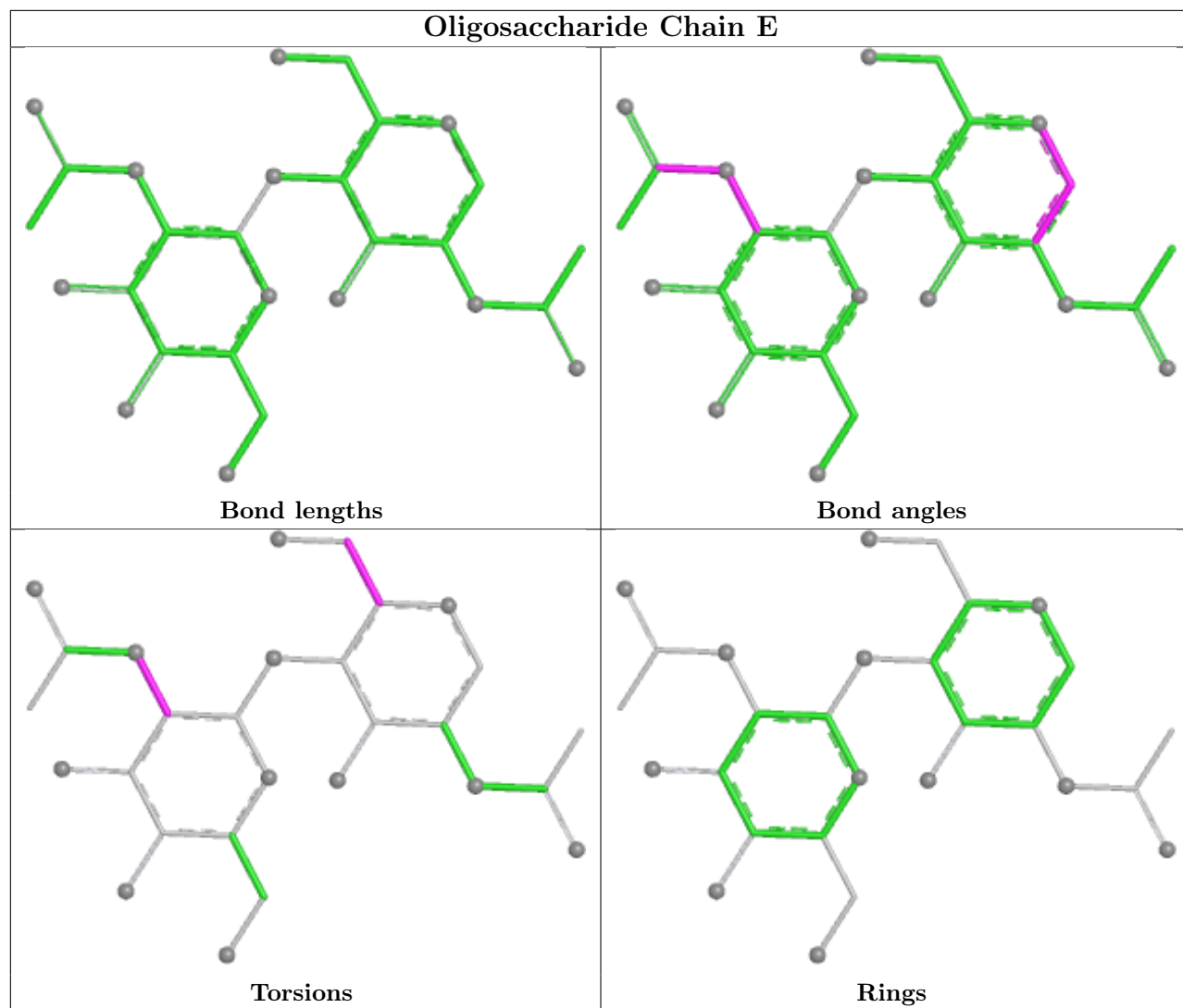
Mol	Chain	Res	Type	Atoms
2	M	2	NAG	O5-C5-C6-O6
2	M	1	NAG	O5-C5-C6-O6
2	E	1	NAG	C4-C5-C6-O6
2	E	2	NAG	C1-C2-N2-C7
2	I	1	NAG	O5-C5-C6-O6
2	F	1	NAG	C3-C2-N2-C7
2	I	1	NAG	C4-C5-C6-O6
2	G	1	NAG	C1-C2-N2-C7
2	E	2	NAG	C3-C2-N2-C7
2	F	2	NAG	C4-C5-C6-O6
2	F	2	NAG	O5-C5-C6-O6
2	L	2	NAG	C4-C5-C6-O6
2	F	1	NAG	O5-C5-C6-O6

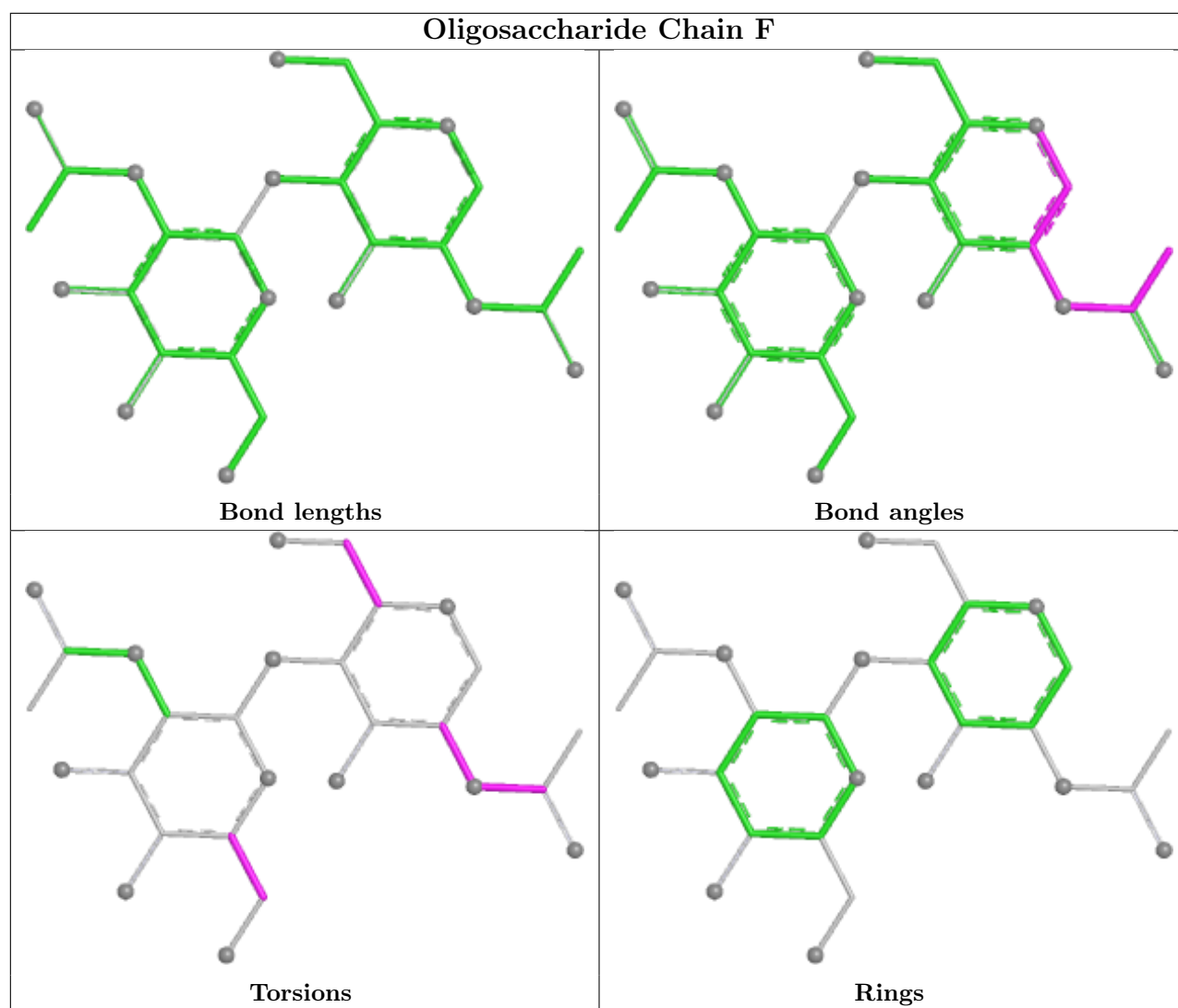
There are no ring outliers.

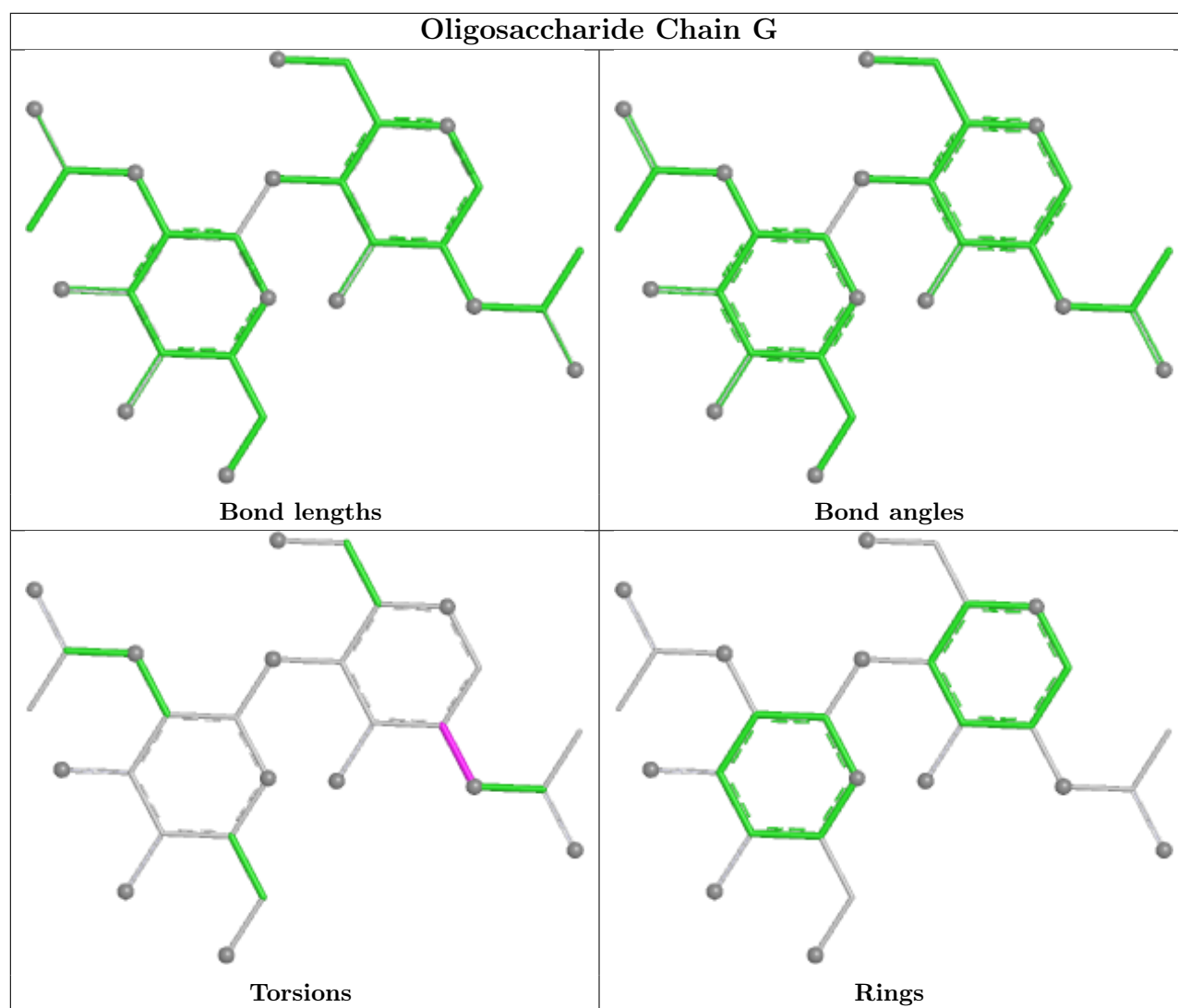
2 monomers are involved in 2 short contacts:

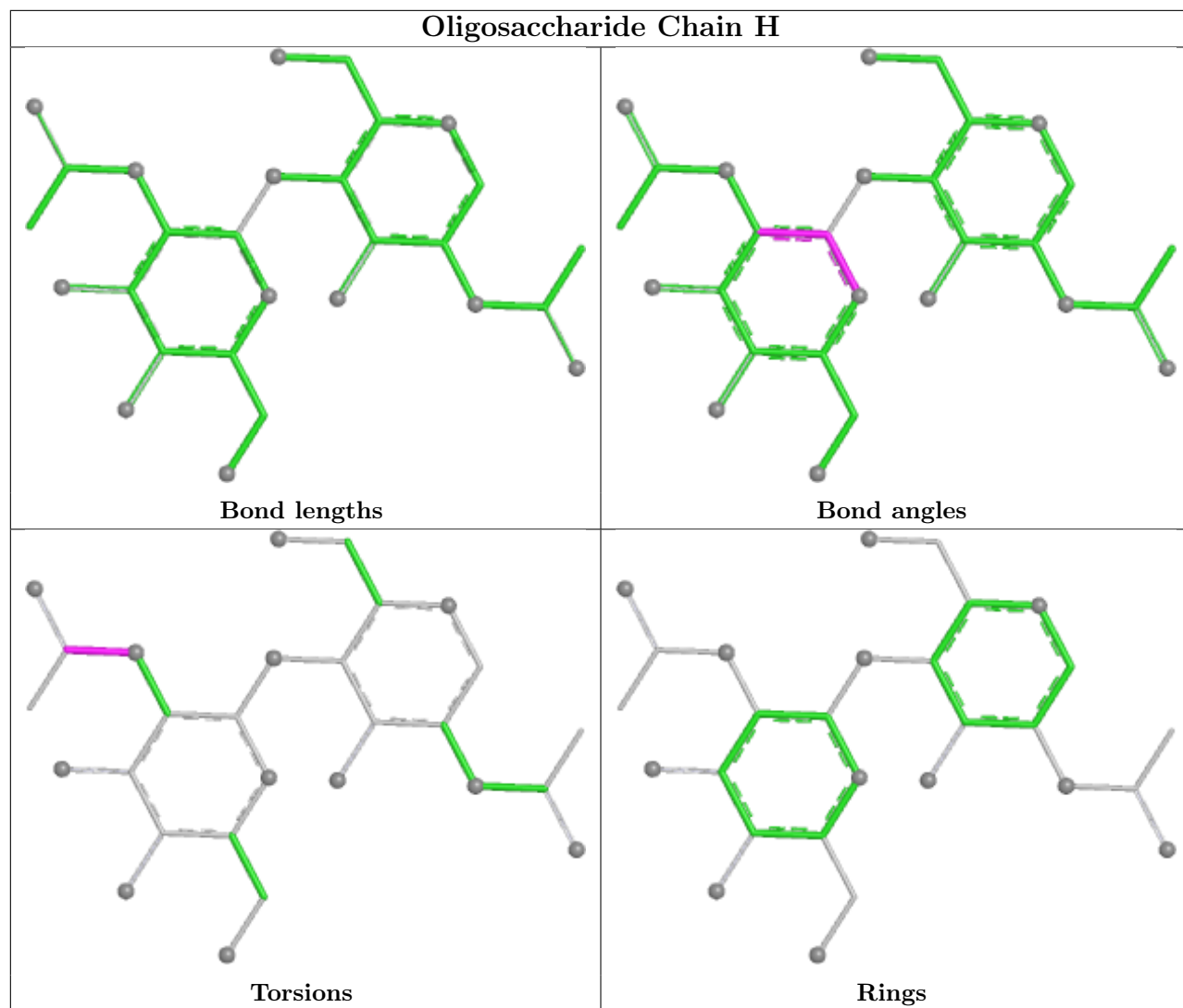
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	J	2	NAG	1	0
2	F	1	NAG	1	0

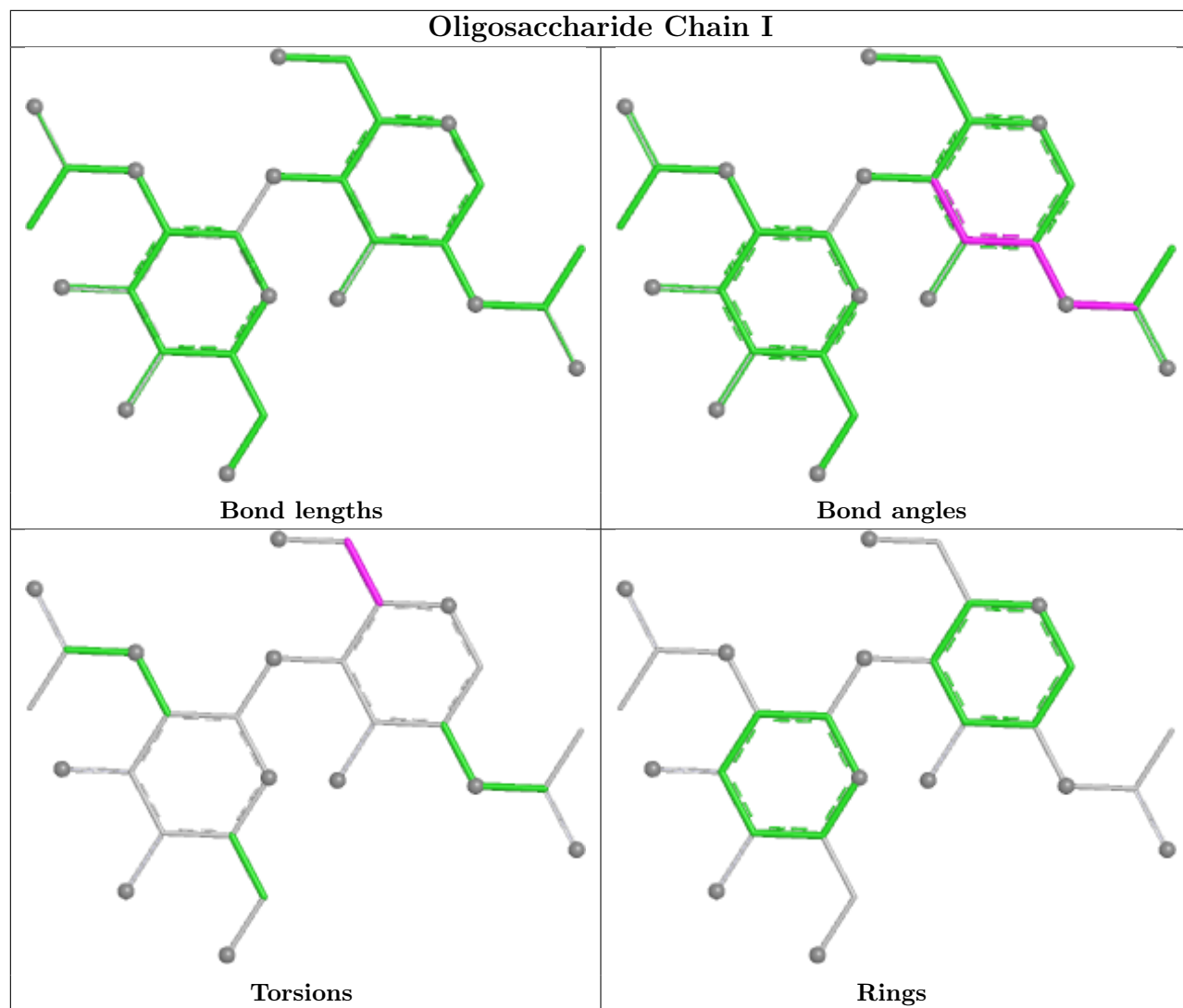
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

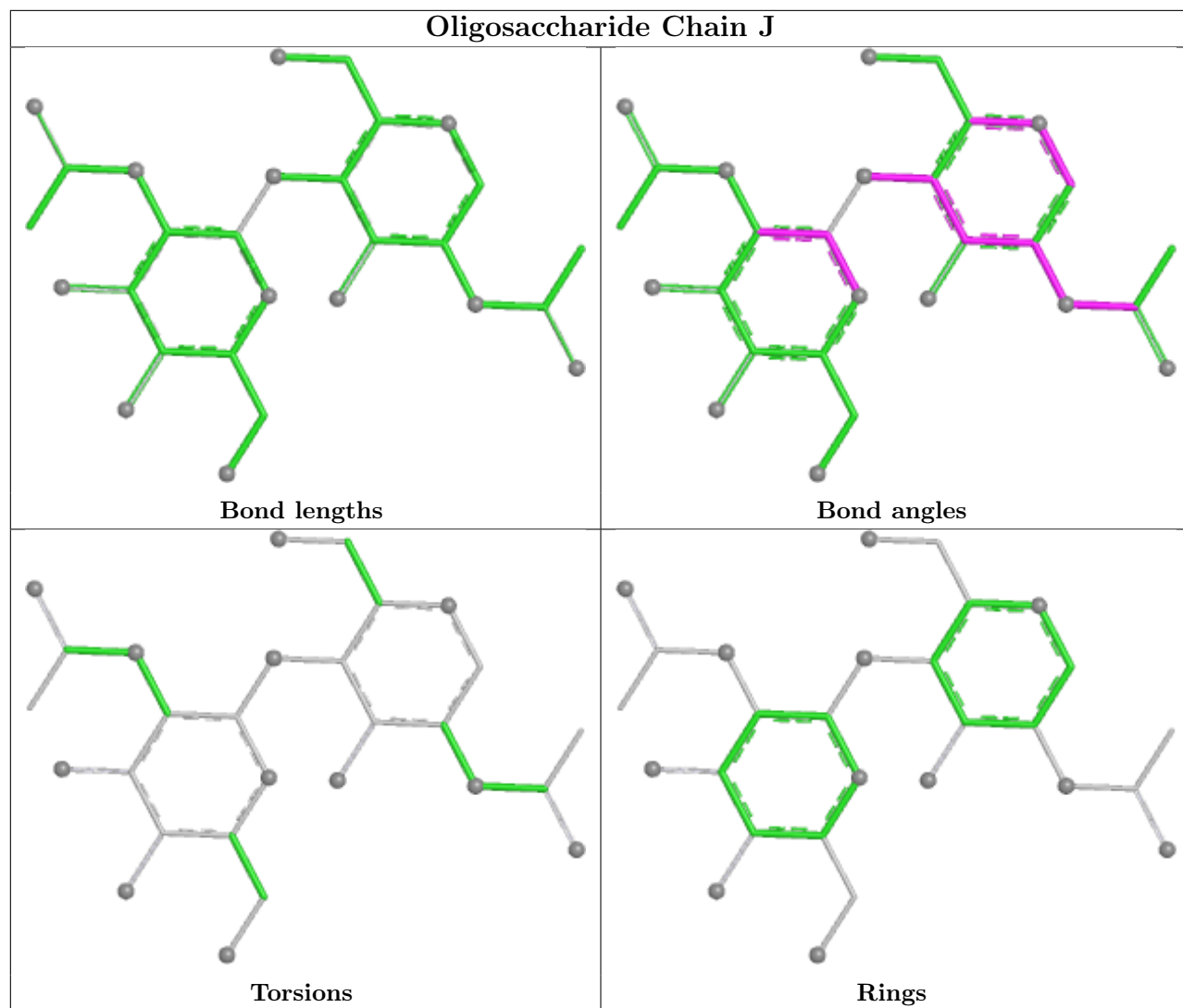


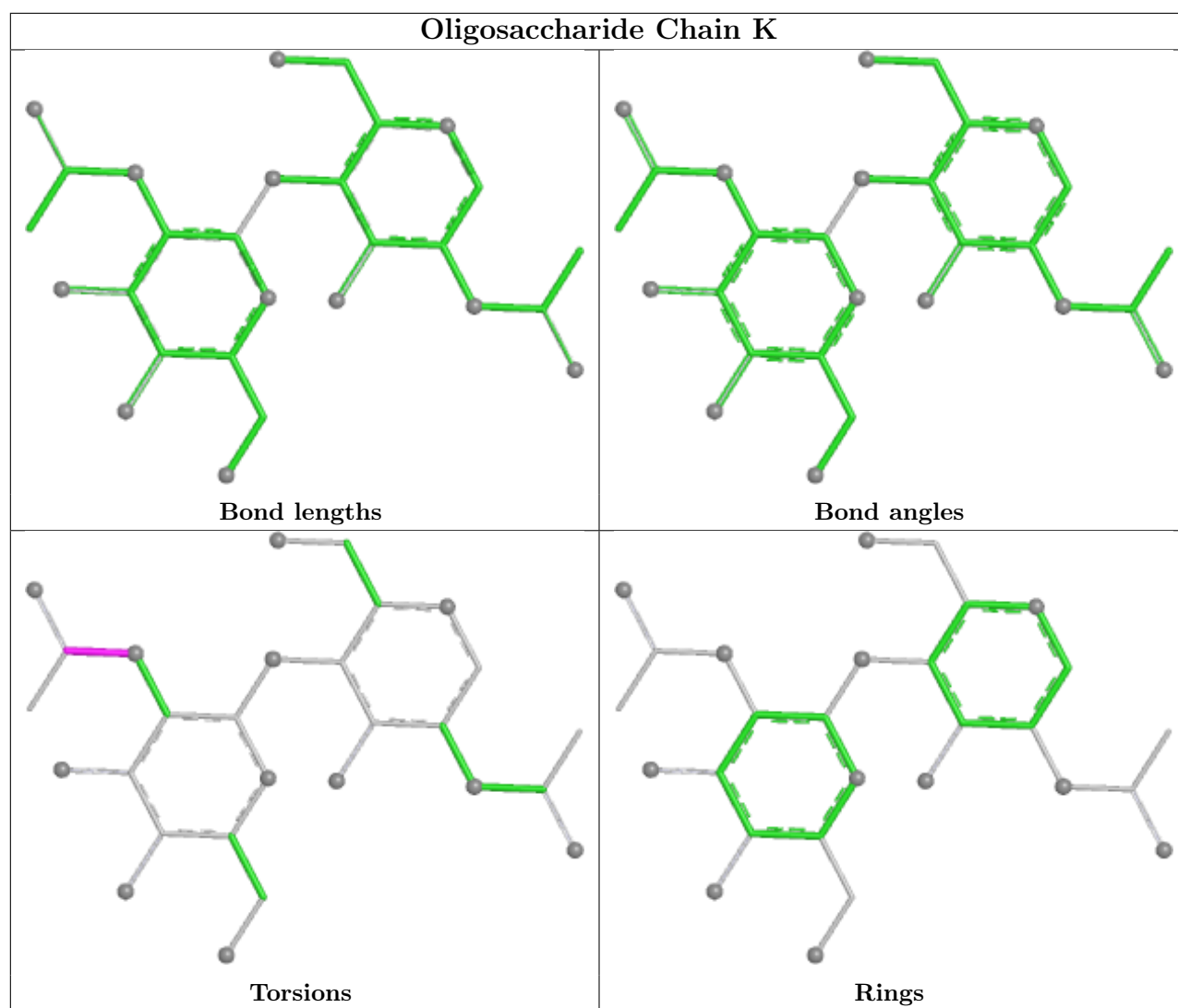


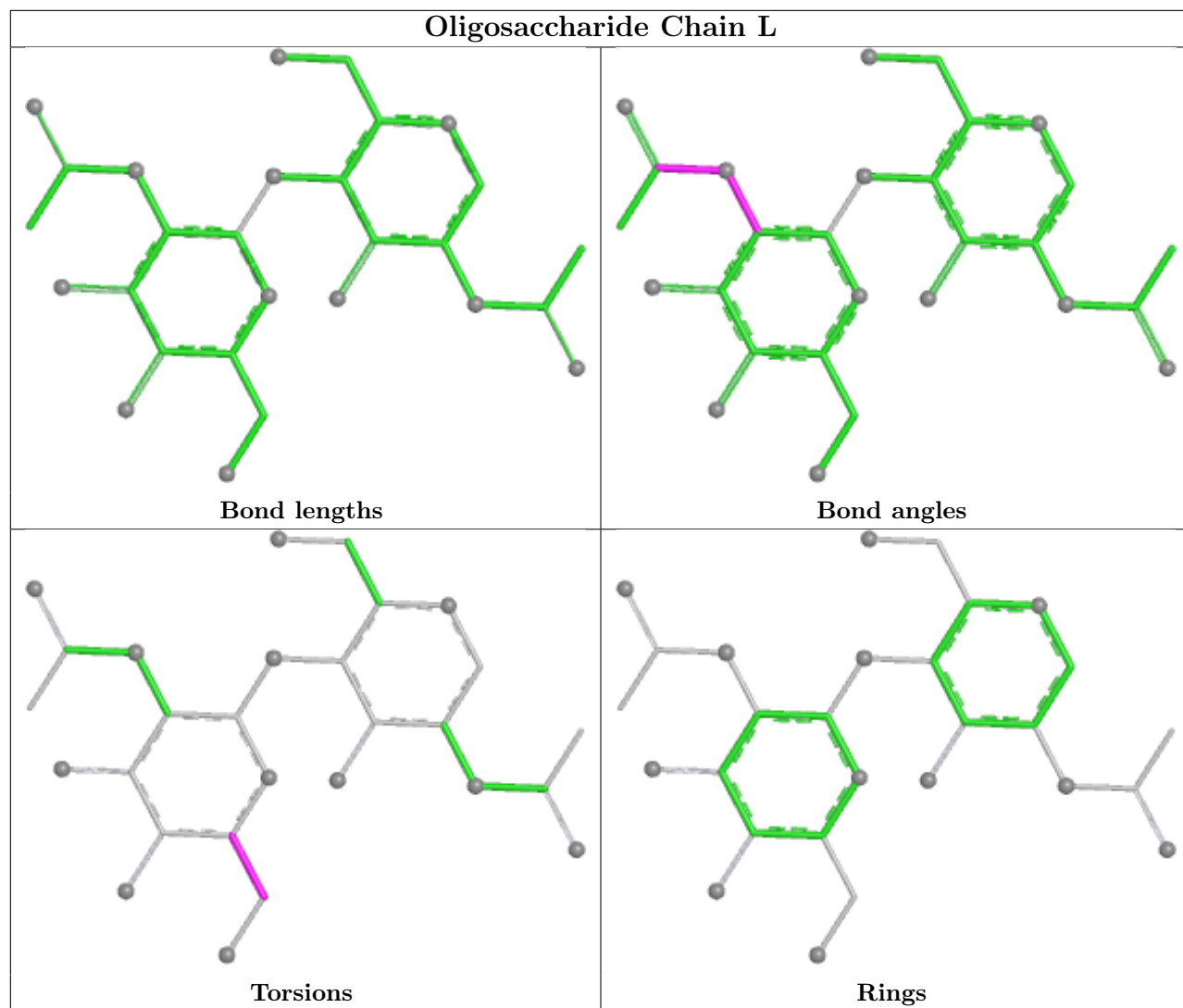


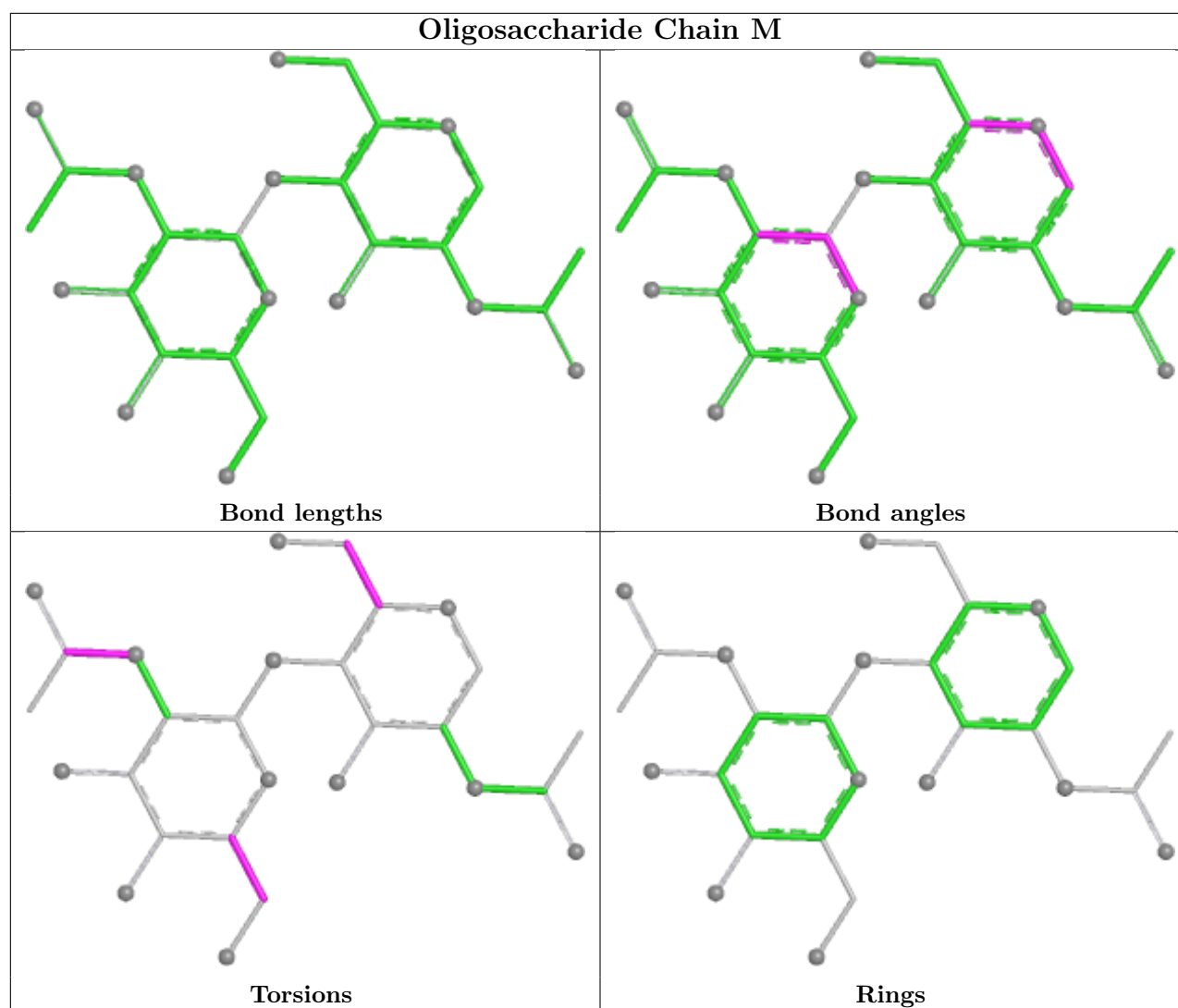












5.6 Ligand geometry [i](#)

16 ligands are modelled in this entry.

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	$\# Z > 2$
4	GLU	C	1004	-	8,9,9	1.10	1 (12%)	8,11,11	1.21	1 (12%)
3	NAG	B	1001	1	14,14,15	0.87	0	17,19,21	1.44	3 (17%)
3	NAG	D	1002	1	14,14,15	0.72	0	17,19,21	0.81	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	NAG	A	1002	1	14,14,15	0.75	0	17,19,21	0.98	1 (5%)
3	NAG	C	1002	1	14,14,15	0.72	0	17,19,21	0.80	0
4	GLU	A	1004	-	8,9,9	1.10	1 (12%)	8,11,11	1.11	1 (12%)
4	GLU	D	1005	-	8,9,9	1.11	1 (12%)	8,11,11	1.07	1 (12%)
3	NAG	A	1001	1	14,14,15	0.71	0	17,19,21	0.82	0
3	NAG	C	1001	1	14,14,15	0.70	0	17,19,21	0.80	0
3	NAG	D	1004	1	14,14,15	0.69	0	17,19,21	0.85	0
4	GLU	B	1003	-	8,9,9	1.12	1 (12%)	8,11,11	1.20	1 (12%)
3	NAG	D	1003	1	14,14,15	0.71	0	17,19,21	0.74	0
3	NAG	D	1001	1	14,14,15	0.71	0	17,19,21	0.85	0
3	NAG	C	1003	1	14,14,15	0.70	0	17,19,21	0.88	1 (5%)
3	NAG	A	1003	1	14,14,15	0.75	0	17,19,21	1.02	1 (5%)
3	NAG	B	1002	1	14,14,15	0.72	0	17,19,21	0.87	0

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
4	GLU	C	1004	-	-	1/9/9/9	-
3	NAG	B	1001	1	-	2/6/23/26	0/1/1/1
3	NAG	D	1002	1	-	1/6/23/26	0/1/1/1
3	NAG	A	1002	1	-	4/6/23/26	0/1/1/1
3	NAG	C	1002	1	-	0/6/23/26	0/1/1/1
4	GLU	A	1004	-	-	0/9/9/9	-
4	GLU	D	1005	-	-	1/9/9/9	-
3	NAG	A	1001	1	-	1/6/23/26	0/1/1/1
3	NAG	C	1001	1	-	1/6/23/26	0/1/1/1
3	NAG	D	1004	1	-	3/6/23/26	0/1/1/1
4	GLU	B	1003	-	-	3/9/9/9	-
3	NAG	D	1003	1	-	0/6/23/26	0/1/1/1
3	NAG	D	1001	1	-	0/6/23/26	0/1/1/1
3	NAG	C	1003	1	-	1/6/23/26	0/1/1/1
3	NAG	A	1003	1	-	2/6/23/26	0/1/1/1
3	NAG	B	1002	1	-	2/6/23/26	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	1003	GLU	OXT-C	-2.29	1.23	1.30
4	A	1004	GLU	OXT-C	-2.27	1.23	1.30
4	D	1005	GLU	OXT-C	-2.25	1.23	1.30
4	C	1004	GLU	OXT-C	-2.22	1.23	1.30

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	1001	NAG	C2-N2-C7	3.60	127.73	122.90
4	C	1004	GLU	OXT-C-O	-2.71	117.93	124.08
4	B	1003	GLU	OXT-C-O	-2.69	117.98	124.08
3	B	1001	NAG	O5-C5-C4	-2.50	104.75	110.83
3	A	1002	NAG	C2-N2-C7	2.46	126.20	122.90
4	A	1004	GLU	OXT-C-O	-2.45	118.53	124.08
4	D	1005	GLU	OXT-C-O	-2.40	118.64	124.08
3	B	1001	NAG	C4-C3-C2	2.38	114.51	111.02
3	A	1003	NAG	C1-O5-C5	2.02	114.89	112.19
3	C	1003	NAG	C1-O5-C5	2.01	114.89	112.19

There are no chirality outliers.

All (22) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	1002	NAG	C8-C7-N2-C2
3	A	1002	NAG	O7-C7-N2-C2
3	A	1003	NAG	C8-C7-N2-C2
3	A	1003	NAG	O7-C7-N2-C2
3	B	1001	NAG	C8-C7-N2-C2
3	B	1001	NAG	O7-C7-N2-C2
3	B	1002	NAG	C8-C7-N2-C2
3	B	1002	NAG	O7-C7-N2-C2
3	D	1004	NAG	C8-C7-N2-C2
3	D	1004	NAG	O7-C7-N2-C2
3	A	1002	NAG	O5-C5-C6-O6
3	C	1001	NAG	O5-C5-C6-O6
3	D	1004	NAG	O5-C5-C6-O6
3	C	1003	NAG	O5-C5-C6-O6
3	A	1001	NAG	O5-C5-C6-O6
3	D	1002	NAG	O5-C5-C6-O6
4	C	1004	GLU	OXT-C-CA-N
4	B	1003	GLU	CA-CB-CG-CD
3	A	1002	NAG	C4-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
4	B	1003	GLU	OE2-CD-CG-CB
4	B	1003	GLU	OE1-CD-CG-CB
4	D	1005	GLU	CA-CB-CG-CD

There are no ring outliers.

5 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	1001	NAG	1	0
4	A	1004	GLU	1	0
4	D	1005	GLU	1	0
4	B	1003	GLU	2	0
3	D	1001	NAG	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

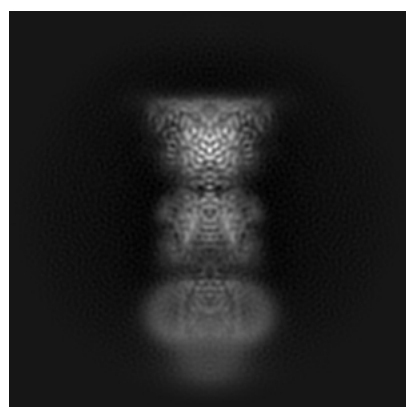
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-48764. These allow visual inspection of the internal detail of the map and identification of artifacts.

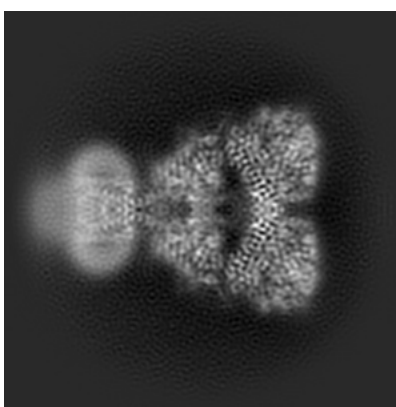
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

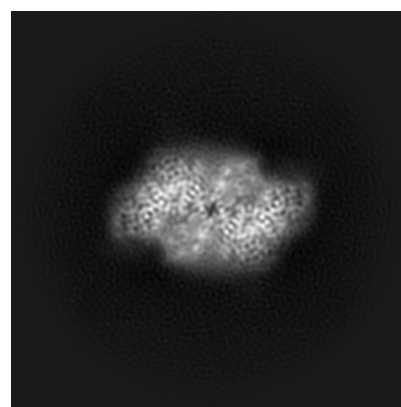
6.1.1 Primary map



X



Y

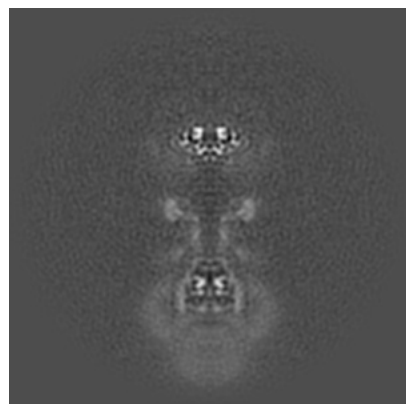


Z

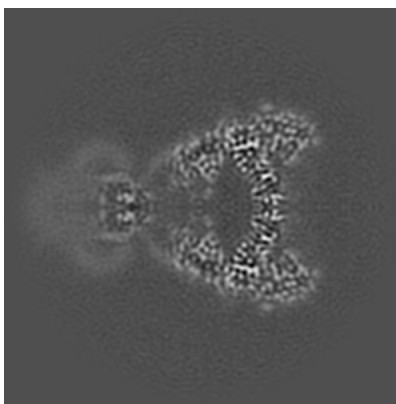
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

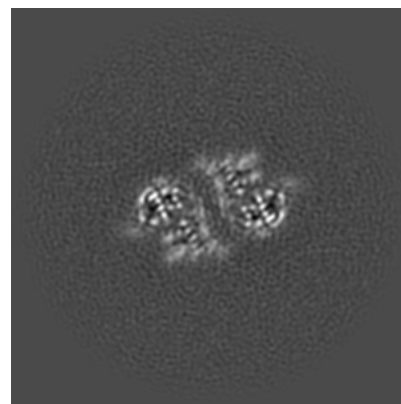
6.2.1 Primary map



X Index: 130



Y Index: 130

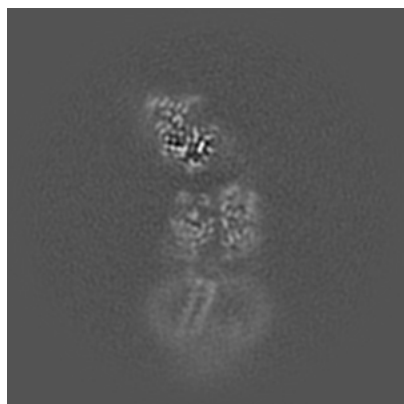


Z Index: 130

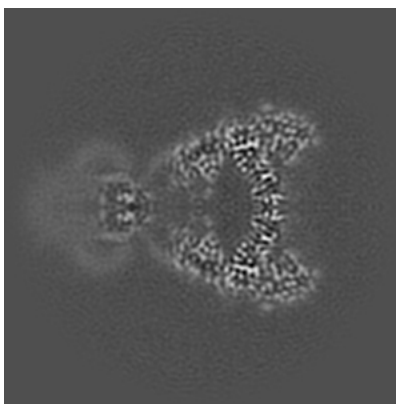
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

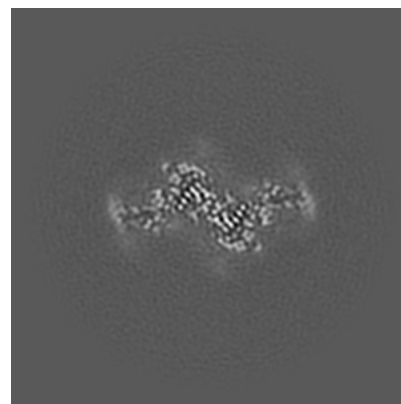
6.3.1 Primary map



X Index: 148



Y Index: 130

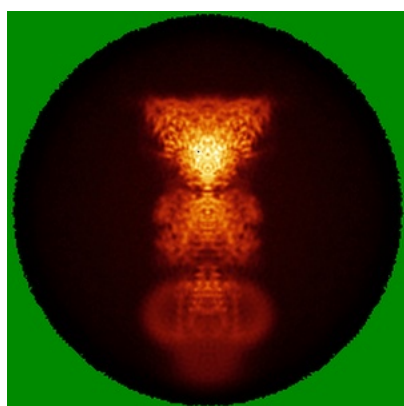


Z Index: 170

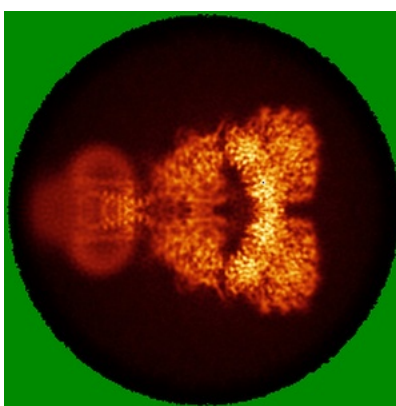
The images above show the largest variance slices of the map in three orthogonal directions.

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

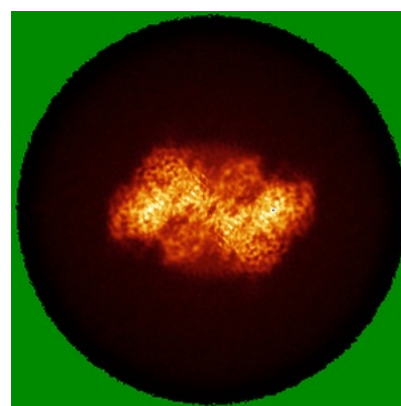
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.235. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

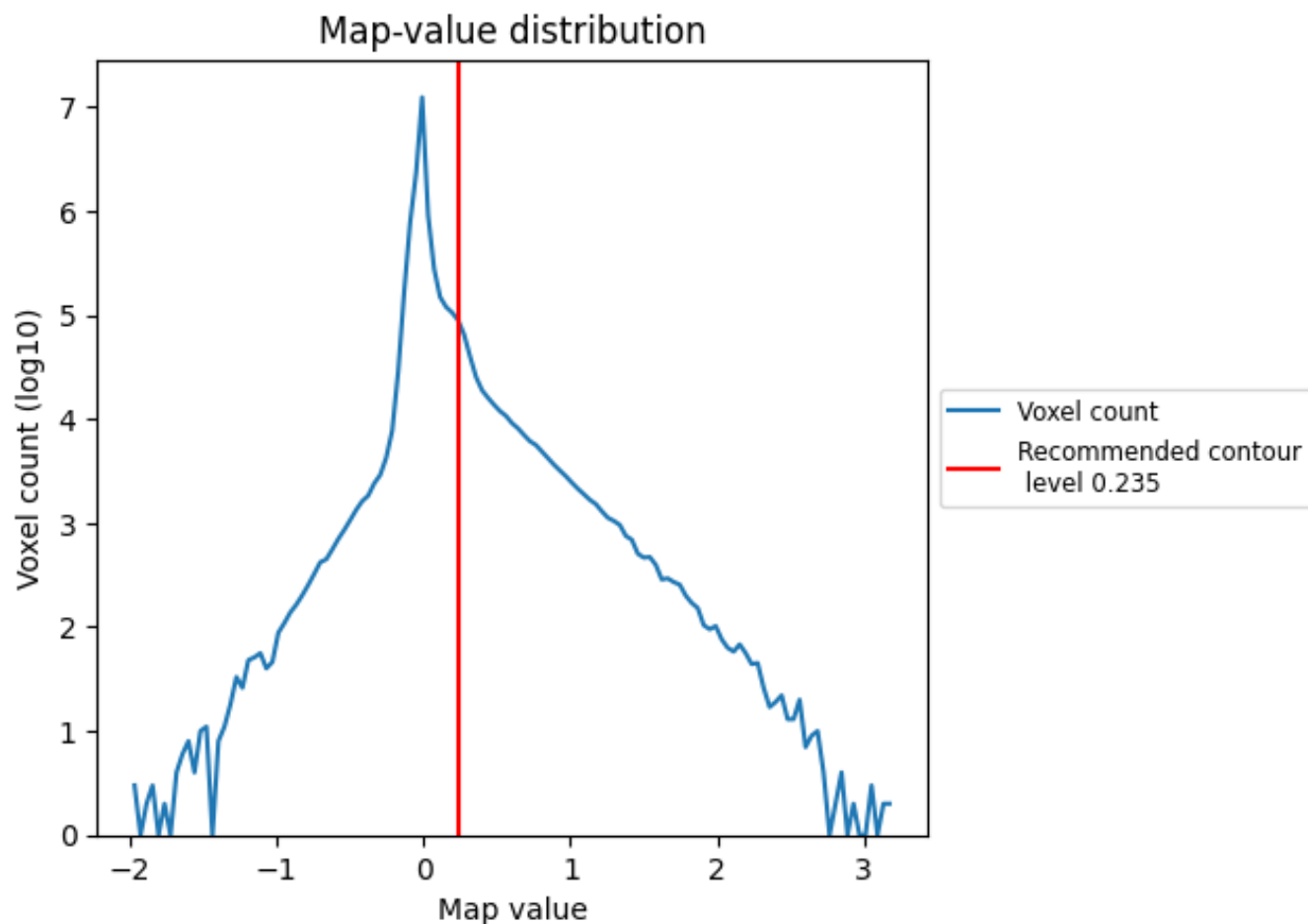
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

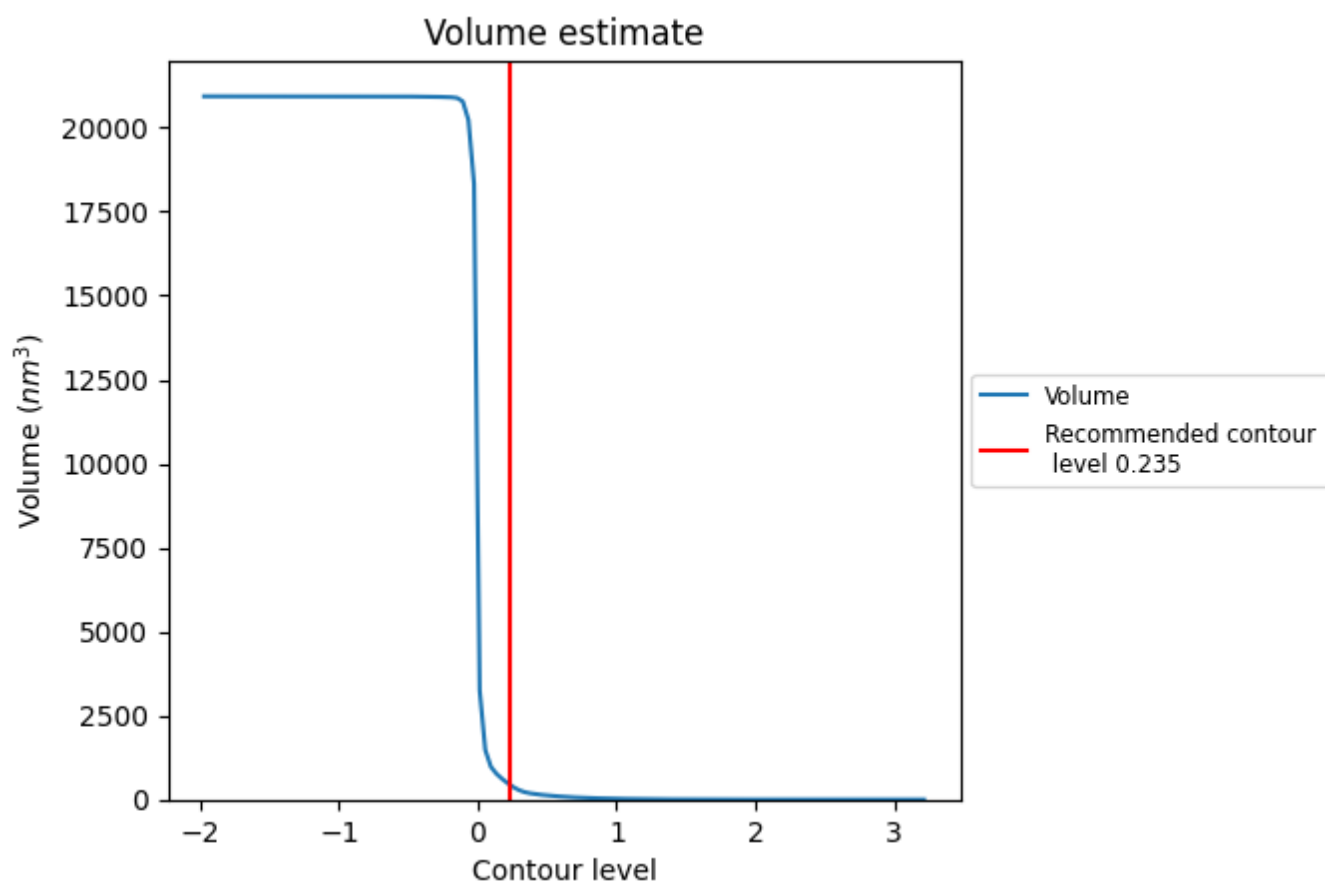
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

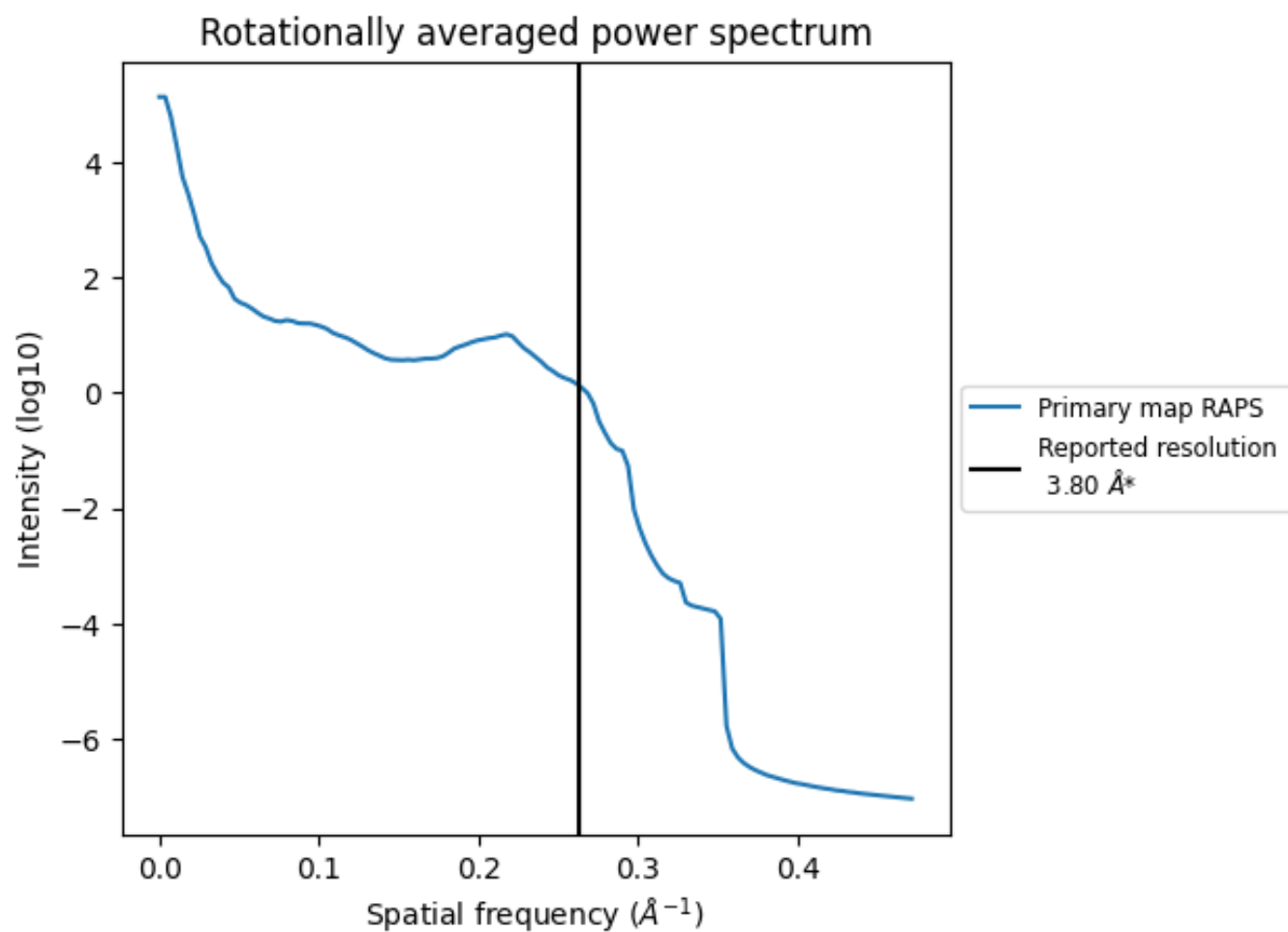
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 433 nm³; this corresponds to an approximate mass of 391 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 ⓘ



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

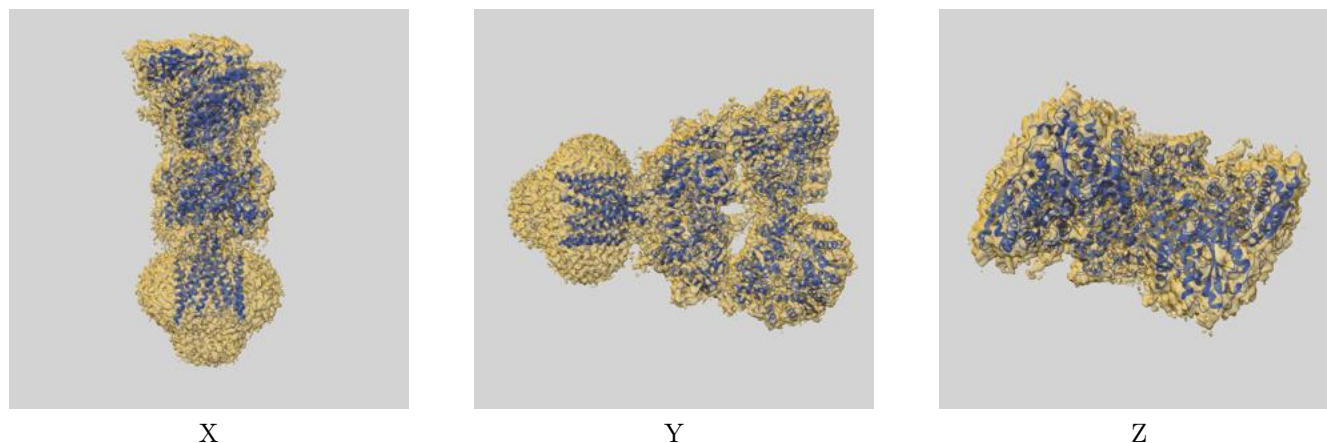
8 Fourier-Shell correlation ⓘ

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

9 Map-model fit [i](#)

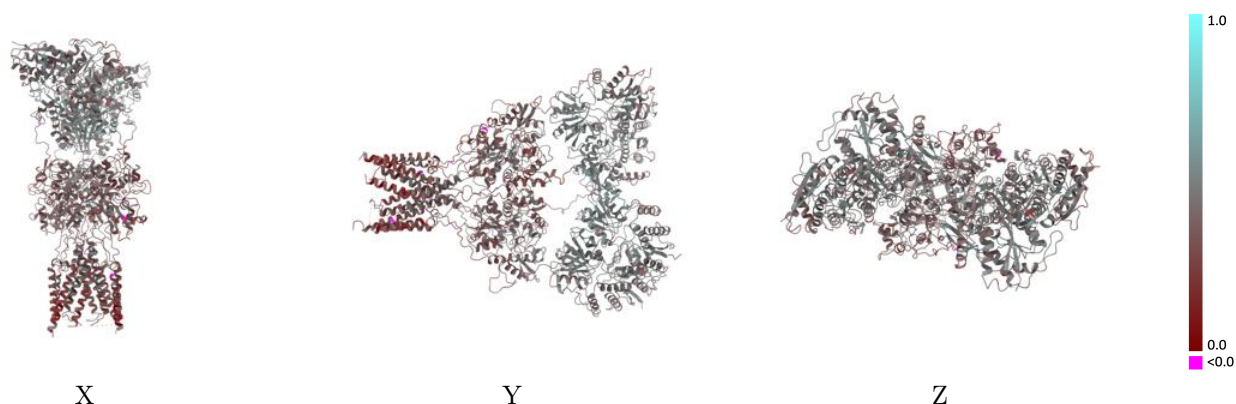
This section contains information regarding the fit between EMDB map EMD-48764 and PDB model 9MZP. Per-residue inclusion information can be found in section [3](#) on page [8](#).

9.1 Map-model overlay [i](#)



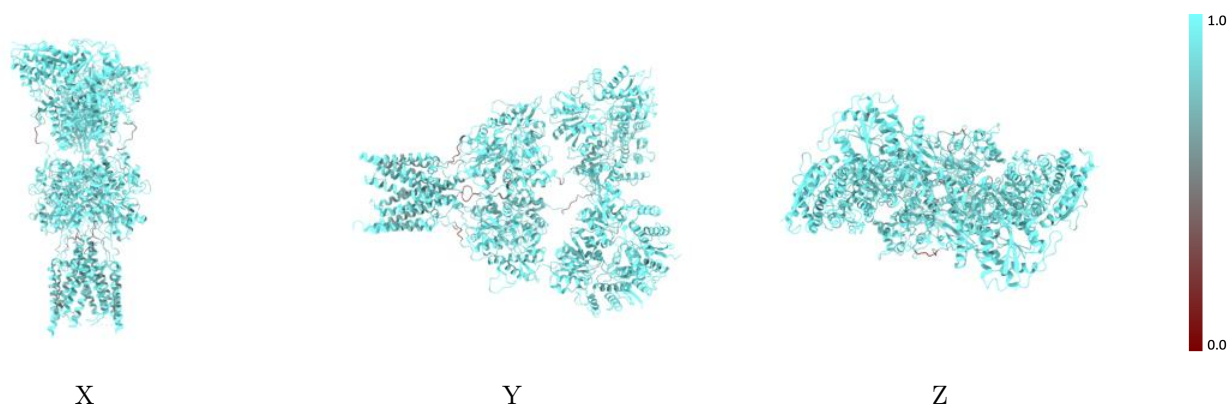
The images above show the 3D surface view of the map at the recommended contour level 0.235 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



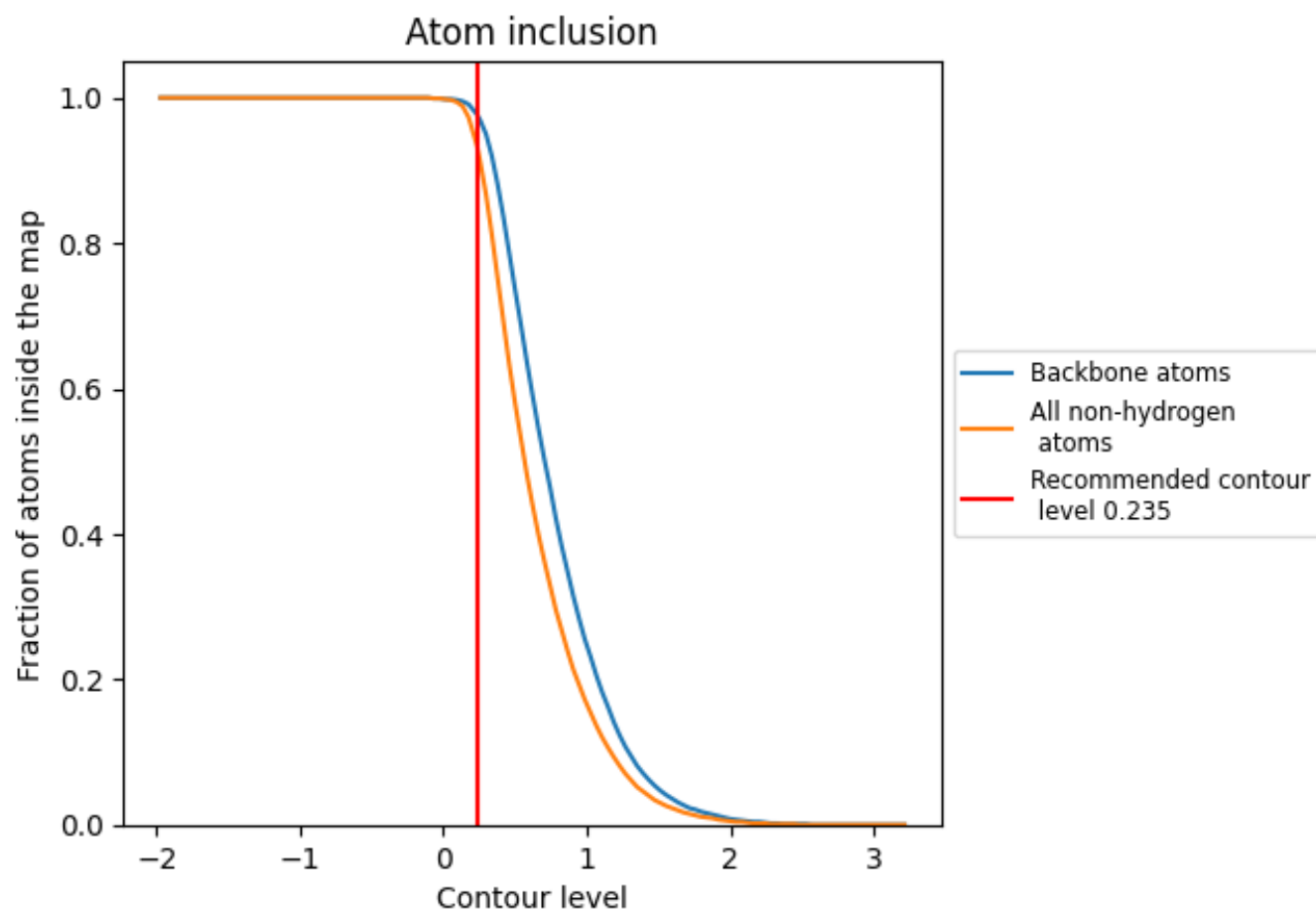
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.235).

9.4 Atom inclusion [i](#)



At the recommended contour level, 98% of all backbone atoms, 93% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.235) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9340	 0.4090
A	 0.9360	 0.4110
B	 0.9300	 0.4060
C	 0.9430	 0.4120
D	 0.9280	 0.4060
E	 0.9640	 0.4250
F	 0.8210	 0.3430
G	 0.9290	 0.3800
H	 0.9290	 0.3000
I	 0.7860	 0.4020
J	 1.0000	 0.4440
K	 0.9290	 0.4270
L	 1.0000	 0.4400
M	 0.9290	 0.3690

