



# Full wwPDB X-ray Structure Validation Report ⓘ

Apr 24, 2017 – 04:29 PM EDT

PDB ID : 5GQX  
Title : Crystal structure of branching enzyme W610N mutant from *Cyanothece* sp. ATCC 51142 in complex with maltoheptaose  
Authors : Suzuki, R.; Suzuki, E.  
Deposited on : 2016-08-08  
Resolution : 2.30 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

A user guide is available at

<http://wwpdb.org/validation/2016/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.7.2 (RC1), CSD as538be (2017)  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20029077  
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)  
Refmac : 5.8.0135  
CCP4 : 6.5.0  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : rb-20029077

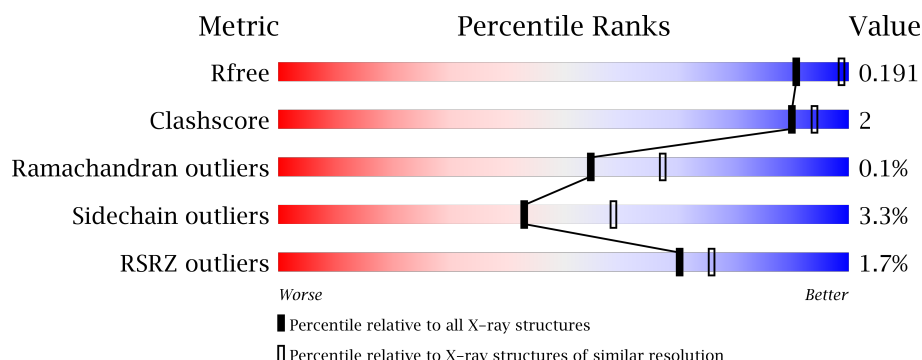
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 2.30 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)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	100719	4130 (2.30-2.30)
Clashscore	112137	4751 (2.30-2.30)
Ramachandran outliers	110173	4705 (2.30-2.30)
Sidechain outliers	110143	4704 (2.30-2.30)
RSRZ outliers	101464	4156 (2.30-2.30)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	793	<div> <div>2%</div> <div>87%</div> <div>8%</div> <div>5%</div> </div>

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	GLC	A	801	-	-	-	X
2	GLC	A	804	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	GLC	A	807	-	-	-	X
2	GLC	A	810	-	-	-	X
2	GLC	A	813	-	-	-	X
2	GLC	A	816	-	-	-	X
2	GLC	A	826	-	-	-	X
2	GLC	A	837	-	-	-	X
2	GLC	A	838	-	-	-	X
3	GOL	A	840	-	-	-	X
3	GOL	A	841	-	-	-	X

## 2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 7245 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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.

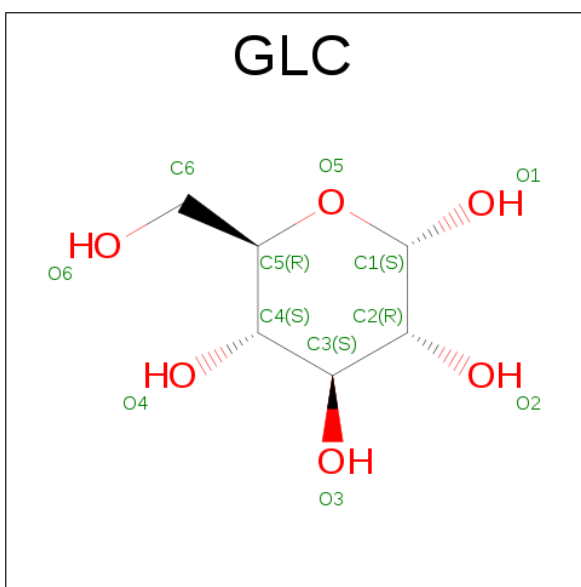
- Molecule 1 is a protein called 1,4-alpha-glucan branching enzyme GlgB.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	755	Total	C	N	O	S	0	0	0
			6267	4050	1042	1151	24			

There are 21 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-19	MET	-	initiating methionine	UNP B1WPM8
A	-18	GLY	-	expression tag	UNP B1WPM8
A	-17	SER	-	expression tag	UNP B1WPM8
A	-16	SER	-	expression tag	UNP B1WPM8
A	-15	HIS	-	expression tag	UNP B1WPM8
A	-14	HIS	-	expression tag	UNP B1WPM8
A	-13	HIS	-	expression tag	UNP B1WPM8
A	-12	HIS	-	expression tag	UNP B1WPM8
A	-11	HIS	-	expression tag	UNP B1WPM8
A	-10	HIS	-	expression tag	UNP B1WPM8
A	-9	SER	-	expression tag	UNP B1WPM8
A	-8	SER	-	expression tag	UNP B1WPM8
A	-7	GLY	-	expression tag	UNP B1WPM8
A	-6	LEU	-	expression tag	UNP B1WPM8
A	-5	VAL	-	expression tag	UNP B1WPM8
A	-4	PRO	-	expression tag	UNP B1WPM8
A	-3	ARG	-	expression tag	UNP B1WPM8
A	-2	GLY	-	expression tag	UNP B1WPM8
A	-1	SER	-	expression tag	UNP B1WPM8
A	0	HIS	-	expression tag	UNP B1WPM8
A	610	ASN	TRP	engineered mutation	UNP B1WPM8

- Molecule 2 is ALPHA-D-GLUCOSE (three-letter code: GLC) (formula: C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			12	6	6		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			12	6	6		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		

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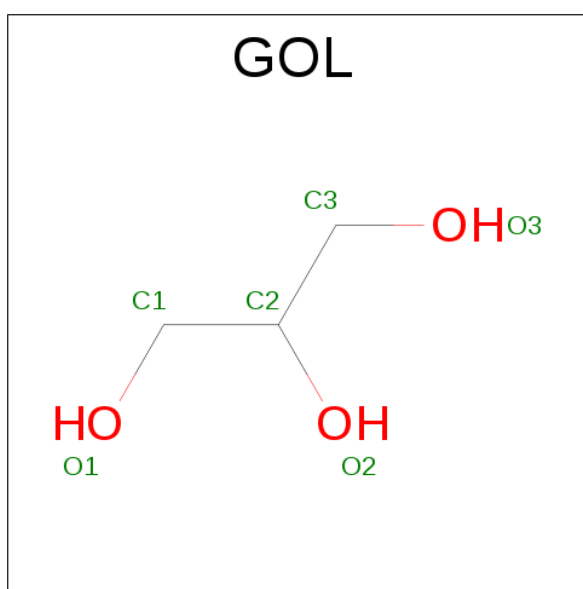
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			12	6	6		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			12	6	6		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			12	6	6		
2	A	1	Total	C	O	0	0
			11	6	5		
2	A	1	Total	C	O	0	0
			11	6	5		

- Molecule 3 is GLYCEROL (three-letter code: GOL) (formula: C<sub>3</sub>H<sub>8</sub>O<sub>3</sub>).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			6	3	3		
3	A	1	Total	C	O	0	0
			6	3	3		

- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total	Mg	0	0
			1	1		

- Molecule 5 is water.

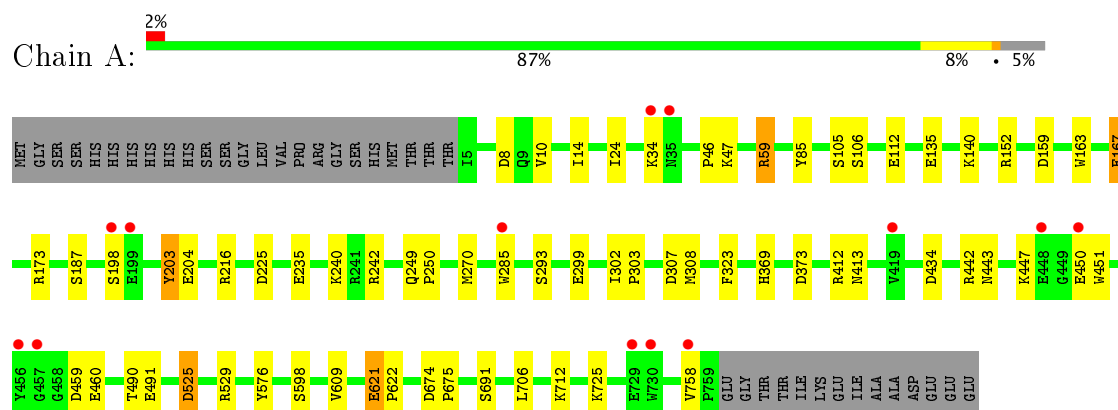
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	530	Total 530	O 530	0	0



### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA 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 electron 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 dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). 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: 1,4-alpha-glucan branching enzyme GlgB



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	134.03Å 134.03Å 185.06Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	47.38 – 2.30 37.58 – 2.30	Depositor EDS
% Data completeness (in resolution range)	99.9 (47.38-2.30) 99.9 (37.58-2.30)	Depositor EDS
$R_{merge}$	0.07	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	14.37 (at 2.29Å)	Xtriage
Refinement program	REFMAC 5.8.0049	Depositor
R, $R_{free}$	0.149 , 0.184 0.161 , 0.191	Depositor DCC
$R_{free}$ test set	3785 reflections (5.31%)	DCC
Wilson B-factor (Å <sup>2</sup> )	24.4	Xtriage
Anisotropy	0.031	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.39 , 44.4	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.51$ , $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	7245	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	26.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.96% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: GOL, MG, GLC

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	1.12	15/6485 (0.2%)	0.99	15/8824 (0.2%)

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	203	TYR	CE1-CZ	9.18	1.50	1.38
1	A	525	ASP	CB-CG	-7.13	1.36	1.51
1	A	187	SER	CB-OG	-6.75	1.33	1.42
1	A	460	GLU	CD-OE1	6.20	1.32	1.25
1	A	135	GLU	CD-OE2	6.12	1.32	1.25
1	A	159	ASP	CB-CG	5.85	1.64	1.51
1	A	299	GLU	CD-OE2	5.68	1.31	1.25
1	A	8	ASP	CB-CG	5.64	1.63	1.51
1	A	112	GLU	CG-CD	5.42	1.60	1.51
1	A	203	TYR	CG-CD1	5.34	1.46	1.39
1	A	621	GLU	CD-OE1	-5.32	1.19	1.25
1	A	285	TRP	CB-CG	-5.12	1.41	1.50
1	A	235	GLU	CG-CD	5.05	1.59	1.51
1	A	85	TYR	CG-CD2	-5.04	1.32	1.39
1	A	412	ARG	CZ-NH1	5.01	1.39	1.33

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	525	ASP	CB-CG-OD1	-7.37	111.66	118.30
1	A	412	ARG	NE-CZ-NH2	-7.29	116.66	120.30
1	A	242	ARG	NE-CZ-NH2	7.03	123.81	120.30
1	A	59	ARG	NE-CZ-NH2	-6.89	116.85	120.30
1	A	203	TYR	CB-CA-C	-6.70	96.99	110.40
1	A	308	MET	CG-SD-CE	6.58	110.72	100.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	459	ASP	CB-CG-OD1	6.30	123.97	118.30
1	A	525	ASP	OD1-CG-OD2	6.18	135.03	123.30
1	A	173	ARG	NE-CZ-NH1	6.09	123.34	120.30
1	A	167	GLU	OE1-CD-OE2	6.06	130.57	123.30
1	A	525	ASP	CB-CG-OD2	-5.65	113.22	118.30
1	A	242	ARG	NE-CZ-NH1	-5.63	117.48	120.30
1	A	225	ASP	CB-CG-OD2	-5.40	113.44	118.30
1	A	442	ARG	NE-CZ-NH2	-5.34	117.63	120.30
1	A	529	ARG	NE-CZ-NH2	-5.23	117.69	120.30

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	6267	0	5853	20	0
2	A	435	0	371	12	0
3	A	12	0	16	1	0
4	A	1	0	0	0	0
5	A	530	0	0	1	0
All	All	7245	0	6240	27	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 2.

All (27) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:490:THR:O	1:A:491:GLU:HB2	1.95	0.65
1:A:249:GLN:HB3	1:A:250:PRO:HD2	1.78	0.64
2:A:820:GLC:H62	2:A:821:GLC:C5	2.34	0.58
2:A:815:GLC:O5	2:A:821:GLC:O4	2.23	0.57
1:A:490:THR:O	1:A:491:GLU:CB	2.50	0.56
1:A:46:PRO:O	1:A:47:LYS:HB2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:270:MET:HG3	1:A:293:SER:HB3	1.91	0.52
1:A:59:ARG:HD3	2:A:819:GLC:O6	2.10	0.52
2:A:820:GLC:H62	2:A:821:GLC:C6	2.40	0.52
1:A:59:ARG:HD2	2:A:819:GLC:O5	2.12	0.50
2:A:820:GLC:H62	2:A:821:GLC:H61	1.94	0.50
1:A:621:GLU:HB3	1:A:622:PRO:HD3	1.94	0.49
2:A:801:GLC:H62	5:A:1155:HOH:O	2.12	0.48
1:A:576:TYR:CG	3:A:840:GOL:H12	2.49	0.48
1:A:270:MET:CG	1:A:293:SER:HB3	2.46	0.45
2:A:820:GLC:H62	2:A:821:GLC:H5	1.98	0.45
1:A:674:ASP:HA	1:A:675:PRO:HD3	1.89	0.44
1:A:609:VAL:O	1:A:609:VAL:HG22	2.17	0.44
1:A:10:VAL:O	1:A:14:ILE:HG12	2.19	0.43
1:A:434:ASP:OD1	2:A:801:GLC:O5	2.37	0.43
1:A:152:ARG:HG3	1:A:198:SER:HA	2.00	0.42
1:A:323:PHE:HB2	2:A:805:GLC:H3	2.02	0.42
1:A:302:ILE:HB	1:A:303:PRO:HD3	2.02	0.42
2:A:813:GLC:H61	2:A:814:GLC:H5	2.02	0.42
1:A:443:ASN:HB3	1:A:451:TRP:CD2	2.55	0.41
1:A:46:PRO:O	1:A:47:LYS:CB	2.68	0.41
1:A:163:TRP:CG	2:A:812:GLC:H61	2.55	0.41

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 X-ray entries followed by that with respect to entries of similar resolution.

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	753/793 (95%)	732 (97%)	20 (3%)	1 (0%)	55 67

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	598	SER

### 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 X-ray entries followed by that with respect to entries of similar resolution.

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	668/700 (95%)	646 (97%)	22 (3%)	43 59

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	24	ILE
1	A	34	LYS
1	A	105	SER
1	A	106	SER
1	A	140	LYS
1	A	167	GLU
1	A	203	TYR
1	A	204	GLU
1	A	216	ARG
1	A	240	LYS
1	A	307	ASP
1	A	369	HIS
1	A	373	ASP
1	A	413	ASN
1	A	447	LYS
1	A	450	GLU
1	A	525	ASP
1	A	691	SER
1	A	706	LEU
1	A	712	LYS
1	A	725	LYS
1	A	758	VAL

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	16	ASN
1	A	35	ASN
1	A	65	ASN
1	A	619	GLN
1	A	634	ASN

### 5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

### 5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

### 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

### 5.6 Ligand geometry ⓘ

Of 42 ligands modelled in this entry, 1 is monoatomic - leaving 41 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	GLC	A	801	2	11,11,12	1.31	2 (18%)	13,15,17	2.85	6 (46%)
2	GLC	A	802	2	11,11,12	0.97	0	13,15,17	2.38	3 (23%)
2	GLC	A	803	2	11,11,12	1.12	1 (9%)	13,15,17	1.97	4 (30%)
2	GLC	A	804	2	11,11,12	1.04	0	13,15,17	1.76	4 (30%)
2	GLC	A	805	2	11,11,12	1.23	1 (9%)	13,15,17	2.83	6 (46%)
2	GLC	A	806	2	11,11,12	1.25	1 (9%)	13,15,17	2.05	4 (30%)
2	GLC	A	807	2	11,11,12	2.46	5 (45%)	13,15,17	2.71	6 (46%)
2	GLC	A	808	2	12,12,12	0.83	0	17,17,17	1.03	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	GLC	A	809	2	11,11,12	1.28	2 (18%)	13,15,17	2.48	4 (30%)
2	GLC	A	810	2	11,11,12	1.40	1 (9%)	13,15,17	2.73	4 (30%)
2	GLC	A	811	2	11,11,12	0.83	0	13,15,17	2.12	2 (15%)
2	GLC	A	812	2	12,12,12	1.10	1 (8%)	17,17,17	1.40	1 (5%)
2	GLC	A	813	2	11,11,12	1.09	1 (9%)	13,15,17	1.74	3 (23%)
2	GLC	A	814	2	11,11,12	0.94	1 (9%)	13,15,17	2.15	6 (46%)
2	GLC	A	815	2	11,11,12	0.43	0	13,15,17	1.85	4 (30%)
2	GLC	A	816	2	11,11,12	1.36	1 (9%)	13,15,17	1.74	5 (38%)
2	GLC	A	817	2	11,11,12	0.90	0	13,15,17	0.99	1 (7%)
2	GLC	A	818	2	11,11,12	0.59	0	13,15,17	1.66	5 (38%)
2	GLC	A	819	2	11,11,12	0.75	0	13,15,17	1.46	1 (7%)
2	GLC	A	820	2	11,11,12	0.70	0	13,15,17	2.18	5 (38%)
2	GLC	A	821	2	11,11,12	0.82	0	13,15,17	1.98	5 (38%)
2	GLC	A	822	2	12,12,12	0.96	0	17,17,17	1.80	4 (23%)
2	GLC	A	823	2	11,11,12	0.89	0	13,15,17	1.92	5 (38%)
2	GLC	A	824	2	11,11,12	1.09	1 (9%)	13,15,17	1.76	3 (23%)
2	GLC	A	825	2	11,11,12	1.11	2 (18%)	13,15,17	2.00	4 (30%)
2	GLC	A	826	2	12,12,12	0.98	0	17,17,17	2.23	6 (35%)
2	GLC	A	827	2	11,11,12	0.83	0	13,15,17	1.47	3 (23%)
2	GLC	A	828	2	11,11,12	0.65	0	13,15,17	1.75	4 (30%)
2	GLC	A	829	2	11,11,12	1.15	1 (9%)	13,15,17	3.08	8 (61%)
2	GLC	A	830	2	11,11,12	1.12	1 (9%)	13,15,17	1.37	2 (15%)
2	GLC	A	831	2	11,11,12	0.67	0	13,15,17	1.71	3 (23%)
2	GLC	A	832	2	11,11,12	0.67	0	13,15,17	1.84	5 (38%)
2	GLC	A	833	2	12,12,12	1.00	1 (8%)	17,17,17	2.29	9 (52%)
2	GLC	A	834	2	11,11,12	0.73	0	13,15,17	2.13	2 (15%)
2	GLC	A	835	2	11,11,12	1.15	1 (9%)	13,15,17	1.94	5 (38%)
2	GLC	A	836	2	11,11,12	0.93	0	13,15,17	1.81	2 (15%)
2	GLC	A	837	2	12,12,12	1.34	1 (8%)	17,17,17	2.24	7 (41%)
2	GLC	A	838	2	11,11,12	1.99	2 (18%)	13,15,17	2.88	8 (61%)
2	GLC	A	839	2	11,11,12	1.69	1 (9%)	13,15,17	1.94	4 (30%)
3	GOL	A	840	-	5,5,5	1.27	1 (20%)	5,5,5	1.34	1 (20%)
3	GOL	A	841	-	5,5,5	1.02	0	5,5,5	1.03	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
2	GLC	A	801	2	-	0/2/19/22	0/1/1/1
2	GLC	A	802	2	-	0/2/19/22	0/1/1/1
2	GLC	A	803	2	-	0/2/19/22	0/1/1/1
2	GLC	A	804	2	-	0/2/19/22	0/1/1/1
2	GLC	A	805	2	-	0/2/19/22	0/1/1/1
2	GLC	A	806	2	-	0/2/19/22	0/1/1/1
2	GLC	A	807	2	-	0/2/19/22	0/1/1/1
2	GLC	A	808	2	-	0/2/22/22	0/1/1/1
2	GLC	A	809	2	-	0/2/19/22	0/1/1/1
2	GLC	A	810	2	-	0/2/19/22	0/1/1/1
2	GLC	A	811	2	-	0/2/19/22	0/1/1/1
2	GLC	A	812	2	-	0/2/22/22	0/1/1/1
2	GLC	A	813	2	-	0/2/19/22	0/1/1/1
2	GLC	A	814	2	-	0/2/19/22	0/1/1/1
2	GLC	A	815	2	-	0/2/19/22	0/1/1/1
2	GLC	A	816	2	-	0/2/19/22	0/1/1/1
2	GLC	A	817	2	-	0/2/19/22	0/1/1/1
2	GLC	A	818	2	-	0/2/19/22	0/1/1/1
2	GLC	A	819	2	-	0/2/19/22	0/1/1/1
2	GLC	A	820	2	-	0/2/19/22	0/1/1/1
2	GLC	A	821	2	-	0/2/19/22	0/1/1/1
2	GLC	A	822	2	-	0/2/22/22	0/1/1/1
2	GLC	A	823	2	-	0/2/19/22	0/1/1/1
2	GLC	A	824	2	-	0/2/19/22	0/1/1/1
2	GLC	A	825	2	-	0/2/19/22	0/1/1/1
2	GLC	A	826	2	-	0/2/22/22	0/1/1/1
2	GLC	A	827	2	-	0/2/19/22	0/1/1/1
2	GLC	A	828	2	-	0/2/19/22	0/1/1/1
2	GLC	A	829	2	-	0/2/19/22	0/1/1/1
2	GLC	A	830	2	-	0/2/19/22	0/1/1/1
2	GLC	A	831	2	-	0/2/19/22	0/1/1/1
2	GLC	A	832	2	-	0/2/19/22	0/1/1/1
2	GLC	A	833	2	-	0/2/22/22	0/1/1/1
2	GLC	A	834	2	-	0/2/19/22	0/1/1/1
2	GLC	A	835	2	-	0/2/19/22	0/1/1/1
2	GLC	A	836	2	-	0/2/19/22	0/1/1/1
2	GLC	A	837	2	-	0/2/22/22	0/1/1/1
2	GLC	A	838	2	-	0/2/19/22	0/1/1/1
2	GLC	A	839	2	-	0/2/19/22	0/1/1/1
3	GOL	A	840	-	-	0/4/4/4	0/0/0/0

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	GOL	A	841	-	-	0/4/4/4	0/0/0/0

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	838	GLC	O5-C1	-3.67	1.37	1.43
2	A	813	GLC	O5-C1	-2.65	1.39	1.43
2	A	824	GLC	O5-C1	-2.54	1.39	1.43
2	A	809	GLC	O2-C2	-2.18	1.38	1.43
2	A	833	GLC	O5-C1	-2.12	1.39	1.43
2	A	829	GLC	O5-C1	-2.11	1.40	1.43
2	A	812	GLC	O5-C5	-2.06	1.39	1.44
2	A	835	GLC	C2-C3	2.00	1.55	1.52
2	A	814	GLC	C2-C3	2.03	1.55	1.52
2	A	806	GLC	C2-C3	2.05	1.55	1.52
2	A	807	GLC	O2-C2	2.12	1.48	1.43
2	A	825	GLC	O5-C5	2.17	1.48	1.43
2	A	801	GLC	C4-C3	2.22	1.58	1.52
2	A	825	GLC	C2-C3	2.23	1.55	1.52
3	A	840	GOL	O1-C1	2.25	1.51	1.42
2	A	805	GLC	C4-C5	2.45	1.58	1.53
2	A	816	GLC	C4-C5	2.54	1.58	1.53
2	A	830	GLC	C2-C3	2.56	1.56	1.52
2	A	803	GLC	C2-C3	2.61	1.56	1.52
2	A	807	GLC	C1-C2	2.64	1.58	1.52
2	A	801	GLC	C2-C3	2.90	1.56	1.52
2	A	810	GLC	C2-C3	2.90	1.56	1.52
2	A	809	GLC	C1-C2	2.96	1.59	1.52
2	A	837	GLC	C4-C5	2.96	1.59	1.53
2	A	807	GLC	C4-C3	2.98	1.60	1.52
2	A	807	GLC	O3-C3	3.18	1.50	1.43
2	A	839	GLC	C2-C3	4.79	1.59	1.52
2	A	838	GLC	C2-C3	4.80	1.59	1.52
2	A	807	GLC	C2-C3	5.54	1.60	1.52

All (164) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	801	GLC	O5-C1-C2	-5.46	102.24	110.79
2	A	806	GLC	O5-C1-C2	-4.81	103.26	110.79
2	A	829	GLC	O6-C6-C5	-4.74	95.38	111.34
2	A	836	GLC	C1-O5-C5	-4.50	105.96	112.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	820	GLC	O4-C4-C3	-4.37	100.84	110.36
2	A	833	GLC	O5-C1-C2	-4.14	103.17	110.04
2	A	822	GLC	C3-C4-C5	-4.09	103.01	110.22
2	A	823	GLC	C6-C5-C4	-4.09	103.44	113.00
2	A	837	GLC	C3-C4-C5	-4.07	103.04	110.22
2	A	819	GLC	O4-C4-C3	-3.96	101.73	110.36
2	A	822	GLC	O6-C6-C5	-3.90	98.20	111.34
2	A	835	GLC	O3-C3-C4	-3.80	102.09	110.36
2	A	814	GLC	C1-C2-C3	-3.73	104.93	109.65
2	A	813	GLC	C3-C4-C5	-3.61	103.86	110.22
2	A	825	GLC	C6-C5-C4	-3.54	104.72	113.00
2	A	829	GLC	O2-C2-C1	-3.37	102.33	109.18
2	A	833	GLC	O6-C6-C5	-3.28	100.29	111.34
2	A	838	GLC	C3-C4-C5	-3.26	104.47	110.22
2	A	832	GLC	O2-C2-C3	-3.15	103.99	110.17
2	A	815	GLC	O5-C1-C2	-3.02	106.06	110.79
2	A	816	GLC	O6-C6-C5	-3.00	101.24	111.34
2	A	835	GLC	C2-C3-C4	-2.98	105.68	110.88
2	A	828	GLC	C3-C4-C5	-2.95	105.01	110.22
2	A	816	GLC	O4-C4-C3	-2.88	104.08	110.36
2	A	837	GLC	O4-C4-C3	-2.86	104.14	110.36
2	A	815	GLC	C3-C4-C5	-2.85	105.19	110.22
2	A	829	GLC	O2-C2-C3	-2.83	104.62	110.17
2	A	814	GLC	C2-C3-C4	-2.82	105.96	110.88
2	A	831	GLC	C6-C5-C4	-2.77	106.52	113.00
2	A	820	GLC	C3-C4-C5	-2.73	105.41	110.22
2	A	818	GLC	O4-C4-C3	-2.73	104.42	110.36
2	A	828	GLC	O6-C6-C5	-2.71	102.21	111.34
2	A	823	GLC	C1-O5-C5	-2.70	108.44	112.17
2	A	823	GLC	O6-C6-C5	-2.68	102.34	111.34
2	A	810	GLC	C2-C3-C4	-2.67	106.21	110.88
2	A	823	GLC	O3-C3-C4	-2.67	104.54	110.36
2	A	832	GLC	O3-C3-C2	-2.66	105.19	110.02
2	A	829	GLC	O3-C3-C4	-2.60	104.70	110.36
2	A	838	GLC	O5-C1-C2	-2.57	106.76	110.79
2	A	820	GLC	O2-C2-C3	-2.56	105.14	110.17
2	A	834	GLC	O4-C4-C3	-2.52	104.88	110.36
2	A	803	GLC	C1-C2-C3	-2.51	106.47	109.65
2	A	825	GLC	O6-C6-C5	-2.51	102.90	111.34
2	A	804	GLC	O6-C6-C5	-2.49	102.96	111.34
2	A	832	GLC	O5-C1-C2	-2.46	106.94	110.79
2	A	831	GLC	O5-C1-C2	-2.45	106.95	110.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	813	GLC	O6-C6-C5	-2.44	103.12	111.34
2	A	813	GLC	C1-C2-C3	-2.43	106.57	109.65
2	A	827	GLC	O5-C1-C2	-2.36	107.09	110.79
2	A	817	GLC	C6-C5-C4	-2.36	107.48	113.00
2	A	830	GLC	C3-C4-C5	-2.34	106.09	110.22
2	A	824	GLC	C6-C5-C4	-2.34	107.53	113.00
2	A	828	GLC	O4-C4-C3	-2.33	105.28	110.36
2	A	801	GLC	C6-C5-C4	-2.28	107.67	113.00
2	A	805	GLC	O3-C3-C4	-2.27	105.41	110.36
2	A	821	GLC	C3-C4-C5	-2.27	106.21	110.22
2	A	802	GLC	O5-C1-C2	-2.24	107.28	110.79
2	A	826	GLC	O5-C5-C6	-2.23	101.08	106.41
2	A	838	GLC	O4-C4-C3	-2.22	105.53	110.36
2	A	805	GLC	O6-C6-C5	-2.19	103.97	111.34
2	A	837	GLC	O5-C1-C2	-2.18	106.42	110.04
2	A	806	GLC	O4-C4-C5	-2.18	103.79	109.28
2	A	830	GLC	O4-C4-C5	-2.17	103.81	109.28
2	A	818	GLC	C1-C2-C3	-2.16	106.92	109.65
2	A	827	GLC	O4-C4-C3	-2.14	105.70	110.36
2	A	832	GLC	O3-C3-C4	-2.13	105.73	110.36
2	A	814	GLC	O2-C2-C1	-2.12	104.86	109.18
2	A	827	GLC	C1-C2-C3	-2.12	106.96	109.65
2	A	836	GLC	O4-C4-C3	-2.12	105.74	110.36
2	A	838	GLC	O2-C2-C1	-2.12	104.87	109.18
2	A	833	GLC	O5-C5-C6	-2.09	101.41	106.41
2	A	833	GLC	C6-C5-C4	-2.09	108.12	113.00
2	A	804	GLC	C2-C3-C4	-2.07	107.27	110.88
2	A	809	GLC	O5-C1-C2	-2.07	107.55	110.79
2	A	833	GLC	O3-C3-C2	-2.06	105.87	110.36
2	A	829	GLC	C6-C5-C4	-2.06	108.19	113.00
2	A	821	GLC	O4-C4-C3	-2.05	105.89	110.36
2	A	824	GLC	O3-C3-C4	-2.03	105.93	110.36
2	A	835	GLC	O2-C2-C1	-2.02	105.07	109.18
2	A	815	GLC	C2-C3-C4	-2.01	107.36	110.88
2	A	837	GLC	C4-C3-C2	2.00	114.37	110.84
2	A	816	GLC	C1-O5-C5	2.01	114.94	112.17
2	A	801	GLC	C2-C3-C4	2.04	114.43	110.88
2	A	818	GLC	O4-C4-C5	2.05	114.45	109.28
2	A	816	GLC	O3-C3-C2	2.05	113.76	110.02
2	A	829	GLC	O3-C3-C2	2.06	113.77	110.02
2	A	833	GLC	O4-C4-C3	2.06	114.85	110.36
2	A	838	GLC	O2-C2-C3	2.08	114.27	110.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	839	GLC	O4-C4-C5	2.09	114.56	109.28
2	A	801	GLC	O6-C6-C5	2.12	118.48	111.34
2	A	811	GLC	O4-C4-C3	2.15	115.03	110.36
2	A	822	GLC	C1-C2-C3	2.16	114.55	110.65
2	A	818	GLC	C6-C5-C4	2.22	118.19	113.00
2	A	806	GLC	O4-C4-C3	2.22	115.18	110.36
2	A	820	GLC	O4-C4-C5	2.23	114.90	109.28
2	A	835	GLC	C1-O5-C5	2.23	115.24	112.17
2	A	833	GLC	O2-C2-C3	2.31	115.38	110.36
2	A	826	GLC	O5-C1-C2	2.31	113.88	110.04
2	A	822	GLC	O3-C3-C2	2.33	115.42	110.36
3	A	840	GOL	O1-C1-C2	2.35	121.93	110.07
2	A	816	GLC	O3-C3-C4	2.38	115.54	110.36
2	A	814	GLC	C1-O5-C5	2.38	115.45	112.17
2	A	839	GLC	O4-C4-C3	2.41	115.61	110.36
2	A	821	GLC	C6-C5-C4	2.49	118.83	113.00
2	A	826	GLC	O1-C1-C2	2.56	116.66	109.42
2	A	820	GLC	O3-C3-C2	2.58	114.72	110.02
2	A	807	GLC	O5-C1-C2	2.61	114.87	110.79
2	A	810	GLC	O2-C2-C3	2.66	115.40	110.17
2	A	823	GLC	O2-C2-C1	2.75	114.76	109.18
2	A	821	GLC	C1-C2-C3	2.76	113.15	109.65
2	A	825	GLC	C1-O5-C5	2.84	116.07	112.17
2	A	803	GLC	O2-C2-C3	2.84	115.75	110.17
2	A	814	GLC	O3-C3-C2	2.87	115.25	110.02
2	A	809	GLC	O2-C2-C1	2.90	115.07	109.18
2	A	805	GLC	O4-C4-C5	2.91	116.61	109.28
2	A	826	GLC	C1-C2-C3	2.91	115.91	110.65
2	A	806	GLC	O3-C3-C4	2.93	116.74	110.36
2	A	829	GLC	C1-C2-C3	2.94	113.38	109.65
2	A	835	GLC	O2-C2-C3	2.95	115.97	110.17
2	A	831	GLC	C1-O5-C5	3.01	116.31	112.17
2	A	837	GLC	O3-C3-C2	3.06	117.00	110.36
2	A	825	GLC	O3-C3-C2	3.07	115.62	110.02
2	A	807	GLC	O3-C3-C2	3.12	115.71	110.02
2	A	838	GLC	C1-C2-C3	3.18	113.69	109.65
2	A	807	GLC	O3-C3-C4	3.20	117.32	110.36
2	A	807	GLC	C1-C2-C3	3.23	113.74	109.65
2	A	818	GLC	C1-O5-C5	3.23	116.61	112.17
2	A	828	GLC	C1-O5-C5	3.24	116.63	112.17
2	A	804	GLC	O3-C3-C2	3.25	115.94	110.02
2	A	804	GLC	C1-O5-C5	3.26	116.66	112.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	839	GLC	O3-C3-C2	3.28	115.99	110.02
2	A	837	GLC	C6-C5-C4	3.32	120.77	113.00
2	A	814	GLC	O2-C2-C3	3.32	116.71	110.17
2	A	802	GLC	O2-C2-C1	3.35	116.00	109.18
2	A	803	GLC	O3-C3-C2	3.40	116.20	110.02
2	A	832	GLC	C1-O5-C5	3.40	116.85	112.17
2	A	809	GLC	O3-C3-C2	3.50	116.39	110.02
2	A	838	GLC	C1-O5-C5	3.56	117.08	112.17
2	A	805	GLC	O2-C2-C3	3.56	117.17	110.17
2	A	815	GLC	O2-C2-C1	3.67	116.63	109.18
2	A	801	GLC	O4-C4-C3	3.67	118.35	110.36
2	A	805	GLC	C3-C4-C5	3.68	116.70	110.22
2	A	810	GLC	C3-C4-C5	3.71	116.76	110.22
2	A	826	GLC	O5-C5-C4	3.71	116.50	109.66
2	A	833	GLC	C1-O5-C5	3.77	120.19	113.39
2	A	812	GLC	C1-O5-C5	3.79	120.22	113.39
2	A	803	GLC	C1-O5-C5	3.91	117.56	112.17
2	A	821	GLC	C1-O5-C5	3.97	117.63	112.17
2	A	833	GLC	O5-C5-C4	3.99	117.00	109.66
2	A	837	GLC	O1-C1-C2	3.99	120.69	109.42
2	A	824	GLC	C1-O5-C5	4.12	117.85	112.17
2	A	839	GLC	C1-C2-C3	4.16	114.93	109.65
2	A	807	GLC	C6-C5-C4	4.37	123.22	113.00
2	A	807	GLC	O2-C2-C3	5.82	121.60	110.17
2	A	826	GLC	C1-O5-C5	6.08	124.35	113.39
2	A	834	GLC	C1-C2-C3	6.08	117.36	109.65
2	A	811	GLC	C1-O5-C5	6.30	120.85	112.17
2	A	801	GLC	C1-O5-C5	6.49	121.11	112.17
2	A	802	GLC	C1-O5-C5	6.77	121.49	112.17
2	A	809	GLC	C1-C2-C3	6.78	118.24	109.65
2	A	838	GLC	O3-C3-C2	6.84	122.46	110.02
2	A	805	GLC	C1-O5-C5	7.05	121.88	112.17
2	A	829	GLC	C1-O5-C5	7.09	121.94	112.17
2	A	810	GLC	C1-O5-C5	7.57	122.61	112.17

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

10 monomers are involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	801	GLC	2	0
2	A	805	GLC	1	0
2	A	812	GLC	1	0
2	A	813	GLC	1	0
2	A	814	GLC	1	0
2	A	815	GLC	1	0
2	A	819	GLC	2	0
2	A	820	GLC	4	0
2	A	821	GLC	5	0
3	A	840	GOL	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 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	755/793 (95%)	-0.35	13 (1%) 70 76	13, 22, 44, 83	0

All (13) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	758	VAL	5.8
1	A	456	TYR	4.0
1	A	35	ASN	2.5
1	A	457	GLY	2.4
1	A	450	GLU	2.4
1	A	285	TRP	2.3
1	A	419	VAL	2.3
1	A	730	TRP	2.3
1	A	34	LYS	2.3
1	A	729	GLU	2.2
1	A	199	GLU	2.2
1	A	198	SER	2.1
1	A	448	GLU	2.0

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

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

### 6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.



## 6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
2	GLC	A	804	11/12	0.92	0.22	6.33	34,42,48,50	0
2	GLC	A	807	11/12	0.70	0.29	6.28	32,57,68,68	0
2	GLC	A	801	11/12	0.73	0.27	5.73	32,62,72,73	0
2	GLC	A	837	12/12	0.86	0.22	5.10	44,57,59,62	0
3	GOL	A	840	6/6	0.88	0.18	4.80	39,46,55,55	0
2	GLC	A	813	11/12	0.95	0.17	4.33	31,39,45,52	0
2	GLC	A	826	12/12	0.85	0.33	4.27	38,56,65,68	0
2	GLC	A	838	11/12	0.90	0.19	4.26	33,42,53,53	0
2	GLC	A	810	11/12	0.90	0.24	3.26	31,41,53,55	0
3	GOL	A	841	6/6	0.89	0.18	2.52	33,43,45,51	0
2	GLC	A	816	11/12	0.93	0.17	2.33	26,33,36,45	0
2	GLC	A	803	11/12	0.92	0.17	1.64	41,46,50,51	0
2	GLC	A	802	11/12	0.89	0.15	1.16	45,54,61,63	0
2	GLC	A	818	11/12	0.96	0.13	1.06	26,30,34,39	0
2	GLC	A	835	11/12	0.96	0.12	0.88	25,27,30,33	0
2	GLC	A	824	11/12	0.95	0.12	-0.03	28,33,40,44	0
2	GLC	A	817	11/12	0.97	0.09	-0.18	22,25,27,31	0
2	GLC	A	812	12/12	0.95	0.10	-0.20	32,35,44,45	0
2	GLC	A	832	11/12	0.96	0.10	-0.27	24,31,40,44	0
2	GLC	A	823	11/12	0.97	0.09	-0.38	28,30,38,40	0
2	GLC	A	831	11/12	0.96	0.07	-1.39	26,29,33,35	0
2	GLC	A	820	11/12	0.93	0.30	-	60,63,72,75	0
2	GLC	A	830	11/12	0.95	0.17	-	36,37,40,41	0
2	GLC	A	834	11/12	0.98	0.10	-	22,26,30,30	0
2	GLC	A	821	11/12	0.94	0.31	-	63,65,72,72	0
2	GLC	A	829	11/12	0.96	0.21	-	43,47,49,53	0
2	GLC	A	827	11/12	0.87	0.32	-	59,69,76,79	0
2	GLC	A	805	11/12	0.94	0.17	-	29,40,42,54	0
2	GLC	A	815	11/12	0.86	0.30	-	40,57,65,68	0
4	MG	A	842	1/1	0.98	0.02	-	23,23,23,23	0
2	GLC	A	814	11/12	0.77	0.35	-	56,71,78,84	0
2	GLC	A	806	11/12	0.90	0.26	-	37,49,59,60	0
2	GLC	A	833	12/12	0.92	0.32	-	36,52,58,60	0
2	GLC	A	836	11/12	0.94	0.33	-	40,46,56,67	0
2	GLC	A	828	11/12	0.93	0.23	-	53,57,64,66	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
2	GLC	A	811	11/12	0.87	0.39	-	59,68,74,75	0
2	GLC	A	825	11/12	0.88	0.26	-	51,61,66,76	0
2	GLC	A	809	11/12	0.94	0.19	-	27,34,39,40	0
2	GLC	A	819	11/12	0.94	0.22	-	40,49,54,60	0
2	GLC	A	822	12/12	0.88	0.27	-	40,55,59,63	0
2	GLC	A	839	11/12	0.93	0.28	-	42,45,55,58	0
2	GLC	A	808	12/12	0.85	0.27	-	35,59,64,68	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.