Full wwPDB X-ray Structure Validation Report (i)

Aug 26, 2025 – 01:09 pm BST

PDB ID	:	9S9C / pdb_00009s9c
Title	:	Crystal structure of the apo BRL2 ectodomain from Arabidopsis thaliana.
Authors	:	Caregnato, A.; Hothorn, M.
Deposited on	:	2025-08-06
Resolution	:	2.59 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*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) 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 (1)) were used in the production of this report:

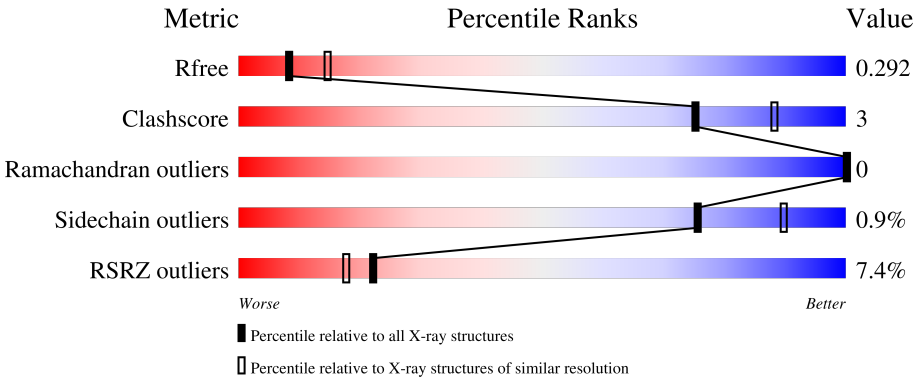
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.59 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}	164625	3775 (2.60-2.60)
Clashscore	180529	4181 (2.60-2.60)
Ramachandran outliers	177936	4129 (2.60-2.60)
Sidechain outliers	177891	4129 (2.60-2.60)
RSRZ outliers	164620	3775 (2.60-2.60)

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 of the lower 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 <=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	742	6% 81% 7% 12%
2	B	2	100%
3	C	3	100%

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 10147 atoms, of which 5047 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.

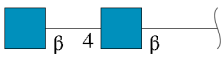
- Molecule 1 is a protein called Serine/threonine-protein kinase BRI1-like 2.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	650	Total	C	H	N	O	S	0	0	0
			9904	3153	4936	821	979	15			

There are 9 discrepancies between the modelled and reference sequences:

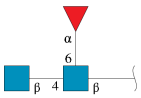
Chain	Residue	Modelled	Actual	Comment	Reference
A	734	ALA	-	expression tag	UNP Q9ZPS9
A	735	ALA	-	expression tag	UNP Q9ZPS9
A	736	ALA	-	expression tag	UNP Q9ZPS9
A	737	GLU	-	expression tag	UNP Q9ZPS9
A	738	ASN	-	expression tag	UNP Q9ZPS9
A	739	LEU	-	expression tag	UNP Q9ZPS9
A	740	TYR	-	expression tag	UNP Q9ZPS9
A	741	PHE	-	expression tag	UNP Q9ZPS9
A	742	GLN	-	expression tag	UNP Q9ZPS9

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



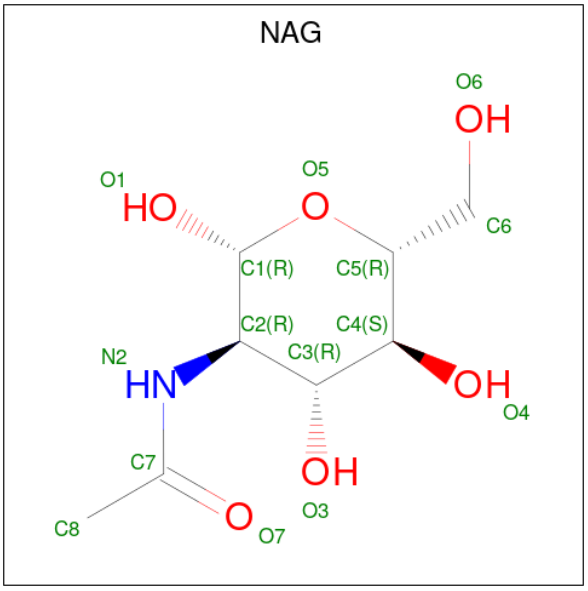
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	2	Total	C	H	N	O	0	0	0
			53	16	25	2	10			

- Molecule 3 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[alpha-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	3	Total	C	H	N	O	0	0	0
			72	22	34	2	14			

- Molecule 4 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	H	N	O	0	0
			27	8	13	1	5		
4	A	1	Total	C	H	N	O	0	0
			27	8	13	1	5		
4	A	1	Total	C	H	N	O	0	0
			27	8	13	1	5		
4	A	1	Total	C	H	N	O	0	0
			27	8	13	1	5		

- Molecule 5 is water.

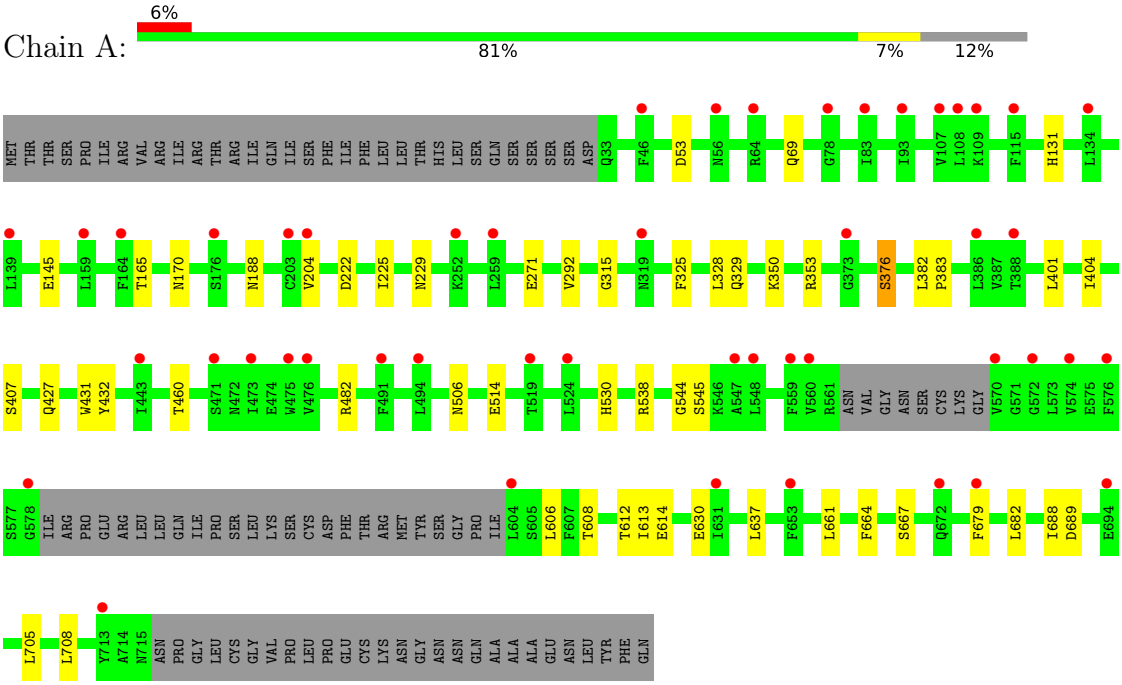
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	10	Total	O	0	0
			10	10		

3 Residue-property plots (i)

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 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.

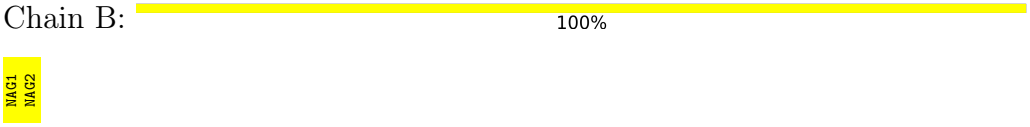
• Molecule 1: Serine/threonine-protein kinase BRI1-like 2

Chain A:



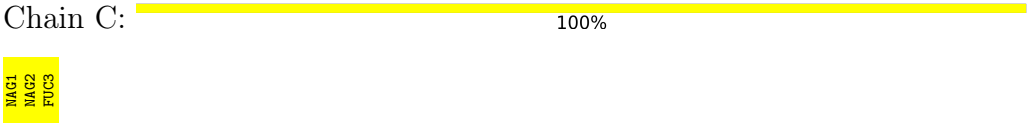
• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain B:



• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[alpha-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose

Chain C:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α, β, γ	118.61Å 118.61Å 155.62Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	47.53 – 2.59 47.53 – 2.59	Depositor EDS
% Data completeness (in resolution range)	98.9 (47.53-2.59) 99.2 (47.53-2.59)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.95 (at 2.58Å)	Xtriage
Refinement program	PHENIX 1.21.1_5286	Depositor
R, R_{free}	0.267 , 0.292 0.267 , 0.292	Depositor DCC
R_{free} test set	1741 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å^2)	90.4	Xtriage
Anisotropy	0.458	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 76.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	10147	wwPDB-VP
Average B, all atoms (Å^2)	147.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.07% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ 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: FUC, 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	0.20	0/5064	0.31	0/6892

There are no bond length outliers.

There are no bond angle outliers.

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	4968	4936	4933	28	0
2	B	28	25	25	0	0
3	C	38	34	34	0	0
4	A	56	52	52	1	0
5	A	10	0	0	0	0
All	All	5100	5047	5044	29	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 3.

All (29) 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:407:SER:HG	1:A:431:TRP:CD1	2.04	0.76
1:A:514:GLU:OE1	1:A:514:GLU:N	2.31	0.62
1:A:382:LEU:HD12	1:A:382:LEU:O	2.03	0.59
4:A:801:NAG:O7	4:A:801:NAG:O3	2.15	0.59
1:A:204:VAL:O	1:A:229:ASN:ND2	2.36	0.57
1:A:630:GLU:OE1	1:A:630:GLU:N	2.38	0.54
1:A:667:SER:OG	1:A:689:ASP:OD1	2.27	0.52
1:A:661:LEU:HD21	1:A:664:PHE:HD2	1.75	0.51
1:A:350:LYS:O	1:A:376:SER:OG	2.30	0.49
1:A:382:LEU:N	1:A:383:PRO:CD	2.78	0.47
1:A:506:ASN:OD1	1:A:530:HIS:NE2	2.47	0.45
1:A:165:THR:HG22	1:A:188:ASN:HB3	1.99	0.44
1:A:222:ASP:O	1:A:225:ILE:HG22	2.17	0.44
1:A:292:VAL:HG12	1:A:315:GLY:HA3	1.98	0.44
1:A:606:LEU:O	1:A:608:THR:N	2.44	0.44
1:A:145:GLU:OE2	1:A:170:ASN:N	2.51	0.44
1:A:544:GLY:O	1:A:545:SER:OG	2.26	0.43
1:A:329:GLN:OE1	1:A:353:ARG:NH1	2.49	0.43
1:A:612:THR:OG1	1:A:613:ILE:N	2.51	0.42
1:A:325:PHE:HB3	1:A:328:LEU:HB2	2.01	0.42
1:A:460:THR:HG22	1:A:482:ARG:HB2	2.02	0.42
1:A:538:ARG:HE	1:A:630:GLU:HG2	1.85	0.42
1:A:661:LEU:HD23	1:A:682:LEU:HD13	2.03	0.41
1:A:69:GLN:OE1	1:A:69:GLN:N	2.53	0.41
1:A:679:PHE:HB3	1:A:705:LEU:HD11	2.02	0.41
1:A:688:ILE:HG22	1:A:708:LEU:HD13	2.02	0.41
1:A:271:GLU:OE1	1:A:271:GLU:N	2.48	0.41
1:A:401:LEU:HD13	1:A:404:ILE:HD11	2.03	0.40
1:A:614:GLU:HA	1:A:637:LEU:HA	2.03	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 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	644/742 (87%)	584 (91%)	60 (9%)	0	100 100

There are no Ramachandran outliers to report.

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 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	578/668 (86%)	573 (99%)	5 (1%)	75 90

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	53	ASP
1	A	131	HIS
1	A	376	SER
1	A	427	GLN
1	A	432	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	146	ASN
1	A	170	ASN
1	A	423	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

5 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	B	1	2,1	14,14,15	0.75	0	17,19,21	1.80	4 (23%)
2	NAG	B	2	2	14,14,15	0.77	0	17,19,21	2.08	6 (35%)
3	NAG	C	1	3,1	14,14,15	0.71	0	17,19,21	1.18	1 (5%)
3	NAG	C	2	3	14,14,15	0.73	0	17,19,21	1.17	1 (5%)
3	FUC	C	3	3	10,10,11	0.67	0	14,14,16	2.31	5 (35%)

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	B	1	2,1	-	1/6/23/26	0/1/1/1
2	NAG	B	2	2	-	3/6/23/26	0/1/1/1
3	NAG	C	1	3,1	-	2/6/23/26	0/1/1/1
3	NAG	C	2	3	-	2/6/23/26	0/1/1/1
3	FUC	C	3	3	-	-	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(^{o})	Ideal(^{o})
3	C	3	FUC	C1-C2-C3	4.98	115.79	109.67
3	C	3	FUC	C1-O5-C5	4.97	124.05	112.78
2	B	1	NAG	C1-O5-C5	4.74	118.61	112.19
2	B	2	NAG	C2-N2-C7	4.66	129.54	122.90
2	B	2	NAG	O5-C5-C4	-3.19	103.07	110.83
3	C	2	NAG	C2-N2-C7	3.14	127.37	122.90
2	B	2	NAG	C3-C4-C5	-3.12	104.68	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	1	NAG	C4-C3-C2	-3.06	106.54	111.02
2	B	2	NAG	C1-O5-C5	2.65	115.78	112.19
2	B	2	NAG	O5-C1-C2	2.62	115.42	111.29
2	B	2	NAG	C6-C5-C4	2.52	118.91	113.00
3	C	3	FUC	O5-C5-C4	2.38	113.80	109.52
2	B	1	NAG	C3-C4-C5	-2.38	106.00	110.24
3	C	3	FUC	O4-C4-C5	2.25	114.65	109.67
3	C	3	FUC	C3-C4-C5	-2.21	106.34	109.77
2	B	1	NAG	O4-C4-C5	2.09	114.50	109.30
3	C	1	NAG	C1-O5-C5	2.06	114.99	112.19

There are no chirality outliers.

All (8) torsion outliers are listed below:

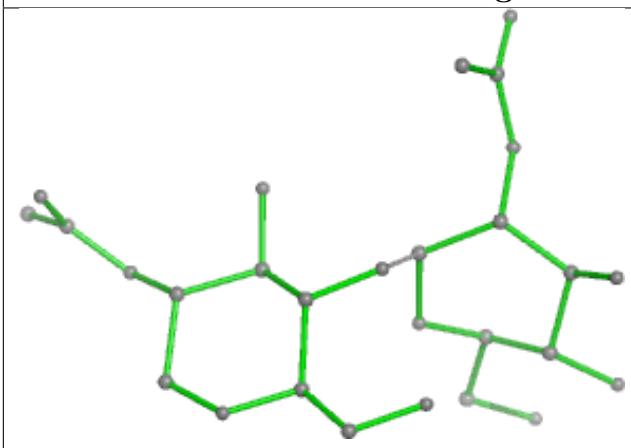
Mol	Chain	Res	Type	Atoms
3	C	1	NAG	O5-C5-C6-O6
2	B	2	NAG	C8-C7-N2-C2
2	B	2	NAG	O7-C7-N2-C2
3	C	2	NAG	C8-C7-N2-C2
3	C	2	NAG	O7-C7-N2-C2
2	B	1	NAG	O5-C5-C6-O6
2	B	2	NAG	O5-C5-C6-O6
3	C	1	NAG	C4-C5-C6-O6

There are no ring outliers.

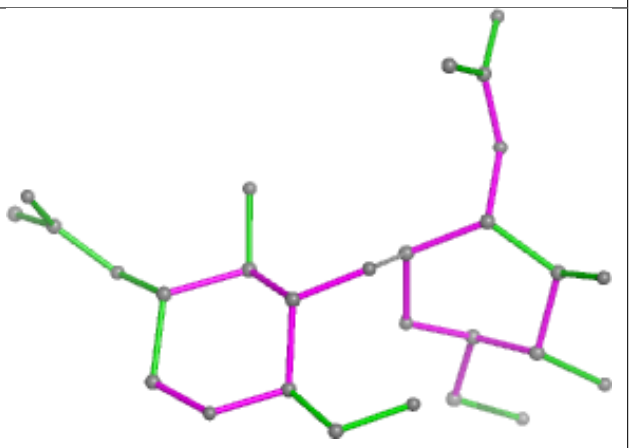
No monomer is involved in short contacts.

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

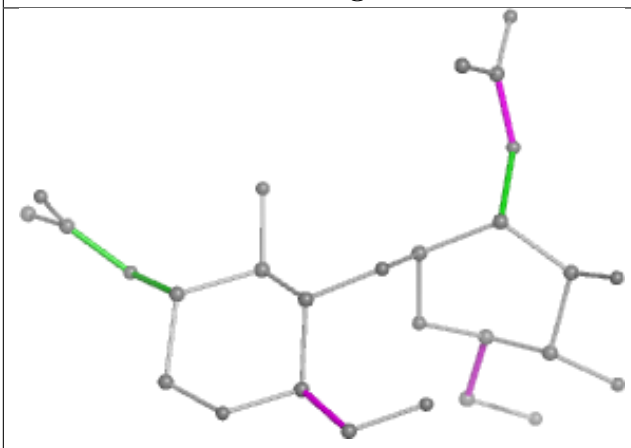
Oligosaccharide Chain B



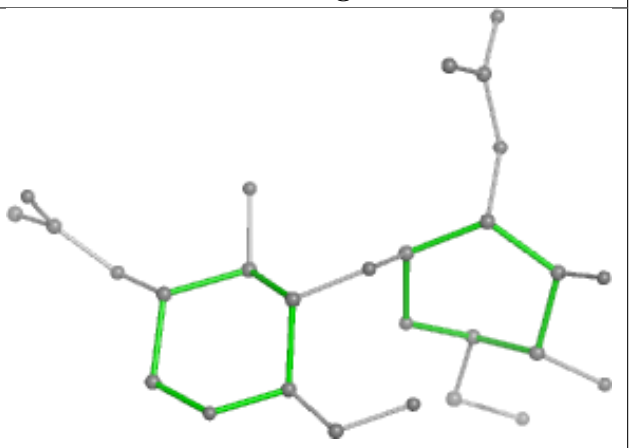
Bond lengths



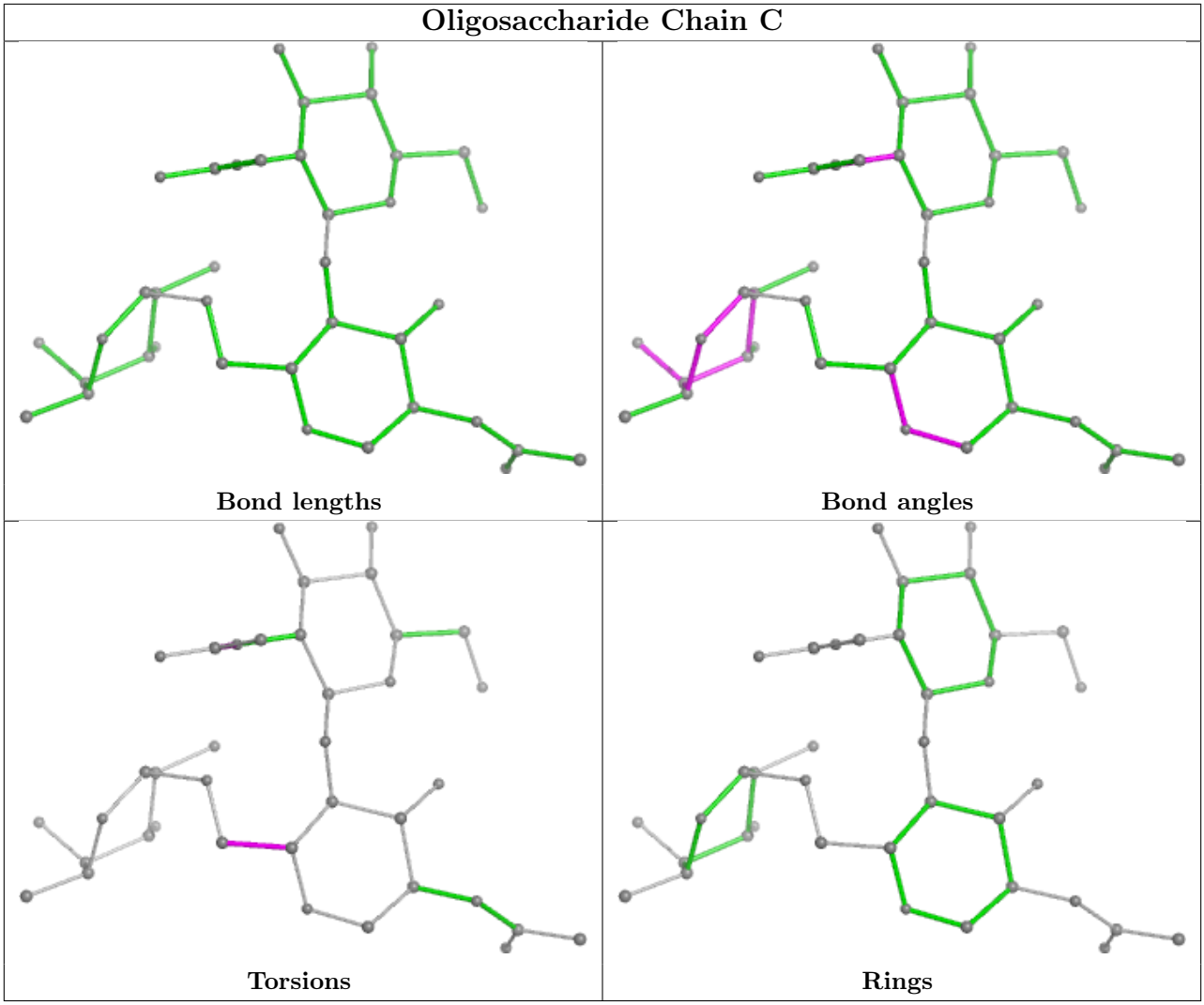
Bond angles



Torsions



Rings



5.6 Ligand geometry (i)

4 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	NAG	A	804	1	14,14,15	0.67	0	17,19,21	0.98	1 (5%)
4	NAG	A	803	1	14,14,15	0.65	0	17,19,21	1.16	2 (11%)
4	NAG	A	802	1	14,14,15	0.71	1 (7%)	17,19,21	1.58	3 (17%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	NAG	A	801	1	14,14,15	0.73	0	17,19,21	1.65	3 (17%)

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	NAG	A	804	1	-	0/6/23/26	0/1/1/1
4	NAG	A	803	1	-	3/6/23/26	0/1/1/1
4	NAG	A	802	1	-	3/6/23/26	0/1/1/1
4	NAG	A	801	1	-	1/6/23/26	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	802	NAG	O5-C1	-2.02	1.40	1.43

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	801	NAG	C1-O5-C5	4.47	118.25	112.19
4	A	801	NAG	C2-N2-C7	3.11	127.33	122.90
4	A	802	NAG	C2-N2-C7	3.05	127.25	122.90
4	A	803	NAG	C2-N2-C7	3.00	127.17	122.90
4	A	802	NAG	C4-C3-C2	2.99	115.40	111.02
4	A	803	NAG	C1-O5-C5	2.81	115.99	112.19
4	A	802	NAG	C1-C2-N2	-2.68	105.91	110.49
4	A	801	NAG	C4-C3-C2	-2.32	107.62	111.02
4	A	804	NAG	C2-N2-C7	2.11	125.91	122.90

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	801	NAG	C3-C2-N2-C7
4	A	802	NAG	C1-C2-N2-C7
4	A	803	NAG	C8-C7-N2-C2
4	A	803	NAG	O7-C7-N2-C2
4	A	802	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
4	A	802	NAG	C3-C2-N2-C7
4	A	803	NAG	O5-C5-C6-O6

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	801	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 Fit of model and data

6.1 Protein, DNA and RNA chains

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^{th} 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^2)	Q<0.9
1	A	650/742 (87%)	0.45	48 (7%)	22	18	90, 136, 226, 273	0

All (48) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	560	VAL	5.3
1	A	578	GLY	4.2
1	A	494	LEU	3.8
1	A	83	ILE	3.7
1	A	176	SER	3.6
1	A	134	LEU	3.5
1	A	519	THR	3.4
1	A	679	PHE	3.4
1	A	694	GLU	3.3
1	A	107	VAL	3.3
1	A	604	LEU	3.2
1	A	56	ASN	3.1
1	A	159	LEU	3.1
1	A	204	VAL	2.9
1	A	93	ILE	2.9
1	A	570	VAL	2.9
1	A	524	LEU	2.9
1	A	471	SER	2.8
1	A	547	ALA	2.7
1	A	109	LYS	2.6
1	A	653	PHE	2.6
1	A	203	CYS	2.5
1	A	386	LEU	2.5
1	A	475	TRP	2.5
1	A	108	LEU	2.4
1	A	548	LEU	2.4
1	A	252	LYS	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	713	TYR	2.4
1	A	559	PHE	2.4
1	A	572	GLY	2.4
1	A	574	VAL	2.3
1	A	259	LEU	2.2
1	A	388	THR	2.2
1	A	672	GLN	2.2
1	A	64	ARG	2.1
1	A	46	PHE	2.1
1	A	491	PHE	2.1
1	A	443	ILE	2.1
1	A	139	LEU	2.1
1	A	78	GLY	2.1
1	A	373	GLY	2.1
1	A	319	ASN	2.1
1	A	473	ILE	2.1
1	A	476	VAL	2.1
1	A	115	PHE	2.0
1	A	164	PHE	2.0
1	A	576	PHE	2.0
1	A	631	ILE	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)

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. The B-factors column lists the minimum, median, 95^{th} 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.

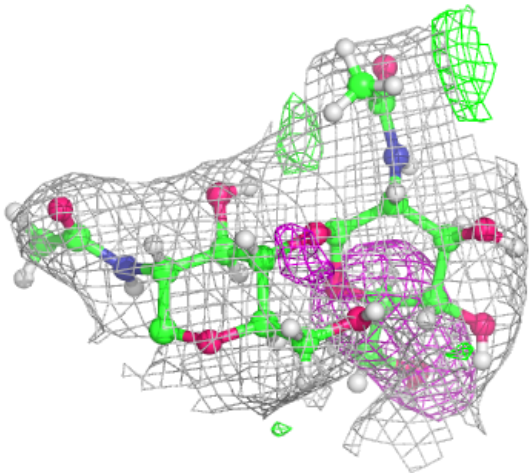
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	NAG	B	2	14/15	0.42	0.17	103,118,142,142	0
3	NAG	C	2	14/15	0.49	0.14	139,152,184,188	0
3	FUC	C	3	10/11	0.56	0.26	117,133,157,159	0
3	NAG	C	1	14/15	0.72	0.11	118,131,156,159	0
2	NAG	B	1	14/15	0.90	0.08	91,109,127,134	0

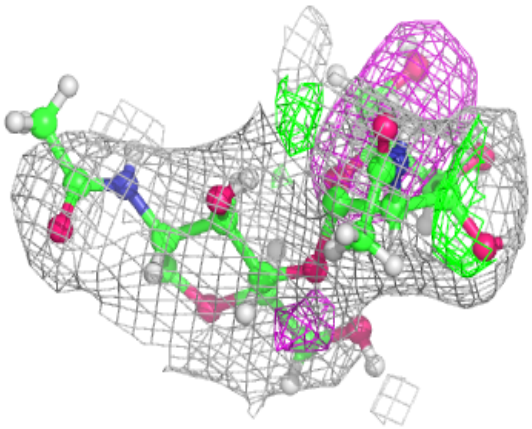
The following is a graphical depiction of the model fit to experimental electron density for oligosac-

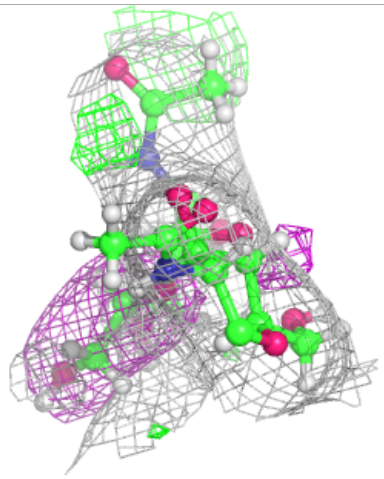
charide. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around Chain B:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

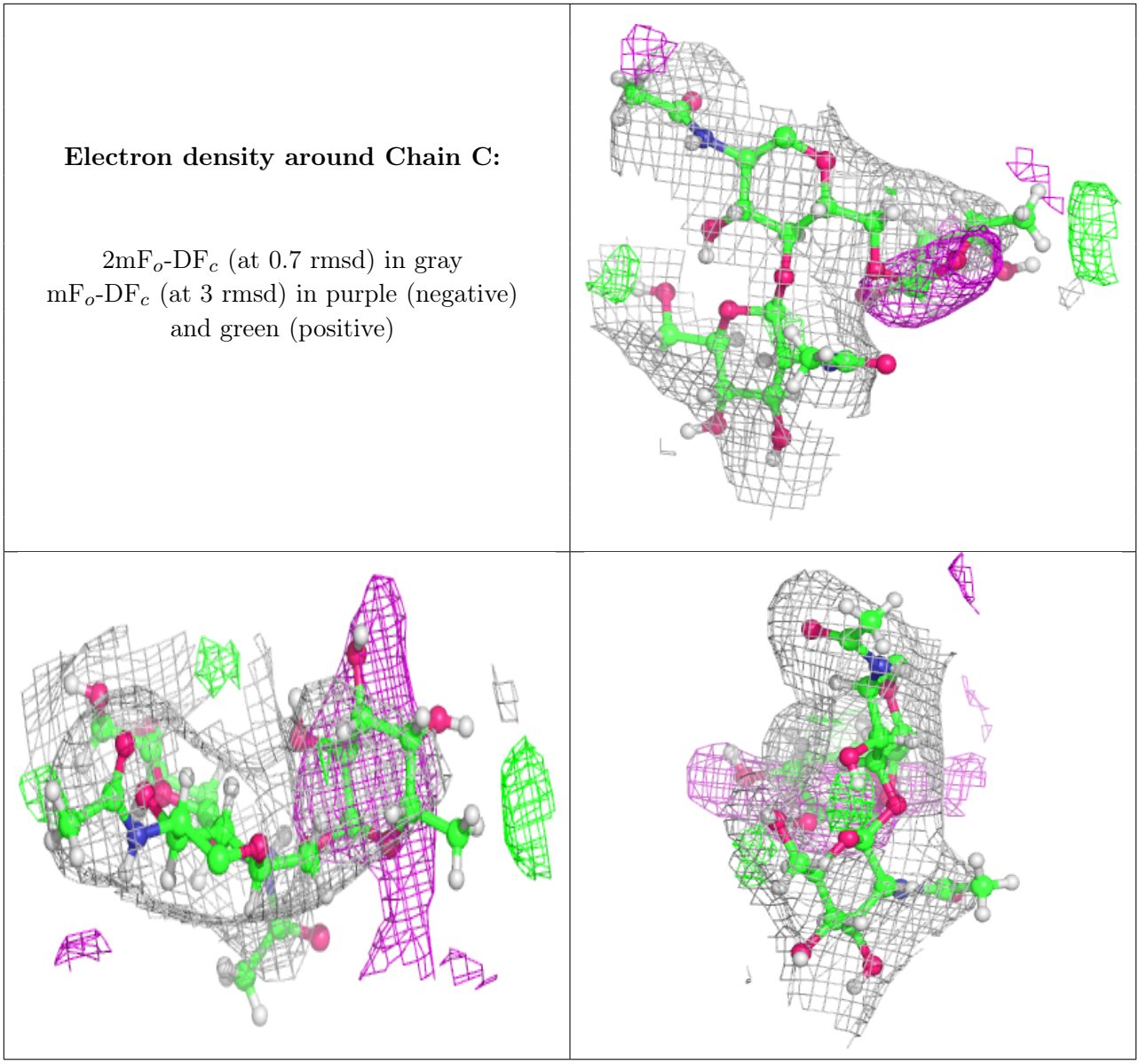






Electron density around Chain C:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



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. The B-factors column lists the minimum, median, 95^{th} 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	B-factors(Å^2)	Q<0.9
4	NAG	A	802	14/15	0.15	0.18	118,148,189,206	0
4	NAG	A	803	14/15	0.50	0.14	116,124,156,156	0
4	NAG	A	804	14/15	0.54	0.14	116,129,156,170	0
4	NAG	A	801	14/15	0.63	0.13	128,142,168,171	0

6.5 Other polymers (i)

There are no such residues in this entry.