



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 12, 2026 – 09:13 PM UTC

PDB ID : 5GJS / pdb_00005gjs
Title : Crystal structure of H1 hemagglutinin from A/California/04/2009 in complex with a neutralizing antibody 3E1
Authors : Wang, W.; Zhang, T.; Ding, J.
Deposited on : 2016-07-01
Resolution : 2.90 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 ⓘ 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:

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

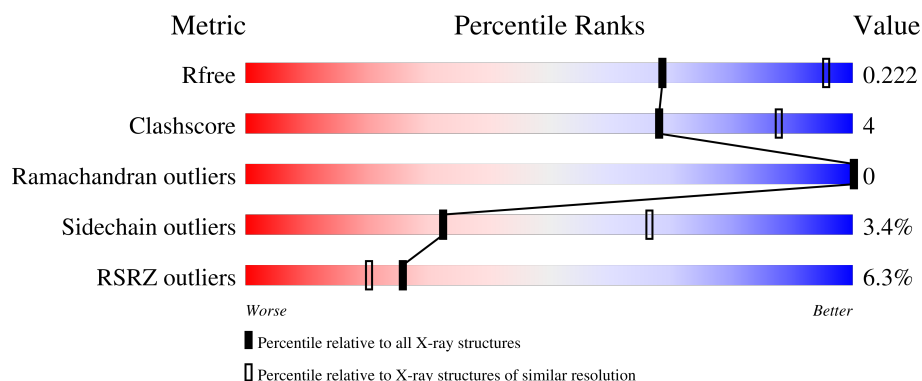
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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}	180053	2481 (2.90-2.90)
Clashscore	190562	2690 (2.90-2.90)
Ramachandran outliers	187476	2623 (2.90-2.90)
Sidechain outliers	187428	2625 (2.90-2.90)
RSRZ outliers	180081	2481 (2.90-2.90)

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 $\leq 5\%$. 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	329	3% 86% 11% • •
2	B	182	18% 84% 7% • 8%
3	L	214	3% 87% 9% •
4	H	222	3% 81% 14% • 5%
5	C	2	50% 50%

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 7069 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 Hemagglutinin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	320	Total	C	N	O	S	0	0	0
			2501	1582	428	478	13			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	9	GLY	-	expression tag	UNP C3W5S1
A	10	SER	-	expression tag	UNP C3W5S1
A	212	CYS	GLY	engineered mutation	UNP C3W5S1
A	227	CYS	ARG	engineered mutation	UNP C3W5S1

- Molecule 2 is a protein called Hemagglutinin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	167	Total	C	N	O	S	0	0	0
			1353	847	230	270	6			

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	177	LEU	-	expression tag	UNP C3W5S1
B	178	GLU	-	expression tag	UNP C3W5S1
B	179	LEU	-	expression tag	UNP C3W5S1
B	180	VAL	-	expression tag	UNP C3W5S1
B	181	PRO	-	expression tag	UNP C3W5S1
B	182	ARG	-	expression tag	UNP C3W5S1

- Molecule 3 is a protein called light chain of human neutralizing antibody 3E1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	L	207	Total	C	N	O	S	0	0	0
			1590	1003	265	317	5			

- Molecule 4 is a protein called heavy chain of human neutralizing antibody 3E1.

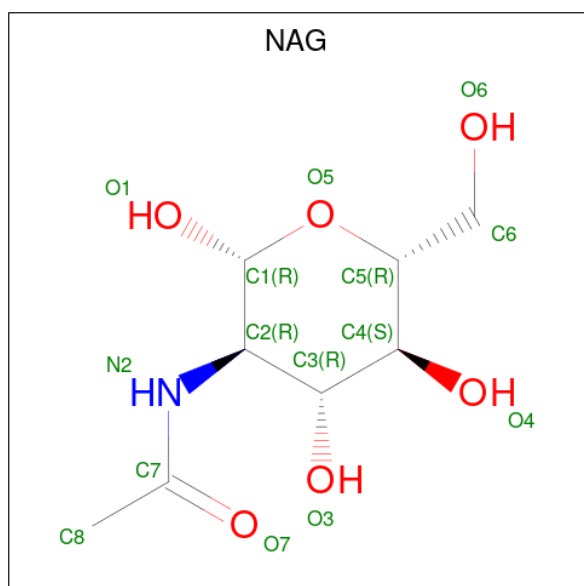
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	H	211	Total	C	N	O	S	0	0	0
			1583	1011	261	306	5			

- Molecule 5 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

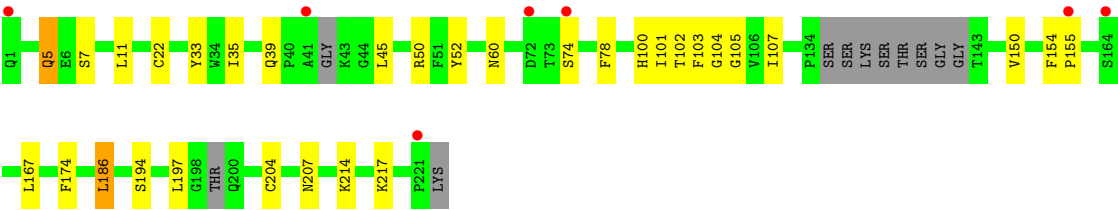


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	C	2	Total	C	N	O		0	0	0
			28	16	2	10				

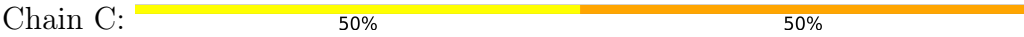
- Molecule 6 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: C₈H₁₅NO₆).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
6	A	1	Total	C	N	O		0	0
			14	8	1	5			



● Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



4 Data and refinement statistics

Property	Value	Source
Space group	H 3 2	Depositor
Cell constants a, b, c, α , β , γ	130.16Å 130.16Å 365.85Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	47.98 – 2.90 47.98 – 2.90	Depositor EDS
% Data completeness (in resolution range)	92.7 (47.98-2.90) 92.7 (47.98-2.90)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.84 (at 2.91Å)	Xtriage
Refinement program	REFMAC 5.8.0135	Depositor
R, R_{free}	0.251 , 0.303 (Not available) , 0.222	Depositor DCC
R_{free} test set	1266 reflections (4.71%)	wwPDB-VP
Wilson B-factor (Å ²)	46.6	Xtriage
Anisotropy	0.068	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.30 , 30.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	7069	wwPDB-VP
Average B, all atoms (Å ²)	52.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.69% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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: 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	0.70	0/2562	0.88	1/3479 (0.0%)
2	B	0.69	0/1379	1.01	2/1857 (0.1%)
3	L	0.71	0/1625	0.83	0/2205
4	H	0.74	0/1623	0.90	2/2219 (0.1%)
All	All	0.71	0/7189	0.90	5/9760 (0.1%)

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	267	MET	N-CA-C	5.81	117.68	108.79
2	B	49	THR	N-CA-CB	5.61	118.36	110.12
4	H	60	ASN	CA-C-N	5.42	125.49	119.32
4	H	60	ASN	C-N-CA	5.42	125.49	119.32
2	B	135	ASN	CB-CA-C	-5.15	103.57	111.66

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	2501	0	2443	19	0
2	B	1353	0	1273	10	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	L	1590	0	1529	7	0
4	H	1583	0	1546	18	0
5	C	28	0	25	2	0
6	A	14	0	13	1	0
All	All	7069	0	6829	50	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 4.

All (50) 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)
3:L:145:LYS:HB3	3:L:197:THR:HB	1.77	0.65
4:H:39:GLN:HB3	4:H:45:LEU:HD23	1.80	0.63
1:A:291:THR:HB	1:A:294:GLY:O	2.02	0.60
2:B:49:THR:HG22	4:H:103:PHE:CZ	2.36	0.60
1:A:26:VAL:HG21	1:A:325:ALA:HB2	1.85	0.58
2:B:45:ILE:O	2:B:49:THR:HG23	2.03	0.58
3:L:37:GLN:HB2	3:L:47:LEU:HD11	1.86	0.58
1:A:28:THR:HG22	2:B:104:ASN:HB3	1.87	0.57
4:H:102:THR:C	4:H:104:GLY:H	2.13	0.57
1:A:291:THR:HG22	1:A:293:LYS:H	1.71	0.56
6:A:403:NAG:H83	6:A:403:NAG:H3	1.86	0.55
4:H:150:VAL:HB	4:H:186:LEU:HD23	1.90	0.52
1:A:181:LYS:HE2	1:A:266:ALA:HB1	1.91	0.52
4:H:104:GLY:H	4:H:105:GLY:HA2	1.75	0.52
4:H:104:GLY:N	4:H:105:GLY:HA2	2.25	0.51
2:B:18:VAL:HG23	4:H:100:HIS:ND1	2.26	0.51
4:H:150:VAL:HB	4:H:186:LEU:CD2	2.43	0.48
2:B:54:SER:O	2:B:58:LYS:HB2	2.14	0.48
2:B:49:THR:HG21	3:L:50:LYS:HE3	1.96	0.47
2:B:107:THR:O	2:B:110:TYR:HB3	2.14	0.46
1:A:209:VAL:HG11	1:A:258:LEU:HD13	1.97	0.46
1:A:193:SER:HA	1:A:225:ALA:O	2.15	0.46
4:H:35:ILE:HG22	4:H:50:ARG:HB3	1.99	0.45
4:H:174:PHE:O	4:H:186:LEU:HD12	2.17	0.45
3:L:167:ASP:HB3	3:L:172:THR:H	1.81	0.45
4:H:194:SER:HA	4:H:197:LEU:HD13	1.98	0.45
1:A:117:SER:HB2	1:A:273:SER:CB	2.47	0.45
1:A:117:SER:HB2	1:A:273:SER:HB3	1.98	0.44
1:A:96:ASP:HB2	5:C:1:NAG:O6	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:309:THR:HB	1:A:313:CYS:SG	2.58	0.43
4:H:5:GLN:O	4:H:22:CYS:HA	2.17	0.43
2:B:18:VAL:HG23	4:H:100:HIS:HA	1.99	0.43
1:A:298:THR:HG22	1:A:314:PRO:HD3	1.99	0.43
3:L:117:ILE:HD13	3:L:194:CYS:HB2	2.01	0.43
1:A:147:PRO:HD2	5:C:1:NAG:H83	2.00	0.43
3:L:38:GLN:HB2	3:L:44:PRO:HB3	2.01	0.43
4:H:154:PHE:HA	4:H:155:PRO:HA	1.90	0.42
1:A:329:ARG:HH11	1:A:331:ILE:HD11	1.84	0.42
4:H:102:THR:O	4:H:105:GLY:HA2	2.19	0.42
4:H:11:LEU:HB2	4:H:155:PRO:HG3	2.01	0.41
4:H:207:ASN:OD1	4:H:214:LYS:HG2	2.21	0.41
1:A:85:SER:HA	1:A:118:VAL:HG13	2.02	0.41
2:B:9:PHE:CD1	2:B:10:ILE:HG13	2.56	0.41
1:A:168:TYR:HB3	1:A:204:ASN:OD1	2.21	0.41
1:A:301:PRO:HG2	1:A:302:PHE:CD2	2.56	0.41
3:L:35:TRP:CZ3	3:L:88:CYS:HB3	2.56	0.41
2:B:48:ILE:O	2:B:51:LYS:HB3	2.22	0.40
1:A:17:TYR:HB2	1:A:328:LEU:HD11	2.02	0.40
4:H:33:TYR:CD1	4:H:52:TYR:HB2	2.56	0.40
1:A:331:ILE:C	1:A:333:SER:H	2.30	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	312/329 (95%)	290 (93%)	22 (7%)	0	100	100
2	B	163/182 (90%)	159 (98%)	4 (2%)	0	100	100
3	L	199/214 (93%)	192 (96%)	7 (4%)	0	100	100
4	H	203/222 (91%)	190 (94%)	13 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	877/947 (93%)	831 (95%)	46 (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 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	283/290 (98%)	276 (98%)	7 (2%)	42	74
2	B	145/157 (92%)	142 (98%)	3 (2%)	47	77
3	L	178/188 (95%)	171 (96%)	7 (4%)	28	63
4	H	178/191 (93%)	168 (94%)	10 (6%)	19	50
All	All	784/826 (95%)	757 (97%)	27 (3%)	32	66

All (27) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	106	ILE
1	A	181	LYS
1	A	218	LYS
1	A	260	VAL
1	A	283	HIS
1	A	299	SER
1	A	328	LEU
2	B	18	VAL
2	B	97	GLU
2	B	113	SER
3	L	33	LEU
3	L	45	LYS
3	L	48	ILE
3	L	105	GLU
3	L	134	CYS
3	L	169	LYS
3	L	188	LYS

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Mol	Chain	Res	Type
4	H	5	GLN
4	H	7	SER
4	H	74	SER
4	H	78	PHE
4	H	101	ILE
4	H	107	ILE
4	H	167	LEU
4	H	186	LEU
4	H	204	CYS
4	H	217	LYS

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

Mol	Chain	Res	Type
1	A	166	ASN
2	B	42	GLN
3	L	37	GLN
3	L	137	ASN
4	H	39	GLN

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 ⓘ

2 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
5	NAG	C	1	5,1	14,14,15	0.54	0	17,19,21	1.09	1 (5%)
5	NAG	C	2	5	14,14,15	0.62	0	17,19,21	1.40	2 (11%)

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
5	NAG	C	1	5,1	-	2/6/23/26	0/1/1/1
5	NAG	C	2	5	-	0/6/23/26	0/1/1/1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	C	2	NAG	C1-C2-N2	-3.89	104.30	110.43
5	C	1	NAG	C1-O5-C5	2.28	115.24	112.19
5	C	2	NAG	O3-C3-C4	-2.25	105.07	110.38

There are no chirality outliers.

All (2) torsion outliers are listed below:

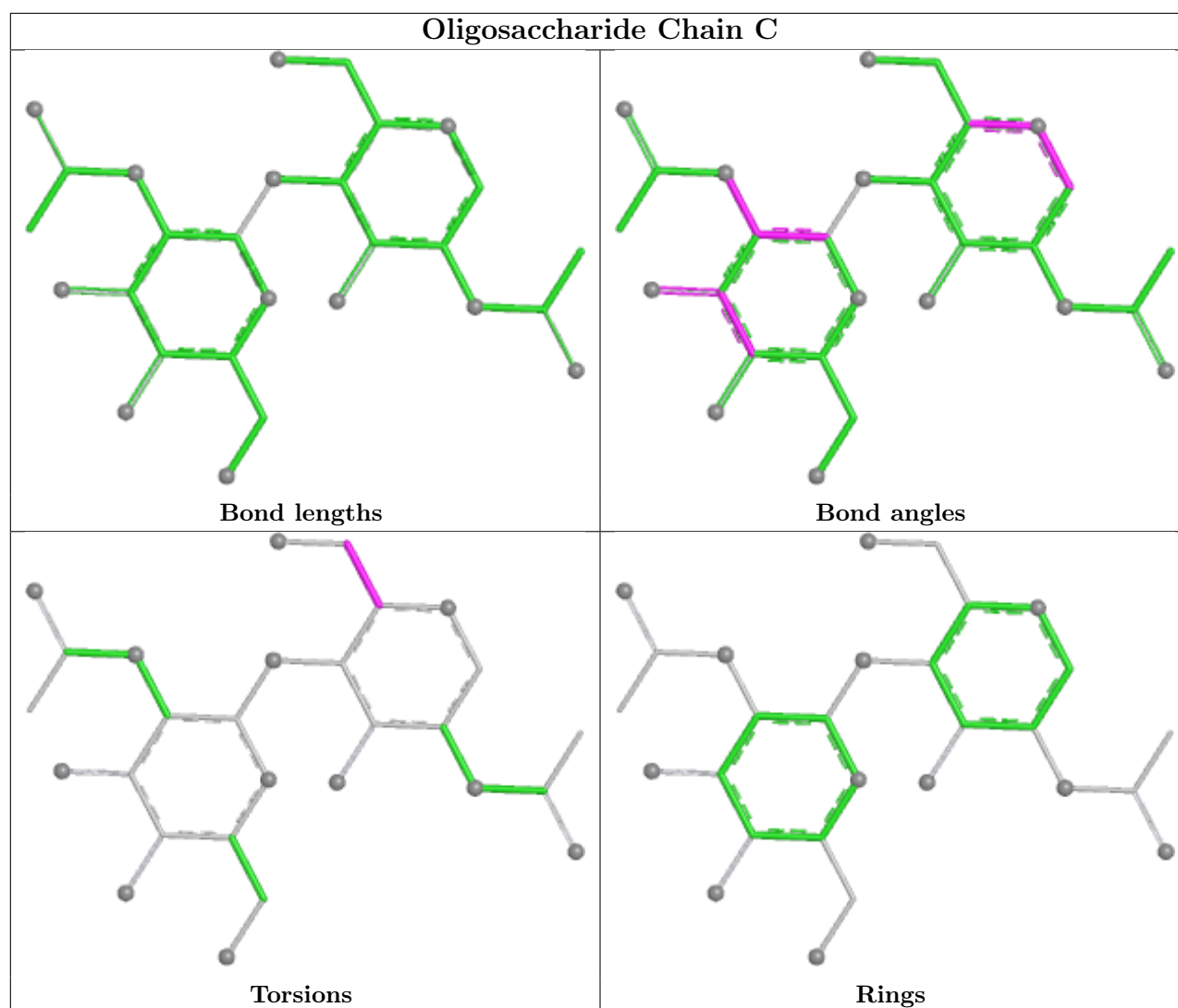
Mol	Chain	Res	Type	Atoms
5	C	1	NAG	O5-C5-C6-O6
5	C	1	NAG	C4-C5-C6-O6

There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	C	1	NAG	2	0

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



5.6 Ligand geometry [i](#)

1 ligand is 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	$\# Z > 2$
6	NAG	A	403	1	14,14,15	0.79	0	17,19,21	2.18	5 (29%)

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
6	NAG	A	403	1	-	3/6/23/26	0/1/1/1

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	A	403	NAG	C2-N2-C7	5.83	130.71	122.90
6	A	403	NAG	C8-C7-N2	4.18	123.06	116.12
6	A	403	NAG	C4-C3-C2	3.10	115.56	111.02
6	A	403	NAG	O7-C7-N2	-2.13	118.21	121.98
6	A	403	NAG	O5-C1-C2	-2.11	108.03	111.29

There are no chirality outliers.

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	403	NAG	C8-C7-N2-C2
6	A	403	NAG	O7-C7-N2-C2
6	A	403	NAG	C3-C2-N2-C7

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	A	403	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, 95th 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	320/329 (97%)	0.52	10 (3%)	51	42	24, 44, 73, 96	0
2	B	167/182 (91%)	1.11	33 (19%)	3	2	23, 54, 105, 127	0
3	L	207/214 (96%)	0.50	7 (3%)	48	39	24, 47, 81, 98	0
4	H	211/222 (95%)	0.75	7 (3%)	49	40	29, 54, 77, 101	0
All	All	905/947 (95%)	0.68	57 (6%)	26	20	23, 49, 87, 127	0

All (57) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	168	LEU	4.7
2	B	4	GLY	4.3
1	A	10	SER	4.0
2	B	141	TYR	3.8
2	B	123	ARG	3.7
2	B	171	GLU	3.7
2	B	163	SER	3.6
4	H	1	GLN	3.3
4	H	221	PRO	3.3
2	B	143	LYS	2.9
1	A	285	CYS	2.9
2	B	157	TYR	2.8
2	B	7	ALA	2.8
1	A	298	THR	2.8
2	B	119	TYR	2.8
4	H	41	ALA	2.7
2	B	132	GLU	2.7
2	B	9	PHE	2.7
2	B	116	LYS	2.7
2	B	127	LYS	2.7
2	B	159	TYR	2.6

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Mol	Chain	Res	Type	RSRZ
3	L	191	VAL	2.6
3	L	185	ASP	2.6
2	B	160	PRO	2.6
1	A	332	PRO	2.5
2	B	30	GLN	2.5
2	B	170	ARG	2.5
1	A	283	HIS	2.5
3	L	125	LEU	2.4
3	L	150	VAL	2.4
4	H	155	PRO	2.4
2	B	166	ALA	2.4
2	B	161	LYS	2.4
3	L	123	GLU	2.4
4	H	74	SER	2.3
2	B	144	CYS	2.3
2	B	133	ILE	2.3
2	B	18	VAL	2.3
1	A	271	ALA	2.2
2	B	103	GLU	2.2
4	H	72	ASP	2.2
2	B	169	ASN	2.2
4	H	164	SER	2.2
1	A	21	ASN	2.1
2	B	134	GLY	2.1
3	L	195	GLU	2.1
3	L	132	VAL	2.1
2	B	19	ASP	2.1
2	B	156	THR	2.1
1	A	302	PHE	2.1
2	B	131	LYS	2.1
2	B	135	ASN	2.1
2	B	136	GLY	2.1
2	B	158	ASP	2.1
1	A	223	GLU	2.1
1	A	13	LEU	2.1
2	B	167	LYS	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

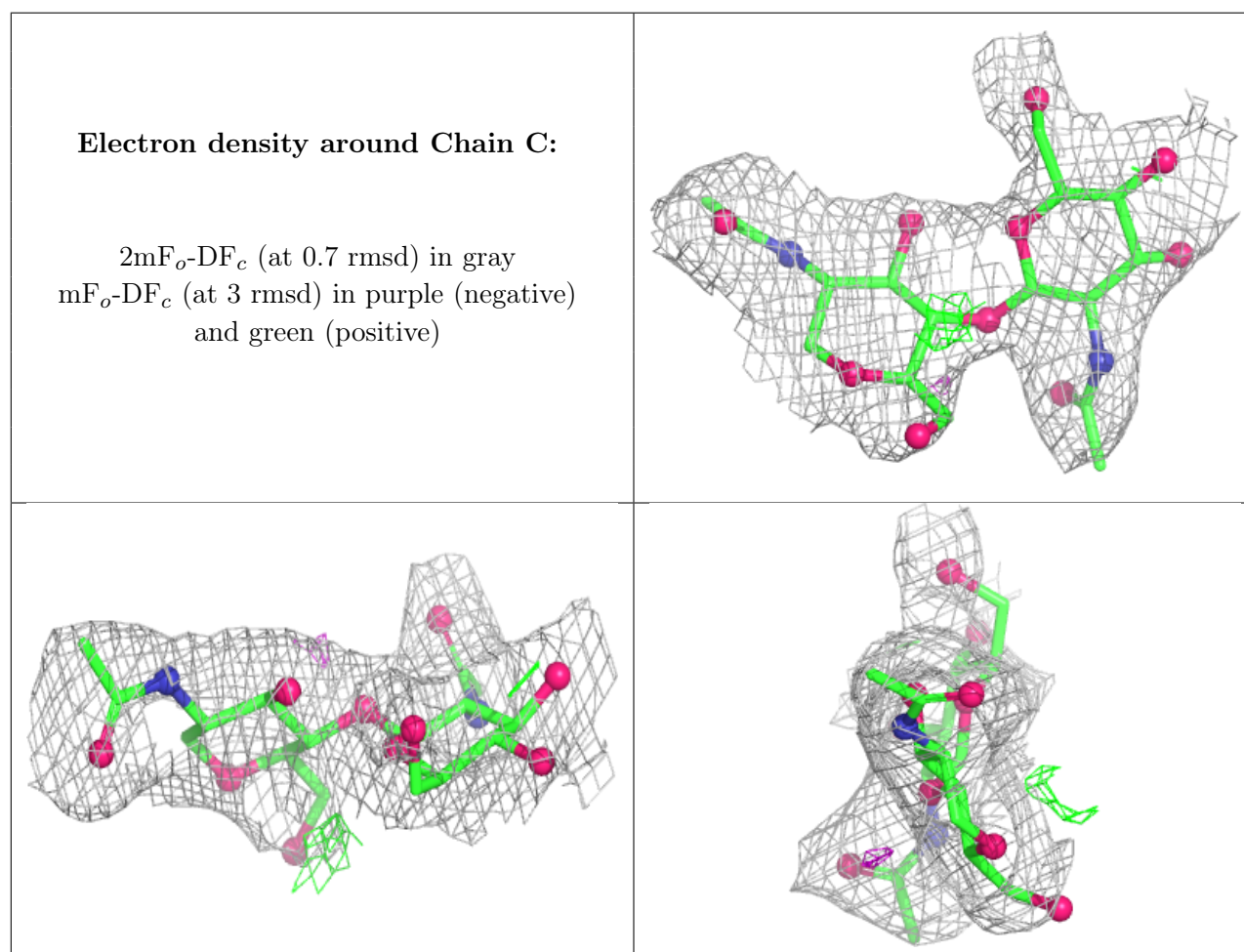
There are no non-standard protein/DNA/RNA residues in this entry.

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, 95th 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
5	NAG	C	1	14/15	-	-	36,55,66,68	0
5	NAG	C	2	14/15	-	-	67,72,84,91	0

The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.



6.4 Ligands [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, 95th 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($\text{\AA}^2$)	Q<0.9
6	NAG	A	403	14/15	0.65	0.17	86,89,96,96	0

6.5 Other polymers [i](#)

There are no such residues in this entry.