



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 09:18 PM UTC

PDB ID : 6R61 / pdb_00006r61
Title : Major aspartyl peptidase 1 from *C. neoformans* in complex with Inhibitor LP258
Authors : Krystufek, R.; Sacha, P.; Brynda, J.; Konvalinka, J.
Deposited on : 2019-03-26
Resolution : 1.81 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
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
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

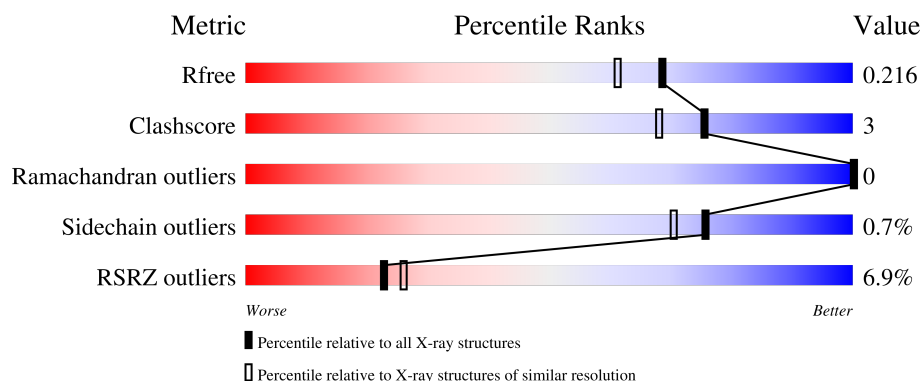
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.81 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	1112 (1.82-1.82)
Clashscore	190562	1148 (1.82-1.82)
Ramachandran outliers	187476	1140 (1.82-1.82)
Sidechain outliers	187428	1140 (1.82-1.82)
RSRZ outliers	180081	1112 (1.82-1.82)

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	436	6% 74% 6% 20%
2	B	2	50% 50%

2 Entry composition

There are 10 unique types of molecules in this entry. The entry contains 2964 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.

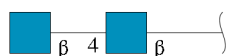
- Molecule 1 is a protein called Major aspartyl peptidase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	350	2638	1658	410	549	21	0	13	0

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	356	ALA	-	expression tag	UNP J9VS02
A	357	ALA	-	expression tag	UNP J9VS02
A	358	ALA	-	expression tag	UNP J9VS02
A	359	GLY	-	expression tag	UNP J9VS02
A	360	LEU	-	expression tag	UNP J9VS02
A	361	ASN	-	expression tag	UNP J9VS02
A	362	ASP	-	expression tag	UNP J9VS02
A	363	ILE	-	expression tag	UNP J9VS02
A	364	PHE	-	expression tag	UNP J9VS02
A	365	GLU	-	expression tag	UNP J9VS02
A	366	ALA	-	expression tag	UNP J9VS02
A	367	GLN	-	expression tag	UNP J9VS02
A	368	LYS	-	expression tag	UNP J9VS02
A	369	ILE	-	expression tag	UNP J9VS02
A	370	GLU	-	expression tag	UNP J9VS02
A	371	TRP	-	expression tag	UNP J9VS02
A	372	HIS	-	expression tag	UNP J9VS02
A	373	GLU	-	expression tag	UNP J9VS02

- 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	N	O	0	0	0
			28	16	2	10			

- Molecule 3 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula: $C_4H_{10}O_3$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			7	4	3		
3	A	1	Total	C	O	0	0
			7	4	3		
3	A	1	Total	C	O	0	0
			7	4	3		
3	A	1	Total	C	O	0	0
			7	4	3		

- Molecule 4 is TRIETHYLENE GLYCOL (CCD ID: PGE) (formula: $C_6H_{14}O_4$).



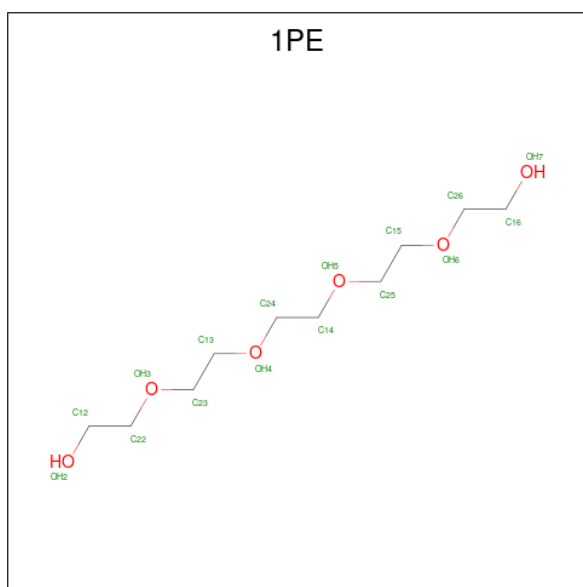
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	C	O	0	0
			10	6	4		

- Molecule 5 is SULFATE ION (CCD ID: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	O	S	0	0
			5	4	1		

- Molecule 6 is PENTAETHYLENE GLYCOL (CCD ID: 1PE) (formula: C₁₀H₂₂O₆).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total	C	O	0	0
			10	6	4		
6	A	1	Total	C	O	0	0
			10	6	4		

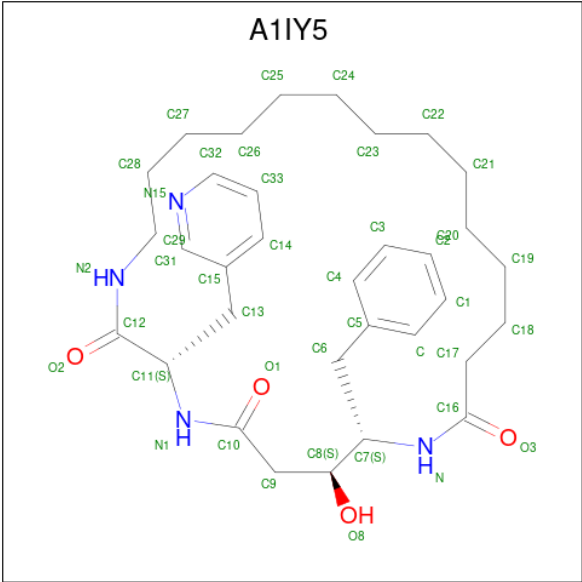
- Molecule 7 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	1	Total	Cl	0	0
			1	1		

- Molecule 8 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	A	1	Total	Na	0	0
			1	1		

- Molecule 9 is (3 {S},7 {S},8 {S})-7-oxidanyl-8-(phenylmethyl)-3-(pyridin-3-ylmethyl)-1,4,9-triazacyclotricosane-2,5,10-trione (CCD ID: A1IY5) (formula: C₃₃H₄₈N₄O₄) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
9	A	1	Total	C	N	O	0	0
			41	33	4	4		

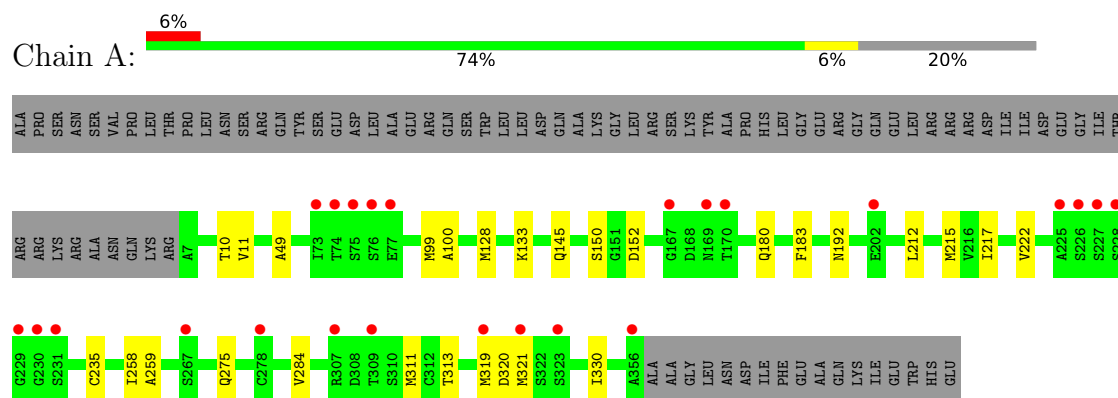
- Molecule 10 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
10	A	191	Total	O	0	1
			192	192		

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: Major aspartyl peptidase 1



- Molecule 2: 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	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	97.17Å 113.39Å 91.22Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.65 – 1.81 45.65 – 1.81	Depositor EDS
% Data completeness (in resolution range)	96.9 (45.65-1.81) 96.9 (45.65-1.81)	Depositor EDS
R_{merge}	0.17	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.20 (at 1.81Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.186 , 0.204 0.201 , 0.216	Depositor DCC
R_{free} test set	2240 reflections (4.85%)	wwPDB-VP
Wilson B-factor (Å ²)	21.6	Xtriage
Anisotropy	0.026	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.38 , 38.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	2964	wwPDB-VP
Average B, all atoms (Å ²)	35.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.80% 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 [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: PGE, NAG, SO4, PEG, 1PE, A1IY5, NA, CL

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	1.10	4/2732 (0.1%)	1.19	3/3716 (0.1%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	313	THR	C-O	5.47	1.30	1.23
1	A	183[A]	PHE	C-O	5.42	1.30	1.24
1	A	183[B]	PHE	C-O	5.42	1.30	1.24
1	A	259	ALA	C-O	5.16	1.30	1.23

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	320	ASP	CB-CA-C	5.51	119.07	109.65
1	A	49	ALA	CA-C-N	5.15	125.80	120.60
1	A	49	ALA	C-N-CA	5.15	125.80	120.60

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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	2638	0	2514	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	28	0	25	0	0
3	A	28	0	40	3	0
4	A	10	0	14	0	0
5	A	5	0	0	0	0
6	A	20	0	25	0	0
7	A	1	0	0	0	0
8	A	1	0	0	0	0
9	A	41	0	0	0	0
10	A	192	0	0	3	0
All	All	2964	0	2618	16	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 (16) 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:321[B]:MET:HG2	10:A:548:HOH:O	1.69	0.91
1:A:321[B]:MET:CG	10:A:548:HOH:O	2.26	0.80
1:A:133:LYS:HB3	3:A:403:PEG:H12	1.81	0.62
1:A:275:GLN:HG3	1:A:311[A]:MET:HE3	1.84	0.59
1:A:133:LYS:HB3	3:A:403:PEG:C1	2.37	0.55
1:A:145:GLN:HE22	3:A:403:PEG:H22	1.72	0.54
1:A:11:VAL:HG23	1:A:100:ALA:HB2	1.91	0.51
1:A:150[B]:SER:OG	1:A:152:ASP:CG	2.54	0.51
1:A:321[B]:MET:HE1	1:A:330:ILE:HG12	1.94	0.49
1:A:10:THR:HG23	1:A:180:GLN:HG3	1.97	0.46
1:A:212:LEU:HB2	1:A:235:CYS:SG	2.56	0.45
1:A:215[A]:MET:HE3	1:A:222:VAL:HB	2.00	0.43
1:A:321[A]:MET:HG2	10:A:548:HOH:O	2.18	0.43
1:A:99:MET:SD	1:A:128[A]:MET:SD	3.17	0.43
1:A:217:ILE:HD11	1:A:258:ILE:HD11	2.01	0.41
1:A:319:MET:HB3	1:A:319:MET:HE2	1.68	0.41

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 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	361/436 (83%)	350 (97%)	11 (3%)	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	294/354 (83%)	292 (99%)	2 (1%)	76	70

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	192	ASN
1	A	284	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	60	GLN
1	A	173	GLN
1	A	192	ASN
1	A	232	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 ⓘ

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	$\# Z > 2$
2	NAG	B	1	1,2	14,14,15	0.66	0	17,19,21	0.77	0
2	NAG	B	2	2	14,14,15	0.59	0	17,19,21	1.41	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	B	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	B	2	2	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2	NAG	C1-O5-C5	4.88	118.73	112.19

There are no chirality outliers.

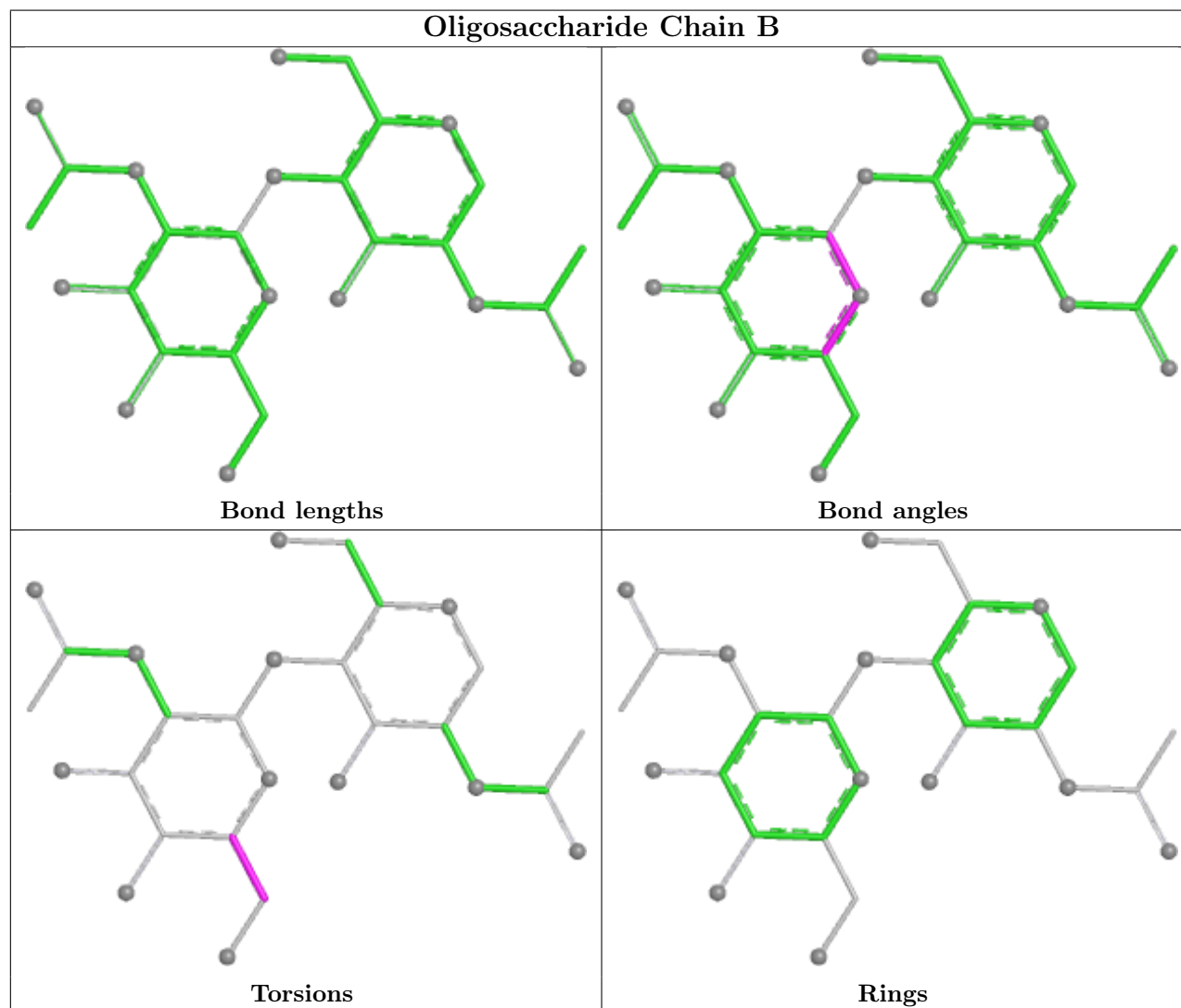
All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	2	NAG	O5-C5-C6-O6
2	B	2	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.



5.6 Ligand geometry [i](#)

Of 11 ligands modelled in this entry, 2 are monoatomic - leaving 9 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
3	PEG	A	402	-	6,6,6	0.13	0	5,5,5	0.19	0
9	A1IY5	A	411	-	43,43,43	1.20	3 (6%)	51,53,53	1.39	6 (11%)
3	PEG	A	401	-	6,6,6	0.20	0	5,5,5	0.29	0
6	1PE	A	407	-	9,9,15	0.19	0	8,8,14	0.74	0
3	PEG	A	404	-	6,6,6	0.42	0	5,5,5	0.34	0
5	SO4	A	406	-	4,4,4	0.35	0	6,6,6	0.18	0
6	1PE	A	408	-	9,9,15	0.19	0	8,8,14	0.18	0
4	PGE	A	405	-	9,9,9	0.44	0	8,8,8	0.29	0
3	PEG	A	403	-	6,6,6	0.43	0	5,5,5	0.52	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
3	PEG	A	402	-	-	2/4/4/4	-
9	A1IY5	A	411	-	-	5/45/45/45	0/2/3/3
3	PEG	A	401	-	-	1/4/4/4	-
6	1PE	A	407	-	-	5/7/7/13	-
3	PEG	A	404	-	-	2/4/4/4	-
6	1PE	A	408	-	-	4/7/7/13	-
4	PGE	A	405	-	-	5/7/7/7	-
3	PEG	A	403	-	-	2/4/4/4	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	A	411	A1IY5	C31-N15	4.21	1.43	1.34
9	A	411	A1IY5	C33-C14	3.52	1.44	1.38
9	A	411	A1IY5	C9-C10	-3.21	1.44	1.51

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	411	A1IY5	C32-N15-C31	4.14	124.10	116.85
9	A	411	A1IY5	C15-C31-N15	-3.95	116.21	123.75
9	A	411	A1IY5	C14-C15-C31	3.29	121.94	117.10
9	A	411	A1IY5	C29-N2-C12	2.45	126.96	122.55
9	A	411	A1IY5	C7-N-C16	2.23	127.12	123.40
9	A	411	A1IY5	C6-C7-N	-2.07	107.14	110.08

There are no chirality outliers.

All (26) torsion outliers are listed below:

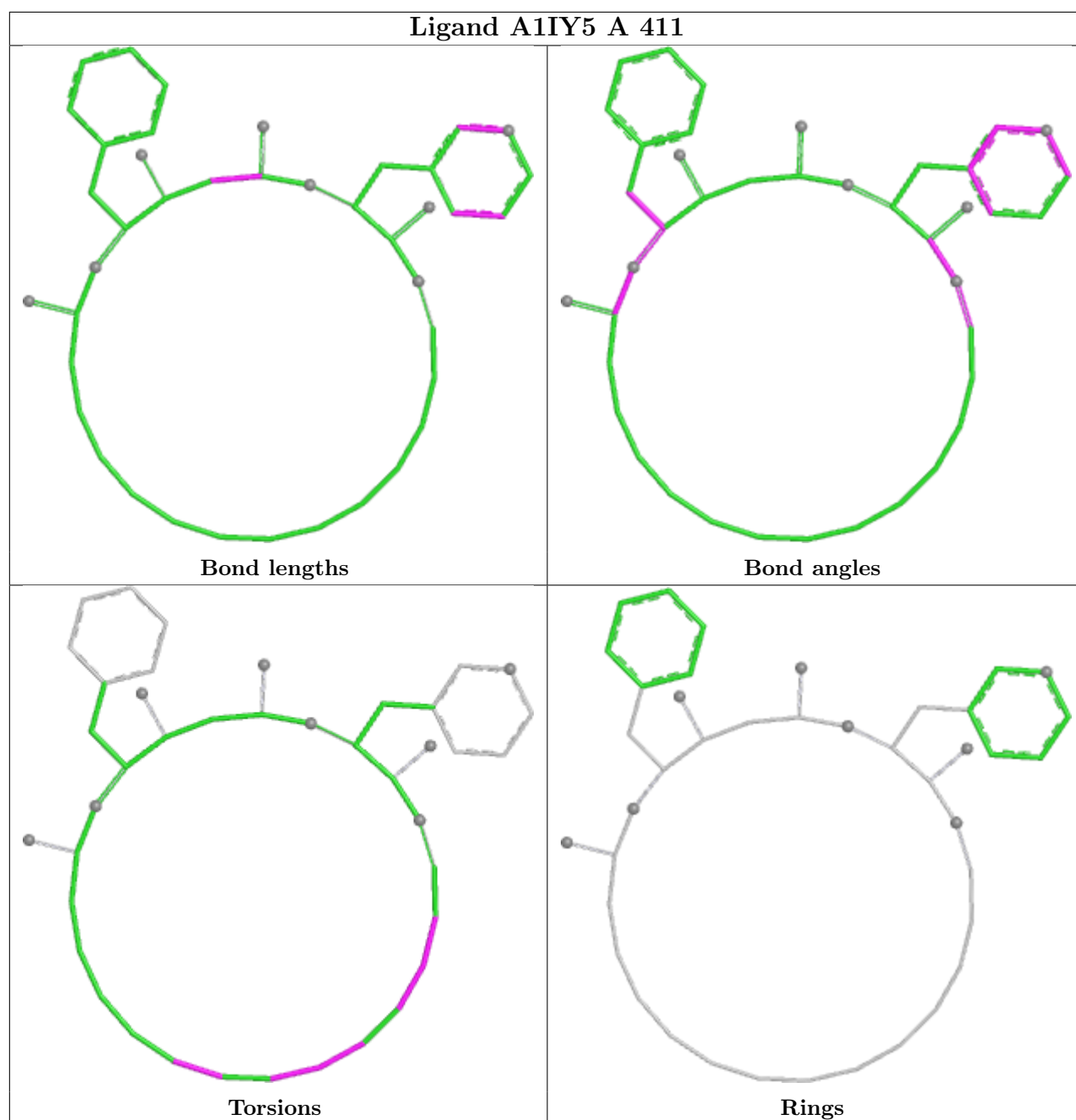
Mol	Chain	Res	Type	Atoms
4	A	405	PGE	O2-C3-C4-O3
3	A	403	PEG	O1-C1-C2-O2
6	A	408	1PE	OH4-C13-C23-OH3
6	A	408	1PE	OH2-C12-C22-OH3
9	A	411	A1IY5	C25-C26-C27-C28
9	A	411	A1IY5	C23-C24-C25-C26
3	A	402	PEG	O1-C1-C2-O2
9	A	411	A1IY5	C26-C27-C28-C29
4	A	405	PGE	O1-C1-C2-O2
3	A	402	PEG	C4-C3-O2-C2
6	A	407	1PE	C14-C24-OH4-C13
6	A	407	1PE	C15-C25-OH5-C14
3	A	404	PEG	C4-C3-O2-C2
6	A	407	1PE	C23-C13-OH4-C24
4	A	405	PGE	C3-C4-O3-C5
6	A	407	1PE	OH4-C13-C23-OH3
4	A	405	PGE	C1-C2-O2-C3
3	A	401	PEG	O2-C3-C4-O4
9	A	411	A1IY5	C20-C21-C22-C23
6	A	408	1PE	OH5-C14-C24-OH4
6	A	408	1PE	C12-C22-OH3-C23
4	A	405	PGE	C4-C3-O2-C2
3	A	403	PEG	C1-C2-O2-C3
6	A	407	1PE	OH5-C14-C24-OH4
3	A	404	PEG	O1-C1-C2-O2
9	A	411	A1IY5	C22-C23-C24-C25

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	403	PEG	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

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	350/436 (80%)	0.46	24 (6%)	23 26	18, 32, 47, 62	13 (3%)

All (24) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	227	SER	4.5
1	A	76	SER	4.4
1	A	356	ALA	4.2
1	A	309	THR	4.0
1	A	231	SER	3.8
1	A	230	GLY	3.6
1	A	225	ALA	3.6
1	A	228	SER	3.4
1	A	321[A]	MET	3.3
1	A	229	GLY	3.3
1	A	74	THR	3.0
1	A	169	ASN	3.0
1	A	77	GLU	2.9
1	A	167	GLY	2.7
1	A	323	SER	2.7
1	A	75	SER	2.7
1	A	319	MET	2.3
1	A	278	CYS	2.3
1	A	170	THR	2.2
1	A	202	GLU	2.2
1	A	307	ARG	2.2
1	A	226	SER	2.2
1	A	267	SER	2.1
1	A	73	ILE	2.1

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

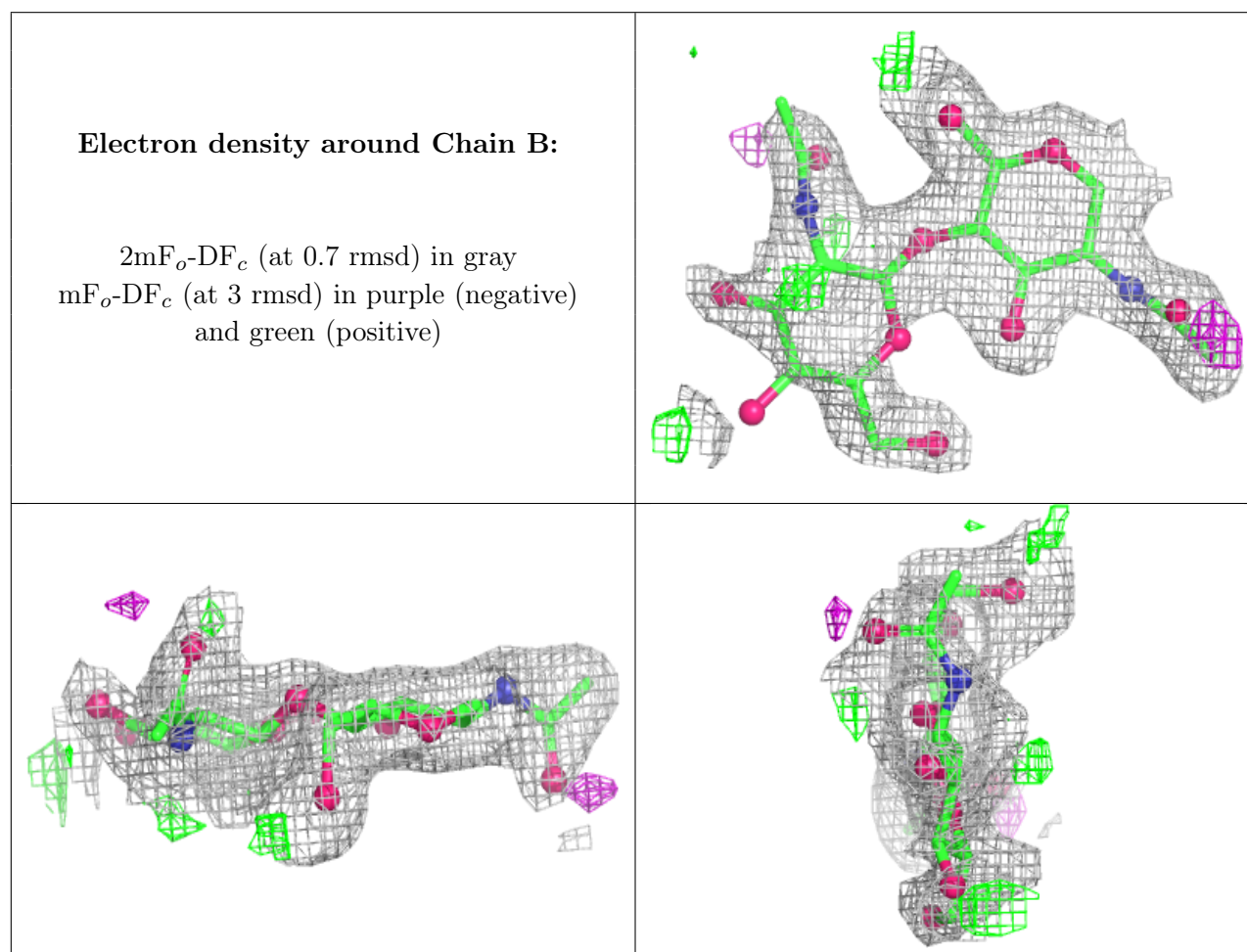
There are no non-standard protein/DNA/RNA residues in this entry.

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, 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
2	NAG	B	2	14/15	0.53	0.22	75,79,87,96	0
2	NAG	B	1	14/15	0.89	0.14	44,50,59,67	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

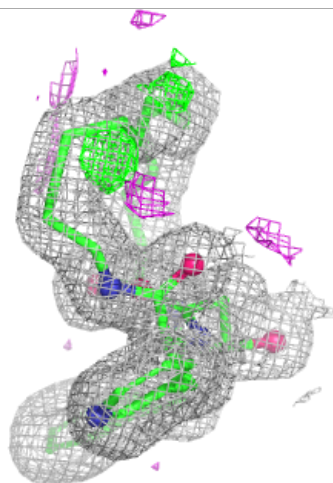
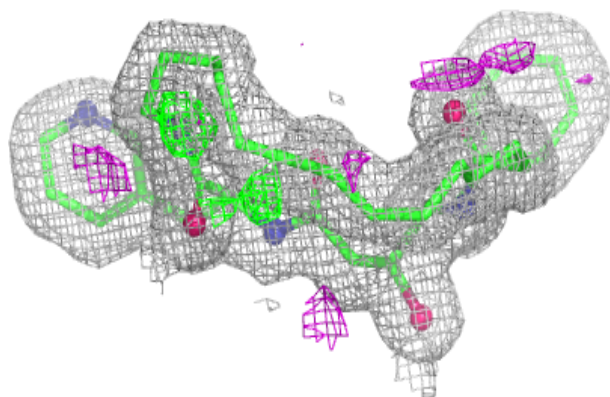
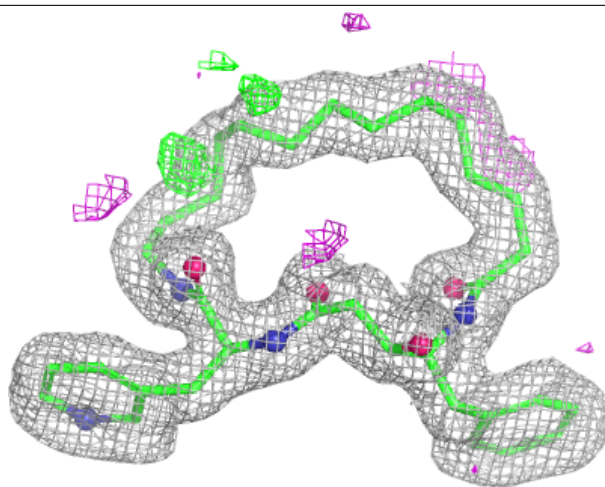
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists 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
5	SO4	A	406	5/5	0.69	0.31	76,87,125,126	0
3	PEG	A	404	7/7	0.80	0.25	54,67,79,82	0
4	PGE	A	405	10/10	0.81	0.26	60,73,80,81	0
3	PEG	A	402	7/7	0.84	0.24	65,68,78,80	0
3	PEG	A	401	7/7	0.86	0.22	57,59,68,69	0
3	PEG	A	403	7/7	0.89	0.18	38,45,62,67	0
6	1PE	A	407	10/16	0.90	0.17	34,49,52,58	0
6	1PE	A	408	10/16	0.93	0.14	39,45,54,55	10
9	A1IY5	A	411	41/41	0.96	0.09	25,30,39,44	0
8	NA	A	410	1/1	0.97	0.08	29,29,29,29	1
7	CL	A	409	1/1	1.00	0.03	34,34,34,34	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around A1IY5 A 411:

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



6.5 Other polymers [i](#)

There are no such residues in this entry.