WORLDWIDE PDB
PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Aug 4, 2025 – 08:47 AM EDT

PDB ID	:	5I4D / pdb_00005i4d
Title	:	1.75 Angstrom Crystal Structure of Superantigen-like Protein, Exotoxin from Staphylococcus aureus, in Complex with Sialyl-LewisX.
Authors	:	Minasov, G.; Nocadello, S.; Shuvalova, L.; Filippova, E.V.; Halavaty, A.; Dubrovska, I.; Bagnoli, F.; Falugi, F.; Bottomley, M.; Grandi, G.; Anderson, W.F.; Center for Structural Genomics of Infectious Diseases (CSGID)
Deposited on	:	2016-02-11
Resolution	:	1.75 Å(reported)

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

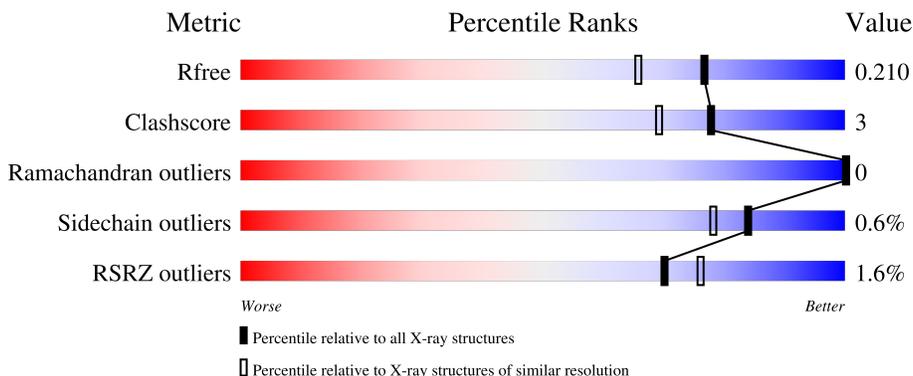|		
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 1.75 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	Percentile Ranks	Value
Rfree		0.210
Clashscore		3
Ramachandran outliers		0
Sidechain outliers		0.6%
RSRZ outliers		1.6%

Worse   *Better*

■ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	2888 (1.76-1.76)
Clashscore	180529	3097 (1.76-1.76)
Ramachandran outliers	177936	3072 (1.76-1.76)
Sidechain outliers	177891	3072 (1.76-1.76)
RSRZ outliers	164620	2887 (1.76-1.76)

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	343	52% · 44%
1	B	343	53% · 44%
2	C	4	50% 50%
2	D	4	50% 50%
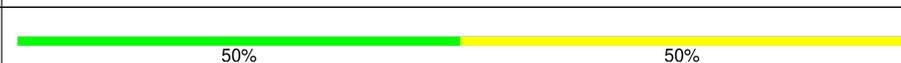
2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 4379 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 Superantigen-like protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	192	Total	C	N	O	S	0	25	0
			1787	1154	298	326	9			
1	B	193	Total	C	N	O	S	0	19	0
			1746	1122	294	319	11			

There are 34 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	14	MET	-	initiating methionine	UNP A0A0D6GBT0
A	15	GLY	-	expression tag	UNP A0A0D6GBT0
A	16	SER	-	expression tag	UNP A0A0D6GBT0
A	17	SER	-	expression tag	UNP A0A0D6GBT0
A	18	HIS	-	expression tag	UNP A0A0D6GBT0
A	19	HIS	-	expression tag	UNP A0A0D6GBT0
A	20	HIS	-	expression tag	UNP A0A0D6GBT0
A	21	HIS	-	expression tag	UNP A0A0D6GBT0
A	22	HIS	-	expression tag	UNP A0A0D6GBT0
A	23	HIS	-	expression tag	UNP A0A0D6GBT0
A	24	GLU	-	expression tag	UNP A0A0D6GBT0
A	25	ASN	-	expression tag	UNP A0A0D6GBT0
A	26	LEU	-	expression tag	UNP A0A0D6GBT0
A	27	TYR	-	expression tag	UNP A0A0D6GBT0
A	28	PHE	-	expression tag	UNP A0A0D6GBT0
A	29	GLN	-	expression tag	UNP A0A0D6GBT0
A	30	GLY	-	expression tag	UNP A0A0D6GBT0
B	14	MET	-	initiating methionine	UNP A0A0D6GBT0
B	15	GLY	-	expression tag	UNP A0A0D6GBT0
B	16	SER	-	expression tag	UNP A0A0D6GBT0
B	17	SER	-	expression tag	UNP A0A0D6GBT0
B	18	HIS	-	expression tag	UNP A0A0D6GBT0
B	19	HIS	-	expression tag	UNP A0A0D6GBT0
B	20	HIS	-	expression tag	UNP A0A0D6GBT0
B	21	HIS	-	expression tag	UNP A0A0D6GBT0

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Chain	Residue	Modelled	Actual	Comment	Reference
B	22	HIS	-	expression tag	UNP A0A0D6GBT0
B	23	HIS	-	expression tag	UNP A0A0D6GBT0
B	24	GLU	-	expression tag	UNP A0A0D6GBT0
B	25	ASN	-	expression tag	UNP A0A0D6GBT0
B	26	LEU	-	expression tag	UNP A0A0D6GBT0
B	27	TYR	-	expression tag	UNP A0A0D6GBT0
B	28	PHE	-	expression tag	UNP A0A0D6GBT0
B	29	GLN	-	expression tag	UNP A0A0D6GBT0
B	30	GLY	-	expression tag	UNP A0A0D6GBT0

- Molecule 2 is an oligosaccharide called N-acetyl-alpha-neuraminic acid-(2-3)-beta-D-galacto pyranose-(1-4)-[alpha-L-fucopyranose-(1-3)]2-acetamido-2-deoxy-alpha-D-glucopyranose.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	C	4	Total 56	C 31	N 2	O 23	0	0	0
2	D	4	Total 66	C 37	N 2	O 27	0	3	0

- Molecule 3 is TRIETHYLENE GLYCOL (CCD ID: PGE) (formula: $C_6H_{14}O_4$).

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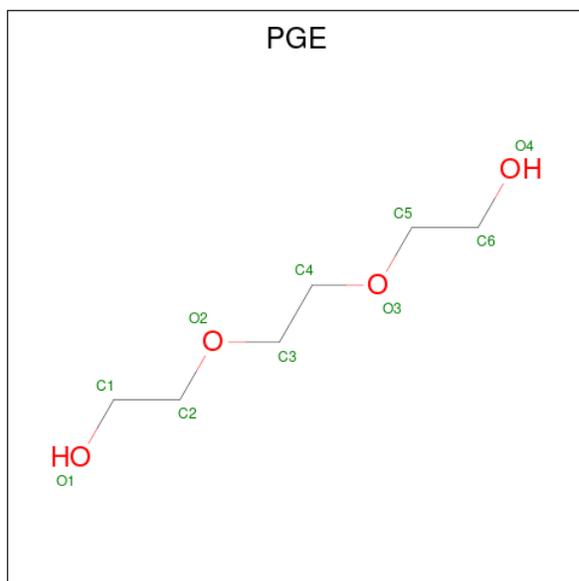
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 10	C 6	O 4	0	0

- Molecule 4 is TETRAETHYLENE GLYCOL (CCD ID: PG4) (formula: $C_8H_{18}O_5$).

PG4
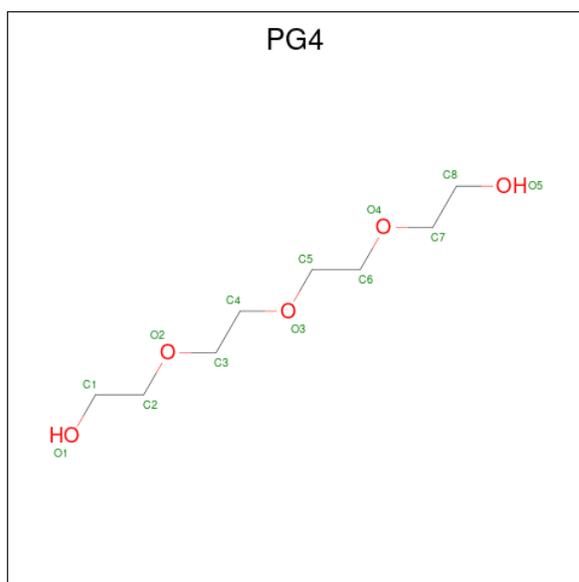
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total 13	C 8	O 5	0	0
4	B	1	Total 13	C 8	O 5	0	0

- Molecule 5 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).

NAG
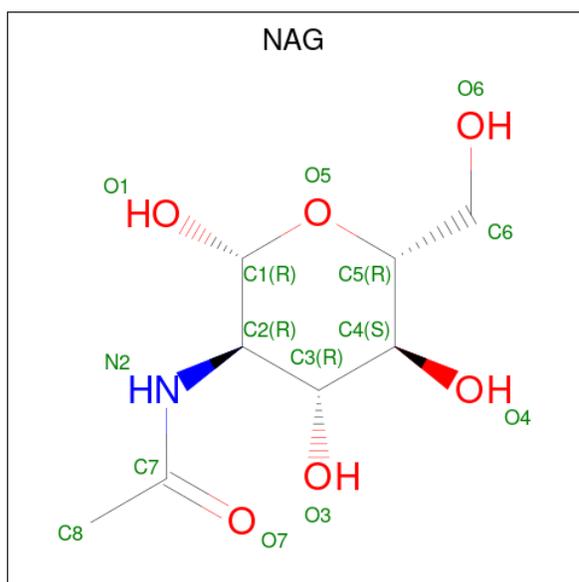
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
5	B	1	Total 15	C 8	N 1	O 6	0	1

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	326	Total O 349 349		0	33
6	B	315	Total O 324 324		0	22

3   Residue-property plots ⓘ

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: Superantigen-like protein

• Molecule 1: Superantigen-like protein

• Molecule 2: N-acetyl-alpha-neuraminic acid-(2-3)-beta-D-galactopyranose-(1-4)-[alpha-L-fucopy ranose-(1-3)]2-acetamido-2-deoxy-alpha-D-glucopyranose

• Molecule 2: N-acetyl-alpha-neuraminic acid-(2-3)-beta-D-galactopyranose-(1-4)-[alpha-L-fucopy ranose-(1-3)]2-acetamido-2-deoxy-alpha-D-glucopyranose

Chain D:

50%   50%

NDG1 GAL2 SIA3 FUC4

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	85.97Å 166.88Å 34.14Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.94 – 1.75 29.94 – 1.75	Depositor EDS
% Data completeness (in resolution range)	99.6 (29.94-1.75) 99.6 (29.94-1.75)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	0.09	Depositor
$< I/\sigma(I) >$ [1]	2.11 (at 1.75Å)	Xtriage
Refinement program	REFMAC 5.8.0135	Depositor
R, R_{free}	0.161 , 0.202 0.170 , 0.210	Depositor DCC
R_{free} test set	2563 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å^2)	18.6	Xtriage
Anisotropy	0.170	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 46.8	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	4379	wwPDB-VP
Average B, all atoms (Å^2)	23.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.15% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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: PGE, FUC, GAL, SIA, NDG, PG4, 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	0.67	0/1838	0.83	1/2455 (0.0%)
1	B	0.68	0/1785	0.82	1/2379 (0.0%)
All	All	0.68	0/3623	0.83	2/4834 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	235	GLU	N-CA-C	5.39	117.88	109.52
1	A	235	GLU	CB-CA-C	-5.19	99.87	109.37

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	1787	0	1837	15	0
1	B	1746	0	1805	5	0
2	C	56	0	46	0	0
2	D	66	0	47	0	0
3	A	10	0	14	0	0
4	A	13	0	18	0	0
4	B	13	0	18	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	B	15	0	10	0	0
6	A	349	0	0	3	0
6	B	324	0	0	2	0
All	All	4379	0	3795	20	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 (20) 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:260[B]:LYS:HA	1:A:260[B]:LYS:HE3	1.67	0.74
1:A:210:ILE:CD1	1:A:230[B]:VAL:HG11	2.22	0.69
1:A:260[B]:LYS:NZ	1:A:282[B]:MET:HG3	2.10	0.66
1:A:260[B]:LYS:HZ1	1:A:282[B]:MET:HG3	1.62	0.64
1:A:210:ILE:HD11	1:A:230[B]:VAL:HG11	1.80	0.62
1:A:260[B]:LYS:HZ3	1:A:282[B]:MET:CG	2.18	0.57
1:A:240[B]:GLN:HA	1:A:240[B]:GLN:OE1	2.05	0.56
1:B:246:VAL:HG11	1:B:336[A]:GLU:HG3	1.89	0.54
1:A:260[B]:LYS:NZ	1:A:282[B]:MET:CG	2.70	0.54
1:A:210:ILE:HD13	1:A:230[B]:VAL:HG11	1.88	0.52
1:A:269:ASP:HA	1:A:311:MET:SD	2.54	0.48
1:B:347[A]:ASN:ND2	6:B:501:HOH:O	2.46	0.47
1:A:167:LYS:NZ	6:A:503:HOH:O	2.44	0.47
1:A:255:LYS:NZ	6:A:506:HOH:O	2.49	0.45
1:B:189:MET:HE1	1:B:212:LEU:HD11	1.99	0.45
1:B:273:MET:HA	1:B:273:MET:HE2	1.99	0.44
1:B:184[A]:LYS:HB3	6:B:650[A]:HOH:O	2.17	0.43
1:A:276[B]:ARG:C	1:A:277[B]:ASP:OD1	2.63	0.42
1:A:193:TRP:CZ2	1:A:198[B]:PHE:CE1	3.09	0.40
1:A:276[B]:ARG:NH2	6:A:510:HOH:O	2.54	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	215/343 (63%)	208 (97%)	7 (3%)	0	100	100
1	B	210/343 (61%)	205 (98%)	5 (2%)	0	100	100
All	All	425/686 (62%)	413 (97%)	12 (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	202/313 (64%)	202 (100%)	0	100	100
1	B	197/313 (63%)	194 (98%)	3 (2%)	60	45
All	All	399/626 (64%)	396 (99%)	3 (1%)	84	71

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	242[A]	LYS
1	B	242[B]	LYS
1	B	356	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	258	ASN
1	A	347	ASN
1	A	350	ASN
1	B	271	GLN
1	B	354	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 ⓘ

10 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	NDG	C	1	2	15,15,15	0.52	0	21,21,21	0.99	1 (4%)
2	GAL	C	2	2	11,11,12	0.43	0	15,15,17	0.95	0
2	SIA	C	3	2	20,20,21	0.64	1 (5%)	21,28,31	1.05	4 (19%)
2	FUC	C	4	2	10,10,11	0.48	0	14,14,16	0.71	0
2	NDG	D	1[A]	2	15,15,15	0.44	0	21,21,21	0.81	0
2	GAL	D	2[A]	2	11,11,12	0.49	0	15,15,17	0.94	1 (6%)
2	GAL	D	2[B]	5	11,11,12	0.49	0	15,15,17	0.93	0
2	SIA	D	3	2	20,20,21	0.60	0	21,28,31	1.12	2 (9%)
2	FUC	D	4[A]	2	10,10,11	0.43	0	14,14,16	0.72	0
2	FUC	D	4[B]	5	10,10,11	0.44	0	14,14,16	0.73	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	NDG	C	1	2	-	0/6/26/26	0/1/1/1
2	GAL	C	2	2	-	0/2/19/22	0/1/1/1
2	SIA	C	3	2	-	0/18/34/38	0/1/1/1
2	FUC	C	4	2	-	-	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NDG	D	1[A]	2	-	0/6/26/26	0/1/1/1
2	GAL	D	2[A]	2	-	0/2/19/22	0/1/1/1
2	GAL	D	2[B]	5	-	0/2/19/22	0/1/1/1
2	SIA	D	3	2	-	0/18/34/38	0/1/1/1
2	FUC	D	4[A]	2	-	-	0/1/1/1
2	FUC	D	4[B]	5	-	-	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	3	SIA	O1B-C1	-2.11	1.23	1.30

All (8) bond angle outliers are listed below:

| Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	D	3	SIA	O6-C2-C3	-2.98	106.54	110.56
2	D	3	SIA	O1B-C1-C2	2.45	119.08	112.71
2	C	3	SIA	O6-C2-C1	2.36	112.18	107.72
2	C	3	SIA	O1B-C1-C2	2.29	118.67	112.71
2	C	1	NDG	O1-C1-C2	2.23	113.84	109.22
2	D	2[A]	GAL	C1-O5-C5	2.19	115.12	112.19
2	C	3	SIA	O6-C2-C3	-2.16	107.65	110.56
2	C	3	SIA	O1A-C1-C2	-2.01	118.51	122.85

There are no chirality outliers.

There are no torsion outliers.

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 C

Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain D

Bond lengths

Bond angles

Torsions

Rings
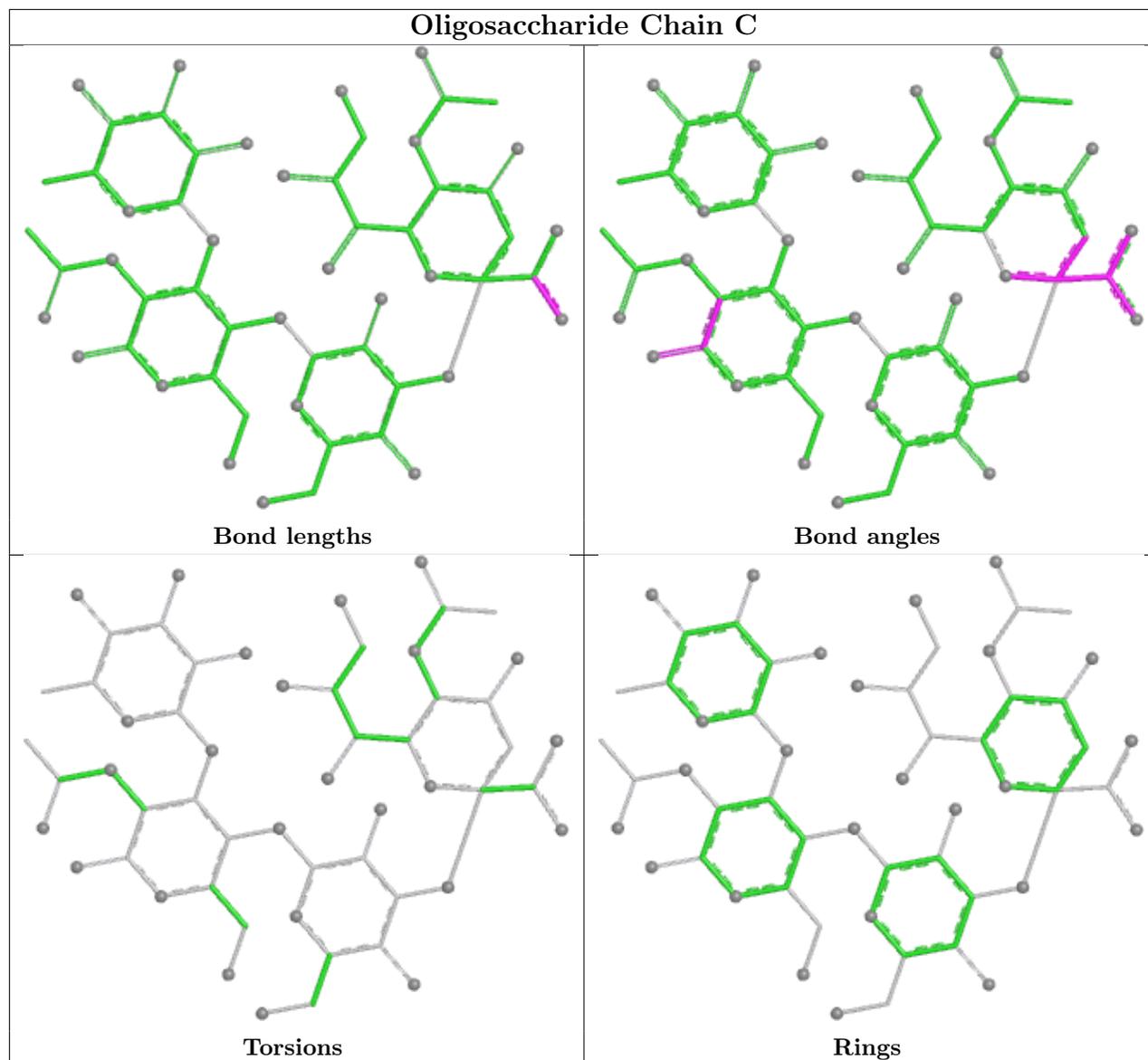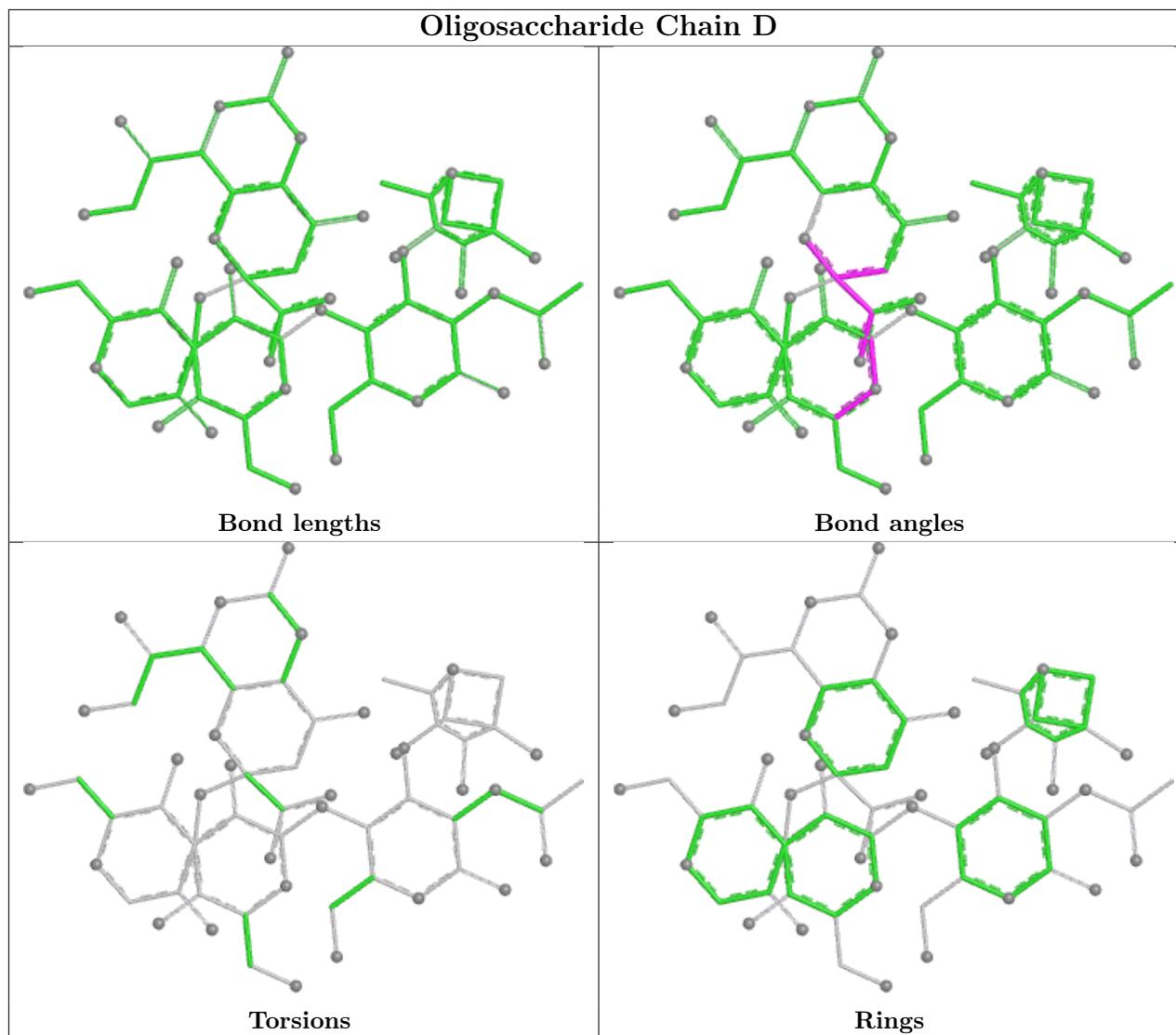
5.6 Ligand geometry ⓘ

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	#$|Z| > 2$
3	PGE	A	405	-	9,9,9	0.57	0	8,8,8	0.45	0
4	PG4	B	406	-	12,12,12	0.51	0	11,11,11	0.32	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
5	NAG	B	402[B]	2	15,15,15	0.42	0	21,21,21	1.05	2 (9%)
4	PG4	A	406	-	12,12,12	0.49	0	11,11,11	0.30	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	PGE	A	405	-	-	3/7/7/7	-
4	PG4	B	406	-	-	2/10/10/10	-
5	NAG	B	402[B]	2	-	0/6/26/26	0/1/1/1
4	PG4	A	406	-	-	5/10/10/10	-

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	B	402[B]	NAG	O5-C1-C2	2.75	112.28	109.52
5	B	402[B]	NAG	C1-C2-N2	-2.17	108.22	110.73

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	B	406	PG4	O1-C1-C2-O2
3	A	405	PGE	O3-C5-C6-O4
4	A	406	PG4	O1-C1-C2-O2
4	A	406	PG4	O4-C7-C8-O5
3	A	405	PGE	O2-C3-C4-O3
4	B	406	PG4	C8-C7-O4-C6
4	A	406	PG4	C3-C4-O3-C5
4	A	406	PG4	O2-C3-C4-O3
3	A	405	PGE	C3-C4-O3-C5
4	A	406	PG4	C5-C6-O4-C7

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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(Å²)	Q<0.9
1	A	192/343 (55%)	-0.25	3 (1%)	70	76	8, 18, 37, 74	25 (13%)
1	B	193/343 (56%)	-0.17	3 (1%)	70	76	8, 19, 43, 62	19 (9%)
All	All	385/686 (56%)	-0.21	6 (1%)	70	76	8, 18, 39, 74	44 (11%)

All (6) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	165	THR	5.3
1	B	164	MET	3.5
1	A	166	PRO	3.4
1	B	273	MET	3.3
1	A	167	LYS	2.3
1	B	165	THR	2.3

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 ⓘ

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.
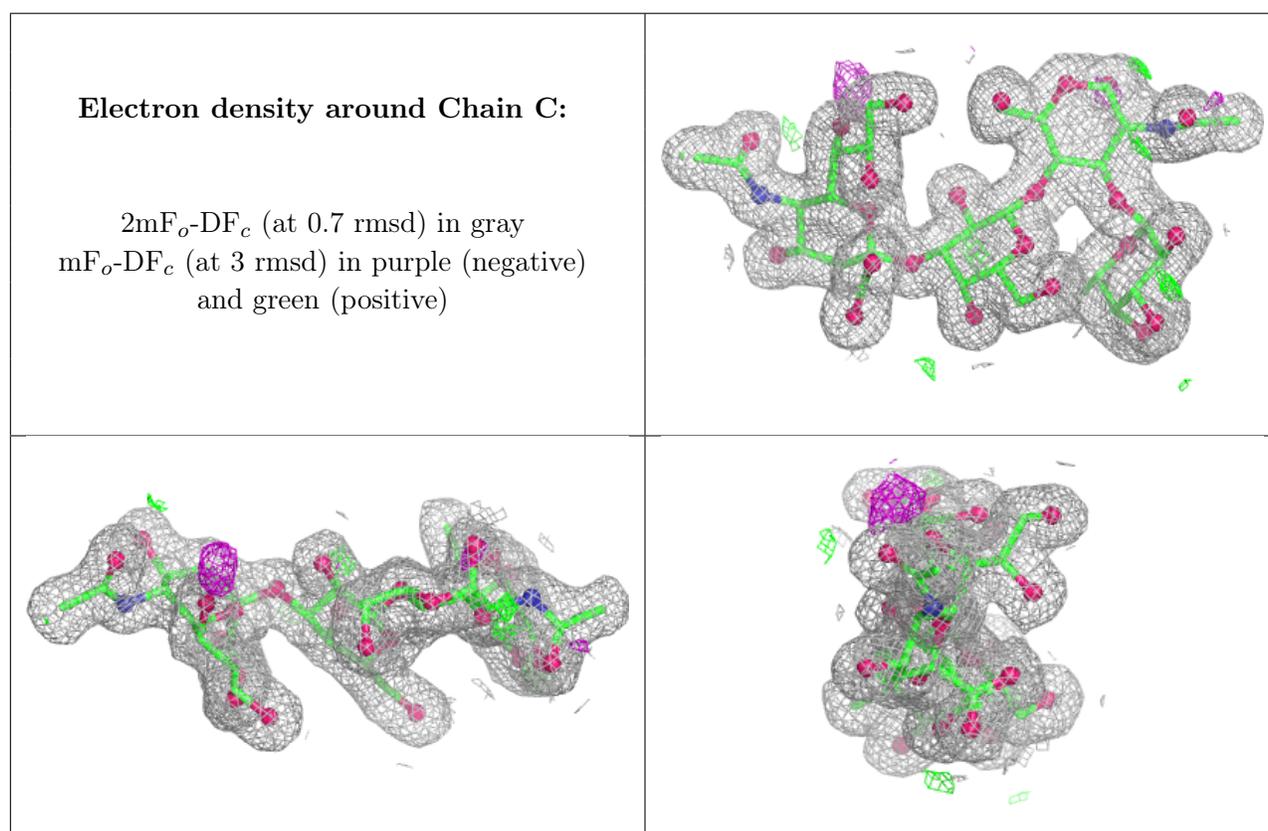
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å²)	Q<0.9
2	NDG	C	1	15/15	0.94	0.07	15,18,22,22	0
2	NDG	D	1[A]	15/15	0.95	0.07	15,17,17,18	15
2	FUC	D	4[A]	10/11	0.96	0.06	18,19,20,22	1

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	FUC	D	4[B]	10/11	0.96	0.06	18,19,20,22	1
2	SIA	D	3	20/21	0.97	0.05	13,13,17,19	0
2	FUC	C	4	10/11	0.97	0.05	15,17,19,19	0
2	SIA	C	3	20/21	0.97	0.04	12,14,16,17	0
2	GAL	C	2	11/12	0.98	0.04	13,14,15,15	0
2	GAL	D	2[A]	11/12	0.98	0.05	13,14,15,15	9
2	GAL	D	2[B]	11/12	0.98	0.05	14,14,15,15	9

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.
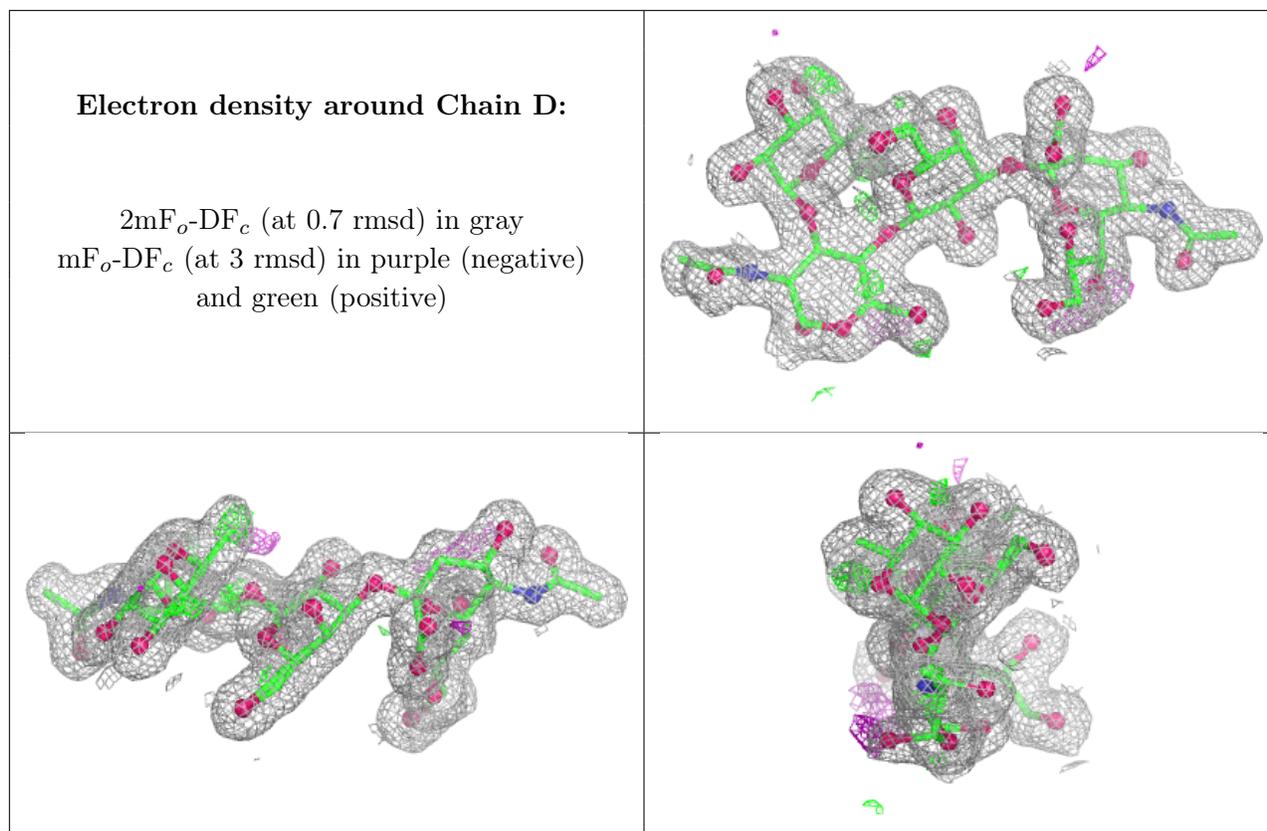
Electron density around Chain C:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around Chain D:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (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, 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
3	PGE	A	405	10/10	0.69	0.18	41,54,68,71	0
4	PG4	A	406	13/13	0.84	0.13	48,50,60,60	0
4	PG4	B	406	13/13	0.89	0.10	37,42,46,49	0
5	NAG	B	402[B]	15/15	0.94	0.08	15,18,22,24	15

6.5 Other polymers ⓘ

There are no such residues in this entry.