

wwPDB X-ray Structure Validation Summary Report (i)

Aug 6, 2023 – 07:32 AM EDT

PDB ID : 1LLF

Title : Cholesterol Esterase (Candida Cylindracea) Crystal Structure at 1.4A resolu-

tion

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Deposited on : 2002-04-28

Resolution : 1.40 Å(reported)

This is a wwPDB X-ray Structure Validation Summary 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 : 4.02b-467

Mogul: 1.8.5 (274361), CSD as541be (2020)

Xtriage (Phenix) : 1.13

EDS: 2.35

buster-report : 1.1.7 (2018)

Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)

 $Refmac \quad : \quad 5.8.0158$

CCP4 : 7.0.044 (Gargrove)

Ideal geometry (proteins) : Engh & Huber (2001) Ideal geometry (DNA, RNA) : Parkinson et al. (1996)

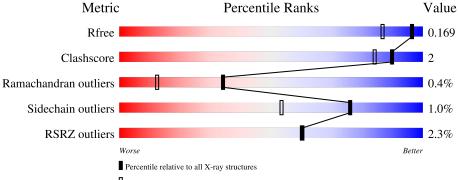
Validation Pipeline (wwPDB-VP) : 2.35

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure: $X\text{-}RAY\ DIFFRACTION$

The reported resolution of this entry is 1.40 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.



Percentile relative to X-ray structures of similar resolution

Metric	Whole archive	Similar resolution
Metric	$(\# ext{Entries})$	$(\# ext{Entries}, ext{ resolution range}(ext{Å}))$
R_{free}	130704	1714 (1.40-1.40)
Clashscore	141614	1812 (1.40-1.40)
Ramachandran outliers	138981	1763 (1.40-1.40)
Sidechain outliers	138945	1762 (1.40-1.40)
RSRZ outliers	127900	1674 (1.40-1.40)

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	Α.	F9.4	2%	
1	A	534	95%	5%
1	В	534	91%	7% •
2	С	2	100%	
2	D	2	100%	
2	Е	2	100%	

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Mol	Chain	Length	Quality	of chain
2	F	2	50%	50%



2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 17493 atoms, of which 8136 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 Lipase 3.

Mol	Chain	Residues		Atoms				ZeroOcc	AltConf	Trace	
1	A	534	Total 8020	C 2583	H 3965	N 673	O 778	S 21	0	6	0
1	В	534	Total 8043	C 2589		N 674	O 778	S 21	0	8	0

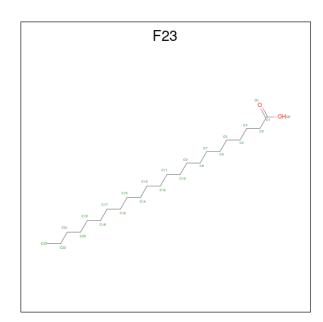
• Molecule 2 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-a cetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues		Atoms			ZeroOcc	AltConf	Trace	
2	С	2	Total	С	Н	N	О	0	0	0
2			55	16	27	2	10	U	0	
2	D	2	Total	С	Н	N	О	0	0	0
	ט	2	55	16	27	2	10	U	0	
2	Е	2	Total	С	Н	N	О	0	0	0
	<u> 1</u> 2	2	55	16	27	2	10	U	0	
2	F	2	Total	С	Н	N	О	0	0	0
2	Г	2	55	16	27	2	10	U	U	U

• Molecule 3 is TRICOSANOIC ACID (three-letter code: F23) (formula: $C_{23}H_{46}O_2$).





Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
2	Λ	1	Total	С	Н	О	0	0	
3	A	1	66	23	41	2	0	U	
2	D	1	Total	С	Н	О	0	0	
3	Б	1	66	23	41	2	0	U	

• Molecule 4 is water.

\mathbf{M}	ol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	Į	A	540	Total O 540 540	0	0
4	Ĺ	В	538	Total O 538 538	0	0



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: Lipase 3 Chain A: 95% • Molecule 1: Lipase 3 Chain B: 91% • Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-gluc opyranose Chain C: 100% • Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-gluc opyranose Chain D: 100%



• Molecule 2:	$2\hbox{-}acetamido-2\hbox{-}deoxy-beta-D-glucopyranose-(1-4)-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acetamido-2\hbox{-}acet$
opyranose	

Chain E:

NAG1 NAG2

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

Chain F: 50% 50%





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants	58.46Å 58.48Å 89.52Å	Domositon
a, b, c, α , β , γ	92.71° 97.48° 109.38°	Depositor
Resolution (Å)	30.00 - 1.40	Depositor
Resolution (A)	29.76 - 1.40	EDS
% Data completeness	90.2 (30.00-1.40)	Depositor
(in resolution range)	94.0 (29.76-1.40)	EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) > 1$	5.37 (at 1.40Å)	Xtriage
Refinement program	SHELXL-97	Depositor
D D	0.136 , 0.169	Depositor
R, R_{free}	0.140 , 0.169	DCC
R_{free} test set	10364 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å ²)	12.0	Xtriage
Anisotropy	0.354	Xtriage
Bulk solvent $k_{sol}(e/Å^3)$, $B_{sol}(Å^2)$	0.46, 59.5	EDS
L-test for twinning ²	$< L >=0.49, < L^2>=0.32$	Xtriage
Estimated twinning fraction	0.012 for -k,-h,-l	Xtriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	17493	wwPDB-VP
Average B, all atoms (Å ²)	17.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 9.63% of the height of the origin peak. No significant pseudotranslation is detected.

²Theoretical 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.



¹Intensities estimated from amplitudes.

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: NAG, F23

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		
IVIOI	Chain	RMSZ	# Z > 5	RMSZ	# Z > 5	
1	A	0.54	0/4179	1.09	14/5678~(0.2%)	
1	В	0.57	0/4195	1.18	29/5699~(0.5%)	
All	All	0.55	0/8374	1.14	43/11377 (0.4%)	

There are no bond length outliers.

The worst 5 of 43 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^o)$	$\operatorname{Ideal}({}^{o})$
1	A	324[A]	ARG	CD-NE-CZ	15.34	145.07	123.60
1	A	324[B]	ARG	CD-NE-CZ	15.34	145.07	123.60
1	В	1183	ARG	NE-CZ-NH1	12.41	126.51	120.30
1	В	1445[A]	MET	CG-SD-CE	10.76	117.41	100.20
1	В	1445[B]	MET	CG-SD-CE	10.76	117.41	100.20

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	4055	3965	3955	12	0
1	В	4062	3981	3965	16	0
2	С	28	27	25	0	0
2	D	28	27	25	0	0

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Continued	trom	mmoninonic	maaa
COHABABACA		DIEUIUU	DUIUE
0 0 1000100000			

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	Е	28	27	25	0	0
2	F	28	27	25	0	0
3	A	25	41	45	4	0
3	В	25	41	45	4	0
4	A	540	0	0	3	0
4	В	538	0	0	3	0
All	All	9357	8136	8110	30	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.

The worst 5 of 30 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	$\begin{array}{c} {\rm Interatomic} \\ {\rm distance} \ ({\rm \AA}) \end{array}$	$egin{aligned} ext{Clash} \ ext{overlap } (ext{Å}) \end{aligned}$
1:B:1313[B]:LYS:HE2	4:B:2431:HOH:O	1.93	0.68
1:B:1313[B]:LYS:HE3	1:B:1314:ASN:OD1	1.98	0.62
1:A:144:LEU:HD11	4:A:2851:HOH:O	2.06	0.55
1:B:1182:GLN:OE1	1:B:1218:HIS:HE1	1.90	0.54
1:A:170:LYS:HE3	1:A:311:ASP:O	2.06	0.54

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	Percentile	s
1	A	538/534 (101%)	516 (96%)	20 (4%)	2 (0%)	34 12	
1	В	540/534 (101%)	517 (96%)	21 (4%)	2 (0%)	34 12	
All	All	1078/1068 (101%)	1033 (96%)	41 (4%)	4 (0%)	34 12	

All (4) Ramachandran outliers are listed below:



Mol	Chain	Res	Type
1	A	384	ASP
1	В	1384	ASP
1	A	123	GLY
1	В	1123	GLY

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	analysed Rotameric Outliers		Percentiles		
1	A	438/432 (101%)	435 (99%)	3 (1%)	84 66		
1	В	440/432 (102%)	432 (98%)	8 (2%)	59 28		
All	All	878/864 (102%)	867 (99%)	11 (1%)	76 42		

5 of 11 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	В	1445[A]	MET
1	В	1445[B]	MET
1	В	1501	ASN
1	В	1469	ASN
1	В	1079	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 20 such sidechains are listed below:

Mol	Chain	Res	Type
1	В	1383	GLN
1	В	1438	GLN
1	В	1501	ASN
1	В	1451	ASN
1	В	1008	ASN

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)

8 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	Trno	Chain	Res	Link	Вс	ond leng	ths	В	ond ang	les
WIOI	Type	Chain	nes	LIIIK	Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	NAG	С	1	2,1	14,14,15	0.61	0	17,19,21	1.00	1 (5%)
2	NAG	С	2	2	14,14,15	0.59	0	17,19,21	1.25	2 (11%)
2	NAG	D	1	2,1	14,14,15	0.50	0	17,19,21	1.46	2 (11%)
2	NAG	D	2	2	14,14,15	0.79	0	17,19,21	1.11	1 (5%)
2	NAG	Е	1	2,1	14,14,15	0.54	0	17,19,21	0.98	2 (11%)
2	NAG	Е	2	2	14,14,15	0.74	0	17,19,21	1.12	2 (11%)
2	NAG	F	1	2,1	14,14,15	0.60	0	17,19,21	0.86	0
2	NAG	F	2	2	14,14,15	0.81	0	17,19,21	0.91	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	С	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	С	2	2	-	2/6/23/26	0/1/1/1
2	NAG	D	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	D	2	2	-	0/6/23/26	0/1/1/1
2	NAG	Ε	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	E	2	2	-	2/6/23/26	0/1/1/1
2	NAG	F	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	F	2	2	-	0/6/23/26	0/1/1/1

There are no bond length outliers.



The worst 5 of 11 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	\mathbf{Z}	$Observed(^o)$	$\operatorname{Ideal}({}^{o})$
2	D	1	NAG	C2-N2-C7	-3.44	118.01	122.90
2	Е	2	NAG	C1-O5-C5	-2.87	108.30	112.19
2	D	1	NAG	C1-C2-N2	-2.82	105.66	110.49
2	Е	2	NAG	C3-C4-C5	-2.47	105.83	110.24
2	D	2	NAG	O5-C5-C6	-2.47	103.34	107.20

There are no chirality outliers.

All (4) torsion outliers are listed below:

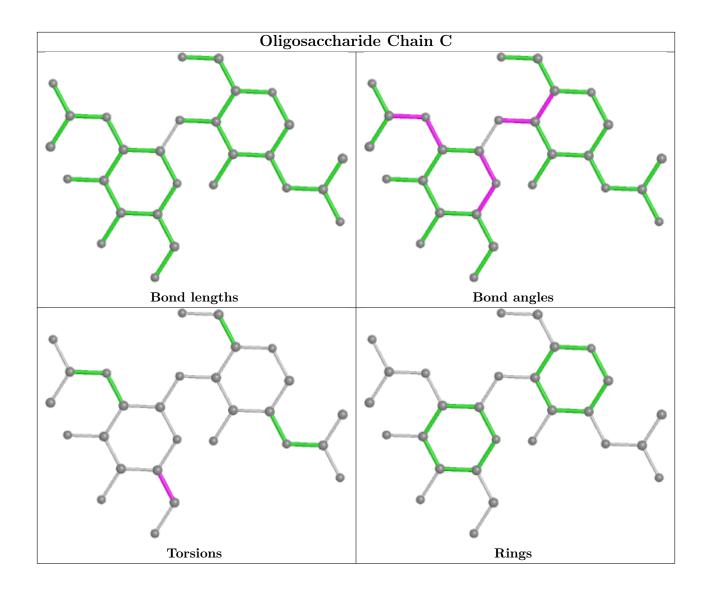
Mol	Chain	Res	Type	Atoms
2	Ε	2	NAG	O5-C5-C6-O6
2	Е	2	NAG	C4-C5-C6-O6
2	С	2	NAG	O5-C5-C6-O6
2	С	2	NAG	C4-C5-C6-O6

There are no ring outliers.

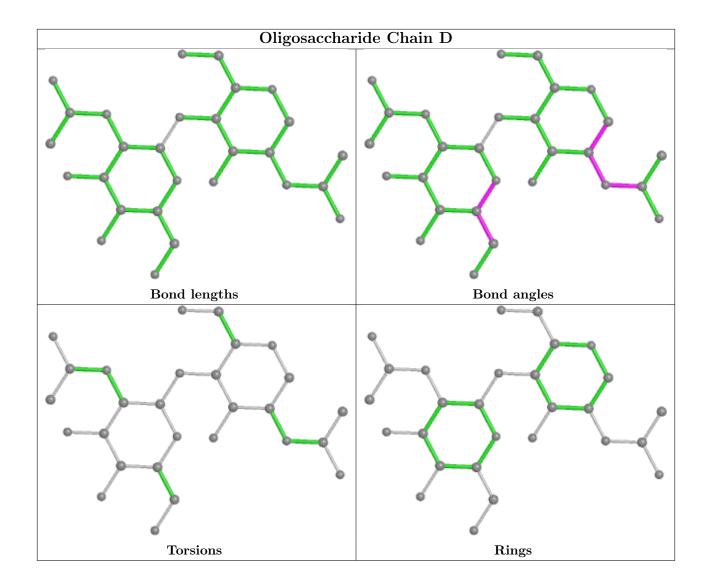
No monomer is involved in short contacts.

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

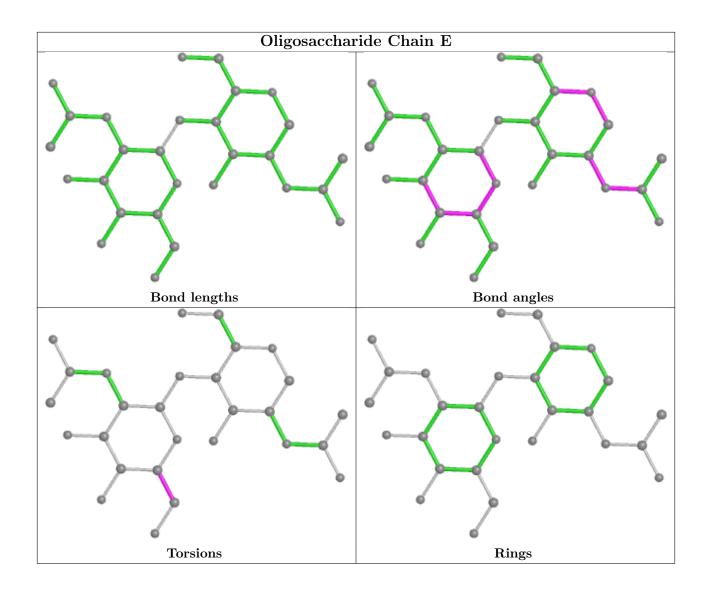




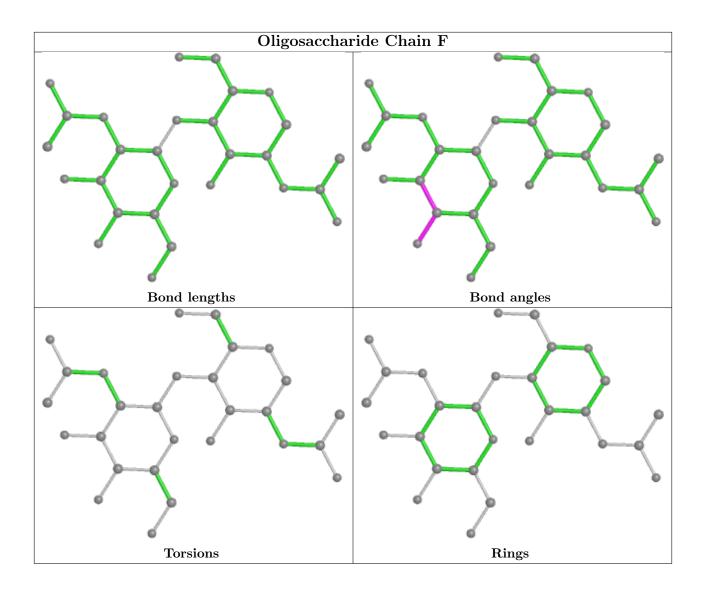












5.6 Ligand geometry (i)

2 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		
MIOI					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	F23	В	1800	-	24,24,24	1.19	2 (8%)	24,24,24	0.92	2 (8%)
3	F23	A	800	-	24,24,24	1.13	2 (8%)	24,24,24	0.93	1 (4%)



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	F23	В	1800	-	-	9/22/22/22	-
3	F23	A	800	-	-	9/22/22/22	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(A)	$Ideal(\AA)$
3	В	1800	F23	O2-C1	-4.08	1.17	1.30
3	A	800	F23	O2-C1	-3.94	1.17	1.30
3	В	1800	F23	C2-C1	-3.17	1.43	1.50
3	A	800	F23	C2-C1	-2.80	1.44	1.50

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	\mathbf{Z}	$\mathbf{Observed}(^{o})$	$\operatorname{Ideal}({}^{o})$
3	A	800	F23	C9-C8-C7	2.58	127.50	114.42
3	В	1800	F23	C11-C10-C9	-2.05	104.01	114.42
3	В	1800	F23	C9-C8-C7	2.02	124.68	114.42

There are no chirality outliers.

5 of 18 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	800	F23	C7-C8-C9-C10
3	В	1800	F23	C7-C8-C9-C10
3	В	1800	F23	C2-C3-C4-C5
3	В	1800	F23	C5-C6-C7-C8
3	A	800	F23	C2-C3-C4-C5

There are no ring outliers.

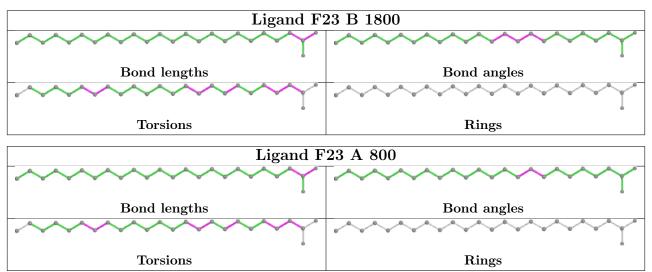
2 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	В	1800	F23	4	0
3	A	800	F23	4	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 then 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 (i)

6.1 Protein, DNA and RNA chains (i)

In the following table, the column labelled '#RSRZ>2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{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		$OWAB(A^2)$	Q<0.9
1	A	534/534 (100%)	-0.30	11 (2%) 63	63	9, 12, 24, 43	0
1	В	534/534 (100%)	-0.28	14 (2%) 56	55	9, 13, 25, 42	0
All	All	1068/1068 (100%)	-0.29	25 (2%) 60	60	9, 12, 25, 43	0

The worst 5 of 25 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ	
1	A	73	LEU	5.2	
1	В	1086[A]	VAL	5.0	
1	В	1073	LEU	4.9	
1	В	1080	LEU	4.4	
1	A	86[A]	VAL	4.4	

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	$\mathbf{B} ext{-}\mathbf{factors}(\mathbf{\mathring{A}}^2)$	Q<0.9
2	NAG	С	2	14/15	0.84	0.28	29,44,66,92	0
2	NAG	Ε	2	14/15	0.90	0.29	38,52,74,97	0
2	NAG	Е	1	14/15	0.94	0.11	19,26,43,43	0
2	NAG	D	2	14/15	0.95	0.11	14,24,40,60	0
2	NAG	F	2	14/15	0.95	0.14	16,23,33,50	0

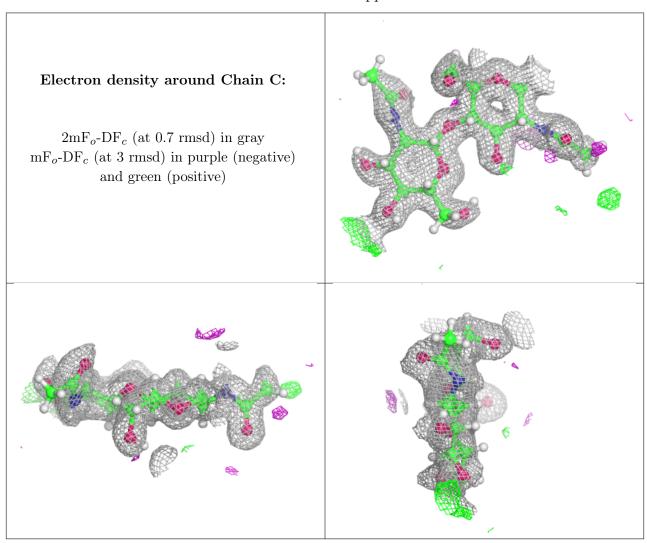
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	$\mathbf{B} ext{-}\mathbf{factors}(\mathbf{\mathring{A}}^2)$	Q < 0.9
2	NAG	С	1	14/15	0.96	0.13	15,22,38,39	0
2	NAG	F	1	14/15	0.97	0.06	13,18,33,33	0
2	NAG	D	1	14/15	0.98	0.06	12,17,32,32	0

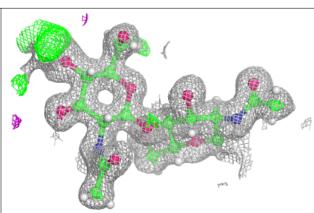
The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

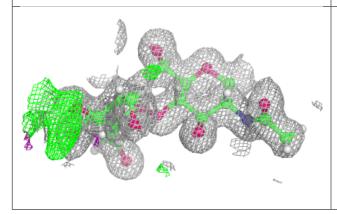


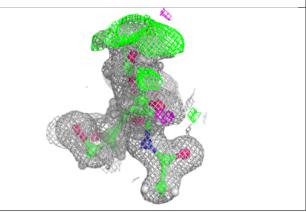


Electron density around Chain D:

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

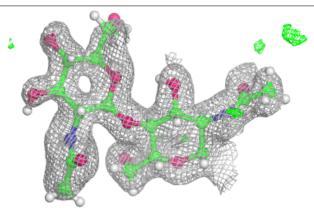


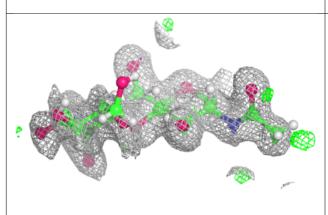


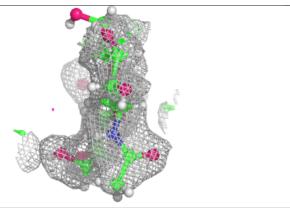


Electron density around Chain E:

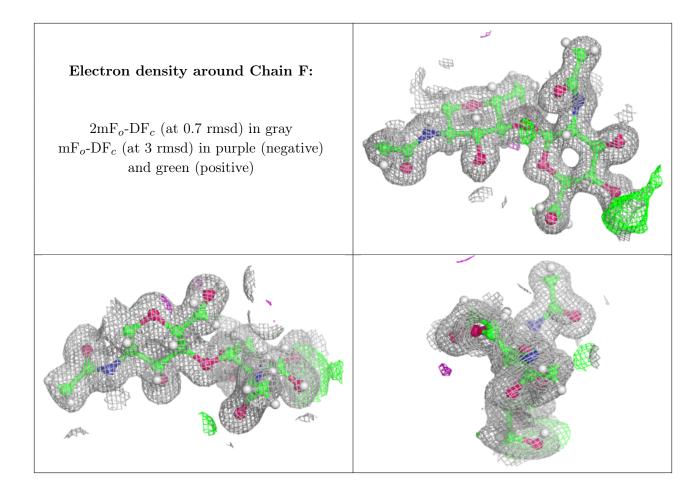
 $2 \mathrm{mF}_o\text{-}\mathrm{DF}_c$ (at 0.7 rmsd) in gray $\mathrm{mF}_o\text{-}\mathrm{DF}_c$ (at 3 rmsd) in purple (negative) and green (positive)











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, 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	$ m B ext{-}factors(\AA^2)$	Q<0.9
3	F23	В	1800	25/25	0.83	0.17	16,24,33,45	0
3	F23	A	800	25/25	0.86	0.15	16,24,35,40	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.





6.5 Other polymers (i)

There are no such residues in this entry.

