

# Full wwPDB X-ray Structure Validation Report (i)

Jun 13, 2022 – 01:46 pm BST

PDB ID : 70KU

Title : X-ray structure of soluble EPCR in P3121 space group

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Deposited on : 2021-05-18

Resolution : 1.95 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp

with specific help available everywhere you see the (i) symbol.

The following versions of software and data (see references (1)) were used in the production of this report:

MolProbity: 4.02b-467

Mogul: 1.8.4, CSD as541be (2020)

Xtriage (Phenix) : 1.13

EDS : 2.28.1buster-report : 1.1.7 (2018)

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

Refmac: 5.8.0267

CCP4 : 7.1.010 (Gargrove)

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

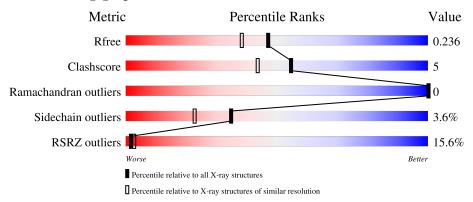
Validation Pipeline (wwPDB-VP) : 2.28.1

## 1 Overall quality at a glance (i)

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

The reported resolution of this entry is 1.95 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 $(\# \mathrm{Entries})$	$\begin{array}{c} {\rm Similar\ resolution} \\ (\#{\rm Entries},{\rm resolution\ range}(\mathring{\rm A})) \end{array}$
$R_{free}$	130704	2580 (1.96-1.96)
Clashscore	141614	2705 (1.96-1.96)
Ramachandran outliers	138981	2678 (1.96-1.96)
Sidechain outliers	138945	2678 (1.96-1.96)
RSRZ outliers	127900	2539 (1.96-1.96)

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	195	14% 75%	13% • 11%
2	В	2	50%	50%
2	С	2	100	0%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:



Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	EDO	A	204	_	-	-	X



# 2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 1529 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 Endothelial protein C receptor.

Mol	Chain	Residues		At	oms			ZeroOcc	AltConf	Trace
1	A	173	Total 1353	C 869	N 236	O 244	S 4	0	1	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP Q9UNN8
A	0	PRO	-	expression tag	UNP Q9UNN8

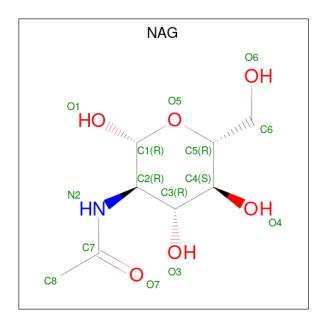
• Molecule 2 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-a cetamido-2-deoxy-beta-D-glucopyranose.



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

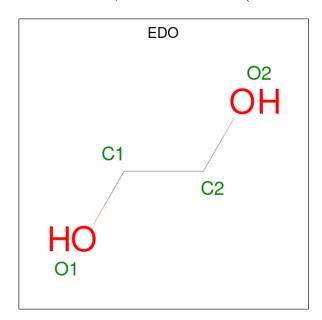
• Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula:  $C_8H_{15}NO_6$ ).





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

 $\bullet$  Molecule 4 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula:  $\mathrm{C_2H_6O_2}).$ 

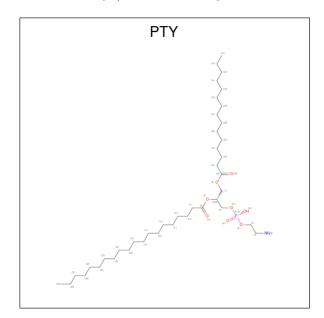


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0

• Molecule 5 is PHOSPHATIDYLETHANOLAMINE (three-letter code: PTY) (formula:



 $C_{40}H_{80}NO_8P)$  (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
5	A	1	Total 45	C 36	O 8	P 1	0	0

### • Molecule 6 is water.

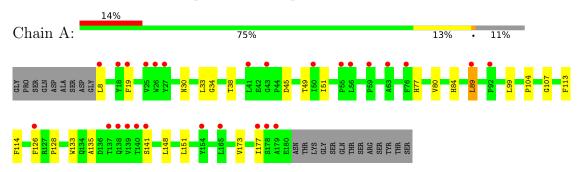
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	53	Total O 53 53	0	0



## 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: Endothelial protein C receptor



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

Chain B: 50% 50%



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

Chain C:





# 4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 31 2 1	Depositor
Cell constants	70.62Å 70.62Å 97.37Å	Domositon
a, b, c, $\alpha$ , $\beta$ , $\gamma$	$90.00^{\circ}$ $90.00^{\circ}$ $120.00^{\circ}$	Depositor
Resolution (Å)	38.09 - 1.95	Depositor
Resolution (A)	38.09 - 1.95	EDS
% Data completeness	100.0 (38.09-1.95)	Depositor
(in resolution range)	100.0 (38.09-1.95)	EDS
$R_{merge}$	0.07	Depositor
$R_{sym}$	(Not available)	Depositor
$< I/\sigma(I) > 1$	1.24 (at 1.95Å)	Xtriage
Refinement program	PHENIX 1.20_4459	Depositor
D D	0.198 , 0.235	Depositor
$R, R_{free}$	0.196 , $0.236$	DCC
$R_{free}$ test set	997 reflections (4.75%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	51.7	Xtriage
Anisotropy	0.075	Xtriage
Bulk solvent $k_{sol}(e/Å^3)$ , $B_{sol}(Å^2)$	(Not available), (Not available)	EDS
L-test for twinning <sup>2</sup>	$< L >=0.50, < L^2>=0.33$	Xtriage
Estimated twinning fraction	0.028 for -h,-k,l	Xtriage
$F_o, F_c$ correlation	0.97	EDS
Total number of atoms	1529	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	70.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 4.75% of the height of the origin peak. No significant pseudotranslation is detected.

<sup>&</sup>lt;sup>2</sup>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.



<sup>&</sup>lt;sup>1</sup>Intensities 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: PTY, NAG, EDO

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).

Mal	Chain	Bo	nd lengths	Bond angles		
IVIOI	Chain	RMSZ	RMSZ $ $ $\# Z  > 5$		# Z >5	
1	A	0.70	1/1394 (0.1%)	0.82	0/1905	

#### All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	$\operatorname{Observed}(\text{\AA})$	$\operatorname{Ideal}( ext{\AA})$
1	A	113	PHE	CD2-CE2	5.65	1.50	1.39

There are no bond angle outliers.

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	Mol Chain Non-H		H(model)	H(added)	Clashes	Symm-Clashes
1	A	1353	0	1261	15	0
2	В	28	0	25	2	0
2	С	28	0	25	0	0
3	A	14	0	13	0	0
4	A	8	0	12	0	0
5	A	45	0	66	1	0
6	A	53	0	0	0	0
All	All	1529	0	1402	15	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 5.

All (15) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic	Clash		
Atom-1	Atom-2	${ m distance}({ m \AA})$	overlap (Å)  0.93  0.67  0.63  0.62  0.59  0.55  0.52  0.47  0.46  0.45  0.44  0.44		
1:A:30:ASN:HD22	2:B:1:NAG:H83	1.34	0.93		
1:A:80:VAL:HG12	5:A:203:PTY:H411	1.76	0.67		
1:A:104:PRO:HG2	1:A:107:GLY:HA3	1.80	0.63		
1:A:30:ASN:ND2	2:B:1:NAG:H83	2.11	0.62		
1:A:19:PHE:CE2	1:A:80:VAL:HG21	2.37	0.59		
1:A:133:TRP:CD1	1:A:151:LEU:HB3	2.42	0.55		
1:A:33:LEU:HB3	1:A:38:THR:HG21	1.91	0.52		
1:A:135:ALA:HB2	1:A:148:LEU:HD11	1.96	0.47		
1:A:49:THR:HG22	1:A:51:ILE:HG12	1.98	0.46		
1:A:33:LEU:HD11	1:A:177:ILE:HG23	1.98	0.45		
1:A:77:HIS:O	1:A:80:VAL:HG22	2.18	0.44		
1:A:126:PHE:CE2	1:A:128:PRO:HA	2.52	0.44		
1:A:84:HIS:HA	1:A:89:LEU:HB2	2.03	0.40		
1:A:173:VAL:O	1:A:177:ILE:CG1	2.70	0.40		
1:A:8:LEU:N	1:A:34:GLY:HA2	2.36	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	Perce	ntiles
1	A	172/195 (88%)	168 (98%)	4 (2%)	0	100	100

There are no Ramachandran outliers to report.



#### 5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Analysed Rotameric Outliers		Percentiles	
1	A	139/172 (81%)	134 (96%)	5 (4%)	35 23	

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

Mol	Chain	Res	Type
1	A	45	ASP
1	A	89	LEU
1	A	99	LEU
1	A	114	PHE
1	A	141	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

### 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)

4 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	Tuno	Chain	Res	Link	Bond lengths			Bond angles		
MIOI	Type	Chain	nes		Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	NAG	В	1	2,1	14,14,15	0.76	1 (7%)	17,19,21	0.86	1 (5%)
2	NAG	В	2	2	14,14,15	0.46	0	17,19,21	0.69	0
2	NAG	С	1	2,1	14,14,15	0.83	1 (7%)	17,19,21	0.92	1 (5%)
2	NAG	С	2	2	14,14,15	0.82	1 (7%)	17,19,21	0.60	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	NAG	В	1	2,1	-	2/6/23/26	0/1/1/1
2	NAG	В	2	2	-	2/6/23/26	0/1/1/1
2	NAG	С	1	2,1	-	2/6/23/26	0/1/1/1
2	NAG	С	2	2	-	2/6/23/26	0/1/1/1

#### All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	$\operatorname{Observed}(\mathring{\mathbf{A}})$	Ideal(Å)
2	С	2	NAG	O5-C1	2.84	1.48	1.43
2	С	1	NAG	O5-C1	2.48	1.47	1.43
2	В	1	NAG	C1-C2	2.28	1.55	1.52

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^o)$	$\operatorname{Ideal}({}^{o})$
2	С	1	NAG	C1-O5-C5	3.25	116.59	112.19
2	В	1	NAG	C2-N2-C7	2.41	126.33	122.90

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	С	2	NAG	O5-C5-C6-O6
2	В	2	NAG	C4-C5-C6-O6
2	С	1	NAG	O5-C5-C6-O6
2	В	2	NAG	O5-C5-C6-O6
2	С	1	NAG	C4-C5-C6-O6
2	В	1	NAG	C8-C7-N2-C2
2	В	1	NAG	O7-C7-N2-C2

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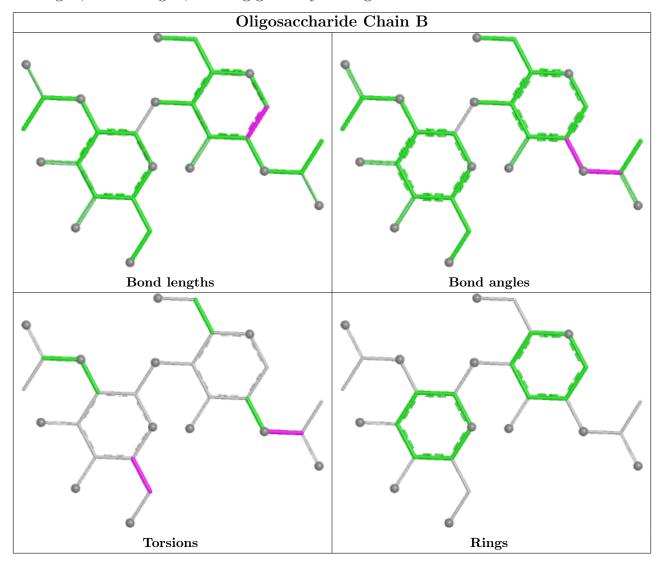
Mo	Chain	Res	Type	Atoms
2	С	2	NAG	C4-C5-C6-O6

There are no ring outliers.

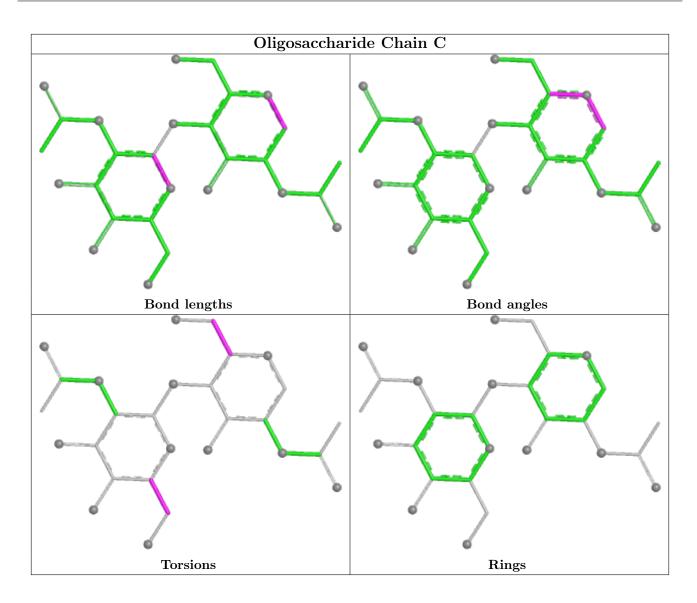
1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	В	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)

#### 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	Bo	Bond lengths			Bond angles		
MIOI	ioi Type Chain Io	nes		Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2	
4	EDO	A	204	-	3,3,3	0.64	0	2,2,2	0.12	0
3	NAG	A	201	1	14,14,15	0.73	1 (7%)	17,19,21	0.70	0
5	PTY	A	203	-	44,44,49	0.67	1 (2%)	48,49,54	0.90	2 (4%)



Mol Type Chain		Res	Link	Bond lengths			Bond angles			
WIOI I	туре	Chain	nes	LIIIK	Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
4	EDO	A	202	1	3,3,3	0.63	0	2,2,2	0.12	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
4	EDO	A	204	_	-	1/1/1/1	-
3	NAG	A	201	1	-	3/6/23/26	0/1/1/1
5	PTY	A	203	-	-	22/46/46/53	-
4	EDO	A	202	1	-	0/1/1/1	-

#### All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	Observed(Å)	$Ideal(\AA)$
5	A	203	PTY	P1-O11	3.02	1.66	1.54
3	A	201	NAG	C1-C2	2.18	1.55	1.52

#### All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	$\mathbf{Observed}(^o)$	$Ideal(^{o})$
5	A	203	PTY	O11-P1-O14	-3.58	97.20	106.73
5	A	203	PTY	O12-P1-O13	2.01	118.57	110.68

There are no chirality outliers.

All (26) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	203	PTY	C5-O14-P1-O11
5	A	203	PTY	C5-O14-P1-O12
3	A	201	NAG	C8-C7-N2-C2
3	A	201	NAG	O7-C7-N2-C2
5	A	203	PTY	C32-C33-C34-C35
5	A	203	PTY	C37-C38-C39-C40
5	A	203	PTY	C18-C19-C20-C21
5	A	203	PTY	C23-C24-C25-C26
5	A	203	PTY	C17-C18-C19-C20
5	A	203	PTY	C12-C13-C14-C15
5	A	203	PTY	C35-C36-C37-C38
5	A	203	PTY	C34-C35-C36-C37

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Mol	Chain	Res	Type	Atoms
5	A	203	PTY	C15-C16-C17-C18
3	A	201	NAG	O5-C5-C6-O6
5	A	203	PTY	C41-C42-C43-C44
5	A	203	PTY	O14-C5-C6-O7
5	A	203	PTY	O4-C1-C6-O7
5	A	203	PTY	O4-C1-C6-C5
5	A	203	PTY	C14-C15-C16-C17
5	A	203	PTY	C8-C11-C12-C13
5	A	203	PTY	O14-C5-C6-C1
4	A	204	EDO	O1-C1-C2-O2
5	A	203	PTY	C16-C17-C18-C19
5	A	203	PTY	C20-C21-C22-C23
5	A	203	PTY	C39-C40-C41-C42
5	A	203	PTY	C40-C41-C42-C43

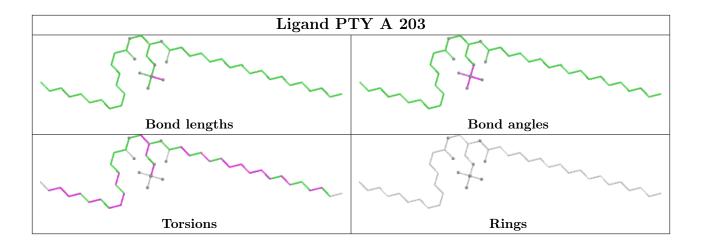
There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	203	PTY	1	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>	$\#\mathrm{RSRZ}{>}2$		$OWAB(A^2)$	Q<0.9	
1	A	173/195 (88%)	1.07	27 (15%)	2	3	46, 68, 96, 114	0

All (27) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	8	LEU	6.4
1	A	179	ALA	6.1
1	A	140	THR	5.7
1	A	139	VAL	5.5
1	A	154	TYR	4.2
1	A	178	SER	4.2
1	A	59	PRO	4.2
1	A	138	GLN	3.3
1	A	18	TYR	3.2
1	A	25	VAL	3.2
1	A	55	PRO	3.2
1	A	26	TRP	3.1
1	A	141	SER	3.0
1	A	89	LEU	2.9
1	A	41	LEU	2.8
1	A	56	LEU	2.7
1	A	43	GLY	2.7
1	A	27	TYR	2.5
1	A	63	ALA	2.5
1	A	137	THR	2.5
1	A	177	ILE	2.5
1	A	50	ILE	2.4
1	A	19	PHE	2.3
1	A	92	PRO	2.2
1	A	76	PHE	2.1
1	A	126	PHE	2.1
1	A	165	LEU	2.1



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

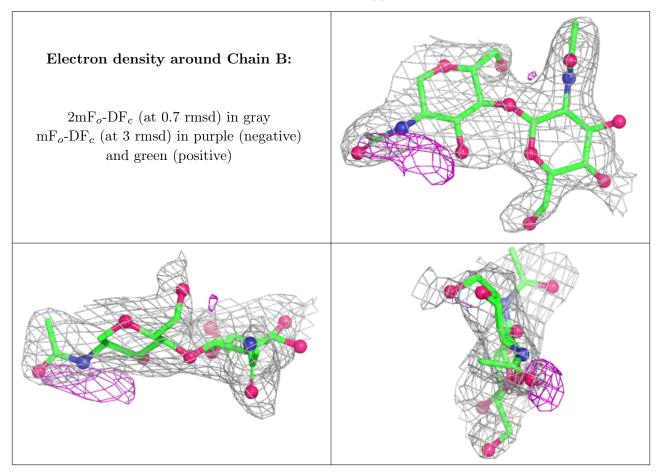
There are no non-standard protein/DNA/RNA residues in this entry.

## 6.3 Carbohydrates (i)

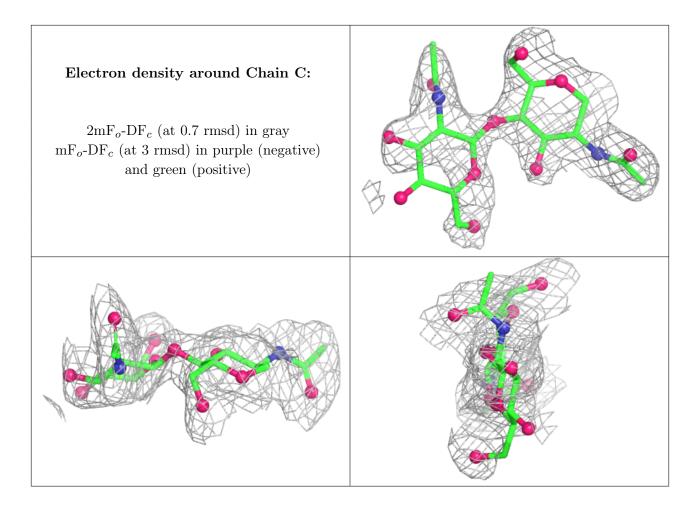
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median,  $95^{th}$  percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	$\mathbf{B} ext{-}\mathbf{factors}(\mathring{\mathbf{A}}^2)$	Q<0.9
2	NAG	С	2	14/15	0.65	0.37	91,107,122,130	0
2	NAG	С	1	14/15	0.75	0.21	81,88,99,102	0
2	NAG	В	2	14/15	0.79	0.21	106,118,129,130	0
2	NAG	В	1	14/15	0.92	0.20	45,70,84,95	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.







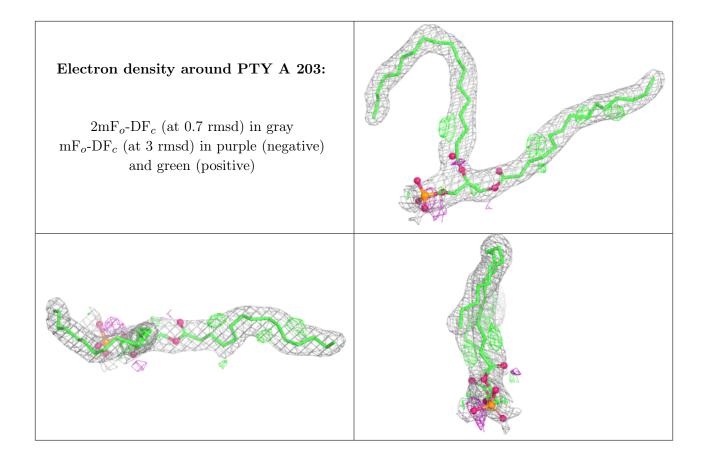
## 6.4 Ligands (i)

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,  $95^{th}$  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
3	NAG	A	201	14/15	0.63	0.19	99,113,116,119	0
5	PTY	A	203	45/50	0.72	0.25	51,70,109,151	0
4	EDO	A	204	4/4	0.78	0.54	73,76,77,88	0
4	EDO	A	202	4/4	0.83	0.26	63,68,70,87	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.

