



# Full wwPDB X-ray Structure Validation Report ⓘ

Dec 1, 2018 – 09:22 PM EST

PDB ID : 6H2N  
Title : TarP-UDP-GlcNAc-Mg  
Authors : Guo, Y.; Stehle, T.  
Deposited on : 2018-07-13  
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](mailto: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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.7.3 (157068), CSD as539be (2018)  
Xtriage (Phenix) : 1.13  
EDS : rb-20031633  
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)  
Refmac : 5.8.0158  
CCP4 : 7.0 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : rb-20031633

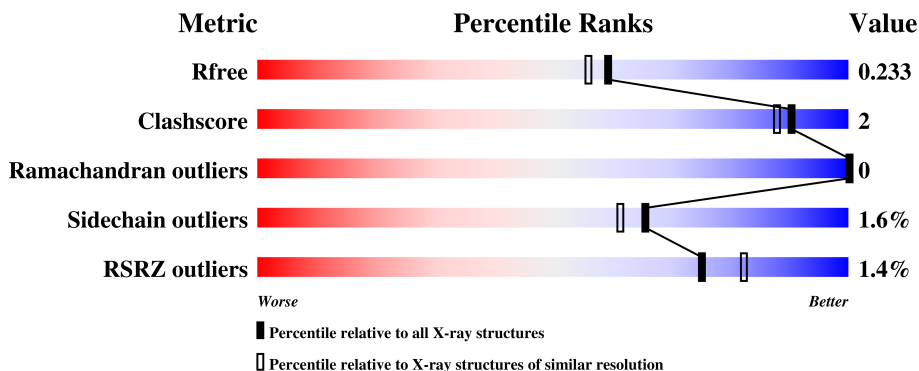
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 1.95 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 (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	111664	2220 (1.96-1.96)
Clashscore	122126	2333 (1.96-1.96)
Ramachandran outliers	120053	2314 (1.96-1.96)
Sidechain outliers	120020	2314 (1.96-1.96)
RSRZ outliers	108989	2174 (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 on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. 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	345	 2% 85% 6% 10%
1	B	345	 89% 9%
1	C	345	 2% 84% 6% 10%

## 2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 8340 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 Probable ss-1,3-N-acetylglucosaminyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	312	Total 2414	C 1551	N 399	O 456	S 8	0	0	0
1	B	313	Total 2533	C 1625	N 420	O 480	S 8	0	2	0
1	C	311	Total 2460	C 1581	N 405	O 467	S 7	0	0	0

There are 54 discrepancies between the modelled and reference sequences:

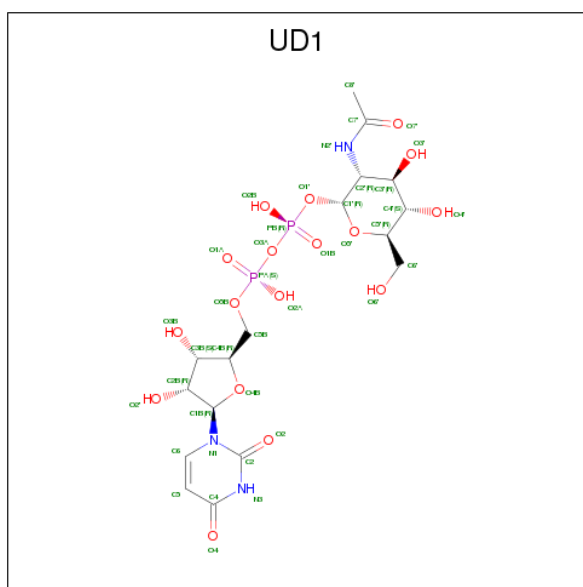
Chain	Residue	Modelled	Actual	Comment	Reference
A	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
A	-16	ARG	-	expression tag	UNP A0A0H3JNB0
A	-15	GLY	-	expression tag	UNP A0A0H3JNB0
A	-14	SER	-	expression tag	UNP A0A0H3JNB0
A	-13	HIS	-	expression tag	UNP A0A0H3JNB0
A	-12	HIS	-	expression tag	UNP A0A0H3JNB0
A	-11	HIS	-	expression tag	UNP A0A0H3JNB0
A	-10	HIS	-	expression tag	UNP A0A0H3JNB0
A	-9	HIS	-	expression tag	UNP A0A0H3JNB0
A	-8	HIS	-	expression tag	UNP A0A0H3JNB0
A	-7	GLY	-	expression tag	UNP A0A0H3JNB0
A	-6	SER	-	expression tag	UNP A0A0H3JNB0
A	-5	LEU	-	expression tag	UNP A0A0H3JNB0
A	-4	VAL	-	expression tag	UNP A0A0H3JNB0
A	-3	PRO	-	expression tag	UNP A0A0H3JNB0
A	-2	ARG	-	expression tag	UNP A0A0H3JNB0
A	-1	GLY	-	expression tag	UNP A0A0H3JNB0
A	0	SER	-	expression tag	UNP A0A0H3JNB0
B	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
B	-16	ARG	-	expression tag	UNP A0A0H3JNB0
B	-15	GLY	-	expression tag	UNP A0A0H3JNB0
B	-14	SER	-	expression tag	UNP A0A0H3JNB0
B	-13	HIS	-	expression tag	UNP A0A0H3JNB0

*Continued on next page...*

*Continued from previous page...*

Chain	Residue	Modelled	Actual	Comment	Reference
B	-12	HIS	-	expression tag	UNP A0A0H3JNB0
B	-11	HIS	-	expression tag	UNP A0A0H3JNB0
B	-10	HIS	-	expression tag	UNP A0A0H3JNB0
B	-9	HIS	-	expression tag	UNP A0A0H3JNB0
B	-8	HIS	-	expression tag	UNP A0A0H3JNB0
B	-7	GLY	-	expression tag	UNP A0A0H3JNB0
B	-6	SER	-	expression tag	UNP A0A0H3JNB0
B	-5	LEU	-	expression tag	UNP A0A0H3JNB0
B	-4	VAL	-	expression tag	UNP A0A0H3JNB0
B	-3	PRO	-	expression tag	UNP A0A0H3JNB0
B	-2	ARG	-	expression tag	UNP A0A0H3JNB0
B	-1	GLY	-	expression tag	UNP A0A0H3JNB0
B	0	SER	-	expression tag	UNP A0A0H3JNB0
C	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
C	-16	ARG	-	expression tag	UNP A0A0H3JNB0
C	-15	GLY	-	expression tag	UNP A0A0H3JNB0
C	-14	SER	-	expression tag	UNP A0A0H3JNB0
C	-13	HIS	-	expression tag	UNP A0A0H3JNB0
C	-12	HIS	-	expression tag	UNP A0A0H3JNB0
C	-11	HIS	-	expression tag	UNP A0A0H3JNB0
C	-10	HIS	-	expression tag	UNP A0A0H3JNB0
C	-9	HIS	-	expression tag	UNP A0A0H3JNB0
C	-8	HIS	-	expression tag	UNP A0A0H3JNB0
C	-7	GLY	-	expression tag	UNP A0A0H3JNB0
C	-6	SER	-	expression tag	UNP A0A0H3JNB0
C	-5	LEU	-	expression tag	UNP A0A0H3JNB0
C	-4	VAL	-	expression tag	UNP A0A0H3JNB0
C	-3	PRO	-	expression tag	UNP A0A0H3JNB0
C	-2	ARG	-	expression tag	UNP A0A0H3JNB0
C	-1	GLY	-	expression tag	UNP A0A0H3JNB0
C	0	SER	-	expression tag	UNP A0A0H3JNB0

- Molecule 2 is URIDINE-DIPHOSPHATE-N-ACETYLGLUCOSAMINE (three-letter code: UD1) (formula:  $C_{17}H_{27}N_3O_{17}P_2$ ).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
			Total	C	N	O			P
2	A	1	39	17	3	17	2	0	0
2	B	1	39	17	3	17	2	0	0
2	C	1	39	17	3	17	2	0	0

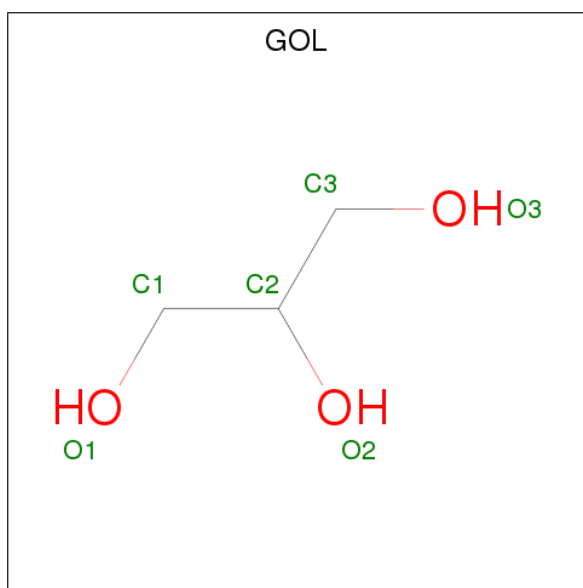
- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Mg		
3	B	2	2	2	0	0
3	A	2	2	2	0	0
3	C	1	1	1	0	0

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Cl		
4	B	13	13	13	0	0
4	A	4	4	4	0	0
4	C	3	3	3	0	0

- Molecule 5 is GLYCEROL (three-letter code: GOL) (formula:  $C_3H_8O_3$ ).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	B	1	Total	C	O	0	0
			6	3	3		
5	B	1	Total	C	O	0	0
			6	3	3		

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	192	Total	O	0	0
			192	192		
6	B	372	Total	O	0	0
			372	372		
6	C	215	Total	O	0	0
			215	215		



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	43.85Å 95.27Å 130.22Å 90.00° 93.49° 90.00°	Depositor
Resolution (Å)	47.63 – 1.95 47.63 – 1.95	Depositor EDS
% Data completeness (in resolution range)	99.8 (47.63-1.95) 99.8 (47.63-1.95)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.51 (at 1.95Å)	Xtrriage
Refinement program	REFMAC 5.8.0230	Depositor
R, $R_{free}$	0.178 , 0.226 0.186 , 0.233	Depositor DCC
$R_{free}$ test set	3889 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	24.3	Xtrriage
Anisotropy	0.383	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.36 , 55.5	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	8340	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	36.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.85% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.



## 5 Model quality

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: GOL, MG, UD1, 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	0.44	0/2451	0.55	0/3306
1	B	0.53	0/2581	0.63	0/3469
1	C	0.44	0/2501	0.56	0/3373
All	All	0.47	0/7533	0.58	0/10148

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	B	0	2
1	C	0	1
All	All	0	4

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	100	ARG	Sidechain
1	B	100	ARG	Sidechain
1	B	259	ARG	Sidechain
1	C	259	ARG	Sidechain

## 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	2414	0	2303	12	0
1	B	2533	0	2529	3	0
1	C	2460	0	2376	13	0
2	A	39	0	25	1	0
2	B	39	0	25	1	0
2	C	39	0	25	0	0
3	A	2	0	0	0	0
3	B	2	0	0	0	0
3	C	1	0	0	0	0
4	A	4	0	0	0	0
4	B	13	0	0	0	0
4	C	3	0	0	0	0
5	B	12	0	16	0	0
6	A	192	0	0	0	0
6	B	372	0	0	0	0
6	C	215	0	0	3	0
All	All	8340	0	7299	28	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.

All (28) 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:29:MET:HE3	1:A:34:TYR:CD1	2.20	0.77
1:C:14:GLY:HA2	1:C:48:GLU:HG2	1.66	0.76
1:A:29:MET:HE2	1:A:102:LEU:CB	2.33	0.59
1:C:9:PRO:HB3	1:C:75:PRO:HB2	1.85	0.57
1:C:74:VAL:HB	1:C:75:PRO:HD3	1.87	0.56
1:A:29:MET:HE2	1:A:102:LEU:HB2	1.89	0.55
1:C:108:TYR:CG	1:C:198:LYS:HD3	2.44	0.53
1:C:176:SER:CB	1:C:225:GLN:HB3	2.40	0.52
1:C:176:SER:HB3	1:C:225:GLN:HB3	1.92	0.51
1:C:176:SER:HA	1:C:225:GLN:NE2	2.26	0.51
1:A:274:MET:O	1:A:279:LYS:HE3	2.12	0.50

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:55:LYS:CE	6:C:665:HOH:O	2.59	0.49
1:A:29:MET:CE	1:A:34:TYR:HB3	2.43	0.48
1:A:29:MET:HE2	1:A:102:LEU:HB3	1.98	0.45
1:C:55:LYS:HE2	6:C:665:HOH:O	2.16	0.45
1:A:4:VAL:HG11	1:A:102:LEU:HD22	1.98	0.45
1:B:74:VAL:HB	1:B:75:PRO:HD3	1.99	0.44
1:A:72:ALA:HB2	2:A:401:UD1:O4B	2.18	0.43
1:C:120:LYS:HA	1:C:135:PHE:CZ	2.54	0.43
1:A:145:ILE:HA	1:A:150:ILE:HD12	2.01	0.42
1:C:55:LYS:HE3	6:C:665:HOH:O	2.19	0.42
1:A:29:MET:HE1	1:A:34:TYR:HB3	2.01	0.42
1:B:74:VAL:N	1:B:75:PRO:CD	2.83	0.42
1:C:24:VAL:O	1:C:27:GLN:HG2	2.21	0.41
1:A:146:ILE:HD12	1:A:255:LYS:HG3	2.02	0.41
1:B:9:PRO:HB2	2:B:401:UD1:H1B	2.02	0.41
1:A:39:ILE:HD11	1:A:79:GLY:HA2	2.01	0.40
1:C:170:ILE:HG22	1:C:184:PHE:CE1	2.57	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	306/345 (89%)	298 (97%)	8 (3%)	0	100	100
1	B	309/345 (90%)	303 (98%)	6 (2%)	0	100	100
1	C	305/345 (88%)	297 (97%)	8 (3%)	0	100	100
All	All	920/1035 (89%)	898 (98%)	22 (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	Rotameric	Outliers	Percentiles	
1	A	237/313 (76%)	232 (98%)	5 (2%)	56	49
1	B	274/313 (88%)	271 (99%)	3 (1%)	76	73
1	C	251/313 (80%)	247 (98%)	4 (2%)	65	61
All	All	762/939 (81%)	750 (98%)	12 (2%)	65	61

All (12) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	19	ARG
1	A	43	SER
1	A	259	ARG
1	A	286	PHE
1	A	296	ASP
1	B	193	LYS
1	B	259	ARG
1	B	286	PHE
1	C	31	SER
1	C	195	TYR
1	C	259	ARG
1	C	286	PHE

Some 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](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 30 ligands modelled in this entry, 25 are monoatomic - leaving 5 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
2	UD1	A	401	3	33,41,41	0.59	0	45,62,62	1.36	2 (4%)
2	UD1	B	401	3	33,41,41	0.61	0	45,62,62	1.41	3 (6%)
5	GOL	B	417	-	5,5,5	0.35	0	5,5,5	0.20	0
5	GOL	B	418	-	5,5,5	0.31	0	5,5,5	0.38	0
2	UD1	C	401	3	33,41,41	0.61	1 (3%)	45,62,62	1.59	3 (6%)

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	UD1	A	401	3	-	0/22/63/63	0/3/3/3
2	UD1	B	401	3	-	0/22/63/63	0/3/3/3
5	GOL	B	417	-	-	0/4/4/4	0/0/0/0
5	GOL	B	418	-	-	0/4/4/4	0/0/0/0
2	UD1	C	401	3	-	0/22/63/63	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	401	UD1	C2-N3	-2.16	1.33	1.38

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	401	UD1	PB-O3A-PA	-3.06	122.33	132.63
2	B	401	UD1	PB-O3A-PA	-2.80	123.21	132.63
2	A	401	UD1	PB-O3A-PA	-2.50	124.24	132.63
2	C	401	UD1	O3A-PB-O1'	-2.31	97.81	102.53
2	B	401	UD1	O5'-C1'-O1'	-2.15	108.55	111.36
2	B	401	UD1	C4-N3-C2	6.88	120.06	114.14
2	A	401	UD1	C4-N3-C2	7.53	120.62	114.14
2	C	401	UD1	C4-N3-C2	8.38	121.35	114.14

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	401	UD1	1	0
2	B	401	UD1	1	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data [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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	312/345 (90%)	0.09	7 (2%) 62 71	24, 44, 72, 89	0
1	B	313/345 (90%)	-0.24	0 100 100	15, 22, 40, 67	0
1	C	311/345 (90%)	-0.13	6 (1%) 66 75	22, 38, 55, 68	0
All	All	936/1035 (90%)	-0.09	13 (1%) 75 82	15, 35, 61, 89	0

All (13) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	130	VAL	4.9
1	C	175	PHE	4.5
1	A	130	VAL	3.4
1	C	129	SER	3.2
1	C	222	THR	3.0
1	C	131	PRO	3.0
1	A	60	VAL	3.0
1	A	50	LEU	2.7
1	C	178	THR	2.6
1	A	52	VAL	2.4
1	A	175	PHE	2.4
1	A	59	LEU	2.1
1	A	1	MET	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](#)

There are no carbohydrates in this entry.

## 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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
3	MG	A	402	1/1	0.61	0.09	50,50,50,50	0
3	MG	A	403	1/1	0.81	0.41	69,69,69,69	0
2	UD1	A	401	39/39	0.86	0.15	45,59,71,73	0
4	CL	A	406	1/1	0.87	0.17	64,64,64,64	0
4	CL	C	405	1/1	0.89	0.08	45,45,45,45	0
4	CL	A	407	1/1	0.92	0.07	70,70,70,70	0
5	GOL	B	417	6/6	0.93	0.12	34,43,47,47	0
3	MG	B	403	1/1	0.93	0.07	31,31,31,31	0
4	CL	B	416	1/1	0.94	0.11	54,54,54,54	0
2	UD1	C	401	39/39	0.95	0.11	30,43,62,67	0
3	MG	C	402	1/1	0.95	0.06	40,40,40,40	0
4	CL	B	409	1/1	0.95	0.11	43,43,43,43	0
2	UD1	B	401	39/39	0.96	0.09	19,31,42,44	0
3	MG	B	402	1/1	0.96	0.07	38,38,38,38	0
4	CL	C	403	1/1	0.96	0.06	40,40,40,40	0
5	GOL	B	418	6/6	0.96	0.09	25,31,42,48	0
4	CL	A	404	1/1	0.97	0.07	43,43,43,43	0
4	CL	B	412	1/1	0.97	0.15	55,55,55,55	0
4	CL	C	404	1/1	0.97	0.07	44,44,44,44	0
4	CL	A	405	1/1	0.97	0.06	40,40,40,40	0
4	CL	B	404	1/1	0.97	0.13	21,21,21,21	0
4	CL	B	406	1/1	0.97	0.05	41,41,41,41	0
4	CL	B	414	1/1	0.97	0.12	39,39,39,39	0
4	CL	B	407	1/1	0.98	0.06	40,40,40,40	0
4	CL	B	410	1/1	0.98	0.10	31,31,31,31	0
4	CL	B	408	1/1	0.98	0.07	20,20,20,20	0
4	CL	B	411	1/1	0.98	0.06	27,27,27,27	0
4	CL	B	413	1/1	0.98	0.06	37,37,37,37	0
4	CL	B	415	1/1	0.99	0.11	47,47,47,47	0
4	CL	B	405	1/1	0.99	0.07	22,22,22,22	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.