



# Full wwPDB X-ray Structure Validation Report ⓘ

Oct 10, 2021 – 11:36 AM EDT

PDB ID : 3CZS  
Title : Golgi alpha-mannosidase II (D204A nucleophile mutant)  
Authors : Shah, N.; Rose, D.R.  
Deposited on : 2008-04-29  
Resolution : 1.30 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.

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The following versions of software and data (see [references ⓘ](#)) 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 : 2.23.2  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 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) : 2.23.2

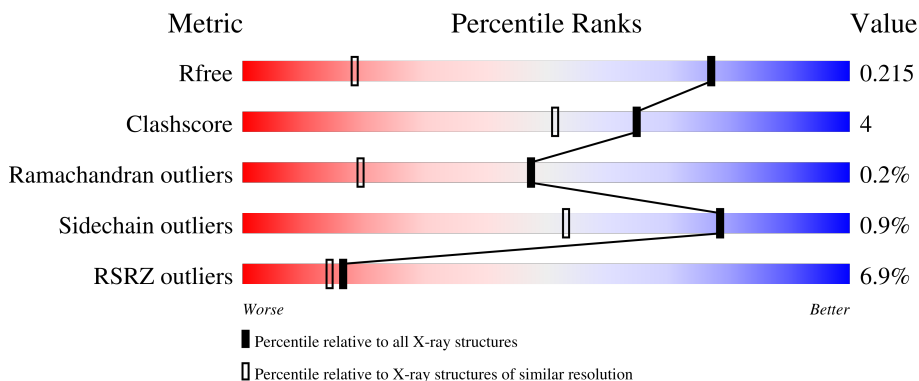
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 1.30 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))
$R_{free}$	130704	1058 (1.30-1.30)
Clashscore	141614	1101 (1.30-1.30)
Ramachandran outliers	138981	1058 (1.30-1.30)
Sidechain outliers	138945	1058 (1.30-1.30)
RSRZ outliers	127900	1029 (1.30-1.30)

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1045	

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
5	MPD	A	1104	X	-	-	-

## 2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 9953 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 Alpha-mannosidase 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	1014	8435	5378	1470	1545	42	3	44	0

There are 14 discrepancies between the modelled and reference sequences:

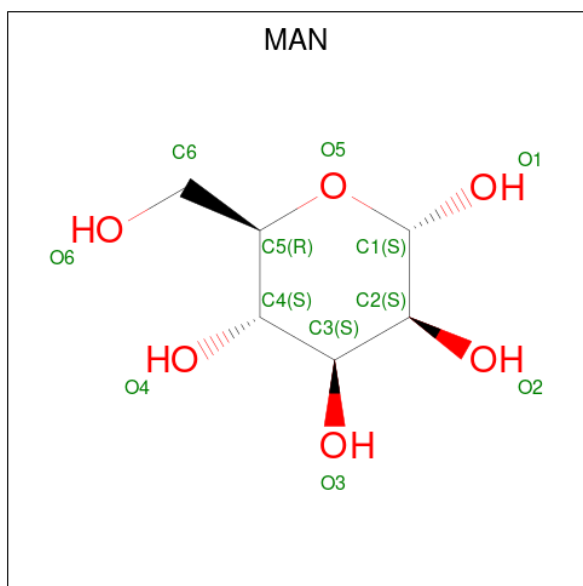
Chain	Residue	Modelled	Actual	Comment	Reference
A	1	ARG	-	expression tag	UNP Q24451
A	2	SER	-	expression tag	UNP Q24451
A	3	SER	-	expression tag	UNP Q24451
A	4	HIS	-	expression tag	UNP Q24451
A	5	HIS	-	expression tag	UNP Q24451
A	6	HIS	-	expression tag	UNP Q24451
A	7	HIS	-	expression tag	UNP Q24451
A	8	HIS	-	expression tag	UNP Q24451
A	9	HIS	-	expression tag	UNP Q24451
A	10	GLY	-	expression tag	UNP Q24451
A	11	GLU	-	expression tag	UNP Q24451
A	12	PHE	-	expression tag	UNP Q24451
A	204	ALA	ASP	engineered mutation	UNP Q24451
A	907	LYS	GLU	SEE REMARK 999	UNP Q24451

- Molecule 2 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: C<sub>8</sub>H<sub>15</sub>NO<sub>6</sub>).



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

- Molecule 3 is alpha-D-mannopyranose (three-letter code: MAN) (formula: C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>).

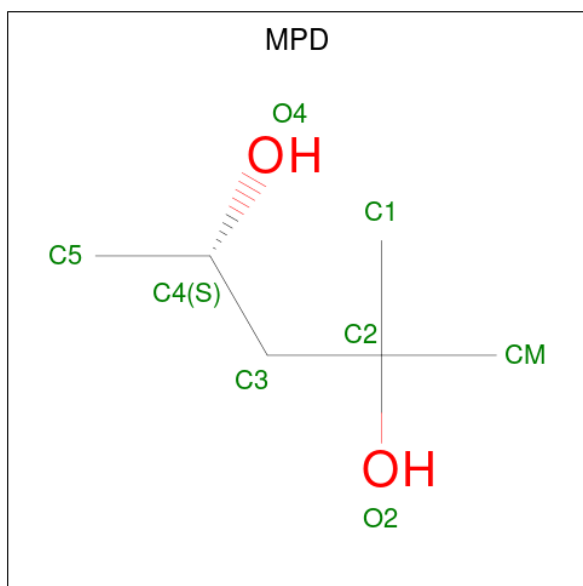


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
3	A	1	12	6	6	0	0

- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total	Zn	0	0
			1	1		

- Molecule 5 is (4S)-2-METHYL-2,4-PENTANEDIOL (three-letter code: MPD) (formula: C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	C	O	0	0
			8	6	2		

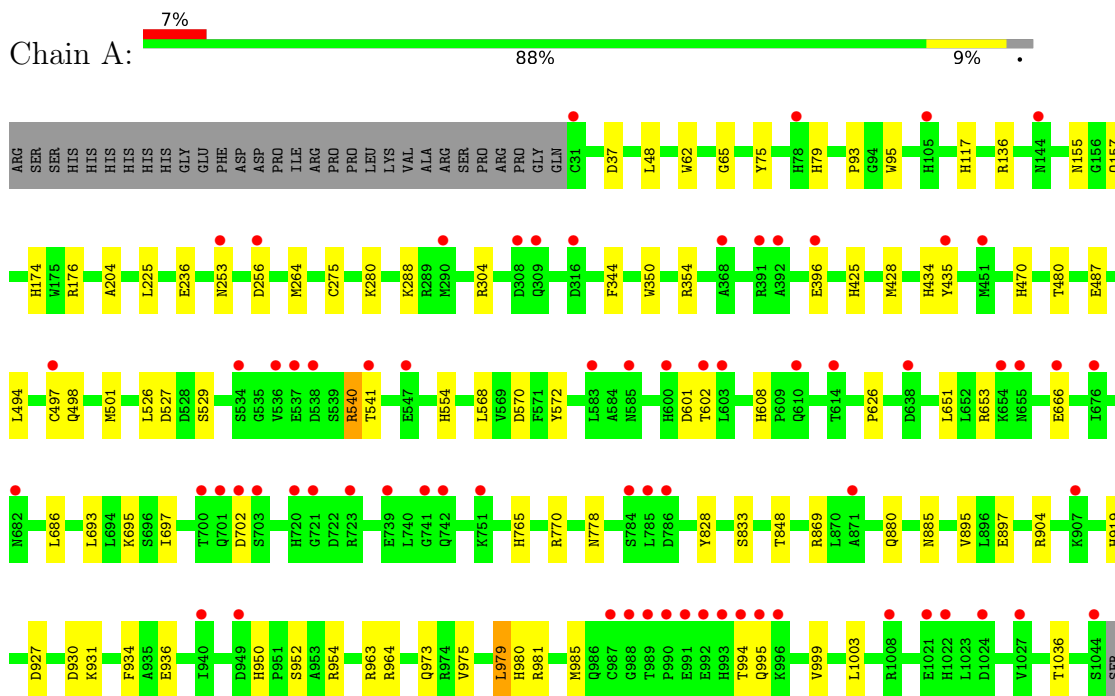
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	1483	Total	O	0	0
			1483	1483		

### 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: Alpha-mannosidase 2



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	68.85Å 109.89Å 138.49Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	8.00 – 1.30 8.00 – 1.30	Depositor EDS
% Data completeness (in resolution range)	98.1 (8.00-1.30) 98.1 (8.00-1.30)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.36 (at 1.30Å)	Xtrriage
Refinement program	REFMAC	Depositor
R, $R_{free}$	0.192 , 0.215 0.191 , 0.215	Depositor DCC
$R_{free}$ test set	12621 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	9.5	Xtrriage
Anisotropy	0.027	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.52 , 65.9	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.34$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	9953	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	13.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.59% 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 [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, NAG, MPD, MAN

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	0.39	0/8761	0.60	1/11891 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
1	A	963	ARG	NE-CZ-NH2	-5.51	117.55	120.30

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	8435	0	8306	66	0
2	A	14	0	13	0	0
3	A	12	0	10	0	0
4	A	1	0	0	0	0
5	A	8	0	14	3	0
6	A	1483	0	0	22	0
All	All	9953	0	8343	69	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 4.



All (69) 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:498[B]:GLN:HG2	1:A:526:LEU:HD12	1.29	1.05
1:A:435:TYR:HB3	1:A:497[A]:CYS:SG	2.18	0.84
1:A:434:HIS:HE1	1:A:930:ASP:OD1	1.61	0.82
1:A:117[B]:HIS:CE1	1:A:354:ARG:HE	1.96	0.82
1:A:117[B]:HIS:HE1	1:A:354:ARG:HE	1.29	0.78
1:A:964:ARG:HH11	1:A:973:GLN:HE21	1.33	0.77
1:A:979[A]:LEU:HD21	1:A:999:VAL:HG11	1.68	0.75
1:A:155:ASN:HD21	1:A:157:GLN:HE21	1.35	0.72
5:A:1104:MPD:H53	6:A:5899:HOH:O	1.94	0.67
5:A:1104:MPD:HM2	6:A:5899:HOH:O	1.94	0.67
1:A:980:HIS:HD2	1:A:1036:THR:OG1	1.81	0.63
1:A:498[A]:GLN:HE21	1:A:526:LEU:H	1.45	0.63
1:A:434:HIS:HD2	1:A:927:ASP:OD1	1.82	0.63
1:A:765:HIS:HE1	6:A:4655:HOH:O	1.82	0.62
1:A:980:HIS:HE1	6:A:4558:HOH:O	1.82	0.61
1:A:497[A]:CYS:SG	1:A:501:MET:SD	2.99	0.61
1:A:954:ARG:HH12	1:A:981:ARG:NH2	1.98	0.61
1:A:950:HIS:HE1	6:A:4727:HOH:O	1.85	0.60
1:A:568:LEU:HD12	1:A:770:ARG:HD3	1.84	0.59
1:A:136:ARG:HD3	6:A:5101:HOH:O	2.02	0.58
1:A:626:PRO:O	1:A:950:HIS:HD2	1.86	0.58
1:A:174:HIS:CE1	1:A:176:ARG:HD3	2.39	0.56
1:A:904:ARG:HG2	1:A:985:MET:SD	2.45	0.56
1:A:979[B]:LEU:HD21	1:A:999:VAL:HG11	1.88	0.55
1:A:434:HIS:CE1	1:A:930:ASP:OD1	2.51	0.55
1:A:765:HIS:HD2	1:A:778:ASN:OD1	1.89	0.55
1:A:480:THR:H	1:A:880:GLN:HE22	1.54	0.55
1:A:62:TRP:CD2	1:A:65:GLY:HA3	2.43	0.54
1:A:256:ASP:HB2	6:A:5176:HOH:O	2.06	0.54
1:A:919:HIS:HE1	6:A:4992:HOH:O	1.92	0.52
1:A:554:HIS:HD2	6:A:4793:HOH:O	1.92	0.52
1:A:75[A]:TYR:HD1	6:A:5290:HOH:O	1.93	0.51
1:A:117[B]:HIS:HE1	1:A:354:ARG:NE	2.04	0.51
1:A:572:TYR:HD2	6:A:5973:HOH:O	1.93	0.51
1:A:540:ARG:HG2	6:A:5294:HOH:O	2.11	0.50
1:A:93:PRO:HD2	1:A:470:HIS:CD2	2.47	0.50
1:A:686:LEU:HD22	1:A:697:ILE:HG12	1.93	0.50
1:A:869:ARG:HH11	1:A:885:ASN:HD22	1.60	0.50
1:A:975:VAL:HG21	1:A:1003[A]:LEU:CD1	2.42	0.50
1:A:895:VAL:HG12	1:A:897:GLU:HG3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:666:GLU:HG2	6:A:4592:HOH:O	2.11	0.49
1:A:288:LYS:NZ	6:A:5452:HOH:O	2.46	0.49
1:A:541:THR:HG23	6:A:5293:HOH:O	2.12	0.49
1:A:651:LEU:CD1	1:A:653:ARG:HG2	2.43	0.49
1:A:529[B]:SER:OG	1:A:570[B]:ASP:OD1	2.29	0.49
5:A:1104:MPD:H13	6:A:4824:HOH:O	2.12	0.49
1:A:48:LEU:HD11	1:A:236:GLU:HG2	1.96	0.48
1:A:435:TYR:O	1:A:497[A]:CYS:SG	2.67	0.47
1:A:494:LEU:HD11	6:A:5907:HOH:O	2.16	0.46
1:A:425:HIS:HE1	1:A:487:GLU:OE1	1.99	0.46
1:A:934:PHE:CE2	1:A:936:GLU:HB2	2.51	0.45
1:A:37:ASP:HB3	1:A:253:ASN:ND2	2.32	0.45
1:A:428:MET:HG3	6:A:5907:HOH:O	2.17	0.44
1:A:693:LEU:HD13	6:A:5185:HOH:O	2.18	0.44
1:A:601:ASP:OD2	1:A:608:HIS:HE1	2.02	0.43
1:A:280:LYS:HE3	6:A:5932:HOH:O	2.18	0.42
1:A:304[A]:ARG:NH1	6:A:5193:HOH:O	2.52	0.42
1:A:975:VAL:HG21	1:A:1003[B]:LEU:HD22	2.02	0.42
1:A:952:SER:H	1:A:995:GLN:NE2	2.19	0.41
1:A:79:HIS:HE1	6:A:4849:HOH:O	2.03	0.41
1:A:225:LEU:HD21	1:A:264:MET:SD	2.61	0.41
1:A:885:ASN:ND2	1:A:885:ASN:H	2.19	0.41
1:A:117[B]:HIS:CE1	1:A:354:ARG:NE	2.77	0.41
1:A:833:SER:C	1:A:848[B]:THR:HG22	2.41	0.41
1:A:954:ARG:HH22	1:A:981:ARG:HH21	1.69	0.41
1:A:344:PHE:HB3	1:A:350:TRP:CE2	2.55	0.41
1:A:954:ARG:HA	1:A:994:THR:HG21	2.03	0.41
1:A:527:ASP:O	1:A:931:LYS:HE3	2.21	0.40
1:A:626:PRO:O	1:A:950:HIS:CD2	2.71	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	1056/1045 (101%)	1029 (97%)	25 (2%)	2 (0%)	47 19

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	95	TRP
1	A	204	ALA

### 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	944/928 (102%)	935 (99%)	9 (1%)	76 48

All (9) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	275	CYS
1	A	396	GLU
1	A	540	ARG
1	A	602	THR
1	A	695	LYS
1	A	702	ASP
1	A	828	TYR
1	A	979[A]	LEU
1	A	979[B]	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (30) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	79	HIS
1	A	91	ASN
1	A	148	GLN
1	A	157	GLN
1	A	191	GLN

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Mol	Chain	Res	Type
1	A	249	GLN
1	A	309	GLN
1	A	346	GLN
1	A	347	ASN
1	A	394	GLN
1	A	425	HIS
1	A	434	HIS
1	A	460	GLN
1	A	469	GLN
1	A	470	HIS
1	A	488	GLN
1	A	554	HIS
1	A	608	HIS
1	A	698	GLN
1	A	765	HIS
1	A	809	ASN
1	A	880	GLN
1	A	885	ASN
1	A	919	HIS
1	A	950	HIS
1	A	973	GLN
1	A	980	HIS
1	A	993	HIS
1	A	995	GLN
1	A	1022	HIS

### 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 monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 1 is monoatomic - leaving 3 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	NAG	A	1101	1	14,14,15	0.50	0	17,19,21	0.80	1 (5%)
3	MAN	A	4499	4	12,12,12	0.61	0	17,17,17	1.42	3 (17%)
5	MPD	A	1104	-	7,7,7	0.23	0	9,10,10	0.65	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	A	1101	1	-	2/6/23/26	0/1/1/1
3	MAN	A	4499	4	-	0/2/22/22	0/1/1/1
5	MPD	A	1104	-	1/1/2/2	1/5/5/5	-

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
3	A	4499	MAN	C1-C2-C3	3.27	117.10	110.31
3	A	4499	MAN	O2-C2-C1	2.57	115.13	109.16
2	A	1101	NAG	C1-O5-C5	2.50	115.58	112.19
3	A	4499	MAN	C4-C3-C2	2.09	114.48	110.82

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
5	A	1104	MPD	C4

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1101	NAG	C8-C7-N2-C2
2	A	1101	NAG	O7-C7-N2-C2
5	A	1104	MPD	C2-C3-C4-O4

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	1104	MPD	3	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	1014/1045 (97%)	0.32	70 (6%) <b>16</b> <b>14</b>	4, 10, 21, 36	0

All (70) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	993	HIS	10.2
1	A	991	GLU	7.4
1	A	992	GLU	7.2
1	A	638	ASP	6.1
1	A	701	GLN	5.9
1	A	702	ASP	5.8
1	A	78	HIS	5.5
1	A	31	CYS	5.5
1	A	682	ASN	4.8
1	A	987	CYS	4.8
1	A	1024	ASP	4.6
1	A	602	THR	4.4
1	A	538	ASP	4.4
1	A	720[A]	HIS	4.3
1	A	600	HIS	4.2
1	A	603	LEU	4.0
1	A	534	SER	4.0
1	A	994	THR	3.8
1	A	583	LEU	3.8
1	A	703	SER	3.6
1	A	655	ASN	3.6
1	A	990	PRO	3.5
1	A	290	MET	3.5
1	A	537	GLU	3.5
1	A	451[A]	MET	3.5
1	A	547	GLU	3.4
1	A	989	THR	3.4

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Mol	Chain	Res	Type	RSRZ
1	A	676	ILE	3.3
1	A	497[A]	CYS	3.2
1	A	1008	ARG	3.1
1	A	396	GLU	3.1
1	A	654	LYS	3.1
1	A	784[A]	SER	3.0
1	A	907	LYS	2.8
1	A	435	TYR	2.8
1	A	614	THR	2.8
1	A	723	ARG	2.8
1	A	1022	HIS	2.7
1	A	392	ALA	2.6
1	A	700	THR	2.6
1	A	610	GLN	2.6
1	A	308	ASP	2.6
1	A	742	GLN	2.6
1	A	739	GLU	2.5
1	A	721	GLY	2.5
1	A	1021	GLU	2.5
1	A	309	GLN	2.5
1	A	940	ILE	2.5
1	A	996	LYS	2.5
1	A	316	ASP	2.4
1	A	995	GLN	2.4
1	A	585	ASN	2.4
1	A	541	THR	2.4
1	A	741	GLY	2.3
1	A	256	ASP	2.3
1	A	785	LEU	2.3
1	A	949	ASP	2.3
1	A	536	VAL	2.3
1	A	1027	VAL	2.3
1	A	144	ASN	2.2
1	A	105	HIS	2.2
1	A	988	GLY	2.1
1	A	666	GLU	2.1
1	A	391	ARG	2.1
1	A	368	ALA	2.1
1	A	1044	SER	2.0
1	A	786[A]	ASP	2.0
1	A	871	ALA	2.0
1	A	751	LYS	2.0

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Mol	Chain	Res	Type	RSRZ
1	A	253	ASN	2.0

## 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 monosaccharides 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( $\text{\AA}^2$ )	Q<0.9
2	NAG	A	1101	14/15	0.55	0.31	24,29,31,32	0
5	MPD	A	1104	8/8	0.79	0.14	13,18,19,21	0
3	MAN	A	4499	12/12	0.82	0.18	12,17,18,21	0
4	ZN	A	1102	1/1	1.00	0.02	6,6,6,6	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.