



# wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 15, 2017 – 12:53 am GMT

PDB ID : 2PNC  
Title : Crystal Structure of Bovine Plasma Copper-Containing Amine Oxidase in Complex with Clonidine  
Authors : Cendron, L.; Holt, A.; Smith, D.J.; Zanotti, G.; Rigo, A.; Di Paolo, M.L.  
Deposited on : 2007-04-24  
Resolution : 2.40 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](mailto:validation@mail.wwpdb.org)

A user guide is available at

<http://wwpdb.org/validation/2016/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 : 1.7.2 (RC1), CSD as538be (2017)  
Xtriage (Phenix) : 1.9-1692  
EDS : trunk28620  
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)  
Refmac : 5.8.0135  
CCP4 : 6.5.0  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : recalc28949

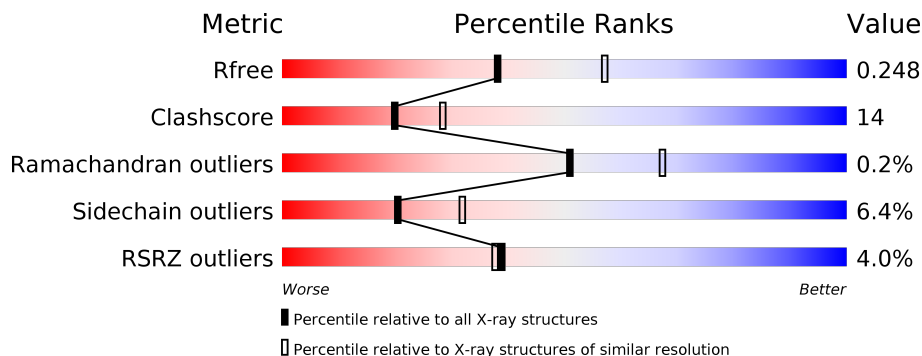
# 1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 2.40 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.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	100719	3166 (2.40-2.40)
Clashscore	112137	3674 (2.40-2.40)
Ramachandran outliers	110173	3616 (2.40-2.40)
Sidechain outliers	110143	3617 (2.40-2.40)
RSRZ outliers	101464	3195 (2.40-2.40)

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 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	746	<div> <div>3%</div> <div> <div></div> <div>59%</div> <div>22%</div> <div>•</div> <div>16%</div> </div> </div>
1	B	746	<div> <div>3%</div> <div> <div></div> <div>59%</div> <div>22%</div> <div>•</div> <div>16%</div> </div> </div>

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
2	NAG	A	801	-	-	-	X
2	NAG	A	802	-	-	-	X
4	CA	A	806	-	-	-	X
4	CA	B	806	-	-	-	X

## 2 Entry composition [i](#)

There are 7 unique types of molecules in this entry. The entry contains 10304 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 Copper amine oxidase, liver isozyme.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	623	Total	C	N	O	S	0	0	0
			4926	3156	846	905	19			
1	B	623	Total	C	N	O	S	0	0	0
			4926	3156	846	905	19			

- Molecule 2 is a polymer of unknown type called SUGAR (3-MER).

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	3	Total	C	N	O	0	0
			42	24	3	15		
2	B	3	Total	C	N	O	0	0
			42	24	3	15		

- Molecule 3 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	B	1	Total	Cu	0	0
			1	1		
3	A	1	Total	Cu	0	0
			1	1		

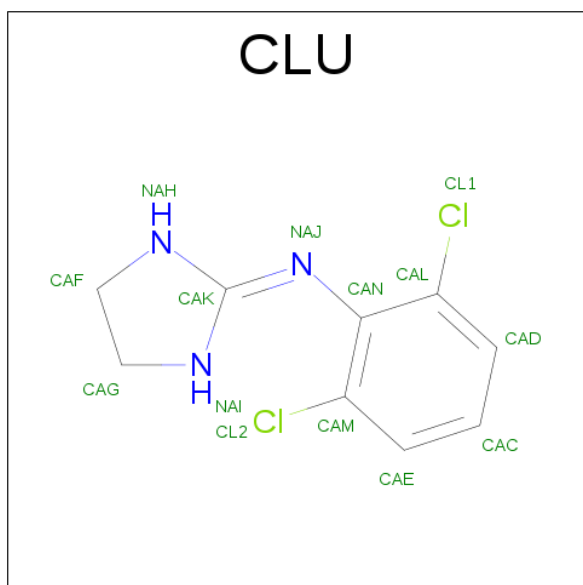
- Molecule 4 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	B	2	Total	Ca	0	0
			2	2		
4	A	2	Total	Ca	0	0
			2	2		

- Molecule 5 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	2	Total Cl 2 2	0	0
5	A	1	Total Cl 1 1	0	0

- Molecule 6 is 2,6-DICHLORO-N-IMIDAZOLIDIN-2-YLIDENEANILINE (three-letter code: CLU) (formula: C<sub>9</sub>H<sub>9</sub>Cl<sub>2</sub>N<sub>3</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total C Cl N 14 9 2 3	0	0
6	B	1	Total C Cl N 14 9 2 3	0	0

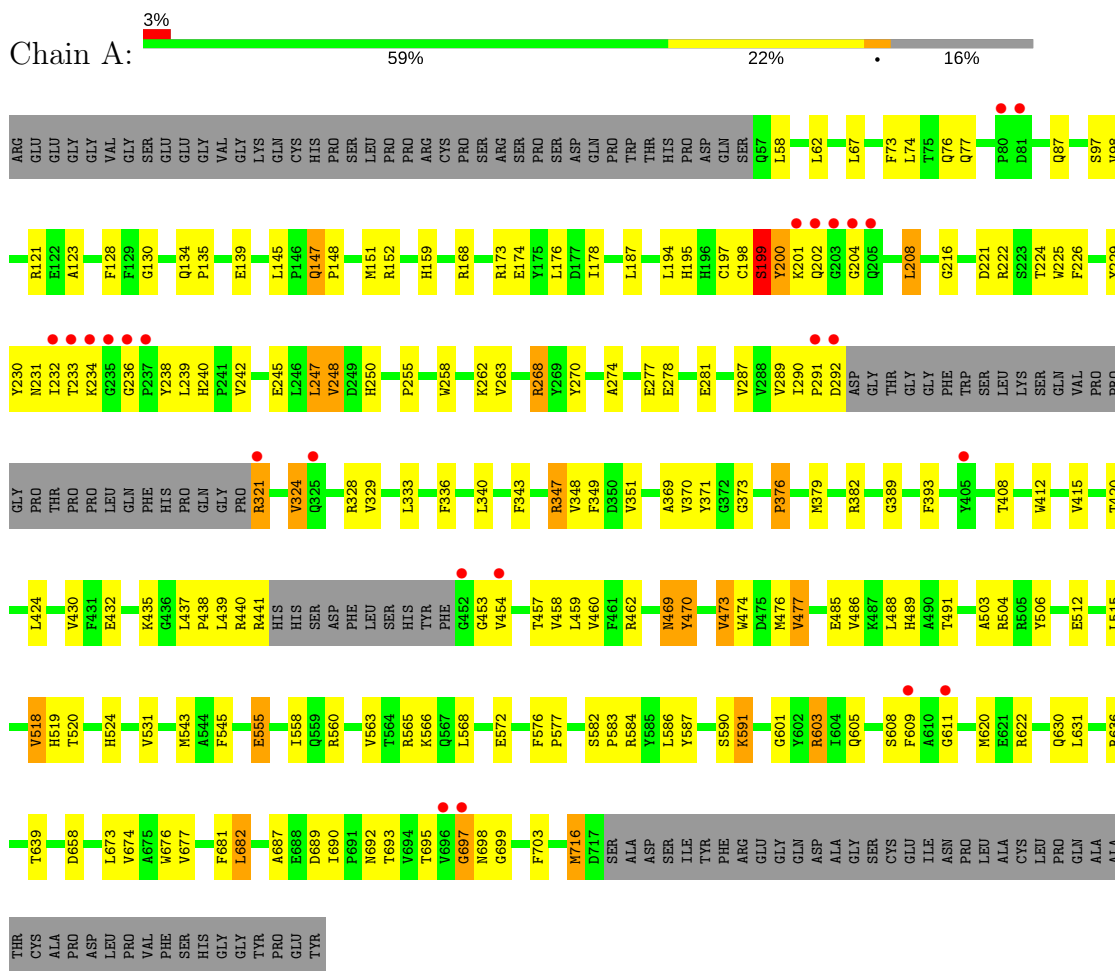
- Molecule 7 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	173	Total O 173 173	0	0
7	B	158	Total O 158 158	0	0

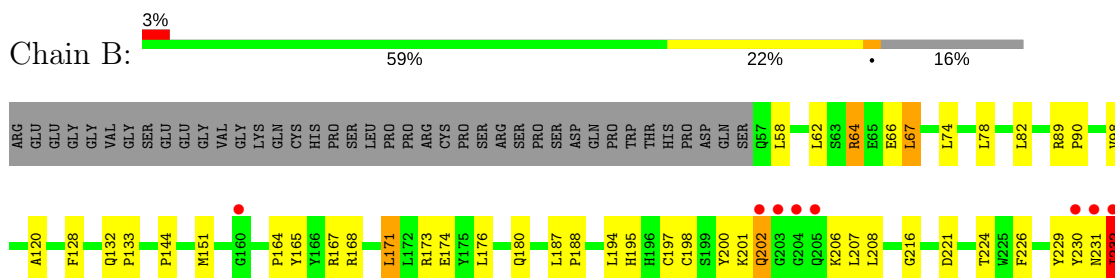
### 3 Residue-property plots

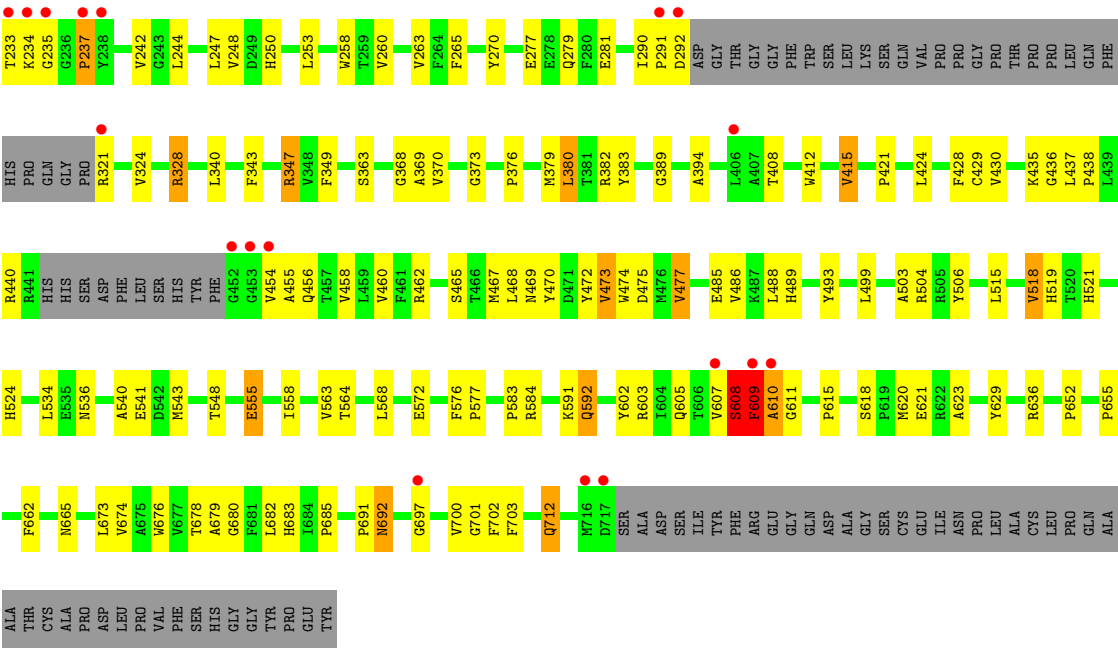
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are 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: Copper amine oxidase, liver isozyme



- Molecule 1: Copper amine oxidase, liver isozyme





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	78.36Å 131.96Å 134.16Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.11 – 2.40 29.11 – 2.40	Depositor EDS
% Data completeness (in resolution range)	86.5 (29.11-2.40) 86.5 (29.11-2.40)	Depositor EDS
$R_{merge}$	0.13	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.14 (at 2.39Å)	Xtriage
Refinement program	REFMAC 5.2.0005	Depositor
R, $R_{free}$	0.237 , 0.252 0.236 , 0.248	Depositor DCC
$R_{free}$ test set	2429 reflections (5.37%)	DCC
Wilson B-factor (Å <sup>2</sup> )	32.6	Xtriage
Anisotropy	0.268	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.30 , 43.9	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	0.010 for -h,l,k	Xtriage
$F_o, F_c$ correlation	0.92	EDS
Total number of atoms	10304	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	28.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.82% 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: NAG, CL, CA, TPQ, CLU, CU

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	0.25	0/5057	0.46	3/6889 (0.0%)
1	B	0.24	0/5057	0.50	6/6889 (0.1%)
All	All	0.25	0/10114	0.48	9/13778 (0.1%)

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

There are no bond length outliers.

The worst 5 of 9 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
1	B	610	ALA	N-CA-CB	-15.43	88.49	110.10
1	B	609	PHE	CB-CA-C	-8.66	93.07	110.40
1	A	200	TYR	N-CA-CB	-8.18	95.87	110.60
1	A	199	SER	CB-CA-C	-7.48	95.89	110.10
1	B	610	ALA	N-CA-C	6.84	129.47	111.00

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	470	TPQ	Peptide

## 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	4926	0	4727	154	0
1	B	4926	0	4728	145	0
2	A	42	0	37	1	0
2	B	42	0	37	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
4	A	2	0	0	0	0
4	B	2	0	0	0	0
5	A	1	0	0	0	0
5	B	2	0	0	0	0
6	A	14	0	9	0	0
6	B	14	0	9	5	0
7	A	173	0	0	2	0
7	B	158	0	0	7	0
All	All	10304	0	9547	277	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 14.

The worst 5 of 277 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:268:ARG:HH21	1:A:268:ARG:HG2	1.23	0.99
1:A:605:GLN:NE2	1:B:609:PHE:CE1	2.37	0.92
1:A:477:VAL:HG13	1:A:485:GLU:HB3	1.52	0.92
1:B:328:ARG:HH11	1:B:328:ARG:CG	1.84	0.90
1:B:328:ARG:HG2	1:B:328:ARG:HH11	1.36	0.88

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	616/746 (83%)	580 (94%)	34 (6%)	2 (0%)	44	60
1	B	616/746 (83%)	582 (94%)	33 (5%)	1 (0%)	51	67
All	All	1232/1492 (83%)	1162 (94%)	67 (5%)	3 (0%)	51	67

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	237	PRO
1	A	376	PRO
1	A	469	ASN

### 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	520/623 (84%)	487 (94%)	33 (6%)	21	33
1	B	520/623 (84%)	486 (94%)	34 (6%)	20	31
All	All	1040/1246 (84%)	973 (94%)	67 (6%)	20	32

5 of 67 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	673	LEU
1	B	202	GLN
1	B	608	SER

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
1	A	682	LEU
1	B	67	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 32 such sidechains are listed below:

Mol	Chain	Res	Type
1	A	489	HIS
1	A	665	ASN
1	B	692	ASN
1	A	559	GLN
1	A	692	ASN

### 5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

## 5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

2 non-standard protein/DNA/RNA residues 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$
1	TPQ	A	470	1,3	14,14,15	2.06	3 (21%)	17,19,21	0.98	0
1	TPQ	B	470	1,3	14,14,15	2.07	3 (21%)	17,19,21	1.07	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
1	TPQ	A	470	1,3	-	0/4/22/24	0/1/1/1

*Continued on next page...*

*Continued from previous page...*

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	TPQ	B	470	1,3	-	0/4/22/24	0/1/1/1

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	470	TPQ	C3-C4	2.32	1.39	1.35
1	B	470	TPQ	C3-C4	2.37	1.39	1.35
1	B	470	TPQ	O5-C5	4.45	1.36	1.24
1	A	470	TPQ	O5-C5	4.50	1.36	1.24
1	B	470	TPQ	O2-C2	4.50	1.36	1.24

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	470	TPQ	1	0
1	B	470	TPQ	2	0

## 5.5 Carbohydrates

6 carbohydrates 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	NAG	A	801	1,2	14,14,15	0.52	0	15,19,21	1.04	0
2	NAG	A	802	2	14,14,15	0.55	0	15,19,21	1.02	1 (6%)
2	NAG	A	803	2	14,14,15	0.50	0	15,19,21	1.16	1 (6%)
2	NAG	B	801	1,2	14,14,15	0.54	0	15,19,21	1.14	2 (13%)
2	NAG	B	802	2	14,14,15	0.60	0	15,19,21	1.18	2 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	NAG	B	803	2	14,14,15	0.66	0	15,19,21	1.28	2 (13%)

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	801	1,2	-	0/6/23/26	0/1/1/1
2	NAG	A	802	2	-	0/6/23/26	0/1/1/1
2	NAG	A	803	2	-	0/6/23/26	0/1/1/1
2	NAG	B	801	1,2	-	0/6/23/26	0/1/1/1
2	NAG	B	802	2	-	0/6/23/26	0/1/1/1
2	NAG	B	803	2	-	1/6/23/26	0/1/1/1

There are no bond length outliers.

The worst 5 of 8 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	801	NAG	O5-C1-C2	-2.64	107.81	111.47
2	A	802	NAG	C3-C4-C5	-2.62	105.60	110.22
2	B	802	NAG	O5-C1-C2	-2.25	108.35	111.47
2	B	801	NAG	C4-C3-C2	2.51	114.69	111.02
2	B	803	NAG	O5-C1-C2	2.54	115.01	111.47

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	803	NAG	O7-C7-N2-C2

There are no ring outliers.

2 monomers are involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	801	NAG	1	0
2	A	802	NAG	1	0

## 5.6 Ligand geometry

Of 11 ligands modelled in this entry, 9 are monoatomic - leaving 2 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$
6	CLU	A	808	-	15,15,15	2.09	5 (33%)	19,20,20	1.29	2 (10%)
6	CLU	B	809	-	15,15,15	2.09	5 (33%)	19,20,20	1.17	2 (10%)

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
6	CLU	A	808	-	-	0/4/11/11	0/2/2/2
6	CLU	B	809	-	-	0/4/11/11	0/2/2/2

The worst 5 of 10 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	A	808	CLU	CAN-NAJ	-5.75	1.33	1.42
6	B	809	CLU	CAN-NAJ	-5.54	1.34	1.42
6	A	808	CLU	CAL-CL1	2.59	1.79	1.73
6	B	809	CLU	CAM-CL2	2.61	1.79	1.73
6	A	808	CLU	CAM-CL2	2.61	1.79	1.73

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	A	808	CLU	NAI-CAK-NAH	-2.46	107.29	108.99
6	B	809	CLU	NAI-CAK-NAH	-2.25	107.43	108.99
6	B	809	CLU	CAL-CAN-CAM	3.04	119.62	116.50
6	A	808	CLU	CAL-CAN-CAM	3.19	119.79	116.50

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	B	809	CLU	5	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	622/746 (83%)	-0.08	24 (3%) 40 39	9, 24, 56, 107	0
1	B	622/746 (83%)	-0.01	26 (4%) 37 35	8, 24, 57, 109	0
All	All	1244/1492 (83%)	-0.05	50 (4%) 39 38	8, 24, 57, 109	0

The worst 5 of 50 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	204	GLY	8.1
1	B	292	ASP	7.0
1	B	203	GLY	7.0
1	B	717	ASP	6.9
1	A	205	GLN	6.9

### 6.2 Non-standard residues in protein, DNA, RNA chains [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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
1	TPQ	A	470	14/15	0.85	0.21	-	34,36,39,39	0
1	TPQ	B	470	14/15	0.81	0.23	-	36,40,42,43	0

### 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. LLDF column lists the quality of electron

density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
2	NAG	A	802	14/15	0.75	0.31	7.75	59,65,71,78	0
2	NAG	A	801	14/15	0.84	0.22	2.63	38,42,48,56	0
2	NAG	B	801	14/15	0.86	0.13	0.02	31,38,42,44	0
2	NAG	B	802	14/15	0.79	0.22	-	50,54,59,66	0
2	NAG	B	803	14/15	0.53	0.43	-	71,75,76,77	0
2	NAG	A	803	14/15	0.56	0.53	-	82,86,87,87	0

## 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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
4	CA	B	806	1/1	0.26	0.26	4.72	29,29,29,29	0
4	CA	A	806	1/1	0.55	0.23	2.54	28,28,28,28	0
6	CLU	A	808	14/14	0.77	0.23	1.76	30,40,42,43	0
6	CLU	B	809	14/14	0.88	0.21	1.52	34,43,43,44	0
5	CL	B	808	1/1	0.95	0.16	1.43	27,27,27,27	0
4	CA	A	805	1/1	0.77	0.17	1.07	20,20,20,20	0
5	CL	A	807	1/1	0.68	0.21	0.92	33,33,33,33	0
5	CL	B	807	1/1	0.96	0.12	-0.88	43,43,43,43	0
4	CA	B	805	1/1	0.79	0.12	-0.95	20,20,20,20	0
3	CU	A	804	1/1	0.81	0.09	-	29,29,29,29	0
3	CU	B	804	1/1	0.88	0.10	-	27,27,27,27	0

## 6.5 Other polymers ⓘ

There are no such residues in this entry.