



# Full wwPDB X-ray Structure Validation Report ⓘ

May 16, 2020 – 12:04 pm BST

PDB ID : 4RA7  
Title : Structure of a putative peptidoglycan glycosyltransferase from *Atopobium parvulum* in complex with nafcillin  
Authors : Filippova, E.V.; Minasov, G.; Kiryukhina, O.; Clancy, S.; Joachimiak, A.; Anderson, W.F.; Midwest Center for Structural Genomics (MCSG)  
Deposited on : 2014-09-09  
Resolution : 1.94 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 : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.11  
buster-report : 1.1.7 (2018)  
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) : 2.11



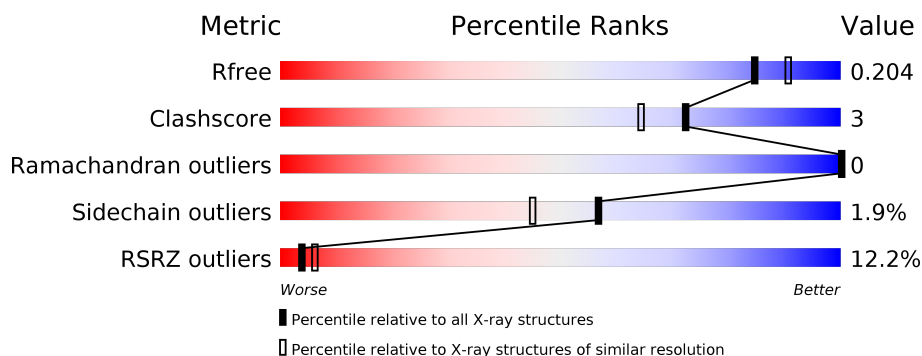
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 1.94 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	4310 (1.96-1.92)
Clashscore	141614	1023 (1.94-1.94)
Ramachandran outliers	138981	1007 (1.94-1.94)
Sidechain outliers	138945	1007 (1.94-1.94)
RSRZ outliers	127900	4250 (1.96-1.92)

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 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	453	<div> <div>10%</div> <div> <div></div> <div>84%</div> <div>7%</div> <div>8%</div> </div> </div>
1	B	453	<div> <div>11%</div> <div> <div></div> <div>85%</div> <div>7%</div> <div>8%</div> </div> </div>



## 2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 6414 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 Peptidoglycan glycosyltransferase.

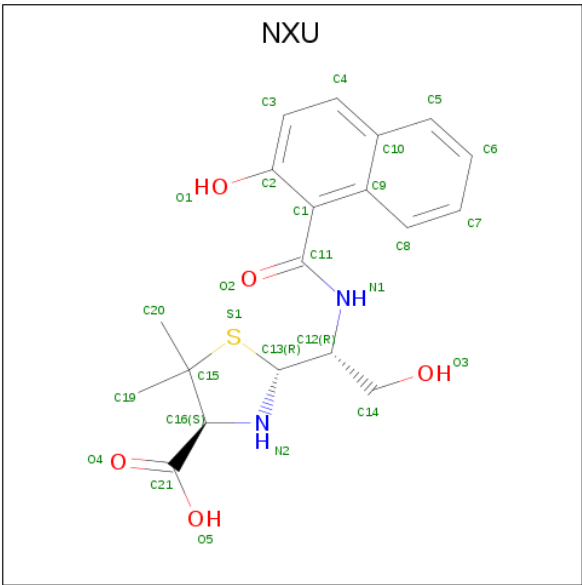
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	416	Total	C	N	O	S	Se	0	1	0
			2996	1863	508	610	2	13			
1	B	416	Total	C	N	O	S	Se	0	0	0
			2996	1864	507	610	2	13			

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	502	SER	-	EXPRESSION TAG	UNP C8W8H7
A	503	ASN	-	EXPRESSION TAG	UNP C8W8H7
A	504	ALA	-	EXPRESSION TAG	UNP C8W8H7
B	502	SER	-	EXPRESSION TAG	UNP C8W8H7
B	503	ASN	-	EXPRESSION TAG	UNP C8W8H7
B	504	ALA	-	EXPRESSION TAG	UNP C8W8H7

- Molecule 2 is (2R,4S)-2-[(1R)-2-hydroxy-1-[(2-hydroxynaphthalen-1-yl)carbonyl]amino]ethyl]-5,5-dimethyl-1,3-thiazolidine-4-carboxylic acid (three-letter code: NXU) (formula: C<sub>19</sub>H<sub>22</sub>N<sub>2</sub>O<sub>5</sub>S).





Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	S	0	0
			27	19	2	5	1		
2	B	1	Total	C	N	O	S	0	0
			27	19	2	5	1		

- Molecule 3 is water.

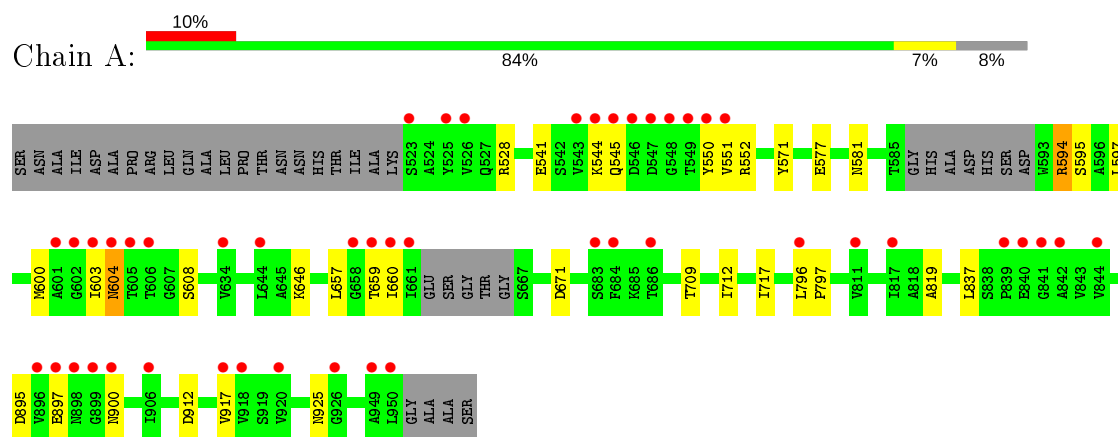
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	195	Total	O	0	0
			195	195		
3	B	172	Total	O	0	1
			173	173		



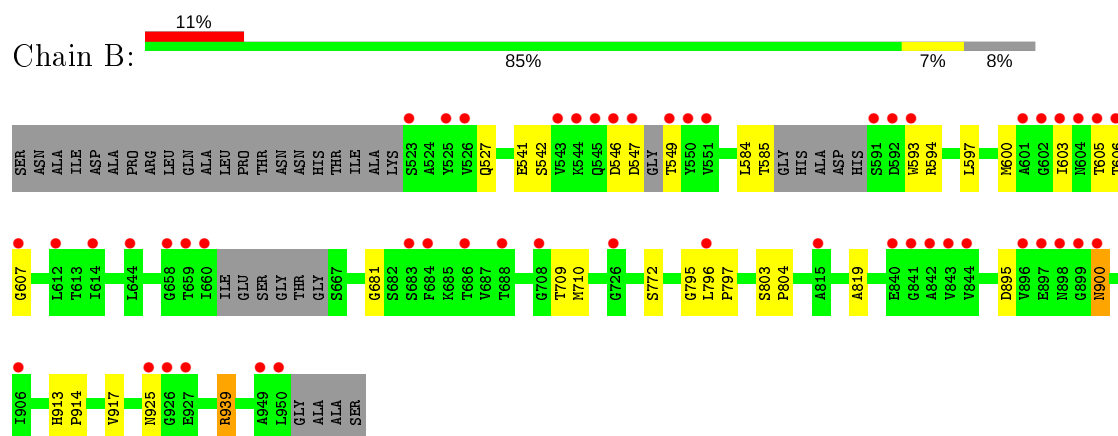
### 3 Residue-property plots [i](#)

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: Peptidoglycan glycosyltransferase



#### • Molecule 1: Peptidoglycan glycosyltransferase





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	68.40 Å 70.06 Å 114.57 Å 90.00° 96.97° 90.00°	Depositor
Resolution (Å)	30.00 – 1.94 28.74 – 1.94	Depositor EDS
% Data completeness (in resolution range)	99.3 (30.00-1.94) 99.3 (28.74-1.94)	Depositor EDS
$R_{merge}$	0.07	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.89 (at 1.93 Å)	Xtriage
Refinement program	REFMAC 5.8.0069	Depositor
R, $R_{free}$	0.161 , 0.199 0.170 , 0.204	Depositor DCC
$R_{free}$ test set	3984 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	38.0	Xtriage
Anisotropy	0.219	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.35 , 57.9	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.97	EDS
Total number of atoms	6414	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	51.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.05% 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: NXU

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	0.66	0/3034	0.77	1/4118 (0.0%)
1	B	0.68	0/3034	0.79	0/4118
All	All	0.67	0/6068	0.78	1/8236 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	604	ASN	N-CA-C	8.64	134.33	111.00

There are no chirality outliers.

There are no planarity outliers.

### 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	2996	0	2916	22	0
1	B	2996	0	2918	19	0
2	A	27	0	18	0	0
2	B	27	0	17	1	0
3	A	195	0	0	2	0
3	B	173	0	0	2	0
All	All	6414	0	5869	41	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 3.

All (41) 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:545:GLN:HE22	1:A:551:VAL:HB	1.41	0.86
1:A:608:SER:HB2	1:A:837:LEU:O	1.97	0.64
1:A:571:TYR:HE2	1:A:657:LEU:O	1.81	0.62
1:A:796:LEU:HD12	1:A:797:PRO:HD2	1.83	0.61
1:B:527:GLN:HG2	1:B:606:THR:HG23	1.83	0.61
1:A:912:ASP:HB2	3:A:1112:HOH:O	2.03	0.58
1:B:939:ARG:HD2	3:B:1214:HOH:O	2.03	0.56
1:B:681:GLY:O	1:B:795:GLY:HA3	2.06	0.56
1:A:897:GLU:OE1	1:A:897:GLU:N	2.38	0.56
1:A:571:TYR:OH	1:A:660:ILE:O	2.20	0.55
1:B:594:ARG:HB2	1:B:600:MSE:HE3	1.90	0.54
1:B:597:LEU:HD22	1:B:600:MSE:HE2	1.90	0.54
1:A:604:ASN:OD1	1:A:604:ASN:C	2.48	0.51
1:A:594:ARG:HB2	1:A:600:MSE:HE3	1.91	0.51
1:A:541:GLU:O	1:A:552:ARG:HD2	2.12	0.50
1:B:803:SER:HB2	1:B:804:PRO:HD2	1.95	0.49
1:B:900:ASN:HB3	1:B:925:ASN:O	2.14	0.48
1:A:528:ARG:NH2	1:A:581:ASN:OD1	2.37	0.47
1:A:597:LEU:HB2	1:A:600:MSE:HE2	1.97	0.47
1:B:597:LEU:N	1:B:597:LEU:HD12	2.30	0.47
1:A:528:ARG:NH1	1:A:577:GLU:O	2.47	0.47
1:A:712:ILE:HD12	1:A:717:ILE:HG13	1.97	0.46
1:A:646:LYS:NZ	1:A:671:ASP:OD2	2.49	0.45
1:B:594:ARG:HB2	1:B:600:MSE:CE	2.46	0.45
1:B:772:SER:HB3	3:B:1142:HOH:O	2.16	0.44
1:B:913:HIS:N	1:B:914:PRO:HD3	2.33	0.44
1:A:597:LEU:HD12	1:A:597:LEU:N	2.32	0.43
1:B:796:LEU:HD12	1:B:797:PRO:HD2	2.01	0.43
1:A:608:SER:CB	1:A:837:LEU:O	2.65	0.43
1:B:547:ASP:O	1:B:549:THR:N	2.52	0.43
1:B:546:ASP:O	1:B:547:ASP:C	2.57	0.42
1:A:895:ASP:HB2	3:A:1232:HOH:O	2.19	0.42
1:A:544:LYS:HB2	1:A:550:TYR:CE1	2.53	0.42
1:B:527:GLN:HE21	1:B:542:SER:HB2	1.85	0.42
1:A:819:ALA:HA	1:A:917:VAL:HG21	2.01	0.42
1:B:593:TRP:CE2	1:B:594:ARG:HB3	2.54	0.42
1:A:900:ASN:CG	1:A:925:ASN:O	2.58	0.42

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:659:THR:OG1	1:A:660:ILE:N	2.50	0.41
1:B:584:LEU:O	1:B:607:GLY:HA3	2.21	0.41
1:B:895:ASP:CG	2:B:1001:NXU:H23	2.41	0.41
1:B:819:ALA:HA	1:B:917:VAL:HG21	2.04	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	411/453 (91%)	399 (97%)	12 (3%)	0	100	100
1	B	408/453 (90%)	396 (97%)	12 (3%)	0	100	100
All	All	819/906 (90%)	795 (97%)	24 (3%)	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	315/330 (96%)	311 (99%)	4 (1%)	69	62
1	B	316/330 (96%)	308 (98%)	8 (2%)	47	35
All	All	631/660 (96%)	619 (98%)	12 (2%)	57	45



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

Mol	Chain	Res	Type
1	A	594	ARG
1	A	595	SER
1	A	603	ILE
1	A	709	THR
1	B	541	GLU
1	B	585	THR
1	B	603	ILE
1	B	605	THR
1	B	709	THR
1	B	710	MSE
1	B	900	ASN
1	B	939	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	570	GLN
1	A	718	HIS
1	A	925	ASN
1	A	943	GLN
1	B	527	GLN
1	B	545	GLN
1	B	570	GLN
1	B	722	ASN

### 5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.



## 5.6 Ligand geometry

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		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	NXU	A	1001	1	23,29,29	2.01	6 (26%)	31,43,43	3.51	11 (35%)
2	NXU	B	1001	1	23,29,29	2.07	6 (26%)	31,43,43	3.36	9 (29%)

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	NXU	A	1001	1	-	3/10/33/33	0/3/3/3
2	NXU	B	1001	1	-	2/10/33/33	0/3/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1001	NXU	C1-C2	4.53	1.49	1.39
2	A	1001	NXU	C1-C2	4.43	1.49	1.39
2	A	1001	NXU	C9-C10	3.92	1.50	1.43
2	A	1001	NXU	C1-C9	3.87	1.51	1.43
2	B	1001	NXU	C16-N2	-3.72	1.41	1.46
2	B	1001	NXU	O3-C14	-3.57	1.27	1.42
2	B	1001	NXU	C1-C9	3.34	1.50	1.43
2	B	1001	NXU	C9-C10	3.27	1.48	1.43
2	A	1001	NXU	O3-C14	-3.14	1.29	1.42
2	B	1001	NXU	C20-C15	-2.65	1.45	1.53
2	A	1001	NXU	C14-C12	2.58	1.57	1.52
2	A	1001	NXU	C4-C3	2.09	1.41	1.36

All (20) bond angle outliers are listed below:



Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1001	NXU	C19-C15-S1	-11.90	89.27	109.21
2	A	1001	NXU	C19-C15-S1	-11.00	90.78	109.21
2	A	1001	NXU	C20-C15-S1	-9.88	92.65	109.21
2	B	1001	NXU	C20-C15-S1	-7.72	96.27	109.21
2	B	1001	NXU	C16-C15-S1	-6.71	90.50	103.81
2	A	1001	NXU	C14-C12-N1	-5.42	100.65	109.27
2	A	1001	NXU	O3-C14-C12	5.10	123.45	111.09
2	B	1001	NXU	C20-C15-C16	4.94	128.73	112.33
2	B	1001	NXU	C15-S1-C13	4.51	103.66	93.99
2	A	1001	NXU	C15-S1-C13	4.47	103.57	93.99
2	A	1001	NXU	C12-N1-C11	4.39	130.99	123.01
2	A	1001	NXU	C16-C15-S1	-4.34	95.21	103.81
2	B	1001	NXU	O3-C14-C12	4.24	121.38	111.09
2	A	1001	NXU	C20-C15-C16	3.62	124.34	112.33
2	B	1001	NXU	C14-C12-N1	-3.33	103.98	109.27
2	B	1001	NXU	C12-N1-C11	2.93	128.34	123.01
2	A	1001	NXU	C9-C1-C11	2.91	124.31	119.50
2	A	1001	NXU	C20-C15-C19	2.82	115.37	110.78
2	B	1001	NXU	C9-C1-C11	2.22	123.17	119.50
2	A	1001	NXU	C19-C15-C16	2.16	119.50	112.33

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1001	NXU	N1-C12-C14-O3
2	A	1001	NXU	C13-C12-C14-O3
2	B	1001	NXU	N1-C12-C14-O3
2	B	1001	NXU	C13-C12-C14-O3
2	A	1001	NXU	C14-C12-N1-C11

There are no ring outliers.

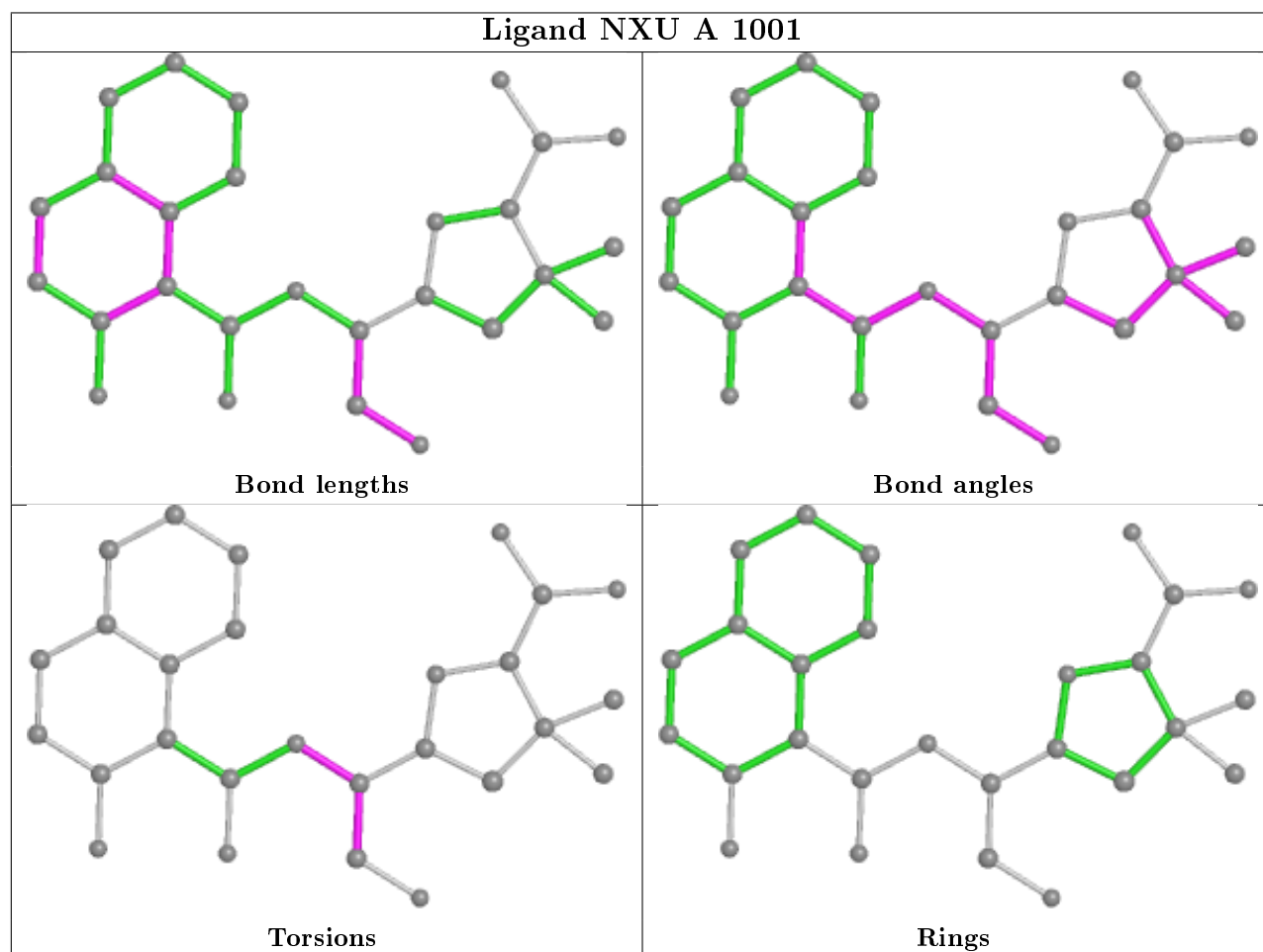
1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	1001	NXU	1	0

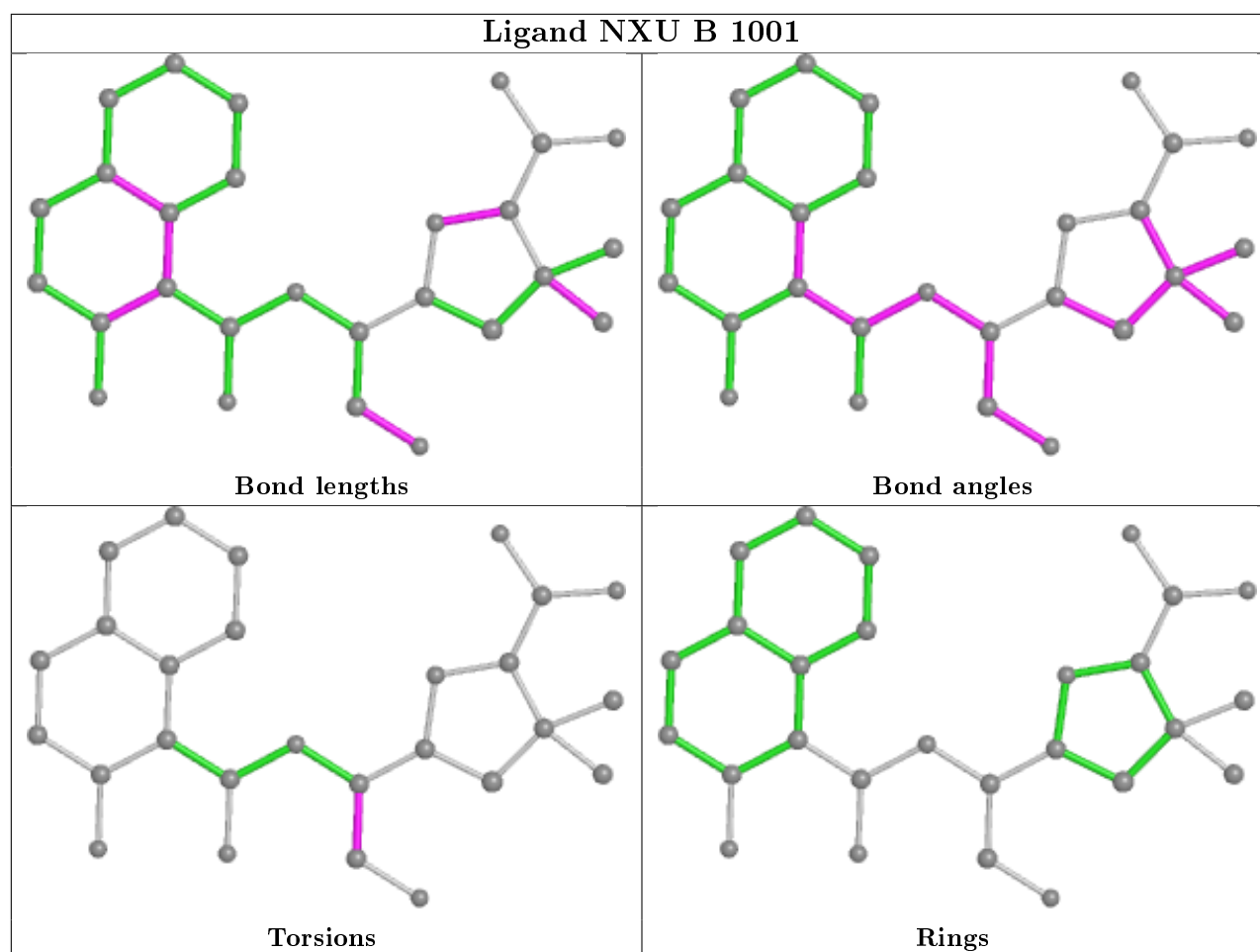
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 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 ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

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	403/453 (88%)	0.41	47 (11%) 4 7	31, 43, 95, 131	0
1	B	403/453 (88%)	0.43	51 (12%) 3 5	29, 46, 95, 125	0
All	All	806/906 (88%)	0.42	98 (12%) 4 6	29, 44, 95, 131	0

All (98) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	660	ILE	7.9
1	A	898	ASN	6.8
1	A	603	ILE	6.6
1	A	605	THR	5.4
1	B	658	GLY	5.4
1	A	897	GLU	5.4
1	A	549	THR	5.0
1	A	659	THR	4.9
1	B	897	GLU	4.8
1	A	544	LYS	4.7
1	B	605	THR	4.7
1	B	841	GLY	4.6
1	A	604	ASN	4.5
1	A	525	TYR	4.5
1	B	842	ALA	4.5
1	B	840	GLU	4.4
1	B	545	GLN	4.3
1	A	842	ALA	4.3
1	B	551	VAL	4.2
1	A	548	GLY	4.1
1	B	544	LYS	4.0
1	A	658	GLY	4.0
1	B	525	TYR	4.0
1	A	545	GLN	4.0

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	RSRZ
1	B	898	ASN	3.9
1	B	543	VAL	3.8
1	B	549	THR	3.7
1	A	899	GLY	3.6
1	B	602	GLY	3.6
1	B	603	ILE	3.5
1	B	843	VAL	3.5
1	A	551	VAL	3.4
1	A	602	GLY	3.4
1	B	949	ALA	3.4
1	A	547	ASP	3.3
1	A	526	VAL	3.3
1	A	840	GLU	3.3
1	A	841	GLY	3.2
1	B	523	SER	3.2
1	A	918	VAL	3.2
1	B	844	VAL	3.2
1	B	593	TRP	3.1
1	B	925	ASN	3.1
1	A	844	VAL	3.0
1	A	550	TYR	3.0
1	B	550	TYR	3.0
1	B	614	ILE	3.0
1	A	796	LEU	3.0
1	B	659	THR	2.9
1	A	917	VAL	2.9
1	A	634	VAL	2.9
1	B	526	VAL	2.8
1	A	543	VAL	2.8
1	B	612	LEU	2.8
1	A	546	ASP	2.8
1	B	726	GLY	2.8
1	A	926	GLY	2.7
1	B	604	ASN	2.7
1	B	926	GLY	2.7
1	B	607	GLY	2.7
1	B	660	ILE	2.7
1	B	592	ASP	2.7
1	B	900	ASN	2.6
1	B	896	VAL	2.6
1	A	606	THR	2.6
1	B	546	ASP	2.6

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	RSRZ
1	B	601	ALA	2.5
1	A	523	SER	2.5
1	A	906	ILE	2.5
1	B	686	THR	2.5
1	B	950	LEU	2.4
1	A	601	ALA	2.4
1	B	815	ALA	2.4
1	B	547	ASP	2.4
1	A	684	PHE	2.4
1	A	949	ALA	2.3
1	A	839	PRO	2.3
1	A	644	LEU	2.3
1	B	796	LEU	2.3
1	A	900	ASN	2.3
1	A	661	ILE	2.3
1	B	688	THR	2.3
1	A	896	VAL	2.3
1	B	591	SER	2.3
1	B	683	SER	2.3
1	B	644	LEU	2.3
1	A	686	THR	2.2
1	B	906	ILE	2.2
1	B	899	GLY	2.2
1	B	708	GLY	2.2
1	A	683	SER	2.1
1	B	606	THR	2.1
1	B	927	GLU	2.1
1	A	950	LEU	2.1
1	A	811	VAL	2.1
1	A	920	VAL	2.0
1	B	684	PHE	2.0
1	A	817	ILE	2.0

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

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

## 6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.



## 6.4 Ligands [i](#)

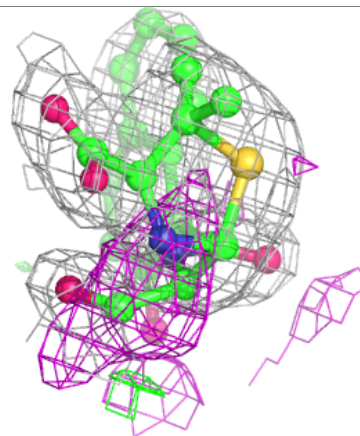
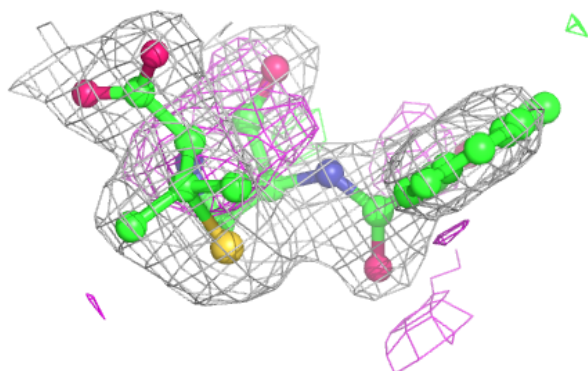
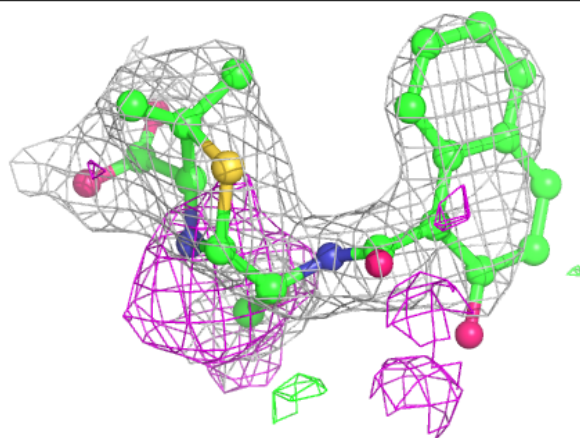
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
2	NXU	B	1001	27/27	0.87	0.17	46,66,87,93	0
2	NXU	A	1001	27/27	0.89	0.18	39,55,78,83	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.

### Electron density around NXU B 1001:

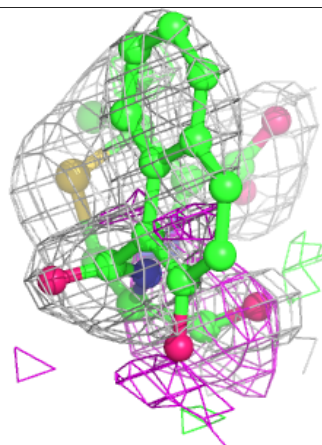
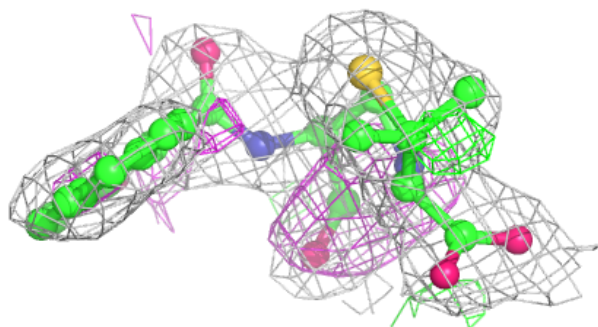
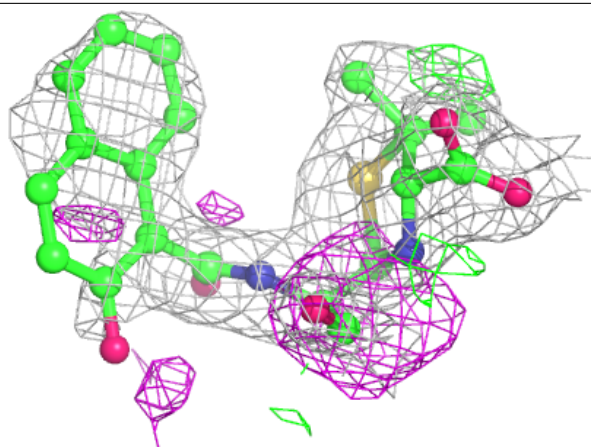
2mF<sub>o</sub>-DF<sub>c</sub> (at 0.7 rmsd) in gray  
mF<sub>o</sub>-DF<sub>c</sub> (at 3 rmsd) in purple (negative)  
and green (positive)





**Electron density around NXU A 1001:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



## 6.5 Other polymers ⓘ

There are no such residues in this entry.