

Full wwPDB X-ray Structure Validation Report (i)

Sep 20, 2023 – 03:07 AM EDT

PDB ID : 5HUI

Title: 6-substituted pyrido[3,2-d]pyrimidine--6-4'-trifluoromethoxyphenyl)

Authors : Cody, V. Deposited on : 2016-01-27

Resolution : 1.46 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 types of validation reports are described at http://www.wwpdb.org/validation/2017/FAQs#types.

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

MolProbity : 4.02b-467

Mogul : 1.8.5 (274361), CSD as541be (2020)

Xtriage (Phenix) : 1.13

EDS : 2.35.1

buster-report : 1.1.7 (2018)

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

 $Refmac \quad : \quad 5.8.0158$

CCP4 : 7.0.044 (Gargrove)

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

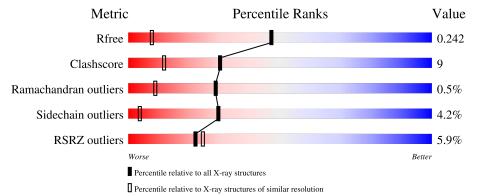
Validation Pipeline (wwPDB-VP) : 2.35.1

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 1.46 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	$\begin{array}{c} \text{Whole archive} \\ (\#\text{Entries}) \end{array}$	$\begin{array}{c} {\rm Similar\ resolution} \\ (\#{\rm Entries,\ resolution\ range(\mathring{\rm A})}) \end{array}$
R_{free}	130704	1156 (1.46-1.46)
Clashscore	141614	1202 (1.46-1.46)
Ramachandran outliers	138981	1178 (1.46-1.46)
Sidechain outliers	138945	1178 (1.46-1.46)
RSRZ outliers	127900	1139 (1.46-1.46)

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		
			6%		
1	A	186	82%	15%	•••



2 Entry composition (i)

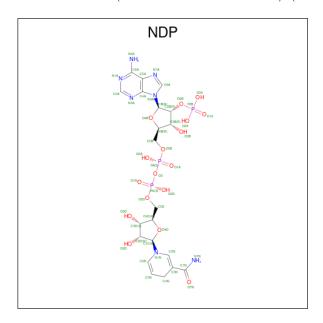
There are 5 unique types of molecules in this entry. The entry contains 1677 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Dihydrofolate reductase.

Mol	Chain	Residues		At	oms			ZeroOcc	AltConf	Trace
1	A	186	Total 1502	C 963	N 253	O 279	S 7	0	0	0

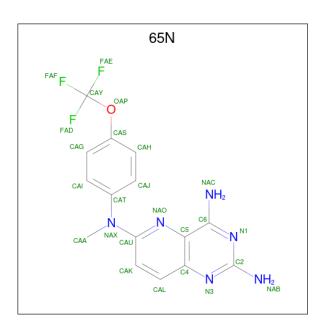
• Molecule 2 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NDP) (formula: C₂₁H₃₀N₇O₁₇P₃).



Mol	Chain	Residues		Ato	oms			ZeroOcc	AltConf
2	Λ	1	Total	С	N	О	Р	0	0
	A	1	48	21	7	17	3	0	0

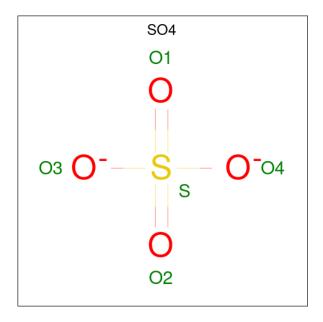
• Molecule 3 is N 6 -methyl-N 6 -[4-(trifluoromethoxy)phenyl]pyrido[3,2-d]pyrimidine-2,4,6-tr iamine (three-letter code: 65N) (formula: $C_{15}H_{13}F_3N_6O$).





Mol	Chain	Residues		Ato	ms			ZeroOcc	AltConf
3	Δ	1	Total	С	F	N	О	0	0
5	Λ	1	25	15	3	6	1		

 \bullet Molecule 4 is SULFATE ION (three-letter code: SO4) (formula: $\mathrm{O_4S}).$



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total 5	O 4	S 1	0	0

• Molecule 5 is water.



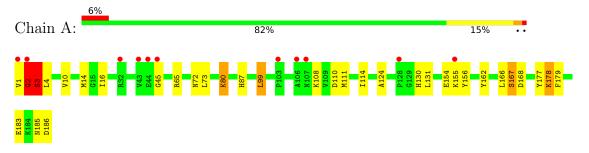
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	97	Total O 97 97	0	0



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: Dihydrofolate reductase





4 Data and refinement statistics (i)

Property	Value	Source	
Space group	H 3	Depositor	
Cell constants	86.52Å 86.52Å 76.56Å	Depositor	
a, b, c, α , β , γ	90.00° 90.00° 120.00°	Depositor	
Resolution (Å)	34.09 - 1.46	Depositor	
rtesolution (A)	34.09 - 1.46	EDS	
% Data completeness	99.8 (34.09-1.46)	Depositor	
(in resolution range)	99.8 (34.09-1.46)	EDS	
R_{merge}	0.11	Depositor	
R_{sym}	0.02	Depositor	
$< I/\sigma(I) > 1$	3.70 (at 1.46Å)	Xtriage	
Refinement program	REFMAC 5.6.0117	Depositor	
υ .	0.211 , 0.243	Depositor	
R, R_{free}	0.210 , 0.242	DCC	
R_{free} test set	1840 reflections (5.00%)	wwPDB-VP	
Wilson B-factor (Å ²)	22.4	Xtriage	
Anisotropy	0.040	Xtriage	
Bulk solvent $k_{sol}(e/Å^3)$, $B_{sol}(Å^2)$	0.41 , 39.3	EDS	
L-test for twinning ²	$< L >=0.49, < L^2>=0.32$	Xtriage	
Estimated twinning fraction	0.026 for h,-h-k,-l	Xtriage	
F_o, F_c correlation	0.96	EDS	
Total number of atoms	1677	wwPDB-VP	
Average B, all atoms (Å ²)	26.0	wwPDB-VP	

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 5.52% of the height of the origin peak. No significant pseudotranslation is detected.

²Theoretical 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.



¹Intensities 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: 65N, SO4, NDP

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	Boı	nd lengths	Bond angles		
			RMSZ	# Z > 5	RMSZ	# Z > 5	
	1	A	1.28	$4/1537 \ (0.3\%)$	1.42	7/2073~(0.3%)	

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 maintenain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$\operatorname{Observed}(\text{\AA})$	Ideal(A)
1	A	177	TYR	CG-CD1	7.43	1.48	1.39
1	A	162	TYR	CD1-CE1	-5.83	1.30	1.39
1	A	154	GLU	CD-OE1	5.81	1.32	1.25
1	A	3	SER	N-CA	5.00	1.56	1.46

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^o)$	$\operatorname{Ideal}({}^{o})$
1	A	3	SER	N-CA-CB	-28.02	68.47	110.50
1	A	3	SER	N-CA-C	8.35	133.54	111.00
1	A	99	LEU	CA-CB-CG	5.55	128.06	115.30
1	A	2	GLY	N-CA-C	-5.27	99.92	113.10
1	A	168	ASP	CB-CG-OD2	-5.26	113.57	118.30
1	A	73	LEU	CB-CG-CD2	5.08	119.64	111.00
1	A	65	ARG	CG-CD-NE	5.01	122.32	111.80

There are no chirality outliers.



All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group	
1	A	2	GLY	Peptide	

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	1502	0	1511	28	0
2	A	48	0	26	1	0
3	A	25	0	0	1	0
4	A	5	0	0	0	0
5	A	97	0	0	11	0
All	All	1677	0	1537	29	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 9.

All (29) 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:178:LYS:CE	5:A:301:HOH:O	1.65	1.32	
1:A:14:MET:CE	5:A:354:HOH:O	1.83	1.21	
1:A:178:LYS:CD	5:A:301:HOH:O	1.78	1.18	
1:A:14:MET:HE2	5:A:354:HOH:O	1.48	1.05	
1:A:178:LYS:NZ	5:A:301:HOH:O	1.74	1.01	
1:A:72:ASN:H	1:A:87:HIS:HD2	1.07	0.97	
1:A:2:GLY:O	1:A:110:ASP:O	1.85	0.95	
1:A:108:LYS:NZ	5:A:302:HOH:O	1.87	0.88	
1:A:178:LYS:HD2	5:A:301:HOH:O	1.59	0.81	
1:A:72:ASN:H	1:A:87:HIS:CD2	1.98	0.76	
1:A:131:LEU:HD23	1:A:156:TYR:OH	1.93	0.67	
1:A:2:GLY:O	1:A:111:MET:HA	1.96	0.65	
1:A:14:MET:HE1	5:A:354:HOH:O	1.64	0.64	
1:A:130:HIS:HE1	1:A:183:GLU:OE1	1.81	0.64	
1:A:114:ILE:HD13	1:A:124:ALA:HB2	1.82	0.60	
1:A:4:LEU:HG	1:A:131:LEU:HD13	1.87	0.57	

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Atom-1	Atom-2	Interatomic	Clash
		distance (Å)	overlap (Å)
1:A:114:ILE:HD13	1:A:124:ALA:CB	2.36	0.55
1:A:167:SER:O	1:A:178:LYS:NZ	2.39	0.52
1:A:4:LEU:HG	1:A:131:LEU:CD1	2.42	0.49
1:A:80:LYS:HE3	1:A:80:LYS:HA	1.98	0.46
1:A:2:GLY:N	1:A:110:ASP:O	2.45	0.45
1:A:10:VAL:CG2	1:A:14:MET:HA	2.47	0.44
1:A:16:ILE:O	2:A:201:NDP:H2N	2.18	0.43
1:A:45:GLY:N	5:A:303:HOH:O	2.21	0.43
1:A:155:LYS:HD2	1:A:186:ASP:OD2	2.19	0.42
3:A:202:65N:CAA	5:A:337:HOH:O	2.67	0.42
1:A:178:LYS:HE3	1:A:179:PHE:N	2.34	0.42
1:A:3:SER:HA	5:A:389:HOH:O	2.21	0.41
1:A:10:VAL:HG22	1:A:14:MET:HA	2.03	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	184/186 (99%)	180 (98%)	3 (2%)	1 (0%)	29 9	

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3	SER

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		Percentiles	
1	A	168/168 (100%)	161 (96%)	7 (4%)	30 4	

All (7) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	VAL
1	A	80	LYS
1	A	99	LEU
1	A	166	LEU
1	A	167	SER
1	A	178	LYS
1	A	185	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	35	GLN
1	A	64	ASN
1	A	87	HIS
1	A	130	HIS
1	A	185	ASN

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)

3 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	Mol Type Chain		Res	Dog	Dog	Dog	Ros	Ros	Dec	Dec	Dog	Dec	Link	В	ond leng	gths	В	ond ang	gles
IVIOI	Type	Chain	nes	LIIIK	Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2									
4	SO4	A	203	-	4,4,4	0.25	0	6,6,6	1.05	0									
3	65N	A	202	-	27,27,27	1.52	5 (18%)	38,40,40	2.65	15 (39%)									
2	NDP	A	201	-	45,52,52	2.25	16 (35%)	53,80,80	1.88	14 (26%)									

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
3	65N	A	202	-	-	6/13/25/25	0/3/3/3
2	NDP	A	201	-	-	2/30/77/77	0/5/5/5

All (21) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(\AA)$	Ideal(A)
2	A	201	NDP	P2B-O2B	7.07	1.72	1.59
2	A	201	NDP	C2A-N3A	4.52	1.39	1.32
2	A	201	NDP	C3D-C4D	-4.46	1.41	1.53
2	A	201	NDP	C6N-C5N	3.94	1.40	1.33
3	A	202	65N	CAH-CAS	-3.79	1.31	1.38
2	A	201	NDP	C7N-C3N	-3.75	1.40	1.48
3	A	202	65N	C5-C4	-3.52	1.37	1.42
2	A	201	NDP	O4B-C4B	-3.10	1.38	1.45
2	A	201	NDP	O3D-C3D	2.96	1.50	1.43
2	A	201	NDP	C2A-N1A	2.92	1.39	1.33
2	A	201	NDP	O4B-C1B	2.87	1.45	1.41
2	A	201	NDP	PA-O2A	-2.78	1.42	1.55
2	A	201	NDP	O4D-C4D	2.62	1.50	1.45
2	A	201	NDP	O2B-C2B	-2.59	1.34	1.44
2	A	201	NDP	C4N-C3N	-2.53	1.45	1.49
2	A	201	NDP	C6A-C5A	-2.41	1.34	1.43
2	A	201	NDP	C6N-N1N	2.35	1.43	1.37
2	A	201	NDP	C1D-N1N	2.32	1.52	1.46

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Mol	Chain	Res	Type	Atoms	\mathbf{Z}	$\mathbf{Observed}(\mathbf{\mathring{A}})$	$Ideal(\AA)$
3	A	202	65N	CAJ-CAT	2.18	1.43	1.39
3	A	202	65N	CAI-CAT	2.16	1.43	1.39
3	A	202	65N	C4-N3	-2.16	1.34	1.37

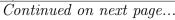
All (29) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^o)$	$\operatorname{Ideal}({}^{o})$
2	A	201	NDP	N3A-C2A-N1A	-7.34	117.20	128.68
3	A	202	65N	CAI-CAT-NAX	7.14	130.43	120.46
3	A	202	65N	C5-C6-N1	-6.02	117.06	121.01
3	A	202	65N	CAK-CAL-C4	-4.69	114.94	120.84
3	A	202	65N	N3-C2-N1	-4.50	121.22	127.22
3	A	202	65N	CAA-NAX-CAT	4.49	126.53	117.90
3	A	202	65N	CAI-CAG-CAS	4.04	124.68	119.73
3	A	202	65N	CAA-NAX-CAU	-3.95	109.87	118.77
2	A	201	NDP	C1B-N9A-C4A	-3.93	119.74	126.64
2	A	201	NDP	O4D-C1D-N1N	-3.52	101.18	108.06
2	A	201	NDP	C1D-N1N-C2N	-3.46	115.34	121.11
3	A	202	65N	CAJ-CAT-NAX	-3.32	115.83	120.46
2	A	201	NDP	PN-O3-PA	3.17	143.72	132.83
3	A	202	65N	CAI-CAT-CAJ	-3.02	113.02	119.16
3	A	202	65N	CAL-C4-C5	3.00	122.73	119.40
2	A	201	NDP	C5A-C6A-N6A	-2.69	116.27	120.35
2	A	201	NDP	O2B-C2B-C1B	-2.57	100.87	110.10
3	A	202	65N	NAO-CAU-NAX	2.48	119.61	115.82
2	A	201	NDP	C5D-C4D-C3D	-2.44	106.05	115.18
2	A	201	NDP	O3D-C3D-C4D	-2.39	104.14	111.05
2	A	201	NDP	O7N-C7N-N7N	-2.25	117.63	122.88
3	A	202	65N	CAL-CAK-CAU	2.24	121.45	118.55
2	A	201	NDP	O3X-P2B-O2X	2.15	115.85	107.64
3	A	202	65N	CAT-NAX-CAU	-2.15	116.27	120.80
3	A	202	65N	NAC-C6-N1	2.10	122.77	117.07
2	A	201	NDP	C2A-N1A-C6A	2.08	122.32	118.75
3	A	202	65N	CAJ-CAH-CAS	2.04	122.23	119.73
2	A	201	NDP	C3B-C2B-C1B	-2.02	99.10	102.89
2	A	201	NDP	N6A-C6A-N1A	2.00	122.73	118.57

There are no chirality outliers.

All (8) torsion outliers are listed below:

\mathbf{Mol}	Chain	Res	Type	Atoms
3	A	202	65N	NAO-CAU-NAX-CAT





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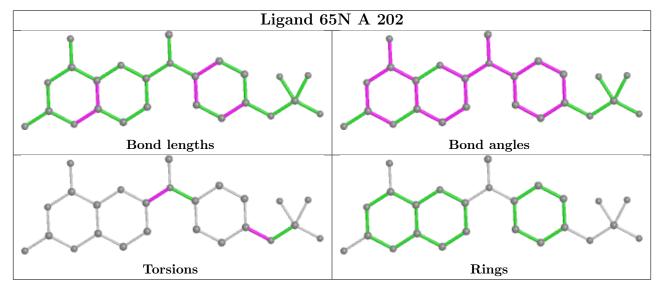
Mol	Chain	Res	Type	Atoms
3	A	202	65N	CAK-CAU-NAX-CAT
3	A	202	65N	CAK-CAU-NAX-CAA
2	A	201	NDP	C2D-C1D-N1N-C2N
3	A	202	65N	CAH-CAS-OAP-CAY
2	A	201	NDP	O4D-C1D-N1N-C2N
3	A	202	65N	NAO-CAU-NAX-CAA
3	A	202	65N	CAG-CAS-OAP-CAY

There are no ring outliers.

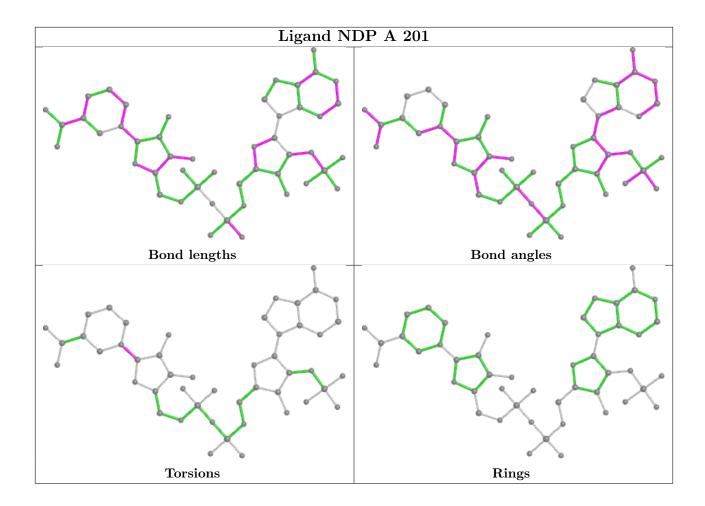
2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	202	65N	1	0
2	A	201	NDP	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>	# RSRZ > 2	$OWAB(Å^2)$	Q<0.9
1	A	186/186 (100%)	0.38	11 (5%) 22 24	16, 24, 39, 51	0

All (11) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	2	GLY	9.5
1	A	1	VAL	5.2
1	A	44	GLU	3.1
1	A	155	LYS	3.0
1	A	43	VAL	2.7
1	A	128	PRO	2.5
1	A	106	ALA	2.4
1	A	103	PRO	2.4
1	A	32	ARG	2.3
1	A	45	GLY	2.3
1	A	107	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)

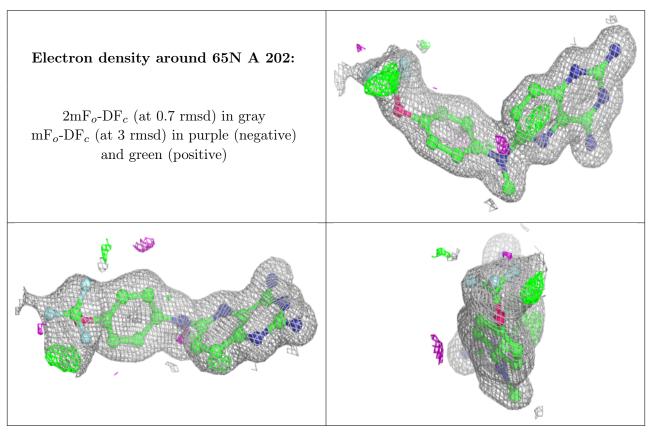
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum,



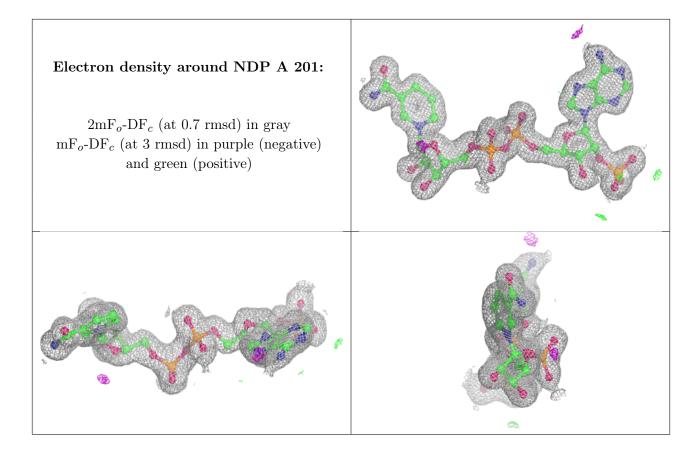
median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	$\mathbf{B} ext{-}\mathbf{factors}(\mathbf{\mathring{A}}^2)$	Q<0.9
4	SO4	A	203	5/5	0.92	0.13	23,31,32,33	5
3	65N	A	202	25/25	0.93	0.11	15,24,49,60	0
2	NDP	A	201	48/48	0.97	0.08	16,22,30,36	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.

