

# Full wwPDB X-ray Structure Validation Report (i)

#### Aug 28, 2023 – 03:26 AM EDT

PDB ID : 3KR0

Title : Crystal Structure of hPNMT in Complex AdoHcy and 2-amino-1H-benzo[d]i

midazol-6-ol

Authors : Drinkwater, N.; Martin, J.L.

Deposited on : 2009-11-17

Resolution : 2.60 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

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)

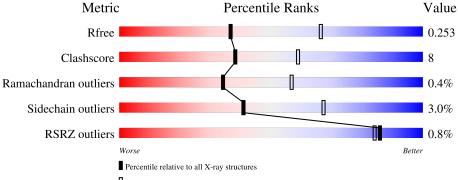
Validation Pipeline (wwPDB-VP) : 2.35

## 1 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 2.60 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.



Percentile relative to X-ray structures of similar resolution

Metric	Whole archive	Similar resolution
Metric	$(\#  ext{Entries})$	$(\#  ext{Entries},  ext{ resolution range}( ext{Å}))$
$R_{free}$	130704	3163 (2.60-2.60)
Clashscore	141614	3518 (2.60-2.60)
Ramachandran outliers	138981	3455 (2.60-2.60)
Sidechain outliers	138945	3455 (2.60-2.60)
RSRZ outliers	127900	3104 (2.60-2.60)

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	
1	A	289	71%	17% • 11%
1	В	289	75%	16% • 7%



# 2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 4263 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 Phenylethanolamine N-methyltransferase.

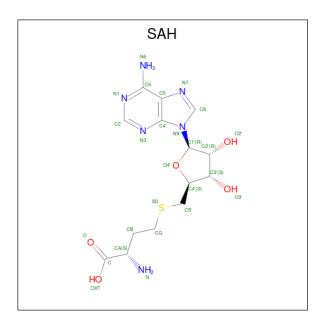
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace		
1	A	257	Total 2016	C 1280	N 358	O 369	S 9	0	0	0
1	В	268	Total 2083	C 1320	- '	O 384	S 9	0	0	0

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	283	GLU	=	expression tag	UNP P11086
A	284	HIS	-	expression tag	UNP P11086
A	285	HIS	-	expression tag	UNP P11086
A	286	HIS	1	expression tag	UNP P11086
A	287	HIS	-	expression tag	UNP P11086
A	288	HIS	-	expression tag	UNP P11086
A	289	HIS	-	expression tag	UNP P11086
В	283	GLU	-	expression tag	UNP P11086
В	284	HIS	-	expression tag	UNP P11086
В	285	HIS	-	expression tag	UNP P11086
В	286	HIS	-	expression tag	UNP P11086
В	287	HIS	=	expression tag	UNP P11086
В	288	HIS	-	expression tag	UNP P11086
В	289	HIS	-	expression tag	UNP P11086

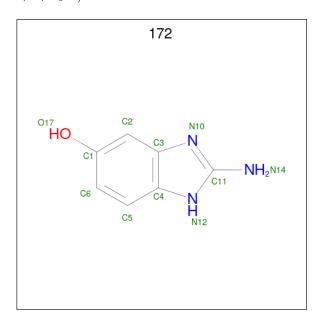
• Molecule 2 is S-ADENOSYL-L-HOMOCYSTEINE (three-letter code: SAH) (formula:  $C_{14}H_{20}N_6O_5S$ ).





Mol	Chain	Residues	Atoms			ZeroOcc	AltConf			
2	Λ	1	Total	С	N	О	S	0	0	
2	A	1	26	14	6	5	1	0	U	
9	D	1	Total	С	N	О	S	0	0	
2	Б	1	26	14	6	5	1	0	U	

• Molecule 3 is 2-AMINO-5-HYDROXY-BENZIMIDAZOLE (three-letter code: 172) (formula:  $C_7H_7N_3O$ ).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total 11	C 7	N 3	O 1	0	0



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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	В	1	Total 11	C 7	N 3	O 1	0	0

#### • Molecule 4 is water.

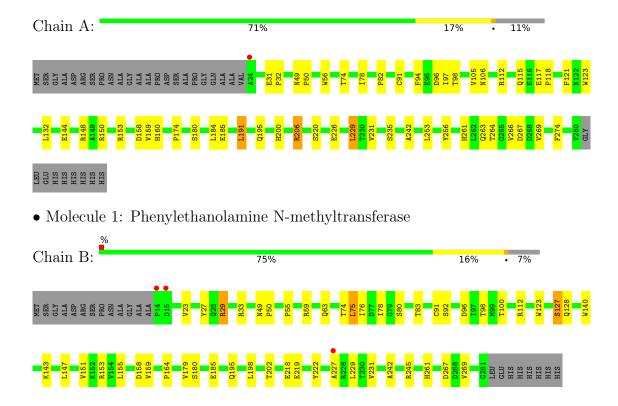
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	49	Total O 49 49	0	0
4	В	41	Total O 41 41	0	0



# 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: Phenylethanolamine N-methyltransferase





# 4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants	94.30Å 94.30Å 188.52Å	Depositor
a, b, c, $\alpha$ , $\beta$ , $\gamma$	90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.73 - 2.60	Depositor
resolution (A)	45.73 - 2.60	EDS
% Data completeness	94.0 (45.73-2.60)	Depositor
(in resolution range)	94.1 (45.73-2.60)	EDS
$R_{merge}$	0.07	Depositor
$R_{sym}$	(Not available)	Depositor
$< I/\sigma(I) > 1$	2.54 (at 2.61Å)	Xtriage
Refinement program	PHENIX	Depositor
P.P.	0.217 , $0.257$	Depositor
$R, R_{free}$	0.214 , $0.253$	DCC
$R_{free}$ test set	2000 reflections (7.59%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	60.1	Xtriage
Anisotropy	0.442	Xtriage
Bulk solvent $k_{sol}(e/Å^3)$ , $B_{sol}(Å^2)$	0.30 , 33.6	EDS
L-test for twinning <sup>2</sup>	$ < L >=0.52, < L^2>=0.36$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	4263	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	61.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 3.79% of the height of the origin peak. No significant pseudotranslation is detected.

<sup>&</sup>lt;sup>2</sup>Theoretical 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.



<sup>&</sup>lt;sup>1</sup>Intensities 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: 172, SAH

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		
IVIOI	Chain	RMSZ	# Z  > 5	RMSZ	# Z  > 5	
1	A	0.41	0/2067	0.58	0/2813	
1	В	0.44	0/2136	0.63	0/2908	
All	All	0.43	0/4203	0.61	0/5721	

There are no bond length outliers.

There are no bond angle outliers.

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	2016	0	1983	33	0
1	В	2083	0	2045	30	0
2	A	26	0	20	1	0
2	В	26	0	20	2	0
3	A	11	0	6	0	0
3	В	11	0	6	0	0
4	A	49	0	0	4	0
4	В	41	0	0	1	0
All	All	4263	0	4080	63	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 8.



All (63) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

A	A	Interatomic	Clash
Atom-1	Atom-2	distance (Å)	overlap (Å)
1:B:59:ARG:O	1:B:63:GLN:HG3	1.94	0.67
1:B:261:HIS:ND1	4:B:315:HOH:O	2.28	0.66
1:B:195:GLN:HE22	1:B:242:ALA:HA	1.60	0.65
1:A:74:THR:HG22	1:A:96:ASP:HB3	1.79	0.64
1:A:229:LEU:HD22	1:A:229:LEU:H	1.62	0.64
1:A:91:CYS:O	1:A:150:ARG:HD2	2.02	0.59
1:A:263:GLN:HG2	4:A:320:HOH:O	2.01	0.59
1:B:267:ASP:OD2	1:B:269:VAL:HG12	2.02	0.58
1:A:229:LEU:HD22	1:A:229:LEU:N	2.18	0.57
1:A:195:GLN:HE22	1:A:242:ALA:HA	1.70	0.57
1:A:267:ASP:OD1	1:A:269:VAL:HG12	2.04	0.57
1:B:49:ASN:O	1:B:55:PRO:HG2	2.05	0.56
1:A:78:ILE:HB	1:A:180:SER:HB2	1.87	0.56
1:A:98:THR:HG23	1:A:153:ARG:HG3	1.88	0.55
1:A:49:ASN:OD1	1:A:50:PRO:HD2	2.05	0.55
1:B:78:ILE:HB	1:B:180:SER:HB2	1.89	0.54
1:A:174:PRO:HG2	1:A:206:ARG:HB2	1.89	0.54
1:B:219:GLU:OE1	1:B:269:VAL:HB	2.09	0.53
1:A:158:ASP:OD1	1:A:160:HIS:HB2	2.10	0.52
1:B:75:LEU:HG	1:B:76:ILE:N	2.24	0.52
1:B:98:THR:HG23	1:B:153:ARG:HG3	1.92	0.51
1:B:75:LEU:HD11	1:B:179:VAL:HG23	1.92	0.50
1:A:220:SER:O	1:A:231:VAL:N	2.44	0.50
1:A:159:VAL:HG22	2:A:3001:SAH:N1	2.26	0.50
1:A:31:GLU:OE2	1:A:226:GLU:HG2	2.12	0.49
1:A:56:TRP:CE2	1:A:256:TYR:HB2	2.49	0.48
1:A:91:CYS:HA	1:A:97:ILE:HD11	1.95	0.48
1:A:144:GLU:O	1:A:148:ARG:HG3	2.13	0.47
1:B:218:GLU:HA	1:B:218:GLU:OE1	2.13	0.47
1:A:121:PHE:HD2	1:A:123:TRP:CE2	2.31	0.47
1:A:117:GLU:HB3	1:A:118:PRO:CD	2.45	0.47
1:B:127:SER:HB2	1:B:140:TRP:HB2	1.96	0.47
1:A:264:THR:OG1	1:A:266:VAL:HG22	2.15	0.46
1:B:185:GLU:O	1:B:231:VAL:HG13	2.16	0.45
1:B:74:THR:HG22	1:B:96:ASP:HB3	1.98	0.45
1:B:83:THR:HA	1:B:123:TRP:CZ2	2.51	0.45
1:B:49:ASN:HA	1:B:50:PRO:HD3	1.86	0.45
1:A:261:HIS:HD2	4:A:311:HOH:O	1.99	0.45
1:B:33:ARG:HA	1:B:33:ARG:HD3	1.79	0.45
1:B:198:LEU:HD12	1:B:198:LEU:O	2.17	0.45



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A 4 1	A 4 0	Interatomic	Clash
Atom-1	Atom-2	${\rm distance} \ (\mathring{\rm A})$	overlap (Å)
1:B:222:TYR:CZ	1:B:229:LEU:HD13	2.51	0.45
1:A:253:LEU:HA	1:A:274:PHE:O	2.16	0.45
1:B:158:ASP:O	1:B:164:PRO:HA	2.16	0.45
1:A:191:LEU:HD23	1:A:191:LEU:HA	1.66	0.45
1:B:91:CYS:HB3	1:B:147:LEU:HD13	1.99	0.44
1:A:185:GLU:O	1:A:231:VAL:HG13	2.17	0.44
1:A:32:PRO:HG3	1:A:106:ASN:ND2	2.31	0.44
1:A:117:GLU:HB3	1:A:118:PRO:HD2	1.99	0.44
1:A:115:GLN:HB2	1:A:117:GLU:HG3	1.98	0.44
1:A:200:HIS:HE1	4:A:336:HOH:O	2.01	0.43
1:B:27:TYR:CE2	1:B:229:LEU:HD22	2.54	0.43
1:B:159:VAL:HG22	2:B:3002:SAH:N1	2.33	0.43
1:A:121:PHE:CD2	1:A:123:TRP:CE2	3.07	0.42
1:B:98:THR:OG1	1:B:153:ARG:NH1	2.52	0.41
1:B:100:THR:HA	1:B:155:LEU:O	2.20	0.41
1:B:202:THR:O	1:B:202:THR:HG22	2.20	0.41
1:B:80:SER:O	2:B:3002:SAH:HA	2.20	0.41
1:B:29:ARG:HB3	1:B:227:ALA:HB2	2.02	0.41
1:B:151:VAL:O	1:B:151:VAL:HG12	2.21	0.41
1:B:128:GLN:HE21	1:B:128:GLN:HA	1.85	0.41
1:A:184:LEU:N	1:A:184:LEU:HD23	2.35	0.41
1:A:112:ARG:CD	4:A:334:HOH:O	2.69	0.40
1:A:94:PHE:O	1:A:150:ARG:HD3	2.22	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	Perce	ntiles	
1	A	255/289~(88%)	238 (93%)	16 (6%)	1 (0%)	34	57
1	В	$266/289 \ (92\%)$	254 (96%)	11 (4%)	1 (0%)	34	57



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Mol	Chain	Analysed	Favoured Allowed		Outliers	Percentiles	
All	All	521/578 (90%)	492 (94%)	27 (5%)	2 (0%)	34 57	

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	82	PRO
1	В	23	VAL

#### 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	212/233 (91%)	206 (97%)	6 (3%)	43 69	
1	В	218/233 (94%)	211 (97%)	7 (3%)	39 65	
All	All	430/466 (92%)	417 (97%)	13 (3%)	41 67	

All (13) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	105	VAL
1	A	132	LEU
1	A	191	LEU
1	A	206	ARG
1	A	229	LEU
1	A	235	SER
1	В	29	ARG
1	В	75	LEU
1	В	92	SER
1	В	112	ARG
1	В	127	SER
1	В	143	LYS
1	В	245	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:



Mol	Chain	Res	Type
1	A	106	ASN
1	A	195	GLN
1	В	106	ASN
1	В	128	GLN
1	В	160	HIS
1	В	195	GLN

#### 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)

4 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			Link	Bo	ond leng	ths	Bond angles		
MIOI	туре	Chain	nes	LIIIK	Counts	RMSZ	# Z  > 2	Counts	RMSZ	$\mid \# Z  > 2$
3	172	В	1002	-	12,12,12	1.11	0	10,17,17	1.09	0
3	172	A	1001	_	12,12,12	1.20	1 (8%)	10,17,17	0.98	0
2	SAH	В	3002	-	24,28,28	2.38	7 (29%)	25,40,40	1.62	4 (16%)
2	SAH	A	3001	-	24,28,28	2.40	8 (33%)	25,40,40	1.49	2 (8%)

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	nο	outliers	$\circ f$	that	kind	were	identified.
	mound	110	Outilities	OI	ULLCU	min	WCIC	identifica.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	172	В	1002	-	-	-	0/2/2/2
3	172	A	1001	-	-	-	0/2/2/2
2	SAH	В	3002	-	-	2/11/31/31	0/3/3/3
2	SAH	A	3001	-	-	5/11/31/31	0/3/3/3

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	$\operatorname{Observed}(\operatorname{\AA})$	Ideal(A)
2	A	3001	SAH	C2'-C1'	-7.19	1.42	1.53
2	В	3002	SAH	C2'-C1'	-7.16	1.42	1.53
2	A	3001	SAH	C2'-C3'	-5.37	1.38	1.53
2	В	3002	SAH	C2'-C3'	-5.30	1.38	1.53
2	В	3002	SAH	C6-N6	3.34	1.46	1.34
2	A	3001	SAH	C6-N6	3.20	1.45	1.34
2	В	3002	SAH	OXT-C	3.12	1.40	1.30
2	A	3001	SAH	OXT-C	2.97	1.40	1.30
2	A	3001	SAH	O4'-C4'	-2.82	1.38	1.45
2	В	3002	SAH	O4'-C4'	-2.72	1.38	1.45
2	В	3002	SAH	C2-N3	2.60	1.36	1.32
2	A	3001	SAH	C5-C4	-2.49	1.34	1.40
2	A	3001	SAH	C2-N3	2.46	1.36	1.32
2	A	3001	SAH	C8-N7	2.33	1.38	1.34
2	В	3002	SAH	C5-C4	-2.29	1.34	1.40
3	A	1001	172	C5-C6	2.18	1.41	1.36

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	$Observed(^o)$	$\operatorname{Ideal}({}^{o})$
2	A	3001	SAH	N3-C2-N1	-5.64	119.86	128.68
2	В	3002	SAH	N3-C2-N1	-5.62	119.89	128.68
2	A	3001	SAH	C3'-C2'-C1'	2.60	104.90	100.98
2	В	3002	SAH	O4'-C1'-C2'	-2.44	103.36	106.93
2	В	3002	SAH	C3'-C2'-C1'	2.43	104.64	100.98
2	В	3002	SAH	C5'-C4'-C3'	2.41	121.08	115.06

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	3001	SAH	C-CA-CB-CG



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Mol	Chain	Res	Type	Atoms
2	В	3002	SAH	CB-CG-SD-C5'
2	A	3001	SAH	O-C-CA-CB
2	A	3001	SAH	OXT-C-CA-CB
2	В	3002	SAH	O-C-CA-CB
2	A	3001	SAH	CB-CG-SD-C5'
2	A	3001	SAH	N-CA-CB-CG

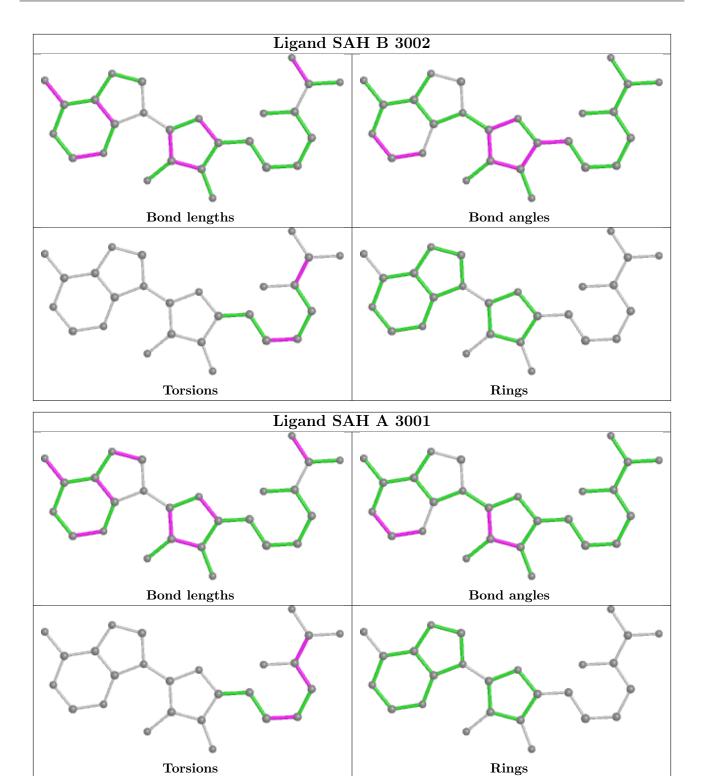
There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	В	3002	SAH	2	0
2	A	3001	SAH	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	$\langle { m RSRZ} \rangle$	$\#\mathrm{RSRZ}{>}2$		$\mathbf{OWAB}(\mathrm{\AA}^2)$	Q<0.9
1	A	257/289 (88%)	-0.40	1 (0%) 92	91	43, 62, 86, 122	6 (2%)
1	В	$268/289 \ (92\%)$	-0.25	3 (1%) 80	78	40, 57, 82, 114	1 (0%)
All	All	525/578 (90%)	-0.33	4 (0%) 86	84	40, 60, 85, 122	7 (1%)

All (4) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	В	227	ALA	3.5
1	В	15	ASP	2.9
1	A	24	ALA	2.4
1	В	14	PRO	2.4

## 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.

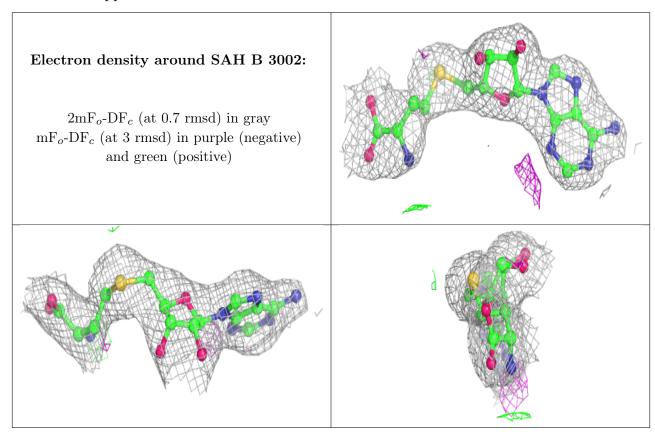
Mol	$\mathbf{Type}$	Chain	$\operatorname{Res}$	Atoms	RSCC	RSR	$  \mathbf{B}\text{-factors}(\mathbf{A}^2)  $	Q<0.9
3	172	A	1001	11/11	0.88	0.23	49,66,75,76	0



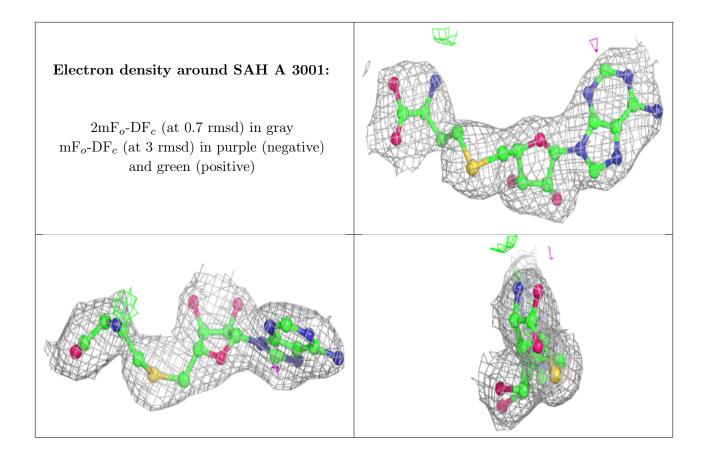
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	${f B-factors}({f \AA}^2)$	Q < 0.9
3	172	В	1002	11/11	0.89	0.26	54,65,80,81	0
2	SAH	В	3002	26/26	0.95	0.16	42,54,62,65	0
2	SAH	A	3001	26/26	0.96	0.14	55,68,72,73	0

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.

