Full wwPDB X-ray Structure Validation Report (i)

Aug 7, 2020 – 10:43 PM BST

PDB ID	:	6TSC
Title	:	OphMA I407P complex with SAH
Authors	:	Song, H.; Naismith, J.H.
Deposited on	:	2019-12-20
Resolution	:	2.19 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 following versions of software and data (see references (i)) were used in the production of this report:

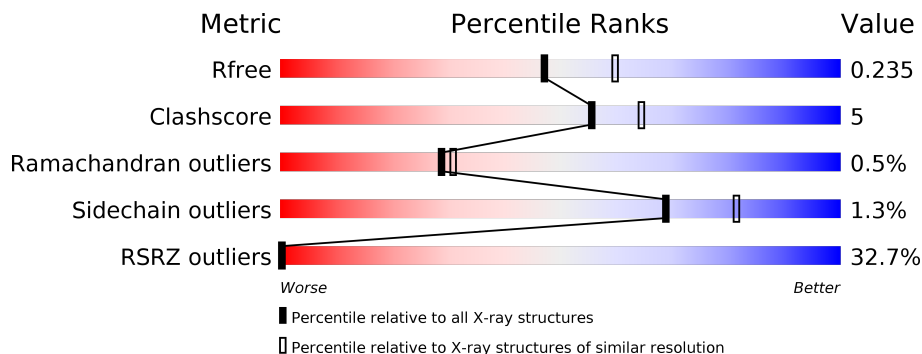|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.13.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.13.1

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 2.19 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	Percentile Ranks	Value
Rfree		0.235
Clashscore		5
Ramachandran outliers		0.5%
Sidechain outliers		1.3%
RSRZ outliers		32.7%

Worse   Better

■ Percentile relative to all X-ray structures
▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	4898 (2.20-2.20)
Clashscore	141614	5594 (2.20-2.20)
Ramachandran outliers	138981	5503 (2.20-2.20)
Sidechain outliers	138945	5504 (2.20-2.20)
RSRZ outliers	127900	4800 (2.20-2.20)

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 >=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	416	28% / 79% / 9% / • / 11%
2	B	12	50% / 42% / 42% / 8% / 8%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 2989 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 Peptide N-methyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	369	Total 2871	C 1822	N 493	O 539	S 17	0	0	0

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	407	PRO	ILE	engineered mutation	UNP A0A2R2JFI5
A	412	SER	-	expression tag	UNP A0A2R2JFI5
A	413	VAL	-	expression tag	UNP A0A2R2JFI5
A	414	MET	-	expression tag	UNP A0A2R2JFI5
A	415	SER	-	expression tag	UNP A0A2R2JFI5
A	416	THR	-	expression tag	UNP A0A2R2JFI5
A	417	GLU	-	expression tag	UNP A0A2R2JFI5

- Molecule 2 is a protein called GLY-PHE-PRO-TRP-MVA-ILE-MVA-VAL-GLY-VAL-PRO -GLY.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	B	12	Total 89	C 64	N 13	O 12	0	0	0

- Molecule 3 is S-ADENOSYL-L-HOMOCYSTEINE (three-letter code: SAH) (formula: $C_{14}H_{20}N_6O_5S$) (labeled as "Ligand of Interest" by author).
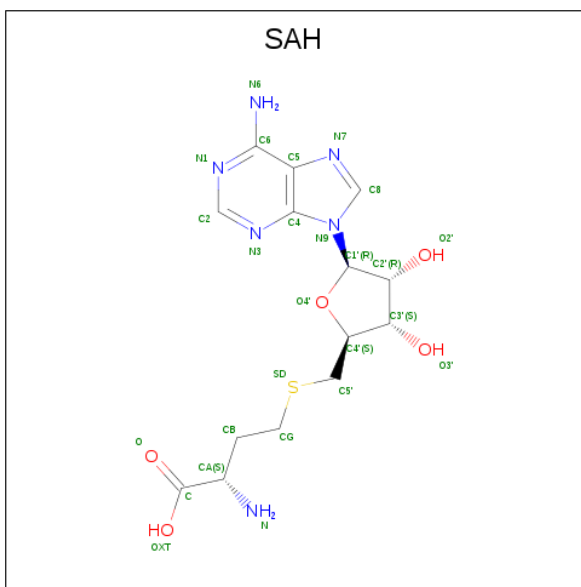
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	S	0	0
			26	14	6	5	1		

- Molecule 4 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	3	Total	O	0	0
			3	3		

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: Peptide N-methyltransferase

Chain A:
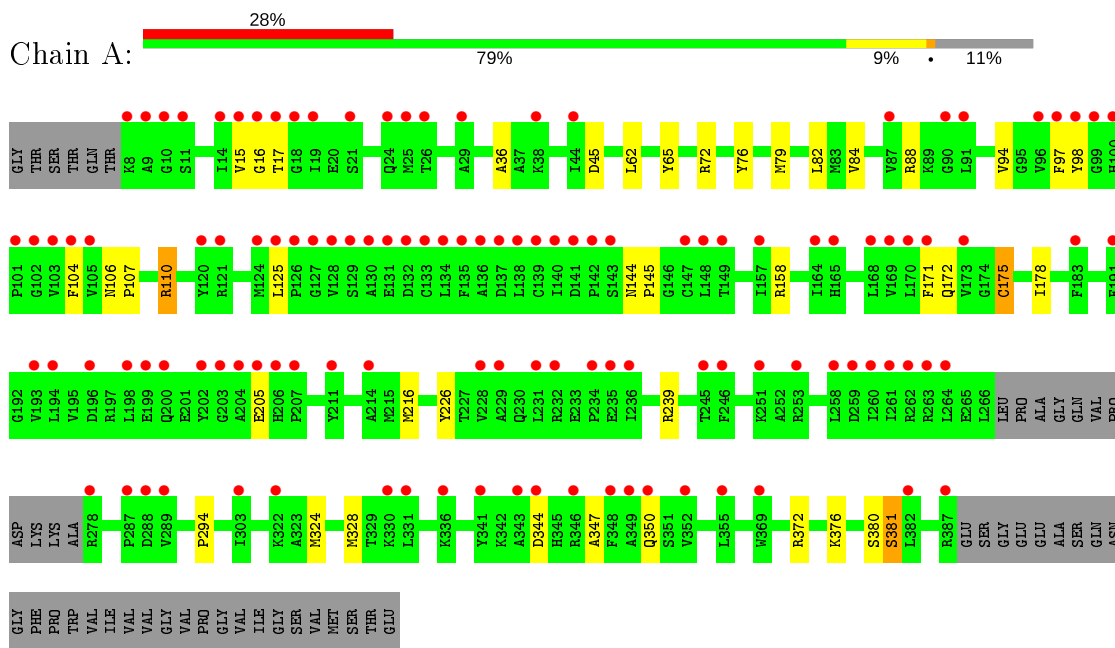
- Molecule 2: GLY-PHE-PRO-TRP-MVA-ILE-MVA-VAL-GLY-VAL-PRO-GLY

Chain B:
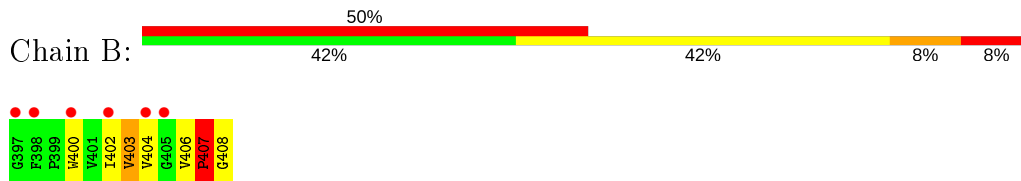
4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 32 2 1	Depositor
Cell constants a, b, c, α, β, γ	89.38Å　89.38Å　157.00Å 90.00°　90.00°　120.00°	Depositor
Resolution (Å)	52.33　–　2.19 52.33　–　2.19	Depositor EDS
% Data completeness (in resolution range)	99.9 (52.33-2.19) 99.9 (52.33-2.19)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$<I/\sigma(I)>$ [1]	1.50 (at 2.18Å)	Xtriage
Refinement program	REFMAC 5.8.0257	Depositor
R, R_{free}	0.208　,　0.232 0.214　,　0.235	Depositor DCC
R_{free} test set	1846 reflections (4.85%)	wwPDB-VP
Wilson B-factor (Å²)	72.1	Xtriage
Anisotropy	0.127	Xtriage
Bulk solvent k_{sol}(e/Å³), B_{sol}(Å²)	0.34 , 78.9	EDS
L-test for twinning[2]	$<|L|> = 0.50$, $<L^2> = 0.33$	Xtriage
Estimated twinning fraction	0.033 for -h,-k,l	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	2989	wwPDB-VP
Average B, all atoms (Å²)	107.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.63% of the height of the origin peak. No significant pseudotranslation is detected.*

---

[1]Intensities estimated from amplitudes.

[2]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.

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: MVA, 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	
		RMSZ	#$|Z| > 5$	RMSZ	#$|Z| > 5$
1	A	0.69	0/2937	0.83	2/3992 (0.1%)
2	B	0.67	0/75	0.87	0/100
All	All	0.69	0/3012	0.83	2/4092 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	110	ARG	NE-CZ-NH2	5.80	123.20	120.30
1	A	110	ARG	NE-CZ-NH1	-5.36	117.62	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	2871	0	2837	28	1
2	B	89	0	92	10	0
3	A	26	0	19	0	0
4	A	3	0	0	0	0
All	All	2989	0	2948	30	1

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 5.

All (30) 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:175:CYS:HB3	2:B:400:TRP:CH2	2.11	0.86
1:A:175:CYS:HB3	2:B:400:TRP:CZ2	2.20	0.77
1:A:158:ARG:HH12	2:B:407:PRO:HD2	1.58	0.68
1:A:158:ARG:HH12	2:B:407:PRO:CD	2.19	0.55
1:A:226:TYR:OH	1:A:239:ARG:NH1	2.41	0.51
1:A:158:ARG:HH12	2:B:407:PRO:CG	2.24	0.50
1:A:372:ARG:HD3	1:A:376:LYS:HG3	1.93	0.50
1:A:104:PHE:CE2	1:A:171:PHE:HB2	2.46	0.49
1:A:72:ARG:HB3	1:A:76:TYR:CZ	2.48	0.48
1:A:45:ASP:HB2	1:A:216:MET:CE	2.43	0.48
1:A:344:ASP:HB3	1:A:347:ALA:HB3	1.96	0.48
1:A:172:GLN:OE1	2:B:402:ILE:HG23	2.15	0.47
1:A:158:ARG:NH1	2:B:407:PRO:HD2	2.29	0.46
2:B:403:MVA:HN2	2:B:403:MVA:HG22	1.98	0.46
1:A:175:CYS:HA	1:A:178:ILE:HD12	1.98	0.45
1:A:16:GLY:HA2	1:A:97:PHE:O	2.17	0.44
1:A:158:ARG:HH12	2:B:407:PRO:HG2	1.83	0.44
2:B:406:VAL:O	2:B:408:GLY:N	2.51	0.44
1:A:65:TYR:CZ	1:A:82:LEU:HD11	2.53	0.43
1:A:205:GLU:OE1	1:A:205:GLU:HA	2.19	0.42
1:A:324:MET:O	1:A:328:MET:HG2	2.19	0.42
1:A:15:VAL:HG12	1:A:125:LEU:HD12	2.01	0.42
1:A:45:ASP:HB2	1:A:216:MET:HE2	2.01	0.42
1:A:62:LEU:HB3	1:A:79:MET:HG2	2.01	0.42
1:A:36:ALA:HB2	1:A:94:VAL:CG2	2.50	0.41
1:A:144:ASN:HA	1:A:145:PRO:HA	1.81	0.41
1:A:84:VAL:HG12	1:A:88:ARG:CZ	2.50	0.41
1:A:106:ASN:N	1:A:107:PRO:HD2	2.35	0.41
1:A:17:THR:OG1	1:A:98:TYR:HA	2.21	0.41
1:A:380:SER:O	1:A:381:SER:OG	2.34	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:110:ARG:NH1	1:A:294:PRO:O[4_555]	2.19	0.01

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	365/416 (88%)	347 (95%)	17 (5%)	1 (0%)	41	46
2	B	8/12 (67%)	5 (62%)	2 (25%)	1 (12%)	0	0
All	All	373/428 (87%)	352 (94%)	19 (5%)	2 (0%)	29	31

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	381	SER
2	B	407	PRO

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	307/344 (89%)	305 (99%)	2 (1%)	84	91
2	B	7/7 (100%)	5 (71%)	2 (29%)	0	0
All	All	314/351 (90%)	310 (99%)	4 (1%)	69	81

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	175	CYS
1	A	350	GLN
2	B	404	VAL
2	B	407	PRO

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	189	ASN
1	A	305	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)

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	#$|Z| > 2$
2	MVA	B	403	2	6,7,8	0.72	0	7,8,10	1.40	2 (28%)
2	MVA	B	401	2	6,7,8	0.44	0	7,8,10	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	MVA	B	403	2	-	5/6/8/10	-
2	MVA	B	401	2	-	1/6/8/10	-

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	403	MVA	CB-CA-N	2.60	114.55	111.17
2	B	403	MVA	CG2-CB-CA	2.07	114.39	111.21

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	403	MVA	N-CA-CB-CG1
2	B	403	MVA	N-CA-CB-CG2
2	B	403	MVA	C-CA-CB-CG1
2	B	403	MVA	C-CA-CB-CG2
2	B	403	MVA	CB-CA-N-CN
2	B	401	MVA	CB-CA-N-CN

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	403	MVA	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

1 ligand is 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	$\#|Z| > 2$
3	SAH	A	501	-	21,28,28	0.69	0	20,40,40	0.81	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
3	SAH	A	501	-	-	0/7/31/31	0/3/3/3

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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.

Ligand SAH A 501

Bond lengths

Bond angles

Torsions

Rings
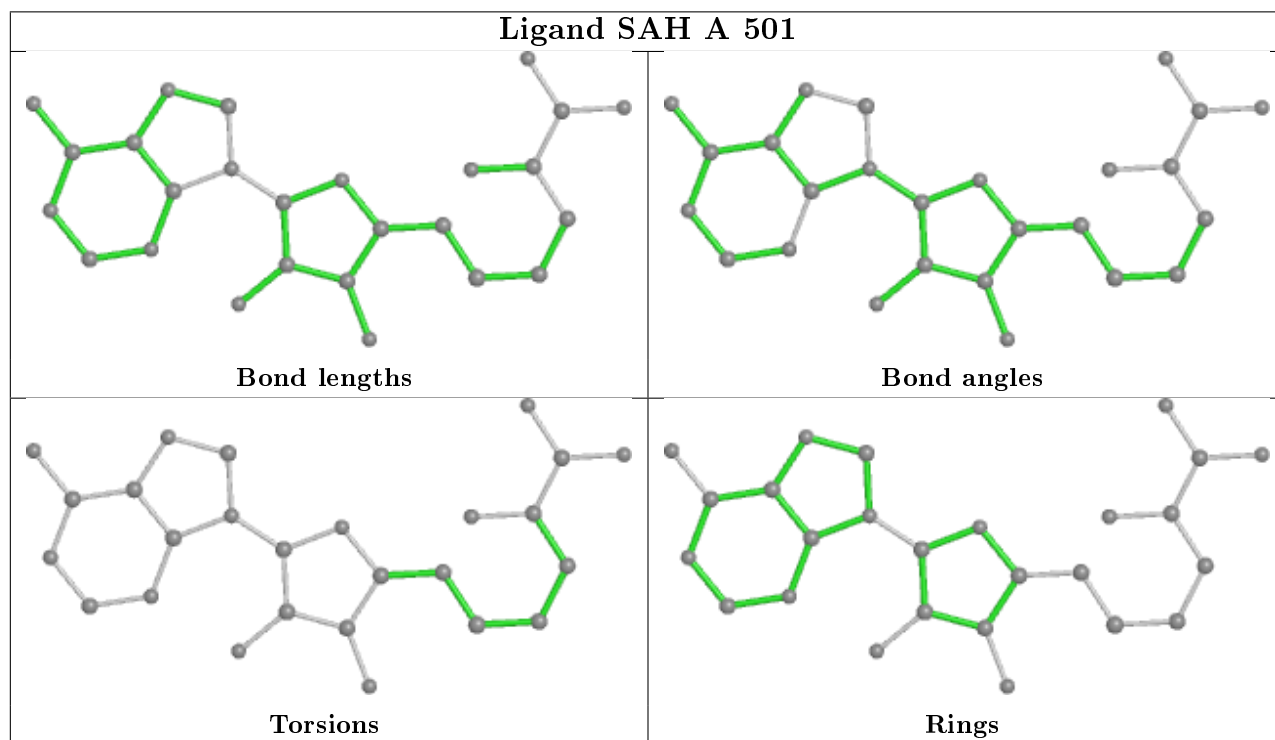
5.7 Other polymers (i)

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, 95th 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(Å²)	Q<0.9
1	A	369/416 (88%)	1.49	118 (31%)	0	0	64, 103, 147, 176	0
2	B	10/12 (83%)	2.79	6 (60%)	0	0	96, 137, 164, 172	0
All	All	379/428 (88%)	1.53	124 (32%)	0	0	64, 104, 148, 176	0

All (124) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	231	LEU	8.1
1	A	91	LEU	7.1
1	A	262	ARG	6.8
1	A	260	ILE	6.7
1	A	9	ALA	6.3
1	A	258	LEU	6.2
1	A	352	VAL	5.6
2	B	397	GLY	5.6
1	A	350	GLN	5.4
2	B	398	PHE	5.4
1	A	251	LYS	5.3
1	A	10	GLY	5.3
1	A	133	CYS	5.2
1	A	134	LEU	5.1
1	A	264	LEU	5.0
1	A	205	GLU	5.0
1	A	128	VAL	5.0
1	A	135	PHE	4.7
1	A	278	ARG	4.6
1	A	288	ASP	4.5
1	A	129	SER	4.5
1	A	236	ILE	4.4
1	A	131	GLU	4.4
1	A	355	LEU	4.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	B	400	TRP	4.3
1	A	203	GLY	4.2
1	A	136	ALA	4.2
1	A	101	PRO	4.2
1	A	19	ILE	4.2
1	A	100	HIS	4.2
1	A	202	TYR	4.1
1	A	261	ILE	4.0
1	A	103	VAL	4.0
1	A	204	ALA	3.9
1	A	343	ALA	3.9
1	A	130	ALA	3.9
1	A	229	ALA	3.9
1	A	132	ASP	3.9
1	A	348	PHE	3.8
1	A	127	GLY	3.8
1	A	120	TYR	3.8
1	A	90	GLY	3.7
1	A	126	PRO	3.6
1	A	16	GLY	3.6
1	A	206	HIS	3.5
1	A	193	VAL	3.4
2	B	404	VAL	3.4
1	A	341	TYR	3.4
1	A	121	ARG	3.4
1	A	198	LEU	3.4
1	A	8	LYS	3.4
1	A	157	ILE	3.4
1	A	169	VAL	3.4
1	A	87	VAL	3.3
1	A	147	CYS	3.3
1	A	102	GLY	3.3
1	A	171	PHE	3.3
1	A	104	PHE	3.3
1	A	141	ASP	3.2
1	A	199	GLU	3.2
1	A	143	SER	3.2
1	A	17	THR	3.2
1	A	18	GLY	3.1
1	A	15	VAL	3.1
1	A	194	LEU	3.0
1	A	99	GLY	3.0

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	B	402	ILE	3.0
1	A	142	PRO	3.0
1	A	125	LEU	3.0
1	A	38	LYS	3.0
1	A	149	THR	2.9
1	A	330	LYS	2.8
1	A	24	GLN	2.8
1	A	289	VAL	2.8
1	A	349	ALA	2.8
1	A	253	ARG	2.7
1	A	140	ILE	2.7
1	A	139	CYS	2.7
1	A	263	ARG	2.7
1	A	11	SER	2.6
1	A	387	ARG	2.6
1	A	336	LYS	2.6
1	A	259	ASP	2.6
1	A	245	THR	2.6
1	A	137	ASP	2.6
1	A	344	ASP	2.5
1	A	26	THR	2.5
1	A	234	PRO	2.5
1	A	170	LEU	2.5
1	A	173	VAL	2.5
1	A	96	VAL	2.4
1	A	168	LEU	2.4
1	A	183	PHE	2.4
1	A	29	ALA	2.4
1	A	191	PHE	2.3
1	A	44	ILE	2.3
1	A	235	GLU	2.3
1	A	97	PHE	2.3
1	A	25	MET	2.3
1	A	346	ARG	2.3
1	A	14	ILE	2.3
1	A	246	PHE	2.3
1	A	105	VAL	2.3
1	A	98	TYR	2.3
1	A	214	ALA	2.3
1	A	138	LEU	2.2
1	A	148	LEU	2.2
1	A	164	ILE	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	200	GLN	2.2
1	A	232	ARG	2.2
1	A	322	LYS	2.2
1	A	369	TRP	2.2
1	A	382	LEU	2.2
1	A	228	VAL	2.1
1	A	165	HIS	2.1
1	A	207	PRO	2.1
1	A	211	TYR	2.1
2	B	405	GLY	2.1
1	A	124	MET	2.1
1	A	196	ASP	2.0
1	A	287	PRO	2.0
1	A	331	LEU	2.0
1	A	21	SER	2.0
1	A	303	ILE	2.0

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. The B-factors column lists the minimum, median, 95th 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.

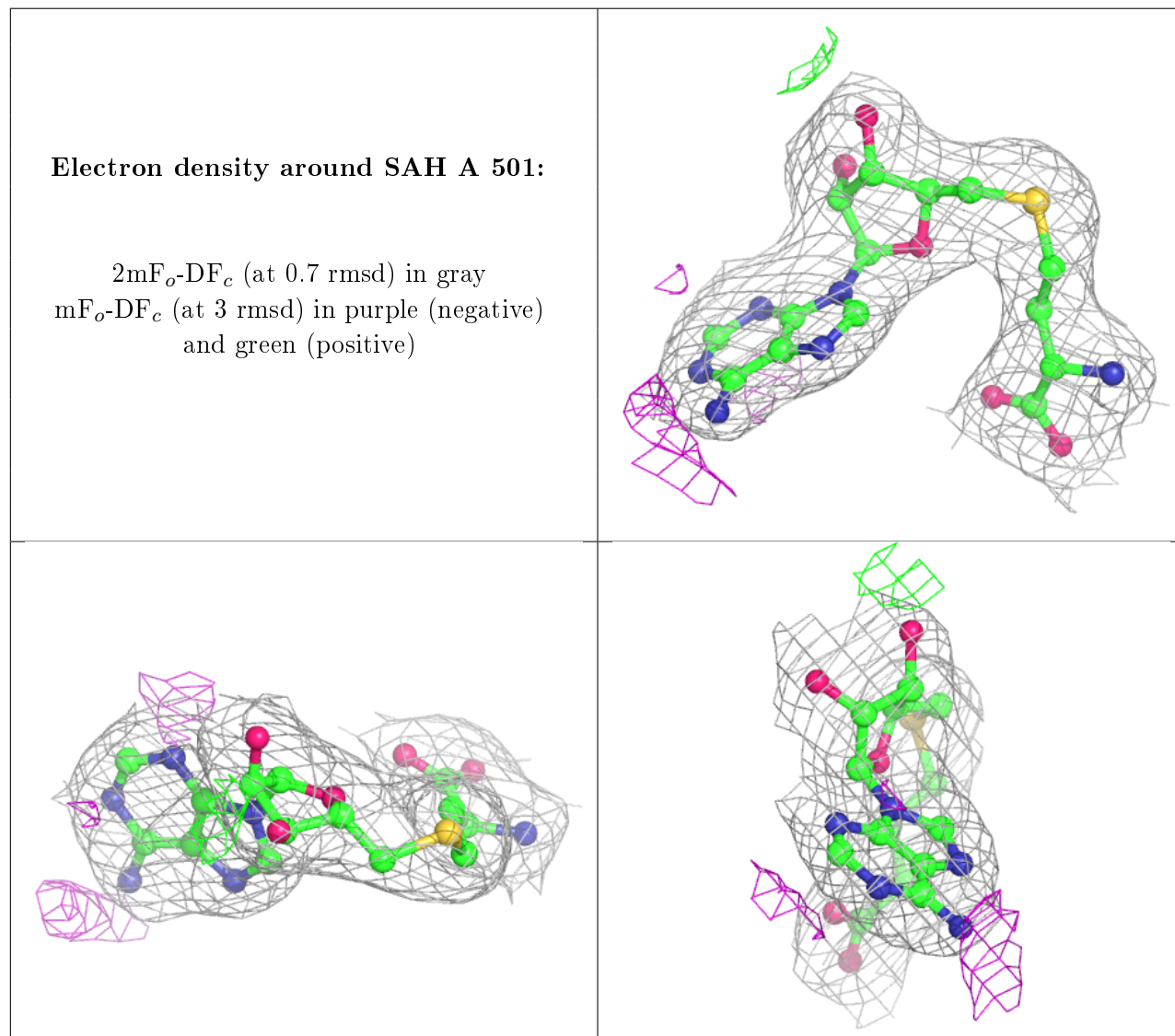| Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($Å^2$)	Q<0.9
2	MVA	B	401	8/9	0.95	0.26	95,102,109,110	0
2	MVA	B	403	8/9	0.98	0.26	91,93,97,99	0

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, 95th 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(Å^2)	Q<0.9
3	SAH	A	501	26/26	0.97	0.26	70,73,77,80	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 SAH A 501:

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

6.5 Other polymers ⓘ

There are no such residues in this entry.