



# Full wwPDB X-ray Structure Validation Report ⓘ

Jul 2, 2025 – 05:11 pm BST

PDB ID : 9RI8 / pdb\_00009ri8  
Title : SARS-CoV-2 with a bound inhibitor  
Authors : Mac Sweeney, A.  
Deposited on : 2025-06-11  
Resolution : 1.78 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 types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4-5-2 with Phenix2.0rc1  
Mogul : 1.8.4, CSD as541be (2020)  
Xtriage (Phenix) : 2.0rc1  
EDS : 3.0  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.003 (Gargrove)  
Density-Fitness : 1.0.11  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.44

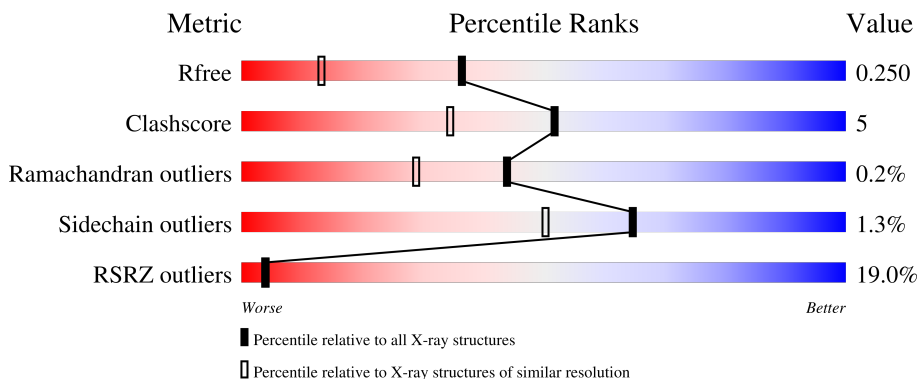
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 1.78 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))
$R_{free}$	164625	1191 (1.78-1.78)
Clashscore	180529	1282 (1.78-1.78)
Ramachandran outliers	177936	1270 (1.78-1.78)
Sidechain outliers	177891	1270 (1.78-1.78)
RSRZ outliers	164620	1191 (1.78-1.78)

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  $\geq 3$ , 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	306	 12% 87% 12%
1	B	306	 25% 87% 13%

## 2 Entry composition i

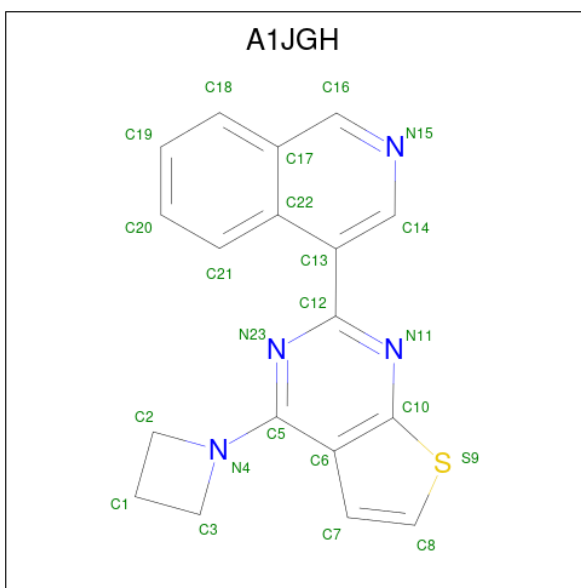
There are 6 unique types of molecules in this entry. The entry contains 9688 atoms, of which 4654 are hydrogens and 0 are deuteriums.

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 3C-like proteinase nsp5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
1	A	306	Total 4686	C 1498	H 2321	N 402	O 443	S 22	79	0	0
1	B	305	Total 4671	C 1494	H 2313	N 400	O 442	S 22	77	0	0

- Molecule 2 is 4-(azetidin-1-yl)-2-isoquinolin-4-yl-thieno[2,3-d]pyrimidine (CCD ID: A1JGH) (formula: C<sub>18</sub>H<sub>14</sub>N<sub>4</sub>S) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	H	N	S		
2	A	1	Total 37	C 18	H 14	N 4	S 1	0	0

- Molecule 3 is SULFATE ION (CCD ID: SO4) (formula: O<sub>4</sub>S).

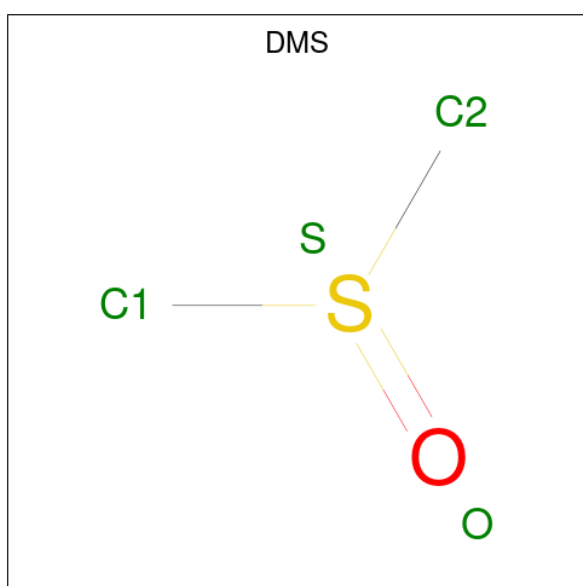


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	B	1	Total	O	S	0	0
			5	4	1		

- Molecule 4 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	B	1	Total	Na	0	0
			1	1		

- Molecule 5 is DIMETHYL SULFOXIDE (CCD ID: DMS) (formula: C<sub>2</sub>H<sub>6</sub>OS).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	H	O	S		
5	B	1	10	2	6	1	1	0	0

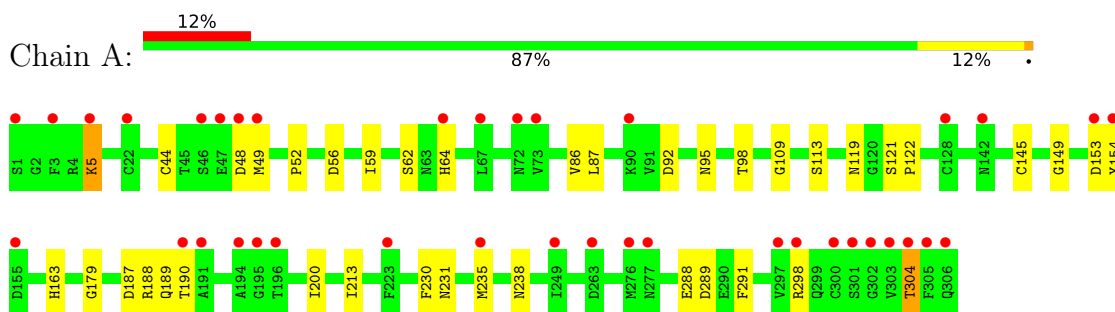
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	176	Total 176	O 176	0	0
6	B	102	Total 102	O 102	0	0

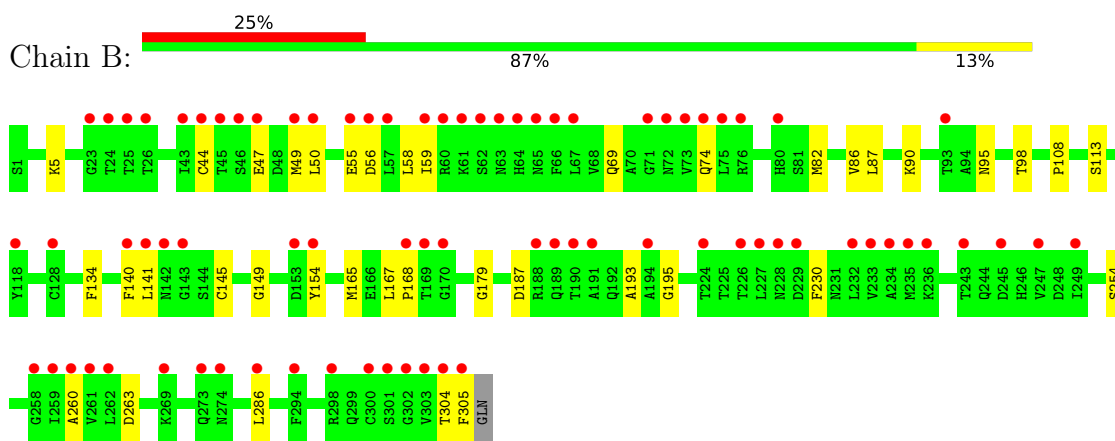
### 3 Residue-property plots [i](#)

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: 3C-like proteinase nsp5



- Molecule 1: 3C-like proteinase nsp5



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	67.90Å 99.20Å 103.38Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	71.58 – 1.78 71.58 – 1.78	Depositor EDS
% Data completeness (in resolution range)	82.7 (71.58-1.78) 82.7 (71.58-1.78)	Depositor EDS
$R_{merge}$	0.20	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.39 (at 1.78Å)	Xtriage
Refinement program	REFMAC 5.8.0425	Depositor
R, $R_{free}$	0.218 , 0.250 0.219 , 0.250	Depositor DCC
$R_{free}$ test set	3256 reflections (5.11%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	25.0	Xtriage
Anisotropy	0.086	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.42 , 34.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	0.014 for -h,l,k	Xtriage
$F_o, F_c$ correlation	0.94	EDS
Total number of atoms	9688	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	32.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.54% 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: A1JGH, SO4, DMS, NA

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	0.59	0/2418	1.04	5/3285 (0.2%)
1	B	0.55	0/2411	1.01	3/3277 (0.1%)
All	All	0.57	0/4829	1.02	8/6562 (0.1%)

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	263	ASP	CA-CB-CG	6.62	119.22	112.60
1	A	153	ASP	CB-CA-C	6.30	120.53	110.19
1	A	154	TYR	CB-CA-C	5.79	121.94	110.42
1	B	230	PHE	CA-CB-CG	-5.77	108.03	113.80
1	A	289	ASP	CA-CB-CG	5.29	117.89	112.60
1	A	230	PHE	CA-CB-CG	-5.21	108.59	113.80
1	A	187	ASP	CA-CB-CG	5.11	117.71	112.60
1	B	140	PHE	CA-CB-CG	5.03	118.83	113.80

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	2365	2321	2312	25	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	2358	2313	2306	24	0
2	A	23	14	0	5	0
3	B	5	0	0	0	0
4	B	1	0	0	0	0
5	B	4	6	6	0	0
6	A	176	0	0	4	0
6	B	102	0	0	8	0
All	All	5034	4654	4624	47	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 5.

All (47) 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:298:ARG:NH1	6:A:501:HOH:O	2.01	0.93
1:A:121:SER:O	1:B:304:THR:OG1	1.97	0.82
1:A:5:LYS:HE3	6:A:516:HOH:O	1.96	0.66
1:A:231:ASN:O	1:A:235:MET:HG2	1.94	0.66
1:B:193:ALA:O	6:B:501:HOH:O	2.15	0.64
1:A:145:CYS:SG	2:A:401:A1JGH:N11	2.74	0.61
1:B:165:MET:HE1	1:B:187:ASP:HA	1.85	0.59
1:A:145:CYS:SG	2:A:401:A1JGH:C10	2.91	0.59
1:A:92:ASP:HB3	6:A:583:HOH:O	2.04	0.58
1:A:86:VAL:HG13	1:A:179:GLY:HA2	1.86	0.58
1:B:58:LEU:HD22	1:B:82:MET:HE3	1.86	0.57
1:B:86:VAL:HG13	1:B:179:GLY:HA2	1.86	0.57
1:A:288:GLU:HG2	1:A:291:PHE:CE2	2.39	0.57
1:A:213:ILE:HA	1:A:304:THR:HB	1.87	0.56
1:A:288:GLU:HG2	1:A:291:PHE:HE2	1.71	0.55
1:A:49:MET:HA	1:A:49:MET:HE2	1.89	0.55
1:A:188:ARG:NH2	1:A:190:THR:HG21	2.22	0.54
1:B:145:CYS:SG	6:B:567:HOH:O	2.58	0.53
1:A:44:CYS:HB3	1:A:49:MET:HE3	1.91	0.52
1:B:50:LEU:HG	6:B:547:HOH:O	2.10	0.51
1:A:163:HIS:NE2	2:A:401:A1JGH:N15	2.58	0.51
1:B:69:GLN:HG2	1:B:74:GLN:HE21	1.76	0.51
1:A:48:ASP:O	1:A:52:PRO:HD3	2.11	0.50
1:B:141:LEU:HG	6:B:560:HOH:O	2.12	0.49
1:A:119:ASN:HB2	6:A:620:HOH:O	2.14	0.47
1:B:44:CYS:HB2	1:B:49:MET:CE	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:189:GLN:NE2	2:A:401:A1JGH:C1	2.79	0.46
1:A:122:PRO:O	1:B:305:PHE:N	2.44	0.46
1:B:69:GLN:CG	1:B:74:GLN:HE21	2.29	0.44
1:A:62:SER:OG	1:A:64:HIS:CE1	2.70	0.44
1:A:113:SER:O	1:A:149:GLY:HA2	2.17	0.44
1:A:95:ASN:HB3	1:A:98:THR:OG1	2.18	0.44
1:B:5:LYS:HD3	6:B:512:HOH:O	2.18	0.44
1:B:195:GLY:HA3	6:B:593:HOH:O	2.18	0.44
1:B:90:LYS:HE2	6:B:540:HOH:O	2.18	0.43
1:B:90:LYS:CE	6:B:540:HOH:O	2.66	0.43
1:A:145:CYS:SG	2:A:401:A1JGH:C12	3.07	0.43
1:B:95:ASN:HB3	1:B:98:THR:OG1	2.19	0.43
1:A:109:GLY:HA2	1:A:200:ILE:HD13	2.00	0.42
1:A:56:ASP:O	1:A:59:ILE:HG22	2.19	0.42
1:B:113:SER:O	1:B:149:GLY:HA2	2.19	0.42
1:B:167:LEU:HB3	1:B:168:PRO:HD2	2.01	0.42
1:B:56:ASP:O	1:B:59:ILE:HG22	2.19	0.41
1:B:47:GLU:OE1	1:B:47:GLU:N	2.39	0.41
1:B:108:PRO:HG3	1:B:134:PHE:CE1	2.55	0.41
1:B:47:GLU:HA	1:B:50:LEU:HD13	2.02	0.41
1:B:254:SER:OG	1:B:260:ALA:HA	2.21	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	304/306 (99%)	298 (98%)	6 (2%)	0	100	100
1	B	303/306 (99%)	296 (98%)	6 (2%)	1 (0%)	37	23
All	All	607/612 (99%)	594 (98%)	12 (2%)	1 (0%)	44	29

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	154	TYR

### 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	262/263 (100%)	258 (98%)	4 (2%)	60	44
1	B	262/263 (100%)	259 (99%)	3 (1%)	70	57
All	All	524/526 (100%)	517 (99%)	7 (1%)	65	50

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

Mol	Chain	Res	Type
1	A	5	LYS
1	A	87	LEU
1	A	238	ASN
1	A	304	THR
1	B	55	GLU
1	B	87	LEU
1	B	286	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	64	HIS
1	A	107	GLN
1	A	142	ASN
1	A	164	HIS
1	A	180	ASN
1	A	189	GLN
1	A	228	ASN
1	B	72	ASN
1	B	74	GLN

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Mol	Chain	Res	Type
1	B	110	GLN
1	B	119	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 oligosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 1 is monoatomic - leaving 3 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
3	SO4	B	401	-	4,4,4	0.40	0	6,6,6	0.17	0
5	DMS	B	403	-	3,3,3	0.29	0	3,3,3	0.15	0
2	A1JGH	A	401	-	22,27,27	0.64	1 (4%)	29,39,39	0.87	2 (6%)

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	A1JGH	A	401	-	-	4/4/14/14	0/5/5/5

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	401	A1JGH	C5-N23	2.03	1.35	1.32

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	401	A1JGH	C3-N4-C5	2.43	132.77	125.42
2	A	401	A1JGH	C2-N4-C5	2.36	132.53	125.42

There are no chirality outliers.

All (4) torsion outliers are listed below:

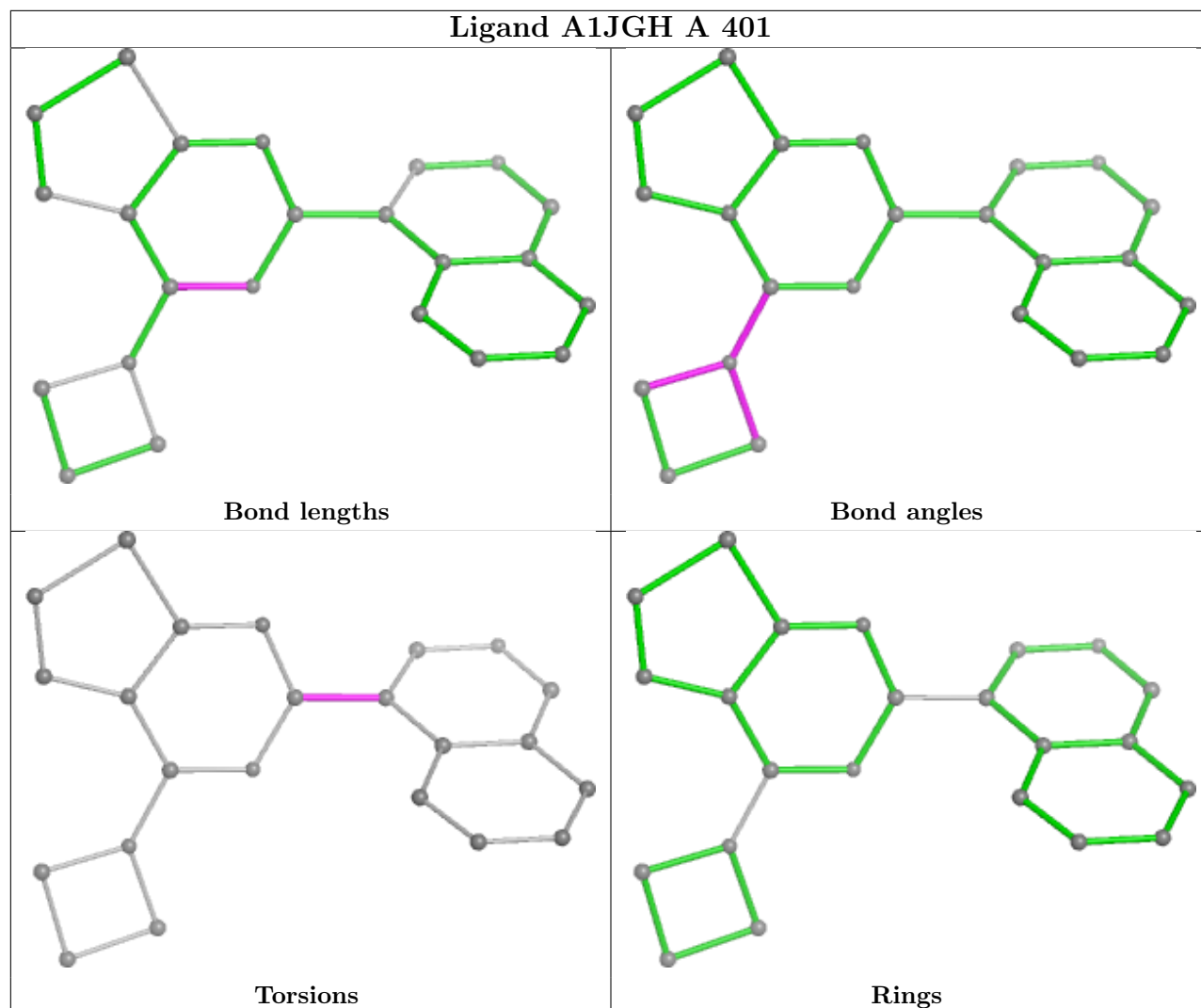
Mol	Chain	Res	Type	Atoms
2	A	401	A1JGH	N11-C12-C13-C14
2	A	401	A1JGH	N23-C12-C13-C14
2	A	401	A1JGH	N11-C12-C13-C22
2	A	401	A1JGH	N23-C12-C13-C22

There are no ring outliers.

1 monomer is involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	401	A1JGH	5	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	306/306 (100%)	0.63	38 (12%) <b>9</b> <b>11</b>	13, 24, 51, 142	0
1	B	305/306 (99%)	1.13	78 (25%) <b>2</b> <b>2</b>	14, 30, 63, 85	0
All	All	611/612 (99%)	0.88	116 (18%) <b>4</b> <b>4</b>	13, 26, 62, 142	0

All (116) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	305	PHE	12.4
1	A	303	VAL	11.0
1	B	305	PHE	10.6
1	A	304	THR	10.0
1	A	302	GLY	7.5
1	A	301	SER	6.5
1	B	154	TYR	6.3
1	B	303	VAL	6.2
1	A	154	TYR	6.1
1	B	302	GLY	6.1
1	B	118	TYR	5.9
1	B	190	THR	5.7
1	A	3	PHE	5.7
1	B	233	VAL	5.1
1	B	301	SER	5.0
1	A	153	ASP	5.0
1	A	67	LEU	4.9
1	B	304	THR	4.7
1	B	50	LEU	4.7
1	B	232	LEU	4.7
1	B	73	VAL	4.7
1	B	141	LEU	4.6
1	B	60	ARG	4.4
1	A	155	ASP	4.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	59	ILE	4.3
1	A	1	SER	4.3
1	A	306	GLN	4.3
1	B	191	ALA	3.9
1	B	194	ALA	3.8
1	A	300	CYS	3.8
1	B	57	LEU	3.7
1	A	5	LYS	3.7
1	B	153	ASP	3.7
1	A	47	GLU	3.6
1	B	189	GLN	3.6
1	A	73	VAL	3.5
1	B	269	LYS	3.5
1	A	49	MET	3.4
1	A	298	ARG	3.4
1	B	45	THR	3.4
1	B	234	ALA	3.4
1	B	298	ARG	3.4
1	B	72	ASN	3.3
1	B	286	LEU	3.2
1	B	169	THR	3.1
1	B	67	LEU	3.1
1	B	168	PRO	3.1
1	B	62	SER	3.0
1	B	26	THR	3.0
1	B	55	GLU	3.0
1	B	46	SER	3.0
1	B	75	LEU	3.0
1	A	48	ASP	3.0
1	B	65	ASN	3.0
1	B	56	ASP	2.9
1	B	64	HIS	2.9
1	B	24	THR	2.9
1	B	273	GLN	2.9
1	B	259	ILE	2.9
1	B	235	MET	2.9
1	A	142	ASN	2.8
1	B	23	GLY	2.8
1	B	76	ARG	2.8
1	B	227	LEU	2.7
1	B	66	PHE	2.7
1	B	93	THR	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	188	ARG	2.7
1	B	71	GLY	2.7
1	A	64	HIS	2.7
1	B	49	MET	2.7
1	B	61	LYS	2.7
1	B	44	CYS	2.7
1	A	297	VAL	2.7
1	A	128	CYS	2.6
1	A	72	ASN	2.6
1	A	196	THR	2.6
1	B	247	VAL	2.6
1	B	74	GLN	2.6
1	B	228	ASN	2.6
1	B	226	THR	2.6
1	A	191	ALA	2.5
1	B	25	THR	2.5
1	B	224	THR	2.5
1	B	142	ASN	2.5
1	B	140	PHE	2.5
1	B	294	PHE	2.5
1	B	128	CYS	2.5
1	B	262	LEU	2.4
1	A	223	PHE	2.4
1	A	249	ILE	2.4
1	B	243	THR	2.4
1	A	46	SER	2.4
1	B	260	ALA	2.4
1	A	263	ASP	2.4
1	B	170	GLY	2.4
1	A	90	LYS	2.3
1	B	80	HIS	2.3
1	B	300	CYS	2.3
1	A	276	MET	2.3
1	A	195	GLY	2.3
1	B	47	GLU	2.3
1	A	190	THR	2.2
1	A	235	MET	2.2
1	B	249	ILE	2.2
1	B	229	ASP	2.2
1	B	63	ASN	2.2
1	A	277	ASN	2.2
1	B	274	ASN	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	43	ILE	2.1
1	B	261	VAL	2.1
1	B	236	LYS	2.1
1	B	258	GLY	2.1
1	A	22	CYS	2.1
1	A	194	ALA	2.0
1	B	143	GLY	2.0
1	B	245	ASP	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](#)

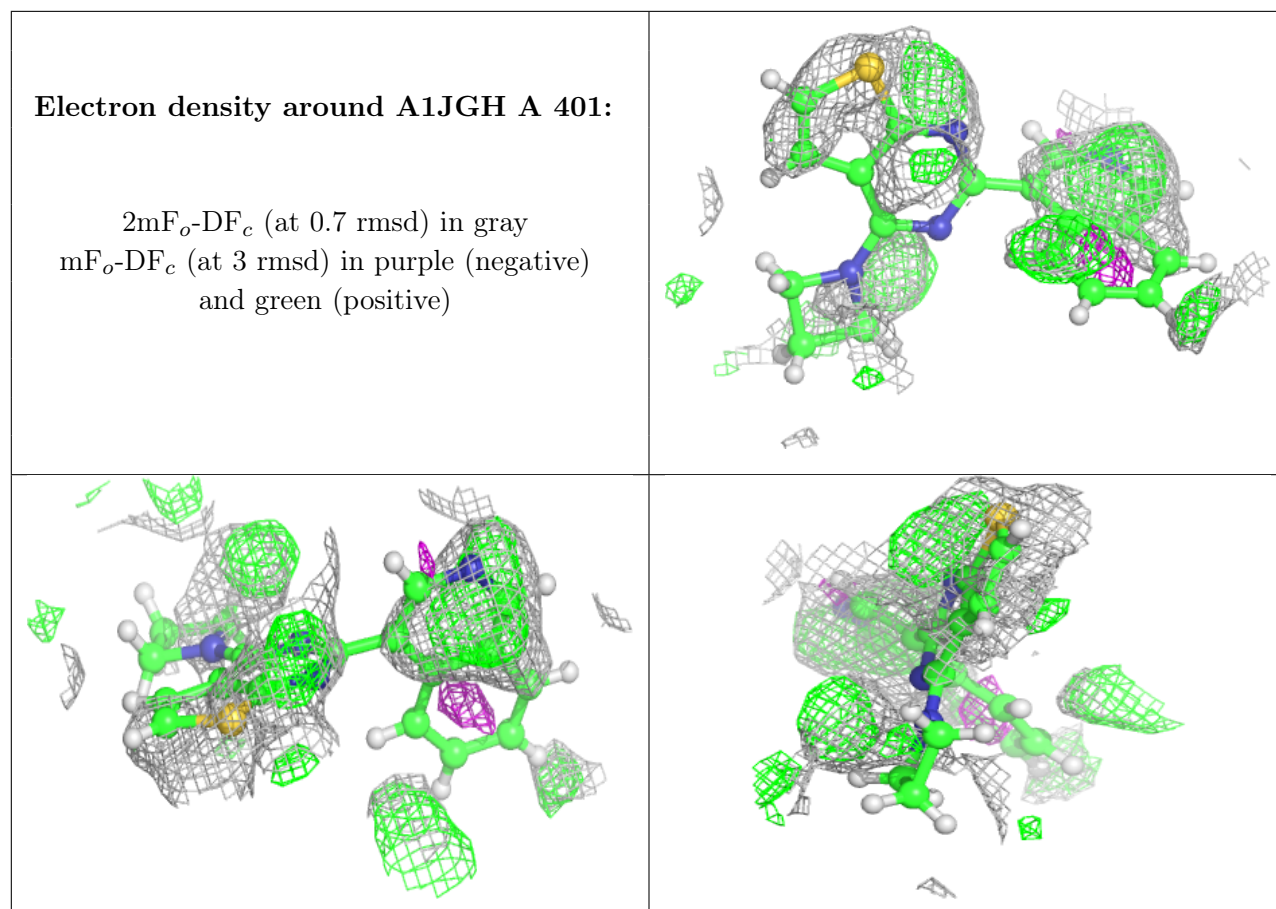
There are no oligosaccharides in this entry.

## 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(Å <sup>2</sup> )	Q<0.9
2	A1JGH	A	401	23/23	0.67	0.37	56,99,110,113	0
5	DMS	B	403	4/4	0.81	0.25	65,72,73,75	0
3	SO4	B	401	5/5	0.90	0.14	43,50,51,54	0
4	NA	B	402	1/1	0.97	0.05	26,26,26,26	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.