Full wwPDB X-ray Structure Validation Report (i)

Apr 23, 2025 – 12:12 PM EDT

PDB ID	:	9OB3 / pdb_00009ob3
Title	:	CDK2/CyclinE bound to compound 16 with P-loop in the EE conformation
Authors	:	Baird, J.; Holliday, M.H.
Deposited on	:	2025-04-22
Resolution	:	1.98 Å(reported)

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

|		
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
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	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.42

1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:
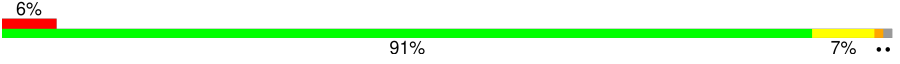*X-RAY DIFFRACTION*

The reported resolution of this entry is 1.98 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 all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
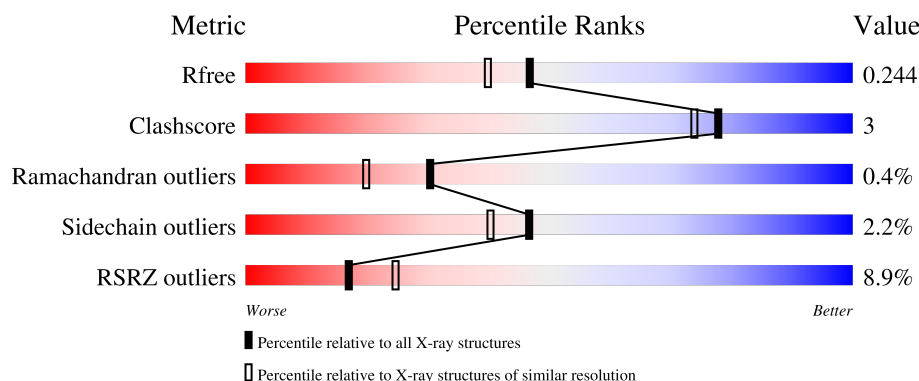
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1356 (1.98-1.98)
Clashscore	180529	1437 (1.98-1.98)
Ramachandran outliers	177936	1426 (1.98-1.98)
Sidechain outliers	177891	1426 (1.98-1.98)
RSRZ outliers	164620	1356 (1.98-1.98)

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	301	6% / 91% / 7% ••
2	B	285	12% / 85% / 11% •

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 4735 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 Cyclin-dependent kinase 2.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	298	Total	C	N	O	P	S	0	0	0
			2401	1559	408	425	1	8			

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	SER	-	expression tag	UNP P24941
A	-1	HIS	-	expression tag	UNP P24941
A	0	MET	-	expression tag	UNP P24941

- Molecule 2 is a protein called G1/S-specific cyclin-E1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	274	Total	C	N	O	S	0	0	0
			2243	1458	366	402	17			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	94	GLY	-	expression tag	UNP P24864
B	95	SER	-	expression tag	UNP P24864

- Molecule 3 is (1R,3R)-3-{3-[(pyrazine-2-carbonyl)amino]-1H-pyrazol-5-yl}cyclopentyl [(1S)-1-cyclopropylethyl]carbamate (CCD ID: A1CAH) (formula: $C_{19}H_{24}N_6O_3$) (labeled as "Ligand of Interest" by depositor).

A1CAH
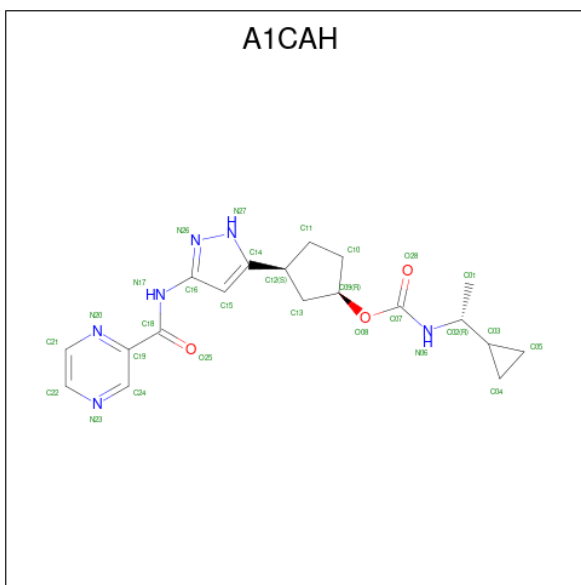
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total 28	C 19	N 6	O 3	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	45	Total 45	O 45	0	0
4	B	18	Total 18	O 18	0	0

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: Cyclin-dependent kinase 2

Chain A:
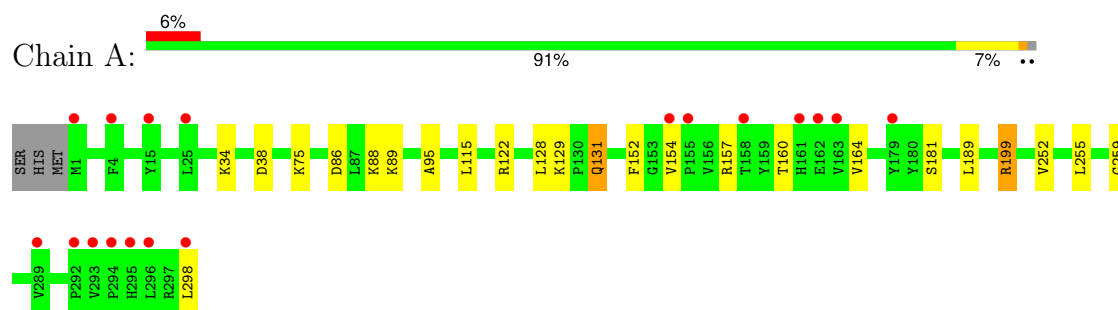
• Molecule 2: G1/S-specific cyclin-E1

Chain B:
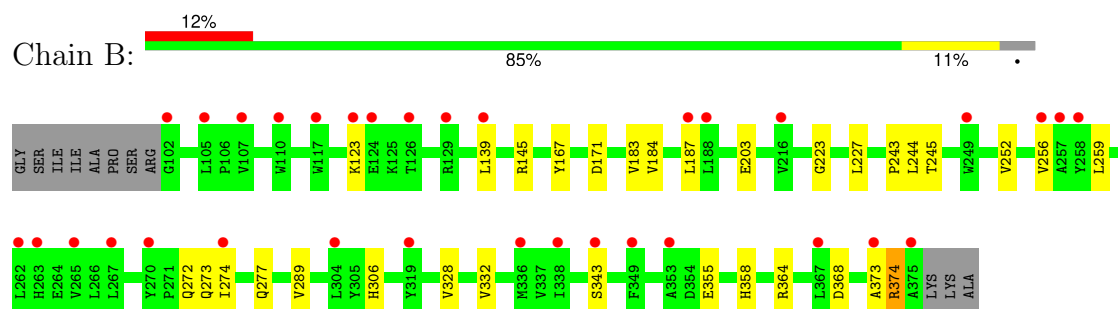
4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α, β, γ	101.16Å 101.16Å 151.07Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	84.06 – 1.98 84.06 – 1.98	Depositor EDS
% Data completeness (in resolution range)	99.9 (84.06-1.98) 99.9 (84.06-1.98)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.33 (at 1.98Å)	Xtriage
Refinement program	PHENIX 1.21.2_5419	Depositor
R, R_{free}	0.219 , 0.244 0.224 , 0.244	Depositor DCC
R_{free} test set	53228 reflections (3.62%)	wwPDB-VP
Wilson B-factor (Å^2)	52.2	Xtriage
Anisotropy	0.206	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 36.9	EDS
L-test for twinning[2]	$< |L| > = 0.46, < L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	4735	wwPDB-VP
Average B, all atoms (Å^2)	70.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.39% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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 ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: A1CAH, TPO

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	0.29	0/2451	0.52	0/3325
2	B	0.26	0/2299	0.45	0/3120
All	All	0.27	0/4750	0.49	0/6445

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 ⓘ

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	2401	0	2449	12	0
2	B	2243	0	2245	15	0
3	A	28	0	0	0	0
4	A	45	0	0	0	0
4	B	18	0	0	0	0
All	All	4735	0	4694	25	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 (25) 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)
2:B:272:GLN:HB3	2:B:358:HIS:HB3	1.80	0.64
2:B:256:VAL:HA	2:B:259:LEU:HG	1.82	0.60
1:A:34:LYS:HE3	1:A:75:LYS:HE3	1.85	0.57
2:B:145:ARG:HD3	2:B:289:VAL:HG22	1.85	0.56
1:A:95:ALA:HA	1:A:199:ARG:HG2	1.88	0.55
1:A:122:ARG:HE	1:A:154:VAL:HG23	1.73	0.54
2:B:167:TYR:HB3	2:B:245:THR:HB	1.90	0.52
2:B:183:VAL:HG13	2:B:187:LEU:HD23	1.94	0.49
2:B:139:LEU:HD23	2:B:184:VAL:HG23	1.94	0.48
1:A:128:LEU:HD13	1:A:189:LEU:HD13	1.94	0.48
1:A:122:ARG:HA	1:A:152:PHE:CE2	2.48	0.48
1:A:129:LYS:HG3	1:A:131:GLN:HG2	1.98	0.46
2:B:123:LYS:HG2	2:B:244:LEU:HG	1.99	0.45
1:A:157:ARG:HH22	2:B:203:GLU:HG3	1.82	0.45
2:B:277:GLN:HG2	2:B:343:SER:HB2	1.99	0.44
1:A:255:LEU:HG	1:A:259:GLY:HA3	2.00	0.44
2:B:171:ASP:OD2	2:B:243:PRO:HG3	2.18	0.43
2:B:306:HIS:CE1	2:B:328:VAL:HG13	2.53	0.43
1:A:86:ASP:OD1	1:A:88:LYS:HB3	2.18	0.42
2:B:373:ALA:O	2:B:374:ARG:HG2	2.20	0.42
1:A:115:LEU:HD12	1:A:115:LEU:HA	1.92	0.41
2:B:223:GLY:O	2:B:227:LEU:HG	2.20	0.41
1:A:154:VAL:O	2:B:252:VAL:HG22	2.20	0.41
2:B:328:VAL:O	2:B:332:VAL:HG23	2.21	0.41
1:A:89:LYS:HB2	1:A:89:LYS:HE3	1.80	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	295/301 (98%)	288 (98%)	5 (2%)	2 (1%)	19	10

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	272/285 (95%)	264 (97%)	8 (3%)	0	100	100
All	All	567/586 (97%)	552 (97%)	13 (2%)	2 (0%)	30	20

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	164	VAL
1	A	181	SER

5.3.2 Protein sidechains ⓘ

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	262/265 (99%)	257 (98%)	5 (2%)	52	46
2	B	247/255 (97%)	241 (98%)	6 (2%)	44	36
All	All	509/520 (98%)	498 (98%)	11 (2%)	47	40

All (11) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	38	ASP
1	A	131	GLN
1	A	199	ARG
1	A	252	VAL
1	A	298	LEU
2	B	273	GLN
2	B	274	ILE
2	B	355	GLU
2	B	364	ARG
2	B	368	ASP
2	B	374	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

1 non-standard protein/DNA/RNA residue 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	#$|Z| > 2$
1	TPO	A	160	1	8,10,11	2.75	1 (12%)	10,14,16	1.22	1 (10%)

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
1	TPO	A	160	1	-	2/9/11/13	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	160	TPO	P-OG1	7.58	1.72	1.59

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	160	TPO	OG1-P-O1P	-2.34	100.99	109.33

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	160	TPO	CB-OG1-P-O3P

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Mol	Chain	Res	Type	Atoms
1	A	160	TPO	O-C-CA-CB

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

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	A1CAH	A	301	-	29,31,31	1.79	10 (34%)	40,43,43	2.49	16 (40%)

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	A1CAH	A	301	-	-	7/24/35/35	0/4/4/4

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	301	A1CAH	C14-N27	4.28	1.39	1.34
3	A	301	A1CAH	C02-N06	3.52	1.53	1.46
3	A	301	A1CAH	C19-C18	2.96	1.58	1.50
3	A	301	A1CAH	C13-C09	2.94	1.59	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	301	A1CAH	O08-C07	2.63	1.39	1.35
3	A	301	A1CAH	C10-C11	-2.45	1.47	1.54
3	A	301	A1CAH	C18-N17	2.36	1.42	1.35
3	A	301	A1CAH	C16-N17	2.27	1.45	1.40
3	A	301	A1CAH	C24-C19	2.22	1.43	1.39
3	A	301	A1CAH	C07-N06	2.20	1.40	1.34

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	301	A1CAH	O08-C07-N06	5.53	117.31	110.26
3	A	301	A1CAH	O08-C07-O28	-5.34	116.69	124.55
3	A	301	A1CAH	C15-C14-N27	-4.81	103.85	110.28
3	A	301	A1CAH	C15-C14-C12	4.68	136.45	129.25
3	A	301	A1CAH	C18-C19-N20	4.58	122.78	117.42
3	A	301	A1CAH	C13-C12-C14	3.96	120.83	114.62
3	A	301	A1CAH	C14-C15-C16	3.80	109.33	105.91
3	A	301	A1CAH	C19-C18-N17	3.24	122.09	113.99
3	A	301	A1CAH	C15-C16-N26	-3.18	105.92	110.47
3	A	301	A1CAH	C24-C19-N20	-3.12	117.93	121.60
3	A	301	A1CAH	C12-C13-C09	2.93	109.85	103.01
3	A	301	A1CAH	C10-C11-C12	2.88	108.55	103.39
3	A	301	A1CAH	C13-C09-C10	-2.40	96.61	104.34
3	A	301	A1CAH	C21-C22-N23	-2.40	118.98	121.96
3	A	301	A1CAH	O25-C18-C19	-2.29	116.03	121.08
3	A	301	A1CAH	O08-C09-C13	2.22	114.21	108.55

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	301	A1CAH	N26-C16-N17-C18
3	A	301	A1CAH	O25-C18-C19-N20
3	A	301	A1CAH	N17-C18-C19-N20
3	A	301	A1CAH	O25-C18-C19-C24
3	A	301	A1CAH	N17-C18-C19-C24
3	A	301	A1CAH	O28-C07-N06-C02
3	A	301	A1CAH	O08-C07-N06-C02

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 A1CAH A 301

Bond lengths　　Bond angles

Torsions　　Rings
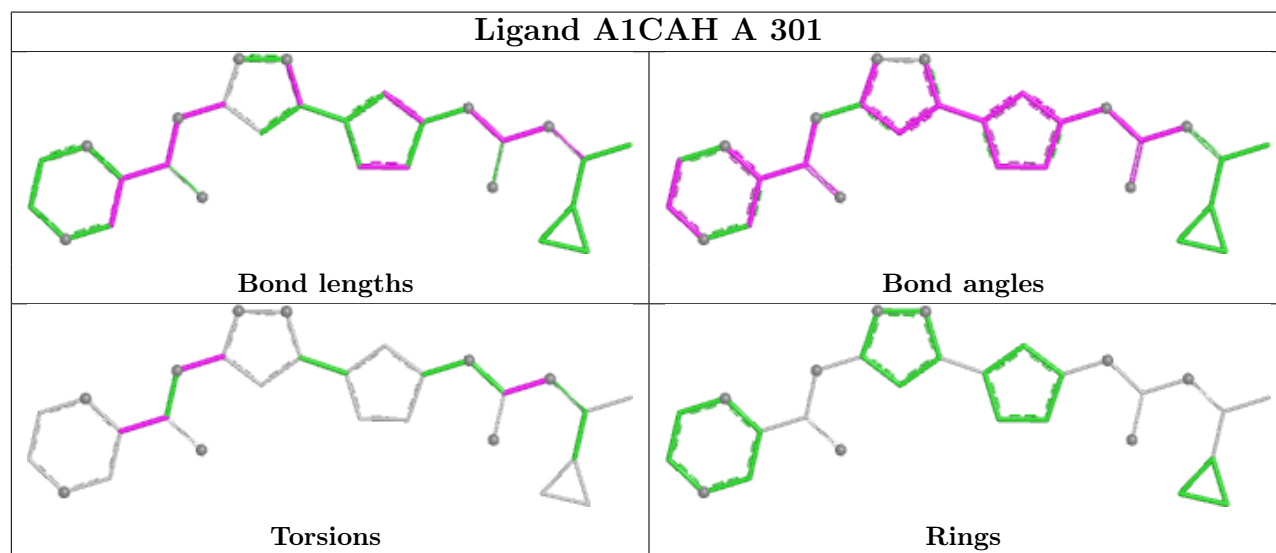
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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, 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(Å^2)	Q<0.9
1	A	297/301 (98%)	0.48	18 (6%)	28	39	40, 58, 100, 132	0
2	B	274/285 (96%)	1.11	33 (12%)	10	15	51, 76, 115, 174	0
All	All	571/586 (97%)	0.78	51 (8%)	17	25	40, 67, 109, 174	0

All (51) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	15	TYR	5.0
1	A	154	VAL	4.9
1	A	298	LEU	4.0
1	A	163	VAL	4.0
2	B	270	TYR	3.7
2	B	262	LEU	3.7
2	B	126	THR	3.3
2	B	343	SER	3.2
2	B	375	ALA	3.2
1	A	4	PHE	3.1
2	B	102	GLY	3.1
1	A	25	LEU	3.1
2	B	338	ILE	3.0
2	B	267	LEU	2.9
2	B	373	ALA	2.9
2	B	256	VAL	2.9
1	A	162	GLU	2.8
1	A	179	TYR	2.8
1	A	155	PRO	2.7
2	B	319	TYR	2.7
2	B	110	TRP	2.7
2	B	258	TYR	2.7
1	A	289	VAL	2.7
1	A	293	VAL	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	161	HIS	2.7
1	A	296	LEU	2.7
1	A	1	MET	2.6
1	A	294	PRO	2.5
2	B	349	PHE	2.5
2	B	188	LEU	2.5
2	B	117	TRP	2.5
2	B	139	LEU	2.5
2	B	249	TRP	2.4
2	B	124	GLU	2.4
2	B	367	LEU	2.4
2	B	123	LYS	2.4
2	B	129	ARG	2.3
2	B	336	MET	2.3
1	A	295	HIS	2.3
2	B	107	VAL	2.3
1	A	158	THR	2.2
2	B	265	VAL	2.2
2	B	304	LEU	2.2
2	B	257	ALA	2.2
2	B	105	LEU	2.2
2	B	187	LEU	2.2
2	B	263	HIS	2.1
2	B	216	VAL	2.1
2	B	274	ILE	2.1
1	A	292	PRO	2.0
2	B	353	ALA	2.0

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

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
1	TPO	A	160	11/12	0.96	0.12	46,54,60,64	0

6.3 Carbohydrates ⓘ
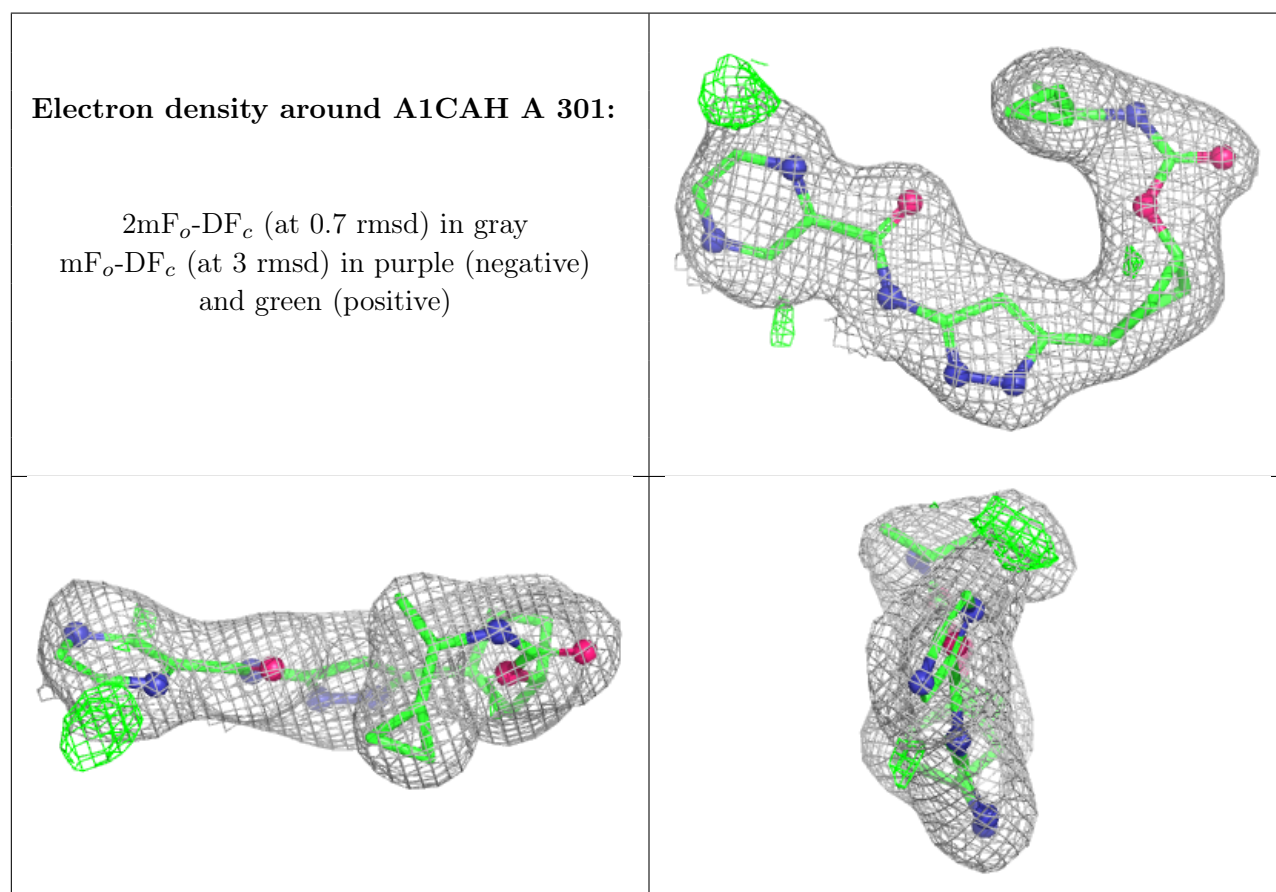
There are no monosaccharides in this entry.

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	A1CAH	A	301	28/28	0.93	0.10	46,56,69,75	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 A1CAH A 301:

$2mF_o$-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 (i)

There are no such residues in this entry.