WORLDWIDE wwPDB PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report (i)

Aug 16, 2023 – 05:22 AM EDT

PDB ID	:	1YBU
Title	:	Mycobacterium tuberculosis adenylyl cyclase Rv1900c CHD, in complex with a substrate analog.
Authors	:	Sinha, S.C.; Wetterer, M.; Sprang, S.R.; Schultz, J.E.; Linder, J.U.
Deposited on	:	2004-12-21
Resolution	:	2.40 Å(reported)

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

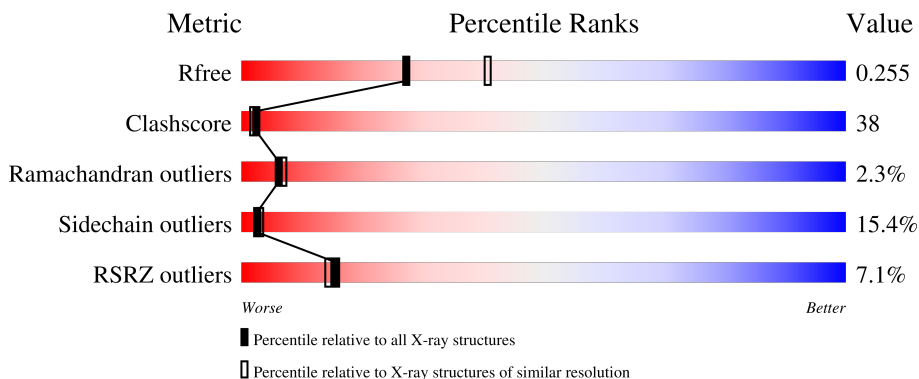|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.40 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		0.255
Clashscore		38
Ramachandran outliers		2.3%
Sidechain outliers		15.4%
RSRZ outliers		7.1%

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	3907 (2.40-2.40)
Clashscore	141614	4398 (2.40-2.40)
Ramachandran outliers	138981	4318 (2.40-2.40)
Sidechain outliers	138945	4319 (2.40-2.40)
RSRZ outliers	127900	3811 (2.40-2.40)

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	184	7% 47% 35% 8% · 10%
1	B	184	5% 49% 32% 5% · 11%
1	C	184	5% 49% 32% 5% · 11%
1	D	184	8% 50% 33% 7% · 10%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard

residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	APC	A	601	-	-	-	X
3	APC	D	602	-	-	-	X

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 5191 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 lipJ.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	166	Total	C	N	O	S	8	0	0
			1236	760	233	236	7			
1	B	163	Total	C	N	O	S	8	0	0
			1216	749	228	232	7			
1	C	163	Total	C	N	O	S	8	0	0
			1216	749	228	232	7			
1	D	166	Total	C	N	O	S	8	0	0
			1236	760	233	236	7			

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	279	MET	-	cloning artifact	UNP O07732
A	280	ARG	-	cloning artifact	UNP O07732
A	281	GLY	-	cloning artifact	UNP O07732
A	282	SER	-	cloning artifact	UNP O07732
A	283	HIS	-	expression tag	UNP O07732
A	284	HIS	-	expression tag	UNP O07732
A	285	HIS	-	expression tag	UNP O07732
A	286	HIS	-	expression tag	UNP O07732
A	287	HIS	-	expression tag	UNP O07732
A	288	HIS	-	expression tag	UNP O07732
A	289	GLY	-	cloning artifact	UNP O07732
A	290	SER	-	cloning artifact	UNP O07732
B	279	MET	-	cloning artifact	UNP O07732
B	280	ARG	-	cloning artifact	UNP O07732
B	281	GLY	-	cloning artifact	UNP O07732
B	282	SER	-	cloning artifact	UNP O07732
B	283	HIS	-	expression tag	UNP O07732
B	284	HIS	-	expression tag	UNP O07732
B	285	HIS	-	expression tag	UNP O07732
B	286	HIS	-	expression tag	UNP O07732
B	287	HIS	-	expression tag	UNP O07732

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Chain	Residue	Modelled	Actual	Comment	Reference
B	288	HIS	-	expression tag	UNP O07732
B	289	GLY	-	cloning artifact	UNP O07732
B	290	SER	-	cloning artifact	UNP O07732
C	279	MET	-	cloning artifact	UNP O07732
C	280	ARG	-	cloning artifact	UNP O07732
C	281	GLY	-	cloning artifact	UNP O07732
C	282	SER	-	cloning artifact	UNP O07732
C	283	HIS	-	cloning artifact	UNP O07732
C	284	HIS	-	cloning artifact	UNP O07732
C	285	HIS	-	cloning artifact	UNP O07732
C	286	HIS	-	cloning artifact	UNP O07732
C	287	HIS	-	cloning artifact	UNP O07732
C	288	HIS	-	cloning artifact	UNP O07732
C	289	GLY	-	cloning artifact	UNP O07732
C	290	SER	-	cloning artifact	UNP O07732
D	279	MET	-	cloning artifact	UNP O07732
D	280	ARG	-	cloning artifact	UNP O07732
D	281	GLY	-	cloning artifact	UNP O07732
D	282	SER	-	cloning artifact	UNP O07732
D	283	HIS	-	expression tag	UNP O07732
D	284	HIS	-	expression tag	UNP O07732
D	285	HIS	-	expression tag	UNP O07732
D	286	HIS	-	expression tag	UNP O07732
D	287	HIS	-	expression tag	UNP O07732
D	288	HIS	-	expression tag	UNP O07732
D	289	GLY	-	cloning artifact	UNP O07732
D	290	SER	-	cloning artifact	UNP O07732

- Molecule 2 is MANGANESE (II) ION (three-letter code: MN) (formula: Mn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Mn	0	0
			1	1		
2	D	1	Total	Mn	0	0
			1	1		

- Molecule 3 is DIPHOSPHOMETHYLPHOSPHONIC ACID ADENOSYL ESTER (three-letter code: APC) (formula: $C_{11}H_{18}N_5O_{12}P_3$).

APC
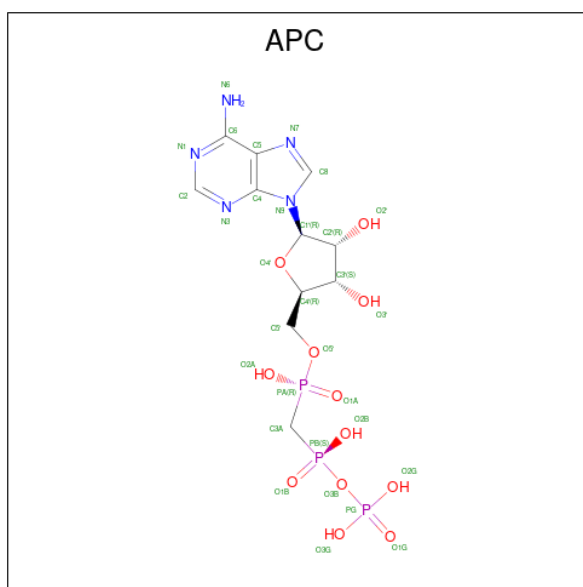
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			31	11	5	12	3		
3	D	1	Total	C	N	O	P	0	0
			31	11	5	12	3		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	66	Total	O	0	0
			66	66		
4	B	52	Total	O	0	0
			52	52		
4	C	58	Total	O	0	0
			58	58		
4	D	47	Total	O	0	0
			47	47		

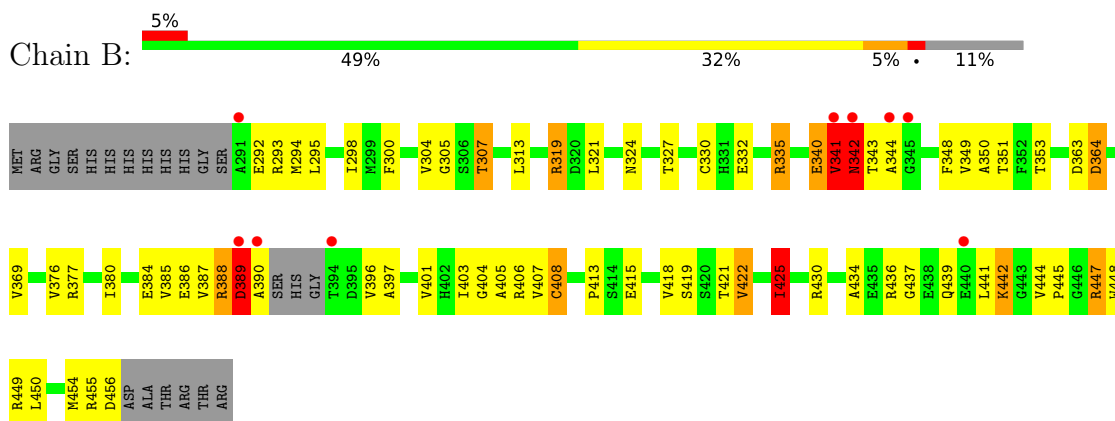# 3   Residue-property plots ⓘ

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.
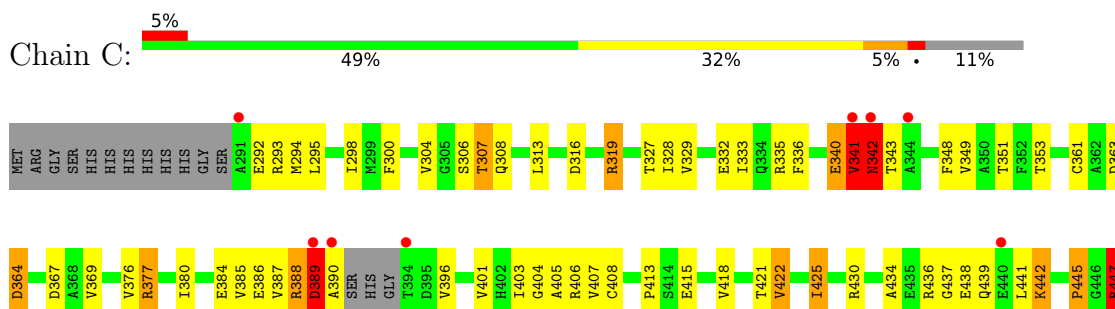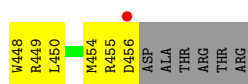
- Molecule 1: lipJ

Chain A:

- Molecule 1: lipJ

Chain B:

- Molecule 1: lipJ

Chain C:

W448 R449 L450 M454 R455 D456 ASP ALA THR ARG THR ARG

● Molecule 1: lipJ

Chain D:

8%

50% 33% 7% 10%

MET ARG GLY SER HIS HIS HIS HIS HIS GLY SER A291 E292 R293 M294 L295 I298 M299 F300 T301 D302 I303 V304 Q308 L313 G314 D315 R319 H325 D326 T327 I328 V329 C330 H331 R335 E340 V341 N342 T343 A344 G345 D346 G347 F348 V349 P355 D363 D364

D367 R377 I380 E384 V385 E386 V387 R388 D389 A390 S391 H392 G393 T394 D395 V396 V399 A400 R406 P413 V418 T421 I425 V426 R430 A434 E435 R436 G437 E438 Q439 E440 L441 K442 P445 G446 R447 W448 R449 L450 C451 V452 L453 M454 R455 D456 ASP ALA

THR ARG THR ARG

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	91.07Å 48.92Å 68.20Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	31.94 – 2.40 31.93 – 2.20	Depositor EDS
% Data completeness (in resolution range)	95.9 (31.94-2.40) 90.9 (31.93-2.20)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	0.07	Depositor
$< I/\sigma(I) >$ [1]	2.52 (at 2.20Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.233 , 0.262 0.226 , 0.255	Depositor DCC
R_{free} test set	1129 reflections (3.84%)	wwPDB-VP
Wilson B-factor (Å^2)	26.3	Xtriage
Anisotropy	0.875	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 47.1	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.487 for -h,-k,l	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	5191	wwPDB-VP
Average B, all atoms (Å^2)	43.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.39% 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: MN, APC

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	0.72	3/1254 (0.2%)	0.90	6/1700 (0.4%)
1	B	1.24	3/1232 (0.2%)	1.07	10/1669 (0.6%)
1	C	1.25	3/1232 (0.2%)	1.07	12/1669 (0.7%)
1	D	0.59	1/1254 (0.1%)	0.91	5/1700 (0.3%)
All	All	0.99	10/4972 (0.2%)	0.99	33/6738 (0.5%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1
1	C	0	1
All	All	0	2

The worst 5 of 10 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	389	ASP	CB-CG	35.29	2.25	1.51
1	C	389	ASP	CB-CG	35.27	2.25	1.51
1	A	456	ASP	C-O	-13.20	0.98	1.23
1	C	389	ASP	C-N	-9.30	1.12	1.34
1	B	389	ASP	C-N	-9.30	1.12	1.34

The worst 5 of 33 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	456	ASP	CA-C-O	-12.41	94.04	120.10
1	C	389	ASP	C-N-CA	10.53	148.02	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	389	ASP	C-N-CA	10.51	147.97	121.70
1	B	341	VAL	C-N-CA	9.15	144.59	121.70
1	C	341	VAL	C-N-CA	9.12	144.50	121.70

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	389	ASP	Mainchain
1	C	389	ASP	Mainchain

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	1236	0	1212	97	0
1	B	1216	0	1195	95	0
1	C	1216	0	1195	88	0
1	D	1236	0	1212	101	0
2	A	1	0	0	0	0
2	D	1	0	0	0	0
3	A	31	0	14	6	0
3	D	31	0	14	4	0
4	A	66	0	0	16	0
4	B	52	0	0	7	0
4	C	58	0	0	4	0
4	D	47	0	0	6	0
All	All	5191	0	4842	366	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 38.

The worst 5 of 366 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)
4:A:153:HOH:O	1:B:397:ALA:HB1	1.30	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:601:APC:H5'2	4:A:223:HOH:O	1.39	1.20
1:D:343:THR:HG23	1:D:348:PHE:HA	1.31	1.11
1:D:434:ALA:HB2	1:D:454:MET:CE	1.81	1.10
1:A:343:THR:HG23	1:A:348:PHE:HA	1.31	1.10

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	164/184 (89%)	151 (92%)	9 (6%)	4 (2%)	6	6
1	B	159/184 (86%)	148 (93%)	8 (5%)	3 (2%)	8	10
1	C	159/184 (86%)	148 (93%)	8 (5%)	3 (2%)	8	10
1	D	164/184 (89%)	150 (92%)	9 (6%)	5 (3%)	4	3
All	All	646/736 (88%)	597 (92%)	34 (5%)	15 (2%)	6	7

5 of 15 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	442	LYS
1	B	342	ASN
1	B	447	ARG
1	C	342	ASN
1	C	447	ARG

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	126/141 (89%)	110 (87%)	16 (13%)		4	5
1	B	124/141 (88%)	103 (83%)	21 (17%)		2	2
1	C	124/141 (88%)	102 (82%)	22 (18%)		2	2
1	D	126/141 (89%)	108 (86%)	18 (14%)		3	4
All	All	500/564 (89%)	423 (85%)	77 (15%)		2	3

5 of 77 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	447	ARG
1	D	425	ILE
1	D	295	LEU
1	D	341	VAL
1	D	452	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 7 such sidechains are listed below:

Mol	Chain	Res	Type
1	B	334	GLN
1	C	334	GLN
1	D	309	HIS
1	C	342	ASN
1	B	324	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 4 ligands modelled in this entry, 2 are monoatomic - leaving 2 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	APC	D	602	2	27,33,33	1.84	8 (29%)	31,52,52	2.69	15 (48%)
3	APC	A	601	2	27,33,33	1.84	8 (29%)	31,52,52	2.68	15 (48%)

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	APC	D	602	2	-	5/15/38/38	0/3/3/3
3	APC	A	601	2	-	5/15/38/38	0/3/3/3

The worst 5 of 16 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	601	APC	PB-O1B	4.04	1.61	1.51
3	D	602	APC	PB-O1B	4.03	1.61	1.51
3	D	602	APC	PA-O1A	3.94	1.61	1.51
3	A	601	APC	PA-O1A	3.89	1.60	1.51
3	A	601	APC	PG-O1G	3.43	1.61	1.50

The worst 5 of 30 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(º)	Ideal(º)
3	D	602	APC	C5'-C4'-C3'	-6.90	89.32	115.18
3	A	601	APC	C5'-C4'-C3'	-6.78	89.77	115.18
3	A	601	APC	N3-C2-N1	-5.79	119.62	128.68
3	D	602	APC	N3-C2-N1	-5.72	119.73	128.68
3	A	601	APC	O2'-C2'-C1'	4.39	127.07	110.85

There are no chirality outliers.
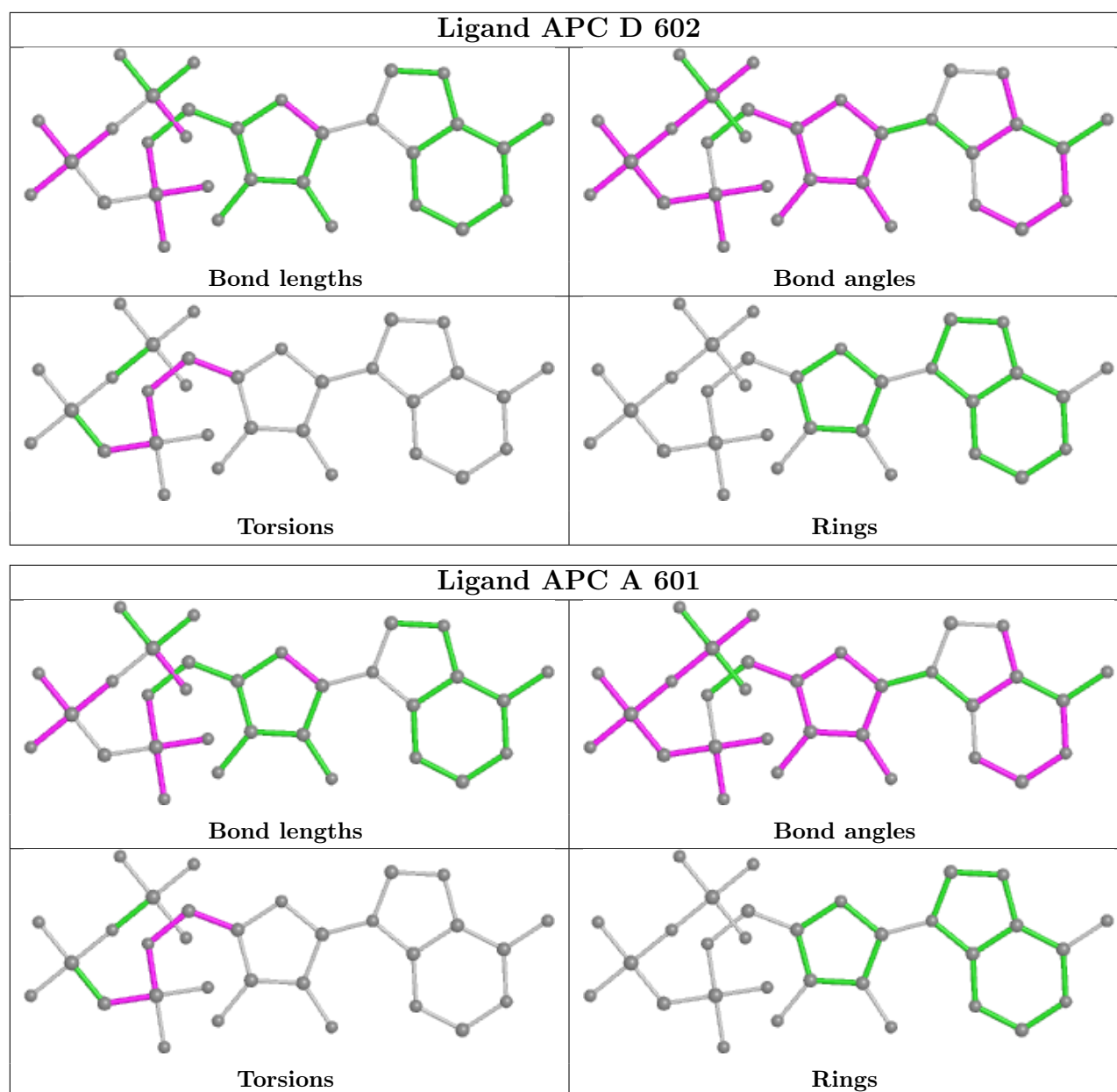
5 of 10 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	601	APC	PB-C3A-PA-O1A
3	A	601	APC	C5'-O5'-PA-O1A
3	A	601	APC	O4'-C4'-C5'-O5'
3	A	601	APC	C3'-C4'-C5'-O5'
3	D	602	APC	PB-C3A-PA-O1A

There are no ring outliers.

2 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	602	APC	4	0
3	A	601	APC	6	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.

Ligand APC D 602

Bond lengths

Bond angles

Torsions

Rings

Ligand APC A 601

Bond lengths

Bond angles

Torsions

Rings

5.7   Other polymers ⓘ

There are no such residues in this entry.

5.8   Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	B	1
1	C	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	389:ASP	C	390:ALA	N	1.12
1	C	389:ASP	C	390:ALA	N	1.12

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	164/184 (89%)	0.15	13 (7%)	12	11	11, 36, 88, 102	0
1	B	161/184 (87%)	-0.11	9 (5%)	24	23	14, 34, 78, 97	0
1	C	161/184 (87%)	-0.07	9 (5%)	24	23	14, 33, 79, 97	0
1	D	164/184 (89%)	0.14	15 (9%)	9	8	13, 35, 88, 101	0
All	All	650/736 (88%)	0.03	46 (7%)	16	14	11, 35, 86, 102	0

The worst 5 of 46 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	393	GLY	16.2
1	A	393	GLY	14.7
1	B	291	ALA	8.2
1	D	342	ASN	8.1
1	A	392	HIS	7.7

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

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates ⓘ
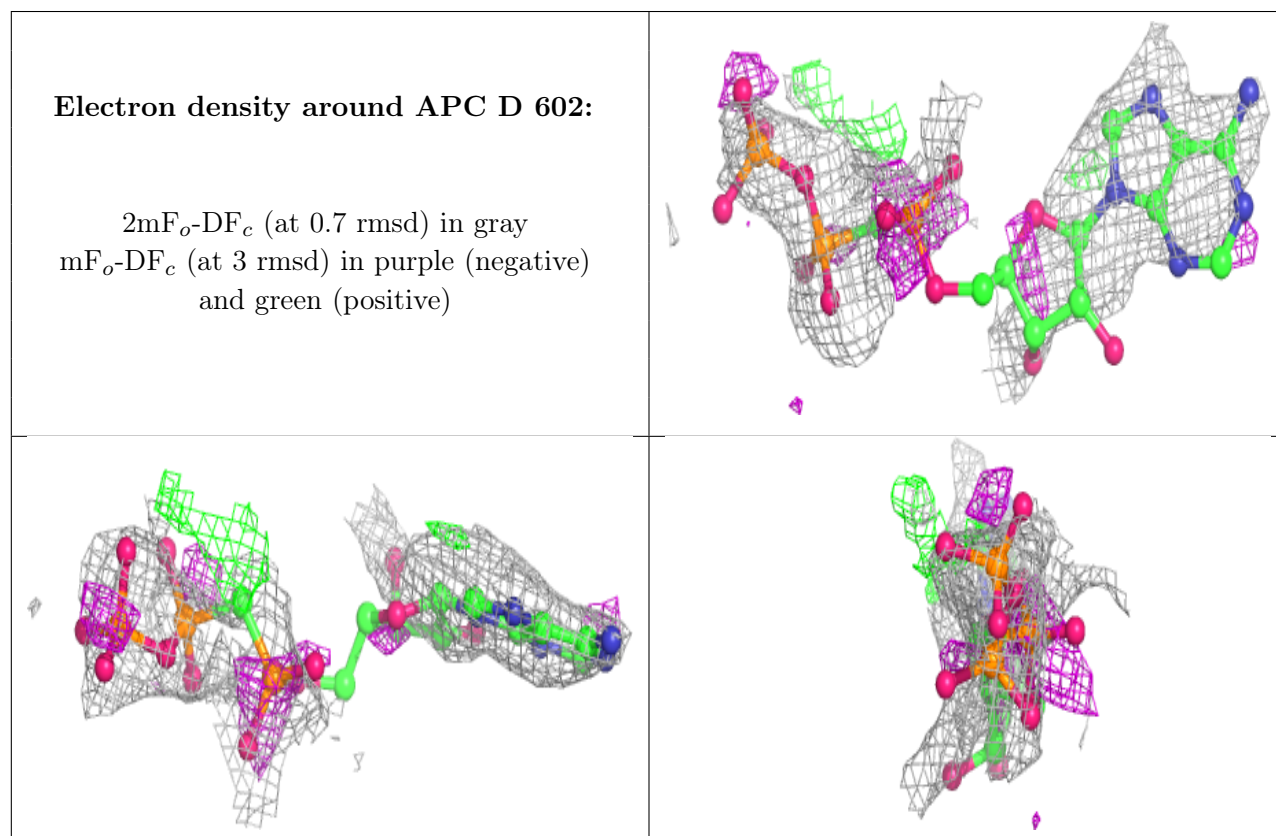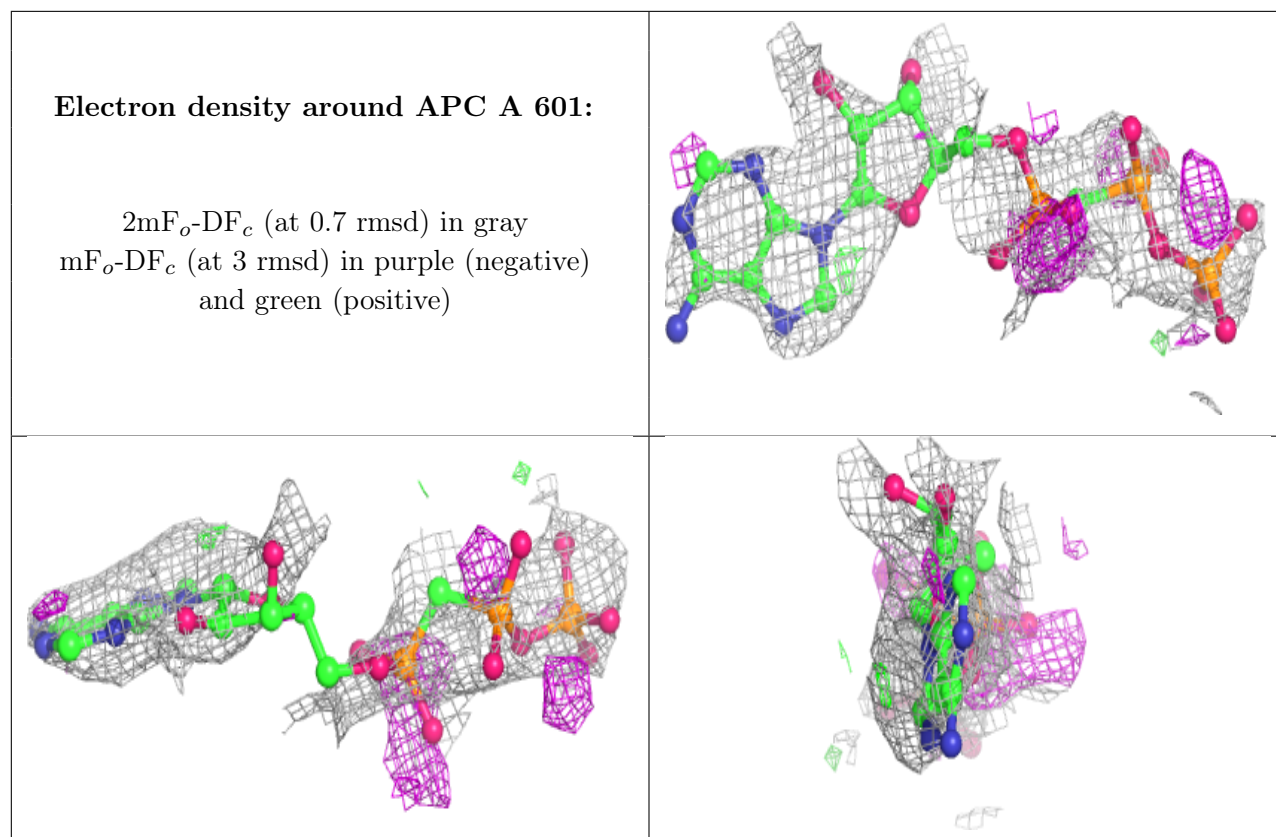
There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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	MN	A	501	1/1	0.59	0.16	109,109,109,109	0
3	APC	D	602	31/31	0.68	0.43	52,75,100,102	0
3	APC	A	601	31/31	0.70	0.40	55,74,100,102	0
2	MN	D	502	1/1	0.74	0.12	111,111,111,111	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 APC D 602:

$2\text{mF}_o\text{-DF}_c$ (at 0.7 rmsd) in gray
$\text{mF}_o\text{-DF}_c$ (at 3 rmsd) in purple (negative) and green (positive)

Electron density around APC A 601:

$2mF_o$-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 ⓘ

There are no such residues in this entry.