Full wwPDB X-ray Structure Validation Report ⓘ

Jan 29, 2024 – 04:19 PM EST

PDB ID	:	8FSS
Title	:	Complex Structure of YejA-S481A with Microcin C7
Authors	:	Naik, S.K.; Dong, S.-H.
Deposited on	:	2023-01-11
Resolution	:	2.00 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 ⓘ 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 ⓘ) were used in the production of this report:

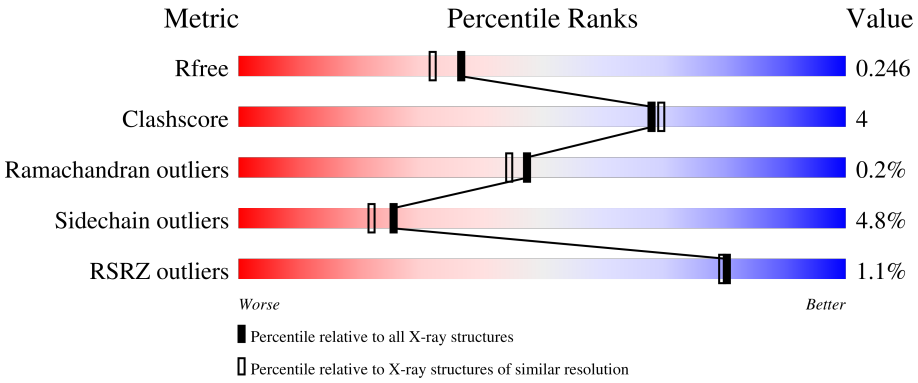
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 2.00 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}	130704	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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	586	% 88% 8%
2	B	7	86% 14%

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	7MO	B	101	-	-	-	X

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 5275 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 YejA.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	N	O	S	Se			
1	A	571	4677	3011	797	855	2	12	0	2	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MSE	-	initiating methionine	UNP P33913
A	481	ALA	SER	engineered mutation	UNP P33913

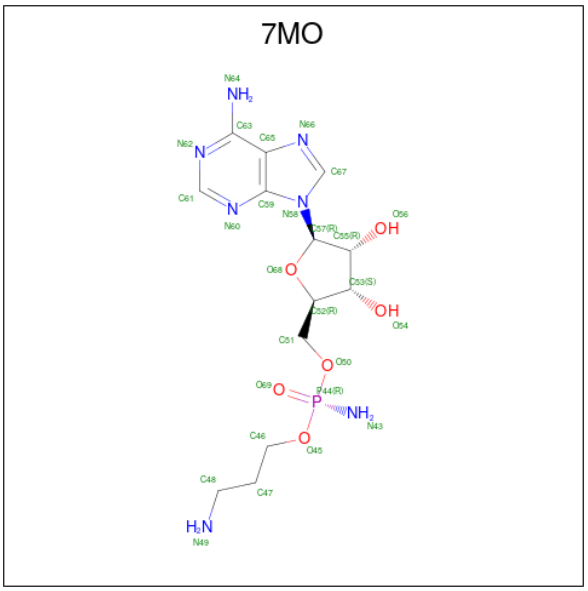
- Molecule 2 is a protein called Microcin C7 peptide portion.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	7	53	29	11	12	1	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	7	ASP	ASN	modified residue	UNP Q47505

- Molecule 3 is 5'-O-[(R)-amino(3-aminopropoxy)phosphoryl]adenosine (three-letter code: 7MO) (formula: $C_{13}H_{22}N_7O_6P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	B	1	Total C N O P 27 13 7 6 1	0	0

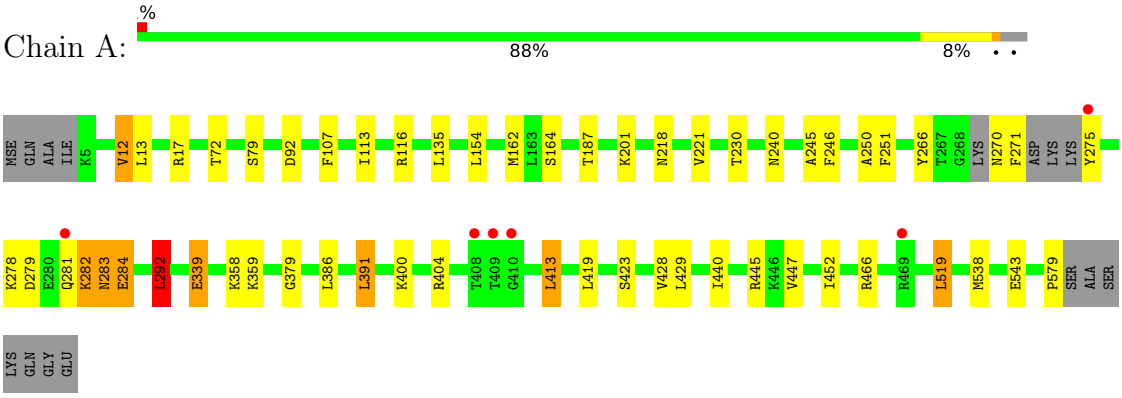
- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	510	Total O 510 510	0	0
4	B	8	Total O 8 8	0	0

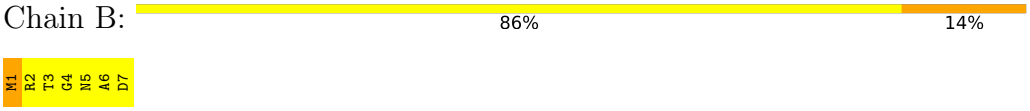
3 Residue-property plots (i)

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: YejA



- Molecule 2: Microcin C7 peptide portion



4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α, β, γ	90.09Å 102.83Å 144.38Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	76.55 – 2.00 76.43 – 2.00	Depositor EDS
% Data completeness (in resolution range)	98.8 (76.55-2.00) 98.8 (76.43-2.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.48 (at 2.00Å)	Xtriage
Refinement program	REFMAC 5.8	Depositor
R, R_{free}	0.219 , (Not available) 0.218 , 0.246	Depositor DCC
R_{free} test set	2243 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	24.0	Xtriage
Anisotropy	1.090	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 43.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.51$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	5275	wwPDB-VP
Average B, all atoms (Å^2)	29.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.21% 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: FME, 7MO

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	0.48	0/4811	0.59	3/6530 (0.0%)
2	B	4.07	11/42 (26.2%)	1.97	1/55 (1.8%)
All	All	0.61	11/4853 (0.2%)	0.62	4/6585 (0.1%)

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	6	ALA	C-N	10.22	1.57	1.34
2	B	2	ARG	NE-CZ	7.46	1.42	1.33
2	B	5	ASN	CG-ND2	7.32	1.51	1.32
2	B	2	ARG	CZ-NH1	-7.20	1.23	1.33
2	B	5	ASN	C-N	6.87	1.49	1.34
2	B	2	ARG	CZ-NH2	6.84	1.42	1.33
2	B	3	THR	N-CA	-6.29	1.33	1.46
2	B	4	GLY	CA-C	5.99	1.61	1.51
2	B	4	GLY	C-N	5.85	1.47	1.34
2	B	3	THR	C-N	5.44	1.42	1.33
2	B	5	ASN	CB-CG	5.13	1.62	1.51

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	391	LEU	CA-CB-CG	5.66	128.32	115.30
1	A	519	LEU	CA-CB-CG	5.63	128.25	115.30
2	B	2	ARG	CG-CD-NE	-5.51	100.22	111.80
1	A	292	LEU	CA-CB-CG	5.16	127.16	115.30

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	4677	0	4523	29	0
2	B	53	0	48	1	0
3	B	27	0	0	6	0
4	A	510	0	0	13	2
4	B	8	0	0	2	0
All	All	5275	0	4571	35	2

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 4.

All (35) 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)
3:B:101:7MO:O68	3:B:101:7MO:C52	1.66	1.20
1:A:17:ARG:NH1	4:A:601:HOH:O	2.01	0.91
3:B:101:7MO:O68	4:B:201:HOH:O	1.94	0.84
2:B:1:FME:HCN	4:B:207:HOH:O	1.77	0.83
1:A:271:PHE:O	4:A:602:HOH:O	2.02	0.77
1:A:270:ASN:N	4:A:606:HOH:O	2.19	0.73
1:A:358:LYS:O	4:A:603:HOH:O	2.06	0.73
1:A:579:PRO:O	4:A:604:HOH:O	2.07	0.72
1:A:413:LEU:HD13	1:A:440:ILE:HG12	1.78	0.66
1:A:281:GLN:O	1:A:282:LYS:HB2	1.97	0.64
1:A:275:TYR:N	4:A:611:HOH:O	2.30	0.63
1:A:447:VAL:HG23	1:A:452:ILE:HG12	1.80	0.63
1:A:116:ARG:HG3	4:A:667:HOH:O	1.99	0.62
3:B:101:7MO:C67	3:B:101:7MO:C51	2.83	0.56
1:A:419:LEU:HD11	1:A:428:VAL:HG21	1.91	0.53
1:A:359:LYS:HG2	4:A:790:HOH:O	2.08	0.52
1:A:12:VAL:HG22	1:A:13:LEU:HD13	1.95	0.48
1:A:72:THR:HA	1:A:79:SER:O	2.13	0.47
1:A:284:GLU:H	1:A:284:GLU:HG2	1.52	0.47
1:A:339:GLU:HG3	4:A:981:HOH:O	2.13	0.47
1:A:107:PHE:CE2	1:A:113:ILE:HG12	2.52	0.45
1:A:379:GLY:HA2	4:A:614:HOH:O	2.16	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:266:TYR:CG	1:A:278:LYS:HE3	2.52	0.45
1:A:292:LEU:HD13	1:A:538:MSE:SE	2.67	0.45
1:A:270:ASN:ND2	4:A:605:HOH:O	2.12	0.44
1:A:279:ASP:OD2	4:A:607:HOH:O	2.21	0.44
1:A:154:LEU:HG	1:A:162:MSE:HE2	2.00	0.44
1:A:466:ARG:HA	3:B:101:7MO:C48	2.49	0.42
1:A:282:LYS:HD2	1:A:543:GLU:HG3	2.01	0.42
3:B:101:7MO:C67	3:B:101:7MO:O50	2.68	0.41
1:A:246:PHE:HB2	1:A:251:PHE:CZ	2.55	0.41
3:B:101:7MO:C52	3:B:101:7MO:N58	2.75	0.41
1:A:245:ALA:HB1	1:A:250:ALA:HB3	2.02	0.41
1:A:283:ASN:OD1	1:A:283:ASN:N	2.54	0.40
1:A:275:TYR:HB2	4:A:611:HOH:O	2.20	0.40

All (2) 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)
4:A:927:HOH:O	4:A:1026:HOH:O[4_556]	1.99	0.21
4:A:831:HOH:O	4:A:1050:HOH:O[6_654]	2.08	0.12

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	567/586 (97%)	550 (97%)	16 (3%)	1 (0%)	47 44
2	B	5/7 (71%)	5 (100%)	0	0	100 100
All	All	572/593 (96%)	555 (97%)	16 (3%)	1 (0%)	47 44

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	282	LYS

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	493/491 (100%)	470 (95%)	23 (5%)	26 22
2	B	4/4 (100%)	3 (75%)	1 (25%)	0 0
All	All	497/495 (100%)	473 (95%)	24 (5%)	25 22

All (24) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	12	VAL
1	A	92	ASP
1	A	135	LEU
1	A	164	SER
1	A	187	THR
1	A	201	LYS
1	A	218	ASN
1	A	221	VAL
1	A	230	THR
1	A	240	ASN
1	A	283	ASN
1	A	284	GLU
1	A	292	LEU
1	A	339	GLU
1	A	386	LEU
1	A	391	LEU
1	A	400	LYS
1	A	404	ARG
1	A	413	LEU
1	A	423	SER
1	A	429	LEU
1	A	445	ARG
1	A	519	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	7	ASP

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

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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	$\#\|Z\| > 2$
2	FME	B	1	2	8,9,10	3.16	4 (50%)	7,9,11	1.48	1 (14%)

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	FME	B	1	2	-	2/7/9/11	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1	FME	CA-N	-6.04	1.37	1.46
2	B	1	FME	CB-CA	4.78	1.61	1.53
2	B	1	FME	CN-N	3.08	1.43	1.33
2	B	1	FME	O1-CN	-2.27	1.15	1.22

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	1	FME	CE-SD-CG	2.69	109.65	100.40

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	1	FME	C-CA-CB-CG
2	B	1	FME	N-CA-CB-CG

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	1	FME	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	7MO	B	101	2	25,29,29	4.04	14 (56%)	28,42,42	3.87	13 (46%)

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	7MO	B	101	2	-	3/10/32/32	0/3/3/3

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	101	7MO	O68-C52	9.77	1.66	1.45
3	B	101	7MO	O68-C57	-9.55	1.27	1.41
3	B	101	7MO	C53-C52	-8.85	1.30	1.53
3	B	101	7MO	C63-N64	4.67	1.51	1.34
3	B	101	7MO	C51-C52	4.30	1.65	1.51
3	B	101	7MO	C55-C57	-4.20	1.47	1.53
3	B	101	7MO	P44-O50	4.10	1.73	1.57
3	B	101	7MO	O50-C51	4.00	1.60	1.44
3	B	101	7MO	C61-N60	3.12	1.37	1.32
3	B	101	7MO	O56-C55	-2.62	1.36	1.43
3	B	101	7MO	P44-O69	2.53	1.50	1.46
3	B	101	7MO	C55-C53	2.45	1.60	1.53
3	B	101	7MO	P44-O45	2.37	1.66	1.57
3	B	101	7MO	O54-C53	2.23	1.48	1.43

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	101	7MO	C57-N58-C59	-14.67	100.86	126.64
3	B	101	7MO	O50-P44-N43	7.37	131.77	107.13
3	B	101	7MO	C59-C65-N66	-5.97	103.18	109.40
3	B	101	7MO	O50-C51-C52	4.60	124.81	108.99
3	B	101	7MO	N60-C61-N62	-4.26	122.02	128.68
3	B	101	7MO	P44-O50-C51	-4.01	109.27	120.57
3	B	101	7MO	O68-C52-C51	3.76	121.74	109.37
3	B	101	7MO	O50-P44-O69	-3.03	105.67	115.61
3	B	101	7MO	C55-C53-C52	2.55	107.60	102.64
3	B	101	7MO	O68-C52-C53	-2.48	100.20	105.11
3	B	101	7MO	P44-O45-C46	2.31	127.05	120.71
3	B	101	7MO	O56-C55-C57	-2.28	102.44	110.85
3	B	101	7MO	C51-C52-C53	-2.27	106.68	115.18

There are no chirality outliers.

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	B	101	7MO	C46-O45-P44-O69

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
3	B	101	7MO	C46-O45-P44-O50
3	B	101	7MO	O45-C46-C47-C48

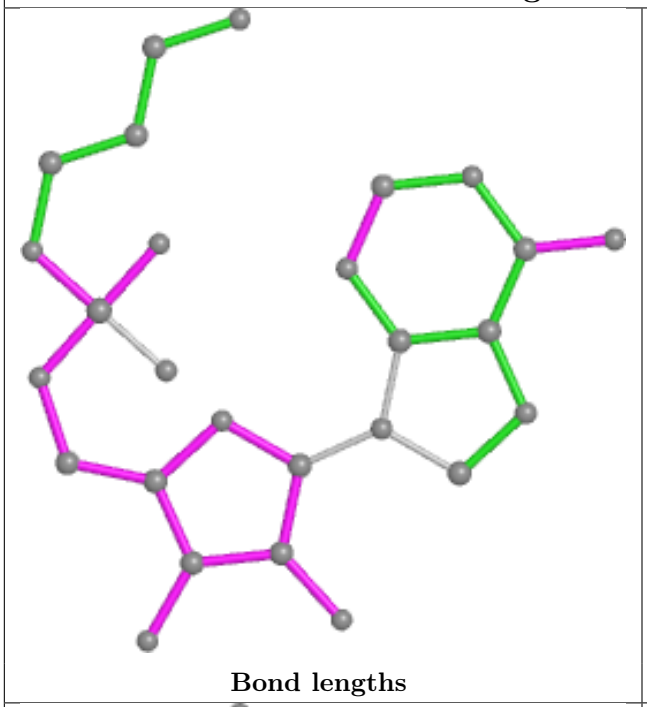
There are no ring outliers.

1 monomer is involved in 6 short contacts:

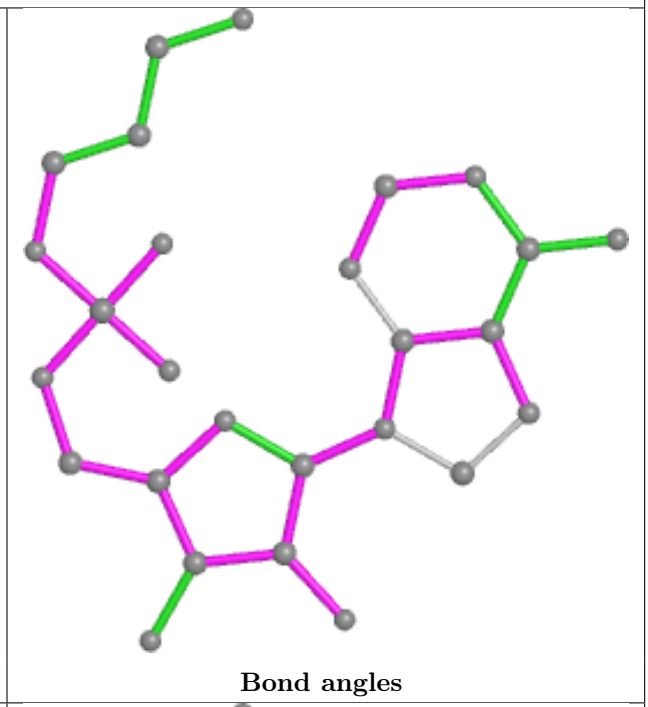
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	101	7MO	6	0

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.

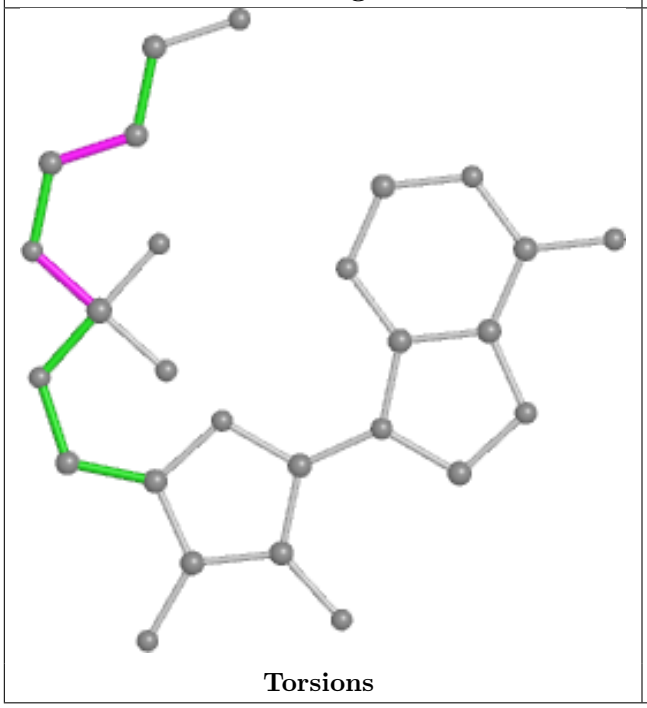
Ligand 7MO B 101



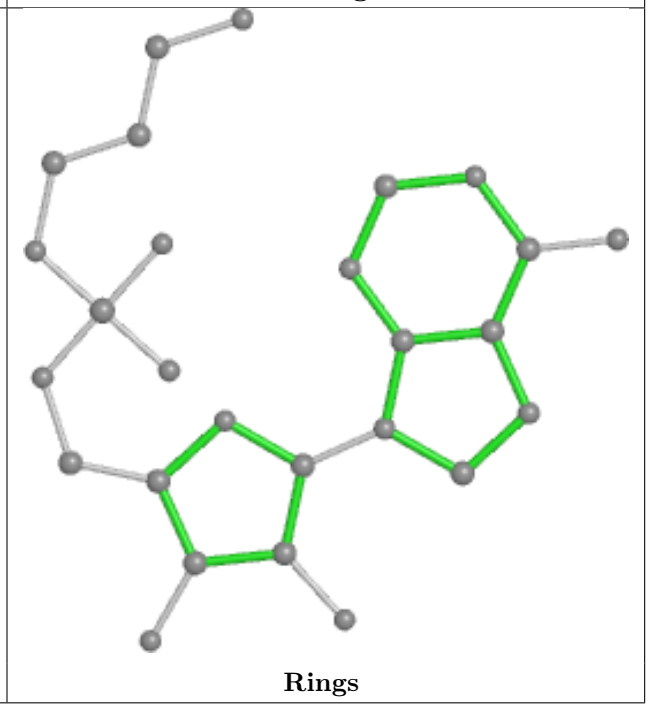
Bond lengths



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, 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	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	559/586 (95%)	0.17	6 (1%) 80 79	18, 26, 42, 62	0
2	B	6/7 (85%)	0.26	0 100 100	25, 27, 33, 44	0
All	All	565/593 (95%)	0.17	6 (1%) 80 79	18, 26, 42, 62	0

All (6) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	275	TYR	2.7
1	A	281	GLN	2.6
1	A	408	THR	2.3
1	A	469	ARG	2.2
1	A	409	THR	2.1
1	A	410	GLY	2.1

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, 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	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	FME	B	1	10/11	0.88	0.16	23,32,37,45	0

6.3 Carbohydrates

There are no monosaccharides in this entry.

6.4 Ligands (i)

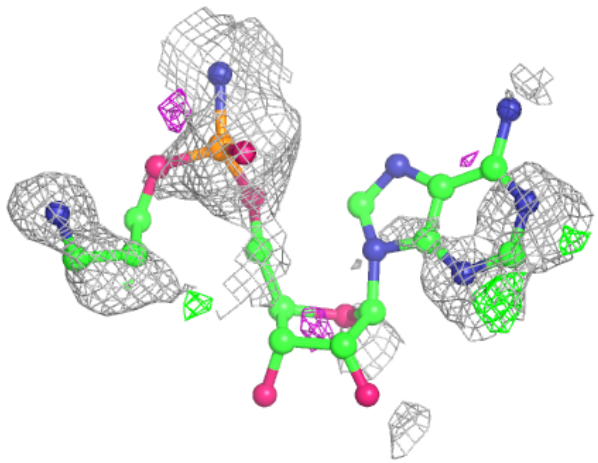
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

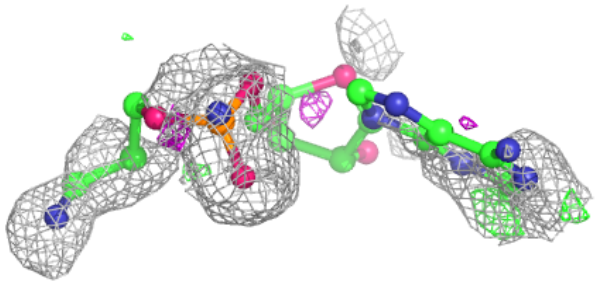
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	7MO	B	101	27/27	0.53	0.52	50,115,150,153	0

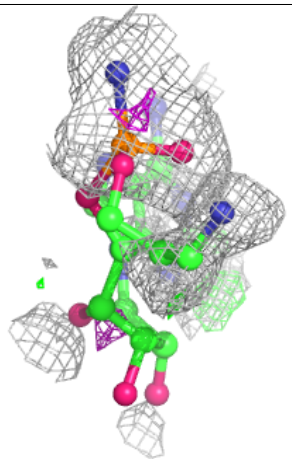
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around 7MO B 101:

$2mF_o$-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.