Full wwPDB X-ray Structure Validation Report (i)

Sep 24, 2023 – 09:01 AM EDT

PDB ID	:	5TZY
Title	:	GPR40 in complex with AgoPAM AP8 and partial agonist MK-8666
Authors	:	Lu, J.; Byrne, N.; Patel, S.; Sharma, S.; Soisson, S.M.
Deposited on	:	2016-11-22
Resolution	:	3.22 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 types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

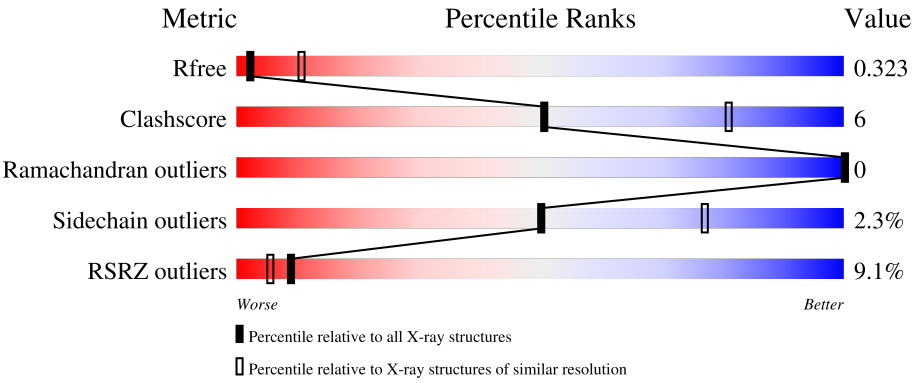
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

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 3.22 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	1335 (3.24-3.20)
Clashscore	141614	1460 (3.24-3.20)
Ramachandran outliers	138981	1437 (3.24-3.20)
Sidechain outliers	138945	1436 (3.24-3.20)
RSRZ outliers	127900	1291 (3.24-3.20)

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 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	491	8% 73% 12% 15%

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
2	OLC	A	2401	-	-	-	X

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 3017 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 Free fatty acid receptor 1,Endolysin,Free fatty acid receptor 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	418	Total	C	N	O	S	0	0	0
			2923	1904	490	518	11			

There are 40 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-12	MET	-	initiating methionine	UNP O14842
A	-11	ASP	-	expression tag	UNP O14842
A	-10	TYR	-	expression tag	UNP O14842
A	-9	LYS	-	expression tag	UNP O14842
A	-8	ASP	-	expression tag	UNP O14842
A	-7	ASP	-	expression tag	UNP O14842
A	-6	ASP	-	expression tag	UNP O14842
A	-5	ASP	-	expression tag	UNP O14842
A	-4	LYS	-	expression tag	UNP O14842
A	-3	GLY	-	expression tag	UNP O14842
A	-2	SER	-	expression tag	UNP O14842
A	-1	ALA	-	expression tag	UNP O14842
A	0	THR	-	expression tag	UNP O14842
A	42	ALA	LEU	engineered mutation	UNP O14842
A	103	ALA	GLY	engineered mutation	UNP O14842
A	202	PHE	TYR	engineered mutation	UNP O14842
A	900	GLY	-	linker	UNP O14842
A	901	SER	-	linker	UNP O14842
A	1012	GLY	ARG	engineered mutation	UNP P00720
A	1054	THR	CYS	engineered mutation	UNP P00720
A	1097	ALA	CYS	engineered mutation	UNP P00720
A	1137	ARG	ILE	engineered mutation	UNP P00720
A	1162	GLY	-	linker	UNP P00720
A	2213	SER	-	linker	UNP P00720
A	2301	ALA	-	expression tag	UNP O14842
A	2302	GLU	-	expression tag	UNP O14842
A	2303	ASN	-	expression tag	UNP O14842

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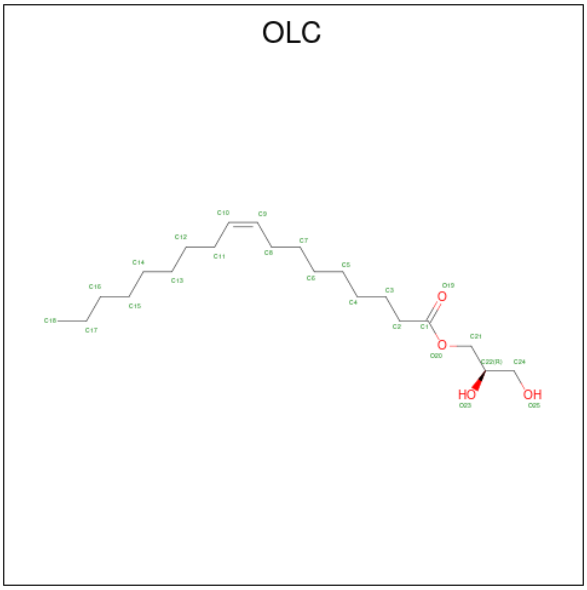
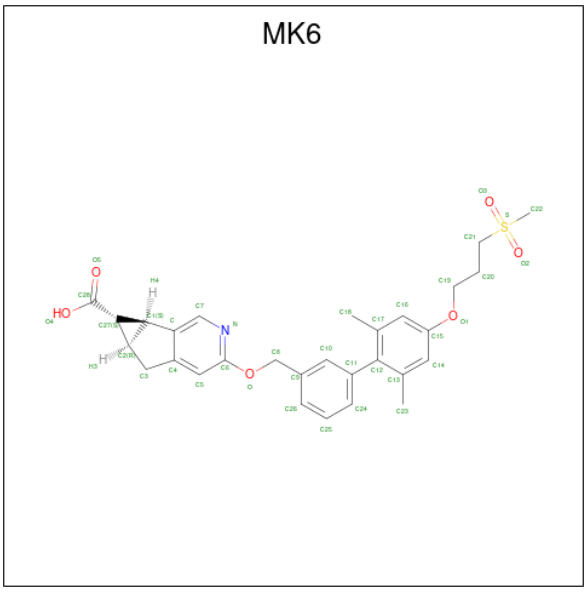
Chain	Residue	Modelled	Actual	Comment	Reference
A	2304	LEU	-	expression tag	UNP O14842
A	2305	TYR	-	expression tag	UNP O14842
A	2306	PHE	-	expression tag	UNP O14842
A	2307	GLN	-	expression tag	UNP O14842
A	2308	GLY	-	expression tag	UNP O14842
A	2309	HIS	-	expression tag	UNP O14842
A	2310	HIS	-	expression tag	UNP O14842
A	2311	HIS	-	expression tag	UNP O14842
A	2312	HIS	-	expression tag	UNP O14842
A	2313	HIS	-	expression tag	UNP O14842
A	2314	HIS	-	expression tag	UNP O14842
A	2315	HIS	-	expression tag	UNP O14842
A	2316	HIS	-	expression tag	UNP O14842

- Molecule 2 is (2R)-2,3-dihydroxypropyl (9Z)-octadec-9-enoate (three-letter code: OLC) (formula: $C_{21}H_{40}O_4$).



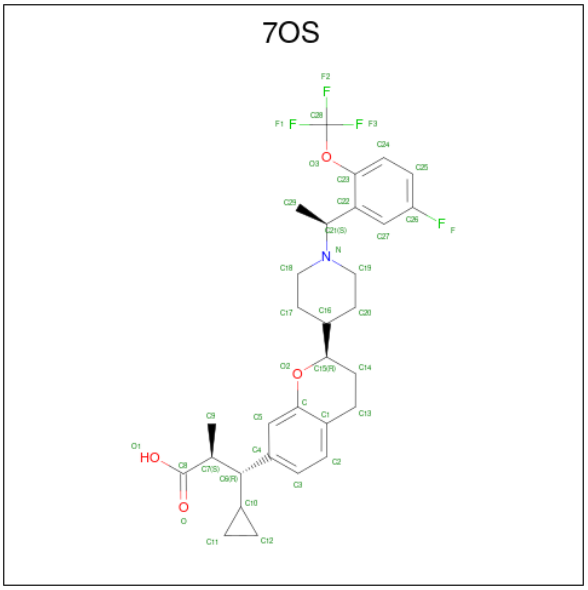
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			18	14	4		

- Molecule 3 is (5aR,6S,6aS)-3-({2',6'-dimethyl-4'-[3-(methylsulfonyl)propoxy][1,1'-biphenyl]-3-yl}methoxy)-5,5a,6,6a-tetrahydrocyclopropa[4,5]cyclopenta[1,2-c]pyridine-6-carboxylic acid (three-letter code: MK6) (formula: $C_{29}H_{31}NO_6S$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	S		
3	A	1	37	29	1	6	1	0	0

- Molecule 4 is (2S,3R)-3-cyclopropyl-3-[(2R)-2-(1-{(1S)-1-[5-fluoro-2-(trifluoromethoxy) phenyl]ethyl}piperidin-4-yl)-3,4-dihydro-2H-1-benzopyran-7-yl]-2-methylpropanoic acid (three-letter code: 7OS) (formula: $C_{30}H_{35}F_4NO_4$).

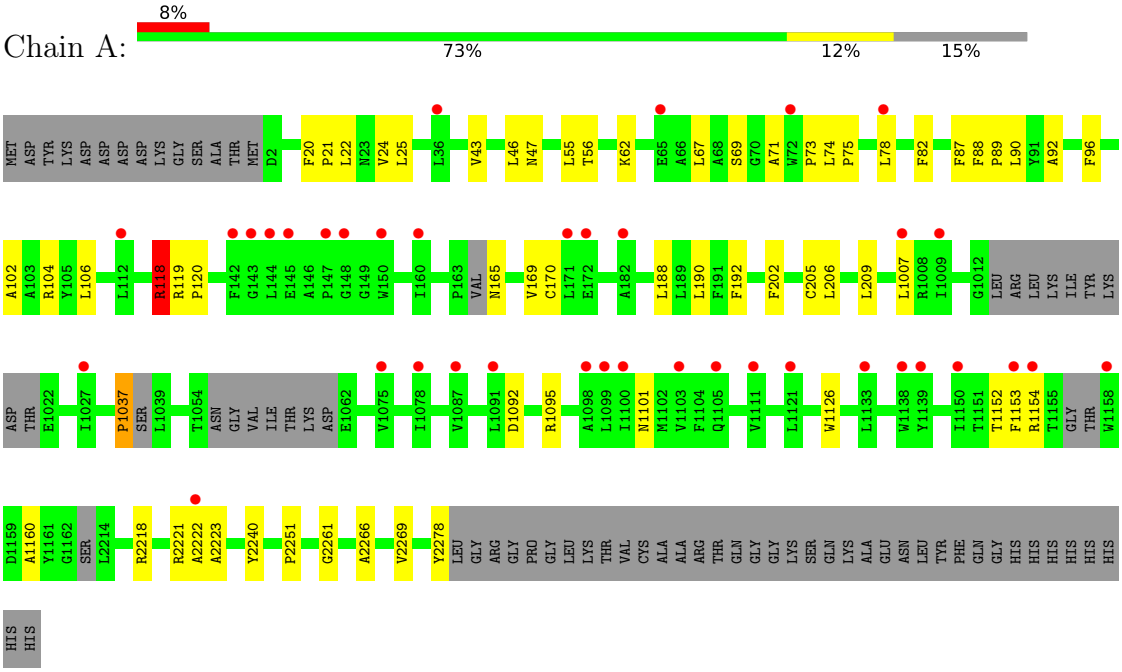


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	F	N	O		
4	A	1	39	30	4	1	4	0	0

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: Free fatty acid receptor 1,Endolysin,Free fatty acid receptor 1



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	53.88Å 63.95Å 90.96Å 90.00° 90.52° 90.00°	Depositor
Resolution (Å)	90.96 – 3.22 90.96 – 3.22	Depositor EDS
% Data completeness (in resolution range)	93.3 (90.96-3.22) 93.3 (90.96-3.22)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.02 (at 3.19Å)	Xtriage
Refinement program	BUSTER 2.11.6	Depositor
R, R_{free}	0.269 , 0.287 0.290 , 0.323	Depositor DCC
R_{free} test set	485 reflections (5.11%)	wwPDB-VP
Wilson B-factor (Å^2)	115.6	Xtriage
Anisotropy	0.296	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 179.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.062 for h,-k,-l	Xtriage
F_o,F_c correlation	0.89	EDS
Total number of atoms	3017	wwPDB-VP
Average B, all atoms (Å^2)	154.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.17% 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: MK6, 7OS, OLC

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	0.61	3/2993 (0.1%)	0.73	3/4110 (0.1%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1037	PRO	N-CD	14.21	1.67	1.47
1	A	2251	PRO	N-CD	13.04	1.66	1.47
1	A	120	PRO	N-CD	-6.48	1.38	1.47

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	118	ARG	CB-CA-C	-10.39	89.61	110.40
1	A	73	PRO	CB-CA-C	-6.82	94.96	112.00
1	A	119	ARG	N-CA-CB	-5.96	99.88	110.60

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	2923	0	2757	33	0
2	A	18	0	23	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	A	37	0	0	0	0
4	A	39	0	0	1	0
All	All	3017	0	2780	33	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 6.

All (33) 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:1037:PRO:N	1:A:1037:PRO:CD	1.67	1.34
1:A:118:ARG:O	1:A:118:ARG:CG	2.04	1.01
1:A:118:ARG:O	1:A:118:ARG:HG3	1.20	0.99
1:A:102:ALA:O	1:A:106:LEU:HD13	1.78	0.83
1:A:55:LEU:HD23	1:A:2269:VAL:HG13	1.68	0.75
1:A:20:PHE:O	1:A:24:VAL:HG23	1.93	0.69
1:A:20:PHE:N	1:A:56:THR:HG21	2.10	0.65
1:A:20:PHE:HB3	1:A:21:PRO:HD3	1.79	0.64
1:A:1126:TRP:HB3	1:A:1154:ARG:HA	1.84	0.58
1:A:190:LEU:HA	4:A:2403:7OS:C24	2.34	0.57
1:A:1092:ASP:HB2	1:A:1095:ARG:H	1.68	0.57
1:A:2218:ARG:HA	1:A:2221:ARG:HG2	1.88	0.55
1:A:2266:ALA:O	1:A:2269:VAL:HG22	2.10	0.52
1:A:102:ALA:O	1:A:106:LEU:CD1	2.53	0.51
1:A:74:LEU:HB3	1:A:75:PRO:HD2	1.92	0.51
1:A:206:LEU:HA	1:A:209:LEU:HD12	1.93	0.51
1:A:62:LYS:HD3	1:A:82:PHE:HZ	1.80	0.46
1:A:92:ALA:HB1	1:A:96:PHE:HE2	1.80	0.46
1:A:1092:ASP:HB2	1:A:1095:ARG:CB	2.46	0.46
1:A:67:LEU:C	1:A:69:SER:H	2.17	0.45
1:A:75:PRO:HG2	1:A:78:LEU:HD13	1.98	0.45
1:A:1152:THR:OG1	1:A:1160:ALA:HB3	2.17	0.44
1:A:202:PHE:O	1:A:206:LEU:HG	2.17	0.44
1:A:43:VAL:HG12	1:A:47:ASN:ND2	2.33	0.44
1:A:71:ALA:HA	1:A:169:VAL:HG22	2.00	0.43
1:A:188:LEU:HA	1:A:192:PHE:HD2	1.83	0.43
1:A:205:CYS:HB3	1:A:2223:ALA:HA	2.00	0.43
1:A:104:ARG:HD2	1:A:2222:ALA:HA	2.00	0.43
1:A:88:PHE:HB3	1:A:89:PRO:HD3	2.01	0.42
1:A:87:PHE:HA	1:A:90:LEU:HD12	2.02	0.42
1:A:2240:TYR:HB2	1:A:2261:GLY:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:22:LEU:HA	1:A:25:LEU:HD12	2.03	0.41
1:A:1007:LEU:HD21	1:A:1101:ASN:HA	2.03	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	404/491 (82%)	377 (93%)	27 (7%)	0	100 100

There are no Ramachandran outliers to report.

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	262/381 (69%)	256 (98%)	6 (2%)	50 77

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	46	LEU
1	A	118	ARG
1	A	165	ASN
1	A	170	CYS

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Mol	Chain	Res	Type
1	A	1153	PHE
1	A	2278	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	23	ASN
1	A	47	ASN
1	A	165	ASN
1	A	1105	GLN
1	A	2241	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

3 ligands 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	$\#\|Z\| > 2$
3	MK6	A	2402	-	41,41,41	0.43	0	52,61,61	0.85	3 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	OLC	A	2401	-	17,17,24	1.26	1 (5%)	18,18,25	0.95	1 (5%)
4	7OS	A	2403	-	43,43,43	0.72	1 (2%)	56,64,64	1.61	8 (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
3	MK6	A	2402	-	-	5/21/38/38	0/5/5/5
2	OLC	A	2401	-	-	7/17/17/24	-
4	7OS	A	2403	-	-	9/33/54/54	0/5/5/5

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	2401	OLC	O20-C1	4.98	1.47	1.33
4	A	2403	7OS	C21-N	2.29	1.54	1.48

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	2403	7OS	O2-C15-C14	7.74	118.62	110.22
4	A	2403	7OS	C17-C16-C15	4.93	119.41	111.88
3	A	2402	MK6	C8-O-C6	3.62	128.47	116.95
4	A	2403	7OS	C12-C10-C6	3.49	125.97	119.34
4	A	2403	7OS	C20-C16-C15	2.95	116.38	111.88
4	A	2403	7OS	C28-O3-C23	2.55	125.50	118.62
4	A	2403	7OS	C4-C6-C7	2.52	116.03	112.26
4	A	2403	7OS	C22-C21-N	2.42	116.16	110.89
3	A	2402	MK6	O5-C28-C27	-2.41	116.37	122.78
2	A	2401	OLC	O20-C1-C2	2.37	119.36	111.91
3	A	2402	MK6	C-C1-C2	-2.15	105.32	107.46
4	A	2403	7OS	C9-C7-C6	2.00	114.91	111.36

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	2402	MK6	C2-C27-C28-O5

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Mol	Chain	Res	Type	Atoms
3	A	2402	MK6	C1-C27-C28-O5
3	A	2402	MK6	C2-C27-C28-O4
3	A	2402	MK6	C1-C27-C28-O4
4	A	2403	7OS	F1-C28-O3-C23
4	A	2403	7OS	F2-C28-O3-C23
4	A	2403	7OS	N-C21-C22-C27
4	A	2403	7OS	F3-C28-O3-C23
2	A	2401	OLC	C1-C2-C3-C4
2	A	2401	OLC	C4-C5-C6-C7
2	A	2401	OLC	C5-C6-C7-C8
2	A	2401	OLC	C3-C4-C5-C6
4	A	2403	7OS	C10-C6-C7-C9
2	A	2401	OLC	O20-C21-C22-O23
3	A	2402	MK6	C19-C20-C21-S
4	A	2403	7OS	C29-C21-N-C18
4	A	2403	7OS	C4-C6-C7-C9
4	A	2403	7OS	C14-C15-C16-C17
2	A	2401	OLC	C6-C7-C8-C9
2	A	2401	OLC	C7-C8-C9-C10
4	A	2403	7OS	C4-C6-C7-C8

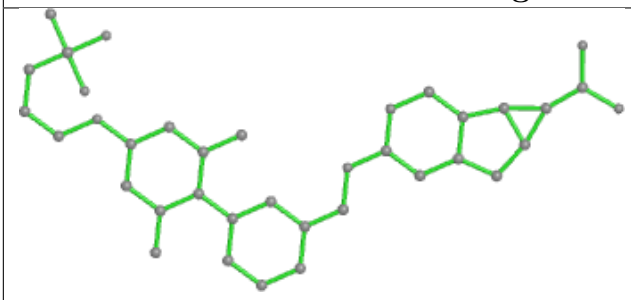
There are no ring outliers.

1 monomer is involved in 1 short contact:

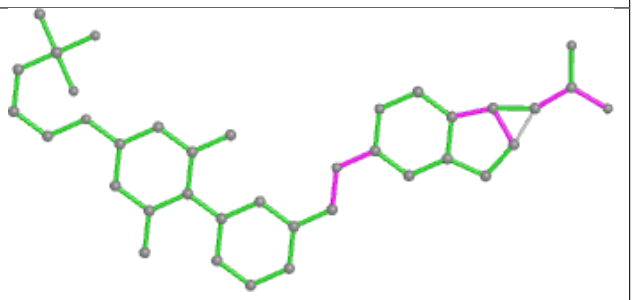
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	2403	7OS	1	0

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.

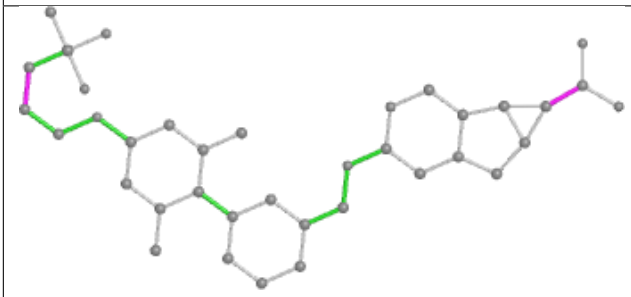
Ligand MK6 A 2402



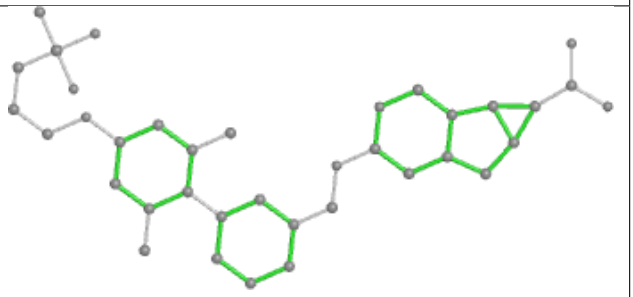
Bond lengths



Bond angles

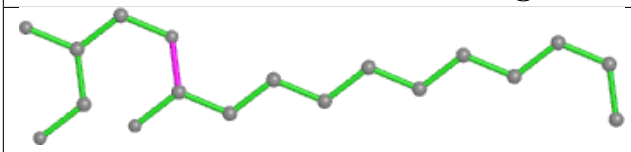


Torsions

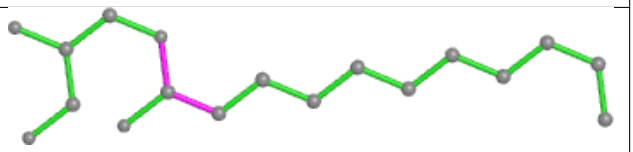


Rings

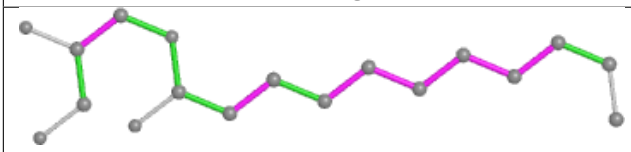
Ligand OLC A 2401



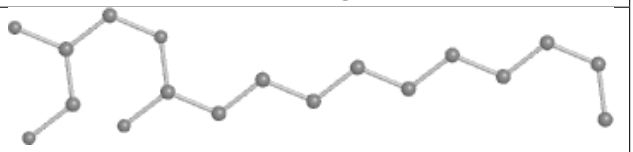
Bond lengths



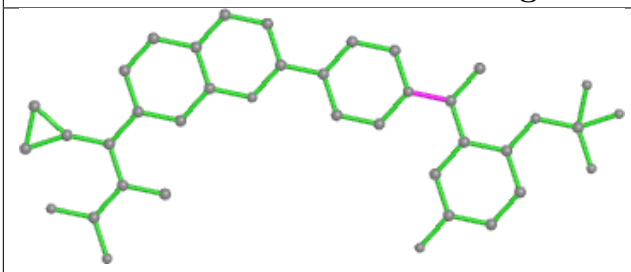
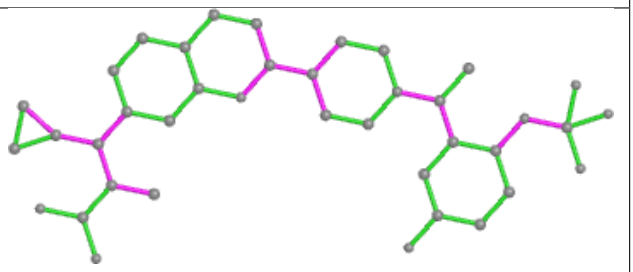
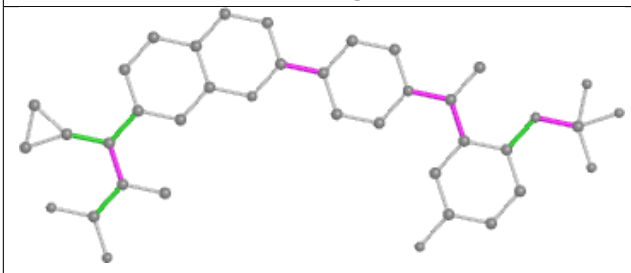
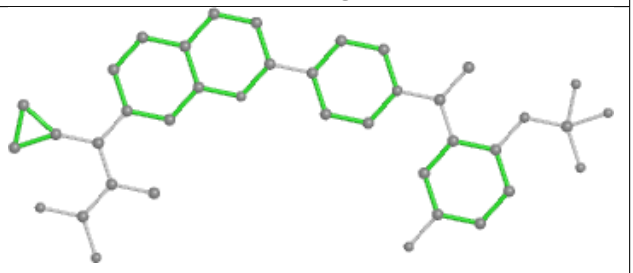
Bond angles



Torsions



Rings

Ligand 7OS A 2403	
 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

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	418/491 (85%)	0.50	38 (9%) 9 5	81, 154, 260, 288	0

All (38) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	171	LEU	4.8
1	A	142	PHE	3.7
1	A	36	LEU	3.4
1	A	1138	TRP	3.3
1	A	1099	LEU	3.3
1	A	1121	LEU	3.2
1	A	1105	GLN	3.1
1	A	1154	ARG	3.0
1	A	72	TRP	3.0
1	A	145	GLU	2.9
1	A	182	ALA	2.9
1	A	1103	VAL	2.8
1	A	1087	VAL	2.8
1	A	1133	LEU	2.8
1	A	1153	PHE	2.8
1	A	1098	ALA	2.7
1	A	1100	ILE	2.7
1	A	172	GLU	2.7
1	A	150	TRP	2.6
1	A	1007	LEU	2.5
1	A	147	PRO	2.5
1	A	65	GLU	2.4
1	A	1078	ILE	2.4
1	A	1139	TYR	2.4
1	A	2222	ALA	2.3
1	A	1091	LEU	2.3
1	A	1111	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	1027	ILE	2.2
1	A	143	GLY	2.2
1	A	1075	VAL	2.2
1	A	1158	TRP	2.2
1	A	144	LEU	2.1
1	A	1009	ILE	2.1
1	A	78	LEU	2.1
1	A	112	LEU	2.1
1	A	1150	ILE	2.1
1	A	160	ILE	2.1
1	A	148	GLY	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 monosaccharides in this entry.

6.4 Ligands (i)

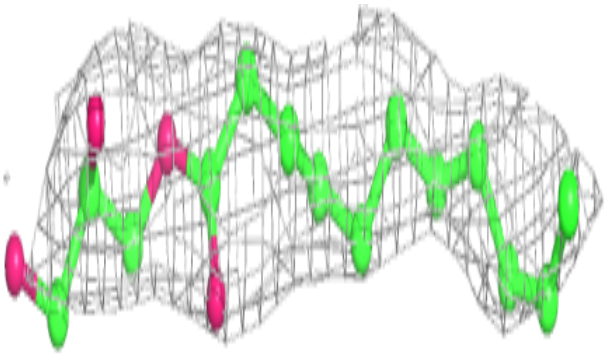
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

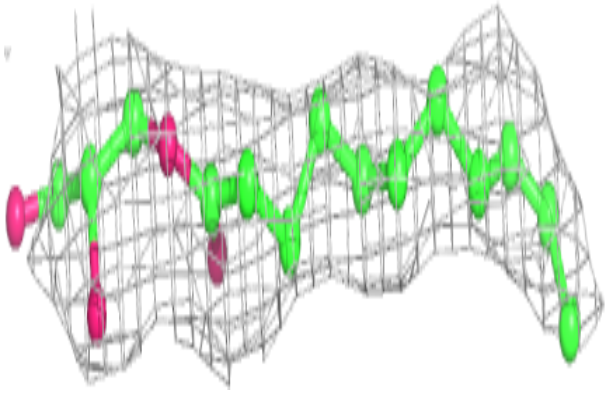
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	OLC	A	2401	18/25	0.69	0.49	123,123,123,123	0
3	MK6	A	2402	37/37	0.88	0.46	96,103,188,191	0
4	7OS	A	2403	39/39	0.93	0.37	90,97,109,112	0

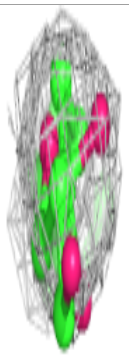
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around OLC A 2401:

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

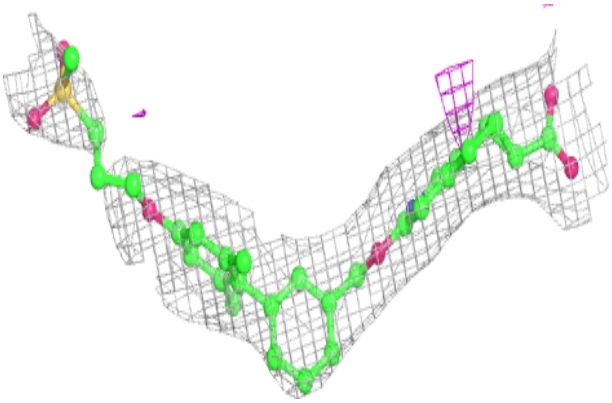


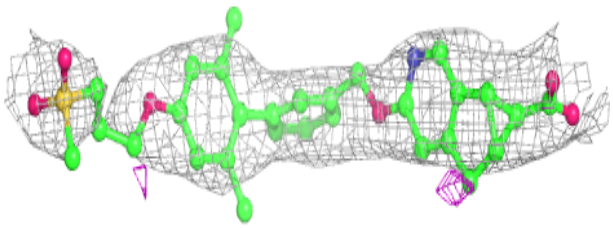


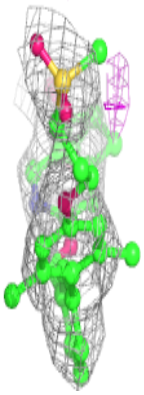


Electron density around MK6 A 2402:

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

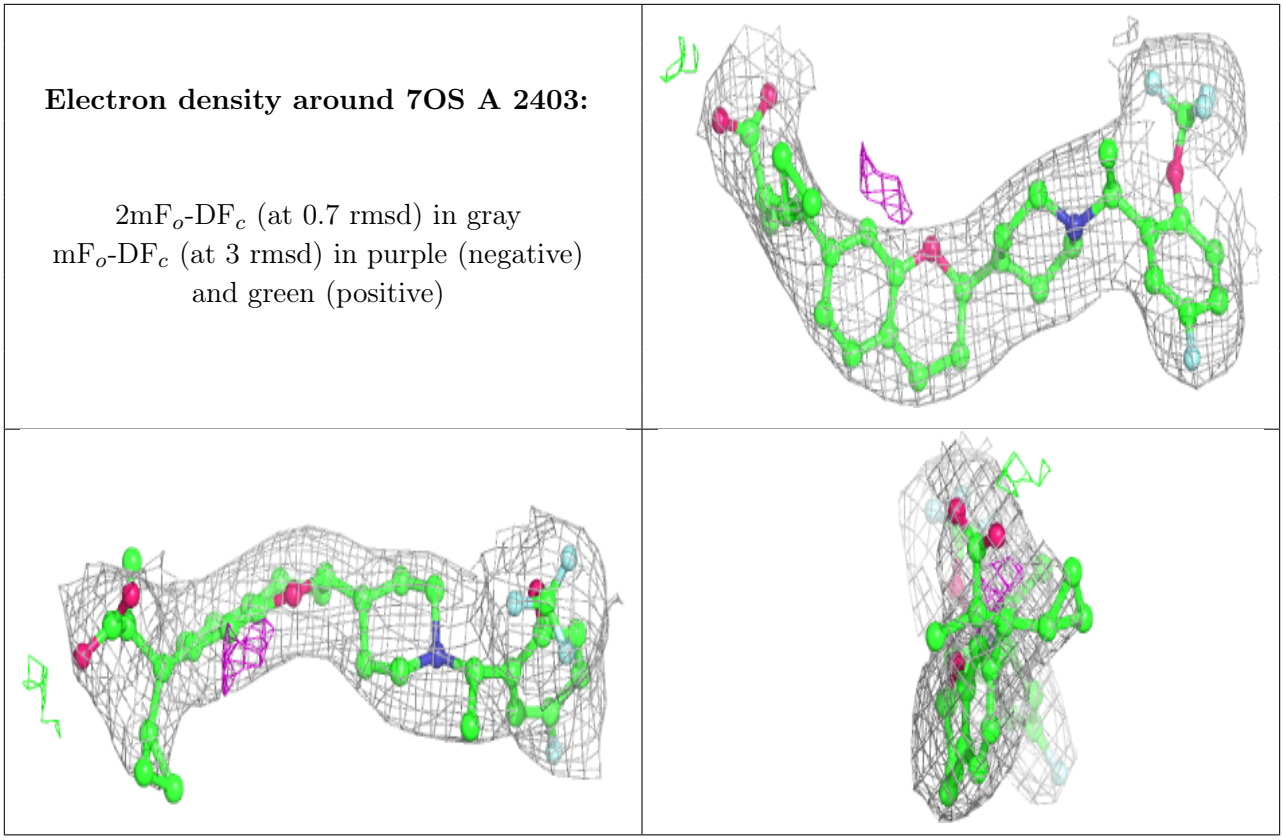






Electron density around 7OS A 2403:

$2mF_o$-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.