Full wwPDB X-ray Structure Validation Report (i)

Jun 23, 2024 – 12:02 AM EDT

PDB ID	:	5FUM
Title	:	Mus musculus acetylcholinesterase in complex with AL200
Authors	:	Knutsson, S.; Engdahl, C.; Ekstrom, F.; Linusson, A.
Deposited on	:	2016-01-28
Resolution	:	2.50 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:

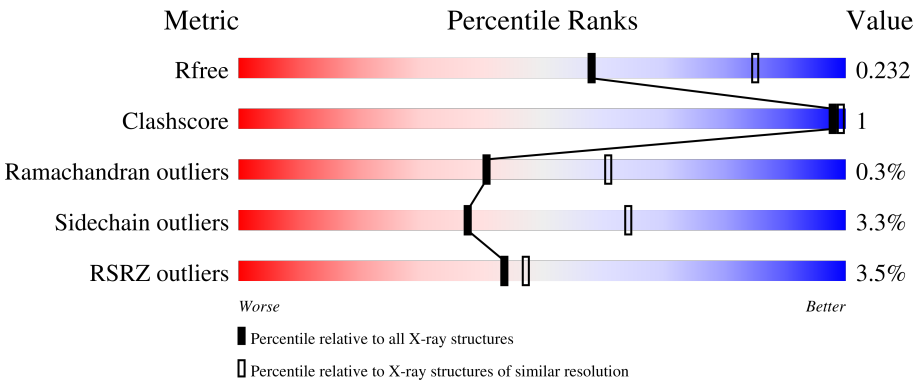
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

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 2.50 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	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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	548	4%, 94%, • •
1	B	548	3%, 92%, 5% •

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 16874 atoms, of which 8273 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.

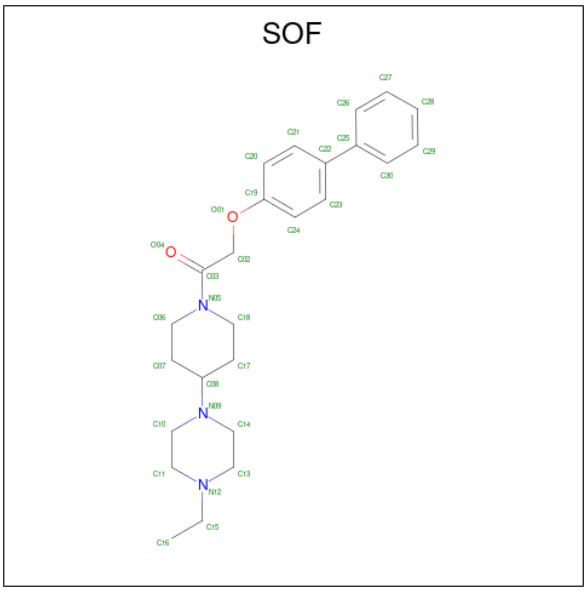
- Molecule 1 is a protein called ACETYLCHOLINESTERASE.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	H	N	O	S			
1	A	535	8261	2686	4073	728	760	14	0	2	0
1	B	533	8204	2672	4043	719	756	14	0	1	0

There are 10 discrepancies between the modelled and reference sequences:

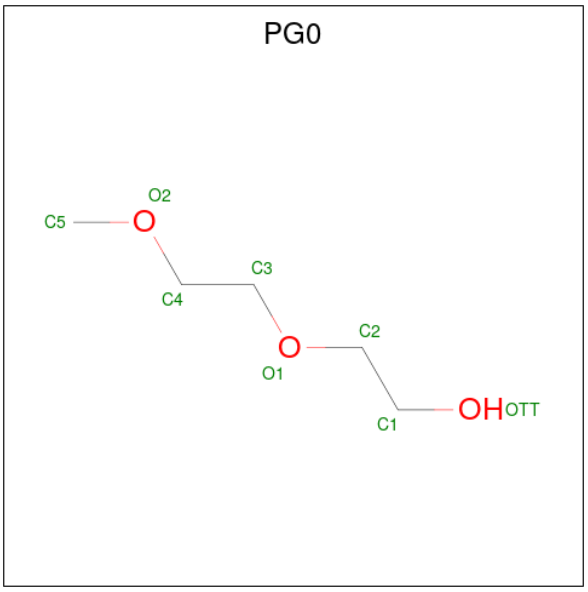
Chain	Residue	Modelled	Actual	Comment	Reference
A	544	ALA	-	expression tag	UNP P21836
A	545	THR	-	expression tag	UNP P21836
A	546	GLU	-	expression tag	UNP P21836
A	547	ALA	-	expression tag	UNP P21836
A	548	PRO	-	expression tag	UNP P21836
B	544	ALA	-	expression tag	UNP P21836
B	545	THR	-	expression tag	UNP P21836
B	546	GLU	-	expression tag	UNP P21836
B	547	ALA	-	expression tag	UNP P21836
B	548	PRO	-	expression tag	UNP P21836

- Molecule 2 is 2-(biphenyl-4-yloxy)-1-[4-(4-ethylpiperazin-1-yl)piperidin-1-yl]ethanone (three-letter code: SOF) (formula: $C_{25}H_{33}N_3O_2$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	H	N	O		
2	A	1	63	25	33	3	2	0	0
2	B	1	63	25	33	3	2	0	0

- Molecule 3 is 2-(2-METHOXYETHOXY)ETHANOL (three-letter code: PG0) (formula: $C_5H_{12}O_3$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
3	A	1	20	5	12	3	0	0

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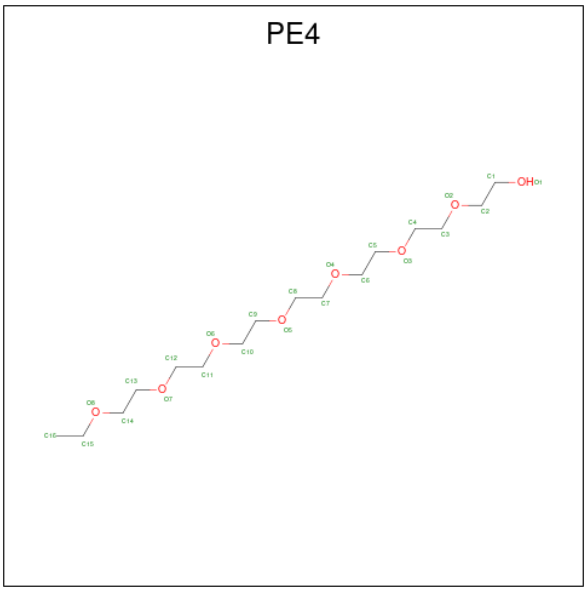
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
3	A	1	20	5	12	3	0	0
			Total	C	H	O		
3	B	1	20	5	12	3	0	0
			Total	C	H	O		
3	B	1	20	5	12	3	0	0
			Total	C	H	O		
3	B	1	20	5	12	3	0	0

- Molecule 4 is 2-{2-[2-(2-{2-[2-(2-ETHOXY-ETHOXY)-ETHOXY]-ETHOXY}-ETHOXY)-ETHOXY]-ETHOXY}-ETHANOL (three-letter code: PE4) (formula: $C_{16}H_{34}O_8$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
4	B	1	54	15	31	8	0	0

- Molecule 5 is water.

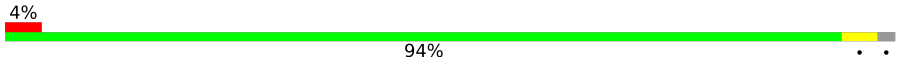
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
5	A	72	72	72	0	0
			Total	O		
5	B	57	57	57	0	0

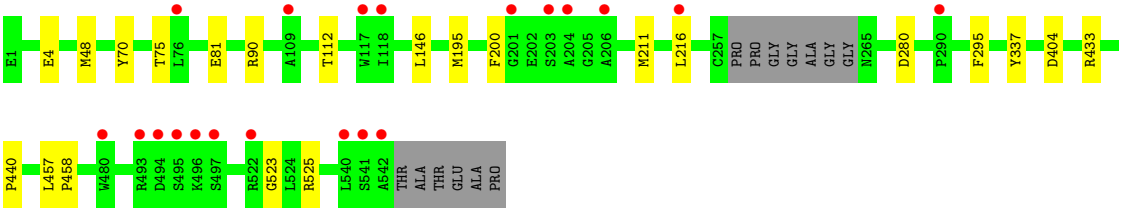
3 Residue-property plots (i)

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: ACETYLCHOLINESTERASE

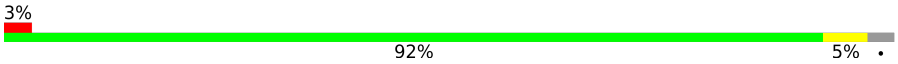
Chain A:

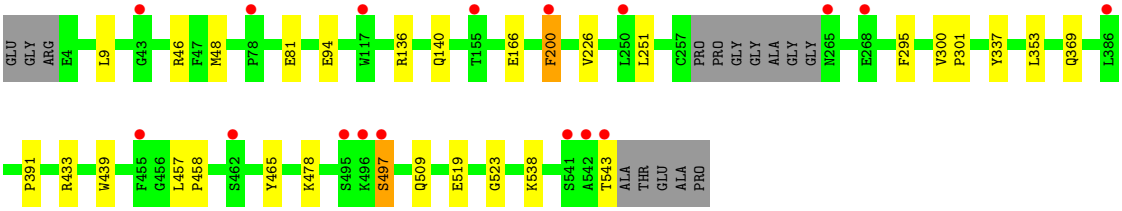




• Molecule 1: ACETYLCHOLINESTERASE

Chain B:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	78.66Å 110.76Å 227.57Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.08 – 2.50 29.08 – 2.50	Depositor EDS
% Data completeness (in resolution range)	99.2 (29.08-2.50) 84.2 (29.08-2.50)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.86 (at 2.51Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE: 1.9_1692)	Depositor
R, R_{free}	0.196 , 0.227 0.203 , 0.232	Depositor DCC
R_{free} test set	1393 reflections (2.01%)	wwPDB-VP
Wilson B-factor (Å^2)	42.7	Xtriage
Anisotropy	0.758	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 42.7	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	16874	wwPDB-VP
Average B, all atoms (Å^2)	67.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.94% 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 (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: PG0, SOF, PE4

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	0.24	0/4315	0.43	0/5895
1	B	0.24	0/4288	0.43	0/5862
All	All	0.24	0/8603	0.43	0/11757

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 (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	4188	4073	4072	4	0
1	B	4161	4043	4043	8	0
2	A	30	33	0	0	0
2	B	30	33	0	0	0
3	A	16	24	24	0	0
3	B	24	36	36	0	0
4	B	23	31	29	0	0
5	A	72	0	0	1	0
5	B	57	0	0	0	0
All	All	8601	8273	8204	12	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 1.

All (12) 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:404:ASP:OD1	1:A:525:ARG:NH1	2.36	0.58
1:A:433:ARG:NH2	1:A:440:PRO:O	2.49	0.46
1:B:457:LEU:N	1:B:458:PRO:CD	2.81	0.44
1:B:46:ARG:NH2	1:B:94:GLU:OE2	2.45	0.44
1:B:458:PRO:HA	1:B:465:TYR:CD2	2.54	0.43
1:B:48:MET:SD	1:B:166:GLU:HA	2.59	0.43
1:B:353:LEU:HB3	1:B:391:PRO:HB2	2.01	0.43
1:A:457:LEU:N	1:A:458:PRO:CD	2.82	0.42
1:A:90:ARG:NH2	5:A:2012:HOH:O	2.46	0.42
1:B:300:VAL:HB	1:B:301:PRO:HD2	2.02	0.42
1:B:200:PHE:CB	1:B:226:VAL:HB	2.49	0.41
1:B:433:ARG:NH2	1:B:439:TRP:O	2.53	0.41

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	533/548 (97%)	511 (96%)	21 (4%)	1 (0%)	47	68
1	B	530/548 (97%)	503 (95%)	25 (5%)	2 (0%)	34	54
All	All	1063/1096 (97%)	1014 (95%)	46 (4%)	3 (0%)	41	61

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	497	SER
1	A	523	GLY
1	B	523	GLY

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	440/446 (99%)	426 (97%)	14 (3%)	39	65
1	B	438/446 (98%)	423 (97%)	15 (3%)	37	63
All	All	878/892 (98%)	849 (97%)	29 (3%)	38	64

All (29) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	GLU
1	A	48	MET
1	A	70	TYR
1	A	75	THR
1	A	81	GLU
1	A	112	THR
1	A	146	LEU
1	A	195	MET
1	A	200	PHE
1	A	211	MET
1	A	216	LEU
1	A	280	ASP
1	A	295	PHE
1	A	337	TYR
1	B	9	LEU
1	B	81	GLU
1	B	136	ARG
1	B	140	GLN
1	B	200	PHE
1	B	251	LEU
1	B	295	PHE
1	B	337	TYR
1	B	369	GLN
1	B	478	LYS
1	B	497	SER
1	B	509	GLN
1	B	519	GLU

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Mol	Chain	Res	Type
1	B	538	LYS
1	B	543	THR

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)

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

8 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	PG0	B	1547	-	7,7,7	0.60	0	6,6,6	0.81	0
3	PG0	A	1544	-	7,7,7	0.60	0	6,6,6	0.89	0
3	PG0	A	1545	-	7,7,7	0.61	0	6,6,6	0.95	0
2	SOF	B	1544	-	33,33,33	1.58	6 (18%)	44,44,44	2.21	11 (25%)
4	PE4	B	1548	-	22,22,23	0.66	0	21,21,22	0.90	0
3	PG0	B	1546	-	7,7,7	0.63	0	6,6,6	0.93	0
3	PG0	B	1545	-	7,7,7	0.62	0	6,6,6	0.82	0
2	SOF	A	1543	-	33,33,33	1.49	5 (15%)	44,44,44	2.14	11 (25%)

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	PG0	B	1547	-	-	3/5/5/5	-
3	PG0	A	1544	-	-	2/5/5/5	-
3	PG0	A	1545	-	-	1/5/5/5	-
2	SOF	B	1544	-	-	6/19/39/39	0/4/4/4
4	PE4	B	1548	-	-	10/20/20/21	-
3	PG0	B	1546	-	-	2/5/5/5	-
3	PG0	B	1545	-	-	1/5/5/5	-
2	SOF	A	1543	-	-	6/19/39/39	0/4/4/4

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1544	SOF	C21-C20	3.32	1.44	1.38
2	A	1543	SOF	C21-C20	3.14	1.44	1.38
2	B	1544	SOF	C02-C03	3.10	1.59	1.52
2	B	1544	SOF	C03-N05	3.03	1.41	1.35
2	A	1543	SOF	C03-N05	2.89	1.41	1.35
2	A	1543	SOF	C02-C03	2.83	1.58	1.52
2	B	1544	SOF	C24-C23	2.66	1.43	1.38
2	A	1543	SOF	C24-C23	2.64	1.43	1.38
2	B	1544	SOF	C11-N12	2.21	1.53	1.46
2	A	1543	SOF	C11-N12	2.07	1.52	1.46
2	B	1544	SOF	O01-C19	2.02	1.42	1.37

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	1544	SOF	C07-C06-N05	7.49	122.20	110.82
2	A	1543	SOF	C07-C06-N05	6.22	120.28	110.82
2	A	1543	SOF	C13-N12-C11	5.23	120.60	108.83
2	A	1543	SOF	C11-C10-N09	4.99	120.14	110.59
2	B	1544	SOF	C11-C10-N09	4.81	119.80	110.59
2	B	1544	SOF	C13-N12-C11	4.70	119.41	108.83
2	A	1543	SOF	C13-C14-N09	4.26	118.74	110.59
2	B	1544	SOF	C06-C07-C08	3.70	117.85	110.81
2	A	1543	SOF	C02-C03-N05	3.38	124.77	116.93
2	B	1544	SOF	C02-C03-N05	3.37	124.76	116.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	1544	SOF	C13-C14-N09	3.36	117.03	110.59
2	A	1543	SOF	C10-C11-N12	3.17	117.15	110.64
2	B	1544	SOF	C10-C11-N12	3.09	116.98	110.64
2	B	1544	SOF	C17-C18-N05	3.01	115.40	110.82
2	A	1543	SOF	C06-C07-C08	2.97	116.47	110.81
2	B	1544	SOF	O01-C02-C03	2.78	117.70	109.80
2	B	1544	SOF	C24-C19-C20	-2.65	116.10	120.18
2	A	1543	SOF	O01-C02-C03	2.57	117.11	109.80
2	A	1543	SOF	C17-C18-N05	2.52	114.66	110.82
2	A	1543	SOF	C14-N09-C10	2.47	113.58	109.08
2	A	1543	SOF	C24-C19-C20	-2.43	116.43	120.18
2	B	1544	SOF	C18-C17-C08	2.26	115.11	110.81

There are no chirality outliers.

All (31) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1543	SOF	C16-C15-N12-C11
4	B	1548	PE4	C8-C7-O4-C6
2	B	1544	SOF	C23-C22-C25-C30
2	B	1544	SOF	C23-C22-C25-C26
2	B	1544	SOF	C21-C22-C25-C30
2	A	1543	SOF	C23-C22-C25-C26
2	A	1543	SOF	C23-C22-C25-C30
2	B	1544	SOF	C21-C22-C25-C26
2	A	1543	SOF	C21-C22-C25-C30
2	A	1543	SOF	C21-C22-C25-C26
2	B	1544	SOF	C16-C15-N12-C13
4	B	1548	PE4	O4-C7-C8-O5
4	B	1548	PE4	O2-C3-C4-O3
3	B	1547	PG0	OTT-C1-C2-O1
2	A	1543	SOF	C16-C15-N12-C13
3	B	1545	PG0	O1-C3-C4-O2
3	B	1547	PG0	O1-C3-C4-O2
4	B	1548	PE4	O7-C13-C14-O8
2	B	1544	SOF	C16-C15-N12-C11
4	B	1548	PE4	O6-C11-C12-O7
4	B	1548	PE4	C11-C12-O7-C13
3	A	1544	PG0	O1-C3-C4-O2
3	B	1547	PG0	C4-C3-O1-C2
3	B	1546	PG0	C4-C3-O1-C2
4	B	1548	PE4	C6-C5-O3-C4

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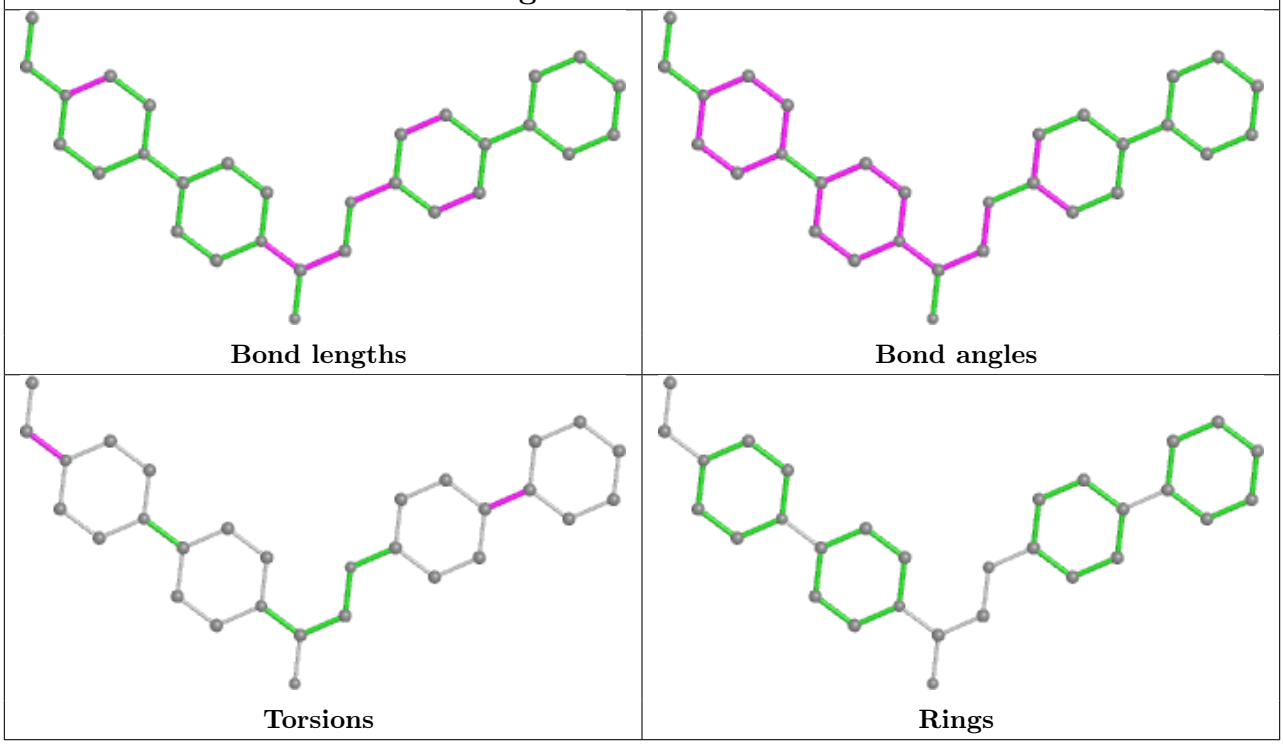
Mol	Chain	Res	Type	Atoms
4	B	1548	PE4	C10-C9-O5-C8
3	A	1545	PG0	O1-C3-C4-O2
4	B	1548	PE4	O3-C5-C6-O4
3	A	1544	PG0	C1-C2-O1-C3
3	B	1546	PG0	O1-C3-C4-O2
4	B	1548	PE4	O6-C10-C9-O5

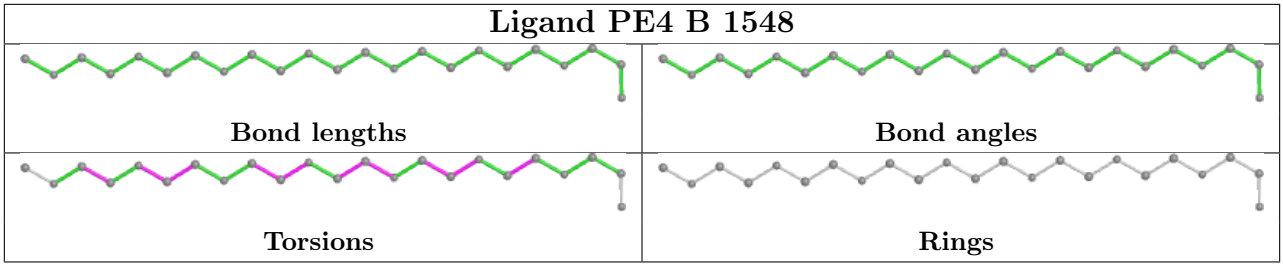
There are no ring outliers.

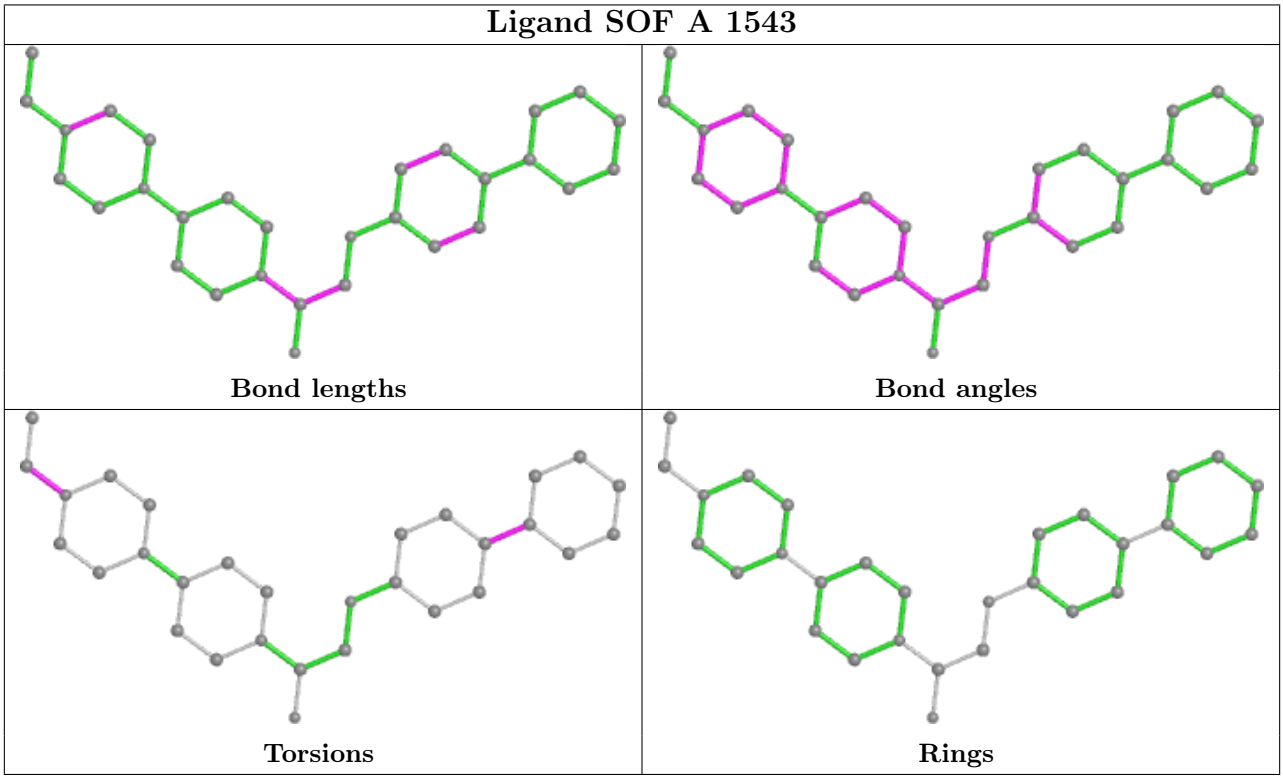
No monomer is involved in short contacts.

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 SOF B 1544







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 (i)

6.1 Protein, DNA and RNA chains (i)

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	535/548 (97%)	0.20	20 (3%)	41	45	44, 57, 80, 104	0
1	B	533/548 (97%)	0.19	17 (3%)	47	51	45, 62, 84, 112	0
All	All	1068/1096 (97%)	0.19	37 (3%)	44	47	44, 59, 82, 112	0

All (37) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	543	THR	5.1
1	A	493	ARG	4.9
1	A	495	SER	4.6
1	A	542	ALA	4.4
1	B	497	SER	3.7
1	B	542	ALA	3.7
1	B	495	SER	3.6
1	A	76	LEU	3.3
1	A	540	LEU	3.2
1	B	541	SER	3.2
1	B	496	LYS	3.1
1	A	203	SER	3.0
1	A	541	SER	2.9
1	A	494	ASP	2.7
1	A	496	LYS	2.6
1	A	497	SER	2.6
1	A	216	LEU	2.5
1	B	462	SER	2.5
1	A	117	TRP	2.5
1	A	480	TRP	2.5
1	A	201	GLY	2.4
1	B	200	PHE	2.4
1	A	204	ALA	2.4
1	B	155	THR	2.3

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Mol	Chain	Res	Type	RSRZ
1	A	290	PRO	2.3
1	B	78	PRO	2.3
1	A	206	ALA	2.3
1	B	250	LEU	2.3
1	A	109	ALA	2.3
1	B	43	GLY	2.2
1	B	268	GLU	2.2
1	B	386	LEU	2.2
1	A	118	ILE	2.2
1	B	265	ASN	2.2
1	A	522	ARG	2.1
1	B	455	PHE	2.1
1	B	117	TRP	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, 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.

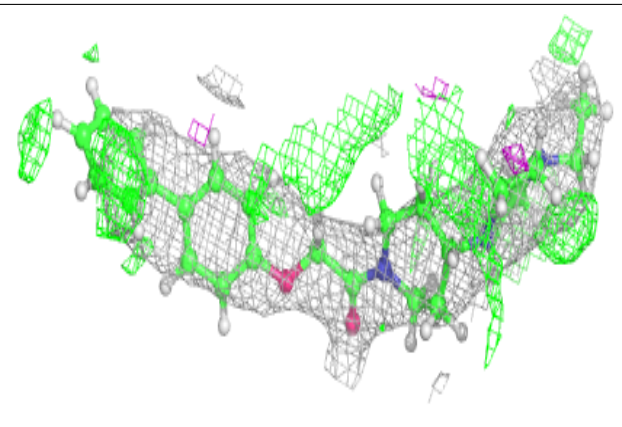
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	SOF	A	1543	30/30	0.66	0.29	62,94,115,131	0
2	SOF	B	1544	30/30	0.67	0.32	62,103,126,138	0
3	PG0	B	1546	8/8	0.75	0.29	68,95,120,120	0
3	PG0	B	1545	8/8	0.76	0.22	75,96,123,138	0
3	PG0	A	1545	8/8	0.84	0.19	59,90,113,113	0
4	PE4	B	1548	23/24	0.86	0.22	56,88,106,111	0
3	PG0	A	1544	8/8	0.87	0.35	76,94,107,112	0
3	PG0	B	1547	8/8	0.89	0.28	79,96,118,118	0

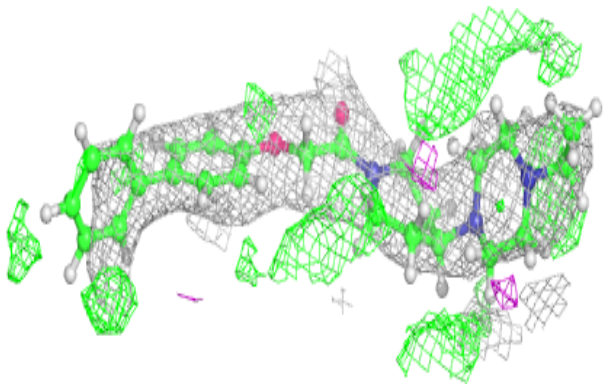
The following is a graphical depiction of the model fit to experimental electron density of all

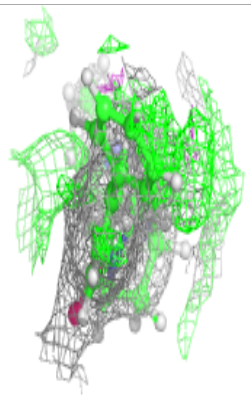
instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around SOF A 1543:

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

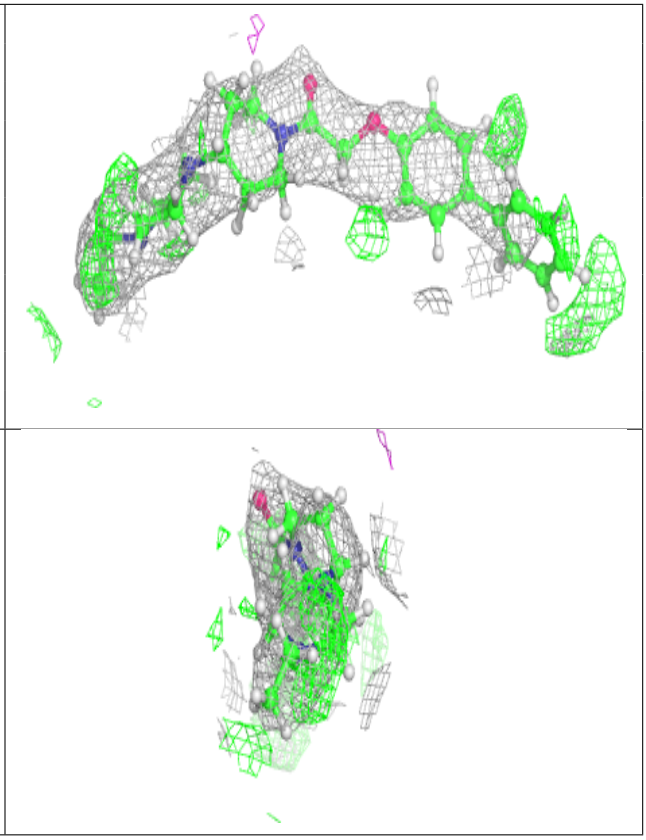


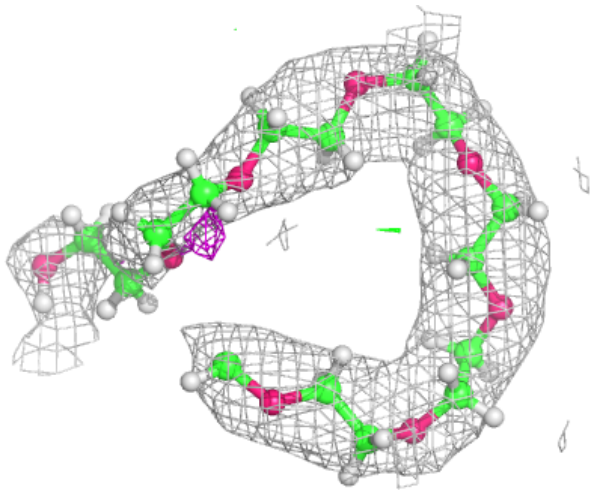
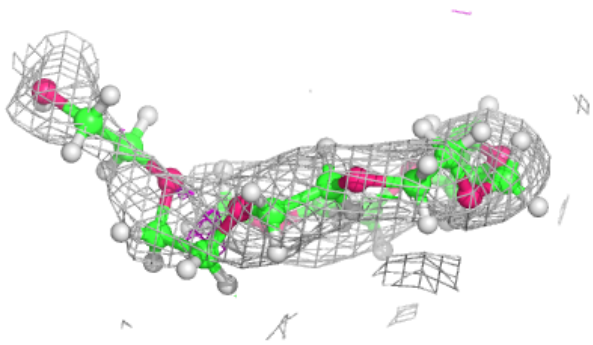
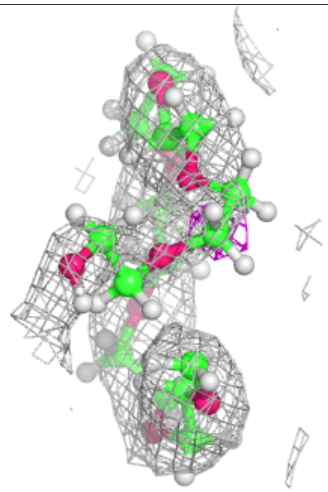




Electron density around SOF B 1544:

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



Electron density around PE4 B 1548: 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.