Full wwPDB X-ray Structure Validation Report ⓘ

Mar 3, 2025 – 03:49 PM JST

PDB ID	:	9IML
Title	:	Sertraline enhances the deubiquitinase activity of USP7 by binding to its switching loop region
Authors	:	Shi, L.; Xu, Z.; Chen, X.; Xiong, B.; Zhang, N.
Deposited on	:	2024-07-03
Resolution	:	2.78 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:

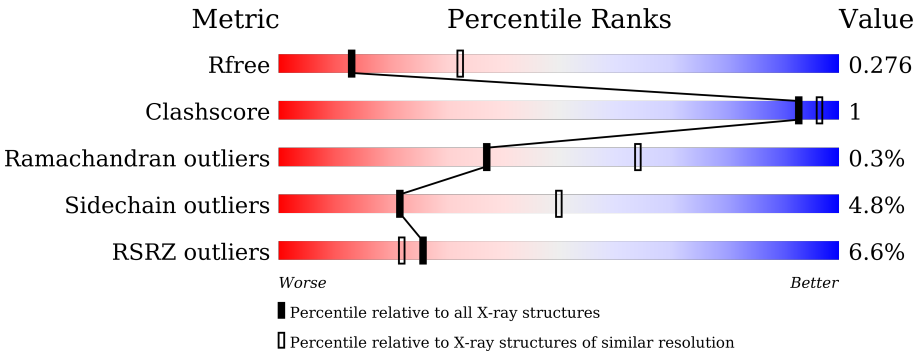
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.21
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.004 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.41.2

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 2.78 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}	164625	4924 (2.80-2.76)
Clashscore	180529	5458 (2.80-2.76)
Ramachandran outliers	177936	5386 (2.80-2.76)
Sidechain outliers	177891	5388 (2.80-2.76)
RSRZ outliers	164620	4926 (2.80-2.76)

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	353	6% 83% 7% 9%
1	C	353	3% 80% 5% 14%
1	E	353	6% 84% 7% 9%
1	G	353	12% 77% 8% 15%
2	B	75	% 97%
2	D	75	3% 96%

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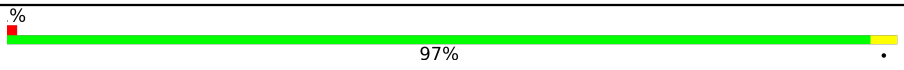
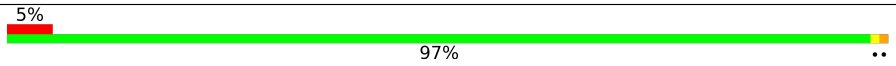
Mol	Chain	Length	Quality of chain
2	F	75	
2	H	75	

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 11751 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.

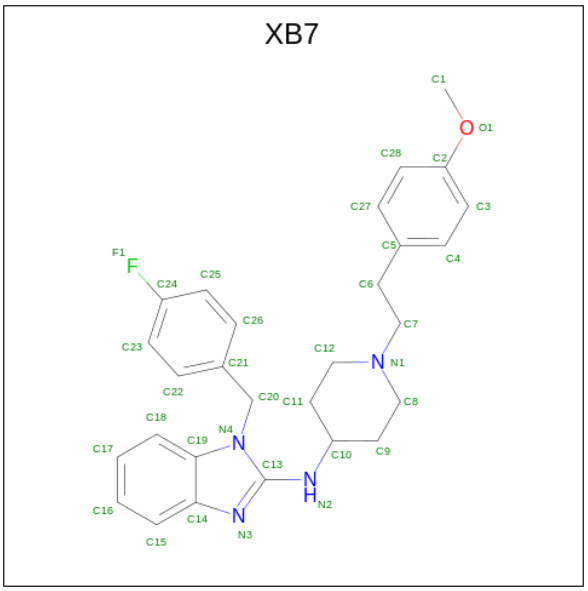
- Molecule 1 is a protein called Ubiquitin carboxyl-terminal hydrolase 7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	320	Total	C	N	O	S	0	0	0
			2419	1534	402	468	15			
1	C	303	Total	C	N	O	S	0	0	0
			2337	1487	385	451	14			
1	E	321	Total	C	N	O	S	0	0	0
			2409	1532	396	466	15			
1	G	301	Total	C	N	O	S	0	0	0
			2208	1403	363	428	14			

- Molecule 2 is a protein called Ubiquitin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	75	Total	C	N	O	S	0	0	0
			583	367	99	116	1			
2	D	75	Total	C	N	O	S	0	0	0
			572	361	95	115	1			
2	F	75	Total	C	N	O	S	0	0	0
			583	367	99	116	1			
2	H	75	Total	C	N	O	S	0	0	0
			575	362	97	115	1			

- Molecule 3 is 1-[(4-fluorophenyl)methyl]-N-{1-[2-(4-methoxyphenyl)ethyl]piperidin-4-yl}-1H-benzimidazol-2-amine (three-letter code: XB7) (formula: $C_{28}H_{31}FN_4O$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	C	1	Total C F N 24 19 1 4	0	0

- Molecule 4 is water.

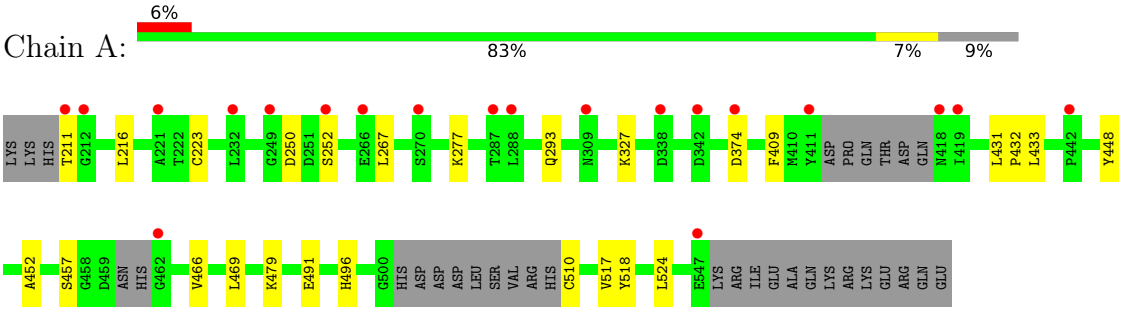
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	10	Total O 10 10	0	0
4	B	2	Total O 2 2	0	0
4	C	14	Total O 14 14	0	0
4	D	3	Total O 3 3	0	0
4	E	3	Total O 3 3	0	0
4	F	1	Total O 1 1	0	0
4	G	5	Total O 5 5	0	0
4	H	3	Total O 3 3	0	0

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.

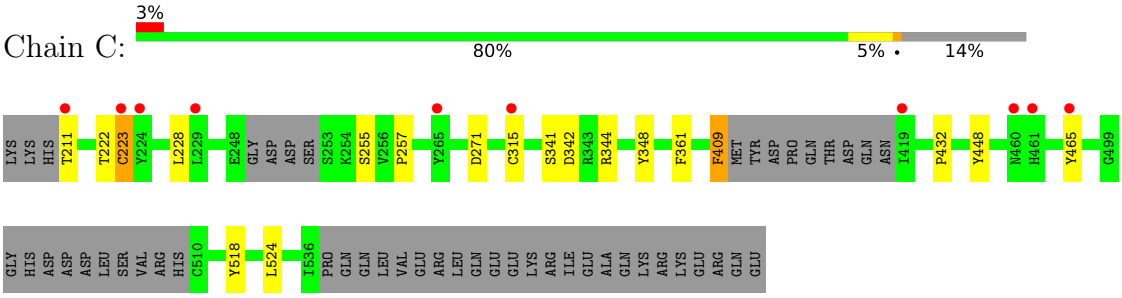
• Molecule 1: Ubiquitin carboxyl-terminal hydrolase 7

Chain A:



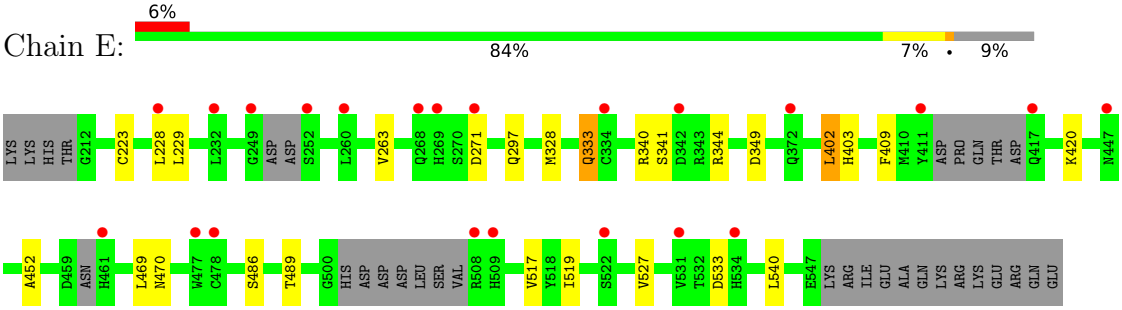
• Molecule 1: Ubiquitin carboxyl-terminal hydrolase 7

Chain C:



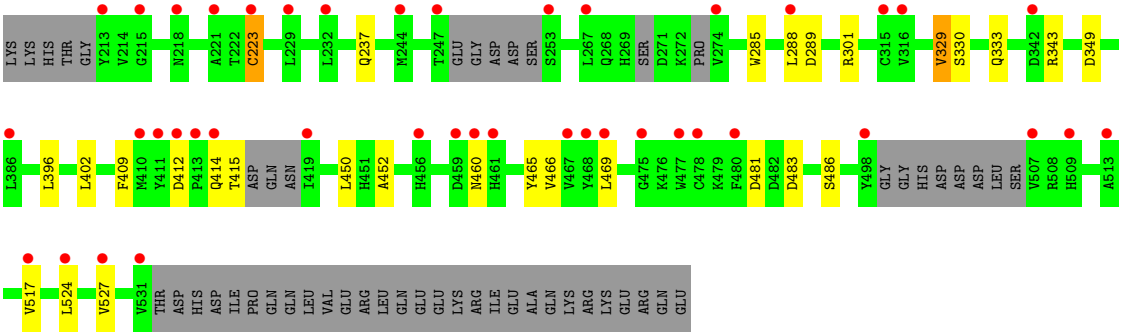
• Molecule 1: Ubiquitin carboxyl-terminal hydrolase 7

Chain E:



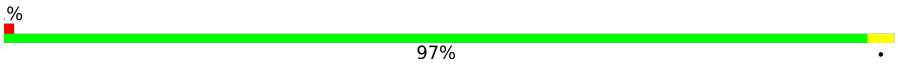
• Molecule 1: Ubiquitin carboxyl-terminal hydrolase 7

Chain G:



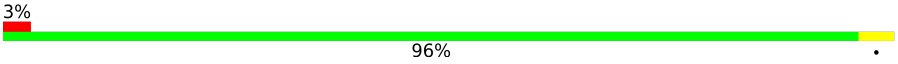
• Molecule 2: Ubiquitin

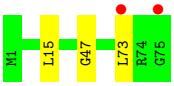
Chain B:



• Molecule 2: Ubiquitin

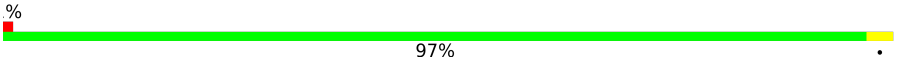
Chain D:

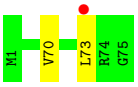




• Molecule 2: Ubiquitin

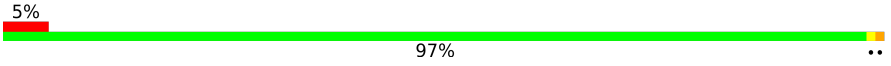
Chain F:





• Molecule 2: Ubiquitin

Chain H:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	101.57Å 84.97Å 106.99Å 90.00° 90.11° 90.00°	Depositor
Resolution (Å)	33.67 – 2.78 33.67 – 2.78	Depositor EDS
% Data completeness (in resolution range)	99.3 (33.67-2.78) 99.5 (33.67-2.78)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.80 (at 2.76Å)	Xtriage
Refinement program	PHENIX (1.16_3549: ???)	Depositor
R, R_{free}	0.221 , 0.280 0.237 , 0.276	Depositor DCC
R_{free} test set	2292 reflections (4.97%)	wwPDB-VP
Wilson B-factor (Å^2)	67.9	Xtriage
Anisotropy	0.014	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 56.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	0.002 for l,k,-h 0.014 for h,-k,-l 0.001 for l,-k,h	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	11751	wwPDB-VP
Average B, all atoms (Å^2)	61.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.78% 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: XB7

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	0.51	0/2469	0.68	0/3359
1	C	0.51	0/2387	0.68	0/3243
1	E	0.48	0/2456	0.66	0/3343
1	G	0.48	0/2250	0.65	0/3069
2	B	0.50	0/589	0.72	0/796
2	D	0.48	0/578	0.67	0/784
2	F	0.46	0/589	0.67	0/796
2	H	0.48	0/581	0.67	0/787
All	All	0.49	0/11899	0.67	0/16177

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2419	0	2204	7	0
1	C	2337	0	2160	7	0
1	E	2409	0	2188	7	0
1	G	2208	0	1949	9	0
2	B	583	0	593	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	572	0	564	2	0
2	F	583	0	593	2	0
2	H	575	0	576	2	0
3	C	24	0	0	0	0
4	A	10	0	0	0	0
4	B	2	0	0	0	0
4	C	14	0	0	0	0
4	D	3	0	0	0	0
4	E	3	0	0	0	0
4	F	1	0	0	0	0
4	G	5	0	0	0	0
4	H	3	0	0	0	0
All	All	11751	0	10827	32	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 (32) 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:G:452:ALA:HB3	1:G:517:VAL:HB	1.77	0.67
1:C:342:ASP:HB3	1:C:344:ARG:HH22	1.62	0.64
1:A:466:VAL:HG11	1:A:479:LYS:HE3	1.85	0.59
1:G:329:VAL:HG22	1:G:396:LEU:HG	1.88	0.55
1:G:285:TRP:HB3	1:G:289:ASP:HB2	1.89	0.55
1:A:448:TYR:HB3	1:A:518:TYR:HB3	1.88	0.54
1:C:361:PHE:HZ	1:C:432:PRO:HD2	1.73	0.53
1:C:448:TYR:HB3	1:C:518:TYR:HB3	1.90	0.52
1:C:223:CYS:HB2	1:C:465:TYR:HB2	1.93	0.50
1:A:432:PRO:HD2	1:G:288:LEU:HG	1.93	0.50
1:G:237:GLN:HB2	1:G:527:VAL:HA	1.93	0.50
1:A:452:ALA:HB3	1:A:517:VAL:HB	1.96	0.47
1:E:420:LYS:HG3	2:F:73:LEU:HD21	1.97	0.47
1:E:519:ILE:HD13	1:E:527:VAL:HG11	1.97	0.46
2:H:56:LEU:HD12	2:H:56:LEU:HA	1.82	0.46
1:G:466:VAL:HG12	1:G:481:ASP:HA	1.98	0.45
1:A:216:LEU:HD11	1:A:267:LEU:HD11	1.99	0.45
1:E:333:GLN:HG2	1:E:340:ARG:HG3	1.99	0.44
1:E:297:GLN:NE2	1:E:349:ASP:OD2	2.50	0.43
1:G:223:CYS:HB2	1:G:465:TYR:HB2	1.98	0.43
1:E:229:LEU:HD13	1:E:263:VAL:HG11	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:348:TYR:CD1	2:D:47:GLY:HA3	2.53	0.43
1:C:361:PHE:CZ	1:C:432:PRO:HD2	2.53	0.42
1:E:452:ALA:HB3	1:E:517:VAL:HB	2.00	0.42
1:A:431:LEU:HG	1:A:433:LEU:HG	2.00	0.42
1:A:457:SER:HA	1:A:510:CYS:O	2.20	0.42
2:H:73:LEU:HD23	2:H:73:LEU:HA	1.85	0.42
1:C:409:PHE:HD2	2:D:73:LEU:HD13	1.85	0.42
1:G:301:ARG:HD2	1:G:349:ASP:OD2	2.21	0.41
1:E:402:LEU:HD23	1:E:402:LEU:HA	1.82	0.41
1:G:288:LEU:HD12	1:G:288:LEU:HA	1.82	0.41
2:F:73:LEU:HA	2:F:73:LEU:HD23	1.78	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	312/353 (88%)	292 (94%)	18 (6%)	2 (1%)	22 48
1	C	295/353 (84%)	276 (94%)	18 (6%)	1 (0%)	37 64
1	E	311/353 (88%)	297 (96%)	14 (4%)	0	100 100
1	G	289/353 (82%)	271 (94%)	17 (6%)	1 (0%)	37 64
2	B	73/75 (97%)	70 (96%)	3 (4%)	0	100 100
2	D	73/75 (97%)	71 (97%)	2 (3%)	0	100 100
2	F	73/75 (97%)	70 (96%)	3 (4%)	0	100 100
2	H	73/75 (97%)	68 (93%)	5 (7%)	0	100 100
All	All	1499/1712 (88%)	1415 (94%)	80 (5%)	4 (0%)	37 64

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	252	SER
1	G	414	GLN
1	A	250	ASP
1	C	222	THR

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	246/320 (77%)	235 (96%)	11 (4%)	23	52
1	C	244/320 (76%)	234 (96%)	10 (4%)	26	56
1	E	242/320 (76%)	226 (93%)	16 (7%)	14	36
1	G	214/320 (67%)	199 (93%)	15 (7%)	12	33
2	B	65/68 (96%)	63 (97%)	2 (3%)	35	66
2	D	61/68 (90%)	60 (98%)	1 (2%)	58	83
2	F	65/68 (96%)	64 (98%)	1 (2%)	60	84
2	H	63/68 (93%)	62 (98%)	1 (2%)	58	83
All	All	1200/1552 (77%)	1143 (95%)	57 (5%)	21	50

All (57) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	211	THR
1	A	223	CYS
1	A	277	LYS
1	A	293	GLN
1	A	327	LYS
1	A	374	ASP
1	A	409	PHE
1	A	469	LEU
1	A	491	GLU
1	A	496	HIS
1	A	524	LEU
2	B	39	ASP

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Mol	Chain	Res	Type
2	B	70	VAL
1	C	211	THR
1	C	223	CYS
1	C	228	LEU
1	C	255	SER
1	C	257	PRO
1	C	271	ASP
1	C	315	CYS
1	C	341	SER
1	C	409	PHE
1	C	524	LEU
2	D	15	LEU
1	E	223	CYS
1	E	228	LEU
1	E	271	ASP
1	E	328	MET
1	E	333	GLN
1	E	341	SER
1	E	344	ARG
1	E	402	LEU
1	E	403	HIS
1	E	409	PHE
1	E	469	LEU
1	E	470	ASN
1	E	486	SER
1	E	489	THR
1	E	533	ASP
1	E	540	LEU
2	F	70	VAL
1	G	223	CYS
1	G	329	VAL
1	G	330	SER
1	G	333	GLN
1	G	343	ARG
1	G	402	LEU
1	G	409	PHE
1	G	412	ASP
1	G	415	THR
1	G	450	LEU
1	G	460	ASN
1	G	469	LEU
1	G	483	ASP

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Mol	Chain	Res	Type
1	G	486	SER
1	G	524	LEU
2	H	56	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	E	351	GLN
1	E	405	GLN
1	E	470	ASN
1	G	219	GLN

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 oligosaccharides in this entry.

5.6 Ligand geometry

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	XB7	C	601	-	23,27,38	0.62	0	29,37,52	0.94	2 (6%)

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	XB7	C	601	-	-	1/6/16/25	0/4/4/5

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	601	XB7	C9-C10-N2	2.98	115.24	110.60
3	C	601	XB7	C11-C10-N2	2.09	113.86	110.60

There are no chirality outliers.

All (1) torsion outliers are listed below:

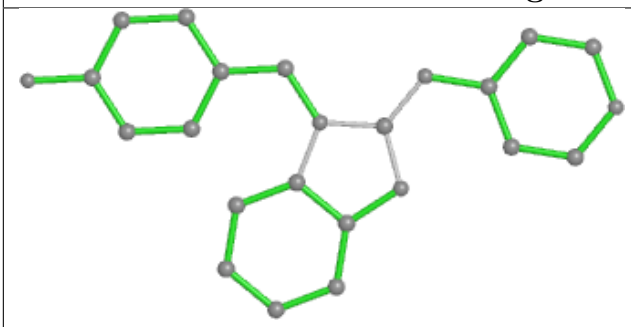
Mol	Chain	Res	Type	Atoms
3	C	601	XB7	C9-C10-N2-C13

There are no ring outliers.

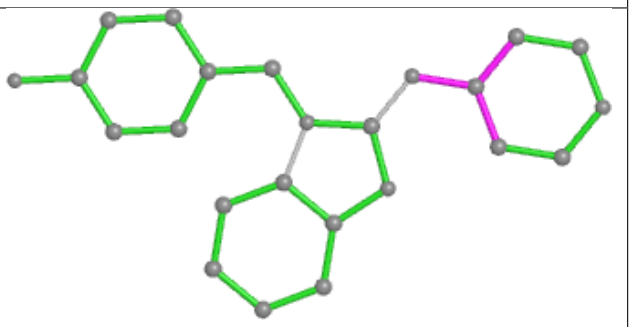
No monomer is involved in short contacts.

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.

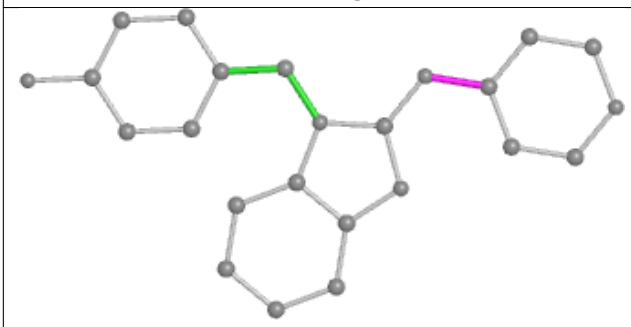
Ligand XB7 C 601



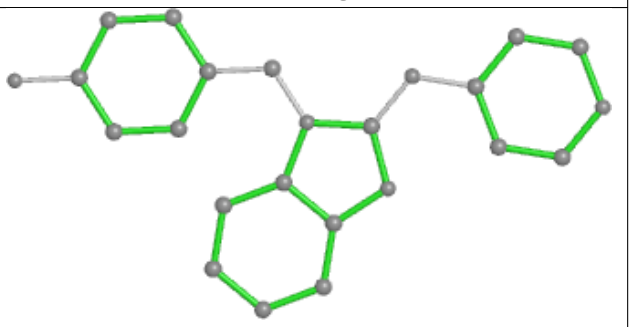
Bond lengths



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	320/353 (90%)	0.57	20 (6%) 27 23	30, 59, 87, 106	0
1	C	303/353 (85%)	0.39	10 (3%) 49 44	30, 61, 81, 116	0
1	E	321/353 (90%)	0.51	22 (6%) 24 21	30, 64, 90, 102	0
1	G	301/353 (85%)	0.95	42 (13%) 7 7	30, 73, 91, 132	0
2	B	75/75 (100%)	0.03	1 (1%) 74 70	36, 49, 62, 69	0
2	D	75/75 (100%)	0.25	2 (2%) 56 50	44, 54, 64, 67	0
2	F	75/75 (100%)	0.04	1 (1%) 74 70	42, 51, 61, 65	0
2	H	75/75 (100%)	0.21	4 (5%) 33 28	43, 55, 66, 70	0
All	All	1545/1712 (90%)	0.51	102 (6%) 26 22	30, 61, 87, 132	0

All (102) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	221	ALA	7.4
1	G	459	ASP	4.9
1	G	414	GLN	4.8
1	A	374	ASP	4.2
1	C	461	HIS	4.2
1	A	287	THR	4.2
1	G	461	HIS	3.9
1	E	249	GLY	3.9
2	H	73	LEU	3.8
1	G	480	PHE	3.8
1	A	418	ASN	3.8
1	G	468	TYR	3.7
1	A	547	GLU	3.7
2	D	73	LEU	3.7
1	G	507	VAL	3.7
1	A	462	GLY	3.7

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Mol	Chain	Res	Type	RSRZ
1	G	221	ALA	3.6
1	A	252	SER	3.6
1	C	460	ASN	3.5
1	G	412	ASP	3.4
1	E	411	TYR	3.3
1	G	524	LEU	3.3
1	A	211	THR	3.3
1	G	419	ILE	3.2
1	G	478	CYS	3.1
2	F	73	LEU	3.1
1	C	223	CYS	3.1
1	G	316	VAL	3.1
1	G	460	ASN	3.0
1	G	411	TYR	3.0
2	B	75	GLY	3.0
1	G	410	MET	2.9
1	A	338	ASP	2.9
1	E	252	SER	2.9
1	C	265	TYR	2.9
1	A	442	PRO	2.9
1	A	212	GLY	2.9
2	D	75	GLY	2.9
1	G	469	LEU	2.8
1	G	513	ALA	2.8
1	G	253	SER	2.7
1	A	270	SER	2.7
2	H	75	GLY	2.7
1	C	419	ILE	2.7
1	C	315	CYS	2.7
1	E	478	CYS	2.7
1	E	509	HIS	2.7
1	G	413	PRO	2.6
1	E	477	TRP	2.6
1	E	417	GLN	2.6
1	G	218	ASN	2.5
1	G	509	HIS	2.5
1	G	274	VAL	2.5
2	H	46	ALA	2.5
1	A	309	ASN	2.5
1	G	288	LEU	2.5
1	E	268	GLN	2.5
1	C	211	THR	2.4

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Mol	Chain	Res	Type	RSRZ
1	G	232	LEU	2.4
1	G	467	VAL	2.4
1	A	249	GLY	2.4
1	E	342	ASP	2.4
1	G	215	GLY	2.4
1	E	531	VAL	2.4
1	E	522	SER	2.4
1	G	475	GLY	2.4
1	A	288	LEU	2.3
1	A	419	ILE	2.3
1	G	267	LEU	2.3
1	G	342	ASP	2.3
1	E	228	LEU	2.3
1	G	213	TYR	2.3
2	H	74	ARG	2.3
1	G	223	CYS	2.3
1	E	269	HIS	2.2
1	E	334	CYS	2.2
1	G	315	CYS	2.2
1	E	372	GLN	2.2
1	G	386	LEU	2.2
1	E	534	HIS	2.2
1	A	342	ASP	2.2
1	C	224	TYR	2.2
1	G	531	VAL	2.2
1	E	461	HIS	2.1
1	C	465	TYR	2.1
1	C	229	LEU	2.1
1	E	260	LEU	2.1
1	E	447	ASN	2.1
1	G	527	VAL	2.1
1	A	232	LEU	2.1
1	G	477	TRP	2.1
1	E	232	LEU	2.1
1	G	244	MET	2.0
1	G	247	THR	2.0
1	G	517	VAL	2.0
1	E	508	ARG	2.0
1	A	411	TYR	2.0
1	E	271	ASP	2.0
1	A	266	GLU	2.0
1	G	456	HIS	2.0

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Mol	Chain	Res	Type	RSRZ
1	G	229	LEU	2.0
1	G	498	TYR	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)

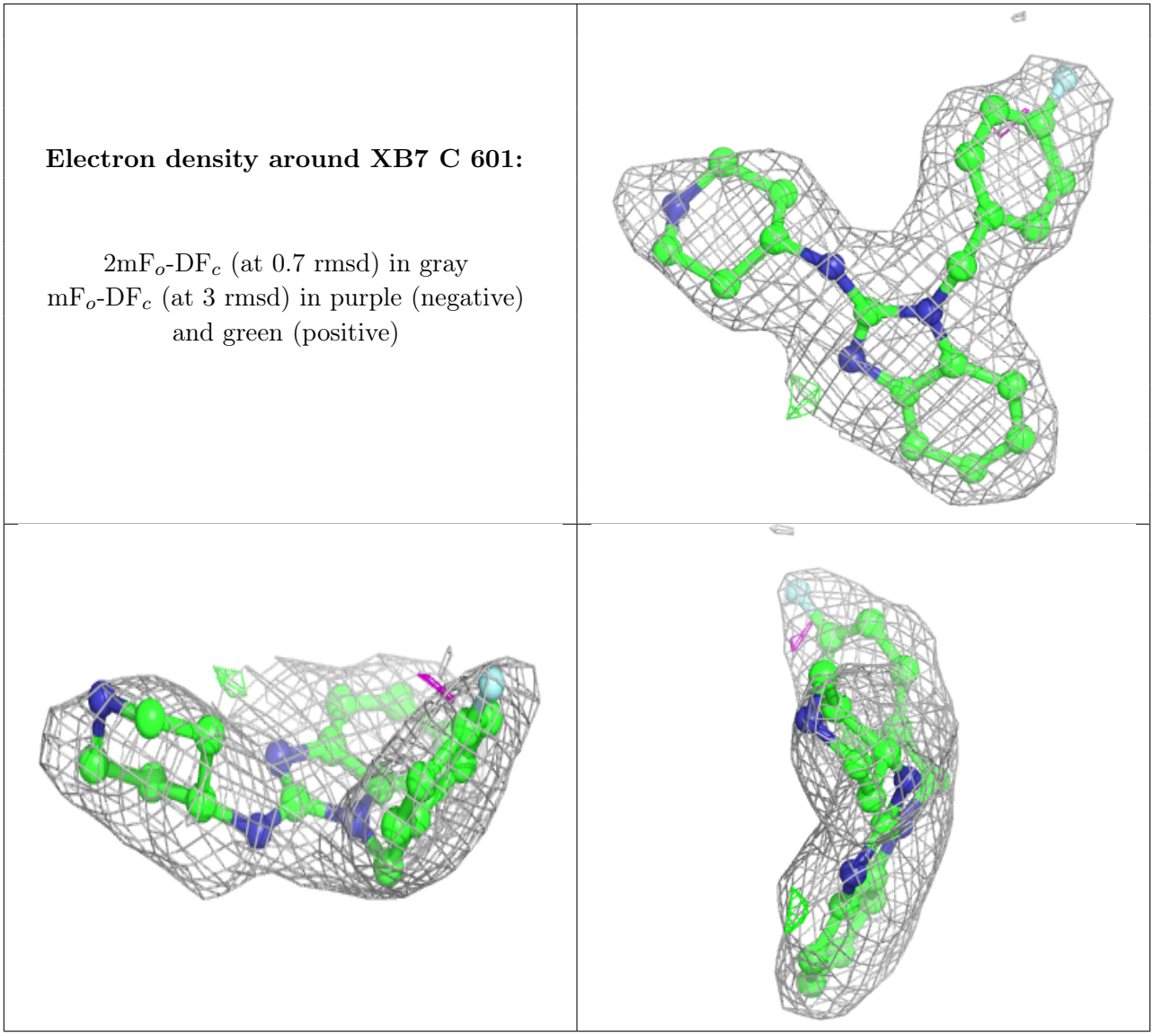
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' 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
3	XB7	C	601	24/34	0.87	0.12	55,63,72,75	0

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

Electron density around XB7 C 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 (i)

There are no such residues in this entry.