



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 17, 2026 – 07:37 PM UTC

PDB ID : 4ACC / pdb_00004acc
Title : GSK3b in complex with inhibitor
Authors : Xue, Y.; Ormo, M.
Deposited on : 2011-12-14
Resolution : 2.21 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	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

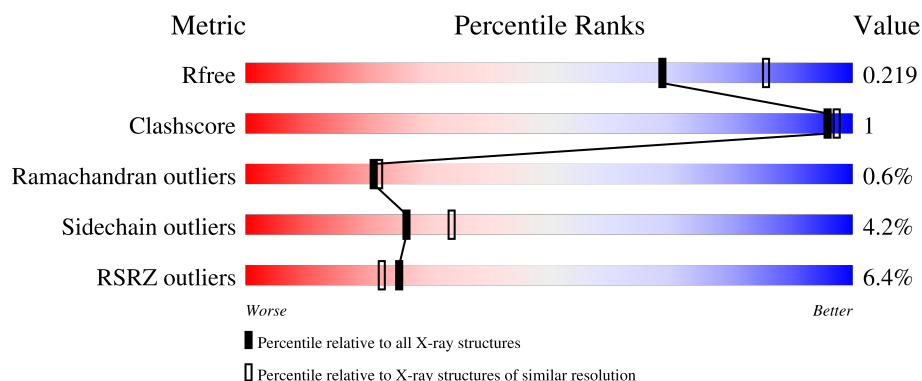
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.21 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}	180053	7682 (2.24-2.20)
Clashscore	190562	8402 (2.24-2.20)
Ramachandran outliers	187476	8303 (2.24-2.20)
Sidechain outliers	187428	8304 (2.24-2.20)
RSRZ outliers	180081	7683 (2.24-2.20)

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 $\leq 5\%$. 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	465	5% 69% 6% 25%
1	B	465	5% 69% 5% 25%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 6196 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 GLYCOGEN SYNTHASE KINASE-3 BETA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	351	Total	C	N	O	S	0	0	1
			2805	1804	482	508	11			
1	B	351	Total	C	N	O	S	0	0	1
			2805	1804	482	508	11			

There are 90 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-44	MET	-	expression tag	UNP P49841
A	-43	SER	-	expression tag	UNP P49841
A	-42	TYR	-	expression tag	UNP P49841
A	-41	TYR	-	expression tag	UNP P49841
A	-40	HIS	-	expression tag	UNP P49841
A	-39	HIS	-	expression tag	UNP P49841
A	-38	HIS	-	expression tag	UNP P49841
A	-37	HIS	-	expression tag	UNP P49841
A	-36	HIS	-	expression tag	UNP P49841
A	-35	HIS	-	expression tag	UNP P49841
A	-34	ASP	-	expression tag	UNP P49841
A	-33	TYR	-	expression tag	UNP P49841
A	-32	ASP	-	expression tag	UNP P49841
A	-31	ILE	-	expression tag	UNP P49841
A	-30	PRO	-	expression tag	UNP P49841
A	-29	THR	-	expression tag	UNP P49841
A	-28	THR	-	expression tag	UNP P49841
A	-27	GLU	-	expression tag	UNP P49841
A	-26	ASN	-	expression tag	UNP P49841
A	-25	LEU	-	expression tag	UNP P49841
A	-24	TYR	-	expression tag	UNP P49841
A	-23	PHE	-	expression tag	UNP P49841
A	-22	GLN	-	expression tag	UNP P49841
A	-21	GLY	-	expression tag	UNP P49841
A	-20	ALA	-	expression tag	UNP P49841

Continued on next page...

Continued from previous page...

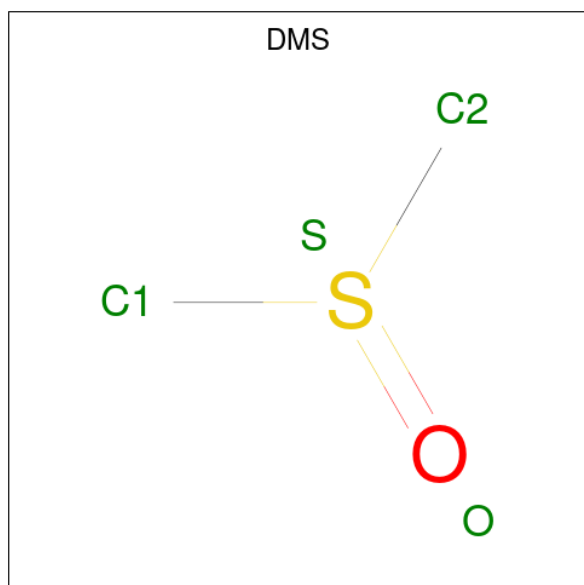
Chain	Residue	Modelled	Actual	Comment	Reference
A	-19	MET	-	expression tag	UNP P49841
A	-18	GLY	-	expression tag	UNP P49841
A	-17	SER	-	expression tag	UNP P49841
A	-16	SER	-	expression tag	UNP P49841
A	-15	HIS	-	expression tag	UNP P49841
A	-14	HIS	-	expression tag	UNP P49841
A	-13	HIS	-	expression tag	UNP P49841
A	-12	HIS	-	expression tag	UNP P49841
A	-11	HIS	-	expression tag	UNP P49841
A	-10	HIS	-	expression tag	UNP P49841
A	-9	SER	-	expression tag	UNP P49841
A	-8	SER	-	expression tag	UNP P49841
A	-7	GLY	-	expression tag	UNP P49841
A	-6	LEU	-	expression tag	UNP P49841
A	-5	VAL	-	expression tag	UNP P49841
A	-4	PRO	-	expression tag	UNP P49841
A	-3	ARG	-	expression tag	UNP P49841
A	-2	GLY	-	expression tag	UNP P49841
A	-1	SER	-	expression tag	UNP P49841
A	0	HIS	-	expression tag	UNP P49841
B	-44	MET	-	expression tag	UNP P49841
B	-43	SER	-	expression tag	UNP P49841
B	-42	TYR	-	expression tag	UNP P49841
B	-41	TYR	-	expression tag	UNP P49841
B	-40	HIS	-	expression tag	UNP P49841
B	-39	HIS	-	expression tag	UNP P49841
B	-38	HIS	-	expression tag	UNP P49841
B	-37	HIS	-	expression tag	UNP P49841
B	-36	HIS	-	expression tag	UNP P49841
B	-35	HIS	-	expression tag	UNP P49841
B	-34	ASP	-	expression tag	UNP P49841
B	-33	TYR	-	expression tag	UNP P49841
B	-32	ASP	-	expression tag	UNP P49841
B	-31	ILE	-	expression tag	UNP P49841
B	-30	PRO	-	expression tag	UNP P49841
B	-29	THR	-	expression tag	UNP P49841
B	-28	THR	-	expression tag	UNP P49841
B	-27	GLU	-	expression tag	UNP P49841
B	-26	ASN	-	expression tag	UNP P49841
B	-25	LEU	-	expression tag	UNP P49841
B	-24	TYR	-	expression tag	UNP P49841
B	-23	PHE	-	expression tag	UNP P49841

Continued on next page...

Continued from previous page...

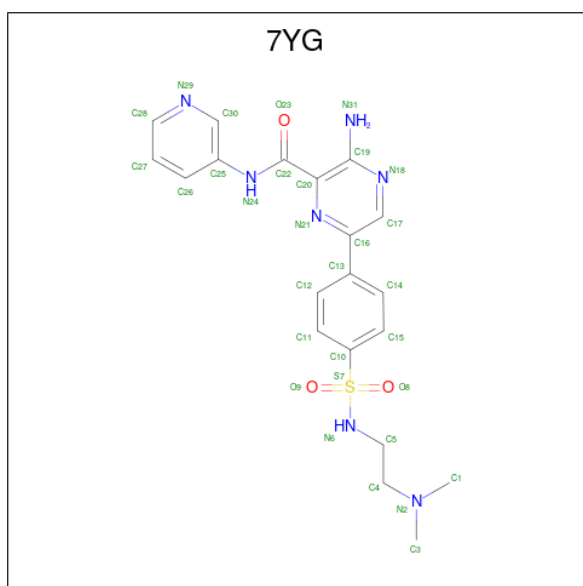
Chain	Residue	Modelled	Actual	Comment	Reference
B	-22	GLN	-	expression tag	UNP P49841
B	-21	GLY	-	expression tag	UNP P49841
B	-20	ALA	-	expression tag	UNP P49841
B	-19	MET	-	expression tag	UNP P49841
B	-18	GLY	-	expression tag	UNP P49841
B	-17	SER	-	expression tag	UNP P49841
B	-16	SER	-	expression tag	UNP P49841
B	-15	HIS	-	expression tag	UNP P49841
B	-14	HIS	-	expression tag	UNP P49841
B	-13	HIS	-	expression tag	UNP P49841
B	-12	HIS	-	expression tag	UNP P49841
B	-11	HIS	-	expression tag	UNP P49841
B	-10	HIS	-	expression tag	UNP P49841
B	-9	SER	-	expression tag	UNP P49841
B	-8	SER	-	expression tag	UNP P49841
B	-7	GLY	-	expression tag	UNP P49841
B	-6	LEU	-	expression tag	UNP P49841
B	-5	VAL	-	expression tag	UNP P49841
B	-4	PRO	-	expression tag	UNP P49841
B	-3	ARG	-	expression tag	UNP P49841
B	-2	GLY	-	expression tag	UNP P49841
B	-1	SER	-	expression tag	UNP P49841
B	0	HIS	-	expression tag	UNP P49841

- Molecule 2 is DIMETHYL SULFOXIDE (CCD ID: DMS) (formula: C_2H_6OS).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C O S 4 2 1 1	0	0
2	A	1	Total C O S 4 2 1 1	0	0
2	B	1	Total C O S 4 2 1 1	0	0

- Molecule 3 is 3-AMINO-6-(4-{[2-(DIMETHYLAMINO)ETHYL]SULFAMOYL}PHE NYL)-N-PYRIDIN-3-YLPYRAZINE-2-CARBOXAMIDE (CCD ID: 7YG) (formula: $C_{20}H_{23}N_7O_3S$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C N O S 31 20 7 3 1	0	0
3	B	1	Total C N O S 31 20 7 3 1	0	0

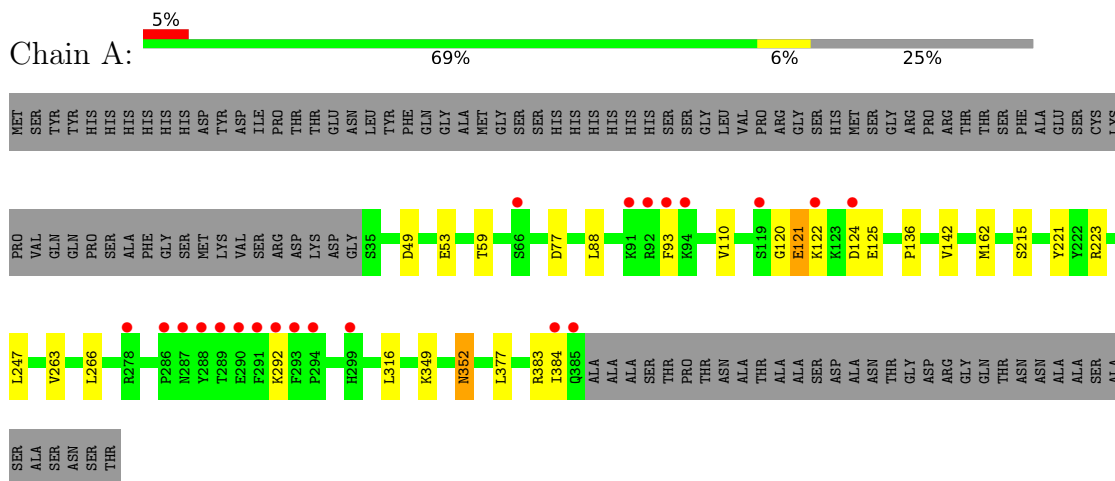
- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	267	Total O 267 267	0	0
4	B	245	Total O 245 245	0	0

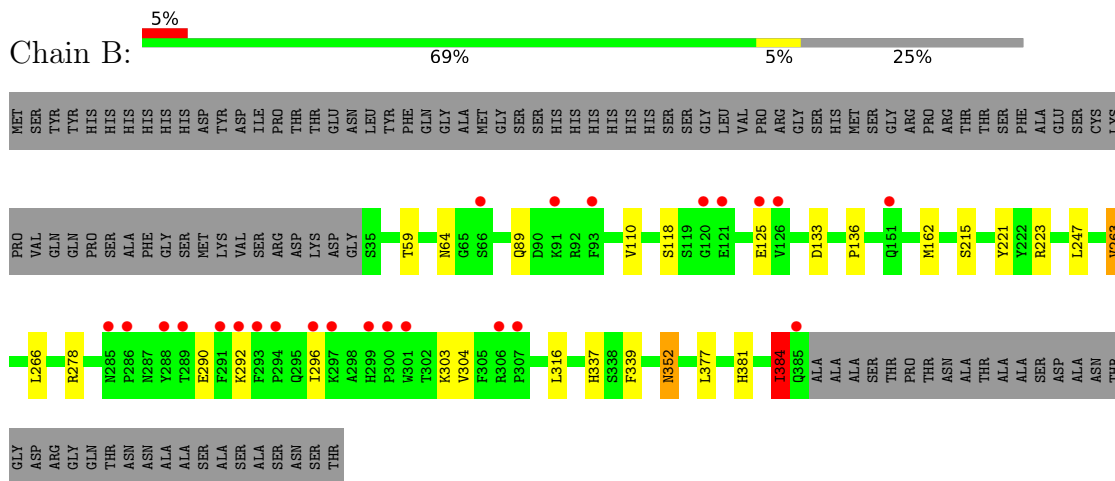
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: GLYCOGEN SYNTHASE KINASE-3 BETA



- Molecule 1: GLYCOGEN SYNTHASE KINASE-3 BETA



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	83.08Å 85.81Å 177.53Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	44.20 – 2.21 44.20 – 2.21	Depositor EDS
% Data completeness (in resolution range)	90.2 (44.20-2.21) 90.2 (44.20-2.21)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.25 (at 2.20Å)	Xtriage
Refinement program	BUSTER 2.11.1	Depositor
R, R_{free}	0.189 , 0.219 0.188 , 0.219	Depositor DCC
R_{free} test set	2946 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å ²)	39.4	Xtriage
Anisotropy	0.695	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 51.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	0.026 for k,h,-l	Xtriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	6196	wwPDB-VP
Average B, all atoms (Å ²)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.98% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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: 7YG, DMS

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	0.86	1/2876 (0.0%)	1.22	5/3913 (0.1%)
1	B	0.83	1/2876 (0.0%)	1.24	7/3913 (0.2%)
All	All	0.85	2/5752 (0.0%)	1.23	12/7826 (0.2%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	384	ILE	C-N	-5.48	1.25	1.33
1	B	384	ILE	C-N	-5.19	1.26	1.33

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	383	ARG	N-CA-C	7.49	121.57	111.24
1	B	377	LEU	N-CA-C	7.30	119.24	111.28
1	A	377	LEU	N-CA-C	6.86	118.76	111.28
1	B	136	PRO	N-CA-C	6.12	121.58	113.57
1	A	136	PRO	N-CA-C	5.90	121.30	113.57
1	B	118	SER	CA-C-N	5.82	128.55	120.29
1	B	118	SER	C-N-CA	5.82	128.55	120.29
1	B	352	ASN	CA-CB-CG	5.50	118.11	112.60
1	B	133	ASP	CA-CB-CG	5.46	118.06	112.60
1	B	263	VAL	N-CA-CB	5.41	116.88	110.55
1	A	352	ASN	CA-CB-CG	5.26	117.86	112.60
1	A	93	PHE	CA-CB-CG	5.03	118.83	113.80

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	2805	0	2833	7	0
1	B	2805	0	2833	5	0
2	A	8	0	12	2	0
2	B	4	0	6	1	0
3	A	31	0	23	0	0
3	B	31	0	23	0	0
4	A	267	0	0	0	0
4	B	245	0	0	0	0
All	All	6196	0	5730	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:B:215:SER:O	1:B:223:ARG:NH2	2.37	0.58
1:A:215:SER:O	1:A:223:ARG:NH2	2.38	0.57
1:A:88:LEU:HD11	1:A:125:GLU:HB3	1.89	0.55
1:B:381:HIS:HA	1:B:384:ILE:HD12	1.92	0.51
1:B:162:MET:HE2	1:B:247:LEU:HB2	1.91	0.51
1:A:162:MET:HE2	1:A:247:LEU:HB2	1.93	0.50
1:A:122:LYS:HB2	1:A:125:GLU:HB2	1.95	0.48
1:B:337:HIS:HD2	1:B:339:PHE:H	1.60	0.48
1:A:121:GLU:C	1:A:122:LYS:HG2	2.40	0.47
1:A:59:THR:HG21	2:A:1386:DMS:H11	1.96	0.46
1:A:142:VAL:HG11	2:A:1385:DMS:H12	2.01	0.42
1:B:59:THR:HG21	2:B:1385:DMS:H11	2.00	0.42

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	349/465 (75%)	331 (95%)	16 (5%)	2 (1%)	21	22
1	B	349/465 (75%)	338 (97%)	9 (3%)	2 (1%)	21	22
All	All	698/930 (75%)	669 (96%)	25 (4%)	4 (1%)	21	22

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	384	ILE
1	A	221	TYR
1	B	221	TYR
1	A	120	GLY

5.3.2 Protein sidechains

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	312/404 (77%)	300 (96%)	12 (4%)	29	38
1	B	312/404 (77%)	298 (96%)	14 (4%)	24	31
All	All	624/808 (77%)	598 (96%)	26 (4%)	26	34

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	49	ASP
1	A	53	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	77	ASP
1	A	110	VAL
1	A	121	GLU
1	A	124	ASP
1	A	263	VAL
1	A	266	LEU
1	A	292	LYS
1	A	316	LEU
1	A	349	LYS
1	A	352	ASN
1	B	64	ASN
1	B	89	GLN
1	B	110	VAL
1	B	125	GLU
1	B	263	VAL
1	B	266	LEU
1	B	278	ARG
1	B	290	GLU
1	B	292	LYS
1	B	296	ILE
1	B	303	LYS
1	B	304	VAL
1	B	316	LEU
1	B	352	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	352	ASN
1	A	381	HIS
1	B	89	GLN
1	B	265	GLN
1	B	295	GLN
1	B	337	HIS
1	B	352	ASN

5.3.3 RNA ⓘ

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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

5 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	$\# Z > 2$
2	DMS	A	1385	-	3,3,3	0.92	0	3,3,3	0.88	0
3	7YG	A	1387	-	33,33,33	1.57	4 (12%)	44,46,46	1.46	7 (15%)
2	DMS	B	1385	-	3,3,3	0.78	0	3,3,3	1.36	1 (33%)
3	7YG	B	1386	-	33,33,33	1.56	4 (12%)	44,46,46	1.31	3 (6%)
2	DMS	A	1386	-	3,3,3	0.83	0	3,3,3	1.56	1 (33%)

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	7YG	A	1387	-	-	2/25/25/25	0/3/3/3
3	7YG	B	1386	-	-	2/25/25/25	0/3/3/3

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	1386	7YG	S7-N6	6.91	1.71	1.61
3	A	1387	7YG	S7-N6	6.52	1.71	1.61

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	1387	7YG	C10-S7	3.18	1.81	1.76
3	A	1387	7YG	C20-C19	-2.59	1.39	1.42
3	B	1386	7YG	C19-N31	2.49	1.40	1.34
3	B	1386	7YG	C10-S7	2.46	1.80	1.76
3	A	1387	7YG	C19-N31	2.17	1.39	1.34
3	B	1386	7YG	C20-C19	-2.09	1.39	1.42

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	1386	7YG	C10-S7-N6	-5.90	99.40	107.54
3	A	1387	7YG	C10-S7-N6	-4.81	100.91	107.54
3	A	1387	7YG	O9-S7-N6	4.21	113.59	107.03
3	A	1387	7YG	C17-N18-C19	-2.80	115.94	118.64
3	A	1387	7YG	O9-S7-O8	2.29	122.30	119.52
3	B	1386	7YG	C17-N18-C19	-2.16	116.56	118.64
3	B	1386	7YG	O9-S7-C10	-2.16	105.25	107.98
2	B	1385	DMS	O-S-C1	2.11	117.05	106.49
3	A	1387	7YG	C1-N2-C4	2.10	119.06	110.75
2	A	1386	DMS	O-S-C1	2.08	116.92	106.49
3	A	1387	7YG	C4-C5-N6	-2.05	106.53	110.35
3	A	1387	7YG	O9-S7-C10	-2.04	105.41	107.98

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	1387	7YG	C5-C4-N2-C1
3	B	1386	7YG	C5-C4-N2-C1
3	B	1386	7YG	C5-C4-N2-C3
3	A	1387	7YG	C5-C4-N2-C3

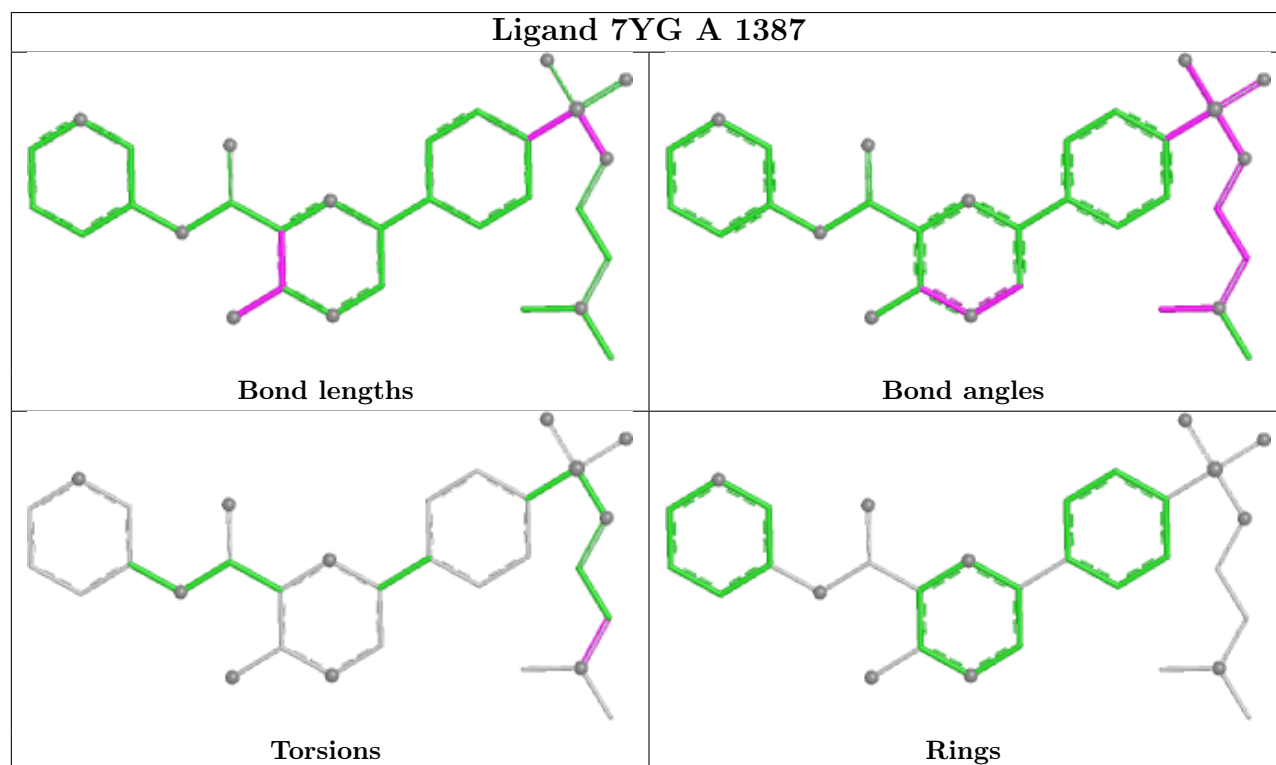
There are no ring outliers.

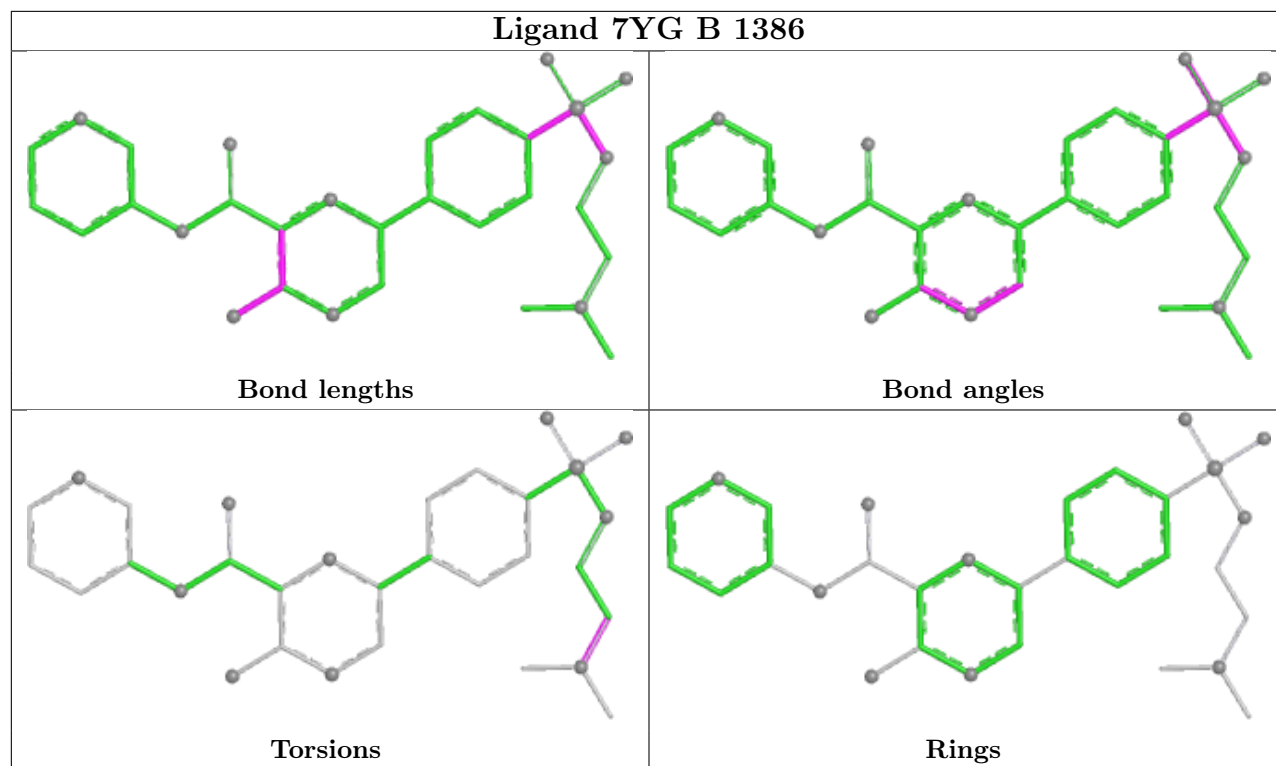
3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	1385	DMS	1	0
2	B	1385	DMS	1	0
2	A	1386	DMS	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 than 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.





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, 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	351/465 (75%)	0.23	21 (5%) 27 25	29, 44, 98, 129	0
1	B	351/465 (75%)	0.42	24 (6%) 23 20	29, 48, 103, 119	0
All	All	702/930 (75%)	0.33	45 (6%) 25 22	29, 46, 102, 129	0

All (45) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	291	PHE	7.0
1	A	291	PHE	6.4
1	B	385	GLN	5.4
1	B	286	PRO	5.2
1	B	288	TYR	5.1
1	A	288	TYR	4.7
1	B	289	THR	4.6
1	B	293	PHE	4.3
1	A	289	THR	4.1
1	A	293	PHE	4.0
1	A	91	LYS	3.7
1	A	93	PHE	3.5
1	B	294	PRO	3.2
1	A	294	PRO	3.1
1	A	286	PRO	3.1
1	B	300	PRO	3.0
1	B	296	ILE	3.0
1	B	292	LYS	2.9
1	A	384	ILE	2.9
1	B	120	GLY	2.9
1	B	66	SER	2.8
1	A	92	ARG	2.8
1	A	124	ASP	2.8
1	A	385	GLN	2.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	287	ASN	2.7
1	B	125	GLU	2.6
1	A	278	ARG	2.6
1	B	285	ASN	2.6
1	B	299	HIS	2.6
1	A	122	LYS	2.5
1	B	126	VAL	2.4
1	A	66	SER	2.4
1	A	292	LYS	2.4
1	A	290	GLU	2.3
1	A	299	HIS	2.3
1	B	91	LYS	2.3
1	A	119	SER	2.3
1	A	94	LYS	2.3
1	B	301	TRP	2.2
1	B	93	PHE	2.2
1	B	121	GLU	2.2
1	B	151	GLN	2.1
1	B	307	PRO	2.1
1	B	297	LYS	2.0
1	B	306	ARG	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 oligosaccharides 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($\text{\AA}^2$)	Q<0.9
2	DMS	B	1385	4/4	0.83	0.24	83,86,92,95	0
2	DMS	A	1386	4/4	0.86	0.23	85,85,90,98	0

Continued on next page...

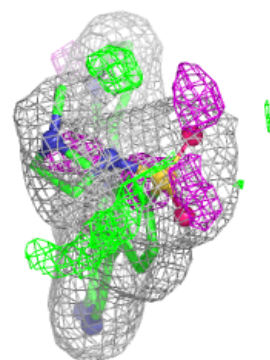
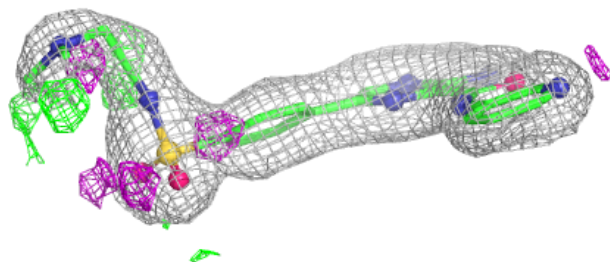
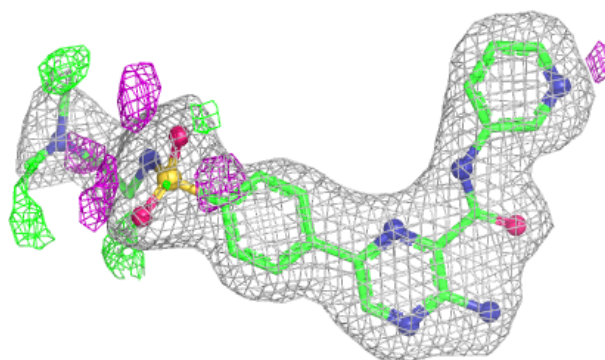
Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	DMS	A	1385	4/4	0.87	0.22	74,76,87,90	0
3	7YG	A	1387	31/31	0.94	0.10	32,40,71,71	0
3	7YG	B	1386	31/31	0.95	0.10	36,46,77,78	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.

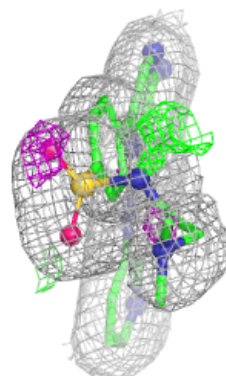
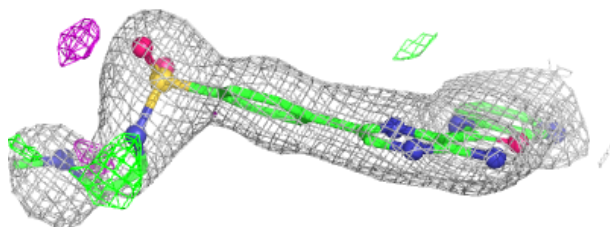
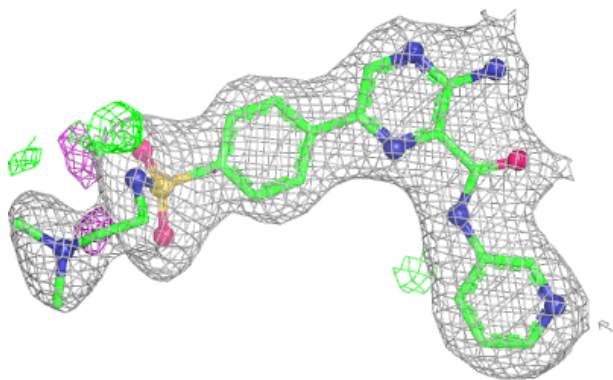
Electron density around 7YG A 1387:

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 7YG B 1386:

$2mF_o-DF_c$ (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.