



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 01:25 PM UTC

PDB ID : 2IL2 / pdb_00002il2
Title : Crystal Structure of Human Renin Complexed with Inhibitor
Authors : Mochalkin, I.
Deposited on : 2006-10-02
Resolution : 2.24 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)
Xtrriage (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

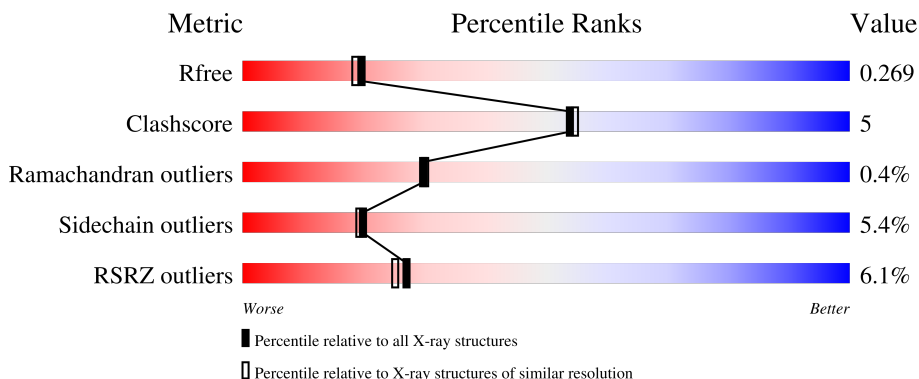
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

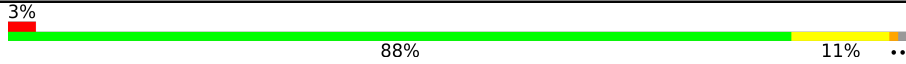
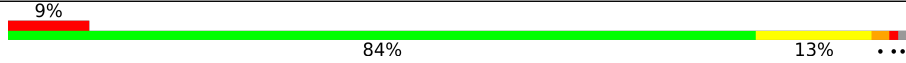
The reported resolution of this entry is 2.24 Å.

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	3416 (2.26-2.22)
Clashscore	190562	3556 (2.26-2.22)
Ramachandran outliers	187476	3500 (2.26-2.22)
Sidechain outliers	187428	3501 (2.26-2.22)
RSRZ outliers	180081	3415 (2.26-2.22)

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	340	 3% 88% 11% ..
1	B	340	 9% 84% 13% ...

2 Entry composition [i](#)

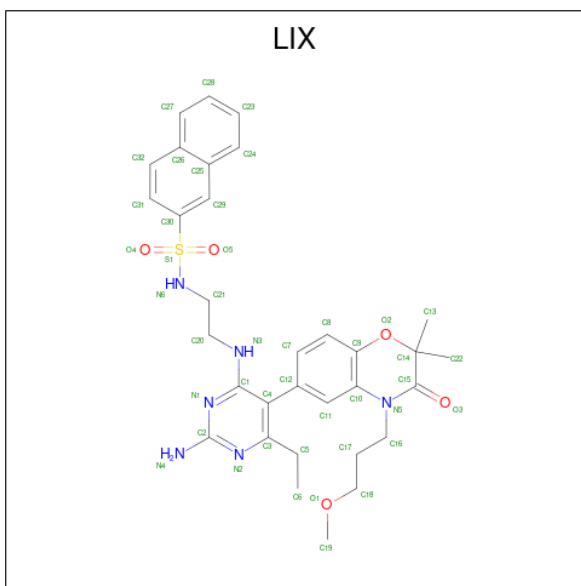
There are 4 unique types of molecules in this entry. The entry contains 5561 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Renin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	338	Total 2606	C 1662	N 422	O 508	S 14	0	0	0
1	B	338	Total 2612	C 1666	N 422	O 510	S 14	6	1	0

- Molecule 2 is N-[2-({2-AMINO-6-ETHYL-5-[4-(3-METHOXYPROPYL)-2,2-DIMETHYL-3-OXO-3,4-DIHYDRO-2H-1,4-BENZOXAZIN-6-YL]PYRIMIDIN-4-YL}AMINO)ETHYL]N APHTHALENE-2-SULFONAMIDE (CCD ID: LIX) (formula: C₃₂H₃₈N₆O₅S).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	S		
2	A	1	Total 44	C 32	N 6	O 5	S 1	0	0
2	B	1	Total 44	C 32	N 6	O 5	S 1	0	0

- Molecule 3 is CITRIC ACID (CCD ID: CIT) (formula: C₆H₈O₇).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 13 6 7	0	0

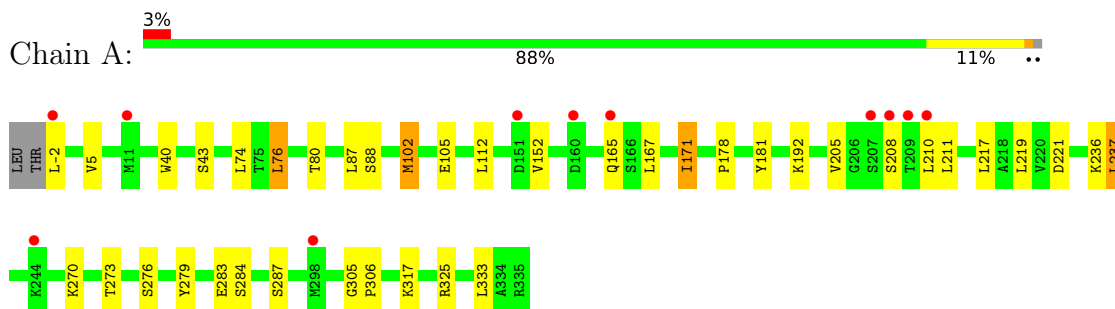
- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	140	Total O 140 140	0	0
4	B	102	Total O 102 102	0	0

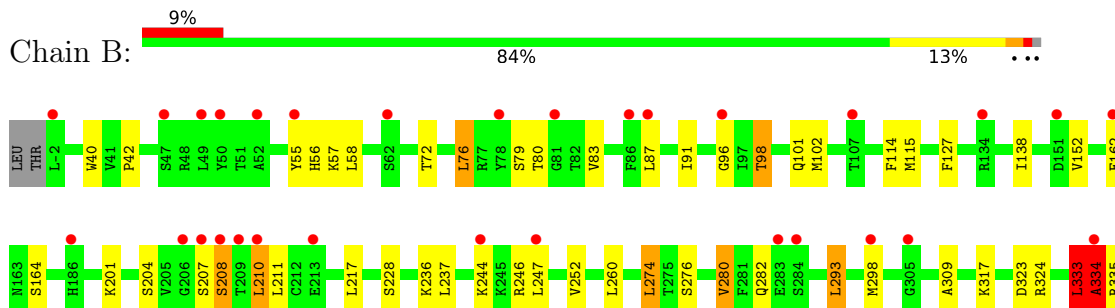
3 Residue-property plots [i](#)

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: Renin



- Molecule 1: Renin



4 Data and refinement statistics i

Property	Value	Source
Space group	P 21 3	Depositor
Cell constants a, b, c, α , β , γ	141.53Å 141.53Å 141.53Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 2.24 20.00 – 2.24	Depositor EDS
% Data completeness (in resolution range)	99.7 (20.00-2.24) 99.4 (20.00-2.24)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	6.12 (at 2.23Å)	Xtrriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.206 , 0.242 (Not available) , 0.269	Depositor DCC
R_{free} test set	2281 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å ²)	45.1	Xtrriage
Anisotropy	0.000	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 37.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.35$	Xtrriage
Estimated twinning fraction	0.019 for l,-k,h	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	5561	wwPDB-VP
Average B, all atoms (Å ²)	47.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.41% 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 [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: CIT, LIX

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	0.73	1/2666 (0.0%)	0.82	0/3615
1	B	0.72	2/2675 (0.1%)	0.83	0/3627
All	All	0.73	3/5341 (0.1%)	0.82	0/7242

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	3

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	334	ALA	CA-C	-5.34	1.45	1.52
1	A	171	ILE	CA-CB	5.15	1.60	1.54
1	B	334	ALA	N-CA	5.04	1.52	1.46

There are no bond angle outliers.

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	333	LEU	Peptide
1	B	334	ALA	Peptide
1	B	96	GLY	Peptide

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	2606	0	2538	22	0
1	B	2612	0	2544	30	0
2	A	44	0	38	1	0
2	B	44	0	38	2	0
3	A	13	0	5	0	0
4	A	140	0	0	0	0
4	B	102	0	0	2	0
All	All	5561	0	5163	51	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 5.

All (51) 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:334:ALA:HB1	1:B:335:ARG:HA	1.40	1.04
1:A:88:SER:O	1:A:102:MET:HE3	1.71	0.90
1:A:208:SER:OG	1:A:210:LEU:HD23	1.74	0.85
1:B:334:ALA:HB1	1:B:335:ARG:CA	2.11	0.79
1:B:298:MET:HE2	2:B:402:LIX:C32	2.21	0.71
1:B:334:ALA:CB	1:B:335:ARG:CA	2.70	0.70
1:B:298:MET:HE3	2:B:402:LIX:H211	1.74	0.69
1:A:88:SER:C	1:A:102:MET:HE3	2.18	0.68
1:A:205:VAL:HG21	1:A:237:LEU:HD23	1.77	0.66
1:B:334:ALA:HA	4:B:419:HOH:O	1.96	0.65
1:A:80:THR:HG21	2:A:401:LIX:H29	1.80	0.63
1:B:91:ILE:HG23	1:B:98:THR:HG23	1.80	0.63
1:B:91:ILE:CG2	1:B:98:THR:HG23	2.29	0.62
1:B:276:SER:O	1:B:280:VAL:HG13	2.02	0.60
1:B:334:ALA:HB3	1:B:335:ARG:HB3	1.84	0.59
1:B:252:VAL:HG11	1:B:260:LEU:HD11	1.87	0.55
1:B:210:LEU:HD12	1:B:211:LEU:HG	1.88	0.54
1:A:273:THR:O	1:A:317:LYS:NZ	2.40	0.54
1:B:83:VAL:HG13	1:B:114:PHE:CE1	2.44	0.53
1:B:56:HIS:HE1	1:B:114:PHE:O	1.92	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:210:LEU:HD12	1:A:211:LEU:HG	1.91	0.52
1:A:219:LEU:HD23	1:A:221:ASP:HB2	1.90	0.52
1:A:283:GLU:O	1:B:162:GLU:HB3	2.10	0.51
1:B:280:VAL:HB	1:B:293:LEU:HD22	1.93	0.50
1:A:-2:LEU:HD13	1:A:325:ARG:NH1	2.27	0.49
1:A:87:LEU:HB3	1:A:102:MET:CE	2.43	0.49
1:B:333:LEU:HD22	4:B:419:HOH:O	2.12	0.49
1:B:274:LEU:HD22	1:B:317:LYS:HG2	1.95	0.49
1:B:280:VAL:HG22	1:B:282:GLN:HG2	1.95	0.48
1:B:40:TRP:CD1	1:B:76:LEU:HD23	2.48	0.48
1:A:211:LEU:HD21	1:A:236:LYS:HG2	1.96	0.48
1:B:207:SER:O	1:B:208:SER:HB3	2.14	0.48
1:A:178:PRO:HA	1:A:181:TYR:CE1	2.50	0.47
1:B:72:THR:HB	1:B:87:LEU:HD12	1.96	0.47
1:B:211:LEU:HD21	1:B:236:LYS:HG2	1.97	0.46
1:B:152:VAL:HG12	1:B:323:ASP:HA	1.96	0.46
1:A:87:LEU:HB3	1:A:102:MET:HE1	1.97	0.46
1:A:43:SER:HB2	1:A:105:GLU:HB3	1.98	0.46
1:A:88:SER:C	1:A:102:MET:CE	2.90	0.45
1:B:42:PRO:HB2	1:B:58:LEU:HD23	2.00	0.43
1:A:276:SER:HA	1:A:279:TYR:CE2	2.54	0.42
1:B:55:TYR:CD2	1:B:115:MET:HE1	2.54	0.42
1:A:208:SER:HG	1:A:210:LEU:HD23	1.79	0.41
1:B:102:MET:HE3	1:B:102:MET:HB3	1.98	0.41
1:B:228:SER:OG	1:B:309:ALA:HB3	2.19	0.41
1:A:102:MET:HE2	1:A:102:MET:HB3	1.82	0.41
1:A:305:GLY:HA2	1:A:306:PRO:C	2.45	0.41
1:B:127:PHE:CE2	1:B:324:ARG:HD3	2.56	0.41
1:B:101:GLN:OE1	1:B:138:ILE:HA	2.20	0.41
1:A:5:VAL:HB	1:A:171:ILE:HG23	2.02	0.41
1:A:40:TRP:CD1	1:A:76:LEU:HD23	2.56	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	336/340 (99%)	329 (98%)	7 (2%)	0	100	100
1	B	337/340 (99%)	325 (96%)	9 (3%)	3 (1%)	14	11
All	All	673/680 (99%)	654 (97%)	16 (2%)	3 (0%)	30	30

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	208	SER
1	B	246	ARG
1	B	334	ALA

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	288/290 (99%)	274 (95%)	14 (5%)	22	23
1	B	289/290 (100%)	272 (94%)	17 (6%)	18	16
All	All	577/580 (100%)	546 (95%)	31 (5%)	20	19

All (31) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	74	LEU
1	A	76	LEU
1	A	102	MET
1	A	112	LEU
1	A	152	VAL
1	A	165	GLN
1	A	167	LEU
1	A	192	LYS
1	A	217	LEU
1	A	237	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	270	LYS
1	A	284	SER
1	A	287	SER
1	A	333	LEU
1	B	57	LYS
1	B	76	LEU
1	B	79	SER
1	B	80	THR
1	B	98	THR
1	B	164	SER
1	B	201	LYS
1	B	204	SER
1	B	210	LEU
1	B	217	LEU
1	B	237	LEU
1	B	244	LYS
1	B	247	LEU
1	B	274	LEU
1	B	280	VAL
1	B	293	LEU
1	B	333	LEU

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	89	GLN
1	A	141	ASN
1	A	189	ASN
1	A	327	ASN
1	B	141	ASN
1	B	186	HIS
1	B	189	ASN

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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

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$
2	LIX	A	401	-	47,48,48	1.92	4 (8%)	65,70,70	2.39	15 (23%)
3	CIT	A	501	-	12,12,12	1.04	0	17,17,17	1.59	3 (17%)
2	LIX	B	402	-	47,48,48	1.93	7 (14%)	65,70,70	2.36	18 (27%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	LIX	A	401	-	-	3/25/44/44	0/5/5/5
3	CIT	A	501	-	-	5/16/16/16	-
2	LIX	B	402	-	-	3/25/44/44	0/5/5/5

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	402	LIX	C30-S1	-10.28	1.60	1.76
2	A	401	LIX	C30-S1	-9.89	1.61	1.76
2	A	401	LIX	C4-C1	3.83	1.50	1.42
2	A	401	LIX	C4-C3	3.77	1.48	1.40
2	B	402	LIX	C4-C3	3.52	1.48	1.40
2	B	402	LIX	C4-C1	3.39	1.49	1.42
2	B	402	LIX	C25-C26	3.28	1.49	1.42
2	A	401	LIX	C25-C26	3.16	1.49	1.42

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	402	LIX	C29-C30	2.42	1.41	1.36
2	B	402	LIX	C15-N5	-2.21	1.34	1.36
2	B	402	LIX	C23-C24	2.07	1.41	1.36

All (36) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	402	LIX	C2-N2-C3	9.39	123.11	116.26
2	A	401	LIX	O4-S1-O5	-8.43	109.29	119.52
2	A	401	LIX	C2-N2-C3	6.96	121.34	116.26
2	B	402	LIX	O4-S1-O5	-6.60	111.50	119.52
2	A	401	LIX	C30-S1-N6	6.38	116.35	107.54
2	B	402	LIX	C10-N5-C15	-5.52	117.56	122.80
2	B	402	LIX	C4-C3-N2	-5.49	117.19	123.47
2	A	401	LIX	C4-C1-N1	-5.32	116.55	122.37
2	A	401	LIX	O5-S1-N6	5.01	114.84	107.03
2	B	402	LIX	C11-C12-C4	-4.76	112.52	120.55
2	A	401	LIX	C4-C3-N2	-4.37	118.46	123.47
2	B	402	LIX	O5-S1-C30	4.31	113.42	107.98
3	A	501	CIT	O6-C6-C3	4.00	120.81	113.14
2	A	401	LIX	C2-N1-C1	3.90	123.85	114.59
2	A	401	LIX	C10-N5-C15	-3.85	119.14	122.80
2	A	401	LIX	C11-C12-C4	-3.81	114.11	120.55
2	A	401	LIX	O5-S1-C30	-3.32	103.78	107.98
2	B	402	LIX	C4-C1-N1	-3.24	118.83	122.37
2	B	402	LIX	C29-C30-S1	3.20	122.73	120.07
2	B	402	LIX	C7-C12-C4	3.19	126.27	120.80
2	B	402	LIX	C31-C30-S1	-2.85	116.62	119.76
2	A	401	LIX	C7-C12-C4	2.79	125.58	120.80
2	B	402	LIX	C2-N1-C1	2.77	121.17	114.59
2	B	402	LIX	C8-C7-C12	-2.70	117.66	121.12
2	A	401	LIX	C8-C7-C12	-2.60	117.79	121.12
2	B	402	LIX	C12-C4-C3	-2.56	120.21	123.30
2	A	401	LIX	C11-C10-C9	-2.49	116.11	119.78
2	B	402	LIX	O2-C9-C8	2.39	120.21	116.60
2	B	402	LIX	C9-C10-N5	2.37	121.40	118.58
2	A	401	LIX	O4-S1-N6	-2.27	103.50	107.03
2	B	402	LIX	C20-N3-C1	-2.21	119.43	122.99
3	A	501	CIT	O2-C1-C2	2.17	121.23	114.35
2	B	402	LIX	C7-C12-C11	2.17	121.21	118.23
2	B	402	LIX	C30-S1-N6	2.03	110.35	107.54
3	A	501	CIT	O7-C3-C6	2.02	111.82	108.96

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	401	LIX	C12-C4-C3	-2.00	120.88	123.30

There are no chirality outliers.

All (11) torsion outliers are listed below:

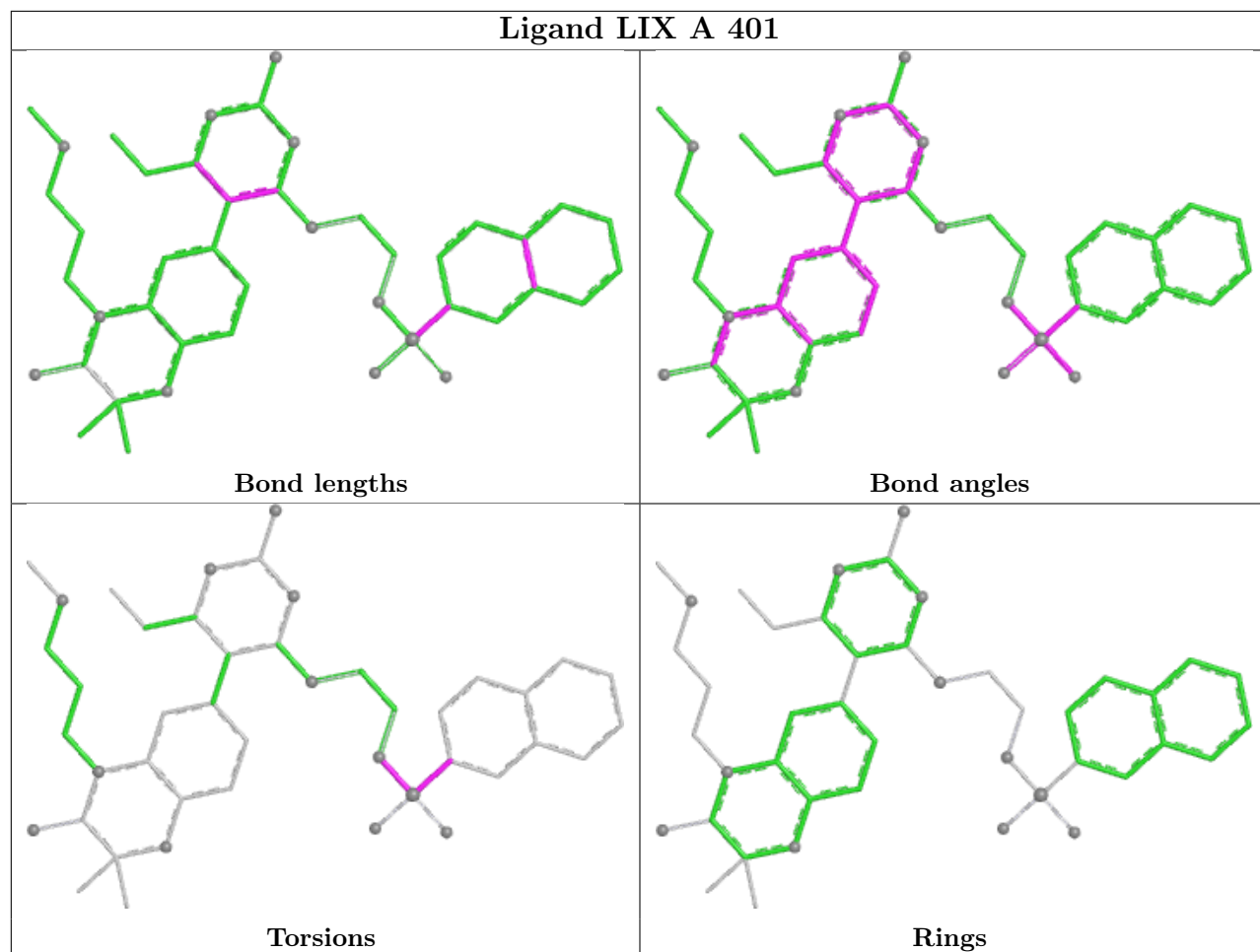
Mol	Chain	Res	Type	Atoms
3	A	501	CIT	C2-C3-C6-O5
3	A	501	CIT	C2-C3-C6-O6
3	A	501	CIT	O7-C3-C6-O5
3	A	501	CIT	O7-C3-C6-O6
2	B	402	LIX	N3-C20-C21-N6
2	B	402	LIX	C21-N6-S1-O5
2	A	401	LIX	C21-N6-S1-O4
3	A	501	CIT	C4-C3-C6-O6
2	A	401	LIX	C31-C30-S1-O5
2	A	401	LIX	C29-C30-S1-O5
2	B	402	LIX	C29-C30-S1-O4

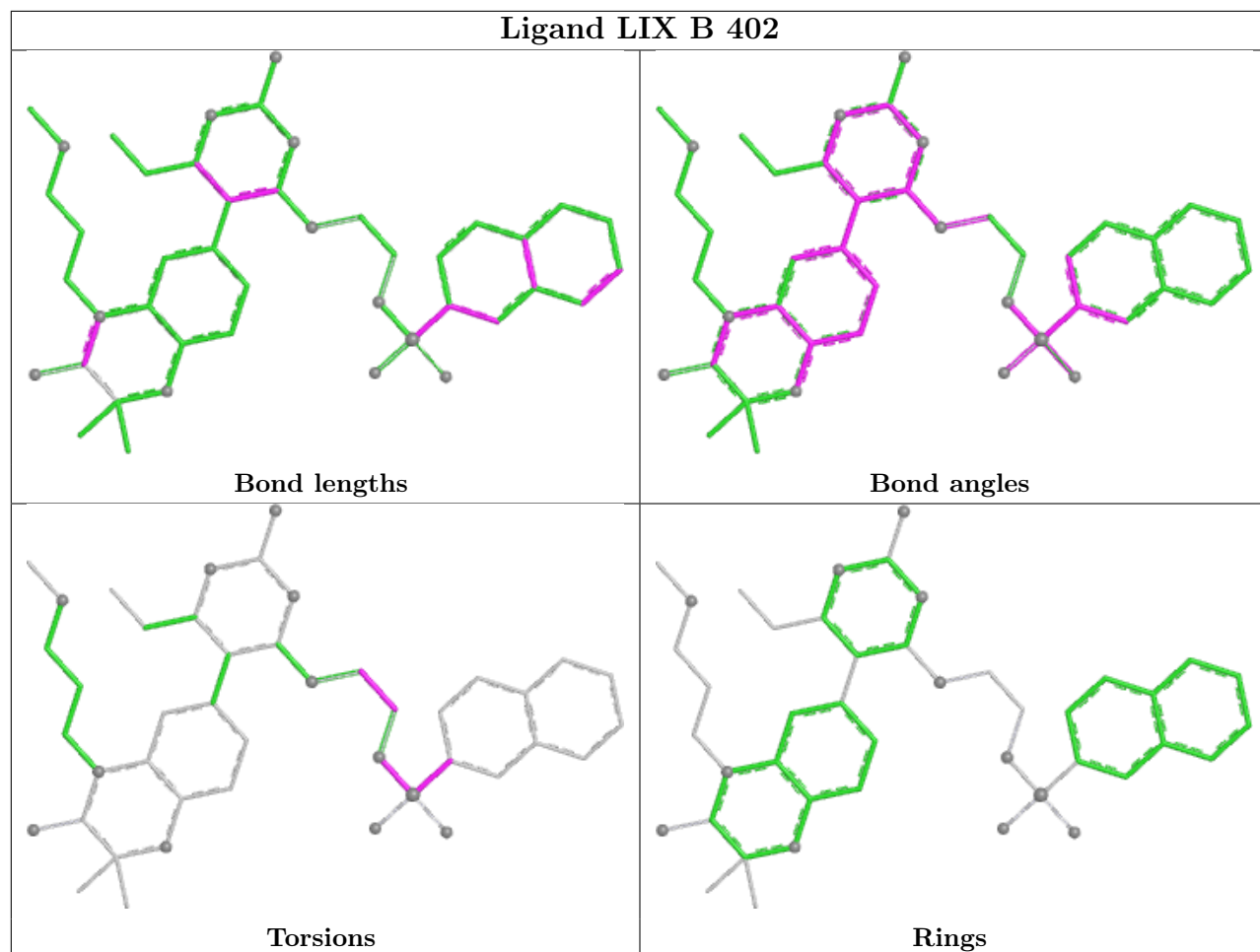
There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	401	LIX	1	0
2	B	402	LIX	2	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	338/340 (99%)	0.39	11 (3%) 49 49	30, 45, 60, 69	2 (0%)
1	B	338/340 (99%)	0.74	30 (8%) 15 14	18, 49, 62, 67	6 (1%)
All	All	676/680 (99%)	0.56	41 (6%) 27 25	18, 47, 61, 69	8 (1%)

All (41) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	62	SER	6.2
1	A	208	SER	6.0
1	A	209	THR	5.2
1	B	186	HIS	4.7
1	A	11	MET	4.6
1	B	334	ALA	4.2
1	A	207	SER	4.2
1	B	210	LEU	3.8
1	B	87	LEU	3.7
1	B	107	THR	3.6
1	B	-2	LEU	3.5
1	B	244	LYS	3.5
1	A	244	LYS	3.4
1	B	208	SER	3.4
1	A	165	GLN	3.4
1	B	55	TYR	3.3
1	B	209	THR	3.2
1	B	78	TYR	3.2
1	B	134	ARG	3.1
1	A	210	LEU	3.0
1	B	207	SER	3.0
1	B	52	ALA	2.9
1	B	151	ASP	2.9
1	B	50	TYR	2.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	47	SER	2.7
1	B	298	MET	2.7
1	B	305	GLY	2.6
1	B	81	GLY	2.6
1	A	151	ASP	2.5
1	A	-2	LEU	2.5
1	B	49	LEU	2.5
1	B	283	GLU	2.4
1	B	284	SER	2.4
1	B	213	GLU	2.3
1	B	162	GLU	2.2
1	A	160	ASP	2.2
1	B	86	PHE	2.1
1	B	96	GLY	2.1
1	A	298	MET	2.1
1	B	206	GLY	2.0
1	B	247	LEU	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.

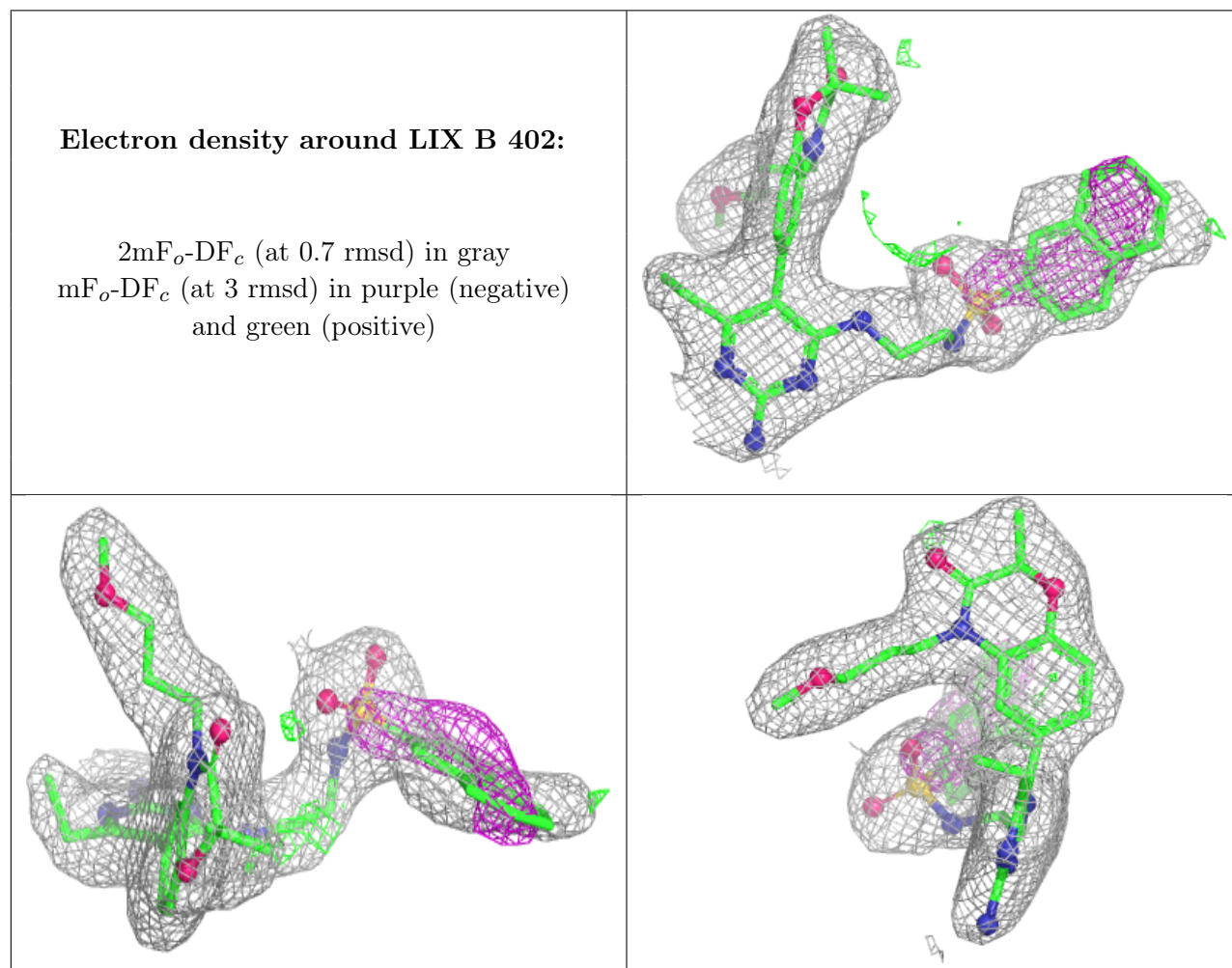
6.4 Ligands [i](#)

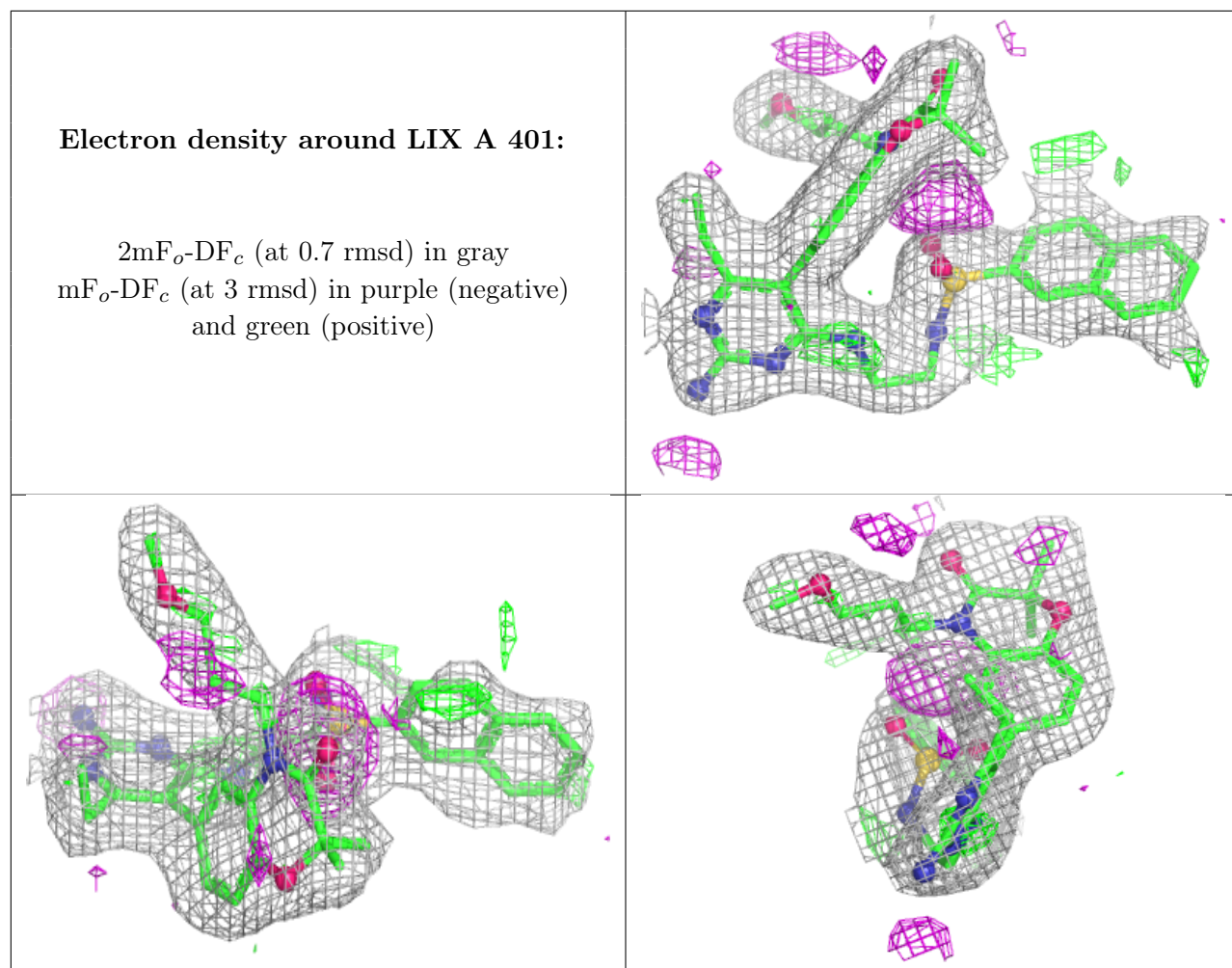
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
3	CIT	A	501	13/13	0.49	0.25	79,80,81,81	0
2	LIX	B	402	44/44	0.89	0.10	26,32,51,51	0
2	LIX	A	401	44/44	0.89	0.13	26,30,42,42	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.





6.5 Other polymers [i](#)

There are no such residues in this entry.