



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 03:46 PM UTC

PDB ID : 7CXX / pdb_00007cxx
Title : Structural insights into novel mechanisms of inhibition of the major b-carbonic anhydrase CafB from the pathogenic fungus *Aspergillus fumigatus* (disulfide-bonded form)
Authors : Jin, M.S.; Kim, S.; Yeon, J.; Sung, J.; Kim, N.J.; Hong, S.
Deposited on : 2020-09-02
Resolution : 2.00 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:

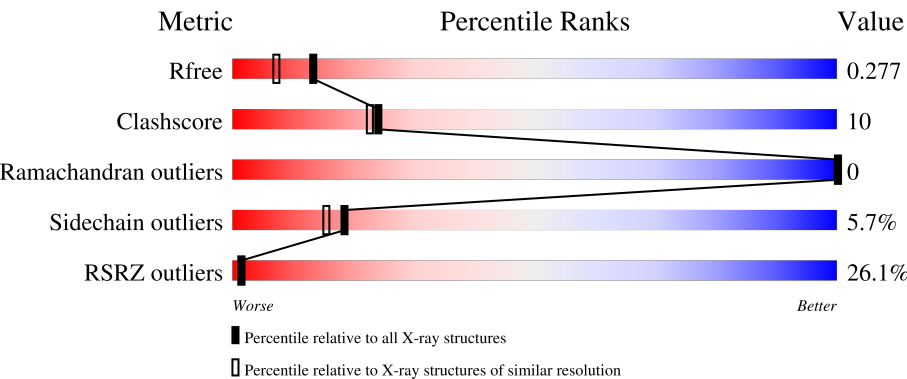
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal 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 i

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.00 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	10052 (2.00-2.00)
Clashscore	190562	11152 (2.00-2.00)
Ramachandran outliers	187476	11031 (2.00-2.00)
Sidechain outliers	187428	11029 (2.00-2.00)
RSRZ outliers	180081	10067 (2.00-2.00)

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	228	25% 76% 17% •• 5%
1	B	228	23% 68% 18% • 12%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	ACT	A	301	-	-	X	-

2 Entry composition [i](#)

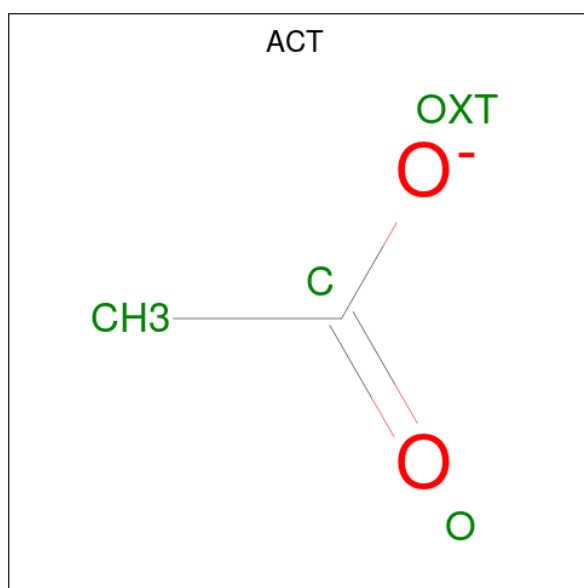
There are 4 unique types of molecules in this entry. The entry contains 3555 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Carbonic anhydrase.

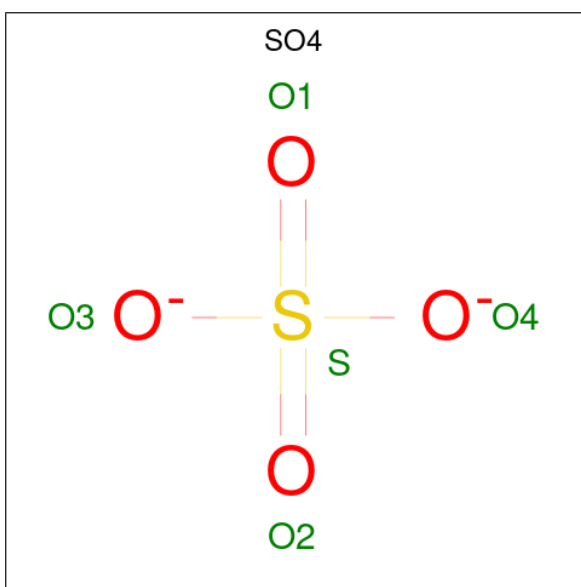
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	216	Total	C	N	O	S	0	0	0
			1750	1109	313	321	7			
1	B	201	Total	C	N	O	S	0	0	0
			1621	1027	292	295	7			

- Molecule 2 is ACETATE ION (CCD ID: ACT) (formula: $C_2H_3O_2$) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 3 is SULFATE ION (CCD ID: SO4) (formula: O_4S) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	O	S	0	0
			5	4	1		

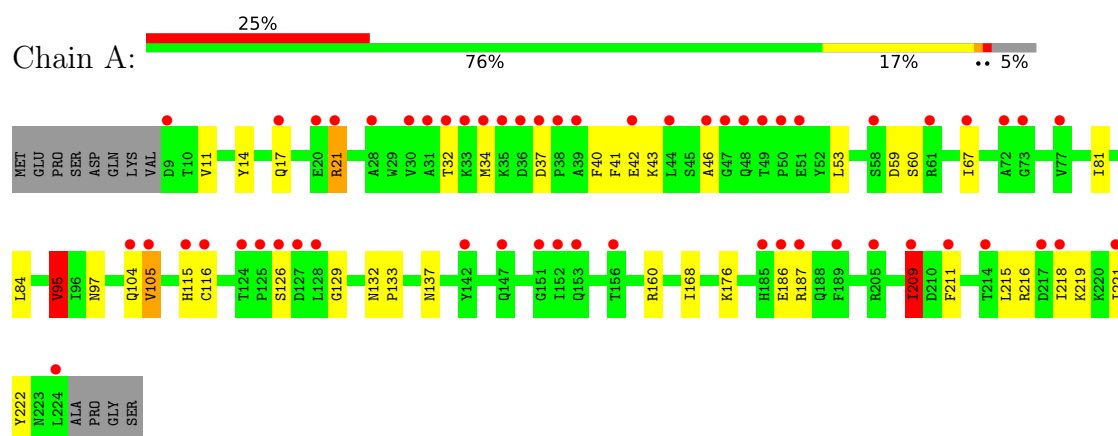
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	84	Total	O	0	0
			84	84		
4	B	87	Total	O	0	0
			87	87		

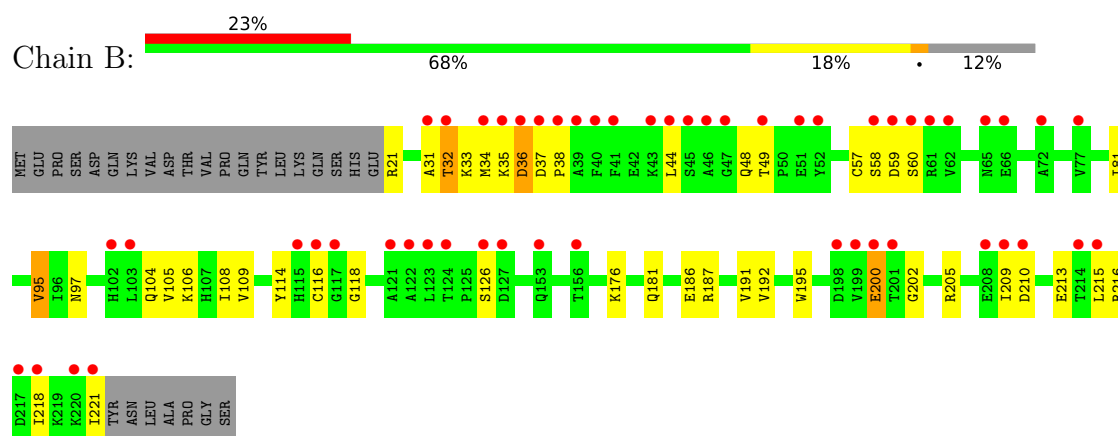
3 Residue-property plots [i](#)

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: Carbonic anhydrase



• Molecule 1: Carbonic anhydrase



4 Data and refinement statistics

Property	Value	Source
Space group	P 32 2 1	Depositor
Cell constants a, b, c, α , β , γ	119.85Å 119.85Å 68.46Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	32.53 – 2.00 32.53 – 2.00	Depositor EDS
% Data completeness (in resolution range)	98.9 (32.53-2.00) 98.9 (32.53-2.00)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	6.69 (at 2.00Å)	Xtriage
Refinement program	REFMAC 5.8.0238	Depositor
R, R_{free}	0.225 , 0.265 0.237 , 0.277	Depositor DCC
R_{free} test set	1916 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å ²)	38.3	Xtriage
Anisotropy	0.002	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.38 , 50.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	0.018 for -h,-k,l	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	3555	wwPDB-VP
Average B, all atoms (Å ²)	54.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.35% 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: SO4, ACT

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	1.09	0/1788	1.41	3/2427 (0.1%)
1	B	1.08	0/1655	1.42	4/2245 (0.2%)
All	All	1.08	0/3443	1.41	7/4672 (0.1%)

There are no bond length outliers.

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	49	THR	CB-CA-C	6.90	117.62	109.47
1	B	104	GLN	CA-C-N	6.02	128.56	120.50
1	B	104	GLN	C-N-CA	6.02	128.56	120.50
1	A	209	ILE	N-CA-C	-5.81	101.53	109.37
1	A	95	VAL	N-CA-CB	5.36	118.62	110.58
1	B	106	LYS	N-CA-C	-5.06	107.28	113.50
1	A	211	PHE	CA-C-O	-5.03	115.72	120.90

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	1750	0	1725	33	0
1	B	1621	0	1605	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	A	4	0	3	2	0
2	B	4	0	3	0	0
3	A	5	0	0	0	0
4	A	84	0	0	11	0
4	B	87	0	0	11	0
All	All	3555	0	3336	67	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 10.

All (67) 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:116:CYS:HB2	4:A:453:HOH:O	1.28	1.23
1:B:116:CYS:HB2	4:B:413:HOH:O	1.33	1.22
1:B:37:ASP:HB3	1:B:38:PRO:HD2	1.36	1.08
1:B:209:ILE:HA	4:B:443:HOH:O	1.53	1.07
1:A:21:ARG:HD2	4:A:405:HOH:O	1.76	0.84
1:B:57:CYS:CB	4:B:401:HOH:O	2.32	0.77
1:A:37:ASP:HB2	1:A:40:PHE:HB2	1.69	0.73
1:B:221:ILE:HD13	4:B:437:HOH:O	1.91	0.71
1:B:58:SER:N	4:B:401:HOH:O	2.24	0.71
1:B:37:ASP:HB3	1:B:38:PRO:CD	2.19	0.71
1:A:14:TYR:HA	1:A:17:GLN:HE21	1.57	0.69
1:A:168:ILE:HG12	1:A:209:ILE:HD11	1.75	0.69
1:A:17:GLN:NE2	4:A:401:HOH:O	2.25	0.68
1:B:57:CYS:HB2	4:B:401:HOH:O	1.92	0.68
1:B:31:ALA:O	1:B:35:LYS:N	2.27	0.68
1:A:21:ARG:CD	4:A:405:HOH:O	2.40	0.67
1:A:160:ARG:HD3	4:A:460:HOH:O	1.96	0.66
1:B:114:TYR:OH	1:B:205:ARG:NH2	2.29	0.64
1:B:37:ASP:CB	1:B:38:PRO:HD2	2.18	0.64
1:A:67:ILE:HD12	2:A:301:ACT:H3	1.80	0.64
1:A:218:ILE:HG23	1:A:222:TYR:HB2	1.80	0.64
1:B:57:CYS:C	4:B:401:HOH:O	2.41	0.64
1:B:57:CYS:SG	4:B:401:HOH:O	2.55	0.63
1:A:41:PHE:HB3	1:B:200:GLU:O	1.98	0.63
1:B:181:GLN:NE2	1:B:218:ILE:HD13	2.17	0.59
1:A:129:GLY:HA2	4:A:427:HOH:O	2.03	0.57
1:A:67:ILE:CD1	2:A:301:ACT:CH3	2.83	0.56
1:B:176:LYS:HA	1:B:218:ILE:HD11	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:104:GLN:NE2	4:A:404:HOH:O	2.40	0.54
1:B:118:GLY:N	4:B:402:HOH:O	2.25	0.53
1:A:21:ARG:NE	4:A:405:HOH:O	2.41	0.53
1:B:32:THR:HB	1:B:36:ASP:HB3	1.91	0.52
4:A:431:HOH:O	1:B:216:ARG:HD3	2.08	0.52
1:B:176:LYS:HA	1:B:218:ILE:CD1	2.41	0.50
1:A:81:ILE:HD11	1:B:95:VAL:HA	1.92	0.50
1:A:176:LYS:HD3	1:A:222:TYR:CD1	2.47	0.49
1:A:41:PHE:CB	1:B:200:GLU:O	2.61	0.49
1:A:95:VAL:HA	1:B:81:ILE:HD11	1.95	0.49
1:A:160:ARG:CD	4:A:460:HOH:O	2.58	0.48
1:B:210:ASP:HB3	1:B:213:GLU:HB3	1.95	0.48
1:A:34:MET:HE1	4:B:407:HOH:O	2.13	0.48
1:B:37:ASP:CB	1:B:38:PRO:CD	2.89	0.47
1:B:181:GLN:CD	1:B:218:ILE:HG21	2.40	0.47
1:B:181:GLN:OE1	1:B:218:ILE:HG21	2.15	0.46
1:B:186:GLU:HG2	1:B:187:ARG:HG3	1.97	0.46
1:A:176:LYS:HD3	1:A:222:TYR:CE1	2.50	0.46
1:A:221:ILE:HB	1:A:222:TYR:CD2	2.51	0.45
1:B:200:GLU:H	1:B:200:GLU:HG2	1.58	0.44
1:A:43:LYS:O	1:A:46:ALA:HB3	2.17	0.43
1:A:186:GLU:HG2	1:A:187:ARG:HG3	2.01	0.43
1:A:115:HIS:CE1	4:A:463:HOH:O	2.71	0.43
1:A:132:ASN:N	1:A:133:PRO:HD2	2.34	0.43
1:B:33:LYS:O	1:B:38:PRO:O	2.36	0.42
1:B:32:THR:O	1:B:37:ASP:N	2.51	0.42
1:A:11:VAL:HG13	1:B:191:VAL:HG11	2.02	0.42
1:B:109:VAL:HG11	1:B:195:TRP:CE3	2.55	0.42
1:B:31:ALA:O	1:B:34:MET:N	2.52	0.42
1:B:44:LEU:HD12	1:B:44:LEU:HA	1.84	0.41
1:A:53:LEU:N	1:A:105:VAL:HG21	2.35	0.41
1:B:118:GLY:CA	4:B:402:HOH:O	2.67	0.41
1:B:186:GLU:CG	1:B:187:ARG:HG3	2.49	0.41
1:A:84:LEU:HD13	1:A:137:ASN:HB2	2.03	0.41
1:A:215:LEU:O	1:A:219:LYS:HG2	2.21	0.41
1:B:108:ILE:O	1:B:192:VAL:HA	2.21	0.41
1:A:216:ARG:HB3	1:A:216:ARG:CZ	2.51	0.41
1:A:41:PHE:CE1	1:B:202:GLY:HA3	2.56	0.41
1:B:215:LEU:HD12	1:B:215:LEU:HA	1.93	0.40

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	214/228 (94%)	209 (98%)	5 (2%)	0	100	100
1	B	199/228 (87%)	194 (98%)	5 (2%)	0	100	100
All	All	413/456 (91%)	403 (98%)	10 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	191/201 (95%)	181 (95%)	10 (5%)	21	18
1	B	176/201 (88%)	165 (94%)	11 (6%)	16	13
All	All	367/402 (91%)	346 (94%)	21 (6%)	18	15

All (21) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	21	ARG
1	A	32	THR
1	A	42	GLU
1	A	59	ASP
1	A	60	SER
1	A	95	VAL
1	A	97	ASN
1	A	105	VAL

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Mol	Chain	Res	Type
1	A	126	SER
1	A	209	ILE
1	B	21	ARG
1	B	32	THR
1	B	36	ASP
1	B	48	GLN
1	B	59	ASP
1	B	60	SER
1	B	95	VAL
1	B	97	ASN
1	B	105	VAL
1	B	126	SER
1	B	200	GLU

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

Mol	Chain	Res	Type
1	A	17	GLN
1	A	65	ASN
1	A	223	ASN
1	B	48	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 ⓘ

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	ACT	B	301	-	3,3,3	1.08	0	3,3,3	0.63	0
3	SO4	A	302	-	4,4,4	0.26	0	6,6,6	0.11	0
2	ACT	A	301	-	3,3,3	0.93	0	3,3,3	0.90	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

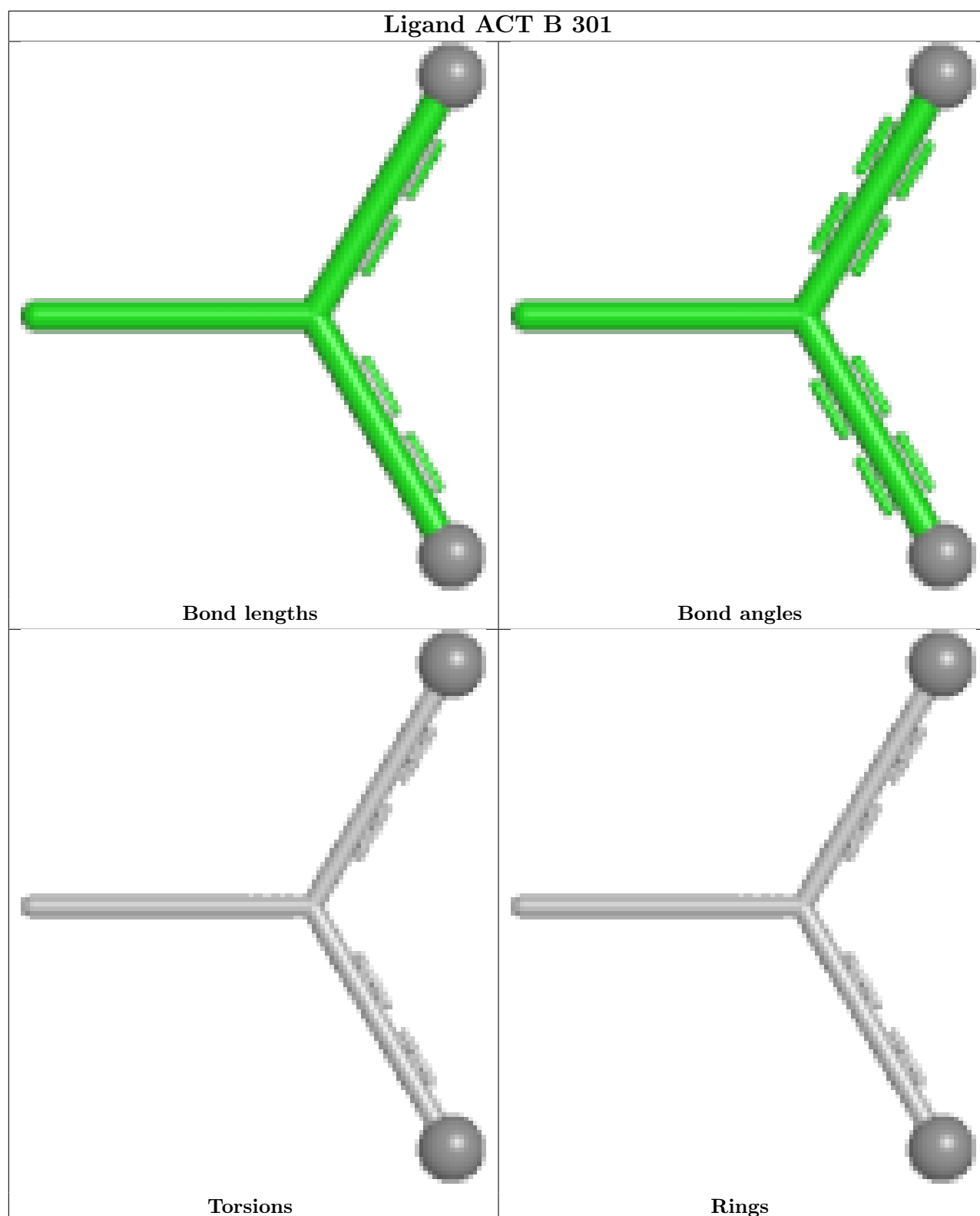
There are no torsion outliers.

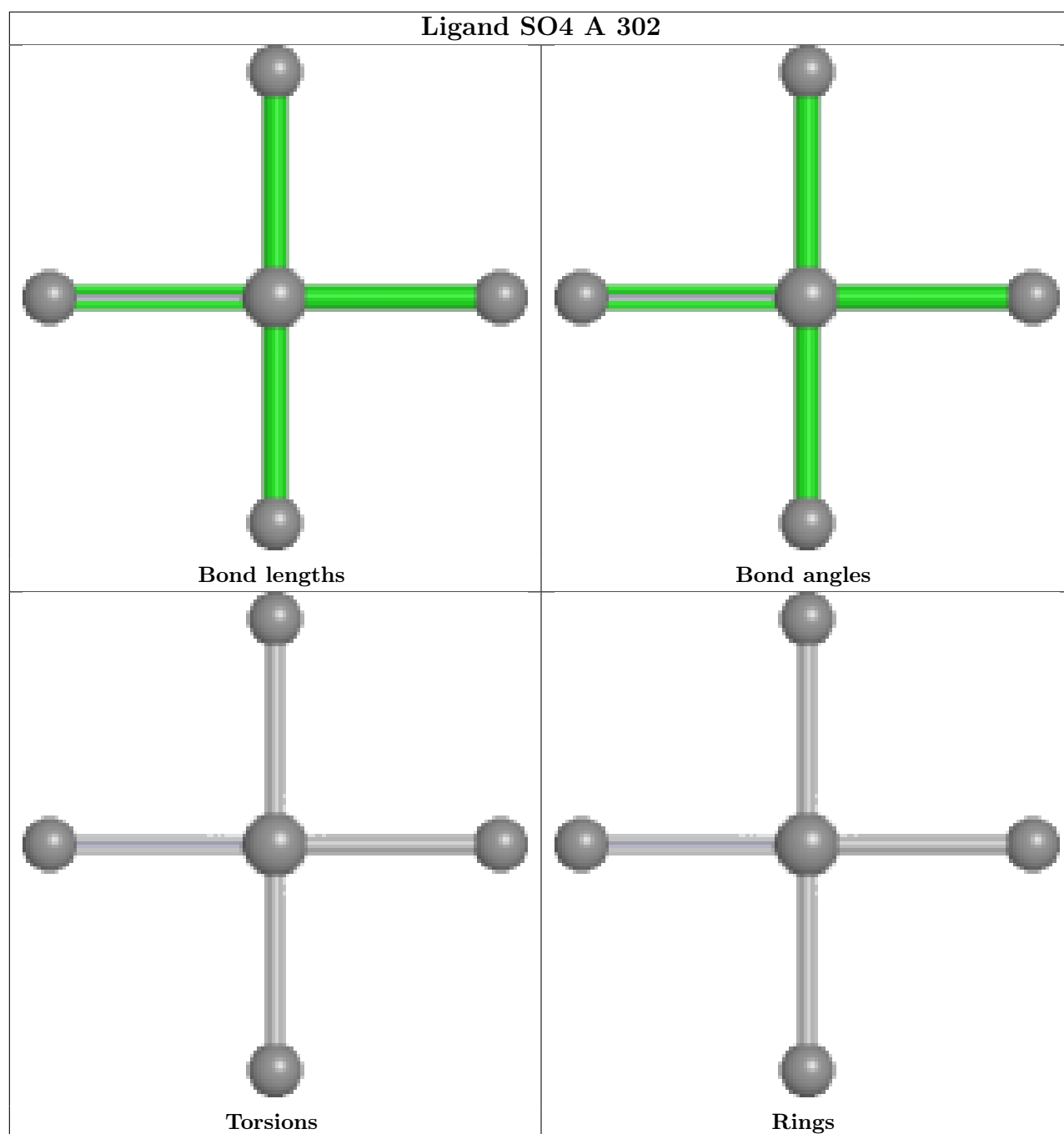
There are no ring outliers.

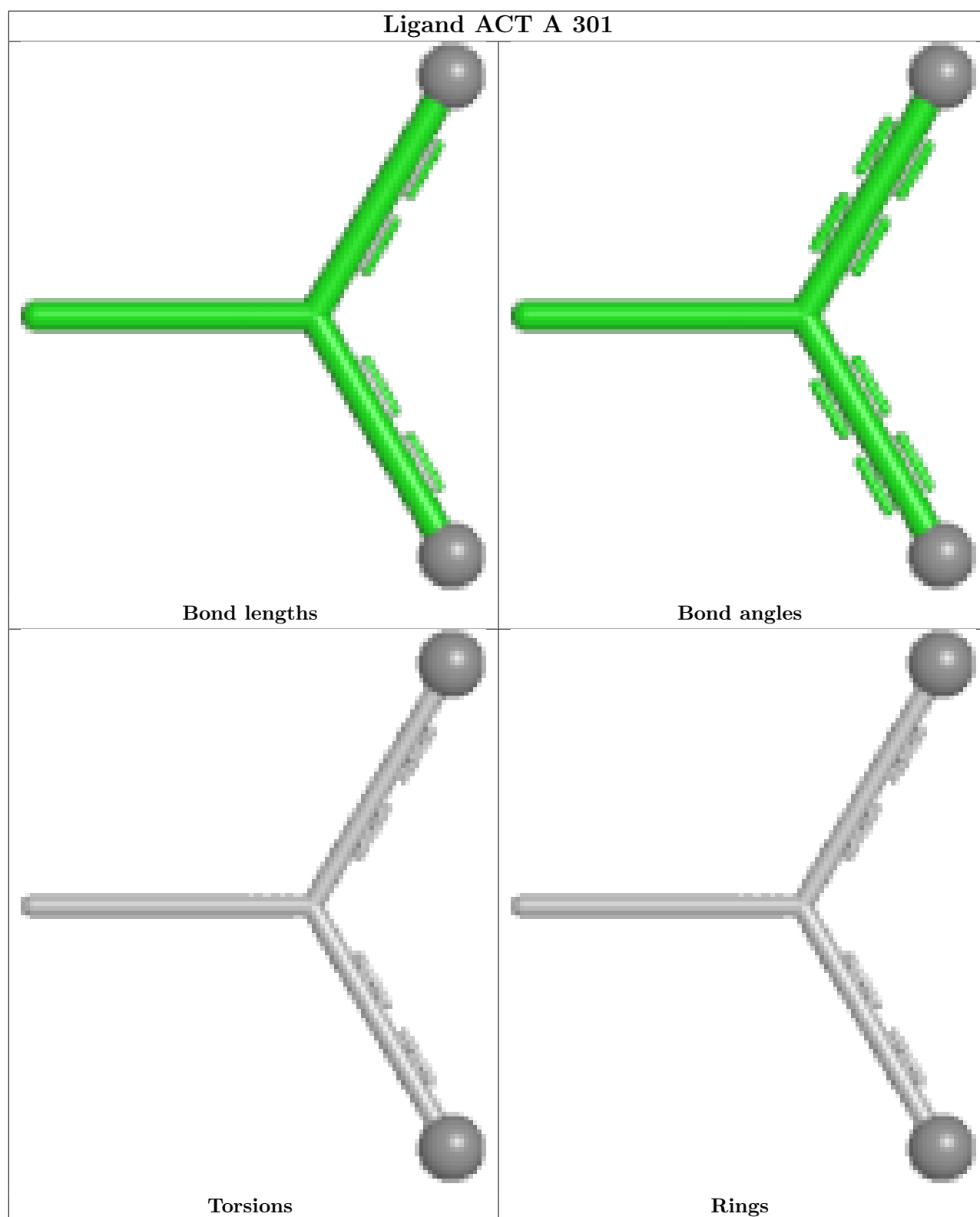
1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	301	ACT	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 ⓘ

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	216/228 (94%)	1.39	56 (25%) 1 1	24, 53, 90, 130	0
1	B	201/228 (88%)	1.33	53 (26%) 1 1	25, 49, 103, 118	0
All	All	417/456 (91%)	1.36	109 (26%) 1 1	24, 52, 99, 130	0

All (109) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	209	ILE	6.1
1	B	40	PHE	5.9
1	B	39	ALA	5.3
1	B	38	PRO	5.1
1	A	224	LEU	5.1
1	A	151	GLY	4.9
1	A	209	ILE	4.5
1	B	218	ILE	4.5
1	A	49	THR	4.4
1	A	125	PRO	4.4
1	A	39	ALA	4.2
1	A	32	THR	4.2
1	B	44	LEU	4.2
1	A	48	GLN	4.0
1	B	121	ALA	3.9
1	A	28	ALA	3.9
1	A	72	ALA	3.9
1	A	156	THR	3.9
1	A	47	GLY	3.8
1	A	38	PRO	3.8
1	B	199	VAL	3.8
1	B	198	ASP	3.7
1	B	34	MET	3.7
1	B	123	LEU	3.6

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Mol	Chain	Res	Type	RSRZ
1	A	30	VAL	3.5
1	A	35	LYS	3.5
1	B	32	THR	3.5
1	B	221	ILE	3.4
1	B	210	ASP	3.4
1	B	49	THR	3.4
1	A	104	GLN	3.3
1	A	128	LEU	3.3
1	B	37	ASP	3.3
1	A	124	THR	3.2
1	B	215	LEU	3.2
1	A	51	GLU	3.2
1	A	34	MET	3.2
1	B	116	CYS	3.2
1	B	43	LYS	3.1
1	B	214	THR	3.0
1	B	200	GLU	3.0
1	B	72	ALA	3.0
1	B	127	ASP	3.0
1	A	36	ASP	3.0
1	B	52	TYR	3.0
1	B	41	PHE	3.0
1	A	77	VAL	2.9
1	A	218	ILE	2.9
1	A	46	ALA	2.9
1	B	35	LYS	2.9
1	B	156	THR	2.9
1	A	17	GLN	2.9
1	B	153	GLN	2.8
1	B	208	GLU	2.8
1	B	60	SER	2.8
1	A	9	ASP	2.8
1	B	46	ALA	2.8
1	B	122	ALA	2.8
1	B	65	ASN	2.7
1	B	45	SER	2.7
1	A	115	HIS	2.7
1	A	33	LYS	2.7
1	B	201	THR	2.6
1	B	77	VAL	2.6
1	A	214	THR	2.6
1	A	73	GLY	2.6

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Mol	Chain	Res	Type	RSRZ
1	B	220	LYS	2.6
1	A	31	ALA	2.6
1	A	20	GLU	2.5
1	B	61	ARG	2.5
1	B	59	ASP	2.5
1	A	58	SER	2.5
1	A	217	ASP	2.5
1	B	36	ASP	2.5
1	A	50	PRO	2.4
1	B	103	LEU	2.4
1	A	61	ARG	2.4
1	B	47	GLY	2.4
1	B	62	VAL	2.4
1	A	44	LEU	2.4
1	A	186	GLU	2.4
1	B	58	SER	2.4
1	A	185	HIS	2.4
1	B	31	ALA	2.3
1	B	66	GLU	2.3
1	A	126	SER	2.3
1	A	187	ARG	2.3
1	A	42	GLU	2.3
1	A	67	ILE	2.3
1	A	147	GLN	2.3
1	A	37	ASP	2.3
1	B	115	HIS	2.2
1	A	116	CYS	2.2
1	B	117	GLY	2.2
1	A	21	ARG	2.2
1	B	217	ASP	2.2
1	B	102	HIS	2.2
1	B	124	THR	2.2
1	A	221	ILE	2.1
1	A	142	TYR	2.1
1	B	51	GLU	2.1
1	A	152	ILE	2.1
1	A	153	GLN	2.1
1	A	211	PHE	2.1
1	A	127	ASP	2.1
1	A	189	PHE	2.1
1	A	105	VAL	2.0
1	B	126	SER	2.0

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Mol	Chain	Res	Type	RSRZ
1	A	205	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](#)

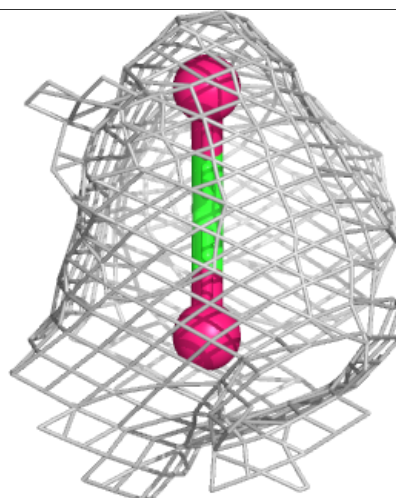
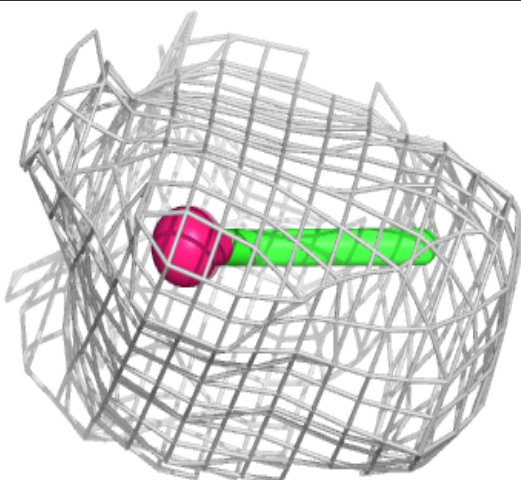
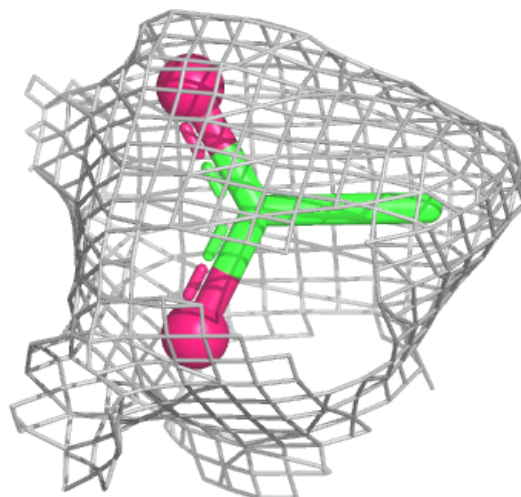
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists 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	ACT	A	301	4/4	0.84	0.16	67,71,74,75	0
2	ACT	B	301	4/4	0.87	0.17	77,82,87,88	0
3	SO4	A	302	5/5	0.89	0.11	57,62,72,74	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.

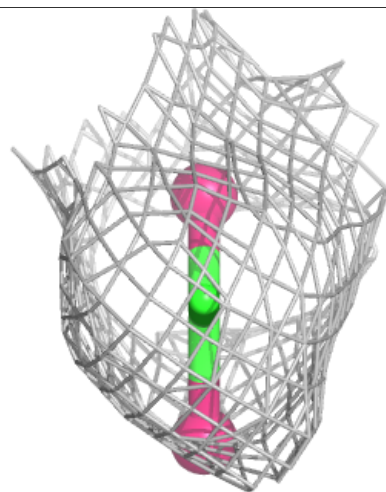
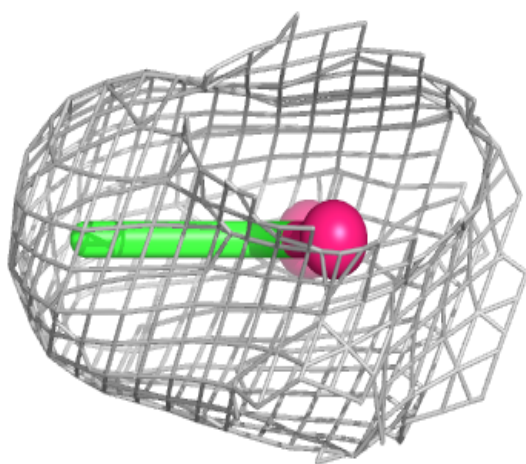
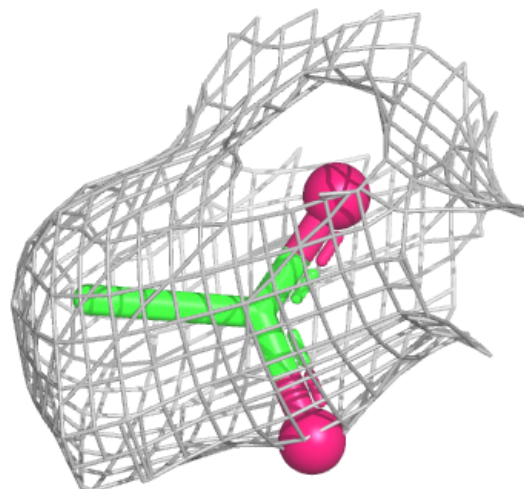
Electron density around ACT A 301:

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



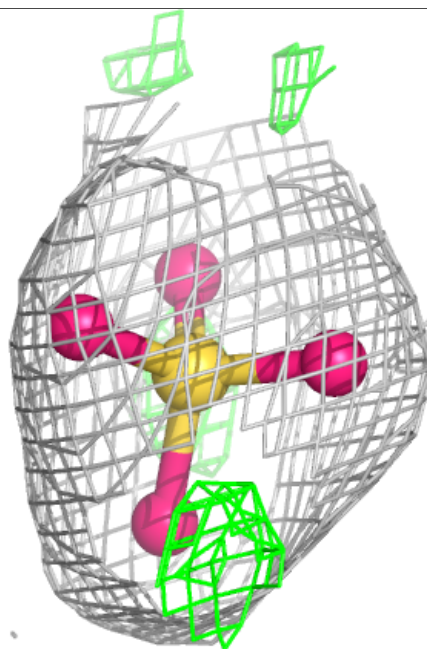
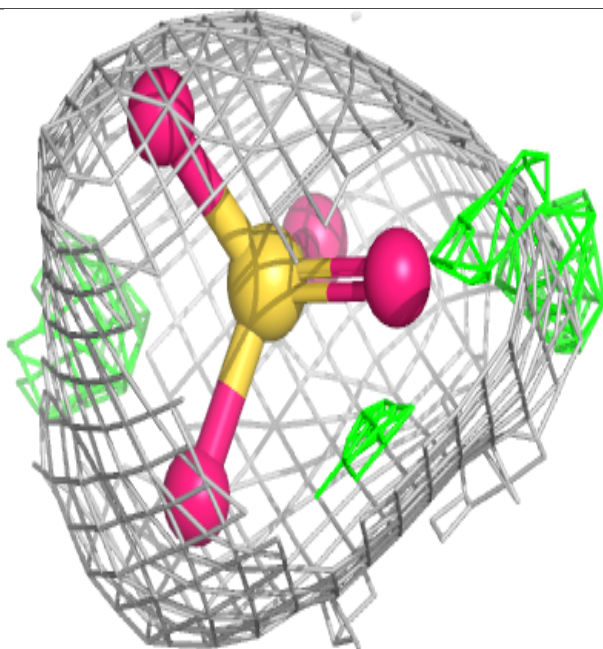
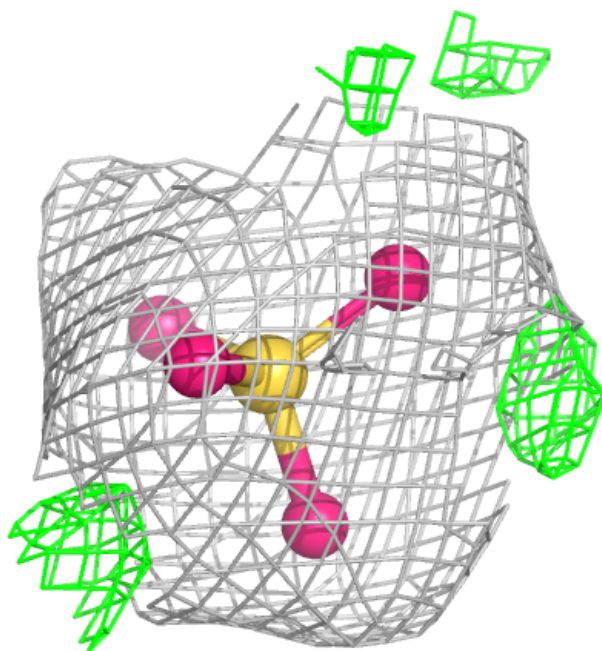
Electron density around ACT B 301:

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



Electron density around SO4 A 302:

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



6.5 Other polymers ⓘ

There are no such residues in this entry.