



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 18, 2026 – 10:15 AM EDT

PDB ID : 13CW / pdb_000013cw
Title : Crystal structure of covalent inhibitor 3-(2-chloroacetamido)-N-(m-tolyl)benzamide bound to Ubiquitin C-terminal Hydrolase-L3
Authors : Pannala, N.; Patel, R.; Flaherty, D.; Das, C.
Deposited on : 2026-04-30
Resolution : 2.48 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	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.50

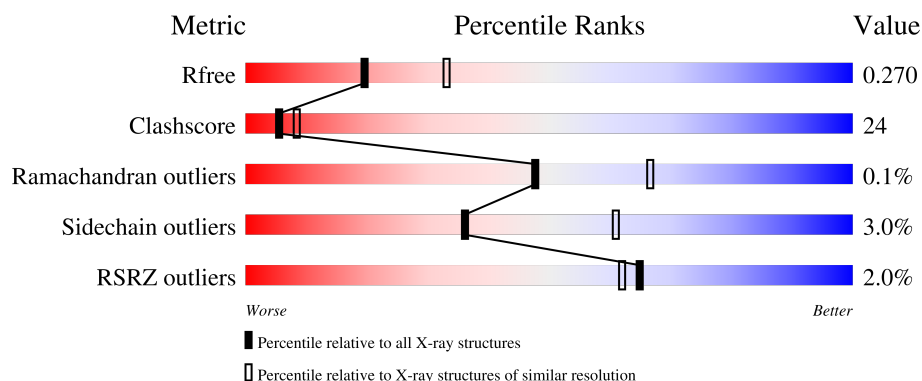
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.48 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	7589 (2.50-2.46)
Clashscore	190562	8295 (2.50-2.46)
Ramachandran outliers	187476	8164 (2.50-2.46)
Sidechain outliers	187428	8166 (2.50-2.46)
RSRZ outliers	180081	7593 (2.50-2.46)

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	238	5% 65% 25% 9%
1	B	238	60% 29% 11%
1	C	238	49% 40% 10%
1	D	238	5% 52% 36% 11%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 6810 atoms, of which 60 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 isozyme L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	217	Total	C	N	O	S	0	0	0
			1693	1080	276	328	9			
1	B	213	Total	C	N	O	S	0	0	0
			1646	1053	267	318	8			
1	C	215	Total	C	N	O	S	0	0	0
			1635	1045	269	313	8			
1	D	211	Total	C	N	O	S	0	0	0
			1587	1011	260	307	9			

There are 32 discrepancies between the modelled and reference sequences:

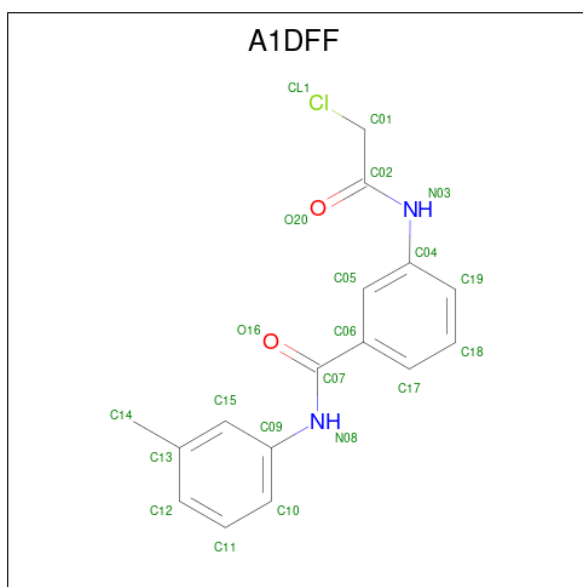
Chain	Residue	Modelled	Actual	Comment	Reference
A	-7	GLY	-	expression tag	UNP P15374
A	-6	PRO	-	expression tag	UNP P15374
A	-5	LEU	-	expression tag	UNP P15374
A	-4	GLY	-	expression tag	UNP P15374
A	-3	SER	-	expression tag	UNP P15374
A	-2	PRO	-	expression tag	UNP P15374
A	-1	GLU	-	expression tag	UNP P15374
A	0	PHE	-	expression tag	UNP P15374
B	-7	GLY	-	expression tag	UNP P15374
B	-6	PRO	-	expression tag	UNP P15374
B	-5	LEU	-	expression tag	UNP P15374
B	-4	GLY	-	expression tag	UNP P15374
B	-3	SER	-	expression tag	UNP P15374
B	-2	PRO	-	expression tag	UNP P15374
B	-1	GLU	-	expression tag	UNP P15374
B	0	PHE	-	expression tag	UNP P15374
C	-7	GLY	-	expression tag	UNP P15374
C	-6	PRO	-	expression tag	UNP P15374
C	-5	LEU	-	expression tag	UNP P15374
C	-4	GLY	-	expression tag	UNP P15374
C	-3	SER	-	expression tag	UNP P15374

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-2	PRO	-	expression tag	UNP P15374
C	-1	GLU	-	expression tag	UNP P15374
C	0	PHE	-	expression tag	UNP P15374
D	-7	GLY	-	expression tag	UNP P15374
D	-6	PRO	-	expression tag	UNP P15374
D	-5	LEU	-	expression tag	UNP P15374
D	-4	GLY	-	expression tag	UNP P15374
D	-3	SER	-	expression tag	UNP P15374
D	-2	PRO	-	expression tag	UNP P15374
D	-1	GLU	-	expression tag	UNP P15374
D	0	PHE	-	expression tag	UNP P15374

- Molecule 2 is 3-(2-chloroacetamido)-N-(3-methylphenyl)benzamide (CCD ID: A1DFF) (formula: C₁₆H₁₅ClN₂O₂) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	H	N	O	0	0
			35	16	15	2	2		
2	B	1	Total	C	H	N	O	0	0
			35	16	15	2	2		
2	C	1	Total	C	H	N	O	0	0
			35	16	15	2	2		
2	D	1	Total	C	H	N	O	0	0
			35	16	15	2	2		

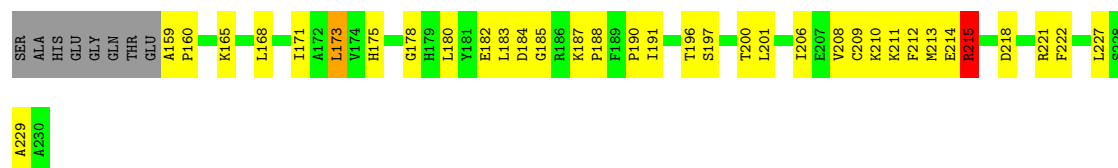
- Molecule 3 is SULFATE ION (CCD ID: SO4) (formula: O₄S).



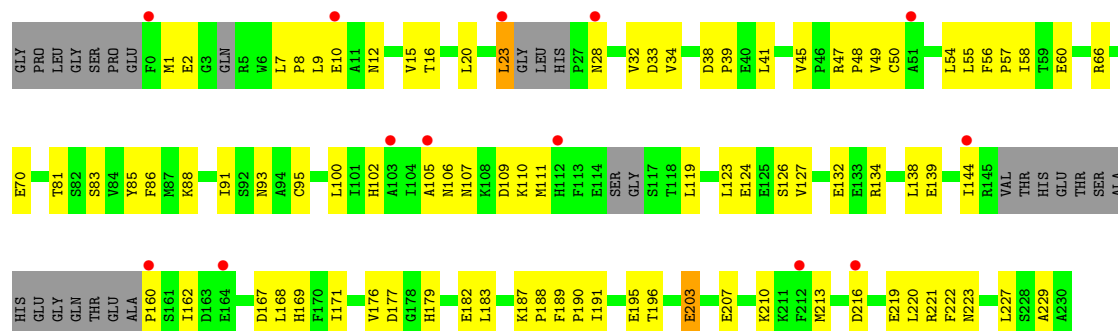
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	O	S	0	0
			5	4	1		
3	A	1	Total	O	S	0	0
			5	4	1		
3	B	1	Total	O	S	0	0
			5	4	1		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	29	Total	O	0	0
			29	29		
4	B	28	Total	O	0	0
			28	28		
4	C	20	Total	O	0	0
			20	20		
4	D	17	Total	O	0	0
			17	17		



- Molecule 1: Ubiquitin carboxyl-terminal hydrolase isozyme L3



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	47.81Å 85.41Å 124.13Å 90.00° 97.65° 90.00°	Depositor
Resolution (Å)	47.39 – 2.48 47.39 – 2.48	Depositor EDS
% Data completeness (in resolution range)	97.3 (47.39-2.48) 97.1 (47.39-2.48)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.38 (at 2.48Å)	Xtriage
Refinement program	PHENIX (1.20.1_4487: ???)	Depositor
R, R_{free}	0.212 , 0.271 0.213 , 0.270	Depositor DCC
R_{free} test set	2007 reflections (5.69%)	wwPDB-VP
Wilson B-factor (Å ²)	52.8	Xtriage
Anisotropy	0.339	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 70.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	6810	wwPDB-VP
Average B, all atoms (Å ²)	68.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.58% 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: SO4, A1DFF

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	0.27	0/1732	0.68	10/2354 (0.4%)
1	B	0.19	0/1682	0.38	1/2288 (0.0%)
1	C	0.32	1/1670 (0.1%)	0.51	6/2272 (0.3%)
1	D	0.22	0/1617	0.44	0/2196
All	All	0.25	1/6701 (0.0%)	0.52	17/9110 (0.2%)

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	A	0	1
1	C	0	1
All	All	0	2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	215	ARG	CB-CG	-5.38	1.36	1.52

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	9	LEU	CA-CB-CG	14.78	168.01	116.30
1	A	109	ASP	CB-CG-OD2	-8.44	98.99	118.40
1	C	215	ARG	CB-CA-C	8.04	123.63	109.65
1	A	109	ASP	CB-CG-OD1	7.69	136.08	118.40
1	C	215	ARG	CG-CD-NE	6.62	126.56	112.00
1	A	9	LEU	CA-C-N	6.39	130.82	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	9	LEU	C-N-CA	6.39	130.82	120.60
1	C	215	ARG	CD-NE-CZ	6.24	133.13	124.40
1	A	109	ASP	CA-C-N	-6.17	109.54	121.58
1	A	109	ASP	C-N-CA	-6.17	109.54	121.58
1	A	9	LEU	CB-CA-C	-6.17	100.59	110.84
1	A	9	LEU	CB-CG-CD1	-6.03	92.62	110.70
1	C	215	ARG	N-CA-CB	-5.19	102.80	110.53
1	B	142	ASP	N-CA-C	-5.17	99.79	110.80
1	C	214	GLU	CA-C-N	-5.17	113.32	122.26
1	C	214	GLU	C-N-CA	-5.17	113.32	122.26
1	A	9	LEU	CB-CG-CD2	5.10	126.01	110.70

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	109	ASP	Sidechain
1	C	215	ARG	Sidechain

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	1693	0	1605	62	0
1	B	1646	0	1554	59	0
1	C	1635	0	1544	101	0
1	D	1587	0	1483	90	0
2	A	20	15	0	2	0
2	B	20	15	0	2	0
2	C	20	15	0	3	0
2	D	20	15	0	4	0
3	A	10	0	0	0	0
3	B	5	0	0	1	0
4	A	29	0	0	0	0
4	B	28	0	0	3	0
4	C	20	0	0	3	0
4	D	17	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	6750	60	6186	304	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 24.

All (304) 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:95:CYS:SG	2:A:301:A1DFF:C01	2.48	1.01
1:C:87:MET:HE1	1:C:138:LEU:HD12	1.44	0.97
1:C:9:LEU:HD13	1:C:159:ALA:HB3	1.46	0.97
1:A:132:GLU:OE2	1:A:132:GLU:N	2.03	0.90
1:D:48:PRO:HD2	1:D:229:ALA:HB3	1.51	0.90
1:B:130:SER:OG	1:B:133:GLU:HG3	1.71	0.89
1:C:91:ILE:HD11	1:C:139:GLU:HA	1.52	0.89
1:A:81:THR:HG22	1:A:83:SER:H	1.39	0.87
1:C:45:VAL:O	1:C:47:ARG:NH1	2.08	0.86
1:B:141:TYR:O	1:B:142:ASP:HB2	1.77	0.84
1:C:87:MET:CE	1:C:138:LEU:HD12	2.09	0.82
1:C:57:PRO:HD2	1:C:222:PHE:HE1	1.43	0.81
1:D:111:MET:HE3	1:D:111:MET:HA	1.62	0.81
1:C:180:LEU:HD21	1:C:208:VAL:HG21	1.65	0.79
1:C:213:MET:HG2	1:C:222:PHE:CD2	2.18	0.78
1:A:9:LEU:HD12	1:A:10:GLU:HG3	1.65	0.78
1:C:97:THR:O	1:C:101:ILE:HD13	1.84	0.77
1:B:199:GLU:N	1:B:199:GLU:OE1	2.17	0.76
1:C:51:ALA:HB3	1:C:227:LEU:HB2	1.67	0.76
1:C:42:LEU:HD21	1:C:206:ILE:HG13	1.67	0.76
1:A:123:LEU:O	1:A:127:VAL:HG13	1.85	0.75
1:C:129:MET:HB3	1:C:133:GLU:HB3	1.66	0.75
1:A:46:PRO:O	1:A:228:SER:OG	2.05	0.74
1:C:70:GLU:O	1:C:74:LYS:HG3	1.88	0.73
1:D:48:PRO:HD2	1:D:229:ALA:CB	2.18	0.73
1:B:25:LEU:HD11	1:B:111:MET:HE3	1.70	0.72
1:D:58:ILE:CD1	1:D:169:HIS:HB2	2.20	0.71
1:C:95:CYS:SG	2:C:301:A1DFF:C01	2.78	0.71
1:C:130:SER:O	1:C:134:ARG:HG3	1.90	0.71
1:D:188:PRO:HG2	1:D:189:PHE:CE2	2.26	0.70
1:D:23:LEU:HG	1:D:119:LEU:HD13	1.74	0.70
1:B:6:TRP:CE3	1:B:221:ARG:HG2	2.27	0.69
1:B:85:TYR:CZ	1:B:134:ARG:HD3	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:66:ARG:HG2	1:D:66:ARG:HH11	1.56	0.69
1:A:70:GLU:HG3	1:A:188:PRO:HG3	1.75	0.69
1:B:13:PRO:HA	1:B:16:THR:HG22	1.74	0.68
1:D:56:PHE:HE1	1:D:171:ILE:HG23	1.55	0.68
1:D:58:ILE:HD12	1:D:169:HIS:HB2	1.74	0.68
1:C:212:PHE:HA	1:C:215:ARG:NH2	2.08	0.67
1:B:211:LYS:HD3	1:B:211:LYS:N	2.10	0.67
1:D:12:ASN:ND2	1:D:15:VAL:HG13	2.10	0.67
1:D:107:ASN:O	1:D:111:MET:HG2	1.96	0.66
1:C:81:THR:HG22	1:C:84:VAL:HG23	1.78	0.66
1:C:86:PHE:CG	1:C:190:PRO:HD3	2.31	0.66
1:C:6:TRP:H	1:C:6:TRP:CD1	2.13	0.65
1:D:216:ASP:OD1	1:D:219:GLU:HB3	1.95	0.65
1:C:213:MET:HG2	1:C:222:PHE:HD2	1.62	0.65
1:D:102:HIS:HB3	1:D:183:LEU:HD12	1.78	0.65
1:C:81:THR:HG22	1:C:84:VAL:CG2	2.27	0.65
1:C:54:LEU:HD12	1:C:55:LEU:N	2.11	0.64
1:A:8:PRO:HG3	1:A:162:ILE:HD13	1.78	0.64
1:D:106:ASN:HD22	1:D:176:VAL:HG21	1.62	0.64
1:B:25:LEU:HD11	1:B:111:MET:CE	2.27	0.64
1:D:119:LEU:O	1:D:123:LEU:HD23	1.98	0.64
1:A:9:LEU:HD12	1:A:10:GLU:CG	2.27	0.64
1:D:91:ILE:HD13	1:D:138:LEU:HD23	1.77	0.64
1:D:33:ASP:OD1	1:D:34:VAL:N	2.31	0.63
1:A:9:LEU:HG	1:A:161:SER:HA	1.80	0.63
1:C:57:PRO:HD2	1:C:222:PHE:CE1	2.30	0.62
1:D:55:LEU:HD11	1:D:168:LEU:HD13	1.81	0.62
1:A:184:ASP:HB3	1:A:187:LYS:HG3	1.82	0.62
1:A:209:CYS:O	1:A:213:MET:HG2	1.99	0.62
1:B:13:PRO:O	1:B:16:THR:HG22	1.99	0.62
1:D:54:LEU:HD12	1:D:223:ASN:O	1.99	0.62
1:B:35:TYR:HB3	1:B:41:LEU:HD13	1.80	0.62
1:D:216:ASP:OD1	1:D:216:ASP:O	2.17	0.62
1:D:56:PHE:CE1	1:D:171:ILE:HG23	2.33	0.62
1:D:66:ARG:HG2	1:D:66:ARG:NH1	2.14	0.62
1:D:109:ASP:OD1	1:D:110:LYS:HG3	2.00	0.61
1:C:105:ALA:O	1:C:108:LYS:HG3	2.01	0.61
1:C:122:PHE:HD2	1:C:141:TYR:HD2	1.50	0.60
1:D:16:THR:CG2	1:D:100:LEU:HD21	2.32	0.60
1:D:105:ALA:HB2	1:D:123:LEU:HD11	1.83	0.60
1:C:60:GLU:O	1:C:64:VAL:HG23	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:66:ARG:HG3	1:C:187:LYS:HE3	1.84	0.59
1:A:9:LEU:HD12	1:A:10:GLU:CD	2.28	0.59
1:D:126:SER:HB3	1:D:134:ARG:HG2	1.85	0.59
1:B:81:THR:HG23	3:B:302:SO4:O4	2.02	0.59
1:D:88:LYS:NZ	1:D:188:PRO:O	2.35	0.59
1:C:126:SER:HA	1:C:129:MET:HG3	1.85	0.59
1:A:218:ASP:HB3	1:D:221:ARG:HH11	1.68	0.59
1:C:81:THR:O	1:C:84:VAL:HG23	2.03	0.59
1:D:1:MET:HG3	1:D:2:GLU:H	1.66	0.59
1:B:33:ASP:OD1	1:B:34:VAL:N	2.36	0.58
1:C:6:TRP:CE3	1:C:221:ARG:HG2	2.38	0.58
1:C:171:ILE:HD12	1:C:173:LEU:HD11	1.84	0.58
1:B:184:ASP:HB3	1:B:187:LYS:HG3	1.85	0.58
1:C:54:LEU:HD22	1:C:209:CYS:SG	2.44	0.58
1:C:210:LYS:HA	1:C:213:MET:HE2	1.85	0.58
1:D:57:PRO:HD3	1:D:221:ARG:O	2.04	0.58
1:B:137:TYR:CE1	1:B:141:TYR:HD1	2.22	0.57
1:C:57:PRO:CD	1:C:222:PHE:HE1	2.14	0.57
1:C:180:LEU:HD21	1:C:208:VAL:CG2	2.34	0.57
1:C:213:MET:CG	1:C:222:PHE:HD2	2.17	0.57
1:B:55:LEU:HB2	1:B:170:PHE:CE1	2.40	0.57
1:D:50:CYS:HB2	1:D:107:ASN:ND2	2.20	0.57
1:A:213:MET:HE1	1:D:1:MET:HG2	1.87	0.56
1:D:190:PRO:C	1:D:191:ILE:HD13	2.30	0.56
1:B:141:TYR:O	1:B:142:ASP:CB	2.49	0.56
1:D:8:PRO:HA	1:D:160:PRO:O	2.05	0.56
1:D:9:LEU:HD22	1:D:15:VAL:HG11	1.86	0.56
1:D:207:GLU:HA	1:D:207:GLU:OE1	2.05	0.56
1:C:29:TRP:HB3	1:C:227:LEU:HD22	1.87	0.56
1:A:9:LEU:CD2	1:A:161:SER:HB2	2.36	0.56
1:C:171:ILE:CD1	1:C:173:LEU:HD11	2.36	0.56
1:B:95:CYS:SG	2:B:301:A1DFF:C01	2.94	0.56
1:C:12:ASN:HB3	1:C:15:VAL:HG23	1.88	0.56
1:A:37:MET:HG2	1:D:2:GLU:HB2	1.88	0.55
1:C:91:ILE:CD1	1:C:139:GLU:HA	2.32	0.55
1:C:184:ASP:HB3	1:C:187:LYS:HG3	1.89	0.55
1:D:9:LEU:O	1:D:15:VAL:HG21	2.06	0.55
1:C:213:MET:CG	1:C:222:PHE:CD2	2.90	0.55
1:D:132:GLU:OE1	1:D:132:GLU:N	2.36	0.55
1:C:95:CYS:SG	2:C:301:A1DFF:C02	2.95	0.54
1:A:26:HIS:HB2	1:A:112:HIS:HB3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:8:PRO:HA	1:C:160:PRO:O	2.08	0.54
1:C:31:PHE:CZ	1:C:227:LEU:HG	2.42	0.54
1:A:10:GLU:OE1	1:A:162:ILE:HB	2.08	0.54
1:D:124:GLU:O	1:D:127:VAL:HG23	2.08	0.54
1:A:66:ARG:HH11	1:A:66:ARG:HG2	1.72	0.54
1:A:218:ASP:HB3	1:D:221:ARG:NH1	2.22	0.54
1:B:81:THR:HG22	1:B:83:SER:H	1.73	0.54
1:B:8:PRO:HG3	1:B:162:ILE:HD12	1.90	0.54
1:A:141:TYR:CE2	1:A:143:ALA:HB3	2.42	0.54
1:C:122:PHE:HB2	1:C:141:TYR:HE2	1.72	0.53
1:C:122:PHE:HB2	1:C:141:TYR:CE2	2.44	0.53
1:B:6:TRP:CD2	1:B:221:ARG:HG2	2.42	0.53
1:A:81:THR:HG22	1:A:83:SER:N	2.17	0.53
1:C:79:ASP:OD1	1:C:79:ASP:C	2.52	0.53
1:D:32:VAL:HG11	1:D:45:VAL:HG13	1.91	0.53
1:D:38:ASP:OD1	1:D:39:PRO:HD2	2.08	0.53
1:A:63:GLU:HG3	2:B:301:A1DFF:C14	2.39	0.53
1:C:95:CYS:HB3	2:C:301:A1DFF:O20	2.09	0.53
1:D:58:ILE:HD11	1:D:169:HIS:HB2	1.91	0.53
1:A:66:ARG:HG2	1:A:66:ARG:NH1	2.25	0.52
1:A:70:GLU:CG	1:A:188:PRO:HG3	2.38	0.52
1:A:70:GLU:HG3	1:A:188:PRO:CG	2.38	0.52
1:B:37:MET:CB	1:B:210:LYS:HE3	2.39	0.52
1:C:109:ASP:N	1:C:109:ASP:OD1	2.42	0.52
1:C:197:SER:OG	1:C:200:THR:HG23	2.09	0.52
1:C:221:ARG:O	1:C:222:PHE:HD1	1.93	0.52
4:B:401:HOH:O	1:C:165:LYS:HD2	2.09	0.52
1:D:12:ASN:O	1:D:15:VAL:HG22	2.09	0.52
1:B:95:CYS:HB2	1:B:169:HIS:CE1	2.44	0.52
1:C:104:ILE:HG21	1:C:119:LEU:HD21	1.91	0.52
1:A:57:PRO:HD3	1:A:221:ARG:O	2.10	0.51
1:B:124:GLU:O	1:B:127:VAL:HG22	2.09	0.51
1:A:182:GLU:HB3	1:A:191:ILE:HB	1.92	0.51
1:D:60:GLU:CD	1:D:60:GLU:H	2.18	0.51
1:C:59:THR:HB	4:C:411:HOH:O	2.10	0.51
1:B:13:PRO:HA	1:B:16:THR:CG2	2.39	0.51
1:A:55:LEU:HD13	1:A:170:PHE:CZ	2.46	0.51
1:A:125:GLU:O	1:A:125:GLU:HG3	2.09	0.51
1:C:175:HIS:CD2	1:C:196:THR:HG23	2.46	0.51
1:C:213:MET:HA	1:C:222:PHE:CE2	2.46	0.51
1:D:86:PHE:CD2	1:D:190:PRO:HD3	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:162:ILE:HD11	1:A:168:LEU:HB2	1.93	0.51
1:C:63:GLU:HA	1:C:63:GLU:OE1	2.09	0.51
1:C:117:SER:CB	1:C:120:LYS:HB2	2.40	0.51
1:C:117:SER:HB2	1:C:120:LYS:HB2	1.91	0.51
1:D:10:GLU:CD	1:D:10:GLU:H	2.18	0.51
1:D:81:THR:HG21	1:D:177:ASP:CG	2.36	0.51
1:D:7:LEU:HD22	1:D:8:PRO:HD2	1.94	0.50
1:C:57:PRO:CD	1:C:222:PHE:CE1	2.93	0.50
1:C:120:LYS:O	1:C:124:GLU:HG3	2.12	0.50
1:C:122:PHE:HD2	1:C:141:TYR:CD2	2.29	0.50
1:C:187:LYS:HB3	1:C:188:PRO:HD2	1.93	0.50
1:B:123:LEU:O	1:B:127:VAL:HG13	2.12	0.50
1:B:141:TYR:CD2	1:B:143:ALA:HB3	2.47	0.49
1:D:207:GLU:OE1	1:D:210:LYS:HD3	2.12	0.49
1:C:104:ILE:HG21	1:C:119:LEU:CD2	2.43	0.49
1:C:213:MET:HA	1:C:222:PHE:HE2	1.77	0.49
1:B:57:PRO:HD3	1:B:221:ARG:O	2.12	0.49
1:B:86:PHE:O	1:B:134:ARG:NH1	2.42	0.49
1:D:32:VAL:CG1	1:D:45:VAL:HG13	2.43	0.49
1:C:48:PRO:HD2	1:C:229:ALA:CB	2.42	0.49
1:C:81:THR:HG23	1:C:83:SER:H	1.78	0.48
1:B:31:PHE:HA	1:B:226:ALA:O	2.13	0.48
1:B:141:TYR:CD2	1:B:144:ILE:HD12	2.48	0.48
1:D:55:LEU:HD21	1:D:168:LEU:HB3	1.94	0.48
1:D:162:ILE:HG12	2:D:301:A1DFF:C01	2.44	0.48
1:A:107:ASN:O	1:A:111:MET:HG2	2.14	0.48
1:C:175:HIS:HB2	1:C:201:LEU:HD13	1.96	0.47
1:B:117:SER:HB3	1:B:120:LYS:CB	2.44	0.47
1:A:56:PHE:HE1	1:A:171:ILE:HG23	1.78	0.47
1:A:95:CYS:SG	2:A:301:A1DFF:C02	3.02	0.47
1:D:95:CYS:SG	2:D:301:A1DFF:C01	3.02	0.47
1:A:87:MET:HE1	1:A:138:LEU:CD2	2.45	0.47
1:D:85:TYR:HB3	1:D:106:ASN:OD1	2.15	0.47
1:B:141:TYR:C	1:B:143:ALA:H	2.23	0.47
1:B:175:HIS:CD2	1:B:196:THR:HG23	2.50	0.47
1:D:182:GLU:HB3	1:D:191:ILE:HB	1.95	0.47
1:C:16:THR:HG21	1:C:31:PHE:CD2	2.49	0.47
1:B:187:LYS:HB3	1:B:188:PRO:HD2	1.97	0.47
1:A:167:ASP:OD2	1:A:221:ARG:NH2	2.48	0.46
1:B:165:LYS:NZ	1:C:218:ASP:OD1	2.47	0.46
1:D:70:GLU:HG3	1:D:188:PRO:HG3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:137:TYR:CE1	1:B:141:TYR:CD1	3.04	0.46
1:C:102:HIS:HB3	1:C:183:LEU:HD12	1.96	0.46
1:A:135:ALA:O	1:A:139:GLU:HG3	2.16	0.46
1:C:86:PHE:CD1	1:C:190:PRO:HD3	2.50	0.46
1:C:171:ILE:HD12	1:C:173:LEU:CD1	2.46	0.46
1:C:211:LYS:O	1:C:215:ARG:HB3	2.16	0.46
1:A:48:PRO:HD2	1:A:229:ALA:CB	2.46	0.46
1:D:187:LYS:HB3	1:D:188:PRO:HD2	1.98	0.46
1:C:20:LEU:HD21	1:C:100:LEU:HD11	1.97	0.46
1:B:56:PHE:HB2	1:B:222:PHE:CE1	2.51	0.45
1:C:78:GLN:CG	1:C:79:ASP:N	2.78	0.45
1:C:69:GLU:OE1	1:C:187:LYS:HE2	2.17	0.45
1:D:188:PRO:HG2	1:D:189:PHE:CD2	2.51	0.45
1:D:191:ILE:HD13	1:D:191:ILE:N	2.31	0.45
1:B:87:MET:HE3	1:B:87:MET:HB2	1.82	0.45
1:D:49:VAL:HA	1:D:227:LEU:O	2.17	0.45
1:D:85:TYR:CG	1:D:105:ALA:HB1	2.51	0.45
1:D:179:HIS:C	1:D:196:THR:HG22	2.42	0.45
1:B:122:PHE:CD1	1:B:122:PHE:C	2.94	0.45
1:A:70:GLU:CD	1:A:74:LYS:HE3	2.42	0.44
1:C:81:THR:CG2	1:C:84:VAL:HG23	2.46	0.44
1:C:85:TYR:CZ	1:C:134:ARG:HD3	2.52	0.44
1:B:85:TYR:OH	1:B:122:PHE:HE1	2.00	0.44
1:B:91:ILE:HA	4:B:412:HOH:O	2.16	0.44
1:C:91:ILE:HD11	1:C:139:GLU:CG	2.47	0.44
1:D:15:VAL:CG2	1:D:16:THR:N	2.81	0.44
1:D:93:ASN:HA	2:D:301:A1DFF:C01	2.48	0.44
1:A:57:PRO:HG3	1:A:219:GLU:HG2	1.98	0.44
1:D:86:PHE:HE2	1:D:189:PHE:HA	1.82	0.44
1:C:37:MET:O	1:C:42:LEU:HD12	2.17	0.44
1:C:175:HIS:NE2	1:C:178:GLY:HA2	2.33	0.44
1:A:37:MET:N	1:D:2:GLU:OE1	2.51	0.44
1:C:16:THR:CG2	1:C:31:PHE:CD2	3.01	0.44
1:C:47:ARG:HB3	1:C:48:PRO:HA	2.00	0.43
1:D:15:VAL:HG23	1:D:16:THR:N	2.32	0.43
1:A:24:GLY:HA3	1:A:117:SER:HA	2.00	0.43
1:A:95:CYS:HB2	1:A:169:HIS:CE1	2.53	0.43
1:B:78:GLN:NE2	1:B:190:PRO:O	2.49	0.43
1:A:6:TRP:CD1	1:D:220:LEU:HD21	2.53	0.43
1:C:66:ARG:NH2	1:D:139:GLU:OE2	2.50	0.43
1:D:188:PRO:HG2	1:D:189:PHE:CZ	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:182:GLU:HB3	1:C:191:ILE:HB	2.00	0.43
1:D:109:ASP:OD1	1:D:109:ASP:N	2.52	0.43
1:C:57:PRO:HD3	1:C:221:ARG:O	2.19	0.43
1:D:12:ASN:C	1:D:12:ASN:OD1	2.61	0.43
1:D:213:MET:HG2	1:D:222:PHE:CD2	2.54	0.43
1:C:91:ILE:HD13	4:C:418:HOH:O	2.18	0.43
1:D:91:ILE:CD1	1:D:138:LEU:HD23	2.47	0.43
1:A:95:CYS:HB2	1:A:169:HIS:ND1	2.33	0.43
1:D:16:THR:HG22	1:D:100:LEU:HD21	2.01	0.43
1:B:213:MET:HE2	4:B:419:HOH:O	2.20	0.42
1:C:91:ILE:HD11	1:C:139:GLU:CA	2.36	0.42
1:A:20:LEU:HD12	1:A:20:LEU:HA	1.80	0.42
1:A:28:ASN:OD1	1:A:28:ASN:N	2.52	0.42
1:C:159:ALA:HA	1:C:160:PRO:HD3	1.94	0.42
1:A:6:TRP:CE3	1:A:221:ARG:HG2	2.55	0.42
1:C:55:LEU:HD11	1:C:168:LEU:HB3	2.01	0.42
1:D:58:ILE:HD11	1:D:169:HIS:CB	2.50	0.42
1:D:60:GLU:HB2	4:D:403:HOH:O	2.19	0.42
1:B:48:PRO:HD2	1:B:229:ALA:CB	2.50	0.42
1:C:144:ILE:O	1:C:144:ILE:HG22	2.18	0.42
1:A:55:LEU:HB2	1:A:170:PHE:CE1	2.54	0.42
1:B:93:ASN:ND2	1:B:163:ASP:HA	2.34	0.42
1:B:180:LEU:HD21	1:B:205:ALA:HA	2.01	0.42
1:D:7:LEU:HD23	1:D:7:LEU:HA	1.85	0.42
1:A:9:LEU:HD23	1:A:161:SER:HB2	2.02	0.42
1:B:13:PRO:C	1:B:16:THR:HG22	2.44	0.42
1:C:78:GLN:HG2	1:C:79:ASP:N	2.35	0.42
1:C:175:HIS:HD2	1:C:196:THR:HG23	1.83	0.42
1:D:1:MET:HG3	1:D:2:GLU:N	2.31	0.42
1:A:9:LEU:HB2	1:A:10:GLU:H	1.68	0.41
1:C:48:PRO:HD2	1:C:229:ALA:HB3	2.01	0.41
1:B:132:GLU:OE1	1:B:132:GLU:N	2.45	0.41
1:B:33:ASP:OD1	1:B:33:ASP:C	2.64	0.41
1:C:180:LEU:CD2	1:C:208:VAL:HG21	2.43	0.41
1:A:9:LEU:CG	1:A:161:SER:HA	2.49	0.41
1:A:86:PHE:HB2	1:A:190:PRO:HG3	2.03	0.41
1:C:91:ILE:HD11	1:C:139:GLU:HG2	2.03	0.41
1:D:88:LYS:NZ	1:D:188:PRO:C	2.78	0.41
1:A:219:GLU:C	1:A:220:LEU:HD23	2.45	0.41
1:D:86:PHE:CE2	1:D:189:PHE:HA	2.56	0.41
1:B:141:TYR:CE2	1:B:143:ALA:HB3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:111:MET:HB2	1:A:113:PHE:CE1	2.55	0.41
1:D:203:GLU:H	1:D:203:GLU:CD	2.27	0.41
1:A:81:THR:CG2	1:A:83:SER:H	2.20	0.41
1:A:167:ASP:OD1	1:A:167:ASP:N	2.42	0.41
1:B:102:HIS:HB3	1:B:183:LEU:HD12	2.01	0.41
1:B:213:MET:HE3	1:B:222:PHE:CB	2.50	0.41
1:C:23:LEU:HD23	1:C:23:LEU:HA	1.72	0.41
1:C:185:GLY:N	4:C:404:HOH:O	2.43	0.41
1:D:111:MET:HE3	1:D:111:MET:CA	2.36	0.41
1:A:9:LEU:HD21	1:A:161:SER:HB2	2.03	0.41
1:B:168:LEU:HD23	1:B:168:LEU:HA	1.79	0.41
1:C:36:GLY:HA3	1:C:41:LEU:HD13	2.03	0.41
1:A:56:PHE:CE1	1:A:171:ILE:HG23	2.55	0.40
1:A:55:LEU:HD13	1:A:170:PHE:CE2	2.57	0.40
1:B:16:THR:CG2	1:B:17:ASN:N	2.84	0.40
1:A:69:GLU:OE1	1:A:187:LYS:NZ	2.46	0.40
1:D:47:ARG:HB3	1:D:48:PRO:HA	2.04	0.40
1:D:93:ASN:HA	2:D:301:A1DFF:C02	2.52	0.40
1:B:88:LYS:O	1:B:135:ALA:HB2	2.21	0.40
1:D:20:LEU:HD23	1:D:20:LEU:HA	1.78	0.40
1:D:38:ASP:HB3	1:D:41:LEU:HD12	2.03	0.40
1:B:13:PRO:CA	1:B:16:THR:HG22	2.48	0.40
1:B:28:ASN:OD1	1:B:28:ASN:N	2.46	0.40
1:B:100:LEU:HD23	1:B:100:LEU:HA	1.81	0.40
1:D:50:CYS:HB2	1:D:107:ASN:HD21	1.85	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	213/238 (90%)	207 (97%)	6 (3%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	207/238 (87%)	202 (98%)	4 (2%)	1 (0%)	24	40
1	C	211/238 (89%)	204 (97%)	7 (3%)	0	100	100
1	D	201/238 (84%)	197 (98%)	4 (2%)	0	100	100
All	All	832/952 (87%)	810 (97%)	21 (2%)	1 (0%)	48	66

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	142	ASP

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	182/210 (87%)	178 (98%)	4 (2%)	45	70
1	B	175/210 (83%)	172 (98%)	3 (2%)	53	75
1	C	169/210 (80%)	162 (96%)	7 (4%)	27	50
1	D	164/210 (78%)	157 (96%)	7 (4%)	26	48
All	All	690/840 (82%)	669 (97%)	21 (3%)	36	61

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

Mol	Chain	Res	Type
1	A	32	VAL
1	A	70	GLU
1	A	109	ASP
1	A	216	ASP
1	B	115	SER
1	B	142	ASP
1	B	161	SER
1	C	28	ASN
1	C	68	GLU
1	C	82	SER

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Mol	Chain	Res	Type
1	C	117	SER
1	C	138	LEU
1	C	173	LEU
1	C	215	ARG
1	D	23	LEU
1	D	28	ASN
1	D	83	SER
1	D	144	ILE
1	D	167	ASP
1	D	195	GLU
1	D	203	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	148	HIS
1	B	93	ASN
1	C	106	ASN
1	C	192	ASN
1	D	106	ASN
1	D	107	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](#)

7 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	A1DFF	B	301	-	21,21,22	2.08	5 (23%)	28,28,29	1.01	1 (3%)
3	SO4	B	302	-	4,4,4	0.24	0	6,6,6	0.07	0
3	SO4	A	302	-	4,4,4	0.26	0	6,6,6	0.08	0
2	A1DFF	D	301	-	21,21,22	2.21	5 (23%)	28,28,29	1.01	2 (7%)
2	A1DFF	A	301	-	21,21,22	2.05	5 (23%)	28,28,29	1.11	3 (10%)
2	A1DFF	C	301	-	21,21,22	2.12	5 (23%)	28,28,29	1.17	2 (7%)
3	SO4	A	303	-	4,4,4	0.25	0	6,6,6	0.10	0

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	A1DFF	C	301	-	-	0/12/12/14	0/2/2/2
2	A1DFF	A	301	-	-	0/12/12/14	0/2/2/2
2	A1DFF	B	301	-	-	0/12/12/14	0/2/2/2
2	A1DFF	D	301	-	-	0/12/12/14	0/2/2/2

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	301	A1DFF	C02-N03	6.96	1.49	1.36
2	B	301	A1DFF	C02-N03	6.70	1.48	1.36
2	C	301	A1DFF	C02-N03	6.59	1.48	1.36
2	A	301	A1DFF	C02-N03	6.37	1.48	1.36
2	C	301	A1DFF	C07-N08	4.20	1.47	1.35
2	D	301	A1DFF	C07-N08	3.98	1.47	1.35
2	B	301	A1DFF	C07-N08	3.89	1.47	1.35
2	A	301	A1DFF	C07-N08	3.87	1.46	1.35
2	D	301	A1DFF	C04-N03	3.64	1.49	1.41
2	A	301	A1DFF	C04-N03	3.25	1.48	1.41
2	C	301	A1DFF	C04-N03	3.11	1.47	1.41
2	B	301	A1DFF	C04-N03	3.05	1.47	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	301	A1DFF	C06-C07	2.69	1.56	1.50
2	D	301	A1DFF	C01-C02	2.54	1.55	1.50
2	C	301	A1DFF	C01-C02	2.49	1.55	1.50
2	C	301	A1DFF	C06-C07	2.42	1.55	1.50
2	A	301	A1DFF	C01-C02	2.38	1.55	1.50
2	A	301	A1DFF	C06-C07	2.28	1.55	1.50
2	B	301	A1DFF	C06-C07	2.17	1.55	1.50
2	B	301	A1DFF	C01-C02	2.17	1.55	1.50

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	301	A1DFF	C04-N03-C02	-3.77	120.95	127.98
2	C	301	A1DFF	C01-C02-N03	2.98	119.43	114.95
2	A	301	A1DFF	C09-N08-C07	-2.78	119.28	126.61
2	A	301	A1DFF	C04-N03-C02	-2.65	123.04	127.98
2	D	301	A1DFF	C01-C02-N03	2.57	118.82	114.95
2	D	301	A1DFF	C04-N03-C02	-2.24	123.80	127.98
2	B	301	A1DFF	C04-N03-C02	-2.13	124.00	127.98
2	A	301	A1DFF	C01-C02-N03	2.04	118.02	114.95

There are no chirality outliers.

There are no torsion outliers.

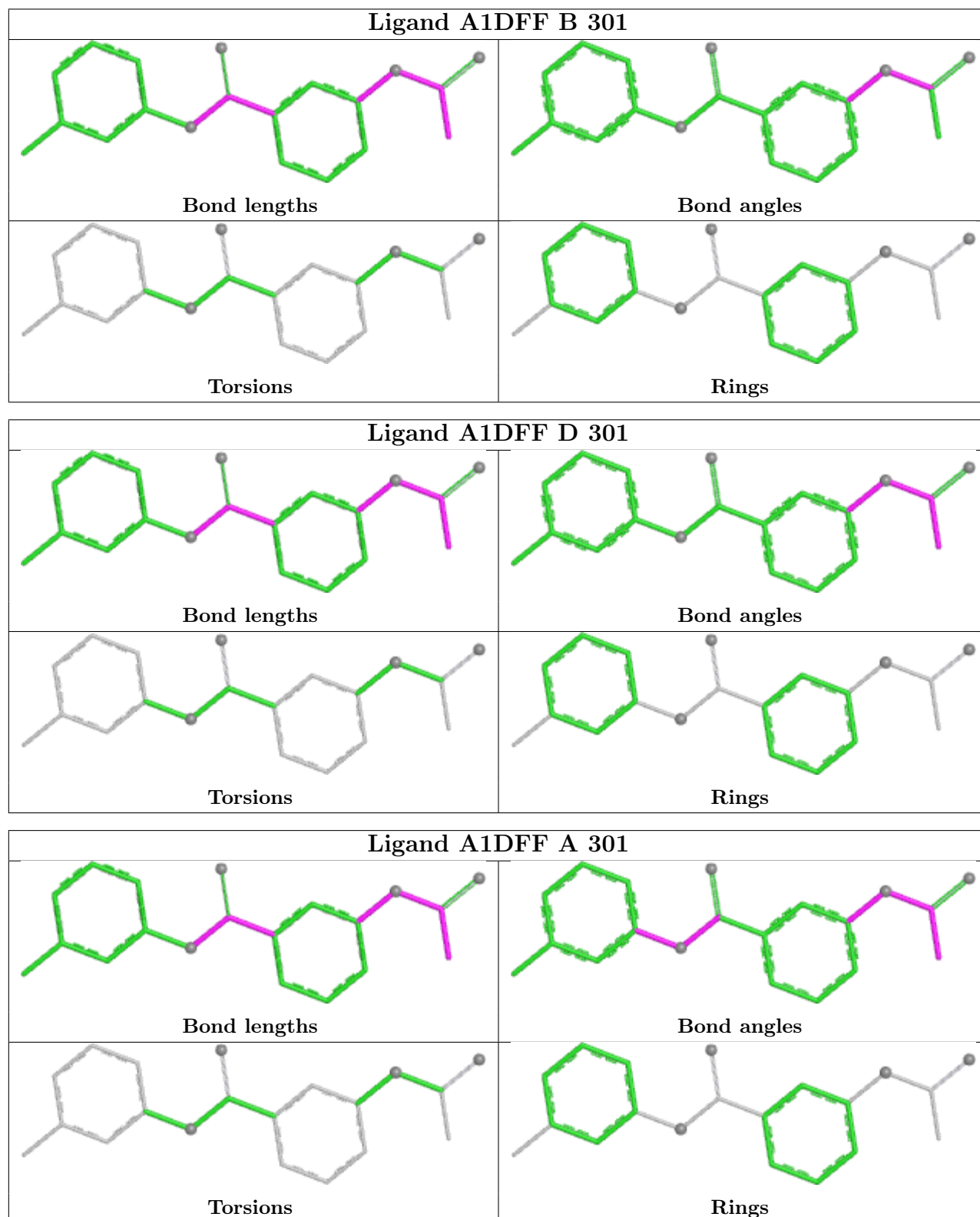
There are no ring outliers.

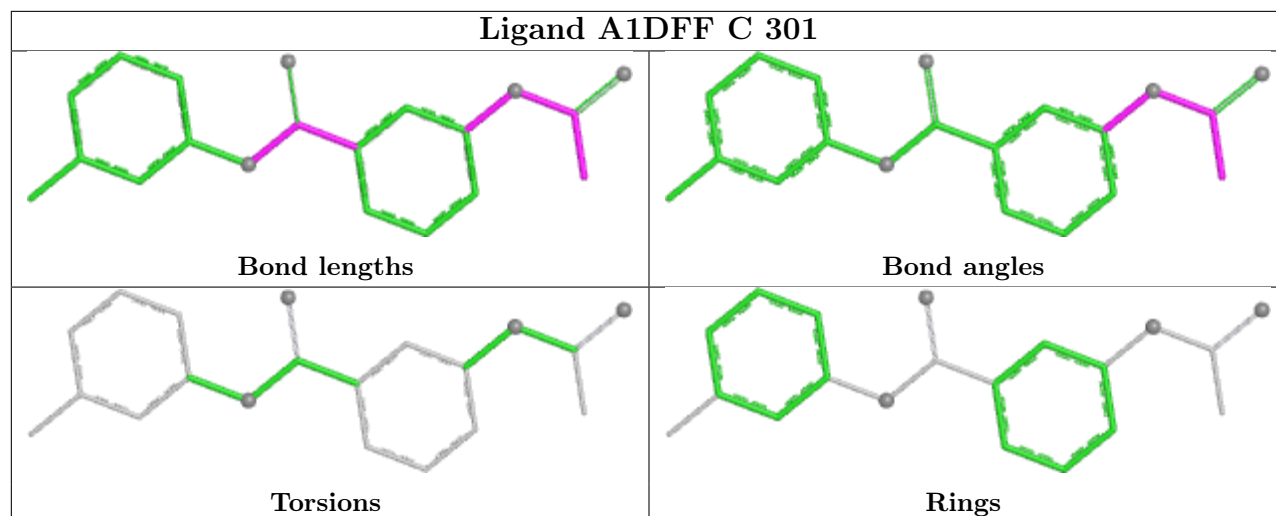
5 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	301	A1DFF	2	0
3	B	302	SO4	1	0
2	D	301	A1DFF	4	0
2	A	301	A1DFF	2	0
2	C	301	A1DFF	3	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	217/238 (91%)	0.07	2 (0%) 81 79	41, 56, 81, 107	0
1	B	213/238 (89%)	-0.03	1 (0%) 87 85	39, 57, 90, 127	0
1	C	215/238 (90%)	0.17	1 (0%) 87 85	50, 69, 95, 135	0
1	D	211/238 (88%)	0.46	13 (6%) 26 23	56, 83, 116, 142	0
All	All	856/952 (89%)	0.16	17 (1%) 65 62	39, 66, 105, 142	0

All (17) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	9	LEU	3.4
1	A	230	ALA	3.4
1	D	0	PHE	2.9
1	D	105	ALA	2.9
1	B	5	ARG	2.9
1	C	146	VAL	2.9
1	D	144	ILE	2.6
1	D	103	ALA	2.4
1	D	28	ASN	2.4
1	D	160	PRO	2.3
1	D	10	GLU	2.2
1	D	212	PHE	2.2
1	D	51	ALA	2.1
1	D	164	GLU	2.1
1	D	216	ASP	2.1
1	D	23	LEU	2.0
1	D	112	HIS	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

6.3 Carbohydrates

There are no oligosaccharides in this entry.

6.4 Ligands

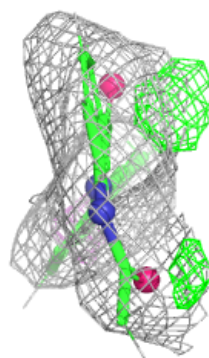
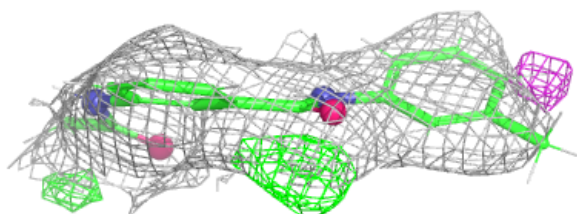
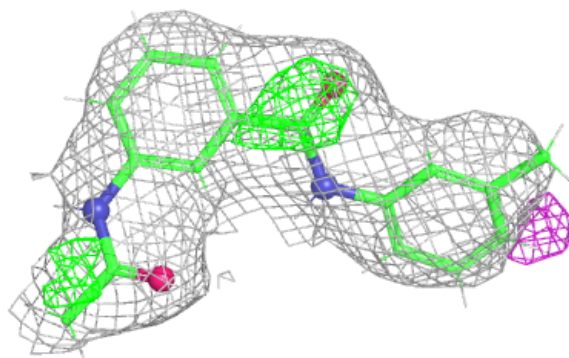
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists 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
3	SO4	A	302	5/5	0.78	0.07	88,91,109,117	0
3	SO4	B	302	5/5	0.81	0.07	82,92,102,108	0
3	SO4	A	303	5/5	0.83	0.07	92,92,96,105	0
2	A1DFF	B	301	20/21	0.84	0.13	50,57,69,71	0
2	A1DFF	D	301	20/21	0.85	0.10	62,75,90,107	0
2	A1DFF	A	301	20/21	0.89	0.10	51,58,73,75	0
2	A1DFF	C	301	20/21	0.89	0.10	55,65,79,83	0

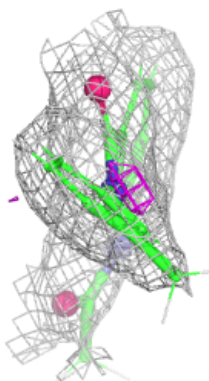
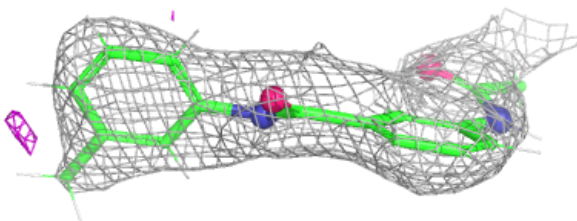
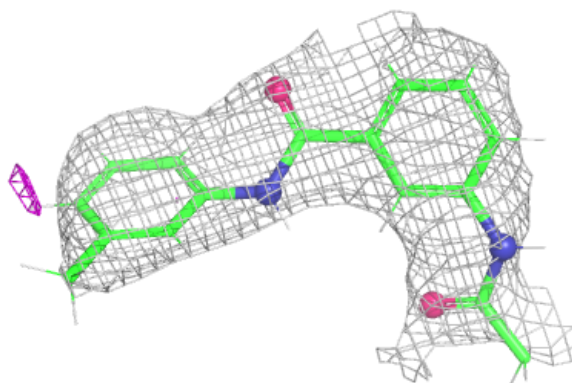
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around A1DFF 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)

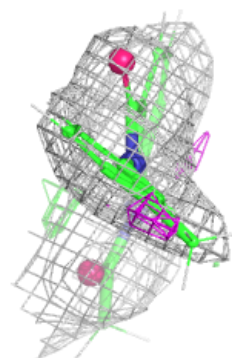
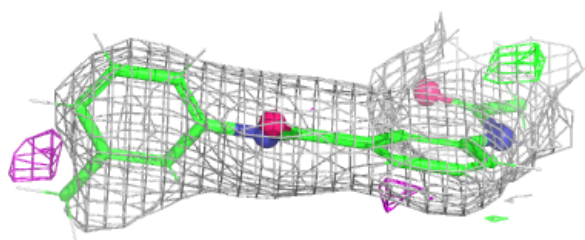
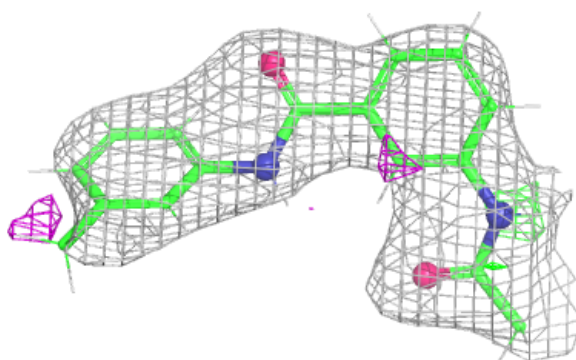
**Electron density around A1DFF D 301:**

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

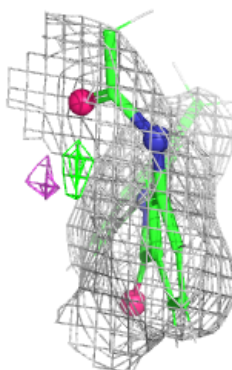
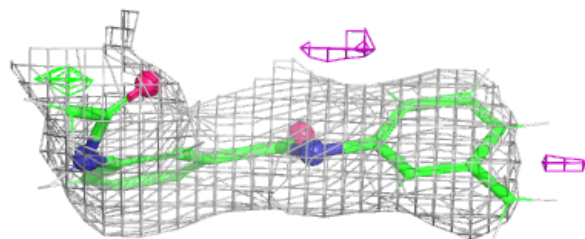
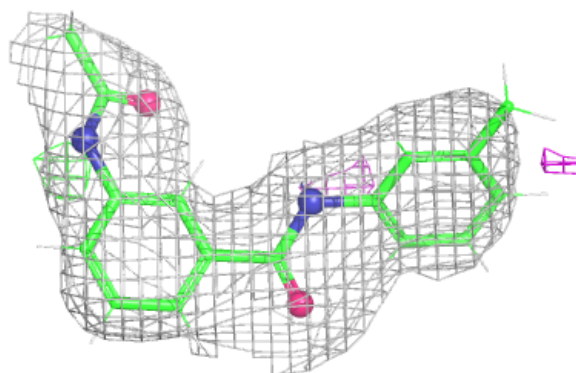


Electron density around A1DFF A 301:

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

**Electron density around A1DFF C 301:**

$2mF_o-DF_c$ (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.