Full wwPDB X-ray Structure Validation Report ⓘ

May 5, 2025 – 02:04 pm BST

PDB ID	:	9F30 / pdb_00009f30
Title	:	Human carbonic anhydrase XII with 3-(Cyclooctylamino)-5-ethoxy-2,6-difluoro-4-((3-hydroxypropyl)sulfonyl)benzenesulfonamide
Authors	:	Manakova, E.; Grazulis, S.; Smirnov, A.; Paketuryte, V.
Deposited on	:	2024-04-24
Resolution	:	1.12 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:

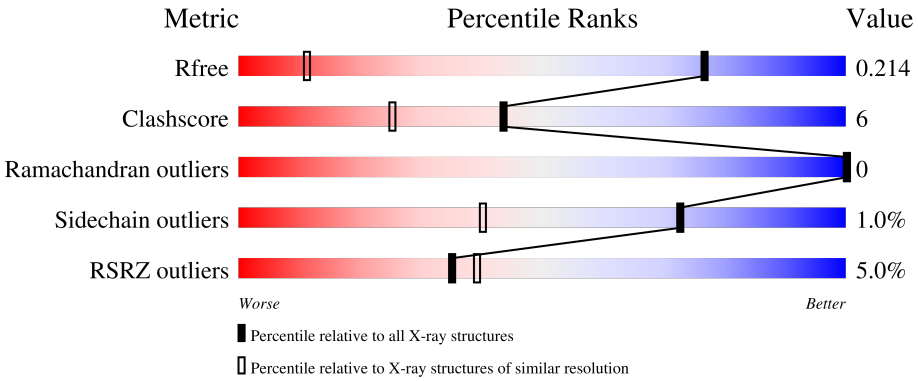
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

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 1.12 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1652 (1.14-1.10)
Clashscore	180529	1870 (1.14-1.10)
Ramachandran outliers	177936	1828 (1.14-1.10)
Sidechain outliers	177891	1824 (1.14-1.10)
RSRZ outliers	164620	1652 (1.14-1.10)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	263	6% 88% 11%
1	B	263	4% 87% 11%
1	C	263	6% 86% 13%
1	D	263	4% 88% 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
4	EDO	B	302	-	-	X	-
4	EDO	B	305	-	-	X	-
4	EDO	B	307	-	-	X	-
4	EDO	C	305	-	-	X	-

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 10141 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 12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	260	Total	C	N	O	S	7	21	0
			2259	1439	385	426	9			
1	B	261	Total	C	N	O	S	4	23	0
			2280	1447	390	433	10			
1	C	260	Total	C	N	O	S	7	8	0
			2147	1363	369	407	8			
1	D	262	Total	C	N	O	S	5	17	0
			2222	1415	376	422	9			

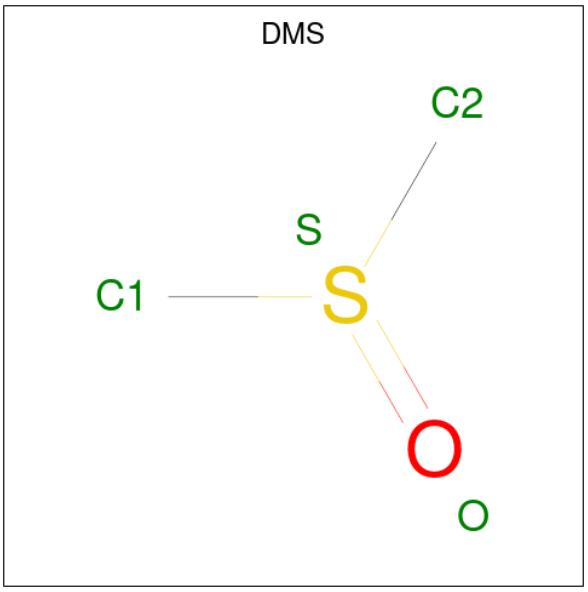
There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	initiating methionine	UNP O43570
B	1	MET	-	initiating methionine	UNP O43570
C	1	MET	-	initiating methionine	UNP O43570
D	1	MET	-	initiating methionine	UNP O43570

- Molecule 2 is ZINC ION (CCD ID: ZN) (formula: Zn).

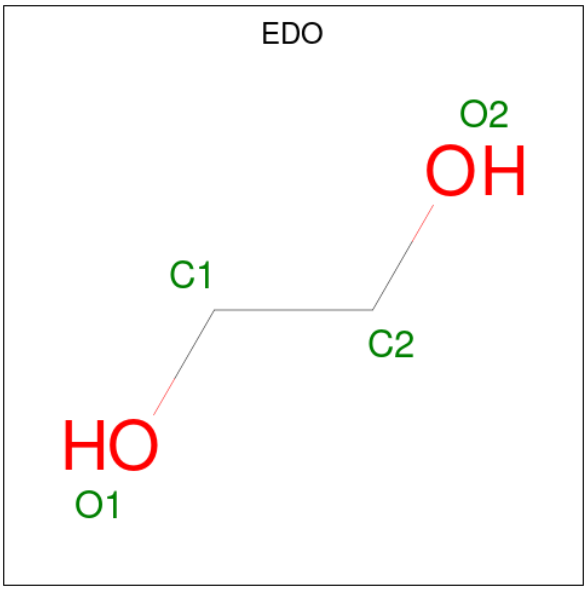
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Zn	0	0
			1	1		
2	B	1	Total	Zn	0	0
			1	1		
2	C	1	Total	Zn	0	0
			1	1		
2	D	1	Total	Zn	0	0
			1	1		

- Molecule 3 is DIMETHYL SULFOXIDE (CCD ID: DMS) (formula: C_2H_6OS).



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

- Molecule 4 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: $C_2H_6O_2$).



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

Continued on next page...

Continued from previous page...

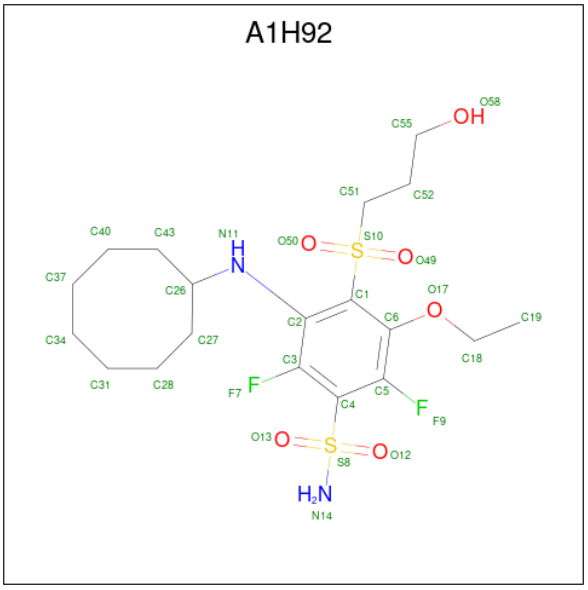
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	B	1	Total C O 4 2 2	0	0
4	B	1	Total C O 4 2 2	0	0
4	B	1	Total C O 4 2 2	0	0
4	B	1	Total C O 4 2 2	0	0
4	B	1	Total C O 4 2 2	0	0
4	B	1	Total C O 4 2 2	0	0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

Continued on next page...

Continued from previous page...

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

- Molecule 5 is 3-(Cyclooctylamino)-5-ethoxy-2,6-difluoro-4-((3-hydroxypropyl)sulfonyl) benzenesulfonamide (CCD ID: A1H92) (formula: $C_{19}H_{30}F_2N_2O_6S_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C F N O S 31 19 2 2 6 2	0	0
5	B	1	Total C F N O S 31 19 2 2 6 2	0	0
5	C	1	Total C F N O S 31 19 2 2 6 2	0	0
5	D	1	Total C F N O S 31 19 2 2 6 2	0	0

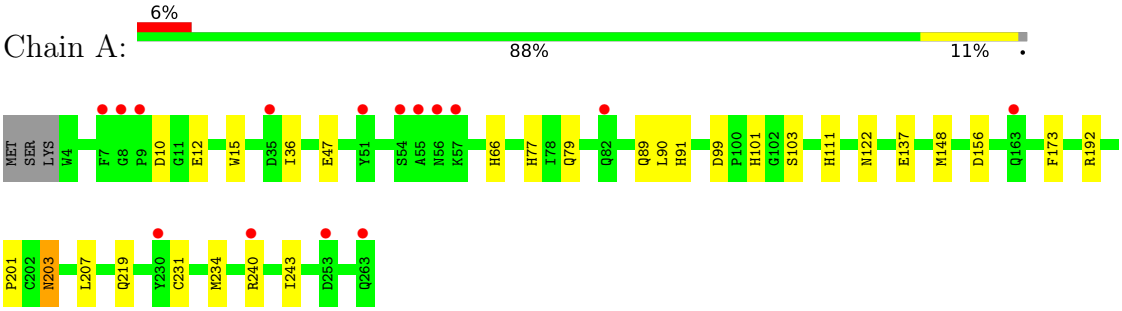
- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	236	Total O 236 236	0	0
6	B	272	Total O 274 274	0	2
6	C	222	Total O 222 222	0	0
6	D	256	Total O 257 257	0	1

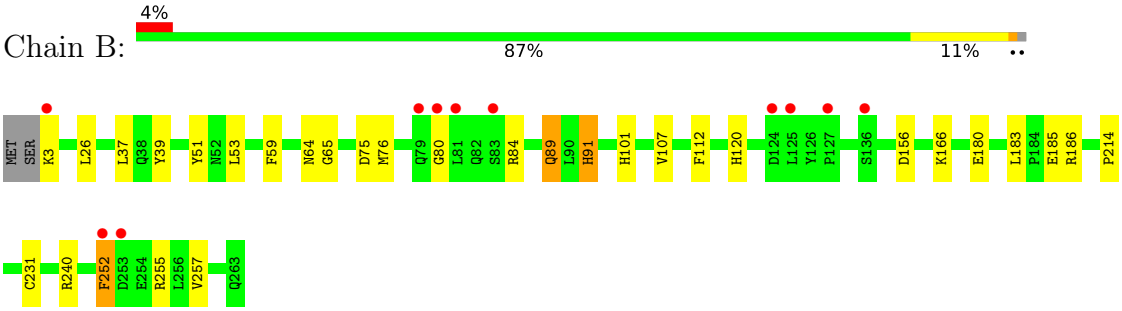
3 Residue-property plots (i)

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.

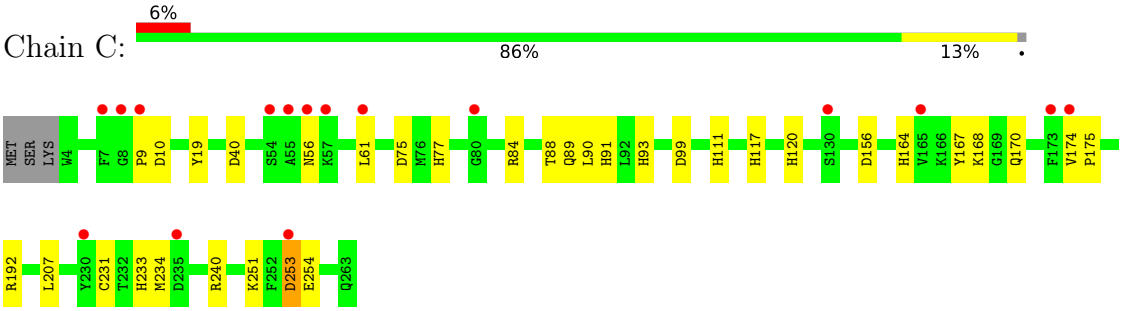
• Molecule 1: Carbonic anhydrase 12



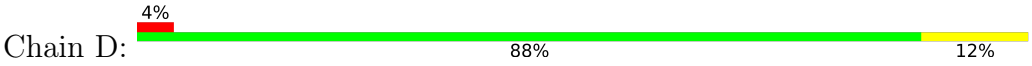
• Molecule 1: Carbonic anhydrase 12

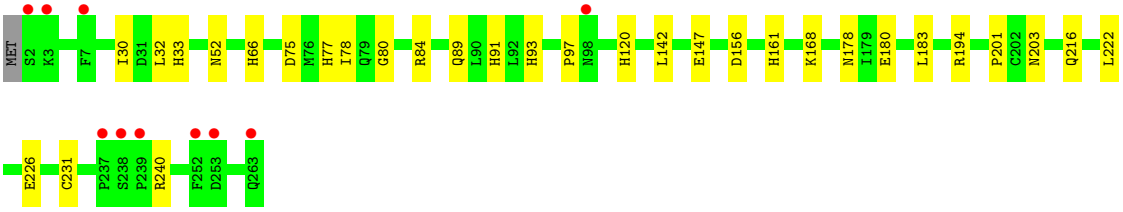


• Molecule 1: Carbonic anhydrase 12



• Molecule 1: Carbonic anhydrase 12




MET
S2
K3
F7
I30
D31
L32
H33
N52
H66
D75
M76
H77
I78
Q79
G80
R84
Q89
L90
H91
L92
H93
P97
N98
H120
L142
E147
D156
H161
K168
N178
I179
E180
L183
R194
P201
C202
N203
Q216
L222
E226
C231
P237
S238
P239
R240
F252
D253
Q263

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	77.32Å 73.96Å 91.42Å 90.00° 108.73° 90.00°	Depositor
Resolution (Å)	67.63 – 1.12 67.63 – 1.12	Depositor EDS
% Data completeness (in resolution range)	96.8 (67.63-1.12) 96.8 (67.63-1.12)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.01 (at 1.12Å)	Xtriage
Refinement program	REFMAC 5.8.0258	Depositor
R, R_{free}	0.145 , 0.179 0.159 , 0.214	Depositor DCC
R_{free} test set	88259 reflections (24.43%)	wwPDB-VP
Wilson B-factor (Å^2)	12.9	Xtriage
Anisotropy	0.380	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 44.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.98	EDS
Total number of atoms	10141	wwPDB-VP
Average B, all atoms (Å^2)	21.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 36.80 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 4.7298e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: DMS, EDO, ZN, A1H92

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	0.92	2/2334 (0.1%)	1.13	4/3173 (0.1%)
1	B	0.98	2/2355 (0.1%)	1.17	7/3203 (0.2%)
1	C	0.97	7/2220 (0.3%)	1.27	11/3021 (0.4%)
1	D	1.03	6/2306 (0.3%)	1.15	1/3136 (0.0%)
All	All	0.97	17/9215 (0.2%)	1.18	23/12533 (0.2%)

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	117	HIS	ND1-CE1	10.06	1.42	1.32
1	D	91	HIS	CE1-NE2	9.16	1.41	1.32
1	C	93	HIS	CE1-NE2	8.96	1.41	1.32
1	D	120	HIS	CE1-NE2	8.73	1.41	1.32
1	B	91	HIS	CE1-NE2	8.15	1.40	1.32
1	C	120	HIS	CE1-NE2	8.14	1.40	1.32
1	C	117	HIS	CG-ND1	7.32	1.46	1.38
1	A	91	HIS	CE1-NE2	7.01	1.39	1.32
1	D	161	HIS	CE1-NE2	6.90	1.39	1.32
1	D	93	HIS	CE1-NE2	6.67	1.39	1.32
1	B	120	HIS	CE1-NE2	6.58	1.39	1.32
1	A	66	HIS	CE1-NE2	6.29	1.38	1.32
1	C	117	HIS	CD2-NE2	6.14	1.44	1.37
1	D	91	HIS	C-O	-5.57	1.17	1.23
1	D	66	HIS	CE1-NE2	5.47	1.38	1.32
1	C	164	HIS	CE1-NE2	5.45	1.38	1.32
1	C	91	HIS	CE1-NE2	5.18	1.37	1.32

All (23) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	75	ASP	CA-CB-CG	9.53	122.13	112.60
1	B	75	ASP	CA-CB-CG	7.44	120.04	112.60
1	B	91	HIS	CE1-NE2-CD2	-7.33	101.67	109.00
1	C	10	ASP	CA-C-N	7.15	131.77	121.54
1	C	10	ASP	C-N-CA	7.15	131.77	121.54
1	B	80	GLY	N-CA-C	-7.12	106.01	114.48
1	C	117	HIS	ND1-CG-CD2	7.08	113.18	106.10
1	C	9	PRO	N-CA-C	6.75	122.61	113.84
1	C	40	ASP	CA-CB-CG	6.29	118.89	112.60
1	B	91	HIS	CG-CD2-NE2	6.10	113.30	107.20
1	C	56	ASN	CA-CB-CG	6.00	118.59	112.60
1	C	75	ASP	CA-C-O	5.99	126.83	119.05
1	B	252[A]	PHE	CA-CB-CG	-5.69	108.11	113.80
1	B	252[B]	PHE	CA-CB-CG	-5.69	108.11	113.80
1	B	59	PHE	CA-CB-CG	-5.65	108.15	113.80
1	C	253	ASP	CA-CB-CG	5.61	118.21	112.60
1	C	254	GLU	CB-CG-CD	5.49	121.93	112.60
1	A	10	ASP	CA-C-N	5.19	131.58	121.41
1	A	10	ASP	C-N-CA	5.19	131.58	121.41
1	C	175	PRO	CA-C-N	5.18	125.03	120.10
1	C	175	PRO	C-N-CA	5.18	125.03	120.10
1	A	203	ASN	CA-CB-CG	-5.08	107.53	112.60
1	A	173	PHE	CB-CA-C	5.07	118.11	109.75

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	2259	0	2157	17	0
1	B	2280	0	2149	42	0
1	C	2147	0	2041	22	0
1	D	2222	0	2115	17	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	1	0	0	0	0
3	A	4	0	6	0	0
3	C	4	0	6	0	0
3	D	4	0	6	1	0
4	A	20	0	30	3	0
4	B	28	0	42	17	0
4	C	32	0	48	12	0
4	D	24	0	36	4	0
5	A	31	0	0	0	0
5	B	31	0	0	0	0
5	C	31	0	0	0	0
5	D	31	0	0	0	0
6	A	236	0	0	4	0
6	B	274	0	0	14	0
6	C	222	0	0	1	0
6	D	257	0	0	1	0
All	All	10141	0	8636	107	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 6.

All (107) 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:53:LEU:HD21	1:B:76[B]:MET:HE3	1.31	1.09
1:B:214:PRO:HD3	4:B:307:EDO:H21	1.36	1.06
1:B:255:ARG:HD2	6:B:467:HOH:O	1.61	1.00
4:B:302:EDO:H12	6:B:413:HOH:O	1.62	0.99
1:B:53:LEU:HD21	1:B:76[B]:MET:CE	1.93	0.98
1:A:201[B]:PRO:HG2	1:A:203:ASN:OD1	1.69	0.92
1:B:231[B]:CYS:SG	1:B:240:ARG:NH1	2.46	0.86
4:D:307:EDO:H11	6:D:554:HOH:O	1.76	0.85
1:C:253:ASP:HB2	4:C:305:EDO:H12	1.60	0.83
1:B:255:ARG:CD	6:B:467:HOH:O	2.23	0.81
1:C:253:ASP:HB2	4:C:305:EDO:C2	2.10	0.81
1:A:234[B]:MET:O	1:A:234[B]:MET:HG2	1.84	0.78
4:B:307:EDO:H22	6:B:587:HOH:O	1.86	0.76
4:B:305:EDO:H12	6:B:445:HOH:O	1.85	0.75
1:B:51:TYR:HA	1:B:76[B]:MET:HE2	1.68	0.75
1:D:78[B]:ILE:HD11	1:D:142:LEU:HD11	1.68	0.75
1:C:253:ASP:HB2	4:C:305:EDO:C1	2.19	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:231[A]:CYS:SG	1:C:240:ARG:HD3	2.31	0.71
1:A:77:HIS:ND1	6:A:402:HOH:O	2.24	0.70
4:B:305:EDO:H22	6:B:602:HOH:O	1.90	0.70
1:C:251:LYS:HB3	4:C:305:EDO:H11	1.74	0.69
1:A:148:MET:HE3	1:A:219:GLN:HB3	1.73	0.69
1:D:201[B]:PRO:HG2	1:D:203:ASN:OD1	1.93	0.69
1:B:231[B]:CYS:SG	1:B:240:ARG:HB2	2.33	0.68
1:B:89[B]:GLN:HE21	1:B:91:HIS:HD1	1.42	0.68
1:B:101:HIS:HD2	6:B:462:HOH:O	1.77	0.67
1:C:168:LYS:HB2	1:C:231[B]:CYS:O	1.95	0.66
1:D:222[B]:LEU:HG	1:D:226:GLU:OE2	1.96	0.66
1:A:122:ASN:HD22	1:A:137[B]:GLU:HG3	1.62	0.63
1:A:234[B]:MET:HE2	6:A:625:HOH:O	1.98	0.63
1:B:101:HIS:CD2	6:B:462:HOH:O	2.51	0.63
1:C:170:GLN:HE22	4:C:304:EDO:H12	1.64	0.62
1:D:231[B]:CYS:SG	1:D:240:ARG:HB2	2.39	0.62
4:A:306:EDO:H21	6:A:416:HOH:O	2.00	0.61
1:B:231[B]:CYS:SG	1:B:240:ARG:CZ	2.88	0.61
1:D:168:LYS:HE2	4:D:304:EDO:H11	1.81	0.61
1:B:53:LEU:CD2	1:B:76[B]:MET:CE	2.74	0.61
1:B:214:PRO:CD	4:B:307:EDO:H21	2.23	0.60
1:B:180[A]:GLU:HG3	1:B:183:LEU:HD12	1.85	0.59
1:B:107:VAL:HG13	4:B:303:EDO:H21	1.85	0.56
1:B:26:LEU:CD2	1:B:255:ARG:HD3	2.37	0.55
1:D:97:PRO:HD2	4:D:305:EDO:H22	1.88	0.55
1:B:255:ARG:CG	6:B:467:HOH:O	2.52	0.55
1:B:53:LEU:CD2	1:B:76[B]:MET:HE3	2.20	0.55
4:B:308:EDO:H11	6:B:612:HOH:O	2.06	0.54
1:A:122:ASN:ND2	1:A:137[B]:GLU:HG3	2.23	0.54
1:B:64:ASN:HB3	4:B:305:EDO:H21	1.89	0.54
1:B:252[B]:PHE:CZ	1:B:257:VAL:HG23	2.42	0.54
1:B:112:PHE:CZ	4:B:307:EDO:H11	2.42	0.54
1:B:112:PHE:HZ	4:B:307:EDO:H11	1.73	0.54
1:C:19:TYR:OH	4:C:306:EDO:H22	2.07	0.54
1:D:80:GLY:O	4:D:306:EDO:H21	2.08	0.53
1:D:180[A]:GLU:HG3	1:D:183:LEU:HD12	1.92	0.52
1:B:53:LEU:HD21	1:B:76[B]:MET:HE1	1.89	0.52
1:C:88:THR:OG1	4:C:308:EDO:H12	2.10	0.52
1:B:231[B]:CYS:HG	1:B:240:ARG:HB2	1.75	0.51
1:A:148:MET:HE3	1:A:219:GLN:CB	2.40	0.51
1:C:99:ASP:OD1	1:D:33:HIS:HE1	1.94	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:243:ILE:HG13	4:A:306:EDO:H12	1.93	0.51
1:C:233:HIS:HE1	6:C:585:HOH:O	1.94	0.51
4:A:306:EDO:C2	6:A:416:HOH:O	2.58	0.51
1:D:30[B]:ILE:C	1:D:30[B]:ILE:HD12	2.36	0.50
1:B:252[B]:PHE:CE1	1:B:255:ARG:HB2	2.46	0.50
1:A:192:ARG:HD2	1:A:207:LEU:HD11	1.92	0.50
1:C:251:LYS:HD3	4:C:305:EDO:H11	1.93	0.49
1:B:26:LEU:HD23	1:B:255:ARG:HD3	1.94	0.49
1:B:185:GLU:OE2	1:B:185:GLU:HA	2.13	0.49
1:C:77[B]:HIS:CD2	1:C:84:ARG:HD3	2.49	0.47
1:C:253:ASP:HB2	4:C:305:EDO:H22	1.92	0.47
1:B:166[B]:LYS:HB2	1:B:166[B]:LYS:HE2	1.68	0.47
1:A:99:ASP:OD1	1:A:101:HIS:HD2	1.98	0.47
1:B:53:LEU:HD11	1:B:76[B]:MET:HE1	1.96	0.47
1:C:253:ASP:HB2	4:C:305:EDO:H21	1.93	0.46
1:D:194:ARG:HE	3:D:302:DMS:H12	1.81	0.46
1:A:103:SER:O	1:A:111:HIS:HD2	1.98	0.45
1:B:39:TYR:HE1	4:B:302:EDO:H22	1.82	0.45
1:B:65:GLY:O	1:B:231[B]:CYS:HB2	2.16	0.45
1:D:30[B]:ILE:HD11	1:D:32:LEU:CD2	2.46	0.45
1:D:30[B]:ILE:HD11	1:D:32:LEU:HD21	1.97	0.45
1:A:90:LEU:HD12	1:A:90:LEU:C	2.41	0.45
4:B:305:EDO:C1	6:B:445:HOH:O	2.54	0.45
1:C:170:GLN:HE22	4:C:304:EDO:C1	2.29	0.45
1:C:167:TYR:CE2	1:C:234:MET:HG3	2.52	0.44
1:A:36[B]:ILE:C	1:A:36[B]:ILE:HD12	2.43	0.44
1:A:47[A]:GLU:HB2	1:A:79:GLN:HB3	2.00	0.44
1:B:89[B]:GLN:NE2	1:B:91:HIS:HD1	2.10	0.44
1:B:186:ARG:HH11	1:B:186:ARG:HG3	1.83	0.44
1:C:167:TYR:CD1	1:C:234:MET:HA	2.54	0.43
1:B:39:TYR:OH	4:B:302:EDO:H21	2.18	0.42
1:B:39:TYR:CE1	4:B:302:EDO:H22	2.54	0.42
1:B:186:ARG:HG3	1:B:186:ARG:NH1	2.35	0.42
1:D:30[B]:ILE:CD1	1:D:32:LEU:HD23	2.50	0.42
1:A:231[A]:CYS:SG	1:A:240:ARG:HB2	2.60	0.42
4:B:307:EDO:H12	6:B:418:HOH:O	2.19	0.42
1:B:3:LYS:N	6:B:408:HOH:O	2.53	0.42
1:C:192:ARG:HD2	1:C:207:LEU:HD11	2.01	0.42
1:D:52:ASN:HA	1:D:178:ASN:HA	2.00	0.42
1:C:90:LEU:C	1:C:90:LEU:HD12	2.44	0.42
1:C:111:HIS:CD2	4:C:307:EDO:H21	2.54	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:53:LEU:CG	1:B:76[B]:MET:HE1	2.50	0.41
1:D:147[B]:GLU:HG3	1:D:216:GLN:HG2	2.02	0.41
1:C:61[B]:LEU:HG	1:C:174:VAL:CG2	2.50	0.41
1:B:37:LEU:HD11	4:B:303:EDO:H22	2.02	0.41
1:B:255:ARG:HG2	6:B:467:HOH:O	2.17	0.41
1:A:12:GLU:HA	1:A:15:TRP:CE2	2.56	0.41
1:B:252[B]:PHE:CE2	1:B:257:VAL:HG23	2.56	0.41
1:D:77[A]:HIS:CG	1:D:84[A]:ARG:HD3	2.57	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	279/263 (106%)	274 (98%)	5 (2%)	0	100	100
1	B	282/263 (107%)	278 (99%)	4 (1%)	0	100	100
1	C	266/263 (101%)	261 (98%)	5 (2%)	0	100	100
1	D	277/263 (105%)	273 (99%)	4 (1%)	0	100	100
All	All	1104/1052 (105%)	1086 (98%)	18 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	253/235 (108%)	251 (99%)	2 (1%)	79 50
1	B	256/235 (109%)	252 (98%)	4 (2%)	58 21
1	C	240/235 (102%)	238 (99%)	2 (1%)	79 50
1	D	250/235 (106%)	248 (99%)	2 (1%)	79 50
All	All	999/940 (106%)	989 (99%)	10 (1%)	73 40

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	89	GLN
1	A	156	ASP
1	B	84	ARG
1	B	89[A]	GLN
1	B	89[B]	GLN
1	B	156	ASP
1	C	89	GLN
1	C	156	ASP
1	D	89	GLN
1	D	156	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	111	HIS
1	A	164	HIS
1	A	250	GLN
1	B	13	ASN
1	B	110	GLN
1	B	219	GLN
1	C	13	ASN
1	C	170	GLN
1	C	250	GLN
1	D	13	ASN
1	D	33	HIS
1	D	101	HIS
1	D	250	GLN

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)

Of 37 ligands modelled in this entry, 4 are monoatomic - leaving 33 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	DMS	C	302	-	3,3,3	0.30	0	3,3,3	0.27	0
4	EDO	B	308	-	3,3,3	0.35	0	2,2,2	1.08	0
4	EDO	D	307	-	3,3,3	0.65	0	2,2,2	0.18	0
5	A1H92	B	309	2	30,32,32	1.54	5 (16%)	37,46,46	1.59	5 (13%)
4	EDO	B	307	-	3,3,3	0.08	0	2,2,2	0.27	0
4	EDO	B	304	-	3,3,3	0.10	0	2,2,2	0.39	0
4	EDO	C	307	-	3,3,3	0.53	0	2,2,2	0.33	0
4	EDO	B	306	-	3,3,3	0.44	0	2,2,2	0.59	0
3	DMS	D	302	-	3,3,3	0.39	0	3,3,3	0.07	0
4	EDO	D	304	-	3,3,3	0.18	0	2,2,2	0.51	0
5	A1H92	A	308	2	30,32,32	1.58	6 (20%)	37,46,46	1.52	6 (16%)
5	A1H92	D	309	2	30,32,32	1.58	4 (13%)	37,46,46	1.57	8 (21%)
4	EDO	C	304	-	3,3,3	0.06	0	2,2,2	0.64	0
4	EDO	D	305	-	3,3,3	0.12	0	2,2,2	0.48	0
4	EDO	A	306	-	3,3,3	0.33	0	2,2,2	0.44	0
4	EDO	B	305	-	3,3,3	0.08	0	2,2,2	0.04	0
4	EDO	C	303	-	3,3,3	0.44	0	2,2,2	1.50	1 (50%)
4	EDO	C	306	-	3,3,3	0.55	0	2,2,2	0.46	0
4	EDO	C	309	-	3,3,3	0.41	0	2,2,2	0.52	0
4	EDO	B	302	-	3,3,3	0.31	0	2,2,2	0.69	0
3	DMS	A	302	-	3,3,3	0.30	0	3,3,3	0.26	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	EDO	A	305	-	3,3,3	0.43	0	2,2,2	0.57	0
4	EDO	C	305	-	3,3,3	0.35	0	2,2,2	1.09	0
4	EDO	A	307	-	3,3,3	0.24	0	2,2,2	0.42	0
4	EDO	D	303	-	3,3,3	0.13	0	2,2,2	0.67	0
4	EDO	C	308	-	3,3,3	0.25	0	2,2,2	0.64	0
5	A1H92	C	311	2	30,32,32	1.52	7 (23%)	37,46,46	1.21	4 (10%)
4	EDO	D	306	-	3,3,3	0.46	0	2,2,2	0.52	0
4	EDO	B	303	-	3,3,3	0.13	0	2,2,2	0.32	0
4	EDO	A	303	-	3,3,3	0.22	0	2,2,2	0.17	0
4	EDO	C	310	-	3,3,3	0.13	0	2,2,2	0.42	0
4	EDO	A	304	-	3,3,3	0.20	0	2,2,2	0.45	0
4	EDO	D	308	-	3,3,3	0.24	0	2,2,2	0.59	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
4	EDO	B	308	-	-	1/1/1/1	-
4	EDO	D	307	-	-	0/1/1/1	-
5	A1H92	B	309	2	-	9/24/34/34	0/2/2/2
4	EDO	B	307	-	-	0/1/1/1	-
4	EDO	B	304	-	-	1/1/1/1	-
4	EDO	C	307	-	-	1/1/1/1	-
4	EDO	B	306	-	-	0/1/1/1	-
4	EDO	D	304	-	-	1/1/1/1	-
5	A1H92	A	308	2	-	7/24/34/34	0/2/2/2
5	A1H92	D	309	2	-	6/24/34/34	0/2/2/2
4	EDO	C	304	-	-	1/1/1/1	-
4	EDO	D	305	-	-	0/1/1/1	-
4	EDO	A	306	-	-	1/1/1/1	-
4	EDO	B	305	-	-	0/1/1/1	-
4	EDO	C	303	-	-	1/1/1/1	-
4	EDO	C	306	-	-	1/1/1/1	-
4	EDO	C	309	-	-	1/1/1/1	-
4	EDO	B	302	-	-	1/1/1/1	-
4	EDO	A	305	-	-	0/1/1/1	-
4	EDO	C	305	-	-	0/1/1/1	-
4	EDO	A	307	-	-	0/1/1/1	-
4	EDO	D	303	-	-	1/1/1/1	-
4	EDO	C	308	-	-	1/1/1/1	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	A1H92	C	311	2	-	7/24/34/34	0/2/2/2
4	EDO	D	306	-	-	0/1/1/1	-
4	EDO	B	303	-	-	1/1/1/1	-
4	EDO	A	303	-	-	1/1/1/1	-
4	EDO	C	310	-	-	1/1/1/1	-
4	EDO	A	304	-	-	1/1/1/1	-
4	EDO	D	308	-	-	0/1/1/1	-

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	B	309	A1H92	C27-C26	4.60	1.58	1.52
5	A	308	A1H92	C43-C26	4.46	1.58	1.52
5	D	309	A1H92	C27-C26	4.35	1.58	1.52
5	C	311	A1H92	F9-C5	3.45	1.40	1.35
5	A	308	A1H92	O12-S8	3.23	1.49	1.43
5	C	311	A1H92	O12-S8	3.22	1.49	1.43
5	B	309	A1H92	C26-N11	-3.18	1.38	1.46
5	C	311	A1H92	O50-S10	-3.09	1.39	1.44
5	D	309	A1H92	O49-S10	2.98	1.48	1.44
5	D	309	A1H92	O50-S10	-2.93	1.39	1.44
5	D	309	A1H92	C43-C26	2.83	1.56	1.52
5	C	311	A1H92	O13-S8	2.80	1.48	1.43
5	A	308	A1H92	C5-C4	-2.72	1.34	1.39
5	A	308	A1H92	S8-N14	-2.51	1.55	1.60
5	B	309	A1H92	O12-S8	2.49	1.48	1.43
5	C	311	A1H92	O17-C18	2.46	1.52	1.43
5	B	309	A1H92	O49-S10	2.36	1.47	1.44
5	A	308	A1H92	O49-S10	2.33	1.47	1.44
5	C	311	A1H92	S8-N14	-2.31	1.55	1.60
5	C	311	A1H92	C27-C26	2.28	1.55	1.52
5	A	308	A1H92	C2-C3	2.25	1.42	1.39
5	B	309	A1H92	C51-S10	-2.21	1.73	1.77

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	D	309	A1H92	O49-S10-O50	-4.17	113.56	118.44
5	B	309	A1H92	O13-S8-N14	4.09	113.42	107.36
5	D	309	A1H92	C3-C4-C5	3.82	119.34	116.67
5	A	308	A1H92	F9-C5-C6	-3.66	114.22	119.39
5	A	308	A1H92	C37-C40-C43	-3.54	102.03	117.44

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	B	309	A1H92	C31-C28-C27	-3.41	102.60	117.44
5	B	309	A1H92	O49-S10-O50	-3.38	114.48	118.44
5	B	309	A1H92	F9-C5-C6	-3.25	114.79	119.39
5	B	309	A1H92	O12-S8-C4	-3.13	102.65	107.30
5	C	311	A1H92	O12-S8-C4	-2.91	102.98	107.30
5	A	308	A1H92	O12-S8-C4	-2.83	103.11	107.30
5	D	309	A1H92	C6-C5-C4	-2.79	117.66	121.47
5	A	308	A1H92	O13-S8-C4	-2.78	103.18	107.30
5	D	309	A1H92	F7-C3-C2	-2.77	115.40	119.56
5	D	309	A1H92	O12-S8-C4	-2.72	103.26	107.30
5	D	309	A1H92	C5-C6-C1	2.70	122.03	116.88
5	A	308	A1H92	O49-S10-O50	-2.62	115.37	118.44
5	C	311	A1H92	F9-C5-C6	-2.53	115.81	119.39
5	D	309	A1H92	C28-C27-C26	2.45	125.73	116.21
5	C	311	A1H92	F7-C3-C4	-2.29	116.42	120.70
4	C	303	EDO	O2-C2-C1	-2.11	96.74	111.91
5	D	309	A1H92	O12-S8-N14	2.09	110.47	107.36
5	C	311	A1H92	O13-S8-N14	2.06	110.41	107.36
5	A	308	A1H92	C4-S8-N14	2.01	111.98	108.26

There are no chirality outliers.

All (45) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	308	A1H92	C2-C1-S10-O50
5	A	308	A1H92	C2-C1-S10-O49
5	A	308	A1H92	C2-C1-S10-C51
5	A	308	A1H92	C5-C4-S8-O13
5	A	308	A1H92	C5-C4-S8-N14
5	B	309	A1H92	C2-C1-S10-O50
5	B	309	A1H92	C2-C1-S10-O49
5	B	309	A1H92	C5-C4-S8-O13
5	B	309	A1H92	C5-C4-S8-N14
5	B	309	A1H92	C3-C4-S8-N14
5	B	309	A1H92	C43-C26-N11-C2
5	C	311	A1H92	C2-C1-S10-O50
5	C	311	A1H92	C2-C1-S10-O49
5	C	311	A1H92	C2-C1-S10-C51
5	C	311	A1H92	C5-C4-S8-O13
5	C	311	A1H92	C5-C4-S8-N14
5	D	309	A1H92	C2-C1-S10-O50
5	D	309	A1H92	C2-C1-S10-O49

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
5	D	309	A1H92	C2-C1-S10-C51
5	D	309	A1H92	C5-C4-S8-O13
5	D	309	A1H92	C5-C4-S8-N14
5	C	311	A1H92	C3-C4-S8-N14
4	C	303	EDO	O1-C1-C2-O2
4	C	307	EDO	O1-C1-C2-O2
4	C	308	EDO	O1-C1-C2-O2
4	D	304	EDO	O1-C1-C2-O2
4	A	304	EDO	O1-C1-C2-O2
4	A	306	EDO	O1-C1-C2-O2
4	B	308	EDO	O1-C1-C2-O2
4	C	304	EDO	O1-C1-C2-O2
4	C	306	EDO	O1-C1-C2-O2
4	D	303	EDO	O1-C1-C2-O2
5	B	309	A1H92	C19-C18-O17-C6
4	A	303	EDO	O1-C1-C2-O2
5	A	308	A1H92	C19-C18-O17-C6
5	B	309	A1H92	C1-C2-N11-C26
4	B	302	EDO	O1-C1-C2-O2
5	A	308	A1H92	C3-C4-S8-N14
5	D	309	A1H92	C3-C4-S8-N14
4	C	309	EDO	O1-C1-C2-O2
4	B	304	EDO	O1-C1-C2-O2
4	C	310	EDO	O1-C1-C2-O2
5	B	309	A1H92	C3-C2-N11-C26
5	C	311	A1H92	C27-C26-N11-C2
4	B	303	EDO	O1-C1-C2-O2

There are no ring outliers.

16 monomers are involved in 37 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	308	EDO	1	0
4	D	307	EDO	1	0
4	B	307	EDO	6	0
4	C	307	EDO	1	0
3	D	302	DMS	1	0
4	D	304	EDO	1	0
4	C	304	EDO	2	0
4	D	305	EDO	1	0
4	A	306	EDO	3	0
4	B	305	EDO	4	0

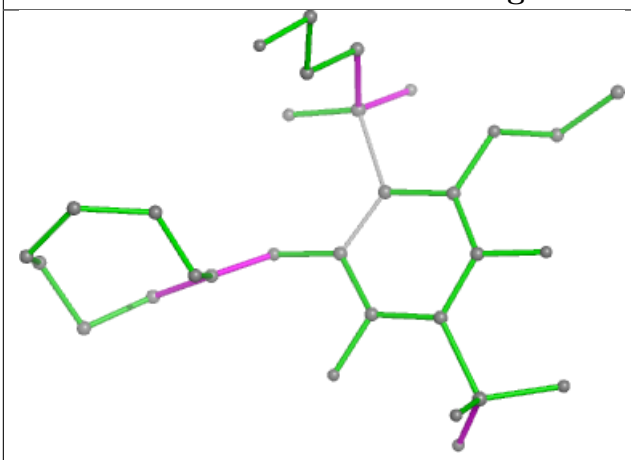
Continued on next page...

Continued from previous page...

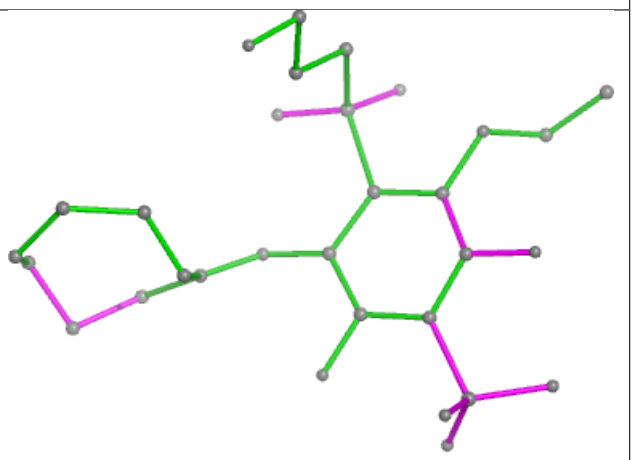
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	C	306	EDO	1	0
4	B	302	EDO	4	0
4	C	305	EDO	7	0
4	C	308	EDO	1	0
4	D	306	EDO	1	0
4	B	303	EDO	2	0

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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

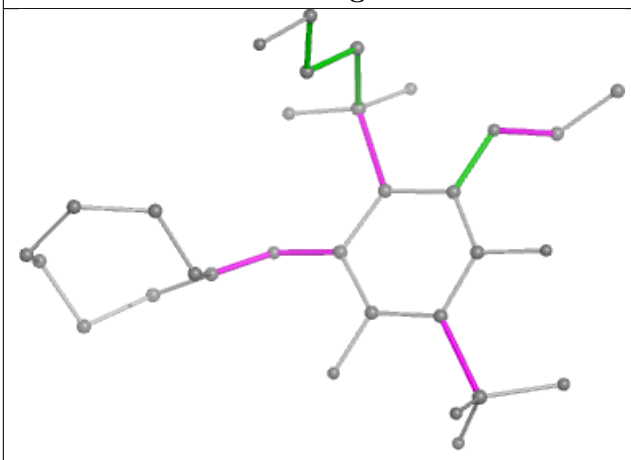
Ligand A1H92 B 309



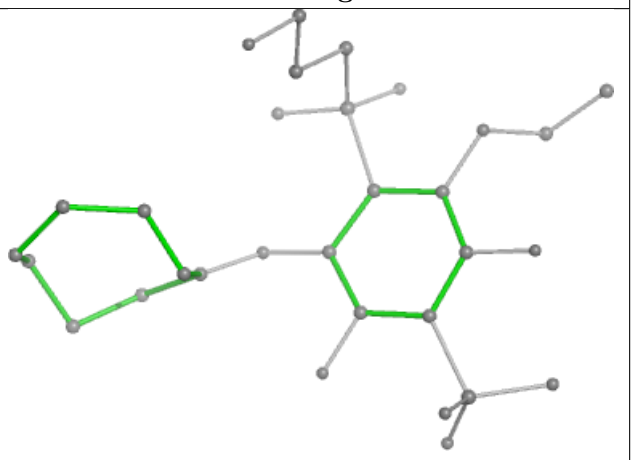
Bond lengths



Bond angles

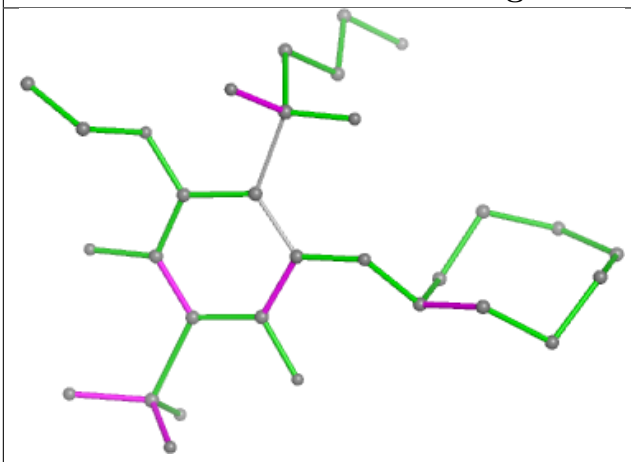


Torsions

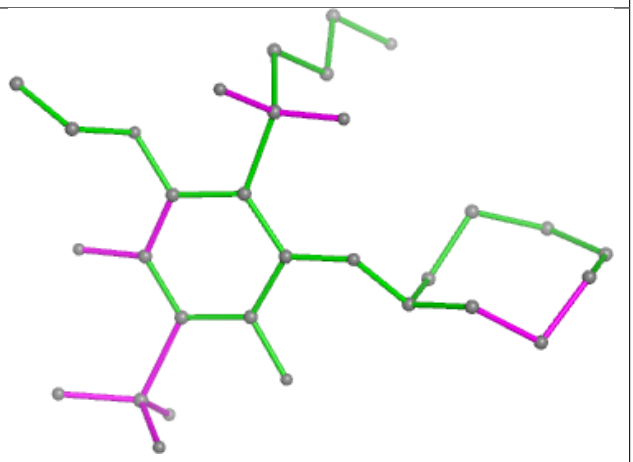


Rings

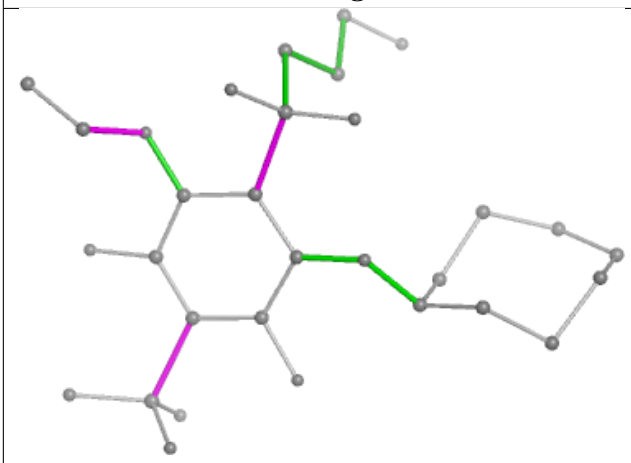
Ligand A1H92 A 308



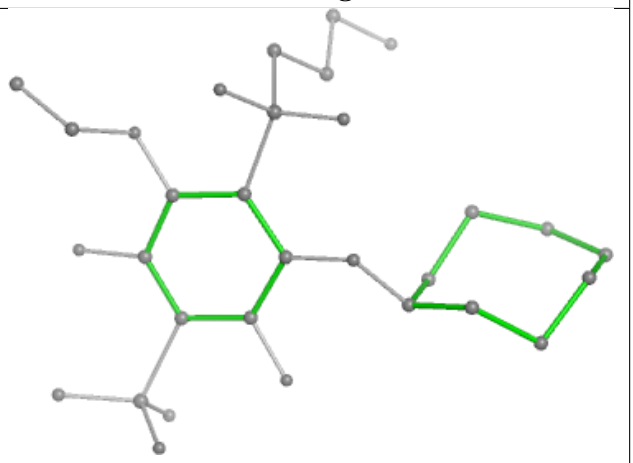
Bond lengths



Bond angles

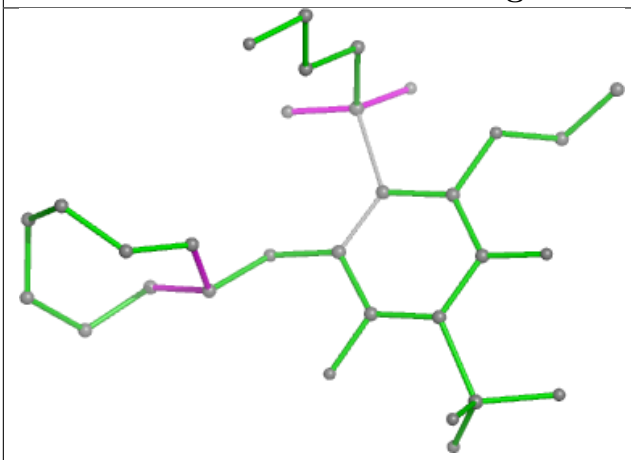


Torsions

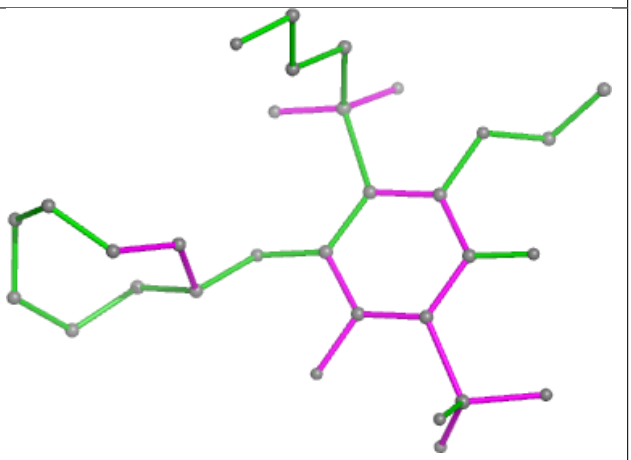


Rings

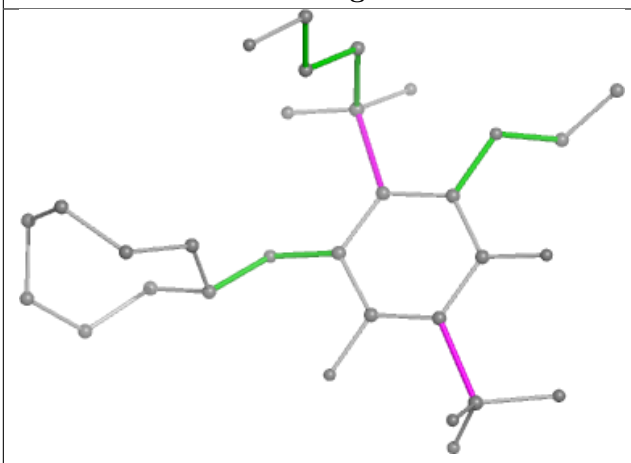
Ligand A1H92 D 309



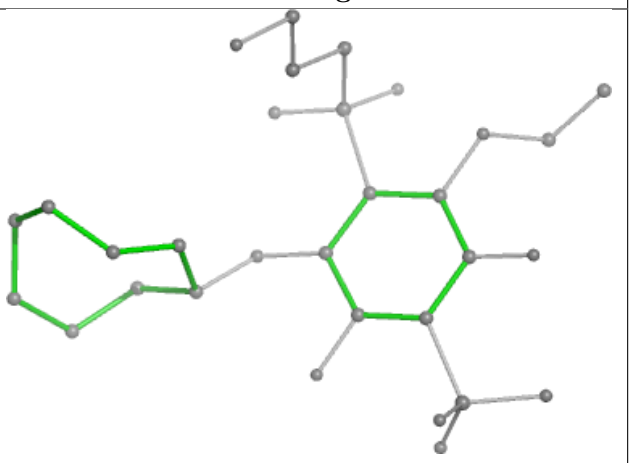
Bond lengths



Bond angles

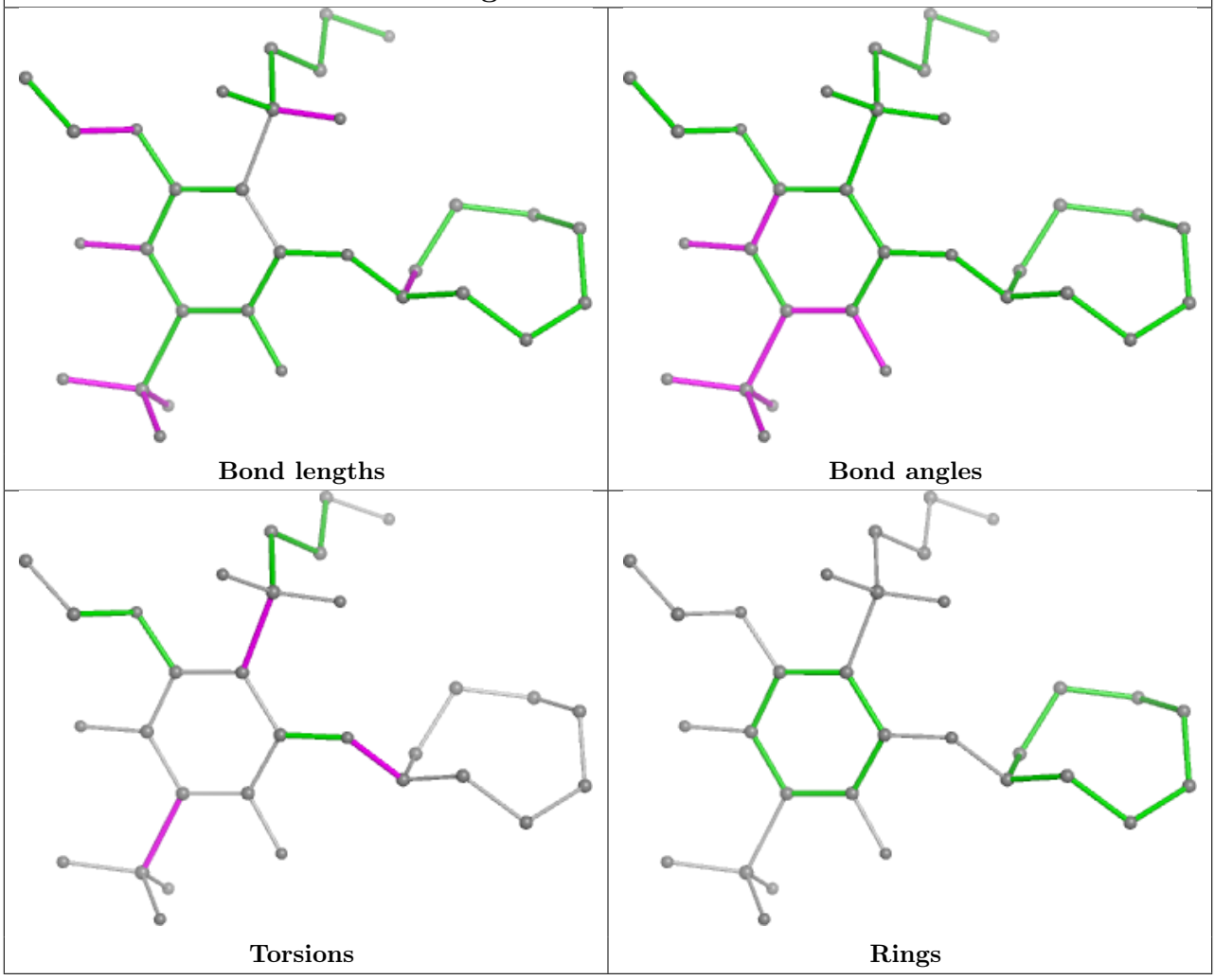


Torsions



Rings

Ligand A1H92 C 311



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, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	260/263 (98%)	0.41	15 (5%)	30	35	7, 17, 39, 57	24 (9%)
1	B	261/263 (99%)	0.22	11 (4%)	41	45	6, 15, 38, 79	24 (9%)
1	C	260/263 (98%)	0.55	16 (6%)	28	33	7, 20, 43, 61	11 (4%)
1	D	262/263 (99%)	0.11	10 (3%)	44	48	6, 15, 33, 57	18 (6%)
All	All	1043/1052 (99%)	0.32	52 (4%)	35	39	6, 16, 39, 79	77 (7%)

All (52) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	7	PHE	5.9
1	B	252[A]	PHE	5.7
1	C	55	ALA	5.4
1	A	7	PHE	4.6
1	C	8	GLY	4.6
1	B	81	LEU	4.4
1	A	8	GLY	3.9
1	D	239	PRO	3.8
1	C	57	LYS	3.7
1	A	55	ALA	3.7
1	B	253	ASP	3.6
1	D	253	ASP	3.6
1	C	9	PRO	3.4
1	D	98	ASN	3.4
1	C	174	VAL	3.3
1	A	56	ASN	3.2
1	A	253	ASP	3.2
1	D	252[A]	PHE	3.2
1	C	54	SER	3.1
1	A	230[A]	TYR	3.1
1	A	35	ASP	3.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	C	80	GLY	3.0
1	B	80	GLY	2.9
1	C	56	ASN	2.9
1	A	82	GLN	2.9
1	B	79	GLN	2.9
1	B	3	LYS	2.8
1	C	235	ASP	2.7
1	C	173	PHE	2.6
1	C	130	SER	2.6
1	C	165	VAL	2.5
1	A	9	PRO	2.5
1	B	136	SER	2.5
1	A	263	GLN	2.4
1	A	57[A]	LYS	2.4
1	D	263	GLN	2.4
1	D	2	SER	2.4
1	D	238[A]	SER	2.4
1	A	163[A]	GLN	2.3
1	D	7	PHE	2.2
1	B	83	SER	2.2
1	B	127	PRO	2.2
1	B	125	LEU	2.2
1	A	54	SER	2.1
1	A	240	ARG	2.1
1	B	124	ASP	2.1
1	D	3	LYS	2.1
1	C	61[A]	LEU	2.1
1	A	51	TYR	2.0
1	C	253	ASP	2.0
1	D	237	PRO	2.0
1	C	230	TYR	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

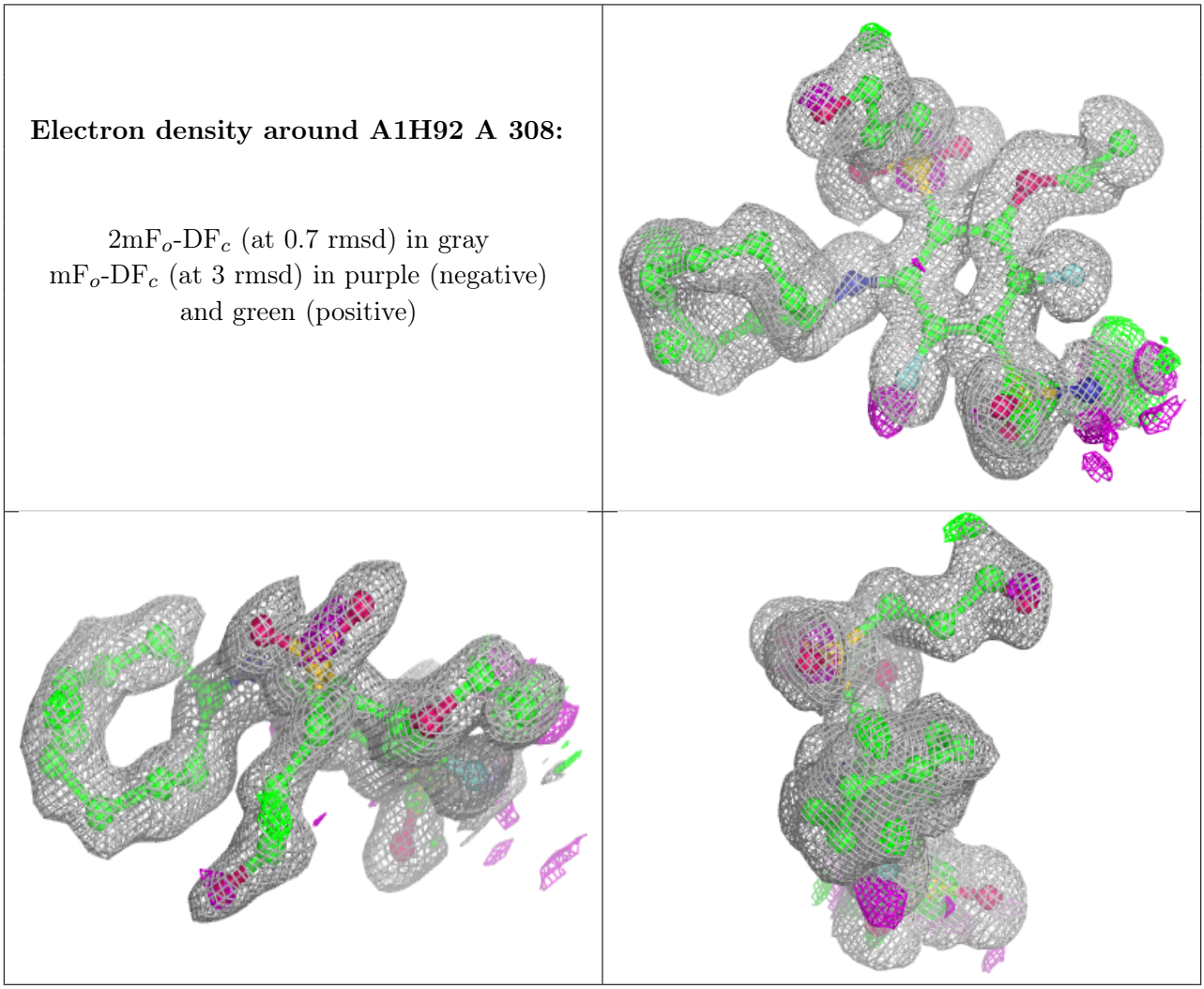
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	DMS	D	302	4/4	0.76	0.17	50,59,81,86	0
4	EDO	C	303	4/4	0.81	0.15	24,41,43,63	0
4	EDO	B	305	4/4	0.82	0.15	69,71,72,74	0
4	EDO	B	302	4/4	0.84	0.15	34,35,40,76	0
3	DMS	A	302	4/4	0.85	0.16	48,57,63,65	0
4	EDO	C	304	4/4	0.85	0.13	36,44,51,57	0
3	DMS	C	302	4/4	0.86	0.18	66,72,77,78	0
4	EDO	A	304	4/4	0.86	0.12	45,52,54,76	0
4	EDO	B	303	4/4	0.87	0.12	35,38,39,68	0
4	EDO	A	305	4/4	0.87	0.11	36,39,40,43	0
4	EDO	C	308	4/4	0.87	0.12	41,43,45,46	0
4	EDO	C	310	4/4	0.87	0.12	47,49,54,59	0
4	EDO	C	307	4/4	0.88	0.12	41,46,48,56	0
4	EDO	A	306	4/4	0.88	0.14	29,48,52,60	0
4	EDO	A	303	4/4	0.88	0.15	22,34,38,43	0
4	EDO	C	305	4/4	0.89	0.13	30,39,47,51	0
4	EDO	B	306	4/4	0.89	0.12	32,39,57,61	0
4	EDO	D	304	4/4	0.89	0.11	42,43,47,48	0
4	EDO	D	305	4/4	0.89	0.11	48,54,59,71	0
4	EDO	D	306	4/4	0.89	0.14	32,34,42,69	0
4	EDO	B	304	4/4	0.90	0.13	43,45,49,65	0
4	EDO	D	303	4/4	0.91	0.12	34,36,42,55	0
4	EDO	C	306	4/4	0.92	0.11	46,52,52,57	0
4	EDO	B	307	4/4	0.92	0.09	39,51,60,72	0
4	EDO	A	307	4/4	0.93	0.10	40,48,54,55	0
4	EDO	C	309	4/4	0.94	0.11	21,30,31,38	0
4	EDO	D	307	4/4	0.94	0.10	23,27,41,43	0
4	EDO	B	308	4/4	0.95	0.09	27,31,42,61	0
4	EDO	D	308	4/4	0.95	0.09	31,40,44,49	0
5	A1H92	A	308	31/31	0.98	0.07	13,18,32,37	0
5	A1H92	B	309	31/31	0.98	0.07	12,18,29,32	0
5	A1H92	C	311	31/31	0.98	0.08	14,20,34,36	0
2	ZN	D	301	1/1	0.99	0.04	10,10,10,10	0
2	ZN	A	301	1/1	0.99	0.04	11,11,11,11	0
2	ZN	B	301	1/1	0.99	0.04	10,10,10,10	0
5	A1H92	D	309	31/31	0.99	0.06	12,17,27,32	0
2	ZN	C	301	1/1	1.00	0.02	12,12,12,12	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.

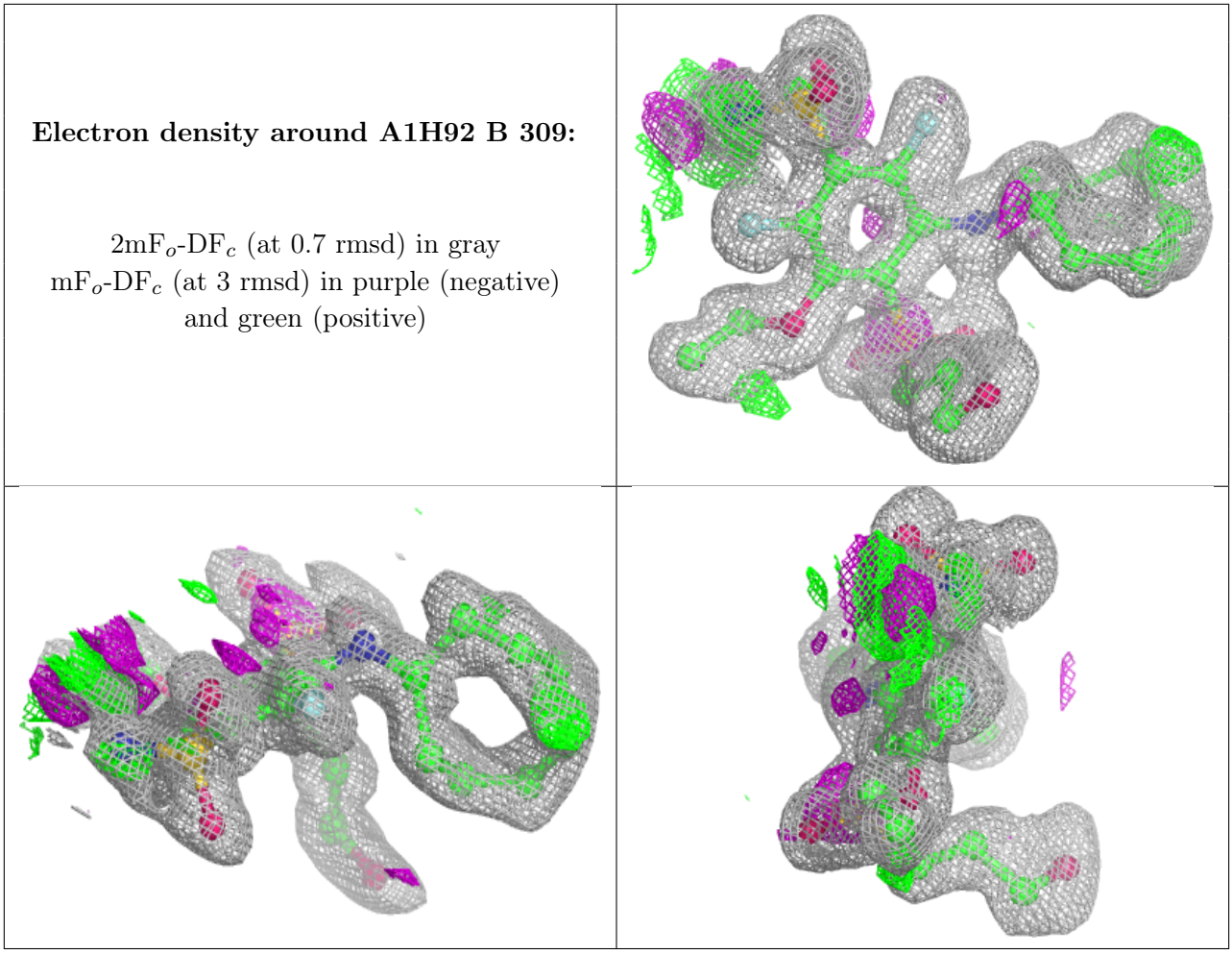
Electron density around A1H92 A 308:

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



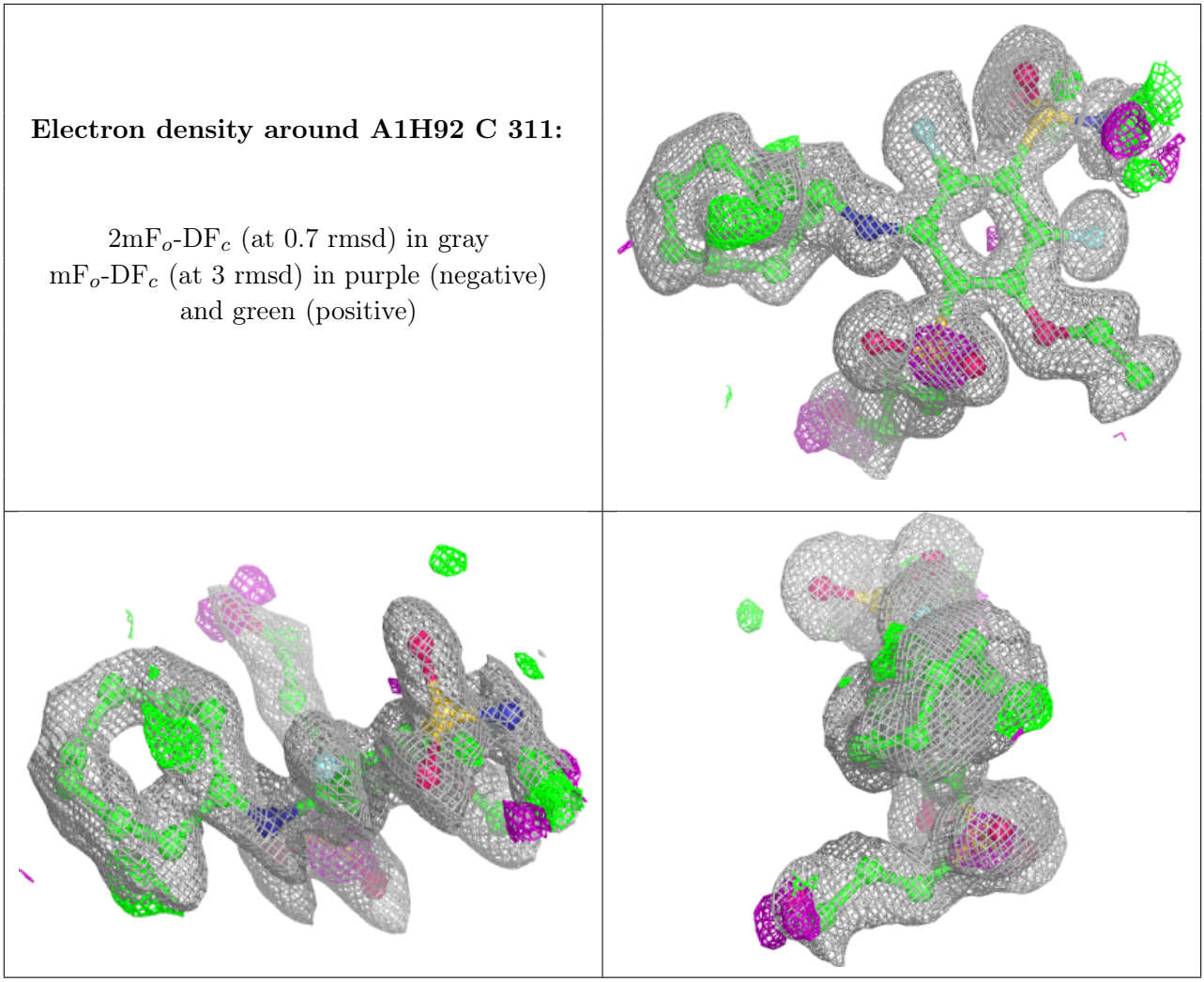
Electron density around A1H92 B 309:

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



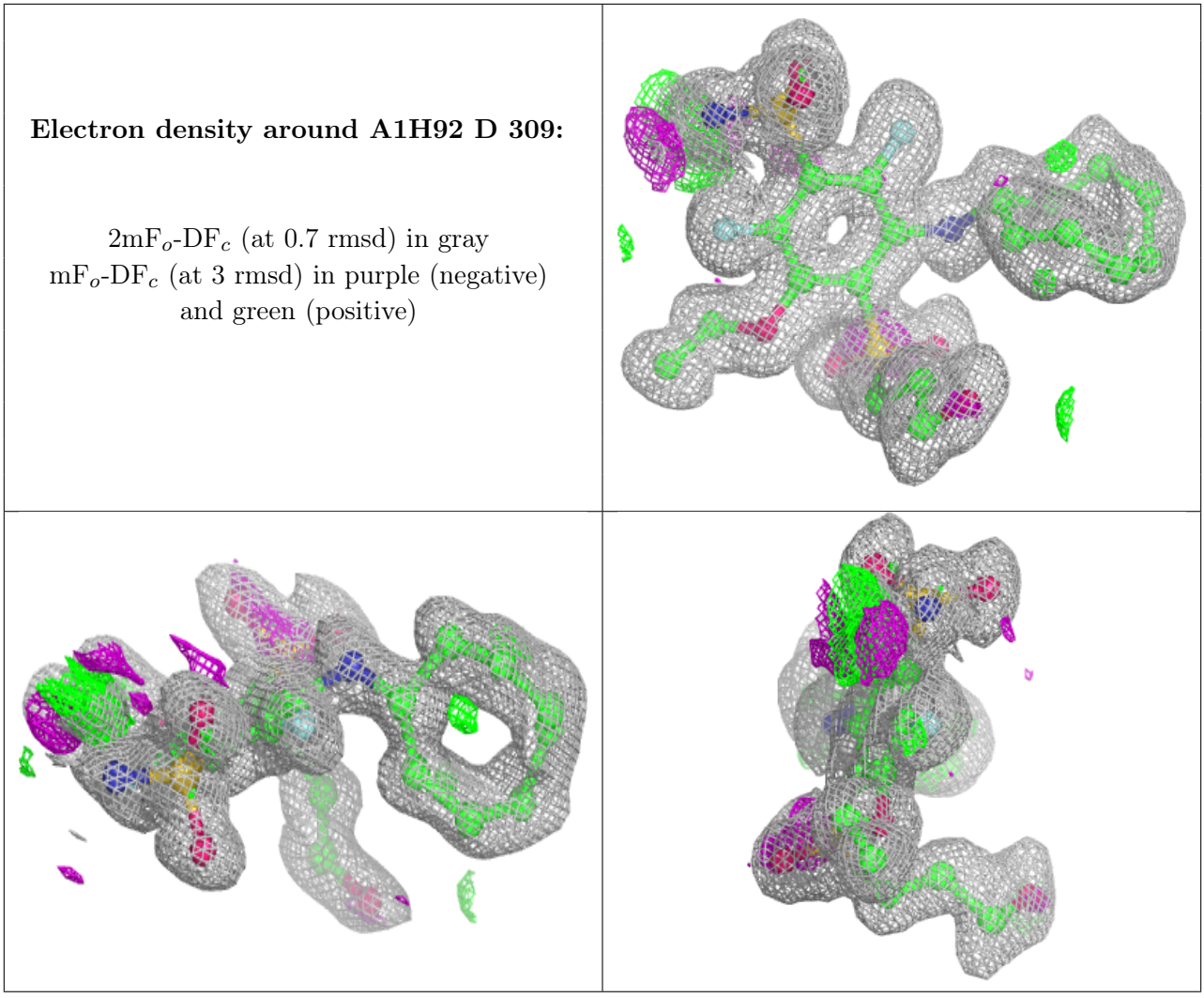
Electron density around A1H92 C 311:

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



Electron density around A1H92 D 309:

$2mF_o$-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.