Full wwPDB X-ray Structure Validation Report ⓘ

Oct 26, 2026 – 11:19 PM JST

PDB ID	:	9XDS / pdb_00009xds
Title	:	Crystal Structure of Fructose-1,6-bisphosphatase Complexed with a Covalent Inhibitor
Authors	:	Cao, H.; Huang, Z.; Hu, X.; Li, W.; Chang, M.; Zhang, Y.; Chu, Y.
Deposited on	:	2025-10-27
Resolution	:	2.08 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:

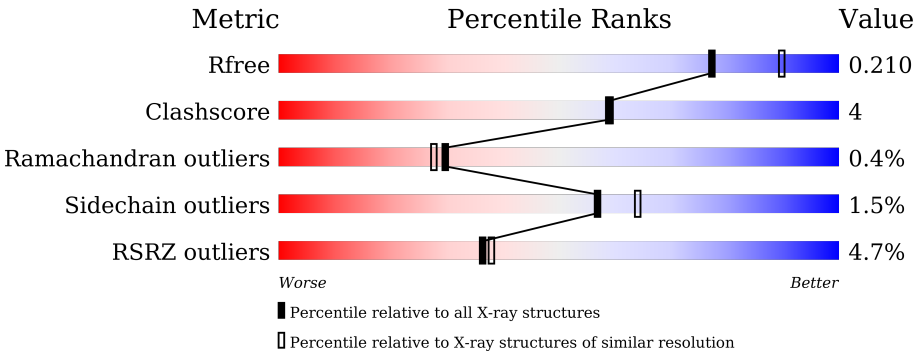
MolProbity	:	4-5-2 with Phenix2.2
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	2.2
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.51

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 2.08 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	8172 (2.10-2.06)
Clashscore	190562	8714 (2.10-2.06)
Ramachandran outliers	187476	8641 (2.10-2.06)
Sidechain outliers	187428	8642 (2.10-2.06)
RSRZ outliers	180081	8177 (2.10-2.06)

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	346	3% 87% 5% • 8%
1	B	346	3% 84% 9% • 6%
1	C	346	4% 81% 10% • 8%
1	D	346	7% 84% 9% • 6%

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 crite-

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
5	A1EZR	A	409	-	X	-	-

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 10726 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 Fructose-1,6-bisphosphatase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	319	Total	C	N	O	S	0	0	0
			2435	1553	406	459	17			
1	B	325	Total	C	N	O	S	0	0	0
			2481	1577	416	471	17			
1	C	319	Total	C	N	O	S	0	0	0
			2441	1556	409	459	17			
1	D	325	Total	C	N	O	S	0	0	0
			2486	1581	417	471	17			

There are 44 discrepancies between the modelled and reference sequences:

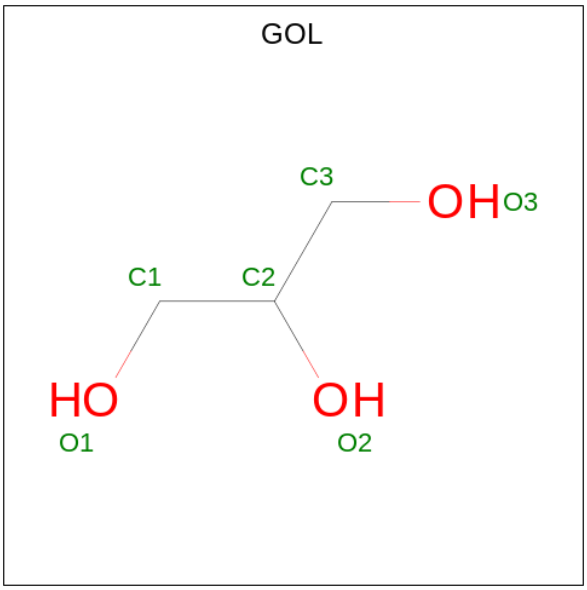
Chain	Residue	Modelled	Actual	Comment	Reference
A	217	LYS	ARG	variant	UNP P09467
A	336	LEU	-	expression tag	UNP P09467
A	337	GLU	-	expression tag	UNP P09467
A	338	HIS	-	expression tag	UNP P09467
A	339	HIS	-	expression tag	UNP P09467
A	340	HIS	-	expression tag	UNP P09467
A	341	HIS	-	expression tag	UNP P09467
A	342	HIS	-	expression tag	UNP P09467
A	343	HIS	-	expression tag	UNP P09467
A	344	HIS	-	expression tag	UNP P09467
A	345	HIS	-	expression tag	UNP P09467
B	217	LYS	ARG	variant	UNP P09467
B	336	LEU	-	expression tag	UNP P09467
B	337	GLU	-	expression tag	UNP P09467
B	338	HIS	-	expression tag	UNP P09467
B	339	HIS	-	expression tag	UNP P09467
B	340	HIS	-	expression tag	UNP P09467
B	341	HIS	-	expression tag	UNP P09467
B	342	HIS	-	expression tag	UNP P09467
B	343	HIS	-	expression tag	UNP P09467
B	344	HIS	-	expression tag	UNP P09467

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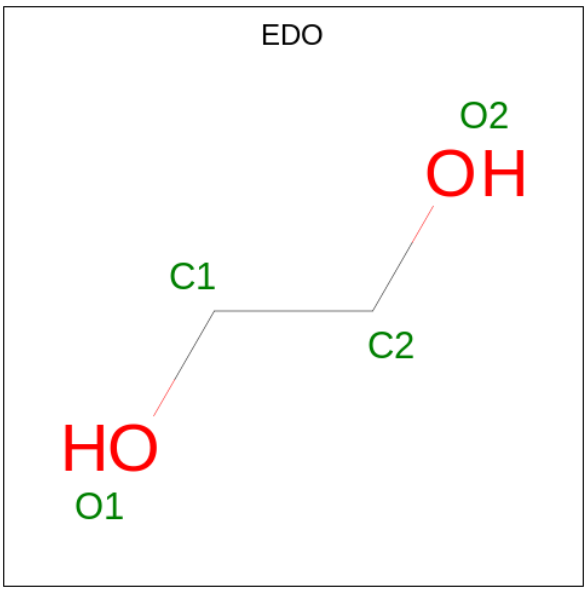
Chain	Residue	Modelled	Actual	Comment	Reference
B	345	HIS	-	expression tag	UNP P09467
C	217	LYS	ARG	variant	UNP P09467
C	336	LEU	-	expression tag	UNP P09467
C	337	GLU	-	expression tag	UNP P09467
C	338	HIS	-	expression tag	UNP P09467
C	339	HIS	-	expression tag	UNP P09467
C	340	HIS	-	expression tag	UNP P09467
C	341	HIS	-	expression tag	UNP P09467
C	342	HIS	-	expression tag	UNP P09467
C	343	HIS	-	expression tag	UNP P09467
C	344	HIS	-	expression tag	UNP P09467
C	345	HIS	-	expression tag	UNP P09467
D	217	LYS	ARG	variant	UNP P09467
D	336	LEU	-	expression tag	UNP P09467
D	337	GLU	-	expression tag	UNP P09467
D	338	HIS	-	expression tag	UNP P09467
D	339	HIS	-	expression tag	UNP P09467
D	340	HIS	-	expression tag	UNP P09467
D	341	HIS	-	expression tag	UNP P09467
D	342	HIS	-	expression tag	UNP P09467
D	343	HIS	-	expression tag	UNP P09467
D	344	HIS	-	expression tag	UNP P09467
D	345	HIS	-	expression tag	UNP P09467

- Molecule 2 is GLYCEROL (CCD ID: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C O 6 3 3	0	0
2	A	1	Total C O 6 3 3	0	0
2	A	1	Total C O 6 3 3	0	0
2	A	1	Total C O 6 3 3	0	0
2	A	1	Total C O 6 3 3	0	0
2	D	1	Total C O 6 3 3	0	0
2	D	1	Total C O 6 3 3	0	0
2	D	1	Total C O 6 3 3	0	0
2	D	1	Total C O 6 3 3	0	0
2	D	1	Total C O 6 3 3	0	0

- Molecule 3 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: $C_2H_6O_2$).



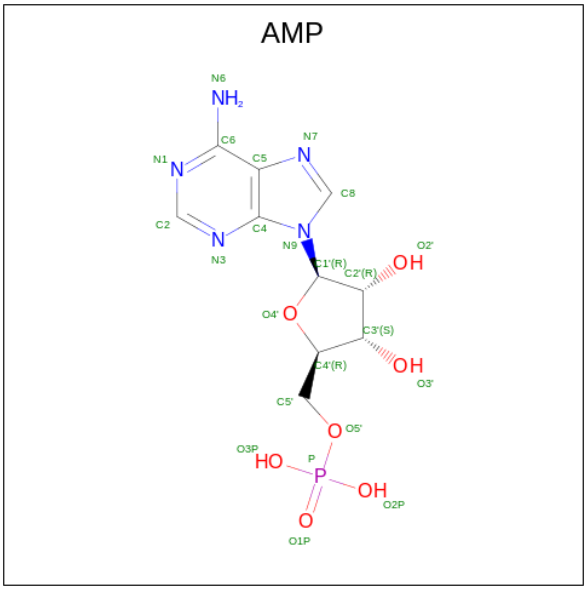
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 4 2 2	0	0
3	A	1	Total C O 4 2 2	0	0

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

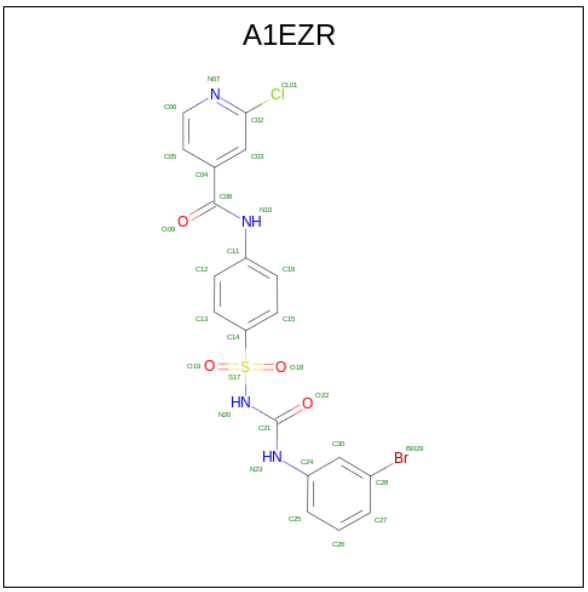
- Molecule 4 is ADENOSINE MONOPHOSPHATE (CCD ID: AMP) (formula: $C_{10}H_{14}N_5O_7P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C N O P 23 10 5 7 1	0	0
4	B	1	Total C N O P 23 10 5 7 1	0	0
4	C	1	Total C N O P 23 10 5 7 1	0	0
4	D	1	Total C N O P 23 10 5 7 1	0	0

- Molecule 5 is {N}-[4-[(3-bromophenyl)carbamoylsulfamoyl]phenyl]-2-chloranyl-pyridine-4-c

arboxamide (CCD ID: A1EZR) (formula: $C_{19}H_{14}BrClN_4O_4S$).



Mol	Chain	Residues	Atoms							ZeroOcc	AltConf
5	A	1	Total	Br	C	Cl	N	O	S	0	0
			30	1	19	1	4	4	1		
5	B	1	Total	Br	C	Cl	N	O	S	0	0
			30	1	19	1	4	4	1		
5	C	1	Total	Br	C	Cl	N	O	S	0	0
			30	1	19	1	4	4	1		
5	D	1	Total	Br	C	Cl	N	O	S	0	0
			30	1	19	1	4	4	1		

- Molecule 6 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	1	Total	Mg	0	0
			1	1		

- Molecule 7 is water.

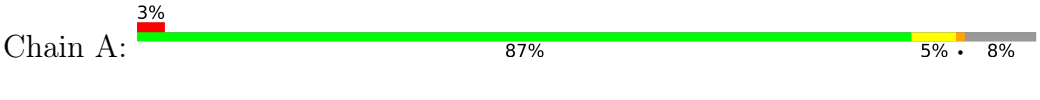
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	172	Total	O	0	0
			172	172		
7	B	151	Total	O	0	0
			151	151		
7	C	136	Total	O	0	0
			136	136		
7	D	119	Total	O	0	0
			119	119		

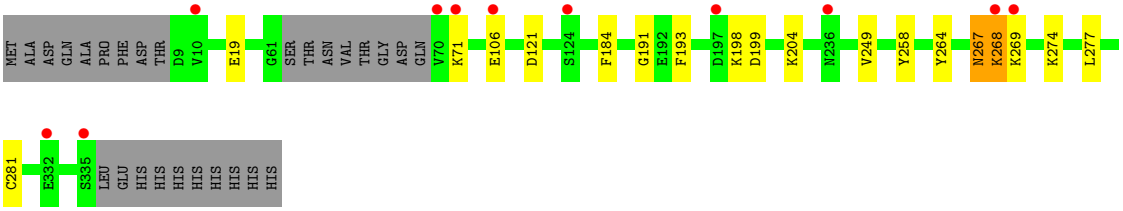
3 Residue-property plots (i)

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: Fructose-1,6-bisphosphatase 1

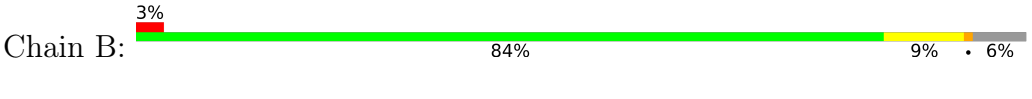
Chain A:

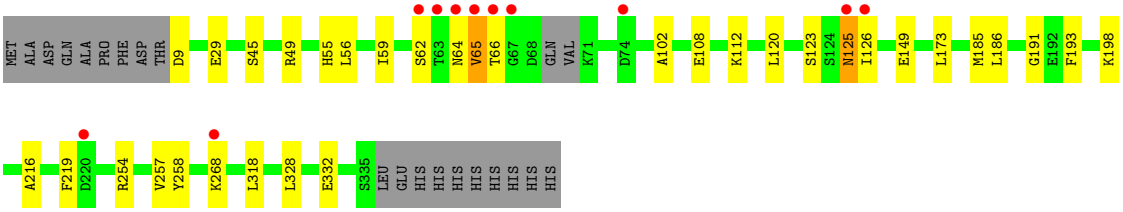




• Molecule 1: Fructose-1,6-bisphosphatase 1

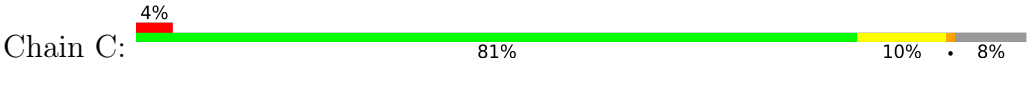
Chain B:

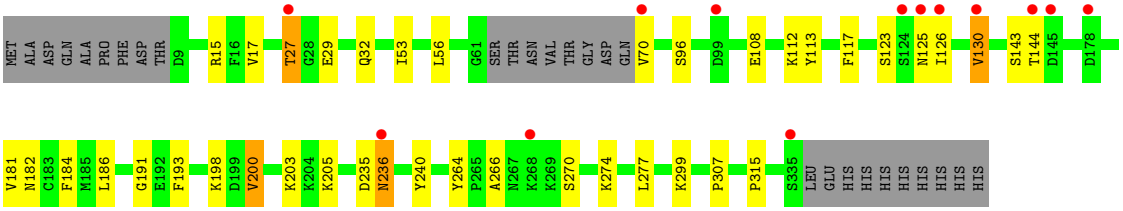




• Molecule 1: Fructose-1,6-bisphosphatase 1

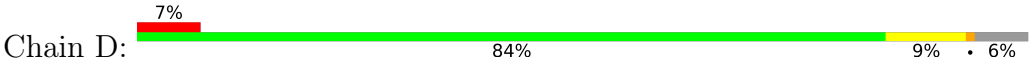
Chain C:

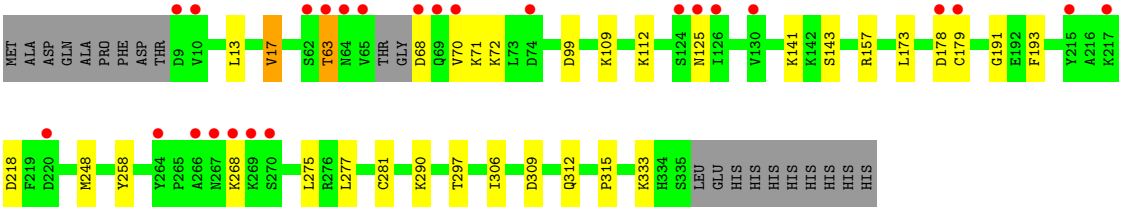




• Molecule 1: Fructose-1,6-bisphosphatase 1

Chain D:




MET ALA ASP GLN ALA PRO PHE ASP THR D9 V10 L13 V17 S62 T63 N64 V65 THR GLY D68 Q69 V70 K71 K72 L73 D74 D99 K109 K112 S124 N125 I126 V130 K141 K142 S143 R157 L173 D178 C179 G191 E192 F193 Y215 A216 K217
D218 F219 D220 M248 Y258 Y264 P265 A266 N267 K268 K269 S270 L275 R276 L277 C281 K290 T297 I306 D309 Q312 P315 K333 H334 S335 LEU GLU HIS HIS HIS HIS HIS HIS HIS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	67.67Å 83.33Å 279.56Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	71.64 – 2.08 71.64 – 2.08	Depositor EDS
% Data completeness (in resolution range)	98.6 (71.64-2.08) 98.6 (71.64-2.08)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.37 (at 2.08Å)	Xtriage
Refinement program	PHENIX (1.20.1_4487: ???)	Depositor
R, R_{free}	0.176 , 0.212 0.176 , 0.210	Depositor DCC
R_{free} test set	4692 reflections (4.88%)	wwPDB-VP
Wilson B-factor (Å^2)	31.5	Xtriage
Anisotropy	0.274	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 40.0	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	0.96	EDS
Total number of atoms	10726	wwPDB-VP
Average B, all atoms (Å^2)	34.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.97% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: MG, EDO, GOL, A1EZR, AMP

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	0.34	0/2478	0.52	0/3347
1	B	0.32	0/2524	0.52	0/3409
1	C	0.32	0/2484	0.55	0/3354
1	D	0.29	0/2529	0.50	0/3416
All	All	0.32	0/10015	0.52	0/13526

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2435	0	2480	16	0
1	B	2481	0	2523	25	0
1	C	2441	0	2491	27	0
1	D	2486	0	2530	26	0
2	A	30	0	40	1	0
2	D	30	0	40	4	0
3	A	12	0	18	0	0
3	C	16	0	24	1	0
3	D	4	0	6	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	A	23	0	12	0	0
4	B	23	0	12	0	0
4	C	23	0	12	2	0
4	D	23	0	12	0	0
5	A	30	0	0	1	0
5	B	30	0	0	1	0
5	C	30	0	0	0	0
5	D	30	0	0	0	0
6	A	1	0	0	0	0
7	A	172	0	0	2	0
7	B	151	0	0	4	0
7	C	136	0	0	4	0
7	D	119	0	0	4	0
All	All	10726	0	10200	89	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 4.

All (89) 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:D:179:CYS:SG	7:D:613:HOH:O	2.29	0.90
1:B:123:SER:HA	1:B:126:ILE:HG23	1.56	0.88
1:C:182:ASN:OD1	1:C:198:LYS:HD2	1.87	0.74
1:B:268:LYS:NZ	7:B:501:HOH:O	2.21	0.73
1:C:125:ASN:ND2	7:C:501:HOH:O	2.20	0.73
1:C:264:TYR:OH	1:C:274:LYS:HE3	1.91	0.71
1:C:130:VAL:HG12	7:C:506:HOH:O	1.92	0.70
1:B:191:GLY:HA3	1:D:191:GLY:HA3	1.74	0.67
1:D:141:LYS:HZ2	1:D:143:SER:HB3	1.60	0.65
1:B:328:LEU:O	1:B:332:GLU:HG2	1.97	0.65
1:D:157:ARG:HG3	2:D:403:GOL:H11	1.80	0.63
1:D:13:LEU:HD11	1:D:173:LEU:HD22	1.81	0.62
1:D:141:LYS:NZ	1:D:143:SER:HB3	2.17	0.59
1:A:106:GLU:H	1:A:106:GLU:CD	2.11	0.59
1:A:191:GLY:HA3	1:C:191:GLY:HA3	1.86	0.58
1:B:123:SER:O	1:B:126:ILE:HG12	2.04	0.57
1:C:29:GLU:OE2	1:C:112:LYS:HG2	2.05	0.57
1:C:53:ILE:HD12	1:C:56:LEU:HD12	1.87	0.57
1:A:268:LYS:HA	7:A:646:HOH:O	2.04	0.56
1:C:108:GLU:HG3	7:C:505:HOH:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:198:LYS:HD3	1:A:199:ASP:N	2.23	0.54
1:B:102:ALA:CB	1:B:149:GLU:HG3	2.38	0.54
1:A:184:PHE:HB3	1:A:193:PHE:HB3	1.89	0.53
2:A:402:GOL:H32	2:A:404:GOL:H11	1.90	0.53
1:B:29:GLU:OE1	1:B:112:LYS:HG3	2.09	0.52
1:B:102:ALA:HB2	1:B:149:GLU:HG3	1.89	0.52
1:D:13:LEU:HB2	1:D:193:PHE:HB2	1.91	0.52
1:D:297:THR:HB	1:D:315:PRO:HG2	1.91	0.52
1:A:258:TYR:OH	1:B:125:ASN:HA	2.10	0.52
5:A:409:A1EZR:O19	1:B:185:MET:HE3	2.11	0.51
1:C:15:ARG:HG2	3:C:404:EDO:H12	1.92	0.51
1:A:268:LYS:HD3	1:A:269:LYS:N	2.25	0.51
1:C:27:THR:HB	4:C:406:AMP:O2P	2.12	0.49
1:B:108:GLU:OE2	1:B:108:GLU:N	2.24	0.49
1:B:64:ASN:O	1:B:66:THR:N	2.45	0.49
1:A:264:TYR:CZ	1:A:274:LYS:HD3	2.47	0.49
1:D:218:ASP:HB3	1:D:268:LYS:HB3	1.95	0.48
1:D:68:ASP:N	1:D:71:LYS:HZ2	2.12	0.48
1:B:64:ASN:C	1:B:66:THR:H	2.22	0.47
1:D:248:MET:HE3	1:D:275:LEU:HD13	1.97	0.46
1:A:274:LYS:NZ	7:A:507:HOH:O	2.47	0.46
1:C:125:ASN:HA	1:D:258:TYR:OH	2.16	0.46
1:A:268:LYS:HD3	1:A:269:LYS:HB2	1.96	0.46
1:C:277:LEU:HD23	1:C:307:PRO:HB3	1.98	0.46
1:A:267:ASN:OD1	1:A:268:LYS:N	2.49	0.46
1:A:71:LYS:NZ	1:D:63:THR:HB	2.31	0.45
1:C:123:SER:HA	1:C:126:ILE:HB	1.99	0.45
1:D:218:ASP:CG	1:D:268:LYS:HB3	2.41	0.45
1:B:186:LEU:HB2	1:B:193:PHE:CE1	2.52	0.45
1:B:126:ILE:HA	7:B:513:HOH:O	2.15	0.45
1:C:181:VAL:HB	1:C:200:VAL:HG13	1.98	0.45
1:A:19:GLU:HG2	1:C:32:GLN:NE2	2.32	0.45
1:A:277:LEU:HA	1:A:281:CYS:HB2	1.99	0.45
1:D:277:LEU:HA	1:D:281:CYS:HB2	1.98	0.45
1:B:56:LEU:HD22	5:B:401:A1EZR:O09	2.17	0.44
1:D:112:LYS:HB3	1:D:112:LYS:HE3	1.80	0.44
1:A:121:ASP:OD2	1:A:249:VAL:HG23	2.17	0.44
1:D:178:ASP:HA	1:D:290:LYS:HE3	1.98	0.44
1:C:27:THR:HG22	1:C:29:GLU:H	1.83	0.44
1:C:235:ASP:O	1:C:236:ASN:OD1	2.35	0.44
1:D:268:LYS:HA	2:D:405:GOL:C1	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:333:LYS:HB2	7:D:617:HOH:O	2.17	0.44
1:C:96:SER:HB2	1:C:117:PHE:CZ	2.53	0.43
1:B:318:LEU:C	1:B:318:LEU:HD12	2.43	0.43
1:D:268:LYS:HA	2:D:405:GOL:H12	2.01	0.43
1:B:120:LEU:HD12	1:B:120:LEU:HA	1.88	0.43
1:B:332:GLU:OE2	7:B:502:HOH:O	2.22	0.42
1:D:72:LYS:HA	1:D:72:LYS:HD3	1.81	0.42
1:C:264:TYR:CZ	1:C:274:LYS:HE3	2.53	0.42
1:C:299:LYS:HD2	1:C:299:LYS:H	1.83	0.42
2:D:404:GOL:H31	7:D:540:HOH:O	2.18	0.42
1:C:266:ALA:HB2	1:C:315:PRO:HG3	2.02	0.41
1:B:45:SER:O	1:B:49:ARG:HD3	2.20	0.41
1:B:254:ARG:HD2	7:B:620:HOH:O	2.20	0.41
1:C:113:TYR:OH	4:C:406:AMP:O3P	2.38	0.41
1:C:270:SER:HB2	7:C:532:HOH:O	2.20	0.41
1:B:9:ASP:OD2	1:D:109:LYS:HE2	2.20	0.41
1:C:184:PHE:HB3	1:C:193:PHE:HB3	2.02	0.41
1:A:204:LYS:HA	1:A:204:LYS:HD3	1.83	0.41
1:B:216:ALA:HA	1:B:219:PHE:CD2	2.55	0.41
1:C:186:LEU:HB2	1:C:193:PHE:CE1	2.56	0.41
1:C:205:LYS:HE3	1:C:240:TYR:OH	2.21	0.40
1:D:309:ASP:HB3	1:D:312:GLN:HB3	2.03	0.40
1:B:55:HIS:HA	1:B:59:ILE:HG22	2.03	0.40
1:B:257:VAL:HG23	1:B:258:TYR:CD1	2.56	0.40
1:D:13:LEU:O	1:D:17:VAL:HG13	2.21	0.40
1:C:203:LYS:HB3	1:C:203:LYS:HE3	1.88	0.40
1:D:13:LEU:HD11	1:D:173:LEU:CD2	2.48	0.40
1:D:99:ASP:HB2	7:D:599:HOH:O	2.20	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	315/346 (91%)	308 (98%)	5 (2%)	2 (1%)	21	17
1	B	321/346 (93%)	311 (97%)	8 (2%)	2 (1%)	21	17
1	C	315/346 (91%)	307 (98%)	7 (2%)	1 (0%)	36	36
1	D	321/346 (93%)	312 (97%)	9 (3%)	0	100	100
All	All	1272/1384 (92%)	1238 (97%)	29 (2%)	5 (0%)	30	28

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	268	LYS
1	B	62	SER
1	C	236	ASN
1	B	65	VAL
1	A	267	ASN

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	265/290 (91%)	265 (100%)	0	100	100
1	B	271/290 (93%)	267 (98%)	4 (2%)	57	64
1	C	266/290 (92%)	259 (97%)	7 (3%)	40	45
1	D	272/290 (94%)	267 (98%)	5 (2%)	51	58
All	All	1074/1160 (93%)	1058 (98%)	16 (2%)	57	64

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	65	VAL
1	B	125	ASN
1	B	173	LEU
1	B	198	LYS
1	C	17	VAL
1	C	27	THR

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Mol	Chain	Res	Type
1	C	70	VAL
1	C	130	VAL
1	C	143	SER
1	C	144	THR
1	C	200	VAL
1	D	17	VAL
1	D	63	THR
1	D	70	VAL
1	D	125	ASN
1	D	306	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	83	ASN
1	A	236	ASN
1	B	101	HIS
1	B	125	ASN
1	D	64	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)

Of 27 ligands modelled in this entry, 1 is monoatomic - leaving 26 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	$\#\|Z\| > 2$
2	GOL	A	402	-	5,5,5	0.95	0	5,5,5	1.34	1 (20%)
2	GOL	D	405	-	5,5,5	0.93	0	5,5,5	0.98	0
4	AMP	D	408	-	25,25,25	1.38	3 (12%)	38,38,38	1.85	6 (15%)
2	GOL	A	401	-	5,5,5	1.25	1 (20%)	5,5,5	0.88	0
3	EDO	C	404	-	3,3,3	0.52	0	2,2,2	0.38	0
2	GOL	A	410	-	5,5,5	1.01	0	5,5,5	0.88	0
2	GOL	D	404	-	5,5,5	0.88	0	5,5,5	1.01	0
3	EDO	C	401	-	3,3,3	0.45	0	2,2,2	0.59	0
3	EDO	C	403	-	3,3,3	0.51	0	2,2,2	0.47	0
2	GOL	A	403	-	5,5,5	1.09	0	5,5,5	0.96	0
4	AMP	A	408	-	25,25,25	1.29	3 (12%)	38,38,38	1.90	8 (21%)
3	EDO	D	406	-	3,3,3	0.48	0	2,2,2	0.35	0
4	AMP	C	406	-	25,25,25	1.46	4 (16%)	38,38,38	1.86	6 (15%)
3	EDO	A	406	-	3,3,3	0.47	0	2,2,2	0.55	0
2	GOL	D	401	-	5,5,5	1.05	0	5,5,5	0.93	0
3	EDO	A	407	-	3,3,3	0.47	0	2,2,2	0.45	0
3	EDO	C	402	-	3,3,3	0.46	0	2,2,2	0.48	0
2	GOL	D	402	-	5,5,5	0.85	0	5,5,5	1.06	0
4	AMP	B	402	-	25,25,25	1.36	3 (12%)	38,38,38	1.79	8 (21%)
3	EDO	A	405	-	3,3,3	0.45	0	2,2,2	0.46	0
2	GOL	D	403	-	5,5,5	0.69	0	5,5,5	1.04	0
2	GOL	A	404	-	5,5,5	0.84	0	5,5,5	0.89	0
5	A1EZR	C	405	-	32,32,32	1.99	13 (40%)	44,45,45	2.58	11 (25%)
5	A1EZR	B	401	-	32,32,32	1.94	11 (34%)	44,45,45	2.61	9 (20%)
5	A1EZR	D	407	-	32,32,32	1.88	9 (28%)	44,45,45	2.88	16 (36%)
5	A1EZR	A	409	-	32,32,32	2.15	13 (40%)	44,45,45	3.67	18 (40%)

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	GOL	A	402	-	-	2/4/4/4	-
2	GOL	D	405	-	-	4/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	AMP	D	408	-	-	0/10/26/26	0/3/3/3
2	GOL	A	401	-	-	2/4/4/4	-
3	EDO	C	404	-	-	0/1/1/1	-
2	GOL	A	410	-	-	2/4/4/4	-
2	GOL	D	404	-	-	0/4/4/4	-
3	EDO	C	401	-	-	0/1/1/1	-
3	EDO	C	403	-	-	0/1/1/1	-
2	GOL	A	403	-	-	0/4/4/4	-
4	AMP	A	408	-	-	0/10/26/26	0/3/3/3
3	EDO	D	406	-	-	1/1/1/1	-
4	AMP	C	406	-	-	0/10/26/26	0/3/3/3
3	EDO	A	406	-	-	1/1/1/1	-
2	GOL	D	401	-	-	1/4/4/4	-
3	EDO	A	407	-	-	1/1/1/1	-
3	EDO	C	402	-	-	0/1/1/1	-
2	GOL	D	402	-	-	0/4/4/4	-
4	AMP	B	402	-	-	0/10/26/26	0/3/3/3
3	EDO	A	405	-	-	1/1/1/1	-
2	GOL	D	403	-	-	2/4/4/4	-
2	GOL	A	404	-	-	2/4/4/4	-
5	A1EZR	C	405	-	-	4/23/23/23	0/3/3/3
5	A1EZR	B	401	-	-	2/23/23/23	0/3/3/3
5	A1EZR	D	407	-	-	8/23/23/23	0/3/3/3
5	A1EZR	A	409	-	-	13/23/23/23	0/3/3/3

All (60) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	406	AMP	C5-C4	4.90	1.48	1.39
4	D	408	AMP	C5-C4	4.72	1.47	1.39
5	D	407	A1EZR	C21-N23	4.61	1.47	1.37
5	A	409	A1EZR	C21-N23	4.49	1.46	1.37
4	B	402	AMP	C5-C4	4.48	1.47	1.39
4	A	408	AMP	C5-C4	4.25	1.46	1.39
5	A	409	A1EZR	C08-N10	4.23	1.47	1.35
5	A	409	A1EZR	S17-N20	4.20	1.73	1.64
5	A	409	A1EZR	C14-S17	4.05	1.82	1.76
5	B	401	A1EZR	O18-S17	3.98	1.48	1.43
5	C	405	A1EZR	C08-N10	3.94	1.46	1.35
5	C	405	A1EZR	C21-N23	3.94	1.45	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	B	401	A1EZR	C14-S17	3.84	1.82	1.76
5	B	401	A1EZR	C08-N10	3.80	1.45	1.35
5	B	401	A1EZR	C21-N23	3.80	1.45	1.37
5	C	405	A1EZR	C14-S17	3.66	1.82	1.76
5	B	401	A1EZR	O19-S17	3.64	1.47	1.43
5	C	405	A1EZR	O19-S17	3.60	1.47	1.43
5	A	409	A1EZR	O18-S17	3.59	1.47	1.43
5	D	407	A1EZR	C08-N10	3.58	1.45	1.35
5	D	407	A1EZR	O19-S17	3.49	1.47	1.43
5	C	405	A1EZR	O18-S17	3.29	1.47	1.43
5	D	407	A1EZR	O18-S17	3.23	1.47	1.43
5	C	405	A1EZR	S17-N20	3.17	1.71	1.64
5	D	407	A1EZR	C14-S17	3.16	1.81	1.76
5	D	407	A1EZR	S17-N20	3.13	1.71	1.64
5	A	409	A1EZR	C21-N20	3.12	1.46	1.39
5	A	409	A1EZR	C24-N23	3.07	1.47	1.41
5	A	409	A1EZR	O19-S17	2.86	1.46	1.43
5	C	405	A1EZR	BR29-C28	2.85	1.96	1.90
5	B	401	A1EZR	S17-N20	2.80	1.70	1.64
5	D	407	A1EZR	C21-N20	2.78	1.45	1.39
4	B	402	AMP	C8-N7	2.75	1.36	1.31
4	D	408	AMP	C5-C6	2.74	1.48	1.41
4	C	406	AMP	C5-C6	2.72	1.48	1.41
5	C	405	A1EZR	C21-N20	2.68	1.45	1.39
4	A	408	AMP	C5-C6	2.68	1.48	1.41
5	B	401	A1EZR	BR29-C28	2.62	1.95	1.90
5	C	405	A1EZR	C24-N23	2.57	1.46	1.41
5	A	409	A1EZR	C02-CL01	2.56	1.79	1.74
5	A	409	A1EZR	BR29-C28	2.55	1.95	1.90
4	C	406	AMP	C5-N7	-2.50	1.34	1.39
4	D	408	AMP	C8-N7	2.47	1.36	1.31
4	B	402	AMP	C5-C6	2.47	1.47	1.41
4	C	406	AMP	C8-N7	2.41	1.36	1.31
5	B	401	A1EZR	C21-N20	2.37	1.44	1.39
2	A	401	GOL	C1-C2	2.32	1.61	1.51
4	A	408	AMP	C8-N7	2.32	1.36	1.31
5	A	409	A1EZR	C11-N10	2.30	1.46	1.41
5	D	407	A1EZR	C02-CL01	2.23	1.79	1.74
5	B	401	A1EZR	O09-C08	-2.23	1.18	1.23
5	D	407	A1EZR	C24-N23	2.23	1.46	1.41
5	C	405	A1EZR	C11-N10	2.20	1.46	1.41
5	B	401	A1EZR	C11-N10	2.14	1.46	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	C	405	A1EZR	O09-C08	-2.13	1.19	1.23
5	C	405	A1EZR	C02-CL01	2.09	1.78	1.74
5	C	405	A1EZR	O22-C21	-2.07	1.19	1.23
5	A	409	A1EZR	O22-C21	-2.04	1.19	1.23
5	A	409	A1EZR	O09-C08	-2.03	1.19	1.23
5	B	401	A1EZR	C02-CL01	2.01	1.78	1.74

All (83) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	A	409	A1EZR	O19-S17-O18	-16.84	98.84	119.55
5	D	407	A1EZR	O19-S17-O18	-13.46	103.01	119.55
5	B	401	A1EZR	O19-S17-O18	-12.81	103.80	119.55
5	C	405	A1EZR	O19-S17-O18	-12.69	103.95	119.55
4	C	406	AMP	C5-C4-N3	-6.51	118.26	126.75
5	A	409	A1EZR	C04-C08-N10	6.39	129.99	115.92
4	D	408	AMP	C5-C4-N3	-6.24	118.61	126.75
4	A	408	AMP	C5-C4-N3	-5.95	118.98	126.75
4	B	402	AMP	C5-C4-N3	-5.61	119.44	126.75
5	A	409	A1EZR	C03-C02-N07	-5.30	120.78	125.60
5	A	409	A1EZR	N20-C21-N23	5.20	121.82	114.93
5	B	401	A1EZR	C03-C02-N07	-5.14	120.93	125.60
5	A	409	A1EZR	O18-S17-C14	5.05	114.19	107.97
4	D	408	AMP	N3-C4-N9	4.88	135.12	127.08
5	D	407	A1EZR	O19-S17-C14	4.86	113.96	107.97
5	C	405	A1EZR	C03-C02-N07	-4.86	121.18	125.60
4	A	408	AMP	N3-C4-N9	4.75	134.90	127.08
4	C	406	AMP	N3-C4-N9	4.71	134.84	127.08
5	A	409	A1EZR	C14-S17-N20	4.71	113.10	105.97
5	A	409	A1EZR	C13-C14-S17	4.63	124.81	119.77
5	D	407	A1EZR	C03-C02-N07	-4.58	121.43	125.60
5	C	405	A1EZR	C06-N07-C02	4.43	121.58	115.45
5	D	407	A1EZR	C13-C14-S17	-4.43	114.96	119.77
5	B	401	A1EZR	O19-S17-C14	4.43	113.42	107.97
5	B	401	A1EZR	C06-N07-C02	4.39	121.52	115.45
4	A	408	AMP	C2-N3-C4	4.27	121.84	111.75
5	D	407	A1EZR	C11-N10-C08	-4.25	115.55	126.58
4	B	402	AMP	N3-C4-N9	4.20	134.01	127.08
5	A	409	A1EZR	C06-N07-C02	4.18	121.23	115.45
5	A	409	A1EZR	C15-C14-S17	-4.18	115.22	119.77
4	D	408	AMP	C2-N3-C4	4.14	121.54	111.75
5	A	409	A1EZR	O19-S17-C14	-4.03	103.00	107.97

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	408	AMP	N3-C2-N1	-3.98	122.38	128.60
4	B	402	AMP	C2-N3-C4	3.92	121.01	111.75
5	D	407	A1EZR	C06-N07-C02	3.91	120.86	115.45
4	B	402	AMP	N3-C2-N1	-3.73	122.77	128.60
5	B	401	A1EZR	BR29-C28-C27	3.65	124.61	119.30
4	C	406	AMP	C2-N3-C4	3.65	120.37	111.75
5	A	409	A1EZR	O09-C08-C04	-3.64	114.44	120.94
5	A	409	A1EZR	O09-C08-N10	-3.57	115.55	123.71
4	D	408	AMP	N3-C2-N1	-3.51	123.11	128.60
5	D	407	A1EZR	C15-C14-S17	3.47	123.55	119.77
4	C	406	AMP	C4-C5-N7	-3.35	106.54	110.62
5	B	401	A1EZR	O18-S17-N20	3.15	115.58	106.74
5	C	405	A1EZR	BR29-C28-C27	3.08	123.77	119.30
5	A	409	A1EZR	O19-S17-N20	3.03	115.27	106.74
5	A	409	A1EZR	C24-C30-C28	3.01	121.75	118.62
5	B	401	A1EZR	O18-S17-C14	2.96	111.61	107.97
5	D	407	A1EZR	O18-S17-C14	2.90	111.53	107.97
4	C	406	AMP	N3-C2-N1	-2.88	124.09	128.60
5	C	405	A1EZR	N20-C21-N23	2.82	118.67	114.93
5	C	405	A1EZR	O18-S17-C14	2.81	111.43	107.97
5	C	405	A1EZR	O19-S17-C14	2.72	111.32	107.97
4	C	406	AMP	C5-N7-C8	2.71	107.36	103.51
4	B	402	AMP	C4-C5-N7	-2.68	107.35	110.62
5	D	407	A1EZR	BR29-C28-C27	2.63	123.11	119.30
5	C	405	A1EZR	C05-C06-N07	-2.56	120.78	123.96
4	D	408	AMP	C4-C5-N7	-2.54	107.53	110.62
4	A	408	AMP	C4-C5-N7	-2.48	107.60	110.62
5	D	407	A1EZR	O19-S17-N20	2.46	113.67	106.74
5	A	409	A1EZR	C11-N10-C08	2.41	132.84	126.58
5	D	407	A1EZR	BR29-C28-C30	-2.41	115.92	119.27
5	C	405	A1EZR	O19-S17-N20	2.37	113.40	106.74
4	A	408	AMP	C6-C5-N7	2.34	136.39	132.02
5	D	407	A1EZR	C24-C30-C28	2.33	121.04	118.62
5	B	401	A1EZR	BR29-C28-C30	-2.28	116.09	119.27
5	D	407	A1EZR	C04-C08-N10	2.27	120.92	115.92
5	B	401	A1EZR	C05-C06-N07	-2.25	121.16	123.96
5	C	405	A1EZR	O18-S17-N20	2.25	113.07	106.74
2	A	402	GOL	C3-C2-C1	-2.20	103.14	111.70
5	A	409	A1EZR	C05-C06-N07	-2.19	121.24	123.96
4	B	402	AMP	C6-C5-N7	2.19	136.09	132.02
5	D	407	A1EZR	N20-C21-N23	2.18	117.82	114.93
4	B	402	AMP	C2-N1-C6	2.16	122.48	118.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	C	405	A1EZR	BR29-C28-C30	-2.12	116.32	119.27
4	A	408	AMP	C5-N7-C8	2.10	106.49	103.51
4	A	408	AMP	C4-N9-C8	2.09	108.00	105.73
4	B	402	AMP	C4-N9-C8	2.08	107.98	105.73
5	D	407	A1EZR	O09-C08-N10	-2.08	118.96	123.71
4	D	408	AMP	C6-C5-N7	2.08	135.89	132.02
5	D	407	A1EZR	C05-C06-N07	-2.05	121.41	123.96
5	A	409	A1EZR	O22-C21-N20	-2.05	117.76	121.70
5	A	409	A1EZR	C21-N20-S17	-2.01	117.87	123.62

There are no chirality outliers.

All (46) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	402	GOL	O2-C2-C3-O3
2	D	405	GOL	C1-C2-C3-O3
5	A	409	A1EZR	C04-C08-N10-C11
5	A	409	A1EZR	O09-C08-N10-C11
5	D	407	A1EZR	C16-C11-N10-C08
5	D	407	A1EZR	C12-C11-N10-C08
2	D	405	GOL	O2-C2-C3-O3
2	A	401	GOL	O1-C1-C2-C3
2	A	402	GOL	C1-C2-C3-O3
2	A	404	GOL	O1-C1-C2-C3
2	D	405	GOL	O1-C1-C2-C3
5	A	409	A1EZR	C13-C14-S17-O18
5	A	409	A1EZR	C15-C14-S17-O18
5	C	405	A1EZR	C15-C14-S17-O18
2	A	404	GOL	O1-C1-C2-O2
5	C	405	A1EZR	C13-C14-S17-O18
3	D	406	EDO	O1-C1-C2-O2
5	A	409	A1EZR	C21-N20-S17-O19
2	A	401	GOL	O1-C1-C2-O2
2	D	405	GOL	O1-C1-C2-O2
5	A	409	A1EZR	C13-C14-S17-N20
2	D	403	GOL	O1-C1-C2-O2
5	A	409	A1EZR	C16-C11-N10-C08
5	A	409	A1EZR	C12-C11-N10-C08
2	A	410	GOL	O1-C1-C2-C3
5	A	409	A1EZR	C15-C14-S17-N20
5	D	407	A1EZR	C13-C14-S17-O18
5	A	409	A1EZR	C03-C04-C08-O09

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Mol	Chain	Res	Type	Atoms
5	C	405	A1EZR	C15-C14-S17-N20
5	D	407	A1EZR	C05-C04-C08-N10
5	D	407	A1EZR	C15-C14-S17-O18
5	D	407	A1EZR	C05-C04-C08-O09
3	A	407	EDO	O1-C1-C2-O2
2	D	403	GOL	O1-C1-C2-C3
5	A	409	A1EZR	C05-C04-C08-O09
5	C	405	A1EZR	C13-C14-S17-N20
2	A	410	GOL	O1-C1-C2-O2
5	A	409	A1EZR	C03-C04-C08-N10
3	A	406	EDO	O1-C1-C2-O2
5	B	401	A1EZR	C15-C14-S17-O19
2	D	401	GOL	O1-C1-C2-O2
5	D	407	A1EZR	C03-C04-C08-N10
5	B	401	A1EZR	C13-C14-S17-O19
5	D	407	A1EZR	C03-C04-C08-O09
3	A	405	EDO	O1-C1-C2-O2
5	A	409	A1EZR	C21-N20-S17-C14

There are no ring outliers.

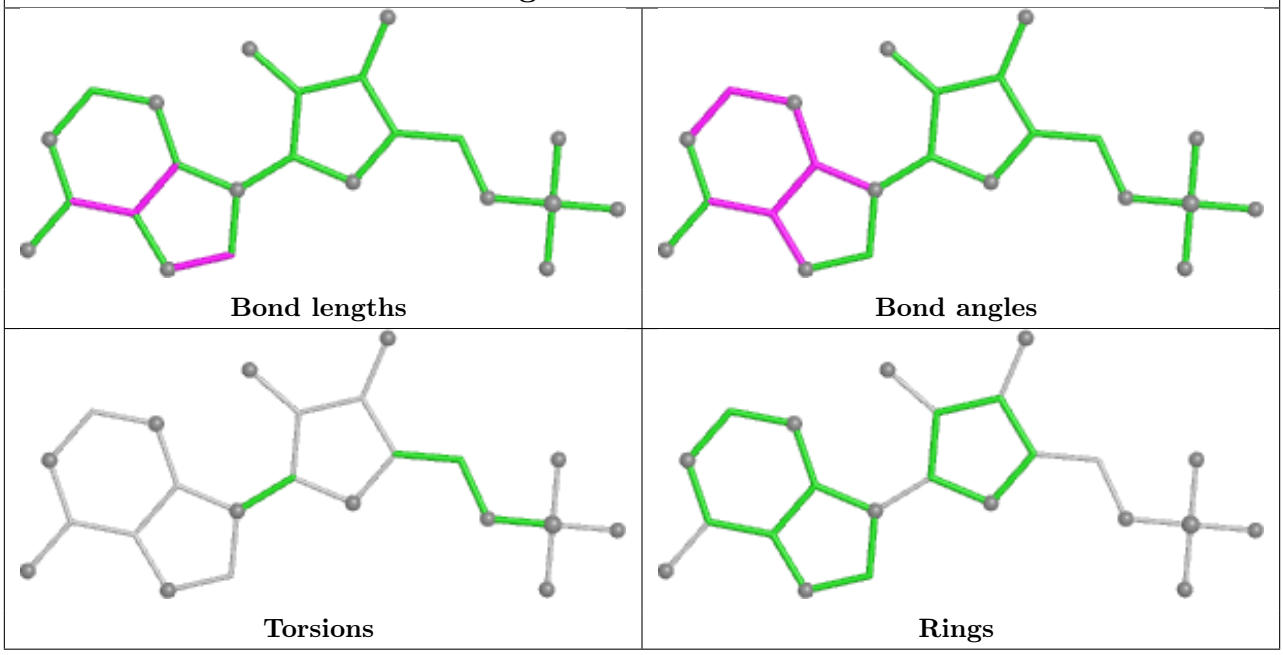
9 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	402	GOL	1	0
2	D	405	GOL	2	0
3	C	404	EDO	1	0
2	D	404	GOL	1	0
4	C	406	AMP	2	0
2	D	403	GOL	1	0
2	A	404	GOL	1	0
5	B	401	A1EZR	1	0
5	A	409	A1EZR	1	0

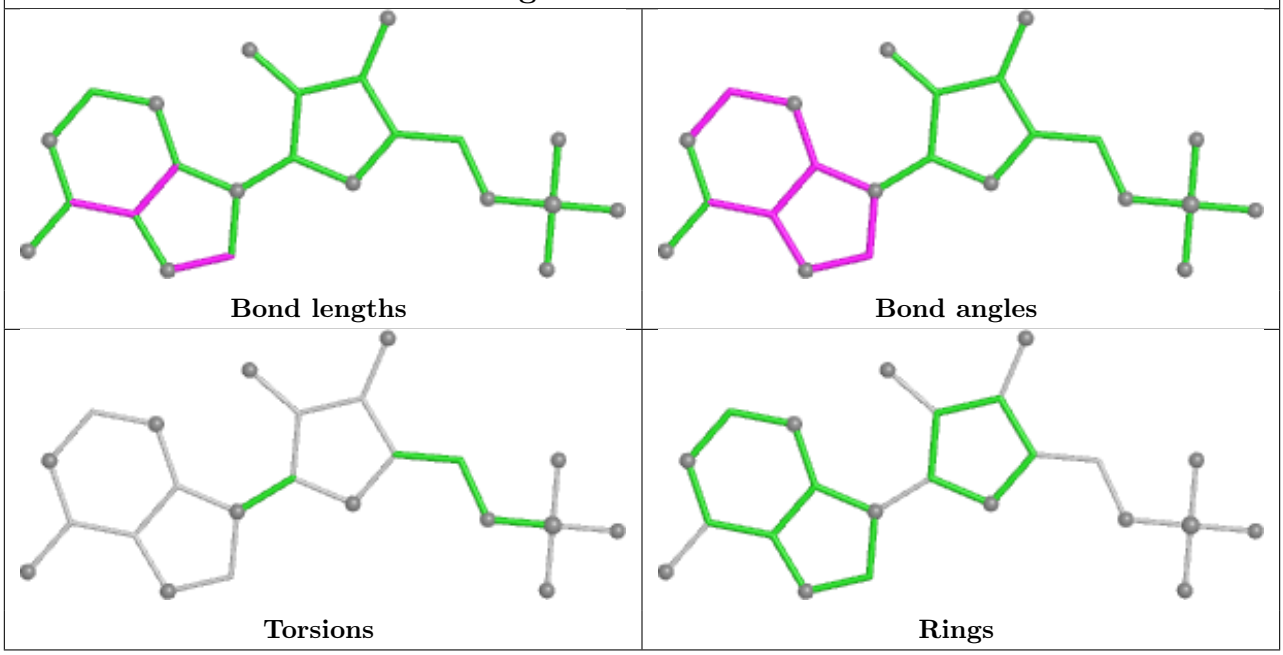
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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.

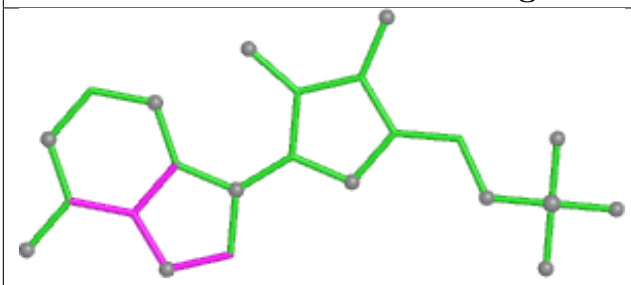
Ligand AMP D 408



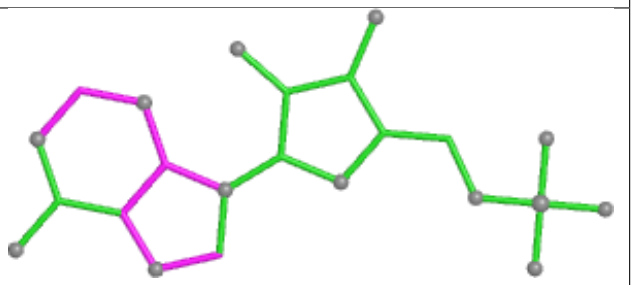
Ligand AMP A 408



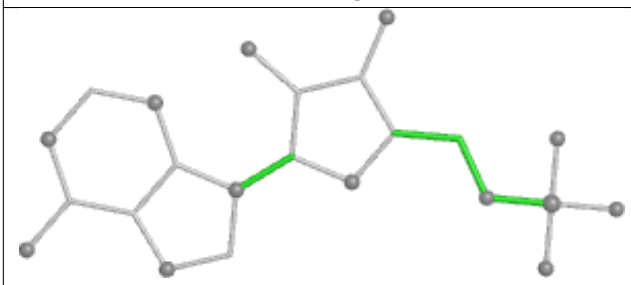
Ligand AMP C 406



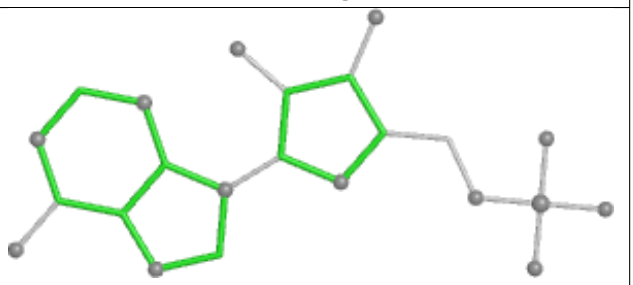
Bond lengths



Bond angles

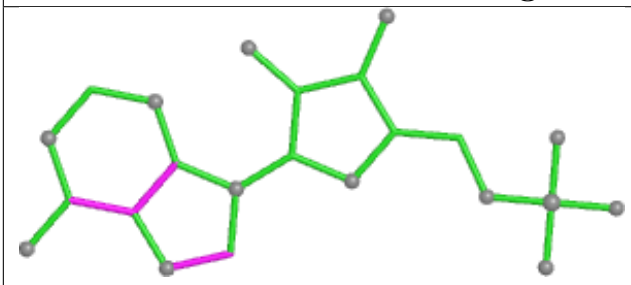


Torsions

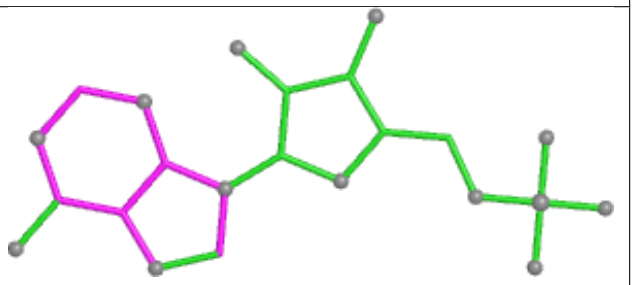


Rings

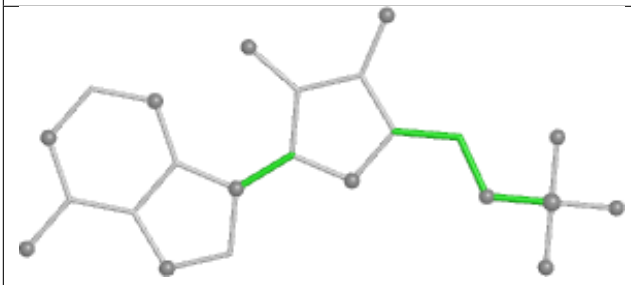
Ligand AMP B 402



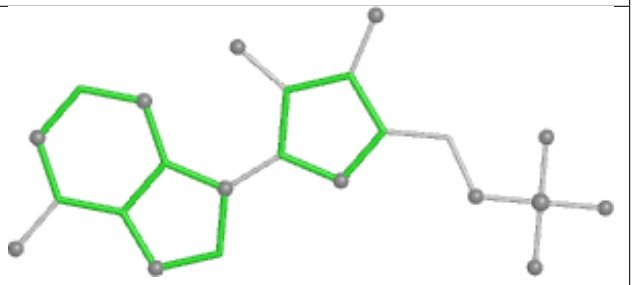
Bond lengths



Bond angles

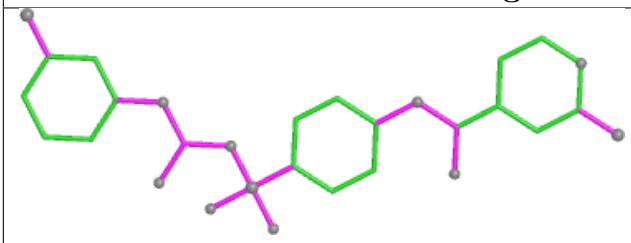


Torsions

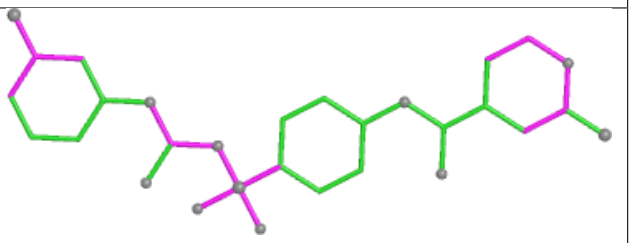


Rings

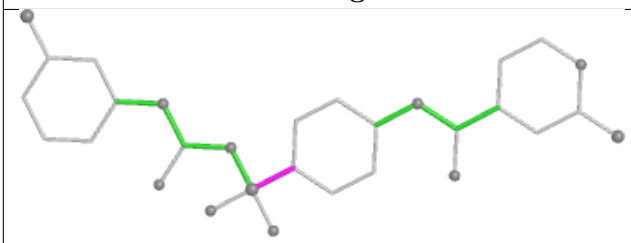
Ligand A1EZR C 405



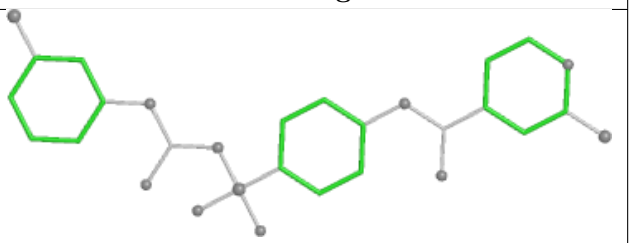
Bond lengths



Bond angles

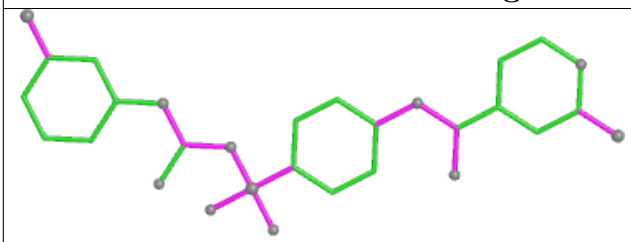


Torsions

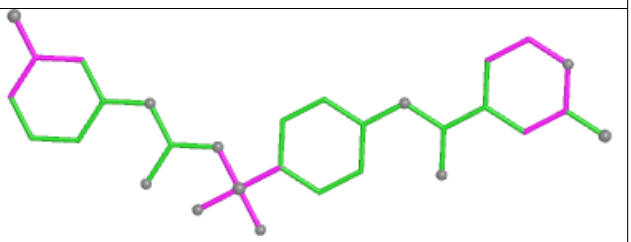


Rings

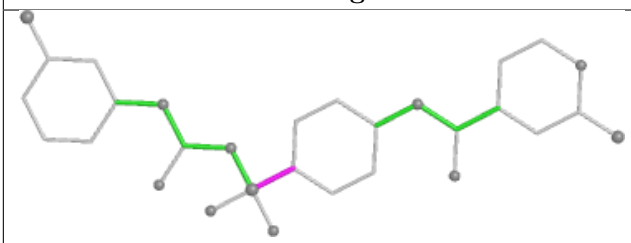
Ligand A1EZR B 401



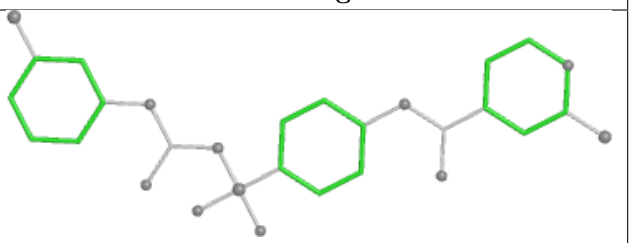
Bond lengths



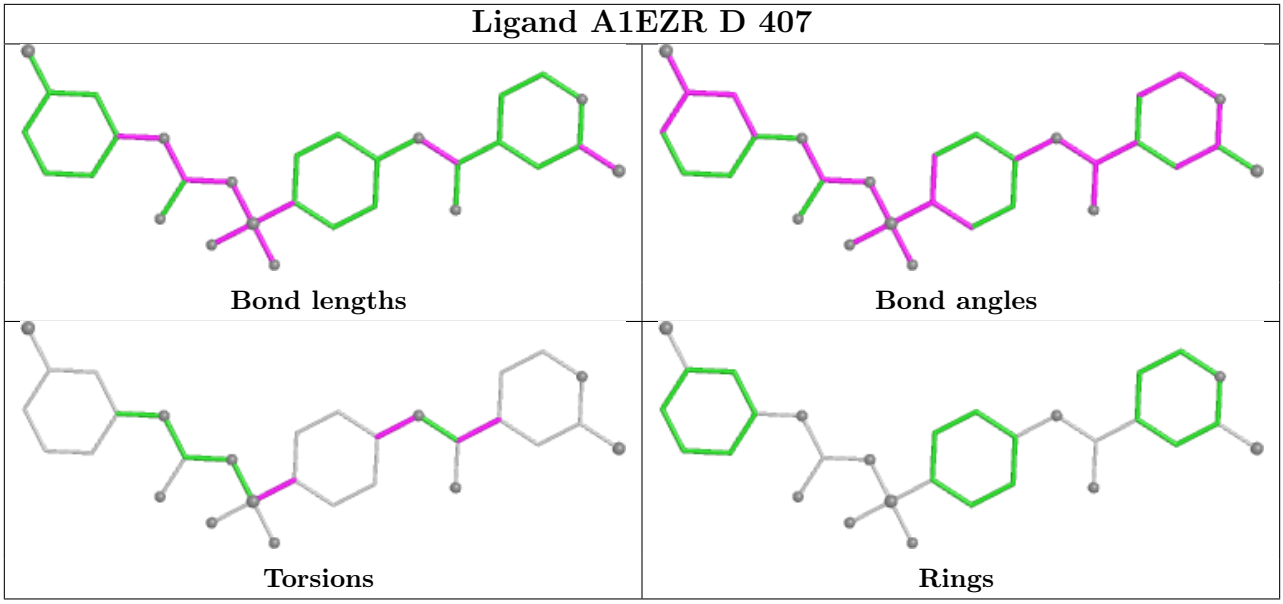
Bond angles

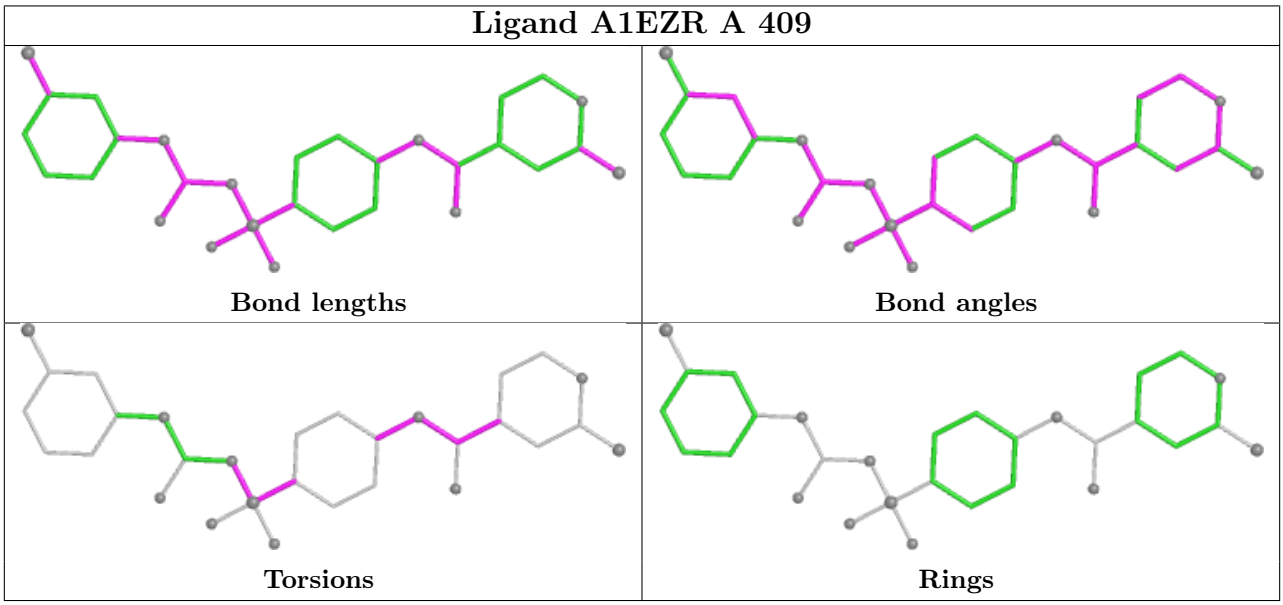


Torsions



Rings





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	319/346 (92%)	-0.14	11 (3%)	48	50	20, 28, 46, 72	0
1	B	325/346 (93%)	0.08	11 (3%)	48	50	21, 30, 52, 98	0
1	C	319/346 (92%)	0.07	13 (4%)	41	43	21, 31, 50, 68	0
1	D	325/346 (93%)	0.32	25 (7%)	19	20	23, 35, 64, 81	0
All	All	1288/1384 (93%)	0.09	60 (4%)	36	38	20, 31, 54, 98	0

All (60) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	63	THR	6.3
1	B	66	THR	6.1
1	D	269	LYS	5.8
1	B	64	ASN	5.7
1	D	63	THR	5.5
1	D	268	LYS	5.2
1	D	270	SER	5.1
1	A	70	VAL	4.9
1	B	65	VAL	4.6
1	C	70	VAL	4.5
1	D	267	ASN	4.2
1	C	125	ASN	4.1
1	D	178	ASP	4.1
1	D	65	VAL	3.9
1	B	67	GLY	3.8
1	A	268	LYS	3.8
1	B	126	ILE	3.7
1	B	62	SER	3.7
1	D	126	ILE	3.7
1	D	74	ASP	3.7
1	C	130	VAL	3.5

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Mol	Chain	Res	Type	RSRZ
1	D	69	GLN	3.4
1	B	125	ASN	3.3
1	D	215	TYR	3.1
1	C	145	ASP	3.1
1	C	335	SER	3.1
1	C	126	ILE	3.0
1	D	64	ASN	3.0
1	B	220	ASP	2.9
1	C	236	ASN	2.9
1	A	10	VAL	2.9
1	D	62	SER	2.8
1	B	74	ASP	2.8
1	D	266	ALA	2.8
1	D	68	ASP	2.8
1	D	70	VAL	2.8
1	A	106	GLU	2.7
1	A	236	ASN	2.7
1	D	125	ASN	2.6
1	D	179	CYS	2.6
1	A	332	GLU	2.6
1	D	220	ASP	2.5
1	D	124	SER	2.5
1	C	144	THR	2.5
1	A	335	SER	2.4
1	A	269	LYS	2.4
1	D	9	ASP	2.4
1	B	268	LYS	2.3
1	A	71	LYS	2.2
1	A	197	ASP	2.2
1	D	264	TYR	2.2
1	D	130	VAL	2.1
1	A	124	SER	2.1
1	C	268	LYS	2.1
1	C	124	SER	2.1
1	C	99	ASP	2.1
1	C	27	THR	2.0
1	D	10	VAL	2.0
1	C	178	ASP	2.0
1	D	217	LYS	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)

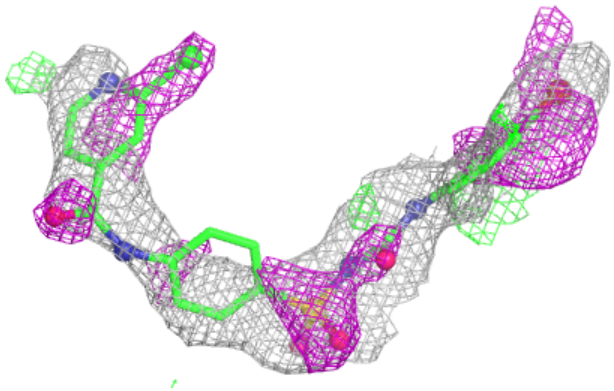
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

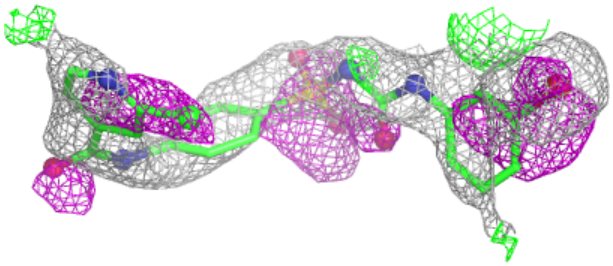
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	A1EZR	A	409	30/30	0.64	0.19	56,66,86,99	0
3	EDO	C	402	4/4	0.73	0.20	52,54,55,59	0
3	EDO	C	404	4/4	0.73	0.19	45,50,53,61	0
2	GOL	A	410	6/6	0.73	0.20	47,52,56,62	0
2	GOL	D	403	6/6	0.74	0.15	48,51,57,59	0
2	GOL	D	405	6/6	0.75	0.21	64,69,74,75	0
2	GOL	A	404	6/6	0.75	0.15	53,54,56,69	0
2	GOL	A	403	6/6	0.76	0.16	46,49,56,67	0
3	EDO	D	406	4/4	0.76	0.18	47,48,51,51	0
3	EDO	C	403	4/4	0.76	0.15	40,44,45,53	0
3	EDO	C	401	4/4	0.78	0.18	49,53,56,56	0
2	GOL	A	402	6/6	0.78	0.15	37,44,51,53	0
5	A1EZR	D	407	30/30	0.79	0.17	53,62,73,93	0
2	GOL	D	402	6/6	0.82	0.15	45,47,49,53	0
2	GOL	D	401	6/6	0.82	0.15	39,46,51,51	0
5	A1EZR	C	405	30/30	0.83	0.13	33,47,58,103	0
3	EDO	A	405	4/4	0.83	0.15	52,59,61,65	0
3	EDO	A	406	4/4	0.84	0.14	46,50,54,60	0
2	GOL	A	401	6/6	0.85	0.14	33,46,51,53	0
6	MG	A	411	1/1	0.85	0.17	51,51,51,51	0
5	A1EZR	B	401	30/30	0.86	0.12	34,51,61,89	0
2	GOL	D	404	6/6	0.86	0.15	53,54,58,65	0
3	EDO	A	407	4/4	0.87	0.12	51,55,59,60	0
4	AMP	A	408	23/23	0.93	0.08	29,33,38,39	0
4	AMP	D	408	23/23	0.94	0.08	34,38,40,42	0
4	AMP	B	402	23/23	0.97	0.06	27,35,37,38	0
4	AMP	C	406	23/23	0.97	0.06	27,31,33,35	0

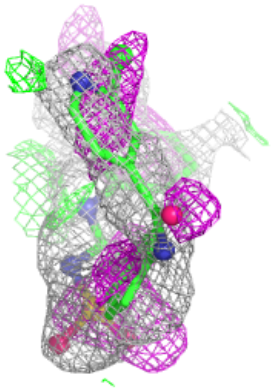
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around A1EZR A 409:

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

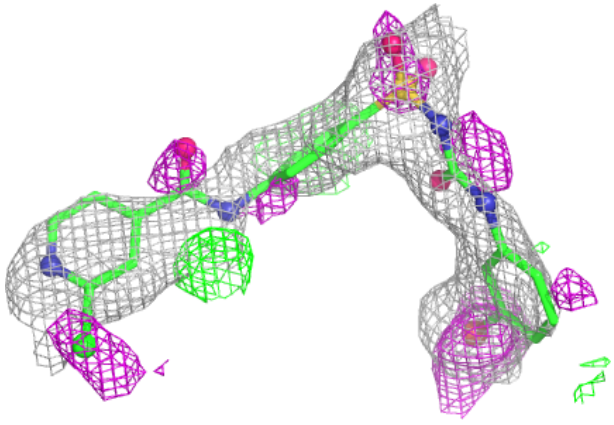


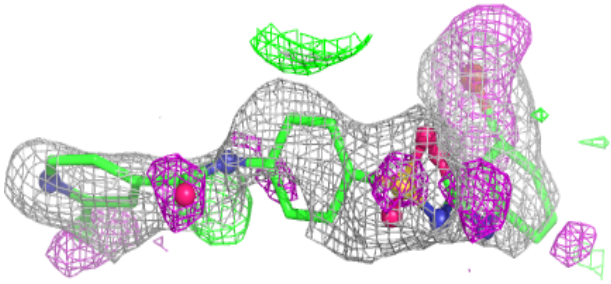


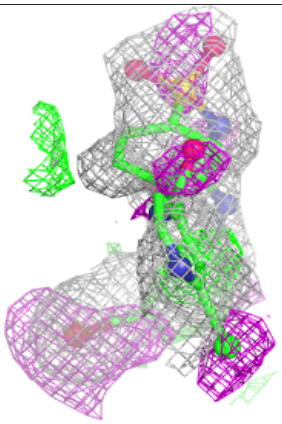


Electron density around A1EZR D 407:

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

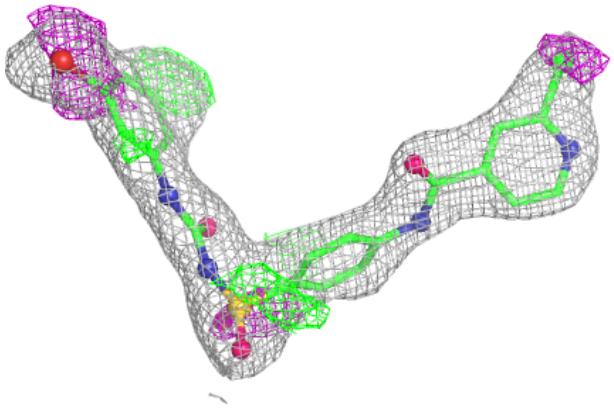


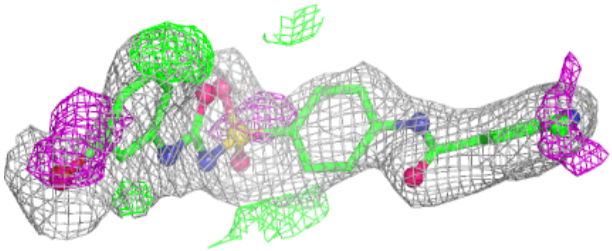


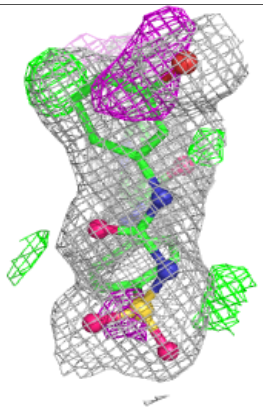


Electron density around A1EZR C 405:

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

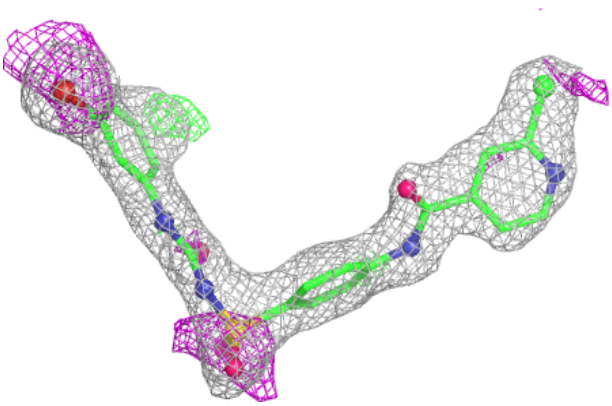


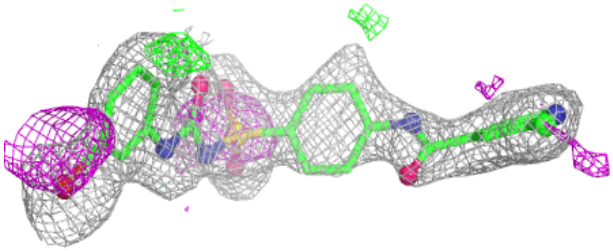


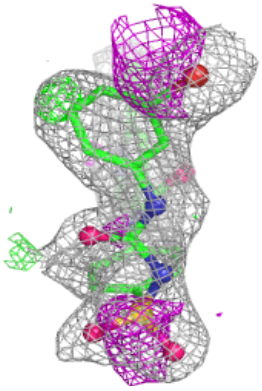


Electron density around A1EZR B 401:

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

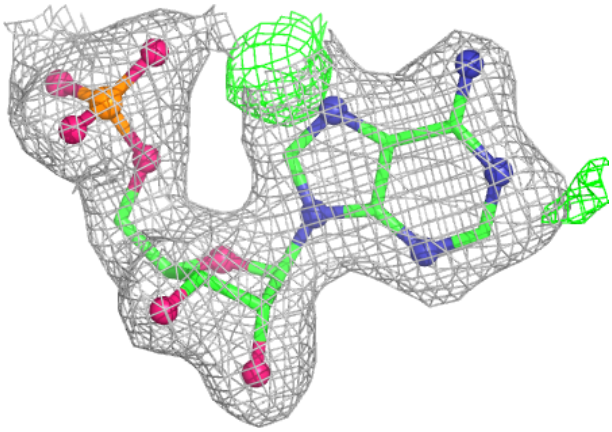


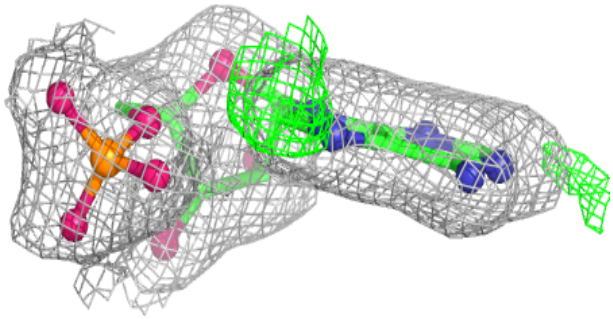


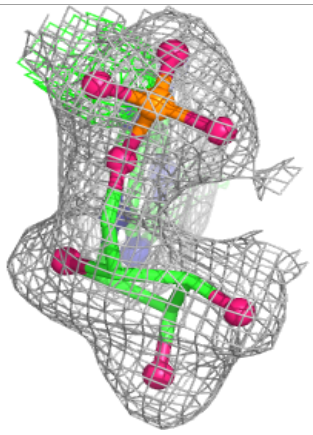


Electron density around AMP A 408:

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

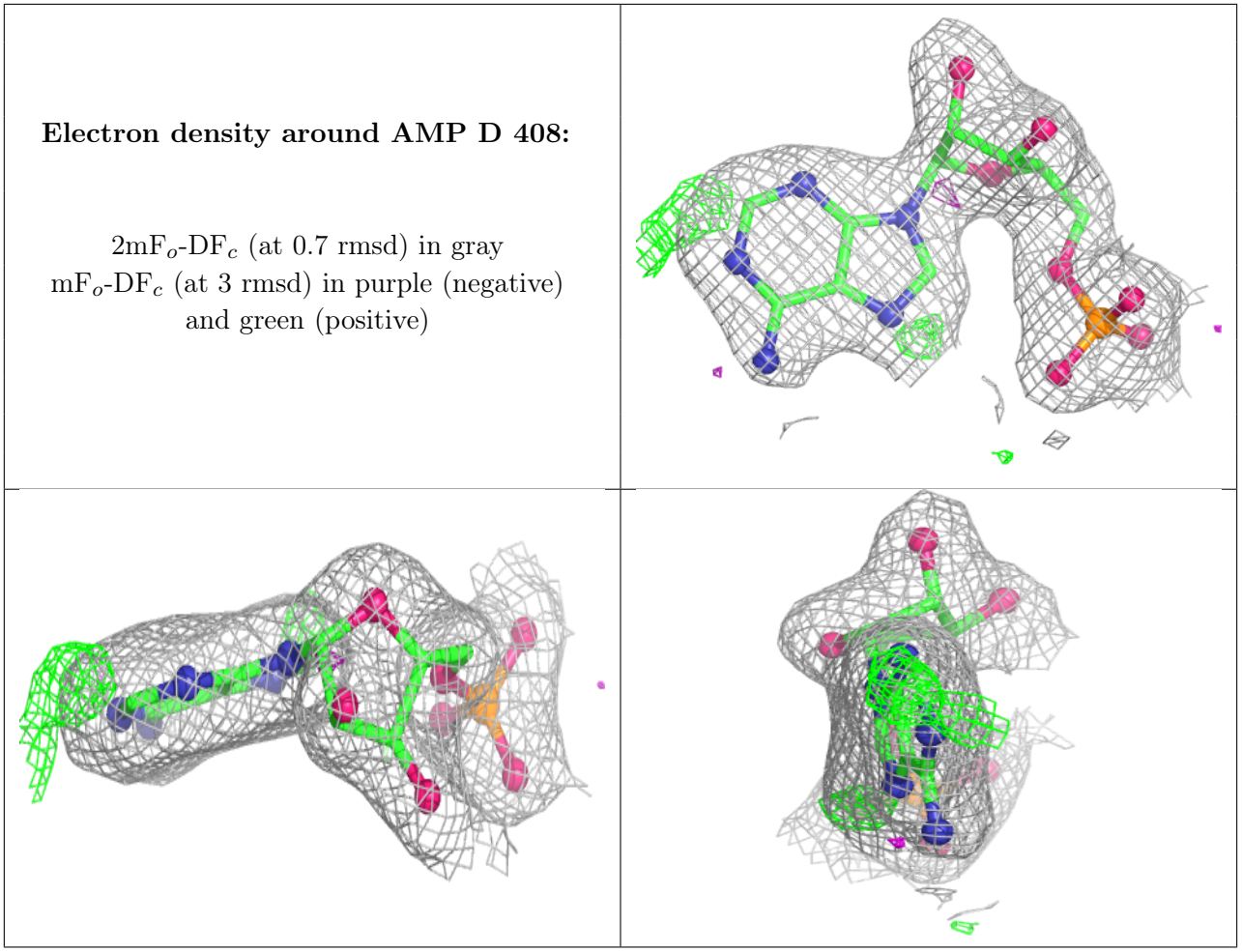






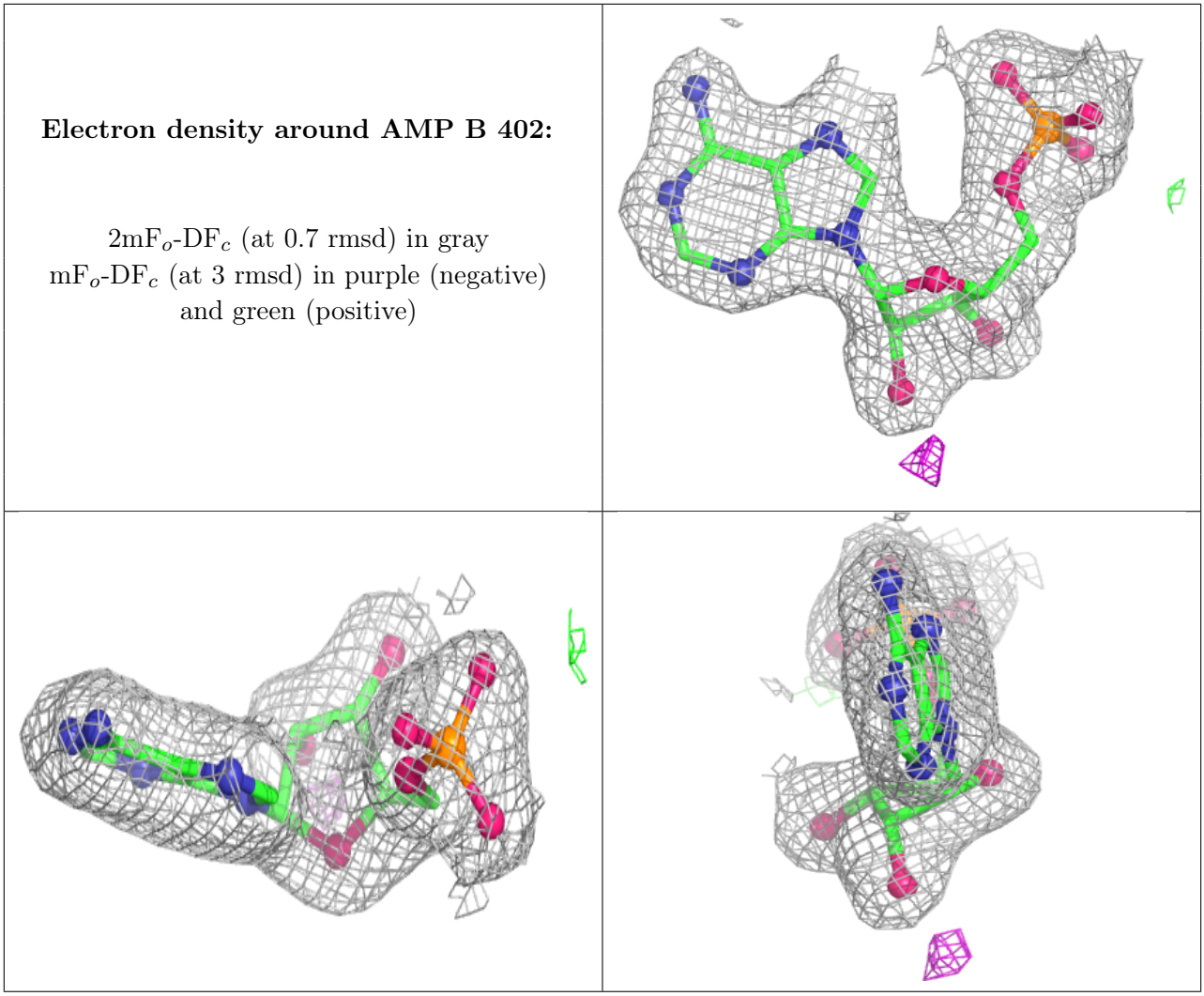
Electron density around AMP D 408:

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



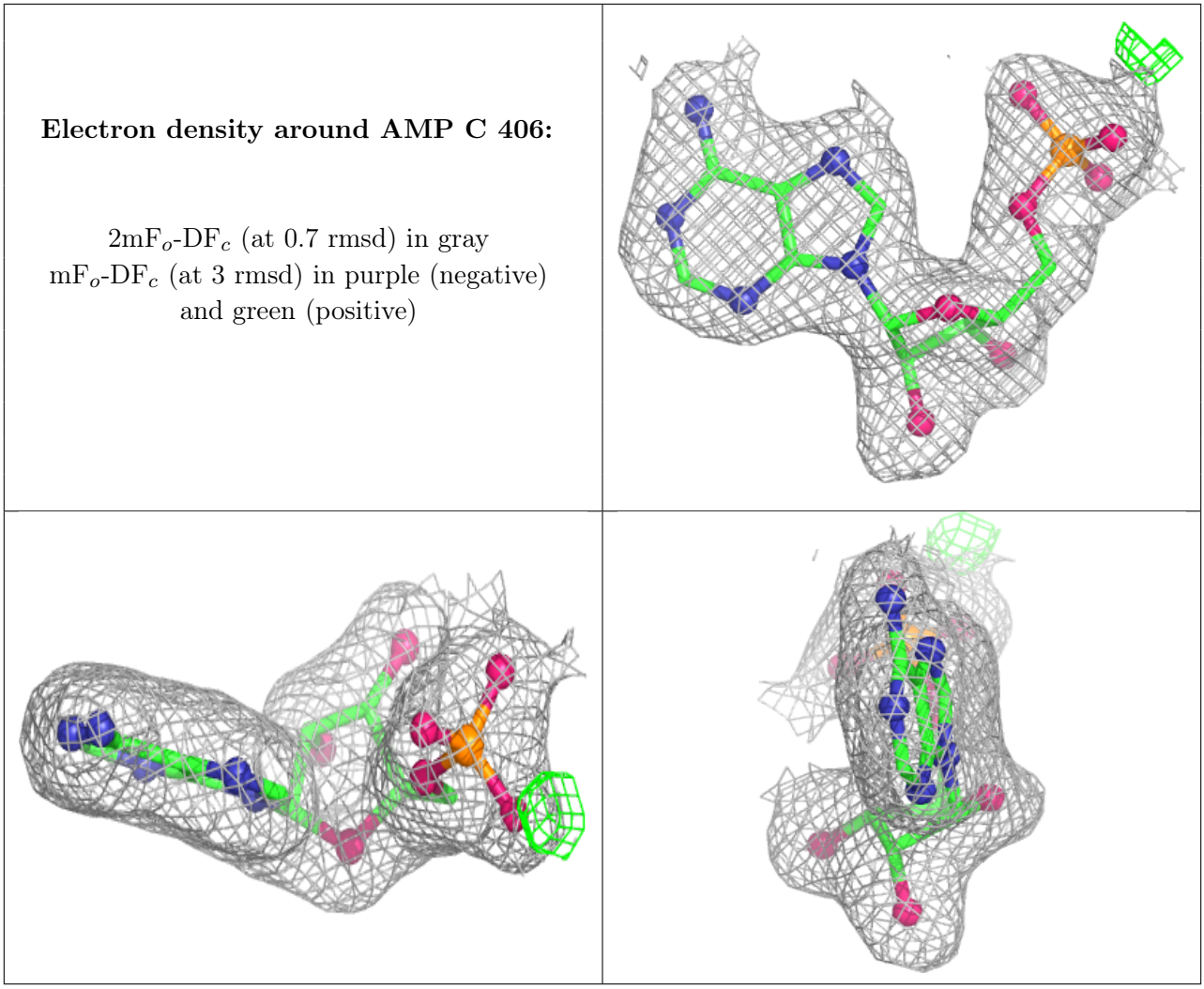
Electron density around AMP B 402:

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



Electron density around AMP C 406:

$2mF_o$-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.