



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 5, 2026 – 01:29 am BST

PDB ID : 9SV4 / pdb_00009sv4
Title : The ternary complex of human sirt6, ADPr and small molecule activator.
Authors : Moche, M.; Andersson, O.; Nyman, T.; Strandback, E.; Ampah-Korsah, H.; Colquhoun, D.; Spahr, H.
Deposited on : 2025-09-30
Resolution : 1.86 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	:	1.8.4, 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

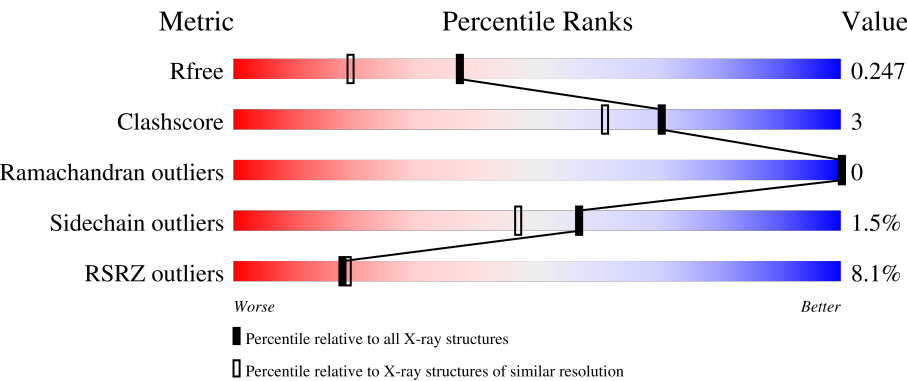
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.86 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	3428 (1.86-1.86)
Clashscore	190562	3579 (1.86-1.86)
Ramachandran outliers	187476	3553 (1.86-1.86)
Sidechain outliers	187428	3553 (1.86-1.86)
RSRZ outliers	180081	3429 (1.86-1.86)

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	287	6% 89% 8% ..
1	B	287	10% 90% 8% .
1	C	287	8% 91% 7% ..
1	D	287	8% 89% 9% .
1	E	287	6% 90% 8% .

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Mol	Chain	Length	Quality of chain
1	F	287	9% 90% 8%

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 15000 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.

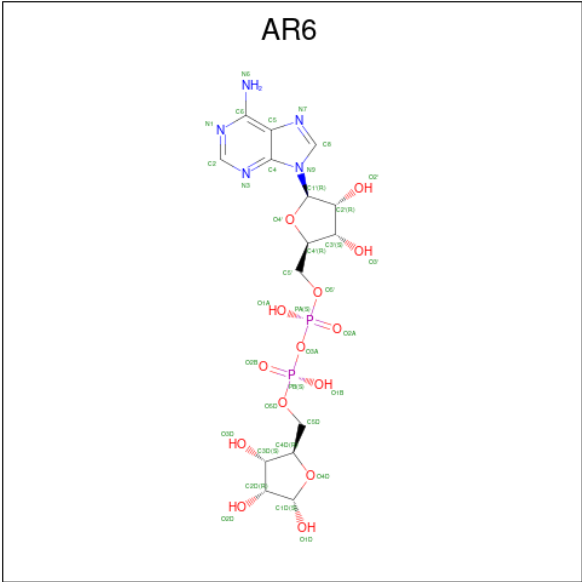
- Molecule 1 is a protein called NAD-dependent protein deacylase sirtuin-6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	280	Total	C	N	O	S	0	6	0
			2242	1404	417	410	11			
1	B	281	Total	C	N	O	S	0	7	0
			2249	1409	418	411	11			
1	C	284	Total	C	N	O	S	0	4	0
			2246	1407	416	412	11			
1	D	281	Total	C	N	O	S	0	6	0
			2245	1406	418	410	11			
1	E	282	Total	C	N	O	S	0	5	0
			2246	1407	418	409	12			
1	F	283	Total	C	N	O	S	0	10	0
			2300	1437	433	418	12			

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

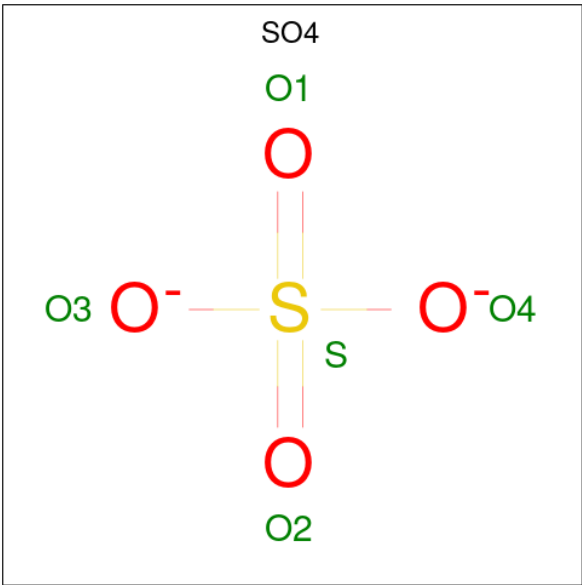
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Zn	0	0
			1	1		
2	B	1	Total	Zn	0	0
			1	1		
2	C	1	Total	Zn	0	0
			1	1		
2	D	1	Total	Zn	0	0
			1	1		
2	E	1	Total	Zn	0	0
			1	1		
2	F	1	Total	Zn	0	0
			1	1		

- Molecule 3 is [(2R,3S,4R,5R)-5-(6-AMINOPURIN-9-YL)-3,4-DIHYDROXY-OXOLAN-2-YL]METHYL[HYDROXY-[(2R,3S,4R,5S)-3,4,5-TRIHYDROXYOXOLAN-2-YL]METHOXY]PHOSPHORYL] HYDROGEN PHOSPHATE (CCD ID: AR6) (formula: C₁₅H₂₃N₅O₁₄P₂).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			36	15	5	14	2		
3	B	1	Total	C	N	O	P	0	0
			36	15	5	14	2		
3	C	1	Total	C	N	O	P	0	0
			36	15	5	14	2		
3	D	1	Total	C	N	O	P	0	0
			36	15	5	14	2		
3	E	1	Total	C	N	O	P	0	0
			36	15	5	14	2		
3	F	1	Total	C	N	O	P	0	0
			36	15	5	14	2		

- Molecule 4 is SULFATE ION (CCD ID: SO4) (formula: O₄S).



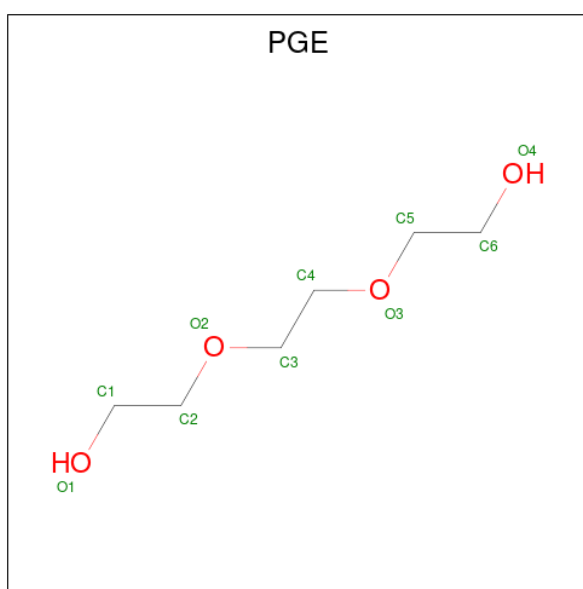
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	O	S	0	0
			5	4	1		
4	A	1	Total	O	S	0	0
			5	4	1		
4	A	1	Total	O	S	0	0
			5	4	1		
4	B	1	Total	O	S	0	0
			5	4	1		
4	B	1	Total	O	S	0	0
			5	4	1		
4	C	1	Total	O	S	0	0
			5	4	1		
4	C	1	Total	O	S	0	0
			5	4	1		
4	C	1	Total	O	S	0	0
			5	4	1		
4	D	1	Total	O	S	0	0
			5	4	1		
4	D	1	Total	O	S	0	0
			5	4	1		
4	E	1	Total	O	S	0	0
			5	4	1		
4	E	1	Total	O	S	0	0
			5	4	1		
4	E	1	Total	O	S	0	0
			5	4	1		

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

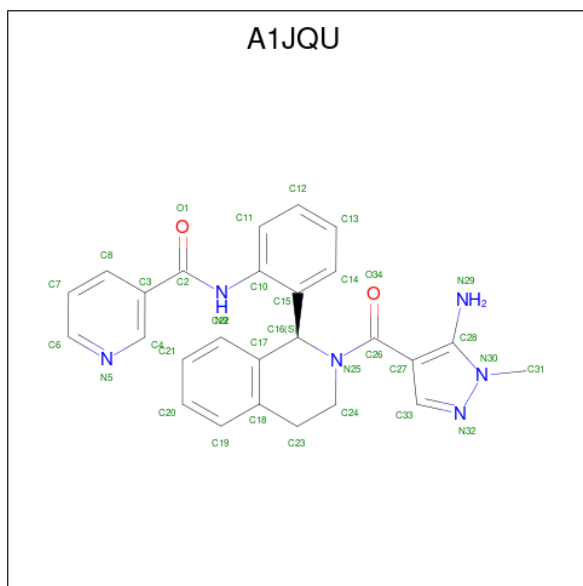
- Molecule 5 is TRIETHYLENE GLYCOL (CCD ID: PGE) (formula: $C_6H_{14}O_4$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	C	O	0	0
			10	6	4		
5	B	1	Total	C	O	0	0
			10	6	4		
5	C	1	Total	C	O	0	0
			10	6	4		
5	D	1	Total	C	O	0	0
			10	6	4		
5	E	1	Total	C	O	0	0
			10	6	4		
5	F	1	Total	C	O	0	0
			10	6	4		

- Molecule 6 is {N}-[2-[(1 {S})-2-(5-azanyl-1-methyl-pyrazol-4-yl)carbonyl-3,4-dihydro-1 {H}-isoquinolin-1-yl]phenyl]pyridine-3-carboxamide (CCD ID: A1JQU) (formula: $C_{26}H_{24}N_6O_2$)

(labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
6	A	1	Total	C	N	O	0	0
			34	26	6	2		
6	A	1	Total	C	N	O	0	0
			34	26	6	2		
6	B	1	Total	C	N	O	0	0
			34	26	6	2		
6	C	1	Total	C	N	O	0	0
			34	26	6	2		
6	D	1	Total	C	N	O	0	0
			34	26	6	2		
6	E	1	Total	C	N	O	0	0
			34	26	6	2		
6	E	1	Total	C	N	O	0	0
			34	26	6	2		
6	F	1	Total	C	N	O	0	0
			34	26	6	2		

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	156	Total	O	0	0
			156	156		
7	B	137	Total	O	0	1
			138	138		
7	C	125	Total	O	0	0
			125	125		

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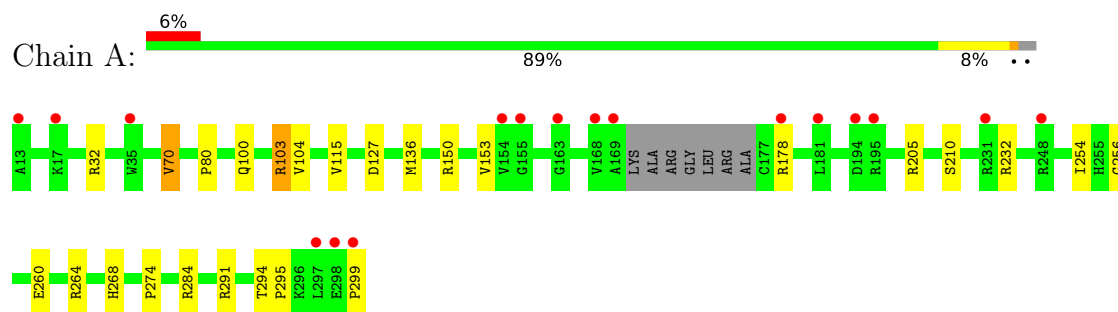
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	D	135	Total 135	O 135	0	0
7	E	151	Total 151	O 151	0	0
7	F	123	Total 123	O 123	0	0

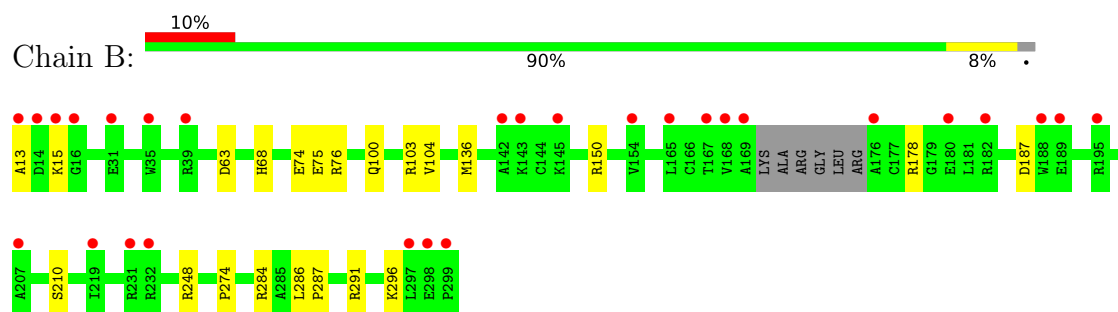
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

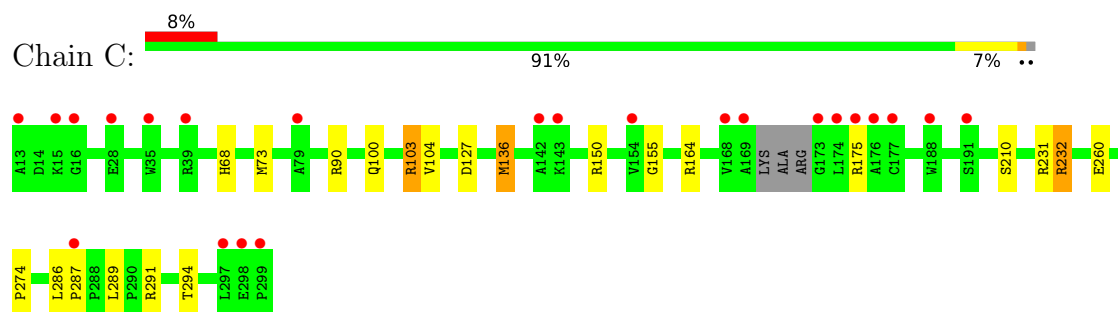
- Molecule 1: NAD-dependent protein deacylase sirtuin-6



- Molecule 1: NAD-dependent protein deacylase sirtuin-6

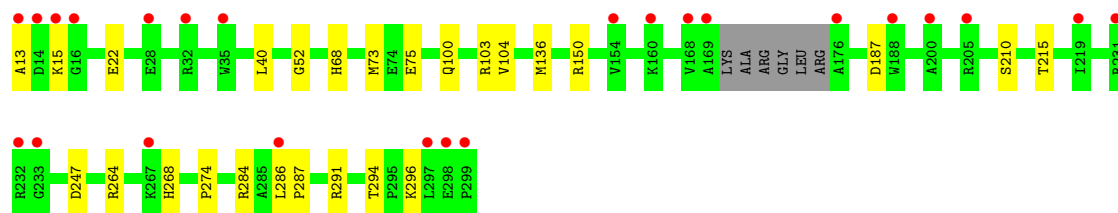


- Molecule 1: NAD-dependent protein deacylase sirtuin-6

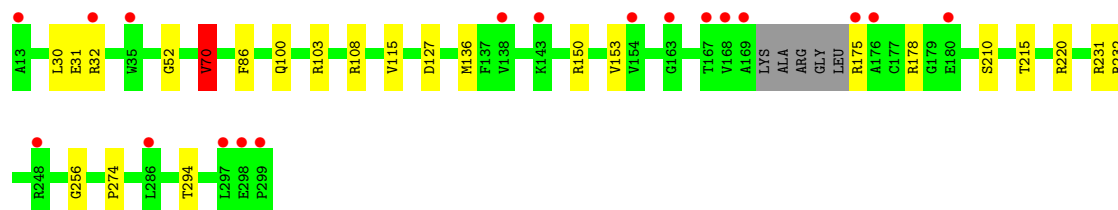
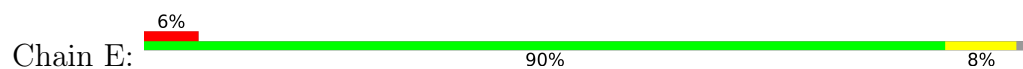


- Molecule 1: NAD-dependent protein deacylase sirtuin-6

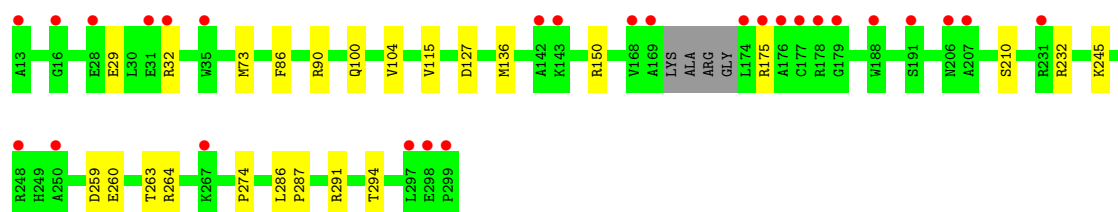
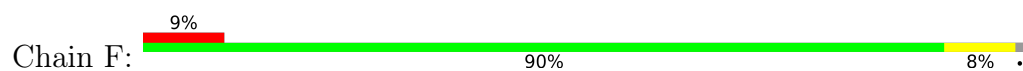




- Molecule 1: NAD-dependent protein deacylase sirtuin-6



- Molecule 1: NAD-dependent protein deacylase sirtuin-6



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	76.17Å 90.36Å 90.25Å 114.59° 112.36° 93.44°	Depositor
Resolution (Å)	79.35 – 1.86 79.35 – 1.86	Depositor EDS
% Data completeness (in resolution range)	46.5 (79.35-1.86) 46.6 (79.35-1.86)	Depositor EDS
R_{merge}	0.17	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.99 (at 1.86Å)	Xtrriage
Refinement program	REFMAC 5.8.0430	Depositor
R, R_{free}	0.202 , 0.245 0.206 , 0.247	Depositor DCC
R_{free} test set	3863 reflections (2.35%)	wwPDB-VP
Wilson B-factor (Å ²)	22.7	Xtrriage
Anisotropy	0.047	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.37 , 40.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	15000	wwPDB-VP
Average B, all atoms (Å ²)	29.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 20.30 % 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 8.9566e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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, AR6, ZN, PGE, A1JQU

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	0.60	0/2290	0.99	1/3103 (0.0%)
1	B	0.59	0/2300	0.97	1/3119 (0.0%)
1	C	0.59	0/2294	0.97	2/3110 (0.1%)
1	D	0.58	0/2293	0.95	1/3108 (0.0%)
1	E	0.60	0/2294	0.99	3/3108 (0.1%)
1	F	0.57	0/2348	0.96	1/3179 (0.0%)
All	All	0.59	0/13819	0.97	9/18727 (0.0%)

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	2
1	B	0	3
1	C	0	1
1	D	0	1
1	E	0	2
1	F	0	1
All	All	0	10

There are no bond length outliers.

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	220	ARG	CA-CB-CG	6.29	126.69	114.10
1	C	136	MET	CG-SD-CE	-5.50	88.81	100.90
1	C	127	ASP	CA-CB-CG	5.31	117.91	112.60
1	E	127	ASP	CA-CB-CG	5.23	117.83	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	127	ASP	CA-CB-CG	5.17	117.77	112.60
1	E	70	VAL	N-CA-CB	-5.10	104.58	110.55
1	F	127	ASP	CA-CB-CG	5.10	117.70	112.60
1	D	187	ASP	CA-CB-CG	5.07	117.67	112.60
1	B	187	ASP	CA-CB-CG	5.05	117.65	112.60

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	103[A]	ARG	Sidechain
1	A	178	ARG	Sidechain
1	B	103	ARG	Sidechain
1	B	178	ARG	Sidechain
1	B	248	ARG	Sidechain
1	C	232	ARG	Sidechain
1	D	103[A]	ARG	Sidechain
1	E	178	ARG	Sidechain
1	E	232	ARG	Sidechain
1	F	232	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	2242	0	2251	25	0
1	B	2249	0	2264	10	0
1	C	2246	0	2252	14	0
1	D	2245	0	2258	15	0
1	E	2246	0	2260	17	0
1	F	2300	0	2310	12	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	A	36	0	21	0	0
3	B	36	0	21	1	0
3	C	36	0	21	0	0
3	D	36	0	21	0	0
3	E	36	0	21	0	0
3	F	36	0	21	0	0
4	A	15	0	0	0	0
4	B	10	0	0	0	0
4	C	20	0	0	1	0
4	D	10	0	0	0	0
4	E	15	0	0	0	0
4	F	20	0	0	0	0
5	A	10	0	14	1	0
5	B	10	0	14	0	0
5	C	10	0	14	0	0
5	D	10	0	14	0	0
5	E	10	0	14	0	0
5	F	10	0	14	0	0
6	A	68	0	0	7	0
6	B	34	0	0	2	0
6	C	34	0	0	1	0
6	D	34	0	0	1	0
6	E	68	0	0	5	0
6	F	34	0	0	1	0
7	A	156	0	0	11	0
7	B	138	0	0	1	0
7	C	125	0	0	3	0
7	D	135	0	0	5	0
7	E	151	0	0	6	0
7	F	123	0	0	1	0
All	All	15000	0	13805	94	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 3.

All (94) 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:E:256:GLY:HA3	7:E:448:HOH:O	1.84	0.77
1:B:68:HIS:CE1	1:F:73:MET:HE2	2.19	0.77
1:A:260:GLU:OE1	7:A:401:HOH:O	2.07	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:90:ARG:HD3	7:D:413:HOH:O	1.90	0.72
1:E:30:LEU:HD11	7:E:448:HOH:O	1.92	0.69
1:D:75:GLU:OE1	7:D:401:HOH:O	2.12	0.68
1:A:32:ARG:NH1	7:A:404:HOH:O	2.28	0.66
1:F:260:GLU:OE2	1:F:264[A]:ARG:NH1	2.29	0.66
1:E:108:ARG:HD3	7:E:539:HOH:O	1.96	0.64
1:A:264:ARG:HH11	1:A:268:HIS:HE1	1.47	0.63
1:E:70:VAL:CG1	6:E:307:A1JQU:C13	2.81	0.59
1:A:70:VAL:HG11	6:A:307:A1JQU:C13	2.33	0.59
1:A:256:GLY:HA3	7:A:411:HOH:O	2.03	0.59
1:E:70:VAL:HG11	6:E:307:A1JQU:C13	2.33	0.58
1:A:153:VAL:O	1:B:296:LYS:NZ	2.33	0.58
1:A:256:GLY:CA	7:A:411:HOH:O	2.51	0.58
6:A:307:A1JQU:C11	6:A:307:A1JQU:O1	2.49	0.58
1:D:150:ARG:HA	1:F:294:THR:O	2.03	0.58
1:D:40:LEU:HD21	7:D:427:HOH:O	2.03	0.58
1:C:232:ARG:NH1	7:C:406:HOH:O	2.36	0.57
6:E:307:A1JQU:C11	6:E:307:A1JQU:O1	2.52	0.57
1:A:70:VAL:CG1	6:A:307:A1JQU:C13	2.82	0.56
1:F:115:VAL:O	1:F:136[A]:MET:HG3	2.05	0.56
1:E:70:VAL:HG13	6:E:307:A1JQU:C12	2.36	0.55
1:E:294:THR:O	1:F:150:ARG:HA	2.06	0.55
1:A:205:ARG:NH2	1:A:232:ARG:NH2	2.54	0.55
1:E:115:VAL:O	1:E:136[A]:MET:HG3	2.07	0.55
5:A:306:PGE:H42	7:A:550:HOH:O	2.08	0.54
1:C:73:MET:HE2	1:D:68:HIS:CE1	2.44	0.52
1:E:256:GLY:CA	7:E:448:HOH:O	2.48	0.52
1:F:259:ASP:O	1:F:263[B]:THR:HG23	2.08	0.52
1:A:70:VAL:HA	1:A:80:PRO:HG3	1.93	0.50
1:A:256:GLY:N	7:A:411:HOH:O	2.44	0.50
1:D:247:ASP:HB3	7:D:519:HOH:O	2.12	0.50
1:D:294:THR:O	1:E:150:ARG:HA	2.12	0.50
1:A:294:THR:O	1:C:150:ARG:HA	2.12	0.49
6:C:307:A1JQU:C11	6:C:307:A1JQU:O1	2.60	0.49
1:B:100:GLN:HB2	1:B:274:PRO:HD3	1.95	0.49
1:C:100:GLN:HB2	1:C:274:PRO:HD3	1.95	0.49
1:A:294:THR:HG22	7:A:464:HOH:O	2.12	0.49
1:C:231:ARG:HD2	7:C:521:HOH:O	2.12	0.48
6:E:308:A1JQU:C26	6:E:308:A1JQU:N9	2.76	0.48
1:F:100:GLN:HB2	1:F:274:PRO:HD3	1.94	0.48
1:E:100:GLN:HB2	1:E:274:PRO:HD3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:264:ARG:HH11	1:A:268:HIS:CE1	2.28	0.48
1:B:150:ARG:HA	1:C:294:THR:O	2.14	0.48
6:B:306:A1JQU:N9	6:B:306:A1JQU:O34	2.47	0.48
1:D:100:GLN:HB2	1:D:274:PRO:HD3	1.94	0.48
1:E:32[B]:ARG:NH2	7:E:407:HOH:O	2.47	0.47
1:F:29:GLU:HG3	1:F:32[A]:ARG:HH21	1.79	0.47
1:B:75:GLU:HB2	1:B:76[B]:ARG:HH21	1.79	0.47
1:F:86:PHE:CE2	1:F:136[A]:MET:SD	3.08	0.46
1:A:100:GLN:HB2	1:A:274:PRO:HD3	1.97	0.46
1:D:22:GLU:OE2	7:D:402:HOH:O	2.21	0.46
6:F:308:A1JQU:O1	6:F:308:A1JQU:C11	2.64	0.46
1:B:13:ALA:O	1:B:15:LYS:HG3	2.15	0.46
1:E:115:VAL:O	1:E:136[B]:MET:HG2	2.16	0.45
6:A:307:A1JQU:N9	6:A:307:A1JQU:O34	2.50	0.45
1:A:264:ARG:NH1	7:A:418:HOH:O	2.49	0.45
1:B:74:GLU:HG2	7:B:506:HOH:O	2.15	0.45
1:A:103[A]:ARG:NH1	7:A:412:HOH:O	2.47	0.45
1:C:260:GLU:OE1	7:C:401:HOH:O	2.21	0.45
1:D:264[B]:ARG:HH11	1:D:268:HIS:HE1	1.65	0.44
6:A:307:A1JQU:C33	6:A:307:A1JQU:C24	2.95	0.44
1:C:155:GLY:HA3	4:C:303:SO4:O4	2.18	0.44
1:A:70:VAL:HG13	6:A:307:A1JQU:C12	2.48	0.44
1:E:86:PHE:CE2	1:E:136[A]:MET:SD	3.11	0.44
1:A:254:ILE:HG22	7:A:411:HOH:O	2.16	0.43
1:A:295:PRO:HD2	7:A:464:HOH:O	2.18	0.43
1:A:104:VAL:HB	1:A:291:ARG:HB3	2.01	0.43
6:D:306:A1JQU:O1	6:D:306:A1JQU:C11	2.67	0.43
1:F:104:VAL:HB	1:F:291:ARG:HB3	2.01	0.43
1:A:136:MET:HE2	1:A:136:MET:HB2	1.94	0.42
1:C:104:VAL:HB	1:C:291:ARG:HB3	2.00	0.42
1:F:286:LEU:HB3	1:F:287:PRO:HD2	2.01	0.42
1:A:115:VAL:HG23	1:A:136:MET:HE1	2.01	0.42
1:F:245:LYS:NZ	7:F:415:HOH:O	2.50	0.42
6:A:308:A1JQU:C26	6:A:308:A1JQU:N9	2.83	0.42
1:B:104:VAL:HB	1:B:291:ARG:HB3	2.02	0.42
1:E:103[B]:ARG:NH2	7:E:401:HOH:O	2.11	0.42
1:A:299:PRO:HD3	1:C:164:ARG:HG2	2.02	0.41
1:D:296:LYS:NZ	1:E:153:VAL:O	2.47	0.41
1:B:63:ASP:OD2	3:B:302:AR6:H8	2.21	0.41
1:D:286:LEU:HB3	1:D:287:PRO:HD2	2.02	0.41
1:B:286:LEU:HB3	1:B:287:PRO:HD2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:306:A1JQU:O1	6:B:306:A1JQU:C11	2.68	0.41
1:C:68:HIS:CE1	1:D:73:MET:HE2	2.56	0.41
1:D:13:ALA:O	1:D:15:LYS:HG3	2.21	0.41
1:C:103[B]:ARG:HB3	1:C:289:LEU:HD12	2.04	0.40
1:D:104:VAL:HB	1:D:291:ARG:HB3	2.02	0.40
1:C:286:LEU:HB3	1:C:287:PRO:HD2	2.03	0.40
1:E:52:GLY:HA3	1:E:215:THR:HB	2.03	0.40
1:D:52:GLY:HA3	1:D:215:THR:HB	2.03	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	282/287 (98%)	279 (99%)	3 (1%)	0	100	100
1	B	284/287 (99%)	279 (98%)	5 (2%)	0	100	100
1	C	284/287 (99%)	278 (98%)	6 (2%)	0	100	100
1	D	283/287 (99%)	279 (99%)	4 (1%)	0	100	100
1	E	283/287 (99%)	280 (99%)	3 (1%)	0	100	100
1	F	289/287 (101%)	286 (99%)	3 (1%)	0	100	100
All	All	1705/1722 (99%)	1681 (99%)	24 (1%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	244/242 (101%)	241 (99%)	3 (1%)	63	55
1	B	245/242 (101%)	242 (99%)	3 (1%)	63	55
1	C	243/242 (100%)	238 (98%)	5 (2%)	47	33
1	D	244/242 (101%)	241 (99%)	3 (1%)	63	55
1	E	244/242 (101%)	239 (98%)	5 (2%)	48	36
1	F	249/242 (103%)	246 (99%)	3 (1%)	63	55
All	All	1469/1452 (101%)	1447 (98%)	22 (2%)	57	47

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	70	VAL
1	A	210	SER
1	A	284	ARG
1	B	136	MET
1	B	210	SER
1	B	284	ARG
1	C	103[A]	ARG
1	C	103[B]	ARG
1	C	136	MET
1	C	175	ARG
1	C	210	SER
1	D	136	MET
1	D	210	SER
1	D	284	ARG
1	E	31	GLU
1	E	70	VAL
1	E	175	ARG
1	E	210	SER
1	E	231	ARG
1	F	90	ARG
1	F	175	ARG
1	F	210	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	93	GLN
1	D	93	GLN
1	F	268	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 44 ligands modelled in this entry, 6 are monoatomic - leaving 38 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
4	SO4	F	306	-	4,4,4	0.44	0	6,6,6	0.21	0
6	A1JQU	E	307	-	38,38,38	1.21	1 (2%)	44,54,54	1.54	8 (18%)
3	AR6	D	302	-	37,39,39	0.42	0	53,60,60	0.74	0
6	A1JQU	A	307	-	38,38,38	0.50	0	44,54,54	1.74	9 (20%)
4	SO4	D	303	-	4,4,4	0.36	0	6,6,6	0.15	0
3	AR6	C	302	-	37,39,39	0.56	0	53,60,60	0.75	0
4	SO4	C	305	-	4,4,4	0.33	0	6,6,6	0.13	0
4	SO4	B	304	-	4,4,4	0.37	0	6,6,6	0.19	0
3	AR6	B	302	-	37,39,39	0.47	0	53,60,60	0.74	0
4	SO4	D	304	-	4,4,4	0.37	0	6,6,6	0.13	0
3	AR6	A	302	-	37,39,39	0.50	0	53,60,60	0.81	2 (3%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	A1JQU	A	308	-	38,38,38	0.95	1 (2%)	44,54,54	1.53	6 (13%)
5	PGE	F	307	-	9,9,9	0.26	0	8,8,8	0.17	0
5	PGE	D	305	-	9,9,9	0.13	0	8,8,8	0.17	0
5	PGE	E	306	-	9,9,9	0.24	0	8,8,8	0.19	0
4	SO4	E	305	-	4,4,4	0.31	0	6,6,6	0.20	0
4	SO4	A	304	-	4,4,4	0.31	0	6,6,6	0.10	0
6	A1JQU	F	308	-	38,38,38	0.54	1 (2%)	44,54,54	1.49	7 (15%)
4	SO4	F	305	-	4,4,4	0.36	0	6,6,6	0.16	0
5	PGE	C	306	-	9,9,9	0.25	0	8,8,8	0.09	0
4	SO4	C	303	-	4,4,4	0.36	0	6,6,6	0.16	0
4	SO4	C	308	-	4,4,4	0.45	0	6,6,6	0.17	0
4	SO4	E	304	-	4,4,4	0.31	0	6,6,6	0.21	0
6	A1JQU	B	306	-	38,38,38	0.63	1 (2%)	44,54,54	1.46	7 (15%)
3	AR6	F	303	-	37,39,39	0.64	1 (2%)	53,60,60	0.68	1 (1%)
4	SO4	F	301	-	4,4,4	0.34	0	6,6,6	0.08	0
6	A1JQU	D	306	-	38,38,38	0.53	1 (2%)	44,54,54	1.52	8 (18%)
5	PGE	A	306	-	9,9,9	0.27	0	8,8,8	0.19	0
4	SO4	F	304	-	4,4,4	0.37	0	6,6,6	0.12	0
4	SO4	A	303	-	4,4,4	0.34	0	6,6,6	0.06	0
4	SO4	C	304	-	4,4,4	0.38	0	6,6,6	0.17	0
4	SO4	A	305	-	4,4,4	0.48	0	6,6,6	0.48	0
5	PGE	B	305	-	9,9,9	0.15	0	8,8,8	0.17	0
6	A1JQU	C	307	-	38,38,38	0.72	1 (2%)	44,54,54	1.53	7 (15%)
3	AR6	E	302	-	37,39,39	0.45	0	53,60,60	0.58	0
4	SO4	E	303	-	4,4,4	0.34	0	6,6,6	0.11	0
6	A1JQU	E	308	-	38,38,38	0.60	1 (2%)	44,54,54	1.57	6 (13%)
4	SO4	B	303	-	4,4,4	0.32	0	6,6,6	0.16	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
6	A1JQU	E	307	-	-	6/22/33/33	0/5/5/5
3	AR6	D	302	-	-	1/22/54/54	0/4/4/4
6	A1JQU	A	307	-	-	1/22/33/33	0/5/5/5
3	AR6	C	302	-	-	2/22/54/54	0/4/4/4
3	AR6	B	302	-	-	1/22/54/54	0/4/4/4
3	AR6	A	302	-	-	2/22/54/54	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	A1JQU	A	308	-	-	5/22/33/33	0/5/5/5
5	PGE	F	307	-	-	3/7/7/7	-
5	PGE	D	305	-	-	3/7/7/7	-
5	PGE	E	306	-	-	4/7/7/7	-
6	A1JQU	F	308	-	-	6/22/33/33	0/5/5/5
5	PGE	C	306	-	-	4/7/7/7	-
6	A1JQU	B	306	-	-	6/22/33/33	0/5/5/5
3	AR6	F	303	-	-	2/22/54/54	0/4/4/4
6	A1JQU	D	306	-	-	6/22/33/33	0/5/5/5
5	PGE	A	306	-	-	5/7/7/7	-
6	A1JQU	C	307	-	-	6/22/33/33	0/5/5/5
5	PGE	B	305	-	-	3/7/7/7	-
3	AR6	E	302	-	-	1/22/54/54	0/4/4/4
6	A1JQU	E	308	-	-	4/22/33/33	0/5/5/5

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	E	307	A1JQU	C28-N30	6.82	1.40	1.35
6	A	308	A1JQU	C28-N30	5.03	1.38	1.35
6	C	307	A1JQU	C28-N30	3.09	1.37	1.35
3	F	303	AR6	O4D-C1D	2.45	1.46	1.43
6	B	306	A1JQU	C28-N30	2.39	1.36	1.35
6	E	308	A1JQU	C28-N30	2.33	1.36	1.35
6	F	308	A1JQU	C28-N30	2.08	1.36	1.35
6	D	306	A1JQU	C24-C23	2.05	1.55	1.51

All (61) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	E	308	A1JQU	C18-C17-C16	-6.31	109.44	121.24
6	A	308	A1JQU	C18-C17-C16	-6.02	109.97	121.24
6	A	307	A1JQU	C18-C17-C16	-5.89	110.22	121.24
6	D	306	A1JQU	C18-C17-C16	-5.83	110.33	121.24
6	C	307	A1JQU	C18-C17-C16	-5.34	111.26	121.24
6	E	307	A1JQU	C18-C17-C16	-5.32	111.30	121.24
6	F	308	A1JQU	C18-C17-C16	-5.13	111.64	121.24
6	B	306	A1JQU	C18-C17-C16	-5.03	111.82	121.24
6	A	308	A1JQU	C14-C15-C16	-4.40	110.19	120.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	E	308	A1JQU	C14-C15-C16	-4.30	110.43	120.67
6	B	306	A1JQU	C14-C15-C16	-4.25	110.56	120.67
6	A	307	A1JQU	C24-C23-C18	4.15	118.73	111.35
6	C	307	A1JQU	C14-C15-C16	-4.10	110.92	120.67
6	E	307	A1JQU	C14-C15-C16	-4.03	111.07	120.67
6	F	308	A1JQU	C14-C15-C16	-3.92	111.33	120.67
6	C	307	A1JQU	C24-C23-C18	3.92	118.32	111.35
6	A	307	A1JQU	C14-C15-C16	-3.76	111.72	120.67
6	F	308	A1JQU	C24-C23-C18	3.74	118.01	111.35
6	E	307	A1JQU	C24-C23-C18	3.73	117.99	111.35
6	D	306	A1JQU	C22-C17-C16	3.71	129.99	121.24
6	A	308	A1JQU	C24-C23-C18	3.65	117.85	111.35
6	D	306	A1JQU	C14-C15-C16	-3.64	112.01	120.67
6	A	307	A1JQU	C15-C10-N9	3.49	123.65	119.87
6	C	307	A1JQU	C15-C10-N9	3.48	123.64	119.87
6	E	308	A1JQU	C24-C23-C18	3.34	117.28	111.35
6	A	307	A1JQU	C15-C16-C17	3.31	117.89	111.90
6	E	307	A1JQU	C15-C10-N9	3.23	123.37	119.87
6	B	306	A1JQU	C15-C10-N9	3.20	123.33	119.87
6	F	308	A1JQU	C15-C10-N9	3.17	123.30	119.87
6	A	307	A1JQU	C22-C17-C16	3.15	128.66	121.24
6	A	307	A1JQU	C10-N9-C2	-3.07	118.51	126.93
6	E	308	A1JQU	C22-C17-C16	3.06	128.46	121.24
6	B	306	A1JQU	C22-C17-C16	2.99	128.29	121.24
6	C	307	A1JQU	C22-C17-C16	2.90	128.08	121.24
6	A	308	A1JQU	C22-C17-C16	2.89	128.05	121.24
6	F	308	A1JQU	C15-C16-C17	2.84	117.03	111.90
6	F	308	A1JQU	C22-C17-C16	2.75	127.72	121.24
6	E	307	A1JQU	C22-C17-C16	2.74	127.70	121.24
6	A	307	A1JQU	C17-C16-N25	2.72	114.35	110.39
6	D	306	A1JQU	C15-C10-N9	2.68	122.77	119.87
6	C	307	A1JQU	C15-C16-C17	2.64	116.66	111.90
6	D	306	A1JQU	C24-C23-C18	2.59	115.95	111.35
6	B	306	A1JQU	C24-C23-C18	2.56	115.91	111.35
6	E	308	A1JQU	C15-C10-N9	2.52	122.60	119.87
6	E	307	A1JQU	C15-C16-C17	2.48	116.38	111.90
3	A	302	AR6	C2'-C1'-N9	2.47	119.56	113.30
3	A	302	AR6	O4'-C1'-N9	-2.47	103.19	108.06
6	E	308	A1JQU	C15-C16-C17	2.45	116.32	111.90
6	E	307	A1JQU	C10-N9-C2	-2.43	120.28	126.93
6	A	308	A1JQU	C15-C10-N9	2.41	122.48	119.87
6	A	308	A1JQU	C15-C16-C17	2.41	116.26	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	A	307	A1JQU	C11-C10-N9	-2.40	116.23	121.80
6	D	306	A1JQU	C15-C16-C17	2.35	116.14	111.90
6	E	307	A1JQU	C11-C10-N9	-2.23	116.64	121.80
6	B	306	A1JQU	C15-C16-C17	2.18	115.84	111.90
6	B	306	A1JQU	C11-C10-N9	-2.18	116.74	121.80
3	F	303	AR6	O1A-PA-O2A	2.15	122.86	112.24
6	F	308	A1JQU	C11-C10-N9	-2.12	116.88	121.80
6	C	307	A1JQU	C11-C10-N9	-2.10	116.92	121.80
6	D	306	A1JQU	C11-C10-N9	-2.04	117.08	121.80
6	D	306	A1JQU	C23-C24-N25	2.03	112.39	109.48

There are no chirality outliers.

All (71) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	308	A1JQU	C14-C15-C16-N25
6	A	308	A1JQU	O34-C26-N25-C16
6	A	308	A1JQU	O34-C26-N25-C24
6	B	306	A1JQU	C10-C15-C16-N25
6	B	306	A1JQU	O34-C26-N25-C16
6	B	306	A1JQU	O34-C26-N25-C24
6	B	306	A1JQU	N25-C26-C27-C33
6	B	306	A1JQU	O34-C26-C27-C33
6	C	307	A1JQU	O34-C26-N25-C16
6	C	307	A1JQU	O34-C26-N25-C24
6	D	306	A1JQU	C27-C26-N25-C16
6	D	306	A1JQU	O34-C26-N25-C16
6	D	306	A1JQU	C27-C26-N25-C24
6	D	306	A1JQU	O34-C26-N25-C24
6	D	306	A1JQU	N25-C26-C27-C33
6	D	306	A1JQU	O34-C26-C27-C33
6	E	307	A1JQU	O34-C26-N25-C16
6	E	307	A1JQU	O34-C26-N25-C24
6	E	308	A1JQU	C10-C15-C16-N25
6	E	308	A1JQU	C14-C15-C16-N25
6	E	308	A1JQU	O34-C26-N25-C16
6	E	308	A1JQU	O34-C26-N25-C24
6	F	308	A1JQU	O34-C26-N25-C16
6	F	308	A1JQU	O34-C26-N25-C24
5	C	306	PGE	O2-C3-C4-O3
5	A	306	PGE	O2-C3-C4-O3
5	E	306	PGE	O3-C5-C6-O4

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Mol	Chain	Res	Type	Atoms
5	F	307	PGE	O2-C3-C4-O3
5	E	306	PGE	O2-C3-C4-O3
5	E	306	PGE	O1-C1-C2-O2
5	B	305	PGE	O2-C3-C4-O3
5	B	305	PGE	O3-C5-C6-O4
6	A	308	A1JQU	C27-C26-N25-C24
6	B	306	A1JQU	C27-C26-N25-C24
6	C	307	A1JQU	C27-C26-N25-C24
6	E	307	A1JQU	C27-C26-N25-C24
6	F	308	A1JQU	C27-C26-N25-C24
6	E	307	A1JQU	C10-C15-C16-C17
5	D	305	PGE	O2-C3-C4-O3
5	A	306	PGE	C4-C3-O2-C2
5	B	305	PGE	C6-C5-O3-C4
5	F	307	PGE	C4-C3-O2-C2
5	A	306	PGE	C1-C2-O2-C3
5	C	306	PGE	C6-C5-O3-C4
5	A	306	PGE	C6-C5-O3-C4
6	A	308	A1JQU	C10-C15-C16-N25
6	F	308	A1JQU	O34-C26-C27-C28
5	E	306	PGE	C4-C3-O2-C2
5	A	306	PGE	O1-C1-C2-O2
5	D	305	PGE	O3-C5-C6-O4
5	F	307	PGE	C3-C4-O3-C5
5	C	306	PGE	O3-C5-C6-O4
5	D	305	PGE	C1-C2-O2-C3
6	E	307	A1JQU	O34-C26-C27-C33
6	A	307	A1JQU	C10-C15-C16-C17
6	C	307	A1JQU	C10-C15-C16-C17
6	F	308	A1JQU	C10-C15-C16-C17
3	D	302	AR6	O4'-C4'-C5'-O5'
3	F	303	AR6	O4'-C4'-C5'-O5'
5	C	306	PGE	O1-C1-C2-O2
6	C	307	A1JQU	N25-C26-C27-C33
6	E	307	A1JQU	N25-C26-C27-C33
6	F	308	A1JQU	N25-C26-C27-C33
3	A	302	AR6	O4'-C4'-C5'-O5'
3	B	302	AR6	O4'-C4'-C5'-O5'
3	C	302	AR6	O4'-C4'-C5'-O5'
3	E	302	AR6	O4'-C4'-C5'-O5'
3	A	302	AR6	C5D-O5D-PB-O2B
3	C	302	AR6	C5D-O5D-PB-O2B

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Mol	Chain	Res	Type	Atoms
3	F	303	AR6	C5D-O5D-PB-O2B
6	C	307	A1JQU	N25-C26-C27-C28

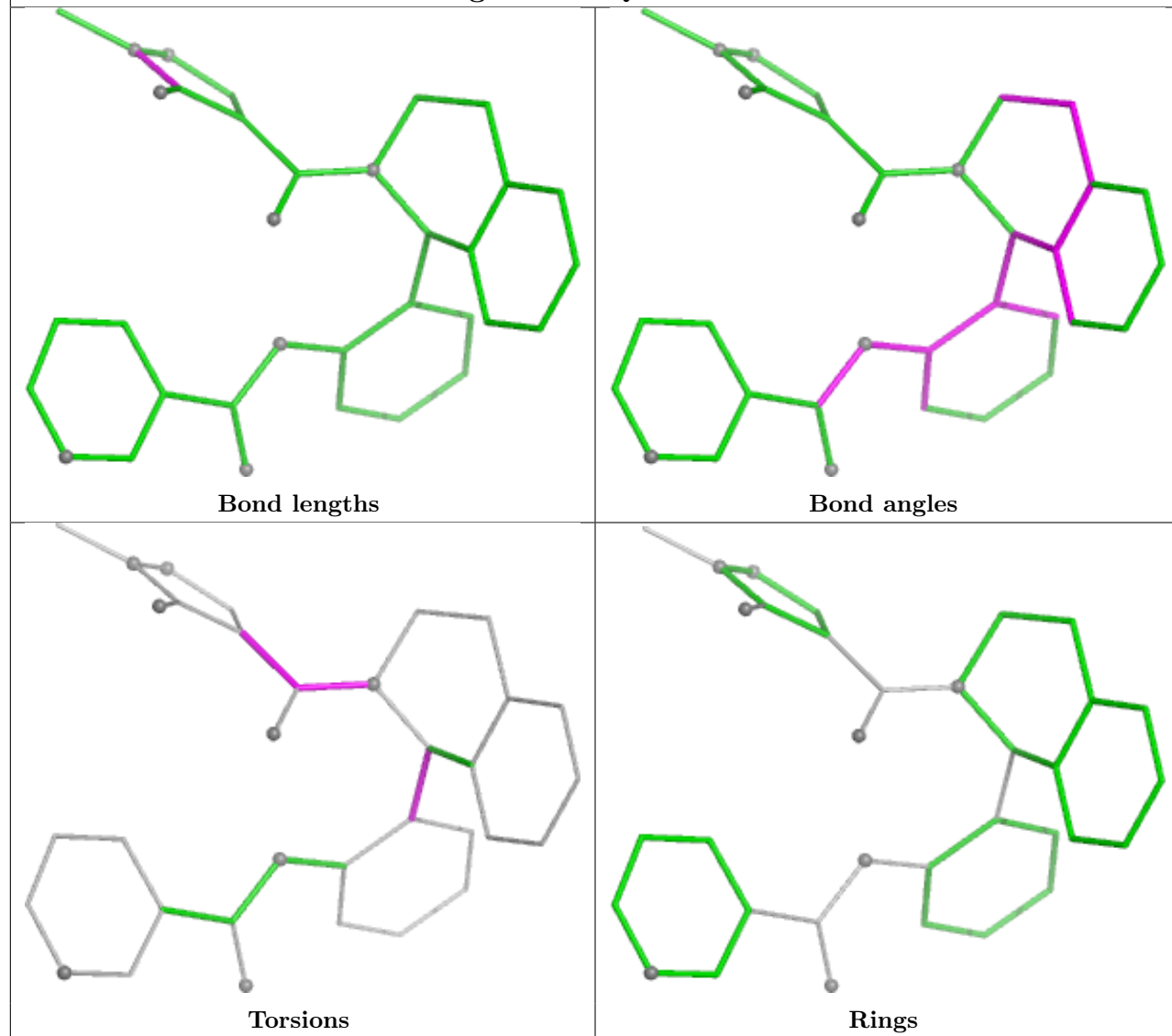
There are no ring outliers.

11 monomers are involved in 20 short contacts:

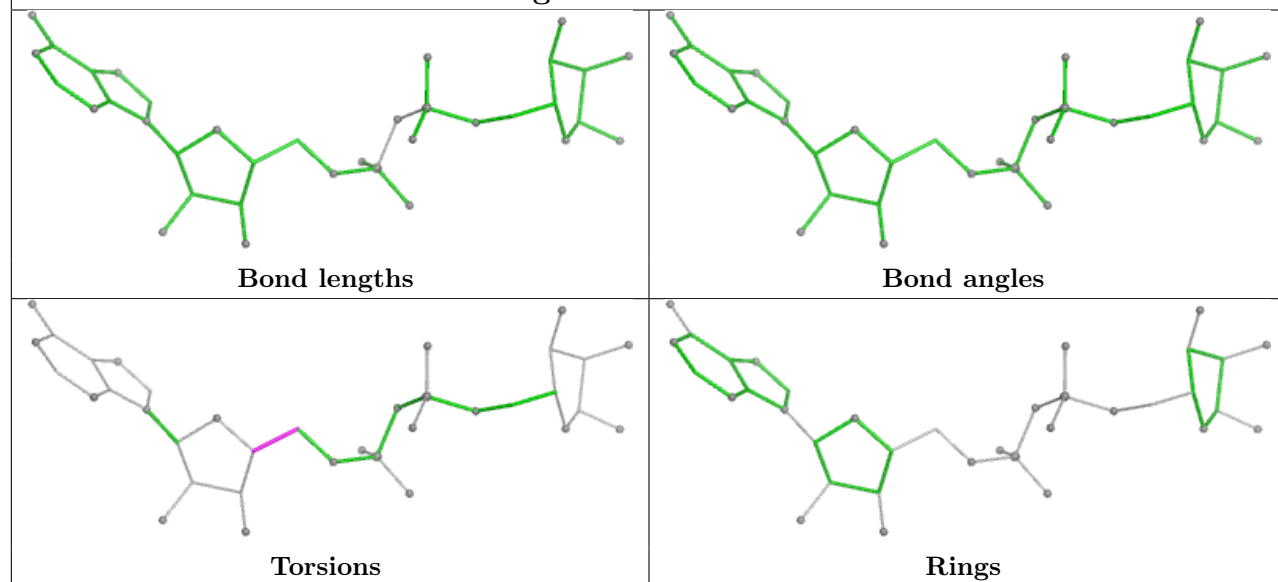
Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	E	307	A1JQU	4	0
6	A	307	A1JQU	6	0
3	B	302	AR6	1	0
6	A	308	A1JQU	1	0
6	F	308	A1JQU	1	0
4	C	303	SO4	1	0
6	B	306	A1JQU	2	0
6	D	306	A1JQU	1	0
5	A	306	PGE	1	0
6	C	307	A1JQU	1	0
6	E	308	A1JQU	1	0

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 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.

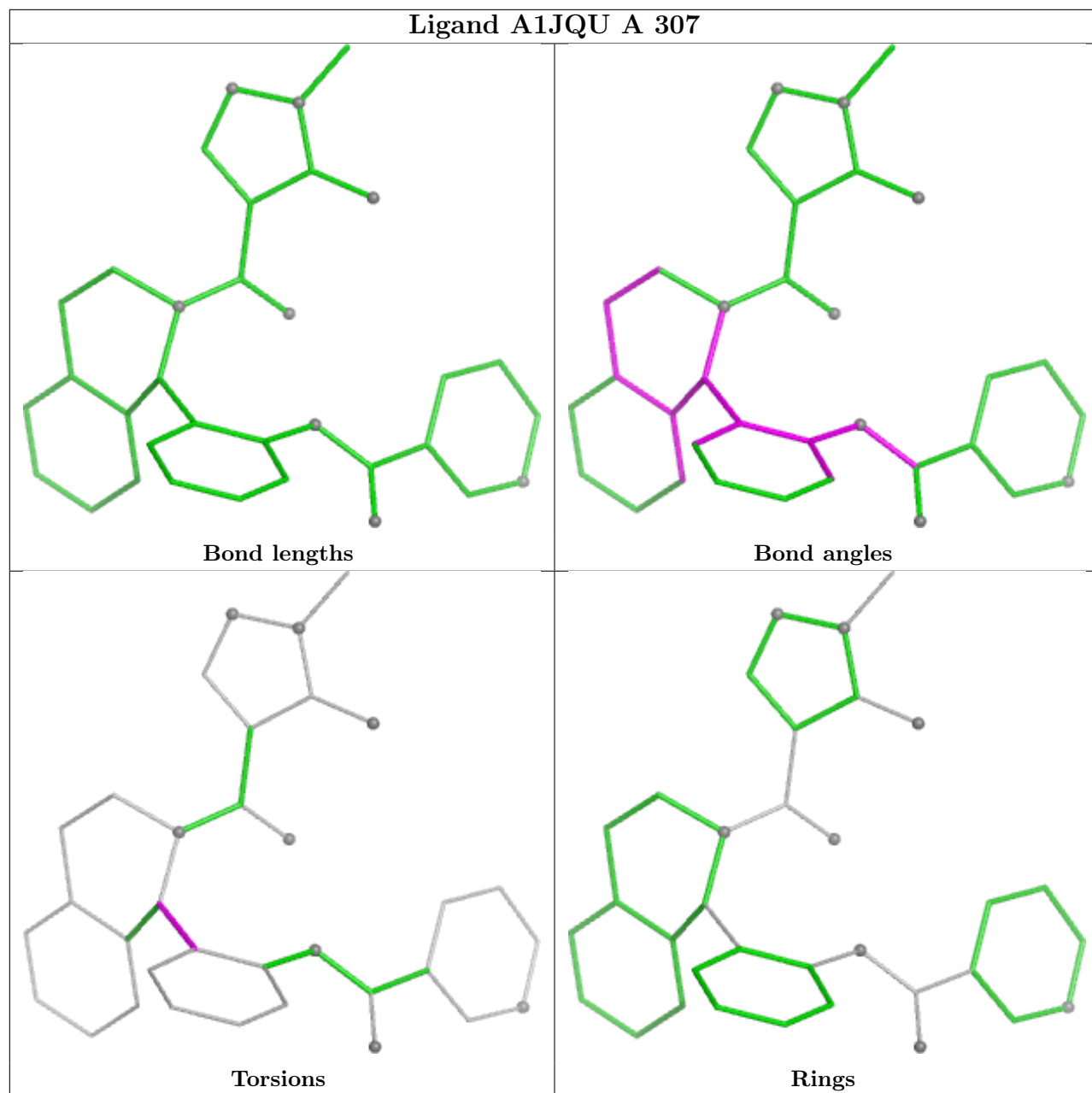
Ligand A1JQU E 307



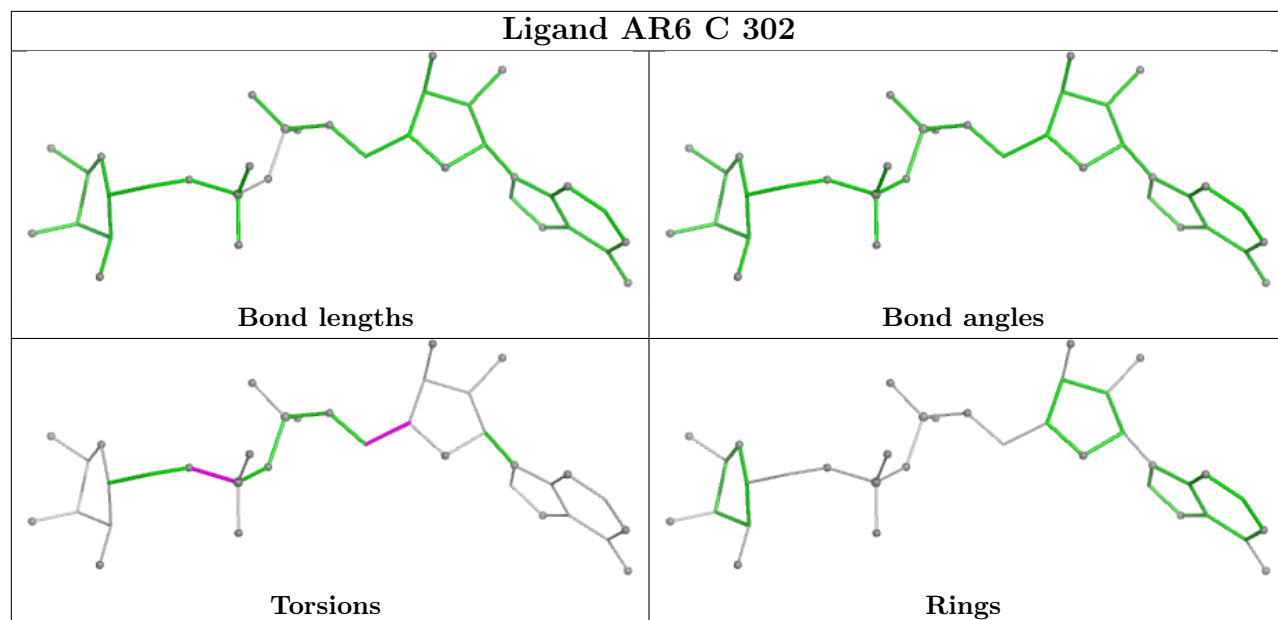
Ligand AR6 D 302



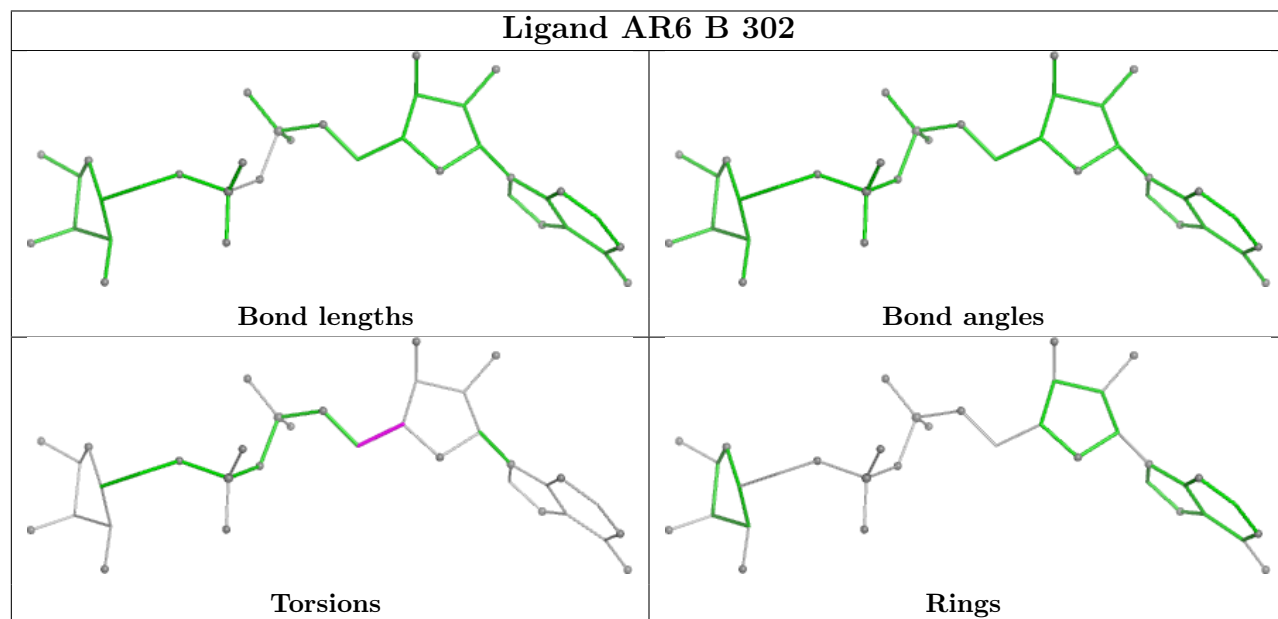
Ligand A1JQU A 307



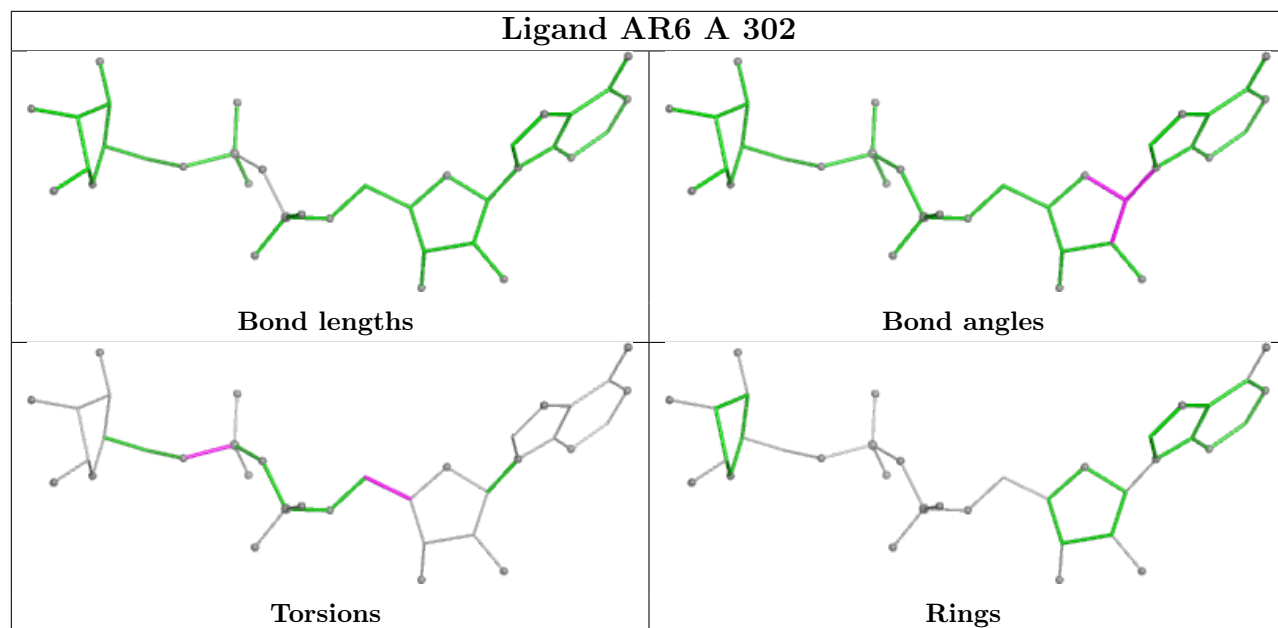
Ligand AR6 C 302



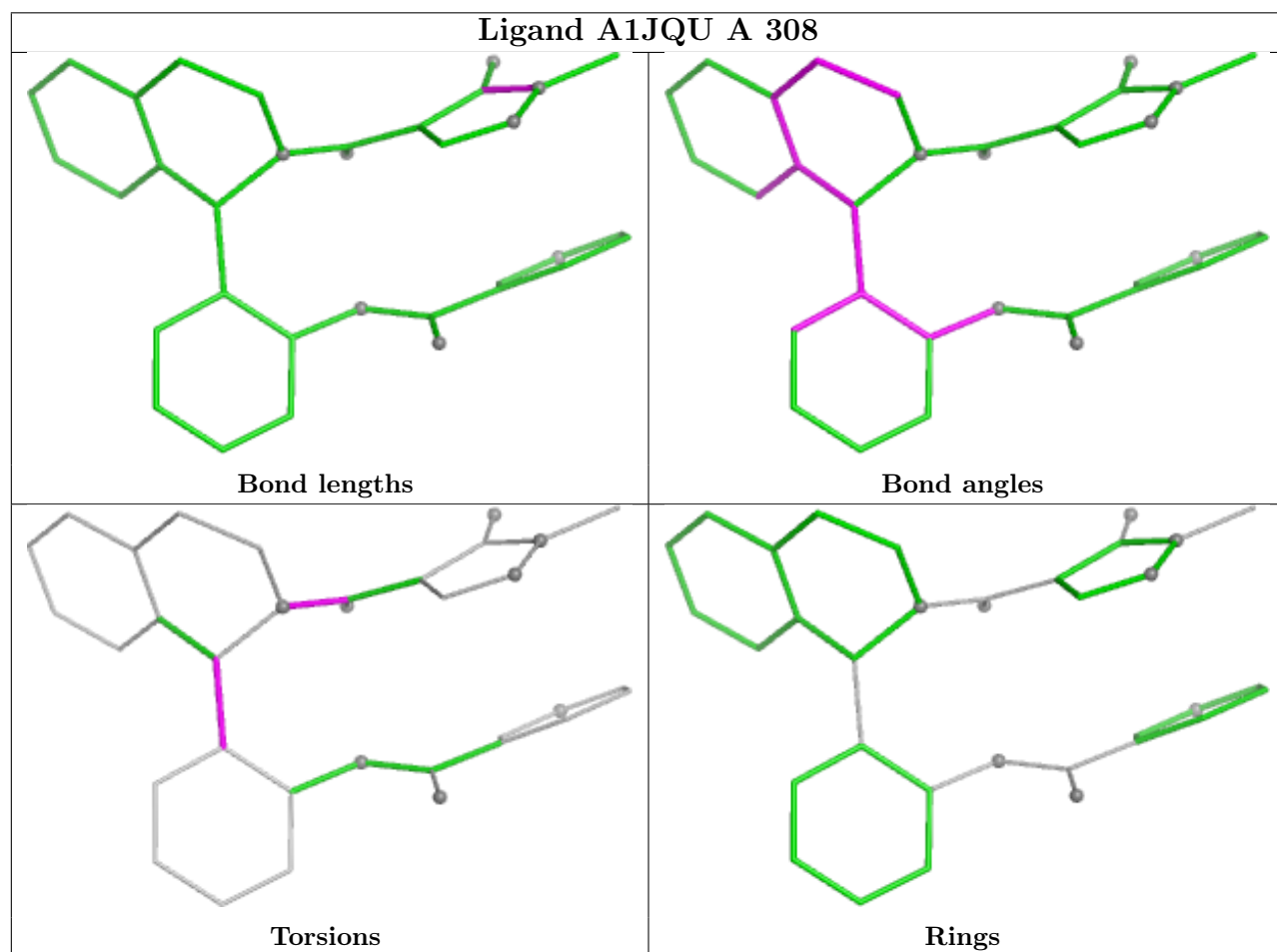
Ligand AR6 B 302



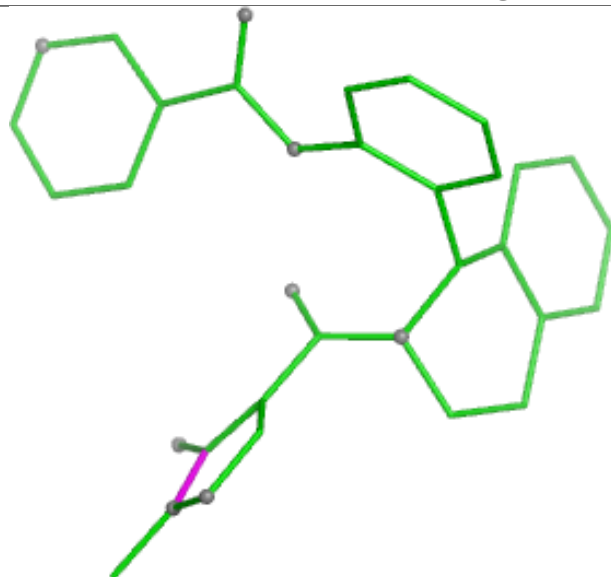
Ligand AR6 A 302



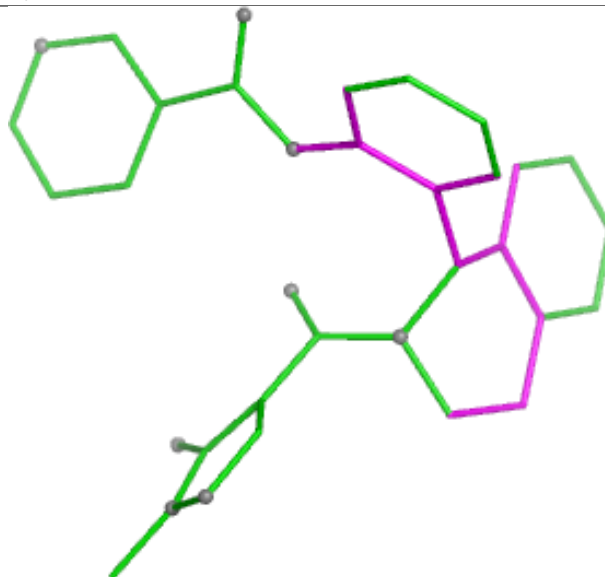
Ligand A1JQU A 308



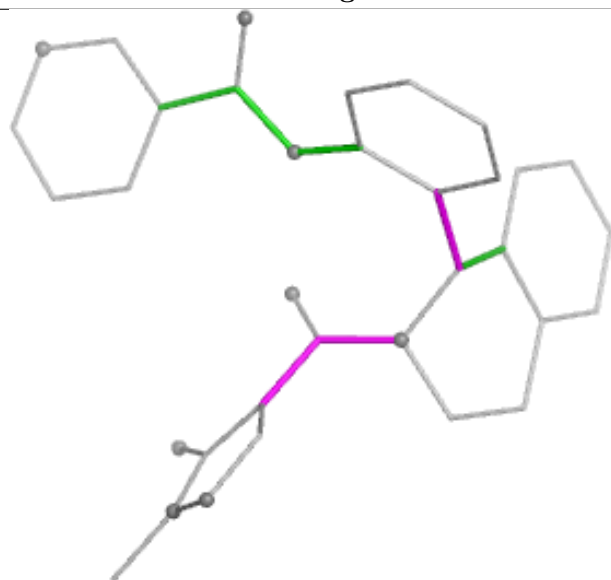
Ligand A1JQU F 308



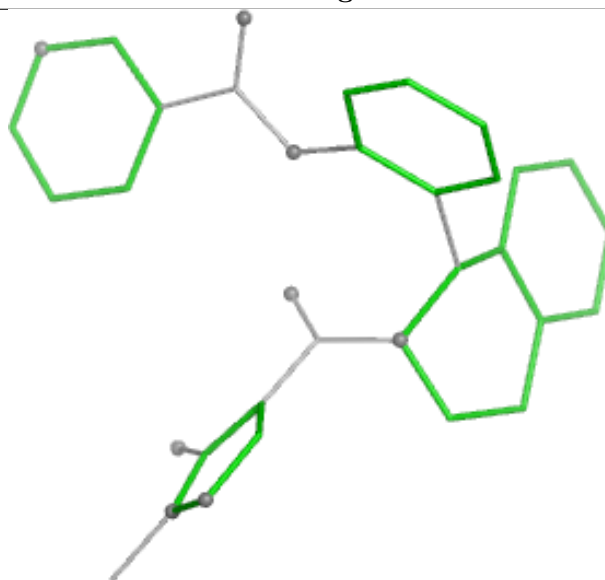
Bond lengths



Bond angles

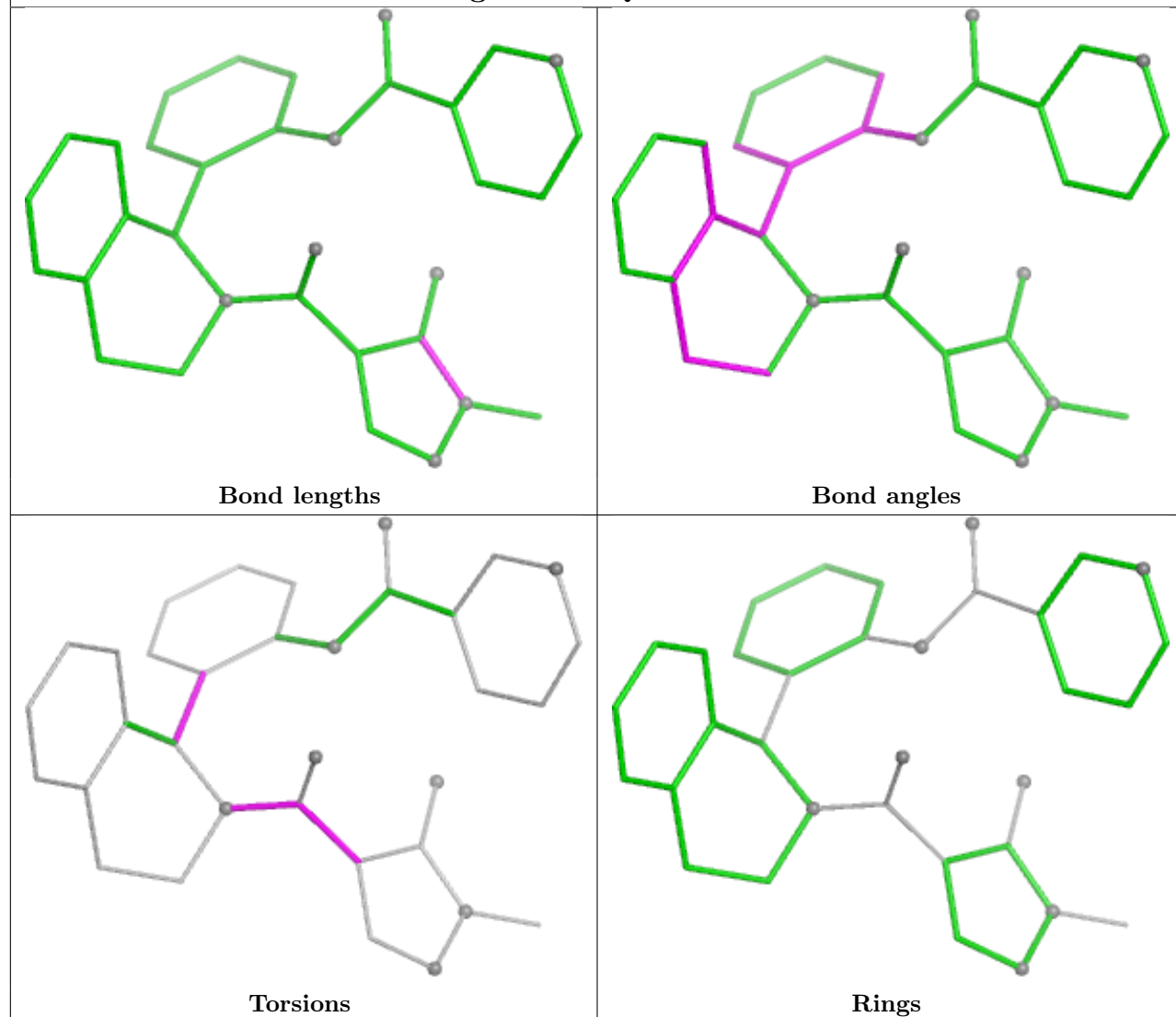


Torsions

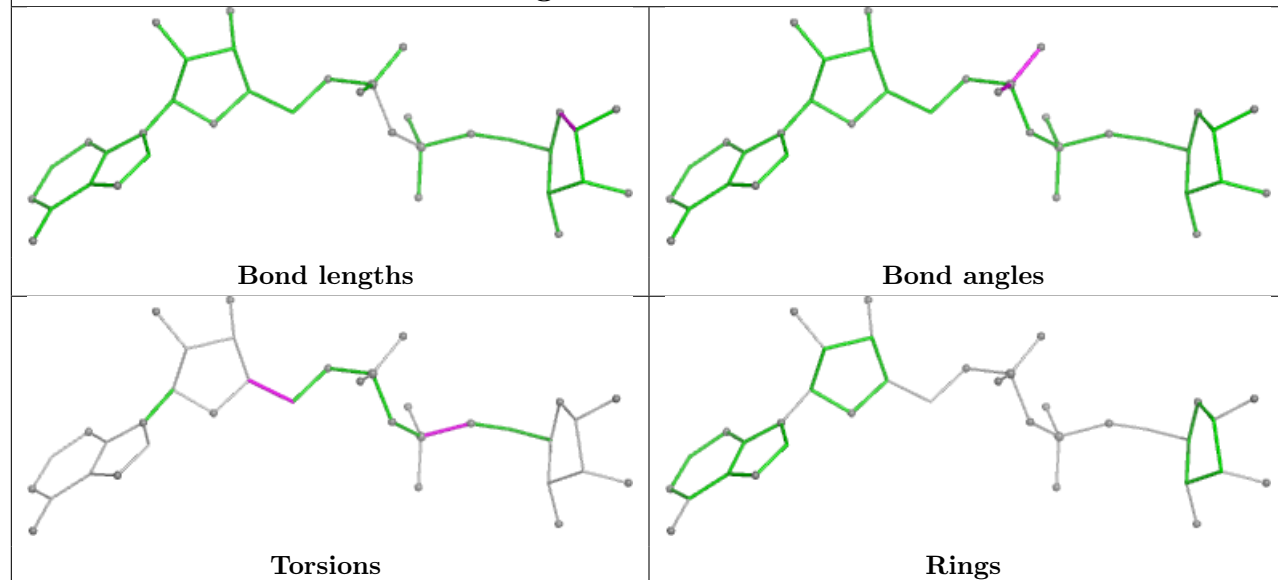


Rings

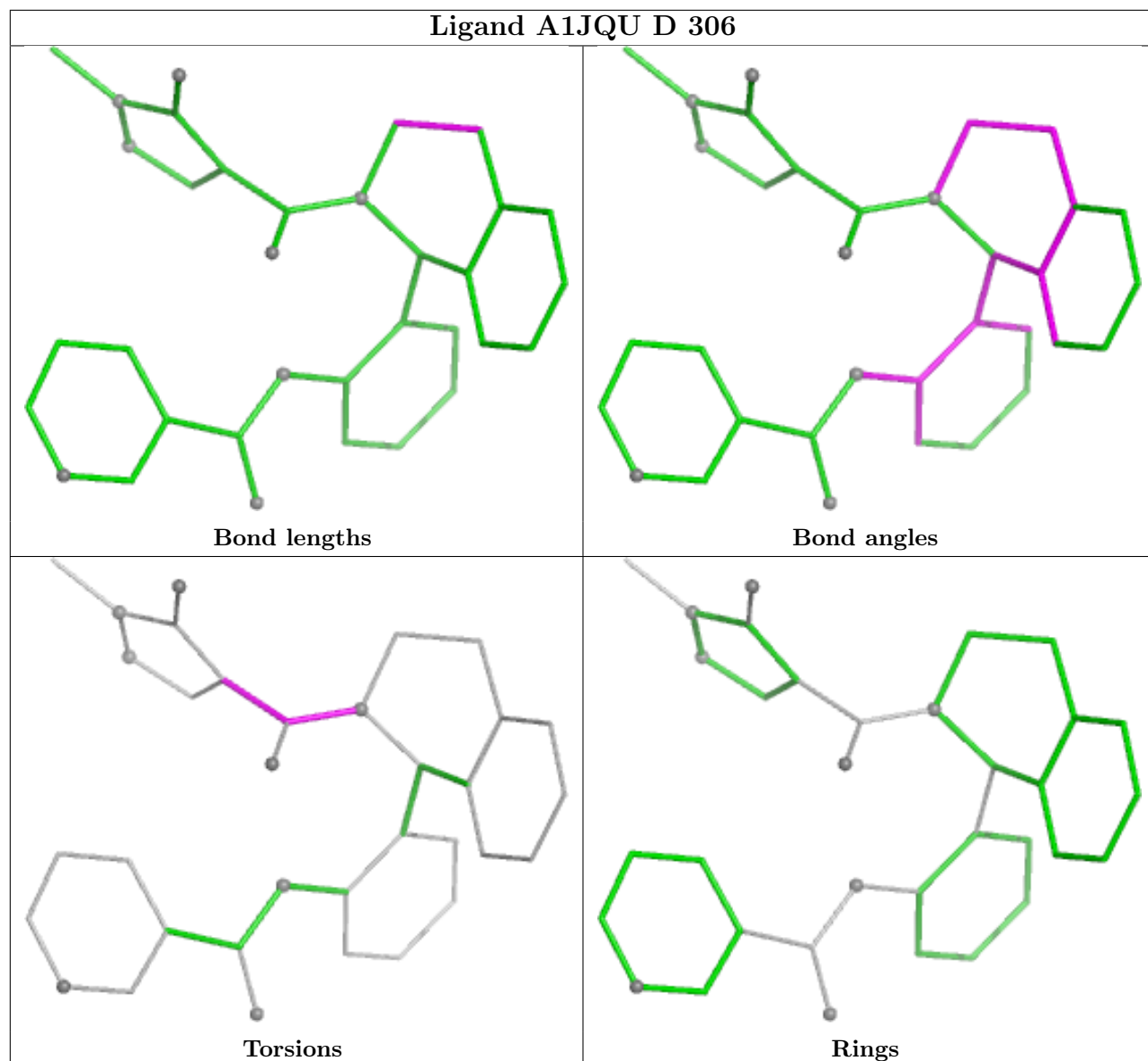
Ligand A1JQU B 306



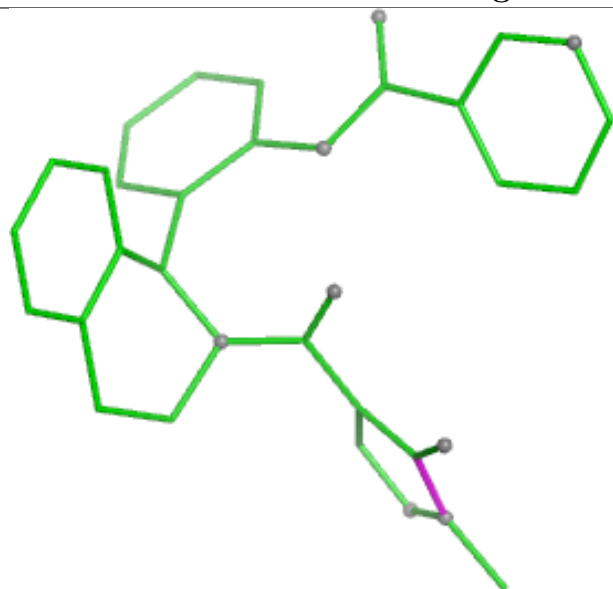
Ligand AR6 F 303



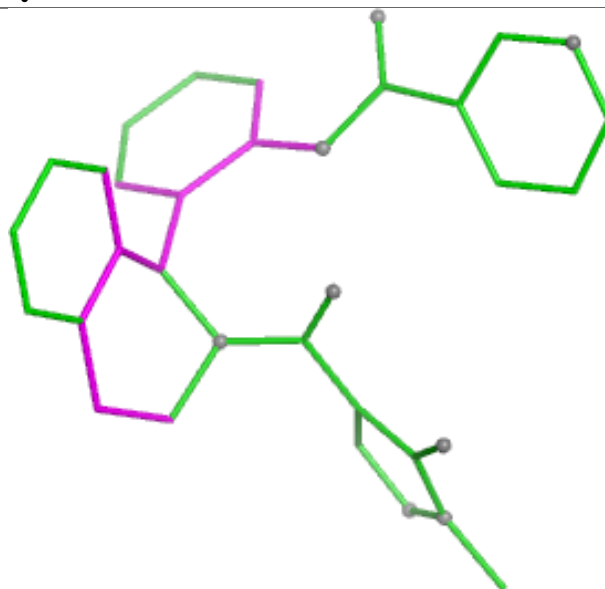
Ligand A1JQU D 306



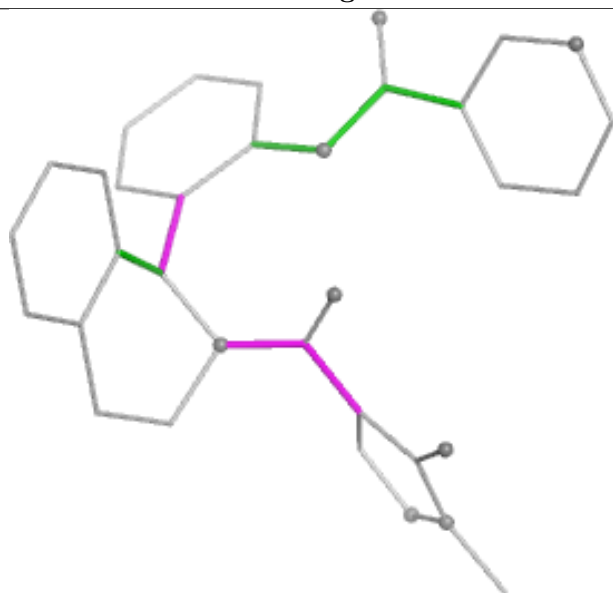
Ligand A1JQU C 307



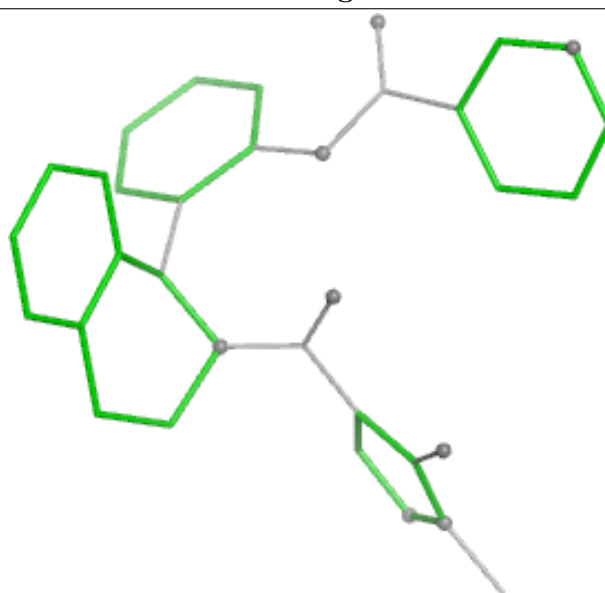
Bond lengths



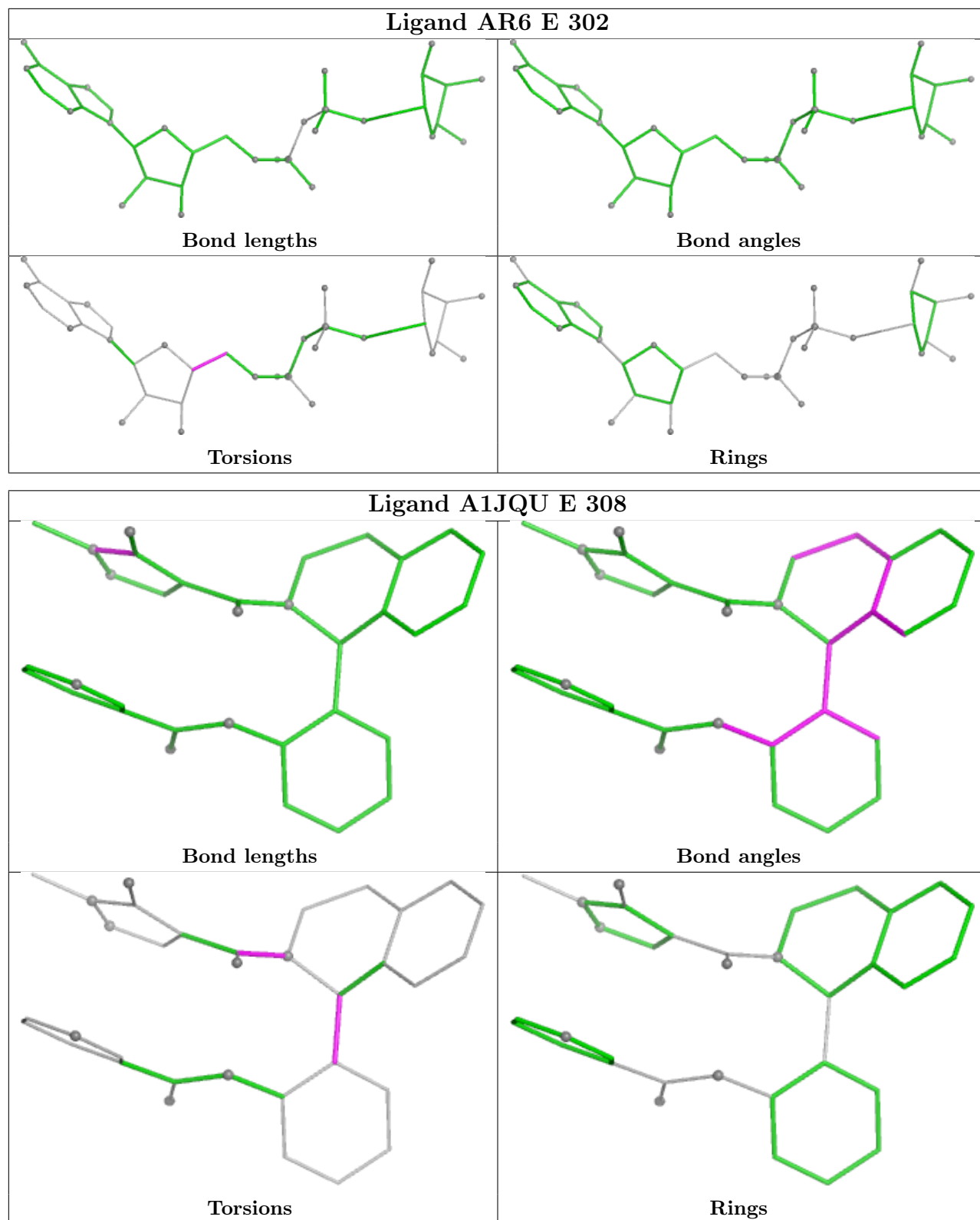
Bond angles



Torsions



Rings



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å ²)	Q<0.9
1	A	280/287 (97%)	0.37	17 (6%)	27	29	6, 20, 48, 85	6 (2%)
1	B	281/287 (97%)	0.65	28 (9%)	12	12	8, 27, 63, 100	7 (2%)
1	C	284/287 (98%)	0.53	23 (8%)	18	19	10, 26, 54, 100	4 (1%)
1	D	281/287 (97%)	0.63	24 (8%)	16	17	8, 27, 57, 87	6 (2%)
1	E	282/287 (98%)	0.38	18 (6%)	25	27	6, 21, 49, 100	5 (1%)
1	F	283/287 (98%)	0.69	27 (9%)	14	14	8, 26, 59, 96	10 (3%)
All	All	1691/1722 (98%)	0.54	137 (8%)	18	19	6, 24, 56, 100	38 (2%)

All (137) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	299	PRO	7.3
1	B	13	ALA	7.0
1	D	13	ALA	6.9
1	D	299	PRO	6.6
1	B	169	ALA	6.5
1	E	176	ALA	6.4
1	F	299	PRO	5.9
1	E	13	ALA	5.8
1	E	299	PRO	5.7
1	B	176	ALA	5.5
1	C	299	PRO	5.4
1	E	169	ALA	5.3
1	A	13	ALA	5.2
1	F	174	LEU	5.1
1	A	169	ALA	5.0
1	B	297	LEU	5.0
1	D	176	ALA	4.9
1	C	173	GLY	4.9
1	D	14	ASP	4.8

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Mol	Chain	Res	Type	RSRZ
1	A	299	PRO	4.8
1	D	169	ALA	4.7
1	F	176	ALA	4.7
1	C	169	ALA	4.3
1	C	174	LEU	4.2
1	D	28	GLU	4.2
1	C	176	ALA	4.1
1	D	297	LEU	4.1
1	F	297	LEU	4.1
1	E	298	GLU	4.1
1	F	35	TRP	4.1
1	E	168	VAL	4.1
1	B	16	GLY	4.1
1	A	297	LEU	3.8
1	F	168	VAL	3.7
1	C	13	ALA	3.7
1	F	169	ALA	3.6
1	B	14	ASP	3.6
1	C	143	LYS	3.6
1	E	297	LEU	3.6
1	F	142	ALA	3.6
1	D	16	GLY	3.6
1	B	188	TRP	3.6
1	D	35	TRP	3.6
1	B	168	VAL	3.6
1	A	168	VAL	3.5
1	B	35	TRP	3.5
1	F	175	ARG	3.5
1	F	28	GLU	3.4
1	D	15	LYS	3.4
1	C	175	ARG	3.4
1	B	15	LYS	3.3
1	B	143	LYS	3.3
1	D	188	TRP	3.3
1	C	35	TRP	3.3
1	E	175	ARG	3.3
1	F	178	ARG	3.1
1	C	154	VAL	3.1
1	F	298	GLU	3.1
1	E	286	LEU	3.1
1	A	35	TRP	3.0
1	E	35	TRP	3.0

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Mol	Chain	Res	Type	RSRZ
1	D	168	VAL	3.0
1	B	231	ARG	3.0
1	D	232	ARG	3.0
1	B	142	ALA	3.0
1	D	298	GLU	3.0
1	F	207	ALA	2.9
1	F	248	ARG	2.9
1	C	297	LEU	2.9
1	F	250	ALA	2.8
1	C	298	GLU	2.8
1	C	191	SER	2.7
1	E	154	VAL	2.7
1	C	16	GLY	2.7
1	A	195	ARG	2.6
1	F	231	ARG	2.6
1	B	165	LEU	2.6
1	E	163	GLY	2.6
1	C	142	ALA	2.6
1	A	298	GLU	2.6
1	A	248	ARG	2.6
1	B	232	ARG	2.6
1	D	154	VAL	2.6
1	D	267	LYS	2.6
1	F	188	TRP	2.6
1	D	32[A]	ARG	2.5
1	B	298	GLU	2.5
1	A	231	ARG	2.5
1	B	39[A]	ARG	2.5
1	D	200	ALA	2.5
1	F	191	SER	2.4
1	A	17	LYS	2.4
1	A	194	ASP	2.4
1	C	168	VAL	2.4
1	D	231	ARG	2.4
1	F	179	GLY	2.4
1	B	145	LYS	2.4
1	F	32[A]	ARG	2.3
1	C	188	TRP	2.3
1	B	207	ALA	2.3
1	C	79	ALA	2.3
1	A	155	GLY	2.3
1	E	167	THR	2.3

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Mol	Chain	Res	Type	RSRZ
1	F	206	ASN	2.3
1	D	233	GLY	2.3
1	E	32[A]	ARG	2.3
1	B	167	THR	2.3
1	A	154	VAL	2.2
1	B	182	ARG	2.2
1	B	195	ARG	2.2
1	B	189	GLU	2.2
1	F	31	GLU	2.2
1	C	177	CYS	2.2
1	F	177	CYS	2.2
1	C	287	PRO	2.2
1	F	13	ALA	2.2
1	B	31	GLU	2.2
1	C	28	GLU	2.2
1	E	138	VAL	2.2
1	D	286	LEU	2.2
1	B	219	ILE	2.1
1	B	154	VAL	2.1
1	A	163	GLY	2.1
1	A	181	LEU	2.1
1	E	248	ARG	2.1
1	E	180	GLU	2.1
1	C	39	ARG	2.1
1	C	15	LYS	2.1
1	E	143	LYS	2.1
1	F	143	LYS	2.1
1	D	205	ARG	2.1
1	F	267	LYS	2.1
1	F	16	GLY	2.1
1	D	160	LYS	2.0
1	D	219	ILE	2.0
1	A	178	ARG	2.0
1	B	180	GLU	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
4	SO4	D	303	5/5	0.58	0.21	99,104,106,119	0
4	SO4	F	304	5/5	0.66	0.19	98,102,106,112	0
4	SO4	E	303	5/5	0.73	0.17	80,82,93,93	0
4	SO4	A	303	5/5	0.73	0.18	82,83,95,95	0
4	SO4	E	305	5/5	0.77	0.15	57,58,67,68	0
4	SO4	B	303	5/5	0.77	0.18	84,85,93,99	0
6	A1JQU	B	306	34/34	0.80	0.18	34,49,69,83	0
6	A1JQU	C	307	34/34	0.80	0.16	39,53,83,86	0
4	SO4	C	303	5/5	0.81	0.15	85,86,87,90	0
6	A1JQU	F	308	34/34	0.81	0.17	40,53,89,97	0
6	A1JQU	E	307	34/34	0.82	0.16	34,40,81,85	0
6	A1JQU	D	306	34/34	0.82	0.19	35,55,77,79	0
4	SO4	E	304	5/5	0.84	0.12	57,59,64,69	0
6	A1JQU	A	308	34/34	0.85	0.11	26,33,36,37	0
4	SO4	C	304	5/5	0.86	0.11	49,50,54,55	0
4	SO4	F	305	5/5	0.86	0.11	45,49,56,58	0
4	SO4	A	304	5/5	0.87	0.12	57,60,66,69	0
6	A1JQU	A	307	34/34	0.87	0.13	29,38,63,65	0
5	PGE	C	306	10/10	0.88	0.11	44,47,50,50	0
6	A1JQU	E	308	34/34	0.88	0.11	25,31,34,35	0
4	SO4	F	301	5/5	0.88	0.14	63,64,67,73	0
4	SO4	C	305	5/5	0.90	0.11	54,55,61,68	0
4	SO4	D	304	5/5	0.91	0.09	49,51,57,60	0
5	PGE	B	305	10/10	0.91	0.10	32,43,52,53	0
4	SO4	B	304	5/5	0.91	0.09	51,53,57,59	0
5	PGE	F	307	10/10	0.91	0.11	40,43,46,46	0
5	PGE	D	305	10/10	0.93	0.11	40,50,60,60	0
5	PGE	A	306	10/10	0.93	0.09	33,41,43,44	0
5	PGE	E	306	10/10	0.95	0.06	29,32,33,33	0
3	AR6	F	303	36/36	0.97	0.06	13,15,22,24	0
4	SO4	F	306	5/5	0.97	0.10	32,32,38,39	0
4	SO4	C	308	5/5	0.97	0.15	35,36,41,46	0

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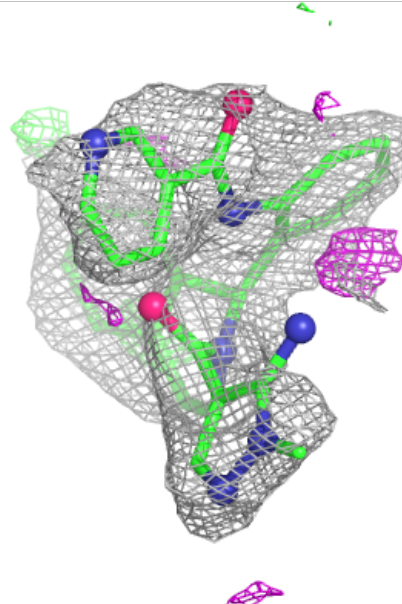
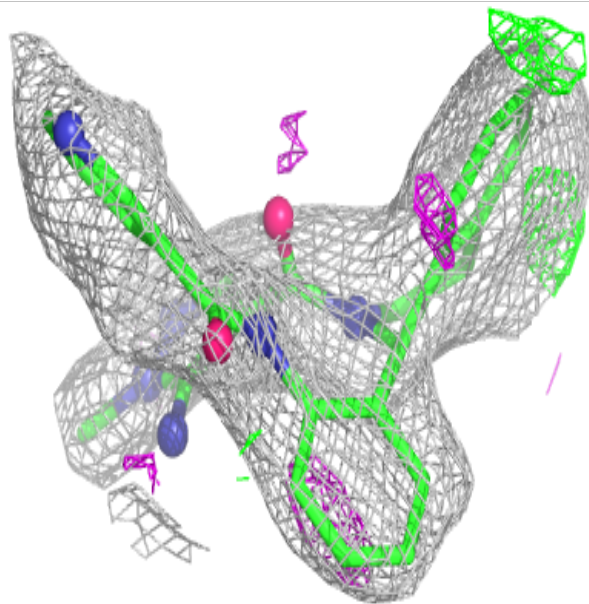
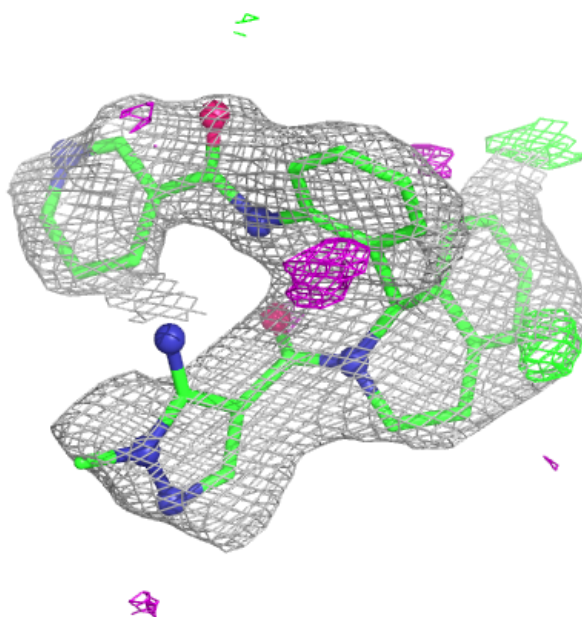
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
4	SO4	A	305	5/5	0.97	0.14	24,25,31,32	0
3	AR6	D	302	36/36	0.98	0.05	17,22,25,27	0
3	AR6	E	302	36/36	0.98	0.04	10,12,15,16	0
2	ZN	A	301	1/1	0.98	0.03	36,36,36,36	0
2	ZN	C	301	1/1	0.98	0.03	38,38,38,38	0
3	AR6	A	302	36/36	0.98	0.04	9,11,14,16	0
3	AR6	B	302	36/36	0.98	0.05	14,19,24,26	0
3	AR6	C	302	36/36	0.98	0.05	14,15,17,18	0
2	ZN	E	301	1/1	0.99	0.02	35,35,35,35	0
2	ZN	F	302	1/1	0.99	0.03	41,41,41,41	0
2	ZN	B	301	1/1	0.99	0.03	57,57,57,57	0
2	ZN	D	301	1/1	0.99	0.02	43,43,43,43	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.

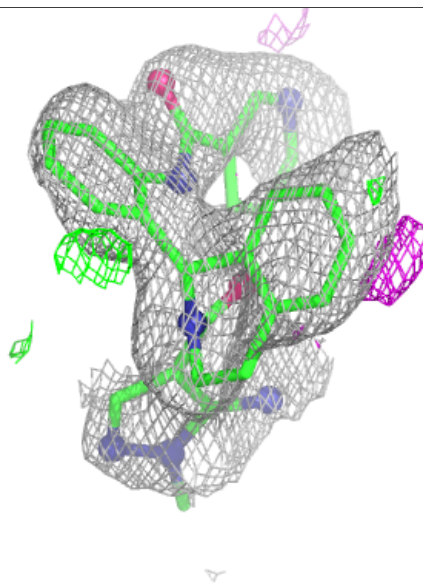
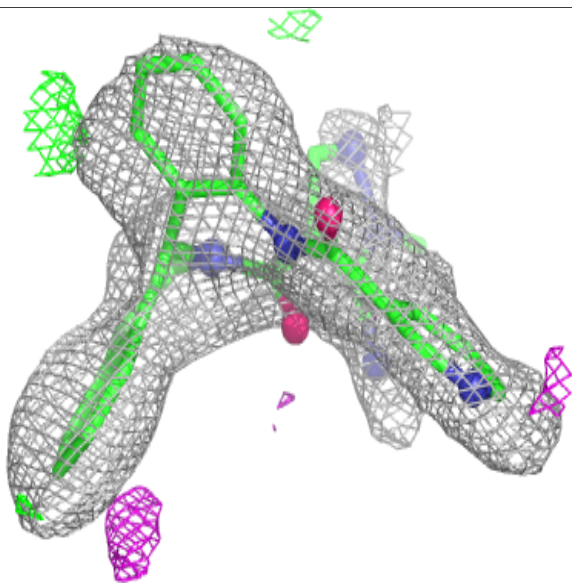
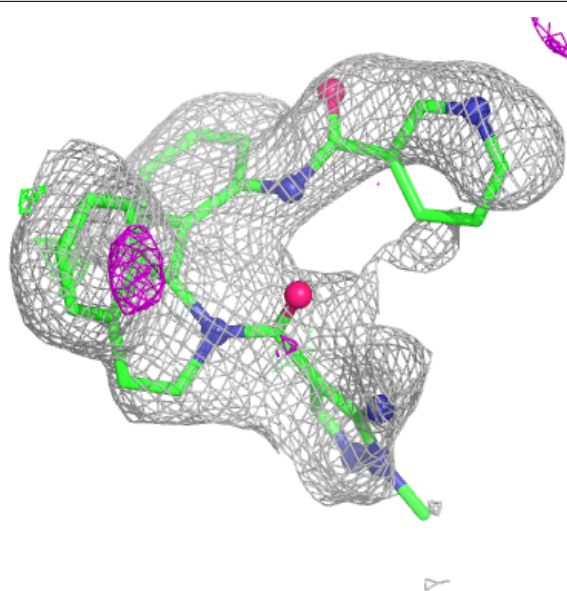
Electron density around A1JQU B 306:

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



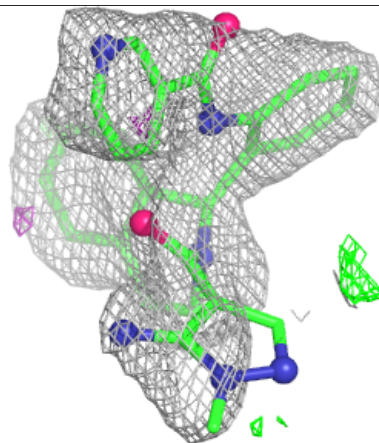
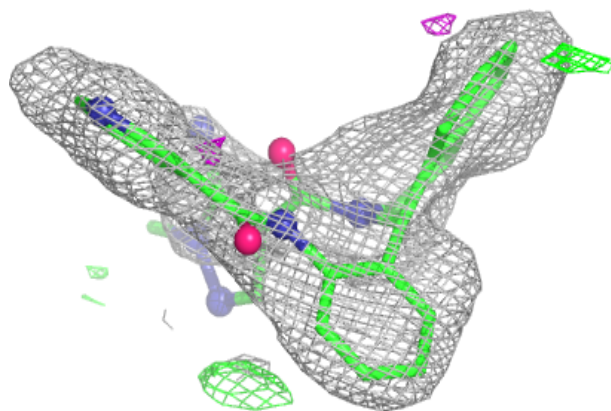
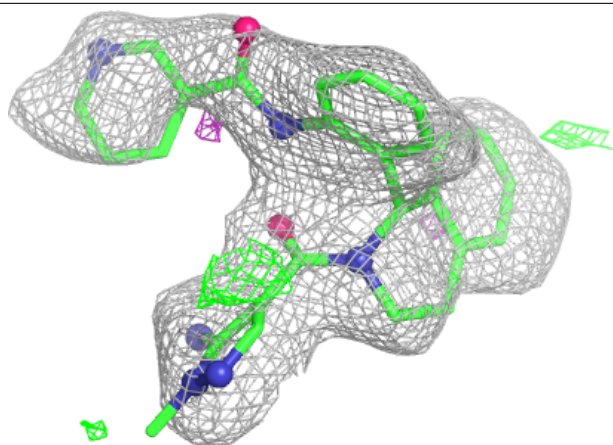
Electron density around A1JQU C 307:

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



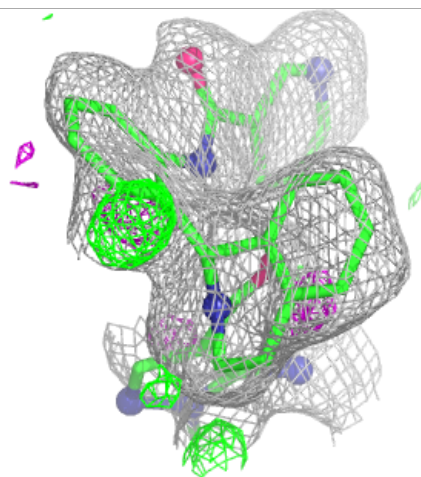
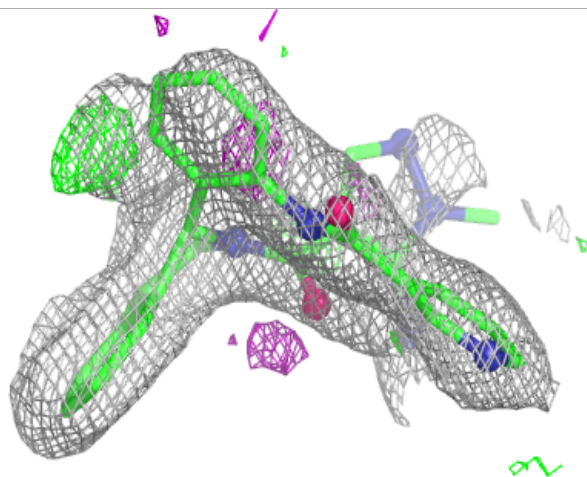
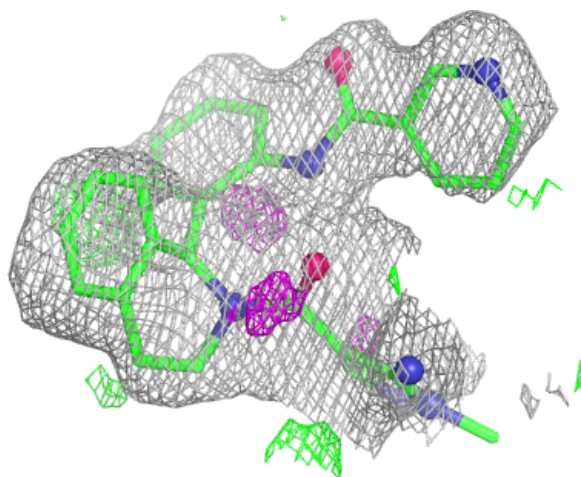
Electron density around A1JQU F 308:

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



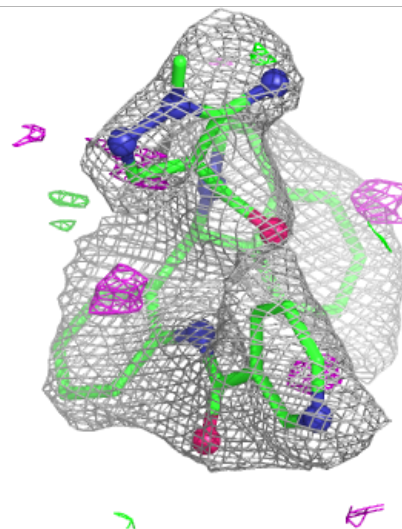
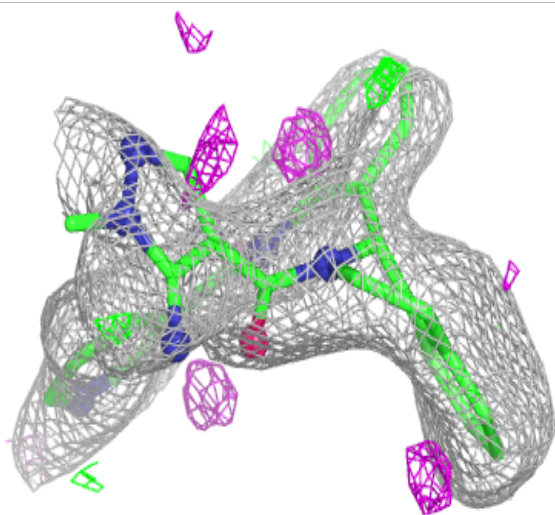
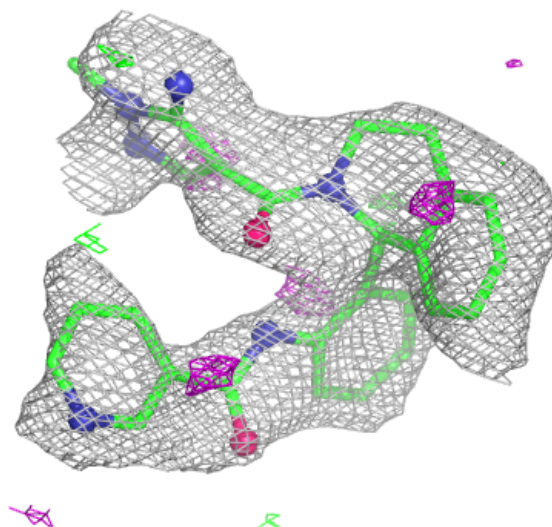
Electron density around A1JQU E 307:

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



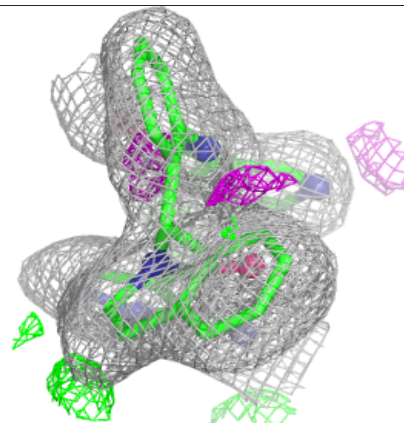
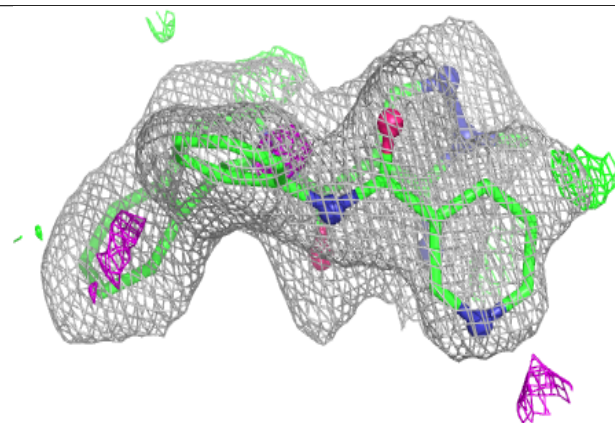
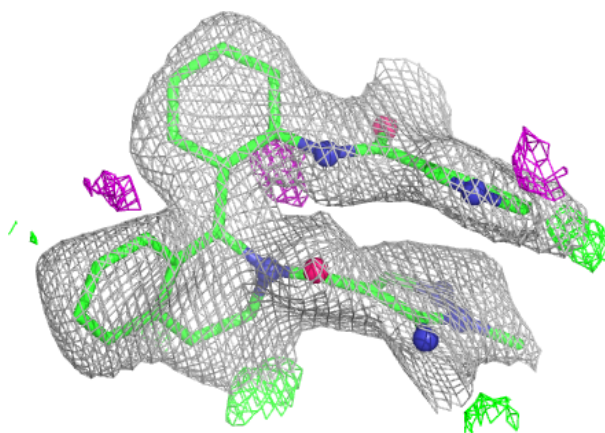
Electron density around A1JQU D 306:

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



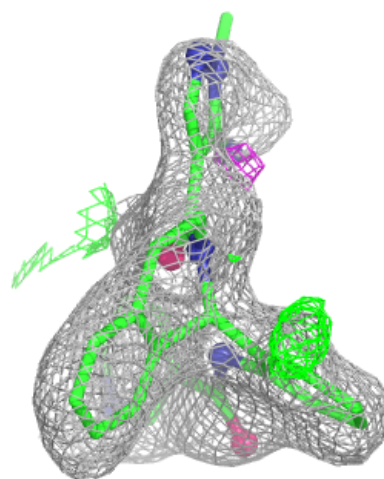
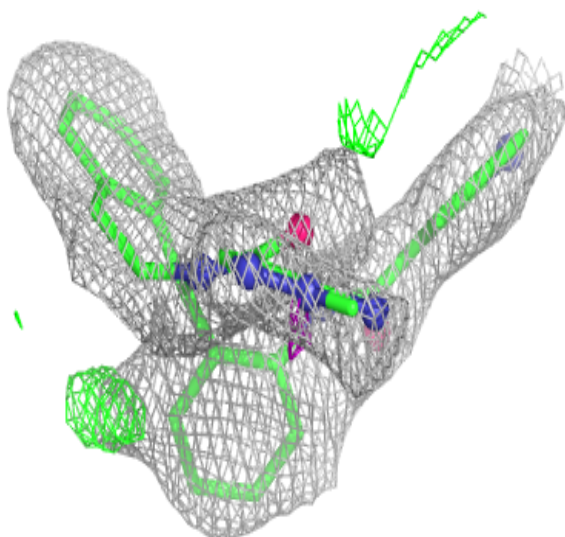
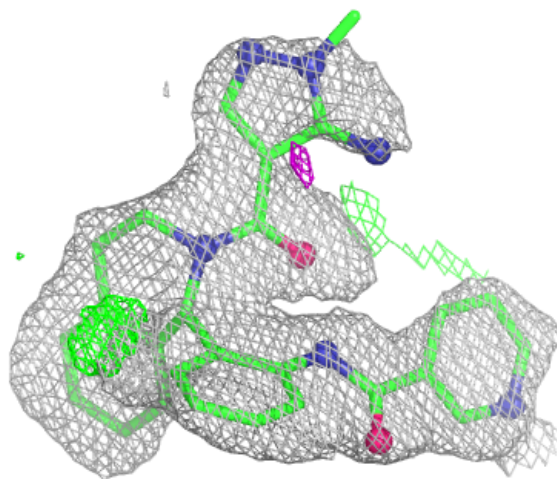
Electron density around A1JQU A 308:

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



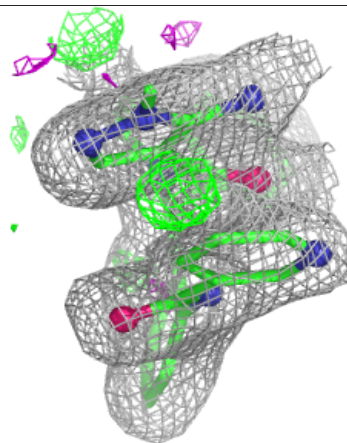
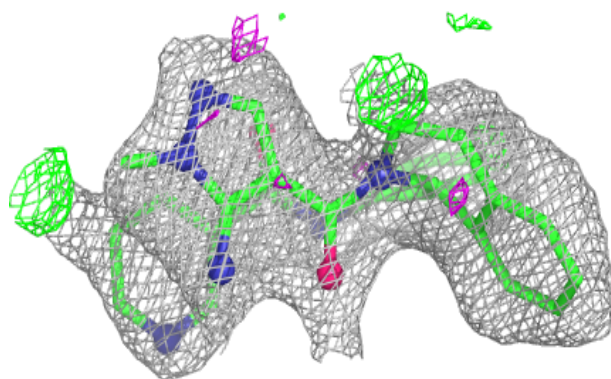
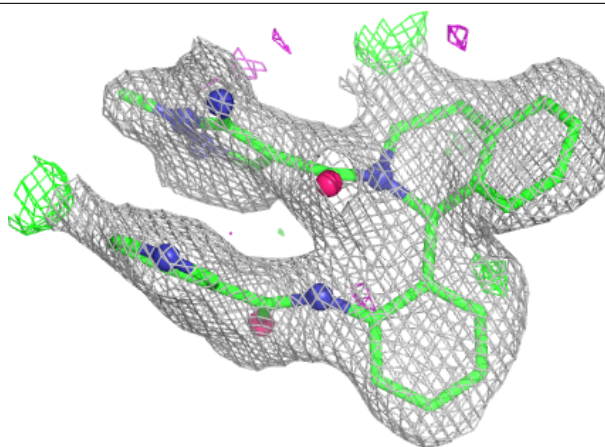
Electron density around A1JQU A 307:

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

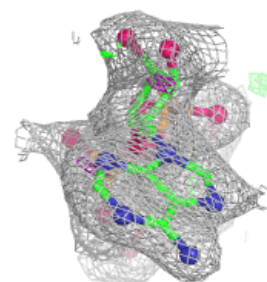
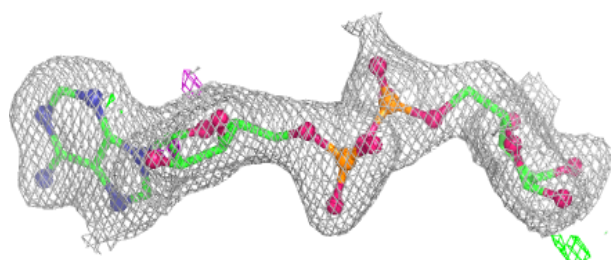
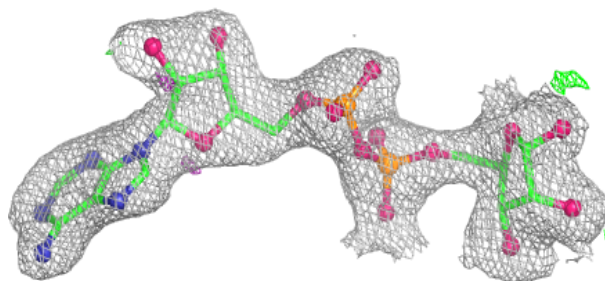


Electron density around A1JQU E 308:

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

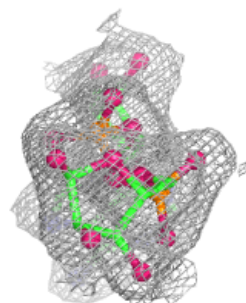
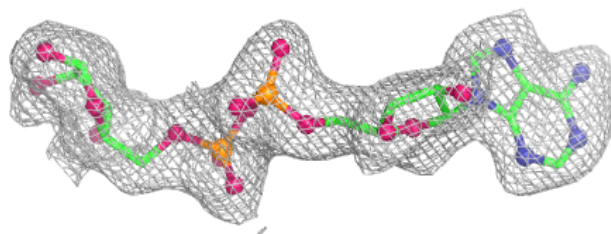
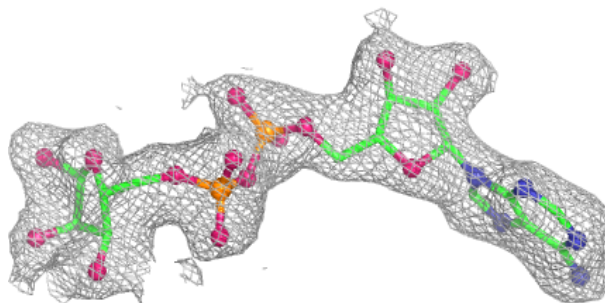
**Electron density around AR6 F 303:**

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

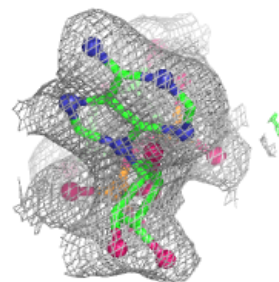
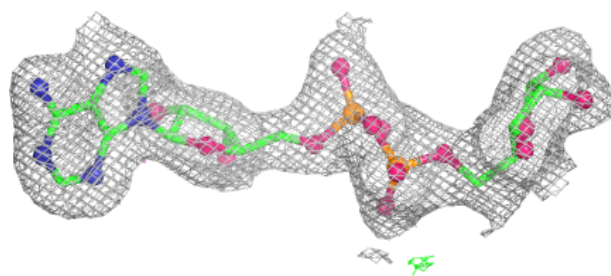
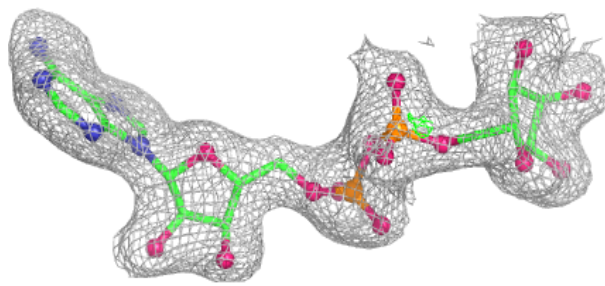


Electron density around AR6 D 302:

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

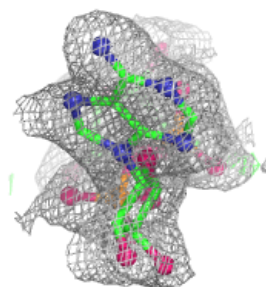
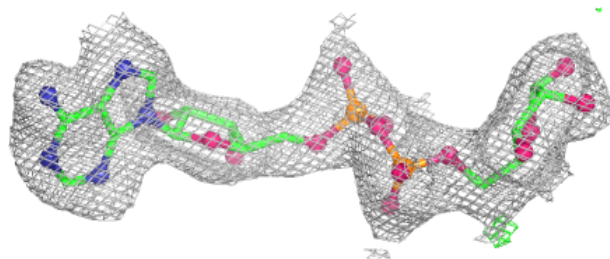
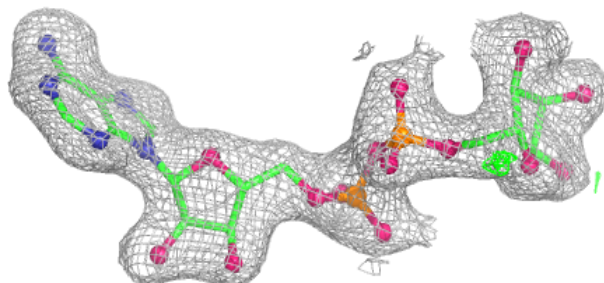
**Electron density around AR6 E 302:**

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

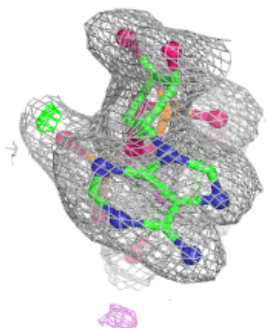
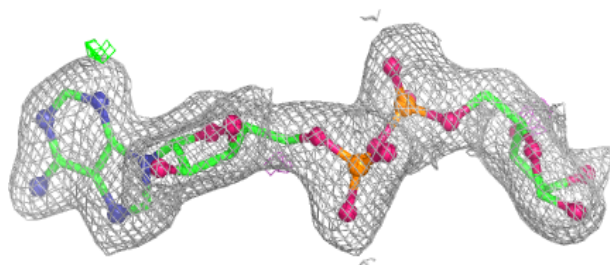
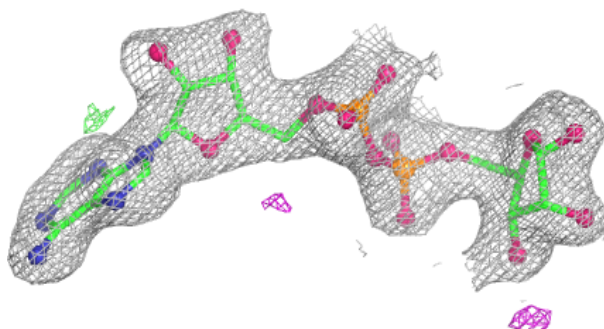


Electron density around AR6 A 302:

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

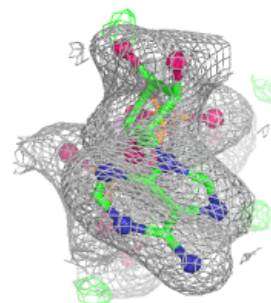
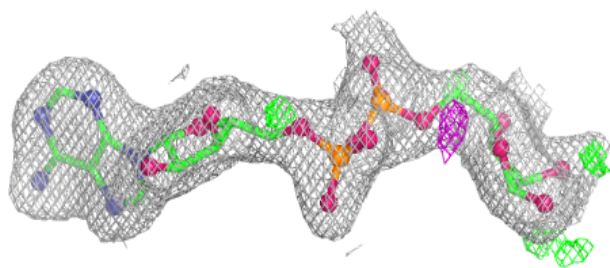
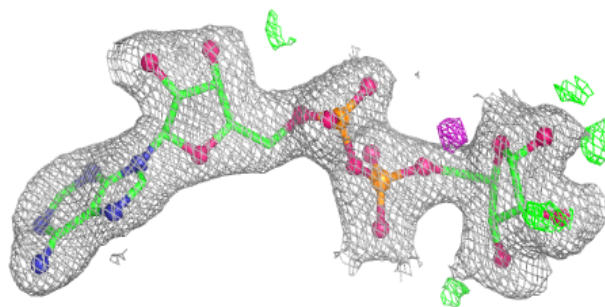
**Electron density around AR6 B 302:**

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



Electron density around AR6 C 302:

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



6.5 Other polymers [i](#)

There are no such residues in this entry.