



Full wwPDB X-ray Structure Validation Report ⓘ

Apr 19, 2026 – 01:14 AM UTC

PDB ID : 5SCH / pdb_00005sch
Title : Structure of liver pyruvate kinase in complex with anthraquinone derivative 100
Authors : Lulla, A.; Foller, A.; Nain-Perez, A.; Grotli, M.; Brear, P.; Hyvonen, M.
Deposited on : 2021-12-01
Resolution : 2.09 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

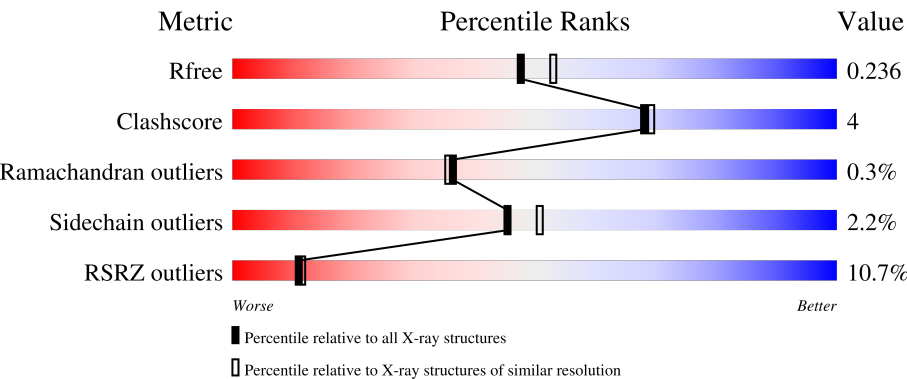
MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.09 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 $\leq 5\%$. 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	447	18% 81%11%7%
1	B	447	32% 88%8%..
1	C	447	6% 83%11%5%
1	D	447	3% 83%11%.5%
1	E	447	11% 83%10%6%

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Mol	Chain	Length	Quality of chain
1	F	447	 7% 86% 10% • •
1	G	447	 2% 82% 11% • 6%
1	H	447	 3% 86% 9% • 5%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	OXL	A	602	-	X	-	-
3	OXL	B	602	-	X	-	-
3	OXL	C	602	-	X	-	-
3	OXL	D	602	-	X	-	-
3	OXL	E	602	-	X	-	-
3	OXL	F	602	-	X	-	-
3	OXL	G	602	-	X	-	-
3	OXL	H	602	-	X	-	-

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 28250 atoms, of which 52 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 Pyruvate kinase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	417	Total	C	N	O	S	0	13	0
			3234	2031	580	603	20			
1	B	435	Total	C	N	O	S	3	8	0
			3346	2102	603	621	20			
1	C	424	Total	C	N	O	S	0	8	0
			3263	2053	584	607	19			
1	D	425	Total	C	N	O	S	0	8	0
			3261	2048	590	604	19			
1	E	420	Total	C	N	O	S	0	13	0
			3261	2051	585	605	20			
1	F	432	Total	C	N	O	S	0	8	0
			3327	2094	597	616	20			
1	G	422	Total	C	N	O	S	0	8	0
			3251	2044	586	602	19			
1	H	425	Total	C	N	O	S	0	8	0
			3274	2055	597	603	19			

There are 48 discrepancies between the modelled and reference sequences:

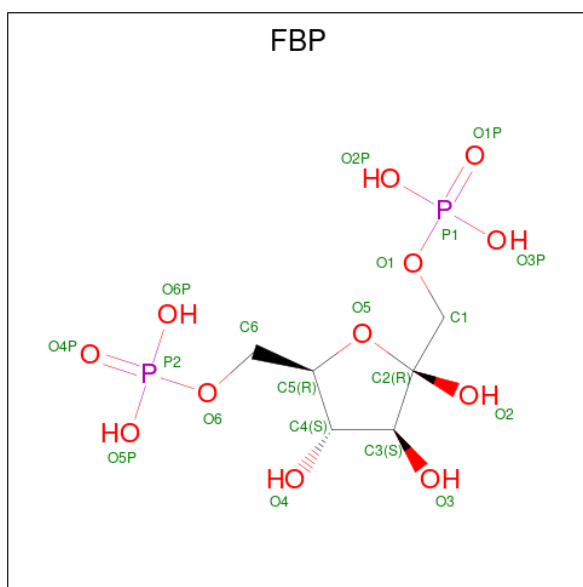
Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP Q16716
A	0	SER	-	expression tag	UNP Q16716
A	12	ASP	SER	conflict	UNP Q16716
A	130	GLY	-	linker	UNP Q16716
A	131	SER	-	linker	UNP Q16716
A	230	GLY	-	linker	UNP Q16716
B	-1	GLY	-	expression tag	UNP Q16716
B	0	SER	-	expression tag	UNP Q16716
B	12	ASP	SER	conflict	UNP Q16716
B	130	GLY	-	linker	UNP Q16716
B	131	SER	-	linker	UNP Q16716
B	230	GLY	-	linker	UNP Q16716
C	-1	GLY	-	expression tag	UNP Q16716

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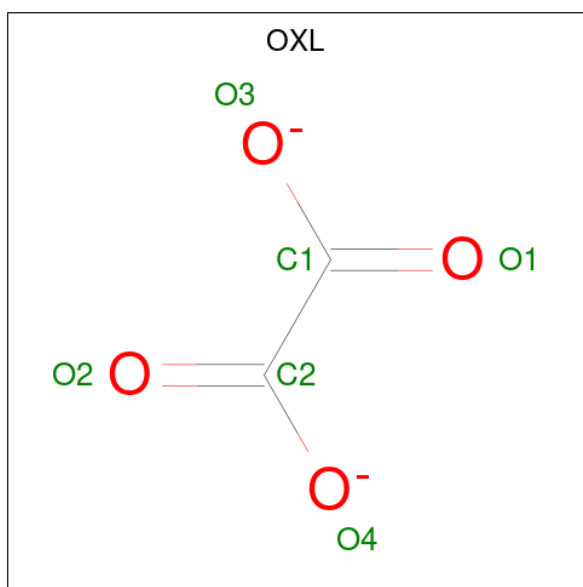
Chain	Residue	Modelled	Actual	Comment	Reference
C	0	SER	-	expression tag	UNP Q16716
C	12	ASP	SER	conflict	UNP Q16716
C	228	GLY	-	linker	UNP Q16716
C	229	SER	-	linker	UNP Q16716
C	230	GLY	-	linker	UNP Q16716
D	-1	GLY	-	expression tag	UNP Q16716
D	0	SER	-	expression tag	UNP Q16716
D	12	ASP	SER	conflict	UNP Q16716
D	130	GLY	-	linker	UNP Q16716
D	131	SER	-	linker	UNP Q16716
D	132	GLY	-	linker	UNP Q16716
E	-1	GLY	-	expression tag	UNP Q16716
E	0	SER	-	expression tag	UNP Q16716
E	12	ASP	SER	conflict	UNP Q16716
E	130	GLY	-	linker	UNP Q16716
E	229	SER	-	linker	UNP Q16716
E	230	GLY	-	linker	UNP Q16716
F	-1	GLY	-	expression tag	UNP Q16716
F	0	SER	-	expression tag	UNP Q16716
F	12	ASP	SER	conflict	UNP Q16716
F	228	GLY	-	linker	UNP Q16716
F	229	SER	-	linker	UNP Q16716
F	230	GLY	-	linker	UNP Q16716
G	-1	GLY	-	expression tag	UNP Q16716
G	0	SER	-	expression tag	UNP Q16716
G	12	ASP	SER	conflict	UNP Q16716
G	228	GLY	-	linker	UNP Q16716
G	229	SER	-	linker	UNP Q16716
G	230	GLY	-	linker	UNP Q16716
H	-1	GLY	-	expression tag	UNP Q16716
H	0	SER	-	expression tag	UNP Q16716
H	12	ASP	SER	conflict	UNP Q16716
H	130	GLY	-	linker	UNP Q16716
H	131	SER	-	linker	UNP Q16716
H	132	GLY	-	linker	UNP Q16716

- Molecule 2 is 1,6-di-O-phosphono-beta-D-fructofuranose (CCD ID: FBP) (formula: $C_6H_{14}O_{12}P_2$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	O	P	0	0
			20	6	12	2		
2	B	1	Total	C	O	P	0	0
			20	6	12	2		
2	C	1	Total	C	O	P	0	0
			20	6	12	2		
2	D	1	Total	C	O	P	0	0
			20	6	12	2		
2	E	1	Total	C	O	P	0	0
			20	6	12	2		
2	F	1	Total	C	O	P	0	0
			20	6	12	2		
2	G	1	Total	C	O	P	0	0
			20	6	12	2		
2	H	1	Total	C	O	P	0	0
			20	6	12	2		

- Molecule 3 is OXALATE ION (CCD ID: OXL) (formula: C_2O_4).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			6	2	4		
3	B	1	Total	C	O	0	0
			6	2	4		
3	C	1	Total	C	O	0	0
			6	2	4		
3	D	1	Total	C	O	0	0
			6	2	4		
3	E	1	Total	C	O	0	0
			6	2	4		
3	F	1	Total	C	O	0	0
			6	2	4		
3	G	1	Total	C	O	0	0
			6	2	4		
3	H	1	Total	C	O	0	0
			6	2	4		

- Molecule 4 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

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

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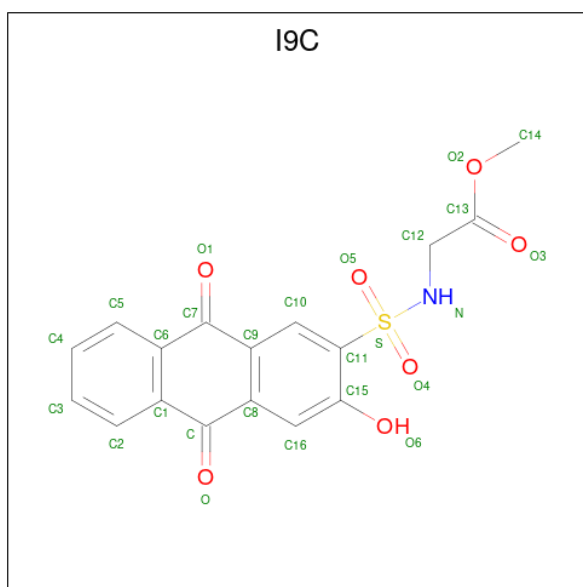
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	E	1	Total 1	Mg 1	0	0
4	F	1	Total 1	Mg 1	0	0
4	G	1	Total 1	Mg 1	0	0
4	H	1	Total 1	Mg 1	0	0

- Molecule 5 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	1	Total 1	K 1	0	0
5	B	1	Total 1	K 1	0	0
5	C	1	Total 1	K 1	0	0
5	D	1	Total 1	K 1	0	0
5	E	1	Total 1	K 1	0	0
5	F	1	Total 1	K 1	0	0
5	G	1	Total 1	K 1	0	0
5	H	1	Total 1	K 1	0	0

- Molecule 6 is methyl N-(3-hydroxy-9,10-dioxo-9,10-dihydroanthracene-2-sulfonyl)glycinate (CCD ID: I9C) (formula: C₁₇H₁₃NO₇S) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
6	C	1	Total 39	C 17	H 13	N 1	O 7	S 1	13	0
6	E	1	Total 39	C 17	H 13	N 1	O 7	S 1	13	0
6	F	1	Total 39	C 17	H 13	N 1	O 7	S 1	13	0
6	G	1	Total 39	C 17	H 13	N 1	O 7	S 1	13	0

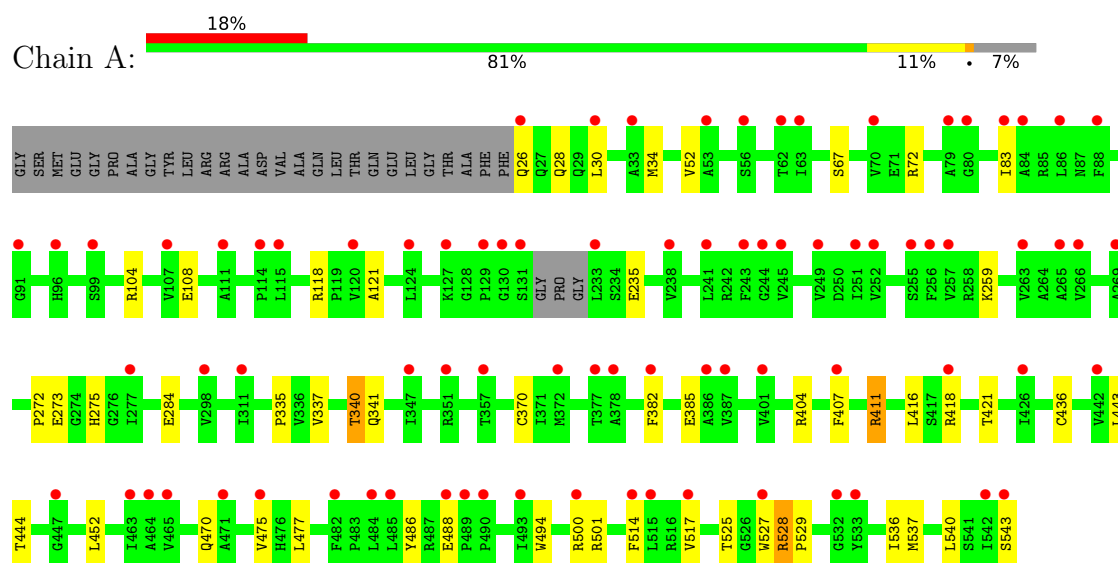
- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	103	Total	O	0	0
			103	103		
7	B	103	Total	O	0	0
			103	103		
7	C	220	Total	O	0	0
			220	220		
7	D	289	Total	O	0	0
			289	289		
7	E	147	Total	O	0	0
			147	147		
7	F	187	Total	O	0	0
			187	187		
7	G	271	Total	O	0	0
			271	271		
7	H	333	Total	O	0	0
			333	333		

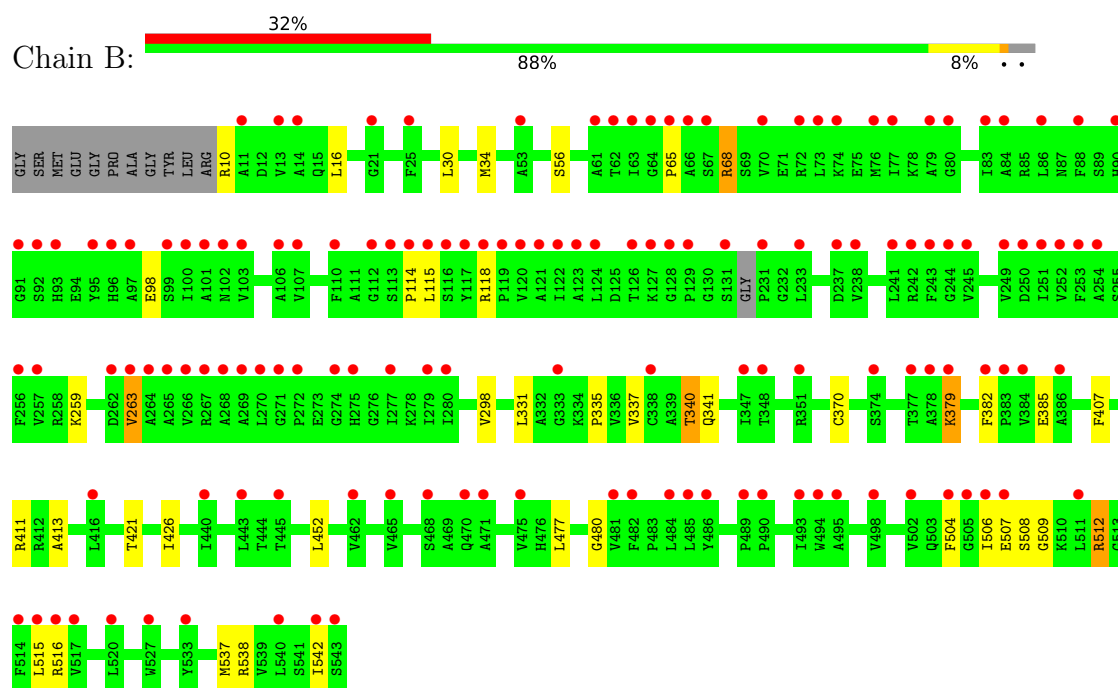
3 Residue-property plots [i](#)

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.

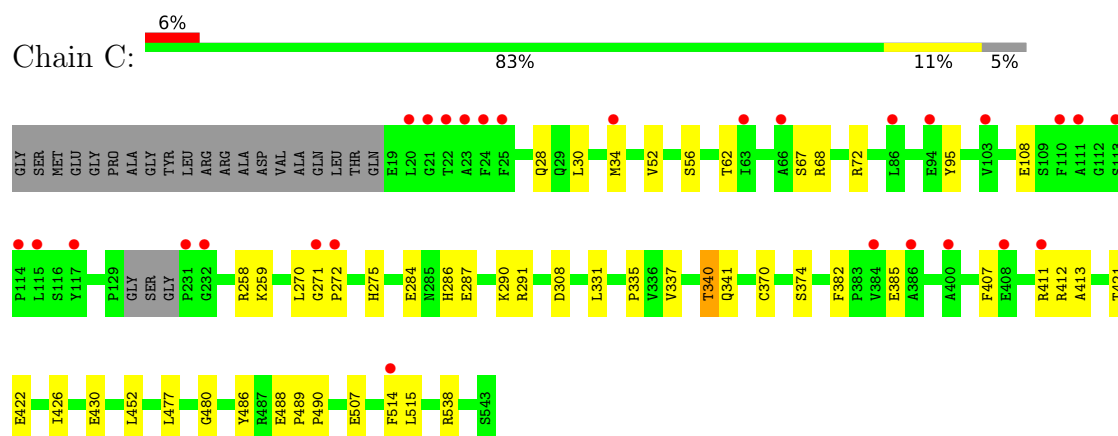
• Molecule 1: Pyruvate kinase



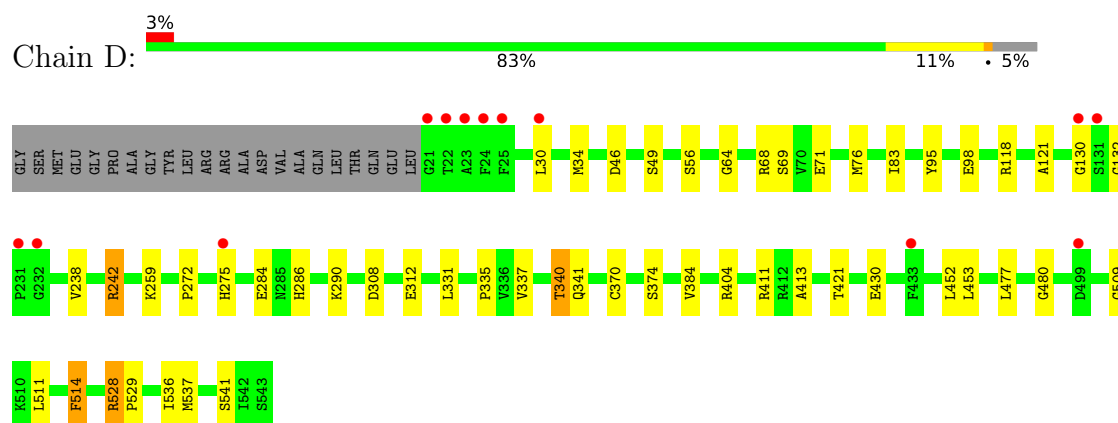
• Molecule 1: Pyruvate kinase



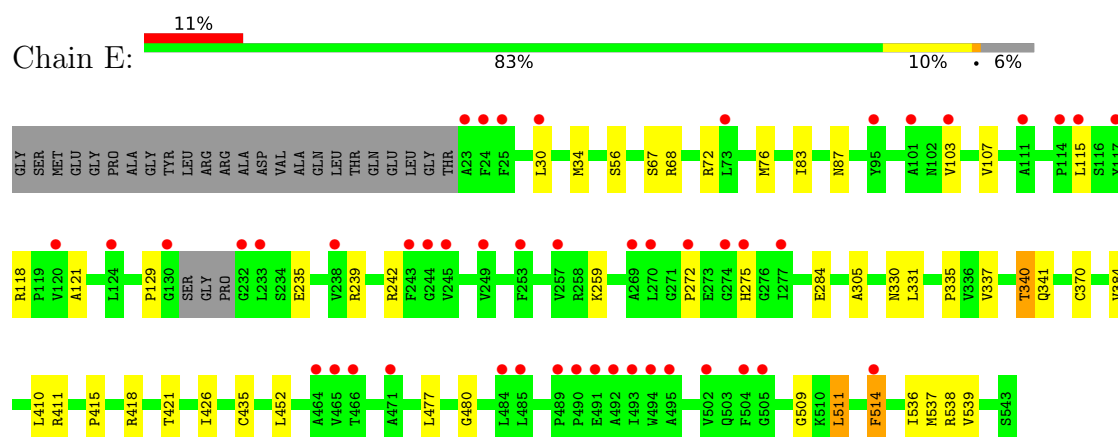
- Molecule 1: Pyruvate kinase



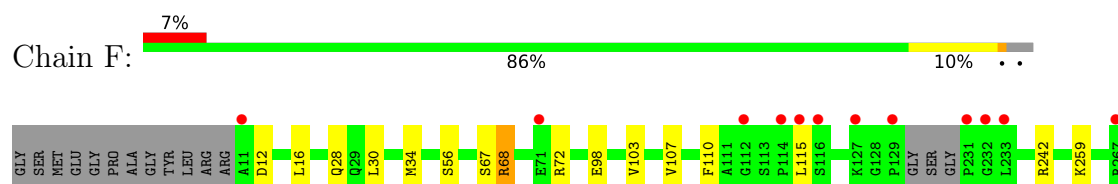
- Molecule 1: Pyruvate kinase



- Molecule 1: Pyruvate kinase

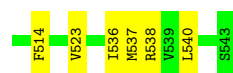
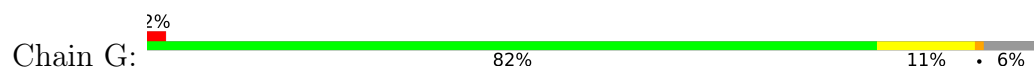


- Molecule 1: Pyruvate kinase

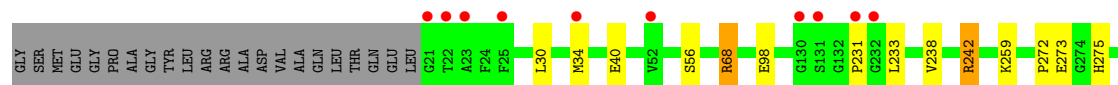
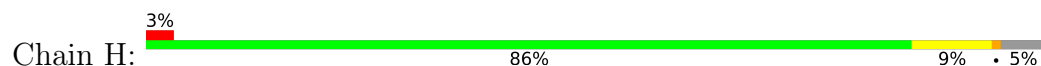




● Molecule 1: Pyruvate kinase



● Molecule 1: Pyruvate kinase



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	209.02Å 113.39Å 189.60Å 90.00° 91.33° 90.00°	Depositor
Resolution (Å)	40.73 – 2.09 40.73 – 2.09	Depositor EDS
% Data completeness (in resolution range)	66.3 (40.73-2.09) 66.3 (40.73-2.09)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.56 (at 2.08Å)	Xtriage
Refinement program	BUSTER 2.10.4 (16-JUL-2021)	Depositor
R, R_{free}	0.213 , 0.246 0.204 , 0.236	Depositor DCC
R_{free} test set	8815 reflections (3.37%)	wwPDB-VP
Wilson B-factor (Å ²)	40.3	Xtriage
Anisotropy	0.035	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 43.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	0.000 for -h,-k,l	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	28250	wwPDB-VP
Average B, all atoms (Å ²)	51.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 52.95 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 4.5201e-05. 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: I9C, OXL, FBP, K, MG

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	0.70	0/3324	1.04	3/4492 (0.1%)
1	B	0.68	0/3424	1.02	0/4627
1	C	0.77	1/3341 (0.0%)	1.06	3/4516 (0.1%)
1	D	0.79	1/3341 (0.0%)	1.07	3/4517 (0.1%)
1	E	0.69	0/3354	1.03	4/4532 (0.1%)
1	F	0.73	0/3405	1.05	2/4603 (0.0%)
1	G	0.80	0/3326	1.06	4/4495 (0.1%)
1	H	0.82	1/3351 (0.0%)	1.07	7/4529 (0.2%)
All	All	0.75	3/26866 (0.0%)	1.05	26/36311 (0.1%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	H	303	MET	SD-CE	-6.53	1.63	1.79
1	D	374	SER	CA-C	6.04	1.55	1.52
1	C	374	SER	CA-C	5.32	1.55	1.52

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	26	GLN	CA-C-N	6.59	132.76	121.29
1	A	26	GLN	C-N-CA	6.59	132.76	121.29
1	C	507	GLU	CB-CG-CD	6.25	123.22	112.60
1	G	514	PHE	CA-CB-CG	6.17	119.97	113.80
1	C	514	PHE	CA-CB-CG	6.10	119.90	113.80
1	H	496	ASP	CA-CB-CG	5.97	118.57	112.60
1	H	514	PHE	CA-CB-CG	5.73	119.53	113.80
1	D	514	PHE	CA-CB-CG	5.64	119.44	113.80
1	G	273	GLU	CB-CG-CD	5.58	122.08	112.60
1	H	40	GLU	CB-CG-CD	5.53	122.00	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	514	PHE	CA-CB-CG	5.52	119.32	113.80
1	E	330	ASN	CA-CB-CG	5.48	118.08	112.60
1	E	514	PHE	CA-CB-CG	5.46	119.25	113.80
1	G	270	LEU	CA-C-N	5.33	130.24	121.87
1	G	270	LEU	C-N-CA	5.33	130.24	121.87
1	C	515	LEU	N-CA-C	5.28	117.85	109.50
1	H	453	LEU	CA-C-N	5.23	127.28	120.28
1	H	453	LEU	C-N-CA	5.23	127.28	120.28
1	H	339	ALA	CA-C-N	5.19	131.45	121.54
1	H	339	ALA	C-N-CA	5.19	131.45	121.54
1	F	514	PHE	CA-CB-CG	5.15	118.95	113.80
1	F	110	PHE	CA-CB-CG	5.14	118.94	113.80
1	D	453	LEU	CA-C-N	5.06	127.57	120.28
1	D	453	LEU	C-N-CA	5.06	127.57	120.28
1	E	410	LEU	CA-C-N	5.01	127.25	120.38
1	E	410	LEU	C-N-CA	5.01	127.25	120.38

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	3234	0	3309	26	0
1	B	3346	0	3414	23	0
1	C	3263	0	3325	32	0
1	D	3261	0	3321	28	0
1	E	3261	0	3326	23	0
1	F	3327	0	3399	26	0
1	G	3251	0	3314	36	0
1	H	3274	0	3336	23	0
2	A	20	0	10	2	0
2	B	20	0	10	0	0
2	C	20	0	10	0	0
2	D	20	0	10	0	0
2	E	20	0	10	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	F	20	0	10	0	0
2	G	20	0	10	0	0
2	H	20	0	10	0	0
3	A	6	0	0	0	0
3	B	6	0	0	0	0
3	C	6	0	0	0	0
3	D	6	0	0	0	0
3	E	6	0	0	0	0
3	F	6	0	0	0	0
3	G	6	0	0	0	0
3	H	6	0	0	0	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
4	G	1	0	0	0	0
4	H	1	0	0	0	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
5	C	1	0	0	0	0
5	D	1	0	0	0	0
5	E	1	0	0	0	0
5	F	1	0	0	0	0
5	G	1	0	0	0	0
5	H	1	0	0	0	0
6	C	26	13	0	1	0
6	E	26	13	0	1	0
6	F	26	13	0	1	0
6	G	26	13	0	1	0
7	A	103	0	0	0	0
7	B	103	0	0	1	0
7	C	220	0	0	2	0
7	D	289	0	0	1	0
7	E	147	0	0	0	0
7	F	187	0	0	1	0
7	G	271	0	0	1	0
7	H	333	0	0	1	0
All	All	28198	52	26824	191	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 (191) 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:C:411:ARG:HG3	1:C:426:ILE:HD11	1.61	0.82
1:G:538:ARG:HG2	1:H:536:ILE:HG12	1.58	0.81
1:A:536:ILE:HG12	1:B:538:ARG:HG2	1.62	0.81
1:C:422[A]:GLU:HG3	1:C:452:LEU:HD13	1.63	0.79
1:G:422[A]:GLU:HG3	1:G:452:LEU:HD13	1.65	0.79
1:E:418[B]:ARG:HG3	1:F:16:LEU:HD11	1.68	0.76
1:G:536:ILE:HG12	1:H:538[A]:ARG:HG2	1.70	0.72
1:A:528:ARG:HD2	1:A:529:PRO:O	1.91	0.70
1:D:64:GLY:O	1:D:68:ARG:HG3	1.91	0.70
1:E:538:ARG:HG2	1:F:536:ILE:HG12	1.76	0.68
1:A:418[B]:ARG:HG3	1:B:16:LEU:HD11	1.73	0.68
1:G:411:ARG:HH21	1:H:411:ARG:NH2	1.92	0.67
1:G:537:MET:HE3	1:H:537:MET:HG2	1.77	0.67
1:A:272:PRO:HA	1:A:275:HIS:NE2	2.09	0.67
1:E:536:ILE:HG12	1:F:538:ARG:HG2	1.75	0.67
1:D:528:ARG:HD2	1:D:529:PRO:O	1.95	0.66
1:E:115:LEU:HB3	1:E:511:LEU:HD12	1.78	0.65
1:F:407:PHE:CE2	1:F:411:ARG:NH1	2.64	0.64
1:C:271:GLY:O	1:C:275:HIS:CE1	2.52	0.63
1:F:115:LEU:HD21	1:F:511:LEU:HB3	1.81	0.62
1:E:411:ARG:HG3	1:E:426:ILE:HD11	1.80	0.62
1:A:517:VAL:HG22	1:A:543:SER:HB3	1.82	0.62
1:B:509:GLY:HA3	1:B:515:LEU:HD12	1.82	0.61
1:G:129:PRO:HB2	1:G:231:PRO:HD2	1.82	0.61
1:A:501:ARG:NH1	2:A:601:FBP:O2P	2.28	0.59
1:B:407:PHE:CE2	1:B:411:ARG:NH1	2.69	0.58
1:D:68:ARG:NH2	1:D:95:TYR:O	2.36	0.58
1:E:83:ILE:HG12	1:E:121:ALA:HB3	1.85	0.58
1:E:235:GLU:O	1:E:239:ARG:HD3	2.04	0.57
1:F:68:ARG:NH2	1:F:98:GLU:HB3	2.19	0.57
1:C:62:THR:HG21	6:C:603:I9C:O4	2.06	0.56
1:A:407:PHE:CE2	1:A:411:ARG:NH1	2.73	0.55
1:D:331:LEU:HD11	1:D:413:ALA:HB1	1.89	0.54
1:C:538:ARG:HG2	1:D:536:ILE:HG12	1.90	0.54
1:E:103:VAL:O	1:E:107:VAL:HG23	2.07	0.54
1:G:331:LEU:HD11	1:G:413:ALA:HB1	1.90	0.53
1:D:68:ARG:HH22	1:D:98:GLU:HB2	1.74	0.53
1:B:382:PHE:HB3	1:B:385:GLU:HB2	1.90	0.53
1:D:69:SER:OG	1:D:71[B]:GLU:HG2	2.09	0.53
1:E:415:PRO:HB3	1:F:12:ASP:HA	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:68:ARG:NH2	1:B:98:GLU:HB3	2.24	0.53
1:G:56:SER:HB2	1:G:480:GLY:HA2	1.91	0.52
1:G:374[B]:SER:OG	6:G:603:I9C:O5	2.28	0.52
1:C:486:TYR:CZ	1:C:488:GLU:HB2	2.45	0.51
1:G:412:ARG:NH2	1:H:404:ARG:HD3	2.26	0.51
1:A:411:ARG:NH2	1:B:411:ARG:NH2	2.58	0.51
1:A:67:SER:HA	1:A:72:ARG:HG2	1.92	0.51
1:C:287:GLU:HG2	1:C:291:ARG:HD2	1.93	0.51
1:A:443:LEU:HD22	1:A:525:THR:HG22	1.93	0.51
1:F:56:SER:HB2	1:F:480:GLY:HA2	1.93	0.50
1:H:331:LEU:HD11	1:H:413:ALA:HB1	1.93	0.50
1:H:56:SER:HB2	1:H:480:GLY:HA2	1.93	0.50
1:G:412:ARG:NH2	1:H:404:ARG:HH11	2.10	0.50
1:G:340:THR:HG22	1:G:341:GLN:HG3	1.94	0.50
1:B:411:ARG:HG2	1:B:426:ILE:HD11	1.93	0.50
1:C:340:THR:HG22	1:C:341:GLN:HG3	1.94	0.50
1:C:411:ARG:HH12	1:D:411:ARG:NH2	2.10	0.50
1:H:68:ARG:NH2	1:H:98:GLU:HB2	2.27	0.50
1:A:340:THR:HG22	1:A:341:GLN:HG3	1.92	0.49
1:A:404:ARG:HD3	7:B:762:HOH:O	2.11	0.49
1:D:272:PRO:HA	1:D:275[A]:HIS:CE1	2.48	0.49
1:F:67:SER:HA	1:F:72:ARG:HG2	1.95	0.49
1:A:444:THR:HA	2:A:601:FBP:H61	1.94	0.49
1:G:411:ARG:HH21	1:H:411:ARG:HH21	1.59	0.49
1:B:263:VAL:HG21	1:B:298:VAL:HG23	1.94	0.49
1:G:269:ALA:C	1:G:271:GLY:H	2.20	0.49
1:B:56:SER:HB2	1:B:480:GLY:HA2	1.95	0.49
1:B:114:PRO:HB3	1:B:504:PHE:CE1	2.47	0.49
1:D:340:THR:HG22	1:D:341:GLN:HG3	1.95	0.48
1:C:56:SER:HB2	1:C:480:GLY:HA2	1.96	0.48
1:G:258:ARG:HD3	7:G:731:HOH:O	2.13	0.48
1:B:263:VAL:HG11	1:B:298:VAL:HG23	1.95	0.48
1:D:56:SER:HB2	1:D:480:GLY:HA2	1.96	0.48
1:F:331:LEU:HD11	1:F:413:ALA:HB1	1.96	0.48
1:F:30:LEU:O	1:F:34:MET:HG2	2.14	0.47
1:H:272:PRO:HA	1:H:275[A]:HIS:CE1	2.49	0.47
1:B:340:THR:HG22	1:B:341:GLN:HG3	1.94	0.47
1:C:411:ARG:HH12	1:D:411:ARG:HH21	1.61	0.47
1:E:56:SER:HB2	1:E:480:GLY:HA2	1.95	0.47
1:E:340:THR:HG22	1:E:341:GLN:HG3	1.96	0.47
1:A:30:LEU:O	1:A:34:MET:HG2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:494:TRP:CE2	1:A:529:PRO:HG3	2.49	0.47
1:B:506:ILE:HG23	1:B:542:ILE:HD12	1.95	0.47
1:E:272:PRO:HA	1:E:275[A]:HIS:CE1	2.49	0.47
1:F:317:LYS:NZ	7:F:703:HOH:O	2.47	0.47
1:E:509:GLY:HA2	1:E:514:PHE:HD2	1.80	0.47
1:H:68:ARG:HH22	1:H:98:GLU:HB2	1.80	0.47
1:C:407:PHE:O	1:C:411:ARG:HB2	2.15	0.46
1:C:412:ARG:NH2	1:D:404:ARG:HH11	2.12	0.46
1:G:411:ARG:HG3	1:G:426:ILE:HD11	1.97	0.46
1:C:30:LEU:O	1:C:34:MET:HG2	2.15	0.46
1:C:108:GLU:HB3	7:C:847:HOH:O	2.15	0.46
1:D:46:ASP:HB3	1:D:49:SER:HB2	1.97	0.46
1:E:337:VAL:HG22	1:E:370:CYS:HB2	1.97	0.46
1:E:539:VAL:HG13	1:F:420:PRO:HB3	1.98	0.46
1:B:30:LEU:O	1:B:34:MET:HG2	2.15	0.46
1:E:30:LEU:O	1:E:34:MET:HG3	2.16	0.46
1:C:272:PRO:HD3	1:G:446:THR:HG22	1.98	0.46
1:B:407:PHE:CD2	1:B:411:ARG:NH1	2.85	0.45
1:C:337:VAL:HG22	1:C:370:CYS:HB2	1.99	0.45
1:G:423:VAL:HG21	1:H:435:CYS:HB3	1.97	0.45
1:H:30:LEU:O	1:H:34:MET:HG2	2.17	0.45
1:C:67:SER:HA	1:C:72:ARG:HG2	1.97	0.45
1:D:509:GLY:HA2	1:D:514:PHE:HD2	1.82	0.45
1:G:28:GLN:HB3	1:G:52:VAL:HG22	1.99	0.45
1:B:508:SER:O	1:B:512:ARG:HB2	2.17	0.45
1:G:30:LEU:O	1:G:34:MET:HG2	2.17	0.45
1:A:421:THR:HG22	1:A:452:LEU:HD12	1.99	0.45
1:B:331:LEU:HD11	1:B:413:ALA:HB1	1.98	0.44
1:D:130:GLY:C	1:D:132:GLY:H	2.24	0.44
1:H:238:VAL:O	1:H:242[B]:ARG:HG3	2.17	0.44
1:H:337:VAL:HG22	1:H:370:CYS:HB2	1.99	0.44
1:A:337:VAL:HG22	1:A:370:CYS:HB2	1.98	0.44
1:D:337:VAL:HG22	1:D:370:CYS:HB2	2.00	0.44
1:D:83:ILE:HG12	1:D:121:ALA:HB3	1.98	0.44
1:A:335:PRO:HB3	1:A:477:LEU:O	2.17	0.44
1:F:379:LYS:HE3	6:F:603:I9C:O	2.18	0.44
1:D:30:LEU:O	1:D:34:MET:HG3	2.18	0.44
1:E:335:PRO:HB3	1:E:477:LEU:O	2.17	0.44
1:G:337:VAL:HG22	1:G:370:CYS:HB2	2.00	0.43
1:G:486:TYR:CZ	1:G:488:GLU:HB2	2.53	0.43
1:H:340:THR:HG22	1:H:341:GLN:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:67:SER:HA	1:E:72:ARG:HG2	2.00	0.43
1:F:340:THR:HG22	1:F:341:GLN:HG3	2.00	0.43
1:G:68:ARG:NH2	1:G:98:GLU:HB3	2.34	0.43
1:G:421:THR:HG22	1:G:452:LEU:HD12	2.01	0.43
1:C:538:ARG:HD3	7:C:752:HOH:O	2.18	0.43
1:A:416:LEU:HB3	1:B:16:LEU:HD22	2.00	0.43
1:B:335:PRO:HB3	1:B:477:LEU:O	2.18	0.43
1:C:421:THR:HG22	1:C:452:LEU:HD12	2.00	0.43
1:G:435:CYS:HB3	1:H:423:VAL:HG21	1.99	0.43
1:B:337:VAL:HG22	1:B:370:CYS:HB2	2.00	0.43
1:D:238:VAL:O	1:D:242[B]:ARG:HG3	2.19	0.43
1:F:337:VAL:HG22	1:F:370:CYS:HB2	2.00	0.43
1:B:421:THR:HG22	1:B:452:LEU:HD12	2.01	0.43
1:C:331:LEU:HD11	1:C:413:ALA:HB1	2.01	0.43
1:F:28:GLN:HG3	1:F:30:LEU:HG	2.01	0.43
1:F:421:THR:HG22	1:F:452:LEU:HD12	2.01	0.42
1:H:284:GLU:HG2	1:H:305:ALA:HB3	2.01	0.42
1:C:28:GLN:HB3	1:C:52:VAL:HG22	2.01	0.42
1:C:430[B]:GLU:OE2	1:D:430[B]:GLU:OE1	2.37	0.42
1:F:335:PRO:HB3	1:F:477:LEU:O	2.19	0.42
1:G:56:SER:HB2	1:G:480:GLY:CA	2.48	0.42
1:G:67:SER:HA	1:G:72:ARG:HG2	2.01	0.42
1:C:284:GLU:HB3	1:C:308:ASP:HB2	2.02	0.42
1:B:65:PRO:HG2	1:B:379:LYS:HG2	2.01	0.42
1:A:28:GLN:HB3	1:A:52:VAL:HG22	2.01	0.42
1:A:104:ARG:O	1:A:108:GLU:HG2	2.19	0.42
1:E:435:CYS:HB3	1:F:423:VAL:HG21	2.02	0.42
1:F:68:ARG:HH22	1:F:98:GLU:HB3	1.81	0.42
1:H:421:THR:HG22	1:H:452:LEU:HD12	2.02	0.42
1:A:272:PRO:HA	1:A:275:HIS:CD2	2.55	0.42
1:C:286:HIS:CE1	1:C:290:LYS:HG3	2.55	0.42
1:D:286:HIS:CE1	1:D:290:LYS:HG3	2.55	0.42
1:G:411:ARG:CG	1:G:426:ILE:HD11	2.49	0.42
1:G:100:ILE:HG23	1:G:122:ILE:HD13	2.02	0.42
1:H:56:SER:HB2	1:H:480:GLY:CA	2.50	0.42
1:C:68:ARG:HD2	1:C:95:TYR:CZ	2.53	0.42
1:C:486:TYR:CE2	1:C:488:GLU:HB2	2.55	0.42
1:F:103:VAL:O	1:F:107:VAL:HG23	2.20	0.42
1:F:286:HIS:CE1	1:F:290:LYS:HG3	2.55	0.42
1:G:284:GLU:HG2	1:G:305:ALA:HB3	2.02	0.42
1:G:523:VAL:HG21	1:G:540[A]:LEU:HD12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:527:TRP:CE3	1:A:528:ARG:HB3	2.55	0.41
1:D:312:GLU:HB3	7:D:830:HOH:O	2.20	0.41
1:C:489:PRO:HA	1:C:490:PRO:HD3	1.91	0.41
1:F:56:SER:HB2	1:F:480:GLY:CA	2.50	0.41
1:A:486:TYR:CZ	1:A:488[B]:GLU:HB2	2.56	0.41
1:E:87:ASN:ND2	6:E:603:I9C:O5	2.34	0.41
1:F:512:ARG:HD2	1:F:514:PHE:HE1	1.86	0.41
1:G:382:PHE:HB3	1:G:385:GLU:HB2	2.02	0.41
1:E:284:GLU:HG2	1:E:305:ALA:HB3	2.03	0.41
1:G:245:VAL:CG1	1:G:273:GLU:HG2	2.50	0.41
1:G:271:GLY:O	1:G:275:HIS:CE1	2.73	0.41
1:H:335:PRO:HB3	1:H:477:LEU:O	2.21	0.41
1:D:76[B]:MET:HG2	1:D:384:VAL:HG22	2.02	0.41
1:E:76[B]:MET:HG2	1:E:384:VAL:HG22	2.03	0.41
1:E:421:THR:HG22	1:E:452:LEU:HD12	2.01	0.41
1:G:286:HIS:CE1	1:G:290:LYS:HG3	2.56	0.41
1:A:83:ILE:HG12	1:A:121:ALA:HB3	2.03	0.41
1:A:382:PHE:HB3	1:A:385:GLU:HB2	2.02	0.41
1:D:284:GLU:HB3	1:D:308:ASP:HB2	2.02	0.41
1:D:335:PRO:HB3	1:D:477:LEU:O	2.21	0.41
1:F:382:PHE:HB3	1:F:385:GLU:HB2	2.02	0.41
1:H:233:LEU:HD12	7:H:740:HOH:O	2.21	0.41
1:C:335:PRO:HB3	1:C:477:LEU:O	2.21	0.40
1:C:382:PHE:HB3	1:C:385:GLU:HB2	2.03	0.40
1:C:56:SER:HB2	1:C:480:GLY:CA	2.52	0.40
1:D:421:THR:HG22	1:D:452:LEU:HD12	2.03	0.40
1:C:412:ARG:NH2	1:D:404:ARG:NH1	2.69	0.40
1:G:471:ALA:O	1:G:475:VAL:HB	2.22	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	426/447 (95%)	420 (99%)	5 (1%)	1 (0%)	43	44
1	B	439/447 (98%)	431 (98%)	7 (2%)	1 (0%)	43	44
1	C	428/447 (96%)	423 (99%)	4 (1%)	1 (0%)	43	44
1	D	431/447 (96%)	422 (98%)	8 (2%)	1 (0%)	43	44
1	E	429/447 (96%)	425 (99%)	2 (0%)	2 (0%)	24	21
1	F	436/447 (98%)	431 (99%)	4 (1%)	1 (0%)	43	44
1	G	426/447 (95%)	420 (99%)	4 (1%)	2 (0%)	24	21
1	H	431/447 (96%)	426 (99%)	3 (1%)	2 (0%)	24	21
All	All	3446/3576 (96%)	3398 (99%)	37 (1%)	11 (0%)	36	36

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	H	231	PRO
1	E	129	PRO
1	G	271	GLY
1	A	340	THR
1	B	340	THR
1	C	340	THR
1	D	340	THR
1	E	340	THR
1	F	340	THR
1	H	340	THR
1	G	340	THR

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	345/352 (98%)	331 (96%)	14 (4%)	27	27
1	B	353/352 (100%)	341 (97%)	12 (3%)	32	34
1	C	345/352 (98%)	341 (99%)	4 (1%)	63	70
1	D	344/352 (98%)	336 (98%)	8 (2%)	44	49

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	E	346/352 (98%)	338 (98%)	8 (2%)	44	49
1	F	351/352 (100%)	343 (98%)	8 (2%)	44	49
1	G	343/352 (97%)	339 (99%)	4 (1%)	63	70
1	H	344/352 (98%)	335 (97%)	9 (3%)	40	45
All	All	2771/2816 (98%)	2704 (98%)	67 (2%)	45	47

All (67) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	118	ARG
1	A	235	GLU
1	A	259	LYS
1	A	273	GLU
1	A	284	GLU
1	A	411	ARG
1	A	436	CYS
1	A	470	GLN
1	A	475	VAL
1	A	500	ARG
1	A	528	ARG
1	A	537[A]	MET
1	A	537[B]	MET
1	A	540	LEU
1	B	10	ARG
1	B	68	ARG
1	B	115	LEU
1	B	118	ARG
1	B	259	LYS
1	B	263	VAL
1	B	379	LYS
1	B	507	GLU
1	B	512	ARG
1	B	516	ARG
1	B	537[A]	MET
1	B	537[B]	MET
1	C	258	ARG
1	C	259	LYS
1	C	270[A]	LEU
1	C	270[B]	LEU
1	D	118	ARG
1	D	242[A]	ARG

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Mol	Chain	Res	Type
1	D	242[B]	ARG
1	D	259	LYS
1	D	511	LEU
1	D	528	ARG
1	D	537	MET
1	D	541	SER
1	E	68	ARG
1	E	118	ARG
1	E	242	ARG
1	E	259	LYS
1	E	331	LEU
1	E	511	LEU
1	E	537[A]	MET
1	E	537[B]	MET
1	F	68	ARG
1	F	242	ARG
1	F	259	LYS
1	F	291	ARG
1	F	517	VAL
1	F	537[A]	MET
1	F	537[B]	MET
1	F	541	SER
1	G	26	GLN
1	G	259	LYS
1	G	273	GLU
1	G	475	VAL
1	H	68	ARG
1	H	242[A]	ARG
1	H	242[B]	ARG
1	H	259	LYS
1	H	273	GLU
1	H	311	ILE
1	H	511	LEU
1	H	537	MET
1	H	541	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	26	GLN
1	A	27	GLN
1	A	405	GLN

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Mol	Chain	Res	Type
1	C	275	HIS
1	C	470	GLN
1	F	28	GLN
1	G	275	HIS
1	H	390	GLN

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 36 ligands modelled in this entry, 16 are monoatomic - leaving 20 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
3	OXL	H	602	4	5,5,5	2.03	2 (40%)	6,6,6	1.66	1 (16%)
3	OXL	A	602	4	5,5,5	2.20	3 (60%)	6,6,6	2.24	3 (50%)
3	OXL	D	602	4	5,5,5	2.46	2 (40%)	6,6,6	2.51	4 (66%)
6	I9C	C	603	-	28,28,28	0.19	0	42,42,42	0.33	0
6	I9C	F	603	-	28,28,28	0.24	0	42,42,42	0.37	0
3	OXL	F	602	4	5,5,5	2.87	4 (80%)	6,6,6	2.53	3 (50%)
2	FBP	B	601	-	18,20,20	0.70	0	21,32,32	0.94	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	FBP	E	601	-	18,20,20	0.59	0	21,32,32	0.93	1 (4%)
3	OXL	G	602	4	5,5,5	2.49	3 (60%)	6,6,6	2.27	3 (50%)
2	FBP	C	601	-	18,20,20	0.62	0	21,32,32	0.88	1 (4%)
6	I9C	E	603	-	28,28,28	0.17	0	42,42,42	0.31	0
3	OXL	E	602	4	5,5,5	2.20	2 (40%)	6,6,6	1.61	2 (33%)
2	FBP	H	601	-	18,20,20	0.90	0	21,32,32	0.98	2 (9%)
6	I9C	G	603	-	28,28,28	0.18	0	42,42,42	0.34	0
2	FBP	D	601	-	18,20,20	0.71	0	21,32,32	1.19	1 (4%)
2	FBP	F	601	-	18,20,20	0.42	0	21,32,32	0.73	0
3	OXL	B	602	4	5,5,5	2.42	2 (40%)	6,6,6	1.61	2 (33%)
3	OXL	C	602	4	5,5,5	2.04	2 (40%)	6,6,6	1.35	1 (16%)
2	FBP	G	601	-	18,20,20	0.60	0	21,32,32	0.76	1 (4%)
2	FBP	A	601	-	18,20,20	0.60	0	21,32,32	0.94	1 (4%)

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
3	OXL	H	602	4	-	4/4/4/4	-
3	OXL	A	602	4	-	4/4/4/4	-
3	OXL	D	602	4	-	4/4/4/4	-
6	I9C	C	603	-	-	4/14/30/30	0/3/3/3
6	I9C	F	603	-	-	3/14/30/30	0/3/3/3
3	OXL	F	602	4	-	4/4/4/4	-
2	FBP	B	601	-	-	2/13/32/32	0/1/1/1
2	FBP	E	601	-	-	3/13/32/32	0/1/1/1
3	OXL	G	602	4	-	4/4/4/4	-
2	FBP	C	601	-	-	2/13/32/32	0/1/1/1
6	I9C	E	603	-	-	7/14/30/30	0/3/3/3
3	OXL	E	602	4	-	4/4/4/4	-
2	FBP	H	601	-	-	2/13/32/32	0/1/1/1
6	I9C	G	603	-	-	10/14/30/30	0/3/3/3
2	FBP	D	601	-	-	2/13/32/32	0/1/1/1
2	FBP	F	601	-	-	2/13/32/32	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	OXL	B	602	4	-	4/4/4/4	-
3	OXL	C	602	4	-	4/4/4/4	-
2	FBP	G	601	-	-	2/13/32/32	0/1/1/1
2	FBP	A	601	-	-	2/13/32/32	0/1/1/1

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	602	OXL	O2-C2	4.65	1.34	1.22
3	D	602	OXL	O2-C2	4.55	1.33	1.22
3	E	602	OXL	O1-C1	4.15	1.32	1.22
3	A	602	OXL	O2-C2	3.77	1.31	1.22
3	F	602	OXL	O2-C2	3.55	1.31	1.22
3	F	602	OXL	O1-C1	3.49	1.31	1.22
3	C	602	OXL	O1-C1	3.41	1.31	1.22
3	H	602	OXL	O2-C2	3.30	1.30	1.22
3	G	602	OXL	O1-C1	3.29	1.30	1.22
3	G	602	OXL	O3-C1	-3.15	1.22	1.30
3	F	602	OXL	O3-C1	-3.12	1.22	1.30
3	G	602	OXL	C2-C1	-2.88	1.49	1.54
3	H	602	OXL	O4-C2	-2.77	1.23	1.30
3	B	602	OXL	O4-C2	-2.76	1.23	1.30
3	C	602	OXL	O3-C1	-2.71	1.23	1.30
3	E	602	OXL	O3-C1	-2.59	1.23	1.30
3	D	602	OXL	O4-C2	-2.51	1.23	1.30
3	A	602	OXL	O4-C2	-2.40	1.24	1.30
3	F	602	OXL	O4-C2	-2.35	1.24	1.30
3	A	602	OXL	C2-C1	2.03	1.58	1.54

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	601	FBP	O5P-P2-O6	4.78	119.12	106.67
3	F	602	OXL	O4-C2-C1	4.21	121.00	112.83
3	A	602	OXL	O4-C2-C1	4.11	120.80	112.83
3	D	602	OXL	O3-C1-C2	3.86	120.32	112.83
3	G	602	OXL	O3-C1-C2	3.73	120.06	112.83
3	D	602	OXL	O4-C2-C1	3.67	119.94	112.83
3	H	602	OXL	O4-C2-C1	3.53	119.68	112.83
3	F	602	OXL	O3-C1-C2	3.43	119.48	112.83
3	E	602	OXL	O3-C1-C2	2.95	118.55	112.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	602	OXL	O3-C1-C2	2.83	118.33	112.83
3	B	602	OXL	O4-C2-C1	2.70	118.06	112.83
3	A	602	OXL	O3-C1-C2	2.66	117.99	112.83
3	F	602	OXL	O2-C2-C1	-2.59	115.23	120.63
2	C	601	FBP	O6-P2-O4P	2.54	113.31	106.44
3	G	602	OXL	O4-C2-C1	2.54	117.75	112.83
3	G	602	OXL	O1-C1-C2	-2.52	115.38	120.63
2	B	601	FBP	O3P-P1-O2P	2.48	117.10	107.80
2	H	601	FBP	O5P-P2-O6	2.47	113.12	106.67
3	B	602	OXL	O3-C1-C2	2.37	117.43	112.83
3	A	602	OXL	O2-C2-C1	-2.33	115.77	120.63
2	G	601	FBP	O6P-P2-O6	2.30	112.66	106.67
3	D	602	OXL	O2-C2-C1	-2.28	115.88	120.63
2	E	601	FBP	O3P-P1-O2P	2.18	115.99	107.80
2	A	601	FBP	O3P-P1-O1	-2.11	101.17	106.67
2	H	601	FBP	O2P-P1-O1	2.08	112.09	106.67
3	E	602	OXL	O4-C2-C1	2.03	116.77	112.83
3	D	602	OXL	O1-C1-C2	-2.02	116.42	120.63

There are no chirality outliers.

All (73) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	601	FBP	C4-C5-C6-O6
6	C	603	I9C	N-C12-C13-O3
6	C	603	I9C	N-C12-C13-O2
6	E	603	I9C	N-C12-C13-O3
6	E	603	I9C	N-C12-C13-O2
6	E	603	I9C	C15-C11-S-O5
6	G	603	I9C	N-C12-C13-O3
6	G	603	I9C	N-C12-C13-O2
6	G	603	I9C	C15-C11-S-O5
6	G	603	I9C	C15-C11-S-O4
6	G	603	I9C	C15-C11-S-N
2	B	601	FBP	C4-C5-C6-O6
2	E	601	FBP	C4-C5-C6-O6
2	F	601	FBP	C4-C5-C6-O6
2	G	601	FBP	C4-C5-C6-O6
2	H	601	FBP	C4-C5-C6-O6
6	G	603	I9C	C12-N-S-O4
2	A	601	FBP	O5-C5-C6-O6
2	D	601	FBP	C4-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
2	E	601	FBP	O5-C5-C6-O6
6	E	603	I9C	C15-C11-S-O4
6	G	603	I9C	C12-N-S-C11
2	C	601	FBP	C4-C5-C6-O6
2	H	601	FBP	O5-C5-C6-O6
6	G	603	I9C	C12-N-S-O5
2	B	601	FBP	O5-C5-C6-O6
2	F	601	FBP	O5-C5-C6-O6
2	G	601	FBP	O5-C5-C6-O6
6	E	603	I9C	C15-C11-S-N
2	D	601	FBP	O5-C5-C6-O6
3	A	602	OXL	O3-C1-C2-O4
3	C	602	OXL	O3-C1-C2-O4
3	E	602	OXL	O3-C1-C2-O4
3	G	602	OXL	O3-C1-C2-O4
6	F	603	I9C	N-C12-C13-O2
3	A	602	OXL	O1-C1-C2-O2
3	C	602	OXL	O1-C1-C2-O2
3	G	602	OXL	O1-C1-C2-O2
3	B	602	OXL	O3-C1-C2-O4
3	D	602	OXL	O3-C1-C2-O4
3	F	602	OXL	O3-C1-C2-O4
3	H	602	OXL	O3-C1-C2-O4
6	E	603	I9C	C10-C11-S-O4
3	B	602	OXL	O1-C1-C2-O2
3	D	602	OXL	O1-C1-C2-O2
3	E	602	OXL	O1-C1-C2-O2
3	F	602	OXL	O1-C1-C2-O2
3	H	602	OXL	O1-C1-C2-O2
6	G	603	I9C	C10-C11-S-O4
2	E	601	FBP	C1-O1-P1-O1P
6	C	603	I9C	C12-N-S-O4
6	C	603	I9C	C12-N-S-O5
6	G	603	I9C	C10-C11-S-O5
2	C	601	FBP	O5-C5-C6-O6
6	E	603	I9C	C10-C11-S-N
3	A	602	OXL	O1-C1-C2-O4
3	A	602	OXL	O3-C1-C2-O2
3	G	602	OXL	O1-C1-C2-O4
3	B	602	OXL	O1-C1-C2-O4
3	C	602	OXL	O1-C1-C2-O4
3	C	602	OXL	O3-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
3	E	602	OXL	O1-C1-C2-O4
3	E	602	OXL	O3-C1-C2-O2
3	G	602	OXL	O3-C1-C2-O2
3	D	602	OXL	O1-C1-C2-O4
3	D	602	OXL	O3-C1-C2-O2
3	F	602	OXL	O3-C1-C2-O2
3	B	602	OXL	O3-C1-C2-O2
3	H	602	OXL	O1-C1-C2-O4
3	H	602	OXL	O3-C1-C2-O2
6	F	603	I9C	N-C12-C13-O3
3	F	602	OXL	O1-C1-C2-O4
6	F	603	I9C	C10-C11-S-O4

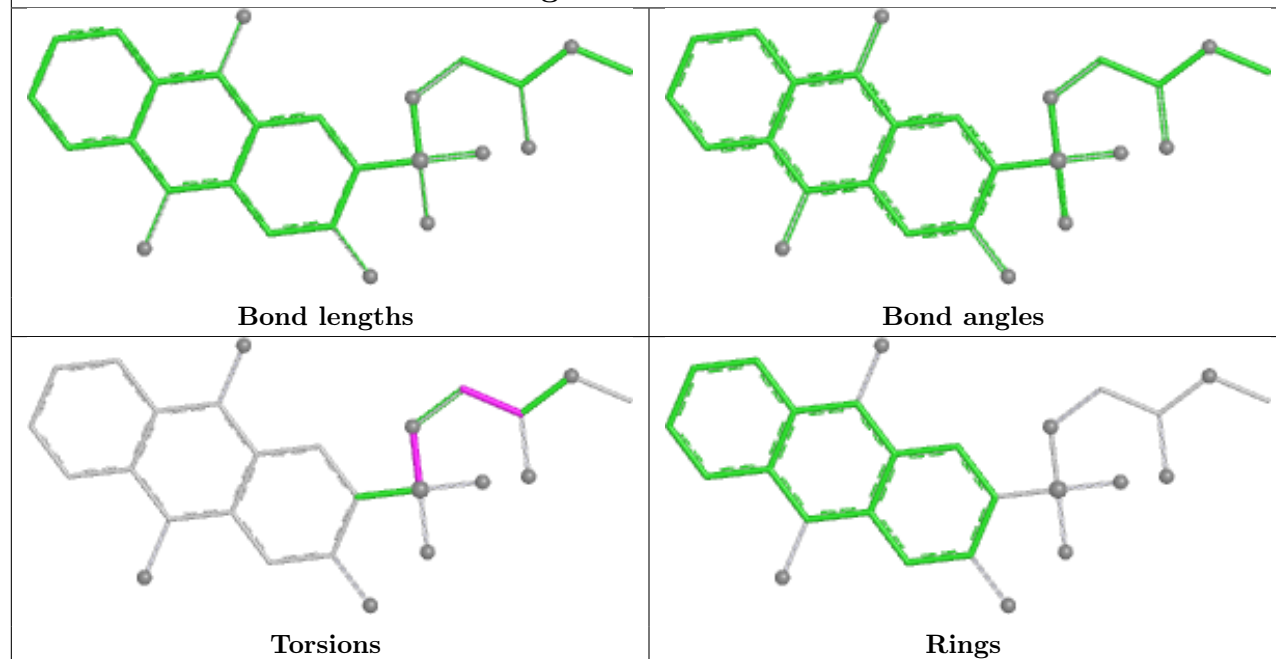
There are no ring outliers.

5 monomers are involved in 6 short contacts:

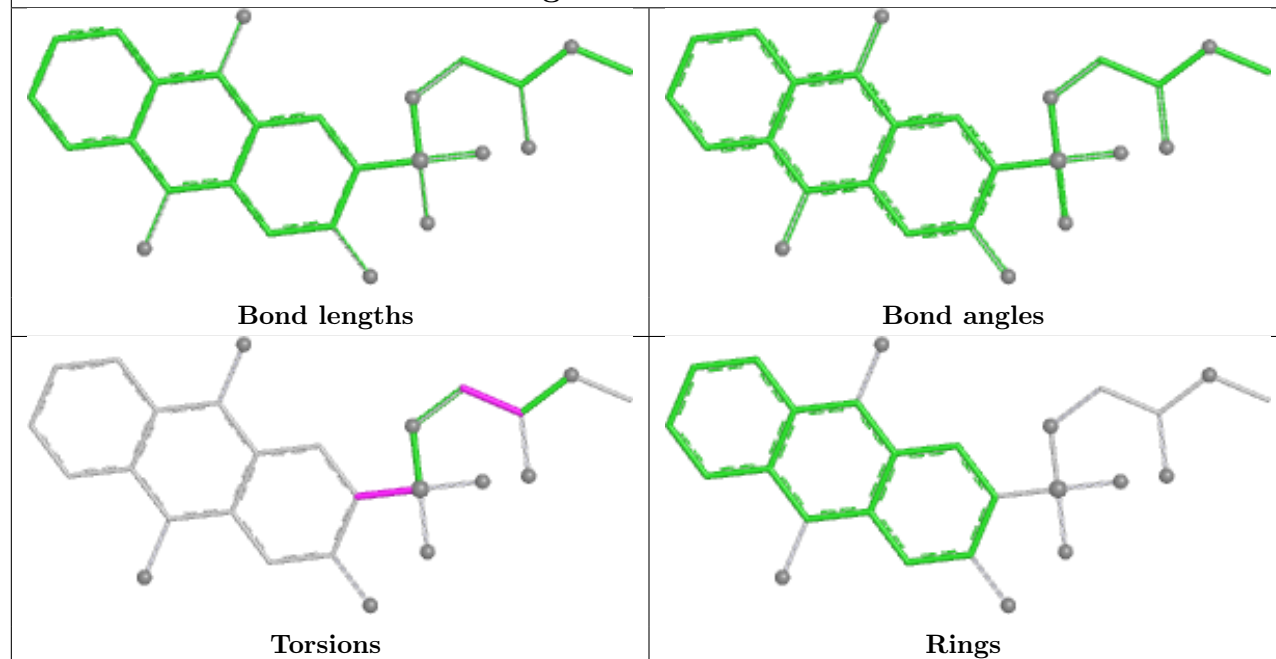
Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	C	603	I9C	1	0
6	F	603	I9C	1	0
6	E	603	I9C	1	0
6	G	603	I9C	1	0
2	A	601	FBP	2	0

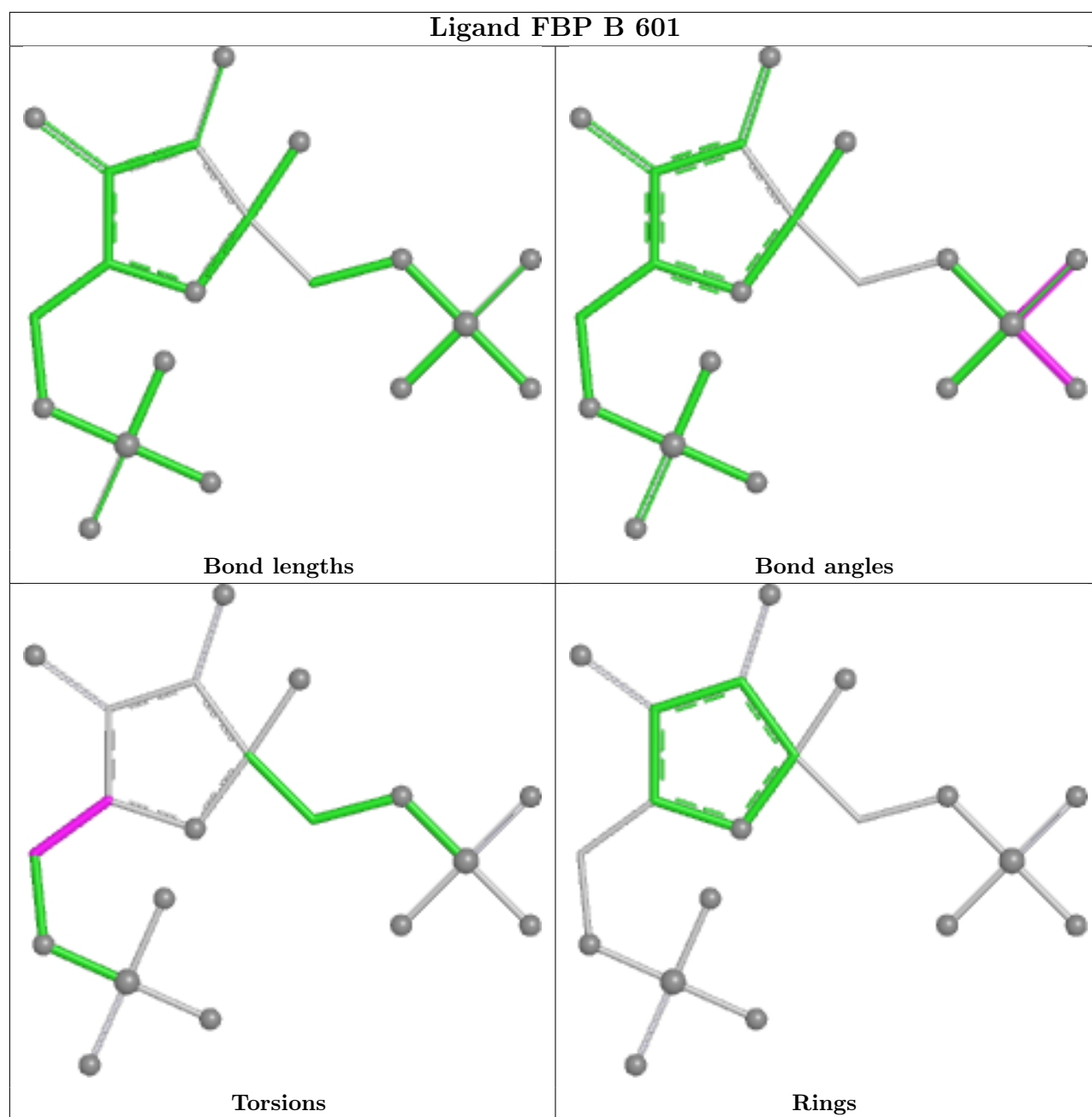
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand I9C C 603

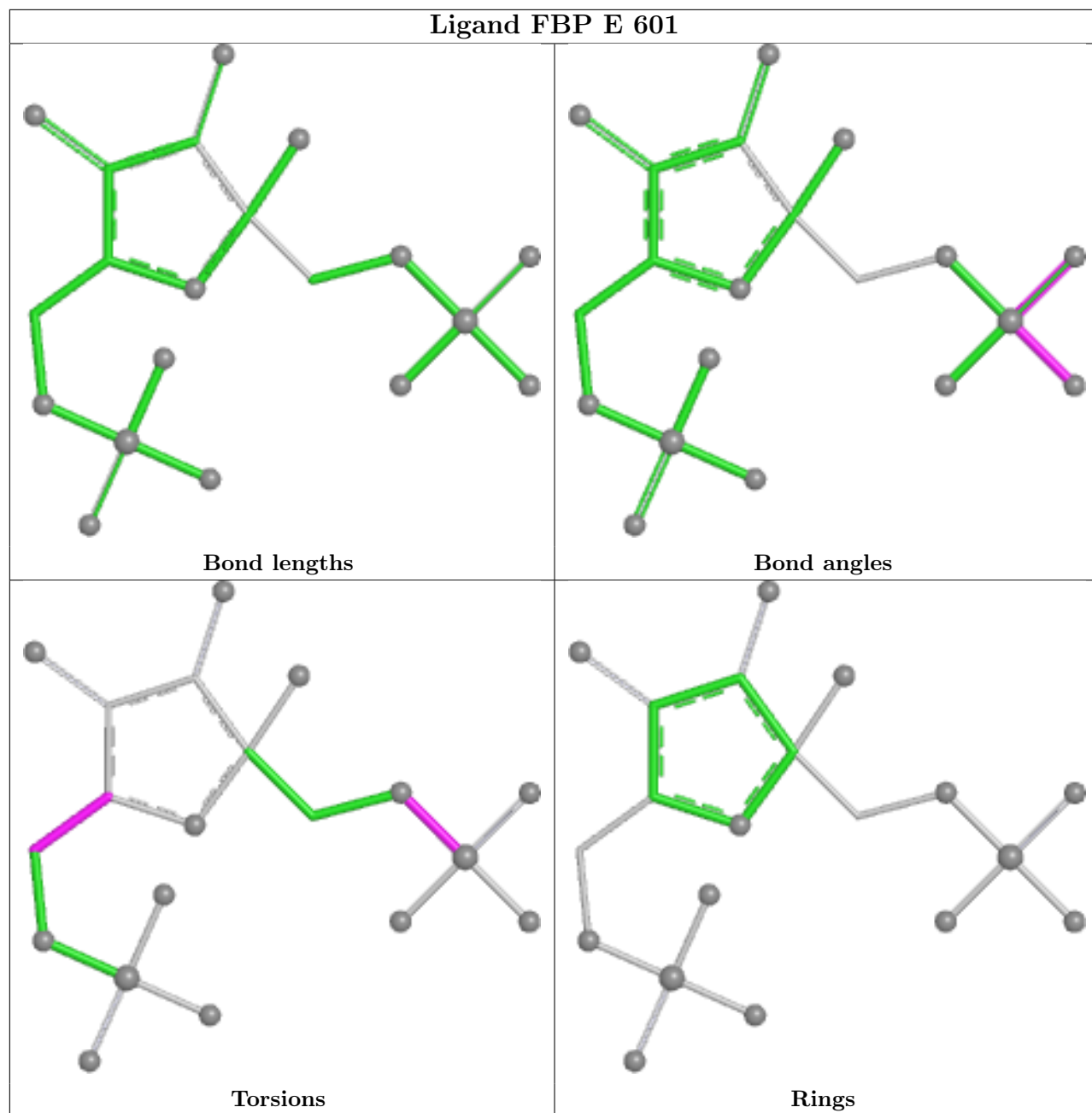


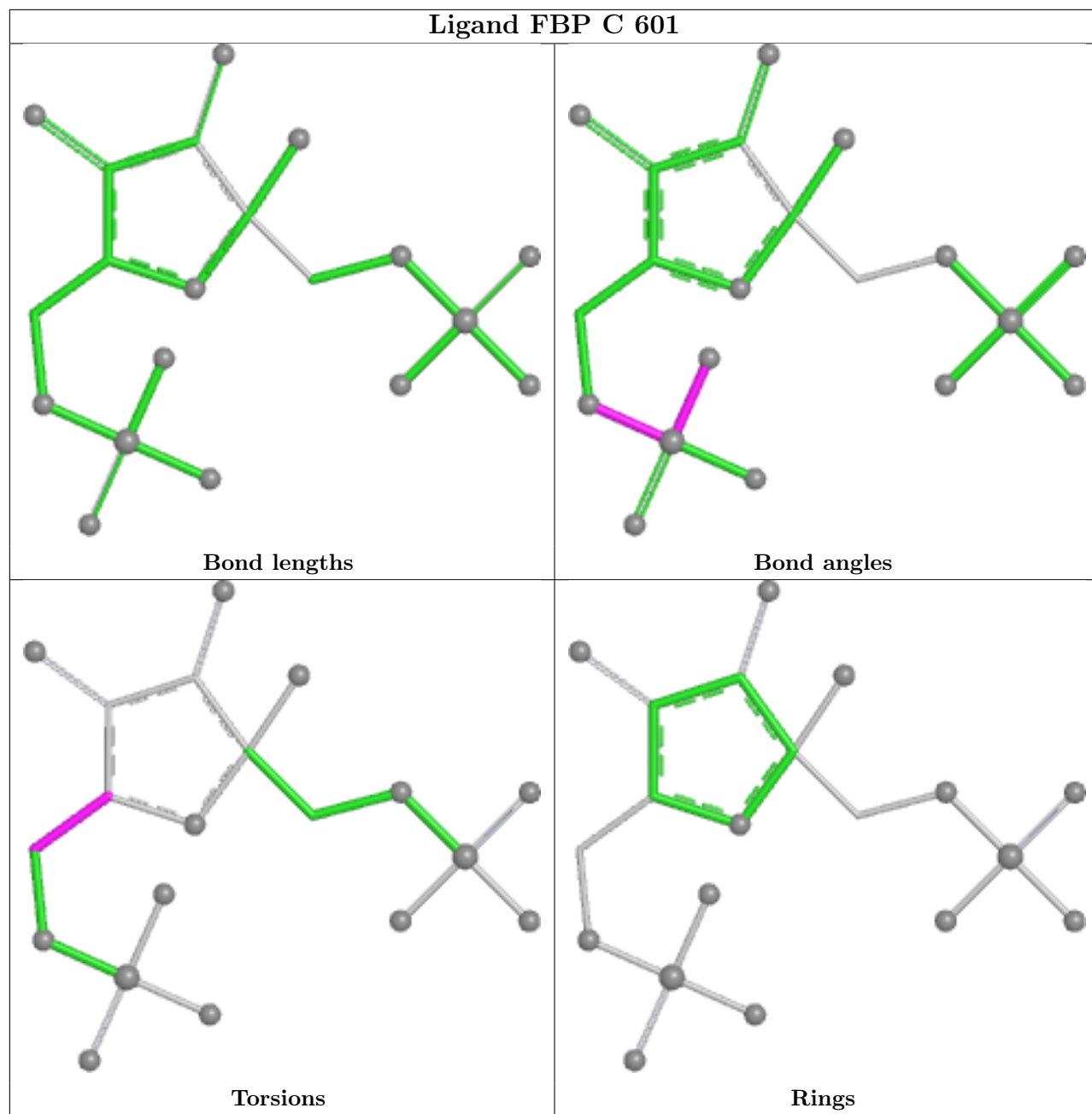
Ligand I9C F 603

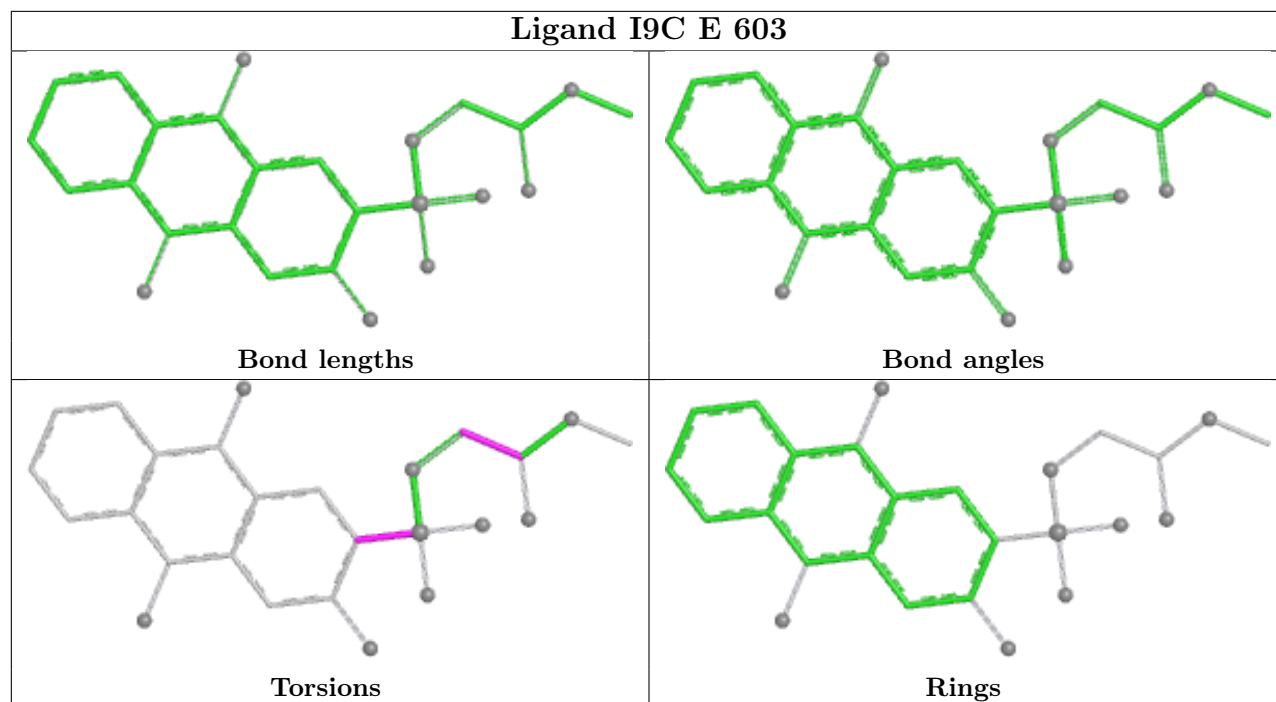


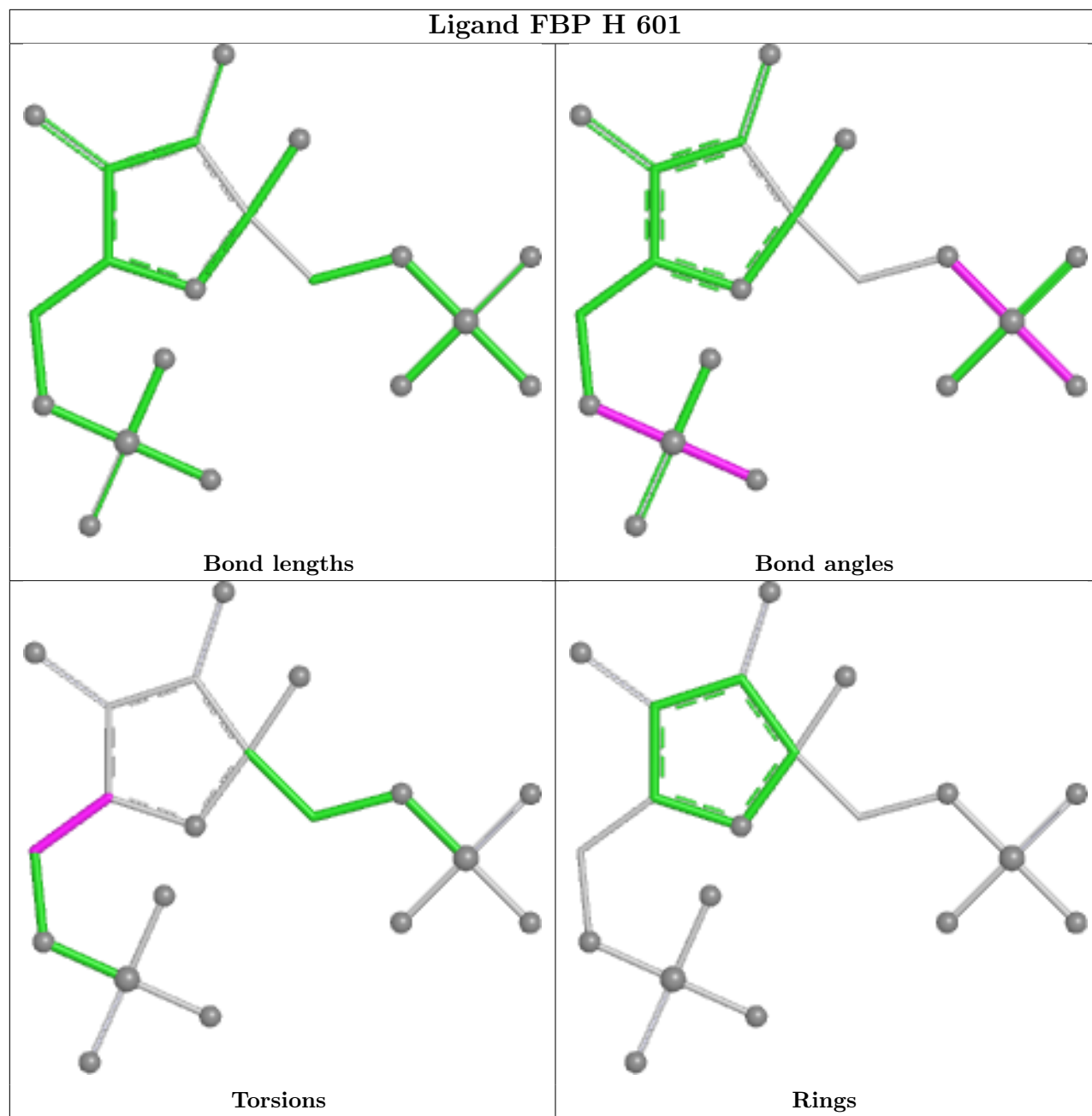


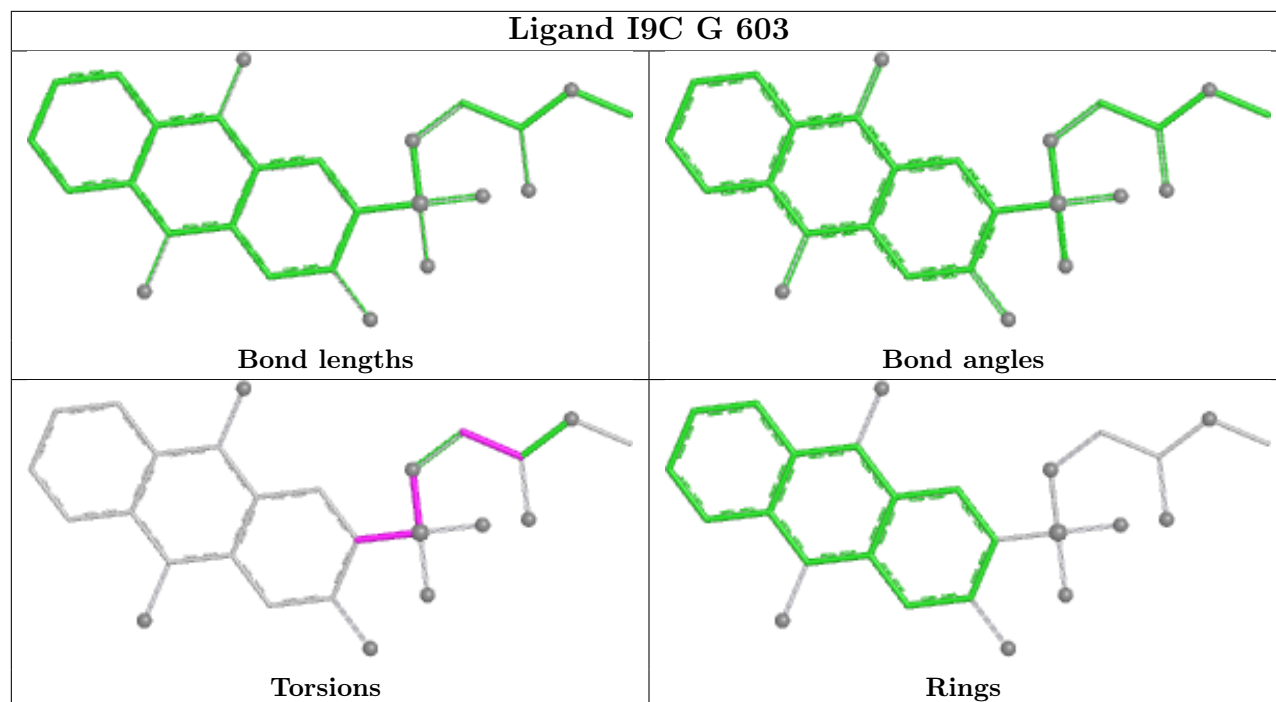
Ligand FBP E 601

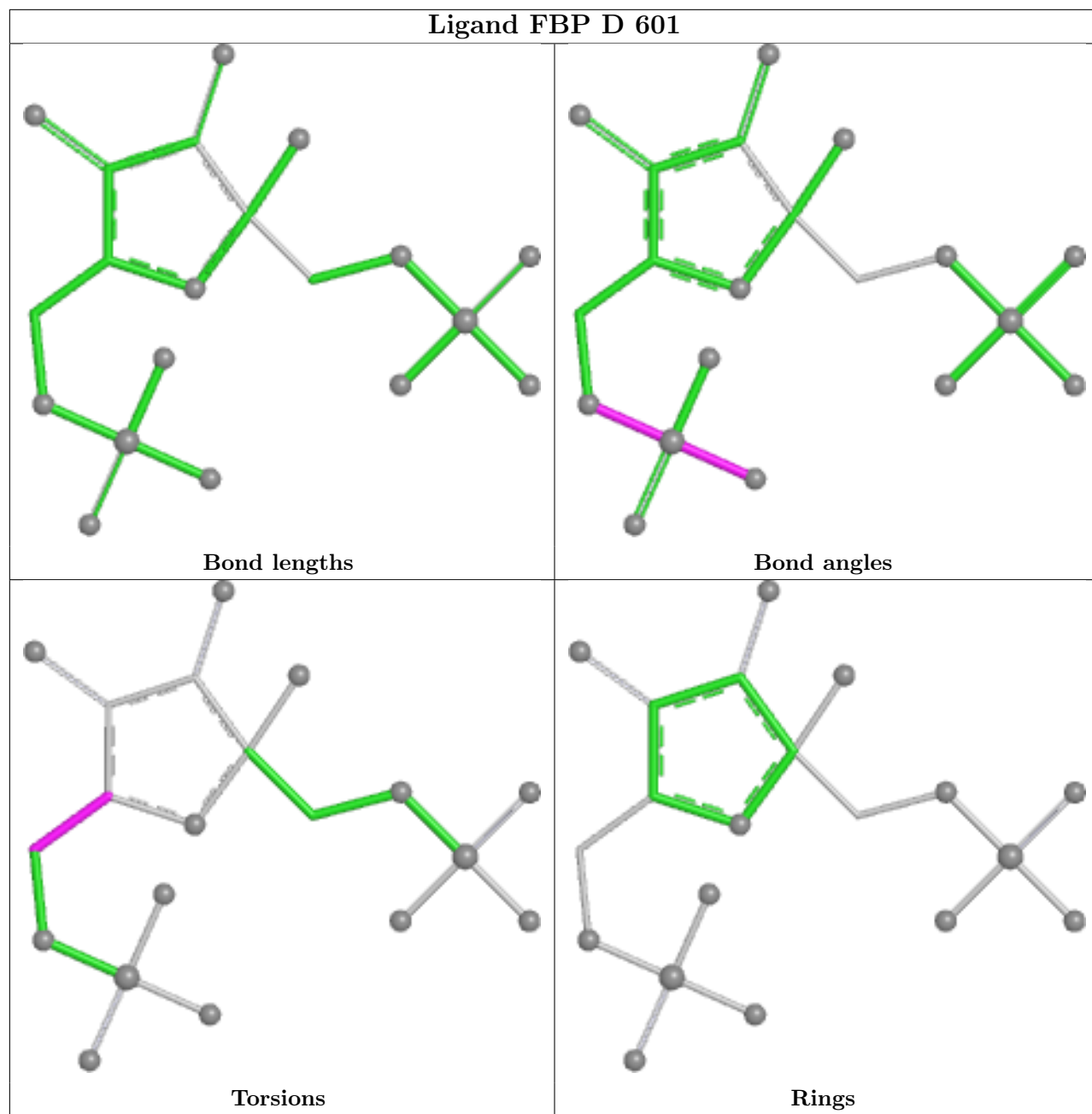




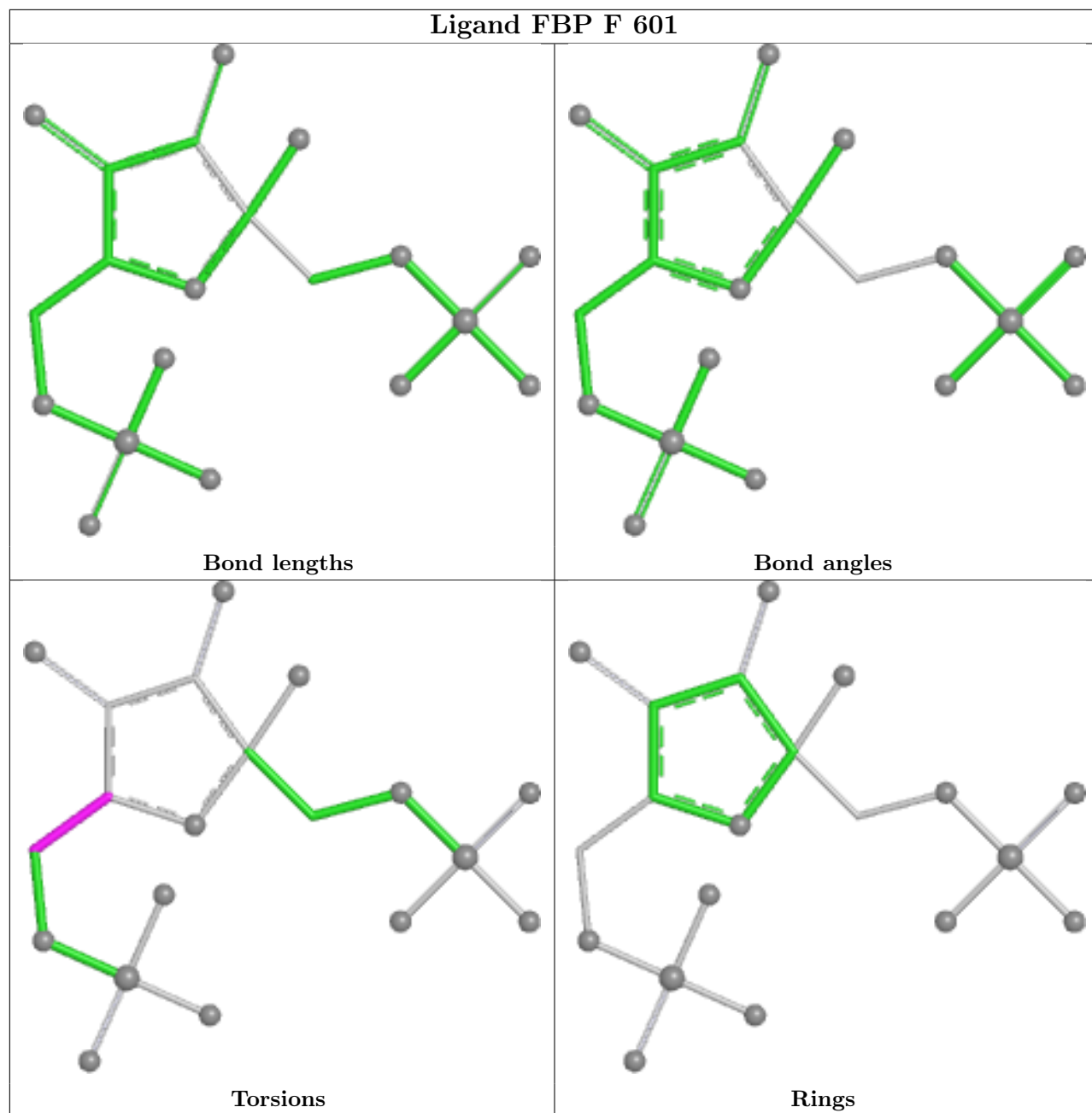


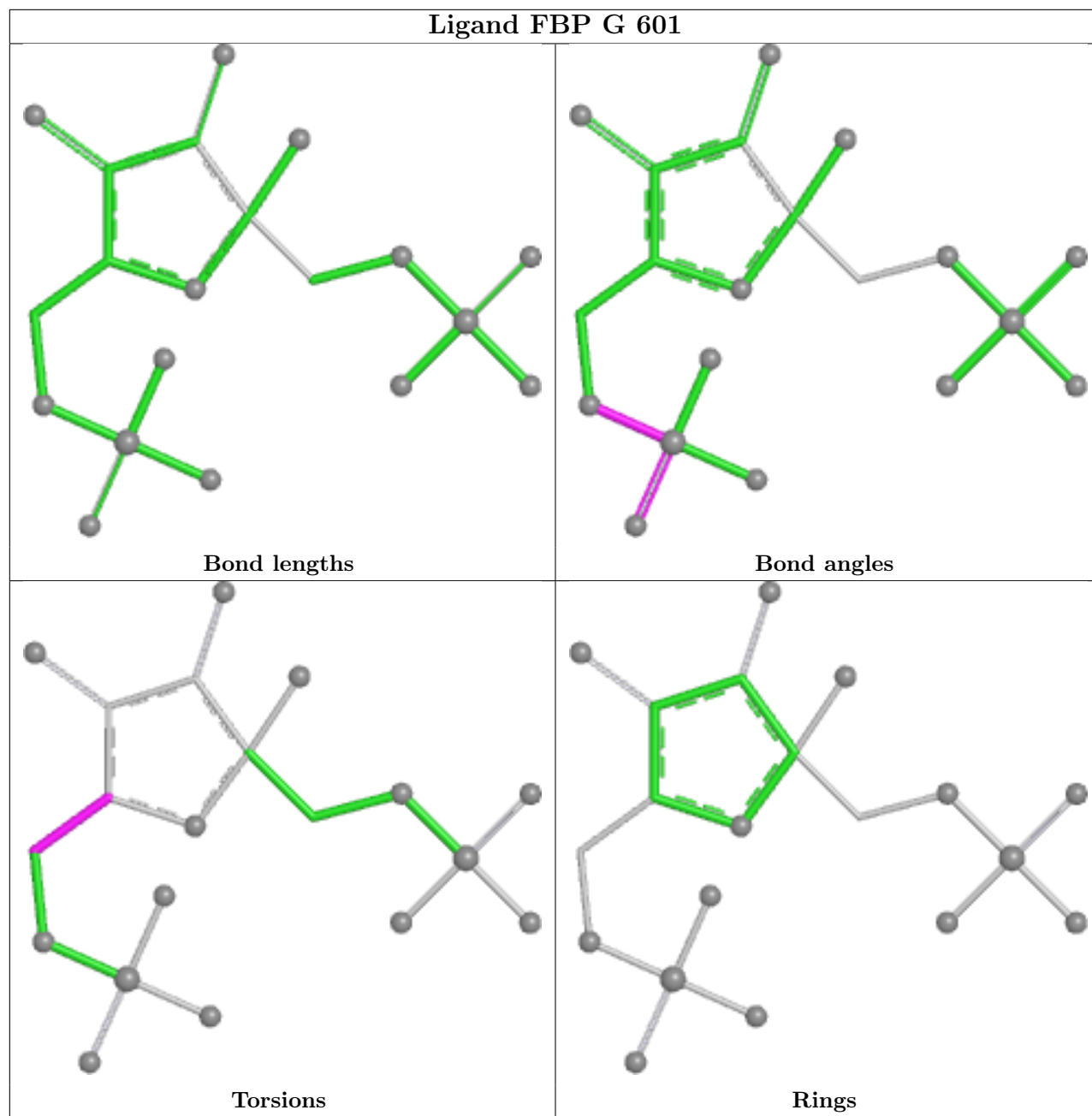


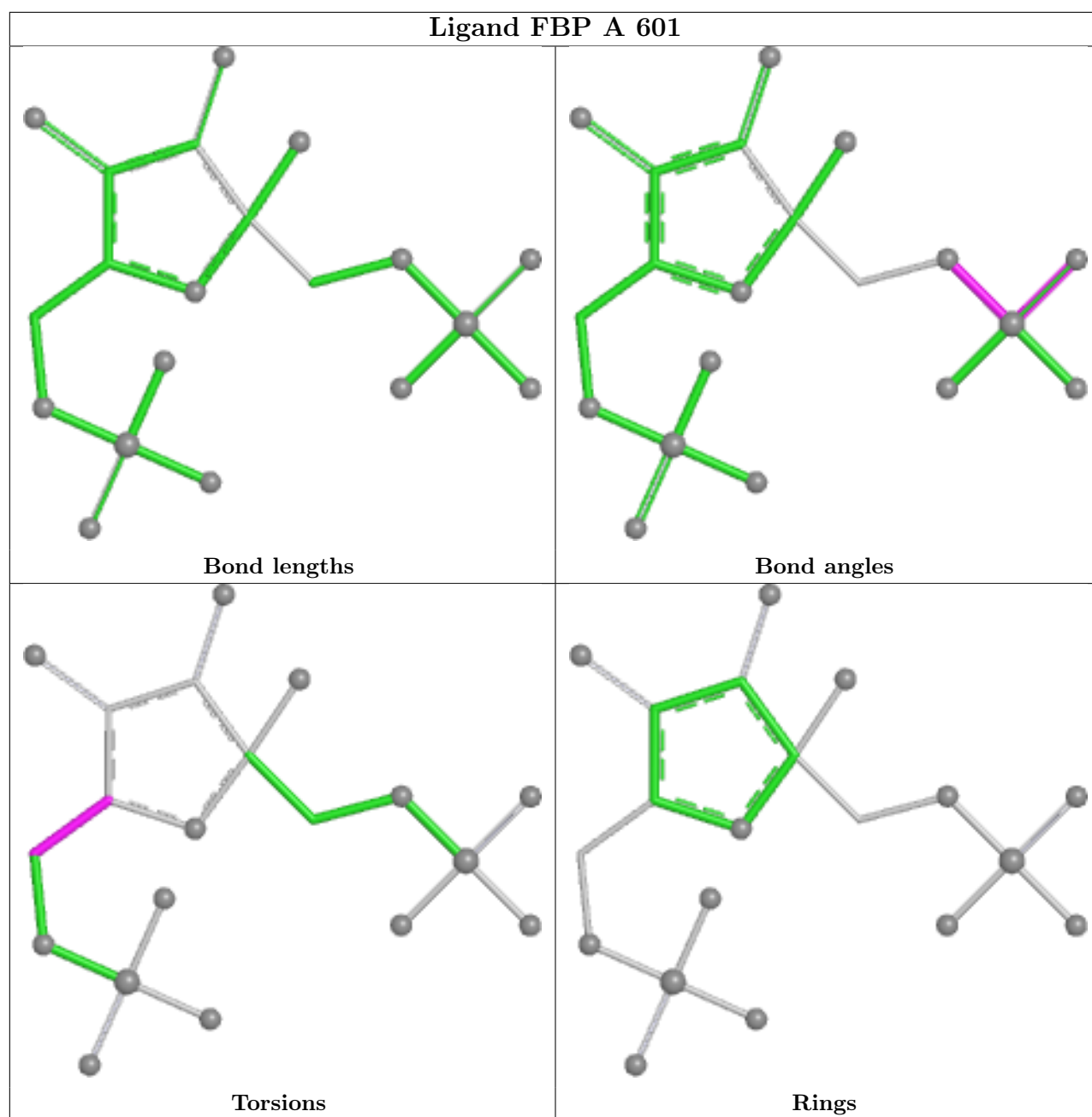




Ligand FBP F 601







5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	417/447 (93%)	1.36	82 (19%) 3 3	31, 64, 92, 107	13 (3%)
1	B	435/447 (97%)	1.50	141 (32%) 1 1	27, 61, 99, 113	8 (1%)
1	C	424/447 (94%)	0.53	28 (6%) 24 25	23, 45, 71, 121	8 (1%)
1	D	425/447 (95%)	0.07	13 (3%) 51 53	18, 36, 59, 106	8 (1%)
1	E	420/447 (93%)	0.98	47 (11%) 10 10	28, 56, 84, 100	13 (3%)
1	F	432/447 (96%)	0.57	30 (6%) 23 24	27, 47, 78, 94	8 (1%)
1	G	422/447 (94%)	0.08	9 (2%) 63 66	12, 38, 60, 101	9 (2%)
1	H	425/447 (95%)	-0.10	13 (3%) 51 53	16, 32, 55, 99	8 (1%)
All	All	3400/3576 (95%)	0.62	363 (10%) 11 11	12, 47, 86, 121	75 (2%)

All (363) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	275[A]	HIS	6.5
1	H	232	GLY	5.2
1	D	231	PRO	5.1
1	A	543	SER	4.9
1	B	511	LEU	4.9
1	F	115	LEU	4.9
1	A	115	LEU	4.7
1	B	115	LEU	4.6
1	H	21	GLY	4.6
1	E	25	PHE	4.5
1	A	500	ARG	4.5
1	B	249	VAL	4.4
1	B	100	ILE	4.4
1	A	63	ILE	4.3
1	C	20	LEU	4.2
1	B	103	VAL	4.2

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Mol	Chain	Res	Type	RSRZ
1	B	107	VAL	4.2
1	E	490	PRO	4.2
1	E	514	PHE	4.1
1	D	25	PHE	4.1
1	B	379	LYS	4.1
1	B	110	PHE	4.0
1	G	271	GLY	3.9
1	A	238	VAL	3.8
1	G	231	PRO	3.8
1	A	482	PHE	3.8
1	C	114	PRO	3.8
1	C	271	GLY	3.8
1	A	80	GLY	3.8
1	B	382	PHE	3.8
1	B	66	ALA	3.7
1	C	111	ALA	3.7
1	D	21	GLY	3.7
1	B	348	THR	3.7
1	B	267[A]	ARG	3.7
1	B	86	LEU	3.6
1	B	485	LEU	3.6
1	B	540[A]	LEU	3.6
1	B	245	VAL	3.6
1	E	249	VAL	3.6
1	F	231	PRO	3.6
1	B	91	GLY	3.6
1	B	266	VAL	3.6
1	E	277	ILE	3.6
1	A	475	VAL	3.5
1	A	471	ALA	3.5
1	B	65	PRO	3.5
1	B	484	LEU	3.4
1	A	488[A]	GLU	3.4
1	B	122	ILE	3.4
1	B	251	ILE	3.4
1	E	493	ILE	3.4
1	A	277	ILE	3.4
1	B	241	LEU	3.4
1	B	102	ASN	3.3
1	B	67	SER	3.3
1	H	231	PRO	3.3
1	B	77	ILE	3.3

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Mol	Chain	Res	Type	RSRZ
1	F	114	PRO	3.3
1	B	63	ILE	3.3
1	C	232	GLY	3.3
1	B	120	VAL	3.3
1	E	232	GLY	3.2
1	H	411	ARG	3.2
1	C	115	LEU	3.2
1	F	540[A]	LEU	3.2
1	A	88	PHE	3.2
1	E	130	GLY	3.2
1	A	111	ALA	3.2
1	B	269	ALA	3.2
1	E	495	ALA	3.2
1	B	126	THR	3.2
1	E	502	VAL	3.2
1	B	73	LEU	3.2
1	B	486	TYR	3.2
1	A	514	PHE	3.2
1	F	267[A]	ARG	3.2
1	B	96	HIS	3.2
1	B	13	VAL	3.1
1	B	90	HIS	3.1
1	D	22	THR	3.1
1	D	232	GLY	3.1
1	F	274	GLY	3.1
1	G	22	THR	3.1
1	B	231	PRO	3.1
1	B	378	ALA	3.1
1	D	24	PHE	3.1
1	A	489	PRO	3.1
1	B	465	VAL	3.1
1	E	120	VAL	3.1
1	A	241	LEU	3.1
1	B	76[A]	MET	3.1
1	F	112	GLY	3.1
1	B	243	PHE	3.1
1	F	516	ARG	3.1
1	B	505	GLY	3.0
1	B	504	PHE	3.0
1	D	275[A]	HIS	3.0
1	E	485	LEU	3.0
1	F	498	VAL	3.0

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Mol	Chain	Res	Type	RSRZ
1	D	130	GLY	3.0
1	A	378	ALA	3.0
1	B	495	ALA	3.0
1	C	66	ALA	3.0
1	B	233	LEU	3.0
1	B	238	VAL	3.0
1	B	263	VAL	3.0
1	E	114	PRO	3.0
1	E	489	PRO	3.0
1	A	527	TRP	3.0
1	B	95	TYR	3.0
1	B	123	ALA	3.0
1	E	233	LEU	3.0
1	B	506	ILE	3.0
1	G	21	GLY	3.0
1	C	22	THR	3.0
1	C	117	TYR	3.0
1	F	514	PHE	3.0
1	B	97	ALA	2.9
1	A	233	LEU	2.9
1	A	107	VAL	2.9
1	A	257	VAL	2.9
1	A	263	VAL	2.9
1	B	114	PRO	2.9
1	C	25	PHE	2.9
1	E	464	ALA	2.9
1	B	515	LEU	2.9
1	E	115	LEU	2.9
1	A	251	ILE	2.9
1	B	268	ALA	2.9
1	A	465	VAL	2.9
1	B	257	VAL	2.9
1	B	517	VAL	2.9
1	B	277	ILE	2.9
1	B	92	SER	2.9
1	A	120	VAL	2.8
1	B	502	VAL	2.8
1	C	63	ILE	2.8
1	B	116	SER	2.8
1	B	88	PHE	2.8
1	G	411	ARG	2.8
1	C	386	ALA	2.8

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Mol	Chain	Res	Type	RSRZ
1	D	23	ALA	2.8
1	B	383	PRO	2.8
1	B	482	PHE	2.8
1	H	25	PHE	2.8
1	A	464	ALA	2.8
1	B	121	ALA	2.8
1	E	124	LEU	2.8
1	B	445	THR	2.8
1	A	114	PRO	2.8
1	A	463	ILE	2.8
1	B	274	GLY	2.8
1	B	270	LEU	2.8
1	A	70	VAL	2.8
1	B	498	VAL	2.8
1	E	103	VAL	2.8
1	B	347	ILE	2.8
1	D	131	SER	2.7
1	E	244	GLY	2.7
1	B	124	LEU	2.7
1	A	129	PRO	2.7
1	A	249	VAL	2.7
1	F	493	ILE	2.7
1	E	272	PRO	2.7
1	A	266	VAL	2.7
1	A	298	VAL	2.7
1	A	401	VAL	2.7
1	B	252	VAL	2.7
1	B	527	TRP	2.7
1	B	127	LYS	2.7
1	C	23	ALA	2.7
1	A	485	LEU	2.7
1	F	233	LEU	2.7
1	B	70	VAL	2.7
1	B	542	ILE	2.7
1	B	271	GLY	2.7
1	B	79	ALA	2.6
1	B	106	ALA	2.6
1	A	386	ALA	2.6
1	B	265	ALA	2.6
1	B	256	PHE	2.6
1	B	490	PRO	2.6
1	E	243	PHE	2.6

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Mol	Chain	Res	Type	RSRZ
1	G	115	LEU	2.6
1	E	465	VAL	2.6
1	C	400	ALA	2.6
1	E	494	TRP	2.6
1	A	86	LEU	2.6
1	B	443	LEU	2.6
1	C	272	PRO	2.6
1	F	415	PRO	2.6
1	A	382	PHE	2.6
1	A	533	TYR	2.6
1	B	275	HIS	2.6
1	B	61	ALA	2.6
1	B	377	THR	2.6
1	E	111	ALA	2.6
1	B	489	PRO	2.6
1	A	83	ILE	2.5
1	A	542	ILE	2.5
1	H	23	ALA	2.5
1	D	30	LEU	2.5
1	E	30	LEU	2.5
1	B	112	GLY	2.5
1	B	84	ALA	2.5
1	B	264	ALA	2.5
1	B	481	VAL	2.5
1	B	543	SER	2.5
1	A	490	PRO	2.5
1	B	11	ALA	2.5
1	A	30	LEU	2.5
1	F	515	LEU	2.5
1	C	34	MET	2.5
1	G	25	PHE	2.5
1	H	514	PHE	2.5
1	C	384	VAL	2.4
1	A	447	GLY	2.4
1	B	514	PHE	2.4
1	C	21	GLY	2.4
1	A	387	VAL	2.4
1	B	99	SER	2.4
1	H	22	THR	2.4
1	B	119	PRO	2.4
1	A	79	ALA	2.4
1	B	72	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	254	ALA	2.4
1	B	516	ARG	2.4
1	B	93	HIS	2.4
1	B	64	GLY	2.4
1	A	256	PHE	2.4
1	B	25	PHE	2.4
1	B	493	ILE	2.4
1	E	257	VAL	2.4
1	A	56	SER	2.4
1	C	411	ARG	2.4
1	B	101	ALA	2.4
1	A	245	VAL	2.4
1	A	493	ILE	2.4
1	G	116	SER	2.4
1	E	269	ALA	2.3
1	A	351	ARG	2.3
1	D	433	PHE	2.3
1	A	131	SER	2.3
1	B	131	SER	2.3
1	B	279	ILE	2.3
1	A	84	ALA	2.3
1	B	471	ALA	2.3
1	E	117	TYR	2.3
1	A	244	GLY	2.3
1	E	484	LEU	2.3
1	B	83	ILE	2.3
1	B	117	TYR	2.3
1	B	253	PHE	2.3
1	C	24	PHE	2.3
1	A	347	ILE	2.3
1	A	357	THR	2.3
1	A	418[A]	ARG	2.3
1	A	33	ALA	2.3
1	B	14	ALA	2.3
1	B	128	GLY	2.3
1	F	513	GLY	2.3
1	C	231	PRO	2.2
1	F	502	VAL	2.2
1	F	412	ARG	2.2
1	B	250	ASP	2.2
1	A	372	MET	2.2
1	B	333	GLY	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	515	LEU	2.2
1	B	520	LEU	2.2
1	F	443	LEU	2.2
1	F	494	TRP	2.2
1	A	99	SER	2.2
1	B	113	SER	2.2
1	C	113	SER	2.2
1	E	24	PHE	2.2
1	B	272	PRO	2.2
1	B	475	VAL	2.2
1	E	238	VAL	2.2
1	A	269	ALA	2.2
1	E	492	ALA	2.2
1	F	71	GLU	2.2
1	A	124	LEU	2.2
1	A	484	LEU	2.2
1	E	73	LEU	2.2
1	H	516	ARG	2.2
1	A	243	PHE	2.2
1	A	377	THR	2.2
1	E	504	PHE	2.2
1	G	24	PHE	2.2
1	D	499	ASP	2.2
1	A	517	VAL	2.2
1	C	103	VAL	2.2
1	E	23	ALA	2.2
1	E	466	THR	2.2
1	F	129	PRO	2.1
1	B	280	ILE	2.1
1	C	94	GLU	2.1
1	E	491	GLU	2.1
1	A	252	VAL	2.1
1	A	442	VAL	2.1
1	E	245	VAL	2.1
1	A	130	GLY	2.1
1	A	532	GLY	2.1
1	F	232	GLY	2.1
1	B	118	ARG	2.1
1	B	351	ARG	2.1
1	B	338	CYS	2.1
1	B	416	LEU	2.1
1	C	86	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	F	116	SER	2.1
1	H	131	SER	2.1
1	B	74	LYS	2.1
1	F	127	LYS	2.1
1	H	34	MET	2.1
1	C	408	GLU	2.1
1	B	440	ILE	2.1
1	C	514	PHE	2.1
1	E	253	PHE	2.1
1	B	21	GLY	2.1
1	B	384	VAL	2.1
1	E	471	ALA	2.1
1	F	11	ALA	2.1
1	B	374[A]	SER	2.1
1	B	468	SER	2.1
1	B	507	GLU	2.1
1	B	237	ASP	2.1
1	B	262	ASP	2.1
1	B	129	PRO	2.1
1	A	96	HIS	2.1
1	A	426	ILE	2.1
1	E	274	GLY	2.1
1	E	505	GLY	2.1
1	F	411	ARG	2.1
1	A	407	PHE	2.1
1	A	265	ALA	2.1
1	E	101	ALA	2.1
1	F	484	LEU	2.1
1	B	470	GLN	2.1
1	F	351	ARG	2.1
1	A	91	GLY	2.1
1	B	244	GLY	2.1
1	B	494	TRP	2.1
1	A	53	ALA	2.1
1	B	386	ALA	2.1
1	F	408	GLU	2.0
1	E	270	LEU	2.0
1	A	62	THR	2.0
1	B	80	GLY	2.0
1	H	130	GLY	2.0
1	A	311	ILE	2.0
1	B	462	VAL	2.0

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Mol	Chain	Res	Type	RSRZ
1	C	110	PHE	2.0
1	F	521	VAL	2.0
1	H	52	VAL	2.0
1	A	255	SER	2.0
1	B	53	ALA	2.0
1	A	26	GLN	2.0
1	B	242	ARG	2.0
1	A	127	LYS	2.0
1	B	62	THR	2.0
1	B	533	TYR	2.0
1	E	95	TYR	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
5	K	E	605	1/1	0.61	0.27	134,134,134,134	0
6	I9C	C	603	26/26	0.84	0.17	95,96,101,101	13
6	I9C	F	603	26/26	0.84	0.15	71,73,81,81	13
3	OXL	E	602	6/6	0.85	0.16	78,79,79,79	0
6	I9C	E	603	26/26	0.87	0.13	100,101,102,102	13
6	I9C	G	603	26/26	0.87	0.14	65,66,78,78	13
5	K	B	604	1/1	0.88	0.10	89,89,89,89	0
3	OXL	A	602	6/6	0.88	0.12	80,81,81,81	0
5	K	A	604	1/1	0.88	0.16	108,108,108,108	0
2	FBP	B	601	20/20	0.89	0.11	64,65,68,68	0
3	OXL	B	602	6/6	0.91	0.10	56,56,57,57	0
2	FBP	F	601	20/20	0.91	0.10	54,60,64,64	0

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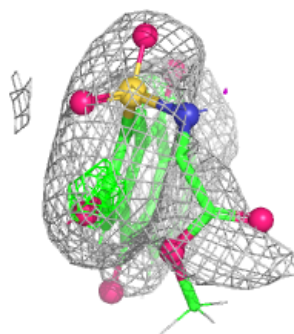
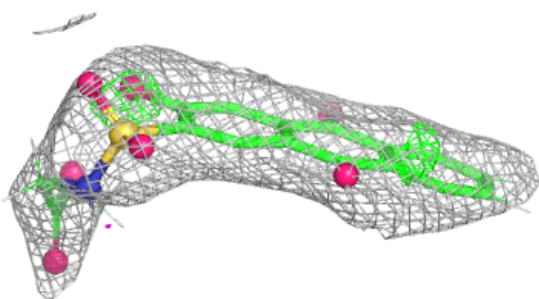
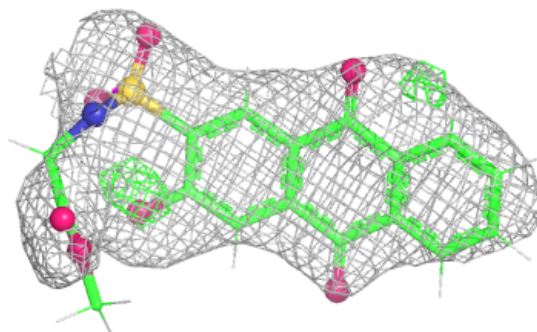
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	FBP	A	601	20/20	0.91	0.09	54,56,57,57	0
2	FBP	E	601	20/20	0.92	0.09	53,54,55,55	0
3	OXL	C	602	6/6	0.92	0.10	55,55,55,55	0
3	OXL	D	602	6/6	0.93	0.11	46,47,47,47	0
5	K	G	605	1/1	0.93	0.08	72,72,72,72	0
3	OXL	H	602	6/6	0.94	0.08	38,38,40,40	0
5	K	C	605	1/1	0.94	0.09	78,78,78,78	0
4	MG	D	603	1/1	0.94	0.17	21,21,21,21	0
3	OXL	G	602	6/6	0.94	0.09	40,41,42,43	0
5	K	F	605	1/1	0.95	0.07	87,87,87,87	0
3	OXL	F	602	6/6	0.95	0.09	56,57,59,59	0
4	MG	B	603	1/1	0.96	0.16	41,41,41,41	0
4	MG	F	604	1/1	0.96	0.11	22,22,22,22	0
4	MG	E	604	1/1	0.97	0.14	36,36,36,36	0
2	FBP	H	601	20/20	0.98	0.05	23,25,28,29	0
2	FBP	G	601	20/20	0.98	0.05	28,29,30,30	0
5	K	D	604	1/1	0.98	0.06	48,48,48,48	0
5	K	H	604	1/1	0.98	0.08	53,53,53,53	0
2	FBP	D	601	20/20	0.99	0.04	27,29,33,33	0
4	MG	A	603	1/1	0.99	0.05	38,38,38,38	0
2	FBP	C	601	20/20	0.99	0.04	26,28,30,30	0
4	MG	C	604	1/1	1.00	0.07	23,23,23,23	0
4	MG	G	604	1/1	1.00	0.09	15,15,15,15	0
4	MG	H	603	1/1	1.00	0.07	14,14,14,14	0

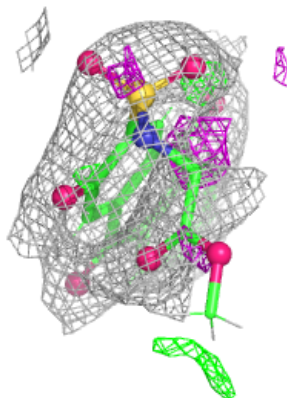
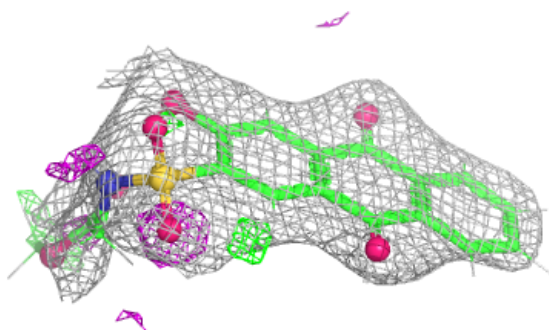
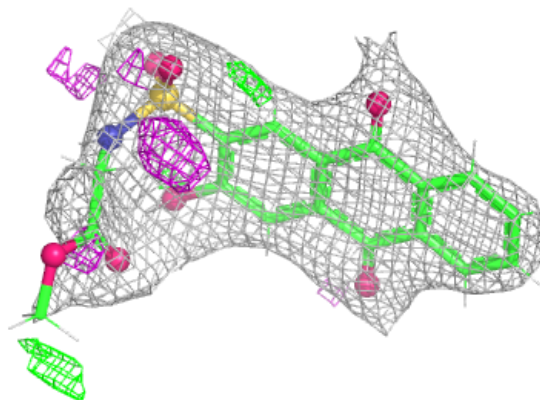
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around I9C C 603:

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

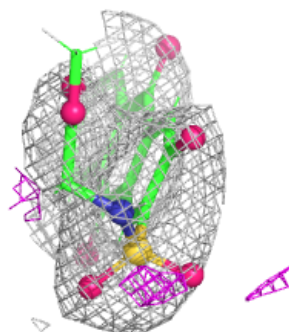
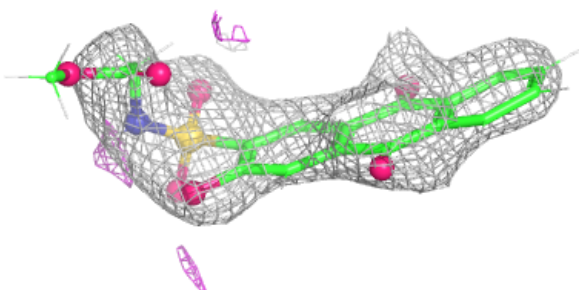
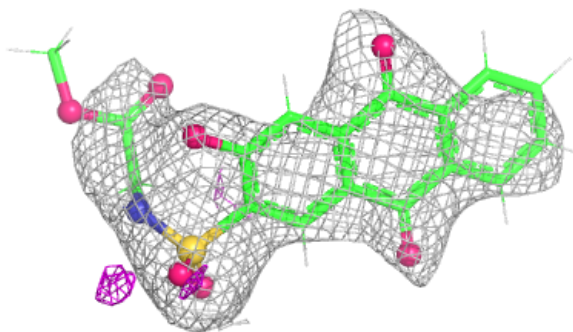
**Electron density around I9C F 603:**

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

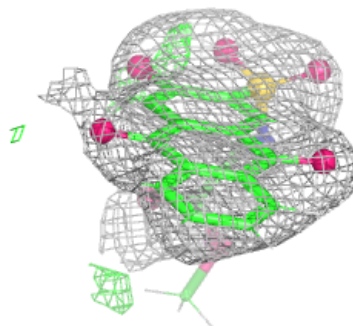
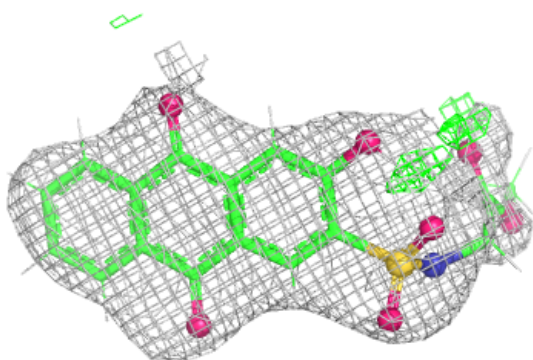
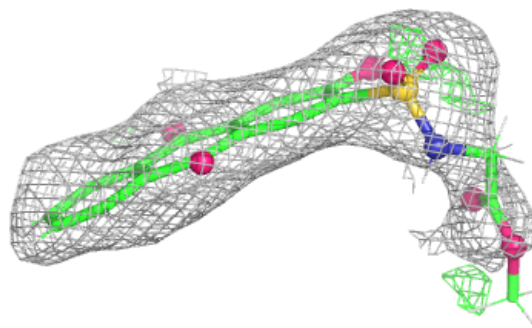


Electron density around I9C E 603:

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

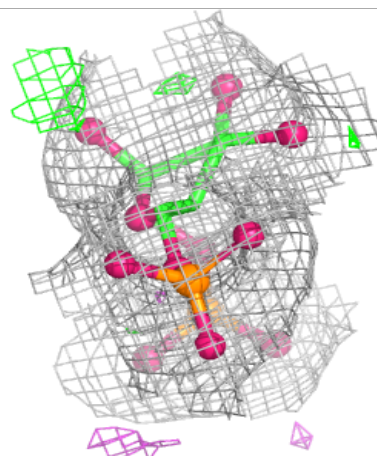
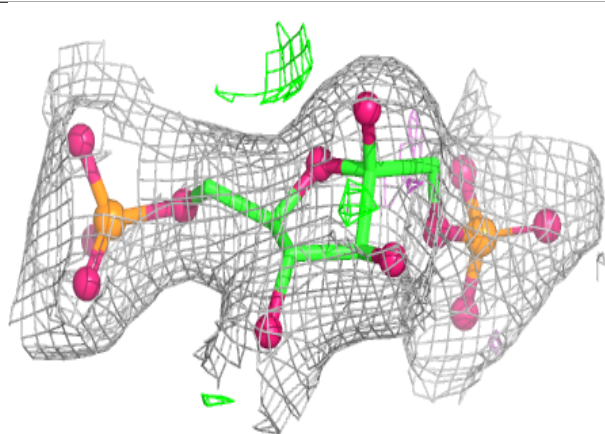
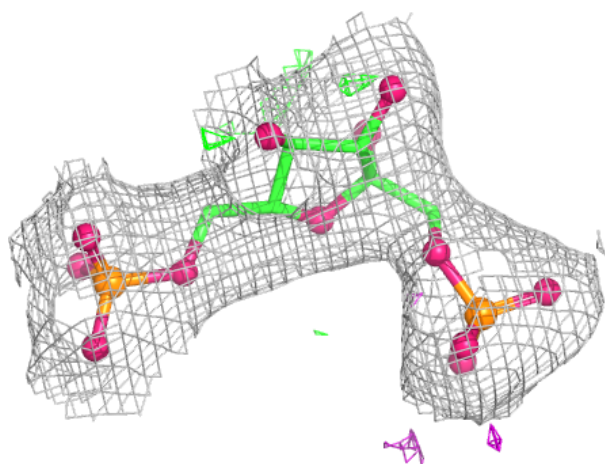
**Electron density around I9C G 603:**

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



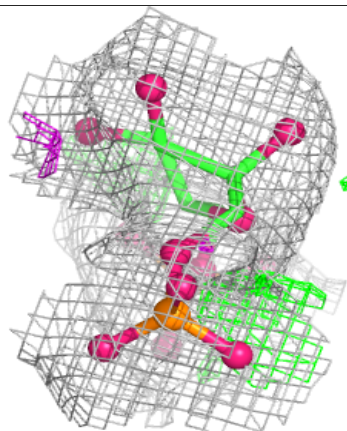
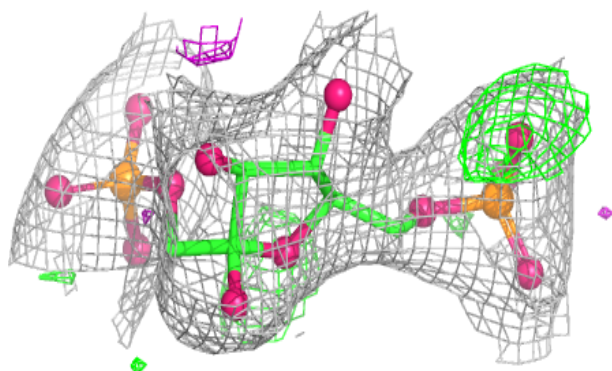
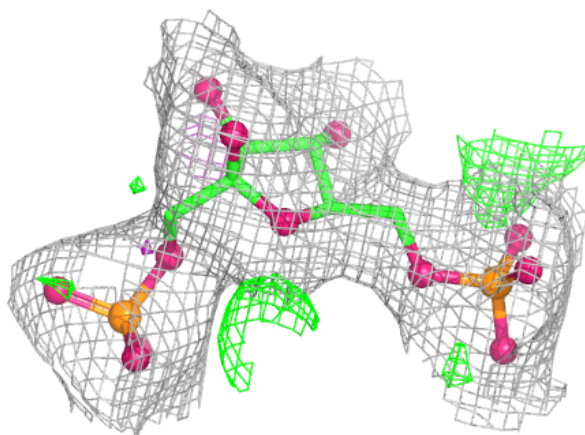
Electron density around FBP B 601:

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

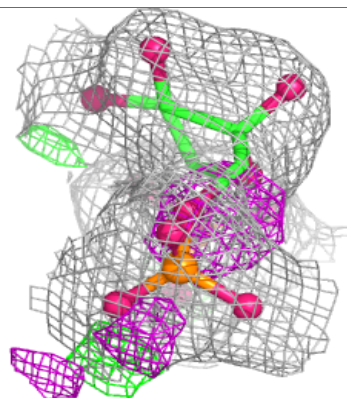
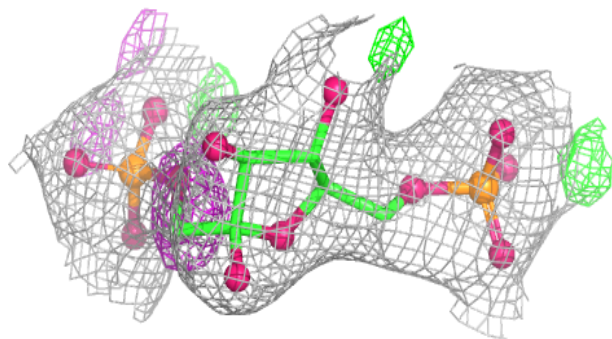
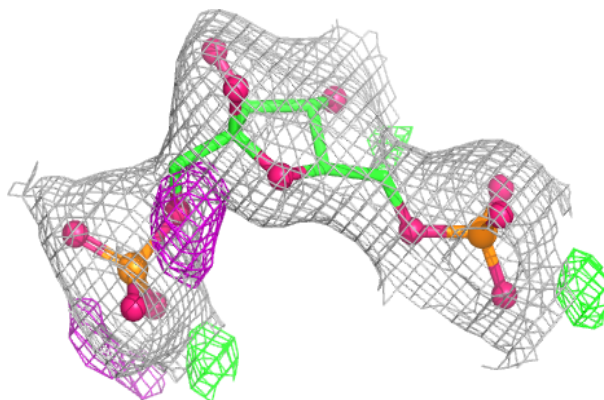


Electron density around FBP F 601:

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

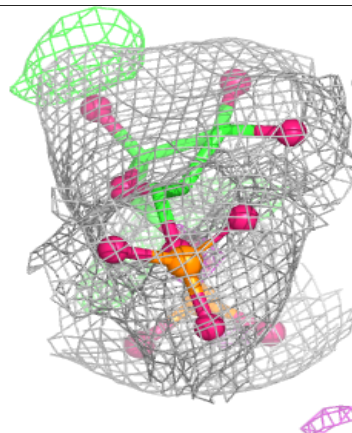
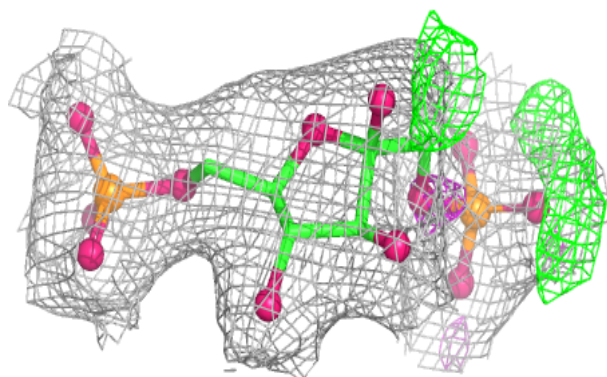
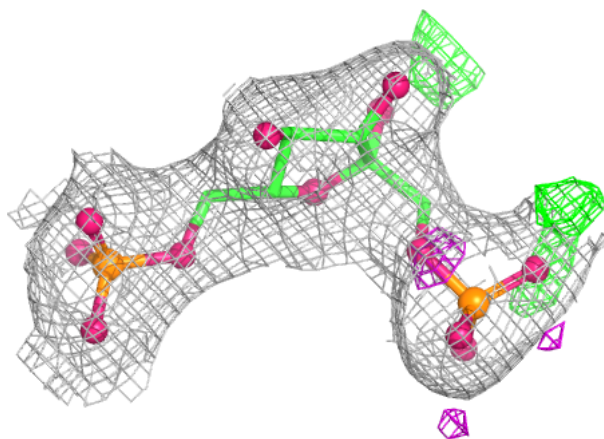
**Electron density around FBP A 601:**

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

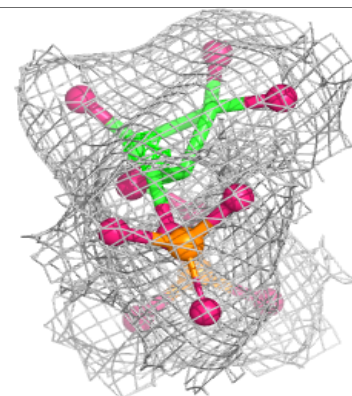
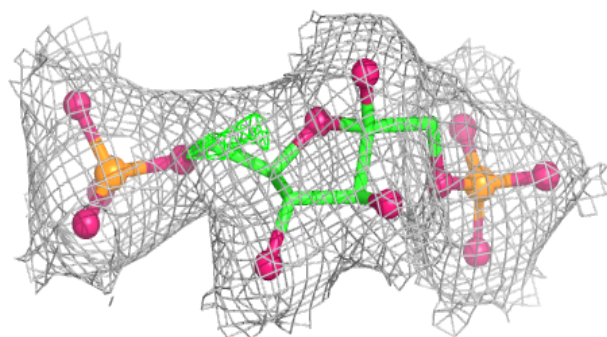
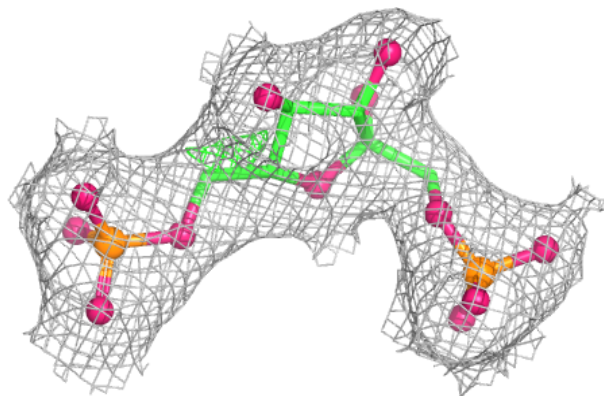


Electron density around FBP E 601:

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

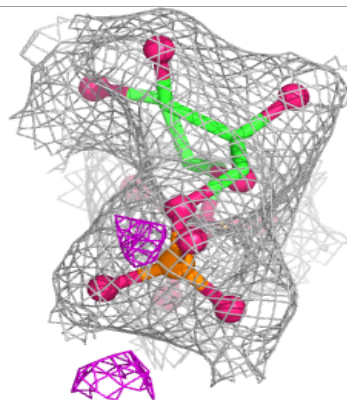
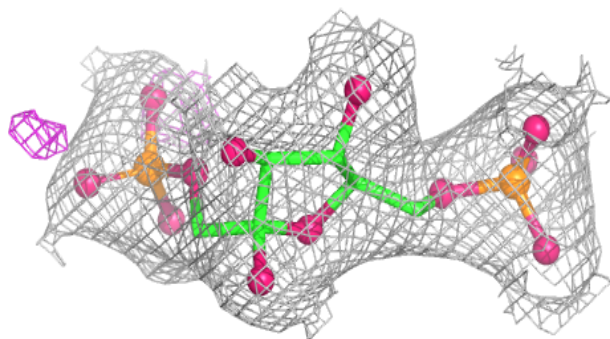
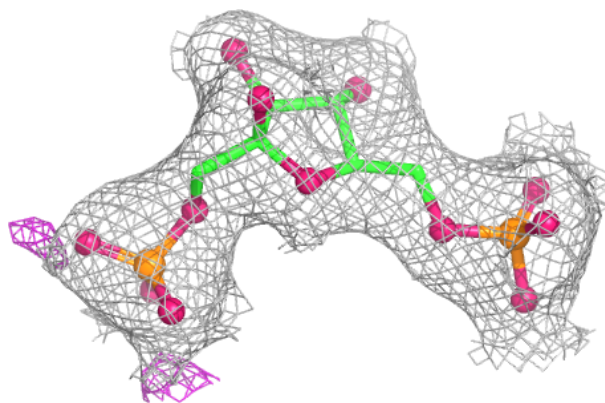
**Electron density around FBP H 601:**

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

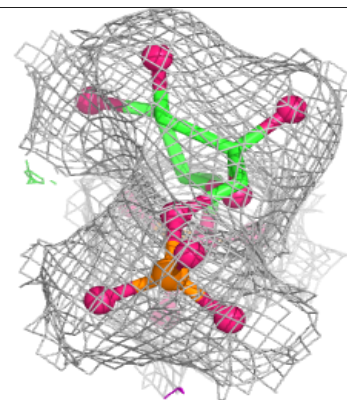
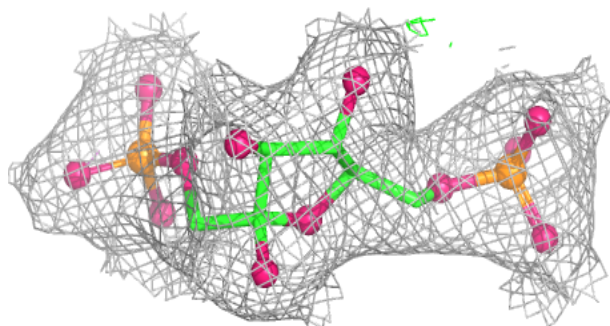
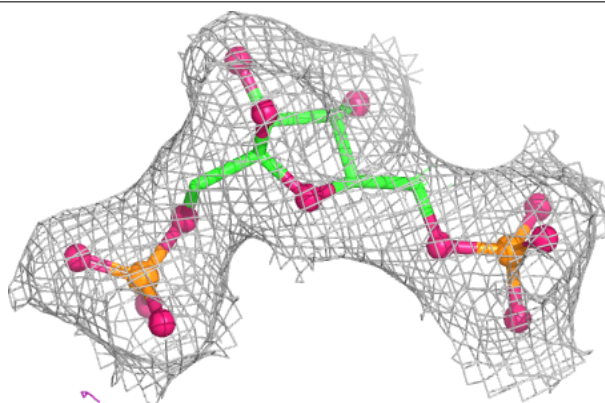


Electron density around FBP G 601:

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

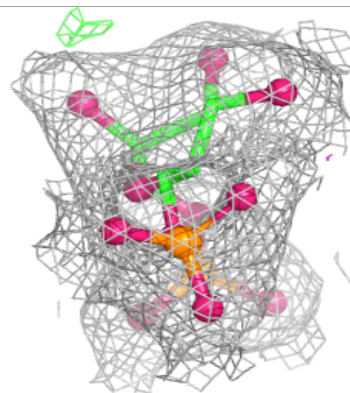
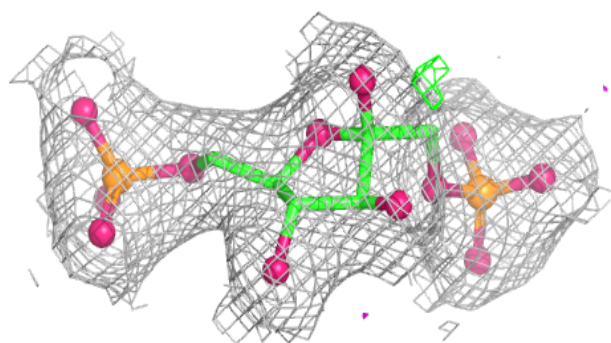
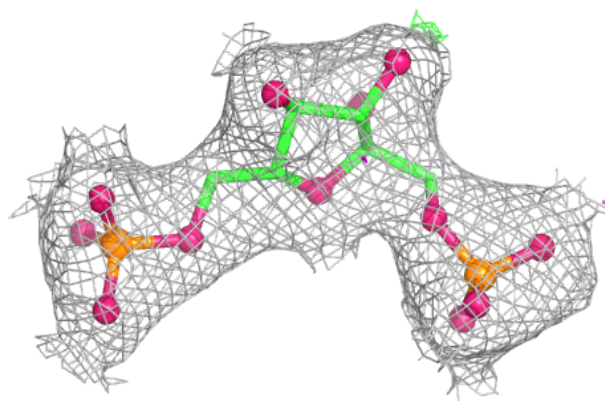
**Electron density around FBP D 601:**

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



Electron density around FBP C 601:

$2mF_o-DF_c$ (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.