Full wwPDB X-ray Structure Validation Report ⓘ

May 17, 2020 – 05:27 pm BST

PDB ID	:	6H4F
Title	:	TarP-3RboP
Authors	:	Guo, Y.; Stehle, T.
Deposited on	:	2018-07-21
Resolution	:	2.18 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 following versions of software and data (see references ⓘ) were used in the production of this report:

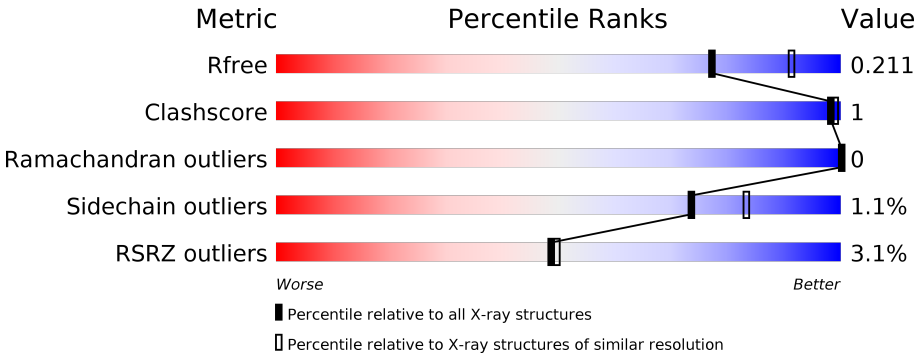
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.11
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.11

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 2.18 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}	130704	6864 (2.20-2.16)
Clashscore	141614	7689 (2.20-2.16)
Ramachandran outliers	138981	7564 (2.20-2.16)
Sidechain outliers	138945	7564 (2.20-2.16)
RSRZ outliers	127900	6738 (2.20-2.16)

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

Mol	Chain	Length	Quality of chain
1	A	345	89% · 8%
1	B	345	90% · 8%
1	C	345	2% 90% · 9%
1	D	345	% 90% · 9%
1	E	345	89% · 8%
1	F	345	90% · 9%

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Mol	Chain	Length	Quality of chain
1	G	345	89% 9%
1	H	345	90% 8%
1	I	345	% 88% 10%
1	O	345	90% 8%
1	P	345	16% 86% 11%
1	Q	345	13% 87% 10%

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	MG	B	402	-	-	-	X

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 32595 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 Probable ss-1,3-N-acetylglucosaminyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	B	318	Total	C	N	O	S	0	1	0
			2539	1627	423	481	8			
1	C	314	Total	C	N	O	S	0	0	0
			2487	1600	413	466	8			
1	F	315	Total	C	N	O	S	0	0	0
			2506	1614	411	473	8			
1	O	316	Total	C	N	O	S	0	1	0
			2516	1617	414	477	8			
1	P	307	Total	C	N	O	S	0	0	0
			2299	1482	379	431	7			
1	E	317	Total	C	N	O	S	0	2	0
			2542	1637	424	473	8			
1	G	314	Total	C	N	O	S	0	0	0
			2485	1601	408	468	8			
1	Q	312	Total	C	N	O	S	0	0	0
			2376	1523	396	449	8			
1	A	317	Total	C	N	O	S	0	0	0
			2527	1624	420	475	8			
1	D	314	Total	C	N	O	S	0	0	0
			2482	1598	411	465	8			
1	H	318	Total	C	N	O	S	0	0	0
			2546	1634	421	483	8			
1	I	311	Total	C	N	O	S	0	0	0
			2451	1579	405	459	8			

There are 216 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
B	-16	ARG	-	expression tag	UNP A0A0H3JNB0
B	-15	GLY	-	expression tag	UNP A0A0H3JNB0
B	-14	SER	-	expression tag	UNP A0A0H3JNB0
B	-13	HIS	-	expression tag	UNP A0A0H3JNB0

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-12	HIS	-	expression tag	UNP A0A0H3JNB0
B	-11	HIS	-	expression tag	UNP A0A0H3JNB0
B	-10	HIS	-	expression tag	UNP A0A0H3JNB0
B	-9	HIS	-	expression tag	UNP A0A0H3JNB0
B	-8	HIS	-	expression tag	UNP A0A0H3JNB0
B	-7	GLY	-	expression tag	UNP A0A0H3JNB0
B	-6	SER	-	expression tag	UNP A0A0H3JNB0
B	-5	LEU	-	expression tag	UNP A0A0H3JNB0
B	-4	VAL	-	expression tag	UNP A0A0H3JNB0
B	-3	PRO	-	expression tag	UNP A0A0H3JNB0
B	-2	ARG	-	expression tag	UNP A0A0H3JNB0
B	-1	GLY	-	expression tag	UNP A0A0H3JNB0
B	0	SER	-	expression tag	UNP A0A0H3JNB0
C	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
C	-16	ARG	-	expression tag	UNP A0A0H3JNB0
C	-15	GLY	-	expression tag	UNP A0A0H3JNB0
C	-14	SER	-	expression tag	UNP A0A0H3JNB0
C	-13	HIS	-	expression tag	UNP A0A0H3JNB0
C	-12	HIS	-	expression tag	UNP A0A0H3JNB0
C	-11	HIS	-	expression tag	UNP A0A0H3JNB0
C	-10	HIS	-	expression tag	UNP A0A0H3JNB0
C	-9	HIS	-	expression tag	UNP A0A0H3JNB0
C	-8	HIS	-	expression tag	UNP A0A0H3JNB0
C	-7	GLY	-	expression tag	UNP A0A0H3JNB0
C	-6	SER	-	expression tag	UNP A0A0H3JNB0
C	-5	LEU	-	expression tag	UNP A0A0H3JNB0
C	-4	VAL	-	expression tag	UNP A0A0H3JNB0
C	-3	PRO	-	expression tag	UNP A0A0H3JNB0
C	-2	ARG	-	expression tag	UNP A0A0H3JNB0
C	-1	GLY	-	expression tag	UNP A0A0H3JNB0
C	0	SER	-	expression tag	UNP A0A0H3JNB0
F	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
F	-16	ARG	-	expression tag	UNP A0A0H3JNB0
F	-15	GLY	-	expression tag	UNP A0A0H3JNB0
F	-14	SER	-	expression tag	UNP A0A0H3JNB0
F	-13	HIS	-	expression tag	UNP A0A0H3JNB0
F	-12	HIS	-	expression tag	UNP A0A0H3JNB0
F	-11	HIS	-	expression tag	UNP A0A0H3JNB0
F	-10	HIS	-	expression tag	UNP A0A0H3JNB0
F	-9	HIS	-	expression tag	UNP A0A0H3JNB0
F	-8	HIS	-	expression tag	UNP A0A0H3JNB0
F	-7	GLY	-	expression tag	UNP A0A0H3JNB0

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Chain	Residue	Modelled	Actual	Comment	Reference
F	-6	SER	-	expression tag	UNP A0A0H3JNB0
F	-5	LEU	-	expression tag	UNP A0A0H3JNB0
F	-4	VAL	-	expression tag	UNP A0A0H3JNB0
F	-3	PRO	-	expression tag	UNP A0A0H3JNB0
F	-2	ARG	-	expression tag	UNP A0A0H3JNB0
F	-1	GLY	-	expression tag	UNP A0A0H3JNB0
F	0	SER	-	expression tag	UNP A0A0H3JNB0
O	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
O	-16	ARG	-	expression tag	UNP A0A0H3JNB0
O	-15	GLY	-	expression tag	UNP A0A0H3JNB0
O	-14	SER	-	expression tag	UNP A0A0H3JNB0
O	-13	HIS	-	expression tag	UNP A0A0H3JNB0
O	-12	HIS	-	expression tag	UNP A0A0H3JNB0
O	-11	HIS	-	expression tag	UNP A0A0H3JNB0
O	-10	HIS	-	expression tag	UNP A0A0H3JNB0
O	-9	HIS	-	expression tag	UNP A0A0H3JNB0
O	-8	HIS	-	expression tag	UNP A0A0H3JNB0
O	-7	GLY	-	expression tag	UNP A0A0H3JNB0
O	-6	SER	-	expression tag	UNP A0A0H3JNB0
O	-5	LEU	-	expression tag	UNP A0A0H3JNB0
O	-4	VAL	-	expression tag	UNP A0A0H3JNB0
O	-3	PRO	-	expression tag	UNP A0A0H3JNB0
O	-2	ARG	-	expression tag	UNP A0A0H3JNB0
O	-1	GLY	-	expression tag	UNP A0A0H3JNB0
O	0	SER	-	expression tag	UNP A0A0H3JNB0
P	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
P	-16	ARG	-	expression tag	UNP A0A0H3JNB0
P	-15	GLY	-	expression tag	UNP A0A0H3JNB0
P	-14	SER	-	expression tag	UNP A0A0H3JNB0
P	-13	HIS	-	expression tag	UNP A0A0H3JNB0
P	-12	HIS	-	expression tag	UNP A0A0H3JNB0
P	-11	HIS	-	expression tag	UNP A0A0H3JNB0
P	-10	HIS	-	expression tag	UNP A0A0H3JNB0
P	-9	HIS	-	expression tag	UNP A0A0H3JNB0
P	-8	HIS	-	expression tag	UNP A0A0H3JNB0
P	-7	GLY	-	expression tag	UNP A0A0H3JNB0
P	-6	SER	-	expression tag	UNP A0A0H3JNB0
P	-5	LEU	-	expression tag	UNP A0A0H3JNB0
P	-4	VAL	-	expression tag	UNP A0A0H3JNB0
P	-3	PRO	-	expression tag	UNP A0A0H3JNB0
P	-2	ARG	-	expression tag	UNP A0A0H3JNB0
P	-1	GLY	-	expression tag	UNP A0A0H3JNB0

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Chain	Residue	Modelled	Actual	Comment	Reference
P	0	SER	-	expression tag	UNP A0A0H3JNB0
E	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
E	-16	ARG	-	expression tag	UNP A0A0H3JNB0
E	-15	GLY	-	expression tag	UNP A0A0H3JNB0
E	-14	SER	-	expression tag	UNP A0A0H3JNB0
E	-13	HIS	-	expression tag	UNP A0A0H3JNB0
E	-12	HIS	-	expression tag	UNP A0A0H3JNB0
E	-11	HIS	-	expression tag	UNP A0A0H3JNB0
E	-10	HIS	-	expression tag	UNP A0A0H3JNB0
E	-9	HIS	-	expression tag	UNP A0A0H3JNB0
E	-8	HIS	-	expression tag	UNP A0A0H3JNB0
E	-7	GLY	-	expression tag	UNP A0A0H3JNB0
E	-6	SER	-	expression tag	UNP A0A0H3JNB0
E	-5	LEU	-	expression tag	UNP A0A0H3JNB0
E	-4	VAL	-	expression tag	UNP A0A0H3JNB0
E	-3	PRO	-	expression tag	UNP A0A0H3JNB0
E	-2	ARG	-	expression tag	UNP A0A0H3JNB0
E	-1	GLY	-	expression tag	UNP A0A0H3JNB0
E	0	SER	-	expression tag	UNP A0A0H3JNB0
G	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
G	-16	ARG	-	expression tag	UNP A0A0H3JNB0
G	-15	GLY	-	expression tag	UNP A0A0H3JNB0
G	-14	SER	-	expression tag	UNP A0A0H3JNB0
G	-13	HIS	-	expression tag	UNP A0A0H3JNB0
G	-12	HIS	-	expression tag	UNP A0A0H3JNB0
G	-11	HIS	-	expression tag	UNP A0A0H3JNB0
G	-10	HIS	-	expression tag	UNP A0A0H3JNB0
G	-9	HIS	-	expression tag	UNP A0A0H3JNB0
G	-8	HIS	-	expression tag	UNP A0A0H3JNB0
G	-7	GLY	-	expression tag	UNP A0A0H3JNB0
G	-6	SER	-	expression tag	UNP A0A0H3JNB0
G	-5	LEU	-	expression tag	UNP A0A0H3JNB0
G	-4	VAL	-	expression tag	UNP A0A0H3JNB0
G	-3	PRO	-	expression tag	UNP A0A0H3JNB0
G	-2	ARG	-	expression tag	UNP A0A0H3JNB0
G	-1	GLY	-	expression tag	UNP A0A0H3JNB0
G	0	SER	-	expression tag	UNP A0A0H3JNB0
Q	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
Q	-16	ARG	-	expression tag	UNP A0A0H3JNB0
Q	-15	GLY	-	expression tag	UNP A0A0H3JNB0
Q	-14	SER	-	expression tag	UNP A0A0H3JNB0
Q	-13	HIS	-	expression tag	UNP A0A0H3JNB0

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Chain	Residue	Modelled	Actual	Comment	Reference
Q	-12	HIS	-	expression tag	UNP A0A0H3JNB0
Q	-11	HIS	-	expression tag	UNP A0A0H3JNB0
Q	-10	HIS	-	expression tag	UNP A0A0H3JNB0
Q	-9	HIS	-	expression tag	UNP A0A0H3JNB0
Q	-8	HIS	-	expression tag	UNP A0A0H3JNB0
Q	-7	GLY	-	expression tag	UNP A0A0H3JNB0
Q	-6	SER	-	expression tag	UNP A0A0H3JNB0
Q	-5	LEU	-	expression tag	UNP A0A0H3JNB0
Q	-4	VAL	-	expression tag	UNP A0A0H3JNB0
Q	-3	PRO	-	expression tag	UNP A0A0H3JNB0
Q	-2	ARG	-	expression tag	UNP A0A0H3JNB0
Q	-1	GLY	-	expression tag	UNP A0A0H3JNB0
Q	0	SER	-	expression tag	UNP A0A0H3JNB0
A	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
A	-16	ARG	-	expression tag	UNP A0A0H3JNB0
A	-15	GLY	-	expression tag	UNP A0A0H3JNB0
A	-14	SER	-	expression tag	UNP A0A0H3JNB0
A	-13	HIS	-	expression tag	UNP A0A0H3JNB0
A	-12	HIS	-	expression tag	UNP A0A0H3JNB0
A	-11	HIS	-	expression tag	UNP A0A0H3JNB0
A	-10	HIS	-	expression tag	UNP A0A0H3JNB0
A	-9	HIS	-	expression tag	UNP A0A0H3JNB0
A	-8	HIS	-	expression tag	UNP A0A0H3JNB0
A	-7	GLY	-	expression tag	UNP A0A0H3JNB0
A	-6	SER	-	expression tag	UNP A0A0H3JNB0
A	-5	LEU	-	expression tag	UNP A0A0H3JNB0
A	-4	VAL	-	expression tag	UNP A0A0H3JNB0
A	-3	PRO	-	expression tag	UNP A0A0H3JNB0
A	-2	ARG	-	expression tag	UNP A0A0H3JNB0
A	-1	GLY	-	expression tag	UNP A0A0H3JNB0
A	0	SER	-	expression tag	UNP A0A0H3JNB0
D	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
D	-16	ARG	-	expression tag	UNP A0A0H3JNB0
D	-15	GLY	-	expression tag	UNP A0A0H3JNB0
D	-14	SER	-	expression tag	UNP A0A0H3JNB0
D	-13	HIS	-	expression tag	UNP A0A0H3JNB0
D	-12	HIS	-	expression tag	UNP A0A0H3JNB0
D	-11	HIS	-	expression tag	UNP A0A0H3JNB0
D	-10	HIS	-	expression tag	UNP A0A0H3JNB0
D	-9	HIS	-	expression tag	UNP A0A0H3JNB0
D	-8	HIS	-	expression tag	UNP A0A0H3JNB0
D	-7	GLY	-	expression tag	UNP A0A0H3JNB0

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-6	SER	-	expression tag	UNP A0A0H3JNB0
D	-5	LEU	-	expression tag	UNP A0A0H3JNB0
D	-4	VAL	-	expression tag	UNP A0A0H3JNB0
D	-3	PRO	-	expression tag	UNP A0A0H3JNB0
D	-2	ARG	-	expression tag	UNP A0A0H3JNB0
D	-1	GLY	-	expression tag	UNP A0A0H3JNB0
D	0	SER	-	expression tag	UNP A0A0H3JNB0
H	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
H	-16	ARG	-	expression tag	UNP A0A0H3JNB0
H	-15	GLY	-	expression tag	UNP A0A0H3JNB0
H	-14	SER	-	expression tag	UNP A0A0H3JNB0
H	-13	HIS	-	expression tag	UNP A0A0H3JNB0
H	-12	HIS	-	expression tag	UNP A0A0H3JNB0
H	-11	HIS	-	expression tag	UNP A0A0H3JNB0
H	-10	HIS	-	expression tag	UNP A0A0H3JNB0
H	-9	HIS	-	expression tag	UNP A0A0H3JNB0
H	-8	HIS	-	expression tag	UNP A0A0H3JNB0
H	-7	GLY	-	expression tag	UNP A0A0H3JNB0
H	-6	SER	-	expression tag	UNP A0A0H3JNB0
H	-5	LEU	-	expression tag	UNP A0A0H3JNB0
H	-4	VAL	-	expression tag	UNP A0A0H3JNB0
H	-3	PRO	-	expression tag	UNP A0A0H3JNB0
H	-2	ARG	-	expression tag	UNP A0A0H3JNB0
H	-1	GLY	-	expression tag	UNP A0A0H3JNB0
H	0	SER	-	expression tag	UNP A0A0H3JNB0
I	-17	MET	-	initiating methionine	UNP A0A0H3JNB0
I	-16	ARG	-	expression tag	UNP A0A0H3JNB0
I	-15	GLY	-	expression tag	UNP A0A0H3JNB0
I	-14	SER	-	expression tag	UNP A0A0H3JNB0
I	-13	HIS	-	expression tag	UNP A0A0H3JNB0
I	-12	HIS	-	expression tag	UNP A0A0H3JNB0
I	-11	HIS	-	expression tag	UNP A0A0H3JNB0
I	-10	HIS	-	expression tag	UNP A0A0H3JNB0
I	-9	HIS	-	expression tag	UNP A0A0H3JNB0
I	-8	HIS	-	expression tag	UNP A0A0H3JNB0
I	-7	GLY	-	expression tag	UNP A0A0H3JNB0
I	-6	SER	-	expression tag	UNP A0A0H3JNB0
I	-5	LEU	-	expression tag	UNP A0A0H3JNB0
I	-4	VAL	-	expression tag	UNP A0A0H3JNB0
I	-3	PRO	-	expression tag	UNP A0A0H3JNB0
I	-2	ARG	-	expression tag	UNP A0A0H3JNB0
I	-1	GLY	-	expression tag	UNP A0A0H3JNB0

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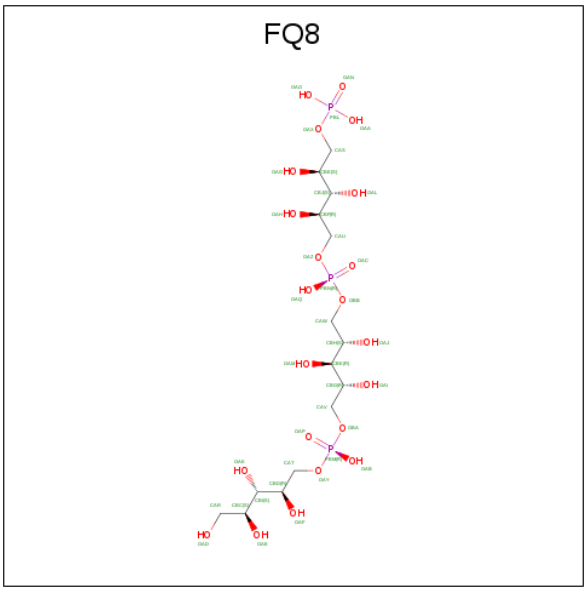
Chain	Residue	Modelled	Actual	Comment	Reference
I	0	SER	-	expression tag	UNP A0A0H3JNB0

- Molecule 2 is [(2 {R},3 {S},4 {S})-2,3,4,5-tetrakis(oxidanyl)pentyl] [(2 {R},3 {R},4 {S}) -2,3,4-tris(oxidanyl)-5-[oxidanyl-[(2 {R},3 {S},4 {S})-2,3,4-tris(oxidanyl)-5-phosphonoo xy-pentoxy]phosphoryl]oxy-pentyl] hydrogen phosphate (three-letter code: FQ8) (formula: $C_{15}H_{35}O_{22}P_3$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	B	1	Total	C	O	P	0	0
			40	15	22	3		
2	C	1	Total	C	O	P	0	0
			40	15	22	3		
2	F	1	Total	C	O	P	0	0
			40	15	22	3		
2	O	1	Total	C	O	P	0	0
			40	15	22	3		
2	P	1	Total	C	O	P	0	0
			40	15	22	3		
2	E	1	Total	C	O	P	0	0
			40	15	22	3		
2	G	1	Total	C	O	P	0	0
			40	15	22	3		
2	Q	1	Total	C	O	P	0	0
			40	15	22	3		
2	A	1	Total	C	O	P	0	0
			40	15	22	3		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	D	1	Total C O P 40 15 22 3	0	0
2	H	1	Total C O P 40 15 22 3	0	0
2	I	1	Total C O P 40 15 22 3	0	0

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	H	1	Total Mg 1 1	0	0
3	B	1	Total Mg 1 1	0	0
3	Q	1	Total Mg 1 1	0	0
3	D	1	Total Mg 1 1	0	0

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

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

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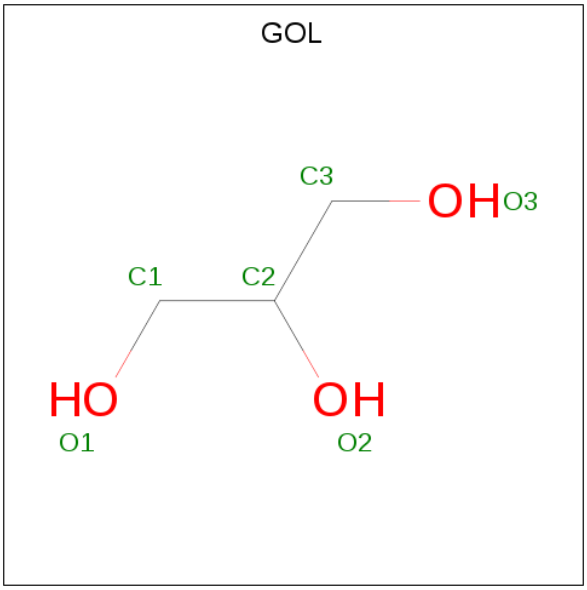
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	F	1	Total Cl 1 1	0	0

- Molecule 5 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	1	Total C O 6 3 3	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	B	239	Total O 239 239	0	0
6	C	173	Total O 173 173	0	0
6	F	232	Total O 232 232	0	0
6	O	224	Total O 224 224	0	0
6	P	99	Total O 99 99	0	0
6	E	240	Total O 240 240	0	0
6	G	188	Total O 188 188	0	0

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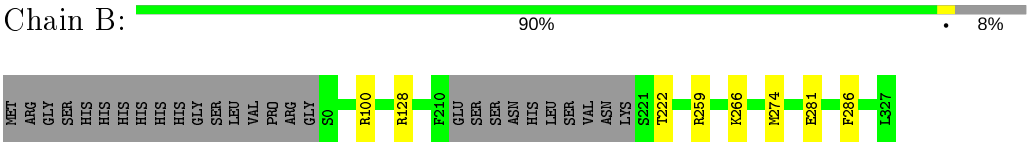
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	Q	113	Total O 113 113	0	0
6	A	231	Total O 231 231	0	0
6	D	171	Total O 171 171	0	0
6	H	248	Total O 248 248	0	0
6	I	174	Total O 174 174	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA and DNA 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.

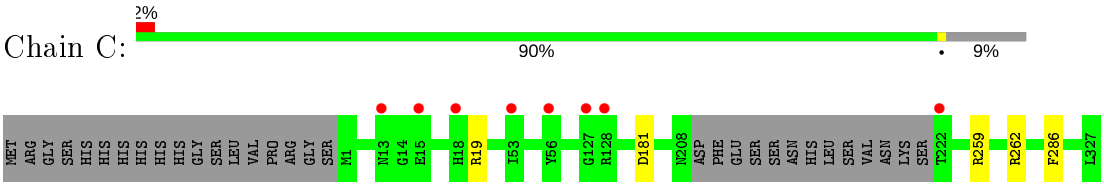
- Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain B:



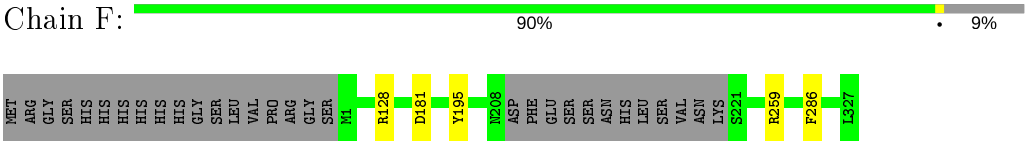
- Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain C:



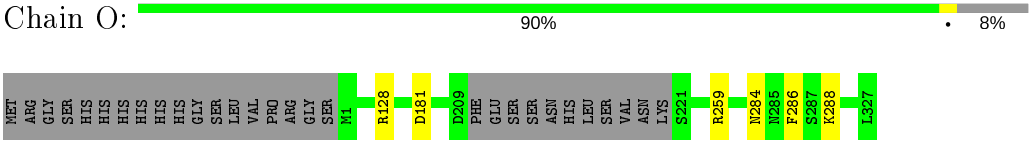
- Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain F:



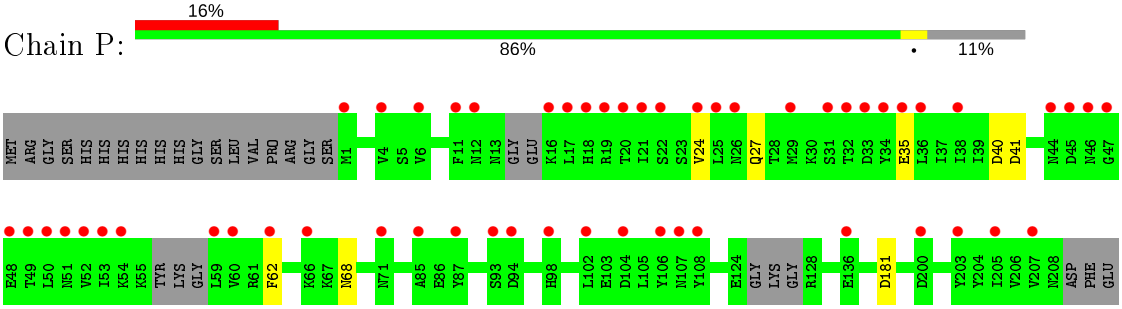
- Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

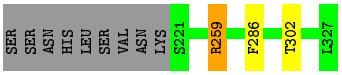
Chain O:



- Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

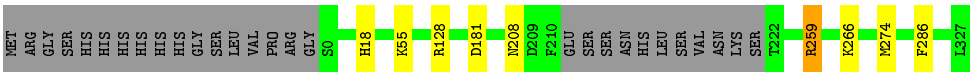
Chain P:





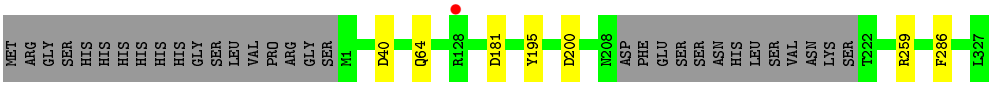
• Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain E:



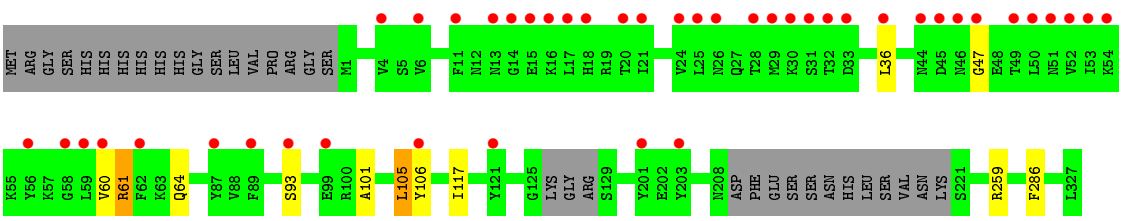
• Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain G:



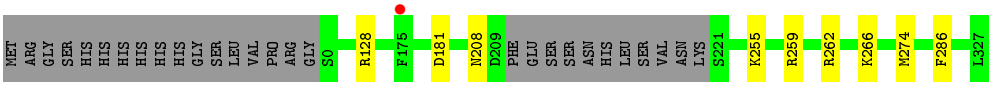
• Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain Q:



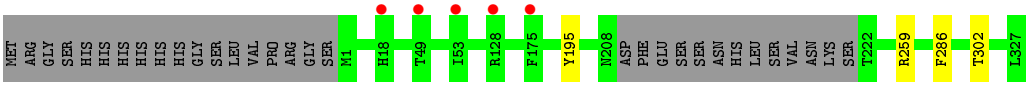
• Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain A:



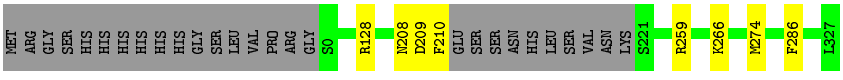
• Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain D:



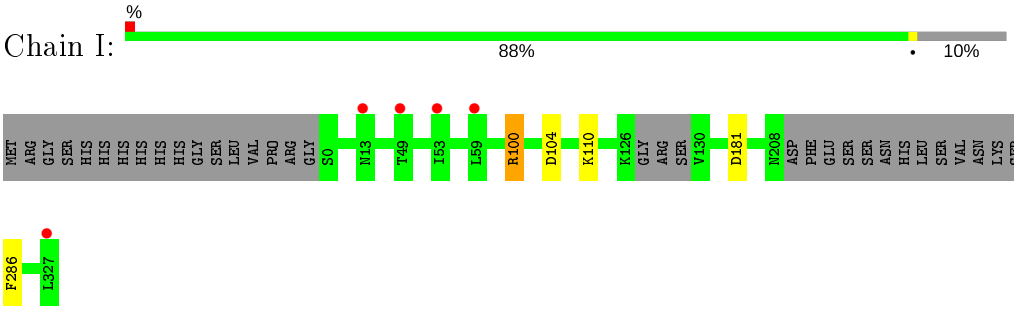
• Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain H:



• Molecule 1: Probable ss-1,3-N-acetylglucosaminyltransferase

Chain I:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	95.61Å 217.27Å 123.99Å 90.00° 91.38° 90.00°	Depositor
Resolution (Å)	49.75 – 2.18 49.75 – 2.18	Depositor EDS
% Data completeness (in resolution range)	100.0 (49.75-2.18) 100.0 (49.75-2.18)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.14	Depositor
$< I/\sigma(I) >$ [1]	1.69 (at 2.18Å)	Xtriage
Refinement program	REFMAC 5.8.0230	Depositor
R, R_{free}	0.172 , 0.205 0.179 , 0.211	Depositor DCC
R_{free} test set	13105 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	36.8	Xtriage
Anisotropy	0.396	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 53.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.046 for h,-k,-l	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	32595	wwPDB-VP
Average B, all atoms (Å^2)	46.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 13.53% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: GOL, MG, FQ8, CL

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	0.48	0/2569	0.60	0/3457
1	B	0.46	0/2584	0.59	0/3476
1	C	0.40	0/2529	0.57	0/3405
1	D	0.43	0/2525	0.58	0/3404
1	E	0.48	0/2592	0.62	0/3487
1	F	0.45	0/2548	0.58	0/3430
1	G	0.44	0/2527	0.58	1/3406 (0.0%)
1	H	0.47	0/2589	0.61	0/3483
1	I	0.41	0/2491	0.57	0/3356
1	O	0.44	0/2561	0.58	0/3448
1	P	0.46	1/2334 (0.0%)	0.64	3/3152 (0.1%)
1	Q	0.44	0/2415	0.62	1/3263 (0.0%)
All	All	0.45	1/30264 (0.0%)	0.60	5/40767 (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	B	0	1
1	C	0	1
1	E	0	1
1	I	0	1
1	P	0	1
1	Q	0	3
All	All	0	8

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	P	35	GLU	CD-OE1	-6.03	1.19	1.25

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	P	62	PHE	CB-CG-CD1	-7.23	115.74	120.80
1	Q	61	ARG	NE-CZ-NH2	7.17	123.89	120.30
1	P	62	PHE	CB-CG-CD2	6.96	125.67	120.80
1	P	40	ASP	CB-CG-OD2	5.21	122.99	118.30
1	G	200	ASP	CB-CG-OD2	5.21	122.99	118.30

There are no chirality outliers.

All (8) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	100	ARG	Sidechain
1	C	19	ARG	Sidechain
1	E	259	ARG	Sidechain
1	I	100	ARG	Sidechain
1	P	259	ARG	Sidechain
1	Q	47	GLY	Mainchain
1	Q	61	ARG	Sidechain
1	Q	93	SER	Mainchain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2527	0	2494	5	0
1	B	2539	0	2508	2	0
1	C	2487	0	2442	2	0
1	D	2482	0	2423	1	0
1	E	2542	0	2520	5	0
1	F	2506	0	2460	1	0
1	G	2485	0	2417	2	0
1	H	2546	0	2515	3	0
1	I	2451	0	2391	2	0
1	O	2516	0	2465	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	P	2299	0	2081	4	0
1	Q	2376	0	2197	8	0
2	A	40	0	0	3	0
2	B	40	0	0	0	0
2	C	40	0	0	2	0
2	D	40	0	0	1	0
2	E	40	0	0	2	0
2	F	40	0	0	1	0
2	G	40	0	0	1	0
2	H	40	0	0	0	0
2	I	40	0	0	1	0
2	O	40	0	0	1	0
2	P	40	0	0	2	0
2	Q	40	0	0	0	0
3	B	1	0	0	0	0
3	D	1	0	0	0	0
3	H	1	0	0	0	0
3	Q	1	0	0	0	0
4	A	2	0	0	0	0
4	B	3	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	2	0	0	0	0
4	H	2	0	0	0	0
4	I	1	0	0	0	0
4	O	2	0	0	0	0
4	Q	1	0	0	0	0
5	B	6	0	8	0	0
6	A	231	0	0	0	0
6	B	239	0	0	0	0
6	C	173	0	0	0	0
6	D	171	0	0	0	0
6	E	240	0	0	0	0
6	F	232	0	0	0	0
6	G	188	0	0	0	0
6	H	248	0	0	0	0
6	I	174	0	0	0	0
6	O	224	0	0	0	0
6	P	99	0	0	0	0
6	Q	113	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	32595	0	28921	37	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 1.

All (37) 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:Q:105:LEU:HD12	1:Q:117:ILE:CG2	2.01	0.90
1:Q:105:LEU:HD12	1:Q:117:ILE:HG22	1.62	0.80
1:Q:105:LEU:HD12	1:Q:117:ILE:HG21	1.68	0.75
1:O:181:ASP:OD2	2:O:401:FQ8:OAF	2.08	0.72
1:B:222:THR:HB	1:B:281:GLU:CD	2.12	0.71
1:P:41:ASP:OD1	1:P:68:ASN:HA	1.91	0.70
1:C:181:ASP:OD2	2:C:401:FQ8:OAF	2.09	0.70
1:E:181:ASP:OD2	2:E:401:FQ8:OAF	2.12	0.67
1:A:262:ARG:NH2	2:A:401:FQ8:OAO	2.26	0.63
1:P:181:ASP:OD2	2:P:401:FQ8:OAF	2.19	0.61
1:I:181:ASP:OD2	2:I:401:FQ8:OAF	2.21	0.57
1:Q:105:LEU:CD1	1:Q:117:ILE:HG22	2.35	0.53
1:E:181:ASP:OD1	2:E:401:FQ8:OAK	2.29	0.51
1:A:128:ARG:HG2	1:A:208:ASN:OD1	2.13	0.49
1:E:128:ARG:HG2	1:E:208:ASN:OD1	2.13	0.49
1:H:128:ARG:HG2	1:H:208:ASN:OD1	2.13	0.49
1:P:302:THR:OG1	2:P:401:FQ8:OAO	2.24	0.46
1:Q:36:LEU:HB3	1:Q:60:VAL:HG12	1.98	0.46
1:F:181:ASP:OD2	2:F:401:FQ8:OAF	2.35	0.45
1:H:209:ASP:O	1:H:210:PHE:C	2.56	0.44
1:G:181:ASP:OD2	2:G:401:FQ8:OAF	2.35	0.44
1:E:18[A]:HIS:HE1	1:E:55:LYS:CD	2.31	0.44
1:Q:106:TYR:CD1	1:Q:106:TYR:C	2.92	0.44
1:H:266:LYS:HD3	1:H:274:MET:HE1	2.00	0.43
1:O:284:ASN:ND2	1:O:288:LYS:HE2	2.34	0.43
1:P:24:VAL:O	1:P:27:GLN:HG2	2.18	0.43
1:E:266:LYS:HD3	1:E:274:MET:HE1	2.00	0.42
1:D:302:THR:OG1	2:D:401:FQ8:OAO	2.28	0.42
1:Q:101:ALA:O	1:Q:105:LEU:HB2	2.19	0.42
1:A:181:ASP:OD1	2:A:401:FQ8:OAK	2.38	0.42
1:A:266:LYS:HD3	1:A:274:MET:HE1	2.00	0.42
1:I:100:ARG:HD3	1:I:104:ASP:OD2	2.20	0.41
1:C:262:ARG:NH2	2:C:401:FQ8:OAO	2.43	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:40:ASP:HB3	1:G:64:GLN:OE1	2.20	0.41
1:B:266:LYS:HD3	1:B:274:MET:HE1	2.03	0.40
1:A:255:LYS:NZ	2:A:401:FQ8:OAA	2.51	0.40
1:Q:36:LEU:HD23	1:Q:60:VAL:HG11	2.02	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	313/345 (91%)	307 (98%)	6 (2%)	0	100	100
1	B	315/345 (91%)	309 (98%)	6 (2%)	0	100	100
1	C	310/345 (90%)	305 (98%)	5 (2%)	0	100	100
1	D	310/345 (90%)	305 (98%)	5 (2%)	0	100	100
1	E	315/345 (91%)	308 (98%)	7 (2%)	0	100	100
1	F	311/345 (90%)	306 (98%)	5 (2%)	0	100	100
1	G	310/345 (90%)	305 (98%)	5 (2%)	0	100	100
1	H	314/345 (91%)	308 (98%)	6 (2%)	0	100	100
1	I	305/345 (88%)	299 (98%)	6 (2%)	0	100	100
1	O	313/345 (91%)	307 (98%)	6 (2%)	0	100	100
1	P	297/345 (86%)	290 (98%)	7 (2%)	0	100	100
1	Q	306/345 (89%)	301 (98%)	5 (2%)	0	100	100
All	All	3719/4140 (90%)	3650 (98%)	69 (2%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	263/313 (84%)	261 (99%)	2 (1%)	81 89
1	B	268/313 (86%)	265 (99%)	3 (1%)	73 83
1	C	256/313 (82%)	254 (99%)	2 (1%)	81 89
1	D	255/313 (82%)	252 (99%)	3 (1%)	71 81
1	E	266/313 (85%)	264 (99%)	2 (1%)	81 89
1	F	258/313 (82%)	254 (98%)	4 (2%)	62 74
1	G	252/313 (80%)	249 (99%)	3 (1%)	71 81
1	H	269/313 (86%)	267 (99%)	2 (1%)	84 91
1	I	248/313 (79%)	245 (99%)	3 (1%)	71 81
1	O	261/313 (83%)	258 (99%)	3 (1%)	73 83
1	P	201/313 (64%)	199 (99%)	2 (1%)	76 85
1	Q	222/313 (71%)	218 (98%)	4 (2%)	59 70
All	All	3019/3756 (80%)	2986 (99%)	33 (1%)	73 83

All (33) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	128	ARG
1	B	259	ARG
1	B	286	PHE
1	C	259	ARG
1	C	286	PHE
1	F	128	ARG
1	F	195	TYR
1	F	259	ARG
1	F	286	PHE
1	O	128	ARG
1	O	259	ARG
1	O	286	PHE
1	P	259	ARG
1	P	286	PHE

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Mol	Chain	Res	Type
1	E	259	ARG
1	E	286	PHE
1	G	195	TYR
1	G	259	ARG
1	G	286	PHE
1	Q	64	GLN
1	Q	105	LEU
1	Q	259	ARG
1	Q	286	PHE
1	A	259	ARG
1	A	286	PHE
1	D	195	TYR
1	D	259	ARG
1	D	286	PHE
1	H	259	ARG
1	H	286	PHE
1	I	110	LYS
1	I	259	ARG
1	I	286	PHE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	Q	64	GLN

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 carbohydrates in this entry.

5.6 Ligand geometry (i)

Of 34 ligands modelled in this entry, 21 are monoatomic - leaving 13 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	FQ8	B	401	-	39,39,39	1.00	2 (5%)	54,56,56	0.92	2 (3%)
2	FQ8	D	401	-	39,39,39	0.96	2 (5%)	54,56,56	0.88	1 (1%)
2	FQ8	Q	401	-	39,39,39	1.01	3 (7%)	54,56,56	0.88	1 (1%)
2	FQ8	F	401	-	39,39,39	0.98	2 (5%)	54,56,56	0.89	2 (3%)
2	FQ8	H	401	-	39,39,39	1.00	2 (5%)	54,56,56	0.92	2 (3%)
2	FQ8	C	401	-	39,39,39	0.97	2 (5%)	54,56,56	0.82	1 (1%)
2	FQ8	P	401	-	39,39,39	0.98	2 (5%)	54,56,56	0.86	1 (1%)
2	FQ8	G	401	-	39,39,39	0.99	2 (5%)	54,56,56	0.86	1 (1%)
2	FQ8	A	401	-	39,39,39	1.00	2 (5%)	54,56,56	0.85	1 (1%)
5	GOL	B	406	-	5,5,5	0.47	0	5,5,5	0.75	0
2	FQ8	E	401	-	39,39,39	0.99	2 (5%)	54,56,56	0.85	1 (1%)
2	FQ8	O	401	-	39,39,39	0.98	2 (5%)	54,56,56	0.87	1 (1%)
2	FQ8	I	401	-	39,39,39	0.99	2 (5%)	54,56,56	0.88	1 (1%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	FQ8	B	401	-	-	25/56/56/56	-
2	FQ8	D	401	-	-	24/56/56/56	-
2	FQ8	Q	401	-	-	31/56/56/56	-
2	FQ8	F	401	-	-	26/56/56/56	-
2	FQ8	H	401	-	-	16/56/56/56	-
2	FQ8	C	401	-	-	29/56/56/56	-
2	FQ8	P	401	-	-	26/56/56/56	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	FQ8	G	401	-	-	17/56/56/56	-
2	FQ8	A	401	-	-	23/56/56/56	-
5	GOL	B	406	-	-	2/4/4/4	-
2	FQ8	E	401	-	-	16/56/56/56	-
2	FQ8	O	401	-	-	25/56/56/56	-
2	FQ8	I	401	-	-	12/56/56/56	-

All (25) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	I	401	FQ8	PBL-OAN	3.32	1.61	1.50
2	E	401	FQ8	PBL-OAN	3.30	1.61	1.50
2	A	401	FQ8	PBL-OAN	3.30	1.61	1.50
2	P	401	FQ8	PBL-OAN	3.29	1.61	1.50
2	G	401	FQ8	PBL-OAN	3.28	1.61	1.50
2	H	401	FQ8	PBL-OAN	3.26	1.61	1.50
2	B	401	FQ8	PBL-OAN	3.26	1.61	1.50
2	D	401	FQ8	PBL-OAN	3.23	1.61	1.50
2	Q	401	FQ8	PBL-OAN	3.23	1.60	1.50
2	C	401	FQ8	PBL-OAN	3.18	1.60	1.50
2	F	401	FQ8	PBL-OAN	3.14	1.60	1.50
2	O	401	FQ8	PBL-OAN	3.14	1.60	1.50
2	P	401	FQ8	PBM-OAP	2.96	1.61	1.50
2	D	401	FQ8	PBM-OAP	2.92	1.61	1.50
2	A	401	FQ8	PBM-OAP	2.92	1.61	1.50
2	E	401	FQ8	PBM-OAP	2.92	1.61	1.50
2	B	401	FQ8	PBM-OAP	2.92	1.61	1.50
2	Q	401	FQ8	PBM-OAP	2.91	1.61	1.50
2	I	401	FQ8	PBM-OAP	2.90	1.61	1.50
2	C	401	FQ8	PBM-OAP	2.89	1.61	1.50
2	H	401	FQ8	PBM-OAP	2.86	1.61	1.50
2	F	401	FQ8	PBM-OAP	2.85	1.61	1.50
2	G	401	FQ8	PBM-OAP	2.85	1.61	1.50
2	O	401	FQ8	PBM-OAP	2.82	1.60	1.50
2	Q	401	FQ8	CAW-CBH	2.05	1.54	1.51

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	401	FQ8	OAA-PBL-OAX	3.12	115.04	106.73
2	H	401	FQ8	OAA-PBL-OAX	3.10	114.98	106.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	I	401	FQ8	OAA-PBL-OAX	2.94	114.55	106.73
2	G	401	FQ8	OAA-PBL-OAX	2.92	114.51	106.73
2	Q	401	FQ8	OAA-PBL-OAX	2.91	114.48	106.73
2	E	401	FQ8	OAA-PBL-OAX	2.90	114.45	106.73
2	O	401	FQ8	OAA-PBL-OAX	2.89	114.42	106.73
2	F	401	FQ8	OAA-PBL-OAX	2.78	114.12	106.73
2	P	401	FQ8	OAA-PBL-OAX	2.73	113.99	106.73
2	D	401	FQ8	OAA-PBL-OAX	2.68	113.87	106.73
2	B	401	FQ8	CBF-CBJ-CBE	-2.58	108.00	113.36
2	A	401	FQ8	OAA-PBL-OAX	2.57	113.57	106.73
2	H	401	FQ8	CBF-CBJ-CBE	-2.48	108.19	113.36
2	C	401	FQ8	OAA-PBL-OAX	2.37	113.05	106.73
2	F	401	FQ8	CBC-CBI-CBD	-2.11	108.97	113.36

There are no chirality outliers.

All (272) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	H	401	FQ8	CAS-OAX-PBL-OAN
2	H	401	FQ8	CAS-OAX-PBL-OAO
2	H	401	FQ8	CAS-OAX-PBL-OAA
2	H	401	FQ8	OBB-CAW-CBH-OAJ
2	H	401	FQ8	OBB-CAW-CBH-CBK
2	H	401	FQ8	CAT-OAY-PBM-OAP
2	A	401	FQ8	CAS-OAX-PBL-OAN
2	A	401	FQ8	CAS-OAX-PBL-OAA
2	A	401	FQ8	CAU-OAZ-PBN-OAQ
2	A	401	FQ8	CAU-OAZ-PBN-OAC
2	A	401	FQ8	OBB-CAW-CBH-OAJ
2	A	401	FQ8	OBB-CAW-CBH-CBK
2	A	401	FQ8	OBA-CAV-CBG-CBK
2	A	401	FQ8	OBA-CAV-CBG-OAI
2	A	401	FQ8	CAT-OAY-PBM-OAP
2	A	401	FQ8	OAY-CAT-CBD-OAF
2	E	401	FQ8	CAS-OAX-PBL-OAO
2	E	401	FQ8	CAS-OAX-PBL-OAA
2	E	401	FQ8	OAZ-CAU-CBF-CBJ
2	E	401	FQ8	OAZ-CAU-CBF-OAH
2	E	401	FQ8	OBB-CAW-CBH-OAJ
2	E	401	FQ8	OBB-CAW-CBH-CBK
2	E	401	FQ8	OBA-CAV-CBG-CBK
2	E	401	FQ8	OBA-CAV-CBG-OAI

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Mol	Chain	Res	Type	Atoms
2	E	401	FQ8	CAR-CBC-CBI-OAK
2	B	401	FQ8	CAS-OAX-PBL-OAO
2	B	401	FQ8	CAS-OAX-PBL-OAA
2	B	401	FQ8	OBB-CAW-CBH-OAJ
2	B	401	FQ8	OBB-CAW-CBH-CBK
2	B	401	FQ8	OBA-CAV-CBG-OAI
2	B	401	FQ8	CAT-OAY-PBM-OAP
2	B	401	FQ8	OAY-CAT-CBD-OAF
2	F	401	FQ8	CAS-OAX-PBL-OAN
2	F	401	FQ8	CAS-OAX-PBL-OAO
2	F	401	FQ8	CAS-OAX-PBL-OAA
2	F	401	FQ8	CAU-OAZ-PBN-OAQ
2	F	401	FQ8	CAU-OAZ-PBN-OAC
2	F	401	FQ8	CAU-OAZ-PBN-OBB
2	F	401	FQ8	OBB-CAW-CBH-OAJ
2	F	401	FQ8	OBB-CAW-CBH-CBK
2	F	401	FQ8	OAI-CBG-CBK-CBH
2	F	401	FQ8	OAI-CBG-CBK-OAM
2	F	401	FQ8	OBA-CAV-CBG-OAI
2	F	401	FQ8	CAV-OBA-PBM-OAP
2	F	401	FQ8	CAV-OBA-PBM-OAB
2	F	401	FQ8	CAT-OAY-PBM-OAP
2	F	401	FQ8	OAY-CAT-CBD-OAF
2	F	401	FQ8	OAD-CAR-CBC-OAE
2	G	401	FQ8	CAS-OAX-PBL-OAO
2	G	401	FQ8	CAS-OAX-PBL-OAA
2	G	401	FQ8	OAZ-CAU-CBF-CBJ
2	G	401	FQ8	OAZ-CAU-CBF-OAH
2	G	401	FQ8	OBB-CAW-CBH-OAJ
2	G	401	FQ8	OBB-CAW-CBH-CBK
2	G	401	FQ8	OBA-CAV-CBG-CBK
2	G	401	FQ8	OBA-CAV-CBG-OAI
2	G	401	FQ8	CAT-OAY-PBM-OAP
2	G	401	FQ8	CAR-CBC-CBI-OAK
2	I	401	FQ8	CAS-OAX-PBL-OAO
2	I	401	FQ8	CAS-OAX-PBL-OAA
2	I	401	FQ8	OAZ-CAU-CBF-CBJ
2	I	401	FQ8	OAZ-CAU-CBF-OAH
2	I	401	FQ8	OBB-CAW-CBH-OAJ
2	I	401	FQ8	OBB-CAW-CBH-CBK
2	Q	401	FQ8	CAS-OAX-PBL-OAO
2	Q	401	FQ8	CAS-OAX-PBL-OAA

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Mol	Chain	Res	Type	Atoms
2	Q	401	FQ8	OAX-CAS-CBE-OAG
2	Q	401	FQ8	OAX-CAS-CBE-CBJ
2	Q	401	FQ8	CAU-OAZ-PBN-OAQ
2	Q	401	FQ8	CAU-OAZ-PBN-OAC
2	Q	401	FQ8	CAU-OAZ-PBN-OBB
2	Q	401	FQ8	CAW-OBB-PBN-OAC
2	Q	401	FQ8	OBB-CAW-CBH-OAJ
2	Q	401	FQ8	OBB-CAW-CBH-CBK
2	Q	401	FQ8	CAT-OAY-PBM-OAP
2	Q	401	FQ8	CAR-CBC-CBI-CBD
2	Q	401	FQ8	CAR-CBC-CBI-OAK
2	Q	401	FQ8	OAD-CAR-CBC-CBI
5	B	406	GOL	O1-C1-C2-O2
5	B	406	GOL	O1-C1-C2-C3
2	D	401	FQ8	CAS-OAX-PBL-OAO
2	D	401	FQ8	CAS-OAX-PBL-OAA
2	D	401	FQ8	OAZ-CAU-CBF-CBJ
2	D	401	FQ8	OAZ-CAU-CBF-OAH
2	D	401	FQ8	OBB-CAW-CBH-OAJ
2	D	401	FQ8	OBB-CAW-CBH-CBK
2	D	401	FQ8	OBA-CAV-CBG-CBK
2	D	401	FQ8	OBA-CAV-CBG-OAI
2	D	401	FQ8	CAV-OBA-PBM-OAY
2	D	401	FQ8	CAT-OAY-PBM-OAP
2	C	401	FQ8	CAS-OAX-PBL-OAO
2	C	401	FQ8	CAS-OAX-PBL-OAA
2	C	401	FQ8	OAZ-CAU-CBF-CBJ
2	C	401	FQ8	OAZ-CAU-CBF-OAH
2	C	401	FQ8	OBB-CAW-CBH-OAJ
2	C	401	FQ8	OBB-CAW-CBH-CBK
2	C	401	FQ8	CAV-OBA-PBM-OAB
2	C	401	FQ8	CAT-OAY-PBM-OBA
2	C	401	FQ8	CAT-OAY-PBM-OAP
2	C	401	FQ8	CAT-OAY-PBM-OAB
2	C	401	FQ8	CAR-CBC-CBI-CBD
2	C	401	FQ8	CAR-CBC-CBI-OAK
2	P	401	FQ8	CAS-OAX-PBL-OAN
2	P	401	FQ8	CAS-OAX-PBL-OAO
2	P	401	FQ8	CAS-OAX-PBL-OAA
2	P	401	FQ8	CAU-OAZ-PBN-OAQ
2	P	401	FQ8	CAW-OBB-PBN-OAC
2	P	401	FQ8	OBB-CAW-CBH-OAJ

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Mol	Chain	Res	Type	Atoms
2	P	401	FQ8	OBB-CAW-CBH-CBK
2	P	401	FQ8	CAT-OAY-PBM-OBA
2	P	401	FQ8	CAT-OAY-PBM-OAP
2	P	401	FQ8	CAT-OAY-PBM-OAB
2	P	401	FQ8	OAY-CAT-CBD-OAF
2	P	401	FQ8	OAD-CAR-CBC-CBI
2	O	401	FQ8	CAS-OAX-PBL-OAN
2	O	401	FQ8	CAS-OAX-PBL-OAO
2	O	401	FQ8	CAS-OAX-PBL-OAA
2	O	401	FQ8	OAZ-CAU-CBF-CBJ
2	O	401	FQ8	OAZ-CAU-CBF-OAH
2	O	401	FQ8	OBB-CAW-CBH-OAJ
2	O	401	FQ8	OBB-CAW-CBH-CBK
2	O	401	FQ8	OBA-CAV-CBG-CBK
2	O	401	FQ8	OBA-CAV-CBG-OAI
2	O	401	FQ8	CAT-OAY-PBM-OAP
2	O	401	FQ8	OAE-CBC-CBI-CBD
2	O	401	FQ8	CAR-CBC-CBI-CBD
2	O	401	FQ8	OAE-CBC-CBI-OAK
2	O	401	FQ8	CAR-CBC-CBI-OAK
2	Q	401	FQ8	OAD-CAR-CBC-OAE
2	P	401	FQ8	OAD-CAR-CBC-OAE
2	O	401	FQ8	OAD-CAR-CBC-OAE
2	F	401	FQ8	OAD-CAR-CBC-CBI
2	E	401	FQ8	OAE-CBC-CBI-OAK
2	G	401	FQ8	OAE-CBC-CBI-OAK
2	Q	401	FQ8	OAE-CBC-CBI-OAK
2	C	401	FQ8	OAE-CBC-CBI-OAK
2	A	401	FQ8	OAG-CBE-CBJ-CBF
2	E	401	FQ8	OAE-CBC-CBI-CBD
2	B	401	FQ8	OAE-CBC-CBI-CBD
2	G	401	FQ8	OAE-CBC-CBI-CBD
2	Q	401	FQ8	OAE-CBC-CBI-CBD
2	C	401	FQ8	OAG-CBE-CBJ-CBF
2	C	401	FQ8	OAE-CBC-CBI-CBD
2	A	401	FQ8	CAS-CBE-CBJ-OAL
2	B	401	FQ8	CAR-CBC-CBI-OAK
2	F	401	FQ8	CAV-CBG-CBK-OAM
2	A	401	FQ8	CAS-CBE-CBJ-CBF
2	E	401	FQ8	CAR-CBC-CBI-CBD
2	B	401	FQ8	CAR-CBC-CBI-CBD
2	F	401	FQ8	CAV-CBG-CBK-CBH

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Mol	Chain	Res	Type	Atoms
2	G	401	FQ8	CAR-CBC-CBI-CBD
2	C	401	FQ8	CAS-CBE-CBJ-CBF
2	B	401	FQ8	OAD-CAR-CBC-OAE
2	H	401	FQ8	OAE-CBC-CBI-OAK
2	H	401	FQ8	OAE-CBC-CBI-CBD
2	H	401	FQ8	CAR-CBC-CBI-OAK
2	Q	401	FQ8	CAS-CBE-CBJ-OAL
2	D	401	FQ8	CAR-CBC-CBI-OAK
2	C	401	FQ8	CAS-CBE-CBJ-OAL
2	P	401	FQ8	CAR-CBC-CBI-OAK
2	H	401	FQ8	CAR-CBC-CBI-CBD
2	P	401	FQ8	CAR-CBC-CBI-CBD
2	H	401	FQ8	CAT-OAY-PBM-OBA
2	A	401	FQ8	CAU-OAZ-PBN-OBB
2	A	401	FQ8	CAT-OAY-PBM-OBA
2	B	401	FQ8	CAT-OAY-PBM-OBA
2	F	401	FQ8	CAV-OBA-PBM-OAY
2	F	401	FQ8	CAT-OAY-PBM-OBA
2	Q	401	FQ8	CAW-OBB-PBN-OAZ
2	Q	401	FQ8	CAT-OAY-PBM-OBA
2	D	401	FQ8	CAT-OAY-PBM-OBA
2	C	401	FQ8	CAV-OBA-PBM-OAY
2	O	401	FQ8	CAU-OAZ-PBN-OBB
2	A	401	FQ8	OAG-CBE-CBJ-OAL
2	B	401	FQ8	OAE-CBC-CBI-OAK
2	Q	401	FQ8	OAG-CBE-CBJ-OAL
2	C	401	FQ8	OAG-CBE-CBJ-OAL
2	B	401	FQ8	OAD-CAR-CBC-CBI
2	D	401	FQ8	OAD-CAR-CBC-CBI
2	Q	401	FQ8	OAG-CBE-CBJ-CBF
2	P	401	FQ8	OAE-CBC-CBI-CBD
2	H	401	FQ8	OBA-CAV-CBG-OAI
2	I	401	FQ8	OBA-CAV-CBG-OAI
2	Q	401	FQ8	OBA-CAV-CBG-OAI
2	P	401	FQ8	OAZ-CAU-CBF-OAH
2	O	401	FQ8	OAD-CAR-CBC-CBI
2	Q	401	FQ8	CAS-CBE-CBJ-CBF
2	D	401	FQ8	CAR-CBC-CBI-CBD
2	P	401	FQ8	OAE-CBC-CBI-OAK
2	D	401	FQ8	OAE-CBC-CBI-CBD
2	B	401	FQ8	OAG-CBE-CBJ-OAL
2	B	401	FQ8	OAG-CBE-CBJ-CBF

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Mol	Chain	Res	Type	Atoms
2	B	401	FQ8	OAF-CBD-CBI-CBC
2	C	401	FQ8	OAF-CBD-CBI-CBC
2	G	401	FQ8	CAT-OAY-PBM-OBA
2	O	401	FQ8	CAT-OAY-PBM-OBA
2	H	401	FQ8	OBA-CAV-CBG-CBK
2	A	401	FQ8	OAY-CAT-CBD-CBI
2	B	401	FQ8	OBA-CAV-CBG-CBK
2	I	401	FQ8	OBA-CAV-CBG-CBK
2	Q	401	FQ8	OBA-CAV-CBG-CBK
2	P	401	FQ8	OAZ-CAU-CBF-CBJ
2	D	401	FQ8	OAE-CBC-CBI-OAK
2	P	401	FQ8	CAS-CBE-CBJ-OAL
2	E	401	FQ8	CAS-OAX-PBL-OAN
2	B	401	FQ8	CAS-OAX-PBL-OAN
2	G	401	FQ8	CAS-OAX-PBL-OAN
2	I	401	FQ8	CAS-OAX-PBL-OAN
2	D	401	FQ8	CAS-OAX-PBL-OAN
2	C	401	FQ8	CAS-OAX-PBL-OAN
2	B	401	FQ8	CAS-CBE-CBJ-CBF
2	B	401	FQ8	CAT-CBD-CBI-CBC
2	D	401	FQ8	CAS-CBE-CBJ-CBF
2	C	401	FQ8	CAT-CBD-CBI-CBC
2	P	401	FQ8	CAS-CBE-CBJ-CBF
2	D	401	FQ8	OAD-CAR-CBC-OAE
2	D	401	FQ8	CAS-CBE-CBJ-OAL
2	P	401	FQ8	OAG-CBE-CBJ-OAL
2	A	401	FQ8	CAV-CBG-CBK-CBH
2	A	401	FQ8	CAS-OAX-PBL-OAO
2	D	401	FQ8	OAG-CBE-CBJ-OAL
2	P	401	FQ8	CAT-CBD-CBI-CBC
2	A	401	FQ8	CAV-OBA-PBM-OAY
2	B	401	FQ8	CAV-OBA-PBM-OAY
2	E	401	FQ8	OAD-CAR-CBC-OAE
2	C	401	FQ8	CBD-CAT-OAY-PBM
2	Q	401	FQ8	CAW-OBB-PBN-OAQ
2	P	401	FQ8	CAU-OAZ-PBN-OAC
2	I	401	FQ8	OAD-CAR-CBC-OAE
2	F	401	FQ8	OAE-CBC-CBI-CBD
2	P	401	FQ8	OAG-CBE-CBJ-CBF
2	O	401	FQ8	CAS-CBE-CBJ-CBF
2	B	401	FQ8	OAF-CBD-CBI-OAK
2	F	401	FQ8	CAR-CBC-CBI-OAK

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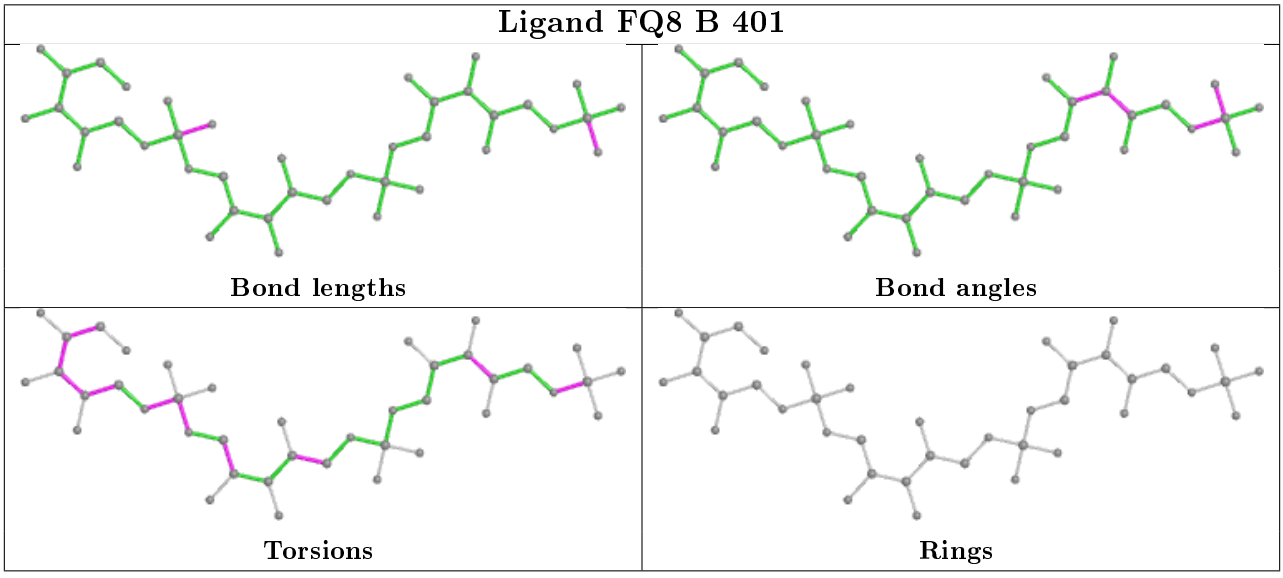
Mol	Chain	Res	Type	Atoms
2	Q	401	FQ8	CAS-OAX-PBL-OAN
2	C	401	FQ8	OAF-CBD-CBI-OAK
2	H	401	FQ8	CAV-OBA-PBM-OAY
2	E	401	FQ8	CAV-OBA-PBM-OAY
2	G	401	FQ8	CAV-OBA-PBM-OAY
2	I	401	FQ8	CAV-OBA-PBM-OAY
2	Q	401	FQ8	CAV-OBA-PBM-OAY
2	P	401	FQ8	CAV-OBA-PBM-OAY
2	O	401	FQ8	CAV-OBA-PBM-OAY
2	D	401	FQ8	OAG-CBE-CBJ-CBF
2	E	401	FQ8	OAD-CAR-CBC-CBI
2	A	401	FQ8	OAI-CBG-CBK-OAM
2	O	401	FQ8	OAG-CBE-CBJ-OAL
2	F	401	FQ8	OBA-CAV-CBG-CBK
2	Q	401	FQ8	OAZ-CAU-CBF-CBJ
2	A	401	FQ8	CAV-CBG-CBK-OAM
2	B	401	FQ8	CAS-CBE-CBJ-OAL
2	F	401	FQ8	OAE-CBC-CBI-OAK
2	G	401	FQ8	OAG-CBE-CBJ-OAL
2	O	401	FQ8	OAI-CBG-CBK-OAM
2	F	401	FQ8	CAR-CBC-CBI-CBD
2	C	401	FQ8	OBA-CAV-CBG-OAI
2	O	401	FQ8	OAY-CAT-CBD-OAF
2	O	401	FQ8	CAS-CBE-CBJ-OAL
2	H	401	FQ8	OAG-CBE-CBJ-OAL
2	O	401	FQ8	OAF-CBD-CBI-CBC
2	C	401	FQ8	CAT-CBD-CBI-OAK
2	A	401	FQ8	CAW-OBB-PBN-OAC
2	B	401	FQ8	CAT-OAY-PBM-OAB
2	I	401	FQ8	CAV-OBA-PBM-OAP
2	Q	401	FQ8	CAT-OAY-PBM-OAB
2	D	401	FQ8	CAU-OAZ-PBN-OAC
2	D	401	FQ8	CAW-OBB-PBN-OAC
2	C	401	FQ8	CAU-OAZ-PBN-OAC
2	C	401	FQ8	CAW-OBB-PBN-OAC
2	C	401	FQ8	OBA-CAV-CBG-CBK
2	H	401	FQ8	OAX-CAS-CBE-OAG
2	Q	401	FQ8	OAY-CAT-CBD-OAF

There are no ring outliers.

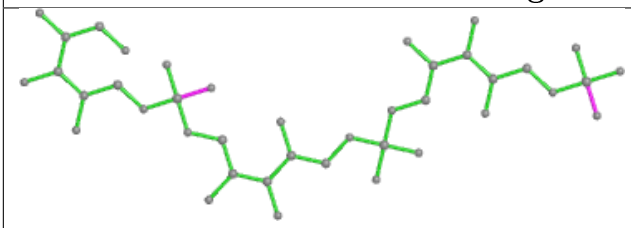
9 monomers are involved in 14 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	401	FQ8	1	0
2	F	401	FQ8	1	0
2	C	401	FQ8	2	0
2	P	401	FQ8	2	0
2	G	401	FQ8	1	0
2	A	401	FQ8	3	0
2	E	401	FQ8	2	0
2	O	401	FQ8	1	0
2	I	401	FQ8	1	0

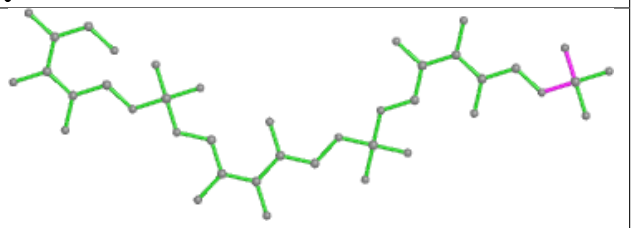
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



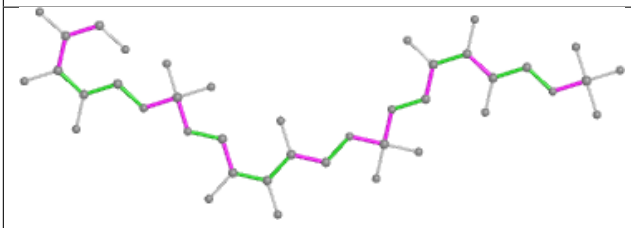
Ligand FQ8 D 401



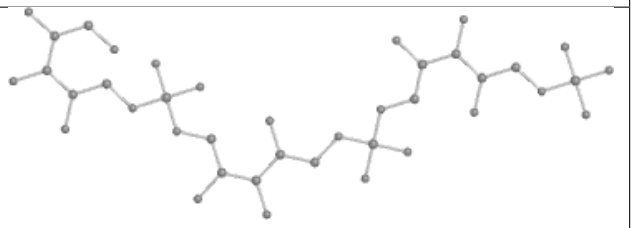
Bond lengths



Bond angles

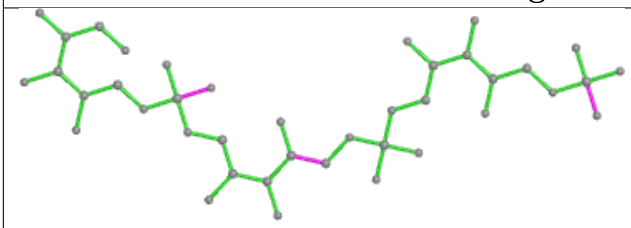


Torsions

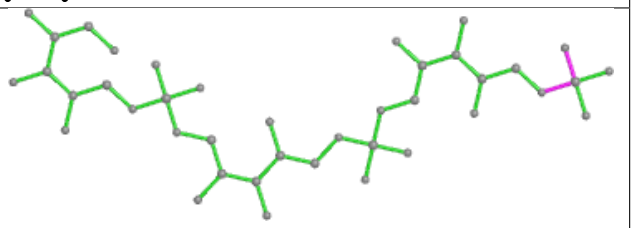


Rings

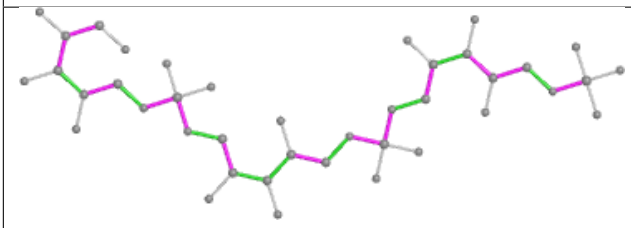
Ligand FQ8 Q 401



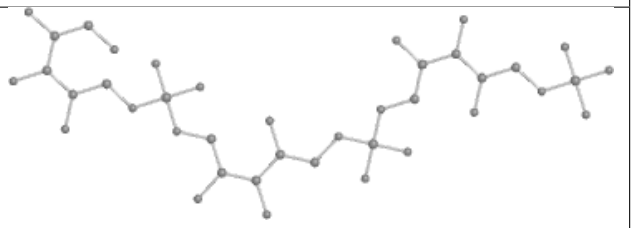
Bond lengths



Bond angles

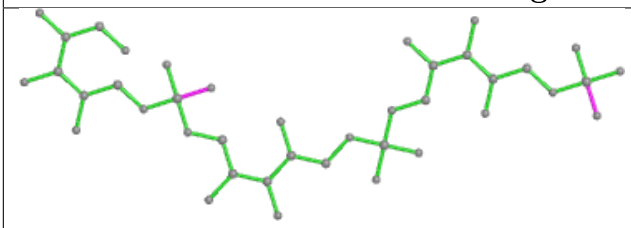


Torsions

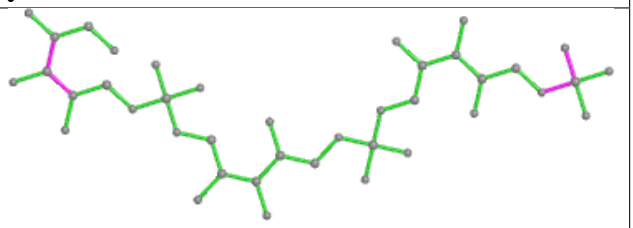


Rings

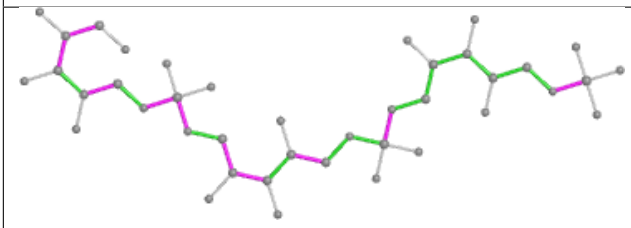
Ligand FQ8 F 401



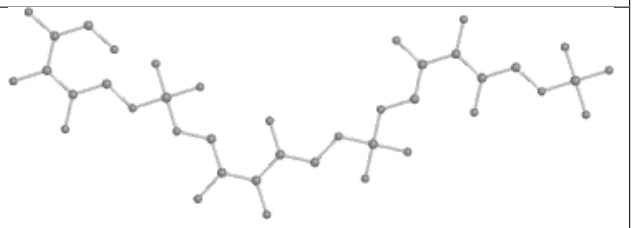
Bond lengths



Bond angles

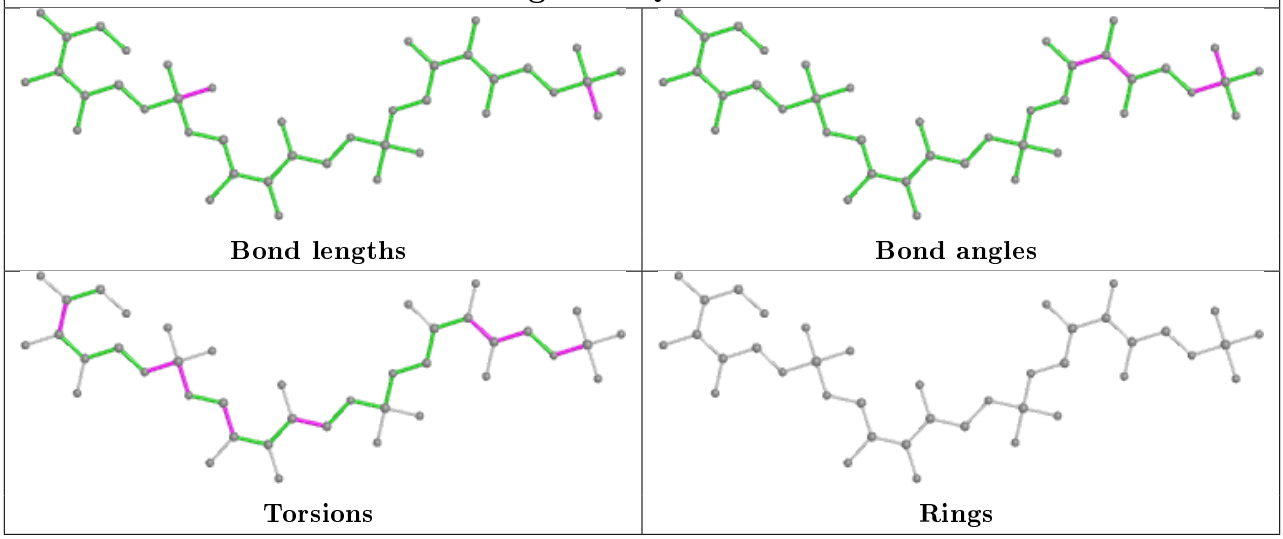


Torsions

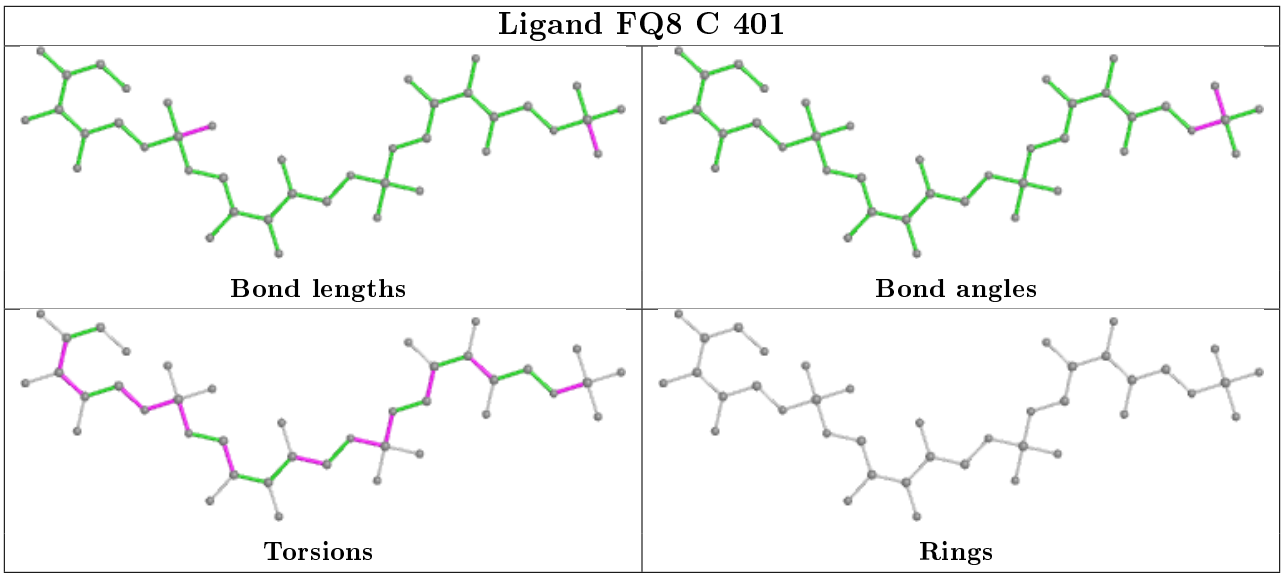


Rings

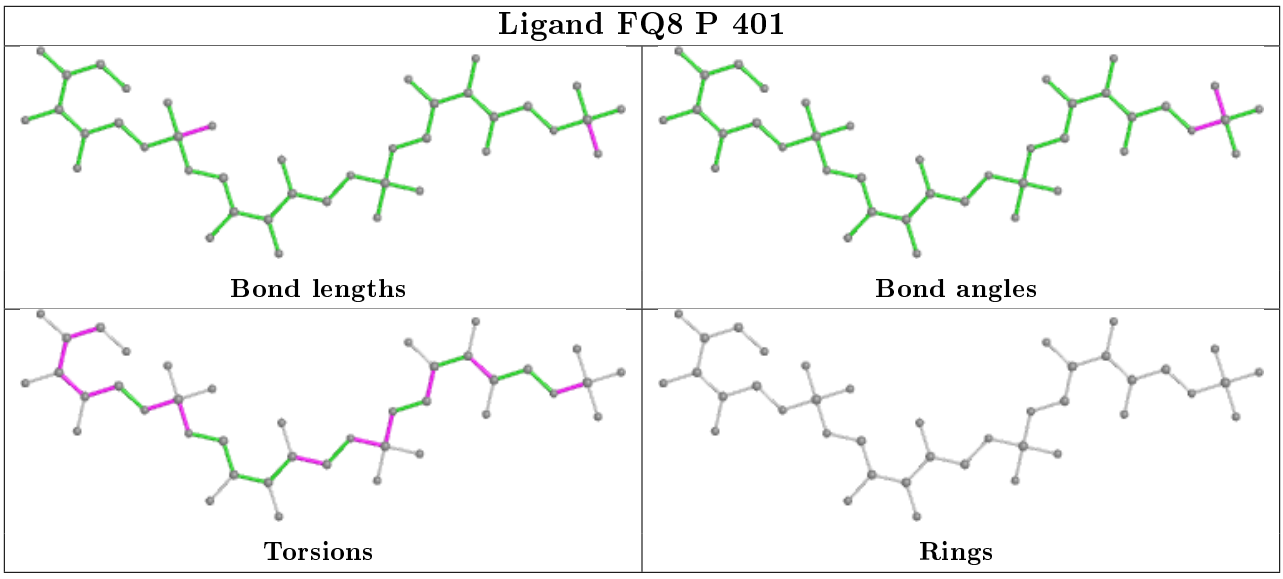
Ligand FQ8 H 401



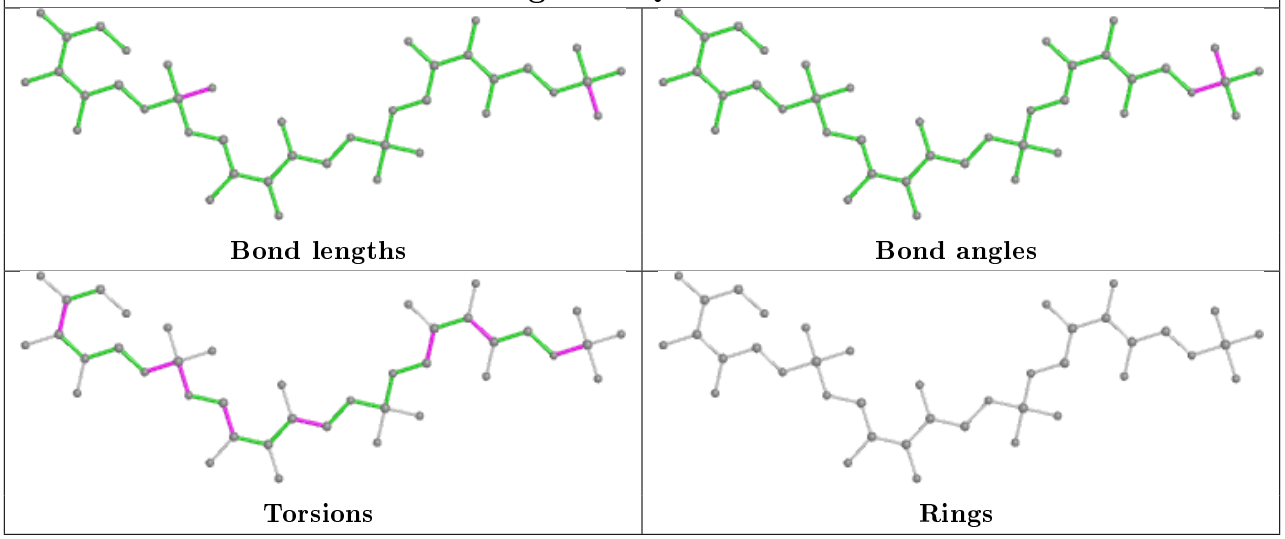
Ligand FQ8 C 401



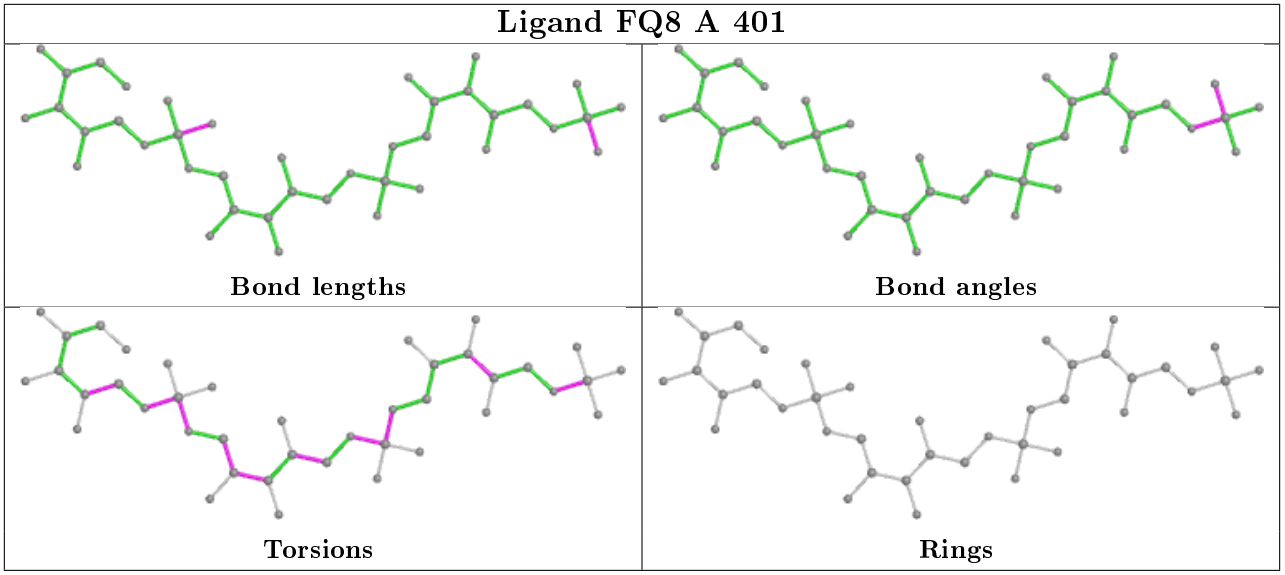
Ligand FQ8 P 401



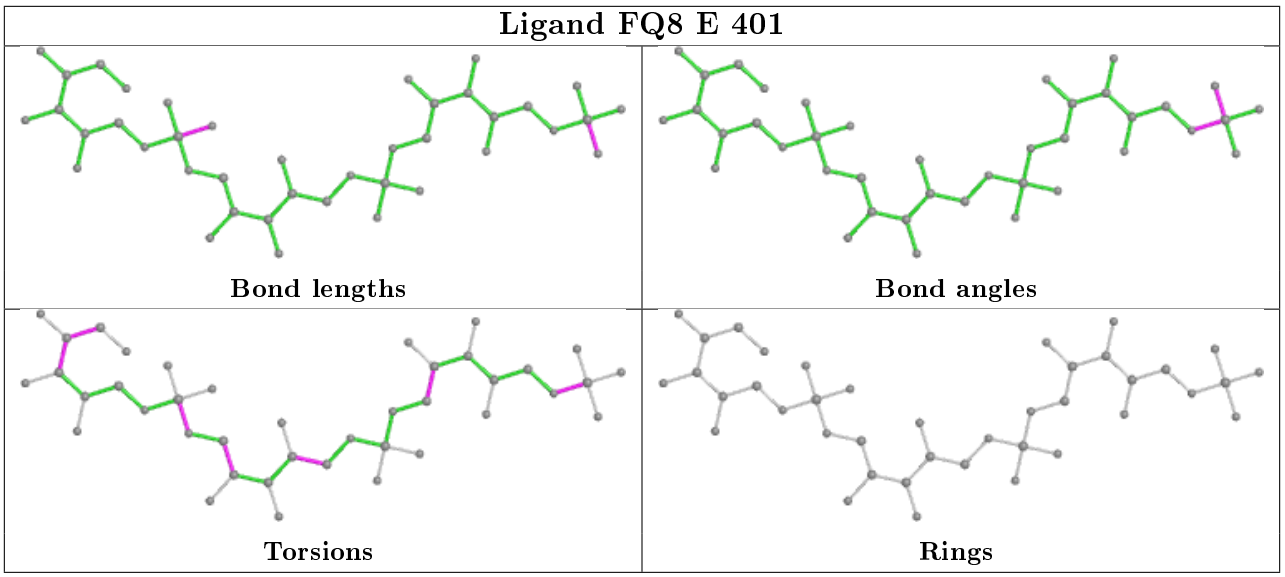
Ligand FQ8 G 401

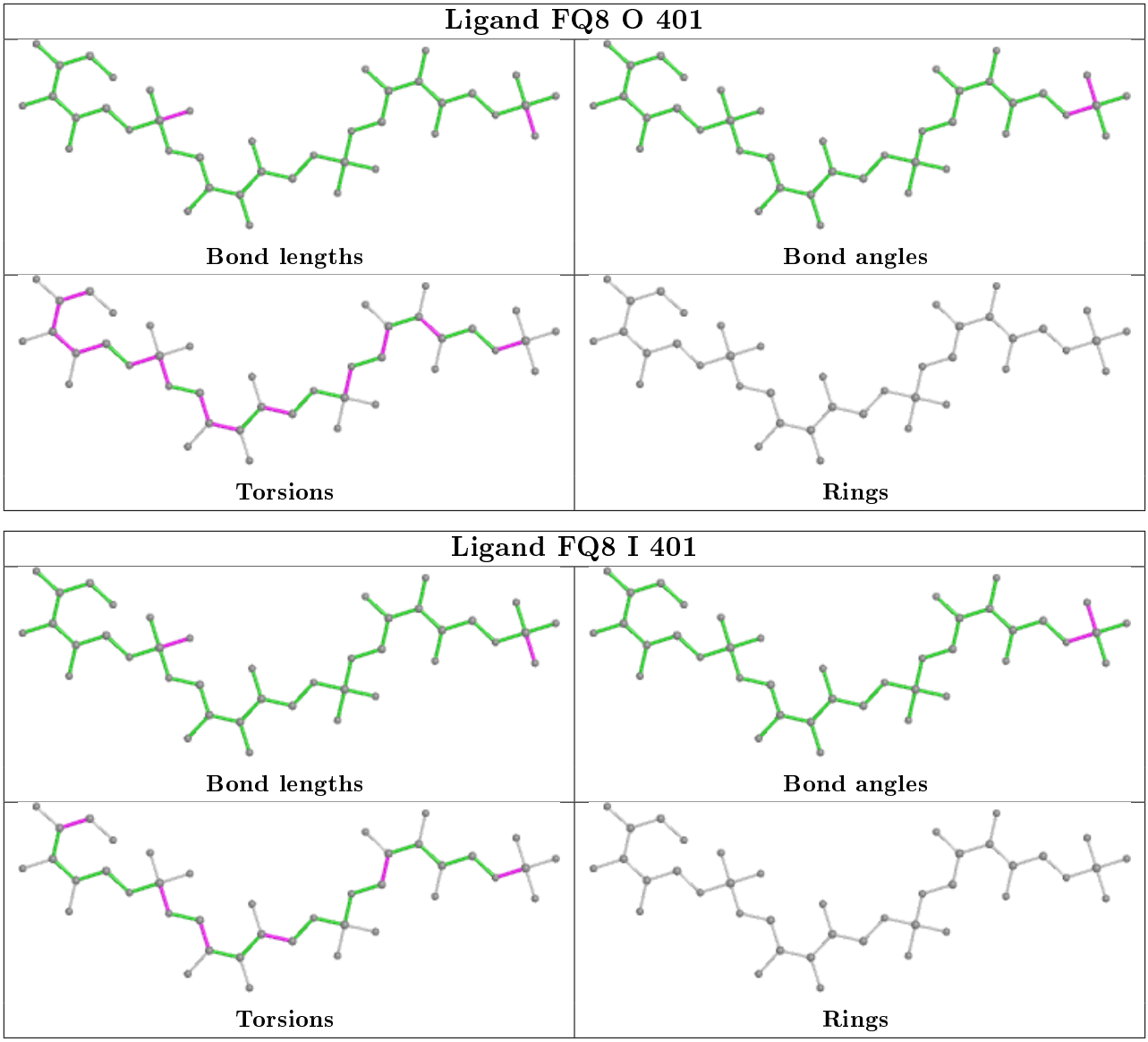


Ligand FQ8 A 401



Ligand FQ8 E 401





5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	317/345 (91%)	-0.21	1 (0%) 94 94	26, 37, 68, 103	0
1	B	318/345 (92%)	-0.28	0 100 100	24, 37, 60, 100	0
1	C	314/345 (91%)	-0.03	8 (2%) 57 58	30, 47, 78, 116	0
1	D	314/345 (91%)	-0.23	5 (1%) 72 72	30, 43, 74, 114	0
1	E	317/345 (91%)	-0.18	0 100 100	26, 35, 62, 96	0
1	F	315/345 (91%)	-0.17	0 100 100	29, 38, 63, 82	0
1	G	314/345 (91%)	-0.25	1 (0%) 94 94	29, 42, 73, 117	0
1	H	318/345 (92%)	-0.25	0 100 100	24, 35, 60, 107	0
1	I	311/345 (90%)	0.03	5 (1%) 72 72	29, 46, 79, 112	0
1	O	316/345 (91%)	-0.15	0 100 100	28, 38, 62, 82	0
1	P	307/345 (88%)	0.64	54 (17%) 1 1	31, 66, 115, 143	0
1	Q	312/345 (90%)	0.63	44 (14%) 2 2	32, 60, 118, 150	0
All	All	3773/4140 (91%)	-0.04	118 (3%) 49 50	24, 41, 87, 150	0

All (118) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	P	46	ASN	8.0
1	Q	60	VAL	7.6
1	P	49	THR	6.8
1	Q	59	LEU	6.5
1	Q	56	TYR	5.8
1	P	34	TYR	5.3
1	P	18	HIS	5.2
1	G	128	ARG	5.0
1	Q	24	VAL	4.9
1	Q	14	GLY	4.8
1	Q	52	VAL	4.8

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Mol	Chain	Res	Type	RSRZ
1	Q	47	GLY	4.6
1	P	25	LEU	4.5
1	P	102	LEU	4.5
1	P	62	PHE	4.5
1	Q	53	ILE	4.3
1	C	128	ARG	4.3
1	Q	20	THR	4.2
1	P	66	LYS	4.2
1	Q	201	TYR	4.2
1	P	36	LEU	4.1
1	D	128	ARG	4.1
1	Q	16	LYS	4.0
1	P	60	VAL	4.0
1	P	20	THR	3.9
1	Q	46	ASN	3.9
1	Q	25	LEU	3.9
1	A	175	PHE	3.9
1	P	52	VAL	3.7
1	P	26	ASN	3.7
1	Q	15	GLU	3.6
1	P	59	LEU	3.6
1	Q	49	THR	3.5
1	Q	28	THR	3.5
1	P	22	SER	3.5
1	I	59	LEU	3.5
1	P	24	VAL	3.5
1	P	4	VAL	3.4
1	C	127	GLY	3.4
1	Q	29	MET	3.4
1	P	93	SER	3.3
1	P	44	ASN	3.3
1	P	33	ASP	3.3
1	Q	26	ASN	3.3
1	P	108	TYR	3.3
1	Q	106	TYR	3.3
1	P	98	HIS	3.2
1	P	31	SER	3.2
1	Q	11	PHE	3.2
1	P	51	ASN	3.1
1	P	85	ALA	3.1
1	Q	44	ASN	3.1
1	Q	13	ASN	3.0

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Mol	Chain	Res	Type	RSRZ
1	Q	58	GLY	3.0
1	P	29	MET	3.0
1	P	106	TYR	3.0
1	P	21	ILE	2.9
1	P	45	ASP	2.9
1	P	87	TYR	2.9
1	P	47	GLY	2.9
1	P	19	ARG	2.9
1	Q	21	ILE	2.9
1	Q	33	ASP	2.8
1	C	18	HIS	2.8
1	P	35	GLU	2.8
1	I	53	ILE	2.8
1	Q	203	TYR	2.7
1	Q	50	LEU	2.7
1	D	175	PHE	2.7
1	Q	45	ASP	2.7
1	P	53	ILE	2.7
1	P	11	PHE	2.7
1	Q	31	SER	2.6
1	Q	36	LEU	2.6
1	P	136	GLU	2.6
1	Q	62	PHE	2.6
1	P	104	ASP	2.6
1	Q	4	VAL	2.6
1	Q	32	THR	2.6
1	Q	121	TYR	2.6
1	D	53	ILE	2.6
1	P	71	ASN	2.5
1	P	207	VAL	2.5
1	I	49	THR	2.4
1	C	56	TYR	2.4
1	P	107	ASN	2.4
1	P	12	ASN	2.4
1	Q	87	TYR	2.4
1	C	222	THR	2.4
1	Q	93	SER	2.4
1	Q	51	ASN	2.3
1	Q	18	HIS	2.3
1	Q	54	LYS	2.3
1	C	53	ILE	2.3
1	D	18	HIS	2.3

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Mol	Chain	Res	Type	RSRZ
1	Q	89	PHE	2.2
1	I	13	ASN	2.2
1	P	205	ILE	2.2
1	P	6	VAL	2.2
1	P	16	LYS	2.2
1	P	32	THR	2.2
1	P	38	ILE	2.2
1	P	203	TYR	2.2
1	C	15	GLU	2.2
1	P	48	GLU	2.2
1	P	94	ASP	2.2
1	Q	30	LYS	2.2
1	Q	17	LEU	2.1
1	Q	6	VAL	2.1
1	Q	99	GLU	2.1
1	I	327	LEU	2.1
1	P	54	LYS	2.1
1	D	49	THR	2.1
1	P	17	LEU	2.1
1	P	1	MET	2.1
1	P	200	ASP	2.0
1	C	13	ASN	2.0
1	P	50	LEU	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 carbohydrates in this entry.

6.4 Ligands (i)

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

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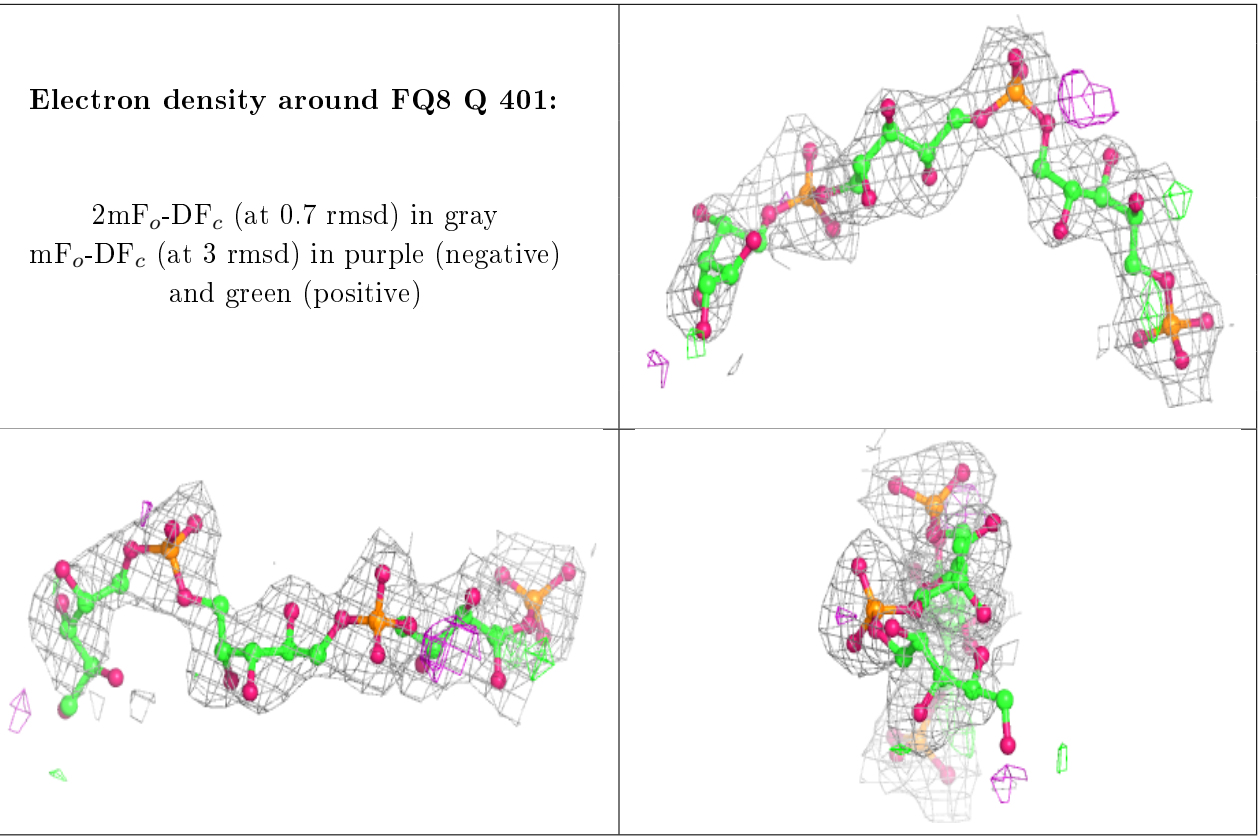
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	MG	B	402	1/1	0.49	0.52	80,80,80,80	0
4	CL	G	403	1/1	0.81	0.10	78,78,78,78	0
3	MG	H	402	1/1	0.89	0.54	74,74,74,74	0
4	CL	O	403	1/1	0.90	0.10	81,81,81,81	0
5	GOL	B	406	6/6	0.92	0.12	39,48,61,78	0
3	MG	Q	402	1/1	0.95	0.33	65,65,65,65	0
2	FQ8	Q	401	40/40	0.95	0.14	33,61,113,117	0
2	FQ8	A	401	40/40	0.95	0.14	35,51,105,121	0
2	FQ8	E	401	40/40	0.95	0.14	36,49,92,97	0
2	FQ8	H	401	40/40	0.95	0.14	24,47,96,111	0
2	FQ8	B	401	40/40	0.95	0.14	31,46,98,111	0
2	FQ8	D	401	40/40	0.95	0.15	33,51,129,136	0
2	FQ8	C	401	40/40	0.95	0.15	37,55,97,108	0
2	FQ8	P	401	40/40	0.95	0.14	39,64,101,104	0
2	FQ8	G	401	40/40	0.96	0.15	31,47,115,125	0
2	FQ8	I	401	40/40	0.96	0.15	34,54,99,120	0
4	CL	G	402	1/1	0.96	0.10	50,50,50,50	0
4	CL	D	403	1/1	0.96	0.07	52,52,52,52	0
2	FQ8	O	401	40/40	0.96	0.14	28,40,86,109	0
2	FQ8	F	401	40/40	0.97	0.14	30,42,85,101	0
3	MG	D	402	1/1	0.97	0.35	66,66,66,66	0
4	CL	B	405	1/1	0.97	0.12	42,42,42,42	0
4	CL	H	403	1/1	0.97	0.09	46,46,46,46	0
4	CL	O	402	1/1	0.97	0.09	45,45,45,45	0
4	CL	B	404	1/1	0.97	0.07	40,40,40,40	0
4	CL	C	402	1/1	0.97	0.09	48,48,48,48	0
4	CL	F	402	1/1	0.97	0.09	45,45,45,45	0
4	CL	Q	403	1/1	0.98	0.09	56,56,56,56	0
4	CL	B	403	1/1	0.98	0.13	38,38,38,38	0
4	CL	A	402	1/1	0.98	0.11	36,36,36,36	0
4	CL	A	403	1/1	0.98	0.09	52,52,52,52	0
4	CL	I	402	1/1	0.99	0.08	49,49,49,49	0
4	CL	E	402	1/1	0.99	0.08	50,50,50,50	0
4	CL	H	404	1/1	0.99	0.09	36,36,36,36	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.

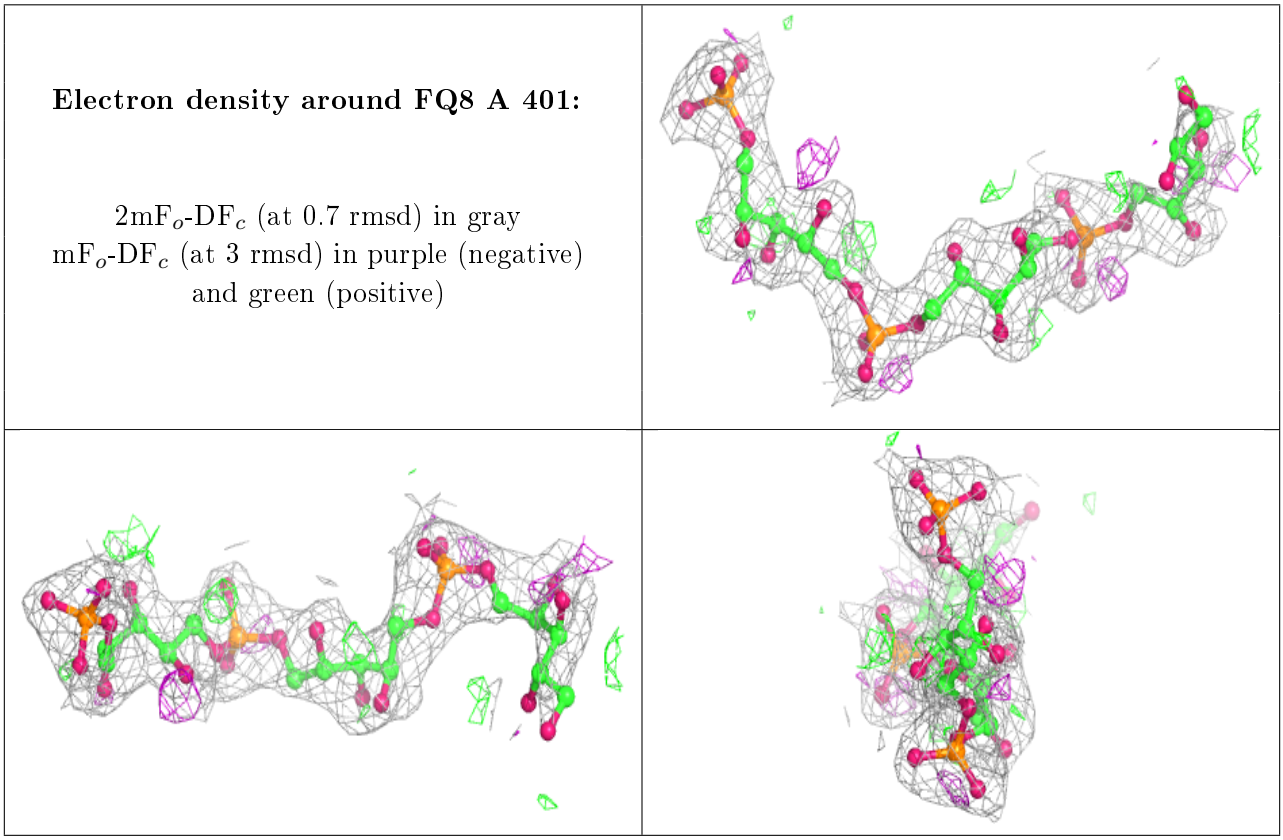
Electron density around FQ8 Q 401:

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



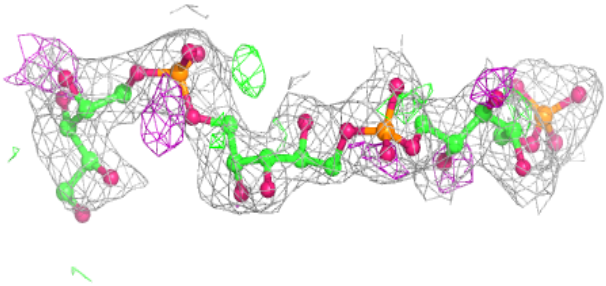
Electron density around FQ8 A 401:

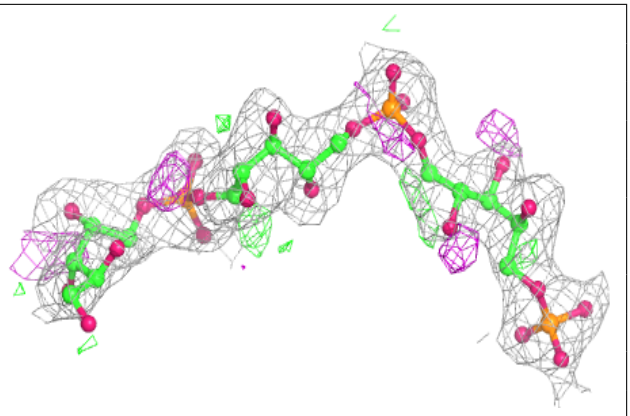
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

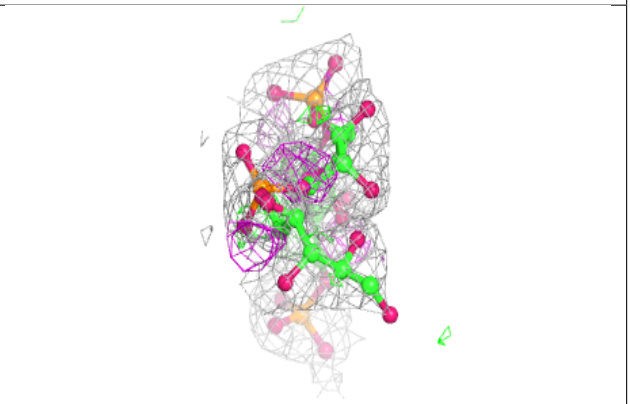


Electron density around FQ8 E 401:

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

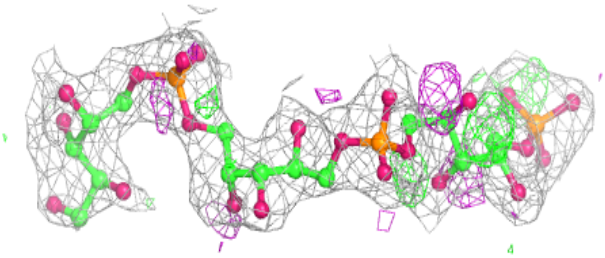


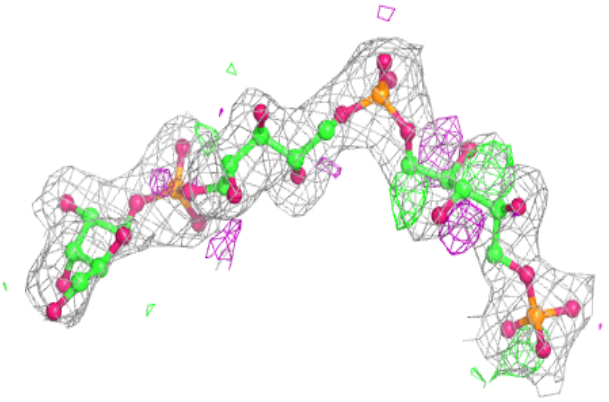


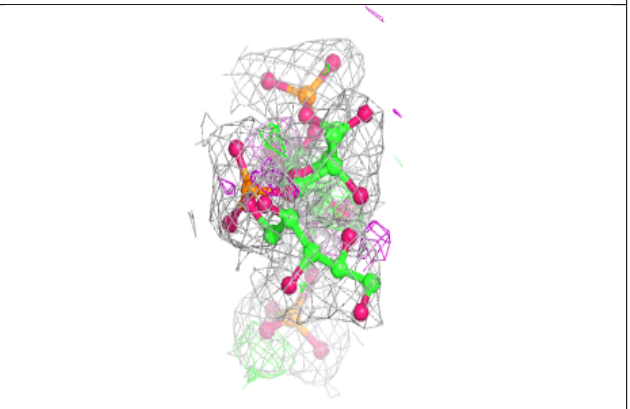


Electron density around FQ8 H 401:

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

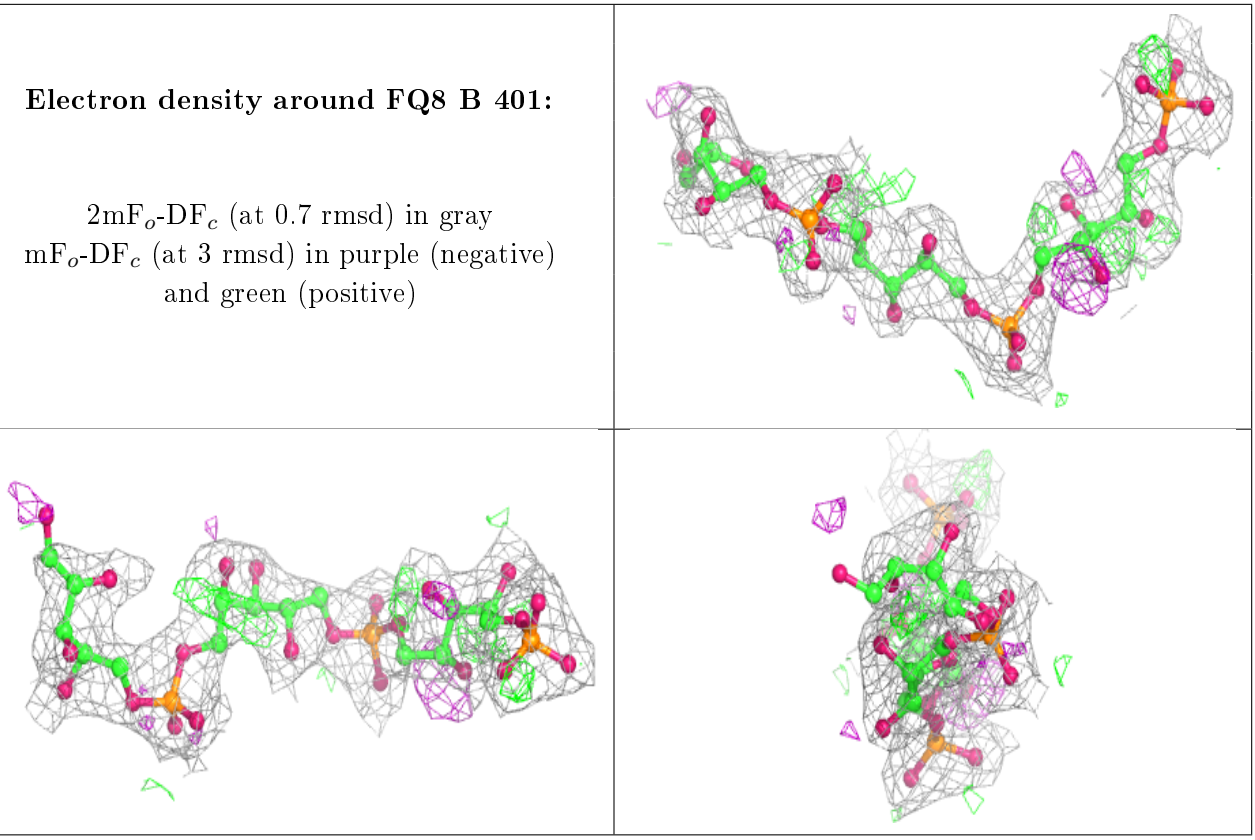






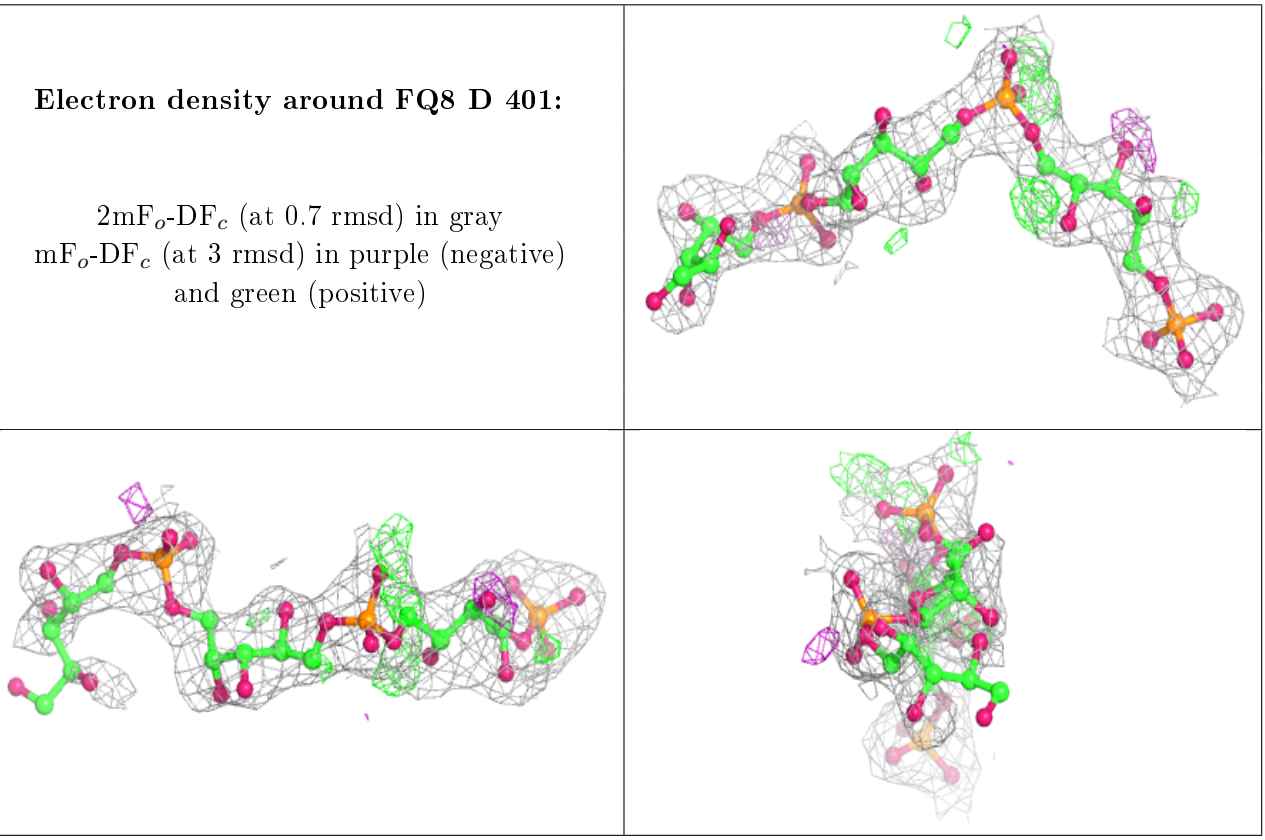
Electron density around FQ8 B 401:

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



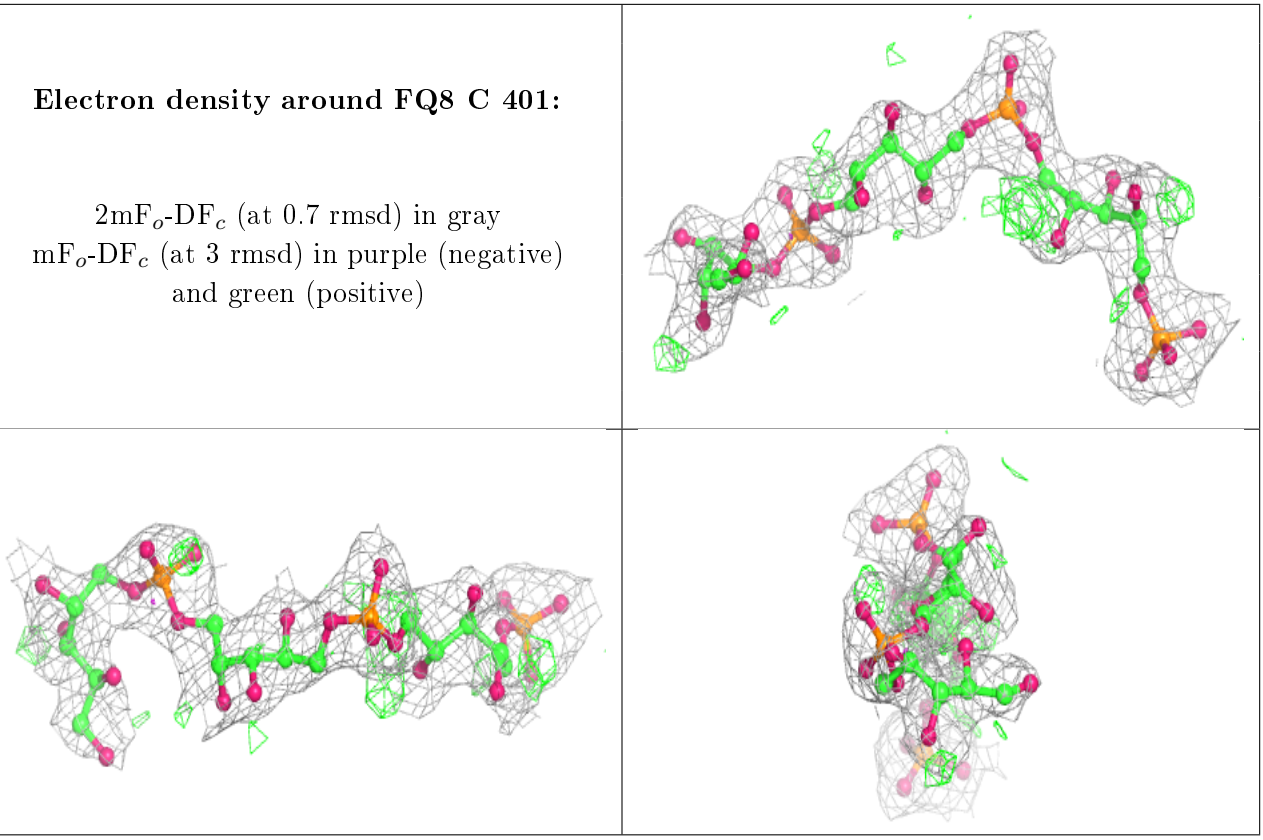
Electron density around FQ8 D 401:

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



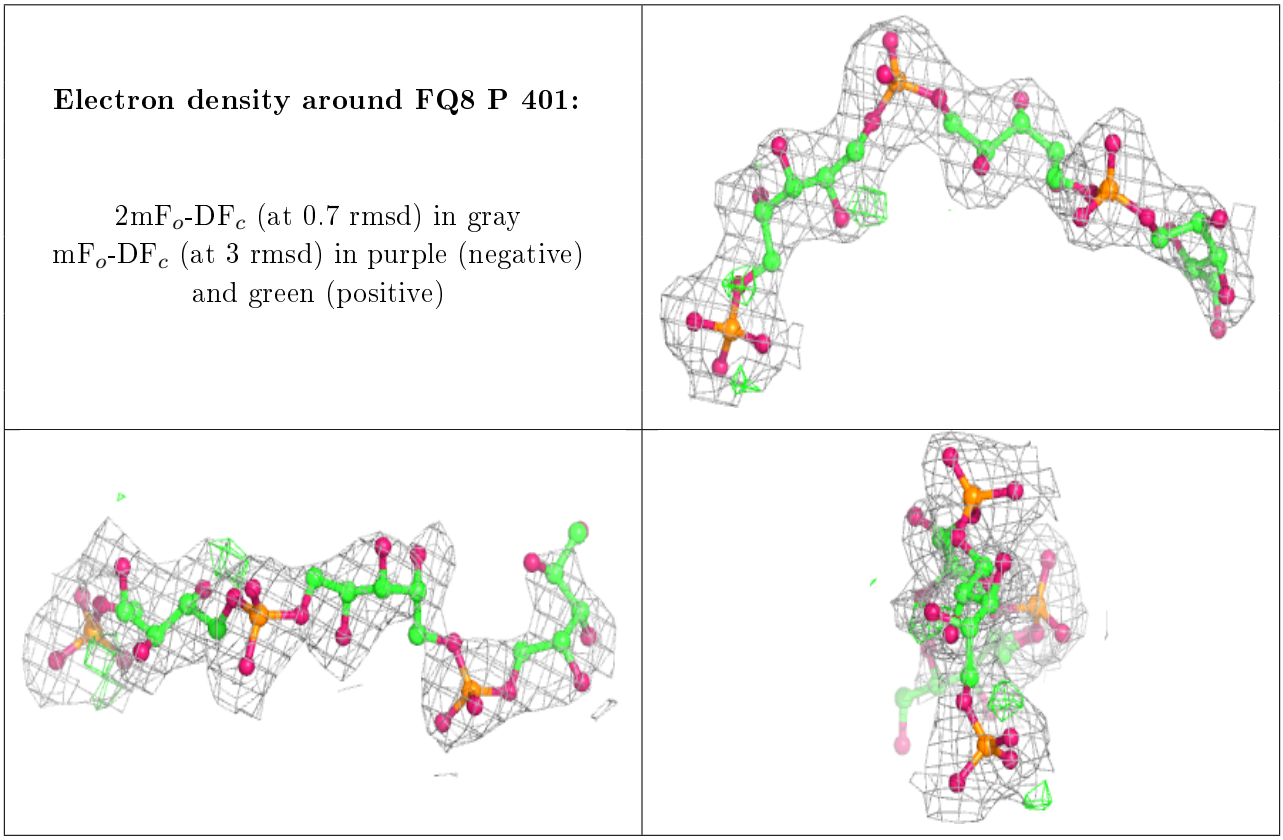
Electron density around FQ8 C 401:

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



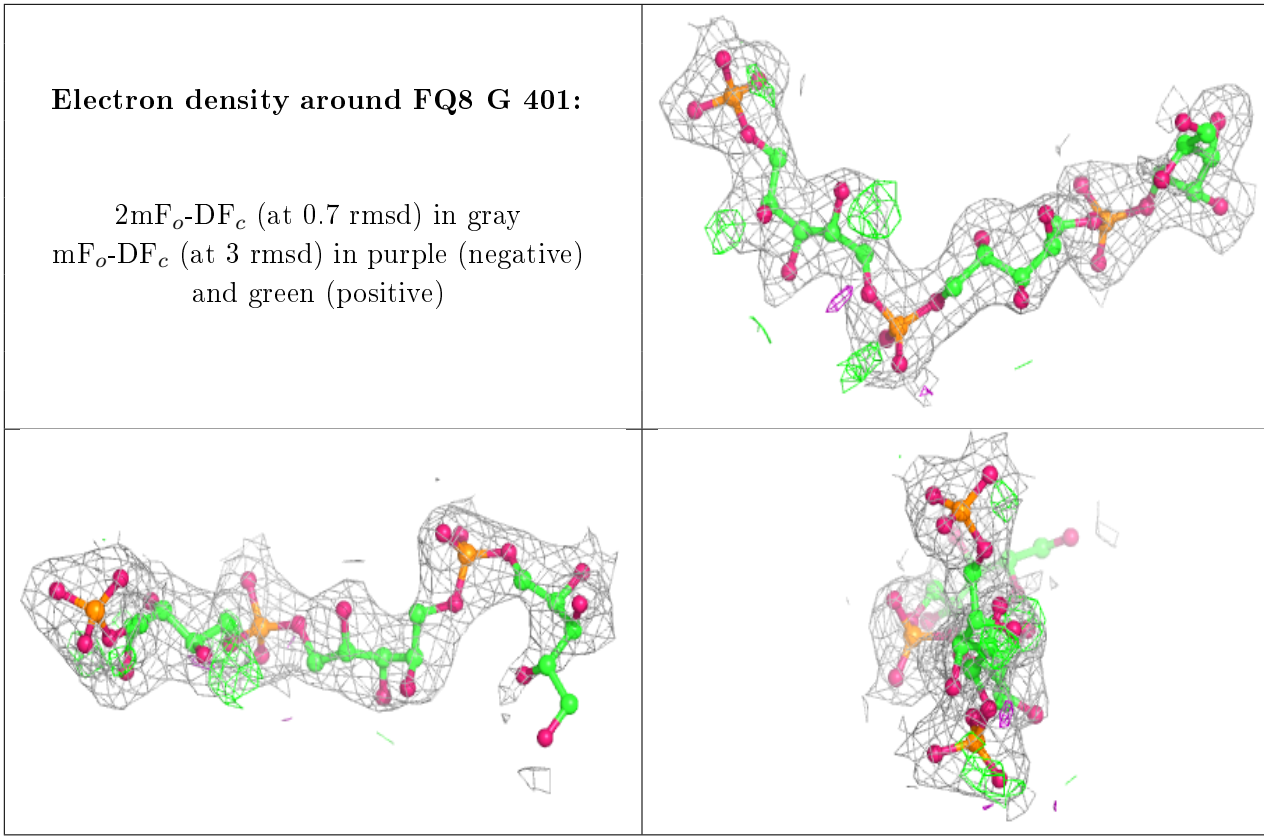
Electron density around FQ8 P 401:

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



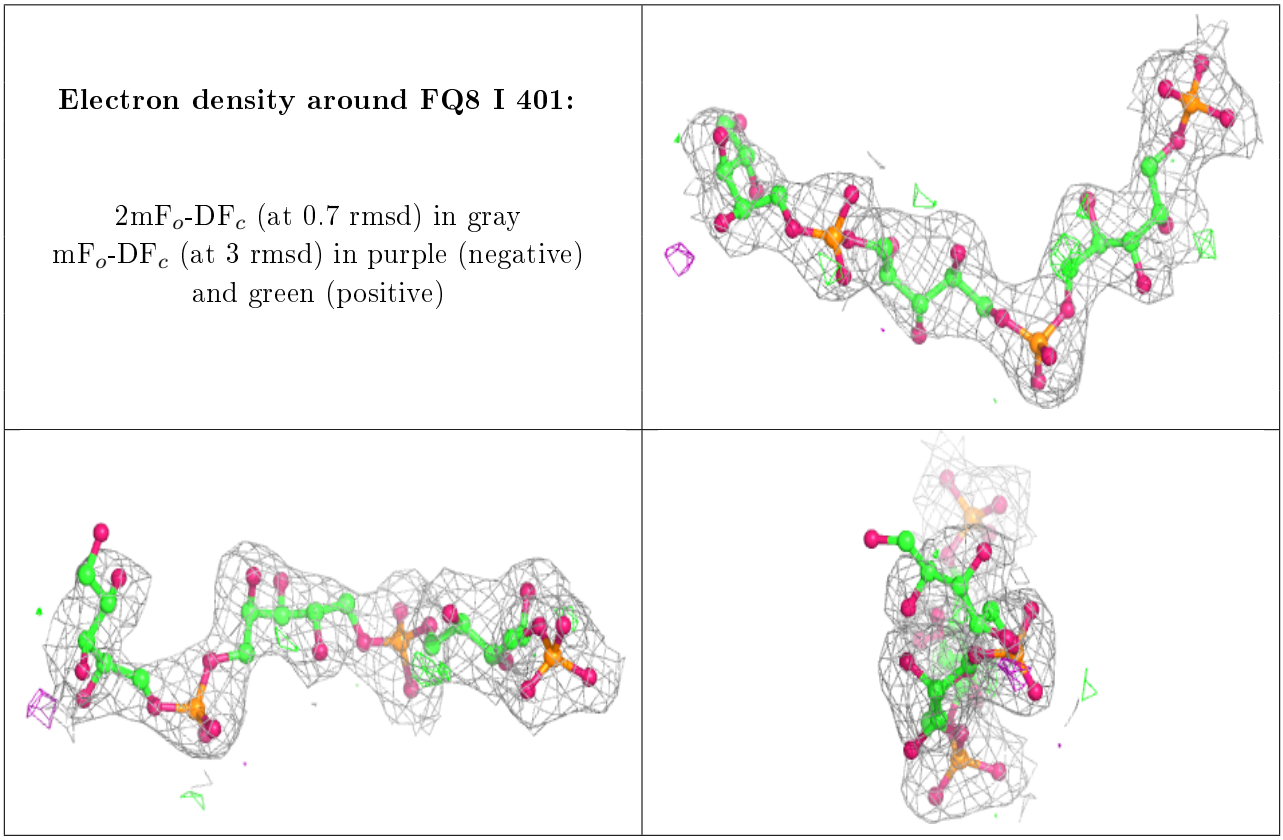
Electron density around FQ8 G 401:

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



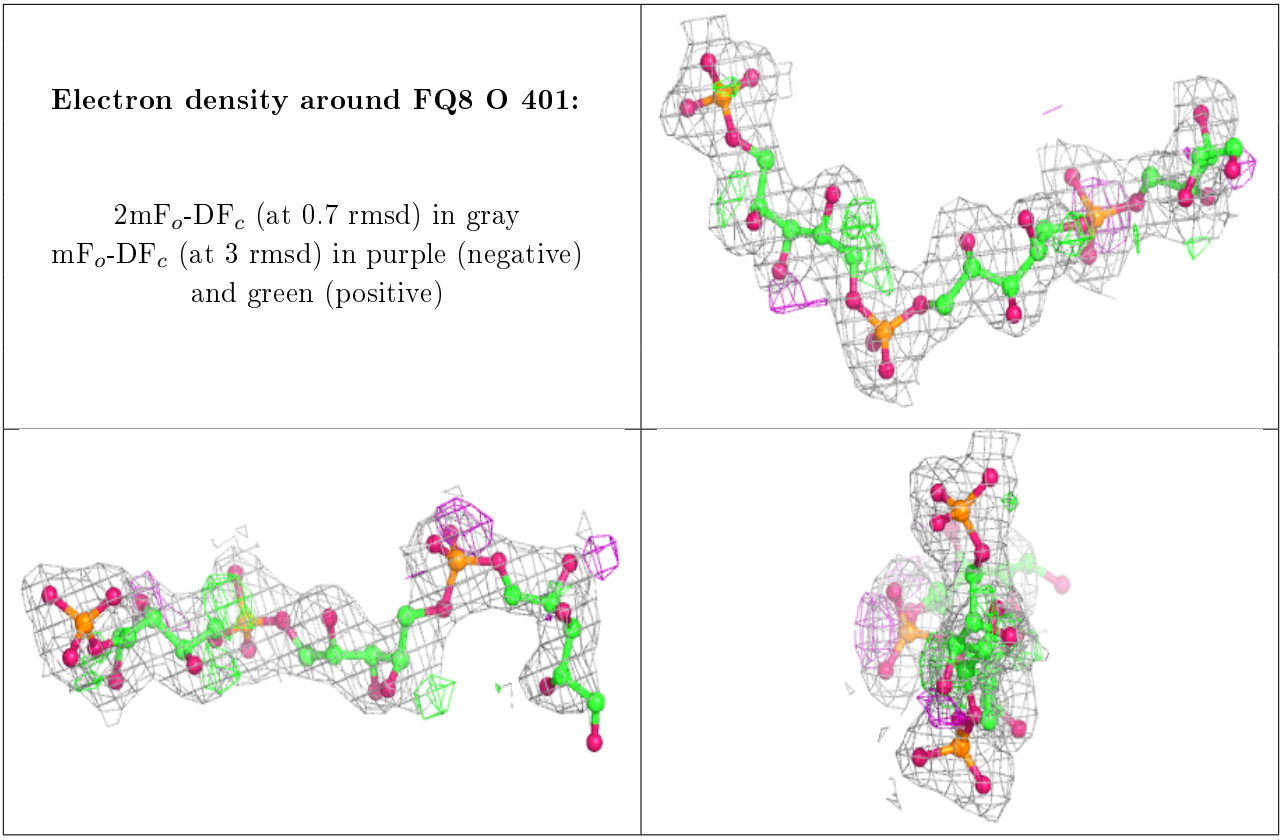
Electron density around FQ8 I 401:

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



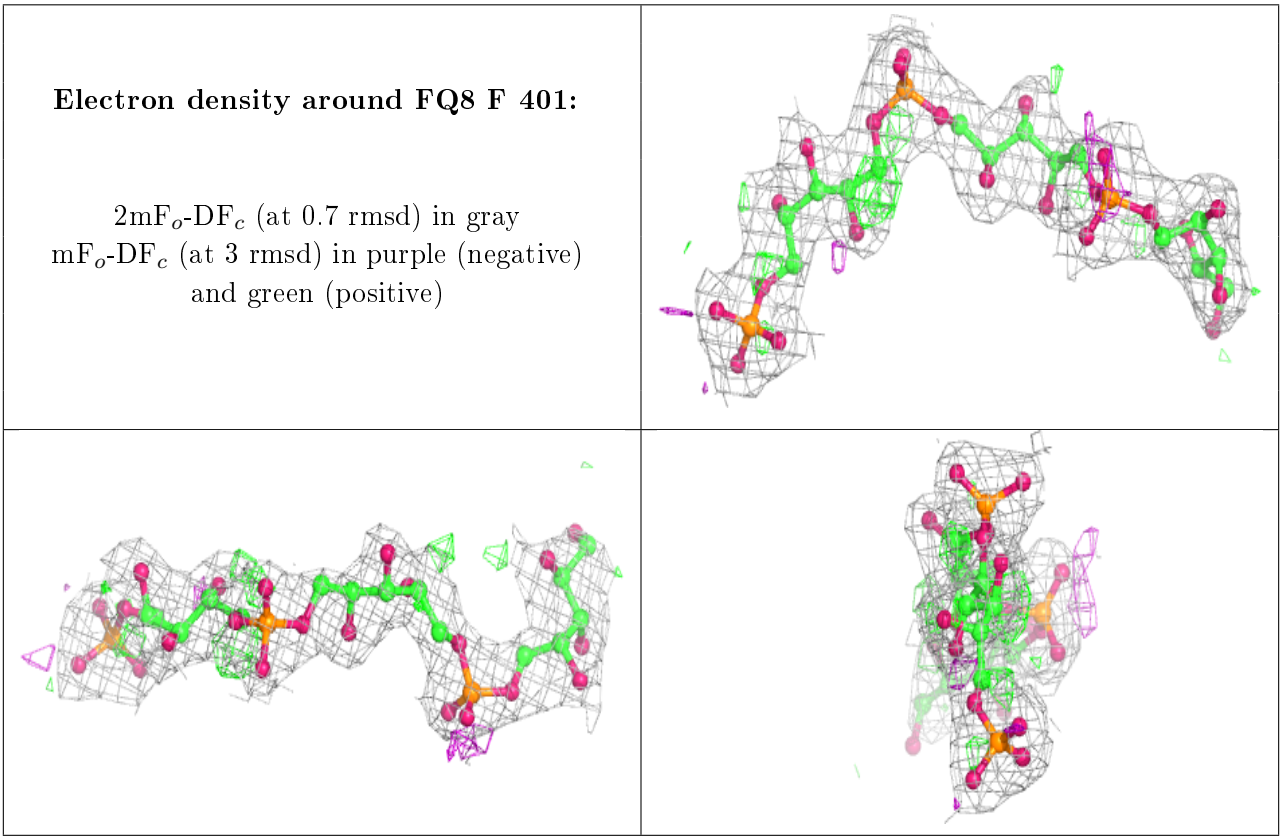
Electron density around FQ8 O 401:

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



Electron density around FQ8 F 401:

$2mF_o$-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.