



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 29, 2023 – 12:13 PM EDT

PDB ID : 8GMI
Title : Citrate Synthase (CitA) in Mycobacterium tuberculosis modified by Ebselen at C143 residue
Authors : Pathirage, R.; Ronning, D.
Deposited on : 2023-03-25
Resolution : 2.70 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 : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
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) : 2.36

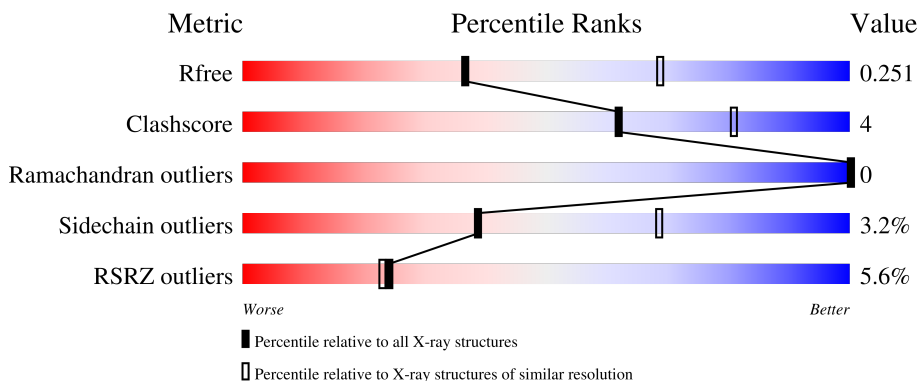
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.70 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.



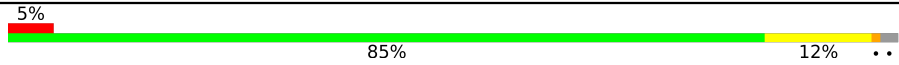

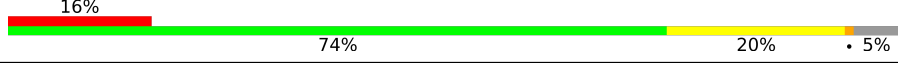
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2808 (2.70-2.70)
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)

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	379	3% 85% 12% .
1	B	379	% 92% 7% .
1	C	379	3% 89% 8% ..
1	D	379	2% 89% 9% .
1	E	379	% 88% 7% ..

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Mol	Chain	Length	Quality of chain
1	F	379	
1	G	379	
1	H	379	

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 22574 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 citrate synthase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	369	2797	1762	507	515	13	0	0	0
1	B	373	2824	1778	511	521	14	0	0	0
1	C	371	2812	1771	509	518	14	0	0	0
1	D	370	2804	1766	508	517	13	0	0	0
1	E	367	2783	1752	505	513	13	0	0	0
1	F	372	2816	1773	510	520	13	0	0	0
1	G	356	2699	1700	490	496	13	0	0	0
1	H	360	2728	1718	494	503	13	0	0	0

There are 48 discrepancies between the modelled and reference sequences:

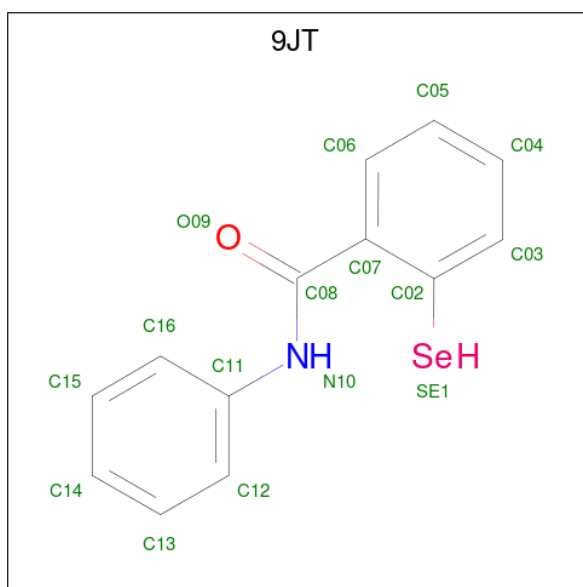
Chain	Residue	Modelled	Actual	Comment	Reference
A	374	HIS	-	expression tag	UNP A0A045JB88
A	375	HIS	-	expression tag	UNP A0A045JB88
A	376	HIS	-	expression tag	UNP A0A045JB88
A	377	HIS	-	expression tag	UNP A0A045JB88
A	378	HIS	-	expression tag	UNP A0A045JB88
A	379	HIS	-	expression tag	UNP A0A045JB88
B	374	HIS	-	expression tag	UNP A0A045JB88
B	375	HIS	-	expression tag	UNP A0A045JB88
B	376	HIS	-	expression tag	UNP A0A045JB88
B	377	HIS	-	expression tag	UNP A0A045JB88
B	378	HIS	-	expression tag	UNP A0A045JB88
B	379	HIS	-	expression tag	UNP A0A045JB88
C	374	HIS	-	expression tag	UNP A0A045JB88

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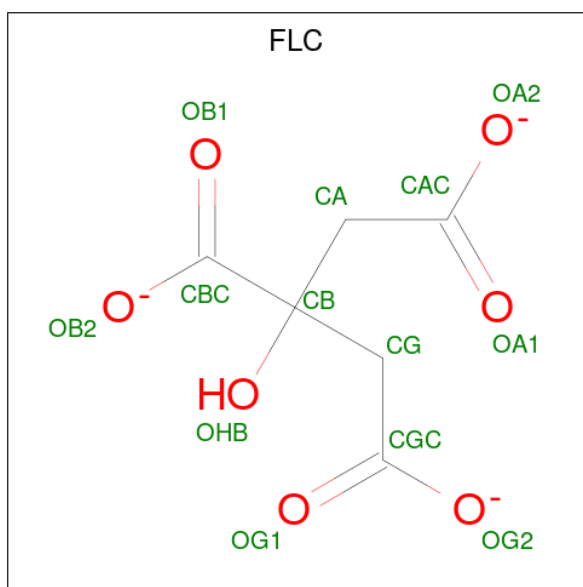
Chain	Residue	Modelled	Actual	Comment	Reference
C	375	HIS	-	expression tag	UNP A0A045JB88
C	376	HIS	-	expression tag	UNP A0A045JB88
C	377	HIS	-	expression tag	UNP A0A045JB88
C	378	HIS	-	expression tag	UNP A0A045JB88
C	379	HIS	-	expression tag	UNP A0A045JB88
D	374	HIS	-	expression tag	UNP A0A045JB88
D	375	HIS	-	expression tag	UNP A0A045JB88
D	376	HIS	-	expression tag	UNP A0A045JB88
D	377	HIS	-	expression tag	UNP A0A045JB88
D	378	HIS	-	expression tag	UNP A0A045JB88
D	379	HIS	-	expression tag	UNP A0A045JB88
E	374	HIS	-	expression tag	UNP A0A045JB88
E	375	HIS	-	expression tag	UNP A0A045JB88
E	376	HIS	-	expression tag	UNP A0A045JB88
E	377	HIS	-	expression tag	UNP A0A045JB88
E	378	HIS	-	expression tag	UNP A0A045JB88
E	379	HIS	-	expression tag	UNP A0A045JB88
F	374	HIS	-	expression tag	UNP A0A045JB88
F	375	HIS	-	expression tag	UNP A0A045JB88
F	376	HIS	-	expression tag	UNP A0A045JB88
F	377	HIS	-	expression tag	UNP A0A045JB88
F	378	HIS	-	expression tag	UNP A0A045JB88
F	379	HIS	-	expression tag	UNP A0A045JB88
G	374	HIS	-	expression tag	UNP A0A045JB88
G	375	HIS	-	expression tag	UNP A0A045JB88
G	376	HIS	-	expression tag	UNP A0A045JB88
G	377	HIS	-	expression tag	UNP A0A045JB88
G	378	HIS	-	expression tag	UNP A0A045JB88
G	379	HIS	-	expression tag	UNP A0A045JB88
H	374	HIS	-	expression tag	UNP A0A045JB88
H	375	HIS	-	expression tag	UNP A0A045JB88
H	376	HIS	-	expression tag	UNP A0A045JB88
H	377	HIS	-	expression tag	UNP A0A045JB88
H	378	HIS	-	expression tag	UNP A0A045JB88
H	379	HIS	-	expression tag	UNP A0A045JB88

- Molecule 2 is N-phenyl-2-selanylbenzamide (three-letter code: 9JT) (formula: C₁₃H₁₁NOSe) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	Se		
2	A	1	Total	C	N	O	Se	0	0
			16	13	1	1	1		
2	B	1	Total	C	N	O	Se	0	0
			16	13	1	1	1		
2	C	1	Total	C	N	O	Se	0	0
			16	13	1	1	1		
2	D	1	Total	C	N	O	Se	0	0
			16	13	1	1	1		
2	E	1	Total	C	N	O	Se	0	0
			16	13	1	1	1		
2	F	1	Total	C	N	O	Se	0	0
			16	13	1	1	1		
2	G	1	Total	C	N	O	Se	0	0
			16	13	1	1	1		
2	H	1	Total	C	N	O	Se	0	0
			16	13	1	1	1		

- Molecule 3 is CITRATE ANION (three-letter code: FLC) (formula: C₆H₅O₇).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	B	1	Total	C O	0	0
			13	6 7		
3	C	1	Total	C O	0	0
			13	6 7		
3	D	1	Total	C O	0	0
			13	6 7		
3	E	1	Total	C O	0	0
			13	6 7		
3	F	1	Total	C O	0	0
			13	6 7		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	14	Total	O	0	0
			14	14		
4	B	20	Total	O	0	0
			20	20		
4	C	20	Total	O	0	0
			20	20		
4	D	18	Total	O	0	0
			18	18		
4	E	31	Total	O	0	0
			31	31		
4	F	12	Total	O	0	0
			12	12		
4	G	2	Total	O	0	0
			2	2		

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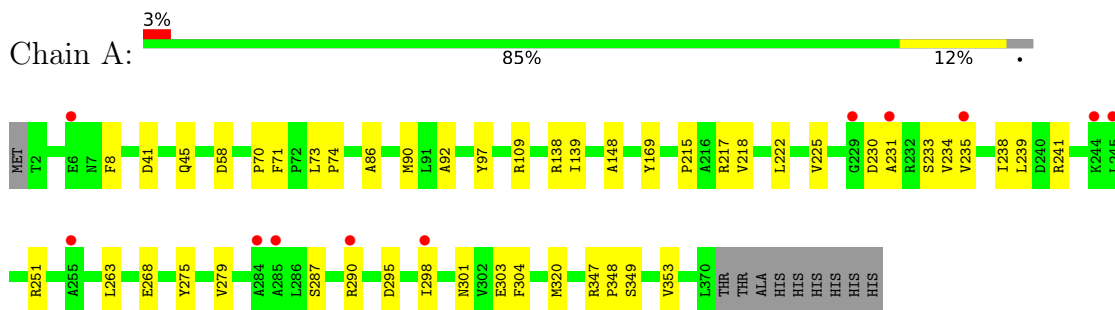
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	H	1	Total	O	0	0
			1	1		

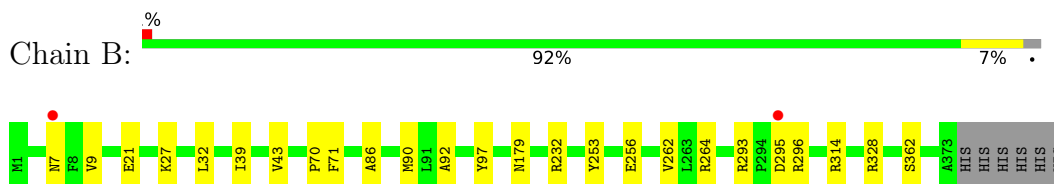
3 Residue-property plots [i](#)

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

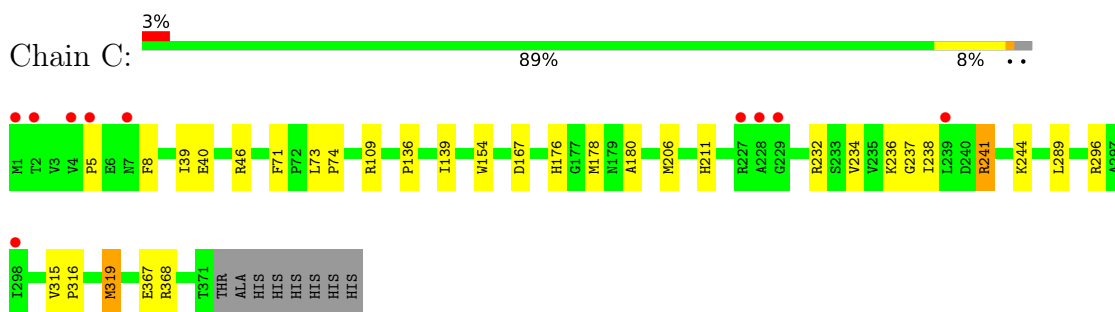
- Molecule 1: citrate synthase



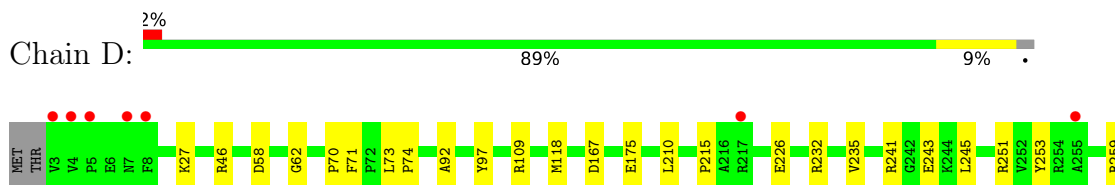
- Molecule 1: citrate synthase



- Molecule 1: citrate synthase

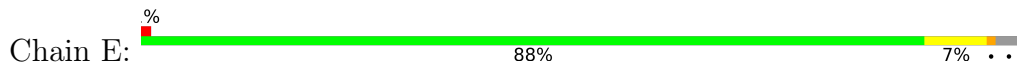


- Molecule 1: citrate synthase

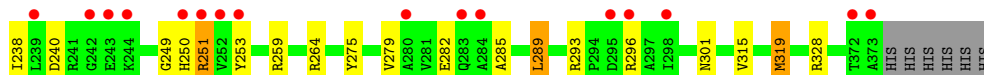
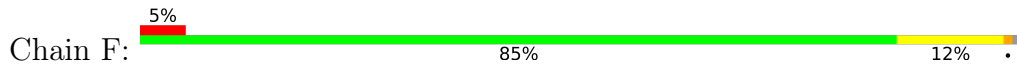




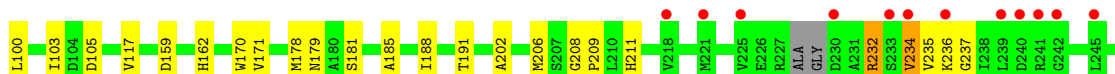
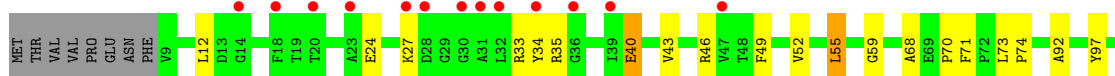
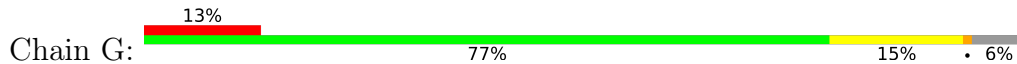
• Molecule 1: citrate synthase



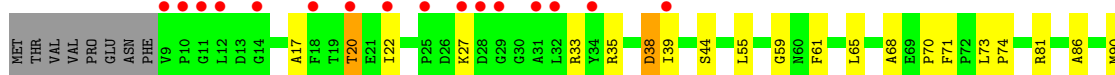
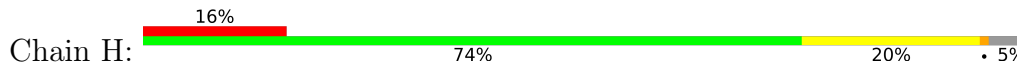
• Molecule 1: citrate synthase

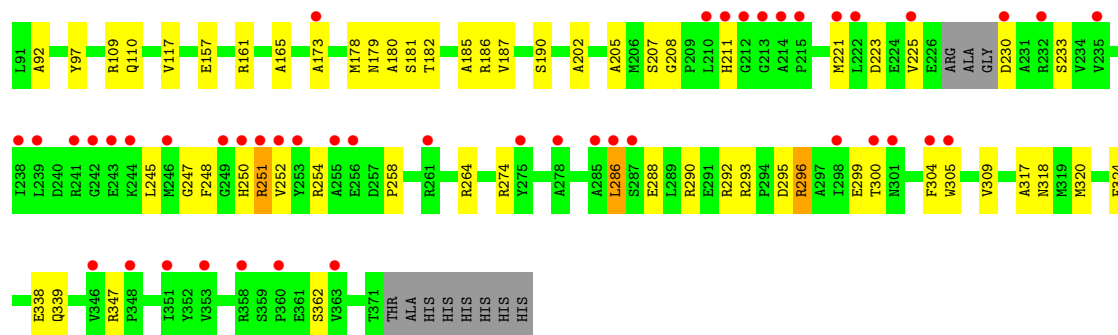


• Molecule 1: citrate synthase



• Molecule 1: citrate synthase





4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	122.02Å 167.49Å 221.00Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	63.06 – 2.70 67.43 – 2.62	Depositor EDS
% Data completeness (in resolution range)	99.9 (63.06-2.70) 84.9 (67.43-2.62)	Depositor EDS
R_{merge}	0.22	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.24 (at 2.62Å)	Xtrriage
Refinement program	PHENIX 1.19.2_4158:000	Depositor
R, R_{free}	0.214 , 0.253 0.214 , 0.251	Depositor DCC
R_{free} test set	2000 reflections (1.47%)	wwPDB-VP
Wilson B-factor (Å ²)	49.2	Xtrriage
Anisotropy	0.211	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 46.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	22574	wwPDB-VP
Average B, all atoms (Å ²)	70.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.37% of the height of the origin peak. No significant pseudotranslation is detected.*

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 [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: FLC, 9JT

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	0.24	0/2861	0.49	0/3898
1	B	0.24	0/2888	0.49	0/3935
1	C	0.24	0/2876	0.49	0/3918
1	D	0.24	0/2868	0.49	0/3908
1	E	0.24	0/2847	0.49	0/3877
1	F	0.25	0/2880	0.50	0/3925
1	G	0.24	0/2759	0.50	0/3755
1	H	0.24	0/2789	0.51	0/3798
All	All	0.24	0/22768	0.49	0/31014

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [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	2797	0	2771	25	0
1	B	2824	0	2802	17	0
1	C	2812	0	2790	20	0
1	D	2804	0	2778	19	0
1	E	2783	0	2754	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	F	2816	0	2790	27	0
1	G	2699	0	2673	40	0
1	H	2728	0	2703	45	0
2	A	16	0	0	1	0
2	B	16	0	0	0	0
2	C	16	0	0	0	0
2	D	16	0	0	0	0
2	E	16	0	0	0	0
2	F	16	0	0	0	0
2	G	16	0	0	0	0
2	H	16	0	0	0	0
3	B	13	0	5	1	0
3	C	13	0	5	1	0
3	D	13	0	5	1	0
3	E	13	0	5	1	0
3	F	13	0	5	3	0
4	A	14	0	0	0	0
4	B	20	0	0	0	0
4	C	20	0	0	0	0
4	D	18	0	0	0	0
4	E	31	0	0	0	0
4	F	12	0	0	0	0
4	G	2	0	0	0	0
4	H	1	0	0	0	0
All	All	22574	0	22086	195	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 (195) 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:G:232:ARG:HH11	1:G:236:LYS:HB2	1.50	0.75
1:G:159:ASP:HB3	1:G:162:HIS:CD2	2.25	0.72
1:G:159:ASP:HB3	1:G:162:HIS:HD2	1.56	0.70
1:A:225:VAL:HG22	1:A:234:VAL:HG11	1.74	0.67
1:F:215:PRO:O	1:F:217:ARG:NH1	2.27	0.67
1:C:315:VAL:HG13	1:C:319:MET:HE3	1.77	0.66
1:F:328:ARG:NH2	3:F:401:FLC:OB2	2.28	0.65
1:A:138:ARG:HG3	1:A:139:ILE:HD12	1.77	0.65
1:C:316:PRO:HD2	1:C:319:MET:HE2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:70:PRO:HB2	1:H:70:PRO:HB2	1.79	0.63
1:G:345:LEU:HD22	1:G:347:ARG:HB2	1.81	0.62
1:E:288:GLU:OE2	1:E:292:ARG:NH1	2.34	0.60
1:G:43:VAL:HG11	1:G:262:VAL:HB	1.83	0.60
1:B:92:ALA:HA	1:B:97:TYR:HB2	1.85	0.59
1:H:185:ALA:HB2	1:H:202:ALA:HB2	1.84	0.59
1:D:58:ASP:OD2	1:D:109:ARG:NH2	2.36	0.59
1:H:33:ARG:HG2	1:H:38:ASP:HA	1.85	0.59
1:D:259:ARG:NH1	3:D:401:FLC:OB2	2.32	0.58
1:D:235:VAL:HG13	1:D:245:LEU:HD11	1.84	0.58
1:B:179:ASN:HB3	3:B:401:FLC:HG2	1.86	0.57
1:H:68:ALA:HB2	1:H:117:VAL:HG22	1.85	0.57
1:F:154:TRP:CZ2	1:F:319:MET:HE1	2.39	0.57
1:H:295:ASP:N	1:H:295:ASP:OD1	2.38	0.57
1:H:250:HIS:CG	1:H:296:ARG:HH21	2.23	0.56
1:E:226:GLU:O	1:E:227:ARG:NE	2.39	0.56
1:F:293:ARG:HH11	1:F:296:ARG:HH21	1.52	0.56
1:E:226:GLU:CD	1:E:227:ARG:H	2.09	0.56
1:H:264:ARG:HG3	1:H:305:TRP:CE2	2.41	0.56
1:B:256:GLU:OE2	1:B:264:ARG:NH1	2.34	0.55
1:G:254:ARG:NE	1:G:254:ARG:HA	2.20	0.55
1:B:295:ASP:OD1	1:B:295:ASP:N	2.33	0.55
1:G:191:THR:HG23	1:H:208:GLY:HA3	1.89	0.55
1:C:73:LEU:HD12	1:C:74:PRO:HD2	1.88	0.54
1:E:352:TYR:CG	1:F:24:GLU:HB2	2.43	0.54
1:A:58:ASP:OD2	1:A:109:ARG:NH2	2.37	0.54
1:A:231:ALA:O	1:A:235:VAL:HG22	2.08	0.54
1:C:238:ILE:HA	1:C:241:ARG:HE	1.73	0.54
1:H:317:ALA:HA	1:H:320:MET:HG3	1.89	0.54
1:A:70:PRO:HB2	1:G:70:PRO:HB2	1.90	0.53
1:C:5:PRO:HB2	1:C:8:PHE:HB2	1.89	0.53
1:C:178:MET:O	1:D:347:ARG:NH2	2.41	0.53
1:A:215:PRO:HG2	1:A:320:MET:HB3	1.90	0.53
1:C:238:ILE:H	1:C:238:ILE:HD12	1.73	0.53
1:G:49:PHE:CD1	1:G:170:TRP:HB3	2.44	0.53
1:G:100:LEU:HD23	1:G:103:ILE:HD11	1.90	0.53
1:H:179:ASN:ND2	1:H:182:THR:H	2.07	0.53
1:A:92:ALA:HA	1:A:97:TYR:HB2	1.89	0.53
1:G:185:ALA:HB1	1:G:336:ILE:HD11	1.91	0.53
1:H:35:ARG:HD2	1:H:59:GLY:HA2	1.90	0.52
1:G:12:LEU:HD21	1:H:17:ALA:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:73:LEU:HD12	1:F:74:PRO:HD2	1.92	0.52
1:F:92:ALA:HA	1:F:97:TYR:HB2	1.91	0.52
1:H:92:ALA:HA	1:H:97:TYR:HB2	1.91	0.52
1:F:259:ARG:NH2	3:F:401:FLC:OB1	2.30	0.51
1:H:221:MET:SD	1:H:221:MET:N	2.81	0.51
1:G:35:ARG:HD2	1:G:59:GLY:HA2	1.93	0.51
1:G:73:LEU:HD12	1:G:74:PRO:HD2	1.91	0.51
1:G:234:VAL:O	1:G:237:GLY:N	2.43	0.51
1:D:46:ARG:HH22	1:D:269:ARG:HD2	1.75	0.51
1:E:92:ALA:HA	1:E:97:TYR:HB2	1.93	0.51
1:G:287:SER:O	1:G:291:GLU:HG2	2.11	0.51
1:A:268:GLU:HB3	1:A:275:TYR:CZ	2.46	0.51
1:F:279:VAL:HA	1:F:282:GLU:HB3	1.92	0.51
1:F:238:ILE:H	1:F:238:ILE:HD12	1.75	0.51
1:F:249:GLY:H	1:F:301:ASN:ND2	2.09	0.50
1:D:92:ALA:HA	1:D:97:TYR:HB2	1.94	0.50
1:G:181:SER:H	1:G:211:HIS:CD2	2.30	0.50
1:H:247:GLY:HA3	1:H:304:PHE:HB2	1.93	0.50
1:G:52:VAL:HG11	1:G:171:VAL:HG23	1.94	0.49
1:A:73:LEU:HD12	1:A:74:PRO:HD2	1.95	0.49
1:H:179:ASN:ND2	1:H:181:SER:OG	2.45	0.49
1:D:310:LEU:HD13	1:D:320:MET:HG2	1.94	0.49
1:H:225:VAL:HG23	1:H:225:VAL:O	2.12	0.49
1:G:347:ARG:NH2	1:H:178:MET:O	2.45	0.49
1:H:290:ARG:NH2	1:H:299:GLU:OE1	2.45	0.49
1:A:86:ALA:O	1:A:90:MET:HG3	2.13	0.49
1:B:27:LYS:HA	1:B:253:TYR:CD2	2.48	0.49
1:A:235:VAL:O	1:A:239:LEU:HD12	2.12	0.49
1:C:136:PRO:HD2	1:C:139:ILE:HD12	1.95	0.49
1:E:68:ALA:HB2	1:E:117:VAL:HG22	1.95	0.48
1:F:231:ALA:O	1:F:235:VAL:HG23	2.13	0.48
1:C:234:VAL:O	1:C:237:GLY:N	2.46	0.48
1:E:360:PRO:HG3	1:F:41:ASP:HB3	1.95	0.48
1:G:232:ARG:HA	1:G:235:VAL:HG12	1.95	0.48
1:A:301:ASN:HB3	1:A:303:GLU:OE1	2.14	0.48
1:H:223:ASP:OD1	1:H:274:ARG:NH2	2.46	0.48
1:E:241:ARG:NH1	1:E:243:GLU:OE2	2.47	0.48
1:F:58:ASP:OD2	1:F:109:ARG:NH2	2.47	0.47
1:A:347:ARG:NH1	1:A:348:PRO:O	2.47	0.47
1:C:367:GLU:CD	1:C:367:GLU:H	2.17	0.47
1:G:367:GLU:HG2	1:G:368:ARG:HG3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:362:SER:HB3	1:C:5:PRO:HD3	1.96	0.47
1:F:285:ALA:O	1:F:289:LEU:HD12	2.15	0.47
1:G:40:GLU:H	1:G:40:GLU:HG2	1.43	0.47
1:G:188:ILE:HG12	1:H:205:ALA:HB2	1.97	0.47
1:G:347:ARG:NH1	1:G:348:PRO:O	2.48	0.47
1:H:86:ALA:O	1:H:90:MET:HG3	2.15	0.47
1:F:185:ALA:HB2	1:F:202:ALA:HB2	1.97	0.46
1:F:234:VAL:O	1:F:238:ILE:HD12	2.15	0.46
1:H:318:ASN:ND2	1:H:318:ASN:H	2.14	0.46
1:E:301:ASN:HB3	1:E:303:GLU:OE1	2.16	0.46
1:A:41:ASP:O	1:A:45:GLN:HG3	2.15	0.46
1:E:215:PRO:HG2	1:E:320:MET:HB3	1.97	0.46
1:H:293:ARG:HD3	1:H:293:ARG:HA	1.76	0.46
1:D:226:GLU:HG2	1:D:277:VAL:HG21	1.97	0.46
1:H:27:LYS:HB2	1:H:251:ARG:HH12	1.81	0.45
1:H:180:ALA:HB3	1:H:211:HIS:CD2	2.51	0.45
1:D:232:ARG:HG3	1:D:232:ARG:HH11	1.81	0.45
1:G:92:ALA:HA	1:G:97:TYR:HB2	1.98	0.45
1:C:180:ALA:HB3	1:C:211:HIS:HD2	1.82	0.45
1:D:70:PRO:HB2	1:F:70:PRO:HB2	1.99	0.45
1:H:165:ALA:HB1	1:H:309:VAL:HG13	1.98	0.45
1:G:49:PHE:HD1	1:G:170:TRP:HB3	1.82	0.45
1:A:169:TYR:HA	1:A:263:LEU:HD21	1.99	0.45
1:H:286:LEU:HD12	1:H:286:LEU:HA	1.83	0.45
1:B:314:ARG:HG2	1:B:314:ARG:HH11	1.83	0.44
1:F:264:ARG:NH1	1:F:282:GLU:OE2	2.50	0.44
1:H:39:ILE:HD11	1:H:258:PRO:HB2	1.99	0.44
1:A:353:VAL:HG23	1:B:21:GLU:HG2	2.00	0.44
1:F:250:HIS:HB3	1:F:251:ARG:HD3	1.98	0.44
1:G:24:GLU:OE2	1:G:33:ARG:NE	2.42	0.44
1:G:351:ILE:HD12	1:G:352:TYR:H	1.82	0.44
1:H:20:THR:OG1	1:H:22:ILE:HD12	2.17	0.44
1:D:175:GLU:OE2	1:D:335:HIS:NE2	2.48	0.44
1:E:176:HIS:ND1	3:E:401:FLC:HA1	2.32	0.44
1:B:86:ALA:O	1:B:90:MET:HG3	2.18	0.44
1:D:27:LYS:HA	1:D:253:TYR:CD2	2.52	0.43
1:D:241:ARG:NH2	1:D:243:GLU:OE1	2.51	0.43
1:H:187:VAL:O	1:H:190:SER:OG	2.25	0.43
1:B:314:ARG:HG2	1:B:314:ARG:NH1	2.34	0.43
1:C:176:HIS:ND1	3:C:401:FLC:HG2	2.33	0.43
1:G:24:GLU:HG3	1:G:33:ARG:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:73:LEU:HD12	1:D:74:PRO:HD2	2.01	0.43
1:H:73:LEU:HD12	1:H:74:PRO:HD2	2.00	0.43
1:H:186:ARG:NH2	1:H:338:GLU:OE1	2.52	0.43
1:D:215:PRO:HA	1:D:303:GLU:HB3	1.99	0.43
1:F:27:LYS:HA	1:F:253:TYR:CD2	2.54	0.43
1:G:68:ALA:HB2	1:G:117:VAL:HG22	2.00	0.43
1:C:234:VAL:O	1:C:238:ILE:HD12	2.18	0.43
1:C:154:TRP:CH2	1:C:319:MET:HE1	2.54	0.43
1:A:218:VAL:HG11	1:A:304:PHE:HD1	1.84	0.43
1:D:251:ARG:HD2	1:D:253:TYR:O	2.18	0.43
1:G:179:ASN:ND2	1:G:328:ARG:HH12	2.16	0.42
1:G:162:HIS:ND1	1:G:313:ALA:HA	2.34	0.42
1:H:81:ARG:HD3	1:H:207:SER:HB3	2.01	0.42
1:H:292:ARG:HA	1:H:292:ARG:HD3	1.89	0.42
1:B:43:VAL:HG11	1:B:262:VAL:HG13	2.02	0.42
1:B:293:ARG:NH2	1:B:295:ASP:OD2	2.53	0.42
1:A:148:ALA:HB1	2:A:401:9JT:SE1	2.69	0.42
1:C:368:ARG:HE	1:D:62:GLY:HA2	1.85	0.42
1:D:210:LEU:HD23	1:D:210:LEU:HA	1.86	0.42
1:B:232:ARG:HD2	1:B:232:ARG:HA	1.92	0.42
1:H:55:LEU:HB2	1:H:61:PHE:CE2	2.55	0.42
1:H:248:PHE:HD1	1:H:300:THR:HA	1.84	0.42
1:B:293:ARG:HD3	1:B:296:ARG:NH2	2.35	0.42
1:F:68:ALA:HB2	1:F:117:VAL:HG22	2.02	0.42
1:G:34:TYR:O	1:G:55:LEU:HD21	2.20	0.42
1:H:65:LEU:HD12	1:H:65:LEU:HA	1.87	0.42
1:A:138:ARG:H	1:A:138:ARG:HG2	1.67	0.41
1:E:188:ILE:HG12	1:F:205:ALA:HB2	2.01	0.41
1:G:188:ILE:O	1:G:191:THR:HG22	2.20	0.41
1:B:32:LEU:HD23	1:B:39:ILE:HG21	2.01	0.41
1:H:230:ASP:OD1	1:H:233:SER:N	2.52	0.41
1:C:289:LEU:HD23	1:C:289:LEU:HA	1.82	0.41
1:G:27:LYS:HA	1:G:253:TYR:CD2	2.56	0.41
1:E:347:ARG:NE	3:F:401:FLC:OA2	2.48	0.41
1:C:46:ARG:HD2	1:D:372:THR:HG21	2.02	0.41
1:E:39:ILE:O	1:E:43:VAL:HG22	2.20	0.41
1:E:364:ASP:OD1	1:E:364:ASP:N	2.52	0.41
1:F:227:ARG:CZ	1:F:227:ARG:HB3	2.51	0.41
1:A:275:TYR:O	1:A:279:VAL:HG23	2.21	0.41
1:E:143:CYS:HB2	1:E:149:ARG:HG3	2.02	0.41
1:H:173:ALA:HB1	1:H:324:PHE:HE1	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:234:VAL:O	1:A:238:ILE:HG13	2.19	0.41
1:G:179:ASN:HB3	1:G:211:HIS:NE2	2.35	0.41
1:G:185:ALA:HB2	1:G:202:ALA:HB2	2.02	0.41
1:G:208:GLY:HA2	1:G:209:PRO:HD3	1.97	0.41
1:G:352:TYR:OH	1:G:355:PRO:O	2.30	0.41
1:H:293:ARG:NH1	1:H:296:ARG:HH11	2.19	0.41
1:A:222:LEU:HD23	1:A:222:LEU:HA	1.94	0.41
1:B:328:ARG:HA	1:B:328:ARG:HD3	1.75	0.41
1:C:39:ILE:HG13	1:C:40:GLU:N	2.36	0.41
1:E:217:ARG:O	1:E:220:PRO:HD2	2.21	0.41
1:C:319:MET:HG2	1:C:319:MET:O	2.22	0.40
1:F:139:ILE:O	1:F:142:GLU:HG2	2.21	0.40
1:H:251:ARG:HD2	1:H:251:ARG:HA	1.82	0.40
1:E:344:LYS:HD2	1:E:344:LYS:HA	1.79	0.40
1:G:178:MET:O	1:H:347:ARG:NE	2.53	0.40
1:A:295:ASP:OD1	1:A:295:ASP:N	2.52	0.40
1:H:190:SER:HB3	1:H:339:GLN:NE2	2.37	0.40
1:A:230:ASP:OD2	1:A:233:SER:OG	2.37	0.40
1:A:290:ARG:NH1	1:A:298:ILE:O	2.54	0.40
1:F:315:VAL:HG13	1:F:319:MET:HE3	2.03	0.40
1:H:250:HIS:CD2	1:H:296:ARG:HH21	2.40	0.40
1:F:221:MET:O	1:F:224:GLU:HG2	2.21	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	367/379 (97%)	360 (98%)	7 (2%)	0	100	100
1	B	371/379 (98%)	361 (97%)	10 (3%)	0	100	100
1	C	369/379 (97%)	361 (98%)	8 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	D	368/379 (97%)	358 (97%)	10 (3%)	0	100	100
1	E	365/379 (96%)	356 (98%)	9 (2%)	0	100	100
1	F	370/379 (98%)	357 (96%)	13 (4%)	0	100	100
1	G	350/379 (92%)	343 (98%)	7 (2%)	0	100	100
1	H	356/379 (94%)	350 (98%)	6 (2%)	0	100	100
All	All	2916/3032 (96%)	2846 (98%)	70 (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	282/291 (97%)	275 (98%)	7 (2%)	47	76
1	B	285/291 (98%)	282 (99%)	3 (1%)	73	90
1	C	284/291 (98%)	274 (96%)	10 (4%)	36	65
1	D	283/291 (97%)	280 (99%)	3 (1%)	73	90
1	E	280/291 (96%)	271 (97%)	9 (3%)	39	68
1	F	284/291 (98%)	273 (96%)	11 (4%)	32	61
1	G	272/291 (94%)	260 (96%)	12 (4%)	28	56
1	H	275/291 (94%)	259 (94%)	16 (6%)	20	43
All	All	2245/2328 (96%)	2174 (97%)	71 (3%)	39	68

All (71) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	8	PHE
1	A	71	PHE
1	A	217	ARG
1	A	241	ARG
1	A	251	ARG

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Mol	Chain	Res	Type
1	A	287	SER
1	A	349	SER
1	B	7	ASN
1	B	9	VAL
1	B	71	PHE
1	C	71	PHE
1	C	109	ARG
1	C	167	ASP
1	C	206	MET
1	C	232	ARG
1	C	236	LYS
1	C	241	ARG
1	C	244	LYS
1	C	296	ARG
1	C	319	MET
1	D	71	PHE
1	D	118	MET
1	D	167	ASP
1	E	44	SER
1	E	71	PHE
1	E	167	ASP
1	E	227	ARG
1	E	292	ARG
1	E	293	ARG
1	E	344	LYS
1	E	364	ASP
1	E	368	ARG
1	F	2	THR
1	F	71	PHE
1	F	167	ASP
1	F	217	ARG
1	F	232	ARG
1	F	236	LYS
1	F	240	ASP
1	F	251	ARG
1	F	275	TYR
1	F	289	LEU
1	F	319	MET
1	G	40	GLU
1	G	46	ARG
1	G	55	LEU
1	G	71	PHE

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Mol	Chain	Res	Type
1	G	105	ASP
1	G	206	MET
1	G	232	ARG
1	G	234	VAL
1	G	264	ARG
1	G	324	PHE
1	G	344	LYS
1	G	347	ARG
1	H	20	THR
1	H	38	ASP
1	H	44	SER
1	H	71	PHE
1	H	109	ARG
1	H	110	GLN
1	H	157	GLU
1	H	161	ARG
1	H	245	LEU
1	H	251	ARG
1	H	252	VAL
1	H	254	ARG
1	H	286	LEU
1	H	288	GLU
1	H	296	ARG
1	H	362	SER

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

Mol	Chain	Res	Type
1	B	132	GLN
1	F	301	ASN
1	G	179	ASN
1	H	179	ASN
1	H	318	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

13 ligands are modelled in this entry.

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	FLC	B	401	-	12,12,12	1.07	0	17,17,17	1.55	2 (11%)
3	FLC	F	401	-	12,12,12	1.06	0	17,17,17	1.44	1 (5%)
2	9JT	A	401	1	17,17,17	1.94	4 (23%)	21,22,22	1.04	1 (4%)
2	9JT	F	402	1	17,17,17	1.96	4 (23%)	21,22,22	1.03	1 (4%)
2	9JT	H	401	1	17,17,17	1.96	4 (23%)	21,22,22	1.17	2 (9%)
3	FLC	D	401	-	12,12,12	1.06	0	17,17,17	1.52	1 (5%)
3	FLC	C	401	-	12,12,12	1.04	0	17,17,17	1.47	1 (5%)
2	9JT	D	402	1	17,17,17	1.96	4 (23%)	21,22,22	1.02	1 (4%)
2	9JT	C	402	1	17,17,17	1.96	4 (23%)	21,22,22	1.01	1 (4%)
2	9JT	E	402	1	17,17,17	1.94	4 (23%)	21,22,22	1.04	1 (4%)
3	FLC	E	401	-	12,12,12	1.05	0	17,17,17	1.42	1 (5%)
2	9JT	B	402	1	17,17,17	1.95	4 (23%)	21,22,22	1.00	1 (4%)
2	9JT	G	401	1	17,17,17	1.95	4 (23%)	21,22,22	1.07	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. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	FLC	B	401	-	-	2/16/16/16	-
3	FLC	F	401	-	-	7/16/16/16	-
2	9JT	A	401	1	-	2/8/8/8	0/2/2/2
2	9JT	F	402	1	-	2/8/8/8	0/2/2/2
2	9JT	H	401	1	-	4/8/8/8	0/2/2/2
3	FLC	D	401	-	-	7/16/16/16	-
3	FLC	C	401	-	-	9/16/16/16	-
2	9JT	D	402	1	-	0/8/8/8	0/2/2/2
2	9JT	C	402	1	-	3/8/8/8	0/2/2/2
2	9JT	E	402	1	-	4/8/8/8	0/2/2/2
3	FLC	E	401	-	-	6/16/16/16	-
2	9JT	B	402	1	-	4/8/8/8	0/2/2/2
2	9JT	G	401	1	-	2/8/8/8	0/2/2/2

All (32) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	401	9JT	SE1-C02	5.28	1.95	1.89
2	G	401	9JT	SE1-C02	5.21	1.95	1.89
2	D	402	9JT	SE1-C02	5.21	1.95	1.89
2	F	402	9JT	SE1-C02	5.06	1.95	1.89
2	C	402	9JT	SE1-C02	5.05	1.95	1.89
2	B	402	9JT	SE1-C02	5.05	1.95	1.89
2	A	401	9JT	SE1-C02	5.04	1.95	1.89
2	E	402	9JT	SE1-C02	5.02	1.95	1.89
2	F	402	9JT	C08-N10	4.00	1.46	1.35
2	E	402	9JT	C08-N10	3.97	1.46	1.35
2	B	402	9JT	C08-N10	3.97	1.46	1.35
2	C	402	9JT	C08-N10	3.96	1.46	1.35
2	A	401	9JT	C08-N10	3.91	1.46	1.35
2	D	402	9JT	C08-N10	3.87	1.46	1.35
2	G	401	9JT	C08-N10	3.86	1.46	1.35
2	H	401	9JT	C08-N10	3.86	1.46	1.35
2	C	402	9JT	C11-N10	2.32	1.46	1.41
2	F	402	9JT	C11-N10	2.31	1.46	1.41
2	E	402	9JT	C11-N10	2.31	1.46	1.41
2	B	402	9JT	C11-N10	2.30	1.46	1.41
2	A	401	9JT	C11-N10	2.19	1.46	1.41
2	D	402	9JT	C11-N10	2.15	1.46	1.41
2	D	402	9JT	O09-C08	-2.12	1.19	1.23
2	H	401	9JT	O09-C08	-2.11	1.19	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	401	9JT	O09-C08	-2.11	1.19	1.23
2	F	402	9JT	O09-C08	-2.11	1.19	1.23
2	H	401	9JT	C11-N10	2.10	1.45	1.41
2	C	402	9JT	O09-C08	-2.10	1.19	1.23
2	G	401	9JT	C11-N10	2.10	1.45	1.41
2	G	401	9JT	O09-C08	-2.09	1.19	1.23
2	E	402	9JT	O09-C08	-2.09	1.19	1.23
2	B	402	9JT	O09-C08	-2.08	1.19	1.23

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	401	FLC	OB2-CBC-CB	4.14	120.24	113.05
3	B	401	FLC	OB2-CBC-CB	4.11	120.19	113.05
3	C	401	FLC	OB2-CBC-CB	4.02	120.04	113.05
3	F	401	FLC	OB2-CBC-CB	3.98	119.96	113.05
3	E	401	FLC	OB2-CBC-CB	3.83	119.70	113.05
2	E	402	9JT	C13-C12-C11	3.54	123.96	119.72
2	F	402	9JT	C13-C12-C11	3.54	123.95	119.72
2	C	402	9JT	C13-C12-C11	3.53	123.95	119.72
2	B	402	9JT	C13-C12-C11	3.46	123.87	119.72
2	A	401	9JT	C13-C12-C11	3.46	123.86	119.72
2	D	402	9JT	C13-C12-C11	3.32	123.70	119.72
2	G	401	9JT	C13-C12-C11	3.29	123.66	119.72
2	H	401	9JT	C13-C12-C11	3.23	123.59	119.72
2	H	401	9JT	C07-C08-N10	2.35	120.55	116.06
3	B	401	FLC	CB-CG-CGC	-2.21	108.46	113.81

There are no chirality outliers.

All (52) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	401	9JT	C02-C07-C08-O09
2	A	401	9JT	C02-C07-C08-N10
2	C	402	9JT	C02-C07-C08-N10
3	C	401	FLC	OHB-CB-CBC-OB1
3	C	401	FLC	OHB-CB-CBC-OB2
3	D	401	FLC	CG-CB-CBC-OB1
3	D	401	FLC	CG-CB-CBC-OB2
3	D	401	FLC	OHB-CB-CBC-OB1
3	D	401	FLC	OHB-CB-CBC-OB2
3	E	401	FLC	CG-CB-CBC-OB1

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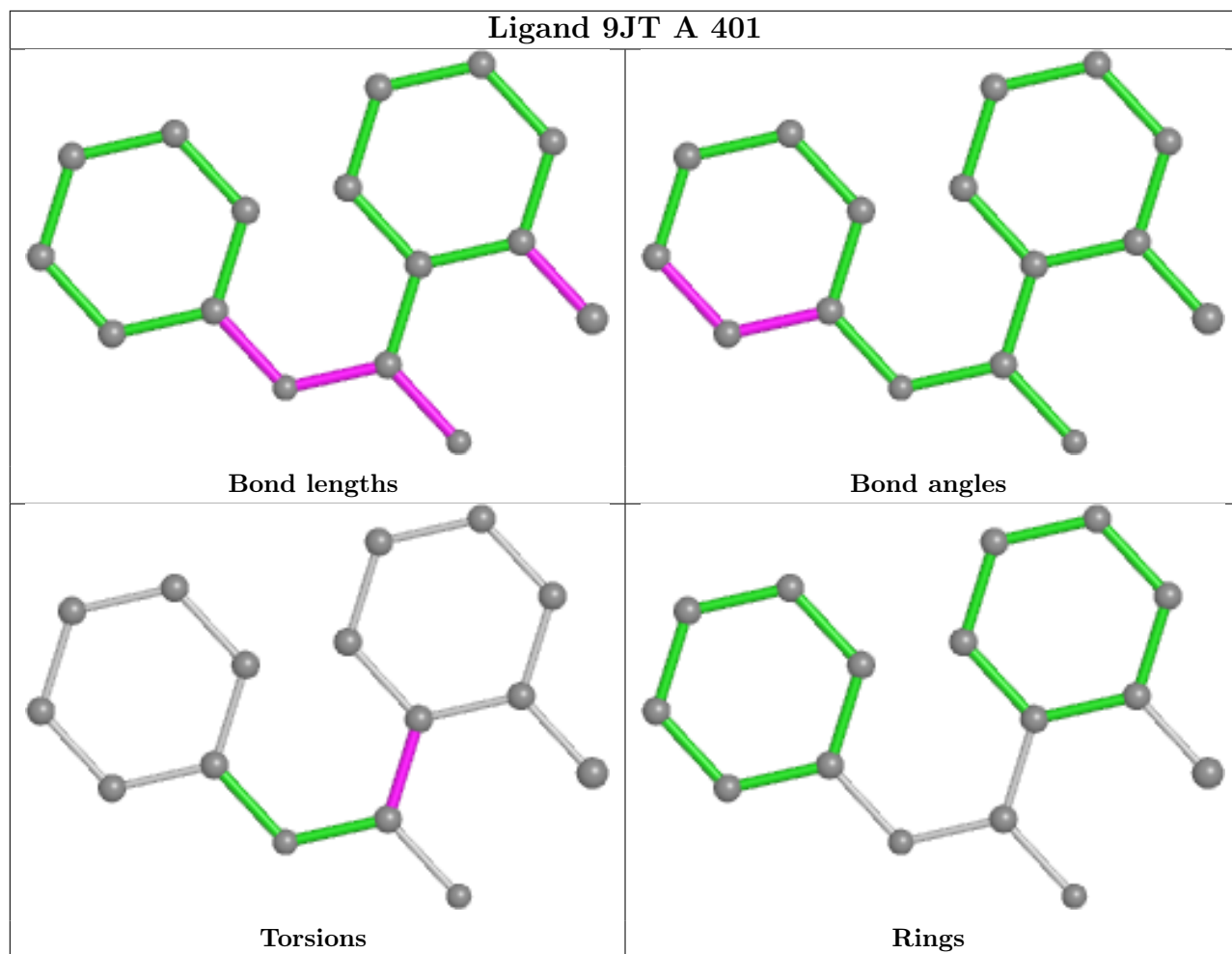
Mol	Chain	Res	Type	Atoms
3	E	401	FLC	CG-CB-CBC-OB2
3	E	401	FLC	OHB-CB-CBC-OB1
3	E	401	FLC	OHB-CB-CBC-OB2
3	C	401	FLC	CA-CB-CG-CGC
3	C	401	FLC	CBC-CB-CG-CGC
3	C	401	FLC	CA-CB-CBC-OB1
3	C	401	FLC	CA-CB-CBC-OB2
3	E	401	FLC	CA-CB-CBC-OB1
3	E	401	FLC	CA-CB-CBC-OB2
3	F	401	FLC	CA-CB-CBC-OB1
3	F	401	FLC	CA-CB-CBC-OB2
3	F	401	FLC	CG-CB-CBC-OB2
3	D	401	FLC	CAC-CA-CB-CBC
2	G	401	9JT	C02-C07-C08-O09
2	G	401	9JT	C02-C07-C08-N10
2	H	401	9JT	C02-C07-C08-O09
2	H	401	9JT	C02-C07-C08-N10
3	F	401	FLC	OHB-CB-CG-CGC
3	C	401	FLC	CG-CB-CBC-OB2
3	F	401	FLC	CG-CB-CBC-OB1
2	F	402	9JT	C06-C07-C08-O09
3	C	401	FLC	OHB-CB-CG-CGC
3	D	401	FLC	CAC-CA-CB-OHB
3	F	401	FLC	OHB-CB-CBC-OB1
3	F	401	FLC	OHB-CB-CBC-OB2
3	D	401	FLC	CA-CB-CBC-OB2
2	F	402	9JT	C06-C07-C08-N10
2	H	401	9JT	C12-C11-N10-C08
2	B	402	9JT	C06-C07-C08-O09
2	H	401	9JT	C16-C11-N10-C08
3	B	401	FLC	CA-CB-CG-CGC
3	C	401	FLC	CAC-CA-CB-CG
2	B	402	9JT	C02-C07-C08-O09
2	B	402	9JT	C02-C07-C08-N10
2	C	402	9JT	C02-C07-C08-O09
2	E	402	9JT	C02-C07-C08-O09
2	E	402	9JT	C02-C07-C08-N10
2	E	402	9JT	C06-C07-C08-O09
2	B	402	9JT	C06-C07-C08-N10
3	B	401	FLC	CBC-CB-CG-CGC
2	C	402	9JT	C06-C07-C08-O09
2	E	402	9JT	C06-C07-C08-N10

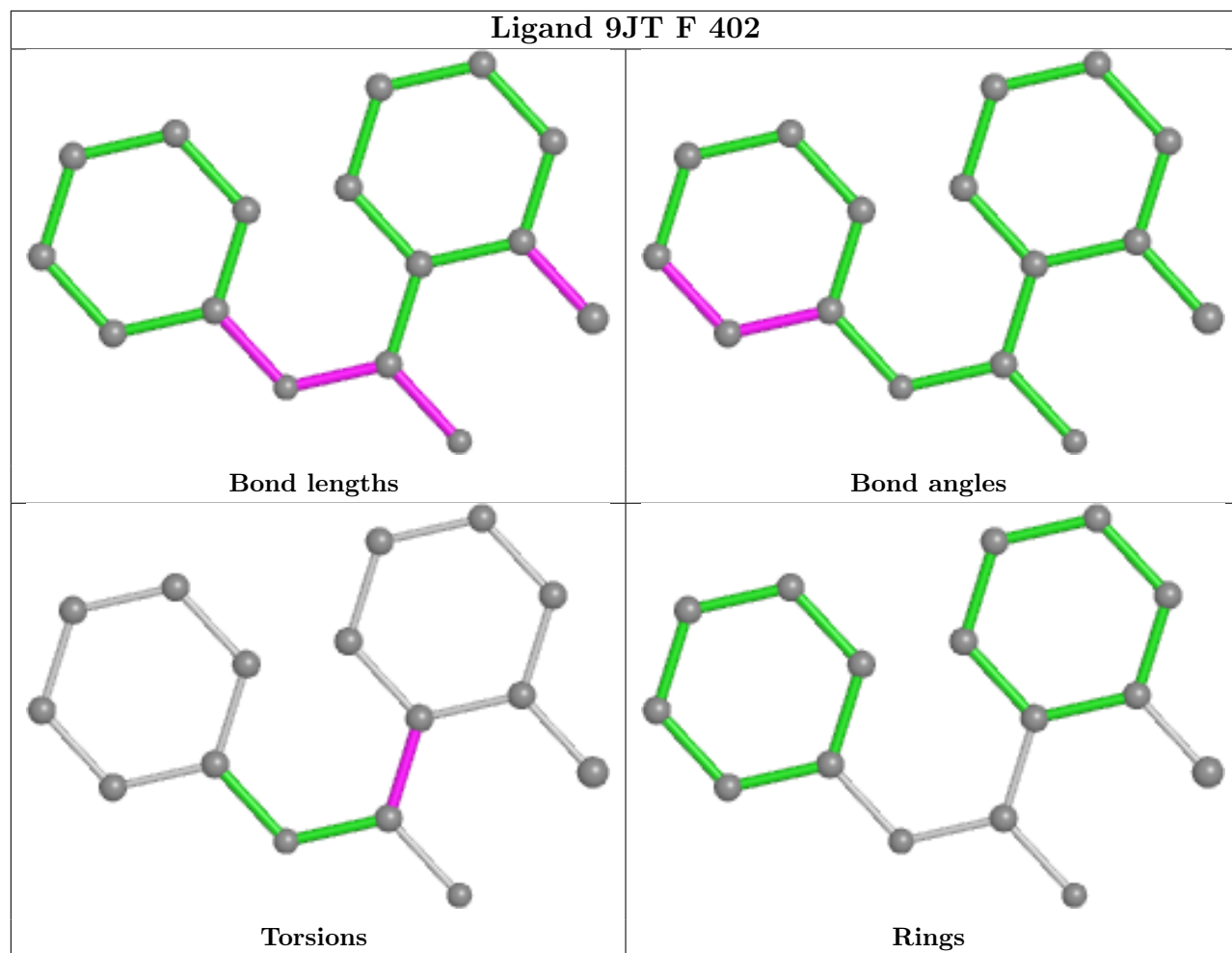
There are no ring outliers.

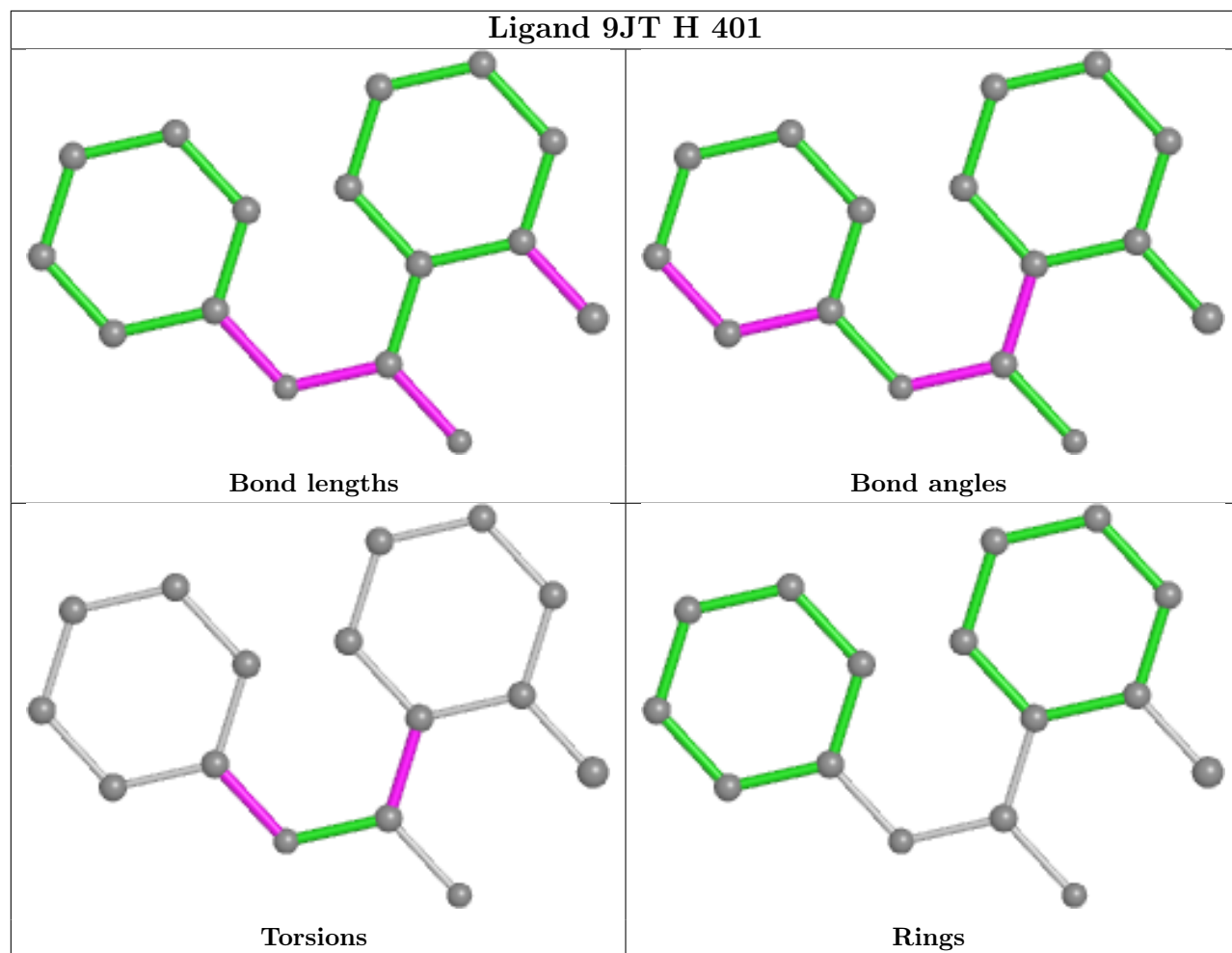
6 monomers are involved in 8 short contacts:

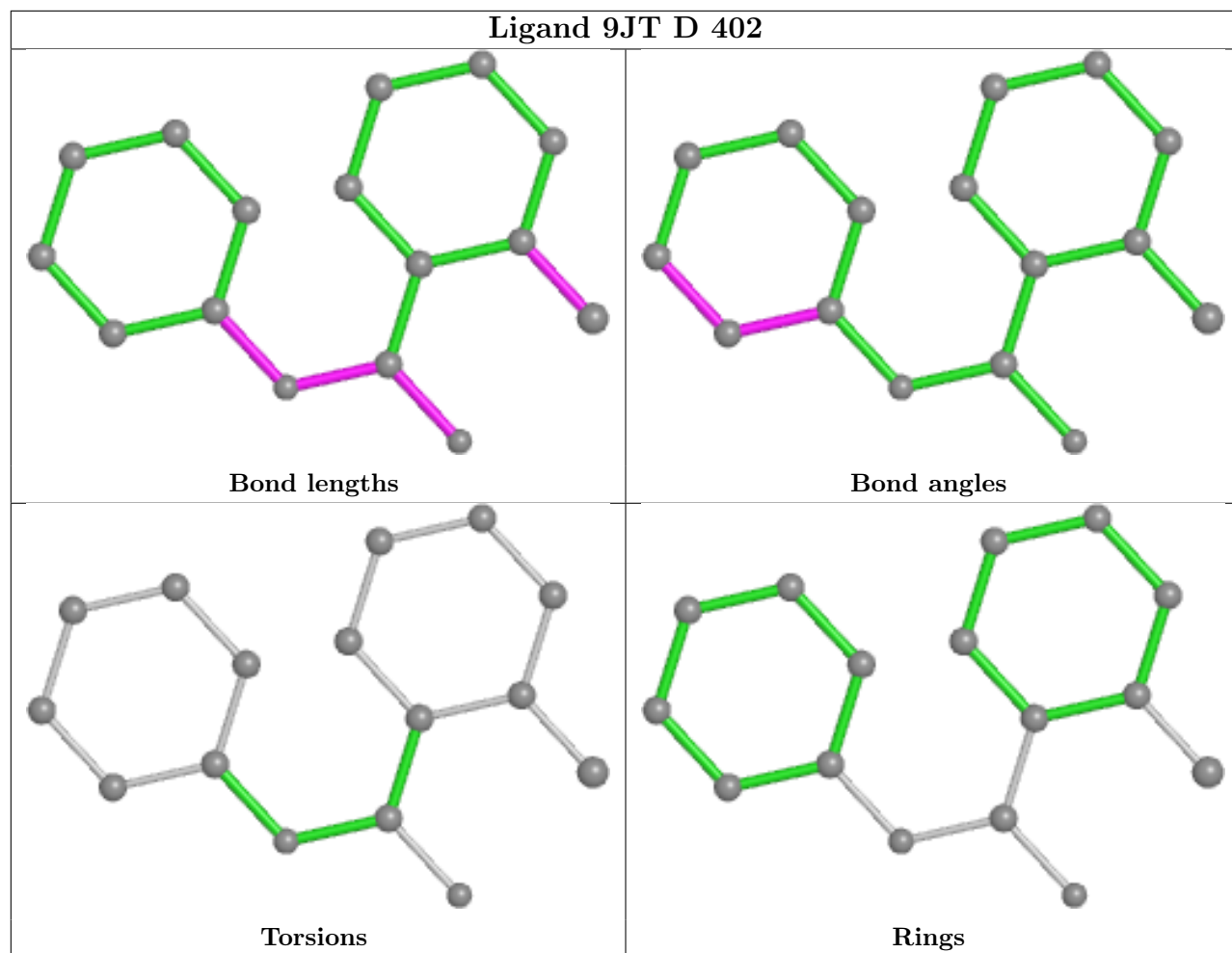
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	401	FLC	1	0
3	F	401	FLC	3	0
2	A	401	9JT	1	0
3	D	401	FLC	1	0
3	C	401	FLC	1	0
3	E	401	FLC	1	0

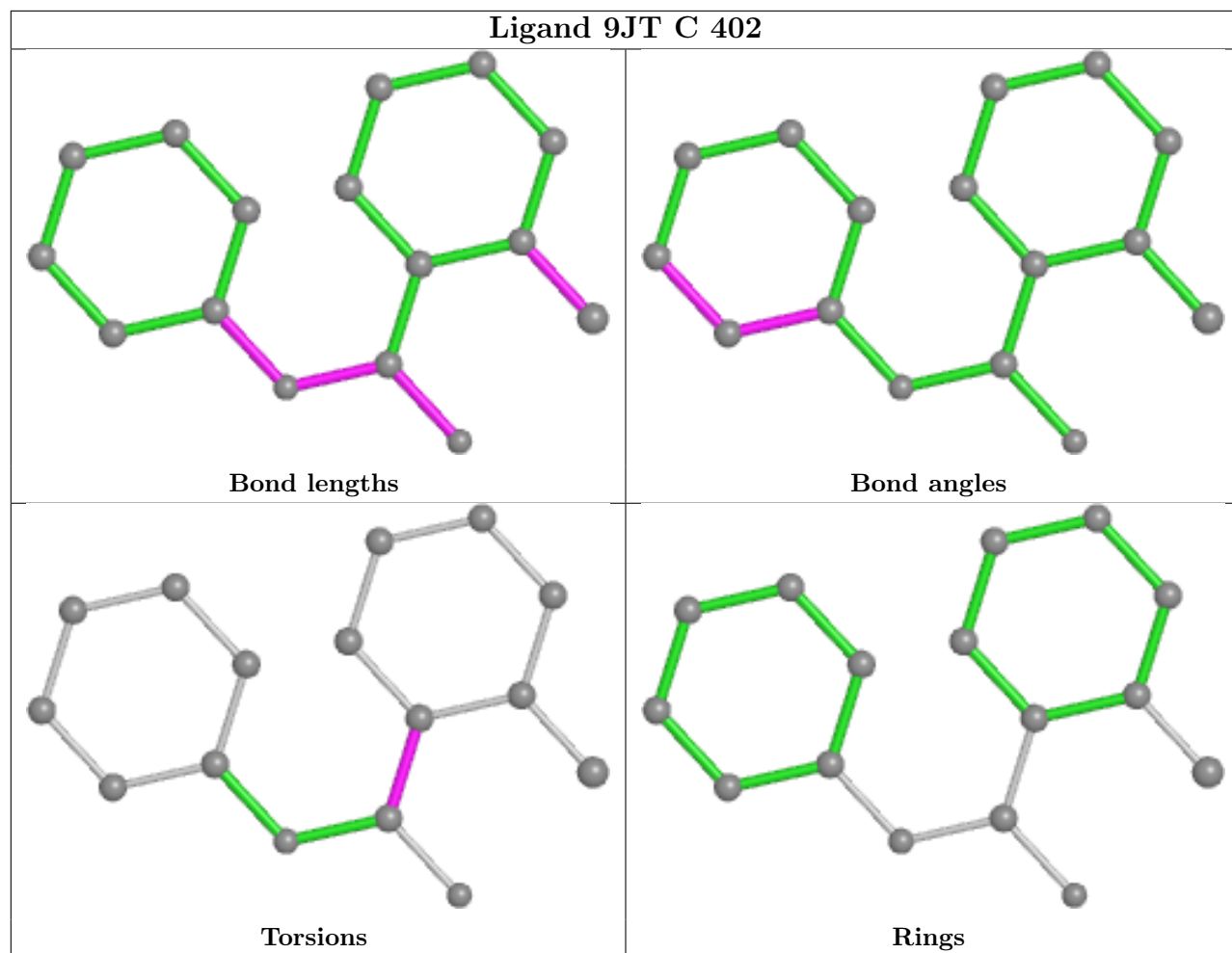
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

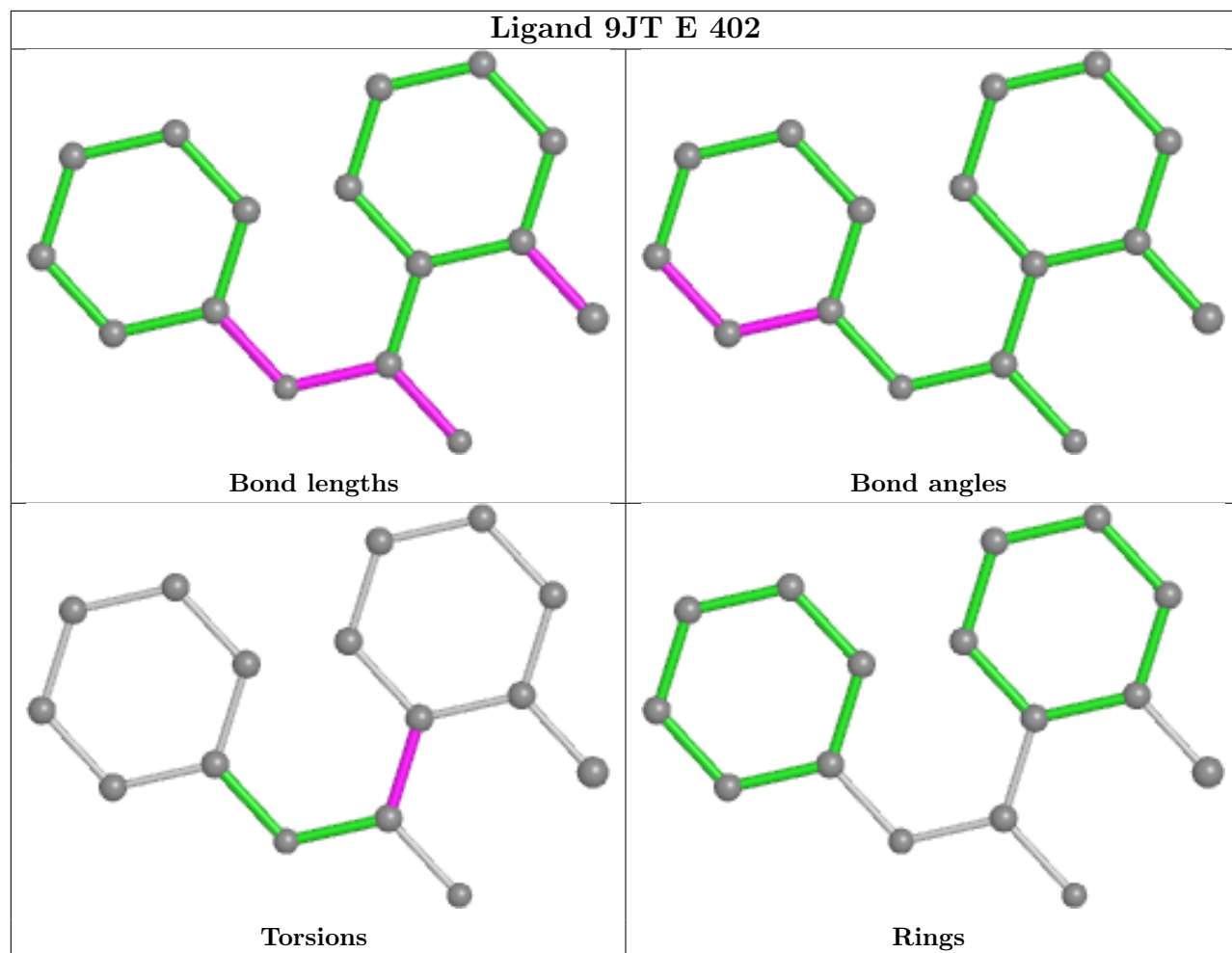


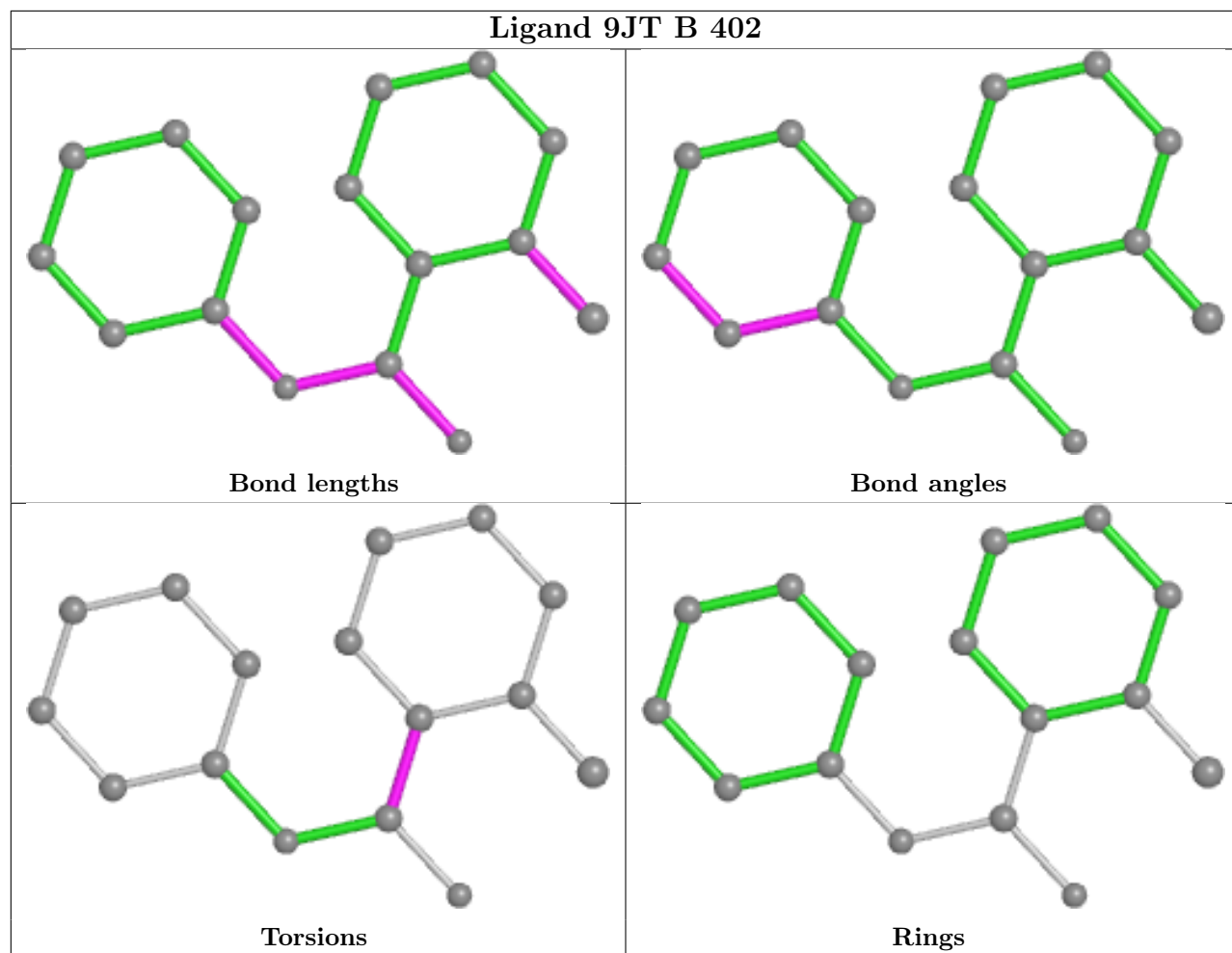


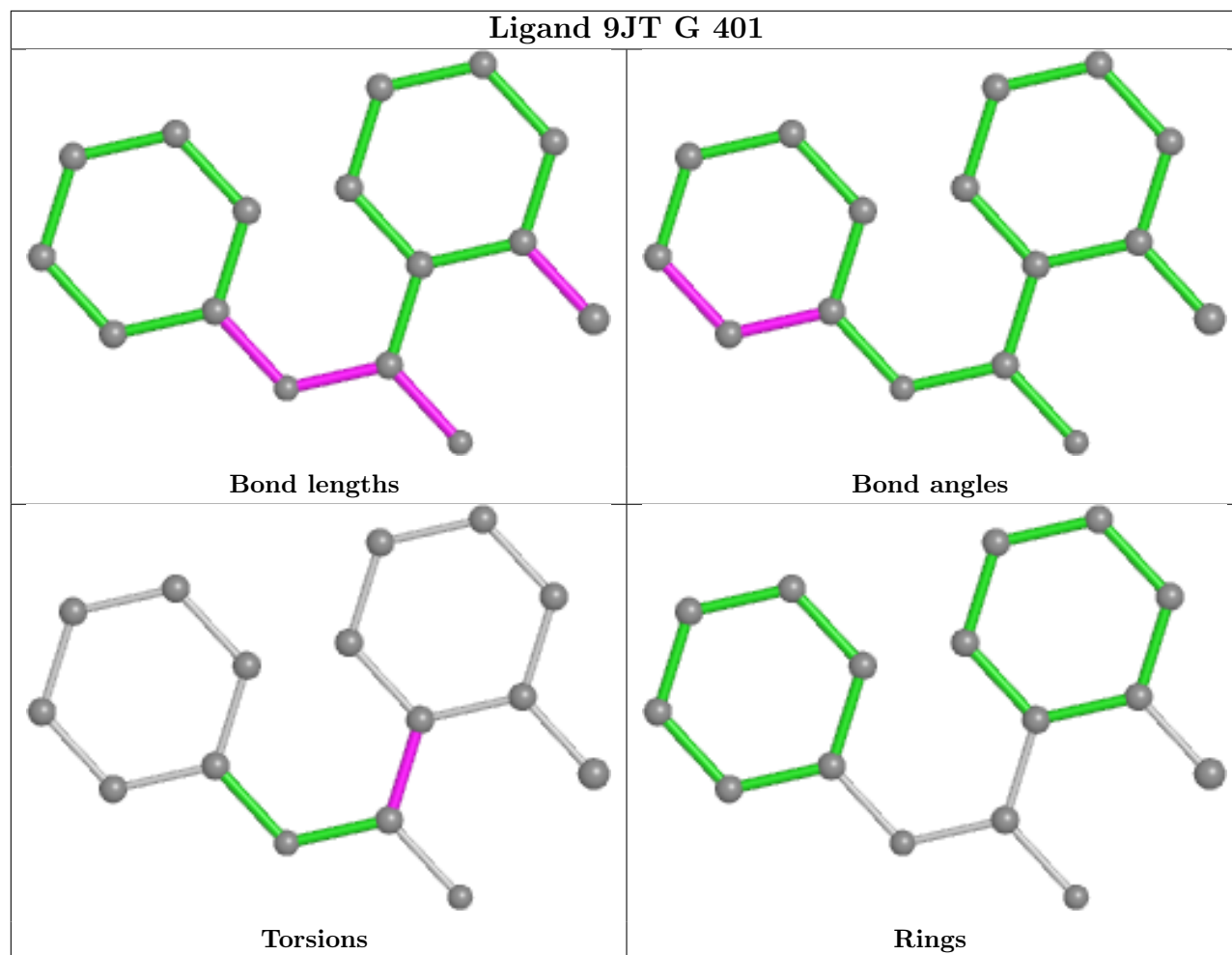












5.7 Other polymers [i](#)

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	369/379 (97%)	0.14	11 (2%) 50 51	36, 56, 104, 122	1 (0%)
1	B	373/379 (98%)	-0.00	2 (0%) 91 92	36, 52, 89, 120	1 (0%)
1	C	371/379 (97%)	-0.03	10 (2%) 54 55	37, 54, 110, 128	1 (0%)
1	D	370/379 (97%)	-0.02	7 (1%) 66 69	37, 52, 98, 145	1 (0%)
1	E	367/379 (96%)	-0.02	5 (1%) 75 77	34, 50, 100, 160	0
1	F	372/379 (98%)	0.15	18 (4%) 30 28	37, 63, 119, 143	0
1	G	356/379 (93%)	0.71	51 (14%) 2 1	50, 92, 142, 164	1 (0%)
1	H	360/379 (94%)	0.81	61 (16%) 1 1	46, 92, 139, 170	0
All	All	2938/3032 (96%)	0.21	165 (5%) 24 23	34, 61, 122, 170	5 (0%)

All (165) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	1	MET	4.9
1	D	3	VAL	4.9
1	D	7	ASN	4.8
1	H	301	ASN	4.7
1	D	4	VAL	4.7
1	G	255	ALA	4.7
1	H	255	ALA	4.6
1	G	18	PHE	4.6
1	H	242	GLY	4.5
1	G	253	TYR	4.5
1	G	225	VAL	4.3
1	F	7	ASN	4.2
1	G	300	THR	4.2
1	H	298	ILE	4.1
1	H	256	GLU	4.0
1	F	250	HIS	4.0

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Mol	Chain	Res	Type	RSRZ
1	H	351	ILE	4.0
1	H	32	LEU	3.9
1	H	250	HIS	3.9
1	G	259	ARG	3.9
1	H	31	ALA	3.9
1	F	252	VAL	3.9
1	H	9	VAL	3.8
1	A	6	GLU	3.8
1	G	305	TRP	3.8
1	G	351	ILE	3.8
1	F	283	GLN	3.8
1	H	287	SER	3.8
1	G	239	LEU	3.6
1	H	29	GLY	3.6
1	H	214	ALA	3.6
1	F	251	ARG	3.6
1	H	251	ARG	3.6
1	G	286	LEU	3.5
1	H	249	GLY	3.5
1	G	278	ALA	3.5
1	A	298	ILE	3.4
1	H	239	LEU	3.4
1	H	225	VAL	3.4
1	C	229	GLY	3.4
1	A	231	ALA	3.4
1	G	36	GLY	3.4
1	F	298	ILE	3.3
1	F	242	GLY	3.3
1	G	236	LYS	3.3
1	H	285	ALA	3.3
1	H	244	LYS	3.3
1	E	7	ASN	3.2
1	H	25	PRO	3.2
1	G	252	VAL	3.2
1	F	243	GLU	3.2
1	E	228	ALA	3.2
1	C	239	LEU	3.2
1	G	218	VAL	3.1
1	H	18	PHE	3.1
1	C	228	ALA	3.1
1	G	241	ARG	3.1
1	F	244	LYS	3.1

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Mol	Chain	Res	Type	RSRZ
1	H	235	VAL	3.1
1	H	238	ILE	3.1
1	G	304	PHE	3.1
1	C	4	VAL	3.1
1	C	2	THR	3.1
1	H	232	ARG	3.1
1	H	14	GLY	3.0
1	G	20	THR	3.0
1	H	363	VAL	3.0
1	H	286	LEU	3.0
1	G	270	LEU	3.0
1	F	280	ALA	3.0
1	C	298	ILE	2.9
1	E	6	GLU	2.9
1	A	284	ALA	2.9
1	D	8	PHE	2.9
1	G	261	ARG	2.9
1	H	215	PRO	2.9
1	H	11	GLY	2.8
1	H	212	GLY	2.8
1	G	39	ILE	2.8
1	H	213	GLY	2.8
1	G	309	VAL	2.8
1	A	255	ALA	2.8
1	H	20	THR	2.8
1	H	252	VAL	2.7
1	H	300	THR	2.7
1	H	360	PRO	2.7
1	E	227	ARG	2.7
1	G	27	LYS	2.7
1	G	221	MET	2.7
1	H	346	VAL	2.6
1	H	275	TYR	2.6
1	D	5	PRO	2.6
1	H	243	GLU	2.6
1	H	22	ILE	2.6
1	F	284	ALA	2.6
1	G	14	GLY	2.6
1	G	30	GLY	2.6
1	G	233	SER	2.6
1	C	227	ARG	2.6
1	G	31	ALA	2.6

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Mol	Chain	Res	Type	RSRZ
1	G	256	GLU	2.5
1	H	241	ARG	2.5
1	D	255	ALA	2.5
1	G	352	TYR	2.5
1	G	289	LEU	2.5
1	H	353	VAL	2.5
1	G	248	PHE	2.5
1	A	245	LEU	2.5
1	B	7	ASN	2.5
1	A	229	GLY	2.4
1	H	10	PRO	2.4
1	G	234	VAL	2.4
1	G	242	GLY	2.4
1	G	240	ASP	2.4
1	H	28	ASP	2.4
1	A	285	ALA	2.4
1	F	373	ALA	2.4
1	F	233	SER	2.4
1	B	295	ASP	2.4
1	H	305	TRP	2.4
1	G	306	ALA	2.4
1	H	222	LEU	2.4
1	H	246	MET	2.3
1	F	372	THR	2.3
1	G	302	VAL	2.3
1	H	27	LYS	2.3
1	H	221	MET	2.3
1	H	304	PHE	2.3
1	G	294	PRO	2.3
1	F	295	ASP	2.3
1	G	295	ASP	2.3
1	G	245	LEU	2.2
1	G	23	ALA	2.2
1	G	230	ASP	2.2
1	G	47	VAL	2.2
1	G	308	VAL	2.2
1	G	32	LEU	2.2
1	A	235	VAL	2.2
1	H	39	ILE	2.2
1	H	261	ARG	2.2
1	G	34	TYR	2.2
1	H	358	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
1	H	12	LEU	2.2
1	G	279	VAL	2.1
1	H	230	ASP	2.1
1	C	7	ASN	2.1
1	H	34	TYR	2.1
1	F	239	LEU	2.1
1	C	5	PRO	2.1
1	A	244	LYS	2.1
1	F	253	TYR	2.1
1	G	28	ASP	2.1
1	A	290	ARG	2.1
1	H	211	HIS	2.1
1	H	253	TYR	2.1
1	E	255	ALA	2.1
1	F	296	ARG	2.1
1	G	280	ALA	2.1
1	H	173	ALA	2.1
1	H	278	ALA	2.1
1	H	210	LEU	2.0
1	G	355	PRO	2.0
1	H	348	PRO	2.0
1	D	217	ARG	2.0
1	G	350	ALA	2.0

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

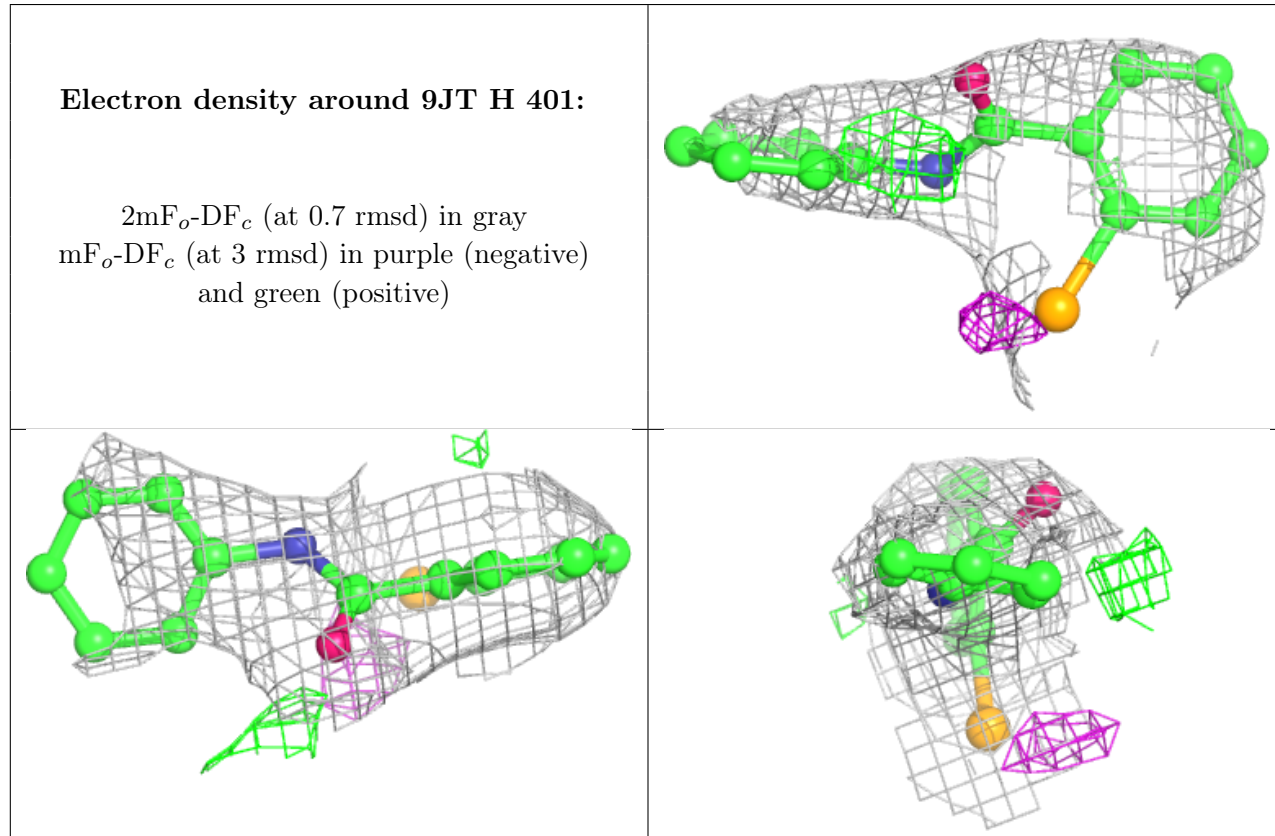
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

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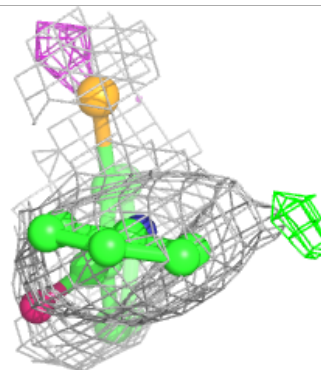
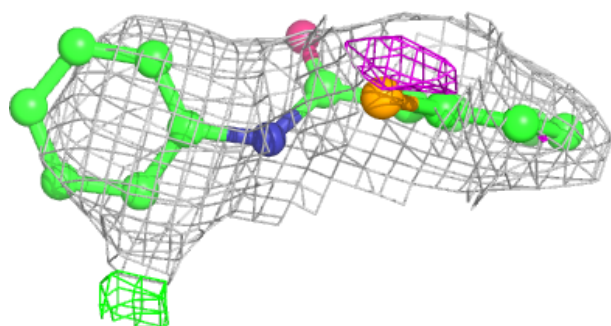
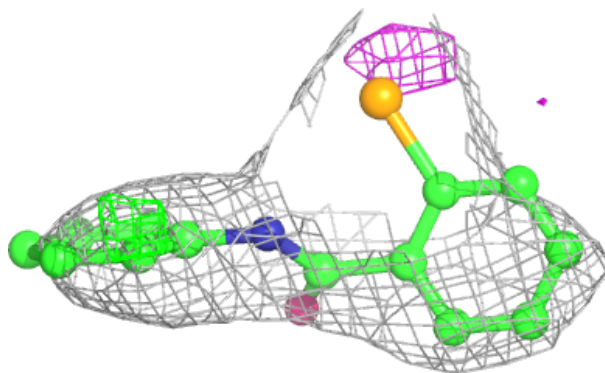
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
3	FLC	F	401	13/13	0.82	0.31	62,75,87,98	0
3	FLC	C	401	13/13	0.84	0.29	72,79,90,96	0
2	9JT	H	401	16/16	0.84	0.25	98,108,114,164	0
2	9JT	G	401	16/16	0.88	0.27	90,94,104,130	16
2	9JT	D	402	16/16	0.89	0.27	68,77,86,115	16
3	FLC	E	401	13/13	0.89	0.24	59,69,83,84	0
3	FLC	B	401	13/13	0.89	0.22	57,63,75,77	0
2	9JT	E	402	16/16	0.91	0.15	48,61,68,101	0
2	9JT	F	402	16/16	0.91	0.27	80,99,110,139	0
2	9JT	A	401	16/16	0.92	0.17	67,73,81,101	16
3	FLC	D	401	13/13	0.92	0.16	57,60,73,77	0
2	9JT	B	402	16/16	0.93	0.15	53,61,69,94	16
2	9JT	C	402	16/16	0.93	0.23	61,68,75,88	16

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.



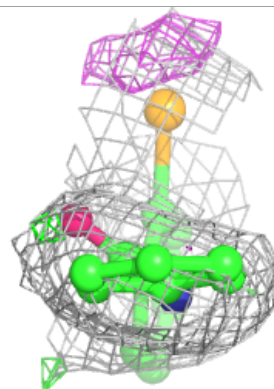
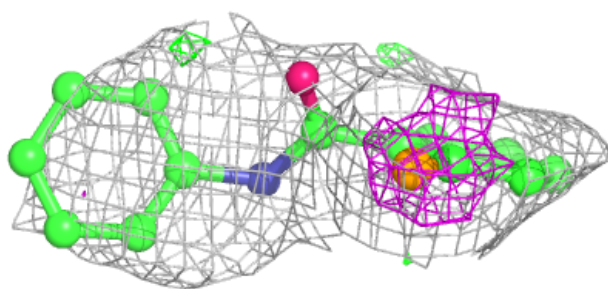
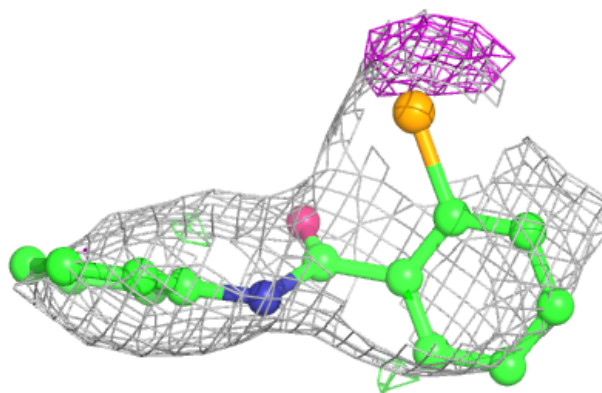
Electron density around 9JT G 401:

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

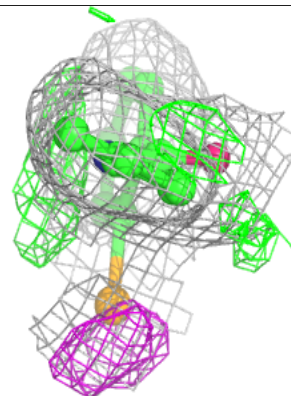
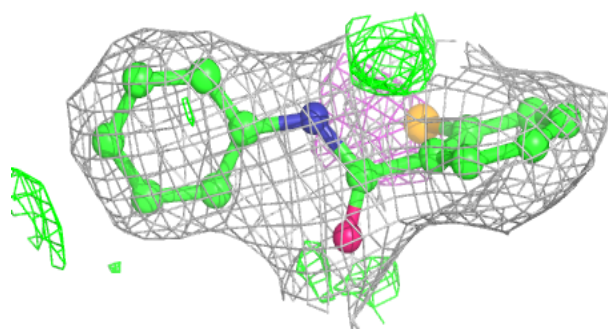
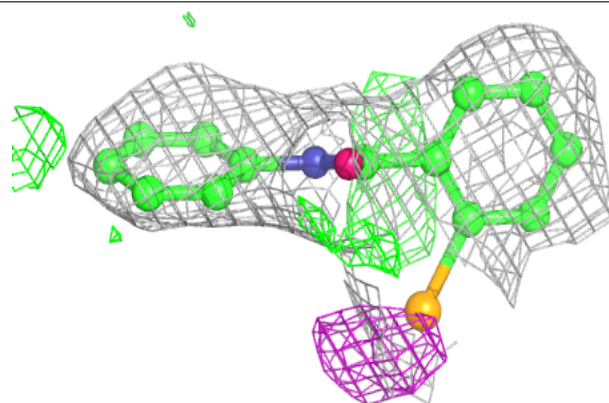


Electron density around 9JT D 402:

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

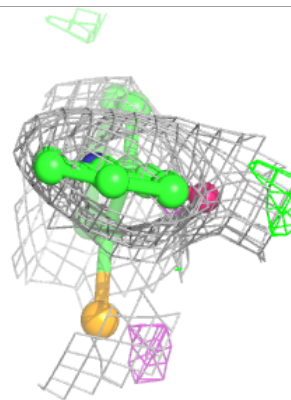
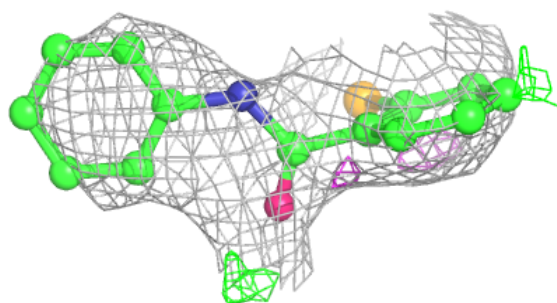
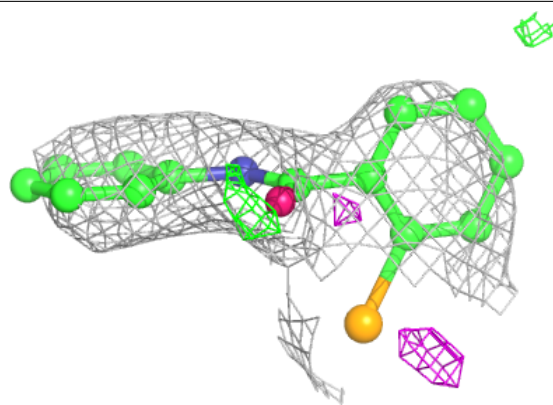
**Electron density around 9JT E 402:**

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

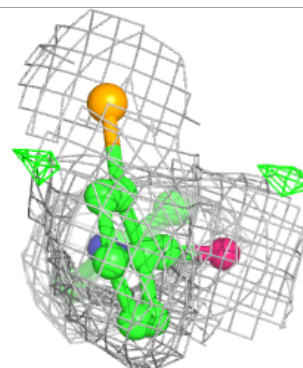
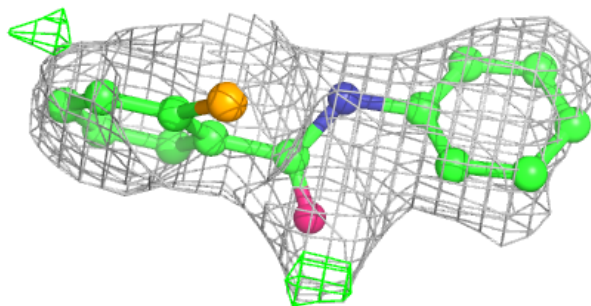
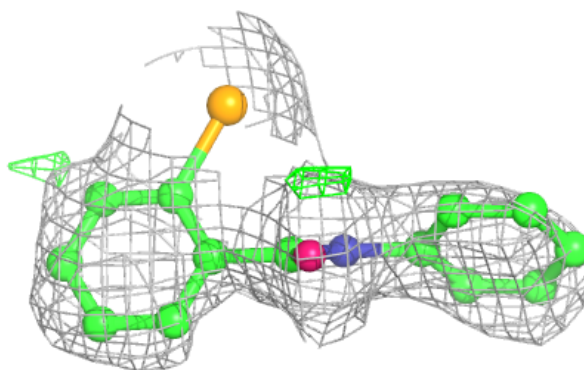


Electron density around 9JT F 402:

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

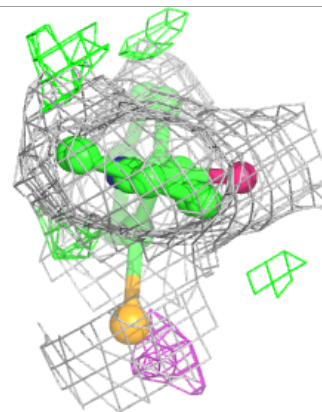
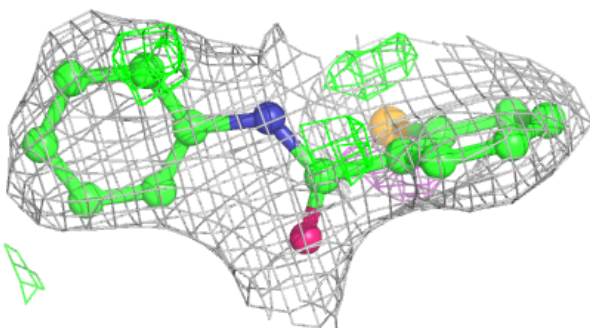
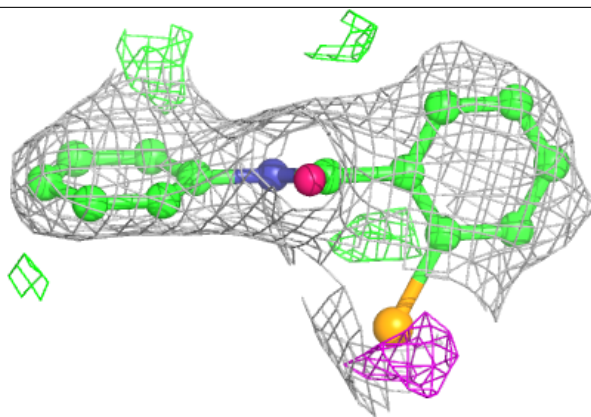
**Electron density around 9JT A 401:**

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

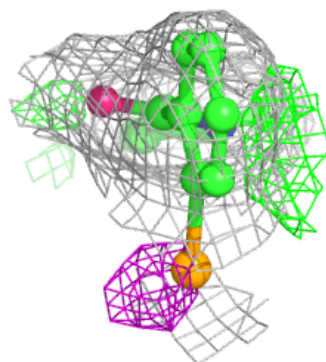
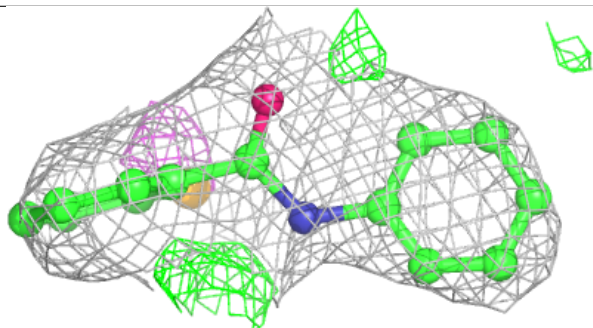
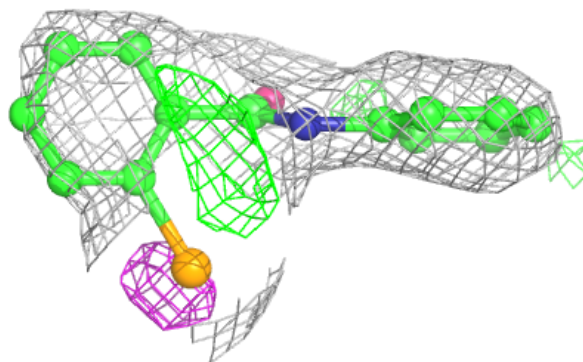


Electron density around 9JT B 402:

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

**Electron density around 9JT C 402:**

$2mF_o-DF_c$ (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.