Full wwPDB X-ray Structure Validation Report (i)

Dec 21, 2024 – 04:08 pm GMT

PDB ID	:	8RER
Title	:	Major groove intercalation with Polypyridyl Ruthenium complex
Authors	:	Abdullrahman, A.; Cardin, C.J.; Hall, J.P.
Deposited on	:	2023-12-12
Resolution	:	1.20 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 (i) 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 (i)) were used in the production of this report:

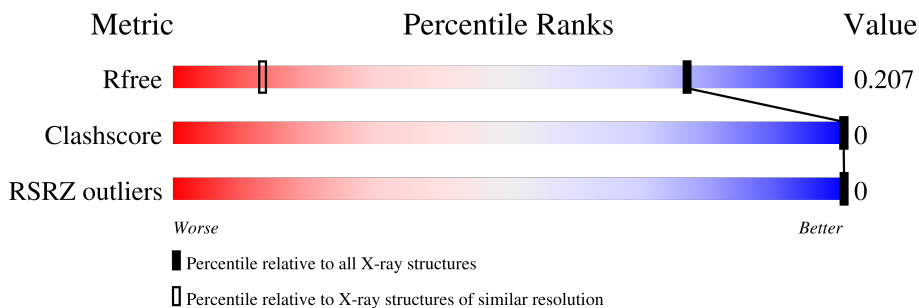|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

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 1.20 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	Percentile Ranks	Value
Rfree		0.207
Clashscore		0
RSRZ outliers		0

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1079 (1.20-1.20)
Clashscore	180529	1183 (1.20-1.20)
RSRZ outliers	164620	1078 (1.20-1.20)

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

Mol	Chain	Length	Quality of chain
1	A	7	100%
1	C	7	100%
2	B	7	100%
2	D	7	100%

2   Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 1477 atoms, of which 429 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 DNA chain called DNA (5'-D(*GP*AP*AP*TP*AP*GP*G)-3').

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	7	Total	C	H	N	O	P	0	0	0
			226	70	80	32	38	6			
1	C	7	Total	C	H	N	O	P	0	0	0
			226	70	80	32	38	6			

- Molecule 2 is a DNA chain called DNA (5'-D(*CP*CP*TP*AP*TP*TP*C)-3').

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
2	B	7	Total	C	H	N	O	P	0	0	0
			217	67	82	20	42	6			
2	D	7	Total	C	H	N	O	P	0	0	0
			217	67	82	20	42	6			

- Molecule 3 is lambda-[Ru(tap2-dppz-CN)]2+ (three-letter code: KSB) (formula: $C_{39}H_{21}N_{13}Ru$) (labeled as "Ligand of Interest" by depositor).
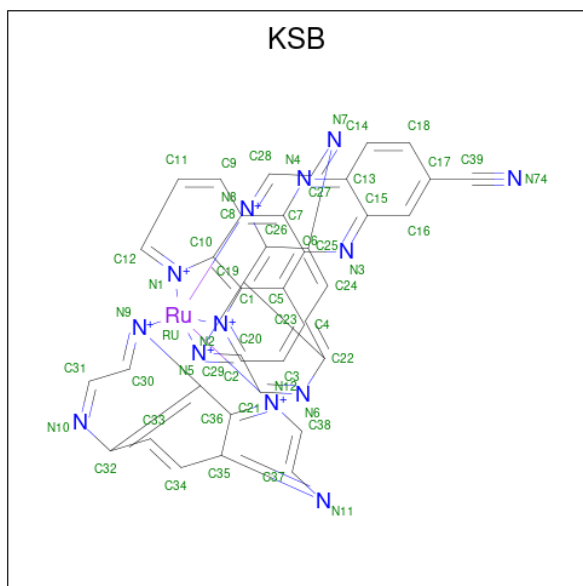
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	H	N	Ru	0	1
			148	78	42	26	2		
3	B	1	Total	C	H	N	Ru	0	0
			74	39	21	13	1		
3	C	1	Total	C	H	N	Ru	0	0
			74	39	21	13	1		
3	D	1	Total	C	H	N	Ru	0	0
			74	39	21	13	1		

- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

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

- Molecule 5 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	2	Total	Cl	0	0
			2	2		
5	B	2	Total	Cl	0	0
			2	2		
5	C	1	Total	Cl	0	0
			1	1		
5	D	1	Total	Cl	0	0
			1	1		

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	43	Total	O	0	0
			43	43		
6	B	60	Total	O	0	0
			60	60		
6	C	47	Total	O	0	0
			47	47		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	D	57	Total 57	O 57	0	0

3 Residue-property plots ⓘ

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: DNA (5'-D(*GP*AP*AP*TP*AP*GP*G)-3')

Chain A:
100%

There are no outlier residues recorded for this chain.

• Molecule 1: DNA (5'-D(*GP*AP*AP*TP*AP*GP*G)-3')

Chain C:
100%

There are no outlier residues recorded for this chain.

• Molecule 2: DNA (5'-D(*CP*CP*TP*AP*TP*TP*C)-3')

Chain B:
100%

There are no outlier residues recorded for this chain.

• Molecule 2: DNA (5'-D(*CP*CP*TP*AP*TP*TP*C)-3')

Chain D:
100%

There are no outlier residues recorded for this chain.

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 41	Depositor
Cell constants a, b, c, α, β, γ	32.68Å 32.68Å 103.99Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	32.68 – 1.20 32.68 – 1.20	Depositor EDS
% Data completeness (in resolution range)	94.7 (32.68-1.20) 83.8 (32.68-1.20)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.15 (at 1.20Å)	Xtriage
Refinement program	PHENIX 1.20.1_4487	Depositor
R, R_{free}	0.172 , 0.203 0.173 , 0.207	Depositor DCC
R_{free} test set	1443 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å^2)	12.9	Xtriage
Anisotropy	0.742	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.46 , 63.3	EDS
L-test for twinning[2]	$< |L| > = 0.52, < L^2 > = 0.36$	Xtriage
Estimated twinning fraction	0.499 for h,-k,-l	Xtriage
F_o,F_c correlation	0.98	EDS
Total number of atoms	1477	wwPDB-VP
Average B, all atoms (Å^2)	26.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 27.28 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 2.2616e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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[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 (i)

5.1   Standard geometry (i)

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

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	0.49	0/165	0.86	0/254
1	C	0.50	0/165	0.86	0/254
2	B	0.54	0/149	1.10	0/227
2	D	0.55	0/149	1.10	0/227
All	All	0.52	0/628	0.98	0/962

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	146	80	80	0	0
1	C	146	80	80	0	0
2	B	135	82	82	0	0
2	D	135	82	82	0	0
3	A	106	42	0	0	0
3	B	53	21	0	0	0
3	C	53	21	0	0	0
3	D	53	21	0	0	0
4	A	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	B	2	0	0	0	0
4	C	3	0	0	0	0
4	D	1	0	0	0	0
5	A	2	0	0	0	0
5	B	2	0	0	0	0
5	C	1	0	0	0	0
5	D	1	0	0	0	0
6	A	43	0	0	0	0
6	B	60	0	0	0	1
6	C	47	0	0	0	0
6	D	57	0	0	0	1
All	All	1048	429	324	0	1

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 0.

There are no clashes within the asymmetric unit.

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:245:HOH:O	6:D:231:HOH:O[1_665]	2.05	0.15

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

There are no protein molecules in this entry.

5.3.2 Protein sidechains ⓘ

There are no protein molecules in this entry.

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 19 ligands modelled in this entry, 14 are monoatomic - leaving 5 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
3	KSB	D	101	-	66,66,66	1.61	7 (10%)	85,112,112	1.36	13 (15%)
3	KSB	A	101[A]	-	66,66,66	1.60	6 (9%)	85,112,112	1.38	12 (14%)
3	KSB	B	101	-	66,66,66	1.61	6 (9%)	85,112,112	1.35	13 (15%)
3	KSB	A	101[B]	-	66,66,66	1.60	6 (9%)	85,112,112	1.35	12 (14%)
3	KSB	C	101	-	66,66,66	1.60	6 (9%)	85,112,112	1.33	12 (14%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	KSB	D	101	-	-	0/2/62/62	0/14/14/14
3	KSB	A	101[A]	-	-	0/2/62/62	0/14/14/14
3	KSB	B	101	-	-	0/2/62/62	0/14/14/14
3	KSB	A	101[B]	-	-	0/2/62/62	0/14/14/14
3	KSB	C	101	-	-	0/2/62/62	0/14/14/14

All (31) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	101	KSB	C17-C39	-7.02	1.28	1.44
3	B	101	KSB	C17-C39	-7.02	1.29	1.44
3	D	101	KSB	C17-C39	-7.01	1.29	1.44
3	A	101[A]	KSB	C17-C39	-7.01	1.29	1.44
3	A	101[B]	KSB	C17-C39	-7.00	1.29	1.44
3	A	101[A]	KSB	C8-C7	-2.79	1.39	1.45
3	C	101	KSB	C8-C7	-2.76	1.39	1.45
3	B	101	KSB	C8-C7	-2.64	1.40	1.45
3	D	101	KSB	C8-C7	-2.64	1.40	1.45
3	A	101[B]	KSB	C5-C6	-2.64	1.40	1.45
3	D	101	KSB	C36-C29	-2.57	1.38	1.43
3	B	101	KSB	C36-C29	-2.56	1.38	1.43
3	C	101	KSB	C36-C29	-2.56	1.38	1.43
3	C	101	KSB	C26-C19	-2.55	1.38	1.43
3	A	101[A]	KSB	C36-C29	-2.55	1.38	1.43
3	A	101[B]	KSB	C26-C19	-2.54	1.38	1.43
3	A	101[A]	KSB	C26-C19	-2.54	1.38	1.43
3	B	101	KSB	C26-C19	-2.54	1.38	1.43
3	A	101[B]	KSB	C8-C7	-2.54	1.40	1.45
3	D	101	KSB	C26-C19	-2.52	1.38	1.43
3	A	101[B]	KSB	C36-C29	-2.52	1.38	1.43
3	A	101[A]	KSB	C10-C1	-2.51	1.38	1.43
3	B	101	KSB	C5-C6	-2.47	1.40	1.45
3	D	101	KSB	C5-C6	-2.47	1.40	1.45
3	D	101	KSB	C10-C1	-2.47	1.38	1.43
3	B	101	KSB	C10-C1	-2.46	1.38	1.43
3	C	101	KSB	C10-C1	-2.45	1.38	1.43
3	A	101[B]	KSB	C10-C1	-2.44	1.38	1.43
3	C	101	KSB	C5-C6	-2.44	1.40	1.45
3	A	101[A]	KSB	C5-C6	-2.44	1.40	1.45
3	D	101	KSB	C34-C33	2.00	1.40	1.35

All (62) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	101[B]	KSB	C7-N4-C13	3.53	120.30	116.77
3	D	101	KSB	C7-N4-C13	3.52	120.29	116.77
3	B	101	KSB	C6-N3-C15	3.51	120.28	116.77
3	D	101	KSB	C6-N3-C15	3.51	120.28	116.77
3	B	101	KSB	C7-N4-C13	3.50	120.27	116.77
3	A	101[A]	KSB	C6-N3-C15	3.48	120.25	116.77
3	C	101	KSB	C6-N3-C15	3.47	120.24	116.77
3	A	101[B]	KSB	C6-N3-C15	3.45	120.22	116.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	101[A]	KSB	C7-N4-C13	3.44	120.21	116.77
3	C	101	KSB	C7-N4-C13	3.42	120.19	116.77
3	A	101[A]	KSB	C24-C25-N7	3.18	123.73	118.52
3	D	101	KSB	C33-C32-N10	3.15	123.69	118.52
3	B	101	KSB	C34-C35-N11	3.14	123.67	118.52
3	A	101[B]	KSB	C34-C35-N11	3.14	123.67	118.52
3	B	101	KSB	C33-C32-N10	3.14	123.67	118.52
3	B	101	KSB	C24-C25-N7	3.14	123.67	118.52
3	D	101	KSB	C24-C25-N7	3.14	123.66	118.52
3	D	101	KSB	C23-C22-N6	3.13	123.66	118.52
3	D	101	KSB	C34-C35-N11	3.13	123.66	118.52
3	B	101	KSB	C23-C22-N6	3.11	123.62	118.52
3	C	101	KSB	C24-C25-N7	3.10	123.60	118.52
3	A	101[B]	KSB	C24-C25-N7	3.10	123.60	118.52
3	A	101[A]	KSB	C33-C32-N10	3.10	123.60	118.52
3	A	101[B]	KSB	C23-C22-N6	3.08	123.58	118.52
3	A	101[A]	KSB	C23-C22-N6	3.07	123.56	118.52
3	C	101	KSB	C33-C32-N10	3.05	123.53	118.52
3	A	101[A]	KSB	C34-C35-N11	3.05	123.52	118.52
3	A	101[B]	KSB	C33-C32-N10	3.04	123.50	118.52
3	C	101	KSB	C34-C35-N11	3.04	123.50	118.52
3	C	101	KSB	C23-C22-N6	2.94	123.35	118.52
3	A	101[A]	KSB	C7-C6-N3	-2.77	119.31	121.83
3	C	101	KSB	C7-C6-N3	-2.73	119.35	121.83
3	A	101[A]	KSB	C5-C6-N3	2.67	121.09	118.36
3	B	101	KSB	C7-C6-N3	-2.62	119.45	121.83
3	D	101	KSB	C7-C6-N3	-2.62	119.45	121.83
3	A	101[B]	KSB	C6-C7-N4	-2.46	119.60	121.83
3	A	101[A]	KSB	C27-N7-C25	2.43	120.69	116.93
3	C	101	KSB	C5-C6-N3	2.43	120.84	118.36
3	C	101	KSB	C27-N7-C25	2.41	120.66	116.93
3	A	101[B]	KSB	C27-N7-C25	2.40	120.65	116.93
3	A	101[B]	KSB	C37-N11-C35	2.40	120.64	116.93
3	D	101	KSB	C27-N7-C25	2.38	120.61	116.93
3	B	101	KSB	C27-N7-C25	2.37	120.60	116.93
3	A	101[A]	KSB	C31-N10-C32	2.37	120.60	116.93
3	A	101[B]	KSB	C21-N6-C22	2.37	120.60	116.93
3	A	101[A]	KSB	C37-N11-C35	2.36	120.59	116.93
3	C	101	KSB	C37-N11-C35	2.36	120.58	116.93
3	D	101	KSB	C21-N6-C22	2.35	120.57	116.93
3	D	101	KSB	C31-N10-C32	2.34	120.55	116.93
3	C	101	KSB	C31-N10-C32	2.33	120.54	116.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	101	KSB	C31-N10-C32	2.33	120.54	116.93
3	B	101	KSB	C37-N11-C35	2.33	120.54	116.93
3	B	101	KSB	C21-N6-C22	2.31	120.51	116.93
3	A	101[A]	KSB	C21-N6-C22	2.31	120.50	116.93
3	A	101[B]	KSB	C31-N10-C32	2.30	120.49	116.93
3	D	101	KSB	C37-N11-C35	2.30	120.49	116.93
3	C	101	KSB	C21-N6-C22	2.22	120.38	116.93
3	A	101[B]	KSB	C7-C6-N3	-2.13	119.90	121.83
3	B	101	KSB	C5-C6-N3	2.10	120.51	118.36
3	D	101	KSB	C5-C6-N3	2.09	120.49	118.36
3	D	101	KSB	C6-C7-N4	-2.06	119.96	121.83
3	B	101	KSB	C6-C7-N4	-2.04	119.97	121.83

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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 KSB D 101

Bond lengths

Bond angles

Torsions

Rings

Ligand KSB A 101 (A)

Bond lengths

Bond angles

Torsions

Rings

Ligand KSB B 101

Bond lengths

Bond angles

Torsions

Rings

Ligand KSB A 101 (B)

Bond lengths

Bond angles

Torsions

Rings

Ligand KSB C 101

Bond lengths

Bond angles

Torsions

Rings
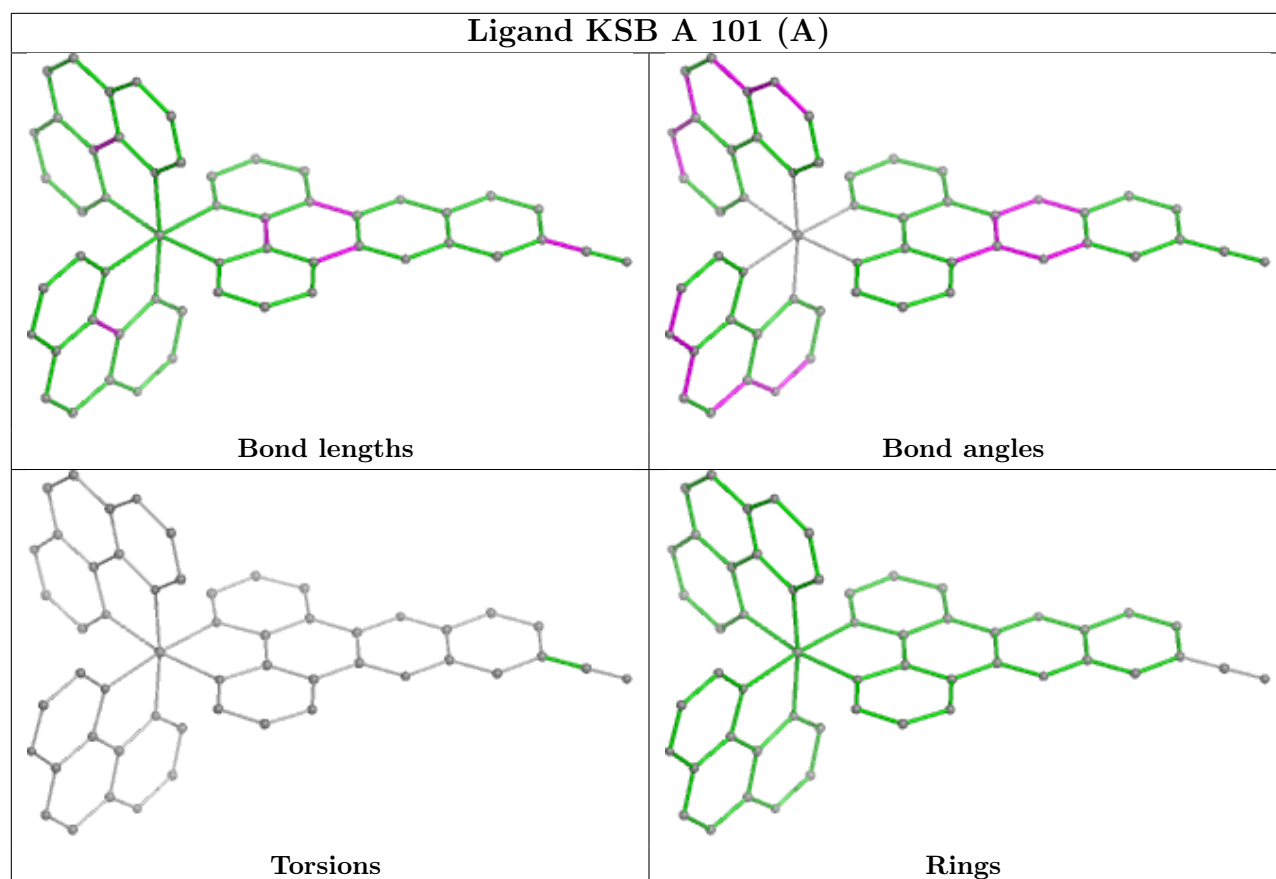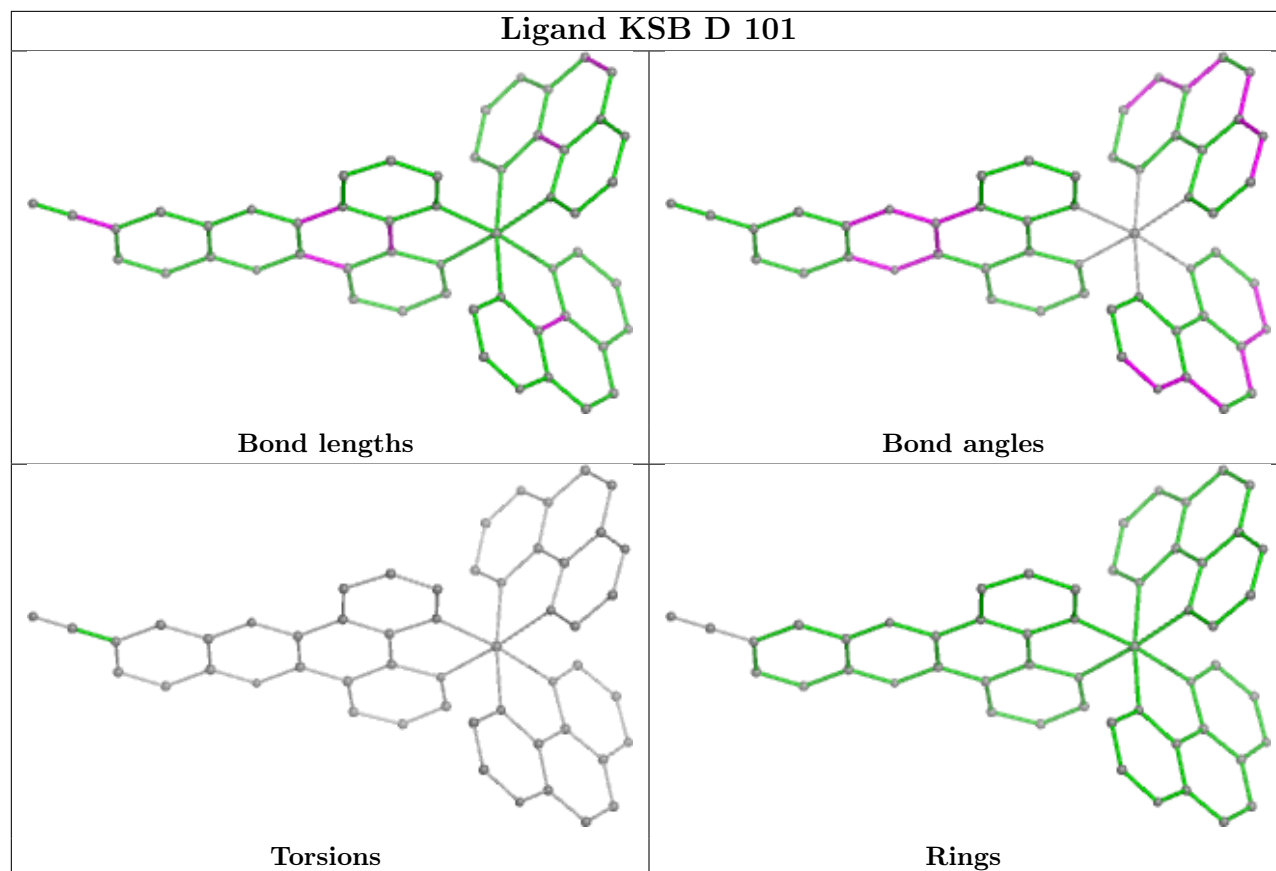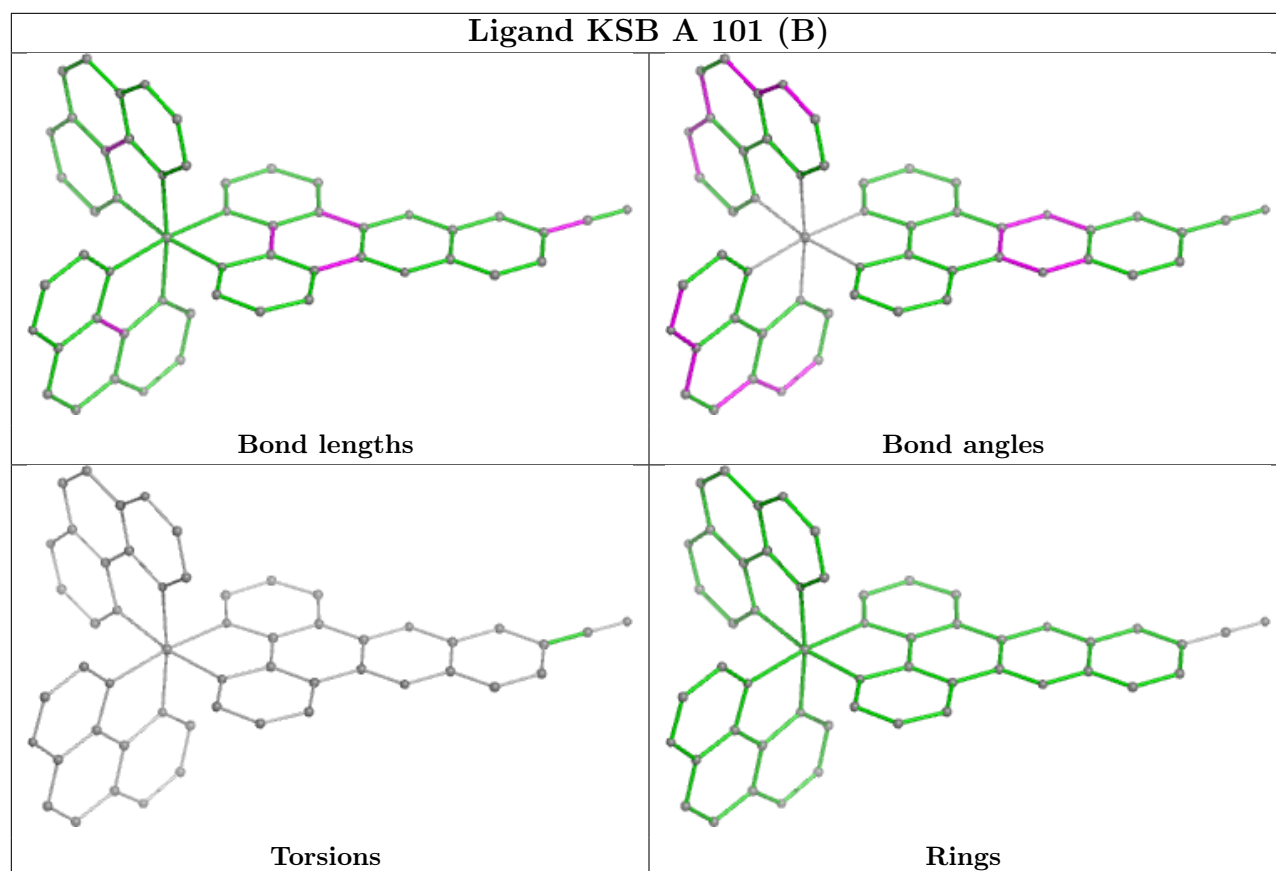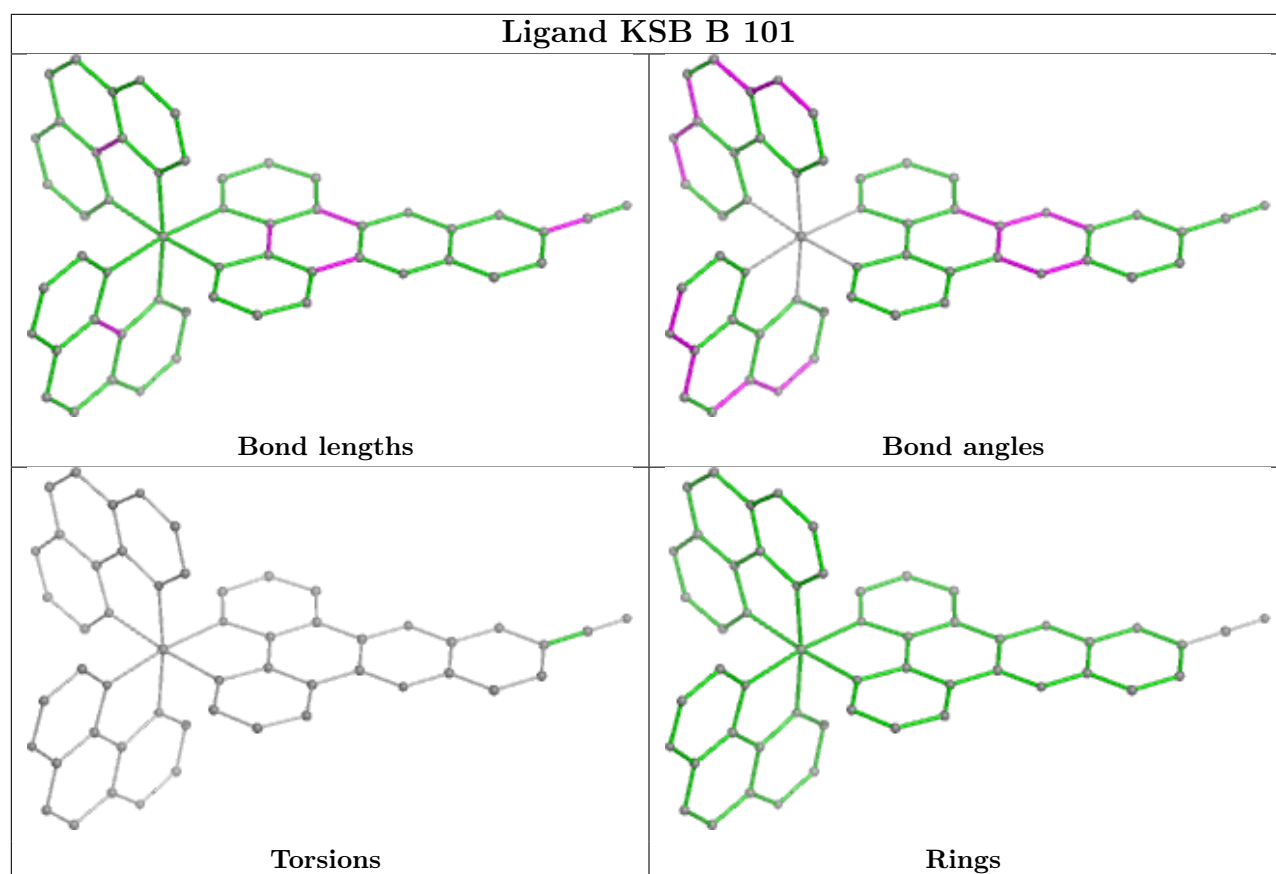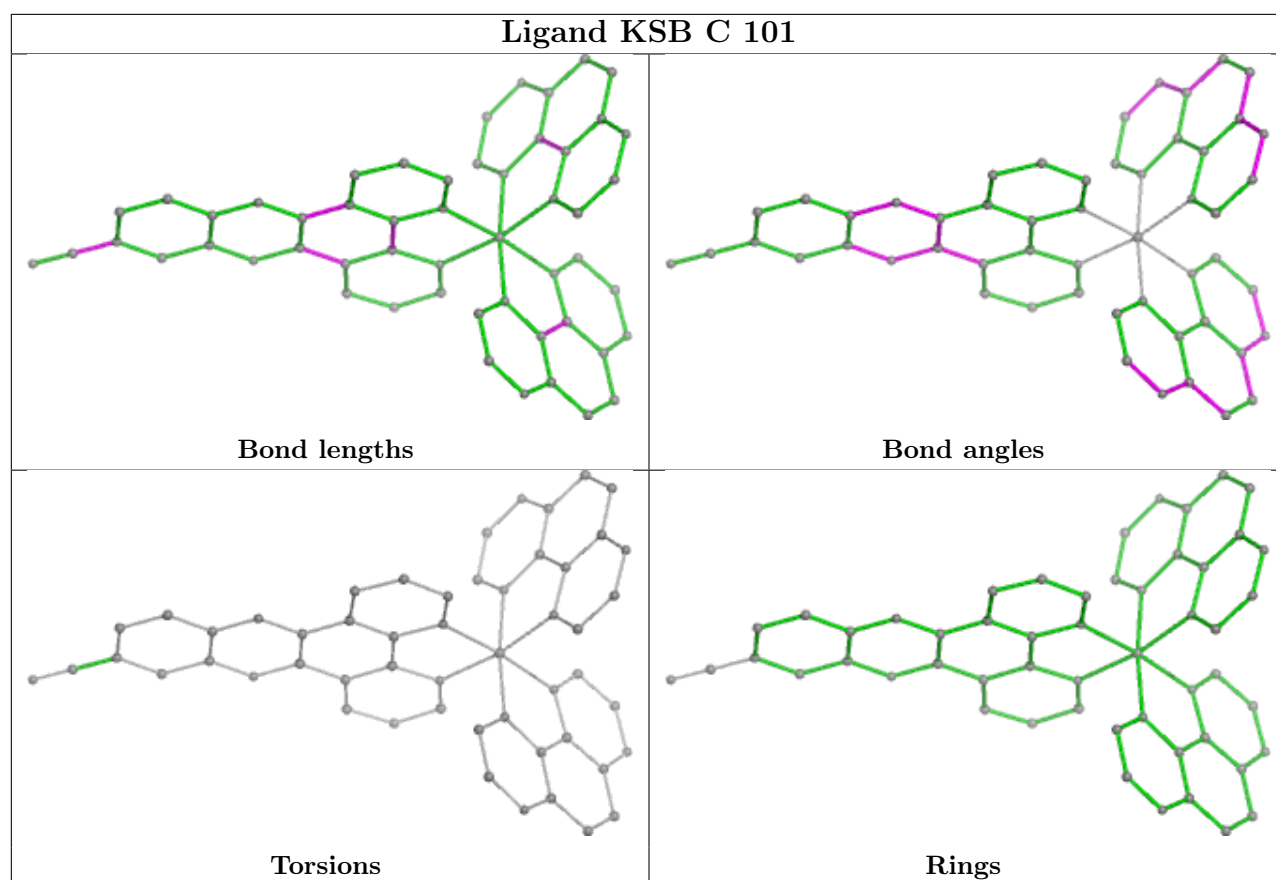
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å^2)	Q<0.9
1	A	7/7 (100%)	-0.98	0	100 100	22, 24, 27, 28	0
1	C	7/7 (100%)	-1.03	0	100 100	22, 24, 27, 28	0
2	B	7/7 (100%)	-0.94	0	100 100	24, 26, 27, 27	0
2	D	7/7 (100%)	-0.95	0	100 100	24, 26, 28, 28	0
All	All	28/28 (100%)	-0.98	0	100 100	22, 26, 28, 28	0

There are no RSRZ outliers to report.

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	MG	A	103	1/1	0.76	0.15	46,46,46,46	0
4	MG	C	104	1/1	0.79	0.30	48,48,48,48	0
4	MG	D	102	1/1	0.82	0.12	59,59,59,59	0
4	MG	B	103	1/1	0.90	0.15	50,50,50,50	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	MG	C	103	1/1	0.96	0.13	38,38,38,38	0
4	MG	B	102	1/1	0.97	0.06	69,69,69,69	0
4	MG	C	102	1/1	0.98	0.12	27,27,27,27	0
4	MG	A	102	1/1	0.98	0.07	39,39,39,39	0
3	KSB	C	101	53/53	0.99	0.05	17,21,30,38	0
3	KSB	A	101[A]	53/53	0.99	0.06	16,19,25,27	74
3	KSB	A	101[B]	53/53	0.99	0.06	17,20,25,28	74
3	KSB	B	101	53/53	1.00	0.04	16,21,27,30	0
3	KSB	D	101	53/53	1.00	0.04	16,21,27,29	0
5	CL	A	104	1/1	1.00	0.04	25,25,25,25	0
5	CL	A	105	1/1	1.00	0.04	25,25,25,25	0
5	CL	B	104	1/1	1.00	0.03	28,28,28,28	0
5	CL	B	105	1/1	1.00	0.04	25,25,25,25	0
5	CL	C	105	1/1	1.00	0.03	25,25,25,25	0
5	CL	D	103	1/1	1.00	0.06	27,27,27,27	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.
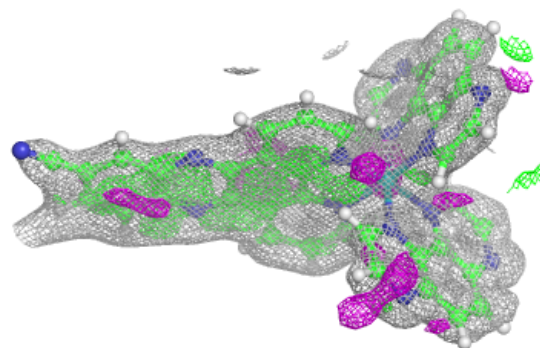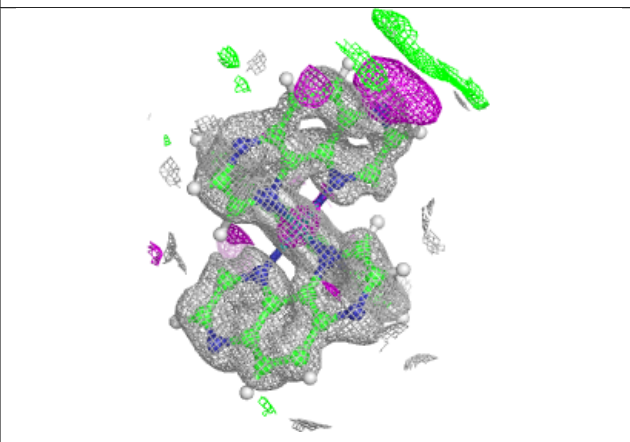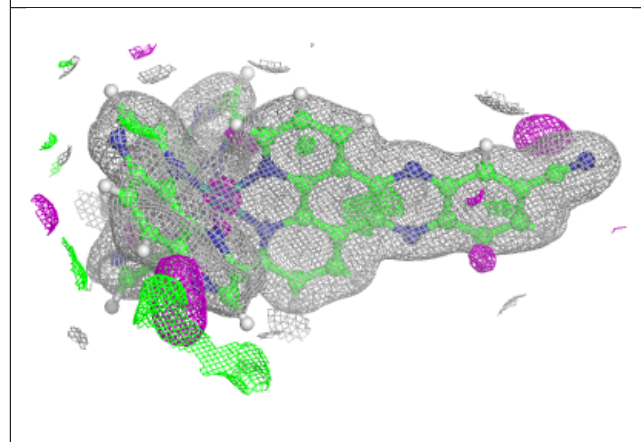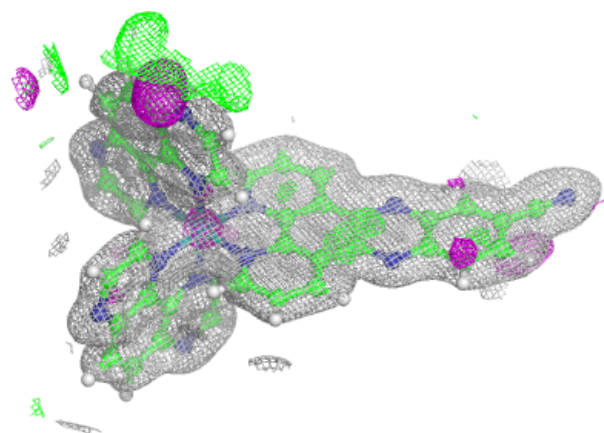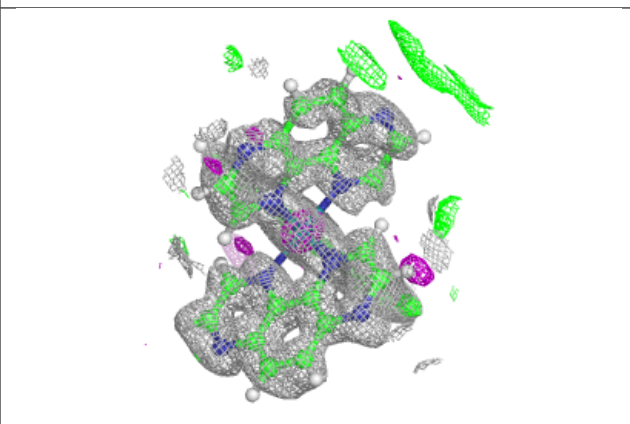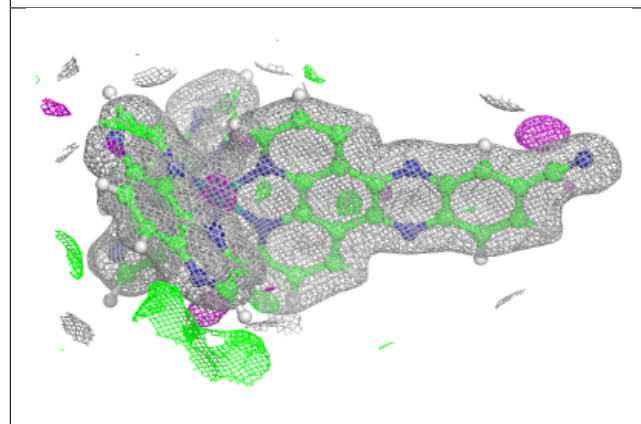

Electron density around KSB C 101:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
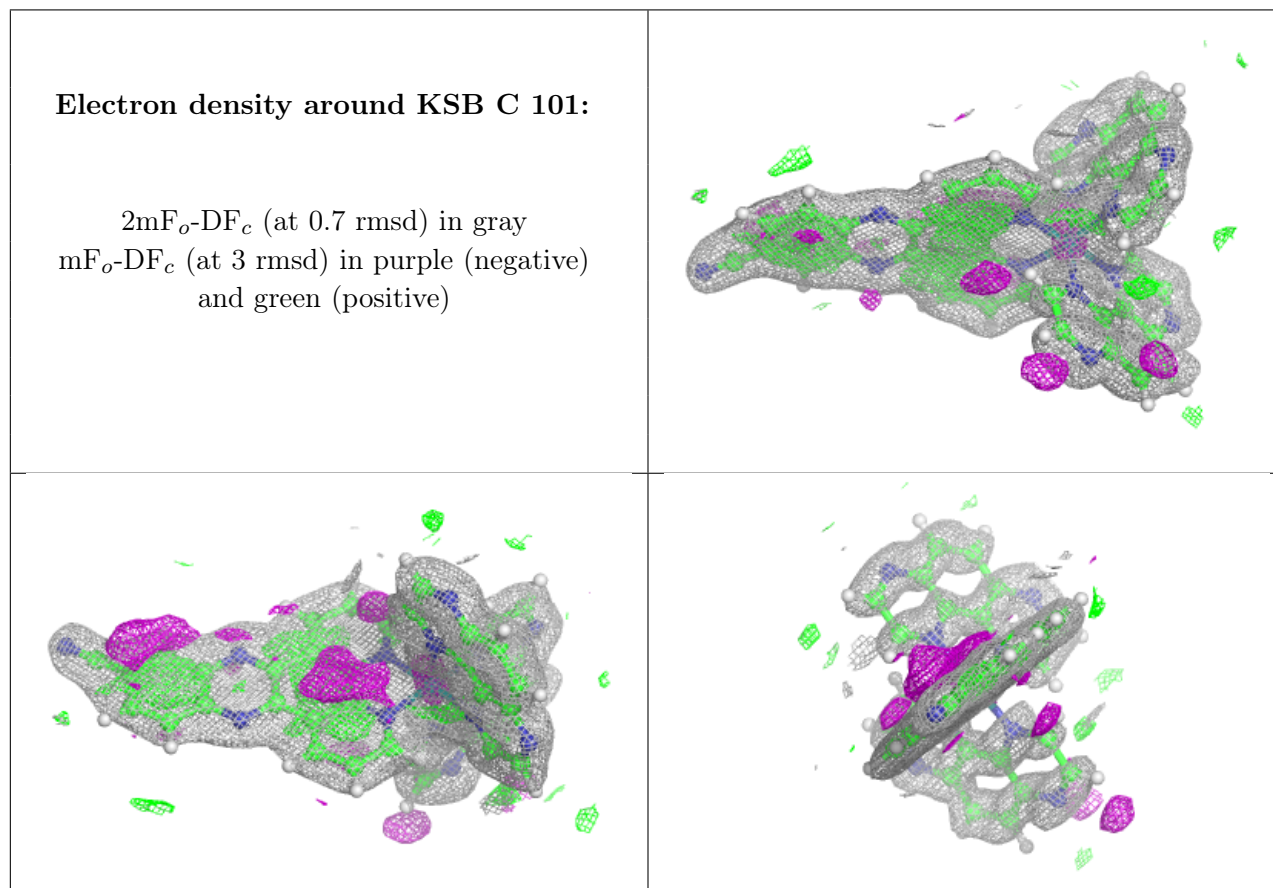
Electron density around KSB A 101 (A):

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
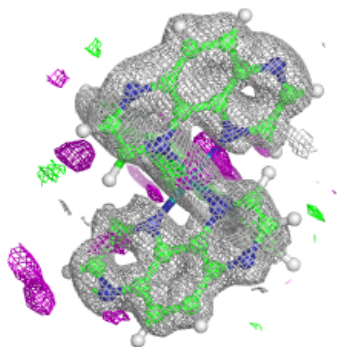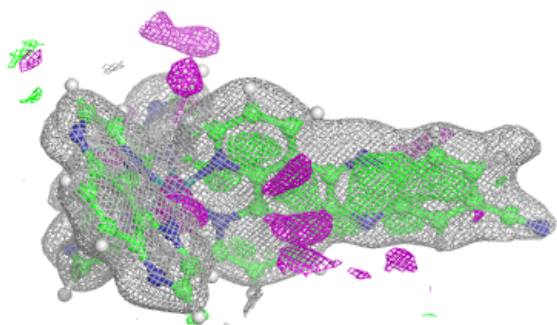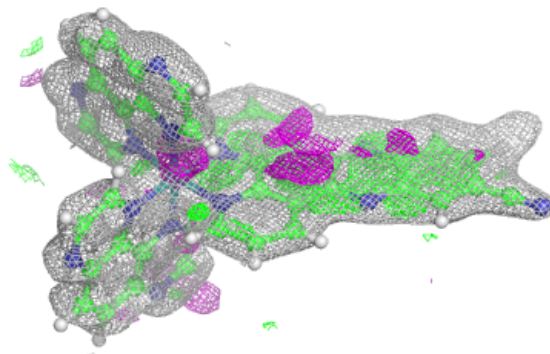
Electron density around KSB A 101 (B):

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
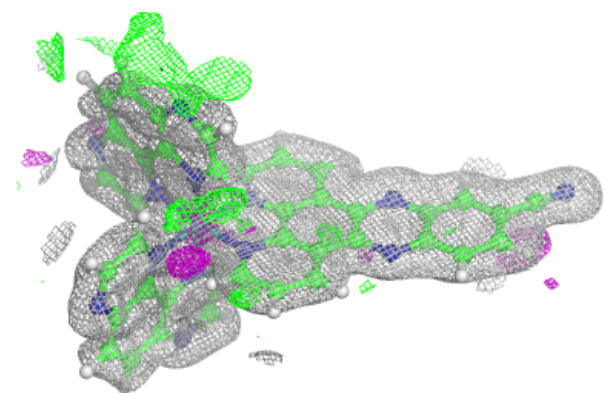and green (positive)
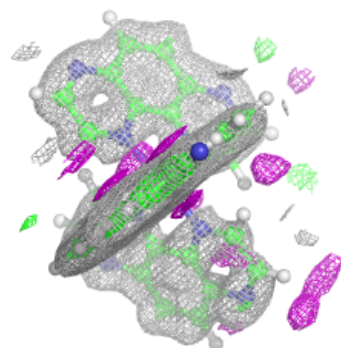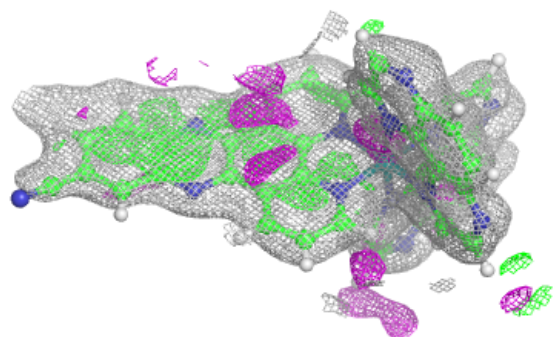
Electron density around KSB B 101:

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

Electron density around KSB D 101:

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

6.5 Other polymers ⓘ

There are no such residues in this entry.