



wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 8, 2021 – 12:16 PM EST

PDB ID : 5SUQ
Title : Crystal structure of the THO-Sub2 complex
Authors : Ren, Y.; Blobel, G.
Deposited on : 2016-08-03
Resolution : 6.00 Å(reported)

This is a wwPDB X-ray Structure Validation Summary 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 : 2.17
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) : 2.17

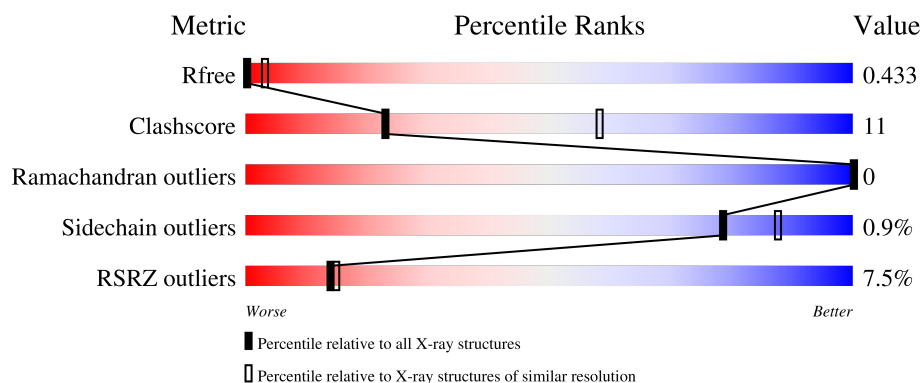
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 6.00 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	1000 (8.00-3.88)
Clashscore	141614	1049 (8.00-3.90)
Ramachandran outliers	138981	1016 (8.00-3.86)
Sidechain outliers	138945	1017 (8.00-3.82)
RSRZ outliers	127900	1015 (8.20-3.78)

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	446	<div> <div>7%</div> <div>67%</div> <div>16%</div> <div>•</div> <div>16%</div> </div>
1	C	446	<div> <div>5%</div> <div>66%</div> <div>17%</div> <div>•</div> <div>16%</div> </div>
2	B	400	<div> <div>44%</div> <div>•</div> <div>53%</div> </div>
2	D	400	<div> <div>44%</div> <div>•</div> <div>53%</div> </div>
3	M	2300	<div> <div>93%</div> <div>•</div> <div>•</div> </div>

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Mol	Chain	Length	Quality of chain
3	N	2300	 93%

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
4	KEG	A	501	-	-	X	-
4	KEG	A	502	-	-	X	-
4	KEG	A	503	-	-	X	-

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 30788 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 ATP-dependent RNA helicase SUB2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	374	Total	C	N	O	S	0	0	0
			3010	1916	523	560	11			
1	C	374	Total	C	N	O	S	0	0	0
			3010	1916	523	560	11			

- Molecule 2 is a protein called Tex1.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	B	188	Total	C	N	O	0	0	0
			940	564	188	188			
2	D	188	Total	C	N	O	0	0	0
			940	564	188	188			

- Molecule 3 is a protein called Tho2, Hpr1, Mft1, and Thp2.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
3	M	2231	Total	C	N	O	0	0	0
			11155	6693	2231	2231			
3	N	2230	Total	C	N	O	0	0	0
			11150	6690	2230	2230			

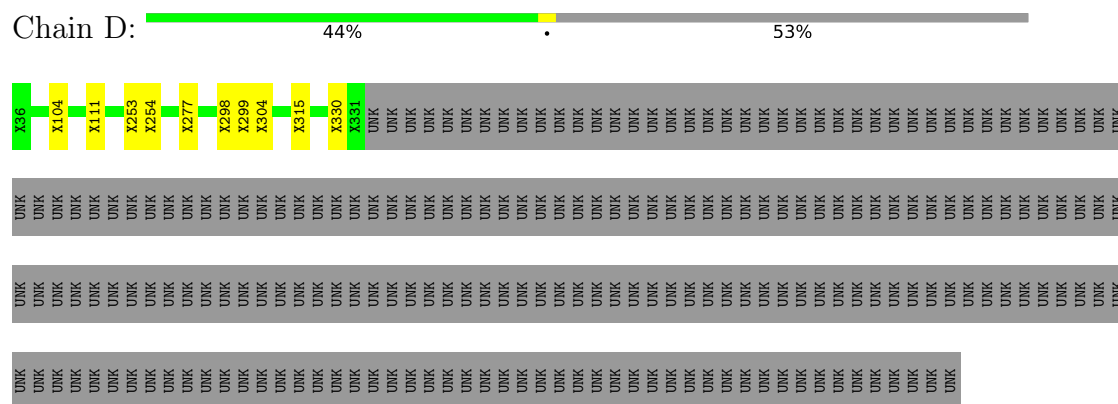
- Molecule 4 is 12-TUNGSTOPHOSPHATE (three-letter code: KEG) (formula: O₄₀PW₁₂).



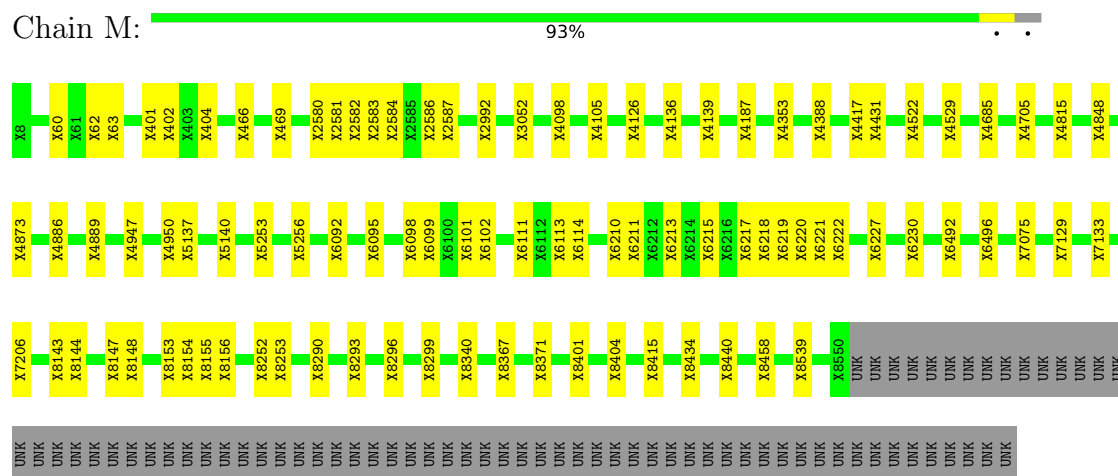
- Molecule 2: Tex1



- Molecule 2: Tex1



- Molecule 3: Tho2, Hpr1, Mft1, and Thp2



- Molecule 3: Tho2, Hpr1, Mft1, and Thp2



UNK	UNK	X6492	X4815	X49
UNK	UNK	X6496	X4848	X60
UNK	UNK	X7075	X4888	X62
UNK	UNK	X7129	X4873	X63
UNK	UNK	X7133	X4886	X401
UNK	UNK	X7206	X4889	X402
UNK	UNK	X8119	X4895	X403
UNK	UNK	X8143	X4943	X404
UNK	UNK	X8144	X4947	X466
UNK	UNK	X8147	X4950	X469
UNK	UNK	X8148	X5137	X2580
UNK	UNK	X8153	X5140	X2581
UNK	UNK	X8154	X5155	X2582
UNK	UNK	X8156	X5253	X2583
UNK	UNK	X8252	X6092	X2584
UNK	UNK	X8253	X6095	X2585
UNK	UNK	X8280	X6098	X2586
UNK	UNK	X8293	X6099	X2587
UNK	UNK	X8296	X6101	X2992
UNK	UNK	X8299	X6102	X3052
UNK	UNK	X8340	X6111	X4098
UNK	UNK	X8367	X6112	X4105
UNK	UNK	X8371	X6113	X4126
UNK	UNK	X8401	X6114	X4136
UNK	UNK	X8404	X6210	X4139
UNK	UNK	X8415	X6211	X4187
UNK	UNK	X8434	X6212	X4352
UNK	UNK	X8440	X6213	X4388
UNK	UNK	X8458	X6214	X4407
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UNK	UNK	UNK	X6216	X4522
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UNK	UNK	UNK	X6218	X4685
UNK	UNK	UNK	X6219	X4696
UNK	UNK	UNK	X6220	X4699
UNK	UNK	UNK	X6221	X4699
UNK	UNK	UNK	X6222	X4699
UNK	UNK	UNK	X6227	X4699
UNK	UNK	UNK	X6230	X4699
UNK	UNK	UNK	X6230	X4699
UNK	UNK	UNK	UNK	X4705

4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	153.34Å 319.53Å 176.44Å 90.00° 100.96° 90.00°	Depositor
Resolution (Å)	49.57 – 6.00 50.18 – 5.95	Depositor EDS
% Data completeness (in resolution range)	98.5 (49.57-6.00) 96.9 (50.18-5.95)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.71 (at 6.15Å)	Xtriage
Refinement program	PHENIX (1.10_2155)	Depositor
R, R_{free}	0.436 , 0.434 0.436 , 0.433	Depositor DCC
R_{free} test set	2100 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å ²)	293.8	Xtriage
Anisotropy	0.512	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.18 , 320.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.74	EDS
Total number of atoms	30788	wwPDB-VP
Average B, all atoms (Å ²)	200.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.08% 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: KEG

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	0.41	1/3063 (0.0%)	0.66	9/4131 (0.2%)
1	C	0.41	1/3063 (0.0%)	0.66	9/4131 (0.2%)
All	All	0.41	2/6126 (0.0%)	0.66	18/8262 (0.2%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	414	GLU	CD-OE1	-5.23	1.19	1.25
1	C	414	GLU	CD-OE1	-5.22	1.20	1.25

The worst 5 of 18 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	427	ASP	CB-CA-C	-8.73	92.94	110.40
1	A	427	ASP	CB-CA-C	-8.70	93.00	110.40
1	C	427	ASP	CB-CG-OD2	8.41	125.87	118.30
1	A	427	ASP	CB-CG-OD2	8.40	125.86	118.30
1	A	427	ASP	CB-CG-OD1	-7.39	111.65	118.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3010	0	3043	158	0
1	C	3010	0	3043	155	0
2	B	940	0	262	6	0
2	D	940	0	262	5	0
3	M	11155	0	2489	100	0
3	N	11150	0	2488	103	0
4	A	159	0	0	53	0
4	M	159	0	0	18	0
4	N	265	0	0	30	0
All	All	30788	0	11587	484	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 11.

The worst 5 of 484 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:A:339:HIS:CB	1:C:341:LYS:CA	1.85	1.53
1:A:339:HIS:CB	1:C:341:LYS:HA	1.36	1.51
1:C:98:HIS:CG	3:N:4695:UNK:CB	1.99	1.45
1:A:316:THR:C	1:C:341:LYS:HZ2	1.14	1.43
1:A:316:THR:C	1:C:341:LYS:NZ	1.70	1.42

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	370/446 (83%)	362 (98%)	8 (2%)	0	100	100
1	C	370/446 (83%)	362 (98%)	8 (2%)	0	100	100
All	All	740/892 (83%)	724 (98%)	16 (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	331/386 (86%)	328 (99%)	3 (1%)	78	88
1	C	331/386 (86%)	328 (99%)	3 (1%)	78	88
All	All	662/772 (86%)	656 (99%)	6 (1%)	78	88

5 of 6 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	399	ARG
1	C	413	LYS
1	C	424	GLU
1	A	413	LYS
1	A	399	ARG

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

Mol	Chain	Res	Type
1	A	299	GLN
1	A	342	GLN
1	C	98	HIS
1	C	299	GLN
1	C	339	HIS

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

There are no monosaccharides in this entry.

5.6 Ligand geometry

11 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$
4	KEG	N	8704	-	76,76,76	3.16	42 (55%)	6,234,234	1.38	2 (33%)
4	KEG	A	503	-	76,76,76	3.16	42 (55%)	6,234,234	1.37	2 (33%)
4	KEG	A	501	-	76,76,76	3.16	42 (55%)	6,234,234	1.37	2 (33%)
4	KEG	N	8703	-	76,76,76	3.16	42 (55%)	6,234,234	1.38	2 (33%)
4	KEG	A	502	-	76,76,76	3.16	42 (55%)	6,234,234	1.38	2 (33%)
4	KEG	M	8703	-	76,76,76	3.16	43 (56%)	6,234,234	1.39	2 (33%)
4	KEG	N	8702	-	76,76,76	3.16	42 (55%)	6,234,234	1.38	2 (33%)
4	KEG	M	8702	-	76,76,76	3.16	42 (55%)	6,234,234	1.37	2 (33%)
4	KEG	M	8701	-	76,76,76	3.16	42 (55%)	6,234,234	1.40	2 (33%)
4	KEG	N	8705	-	76,76,76	3.16	42 (55%)	6,234,234	1.39	2 (33%)
4	KEG	N	8701	-	76,76,76	3.16	42 (55%)	6,234,234	1.37	2 (33%)

The worst 5 of 463 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	N	8704	KEG	P1-O18	-7.90	1.27	1.54
4	A	503	KEG	P1-O18	-7.89	1.27	1.54
4	M	8701	KEG	P1-O18	-7.89	1.27	1.54
4	N	8701	KEG	P1-O18	-7.88	1.27	1.54
4	A	501	KEG	P1-O18	-7.88	1.27	1.54

The worst 5 of 22 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	M	8701	KEG	O19-P1-O18	-2.23	104.65	108.92
4	N	8705	KEG	O19-P1-O18	-2.23	104.65	108.92
4	N	8702	KEG	O19-P1-O18	-2.22	104.68	108.92
4	A	502	KEG	O19-P1-O18	-2.20	104.71	108.92
4	M	8703	KEG	O19-P1-O18	-2.19	104.74	108.92

There are no chirality outliers.

There are no torsion outliers.

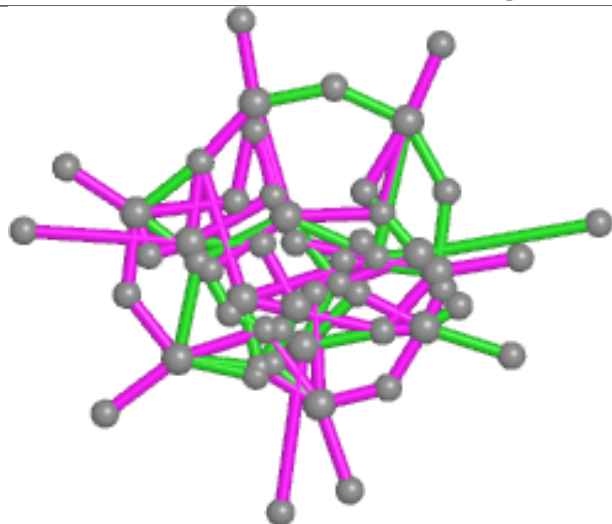
There are no ring outliers.

11 monomers are involved in 101 short contacts:

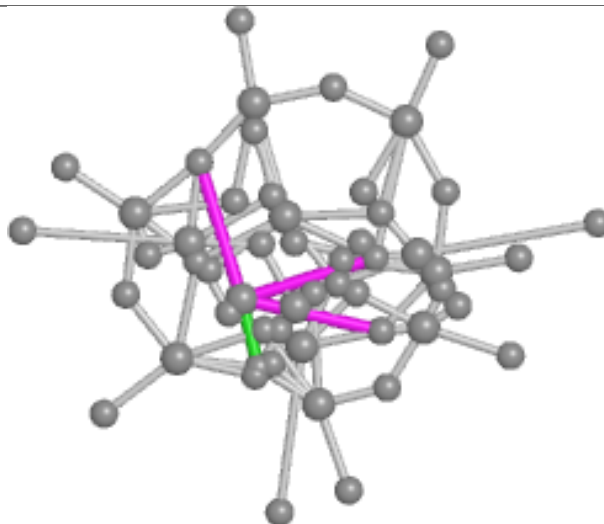
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	N	8704	KEG	6	0
4	A	503	KEG	16	0
4	A	501	KEG	24	0
4	N	8703	KEG	6	0
4	A	502	KEG	13	0
4	M	8703	KEG	6	0
4	N	8702	KEG	6	0
4	M	8702	KEG	6	0
4	M	8701	KEG	6	0
4	N	8705	KEG	6	0
4	N	8701	KEG	6	0

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

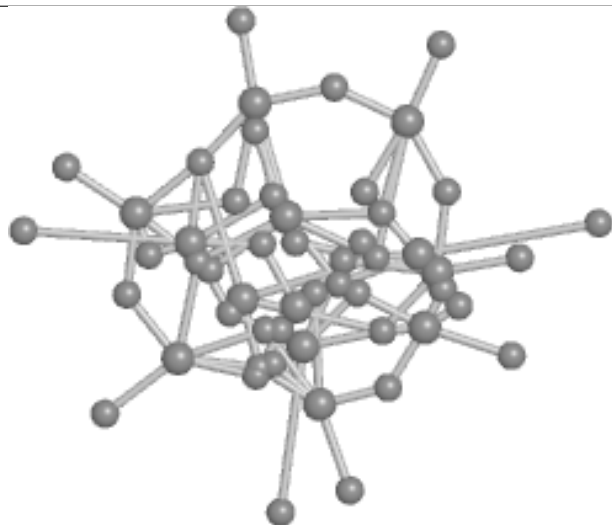
Ligand KEG N 8704



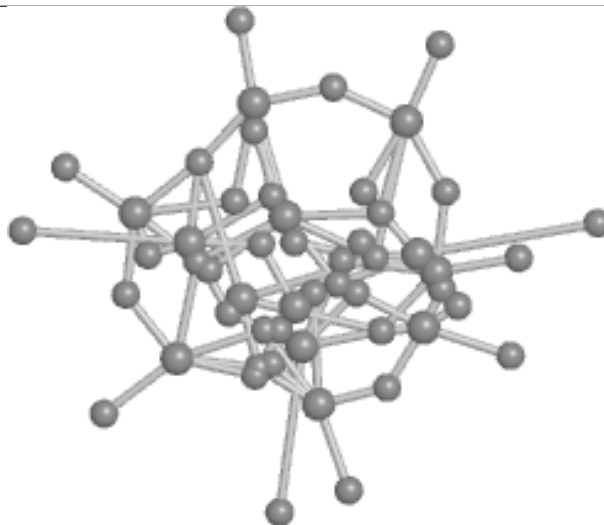
Bond lengths



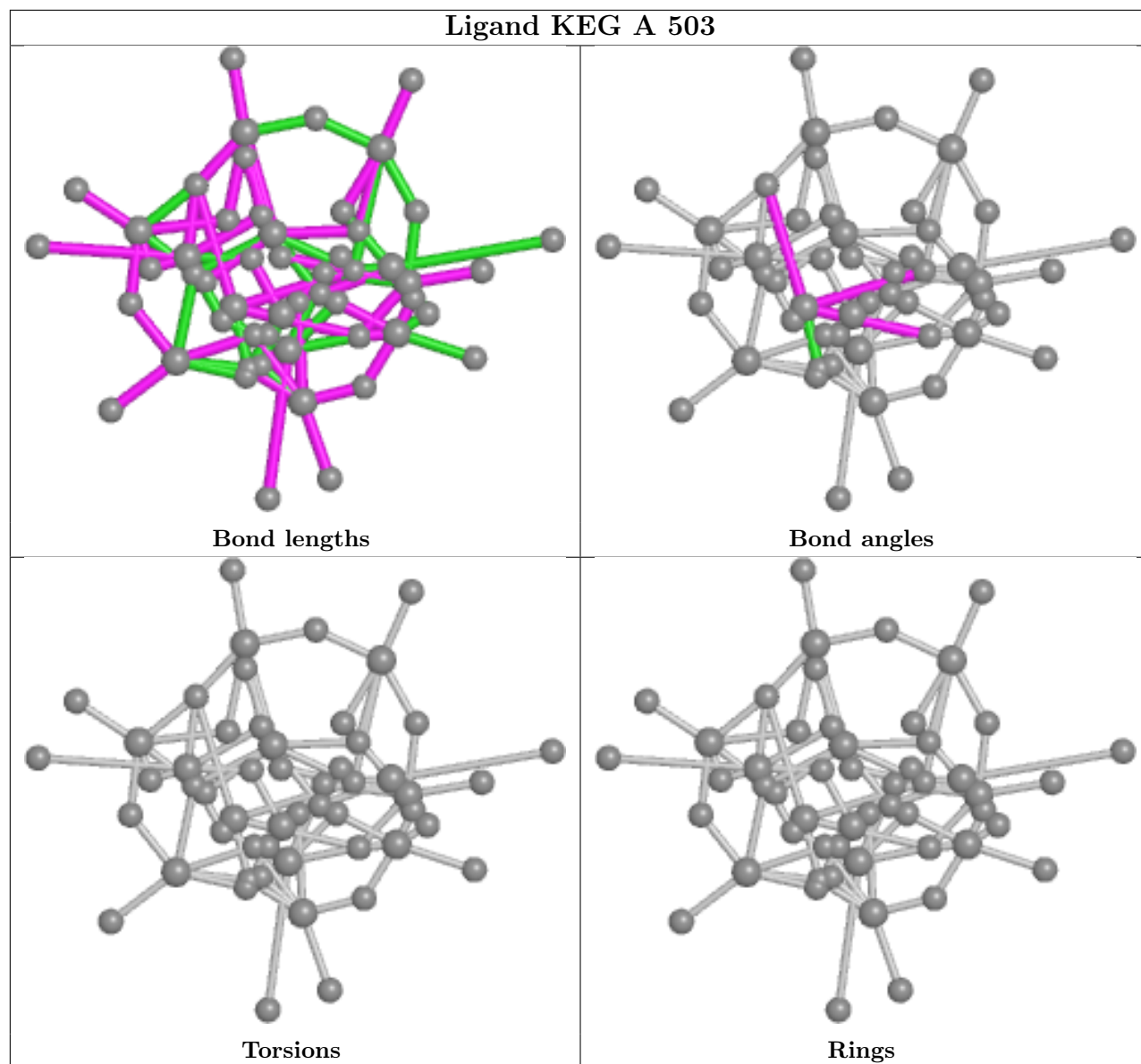
Bond angles

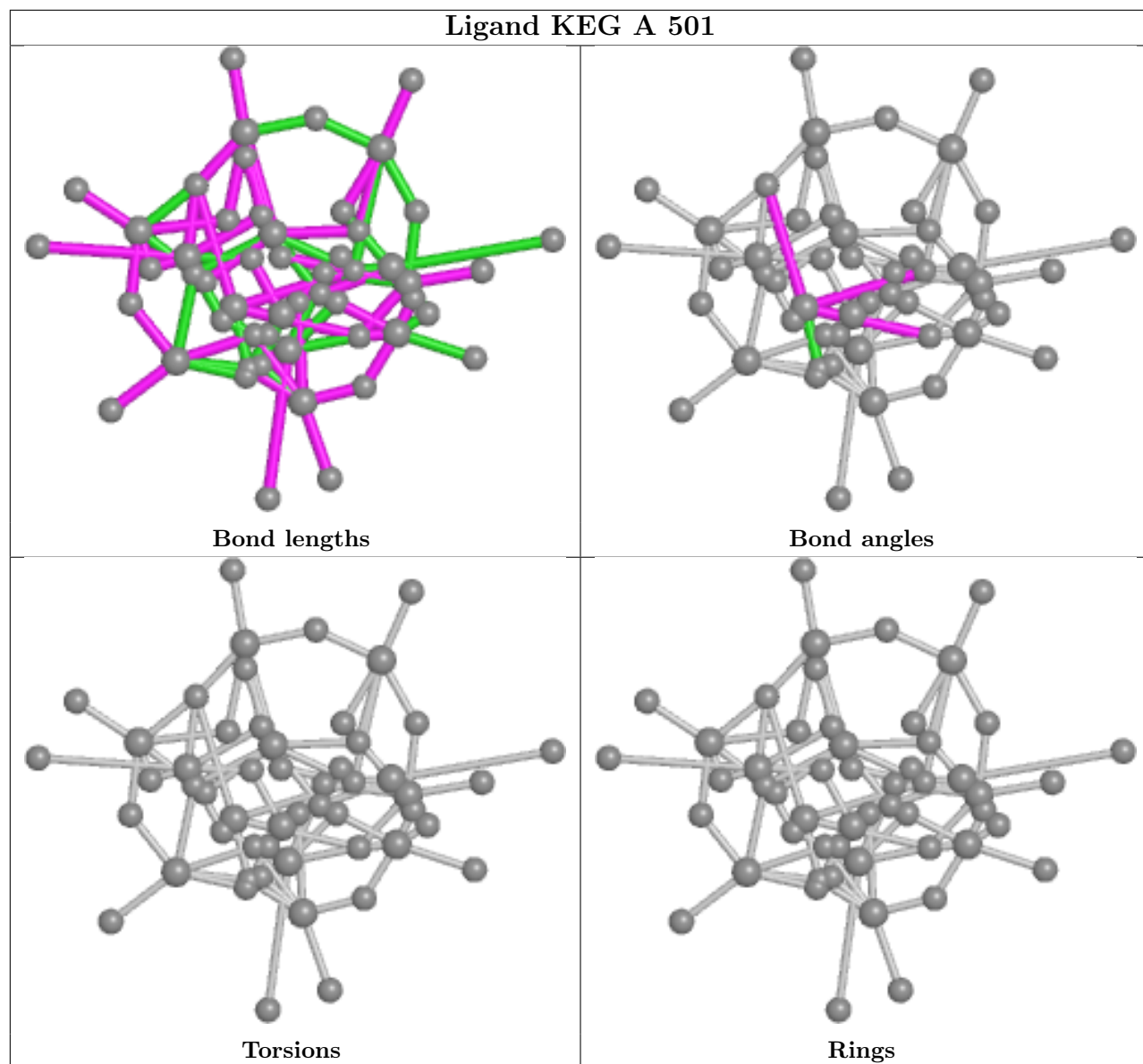


Torsions

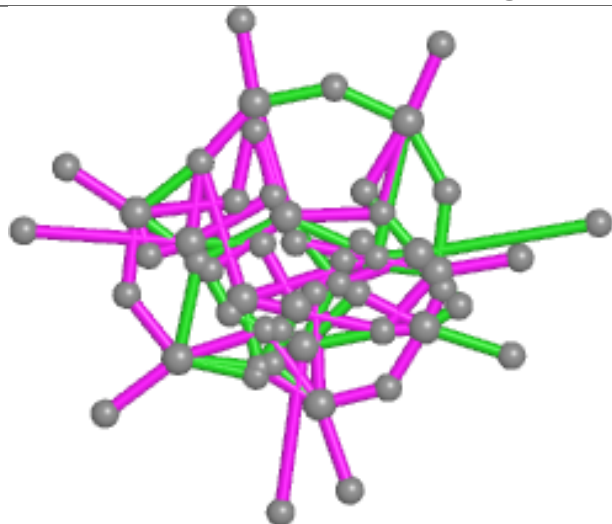


Rings

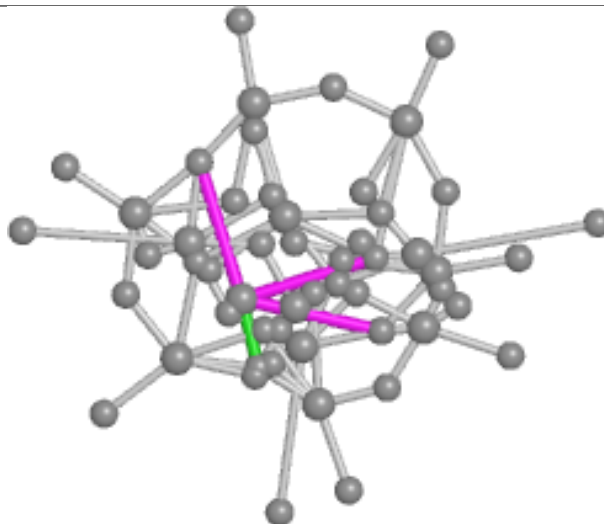




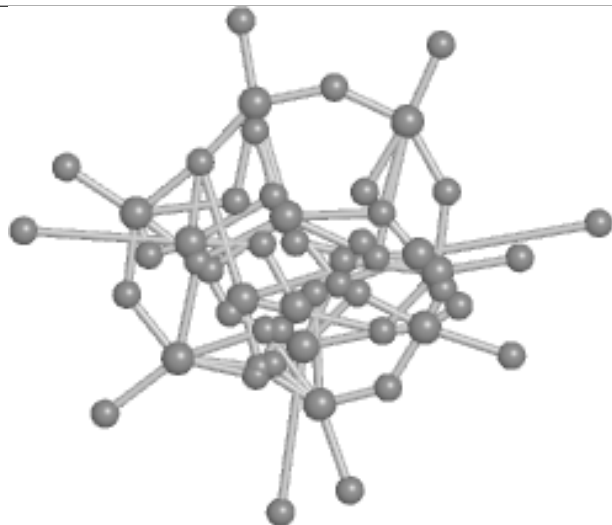
Ligand KEG N 8703



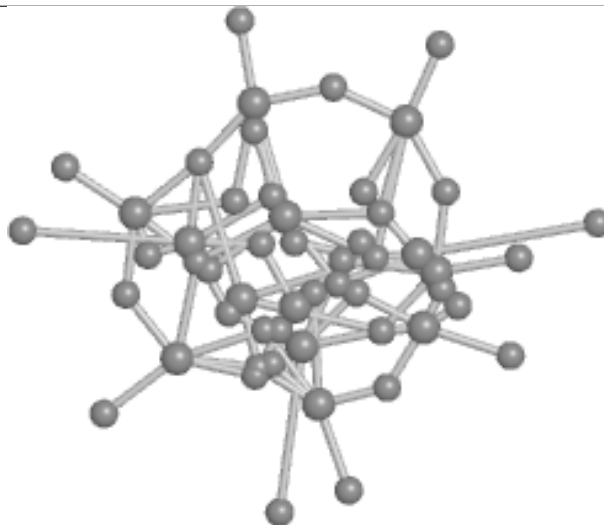
Bond lengths



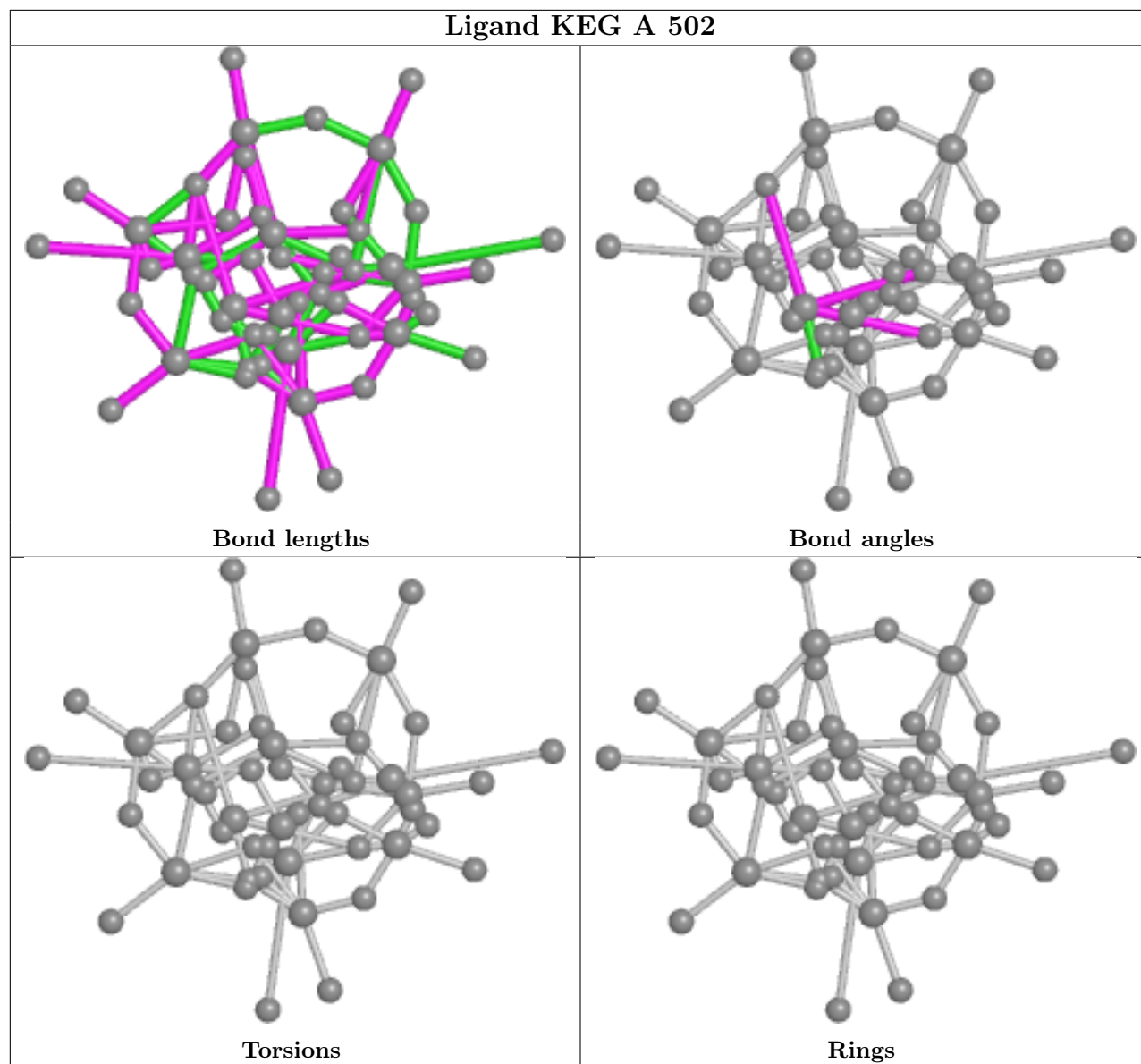
Bond angles



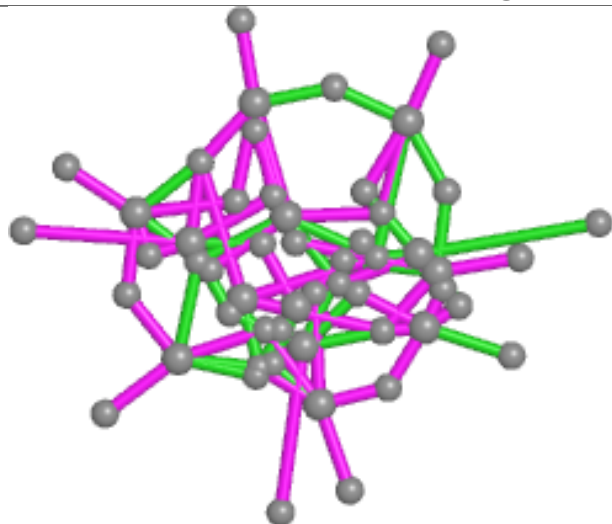
Torsions



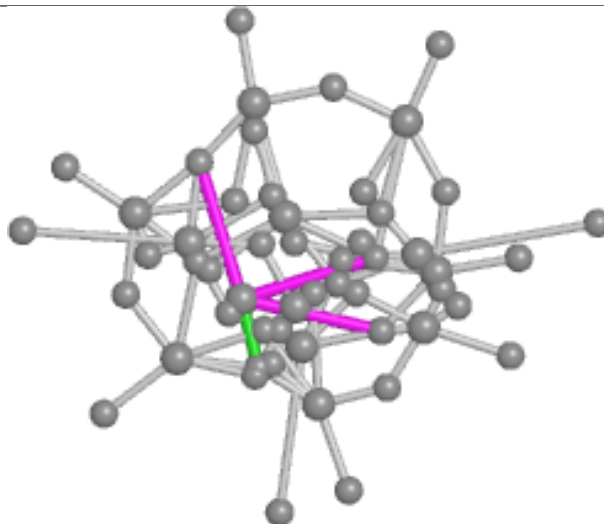
Rings



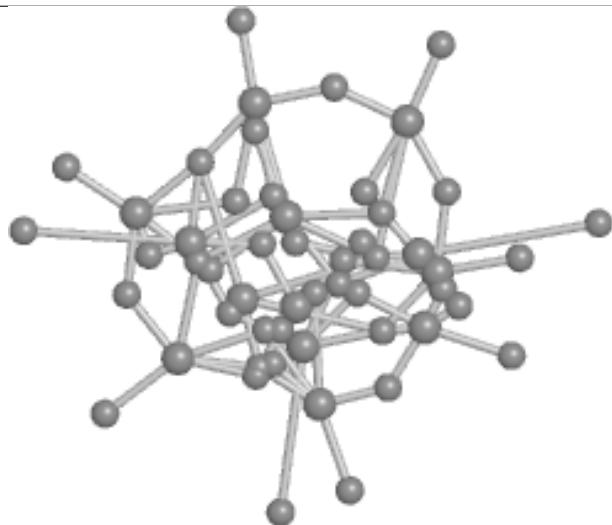
Ligand KEG M 8703



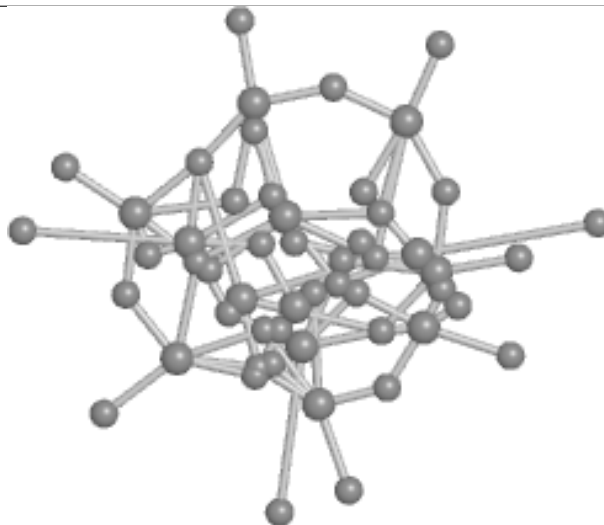
Bond lengths



Bond angles

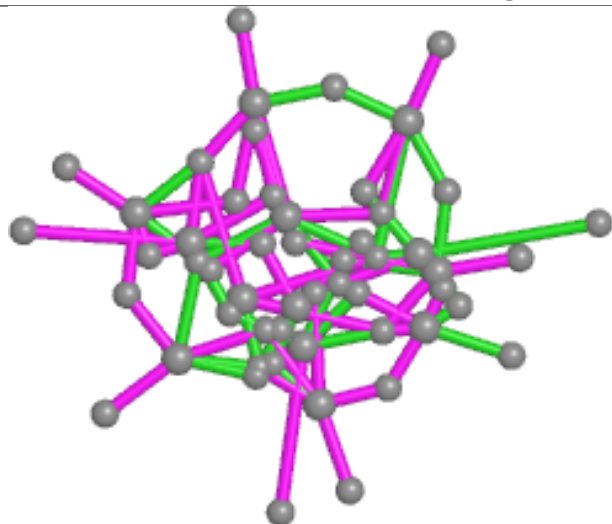


Torsions

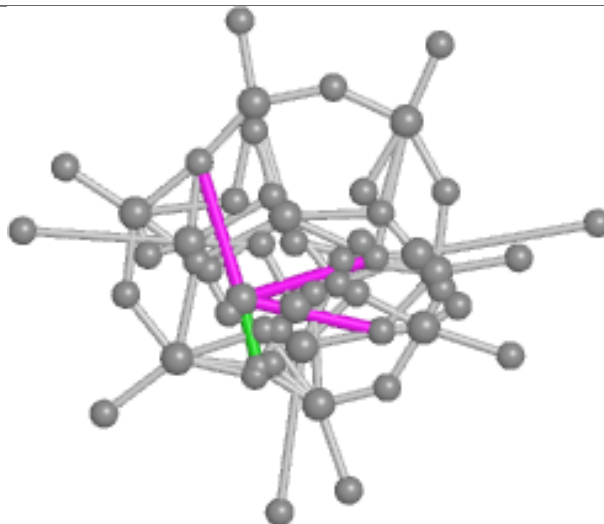


Rings

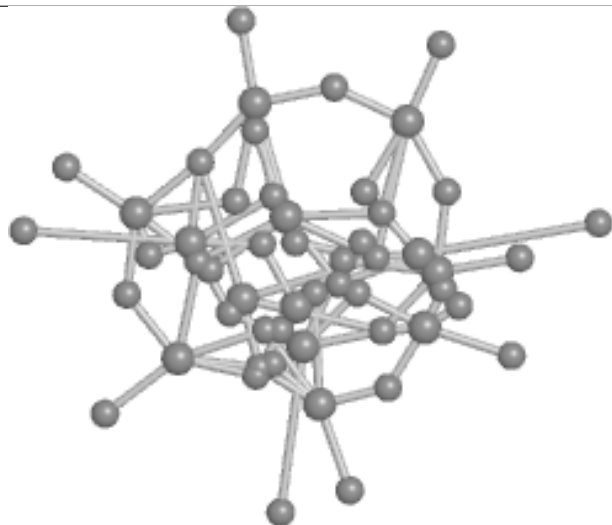
Ligand KEG N 8702



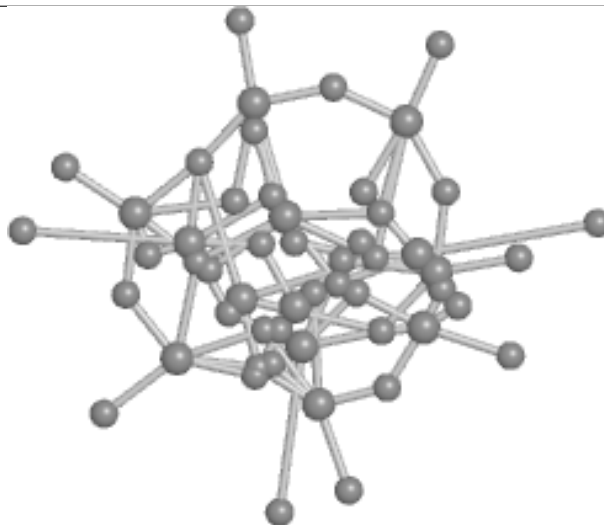
Bond lengths



Bond angles

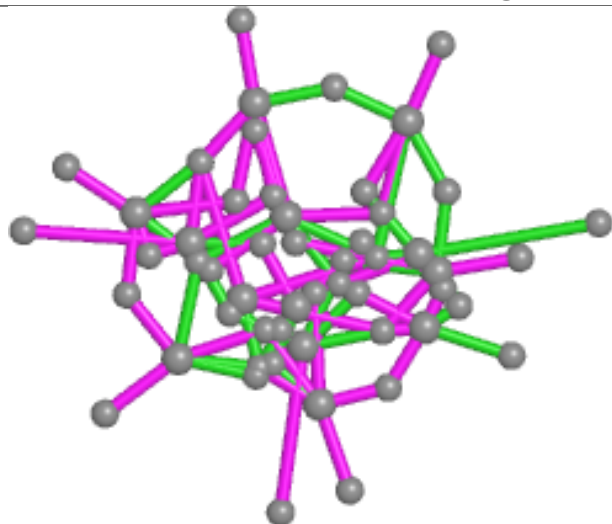


Torsions

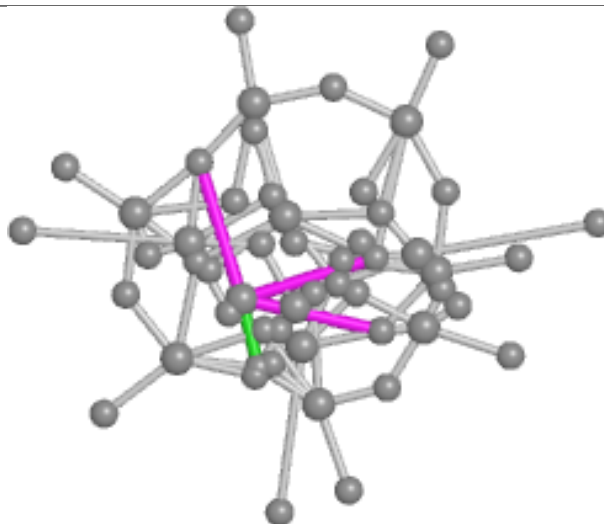


Rings

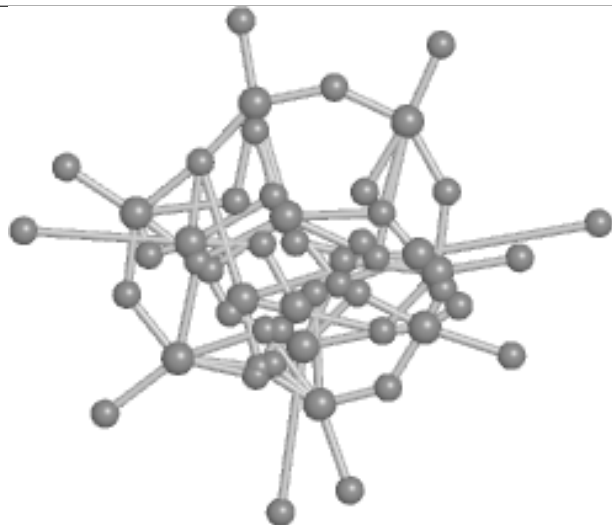
Ligand KEG M 8702



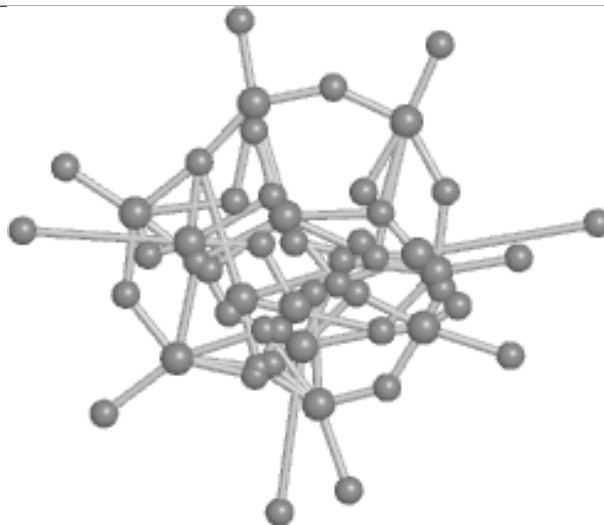
Bond lengths



Bond angles

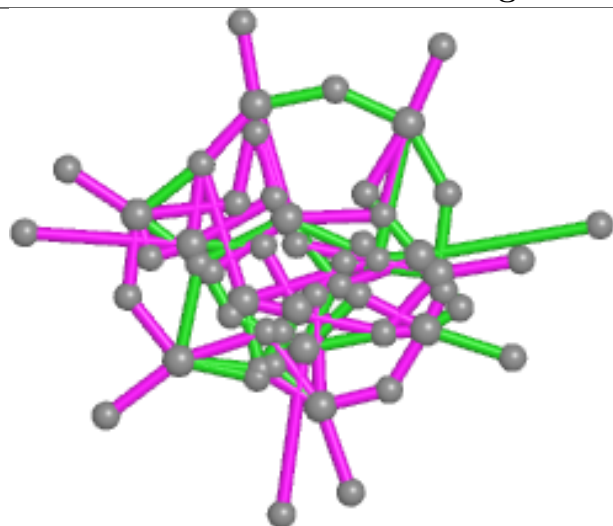


Torsions

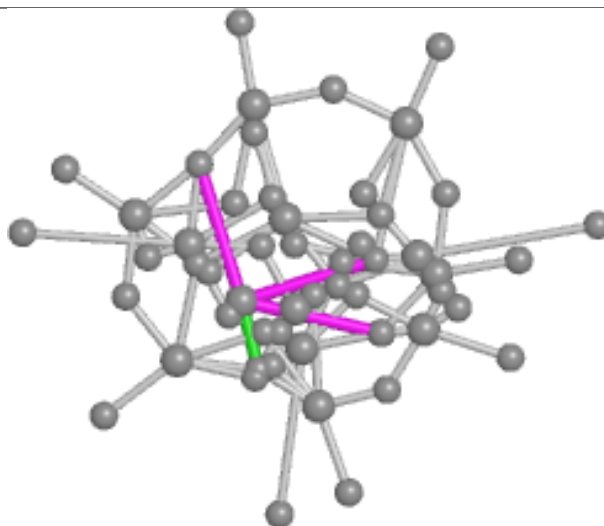


Rings

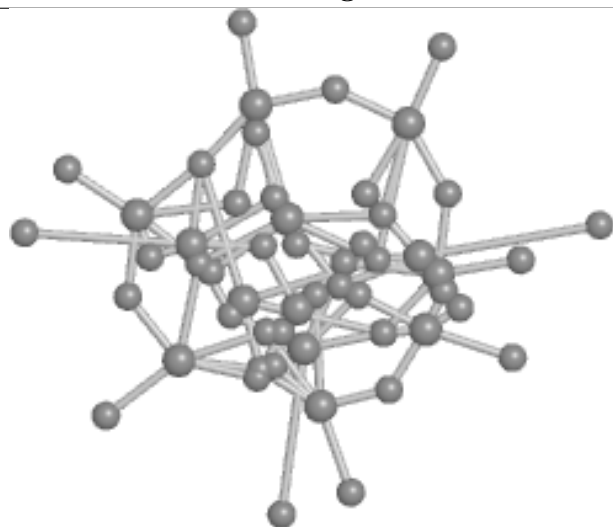
Ligand KEG M 8701



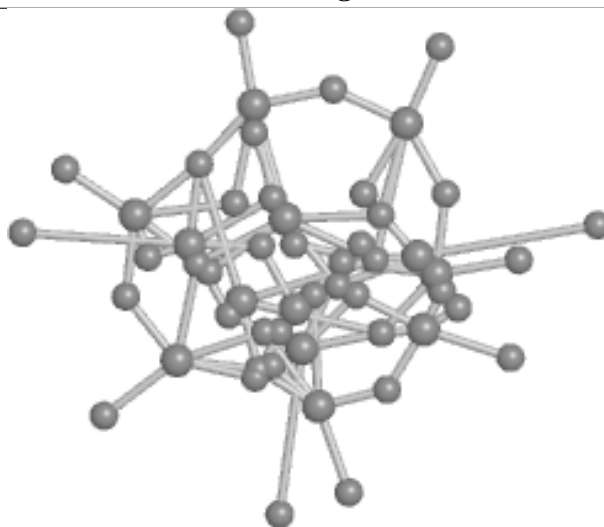
Bond lengths



Bond angles

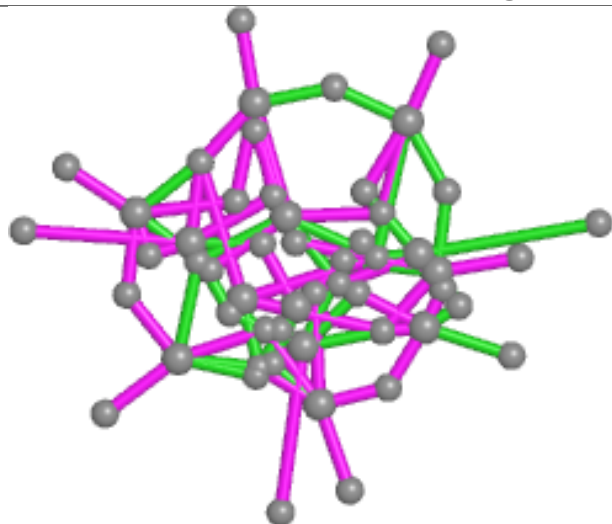


Torsions

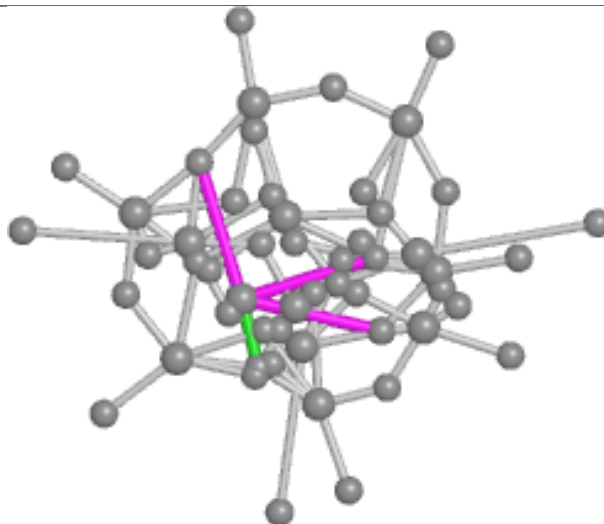


Rings

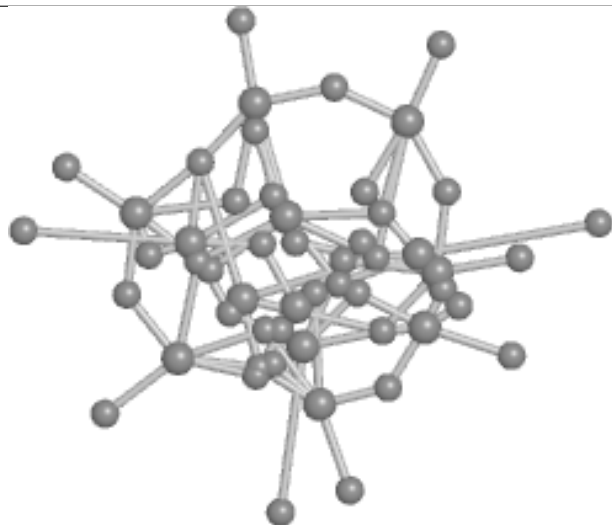
Ligand KEG N 8705



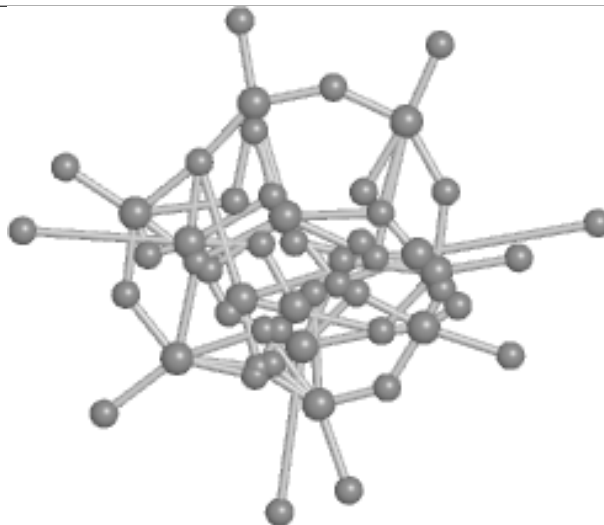
Bond lengths



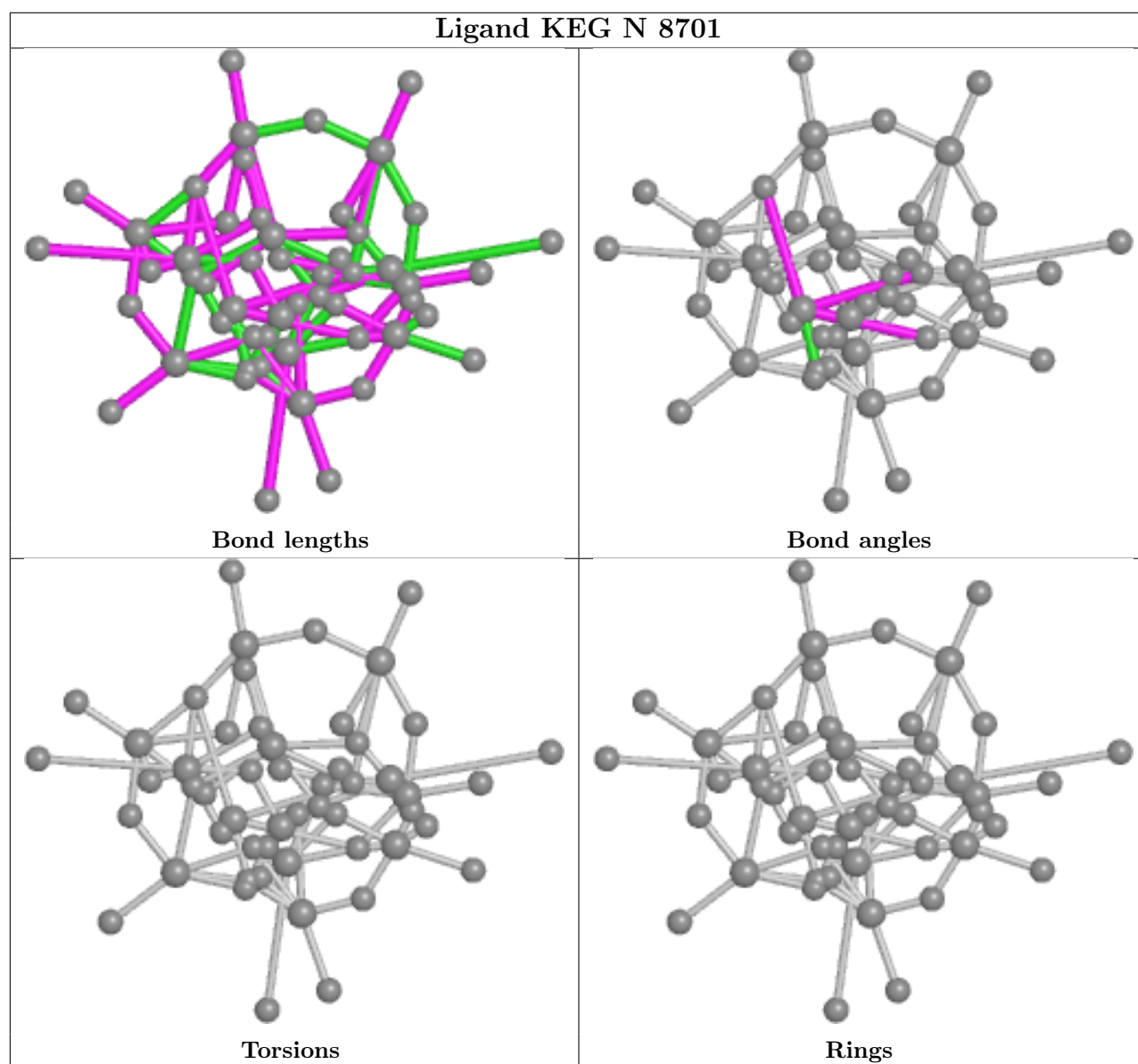
Bond angles



Torsions



Rings



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
3	N	126
3	M	126
2	B	27
2	D	27

The worst 5 of 306 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	N	5289:UNK	C	6033:UNK	N	143.88
1	M	5289:UNK	C	6033:UNK	N	142.81
1	N	5148:UNK	C	5197:UNK	N	119.38
1	M	5148:UNK	C	5197:UNK	N	119.33
1	N	492:UNK	C	2104:UNK	N	118.52

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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	374/446 (83%)	0.57	33 (8%)	10 12	200, 200, 200, 200	0
1	C	374/446 (83%)	0.42	23 (6%)	21 20	200, 200, 200, 200	0
2	B	0/400	-	-		-	-
2	D	0/400	-	-		-	-
3	M	0/2300	-	-		-	-
3	N	0/2300	-	-		-	-
All	All	748/6292 (11%)	0.49	56 (7%)	14 15	200, 200, 200, 200	0

The worst 5 of 56 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	108	SER	5.3
1	A	384	THR	5.3
1	A	106	ALA	5.2
1	C	335	THR	4.7
1	A	104	CYS	4.5

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,

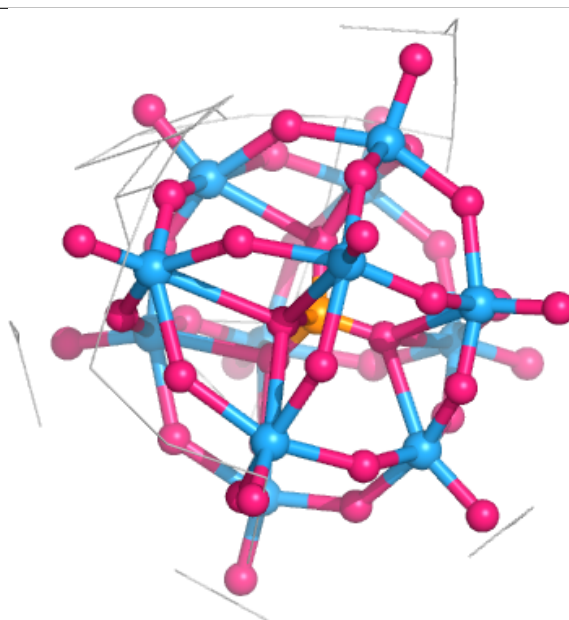
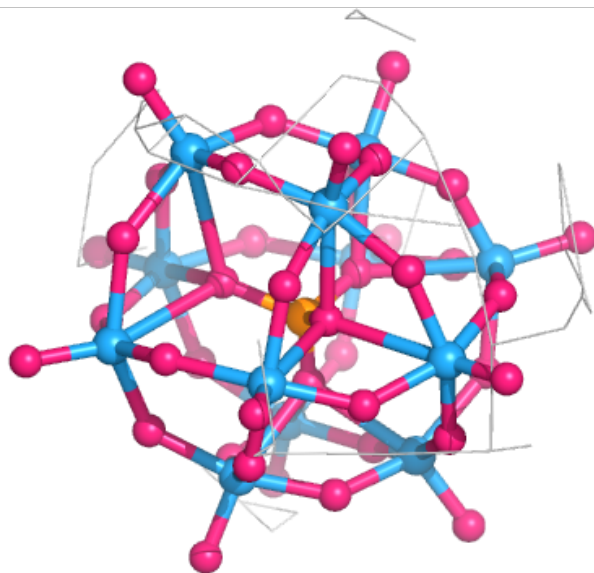
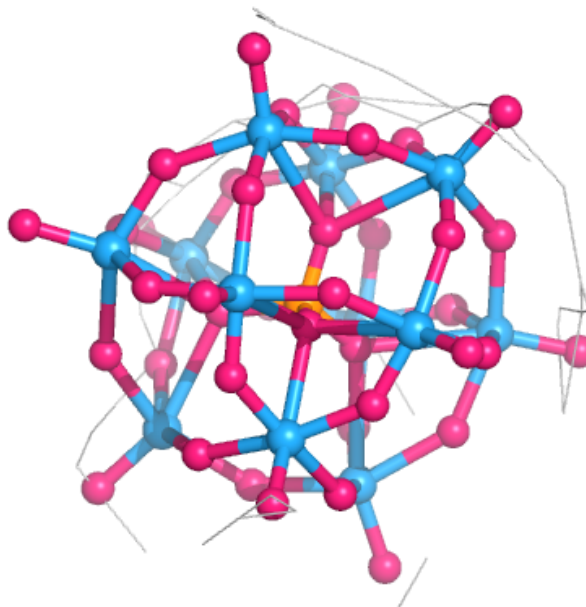
median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
4	KEG	A	503	53/53	0.87	0.35	200,200,200,200	53
4	KEG	A	502	53/53	0.88	0.25	200,200,200,200	53
4	KEG	N	8703	53/53	0.90	0.17	200,200,200,200	53
4	KEG	A	501	53/53	0.92	0.18	200,200,200,200	53
4	KEG	N	8702	53/53	0.97	0.15	200,200,200,200	53
4	KEG	N	8701	53/53	0.98	0.09	200,200,200,200	53
4	KEG	M	8701	53/53	0.98	0.16	200,200,200,200	53
4	KEG	M	8703	53/53	0.98	0.20	200,200,200,200	53
4	KEG	N	8704	53/53	0.98	0.16	200,200,200,200	53
4	KEG	N	8705	53/53	0.98	0.12	200,200,200,200	53
4	KEG	M	8702	53/53	0.99	0.09	200,200,200,200	53

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.

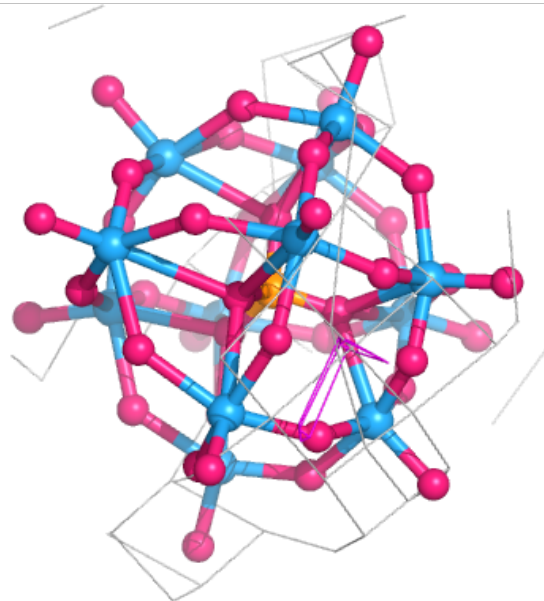
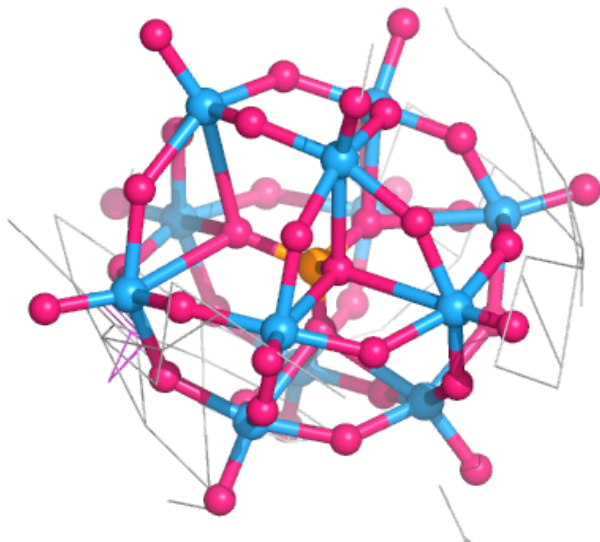
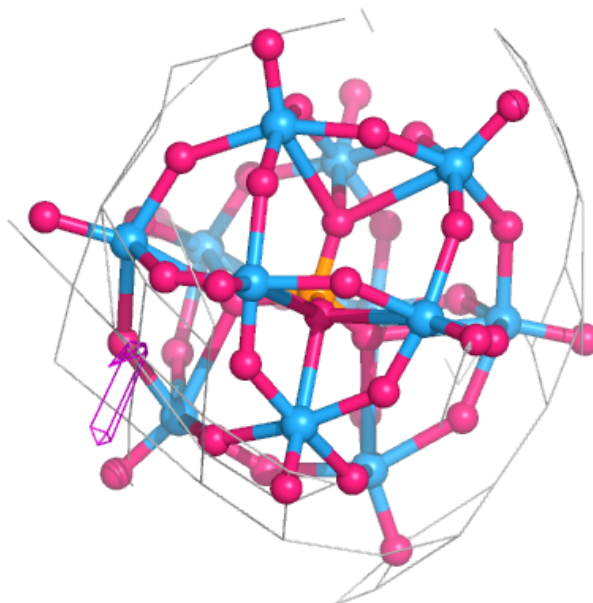
Electron density around KEG A 503:

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



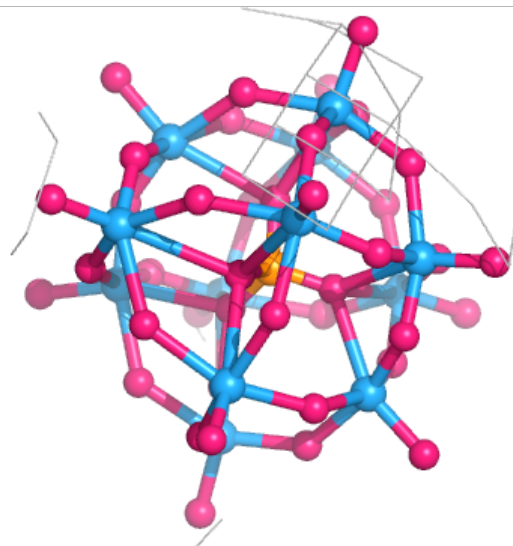
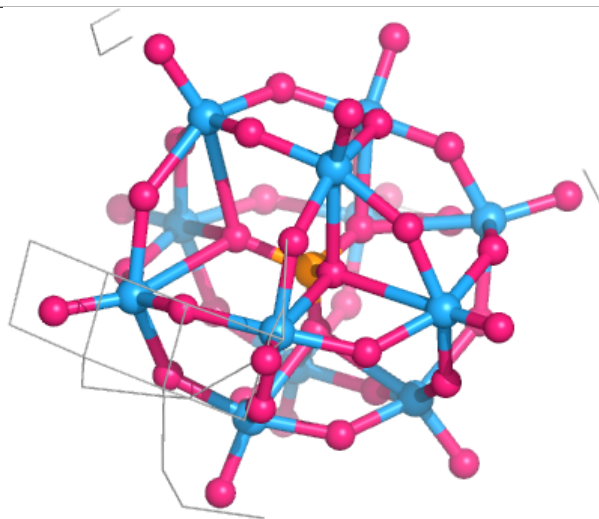
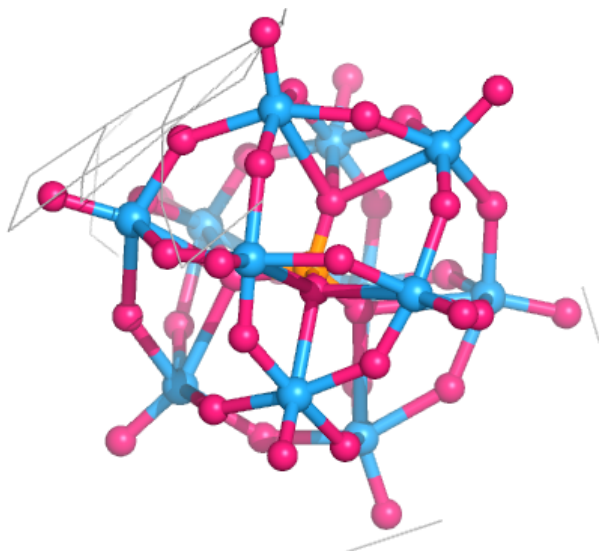
Electron density around KEG A 502:

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



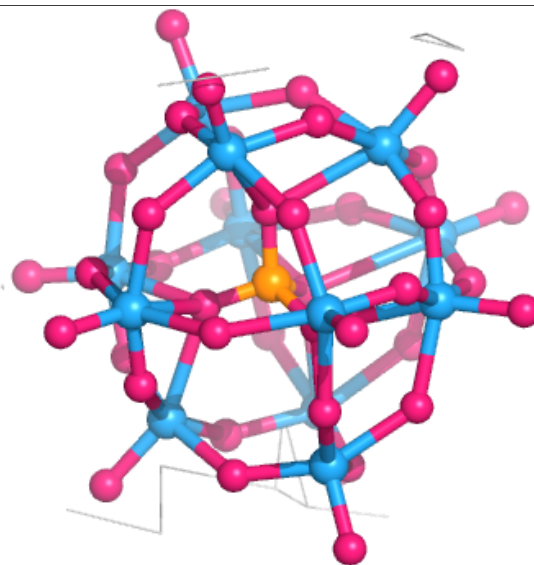
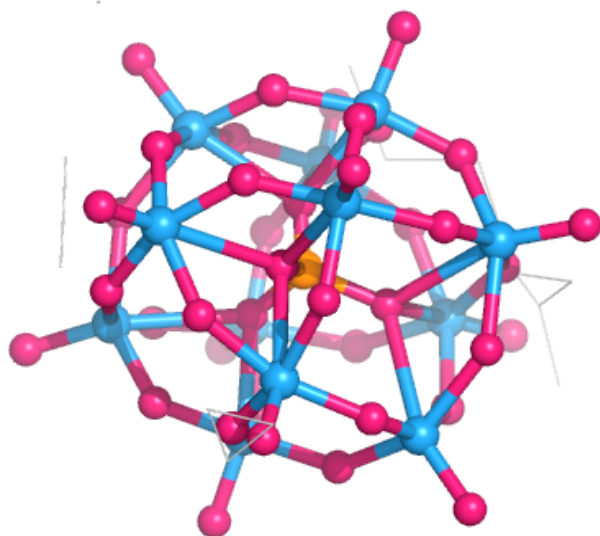
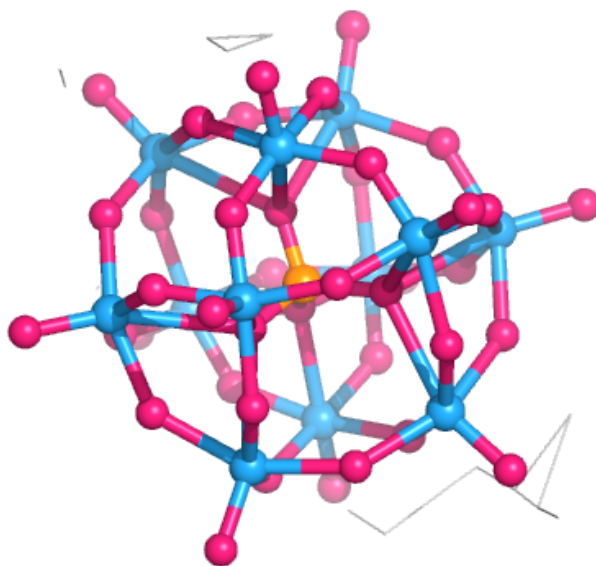
Electron density around KEG N 8703:

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



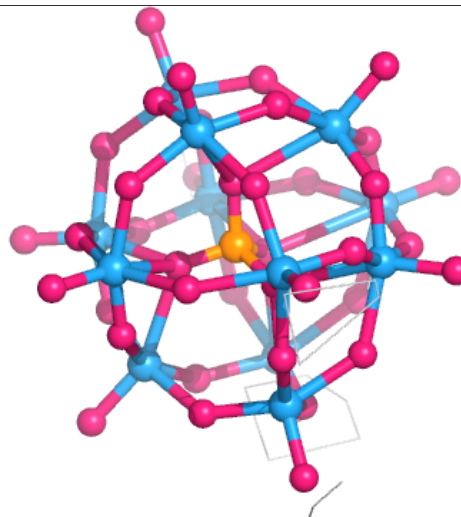
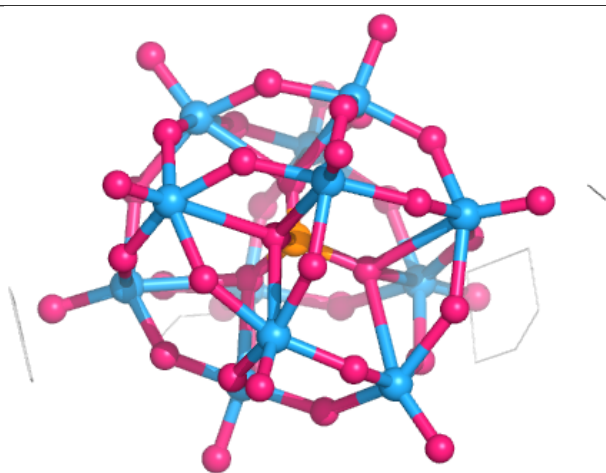
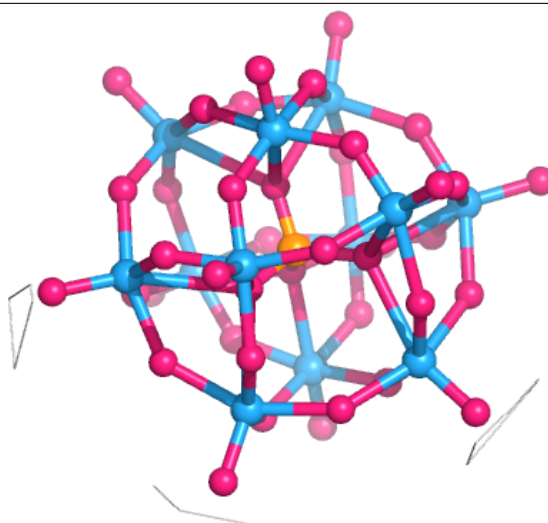
Electron density around KEG A 501:

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



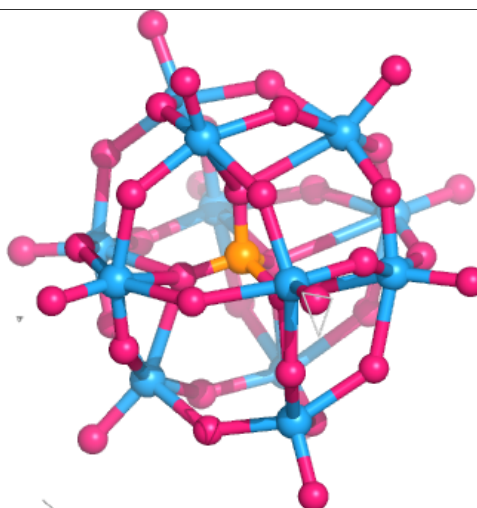
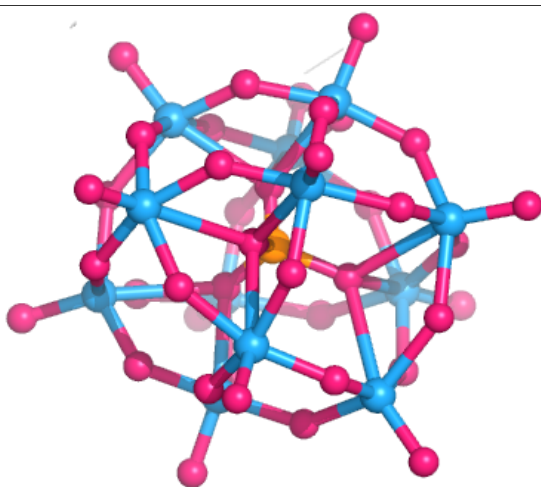
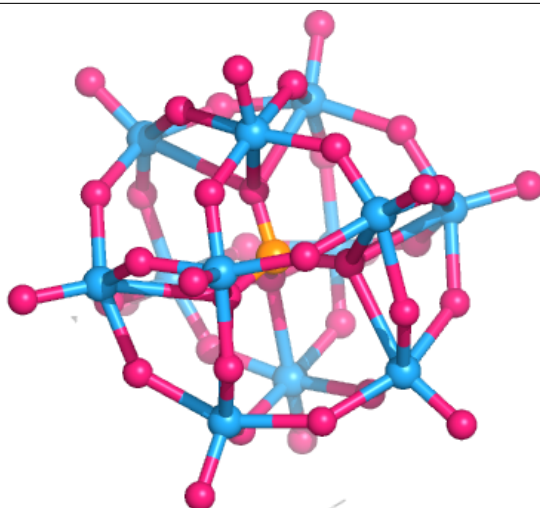
Electron density around KEG N 8702:

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



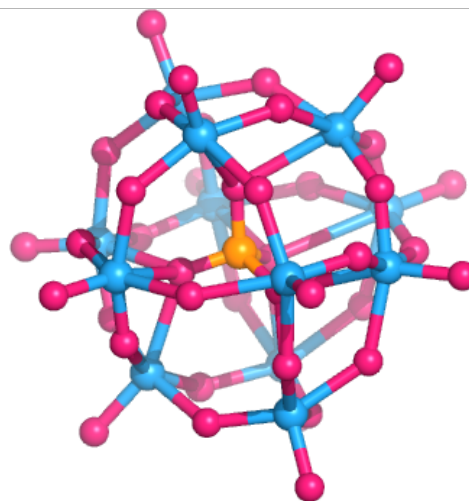
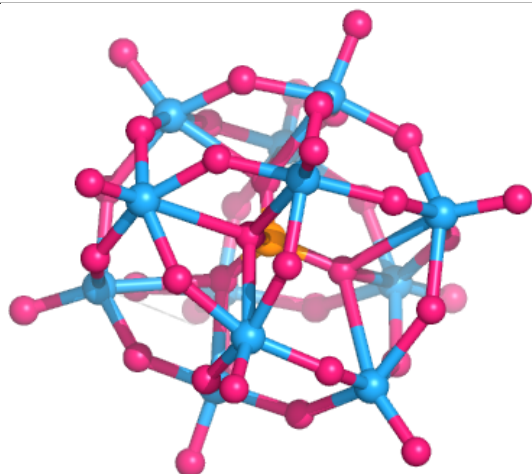
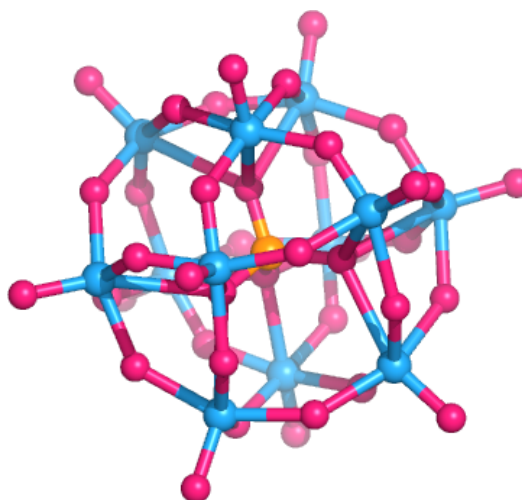
Electron density around KEG N 8701:

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



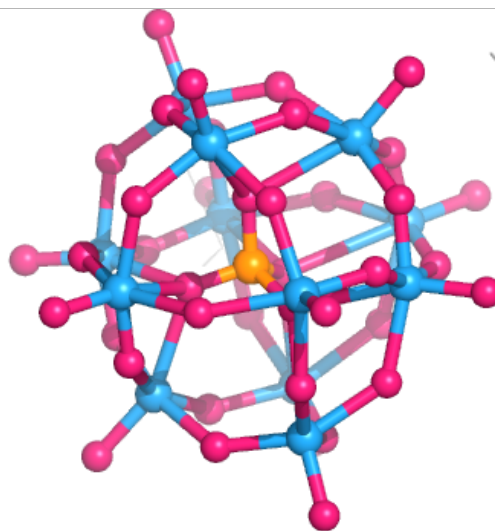
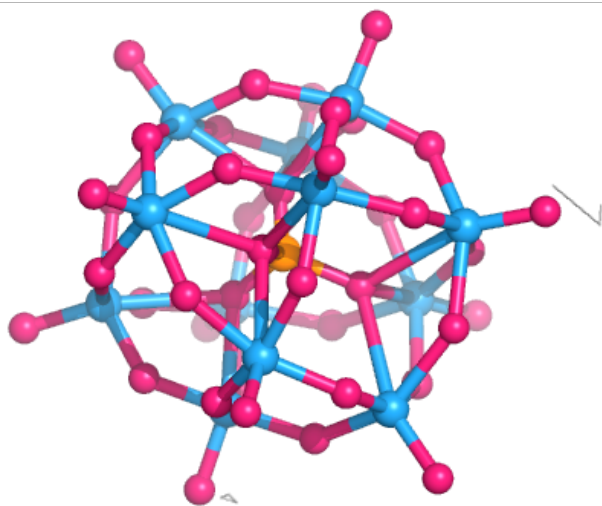
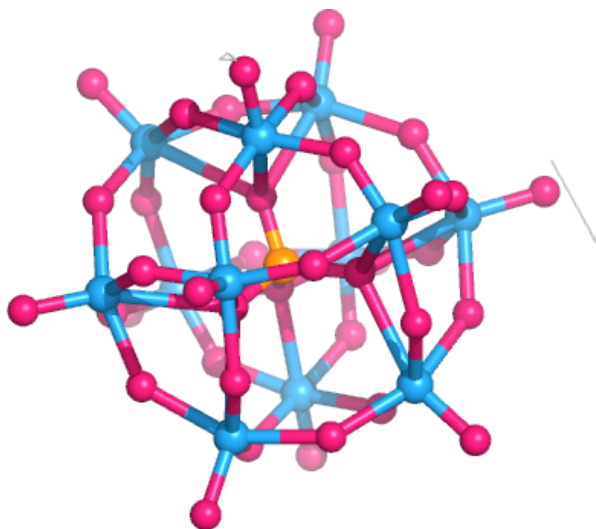
Electron density around KEG M 8701:

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



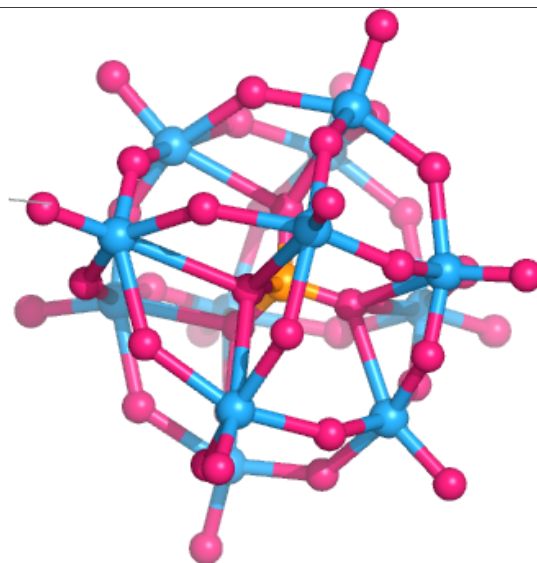
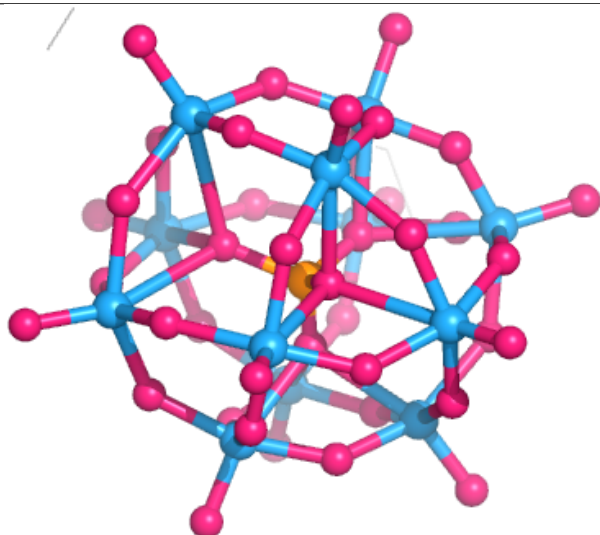
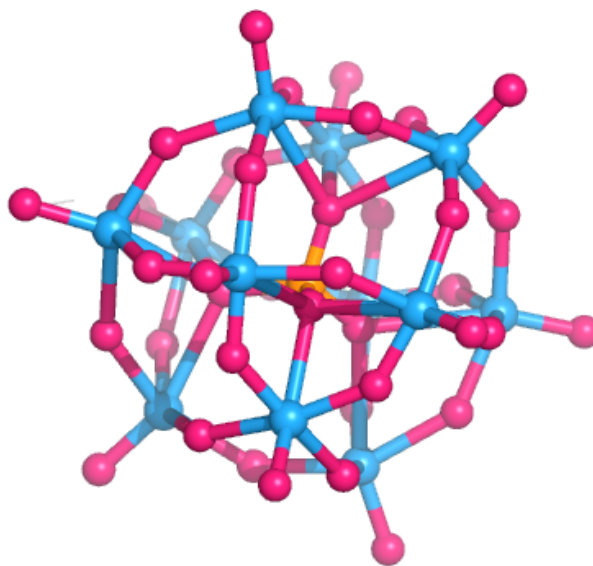
Electron density around KEG M 8703:

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



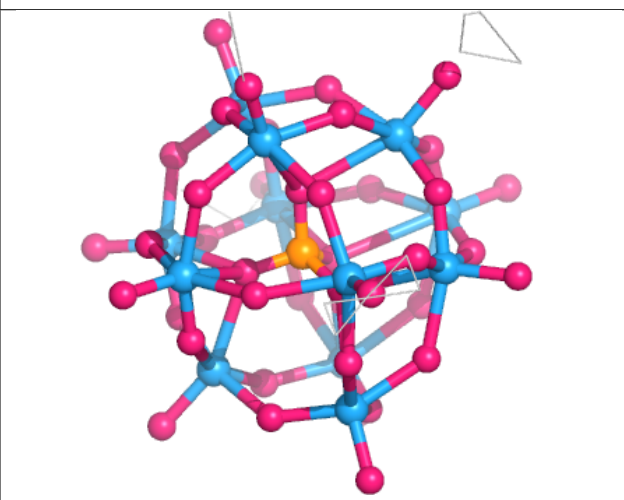
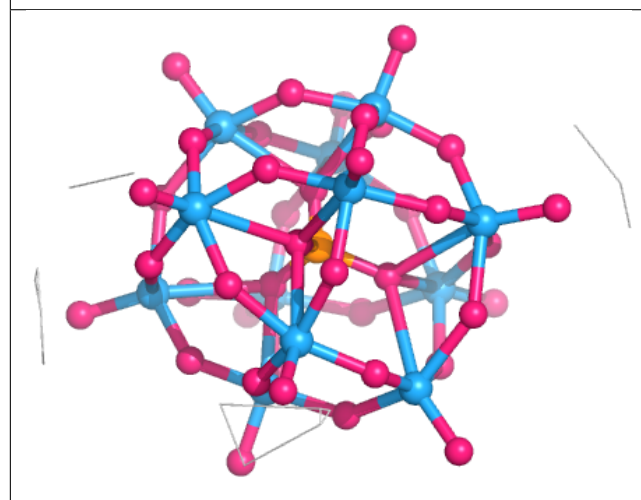
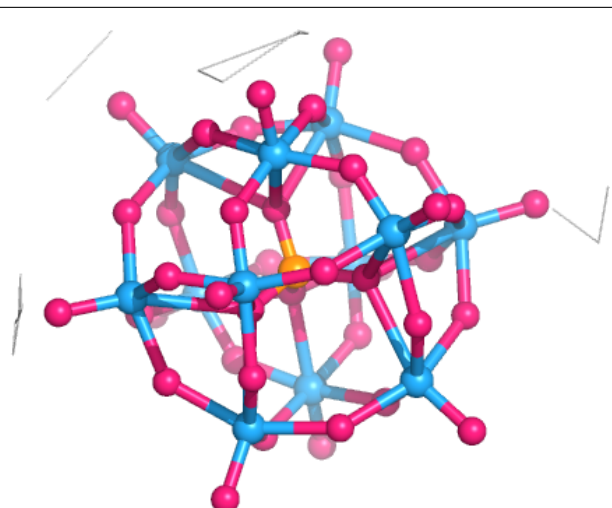
Electron density around KEG N 8704:

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



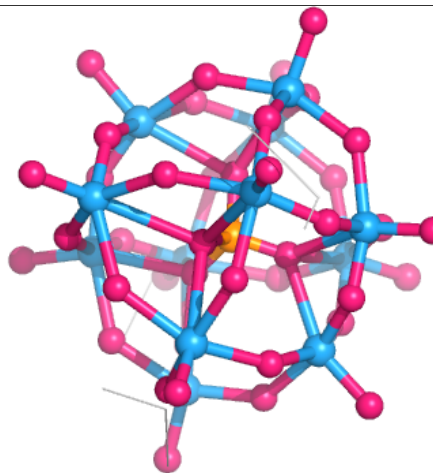
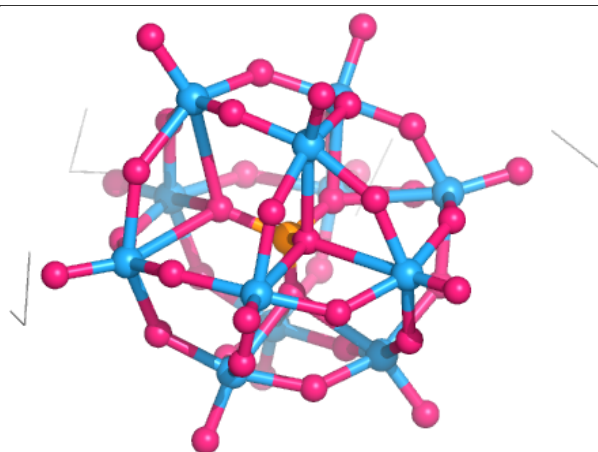
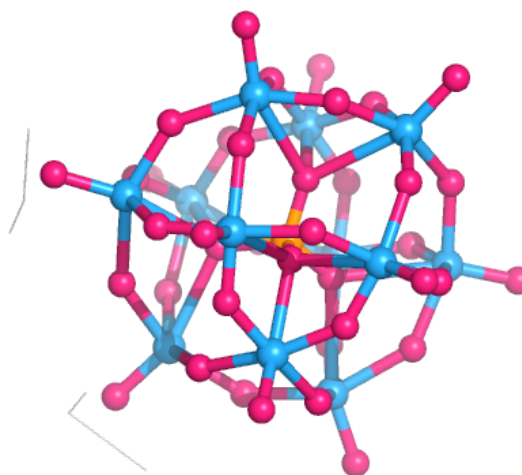
Electron density around KEG N 8705:

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



Electron density around KEG M 8702:

$2mF_o-DF_c$ (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.