wwPDB X-ray Structure Validation Summary Report (i)

Oct 29, 2024 – 12:13 PM EDT

PDB ID	:	9D5K
Title	:	Human Adenosine Deaminase Acting on dsRNA (ADAR2-RD) bound to dsRNA containing an expanded cytidine analog at the -1 position of the guide strand
Authors	:	Fisher, A.J.; Cheng, J.; Manjunath, A.; Campbell, K.
Deposited on	:	2024-08-13
Resolution	:	2.70 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 (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:

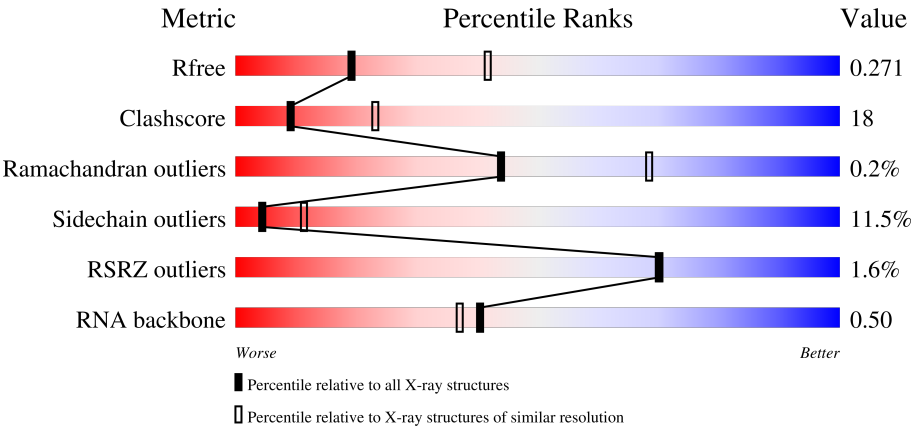
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.70 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}	164625	3333 (2.70-2.70)
Clashscore	180529	3684 (2.70-2.70)
Ramachandran outliers	177936	3633 (2.70-2.70)
Sidechain outliers	177891	3633 (2.70-2.70)
RSRZ outliers	164620	3333 (2.70-2.70)
RNA backbone	3690	1028 (2.94-2.46)

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	487	% 47% 28% • 21%
1	B	487	% 51% 35% 5% 9%
2	C	32	6% 66% 28%

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Mol	Chain	Length	Quality of chain
3	D	32	31% 47% 22%

2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 7953 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 Isoform 4 of Double-stranded RNA-specific editase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	384	Total	C	N	O	S	0	1	0
			3027	1909	553	554	11			
1	B	442	Total	C	N	O	S	0	0	0
			3455	2183	624	635	13			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	488	GLN	GLU	engineered mutation	UNP P78563
B	488	GLN	GLU	engineered mutation	UNP P78563

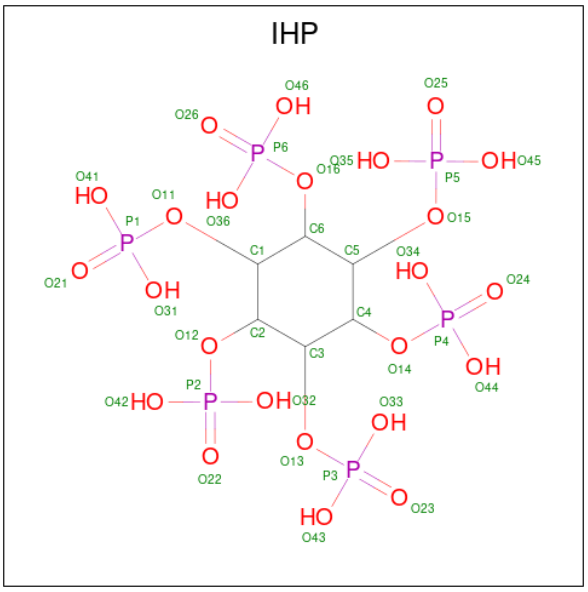
- Molecule 2 is a RNA chain called RNA Top Strand.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	C	32	Total	C	N	O	P	0	0	0
			685	305	126	223	31			

- Molecule 3 is DNA/RNA hybrid called RNA Bottom Strand.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	D	32	Total	C	N	O	P	0	0	0
			677	307	120	219	31			

- Molecule 4 is INOSITOL HEXAKISPHOSPHATE (three-letter code: IHP) (formula: $C_6H_{18}O_{24}P_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O P 36 6 24 6	0	0
4	B	1	Total C O P 36 6 24 6	0	0

- Molecule 5 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total Zn 1 1	0	0
5	B	1	Total Zn 1 1	0	0

- Molecule 6 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total Mg 1 1	0	0

- Molecule 7 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	22	Total O 22 22	0	0

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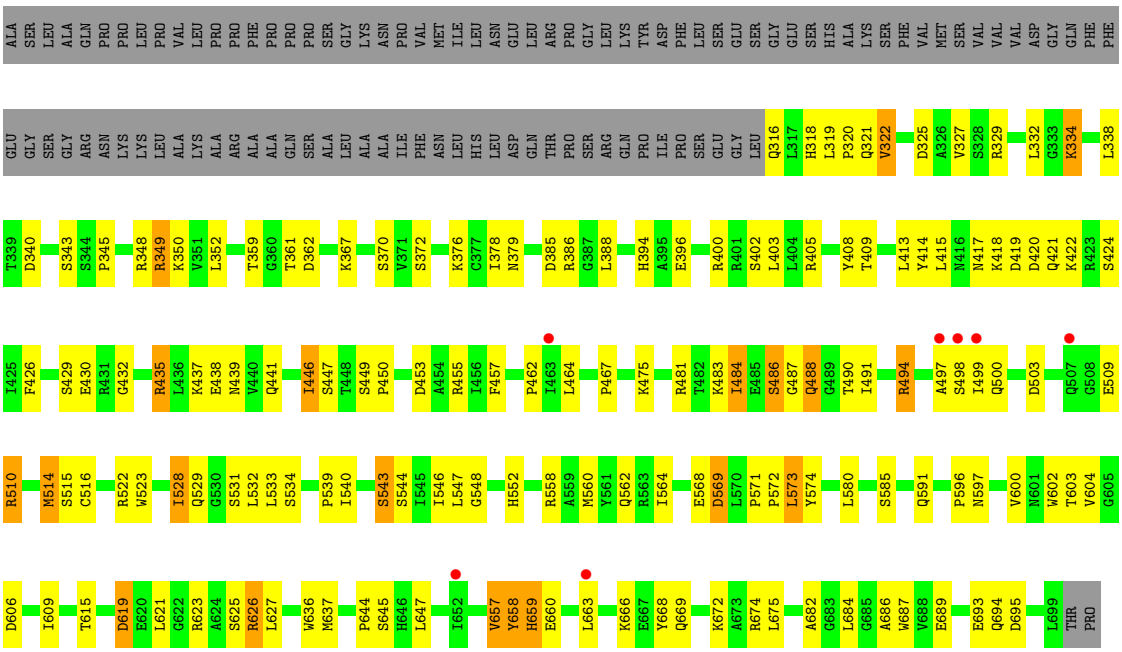
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	B	4	Total O 4 4	0	0
7	C	6	Total O 6 6	0	0
7	D	2	Total O 2 2	0	0

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.

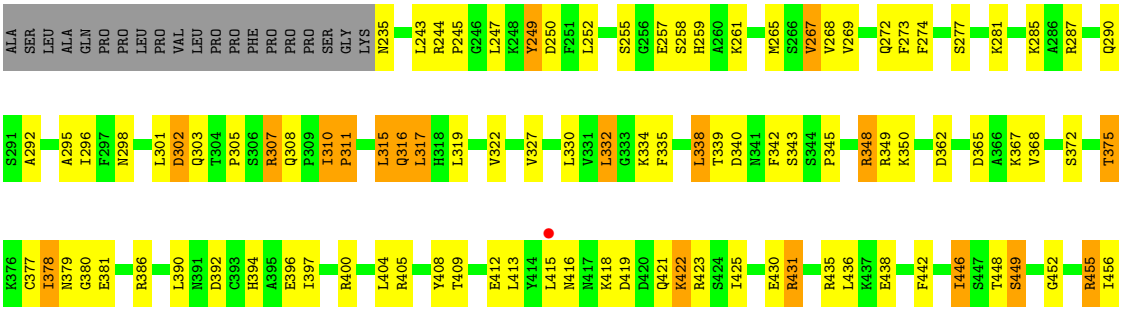
• Molecule 1: Isoform 4 of Double-stranded RNA-specific editase 1

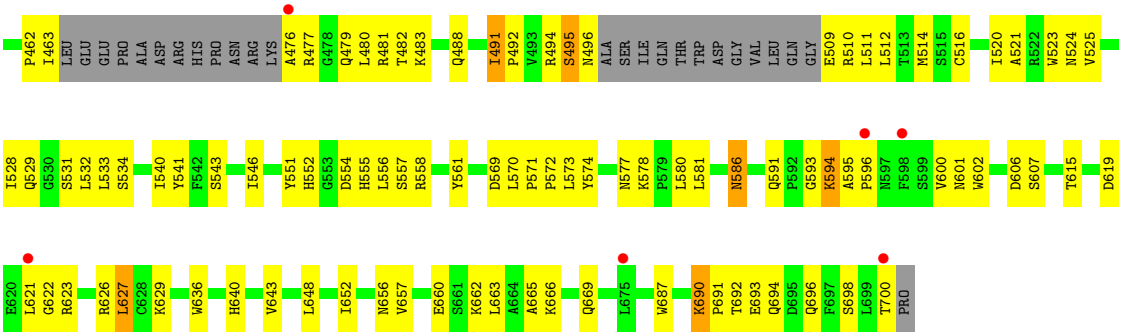
Chain A:



• Molecule 1: Isoform 4 of Double-stranded RNA-specific editase 1

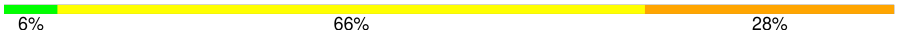
Chain B:





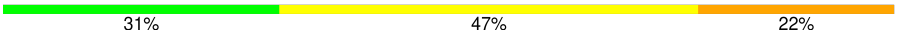
• Molecule 2: RNA Top Strand

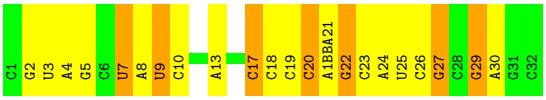
Chain C:



• Molecule 3: RNA Bottom Strand

Chain D:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	174.78Å 63.11Å 141.06Å 90.00° 118.54° 90.00°	Depositor
Resolution (Å)	49.46 – 2.70 49.46 – 2.70	Depositor EDS
% Data completeness (in resolution range)	96.7 (49.46-2.70) 98.2 (49.46-2.70)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.18 (at 2.69Å)	Xtriage
Refinement program	PHENIX 1.21_5207	Depositor
R, R_{free}	0.221 , 0.268 0.228 , 0.271	Depositor DCC
R_{free} test set	1855 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å^2)	79.8	Xtriage
Anisotropy	0.396	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 93.4	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	7953	wwPDB-VP
Average B, all atoms (Å^2)	116.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.20% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, IHP, A1BBA, ZN, 8AZ

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	0.83	3/3092 (0.1%)	0.96	7/4178 (0.2%)
1	B	0.51	0/3523	0.76	0/4755
2	C	1.00	0/740	1.80	28/1151 (2.4%)
3	D	1.09	1/727 (0.1%)	1.77	28/1128 (2.5%)
All	All	0.76	4/8082 (0.0%)	1.11	63/11212 (0.6%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	22	G	C6-O6	-6.98	1.17	1.24
1	A	658	TYR	CE1-CZ	5.99	1.46	1.38
1	A	516	CYS	CB-SG	5.51	1.91	1.82
1	A	457	PHE	CB-CG	-5.20	1.42	1.51

The worst 5 of 63 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	10	G	N1-C6-O6	10.85	126.41	119.90
2	C	20	U	O5'-P-OP2	-9.42	97.22	105.70
3	D	22	G	C2-N3-C4	9.04	116.42	111.90
2	C	12	G	O4'-C1'-N9	8.88	115.30	108.20
2	C	12	G	O5'-P-OP2	-8.25	98.27	105.70

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	3027	0	3064	104	0
1	B	3455	0	3497	150	0
2	C	685	0	337	27	0
3	D	677	0	339	8	0
4	A	36	0	6	1	0
4	B	36	0	6	6	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
6	A	1	0	0	0	0
7	A	22	0	0	2	0
7	B	4	0	0	1	0
7	C	6	0	0	0	0
7	D	2	0	0	0	0
All	All	7953	0	7249	273	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 18.

The worst 5 of 273 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:B:476:ALA:O	1:B:477:ARG:NH1	2.04	0.90
1:A:424:SER:O	1:A:437:LYS:NZ	2.08	0.87
1:B:327:VAL:HG21	1:B:546:ILE:HG13	1.57	0.86
1:B:235:ASN:ND2	3:D:8:A:O2'	2.13	0.82
1:B:412:GLU:O	1:B:416:ASN:HB2	1.79	0.81

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	383/487 (79%)	364 (95%)	18 (5%)	1 (0%)	37 61
1	B	436/487 (90%)	404 (93%)	31 (7%)	1 (0%)	44 68
All	All	819/974 (84%)	768 (94%)	49 (6%)	2 (0%)	44 68

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	495	SER
1	A	467	PRO

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	330/415 (80%)	296 (90%)	34 (10%)	6 14
1	B	377/415 (91%)	330 (88%)	47 (12%)	3 9
All	All	707/830 (85%)	626 (88%)	81 (12%)	4 11

5 of 81 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	386	ARG
1	B	570	LEU
1	B	415	LEU
1	B	449	SER
1	B	607	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	391	ASN
1	B	488	GLN
1	B	586	ASN
1	B	601	ASN
1	B	694	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	C	30/32 (93%)	4 (13%)	0
3	D	30/32 (93%)	4 (13%)	0
All	All	60/64 (93%)	8 (13%)	0

5 of 8 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	C	6	C
2	C	8	A
2	C	29	U
2	C	32	G
3	D	2	G

There are no RNA pucker outliers to report.

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

2 non-standard protein/DNA/RNA residues 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	$\#\|Z\| > 2$
2	8AZ	C	13	5,2	16,24,25	2.68	5 (31%)	12,35,38	1.75	4 (33%)
3	A1BBA	D	21	3	23,26,27	1.90	4 (17%)	33,38,41	1.83	10 (30%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	8AZ	C	13	5,2	-	2/3/35/36	0/3/3/3
3	A1BBA	D	21	3	-	0/7/21/22	0/3/3/3

The worst 5 of 9 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	13	8AZ	C2-N1	7.59	1.47	1.34
3	D	21	A1BBA	C3-C4	5.86	1.49	1.41
3	D	21	A1BBA	C4-C5	4.99	1.47	1.40
2	C	13	8AZ	N7-N8	4.29	1.42	1.34
2	C	13	8AZ	C2-N3	3.48	1.35	1.29

The worst 5 of 14 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	D	21	A1BBA	C6-C1-C2	3.74	123.19	118.09
3	D	21	A1BBA	C4-C3-C23	-3.63	115.92	119.42
2	C	13	8AZ	N1-C2-N3	-3.39	118.42	125.78
3	D	21	A1BBA	C19-C5-C4	3.32	124.99	121.02
3	D	21	A1BBA	C3-C23-N22	3.23	118.34	114.93

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	C	13	8AZ	O4'-C4'-C5'-O5'
2	C	13	8AZ	C3'-C4'-C5'-O5'

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	13	8AZ	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 5 ligands modelled in this entry, 3 are monoatomic - leaving 2 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	$\#\|Z\| > 2$
4	IHP	A	801	6	36,36,36	0.77	1 (2%)	60,60,60	1.51	11 (18%)
4	IHP	B	801	-	36,36,36	0.81	0	60,60,60	0.86	2 (3%)

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
4	IHP	A	801	6	-	1/30/54/54	0/1/1/1
4	IHP	B	801	-	-	2/30/54/54	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	801	IHP	P2-O22	2.36	1.57	1.50

The worst 5 of 13 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	801	IHP	O15-P5-O25	-4.93	91.76	109.33
4	A	801	IHP	O42-P2-O12	-3.13	93.65	105.85
4	A	801	IHP	O11-P1-O21	-3.12	98.20	109.33
4	A	801	IHP	O44-P4-O14	3.00	117.53	105.85
4	A	801	IHP	P1-O11-C1	-2.95	115.54	123.43

There are no chirality outliers.

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	B	801	IHP	C2-O12-P2-O32
4	A	801	IHP	C4-O14-P4-O34
4	B	801	IHP	C6-O16-P6-O36

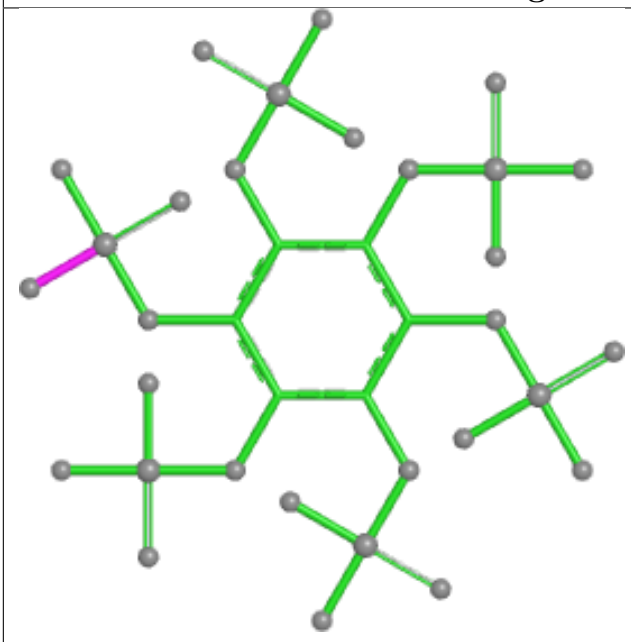
There are no ring outliers.

2 monomers are involved in 7 short contacts:

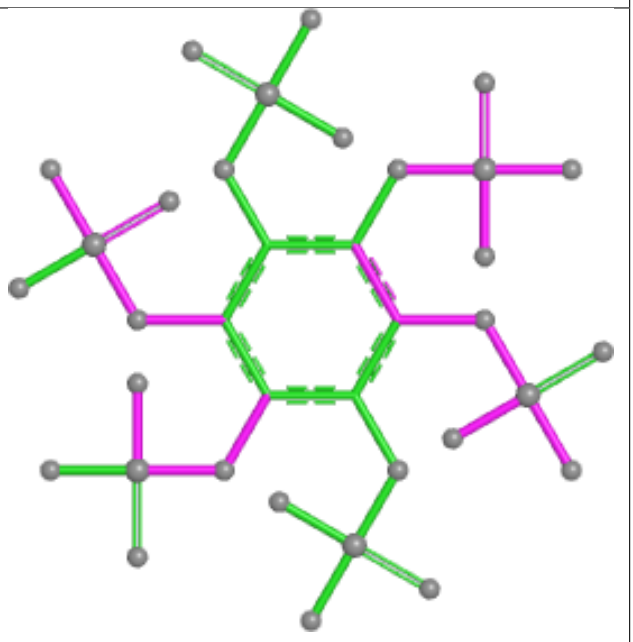
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	801	IHP	1	0
4	B	801	IHP	6	0

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 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.

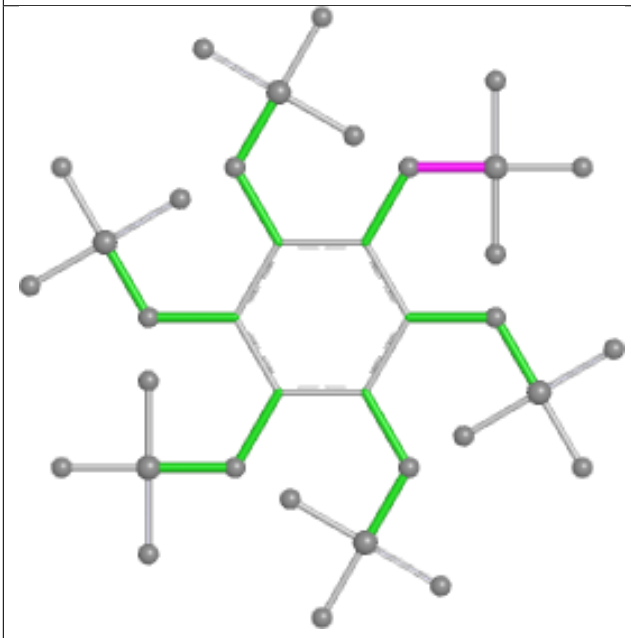
Ligand IHP A 801



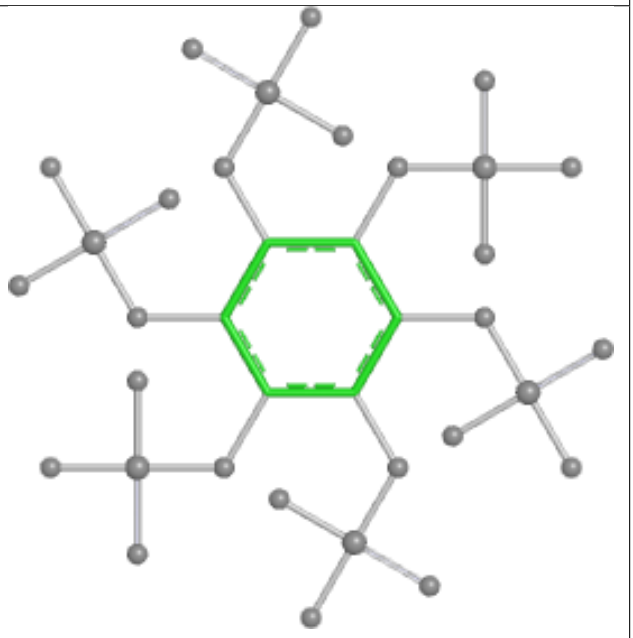
Bond lengths



Bond angles

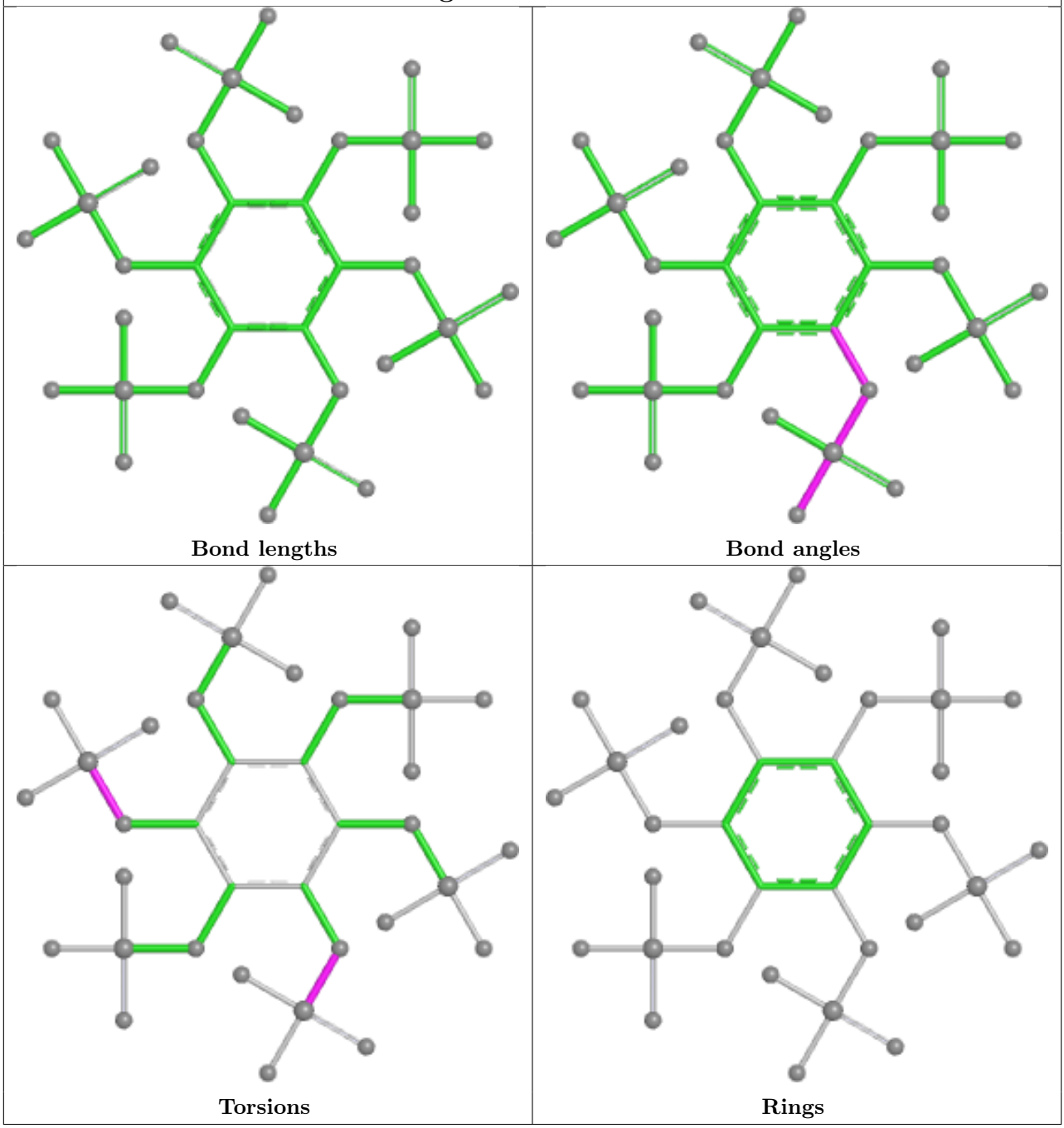


Torsions



Rings

Ligand IHP B 801



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, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	384/487 (78%)	-0.10	7 (1%) 67 67	57, 81, 134, 231	1 (0%)
1	B	442/487 (90%)	0.09	7 (1%) 70 70	83, 136, 191, 236	0
2	C	31/32 (96%)	-0.72	0 100 100	76, 117, 170, 171	0
3	D	31/32 (96%)	-0.76	0 100 100	73, 129, 162, 163	0
All	All	888/1038 (85%)	-0.05	14 (1%) 70 70	57, 111, 184, 236	1 (0%)

The worst 5 of 14 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	663	LEU	3.5
1	A	507	GLN	2.9
1	B	621	LEU	2.8
1	A	497	ALA	2.6
1	A	463	ILE	2.5

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	A1BBA	D	21	24/25	0.95	0.09	75,78,92,98	0
2	8AZ	C	13	22/23	0.96	0.07	64,70,72,73	0

6.3 Carbohydrates

There are no monosaccharides in this entry.

6.4 Ligands (i)

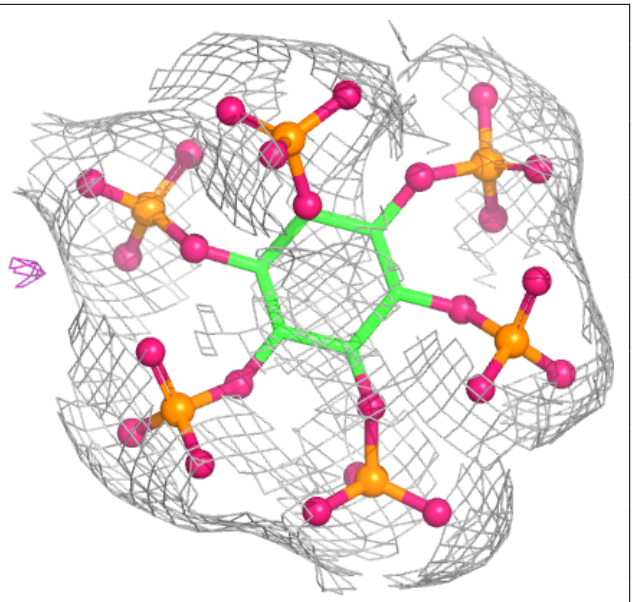
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

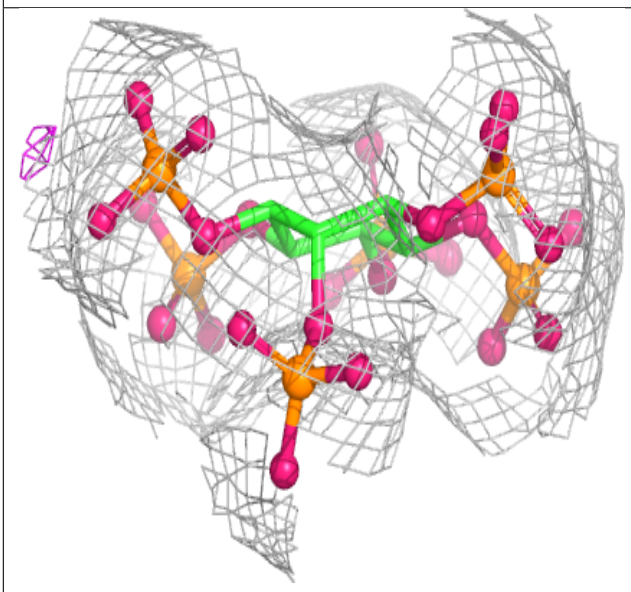
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	IHP	B	801	36/36	0.94	0.06	105,119,128,131	0
6	MG	A	803	1/1	0.94	0.07	82,82,82,82	0
4	IHP	A	801	36/36	0.96	0.06	54,65,70,87	0
5	ZN	A	802	1/1	0.99	0.03	63,63,63,63	0
5	ZN	B	802	1/1	1.00	0.03	79,79,79,79	0

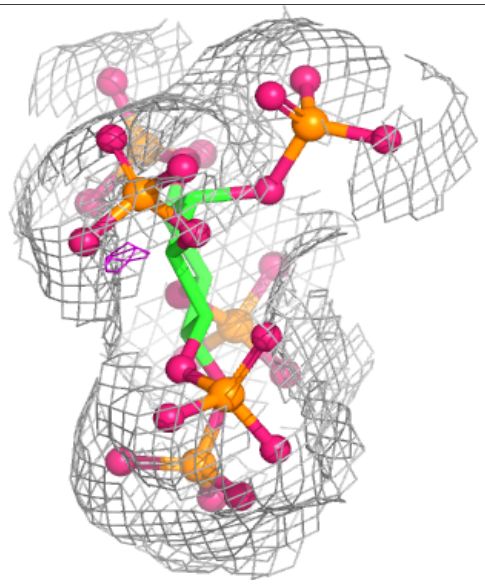
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around IHP B 801:

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

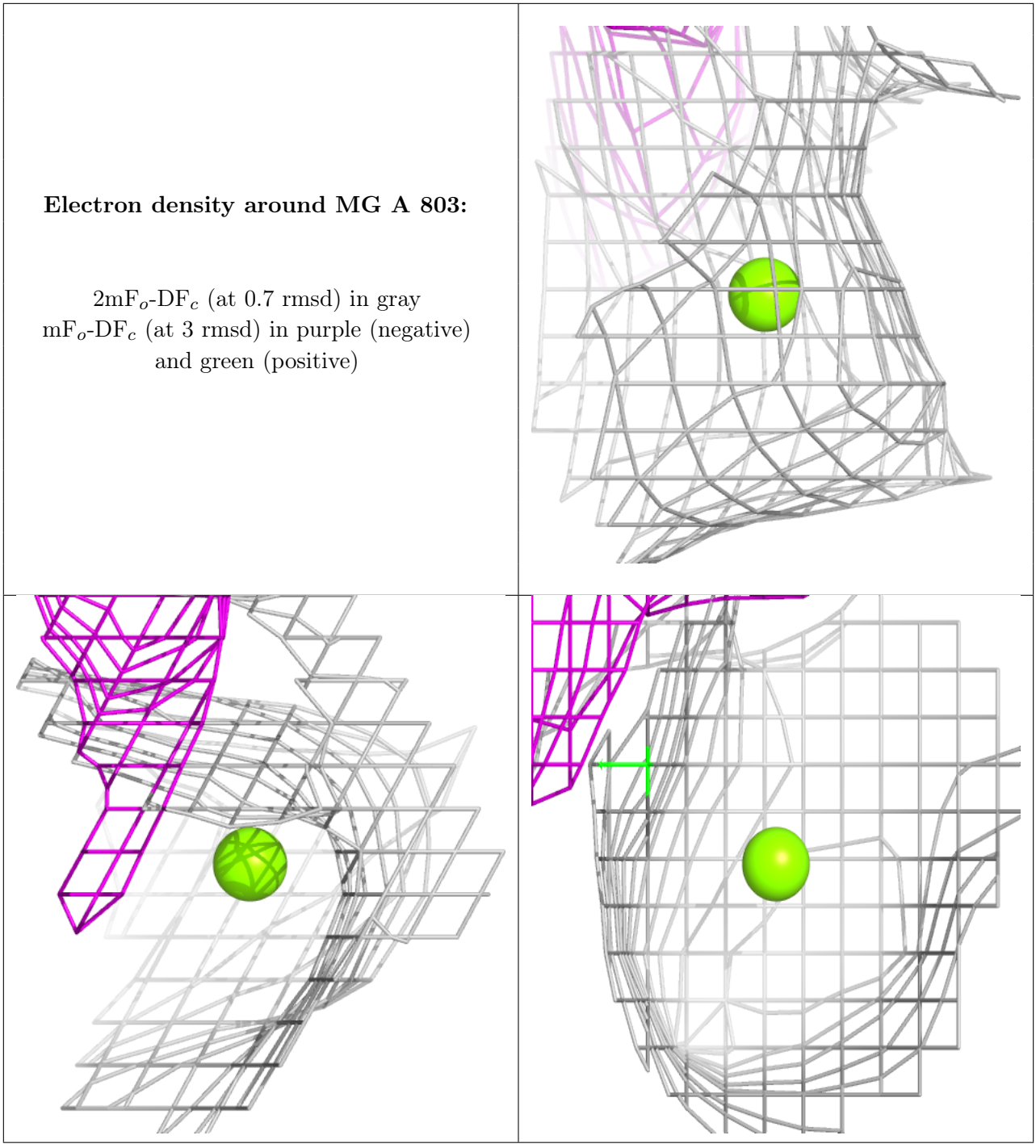






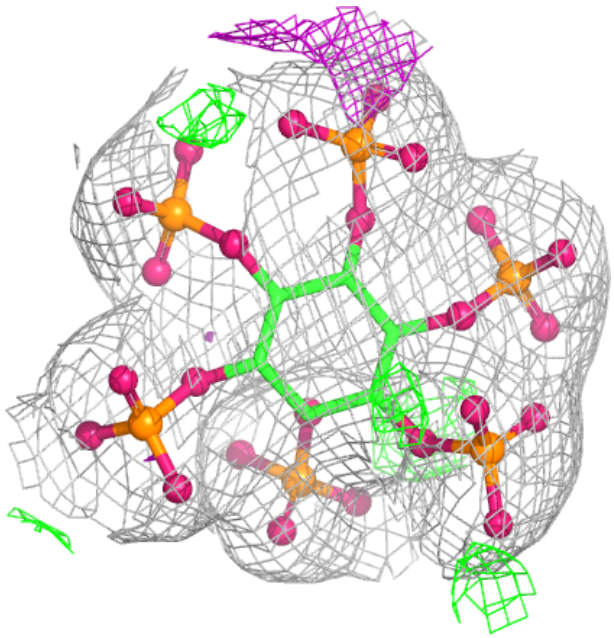
Electron density around MG A 803:

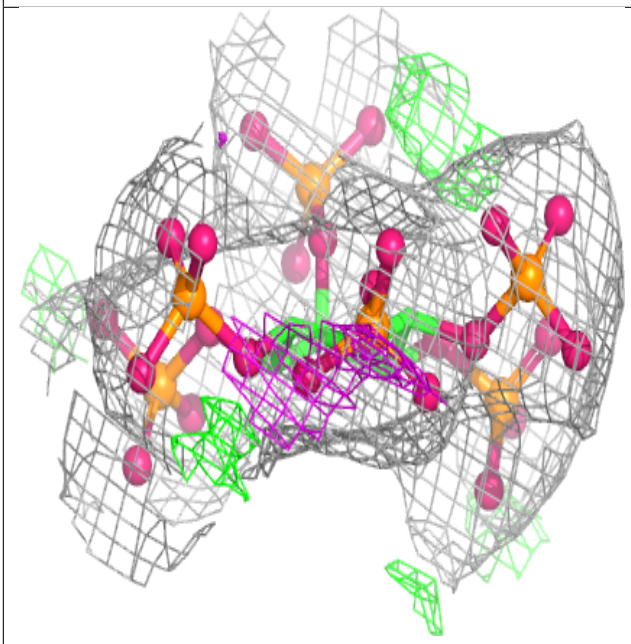
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

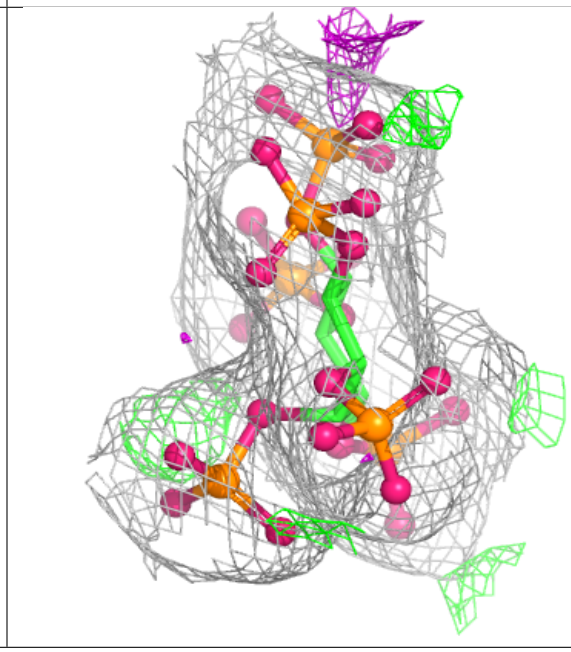


Electron density around IHP A 801:

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

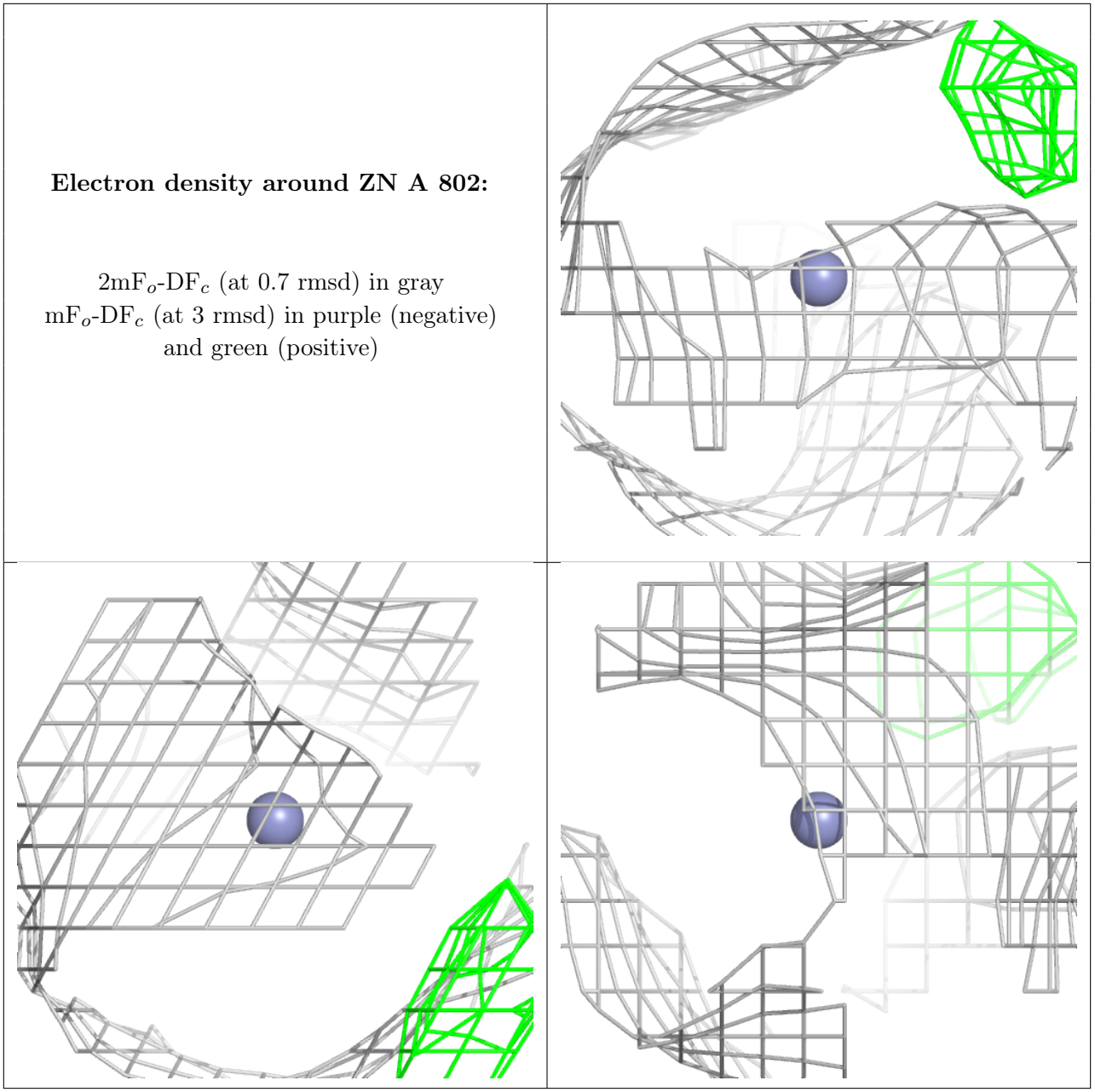






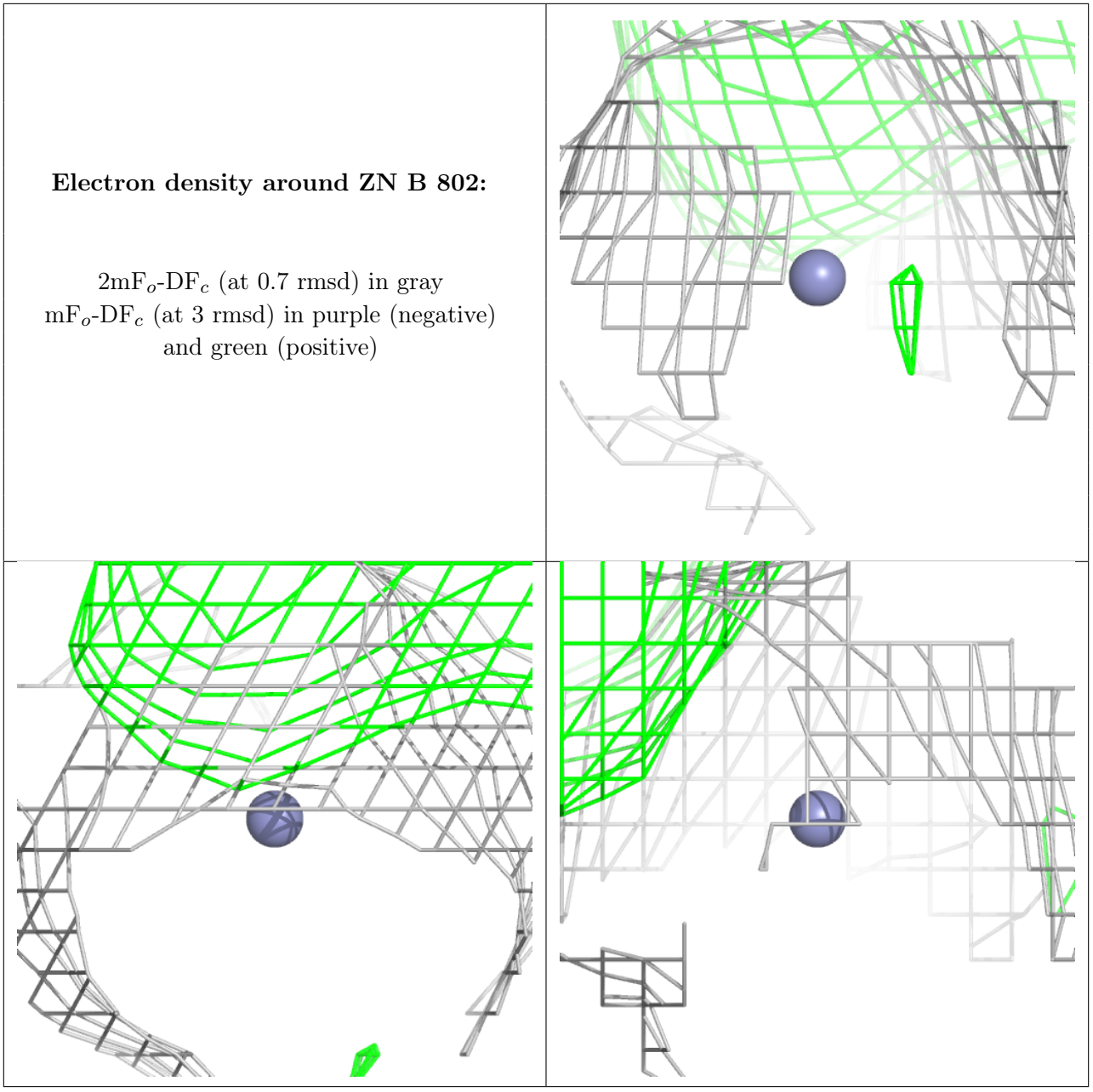
Electron density around ZN A 802:

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



Electron density around ZN B 802:

$2mF_o$-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.