



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 20, 2026 – 06:23 AM UTC

PDB ID : 5HDT / pdb_00005hdt
Title : Human cohesin regulator Pds5B bound to a Wapl peptide
Authors : Ouyang, Z.; Tomchick, D.R.; Yu, H.
Deposited on : 2016-01-05
Resolution : 2.71 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 : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

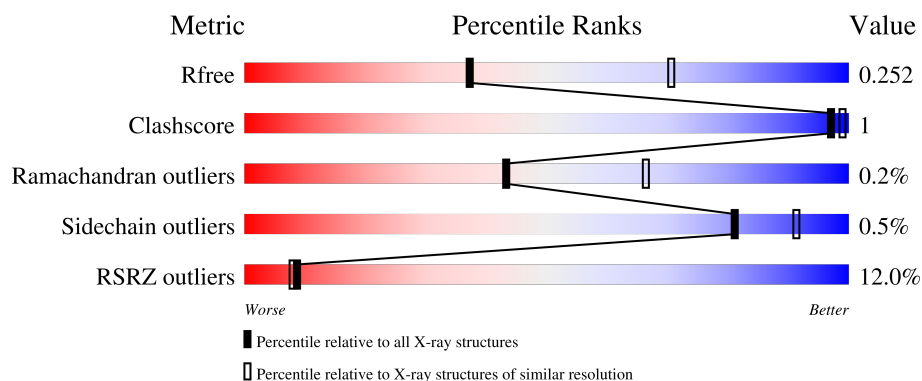
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.71 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}	180053	4348 (2.74-2.70)
Clashscore	190562	4665 (2.74-2.70)
Ramachandran outliers	187476	4584 (2.74-2.70)
Sidechain outliers	187428	4585 (2.74-2.70)
RSRZ outliers	180081	4348 (2.74-2.70)

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	1111	<div> <div>5%</div> <div>95%</div> <div>..</div> </div>
1	B	1111	<div> <div>17%</div> <div>93%</div> <div>..</div> </div>
2	E	33	<div> <div>12%</div> <div>15%</div> <div>85%</div> </div>

2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 35400 atoms, of which 17896 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 Sister chromatid cohesion protein PDS5 homolog B.

Mol	Chain	Residues	Atoms								ZeroOcc	AltConf	Trace
1	A	1085	Total	C	H	N	O	S	Se		0	0	0
			17689	5589	8955	1490	1599	22	34				
1	B	1073	Total	C	H	N	O	S	Se		0	0	0
			17536	5543	8883	1475	1579	22	34				

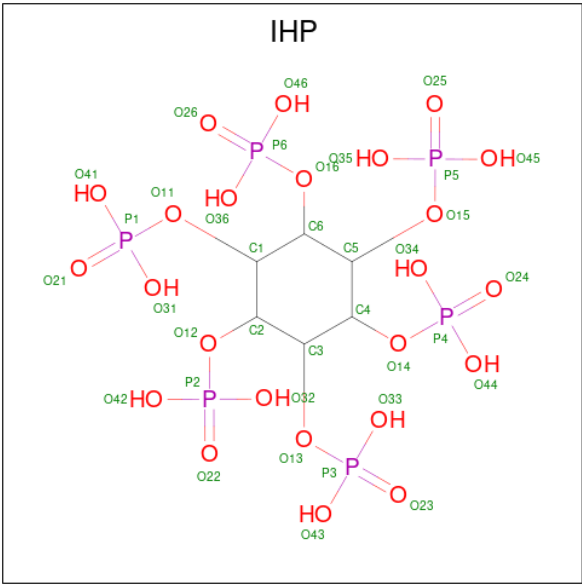
There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	10	GLY	-	expression tag	UNP Q9NTI5
A	11	ALA	-	expression tag	UNP Q9NTI5
A	12	MSE	-	expression tag	UNP Q9NTI5
A	13	ASP	-	expression tag	UNP Q9NTI5
A	14	PRO	-	expression tag	UNP Q9NTI5
A	15	GLU	-	expression tag	UNP Q9NTI5
A	16	PHE	-	expression tag	UNP Q9NTI5
A	17	GLY	-	expression tag	UNP Q9NTI5
A	18	ARG	-	expression tag	UNP Q9NTI5
A	19	PRO	-	expression tag	UNP Q9NTI5
A	20	MSE	-	expression tag	UNP Q9NTI5
A	97	HIS	TYR	engineered mutation	UNP Q9NTI5
B	10	GLY	-	expression tag	UNP Q9NTI5
B	11	ALA	-	expression tag	UNP Q9NTI5
B	12	MSE	-	expression tag	UNP Q9NTI5
B	13	ASP	-	expression tag	UNP Q9NTI5
B	14	PRO	-	expression tag	UNP Q9NTI5
B	15	GLU	-	expression tag	UNP Q9NTI5
B	16	PHE	-	expression tag	UNP Q9NTI5
B	17	GLY	-	expression tag	UNP Q9NTI5
B	18	ARG	-	expression tag	UNP Q9NTI5
B	19	PRO	-	expression tag	UNP Q9NTI5
B	20	MSE	-	expression tag	UNP Q9NTI5
B	97	HIS	TYR	engineered mutation	UNP Q9NTI5

- Molecule 2 is a protein called Wings apart-like protein homolog.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	E	5	Total	C	H	N	O	0	0	0
			91	28	46	9	8			

- Molecule 3 is INOSITOL HEXAKISPHOSPHATE (CCD ID: IHP) (formula: C₆H₁₈O₂₄P₆).

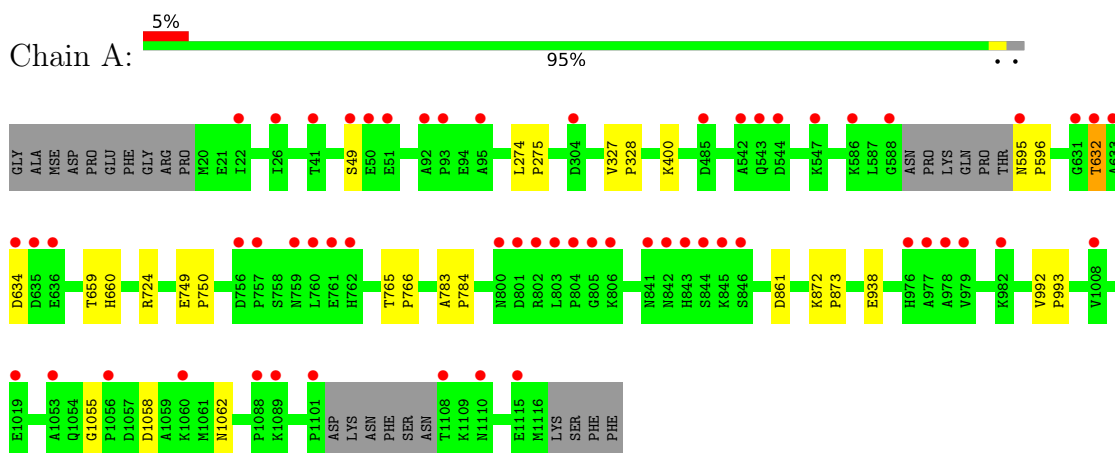


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	H	O	P	0	0
			42	6	6	24	6		
3	B	1	Total	C	H	O	P	0	0
			42	6	6	24	6		

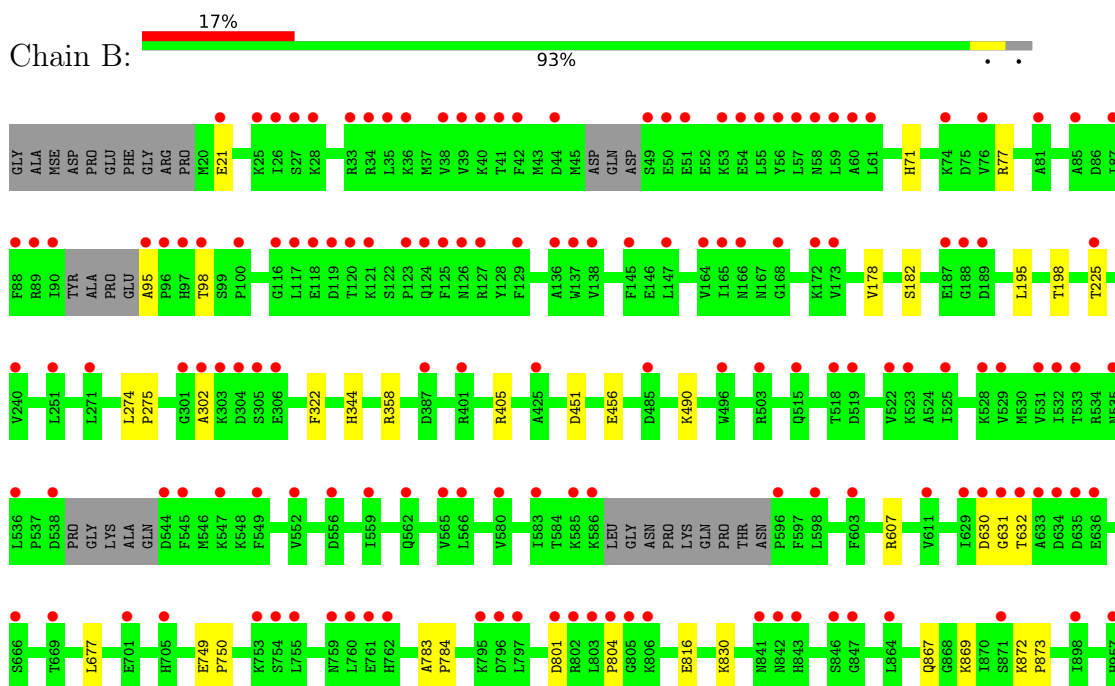
3 Residue-property plots [i](#)

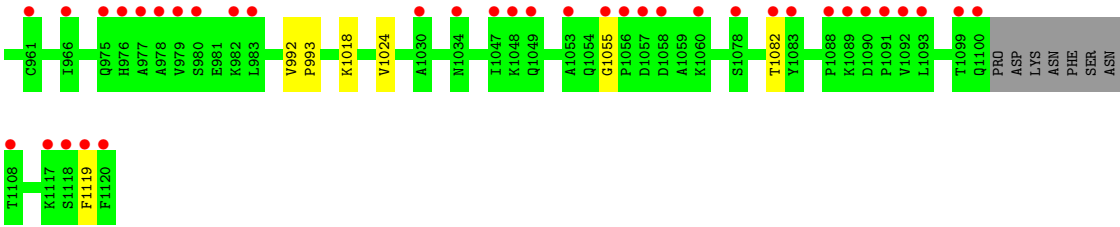
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: Sister chromatid cohesion protein PDS5 homolog B

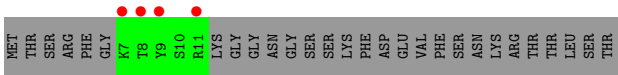


- Molecule 1: Sister chromatid cohesion protein PDS5 homolog B





• Molecule 2: Wings apart-like protein homolog



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	120.76Å 162.37Å 173.06Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.60 – 2.71 40.60 – 2.71	Depositor EDS
% Data completeness (in resolution range)	87.4 (40.60-2.71) 87.4 (40.60-2.71)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.10 (at 2.73Å)	Xtriage
Refinement program	PHENIX 1.9_1692	Depositor
R, R_{free}	0.216 , 0.253 0.220 , 0.252	Depositor DCC
R_{free} test set	1992 reflections (2.15%)	wwPDB-VP
Wilson B-factor (Å ²)	41.7	Xtriage
Anisotropy	0.123	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.37 , 41.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	35400	wwPDB-VP
Average B, all atoms (Å ²)	57.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.15% 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: IHP

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	0.30	0/8870	0.62	0/11929
1	B	0.29	0/8784	0.61	0/11801
2	E	0.19	0/45	0.47	0/58
All	All	0.30	0/17699	0.61	0/23788

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

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	8734	8955	8955	13	0
1	B	8653	8883	8883	18	0
2	E	45	46	46	0	0
3	A	36	6	5	1	0
3	B	36	6	5	1	0
All	All	17504	17896	17894	31	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 1.

All (31) 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:322:PHE:O	1:B:358:ARG:NH1	2.29	0.65
1:B:405:ARG:NH2	1:B:451:ASP:OD1	2.34	0.61
1:B:1018:LYS:NZ	1:B:1119:PHE:O	2.40	0.53
1:A:1058:ASP:O	1:A:1062:ASN:ND2	2.41	0.53
1:B:71:HIS:O	1:B:77:ARG:NH1	2.42	0.53
1:A:724:ARG:NH2	3:A:1201:IHP:O26	2.43	0.52
1:A:659:THR:OG1	1:A:660:HIS:ND1	2.38	0.51
1:B:302:ALA:O	1:B:344:HIS:NE2	2.41	0.50
1:B:630:ASP:O	1:B:632:THR:N	2.45	0.49
1:B:178:VAL:O	1:B:182:SER:OG	2.27	0.48
1:A:749:GLU:HB2	1:A:750:PRO:HD3	1.98	0.46
1:A:632:THR:HG23	1:A:634:ASP:H	1.81	0.46
1:B:95:ALA:O	1:B:98:THR:OG1	2.31	0.45
1:B:872:LYS:HB2	1:B:873:PRO:HD3	1.99	0.45
1:B:992:VAL:HB	1:B:993:PRO:HD3	1.99	0.45
1:A:992:VAL:HB	1:A:993:PRO:HD3	1.99	0.44
1:B:816:GLU:OE1	1:B:816:GLU:N	2.48	0.43
1:A:783:ALA:HB3	1:A:784:PRO:HD3	2.01	0.43
1:B:456:GLU:OE1	1:B:607:ARG:NH1	2.52	0.42
1:B:749:GLU:HB3	1:B:750:PRO:HD3	2.00	0.42
1:A:274:LEU:HB2	1:A:275:PRO:HD3	2.02	0.42
1:B:195:LEU:O	1:B:198:THR:OG1	2.37	0.42
1:A:327:VAL:HB	1:A:328:PRO:HD3	2.02	0.42
1:A:595:ASN:HB3	1:A:596:PRO:HD3	2.02	0.42
1:B:274:LEU:HB2	1:B:275:PRO:HD3	2.02	0.41
1:B:783:ALA:HB3	1:B:784:PRO:HD3	2.02	0.41
1:A:765:THR:HB	1:A:766:PRO:HD3	2.02	0.41
1:B:867:GLN:O	1:B:869:LYS:N	2.50	0.41
1:A:400:LYS:N	1:A:400:LYS:HD2	2.36	0.41
1:B:830:LYS:NZ	3:B:1201:IHP:O35	2.50	0.40
1:A:872:LYS:HB2	1:A:873:PRO:HD3	2.04	0.40

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	1079/1111 (97%)	1052 (98%)	25 (2%)	2 (0%)	43	66
1	B	1061/1111 (96%)	1028 (97%)	30 (3%)	3 (0%)	36	59
2	E	3/33 (9%)	3 (100%)	0	0	100	100
All	All	2143/2255 (95%)	2083 (97%)	55 (3%)	5 (0%)	43	66

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	49	SER
1	B	804	PRO
1	B	1055	GLY
1	B	631	GLY
1	A	1055	GLY

5.3.2 Protein sidechains ⓘ

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	981/969 (101%)	978 (100%)	3 (0%)	86	93
1	B	973/969 (100%)	966 (99%)	7 (1%)	76	89
2	E	5/29 (17%)	5 (100%)	0	100	100
All	All	1959/1967 (100%)	1949 (100%)	10 (0%)	81	91

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	632	THR
1	A	861	ASP
1	A	938	GLU
1	B	21	GLU

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Mol	Chain	Res	Type
1	B	225	THR
1	B	490	LYS
1	B	677	LEU
1	B	801	ASP
1	B	1024	VAL
1	B	1082	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (12) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	113	GLN
1	A	193	GLN
1	A	543	GLN
1	A	562	GLN
1	A	997	HIS
1	B	71	HIS
1	B	113	GLN
1	B	174	HIS
1	B	202	ASN
1	B	442	HIS
1	B	562	GLN
1	B	716	HIS

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 ⓘ

2 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	IHP	A	1201	-	36,36,36	0.71	0	60,60,60	1.56	9 (15%)
3	IHP	B	1201	-	36,36,36	0.68	0	60,60,60	1.56	8 (13%)

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	IHP	A	1201	-	-	7/30/54/54	0/1/1/1
3	IHP	B	1201	-	-	2/30/54/54	0/1/1/1

There are no bond length outliers.

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	1201	IHP	O15-C5-C4	5.47	120.39	108.76
3	B	1201	IHP	O15-C5-C4	5.10	119.61	108.76
3	A	1201	IHP	O15-C5-C6	4.93	119.25	108.76
3	B	1201	IHP	O15-C5-C6	4.85	119.08	108.76
3	B	1201	IHP	C6-C5-C4	4.70	120.73	110.43
3	A	1201	IHP	C6-C5-C4	4.34	119.96	110.43
3	B	1201	IHP	C6-C1-C2	3.95	119.09	110.43
3	A	1201	IHP	C6-C1-C2	3.76	118.68	110.43
3	A	1201	IHP	C3-C2-C1	3.25	117.55	110.43
3	B	1201	IHP	C3-C2-C1	3.03	117.08	110.43
3	A	1201	IHP	P5-O15-C5	-2.67	116.29	123.43
3	B	1201	IHP	C4-C3-C2	2.62	116.18	110.43
3	B	1201	IHP	P5-O15-C5	-2.60	116.49	123.43
3	A	1201	IHP	P1-O11-C1	-2.54	116.65	123.43
3	B	1201	IHP	P3-O13-C3	-2.41	116.99	123.43
3	A	1201	IHP	C4-C3-C2	2.23	115.31	110.43
3	A	1201	IHP	C5-C4-C3	-2.00	106.03	110.43

There are no chirality outliers.

All (9) torsion outliers are listed below:

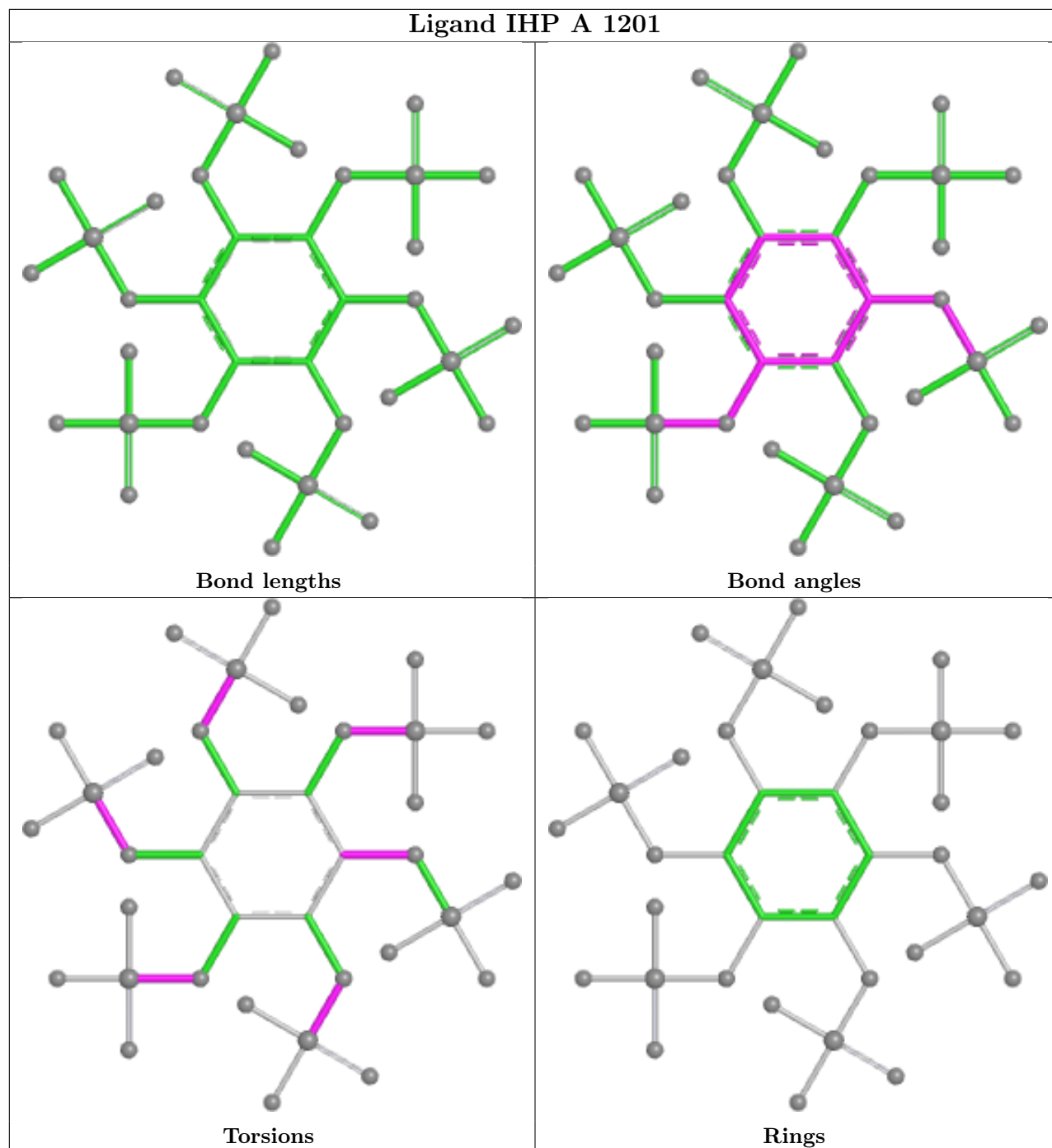
Mol	Chain	Res	Type	Atoms
3	A	1201	IHP	C6-C5-O15-P5
3	B	1201	IHP	C6-C5-O15-P5
3	A	1201	IHP	C2-O12-P2-O22
3	A	1201	IHP	C1-O11-P1-O41
3	A	1201	IHP	C4-O14-P4-O44
3	B	1201	IHP	C2-O12-P2-O32
3	A	1201	IHP	C3-O13-P3-O23
3	A	1201	IHP	C3-O13-P3-O43
3	A	1201	IHP	C6-O16-P6-O26

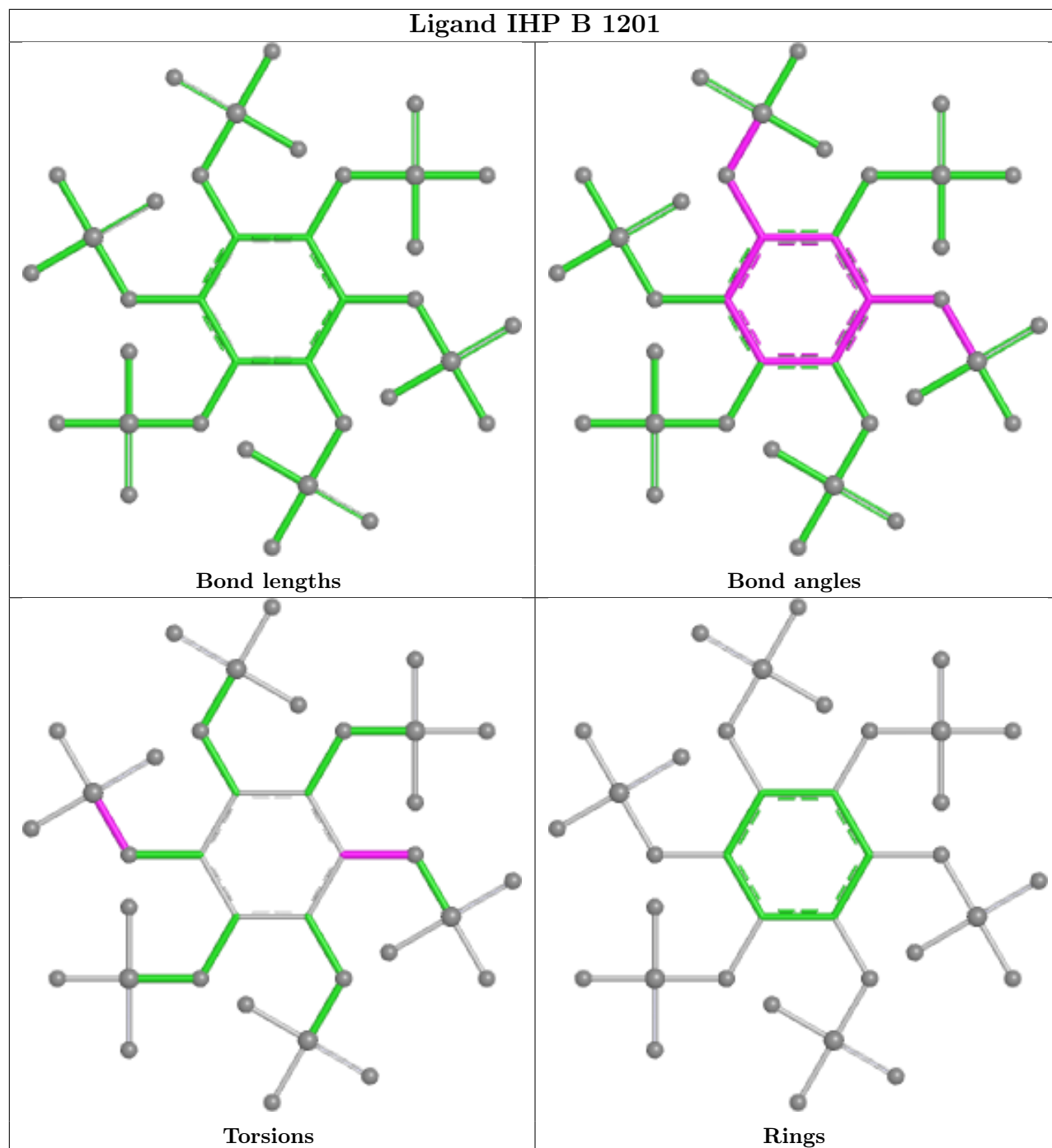
There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	1201	IHP	1	0
3	B	1201	IHP	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	1051/1111 (94%)	0.07	59 (5%) 30 27	11, 37, 97, 193	0
1	B	1039/1111 (93%)	0.89	188 (18%) 3 3	15, 61, 135, 266	0
2	E	5/33 (15%)	3.10	4 (80%) 0 0	93, 93, 106, 110	0
All	All	2095/2255 (92%)	0.49	251 (11%) 9 8	11, 48, 124, 266	0

All (251) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	56	TYR	7.9
1	A	803	LEU	7.3
1	B	57	LEU	7.1
1	B	634	ASP	6.9
1	B	529	VAL	6.8
1	A	1056	PRO	6.4
1	B	633	ALA	6.4
1	B	305	SER	6.3
1	B	55	LEU	6.1
1	A	632	THR	5.9
1	B	631	GLY	5.8
1	B	596	PRO	5.7
1	B	96	PRO	5.5
1	B	635	ASP	5.4
1	A	633	ALA	5.3
1	B	125	PHE	5.2
1	B	979	VAL	5.2
1	B	1056	PRO	5.1
1	B	138	VAL	5.0
1	B	630	ASP	5.0
1	B	525	ILE	4.9
1	B	977	ALA	4.9
1	B	760	LEU	4.8

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Mol	Chain	Res	Type	RSRZ
1	B	95	ALA	4.8
1	B	533	THR	4.7
1	B	632	THR	4.7
1	B	302	ALA	4.6
1	B	496	TRP	4.5
1	B	522	VAL	4.5
1	B	36	LYS	4.5
1	A	802	ARG	4.5
1	B	1092	VAL	4.5
1	B	978	ALA	4.4
1	B	137	TRP	4.4
1	B	538	ASP	4.3
1	A	760	LEU	4.3
1	A	801	ASP	4.3
1	A	49	SER	4.3
1	B	118	GLU	4.3
2	E	7	LYS	4.2
1	A	979	VAL	4.2
1	B	805	GLY	4.2
1	B	165	ILE	4.2
1	B	803	LEU	4.2
1	B	629	ILE	4.1
1	A	805	GLY	4.1
1	B	580	VAL	4.1
1	A	757	PRO	4.1
1	B	117	LEU	4.1
1	A	977	ALA	4.1
1	B	38	VAL	4.1
1	B	98	THR	4.1
1	B	532	ILE	4.0
1	A	841	ASN	4.0
1	B	425	ALA	4.0
1	B	1089	LYS	4.0
1	B	188	GLY	4.0
1	A	844	SER	4.0
1	B	54	GLU	3.9
1	B	187	GLU	3.9
1	B	126	ASN	3.9
1	A	1101	PRO	3.9
1	A	92	ALA	3.8
1	B	549	PHE	3.8
1	B	802	ARG	3.8

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Mol	Chain	Res	Type	RSRZ
1	B	1049	GLN	3.8
1	B	42	PHE	3.8
1	B	603	PHE	3.7
1	A	1108	THR	3.7
1	B	898	ILE	3.7
1	B	804	PRO	3.7
1	B	124	GLN	3.6
1	A	635	ASP	3.6
1	B	515	GLN	3.6
1	B	1048	LYS	3.6
1	B	864	LEU	3.5
1	A	843	HIS	3.5
1	B	304	ASP	3.5
1	B	164	VAL	3.5
1	B	976	HIS	3.4
2	E	11	ARG	3.4
2	E	9	TYR	3.4
1	A	543	GLN	3.4
1	B	531	VAL	3.4
1	B	58	ASN	3.4
1	B	565	VAL	3.4
1	B	90	ILE	3.4
1	B	761	GLU	3.4
1	A	1053	ALA	3.4
1	B	1088	PRO	3.3
1	B	544	ASP	3.3
1	B	801	ASP	3.3
1	A	1088	PRO	3.3
1	B	583	ILE	3.3
1	B	754	SER	3.2
1	B	123	PRO	3.2
1	B	806	LYS	3.2
1	B	49	SER	3.2
1	B	26	ILE	3.2
1	B	842	ASN	3.2
1	B	586	LYS	3.2
1	B	518	THR	3.2
1	B	762	HIS	3.2
1	A	634	ASP	3.1
1	B	759	ASN	3.1
1	B	1090	ASP	3.1
1	A	804	PRO	3.1

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Mol	Chain	Res	Type	RSRZ
1	B	120	THR	3.1
1	B	301	GLY	3.1
1	A	26	ILE	3.1
1	A	978	ALA	3.1
1	B	485	ASP	3.1
1	A	842	ASN	3.0
1	B	535	ASN	3.0
1	A	845	LYS	3.0
1	B	121	LYS	3.0
1	B	796	ASP	3.0
1	B	755	LEU	3.0
1	B	97	HIS	3.0
1	B	982	LYS	3.0
1	B	1083	TYR	3.0
1	A	762	HIS	2.9
1	A	976	HIS	2.9
1	B	100	PRO	2.9
1	B	189	ASP	2.9
1	B	59	LEU	2.9
1	A	761	GLU	2.9
1	B	1117	LYS	2.9
1	B	127	ARG	2.9
1	A	51	GLU	2.9
1	A	1089	LYS	2.9
1	A	485	ASP	2.9
1	B	60	ALA	2.9
1	B	983	LEU	2.9
1	B	41	THR	2.8
1	B	1119	PHE	2.8
1	A	1115	GLU	2.8
1	B	28	LYS	2.8
1	B	303	LYS	2.8
1	B	1047	ILE	2.8
1	A	588	GLY	2.8
1	A	631	GLY	2.8
1	B	116	GLY	2.7
1	B	39	VAL	2.7
1	B	846	SER	2.7
1	B	975	GLN	2.7
1	B	401	ARG	2.7
1	B	1118	SER	2.7
1	B	240	VAL	2.7

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Mol	Chain	Res	Type	RSRZ
1	B	566	LEU	2.7
1	B	306	GLU	2.7
1	B	40	LYS	2.7
1	B	545	PHE	2.7
1	B	562	GLN	2.6
1	B	1060	LYS	2.6
2	E	8	THR	2.6
1	B	1100	GLN	2.6
1	B	1093	LEU	2.6
1	A	846	SER	2.6
1	B	871	SER	2.6
1	B	119	ASP	2.6
1	B	74	LYS	2.6
1	B	841	ASN	2.6
1	B	528	LYS	2.5
1	B	44	ASP	2.5
1	B	559	ILE	2.5
1	B	35	LEU	2.5
1	B	147	LEU	2.5
1	A	759	ASN	2.5
1	B	556	ASP	2.5
1	B	51	GLU	2.5
1	B	1108	THR	2.5
1	B	145	PHE	2.5
1	B	166	ASN	2.4
1	B	87	ILE	2.4
1	B	53	LYS	2.4
1	B	89	ARG	2.4
1	A	1110	ASN	2.4
1	B	1099	THR	2.4
1	A	93	PRO	2.4
1	B	88	PHE	2.4
1	B	797	LEU	2.4
1	A	304	ASP	2.4
1	A	544	ASP	2.4
1	A	542	ALA	2.4
1	B	1053	ALA	2.4
1	B	536	LEU	2.3
1	A	595	ASN	2.3
1	B	843	HIS	2.3
1	B	1082	THR	2.3
1	B	1057	ASP	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	1091	PRO	2.3
1	B	61	LEU	2.3
1	A	95	ALA	2.3
1	B	25	LYS	2.3
1	B	172	LYS	2.3
1	B	753	LYS	2.3
1	B	701	GLU	2.3
1	B	636	GLU	2.2
1	B	519	ASP	2.2
1	A	806	LYS	2.2
1	A	50	GLU	2.2
1	A	636	GLU	2.2
1	B	21	GLU	2.2
1	A	586	LYS	2.2
1	A	982	LYS	2.2
1	B	34	ARG	2.2
1	A	756	ASP	2.2
1	B	847	GLY	2.2
1	B	666	SER	2.2
1	A	547	LYS	2.2
1	B	547	LYS	2.2
1	B	168	GLY	2.2
1	B	1058	ASP	2.2
1	B	611	VAL	2.2
1	B	225	THR	2.1
1	B	523	LYS	2.1
1	B	795	LYS	2.1
1	B	598	LEU	2.1
1	A	22	ILE	2.1
1	B	957	HIS	2.1
1	B	85	ALA	2.1
1	A	41	THR	2.1
1	B	27	SER	2.1
1	B	129	PHE	2.1
1	B	1120	PHE	2.1
1	B	1030	ALA	2.1
1	B	50	GLU	2.1
1	B	503	ARG	2.1
1	B	961	CYS	2.1
1	B	705	HIS	2.1
1	B	136	ALA	2.1
1	A	1060	LYS	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	585	LYS	2.1
1	B	251	LEU	2.1
1	A	800	ASN	2.1
1	B	173	VAL	2.1
1	B	552	VAL	2.1
1	B	387	ASP	2.0
1	B	980	SER	2.0
1	B	1078	SER	2.0
1	B	669	THR	2.0
1	B	271	LEU	2.0
1	A	1008	VAL	2.0
1	B	33	ARG	2.0
1	A	1019	GLU	2.0
1	B	81	ALA	2.0
1	B	966	ILE	2.0
1	B	1034	ASN	2.0
1	B	1055	GLY	2.0
1	B	76	VAL	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 oligosaccharides in this entry.

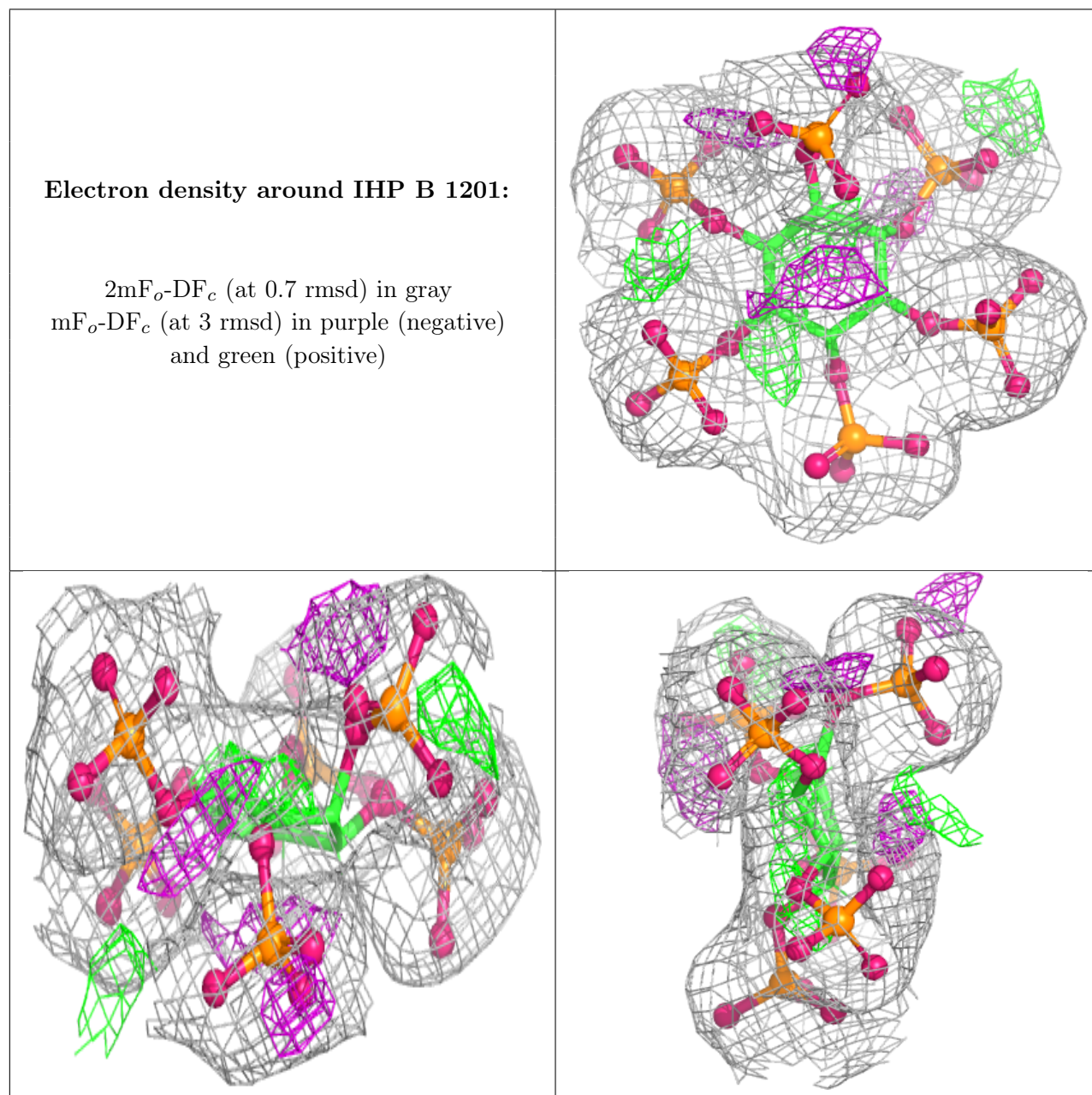
6.4 Ligands [i](#)

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
3	IHP	B	1201	36/36	0.93	0.10	16,44,80,85	0
3	IHP	A	1201	36/36	0.94	0.09	19,33,43,47	0

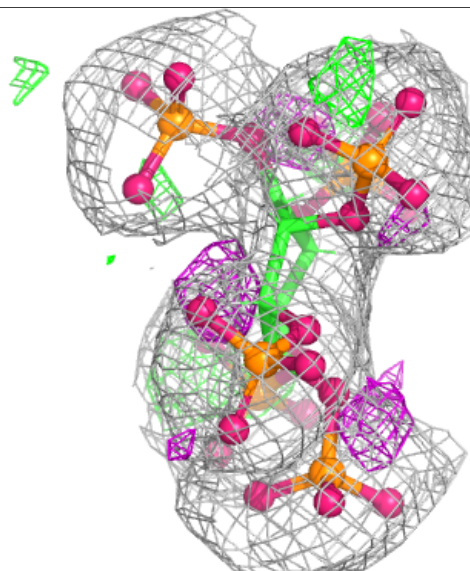
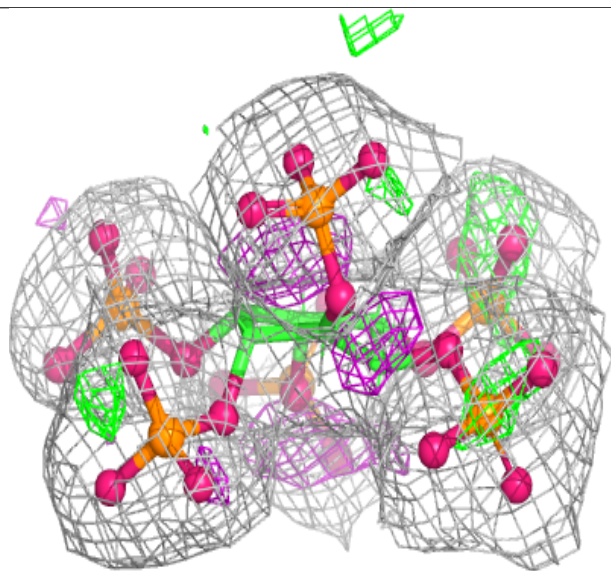
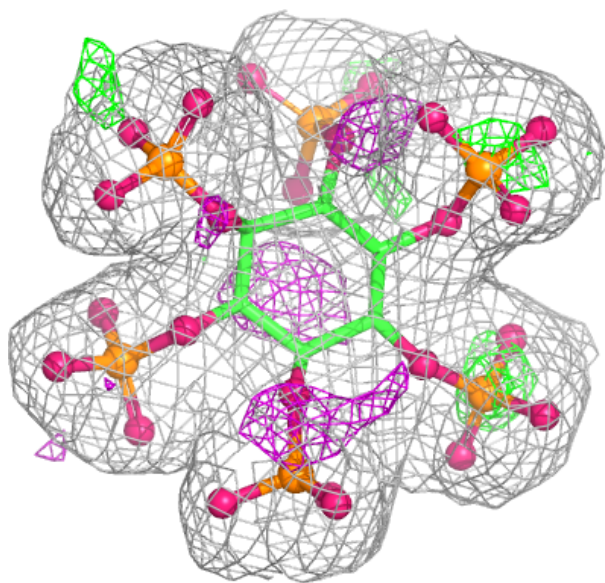
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers

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 A 1201:

$2mF_o-DF_c$ (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.