



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 12:47 PM UTC

PDB ID : 6MDD / pdb\_00006mdd  
Title : Non-receptor Protein Tyrosine Phosphatase SHP2 in Complex with Allosteric Inhibitor Imidazo-pyridine 24  
Authors : Fodor, M.; Stams, T.  
Deposited on : 2018-09-04  
Resolution : 2.05 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](mailto: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>.

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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

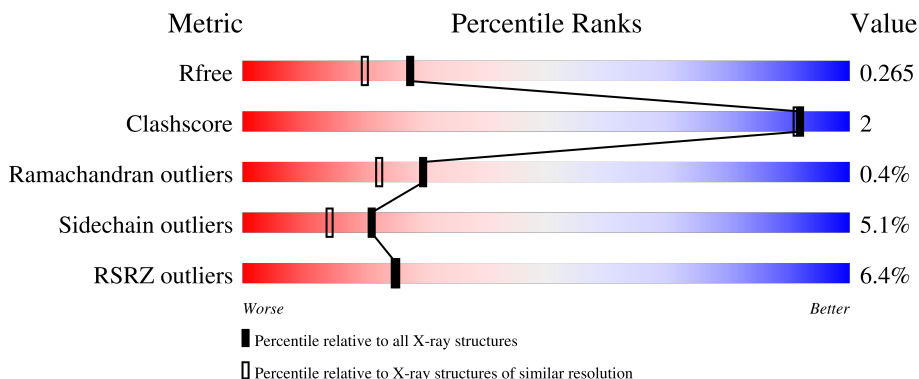
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 2.05 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	2260 (2.04-2.04)
Clashscore	190562	2333 (2.04-2.04)
Ramachandran outliers	187476	2318 (2.04-2.04)
Sidechain outliers	187428	2318 (2.04-2.04)
RSRZ outliers	180081	2260 (2.04-2.04)

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  $\geq 3$ , 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	526	<div> <div>5%</div> <div> <div></div> <div>80%</div> <div>9%</div> <div>9%</div> </div> </div>
1	B	526	<div> <div>7%</div> <div> <div></div> <div>80%</div> <div>9%</div> <div>10%</div> </div> </div>

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 7986 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.

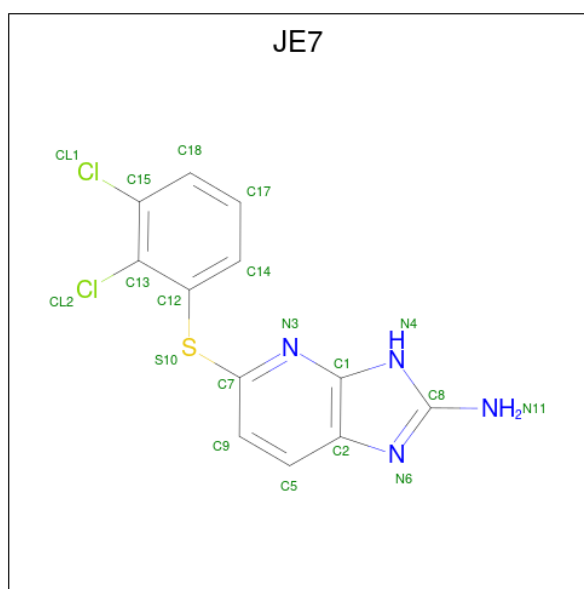
- Molecule 1 is a protein called Tyrosine-protein phosphatase non-receptor type 11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	477	Total	C	N	O	S	0	0	0
			3861	2432	686	725	18			
1	B	471	Total	C	N	O	S	0	0	0
			3825	2418	679	710	18			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	SER	-	expression tag	UNP Q06124
B	0	SER	-	expression tag	UNP Q06124

- Molecule 2 is 5-[(2,3-dichlorophenyl)sulfonyl]-3H-imidazo[4,5-b]pyridin-2-amine (CCD ID: JE7) (formula: C<sub>12</sub>H<sub>8</sub>Cl<sub>2</sub>N<sub>4</sub>S) (labeled as "Ligand of Interest" by depositor).



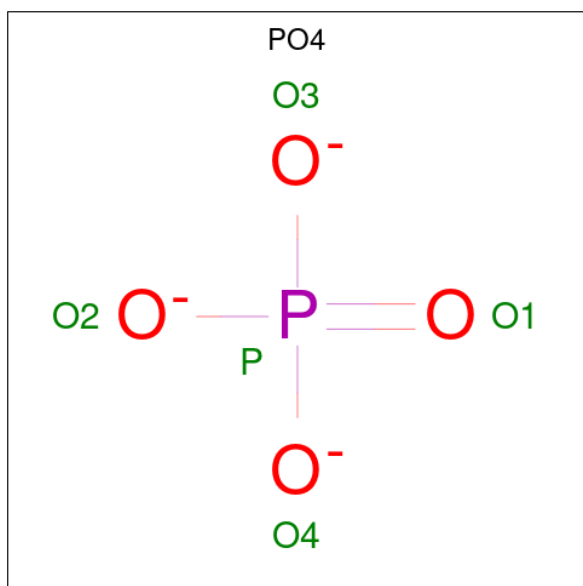
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	Cl	N	S	0	0
			19	12	2	4	1		

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	B	1	Total	C	Cl	N	S	0	0
			19	12	2	4	1		

- Molecule 3 is PHOSPHATE ION (CCD ID: PO4) (formula: O<sub>4</sub>P).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	O	P	0	0
			5	4	1		
3	B	1	Total	O	P	0	0
			5	4	1		

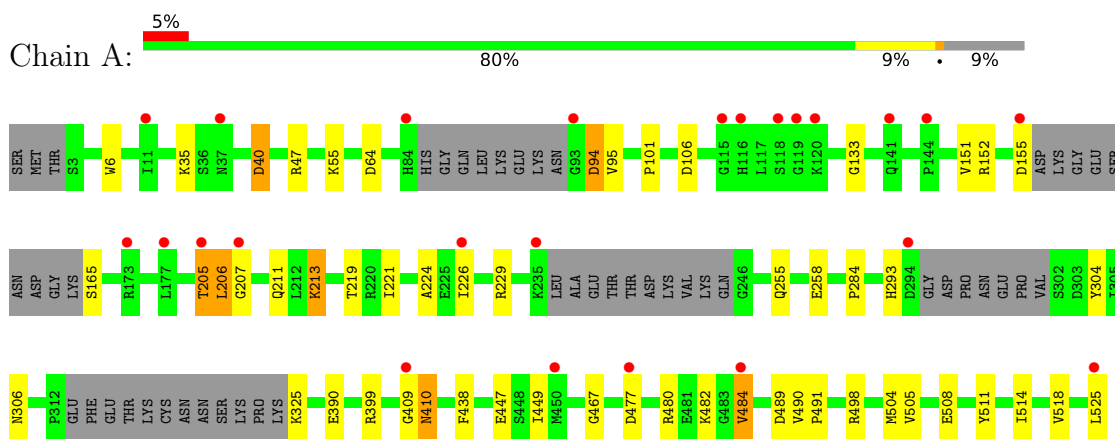
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	131	Total	O	0	0
			131	131		
4	B	121	Total	O	0	0
			121	121		

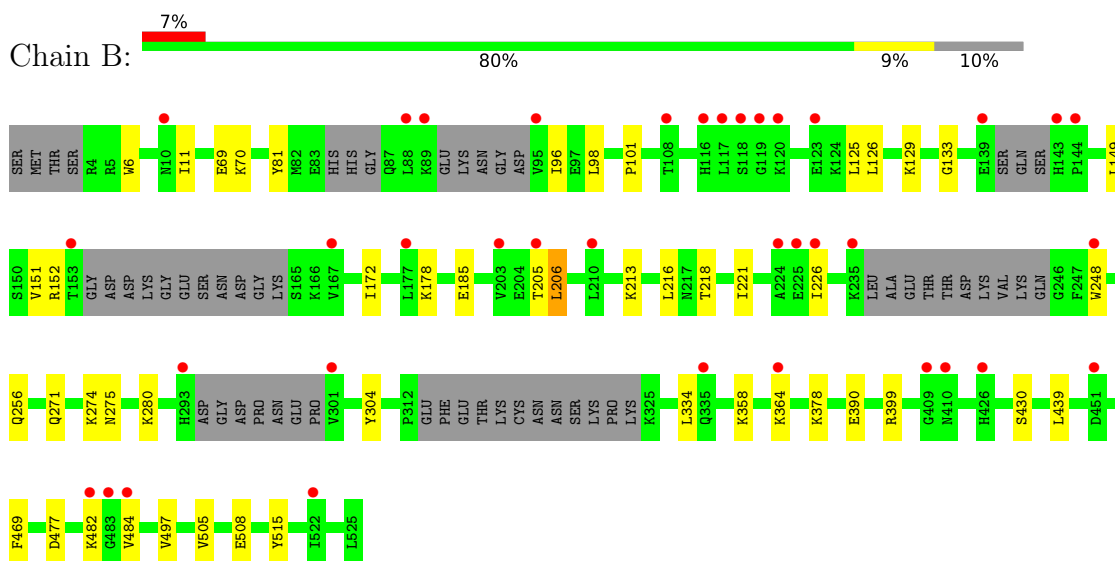
### 3 Residue-property plots [i](#)

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: Tyrosine-protein phosphatase non-receptor type 11



- Molecule 1: Tyrosine-protein phosphatase non-receptor type 11



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	46.42Å 214.80Å 56.09Å 90.00° 96.96° 90.00°	Depositor
Resolution (Å)	41.00 – 2.05 41.00 – 2.05	Depositor EDS
% Data completeness (in resolution range)	95.0 (41.00-2.05) 95.4 (41.00-2.05)	Depositor EDS
$R_{merge}$	0.09	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.91 (at 2.05Å)	Xtriage
Refinement program	BUSTER	Depositor
R, $R_{free}$	0.213 , 0.251 (Not available) , 0.265	Depositor DCC
$R_{free}$ test set	3261 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	29.9	Xtriage
Anisotropy	0.497	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.34 , 40.3	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	7986	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	36.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.15% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: JE7, PO4

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	0.89	1/3940 (0.0%)	1.29	16/5313 (0.3%)
1	B	0.86	0/3901	1.25	8/5257 (0.2%)
All	All	0.88	1/7841 (0.0%)	1.27	24/10570 (0.2%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	490	VAL	CA-CB	5.69	1.56	1.54

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	64	ASP	CA-CB-CG	7.48	120.08	112.60
1	A	207	GLY	N-CA-C	7.05	122.03	113.79
1	B	275	ASN	CA-CB-CG	6.23	118.83	112.60
1	A	94	ASP	CA-CB-CG	6.19	118.79	112.60
1	B	358	LYS	N-CA-C	-5.79	103.07	110.53
1	A	467	GLY	CA-C-N	5.55	127.66	120.44
1	A	467	GLY	C-N-CA	5.55	127.66	120.44
1	A	477	ASP	CA-CB-CG	5.52	118.12	112.60
1	A	489	ASP	CA-C-N	5.45	125.66	120.43
1	A	489	ASP	C-N-CA	5.45	125.66	120.43
1	A	293	HIS	N-CA-C	5.40	120.14	113.50
1	B	334	LEU	N-CA-C	-5.40	102.06	110.42
1	A	40	ASP	CA-CB-CG	5.32	117.92	112.60
1	B	304	TYR	N-CA-C	5.31	118.14	109.59
1	A	438	PHE	CA-C-N	5.30	127.38	120.28
1	A	438	PHE	C-N-CA	5.30	127.38	120.28
1	B	248	TRP	CA-C-N	5.22	127.54	120.65
1	B	248	TRP	C-N-CA	5.22	127.54	120.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	106	ASP	CA-CB-CG	5.21	117.81	112.60
1	B	515	TYR	CA-C-N	5.13	127.16	120.28
1	B	515	TYR	C-N-CA	5.13	127.16	120.28
1	A	304	TYR	N-CA-C	5.00	117.65	109.59
1	A	449	ILE	CA-C-N	5.00	128.42	121.02
1	A	449	ILE	C-N-CA	5.00	128.42	121.02

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	3861	0	3794	14	0
1	B	3825	0	3785	10	0
2	A	19	0	0	0	0
2	B	19	0	0	0	0
3	A	5	0	0	0	0
3	B	5	0	0	0	0
4	A	131	0	0	0	0
4	B	121	0	0	0	0
All	All	7986	0	7579	24	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 2.

All (24) 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:133:GLY:HA3	1:A:213:LYS:HB2	1.75	0.67
1:A:224:ALA:HB2	1:A:484:VAL:HG13	1.82	0.61
1:A:498:ARG:HD3	1:A:504:MET:O	2.01	0.60
1:B:271:GLN:HA	1:B:274:LYS:HD2	1.85	0.59
1:B:126:LEU:HD22	1:B:152:ARG:HB2	1.90	0.53
1:B:205:THR:HG23	1:B:206:LEU:HD22	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:491:PRO:HG3	1:A:511:TYR:OH	2.09	0.52
1:B:125:LEU:HB3	1:B:216:LEU:HD21	1.94	0.49
1:A:40:ASP:OD2	1:A:55:LYS:HE3	2.14	0.47
1:B:6:TRP:HB3	1:B:101:PRO:HB3	1.97	0.47
1:A:205:THR:O	1:A:206:LEU:HB2	2.15	0.47
1:A:6:TRP:HB3	1:A:101:PRO:HB3	1.96	0.47
1:B:81:TYR:HB2	1:B:98:LEU:HD12	1.98	0.46
1:A:409:GLY:O	1:A:410:ASN:HB2	2.15	0.46
1:A:514:ILE:O	1:A:518:VAL:HG23	2.16	0.45
1:A:284:PRO:HG3	1:A:306:ASN:HA	1.97	0.45
1:B:439:LEU:HD21	1:B:469:PHE:HD2	1.82	0.45
1:B:390:GLU:HG2	1:B:399:ARG:HG2	1.99	0.45
1:A:390:GLU:HG2	1:A:399:ARG:HG2	1.98	0.44
1:A:219:THR:HG21	1:A:491:PRO:HG2	2.00	0.43
1:B:133:GLY:HA3	1:B:213:LYS:HB2	1.99	0.43
1:A:498:ARG:HG2	1:A:504:MET:HB2	2.00	0.42
1:A:255:GLN:O	1:A:258:GLU:HG2	2.22	0.40
1:B:149:LEU:HB2	1:B:172:ILE:HD11	2.03	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	465/526 (88%)	450 (97%)	12 (3%)	3 (1%)	21	13
1	B	455/526 (86%)	445 (98%)	9 (2%)	1 (0%)	43	37
All	All	920/1052 (88%)	895 (97%)	21 (2%)	4 (0%)	30	22

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	206	LEU
1	A	410	ASN
1	A	505	VAL
1	B	505	VAL

### 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	424/468 (91%)	403 (95%)	21 (5%)	22	15
1	B	420/468 (90%)	398 (95%)	22 (5%)	21	14
All	All	844/936 (90%)	801 (95%)	43 (5%)	21	14

All (43) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	35	LYS
1	A	47	ARG
1	A	94	ASP
1	A	95	VAL
1	A	151	VAL
1	A	152	ARG
1	A	155	ASP
1	A	165	SER
1	A	205	THR
1	A	211	GLN
1	A	213	LYS
1	A	221	ILE
1	A	226	ILE
1	A	229	ARG
1	A	325	LYS
1	A	447	GLU
1	A	480	ARG
1	A	482	LYS
1	A	484	VAL
1	A	508	GLU

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Mol	Chain	Res	Type
1	A	525	LEU
1	B	11	ILE
1	B	69	GLU
1	B	70	LYS
1	B	96	ILE
1	B	129	LYS
1	B	151	VAL
1	B	178	LYS
1	B	185	GLU
1	B	206	LEU
1	B	218	THR
1	B	221	ILE
1	B	226	ILE
1	B	256	GLN
1	B	280	LYS
1	B	364	LYS
1	B	378	LYS
1	B	430	SER
1	B	477	ASP
1	B	482	LYS
1	B	484	VAL
1	B	497	VAL
1	B	508	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	114	HIS
1	A	143	HIS
1	A	196	HIS
1	A	211	GLN
1	A	222	ASN
1	A	271	GLN
1	A	275	ASN
1	A	394	HIS
1	A	410	ASN
1	A	426	HIS
1	A	446	GLN
1	A	520	HIS
1	B	57	GLN
1	B	87	GLN
1	B	257	GLN

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Mol	Chain	Res	Type
1	B	275	ASN
1	B	281	ASN
1	B	293	HIS
1	B	335	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

4 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	PO4	A	602	-	4,4,4	2.05	2 (50%)	6,6,6	0.46	0
3	PO4	B	602	-	4,4,4	2.49	1 (25%)	6,6,6	0.73	0
2	JE7	A	601	-	21,21,21	1.68	4 (19%)	27,30,30	2.05	7 (25%)
2	JE7	B	601	-	21,21,21	1.58	4 (19%)	27,30,30	1.80	4 (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
2	JE7	A	601	-	-	2/4/4/4	0/3/3/3
2	JE7	B	601	-	-	2/4/4/4	0/3/3/3

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	602	PO4	P-O1	4.12	1.60	1.50
2	A	601	JE7	C8-N6	-4.00	1.27	1.34
2	B	601	JE7	C8-N6	-3.63	1.28	1.34
2	A	601	JE7	C7-N3	3.25	1.36	1.33
2	B	601	JE7	C8-N4	-2.73	1.30	1.36
2	A	601	JE7	C2-N6	-2.68	1.34	1.39
2	B	601	JE7	C2-N6	-2.65	1.34	1.39
2	A	601	JE7	C8-N4	-2.50	1.31	1.36
2	B	601	JE7	C7-N3	2.42	1.36	1.33
3	A	602	PO4	P-O1	2.27	1.55	1.50
3	A	602	PO4	P-O4	2.02	1.60	1.54

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	601	JE7	C5-C2-C1	6.69	123.07	117.90
2	B	601	JE7	C5-C2-C1	6.41	122.85	117.90
2	A	601	JE7	N4-C1-N3	3.61	133.35	125.30
2	B	601	JE7	C2-N6-C8	3.52	110.08	104.19
2	A	601	JE7	C2-N6-C8	3.48	110.01	104.19
2	A	601	JE7	C13-C15-CL1	-3.42	117.37	120.51
2	B	601	JE7	N4-C1-N3	3.19	132.41	125.30
2	B	601	JE7	C9-C5-C2	-2.54	115.73	119.97
2	A	601	JE7	C9-C5-C2	-2.45	115.88	119.97
2	A	601	JE7	C18-C15-CL1	2.11	122.58	118.42
2	A	601	JE7	C14-C12-C13	2.10	120.42	117.67

There are no chirality outliers.

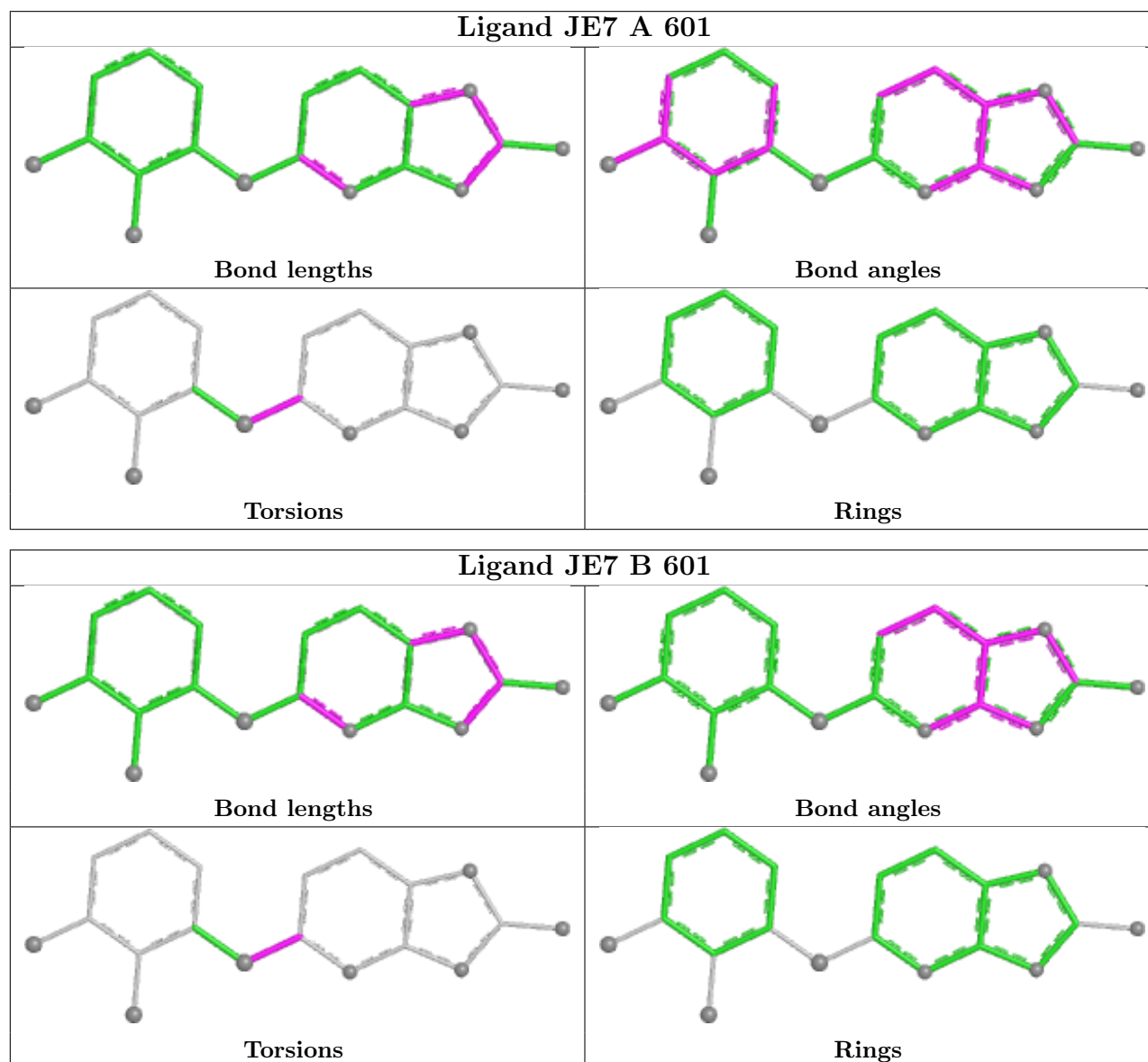
All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	601	JE7	C9-C7-S10-C12
2	B	601	JE7	C9-C7-S10-C12
2	B	601	JE7	N3-C7-S10-C12
2	A	601	JE7	N3-C7-S10-C12

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 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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	477/526 (90%)	0.50	24 (5%) 34 34	17, 34, 58, 85	0
1	B	471/526 (89%)	0.60	37 (7%) 18 19	19, 35, 58, 83	0
All	All	948/1052 (90%)	0.55	61 (6%) 25 25	17, 35, 58, 85	0

All (61) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	93	GLY	4.4
1	A	294	ASP	4.0
1	B	409	GLY	3.9
1	B	117	LEU	3.7
1	A	155	ASP	3.7
1	A	177	LEU	3.5
1	B	153	THR	3.5
1	B	95	VAL	3.5
1	A	409	GLY	3.4
1	B	89	LYS	3.4
1	B	177	LEU	3.4
1	B	364	LYS	3.4
1	B	410	ASN	3.4
1	A	205	THR	3.3
1	B	426	HIS	3.3
1	B	120	LYS	3.2
1	A	84	HIS	3.1
1	B	235	LYS	3.0
1	B	226	ILE	3.0
1	A	173	ARG	3.0
1	A	226	ILE	2.8
1	A	141	GLN	2.7
1	B	88	LEU	2.7
1	B	484	VAL	2.7

*Continued on next page...*

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Mol	Chain	Res	Type	RSRZ
1	B	10	ASN	2.6
1	B	522	ILE	2.6
1	B	119	GLY	2.6
1	B	293	HIS	2.6
1	B	144	PRO	2.6
1	B	205	THR	2.5
1	A	120	LYS	2.5
1	A	235	LYS	2.5
1	B	248	TRP	2.5
1	A	11	ILE	2.4
1	B	335	GLN	2.4
1	B	203	VAL	2.4
1	A	525	LEU	2.3
1	B	118	SER	2.3
1	B	123	GLU	2.3
1	B	167	VAL	2.3
1	B	210	LEU	2.3
1	B	482	LYS	2.3
1	A	484	VAL	2.3
1	A	37	ASN	2.2
1	A	207	GLY	2.2
1	B	139	GLU	2.2
1	B	143	HIS	2.1
1	A	116	HIS	2.1
1	A	118	SER	2.1
1	B	451	ASP	2.1
1	A	144	PRO	2.1
1	A	477	ASP	2.1
1	A	115	GLY	2.1
1	B	483	GLY	2.1
1	B	301	VAL	2.1
1	B	224	ALA	2.1
1	B	225	GLU	2.0
1	B	116	HIS	2.0
1	B	108	THR	2.0
1	A	450	MET	2.0
1	A	119	GLY	2.0

## 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 [i](#)

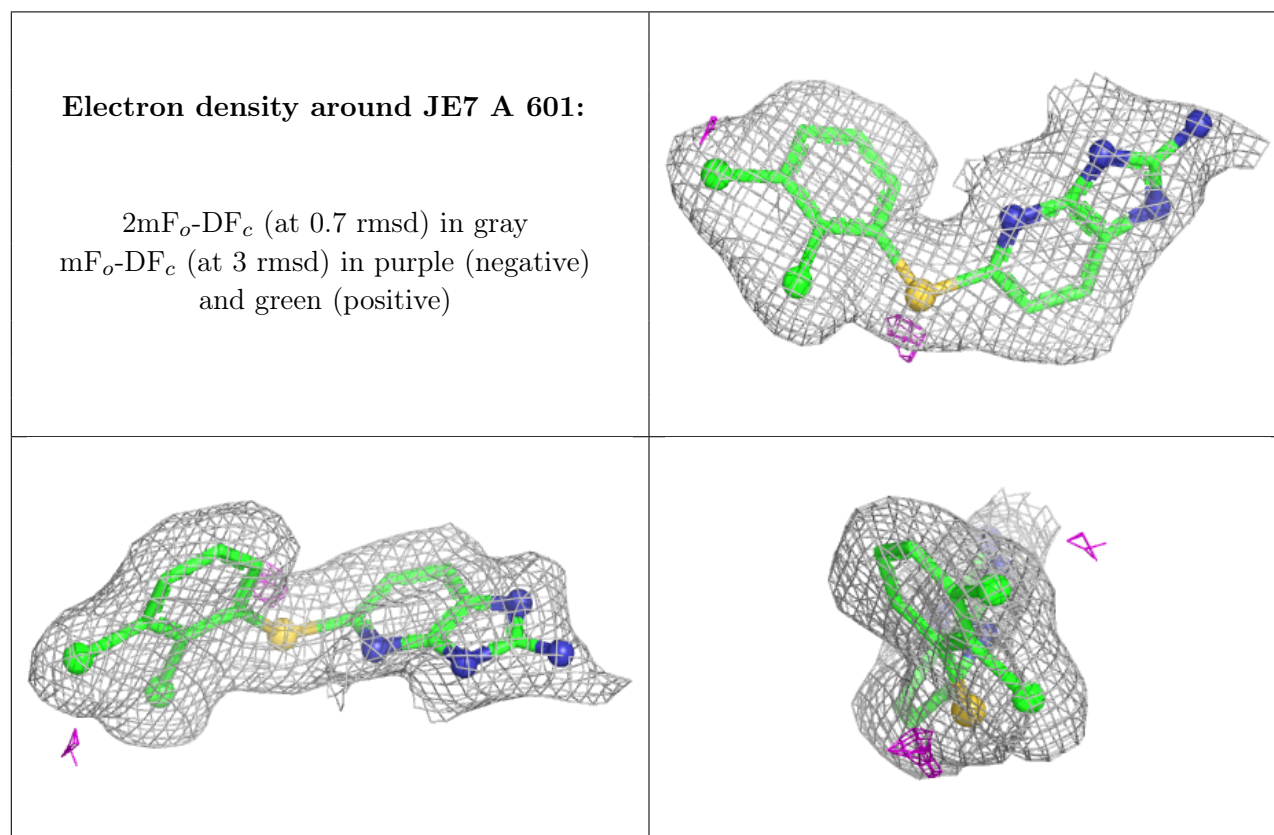
There are no oligosaccharides in this entry.

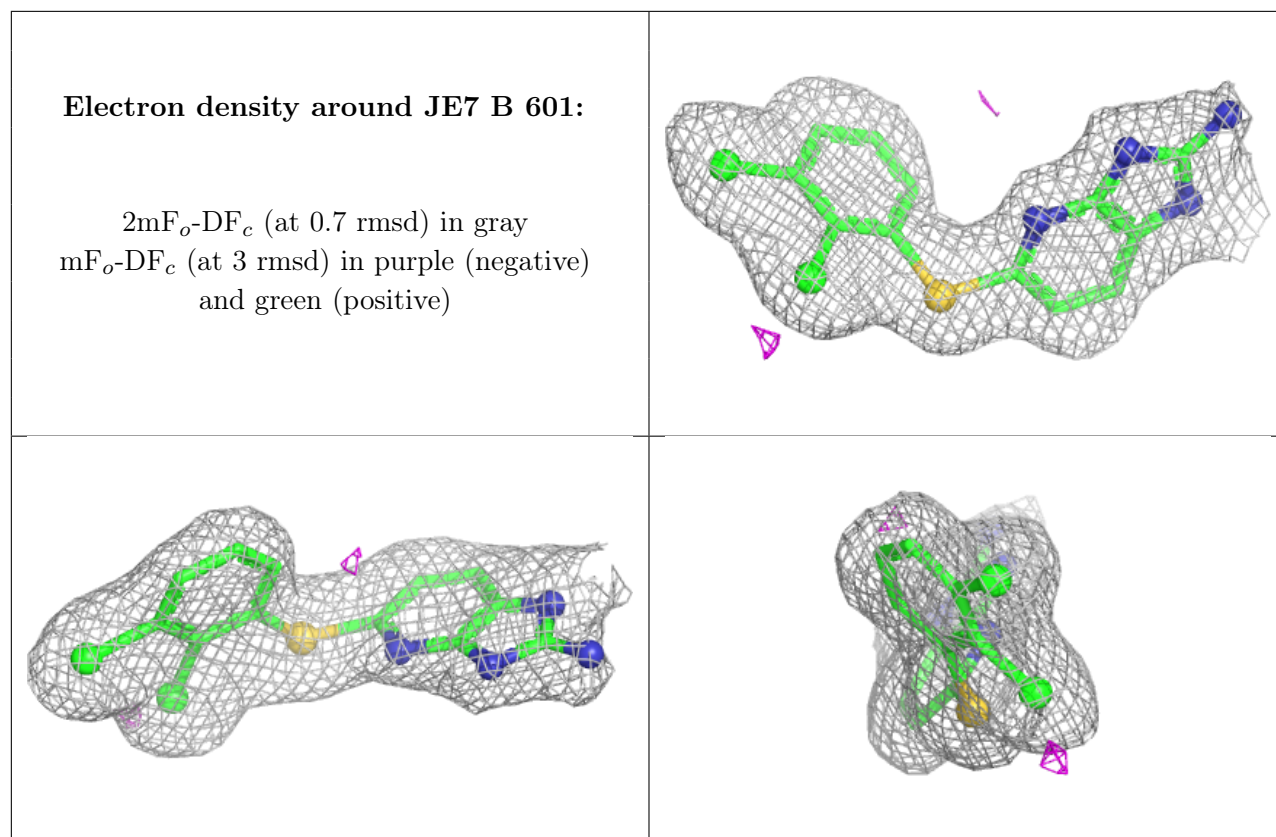
## 6.4 Ligands [i](#)

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, 95<sup>th</sup> 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( $\text{\AA}^2$ )	Q<0.9
2	JE7	A	601	19/19	0.92	0.10	33,37,45,48	0
3	PO4	A	602	5/5	0.93	0.09	37,42,44,48	0
3	PO4	B	602	5/5	0.94	0.09	41,42,45,46	0
2	JE7	B	601	19/19	0.95	0.09	35,39,48,53	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.





## 6.5 Other polymers [i](#)

There are no such residues in this entry.