wwPDB X-ray Structure Validation Summary Report (i)

Nov 19, 2023 – 11:01 PM JST

PDB ID	:	7C2W
Title	:	Crystal Structure of IRAK4 kinase in complex with a small molecule inhibitor
Authors	:	Krishnamurthy, N.R.; Anirudha, L.
Deposited on	:	2020-05-09
Resolution	:	3.20 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:

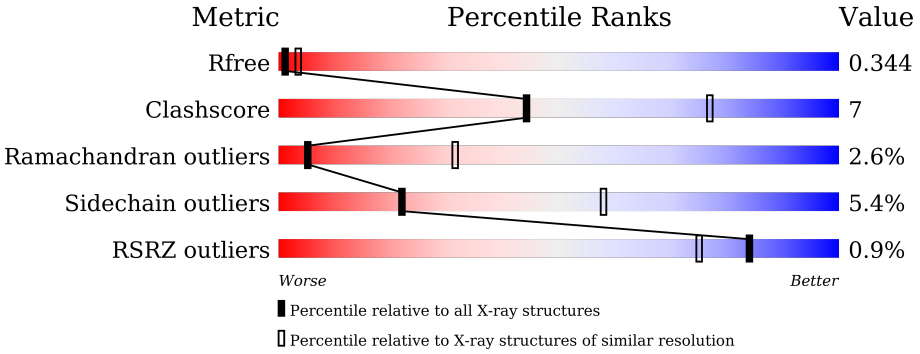
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 3.20 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1133 (3.20-3.20)
Clashscore	141614	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)
RSRZ outliers	127900	1095 (3.20-3.20)

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

Mol	Chain	Length	Quality of chain
1	A	296	79% 19% •
1	B	296	2% 85% 13% •
1	C	296	% 80% 16% • •
1	D	296	% 84% 15% •

2 Entry composition (i)

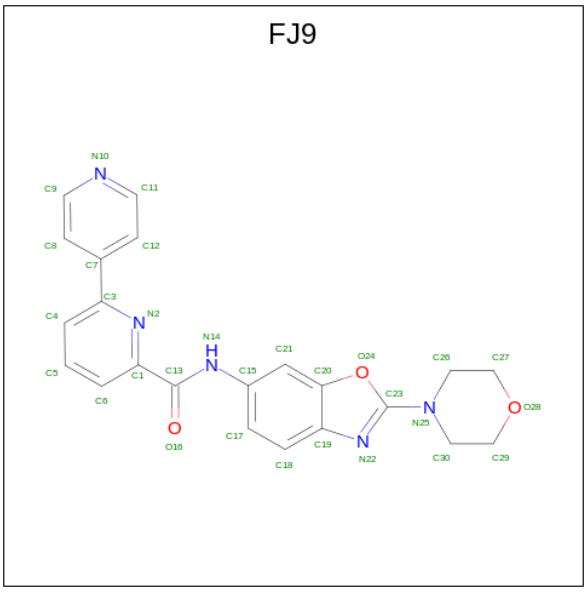
There are 3 unique types of molecules in this entry. The entry contains 9607 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Interleukin-1 receptor-associated kinase 4.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	N	O	P	S			
1	A	295	2329	1462	391	459	2	15	0	0	0
1	B	296	2336	1466	392	461	2	15	0	1	0
1	C	295	2329	1462	391	459	2	15	0	1	0
1	D	295	2329	1462	391	459	2	15	0	1	0

- Molecule 2 is N-(2-morpholin-4-yl-1,3-benzoxazol-6-yl)-6-pyridin-4-yl-pyridine-2-carbox amide (three-letter code: FJ9) (formula: $C_{22}H_{19}N_5O_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
2	A	1	30	22	5	3	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
2	B	1	30	22	5	3	0	0
2	C	1	30	22	5	3	0	0
2	D	1	30	22	5	3	0	0

- Molecule 3 is water.

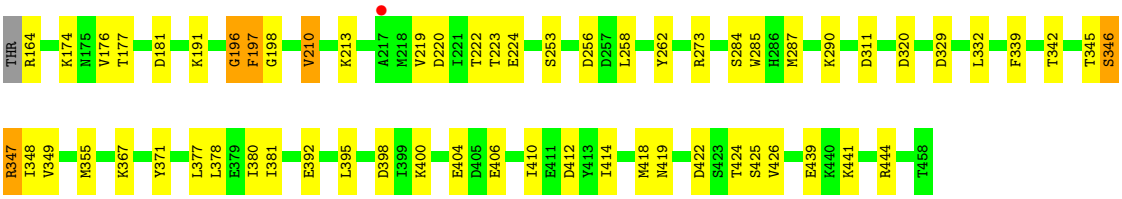
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
3	A	50	50	50	0	0
3	B	34	34	34	0	0
3	C	43	43	43	0	0
3	D	37	37	37	0	0

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.

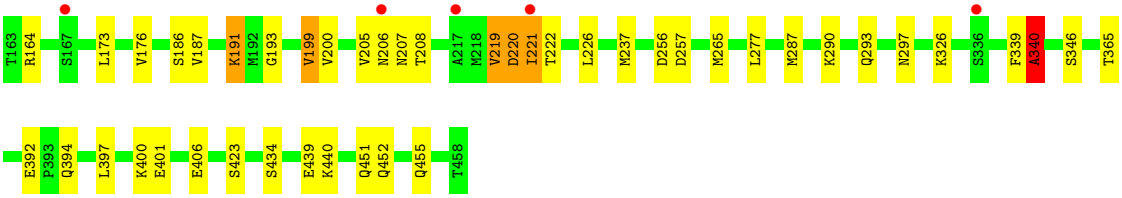
• Molecule 1: Interleukin-1 receptor-associated kinase 4

Chain A:



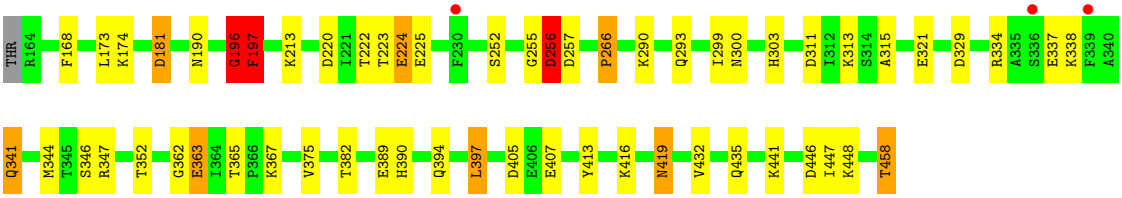
• Molecule 1: Interleukin-1 receptor-associated kinase 4

Chain B:



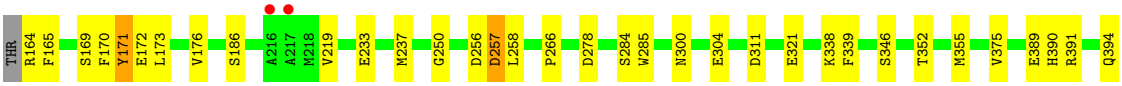
• Molecule 1: Interleukin-1 receptor-associated kinase 4

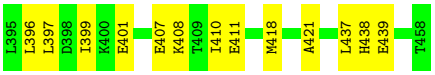
Chain C:



• Molecule 1: Interleukin-1 receptor-associated kinase 4

Chain D:




L395
L396
L397
D398
I399
K400
E401
E407
K408
T409
I410
E411
M418
A421
L437
H438
E439
T458

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	137.63Å 140.80Å 86.50Å 90.00° 127.64° 90.00°	Depositor
Resolution (Å)	29.62 – 3.20 29.57 – 3.20	Depositor EDS
% Data completeness (in resolution range)	89.2 (29.62-3.20) 83.8 (29.57-3.20)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.43 (at 3.18Å)	Xtriage
Refinement program	REFMAC 5.2.0001	Depositor
R, R_{free}	0.261 , 0.355 0.249 , 0.344	Depositor DCC
R_{free} test set	977 reflections (5.09%)	wwPDB-VP
Wilson B-factor (Å^2)	52.8	Xtriage
Anisotropy	0.178	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 15.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.43$, $< L^2 > = 0.25$	Xtriage
Estimated twinning fraction	0.245 for -h-2*l,-k,l	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	9607	wwPDB-VP
Average B, all atoms (Å^2)	37.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 30.06 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.3938e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1]Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: YTH, FJ9, SEP

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	0.34	0/2347	0.51	0/3164
1	B	0.33	0/2354	0.50	0/3174
1	C	0.34	0/2347	0.52	0/3164
1	D	0.34	0/2347	0.51	0/3164
All	All	0.34	0/9395	0.51	0/12666

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1
1	C	0	1
1	D	0	1
All	All	0	3

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	340	ALA	Peptide
1	C	196	GLY	Peptide
1	D	169[A]	SER	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2329	0	2296	38	0
1	B	2336	0	2302	20	0
1	C	2329	0	2294	42	0
1	D	2329	0	2294	25	0
2	A	30	0	0	0	0
2	B	30	0	0	0	0
2	C	30	0	0	1	0
2	D	30	0	0	0	0
3	A	50	0	0	19	0
3	B	34	0	0	9	0
3	C	43	0	0	14	0
3	D	37	0	0	8	0
All	All	9607	0	9186	122	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 7.

The worst 5 of 122 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:440:LYS:NZ	3:B:601:HOH:O	1.82	1.10
1:D:418:MET:SD	3:D:635:HOH:O	2.25	0.94
1:D:352:THR:O	3:D:601:HOH:O	1.98	0.79
1:A:381:ILE:HD12	3:A:605:HOH:O	1.83	0.78
1:A:164:ARG:N	3:A:602:HOH:O	2.19	0.76

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	291/296 (98%)	262 (90%)	21 (7%)	8 (3%)	5	30
1	B	292/296 (99%)	252 (86%)	34 (12%)	6 (2%)	7	37
1	C	291/296 (98%)	252 (87%)	28 (10%)	11 (4%)	3	22
1	D	291/296 (98%)	266 (91%)	20 (7%)	5 (2%)	9	42
All	All	1165/1184 (98%)	1032 (89%)	103 (9%)	30 (3%)	5	31

5 of 30 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	197	PHE
1	A	219	VAL
1	A	220	ASP
1	B	220	ASP
1	B	256	ASP

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	255/256 (100%)	239 (94%)	16 (6%)	18	52
1	B	256/256 (100%)	240 (94%)	16 (6%)	18	52
1	C	255/256 (100%)	242 (95%)	13 (5%)	24	60
1	D	255/256 (100%)	245 (96%)	10 (4%)	32	67
All	All	1021/1024 (100%)	966 (95%)	55 (5%)	22	58

5 of 55 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	401	GLU
1	C	225	GLU
1	D	438	HIS

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Mol	Chain	Res	Type
1	D	338	LYS
1	B	406	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 23 such sidechains are listed below:

Mol	Chain	Res	Type
1	C	241	GLN
1	C	394	GLN
1	C	341	GLN
1	C	419	ASN
1	B	229	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)

8 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	$\#\|Z\| > 2$
1	SEP	D	346	1	8,9,10	1.59	1 (12%)	8,12,14	1.54	2 (25%)
1	YTH	C	345	1	8,10,11	0.82	0	10,14,16	0.94	0
1	YTH	D	345	1	8,10,11	0.75	0	10,14,16	1.06	0
1	YTH	A	345	1	8,10,11	0.91	0	10,14,16	0.86	0
1	YTH	B	345	1	8,10,11	0.89	0	10,14,16	0.91	0
1	SEP	C	346	1	8,9,10	1.57	1 (12%)	8,12,14	1.29	1 (12%)
1	SEP	A	346	1	8,9,10	1.64	1 (12%)	8,12,14	0.87	0
1	SEP	B	346	1	8,9,10	1.61	1 (12%)	8,12,14	1.32	1 (12%)

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
1	SEP	D	346	1	-	0/5/8/10	-
1	YTH	C	345	1	-	4/9/11/13	-
1	YTH	D	345	1	-	5/9/11/13	-
1	YTH	A	345	1	-	3/9/11/13	-
1	YTH	B	345	1	-	5/9/11/13	-
1	SEP	C	346	1	-	2/5/8/10	-
1	SEP	A	346	1	-	3/5/8/10	-
1	SEP	B	346	1	-	0/5/8/10	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	346	SEP	P-O1P	3.53	1.61	1.50
1	D	346	SEP	P-O1P	3.48	1.61	1.50
1	A	346	SEP	P-O1P	3.40	1.61	1.50
1	C	346	SEP	P-O1P	3.39	1.61	1.50

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	346	SEP	OG-CB-CA	2.84	110.91	108.14
1	D	346	SEP	P-OG-CB	-2.72	110.79	118.30
1	B	346	SEP	P-OG-CB	-2.66	110.97	118.30
1	C	346	SEP	OG-CB-CA	2.36	110.45	108.14

There are no chirality outliers.

5 of 22 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	345	YTH	N-CA-CB-CG2
1	A	345	YTH	N-CA-CB-OG1
1	A	345	YTH	C-CA-CB-CG2
1	A	346	SEP	CB-OG-P-O2P
1	B	345	YTH	N-CA-CB-CG2

There are no ring outliers.

2 monomers are involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	345	YTH	1	0
1	A	346	SEP	1	0

5.5 Carbohydrates (i)

There are no monosaccharides 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	$\#\|Z\| > 2$
2	FJ9	D	501	-	31,34,34	1.29	2 (6%)	40,47,47	1.45	5 (12%)
2	FJ9	C	501	-	31,34,34	1.29	2 (6%)	40,47,47	1.47	9 (22%)
2	FJ9	A	501	-	31,34,34	1.26	2 (6%)	40,47,47	1.45	5 (12%)
2	FJ9	B	501	-	31,34,34	1.26	2 (6%)	40,47,47	1.44	4 (10%)

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	FJ9	D	501	-	-	0/12/24/24	0/5/5/5
2	FJ9	C	501	-	-	0/12/24/24	0/5/5/5
2	FJ9	A	501	-	-	0/12/24/24	0/5/5/5
2	FJ9	B	501	-	-	0/12/24/24	0/5/5/5

The worst 5 of 8 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	501	FJ9	C7-C3	-5.55	1.40	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	501	FJ9	C7-C3	-5.31	1.40	1.48
2	A	501	FJ9	C7-C3	-5.22	1.40	1.48
2	B	501	FJ9	C7-C3	-5.12	1.40	1.48
2	A	501	FJ9	C15-N14	-2.49	1.36	1.41

The worst 5 of 23 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	D	501	FJ9	C30-N25-C26	3.64	119.56	111.52
2	B	501	FJ9	C30-N25-C26	3.62	119.51	111.52
2	B	501	FJ9	C6-C1-N2	-3.32	119.02	122.92
2	A	501	FJ9	C30-N25-C26	3.31	118.83	111.52
2	B	501	FJ9	C3-N2-C1	3.17	123.51	118.11

There are no chirality outliers.

There are no torsion outliers.

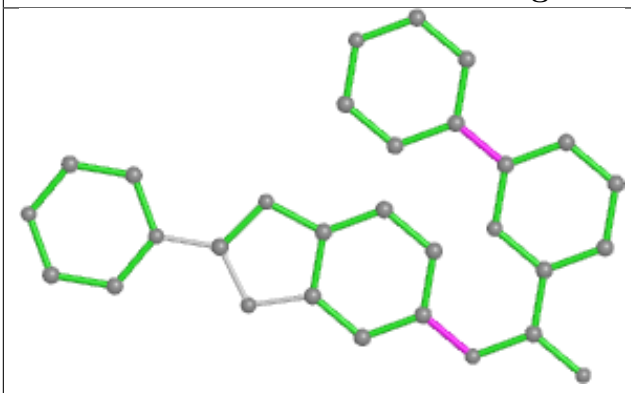
There are no ring outliers.

1 monomer is involved in 1 short contact:

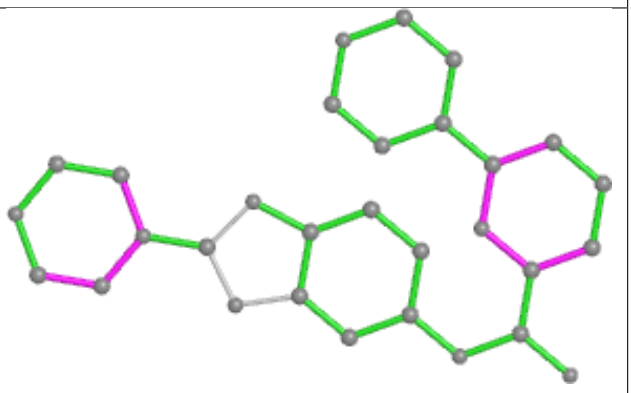
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	501	FJ9	1	0

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 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.

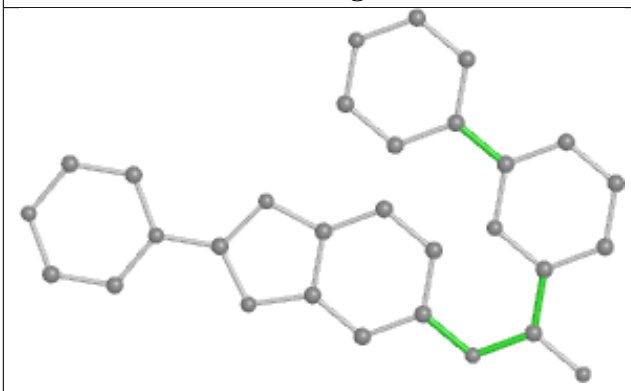
Ligand FJ9 D 501



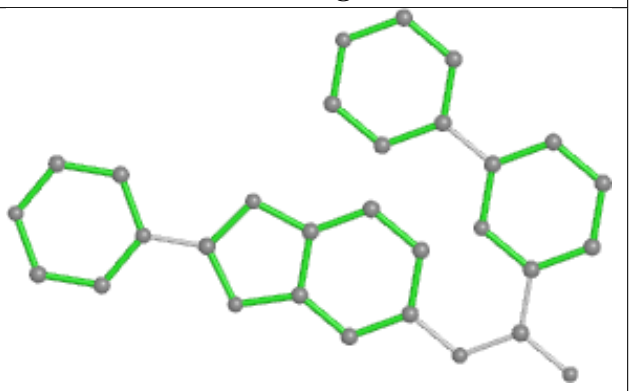
Bond lengths



Bond angles

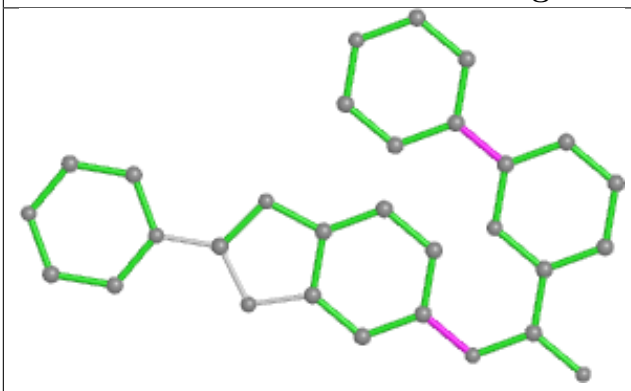


Torsions

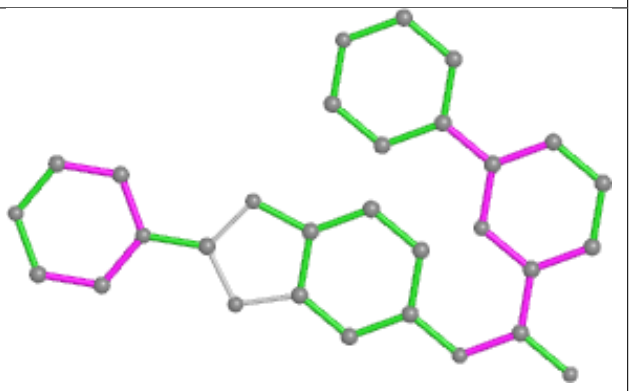


Rings

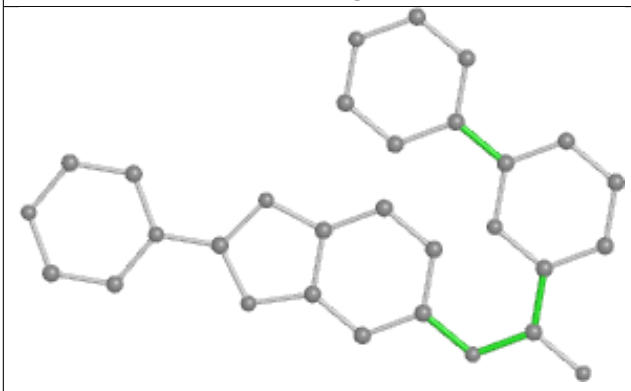
Ligand FJ9 C 501



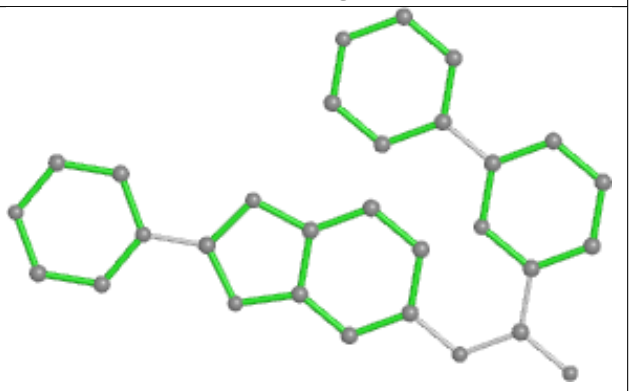
Bond lengths



Bond angles

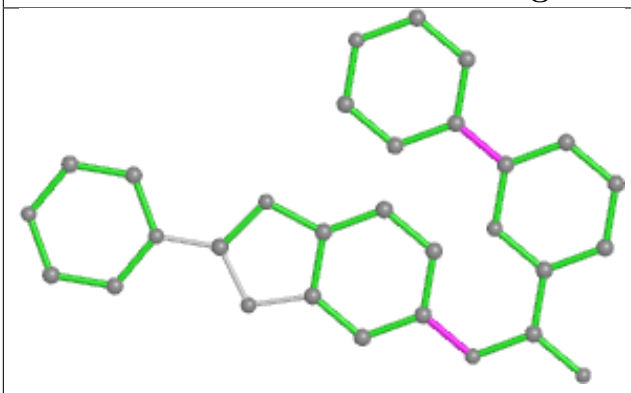


Torsions

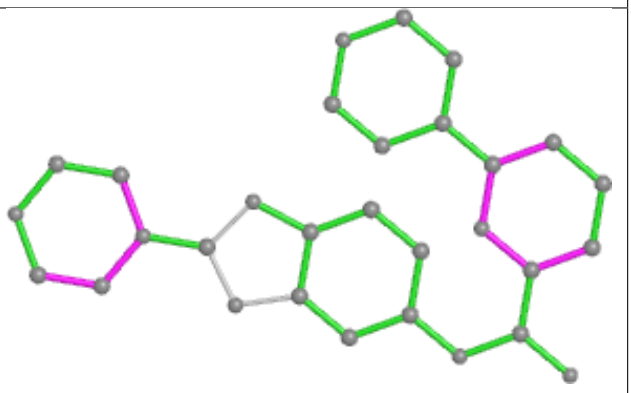


Rings

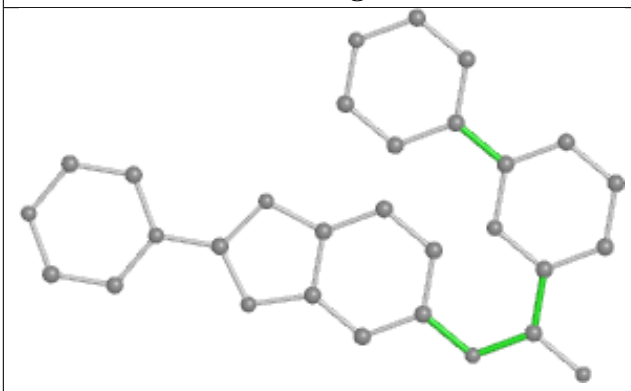
Ligand FJ9 A 501



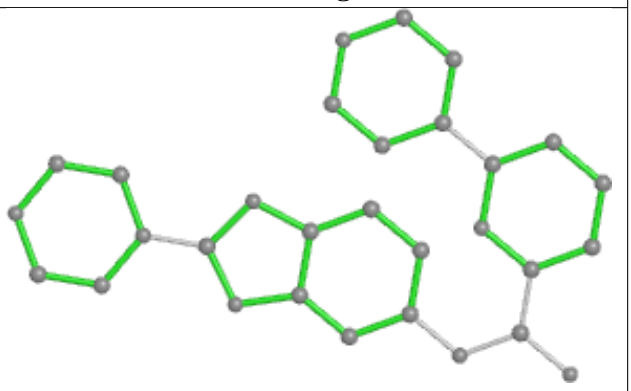
Bond lengths



Bond angles

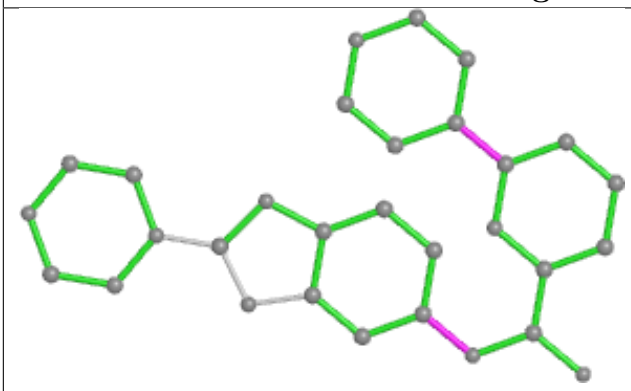


Torsions

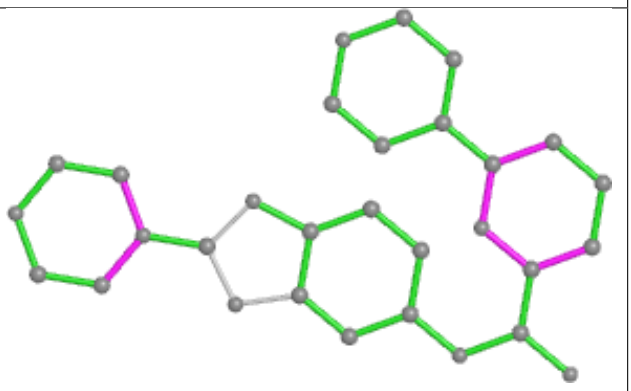


Rings

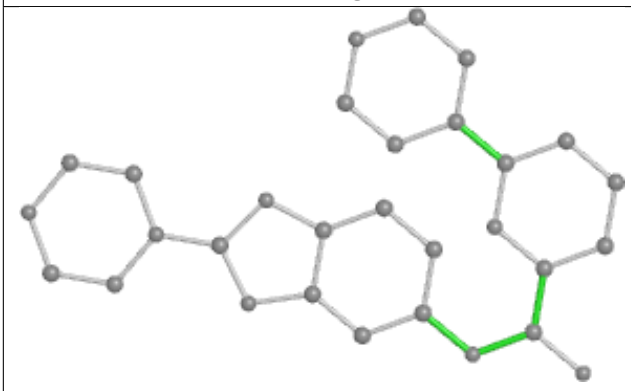
Ligand FJ9 B 501



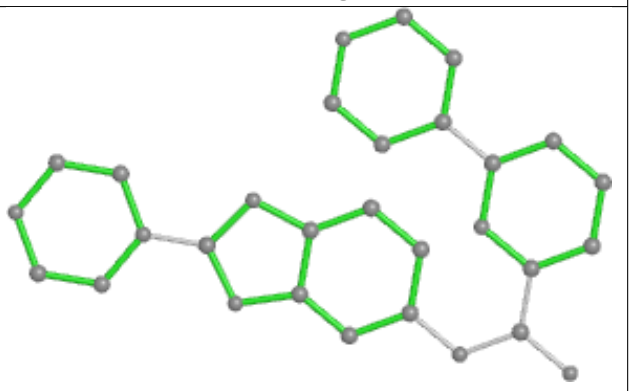
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

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	293/296 (98%)	-0.08	1 (0%)	94	92	19, 34, 55, 57	0
1	B	294/296 (99%)	-0.08	5 (1%)	70	57	14, 37, 55, 57	1 (0%)
1	C	293/296 (98%)	0.00	3 (1%)	82	72	19, 38, 55, 58	0
1	D	293/296 (98%)	-0.03	2 (0%)	87	81	16, 37, 54, 57	0
All	All	1173/1184 (99%)	-0.05	11 (0%)	84	75	14, 37, 55, 58	1 (0%)

The worst 5 of 11 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	216	ALA	3.7
1	C	339	PHE	3.1
1	D	217	ALA	3.1
1	C	230	PHE	2.7
1	B	206	ASN	2.4

6.2 Non-standard residues in protein, DNA, RNA chains (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(Å^2)	Q<0.9
1	YTH	A	345	11/12	0.83	0.23	51,52,52,52	0
1	SEP	B	346	10/11	0.88	0.20	47,48,50,50	0
1	SEP	C	346	10/11	0.88	0.17	52,52,53,53	0
1	YTH	C	345	11/12	0.90	0.20	53,53,55,55	0
1	SEP	A	346	10/11	0.91	0.21	51,51,52,52	0
1	SEP	D	346	10/11	0.91	0.16	47,47,48,48	0
1	YTH	D	345	11/12	0.92	0.23	48,48,49,49	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	YTH	B	345	11/12	0.93	0.16	49,49,49,49	0

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

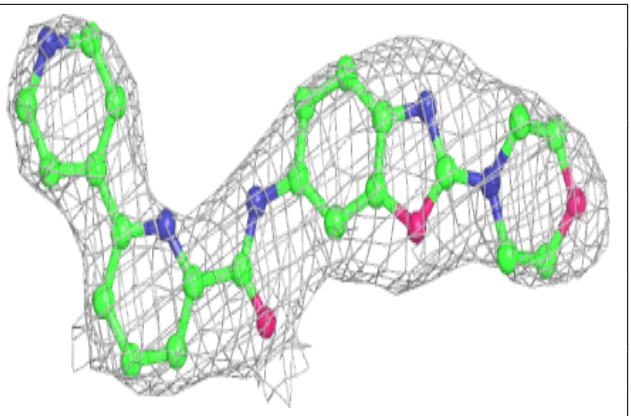
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

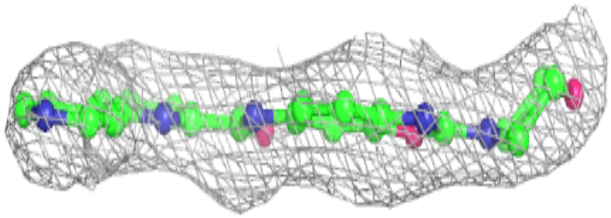
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	FJ9	B	501	30/30	0.93	0.26	40,40,40,40	0
2	FJ9	A	501	30/30	0.94	0.29	35,36,36,36	0
2	FJ9	D	501	30/30	0.94	0.21	36,36,37,37	0
2	FJ9	C	501	30/30	0.95	0.22	31,31,32,32	0

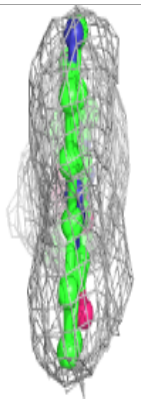
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around FJ9 B 501:

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

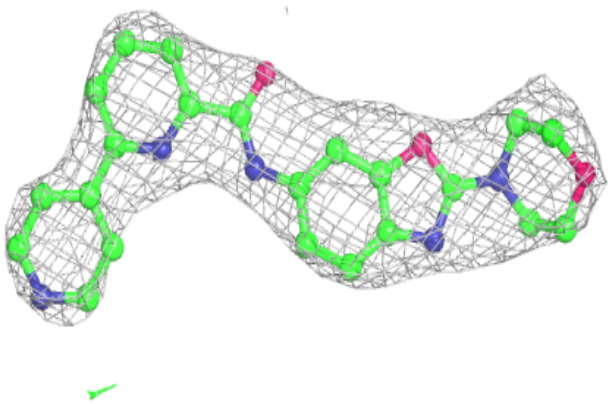


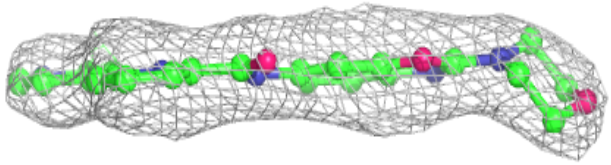


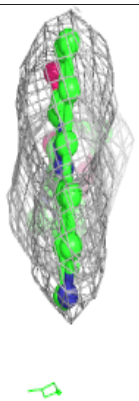


Electron density around FJ9 A 501:

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

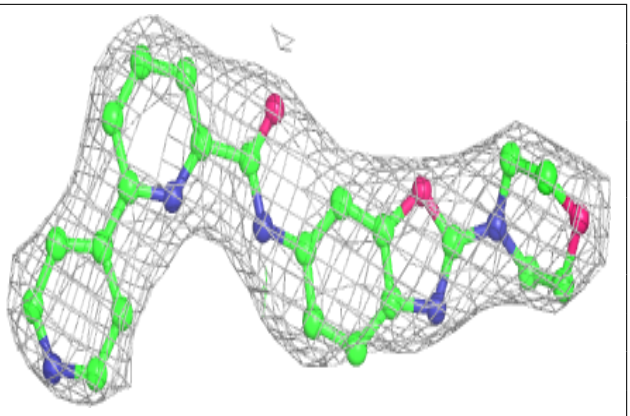


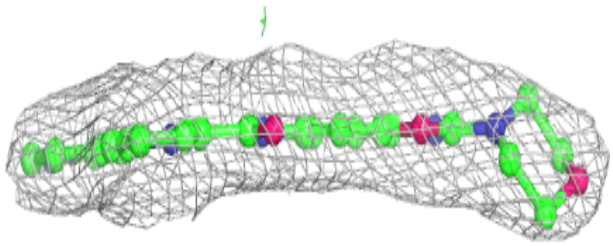


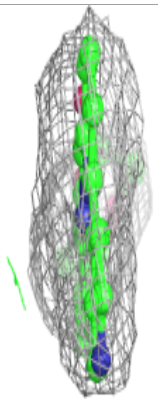


Electron density around FJ9 D 501:

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

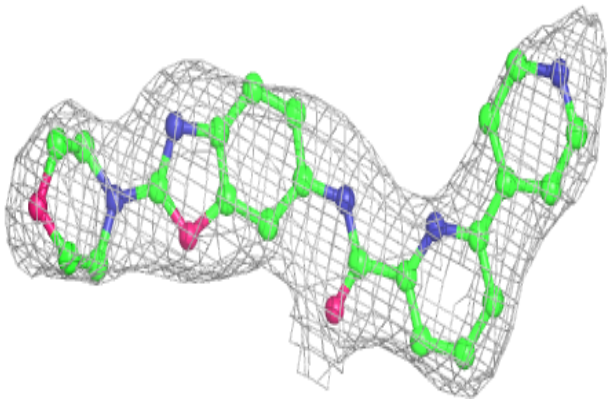


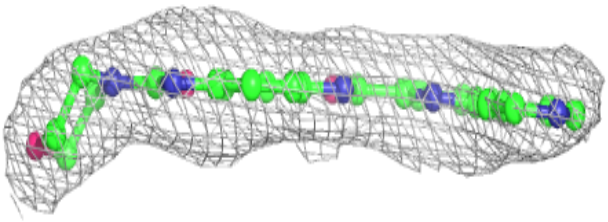


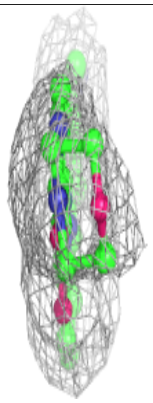


Electron density around FJ9 C 501:

$2mF_o$-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.