Full wwPDB X-ray Structure Validation Report ⓘ

May 13, 2020 – 12:48 pm BST

PDB ID	:	3WI6
Title	:	Crystal structure of MAPKAP Kinase-2 (MK2) in complex with non-selective inhibitor
Authors	:	Fujino, A.; Fukushima, K.; Kubota, T.; Matsumoto, Y.; Takimoto-Kamimura, M.
Deposited on	:	2013-09-06
Resolution	:	2.99 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 following versions of software and data (see references ⓘ) were used in the production of this report:

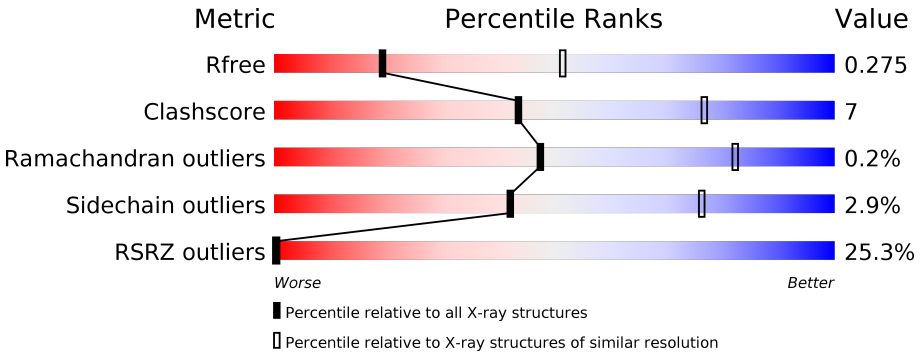
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.11
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.11

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 2.99 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	2092 (3.00-3.00)
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RSRZ outliers	127900	1990 (3.00-3.00)

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 on 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	324	24% 71% 15% 13%
1	B	324	21% 69% 18% • 13%
1	C	324	22% 70% 17% • 13%
1	D	324	23% 71% 15% • 13%
1	E	324	19% 70% 17% • 13%
1	F	324	23% 72% 15% • 13%

2 Entry composition

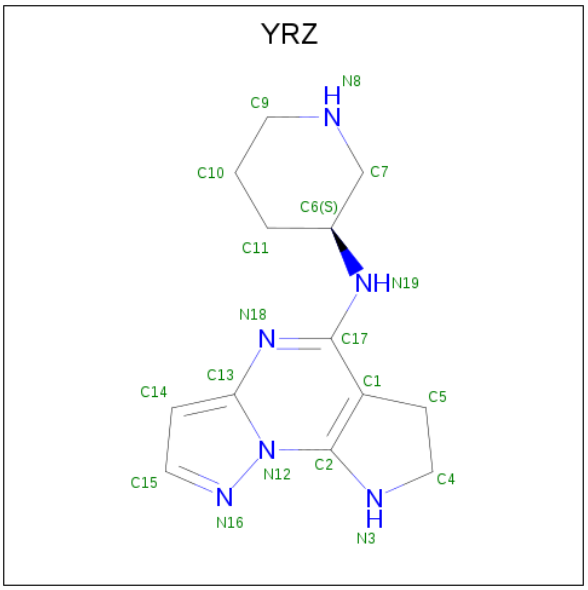
There are 2 unique types of molecules in this entry. The entry contains 13553 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 MAP kinase-activated protein kinase 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	282	Total	C	N	O	S	0	0	0
			2233	1429	380	407	17			
1	B	283	Total	C	N	O	S	0	0	0
			2241	1433	381	410	17			
1	C	283	Total	C	N	O	S	0	0	0
			2237	1431	381	408	17			
1	D	282	Total	C	N	O	S	0	0	0
			2237	1431	380	409	17			
1	E	283	Total	C	N	O	S	0	0	0
			2249	1439	382	411	17			
1	F	283	Total	C	N	O	S	0	0	0
			2242	1434	382	409	17			

- Molecule 2 is N-[(3S)-piperidin-3-yl]-7,8-dihydro-6H-pyrazolo[1,5-a]pyrrolo[3,2-e]pyrimidin-5-amine (three-letter code: YRZ) (formula: $C_{13}H_{18}N_6$).



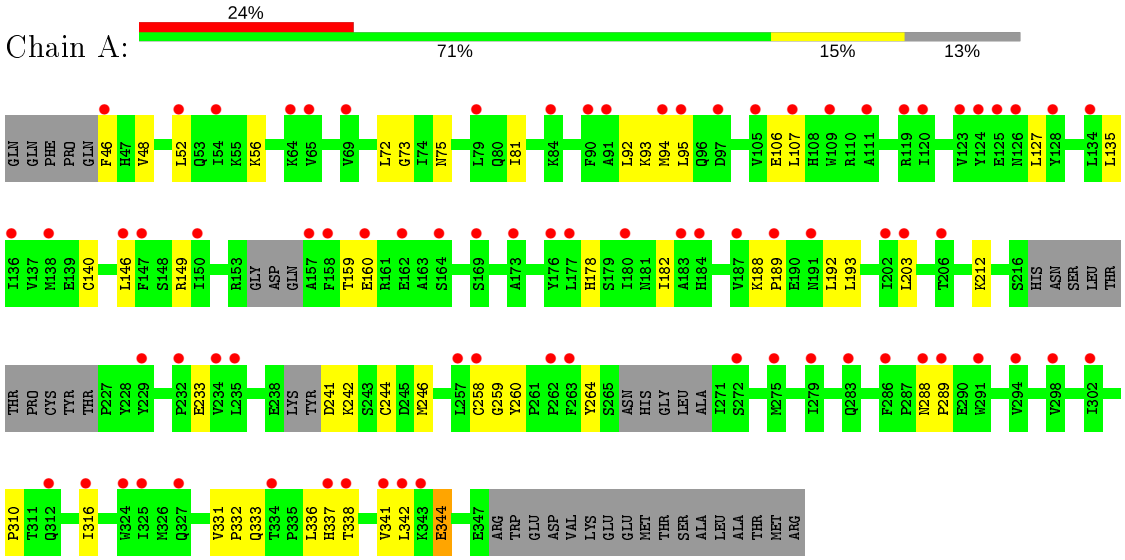
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C N 19 13 6	0	0
2	B	1	Total C N 19 13 6	0	0
2	C	1	Total C N 19 13 6	0	0
2	D	1	Total C N 19 13 6	0	0
2	E	1	Total C N 19 13 6	0	0
2	F	1	Total C N 19 13 6	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA and DNA 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.

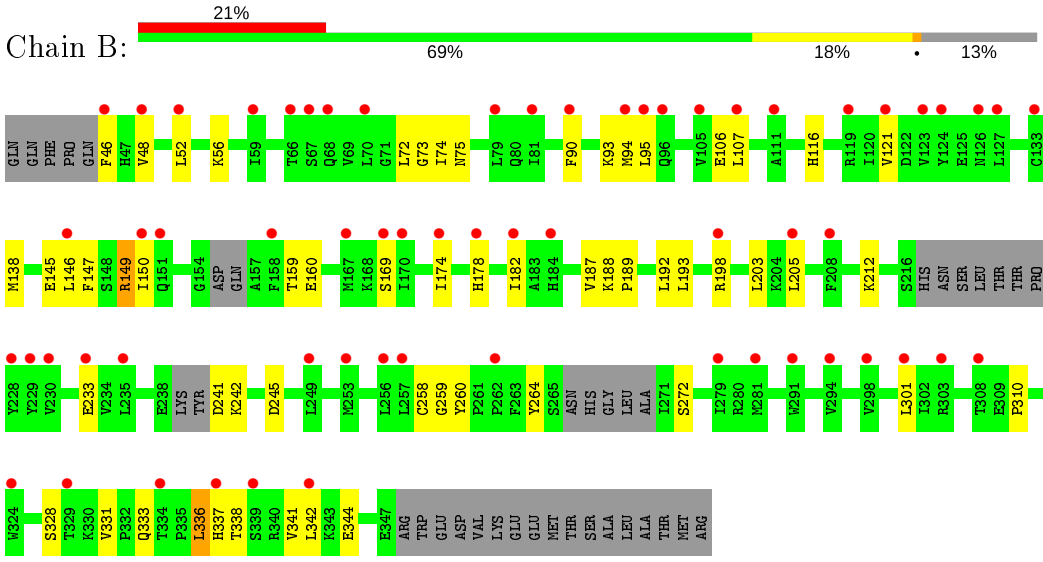
- Molecule 1: MAP kinase-activated protein kinase 2

Chain A:



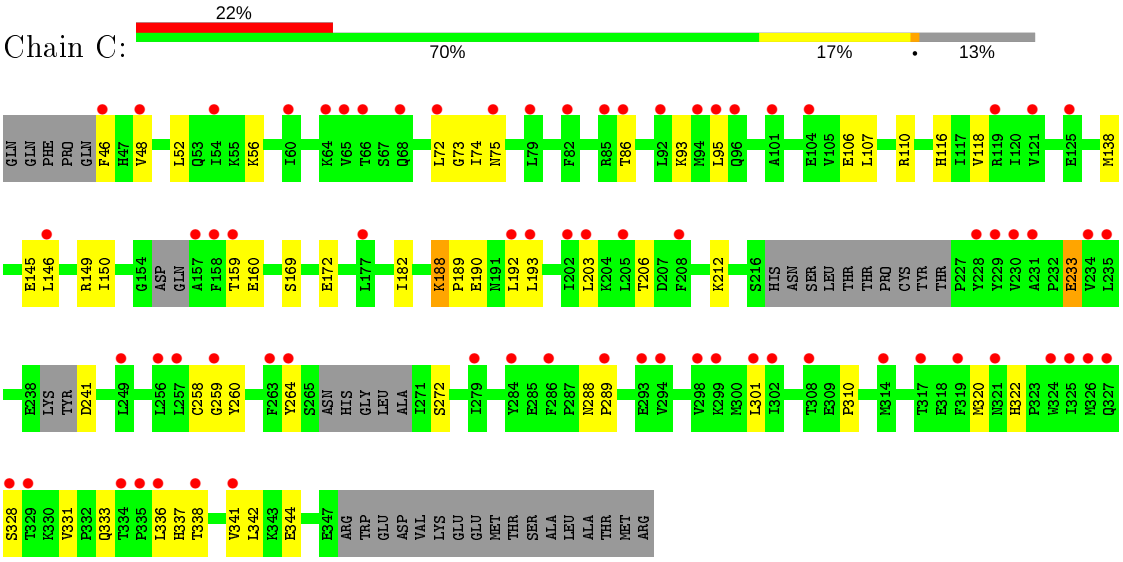
- Molecule 1: MAP kinase-activated protein kinase 2

Chain B:



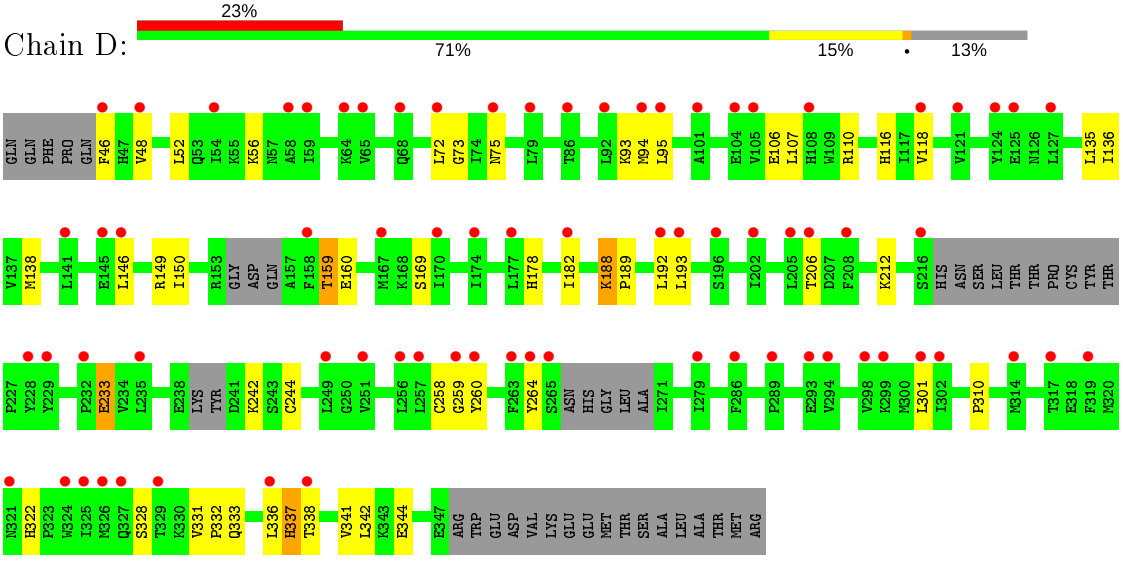
- Molecule 1: MAP kinase-activated protein kinase 2

Chain C:



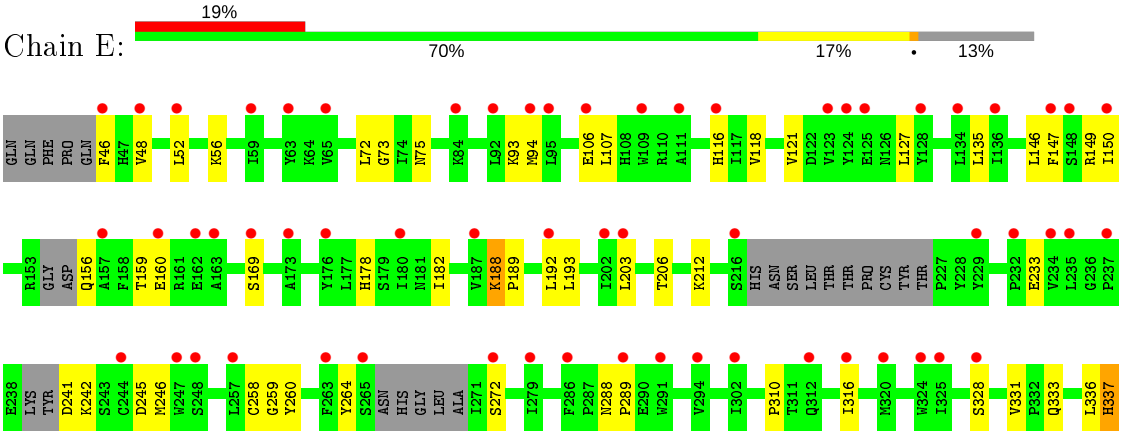
- Molecule 1: MAP kinase-activated protein kinase 2

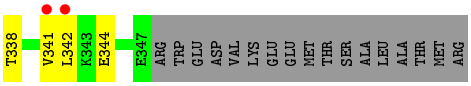
Chain D:



- Molecule 1: MAP kinase-activated protein kinase 2

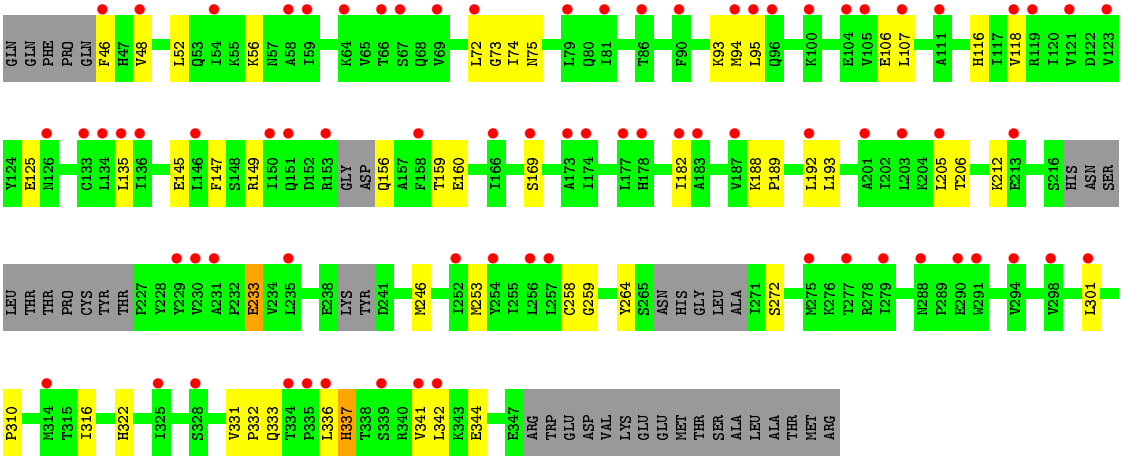
Chain E:





- Molecule 1: MAP kinase-activated protein kinase 2

Chain F:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	180.06Å 179.68Å 254.10Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 2.99 45.02 – 2.99	Depositor EDS
% Data completeness (in resolution range)	99.3 (30.00-2.99) 99.0 (45.02-2.99)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.28 (at 3.01Å)	Xtriage
Refinement program	REFMAC 5.5.0109	Depositor
R, R_{free}	0.240 , 0.283 0.235 , 0.275	Depositor DCC
R_{free} test set	4136 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	82.4	Xtriage
Anisotropy	0.111	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 45.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.51$, $< L^2 > = 0.35$	Xtriage
Estimated twinning fraction	0.466 for -1/2*h+1/2*k+1/2*l,1/2*h-1/2*k+1/2*l,h+k 0.467 for -1/2*h+1/2*k-1/2*l,1/2*h-1/2*k-1/2*l,-h-k 0.469 for k,h,-l 0.459 for -1/2*h-1/2*k-1/2*l,-1/2*h-1/2*k+1/2*l,-h+k 0.467 for -1/2*h-1/2*k+1/2*l,-1/2*h-1/2*k-1/2*l,h-k	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	13553	wwPDB-VP
Average B, all atoms (Å^2)	79.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.49% 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: YRZ

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	0.92	2/2280 (0.1%)	0.75	0/3083
1	B	0.91	0/2288	0.77	1/3093 (0.0%)
1	C	0.90	0/2284	0.76	0/3088
1	D	0.91	1/2284 (0.0%)	0.76	0/3088
1	E	0.89	0/2296	0.76	2/3104 (0.1%)
1	F	0.90	1/2289 (0.0%)	0.77	1/3095 (0.0%)
All	All	0.91	4/13721 (0.0%)	0.76	4/18551 (0.0%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	244	CYS	CB-SG	-5.23	1.73	1.81
1	A	140	CYS	CB-SG	-5.14	1.73	1.81
1	D	244	CYS	CB-SG	-5.03	1.73	1.81
1	F	125	GLU	CD-OE1	5.03	1.31	1.25

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	245	ASP	CB-CG-OD2	-5.39	113.45	118.30
1	B	245	ASP	CB-CG-OD2	-5.26	113.57	118.30
1	E	121	VAL	CB-CA-C	-5.18	101.56	111.40
1	F	205	LEU	CB-CG-CD2	-5.12	102.30	111.00

There are no chirality outliers.

There are no planarity outliers.

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	2233	0	2209	28	0
1	B	2241	0	2216	35	0
1	C	2237	0	2212	35	0
1	D	2237	0	2213	31	0
1	E	2249	0	2230	29	0
1	F	2242	0	2217	30	0
2	A	19	0	18	0	0
2	B	19	0	18	0	0
2	C	19	0	18	0	0
2	D	19	0	18	0	0
2	E	19	0	18	0	0
2	F	19	0	18	1	0
All	All	13553	0	13405	180	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.

All (180) 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:C:337:HIS:O	1:C:341:VAL:HG23	1.81	0.81
1:E:337:HIS:O	1:E:341:VAL:HG23	1.83	0.79
1:A:337:HIS:O	1:A:341:VAL:HG23	1.83	0.78
1:D:337:HIS:O	1:D:341:VAL:HG23	1.85	0.77
1:D:159:THR:HG22	1:D:333:GLN:O	1.86	0.74
1:A:159:THR:HG22	1:A:333:GLN:O	1.87	0.73
1:E:159:THR:HG22	1:E:333:GLN:O	1.90	0.70
1:B:337:HIS:O	1:B:341:VAL:HG23	1.95	0.67
1:D:52:LEU:HD23	1:D:106:GLU:OE2	1.98	0.64
1:E:344:GLU:N	1:E:344:GLU:OE2	2.31	0.64
1:D:344:GLU:OE2	1:D:344:GLU:N	2.31	0.63
1:B:72:LEU:HD23	1:B:73:GLY:N	2.13	0.63
1:A:344:GLU:OE2	1:A:344:GLU:N	2.33	0.61
1:B:160:GLU:HA	1:B:336:LEU:HD21	1.84	0.60
1:B:301:LEU:HD13	1:B:322:HIS:CD2	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:192:LEU:C	1:B:193:LEU:HD23	2.23	0.59
1:C:110:ARG:HG2	1:E:127:LEU:HD11	1.84	0.59
1:A:127:LEU:HD11	1:D:110:ARG:HG2	1.83	0.59
1:D:72:LEU:HD23	1:D:73:GLY:N	2.18	0.59
1:F:301:LEU:HD13	1:F:322:HIS:CD2	2.37	0.59
1:C:344:GLU:N	1:C:344:GLU:OE2	2.35	0.59
1:C:192:LEU:C	1:C:193:LEU:HD23	2.23	0.59
1:B:344:GLU:OE2	1:B:344:GLU:N	2.36	0.58
1:E:146:LEU:HD13	1:E:203:LEU:HD21	1.85	0.58
1:F:192:LEU:C	1:F:193:LEU:HD23	2.24	0.58
1:C:160:GLU:HA	1:C:336:LEU:HD21	1.85	0.58
1:C:146:LEU:O	1:C:150:ILE:HD13	2.04	0.58
1:D:160:GLU:HA	1:D:336:LEU:HD21	1.86	0.58
1:F:337:HIS:O	1:F:341:VAL:HG23	2.04	0.57
1:D:107:LEU:HD22	1:D:182:ILE:HG12	1.86	0.57
1:A:258:CYS:SG	1:A:259:GLY:N	2.78	0.57
1:A:94:MET:HG2	1:A:135:LEU:HD22	1.85	0.57
1:C:301:LEU:HD13	1:C:322:HIS:CD2	2.38	0.57
1:F:344:GLU:OE2	1:F:344:GLU:N	2.37	0.56
1:F:258:CYS:SG	1:F:259:GLY:N	2.78	0.56
1:C:52:LEU:HD23	1:C:106:GLU:OE2	2.06	0.56
1:D:75:ASN:HB3	1:D:95:LEU:HD22	1.88	0.55
1:E:94:MET:HG2	1:E:135:LEU:HD22	1.88	0.55
1:B:178:HIS:CE1	1:B:242:LYS:HB2	2.42	0.54
1:D:146:LEU:O	1:D:150:ILE:HD13	2.08	0.54
1:C:146:LEU:HD13	1:C:203:LEU:HD21	1.90	0.54
1:A:160:GLU:HA	1:A:336:LEU:HD21	1.90	0.54
1:B:159:THR:HG22	1:B:333:GLN:O	2.07	0.54
1:C:107:LEU:HD22	1:C:182:ILE:HG12	1.89	0.54
1:C:338:THR:O	1:C:342:LEU:HB2	2.08	0.54
1:F:107:LEU:HD22	1:F:182:ILE:HG12	1.89	0.54
1:F:159:THR:HG22	1:F:333:GLN:O	2.07	0.53
1:D:72:LEU:HD23	1:D:73:GLY:H	1.72	0.53
1:A:310:PRO:HG3	1:C:233:GLU:HG2	1.89	0.53
1:F:72:LEU:HD23	1:F:73:GLY:N	2.24	0.53
1:B:107:LEU:HD22	1:B:182:ILE:HG12	1.90	0.53
1:B:94:MET:HG2	1:B:135:LEU:HD22	1.89	0.53
1:F:75:ASN:HB3	1:F:95:LEU:HD22	1.91	0.53
1:F:193:LEU:N	1:F:193:LEU:HD23	2.24	0.53
1:B:193:LEU:HD23	1:B:193:LEU:N	2.23	0.52
1:C:258:CYS:SG	1:C:260:TYR:CE2	3.02	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:72:LEU:HD23	1:C:73:GLY:H	1.74	0.52
1:C:75:ASN:HB3	1:C:95:LEU:HD22	1.92	0.52
1:B:258:CYS:SG	1:B:259:GLY:N	2.84	0.51
1:A:72:LEU:HD23	1:A:73:GLY:H	1.76	0.51
1:D:328:SER:O	1:D:331:VAL:HG12	2.11	0.51
1:C:46:PHE:CE1	1:C:48:VAL:HG21	2.46	0.50
1:F:147:PHE:HB3	1:F:342:LEU:HD21	1.92	0.50
1:F:94:MET:HG2	1:F:135:LEU:HD22	1.94	0.50
1:A:188:LYS:HB2	1:A:189:PRO:CD	2.42	0.50
1:F:246:MET:HE1	1:F:316:ILE:HA	1.94	0.50
1:A:75:ASN:HD22	1:A:93:LYS:CE	2.25	0.49
1:E:258:CYS:SG	1:E:259:GLY:N	2.85	0.49
1:E:233:GLU:HG2	1:F:310:PRO:HG3	1.93	0.49
1:D:94:MET:HG2	1:D:135:LEU:HD22	1.93	0.49
1:E:75:ASN:HD22	1:E:93:LYS:HE3	1.78	0.49
1:F:72:LEU:HD23	1:F:73:GLY:H	1.77	0.49
1:B:52:LEU:HD23	1:B:106:GLU:OE2	2.13	0.49
1:E:46:PHE:CE1	1:E:48:VAL:HG21	2.47	0.49
1:F:160:GLU:HA	1:F:336:LEU:HD21	1.94	0.49
1:B:46:PHE:CE1	1:B:48:VAL:HG21	2.48	0.49
1:D:178:HIS:CE1	1:D:242:LYS:HB2	2.47	0.49
1:D:310:PRO:HG3	1:F:233:GLU:HG2	1.96	0.48
1:C:159:THR:HG22	1:C:333:GLN:O	2.12	0.48
1:D:301:LEU:HD13	1:D:322:HIS:CD2	2.49	0.48
1:E:52:LEU:HD23	1:E:106:GLU:OE2	2.14	0.48
1:F:253:MET:HE1	1:F:301:LEU:CD2	2.44	0.48
1:D:258:CYS:SG	1:D:259:GLY:N	2.87	0.47
1:D:233:GLU:HG2	1:E:310:PRO:HG3	1.95	0.47
1:C:72:LEU:HD23	1:C:73:GLY:N	2.30	0.47
1:A:178:HIS:CE1	1:A:242:LYS:HB2	2.50	0.47
1:B:93:LYS:HD3	1:B:138:MET:HE1	1.96	0.47
1:B:233:GLU:HG2	1:C:310:PRO:HG3	1.96	0.47
1:B:75:ASN:HD22	1:B:93:LYS:HE3	1.79	0.47
1:C:258:CYS:SG	1:C:259:GLY:N	2.87	0.47
1:E:107:LEU:HD22	1:E:182:ILE:HG12	1.95	0.47
1:C:75:ASN:HD22	1:C:93:LYS:HE3	1.80	0.47
1:C:188:LYS:HB2	1:C:189:PRO:CD	2.45	0.47
1:A:46:PHE:CE1	1:A:48:VAL:HG21	2.50	0.47
1:B:188:LYS:HB2	1:B:189:PRO:CD	2.46	0.46
1:D:116:HIS:CE1	1:D:169:SER:HB2	2.50	0.46
1:B:338:THR:O	1:B:342:LEU:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:192:LEU:C	1:A:193:LEU:HD23	2.36	0.46
1:B:146:LEU:HD13	1:B:203:LEU:HD21	1.98	0.46
1:D:338:THR:O	1:D:342:LEU:HB2	2.16	0.46
1:B:149:ARG:NH2	1:B:198:ARG:O	2.49	0.46
1:A:233:GLU:HG2	1:B:310:PRO:HG3	1.98	0.46
1:C:328:SER:O	1:C:331:VAL:HG12	2.16	0.46
1:E:160:GLU:HA	1:E:336:LEU:HD21	1.97	0.46
1:B:174:ILE:HD11	1:B:187:VAL:HG21	1.97	0.45
1:C:93:LYS:HD3	1:C:138:MET:HE1	1.97	0.45
1:D:192:LEU:C	1:D:193:LEU:HD23	2.37	0.45
1:E:178:HIS:CE1	1:E:242:LYS:HB2	2.52	0.45
1:E:338:THR:O	1:E:342:LEU:HB2	2.17	0.45
1:F:46:PHE:CE1	1:F:48:VAL:HG21	2.52	0.45
1:A:246:MET:HE1	1:A:316:ILE:HA	1.98	0.45
1:B:328:SER:O	1:B:331:VAL:HG12	2.17	0.45
1:A:146:LEU:HD13	1:A:203:LEU:HD21	1.99	0.44
1:F:253:MET:HE1	1:F:301:LEU:HD21	1.99	0.44
1:E:192:LEU:C	1:E:193:LEU:HD23	2.38	0.44
1:A:75:ASN:HD22	1:A:93:LYS:HE3	1.82	0.44
1:E:258:CYS:SG	1:E:260:TYR:CE2	3.07	0.44
1:F:52:LEU:HD23	1:F:106:GLU:OE2	2.17	0.44
1:A:75:ASN:HB3	1:A:95:LEU:HD22	2.00	0.44
1:C:172:GLU:HG3	1:C:320:MET:HE1	2.00	0.44
1:B:116:HIS:CE1	1:B:169:SER:HB2	2.53	0.44
1:C:160:GLU:CA	1:C:336:LEU:HD21	2.47	0.43
1:E:188:LYS:HB2	1:E:189:PRO:CD	2.47	0.43
1:F:74:ILE:H	1:F:74:ILE:HD12	1.83	0.43
1:C:116:HIS:CE1	1:C:169:SER:HB2	2.53	0.43
1:C:288:ASN:HB3	1:C:289:PRO:HA	2.01	0.43
1:D:258:CYS:SG	1:D:260:TYR:CE2	3.06	0.43
1:E:147:PHE:HB3	1:E:342:LEU:HD21	2.00	0.43
1:C:74:ILE:H	1:C:74:ILE:HD12	1.83	0.43
1:F:75:ASN:HD22	1:F:93:LYS:HE3	1.84	0.43
1:B:46:PHE:CE1	1:B:48:VAL:CG2	3.02	0.43
1:D:188:LYS:HB2	1:D:189:PRO:CD	2.48	0.43
1:A:81:ILE:HD13	1:A:92:LEU:HB2	2.00	0.43
1:B:258:CYS:SG	1:B:260:TYR:CE2	3.12	0.43
1:C:190:GLU:OE1	1:C:190:GLU:N	2.49	0.43
1:A:288:ASN:HB3	1:A:289:PRO:HA	1.99	0.43
1:C:46:PHE:CE1	1:C:48:VAL:CG2	3.02	0.42
1:D:331:VAL:HG23	1:D:332:PRO:HD2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:246:MET:HE1	1:E:316:ILE:HA	2.00	0.42
1:A:107:LEU:HD22	1:A:182:ILE:HG12	2.00	0.42
1:D:118:VAL:HB	1:D:206:THR:HG22	2.00	0.42
1:D:93:LYS:HD3	1:D:138:MET:HE1	2.01	0.42
1:F:145:GLU:HA	1:F:193:LEU:HD22	2.00	0.42
1:B:75:ASN:HB3	1:B:95:LEU:HD22	2.00	0.42
1:D:136:ILE:HG21	1:D:138:MET:HE2	2.01	0.42
1:D:46:PHE:CE1	1:D:48:VAL:HG21	2.54	0.42
1:E:46:PHE:CE1	1:E:48:VAL:CG2	3.03	0.42
1:D:160:GLU:CA	1:D:336:LEU:HD21	2.47	0.42
1:E:116:HIS:CE1	1:E:169:SER:HB2	2.55	0.42
1:F:118:VAL:HG21	2:F:901:YRZ:H17	2.01	0.42
1:D:159:THR:HG21	1:D:333:GLN:HB3	2.02	0.42
1:F:118:VAL:HB	1:F:206:THR:HG22	2.02	0.42
1:B:74:ILE:H	1:B:74:ILE:HD12	1.85	0.41
1:C:145:GLU:HA	1:C:193:LEU:HD22	2.01	0.41
1:E:146:LEU:HD13	1:E:203:LEU:CD2	2.49	0.41
1:E:72:LEU:HD23	1:E:73:GLY:H	1.85	0.41
1:A:258:CYS:SG	1:A:260:TYR:CE2	3.10	0.41
1:E:118:VAL:HB	1:E:206:THR:HG22	2.02	0.41
1:E:328:SER:O	1:E:331:VAL:HG12	2.20	0.41
1:A:338:THR:O	1:A:342:LEU:HB2	2.20	0.41
1:D:188:LYS:HB2	1:D:189:PRO:HD2	2.01	0.41
1:A:52:LEU:HD23	1:A:106:GLU:OE2	2.21	0.41
1:F:188:LYS:HB2	1:F:189:PRO:CD	2.51	0.41
1:F:331:VAL:HG23	1:F:332:PRO:HD2	2.03	0.41
1:F:46:PHE:CE1	1:F:48:VAL:CG2	3.04	0.41
1:B:72:LEU:HD23	1:B:73:GLY:H	1.84	0.41
1:C:193:LEU:HD23	1:C:193:LEU:N	2.35	0.41
1:A:331:VAL:HG23	1:A:332:PRO:HD2	2.03	0.41
1:B:192:LEU:HD21	1:B:205:LEU:HD13	2.02	0.41
1:E:288:ASN:HB3	1:E:289:PRO:HA	2.02	0.41
1:B:146:LEU:O	1:B:150:ILE:HD13	2.21	0.41
1:B:147:PHE:HB3	1:B:342:LEU:HD21	2.03	0.41
1:F:116:HIS:CE1	1:F:169:SER:HB2	2.56	0.41
1:E:146:LEU:O	1:E:150:ILE:HD13	2.21	0.41
1:A:75:ASN:HB3	1:A:95:LEU:CD2	2.51	0.40
1:B:90:PHE:CE2	1:B:121:VAL:HG21	2.56	0.40
1:B:145:GLU:HA	1:B:193:LEU:HD22	2.03	0.40
1:C:118:VAL:HB	1:C:206:THR:HG22	2.03	0.40
1:C:258:CYS:SG	1:C:260:TYR:CD2	3.14	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:72:LEU:HD23	1:A:73:GLY:N	2.36	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	272/324 (84%)	258 (95%)	14 (5%)	0	100	100
1	B	273/324 (84%)	258 (94%)	14 (5%)	1 (0%)	34	72
1	C	273/324 (84%)	257 (94%)	15 (6%)	1 (0%)	34	72
1	D	272/324 (84%)	257 (94%)	15 (6%)	0	100	100
1	E	273/324 (84%)	260 (95%)	12 (4%)	1 (0%)	34	72
1	F	273/324 (84%)	261 (96%)	11 (4%)	1 (0%)	34	72
All	All	1636/1944 (84%)	1551 (95%)	81 (5%)	4 (0%)	47	82

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	E	272	SER
1	F	272	SER
1	B	272	SER
1	C	272	SER

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	243/293 (83%)	237 (98%)	6 (2%)	47 79
1	B	244/293 (83%)	238 (98%)	6 (2%)	47 79
1	C	243/293 (83%)	235 (97%)	8 (3%)	38 73
1	D	244/293 (83%)	236 (97%)	8 (3%)	38 73
1	E	246/293 (84%)	238 (97%)	8 (3%)	38 73
1	F	244/293 (83%)	237 (97%)	7 (3%)	42 76
All	All	1464/1758 (83%)	1421 (97%)	43 (3%)	42 76

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

Mol	Chain	Res	Type
1	A	56	LYS
1	A	149	ARG
1	A	212	LYS
1	A	241	ASP
1	A	264	TYR
1	A	344	GLU
1	B	56	LYS
1	B	149	ARG
1	B	212	LYS
1	B	241	ASP
1	B	264	TYR
1	B	336	LEU
1	C	56	LYS
1	C	86	THR
1	C	149	ARG
1	C	188	LYS
1	C	212	LYS
1	C	233	GLU
1	C	241	ASP
1	C	264	TYR
1	D	56	LYS
1	D	149	ARG
1	D	159	THR
1	D	188	LYS
1	D	212	LYS
1	D	233	GLU
1	D	264	TYR
1	D	337	HIS

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Mol	Chain	Res	Type
1	E	56	LYS
1	E	149	ARG
1	E	156	GLN
1	E	188	LYS
1	E	212	LYS
1	E	241	ASP
1	E	264	TYR
1	E	337	HIS
1	F	56	LYS
1	F	149	ARG
1	F	156	GLN
1	F	212	LYS
1	F	233	GLU
1	F	264	TYR
1	F	337	HIS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (41) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	53	GLN
1	A	68	GLN
1	A	75	ASN
1	A	80	GLN
1	A	87	GLN
1	A	184	HIS
1	A	304	ASN
1	B	53	GLN
1	B	75	ASN
1	B	80	GLN
1	B	87	GLN
1	B	184	HIS
1	B	304	ASN
1	C	53	GLN
1	C	75	ASN
1	C	80	GLN
1	C	87	GLN
1	C	126	ASN
1	C	184	HIS
1	C	304	ASN
1	D	53	GLN
1	D	68	GLN
1	D	75	ASN

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Mol	Chain	Res	Type
1	D	80	GLN
1	D	87	GLN
1	D	184	HIS
1	D	304	ASN
1	E	53	GLN
1	E	68	GLN
1	E	75	ASN
1	E	80	GLN
1	E	87	GLN
1	E	184	HIS
1	E	304	ASN
1	F	53	GLN
1	F	68	GLN
1	F	75	ASN
1	F	80	GLN
1	F	87	GLN
1	F	184	HIS
1	F	304	ASN

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 carbohydrates in this entry.

5.6 Ligand geometry

6 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	YRZ	E	901	-	13,22,22	1.36	2 (15%)	15,31,31	2.55	5 (33%)
2	YRZ	F	901	-	13,22,22	1.21	2 (15%)	15,31,31	2.59	5 (33%)
2	YRZ	D	901	-	13,22,22	1.50	2 (15%)	15,31,31	2.50	6 (40%)
2	YRZ	A	901	-	13,22,22	1.47	3 (23%)	15,31,31	2.34	3 (20%)
2	YRZ	B	901	-	13,22,22	1.54	3 (23%)	15,31,31	2.39	5 (33%)
2	YRZ	C	901	-	13,22,22	1.37	2 (15%)	15,31,31	2.29	5 (33%)

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	YRZ	E	901	-	-	1/4/18/18	0/4/4/4
2	YRZ	F	901	-	-	1/4/18/18	0/4/4/4
2	YRZ	D	901	-	-	0/4/18/18	0/4/4/4
2	YRZ	A	901	-	-	0/4/18/18	0/4/4/4
2	YRZ	B	901	-	-	0/4/18/18	0/4/4/4
2	YRZ	C	901	-	-	0/4/18/18	0/4/4/4

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	901	YRZ	C17-N18	3.55	1.36	1.31
2	D	901	YRZ	C17-N18	3.49	1.36	1.31
2	A	901	YRZ	C17-N18	3.32	1.35	1.31
2	E	901	YRZ	C17-N18	3.18	1.35	1.31
2	C	901	YRZ	C17-N18	3.04	1.35	1.31
2	B	901	YRZ	C1-C17	2.58	1.47	1.42
2	C	901	YRZ	C1-C17	2.57	1.47	1.42
2	D	901	YRZ	C1-C17	2.47	1.47	1.42
2	A	901	YRZ	C1-C17	2.43	1.47	1.42
2	E	901	YRZ	C1-C17	2.41	1.47	1.42
2	B	901	YRZ	C13-N18	2.34	1.37	1.34
2	F	901	YRZ	C17-N18	2.33	1.34	1.31
2	A	901	YRZ	C13-N18	2.24	1.37	1.34
2	F	901	YRZ	C1-C17	2.12	1.46	1.42

All (29) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	F	901	YRZ	C1-C17-N18	-7.50	115.74	122.77
2	E	901	YRZ	C1-C17-N18	-7.04	116.17	122.77
2	D	901	YRZ	C1-C17-N18	-6.90	116.31	122.77
2	C	901	YRZ	C1-C17-N18	-6.69	116.50	122.77
2	B	901	YRZ	C1-C17-N18	-6.62	116.56	122.77
2	A	901	YRZ	C1-C17-N18	-6.51	116.67	122.77
2	F	901	YRZ	C14-C13-N12	-3.92	102.42	108.11
2	A	901	YRZ	C14-C13-N12	-3.84	102.53	108.11
2	D	901	YRZ	C14-C13-N12	-3.77	102.64	108.11
2	C	901	YRZ	C14-C13-N12	-3.74	102.68	108.11
2	B	901	YRZ	C14-C13-N12	-3.72	102.71	108.11
2	E	901	YRZ	C14-C13-N12	-3.58	102.92	108.11
2	E	901	YRZ	C17-N18-C13	3.23	120.37	117.58
2	F	901	YRZ	C17-N18-C13	2.75	119.96	117.58
2	D	901	YRZ	C11-C6-C7	-2.57	106.64	109.81
2	B	901	YRZ	N19-C17-N18	2.47	124.01	118.88
2	D	901	YRZ	N19-C17-N18	2.40	123.87	118.88
2	E	901	YRZ	C4-C5-C1	-2.40	100.21	103.19
2	B	901	YRZ	C4-C5-C1	-2.39	100.21	103.19
2	F	901	YRZ	N19-C17-N18	2.39	123.85	118.88
2	D	901	YRZ	C17-N18-C13	2.35	119.61	117.58
2	A	901	YRZ	N19-C17-N18	2.29	123.64	118.88
2	E	901	YRZ	N19-C17-N18	2.23	123.51	118.88
2	F	901	YRZ	C4-C5-C1	-2.19	100.46	103.19
2	D	901	YRZ	C4-C5-C1	-2.12	100.55	103.19
2	C	901	YRZ	C17-N18-C13	2.08	119.38	117.58
2	C	901	YRZ	N19-C17-N18	2.08	123.20	118.88
2	B	901	YRZ	C17-N18-C13	2.06	119.36	117.58
2	C	901	YRZ	C4-C5-C1	-2.02	100.68	103.19

There are no chirality outliers.

All (2) torsion outliers are listed below:

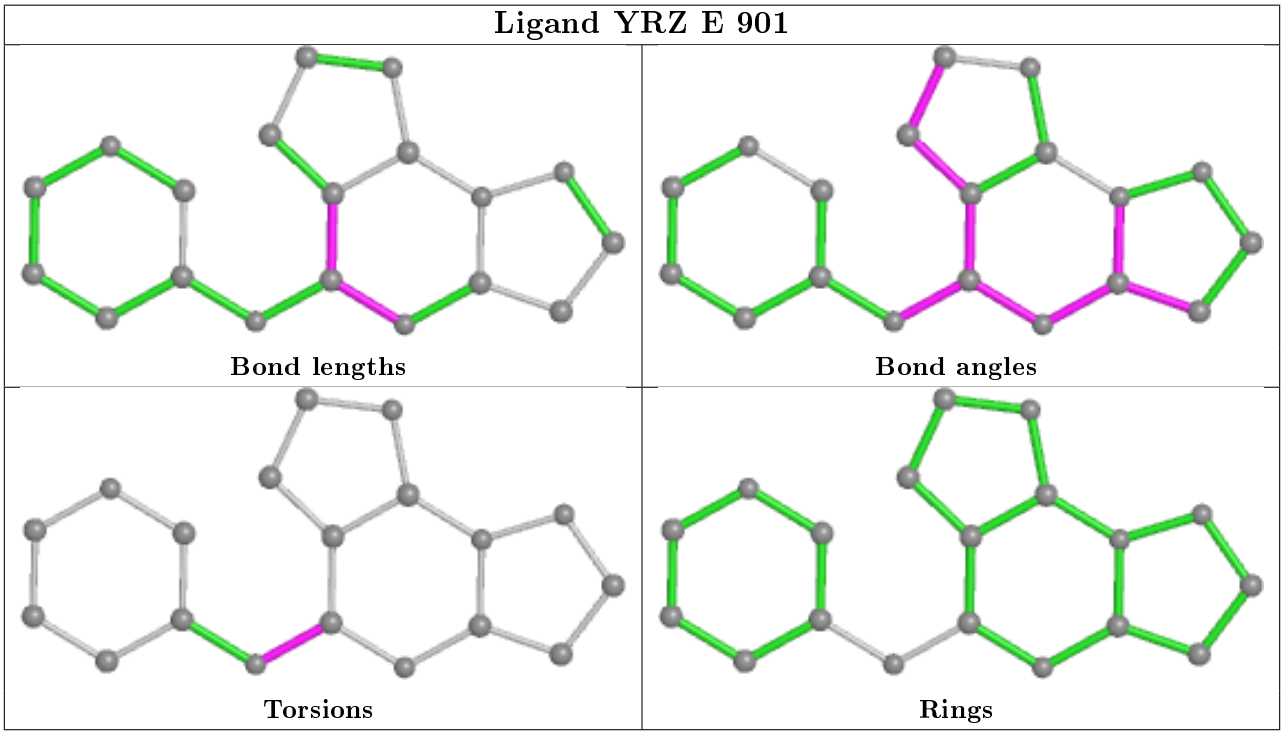
Mol	Chain	Res	Type	Atoms
2	E	901	YRZ	N18-C17-N19-C6
2	F	901	YRZ	N18-C17-N19-C6

There are no ring outliers.

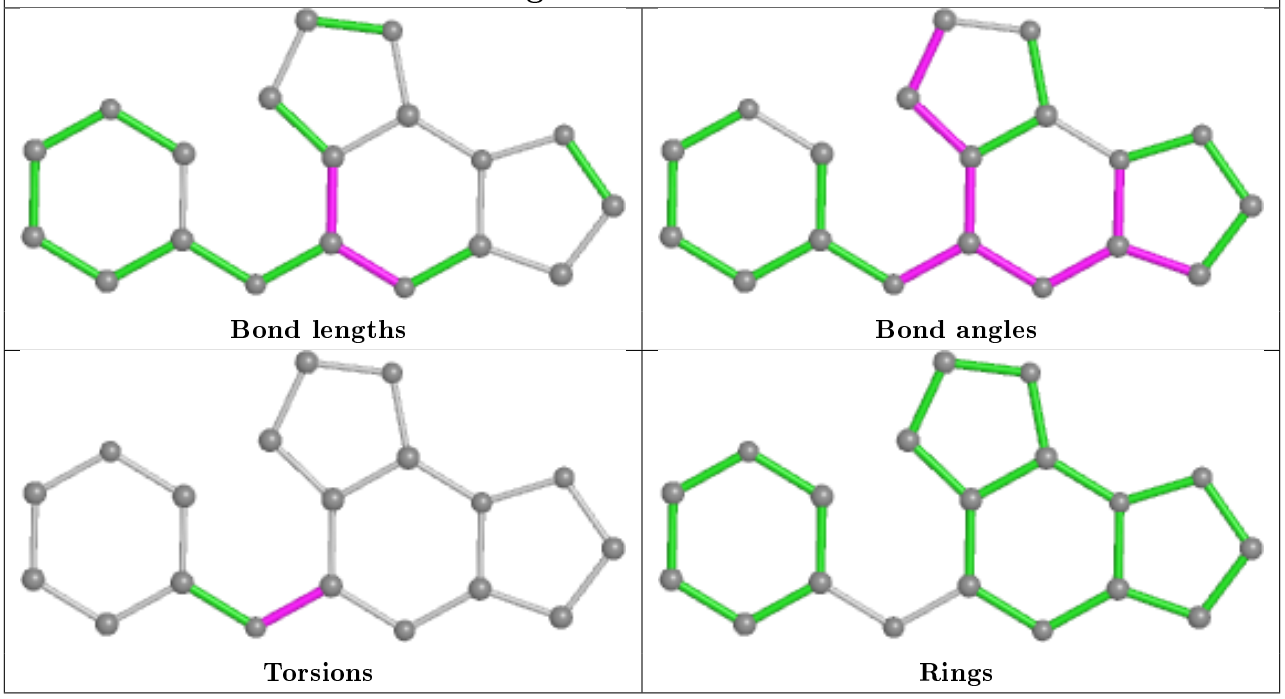
1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	F	901	YRZ	1	0

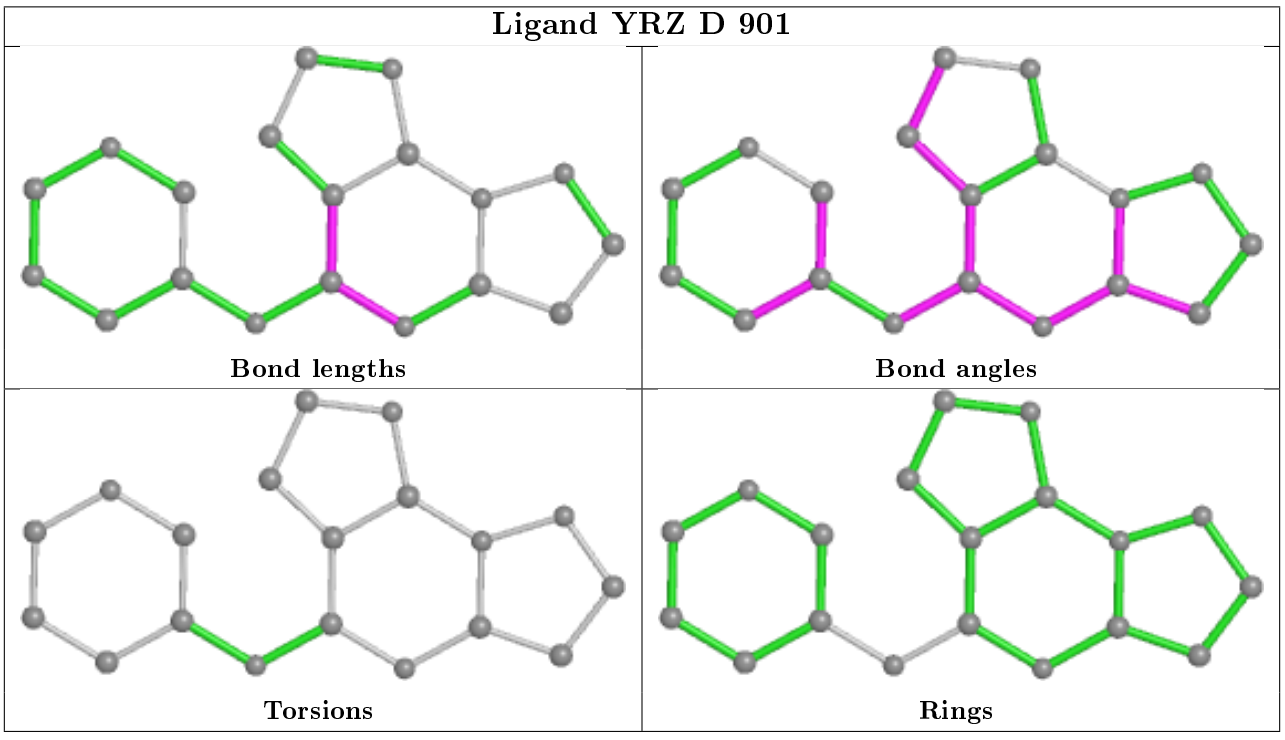
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.



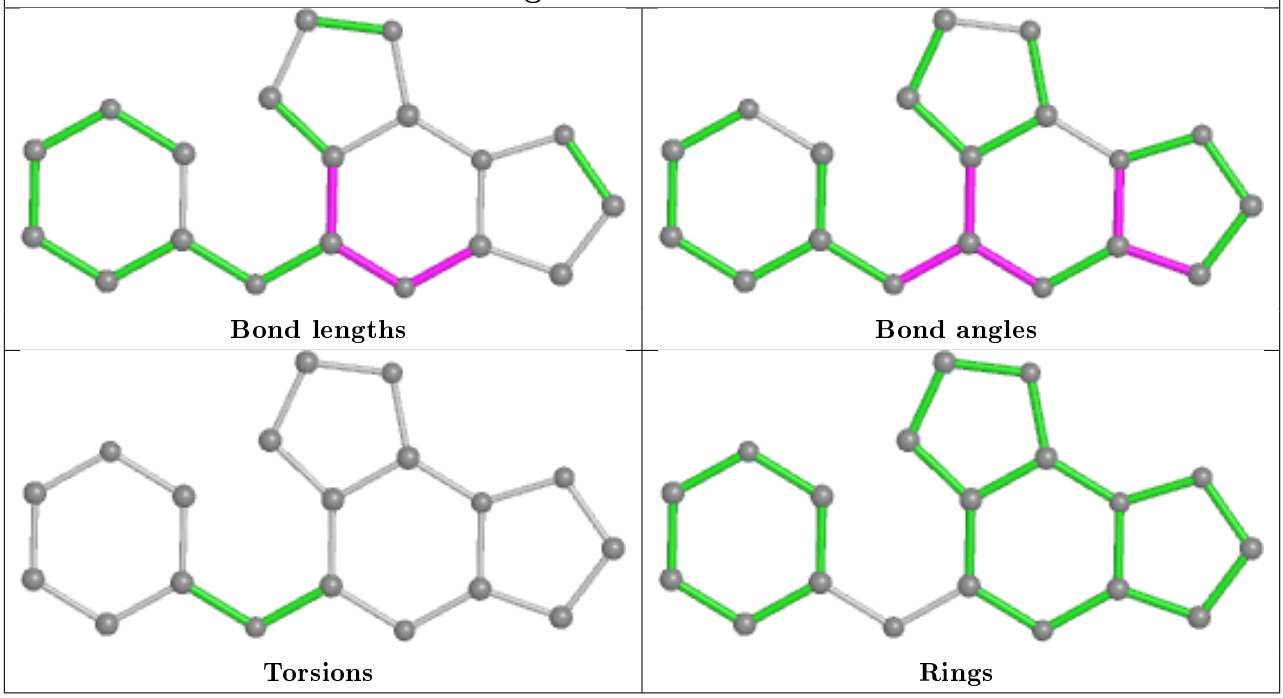
Ligand YRZ F 901



Ligand YRZ D 901



Ligand YRZ A 901



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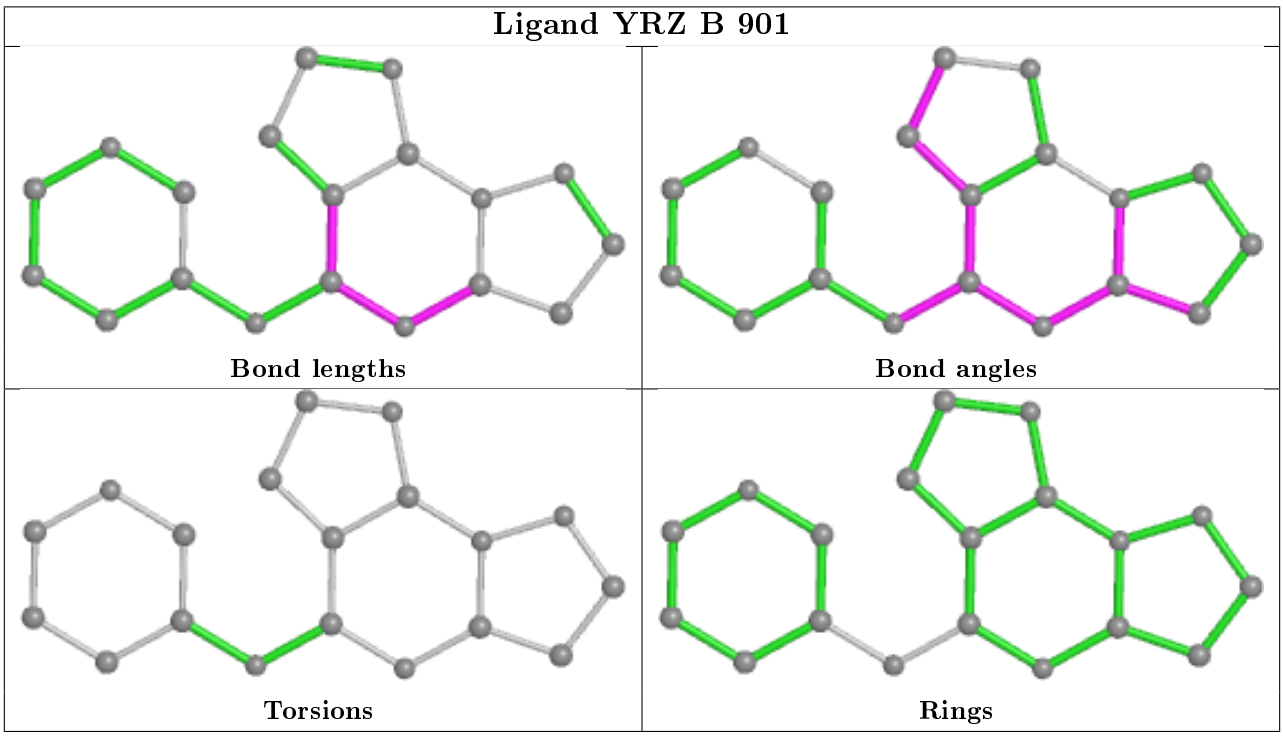
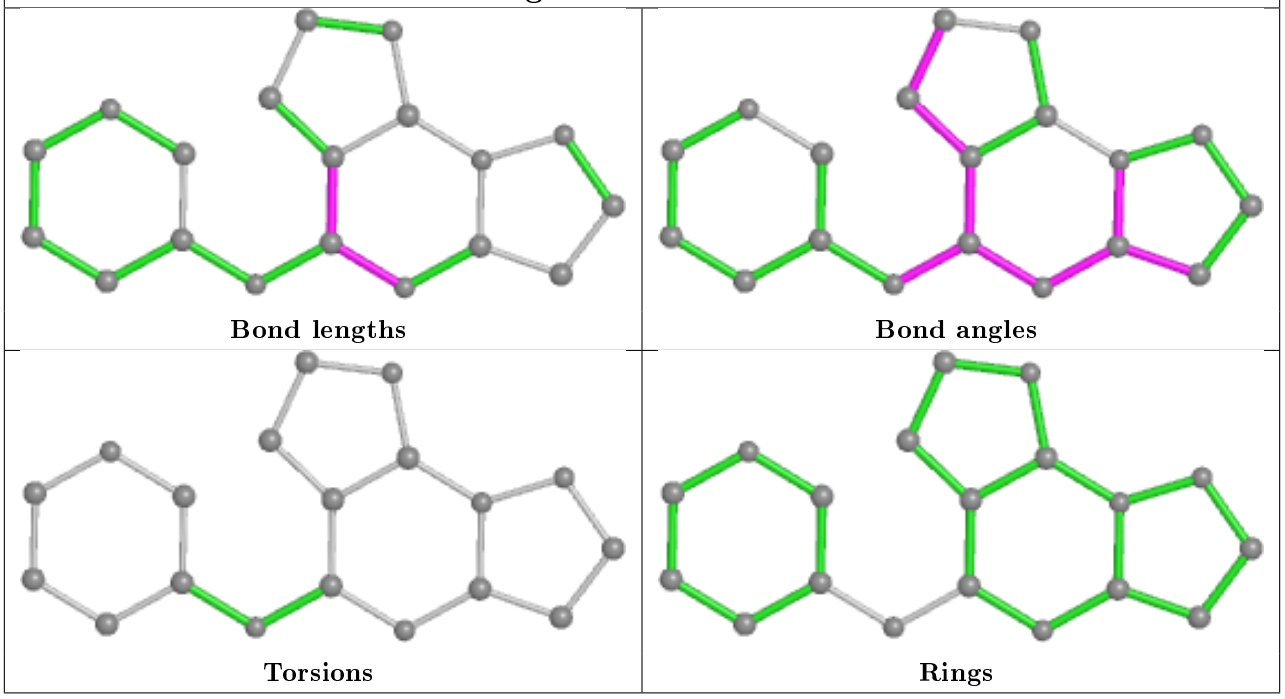


Ligand YRZ C 901



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	282/324 (87%)	1.43	78 (27%)	0	0	49, 75, 116, 133	0
1	B	283/324 (87%)	1.38	67 (23%)	0	0	49, 76, 116, 131	0
1	C	283/324 (87%)	1.38	72 (25%)	0	0	49, 76, 115, 130	0
1	D	282/324 (87%)	1.36	74 (26%)	0	0	48, 75, 113, 130	0
1	E	283/324 (87%)	1.32	62 (21%)	0	0	49, 76, 118, 132	0
1	F	283/324 (87%)	1.38	76 (26%)	0	0	49, 76, 119, 131	0
All	All	1696/1944 (87%)	1.38	429 (25%)	0	0	48, 76, 117, 133	0

All (429) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	339	SER	6.9
1	B	46	PHE	6.6
1	C	157	ALA	6.6
1	D	229	TYR	6.2
1	D	228	TYR	6.1
1	C	158	PHE	5.9
1	E	46	PHE	5.9
1	A	235	LEU	5.9
1	D	264	TYR	5.7
1	B	256	LEU	5.6
1	D	158	PHE	5.3
1	A	128	TYR	4.9
1	C	229	TYR	4.9
1	D	249	LEU	4.9
1	C	256	LEU	4.9
1	A	157	ALA	4.9
1	D	256	LEU	4.8
1	B	339	SER	4.8
1	C	230	VAL	4.7

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Mol	Chain	Res	Type	RSRZ
1	E	279	ILE	4.7
1	A	169	SER	4.6
1	C	54	ILE	4.6
1	F	150	ILE	4.4
1	C	264	TYR	4.4
1	C	46	PHE	4.3
1	C	249	LEU	4.2
1	B	205	LEU	4.2
1	E	150	ILE	4.2
1	F	46	PHE	4.2
1	A	46	PHE	4.2
1	C	228	TYR	4.1
1	C	66	THR	4.1
1	F	67	SER	4.1
1	A	147	PHE	4.1
1	F	257	LEU	4.1
1	E	265	SER	4.1
1	E	216	SER	4.1
1	D	326	MET	4.1
1	C	286	PHE	4.1
1	F	64	LYS	4.0
1	A	150	ILE	4.0
1	B	230	VAL	4.0
1	D	54	ILE	4.0
1	B	334	THR	4.0
1	C	338	THR	3.9
1	D	329	THR	3.9
1	C	294	VAL	3.9
1	D	235	LEU	3.9
1	B	133	CYS	3.9
1	F	95	LEU	3.8
1	A	289	PRO	3.8
1	F	290	GLU	3.8
1	D	263	PHE	3.8
1	B	94	MET	3.8
1	B	257	LEU	3.7
1	B	337	HIS	3.7
1	F	48	VAL	3.7
1	B	342	LEU	3.7
1	F	182	ILE	3.7
1	D	72	LEU	3.7
1	D	324	TRP	3.7

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Mol	Chain	Res	Type	RSRZ
1	A	125	GLU	3.6
1	E	342	LEU	3.6
1	E	157	ALA	3.6
1	A	187	VAL	3.6
1	B	235	LEU	3.6
1	D	338	THR	3.6
1	B	95	LEU	3.6
1	D	92	LEU	3.6
1	F	153	ARG	3.6
1	F	235	LEU	3.6
1	A	234	VAL	3.6
1	D	208	PHE	3.5
1	B	308	THR	3.5
1	C	208	PHE	3.5
1	F	118	VAL	3.5
1	C	72	LEU	3.4
1	D	257	LEU	3.4
1	A	279	ILE	3.4
1	C	302	ILE	3.4
1	F	183	ALA	3.4
1	F	291	TRP	3.4
1	C	159	THR	3.4
1	C	259	GLY	3.4
1	B	249	LEU	3.4
1	E	169	SER	3.3
1	A	263	PHE	3.3
1	E	234	VAL	3.3
1	B	298	VAL	3.3
1	E	94	MET	3.3
1	F	94	MET	3.3
1	D	79	LEU	3.3
1	A	312	GLN	3.3
1	B	68	GLN	3.3
1	A	341	VAL	3.3
1	F	294	VAL	3.3
1	C	329	THR	3.3
1	E	232	PRO	3.3
1	D	265	SER	3.2
1	D	260	TYR	3.2
1	F	229	TYR	3.2
1	C	65	VAL	3.2
1	E	128	TYR	3.2

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Mol	Chain	Res	Type	RSRZ
1	F	79	LEU	3.2
1	B	127	LEU	3.2
1	B	150	ILE	3.2
1	B	301	LEU	3.2
1	B	174	ILE	3.2
1	A	111	ALA	3.2
1	D	46	PHE	3.2
1	D	286	PHE	3.2
1	D	294	VAL	3.2
1	B	67	SER	3.2
1	A	160	GLU	3.2
1	C	234	VAL	3.1
1	F	342	LEU	3.1
1	C	263	PHE	3.1
1	A	124	TYR	3.1
1	D	336	LEU	3.1
1	A	232	PRO	3.1
1	C	289	PRO	3.1
1	B	48	VAL	3.1
1	E	52	LEU	3.1
1	C	48	VAL	3.1
1	F	72	LEU	3.1
1	C	279	ILE	3.1
1	A	342	LEU	3.1
1	A	164	SER	3.0
1	C	92	LEU	3.0
1	D	325	ILE	3.0
1	A	275	MET	3.0
1	B	279	ILE	3.0
1	E	124	TYR	3.0
1	F	121	VAL	3.0
1	C	94	MET	3.0
1	B	70	LEU	3.0
1	C	146	LEU	3.0
1	A	298	VAL	3.0
1	B	146	LEU	3.0
1	C	75	ASN	3.0
1	B	229	TYR	2.9
1	C	257	LEU	2.9
1	D	48	VAL	2.9
1	A	337	HIS	2.9
1	B	303	ARG	2.9

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Mol	Chain	Res	Type	RSRZ
1	C	235	LEU	2.9
1	F	256	LEU	2.9
1	F	104	GLU	2.9
1	F	123	VAL	2.9
1	F	86	THR	2.9
1	F	279	ILE	2.9
1	B	329	THR	2.9
1	E	289	PRO	2.8
1	A	136	ILE	2.8
1	E	123	VAL	2.8
1	F	158	PHE	2.8
1	D	289	PRO	2.8
1	C	64	LYS	2.8
1	A	302	ILE	2.8
1	C	324	TRP	2.8
1	E	134	LEU	2.8
1	E	162	GLU	2.8
1	B	134	LEU	2.8
1	C	96	GLN	2.8
1	A	272	SER	2.8
1	B	66	THR	2.8
1	C	205	LEU	2.8
1	F	192	LEU	2.8
1	E	324	TRP	2.8
1	F	96	GLN	2.8
1	A	324	TRP	2.8
1	A	189	PRO	2.8
1	E	65	VAL	2.8
1	D	86	THR	2.8
1	F	334	THR	2.8
1	A	94	MET	2.7
1	B	314	MET	2.7
1	C	202	ILE	2.7
1	E	263	PHE	2.7
1	E	312	GLN	2.7
1	C	192	LEU	2.7
1	D	317	THR	2.7
1	D	321	ASN	2.7
1	A	158	PHE	2.7
1	F	81	ILE	2.7
1	B	119	ARG	2.7
1	F	301	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
1	F	201	ALA	2.7
1	F	134	LEU	2.7
1	B	182	ILE	2.7
1	C	85	ARG	2.7
1	C	95	LEU	2.7
1	E	294	VAL	2.7
1	E	63	TYR	2.7
1	D	293	GLU	2.7
1	D	182	ILE	2.6
1	F	335	PRO	2.6
1	C	326	MET	2.6
1	E	235	LEU	2.6
1	E	125	GLU	2.6
1	B	169	SER	2.6
1	E	59	ILE	2.6
1	E	244	CYS	2.6
1	F	174	ILE	2.6
1	A	134	LEU	2.6
1	F	177	LEU	2.6
1	A	338	THR	2.6
1	A	109	TRP	2.6
1	C	298	VAL	2.6
1	C	79	LEU	2.6
1	A	97	ASP	2.6
1	D	196	SER	2.6
1	F	341	VAL	2.6
1	E	160	GLU	2.6
1	D	64	LYS	2.6
1	A	123	VAL	2.6
1	B	228	TYR	2.6
1	D	298	VAL	2.6
1	F	230	VAL	2.6
1	B	59	ILE	2.6
1	B	81	ILE	2.6
1	C	334	THR	2.6
1	E	325	ILE	2.6
1	F	205	LEU	2.6
1	E	111	ALA	2.6
1	B	123	VAL	2.5
1	F	298	VAL	2.5
1	E	302	ILE	2.5
1	A	294	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
1	B	262	PRO	2.5
1	C	68	GLN	2.5
1	A	191	ASN	2.5
1	B	107	LEU	2.5
1	F	203	LEU	2.5
1	B	124	TYR	2.5
1	A	180	ILE	2.5
1	F	166	ILE	2.5
1	D	108	HIS	2.5
1	E	147	PHE	2.5
1	E	286	PHE	2.5
1	F	90	PHE	2.5
1	F	325	ILE	2.5
1	F	66	THR	2.5
1	E	163	ALA	2.5
1	C	284	TYR	2.5
1	C	327	GLN	2.5
1	B	52	LEU	2.5
1	B	79	LEU	2.5
1	E	203	LEU	2.5
1	A	173	ALA	2.5
1	A	176	TYR	2.5
1	A	79	LEU	2.5
1	F	252	ILE	2.5
1	F	328	SER	2.5
1	F	126	ASN	2.5
1	D	94	MET	2.5
1	E	95	LEU	2.5
1	C	321	ASN	2.4
1	F	288	ASN	2.4
1	A	291	TRP	2.4
1	A	52	LEU	2.4
1	B	233	GLU	2.4
1	B	121	VAL	2.4
1	D	259	GLY	2.4
1	D	167	MET	2.4
1	B	96	GLN	2.4
1	B	151	GLN	2.4
1	B	198	ARG	2.4
1	A	343	LYS	2.4
1	A	54	ILE	2.4
1	A	202	ILE	2.4

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Mol	Chain	Res	Type	RSRZ
1	D	193	LEU	2.4
1	D	319	PHE	2.4
1	A	146	LEU	2.4
1	F	59	ILE	2.4
1	C	314	MET	2.4
1	B	126	ASN	2.4
1	C	203	LEU	2.4
1	D	124	TYR	2.4
1	D	314	MET	2.4
1	E	109	TRP	2.4
1	E	173	ALA	2.4
1	A	177	LEU	2.4
1	A	84	LYS	2.4
1	A	162	GLU	2.4
1	D	232	PRO	2.4
1	B	208	PHE	2.3
1	D	125	GLU	2.3
1	E	48	VAL	2.3
1	D	101	ALA	2.3
1	D	177	LEU	2.3
1	E	257	LEU	2.3
1	B	294	VAL	2.3
1	C	193	LEU	2.3
1	B	291	TRP	2.3
1	C	293	GLU	2.3
1	D	59	ILE	2.3
1	A	286	PHE	2.3
1	F	119	ARG	2.3
1	A	138	MET	2.3
1	D	145	GLU	2.3
1	E	316	ILE	2.3
1	E	176	TYR	2.3
1	F	58	ALA	2.3
1	A	288	ASN	2.3
1	C	341	VAL	2.3
1	D	327	GLN	2.3
1	B	253	MET	2.3
1	D	141	LEU	2.3
1	F	107	LEU	2.3
1	F	133	CYS	2.3
1	C	60	ILE	2.3
1	C	119	ARG	2.3

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Mol	Chain	Res	Type	RSRZ
1	D	205	LEU	2.3
1	A	316	ILE	2.3
1	F	254	TYR	2.3
1	E	148	SER	2.3
1	E	341	VAL	2.3
1	A	203	LEU	2.3
1	C	177	LEU	2.3
1	E	180	ILE	2.3
1	A	95	LEU	2.2
1	A	107	LEU	2.2
1	F	135	LEU	2.2
1	A	120	ILE	2.2
1	A	69	VAL	2.2
1	C	86	THR	2.2
1	C	301	LEU	2.2
1	E	247	TRP	2.2
1	F	136	ILE	2.2
1	F	275	MET	2.2
1	D	121	VAL	2.2
1	D	251	VAL	2.2
1	A	64	LYS	2.2
1	F	169	SER	2.2
1	D	127	LEU	2.2
1	D	192	LEU	2.2
1	B	281	MET	2.2
1	E	106	GLU	2.2
1	C	308	THR	2.2
1	E	328	SER	2.2
1	C	335	PRO	2.2
1	B	135	LEU	2.2
1	C	104	GLU	2.2
1	C	125	GLU	2.2
1	A	262	PRO	2.2
1	B	158	PHE	2.2
1	C	336	LEU	2.2
1	C	101	ALA	2.2
1	F	54	ILE	2.2
1	B	178	HIS	2.2
1	A	65	VAL	2.2
1	A	325	ILE	2.2
1	E	202	ILE	2.2
1	A	327	GLN	2.2

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Mol	Chain	Res	Type	RSRZ
1	F	314	MET	2.2
1	E	187	VAL	2.2
1	A	183	ALA	2.2
1	A	283	GLN	2.2
1	A	184	HIS	2.2
1	A	90	PHE	2.1
1	D	279	ILE	2.1
1	C	328	SER	2.1
1	A	229	TYR	2.1
1	A	257	LEU	2.1
1	D	302	ILE	2.1
1	E	136	ILE	2.1
1	D	105	VAL	2.1
1	A	91	ALA	2.1
1	D	104	GLU	2.1
1	D	301	LEU	2.1
1	F	213	GLU	2.1
1	D	75	ASN	2.1
1	A	105	VAL	2.1
1	C	121	VAL	2.1
1	C	317	THR	2.1
1	D	206	THR	2.1
1	F	336	LEU	2.1
1	D	58	ALA	2.1
1	D	174	ILE	2.1
1	A	258	CYS	2.1
1	D	299	LYS	2.1
1	E	237	PRO	2.1
1	A	119	ARG	2.1
1	B	90	PHE	2.1
1	F	146	LEU	2.1
1	D	65	VAL	2.1
1	E	320	MET	2.1
1	E	248	SER	2.1
1	E	272	SER	2.1
1	F	151	GLN	2.1
1	C	325	ILE	2.1
1	F	173	ALA	2.1
1	A	126	ASN	2.1
1	D	146	LEU	2.1
1	E	84	LYS	2.1
1	E	116	HIS	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	324	TRP	2.1
1	A	334	THR	2.1
1	D	118	VAL	2.1
1	F	100	LYS	2.1
1	B	184	HIS	2.0
1	C	319	PHE	2.1
1	E	291	TRP	2.0
1	D	170	ILE	2.0
1	F	69	VAL	2.0
1	F	187	VAL	2.0
1	B	170	ILE	2.0
1	D	216	SER	2.0
1	A	206	THR	2.0
1	F	277	THR	2.0
1	B	105	VAL	2.0
1	D	68	GLN	2.0
1	F	178	HIS	2.0
1	B	136	ILE	2.0
1	D	202	ILE	2.0
1	B	111	ALA	2.0
1	C	231	ALA	2.0
1	F	111	ALA	2.0
1	B	167	MET	2.0
1	E	92	LEU	2.0
1	E	192	LEU	2.0
1	C	299	LYS	2.0
1	B	322	HIS	2.0
1	F	231	ALA	2.0
1	E	229	TYR	2.0
1	F	105	VAL	2.0
1	C	82	PHE	2.0
1	D	95	LEU	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 carbohydrates in this entry.

6.4 Ligands

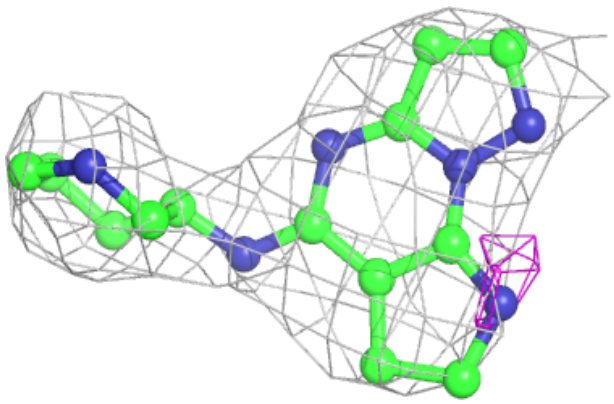
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

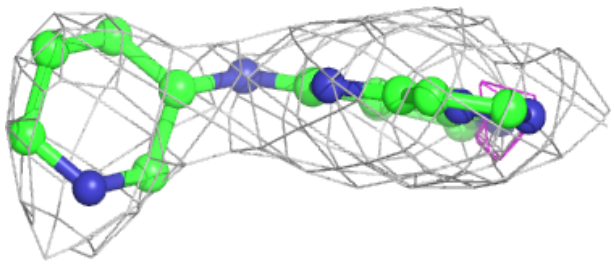
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	YRZ	D	901	19/19	0.93	0.42	68,70,72,73	0
2	YRZ	F	901	19/19	0.94	0.33	69,70,76,76	0
2	YRZ	A	901	19/19	0.95	0.30	67,68,71,73	0
2	YRZ	B	901	19/19	0.95	0.30	72,73,76,77	0
2	YRZ	C	901	19/19	0.95	0.44	71,72,79,80	0
2	YRZ	E	901	19/19	0.96	0.30	66,68,74,74	0

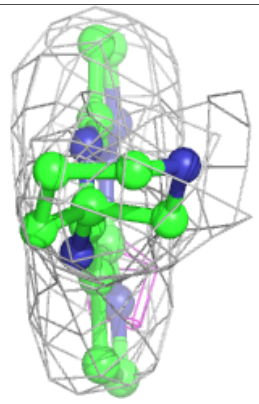
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around YRZ D 901:

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

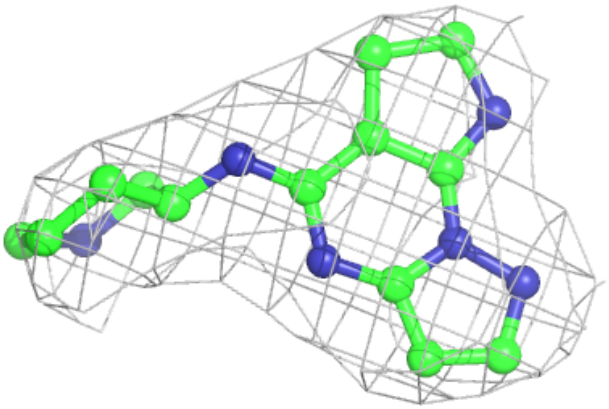


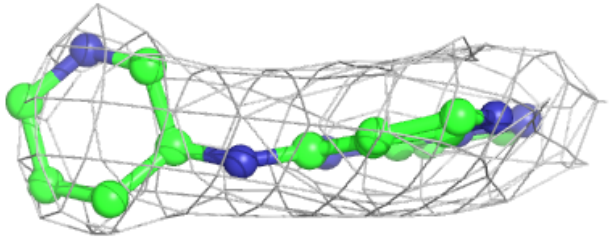


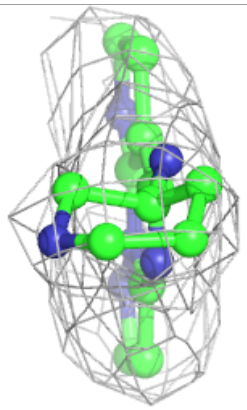


Electron density around YRZ F 901:

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

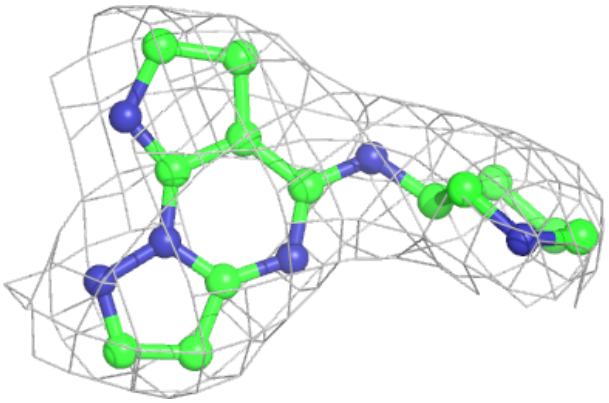


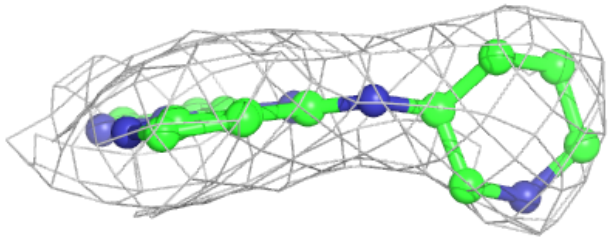


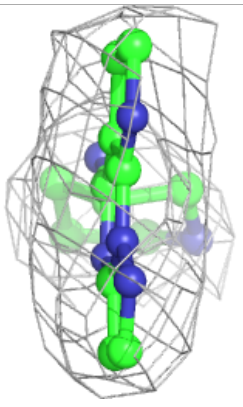


Electron density around YRZ A 901:

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

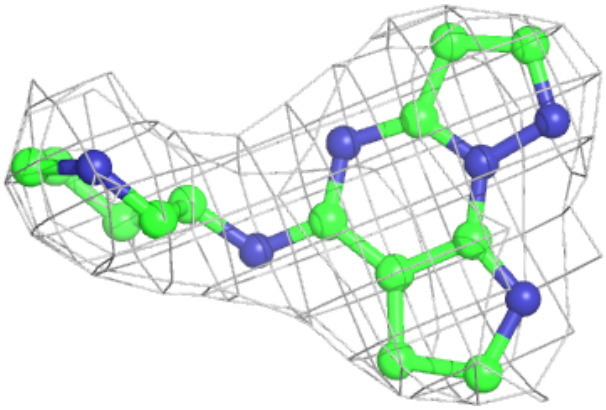


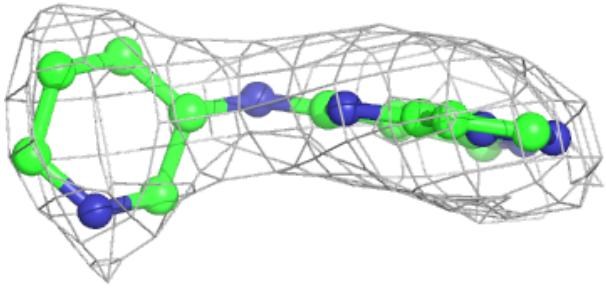


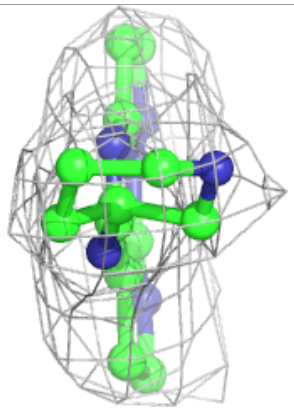


Electron density around YRZ B 901:

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

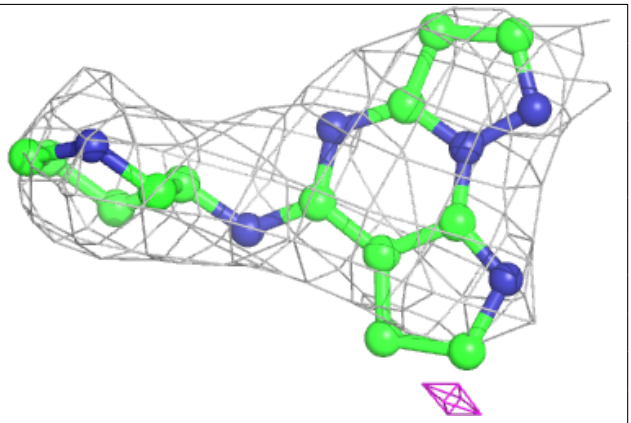


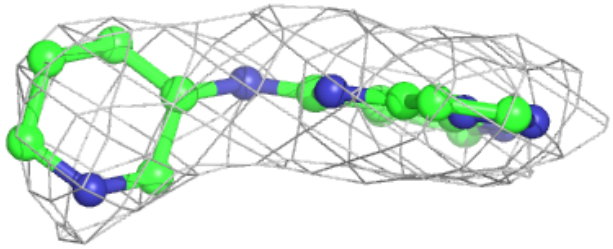


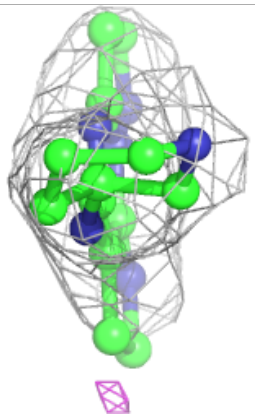


Electron density around YRZ C 901:

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

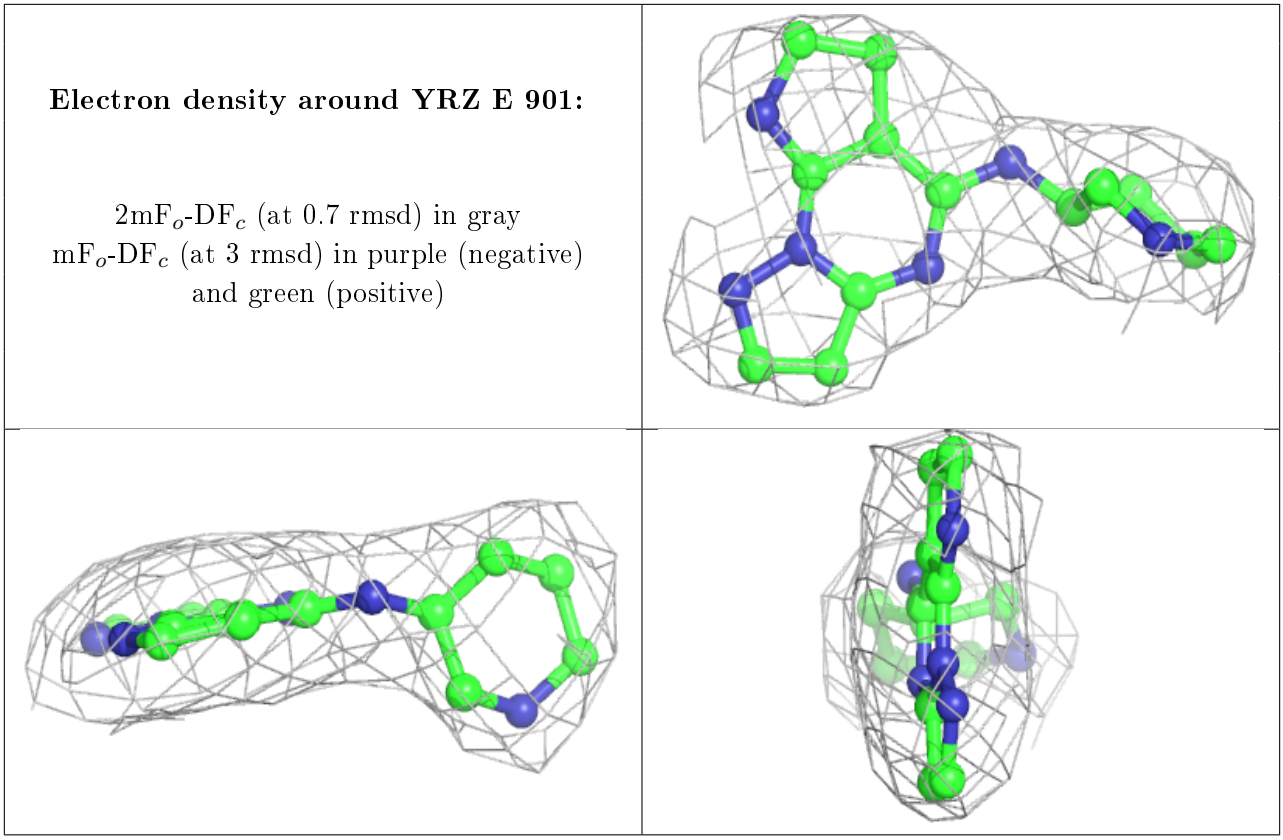






Electron density around YRZ E 901:

$2mF_o$-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.