Full wwPDB X-ray Structure Validation Report (i)

Dec 18, 2023 – 09:44 am GMT

PDB ID	:	3ZTC
Title	:	pVHL54-213-EloB-EloC complex _ (2S,4R)-N-((1,1'-biphenyl)-4-ylmethyl)- 4 -hydroxy-1-(2-(3-methylisoxazol-5-yl)acetyl)pyrrolidine-2- carboxamide
Authors	:	Van Molle, I.; Buckley, D.L.; Crews, C.M.; Ciulli, A.
Deposited on	:	2011-07-06
Resolution	:	2.65 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 (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:

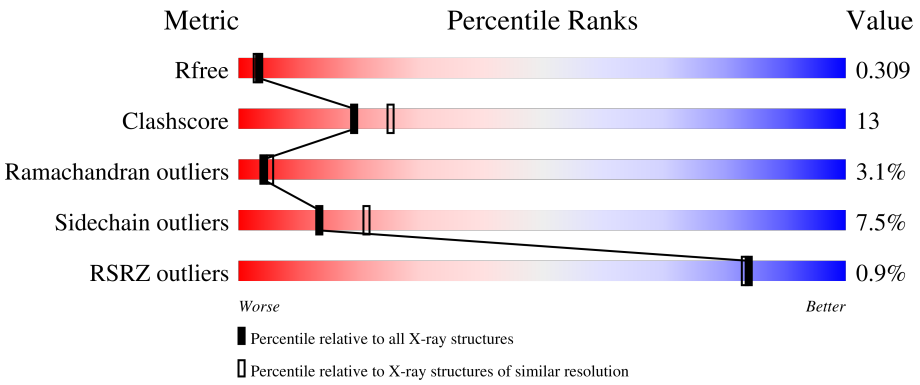
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
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 2.65 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	1332 (2.68-2.64)
Clashscore	141614	1374 (2.68-2.64)
Ramachandran outliers	138981	1349 (2.68-2.64)
Sidechain outliers	138945	1349 (2.68-2.64)
RSRZ outliers	127900	1318 (2.68-2.64)

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	118	67% 16% • • 13%
1	D	118	% 57% 20% 7% 16%
1	G	118	53% 30% 7% 11%
1	J	118	58% 25% • • 12%
2	B	97	69% 15% • 11%

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Mol	Chain	Length	Quality of chain
2	E	97	% 67% 21% 10%
2	H	97	2% 51% 34% 11%
2	K	97	2% 62% 23% 5% 10%
3	C	163	% 66% 17% 13%
3	F	163	2% 57% 26% 13%
3	I	163	65% 23% 11%
3	L	163	% 61% 25% 12%

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 10527 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 TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	103	783	499	133	147	4	0	0	0
1	D	99	732	466	122	140	4	0	0	0
1	G	105	799	508	136	150	5	0	0	0
1	J	104	805	511	137	153	4	0	0	0

- Molecule 2 is a protein called TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	86	670	433	105	126	6	0	0	0
2	E	87	681	441	107	127	6	0	0	0
2	H	86	673	435	107	125	6	0	0	0
2	K	87	686	442	110	128	6	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	16	MET	-	cloning artifact	UNP Q15369
E	16	MET	-	cloning artifact	UNP Q15369
H	16	MET	-	cloning artifact	UNP Q15369
K	16	MET	-	cloning artifact	UNP Q15369

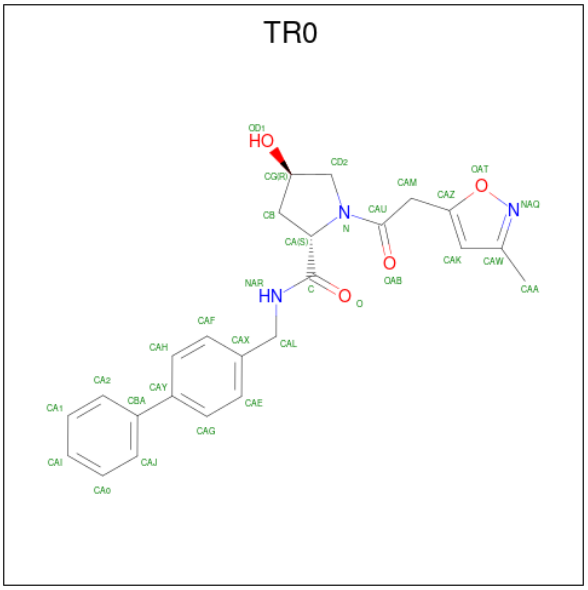
- Molecule 3 is a protein called VON HIPPEL-LINDAU DISEASE TUMOR SUPPRESSOR.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	141	1069	683	192	192	2	0	0	0
			Total	C	N	O	S			
3	F	142	1122	718	198	204	2	0	0	0
			Total	C	N	O	S			
3	I	145	1159	739	210	208	2	0	0	0
			Total	C	N	O	S			
3	L	143	1151	734	209	206	2	0	0	0

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	51	GLY	-	expression tag	UNP P40337
C	52	SER	-	expression tag	UNP P40337
C	53	HIS	-	expression tag	UNP P40337
F	51	GLY	-	expression tag	UNP P40337
F	52	SER	-	expression tag	UNP P40337
F	53	HIS	-	expression tag	UNP P40337
I	51	GLY	-	expression tag	UNP P40337
I	52	SER	-	expression tag	UNP P40337
I	53	HIS	-	expression tag	UNP P40337
L	51	GLY	-	expression tag	UNP P40337
L	52	SER	-	expression tag	UNP P40337
L	53	HIS	-	expression tag	UNP P40337

- Molecule 4 is (4R)-N-(BIPHENYL-4-YLMETHYL)-4-HYDROXY-1-[(3-METHYLISOXAZOL-5-YL)ACETYL]-L-PROLINAMIDE (three-letter code: TR0) (formula: $C_{24}H_{25}N_3O_4$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
4	C	1	31	24	3	4	0	0
4	F	1	31	24	3	4	0	0
4	I	1	31	24	3	4	0	0
4	L	1	31	24	3	4	0	0

- Molecule 5 is water.

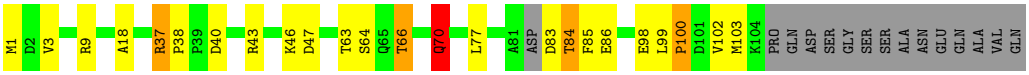
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
5	A	15	15	15	0	0
5	B	2	2	2	0	0
5	C	4	4	4	0	0
5	D	5	5	5	0	0
5	E	7	7	7	0	0
5	F	8	8	8	0	0
5	G	5	5	5	0	0
5	I	3	3	3	0	0
5	J	5	5	5	0	0
5	K	3	3	3	0	0
5	L	16	16	16	0	0

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.

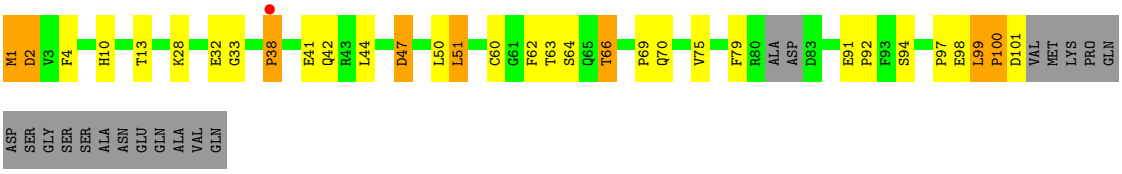
• Molecule 1: TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 2

Chain A:



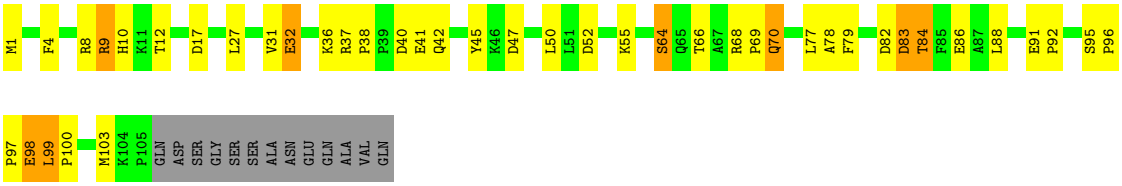
• Molecule 1: TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 2

Chain D:



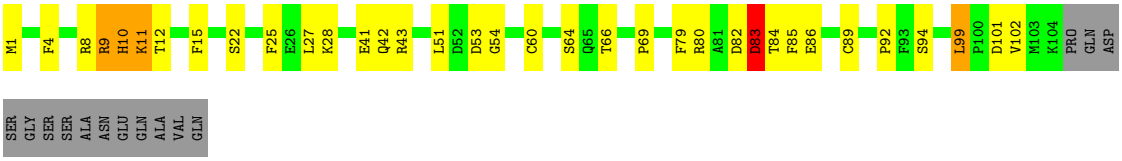
• Molecule 1: TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 2

Chain G:



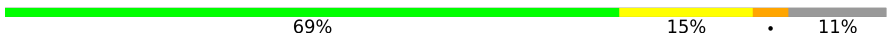
• Molecule 1: TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 2

Chain J:



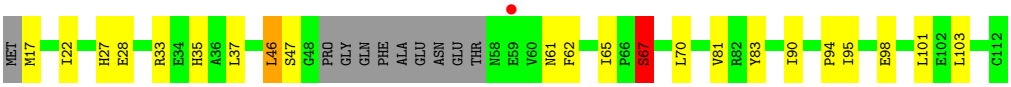
• Molecule 2: TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 1

Chain B:



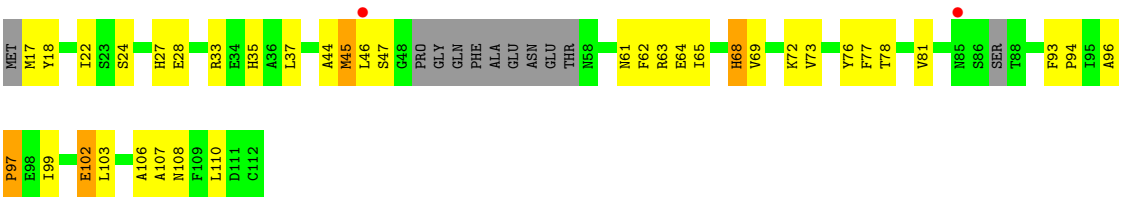
• Molecule 2: TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 1

Chain E:



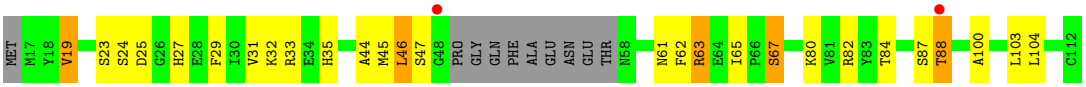
• Molecule 2: TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 1

Chain H:



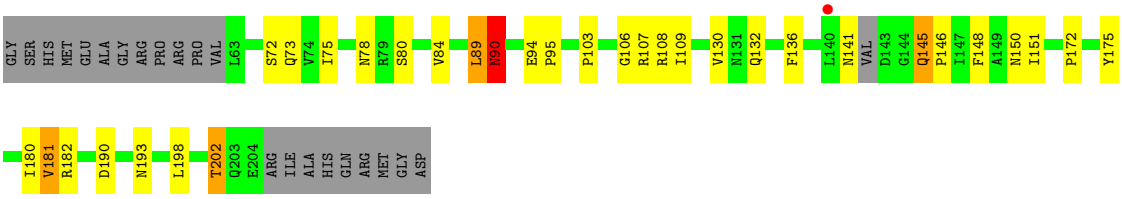
• Molecule 2: TRANSCRIPTION ELONGATION FACTOR B POLYPEPTIDE 1

Chain K:



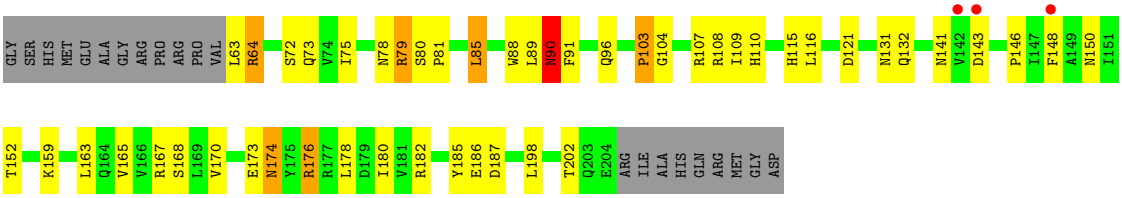
• Molecule 3: VON HIPPEL-LINDAU DISEASE TUMOR SUPPRESSOR

Chain C:



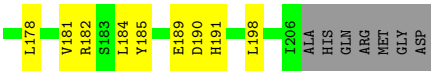
• Molecule 3: VON HIPPEL-LINDAU DISEASE TUMOR SUPPRESSOR

Chain F:



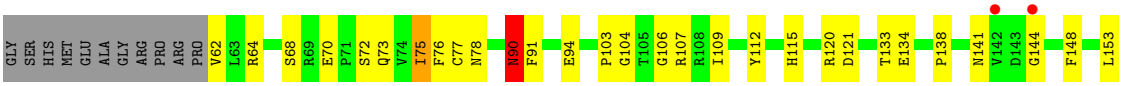
• Molecule 3: VON HIPPEL-LINDAU DISEASE TUMOR SUPPRESSOR

Chain I:



• Molecule 3: VON HIPPEL-LINDAU DISEASE TUMOR SUPPRESSOR

Chain L:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 41 2 2	Depositor
Cell constants a, b, c, α, β, γ	94.09Å 94.09Å 366.72Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.84 – 2.65 45.84 – 2.65	Depositor EDS
% Data completeness (in resolution range)	99.9 (45.84-2.65) 99.8 (45.84-2.65)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.63 (at 2.65Å)	Xtriage
Refinement program	REFMAC 5.5.0109	Depositor
R, R_{free}	0.239 , 0.317 0.234 , 0.309	Depositor DCC
R_{free} test set	2419 reflections (4.91%)	wwPDB-VP
Wilson B-factor (Å^2)	44.7	Xtriage
Anisotropy	0.051	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.30 , 42.4	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	10527	wwPDB-VP
Average B, all atoms (Å^2)	39.0	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 30.31 % 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 1.3365e-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: TR0

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	0.71	0/798	0.83	1/1080 (0.1%)
1	D	0.64	0/746	0.74	0/1012
1	G	0.61	0/816	0.79	0/1107
1	J	0.72	0/821	0.90	1/1112 (0.1%)
2	B	0.76	0/684	0.84	0/925
2	E	0.75	0/695	0.76	0/938
2	H	0.65	0/686	0.73	0/926
2	K	0.84	0/700	0.88	0/945
3	C	0.72	0/1097	0.79	0/1505
3	F	0.69	0/1152	0.86	1/1576 (0.1%)
3	I	0.70	0/1189	0.85	0/1625
3	L	0.81	0/1181	0.93	2/1613 (0.1%)
All	All	0.72	0/10565	0.83	5/14364 (0.0%)

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	G	0	1
1	J	0	1
2	K	0	1
3	I	0	1
3	L	0	1
All	All	0	5

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	85	LEU	CA-CB-CG	5.81	128.65	115.30
1	J	8	ARG	NE-CZ-NH2	-5.17	117.72	120.30
3	L	144	GLY	N-CA-C	-5.14	100.26	113.10
3	L	153	LEU	CA-CB-CG	5.06	126.94	115.30
1	A	70	GLN	CB-CA-C	-5.05	100.31	110.40

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	G	98	GLU	Peptide
3	I	104	GLY	Peptide
1	J	83	ASP	Peptide
2	K	87	SER	Peptide
3	L	104	GLY	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	783	0	769	16	0
1	D	732	0	700	26	0
1	G	799	0	779	37	0
1	J	805	0	798	28	0
2	B	670	0	650	11	0
2	E	681	0	673	15	0
2	H	673	0	656	27	0
2	K	686	0	677	24	0
3	C	1069	0	1000	21	0
3	F	1122	0	1084	33	0
3	I	1159	0	1138	26	0
3	L	1151	0	1138	27	0
4	C	31	0	25	0	0
4	F	31	0	25	3	0
4	I	31	0	25	2	0
4	L	31	0	25	2	0
5	A	15	0	0	0	0
5	B	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	C	4	0	0	1	0
5	D	5	0	0	1	0
5	E	7	0	0	3	0
5	F	8	0	0	0	0
5	G	5	0	0	2	0
5	I	3	0	0	1	0
5	J	5	0	0	1	0
5	K	3	0	0	2	0
5	L	16	0	0	2	0
All	All	10527	0	10162	267	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 13.

All (267) 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)
2:K:63:ARG:HH11	2:K:63:ARG:HG3	1.10	1.11
2:K:63:ARG:HH11	2:K:63:ARG:CG	1.70	1.04
1:G:1:MET:HG2	1:G:64:SER:OG	1.60	1.02
1:D:98:GLU:CB	1:D:99:LEU:HA	1.92	0.98
2:E:35:HIS:HD2	5:E:2003:HOH:O	1.53	0.91
1:J:41:GLU:HG2	1:J:80:ARG:HD3	1.55	0.89
2:K:63:ARG:HG3	2:K:63:ARG:NH1	1.80	0.88
3:I:175:TYR:O	3:I:185:TYR:HE1	1.58	0.85
1:G:10:HIS:O	1:G:91:GLU:HB2	1.76	0.85
3:L:120:ARG:HD2	5:L:2009:HOH:O	1.79	0.81
1:G:99:LEU:H	1:G:100:PRO:HD3	1.46	0.80
1:J:83:ASP:OD1	1:J:84:THR:HA	1.82	0.79
1:G:1:MET:CG	1:G:64:SER:OG	2.32	0.78
3:I:75:ILE:HD12	3:I:146:PRO:HB2	1.66	0.78
1:D:44:LEU:O	1:D:50:LEU:O	2.03	0.77
3:I:175:TYR:O	3:I:185:TYR:CE1	2.36	0.77
1:J:10:HIS:O	1:J:12:THR:N	2.17	0.77
2:B:35:HIS:HD2	2:B:78:THR:HG22	1.52	0.75
1:D:28:LYS:HE3	1:D:42:GLN:O	1.87	0.74
1:D:50:LEU:O	1:D:51:LEU:HB2	1.88	0.74
1:D:51:LEU:HD22	1:D:60:CYS:SG	2.28	0.74
2:K:82:ARG:HH22	2:K:88:THR:HG21	1.52	0.73
3:F:163:LEU:O	3:F:167:ARG:HG3	1.90	0.72
3:C:73:GLN:H	3:C:141:ASN:ND2	1.87	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:63:THR:H	1:D:66:THR:HG22	1.55	0.71
3:C:75:ILE:CD1	3:C:146:PRO:HB2	2.21	0.71
3:I:68:SER:O	5:I:2001:HOH:O	2.09	0.70
1:D:1:MET:HG3	1:D:2:ASP:N	2.06	0.70
1:J:79:PHE:O	1:J:86:GLU:HG2	1.93	0.69
3:F:108:ARG:O	3:F:109:ILE:HD13	1.93	0.68
1:D:98:GLU:CB	1:D:99:LEU:CA	2.70	0.68
3:F:109:ILE:HD12	4:F:1205:TR0:CAG	2.23	0.68
1:J:1:MET:HG2	1:J:64:SER:OG	1.94	0.68
1:A:70:GLN:HG3	2:B:79:TYR:HD2	1.60	0.67
1:G:66:THR:O	1:G:66:THR:HG22	1.93	0.67
3:F:64:ARG:HD2	3:F:91:PHE:O	1.94	0.67
1:G:97:PRO:O	1:G:98:GLU:CB	2.43	0.67
3:F:182:ARG:HA	3:F:185:TYR:CD2	2.31	0.66
1:J:9:ARG:O	1:J:10:HIS:O	2.12	0.66
3:L:115:HIS:O	3:L:138:PRO:HD2	1.96	0.65
1:G:99:LEU:N	1:G:100:PRO:HD3	2.11	0.65
3:F:109:ILE:HD12	4:F:1205:TR0:HAG	1.79	0.65
3:F:104:GLY:HA3	2:H:63:ARG:HD3	1.80	0.64
3:C:108:ARG:O	3:C:109:ILE:HD13	1.97	0.63
2:K:63:ARG:CG	2:K:63:ARG:NH1	2.41	0.63
1:D:1:MET:HG2	1:D:64:SER:HB3	1.79	0.63
1:J:54:GLY:O	5:J:2003:HOH:O	2.16	0.63
1:D:1:MET:HG3	1:D:2:ASP:H	1.64	0.62
3:F:148:PHE:HZ	2:H:45:MET:HG2	1.65	0.62
3:C:90:ASN:HB2	3:C:94:GLU:O	2.00	0.62
1:G:66:THR:O	1:G:66:THR:CG2	2.48	0.61
3:F:90:ASN:HD21	3:F:96:GLN:NE2	1.99	0.61
1:G:32:GLU:HG3	1:G:38:PRO:HA	1.81	0.61
1:G:69:PRO:HD2	1:G:70:GLN:NE2	2.15	0.61
2:E:83:TYR:HB3	2:E:90:ILE:HG12	1.82	0.61
1:J:51:LEU:HD22	1:J:60:CYS:SG	2.41	0.61
2:K:19:VAL:HG13	2:K:33:ARG:HA	1.83	0.61
2:K:25:ASP:OD2	2:K:67:SER:HB2	2.01	0.61
3:C:198:LEU:O	3:C:202:THR:HB	2.01	0.60
1:A:1:MET:HG2	1:A:64:SER:OG	2.00	0.60
1:D:50:LEU:O	1:D:51:LEU:CB	2.49	0.60
1:G:36:LYS:O	1:G:37:ARG:HG2	2.02	0.60
3:L:120:ARG:CD	5:L:2009:HOH:O	2.45	0.59
1:D:92:PRO:O	2:E:27:HIS:HE1	1.86	0.59
3:I:182:ARG:HA	3:I:185:TYR:HD2	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:62:VAL:HA	3:I:64:ARG:HH12	1.68	0.58
2:B:38:THR:HG23	2:B:80:LYS:NZ	2.19	0.58
3:I:109:ILE:HB	4:I:1207:TR0:HAG	1.86	0.58
1:D:32:GLU:HG3	1:D:33:GLY:N	2.17	0.58
3:C:106:GLY:O	3:C:107:ARG:NH1	2.34	0.57
3:I:178:LEU:O	3:I:185:TYR:OH	2.15	0.57
1:J:4:PHE:CE2	1:J:69:PRO:HG3	2.39	0.57
1:J:15:PHE:HE1	2:K:29:PHE:HD1	1.52	0.57
1:A:63:THR:OG1	1:A:66:THR:HB	2.04	0.57
3:C:75:ILE:HD12	3:C:146:PRO:HB2	1.85	0.57
1:J:1:MET:CG	1:J:64:SER:OG	2.53	0.57
2:K:44:ALA:O	2:K:46:LEU:N	2.37	0.57
1:A:9:ARG:HG3	1:A:77:LEU:O	2.04	0.57
3:L:90:ASN:HB2	3:L:94:GLU:O	2.05	0.56
2:H:69:VAL:HG21	2:H:102:GLU:HB2	1.87	0.56
1:J:43:ARG:HG3	1:J:85:PHE:CE1	2.39	0.56
2:H:33:ARG:HH21	2:H:46:LEU:HB3	1.71	0.56
2:H:107:ALA:HB2	3:I:158:LEU:HG	1.86	0.56
1:A:1:MET:CG	1:A:64:SER:OG	2.52	0.56
3:F:115:HIS:ND1	4:F:1205:TR0:OD1	2.31	0.56
3:C:78:ASN:ND2	3:C:103:PRO:HA	2.20	0.56
3:F:75:ILE:HD13	3:F:146:PRO:CB	2.36	0.56
3:I:166:VAL:O	3:I:170:VAL:HG12	2.05	0.55
1:D:62:PHE:CZ	1:D:75:VAL:HG22	2.42	0.55
1:J:28:LYS:HA	1:J:42:GLN:HE22	1.71	0.55
2:K:80:LYS:O	2:K:84:THR:HG23	2.06	0.55
3:F:89:LEU:HD12	3:F:116:LEU:HD23	1.88	0.54
2:H:17:MET:HG3	2:H:18:TYR:CD1	2.42	0.54
3:I:112:TYR:HB2	3:I:115:HIS:CE1	2.42	0.54
3:F:148:PHE:CZ	2:H:45:MET:HG2	2.43	0.54
1:D:94:SER:H	2:E:67:SER:HB3	1.73	0.54
1:G:88:LEU:HA	5:G:2005:HOH:O	2.07	0.54
3:F:173:GLU:C	3:F:174:ASN:HD22	2.11	0.54
3:I:109:ILE:HB	4:I:1207:TR0:CAG	2.37	0.54
2:H:108:ASN:ND2	3:I:184:LEU:HD21	2.23	0.54
1:G:77:LEU:HD12	1:G:78:ALA:N	2.23	0.53
3:I:182:ARG:HA	3:I:185:TYR:CD2	2.44	0.53
3:F:182:ARG:HA	3:F:185:TYR:HD2	1.73	0.53
3:L:64:ARG:HD2	3:L:91:PHE:O	2.09	0.53
3:L:115:HIS:ND1	4:L:1205:TR0:OD1	2.39	0.53
2:B:35:HIS:CD2	2:B:78:THR:HG22	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:71:SER:O	2:B:75:MET:HG3	2.09	0.53
1:J:92:PRO:O	2:K:27:HIS:HE1	1.92	0.53
3:L:120:ARG:NH1	3:L:197:ASP:OD2	2.42	0.53
2:B:43:LYS:O	2:B:46:LEU:O	2.27	0.53
2:E:22:ILE:HG12	2:E:28:GLU:HG2	1.92	0.52
2:H:35:HIS:CE1	2:H:81:VAL:HG11	2.44	0.52
1:G:9:ARG:NH1	1:G:10:HIS:ND1	2.58	0.52
2:H:103:LEU:HB3	3:I:162:CYS:SG	2.50	0.52
1:J:80:ARG:O	1:J:84:THR:O	2.27	0.52
1:D:4:PHE:CE2	1:D:69:PRO:HG3	2.45	0.52
2:K:103:LEU:HB3	3:L:162:CYS:SG	2.50	0.52
3:L:112:TYR:O	3:L:138:PRO:HG2	2.10	0.51
3:F:72:SER:HA	3:F:141:ASN:HD21	1.75	0.51
3:C:75:ILE:HD11	3:C:146:PRO:HB2	1.90	0.51
3:F:88:TRP:O	3:F:96:GLN:N	2.39	0.51
2:E:95:ILE:HD13	2:E:103:LEU:HD23	1.93	0.51
3:F:75:ILE:HD13	3:F:146:PRO:HB2	1.93	0.51
3:L:73:GLN:H	3:L:141:ASN:HD21	1.58	0.51
3:I:84:VAL:HG22	3:I:128:LEU:CD1	2.41	0.51
2:E:35:HIS:CE1	2:E:81:VAL:HG11	2.46	0.51
5:G:2002:HOH:O	2:H:27:HIS:HD2	1.92	0.51
2:H:99:ILE:CG2	2:H:99:ILE:O	2.59	0.51
1:G:27:LEU:O	1:G:31:VAL:HG23	2.11	0.51
1:J:92:PRO:O	2:K:27:HIS:CE1	2.64	0.51
1:J:25:PHE:HB2	1:J:53:ASP:HB3	1.93	0.50
3:L:75:ILE:HD12	3:L:76:PHE:N	2.27	0.50
1:A:100:PRO:O	1:A:102:VAL:N	2.39	0.50
1:A:70:GLN:HG3	2:B:79:TYR:CD2	2.45	0.50
2:B:105:MET:SD	3:C:180:ILE:HG22	2.52	0.50
3:C:73:GLN:H	3:C:141:ASN:HD22	1.57	0.50
1:G:98:GLU:CA	1:G:99:LEU:CB	2.89	0.50
2:H:35:HIS:HD2	2:H:78:THR:HG22	1.76	0.49
1:D:99:LEU:CB	1:D:100:PRO:CD	2.90	0.49
3:I:75:ILE:CD1	3:I:146:PRO:HB2	2.40	0.49
1:G:38:PRO:HB2	1:G:40:ASP:OD1	2.12	0.49
1:G:1:MET:HG2	1:G:64:SER:HG	1.72	0.49
1:J:15:PHE:HE1	2:K:29:PHE:CD1	2.31	0.49
3:F:73:GLN:HE22	3:F:110:HIS:HD2	1.61	0.49
2:K:63:ARG:HH11	2:K:63:ARG:HG2	1.70	0.49
1:J:102:VAL:HG12	1:J:102:VAL:O	2.13	0.49
2:H:76:TYR:HA	2:H:93:PHE:CE2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:96:ALA:O	2:H:97:PRO:C	2.51	0.49
3:L:76:PHE:O	3:L:106:GLY:HA2	2.13	0.48
3:I:172:PRO:HA	3:I:175:TYR:CE1	2.48	0.48
3:F:73:GLN:H	3:F:141:ASN:HD21	1.60	0.48
1:J:99:LEU:HD22	1:J:102:VAL:HB	1.95	0.48
3:I:166:VAL:O	3:I:170:VAL:CG1	2.62	0.48
3:L:75:ILE:HG12	3:L:148:PHE:CE2	2.49	0.48
3:L:176:ARG:HH21	3:L:185:TYR:HB3	1.79	0.48
3:F:148:PHE:HZ	2:H:45:MET:CG	2.26	0.47
2:E:35:HIS:CD2	5:E:2003:HOH:O	2.42	0.47
1:G:98:GLU:HA	1:G:99:LEU:CB	2.45	0.47
1:G:99:LEU:N	1:G:100:PRO:CD	2.77	0.47
3:L:109:ILE:C	3:L:109:ILE:HD12	2.35	0.47
2:B:69:VAL:HG21	2:B:102:GLU:HB3	1.96	0.47
1:D:99:LEU:CB	1:D:100:PRO:HD3	2.44	0.47
3:F:198:LEU:O	3:F:202:THR:OG1	2.32	0.47
1:J:10:HIS:O	1:J:11:LYS:C	2.49	0.47
2:H:72:LYS:NZ	2:H:94:PRO:O	2.47	0.47
2:H:62:PHE:CG	2:H:65:ILE:HD12	2.50	0.47
1:J:9:ARG:O	1:J:10:HIS:C	2.53	0.47
5:K:2003:HOH:O	3:L:159:LYS:HB3	2.15	0.46
1:G:83:ASP:O	1:G:84:THR:O	2.33	0.46
3:I:189:GLU:O	3:I:191:HIS:N	2.45	0.46
2:H:76:TYR:HA	2:H:93:PHE:HE2	1.81	0.46
1:D:47:ASP:HB2	5:D:2002:HOH:O	2.15	0.46
2:E:33:ARG:O	2:E:37:LEU:HG	2.15	0.46
3:L:75:ILE:HD12	3:L:75:ILE:C	2.36	0.46
1:G:45:TYR:CG	1:G:88:LEU:HD22	2.51	0.46
1:J:1:MET:HG2	1:J:64:SER:HG	1.79	0.46
1:A:9:ARG:NH2	1:A:86:GLU:OE1	2.49	0.46
3:F:79:ARG:HD2	3:F:150:ASN:HB3	1.97	0.46
2:B:87:SER:O	2:B:89:GLU:N	2.48	0.46
1:D:38:PRO:HB2	1:D:41:GLU:HG3	1.98	0.46
1:G:32:GLU:HG3	1:G:38:PRO:CA	2.46	0.46
2:B:25:ASP:OD2	2:B:67:SER:OG	2.34	0.46
1:A:83:ASP:O	1:A:84:THR:HB	2.16	0.45
2:E:33:ARG:NH2	2:E:46:LEU:HD13	2.31	0.45
2:E:62:PHE:CD2	2:E:65:ILE:HD12	2.51	0.45
3:I:121:ASP:OD1	3:I:123:GLY:N	2.46	0.45
1:D:32:GLU:CG	1:D:33:GLY:N	2.80	0.45
1:G:9:ARG:NE	1:G:79:PHE:CD2	2.83	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:77:LEU:HD12	1:G:78:ALA:H	1.81	0.45
1:J:94:SER:OG	2:K:67:SER:HB3	2.16	0.45
3:L:68:SER:O	3:L:70:GLU:HG3	2.17	0.45
3:I:120:ARG:HD3	3:I:127:GLY:HA2	1.99	0.45
3:F:170:VAL:HG21	3:F:178:LEU:HD11	1.98	0.44
1:G:37:ARG:NH2	1:G:79:PHE:HB3	2.32	0.44
5:E:2006:HOH:O	3:F:81:PRO:HD3	2.17	0.44
2:H:106:ALA:O	2:H:110:LEU:HG	2.17	0.44
3:L:75:ILE:HD11	3:L:77:CYS:HB2	1.99	0.44
3:F:176:ARG:H	3:F:176:ARG:HG3	1.31	0.44
2:E:101:LEU:HD23	2:E:101:LEU:HA	1.64	0.44
1:G:37:ARG:HA	1:G:38:PRO:HD2	1.70	0.44
3:C:130:VAL:HA	3:C:150:ASN:O	2.17	0.44
3:I:171:LYS:HA	3:I:172:PRO:HD3	1.88	0.44
1:A:100:PRO:C	1:A:102:VAL:H	2.20	0.43
1:D:63:THR:O	1:D:64:SER:C	2.56	0.43
2:E:98:GLU:H	2:E:98:GLU:CD	2.21	0.43
2:K:23:SER:HB2	2:K:67:SER:N	2.32	0.43
3:C:145:GLN:HA	3:C:146:PRO:HD3	1.87	0.43
1:G:100:PRO:HD2	1:G:103:MET:HB2	1.99	0.43
1:J:82:ASP:O	1:J:83:ASP:C	2.56	0.43
1:D:28:LYS:HG2	1:D:42:GLN:HG3	1.99	0.43
1:G:4:PHE:CD1	1:G:17:ASP:HB3	2.54	0.43
2:H:73:VAL:CG1	2:H:77:PHE:CZ	3.01	0.43
3:F:159:LYS:NZ	3:F:187:ASP:OD2	2.49	0.43
1:G:38:PRO:HG2	1:G:41:GLU:OE1	2.18	0.43
3:I:141:ASN:ND2	3:I:145:GLN:O	2.43	0.43
1:J:11:LYS:HA	2:K:27:HIS:CD2	2.54	0.43
1:A:3:VAL:HG22	1:A:18:ALA:O	2.18	0.43
2:K:80:LYS:HE2	2:K:84:THR:HG21	2.00	0.43
1:G:70:GLN:CD	1:G:70:GLN:H	2.22	0.43
1:D:70:GLN:HG3	2:E:94:PRO:HD3	2.00	0.42
4:L:1205:TR0:C	4:L:1205:TR0:OAB	2.66	0.42
1:A:37:ARG:HA	1:A:38:PRO:HD3	1.83	0.42
3:L:78:ASN:ND2	3:L:103:PRO:HA	2.34	0.42
1:G:9:ARG:HH11	1:G:10:HIS:CE1	2.36	0.42
2:K:31:VAL:HG12	2:K:32:LYS:N	2.34	0.42
2:H:62:PHE:HB3	2:H:65:ILE:HD12	2.01	0.42
1:G:8:ARG:NH2	1:G:91:GLU:O	2.48	0.42
3:C:172:PRO:HA	3:C:175:TYR:CE1	2.54	0.42
1:G:91:GLU:HA	1:G:92:PRO:HD2	1.93	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:133:THR:OG1	3:L:134:GLU:N	2.51	0.42
1:A:100:PRO:C	1:A:102:VAL:N	2.73	0.42
3:C:84:VAL:HG21	3:C:151:ILE:HG21	2.01	0.42
3:F:79:ARG:HB2	3:F:152:THR:HG22	2.01	0.42
1:J:80:ARG:HE	1:J:80:ARG:HB3	1.68	0.42
3:F:78:ASN:ND2	3:F:103:PRO:O	2.53	0.41
1:A:1:MET:CG	1:A:64:SER:HG	2.32	0.41
2:K:103:LEU:HD22	3:L:158:LEU:HD21	2.01	0.41
3:L:72:SER:HA	3:L:141:ASN:HD21	1.85	0.41
3:C:89:LEU:O	3:C:90:ASN:O	2.38	0.41
2:H:22:ILE:HG12	2:H:28:GLU:HG2	2.01	0.41
3:I:118:LEU:HD21	3:I:198:LEU:HD21	2.02	0.41
5:K:2003:HOH:O	3:L:159:LYS:HD3	2.21	0.41
3:C:89:LEU:HD12	3:C:95:PRO:HA	2.02	0.41
1:A:43:ARG:HD2	1:A:85:PHE:CG	2.56	0.41
1:A:46:LYS:O	1:A:47:ASP:C	2.57	0.41
3:C:130:VAL:HG11	3:C:136:PHE:HB2	2.03	0.41
3:C:190:ASP:HB3	5:C:2003:HOH:O	2.19	0.41
1:D:10:HIS:O	1:D:91:GLU:CB	2.69	0.41
2:E:95:ILE:HB	3:F:165:VAL:HG21	2.03	0.41
3:F:146:PRO:HD2	2:H:44:ALA:HB2	2.02	0.41
2:H:102:GLU:H	2:H:102:GLU:HG3	1.52	0.41
2:K:104:LEU:HG	3:L:184:LEU:HD13	2.02	0.41
1:D:28:LYS:CE	1:D:42:GLN:O	2.64	0.41
2:H:68:HIS:HD2	2:H:69:VAL:HG23	1.86	0.41
3:C:148:PHE:CE2	3:C:150:ASN:OD1	2.74	0.40
3:C:181:VAL:HG12	3:C:182:ARG:H	1.86	0.40
1:G:52:ASP:HB2	1:G:55:LYS:HG2	2.03	0.40
1:G:70:GLN:NE2	1:G:70:GLN:H	2.19	0.40
1:G:96:PRO:HA	1:G:97:PRO:HD3	1.81	0.40
2:K:62:PHE:CD1	2:K:65:ILE:HD12	2.57	0.40
3:L:112:TYR:HB2	3:L:115:HIS:CE1	2.55	0.40
1:J:66:THR:O	1:J:66:THR:HG22	2.20	0.40
3:F:131:ASN:O	3:F:132:GLN:HB2	2.21	0.40
3:F:174:ASN:HD22	3:F:174:ASN:N	2.20	0.40
2:H:33:ARG:O	2:H:37:LEU:HG	2.22	0.40
2:K:100:ALA:HB1	3:L:166:VAL:HG23	2.03	0.40
3:I:119:PHE:CD1	3:I:119:PHE:N	2.89	0.40

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	99/118 (84%)	86 (87%)	8 (8%)	5 (5%)	2	2
1	D	95/118 (80%)	82 (86%)	7 (7%)	6 (6%)	1	1
1	G	103/118 (87%)	88 (85%)	11 (11%)	4 (4%)	3	3
1	J	102/118 (86%)	89 (87%)	9 (9%)	4 (4%)	3	3
2	B	82/97 (84%)	76 (93%)	4 (5%)	2 (2%)	6	7
2	E	83/97 (86%)	78 (94%)	3 (4%)	2 (2%)	6	7
2	H	80/97 (82%)	69 (86%)	8 (10%)	3 (4%)	3	3
2	K	83/97 (86%)	73 (88%)	6 (7%)	4 (5%)	2	2
3	C	137/163 (84%)	122 (89%)	12 (9%)	3 (2%)	6	9
3	F	140/163 (86%)	123 (88%)	14 (10%)	3 (2%)	7	10
3	I	143/163 (88%)	128 (90%)	12 (8%)	3 (2%)	7	10
3	L	141/163 (86%)	128 (91%)	12 (8%)	1 (1%)	22	33
All	All	1288/1512 (85%)	1142 (89%)	106 (8%)	40 (3%)	4	5

All (40) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	84	THR
1	A	98	GLU
1	A	99	LEU
2	B	88	THR
2	B	89	GLU
3	C	90	ASN
1	D	47	ASP
1	D	51	LEU
1	D	97	PRO
1	D	99	LEU
1	D	100	PRO
3	F	90	ASN

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Mol	Chain	Res	Type
3	F	103	PRO
1	G	84	THR
2	H	45	MET
1	J	10	HIS
1	J	11	LYS
2	K	45	MET
3	L	90	ASN
1	A	103	MET
3	F	143	ASP
1	J	101	ASP
2	K	46	LEU
2	K	47	SER
2	K	67	SER
1	A	100	PRO
1	G	82	ASP
1	G	99	LEU
3	I	190	ASP
3	C	181	VAL
2	E	67	SER
1	J	83	ASP
3	C	145	GLN
1	D	38	PRO
2	E	47	SER
2	H	47	SER
3	I	142	VAL
1	G	83	ASP
3	I	181	VAL
2	H	97	PRO

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	82/103 (80%)	78 (95%)	4 (5%)	25 38
1	D	75/103 (73%)	69 (92%)	6 (8%)	12 18
1	G	84/103 (82%)	73 (87%)	11 (13%)	4 5

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	J	87/103 (84%)	82 (94%)	5 (6%)	20	31
2	B	73/86 (85%)	68 (93%)	5 (7%)	16	24
2	E	75/86 (87%)	70 (93%)	5 (7%)	16	25
2	H	73/86 (85%)	68 (93%)	5 (7%)	16	24
2	K	76/86 (88%)	70 (92%)	6 (8%)	12	19
3	C	110/149 (74%)	103 (94%)	7 (6%)	17	27
3	F	122/149 (82%)	109 (89%)	13 (11%)	6	9
3	I	128/149 (86%)	123 (96%)	5 (4%)	32	48
3	L	128/149 (86%)	116 (91%)	12 (9%)	8	13
All	All	1113/1352 (82%)	1029 (92%)	84 (8%)	13	21

All (84) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	37	ARG
1	A	40	ASP
1	A	66	THR
1	A	70	GLN
2	B	28	GLU
2	B	31	VAL
2	B	35	HIS
2	B	67	SER
2	B	80	LYS
3	C	72	SER
3	C	80	SER
3	C	89	LEU
3	C	90	ASN
3	C	132	GLN
3	C	193	ASN
3	C	202	THR
1	D	1	MET
1	D	2	ASP
1	D	13	THR
1	D	66	THR
1	D	79	PHE
1	D	101	ASP
2	E	17	MET
2	E	46	LEU
2	E	61	ASN

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Mol	Chain	Res	Type
2	E	67	SER
2	E	70	LEU
3	F	63	LEU
3	F	64	ARG
3	F	79	ARG
3	F	80	SER
3	F	85	LEU
3	F	90	ASN
3	F	107	ARG
3	F	121	ASP
3	F	168	SER
3	F	174	ASN
3	F	176	ARG
3	F	180	ILE
3	F	186	GLU
1	G	9	ARG
1	G	12	THR
1	G	32	GLU
1	G	42	GLN
1	G	47	ASP
1	G	50	LEU
1	G	64	SER
1	G	68	ARG
1	G	70	GLN
1	G	86	GLU
1	G	95	SER
2	H	24	SER
2	H	61	ASN
2	H	64	GLU
2	H	68	HIS
2	H	102	GLU
3	I	80	SER
3	I	113	ARG
3	I	140	LEU
3	I	141	ASN
3	I	170	VAL
1	J	9	ARG
1	J	22	SER
1	J	27	LEU
1	J	89	CYS
1	J	99	LEU
2	K	19	VAL

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Mol	Chain	Res	Type
2	K	24	SER
2	K	35	HIS
2	K	61	ASN
2	K	63	ARG
2	K	88	THR
3	L	62	VAL
3	L	75	ILE
3	L	90	ASN
3	L	107	ARG
3	L	121	ASP
3	L	176	ARG
3	L	177	ARG
3	L	181	VAL
3	L	182	ARG
3	L	191	HIS
3	L	196	LYS
3	L	200	ARG

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	70	GLN
2	B	35	HIS
3	C	141	ASN
3	C	150	ASN
2	E	35	HIS
3	F	73	GLN
3	F	96	GLN
3	F	110	HIS
3	F	141	ASN
3	F	174	ASN
1	G	70	GLN
2	H	27	HIS
2	H	35	HIS
3	I	96	GLN
3	I	145	GLN
3	I	174	ASN
1	J	42	GLN
3	L	141	ASN
3	L	174	ASN

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 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	$\#\|Z\| > 2$
4	TR0	L	1205	-	32,34,34	1.55	3 (9%)	41,47,47	1.63	6 (14%)
4	TR0	I	1207	-	32,34,34	1.29	4 (12%)	41,47,47	1.66	6 (14%)
4	TR0	F	1205	-	32,34,34	1.31	3 (9%)	41,47,47	1.78	4 (9%)
4	TR0	C	1205	-	32,34,34	1.50	5 (15%)	41,47,47	1.51	5 (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
4	TR0	L	1205	-	-	0/19/33/33	0/4/4/4
4	TR0	I	1207	-	-	5/19/33/33	0/4/4/4
4	TR0	F	1205	-	-	2/19/33/33	0/4/4/4
4	TR0	C	1205	-	-	0/19/33/33	0/4/4/4

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	L	1205	TR0	CAM-CAZ	5.78	1.55	1.51
4	F	1205	TR0	CAK-CAZ	-4.42	1.33	1.39
4	C	1205	TR0	CAM-CAZ	4.22	1.54	1.51
4	C	1205	TR0	CAK-CAZ	-4.17	1.33	1.39
4	I	1207	TR0	CAK-CAZ	-3.91	1.34	1.39
4	I	1207	TR0	CBA-CAY	-3.85	1.39	1.49
4	L	1205	TR0	CBA-CAY	-3.63	1.40	1.49
4	L	1205	TR0	CAK-CAZ	-3.30	1.35	1.39
4	F	1205	TR0	CBA-CAY	-3.12	1.41	1.49
4	C	1205	TR0	CBA-CAY	-3.07	1.41	1.49
4	I	1207	TR0	CAM-CAU	2.84	1.55	1.52
4	F	1205	TR0	CAK-CAW	-2.42	1.34	1.39
4	C	1205	TR0	CAM-CAU	2.34	1.54	1.52
4	C	1205	TR0	CAK-CAW	-2.30	1.34	1.39
4	I	1207	TR0	CAK-CAW	-2.02	1.35	1.39

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	F	1205	TR0	CAZ-CAM-CAU	-8.04	100.91	112.33
4	C	1205	TR0	CAZ-CAM-CAU	-5.62	104.34	112.33
4	F	1205	TR0	CAM-CAU-N	5.40	126.84	117.83
4	L	1205	TR0	CAZ-CAM-CAU	-5.38	104.69	112.33
4	I	1207	TR0	CAM-CAU-N	5.05	126.24	117.83
4	C	1205	TR0	CAM-CAU-N	4.43	125.20	117.83
4	I	1207	TR0	CAZ-CAM-CAU	-4.16	106.41	112.33
4	L	1205	TR0	CAM-CAU-N	3.82	124.20	117.83
4	L	1205	TR0	CAL-NAR-C	-3.41	117.43	122.34
4	I	1207	TR0	OAB-CAU-N	-3.38	114.21	121.54
4	L	1205	TR0	OAB-CAU-N	-2.90	115.26	121.54
4	F	1205	TR0	OAB-CAU-N	-2.86	115.34	121.54
4	I	1207	TR0	CAH-CAY-CBA	-2.66	116.74	121.36
4	C	1205	TR0	OAB-CAU-CAM	-2.43	117.64	121.60
4	I	1207	TR0	CAX-CAL-NAR	-2.42	107.87	113.05
4	F	1205	TR0	OAB-CAU-CAM	-2.35	117.77	121.60
4	I	1207	TR0	CB-CG-CD2	2.25	106.07	103.31
4	L	1205	TR0	CAX-CAL-NAR	-2.20	108.34	113.05
4	C	1205	TR0	CB-CA-C	-2.17	106.99	111.32
4	L	1205	TR0	CAG-CAY-CBA	-2.16	117.61	121.36
4	C	1205	TR0	OAB-CAU-N	-2.10	116.98	121.54

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	I	1207	TR0	CAH-CAY-CBA-CA2
4	I	1207	TR0	CAZ-CAM-CAU-N
4	I	1207	TR0	CAG-CAY-CBA-CA2
4	F	1205	TR0	CAZ-CAM-CAU-OAB
4	I	1207	TR0	CAZ-CAM-CAU-OAB
4	I	1207	TR0	CAH-CAY-CBA-CAJ
4	F	1205	TR0	CAZ-CAM-CAU-N

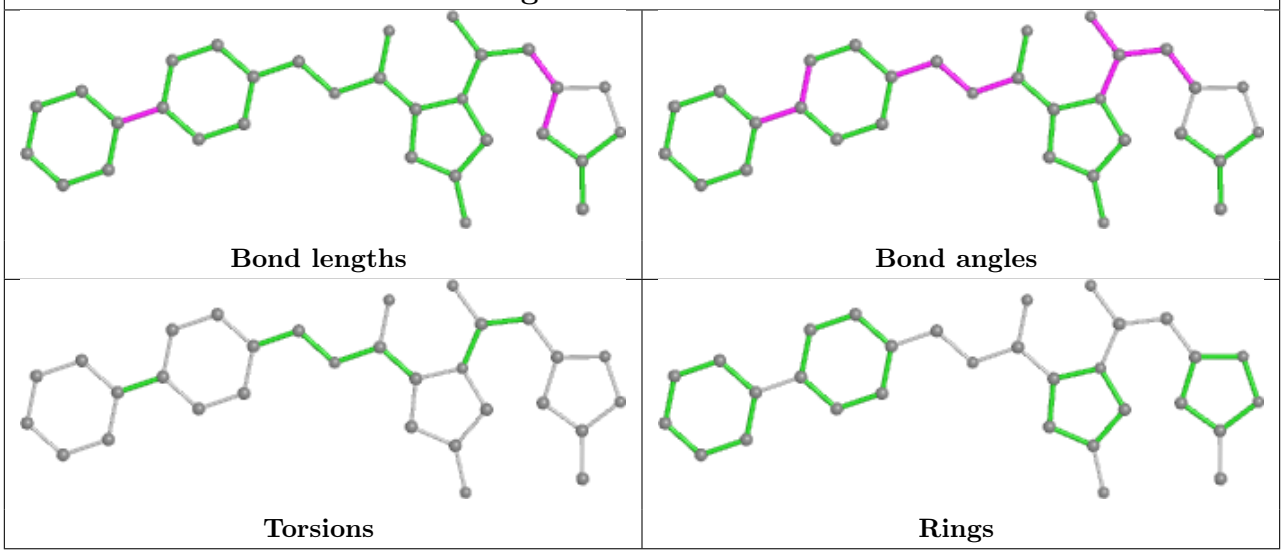
There are no ring outliers.

3 monomers are involved in 7 short contacts:

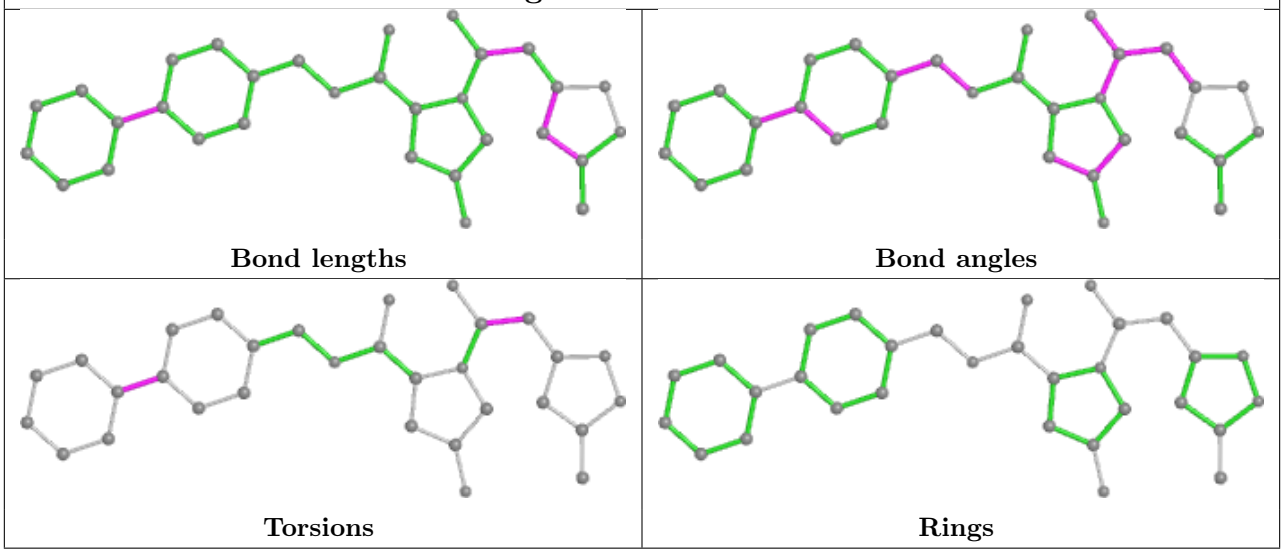
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	L	1205	TR0	2	0
4	I	1207	TR0	2	0
4	F	1205	TR0	3	0

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.

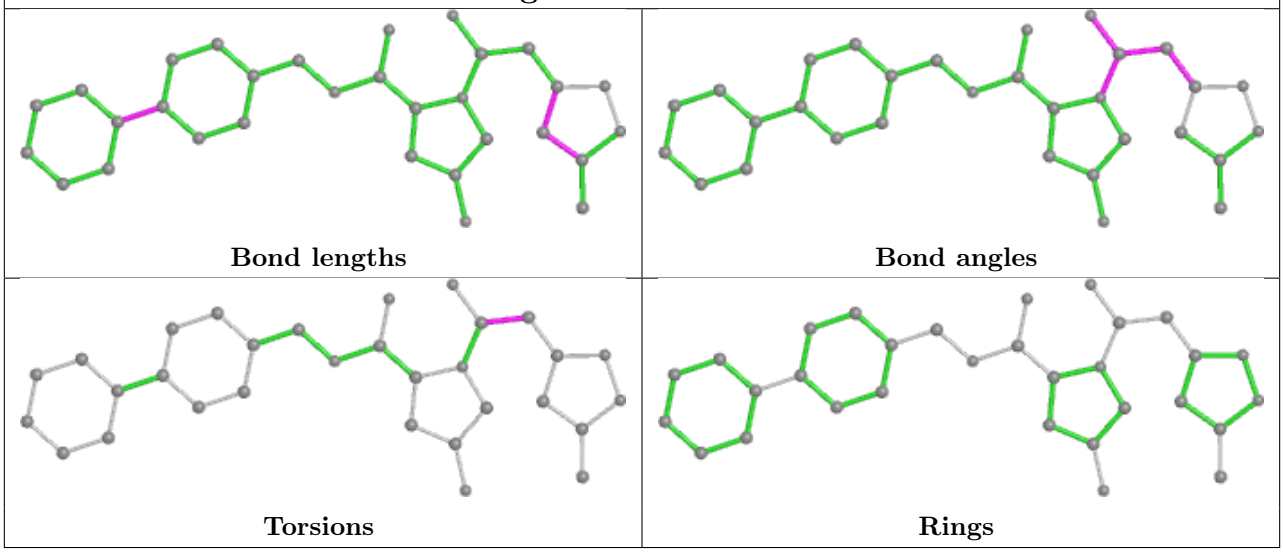
Ligand TR0 L 1205

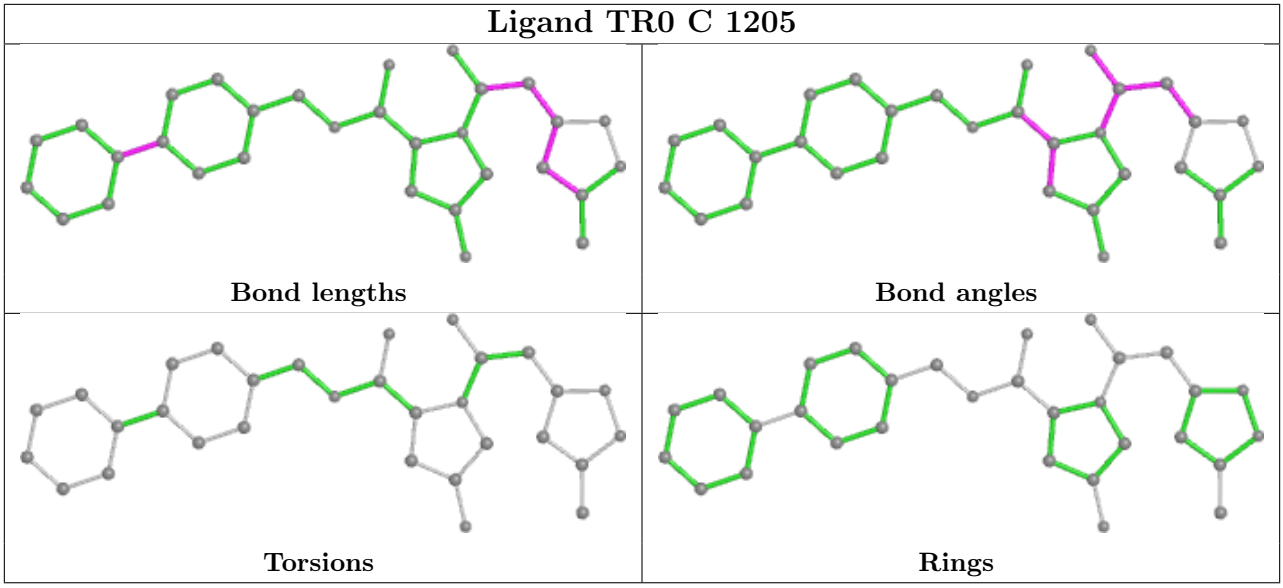


Ligand TR0 I 1207



Ligand TR0 F 1205





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	103/118 (87%)	-0.48	0	100	100	15, 33, 59, 65	0
1	D	99/118 (83%)	-0.24	1 (1%)	82	81	29, 50, 66, 68	0
1	G	105/118 (88%)	-0.17	0	100	100	31, 50, 69, 78	0
1	J	104/118 (88%)	-0.43	0	100	100	18, 36, 54, 58	0
2	B	86/97 (88%)	-0.46	0	100	100	19, 30, 47, 53	0
2	E	87/97 (89%)	-0.23	1 (1%)	80	79	26, 39, 56, 59	0
2	H	86/97 (88%)	0.06	2 (2%)	60	56	32, 44, 63, 76	0
2	K	87/97 (89%)	-0.25	2 (2%)	60	56	18, 31, 51, 67	0
3	C	141/163 (86%)	-0.28	1 (0%)	87	87	18, 38, 58, 71	0
3	F	142/163 (87%)	-0.10	3 (2%)	63	59	20, 45, 62, 71	0
3	I	145/163 (88%)	-0.37	0	100	100	22, 34, 64, 66	0
3	L	143/163 (87%)	-0.30	2 (1%)	75	73	12, 27, 53, 63	0
All	All	1328/1512 (87%)	-0.27	12 (0%)	84	83	12, 38, 63, 78	0

All (12) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	L	142	VAL	3.4
3	F	143	ASP	3.1
3	C	140	LEU	3.1
2	K	48	GLY	3.0
3	F	142	VAL	2.9
2	H	85	ASN	2.7
3	F	148	PHE	2.5
3	L	144	GLY	2.4
2	K	88	THR	2.3
2	H	46	LEU	2.1
1	D	38	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
2	E	59	GLU	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 monosaccharides in this entry.

6.4 Ligands (i)

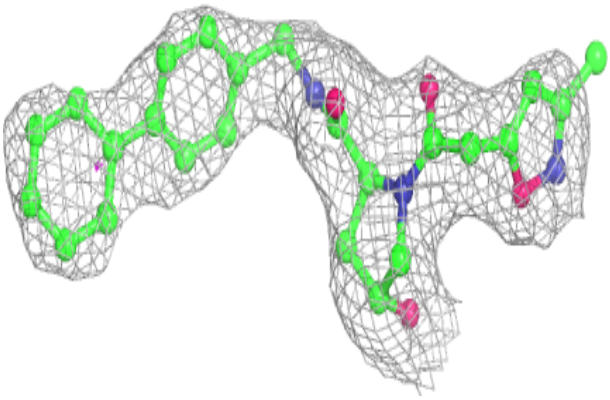
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

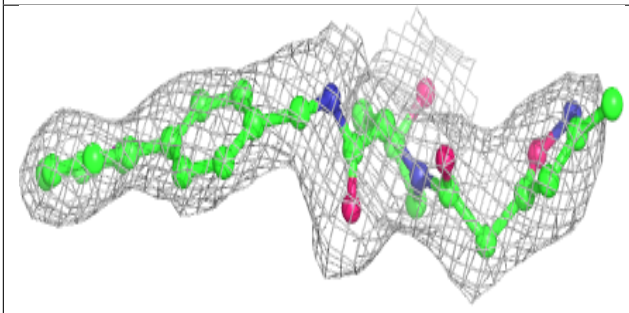
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	TR0	F	1205	31/31	0.93	0.22	34,37,44,46	0
4	TR0	C	1205	31/31	0.95	0.18	32,37,41,41	0
4	TR0	I	1207	31/31	0.95	0.20	31,34,43,44	0
4	TR0	L	1205	31/31	0.96	0.17	21,27,37,40	0

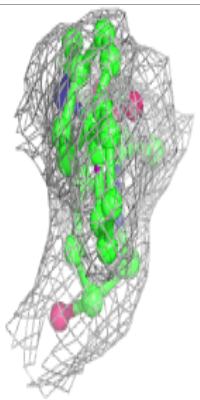
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around TR0 F 1205:

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

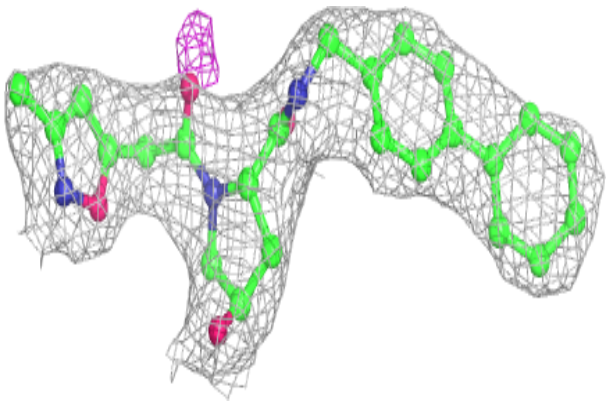


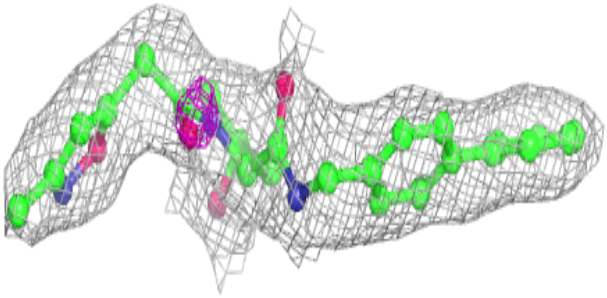


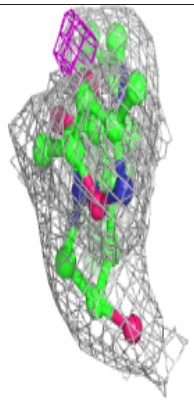


Electron density around TR0 C 1205:

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

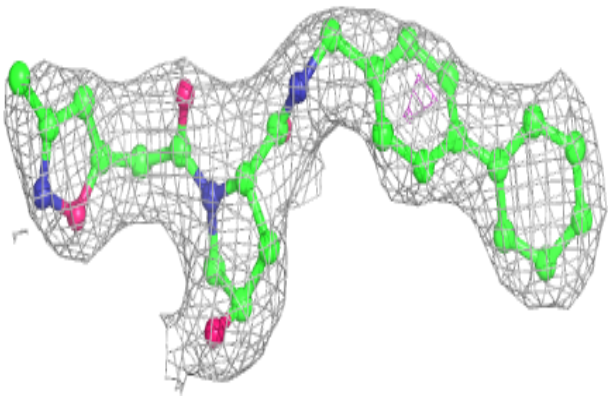


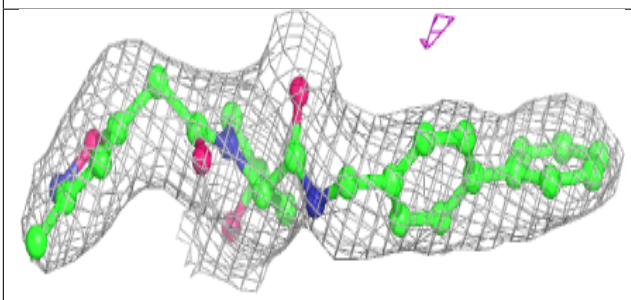


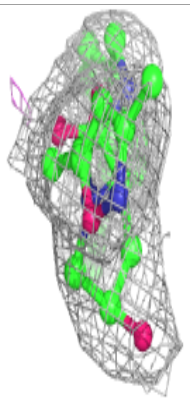


Electron density around TR0 I 1207:

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

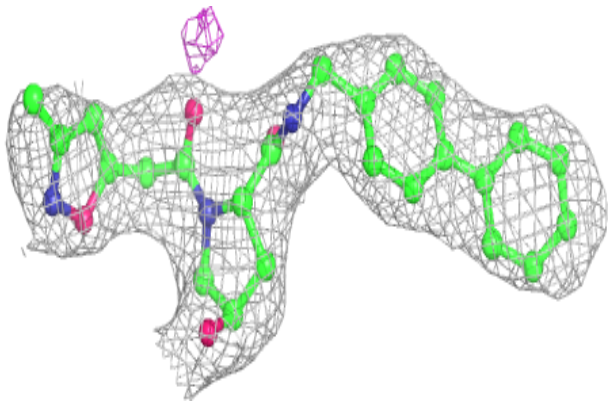


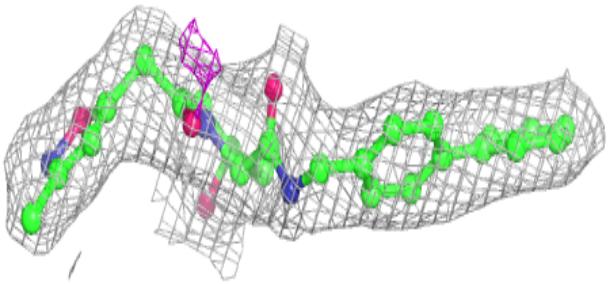


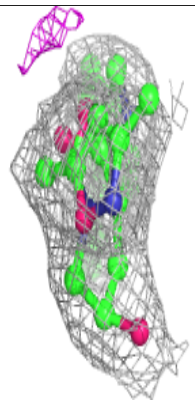


Electron density around TR0 L 1205:

$2mF_o$-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.