Full wwPDB X-ray Structure Validation Report ⓘ

Nov 16, 2023 – 10:07 AM JST

PDB ID	:	6LKM
Title	:	Crystal structure of Ribonucleotide reductase R1 subunit, RRM1 in complex with 5-chloro-N-((1S,2R)-2-(6-fluoro-2,3-dimethylphenyl)-1-(5-oxo-4,5-dihydro-1,3,4-oxadiazol-2-yl)propyl)-4-methyl-3,4-dihydro-2H-benzo[b][1,4]oxazine-8-sulfonamide
Authors	:	Miyahara, S.; Chong, K.T.; Suzuki, T.
Deposited on	:	2019-12-19
Resolution	:	2.55 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (1)) were used in the production of this report:

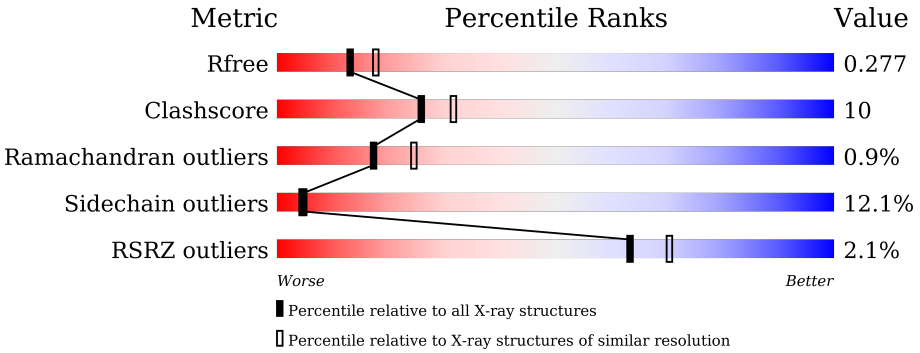
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (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 2.55 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	1284 (2.56-2.52)
Clashscore	141614	1332 (2.56-2.52)
Ramachandran outliers	138981	1315 (2.56-2.52)
Sidechain outliers	138945	1315 (2.56-2.52)
RSRZ outliers	127900	1272 (2.56-2.52)

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	669	2% 71% 25%
1	B	669	2% 71% 24% 5%

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 10700 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 Ribonucleoside-diphosphate reductase large subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	665	Total	C	N	O	S	0	0	0
			5211	3324	877	983	27			
1	B	668	Total	C	N	O	S	0	0	0
			5335	3402	902	1002	29			

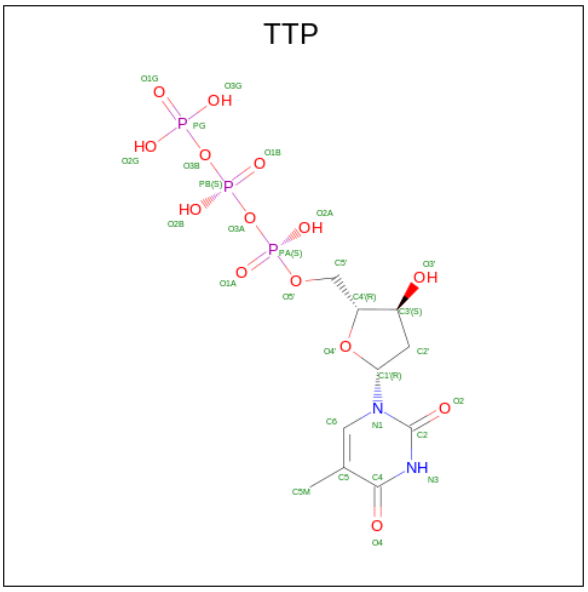
There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	74	GLY	-	expression tag	UNP P23921
B	74	GLY	-	expression tag	UNP P23921

- Molecule 2 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

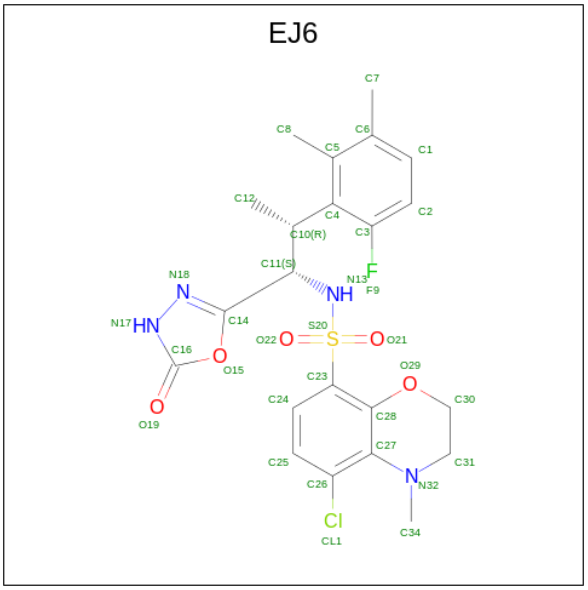
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Mg	0	0
			1	1		
2	B	1	Total	Mg	0	0
			1	1		

- Molecule 3 is THYMIDINE-5'-TRIPHOSPHATE (three-letter code: TTP) (formula: $C_{10}H_{17}N_2O_{14}P_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			29	10	2	14	3		
3	B	1	Total	C	N	O	P	0	0
			29	10	2	14	3		

- Molecule 4 is 5-chloro-N-((1S,2R)-2-(6-fluoro-2,3-dimethylphenyl)-1-(5-oxo-4,5-dihydro-1,3,4-oxadiazol-2-yl)propyl)-4-methyl-3,4-dihydro-2H-benzo[b][1,4]oxazine-8-sulfonamide (three-letter code: EJ6) (formula: $C_{22}H_{24}ClFN_4O_5S$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms							ZeroOcc	AltConf
4	A	1	Total	C	Cl	F	N	O	S	0	0
			34	22	1	1	4	5	1		
4	B	1	Total	C	Cl	F	N	O	S	0	0
			34	22	1	1	4	5	1		

- Molecule 5 is water.

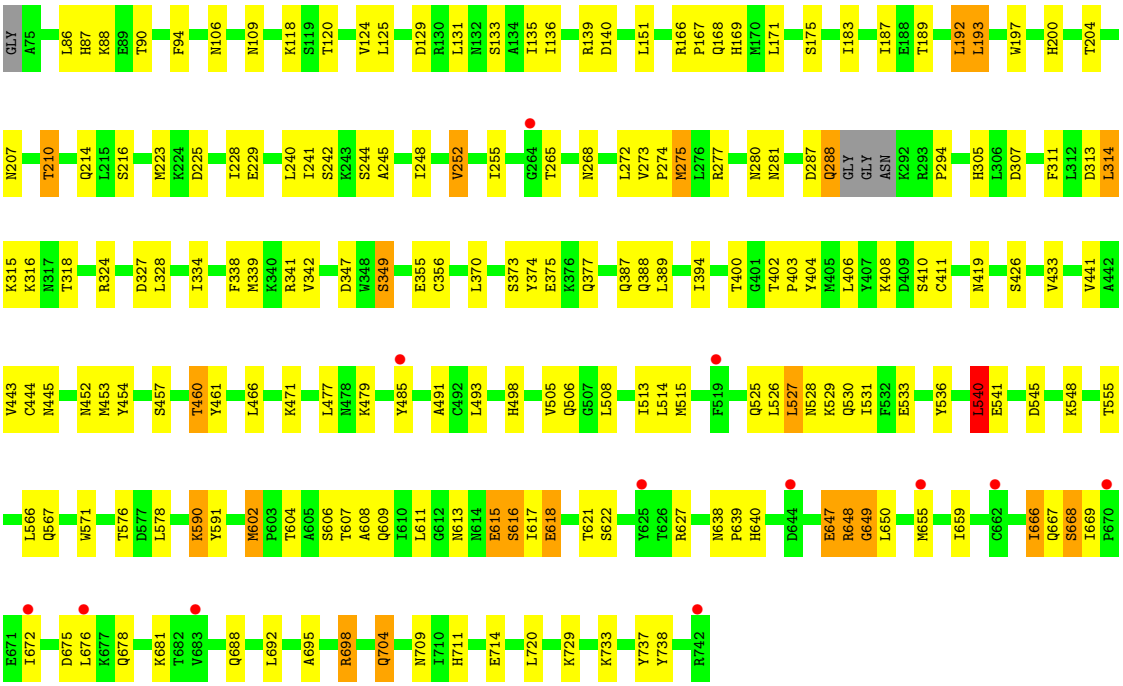
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	11	Total	O	0	0
			11	11		
5	B	15	Total	O	0	0
			15	15		

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.

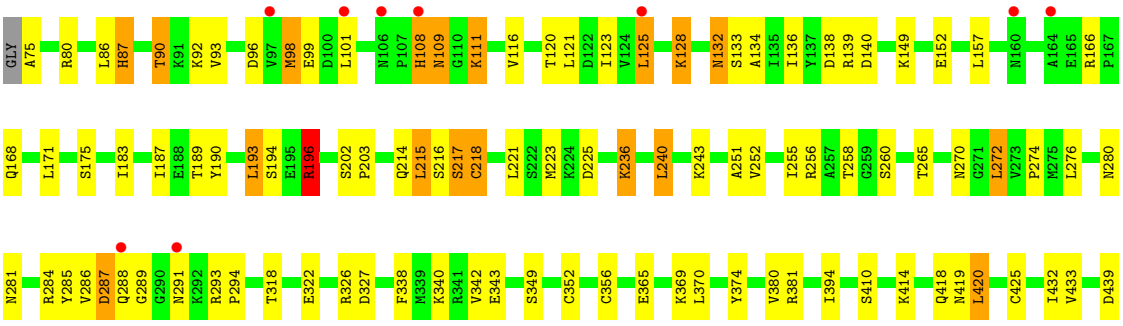
• Molecule 1: Ribonucleoside-diphosphate reductase large subunit

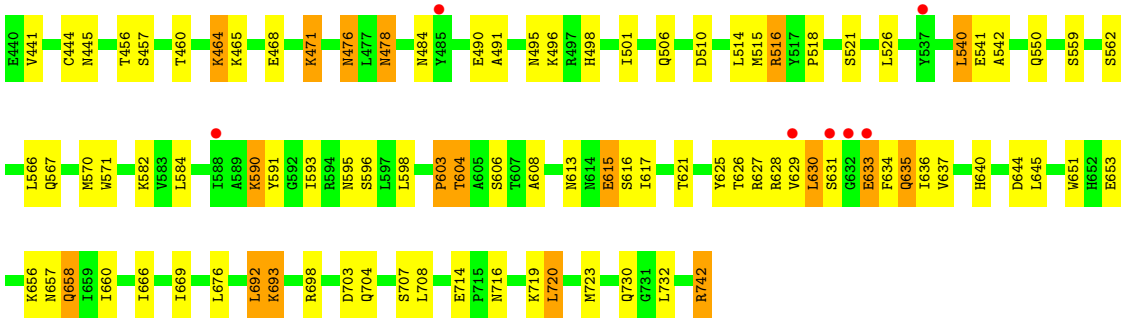
Chain A:



• Molecule 1: Ribonucleoside-diphosphate reductase large subunit

Chain B:




E440 V441 C444 N445 T456 S457 T460 K464 K465 E468 K471 N476 L477 N478 N484 Y485 E490 A491 N495 K496 R497 H498 I501 Q506 D510 L514 M515 R516 Y517 P518 S521 L526 Y537 L540 E541 A542 Q550 S559 S562
L566 Q567 M570 W571 K582 V583 L584 I588 A589 K590 Y591 G592 I593 R594 N595 S596 L597 L598 P603 T604 A605 S606 T607 A608 N613 N614 E615 S616 I617 T621 Y625 T626 R627 R628 V629 L630 S631 G632 E633 F634 Q635 I636 V637 H640 D644 L645 W651 H652 E653
K656 N657 Q658 I659 I660 I666 I669 L676 L692 K693 R698 D703 Q704 S707 L708 E714 P715 N716 K719 L720 M723 Q730 G731 L732 R742

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	227.83Å 66.92Å 110.00Å 90.00° 103.82° 90.00°	Depositor
Resolution (Å)	110.62 – 2.55 55.31 – 2.55	Depositor EDS
% Data completeness (in resolution range)	99.4 (110.62-2.55) 99.4 (55.31-2.55)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.07	Depositor
$< I/\sigma(I) >$ [1]	2.90 (at 2.55Å)	Xtriage
Refinement program	REFMAC 5.8.0158	Depositor
R, R_{free}	0.210 , 0.277 0.214 , 0.277	Depositor DCC
R_{free} test set	2605 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å^2)	49.0	Xtriage
Anisotropy	0.048	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 38.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	10700	wwPDB-VP
Average B, all atoms (Å^2)	52.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.71% 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: TTP, MG, EJ6

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	0.62	0/5323	0.81	2/7221 (0.0%)
1	B	0.61	0/5454	0.83	3/7389 (0.0%)
All	All	0.62	0/10777	0.82	5/14610 (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	B	0	1

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	742	ARG	NE-CZ-NH1	5.65	123.12	120.30
1	A	540	LEU	CA-CB-CG	5.36	127.64	115.30
1	B	742	ARG	NE-CZ-NH2	-5.24	117.68	120.30
1	B	196	ARG	NE-CZ-NH1	-5.15	117.72	120.30
1	A	139	ARG	NE-CZ-NH1	5.04	122.82	120.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	418	GLN	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	5211	0	5100	107	0
1	B	5335	0	5285	118	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
3	A	29	0	13	1	0
3	B	29	0	13	1	0
4	A	34	0	0	0	0
4	B	34	0	0	0	0
5	A	11	0	0	1	0
5	B	15	0	0	1	0
All	All	10700	0	10411	221	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 10.

All (221) 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:218:CYS:HB3	1:B:444:CYS:SG	2.07	0.95
1:B:223:MET:HG2	1:B:255:ILE:HD11	1.54	0.89
1:B:433:VAL:H	1:B:704:GLN:HE21	1.23	0.82
1:A:688:GLN:NE2	1:A:711:HIS:H	1.79	0.80
1:A:140:ASP:OD1	1:A:168:GLN:HG2	1.82	0.79
1:A:288:GLN:HB2	1:B:265:THR:HG21	1.63	0.79
1:A:567:GLN:HE21	1:A:571:TRP:HE1	1.35	0.74
1:A:280:ASN:HD22	1:A:328:LEU:HG	1.52	0.74
1:B:478:ASN:ND2	1:B:595:ASN:HD21	1.87	0.72
1:B:86:LEU:O	1:B:90:THR:HG22	1.90	0.72
1:B:433:VAL:H	1:B:704:GLN:NE2	1.88	0.71
1:B:635:GLN:HE21	1:B:656:LYS:HE3	1.56	0.71
1:B:280:ASN:HD21	1:B:327:ASP:H	1.38	0.71
1:A:528:ASN:HD21	1:A:698:ARG:NH1	1.89	0.69
1:B:478:ASN:HD21	1:B:595:ASN:HD21	1.39	0.68
1:B:506:GLN:HE21	1:B:613:ASN:HD22	1.40	0.68
1:B:109:ASN:CB	1:B:111:LYS:HG2	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:216:SER:OG	1:A:445:ASN:ND2	2.27	0.67
1:A:567:GLN:NE2	1:A:571:TRP:HE1	1.91	0.67
1:B:567:GLN:HE22	1:B:571:TRP:HE1	1.43	0.67
1:A:526:LEU:O	1:A:530:GLN:HG3	1.93	0.67
1:B:471:LYS:HE3	1:B:541:GLU:OE1	1.95	0.66
1:A:433:VAL:H	1:A:704:GLN:HE21	1.44	0.66
1:A:666:ILE:O	1:A:668:SER:N	2.29	0.66
1:A:590:LYS:HD2	1:A:591:TYR:CE2	2.30	0.65
1:A:334:ILE:HG21	1:A:339:MET:HE3	1.78	0.65
1:A:223:MET:HG2	1:A:255:ILE:HD11	1.78	0.65
1:B:456:THR:OG1	1:B:460:THR:HG22	1.98	0.64
1:A:402:THR:HB	1:A:403:PRO:HA	1.80	0.64
1:B:478:ASN:HD21	1:B:595:ASN:ND2	1.96	0.63
1:B:190:TYR:O	1:B:194:SER:HB2	1.99	0.62
1:A:408:LYS:HE3	5:A:908:HOH:O	1.99	0.62
1:A:460:THR:C	1:A:515:MET:HE1	2.20	0.61
1:B:252:VAL:HG13	1:B:272:LEU:HD11	1.81	0.61
1:A:528:ASN:HD21	1:A:698:ARG:HH11	1.46	0.61
1:B:203:PRO:HG3	1:B:217:SER:HB3	1.80	0.61
1:B:471:LYS:HG2	1:B:542:ALA:HB2	1.83	0.61
1:B:464:LYS:O	1:B:468:GLU:HG3	2.00	0.60
1:B:120:THR:O	1:B:123:ILE:HG22	2.02	0.59
1:B:293:ARG:NH1	1:B:294:PRO:O	2.36	0.59
1:A:281:ASN:OD1	1:B:281:ASN:OD1	2.20	0.59
1:A:338:PHE:O	1:A:342:VAL:HG23	2.02	0.59
1:A:545:ASP:O	1:A:548:LYS:HB3	2.03	0.58
1:B:287:ASP:HB2	1:B:289:GLY:O	2.03	0.58
1:B:516:ARG:HH22	1:B:644:ASP:CG	2.06	0.58
1:B:168:GLN:OE1	1:B:194:SER:OG	2.21	0.58
1:B:516:ARG:NH2	1:B:644:ASP:OD2	2.36	0.58
1:A:666:ILE:HG23	1:A:672:ILE:HD13	1.86	0.58
1:B:604:THR:CG2	1:B:608:ALA:HB2	2.34	0.58
1:A:655:MET:O	1:A:659:ILE:HG13	2.05	0.57
1:A:615:GLU:O	1:A:617:ILE:O	2.22	0.57
1:B:75:ALA:N	5:B:901:HOH:O	2.39	0.56
1:B:134:ALA:O	1:B:136:ILE:HD12	2.05	0.56
1:B:420:LEU:HD21	1:B:498:HIS:CE1	2.40	0.56
1:B:628:ARG:NH2	1:B:633:GLU:HG3	2.21	0.56
1:B:216:SER:OG	1:B:445:ASN:ND2	2.37	0.56
1:B:616:SER:OG	1:B:617:ILE:N	2.37	0.56
1:A:280:ASN:HD21	1:A:327:ASP:H	1.54	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:215:LEU:N	1:B:484:ASN:OD1	2.36	0.56
1:A:617:ILE:HG22	1:A:618:GLU:N	2.20	0.55
1:A:669:ILE:CB	1:A:672:ILE:HD12	2.36	0.55
1:A:183:ILE:O	1:A:187:ILE:HG13	2.05	0.55
1:B:567:GLN:NE2	1:B:571:TRP:HE1	2.05	0.55
1:A:166:ARG:O	1:A:169:HIS:HB2	2.08	0.54
1:B:657:ASN:HA	1:B:660:ILE:HG22	1.88	0.54
1:A:314:LEU:HA	1:A:324:ARG:HD3	1.88	0.54
1:A:709:ASN:ND2	1:A:738:TYR:HB2	2.23	0.54
1:B:286:VAL:O	1:B:287:ASP:O	2.25	0.54
1:B:476:ASN:N	1:B:476:ASN:HD22	2.05	0.54
1:A:461:TYR:N	1:A:515:MET:HE1	2.22	0.54
1:B:604:THR:CG2	1:B:604:THR:O	2.55	0.54
1:A:505:VAL:O	1:A:616:SER:HA	2.08	0.53
1:A:214:GLN:HE22	1:A:216:SER:HB2	1.74	0.53
1:B:693:LYS:HE3	1:B:730:GLN:HE22	1.73	0.53
1:B:140:ASP:OD1	1:B:168:GLN:HG2	2.09	0.52
1:A:200:HIS:HB3	1:A:204:THR:HG23	1.90	0.52
1:A:411:CYS:SG	1:A:733:LYS:HB3	2.50	0.52
1:A:471:LYS:NZ	1:A:541:GLU:HG2	2.24	0.52
1:A:452:ASN:HD21	1:A:613:ASN:CG	2.13	0.52
1:A:454:TYR:CE2	1:A:466:LEU:HA	2.45	0.52
1:A:669:ILE:CB	1:A:672:ILE:CD1	2.87	0.51
1:A:87:HIS:O	1:A:166:ARG:NH2	2.41	0.51
1:A:709:ASN:HD22	1:A:738:TYR:H	1.58	0.51
1:A:275:MET:HB3	1:B:285:TYR:CZ	2.45	0.51
1:A:287:ASP:HB2	1:A:294:PRO:HA	1.92	0.51
1:A:513:ILE:HG21	1:A:640:HIS:HB3	1.92	0.51
1:B:189:THR:HG22	1:B:193:LEU:HD22	1.93	0.51
1:A:498:HIS:HD2	1:A:555:THR:OG1	1.94	0.50
1:B:203:PRO:HG3	1:B:217:SER:CB	2.41	0.50
1:B:716:ASN:ND2	1:B:719:LYS:HD2	2.26	0.50
1:A:200:HIS:HB3	1:A:204:THR:CG2	2.41	0.50
1:A:86:LEU:O	1:A:90:THR:HG23	2.11	0.50
1:A:533:GLU:OE1	1:A:576:THR:HB	2.12	0.50
1:B:288:GLN:HG2	1:B:293:ARG:O	2.12	0.50
1:B:559:SER:O	1:B:562:SER:HB2	2.12	0.50
1:B:445:ASN:HD21	1:B:495:ASN:HD21	1.60	0.49
1:B:657:ASN:HA	1:B:660:ILE:CG2	2.42	0.49
1:A:607:THR:O	1:A:611:LEU:HD13	2.11	0.49
1:B:515:MET:O	1:B:516:ARG:HB2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:108:HIS:O	1:B:109:ASN:CB	2.59	0.49
1:B:93:VAL:HG12	1:B:132:ASN:ND2	2.28	0.49
1:A:433:VAL:H	1:A:704:GLN:NE2	2.10	0.49
1:B:441:VAL:O	1:B:491:ALA:HA	2.13	0.49
1:B:471:LYS:CG	1:B:542:ALA:HB2	2.42	0.49
1:A:525:GLN:O	1:A:529:LYS:HG3	2.13	0.49
1:A:536:TYR:CZ	1:A:540:LEU:HD21	2.48	0.49
1:A:419:ASN:ND2	1:A:555:THR:O	2.45	0.48
1:A:273:VAL:HB	1:A:274:PRO:HD3	1.95	0.48
1:A:617:ILE:O	1:A:618:GLU:CB	2.60	0.48
1:A:688:GLN:HE21	1:A:711:HIS:H	1.57	0.48
1:B:432:ILE:HG23	1:B:704:GLN:HE22	1.77	0.48
1:B:134:ALA:O	1:B:136:ILE:CD1	2.61	0.48
1:A:341:ARG:NH1	1:A:347:ASP:O	2.42	0.48
1:B:90:THR:HG23	1:B:166:ARG:HE	1.77	0.48
1:A:311:PHE:O	1:A:314:LEU:CD2	2.62	0.48
1:B:653:GLU:OE2	1:B:656:LYS:NZ	2.47	0.48
1:A:313:ASP:HA	1:A:316:LYS:HD2	1.95	0.47
1:A:441:VAL:O	1:A:491:ALA:HA	2.14	0.47
1:B:87:HIS:O	1:B:166:ARG:NH2	2.45	0.47
1:A:311:PHE:O	1:A:314:LEU:HD22	2.14	0.47
1:A:370:LEU:HD12	1:A:370:LEU:O	2.14	0.47
1:A:120:THR:O	1:A:124:VAL:HG23	2.14	0.47
1:B:258:THR:O	1:B:381:ARG:NH2	2.47	0.47
1:A:223:MET:CE	1:A:252:VAL:HG23	2.44	0.47
1:A:617:ILE:O	1:A:618:GLU:HB2	2.15	0.47
1:B:75:ALA:HB3	1:B:634:PHE:CE1	2.50	0.47
1:B:108:HIS:CD2	1:B:108:HIS:H	2.32	0.46
1:B:604:THR:HG23	1:B:608:ALA:HB2	1.96	0.46
1:A:602:MET:HE2	1:A:604:THR:CG2	2.45	0.46
1:B:236:LYS:HD3	1:B:240:LEU:HD22	1.98	0.46
1:A:443:VAL:HG12	1:A:444:CYS:N	2.30	0.46
1:B:101:LEU:HB3	1:B:116:VAL:HG23	1.98	0.46
1:B:414:LYS:HG2	1:B:570:MET:HB3	1.98	0.46
1:B:629:VAL:HG13	1:B:631:SER:HB2	1.98	0.46
1:A:506:GLN:NE2	1:A:608:ALA:HA	2.31	0.46
1:B:630:LEU:HD23	1:B:631:SER:N	2.30	0.46
1:A:189:THR:HG22	1:A:193:LEU:HD22	1.98	0.45
1:A:129:ASP:O	1:A:133:SER:HB3	2.15	0.45
1:A:370:LEU:HD11	1:A:374:TYR:CE2	2.52	0.45
1:B:625:TYR:HB3	1:B:636:ILE:HG13	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:106:ASN:HB3	1:A:109:ASN:HB3	1.99	0.45
1:A:315:LYS:CG	1:A:400:THR:HG21	2.46	0.45
1:A:460:THR:C	1:A:515:MET:CE	2.84	0.45
1:A:228:ILE:HD11	3:A:802:TTP:C5	2.51	0.45
1:B:349:SER:HB3	1:B:380:VAL:HG13	1.99	0.45
1:A:506:GLN:HA	1:A:616:SER:HA	1.98	0.45
1:B:603:PRO:O	1:B:615:GLU:OE2	2.35	0.45
1:B:658:GLN:NE2	1:B:669:ILE:HG23	2.32	0.45
1:A:404:TYR:HD1	1:A:737:TYR:O	2.01	0.44
1:A:471:LYS:HZ3	1:A:541:GLU:HG2	1.82	0.44
1:A:548:LYS:HD2	1:A:591:TYR:CE2	2.52	0.44
1:B:603:PRO:HD3	1:B:707:SER:OG	2.17	0.44
1:B:566:LEU:HD12	1:B:566:LEU:N	2.32	0.44
1:A:548:LYS:CE	1:A:591:TYR:CZ	3.01	0.44
1:B:256:ARG:HB2	1:B:352:CYS:SG	2.57	0.44
1:B:202:SER:N	1:B:203:PRO:HD2	2.33	0.44
1:A:695:ALA:HA	1:A:698:ARG:HE	1.83	0.43
1:A:197:TRP:HA	1:A:453:MET:HG2	1.99	0.43
1:A:647:GLU:O	1:A:649:GLY:N	2.51	0.43
1:B:439:ASP:O	1:B:490:GLU:HB3	2.18	0.43
1:B:692:LEU:HD12	1:B:708:LEU:HD21	2.01	0.43
1:A:638:ASN:HD22	1:A:639:PRO:HD2	1.83	0.43
1:A:648:ARG:O	1:A:650:LEU:N	2.50	0.43
1:B:96:ASP:O	1:B:99:GLU:HB3	2.17	0.43
1:B:432:ILE:HG13	1:B:444:CYS:SG	2.58	0.43
1:B:628:ARG:CZ	1:B:633:GLU:HG3	2.49	0.43
1:B:223:MET:CG	1:B:255:ILE:HD11	2.38	0.43
1:A:370:LEU:HD11	1:A:374:TYR:CZ	2.52	0.43
1:B:93:VAL:HG12	1:B:132:ASN:HD22	1.82	0.43
1:B:109:ASN:CB	1:B:111:LYS:CG	2.95	0.43
1:B:567:GLN:HG3	1:B:703:ASP:HA	2.00	0.43
1:A:506:GLN:HE22	1:A:608:ALA:HA	1.84	0.43
1:B:270:ASN:HB3	1:B:274:PRO:HG2	2.01	0.43
1:B:510:ASP:OD2	1:B:640:HIS:HE1	2.00	0.43
1:A:192:LEU:HD12	1:A:197:TRP:CD1	2.54	0.43
1:A:207:ASN:O	1:A:210:THR:HB	2.18	0.43
1:A:349:SER:HB2	1:A:375:GLU:OE2	2.18	0.43
1:B:136:ILE:HD13	1:B:139:ARG:NH1	2.34	0.43
1:A:94:PHE:HB2	1:A:135:ILE:HD13	2.00	0.42
1:A:229:GLU:HG2	1:B:236:LYS:HE2	2.01	0.42
1:A:373:SER:O	1:A:377:GLN:HG3	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:284:ARG:HD2	1:B:327:ASP:OD2	2.18	0.42
1:B:394:ILE:HG23	1:B:720:LEU:HD23	2.02	0.42
1:B:183:ILE:O	1:B:187:ILE:HG12	2.19	0.42
1:B:540:LEU:HB3	1:B:584:LEU:HD21	2.01	0.42
1:B:658:GLN:HE21	1:B:669:ILE:HG12	1.85	0.42
1:B:125:LEU:HD23	1:B:125:LEU:C	2.40	0.42
1:B:223:MET:HG2	1:B:255:ILE:CD1	2.38	0.42
1:A:223:MET:HE3	1:A:252:VAL:HG23	2.01	0.42
1:A:305:HIS:CE1	1:A:307:ASP:HB2	2.55	0.42
1:B:218:CYS:CB	1:B:444:CYS:SG	2.94	0.42
1:B:637:VAL:HG21	1:B:651:TRP:CH2	2.55	0.41
1:A:140:ASP:OD1	1:A:167:PRO:HB2	2.20	0.41
1:A:244:SER:O	1:A:245:ALA:HB3	2.20	0.41
1:A:406:LEU:HD22	1:A:426:SER:HB2	2.02	0.41
1:A:125:LEU:HD23	1:A:125:LEU:HA	1.89	0.41
1:A:288:GLN:HG2	3:B:802:TTP:O4	2.19	0.41
1:B:128:LYS:O	1:B:132:ASN:OD1	2.39	0.41
1:B:251:ALA:HB2	1:B:425:CYS:HB3	2.02	0.41
1:B:260:SER:OG	1:B:381:ARG:NH1	2.54	0.41
1:B:478:ASN:HD21	1:B:595:ASN:CG	2.24	0.41
1:B:120:THR:HA	1:B:123:ILE:HG22	2.03	0.41
1:A:241:ILE:HB	1:A:248:ILE:HD11	2.03	0.41
1:A:315:LYS:HG2	1:A:400:THR:HG21	2.01	0.41
1:A:452:ASN:ND2	1:A:613:ASN:OD1	2.51	0.41
1:A:617:ILE:O	1:A:618:GLU:HG3	2.21	0.41
1:B:714:GLU:O	1:B:719:LYS:NZ	2.42	0.41
1:B:501:ILE:HG13	1:B:598:LEU:HA	2.03	0.41
1:B:518:PRO:O	1:B:521:SER:OG	2.26	0.41
1:B:590:LYS:HB3	1:B:591:TYR:CD1	2.55	0.41
1:B:221:LEU:HB3	1:B:441:VAL:HG22	2.03	0.41
1:B:356:CYS:HB3	1:B:374:TYR:CD2	2.56	0.41
1:A:688:GLN:NE2	1:A:711:HIS:N	2.59	0.41
1:B:190:TYR:CD2	1:B:190:TYR:C	2.94	0.41
1:B:656:LYS:O	1:B:660:ILE:HG22	2.21	0.41
1:B:87:HIS:HE1	1:B:140:ASP:OD2	2.05	0.40
1:B:338:PHE:O	1:B:342:VAL:HG23	2.21	0.40
1:B:98:MET:HE2	1:B:101:LEU:HD12	2.01	0.40
1:A:527:LEU:HD22	1:A:531:ILE:HG13	2.03	0.40
1:B:121:LEU:HD12	1:B:121:LEU:O	2.21	0.40
1:B:445:ASN:ND2	1:B:495:ASN:HD21	2.19	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	661/669 (99%)	632 (96%)	22 (3%)	7 (1%)	14	19
1	B	666/669 (100%)	635 (95%)	26 (4%)	5 (1%)	19	27
All	All	1327/1338 (99%)	1267 (96%)	48 (4%)	12 (1%)	17	24

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	616	SER
1	A	618	GLU
1	A	649	GLY
1	A	667	GLN
1	B	128	LYS
1	B	287	ASP
1	B	419	ASN
1	A	648	ARG
1	B	109	ASN
1	A	666	ILE
1	A	647	GLU
1	B	196	ARG

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	554/583 (95%)	493 (89%)	61 (11%)	6	6

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	B	579/583 (99%)	503 (87%)	76 (13%)	4 3
All	All	1133/1166 (97%)	996 (88%)	137 (12%)	5 4

All (137) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	88	LYS
1	A	118	LYS
1	A	131	LEU
1	A	136	ILE
1	A	151	LEU
1	A	171	LEU
1	A	175	SER
1	A	192	LEU
1	A	193	LEU
1	A	210	THR
1	A	225	ASP
1	A	240	LEU
1	A	242	SER
1	A	252	VAL
1	A	265	THR
1	A	268	ASN
1	A	272	LEU
1	A	275	MET
1	A	277	ARG
1	A	288	GLN
1	A	314	LEU
1	A	318	THR
1	A	349	SER
1	A	355	GLU
1	A	356	CYS
1	A	387	GLN
1	A	388	GLN
1	A	389	LEU
1	A	394	ILE
1	A	410	SER
1	A	457	SER
1	A	460	THR
1	A	477	LEU
1	A	479	LYS
1	A	485	TYR
1	A	493	LEU

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Mol	Chain	Res	Type
1	A	508	LEU
1	A	514	LEU
1	A	527	LEU
1	A	540	LEU
1	A	566	LEU
1	A	578	LEU
1	A	590	LYS
1	A	602	MET
1	A	606	SER
1	A	609	GLN
1	A	615	GLU
1	A	621	THR
1	A	622	SER
1	A	627	ARG
1	A	668	SER
1	A	675	ASP
1	A	676	LEU
1	A	678	GLN
1	A	681	LYS
1	A	692	LEU
1	A	698	ARG
1	A	704	GLN
1	A	714	GLU
1	A	720	LEU
1	A	729	LYS
1	B	80	ARG
1	B	87	HIS
1	B	90	THR
1	B	92	LYS
1	B	98	MET
1	B	108	HIS
1	B	111	LYS
1	B	125	LEU
1	B	132	ASN
1	B	133	SER
1	B	138	ASP
1	B	149	LYS
1	B	152	GLU
1	B	157	LEU
1	B	171	LEU
1	B	175	SER
1	B	193	LEU

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Mol	Chain	Res	Type
1	B	196	ARG
1	B	214	GLN
1	B	215	LEU
1	B	217	SER
1	B	218	CYS
1	B	225	ASP
1	B	236	LYS
1	B	240	LEU
1	B	243	LYS
1	B	272	LEU
1	B	276	LEU
1	B	291	ASN
1	B	318	THR
1	B	322	GLU
1	B	326	ARG
1	B	340	LYS
1	B	343	GLU
1	B	365	GLU
1	B	369	LYS
1	B	370	LEU
1	B	410	SER
1	B	420	LEU
1	B	457	SER
1	B	464	LYS
1	B	465	LYS
1	B	471	LYS
1	B	476	ASN
1	B	478	ASN
1	B	496	LYS
1	B	514	LEU
1	B	516	ARG
1	B	526	LEU
1	B	540	LEU
1	B	550	GLN
1	B	582	LYS
1	B	590	LYS
1	B	593	ILE
1	B	596	SER
1	B	603	PRO
1	B	604	THR
1	B	606	SER
1	B	615	GLU

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Mol	Chain	Res	Type
1	B	621	THR
1	B	626	THR
1	B	627	ARG
1	B	630	LEU
1	B	633	GLU
1	B	635	GLN
1	B	645	LEU
1	B	658	GLN
1	B	666	ILE
1	B	676	LEU
1	B	692	LEU
1	B	693	LYS
1	B	698	ARG
1	B	720	LEU
1	B	723	MET
1	B	732	LEU
1	B	742	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (42) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	85	ASN
1	A	127	ASN
1	A	214	GLN
1	A	268	ASN
1	A	280	ASN
1	A	288	GLN
1	A	317	ASN
1	A	377	GLN
1	A	445	ASN
1	A	476	ASN
1	A	498	HIS
1	A	506	GLN
1	A	528	ASN
1	A	550	GLN
1	A	567	GLN
1	A	609	GLN
1	A	667	GLN
1	A	688	GLN
1	A	704	GLN
1	A	706	GLN
1	A	709	ASN

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Mol	Chain	Res	Type
1	B	87	HIS
1	B	108	HIS
1	B	160	ASN
1	B	280	ASN
1	B	281	ASN
1	B	387	GLN
1	B	418	GLN
1	B	445	ASN
1	B	452	ASN
1	B	478	ASN
1	B	506	GLN
1	B	525	GLN
1	B	595	ASN
1	B	635	GLN
1	B	638	ASN
1	B	640	HIS
1	B	658	GLN
1	B	667	GLN
1	B	704	GLN
1	B	724	HIS
1	B	730	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 6 ligands modelled in this entry, 2 are monoatomic - leaving 4 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	TTP	B	802	2	26,30,30	1.49	4 (15%)	39,47,47	2.08	11 (28%)
3	TTP	A	802	2	26,30,30	1.24	5 (19%)	39,47,47	1.56	8 (20%)
4	EJ6	B	803	-	36,37,37	3.49	12 (33%)	43,56,56	2.91	14 (32%)
4	EJ6	A	803	-	36,37,37	3.51	11 (30%)	43,56,56	2.60	14 (32%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	TTP	B	802	2	-	1/22/34/34	0/2/2/2
3	TTP	A	802	2	-	4/22/34/34	0/2/2/2
4	EJ6	B	803	-	-	8/23/33/33	0/4/4/4
4	EJ6	A	803	-	-	8/23/33/33	0/4/4/4

All (32) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	803	EJ6	C23-S20	-12.55	1.59	1.77
4	B	803	EJ6	C23-S20	-12.45	1.59	1.77
4	B	803	EJ6	C4-C3	11.05	1.50	1.38
4	A	803	EJ6	C4-C3	10.61	1.49	1.38
4	A	803	EJ6	C27-C26	5.88	1.49	1.39
4	B	803	EJ6	C4-C5	5.82	1.50	1.40
4	A	803	EJ6	C4-C5	5.76	1.50	1.40
4	B	803	EJ6	C27-C26	5.40	1.48	1.39
4	A	803	EJ6	C6-C5	5.40	1.50	1.40
4	B	803	EJ6	C6-C5	4.82	1.49	1.40
4	B	803	EJ6	C27-C28	4.49	1.48	1.40
4	B	803	EJ6	O19-C16	4.30	1.29	1.21
4	A	803	EJ6	C27-C28	4.19	1.47	1.40
3	B	802	TTP	C6-C5	4.14	1.41	1.34
4	A	803	EJ6	O19-C16	3.64	1.28	1.21
4	A	803	EJ6	C14-N18	3.31	1.38	1.30
3	B	802	TTP	C4-C5	3.24	1.50	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	803	EJ6	C28-C23	3.13	1.47	1.41
3	B	802	TTP	C2-N1	3.05	1.43	1.38
3	A	802	TTP	C6-C5	3.04	1.39	1.34
3	A	802	TTP	C4-N3	-2.76	1.33	1.38
4	A	803	EJ6	C26-CL1	2.74	1.80	1.73
4	B	803	EJ6	C28-C23	2.61	1.46	1.41
4	B	803	EJ6	C14-N18	2.35	1.36	1.30
3	B	802	TTP	C4-N3	-2.29	1.34	1.38
3	A	802	TTP	C4-C5	2.27	1.48	1.44
4	B	803	EJ6	O15-C16	-2.24	1.35	1.40
4	B	803	EJ6	C26-CL1	2.16	1.78	1.73
4	A	803	EJ6	N17-N18	2.13	1.41	1.36
3	A	802	TTP	C6-N1	-2.10	1.34	1.38
4	B	803	EJ6	N17-N18	2.06	1.40	1.36
3	A	802	TTP	C2-N3	-2.01	1.34	1.38

All (47) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	B	803	EJ6	O22-S20-O21	-9.12	108.33	119.55
4	A	803	EJ6	O22-S20-O21	-8.60	108.98	119.55
4	B	803	EJ6	O21-S20-C23	7.42	119.87	107.66
4	B	803	EJ6	C11-C14-N18	6.97	133.63	125.90
4	B	803	EJ6	C23-S20-N13	-6.74	98.18	108.30
4	A	803	EJ6	C11-C14-N18	5.66	132.19	125.90
4	B	803	EJ6	O22-S20-N13	5.65	117.11	106.88
4	A	803	EJ6	C14-C11-N13	5.62	119.32	108.80
3	B	802	TTP	N3-C2-N1	5.30	121.93	114.89
3	B	802	TTP	C4-N3-C2	-5.01	120.87	127.35
4	A	803	EJ6	C28-C27-N32	-4.93	114.60	121.06
3	B	802	TTP	C5-C4-N3	4.89	119.48	115.31
3	A	802	TTP	N3-C2-N1	4.58	120.96	114.89
4	A	803	EJ6	O15-C16-N17	4.49	113.86	107.57
3	B	802	TTP	PB-O3A-PA	-4.34	117.92	132.83
4	A	803	EJ6	C23-S20-N13	-4.22	101.96	108.30
4	A	803	EJ6	O21-S20-C23	3.82	113.95	107.66
4	B	803	EJ6	C28-C27-N32	-3.78	116.11	121.06
3	B	802	TTP	C5-C6-N1	-3.58	119.66	123.34
4	B	803	EJ6	C2-C3-C4	-3.41	120.38	123.98
4	B	803	EJ6	O15-C16-N17	3.38	112.30	107.57
3	B	802	TTP	O4-C4-C5	-3.25	121.14	124.90
4	B	803	EJ6	C14-C11-N13	3.20	114.79	108.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	803	EJ6	O22-S20-N13	3.20	112.67	106.88
3	A	802	TTP	C4-N3-C2	-3.17	123.25	127.35
4	A	803	EJ6	O29-C28-C27	-3.13	117.29	121.14
4	B	803	EJ6	C4-C10-C11	3.09	116.82	111.47
3	B	802	TTP	O3G-PG-O2G	3.08	119.40	107.64
3	A	802	TTP	PB-O3A-PA	-3.00	122.54	132.83
3	B	802	TTP	C5M-C5-C4	2.99	122.06	118.77
4	A	803	EJ6	C1-C2-C3	2.59	122.18	119.05
4	A	803	EJ6	C34-N32-C31	2.46	120.84	115.25
3	A	802	TTP	O3G-PG-O2G	2.44	116.98	107.64
3	A	802	TTP	C5M-C5-C4	2.43	121.44	118.77
4	B	803	EJ6	C1-C2-C3	2.40	121.95	119.05
4	B	803	EJ6	F9-C3-C4	2.39	120.47	118.13
3	A	802	TTP	C5-C6-N1	-2.30	120.97	123.34
3	A	802	TTP	O2-C2-N1	-2.23	119.82	122.79
4	A	803	EJ6	C2-C3-C4	-2.21	121.64	123.98
3	B	802	TTP	O2B-PB-O1B	2.19	123.08	112.24
4	A	803	EJ6	O15-C16-O19	2.19	124.17	120.75
4	B	803	EJ6	C34-N32-C31	2.18	120.20	115.25
3	B	802	TTP	O2-C2-N3	-2.16	117.48	121.50
3	B	802	TTP	C5M-C5-C6	-2.13	120.00	122.85
3	A	802	TTP	O2G-PG-O3B	-2.11	97.56	104.64
4	A	803	EJ6	C14-N18-N17	2.01	105.37	103.47
4	B	803	EJ6	C30-O29-C28	2.01	119.11	113.99

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	803	EJ6	C24-C23-S20-O22
4	A	803	EJ6	C24-C23-S20-N13
4	A	803	EJ6	C28-C23-S20-O21
4	A	803	EJ6	C28-C23-S20-O22
4	A	803	EJ6	C28-C23-S20-N13
4	B	803	EJ6	C28-C23-S20-O21
4	B	803	EJ6	C28-C23-S20-O22
4	B	803	EJ6	C28-C23-S20-N13
4	B	803	EJ6	C24-C23-S20-O22
4	B	803	EJ6	C24-C23-S20-N13
4	A	803	EJ6	C24-C23-S20-O21
4	B	803	EJ6	N13-C11-C14-O15
4	A	803	EJ6	C10-C11-N13-S20

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Mol	Chain	Res	Type	Atoms
4	A	803	EJ6	C11-C10-C4-C3
4	B	803	EJ6	C11-C10-C4-C3
3	A	802	TTP	PA-O3A-PB-O1B
3	A	802	TTP	PG-O3B-PB-O2B
3	B	802	TTP	PB-O3A-PA-O2A
3	A	802	TTP	PG-O3B-PB-O1B
4	B	803	EJ6	C24-C23-S20-O21
3	A	802	TTP	PA-O3A-PB-O2B

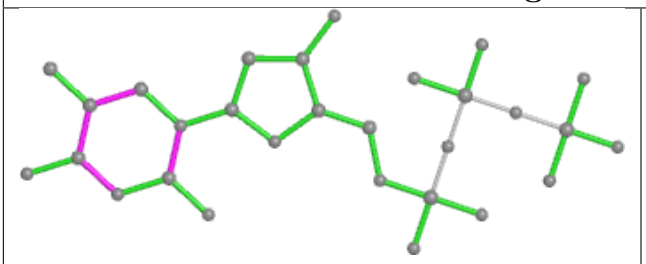
There are no ring outliers.

2 monomers are involved in 2 short contacts:

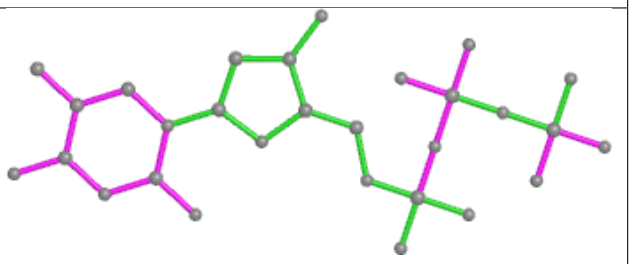
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	802	TTP	1	0
3	A	802	TTP	1	0

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.

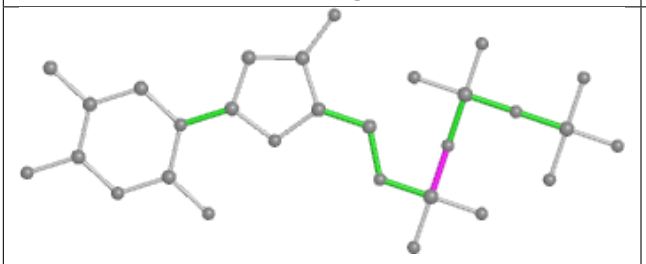
Ligand TTP B 802



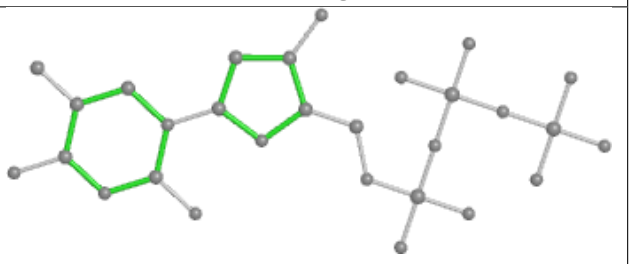
Bond lengths



Bond angles

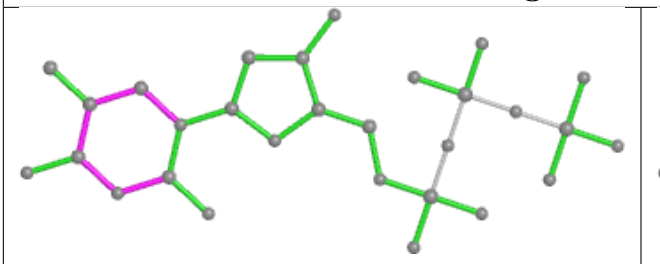


Torsions

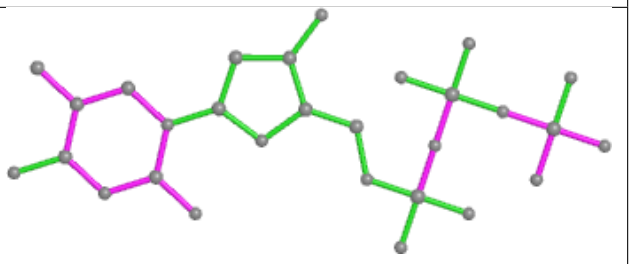


Rings

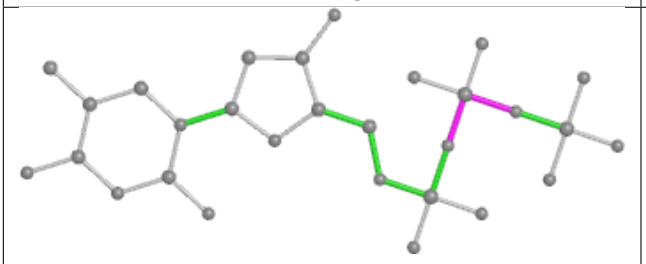
Ligand TTP A 802



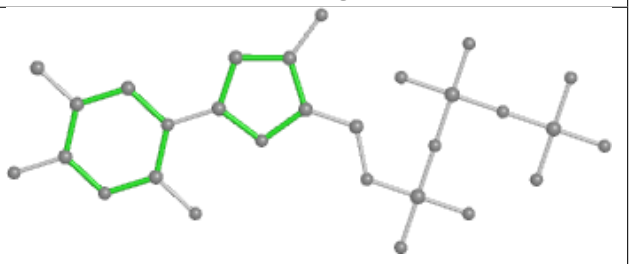
Bond lengths



Bond angles

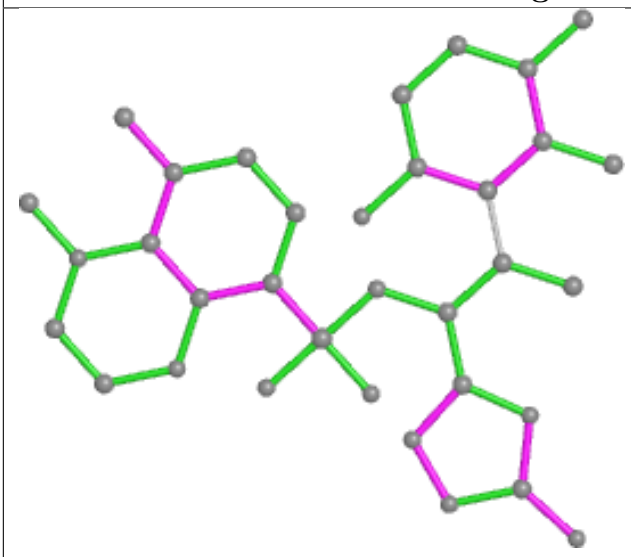


Torsions

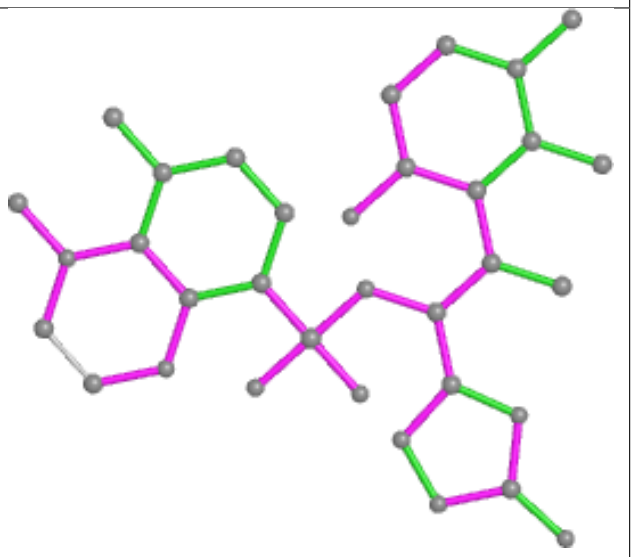


Rings

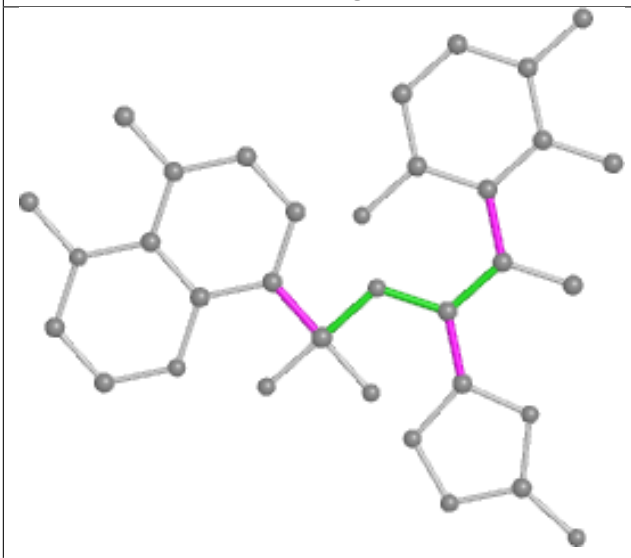
Ligand EJ6 B 803



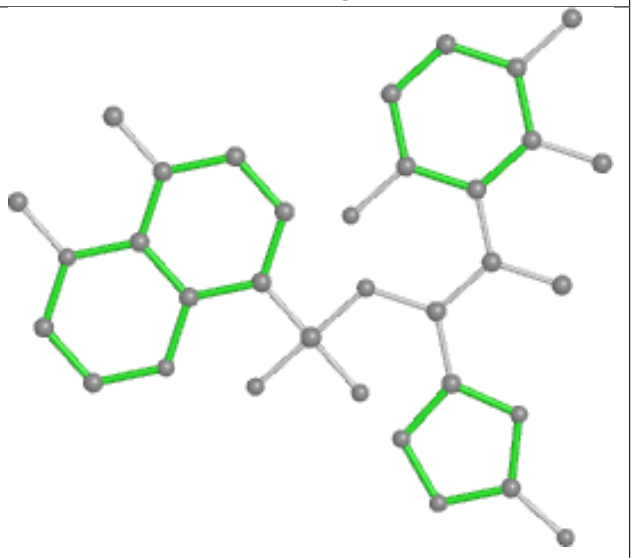
Bond lengths



Bond angles

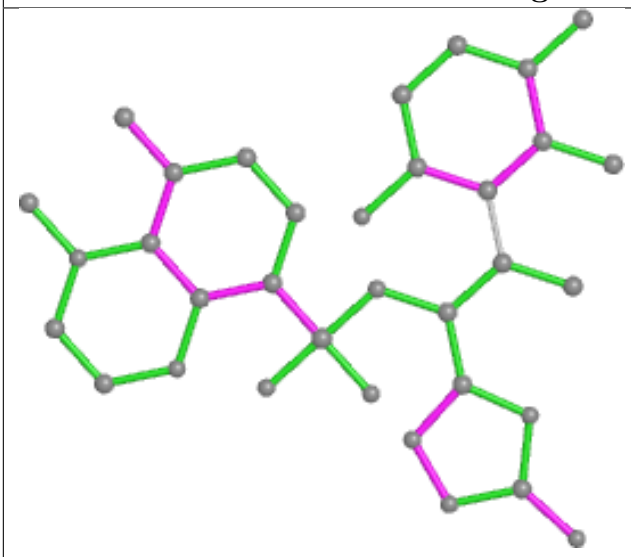


Torsions

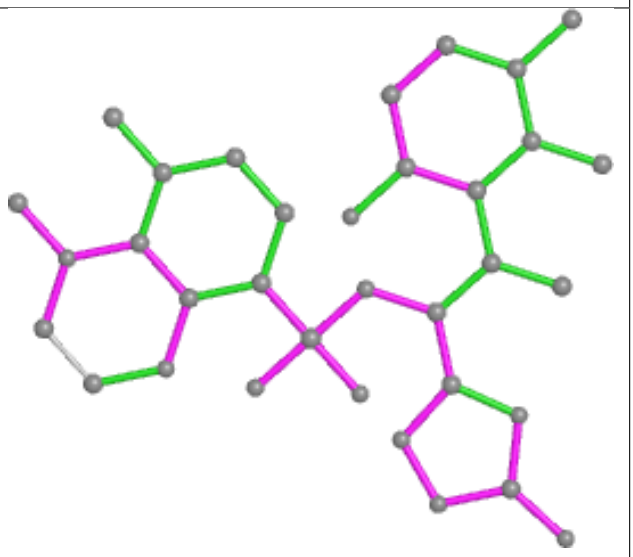


Rings

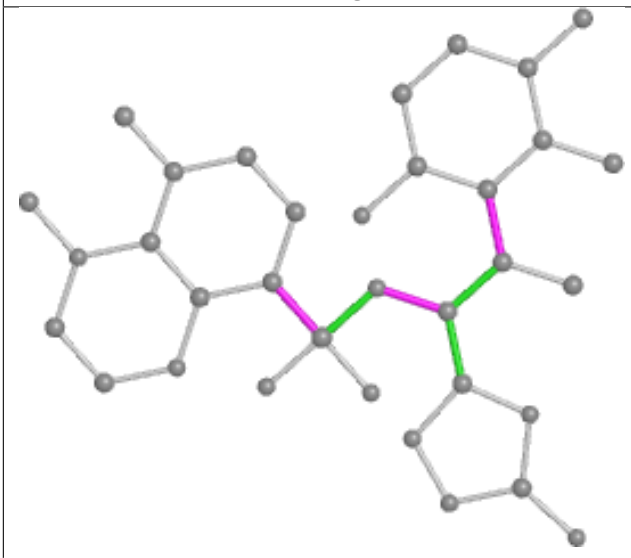
Ligand EJ6 A 803



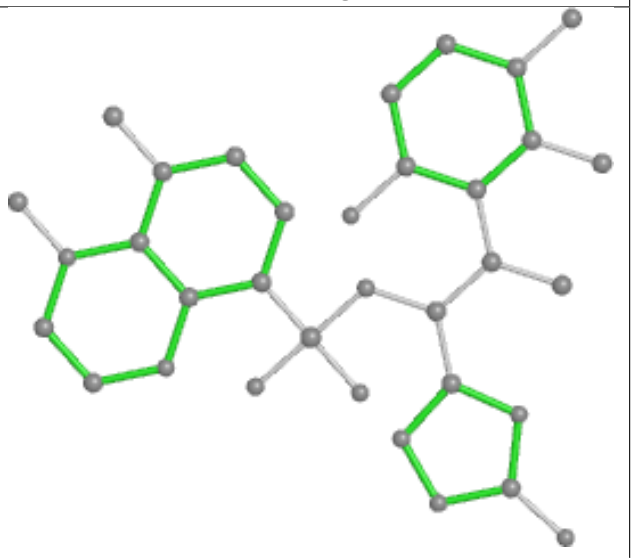
Bond lengths



Bond angles



Torsions



Rings

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	665/669 (99%)	0.30	12 (1%)	68	74	31, 52, 77, 101	0
1	B	668/669 (99%)	0.32	16 (2%)	59	65	26, 49, 81, 134	0
All	All	1333/1338 (99%)	0.31	28 (2%)	63	70	26, 51, 79, 134	0

All (28) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	632	GLY	4.9
1	B	125	LEU	4.2
1	B	291	ASN	4.2
1	B	108	HIS	4.1
1	B	164	ALA	3.2
1	B	631	SER	3.1
1	A	672	ILE	3.0
1	A	644	ASP	3.0
1	A	485	TYR	2.8
1	A	683	VAL	2.7
1	B	485	TYR	2.6
1	B	106	ASN	2.5
1	B	288	GLN	2.5
1	A	625	TYR	2.5
1	B	537	TYR	2.5
1	B	629	VAL	2.5
1	A	264	GLY	2.2
1	A	742	ARG	2.2
1	A	655	MET	2.2
1	B	97	VAL	2.2
1	A	519	PHE	2.2
1	B	588	ILE	2.1
1	A	670	PRO	2.1
1	A	676	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	101	LEU	2.1
1	B	160	ASN	2.1
1	B	633	GLU	2.0
1	A	662	CYS	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)

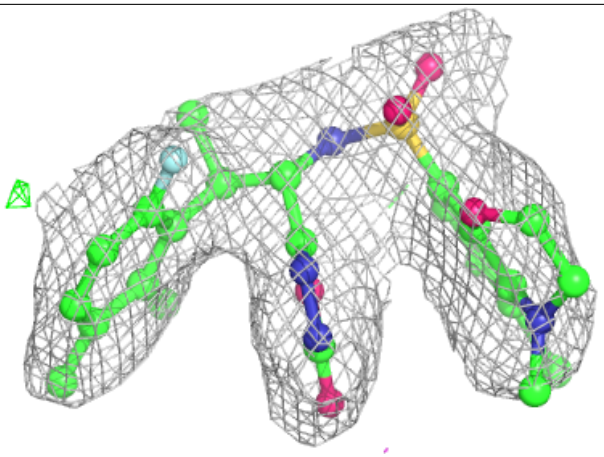
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

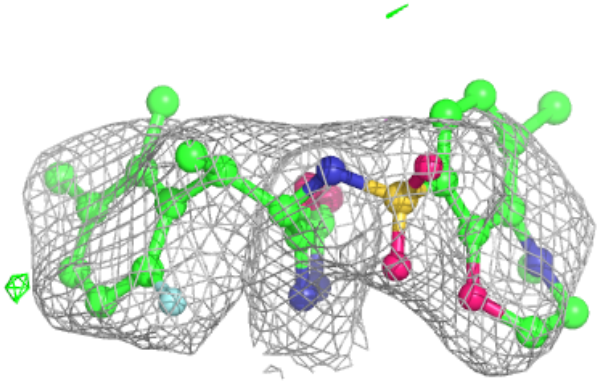
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	EJ6	A	803	34/34	0.92	0.25	50,67,97,124	0
2	MG	A	801	1/1	0.94	0.09	47,47,47,47	0
3	TTP	A	802	29/29	0.95	0.14	46,52,82,86	0
2	MG	B	801	1/1	0.95	0.23	39,39,39,39	0
4	EJ6	B	803	34/34	0.95	0.20	34,50,67,88	0
3	TTP	B	802	29/29	0.97	0.15	33,37,65,68	0

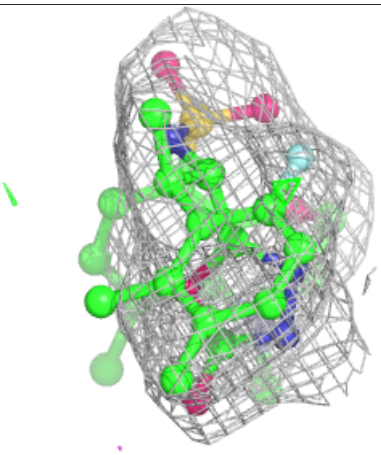
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around EJ6 A 803:

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

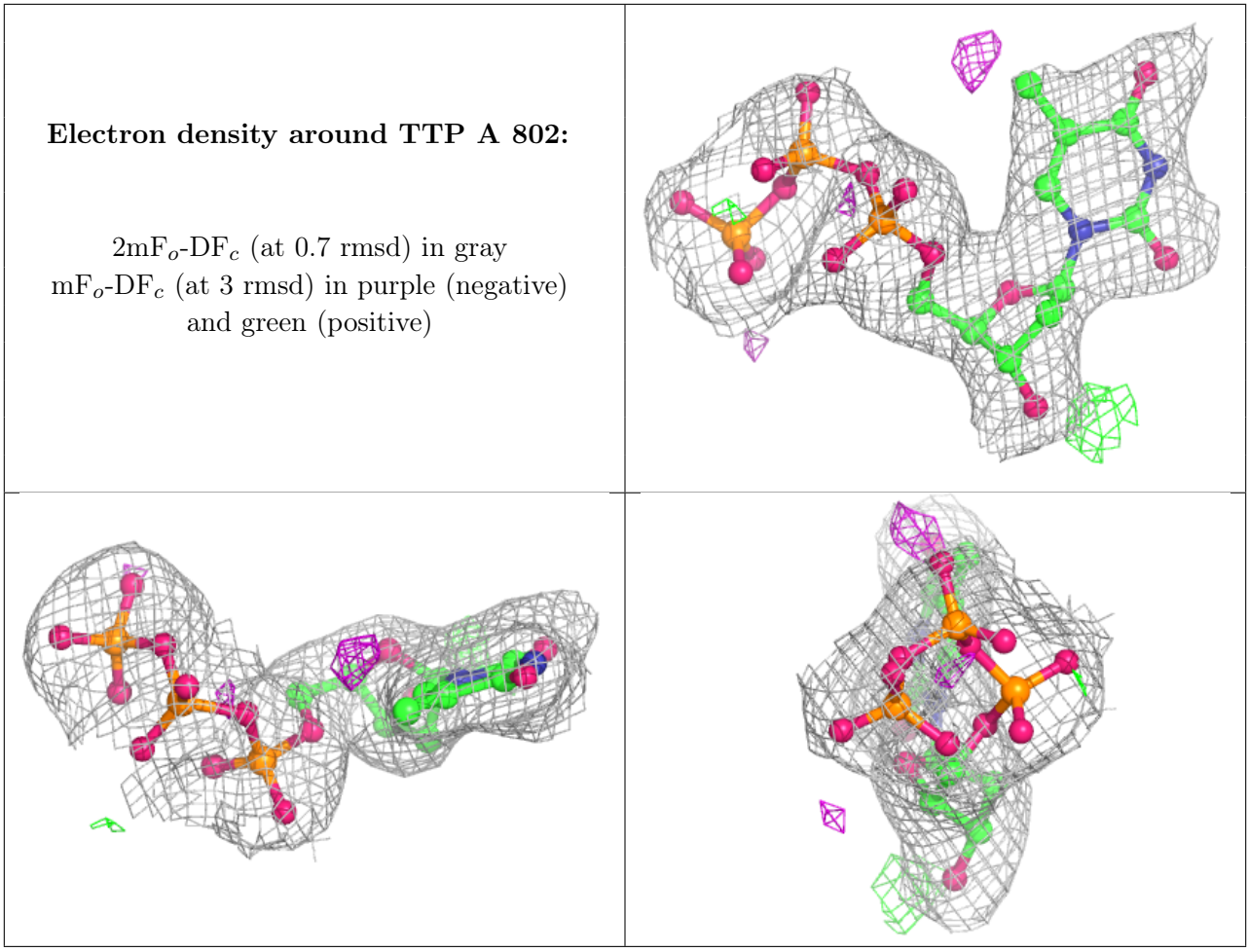






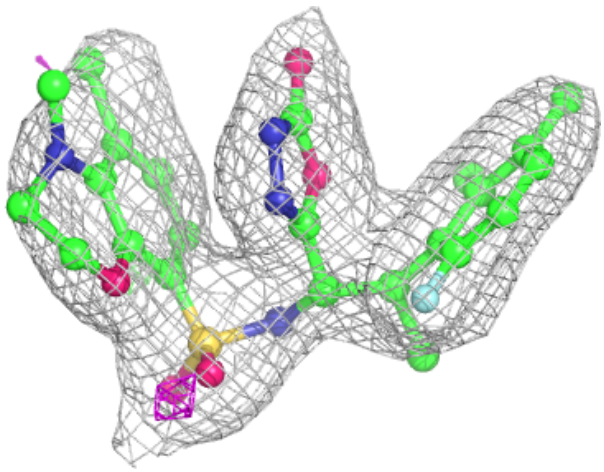
Electron density around TTP A 802:

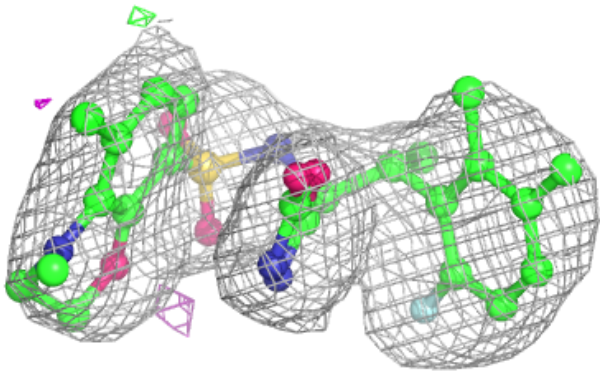
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

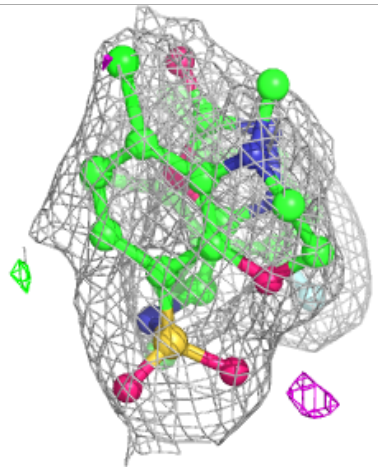


Electron density around EJ6 B 803:

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

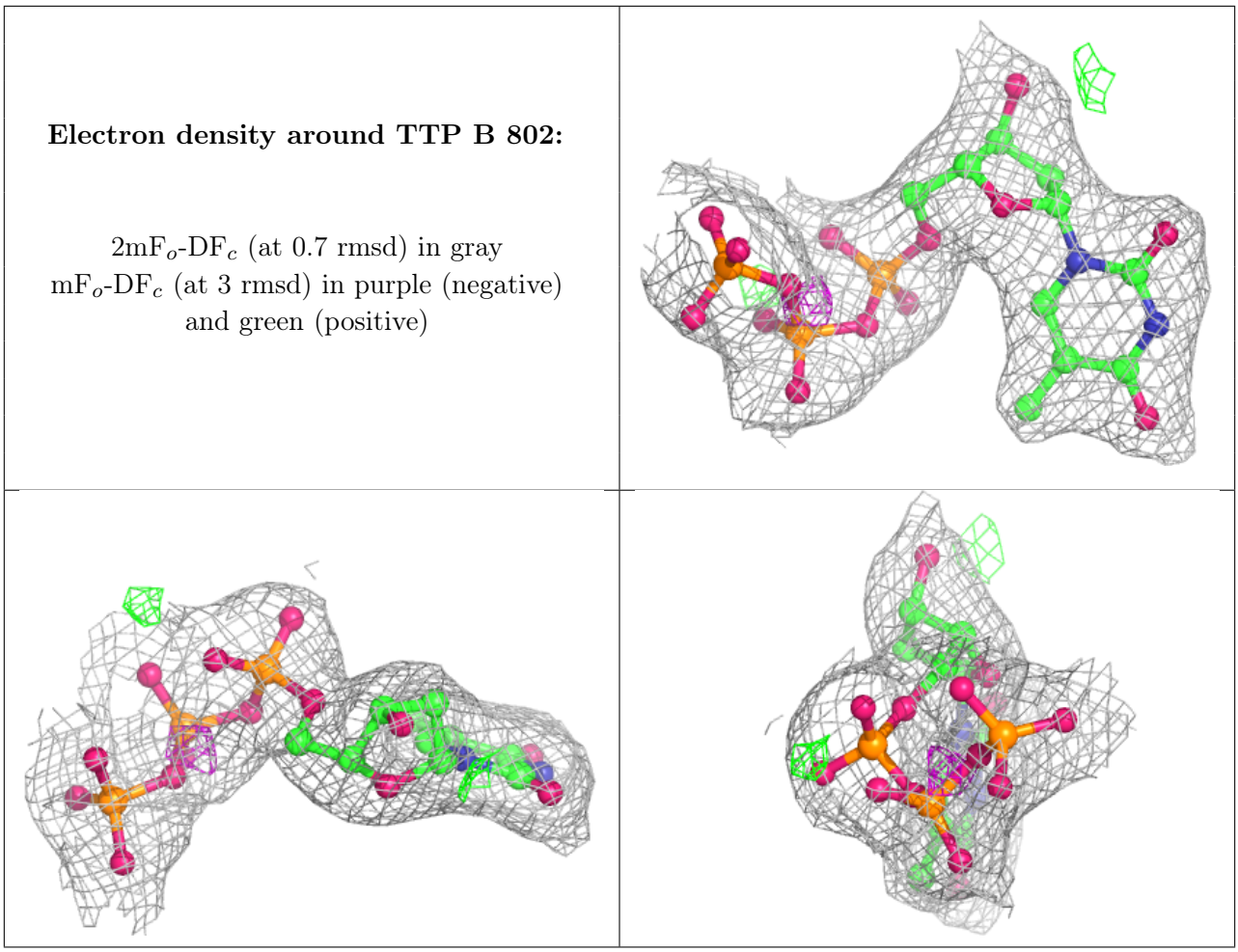






Electron density around TTP B 802:

$2mF_o$-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.