Full wwPDB X-ray Structure Validation Report ⓘ

Sep 9, 2025 – 02:16 AM JST

PDB ID	:	7XQX / pdb_00007xqx
Title	:	Crystal structure of T2R-TTL-27a complex
Authors	:	Lun, T.; Wu, C.Y.
Deposited on	:	2022-05-09
Resolution	:	3.36 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 ⓘ) were used in the production of this report:

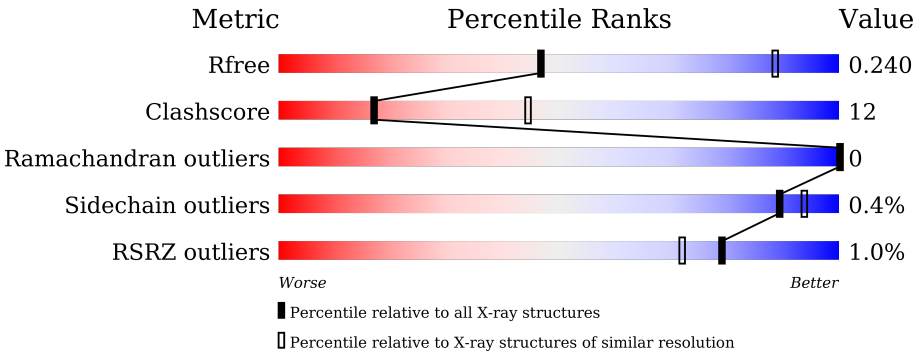
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.36 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}	164625	1012 (3.40-3.32)
Clashscore	180529	1035 (3.40-3.32)
Ramachandran outliers	177936	1037 (3.40-3.32)
Sidechain outliers	177891	1037 (3.40-3.32)
RSRZ outliers	164620	1012 (3.40-3.32)

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	450	65% 32%
1	C	450	76% 20%
2	B	445	69% 26% 5%
2	D	445	% 66% 28% 6%
3	E	143	2% 66% 20% 14%
4	F	384	3% 66% 24% 10%

2 Entry composition

There are 11 unique types of molecules in this entry. The entry contains 17610 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 Tubulin alpha-1B chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	437	Total	C	N	O	S	0	3	0
			3423	2167	580	652	24			
1	C	440	Total	C	N	O	S	0	8	0
			3465	2193	585	663	24			

- Molecule 2 is a protein called Tubulin beta chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	424	Total	C	N	O	S	0	3	0
			3356	2111	572	647	26			
2	D	420	Total	C	N	O	S	0	0	0
			3295	2072	558	639	26			

- Molecule 3 is a protein called Stathmin-4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	E	123	Total	C	N	O	S	0	2	0
			1026	633	186	202	5			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	3	MET	-	initiating methionine	UNP P63042
E	4	ALA	-	expression tag	UNP P63042

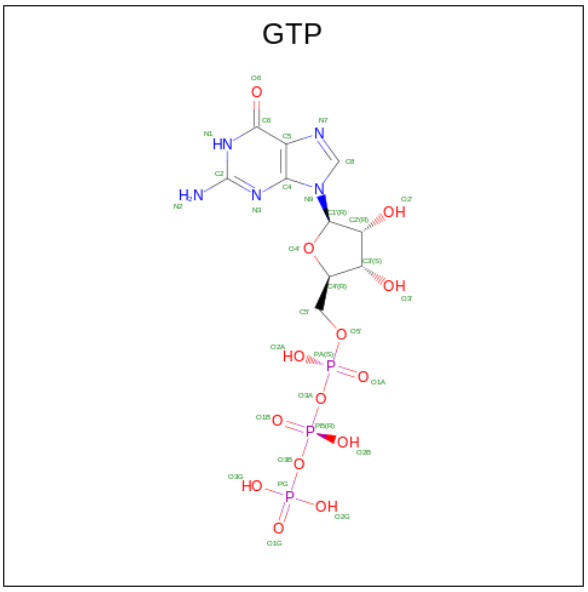
- Molecule 4 is a protein called TTL.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	F	346	Total	C	N	O	S	0	4	0
			2851	1830	487	519	15			

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	379	HIS	-	expression tag	UNP E1BQ43
F	380	HIS	-	expression tag	UNP E1BQ43
F	381	HIS	-	expression tag	UNP E1BQ43
F	382	HIS	-	expression tag	UNP E1BQ43
F	383	HIS	-	expression tag	UNP E1BQ43
F	384	HIS	-	expression tag	UNP E1BQ43

- Molecule 5 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
5	A	1	Total	C	N	O	P	0	0
			32	10	5	14	3		
5	C	1	Total	C	N	O	P	0	0
			32	10	5	14	3		

- Molecule 6 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

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

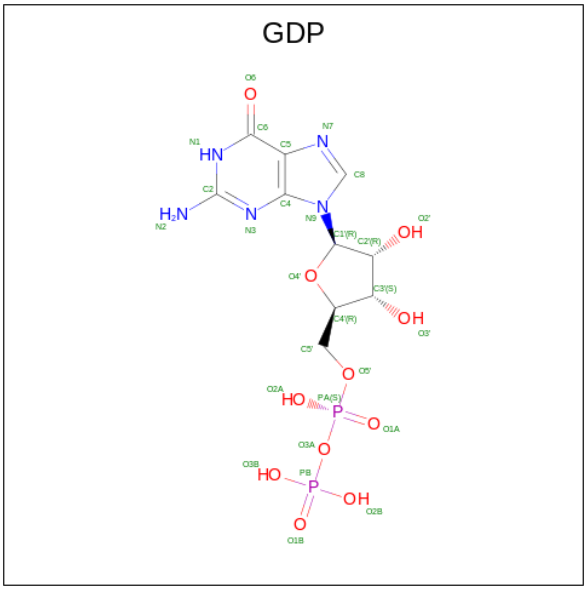
- Molecule 7 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	1	Total Ca 1 1	0	0
7	C	1	Total Ca 1 1	0	0

- Molecule 8 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

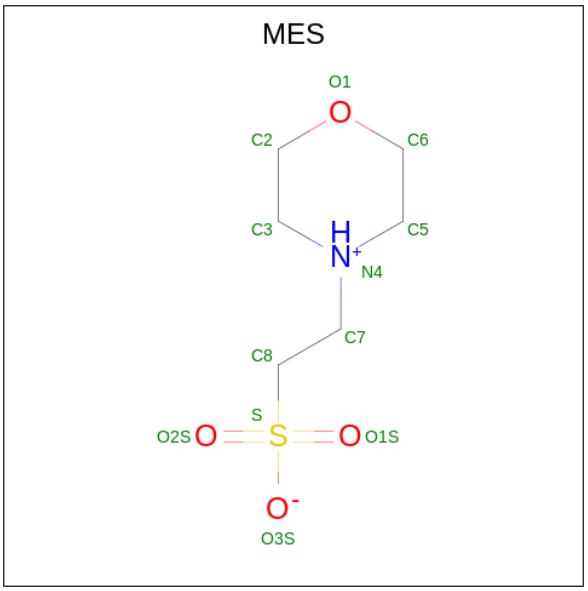
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	A	1	Total Cl 1 1	0	0

- Molecule 9 is GUANOSINE-5'-DIPHOSPHATE (CCD ID: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$).



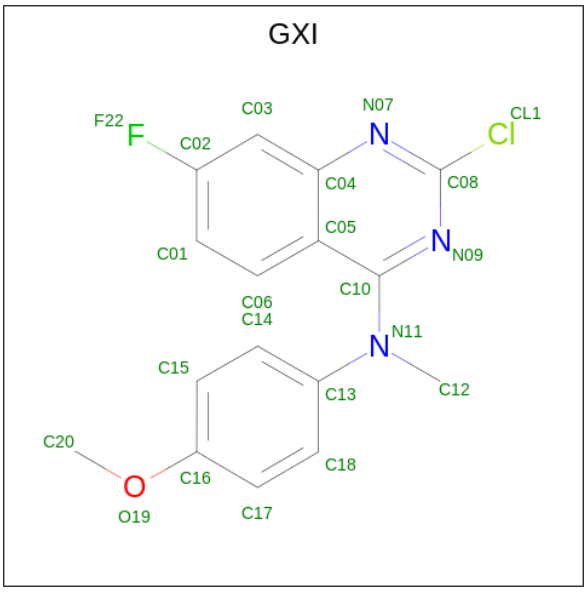
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	B	1	Total C N O P 28 10 5 11 2	0	0
9	D	1	Total C N O P 28 10 5 11 2	0	0

- Molecule 10 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (CCD ID: MES) (formula: $C_6H_{13}NO_4S$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
10	B	1	Total	C	N	O	S	0	0
			12	6	1	4	1		
10	B	1	Total	C	N	O	S	0	0
			12	6	1	4	1		

- Molecule 11 is 2-chloranyl-7-fluoranyl-N-(4-methoxyphenyl)-N-methyl-quinazolin-4-amine (CCD ID: GXI) (formula: $C_{16}H_{13}ClFN_3O$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
11	B	1	Total	C	Cl	F	N	O	0	0
			22	16	1	1	3	1		

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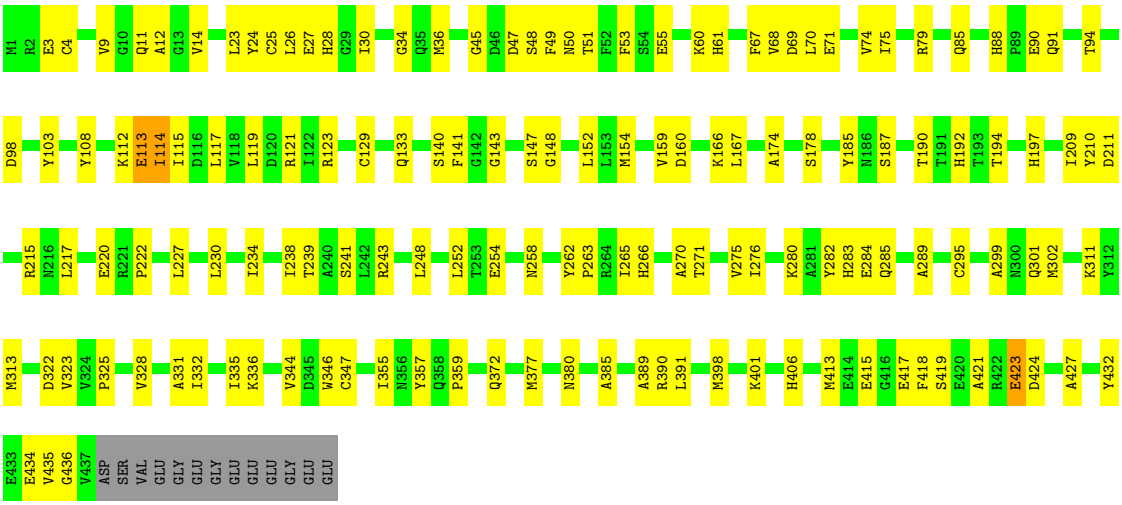
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
11	D	1	Total	C	Cl	F	N	O	0	0
			22	16	1	1	3	1		

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.

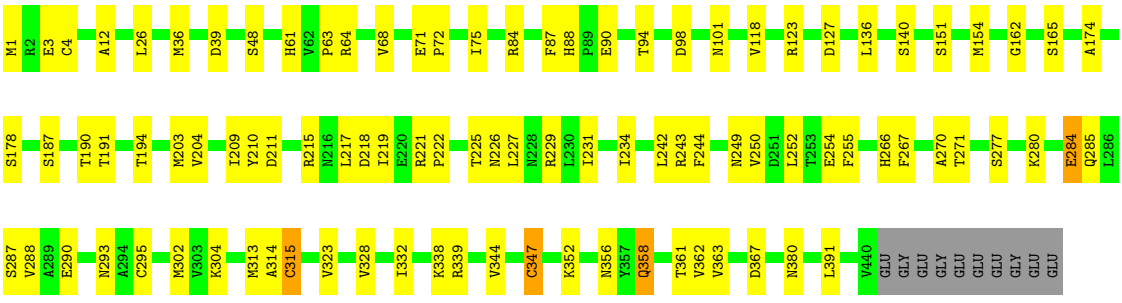
• Molecule 1: Tubulin alpha-1B chain

Chain A:



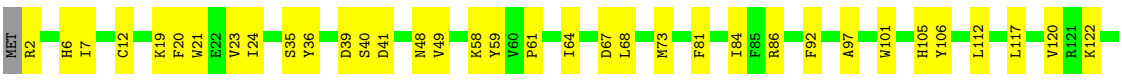
• Molecule 1: Tubulin alpha-1B chain

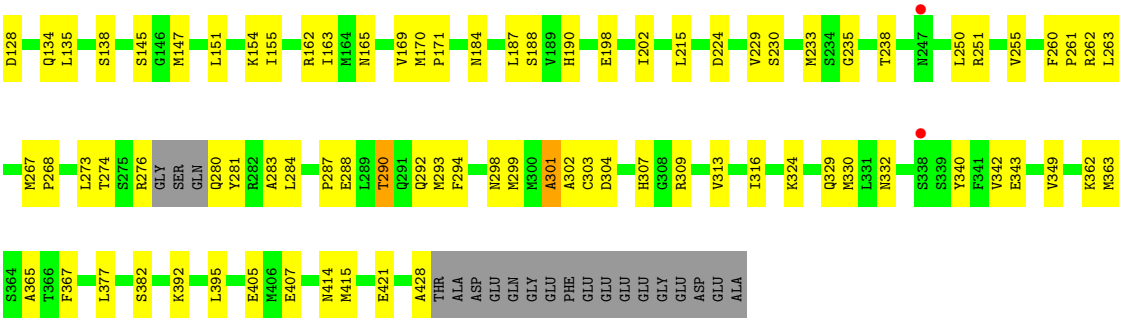
Chain C:



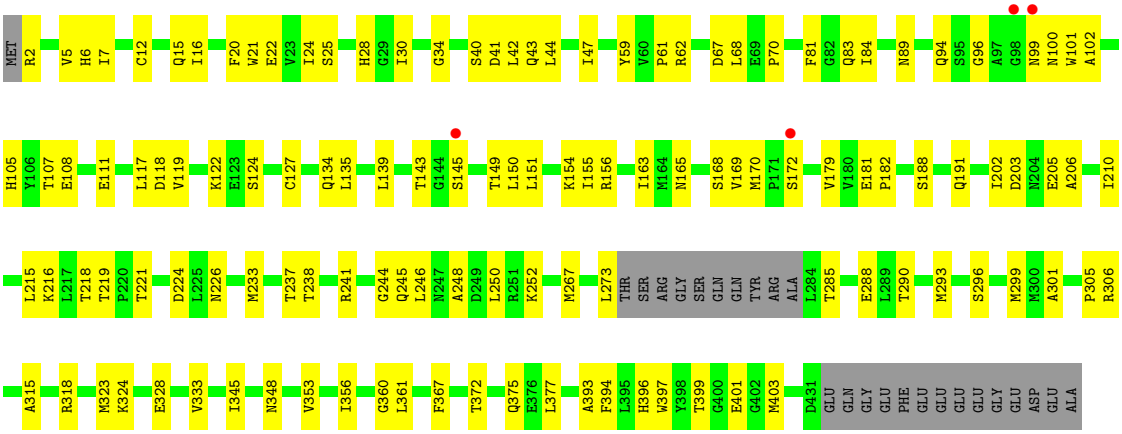
• Molecule 2: Tubulin beta chain

Chain B:

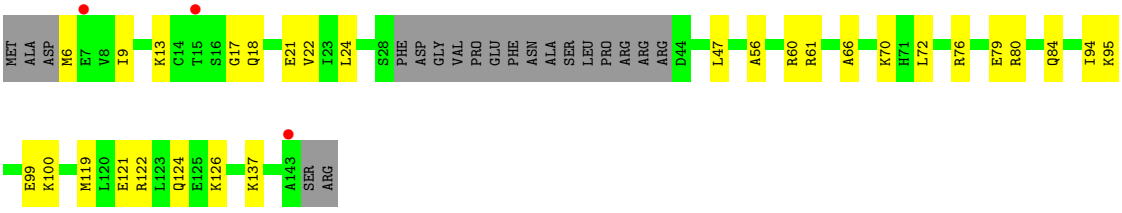




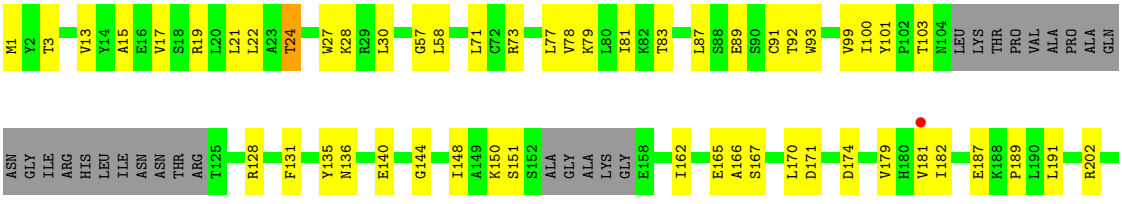
• Molecule 2: Tubulin beta chain

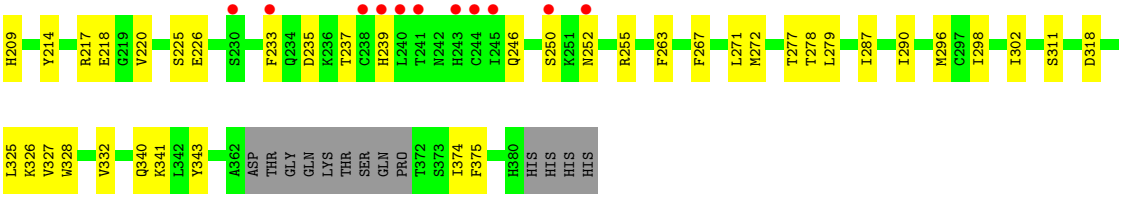


• Molecule 3: Stathmin-4



• Molecule 4: TTL




H209
Y214
R217
E218
G219
V220
S225
E226
S230
F233
Q234
D235
K236
T237
C238
H239
L240
T241
N242
H243
C244
I245
Q246
S250
K251
N252
R255
F263
F267
L271
M272
T277
T278
L279
I287
I290
M296
C297
I298
I302
S311
D318
L325
K326
V327
W328
V332
Q340
K341
L342
Y343
A362
ASP
THR
GLY
GLN
LYS
THR
SER
GLN
PRO
T372
S373
I374
F375
H380
HIS
HIS
HIS
HIS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	105.39Å 157.49Å 180.67Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	72.19 – 3.36 72.19 – 3.36	Depositor EDS
% Data completeness (in resolution range)	94.8 (72.19-3.36) 94.7 (72.19-3.36)	Depositor EDS
R_{merge}	0.40	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.29 (at 3.33Å)	Xtriage
Refinement program	PHENIX 1.19_4092	Depositor
R, R_{free}	0.197 , 0.245 0.192 , 0.240	Depositor DCC
R_{free} test set	2000 reflections (4.59%)	wwPDB-VP
Wilson B-factor (Å^2)	69.8	Xtriage
Anisotropy	0.345	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 60.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	17610	wwPDB-VP
Average B, all atoms (Å^2)	62.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.56% 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: GXI, CA, MG, MES, GTP, CL, GDP

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	0.63	3/3510 (0.1%)	0.99	6/4766 (0.1%)
1	C	0.63	2/3564 (0.1%)	1.00	11/4839 (0.2%)
2	B	0.58	1/3436 (0.0%)	0.86	3/4653 (0.1%)
2	D	0.50	0/3368	0.79	2/4564 (0.0%)
3	E	0.54	0/1041	0.73	0/1382
4	F	0.46	0/2927	0.67	0/3955
All	All	0.57	6/17846 (0.0%)	0.87	22/24159 (0.1%)

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	C	0	2
2	B	0	1
2	D	0	1
4	F	0	1
All	All	0	5

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	359	PRO	CB-CG	-8.40	1.07	1.49
1	A	359	PRO	CG-CD	-7.97	1.23	1.50
1	C	315	CYS	CA-C	6.13	1.59	1.52
1	A	359	PRO	N-CA	5.72	1.58	1.46
1	C	314	ALA	CA-C	-5.36	1.46	1.52
2	B	301	ALA	CA-C	-5.30	1.46	1.52

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	359	PRO	N-CD-CG	-21.64	70.73	103.20
1	C	314	ALA	CA-C-N	21.55	153.16	122.77
1	C	314	ALA	C-N-CA	21.55	153.16	122.77
1	A	359	PRO	CA-CB-CG	-20.21	66.10	104.50
1	A	359	PRO	CB-CG-CD	12.46	145.98	106.10
1	C	315	CYS	CA-C-O	10.53	131.41	120.24
1	A	114	ILE	N-CA-C	10.12	121.79	112.17
1	C	284	GLU	CA-C-N	-9.23	108.00	122.87
1	C	284	GLU	C-N-CA	-9.23	108.00	122.87
1	A	423	GLU	CA-CB-CG	9.12	132.33	114.10
2	B	301	ALA	N-CA-C	-8.66	95.28	109.40
1	C	315	CYS	N-CA-C	8.34	122.02	108.34
1	A	359	PRO	CA-N-CD	-7.54	101.44	112.00
1	C	314	ALA	N-CA-C	-7.40	97.02	108.42
1	C	285	GLN	N-CA-CB	6.05	120.54	110.85
2	D	244	GLY	N-CA-C	-5.84	104.24	112.60
1	C	315	CYS	O-C-N	-5.54	116.79	123.27
1	C	358	GLN	CB-CG-CD	5.29	121.60	112.60
1	C	358	GLN	CA-CB-CG	5.27	124.65	114.10
2	D	245	GLN	CA-CB-CG	5.14	124.37	114.10
2	B	290	THR	CA-C-N	-5.02	114.26	122.54
2	B	290	THR	C-N-CA	-5.02	114.26	122.54

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	260	PHE	Peptide
1	C	215	ARG	Sidechain
1	C	284	GLU	Peptide
2	D	306	ARG	Sidechain
4	F	73	ARG	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	3423	0	3333	112	1

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	3465	0	3383	60	2
2	B	3356	0	3237	97	0
2	D	3295	0	3166	93	0
3	E	1026	0	1042	23	1
4	F	2851	0	2826	59	0
5	A	32	0	12	2	0
5	C	32	0	12	0	0
6	A	1	0	0	0	0
6	B	1	0	0	0	0
6	C	1	0	0	0	0
7	A	1	0	0	0	0
7	C	1	0	0	0	0
8	A	1	0	0	0	0
9	B	28	0	12	0	0
9	D	28	0	11	3	0
10	B	24	0	24	2	0
11	B	22	0	0	1	0
11	D	22	0	0	2	0
All	All	17610	0	17058	432	2

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 12.

All (432) 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:B:2:ARG:HH21	2:B:128:ASP:HB3	1.02	1.18
2:B:2:ARG:HH21	2:B:128:ASP:CB	1.64	1.10
2:B:2:ARG:NH2	2:B:128:ASP:OD2	1.88	1.07
2:D:47:ILE:CD1	2:D:59:TYR:CE1	2.42	1.03
2:D:170:MET:HE3	2:D:377:LEU:HD11	1.41	0.99
2:B:2:ARG:NH2	2:B:128:ASP:HB3	1.85	0.91
2:D:47:ILE:HD12	2:D:59:TYR:CE1	2.08	0.88
2:D:145:SER:HB2	2:D:188:SER:OG	1.73	0.87
1:A:282:TYR:OH	1:A:284:GLU:OE2	1.92	0.86
2:B:238:THR:HG21	2:B:316:ILE:HG21	1.62	0.82
1:A:71:GLU:HG2	1:A:98:ASP:HB3	1.62	0.82
1:A:295:CYS:HB3	1:A:377:MET:HE3	1.62	0.82
2:B:165:ASN:HD22	2:B:198:GLU:HG3	1.45	0.81
2:D:102:ALA:HB2	2:D:403:MET:HE3	1.64	0.80
4:F:263:PHE:CE2	4:F:341:LYS:HD3	2.17	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:313:MET:HE3	1:C:380:ASN:ND2	1.98	0.79
4:F:1:MET:HE2	4:F:28:LYS:HB3	1.65	0.78
2:B:2:ARG:NH2	2:B:128:ASP:CB	2.43	0.77
1:A:262:TYR:HE1	1:A:346:TRP:CZ2	2.03	0.76
2:B:267:MET:HG3	2:B:301:ALA:HB3	1.68	0.76
2:B:235:GLY:O	2:B:238:THR:HG22	1.85	0.75
2:D:226:ASN:ND2	9:D:501:GDP:O6	2.15	0.75
3:E:13:LYS:HB2	3:E:18:GLN:HB3	1.68	0.74
2:D:47:ILE:HD12	2:D:59:TYR:CD1	2.22	0.74
2:B:2:ARG:HH21	2:B:128:ASP:CG	1.95	0.73
2:D:372:THR:O	2:D:375:GLN:HG2	1.89	0.72
1:A:112:LYS:HG3	1:A:113:GLU:N	2.02	0.72
2:D:47:ILE:HD11	2:D:59:TYR:CE1	2.22	0.72
1:C:71:GLU:HG2	1:C:98:ASP:HB3	1.72	0.71
2:D:206:ALA:O	2:D:210:ILE:HG13	1.88	0.71
1:C:88:HIS:HE1	1:C:90:GLU:HG3	1.53	0.70
2:B:2:ARG:NH2	2:B:128:ASP:CG	2.48	0.70
2:D:246:LEU:HD12	2:D:248:ALA:HB2	1.73	0.70
2:B:262:ARG:NE	2:B:421[A]:GLU:OE1	2.22	0.69
1:A:90:GLU:HB2	1:A:121:ARG:HE	1.58	0.68
4:F:148:ILE:HG13	4:F:162:ILE:HG12	1.75	0.68
4:F:135:TYR:OH	4:F:165:GLU:HA	1.93	0.68
1:A:282:TYR:CZ	1:A:284:GLU:OE2	2.46	0.68
4:F:71:LEU:O	4:F:77:LEU:HD12	1.94	0.68
2:B:165:ASN:ND2	2:B:198:GLU:HG3	2.08	0.67
2:B:294:PHE:HE2	2:B:330:MET:HE1	1.60	0.67
2:D:5:VAL:HG12	2:D:62:ARG:HD3	1.76	0.67
2:D:145:SER:O	2:D:149:THR:HG23	1.94	0.67
4:F:225:SER:OG	4:F:252:ASN:OD1	2.13	0.67
1:A:108:TYR:CE2	1:A:413:MET:HG3	2.30	0.67
1:A:220:GLU:HG2	2:B:324:LYS:HD2	1.77	0.67
3:E:80:ARG:O	3:E:84:GLN:HG3	1.95	0.67
1:C:162:GLY:HA2	3:E:94:ILE:HD11	1.77	0.66
3:E:66:ALA:O	3:E:70:LYS:HG3	1.95	0.66
1:C:4[A]:CYS:SG	1:C:136:LEU:HG	2.36	0.66
2:D:285:THR:HG22	2:D:288:GLU:CD	2.21	0.66
2:B:48:ASN:H	2:B:48:ASN:ND2	1.93	0.65
2:B:283:ALA:HB2	2:B:362:LYS:HE3	1.79	0.64
1:C:211[A]:ASP:OD2	1:C:304:LYS:NZ	2.29	0.64
4:F:263:PHE:HE2	4:F:341:LYS:HD3	1.59	0.64
1:A:88:HIS:N	1:A:91:GLN:OE1	2.27	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:294:PHE:CE2	2:B:330:MET:HE1	2.33	0.63
2:B:280:GLN:HG2	2:B:281:TYR:H	1.64	0.63
1:C:48:SER:HB3	1:C:243:ARG:O	1.98	0.63
2:D:221:THR:HG22	2:D:224:ASP:OD2	1.97	0.63
2:D:296:SER:HB2	2:D:305:PRO:HD2	1.80	0.63
2:B:145:SER:HB2	2:B:188:SER:OG	1.99	0.63
1:A:323:VAL:HB	1:A:355:ILE:HD13	1.81	0.63
2:B:68:LEU:HD12	2:B:97:ALA:HB2	1.81	0.62
4:F:22:LEU:HD23	4:F:27:TRP:O	1.99	0.62
2:B:293:MET:HE3	2:B:365:ALA:HB1	1.82	0.62
2:B:35:SER:HB3	2:B:58:LYS:NZ	2.13	0.62
2:D:6:HIS:CD2	2:D:21:TRP:HE1	2.18	0.62
1:A:117:LEU:HD11	1:A:121:ARG:NH1	2.14	0.62
2:B:39:ASP:OD1	2:B:40:SER:N	2.31	0.62
2:B:48:ASN:H	2:B:48:ASN:HD22	1.45	0.62
4:F:13:VAL:O	4:F:17:VAL:HG23	1.99	0.62
2:D:156:ARG:HG3	2:D:156:ARG:HH11	1.63	0.61
1:C:244:PHE:CE1	1:C:358:GLN:HG3	2.36	0.61
2:D:290:THR:HG22	2:D:333:VAL:HG21	1.81	0.61
2:D:5:VAL:HG12	2:D:62:ARG:CD	2.30	0.61
2:D:117:LEU:HD11	2:D:154:LYS:HG2	1.83	0.61
2:B:21:TRP:CZ3	2:B:61:PRO:HB3	2.36	0.60
4:F:78:VAL:HG21	4:F:181:VAL:HG21	1.83	0.60
1:A:295:CYS:HB3	1:A:377:MET:CE	2.30	0.60
4:F:77:LEU:HD11	4:F:332:VAL:HG23	1.82	0.60
2:B:20:PHE:CZ	2:B:24:ILE:HD13	2.37	0.60
1:A:108:TYR:HE2	1:A:413:MET:HG3	1.66	0.60
2:B:287:PRO:O	2:B:290:THR:HG22	2.00	0.60
1:C:287:SER:OG	1:C:290:GLU:HG3	2.02	0.60
1:A:114:ILE:HG12	1:A:114:ILE:O	2.02	0.60
1:A:60:LYS:NZ	1:A:85:GLN:O	2.36	0.59
1:A:262:TYR:CE1	1:A:346:TRP:CZ2	2.89	0.59
1:A:336:LYS:HG3	3:E:24:LEU:CD1	2.32	0.59
1:C:249:ASN:OD1	1:C:356:ASN:ND2	2.34	0.59
2:D:20:PHE:O	2:D:24:ILE:HG12	2.01	0.59
2:B:229:VAL:O	2:B:233:MET:HG3	2.02	0.59
1:A:210:TYR:CE1	1:A:222:PRO:HD2	2.37	0.59
1:A:215:ARG:NH2	1:A:299:ALA:O	2.36	0.59
2:D:172:SER:OG	2:D:205:GLU:OE1	2.18	0.59
1:A:166:LYS:HE2	1:A:197:HIS:O	2.03	0.59
2:B:313:VAL:HB	2:B:349:VAL:HG22	1.82	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:313:MET:HE3	1:C:380:ASN:CG	2.28	0.59
1:C:36:MET:HE3	1:C:61:HIS:CD2	2.38	0.58
1:C:88:HIS:CE1	1:C:90:GLU:HG3	2.35	0.58
2:D:393:ALA:HB1	2:D:394:PHE:HD1	1.67	0.58
2:B:73:MET:HE2	2:B:92:PHE:HD2	1.67	0.58
1:A:357:TYR:CE2	3:E:17:GLY:HA2	2.39	0.58
4:F:81:ILE:HA	4:F:87:LEU:HD12	1.84	0.58
2:B:2:ARG:O	2:B:49:VAL:HG22	2.04	0.58
4:F:226:GLU:HG3	4:F:237:THR:HG22	1.86	0.57
1:A:328:VAL:O	1:A:332:ILE:HG13	2.05	0.57
4:F:3:THR:HB	4:F:30:LEU:HD11	1.86	0.57
2:D:15:GLN:NE2	9:D:501:GDP:O6	2.37	0.57
4:F:277:THR:HG22	4:F:278:THR:H	1.70	0.57
2:B:309:ARG:NH1	2:B:342:VAL:HG12	2.20	0.56
2:B:6:HIS:CD2	2:B:21:TRP:HE1	2.22	0.56
1:A:230:LEU:HD23	1:A:234:ILE:HD13	1.86	0.56
2:B:170:MET:HE2	2:B:377:LEU:HD21	1.87	0.56
2:B:284:LEU:O	2:B:363:MET:HE3	2.07	0.55
2:B:382:SER:HB2	2:B:415:MET:HE3	1.88	0.55
1:C:270:ALA:O	1:C:302:MET:HB2	2.07	0.55
1:C:63:PRO:HG2	1:C:87:PHE:CE1	2.42	0.55
1:A:3:GLU:OE1	1:A:129:CYS:HB3	2.06	0.55
2:D:191:GLN:HE22	3:E:126:LYS:CE	2.19	0.55
4:F:202:ARG:HB3	4:F:220[B]:VAL:HG12	1.87	0.55
1:A:55:GLU:HG2	1:A:61:HIS:CD2	2.42	0.55
2:D:100:ASN:ND2	2:D:397:TRP:HB3	2.22	0.55
2:B:134:GLN:HA	2:B:165:ASN:O	2.07	0.55
4:F:214:TYR:HB3	4:F:375:PHE:HB3	1.89	0.55
1:A:36:MET:HE1	1:A:49:PHE:CE1	2.42	0.54
2:B:40:SER:OG	2:B:41:ASP:N	2.39	0.54
2:B:86:ARG:HH12	2:B:122:LYS:HE2	1.71	0.54
2:B:215:LEU:HD21	2:B:274:THR:O	2.07	0.54
2:B:238:THR:CG2	2:B:316:ILE:HG21	2.35	0.54
2:D:20:PHE:CD1	2:D:233:MET:HE2	2.43	0.54
1:A:45:GLY:O	1:A:50:ASN:ND2	2.40	0.54
1:A:147:SER:HB2	1:A:190:THR:HB	1.90	0.54
3:E:9:ILE:HG13	3:E:21:GLU:HB3	1.90	0.54
1:A:385:ALA:HB2	1:A:432:TYR:CG	2.43	0.53
2:D:323:MET:HE2	2:D:353:VAL:HG11	1.89	0.53
1:A:419:SER:O	1:A:423:GLU:HB2	2.08	0.53
2:B:163:ILE:HG21	2:B:250:LEU:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:392:LYS:HE3	2:B:405:GLU:OE2	2.07	0.53
4:F:144:GLY:HA3	4:F:187:GLU:OE1	2.08	0.53
2:B:35:SER:HB3	2:B:58:LYS:HZ1	1.71	0.53
2:D:107:THR:O	2:D:111:GLU:HG3	2.09	0.53
2:D:191:GLN:HE22	3:E:126:LYS:HE2	1.72	0.53
1:A:27:GLU:OE1	1:A:243:ARG:NH2	2.42	0.53
1:C:36:MET:HE3	1:C:61:HIS:NE2	2.24	0.53
1:C:288:VAL:HG22	1:C:323:VAL:HG22	1.91	0.53
4:F:21:LEU:O	4:F:24:THR:HG23	2.09	0.52
1:A:143:GLY:HA3	5:A:501:GTP:O3A	2.08	0.52
2:B:263:LEU:HD21	2:B:421[B]:GLU:HB3	1.92	0.52
1:C:174:ALA:O	1:C:178:SER:HB3	2.08	0.52
4:F:217:ARG:NH1	4:F:374:ILE:HG22	2.24	0.52
1:C:218:ASP:OD2	1:C:280:LYS:NZ	2.42	0.52
2:B:304:ASP:HB3	2:B:307:HIS:ND1	2.24	0.52
1:C:328:VAL:O	1:C:332:ILE:HG13	2.09	0.52
4:F:189:PRO:HG2	4:F:191:LEU:HD21	1.92	0.52
2:D:156:ARG:HG3	2:D:156:ARG:NH1	2.24	0.52
3:E:119:MET:HA	3:E:122:ARG:NH1	2.25	0.52
1:A:103:TYR:CE2	1:A:148:GLY:HA2	2.45	0.52
2:B:329:GLN:HA	2:B:332:ASN:OD1	2.10	0.52
1:C:242:LEU:N	1:C:242:LEU:HD12	2.24	0.52
2:D:21:TRP:CZ3	2:D:61:PRO:HB3	2.45	0.52
3:E:56:ALA:HB1	3:E:60:ARG:HH12	1.75	0.52
4:F:225:SER:H	4:F:246:GLN:HE22	1.58	0.52
2:B:169:VAL:HA	2:B:202:ILE:O	2.10	0.51
1:A:28:HIS:HE1	1:A:243:ARG:HB3	1.76	0.51
1:C:302:MET:N	1:C:302:MET:HE2	2.26	0.51
1:A:187:SER:HB3	1:A:391:LEU:HD21	1.92	0.51
2:D:105:HIS:ND1	2:D:150:LEU:HB2	2.26	0.51
2:D:181:GLU:HB2	2:D:182:PRO:HD3	1.91	0.51
1:A:285:GLN:HG3	1:A:372:GLN:NE2	2.26	0.51
2:B:117:LEU:HD11	2:B:154:LYS:HB3	1.91	0.51
2:B:73:MET:HE2	2:B:92:PHE:CD2	2.45	0.51
4:F:101:TYR:CD2	4:F:179:VAL:HG22	2.45	0.51
2:D:393:ALA:HB1	2:D:394:PHE:CD1	2.46	0.51
1:C:210:TYR:CZ	1:C:222:PRO:HD2	2.46	0.51
1:C:254:GLU:HG2	1:C:352:LYS:HE2	1.94	0.50
2:D:151:LEU:O	2:D:155:ILE:HG13	2.11	0.50
4:F:131:PHE:CE2	4:F:182:ILE:HD11	2.47	0.50
1:A:28:HIS:CE1	1:A:243:ARG:HB3	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:344:VAL:HG21	1:A:346:TRP:CZ2	2.46	0.50
3:E:6:MET:HE3	3:E:22:VAL:HG11	1.92	0.50
1:A:88:HIS:CE1	1:A:90:GLU:HG2	2.47	0.50
4:F:15:ALA:O	4:F:19:ARG:HG3	2.12	0.50
2:B:299:MET:HE2	2:B:367:PHE:CD2	2.47	0.50
3:E:121:GLU:O	3:E:124:GLN:HG3	2.11	0.50
4:F:233:PHE:HE1	4:F:239:HIS:CE1	2.30	0.50
2:D:345:ILE:HG22	2:D:348:ASN:HB3	1.94	0.50
1:A:239:THR:OG1	1:A:243:ARG:NH1	2.45	0.50
4:F:202:ARG:NE	4:F:318:ASP:OD1	2.37	0.50
2:B:2:ARG:HD3	2:B:48:ASN:OD1	2.12	0.49
2:B:276:ARG:HH11	2:B:276:ARG:HB2	1.77	0.49
2:D:210:ILE:HG23	2:D:273:LEU:HD13	1.94	0.49
4:F:92:THR:O	4:F:326:LYS:NZ	2.43	0.49
2:B:273:LEU:HD11	2:B:298:ASN:HA	1.94	0.49
4:F:246:GLN:O	4:F:250:SER:HB3	2.13	0.49
1:A:55:GLU:HG2	1:A:61:HIS:HD2	1.77	0.49
1:A:331:ALA:O	1:A:335:ILE:HG13	2.12	0.49
2:D:267:MET:SD	2:D:299:MET:HG3	2.53	0.49
1:C:187:SER:HB3	1:C:391:LEU:HD21	1.94	0.49
4:F:100:ILE:HD12	4:F:128:ARG:HB3	1.95	0.49
1:A:424:ASP:O	1:A:427:ALA:HB3	2.13	0.49
1:A:88:HIS:HE1	1:A:90:GLU:HG2	1.76	0.49
1:C:227:LEU:O	1:C:231:ILE:HG13	2.13	0.49
2:D:99:ASN:N	2:D:99:ASN:HD22	2.09	0.49
2:D:237:THR:O	2:D:241:ARG:HG3	2.13	0.49
3:E:95:LYS:O	3:E:99:GLU:HG3	2.13	0.49
4:F:103:THR:HG22	4:F:174:ASP:HB3	1.94	0.49
2:B:316:ILE:N	2:B:316:ILE:HD12	2.27	0.49
1:A:88:HIS:CE1	1:A:90:GLU:CG	2.96	0.49
2:D:215:LEU:O	2:D:216:LYS:HG2	2.12	0.49
1:A:167:LEU:HD13	1:A:252:LEU:HD22	1.94	0.49
1:A:159:VAL:HG12	1:A:160:ASP:OD1	2.13	0.48
2:B:147:MET:O	2:B:147:MET:HG2	2.12	0.48
2:D:203:ASP:HB2	2:D:301:ALA:HA	1.94	0.48
1:A:270:ALA:HB3	1:A:302:MET:CG	2.43	0.48
1:A:346:TRP:H	1:A:346:TRP:CD1	2.29	0.48
2:B:112:LEU:HB3	2:B:147:MET:HE1	1.95	0.48
1:C:26:LEU:HD12	1:C:363:VAL:HG12	1.95	0.48
1:A:9:VAL:HG22	1:A:68:VAL:CG1	2.44	0.48
2:B:302:ALA:C	2:B:303:CYS:SG	2.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:262:TYR:HE1	1:A:346:TRP:CH2	2.31	0.48
2:B:262:ARG:HH21	2:B:421[A]:GLU:CD	2.21	0.48
2:D:118:ASP:O	2:D:122:LYS:HG2	2.14	0.48
4:F:277:THR:HG22	4:F:278:THR:N	2.29	0.48
1:A:4:CYS:SG	1:A:133:GLN:NE2	2.87	0.48
1:A:123:ARG:HG3	1:A:123:ARG:HH11	1.79	0.48
2:D:101:TRP:HD1	2:D:145:SER:OG	1.97	0.48
2:D:25:SER:HB3	2:D:30:ILE:HG22	1.95	0.47
4:F:79:LYS:O	4:F:83:THR:OG1	2.29	0.47
1:C:209:ILE:HD11	1:C:302:MET:SD	2.55	0.47
2:B:276:ARG:HB2	2:B:276:ARG:NH1	2.30	0.47
3:E:76:ARG:NH1	3:E:79:GLU:OE2	2.47	0.47
2:B:7:ILE:O	2:B:135:LEU:HA	2.14	0.47
2:D:226:ASN:ND2	9:D:501:GDP:C6	2.82	0.47
2:D:401:GLU:O	3:E:137:LYS:HB2	2.15	0.47
2:B:170:MET:HE3	2:B:171:PRO:HD2	1.97	0.47
2:D:218:THR:HG23	2:D:219:THR:N	2.30	0.47
2:D:324:LYS:HE3	2:D:328:GLU:OE2	2.15	0.47
4:F:150:LYS:HG2	4:F:151:SER:N	2.30	0.47
4:F:57:GLY:O	4:F:58:LEU:HD23	2.14	0.47
1:A:48:SER:O	1:A:51:THR:HG23	2.14	0.47
1:C:36:MET:CE	1:C:61:HIS:CD2	2.98	0.47
2:D:81:PHE:O	2:D:84:ILE:HG22	2.15	0.47
4:F:287:ILE:HG13	4:F:327:VAL:HG11	1.97	0.47
1:A:174:ALA:O	1:A:178:SER:HB3	2.15	0.46
2:D:7:ILE:O	2:D:135:LEU:HD12	2.15	0.46
2:D:28:HIS:HA	2:D:43:GLN:HB3	1.97	0.46
2:D:43:GLN:O	2:D:47:ILE:HG23	2.14	0.46
1:A:90:GLU:CB	1:A:121:ARG:HH21	2.27	0.46
2:D:81:PHE:C	2:D:83:GLN:H	2.22	0.46
1:A:25:CYS:HB3	1:A:30:ILE:O	2.16	0.46
2:B:21:TRP:CE3	2:B:61:PRO:HB3	2.50	0.46
2:B:224:ASP:HA	2:B:276:ARG:HH12	1.81	0.46
4:F:89:GLU:H	4:F:89:GLU:CD	2.24	0.46
2:D:163:ILE:HG21	2:D:250:LEU:HB3	1.97	0.46
2:D:47:ILE:CD1	2:D:59:TYR:CZ	2.97	0.46
2:D:315:ALA:O	11:D:502:GXI:F22	2.24	0.46
1:A:241:SER:HB2	1:A:248:LEU:O	2.15	0.46
1:A:325:PRO:O	1:A:328:VAL:HB	2.16	0.46
1:A:263:PRO:O	1:A:266:HIS:HD2	1.99	0.46
1:C:250:VAL:HG23	1:C:255:PHE:CE2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:34:GLY:HA2	2:D:84:ILE:HD11	1.98	0.46
2:D:285:THR:HG23	2:D:288:GLU:H	1.81	0.46
2:D:360:GLY:C	2:D:361:LEU:HD23	2.41	0.46
4:F:325:LEU:HD23	4:F:325:LEU:HA	1.79	0.46
1:A:270:ALA:HB3	1:A:302:MET:HG2	1.97	0.46
1:A:413:MET:HE3	1:A:417:GLU:HB3	1.98	0.46
1:C:36:MET:HG2	1:C:39:ASP:HB2	1.98	0.46
1:C:203:MET:HE2	1:C:267:PHE:CD2	2.51	0.46
4:F:136:ASN:O	4:F:140:GLU:HG2	2.16	0.46
4:F:217:ARG:HG3	4:F:218:GLU:HG2	1.98	0.46
1:A:276:ILE:HD12	1:A:283:HIS:CE1	2.51	0.46
1:C:1:MET:SD	1:C:1:MET:C	2.98	0.46
2:B:64:ILE:HD13	2:B:120:VAL:HG22	1.97	0.45
2:D:396:HIS:HA	2:D:399:THR:HG22	1.98	0.45
1:C:271:THR:HG21	1:C:295:CYS:O	2.16	0.45
1:C:190:THR:HG23	1:C:191:THR:N	2.31	0.45
1:C:234:ILE:HD13	1:C:302:MET:SD	2.56	0.45
1:A:98:ASP:HB2	5:A:501:GTP:O2G	2.16	0.45
1:A:401:LYS:NZ	2:B:428:ALA:HB1	2.31	0.45
2:B:340:TYR:CD2	10:B:504:MES:H61	2.51	0.45
11:B:505:GXI:C13	11:B:505:GXI:C06	2.95	0.45
1:A:346:TRP:CZ3	1:A:347:CYS:SG	3.09	0.45
1:C:154:MET:HG3	1:C:194:THR:HG23	1.99	0.45
1:A:115:ILE:HD13	1:A:152:LEU:HG	1.98	0.45
2:D:107:THR:HG22	2:D:108:GLU:N	2.32	0.45
4:F:209:HIS:HA	4:F:311:SER:O	2.17	0.45
2:B:162:ARG:O	10:B:503:MES:H52	2.17	0.45
1:C:344:VAL:HG23	1:C:347[B]:CYS:HB2	1.98	0.45
4:F:272:MET:HB3	4:F:272:MET:HE2	1.70	0.45
2:D:267:MET:HG3	2:D:301:ALA:HB3	1.99	0.44
1:A:185:TYR:OH	1:A:398:MET:HB3	2.18	0.44
1:A:344:VAL:HG23	1:A:347:CYS:HB2	1.98	0.44
2:D:318:ARG:HE	2:D:318:ARG:HB3	1.50	0.44
1:C:75:ILE:HD12	1:C:94:THR:HG23	2.00	0.44
1:A:389:ALA:O	1:A:390:ARG:C	2.61	0.44
2:B:23:VAL:HG21	2:B:230:SER:HB2	2.00	0.44
2:D:356:ILE:HG23	2:D:356:ILE:O	2.18	0.44
3:E:61:ARG:HG3	3:E:61:ARG:HH11	1.82	0.44
1:C:217:LEU:HD13	1:C:367:ASP:HB2	1.98	0.44
2:B:12:CYS:HB3	2:B:138:SER:HB3	2.00	0.44
2:B:151:LEU:O	2:B:155:ILE:HG13	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:170:MET:HE2	2:D:170:MET:HB2	1.79	0.44
4:F:93:TRP:HB2	4:F:290:ILE:HD11	2.00	0.44
1:A:70:LEU:HD23	1:A:70:LEU:HA	1.69	0.44
1:A:71:GLU:CG	1:A:98:ASP:HB3	2.40	0.44
1:A:103:TYR:CD2	1:A:148:GLY:HA2	2.53	0.44
2:D:117:LEU:HD11	2:D:154:LYS:CG	2.48	0.44
2:D:169:VAL:HA	2:D:202:ILE:O	2.17	0.43
1:C:72:PRO:HA	1:C:94:THR:HG21	2.00	0.43
1:A:154:MET:HG3	1:A:194:THR:HG23	2.00	0.43
1:A:217:LEU:CD1	1:A:275:VAL:HG12	2.48	0.43
4:F:131:PHE:CD2	4:F:182:ILE:HD11	2.53	0.43
4:F:267:PHE:CE2	4:F:279:LEU:HD23	2.52	0.43
2:B:198:GLU:OE2	2:B:250:LEU:HD22	2.18	0.43
2:D:89:ASN:HA	2:D:119:VAL:HG11	1.99	0.43
1:A:280:LYS:HA	1:A:280:LYS:HD2	1.66	0.43
2:B:73:MET:CE	2:B:92:PHE:HD2	2.30	0.43
2:B:190:HIS:CE1	2:B:414:ASN:HD22	2.36	0.43
1:C:221:ARG:HG3	2:D:323:MET:HG2	2.00	0.43
4:F:166:ALA:O	4:F:170:LEU:HD12	2.19	0.43
1:A:357:TYR:CZ	3:E:17:GLY:HA2	2.54	0.43
1:C:219:ILE:HD13	1:C:226:ASN:ND2	2.33	0.43
1:A:209:ILE:HG22	1:A:227:LEU:HD23	2.01	0.43
1:C:277:SER:OG	1:C:280:LYS:HD3	2.19	0.43
2:D:21:TRP:CE3	2:D:61:PRO:HB3	2.52	0.43
2:D:22:GLU:HG2	2:D:81:PHE:CD1	2.54	0.43
1:A:434:GLU:HG3	1:A:435:VAL:N	2.34	0.43
2:D:2:ARG:HD2	2:D:2:ARG:HA	1.73	0.43
1:A:12:ALA:CB	1:A:140:SER:HB3	2.48	0.43
2:B:293:MET:CE	2:B:365:ALA:HB1	2.48	0.43
1:A:24:TYR:O	1:A:28:HIS:HD2	2.02	0.43
1:A:211:ASP:HB3	1:A:215:ARG:NH1	2.34	0.43
2:B:106:TYR:OH	2:B:407:GLU:OE2	2.37	0.43
4:F:326:LYS:NZ	4:F:328:TRP:CH2	2.85	0.43
1:A:262:TYR:CE1	1:A:346:TRP:CH2	3.07	0.42
1:C:266:HIS:CD2	1:C:266:HIS:O	2.72	0.42
2:D:293:MET:CG	2:D:367:PHE:HB2	2.49	0.42
1:C:3:GLU:HG2	1:C:64:ARG:CZ	2.50	0.42
4:F:226:GLU:HG3	4:F:237:THR:CG2	2.48	0.42
2:B:343:GLU:H	2:B:343:GLU:CD	2.26	0.42
1:A:313:MET:HE3	1:A:380:ASN:O	2.19	0.42
1:C:36:MET:HB3	1:C:61:HIS:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:68:VAL:HG11	1:C:118:VAL:HG21	2.00	0.42
2:D:238:THR:HG21	2:D:318:ARG:HD2	2.01	0.42
1:C:101:ASN:ND2	2:D:252:LYS:HE2	2.35	0.42
2:D:12:CYS:SG	2:D:16:ILE:HD12	2.59	0.42
4:F:99:VAL:C	4:F:100:ILE:HD13	2.44	0.42
1:A:75:ILE:O	1:A:79:ARG:HG3	2.19	0.42
1:A:234:ILE:O	1:A:238:ILE:HG13	2.20	0.42
2:D:210:ILE:CG2	2:D:273:LEU:HD13	2.50	0.42
2:D:221:THR:HG23	2:D:224:ASP:H	1.84	0.42
2:D:67:ASP:HA	2:D:143:THR:HG21	2.02	0.42
2:D:68:LEU:O	2:D:96:GLY:N	2.53	0.42
1:A:14:VAL:HG13	1:A:67:PHE:HD2	1.85	0.42
1:A:30:ILE:HD13	1:A:53:PHE:CE2	2.54	0.42
1:A:34:GLY:O	1:A:60:LYS:HA	2.19	0.42
1:A:406:HIS:CG	2:B:261:PRO:HG3	2.55	0.42
2:B:290:THR:HG21	2:B:329:GLN:HB3	2.02	0.42
1:C:123:ARG:HD3	1:C:123:ARG:HA	1.66	0.42
1:A:34:GLY:O	1:A:61:HIS:N	2.41	0.42
1:A:401:LYS:HZ3	2:B:428:ALA:HB1	1.85	0.42
1:C:84:ARG:HG2	1:C:84:ARG:HH11	1.84	0.42
1:C:84:ARG:HG2	1:C:84:ARG:NH1	2.34	0.42
1:C:204:VAL:HG13	1:C:302:MET:HG3	2.02	0.42
2:D:40:SER:OG	2:D:42:LEU:HD13	2.20	0.42
4:F:91:CYS:SG	4:F:93:TRP:CE2	3.13	0.42
4:F:374:ILE:HD11	4:F:375:PHE:CZ	2.54	0.42
1:A:117:LEU:O	1:A:121:ARG:HG2	2.20	0.42
1:A:415:GLU:O	1:A:418:PHE:HB2	2.19	0.42
2:D:44:LEU:CD2	2:D:47:ILE:HD13	2.50	0.42
2:D:41:ASP:OD1	2:D:41:ASP:N	2.52	0.41
3:E:100:LYS:HD3	3:E:100:LYS:HA	1.77	0.41
1:A:254:GLU:HG2	1:A:258:ASN:ND2	2.34	0.41
2:B:36:TYR:HB2	2:B:59:TYR:HE2	1.85	0.41
2:B:105:HIS:HD2	2:B:106:TYR:CE1	2.38	0.41
2:B:280:GLN:CG	2:B:281:TYR:H	2.29	0.41
2:B:395:LEU:HD23	2:B:395:LEU:HA	1.81	0.41
1:A:141:PHE:HB3	1:A:187:SER:OG	2.20	0.41
1:A:289:ALA:HA	1:A:331:ALA:HB2	2.02	0.41
2:B:19:LYS:O	2:B:23:VAL:HG23	2.20	0.41
1:A:289:ALA:HA	1:A:331:ALA:CB	2.51	0.41
2:B:170:MET:HE3	2:B:170:MET:HB3	1.51	0.41
1:A:11:GLN:HG3	1:A:74:VAL:HG21	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:265:ILE:O	1:A:265:ILE:HG22	2.20	0.41
2:B:280:GLN:HG2	2:B:281:TYR:N	2.34	0.41
1:C:12:ALA:HB3	1:C:140:SER:HB3	2.03	0.41
2:D:134:GLN:HA	2:D:165:ASN:O	2.20	0.41
4:F:233:PHE:CE1	4:F:239:HIS:CE1	3.08	0.41
2:B:73:MET:HE2	2:B:92:PHE:HB3	2.03	0.41
2:B:101:TRP:CE3	2:B:187:LEU:HD13	2.55	0.41
1:C:242:LEU:HD11	1:C:252:LEU:HB3	2.02	0.41
1:C:361:THR:HG22	1:C:362:VAL:N	2.36	0.41
2:D:139:LEU:HA	2:D:145:SER:HB3	2.01	0.41
1:A:47:ASP:O	1:A:50:ASN:HB2	2.20	0.41
3:E:47:LEU:O	3:E:47:LEU:HD12	2.21	0.41
1:A:23:LEU:HD12	1:A:23:LEU:HA	1.63	0.41
1:A:90:GLU:HA	1:A:121:ARG:HH21	1.86	0.41
1:A:336:LYS:HG3	3:E:24:LEU:HD11	2.00	0.41
2:B:251:ARG:O	2:B:255:VAL:HG23	2.20	0.41
2:B:299:MET:HE2	2:B:367:PHE:CE2	2.56	0.41
1:C:225:THR:O	1:C:229:ARG:HG3	2.21	0.41
2:D:179:VAL:HG21	2:D:394:PHE:CE2	2.55	0.41
4:F:340:GLN:HA	4:F:343:TYR:CD1	2.56	0.41
2:B:81:PHE:O	2:B:84:ILE:HG22	2.20	0.41
2:B:101:TRP:HB2	2:B:184:ASN:OD1	2.21	0.41
1:A:26:LEU:HD23	1:A:26:LEU:HA	1.82	0.40
1:A:119:LEU:HD23	1:A:119:LEU:HA	1.80	0.40
1:C:187:SER:O	1:C:190:THR:HG22	2.21	0.40
1:A:69:ASP:O	1:A:94:THR:HA	2.21	0.40
2:B:67:ASP:O	2:B:92:PHE:HA	2.21	0.40
2:B:268:PRO:HA	2:B:367:PHE:O	2.22	0.40
1:C:293[A]:ASN:CG	1:C:339:ARG:HH21	2.29	0.40
4:F:202:ARG:HB3	4:F:220[B]:VAL:CG1	2.51	0.40
1:A:12:ALA:HB3	1:A:140:SER:HB3	2.03	0.40
2:B:288:GLU:O	2:B:292:GLN:HG3	2.20	0.40
1:C:209:ILE:HG22	1:C:227:LEU:HD22	2.02	0.40
2:D:81:PHE:O	2:D:83:GLN:N	2.54	0.40
2:D:139:LEU:HD21	2:D:168:SER:HB3	2.03	0.40
4:F:22:LEU:HD23	4:F:22:LEU:HA	1.81	0.40
4:F:298:ILE:HD12	4:F:302:ILE:HD13	2.03	0.40
1:A:192:HIS:CG	1:A:421:ALA:HA	2.57	0.40
1:A:311:LYS:HE3	1:A:436:GLY:O	2.22	0.40
2:D:70:PRO:HG3	2:D:94:GLN:OE1	2.21	0.40
11:D:502:GXI:C06	11:D:502:GXI:C13	3.00	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:167:SER:O	4:F:171:ASP:HB2	2.21	0.40
1:A:271:THR:HG23	1:A:301:GLN:HA	2.03	0.40
2:D:124:SER:O	2:D:127:CYS:HB2	2.21	0.40
3:E:72:LEU:O	3:E:76:ARG:HG2	2.21	0.40
4:F:235:ASP:OD1	4:F:235:ASP:O	2.40	0.40
4:F:271:LEU:HD23	4:F:271:LEU:HA	1.81	0.40

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:322:ASP:OD1	1:C:338:LYS:NZ[3_555]	2.12	0.08
1:C:127:ASP:O	3:E:13:LYS:NZ[2_564]	2.15	0.05

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	438/450 (97%)	417 (95%)	21 (5%)	0	100	100
1	C	445/450 (99%)	430 (97%)	15 (3%)	0	100	100
2	B	423/445 (95%)	410 (97%)	13 (3%)	0	100	100
2	D	416/445 (94%)	394 (95%)	22 (5%)	0	100	100
3	E	121/143 (85%)	119 (98%)	2 (2%)	0	100	100
4	F	342/384 (89%)	323 (94%)	19 (6%)	0	100	100
All	All	2185/2317 (94%)	2093 (96%)	92 (4%)	0	100	100

There are no Ramachandran outliers to report.

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	370/378 (98%)	369 (100%)	1 (0%)	91 95
1	C	378/378 (100%)	371 (98%)	7 (2%)	52 72
2	B	369/383 (96%)	369 (100%)	0	100 100
2	D	362/383 (94%)	362 (100%)	0	100 100
3	E	112/127 (88%)	112 (100%)	0	100 100
4	F	314/342 (92%)	309 (98%)	5 (2%)	58 75
All	All	1905/1991 (96%)	1892 (99%)	13 (1%)	89 89

All (13) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	113	GLU
1	C	151[A]	SER
1	C	151[B]	SER
1	C	165[A]	SER
1	C	165[B]	SER
1	C	315	CYS
1	C	347[A]	CYS
1	C	347[B]	CYS
4	F	24	THR
4	F	255[A]	ARG
4	F	255[B]	ARG
4	F	296[A]	MET
4	F	296[B]	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (23) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	258	ASN
1	A	283	HIS
1	A	300	ASN
1	A	301	GLN

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Mol	Chain	Res	Type
1	A	372	GLN
1	A	393	HIS
2	B	8	GLN
2	B	15	GLN
2	B	48	ASN
2	B	134	GLN
2	B	165	ASN
2	B	375	GLN
2	B	423	GLN
1	C	256	GLN
2	D	43	GLN
2	D	165	ASN
2	D	247	ASN
2	D	347	ASN
3	E	103	GLN
4	F	234	GLN
4	F	243	HIS
4	F	246	GLN
4	F	269	GLN

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 oligosaccharides in this entry.

5.6 Ligand geometry

Of 14 ligands modelled in this entry, 6 are monoatomic - leaving 8 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	$\#\|Z\| > 2$
11	GXI	D	502	-	24,24,24	1.57	4 (16%)	32,34,34	2.05	5 (15%)
5	GTP	A	501	6	26,34,34	1.15	2 (7%)	32,54,54	1.46	5 (15%)
9	GDP	B	501	6	24,30,30	1.12	2 (8%)	30,47,47	1.10	2 (6%)
5	GTP	C	501	6	26,34,34	1.11	2 (7%)	32,54,54	1.49	6 (18%)
10	MES	B	504	-	12,12,12	2.10	2 (16%)	14,16,16	2.10	5 (35%)
11	GXI	B	505	-	24,24,24	1.46	4 (16%)	32,34,34	1.81	7 (21%)
9	GDP	D	501	-	24,30,30	0.88	1 (4%)	30,47,47	2.31	8 (26%)
10	MES	B	503	-	12,12,12	2.27	2 (16%)	14,16,16	2.30	6 (42%)

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
11	GXI	D	502	-	-	0/10/10/10	0/3/3/3
5	GTP	A	501	6	-	6/18/38/38	0/3/3/3
9	GDP	B	501	6	-	4/12/32/32	0/3/3/3
5	GTP	C	501	6	-	6/18/38/38	0/3/3/3
10	MES	B	504	-	-	2/6/14/14	0/1/1/1
11	GXI	B	505	-	-	1/10/10/10	0/3/3/3
9	GDP	D	501	-	-	3/12/32/32	0/3/3/3
10	MES	B	503	-	-	5/6/14/14	0/1/1/1

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	B	503	MES	C8-S	-7.19	1.67	1.77
10	B	504	MES	C8-S	-5.94	1.69	1.77
11	D	502	GXI	C08-N07	4.30	1.33	1.30
5	A	501	GTP	C5-C6	-3.68	1.39	1.47
10	B	504	MES	O2S-S	3.28	1.54	1.45
5	C	501	GTP	C5-C6	-3.15	1.41	1.47
9	B	501	GDP	C2'-C1'	-2.88	1.49	1.53
11	B	505	GXI	C10-N11	2.75	1.45	1.39
9	B	501	GDP	C6-N1	-2.68	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	D	502	GXI	C05-C04	-2.66	1.38	1.42
11	B	505	GXI	C13-N11	2.48	1.48	1.42
11	B	505	GXI	C08-N07	2.43	1.32	1.30
5	C	501	GTP	C2-N3	2.38	1.38	1.33
11	B	505	GXI	C05-C04	-2.33	1.38	1.42
11	D	502	GXI	C13-N11	2.32	1.47	1.42
9	D	501	GDP	C2-N3	2.16	1.38	1.33
10	B	503	MES	O1S-S	2.13	1.51	1.45
11	D	502	GXI	C03-C02	2.10	1.39	1.36
5	A	501	GTP	C5-C4	-2.01	1.38	1.43

All (44) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	D	502	GXI	N07-C08-N09	-8.36	122.20	130.62
9	D	501	GDP	C2-N1-C6	-6.39	113.33	125.10
11	B	505	GXI	N07-C08-N09	-6.10	124.48	130.62
9	D	501	GDP	O6-C6-C5	-5.67	113.29	124.37
9	D	501	GDP	C5-C6-N1	5.07	122.91	113.95
10	B	503	MES	C5-N4-C3	4.82	119.67	108.83
10	B	504	MES	C5-N4-C3	4.64	119.28	108.83
11	D	502	GXI	C05-C04-N07	-4.03	118.53	122.81
11	D	502	GXI	CL1-C08-N09	4.00	120.86	115.15
5	A	501	GTP	PA-O3A-PB	-3.93	119.34	132.83
11	B	505	GXI	CL1-C08-N09	3.66	120.39	115.15
5	C	501	GTP	PB-O3B-PG	-3.65	120.32	132.83
5	A	501	GTP	PB-O3B-PG	-3.46	120.96	132.83
10	B	503	MES	O2S-S-C8	-3.45	102.75	106.92
10	B	503	MES	C2-C3-N4	-3.38	104.98	110.10
5	C	501	GTP	C8-N7-C5	3.36	109.39	102.99
9	D	501	GDP	O4'-C1'-C2'	-3.28	102.13	106.93
9	D	501	GDP	N2-C2-N3	-3.16	113.59	119.74
10	B	504	MES	C7-N4-C3	3.14	119.26	111.23
5	A	501	GTP	C8-N7-C5	3.11	108.92	102.99
11	B	505	GXI	C14-C13-N11	3.02	124.67	120.46
11	B	505	GXI	C18-C13-N11	-2.98	116.29	120.46
5	C	501	GTP	C2-N1-C6	-2.98	119.60	125.10
5	C	501	GTP	PA-O3A-PB	-2.90	122.86	132.83
5	C	501	GTP	C5-C6-N1	2.83	118.95	113.95
9	B	501	GDP	PA-O3A-PB	-2.83	123.12	132.83
10	B	504	MES	O2S-S-C8	2.79	110.28	106.92
11	B	505	GXI	C08-N09-C10	2.78	119.28	111.04

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	B	503	MES	O3S-S-C8	2.76	110.24	105.77
9	B	501	GDP	C5-C6-N1	2.76	118.82	113.95
9	D	501	GDP	O6-C6-N1	2.67	123.80	120.65
9	D	501	GDP	C8-N7-C5	2.66	108.05	102.99
10	B	503	MES	C7-N4-C3	2.64	117.99	111.23
10	B	503	MES	C7-N4-C5	2.64	117.99	111.23
5	C	501	GTP	O6-C6-N1	-2.63	117.54	120.65
9	D	501	GDP	PA-O3A-PB	-2.63	123.81	132.83
5	A	501	GTP	C2-N1-C6	-2.56	120.38	125.10
11	B	505	GXI	C05-C04-N07	-2.50	120.16	122.81
11	D	502	GXI	C08-N09-C10	2.44	118.28	111.04
10	B	504	MES	C7-N4-C5	2.33	117.19	111.23
5	A	501	GTP	N2-C2-N1	2.25	121.51	116.71
10	B	504	MES	O1S-S-C8	2.16	109.51	106.92
11	D	502	GXI	C01-C02-C03	-2.05	120.96	123.23
11	B	505	GXI	C01-C02-C03	-2.01	121.01	123.23

There are no chirality outliers.

All (27) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	501	GTP	C5'-O5'-PA-O1A
5	C	501	GTP	PB-O3B-PG-O3G
5	C	501	GTP	C5'-O5'-PA-O1A
9	B	501	GDP	C5'-O5'-PA-O1A
9	B	501	GDP	C5'-O5'-PA-O2A
9	D	501	GDP	C5'-O5'-PA-O1A
9	D	501	GDP	C5'-O5'-PA-O2A
10	B	503	MES	C8-C7-N4-C3
10	B	503	MES	C8-C7-N4-C5
10	B	503	MES	C7-C8-S-O2S
10	B	503	MES	C7-C8-S-O3S
10	B	504	MES	C8-C7-N4-C3
10	B	504	MES	C8-C7-N4-C5
5	A	501	GTP	PB-O3B-PG-O1G
5	A	501	GTP	C5'-O5'-PA-O3A
5	C	501	GTP	C5'-O5'-PA-O3A
9	B	501	GDP	C5'-O5'-PA-O3A
5	A	501	GTP	C5'-O5'-PA-O2A
5	C	501	GTP	C5'-O5'-PA-O2A
10	B	503	MES	C7-C8-S-O1S
9	B	501	GDP	PB-O3A-PA-O2A

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Mol	Chain	Res	Type	Atoms
5	A	501	GTP	PB-O3B-PG-O2G
5	A	501	GTP	PB-O3B-PG-O3G
9	D	501	GDP	C5'-O5'-PA-O3A
5	C	501	GTP	PB-O3A-PA-O1A
5	C	501	GTP	PB-O3A-PA-O2A
11	B	505	GXI	C17-C16-O19-C20

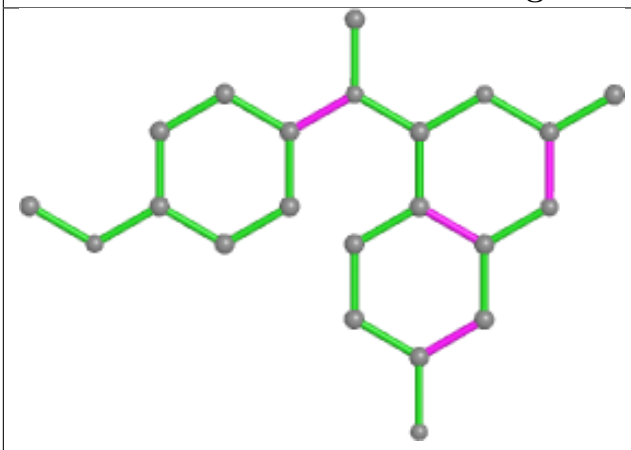
There are no ring outliers.

6 monomers are involved in 10 short contacts:

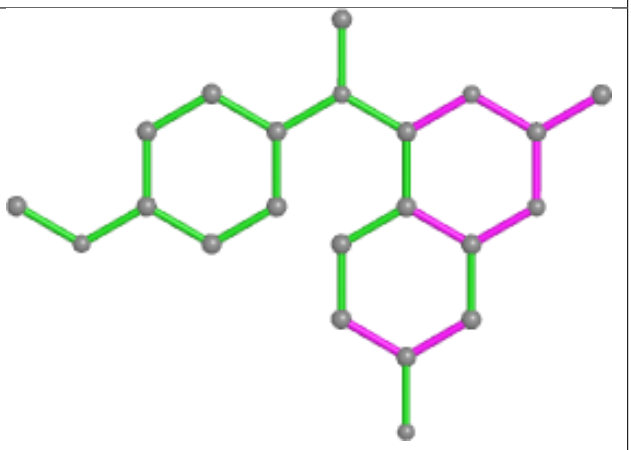
Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	D	502	GXI	2	0
5	A	501	GTP	2	0
10	B	504	MES	1	0
11	B	505	GXI	1	0
9	D	501	GDP	3	0
10	B	503	MES	1	0

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.

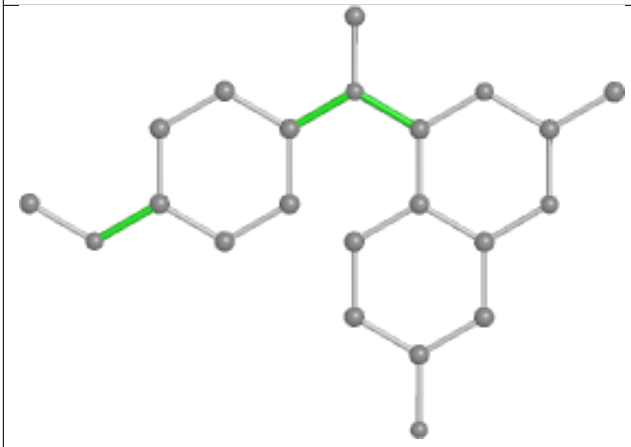
Ligand GXI D 502



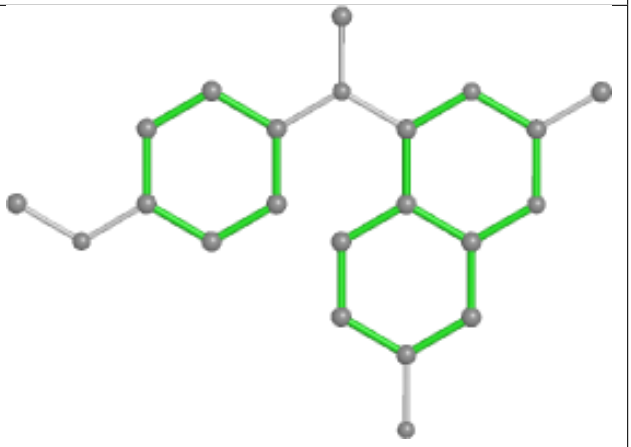
Bond lengths



Bond angles

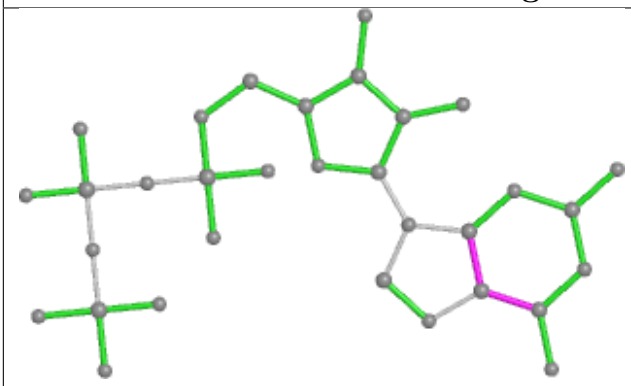


Torsions

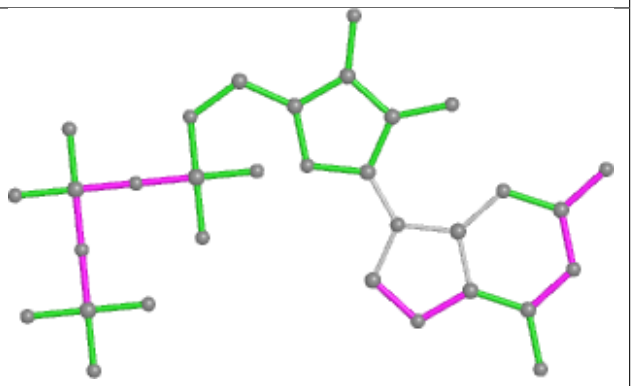


Rings

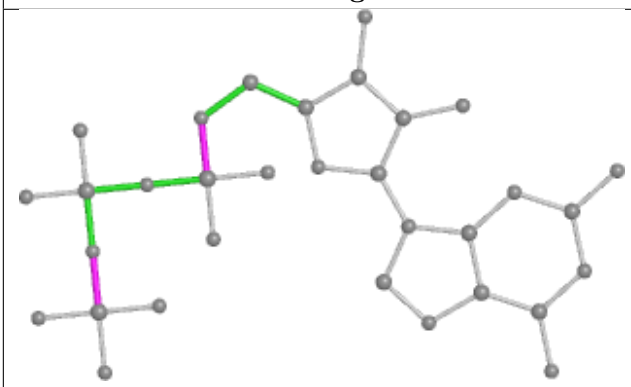
Ligand GTP A 501



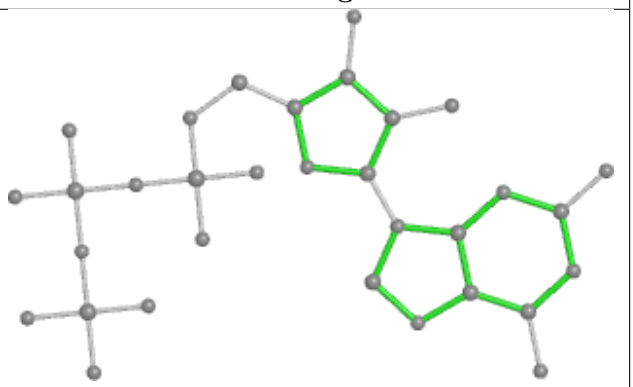
Bond lengths



Bond angles

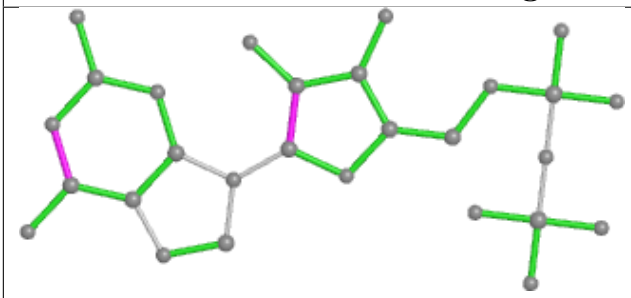


Torsions

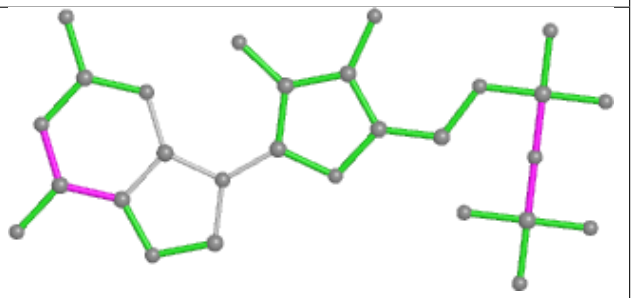


Rings

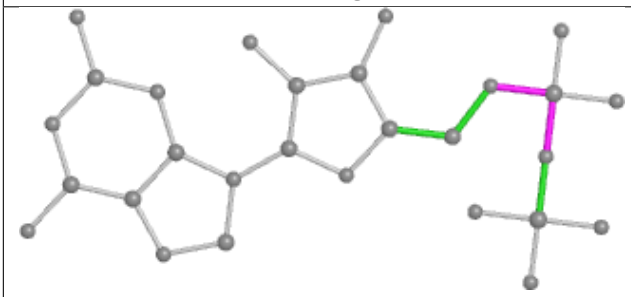
Ligand GDP B 501



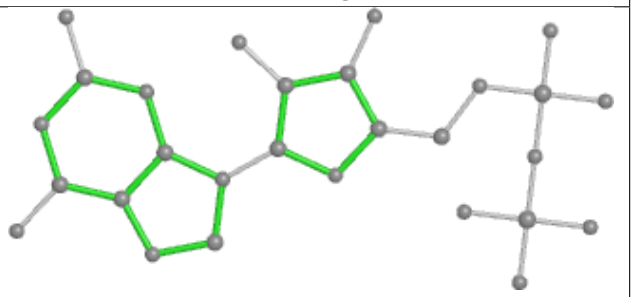
Bond lengths



Bond angles

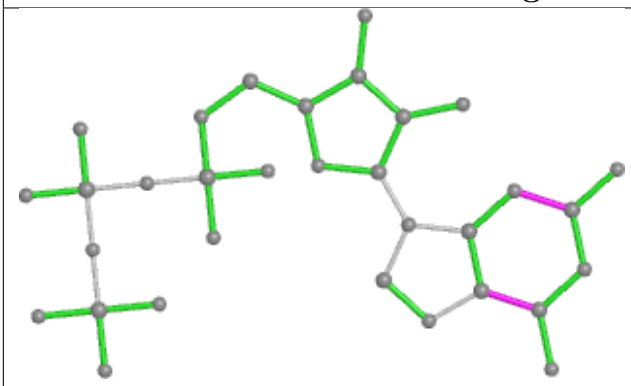


Torsions

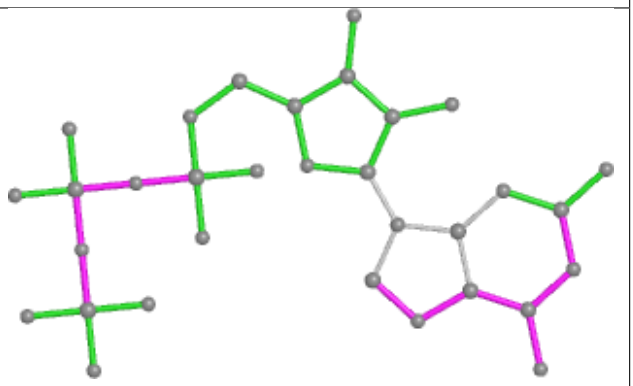


Rings

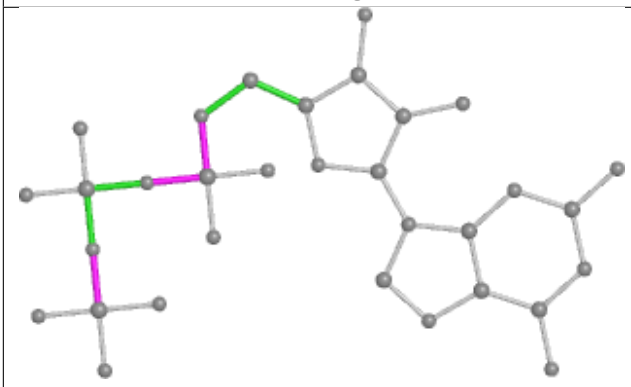
Ligand GTP C 501



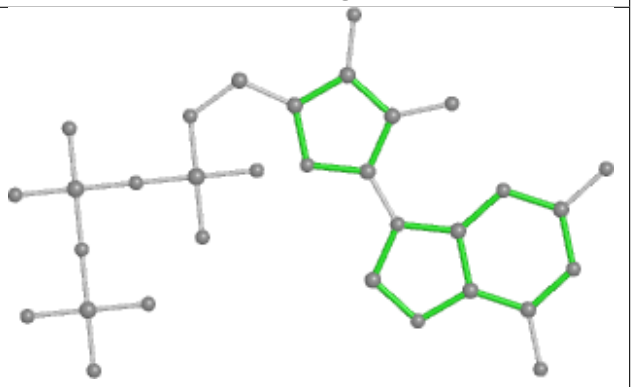
Bond lengths



Bond angles

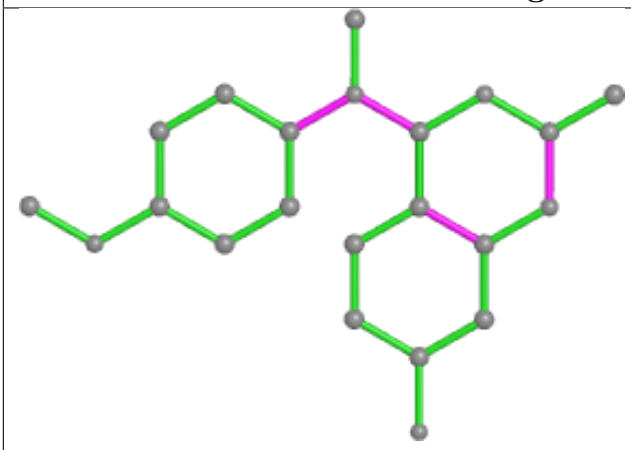


Torsions

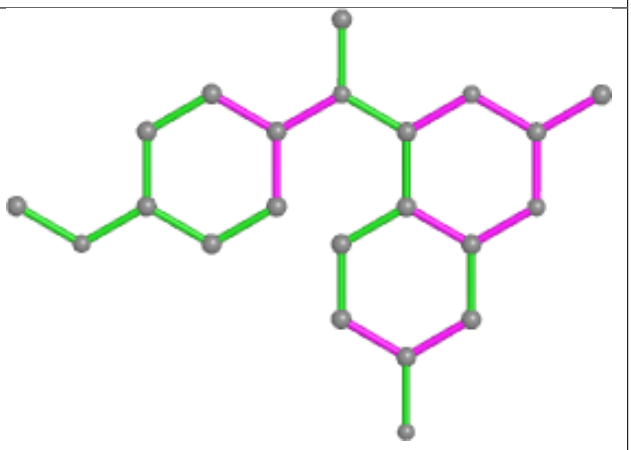


Rings

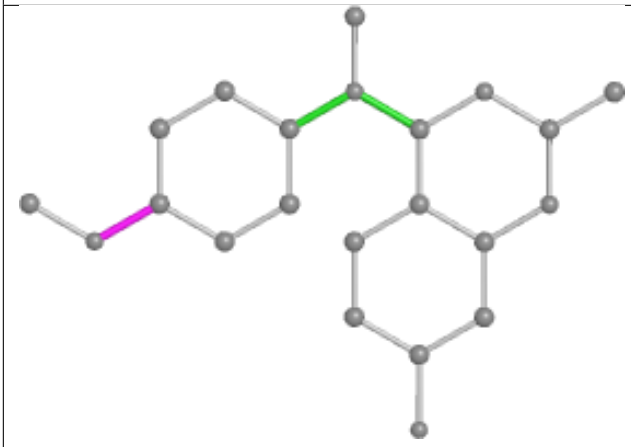
Ligand GXI B 505



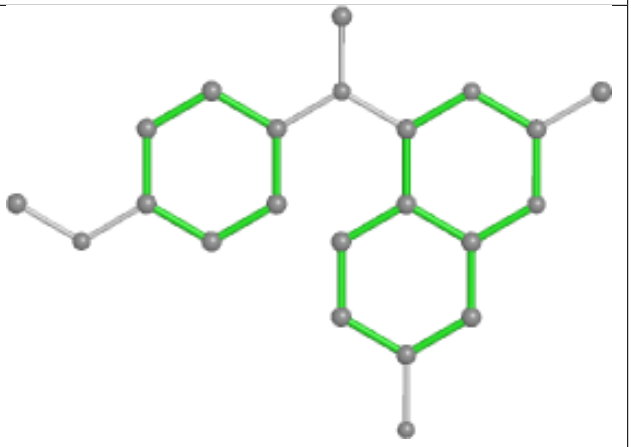
Bond lengths



Bond angles

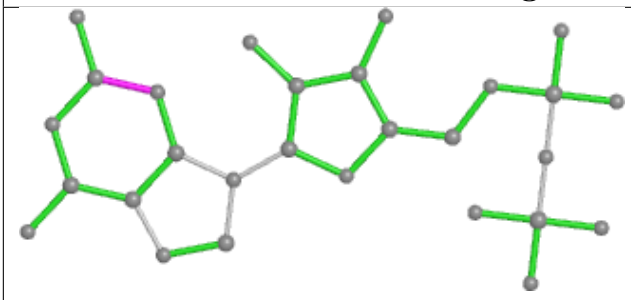


Torsions

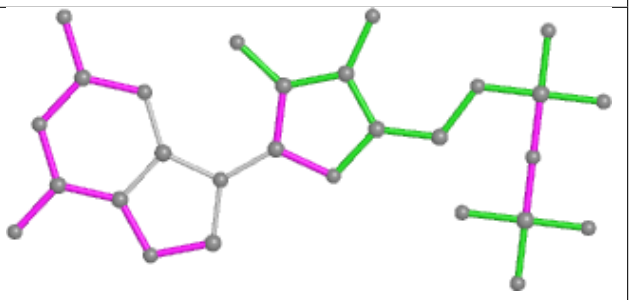


Rings

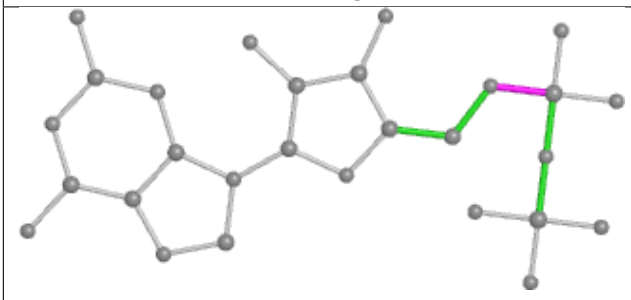
Ligand GDP D 501



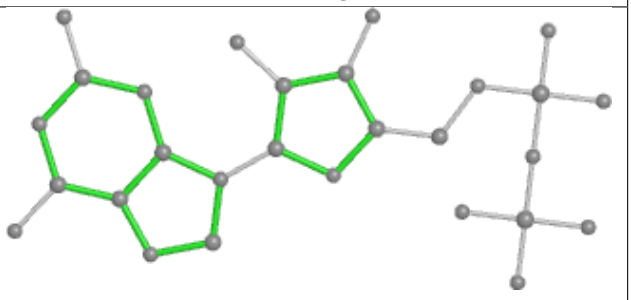
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

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	437/450 (97%)	-0.34	0 100 100	36, 55, 79, 95	3 (0%)
1	C	440/450 (97%)	-0.54	0 100 100	24, 41, 65, 82	7 (1%)
2	B	424/445 (95%)	-0.38	2 (0%) 87 83	24, 50, 83, 112	4 (0%)
2	D	420/445 (94%)	-0.12	4 (0%) 79 72	27, 70, 98, 118	1 (0%)
3	E	123/143 (86%)	-0.06	3 (2%) 59 50	31, 67, 101, 126	2 (1%)
4	F	346/384 (90%)	0.19	12 (3%) 47 40	34, 78, 140, 155	4 (1%)
All	All	2190/2317 (94%)	-0.25	21 (0%) 79 72	24, 58, 106, 155	21 (0%)

All (21) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	F	245	ILE	5.5
4	F	240	LEU	5.0
4	F	250	SER	3.9
4	F	233	PHE	3.1
4	F	239	HIS	3.1
2	D	145	SER	2.9
2	D	172	SER	2.7
2	B	247	ASN	2.7
4	F	241	THR	2.5
3	E	143	ALA	2.5
4	F	243	HIS	2.4
4	F	244	CYS	2.3
3	E	7	GLU	2.3
2	D	99	ASN	2.2
4	F	252	ASN	2.2
4	F	181	VAL	2.1
4	F	238	CYS	2.1
4	F	230	SER	2.1
2	D	98	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
2	B	338[A]	SER	2.0
3	E	15	THR	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 oligosaccharides in this entry.

6.4 Ligands (i)

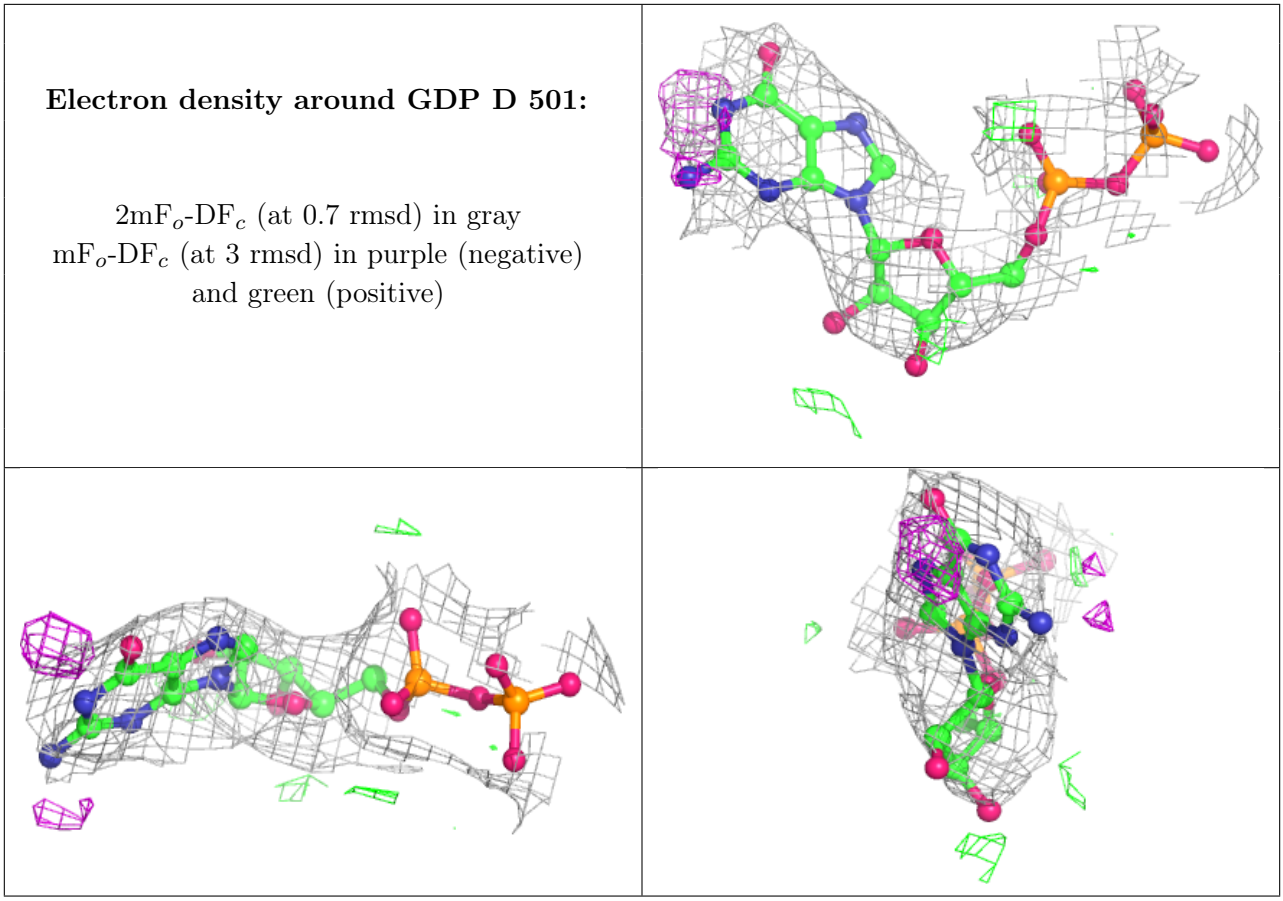
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' 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
6	MG	C	502	1/1	0.79	0.28	33,33,33,33	0
8	CL	A	504	1/1	0.83	0.08	87,87,87,87	0
6	MG	A	502	1/1	0.84	0.25	32,32,32,32	0
10	MES	B	504	12/12	0.89	0.11	72,75,87,110	0
6	MG	B	502	1/1	0.90	0.26	29,29,29,29	0
9	GDP	D	501	28/28	0.92	0.10	54,67,76,87	0
11	GXI	B	505	22/22	0.95	0.10	36,46,55,59	0
11	GXI	D	502	22/22	0.95	0.12	51,70,88,99	0
10	MES	B	503	12/12	0.96	0.09	50,55,69,90	0
5	GTP	C	501	32/32	0.96	0.07	29,37,45,48	0
9	GDP	B	501	28/28	0.96	0.07	27,37,43,44	0
5	GTP	A	501	32/32	0.96	0.07	31,44,54,61	0
7	CA	A	503	1/1	0.97	0.06	100,100,100,100	0
7	CA	C	503	1/1	0.99	0.03	47,47,47,47	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.

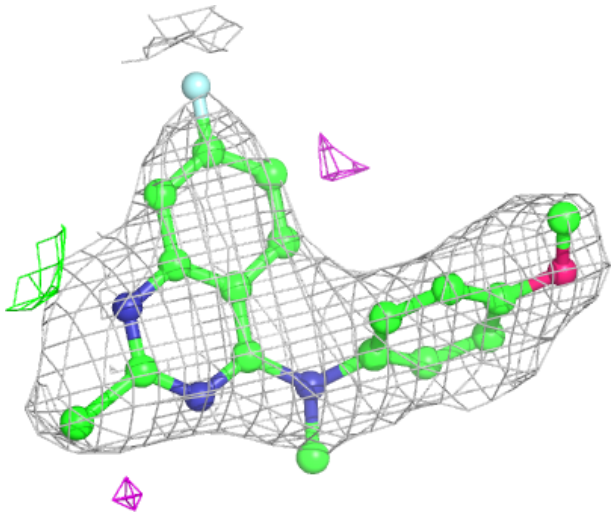
Electron density around GDP D 501:

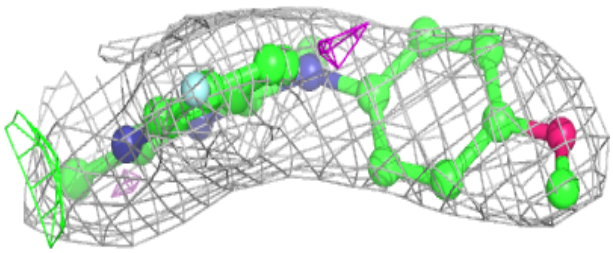
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

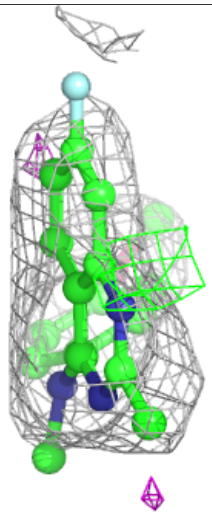


Electron density around GXI B 505:

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

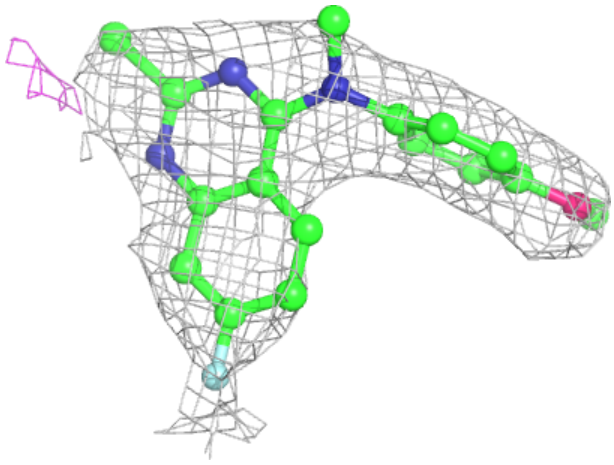


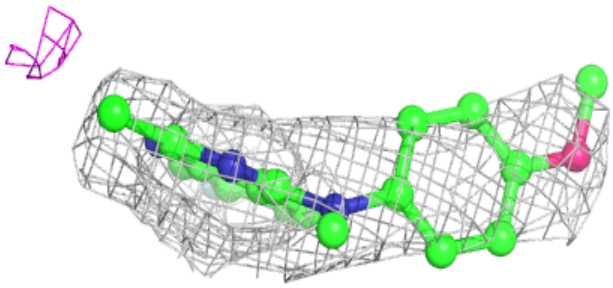


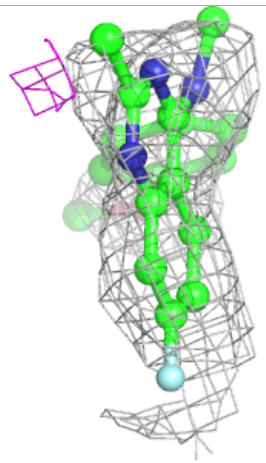


Electron density around GXI D 502:

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

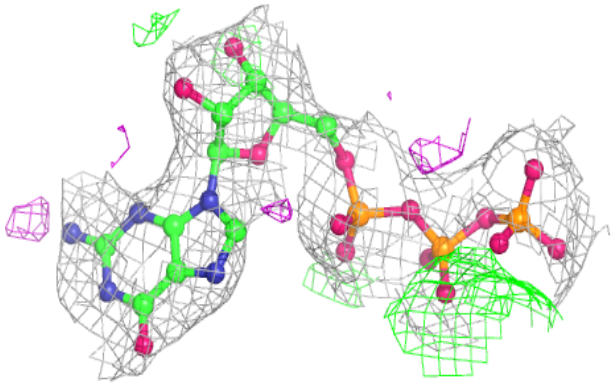


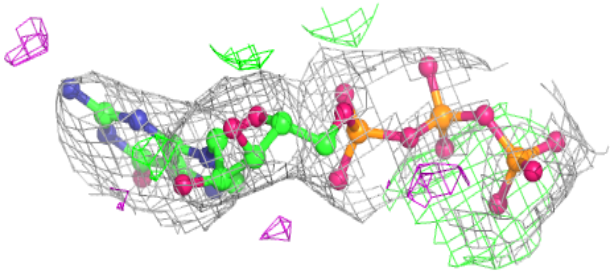


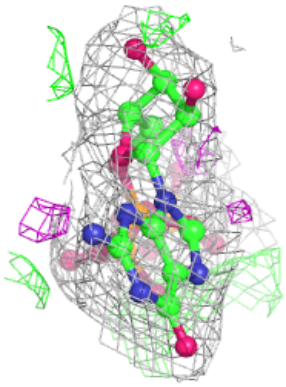


Electron density around GTP C 501:

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

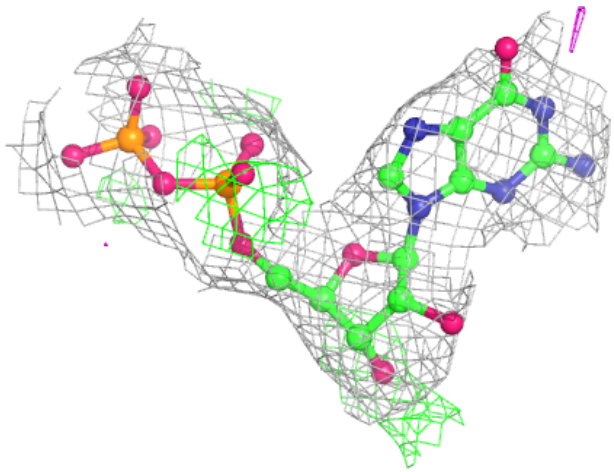


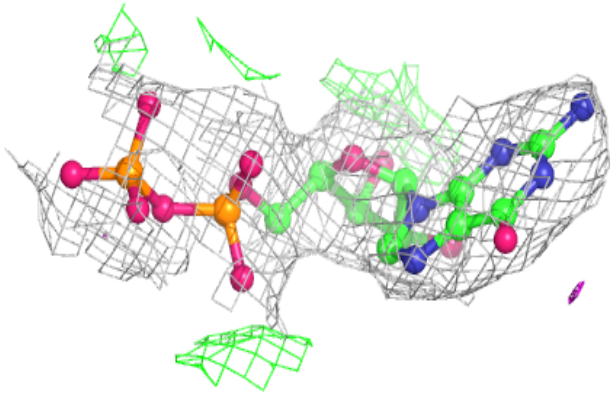


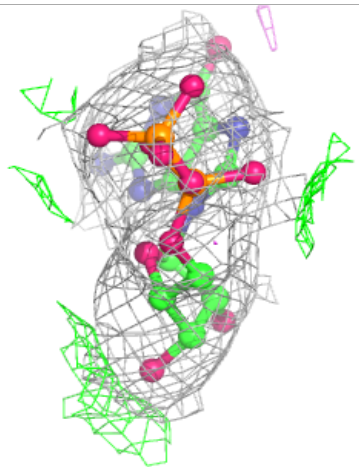


Electron density around GDP B 501:

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

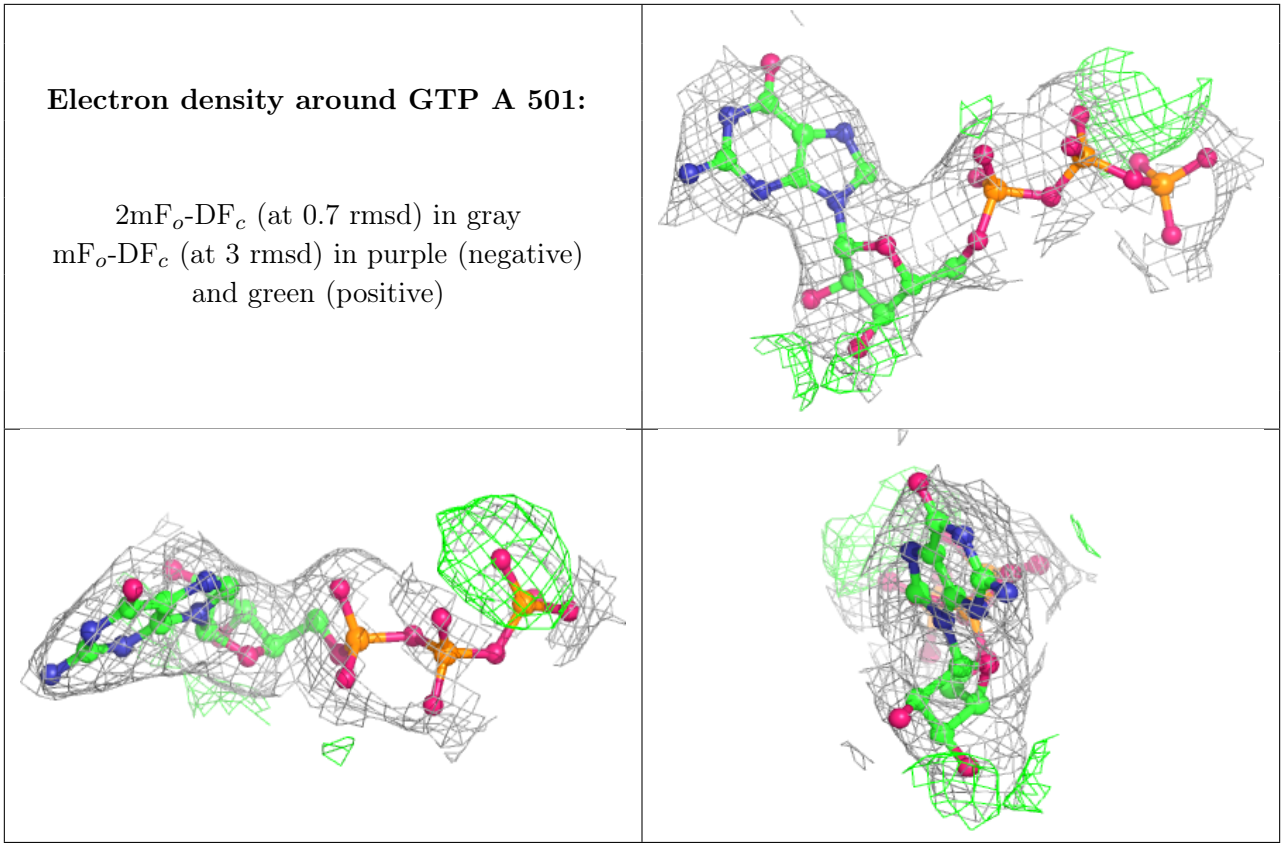






Electron density around GTP A 501:

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



6.5 Other polymers (i)

There are no such residues in this entry.