Full wwPDB X-ray Structure Validation Report ⓘ

Jun 19, 2020 – 08:17 pm BST

PDB ID	:	3ETD
Title	:	Structure of glutamate dehydrogenase complexed with bithionol
Authors	:	Li, M.; Smith, T.J.
Deposited on	:	2008-10-07
Resolution	:	2.50 Å(reported)

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

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

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

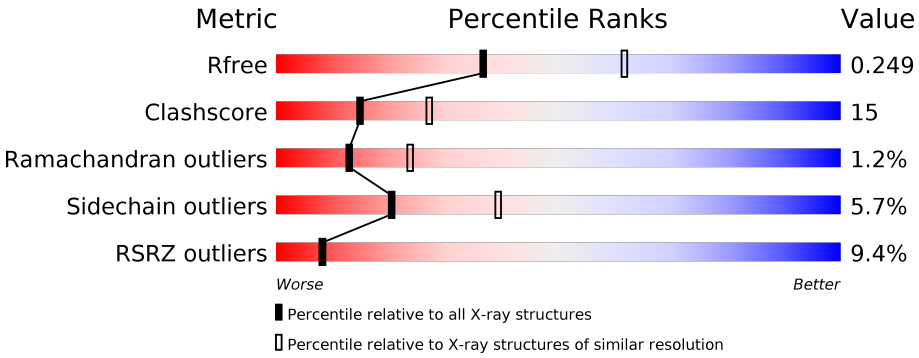
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.11
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.50 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	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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

Mol	Chain	Length	Quality of chain
1	A	501	11% 70% 26% ·
1	B	501	7% 70% 26% ·
1	C	501	7% 69% 27% ·
1	D	501	8% 71% 26% ·
1	E	501	8% 70% 26% ·
1	F	501	16% 70% 26% ·

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	GLU	D	550	-	-	X	-
2	GLU	E	550	-	-	X	-
4	GTP	A	553	-	-	-	X
4	GTP	B	553	-	-	-	X
4	GTP	E	553	X	-	-	-
4	GTP	F	553	-	-	-	X
5	B1T	A	552	-	-	-	X

2 Entry composition

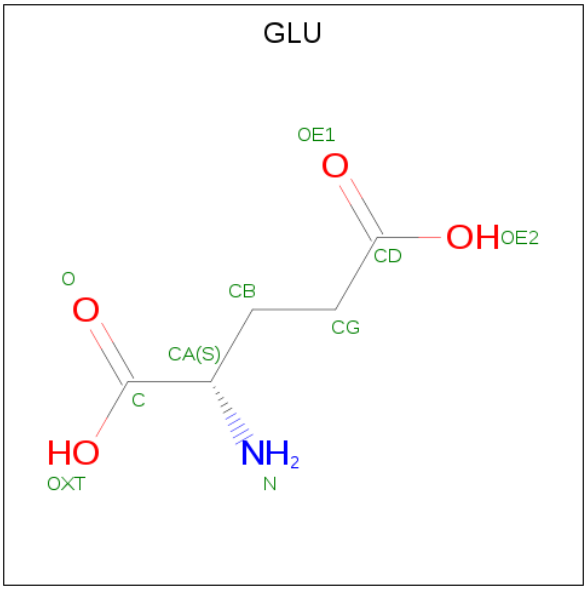
There are 6 unique types of molecules in this entry. The entry contains 24226 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 GLUD1 protein.

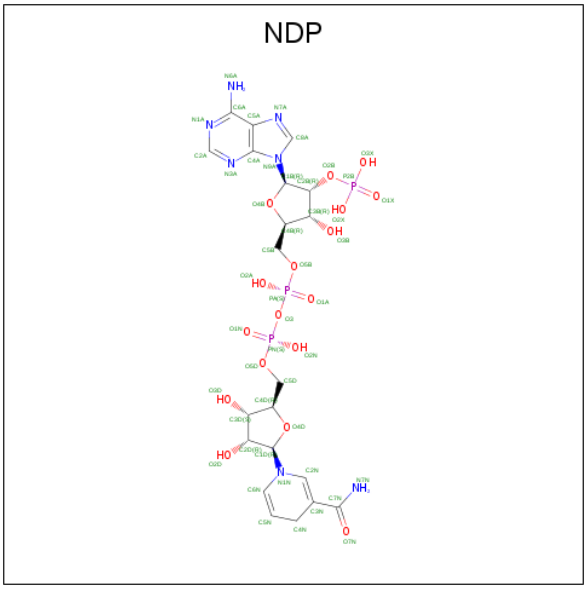
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	501	Total	C	N	O	S	0	0	0
			3915	2473	687	736	19			
1	B	501	Total	C	N	O	S	0	0	0
			3915	2473	687	736	19			
1	C	501	Total	C	N	O	S	0	0	0
			3915	2473	687	736	19			
1	D	501	Total	C	N	O	S	0	0	0
			3915	2473	687	736	19			
1	E	501	Total	C	N	O	S	0	0	0
			3915	2473	687	736	19			
1	F	501	Total	C	N	O	S	0	0	0
			3915	2473	687	736	19			

- Molecule 2 is GLUTAMIC ACID (three-letter code: GLU) (formula: $C_5H_9NO_4$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			9	5	1	3		
2	B	1	Total	C	N	O	0	0
			9	5	1	3		
2	C	1	Total	C	N	O	0	0
			9	5	1	3		
2	D	1	Total	C	N	O	0	0
			9	5	1	3		
2	E	1	Total	C	N	O	0	0
			9	5	1	3		
2	F	1	Total	C	N	O	0	0
			9	5	1	3		

- Molecule 3 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NDP) (formula: $C_{21}H_{30}N_7O_{17}P_3$).



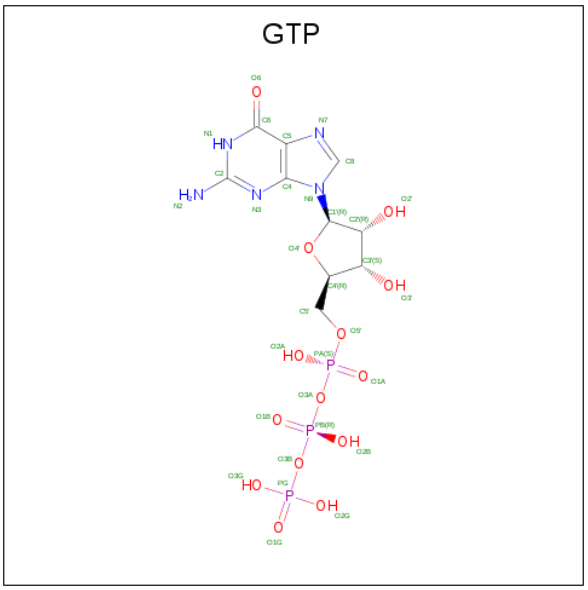
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	B	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	C	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	D	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	E	1	Total	C	N	O	P	0	0
			48	21	7	17	3		

Continued on next page...

Continued from previous page...

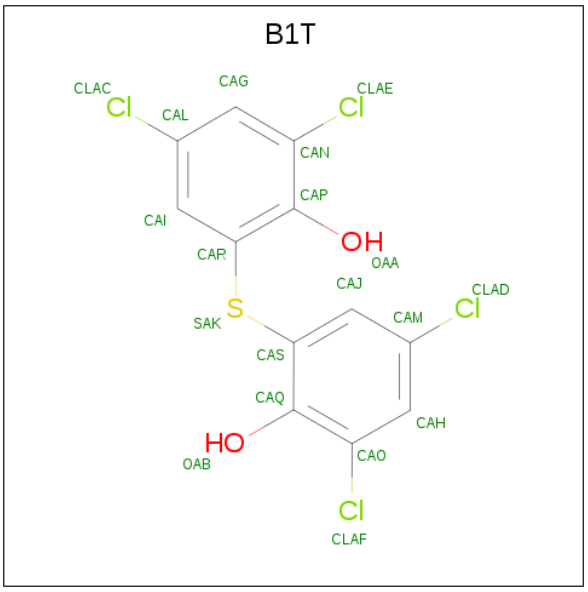
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	F	1	Total	C	N	O	P	0	0
			48	21	7	17	3		

- Molecule 4 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	N	O	P	0	0
			32	10	5	14	3		
4	B	1	Total	C	N	O	P	0	0
			32	10	5	14	3		
4	C	1	Total	C	N	O	P	0	0
			32	10	5	14	3		
4	D	1	Total	C	N	O	P	0	0
			32	10	5	14	3		
4	E	1	Total	C	N	O	P	0	0
			32	10	5	14	3		
4	F	1	Total	C	N	O	P	0	0
			32	10	5	14	3		

- Molecule 5 is 2,2'-sulfanediylbis(4,6-dichlorophenol) (three-letter code: B1T) (formula: $C_{12}H_6Cl_4O_2S$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C Cl O S 19 12 4 2 1	0	0
5	B	1	Total C Cl O S 19 12 4 2 1	0	0
5	C	1	Total C Cl O S 19 12 4 2 1	0	0
5	D	1	Total C Cl O S 19 12 4 2 1	0	0
5	E	1	Total C Cl O S 19 12 4 2 1	0	0
5	F	1	Total C Cl O S 19 12 4 2 1	0	0

- Molecule 6 is water.

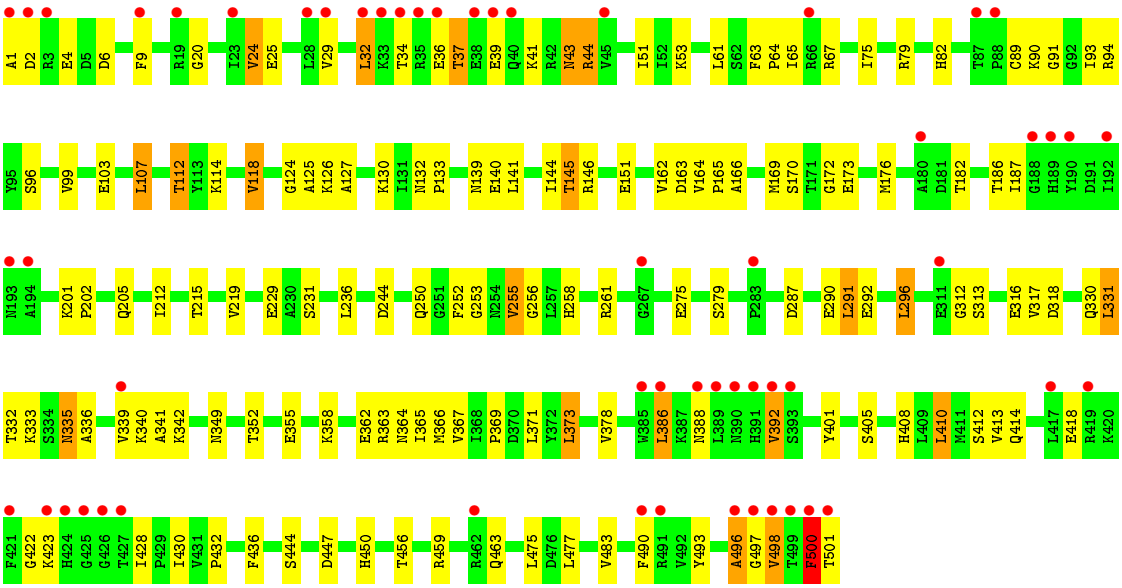
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	13	Total O 13 13	0	0
6	B	17	Total O 17 17	0	0
6	C	19	Total O 19 19	0	0
6	D	20	Total O 20 20	0	0
6	E	13	Total O 13 13	0	0
6	F	6	Total O 6 6	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

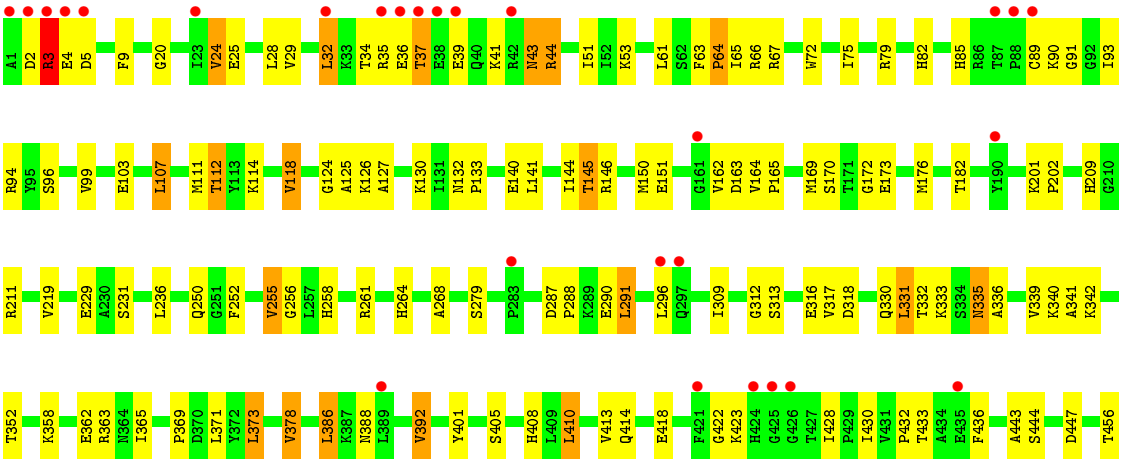
- Molecule 1: GLUD1 protein

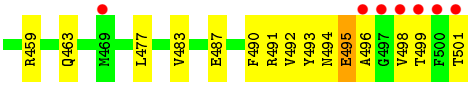
Chain A:



- Molecule 1: GLUD1 protein

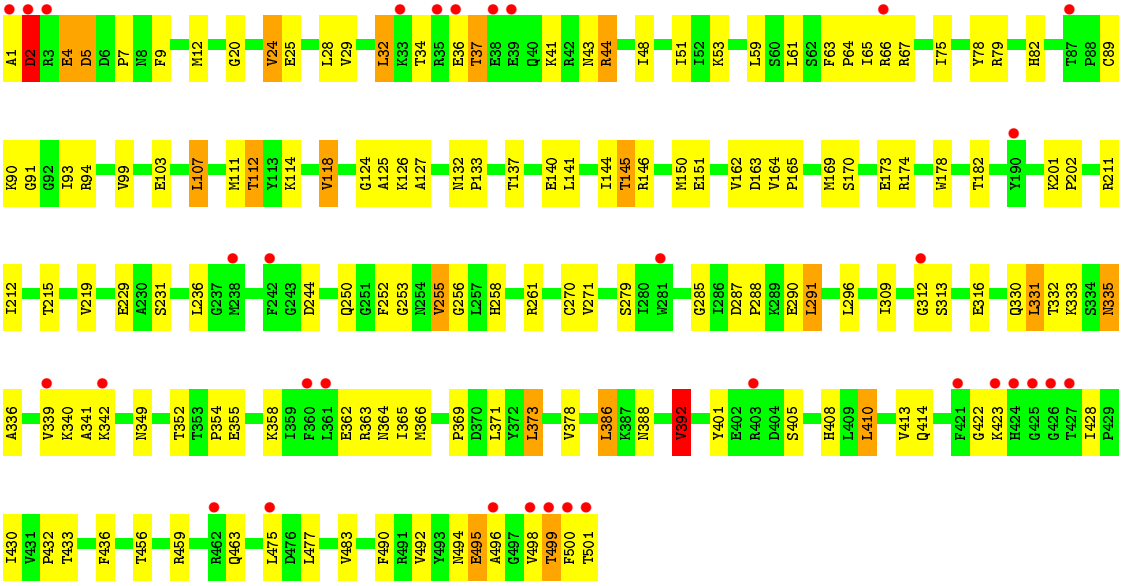
Chain B:





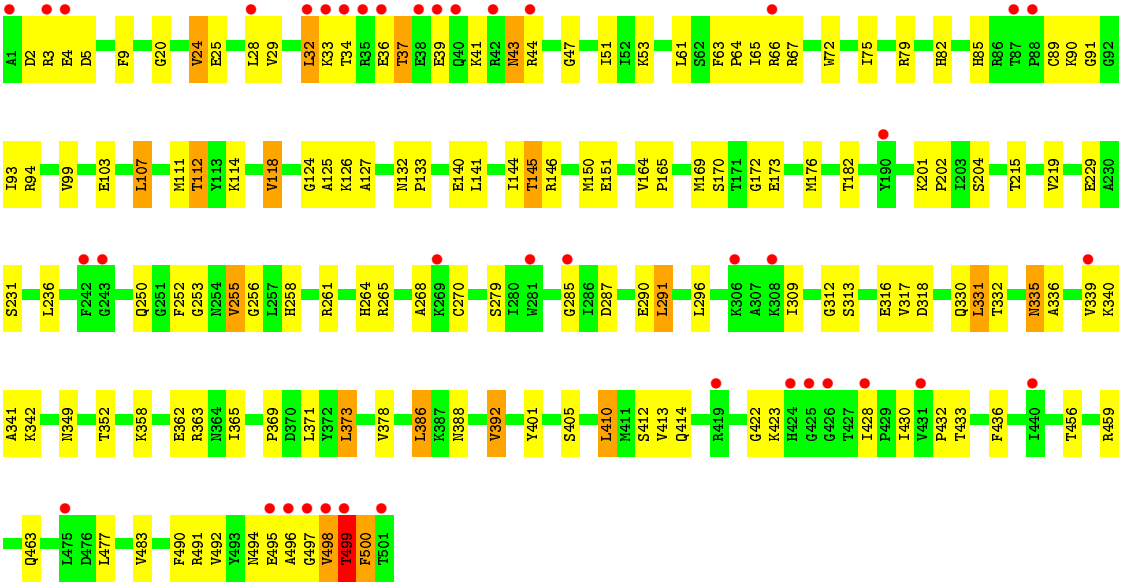
• Molecule 1: GLUD1 protein

Chain C:



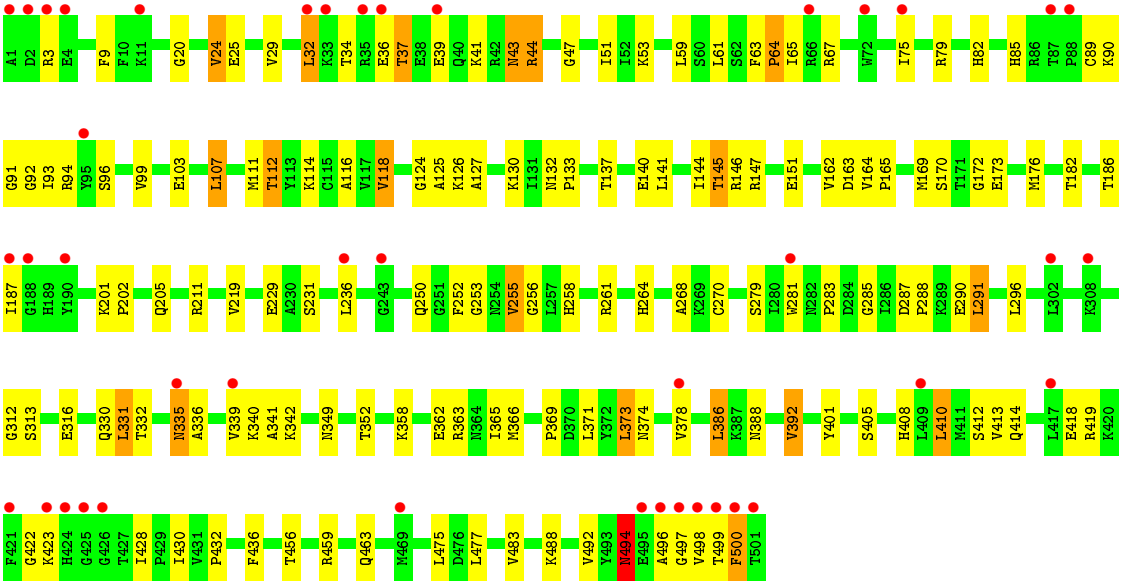
• Molecule 1: GLUD1 protein

Chain D:



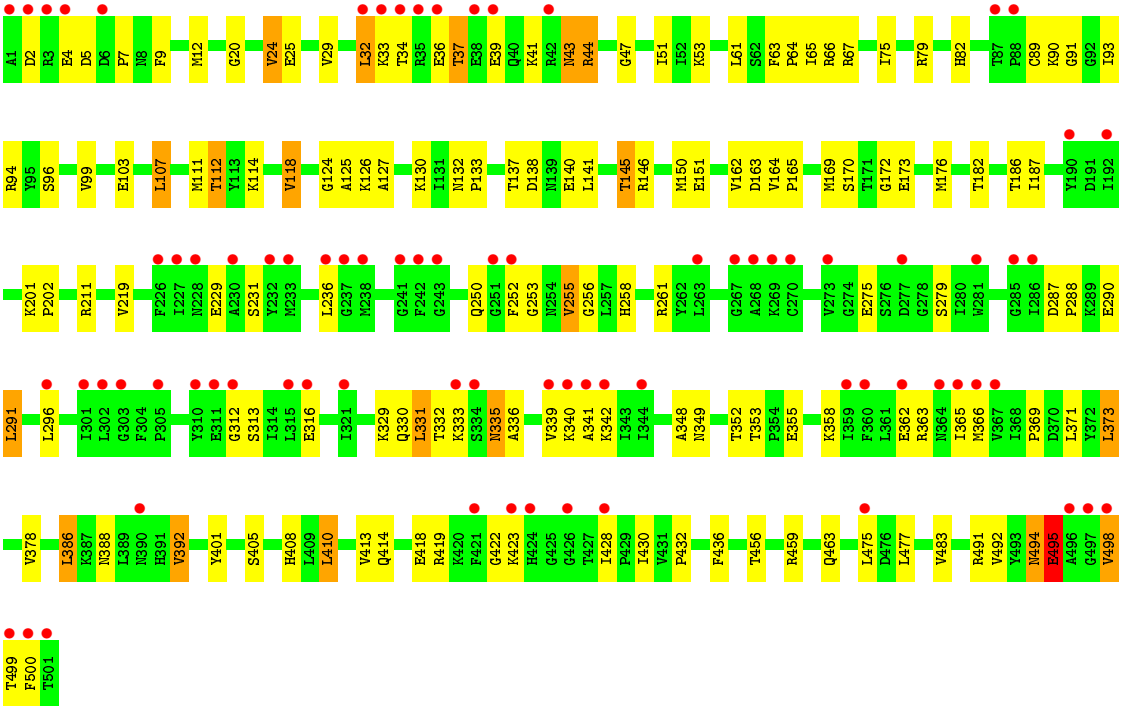
• Molecule 1: GLUD1 protein

Chain E:



- Molecule 1: GLUD1 protein

Chain F:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	122.38Å 101.30Å 166.59Å 90.00° 102.46° 90.00°	Depositor
Resolution (Å)	48.34 – 2.50 48.36 – 2.49	Depositor EDS
% Data completeness (in resolution range)	94.7 (48.34-2.50) 94.1 (48.36-2.49)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.07	Depositor
$< I/\sigma(I) >$ [1]	2.19 (at 2.48Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.239 , 0.257 0.229 , 0.249	Depositor DCC
R_{free} test set	6984 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å^2)	51.1	Xtriage
Anisotropy	0.305	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 36.9	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	0.93	EDS
Total number of atoms	24226	wwPDB-VP
Average B, all atoms (Å^2)	63.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.75% 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: GTP, NDP, B1T

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	0.43	0/3998	0.74	3/5396 (0.1%)
1	B	0.44	0/3998	0.91	6/5396 (0.1%)
1	C	0.44	0/3998	0.73	4/5396 (0.1%)
1	D	0.43	0/3998	0.79	3/5396 (0.1%)
1	E	0.43	0/3998	0.73	4/5396 (0.1%)
1	F	0.43	0/3998	0.86	6/5396 (0.1%)
All	All	0.44	0/23988	0.80	26/32376 (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	E	0	1

There are no bond length outliers.

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	419	ARG	NE-CZ-NH1	-22.85	108.87	120.30
1	F	419	ARG	NE-CZ-NH2	21.56	131.08	120.30
1	B	35	ARG	NE-CZ-NH1	-21.50	109.55	120.30
1	B	35	ARG	NE-CZ-NH2	21.09	130.85	120.30
1	B	44	ARG	NE-CZ-NH1	-19.57	110.51	120.30
1	D	44	ARG	NE-CZ-NH1	-18.97	110.81	120.30
1	B	44	ARG	NE-CZ-NH2	18.92	129.76	120.30
1	D	44	ARG	NE-CZ-NH2	18.54	129.57	120.30
1	A	44	ARG	NE-CZ-NH2	-11.39	114.60	120.30
1	F	44	ARG	NE-CZ-NH2	-11.11	114.75	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	44	ARG	NE-CZ-NH1	10.84	125.72	120.30
1	F	419	ARG	CD-NE-CZ	10.70	138.58	123.60
1	C	44	ARG	NE-CZ-NH2	-10.62	114.99	120.30
1	C	44	ARG	NE-CZ-NH1	10.47	125.53	120.30
1	F	44	ARG	NE-CZ-NH1	10.46	125.53	120.30
1	E	44	ARG	NE-CZ-NH2	-10.19	115.21	120.30
1	B	44	ARG	CD-NE-CZ	10.03	137.64	123.60
1	D	44	ARG	CD-NE-CZ	10.02	137.63	123.60
1	B	35	ARG	CD-NE-CZ	9.90	137.46	123.60
1	E	44	ARG	NE-CZ-NH1	9.59	125.10	120.30
1	F	44	ARG	CD-NE-CZ	5.79	131.70	123.60
1	A	44	ARG	CD-NE-CZ	5.68	131.55	123.60
1	C	44	ARG	CD-NE-CZ	5.57	131.40	123.60
1	E	44	ARG	CD-NE-CZ	5.37	131.12	123.60
1	C	392	VAL	CB-CA-C	-5.08	101.75	111.40
1	E	419	ARG	NE-CZ-NH2	-5.06	117.77	120.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	E	500	PHE	Sidechain

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	3915	0	3880	124	0
1	B	3915	0	3880	127	0
1	C	3915	0	3880	125	0
1	D	3915	0	3880	124	0
1	E	3915	0	3880	131	0
1	F	3915	0	3880	123	0
2	A	9	0	5	1	0
2	B	9	0	5	3	0
2	C	9	0	5	0	0
2	D	9	0	5	5	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	E	9	0	5	5	0
2	F	9	0	5	2	0
3	A	48	0	26	8	0
3	B	48	0	26	5	0
3	C	48	0	26	6	0
3	D	48	0	26	8	0
3	E	48	0	26	8	0
3	F	48	0	26	9	0
4	A	32	0	12	2	0
4	B	32	0	10	1	0
4	C	32	0	12	1	0
4	D	32	0	12	1	0
4	E	32	0	12	0	0
4	F	32	0	12	0	0
5	A	19	0	4	2	0
5	B	19	0	4	2	0
5	C	19	0	4	3	0
5	D	19	0	4	4	0
5	E	19	0	4	1	0
5	F	19	0	4	2	0
6	A	13	0	0	1	0
6	B	17	0	0	0	0
6	C	19	0	0	0	0
6	D	20	0	0	2	0
6	E	13	0	0	1	0
6	F	6	0	0	1	0
All	All	24226	0	23560	724	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 15.

All (724) 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:F:5:ASP:OD2	1:F:332:THR:HB	1.59	1.00
1:B:3:ARG:HG3	1:B:3:ARG:HH11	1.26	1.00
1:D:332:THR:H	1:D:335:ASN:HD21	1.12	0.98
1:C:150:MET:HG3	5:C:552:B1T:CLAE	2.03	0.95
1:B:150:MET:HG3	5:B:552:B1T:CLAE	2.04	0.94
1:E:332:THR:H	1:E:335:ASN:HD21	1.16	0.93
1:B:332:THR:H	1:B:335:ASN:HD21	1.17	0.93

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:332:THR:H	1:A:335:ASN:HD21	1.16	0.91
1:D:112:THR:HG22	1:D:124:GLY:HA3	1.52	0.91
1:F:150:MET:HG3	5:F:552:B1T:CLAE	2.08	0.90
1:C:332:THR:H	1:C:335:ASN:HD21	1.15	0.90
1:F:332:THR:H	1:F:335:ASN:HD21	1.16	0.90
1:F:112:THR:HG22	1:F:124:GLY:HA3	1.53	0.90
1:B:34:THR:HG22	1:B:36:GLU:H	1.38	0.89
1:B:112:THR:HG22	1:B:124:GLY:CA	2.03	0.88
1:B:112:THR:HG22	1:B:124:GLY:HA3	1.53	0.88
1:E:34:THR:HG22	1:E:36:GLU:H	1.39	0.88
1:C:112:THR:HG22	1:C:124:GLY:HA3	1.54	0.88
1:A:34:THR:HG22	1:A:36:GLU:H	1.38	0.88
1:F:250:GLN:HE22	1:F:330:GLN:HE21	1.22	0.87
1:C:250:GLN:HE22	1:C:330:GLN:HE21	1.22	0.87
1:D:250:GLN:HE22	1:D:330:GLN:HE21	1.22	0.87
1:D:34:THR:HG22	1:D:36:GLU:H	1.39	0.87
1:D:32:LEU:HD23	1:D:494:ASN:HD21	1.40	0.86
1:C:34:THR:HG22	1:C:36:GLU:H	1.37	0.86
1:F:34:THR:HG22	1:F:36:GLU:H	1.37	0.86
1:B:211:ARG:HH22	3:B:551:NDP:H71N	1.24	0.86
1:E:112:THR:HG22	1:E:124:GLY:CA	2.06	0.86
1:F:112:THR:HG22	1:F:124:GLY:CA	2.06	0.86
1:A:112:THR:HG22	1:A:124:GLY:HA3	1.57	0.86
1:E:126:LYS:HZ3	2:E:550:GLU:N	1.73	0.85
1:D:112:THR:HG22	1:D:124:GLY:CA	2.05	0.85
1:E:112:THR:HG22	1:E:124:GLY:HA3	1.57	0.85
1:A:250:GLN:HE22	1:A:330:GLN:HE21	1.24	0.85
1:A:112:THR:HG22	1:A:124:GLY:CA	2.07	0.84
1:C:112:THR:HG22	1:C:124:GLY:CA	2.06	0.84
1:E:250:GLN:HE22	1:E:330:GLN:HE21	1.21	0.84
3:D:551:NDP:H2N	3:D:551:NDP:H52N	1.58	0.83
1:B:250:GLN:HE22	1:B:330:GLN:HE21	1.26	0.83
1:C:48:ILE:HD11	1:C:499:THR:HG21	1.61	0.82
1:B:126:LYS:HZ3	2:B:550:GLU:N	1.78	0.82
1:B:112:THR:HG22	1:B:124:GLY:N	1.97	0.79
1:E:112:THR:HG22	1:E:124:GLY:N	1.98	0.79
1:F:32:LEU:HD23	1:F:494:ASN:HD21	1.46	0.79
1:B:112:THR:HG22	1:B:124:GLY:H	1.48	0.79
1:B:51:ILE:HD12	1:E:64:PRO:HB3	1.65	0.79
1:E:112:THR:HG22	1:E:124:GLY:H	1.48	0.79
1:A:205:GLN:HE22	1:B:496:ALA:HB2	1.47	0.78

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:112:THR:HG22	1:A:124:GLY:H	1.49	0.78
1:A:112:THR:HG22	1:A:124:GLY:N	1.99	0.78
1:E:211:ARG:HH22	3:E:551:NDP:H71N	1.31	0.76
1:B:72:TRP:HE1	1:E:499:THR:HG21	1.51	0.76
1:C:112:THR:HG22	1:C:124:GLY:N	2.01	0.76
1:C:91:GLY:HA3	1:C:125:ALA:O	1.86	0.75
1:E:173:GLU:HB3	1:E:202:PRO:HG3	1.68	0.75
1:C:112:THR:HG22	1:C:124:GLY:H	1.52	0.74
1:D:112:THR:HG22	1:D:124:GLY:N	2.01	0.74
3:A:551:NDP:H52N	3:A:551:NDP:H2N	1.69	0.74
1:F:107:LEU:HB3	1:F:126:LYS:HE3	1.69	0.74
1:B:64:PRO:HB3	1:E:51:ILE:HD12	1.70	0.73
3:F:551:NDP:H52N	3:F:551:NDP:H2N	1.70	0.73
1:D:255:VAL:HG23	6:D:557:HOH:O	1.88	0.73
1:F:112:THR:HG22	1:F:124:GLY:N	2.03	0.73
1:A:91:GLY:HA3	1:A:125:ALA:O	1.89	0.73
1:D:107:LEU:HB3	1:D:126:LYS:HE3	1.70	0.73
1:B:91:GLY:HA3	1:B:125:ALA:O	1.89	0.72
1:D:112:THR:HG22	1:D:124:GLY:H	1.52	0.72
1:F:112:THR:HG22	1:F:124:GLY:H	1.54	0.72
1:C:250:GLN:HE22	1:C:330:GLN:NE2	1.87	0.72
1:E:94:ARG:HG3	1:E:169:MET:HB2	1.72	0.72
1:F:91:GLY:HA3	1:F:125:ALA:O	1.89	0.72
1:A:107:LEU:HB3	1:A:126:LYS:HE3	1.72	0.72
1:C:107:LEU:HB3	1:C:126:LYS:HE3	1.71	0.71
1:D:250:GLN:HE22	1:D:330:GLN:NE2	1.88	0.71
1:C:212:ILE:HB	4:C:553:GTP:O3'	1.90	0.71
1:B:94:ARG:HG3	1:B:169:MET:HB2	1.72	0.71
1:F:94:ARG:HG3	1:F:169:MET:HB2	1.72	0.71
1:F:250:GLN:HE22	1:F:330:GLN:NE2	1.89	0.71
1:D:386:LEU:HD21	1:E:392:VAL:HG13	1.73	0.71
1:E:107:LEU:HB3	1:E:126:LYS:HE3	1.72	0.71
1:F:173:GLU:HB3	1:F:202:PRO:HG3	1.73	0.71
1:B:173:GLU:HB3	1:B:202:PRO:HG3	1.73	0.70
1:A:173:GLU:HB3	1:A:202:PRO:HG3	1.73	0.70
1:D:173:GLU:HB3	1:D:202:PRO:HG3	1.73	0.70
1:E:250:GLN:HE22	1:E:330:GLN:NE2	1.88	0.70
1:D:94:ARG:HG3	1:D:169:MET:HB2	1.74	0.69
1:B:107:LEU:HB3	1:B:126:LYS:HE3	1.73	0.69
1:C:173:GLU:HB3	1:C:202:PRO:HG3	1.73	0.69
1:C:51:ILE:HD12	1:F:64:PRO:HB3	1.74	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:51:ILE:HD12	1:D:64:PRO:HB3	1.73	0.69
1:A:94:ARG:HG3	1:A:169:MET:HB2	1.73	0.69
1:C:94:ARG:HG3	1:C:169:MET:HB2	1.74	0.68
1:D:91:GLY:HA3	1:D:125:ALA:O	1.93	0.68
1:A:250:GLN:HE22	1:A:330:GLN:NE2	1.90	0.68
1:B:250:GLN:HE22	1:B:330:GLN:NE2	1.91	0.68
1:E:91:GLY:HA3	1:E:125:ALA:O	1.92	0.68
3:C:551:NDP:H52N	3:C:551:NDP:H2N	1.74	0.68
1:B:34:THR:HG22	1:B:36:GLU:N	2.09	0.68
1:D:332:THR:N	1:D:335:ASN:HD21	1.90	0.68
1:C:501:THR:HA	1:F:66:ARG:NH2	2.08	0.67
1:C:258:HIS:HD2	1:C:261:ARG:HH11	1.42	0.67
1:F:332:THR:H	1:F:335:ASN:ND2	1.93	0.67
1:C:34:THR:HG22	1:C:36:GLU:N	2.09	0.66
1:E:34:THR:HG22	1:E:36:GLU:N	2.10	0.66
1:F:34:THR:HG22	1:F:36:GLU:N	2.09	0.66
1:C:1:ALA:O	1:C:2:ASP:HB2	1.93	0.66
1:D:34:THR:HG22	1:D:36:GLU:N	2.09	0.66
1:E:112:THR:CG2	1:E:124:GLY:H	2.09	0.66
1:B:112:THR:CG2	1:B:124:GLY:H	2.09	0.66
1:E:255:VAL:HG23	6:E:555:HOH:O	1.95	0.66
1:D:258:HIS:HD2	1:D:261:ARG:HH11	1.45	0.65
3:E:551:NDP:H52N	3:E:551:NDP:H2N	1.78	0.65
1:A:34:THR:HG22	1:A:36:GLU:N	2.10	0.65
1:E:258:HIS:HD2	1:E:261:ARG:HH11	1.43	0.65
1:F:258:HIS:HD2	1:F:261:ARG:HH11	1.44	0.65
1:C:64:PRO:HB3	1:F:51:ILE:HD12	1.78	0.65
1:D:332:THR:H	1:D:335:ASN:ND2	1.89	0.65
1:B:258:HIS:HD2	1:B:261:ARG:HH11	1.45	0.65
1:A:258:HIS:HD2	1:A:261:ARG:HH11	1.44	0.64
1:A:64:PRO:HB3	1:D:51:ILE:HD12	1.80	0.64
1:B:496:ALA:O	1:B:498:VAL:HG23	1.97	0.64
1:D:33:LYS:HD2	1:D:495:GLU:HB2	1.80	0.64
1:D:253:GLY:HA3	3:D:551:NDP:O1A	1.98	0.64
1:E:332:THR:H	1:E:335:ASN:ND2	1.93	0.64
1:C:253:GLY:HA3	3:C:551:NDP:O1A	1.97	0.64
1:F:253:GLY:HA3	3:F:551:NDP:O1A	1.98	0.64
1:B:44:ARG:HD3	1:B:499:THR:HA	1.79	0.64
1:E:496:ALA:HA	1:E:500:PHE:HB2	1.80	0.64
1:A:112:THR:CG2	1:A:124:GLY:H	2.10	0.63
1:E:253:GLY:HA3	3:E:551:NDP:O1A	1.98	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:332:THR:N	1:E:335:ASN:HD21	1.94	0.63
1:A:349:ASN:ND2	3:A:551:NDP:O2D	2.31	0.63
1:D:150:MET:HG3	5:D:552:B1T:CLAE	2.36	0.62
1:A:332:THR:H	1:A:335:ASN:ND2	1.94	0.62
1:C:112:THR:CG2	1:C:124:GLY:H	2.12	0.62
1:D:28:LEU:HD22	1:D:490:PHE:CD2	2.34	0.62
1:A:44:ARG:HH22	1:D:66:ARG:HH22	1.47	0.61
1:A:253:GLY:HA3	3:A:551:NDP:O1A	2.00	0.61
1:B:332:THR:H	1:B:335:ASN:ND2	1.94	0.61
1:B:332:THR:N	1:B:335:ASN:HD21	1.94	0.61
1:D:378:VAL:HG23	6:D:554:HOH:O	2.01	0.61
1:E:141:LEU:O	1:E:145:THR:HG23	2.01	0.61
1:D:112:THR:CG2	1:D:124:GLY:H	2.13	0.61
1:F:332:THR:N	1:F:335:ASN:HD21	1.93	0.61
1:D:141:LEU:O	1:D:145:THR:HG23	2.01	0.60
1:C:332:THR:H	1:C:335:ASN:ND2	1.93	0.60
1:F:7:PRO:HD2	1:F:329:LYS:HD2	1.82	0.60
1:C:141:LEU:O	1:C:145:THR:HG23	2.01	0.60
1:F:112:THR:CG2	1:F:124:GLY:H	2.14	0.60
1:A:141:LEU:O	1:A:145:THR:HG23	2.01	0.60
1:C:432:PRO:HB3	1:C:436:PHE:HD2	1.67	0.60
1:F:432:PRO:HB3	1:F:436:PHE:HD2	1.66	0.60
1:C:332:THR:N	1:C:335:ASN:HD21	1.93	0.60
1:E:53:LYS:O	1:E:82:HIS:HE1	1.84	0.60
1:F:141:LEU:O	1:F:145:THR:HG23	2.02	0.59
1:F:53:LYS:O	1:F:82:HIS:HE1	1.85	0.59
1:A:413:VAL:HG13	1:A:430:ILE:HG13	1.85	0.59
1:A:53:LYS:O	1:A:82:HIS:HE1	1.84	0.59
1:B:3:ARG:CG	1:B:3:ARG:HH11	2.08	0.59
1:D:410:LEU:HG	1:D:430:ILE:HG22	1.84	0.59
1:B:141:LEU:O	1:B:145:THR:HG23	2.03	0.58
1:F:410:LEU:HG	1:F:430:ILE:HG22	1.85	0.58
1:D:53:LYS:O	1:D:82:HIS:HE1	1.86	0.58
1:B:432:PRO:HB3	1:B:436:PHE:HD2	1.68	0.58
1:C:53:LYS:O	1:C:82:HIS:HE1	1.86	0.58
1:B:3:ARG:NH1	1:B:3:ARG:HG3	2.05	0.58
1:F:413:VAL:HG13	1:F:430:ILE:HG13	1.85	0.58
1:E:358:LYS:O	1:E:362:GLU:HG3	2.04	0.58
1:C:349:ASN:ND2	3:C:551:NDP:O2D	2.37	0.58
1:E:410:LEU:HG	1:E:430:ILE:HG22	1.84	0.58
1:F:114:LYS:HD2	1:F:378:VAL:HG21	1.84	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:215:THR:OG1	3:C:551:NDP:H42N	2.02	0.58
1:D:413:VAL:HG13	1:D:430:ILE:HG13	1.86	0.58
1:F:5:ASP:OD1	1:F:355:GLU:HB3	2.03	0.58
1:C:413:VAL:HG13	1:C:430:ILE:HG13	1.85	0.57
1:E:413:VAL:HG13	1:E:430:ILE:HG13	1.84	0.57
1:A:410:LEU:O	1:A:413:VAL:HG12	2.05	0.57
1:B:358:LYS:O	1:B:362:GLU:HG3	2.03	0.57
1:D:410:LEU:O	1:D:413:VAL:HG12	2.05	0.57
1:A:205:GLN:HE22	1:B:496:ALA:CB	2.16	0.57
1:A:332:THR:N	1:A:335:ASN:HD21	1.94	0.57
1:A:215:THR:OG1	3:A:551:NDP:H42N	2.04	0.57
1:D:498:VAL:HG22	1:E:146:ARG:NH2	2.19	0.57
1:B:63:PHE:CZ	1:B:75:ILE:HD11	2.40	0.57
1:A:201:LYS:NZ	1:A:388:ASN:HD21	2.03	0.56
1:D:114:LYS:HD2	1:D:378:VAL:HG21	1.87	0.56
1:E:494:ASN:O	1:E:498:VAL:HB	2.04	0.56
1:E:432:PRO:HB3	1:E:436:PHE:HD2	1.70	0.56
1:B:410:LEU:HG	1:B:430:ILE:HG22	1.86	0.56
1:D:358:LYS:O	1:D:362:GLU:HG3	2.06	0.56
1:A:432:PRO:HB3	1:A:436:PHE:HD2	1.71	0.56
1:A:392:VAL:HG13	1:B:386:LEU:HD21	1.88	0.56
2:B:550:GLU:HB3	3:B:551:NDP:H41N	1.88	0.56
1:C:20:GLY:O	1:C:24:VAL:HG23	2.06	0.56
1:D:432:PRO:HB3	1:D:436:PHE:HD2	1.70	0.56
1:F:82:HIS:HD2	1:F:112:THR:HG21	1.71	0.56
1:A:410:LEU:HG	1:A:430:ILE:HG22	1.86	0.56
1:B:53:LYS:O	1:B:82:HIS:HE1	1.88	0.56
1:E:92:GLY:HA3	2:E:550:GLU:N	2.21	0.56
1:B:413:VAL:HG13	1:B:430:ILE:HG13	1.87	0.56
1:F:82:HIS:CD2	1:F:112:THR:HG21	2.41	0.56
1:B:201:LYS:NZ	1:B:388:ASN:HD21	2.04	0.56
1:C:410:LEU:O	1:C:413:VAL:HG12	2.05	0.56
1:C:414:GLN:HG3	1:C:428:ILE:O	2.06	0.56
1:F:91:GLY:O	1:F:165:PRO:HA	2.06	0.56
1:A:91:GLY:O	1:A:165:PRO:HA	2.06	0.56
1:D:215:THR:OG1	3:D:551:NDP:H42N	2.06	0.56
1:B:392:VAL:HG13	1:F:386:LEU:HD21	1.88	0.55
1:C:82:HIS:CD2	1:C:112:THR:HG21	2.42	0.55
1:A:44:ARG:NH2	1:D:66:ARG:HH22	2.03	0.55
1:E:91:GLY:O	1:E:165:PRO:HA	2.07	0.55
1:B:209:HIS:HE1	4:B:553:GTP:O1A	1.90	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:358:LYS:O	1:A:362:GLU:HG3	2.06	0.55
1:C:114:LYS:HD2	1:C:378:VAL:HG21	1.88	0.55
1:E:63:PHE:CZ	1:E:75:ILE:HD11	2.42	0.55
1:C:410:LEU:HG	1:C:430:ILE:HG22	1.89	0.55
1:B:414:GLN:HG3	1:B:428:ILE:O	2.06	0.55
1:C:358:LYS:O	1:C:362:GLU:HG3	2.06	0.55
1:E:349:ASN:CG	3:E:551:NDP:O2D	2.45	0.55
1:A:20:GLY:O	1:A:24:VAL:HG23	2.07	0.55
1:F:5:ASP:O	1:F:7:PRO:HD3	2.07	0.55
1:E:414:GLN:HG3	1:E:428:ILE:O	2.07	0.55
1:A:82:HIS:HD2	1:A:112:THR:HG21	1.72	0.55
1:D:20:GLY:O	1:D:24:VAL:HG23	2.07	0.55
1:E:410:LEU:O	1:E:413:VAL:HG12	2.07	0.55
1:C:63:PHE:CZ	1:C:75:ILE:HD11	2.42	0.54
1:D:63:PHE:CZ	1:D:75:ILE:HD11	2.42	0.54
1:B:20:GLY:O	1:B:24:VAL:HG23	2.08	0.54
1:A:205:GLN:NE2	1:B:496:ALA:HB2	2.20	0.54
1:C:91:GLY:O	1:C:165:PRO:HA	2.07	0.54
1:D:82:HIS:HD2	1:D:112:THR:HG21	1.73	0.54
1:A:63:PHE:CZ	1:A:75:ILE:HD11	2.42	0.54
1:C:82:HIS:HD2	1:C:112:THR:HG21	1.71	0.54
5:E:552:B1T:OAB	5:E:552:B1T:OAA	2.26	0.54
1:F:4:GLU:OE2	1:F:333:LYS:HB3	2.07	0.54
1:D:82:HIS:CD2	1:D:112:THR:HG21	2.42	0.54
1:E:82:HIS:CD2	1:E:112:THR:HG21	2.43	0.54
1:E:79:ARG:HH11	1:E:127:ALA:HB2	1.73	0.54
1:A:82:HIS:CD2	1:A:112:THR:HG21	2.43	0.54
1:D:91:GLY:O	1:D:165:PRO:HA	2.08	0.54
1:E:82:HIS:HD2	1:E:112:THR:HG21	1.72	0.54
5:B:552:B1T:OAA	5:B:552:B1T:OAB	2.25	0.54
1:D:459:ARG:NH1	1:D:463:GLN:HE22	2.05	0.54
1:B:66:ARG:HH22	1:E:44:ARG:HH22	1.56	0.54
1:F:20:GLY:O	1:F:24:VAL:HG23	2.07	0.54
1:F:358:LYS:O	1:F:362:GLU:HG3	2.08	0.54
1:A:386:LEU:HD21	1:F:392:VAL:HG13	1.90	0.54
1:B:410:LEU:O	1:B:413:VAL:HG12	2.08	0.53
1:C:366:MET:HB2	1:C:475:LEU:HD22	1.89	0.53
1:C:392:VAL:HG13	1:E:386:LEU:HD21	1.89	0.53
1:F:410:LEU:O	1:F:413:VAL:HG12	2.09	0.53
5:D:552:B1T:OAA	5:D:552:B1T:OAB	2.26	0.53
1:A:414:GLN:HG3	1:A:428:ILE:O	2.09	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:63:PHE:CZ	1:F:75:ILE:HD11	2.43	0.53
1:A:79:ARG:HH11	1:A:127:ALA:HB2	1.73	0.53
1:C:99:VAL:HA	1:C:103:GLU:OE1	2.09	0.53
5:A:552:B1T:OAA	5:A:552:B1T:OAB	2.28	0.52
1:B:82:HIS:HD2	1:B:112:THR:HG21	1.74	0.52
1:B:85:HIS:HB2	1:B:492:VAL:HG11	1.91	0.52
1:B:82:HIS:CD2	1:B:112:THR:HG21	2.45	0.52
1:C:61:LEU:N	1:C:61:LEU:HD12	2.25	0.52
1:E:126:LYS:NZ	2:E:550:GLU:N	2.53	0.52
1:F:61:LEU:HD12	1:F:61:LEU:N	2.25	0.52
1:A:201:LYS:HZ1	1:A:388:ASN:HD21	1.58	0.52
5:A:552:B1T:SAK	1:E:147:ARG:HB2	2.49	0.52
1:C:24:VAL:HG22	1:C:483:VAL:HG22	1.92	0.52
1:B:91:GLY:O	1:B:165:PRO:HA	2.09	0.52
1:B:459:ARG:NH1	1:B:463:GLN:HE22	2.08	0.52
1:F:79:ARG:HH11	1:F:127:ALA:HB2	1.74	0.52
1:E:20:GLY:O	1:E:24:VAL:HG23	2.09	0.52
5:C:552:B1T:OAA	5:C:552:B1T:OAB	2.27	0.51
1:E:61:LEU:HD12	1:E:61:LEU:N	2.25	0.51
1:B:72:TRP:HE1	1:E:499:THR:CG2	2.23	0.51
1:D:499:THR:O	1:D:499:THR:HG23	2.11	0.51
1:A:498:VAL:HB	1:D:72:TRP:CH2	2.45	0.51
1:F:37:THR:HA	1:F:41:LYS:CD	2.40	0.51
1:A:436:PHE:HB2	1:F:408:HIS:HB3	1.92	0.51
1:C:201:LYS:NZ	1:C:388:ASN:HD21	2.09	0.51
1:F:316:GLU:O	1:F:340:LYS:HD3	2.10	0.51
5:F:552:B1T:OAA	5:F:552:B1T:OAB	2.28	0.51
1:B:99:VAL:HA	1:B:103:GLU:OE1	2.10	0.51
1:B:37:THR:HA	1:B:41:LYS:CD	2.41	0.51
1:D:79:ARG:HH11	1:D:127:ALA:HB2	1.75	0.51
1:F:99:VAL:HA	1:F:103:GLU:OE1	2.11	0.51
1:F:236:LEU:O	1:F:342:LYS:HE2	2.11	0.51
1:F:414:GLN:HG3	1:F:428:ILE:O	2.10	0.51
1:B:219:VAL:HG22	1:B:373:LEU:HD13	1.93	0.51
1:C:79:ARG:HH11	1:C:127:ALA:HB2	1.76	0.51
1:D:37:THR:HA	1:D:41:LYS:CD	2.41	0.51
1:E:89:CYS:HB3	1:E:125:ALA:HB2	1.93	0.51
1:F:7:PRO:HD2	1:F:329:LYS:CD	2.41	0.51
1:F:89:CYS:HB3	1:F:125:ALA:HB2	1.93	0.51
1:A:450:HIS:CE1	4:A:553:GTP:O3G	2.64	0.50
1:B:114:LYS:HD2	1:B:378:VAL:HG21	1.92	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:236:LEU:O	1:A:342:LYS:HE2	2.11	0.50
1:D:414:GLN:HG3	1:D:428:ILE:O	2.10	0.50
1:C:495:GLU:HG3	1:D:204:SER:OG	2.10	0.50
1:D:236:LEU:O	1:D:342:LYS:HE2	2.10	0.50
1:A:61:LEU:HD12	1:A:61:LEU:N	2.26	0.50
1:C:37:THR:HA	1:C:41:LYS:CD	2.41	0.50
1:D:61:LEU:HD12	1:D:61:LEU:N	2.26	0.50
1:C:174:ARG:HG3	1:E:497:GLY:N	2.27	0.50
1:C:37:THR:HA	1:C:41:LYS:HD2	1.94	0.50
1:B:236:LEU:O	1:B:342:LYS:HE2	2.11	0.50
1:B:126:LYS:NZ	2:B:550:GLU:N	2.57	0.50
1:C:236:LEU:O	1:C:342:LYS:HE2	2.12	0.50
1:E:37:THR:HA	1:E:41:LYS:CD	2.42	0.50
1:F:219:VAL:HG22	1:F:373:LEU:HD13	1.93	0.50
1:A:99:VAL:HA	1:A:103:GLU:OE1	2.12	0.49
1:A:316:GLU:O	1:A:340:LYS:HD3	2.12	0.49
1:A:37:THR:HA	1:A:41:LYS:CD	2.42	0.49
1:C:146:ARG:HG2	1:C:182:THR:OG1	2.12	0.49
1:A:367:VAL:HG23	6:A:555:HOH:O	2.12	0.49
1:E:236:LEU:O	1:E:342:LYS:HE2	2.12	0.49
1:D:169:MET:HA	3:D:551:NDP:O1N	2.12	0.49
1:D:32:LEU:CD2	1:D:494:ASN:HD21	2.18	0.49
1:A:498:VAL:HB	1:D:72:TRP:HH2	1.78	0.49
1:E:459:ARG:NH1	1:E:463:GLN:HE22	2.10	0.49
1:A:37:THR:HA	1:A:41:LYS:HD2	1.94	0.49
3:B:551:NDP:H2N	3:B:551:NDP:H52N	1.94	0.49
1:B:79:ARG:HH11	1:B:127:ALA:HB2	1.78	0.49
1:F:169:MET:HA	3:F:551:NDP:O1N	2.13	0.49
1:B:24:VAL:HG22	1:B:483:VAL:HG22	1.94	0.49
1:F:33:LYS:HG3	1:F:494:ASN:OD1	2.13	0.49
1:B:255:VAL:HG11	3:B:551:NDP:O4D	2.13	0.49
1:F:459:ARG:NH1	1:F:463:GLN:HE22	2.11	0.49
1:A:166:ALA:HB3	2:A:550:GLU:HG2	1.95	0.49
1:B:341:ALA:O	1:B:365:ILE:HD12	2.12	0.49
1:C:255:VAL:HG23	1:C:256:GLY:H	1.78	0.49
1:D:341:ALA:O	1:D:365:ILE:HD12	2.13	0.49
1:B:146:ARG:HG2	1:B:182:THR:OG1	2.13	0.49
1:F:255:VAL:HG23	1:F:256:GLY:H	1.78	0.49
1:E:341:ALA:O	1:E:365:ILE:HD12	2.13	0.48
1:D:61:LEU:HD23	1:D:151:GLU:HB3	1.95	0.48
1:D:24:VAL:HG22	1:D:483:VAL:HG22	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:103:GLU:O	1:A:107:LEU:HD22	2.13	0.48
1:D:99:VAL:HA	1:D:103:GLU:OE1	2.13	0.48
1:F:24:VAL:HG22	1:F:483:VAL:HG13	1.96	0.48
1:C:150:MET:CG	5:C:552:B1T:CLAE	2.89	0.48
1:F:5:ASP:O	1:F:353:THR:HG21	2.14	0.48
1:C:44:ARG:HH22	1:F:66:ARG:HH22	1.60	0.48
1:A:459:ARG:NH1	1:A:463:GLN:HE22	2.11	0.48
1:B:61:LEU:N	1:B:61:LEU:HD12	2.28	0.48
1:C:341:ALA:O	1:C:365:ILE:HD12	2.14	0.48
1:D:316:GLU:O	1:D:340:LYS:HD3	2.12	0.48
1:E:255:VAL:HG23	1:E:256:GLY:H	1.78	0.48
1:E:349:ASN:ND2	3:E:551:NDP:O2D	2.46	0.48
1:B:37:THR:HA	1:B:41:LYS:HD2	1.96	0.48
1:B:423:LYS:HE2	1:B:423:LYS:HA	1.95	0.48
1:E:401:TYR:O	1:E:405:SER:HB2	2.13	0.48
1:E:499:THR:HG22	1:E:499:THR:O	2.14	0.48
1:A:255:VAL:HG23	1:A:256:GLY:H	1.78	0.48
1:C:219:VAL:HG22	1:C:373:LEU:HD13	1.95	0.48
1:D:423:LYS:HA	1:D:423:LYS:HE2	1.96	0.48
1:D:67:ARG:HD2	1:D:140:GLU:OE2	2.14	0.48
1:B:103:GLU:O	1:B:107:LEU:HD22	2.14	0.48
1:C:459:ARG:NH1	1:C:463:GLN:HE22	2.11	0.48
2:D:550:GLU:HA	3:D:551:NDP:H41N	1.95	0.48
1:E:114:LYS:HD2	1:E:378:VAL:HG21	1.94	0.48
1:F:341:ALA:O	1:F:365:ILE:HD12	2.14	0.48
1:D:369:PRO:HD3	1:D:477:LEU:HB2	1.96	0.48
1:E:252:PHE:CZ	1:E:291:LEU:HD13	2.49	0.48
1:A:366:MET:HB2	1:A:475:LEU:HD22	1.95	0.47
1:B:89:CYS:HB3	1:B:125:ALA:HB2	1.95	0.47
1:F:348:ALA:HA	3:F:551:NDP:H1D	1.96	0.47
1:D:255:VAL:HG23	1:D:256:GLY:H	1.77	0.47
1:E:99:VAL:HA	1:E:103:GLU:OE1	2.14	0.47
1:E:146:ARG:HG2	1:E:182:THR:OG1	2.14	0.47
1:C:118:VAL:O	1:C:118:VAL:HG13	2.14	0.47
1:A:212:ILE:HB	4:A:553:GTP:O2'	2.14	0.47
1:B:255:VAL:HG23	1:B:256:GLY:H	1.79	0.47
1:B:252:PHE:CZ	1:B:291:LEU:HD13	2.49	0.47
1:C:252:PHE:CZ	1:C:291:LEU:HD13	2.49	0.47
1:D:436:PHE:HB2	1:E:408:HIS:HB3	1.96	0.47
1:D:497:GLY:O	1:D:498:VAL:C	2.52	0.47
1:A:444:SER:H	1:A:447:ASP:HB2	1.78	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:275:GLU:HG2	3:A:551:NDP:O3B	2.14	0.47
1:B:111:MET:SD	1:B:114:LYS:HE3	2.55	0.47
1:C:89:CYS:HB3	1:C:125:ALA:HB2	1.96	0.47
1:D:118:VAL:HG13	1:D:118:VAL:O	2.14	0.47
1:D:219:VAL:HG22	1:D:373:LEU:HD13	1.96	0.47
1:E:201:LYS:NZ	1:E:388:ASN:HD21	2.12	0.47
1:A:401:TYR:O	1:A:405:SER:HB2	2.14	0.47
1:A:423:LYS:HA	1:A:423:LYS:HE2	1.97	0.47
1:A:349:ASN:HB2	3:A:551:NDP:O2D	2.15	0.47
1:F:369:PRO:HB2	1:F:371:LEU:HD23	1.97	0.47
1:F:201:LYS:NZ	1:F:388:ASN:HD21	2.13	0.47
1:A:24:VAL:CG2	1:A:483:VAL:HG13	2.45	0.47
1:C:423:LYS:HE2	1:C:423:LYS:HA	1.96	0.47
1:E:219:VAL:HG22	1:E:373:LEU:HD13	1.97	0.47
1:A:114:LYS:HD2	1:A:378:VAL:HG21	1.95	0.47
1:D:37:THR:HA	1:D:41:LYS:HD2	1.95	0.47
1:E:118:VAL:HG13	1:E:118:VAL:O	2.15	0.47
1:B:316:GLU:O	1:B:340:LYS:HD3	2.15	0.47
1:E:37:THR:HA	1:E:41:LYS:HD2	1.96	0.47
1:E:423:LYS:HE2	1:E:423:LYS:HA	1.96	0.47
1:F:335:ASN:HD22	1:F:336:ALA:N	2.13	0.47
1:A:93:ILE:HG12	1:A:127:ALA:HB3	1.97	0.47
1:A:341:ALA:O	1:A:365:ILE:HD12	2.14	0.47
1:B:201:LYS:HZ1	1:B:388:ASN:HD21	1.62	0.47
1:C:316:GLU:O	1:C:340:LYS:HD3	2.14	0.47
1:D:265:ARG:NH1	4:D:553:GTP:O2G	2.45	0.47
1:F:275:GLU:HG2	3:F:551:NDP:O3B	2.15	0.47
1:F:67:ARG:HD2	1:F:140:GLU:OE2	2.15	0.47
1:A:89:CYS:HB3	1:A:125:ALA:HB2	1.96	0.46
1:B:229:GLU:C	1:B:231:SER:H	2.18	0.46
1:C:61:LEU:HD23	1:C:151:GLU:HB3	1.98	0.46
1:C:24:VAL:CG2	1:C:483:VAL:HG13	2.46	0.46
1:F:494:ASN:O	1:F:499:THR:HG22	2.15	0.46
1:F:126:LYS:HZ3	2:F:550:GLU:N	2.12	0.46
1:A:219:VAL:HG22	1:A:373:LEU:HD13	1.97	0.46
1:C:103:GLU:O	1:C:107:LEU:HD22	2.16	0.46
1:F:37:THR:HA	1:F:41:LYS:HD2	1.96	0.46
1:A:118:VAL:HG13	1:A:118:VAL:O	2.14	0.46
1:B:4:GLU:OE1	1:B:333:LYS:HB3	2.16	0.46
1:B:401:TYR:O	1:B:405:SER:HB2	2.15	0.46
1:D:229:GLU:C	1:D:231:SER:H	2.18	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:501:THR:O	1:C:501:THR:HG22	2.15	0.46
1:E:335:ASN:N	1:E:335:ASN:HD22	2.13	0.46
1:E:369:PRO:HB2	1:E:371:LEU:HD23	1.96	0.46
1:E:369:PRO:HD3	1:E:477:LEU:HB2	1.98	0.46
1:A:369:PRO:HD3	1:A:477:LEU:HB2	1.97	0.46
1:B:496:ALA:C	1:B:498:VAL:H	2.19	0.46
1:D:252:PHE:CZ	1:D:291:LEU:HD13	2.51	0.46
1:F:103:GLU:O	1:F:107:LEU:HD22	2.15	0.46
1:C:401:TYR:O	1:C:405:SER:HB2	2.15	0.46
1:C:369:PRO:HD3	1:C:477:LEU:HB2	1.97	0.46
1:D:93:ILE:HG12	1:D:127:ALA:HB3	1.97	0.46
1:F:24:VAL:HG22	1:F:483:VAL:HG22	1.96	0.46
1:B:335:ASN:HD22	1:B:335:ASN:N	2.14	0.46
1:E:316:GLU:O	1:E:340:LYS:HD3	2.16	0.46
1:F:252:PHE:CZ	1:F:291:LEU:HD13	2.51	0.46
1:A:335:ASN:HD22	1:A:335:ASN:N	2.14	0.46
1:A:65:ILE:O	1:A:65:ILE:HG13	2.16	0.46
1:E:118:VAL:HG22	1:E:456:THR:HG22	1.97	0.46
1:F:339:VAL:O	1:F:340:LYS:HB2	2.16	0.46
1:A:90:LYS:HD2	1:A:164:VAL:HB	1.98	0.46
1:D:401:TYR:O	1:D:405:SER:HB2	2.15	0.46
2:D:550:GLU:HA	3:D:551:NDP:C5N	2.46	0.46
1:E:67:ARG:HD2	1:E:140:GLU:OE2	2.16	0.46
1:F:118:VAL:HG22	1:F:456:THR:HG22	1.97	0.46
1:F:495:GLU:O	1:F:498:VAL:HB	2.16	0.46
1:A:146:ARG:HG2	1:A:182:THR:OG1	2.15	0.45
1:D:201:LYS:NZ	1:D:388:ASN:HD21	2.14	0.45
1:E:103:GLU:O	1:E:107:LEU:HD22	2.17	0.45
1:B:5:ASP:OD2	1:B:332:THR:HB	2.17	0.45
1:A:412:SER:HA	1:B:433:THR:HG23	1.97	0.45
1:E:374:ASN:HB2	3:E:551:NDP:H6N	1.98	0.45
1:F:423:LYS:HA	1:F:423:LYS:HE2	1.98	0.45
1:D:335:ASN:HD22	1:D:336:ALA:N	2.15	0.45
1:C:66:ARG:HH22	1:F:44:ARG:HH22	1.65	0.45
1:A:369:PRO:HB2	1:A:371:LEU:HD23	1.99	0.45
1:C:118:VAL:HG22	1:C:456:THR:HG22	1.97	0.45
1:E:331:LEU:HB2	1:E:352:THR:HG22	1.98	0.45
1:A:252:PHE:CZ	1:A:291:LEU:HD13	2.52	0.45
1:A:4:GLU:OE1	1:A:4:GLU:HA	2.16	0.45
1:B:65:ILE:O	1:B:65:ILE:HG13	2.16	0.45
1:C:5:ASP:OD1	1:C:7:PRO:HD3	2.17	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:118:VAL:HG22	1:E:456:THR:CG2	2.46	0.45
1:F:61:LEU:HD23	1:F:151:GLU:HB3	1.98	0.45
1:F:492:VAL:O	1:F:498:VAL:HG11	2.17	0.45
1:A:67:ARG:HD2	1:A:140:GLU:OE2	2.17	0.45
1:A:2:ASP:O	1:A:6:ASP:HB2	2.16	0.45
2:D:550:GLU:HA	3:D:551:NDP:C4N	2.47	0.45
1:E:32:LEU:HD22	1:E:34:THR:OG1	2.17	0.45
1:F:287:ASP:HB3	1:F:290:GLU:HG3	1.99	0.45
1:F:401:TYR:O	1:F:405:SER:HB2	2.17	0.45
1:C:67:ARG:HD2	1:C:140:GLU:OE2	2.17	0.45
1:D:85:HIS:HD2	1:D:492:VAL:HG21	1.82	0.45
1:F:118:VAL:O	1:F:118:VAL:HG13	2.16	0.45
1:F:32:LEU:HD22	1:F:34:THR:OG1	2.16	0.45
1:B:93:ILE:HG12	1:B:127:ALA:HB3	1.99	0.45
1:C:229:GLU:C	1:C:231:SER:H	2.20	0.45
1:C:433:THR:HG23	1:D:412:SER:HA	1.98	0.45
1:C:93:ILE:HG12	1:C:127:ALA:HB3	1.98	0.45
1:D:32:LEU:HD22	1:D:34:THR:OG1	2.17	0.45
1:D:433:THR:HG23	1:E:412:SER:HA	1.99	0.45
1:A:229:GLU:O	1:A:231:SER:N	2.44	0.45
1:C:331:LEU:HD23	1:C:352:THR:HG22	1.99	0.45
1:A:331:LEU:HD23	1:A:352:THR:HG22	1.99	0.44
1:D:118:VAL:HG22	1:D:456:THR:HG22	1.98	0.44
1:D:146:ARG:HD3	5:D:552:B1T:HAI	1.99	0.44
1:E:331:LEU:HD23	1:E:352:THR:HG22	1.98	0.44
1:E:366:MET:HB2	1:E:475:LEU:HD22	1.99	0.44
1:F:4:GLU:OE2	1:F:5:ASP:N	2.50	0.44
1:A:24:VAL:HG22	1:A:483:VAL:HG13	1.98	0.44
1:A:496:ALA:HA	1:A:500:PHE:CG	2.52	0.44
1:C:118:VAL:HG22	1:C:456:THR:CG2	2.47	0.44
1:C:169:MET:HA	3:C:551:NDP:O1N	2.17	0.44
1:F:24:VAL:CG2	1:F:483:VAL:HG13	2.47	0.44
1:A:75:ILE:CD1	1:A:144:ILE:HG23	2.48	0.44
1:B:118:VAL:O	1:B:118:VAL:HG13	2.16	0.44
1:B:369:PRO:HB2	1:B:371:LEU:HD23	1.99	0.44
1:E:24:VAL:HG22	1:E:483:VAL:HG22	2.00	0.44
1:F:331:LEU:HB2	1:F:352:THR:HG22	2.00	0.44
1:B:32:LEU:HD22	1:B:34:THR:OG1	2.17	0.44
1:B:496:ALA:C	1:B:498:VAL:N	2.70	0.44
1:D:89:CYS:HB3	1:D:125:ALA:HB2	1.98	0.44
1:F:335:ASN:N	1:F:335:ASN:HD22	2.15	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:24:VAL:HG22	1:A:483:VAL:HG22	1.98	0.44
1:C:335:ASN:HD22	1:C:335:ASN:N	2.14	0.44
1:D:270:CYS:O	1:D:285:GLY:HA2	2.17	0.44
1:D:65:ILE:O	1:D:65:ILE:HG13	2.17	0.44
1:E:92:GLY:H	2:E:550:GLU:N	2.15	0.44
1:C:32:LEU:HD22	1:C:34:THR:OG1	2.18	0.44
1:C:369:PRO:HB2	1:C:371:LEU:HD23	1.99	0.44
1:C:24:VAL:HG22	1:C:483:VAL:HG13	1.99	0.44
1:D:103:GLU:O	1:D:107:LEU:HD22	2.17	0.44
1:D:369:PRO:HB2	1:D:371:LEU:HD23	2.00	0.44
1:F:65:ILE:HG13	1:F:65:ILE:O	2.17	0.44
1:B:335:ASN:HD22	1:B:336:ALA:N	2.15	0.44
1:C:111:MET:SD	1:C:114:LYS:HE3	2.58	0.44
1:E:186:THR:OG1	1:E:187:ILE:N	2.50	0.44
1:E:229:GLU:C	1:E:231:SER:H	2.21	0.44
1:F:111:MET:SD	1:F:114:LYS:HE3	2.58	0.44
1:B:287:ASP:HB3	1:B:290:GLU:HG3	2.00	0.44
1:C:211:ARG:HH22	3:C:551:NDP:H71N	1.65	0.44
1:C:270:CYS:O	1:C:285:GLY:HA2	2.18	0.44
1:C:335:ASN:HD22	1:C:336:ALA:N	2.16	0.44
1:D:5:ASP:OD2	1:D:332:THR:HB	2.18	0.44
1:D:335:ASN:N	1:D:335:ASN:HD22	2.15	0.44
1:D:496:ALA:HB2	1:E:202:PRO:CB	2.48	0.44
1:B:331:LEU:HB2	1:B:352:THR:HG22	2.00	0.43
1:B:487:GLU:OE2	1:B:491:ARG:NH2	2.51	0.43
1:D:339:VAL:O	1:D:340:LYS:HB2	2.18	0.43
1:B:67:ARG:HD2	1:B:140:GLU:OE2	2.17	0.43
1:B:414:GLN:O	1:B:418:GLU:HG3	2.19	0.43
1:B:493:TYR:C	1:B:495:GLU:H	2.20	0.43
1:C:12:MET:HG3	1:C:354:PRO:HD3	1.99	0.43
1:E:339:VAL:O	1:E:340:LYS:HB2	2.19	0.43
1:E:93:ILE:HG12	1:E:127:ALA:HB3	1.99	0.43
1:B:28:LEU:HD22	1:B:490:PHE:CD2	2.53	0.43
1:C:65:ILE:O	1:C:65:ILE:HG13	2.18	0.43
1:D:349:ASN:ND2	3:D:551:NDP:O2D	2.52	0.43
1:D:90:LYS:HG3	2:D:550:GLU:OE1	2.18	0.43
1:E:270:CYS:O	1:E:285:GLY:HA2	2.18	0.43
1:E:116:ALA:O	1:E:488:LYS:HD2	2.18	0.43
1:F:25:GLU:O	1:F:29:VAL:HG23	2.19	0.43
1:A:349:ASN:CB	3:A:551:NDP:O2D	2.66	0.43
1:B:118:VAL:HG22	1:B:456:THR:CG2	2.48	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:496:ALA:HB1	1:E:205:GLN:CG	2.48	0.43
1:D:90:LYS:HD2	1:D:164:VAL:HB	1.99	0.43
1:E:287:ASP:HB3	1:E:290:GLU:HG3	2.01	0.43
1:C:408:HIS:HB3	1:E:436:PHE:HB2	1.99	0.43
1:F:287:ASP:HA	1:F:288:PRO:HD3	1.92	0.43
1:B:491:ARG:HH11	1:B:491:ARG:HG3	1.84	0.43
1:D:146:ARG:HG2	1:D:182:THR:OG1	2.18	0.43
1:E:335:ASN:HD22	1:E:336:ALA:N	2.16	0.43
1:A:32:LEU:HD22	1:A:34:THR:OG1	2.18	0.43
1:E:65:ILE:O	1:E:65:ILE:HG13	2.18	0.43
1:F:9:PHE:O	1:F:12:MET:HB3	2.18	0.43
1:A:335:ASN:HD22	1:A:336:ALA:N	2.16	0.43
1:B:90:LYS:HD2	1:B:164:VAL:HB	2.01	0.43
1:E:287:ASP:HA	1:E:288:PRO:HD3	1.91	0.43
1:E:85:HIS:HD2	1:E:492:VAL:HG21	1.83	0.43
1:C:44:ARG:NH2	1:F:66:ARG:HH22	2.17	0.43
1:A:501:THR:C	1:F:138:ASP:OD2	2.57	0.43
1:D:111:MET:SD	1:D:114:LYS:HE3	2.59	0.43
1:D:201:LYS:HZ1	1:D:388:ASN:HD21	1.67	0.43
1:D:287:ASP:HB3	1:D:290:GLU:HG3	2.00	0.43
1:F:96:SER:O	1:F:130:LYS:HA	2.18	0.43
1:F:186:THR:OG1	1:F:187:ILE:N	2.52	0.43
1:A:25:GLU:O	1:A:29:VAL:HG23	2.19	0.43
1:B:369:PRO:HD3	1:B:477:LEU:HB2	1.99	0.43
1:B:61:LEU:HD23	1:B:151:GLU:HB3	2.00	0.43
1:C:287:ASP:HA	1:C:288:PRO:HD3	1.91	0.43
1:D:24:VAL:CG2	1:D:483:VAL:HG13	2.49	0.43
1:E:90:LYS:HD2	1:E:164:VAL:HB	2.00	0.43
1:F:331:LEU:HD23	1:F:352:THR:HG22	2.00	0.43
1:B:172:GLY:O	1:B:176:MET:HG2	2.19	0.43
1:B:118:VAL:HG22	1:B:456:THR:HG22	2.01	0.43
1:C:229:GLU:O	1:C:231:SER:N	2.45	0.43
1:C:178:TRP:NE1	1:E:497:GLY:O	2.51	0.43
1:C:339:VAL:O	1:C:340:LYS:HB2	2.19	0.42
1:C:496:ALA:C	1:C:498:VAL:H	2.21	0.42
1:C:496:ALA:H	1:C:500:PHE:HE1	1.66	0.42
2:E:550:GLU:HB3	3:E:551:NDP:H41N	2.00	0.42
1:A:229:GLU:C	1:A:231:SER:H	2.19	0.42
1:A:162:VAL:HG23	1:A:163:ASP:N	2.34	0.42
1:B:408:HIS:HB3	1:F:436:PHE:HB2	2.01	0.42
1:C:287:ASP:HB3	1:C:290:GLU:HG3	2.00	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:169:MET:HG2	3:E:551:NDP:O1N	2.20	0.42
1:C:386:LEU:HD21	1:D:392:VAL:HG13	2.00	0.42
1:D:118:VAL:HG22	1:D:456:THR:CG2	2.49	0.42
1:E:61:LEU:HD23	1:E:151:GLU:HB3	2.02	0.42
1:E:172:GLY:O	1:E:176:MET:HG2	2.19	0.42
1:F:229:GLU:C	1:F:231:SER:H	2.21	0.42
1:F:498:VAL:C	1:F:500:PHE:H	2.23	0.42
1:B:339:VAL:O	1:B:340:LYS:HB2	2.19	0.42
1:B:32:LEU:HD23	1:B:494:ASN:OD1	2.19	0.42
1:C:174:ARG:HG3	1:E:497:GLY:HA2	2.00	0.42
1:C:364:ASN:HA	1:C:364:ASN:HD22	1.62	0.42
1:C:78:TYR:O	1:C:127:ALA:HA	2.18	0.42
1:E:201:LYS:HZ1	1:E:388:ASN:HD21	1.66	0.42
1:F:369:PRO:HD3	1:F:477:LEU:HB2	2.01	0.42
1:A:61:LEU:HD23	1:A:151:GLU:HB3	2.01	0.42
1:A:408:HIS:HB3	1:B:436:PHE:HB2	2.01	0.42
1:C:137:THR:OG1	1:C:140:GLU:HG3	2.19	0.42
1:D:33:LYS:HD2	1:D:495:GLU:CB	2.48	0.42
1:D:498:VAL:HA	1:D:500:PHE:CE1	2.54	0.42
1:A:172:GLY:O	1:A:176:MET:HG2	2.19	0.42
1:A:186:THR:OG1	1:A:187:ILE:N	2.49	0.42
1:A:490:PHE:O	1:A:493:TYR:N	2.48	0.42
1:D:309:ILE:HD12	1:D:309:ILE:N	2.35	0.42
1:D:335:ASN:ND2	1:D:335:ASN:H	2.18	0.42
1:F:118:VAL:HG22	1:F:456:THR:CG2	2.49	0.42
1:F:172:GLY:O	1:F:176:MET:HG2	2.20	0.42
1:A:331:LEU:HB2	1:A:352:THR:HG22	2.01	0.42
1:B:444:SER:H	1:B:447:ASP:HB2	1.84	0.42
1:C:331:LEU:HB2	1:C:352:THR:HG22	2.01	0.42
1:C:28:LEU:HD22	1:C:490:PHE:CD2	2.54	0.42
1:E:75:ILE:CD1	1:E:144:ILE:HG23	2.50	0.42
1:A:335:ASN:H	1:A:335:ASN:ND2	2.17	0.42
1:B:229:GLU:O	1:B:231:SER:N	2.44	0.42
1:D:386:LEU:HD21	1:E:392:VAL:CG1	2.46	0.42
1:F:146:ARG:HG2	1:F:182:THR:OG1	2.19	0.42
1:F:90:LYS:HD2	1:F:164:VAL:HB	2.02	0.42
1:A:244:ASP:OD2	1:A:244:ASP:N	2.51	0.42
1:B:79:ARG:HA	1:B:126:LYS:O	2.20	0.42
1:D:378:VAL:HG22	2:D:550:GLU:HB2	2.02	0.42
1:A:287:ASP:HB3	1:A:290:GLU:HG3	2.01	0.41
1:D:331:LEU:HD23	1:D:352:THR:HG22	2.01	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:93:ILE:HG12	1:F:127:ALA:HB3	2.02	0.41
1:F:366:MET:HB2	1:F:475:LEU:HD22	2.01	0.41
1:A:79:ARG:HA	1:A:126:LYS:O	2.20	0.41
1:A:292:GLU:O	1:A:296:LEU:HB2	2.21	0.41
1:B:309:ILE:N	1:B:309:ILE:HD12	2.35	0.41
1:C:333:LYS:HD2	1:C:355:GLU:HG2	2.02	0.41
1:D:75:ILE:CD1	1:D:144:ILE:HG23	2.50	0.41
1:E:281:TRP:CZ2	1:E:283:PRO:HD3	2.54	0.41
1:C:174:ARG:HG3	1:E:497:GLY:CA	2.50	0.41
1:F:39:GLU:O	1:F:43:ASN:HB2	2.20	0.41
1:B:413:VAL:CG1	1:B:430:ILE:HG21	2.51	0.41
1:C:90:LYS:HD2	1:C:164:VAL:HB	2.02	0.41
1:D:24:VAL:HG22	1:D:483:VAL:HG13	2.01	0.41
1:E:111:MET:SD	1:E:114:LYS:HE3	2.60	0.41
1:E:133:PRO:HG2	1:E:170:SER:HB3	2.02	0.41
1:E:47:GLY:O	1:E:51:ILE:HG12	2.20	0.41
1:F:114:LYS:HD2	1:F:378:VAL:CG2	2.50	0.41
1:B:133:PRO:HG2	1:B:170:SER:HB3	2.03	0.41
1:C:44:ARG:HE	1:C:499:THR:HG22	1.85	0.41
1:D:79:ARG:HA	1:D:126:LYS:O	2.21	0.41
1:D:146:ARG:HD3	5:D:552:B1T:CAI	2.49	0.41
1:F:414:GLN:O	1:F:418:GLU:HG3	2.20	0.41
1:A:1:ALA:N	1:A:6:ASP:OD1	2.50	0.41
1:A:75:ILE:HD11	1:A:144:ILE:HG23	2.02	0.41
1:B:169:MET:HG2	3:B:551:NDP:O1N	2.21	0.41
1:C:201:LYS:HZ1	1:C:388:ASN:HD21	1.68	0.41
1:D:172:GLY:O	1:D:176:MET:HG2	2.20	0.41
1:E:335:ASN:ND2	1:E:335:ASN:H	2.18	0.41
1:F:137:THR:OG1	1:F:140:GLU:HG3	2.21	0.41
1:F:371:LEU:H	1:F:371:LEU:HD23	1.86	0.41
1:F:4:GLU:CD	1:F:5:ASP:N	2.74	0.41
1:A:317:VAL:HG22	1:A:318:ASP:N	2.36	0.41
1:B:317:VAL:HG22	1:B:318:ASP:N	2.36	0.41
1:C:4:GLU:O	1:C:5:ASP:HB3	2.19	0.41
1:E:79:ARG:HA	1:E:126:LYS:O	2.20	0.41
1:E:25:GLU:O	1:E:29:VAL:HG23	2.20	0.41
1:E:413:VAL:CG1	1:E:430:ILE:HG21	2.51	0.41
1:E:496:ALA:O	1:E:500:PHE:HB2	2.21	0.41
1:A:339:VAL:O	1:A:340:LYS:HB2	2.19	0.41
1:B:39:GLU:O	1:B:43:ASN:HB2	2.21	0.41
1:C:492:VAL:O	1:C:496:ALA:HB2	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:335:ASN:ND2	1:C:335:ASN:H	2.19	0.41
1:E:414:GLN:O	1:E:418:GLU:HG3	2.21	0.41
1:F:211:ARG:HB3	6:F:557:HOH:O	2.21	0.41
1:A:414:GLN:O	1:A:418:GLU:HG3	2.21	0.41
1:B:335:ASN:ND2	1:B:335:ASN:H	2.18	0.41
1:B:66:ARG:HH22	1:E:44:ARG:NH2	2.19	0.41
1:C:114:LYS:HD2	1:C:378:VAL:CG2	2.51	0.41
1:E:162:VAL:HG23	1:E:163:ASP:N	2.36	0.41
1:E:24:VAL:CG2	1:E:483:VAL:HG13	2.51	0.41
2:F:550:GLU:HB2	3:F:551:NDP:H41N	2.02	0.41
1:F:349:ASN:N	3:F:551:NDP:O2D	2.54	0.41
1:A:118:VAL:HG22	1:A:456:THR:HG22	2.02	0.41
1:A:169:MET:HA	3:A:551:NDP:O1N	2.21	0.41
1:C:133:PRO:HG2	1:C:170:SER:HB3	2.03	0.41
1:D:317:VAL:HG22	1:D:318:ASP:N	2.36	0.41
1:A:333:LYS:HD2	1:A:355:GLU:HG2	2.02	0.41
1:B:25:GLU:O	1:B:29:VAL:HG23	2.21	0.41
1:E:39:GLU:O	1:E:43:ASN:HB2	2.20	0.41
1:A:139:ASN:HD22	1:B:501:THR:CG2	2.34	0.40
1:A:401:TYR:CD2	1:B:443:ALA:HB2	2.55	0.40
1:C:162:VAL:HG23	1:C:163:ASP:N	2.36	0.40
1:C:25:GLU:O	1:C:29:VAL:HG23	2.21	0.40
1:C:309:ILE:N	1:C:309:ILE:HD12	2.36	0.40
1:C:59:LEU:HG	1:C:61:LEU:HD11	2.03	0.40
1:D:2:ASP:CG	1:D:3:ARG:H	2.25	0.40
1:E:107:LEU:CB	1:E:126:LYS:HG2	2.52	0.40
1:E:137:THR:OG1	1:E:140:GLU:HG3	2.21	0.40
1:F:79:ARG:HA	1:F:126:LYS:O	2.21	0.40
1:F:133:PRO:HG2	1:F:170:SER:HB3	2.02	0.40
1:F:47:GLY:O	1:F:51:ILE:HG12	2.22	0.40
1:A:401:TYR:CE2	1:B:443:ALA:HB2	2.57	0.40
1:B:96:SER:O	1:B:130:LYS:HA	2.21	0.40
1:C:75:ILE:CD1	1:C:144:ILE:HG23	2.51	0.40
1:D:39:GLU:O	1:D:43:ASN:HB2	2.21	0.40
1:D:47:GLY:O	1:D:51:ILE:HG12	2.21	0.40
1:A:96:SER:O	1:A:130:LYS:HA	2.20	0.40
1:B:75:ILE:CD1	1:B:144:ILE:HG23	2.51	0.40
1:B:162:VAL:HG23	1:B:163:ASP:N	2.36	0.40
1:B:264:HIS:HA	1:B:268:ALA:O	2.22	0.40
1:C:107:LEU:HB3	1:C:126:LYS:HG2	2.03	0.40
1:D:33:LYS:HD2	1:D:495:GLU:HG3	2.03	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:491:ARG:HG3	1:D:491:ARG:HH11	1.86	0.40
1:E:107:LEU:HB3	1:E:126:LYS:HG2	2.02	0.40
1:E:264:HIS:HA	1:E:268:ALA:O	2.21	0.40
1:A:133:PRO:HG2	1:A:170:SER:HB3	2.02	0.40
1:A:413:VAL:CG1	1:A:430:ILE:HG21	2.52	0.40
1:B:287:ASP:HA	1:B:288:PRO:HD3	1.90	0.40
1:B:371:LEU:H	1:B:371:LEU:HD23	1.86	0.40
1:C:498:VAL:O	1:C:499:THR:CB	2.69	0.40
1:E:59:LEU:HG	1:E:61:LEU:HD11	2.02	0.40
1:A:39:GLU:O	1:A:43:ASN:HB2	2.22	0.40
1:B:331:LEU:HD23	1:B:352:THR:HG22	2.02	0.40
1:C:244:ASP:OD2	1:C:244:ASP:N	2.51	0.40
1:D:133:PRO:HG2	1:D:170:SER:HB3	2.04	0.40
1:D:264:HIS:HA	1:D:268:ALA:O	2.22	0.40
1:D:25:GLU:O	1:D:29:VAL:HG23	2.21	0.40
1:E:96:SER:O	1:E:130:LYS:HA	2.21	0.40
1:E:24:VAL:HG22	1:E:483:VAL:HG13	2.03	0.40
1:F:162:VAL:HG23	1:F:163:ASP:N	2.36	0.40
1:F:349:ASN:N	3:F:551:NDP:HO2N	2.19	0.40
1:F:349:ASN:HB2	3:F:551:NDP:O2D	2.21	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	499/501 (100%)	464 (93%)	28 (6%)	7 (1%)	11	20
1	B	499/501 (100%)	463 (93%)	30 (6%)	6 (1%)	13	24
1	C	499/501 (100%)	459 (92%)	33 (7%)	7 (1%)	11	20
1	D	499/501 (100%)	462 (93%)	32 (6%)	5 (1%)	15	28

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	E	499/501 (100%)	462 (93%)	33 (7%)	4 (1%)	19 35
1	F	499/501 (100%)	462 (93%)	30 (6%)	7 (1%)	11 20
All	All	2994/3006 (100%)	2772 (93%)	186 (6%)	36 (1%)	13 24

All (36) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	313	SER
1	A	496	ALA
1	B	3	ARG
1	B	313	SER
1	C	2	ASP
1	C	5	ASP
1	C	313	SER
1	C	494	ASN
1	C	495	GLU
1	D	313	SER
1	D	498	VAL
1	E	313	SER
1	F	313	SER
1	F	495	GLU
1	A	312	GLY
1	A	422	GLY
1	A	497	GLY
1	B	312	GLY
1	B	422	GLY
1	B	495	GLU
1	C	312	GLY
1	C	422	GLY
1	D	312	GLY
1	D	422	GLY
1	D	499	THR
1	E	312	GLY
1	E	422	GLY
1	E	494	ASN
1	F	312	GLY
1	F	422	GLY
1	F	494	ASN
1	A	500	PHE
1	B	2	ASP
1	F	2	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	F	498	VAL
1	A	498	VAL

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	417/417 (100%)	394 (94%)	23 (6%)	21	41
1	B	417/417 (100%)	393 (94%)	24 (6%)	20	38
1	C	417/417 (100%)	392 (94%)	25 (6%)	19	37
1	D	417/417 (100%)	393 (94%)	24 (6%)	20	38
1	E	417/417 (100%)	393 (94%)	24 (6%)	20	38
1	F	417/417 (100%)	395 (95%)	22 (5%)	22	43
All	All	2502/2502 (100%)	2360 (94%)	142 (6%)	20	39

All (142) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	9	PHE
1	A	24	VAL
1	A	32	LEU
1	A	37	THR
1	A	43	ASN
1	A	107	LEU
1	A	112	THR
1	A	118	VAL
1	A	132	ASN
1	A	145	THR
1	A	255	VAL
1	A	279	SER
1	A	291	LEU
1	A	296	LEU
1	A	331	LEU
1	A	335	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	363	ARG
1	A	364	ASN
1	A	373	LEU
1	A	386	LEU
1	A	392	VAL
1	A	410	LEU
1	A	500	PHE
1	B	3	ARG
1	B	9	PHE
1	B	24	VAL
1	B	32	LEU
1	B	37	THR
1	B	43	ASN
1	B	64	PRO
1	B	107	LEU
1	B	112	THR
1	B	118	VAL
1	B	132	ASN
1	B	145	THR
1	B	255	VAL
1	B	279	SER
1	B	291	LEU
1	B	296	LEU
1	B	331	LEU
1	B	335	ASN
1	B	363	ARG
1	B	373	LEU
1	B	378	VAL
1	B	386	LEU
1	B	392	VAL
1	B	410	LEU
1	C	2	ASP
1	C	4	GLU
1	C	9	PHE
1	C	24	VAL
1	C	32	LEU
1	C	37	THR
1	C	43	ASN
1	C	107	LEU
1	C	112	THR
1	C	118	VAL
1	C	132	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	145	THR
1	C	255	VAL
1	C	271	VAL
1	C	279	SER
1	C	291	LEU
1	C	296	LEU
1	C	331	LEU
1	C	335	ASN
1	C	363	ARG
1	C	373	LEU
1	C	386	LEU
1	C	392	VAL
1	C	410	LEU
1	C	499	THR
1	D	4	GLU
1	D	9	PHE
1	D	24	VAL
1	D	32	LEU
1	D	37	THR
1	D	43	ASN
1	D	107	LEU
1	D	112	THR
1	D	118	VAL
1	D	132	ASN
1	D	145	THR
1	D	255	VAL
1	D	279	SER
1	D	291	LEU
1	D	296	LEU
1	D	331	LEU
1	D	335	ASN
1	D	363	ARG
1	D	373	LEU
1	D	386	LEU
1	D	392	VAL
1	D	410	LEU
1	D	499	THR
1	D	500	PHE
1	E	3	ARG
1	E	9	PHE
1	E	24	VAL
1	E	32	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	E	37	THR
1	E	43	ASN
1	E	64	PRO
1	E	107	LEU
1	E	112	THR
1	E	118	VAL
1	E	132	ASN
1	E	145	THR
1	E	255	VAL
1	E	279	SER
1	E	291	LEU
1	E	296	LEU
1	E	331	LEU
1	E	335	ASN
1	E	363	ARG
1	E	373	LEU
1	E	386	LEU
1	E	392	VAL
1	E	410	LEU
1	E	494	ASN
1	F	24	VAL
1	F	32	LEU
1	F	37	THR
1	F	43	ASN
1	F	107	LEU
1	F	112	THR
1	F	118	VAL
1	F	132	ASN
1	F	145	THR
1	F	255	VAL
1	F	279	SER
1	F	291	LEU
1	F	296	LEU
1	F	331	LEU
1	F	335	ASN
1	F	363	ARG
1	F	373	LEU
1	F	386	LEU
1	F	392	VAL
1	F	410	LEU
1	F	491	ARG
1	F	495	GLU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (76) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	56	ASN
1	A	82	HIS
1	A	132	ASN
1	A	195	HIS
1	A	205	GLN
1	A	254	ASN
1	A	258	HIS
1	A	330	GLN
1	A	335	ASN
1	A	364	ASN
1	A	388	ASN
1	A	406	ASN
1	A	450	HIS
1	B	56	ASN
1	B	82	HIS
1	B	132	ASN
1	B	195	HIS
1	B	205	GLN
1	B	209	HIS
1	B	254	ASN
1	B	258	HIS
1	B	330	GLN
1	B	335	ASN
1	B	364	ASN
1	B	388	ASN
1	B	406	ASN
1	C	56	ASN
1	C	82	HIS
1	C	132	ASN
1	C	195	HIS
1	C	254	ASN
1	C	258	HIS
1	C	330	GLN
1	C	335	ASN
1	C	364	ASN
1	C	388	ASN
1	C	406	ASN
1	C	494	ASN
1	D	56	ASN
1	D	82	HIS
1	D	132	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	195	HIS
1	D	254	ASN
1	D	258	HIS
1	D	330	GLN
1	D	335	ASN
1	D	364	ASN
1	D	388	ASN
1	D	406	ASN
1	D	494	ASN
1	E	56	ASN
1	E	82	HIS
1	E	132	ASN
1	E	195	HIS
1	E	254	ASN
1	E	258	HIS
1	E	330	GLN
1	E	335	ASN
1	E	364	ASN
1	E	388	ASN
1	E	390	ASN
1	E	406	ASN
1	E	494	ASN
1	F	56	ASN
1	F	82	HIS
1	F	132	ASN
1	F	195	HIS
1	F	254	ASN
1	F	258	HIS
1	F	330	GLN
1	F	335	ASN
1	F	364	ASN
1	F	388	ASN
1	F	406	ASN
1	F	450	HIS
1	F	494	ASN

5.3.3 RNA

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 carbohydrates in this entry.

5.6 Ligand geometry (i)

24 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	GTP	A	553	-	26,34,34	1.60	3 (11%)	33,54,54	3.31	16 (48%)
5	B1T	E	552	-	20,20,20	0.79	0	29,29,29	0.95	0
5	B1T	A	552	-	20,20,20	0.78	0	29,29,29	1.00	0
5	B1T	C	552	-	20,20,20	0.76	0	29,29,29	0.86	0
3	NDP	D	551	-	45,52,52	1.52	7 (15%)	53,80,80	2.50	17 (32%)
4	GTP	F	553	-	26,34,34	3.16	5 (19%)	33,54,54	4.19	16 (48%)
3	NDP	F	551	-	45,52,52	1.54	6 (13%)	53,80,80	2.42	16 (30%)
3	NDP	E	551	-	45,52,52	1.45	6 (13%)	53,80,80	2.41	12 (22%)
4	GTP	E	553	-	26,34,34	1.72	7 (26%)	33,54,54	3.76	12 (36%)
4	GTP	B	553	-	26,34,34	1.50	4 (15%)	33,54,54	2.48	13 (39%)
4	GTP	C	553	-	26,34,34	1.79	4 (15%)	33,54,54	2.15	10 (30%)
3	NDP	A	551	-	45,52,52	1.54	8 (17%)	53,80,80	2.53	21 (39%)
5	B1T	F	552	-	20,20,20	0.82	1 (5%)	29,29,29	0.97	0
3	NDP	B	551	-	45,52,52	1.53	6 (13%)	53,80,80	2.49	16 (30%)
5	B1T	B	552	-	20,20,20	0.75	0	29,29,29	0.86	0
3	NDP	C	551	-	45,52,52	1.45	6 (13%)	53,80,80	2.50	16 (30%)
5	B1T	D	552	-	20,20,20	0.82	0	29,29,29	0.86	0
4	GTP	D	553	-	26,34,34	1.83	2 (7%)	33,54,54	3.45	16 (48%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GTP	A	553	-	-	3/18/38/38	0/3/3/3
5	B1T	E	552	-	-	0/4/4/4	0/2/2/2
5	B1T	A	552	-	-	0/4/4/4	0/2/2/2
5	B1T	C	552	-	-	0/4/4/4	0/2/2/2
3	NDP	D	551	-	-	3/30/77/77	0/5/5/5
4	GTP	F	553	-	-	1/18/38/38	0/3/3/3
3	NDP	F	551	-	-	3/30/77/77	0/5/5/5
3	NDP	E	551	-	-	3/30/77/77	0/5/5/5
4	GTP	E	553	-	1/1/7/7	2/18/38/38	0/3/3/3
4	GTP	B	553	-	-	2/18/38/38	0/3/3/3
4	GTP	C	553	-	-	1/18/38/38	0/3/3/3
3	NDP	A	551	-	-	5/30/77/77	0/5/5/5
5	B1T	F	552	-	-	0/4/4/4	0/2/2/2
3	NDP	B	551	-	-	3/30/77/77	0/5/5/5
5	B1T	B	552	-	-	0/4/4/4	0/2/2/2
3	NDP	C	551	-	-	4/30/77/77	0/5/5/5
5	B1T	D	552	-	-	0/4/4/4	0/2/2/2
4	GTP	D	553	-	-	4/18/38/38	0/3/3/3

All (65) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	F	553	GTP	O4'-C1'	11.21	1.56	1.41
4	F	553	GTP	C2'-C1'	-7.13	1.42	1.53
4	D	553	GTP	O4'-C1'	6.61	1.50	1.41
4	C	553	GTP	O4'-C1'	6.46	1.50	1.41
3	D	551	NDP	O4B-C1B	5.49	1.48	1.41
3	F	551	NDP	O4B-C1B	5.44	1.48	1.41
3	B	551	NDP	O4B-C1B	5.29	1.48	1.41
4	A	553	GTP	O4'-C1'	5.09	1.48	1.41
4	F	553	GTP	C3'-C4'	4.99	1.65	1.53
3	A	551	NDP	O4B-C1B	4.90	1.47	1.41
3	C	551	NDP	O4B-C1B	4.70	1.47	1.41
4	E	553	GTP	C2'-C1'	-4.07	1.47	1.53
3	E	551	NDP	O4B-C1B	3.85	1.46	1.41
3	E	551	NDP	O4D-C1D	3.60	1.50	1.42

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	551	NDP	O4D-C1D	3.47	1.50	1.42
3	A	551	NDP	O4D-C1D	3.41	1.50	1.42
4	F	553	GTP	C6-N1	3.26	1.38	1.33
3	D	551	NDP	O4D-C1D	3.25	1.49	1.42
3	F	551	NDP	O4D-C1D	3.22	1.49	1.42
3	B	551	NDP	O4D-C1D	3.12	1.49	1.42
3	A	551	NDP	P2B-O2B	3.01	1.65	1.59
4	D	553	GTP	C6-N1	2.99	1.38	1.33
4	B	553	GTP	C2'-C3'	2.92	1.61	1.53
4	A	553	GTP	C6-N1	2.81	1.37	1.33
4	E	553	GTP	O4'-C1'	2.81	1.45	1.41
4	F	553	GTP	C6-C5	2.81	1.46	1.41
4	B	553	GTP	C6-N1	2.68	1.37	1.33
4	E	553	GTP	O4'-C4'	2.66	1.51	1.45
4	E	553	GTP	C6-N1	2.60	1.37	1.33
4	B	553	GTP	C8-N7	-2.54	1.30	1.34
3	B	551	NDP	C7N-C3N	-2.54	1.43	1.48
3	C	551	NDP	C2N-C3N	2.43	1.41	1.34
3	D	551	NDP	P2B-O2B	2.42	1.63	1.59
4	E	553	GTP	C3'-C4'	2.39	1.59	1.53
3	D	551	NDP	C7N-C3N	-2.38	1.43	1.48
3	F	551	NDP	P2B-O2B	2.38	1.63	1.59
3	E	551	NDP	C7N-C3N	-2.36	1.43	1.48
3	D	551	NDP	C1D-N1N	2.34	1.53	1.46
4	C	553	GTP	C6-N1	2.31	1.37	1.33
3	B	551	NDP	P2B-O2B	2.30	1.63	1.59
3	A	551	NDP	PA-O5B	2.28	1.68	1.59
4	A	553	GTP	C8-N7	-2.27	1.30	1.34
3	E	551	NDP	P2B-O3X	2.27	1.63	1.54
4	C	553	GTP	C8-N7	-2.26	1.30	1.34
3	C	551	NDP	C8A-N7A	-2.22	1.30	1.34
3	C	551	NDP	C7N-C3N	-2.21	1.44	1.48
5	F	552	B1T	CAR-SAK	-2.20	1.75	1.78
3	B	551	NDP	C8A-N7A	-2.19	1.30	1.34
3	A	551	NDP	C8A-N7A	-2.17	1.30	1.34
3	B	551	NDP	O4D-C4D	2.12	1.49	1.45
3	F	551	NDP	P2B-O2X	2.11	1.63	1.54
3	A	551	NDP	C2N-C3N	2.11	1.40	1.34
3	F	551	NDP	C2N-C3N	2.09	1.40	1.34
3	E	551	NDP	PA-O5B	2.07	1.67	1.59
3	F	551	NDP	P2B-O3X	2.06	1.62	1.54
4	E	553	GTP	C2-N2	2.06	1.38	1.33

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	553	GTP	PG-O2G	2.06	1.62	1.54
3	D	551	NDP	C8A-N7A	-2.05	1.31	1.34
4	B	553	GTP	O4'-C1'	2.05	1.43	1.41
3	E	551	NDP	P2B-O2X	2.04	1.62	1.54
4	E	553	GTP	PG-O2G	2.03	1.62	1.54
3	D	551	NDP	PA-O5B	2.02	1.67	1.59
3	A	551	NDP	P2B-O2X	2.02	1.62	1.54
3	C	551	NDP	P2B-O2X	2.02	1.62	1.54
3	A	551	NDP	P2B-O3X	2.01	1.62	1.54

All (181) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	E	553	GTP	C5'-C4'-C3'	14.03	167.75	115.18
4	F	553	GTP	O4'-C4'-C3'	-12.06	81.25	105.11
4	F	553	GTP	O4'-C4'-C5'	-10.64	74.38	109.37
4	D	553	GTP	PA-O3A-PB	-10.40	97.15	132.83
4	A	553	GTP	PA-O3A-PB	-9.35	100.75	132.83
4	E	553	GTP	O4'-C4'-C5'	-9.07	79.52	109.37
3	C	551	NDP	PN-O3-PA	-8.79	102.67	132.83
4	F	553	GTP	C5'-C4'-C3'	8.28	146.23	115.18
3	A	551	NDP	PN-O3-PA	-8.28	104.40	132.83
3	D	551	NDP	PN-O3-PA	-8.11	105.01	132.83
3	B	551	NDP	PN-O3-PA	-8.08	105.11	132.83
3	E	551	NDP	PN-O3-PA	-8.02	105.30	132.83
3	F	551	NDP	PN-O3-PA	-7.79	106.09	132.83
4	A	553	GTP	O5'-PA-O1A	-7.79	78.63	109.07
4	A	553	GTP	PB-O3B-PG	-7.32	107.71	132.83
4	D	553	GTP	PB-O3B-PG	-7.18	108.17	132.83
4	F	553	GTP	C2'-C3'-C4'	7.14	116.52	102.64
4	E	553	GTP	O4'-C4'-C3'	-6.90	91.46	105.11
3	D	551	NDP	O4B-C1B-C2B	-6.20	95.83	106.59
3	E	551	NDP	O5D-PN-O1N	-5.92	85.95	109.07
4	F	553	GTP	O4'-C1'-C2'	-5.74	98.54	106.93
4	D	553	GTP	O2A-PA-O5'	-5.67	81.43	107.75
3	D	551	NDP	O4D-C1D-N1N	5.66	119.11	108.06
3	D	551	NDP	O2N-PN-O5D	-5.65	81.49	107.75
3	A	551	NDP	O4B-C1B-C2B	-5.57	96.92	106.59
4	D	553	GTP	PA-O5'-C5'	-5.53	89.26	121.68
3	B	551	NDP	O2N-PN-O5D	-5.48	82.28	107.75
4	D	553	GTP	O5'-PA-O1A	-5.41	87.91	109.07
3	B	551	NDP	O5B-PA-O1A	-5.38	88.04	109.07

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	551	NDP	O5B-PA-O1A	-5.31	88.30	109.07
3	F	551	NDP	O4B-C1B-C2B	-5.31	97.38	106.59
3	C	551	NDP	O2N-PN-O5D	-5.28	83.22	107.75
3	A	551	NDP	O2N-PN-O5D	-5.28	83.22	107.75
3	F	551	NDP	O2N-PN-O5D	-5.25	83.35	107.75
3	B	551	NDP	O4D-C1D-N1N	5.20	118.23	108.06
3	B	551	NDP	O4B-C1B-C2B	-5.19	97.58	106.59
3	C	551	NDP	O5B-PA-O1A	-5.18	88.81	109.07
4	F	553	GTP	PB-O3B-PG	-5.18	115.05	132.83
4	C	553	GTP	PB-O3B-PG	-5.18	115.06	132.83
4	F	553	GTP	C2-N3-C4	5.16	121.25	115.36
4	D	553	GTP	C2-N3-C4	5.14	121.23	115.36
3	A	551	NDP	O4D-C1D-N1N	5.13	118.09	108.06
4	B	553	GTP	O5'-C5'-C4'	-5.13	91.34	108.99
3	E	551	NDP	O2N-PN-O5D	-5.11	84.03	107.75
3	F	551	NDP	O5B-PA-O1A	-5.08	89.21	109.07
4	C	553	GTP	PA-O3A-PB	-5.06	115.45	132.83
3	F	551	NDP	O5D-PN-O1N	-5.03	89.40	109.07
3	B	551	NDP	O5D-PN-O1N	-4.99	89.59	109.07
4	F	553	GTP	O5'-PA-O1A	-4.97	89.63	109.07
4	B	553	GTP	C2-N3-C4	4.97	121.04	115.36
4	C	553	GTP	C2-N3-C4	4.97	121.04	115.36
4	D	553	GTP	O5'-C5'-C4'	4.91	125.90	108.99
3	C	551	NDP	O4B-C1B-C2B	-4.86	98.16	106.59
3	A	551	NDP	O5B-PA-O1A	-4.81	90.26	109.07
3	C	551	NDP	O5D-PN-O1N	-4.81	90.26	109.07
3	C	551	NDP	O4D-C1D-N1N	4.81	117.46	108.06
3	A	551	NDP	O5D-PN-O1N	-4.73	90.59	109.07
4	E	553	GTP	C2-N3-C4	4.72	120.75	115.36
3	D	551	NDP	O5D-PN-O1N	-4.67	90.81	109.07
3	F	551	NDP	O4D-C1D-N1N	4.61	117.06	108.06
4	A	553	GTP	C2-N3-C4	4.56	120.56	115.36
3	E	551	NDP	O4B-C1B-C2B	-4.49	98.80	106.59
3	D	551	NDP	O5B-PA-O1A	-4.49	91.54	109.07
4	E	553	GTP	PB-O3B-PG	-4.45	117.57	132.83
3	C	551	NDP	C2D-C3D-C4D	4.41	111.21	102.64
4	E	553	GTP	C2'-C3'-C4'	4.39	111.17	102.64
4	A	553	GTP	O2A-PA-O5'	-4.39	87.38	107.75
3	F	551	NDP	O2A-PA-O5B	-4.35	87.54	107.75
4	F	553	GTP	O5'-C5'-C4'	-4.33	94.08	108.99
3	E	551	NDP	N3A-C2A-N1A	-4.33	121.91	128.68
4	A	553	GTP	PA-O5'-C5'	-4.32	96.34	121.68

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	551	NDP	C2D-C3D-C4D	4.30	110.99	102.64
4	B	553	GTP	O4'-C4'-C5'	4.27	123.42	109.37
3	D	551	NDP	N3A-C2A-N1A	-4.25	122.04	128.68
3	A	551	NDP	N3A-C2A-N1A	-4.23	122.07	128.68
3	C	551	NDP	N3A-C2A-N1A	-4.22	122.08	128.68
3	A	551	NDP	C2D-C3D-C4D	4.20	110.80	102.64
4	A	553	GTP	N3-C2-N1	-4.19	121.63	127.22
3	B	551	NDP	N3A-C2A-N1A	-4.17	122.16	128.68
4	E	553	GTP	N3-C2-N1	-4.17	121.66	127.22
3	F	551	NDP	C2D-C3D-C4D	4.14	110.68	102.64
4	B	553	GTP	PB-O3B-PG	-4.12	118.69	132.83
4	B	553	GTP	N3-C2-N1	-4.11	121.74	127.22
3	E	551	NDP	O2A-PA-O5B	-4.09	88.75	107.75
4	B	553	GTP	O4'-C1'-C2'	-4.08	100.96	106.93
3	F	551	NDP	N3A-C2A-N1A	-4.04	122.36	128.68
3	D	551	NDP	C2D-C3D-C4D	4.01	110.43	102.64
4	D	553	GTP	N3-C2-N1	-3.99	121.90	127.22
3	D	551	NDP	O2A-PA-O5B	-3.99	89.21	107.75
3	B	551	NDP	C2D-C3D-C4D	3.92	110.27	102.64
3	E	551	NDP	O4D-C1D-N1N	3.86	115.61	108.06
4	C	553	GTP	N3-C2-N1	-3.72	122.26	127.22
4	B	553	GTP	C1'-N9-C4	3.70	133.14	126.64
4	F	553	GTP	O2A-PA-O5'	-3.69	90.60	107.75
3	B	551	NDP	C2D-C1D-N1N	-3.60	104.28	113.30
4	D	553	GTP	C5-C6-N1	-3.52	118.62	123.43
3	A	551	NDP	O2A-PA-O5B	-3.50	91.50	107.75
3	B	551	NDP	O2A-PA-O5B	-3.47	91.63	107.75
4	F	553	GTP	C5-C6-N1	-3.47	118.69	123.43
4	C	553	GTP	C5-C6-N1	-3.45	118.71	123.43
3	D	551	NDP	O4D-C4D-C5D	-3.41	98.16	109.37
3	C	551	NDP	O2A-PA-O5B	-3.40	91.95	107.75
4	B	553	GTP	C2'-C3'-C4'	-3.36	96.11	102.64
4	F	553	GTP	N3-C2-N1	-3.36	122.74	127.22
4	A	553	GTP	C5-C6-N1	-3.34	118.86	123.43
4	A	553	GTP	O5'-C5'-C4'	3.26	120.22	108.99
4	D	553	GTP	C6-C5-C4	-3.24	117.71	120.80
4	D	553	GTP	C3'-C2'-C1'	3.23	105.85	100.98
4	E	553	GTP	C5-C6-N1	-3.18	119.08	123.43
3	A	551	NDP	C2D-C1D-N1N	-3.11	105.52	113.30
4	A	553	GTP	C6-C5-C4	-3.06	117.87	120.80
4	E	553	GTP	C6-C5-C4	-2.98	117.96	120.80
4	B	553	GTP	C5-C6-N1	-2.94	119.41	123.43

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	553	GTP	C3'-C2'-C1'	2.93	105.39	100.98
4	A	553	GTP	C6-N1-C2	2.93	120.58	115.93
3	B	551	NDP	O4D-C4D-C5D	-2.88	99.89	109.37
4	D	553	GTP	C6-N1-C2	2.87	120.49	115.93
4	E	553	GTP	C6-N1-C2	2.87	120.49	115.93
4	B	553	GTP	C3'-C2'-C1'	-2.87	96.66	100.98
4	C	553	GTP	C3'-C2'-C1'	2.82	105.23	100.98
3	F	551	NDP	C4A-C5A-N7A	-2.76	106.52	109.40
4	C	553	GTP	C6-N1-C2	2.74	120.29	115.93
4	B	553	GTP	C5'-C4'-C3'	2.72	125.37	115.18
3	F	551	NDP	C2D-C1D-N1N	-2.71	106.52	113.30
3	C	551	NDP	C2D-C1D-N1N	-2.70	106.55	113.30
4	F	553	GTP	PA-O3A-PB	-2.67	123.68	132.83
4	F	553	GTP	C6-N1-C2	2.63	120.10	115.93
3	C	551	NDP	PN-O5D-C5D	-2.62	106.32	121.68
4	E	553	GTP	O4'-C1'-C2'	-2.61	103.11	106.93
4	B	553	GTP	C6-N1-C2	2.61	120.07	115.93
3	A	551	NDP	C1D-N1N-C6N	-2.53	115.39	120.83
3	C	551	NDP	C5D-C4D-C3D	-2.52	105.73	115.18
3	F	551	NDP	C1D-N1N-C6N	-2.47	115.51	120.83
4	D	553	GTP	C2'-C3'-C4'	2.42	107.33	102.64
4	F	553	GTP	C4-C5-N7	-2.41	106.89	109.40
3	A	551	NDP	PN-O5D-C5D	-2.40	107.62	121.68
4	C	553	GTP	C1'-N9-C4	2.39	130.84	126.64
3	D	551	NDP	C1D-N1N-C6N	-2.36	115.75	120.83
4	D	553	GTP	C5'-C4'-C3'	-2.36	106.35	115.18
4	D	553	GTP	C4-C5-N7	-2.35	106.95	109.40
3	E	551	NDP	C2D-C1D-N1N	-2.35	107.42	113.30
3	A	551	NDP	C4A-C5A-N7A	-2.31	106.99	109.40
3	D	551	NDP	C2D-C1D-N1N	-2.31	107.52	113.30
3	C	551	NDP	C1D-N1N-C6N	-2.30	115.88	120.83
4	A	553	GTP	C5'-C4'-C3'	-2.28	106.64	115.18
3	D	551	NDP	C1D-N1N-C2N	2.25	124.86	121.11
4	A	553	GTP	C2'-C3'-C4'	2.25	107.02	102.64
4	E	553	GTP	O5'-C5'-C4'	-2.25	101.25	108.99
4	F	553	GTP	C6-C5-C4	-2.25	118.65	120.80
3	B	551	NDP	PN-O5D-C5D	-2.24	108.52	121.68
3	F	551	NDP	O2B-C2B-C1B	2.23	118.14	110.10
3	B	551	NDP	C1D-N1N-C6N	-2.23	116.03	120.83
4	C	553	GTP	C2'-C3'-C4'	2.20	106.92	102.64
3	A	551	NDP	O5D-C5D-C4D	2.19	116.54	108.99
4	A	553	GTP	O3G-PG-O3B	2.19	111.97	104.64

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	551	NDP	C3D-C2D-C1D	2.18	105.56	101.43
3	F	551	NDP	C1D-N1N-C2N	2.16	124.71	121.11
3	A	551	NDP	C3N-C7N-N7N	2.16	121.50	117.67
3	D	551	NDP	PN-O5D-C5D	-2.15	109.05	121.68
4	D	553	GTP	O3G-PG-O3B	2.15	111.86	104.64
3	A	551	NDP	C3N-C2N-N1N	-2.15	120.03	123.10
3	A	551	NDP	C5B-C4B-C3B	-2.15	107.14	115.18
3	B	551	NDP	C4A-C5A-N7A	-2.15	107.16	109.40
3	A	551	NDP	O2B-C2B-C3B	2.14	119.45	111.68
3	A	551	NDP	C5D-C4D-C3D	-2.14	107.15	115.18
3	C	551	NDP	C5B-C4B-C3B	-2.14	107.16	115.18
3	D	551	NDP	C4A-C5A-N7A	-2.12	107.19	109.40
3	E	551	NDP	C4A-C5A-N7A	-2.11	107.20	109.40
3	B	551	NDP	C3N-C7N-N7N	2.09	121.38	117.67
3	F	551	NDP	PN-O5D-C5D	-2.08	109.50	121.68
4	B	553	GTP	C6-C5-C4	-2.07	118.82	120.80
3	F	551	NDP	C3N-C2N-N1N	-2.07	120.15	123.10
4	A	553	GTP	O2A-PA-O1A	2.06	122.44	112.24
3	D	551	NDP	C5B-C4B-C3B	-2.06	107.45	115.18
3	C	551	NDP	O5D-C5D-C4D	2.05	116.04	108.99
3	A	551	NDP	C1D-N1N-C2N	2.04	124.51	121.11
3	C	551	NDP	C3N-C2N-N1N	-2.04	120.19	123.10
3	D	551	NDP	O2B-C2B-C1B	2.03	117.40	110.10
3	A	551	NDP	O4D-C4D-C5D	-2.03	102.71	109.37
3	E	551	NDP	C5B-C4B-C3B	-2.01	107.64	115.18
4	C	553	GTP	O3G-PG-O3B	2.01	111.36	104.64

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
4	E	553	GTP	C4'

All (34) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	D	551	NDP	O4D-C1D-N1N-C6N
3	E	551	NDP	O4D-C1D-N1N-C6N
4	A	553	GTP	C5'-O5'-PA-O1A
4	A	553	GTP	C5'-O5'-PA-O2A
3	B	551	NDP	O4D-C1D-N1N-C6N
3	F	551	NDP	O4D-C1D-N1N-C6N
4	B	553	GTP	O4'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
4	F	553	GTP	O4'-C4'-C5'-O5'
4	E	553	GTP	O4'-C4'-C5'-O5'
3	A	551	NDP	O4D-C1D-N1N-C6N
3	C	551	NDP	O4D-C1D-N1N-C6N
4	A	553	GTP	PB-O3A-PA-O1A
3	A	551	NDP	C5D-O5D-PN-O3
4	D	553	GTP	C5'-O5'-PA-O1A
4	D	553	GTP	C5'-O5'-PA-O2A
3	A	551	NDP	PN-O3-PA-O1A
3	D	551	NDP	O4D-C4D-C5D-O5D
3	C	551	NDP	O4D-C4D-C5D-O5D
3	D	551	NDP	C5D-O5D-PN-O3
3	E	551	NDP	C5D-O5D-PN-O3
3	B	551	NDP	C5D-O5D-PN-O3
3	C	551	NDP	C5D-O5D-PN-O3
3	F	551	NDP	C5D-O5D-PN-O3
3	E	551	NDP	PN-O3-PA-O1A
4	B	553	GTP	PG-O3B-PB-O1B
4	D	553	GTP	PB-O3A-PA-O1A
4	D	553	GTP	PB-O3A-PA-O2A
3	B	551	NDP	PN-O3-PA-O1A
3	C	551	NDP	PA-O3-PN-O2N
3	F	551	NDP	PA-O3-PN-O2N
4	E	553	GTP	PG-O3B-PB-O1B
4	C	553	GTP	C5'-O5'-PA-O1A
3	A	551	NDP	C5D-O5D-PN-O2N
3	A	551	NDP	O4D-C4D-C5D-O5D

There are no ring outliers.

16 monomers are involved in 63 short contacts:

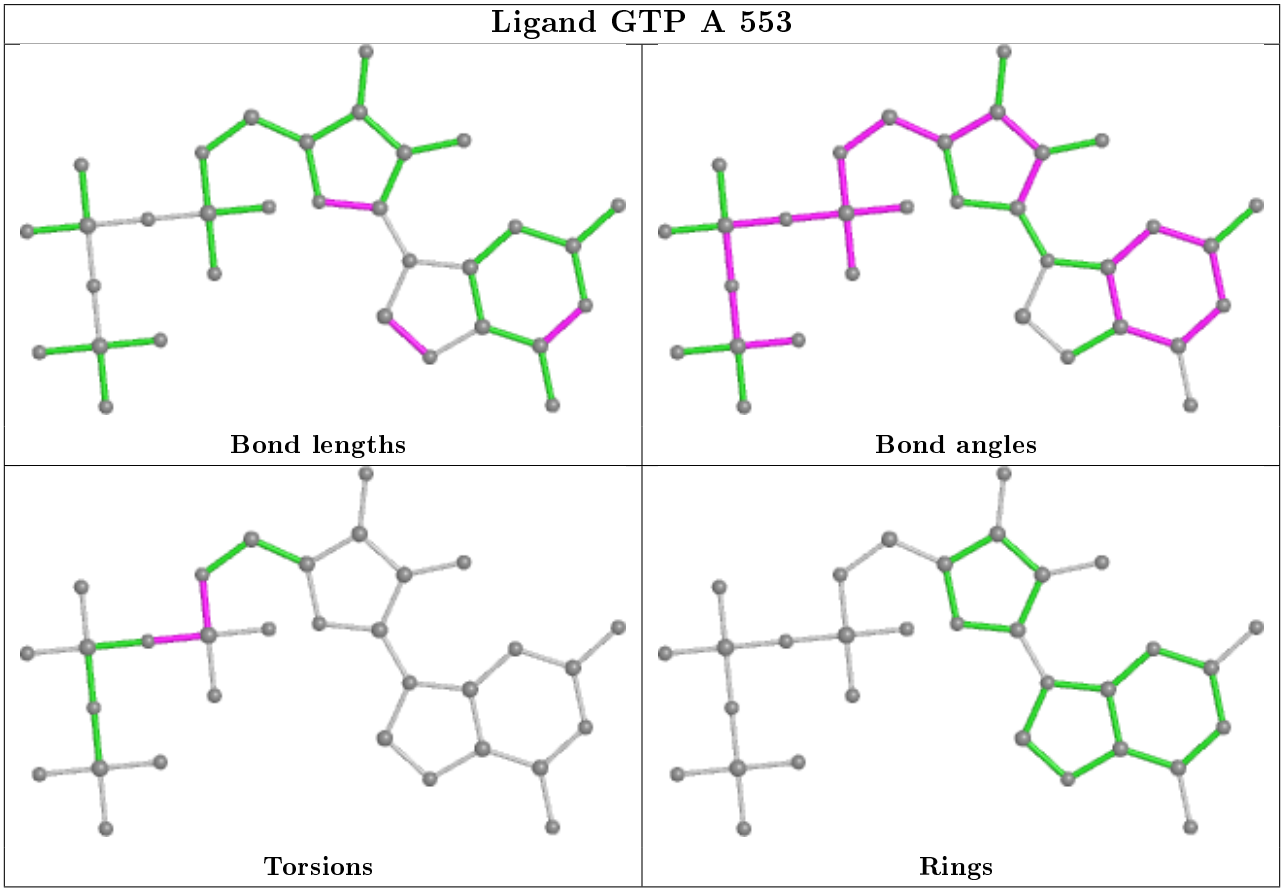
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	553	GTP	2	0
5	E	552	B1T	1	0
5	A	552	B1T	2	0
5	C	552	B1T	3	0
3	D	551	NDP	8	0
3	F	551	NDP	9	0
3	E	551	NDP	8	0
4	B	553	GTP	1	0
4	C	553	GTP	1	0
3	A	551	NDP	8	0

Continued on next page...

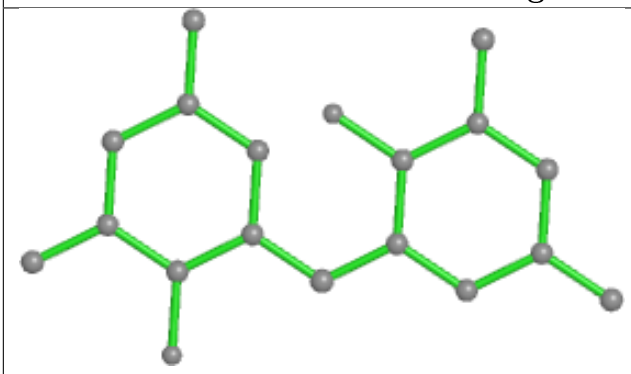
Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	F	552	B1T	2	0
3	B	551	NDP	5	0
5	B	552	B1T	2	0
3	C	551	NDP	6	0
5	D	552	B1T	4	0
4	D	553	GTP	1	0

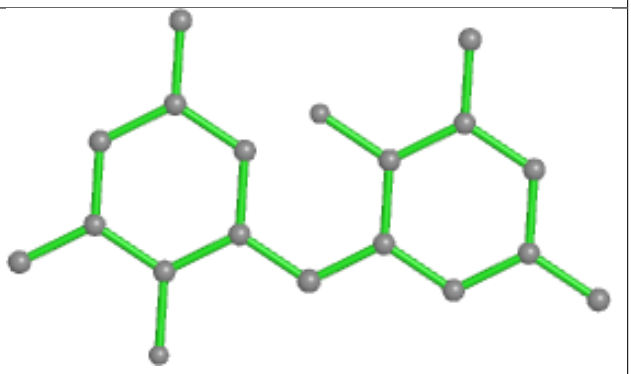
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



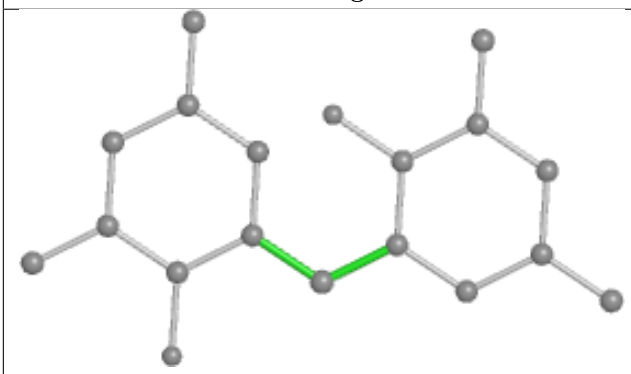
Ligand B1T A 552



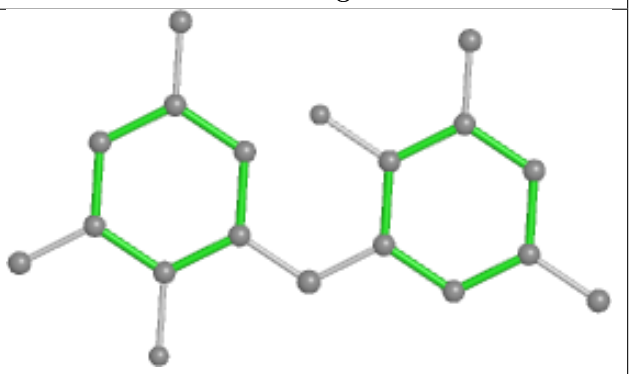
Bond lengths



Bond angles

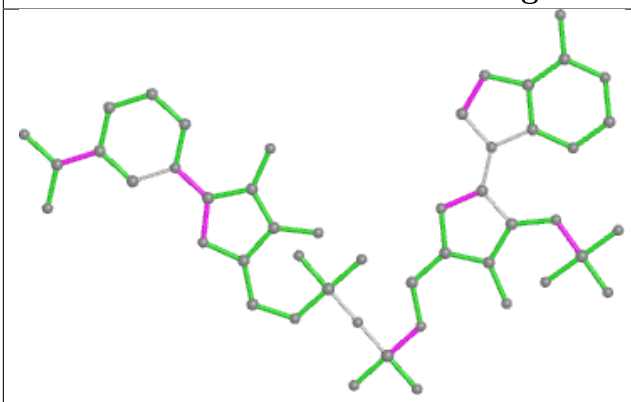


Torsions

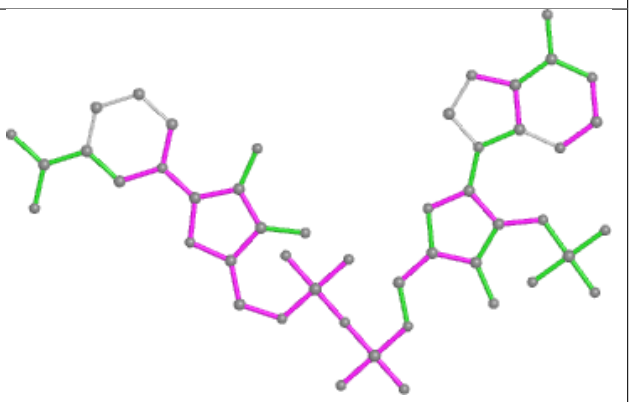


Rings

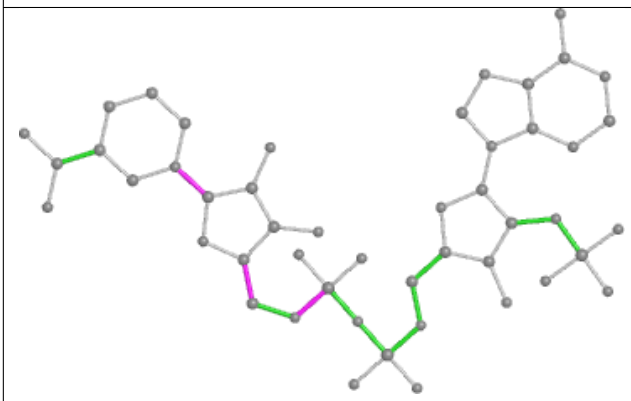
Ligand NDP D 551



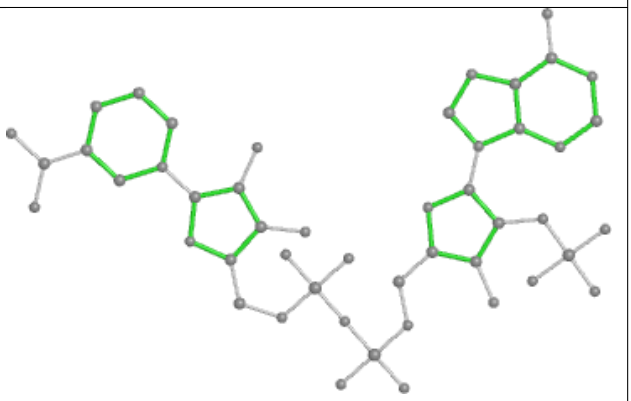
Bond lengths



Bond angles

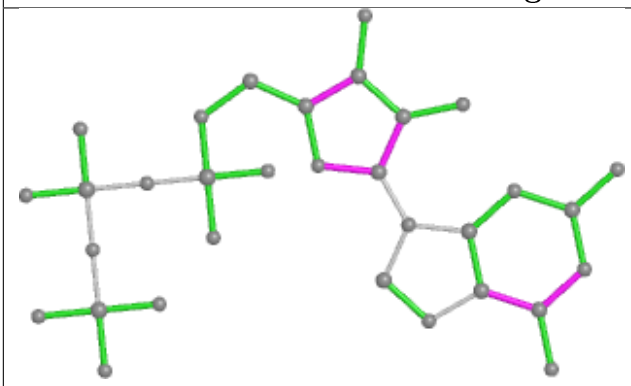


Torsions

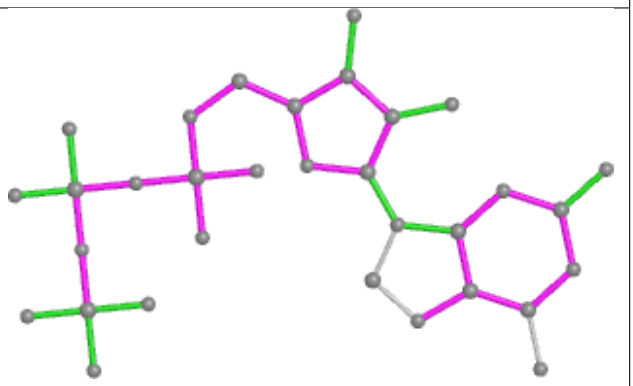


Rings

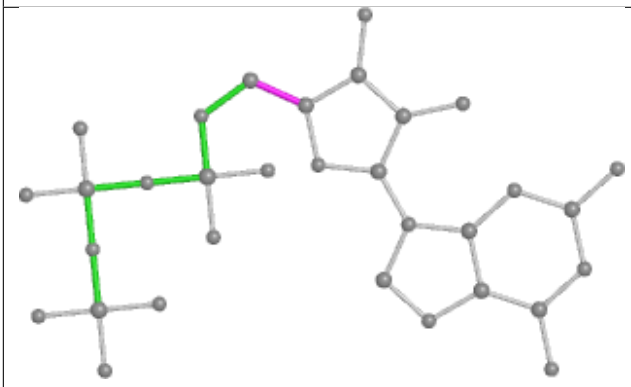
Ligand GTP F 553



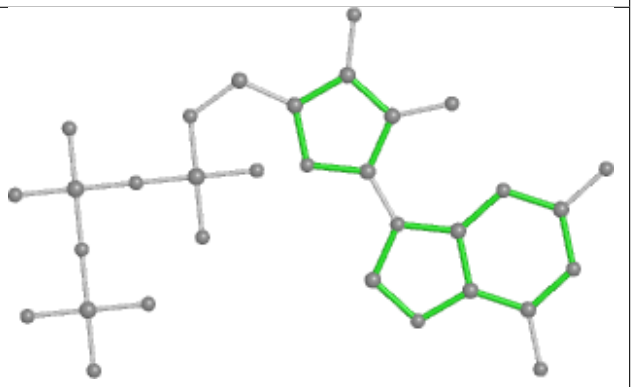
Bond lengths



Bond angles

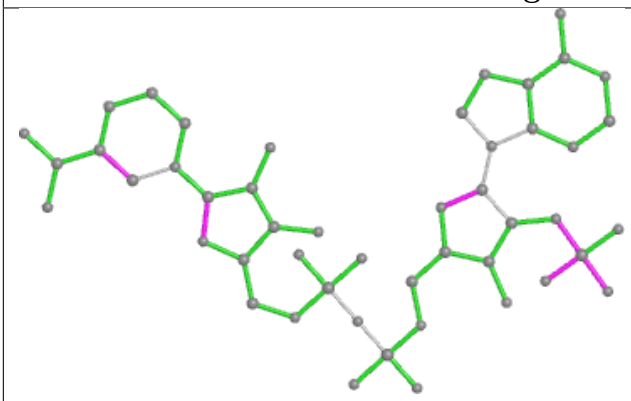


Torsions

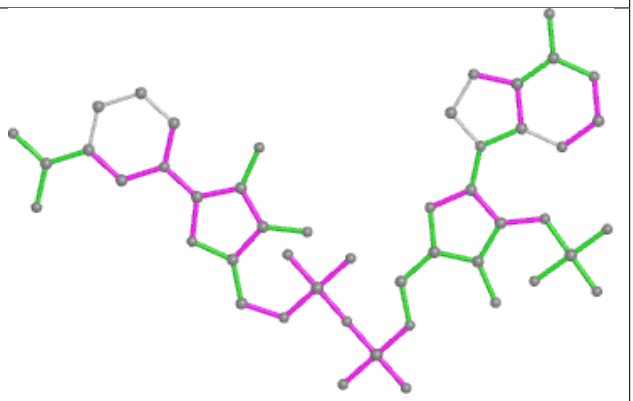


Rings

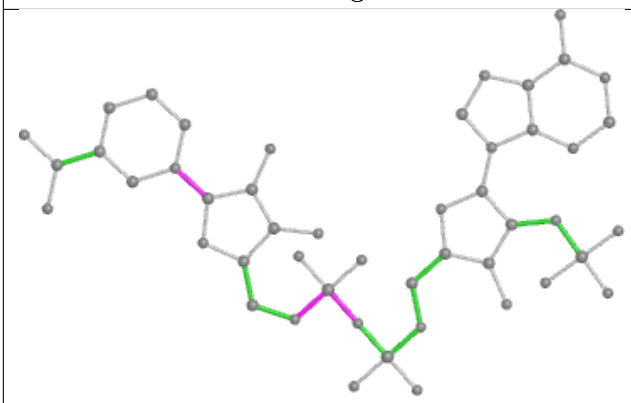
Ligand NDP F 551



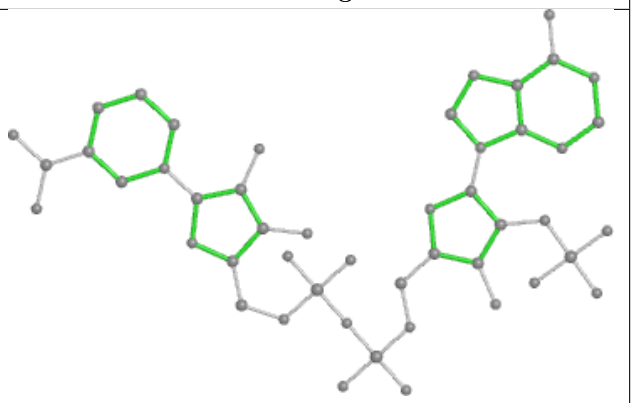
Bond lengths



Bond angles

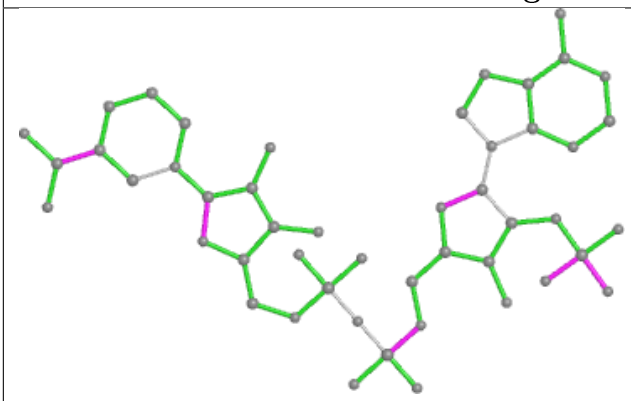


Torsions

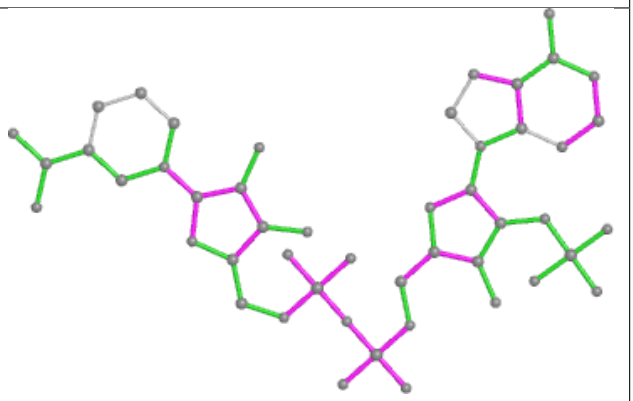


Rings

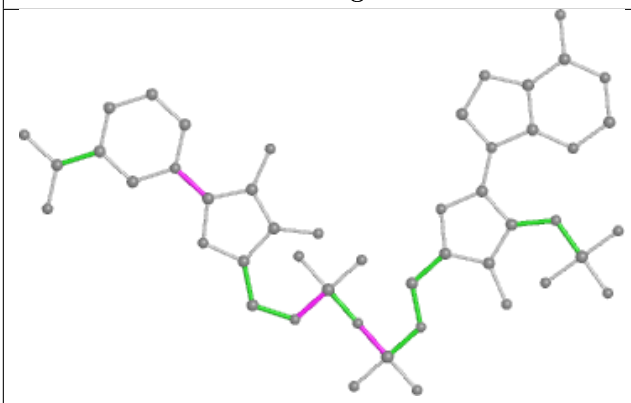
Ligand NDP E 551



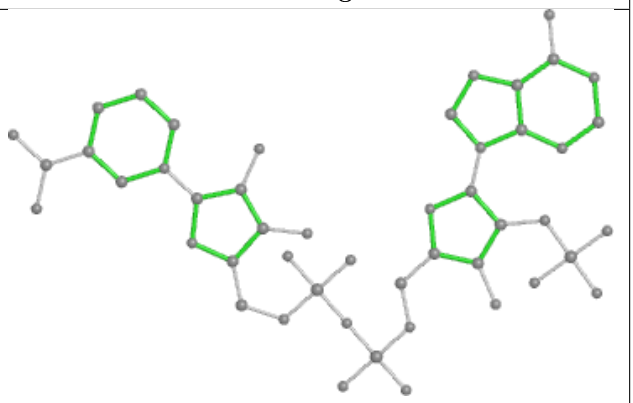
Bond lengths



Bond angles

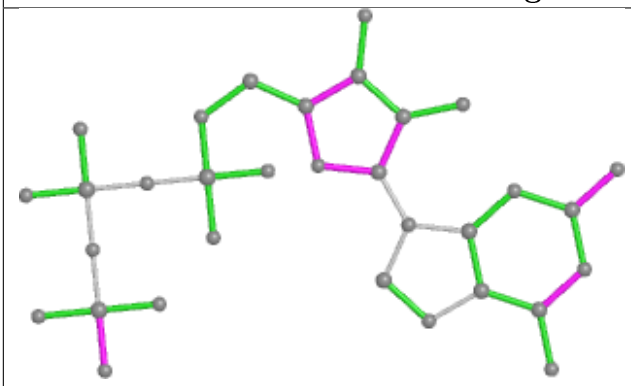


Torsions

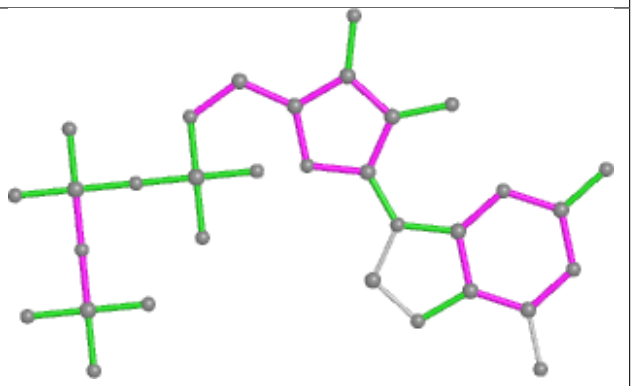


Rings

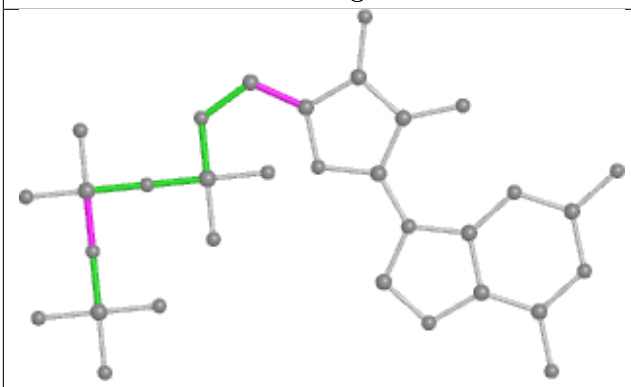
Ligand GTP E 553



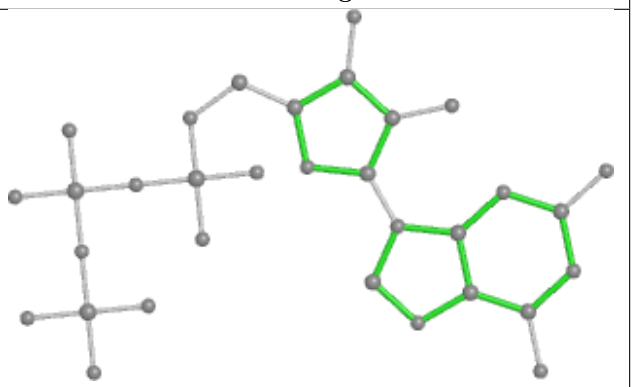
Bond lengths



Bond angles

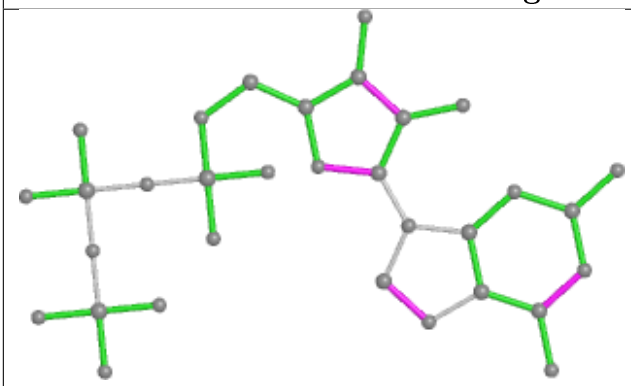


Torsions

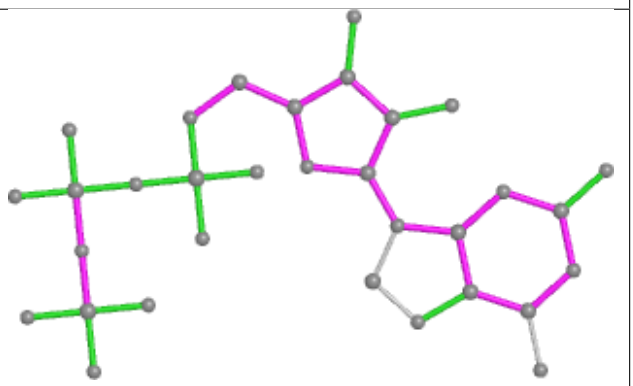


Rings

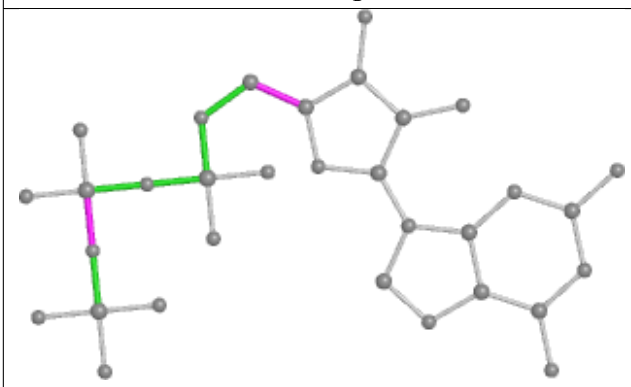
Ligand GTP B 553



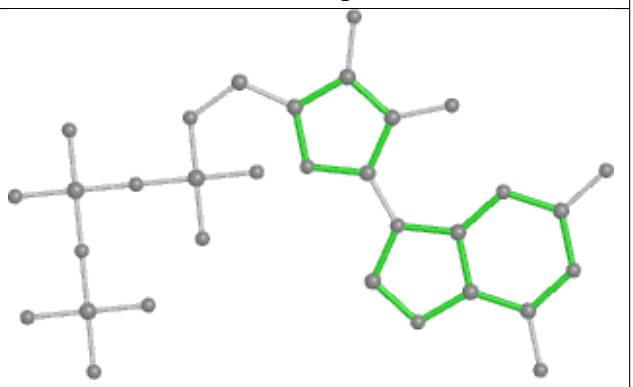
Bond lengths



Bond angles

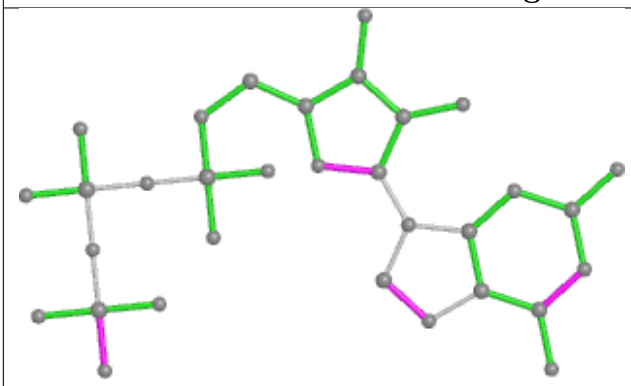


Torsions

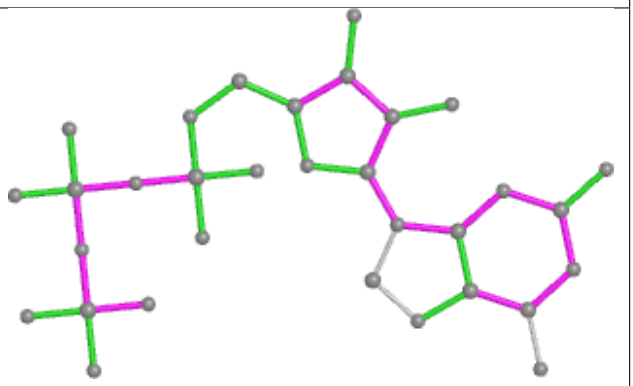


Rings

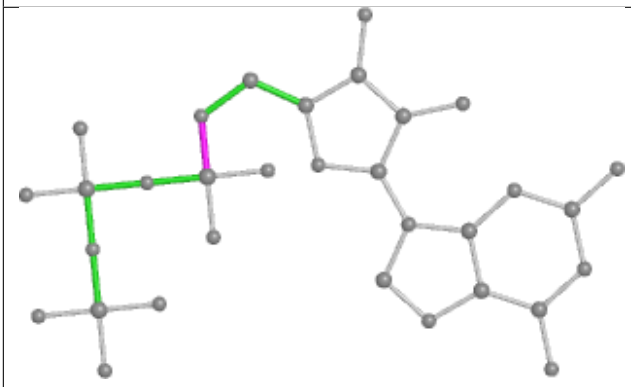
Ligand GTP C 553



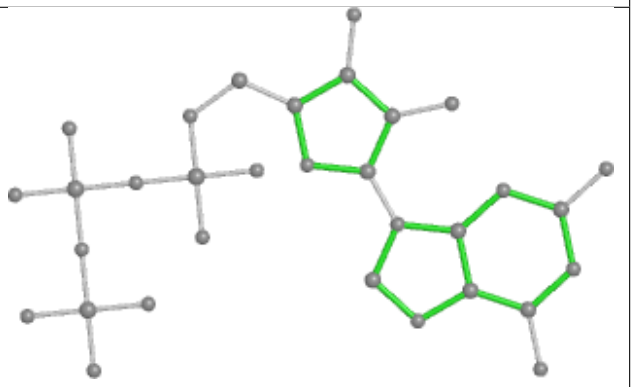
Bond lengths



Bond angles

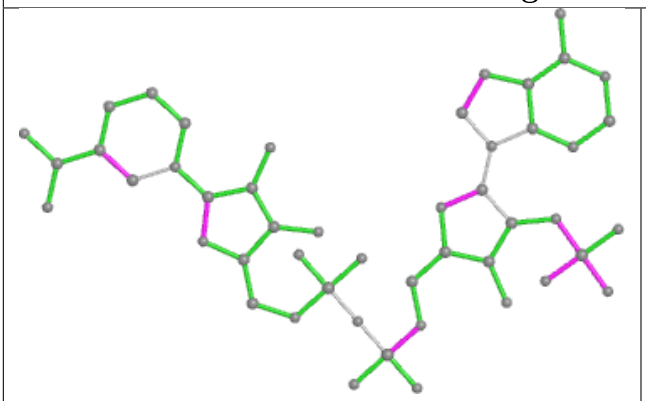


Torsions

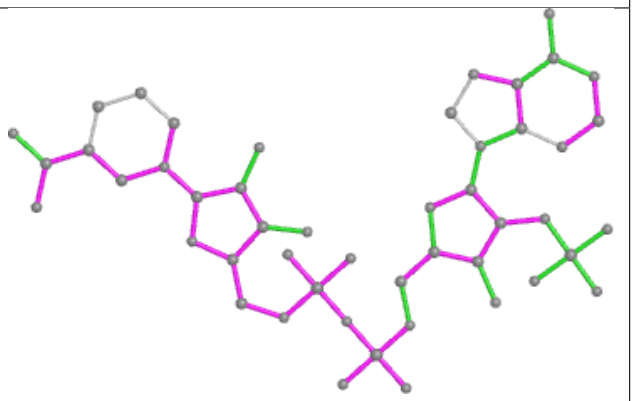


Rings

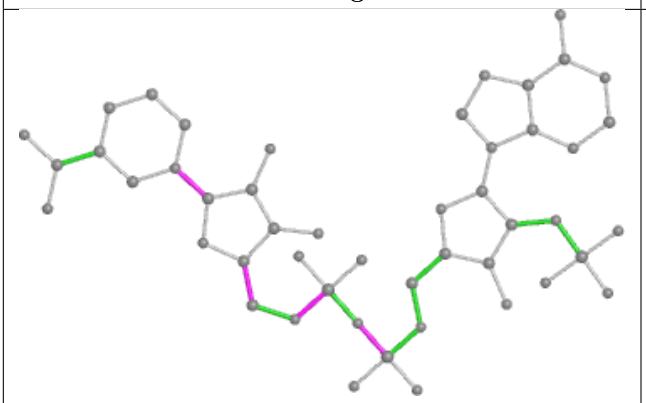
Ligand NDP A 551



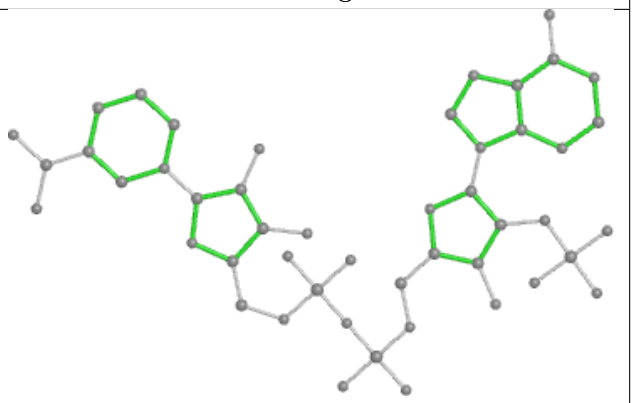
Bond lengths



Bond angles

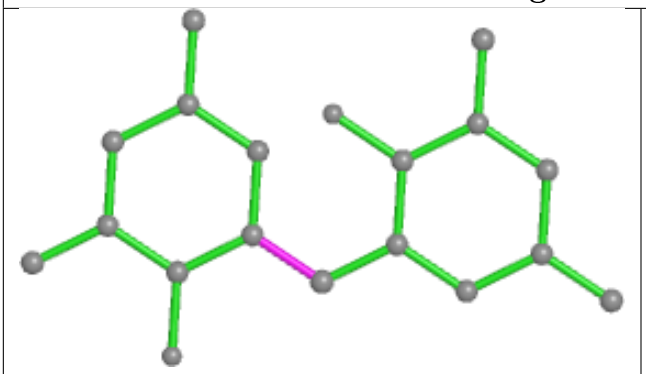


Torsions

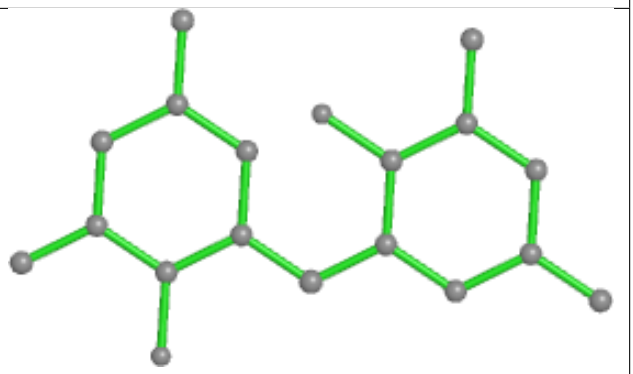


Rings

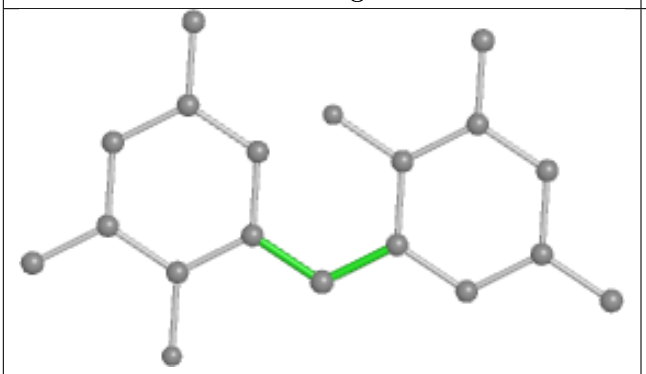
Ligand B1T F 552



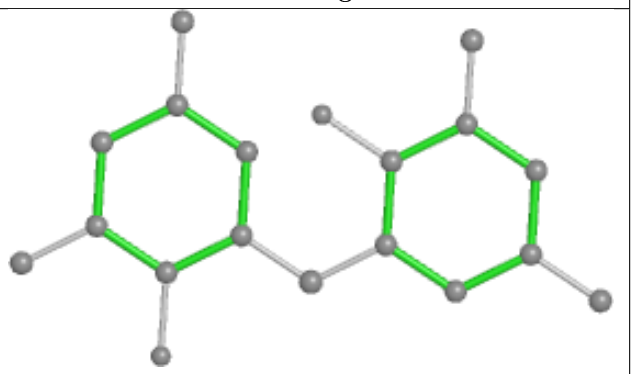
Bond lengths



Bond angles

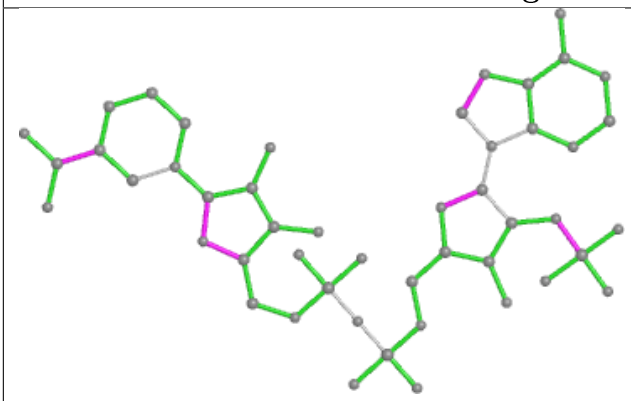


Torsions

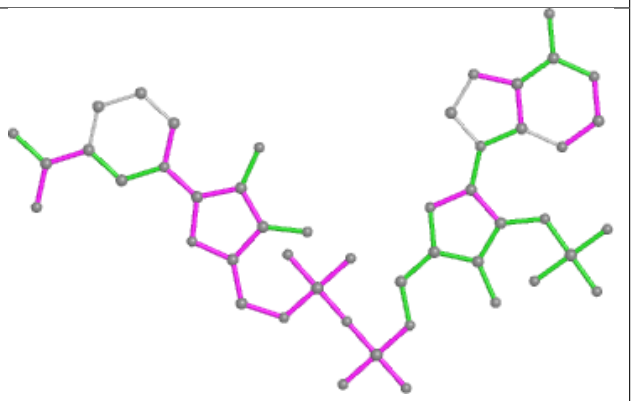


Rings

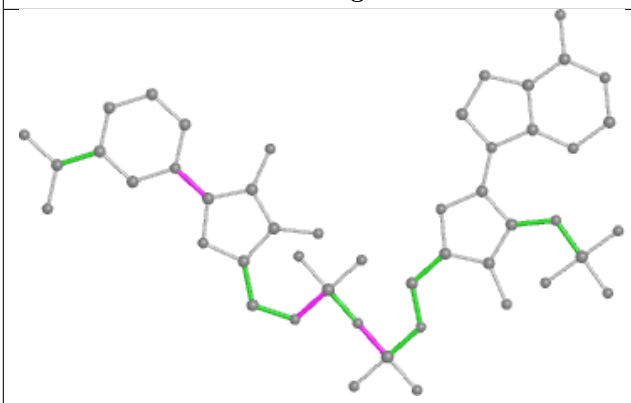
Ligand NDP B 551



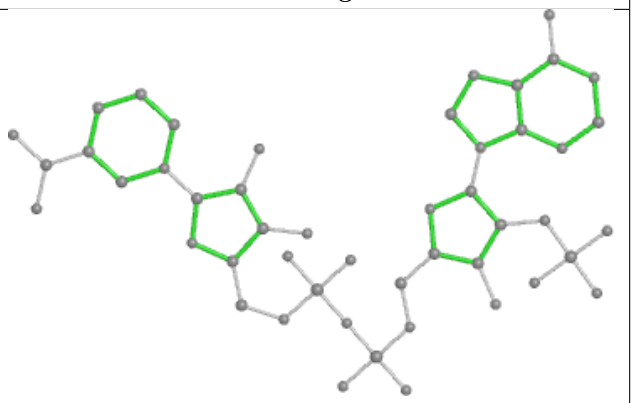
Bond lengths



Bond angles

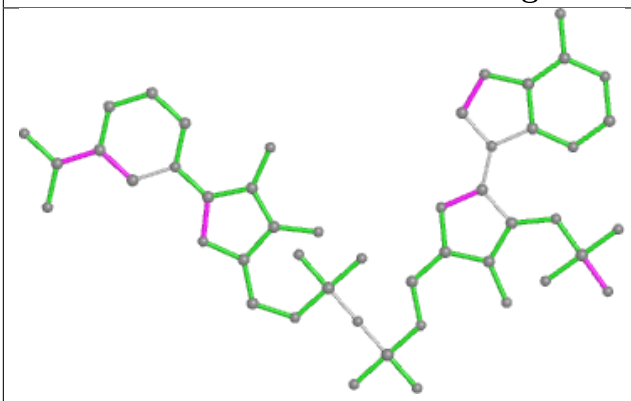


Torsions

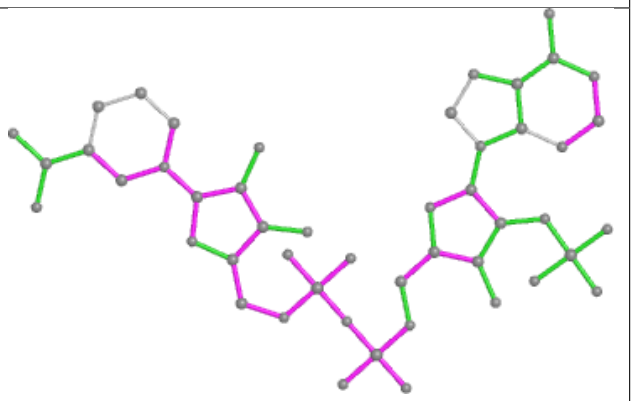


Rings

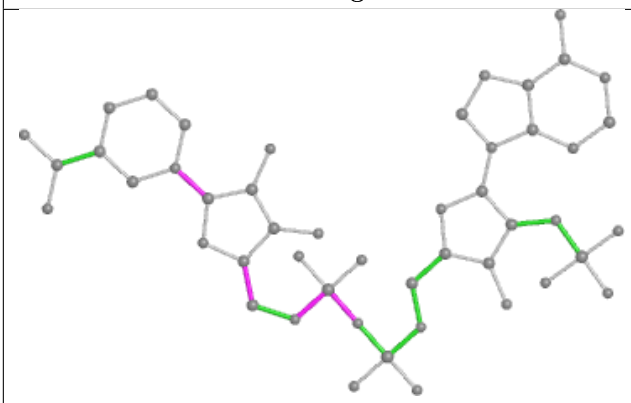
Ligand NDP C 551



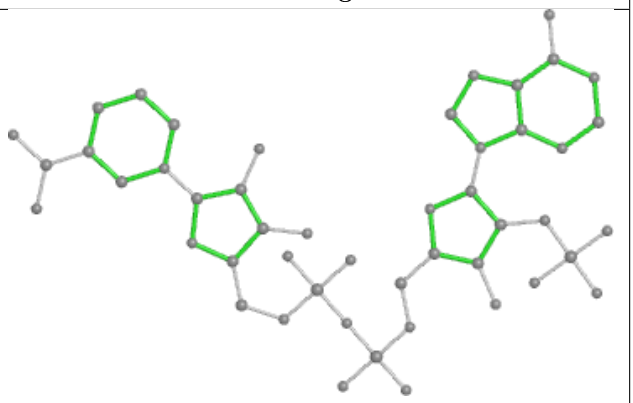
Bond lengths



Bond angles

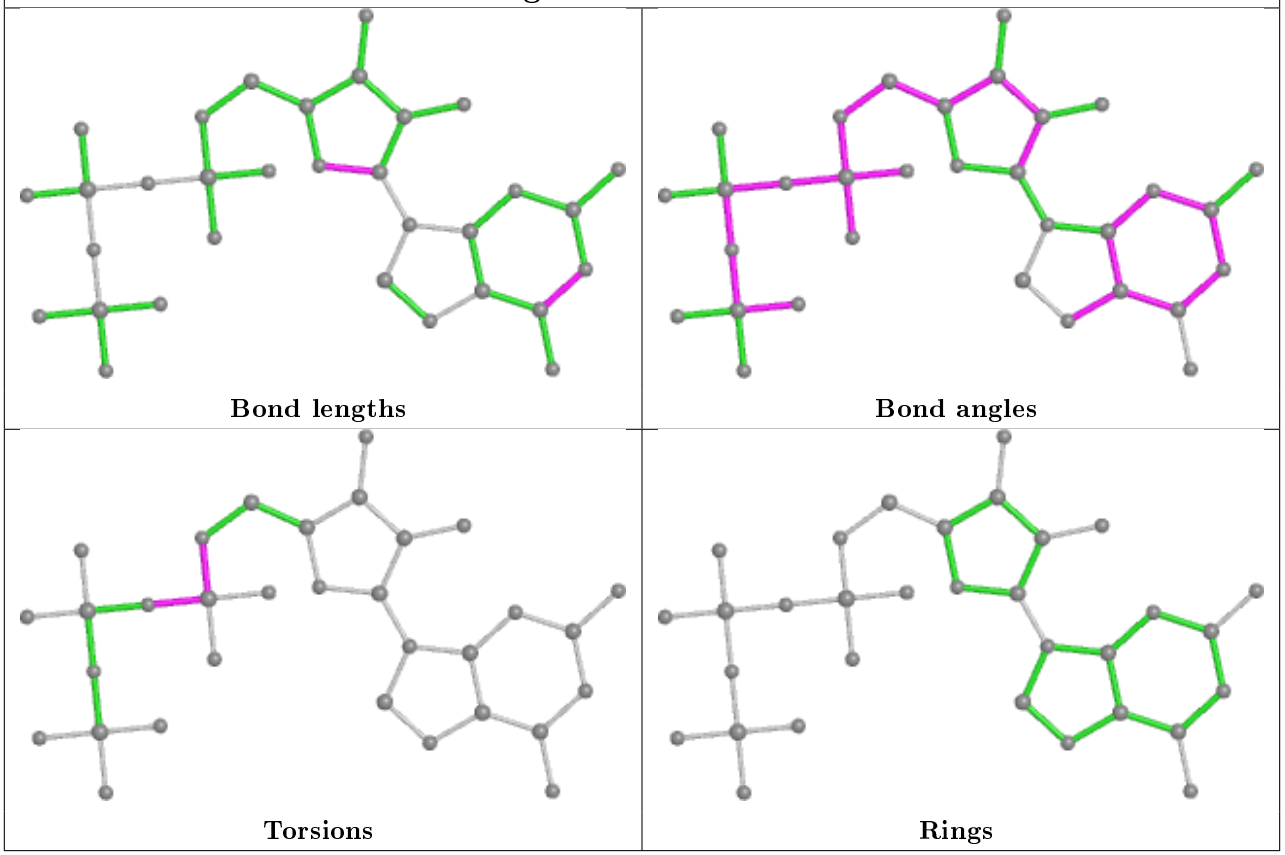


Torsions



Rings

Ligand GTP D 553



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	501/501 (100%)	0.74	56 (11%)	5 4	36, 60, 90, 105	0
1	B	501/501 (100%)	0.56	34 (6%)	17 17	36, 61, 90, 104	0
1	C	501/501 (100%)	0.50	33 (6%)	18 19	34, 59, 90, 107	0
1	D	501/501 (100%)	0.62	40 (7%)	12 12	36, 60, 91, 105	0
1	E	501/501 (100%)	0.65	42 (8%)	11 11	36, 60, 90, 105	0
1	F	501/501 (100%)	0.79	79 (15%)	2 1	37, 61, 90, 105	0
All	All	3006/3006 (100%)	0.64	284 (9%)	8 8	34, 60, 91, 107	0

All (284) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	1	ALA	11.7
1	C	1	ALA	11.3
1	E	1	ALA	10.0
1	D	1	ALA	9.5
1	D	424	HIS	9.4
1	F	1	ALA	9.3
1	A	501	THR	9.2
1	A	498	VAL	8.8
1	B	499	THR	8.1
1	A	500	PHE	8.0
1	A	424	HIS	7.6
1	C	501	THR	7.4
1	F	339	VAL	7.3
1	D	498	VAL	7.2
1	A	497	GLY	6.8
1	B	424	HIS	6.7
1	A	499	THR	6.4
1	E	4	GLU	6.1
1	A	1	ALA	6.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	D	35	ARG	5.9
1	D	39	GLU	5.7
1	E	501	THR	5.7
1	E	424	HIS	5.6
1	F	32	LEU	5.5
1	F	3	ARG	5.5
1	B	501	THR	5.4
1	A	425	GLY	5.3
1	C	424	HIS	5.3
1	D	499	THR	5.2
1	A	421	PHE	5.1
1	E	3	ARG	5.1
1	C	426	GLY	5.0
1	B	425	GLY	5.0
1	B	500	PHE	5.0
1	F	2	ASP	5.0
1	F	500	PHE	4.9
1	E	425	GLY	4.9
1	F	227	ILE	4.9
1	D	496	ALA	4.9
1	F	242	PHE	4.9
1	F	499	THR	4.8
1	F	501	THR	4.8
1	E	496	ALA	4.8
1	A	423	LYS	4.8
1	F	426	GLY	4.7
1	B	32	LEU	4.7
1	F	496	ALA	4.6
1	D	497	GLY	4.5
1	E	35	ARG	4.5
1	F	365	ILE	4.4
1	A	190	TYR	4.4
1	C	2	ASP	4.4
1	B	498	VAL	4.3
1	A	32	LEU	4.3
1	E	190	TYR	4.3
1	F	286	ILE	4.3
1	C	190	TYR	4.3
1	B	426	GLY	4.2
1	A	426	GLY	4.2
1	F	190	TYR	4.2
1	A	3	ARG	4.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	D	190	TYR	4.1
1	E	72	TRP	4.0
1	F	33	LYS	4.0
1	D	425	GLY	4.0
1	A	40	GLN	4.0
1	B	497	GLY	3.9
1	D	281	TRP	3.9
1	B	190	TYR	3.9
1	C	425	GLY	3.8
1	A	35	ARG	3.8
1	F	475	LEU	3.8
1	F	34	THR	3.8
1	F	35	ARG	3.8
1	D	32	LEU	3.8
1	B	88	PRO	3.8
1	F	310	TYR	3.7
1	F	4	GLU	3.7
1	E	426	GLY	3.7
1	B	39	GLU	3.7
1	F	302	LEU	3.7
1	C	339	VAL	3.7
1	E	500	PHE	3.6
1	E	499	THR	3.6
1	E	421	PHE	3.6
1	F	285	GLY	3.5
1	B	3	ARG	3.5
1	A	389	LEU	3.5
1	D	87	THR	3.5
1	E	87	THR	3.5
1	D	88	PRO	3.5
1	F	243	GLY	3.5
1	F	232	TYR	3.4
1	A	417	LEU	3.4
1	E	497	GLY	3.4
1	D	36	GLU	3.4
1	F	230	ALA	3.4
1	F	366	MET	3.4
1	C	35	ARG	3.4
1	F	312	GLY	3.3
1	A	33	LYS	3.3
1	C	3	ARG	3.3
1	B	2	ASP	3.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	D	3	ARG	3.3
1	A	29	VAL	3.3
1	E	281	TRP	3.3
1	F	315	LEU	3.3
1	C	87	THR	3.2
1	A	36	GLU	3.2
1	E	2	ASP	3.2
1	B	389	LEU	3.2
1	D	4	GLU	3.1
1	D	308	LYS	3.1
1	B	23	ILE	3.1
1	D	40	GLN	3.1
1	D	501	THR	3.1
1	D	44	ARG	3.1
1	B	35	ARG	3.1
1	F	238	MET	3.1
1	F	424	HIS	3.1
1	F	270	CYS	3.1
1	F	237	GLY	3.1
1	A	496	ALA	3.1
1	B	297	GLN	3.0
1	E	32	LEU	3.0
1	B	87	THR	3.0
1	F	303	GLY	3.0
1	E	302	LEU	3.0
1	A	38	GLU	3.0
1	F	236	LEU	3.0
1	D	306	LYS	3.0
1	A	390	ASN	2.9
1	A	88	PRO	2.9
1	A	39	GLU	2.9
1	C	66	ARG	2.9
1	E	417	LEU	2.9
1	F	228	ASN	2.9
1	A	2	ASP	2.8
1	E	236	LEU	2.8
1	B	496	ALA	2.8
1	F	39	GLU	2.8
1	E	423	LYS	2.8
1	B	36	GLU	2.8
1	D	426	GLY	2.8
1	A	34	THR	2.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	C	421	PHE	2.8
1	F	241	GLY	2.8
1	F	359	ILE	2.8
1	A	87	THR	2.7
1	C	496	ALA	2.7
1	C	500	PHE	2.7
1	C	39	GLU	2.7
1	C	498	VAL	2.7
1	F	263	LEU	2.7
1	D	431	VAL	2.7
1	E	33	LYS	2.7
1	F	252	PHE	2.7
1	D	339	VAL	2.6
1	F	277	ASP	2.6
1	E	308	LYS	2.6
1	A	339	VAL	2.6
1	A	188	GLY	2.6
1	F	301	ILE	2.6
1	A	66	ARG	2.6
1	A	189	HIS	2.6
1	A	45	VAL	2.6
1	F	268	ALA	2.6
1	C	360	PHE	2.6
1	D	28	LEU	2.6
1	F	305	PRO	2.6
1	F	362	GLU	2.6
1	E	339	VAL	2.6
1	F	87	THR	2.6
1	F	226	PHE	2.6
1	D	34	THR	2.5
1	F	281	TRP	2.5
1	C	361	LEU	2.5
1	A	388	ASN	2.5
1	B	38	GLU	2.5
1	F	38	GLU	2.5
1	F	334	SER	2.5
1	D	33	LYS	2.5
1	A	391	HIS	2.5
1	A	311	GLU	2.5
1	F	316	GLU	2.5
1	F	498	VAL	2.4
1	F	421	PHE	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	385	TRP	2.4
1	F	321	ILE	2.4
1	F	333	LYS	2.4
1	C	238	MET	2.4
1	C	499	THR	2.4
1	F	364	ASN	2.4
1	C	423	LYS	2.4
1	D	42	ARG	2.4
1	F	269	LYS	2.4
1	A	427	THR	2.4
1	A	28	LEU	2.4
1	B	4	GLU	2.4
1	D	495	GLU	2.4
1	D	440	ILE	2.4
1	B	89	CYS	2.4
1	F	340	LYS	2.3
1	A	19	ARG	2.3
1	C	38	GLU	2.3
1	F	423	LYS	2.3
1	C	281	TRP	2.3
1	E	243	GLY	2.3
1	E	66	ARG	2.3
1	F	251	GLY	2.3
1	F	267	GLY	2.3
1	F	497	GLY	2.3
1	D	38	GLU	2.3
1	F	36	GLU	2.3
1	E	88	PRO	2.3
1	F	311	GLU	2.3
1	A	386	LEU	2.3
1	A	267	GLY	2.3
1	E	378	VAL	2.3
1	A	180	ALA	2.3
1	D	66	ARG	2.2
1	F	88	PRO	2.2
1	A	392	VAL	2.2
1	E	498	VAL	2.2
1	C	33	LYS	2.2
1	B	161	GLY	2.2
1	B	283	PRO	2.2
1	F	390	ASN	2.2
1	C	36	GLU	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	F	342	LYS	2.2
1	A	9	PHE	2.2
1	C	312	GLY	2.2
1	F	6	ASP	2.2
1	F	192	ILE	2.2
1	B	421	PHE	2.2
1	A	462	ARG	2.2
1	C	462	ARG	2.2
1	B	435	GLU	2.2
1	F	273	VAL	2.2
1	E	187	ILE	2.2
1	A	491	ARG	2.2
1	D	285	GLY	2.1
1	E	495	GLU	2.1
1	E	335	ASN	2.1
1	E	36	GLU	2.1
1	B	296	LEU	2.1
1	C	427	THR	2.1
1	A	23	ILE	2.1
1	E	11	LYS	2.1
1	E	188	GLY	2.1
1	E	95	TYR	2.1
1	B	42	ARG	2.1
1	B	5	ASP	2.1
1	F	341	ALA	2.1
1	A	192	ILE	2.1
1	D	269	LYS	2.1
1	A	490	PHE	2.1
1	E	469	MET	2.1
1	B	37	THR	2.1
1	F	367	VAL	2.1
1	F	344	ILE	2.1
1	A	393	SER	2.1
1	C	475	LEU	2.1
1	D	419	ARG	2.1
1	A	283	PRO	2.0
1	E	409	LEU	2.0
1	C	342	LYS	2.0
1	A	194	ALA	2.0
1	A	193	ASN	2.0
1	C	242	PHE	2.0
1	C	403	ARG	2.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	F	42	ARG	2.0
1	F	296	LEU	2.0
1	F	233	MET	2.0
1	A	419	ARG	2.0
1	D	243	GLY	2.0
1	D	428	ILE	2.0
1	D	475	LEU	2.0
1	E	75	ILE	2.0
1	F	428	ILE	2.0
1	D	242	PHE	2.0
1	F	360	PHE	2.0
1	E	39	GLU	2.0
1	B	469	MET	2.0

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

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

6.3 Carbohydrates (i)

There are no carbohydrates in this entry.

6.4 Ligands (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	GTP	F	553	32/32	0.52	0.53	116,119,134,135	0
4	GTP	B	553	32/32	0.53	0.48	105,112,119,119	0
5	B1T	E	552	19/19	0.56	0.38	105,108,114,116	0
5	B1T	B	552	19/19	0.58	0.37	103,109,112,113	0
5	B1T	A	552	19/19	0.58	0.48	106,110,114,117	0
4	GTP	D	553	32/32	0.64	0.31	105,111,117,118	0
4	GTP	E	553	32/32	0.64	0.30	100,110,124,125	0
4	GTP	A	553	32/32	0.65	0.42	111,116,125,126	0
4	GTP	C	553	32/32	0.66	0.33	104,113,129,131	0
5	B1T	C	552	19/19	0.67	0.33	104,108,114,115	0

Continued on next page...

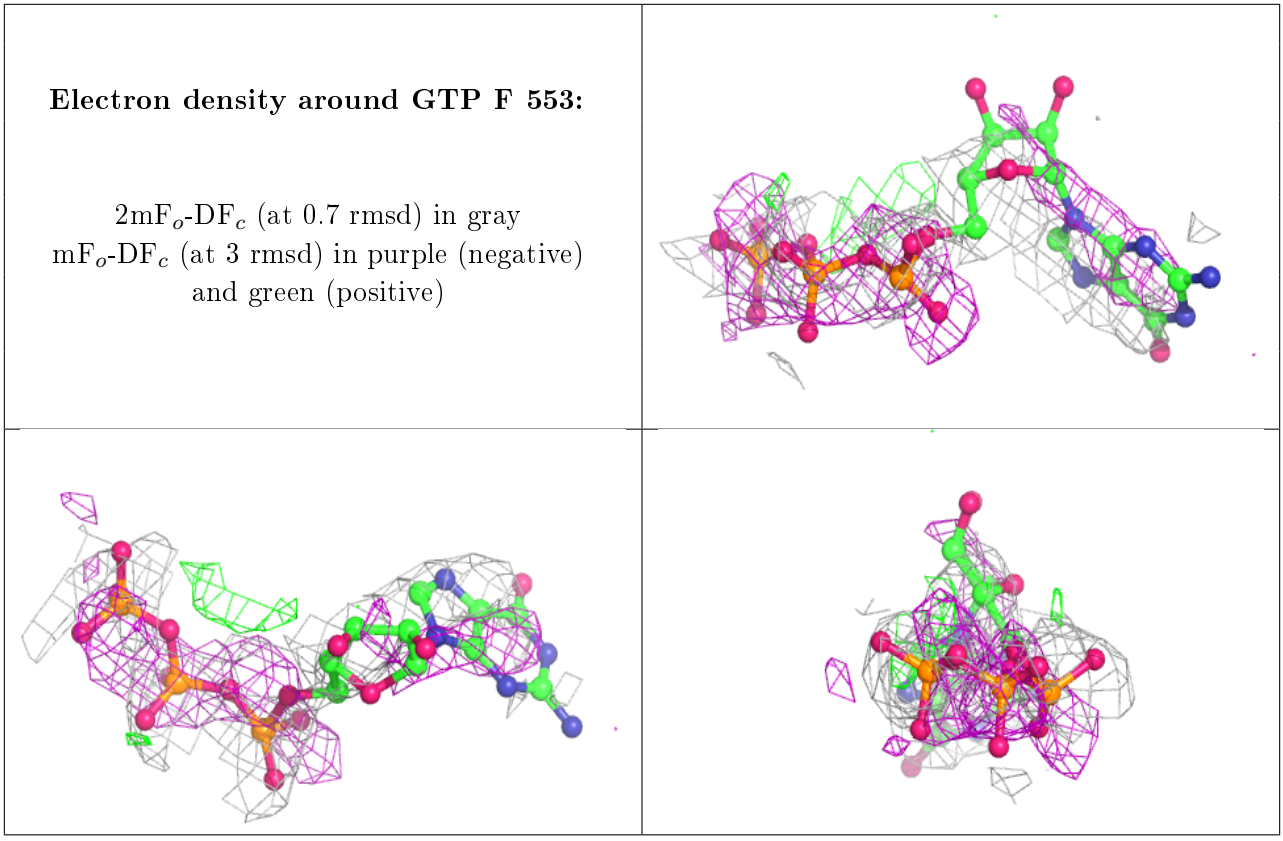
Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	B1T	D	552	19/19	0.69	0.32	104,107,112,113	0
2	GLU	E	550	9/10	0.78	0.39	68,73,74,75	0
5	B1T	F	552	19/19	0.80	0.24	93,95,99,100	0
3	NDP	B	551	48/48	0.84	0.22	64,71,80,85	0
3	NDP	E	551	48/48	0.84	0.23	67,81,86,87	0
3	NDP	F	551	48/48	0.85	0.22	74,83,85,87	0
3	NDP	D	551	48/48	0.86	0.26	52,63,74,79	0
3	NDP	A	551	48/48	0.87	0.20	59,66,73,77	0
2	GLU	A	550	9/10	0.88	0.28	58,61,62,63	0
3	NDP	C	551	48/48	0.90	0.21	43,55,66,72	0
2	GLU	F	550	9/10	0.91	0.20	67,68,70,71	0
2	GLU	B	550	9/10	0.92	0.24	54,58,60,60	0
2	GLU	D	550	9/10	0.93	0.21	41,46,50,51	0
2	GLU	C	550	9/10	0.94	0.19	52,55,56,57	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.

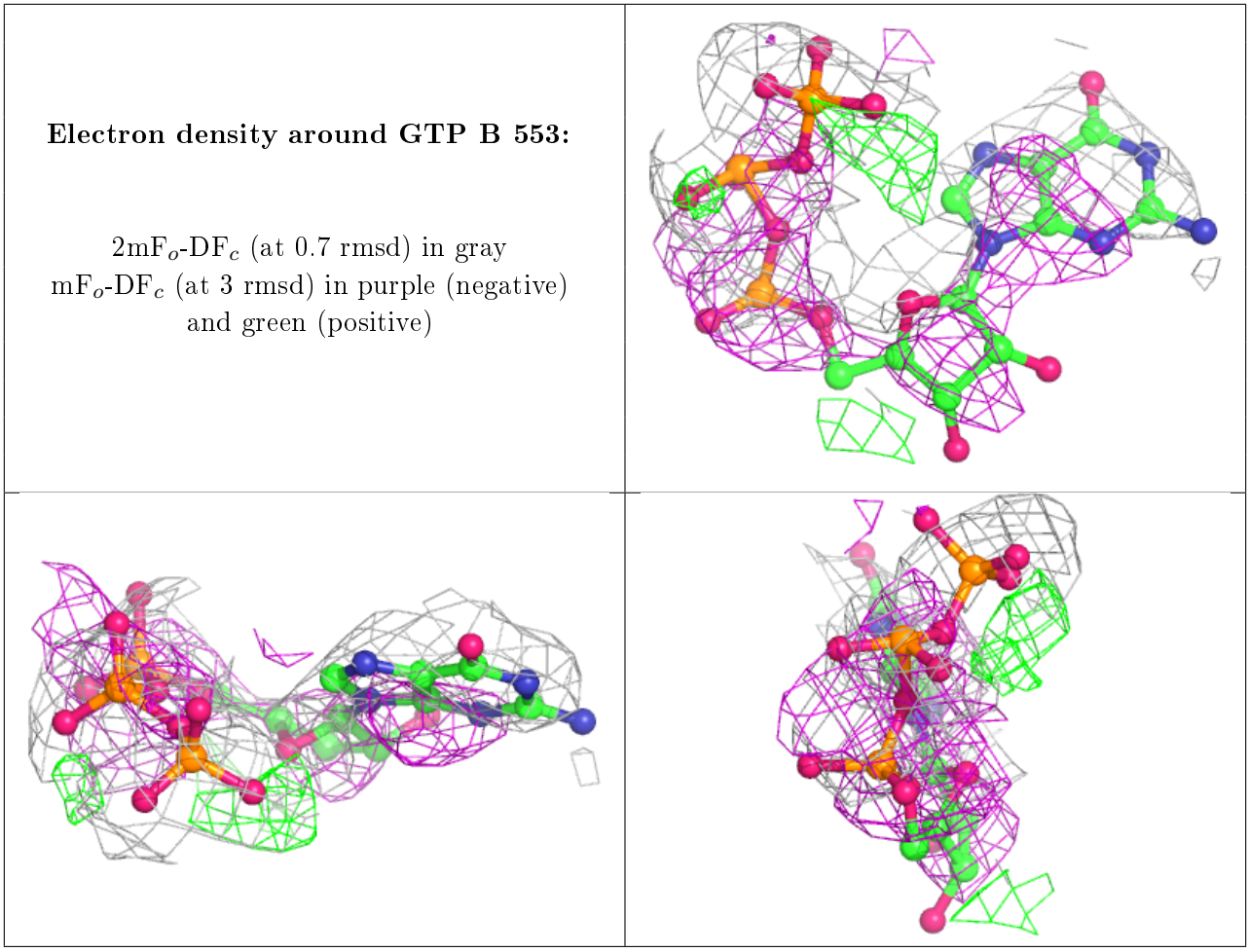
Electron density around GTP F 553:

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



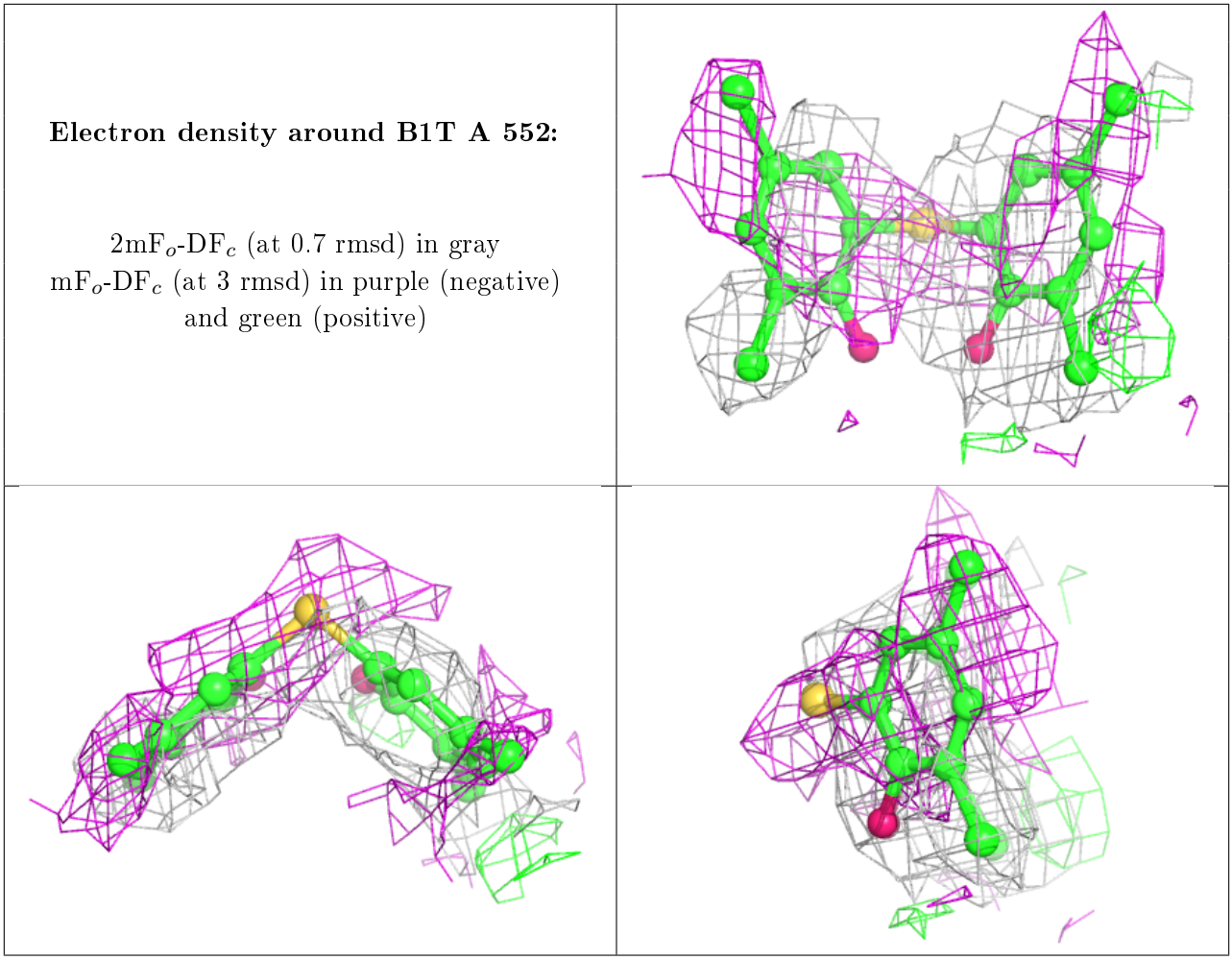
Electron density around GTP B 553:

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



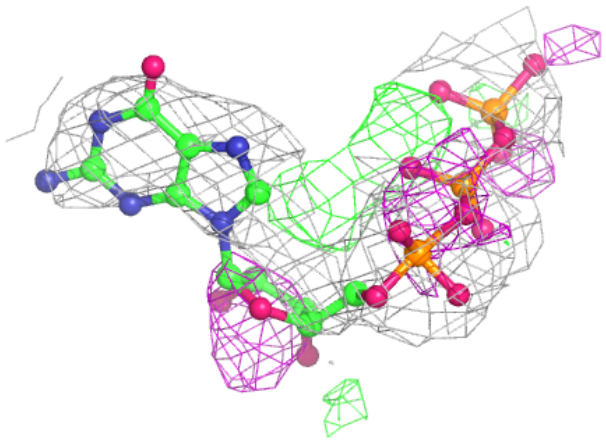
Electron density around B1T A 552:

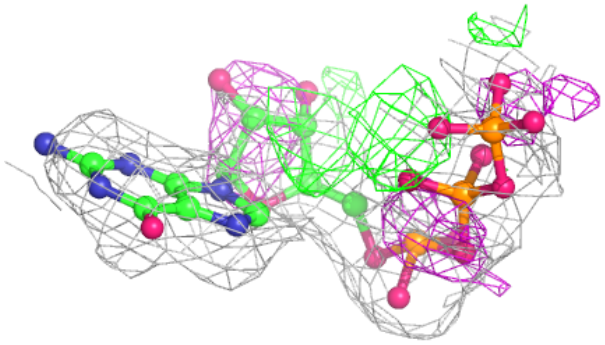
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

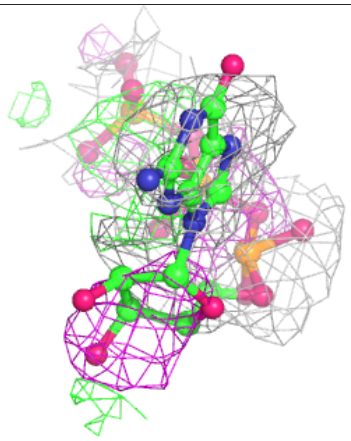


Electron density around GTP D 553:

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

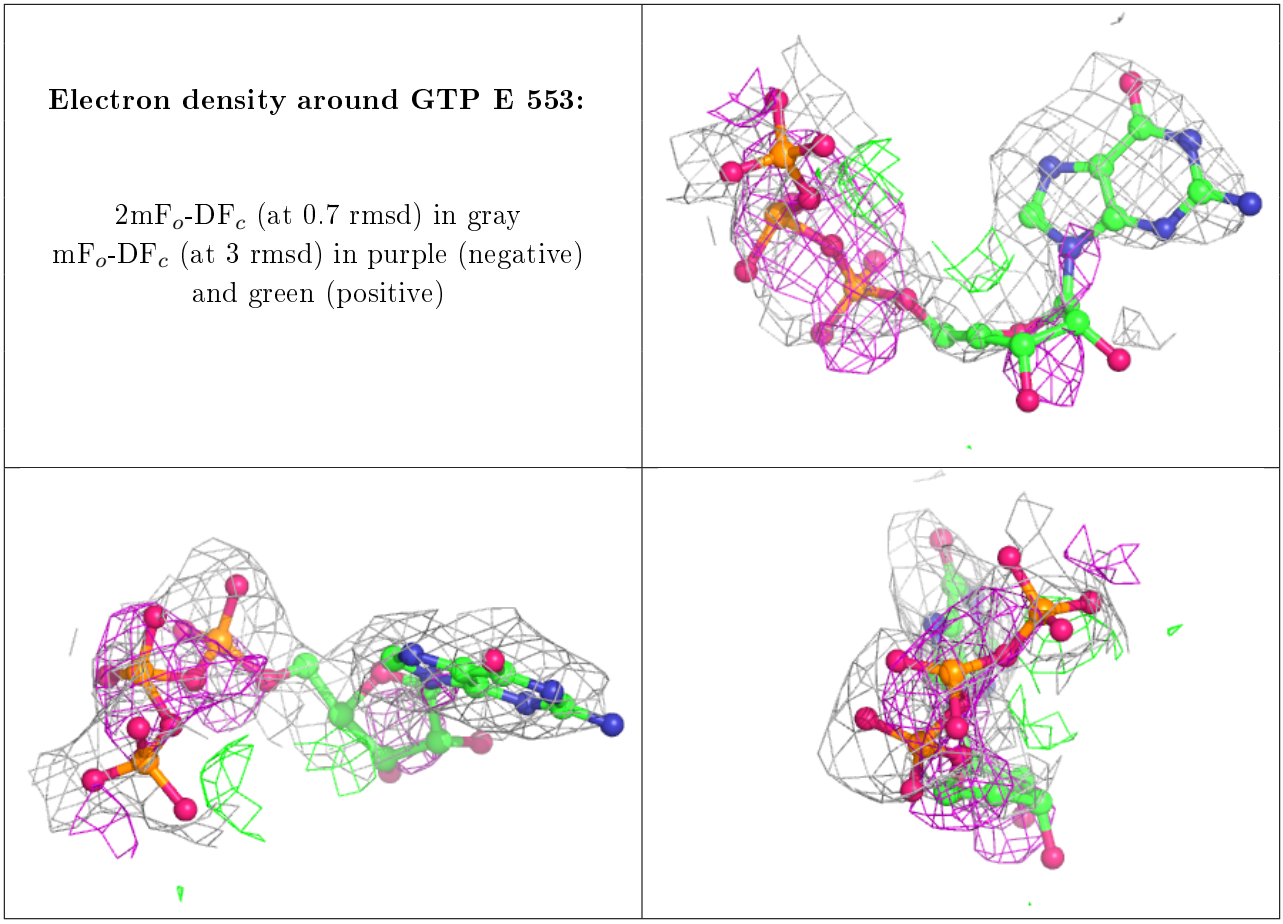






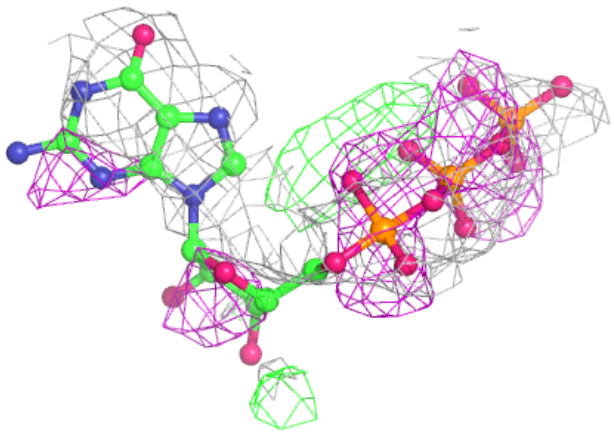
Electron density around GTP E 553:

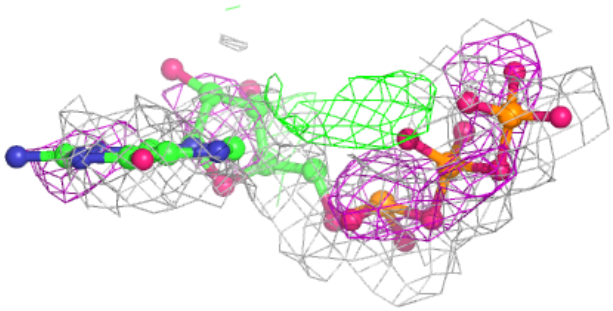
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

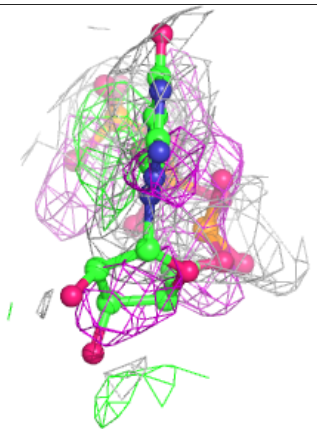


Electron density around GTP A 553:

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

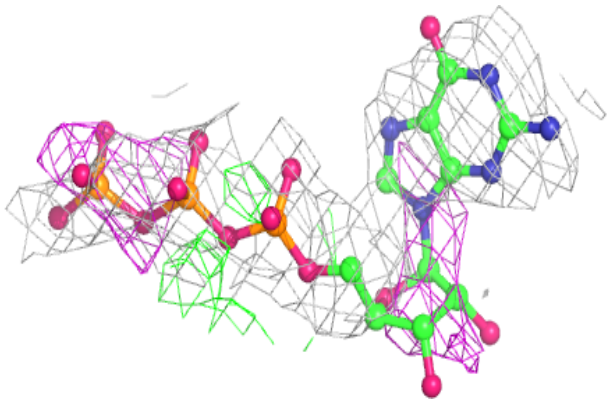


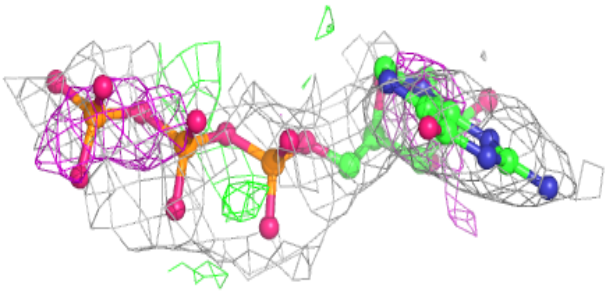


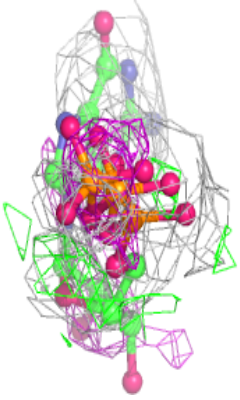


Electron density around GTP C 553:

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

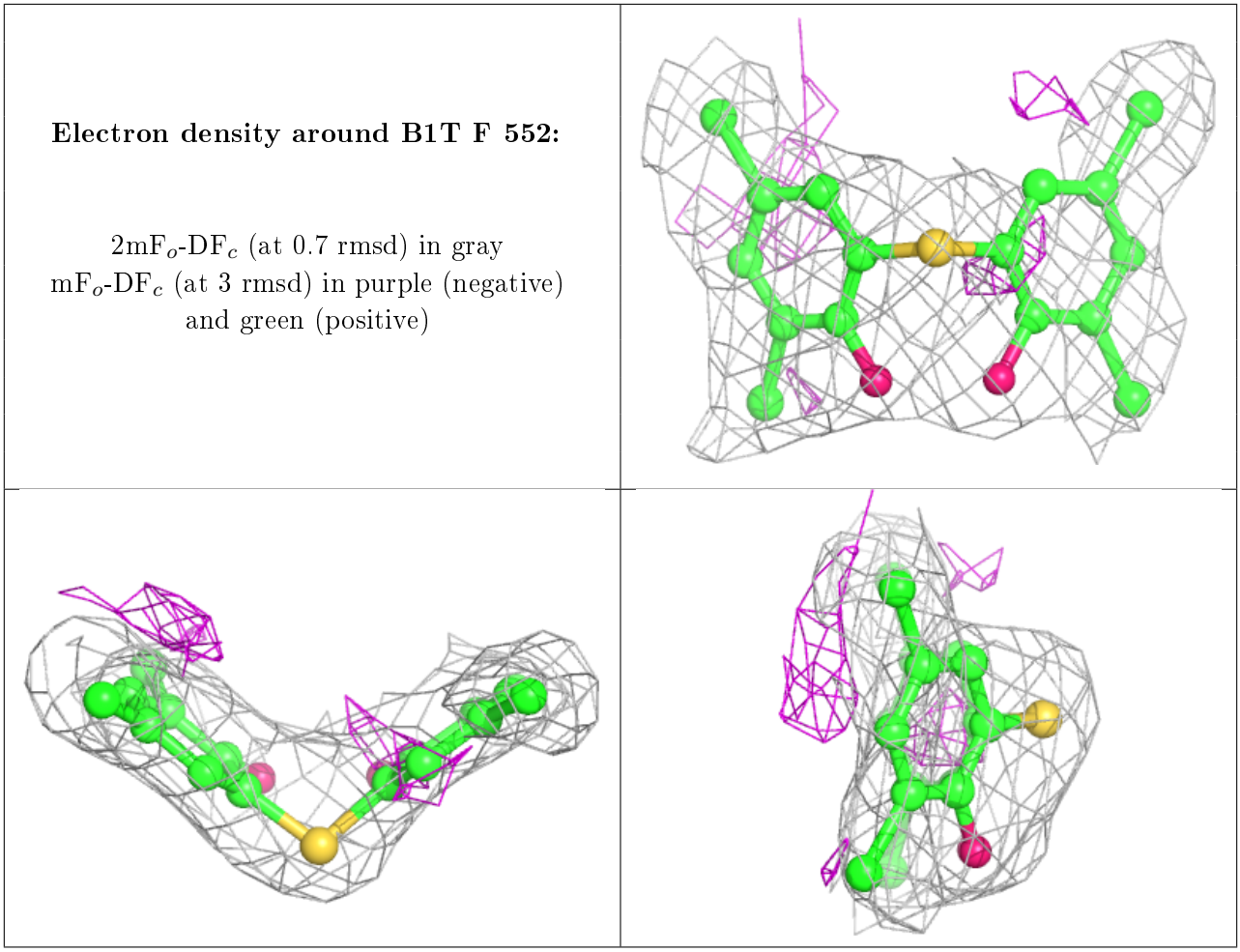






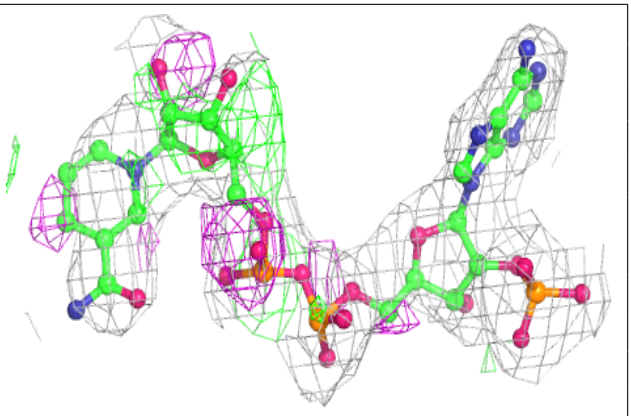
Electron density around B1T F 552:

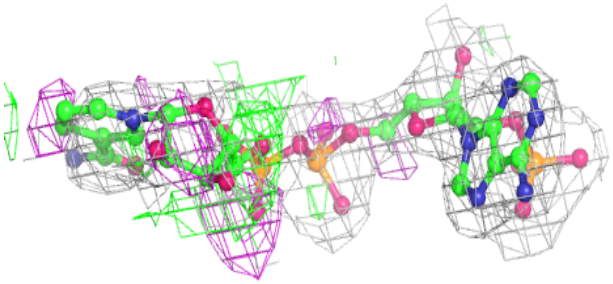
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around NDP B 551:

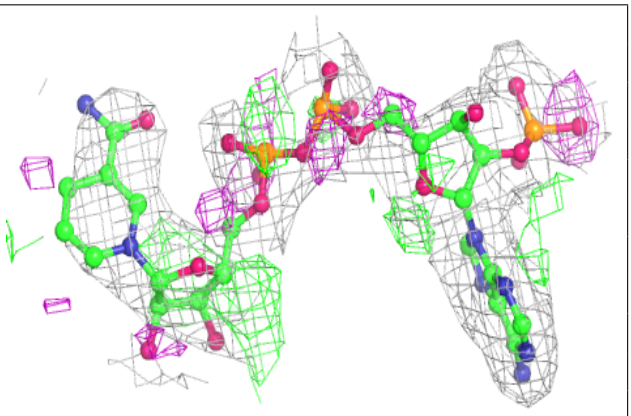
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

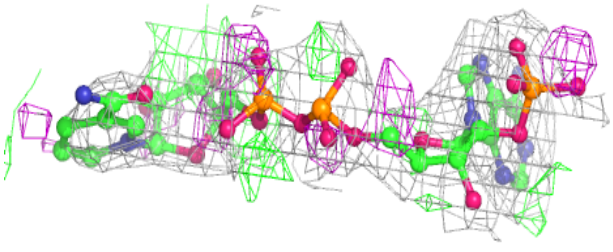


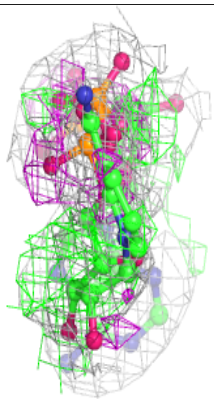


Electron density around NDP E 551:

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

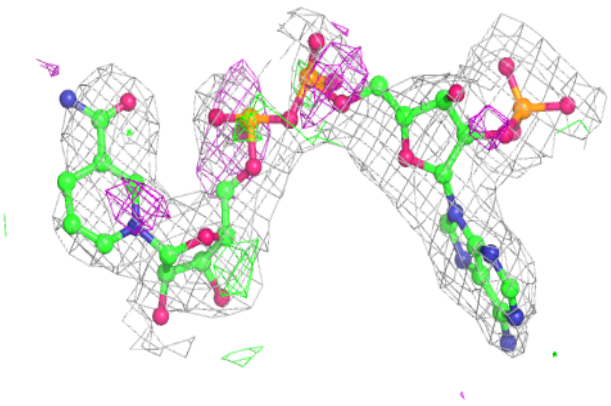


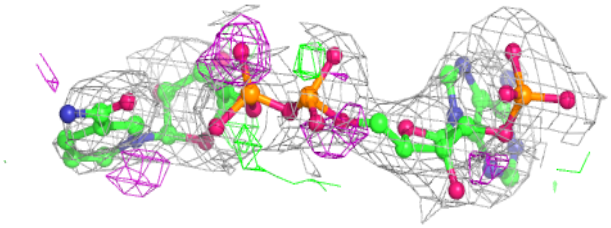


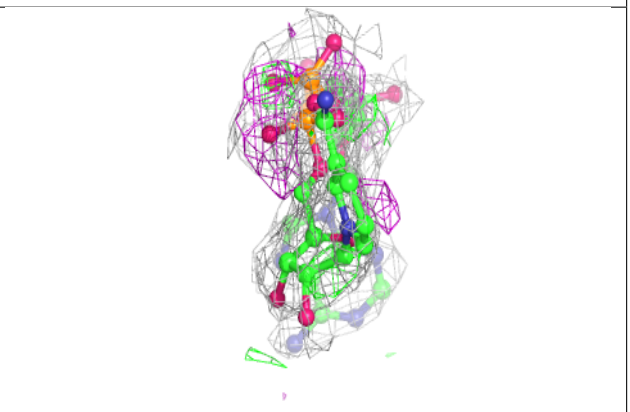


Electron density around NDP F 551:

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

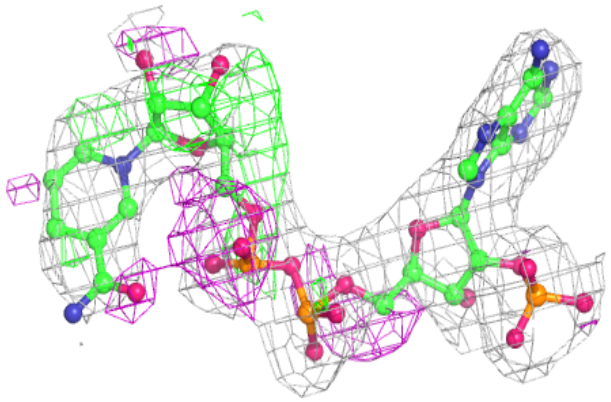


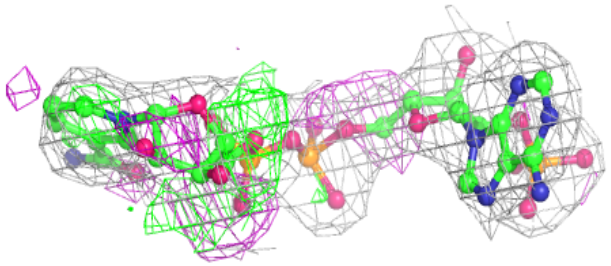


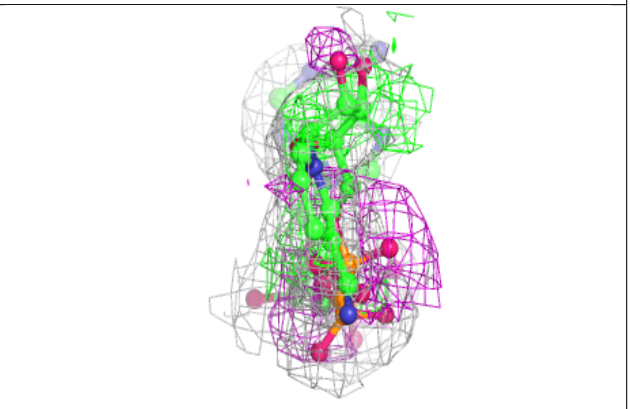


Electron density around NDP D 551:

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

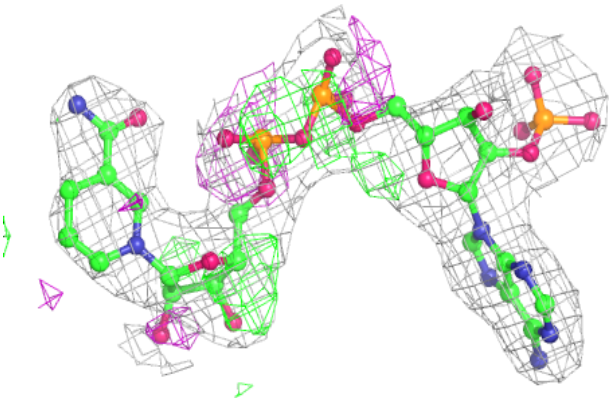


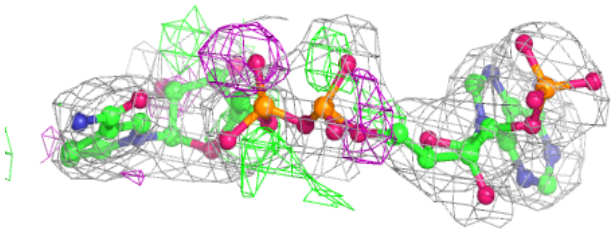


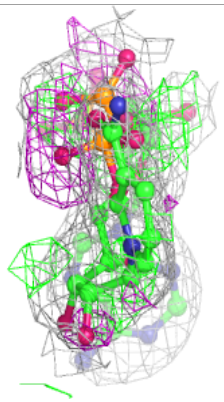


Electron density around NDP A 551:

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

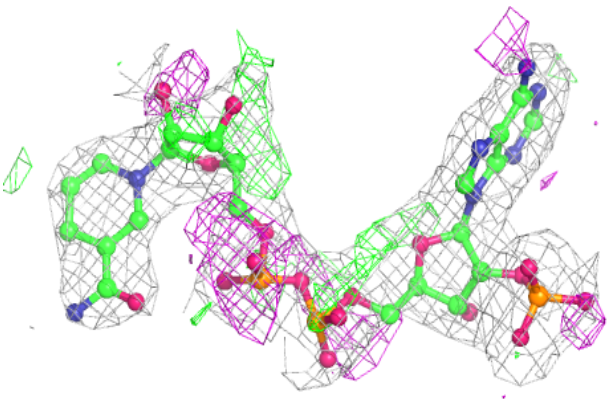


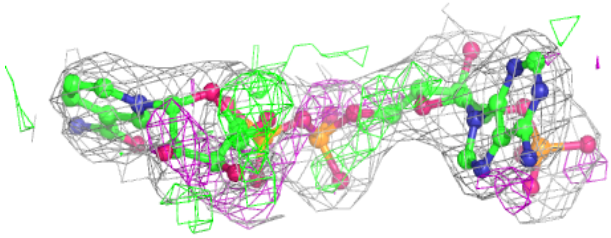


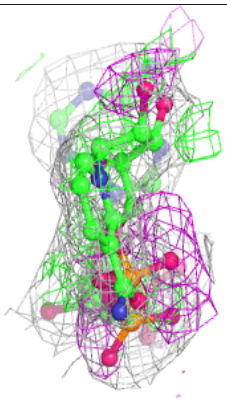


Electron density around NDP C 551:

$2mF_o$-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.