



Full wwPDB X-ray Structure Validation Report ⓘ

Jul 20, 2026 – 09:02 PM JST

PDB ID : 9VZF / pdb_00009vzf
Title : Crystal structure of T2R-TTL-Tz11 complex
Authors : Wang, Y.X.; Tan, L.
Deposited on : 2025-07-22
Resolution : 2.58 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.015 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.50

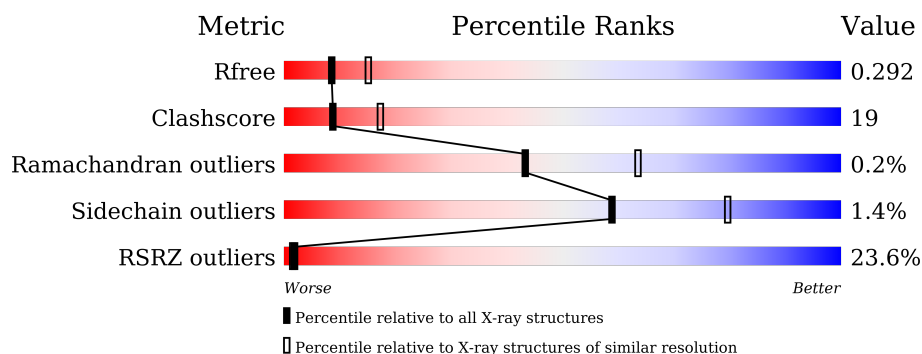
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.58 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}	180053	4770 (2.60-2.56)
Clashscore	190562	5124 (2.60-2.56)
Ramachandran outliers	187476	5046 (2.60-2.56)
Sidechain outliers	187428	5046 (2.60-2.56)
RSRZ outliers	180081	4770 (2.60-2.56)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	440	12% 67% 32% .
1	C	440	4% 71% 29%
2	B	431	10% 65% 33% .
2	D	431	59% 58% 39% .
3	E	136	29% 54% 35% 11%
4	F	380	29% 50% 36% . 13%

2 Entry composition

There are 11 unique types of molecules in this entry. The entry contains 17416 atoms, of which 14 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 Detyrosinated tubulin alpha-1B chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	437	Total	C	N	O	S	0	0	0
			3405	2154	580	649	22			
1	C	440	Total	C	N	O	S	0	0	0
			3433	2172	583	656	22			

- Molecule 2 is a protein called Tubulin beta chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	427	Total	C	N	O	S	0	0	0
			3351	2104	572	649	26			
2	D	421	Total	C	N	O	S	0	0	0
			3300	2076	559	638	27			

- Molecule 3 is a protein called Stathmin-4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	E	121	Total	C	N	O	S	0	0	0
			1000	617	181	197	5			

- Molecule 4 is a protein called Tubulin-tyrosine ligase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	F	332	Total	C	N	O	S	0	0	0
			2713	1740	466	493	14			

There are 35 discrepancies between the modelled and reference sequences:

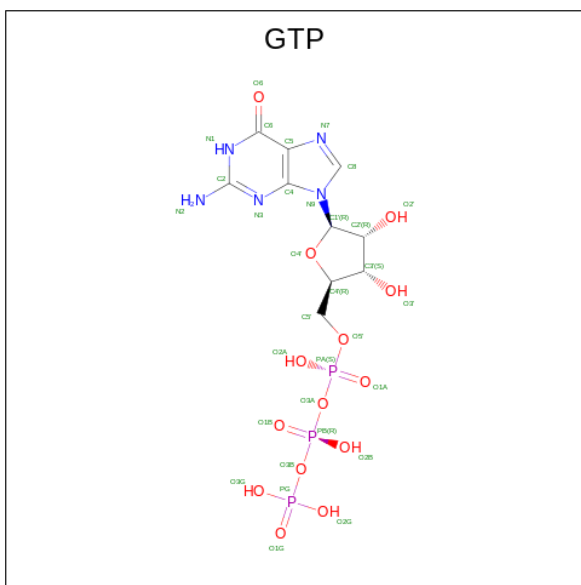
Chain	Residue	Modelled	Actual	Comment	Reference
F	?	-	ALA	deletion	UNP A0A8V0Z8P0
F	?	-	GLU	deletion	UNP A0A8V0Z8P0
F	?	-	MET	deletion	UNP A0A8V0Z8P0
F	?	-	GLN	deletion	UNP A0A8V0Z8P0

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Chain	Residue	Modelled	Actual	Comment	Reference
F	?	-	GLN	deletion	UNP A0A8V0Z8P0
F	?	-	GLN	deletion	UNP A0A8V0Z8P0
F	?	-	LEU	deletion	UNP A0A8V0Z8P0
F	?	-	LEU	deletion	UNP A0A8V0Z8P0
F	?	-	GLU	deletion	UNP A0A8V0Z8P0
F	?	-	GLY	deletion	UNP A0A8V0Z8P0
F	?	-	ASP	deletion	UNP A0A8V0Z8P0
F	?	-	GLN	deletion	UNP A0A8V0Z8P0
F	?	-	THR	deletion	UNP A0A8V0Z8P0
F	?	-	LEU	deletion	UNP A0A8V0Z8P0
F	?	-	VAL	deletion	UNP A0A8V0Z8P0
F	?	-	LEU	deletion	UNP A0A8V0Z8P0
F	?	-	ALA	deletion	UNP A0A8V0Z8P0
F	?	-	SER	deletion	UNP A0A8V0Z8P0
F	?	-	SER	deletion	UNP A0A8V0Z8P0
F	?	-	THR	deletion	UNP A0A8V0Z8P0
F	?	-	HIS	deletion	UNP A0A8V0Z8P0
F	?	-	PRO	deletion	UNP A0A8V0Z8P0
F	?	-	GLU	deletion	UNP A0A8V0Z8P0
F	?	-	SER	deletion	UNP A0A8V0Z8P0
F	?	-	VAL	deletion	UNP A0A8V0Z8P0
F	?	-	ASP	deletion	UNP A0A8V0Z8P0
F	?	-	SER	deletion	UNP A0A8V0Z8P0
F	?	-	ASP	deletion	UNP A0A8V0Z8P0
F	?	-	LYS	deletion	UNP A0A8V0Z8P0
F	?	-	ASN	deletion	UNP A0A8V0Z8P0
F	?	-	HIS	deletion	UNP A0A8V0Z8P0
F	?	-	GLY	deletion	UNP A0A8V0Z8P0
F	?	-	PHE	deletion	UNP A0A8V0Z8P0
F	379	HIS	-	expression tag	UNP A0A8V0Z8P0
F	380	HIS	-	expression tag	UNP A0A8V0Z8P0

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



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

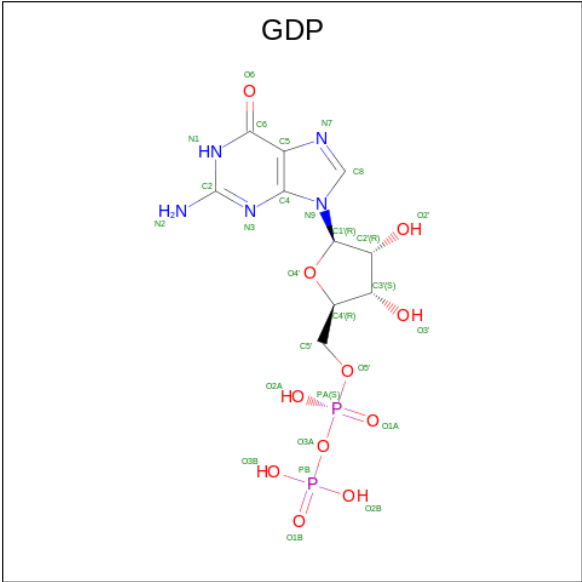
- Molecule 6 is CALCIUM ION (CCD ID: CA) (formula: Ca).

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

- Molecule 7 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

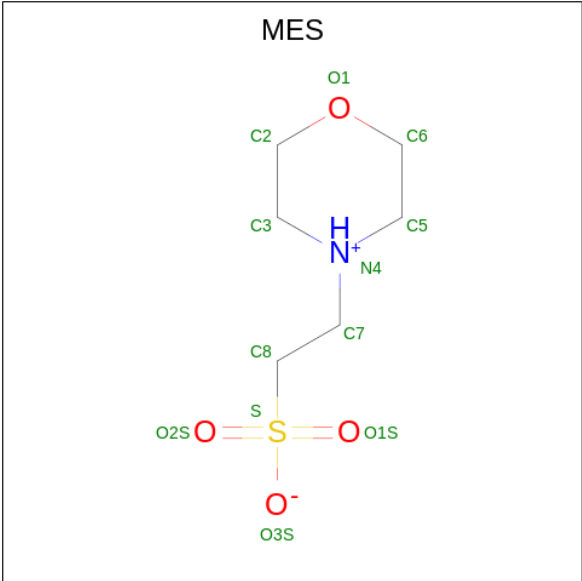
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	1	Total	Mg	1	0
			1	1		
7	B	1	Total	Mg	1	0
			1	1		
7	C	1	Total	Mg	1	0
			1	1		

- Molecule 8 is GUANOSINE-5'-DIPHOSPHATE (CCD ID: GDP) (formula: C₁₀H₁₅N₅O₁₁P₂).



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

- Molecule 9 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (CCD ID: MES) (formula: $C_6H_{13}NO_4S$).



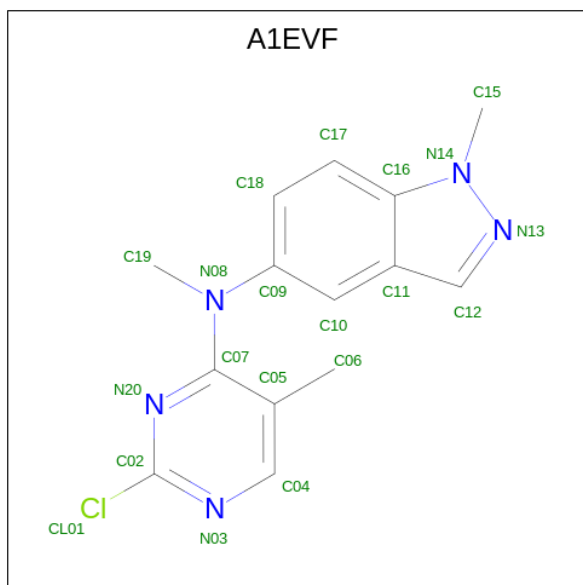
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
9	B	1	Total	C	N	O	S	12	0
			12	6	1	4	1		

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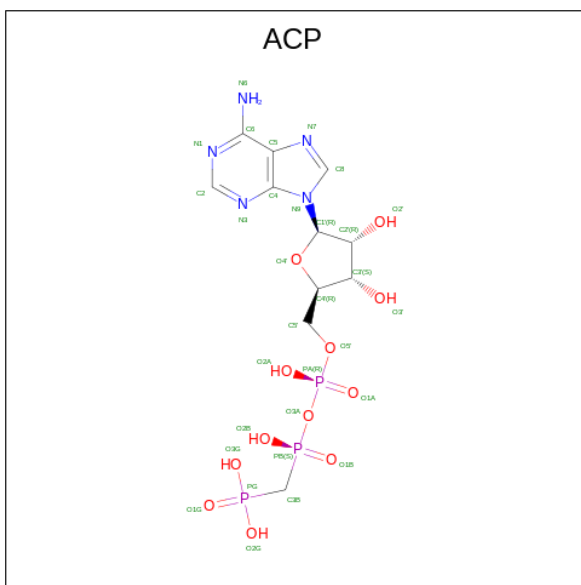
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
9	B	1	Total	C	N	O	S	12	0
			12	6	1	4	1		

- Molecule 10 is {N}-(2-chloranyl-5-methyl-pyrimidin-4-yl)- {N},1-dimethyl-indazol-5-amine (CCD ID: A1EVF) (formula: C₁₄H₁₄ClN₅) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
10	B	1	Total	C	Cl	N	0	0
			20	14	1	5		

- Molecule 11 is PHOSPHOMETHYLPHOSPHONIC ACID ADENYLATE ESTER (CCD ID: ACP) (formula: C₁₁H₁₈N₅O₁₂P₃).

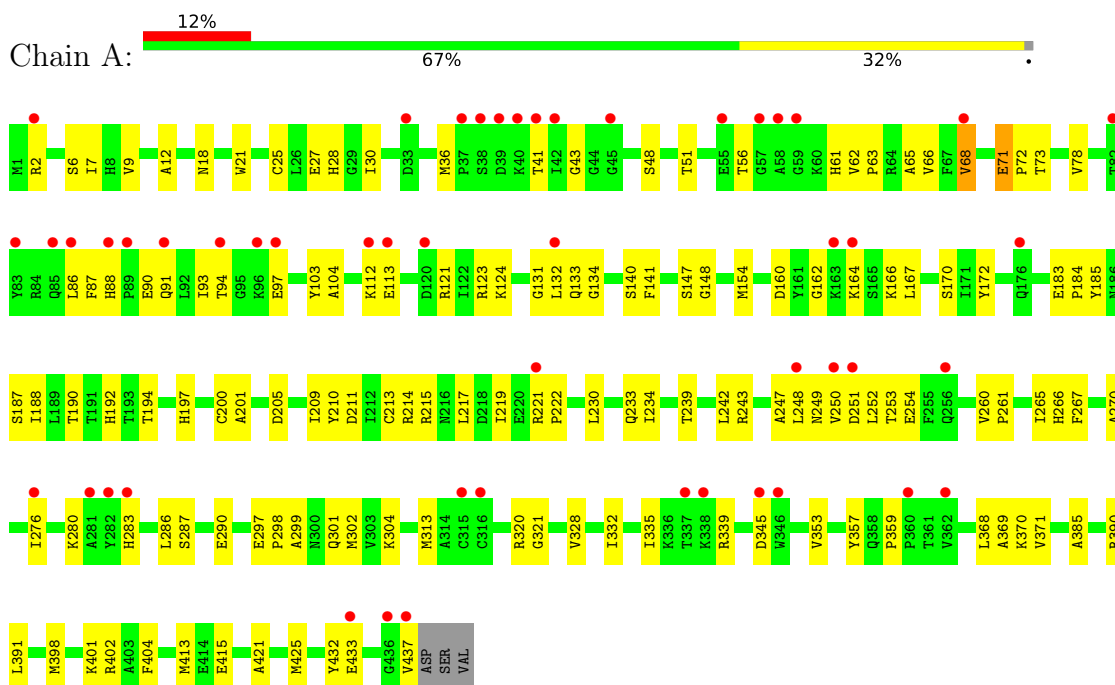


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
11	F	1	Total	C	H	N	O	P	45	0
			45	11	14	5	12	3		

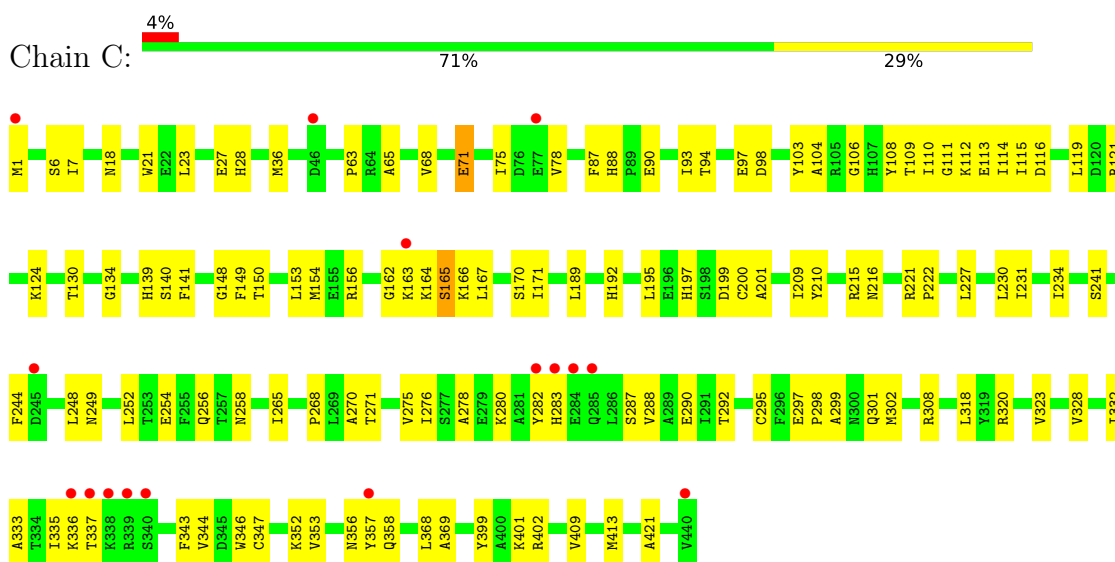
3 Residue-property plots

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

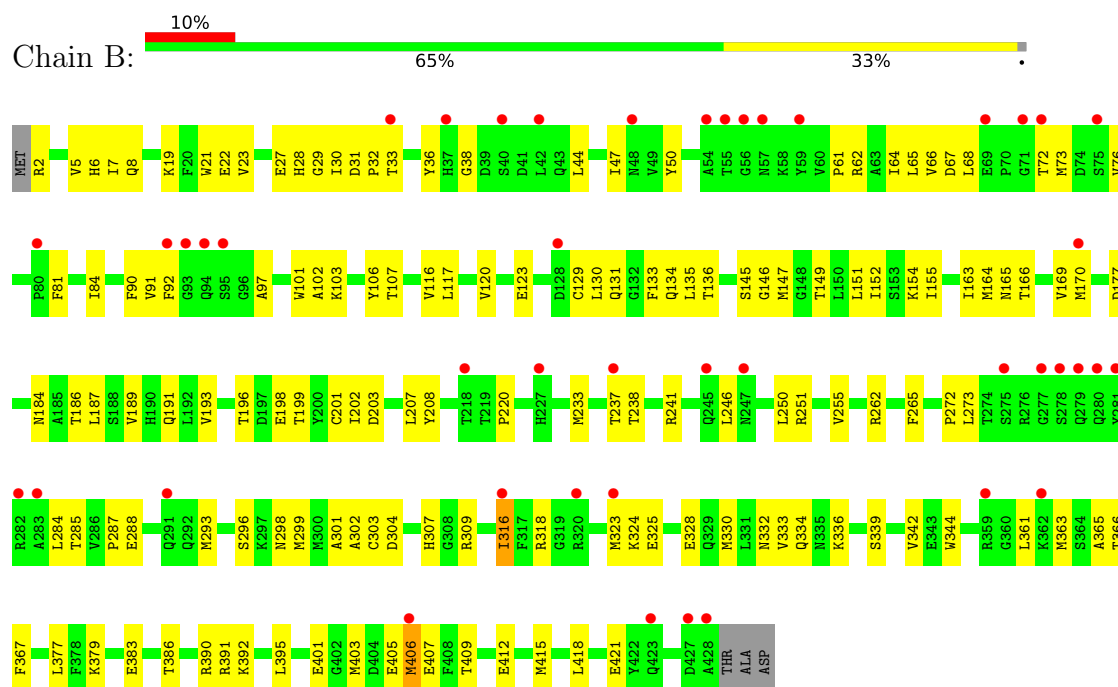
- Molecule 1: Detyrosinated tubulin alpha-1B chain



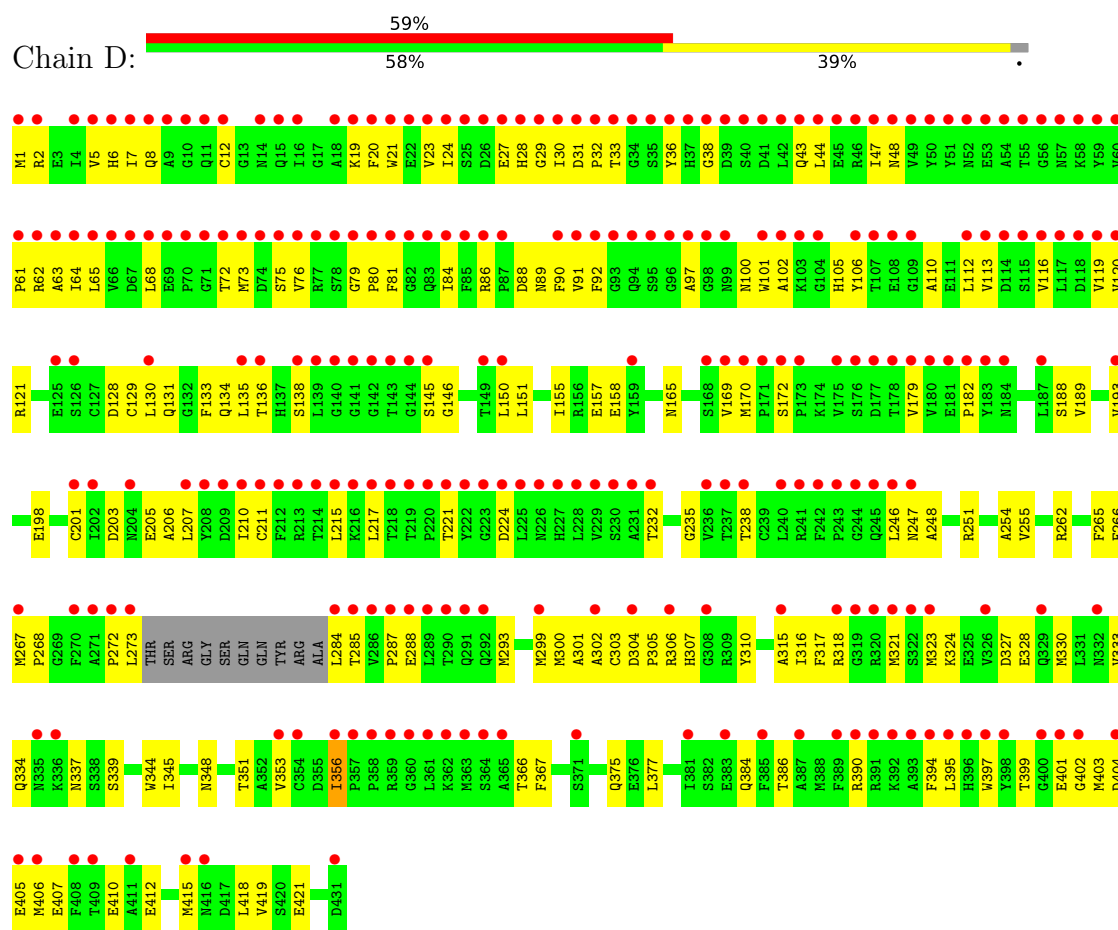
- Molecule 1: Detyrosinated tubulin alpha-1B chain



- Molecule 2: Tubulin beta chain



- Molecule 2: Tubulin beta chain



- Molecule 3: Stathmin-4

4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	104.70Å 157.07Å 180.07Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	59.18 – 2.58 59.18 – 2.58	Depositor EDS
% Data completeness (in resolution range)	99.5 (59.18-2.58) 99.4 (59.18-2.58)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.18 (at 2.58Å)	Xtriage
Refinement program	PHENIX (1.18.2_3874: ???)	Depositor
R, R_{free}	0.250 , 0.288 0.259 , 0.292	Depositor DCC
R_{free} test set	4732 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å ²)	55.0	Xtriage
Anisotropy	0.238	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 34.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	17416	wwPDB-VP
Average B, all atoms (Å ²)	61.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.63% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ACP, CA, MG, MES, GDP, A1EVF, GTP

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	0.20	0/3482	0.43	0/4728
1	C	0.23	0/3511	0.45	0/4768
2	B	0.21	0/3426	0.42	0/4643
2	D	0.19	0/3373	0.38	0/4570
3	E	0.20	0/1008	0.37	0/1337
4	F	0.16	0/2775	0.34	0/3752
All	All	0.20	0/17575	0.40	0/23798

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3405	0	3312	123	0
1	C	3433	0	3337	90	1
2	B	3351	0	3216	115	1
2	D	3300	0	3176	147	0
3	E	1000	0	1018	50	0
4	F	2713	0	2659	135	0
5	A	32	0	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	C	32	0	12	0	0
6	A	1	0	0	0	0
6	C	1	0	0	0	0
7	A	1	0	0	0	0
7	B	1	0	0	0	0
7	C	1	0	0	0	0
8	B	28	0	12	0	0
8	D	28	0	12	0	0
9	B	24	0	24	0	0
10	B	20	0	0	1	0
11	F	31	14	13	0	0
All	All	17402	14	16803	635	1

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 19.

All (635) 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:A:221:ARG:HH11	2:B:323:MET:HB3	1.24	0.99
3:E:46:SER:HB3	3:E:49:GLU:HG3	1.47	0.96
1:A:133:GLN:HE21	1:A:252:LEU:H	1.14	0.95
1:A:90:GLU:OE2	1:A:124:LYS:NZ	2.01	0.93
2:D:315:ALA:HB3	2:D:351:THR:HG22	1.50	0.92
2:D:1:MET:HE3	2:D:128:ASP:HB2	1.53	0.91
1:A:72:PRO:HB3	1:A:94:THR:HG21	1.50	0.90
2:B:66:VAL:HG12	2:B:147:MET:HE1	1.53	0.90
2:D:262:ARG:NH1	2:D:421:GLU:OE1	2.05	0.89
2:D:330:MET:HG3	2:D:351:THR:HG21	1.55	0.88
4:F:192:LEU:HD21	4:F:262:MET:HE1	1.57	0.86
1:A:134:GLY:HA2	1:A:164:LYS:HG3	1.57	0.86
1:C:249:ASN:OD1	1:C:356:ASN:ND2	2.11	0.83
4:F:3:THR:HG22	4:F:28:LYS:HG3	1.59	0.82
1:C:275:VAL:HG13	1:C:368:LEU:HD21	1.62	0.82
2:D:134:GLN:HA	2:D:165:ASN:O	1.81	0.81
2:B:66:VAL:CG1	2:B:147:MET:HE1	2.11	0.81
2:B:406:MET:HE3	2:B:406:MET:HA	1.62	0.80
1:A:63:PRO:HD3	1:A:86:LEU:HG	1.64	0.80
1:A:112:LYS:NZ	1:A:113:GLU:OE2	2.15	0.80
4:F:138:ARG:NH1	4:F:144:GLY:O	2.15	0.78
2:D:395:LEU:HD21	2:D:405:GLU:HG2	1.63	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:239:THR:OG1	1:A:243:ARG:NH1	2.17	0.78
3:E:131:GLU:OE1	3:E:134:ARG:NH2	2.11	0.78
4:F:100:ILE:HD12	4:F:128:ARG:N	1.98	0.77
2:D:2:ARG:NH1	2:D:129:CYS:SG	2.57	0.77
1:A:187:SER:HB2	1:A:391:LEU:HD21	1.67	0.77
2:D:1:MET:HG3	2:D:128:ASP:HB3	1.67	0.77
1:A:133:GLN:HE21	1:A:252:LEU:N	1.81	0.77
1:A:265:ILE:HG21	1:A:313:MET:HE1	1.65	0.77
3:E:6:MET:HE2	3:E:24:LEU:HD22	1.67	0.77
3:E:96:MET:O	3:E:100:LYS:HD3	1.85	0.77
2:B:237:THR:HG22	2:B:241:ARG:HG3	1.68	0.76
1:A:187:SER:CB	1:A:391:LEU:HD21	2.16	0.75
2:D:267:MET:HG2	2:D:301:ALA:HB3	1.68	0.75
2:B:309:ARG:HH21	2:B:342:VAL:HA	1.51	0.75
1:C:234:ILE:HD13	1:C:302:MET:SD	2.27	0.75
2:D:145:SER:OG	2:D:188:SER:OG	2.03	0.75
4:F:16:GLU:OE1	4:F:19:ARG:HD2	1.87	0.75
2:D:5:VAL:HB	2:D:133:PHE:CD2	2.22	0.74
4:F:221:LEU:HD22	4:F:262:MET:CE	2.17	0.74
4:F:135:TYR:OH	4:F:164:SER:O	2.05	0.74
4:F:225:SER:HB3	4:F:252:ASN:HB3	1.70	0.73
1:C:109:THR:HG22	1:C:110:ILE:HD13	1.70	0.73
2:B:392:LYS:HE3	2:B:405:GLU:OE2	1.88	0.73
2:B:170:MET:HG3	2:B:377:LEU:HD11	1.70	0.72
2:D:5:VAL:HB	2:D:133:PHE:HD2	1.54	0.72
2:B:262:ARG:NH1	2:B:421:GLU:OE2	2.21	0.72
1:A:247:ALA:HB3	3:E:19:SER:OG	1.90	0.72
1:A:88:HIS:N	1:A:91:GLN:OE1	2.23	0.72
2:B:81:PHE:O	2:B:84:ILE:HG22	1.89	0.72
4:F:221:LEU:HD22	4:F:262:MET:HE3	1.72	0.71
2:D:44:LEU:HA	2:D:47:ILE:HB	1.71	0.71
2:D:63:ALA:O	2:D:64:ILE:HD13	1.90	0.71
1:A:248:LEU:HG	3:E:19:SER:HB2	1.70	0.71
2:B:395:LEU:HD21	2:B:405:GLU:HG2	1.73	0.70
2:B:316:ILE:HG23	2:B:366:THR:HB	1.72	0.70
4:F:263:PHE:CE2	4:F:341:LYS:HD3	2.27	0.70
2:D:285:THR:HG23	2:D:288:GLU:H	1.57	0.70
4:F:216:TYR:CE2	4:F:218:GLU:HB2	2.27	0.69
4:F:186:LEU:HD12	4:F:320:MET:HG2	1.74	0.69
1:A:357:TYR:OH	3:E:18:GLN:NE2	2.25	0.69
2:D:73:MET:SD	2:D:92:PHE:HB3	2.32	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:166:THR:OG1	2:B:199:THR:HG22	1.93	0.69
4:F:137:ARG:O	4:F:137:ARG:NH1	2.20	0.68
1:C:90:GLU:OE2	1:C:124:LYS:NZ	2.26	0.68
2:B:134:GLN:HA	2:B:165:ASN:O	1.94	0.68
4:F:186:LEU:HD12	4:F:320:MET:CG	2.23	0.68
2:D:73:MET:HE3	2:D:90:PHE:HB3	1.74	0.68
2:D:251:ARG:O	2:D:255:VAL:HG23	1.94	0.67
4:F:148:ILE:HD13	4:F:162:ILE:HG12	1.75	0.67
2:B:324:LYS:O	2:B:328:GLU:HG3	1.94	0.67
2:D:170:MET:HE2	2:D:377:LEU:HD21	1.76	0.67
1:A:2:ARG:O	1:A:51:THR:HG22	1.94	0.67
4:F:19:ARG:HD3	4:F:20:LEU:HD12	1.76	0.67
2:D:73:MET:CE	2:D:90:PHE:HB3	2.24	0.67
1:A:233:GLN:HG3	1:A:368:LEU:CD1	2.25	0.67
1:C:221:ARG:HD2	2:D:327:ASP:OD2	1.95	0.67
4:F:188:LYS:HD3	4:F:323:GLU:OE1	1.95	0.67
1:C:209:ILE:HG23	1:C:230:LEU:HD23	1.76	0.66
2:D:110:ALA:O	2:D:113:VAL:HG12	1.95	0.66
1:A:71:GLU:OE1	1:A:73:THR:HB	1.95	0.66
1:C:141:PHE:CE1	1:C:170:SER:HB3	2.31	0.66
1:A:63:PRO:CD	1:A:86:LEU:HG	2.25	0.66
2:D:301:ALA:O	2:D:303:CYS:N	2.29	0.66
1:A:103:TYR:CE2	1:A:148:GLY:HA2	2.30	0.66
1:C:292:THR:HG22	1:C:335:ILE:CD1	2.25	0.66
1:C:88:HIS:CD2	1:C:90:GLU:H	2.13	0.66
4:F:135:TYR:CD2	4:F:166:ALA:HB2	2.30	0.65
1:A:133:GLN:NE2	1:A:251:ASP:HA	2.11	0.65
4:F:197:ARG:HH12	4:F:257:GLU:CD	2.03	0.65
4:F:283:ILE:HG23	4:F:327:VAL:CG2	2.27	0.65
1:A:345:ASP:HB2	3:E:28:SER:HB2	1.78	0.65
4:F:135:TYR:HE1	4:F:145:ASN:HB3	1.62	0.65
2:D:6:HIS:CD2	2:D:21:TRP:HE1	2.15	0.65
4:F:37:PHE:CZ	4:F:40:MET:HE3	2.32	0.65
3:E:96:MET:HE3	3:E:100:LYS:HE2	1.79	0.65
3:E:6:MET:HE2	3:E:24:LEU:CD2	2.26	0.64
4:F:283:ILE:HG23	4:F:327:VAL:HG22	1.79	0.64
4:F:144:GLY:HA3	4:F:187:GLU:OE2	1.98	0.64
2:B:189:VAL:HG11	2:B:415:MET:HE2	1.79	0.64
2:D:23:VAL:O	2:D:27:GLU:HG3	1.97	0.64
2:D:68:LEU:HD12	2:D:97:ALA:HB2	1.78	0.64
1:C:252:LEU:O	1:C:256:GLN:HG3	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:402:ARG:HH11	1:A:402:ARG:HG3	1.62	0.63
1:A:104:ALA:HB2	1:A:413:MET:SD	2.38	0.63
2:D:72:THR:O	2:D:76:VAL:HG23	1.98	0.63
1:A:166:LYS:NZ	1:A:197:HIS:O	2.24	0.63
1:A:261:PRO:HG3	1:A:313:MET:HB3	1.80	0.63
2:B:251:ARG:O	2:B:255:VAL:HG23	1.98	0.63
2:B:309:ARG:NH1	2:B:339:SER:O	2.32	0.63
1:C:215:ARG:NH2	1:C:299:ALA:O	2.31	0.63
4:F:242:ASN:HB2	4:F:245:ILE:HB	1.81	0.63
1:A:21:TRP:CZ3	1:A:63:PRO:HB3	2.34	0.63
1:A:211:ASP:OD2	1:A:304:LYS:NZ	2.25	0.63
1:C:278:ALA:HA	1:C:369:ALA:HB2	1.80	0.63
2:D:81:PHE:O	2:D:84:ILE:HG22	1.99	0.63
4:F:149:ALA:HB3	4:F:161:LEU:HD23	1.79	0.63
1:A:9:VAL:HG22	1:A:68:VAL:CG1	2.28	0.63
1:A:335:ILE:HG23	1:A:339:ARG:HG3	1.81	0.63
2:B:189:VAL:HB	2:B:415:MET:CE	2.29	0.63
4:F:81:ILE:HA	4:F:87:LEU:HD12	1.80	0.63
4:F:135:TYR:CE1	4:F:145:ASN:HB3	2.34	0.62
2:D:221:THR:HG22	2:D:224:ASP:OD2	1.99	0.62
4:F:135:TYR:CE2	4:F:166:ALA:HB2	2.34	0.62
4:F:72:CYS:O	4:F:73:ARG:HG3	1.99	0.62
4:F:192:LEU:HD21	4:F:262:MET:CE	2.29	0.62
2:B:386:THR:HG22	2:B:412:GLU:OE2	1.99	0.62
2:B:6:HIS:CD2	2:B:21:TRP:HE1	2.16	0.62
2:D:330:MET:O	2:D:334:GLN:HG3	1.99	0.62
2:D:401:GLU:HA	3:E:137:LYS:HD2	1.82	0.62
2:B:170:MET:HE2	2:B:377:LEU:HD21	1.81	0.61
4:F:253:TYR:CZ	4:F:259:GLY:HA2	2.36	0.61
2:D:179:VAL:HG21	2:D:394:PHE:CZ	2.34	0.61
1:A:112:LYS:HE2	3:E:61:ARG:NH2	2.15	0.61
1:C:88:HIS:HD2	1:C:90:GLU:HB2	1.66	0.61
4:F:216:TYR:CZ	4:F:218:GLU:HB2	2.35	0.61
1:C:292:THR:HG22	1:C:335:ILE:HD12	1.81	0.61
4:F:191:LEU:HD23	4:F:196:HIS:O	2.00	0.61
1:C:63:PRO:HG2	1:C:87:PHE:CE1	2.36	0.61
1:A:214:ARG:HG2	1:A:219:ILE:O	2.01	0.60
1:C:104:ALA:HB2	1:C:413:MET:SD	2.41	0.60
3:E:130:ALA:O	3:E:133:VAL:HG12	2.00	0.60
4:F:296:MET:HE2	4:F:380:HIS:CG	2.36	0.60
2:D:306:ARG:NH2	2:D:337:ASN:OD1	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:345:ASP:O	3:E:28:SER:N	2.34	0.60
2:B:117:LEU:HD11	2:B:154:LYS:HD3	1.83	0.60
1:A:370:LYS:HD3	1:A:371:VAL:N	2.17	0.60
1:C:192:HIS:CG	1:C:421:ALA:HA	2.37	0.60
4:F:5:VAL:HG12	4:F:30:LEU:HB2	1.83	0.60
1:A:97:GLU:HG3	2:B:2:ARG:NH1	2.16	0.60
1:A:286:LEU:HD23	1:A:290:GLU:HB3	1.84	0.60
4:F:2:TYR:CZ	4:F:359:PHE:HB3	2.36	0.60
1:C:162:GLY:HA2	3:E:94:ILE:HD11	1.82	0.59
4:F:214:TYR:HB3	4:F:375:PHE:HB3	1.83	0.59
3:E:101:LEU:O	3:E:105:MET:HG2	2.02	0.59
1:C:139:HIS:CD2	1:C:150:THR:HG21	2.38	0.59
4:F:148:ILE:HD13	4:F:162:ILE:CG1	2.33	0.59
1:A:433:GLU:O	1:A:437:VAL:HG23	2.01	0.59
2:B:189:VAL:CB	2:B:415:MET:HE2	2.32	0.59
4:F:95:PRO:HB2	4:F:183:GLN:HG2	1.84	0.59
3:E:46:SER:O	3:E:50:ILE:HG12	2.02	0.59
2:D:272:PRO:HB3	2:D:284:LEU:CD2	2.32	0.59
1:C:1:MET:HB3	1:C:130:THR:OG1	2.02	0.59
1:A:141:PHE:CE1	1:A:170:SER:HB3	2.37	0.59
1:C:75:ILE:HD12	1:C:94:THR:HG22	1.85	0.58
3:E:130:ALA:HA	3:E:133:VAL:HG12	1.85	0.58
2:D:65:LEU:HD22	2:D:90:PHE:CE2	2.38	0.58
4:F:263:PHE:HE2	4:F:342:LEU:HD21	1.67	0.58
4:F:13:VAL:O	4:F:17:VAL:HG23	2.03	0.58
2:D:246:LEU:HD13	2:D:248:ALA:HB2	1.85	0.58
2:B:21:TRP:CZ3	2:B:61:PRO:HB3	2.38	0.58
2:B:67:ASP:O	2:B:92:PHE:HA	2.03	0.58
2:D:395:LEU:HD21	2:D:405:GLU:CG	2.34	0.58
4:F:138:ARG:HB3	4:F:145:ASN:OD1	2.03	0.58
1:A:234:ILE:HD13	1:A:302:MET:SD	2.43	0.58
4:F:31:ARG:HH21	4:F:32:LYS:HG3	1.67	0.58
2:D:395:LEU:CD2	2:D:405:GLU:HG2	2.34	0.58
2:D:285:THR:OG1	2:D:287:PRO:HD2	2.04	0.58
1:A:276:ILE:HG23	1:A:369:ALA:HB3	1.86	0.57
2:D:19:LYS:O	2:D:23:VAL:HG23	2.04	0.57
2:D:402:GLY:C	3:E:133:VAL:HG23	2.28	0.57
1:A:213:CYS:O	1:A:217:LEU:HB2	2.04	0.57
1:C:21:TRP:CZ3	1:C:63:PRO:HB3	2.39	0.57
4:F:199:PHE:CD2	4:F:221:LEU:HD23	2.40	0.57
2:B:406:MET:CE	2:B:409:THR:HB	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:253:TYR:CE1	4:F:259:GLY:HA2	2.38	0.57
1:C:112:LYS:NZ	1:C:113:GLU:OE2	2.37	0.57
4:F:203:SER:HB3	4:F:215:LEU:HD11	1.86	0.57
1:A:72:PRO:HB3	1:A:94:THR:CG2	2.28	0.57
1:C:18:ASN:HD21	1:C:78:VAL:HG22	1.69	0.57
4:F:191:LEU:HA	4:F:197:ARG:O	2.05	0.56
1:A:287:SER:OG	1:A:290:GLU:HG3	2.05	0.56
1:C:93:ILE:HD11	1:C:121:ARG:HG3	1.87	0.56
2:D:189:VAL:HG11	2:D:415:MET:HE2	1.86	0.56
4:F:170:LEU:O	4:F:173:ILE:HG12	2.05	0.56
1:A:12:ALA:HB3	1:A:140:SER:HB3	1.88	0.56
1:C:320:ARG:HA	1:C:356:ASN:O	2.05	0.56
1:A:103:TYR:CD2	1:A:148:GLY:HA2	2.40	0.56
2:D:211:CYS:HA	2:D:215:LEU:HB2	1.86	0.56
1:C:333:ALA:O	1:C:337:THR:HG23	2.06	0.56
2:D:20:PHE:CZ	2:D:24:ILE:HD13	2.39	0.56
2:D:266:PHE:O	2:D:268:PRO:HD3	2.06	0.56
2:D:375:GLN:HB2	2:D:419:VAL:HG13	1.87	0.56
4:F:292:ARG:O	4:F:296:MET:HB2	2.06	0.56
1:C:248:LEU:HD12	1:C:357:TYR:OH	2.06	0.56
1:A:185:TYR:CZ	1:A:398:MET:HE2	2.41	0.56
2:B:5:VAL:HG23	2:B:130:LEU:HD11	1.88	0.56
1:A:43:GLY:HA2	1:A:56:THR:O	2.07	0.55
2:D:211:CYS:HA	2:D:215:LEU:HD12	1.88	0.55
2:D:246:LEU:HD12	2:D:246:LEU:O	2.06	0.55
4:F:31:ARG:NH2	4:F:32:LYS:HG3	2.22	0.55
4:F:128:ARG:N	4:F:128:ARG:HD2	2.21	0.55
4:F:263:PHE:CZ	4:F:341:LYS:HD3	2.41	0.55
2:B:330:MET:O	2:B:334:GLN:HG3	2.05	0.55
2:D:6:HIS:HE2	2:D:8:GLN:HG2	1.71	0.55
3:E:7:GLU:HG2	3:E:9:ILE:CG2	2.36	0.55
2:D:121:ARG:NH2	2:D:158:GLU:OE2	2.39	0.55
1:C:287:SER:OG	1:C:290:GLU:HG3	2.07	0.55
4:F:219:GLY:HA3	4:F:264:PHE:CZ	2.41	0.55
4:F:226:GLU:OE2	4:F:252:ASN:HB2	2.06	0.55
2:B:189:VAL:CG1	2:B:415:MET:HE2	2.37	0.55
2:D:20:PHE:CE1	2:D:24:ILE:HG21	2.42	0.55
2:D:293:MET:CG	2:D:367:PHE:HB2	2.37	0.55
1:A:192:HIS:CG	1:A:421:ALA:HA	2.41	0.54
2:B:377:LEU:C	2:B:377:LEU:HD23	2.32	0.54
2:B:406:MET:HE3	2:B:409:THR:HB	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:195:GLY:C	4:F:197:ARG:HG3	2.32	0.54
2:B:62:ARG:HG3	2:B:123:GLU:OE2	2.07	0.54
2:D:272:PRO:HG3	2:D:284:LEU:HD13	1.88	0.54
3:E:47:LEU:HD12	3:E:47:LEU:O	2.06	0.54
1:A:242:LEU:HD23	1:A:250:VAL:O	2.07	0.54
2:B:101:TRP:CE3	2:B:187:LEU:HD13	2.43	0.54
2:B:272:PRO:HD2	2:B:361:LEU:HD13	1.90	0.54
4:F:208:ASP:OD2	4:F:212:ASN:HB2	2.07	0.54
2:D:65:LEU:CD2	2:D:76:VAL:HG11	2.37	0.54
2:D:172:SER:OG	2:D:205:GLU:HB2	2.07	0.54
2:D:272:PRO:HB3	2:D:284:LEU:HD21	1.89	0.54
4:F:229:ASN:ND2	4:F:232:ASN:OD1	2.41	0.54
2:B:116:VAL:O	2:B:120:VAL:HG23	2.07	0.54
2:D:75:SER:O	2:D:79:GLY:N	2.41	0.54
3:E:121:GLU:O	3:E:124:GLN:HG3	2.08	0.54
1:A:93:ILE:HD11	1:A:121:ARG:HG3	1.90	0.54
1:A:276:ILE:HD12	1:A:283:HIS:CD2	2.43	0.53
1:C:265:ILE:N	1:C:265:ILE:HD12	2.23	0.53
1:C:282:TYR:O	1:C:283:HIS:HB2	2.07	0.53
4:F:47:LEU:HD23	4:F:48:PRO:HD2	1.90	0.53
1:A:27:GLU:CD	1:A:320:ARG:HH22	2.16	0.53
1:A:132:LEU:O	1:A:164:LYS:NZ	2.26	0.53
1:A:28:HIS:CE1	1:A:243:ARG:HB3	2.44	0.53
1:A:134:GLY:HA2	1:A:164:LYS:CG	2.33	0.53
1:C:166:LYS:HE2	1:C:197:HIS:O	2.09	0.53
2:D:345:ILE:HG22	2:D:348:ASN:HB3	1.91	0.53
2:D:386:THR:O	2:D:390:ARG:HG2	2.09	0.53
1:A:2:ARG:HE	1:A:131:GLY:HA3	1.73	0.53
1:A:248:LEU:HG	3:E:19:SER:CB	2.38	0.53
1:A:36:MET:HB3	1:A:61:HIS:CE1	2.44	0.53
2:D:105:HIS:O	2:D:150:LEU:HD22	2.07	0.53
1:A:12:ALA:CB	1:A:140:SER:HB3	2.39	0.53
3:E:127:ASP:O	3:E:131:GLU:HG2	2.08	0.53
1:A:172:TYR:HB3	1:A:205:ASP:HA	1.91	0.53
2:B:5:VAL:HG23	2:B:130:LEU:CD1	2.39	0.53
2:D:29:GLY:C	2:D:30:ILE:HD12	2.34	0.53
1:A:147:SER:HB2	1:A:190:THR:HB	1.91	0.52
1:A:265:ILE:CG2	1:A:313:MET:HE1	2.39	0.52
2:B:31:ASP:CG	2:B:33:THR:HG22	2.35	0.52
1:A:248:LEU:HD12	1:A:353:VAL:O	2.10	0.52
2:B:44:LEU:HA	2:B:47:ILE:HB	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:68:LEU:HD12	2:B:97:ALA:HB2	1.91	0.52
2:D:285:THR:HG22	2:D:288:GLU:CD	2.34	0.52
3:E:9:ILE:HG12	3:E:21:GLU:HB3	1.90	0.52
1:A:2:ARG:NE	1:A:131:GLY:HA3	2.25	0.52
2:D:101:TRP:NE1	2:D:146:GLY:HA2	2.24	0.52
4:F:286:GLN:O	4:F:290:ILE:HG13	2.10	0.52
1:A:328:VAL:O	1:A:332:ILE:HG13	2.09	0.52
2:D:7:ILE:O	2:D:135:LEU:HD12	2.10	0.52
4:F:20:LEU:O	4:F:24:THR:HG23	2.09	0.52
1:A:71:GLU:HG2	1:A:72:PRO:HD2	1.92	0.52
2:D:21:TRP:CZ3	2:D:61:PRO:HB3	2.45	0.52
4:F:2:TYR:CE1	4:F:359:PHE:HB3	2.45	0.52
2:D:80:PRO:O	2:D:81:PHE:HB2	2.09	0.52
2:D:310:TYR:CE1	2:D:367:PHE:HZ	2.28	0.52
4:F:148:ILE:O	4:F:182:ILE:HA	2.09	0.52
4:F:178:GLN:N	4:F:178:GLN:OE1	2.43	0.52
1:A:2:ARG:HB3	1:A:133:GLN:HB2	1.91	0.51
1:C:119:LEU:HD11	1:C:156:ARG:HB3	1.92	0.51
2:B:2:ARG:HB3	2:B:131:GLN:CG	2.40	0.51
4:F:197:ARG:HB3	4:F:224:SER:O	2.11	0.51
4:F:176:GLN:HG3	4:F:180:HIS:HE1	1.75	0.51
2:B:304:ASP:HB3	2:B:307:HIS:CG	2.45	0.51
2:D:406:MET:O	2:D:410:GLU:HG3	2.10	0.51
1:C:97:GLU:O	1:C:110:ILE:HG21	2.10	0.51
1:C:165:SER:HA	1:C:199:ASP:OD2	2.11	0.51
2:B:301:ALA:O	2:B:303:CYS:N	2.44	0.51
2:B:170:MET:HE2	2:B:377:LEU:CD2	2.41	0.51
2:D:285:THR:HG22	2:D:288:GLU:CG	2.41	0.51
3:E:6:MET:HG3	3:E:24:LEU:HD23	1.91	0.51
4:F:189:PRO:HA	4:F:322:ASP:HA	1.92	0.51
4:F:314:LEU:HD22	4:F:350:ILE:HD11	1.93	0.51
2:B:22:GLU:HG2	2:B:81:PHE:CD1	2.46	0.51
2:D:6:HIS:NE2	2:D:8:GLN:HG2	2.26	0.51
2:B:238:THR:OG1	2:B:318:ARG:HD2	2.10	0.50
2:D:63:ALA:C	2:D:64:ILE:HD13	2.36	0.50
1:A:62:VAL:HG13	1:A:86:LEU:O	2.12	0.50
1:A:167:LEU:HG	1:A:200:CYS:HB3	1.93	0.50
2:D:1:MET:HB3	2:D:48:ASN:ND2	2.26	0.50
1:A:265:ILE:HD12	1:A:265:ILE:N	2.27	0.50
2:B:165:ASN:HA	2:B:198:GLU:O	2.09	0.50
4:F:225:SER:CB	4:F:252:ASN:HB3	2.39	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:36:TYR:CE1	2:D:38:GLY:HA3	2.47	0.50
2:D:377:LEU:C	2:D:377:LEU:HD23	2.36	0.50
1:A:276:ILE:HD12	1:A:280:LYS:HZ3	1.77	0.50
2:D:395:LEU:HG	2:D:399:THR:HG23	1.93	0.50
2:B:61:PRO:HD3	2:B:84:ILE:HG12	1.94	0.50
1:C:88:HIS:NE2	1:C:90:GLU:HG3	2.27	0.50
2:D:206:ALA:O	2:D:210:ILE:HG13	2.11	0.50
4:F:7:ARG:HB2	4:F:42:GLY:HA2	1.94	0.50
2:D:151:LEU:O	2:D:155:ILE:HG13	2.12	0.50
1:C:162:GLY:CA	3:E:94:ILE:HD11	2.41	0.50
2:B:64:ILE:HD12	2:B:120:VAL:HG22	1.94	0.49
2:B:101:TRP:HB2	2:B:184:ASN:OD1	2.12	0.49
1:C:227:LEU:O	1:C:231:ILE:HG13	2.12	0.49
2:D:386:THR:HG22	2:D:412:GLU:OE2	2.12	0.49
4:F:19:ARG:CD	4:F:20:LEU:HD12	2.40	0.49
2:B:237:THR:HB	2:B:241:ARG:HE	1.78	0.49
1:A:25:CYS:HB3	1:A:30:ILE:O	2.12	0.49
1:C:210:TYR:CE2	1:C:222:PRO:HD2	2.47	0.49
4:F:224:SER:OG	4:F:238:CYS:HA	2.12	0.49
2:B:101:TRP:HD1	2:B:145:SER:OG	1.96	0.49
1:A:357:TYR:CE2	3:E:17:GLY:HA2	2.48	0.49
3:E:72:LEU:O	3:E:76:ARG:HG2	2.12	0.49
1:A:154:MET:HG3	1:A:194:THR:HG23	1.93	0.49
1:C:75:ILE:HB	1:C:94:THR:CG2	2.42	0.49
2:B:309:ARG:NH2	2:B:342:VAL:HA	2.25	0.49
2:B:169:VAL:HA	2:B:202:ILE:O	2.12	0.48
4:F:47:LEU:HD23	4:F:48:PRO:N	2.28	0.48
2:B:101:TRP:NE1	2:B:146:GLY:HA2	2.28	0.48
2:B:287:PRO:HD3	2:B:325:GLU:OE1	2.12	0.48
2:D:193:VAL:HG11	2:D:262:ARG:NH2	2.28	0.48
1:A:72:PRO:CB	1:A:94:THR:HG21	2.32	0.48
1:A:187:SER:HB3	1:A:391:LEU:HD21	1.91	0.48
1:A:265:ILE:O	1:A:265:ILE:HG22	2.13	0.48
1:C:93:ILE:HG22	1:C:114:ILE:HD11	1.96	0.48
2:D:330:MET:HE2	2:D:351:THR:CG2	2.42	0.48
4:F:131:PHE:CG	4:F:182:ILE:HD11	2.48	0.48
4:F:138:ARG:HB3	4:F:145:ASN:CG	2.38	0.48
2:B:23:VAL:O	2:B:27:GLU:HG3	2.14	0.48
2:B:36:TYR:CE1	2:B:38:GLY:HA3	2.48	0.48
1:C:265:ILE:HG22	1:C:265:ILE:O	2.12	0.48
1:C:7:ILE:HG21	1:C:153:LEU:HD21	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:86:ARG:NE	2:D:88:ASP:HB2	2.29	0.48
2:D:182:PRO:HB3	2:D:384:GLN:HB2	1.95	0.48
2:D:267:MET:CE	2:D:299:MET:HG3	2.44	0.48
1:A:270:ALA:HB3	1:A:302:MET:CG	2.43	0.48
2:D:102:ALA:HB2	2:D:403:MET:SD	2.53	0.48
1:A:398:MET:HE3	1:A:404:PHE:HD2	1.79	0.48
2:B:201:CYS:SG	2:B:265:PHE:HB3	2.54	0.48
1:C:103:TYR:CE2	1:C:148:GLY:HA2	2.49	0.48
4:F:47:LEU:HD23	4:F:48:PRO:CD	2.44	0.48
4:F:208:ASP:CG	4:F:212:ASN:HB2	2.39	0.48
1:A:71:GLU:HG2	1:A:72:PRO:N	2.29	0.47
1:A:215:ARG:NH2	1:A:299:ALA:HB1	2.29	0.47
1:C:88:HIS:CD2	1:C:90:GLU:HB2	2.47	0.47
2:D:30:ILE:HD12	2:D:30:ILE:N	2.29	0.47
4:F:98:TYR:O	4:F:181:VAL:HG23	2.14	0.47
1:A:270:ALA:HB3	1:A:302:MET:HG2	1.95	0.47
1:A:390:ARG:HD3	4:F:54:HIS:CD2	2.49	0.47
1:A:401:LYS:HG3	2:B:344:TRP:CD2	2.49	0.47
2:D:211:CYS:O	2:D:215:LEU:HB2	2.14	0.47
2:D:235:GLY:HA3	2:D:366:THR:OG1	2.14	0.47
2:D:403:MET:HE3	2:D:407:GLU:CD	2.39	0.47
3:E:96:MET:CE	3:E:100:LYS:HE2	2.45	0.47
1:A:249:ASN:N	1:A:254:GLU:OE2	2.47	0.47
2:B:21:TRP:CE3	2:B:61:PRO:HB3	2.49	0.47
2:B:170:MET:CE	2:B:377:LEU:HD21	2.45	0.47
2:D:193:VAL:CG2	2:D:418:LEU:HD22	2.45	0.47
2:B:30:ILE:HD12	2:B:30:ILE:N	2.30	0.47
4:F:87:LEU:O	4:F:88:SER:OG	2.22	0.47
4:F:198:LYS:HG2	4:F:199:PHE:N	2.29	0.47
1:A:123:ARG:HH22	1:A:160:ASP:HB3	1.78	0.47
2:B:31:ASP:HB2	2:B:32:PRO:HD2	1.97	0.47
4:F:74:LYS:HB3	4:F:181:VAL:HG11	1.96	0.47
1:A:276:ILE:CD1	1:A:280:LYS:HZ3	2.27	0.47
2:B:65:LEU:N	2:B:65:LEU:HD12	2.30	0.47
2:B:293:MET:HE2	2:B:367:PHE:HB2	1.97	0.47
4:F:191:LEU:HD23	4:F:196:HIS:C	2.40	0.47
4:F:305:LYS:HE3	4:F:306:HIS:CE1	2.50	0.47
1:C:332:ILE:HG22	1:C:336:LYS:HE2	1.95	0.47
2:D:86:ARG:HD3	2:D:89:ASN:OD1	2.15	0.47
4:F:78:VAL:HG21	4:F:181:VAL:HG21	1.96	0.47
4:F:305:LYS:HE3	4:F:306:HIS:NE2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:88:HIS:HD2	1:A:90:GLU:HB2	1.80	0.47
1:C:28:HIS:O	1:C:36:MET:HE3	2.14	0.47
2:D:404:ASP:CG	2:D:406:MET:HG2	2.40	0.47
2:B:103:LYS:HA	2:B:107:THR:OG1	2.15	0.47
2:D:318:ARG:HH21	2:D:356:ILE:HG12	1.80	0.47
4:F:197:ARG:NH1	4:F:257:GLU:OE1	2.46	0.47
4:F:218:GLU:HB3	4:F:342:LEU:HD13	1.97	0.47
2:D:157:GLU:HA	3:E:123:LEU:HD13	1.97	0.46
4:F:142:ARG:O	4:F:142:ARG:HG2	2.15	0.46
1:A:123:ARG:NH2	1:A:160:ASP:HB3	2.30	0.46
2:B:177:ASP:O	1:C:352:LYS:HE2	2.14	0.46
1:C:298:PRO:HG2	1:C:308:ARG:NH2	2.30	0.46
4:F:278:THR:O	4:F:282:SER:OG	2.24	0.46
1:A:112:LYS:HE2	3:E:61:ARG:HH22	1.80	0.46
1:A:188:ILE:HG13	1:A:425:MET:HG3	1.98	0.46
1:C:343:PHE:HD2	1:C:347:CYS:SG	2.37	0.46
2:D:316:ILE:N	2:D:316:ILE:HD12	2.30	0.46
2:D:65:LEU:N	2:D:65:LEU:HD12	2.31	0.46
1:A:2:ARG:CB	1:A:133:GLN:HB2	2.46	0.46
1:A:201:ALA:O	1:A:267:PHE:HA	2.15	0.46
2:B:65:LEU:HD22	2:B:90:PHE:CE2	2.50	0.46
2:B:330:MET:O	2:B:333:VAL:HG12	2.16	0.46
1:C:103:TYR:CD2	1:C:148:GLY:HA2	2.51	0.46
4:F:99:VAL:O	4:F:99:VAL:HG23	2.15	0.46
2:D:2:ARG:CB	2:D:131:GLN:HE21	2.28	0.46
1:A:209:ILE:HG23	1:A:230:LEU:HD23	1.98	0.46
2:B:193:VAL:CG2	2:B:418:LEU:HD22	2.46	0.46
4:F:135:TYR:HE1	4:F:145:ASN:CB	2.28	0.46
4:F:226:GLU:HB2	4:F:238:CYS:HB3	1.98	0.46
4:F:262:MET:HG3	4:F:266:GLU:OE1	2.16	0.46
1:A:210:TYR:CZ	1:A:222:PRO:HD2	2.51	0.46
2:D:44:LEU:O	2:D:47:ILE:HG22	2.16	0.46
2:D:232:THR:OG1	2:D:300:MET:HE3	2.15	0.46
4:F:192:LEU:HD12	4:F:192:LEU:N	2.31	0.46
1:A:9:VAL:HA	1:A:68:VAL:HG13	1.98	0.46
2:B:36:TYR:CD2	2:B:44:LEU:HD11	2.50	0.46
1:C:210:TYR:CZ	1:C:222:PRO:HD2	2.51	0.46
1:C:258:ASN:ND2	1:C:352:LYS:HD2	2.31	0.46
4:F:138:ARG:HB3	4:F:145:ASN:ND2	2.31	0.46
1:A:276:ILE:CD1	1:A:283:HIS:CD2	2.99	0.45
2:B:72:THR:O	2:B:76:VAL:HG23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:208:TYR:CD1	2:B:220:PRO:HG2	2.51	0.45
1:C:21:TRP:CH2	1:C:63:PRO:HB3	2.50	0.45
2:D:31:ASP:HB2	2:D:32:PRO:HD2	1.98	0.45
4:F:296:MET:HE2	4:F:380:HIS:ND1	2.30	0.45
1:C:103:TYR:CD1	1:C:189:LEU:HD13	2.51	0.45
2:D:210:ILE:CG2	2:D:273:LEU:HD13	2.45	0.45
2:D:211:CYS:SG	2:D:215:LEU:HD12	2.56	0.45
2:D:323:MET:SD	2:D:353:VAL:HG11	2.56	0.45
4:F:135:TYR:HD2	4:F:166:ALA:HB2	1.78	0.45
1:A:71:GLU:HG2	1:A:72:PRO:CD	2.46	0.45
2:B:29:GLY:C	2:B:30:ILE:HD12	2.42	0.45
2:B:151:LEU:O	2:B:155:ILE:HG13	2.17	0.45
2:D:31:ASP:HB2	2:D:32:PRO:CD	2.47	0.45
3:E:139:LEU:O	3:E:139:LEU:HG	2.16	0.45
4:F:31:ARG:HG3	4:F:32:LYS:N	2.31	0.45
4:F:200:ASP:OD2	4:F:241:THR:OG1	2.20	0.45
2:D:31:ASP:CG	2:D:33:THR:HG22	2.42	0.45
1:C:167:LEU:HG	1:C:200:CYS:HB3	1.99	0.45
2:D:21:TRP:CE3	2:D:24:ILE:HD11	2.51	0.45
2:D:86:ARG:HE	2:D:88:ASP:HB2	1.81	0.45
2:D:201:CYS:SG	2:D:265:PHE:HB3	2.57	0.45
4:F:3:THR:O	4:F:38:ASN:HB2	2.17	0.45
1:A:321:GLY:HA2	1:A:359:PRO:HA	1.99	0.45
2:B:102:ALA:HB2	2:B:403:MET:SD	2.57	0.45
1:C:298:PRO:O	1:C:301:GLN:HG3	2.17	0.45
2:D:203:ASP:O	2:D:207:LEU:HG	2.17	0.45
2:D:285:THR:CG2	2:D:288:GLU:HG3	2.47	0.45
1:A:215:ARG:NH2	1:A:299:ALA:O	2.49	0.45
1:A:286:LEU:HA	1:A:290:GLU:OE1	2.17	0.45
2:D:1:MET:HG3	2:D:128:ASP:CB	2.40	0.44
2:D:32:PRO:O	2:D:84:ILE:HB	2.17	0.44
4:F:207:VAL:HA	4:F:212:ASN:O	2.17	0.44
2:B:273:LEU:HG	2:B:298:ASN:ND2	2.32	0.44
1:C:68:VAL:HG11	1:C:149:PHE:CE2	2.52	0.44
1:A:385:ALA:HB2	1:A:432:TYR:CG	2.52	0.44
2:B:73:MET:CE	2:B:90:PHE:HB3	2.47	0.44
2:B:284:LEU:O	2:B:363:MET:CE	2.66	0.44
2:D:5:VAL:HG22	2:D:62:ARG:HD3	1.98	0.44
2:D:272:PRO:HB3	2:D:284:LEU:HD22	1.98	0.44
4:F:137:ARG:NH1	4:F:140:GLU:HB3	2.32	0.44
1:A:21:TRP:CE3	1:A:63:PRO:HB3	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2:ARG:NH1	2:B:129:CYS:SG	2.90	0.44
2:B:379:LYS:O	2:B:383:GLU:HG3	2.17	0.44
1:C:409:VAL:HA	1:C:413:MET:O	2.17	0.44
2:D:20:PHE:CE2	2:D:24:ILE:HD13	2.53	0.44
2:D:116:VAL:O	2:D:120:VAL:HG23	2.17	0.44
2:D:179:VAL:O	2:D:182:PRO:HD2	2.18	0.44
3:E:6:MET:HG3	3:E:24:LEU:CD2	2.47	0.44
3:E:7:GLU:HG2	3:E:9:ILE:HG22	1.98	0.44
1:A:210:TYR:CE1	1:A:222:PRO:HD2	2.52	0.44
1:C:216:ASN:HB3	1:C:275:VAL:O	2.17	0.44
2:D:138:SER:HA	2:D:169:VAL:HB	1.99	0.44
1:C:344:VAL:HG21	1:C:346:TRP:CE2	2.53	0.44
2:D:330:MET:HA	2:D:333:VAL:HG12	1.99	0.44
4:F:186:LEU:HD12	4:F:320:MET:HG3	2.00	0.44
1:A:260:VAL:HG11	1:A:266:HIS:HB3	1.99	0.44
4:F:232:ASN:OD1	4:F:232:ASN:N	2.50	0.44
1:C:140:SER:HA	1:C:171:ILE:HB	1.99	0.44
1:C:254:GLU:HG2	1:C:352:LYS:HE2	1.99	0.44
2:D:73:MET:HE1	2:D:92:PHE:HD1	1.83	0.44
4:F:191:LEU:HD22	4:F:196:HIS:CD2	2.52	0.44
1:A:402:ARG:HD3	1:A:415:GLU:OE2	2.18	0.43
3:E:119:MET:O	3:E:122:ARG:HG2	2.18	0.43
3:E:123:LEU:O	3:E:126:LYS:HB2	2.18	0.43
2:B:36:TYR:CZ	2:B:38:GLY:HA3	2.52	0.43
2:B:31:ASP:HB2	2:B:32:PRO:CD	2.48	0.43
2:B:106:TYR:OH	2:B:407:GLU:OE1	2.26	0.43
2:B:196:THR:OG1	2:B:199:THR:HG23	2.18	0.43
4:F:3:THR:HB	4:F:30:LEU:HD11	1.99	0.43
1:C:195:LEU:HD12	1:C:195:LEU:HA	1.86	0.43
1:C:276:ILE:HD11	1:C:280:LYS:C	2.44	0.43
2:D:12:CYS:SG	2:D:169:VAL:HG21	2.59	0.43
4:F:95:PRO:HD2	4:F:183:GLN:NE2	2.33	0.43
1:A:280:LYS:HB3	1:A:280:LYS:HE2	1.85	0.43
2:D:91:VAL:HG11	2:D:116:VAL:HG22	2.00	0.43
4:F:147:TRP:O	4:F:162:ILE:HG23	2.17	0.43
4:F:263:PHE:CE2	4:F:342:LEU:HD21	2.50	0.43
1:C:221:ARG:CZ	2:D:323:MET:HB3	2.49	0.43
2:D:165:ASN:HA	2:D:198:GLU:O	2.19	0.43
3:E:25:LYS:HG2	3:E:26:PRO:O	2.19	0.43
4:F:47:LEU:HD13	4:F:49:PHE:CZ	2.53	0.43
2:B:2:ARG:HA	2:B:129:CYS:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:5:VAL:HB	2:B:133:PHE:CD2	2.53	0.43
2:B:44:LEU:O	2:B:47:ILE:HG22	2.18	0.43
2:D:317:PHE:HB3	2:D:321:MET:SD	2.58	0.43
2:D:1:MET:HE3	2:D:128:ASP:CB	2.37	0.43
2:D:267:MET:HE1	2:D:305:PRO:HG3	2.00	0.43
2:B:233:MET:O	2:B:237:THR:OG1	2.35	0.43
2:D:221:THR:HG23	2:D:224:ASP:H	1.83	0.43
3:E:51:GLN:OE1	3:E:51:GLN:HA	2.19	0.43
4:F:165:GLU:HB2	4:F:168:GLU:HG3	2.00	0.43
1:C:241:SER:HA	1:C:249:ASN:OD1	2.19	0.43
2:D:170:MET:HE2	2:D:377:LEU:CD2	2.46	0.43
4:F:138:ARG:HA	4:F:138:ARG:HD3	1.79	0.43
1:C:270:ALA:HB3	1:C:302:MET:CG	2.49	0.42
2:D:112:LEU:O	2:D:116:VAL:HG23	2.19	0.42
2:D:404:ASP:OD1	2:D:405:GLU:N	2.52	0.42
4:F:71:LEU:HD21	4:F:294:CYS:HB3	2.01	0.42
4:F:263:PHE:CZ	4:F:341:LYS:HB3	2.53	0.42
1:A:6:SER:O	1:A:65:ALA:HA	2.19	0.42
2:B:66:VAL:HA	2:B:91:VAL:O	2.19	0.42
2:B:189:VAL:CB	2:B:415:MET:CE	2.94	0.42
2:D:238:THR:OG1	2:D:318:ARG:HD2	2.19	0.42
3:E:80:ARG:HA	3:E:83:ILE:HG22	2.01	0.42
4:F:1:MET:HE2	4:F:28:LYS:HD2	2.01	0.42
4:F:146:VAL:HG23	4:F:187:GLU:OE1	2.19	0.42
4:F:175:GLU:HG2	4:F:175:GLU:O	2.19	0.42
2:B:330:MET:HA	2:B:333:VAL:HG12	2.02	0.42
2:D:65:LEU:HD23	2:D:76:VAL:HG11	2.01	0.42
4:F:81:ILE:HG12	4:F:87:LEU:HD13	2.01	0.42
4:F:102:PRO:HG3	4:F:178:GLN:O	2.19	0.42
2:B:332:ASN:ND2	2:B:336:LYS:HE2	2.35	0.42
1:C:71:GLU:HB3	1:C:98:ASP:HB3	2.01	0.42
3:E:80:ARG:O	3:E:83:ILE:HG22	2.20	0.42
1:A:164:LYS:HE2	1:A:164:LYS:HB2	1.84	0.42
1:A:248:LEU:CG	3:E:19:SER:HB2	2.44	0.42
2:D:130:LEU:HD21	2:D:133:PHE:CZ	2.54	0.42
3:E:135:LYS:HE2	3:E:135:LYS:HB3	1.89	0.42
1:A:21:TRP:CH2	1:A:63:PRO:HB3	2.53	0.42
2:B:199:THR:OG1	2:B:265:PHE:CD1	2.71	0.42
2:B:285:THR:O	2:B:288:GLU:N	2.52	0.42
1:C:115:ILE:HG23	1:C:116:ASP:N	2.35	0.42
1:C:399:TYR:O	1:C:402:ARG:HD3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:20:LEU:HD23	4:F:348:GLN:OE1	2.19	0.42
2:D:28:HIS:ND1	2:D:43:GLN:O	2.38	0.42
1:A:7:ILE:HG23	1:A:66:VAL:HG13	2.01	0.42
2:B:73:MET:HE3	2:B:90:PHE:HD2	1.85	0.42
2:B:152:ILE:HG23	2:B:164:MET:HG2	2.02	0.42
2:B:186:THR:HA	2:B:415:MET:HE1	2.01	0.42
1:C:21:TRP:CE3	1:C:63:PRO:HB3	2.54	0.42
1:A:183:GLU:N	1:A:184:PRO:CD	2.83	0.42
1:A:298:PRO:HA	1:A:301:GLN:CD	2.45	0.42
2:B:203:ASP:O	2:B:207:LEU:HG	2.19	0.42
1:C:244:PHE:CZ	1:C:358:GLN:OE1	2.73	0.42
4:F:130:VAL:HG12	4:F:130:VAL:O	2.19	0.42
2:B:73:MET:HE3	2:B:90:PHE:CD2	2.55	0.41
2:B:296:SER:HA	2:B:299:MET:HG2	2.01	0.41
1:C:108:TYR:O	1:C:112:LYS:HG2	2.20	0.41
1:C:328:VAL:HG11	1:C:353:VAL:HG11	2.01	0.41
1:A:9:VAL:HG22	1:A:68:VAL:HG11	2.01	0.41
2:B:50:TYR:OH	2:B:237:THR:HG23	2.21	0.41
1:C:254:GLU:HG2	1:C:352:LYS:CE	2.50	0.41
1:C:401:LYS:HG3	2:D:344:TRP:CD2	2.56	0.41
2:D:73:MET:HE3	2:D:90:PHE:HD2	1.84	0.41
3:E:130:ALA:C	3:E:133:VAL:HG12	2.45	0.41
4:F:8:ASP:OD2	4:F:44:ARG:HG3	2.20	0.41
2:B:19:LYS:O	2:B:23:VAL:HG23	2.19	0.41
1:C:106:GLY:O	1:C:111:GLY:HA3	2.20	0.41
1:C:163:LYS:HD3	1:C:163:LYS:HA	1.91	0.41
2:D:304:ASP:HB3	2:D:307:HIS:CG	2.55	0.41
1:A:18:ASN:HD21	1:A:78:VAL:HG22	1.85	0.41
1:A:249:ASN:HA	1:A:254:GLU:HB3	2.02	0.41
3:E:101:LEU:HD12	3:E:101:LEU:HA	1.88	0.41
4:F:41:LEU:HA	4:F:63:ASN:OD1	2.20	0.41
4:F:199:PHE:CE2	4:F:221:LEU:HD23	2.55	0.41
1:A:28:HIS:O	1:A:36:MET:HE3	2.20	0.41
2:B:28:HIS:HB3	2:B:47:ILE:HD13	2.02	0.41
2:B:66:VAL:HG11	2:B:147:MET:HE1	1.97	0.41
2:B:149:THR:HB	2:B:191:GLN:HG3	2.02	0.41
1:C:23:LEU:O	1:C:27:GLU:HG3	2.21	0.41
1:C:201:ALA:O	1:C:268:PRO:HD2	2.21	0.41
2:D:211:CYS:HB3	2:D:217:LEU:HD12	2.01	0.41
3:E:138:GLU:C	3:E:140:LYS:H	2.28	0.41
4:F:26:GLN:HE22	4:F:362:ALA:H	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:234:GLN:O	4:F:236:LYS:N	2.52	0.41
1:A:133:GLN:NE2	1:A:252:LEU:HG	2.35	0.41
2:D:198:GLU:OE2	2:D:254:ALA:N	2.54	0.41
1:A:401:LYS:HG3	2:B:344:TRP:CE3	2.56	0.41
2:B:390:ARG:HG3	2:B:391:ARG:HG2	2.02	0.41
1:C:134:GLY:HA2	1:C:164:LYS:HG3	2.02	0.41
4:F:41:LEU:HA	4:F:63:ASN:CG	2.46	0.41
2:B:7:ILE:O	2:B:135:LEU:HA	2.20	0.41
1:C:6:SER:O	1:C:65:ALA:HA	2.20	0.41
1:C:167:LEU:HA	1:C:200:CYS:O	2.21	0.41
2:D:106:TYR:CD1	3:E:133:VAL:HG11	2.55	0.41
2:D:157:GLU:CA	3:E:123:LEU:HD13	2.50	0.41
2:D:324:LYS:O	2:D:328:GLU:HG3	2.21	0.41
3:E:76:ARG:NH2	3:E:79:GLU:OE2	2.48	0.41
4:F:137:ARG:O	4:F:137:ARG:HD2	2.21	0.41
1:A:63:PRO:HG2	1:A:87:PHE:CE1	2.56	0.41
10:B:505:A1EVF:C06	10:B:505:A1EVF:C09	2.99	0.41
1:C:302:MET:N	1:C:302:MET:HE2	2.36	0.41
2:D:28:HIS:HA	2:D:43:GLN:HB3	2.03	0.41
2:B:8:GLN:HB3	2:B:136:THR:OG1	2.21	0.40
4:F:100:ILE:HG23	4:F:128:ARG:N	2.36	0.40
4:F:279:LEU:HD12	4:F:283:ILE:HB	2.03	0.40
1:A:248:LEU:CD1	1:A:353:VAL:O	2.69	0.40
1:C:271:THR:HG21	1:C:295:CYS:O	2.21	0.40
1:C:328:VAL:O	1:C:332:ILE:HG13	2.21	0.40
2:D:64:ILE:HD12	2:D:119:VAL:HG12	2.04	0.40
2:D:100:ASN:ND2	2:D:397:TRP:HB3	2.37	0.40
2:D:262:ARG:HH12	2:D:418:LEU:HA	1.87	0.40
4:F:284:LEU:HD12	4:F:284:LEU:HA	1.78	0.40
2:B:163:ILE:HG21	2:B:250:LEU:HB3	2.03	0.40
4:F:331:GLU:HG2	4:F:332:VAL:N	2.37	0.40
2:B:208:TYR:CE1	2:B:220:PRO:HG2	2.56	0.40
2:B:293:MET:CE	2:B:365:ALA:HB1	2.51	0.40
1:C:150:THR:O	1:C:154:MET:HG2	2.22	0.40
1:C:288:VAL:HG22	1:C:323:VAL:HG22	2.04	0.40
2:D:284:LEU:N	2:D:284:LEU:HD12	2.37	0.40
3:E:140:LYS:HB3	3:E:141:GLU:OE2	2.22	0.40
4:F:2:TYR:CE2	4:F:359:PHE:HB3	2.56	0.40
4:F:304:THR:HG22	4:F:307:LEU:HD12	2.03	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:401:GLU:OE1	1:C:282:TYR:OH[4_445]	2.11	0.09

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	435/440 (99%)	424 (98%)	10 (2%)	1 (0%)	43	63
1	C	438/440 (100%)	427 (98%)	11 (2%)	0	100	100
2	B	425/431 (99%)	412 (97%)	12 (3%)	1 (0%)	43	63
2	D	417/431 (97%)	402 (96%)	14 (3%)	1 (0%)	43	63
3	E	117/136 (86%)	113 (97%)	3 (3%)	1 (1%)	14	29
4	F	322/380 (85%)	302 (94%)	19 (6%)	1 (0%)	36	56
All	All	2154/2258 (95%)	2080 (97%)	69 (3%)	5 (0%)	43	63

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	D	302	ALA
2	B	302	ALA
3	E	27	PRO
4	F	129	GLU
1	A	162	GLY

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	366/371 (99%)	360 (98%)	6 (2%)	55	77
1	C	370/371 (100%)	366 (99%)	4 (1%)	65	83
2	B	367/372 (99%)	364 (99%)	3 (1%)	73	87
2	D	362/372 (97%)	358 (99%)	4 (1%)	65	83
3	E	109/122 (89%)	107 (98%)	2 (2%)	51	74
4	F	295/338 (87%)	287 (97%)	8 (3%)	39	65
All	All	1869/1946 (96%)	1842 (99%)	27 (1%)	59	79

All (27) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	41	THR
1	A	48	SER
1	A	68	VAL
1	A	71	GLU
1	A	253	THR
1	A	297	GLU
2	B	246	LEU
2	B	316	ILE
2	B	406	MET
1	C	71	GLU
1	C	165	SER
1	C	297	GLU
1	C	318	LEU
2	D	136	THR
2	D	247	ASN
2	D	339	SER
2	D	356	ILE
3	E	15	THR
3	E	16	SER
4	F	16	GLU
4	F	31	ARG
4	F	89	GLU
4	F	175	GLU
4	F	179	VAL
4	F	257	GLU
4	F	296	MET
4	F	307	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (25) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	11	GLN
1	A	88	HIS
1	A	133	GLN
1	A	249	ASN
1	A	258	ASN
1	A	283	HIS
1	A	309	HIS
1	A	372	GLN
1	A	393	HIS
2	B	15	GLN
2	B	37	HIS
2	B	298	ASN
2	B	337	ASN
1	C	88	HIS
1	C	283	HIS
1	C	380	ASN
2	D	37	HIS
2	D	247	ASN
2	D	347	ASN
3	E	18	GLN
3	E	78	HIS
4	F	26	GLN
4	F	180	HIS
4	F	269	GLN
4	F	310	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 13 ligands modelled in this entry, 5 are monoatomic - leaving 8 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
8	GDP	D	501	-	28,30,30	1.14	3 (10%)	44,47,47	1.85	9 (20%)
5	GTP	A	501	7	30,34,34	0.82	1 (3%)	46,54,54	1.76	10 (21%)
10	A1EVF	B	505	-	22,22,22	1.60	3 (13%)	30,32,32	3.68	11 (36%)
9	MES	B	503	-	12,12,12	2.28	1 (8%)	14,16,16	2.03	6 (42%)
8	GDP	B	501	7	28,30,30	1.13	3 (10%)	44,47,47	1.84	8 (18%)
9	MES	B	502	-	12,12,12	2.27	1 (8%)	14,16,16	1.97	7 (50%)
5	GTP	C	501	7	30,34,34	0.82	1 (3%)	46,54,54	1.77	10 (21%)
11	ACP	F	401	-	30,33,33	3.06	10 (33%)	45,52,52	2.17	12 (26%)

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
8	GDP	D	501	-	-	3/16/32/32	0/3/3/3
5	GTP	A	501	7	-	7/22/38/38	0/3/3/3
10	A1EVF	B	505	-	-	0/8/8/8	0/3/3/3
9	MES	B	503	-	-	4/6/14/14	0/1/1/1
8	GDP	B	501	7	-	3/16/32/32	0/3/3/3
9	MES	B	502	-	-	5/6/14/14	0/1/1/1
5	GTP	C	501	7	-	4/22/38/38	0/3/3/3
11	ACP	F	401	-	-	5/19/38/38	0/3/3/3

All (23) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	F	401	ACP	O4'-C1'	8.52	1.62	1.42
9	B	503	MES	C8-S	-7.64	1.66	1.77
9	B	502	MES	C8-S	-7.61	1.66	1.77
11	F	401	ACP	C2'-C1'	-7.25	1.30	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	F	401	ACP	O4'-C4'	-6.22	1.31	1.45
11	F	401	ACP	PB-O3A	5.98	1.65	1.58
10	B	505	A1EVF	N14-N13	-5.05	1.34	1.37
11	F	401	ACP	C6-N6	4.58	1.45	1.34
11	F	401	ACP	O2'-C2'	3.29	1.50	1.43
8	B	501	GDP	C5-C4	3.16	1.47	1.38
8	D	501	GDP	C5-C4	3.10	1.47	1.38
10	B	505	A1EVF	C07-N08	2.98	1.45	1.39
11	F	401	ACP	O3'-C3'	-2.82	1.36	1.43
11	F	401	ACP	C5-C4	-2.71	1.34	1.39
11	F	401	ACP	C5-N7	-2.48	1.34	1.39
8	B	501	GDP	C6-N1	-2.41	1.34	1.38
8	D	501	GDP	C6-N1	-2.39	1.34	1.38
5	C	501	GTP	C2-N3	2.25	1.38	1.33
5	A	501	GTP	C2-N3	2.17	1.38	1.33
11	F	401	ACP	PB-O2B	-2.15	1.51	1.56
8	B	501	GDP	C5-N7	-2.11	1.35	1.39
8	D	501	GDP	C5-N7	-2.11	1.35	1.39
10	B	505	A1EVF	C07-N20	-2.01	1.31	1.34

All (73) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	B	505	A1EVF	CL01-C02-N03	10.37	121.44	115.30
10	B	505	A1EVF	N03-C02-N20	-10.30	121.07	129.93
10	B	505	A1EVF	C04-N03-C02	7.18	120.32	114.10
8	B	501	GDP	C5-C4-N3	-6.09	118.58	128.46
8	D	501	GDP	C5-C4-N3	-5.96	118.80	128.46
11	F	401	ACP	N6-C6-N1	-5.82	105.61	118.35
10	B	505	A1EVF	C11-C12-N13	-5.77	107.69	112.06
11	F	401	ACP	N3-C2-N1	-5.57	119.89	128.60
11	F	401	ACP	C5-C6-N6	5.15	134.63	123.43
5	C	501	GTP	C5-C4-N3	-5.01	120.33	128.46
11	F	401	ACP	C5-C4-N3	-4.99	120.23	126.75
5	A	501	GTP	C5-C4-N3	-4.93	120.45	128.46
8	B	501	GDP	C2-N3-C4	4.84	120.93	112.30
8	D	501	GDP	C2-N3-C4	4.82	120.89	112.30
8	B	501	GDP	N9-C4-N3	4.57	135.12	125.94
8	D	501	GDP	N9-C4-N3	4.51	135.00	125.94
5	C	501	GTP	C2-N3-C4	4.47	120.26	112.30
9	B	502	MES	C5-N4-C3	4.44	118.82	108.83
10	B	505	A1EVF	C05-C04-N03	-4.42	120.59	125.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	A	501	GTP	C2-N3-C4	4.41	120.16	112.30
9	B	503	MES	C5-N4-C3	4.35	118.62	108.83
11	F	401	ACP	N9-C8-N7	-4.17	108.22	113.91
10	B	505	A1EVF	C05-C07-N20	-4.01	119.64	125.15
10	B	505	A1EVF	C02-N20-C07	3.88	121.89	110.86
10	B	505	A1EVF	C15-N14-C16	-3.77	123.55	128.39
5	C	501	GTP	PA-O3A-PB	-3.70	120.15	132.83
8	D	501	GDP	PA-O3A-PB	-3.68	120.19	132.83
5	A	501	GTP	PA-O3A-PB	-3.67	120.23	132.83
5	A	501	GTP	PB-O3B-PG	-3.60	120.47	132.83
10	B	505	A1EVF	C15-N14-N13	3.58	124.90	119.92
5	C	501	GTP	PB-O3B-PG	-3.54	120.69	132.83
11	F	401	ACP	C2-N3-C4	3.44	119.87	111.75
8	B	501	GDP	PA-O3A-PB	-3.38	121.23	132.83
5	C	501	GTP	N9-C4-N3	3.24	132.45	125.94
8	D	501	GDP	C6-C5-N7	3.17	136.15	130.25
5	A	501	GTP	N9-C4-N3	3.16	132.28	125.94
8	B	501	GDP	C6-C5-N7	3.13	136.08	130.25
10	B	505	A1EVF	C16-C11-C12	3.05	106.32	104.48
11	F	401	ACP	C5-N7-C8	3.05	107.84	103.51
11	F	401	ACP	PB-O3A-PA	-2.95	123.21	132.56
5	A	501	GTP	C2-N1-C6	-2.88	119.85	125.10
5	C	501	GTP	C2-N1-C6	-2.88	119.85	125.10
11	F	401	ACP	N3-C4-N9	2.74	131.60	127.08
9	B	503	MES	C6-C5-N4	-2.72	105.98	110.10
11	F	401	ACP	C3'-C2'-C1'	2.68	106.51	101.43
5	A	501	GTP	N9-C8-N7	-2.62	108.45	113.39
5	C	501	GTP	N9-C8-N7	-2.59	108.51	113.39
8	B	501	GDP	C4-C5-N7	-2.59	106.62	110.72
8	D	501	GDP	C4-C5-N7	-2.54	106.70	110.72
5	C	501	GTP	C5-C6-N1	2.54	119.63	113.19
5	C	501	GTP	C8-N7-C5	2.52	108.80	104.24
5	A	501	GTP	C8-N7-C5	2.50	108.77	104.24
5	A	501	GTP	C5-C6-N1	2.49	119.52	113.19
10	B	505	A1EVF	C12-N13-N14	2.48	108.42	106.42
8	B	501	GDP	C3'-C2'-C1'	2.42	106.03	101.43
9	B	502	MES	O2S-S-C8	2.40	109.80	106.92
5	C	501	GTP	O6-C6-C5	-2.38	120.28	126.60
5	A	501	GTP	O6-C6-C5	-2.38	120.28	126.60
9	B	503	MES	O3S-S-C8	2.34	109.55	105.77
9	B	503	MES	C7-N4-C3	2.33	117.19	111.23
9	B	503	MES	O2S-S-C8	2.30	109.69	106.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	B	503	MES	C7-N4-C5	2.20	116.86	111.23
9	B	502	MES	C7-N4-C3	2.18	116.82	111.23
9	B	502	MES	O1S-S-C8	2.18	109.54	106.92
9	B	502	MES	O3S-S-C8	2.14	109.22	105.77
9	B	502	MES	C6-C5-N4	-2.13	106.87	110.10
8	D	501	GDP	O6-C6-C5	-2.12	120.97	126.60
8	D	501	GDP	C3'-C2'-C1'	2.12	105.45	101.43
8	B	501	GDP	O6-C6-C5	-2.11	121.00	126.60
11	F	401	ACP	C4-C5-N7	-2.07	108.10	110.62
11	F	401	ACP	C5-C4-N9	2.05	108.16	105.78
8	D	501	GDP	C2'-C3'-C4'	2.04	106.60	102.64
9	B	502	MES	C7-N4-C5	2.03	116.44	111.23

There are no chirality outliers.

All (31) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	501	GTP	PB-O3B-PG-O2G
5	A	501	GTP	C5'-O5'-PA-O1A
5	A	501	GTP	C5'-O5'-PA-O2A
5	C	501	GTP	C5'-O5'-PA-O1A
5	C	501	GTP	C5'-O5'-PA-O2A
8	B	501	GDP	C5'-O5'-PA-O1A
8	B	501	GDP	C5'-O5'-PA-O2A
8	D	501	GDP	C5'-O5'-PA-O3A
8	D	501	GDP	C5'-O5'-PA-O1A
9	B	502	MES	C8-C7-N4-C3
11	F	401	ACP	C5'-O5'-PA-O3A
9	B	502	MES	C7-C8-S-O3S
9	B	503	MES	C7-C8-S-O3S
8	D	501	GDP	PA-O3A-PB-O1B
9	B	503	MES	C8-C7-N4-C3
11	F	401	ACP	O4'-C4'-C5'-O5'
5	A	501	GTP	C5'-O5'-PA-O3A
5	C	501	GTP	C5'-O5'-PA-O3A
11	F	401	ACP	C5'-O5'-PA-O2A
9	B	502	MES	C7-C8-S-O1S
9	B	502	MES	C7-C8-S-O2S
9	B	503	MES	C7-C8-S-O1S
9	B	503	MES	C7-C8-S-O2S
9	B	502	MES	C8-C7-N4-C5
5	A	501	GTP	C4'-C5'-O5'-PA

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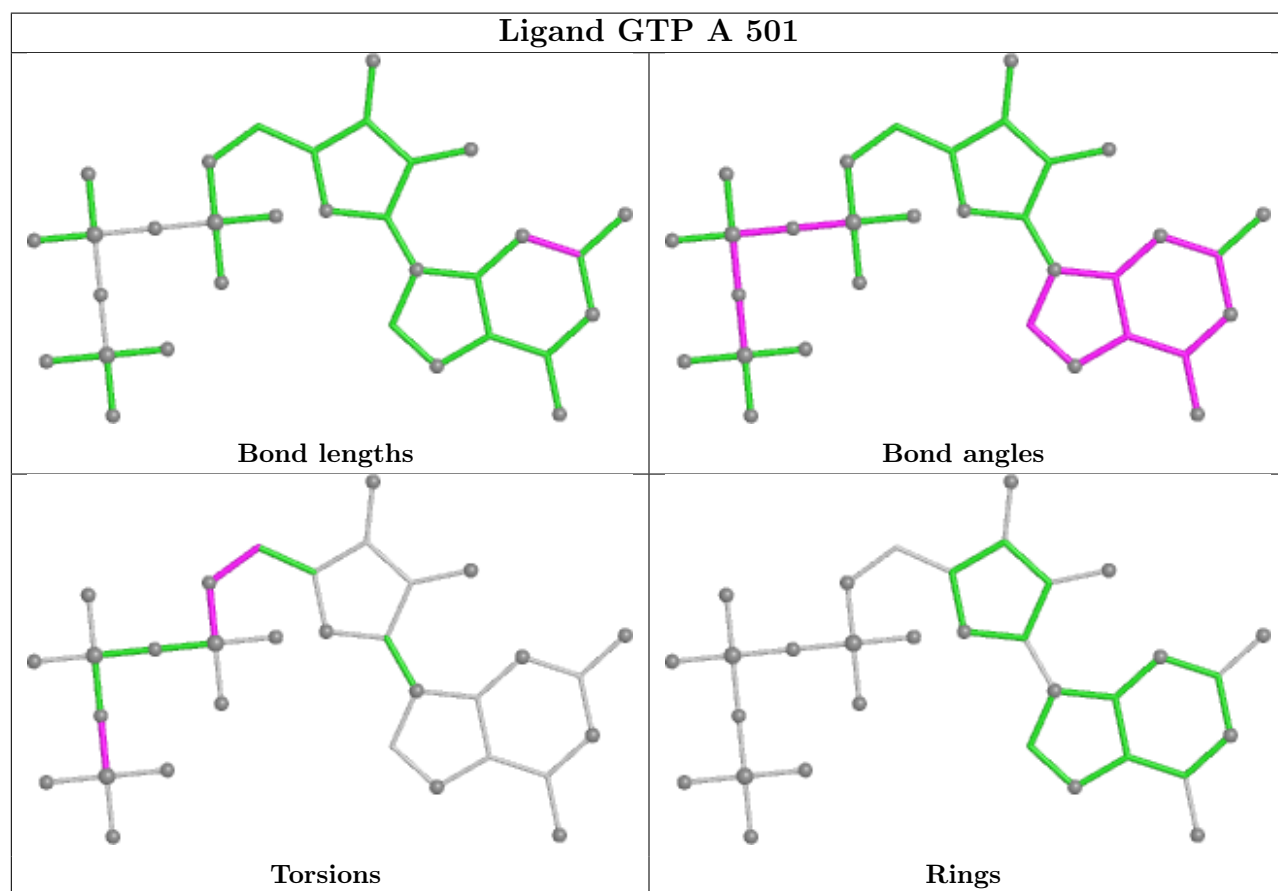
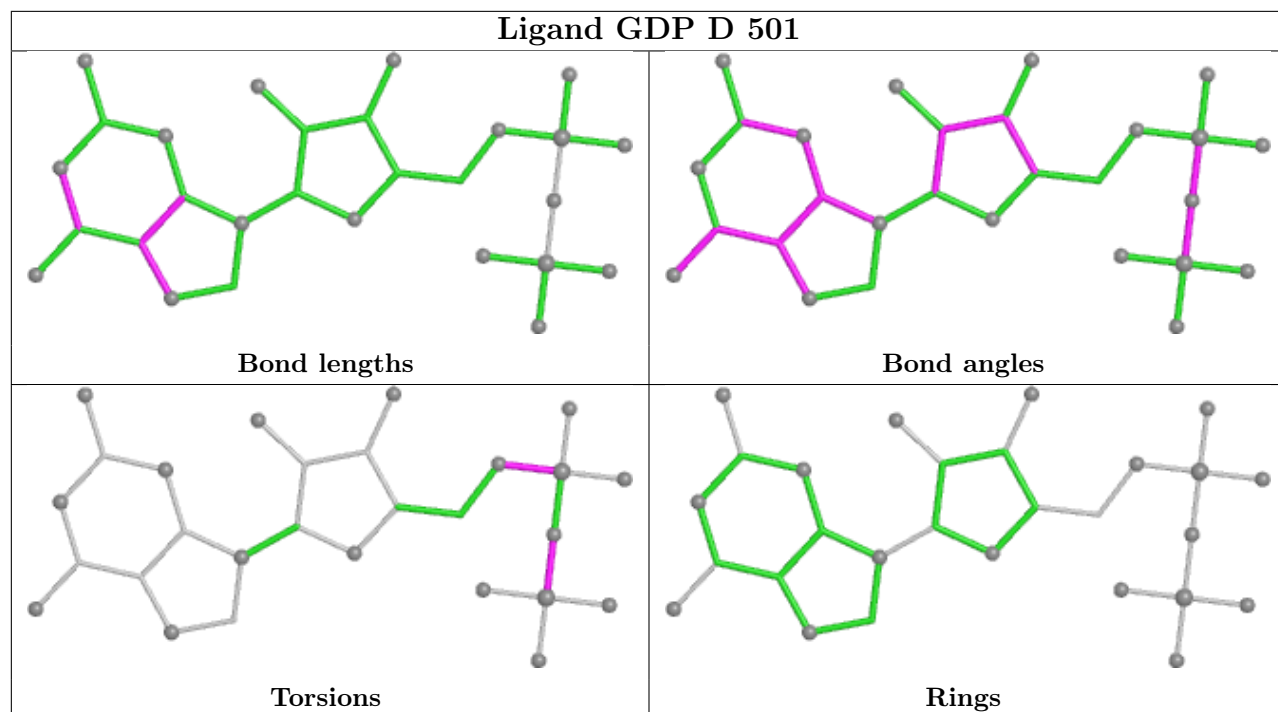
Mol	Chain	Res	Type	Atoms
5	C	501	GTP	C4'-C5'-O5'-PA
11	F	401	ACP	C3'-C4'-C5'-O5'
5	A	501	GTP	PB-O3B-PG-O3G
8	B	501	GDP	C5'-O5'-PA-O3A
5	A	501	GTP	PB-O3B-PG-O1G
11	F	401	ACP	C4'-C5'-O5'-PA

There are no ring outliers.

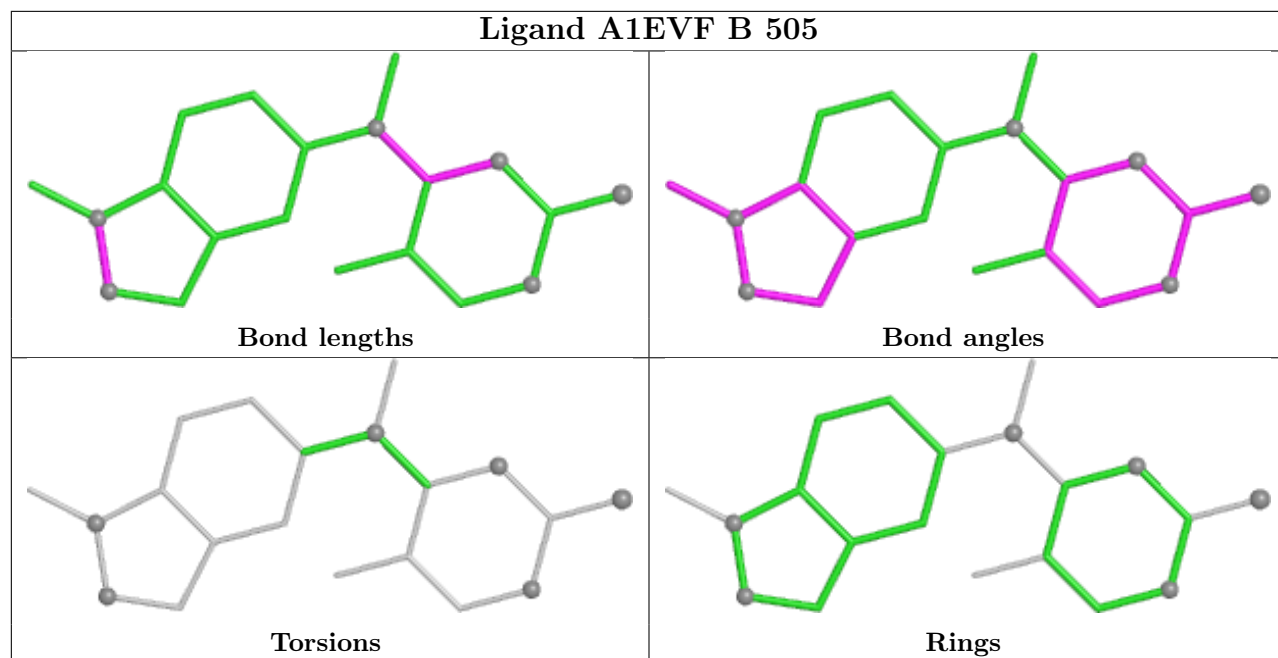
1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
10	B	505	A1EVF	1	0

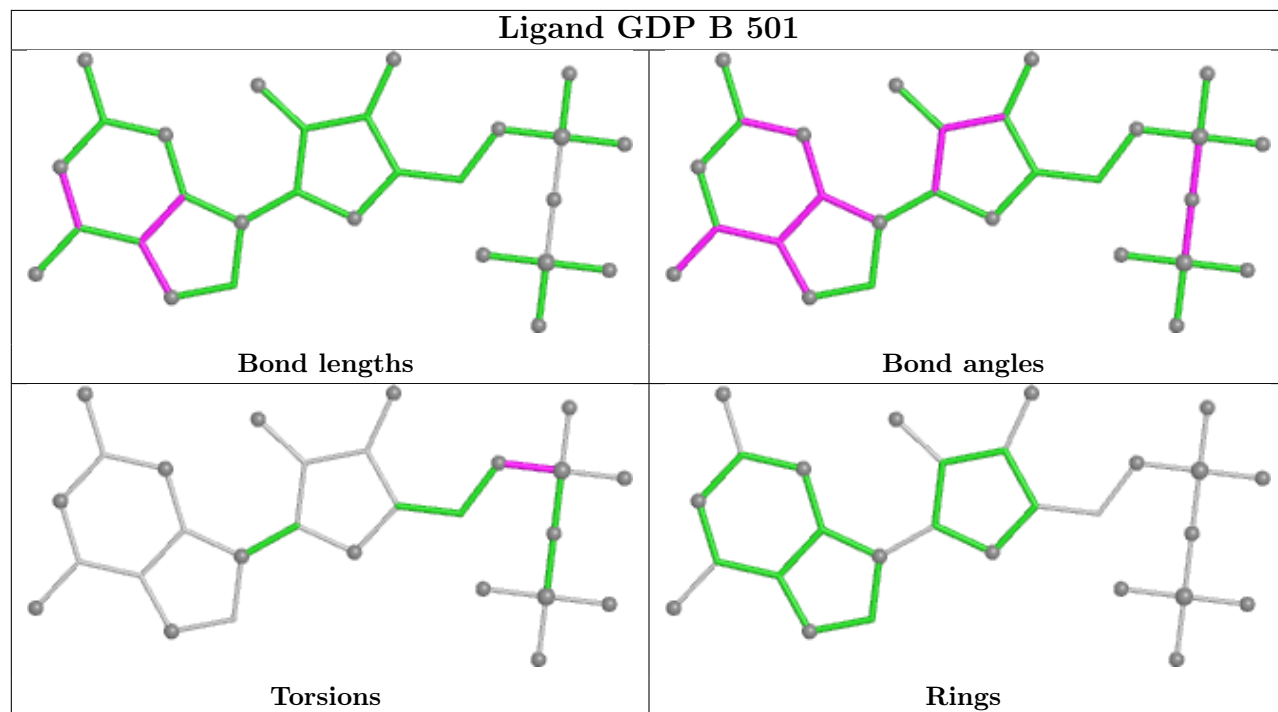
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

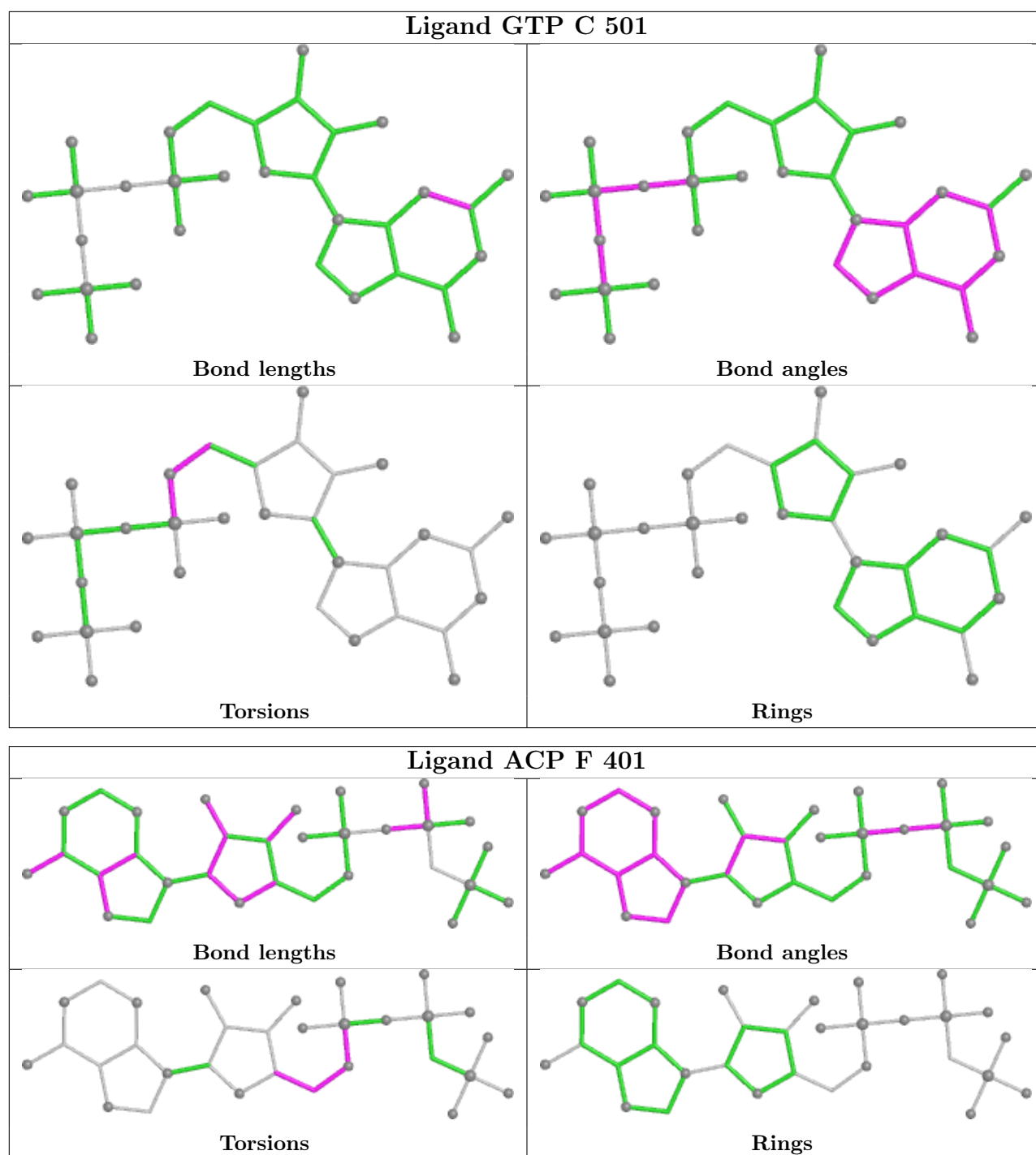


Ligand A1EVF B 505



Ligand GDP B 501





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	437/440 (99%)	0.80	51 (11%) 9 7	35, 49, 72, 86	0
1	C	440/440 (100%)	0.35	16 (3%) 46 41	25, 42, 61, 79	0
2	B	427/431 (99%)	0.78	44 (10%) 12 10	30, 48, 76, 110	0
2	D	421/431 (97%)	2.46	255 (60%) 0 0	40, 81, 121, 133	0
3	E	121/136 (88%)	1.53	39 (32%) 1 1	44, 61, 101, 117	0
4	F	332/380 (87%)	1.67	110 (33%) 1 1	42, 70, 132, 146	0
All	All	2178/2258 (96%)	1.20	515 (23%) 2 1	25, 55, 108, 146	0

All (515) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	D	32	PRO	6.6
2	D	141	GLY	6.4
1	A	248	LEU	6.3
2	D	284	LEU	6.3
2	D	85	PHE	6.2
2	D	212	PHE	6.2
2	B	72	THR	6.1
2	D	273	LEU	6.0
2	D	179	VAL	6.0
2	D	91	VAL	5.8
4	F	161	LEU	5.8
2	D	54	ALA	5.7
2	D	71	GLY	5.6
2	D	215	LEU	5.6
4	F	182	ILE	5.5
2	D	140	GLY	5.4
2	D	178	THR	5.4
2	D	397	TRP	5.3
2	D	323	MET	5.3

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Mol	Chain	Res	Type	RSRZ
4	F	253	TYR	5.3
2	D	42	LEU	5.3
4	F	149	ALA	5.3
4	F	148	ILE	5.3
2	D	362	LYS	5.3
2	D	216	LYS	5.3
2	D	80	PRO	5.2
2	D	391	ARG	5.1
2	D	395	LEU	5.1
2	D	44	LEU	5.0
4	F	162	ILE	5.0
2	D	90	PHE	5.0
4	F	74	LYS	5.0
4	F	233	PHE	4.9
2	D	223	GLY	4.9
2	D	72	THR	4.9
2	D	361	LEU	4.8
2	D	360	GLY	4.8
2	D	55	THR	4.8
2	D	217	LEU	4.8
4	F	170	LEU	4.8
4	F	245	ILE	4.7
2	D	61	PRO	4.7
2	D	81	PHE	4.6
2	D	227	HIS	4.6
2	D	60	VAL	4.6
4	F	173	ILE	4.6
4	F	362	ALA	4.6
4	F	101	TYR	4.5
2	D	219	THR	4.5
2	D	65	LEU	4.5
2	B	55	THR	4.5
4	F	103	THR	4.5
2	D	29	GLY	4.5
2	D	208	TYR	4.4
2	B	75	SER	4.4
2	D	73	MET	4.4
2	D	359	ARG	4.3
2	D	83	GLN	4.3
2	D	220	PRO	4.3
2	D	320	ARG	4.3
4	F	146	VAL	4.2

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Mol	Chain	Res	Type	RSRZ
2	D	36	TYR	4.2
2	D	120	VAL	4.2
2	D	236	VAL	4.2
4	F	130	VAL	4.2
2	B	218	THR	4.2
2	D	64	ILE	4.2
2	D	107	THR	4.2
4	F	306	HIS	4.2
2	D	30	ILE	4.1
2	D	84	ILE	4.1
2	D	116	VAL	4.1
2	D	394	PHE	4.1
4	F	247	LYS	4.1
2	D	218	THR	4.1
2	D	221	THR	4.1
2	B	428	ALA	4.1
2	D	213	ARG	4.1
2	D	1	MET	4.0
2	D	37	HIS	4.0
3	E	139	LEU	4.0
2	D	326	VAL	4.0
3	E	8	VAL	4.0
4	F	163	SER	4.0
2	B	281	TYR	4.0
4	F	131	PHE	4.0
2	D	356	ILE	4.0
1	C	282	TYR	3.9
4	F	296	MET	3.9
2	D	291	GLN	3.9
2	D	14	ASN	3.9
2	D	52	ASN	3.9
2	D	292	GLN	3.9
2	D	92	PHE	3.9
2	D	117	LEU	3.9
4	F	372	THR	3.9
2	B	128	ASP	3.8
2	D	70	PRO	3.8
2	D	102	ALA	3.8
4	F	134	ALA	3.8
4	F	172	PHE	3.8
4	F	99	VAL	3.8
2	D	242	PHE	3.8

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Mol	Chain	Res	Type	RSRZ
1	A	83	TYR	3.8
1	A	276	ILE	3.8
1	A	86	LEU	3.8
4	F	90	SER	3.8
2	D	96	GLY	3.8
2	D	222	TYR	3.8
2	D	24	ILE	3.8
2	D	247	ASN	3.8
2	D	23	VAL	3.7
4	F	166	ALA	3.7
4	F	263	PHE	3.7
2	D	68	LEU	3.7
2	D	431	ASP	3.7
2	D	226	ASN	3.7
2	D	171	PRO	3.7
4	F	227	PRO	3.7
2	D	5	VAL	3.7
2	D	76	VAL	3.7
3	E	115	HIS	3.7
2	D	271	ALA	3.7
2	D	393	ALA	3.7
2	D	43	GLN	3.7
1	A	89	PRO	3.7
2	D	225	LEU	3.6
1	A	2	ARG	3.6
4	F	228	TYR	3.6
2	D	28	HIS	3.6
2	D	231	ALA	3.6
2	D	56	GLY	3.6
2	D	272	PRO	3.6
4	F	242	ASN	3.6
2	D	6	HIS	3.6
2	D	115	SER	3.6
2	B	71	GLY	3.6
2	D	99	ASN	3.6
2	D	180	VAL	3.6
4	F	181	VAL	3.6
2	D	21	TRP	3.6
2	D	16	ILE	3.6
1	A	437	VAL	3.5
2	D	321	MET	3.5
2	D	363	MET	3.5

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Mol	Chain	Res	Type	RSRZ
2	B	280	GLN	3.5
2	D	11	GLN	3.5
2	D	401	GLU	3.5
2	D	175	VAL	3.5
2	D	406	MET	3.5
2	D	94	GLN	3.5
2	D	142	GLY	3.5
1	C	440	VAL	3.5
2	D	289	LEU	3.5
2	D	329	GLN	3.4
2	D	25	SER	3.4
3	E	28	SER	3.4
4	F	98	TYR	3.4
4	F	231	ALA	3.4
2	D	77	ARG	3.4
2	D	214	THR	3.4
2	D	82	GLY	3.4
2	D	63	ALA	3.4
1	C	357	TYR	3.4
2	B	278	SER	3.4
2	D	69	GLU	3.4
4	F	132	LEU	3.4
4	F	188	LYS	3.4
2	D	243	PRO	3.4
2	D	51	TYR	3.4
4	F	135	TYR	3.4
2	D	229	VAL	3.4
4	F	92	THR	3.3
4	F	180	HIS	3.3
2	D	47	ILE	3.3
2	D	224	ASP	3.3
4	F	237	THR	3.3
1	A	45	GLY	3.3
2	D	176	SER	3.3
2	D	59	TYR	3.3
4	F	185	TYR	3.3
2	B	282	ARG	3.3
2	D	241	ARG	3.3
1	A	82	THR	3.3
2	D	93	GLY	3.3
2	D	46	ARG	3.3
1	A	42	ILE	3.3

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Mol	Chain	Res	Type	RSRZ
2	D	207	LEU	3.2
4	F	20	LEU	3.2
4	F	89	GLU	3.2
1	A	41	THR	3.2
2	D	98	GLY	3.2
3	E	135	LYS	3.2
2	D	245	GLN	3.2
1	C	339	ARG	3.2
2	D	416	ASN	3.2
2	D	27	GLU	3.2
2	D	125	GLU	3.2
1	A	250	VAL	3.2
2	D	19	LYS	3.2
2	D	79	GLY	3.2
1	A	281	ALA	3.2
2	B	279	GLN	3.2
1	A	37	PRO	3.2
2	B	57	ASN	3.2
2	D	33	THR	3.2
3	E	130	ALA	3.1
2	D	8	GLN	3.1
1	A	40	LYS	3.1
4	F	229	ASN	3.1
2	D	285	THR	3.1
4	F	379	HIS	3.1
2	D	119	VAL	3.1
2	D	41	ASP	3.1
2	D	230	SER	3.1
2	D	18	ALA	3.1
3	E	129	HIS	3.1
3	E	26	PRO	3.1
2	D	40	SER	3.1
2	D	109	GLY	3.1
1	A	85	GLN	3.0
2	D	170	MET	3.0
4	F	129	GLU	3.0
2	D	357	PRO	3.0
2	B	54	ALA	3.0
2	D	398	TYR	3.0
2	D	87	PRO	3.0
2	D	39	ASP	3.0
2	D	209	ASP	3.0

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Mol	Chain	Res	Type	RSRZ
2	D	138	SER	3.0
4	F	232	ASN	3.0
2	D	7	ILE	3.0
2	D	396	HIS	3.0
4	F	243	HIS	3.0
2	D	246	LEU	3.0
4	F	169	LEU	3.0
4	F	244	CYS	3.0
2	D	38	GLY	3.0
2	D	66	VAL	3.0
3	E	7	GLU	3.0
4	F	147	TRP	3.0
1	C	163	LYS	3.0
2	D	95	SER	3.0
2	D	48	ASN	3.0
2	B	245	GLN	3.0
3	E	140	LYS	2.9
4	F	240	LEU	2.9
4	F	361	LEU	2.9
2	D	10	GLY	2.9
2	D	332	ASN	2.9
3	E	137	LYS	2.9
1	C	1	MET	2.9
3	E	141	GLU	2.9
4	F	323	GLU	2.9
2	D	211	CYS	2.9
2	D	353	VAL	2.9
4	F	179	VAL	2.9
2	D	50	TYR	2.9
2	D	389	PHE	2.9
4	F	178	GLN	2.9
4	F	320	MET	2.9
2	B	277	GLY	2.9
2	D	86	ARG	2.9
2	D	232	THR	2.9
2	D	97	ALA	2.9
2	D	405	GLU	2.9
3	E	59	GLU	2.9
4	F	141	GLY	2.9
2	D	364	SER	2.8
1	A	163	LYS	2.8
4	F	196	HIS	2.8

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Mol	Chain	Res	Type	RSRZ
4	F	380	HIS	2.8
3	E	133	VAL	2.8
1	C	337	THR	2.8
2	D	9	ALA	2.8
4	F	1	MET	2.8
4	F	234	GLN	2.8
3	E	128	LYS	2.8
4	F	341	LYS	2.8
3	E	23	ILE	2.8
4	F	239	HIS	2.8
2	D	169	VAL	2.8
2	D	67	ASP	2.8
4	F	33	ASP	2.8
2	D	106	TYR	2.8
2	D	381	ILE	2.8
4	F	133	ALA	2.8
2	B	37	HIS	2.8
1	A	282	TYR	2.8
2	D	113	VAL	2.8
2	D	182	PRO	2.8
2	D	135	LEU	2.8
2	D	187	LEU	2.8
1	A	338	LYS	2.8
3	E	53	LYS	2.8
4	F	138	ARG	2.8
1	A	38	SER	2.7
2	B	95	SER	2.7
4	F	164	SER	2.7
1	A	94	THR	2.7
3	E	126	LYS	2.7
1	A	91	GLN	2.7
1	A	97	GLU	2.7
2	B	69	GLU	2.7
2	D	31	ASP	2.7
2	D	114	ASP	2.7
1	A	436	GLY	2.7
2	D	408	PHE	2.7
2	B	80	PRO	2.7
1	A	164	LYS	2.7
2	B	323	MET	2.7
2	D	365	ALA	2.7
2	B	359	ARG	2.7

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Mol	Chain	Res	Type	RSRZ
2	B	423	GLN	2.7
2	D	404	ASP	2.7
2	D	35	SER	2.7
2	D	411	ALA	2.7
4	F	198	LYS	2.7
2	B	275	SER	2.7
2	D	53	GLU	2.7
1	C	283	HIS	2.7
2	B	320	ARG	2.6
2	D	57	ASN	2.6
2	D	177	ASP	2.6
4	F	252	ASN	2.6
1	A	112	LYS	2.6
4	F	236	LYS	2.6
2	B	93	GLY	2.6
2	D	402	GLY	2.6
3	E	44	ASP	2.6
2	D	306	ARG	2.6
2	D	240	LEU	2.6
4	F	167	SER	2.6
4	F	246	GLN	2.6
2	D	136	THR	2.6
2	B	427	ASP	2.6
4	F	73	ARG	2.6
3	E	121	GLU	2.6
4	F	186	LEU	2.6
2	D	75	SER	2.6
3	E	17	GLY	2.5
1	A	316	CYS	2.5
2	D	392	LYS	2.5
2	D	290	THR	2.5
4	F	19	ARG	2.5
2	D	400	GLY	2.5
2	B	42	LEU	2.5
2	D	130	LEU	2.5
1	A	88	HIS	2.5
2	D	49	VAL	2.5
2	D	173	PRO	2.5
2	D	287	PRO	2.5
2	D	358	PRO	2.5
2	B	316	ILE	2.5
2	D	101	TRP	2.5

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Mol	Chain	Res	Type	RSRZ
4	F	145	ASN	2.5
2	D	201	CYS	2.5
1	A	345	ASP	2.5
2	D	26	ASP	2.5
1	A	96	LYS	2.5
2	B	92	PHE	2.5
1	A	283	HIS	2.5
1	A	337	THR	2.5
2	D	354	CYS	2.4
4	F	238	CYS	2.4
1	A	57	GLY	2.4
2	D	244	GLY	2.4
4	F	144	GLY	2.4
1	C	46	ASP	2.4
2	D	74	ASP	2.4
2	D	183	TYR	2.4
1	A	176	GLN	2.4
2	D	143	THR	2.4
4	F	85	PRO	2.4
1	C	284	GLU	2.4
2	D	181	GLU	2.4
2	D	304	ASP	2.4
4	F	171	ASP	2.4
2	D	228	LEU	2.4
3	E	136	ASN	2.4
2	B	237	THR	2.4
2	D	78	SER	2.4
2	D	58	LYS	2.4
2	D	34	GLY	2.4
1	A	132	LEU	2.4
2	B	40	SER	2.4
4	F	230	SER	2.4
1	A	251	ASP	2.4
2	D	112	LEU	2.4
4	F	190	LEU	2.4
4	F	191	LEU	2.4
2	D	12	CYS	2.4
3	E	22	VAL	2.4
2	D	204	ASN	2.4
2	D	383	GLU	2.4
4	F	187	GLU	2.4
3	E	27	PRO	2.3

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Mol	Chain	Res	Type	RSRZ
4	F	194	PRO	2.3
2	B	56	GLY	2.3
2	D	144	GLY	2.3
4	F	139	ARG	2.3
1	A	39	ASP	2.3
2	D	336	LYS	2.3
3	E	25	LYS	2.3
2	D	335	ASN	2.3
1	A	58	ALA	2.3
1	A	113	GLU	2.3
2	B	283	ALA	2.3
1	C	340	SER	2.3
3	E	46	SER	2.3
2	D	4	ILE	2.3
3	E	120	LEU	2.3
3	E	62	LYS	2.3
3	E	122	ARG	2.3
2	D	145	SER	2.3
3	E	16	SER	2.3
2	D	202	ILE	2.3
2	D	210	ILE	2.3
2	D	20	PHE	2.3
2	D	108	GLU	2.3
1	A	59	GLY	2.3
1	A	256	GLN	2.3
2	D	319	GLY	2.3
4	F	174	ASP	2.3
2	D	288	GLU	2.3
2	D	184	ASN	2.2
2	D	387	ALA	2.2
2	D	126	SER	2.2
2	D	172	SER	2.2
1	A	120	ASP	2.2
2	D	385	PHE	2.2
1	A	360	PRO	2.2
4	F	128	ARG	2.2
4	F	216	TYR	2.2
2	B	291	GLN	2.2
3	E	54	LEU	2.2
2	D	322	SER	2.2
4	F	100	ILE	2.2
2	D	390	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
4	F	46	ARG	2.2
4	F	142	ARG	2.2
2	D	315	ALA	2.2
2	D	15	GLN	2.2
2	D	139	LEU	2.2
4	F	177	GLY	2.2
2	D	2	ARG	2.2
1	A	68	VAL	2.2
4	F	13	VAL	2.2
1	C	285	GLN	2.2
2	B	227	HIS	2.2
2	B	247	ASN	2.2
2	D	150	LEU	2.2
1	C	245	ASP	2.2
2	D	118	ASP	2.2
3	E	21	GLU	2.2
3	E	127	ASP	2.2
4	F	331	GLU	2.2
4	F	255	ARG	2.2
1	A	362	VAL	2.1
2	B	406	MET	2.1
2	D	159	TYR	2.1
1	C	77	GLU	2.1
2	D	318	ARG	2.1
3	E	132	GLU	2.1
3	E	138	GLU	2.1
1	C	338	LYS	2.1
1	A	346	TRP	2.1
4	F	339	ALA	2.1
2	D	104	GLY	2.1
2	D	149	THR	2.1
4	F	334	GLY	2.1
2	B	59	TYR	2.1
2	D	22	GLU	2.1
2	D	168	SER	2.1
2	D	371	SER	2.1
2	B	362	LYS	2.1
2	D	103	LYS	2.1
4	F	28	LYS	2.1
2	D	237	THR	2.1
4	F	175	GLU	2.1
3	E	45	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
2	B	94	GLN	2.1
2	D	193	VAL	2.1
2	D	302	ALA	2.1
3	E	12	ASN	2.1
4	F	136	ASN	2.1
1	A	55	GLU	2.1
2	D	409	THR	2.1
1	A	33	ASP	2.1
4	F	224	SER	2.1
1	A	315	CYS	2.1
4	F	297	CYS	2.1
2	B	170	MET	2.1
2	D	286	VAL	2.0
2	D	62	ARG	2.0
2	B	48	ASN	2.0
4	F	45	ASN	2.0
1	A	433	GLU	2.0
2	D	308	GLY	2.0
2	D	238	THR	2.0
4	F	184	LYS	2.0
4	F	214	TYR	2.0
2	D	415	MET	2.0
3	E	71	HIS	2.0
4	F	91	CYS	2.0
1	A	221	ARG	2.0
2	D	270	PHE	2.0
1	C	336	LYS	2.0
2	D	45	GLU	2.0
4	F	140	GLU	2.0
2	B	33	THR	2.0
3	E	50	ILE	2.0
2	D	267	MET	2.0
2	D	299	MET	2.0
4	F	235	ASP	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

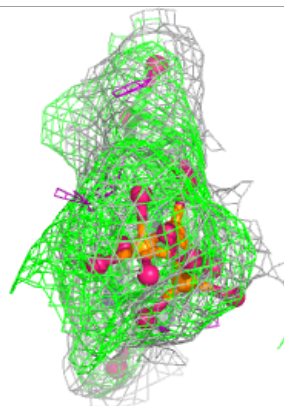
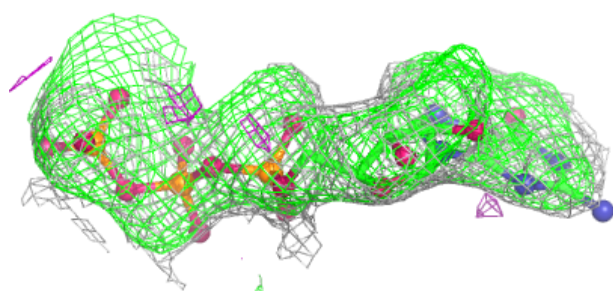
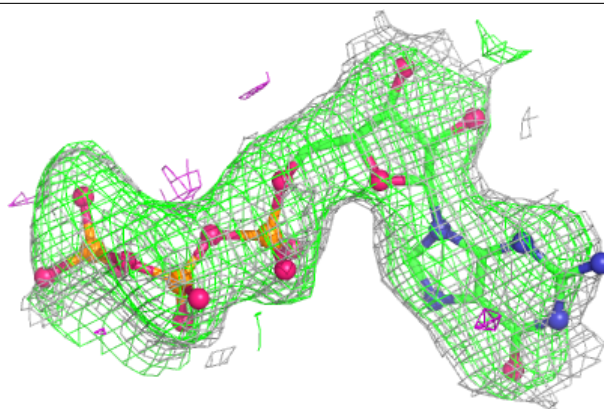
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
5	GTP	A	501	32/32	-	-	39,41,43,44	32
5	GTP	C	501	32/32	-	-	34,36,40,42	32
6	CA	A	502	1/1	-	-	76,76,76,76	1
6	CA	C	502	1/1	-	-	54,54,54,54	1
7	MG	A	503	1/1	-	-	46,46,46,46	1
7	MG	B	504	1/1	-	-	49,49,49,49	1
7	MG	C	503	1/1	-	-	42,42,42,42	1
8	GDP	B	501	28/28	-	-	38,42,43,44	28
8	GDP	D	501	28/28	-	-	85,90,95,96	28
9	MES	B	502	12/12	-	-	41,42,43,44	12
9	MES	B	503	12/12	-	-	55,57,58,58	12
10	A1EVF	B	505	20/20	0.96	0.07	32,36,41,43	0
11	ACP	F	401	31/31	-	-	77,89,107,108	45

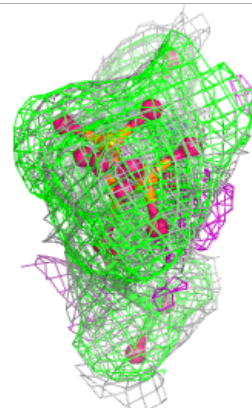
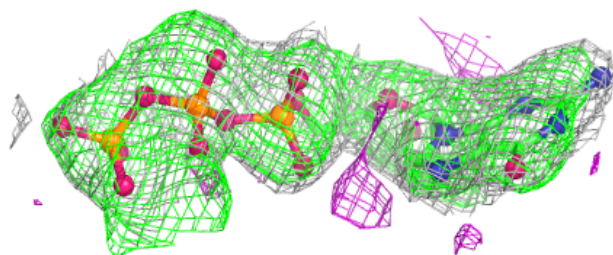
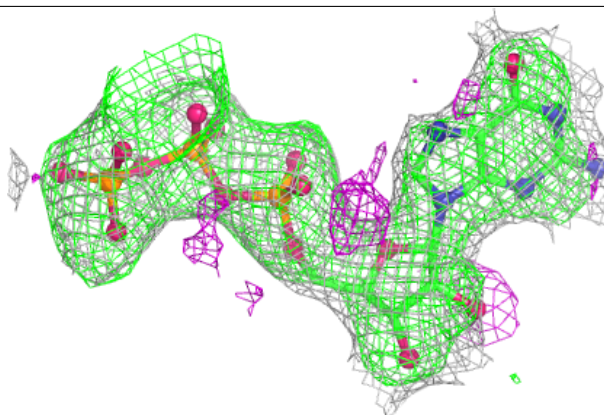
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around GTP A 501:

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

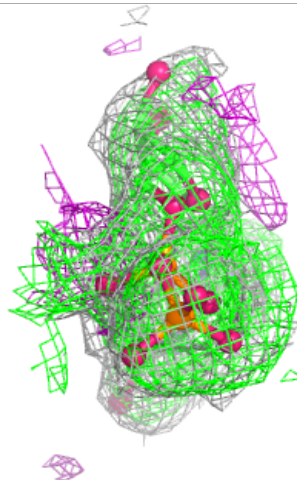
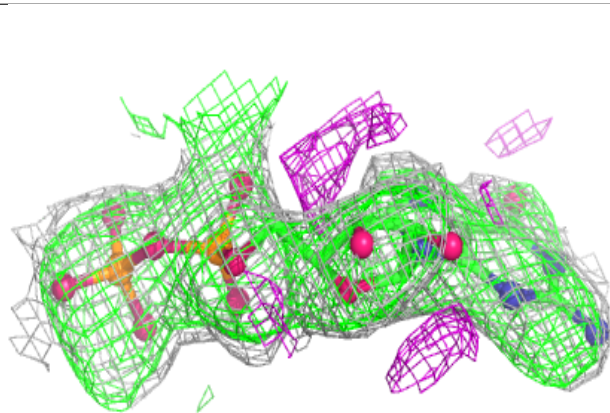
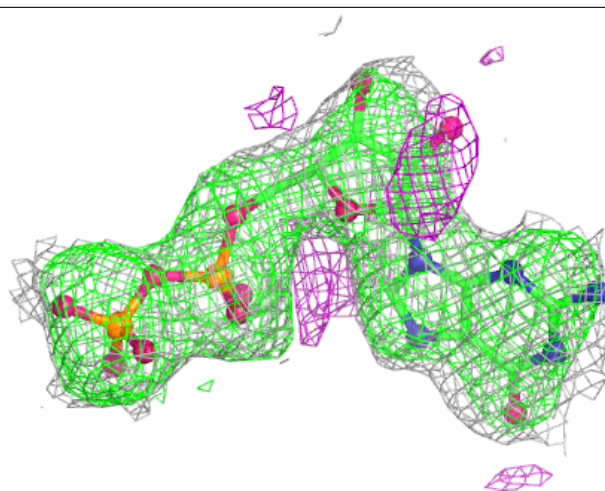
**Electron density around GTP C 501:**

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



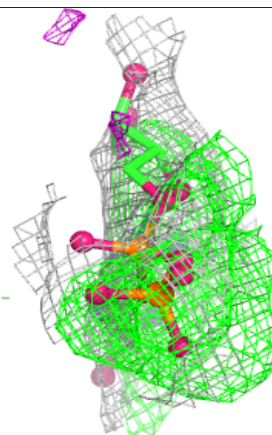
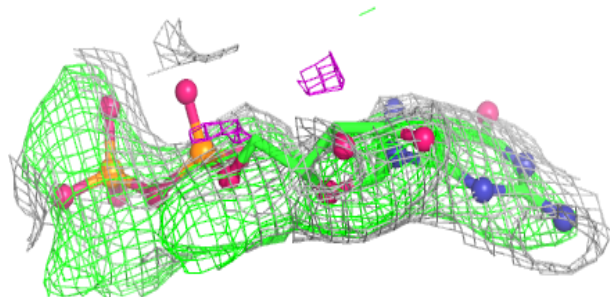
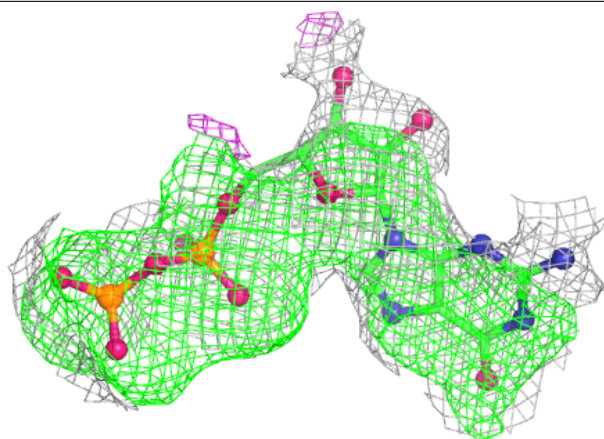
Electron density around GDP B 501:

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

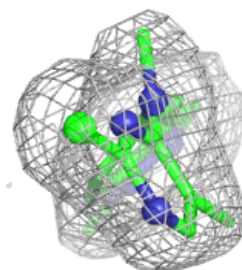
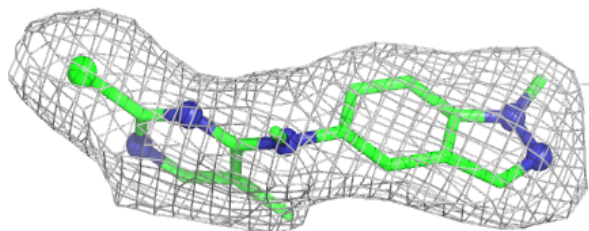
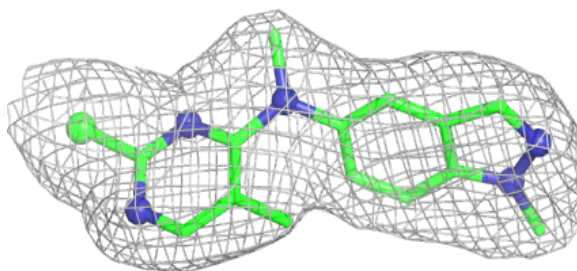


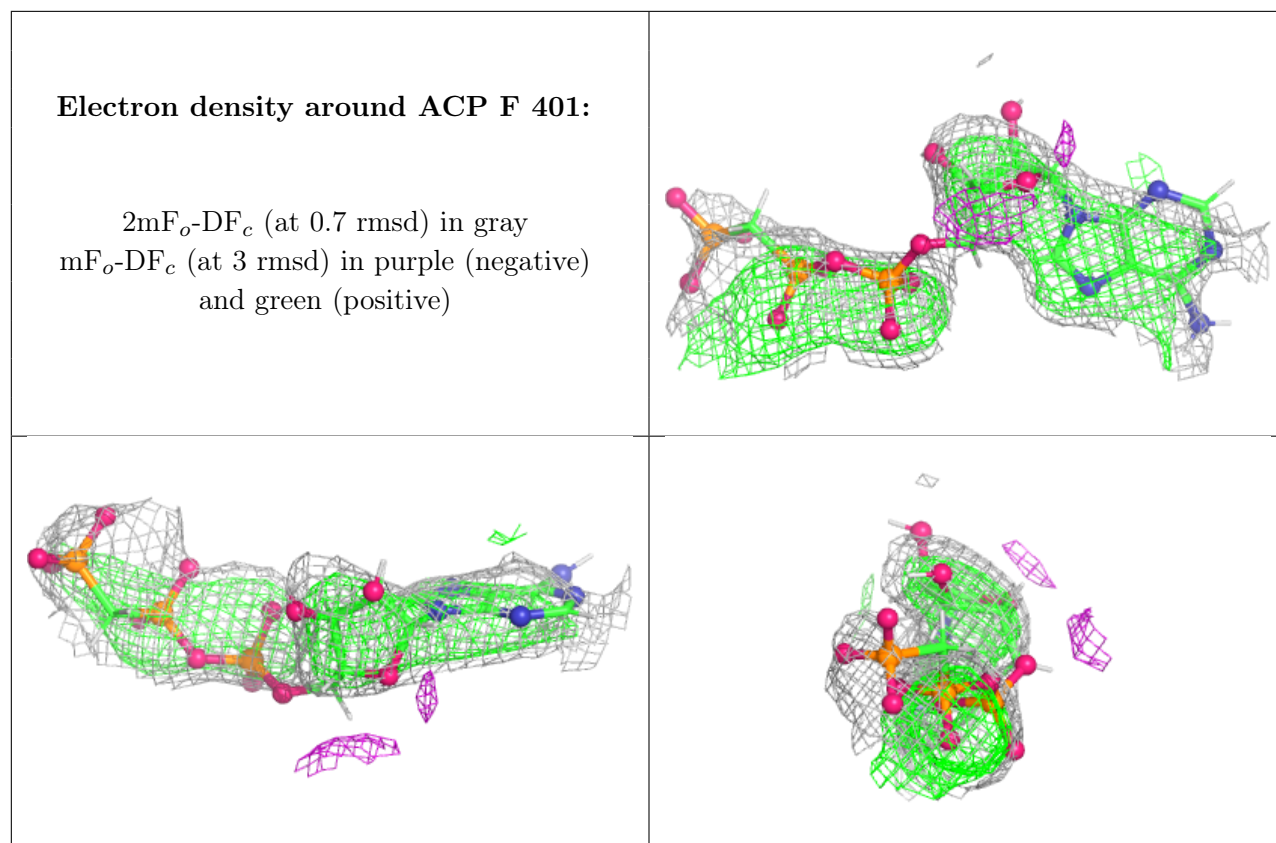
Electron density around GDP D 501:

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

**Electron density around A1EVF B 505:**

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





6.5 Other polymers [i](#)

There are no such residues in this entry.