



Full wwPDB X-ray Structure Validation Report ⓘ

Jul 28, 2025 – 01:39 pm BST

PDB ID : 9G86 / pdb_00009g86
Title : Structure of Response regulator PleD in complex with c-diGMP and pppGpp
Authors : Dugelay, C.; Jaboulay, C.; Guzzo, M.; Terradot, L.
Deposited on : 2024-07-23
Resolution : 3.00 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4-5-2 with Phenix2.0rc1
Mogul : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 2.0rc1
EDS : 3.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4 : 9.0.006 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.45.1

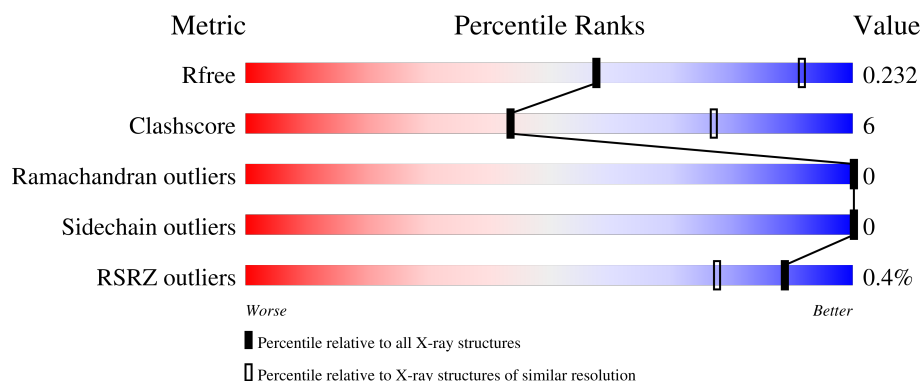
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION





The reported resolution of this entry is 3.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	2511 (3.00-3.00)
Clashscore	180529	2866 (3.00-3.00)
Ramachandran outliers	177936	2778 (3.00-3.00)
Sidechain outliers	177891	2781 (3.00-3.00)
RSRZ outliers	164620	2523 (3.00-3.00)

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	453	
1	B	453	
1	C	453	
1	D	453	

2 Entry composition [i](#)

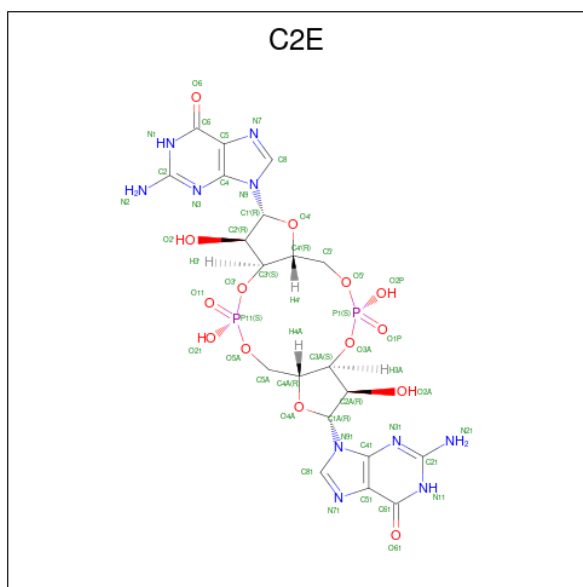
There are 5 unique types of molecules in this entry. The entry contains 14126 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Response regulator PleD.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	448	Total	C	N	O	S	0	0	0
			3412	2122	625	650	15			
1	B	445	Total	C	N	O	S	0	0	0
			3373	2103	610	646	14			
1	C	448	Total	C	N	O	S	0	0	0
			3392	2114	617	648	13			
1	D	448	Total	C	N	O	S	0	0	0
			3395	2116	617	648	14			

- Molecule 2 is 9,9'-[(2R,3R,3aS,5S,7aR,9R,10R,10aS,12S,14aR)-3,5,10,12-tetrahydroxy-5,12-dioxidoctahydro-2H,7H-difuro[3,2-d:3',2'-j][1,3,7,9,2,8]tetraoxadiphosphacyclododecine-2,9-diyl]bis(2-amino-1,9-dihydro-6H-purin-6-one) (CCD ID: C2E) (formula: C₂₀H₂₄N₁₀O₁₄P₂) (labeled as "Ligand of Interest" by depositor).



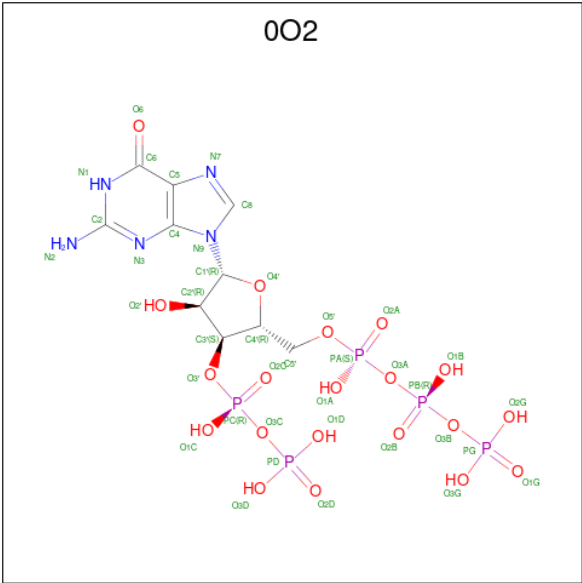
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			46	20	10	14	2		

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	B	1	Total	C	N	O	P	0	0
			46	20	10	14	2		
2	B	1	Total	C	N	O	P	0	0
			46	20	10	14	2		
2	B	1	Total	C	N	O	P	0	0
			46	20	10	14	2		
2	C	1	Total	C	N	O	P	0	0
			46	20	10	14	2		
2	D	1	Total	C	N	O	P	0	0
			46	20	10	14	2		
2	D	1	Total	C	N	O	P	0	0
			46	20	10	14	2		
2	D	1	Total	C	N	O	P	0	0
			46	20	10	14	2		

- Molecule 3 is guanosine 5'-(tetrahydrogen triphosphate) 3'-(trihydrogen diphosphate) (CCD ID: 0O2) (formula: C₁₀H₁₈N₅O₂₀P₅) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			40	10	5	20	5		
3	B	1	Total	C	N	O	P	0	0
			40	10	5	20	5		
3	C	1	Total	C	N	O	P	0	0
			40	10	5	20	5		
3	D	1	Total	C	N	O	P	0	0
			40	10	5	20	5		

- Molecule 4 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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

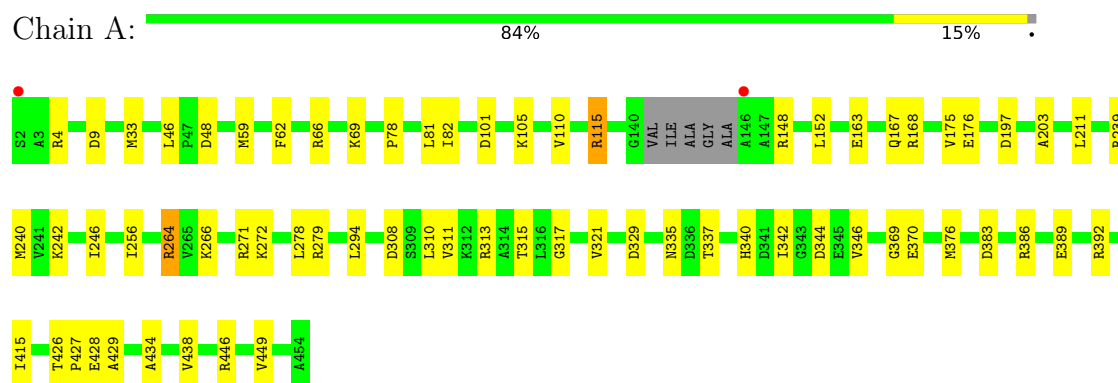
- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	5	Total 5	O 5	0	0
5	B	7	Total 7	O 7	0	0
5	C	4	Total 4	O 4	0	0
5	D	6	Total 6	O 6	0	0

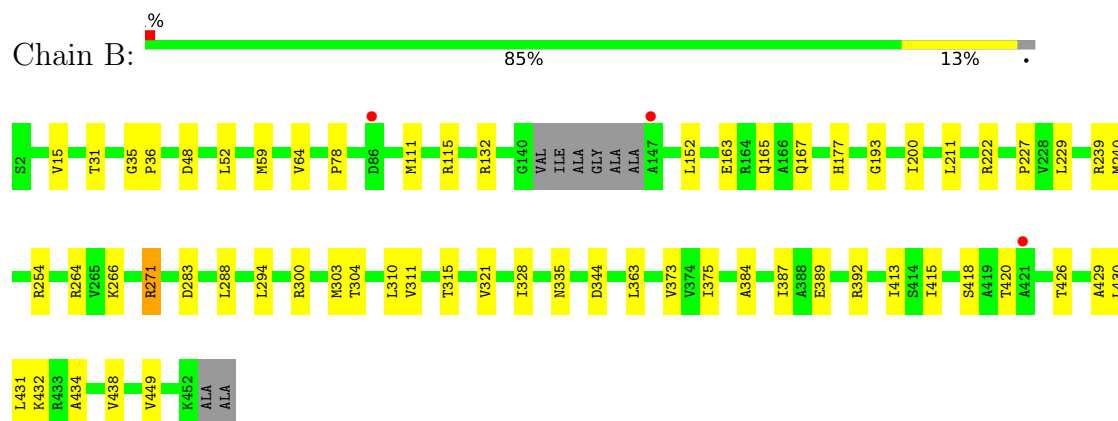
3 Residue-property plots

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.

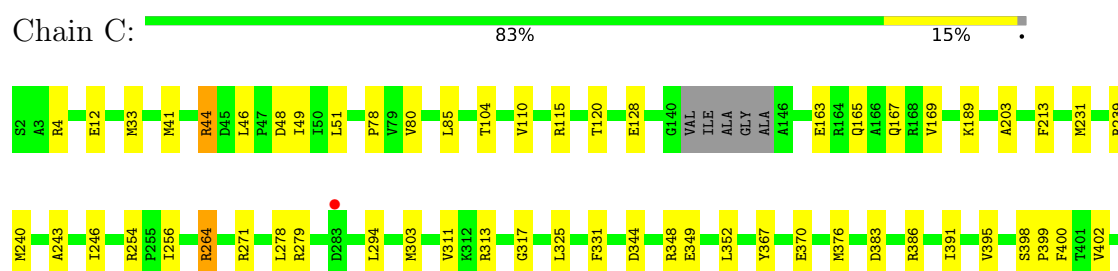
• Molecule 1: Response regulator PleD

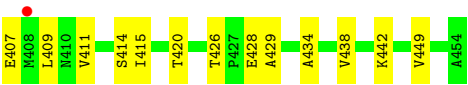


• Molecule 1: Response regulator PleD

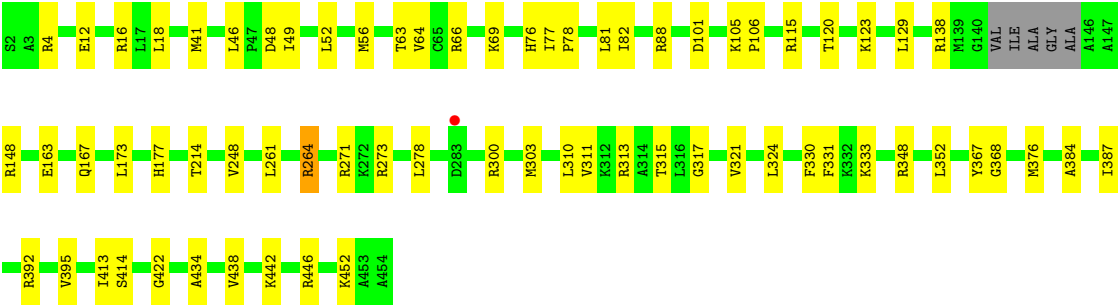
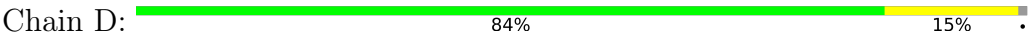


• Molecule 1: Response regulator PleD





● Molecule 1: Response regulator PleD



4 Data and refinement statistics

Property	Value	Source
Space group	P 61 2 2	Depositor
Cell constants a, b, c, α , β , γ	132.57Å 132.57Å 508.41Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	47.53 – 3.00 47.53 – 3.00	Depositor EDS
% Data completeness (in resolution range)	100.0 (47.53-3.00) 99.9 (47.53-3.00)	Depositor EDS
R_{merge}	0.36	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.49 (at 3.01Å)	Xtriage
Refinement program	PHENIX 1.21_5207	Depositor
R, R_{free}	0.190 , 0.229 0.192 , 0.232	Depositor DCC
R_{free} test set	2791 reflections (5.15%)	wwPDB-VP
Wilson B-factor (Å ²)	71.7	Xtriage
Anisotropy	0.144	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 45.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	14126	wwPDB-VP
Average B, all atoms (Å ²)	71.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.53% 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: 0O2, MG, C2E

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	0.21	0/3454	0.42	0/4673
1	B	0.20	0/3415	0.41	0/4625
1	C	0.22	0/3434	0.41	0/4650
1	D	0.21	0/3437	0.41	0/4653
All	All	0.21	0/13740	0.42	0/18601

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	A	0	3
1	B	0	2
1	C	0	3
1	D	0	3
All	All	0	11

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	115	ARG	Sidechain
1	A	264	ARG	Sidechain
1	A	271	ARG	Sidechain
1	B	264	ARG	Sidechain
1	B	271	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	C	264	ARG	Sidechain
1	C	271	ARG	Sidechain
1	C	44	ARG	Sidechain
1	D	264	ARG	Sidechain
1	D	271	ARG	Sidechain
1	D	392	ARG	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	3412	0	3448	44	0
1	B	3373	0	3390	39	0
1	C	3392	0	3419	40	0
1	D	3395	0	3426	44	2
2	A	46	0	22	1	0
2	B	138	0	63	2	2
2	C	46	0	22	1	0
2	D	138	0	61	3	0
3	A	40	0	15	7	0
3	B	40	0	16	1	0
3	C	40	0	16	0	0
3	D	40	0	15	2	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
5	A	5	0	0	0	0
5	B	7	0	0	0	0
5	C	4	0	0	0	0
5	D	6	0	0	0	0
All	All	14126	0	13913	169	2

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

All (169) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:501:C2E:C4A	2:A:501:C2E:O4A	1.63	1.23
1:C:169:VAL:HG21	1:C:231:MET:HE1	1.64	0.77
1:D:4:ARG:NH2	1:D:46:LEU:O	2.21	0.73
1:D:446:ARG:NH1	3:D:502:O02:O1G	2.28	0.66
1:A:4:ARG:NH2	1:A:46:LEU:O	2.27	0.66
3:A:502:O02:O2C	1:D:300:ARG:NH1	2.28	0.65
1:C:4:ARG:NH2	1:C:46:LEU:O	2.29	0.64
1:B:310:LEU:HB3	1:B:321:VAL:HG21	1.80	0.64
1:C:203:ALA:O	1:C:239:ARG:NH2	2.23	0.64
1:A:383:ASP:HA	1:A:386:ARG:HE	1.64	0.63
1:C:426:THR:HG23	1:C:429:ALA:H	1.64	0.62
1:C:231:MET:HE2	1:C:256:ILE:HG12	1.81	0.61
1:A:313:ARG:NH1	1:A:317:GLY:O	2.31	0.61
1:B:426:THR:HG23	1:B:429:ALA:H	1.67	0.60
1:D:49:ILE:HD12	1:D:120:THR:HG23	1.84	0.60
1:A:426:THR:HG23	1:A:429:ALA:H	1.67	0.59
1:B:311:VAL:HG22	1:B:420:THR:HG21	1.83	0.59
1:D:395:VAL:HG21	1:D:413:ILE:HG12	1.85	0.59
1:B:200:ILE:HD13	1:B:229:LEU:HB2	1.85	0.57
1:C:51:LEU:HD23	1:C:80:VAL:HB	1.86	0.57
1:C:128:GLU:CD	1:C:279:ARG:HH22	2.14	0.55
1:C:303:MET:HE1	1:C:367:TYR:HE1	1.72	0.55
1:C:331:PHE:HB2	1:C:370:GLU:OE2	2.07	0.54
1:B:389:GLU:OE2	1:B:392:ARG:NH2	2.41	0.54
1:A:337:THR:HG21	1:D:138:ARG:HH21	1.73	0.54
1:C:391:ILE:O	1:C:395:VAL:HG12	2.08	0.54
1:B:211:LEU:HG	1:B:239:ARG:NH2	2.23	0.54
1:A:278:LEU:HB3	1:A:279:ARG:NH1	2.23	0.53
1:C:165:GLN:OE1	1:C:254:ARG:NH1	2.41	0.53
1:D:330:PHE:HB3	1:D:333:LYS:HD3	1.90	0.53
1:A:115:ARG:HE	1:A:264:ARG:NH2	2.06	0.53
1:D:313:ARG:NH1	1:D:317:GLY:O	2.34	0.53
1:B:111:MET:SD	1:B:115:ARG:NH2	2.83	0.52
1:A:163:GLU:O	1:A:167:GLN:HG2	2.09	0.52
1:C:383:ASP:HA	1:C:386:ARG:HE	1.75	0.52
1:B:132:ARG:NH1	1:B:283:ASP:OD1	2.44	0.51
1:B:311:VAL:O	1:B:315:THR:HG23	2.10	0.51
1:B:163:GLU:O	1:B:167:GLN:HG2	2.11	0.51
1:B:294:LEU:HD11	1:B:344:ASP:HB3	1.92	0.50
1:B:165:GLN:OE1	1:B:254:ARG:NH1	2.44	0.50
1:C:349:GLU:HG2	1:C:400:PHE:CD2	2.47	0.50
1:A:115:ARG:HE	1:A:264:ARG:HH21	1.60	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:311:VAL:O	1:D:315:THR:HG23	2.12	0.50
1:D:414:SER:HB2	1:D:442:LYS:HE2	1.93	0.50
1:A:278:LEU:HB3	1:A:279:ARG:HH12	1.77	0.49
1:C:311:VAL:HG22	1:C:420:THR:HG21	1.94	0.49
1:D:82:ILE:HG22	1:D:105:LYS:HG3	1.94	0.49
1:D:177:HIS:O	2:D:501:C2E:N2	2.45	0.49
1:A:329:ASP:HB3	1:A:446:ARG:HD3	1.94	0.49
1:A:369:GLY:HA3	3:A:502:OO2:H14	1.94	0.49
1:D:384:ALA:HA	1:D:387:ILE:HD12	1.94	0.49
3:A:502:OO2:O2C	1:D:368:GLY:HA2	2.13	0.48
1:C:12:GLU:HA	1:C:33:MET:HE1	1.95	0.48
1:D:452:LYS:HA	1:D:452:LYS:HD2	1.75	0.48
1:A:168:ARG:NH2	1:A:256:ILE:O	2.47	0.48
1:B:434:ALA:O	1:B:438:VAL:HG23	2.14	0.48
1:A:175:VAL:HG23	1:A:176:GLU:HG2	1.95	0.48
1:D:331:PHE:N	3:D:502:OO2:O1B	2.47	0.48
1:D:115:ARG:HE	1:D:264:ARG:NH2	2.12	0.48
1:D:376:MET:HE3	1:D:376:MET:HB2	1.73	0.47
1:B:177:HIS:O	2:B:501:C2E:N2	2.47	0.47
1:B:111:MET:HE2	1:B:240:MET:SD	2.54	0.47
1:C:115:ARG:HE	1:C:264:ARG:HH21	1.62	0.47
1:D:348:ARG:O	1:D:352:LEU:HG	2.15	0.47
1:C:85:LEU:HD13	1:C:104:THR:HG21	1.95	0.47
1:A:376:MET:HE3	1:A:376:MET:HB2	1.75	0.47
1:B:432:LYS:HE2	1:B:432:LYS:HB2	1.64	0.47
1:D:310:LEU:HB3	1:D:321:VAL:HG21	1.97	0.47
1:A:340:HIS:CE1	3:A:502:OO2:H2	2.27	0.46
1:D:52:LEU:HD11	1:D:56:MET:HE2	1.97	0.46
1:D:48:ASP:O	1:D:78:PRO:HD2	2.15	0.46
1:B:52:LEU:HD21	1:B:64:VAL:HB	1.96	0.46
1:C:426:THR:OG1	1:C:428:GLU:OE1	2.30	0.46
1:A:62:PHE:O	1:A:66:ARG:HG3	2.16	0.46
1:B:132:ARG:HD3	1:B:288:LEU:HD13	1.97	0.46
1:A:203:ALA:O	1:A:239:ARG:NH2	2.40	0.46
1:B:111:MET:O	1:B:115:ARG:HG2	2.16	0.46
1:B:363:LEU:HB2	1:B:375:ILE:HB	1.98	0.46
1:D:214:THR:HG21	1:D:248:VAL:HG12	1.96	0.46
1:A:110:VAL:HG11	1:A:240:MET:HE3	1.98	0.45
1:B:254:ARG:HG2	1:B:254:ARG:HH11	1.81	0.45
1:C:49:ILE:HD12	1:C:120:THR:HG23	1.97	0.45
1:D:76:HIS:HD2	1:D:123:LYS:HE2	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:311:VAL:O	1:A:315:THR:HG23	2.16	0.45
1:C:434:ALA:O	1:C:438:VAL:HG23	2.16	0.45
1:D:63:THR:HG23	1:D:66:ARG:NH2	2.31	0.45
1:A:426:THR:OG1	1:A:428:GLU:OE1	2.32	0.45
1:A:434:ALA:O	1:A:438:VAL:HG23	2.16	0.45
2:C:501:C2E:H2'	2:D:501:C2E:N11	2.32	0.45
1:A:242:LYS:O	1:A:246:ILE:HG23	2.16	0.45
1:B:152:LEU:HD21	1:B:266:LYS:HD3	1.97	0.45
1:A:152:LEU:HD21	1:A:266:LYS:HE2	1.97	0.45
1:D:434:ALA:O	1:D:438:VAL:HG23	2.17	0.45
1:B:303:MET:HE1	1:B:431:LEU:HD21	1.97	0.45
1:C:294:LEU:HD11	1:C:344:ASP:HB3	1.99	0.45
1:A:9:ASP:O	1:A:33:MET:HA	2.17	0.45
1:A:211:LEU:HD22	1:A:239:ARG:NH1	2.32	0.45
1:C:48:ASP:O	1:C:78:PRO:HD2	2.17	0.45
1:A:48:ASP:O	1:A:78:PRO:HD2	2.16	0.45
1:C:163:GLU:O	1:C:167:GLN:HG2	2.16	0.45
1:A:197:ASP:HA	1:A:272:LYS:HE2	1.97	0.44
1:C:165:GLN:O	1:C:169:VAL:HG23	2.17	0.44
1:A:310:LEU:HB3	1:A:321:VAL:HG21	1.99	0.44
1:D:163:GLU:O	1:D:167:GLN:HG2	2.17	0.44
1:B:335:ASN:ND2	3:B:504:O02:O2D	2.50	0.44
1:B:300:ARG:HA	1:B:303:MET:HG2	1.99	0.44
1:A:82:ILE:HG22	1:A:105:LYS:HG3	1.99	0.44
1:A:294:LEU:HD11	1:A:344:ASP:HB3	2.00	0.44
2:D:503:C2E:O6	2:D:504:C2E:H2'	2.18	0.44
1:A:148:ARG:NH1	2:B:502:C2E:O3'	2.49	0.44
1:B:35:GLY:N	1:B:36:PRO:HD2	2.34	0.43
1:C:189:LYS:HG3	1:C:213:PHE:HE1	1.83	0.43
1:A:389:GLU:OE2	1:A:392:ARG:NH2	2.51	0.43
1:D:18:LEU:HA	1:D:18:LEU:HD12	1.86	0.43
1:A:342:ILE:O	1:A:346:VAL:HG23	2.19	0.43
1:A:59:MET:HE3	1:A:59:MET:HB2	1.91	0.43
1:B:193:GLY:O	1:B:222:ARG:NH1	2.52	0.43
1:B:303:MET:SD	1:B:373:VAL:HG11	2.59	0.43
1:C:414:SER:HB2	1:C:442:LYS:HE2	2.01	0.43
1:C:313:ARG:NH1	1:C:317:GLY:O	2.51	0.43
1:D:115:ARG:HE	1:D:264:ARG:HH21	1.66	0.42
1:D:303:MET:HE1	1:D:367:TYR:HE1	1.83	0.42
1:C:325:LEU:HD23	1:C:325:LEU:HA	1.93	0.42
1:D:101:ASP:OD2	1:D:264:ARG:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:315:THR:HG22	1:D:422:GLY:O	2.19	0.42
1:B:59:MET:HE3	1:B:59:MET:HB2	1.92	0.42
1:D:41:MET:HE2	1:D:41:MET:HB3	1.91	0.42
1:A:308:ASP:OD1	1:A:427:PRO:HG2	2.20	0.42
1:B:415:ILE:HB	1:B:449:VAL:HG22	2.02	0.42
1:C:409:LEU:HD12	1:C:411:VAL:HG23	2.01	0.42
1:D:105:LYS:HA	1:D:106:PRO:C	2.44	0.42
1:B:328:ILE:HA	1:B:413:ILE:HG22	2.01	0.42
1:C:110:VAL:HG11	1:C:240:MET:HE3	2.02	0.42
1:C:278:LEU:HB3	1:C:279:ARG:NH1	2.34	0.42
1:D:81:LEU:HD23	1:D:81:LEU:HA	1.87	0.42
1:B:303:MET:HG3	1:B:304:THR:N	2.34	0.42
1:C:376:MET:HE3	1:C:376:MET:HB2	1.76	0.41
1:A:344:ASP:OD1	3:A:502:O02:N1	2.43	0.41
1:C:243:ALA:O	1:C:246:ILE:HG12	2.20	0.41
1:B:227:PRO:HG3	1:B:271:ARG:HH22	1.84	0.41
1:D:52:LEU:HD21	1:D:64:VAL:HB	2.03	0.41
1:A:115:ARG:NE	1:A:264:ARG:HE	2.18	0.41
1:B:15:VAL:HG11	1:B:31:THR:HB	2.02	0.41
1:D:12:GLU:O	1:D:16:ARG:HG2	2.21	0.41
1:D:69:LYS:HD3	1:D:69:LYS:HA	1.85	0.41
1:A:81:LEU:HD23	1:A:81:LEU:HA	1.95	0.41
1:B:413:ILE:HD12	1:B:415:ILE:HD11	2.02	0.41
1:D:69:LYS:NZ	1:D:77:ILE:O	2.50	0.41
1:D:148:ARG:O	1:D:273:ARG:HD3	2.21	0.41
1:B:384:ALA:HA	1:B:387:ILE:HD12	2.02	0.41
1:A:101:ASP:OD2	1:A:264:ARG:HG2	2.20	0.41
1:A:335:ASN:ND2	3:A:502:O02:O1D	2.54	0.41
1:C:395:VAL:HG23	1:C:400:PHE:CZ	2.55	0.41
1:C:415:ILE:HB	1:C:449:VAL:HG22	2.02	0.41
1:D:129:LEU:HA	1:D:278:LEU:HD21	2.03	0.41
1:C:402:VAL:HG23	1:C:407:GLU:HB3	2.02	0.41
1:B:392:ARG:HA	1:B:413:ILE:HD11	2.02	0.40
1:B:418:SER:OG	1:B:430:LEU:HD12	2.22	0.40
1:A:370:GLU:HG2	3:A:502:O02:H8	2.02	0.40
1:B:48:ASP:O	1:B:78:PRO:HD2	2.21	0.40
1:D:324:LEU:HD13	1:D:376:MET:HE2	2.03	0.40
1:A:415:ILE:HB	1:A:449:VAL:HG22	2.02	0.40
1:C:41:MET:HG2	1:C:44:ARG:NH2	2.37	0.40
1:C:348:ARG:O	1:C:352:LEU:HD13	2.21	0.40
1:C:398:SER:HA	1:C:399:PRO:HD3	1.97	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:173:LEU:HG	1:D:261:LEU:HD21	2.03	0.40
1:A:69:LYS:HA	1:A:69:LYS:HD3	1.90	0.40
1:C:169:VAL:CG2	1:C:231:MET:HE1	2.44	0.40
1:D:115:ARG:NE	1:D:264:ARG:HE	2.18	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:88:ARG:NH2	2:B:502:C2E:N7[6_555]	1.37	0.83
1:D:88:ARG:CZ	2:B:502:C2E:N7[6_555]	2.07	0.13

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	444/453 (98%)	438 (99%)	6 (1%)	0	100	100
1	B	441/453 (97%)	435 (99%)	6 (1%)	0	100	100
1	C	444/453 (98%)	439 (99%)	5 (1%)	0	100	100
1	D	444/453 (98%)	436 (98%)	8 (2%)	0	100	100
All	All	1773/1812 (98%)	1748 (99%)	25 (1%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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	358/368 (97%)	358 (100%)	0	100	100
1	B	353/368 (96%)	353 (100%)	0	100	100
1	C	354/368 (96%)	354 (100%)	0	100	100
1	D	355/368 (96%)	355 (100%)	0	100	100
All	All	1420/1472 (96%)	1420 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	207	ASN
1	A	357	ASN
1	B	357	ASN
1	C	207	ASN
1	C	357	ASN
1	D	131	GLN
1	D	207	ASN
1	D	281	ASN
1	D	410	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 16 ligands modelled in this entry, 4 are monoatomic - leaving 12 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$
2	C2E	B	501	-	44,52,52	4.14	31 (70%)	52,82,82	1.44	9 (17%)
2	C2E	D	501	-	44,52,52	4.13	33 (75%)	52,82,82	1.45	8 (15%)
2	C2E	D	504	-	44,52,52	4.14	31 (70%)	52,82,82	1.65	13 (25%)
3	0O2	B	504	4	32,42,42	3.60	14 (43%)	44,68,68	1.39	8 (18%)
3	0O2	A	502	4	32,42,42	3.62	15 (46%)	44,68,68	1.53	7 (15%)
3	0O2	D	502	4	32,42,42	3.72	17 (53%)	44,68,68	1.53	8 (18%)
2	C2E	C	501	-	44,52,52	4.12	31 (70%)	52,82,82	1.46	9 (17%)
3	0O2	C	502	4	32,42,42	3.70	16 (50%)	44,68,68	1.51	9 (20%)
2	C2E	B	503	-	44,52,52	4.11	33 (75%)	52,82,82	1.50	11 (21%)
2	C2E	D	503	-	44,52,52	4.13	31 (70%)	52,82,82	1.51	10 (19%)
2	C2E	B	502	-	44,52,52	4.18	29 (65%)	52,82,82	1.84	10 (19%)
2	C2E	A	501	-	44,52,52	4.15	31 (70%)	52,82,82	1.48	8 (15%)

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
2	C2E	B	501	-	-	4/22/62/62	0/6/7/7
2	C2E	D	501	-	-	1/22/62/62	0/6/7/7
2	C2E	D	504	-	-	9/22/62/62	0/6/7/7
3	0O2	B	504	4	-	7/29/49/49	0/3/3/3
3	0O2	A	502	4	-	9/29/49/49	0/3/3/3
3	0O2	D	502	4	-	4/29/49/49	0/3/3/3
2	C2E	C	501	-	-	4/22/62/62	0/6/7/7
3	0O2	C	502	4	-	10/29/49/49	0/3/3/3
2	C2E	B	503	-	-	3/22/62/62	0/6/7/7
2	C2E	D	503	-	-	3/22/62/62	0/6/7/7
2	C2E	B	502	-	-	2/22/62/62	0/6/7/7

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	C2E	A	501	-	-	5/22/62/62	0/6/7/7

All (312) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	502	0O2	C2'-C3'	-12.47	1.25	1.52
3	D	502	0O2	C2'-C3'	-12.34	1.25	1.52
3	B	504	0O2	C2'-C3'	-12.32	1.25	1.52
3	A	502	0O2	C2'-C3'	-12.25	1.25	1.52
2	B	502	C2E	C3'-C4'	-10.18	1.25	1.52
2	B	503	C2E	C3'-C4'	-10.12	1.25	1.52
2	C	501	C2E	C3'-C4'	-10.09	1.25	1.52
2	A	501	C2E	C3'-C4'	-9.97	1.26	1.52
2	D	503	C2E	C3'-C4'	-9.88	1.26	1.52
2	B	501	C2E	C3'-C4'	-9.79	1.26	1.52
2	D	501	C2E	C3'-C4'	-9.78	1.26	1.52
2	D	503	C2E	C3A-C4A	-9.77	1.26	1.52
2	C	501	C2E	C3A-C4A	-9.77	1.26	1.52
2	B	502	C2E	C3A-C4A	-9.74	1.26	1.52
2	D	501	C2E	C3A-C4A	-9.71	1.26	1.52
2	A	501	C2E	C3A-C4A	-9.67	1.26	1.52
2	D	504	C2E	C3'-C4'	-9.66	1.27	1.52
2	B	501	C2E	C3A-C4A	-9.66	1.27	1.52
2	B	503	C2E	C3A-C4A	-9.51	1.27	1.52
2	D	504	C2E	C3A-C4A	-9.47	1.27	1.52
2	A	501	C2E	O4A-C4A	8.37	1.63	1.45
3	D	502	0O2	C2'-C1'	8.35	1.66	1.53
3	C	502	0O2	C2'-C1'	8.30	1.66	1.53
2	D	503	C2E	O4'-C4'	8.21	1.63	1.45
2	B	501	C2E	O4A-C4A	8.09	1.63	1.45
2	B	501	C2E	O4'-C4'	8.06	1.63	1.45
2	D	504	C2E	O4A-C4A	7.96	1.62	1.45
2	C	501	C2E	O4'-C4'	7.92	1.62	1.45
2	D	504	C2E	O4A-C1A	-7.90	1.30	1.41
2	C	501	C2E	O4A-C4A	7.89	1.62	1.45
2	D	503	C2E	O4A-C1A	-7.89	1.30	1.41
2	A	501	C2E	O4'-C4'	7.87	1.62	1.45
2	B	503	C2E	O4A-C4A	7.85	1.62	1.45
2	D	501	C2E	O4A-C1A	-7.80	1.30	1.41
2	D	503	C2E	O4A-C4A	7.78	1.62	1.45
2	D	501	C2E	O4A-C4A	7.78	1.62	1.45
2	D	501	C2E	O4'-C4'	7.78	1.62	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	504	0O2	C2'-C1'	7.75	1.65	1.53
2	B	502	C2E	O4A-C4A	7.75	1.62	1.45
2	D	504	C2E	O4'-C4'	7.72	1.62	1.45
2	D	504	C2E	O4'-C1'	-7.69	1.30	1.41
2	C	501	C2E	O4A-C1A	-7.69	1.30	1.41
2	D	501	C2E	O4'-C1'	-7.67	1.30	1.41
2	B	501	C2E	O4A-C1A	-7.66	1.30	1.41
3	A	502	0O2	C2'-C1'	7.59	1.65	1.53
2	A	501	C2E	O4A-C1A	-7.56	1.30	1.41
2	B	503	C2E	O4'-C4'	7.55	1.61	1.45
2	B	501	C2E	O4'-C1'	-7.50	1.30	1.41
2	B	502	C2E	O4A-C1A	-7.45	1.30	1.41
2	A	501	C2E	O4'-C1'	-7.43	1.30	1.41
2	B	502	C2E	O4'-C1'	-7.40	1.30	1.41
3	D	502	0O2	O4'-C1'	-7.40	1.30	1.41
2	B	503	C2E	O4'-C1'	-7.36	1.30	1.41
2	B	503	C2E	O4A-C1A	-7.36	1.30	1.41
2	C	501	C2E	O4'-C1'	-7.29	1.30	1.41
2	B	502	C2E	O4'-C4'	7.22	1.61	1.45
2	D	503	C2E	O4'-C1'	-7.19	1.31	1.41
2	B	502	C2E	C4-N3	7.18	1.54	1.37
3	A	502	0O2	O4'-C1'	-7.08	1.31	1.41
3	C	502	0O2	O4'-C1'	-6.79	1.31	1.41
3	B	504	0O2	O4'-C1'	-5.97	1.32	1.41
2	B	502	C2E	C2-N3	5.93	1.47	1.33
2	B	503	C2E	C21-N31	5.72	1.47	1.33
2	B	501	C2E	C21-N31	5.70	1.47	1.33
2	D	501	C2E	C21-N31	5.68	1.47	1.33
2	A	501	C2E	C21-N31	5.54	1.46	1.33
2	D	504	C2E	C21-N31	5.54	1.46	1.33
2	D	503	C2E	C2-N3	5.54	1.46	1.33
2	B	503	C2E	C2-N3	5.52	1.46	1.33
2	B	502	C2E	C21-N31	5.51	1.46	1.33
2	C	501	C2E	C2-N3	5.49	1.46	1.33
2	C	501	C2E	C21-N31	5.48	1.46	1.33
2	D	501	C2E	C2-N3	5.45	1.46	1.33
2	D	503	C2E	C21-N31	5.42	1.46	1.33
2	A	501	C2E	C2-N3	5.34	1.46	1.33
2	B	501	C2E	C2-N3	5.33	1.46	1.33
3	B	504	0O2	C2-N3	5.32	1.46	1.33
3	A	502	0O2	C2-N3	5.30	1.46	1.33
2	D	504	C2E	C2-N3	5.29	1.46	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	502	0O2	C2-N3	5.25	1.46	1.33
3	D	502	0O2	C2-N3	5.25	1.45	1.33
2	D	501	C2E	C41-N31	5.08	1.49	1.37
2	B	501	C2E	C41-N31	4.98	1.49	1.37
2	C	501	C2E	C4-N3	4.97	1.49	1.37
2	D	503	C2E	C4-N3	4.94	1.49	1.37
2	D	504	C2E	C4-N3	4.93	1.49	1.37
2	D	501	C2E	C4-N3	4.90	1.49	1.37
2	D	504	C2E	C41-N31	4.89	1.49	1.37
2	A	501	C2E	C4-N3	4.89	1.49	1.37
2	B	503	C2E	C4-N3	4.87	1.49	1.37
2	B	501	C2E	C4-N3	4.87	1.49	1.37
2	A	501	C2E	C41-N31	4.86	1.49	1.37
2	B	503	C2E	C41-N31	4.83	1.49	1.37
2	D	504	C2E	P11-O3'	4.80	1.73	1.60
3	B	504	0O2	C4-N3	4.79	1.49	1.37
2	C	501	C2E	C41-N31	4.79	1.49	1.37
3	C	502	0O2	C4-N3	4.77	1.48	1.37
2	D	503	C2E	C41-N31	4.76	1.48	1.37
3	A	502	0O2	C4-N3	4.75	1.48	1.37
3	B	504	0O2	C2-N2	4.75	1.45	1.34
3	D	502	0O2	C4-N3	4.74	1.48	1.37
2	D	504	C2E	C21-N21	4.71	1.45	1.34
2	B	502	C2E	C41-N31	4.70	1.48	1.37
2	B	502	C2E	C21-N21	4.70	1.45	1.34
2	C	501	C2E	C21-N21	4.68	1.45	1.34
2	D	503	C2E	C21-N21	4.67	1.45	1.34
3	A	502	0O2	C2-N2	4.67	1.45	1.34
2	B	501	C2E	C21-N21	4.66	1.45	1.34
2	A	501	C2E	C21-N21	4.66	1.45	1.34
3	D	502	0O2	C2-N2	4.63	1.45	1.34
2	D	501	C2E	C21-N21	4.63	1.45	1.34
2	B	503	C2E	C21-N21	4.60	1.45	1.34
3	C	502	0O2	C2-N2	4.59	1.45	1.34
2	D	504	C2E	C2-N2	4.52	1.44	1.34
2	B	502	C2E	C2-N2	4.52	1.44	1.34
2	B	503	C2E	C2-N2	4.50	1.44	1.34
2	D	501	C2E	C2-N2	4.42	1.44	1.34
2	B	502	C2E	P11-O3'	4.42	1.72	1.60
2	A	501	C2E	C2-N2	4.37	1.44	1.34
2	B	501	C2E	P11-O3'	4.37	1.72	1.60
2	A	501	C2E	P11-O3'	4.36	1.71	1.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	501	C2E	C2-N2	4.36	1.44	1.34
2	D	503	C2E	P11-O3'	4.33	1.71	1.60
2	C	501	C2E	P11-O3'	4.31	1.71	1.60
2	C	501	C2E	C2-N2	4.29	1.44	1.34
2	D	503	C2E	C2-N2	4.20	1.44	1.34
2	D	501	C2E	P11-O3'	4.19	1.71	1.60
2	B	503	C2E	P11-O3'	4.16	1.71	1.60
3	B	504	0O2	C6-N1	3.93	1.43	1.37
3	A	502	0O2	C6-N1	3.80	1.43	1.37
3	A	502	0O2	C5'-C4'	-3.74	1.39	1.51
2	B	503	C2E	C61-N11	3.71	1.43	1.37
2	A	501	C2E	C61-N11	3.69	1.43	1.37
2	D	504	C2E	C6-N1	3.69	1.43	1.37
3	C	502	0O2	C5'-C4'	-3.64	1.40	1.51
2	B	501	C2E	C6-N1	3.63	1.43	1.37
2	C	501	C2E	C61-N11	3.62	1.43	1.37
3	D	502	0O2	C5'-C4'	-3.61	1.40	1.51
2	D	501	C2E	C61-N11	3.61	1.43	1.37
3	C	502	0O2	C6-N1	3.60	1.43	1.37
3	B	504	0O2	C5'-C4'	-3.55	1.40	1.51
3	D	502	0O2	C6-N1	3.55	1.43	1.37
2	B	502	C2E	C61-N11	3.55	1.43	1.37
2	D	504	C2E	C61-N11	3.51	1.43	1.37
2	B	502	C2E	C6-N1	3.45	1.43	1.37
2	D	504	C2E	O3'-C3'	3.44	1.56	1.44
2	A	501	C2E	C6-N1	3.44	1.43	1.37
2	D	503	C2E	C61-N11	3.43	1.43	1.37
2	B	501	C2E	C61-N11	3.43	1.43	1.37
2	B	503	C2E	C6-N1	3.40	1.42	1.37
2	D	501	C2E	C6-N1	3.40	1.42	1.37
2	B	501	C2E	P1-O3A	3.39	1.69	1.60
2	D	503	C2E	P1-O3A	3.38	1.69	1.60
2	D	504	C2E	C5-C6	3.37	1.54	1.47
2	D	503	C2E	C6-N1	3.36	1.42	1.37
3	D	502	0O2	C3'-C4'	3.32	1.61	1.52
2	A	501	C2E	P1-O3A	3.32	1.69	1.60
3	C	502	0O2	C5-C6	3.29	1.54	1.47
2	A	501	C2E	O3'-C3'	3.27	1.56	1.44
2	D	504	C2E	P1-O3A	3.26	1.69	1.60
2	D	503	C2E	O3'-C3'	3.26	1.55	1.44
2	B	501	C2E	C5-C6	3.24	1.54	1.47
2	D	501	C2E	O3'-C3'	3.23	1.55	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	501	C2E	C6-N1	3.22	1.42	1.37
3	B	504	0O2	C5-C6	3.22	1.54	1.47
2	B	502	C2E	C51-C61	3.21	1.53	1.47
2	A	501	C2E	C51-C61	3.21	1.53	1.47
2	B	501	C2E	C51-C61	3.20	1.53	1.47
2	D	503	C2E	O3A-C3A	3.19	1.55	1.44
2	B	501	C2E	O3'-C3'	3.19	1.55	1.44
2	B	503	C2E	O3'-C3'	3.19	1.55	1.44
2	C	501	C2E	O3'-C3'	3.18	1.55	1.44
2	D	503	C2E	C51-C61	3.17	1.53	1.47
2	B	503	C2E	C51-C61	3.16	1.53	1.47
2	C	501	C2E	P1-O3A	3.16	1.68	1.60
2	A	501	C2E	O3A-C3A	3.14	1.55	1.44
2	D	501	C2E	P1-O3A	3.13	1.68	1.60
2	B	503	C2E	O3A-C3A	3.13	1.55	1.44
2	B	502	C2E	P1-O3A	3.12	1.68	1.60
2	D	501	C2E	C5-C6	3.11	1.53	1.47
3	C	502	0O2	C3'-C4'	3.11	1.61	1.52
2	B	502	C2E	O3'-C3'	3.10	1.55	1.44
2	B	501	C2E	O3A-C3A	3.09	1.55	1.44
2	C	501	C2E	C51-C61	3.09	1.53	1.47
3	D	502	0O2	O4'-C4'	3.08	1.51	1.45
2	A	501	C2E	C5-C6	3.08	1.53	1.47
2	D	504	C2E	O3A-C3A	3.07	1.55	1.44
2	B	502	C2E	C8-N7	3.07	1.40	1.35
2	B	503	C2E	P1-O3A	3.06	1.68	1.60
3	B	504	0O2	C3'-C4'	3.06	1.61	1.52
2	C	501	C2E	O3A-C3A	3.05	1.55	1.44
3	C	502	0O2	O4'-C4'	3.02	1.51	1.45
3	A	502	0O2	C5-C6	2.96	1.53	1.47
2	B	502	C2E	O3A-C3A	2.95	1.54	1.44
2	D	504	C2E	C2-N1	2.94	1.44	1.37
2	D	501	C2E	C51-C61	2.90	1.53	1.47
2	D	501	C2E	O3A-C3A	2.90	1.54	1.44
2	B	503	C2E	C5-C6	2.89	1.53	1.47
2	D	503	C2E	C5-C6	2.89	1.53	1.47
3	A	502	0O2	O4'-C4'	2.89	1.51	1.45
3	B	504	0O2	C2-N1	2.88	1.44	1.37
2	A	501	C2E	C2-N1	2.88	1.44	1.37
2	D	501	C2E	C2-N1	2.88	1.44	1.37
2	D	504	C2E	C51-C61	2.87	1.53	1.47
2	B	501	C2E	C2-N1	2.87	1.44	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	502	0O2	C2-N1	2.82	1.44	1.37
3	D	502	0O2	C5-C6	2.81	1.53	1.47
3	A	502	0O2	C3'-C4'	2.79	1.60	1.52
2	C	501	C2E	C5-C6	2.79	1.53	1.47
2	C	501	C2E	C2-N1	2.78	1.44	1.37
2	B	502	C2E	O6-C6	-2.78	1.17	1.23
2	B	503	C2E	C2-N1	2.78	1.44	1.37
2	B	502	C2E	C21-N11	2.71	1.44	1.37
2	C	501	C2E	C21-N11	2.71	1.44	1.37
3	B	504	0O2	O4'-C4'	2.70	1.51	1.45
2	B	502	C2E	O2'-C2'	-2.69	1.36	1.43
3	D	502	0O2	C2-N1	2.69	1.44	1.37
2	D	503	C2E	C2-N1	2.67	1.44	1.37
3	C	502	0O2	C2-N1	2.63	1.44	1.37
2	D	504	C2E	C21-N11	2.62	1.44	1.37
2	D	501	C2E	O2A-C2A	-2.61	1.36	1.43
2	D	504	C2E	O2'-C2'	-2.61	1.36	1.43
2	B	502	C2E	O2A-C2A	-2.61	1.36	1.43
2	A	501	C2E	O2A-C2A	-2.61	1.36	1.43
2	B	503	C2E	O2A-C2A	-2.59	1.36	1.43
2	D	504	C2E	O2A-C2A	-2.59	1.36	1.43
2	A	501	C2E	C21-N11	2.57	1.44	1.37
2	C	501	C2E	O2A-C2A	-2.56	1.37	1.43
2	B	502	C2E	C2-N1	2.55	1.44	1.37
2	B	503	C2E	C21-N11	2.55	1.44	1.37
2	B	501	C2E	O2'-C2'	-2.54	1.37	1.43
2	D	501	C2E	C21-N11	2.53	1.43	1.37
2	D	503	C2E	C21-N11	2.52	1.43	1.37
2	B	501	C2E	C21-N11	2.52	1.43	1.37
2	D	503	C2E	O2A-C2A	-2.49	1.37	1.43
2	B	501	C2E	O2A-C2A	-2.48	1.37	1.43
2	D	504	C2E	C51-C41	-2.47	1.36	1.43
2	A	501	C2E	P11-O5A	2.46	1.69	1.59
2	C	501	C2E	O2'-C2'	-2.45	1.37	1.43
2	B	503	C2E	C5-C4	-2.45	1.36	1.43
2	A	501	C2E	O2'-C2'	-2.45	1.37	1.43
2	D	503	C2E	C5-C4	-2.44	1.36	1.43
2	A	501	C2E	C51-C41	-2.43	1.36	1.43
2	D	503	C2E	C2'-C1'	-2.43	1.50	1.53
2	D	504	C2E	C5-C4	-2.43	1.36	1.43
2	D	503	C2E	C51-C41	-2.43	1.36	1.43
2	D	501	C2E	O2'-C2'	-2.42	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	503	C2E	O6-C6	-2.42	1.18	1.23
2	D	503	C2E	O2'-C2'	-2.41	1.37	1.43
2	B	503	C2E	P11-O5A	2.41	1.69	1.59
2	B	503	C2E	C51-C41	-2.40	1.36	1.43
2	B	501	C2E	C51-C41	-2.40	1.37	1.43
3	C	502	0O2	O2'-C2'	2.40	1.48	1.43
2	D	503	C2E	P11-O5A	2.40	1.69	1.59
2	B	501	C2E	P11-O5A	2.39	1.69	1.59
2	B	503	C2E	O2'-C2'	-2.39	1.37	1.43
2	B	502	C2E	C51-C41	-2.37	1.37	1.43
3	D	502	0O2	O2'-C2'	2.37	1.48	1.43
3	D	502	0O2	C5-C4	-2.37	1.37	1.43
3	B	504	0O2	C5-C4	-2.36	1.37	1.43
2	D	501	C2E	C5-C4	-2.35	1.37	1.43
3	C	502	0O2	C5-C4	-2.35	1.37	1.43
2	A	501	C2E	C5-C4	-2.35	1.37	1.43
2	C	501	C2E	P11-O5A	2.35	1.68	1.59
2	D	501	C2E	C51-C41	-2.34	1.37	1.43
2	D	501	C2E	P11-O5A	2.34	1.68	1.59
2	C	501	C2E	C5-C4	-2.33	1.37	1.43
2	D	504	C2E	C2'-C1'	-2.33	1.50	1.53
2	C	501	C2E	C51-C41	-2.33	1.37	1.43
2	B	501	C2E	C5-C4	-2.32	1.37	1.43
3	A	502	0O2	C5-C4	-2.31	1.37	1.43
2	B	502	C2E	P11-O5A	2.29	1.68	1.59
3	B	504	0O2	O2'-C2'	2.29	1.48	1.43
3	A	502	0O2	O2'-C2'	2.29	1.48	1.43
2	C	501	C2E	C2'-C1'	-2.28	1.50	1.53
2	B	503	C2E	C2'-C3'	2.28	1.58	1.52
2	C	501	C2E	O6-C6	-2.27	1.18	1.23
2	B	503	C2E	C2'-C1'	-2.26	1.50	1.53
2	D	504	C2E	O61-C61	-2.23	1.18	1.23
3	D	502	0O2	PC-O3'	2.21	1.66	1.60
2	A	501	C2E	O6-C6	-2.20	1.18	1.23
2	B	501	C2E	O61-C61	-2.20	1.18	1.23
2	B	503	C2E	C2A-C1A	-2.18	1.50	1.53
2	B	503	C2E	P1-O5'	2.18	1.68	1.59
2	D	503	C2E	P1-O5'	2.17	1.68	1.59
2	A	501	C2E	P1-O5'	2.17	1.68	1.59
2	A	501	C2E	O61-C61	-2.16	1.18	1.23
2	D	501	C2E	O61-C61	-2.16	1.18	1.23
2	B	502	C2E	O61-C61	-2.16	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	503	C2E	O6-C6	-2.16	1.18	1.23
2	D	501	C2E	C2'-C3'	2.15	1.57	1.52
3	D	502	0O2	O3'-C3'	2.14	1.51	1.44
2	A	501	C2E	C2'-C3'	2.13	1.57	1.52
2	D	501	C2E	O6-C6	-2.13	1.19	1.23
2	D	504	C2E	P11-O5A	2.13	1.67	1.59
2	D	504	C2E	P1-O5'	2.12	1.67	1.59
2	D	503	C2E	O61-C61	-2.11	1.19	1.23
2	B	503	C2E	O61-C61	-2.11	1.19	1.23
2	B	502	C2E	C5-C6	2.10	1.51	1.47
2	D	504	C2E	O6-C6	-2.10	1.19	1.23
2	D	501	C2E	C2'-C1'	-2.10	1.50	1.53
3	D	502	0O2	O6-C6	-2.09	1.19	1.23
2	D	501	C2E	P1-O5'	2.09	1.67	1.59
2	C	501	C2E	P1-O5'	2.09	1.67	1.59
3	C	502	0O2	O6-C6	-2.08	1.19	1.23
2	C	501	C2E	C2'-C3'	2.06	1.57	1.52
2	B	501	C2E	C2'-C1'	-2.05	1.50	1.53
3	A	502	0O2	O6-C6	-2.04	1.19	1.23
3	C	502	0O2	O3'-C3'	2.04	1.51	1.44
2	B	501	C2E	C2'-C3'	2.02	1.57	1.52
2	D	501	C2E	C2A-C1A	-2.01	1.50	1.53
2	B	501	C2E	P1-O5'	2.01	1.67	1.59

All (110) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	502	C2E	C5-C6-N1	5.73	124.06	113.95
3	A	502	0O2	PC-O3C-PD	-4.64	116.90	132.83
2	B	502	C2E	P1-O3A-C3A	-4.45	103.21	119.41
3	D	502	0O2	PC-O3C-PD	-4.25	118.24	132.83
2	B	502	C2E	O6-C6-C5	-3.82	116.91	124.37
2	B	503	C2E	P1-O3A-C3A	-3.72	105.85	119.41
2	B	502	C2E	N1-C2-N3	-3.64	116.51	123.32
2	D	503	C2E	C5-C6-N1	3.46	120.05	113.95
3	A	502	0O2	C3'-C2'-C1'	3.34	107.29	99.89
2	D	504	C2E	P1-O3A-C3A	-3.31	107.38	119.41
2	A	501	C2E	C51-C61-N11	3.27	119.73	113.95
2	C	501	C2E	C5-C6-N1	3.25	119.69	113.95
2	D	501	C2E	C8-N7-C5	3.23	109.15	102.99
3	C	502	0O2	C5-C6-N1	3.23	119.66	113.95
2	B	501	C2E	C51-C61-N11	3.22	119.64	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	503	C2E	P1-O3A-C3A	-3.20	107.76	119.41
2	B	503	C2E	C5-C6-N1	3.17	119.55	113.95
2	B	502	C2E	C21-N11-C61	-3.16	119.28	125.10
3	D	502	0O2	PB-O3B-PG	-3.16	121.98	132.83
2	D	504	C2E	C8-N7-C5	3.16	109.01	102.99
2	B	502	C2E	C51-C61-N11	3.15	119.52	113.95
2	D	501	C2E	P1-O3A-C3A	-3.15	107.95	119.41
3	C	502	0O2	C2-N1-C6	-3.15	119.31	125.10
2	D	504	C2E	C51-C61-N11	3.14	119.50	113.95
2	A	501	C2E	C8-N7-C5	3.13	108.95	102.99
2	D	504	C2E	C5-C6-N1	3.13	119.48	113.95
2	D	501	C2E	C51-C61-N11	3.12	119.47	113.95
2	D	501	C2E	C5-C6-N1	3.12	119.45	113.95
2	A	501	C2E	P1-O3A-C3A	-3.10	108.11	119.41
2	B	503	C2E	C8-N7-C5	3.10	108.90	102.99
3	C	502	0O2	PC-O3C-PD	-3.10	122.20	132.83
2	D	503	C2E	C2-N1-C6	-3.09	119.40	125.10
2	A	501	C2E	C5-C6-N1	3.09	119.41	113.95
2	C	501	C2E	P1-O3A-C3A	-3.09	108.15	119.41
3	A	502	0O2	PB-O3B-PG	-3.08	122.25	132.83
2	B	503	C2E	C51-C61-N11	3.06	119.35	113.95
2	C	501	C2E	C8-N7-C5	3.05	108.79	102.99
2	D	503	C2E	C81-N71-C51	3.04	108.79	102.99
3	B	504	0O2	C5-C6-N1	3.03	119.30	113.95
2	C	501	C2E	C2-N1-C6	-3.02	119.54	125.10
2	B	501	C2E	C8-N7-C5	3.02	108.74	102.99
2	D	503	C2E	C8-N7-C5	3.01	108.73	102.99
2	B	501	C2E	P1-O3A-C3A	-3.01	108.45	119.41
3	A	502	0O2	C5-C6-N1	2.99	119.23	113.95
3	D	502	0O2	C3'-C2'-C1'	2.99	106.50	99.89
2	A	501	C2E	C21-N11-C61	-2.98	119.62	125.10
2	D	503	C2E	C51-C61-N11	2.95	119.17	113.95
3	B	504	0O2	C2-N1-C6	-2.94	119.68	125.10
2	B	501	C2E	C21-N11-C61	-2.94	119.68	125.10
3	D	502	0O2	C5-C6-N1	2.93	119.13	113.95
3	A	502	0O2	C2-N1-C6	-2.92	119.72	125.10
2	B	501	C2E	C5-C6-N1	2.92	119.11	113.95
2	A	501	C2E	C81-N71-C51	2.90	108.52	102.99
2	B	501	C2E	C81-N71-C51	2.89	108.49	102.99
2	D	501	C2E	C2-N1-C6	-2.87	119.80	125.10
2	C	501	C2E	C81-N71-C51	2.86	108.43	102.99
2	B	502	C2E	C81-N71-C51	2.85	108.41	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	502	0O2	C2-N1-C6	-2.84	119.87	125.10
2	D	504	C2E	C21-N11-C61	-2.84	119.87	125.10
3	D	502	0O2	O3C-PC-O3'	2.83	108.18	102.48
3	C	502	0O2	PA-O3A-PB	-2.83	123.13	132.83
2	B	503	C2E	C21-N11-C61	-2.82	119.91	125.10
2	A	501	C2E	C2-N1-C6	-2.79	119.96	125.10
2	D	504	C2E	C3'-C2'-C1'	2.77	106.03	99.89
2	D	504	C2E	C81-N71-C51	2.76	108.25	102.99
2	B	503	C2E	C2-N1-C6	-2.75	120.03	125.10
3	B	504	0O2	PC-O3C-PD	-2.75	123.40	132.83
2	D	501	C2E	C21-N11-C61	-2.74	120.05	125.10
3	C	502	0O2	C8-N7-C5	2.74	108.22	102.99
2	D	503	C2E	C21-N11-C61	-2.74	120.05	125.10
2	B	503	C2E	C81-N71-C51	2.73	108.20	102.99
3	B	504	0O2	C8-N7-C5	2.72	108.17	102.99
2	C	501	C2E	C51-C61-N11	2.71	118.74	113.95
2	D	501	C2E	C81-N71-C51	2.67	108.08	102.99
2	B	501	C2E	C2-N1-C6	-2.65	120.21	125.10
3	B	504	0O2	O3C-PC-O3'	2.64	107.80	102.48
3	C	502	0O2	O3C-PC-O3'	2.64	107.80	102.48
3	D	502	0O2	PA-O3A-PB	-2.63	123.79	132.83
2	C	501	C2E	C21-N11-C61	-2.62	120.28	125.10
2	D	504	C2E	C2-N1-C6	-2.60	120.31	125.10
3	A	502	0O2	C8-N7-C5	2.54	107.83	102.99
3	D	502	0O2	C8-N7-C5	2.54	107.82	102.99
2	B	503	C2E	P11-O3'-C3'	-2.52	110.24	119.41
2	D	504	C2E	P11-O5A-C5A	-2.51	106.97	121.68
3	C	502	0O2	O4'-C1'-C2'	-2.50	103.27	106.93
2	D	504	C2E	P11-O3'-C3'	-2.47	110.40	119.41
2	B	502	C2E	N2-C2-N3	2.47	124.54	119.74
3	C	502	0O2	C2'-C3'-C4'	-2.44	98.90	103.22
2	C	501	C2E	P11-O3'-C3'	-2.43	110.55	119.41
2	D	504	C2E	O3'-P11-O11	2.37	118.35	109.47
2	B	502	C2E	C8-N7-C5	-2.35	98.52	102.99
2	D	503	C2E	P11-O3'-C3'	-2.34	110.89	119.41
2	A	501	C2E	O3'-P11-O11	2.31	118.12	109.47
3	C	502	0O2	PB-O3B-PG	-2.30	124.92	132.83
2	D	503	C2E	O6-C6-C5	-2.28	119.92	124.37
2	C	501	C2E	O6-C6-C5	-2.26	119.97	124.37
2	D	504	C2E	O61-C61-C51	-2.25	119.99	124.37
2	B	503	C2E	O6-C6-C5	-2.20	120.07	124.37
2	B	503	C2E	C2A-C3A-C4A	2.19	107.11	103.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	503	C2E	O61-C61-C51	-2.16	120.16	124.37
3	A	502	0O2	O2'-C2'-C3'	2.14	117.23	111.17
2	B	501	C2E	C3'-C2'-C1'	2.13	104.60	99.89
3	B	504	0O2	C3'-C2'-C1'	2.12	104.58	99.89
2	B	501	C2E	O3'-P11-O11	2.12	117.41	109.47
3	B	504	0O2	PA-O3A-PB	-2.11	125.58	132.83
2	B	502	C2E	P11-O3'-C3'	-2.08	111.83	119.41
2	D	504	C2E	C2A-C3A-C4A	2.06	106.87	103.22
2	D	501	C2E	O3'-P11-O11	2.04	117.11	109.47
2	D	503	C2E	P11-O5A-C5A	-2.01	109.89	121.68
3	B	504	0O2	PB-O3B-PG	-2.00	125.95	132.83

There are no chirality outliers.

All (61) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	C	501	C2E	C5'-O5'-P1-O2P
2	D	504	C2E	O4'-C4'-C5'-O5'
2	D	504	C2E	C5A-O5A-P11-O3'
2	D	504	C2E	C5A-O5A-P11-O21
2	D	504	C2E	C5A-O5A-P11-O11
3	A	502	0O2	C3'-C4'-C5'-O5'
3	A	502	0O2	C3'-O3'-PC-O1C
3	B	504	0O2	PC-O3C-PD-O1D
3	B	504	0O2	PC-O3C-PD-O3D
3	B	504	0O2	PB-O3B-PG-O3G
3	C	502	0O2	PC-O3C-PD-O1D
3	C	502	0O2	C3'-O3'-PC-O3C
2	D	504	C2E	O4A-C4A-C5A-O5A
2	D	504	C2E	C3A-C4A-C5A-O5A
3	B	504	0O2	C2'-C3'-O3'-PC
3	C	502	0O2	C2'-C3'-O3'-PC
3	D	502	0O2	C4'-C3'-O3'-PC
3	D	502	0O2	C2'-C3'-O3'-PC
3	A	502	0O2	O4'-C4'-C5'-O5'
3	C	502	0O2	C3'-C4'-C5'-O5'
3	C	502	0O2	O4'-C4'-C5'-O5'
3	C	502	0O2	PA-O3A-PB-O2B
3	A	502	0O2	C3'-O3'-PC-O3C
2	D	504	C2E	C3'-O3'-P11-O5A
3	A	502	0O2	C3'-O3'-PC-O2C
3	C	502	0O2	C4'-C5'-O5'-PA

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Mol	Chain	Res	Type	Atoms
3	A	502	0O2	PB-O3A-PA-O5'
3	A	502	0O2	PD-O3C-PC-O3'
3	D	502	0O2	PB-O3A-PA-O5'
2	A	501	C2E	C3A-O3A-P1-O5'
2	C	501	C2E	C3A-O3A-P1-O5'
3	B	504	0O2	C4'-C5'-O5'-PA
3	A	502	0O2	PB-O3B-PG-O2G
3	B	504	0O2	PA-O3A-PB-O3B
2	B	503	C2E	C3A-O3A-P1-O5'
2	D	503	C2E	C3A-O3A-P1-O5'
2	D	504	C2E	C5'-O5'-P1-O3A
2	A	501	C2E	C5'-O5'-P1-O1P
2	A	501	C2E	C5A-O5A-P11-O21
2	A	501	C2E	C5A-O5A-P11-O11
2	B	501	C2E	C5'-O5'-P1-O1P
2	B	503	C2E	C5'-O5'-P1-O1P
2	C	501	C2E	C5'-O5'-P1-O1P
2	D	503	C2E	C5'-O5'-P1-O1P
2	B	501	C2E	C2'-C3'-O3'-P11
2	A	501	C2E	C3'-O3'-P11-O5A
2	B	501	C2E	C4'-C3'-O3'-P11
2	B	502	C2E	C3'-O3'-P11-O5A
3	B	504	0O2	PB-O3B-PG-O2G
3	C	502	0O2	PC-O3C-PD-O3D
3	D	502	0O2	O4'-C4'-C5'-O5'
3	C	502	0O2	PB-O3A-PA-O1A
2	B	501	C2E	C5A-O5A-P11-O11
2	B	502	C2E	C5A-O5A-P11-O11
2	B	503	C2E	C5A-O5A-P11-O11
2	C	501	C2E	C5A-O5A-P11-O11
2	D	501	C2E	C5A-O5A-P11-O11
2	D	503	C2E	C5A-O5A-P11-O11
2	D	504	C2E	C5'-O5'-P1-O2P
3	A	502	0O2	C5'-O5'-PA-O2A
3	C	502	0O2	PC-O3C-PD-O2D

There are no ring outliers.

10 monomers are involved in 18 short contacts:

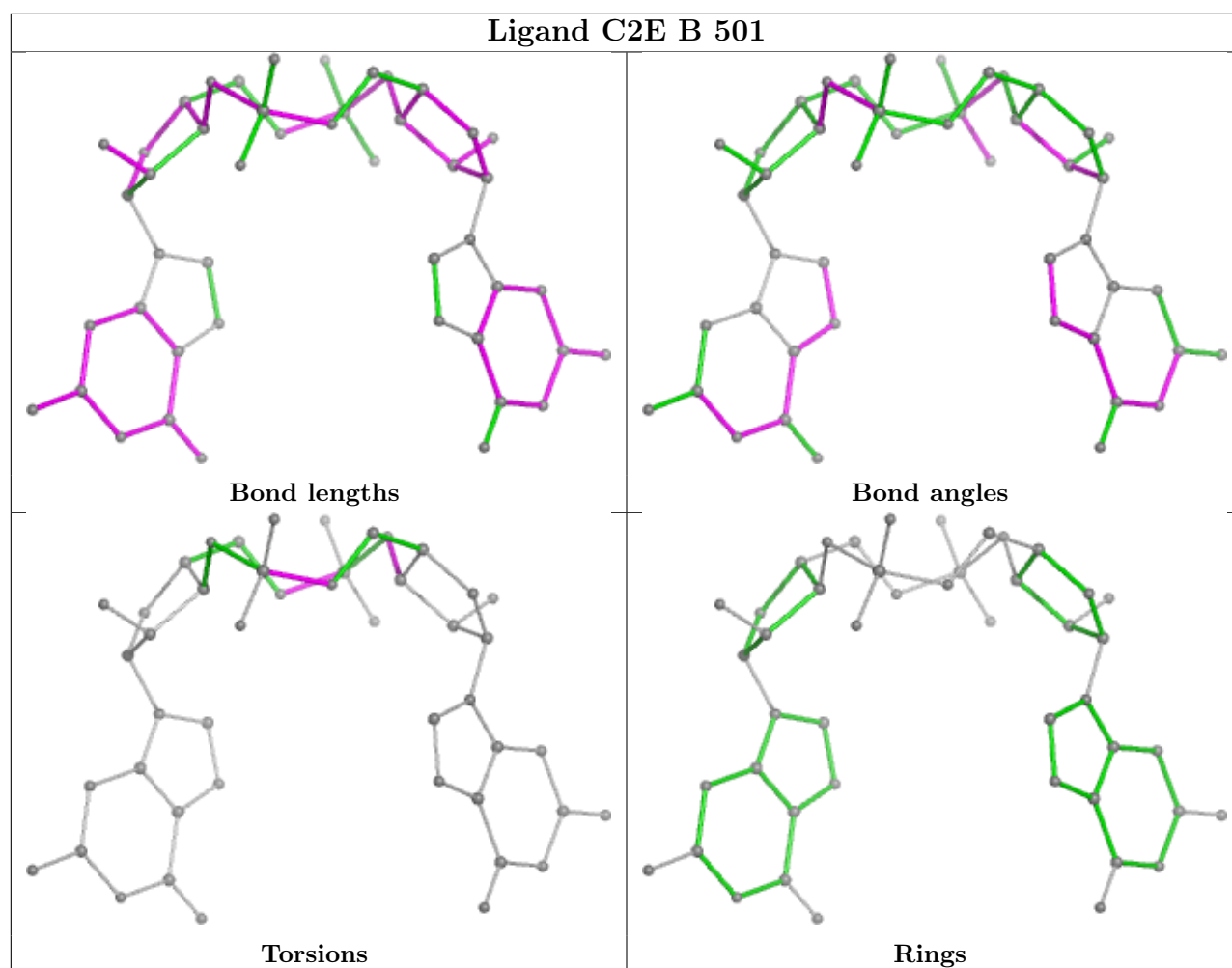
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	501	C2E	1	0
2	D	501	C2E	2	0

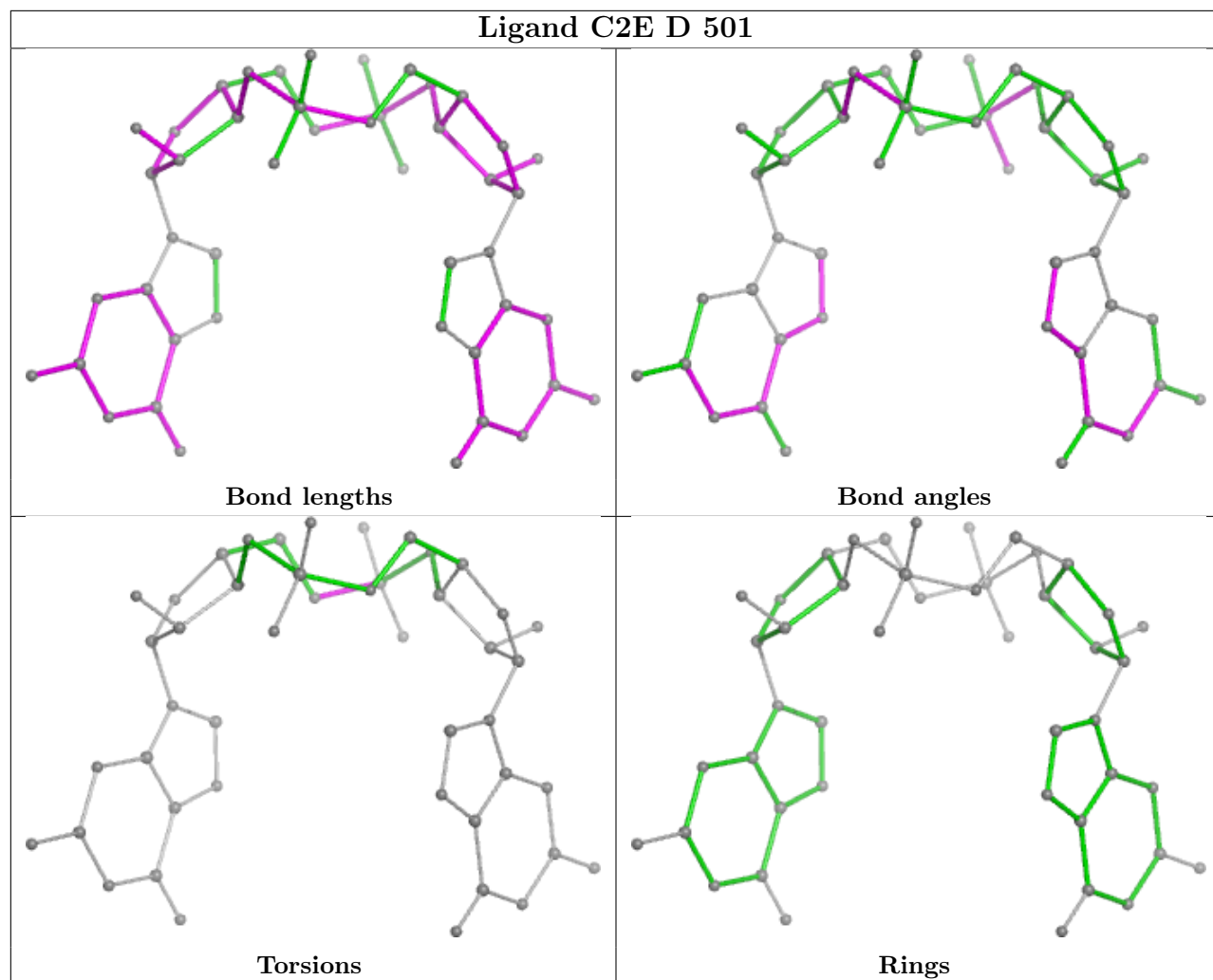
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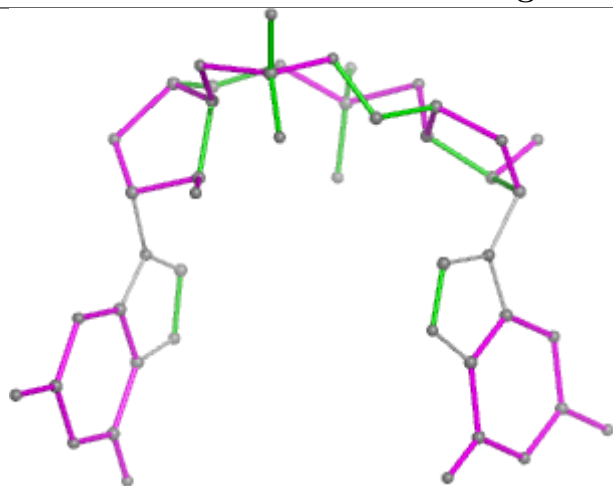
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	504	C2E	1	0
3	B	504	0O2	1	0
3	A	502	0O2	7	0
3	D	502	0O2	2	0
2	C	501	C2E	1	0
2	D	503	C2E	1	0
2	B	502	C2E	1	2
2	A	501	C2E	1	0

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.

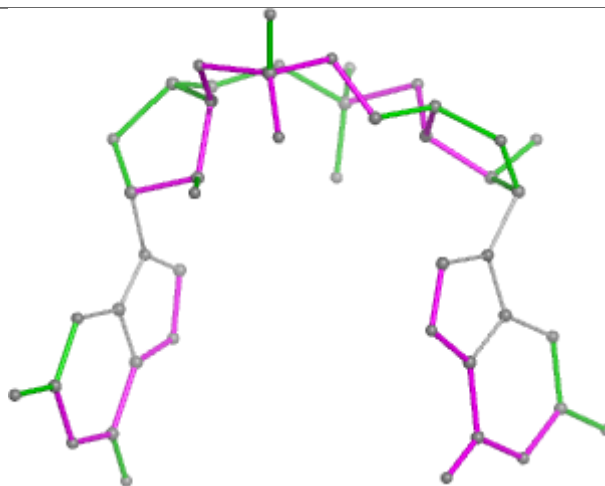




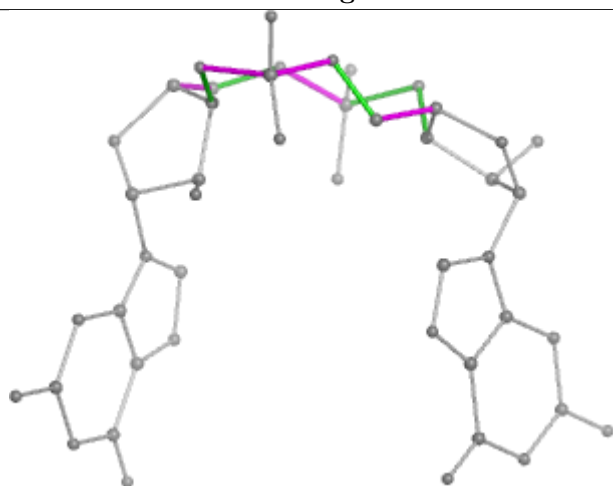
Ligand C2E D 504



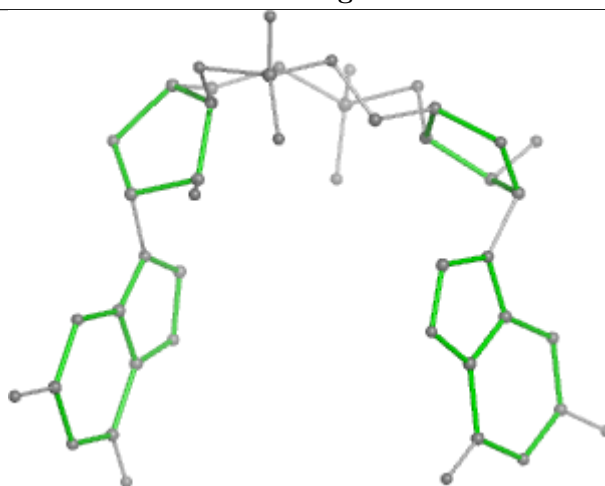
Bond lengths



Bond angles

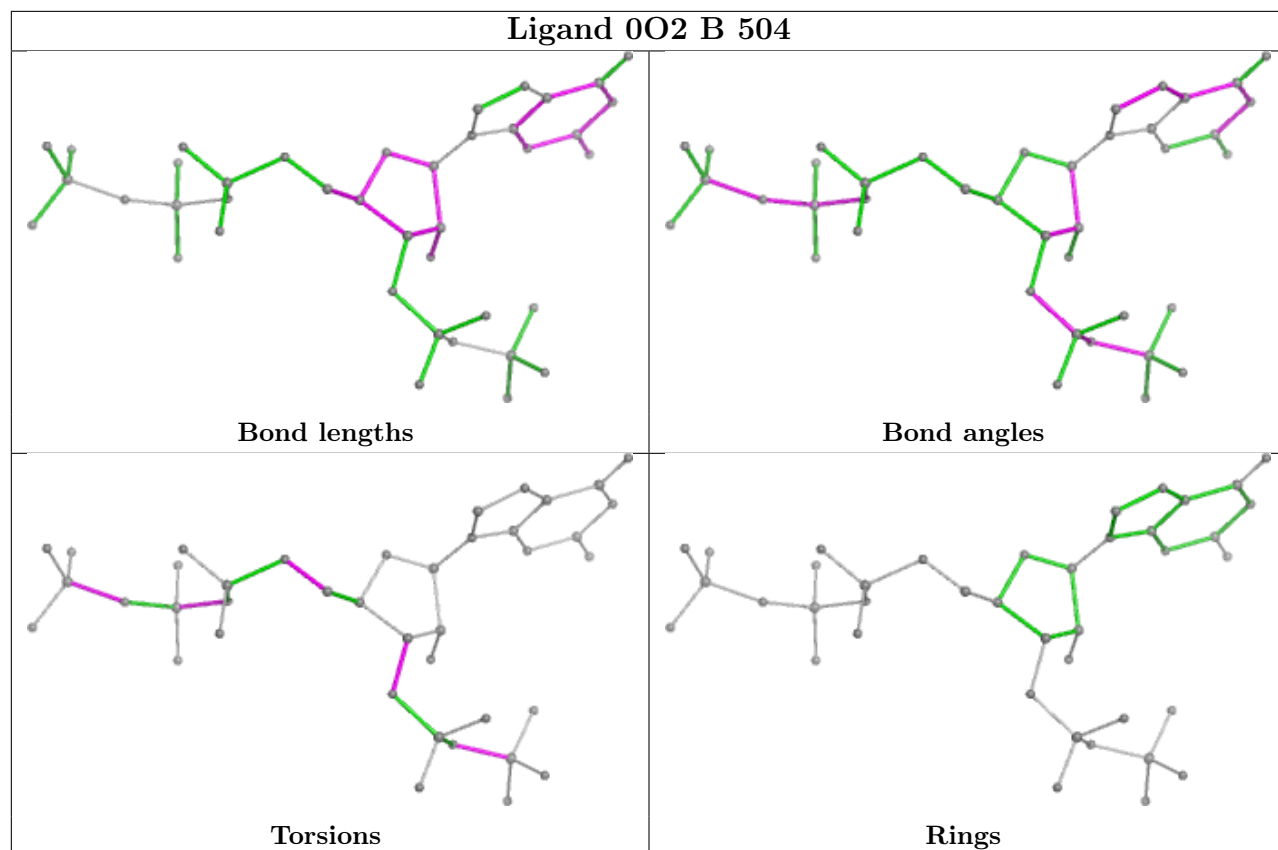


Torsions

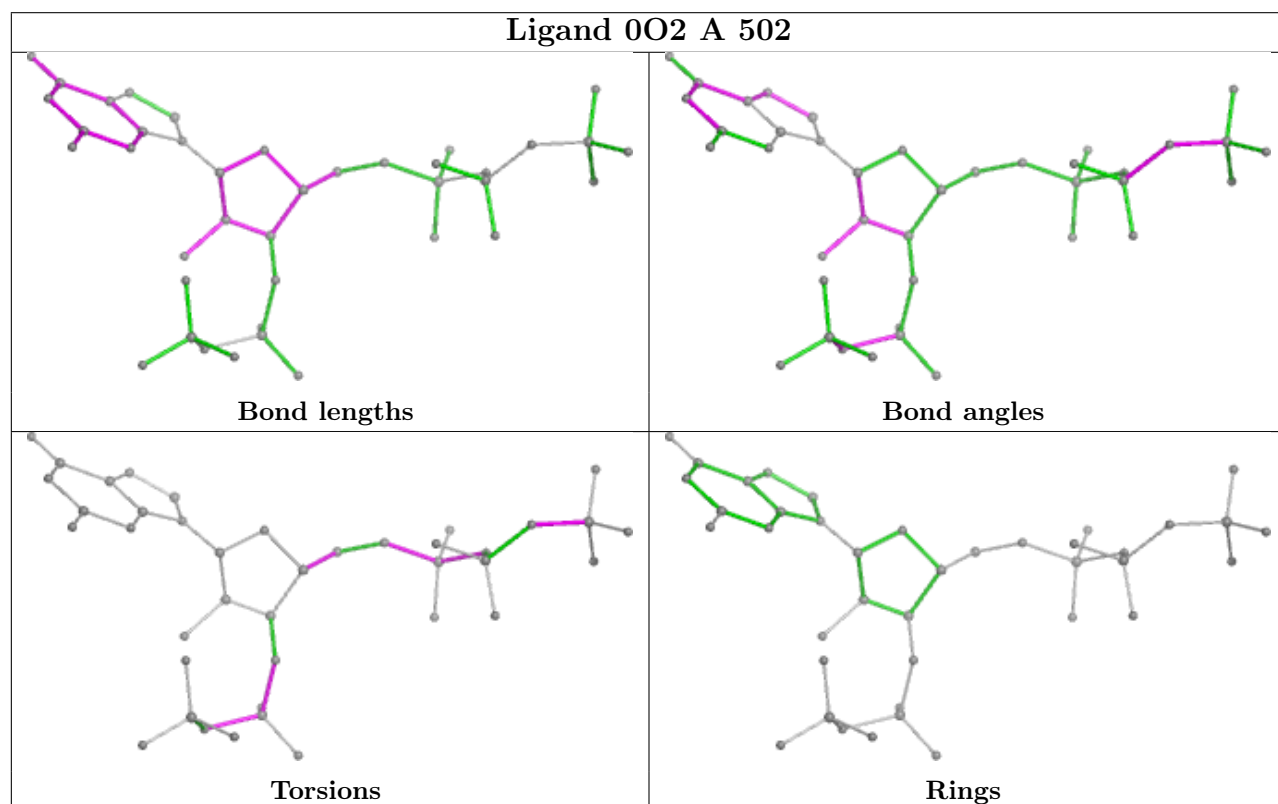


Rings

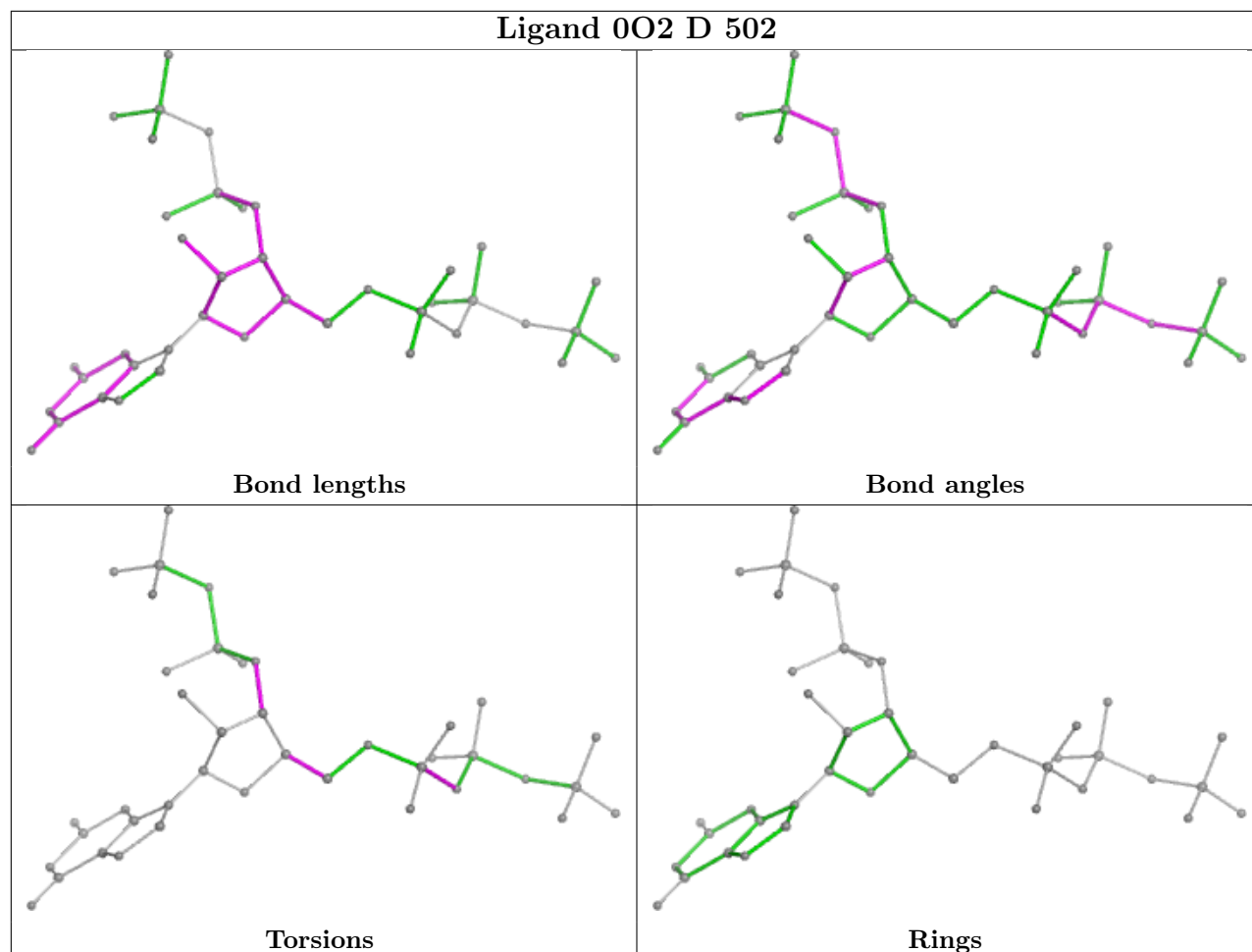
Ligand 0O2 B 504

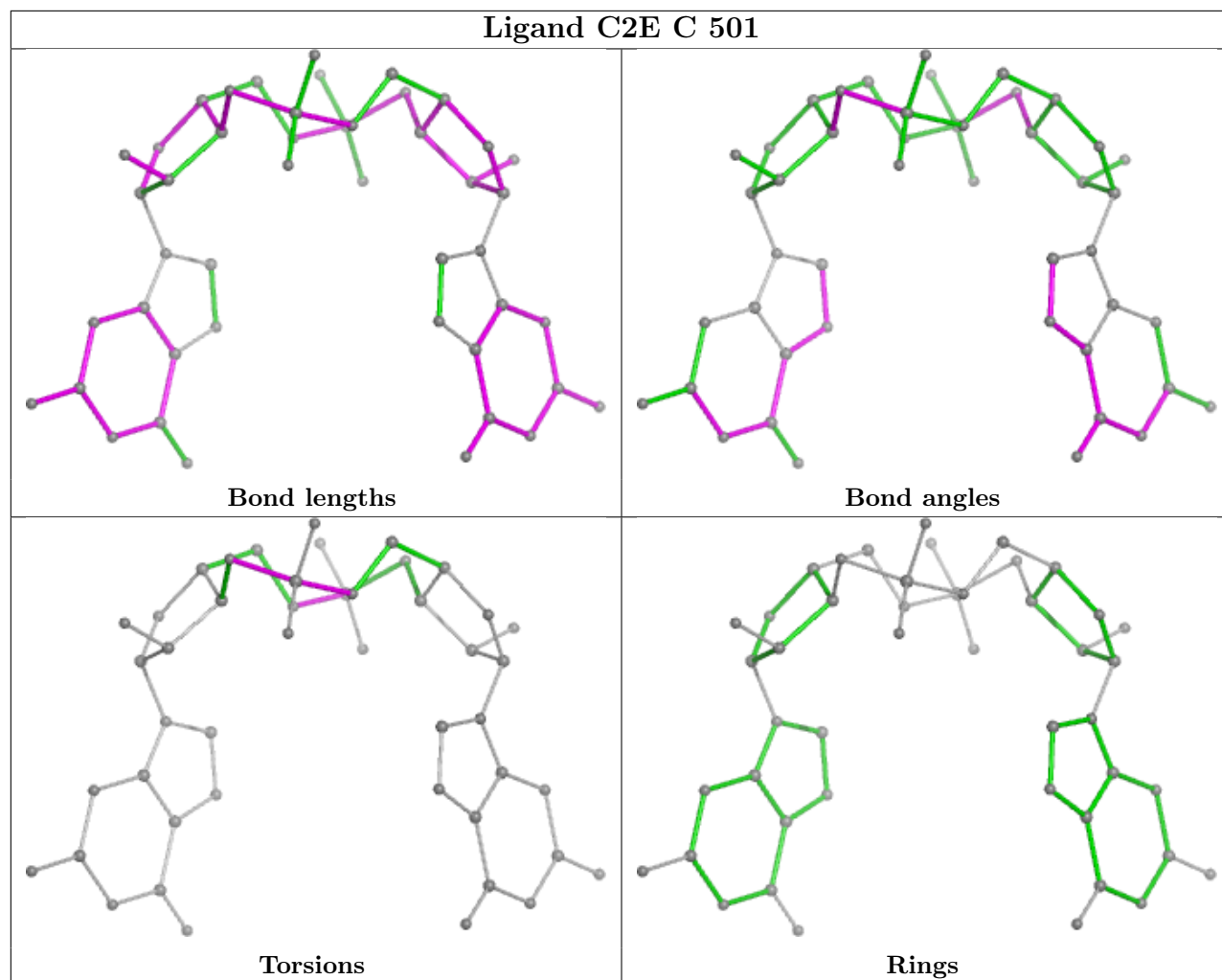


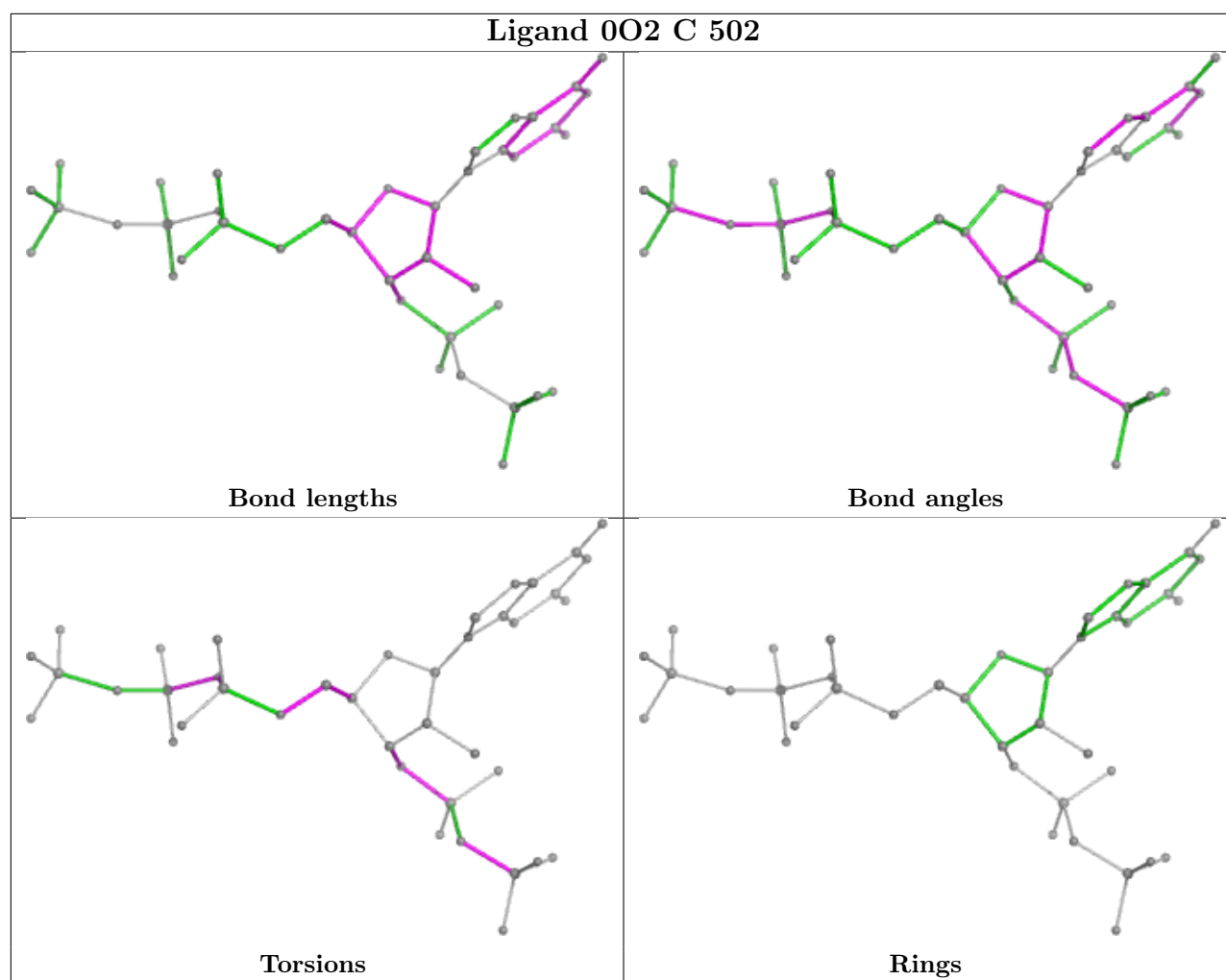
Ligand 0O2 A 502



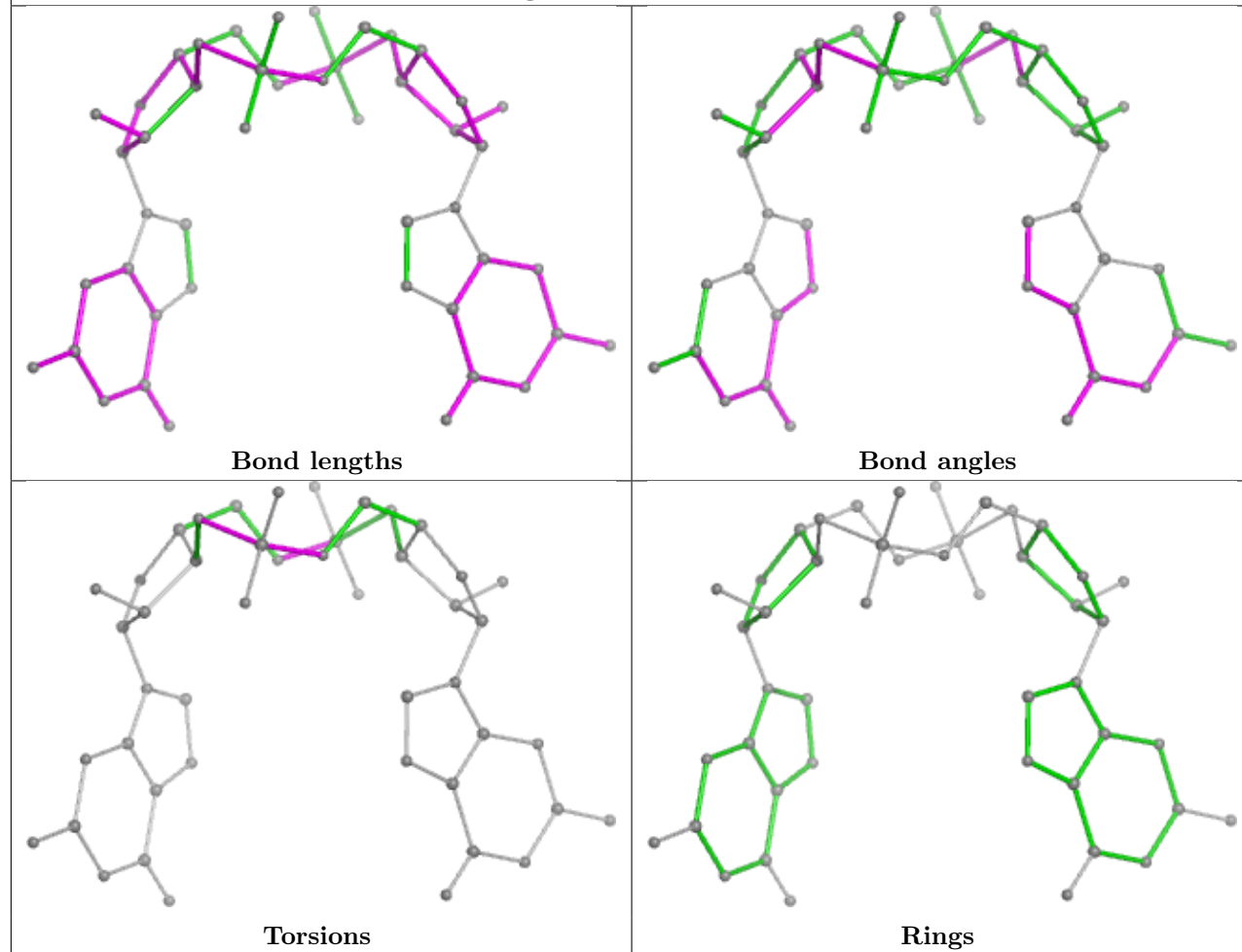
Ligand 0O2 D 502



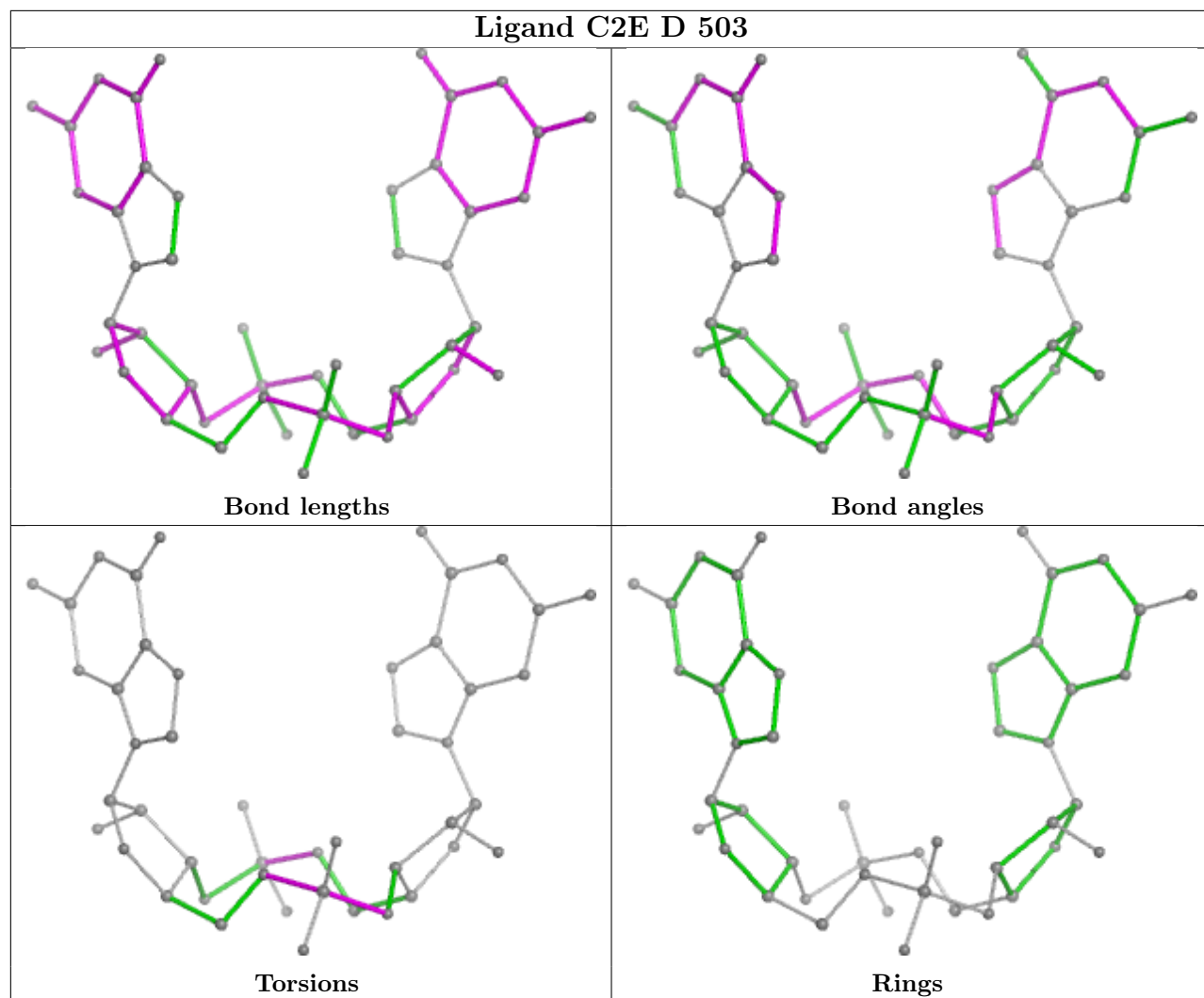




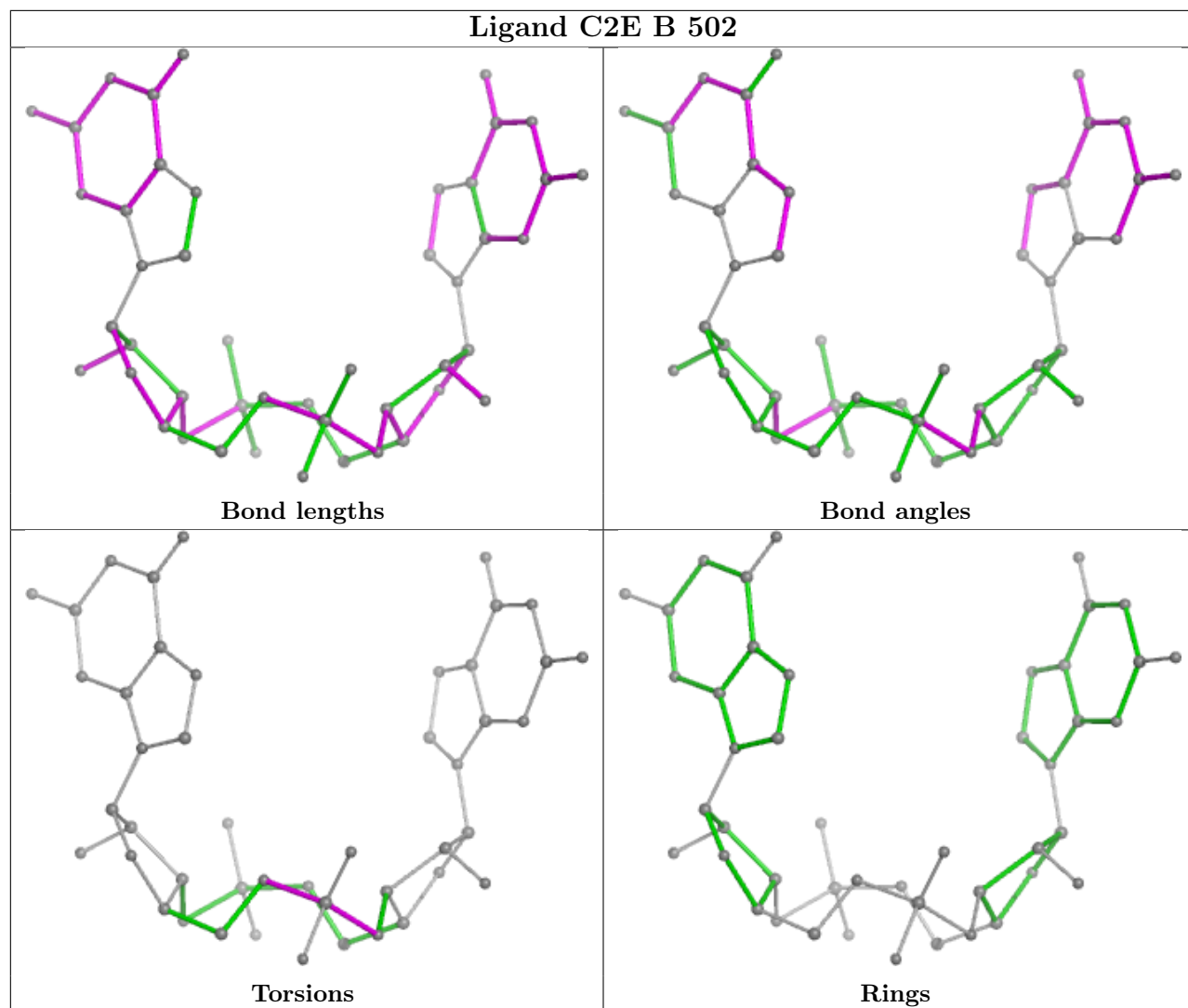
Ligand C2E B 503

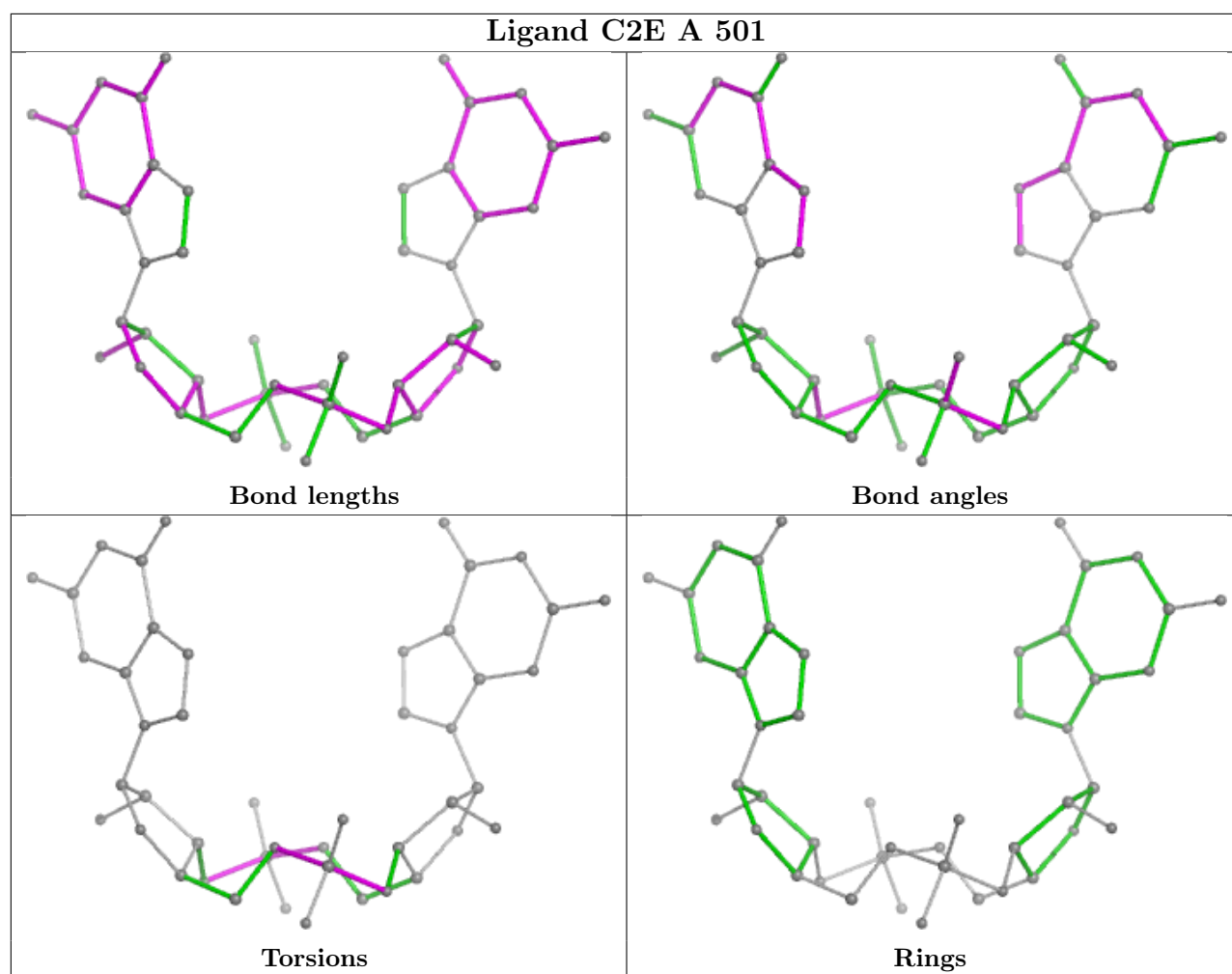


Ligand C2E D 503



Ligand C2E B 502





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	448/453 (98%)	-0.57	2 (0%) 89 77	39, 66, 96, 122	0
1	B	445/453 (98%)	-0.39	3 (0%) 84 68	46, 78, 110, 131	0
1	C	448/453 (98%)	-0.52	2 (0%) 89 77	46, 67, 96, 128	0
1	D	448/453 (98%)	-0.50	1 (0%) 92 84	45, 69, 103, 129	0
All	All	1789/1812 (98%)	-0.50	8 (0%) 89 77	39, 70, 103, 131	0

All (8) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	421	ALA	2.8
1	C	283	ASP	2.5
1	D	283	ASP	2.4
1	A	146	ALA	2.4
1	B	147	ALA	2.3
1	C	408	MET	2.2
1	A	2	SER	2.2
1	B	86	ASP	2.1

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands

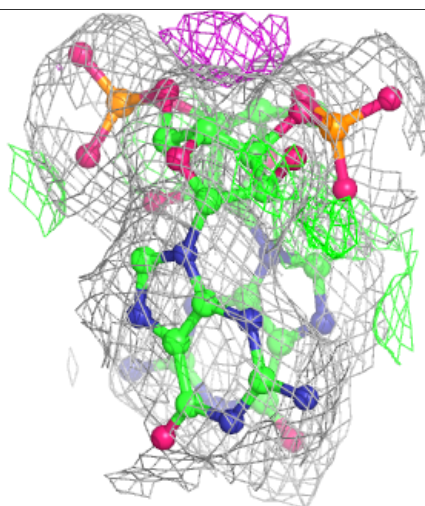
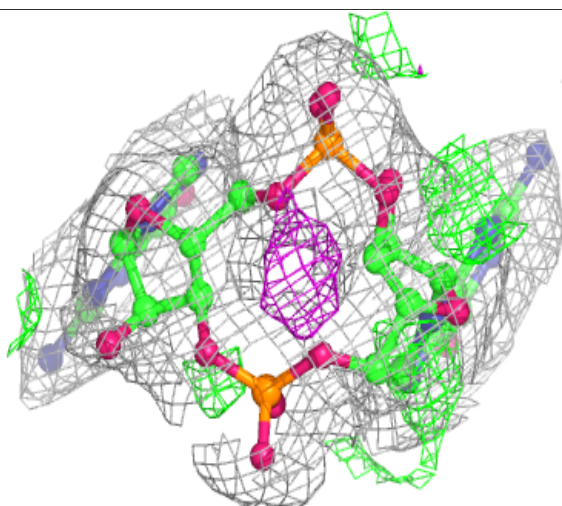
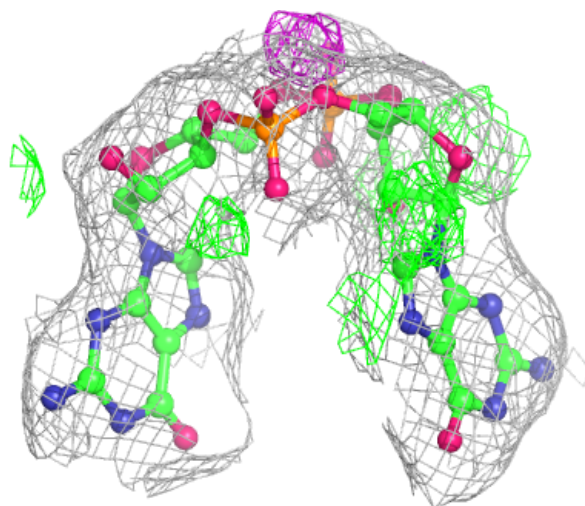
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	C2E	D	504	46/46	0.93	0.08	37,63,72,85	0
3	0O2	A	502	40/40	0.94	0.09	50,68,112,128	0
3	0O2	B	504	40/40	0.94	0.09	54,69,131,144	0
3	0O2	D	502	40/40	0.94	0.09	54,73,130,164	0
2	C2E	B	501	46/46	0.95	0.06	59,73,82,91	0
2	C2E	D	503	46/46	0.95	0.06	53,65,75,85	0
3	0O2	C	502	40/40	0.95	0.08	60,71,150,177	0
2	C2E	A	501	46/46	0.95	0.06	61,76,87,93	0
2	C2E	B	502	46/46	0.96	0.07	32,45,59,77	0
2	C2E	B	503	46/46	0.96	0.06	35,49,62,74	0
2	C2E	C	501	46/46	0.96	0.06	41,54,66,73	0
2	C2E	D	501	46/46	0.97	0.06	39,47,57,64	0
4	MG	B	505	1/1	0.98	0.04	69,69,69,69	0
4	MG	A	503	1/1	0.99	0.04	61,61,61,61	0
4	MG	C	503	1/1	0.99	0.05	57,57,57,57	0
4	MG	D	505	1/1	0.99	0.03	75,75,75,75	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.

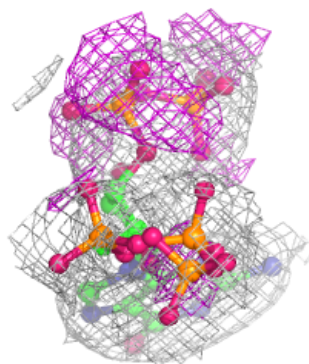
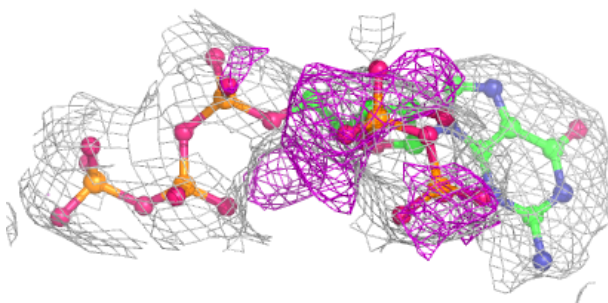
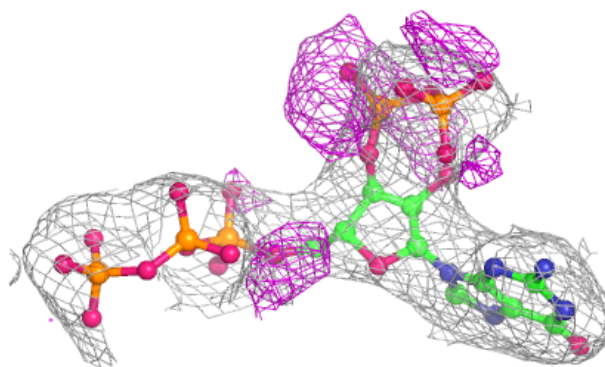
Electron density around C2E D 504:

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

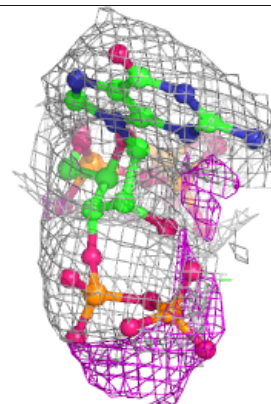
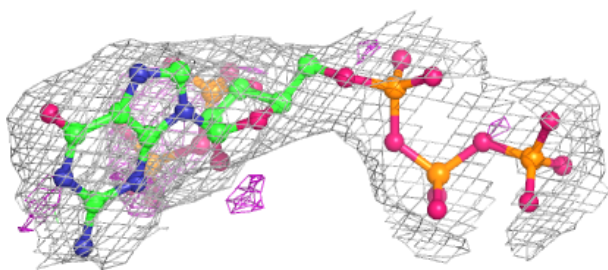
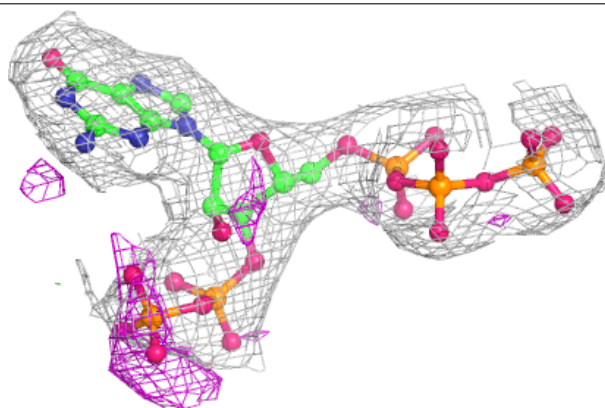


Electron density around 0O2 A 502:

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

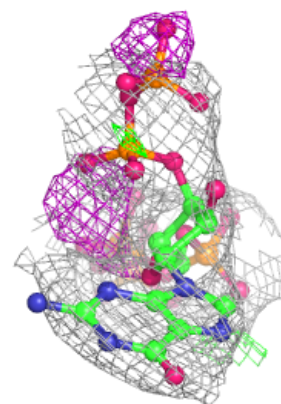
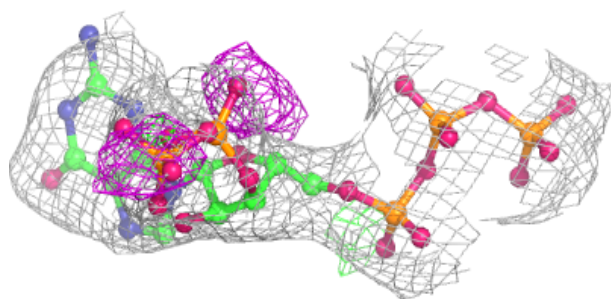
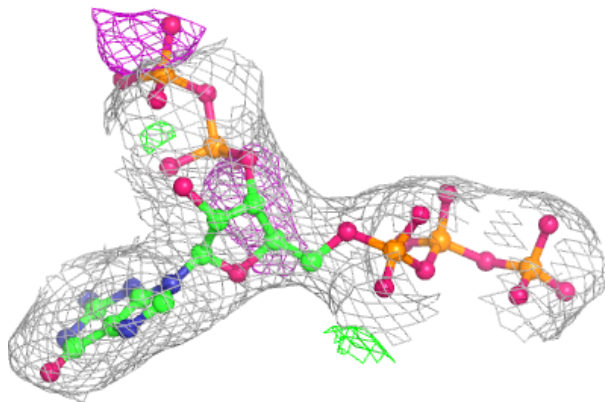
**Electron density around 0O2 B 504:**

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



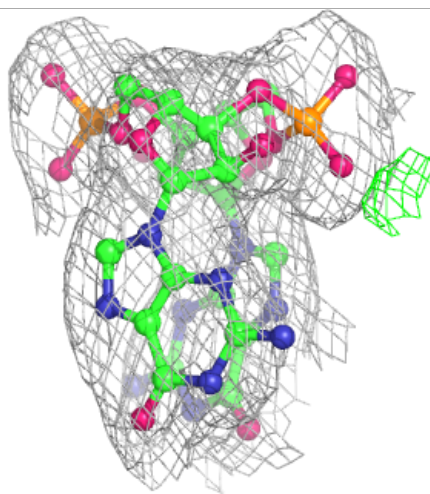
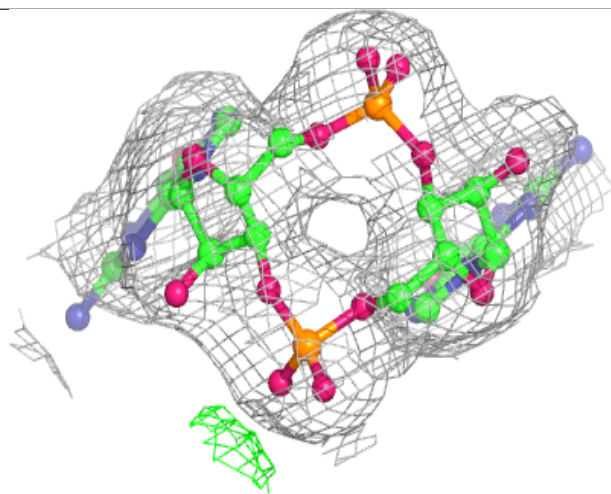
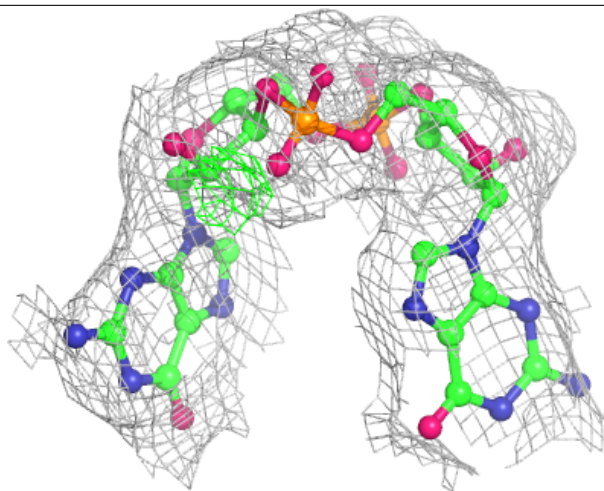
Electron density around 0O2 D 502:

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



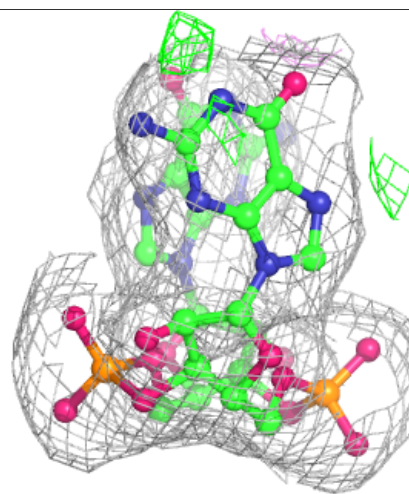
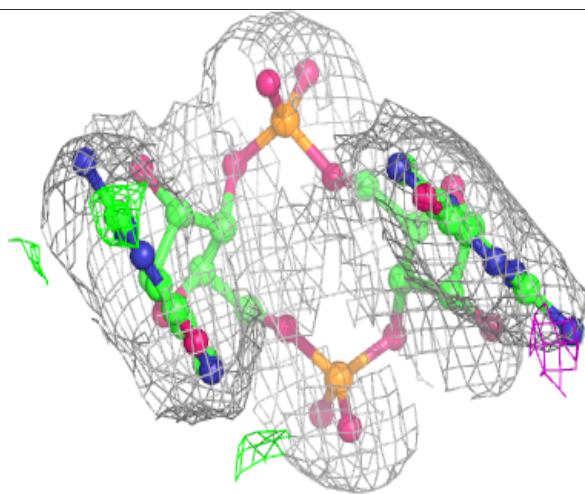
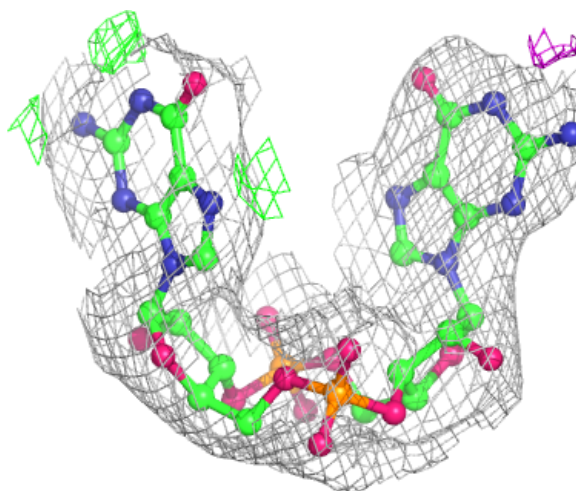
Electron density around C2E B 501:

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



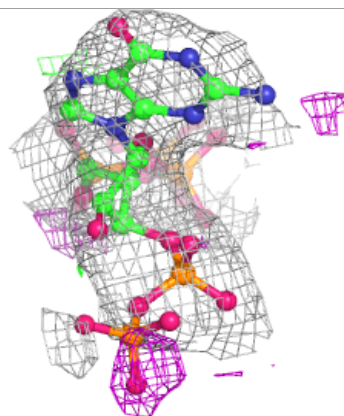
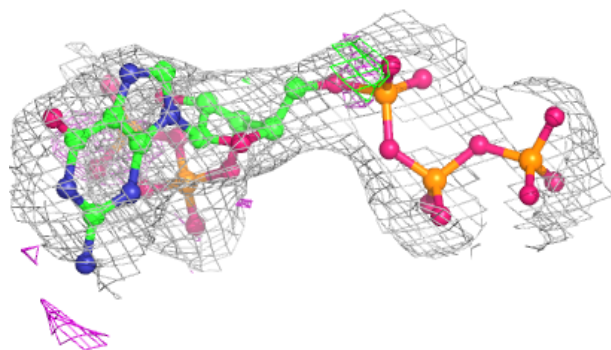
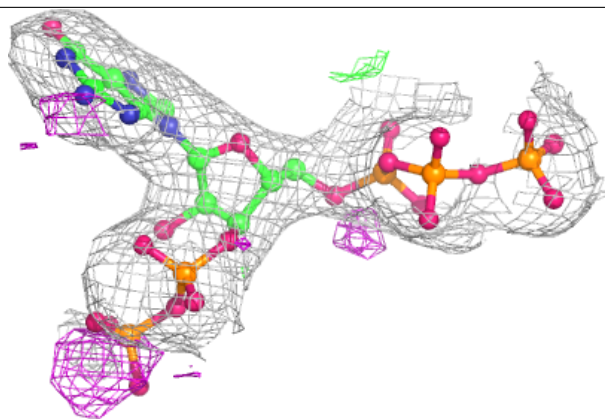
Electron density around C2E D 503:

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



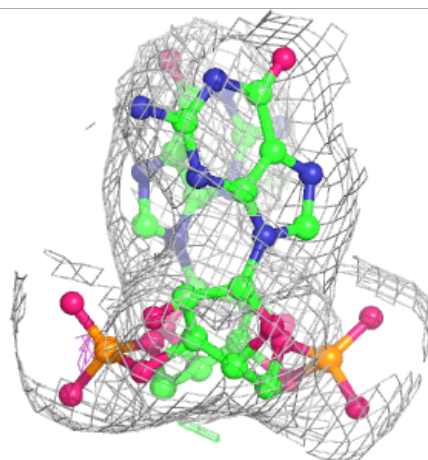
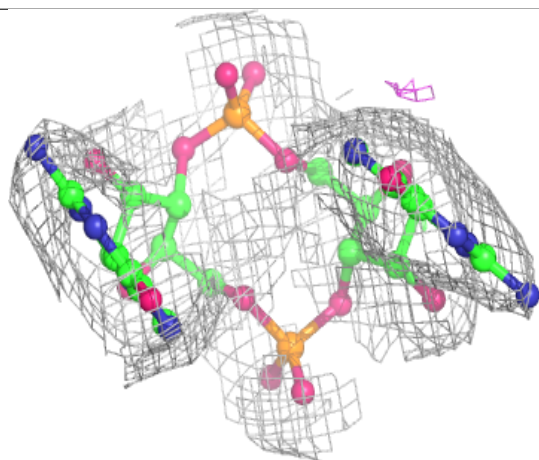
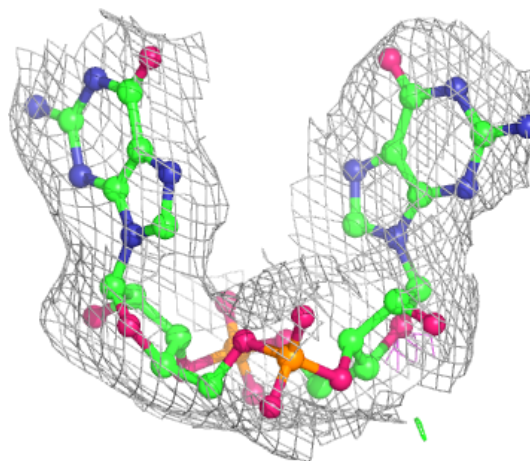
Electron density around 0O2 C 502:

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



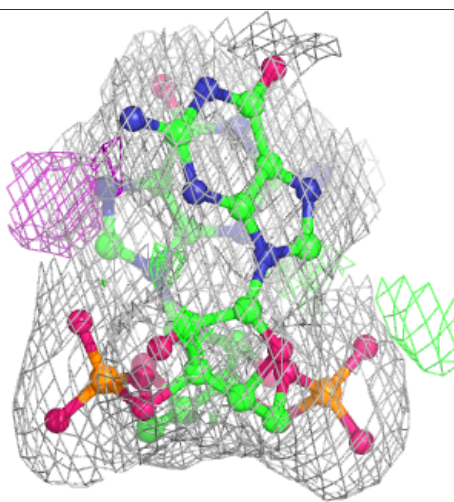
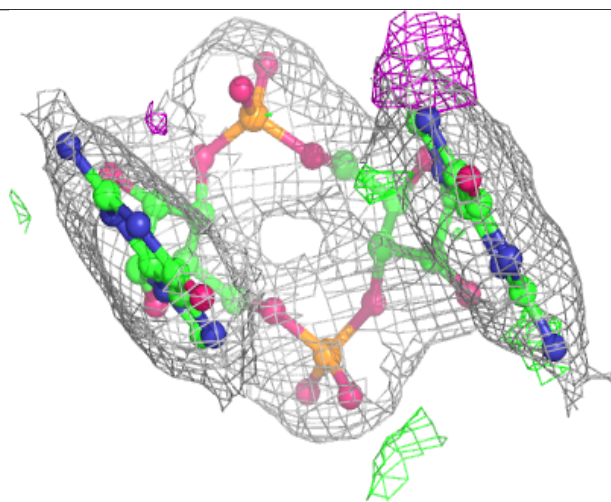
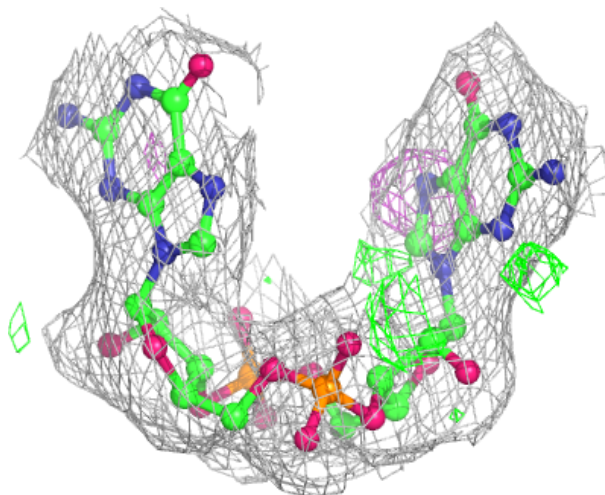
Electron density around C2E A 501:

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



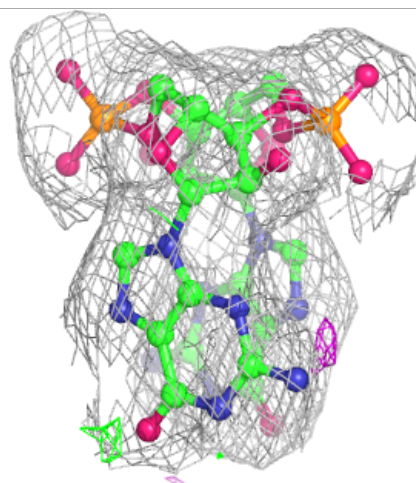
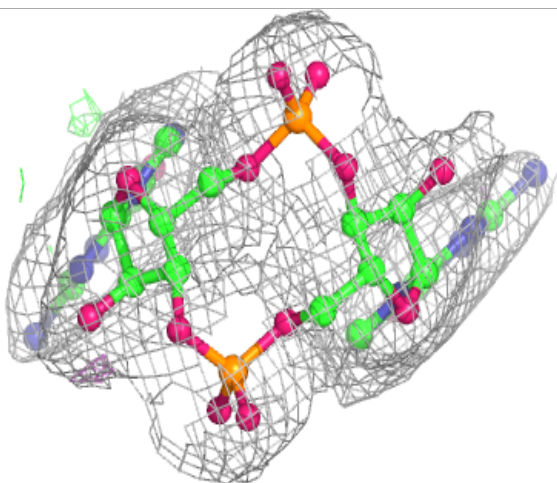
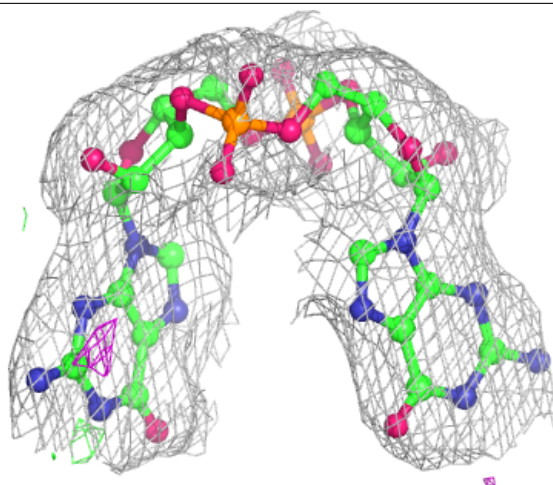
Electron density around C2E B 502:

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



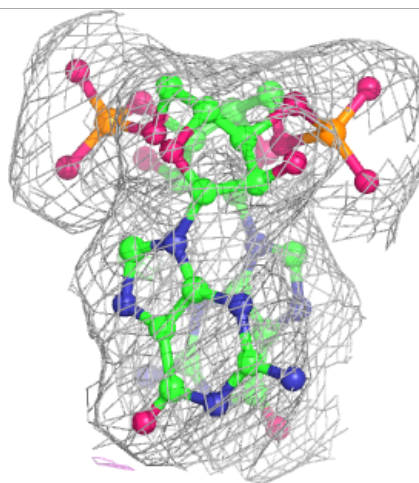
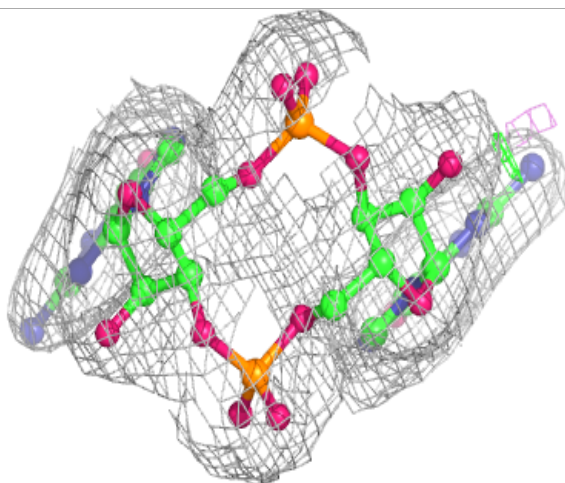
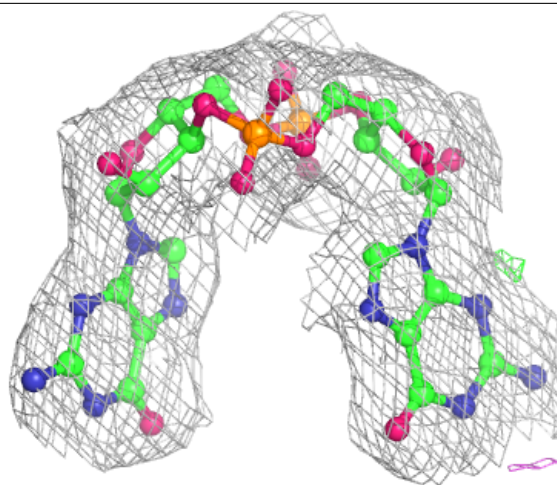
Electron density around C2E B 503:

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



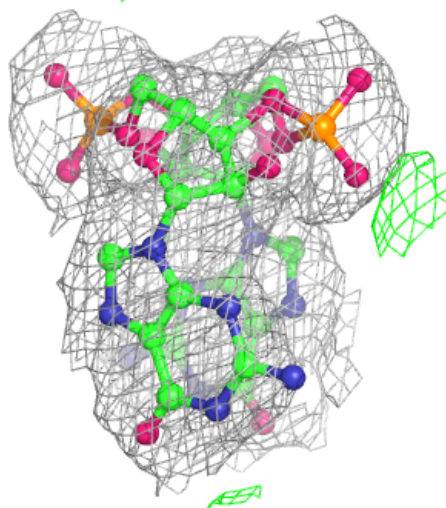
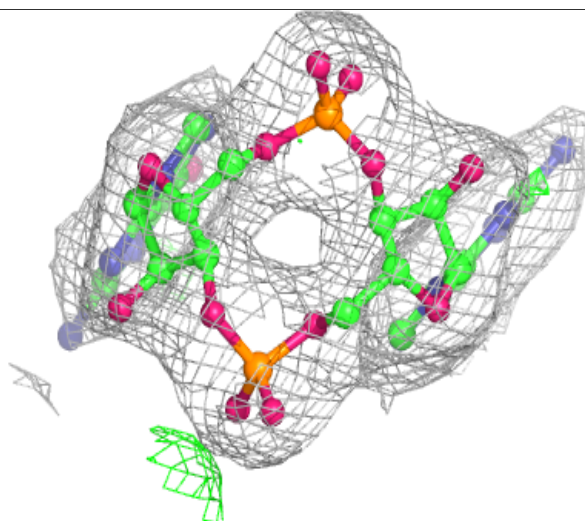
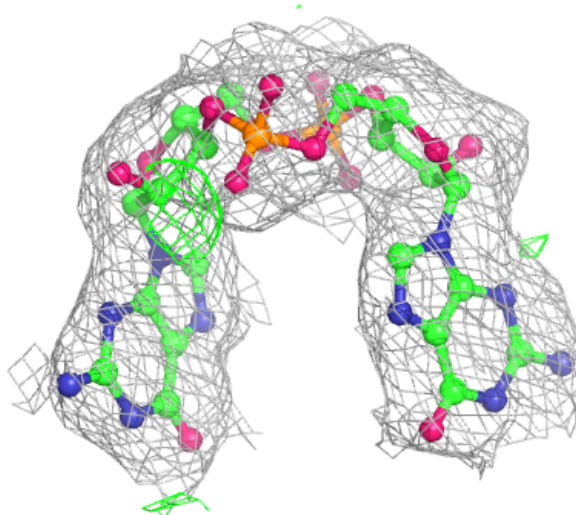
Electron density around C2E C 501:

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



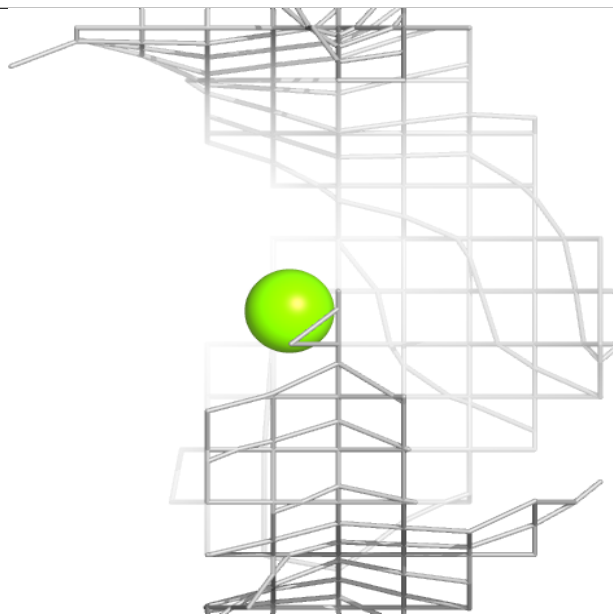
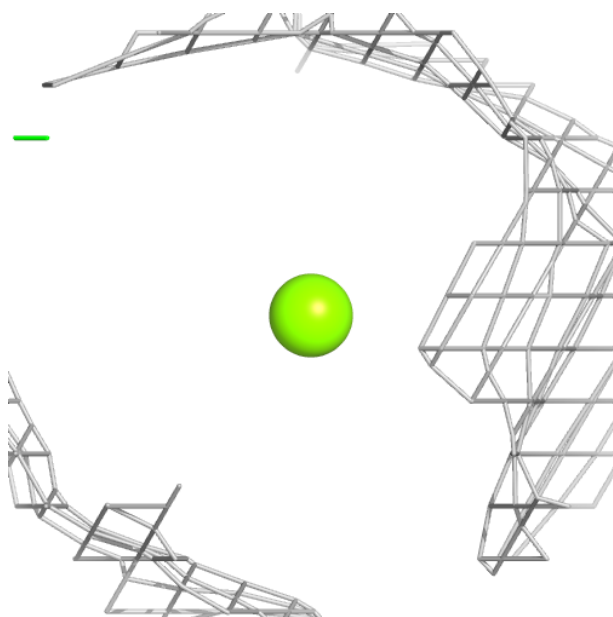
Electron density around C2E D 501:

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



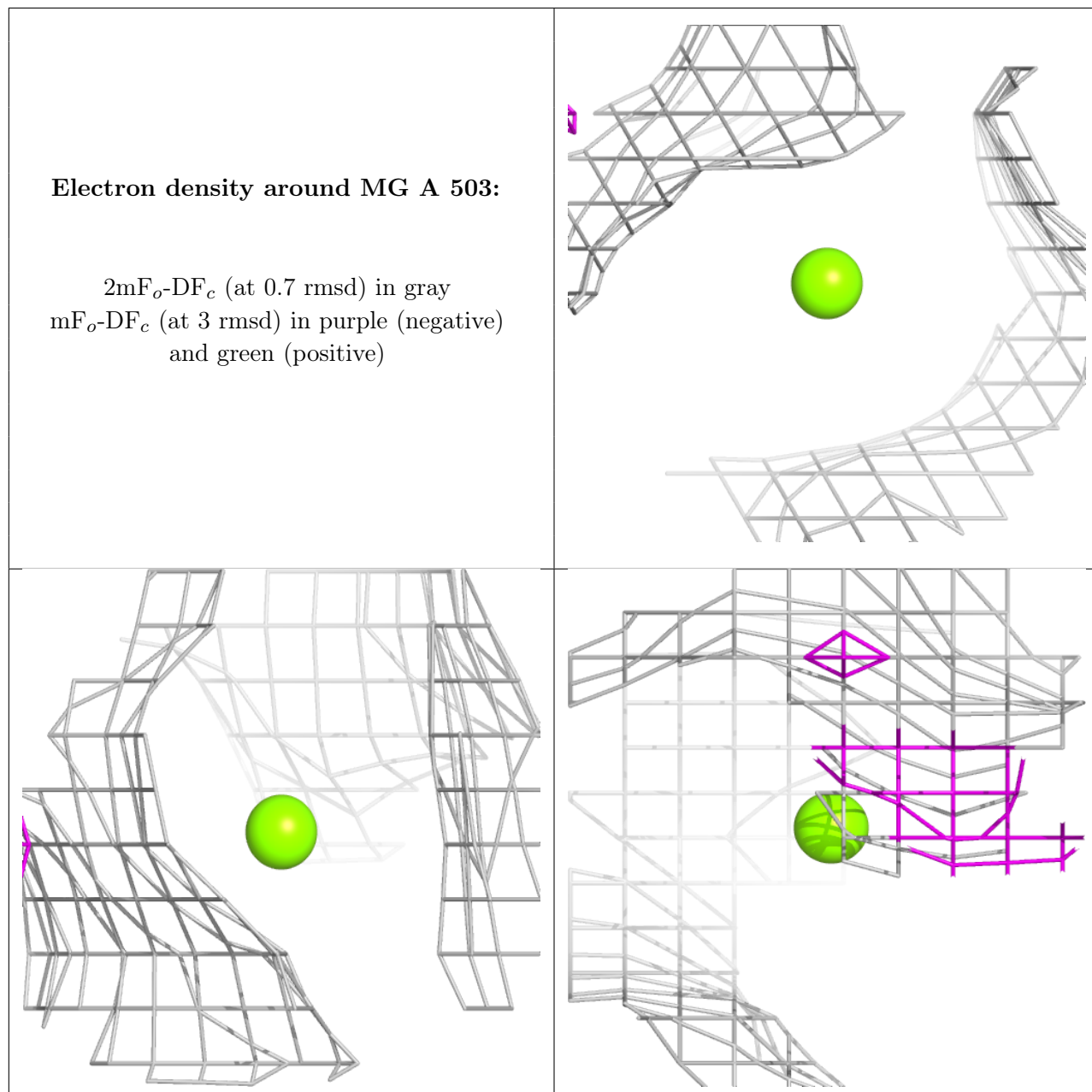
Electron density around MG B 505:

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



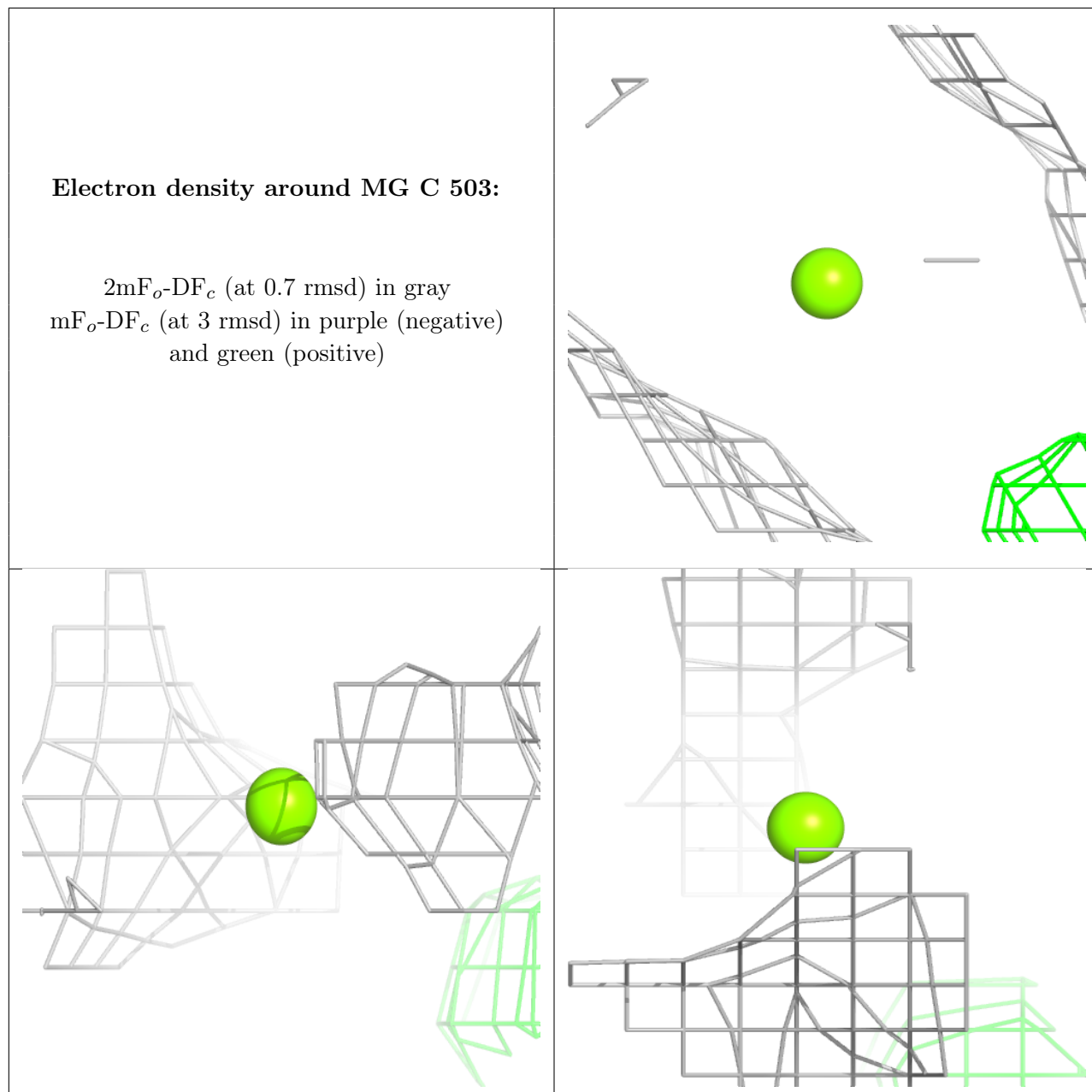
Electron density around MG A 503:

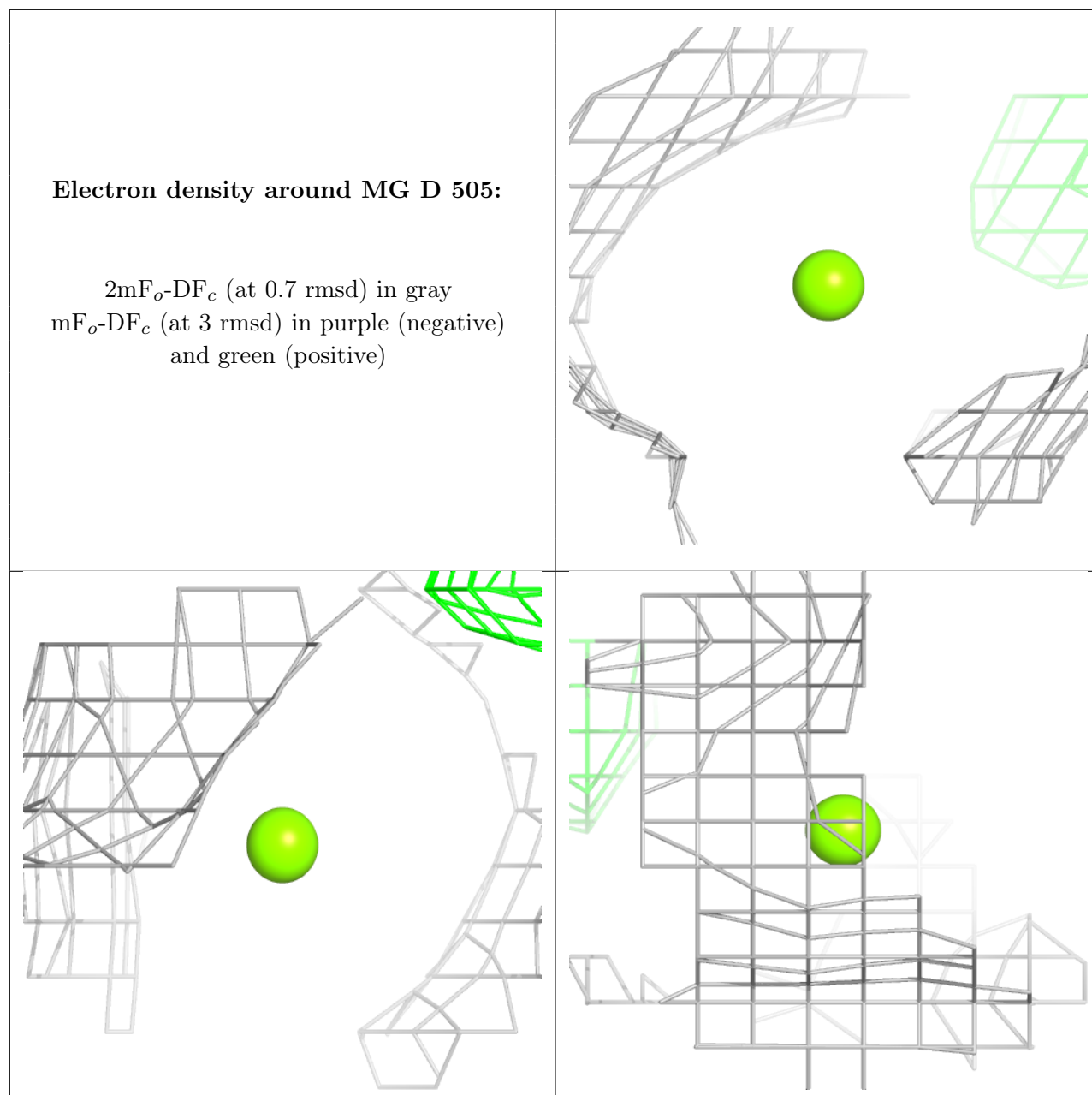
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around MG C 503:

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





6.5 Other polymers ⓘ

There are no such residues in this entry.