



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 10, 2023 – 05:34 pm BST

PDB ID : 7NPE
Title : Vibrio cholerae ParA2-ADP
Authors : Parker, A.V.; Bergeron, J.R.C.
Deposited on : 2021-02-26
Resolution : 3.20 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 : 4.02b-467
Mogul : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.35.1
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.35.1

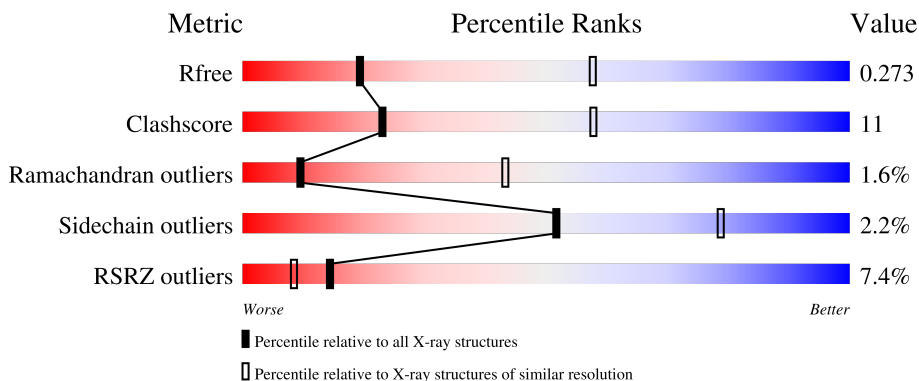
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

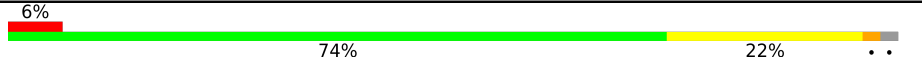



The reported resolution of this entry is 3.20 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1133 (3.20-3.20)
Clashscore	141614	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)
RSRZ outliers	127900	1095 (3.20-3.20)

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	407	
1	B	407	
1	C	407	
1	D	407	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard

residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	GOL	A	501	-	-	X	X
4	GOL	B	500	-	-	-	X

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 12065 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 AAA family ATPase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	398	Total 3029	C 1918	N 510	O 581	S 20	0	1	0
1	B	402	Total 3028	C 1912	N 512	O 584	S 20	0	1	0
1	C	400	Total 2927	C 1855	N 483	O 570	S 19	0	1	0
1	D	402	Total 2957	C 1870	N 496	O 574	S 17	0	1	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	initiating methionine	UNP A0A085S0Z4
A	2	ALA	-	expression tag	UNP A0A085S0Z4
B	1	MET	-	initiating methionine	UNP A0A085S0Z4
B	2	ALA	-	expression tag	UNP A0A085S0Z4
C	1	MET	-	initiating methionine	UNP A0A085S0Z4
C	2	ALA	-	expression tag	UNP A0A085S0Z4
D	1	MET	-	initiating methionine	UNP A0A085S0Z4
D	2	ALA	-	expression tag	UNP A0A085S0Z4

- Molecule 2 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).

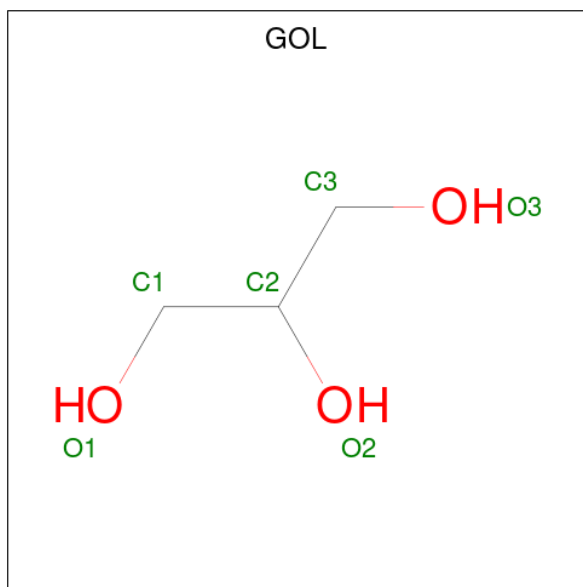


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
2	A	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	B	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	C	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
2	D	1	Total	C	N	O	P	0	0
			27	10	5	10	2		

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

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

- Molecule 4 is GLYCEROL (three-letter code: GOL) (formula: C₃H₈O₃).

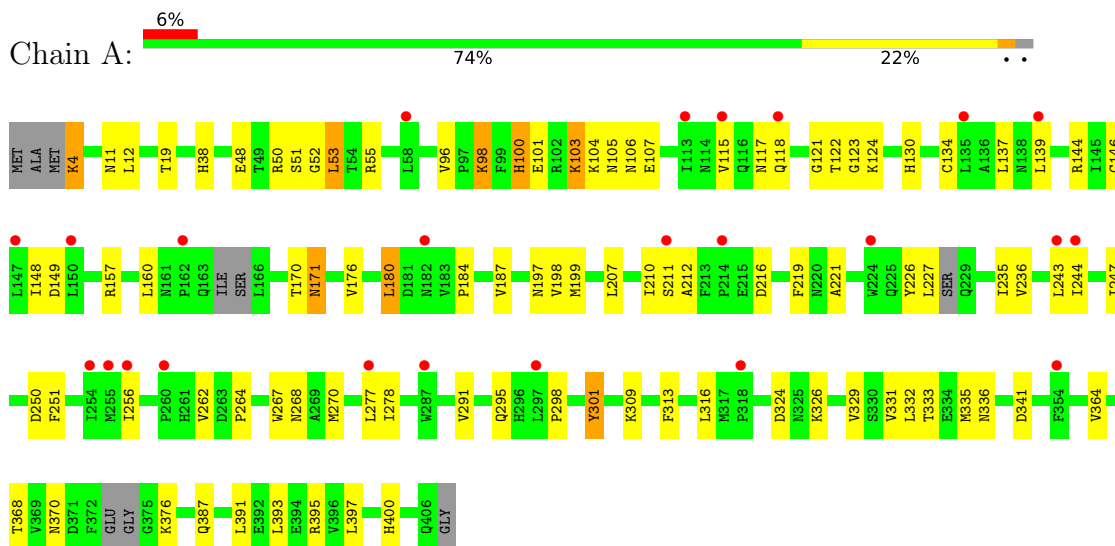


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	C	O	0	0
			6	3	3		
4	B	1	Total	C	O	0	0
			6	3	3		

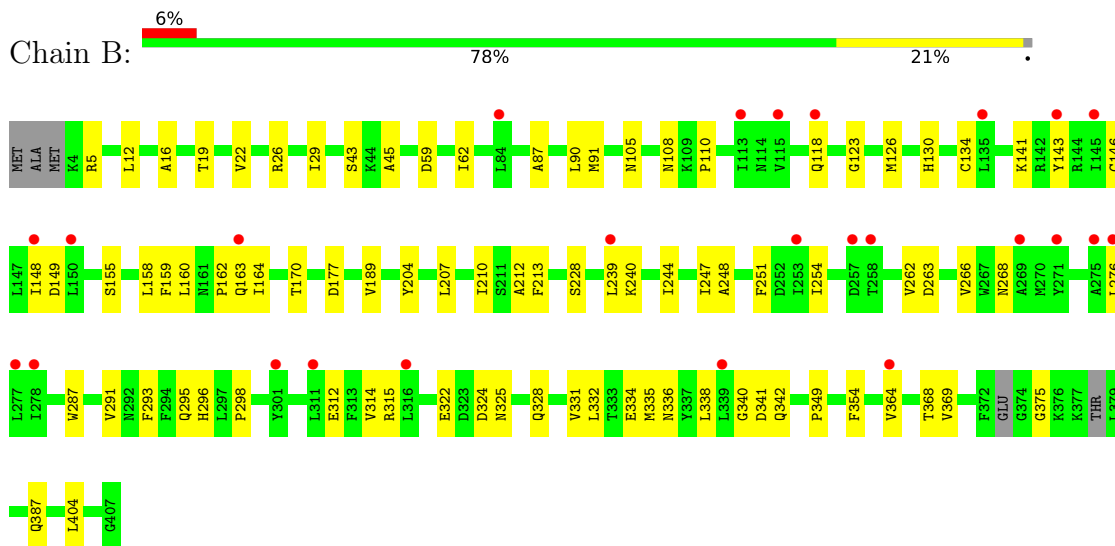
3 Residue-property plots [i](#)

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

- Molecule 1: AAA family ATPase



- Molecule 1: AAA family ATPase



- Molecule 1: AAA family ATPase



4 Data and refinement statistics

Property	Value	Source
Space group	P 61 2 2	Depositor
Cell constants a, b, c, α , β , γ	199.21Å 199.21Å 260.07Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	52.59 – 3.20 172.52 – 3.18	Depositor EDS
% Data completeness (in resolution range)	97.0 (52.59-3.20) 96.5 (172.52-3.18)	Depositor EDS
R_{merge}	0.02	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.34 (at 3.19Å)	Xtrriage
Refinement program	PHENIX 1.19.2_4158	Depositor
R, R_{free}	0.238 , 0.278 0.235 , 0.273	Depositor DCC
R_{free} test set	2457 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å ²)	134.1	Xtrriage
Anisotropy	0.264	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 98.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	12065	wwPDB-VP
Average B, all atoms (Å ²)	126.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.18% 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: MG, GOL, ADP

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	0.26	0/3091	0.53	0/4218
1	B	0.24	0/3087	0.47	0/4215
1	C	0.27	0/2985	0.51	1/4091 (0.0%)
1	D	0.27	0/3015	0.55	2/4127 (0.0%)
All	All	0.26	0/12178	0.51	3/16651 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	D	0	1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	D	297	LEU	CA-CB-CG	6.21	129.60	115.30
1	D	404	LEU	CA-CB-CG	5.60	128.18	115.30
1	C	323	ASP	CB-CG-OD1	5.05	122.84	118.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	D	161	ASN	Peptide

5.2 Too-close contacts

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	3029	0	2828	62	0
1	B	3028	0	2833	53	0
1	C	2927	0	2646	92	0
1	D	2957	0	2674	82	0
2	A	27	0	12	1	0
2	B	27	0	12	2	0
2	C	27	0	12	2	0
2	D	27	0	12	1	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	6	0	8	4	0
4	B	6	0	8	0	0
All	All	12065	0	11045	263	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 11.

All (263) 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:C:291:VAL:HG11	1:D:22:VAL:HG21	1.49	0.93
1:A:103:LYS:O	1:A:105:ASN:N	2.08	0.87
1:C:108:ASN:HD21	1:C:401:TRP:HZ2	1.28	0.82
1:C:305:PRO:O	1:D:5:ARG:NH2	2.14	0.80
1:D:163:GLN:HB2	1:D:201:PRO:HG2	1.66	0.78
1:D:264:PRO:O	1:D:268:ASN:ND2	2.17	0.77
1:D:401:TRP:HD1	1:D:405:ASN:HD21	1.31	0.77
1:C:236:VAL:HG12	1:C:271:TYR:HB2	1.67	0.77
1:D:315:ARG:NH1	1:D:341:ASP:O	2.19	0.76
1:C:238:LEU:HB2	1:C:268:ASN:HD21	1.51	0.74
1:C:315:ARG:NH1	1:C:341:ASP:O	2.20	0.74
1:C:108:ASN:OD1	1:C:401:TRP:NE1	2.21	0.72
1:C:276:LEU:HB3	1:C:314:VAL:HG12	1.69	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:173:TYR:C	1:D:175:ALA:H	1.94	0.70
1:B:118:GLN:HG2	1:B:293:PHE:HB2	1.72	0.70
1:C:179:MET:HA	1:C:242:LYS:HD2	1.72	0.70
1:A:309:LYS:H	1:B:5:ARG:HD2	1.58	0.69
1:D:179:MET:HB3	1:D:238:LEU:HD23	1.74	0.68
1:A:11:ASN:HD21	1:B:342:GLN:HE22	1.42	0.68
1:D:179:MET:HG2	1:D:238:LEU:HB3	1.77	0.67
1:A:51:SER:HB3	1:A:139:LEU:HB2	1.76	0.65
4:A:501:GOL:O2	1:C:336:ASN:ND2	2.29	0.65
1:D:68:ALA:O	1:D:70:HIS:N	2.29	0.65
1:C:75:ASN:O	1:C:77:ALA:N	2.23	0.65
1:B:158:LEU:O	1:B:160:LEU:N	2.29	0.64
1:B:315:ARG:NH1	1:B:341:ASP:O	2.30	0.64
1:A:148:ILE:HG12	1:A:210:ILE:HD12	1.80	0.63
1:D:276:LEU:HB3	1:D:314:VAL:HG22	1.80	0.63
1:A:122:THR:O	1:A:124:LYS:N	2.32	0.63
1:D:27:ILE:HD11	1:D:169:HIS:HA	1.80	0.62
1:B:332:LEU:O	1:B:336:ASN:ND2	2.33	0.62
1:C:125:SER:O	1:C:129:VAL:HG23	2.00	0.62
1:D:148:ILE:HG22	1:D:210:ILE:HD12	1.81	0.62
1:A:264:PRO:O	1:A:268:ASN:ND2	2.33	0.61
1:C:237:ARG:HH21	1:C:305:PRO:HB2	1.65	0.61
1:D:130:HIS:HB3	1:D:386:VAL:HG21	1.81	0.61
1:B:369:VAL:HG23	1:B:375:GLY:HA2	1.83	0.60
1:C:214:PRO:HG3	1:D:119:LYS:HE2	1.84	0.60
1:C:235:ILE:HA	1:C:238:LEU:HD23	1.83	0.60
1:B:312:GLU:HG3	1:B:404:LEU:HD23	1.83	0.59
1:D:297:LEU:HD23	1:D:298:PRO:HD3	1.84	0.59
1:A:336:ASN:HD22	4:A:501:GOL:H2	1.67	0.59
1:A:50:ARG:HD3	1:A:137:LEU:HD12	1.84	0.59
1:A:329:VAL:O	1:A:333:THR:HG23	2.03	0.59
1:C:295:GLN:NE2	1:D:16:ALA:O	2.35	0.59
1:B:87:ALA:HA	1:B:90:LEU:HD12	1.84	0.58
1:C:190:ASP:OD1	1:C:191:THR:N	2.37	0.58
1:D:43:SER:O	1:D:45:ALA:N	2.30	0.57
1:C:54:THR:HG23	1:C:57:LYS:H	1.69	0.57
1:B:325:ASN:HB3	1:B:328:GLN:HB2	1.86	0.57
1:C:139:LEU:O	1:C:142:ARG:NH1	2.38	0.56
1:C:178:ILE:HD11	1:C:198:VAL:HG21	1.87	0.56
1:D:402:SER:HA	1:D:405:ASN:HD22	1.70	0.56
1:B:263:ASP:H	1:B:266:VAL:HB	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:76:ASN:O	1:D:78:ASN:N	2.38	0.56
1:C:110:PRO:HG3	1:C:248:ALA:HB1	1.88	0.56
1:A:180:LEU:HD21	1:A:219:PHE:HD1	1.69	0.56
1:C:59:ASP:HA	1:C:62:ILE:HG12	1.88	0.55
1:C:220:ASN:O	1:C:224:TRP:N	2.36	0.55
1:A:333:THR:HG21	1:C:336:ASN:HB3	1.88	0.55
1:A:12:LEU:HB3	1:B:298:PRO:HG3	1.87	0.55
1:B:240:LYS:HA	1:B:244:ILE:HB	1.88	0.55
1:C:122:THR:O	1:C:124:LYS:N	2.37	0.55
1:C:356:THR:O	1:C:360:THR:HG22	2.06	0.55
1:D:148:ILE:HD11	1:D:256:ILE:HG12	1.89	0.54
1:A:336:ASN:ND2	4:A:501:GOL:H2	2.21	0.54
1:A:184:PRO:HB2	1:A:187:VAL:HG13	1.89	0.54
1:B:349:PRO:O	2:B:450:ADP:N6	2.40	0.54
1:B:162:PRO:O	1:B:164:ILE:N	2.40	0.54
1:C:150:LEU:HD23	1:C:256:ILE:HG23	1.89	0.54
1:D:312:GLU:HG3	1:D:404:LEU:HB3	1.89	0.54
1:C:263:ASP:H	1:C:266:VAL:HG22	1.73	0.54
1:D:203:GLN:NE2	1:D:366:ASP:OD1	2.40	0.54
1:D:105:ASN:ND2	1:D:108:ASN:OD1	2.35	0.53
1:A:368:THR:OG1	1:A:370:ASN:OD1	2.24	0.53
1:B:105:ASN:HB2	1:B:108:ASN:HD21	1.73	0.53
1:C:98:LYS:O	1:C:100:HIS:N	2.33	0.53
1:A:180:LEU:HD21	1:A:219:PHE:CD1	2.44	0.53
1:A:226:TYR:HE2	1:A:235:ILE:HD11	1.73	0.53
1:A:51:SER:O	1:A:53:LEU:N	2.42	0.53
1:C:118:GLN:O	1:D:153:GLN:NE2	2.40	0.53
1:D:19:THR:O	1:D:21:GLN:N	2.41	0.52
1:A:48:GLU:OE2	1:A:55:ARG:HD3	2.10	0.52
1:C:362:SER:HB2	1:C:366:ASP:HB2	1.91	0.52
1:B:148:ILE:HG12	1:B:210:ILE:HD12	1.91	0.52
1:D:377:LYS:O	1:D:381:THR:HG23	2.10	0.52
1:D:194:LEU:O	1:D:199:MET:HG2	2.09	0.52
1:D:204:TYR:HD2	1:D:207:LEU:HD23	1.75	0.52
1:A:96:VAL:HG12	1:A:98:LYS:H	1.75	0.51
1:A:236:VAL:HG12	1:A:267:TRP:HB3	1.93	0.51
1:C:287:TRP:O	1:C:291:VAL:HG12	2.11	0.51
1:C:218:MET:O	1:C:221:ALA:HB3	2.11	0.51
1:D:124:LYS:N	2:D:450:ADP:O2B	2.43	0.51
1:D:402:SER:HA	1:D:405:ASN:ND2	2.26	0.51
1:A:19:THR:HG23	1:B:291:VAL:HG13	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:288:ALA:HB1	1:D:24:ALA:HB2	1.92	0.50
1:D:149:ASP:O	1:D:212:ALA:HB2	2.12	0.50
1:C:129:VAL:HG22	1:C:156:LEU:HD11	1.94	0.50
1:C:219:PHE:O	1:C:220:ASN:HB2	2.12	0.50
1:D:51:SER:O	1:D:140:ASP:HB2	2.12	0.50
1:B:149:ASP:O	1:B:212:ALA:HB2	2.12	0.50
1:C:119:LYS:HA	1:D:153:GLN:HE21	1.77	0.50
1:A:221:ALA:HB1	1:B:296:HIS:NE2	2.27	0.49
1:C:119:LYS:HD2	1:C:286:ASP:HB3	1.93	0.49
1:D:240:LYS:HA	1:D:244:ILE:HB	1.94	0.49
1:C:11:ASN:HD21	1:D:342:GLN:HE22	1.61	0.49
1:A:149:ASP:O	1:A:212:ALA:HB2	2.12	0.49
1:D:173:TYR:O	1:D:174:SER:HB2	2.12	0.49
1:B:276:LEU:HB3	1:B:314:VAL:HG22	1.95	0.49
1:D:175:ALA:HB2	1:D:239:LEU:HD13	1.95	0.49
1:A:100:HIS:CE1	1:A:101:GLU:HG3	2.48	0.48
1:A:130:HIS:NE2	1:A:364:VAL:HG23	2.28	0.48
1:C:157:ARG:O	1:C:161:ASN:HA	2.13	0.48
1:C:3:MET:O	1:C:5:ARG:N	2.46	0.48
1:C:291:VAL:O	1:C:295:GLN:HG2	2.14	0.48
1:D:298:PRO:O	1:D:302:GLU:HG3	2.12	0.48
1:A:121:GLY:N	2:A:450:ADP:O1B	2.45	0.48
1:D:287:TRP:CE2	1:D:335:MET:HG2	2.49	0.48
1:A:176:VAL:HG21	1:A:216:ASP:HB3	1.96	0.48
1:D:204:TYR:HB2	1:D:207:LEU:HB3	1.96	0.48
1:B:204:TYR:HB2	1:B:207:LEU:HB3	1.95	0.48
1:A:117:ASN:OD1	1:A:118:GLN:N	2.47	0.47
1:A:295:GLN:NE2	1:B:16:ALA:O	2.42	0.47
1:D:111:TRP:CE2	1:D:397:LEU:HD22	2.49	0.47
1:D:223:ALA:O	1:D:227:LEU:HB2	2.14	0.47
1:C:258:THR:HB	1:C:266:VAL:HG12	1.97	0.47
1:D:175:ALA:HB1	1:D:179:MET:SD	2.55	0.47
1:A:134:CYS:SG	1:A:387:GLN:HA	2.55	0.47
1:A:331:VAL:O	1:A:335:MET:HG3	2.14	0.47
1:C:329:VAL:O	1:C:333:THR:HG23	2.14	0.47
1:C:148:ILE:HG12	1:C:210:ILE:HD12	1.96	0.47
1:C:331:VAL:O	1:C:335:MET:HG3	2.15	0.47
1:C:75:ASN:C	1:C:77:ALA:H	2.15	0.46
1:B:322:GLU:O	1:B:324:ASP:N	2.40	0.46
1:C:15:LEU:HD21	1:D:342:GLN:OE1	2.14	0.46
1:C:345:MET:HG2	1:C:392:GLU:OE2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:331:VAL:O	1:D:335:MET:HG3	2.15	0.46
1:D:199:MET:CE	1:D:247:ILE:HG12	2.45	0.46
1:A:115:VAL:HG12	1:A:277:LEU:HB3	1.97	0.46
1:C:42:MET:HE2	1:C:47:MET:HA	1.98	0.46
1:D:226:TYR:CE2	1:D:235:ILE:HG12	2.51	0.46
1:A:376:LYS:N	1:A:376:LYS:HD2	2.31	0.46
1:C:117:ASN:OD1	1:C:118:GLN:N	2.49	0.46
1:C:278:ILE:O	1:C:316:LEU:HD12	2.16	0.46
1:C:124:LYS:HE2	1:C:124:LYS:HB3	1.78	0.46
1:D:98:LYS:H	1:D:101:GLU:HB2	1.80	0.46
1:D:159:PHE:O	1:D:161:ASN:N	2.49	0.46
1:D:147:LEU:HD21	1:D:156:LEU:HD23	1.99	0.45
1:C:244:ILE:O	1:C:248:ALA:N	2.43	0.45
1:D:117:ASN:OD1	1:D:118:GLN:N	2.49	0.45
1:D:287:TRP:HH2	1:D:338:LEU:HD12	1.82	0.45
1:A:160:LEU:HD13	1:A:207:LEU:HD21	1.99	0.45
1:D:112:ILE:HD13	1:D:254:ILE:HB	1.99	0.45
1:B:29:ILE:HD11	1:B:213:PHE:HE1	1.81	0.45
1:A:291:VAL:O	1:A:295:GLN:HG2	2.16	0.45
1:C:232:SER:O	1:C:234:ASP:N	2.42	0.45
1:B:130:HIS:CD2	1:B:364:VAL:HG22	2.51	0.45
1:D:26:ARG:HA	1:D:29:ILE:HG12	1.99	0.45
1:B:368:THR:OG1	1:B:369:VAL:N	2.50	0.45
1:C:111:TRP:CD1	1:C:397:LEU:HD22	2.52	0.45
1:B:110:PRO:HG3	1:B:248:ALA:HB1	1.99	0.45
1:C:121:GLY:N	2:C:450:ADP:O1B	2.49	0.45
1:C:228:SER:OG	1:C:229:GLN:N	2.50	0.45
1:B:123:GLY:HA2	2:B:450:ADP:H5'1	1.99	0.44
1:B:331:VAL:O	1:B:335:MET:HG3	2.17	0.44
1:C:336:ASN:OD1	1:C:343:VAL:HG21	2.17	0.44
1:A:332:LEU:HD23	4:A:501:GOL:H32	1.99	0.44
1:B:340:GLY:C	1:B:342:GLN:H	2.20	0.44
1:C:232:SER:C	1:C:234:ASP:H	2.21	0.44
1:A:324:ASP:HB3	1:C:395:ARG:HH12	1.83	0.44
1:A:106:ASN:OD1	1:A:107:GLU:N	2.50	0.44
1:B:141:LYS:HD2	1:B:143:TYR:OH	2.17	0.44
1:C:96:VAL:HG12	1:C:98:LYS:H	1.83	0.44
1:C:242:LYS:HE3	1:C:242:LYS:HB3	1.83	0.44
1:C:360:THR:HG21	1:C:367:LEU:HD21	2.00	0.44
1:A:170:THR:OG1	1:A:171:ASN:N	2.51	0.44
1:A:4:LYS:HE2	1:A:4:LYS:HB2	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:177:ASP:O	1:D:182:ASN:N	2.44	0.43
1:D:401:TRP:HD1	1:D:405:ASN:ND2	2.08	0.43
1:C:345:MET:HG2	1:C:345:MET:H	1.58	0.43
1:A:144:ARG:HH21	1:A:250:ASP:C	2.21	0.43
1:B:29:ILE:HD11	1:B:213:PHE:CE1	2.54	0.43
1:C:291:VAL:HA	1:C:294:PHE:HD2	1.83	0.43
1:C:172:ILE:HD11	1:C:213:PHE:HZ	1.84	0.43
1:D:150:LEU:HD12	1:D:150:LEU:HA	1.75	0.43
1:A:198:VAL:HG12	1:A:199:MET:H	1.84	0.43
1:B:126:MET:SD	1:B:354:PHE:HB3	2.59	0.43
1:D:139:LEU:O	1:D:142:ARG:NH1	2.52	0.43
1:D:287:TRP:O	1:D:291:VAL:HG12	2.19	0.43
1:D:291:VAL:O	1:D:295:GLN:HG2	2.19	0.43
1:B:59:ASP:HA	1:B:62:ILE:HG22	2.00	0.42
1:C:45:ALA:O	1:C:48:GLU:HG2	2.19	0.42
1:C:51:SER:HB3	1:C:139:LEU:HB2	2.01	0.42
1:D:143:TYR:O	1:D:206:ASN:HB2	2.19	0.42
1:D:372:PHE:CZ	1:D:379:LEU:HD12	2.54	0.42
1:C:194:LEU:HD13	1:C:198:VAL:HG21	2.01	0.42
1:A:278:ILE:O	1:A:316:LEU:HD12	2.20	0.42
1:A:313:PHE:HB3	1:A:400:HIS:CD2	2.55	0.42
1:A:391:LEU:O	1:A:395:ARG:HG3	2.19	0.42
1:B:155:SER:HB2	1:B:158:LEU:HD12	2.02	0.42
1:B:287:TRP:O	1:B:291:VAL:HG23	2.19	0.42
1:D:247:ILE:HD12	1:D:247:ILE:HA	1.82	0.42
1:A:146:CYS:HB2	1:A:251:PHE:CE2	2.54	0.42
1:C:8:THR:O	1:C:12:LEU:HD23	2.20	0.42
1:C:204:TYR:HB2	1:C:207:LEU:HB3	2.02	0.42
1:A:243:LEU:O	1:A:247:ILE:HG23	2.19	0.42
1:B:334:GLU:HG3	1:B:338:LEU:HD13	2.01	0.42
1:C:340:GLY:O	1:C:341:ASP:HB3	2.19	0.42
1:D:297:LEU:N	1:D:298:PRO:HD2	2.35	0.42
1:A:298:PRO:HG3	1:B:12:LEU:HB3	2.01	0.42
1:D:111:TRP:CD2	1:D:397:LEU:HD22	2.54	0.42
1:B:146:CYS:HB2	1:B:251:PHE:CE1	2.54	0.42
1:C:279:PRO:HA	1:C:317:MET:HB2	2.01	0.42
1:C:221:ALA:HB1	1:D:296:HIS:NE2	2.35	0.42
1:C:24:ALA:HB2	1:D:288:ALA:HB1	2.02	0.42
1:C:162:PRO:HB3	1:C:200:LEU:HB2	2.01	0.42
1:C:220:ASN:OD1	1:C:264:PRO:HG2	2.20	0.42
1:D:387:GLN:O	1:D:391:LEU:HD13	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:244:ILE:HA	1:A:247:ILE:HG12	2.02	0.41
1:C:306:GLU:HA	1:D:5:ARG:NH1	2.35	0.41
1:D:170:THR:C	1:D:172:ILE:H	2.22	0.41
1:C:160:LEU:HB3	1:C:202:THR:HG21	2.02	0.41
1:D:307:ASP:N	1:D:307:ASP:OD1	2.53	0.41
1:D:148:ILE:CG2	1:D:210:ILE:HD12	2.49	0.41
1:D:175:ALA:CB	1:D:239:LEU:HD13	2.50	0.41
1:D:236:VAL:HG12	1:D:267:TRP:HB3	2.02	0.41
1:B:134:CYS:SG	1:B:387:GLN:HA	2.60	0.41
1:C:119:LYS:HD3	1:C:120:GLY:O	2.20	0.41
1:C:149:ASP:O	1:C:212:ALA:HB2	2.20	0.41
1:C:350:ARG:HA	2:C:450:ADP:N1	2.36	0.41
1:D:14:GLN:O	1:D:18:LEU:HG	2.20	0.41
1:A:115:VAL:HG22	1:A:256:ILE:O	2.20	0.41
1:A:226:TYR:CE2	1:A:235:ILE:HD11	2.55	0.41
1:A:291:VAL:HG11	1:B:22:VAL:HG13	2.02	0.41
1:C:156:LEU:HD13	1:C:156:LEU:HA	1.93	0.41
1:D:98:LYS:N	1:D:101:GLU:HB2	2.36	0.41
1:D:173:TYR:C	1:D:175:ALA:N	2.65	0.41
1:B:91:MET:HA	1:B:91:MET:HE2	2.03	0.41
1:A:157:ARG:HB3	1:A:211:SER:HB3	2.03	0.41
1:A:227:LEU:O	1:B:228:SER:HA	2.21	0.41
1:A:270:MET:HB3	1:A:301:TYR:CE1	2.56	0.41
1:A:309:LYS:HA	1:B:5:ARG:HB3	2.03	0.41
1:C:22:VAL:HG21	1:D:287:TRP:CH2	2.56	0.41
1:C:340:GLY:HA2	1:C:343:VAL:HG22	2.03	0.41
1:D:66:GLU:HG3	1:D:72:PHE:CE2	2.55	0.41
1:A:291:VAL:HG21	1:B:19:THR:O	2.21	0.41
1:A:326:LYS:HA	1:A:329:VAL:HG12	2.02	0.41
1:B:43:SER:O	1:B:45:ALA:N	2.43	0.41
1:B:291:VAL:O	1:B:295:GLN:HG2	2.21	0.41
1:B:26:ARG:NH1	1:B:177:ASP:OD2	2.50	0.40
1:B:160:LEU:C	1:B:162:PRO:HD3	2.41	0.40
1:B:244:ILE:HA	1:B:247:ILE:HG22	2.03	0.40
1:C:115:VAL:HG12	1:C:124:LYS:HG3	2.02	0.40
1:C:325:ASN:O	1:C:329:VAL:HG23	2.21	0.40
1:B:146:CYS:HB3	1:B:254:ILE:HG12	2.03	0.40
1:C:40:PRO:HA	1:C:41:PRO:HD3	1.88	0.40
1:A:198:VAL:HG12	1:A:199:MET:N	2.36	0.40
1:B:239:LEU:HB2	1:B:268:ASN:HB3	2.03	0.40
1:C:312:GLU:OE2	1:C:403:SER:OG	2.33	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:134:CYS:SG	1:C:387:GLN:HA	2.61	0.40
1:D:66:GLU:HG3	1:D:72:PHE:HE2	1.87	0.40
1:A:393:LEU:O	1:A:397:LEU:HD13	2.22	0.40
1:C:339:LEU:HD12	1:C:343:VAL:HG13	2.02	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	393/407 (97%)	368 (94%)	17 (4%)	8 (2%)	7	38
1	B	399/407 (98%)	364 (91%)	32 (8%)	3 (1%)	19	58
1	C	395/407 (97%)	361 (91%)	30 (8%)	4 (1%)	15	54
1	D	395/407 (97%)	355 (90%)	29 (7%)	11 (3%)	5	29
All	All	1582/1628 (97%)	1448 (92%)	108 (7%)	26 (2%)	9	43

All (26) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	104	LYS
1	D	20	GLN
1	D	77	ALA
1	D	160	LEU
1	A	52	GLY
1	A	100	HIS
1	A	123	GLY
1	B	159	PHE
1	B	163	GLN
1	C	4	LYS
1	C	123	GLY

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Mol	Chain	Res	Type
1	D	23	GLN
1	D	175	ALA
1	A	103	LYS
1	D	231	GLN
1	D	257	ASP
1	A	38	HIS
1	A	98	LYS
1	A	171	ASN
1	B	170	THR
1	C	171	ASN
1	D	21	GLN
1	D	38	HIS
1	D	228	SER
1	D	44	LYS
1	C	308	TRP

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	310/358 (87%)	303 (98%)	7 (2%)	50	78
1	B	310/358 (87%)	308 (99%)	2 (1%)	86	94
1	C	287/358 (80%)	279 (97%)	8 (3%)	43	74
1	D	289/358 (81%)	280 (97%)	9 (3%)	40	72
All	All	1196/1432 (84%)	1170 (98%)	26 (2%)	52	79

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	LYS
1	A	53	LEU
1	A	180	LEU
1	A	197	ASN
1	A	262	VAL
1	A	301	TYR

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Mol	Chain	Res	Type
1	A	341	ASP
1	B	189	VAL
1	B	262	VAL
1	C	126	MET
1	C	161	ASN
1	C	255	MET
1	C	268	ASN
1	C	286	ASP
1	C	323	ASP
1	C	344	MET
1	C	345	MET
1	D	42	MET
1	D	53	LEU
1	D	160	LEU
1	D	262	VAL
1	D	285	LEU
1	D	308	TRP
1	D	323	ASP
1	D	339	LEU
1	D	368	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	11	ASN
1	A	118	GLN
1	B	108	ASN
1	C	11	ASN
1	C	336	ASN
1	D	153	GLN
1	D	405	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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 10 ligands modelled in this entry, 4 are monoatomic - leaving 6 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	ADP	D	450	3	24,29,29	0.96	1 (4%)	29,45,45	1.49	4 (13%)
2	ADP	A	450	3	24,29,29	0.96	1 (4%)	29,45,45	1.48	4 (13%)
4	GOL	B	500	-	5,5,5	0.92	0	5,5,5	1.00	0
2	ADP	C	450	3	24,29,29	0.95	1 (4%)	29,45,45	1.45	4 (13%)
2	ADP	B	450	3	24,29,29	0.96	1 (4%)	29,45,45	1.48	4 (13%)
4	GOL	A	501	-	5,5,5	0.91	0	5,5,5	1.05	0

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	ADP	D	450	3	-	1/12/32/32	0/3/3/3
2	ADP	A	450	3	-	5/12/32/32	0/3/3/3
4	GOL	B	500	-	-	0/4/4/4	-
2	ADP	C	450	3	-	5/12/32/32	0/3/3/3
2	ADP	B	450	3	-	1/12/32/32	0/3/3/3
4	GOL	A	501	-	-	0/4/4/4	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	450	ADP	C5-C4	2.52	1.47	1.40
2	C	450	ADP	C5-C4	2.51	1.47	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	450	ADP	C5-C4	2.49	1.47	1.40
2	B	450	ADP	C5-C4	2.44	1.47	1.40

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	450	ADP	PA-O3A-PB	-3.64	120.32	132.83
2	D	450	ADP	PA-O3A-PB	-3.54	120.67	132.83
2	A	450	ADP	PA-O3A-PB	-3.48	120.88	132.83
2	D	450	ADP	C3'-C2'-C1'	3.43	106.15	100.98
2	C	450	ADP	C3'-C2'-C1'	3.42	106.13	100.98
2	A	450	ADP	C3'-C2'-C1'	3.39	106.08	100.98
2	B	450	ADP	C3'-C2'-C1'	3.34	106.01	100.98
2	C	450	ADP	PA-O3A-PB	-3.31	121.46	132.83
2	B	450	ADP	N3-C2-N1	-3.21	123.66	128.68
2	D	450	ADP	N3-C2-N1	-3.19	123.69	128.68
2	A	450	ADP	N3-C2-N1	-3.18	123.71	128.68
2	C	450	ADP	N3-C2-N1	-3.16	123.73	128.68
2	C	450	ADP	C4-C5-N7	-2.59	106.70	109.40
2	A	450	ADP	C4-C5-N7	-2.55	106.74	109.40
2	D	450	ADP	C4-C5-N7	-2.54	106.75	109.40
2	B	450	ADP	C4-C5-N7	-2.43	106.86	109.40

There are no chirality outliers.

All (12) torsion outliers are listed below:

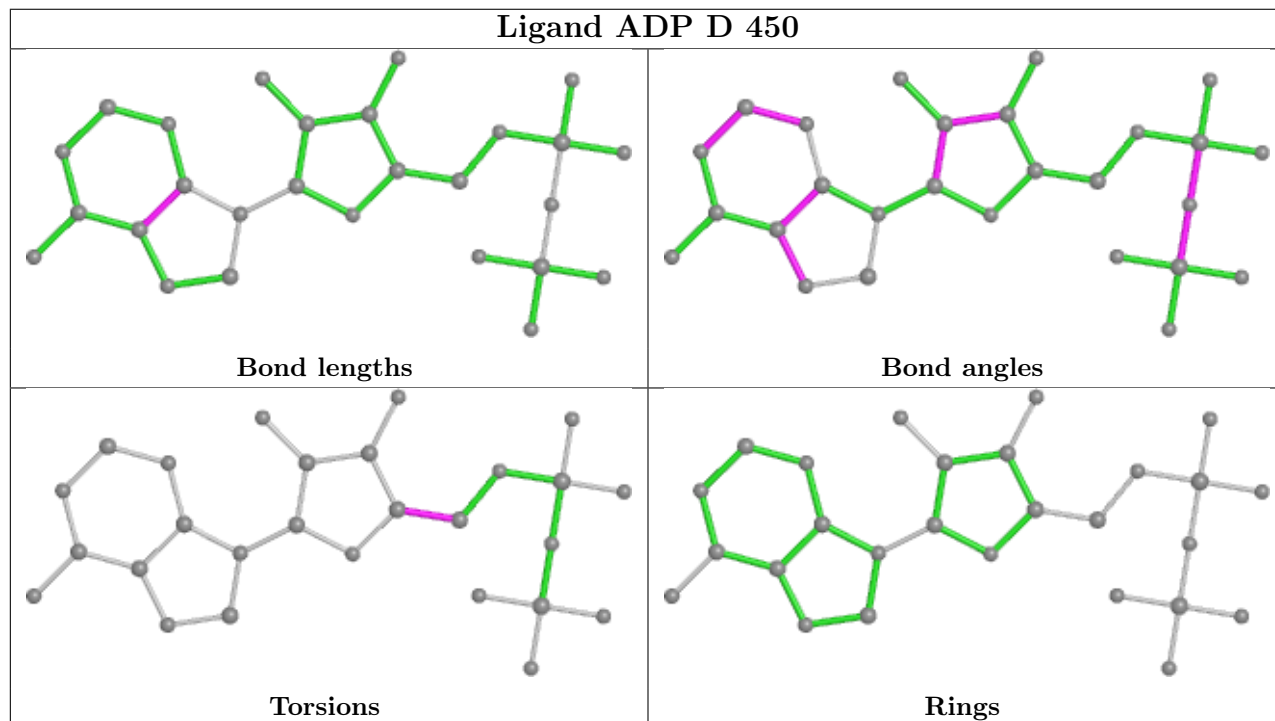
Mol	Chain	Res	Type	Atoms
2	A	450	ADP	C5'-O5'-PA-O1A
2	A	450	ADP	C5'-O5'-PA-O3A
2	C	450	ADP	C5'-O5'-PA-O2A
2	C	450	ADP	C5'-O5'-PA-O3A
2	A	450	ADP	O4'-C4'-C5'-O5'
2	C	450	ADP	O4'-C4'-C5'-O5'
2	C	450	ADP	C3'-C4'-C5'-O5'
2	A	450	ADP	C3'-C4'-C5'-O5'
2	C	450	ADP	C5'-O5'-PA-O1A
2	B	450	ADP	O4'-C4'-C5'-O5'
2	D	450	ADP	O4'-C4'-C5'-O5'
2	A	450	ADP	C5'-O5'-PA-O2A

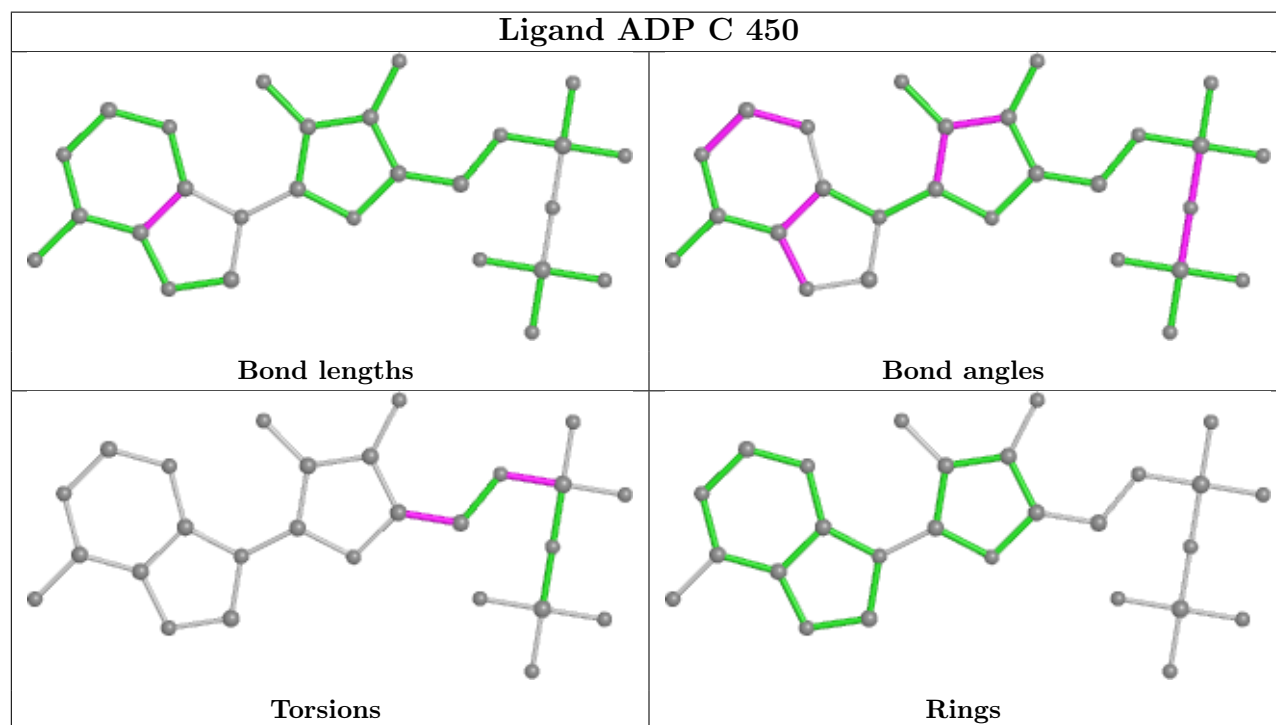
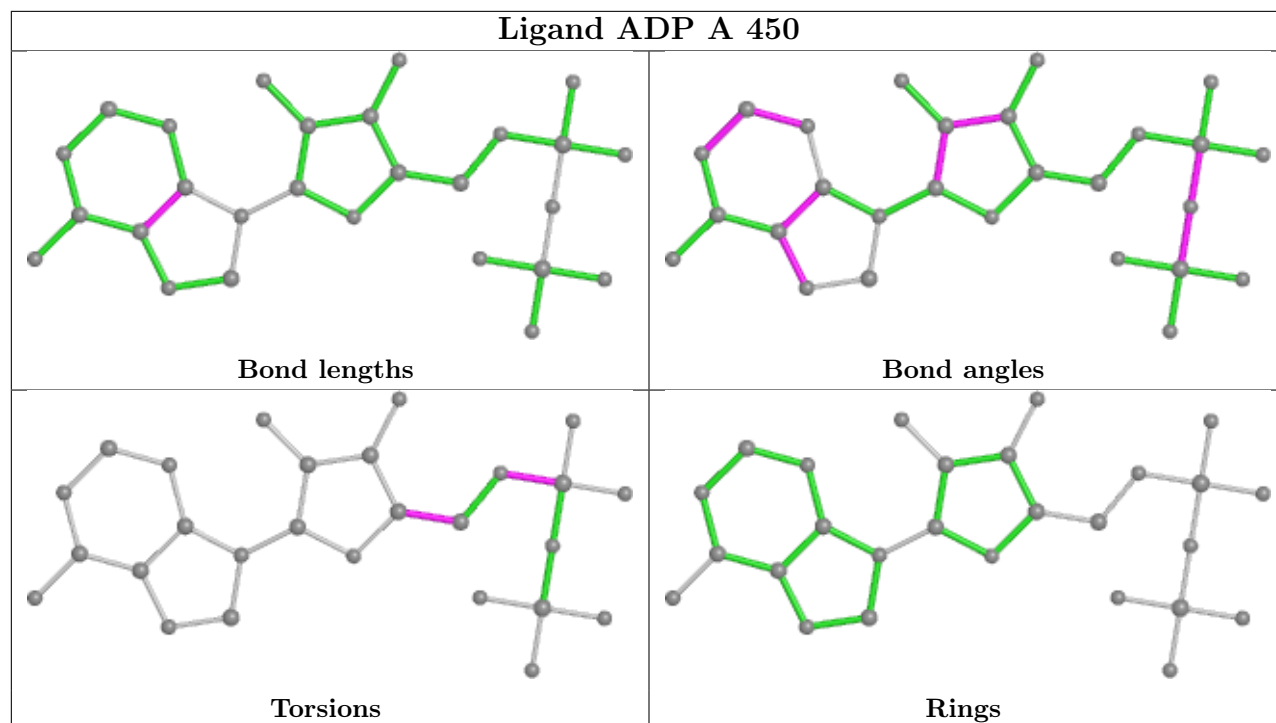
There are no ring outliers.

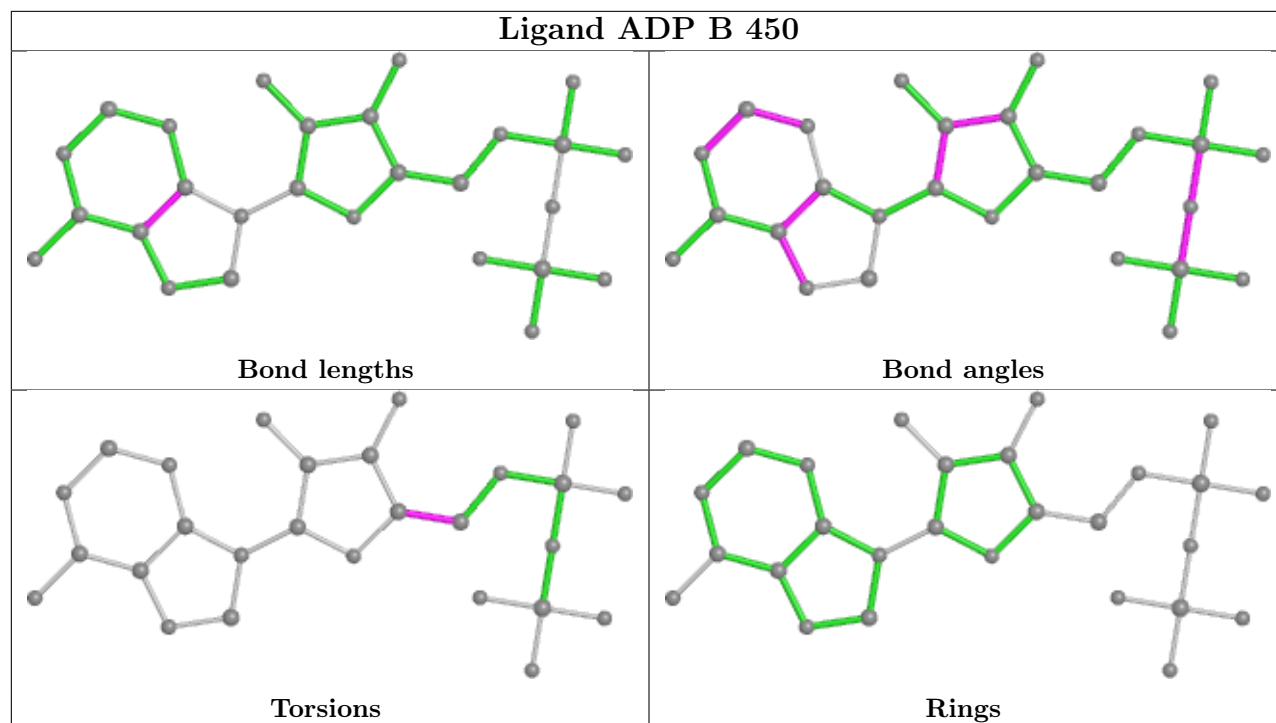
5 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	450	ADP	1	0
2	A	450	ADP	1	0
2	C	450	ADP	2	0
2	B	450	ADP	2	0
4	A	501	GOL	4	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.







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	398/407 (97%)	0.38	24 (6%) 21 12	78, 117, 172, 219	0
1	B	402/407 (98%)	0.38	25 (6%) 20 11	80, 113, 183, 231	0
1	C	400/407 (98%)	0.39	26 (6%) 18 11	88, 130, 180, 223	0
1	D	402/407 (98%)	0.46	43 (10%) 6 3	88, 128, 187, 264	0
All	All	1602/1628 (98%)	0.40	118 (7%) 14 8	78, 121, 184, 264	0

All (118) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	174	SER	8.4
1	D	255	MET	4.2
1	B	143	TYR	3.9
1	B	150	LEU	3.9
1	D	160	LEU	3.8
1	D	204	TYR	3.7
1	B	163	GLN	3.7
1	A	224	TRP	3.7
1	D	118	GLN	3.7
1	D	279	PRO	3.7
1	C	253	ILE	3.6
1	B	258	THR	3.6
1	C	224	TRP	3.6
1	C	254	ILE	3.6
1	B	301	TYR	3.6
1	D	158	LEU	3.5
1	C	113	ILE	3.5
1	D	316	LEU	3.5
1	D	269	ALA	3.4
1	A	150	LEU	3.4
1	B	257	ASP	3.4

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Mol	Chain	Res	Type	RSRZ
1	D	335	MET	3.4
1	B	339	LEU	3.3
1	D	157	ARG	3.3
1	C	256	ILE	3.3
1	C	146	CYS	3.3
1	B	118	GLN	3.3
1	D	175	ALA	3.2
1	C	207	LEU	3.2
1	C	311	LEU	3.1
1	A	118	GLN	3.1
1	B	113	ILE	3.1
1	C	255	MET	3.0
1	C	294	PHE	3.0
1	D	262	VAL	3.0
1	C	260	PRO	2.9
1	A	255	MET	2.9
1	D	277	LEU	2.9
1	A	214	PRO	2.9
1	D	135	LEU	2.9
1	B	311	LEU	2.8
1	C	279	PRO	2.8
1	D	122	THR	2.8
1	D	315	ARG	2.8
1	B	275	ALA	2.7
1	A	113	ILE	2.7
1	D	256	ILE	2.7
1	B	135	LEU	2.6
1	C	135	LEU	2.6
1	C	160	LEU	2.6
1	A	58	LEU	2.6
1	C	275	ALA	2.6
1	C	115	VAL	2.6
1	A	135	LEU	2.5
1	D	223	ALA	2.5
1	A	115	VAL	2.5
1	B	316	LEU	2.5
1	C	296	HIS	2.5
1	D	276	LEU	2.5
1	D	301	TYR	2.5
1	B	276	LEU	2.4
1	A	147	LEU	2.4
1	A	243	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	277	LEU	2.4
1	B	115	VAL	2.4
1	D	258	THR	2.4
1	A	182	ASN	2.4
1	D	257	ASP	2.4
1	D	129	VAL	2.3
1	C	145	ILE	2.3
1	C	41	PRO	2.3
1	D	115	VAL	2.3
1	D	318	PRO	2.3
1	D	128	ALA	2.3
1	C	276	LEU	2.3
1	D	311	LEU	2.3
1	B	271	TYR	2.3
1	D	131	LEU	2.3
1	C	264	PRO	2.3
1	B	278	ILE	2.2
1	C	90	LEU	2.2
1	A	277	LEU	2.2
1	B	148	ILE	2.2
1	A	244	ILE	2.2
1	A	162	PRO	2.2
1	D	143	TYR	2.2
1	D	294	PHE	2.2
1	D	147	LEU	2.2
1	C	137	LEU	2.2
1	B	84	LEU	2.2
1	B	239	LEU	2.1
1	D	265	LEU	2.1
1	B	269	ALA	2.1
1	D	203	GLN	2.1
1	A	256	ILE	2.1
1	C	214	PRO	2.1
1	D	393	LEU	2.1
1	C	235	ILE	2.1
1	A	287	TRP	2.1
1	B	364	VAL	2.1
1	A	297	LEU	2.1
1	A	318	PRO	2.1
1	D	113	ILE	2.1
1	A	254	ILE	2.1
1	A	260	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	253	ILE	2.1
1	A	211	SER	2.1
1	C	204	TYR	2.1
1	D	156	LEU	2.1
1	D	150	LEU	2.0
1	D	51	SER	2.0
1	D	266	VAL	2.0
1	B	253	ILE	2.0
1	A	354	PHE	2.0
1	D	344	MET	2.0
1	A	139	LEU	2.0
1	B	145	ILE	2.0
1	D	364	VAL	2.0

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

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

6.3 Carbohydrates [i](#)

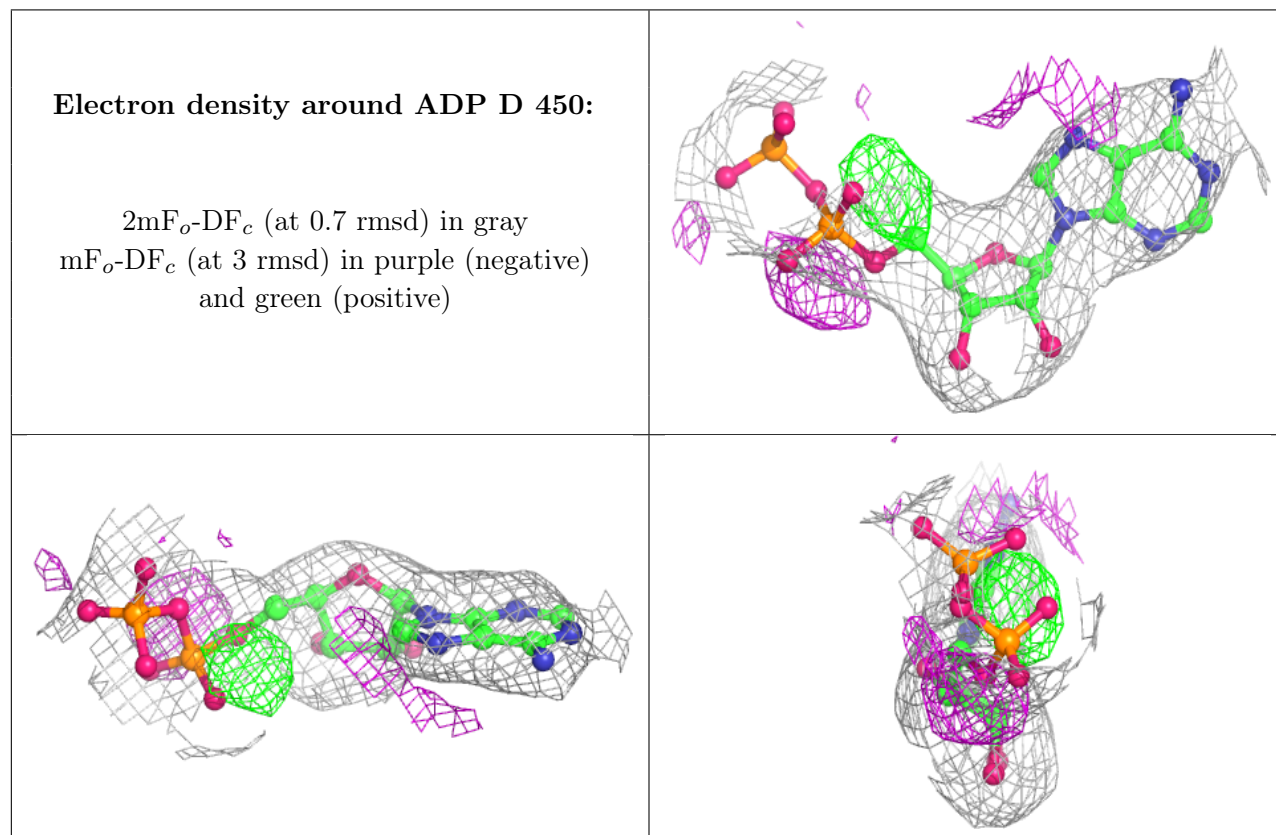
There are no monosaccharides in this entry.

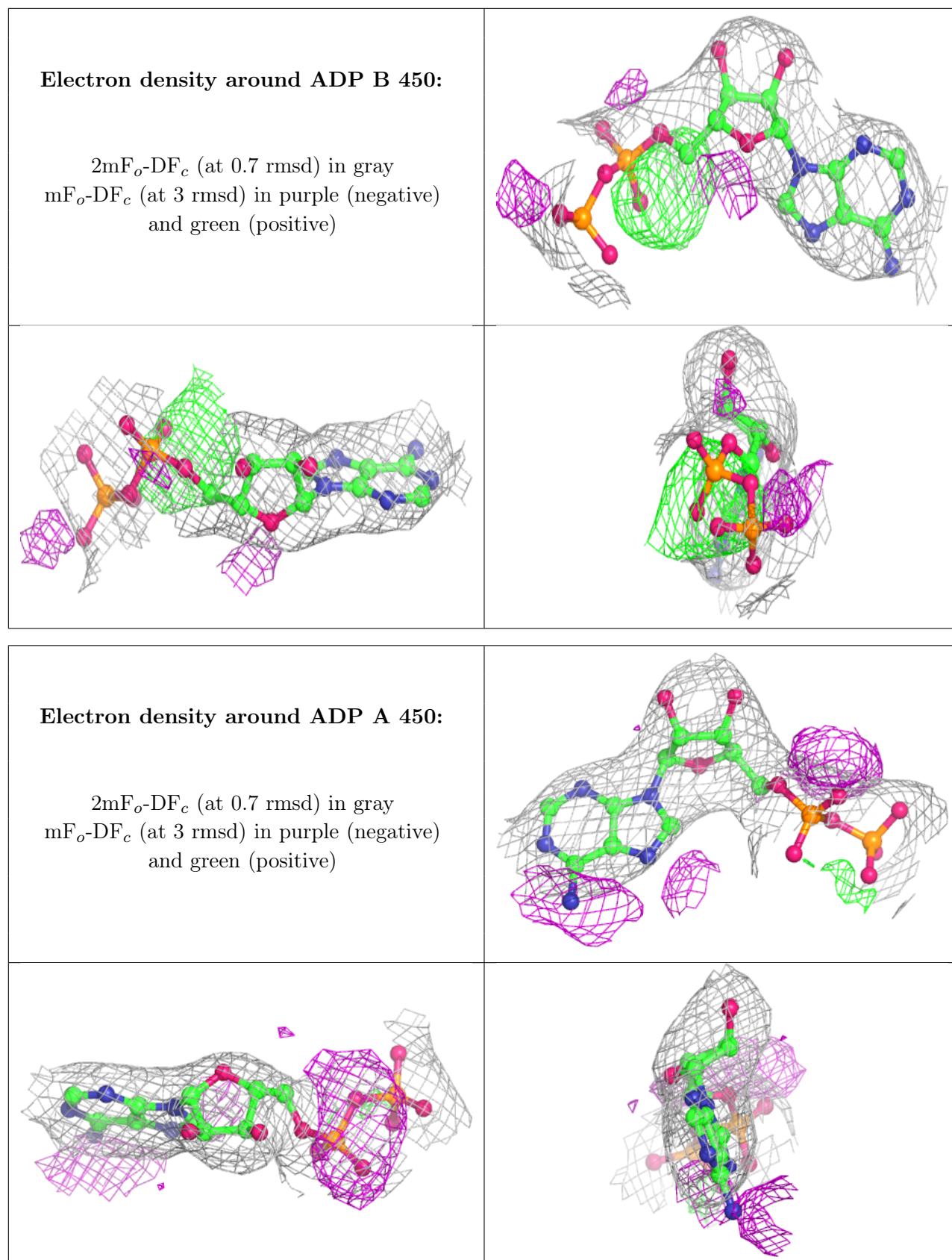
6.4 Ligands [i](#)

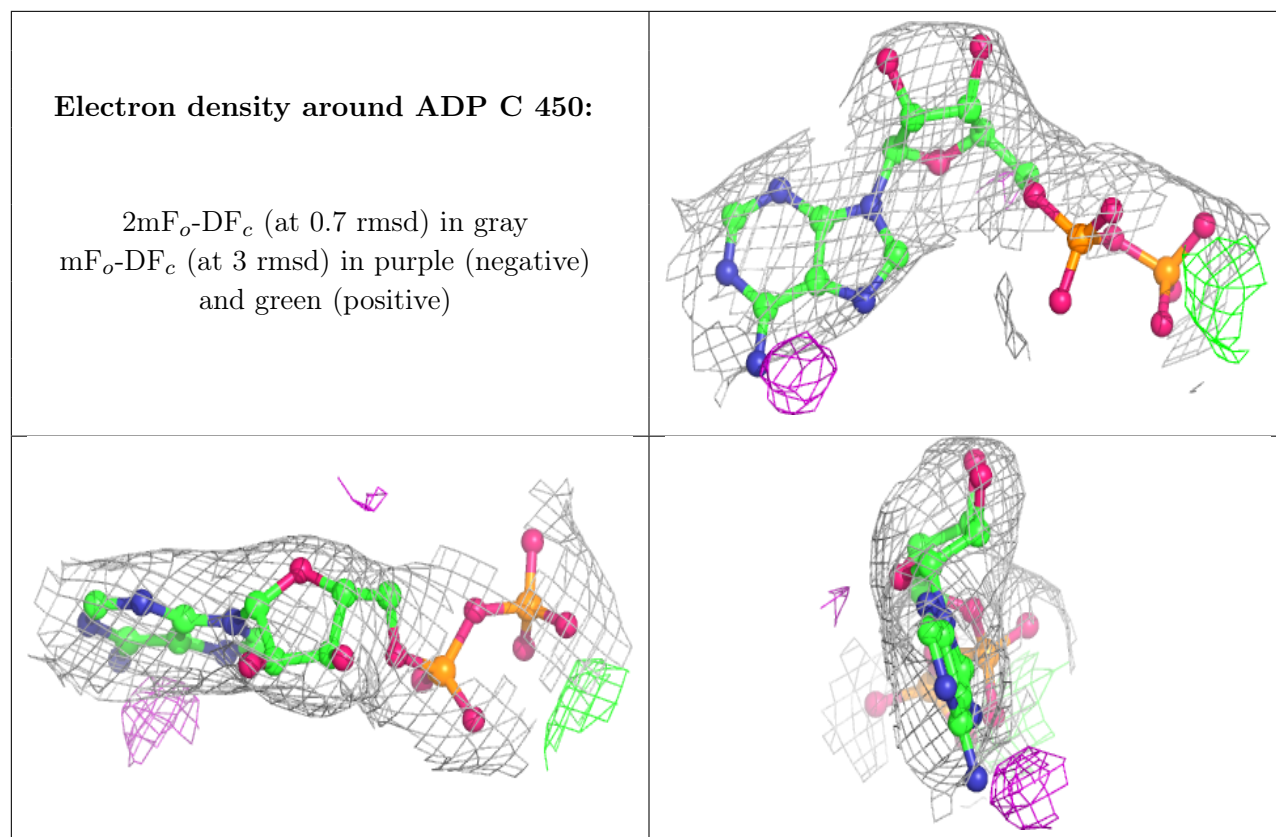
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
4	GOL	A	501	6/6	0.65	1.21	142,149,164,203	0
3	MG	D	451	1/1	0.76	0.18	82,82,82,82	0
4	GOL	B	500	6/6	0.79	0.49	103,148,155,176	0
3	MG	C	451	1/1	0.85	0.37	114,114,114,114	0
2	ADP	D	450	27/27	0.89	0.25	81,112,138,175	0
2	ADP	B	450	27/27	0.90	0.25	83,102,144,186	0
2	ADP	A	450	27/27	0.91	0.28	70,96,148,151	0
3	MG	A	451	1/1	0.91	0.22	120,120,120,120	0
3	MG	B	451	1/1	0.94	0.22	97,97,97,97	0
2	ADP	C	450	27/27	0.95	0.25	75,100,133,166	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.







6.5 Other polymers [i](#)

There are no such residues in this entry.