



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 01:16 pm GMT

PDB ID : 9S45 / pdb_00009s45
Title : ClxA from *Clostridium cavendishii* in complex with 3-amino,4-hydroxybenzoic acid and its adenylyate
Authors : Ascham, A.; Grogan, G.
Deposited on : 2025-07-25
Resolution : 2.15 Å (reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 1.8.4, CSD as541be (2020)
Xtrriage (Phenix) : 2.0
EDS : 3.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.48.1

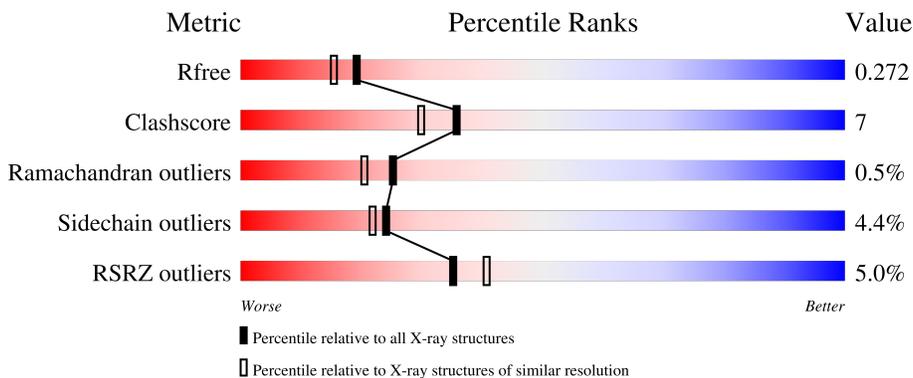
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.15 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	1881 (2.16-2.16)
Clashscore	180529	2047 (2.16-2.16)
Ramachandran outliers	177936	2027 (2.16-2.16)
Sidechain outliers	177891	2026 (2.16-2.16)
RSRZ outliers	164620	1882 (2.16-2.16)

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	401	 3% 81% 16% .
1	B	401	 6% 83% 14% ..
1	C	401	 7% 82% 16% .
1	D	401	 4% 84% 13% ..

2 Entry composition [i](#)

There are 7 unique types of molecules in this entry. The entry contains 13419 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 Phenylacetate-CoA ligase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	399	3117	2000	510	593	14	0	1	0
1	B	398	3092	1983	510	585	14	0	1	0
1	C	400	3125	2000	513	598	14	0	1	0
1	D	396	3112	1996	509	593	14	0	1	0

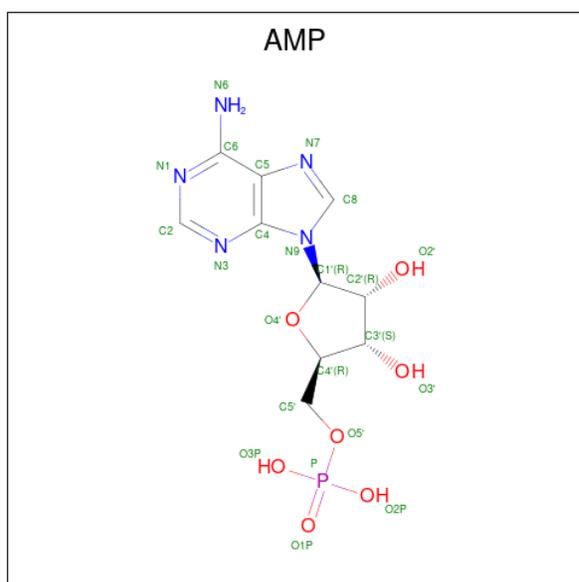
- Molecule 2 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

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

- Molecule 3 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

- Molecule 4 is ADENOSINE MONOPHOSPHATE (CCD ID: AMP) (formula: $C_{10}H_{14}N_5O_7P$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	N	O	P	0	1
			23	10	5	7	1		
4	B	1	Total	C	N	O	P	0	1
			23	10	5	7	1		
4	C	1	Total	C	N	O	P	0	1
			23	10	5	7	1		
4	D	1	Total	C	N	O	P	0	1
			23	10	5	7	1		

- Molecule 5 is [[(2R,3S,4R,5R)-5-(6-aminopurin-9-yl)-3,4-bis(oxidanyl)oxolan-2-yl]methoxy-oxidanyl-phosphoryl] 3-azanyl-4-oxidanyl-benzoate (CCD ID: A1JLN) (formula: $C_{17}H_{19}N_6O_9P$) (labeled as "Ligand of Interest" by depositor).

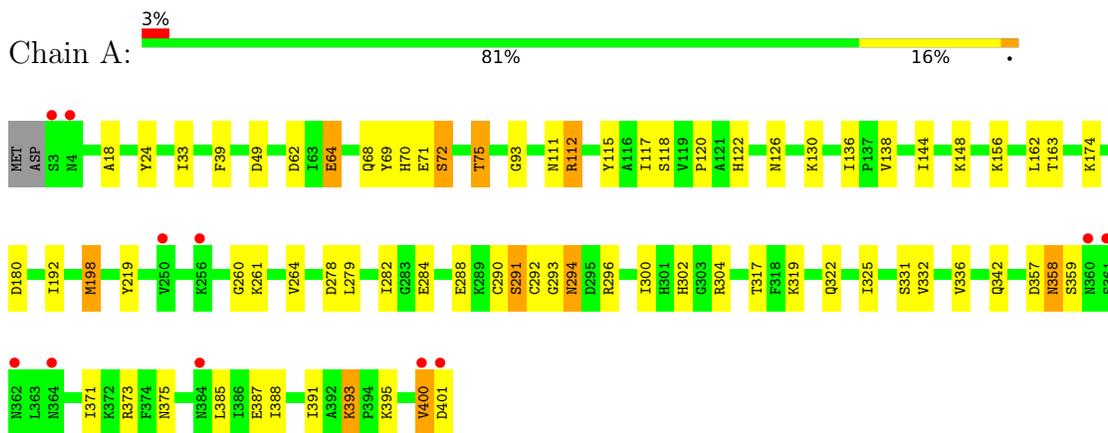
- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	199	Total 199	O 199	0	0
7	B	181	Total 181	O 181	0	0
7	C	213	Total 213	O 213	0	0
7	D	192	Total 192	O 192	0	0

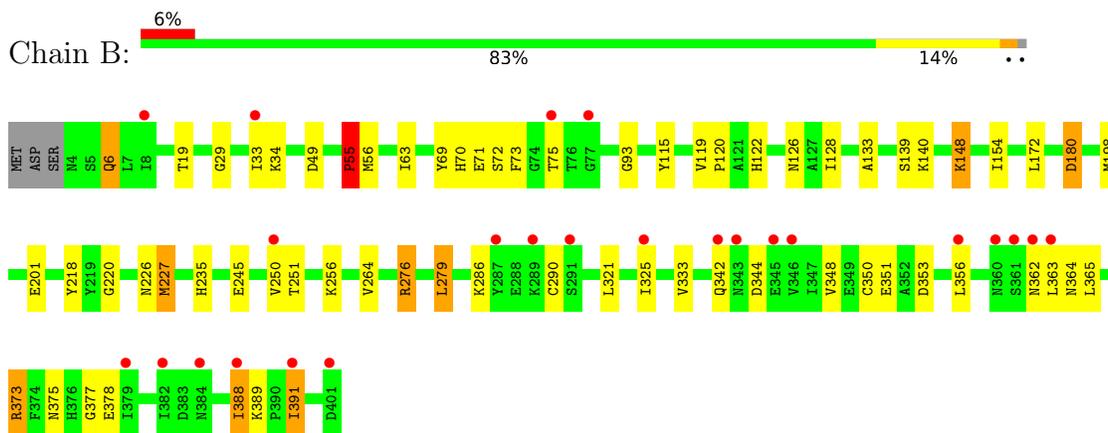
3 Residue-property plots [i](#)

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.

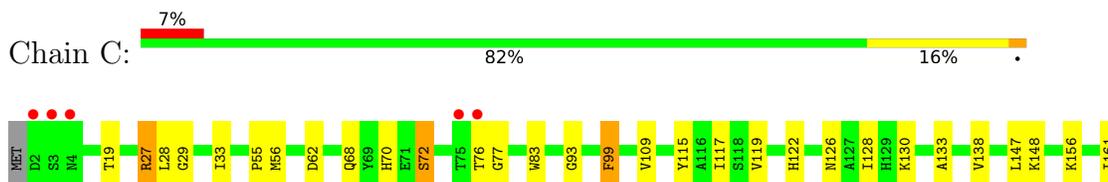
- Molecule 1: Phenylacetate-CoA ligase

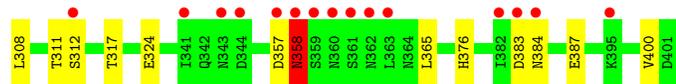
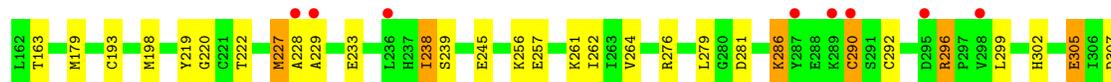


- Molecule 1: Phenylacetate-CoA ligase

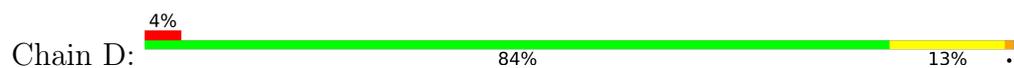


- Molecule 1: Phenylacetate-CoA ligase





● Molecule 1: Phenylacetate-CoA ligase



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	73.21Å 80.24Å 82.74Å 89.97° 84.29° 76.16°	Depositor
Resolution (Å)	57.26 – 2.15 57.26 – 2.15	Depositor EDS
% Data completeness (in resolution range)	98.7 (57.26-2.15) 98.7 (57.26-2.15)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.82 (at 2.14Å)	Xtrriage
Refinement program	REFMAC 5.8.0419	Depositor
R, R_{free}	0.210 , 0.270 0.216 , 0.272	Depositor DCC
R_{free} test set	4877 reflections (4.93%)	wwPDB-VP
Wilson B-factor (Å ²)	25.9	Xtrriage
Anisotropy	0.435	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 49.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	13419	wwPDB-VP
Average B, all atoms (Å ²)	30.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.55% 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, A1JLN, ZN, AMP, A1JOG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.63	0/3176	1.05	1/4294 (0.0%)
1	B	0.68	2/3151 (0.1%)	1.12	7/4264 (0.2%)
1	C	0.65	0/3184	1.08	6/4307 (0.1%)
1	D	0.63	0/3170	1.07	2/4283 (0.0%)
All	All	0.65	2/12681 (0.0%)	1.08	16/17148 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	B	0	1
1	C	0	1
1	D	0	2
All	All	0	5

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	180[A]	ASP	C-O	8.46	1.34	1.23
1	B	180[B]	ASP	C-O	8.46	1.34	1.23

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	180[A]	ASP	CA-C-O	6.93	130.14	122.03
1	B	180[B]	ASP	CA-C-O	6.93	130.14	122.03
1	C	27	ARG	N-CA-CB	-6.59	100.85	110.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	305	GLU	CB-CA-C	-6.25	100.41	110.79
1	D	256	LYS	N-CA-C	-5.94	104.39	111.69
1	C	307	ASP	CA-CB-CG	5.83	118.43	112.60
1	C	387	GLU	CB-CA-C	-5.77	100.66	109.89
1	B	49	ASP	CA-CB-CG	5.47	118.07	112.60
1	D	78	GLU	CB-CA-C	5.41	118.59	109.67
1	A	49	ASP	CA-CB-CG	5.40	118.00	112.60
1	B	256	LYS	N-CA-C	-5.38	105.08	111.69
1	C	147	LEU	N-CA-CB	-5.21	102.24	110.06
1	C	256	LYS	N-CA-C	-5.14	105.86	111.82
1	B	180[A]	ASP	N-CA-C	5.12	118.26	111.30
1	B	180[B]	ASP	N-CA-C	5.12	118.26	111.30
1	B	55	PRO	N-CA-CB	-5.07	97.93	103.25

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	112	ARG	Sidechain
1	B	276	ARG	Sidechain
1	C	296	ARG	Sidechain
1	D	276	ARG	Sidechain
1	D	373	ARG	Sidechain

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	3117	0	3130	55	0
1	B	3092	0	3102	43	0
1	C	3125	0	3130	45	0
1	D	3112	0	3143	50	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
3	A	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	23	0	12	1	0
4	B	23	0	12	1	0
4	C	23	0	12	1	0
4	D	23	0	12	1	0
5	A	33	0	0	0	0
5	D	33	0	0	0	0
6	B	11	0	0	1	0
6	C	11	0	0	1	0
7	A	199	0	0	5	0
7	B	181	0	0	1	0
7	C	213	0	0	8	0
7	D	192	0	0	9	0
All	All	13419	0	12553	181	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 7.

All (181) 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:D:387:GLU:HG3	7:D:602:HOH:O	1.59	1.03
1:C:77:GLY:HA3	7:C:738:HOH:O	1.61	1.01
1:C:358:ASN:HB2	7:C:747:HOH:O	1.63	0.97
1:D:125:THR:HG21	7:D:755:HOH:O	1.69	0.93
1:A:291:SER:O	1:A:293:GLY:N	2.03	0.91
1:C:219:TYR:HB3	1:C:228:ALA:HB3	1.51	0.91
1:B:353:ASP:OD2	7:B:601:HOH:O	1.90	0.90
1:A:264:VAL:CG2	1:A:279:LEU:HD11	2.03	0.89
1:A:264:VAL:HG23	1:A:279:LEU:HD11	1.55	0.86
1:C:290:CYS:SG	1:C:292:CYS:N	2.53	0.82
1:D:198:MET:CE	1:D:200:SER:N	2.43	0.81
1:A:304:ARG:HD2	7:A:760:HOH:O	1.80	0.80
1:D:46:THR:HG23	1:D:49:ASP:H	1.46	0.79
1:A:144:ILE:HA	1:A:391:ILE:CD1	2.12	0.78
1:D:148:LYS:HB3	1:D:388:ILE:HD11	1.64	0.78
1:C:311:THR:HG21	7:C:762:HOH:O	1.84	0.76
1:D:46:THR:HG22	1:D:49:ASP:CG	2.14	0.73
1:C:358:ASN:CB	7:C:747:HOH:O	2.30	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:219:TYR:OH	1:D:279:LEU:HD13	1.91	0.71
1:A:72:SER:HA	7:A:679:HOH:O	1.89	0.70
1:D:46:THR:HG21	7:D:766:HOH:O	1.92	0.68
1:B:220:GLY:HA2	1:B:227:MET:HE2	1.76	0.68
1:D:46:THR:HG22	1:D:49:ASP:OD2	1.93	0.67
1:D:198:MET:HE3	1:D:199:LEU:C	2.19	0.67
1:D:198:MET:HE2	1:D:198:MET:C	2.20	0.66
1:D:78:GLU:HG3	7:D:630:HOH:O	1.95	0.66
1:D:93:GLY:HA3	1:D:126:ASN:HD22	1.60	0.66
1:A:112:ARG:O	1:A:112:ARG:HG3	1.96	0.65
1:A:144:ILE:HA	1:A:391:ILE:HD11	1.78	0.65
1:D:198:MET:CE	1:D:199:LEU:C	2.69	0.65
1:C:62:ASP:OD1	7:C:601:HOH:O	2.15	0.65
1:D:112:ARG:HB3	1:D:163:THR:O	1.97	0.65
1:A:290:CYS:O	1:A:291:SER:O	2.15	0.64
1:A:304:ARG:CD	7:A:760:HOH:O	2.42	0.64
1:C:115:TYR:O	1:C:122:HIS:HE1	1.82	0.63
1:C:261:LYS:NZ	1:C:305:GLU:OE2	2.30	0.63
1:B:70:HIS:CG	1:B:119:VAL:HG22	2.34	0.63
1:C:99:PHE:HD1	1:C:229:ALA:HB3	1.65	0.62
1:C:264:VAL:CG1	1:C:279:LEU:HD11	2.31	0.60
1:A:302:HIS:HD2	1:A:317:THR:OG1	1.84	0.60
1:D:387:GLU:CG	7:D:602:HOH:O	2.32	0.60
1:C:264:VAL:HG12	1:C:279:LEU:HD11	1.85	0.58
1:B:115:TYR:O	1:B:122:HIS:HE1	1.86	0.58
1:C:93:GLY:HA3	1:C:126:ASN:HD22	1.69	0.58
1:C:156:LYS:HG2	1:D:55:PRO:HG2	1.86	0.58
1:A:126:ASN:HD21	1:A:130:LYS:NZ	2.03	0.57
1:D:198:MET:HE3	1:D:200:SER:N	2.20	0.57
1:B:325:ILE:HG22	1:B:333:VAL:HG11	1.87	0.57
1:D:61:VAL:HB	7:D:601:HOH:O	2.05	0.56
1:A:62:ASP:HB3	1:A:64:GLU:OE2	2.07	0.55
1:C:324:GLU:HG3	1:C:365:LEU:HG	1.89	0.55
1:A:93:GLY:HA3	1:A:126:ASN:HD22	1.72	0.55
1:D:328:LEU:HD12	1:D:333:VAL:HG21	1.88	0.54
1:C:126:ASN:HD21	1:C:130:LYS:NZ	2.05	0.54
1:C:99:PHE:CD1	1:C:229:ALA:HB3	2.42	0.54
1:B:201:GLU:HG3	1:C:400:VAL:HG13	1.90	0.54
1:C:308:LEU:HD23	1:C:317:THR:HA	1.90	0.53
1:A:115:TYR:O	1:A:122:HIS:HE1	1.91	0.53
1:A:264:VAL:HG21	1:A:279:LEU:HD11	1.86	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:68:GLN:HE21	1:D:70:HIS:CE1	2.26	0.53
1:D:115:TYR:O	1:D:122:HIS:HE1	1.92	0.53
1:D:126:ASN:HD21	1:D:130:LYS:NZ	2.08	0.52
1:A:180:ASP:CB	7:A:762:HOH:O	2.58	0.52
1:A:75:THR:HB	1:B:391:ILE:HG23	1.90	0.52
1:C:311:THR:HG22	1:C:312:SER:N	2.25	0.52
1:D:122:HIS:HD2	7:D:752:HOH:O	1.90	0.52
1:D:356:LEU:O	1:D:357:ASP:HB2	2.09	0.52
1:B:264:VAL:CG1	1:B:279:LEU:HD11	2.40	0.52
1:A:198:MET:HE1	1:A:319:LYS:HA	1.93	0.51
1:B:93:GLY:HA3	1:B:126:ASN:HD22	1.76	0.51
1:A:400:VAL:HG13	1:B:342:GLN:CB	2.41	0.51
1:A:264:VAL:HG23	1:A:279:LEU:CD1	2.36	0.50
1:B:198:MET:HA	4:B:503[A]:AMP:C2	2.46	0.50
1:A:198:MET:HE3	1:A:322:GLN:OE1	2.11	0.50
1:B:19:THR:HG21	1:B:29:GLY:O	2.12	0.50
1:C:70:HIS:HD2	1:C:117:ILE:O	1.94	0.49
1:B:235:HIS:ND1	1:B:290:CYS:SG	2.84	0.49
1:A:284:GLU:HG3	1:A:300:ILE:HB	1.95	0.49
1:B:363:LEU:O	1:B:365:LEU:N	2.44	0.49
1:D:198:MET:HE1	1:D:200:SER:HB3	1.95	0.49
1:B:220:GLY:CA	1:B:227:MET:HE2	2.43	0.48
1:C:376:HIS:HD2	7:C:674:HOH:O	1.96	0.48
1:D:341:ILE:CD1	1:D:346:VAL:HG22	2.42	0.48
1:A:69:TYR:CE1	1:A:71:GLU:HG3	2.48	0.48
1:A:136:ILE:HG22	1:A:138:VAL:HG23	1.95	0.48
1:D:119:VAL:HG12	1:D:120:PRO:HD3	1.95	0.48
1:B:6:GLN:H	1:B:6:GLN:CD	2.20	0.48
1:B:56:MET:HE1	1:B:63:ILE:HD11	1.95	0.48
1:C:220:GLY:HA3	6:C:504[B]:A1JOG:C6	2.44	0.47
1:A:260:GLY:O	1:A:282:ILE:HA	2.14	0.47
1:B:148:LYS:HB3	1:B:388:ILE:HD11	1.96	0.47
1:B:264:VAL:HG12	1:B:279:LEU:HD11	1.97	0.47
1:A:18:ALA:HB1	1:A:24:TYR:CD2	2.50	0.47
1:D:256:LYS:H	1:D:256:LYS:HG3	1.40	0.47
1:C:70:HIS:CG	1:C:119:VAL:HG22	2.49	0.47
1:A:70:HIS:HD2	1:A:117:ILE:O	1.97	0.46
1:C:400:VAL:HB	1:D:342:GLN:HB2	1.97	0.46
1:C:19:THR:HG21	1:C:29:GLY:O	2.15	0.46
1:C:68:GLN:HE21	1:C:70:HIS:CE1	2.34	0.46
1:C:148:LYS:HG3	1:C:179:MET:SD	2.55	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:69:TYR:CE1	1:B:71:GLU:HG3	2.50	0.46
1:B:220:GLY:HA3	6:B:504[B]:A1JOG:C6	2.46	0.46
1:C:198:MET:HA	4:C:503[A]:AMP:C2	2.50	0.46
1:A:162:LEU:HB2	1:A:192:ILE:HD13	1.98	0.45
1:A:122:HIS:HD2	7:A:764:HOH:O	1.99	0.45
1:D:198:MET:HE1	1:D:200:SER:N	2.28	0.45
1:D:71:GLU:HG2	1:D:79:PRO:HB2	1.98	0.45
1:A:294:ASN:HD22	1:A:296:ARG:H	1.64	0.45
1:A:68:GLN:HE21	1:A:70:HIS:CE1	2.34	0.45
1:A:174:LYS:HE3	1:A:336:VAL:CG2	2.47	0.45
1:C:238:ILE:HD11	1:C:299:LEU:HB2	1.99	0.45
1:C:245:GLU:OE2	1:C:276:ARG:HD2	2.17	0.45
1:B:128:ILE:HG23	1:B:133:ALA:HB3	1.99	0.44
1:A:33:ILE:HD13	1:A:39:PHE:HB2	1.99	0.44
1:B:373:ARG:HH22	1:B:375:ASN:ND2	2.15	0.44
1:C:55:PRO:HG2	1:D:156:LYS:HG2	2.00	0.44
1:D:146:PRO:CG	1:D:388:ILE:HD13	2.48	0.44
1:D:323:GLU:HA	1:D:323:GLU:OE1	2.18	0.44
1:A:111:ASN:HA	1:A:163:THR:OG1	2.18	0.44
1:A:393:LYS:HD2	1:B:73:PHE:CE1	2.53	0.44
1:C:109:VAL:HG22	1:C:161:ILE:HB	2.00	0.44
1:D:264[B]:VAL:HG21	1:D:279:LEU:HD11	1.98	0.43
1:B:115:TYR:O	1:B:122:HIS:CE1	2.69	0.43
1:B:373:ARG:HH22	1:B:375:ASN:HD21	1.67	0.43
1:D:103:PHE:HB2	1:D:131:LYS:HG3	2.01	0.43
1:A:391:ILE:HD11	1:B:75:THR:HG23	2.00	0.43
1:A:198:MET:HA	4:A:503[A]:AMP:C2	2.54	0.43
1:D:46:THR:CG2	1:D:49:ASP:CG	2.90	0.43
1:D:198:MET:HA	4:D:503[A]:AMP:C2	2.54	0.43
1:B:250:VAL:HG23	1:B:251:THR:HG23	2.01	0.43
1:C:227:MET:HE2	1:C:227:MET:HB2	1.95	0.43
1:A:373:ARG:HH12	1:A:375:ASN:ND2	2.16	0.42
1:D:146:PRO:HG2	1:D:388:ILE:CD1	2.49	0.42
1:D:349:GLU:HB3	1:D:374:PHE:CE1	2.54	0.42
1:A:174:LYS:HE3	1:A:336:VAL:HG23	2.01	0.42
1:A:284:GLU:OE2	1:A:302:HIS:HE1	2.03	0.42
1:A:75:THR:HG21	1:B:389:LYS:O	2.20	0.42
1:A:156:LYS:HG2	1:B:55:PRO:HG2	2.01	0.42
1:B:362:ASN:O	1:B:363:LEU:C	2.62	0.42
1:C:72:SER:HA	7:C:641:HOH:O	2.19	0.42
1:C:302:HIS:HD2	1:C:317:THR:OG1	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:112:ARG:HB3	1:A:163:THR:O	2.20	0.42
1:A:156:LYS:CG	1:B:55:PRO:HG2	2.50	0.42
1:A:357:ASP:O	1:A:358:ASN:HB2	2.19	0.42
1:B:56:MET:HE3	1:B:56:MET:HB3	1.85	0.42
1:D:198:MET:HE2	1:D:198:MET:O	2.20	0.42
1:A:325:ILE:CD1	1:A:371:ILE:HD11	2.50	0.41
1:D:302:HIS:HE1	7:D:605:HOH:O	2.02	0.41
1:B:321:LEU:O	1:B:325:ILE:HG12	2.19	0.41
1:C:119:VAL:CG2	1:C:222:THR:HG23	2.50	0.41
1:D:384:ASN:HA	7:D:602:HOH:O	2.19	0.41
1:A:261:LYS:HE2	1:A:278:ASP:OD2	2.19	0.41
1:A:302:HIS:CD2	1:A:317:THR:OG1	2.69	0.41
1:B:139:SER:OG	1:B:140:LYS:N	2.51	0.41
1:B:351:GLU:CD	1:B:377:GLY:H	2.29	0.41
1:C:384:ASN:ND2	7:C:627:HOH:O	2.54	0.41
1:B:34:LYS:HE2	1:B:34:LYS:HB2	1.70	0.41
1:B:119:VAL:N	1:B:120:PRO:CD	2.83	0.41
1:B:245:GLU:OE1	1:B:276:ARG:HD2	2.20	0.41
1:C:119:VAL:HG23	1:C:222:THR:HG23	2.03	0.41
1:D:93:GLY:HA3	1:D:126:ASN:ND2	2.30	0.41
1:A:75:THR:HB	1:B:391:ILE:CG2	2.50	0.41
1:D:111:ASN:HA	1:D:163:THR:OG1	2.20	0.41
1:A:148:LYS:HD2	1:A:388:ILE:HD11	2.01	0.41
1:B:154:ILE:HD11	1:B:172:LEU:HD21	2.01	0.41
1:D:227:MET:HE3	1:D:279:LEU:HD11	2.02	0.41
1:A:219:TYR:OH	1:A:279:LEU:HD13	2.20	0.41
1:A:68:GLN:HE21	1:A:70:HIS:HE1	1.69	0.41
1:C:262:ILE:HD12	1:C:281:ASP:HB3	2.02	0.41
1:C:286:LYS:HE2	1:C:286:LYS:HB3	1.48	0.40
1:D:198:MET:HE2	1:D:199:LEU:N	2.36	0.40
1:C:163:THR:HA	1:C:193:CYS:O	2.21	0.40
1:D:87:LYS:NZ	1:D:268:ASN:OD1	2.54	0.40
1:C:56:MET:CE	1:C:83:TRP:CZ2	3.04	0.40
1:A:118:SER:OG	1:A:120:PRO:HD2	2.22	0.40
1:B:218:TYR:HB3	1:B:226:ASN:HD21	1.87	0.40
1:B:348:VAL:HG12	1:B:350:CYS:SG	2.61	0.40
1:C:128:ILE:HG23	1:C:133:ALA:HB3	2.03	0.40
1:A:296:ARG:HD2	1:A:296:ARG:HA	1.85	0.40
1:C:311:THR:CG2	1:C:312:SER:N	2.84	0.40
1:D:328:LEU:HD12	1:D:333:VAL:CG2	2.51	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	398/401 (99%)	377 (95%)	18 (4%)	3 (1%)	16	11
1	B	397/401 (99%)	381 (96%)	15 (4%)	1 (0%)	37	34
1	C	399/401 (100%)	383 (96%)	14 (4%)	2 (0%)	25	20
1	D	393/401 (98%)	380 (97%)	11 (3%)	2 (0%)	25	20
All	All	1587/1604 (99%)	1521 (96%)	58 (4%)	8 (0%)	25	20

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	291	SER
1	A	292	CYS
1	C	358	ASN
1	D	357	ASP
1	C	357	ASP
1	A	358	ASN
1	B	364	ASN
1	D	117	ILE

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	340/356 (96%)	324 (95%)	16 (5%)	22	19
1	B	337/356 (95%)	321 (95%)	16 (5%)	22	19

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	343/356 (96%)	326 (95%)	17 (5%)	20	17
1	D	344/356 (97%)	332 (96%)	12 (4%)	31	30
All	All	1364/1424 (96%)	1303 (96%)	61 (4%)	24	21

All (61) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	64	GLU
1	A	72	SER
1	A	75	THR
1	A	198	MET
1	A	288	GLU
1	A	294	ASN
1	A	331	SER
1	A	332	VAL
1	A	342	GLN
1	A	359	SER
1	A	385	LEU
1	A	387	GLU
1	A	393	LYS
1	A	395	LYS
1	A	400	VAL
1	A	401	ASP
1	B	6	GLN
1	B	33	ILE
1	B	55	PRO
1	B	72	SER
1	B	148	LYS
1	B	180[A]	ASP
1	B	180[B]	ASP
1	B	227	MET
1	B	279	LEU
1	B	286	LYS
1	B	344	ASP
1	B	356	LEU
1	B	373	ARG
1	B	378	GLU
1	B	388	ILE
1	B	391	ILE
1	C	27	ARG
1	C	28	LEU

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Mol	Chain	Res	Type
1	C	33	ILE
1	C	72	SER
1	C	76	THR
1	C	99	PHE
1	C	138	VAL
1	C	227	MET
1	C	233	GLU
1	C	238	ILE
1	C	239	SER
1	C	257	GLU
1	C	286	LYS
1	C	290	CYS
1	C	296	ARG
1	C	358	ASN
1	C	383	ASP
1	D	72	SER
1	D	79	PRO
1	D	110	LEU
1	D	198	MET
1	D	240	LYS
1	D	256	LYS
1	D	300	ILE
1	D	359	SER
1	D	373	ARG
1	D	391	ILE
1	D	395	LYS
1	D	401	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	30	ASN
1	A	70	HIS
1	A	122	HIS
1	A	126	ASN
1	A	294	ASN
1	A	302	HIS
1	A	375	ASN
1	A	376	HIS
1	B	4	ASN
1	B	68	GLN
1	B	122	HIS

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Mol	Chain	Res	Type
1	B	126	ASN
1	B	226	ASN
1	B	302	HIS
1	B	330	ASN
1	B	375	ASN
1	B	384	ASN
1	C	30	ASN
1	C	70	HIS
1	C	122	HIS
1	C	126	ASN
1	C	226	ASN
1	C	302	HIS
1	C	343	ASN
1	C	376	HIS
1	C	384	ASN
1	D	70	HIS
1	D	111	ASN
1	D	122	HIS
1	D	126	ASN
1	D	302	HIS
1	D	342	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 16 ligands modelled in this entry, 8 are monoatomic - leaving 8 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	AMP	D	503[A]	-	22,25,25	0.62	0	25,38,38	0.82	1 (4%)
4	AMP	B	503[A]	-	22,25,25	0.66	0	25,38,38	0.77	1 (4%)
5	A1JLN	A	504[B]	-	33,36,36	0.91	1 (3%)	41,54,54	2.52	6 (14%)
4	AMP	A	503[A]	-	22,25,25	0.63	0	25,38,38	0.90	1 (4%)
5	A1JLN	D	504[B]	-	33,36,36	1.00	4 (12%)	41,54,54	2.02	5 (12%)
4	AMP	C	503[A]	-	22,25,25	0.67	0	25,38,38	0.81	1 (4%)
6	A1JOG	C	504[B]	-	11,11,11	0.72	0	15,15,15	0.76	0
6	A1JOG	B	504[B]	-	11,11,11	0.73	0	15,15,15	0.75	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
4	AMP	D	503[A]	-	-	6/6/26/26	0/3/3/3
4	AMP	B	503[A]	-	-	1/6/26/26	0/3/3/3
5	A1JLN	A	504[B]	-	-	3/15/35/35	0/4/4/4
4	AMP	A	503[A]	-	-	6/6/26/26	0/3/3/3
5	A1JLN	D	504[B]	-	-	4/15/35/35	0/4/4/4
4	AMP	C	503[A]	-	-	6/6/26/26	0/3/3/3
6	A1JOG	C	504[B]	-	-	0/4/4/4	0/1/1/1
6	A1JOG	B	504[B]	-	-	0/4/4/4	0/1/1/1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	A	504[B]	A1JLN	P-O5'	2.87	1.70	1.59
5	D	504[B]	A1JLN	O1P-C9	-2.66	1.34	1.37
5	D	504[B]	A1JLN	C7-C1	2.17	1.43	1.40
5	D	504[B]	A1JLN	P-O5'	2.10	1.67	1.59
5	D	504[B]	A1JLN	O4'-C1'	2.08	1.44	1.41

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	A	504[B]	A1JLN	O1P-C9-O1	13.20	132.73	122.13
5	D	504[B]	A1JLN	O1P-C9-O1	8.67	129.09	122.13
5	D	504[B]	A1JLN	P-O1P-C9	6.38	137.09	123.04
5	A	504[B]	A1JLN	P-O1P-C9	4.14	132.16	123.04
5	D	504[B]	A1JLN	O3'-C3'-C2'	-4.13	98.48	111.82
5	A	504[B]	A1JLN	O3'-C3'-C2'	-3.93	99.11	111.82
5	A	504[B]	A1JLN	O3'-C3'-C4'	3.05	119.87	111.05
5	A	504[B]	A1JLN	O1-C9-C3	-3.00	112.27	122.09
5	D	504[B]	A1JLN	C5-C6-N6	2.60	124.30	120.35
4	B	503[A]	AMP	C5-C6-N6	2.43	124.04	120.35
4	C	503[A]	AMP	C5-C6-N6	2.42	124.03	120.35
5	A	504[B]	A1JLN	C5-C6-N6	2.28	123.81	120.35
4	D	503[A]	AMP	C5-C6-N6	2.27	123.80	120.35
5	D	504[B]	A1JLN	O3'-C3'-C4'	2.22	117.47	111.05
4	A	503[A]	AMP	C5-C6-N6	2.18	123.67	120.35

There are no chirality outliers.

All (26) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	503[A]	AMP	C5'-O5'-P-O1P
4	A	503[A]	AMP	C5'-O5'-P-O2P
4	A	503[A]	AMP	C5'-O5'-P-O3P
4	A	503[A]	AMP	C3'-C4'-C5'-O5'
4	C	503[A]	AMP	C5'-O5'-P-O2P
4	C	503[A]	AMP	C5'-O5'-P-O3P
4	C	503[A]	AMP	C4'-C5'-O5'-P
4	C	503[A]	AMP	O4'-C4'-C5'-O5'
4	C	503[A]	AMP	C3'-C4'-C5'-O5'
4	D	503[A]	AMP	C5'-O5'-P-O1P
4	D	503[A]	AMP	C5'-O5'-P-O2P
4	D	503[A]	AMP	O4'-C4'-C5'-O5'
4	D	503[A]	AMP	C3'-C4'-C5'-O5'
5	A	504[B]	A1JLN	C3-C9-O1P-P
5	D	504[B]	A1JLN	C3-C9-O1P-P
4	A	503[A]	AMP	O4'-C4'-C5'-O5'
4	A	503[A]	AMP	C4'-C5'-O5'-P
5	A	504[B]	A1JLN	C9-O1P-P-O5'
5	D	504[B]	A1JLN	C9-O1P-P-O5'
4	D	503[A]	AMP	C4'-C5'-O5'-P
4	C	503[A]	AMP	C5'-O5'-P-O1P
4	B	503[A]	AMP	C4'-C5'-O5'-P
5	A	504[B]	A1JLN	C3'-C4'-C5'-O5'

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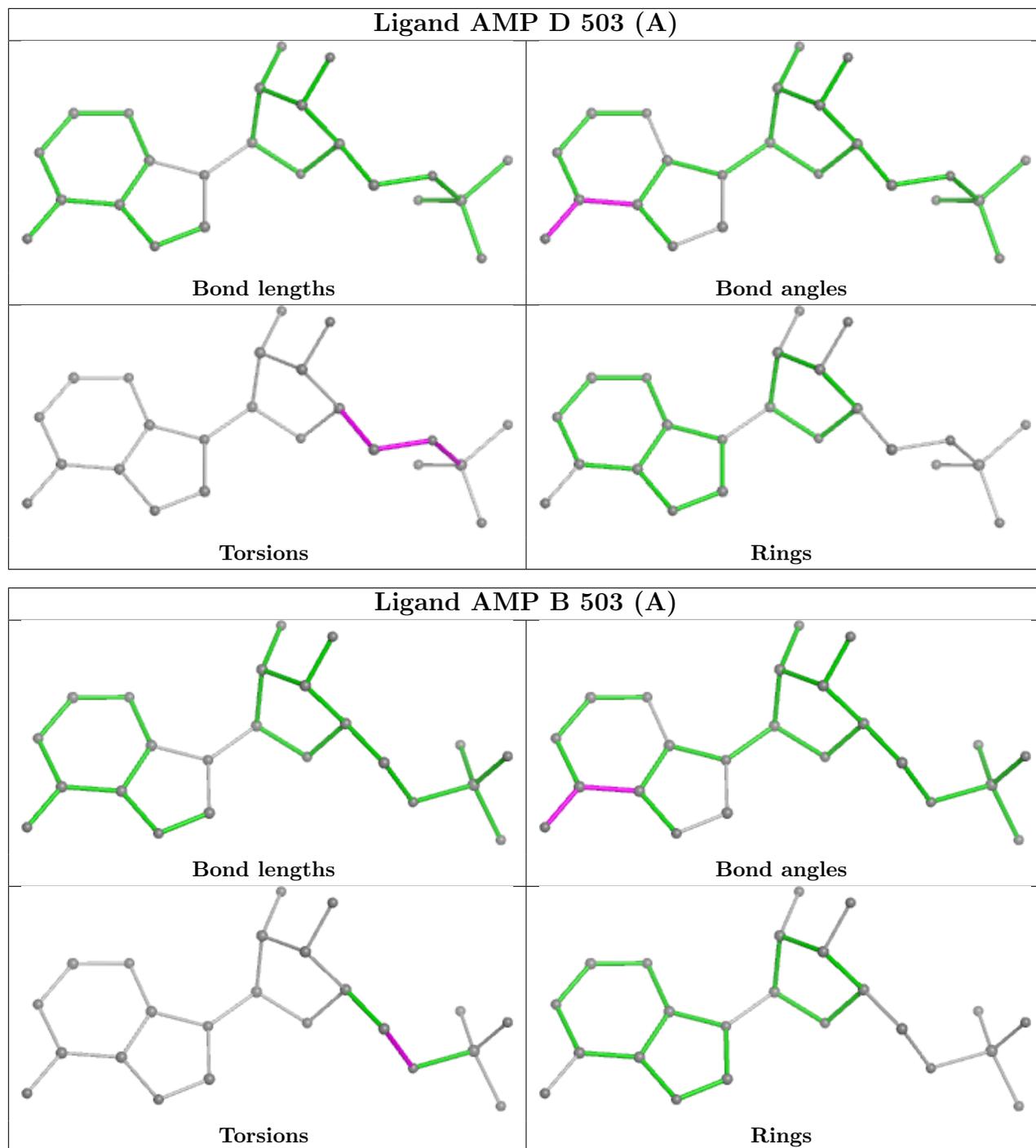
Mol	Chain	Res	Type	Atoms
5	D	504[B]	A1JLN	C9-O1P-P-O2P
4	D	503[A]	AMP	C5'-O5'-P-O3P
5	D	504[B]	A1JLN	C3'-C4'-C5'-O5'

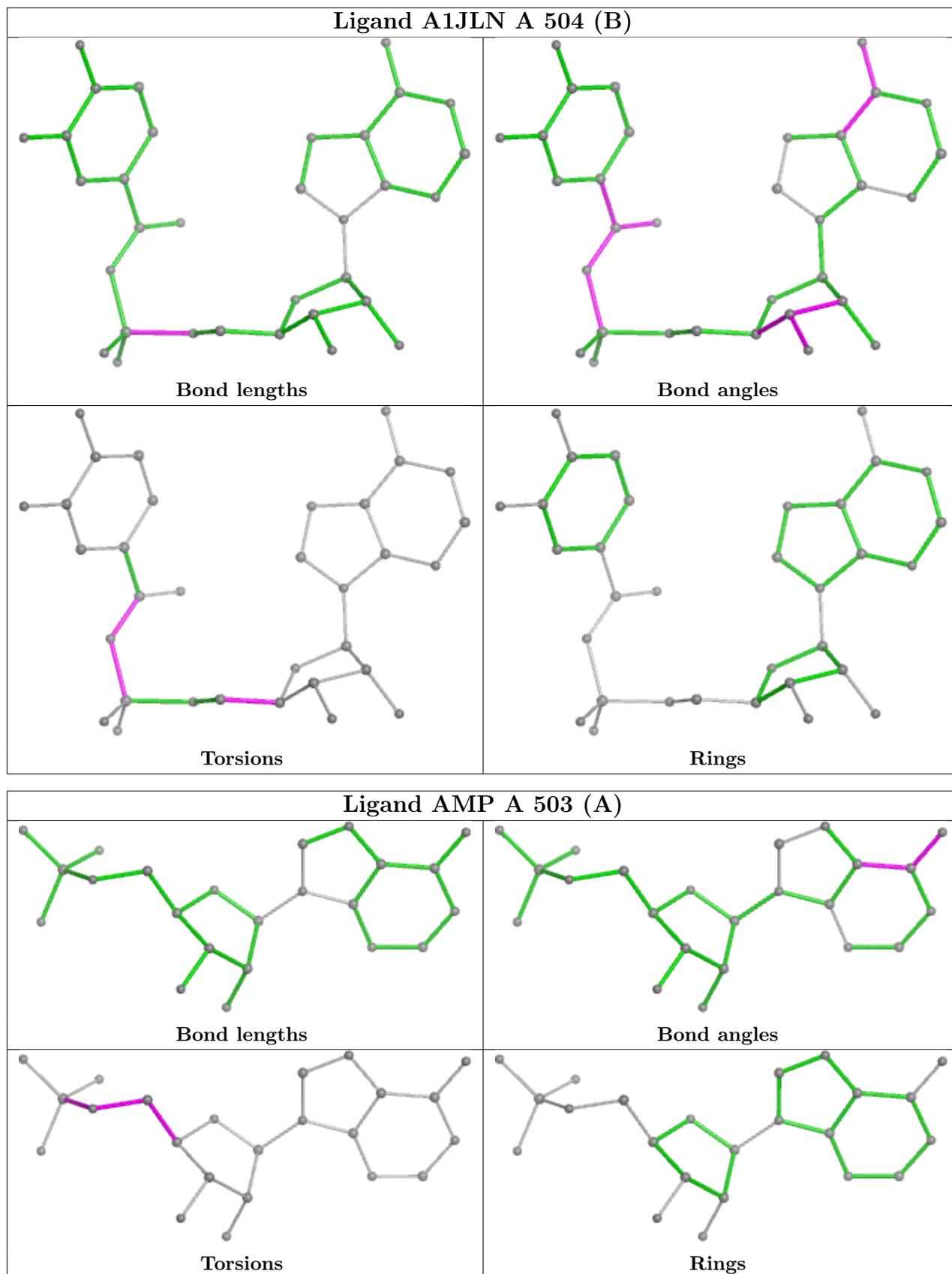
There are no ring outliers.

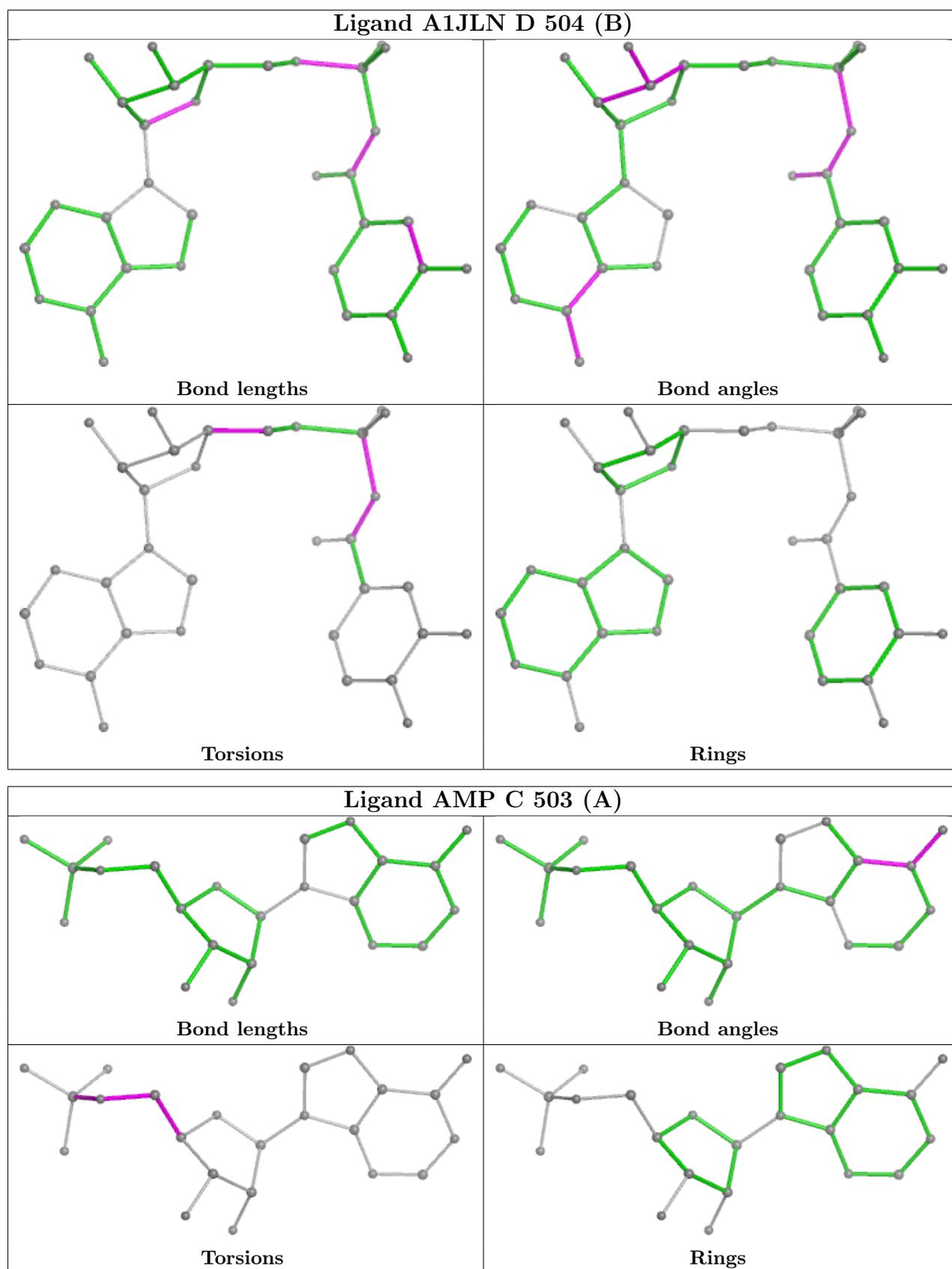
6 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	D	503[A]	AMP	1	0
4	B	503[A]	AMP	1	0
4	A	503[A]	AMP	1	0
4	C	503[A]	AMP	1	0
6	C	504[B]	A1JOG	1	0
6	B	504[B]	A1JOG	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.







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	399/401 (99%)	0.26	11 (2%) 55 60	14, 27, 48, 84	1 (0%)
1	B	398/401 (99%)	0.40	24 (6%) 29 34	17, 29, 51, 73	1 (0%)
1	C	400/401 (99%)	0.38	28 (7%) 24 28	17, 27, 55, 80	1 (0%)
1	D	396/401 (98%)	0.35	17 (4%) 40 46	13, 28, 51, 89	1 (0%)
All	All	1593/1604 (99%)	0.35	80 (5%) 35 41	13, 28, 51, 89	4 (0%)

All (80) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	2	ASP	4.6
1	D	400	VAL	4.4
1	C	290	CYS	4.3
1	C	362	ASN	4.3
1	D	359	SER	4.1
1	D	358	ASN	3.9
1	D	73	PHE	3.8
1	D	72	SER	3.8
1	D	401	ASP	3.8
1	A	400	VAL	3.7
1	D	3	SER	3.7
1	B	382	ILE	3.6
1	B	391	ILE	3.5
1	D	363	LEU	3.5
1	C	76	THR	3.5
1	C	298	VAL	3.3
1	D	356	LEU	3.3
1	B	343	ASN	3.2
1	A	256	LYS	3.2
1	B	361	SER	3.2
1	B	388	ILE	3.1

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Mol	Chain	Res	Type	RSRZ
1	C	360	ASN	3.1
1	A	401	ASP	3.1
1	A	360	ASN	3.1
1	A	384	ASN	3.0
1	C	228	ALA	2.9
1	B	287	TYR	2.9
1	C	229	ALA	2.9
1	C	359	SER	2.9
1	C	361	SER	2.8
1	C	344	ASP	2.7
1	C	312	SER	2.7
1	C	384	ASN	2.7
1	D	330	ASN	2.7
1	B	362	ASN	2.6
1	A	361	SER	2.6
1	C	363	LEU	2.6
1	B	291	SER	2.6
1	B	33	ILE	2.6
1	A	364	ASN	2.6
1	B	342	GLN	2.6
1	B	346	VAL	2.5
1	B	8	ILE	2.5
1	C	3	SER	2.5
1	B	401	ASP	2.5
1	A	362	ASN	2.5
1	D	332	VAL	2.5
1	B	345	GLU	2.4
1	B	77	GLY	2.4
1	B	384	ASN	2.4
1	B	325	ILE	2.4
1	C	295	ASP	2.4
1	C	236	LEU	2.4
1	B	289	LYS	2.4
1	C	287	TYR	2.4
1	B	75	THR	2.3
1	C	75	THR	2.3
1	A	4	ASN	2.3
1	C	357	ASP	2.3
1	B	379	ILE	2.3
1	C	289	LYS	2.3
1	C	341	ILE	2.3
1	B	363	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
1	C	382	ILE	2.2
1	D	78	GLU	2.2
1	C	383	ASP	2.2
1	A	250	VAL	2.2
1	C	343	ASN	2.2
1	D	354	GLU	2.2
1	D	279	LEU	2.2
1	B	360	ASN	2.1
1	B	356	LEU	2.1
1	C	4	ASN	2.1
1	C	358	ASN	2.1
1	A	3	SER	2.1
1	D	76	THR	2.1
1	D	352	ALA	2.0
1	C	395	LYS	2.0
1	B	250	VAL	2.0
1	D	364	ASN	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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.

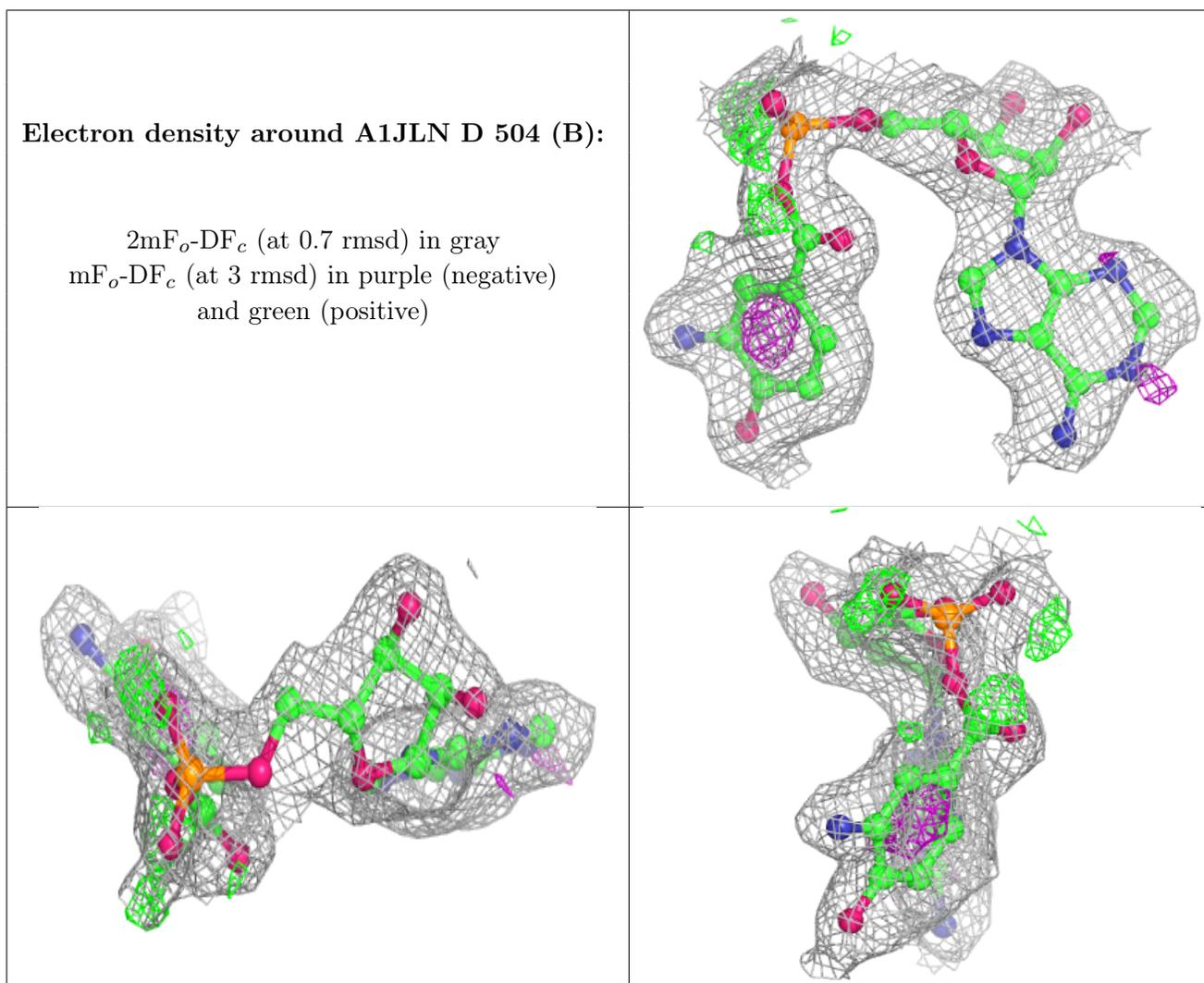
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
5	A1JLN	D	504[B]	33/33	0.79	0.13	15,21,30,30	24
4	AMP	D	503[A]	23/23	0.82	0.19	39,51,53,55	23
4	AMP	A	503[A]	23/23	0.83	0.18	34,44,49,53	23
5	A1JLN	A	504[B]	33/33	0.84	0.12	15,21,31,32	24
4	AMP	B	503[A]	23/23	0.85	0.13	29,34,61,66	0
6	A1JOG	B	504[B]	11/11	0.85	0.14	24,35,43,69	0

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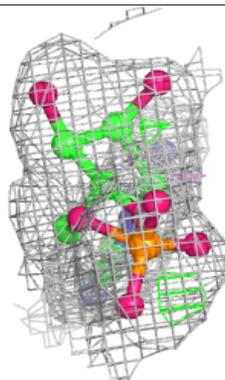
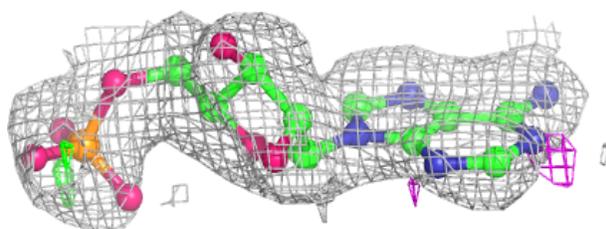
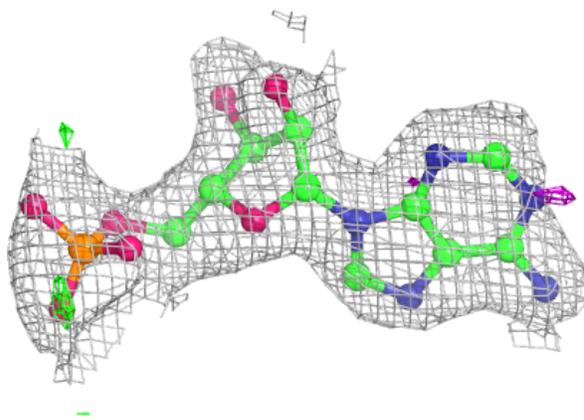
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
4	AMP	C	503[A]	23/23	0.87	0.11	26,31,51,58	0
6	A1JOG	C	504[B]	11/11	0.88	0.11	30,32,42,58	0
3	ZN	B	502	1/1	0.94	0.06	27,27,27,27	0
2	MG	D	501	1/1	0.95	0.07	25,25,25,25	0
2	MG	A	501	1/1	0.95	0.12	22,22,22,22	0
2	MG	B	501	1/1	0.96	0.06	28,28,28,28	0
3	ZN	C	502	1/1	0.97	0.05	29,29,29,29	0
2	MG	C	501	1/1	0.98	0.03	22,22,22,22	0
3	ZN	A	502	1/1	0.99	0.04	32,32,32,32	0
3	ZN	D	502	1/1	0.99	0.02	30,30,30,30	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.

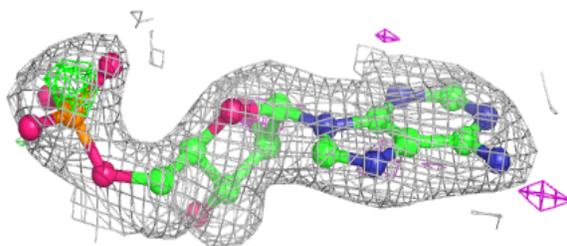
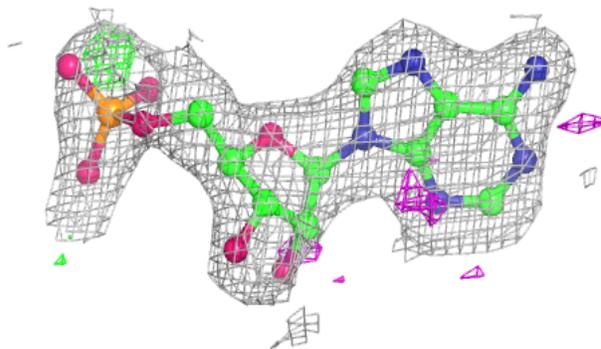


Electron density around AMP D 503 (A):

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

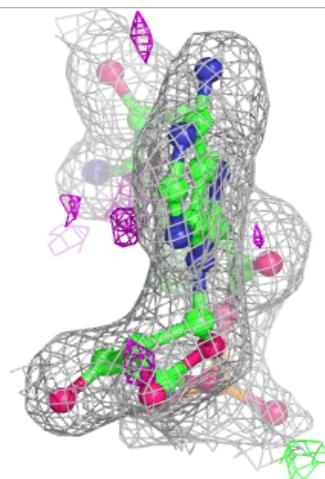
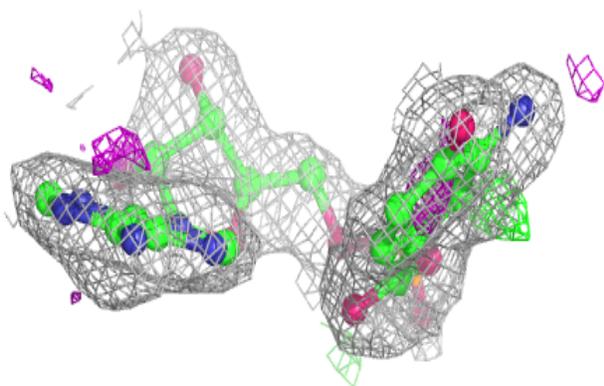
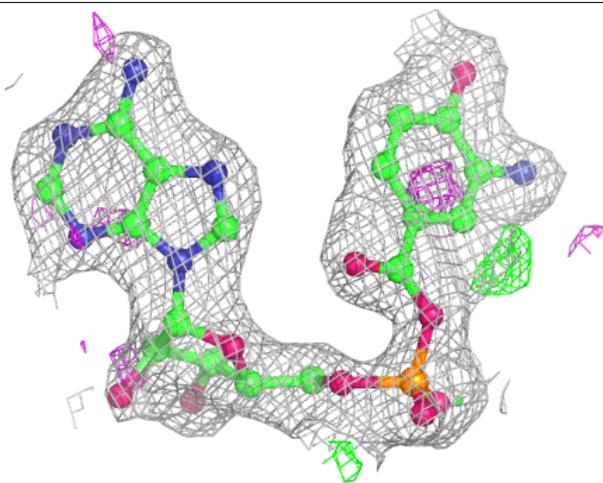
**Electron density around AMP A 503 (A):**

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



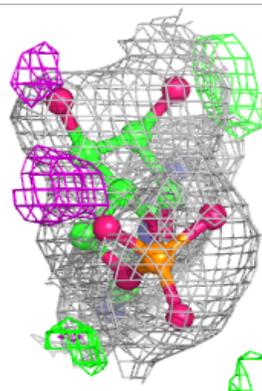
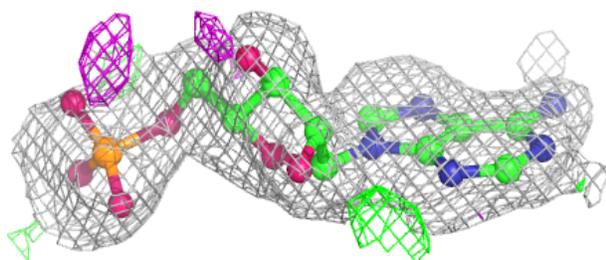
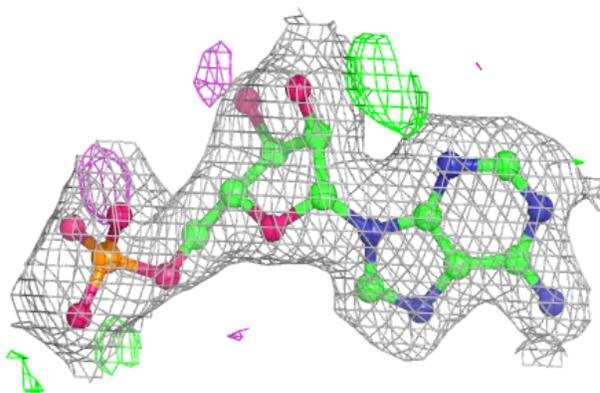
Electron density around A1JLN A 504 (B):

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

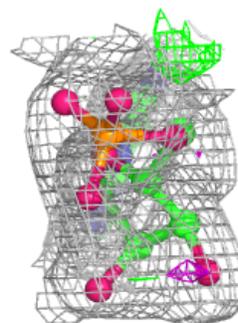
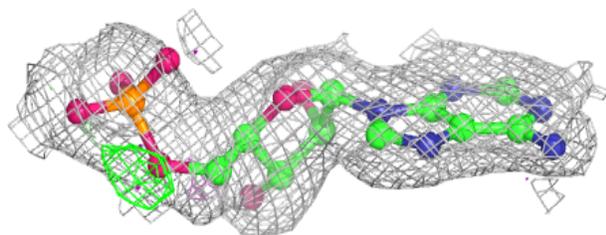
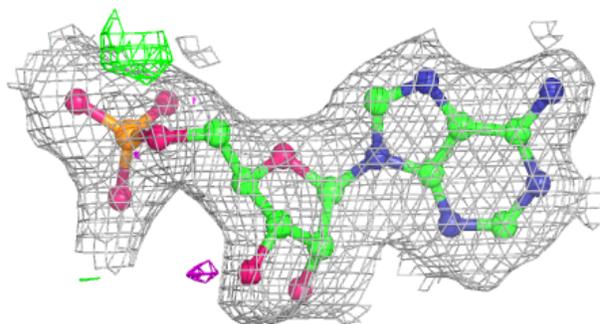


Electron density around AMP B 503 (A):

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

**Electron density around AMP C 503 (A):**

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



6.5 Other polymers [i](#)

There are no such residues in this entry.