Full wwPDB X-ray Structure Validation Report (i)

Sep 23, 2025 – 12:09 AM JST

PDB ID	:	9KQ4 / pdb_00009kq4
Title	:	The structure of YcfC from Erwinia amylovora as a C-S lyase
Authors	:	Zhang, L.; Dou, C.; Zheng, Y.H.; Zhu, X.F.; Cheng, W.
Deposited on	:	2024-11-25
Resolution	:	2.09 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 (i) 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 (1)) were used in the production of this report:

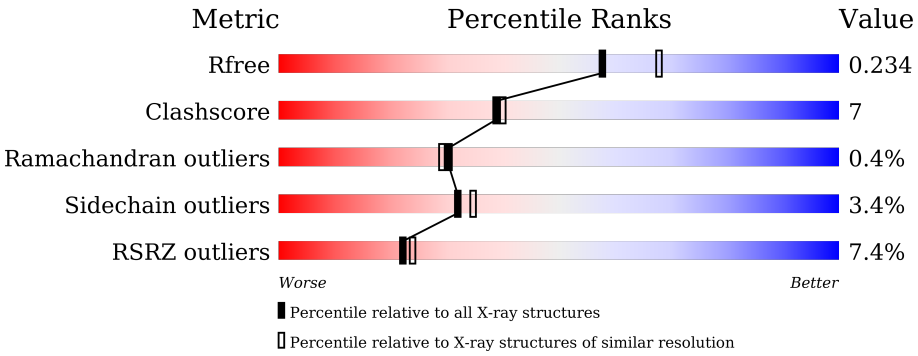
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.09 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	6234 (2.10-2.10)
Clashscore	180529	6893 (2.10-2.10)
Ramachandran outliers	177936	6839 (2.10-2.10)
Sidechain outliers	177891	6840 (2.10-2.10)
RSRZ outliers	164620	6234 (2.10-2.10)

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 <=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	291	9% 80% 17%
1	B	291	6% 75% 20%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 4908 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 YcfC.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	288	Total	C	N	O	P	S	0	0	0
			2287	1443	401	431	1	11			
1	B	285	Total	C	N	O	P	S	0	0	0
			2266	1431	397	426	1	11			

- Molecule 2 is water.

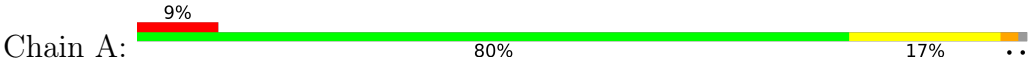
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	167	Total	O	0	0
			167	167		
2	B	188	Total	O	0	0
			188	188		

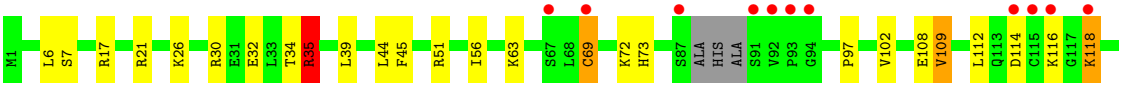
3 Residue-property plots (i)

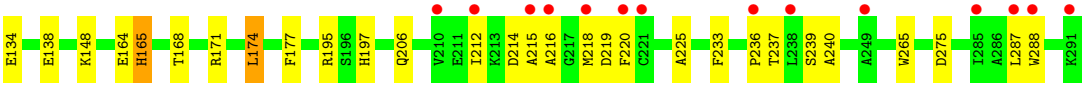
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: YcfC

Chain A:

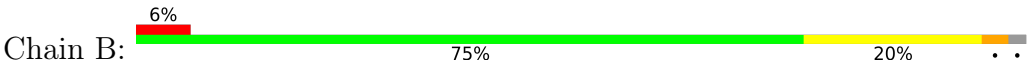


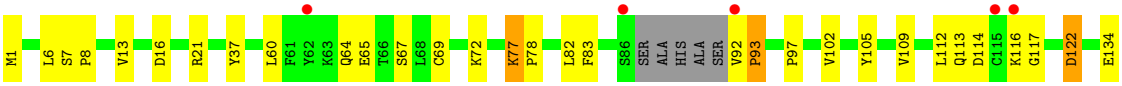


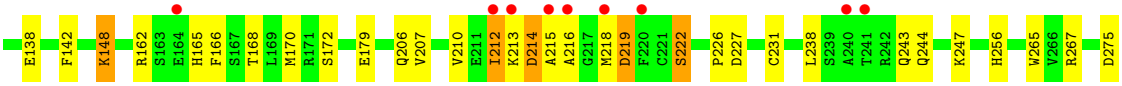


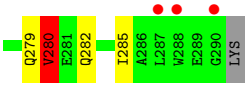
- Molecule 1: YcfC

Chain B:









4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, α, β, γ	152.62Å 152.62Å 73.33Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	41.80 – 2.09 41.80 – 2.09	Depositor EDS
% Data completeness (in resolution range)	93.4 (41.80-2.09) 93.5 (41.80-2.09)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.94 (at 2.08Å)	Xtriage
Refinement program	REFMAC 5.8.0430	Depositor
R, R_{free}	0.185 , 0.230 0.197 , 0.234	Depositor DCC
R_{free} test set	1913 reflections (3.79%)	wwPDB-VP
Wilson B-factor (Å^2)	35.3	Xtriage
Anisotropy	0.140	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 48.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.44$, $< L^2 > = 0.26$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	4908	wwPDB-VP
Average B, all atoms (Å^2)	48.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 21.87 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 6.4031e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: LLP

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	1.09	2/2314 (0.1%)	1.45	10/3136 (0.3%)
1	B	1.10	2/2293 (0.1%)	1.47	15/3109 (0.5%)
All	All	1.09	4/4607 (0.1%)	1.46	25/6245 (0.4%)

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	5
1	B	0	1
All	All	0	6

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	122	ASP	CG-OD2	5.86	1.36	1.25
1	A	197	HIS	C-O	-5.53	1.17	1.24
1	A	109	VAL	C-O	-5.46	1.18	1.24
1	B	179	GLU	C-O	-5.00	1.17	1.24

All (25) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	134	GLU	CB-CG-CD	7.42	125.22	112.60
1	B	280	VAL	N-CA-CB	7.16	121.32	110.58
1	B	168	THR	CA-CB-OG1	-6.52	99.81	109.60
1	B	172	SER	CA-CB-OG	-6.52	98.06	111.10
1	B	13	VAL	N-CA-CB	-6.47	100.56	111.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	114	ASP	CA-CB-CG	6.11	118.71	112.60
1	B	37	TYR	CB-CA-C	6.04	120.17	110.09
1	A	118	LYS	CA-C-N	-6.01	114.43	122.54
1	A	118	LYS	C-N-CA	-6.01	114.43	122.54
1	B	166	PHE	CA-CB-CG	-6.00	107.80	113.80
1	B	165	HIS	CA-C-N	-5.73	113.81	122.81
1	B	165	HIS	C-N-CA	-5.73	113.81	122.81
1	A	73	HIS	CA-CB-CG	5.73	119.53	113.80
1	A	168	THR	CA-CB-OG1	-5.73	101.00	109.60
1	B	219	ASP	CA-CB-CG	5.67	118.27	112.60
1	A	165	HIS	CA-C-N	-5.64	113.95	122.81
1	A	165	HIS	C-N-CA	-5.64	113.95	122.81
1	B	72	LYS	N-CA-CB	5.51	117.26	110.53
1	A	72	LYS	N-CA-CB	5.51	118.00	110.57
1	B	138	GLU	N-CA-CB	-5.41	103.14	110.67
1	B	142	PHE	CA-CB-CG	5.38	119.18	113.80
1	A	233	PHE	CB-CA-C	-5.37	102.19	110.62
1	B	222	SER	CA-C-O	-5.35	115.88	121.55
1	A	225	ALA	CA-C-O	5.28	126.65	120.69
1	B	162	ARG	CA-CB-CG	-5.07	103.96	114.10

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	17	ARG	Sidechain
1	A	171	ARG	Sidechain
1	A	21	ARG	Sidechain
1	A	35	ARG	Sidechain
1	A	51	ARG	Sidechain
1	B	21	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	2287	0	2248	22	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	2266	0	2225	39	0
2	A	167	0	0	2	1
2	B	188	0	0	2	0
All	All	4908	0	4473	60	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 7.

All (60) 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:B:92:VAL:HB	1:B:93:PRO:HD3	1.53	0.86
1:B:212:ILE:HD11	1:B:215:ALA:HB2	1.73	0.70
1:B:213:LYS:O	1:B:214:ASP:HB2	1.95	0.66
1:B:206:GLN:HG2	1:B:275:ASP:HA	1.79	0.64
1:B:102:VAL:HG22	1:B:109:VAL:HG22	1.81	0.62
1:B:282:GLN:OE1	2:B:301:HOH:O	2.17	0.60
1:A:206:GLN:HG2	1:A:275:ASP:HA	1.84	0.60
1:B:212:ILE:CD1	1:B:285:ILE:HG12	2.33	0.59
1:B:212:ILE:HD12	1:B:285:ILE:HG12	1.85	0.58
1:B:77:LYS:HE3	1:B:256:HIS:NE2	2.19	0.57
1:B:243:GLN:O	1:B:247:LYS:HG3	2.05	0.57
1:B:65:GLU:O	1:B:93:PRO:HD2	2.06	0.56
1:B:82:LEU:HD23	1:B:83:PHE:CE1	2.41	0.56
1:B:92:VAL:HB	1:B:93:PRO:CD	2.31	0.54
1:A:30:ARG:HG3	1:A:44:LEU:HB2	1.90	0.53
1:A:265:TRP:CE2	1:B:8:PRO:HD2	2.45	0.51
1:A:56:ILE:HD13	1:A:177:PHE:CD1	2.46	0.51
1:B:112:LEU:HD11	1:B:134:GLU:HG2	1.92	0.51
1:B:222:SER:HB2	1:B:231:CYS:SG	2.52	0.50
1:A:164:GLU:HG3	1:A:165:HIS:HD2	1.76	0.50
1:A:212:ILE:CG1	1:A:220:PHE:HB2	2.44	0.48
1:B:238:LEU:O	1:B:243:GLN:NE2	2.47	0.48
1:A:112:LEU:HD13	1:A:138:GLU:HB2	1.96	0.48
1:A:195:ARG:HB2	2:A:400:HOH:O	2.13	0.48
1:A:118:LYS:HA	1:A:118:LYS:HD3	1.60	0.47
1:B:218:MET:HG2	1:B:219:ASP:N	2.29	0.47
1:A:218:MET:HE3	1:A:218:MET:HB2	1.60	0.47
1:B:215:ALA:O	1:B:216:ALA:HB3	2.15	0.47
1:A:212:ILE:HG12	1:A:220:PHE:HB2	1.97	0.47
1:B:82:LEU:HD23	1:B:83:PHE:HE1	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:6:LEU:O	1:A:7:SER:C	2.58	0.46
1:A:45:PHE:CG	1:A:174:LEU:HD13	2.51	0.46
1:B:64:GLN:OE1	1:B:170:MET:HE3	2.16	0.45
1:B:69:CYS:O	1:B:97:PRO:HA	2.16	0.45
1:A:69:CYS:O	1:A:97:PRO:HA	2.16	0.45
1:B:265:TRP:CE2	1:B:267:ARG:HD3	2.52	0.45
1:B:244:GLN:HA	1:B:247:LYS:HE3	1.99	0.45
1:B:6:LEU:O	1:B:7:SER:C	2.59	0.44
1:B:60:LEU:HB3	1:B:170:MET:HE2	1.98	0.44
1:A:26:LYS:HE2	2:A:357:HOH:O	2.16	0.44
1:B:1:MET:HE3	1:B:16:ASP:O	2.17	0.44
1:B:77:LYS:HE2	1:B:105:TYR:HE2	1.83	0.44
1:B:113:GLN:OE1	1:B:117:GLY:HA2	2.17	0.43
1:A:215:ALA:O	1:A:216:ALA:HB3	2.18	0.43
1:B:77:LYS:HE2	1:B:105:TYR:CE2	2.53	0.43
1:B:226:PRO:O	1:B:227:ASP:HB2	2.18	0.43
1:A:236:PRO:O	1:A:237:THR:C	2.59	0.43
1:A:32:GLU:OE1	1:A:35:ARG:NH2	2.52	0.42
1:A:239:SER:O	1:A:240:ALA:C	2.62	0.42
1:B:77:LYS:NZ	2:B:304:HOH:O	2.33	0.42
1:B:212:ILE:O	1:B:212:ILE:HG12	2.20	0.42
1:B:218:MET:HG2	1:B:219:ASP:H	1.85	0.41
1:A:102:VAL:HG22	1:A:109:VAL:HG22	2.01	0.41
1:B:210:VAL:HG21	1:B:280:VAL:CG2	2.51	0.41
1:B:77:LYS:HB2	1:B:78:PRO:HD3	2.02	0.41
1:B:207:VAL:HG11	1:B:231:CYS:HB2	2.03	0.41
1:A:34:THR:HA	1:A:39:LEU:HB2	2.03	0.41
1:B:77:LYS:HD3	1:B:77:LYS:HA	1.59	0.41
1:A:218:MET:HE1	1:A:236:PRO:HG2	2.03	0.40
1:B:122:ASP:OD2	1:B:148:LLP:N1	2.54	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:389:HOH:O	2:A:396:HOH:O[8_554]	2.13	0.07

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	283/291 (97%)	275 (97%)	8 (3%)	0	100 100
1	B	280/291 (96%)	267 (95%)	11 (4%)	2 (1%)	19 16
All	All	563/582 (97%)	542 (96%)	19 (3%)	2 (0%)	30 29

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	214	ASP
1	B	93	PRO

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	255/256 (100%)	244 (96%)	11 (4%)	25 25
1	B	252/256 (98%)	246 (98%)	6 (2%)	44 49
All	All	507/512 (99%)	490 (97%)	17 (3%)	32 35

All (17) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	35	ARG
1	A	63	LYS
1	A	69	CYS
1	A	108	GLU

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Mol	Chain	Res	Type
1	A	114	ASP
1	A	116	LYS
1	A	174	LEU
1	A	214	ASP
1	A	219	ASP
1	A	287	LEU
1	A	288	TRP
1	B	67	SER
1	B	77	LYS
1	B	116	LYS
1	B	212	ILE
1	B	279	GLN
1	B	280	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	64	GLN
1	A	165	HIS
1	A	245	GLN
1	A	282	GLN
1	B	64	GLN
1	B	245	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)

2 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	LLP	B	148	1	23,24,25	0.87	1 (4%)	25,32,34	1.48	4 (16%)
1	LLP	A	148	1	23,24,25	1.49	2 (8%)	25,32,34	1.07	2 (8%)

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
1	LLP	B	148	1	-	3/16/17/19	0/1/1/1
1	LLP	A	148	1	-	2/16/17/19	0/1/1/1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	148	LLP	C3-C2	-4.92	1.36	1.40
1	A	148	LLP	C4-C4'	-2.44	1.42	1.46
1	B	148	LLP	C3-C2	-2.13	1.38	1.40

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	148	LLP	CE-NZ-C4'	3.69	130.23	118.90
1	B	148	LLP	CD-CE-NZ	-2.83	104.01	110.93
1	B	148	LLP	C2'-C2-C3	-2.56	117.72	120.89
1	B	148	LLP	OP3-P-OP4	-2.51	100.06	106.73
1	A	148	LLP	C5'-C5-C6	2.46	123.42	119.37
1	A	148	LLP	CE-NZ-C4'	2.32	126.02	118.90

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	148	LLP	O-C-CA-CB
1	B	148	LLP	O-C-CA-CB
1	A	148	LLP	C4-C4'-NZ-CE
1	B	148	LLP	C4-C4'-NZ-CE
1	B	148	LLP	C3-C4-C4'-NZ

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	B	148	LLP	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

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, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	287/291 (98%)	0.30	25 (8%)	17	19	23, 42, 98, 143	0
1	B	284/291 (97%)	0.21	17 (5%)	29	31	25, 42, 93, 144	0
All	All	571/582 (98%)	0.26	42 (7%)	22	24	23, 42, 94, 144	0

All (42) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	288	TRP	6.7
1	B	92	VAL	5.9
1	A	288	TRP	4.9
1	A	93	PRO	4.6
1	A	114	ASP	4.5
1	A	221	CYS	4.5
1	A	215	ALA	4.2
1	A	92	VAL	3.8
1	A	212	ILE	3.7
1	A	91	SER	3.7
1	B	215	ALA	3.7
1	A	94	GLY	3.5
1	B	216	ALA	3.4
1	B	116	LYS	3.4
1	A	218	MET	3.3
1	A	69	CYS	3.2
1	B	213	LYS	3.1
1	B	218	MET	3.0
1	B	287	LEU	3.0
1	A	116	LYS	3.0
1	A	291	LYS	2.9
1	A	115	CYS	2.9
1	B	212	ILE	2.7
1	B	240	ALA	2.7

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Mol	Chain	Res	Type	RSRZ
1	B	86	SER	2.6
1	A	238	LEU	2.6
1	A	220	PHE	2.6
1	A	287	LEU	2.5
1	B	62	TYR	2.4
1	A	216	ALA	2.3
1	B	164	GLU	2.3
1	A	87	SER	2.3
1	B	241	THR	2.3
1	B	220	PHE	2.2
1	A	285	ILE	2.2
1	A	67	SER	2.1
1	A	249	ALA	2.1
1	A	236	PRO	2.1
1	B	290	GLY	2.1
1	A	118	LYS	2.1
1	A	210	VAL	2.0
1	B	115	CYS	2.0

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	LLP	A	148	24/25	0.98	0.05	26,32,35,46	0
1	LLP	B	148	24/25	0.98	0.05	25,31,36,39	0

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.