Full wwPDB X-ray Structure Validation Report ⓘ

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PDB ID	:	6OBR
Title	:	PP1 Y134A in complex with Microcystin LR
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Deposited on	:	2019-03-21
Resolution	:	1.50 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:

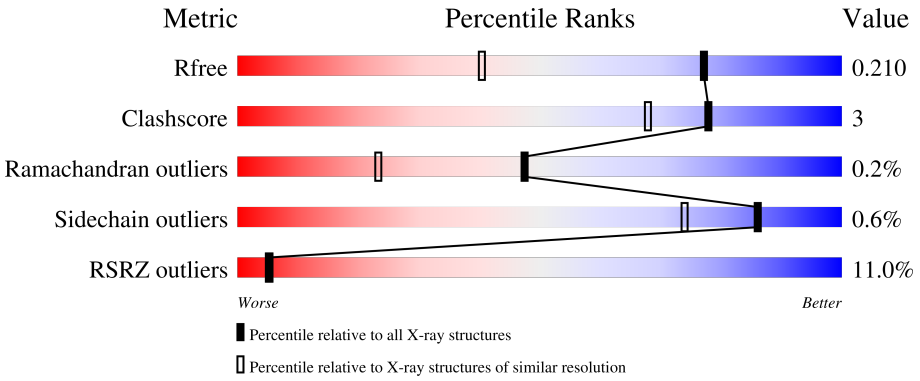
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 1.50 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	2936 (1.50-1.50)
Clashscore	141614	3144 (1.50-1.50)
Ramachandran outliers	138981	3066 (1.50-1.50)
Sidechain outliers	138945	3064 (1.50-1.50)
RSRZ outliers	127900	2884 (1.50-1.50)

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	299	8% 90% 8% .
1	B	299	12% 90% 7% .
2	D	7	29% 43% 29% 29%
2	E	7	29% 43% 14% 43%

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 5223 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 Serine/threonine-protein phosphatase PP1-alpha catalytic subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	293	Total	C	N	O	S	0	10	0
			2368	1521	399	429	19			
1	B	293	Total	C	N	O	S	0	8	0
			2358	1512	395	433	18			

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	2	GLY	-	expression tag	UNP P62136
A	3	HIS	-	expression tag	UNP P62136
A	4	MET	-	expression tag	UNP P62136
A	5	GLY	-	expression tag	UNP P62136
A	6	SER	-	expression tag	UNP P62136
A	134	ALA	TYR	engineered mutation	UNP P62136
B	2	GLY	-	expression tag	UNP P62136
B	3	HIS	-	expression tag	UNP P62136
B	4	MET	-	expression tag	UNP P62136
B	5	GLY	-	expression tag	UNP P62136
B	6	SER	-	expression tag	UNP P62136
B	134	ALA	TYR	engineered mutation	UNP P62136

- Molecule 2 is a protein called Microcystin LR.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	D	7	Total	C	N	O	0	0	0
			71	49	10	12			
2	E	7	Total	C	N	O	0	0	0
			71	49	10	12			

- Molecule 3 is MANGANESE (II) ION (three-letter code: MN) (formula: Mn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	2	Total Mn 2 2	0	0
3	B	2	Total Mn 2 2	0	0

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Cl 1 1	0	0
4	B	1	Total Cl 1 1	0	0

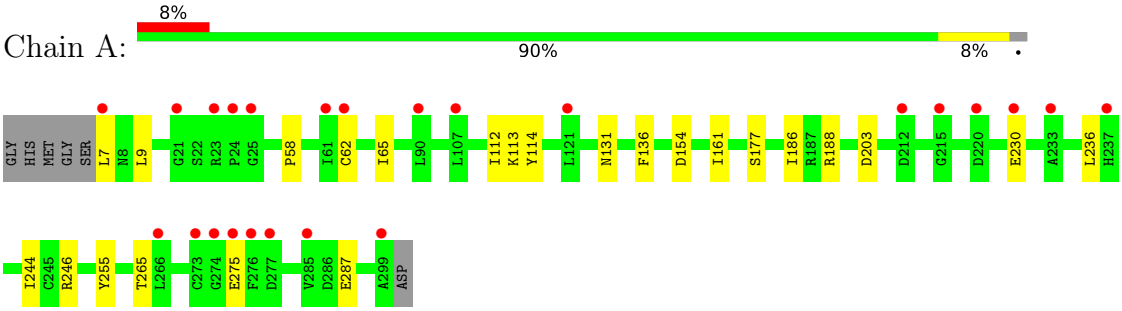
- Molecule 5 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	186	Total O 186 186	0	0
5	B	159	Total O 159 159	0	0
5	D	2	Total O 2 2	0	0
5	E	2	Total O 2 2	0	0

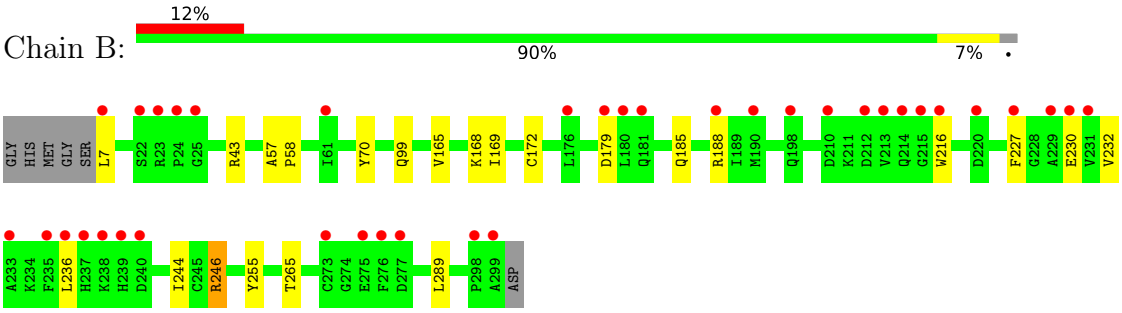
3 Residue-property plots (i)

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.

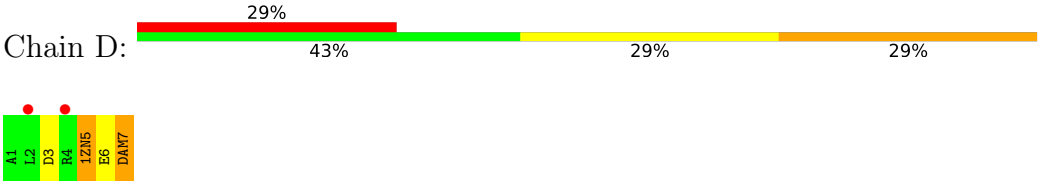
• Molecule 1: Serine/threonine-protein phosphatase PP1-alpha catalytic subunit



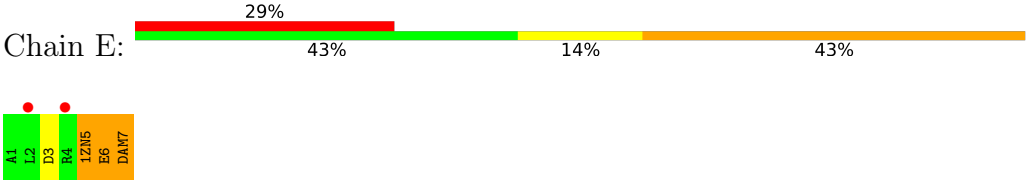
• Molecule 1: Serine/threonine-protein phosphatase PP1-alpha catalytic subunit



• Molecule 2: Microcystin LR



• Molecule 2: Microcystin LR



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	64.93Å 76.55Å 131.21Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	38.27 – 1.50 38.27 – 1.50	Depositor EDS
% Data completeness (in resolution range)	99.8 (38.27-1.50) 99.8 (38.27-1.50)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.18 (at 1.50Å)	Xtriage
Refinement program	PHENIX (1.11.1_2575: ???)	Depositor
R, R_{free}	0.188 , 0.210 0.188 , 0.210	Depositor DCC
R_{free} test set	5397 reflections (5.13%)	wwPDB-VP
Wilson B-factor (Å^2)	22.0	Xtriage
Anisotropy	0.121	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 44.7	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	5223	wwPDB-VP
Average B, all atoms (Å^2)	29.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.77% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: FGA, CL, ACB, 1ZN, DAM, MN, DAL

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	0.37	0/2445	0.60	0/3309
1	B	0.37	0/2425	0.58	0/3282
2	D	1.74	0/17	1.22	0/19
2	E	1.61	0/17	1.34	0/19
All	All	0.39	0/4904	0.59	0/6629

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
2	D	0	2
2	E	0	2
All	All	0	4

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	D	5	1ZN	Mainchain,Peptide
2	E	5	1ZN	Mainchain,Peptide

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	2368	0	2326	13	0
1	B	2358	0	2305	13	0
2	D	71	0	62	1	0
2	E	71	0	62	1	0
3	A	2	0	0	0	0
3	B	2	0	0	0	0
4	A	1	0	0	1	0
4	B	1	0	0	0	0
5	A	186	0	0	3	1
5	B	159	0	0	2	1
5	D	2	0	0	0	0
5	E	2	0	0	0	0
All	All	5223	0	4755	28	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 3.

All (28) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:7:LEU:O	5:A:501:HOH:O	2.08	0.70
1:B:7:LEU:O	5:B:501:HOH:O	2.15	0.65
1:A:58:PRO:HD3	1:A:287:GLU:HG3	1.89	0.55
1:B:185:GLN:HG2	1:B:188:ARG:HH21	1.73	0.53
1:A:9:LEU:HD11	1:A:112:ILE:HG22	1.91	0.53
1:B:179:ASP:O	1:B:185:GLN:NE2	2.36	0.53
1:A:113:LYS:HG2	1:A:114:TYR:CZ	2.45	0.52
1:B:70:TYR:HE1	1:B:99:GLN:HE22	1.54	0.49
1:A:188:ARG:NH2	5:A:510:HOH:O	2.45	0.49
1:A:62[B]:CYS:SG	1:A:65:ILE:HD11	2.53	0.49
1:A:236:LEU:HD21	1:A:244:ILE:HG13	1.95	0.47
1:B:43[B]:ARG:HD2	5:B:583:HOH:O	2.14	0.47
1:A:154:ASP:OD1	5:A:502:HOH:O	2.20	0.47
1:A:230:GLU:HB2	4:A:403:CL:CL	2.55	0.44
1:A:131:ASN:HB2	1:A:136:PHE:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:232:VAL:HG13	1:B:244:ILE:HD12	2.00	0.43
1:B:255:TYR:HA	1:B:265:THR:O	2.18	0.43
2:D:6:FGA:HG3	2:D:7:DAM:HM1	1.73	0.43
1:B:57:ALA:HB1	1:B:58:PRO:HA	2.01	0.43
2:E:6:FGA:HG3	2:E:7:DAM:HM1	1.76	0.42
1:B:216:TRP:CZ3	1:B:227:PHE:HB3	2.54	0.42
1:A:177:SER:HB2	1:A:203:ASP:HB2	2.01	0.42
1:A:161[B]:ILE:HD11	1:A:186:ILE:HG23	2.02	0.41
1:B:172:CYS:O	1:B:246:ARG:HA	2.21	0.41
1:A:255:TYR:HA	1:A:265:THR:O	2.20	0.41
1:B:165:VAL:HB	1:B:169:ILE:HB	2.01	0.41
1:B:236:LEU:HD21	1:B:244:ILE:HG13	2.03	0.41
1:B:168:LYS:HB2	1:B:289:LEU:HD13	2.03	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:669:HOH:O	5:B:659:HOH:O[2_564]	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	301/299 (101%)	291 (97%)	9 (3%)	1 (0%)	41 18
1	B	299/299 (100%)	288 (96%)	11 (4%)	0	100 100
2	D	1/7 (14%)	1 (100%)	0	0	100 100
2	E	1/7 (14%)	1 (100%)	0	0	100 100
All	All	602/612 (98%)	581 (96%)	20 (3%)	1 (0%)	47 23

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	275	GLU

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	257/261 (98%)	256 (100%)	1 (0%)	91 82
1	B	255/261 (98%)	253 (99%)	2 (1%)	81 66
2	D	2/2 (100%)	2 (100%)	0	100 100
2	E	2/2 (100%)	2 (100%)	0	100 100
All	All	516/526 (98%)	513 (99%)	3 (1%)	86 74

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	246	ARG
1	B	230	GLU
1	B	246	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

10 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	$\#\|Z\| > 2$
2	1ZN	D	5	2	23,23,24	0.85	2 (8%)	24,29,31	1.13	2 (8%)
2	DAM	E	7	2,1	4,5,6	1.78	1 (25%)	3,5,7	0.99	0
2	ACB	D	3	2	7,8,9	1.04	1 (14%)	8,10,12	1.82	4 (50%)
2	DAM	D	7	2,1	4,5,6	1.77	1 (25%)	3,5,7	0.93	0
2	FGA	D	6	2	7,8,9	0.61	0	7,9,11	0.83	0
2	1ZN	E	5	2	23,23,24	0.70	0	24,29,31	1.21	2 (8%)
2	FGA	E	6	2	7,8,9	1.03	0	7,9,11	1.41	1 (14%)
2	ACB	E	3	2	7,8,9	0.99	1 (14%)	8,10,12	1.79	3 (37%)

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	1ZN	D	5	2	-	1/22/25/27	0/1/1/1
2	DAM	E	7	2,1	-	0/0/4/6	-
2	ACB	D	3	2	-	1/9/10/12	-
2	DAM	D	7	2,1	-	0/0/4/6	-
2	FGA	D	6	2	-	2/7/8/9	-
2	1ZN	E	5	2	-	2/22/25/27	0/1/1/1
2	FGA	E	6	2	-	2/7/8/9	-
2	ACB	E	3	2	-	2/9/10/12	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	7	DAM	C-CA	3.45	1.50	1.45
2	D	7	DAM	C-CA	3.29	1.50	1.45
2	D	5	1ZN	C18-C	2.28	1.54	1.50
2	D	5	1ZN	C3-C2	2.10	1.55	1.52
2	D	3	ACB	OXT-C	-2.09	1.23	1.30
2	E	3	ACB	OXT-C	-2.00	1.24	1.30

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	E	5	1ZN	CA-C16-C15	-3.66	117.97	123.59
2	D	5	1ZN	C3-C2-C10	-3.31	107.72	115.45
2	D	3	ACB	OXT-C-O	3.24	131.44	124.09
2	E	3	ACB	OXT-C-O	3.20	131.36	124.09
2	D	5	1ZN	CA-C16-C15	-2.96	119.05	123.59
2	E	5	1ZN	C3-C2-C10	-2.77	108.98	115.45
2	E	3	ACB	O-C-CA	-2.52	112.72	121.55
2	E	6	FGA	O-C-CA	-2.50	113.31	122.14
2	D	3	ACB	O-C-CA	-2.39	113.17	121.55
2	E	3	ACB	C4-CB-CA	2.25	113.33	110.94
2	D	3	ACB	C4-CB-CA	2.22	113.30	110.94
2	D	3	ACB	CA-CB-CG	-2.13	108.06	110.75

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	5	1ZN	O-C-C18-CA
2	E	5	1ZN	O-C-C18-CA
2	D	6	FGA	OXT-C-CA-N
2	E	3	ACB	OXT-C-CA-N
2	D	6	FGA	O-C-CA-N
2	E	6	FGA	O-C-CA-N
2	E	6	FGA	OXT-C-CA-N
2	D	3	ACB	CA-CB-CG-OD1
2	E	3	ACB	CA-CB-CG-OD1
2	E	5	1ZN	C10-C2-C3-C4

There are no ring outliers.

4 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	E	7	DAM	1	0
2	D	7	DAM	1	0
2	D	6	FGA	1	0
2	E	6	FGA	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 6 ligands modelled in this entry, 6 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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	293/299 (97%)	0.68	24 (8%)	11	12	16, 24, 44, 72	1 (0%)
1	B	293/299 (97%)	0.82	37 (12%)	3	3	16, 28, 49, 78	0
2	D	2/7 (28%)	3.34	2 (100%)	0	0	53, 53, 53, 55	0
2	E	2/7 (28%)	3.61	2 (100%)	0	0	53, 53, 53, 58	0
All	All	590/612 (96%)	0.77	65 (11%)	5	5	16, 26, 49, 78	1 (0%)

All (65) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	276	PHE	10.1
1	A	276	PHE	9.0
1	A	273	CYS	7.5
1	A	274	GLY	5.7
1	B	24	PRO	5.5
1	A	24	PRO	5.4
1	B	23	ARG	5.4
1	B	299	ALA	5.0
1	A	275	GLU	4.8
1	B	275	GLU	4.8
1	A	21	GLY	4.7
1	A	237	HIS	4.6
1	A	23	ARG	4.6
1	B	235	PHE	4.4
1	B	188	ARG	4.4
1	B	230	GLU	4.3
2	E	4	ARG	4.1
1	B	240	ASP	3.9
1	B	213	VAL	3.7
2	D	2	LEU	3.6
1	B	216	TRP	3.5

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Mol	Chain	Res	Type	RSRZ
1	B	215	GLY	3.5
1	A	277	ASP	3.4
1	A	299	ALA	3.4
1	B	212	ASP	3.3
1	B	22	SER	3.3
1	B	190	MET	3.2
1	B	180	LEU	3.2
1	B	181	GLN	3.1
2	E	2	LEU	3.1
2	D	4	ARG	3.0
1	A	230	GLU	2.9
1	B	229	ALA	2.7
1	A	121	LEU	2.7
1	A	61	ILE	2.6
1	A	25	GLY	2.6
1	B	273	CYS	2.6
1	B	179	ASP	2.6
1	B	210	ASP	2.6
1	B	237	HIS	2.5
1	B	298	PRO	2.5
1	A	266	LEU	2.5
1	B	238	LYS	2.5
1	B	277	ASP	2.5
1	A	220	ASP	2.5
1	B	231	VAL	2.4
1	A	215	GLY	2.4
1	A	107	LEU	2.3
1	B	7	LEU	2.3
1	A	212	ASP	2.3
1	A	62[A]	CYS	2.3
1	B	61	ILE	2.2
1	B	236	LEU	2.2
1	B	220	ASP	2.2
1	B	25	GLY	2.1
1	A	7	LEU	2.1
1	A	90	LEU	2.1
1	A	285	VAL	2.1
1	B	239	HIS	2.1
1	B	214	GLN	2.1
1	B	233	ALA	2.1
1	B	227	PHE	2.1
1	A	233	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	198	GLN	2.0
1	B	176	LEU	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
2	DAL	D	1	5/6	0.41	0.28	56,56,60,62	0
2	DAM	E	7	6/7	0.51	0.32	48,59,62,68	0
2	DAM	D	7	6/7	0.59	0.35	48,60,63,66	0
2	ACB	E	3	9/10	0.71	0.25	51,57,60,62	0
2	FGA	E	6	9/10	0.74	0.17	36,38,47,49	0
2	FGA	D	6	9/10	0.75	0.18	35,43,45,46	0
2	DAL	E	1	5/6	0.81	0.29	55,60,64,65	0
2	1ZN	E	5	23/24	0.81	0.14	28,34,40,45	0
2	ACB	D	3	9/10	0.81	0.26	48,53,56,57	0
2	1ZN	D	5	23/24	0.83	0.11	31,37,42,44	0

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, 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
4	CL	B	403	1/1	0.87	0.16	53,53,53,53	0
4	CL	A	403	1/1	0.92	0.07	48,48,48,48	0
3	MN	B	401	1/1	0.97	0.09	23,23,23,23	0
3	MN	B	402	1/1	0.99	0.07	23,23,23,23	0
3	MN	A	402	1/1	0.99	0.08	22,22,22,22	0
3	MN	A	401	1/1	0.99	0.12	22,22,22,22	0

6.5 Other polymers (i)

There are no such residues in this entry.