



Full wwPDB X-ray Structure Validation Report ⓘ

Nov 18, 2024 – 04:30 PM JST

PDB ID : 8XZY
Title : Structure of a xylanase Xyl-1 M4 mutant E175A
Authors : Xiang, W.L.; Huang, J.-W.; Yang, Y.; Chen, C.-C.; Guo, R.-T.
Deposited on : 2024-01-21
Resolution : 1.75 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
Xtriage (Phenix) : 1.13
EDS : 3.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4 : 9.0.003 (Gargrove)
Density-Fitness : 1.0.11
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

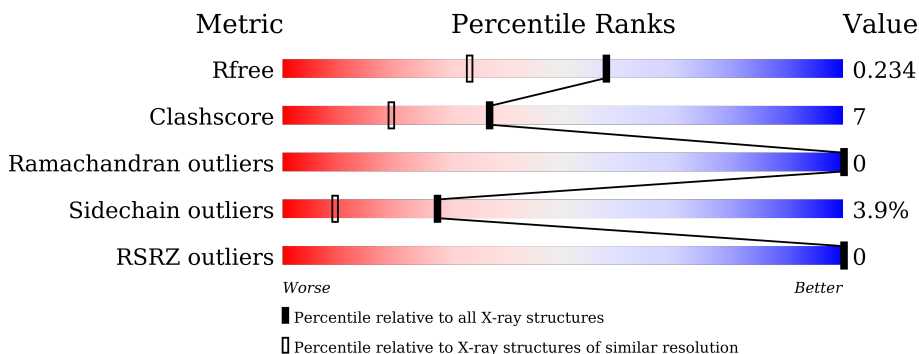
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.75 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	2888 (1.76-1.76)
Clashscore	180529	3097 (1.76-1.76)
Ramachandran outliers	177936	3072 (1.76-1.76)
Sidechain outliers	177891	3072 (1.76-1.76)
RSRZ outliers	164620	2887 (1.76-1.76)

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	201	 84% 9% • 6%
1	B	201	 82% 9% • 6%
1	C	201	 83% 10% • 6%
1	D	201	 83% 9% • 6%

2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 6556 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 Endo-1,4-beta-xylanase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	189	1463	913	239	309	2	0	0	0
1	B	189	1463	913	239	309	2	0	0	0
1	C	189	1463	913	239	309	2	0	0	0
1	D	189	1463	913	239	309	2	0	0	0

There are 72 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-11	GLY	-	expression tag	UNP Q0CMZ1
A	-10	ALA	-	expression tag	UNP Q0CMZ1
A	-9	GLY	-	expression tag	UNP Q0CMZ1
A	-8	ALA	-	expression tag	UNP Q0CMZ1
A	-7	GLY	-	expression tag	UNP Q0CMZ1
A	-6	ALA	-	expression tag	UNP Q0CMZ1
A	-5	GLY	-	expression tag	UNP Q0CMZ1
A	-4	ALA	-	expression tag	UNP Q0CMZ1
A	-3	GLY	-	expression tag	UNP Q0CMZ1
A	-2	ALA	-	expression tag	UNP Q0CMZ1
A	-1	GLY	-	expression tag	UNP Q0CMZ1
A	0	MET	-	expression tag	UNP Q0CMZ1
A	1	GLU	-	expression tag	UNP Q0CMZ1
A	31	PRO	ASP	engineered mutation	UNP Q0CMZ1
A	34	GLN	ALA	engineered mutation	UNP Q0CMZ1
A	118	GLN	LYS	engineered mutation	UNP Q0CMZ1
A	168	HIS	ALA	engineered mutation	UNP Q0CMZ1
A	176	ALA	GLU	engineered mutation	UNP Q0CMZ1
B	-11	GLY	-	expression tag	UNP Q0CMZ1
B	-10	ALA	-	expression tag	UNP Q0CMZ1
B	-9	GLY	-	expression tag	UNP Q0CMZ1

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-8	ALA	-	expression tag	UNP Q0CMZ1
B	-7	GLY	-	expression tag	UNP Q0CMZ1
B	-6	ALA	-	expression tag	UNP Q0CMZ1
B	-5	GLY	-	expression tag	UNP Q0CMZ1
B	-4	ALA	-	expression tag	UNP Q0CMZ1
B	-3	GLY	-	expression tag	UNP Q0CMZ1
B	-2	ALA	-	expression tag	UNP Q0CMZ1
B	-1	GLY	-	expression tag	UNP Q0CMZ1
B	0	MET	-	expression tag	UNP Q0CMZ1
B	1	GLU	-	expression tag	UNP Q0CMZ1
B	31	PRO	ASP	engineered mutation	UNP Q0CMZ1
B	34	GLN	ALA	engineered mutation	UNP Q0CMZ1
B	118	GLN	LYS	engineered mutation	UNP Q0CMZ1
B	168	HIS	ALA	engineered mutation	UNP Q0CMZ1
B	176	ALA	GLU	engineered mutation	UNP Q0CMZ1
C	-11	GLY	-	expression tag	UNP Q0CMZ1
C	-10	ALA	-	expression tag	UNP Q0CMZ1
C	-9	GLY	-	expression tag	UNP Q0CMZ1
C	-8	ALA	-	expression tag	UNP Q0CMZ1
C	-7	GLY	-	expression tag	UNP Q0CMZ1
C	-6	ALA	-	expression tag	UNP Q0CMZ1
C	-5	GLY	-	expression tag	UNP Q0CMZ1
C	-4	ALA	-	expression tag	UNP Q0CMZ1
C	-3	GLY	-	expression tag	UNP Q0CMZ1
C	-2	ALA	-	expression tag	UNP Q0CMZ1
C	-1	GLY	-	expression tag	UNP Q0CMZ1
C	0	MET	-	expression tag	UNP Q0CMZ1
C	1	GLU	-	expression tag	UNP Q0CMZ1
C	31	PRO	ASP	engineered mutation	UNP Q0CMZ1
C	34	GLN	ALA	engineered mutation	UNP Q0CMZ1
C	118	GLN	LYS	engineered mutation	UNP Q0CMZ1
C	168	HIS	ALA	engineered mutation	UNP Q0CMZ1
C	176	ALA	GLU	engineered mutation	UNP Q0CMZ1
D	-11	GLY	-	expression tag	UNP Q0CMZ1
D	-10	ALA	-	expression tag	UNP Q0CMZ1
D	-9	GLY	-	expression tag	UNP Q0CMZ1
D	-8	ALA	-	expression tag	UNP Q0CMZ1
D	-7	GLY	-	expression tag	UNP Q0CMZ1
D	-6	ALA	-	expression tag	UNP Q0CMZ1
D	-5	GLY	-	expression tag	UNP Q0CMZ1
D	-4	ALA	-	expression tag	UNP Q0CMZ1
D	-3	GLY	-	expression tag	UNP Q0CMZ1

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-2	ALA	-	expression tag	UNP Q0CMZ1
D	-1	GLY	-	expression tag	UNP Q0CMZ1
D	0	MET	-	expression tag	UNP Q0CMZ1
D	1	GLU	-	expression tag	UNP Q0CMZ1
D	31	PRO	ASP	engineered mutation	UNP Q0CMZ1
D	34	GLN	ALA	engineered mutation	UNP Q0CMZ1
D	118	GLN	LYS	engineered mutation	UNP Q0CMZ1
D	168	HIS	ALA	engineered mutation	UNP Q0CMZ1
D	176	ALA	GLU	engineered mutation	UNP Q0CMZ1

- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

- Molecule 3 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	188	Total O 188 188	0	0
3	B	187	Total O 187 187	0	0
3	C	157	Total O 157 157	0	0
3	D	165	Total O 165 165	0	0

4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	52.23Å 137.54Å 52.86Å 90.00° 97.66° 90.00°	Depositor
Resolution (Å)	23.29 – 1.75 23.29 – 1.75	Depositor EDS
% Data completeness (in resolution range)	95.4 (23.29-1.75) 92.6 (23.29-1.75)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	14.12 (at 1.76Å)	Xtrriage
Refinement program	REFMAC 5.8.0238	Depositor
R, R_{free}	0.181 , 0.228 0.189 , 0.234	Depositor DCC
R_{free} test set	3368 reflections (4.77%)	wwPDB-VP
Wilson B-factor (Å ²)	18.7	Xtrriage
Anisotropy	0.141	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 27.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	0.105 for l,-k,h	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	6556	wwPDB-VP
Average B, all atoms (Å ²)	22.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.05% 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:
ZN

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	0.76	0/1506	0.96	0/2062
1	B	0.78	0/1506	0.96	2/2062 (0.1%)
1	C	0.75	0/1506	0.92	0/2062
1	D	0.72	0/1506	0.93	1/2062 (0.0%)
All	All	0.75	0/6024	0.94	3/8248 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	87	TYR	CB-CG-CD1	-6.11	117.33	121.00
1	B	140	ARG	NE-CZ-NH1	5.64	123.12	120.30
1	D	140	ARG	NE-CZ-NH2	-5.16	117.72	120.30

There are no chirality outliers.

There are no planarity outliers.

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	1463	0	1306	21	0
1	B	1463	0	1306	22	0
1	C	1463	0	1306	18	0
1	D	1463	0	1306	20	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	A	2	0	0	1	0
2	B	2	0	0	1	0
2	C	1	0	0	0	0
2	D	2	0	0	0	0
3	A	188	0	0	9	1
3	B	187	0	0	8	1
3	C	157	0	0	3	1
3	D	165	0	0	10	1
All	All	6556	0	5224	77	2

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

All (77) 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:128:GLU:OE1	3:A:301:HOH:O	1.61	1.18
1:A:55:SER:O	3:A:302:HOH:O	1.72	1.07
1:D:168:HIS:HE1	3:D:412:HOH:O	1.43	0.98
1:C:101:ALA:HA	1:C:119:THR:HG23	1.50	0.91
1:B:55:SER:H	1:B:57:GLN:HE22	1.16	0.90
1:D:72:TYR:CZ	1:D:97:PRO:HB3	2.09	0.87
1:C:164:GLU:OE1	3:C:301:HOH:O	1.96	0.83
1:D:12:GLY:O	3:D:302:HOH:O	1.95	0.83
1:D:64:GLU:OE2	3:D:303:HOH:O	1.98	0.82
1:C:128:GLU:OE1	3:C:302:HOH:O	1.98	0.80
1:A:55:SER:H	1:A:57:GLN:HE22	1.29	0.80
1:D:189:GLN:NE2	3:D:305:HOH:O	2.09	0.79
1:A:142:ASP:OD1	3:A:303:HOH:O	2.01	0.78
1:B:55:SER:H	1:B:57:GLN:NE2	1.83	0.75
1:B:38:GLU:OE2	3:B:301:HOH:O	2.04	0.73
1:C:101:ALA:HA	1:C:119:THR:CG2	2.20	0.72
1:A:178:TYR:HE2	1:B:178:TYR:HE2	1.41	0.69
1:A:80:GLN:OE1	3:A:304:HOH:O	2.10	0.68
1:B:142:ASP:OD1	3:B:302:HOH:O	2.11	0.68
2:A:200:ZN:ZN	3:A:303:HOH:O	1.43	0.67
2:B:200:ZN:ZN	3:B:302:HOH:O	1.42	0.66
1:A:1:GLU:OE1	3:A:305:HOH:O	2.12	0.66
1:D:34:GLN:OE1	3:D:306:HOH:O	2.14	0.65
1:B:93:SER:O	3:B:303:HOH:O	2.14	0.65
1:D:98:SER:OG	3:D:304:HOH:O	2.01	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:152:GLN:NE2	1:B:156:ASP:OD1	2.32	0.63
1:C:168:HIS:HD2	3:C:314:HOH:O	1.82	0.63
1:D:168:HIS:CE1	3:D:412:HOH:O	2.29	0.61
1:A:64:GLU:OE2	3:A:306:HOH:O	2.16	0.61
1:B:168:HIS:HD2	3:B:314:HOH:O	1.83	0.61
1:A:178:TYR:HE2	1:B:178:TYR:CE2	2.19	0.60
1:A:178:TYR:CE2	1:B:178:TYR:HE2	2.18	0.60
1:A:68:ASN:ND2	3:A:308:HOH:O	2.35	0.58
1:D:72:TYR:CE1	1:D:97:PRO:HB3	2.40	0.57
1:A:1:GLU:HG2	3:A:363:HOH:O	2.04	0.57
1:C:178:TYR:CE2	1:D:178:TYR:HE2	2.23	0.56
1:A:1:GLU:CB	1:A:28:THR:HG22	2.36	0.55
1:B:57:GLN:H	1:B:57:GLN:HE21	1.53	0.55
1:D:123:ASN:O	1:D:123:ASN:ND2	2.38	0.54
1:C:116:ILE:HD12	1:C:138:SER:OG	2.07	0.54
1:B:102:GLN:HG2	1:B:118:GLN:O	2.07	0.54
1:B:64:GLU:OE2	3:B:305:HOH:O	2.18	0.53
1:D:44:ASN:ND2	1:D:178:TYR:CD1	2.77	0.53
1:B:30:GLY:HA3	1:B:34:GLN:NE2	2.24	0.53
1:B:30:GLY:HA3	1:B:34:GLN:HE21	1.73	0.53
1:C:51:TRP:CH2	1:C:188:VAL:CG1	2.95	0.50
1:B:51:TRP:CH2	1:B:59:ILE:HD12	2.45	0.50
1:C:101:ALA:CA	1:C:119:THR:HG23	2.30	0.50
1:A:30:GLY:HA3	1:A:34:GLN:HE21	1.77	0.50
1:C:51:TRP:CH2	1:C:188:VAL:HG11	2.48	0.49
1:B:57:GLN:HG2	1:B:59:ILE:HD11	1.95	0.48
1:C:116:ILE:CD1	1:C:138:SER:OG	2.61	0.48
1:B:178:TYR:CE2	1:B:179:GLN:HG3	2.49	0.48
1:C:104:LEU:HD11	1:C:118:GLN:HG2	1.95	0.48
1:A:55:SER:N	1:A:57:GLN:HE22	2.06	0.47
1:D:118:GLN:HG2	1:D:119:THR:N	2.29	0.47
1:B:125:PRO:HD2	3:B:389:HOH:O	2.14	0.47
1:B:128:GLU:OE2	1:B:128:GLU:HA	2.15	0.47
1:D:123:ASN:C	1:D:123:ASN:HD22	2.16	0.47
1:D:167:THR:HG23	3:D:375:HOH:O	2.15	0.46
1:A:1:GLU:HB2	1:A:28:THR:HG22	1.97	0.46
1:C:85:GLU:O	1:C:135:GLN:HA	2.16	0.45
1:A:30:GLY:HA3	1:A:34:GLN:NE2	2.31	0.45
1:B:104:LEU:HD11	1:B:118:GLN:HG2	1.99	0.45
1:A:52:ASN:HA	1:A:53:PRO:HA	1.78	0.44
1:A:85:GLU:O	1:A:135:GLN:HA	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:178:TYR:HE2	1:D:178:TYR:HE2	1.63	0.44
1:B:160:ASN:ND2	3:B:307:HOH:O	2.23	0.43
1:A:119:THR:OG1	1:A:135:GLN:HB2	2.19	0.42
1:C:178:TYR:HE2	1:D:178:TYR:CE2	2.37	0.42
1:C:34:GLN:NE2	1:C:185:SER:OG	2.53	0.42
1:A:57:GLN:HE21	1:A:57:GLN:H	1.68	0.42
1:D:1:GLU:HG2	3:D:363:HOH:O	2.18	0.42
1:C:57:GLN:HG2	1:C:59:ILE:CD1	2.51	0.41
1:C:116:ILE:HD12	1:C:158:TRP:HE1	1.86	0.41
1:D:136:TYR:CZ	1:D:163:LEU:HB3	2.56	0.40
1:D:55:SER:O	3:D:307:HOH:O	2.21	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:317:HOH:O	3:B:305:HOH:O[1_655]	1.87	0.33
3:C:301:HOH:O	3:D:303:HOH:O[1_554]	2.03	0.17

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	187/201 (93%)	181 (97%)	6 (3%)	0	100	100
1	B	187/201 (93%)	184 (98%)	3 (2%)	0	100	100
1	C	187/201 (93%)	182 (97%)	5 (3%)	0	100	100
1	D	187/201 (93%)	181 (97%)	6 (3%)	0	100	100
All	All	748/804 (93%)	728 (97%)	20 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	155/156 (99%)	150 (97%)	5 (3%)	34	14
1	B	155/156 (99%)	149 (96%)	6 (4%)	27	9
1	C	155/156 (99%)	149 (96%)	6 (4%)	27	9
1	D	155/156 (99%)	148 (96%)	7 (4%)	23	7
All	All	620/624 (99%)	596 (96%)	24 (4%)	27	9

All (24) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	24	GLN
1	A	34	GLN
1	A	57	GLN
1	A	74	SER
1	A	138	SER
1	B	1	GLU
1	B	34	GLN
1	B	38	GLU
1	B	57	GLN
1	B	102	GLN
1	B	104	LEU
1	C	1	GLU
1	C	2	ILE
1	C	9	THR
1	C	38	GLU
1	C	57	GLN
1	C	59	ILE
1	D	34	GLN
1	D	57	GLN
1	D	72	TYR
1	D	98	SER
1	D	104	LEU
1	D	122	GLU
1	D	123	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (23) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	34	GLN
1	A	44	ASN
1	A	57	GLN
1	A	81	ASN
1	A	168	HIS
1	B	24	GLN
1	B	34	GLN
1	B	44	ASN
1	B	57	GLN
1	B	81	ASN
1	B	102	GLN
1	B	168	HIS
1	B	189	GLN
1	C	44	ASN
1	C	57	GLN
1	C	81	ASN
1	C	168	HIS
1	D	34	GLN
1	D	44	ASN
1	D	102	GLN
1	D	118	GLN
1	D	168	HIS
1	D	189	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 7 ligands modelled in this entry, 7 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 [i](#)

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

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	189/201 (94%)	-0.97	0 100 100	11, 19, 35, 45	0
1	B	189/201 (94%)	-1.03	0 100 100	10, 18, 30, 40	0
1	C	189/201 (94%)	-0.98	0 100 100	11, 20, 33, 41	0
1	D	189/201 (94%)	-0.88	0 100 100	13, 22, 43, 57	0
All	All	756/804 (94%)	-0.96	0 100 100	10, 20, 36, 57	0

There are no RSRZ outliers to report.

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
2	ZN	C	200	1/1	0.97	0.04	71,71,71,71	0
2	ZN	B	200	1/1	0.98	0.08	40,40,40,40	0
2	ZN	A	200	1/1	0.99	0.04	37,37,37,37	0
2	ZN	D	201	1/1	0.99	0.06	31,31,31,31	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
2	ZN	A	201	1/1	1.00	0.06	24,24,24,24	0
2	ZN	D	200	1/1	1.00	0.05	38,38,38,38	0
2	ZN	B	201	1/1	1.00	0.08	37,37,37,37	0

6.5 Other polymers [i](#)

There are no such residues in this entry.