Full wwPDB X-ray Structure Validation Report (i)

Jun 16, 2024 – 10:49 PM EDT

PDB ID	:	5MFF
Title	:	Designed armadillo repeat protein YIIIM5AII in complex with peptide (RR)5
Authors	:	Hansen, S.; Ernst, P.; Reichen, C.; Ewald, C.; Mittl, P.; Plueckthun, A.
Deposited on	:	2016-11-18
Resolution	:	1.90 Å(reported)

The following versions of software and data (see references (i)) 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	:	2.37.1
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)	:	2.37.1

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 1.90 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	Percentile Ranks	Value
Rfree		0.225
Clashscore		2
Ramachandran outliers		0
Sidechain outliers		1.1%
RSRZ outliers		9.6%

Worse ... *Better*

■ Percentile relative to all X-ray structures
▯ Percentile relative to X-ray structures of similar resolution
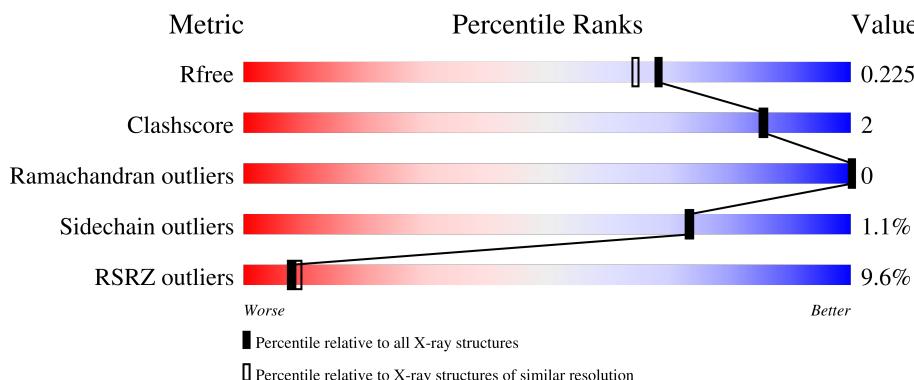
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	6207 (1.90-1.90)
Clashscore	141614	6847 (1.90-1.90)
Ramachandran outliers	138981	6760 (1.90-1.90)
Sidechain outliers	138945	6760 (1.90-1.90)
RSRZ outliers	127900	6082 (1.90-1.90)

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	286	8% / 93% / 5% ·
1	B	286	3% / 94% / · ·
1	C	286	9% / 95% / · ·
1	D	286	17% / 91% / 6% ·
2	E	10	10% / 50% / 40% / 10%
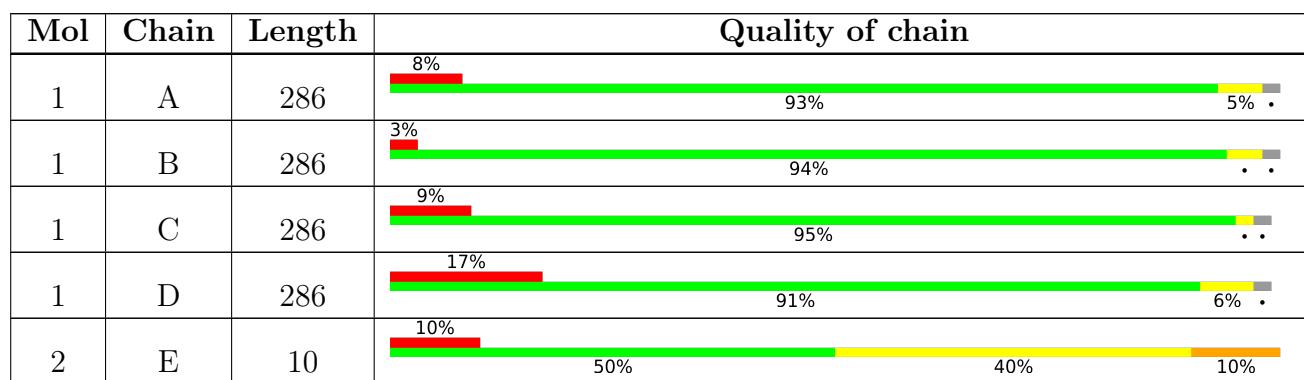
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Mol	Chain	Length	Quality of chain
2	F	10	50% 50%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	EDO	E	101	-	-	-	X

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 9084 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 YIIIM5AII.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	280	Total	C	N	O	S	0	6	0
			2124	1325	361	437	1			
1	B	280	Total	C	N	O	S	0	3	0
			2096	1305	357	433	1			
1	C	279	Total	C	N	O	S	0	4	0
			2100	1312	357	430	1			
1	D	279	Total	C	N	O	S	0	4	0
			2092	1304	356	431	1			

- Molecule 2 is a protein called (RR)5.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	E	10	Total	C	N	O	0	0	0
			110	60	40	10			
2	F	10	Total	C	N	O	0	0	0
			110	60	40	10			

- Molecule 3 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: $C_2H_6O_2$).

EDO

O2
OH

C1

C2

HO

O1
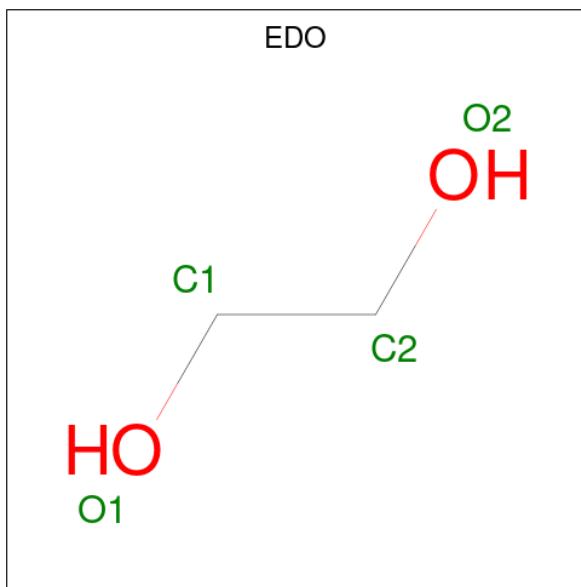
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 4	C 2	O 2	0	0
3	A	1	Total 4	C 2	O 2	0	0
3	B	1	Total 4	C 2	O 2	0	0
3	B	1	Total 4	C 2	O 2	0	0
3	B	1	Total 4	C 2	O 2	0	0
3	C	1	Total 4	C 2	O 2	0	0
3	C	1	Total 4	C 2	O 2	0	0
3	C	1	Total 4	C 2	O 2	0	0
3	C	1	Total 4	C 2	O 2	0	0
3	D	1	Total 4	C 2	O 2	0	0
3	D	1	Total 4	C 2	O 2	0	0
3	D	1	Total 4	C 2	O 2	0	0
3	E	1	Total 4	C 2	O 2	0	0
3	F	1	Total 4	C 2	O 2	0	0

- Molecule 4 is water.

| Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	117	Total O 117 117	0	0
4	B	100	Total O 100 100	0	0
4	C	83	Total O 83 83	0	0
4	D	66	Total O 66 66	0	0
4	E	16	Total O 16 16	0	0
4	F	14	Total O 14 14	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: YIIIM5AII
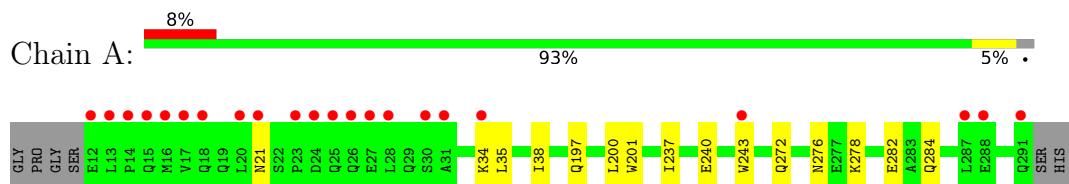
Chain A:

- Molecule 1: YIIIM5AII

Chain B:

- Molecule 1: YIIIM5AII

Chain C:

- Molecule 1: YIIIM5AII

Chain D:

- Molecule 2: (RR)5

Chain E:

R1　R5　R6　R7　R8　R9　R10
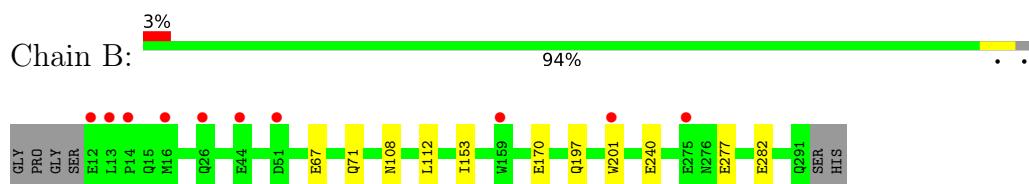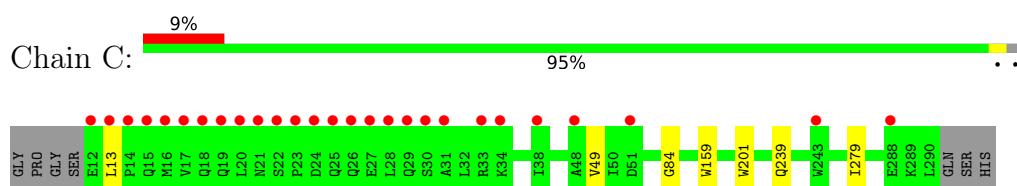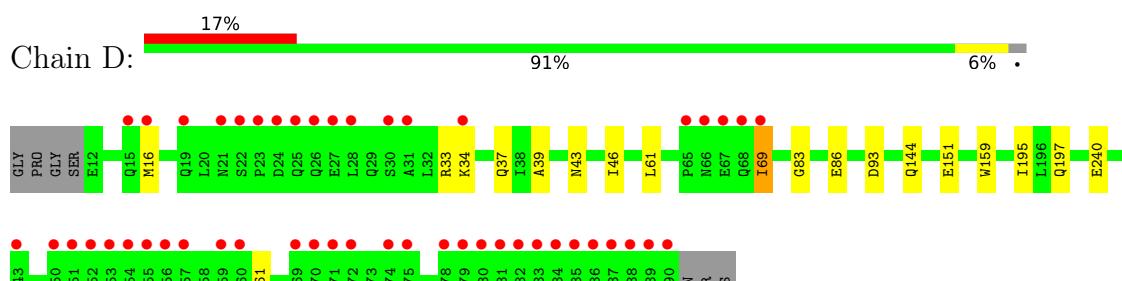
• Molecule 2: (RR)5

Chain F:

50%　　　　　50%

R1　R5　R6　R7　R8　R9　R10

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	81.75Å 90.89Å 179.66Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.31 – 1.90 48.31 – 1.90	Depositor EDS
% Data completeness (in resolution range)	99.9 (48.31-1.90) 99.9 (48.31-1.90)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.37 (at 1.90Å)	Xtriage
Refinement program	BUSTER 2.10.2	Depositor
R, R_{free}	0.184 , 0.213 0.196 , 0.225	Depositor DCC
R_{free} test set	5293 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	41.5	Xtriage
Anisotropy	0.045	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 46.7	EDS
L-test for twinning[2]	$< |L| > = 0.48, < L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	9084	wwPDB-VP
Average B, all atoms (Å^2)	52.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.14% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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: EDO

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	0.48	0/2148	0.57	0/2927
1	B	0.49	0/2118	0.58	0/2885
1	C	0.48	0/2124	0.56	0/2895
1	D	0.49	0/2114	0.60	0/2880
2	E	0.53	0/109	1.05	0/137
2	F	0.51	0/109	1.11	0/137
All	All	0.49	0/8722	0.59	0/11861

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

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	2124	0	2123	12	0
1	B	2096	0	2100	6	0
1	C	2100	0	2106	6	0
1	D	2092	0	2101	12	0
2	E	110	0	132	6	0
2	F	110	0	132	5	0
3	A	8	0	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	12	0	18	1	0
3	C	16	0	24	2	0
3	D	12	0	18	1	0
3	E	4	0	6	0	0
3	F	4	0	6	0	0
4	A	117	0	0	0	0
4	B	100	0	0	1	0
4	C	83	0	0	0	0
4	D	66	0	0	2	0
4	E	16	0	0	0	0
4	F	14	0	0	0	0
All	All	9084	0	8778	39	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 2.

All (39) 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:159:TRP:CZ2	2:F:6:ARG:HB2	2.31	0.66
1:A:197:GLN:HG3	1:A:237:ILE:HD13	1.80	0.63
1:D:93:ASP:O	3:D:302:EDO:H22	2.04	0.58
1:C:159:TRP:CZ2	2:F:5:ARG:HB2	2.39	0.57
1:D:151:GLU:HB3	1:D:195:ILE:HD11	1.87	0.57
1:D:197:GLN:HG3	1:D:240:GLU:HG3	1.86	0.55
1:C:201:TRP:CZ2	2:F:7:ARG:HB2	2.42	0.55
1:A:243[B]:TRP:HA	1:A:243[B]:TRP:CE3	2.43	0.53
1:D:33:ARG:O	1:D:37:GLN:HG2	2.08	0.53
1:A:276:ASN:HD21	3:B:301:EDO:H22	1.73	0.52
1:C:84:GLY:HA3	3:C:303:EDO:H11	1.92	0.52
1:C:239:GLN:HG3	1:C:279:ILE:CD1	2.42	0.49
1:B:197:GLN:HG3	1:B:240:GLU:HG3	1.95	0.49
1:A:201:TRP:CZ2	2:E:8:ARG:HB2	2.48	0.49
1:A:34:LYS:HE3	1:A:38:ILE:HD11	1.95	0.48
1:A:272:GLN:HE21	1:A:284:GLN:HA	1.80	0.47
1:C:239:GLN:HG3	1:C:279:ILE:HD11	1.97	0.47
1:B:201:TRP:CZ2	2:E:7:ARG:HB2	2.49	0.46
1:A:243[B]:TRP:CZ2	1:A:282:GLU:HG2	2.51	0.45
1:B:112:LEU:HD23	1:B:153:ILE:HD13	1.99	0.44
1:A:278:LYS:O	1:A:282:GLU:HG3	2.18	0.44
1:D:39:ALA:HA	1:D:46[B]:ILE:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:61:LEU:HD22	1:D:69:ILE:HD13	1.99	0.44
1:C:13:LEU:HD11	1:C:49:VAL:HG22	1.99	0.44
3:C:302:EDO:H22	4:D:437:HOH:O	2.17	0.43
1:D:159:TRP:CE2	2:F:6:ARG:HB2	2.53	0.43
2:F:9:ARG:O	2:F:10:ARG:HG2	2.19	0.43
1:A:243[B]:TRP:HA	1:A:243[B]:TRP:HE3	1.84	0.43
1:B:71:GLN:HG2	2:E:1:ARG:HH22	1.84	0.43
1:D:16:MET:HG3	1:D:34:LYS:HD3	2.00	0.42
1:B:67:GLU:HG2	1:B:108:ASN:ND2	2.36	0.41
1:B:282:GLU:HG2	4:B:458:HOH:O	2.19	0.41
1:D:69:ILE:HG13	4:D:405:HOH:O	2.20	0.41
2:E:10:ARG:H	2:E:10:ARG:HG2	1.64	0.41
1:A:243[A]:TRP:CE2	2:E:10:ARG:HB3	2.55	0.41
1:D:46[B]:ILE:CD1	1:D:83:GLY:HA3	2.51	0.41
1:A:201:TRP:HZ3	2:E:10:ARG:HD3	1.86	0.41
1:D:43:ASN:HA	1:D:46[B]:ILE:HG12	2.03	0.40
1:A:200:LEU:HD13	1:A:240:GLU:HB3	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	284/286 (99%)	284 (100%)	0	0	100	100
1	B	281/286 (98%)	281 (100%)	0	0	100	100
1	C	281/286 (98%)	281 (100%)	0	0	100	100
1	D	281/286 (98%)	279 (99%)	2 (1%)	0	100	100
2	E	8/10 (80%)	8 (100%)	0	0	100	100
2	F	8/10 (80%)	7 (88%)	1 (12%)	0	100	100
All	All	1143/1164 (98%)	1140 (100%)	3 (0%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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	226/224 (101%)	224 (99%)	2 (1%)	78	79
1	B	223/224 (100%)	221 (99%)	2 (1%)	78	79
1	C	223/224 (100%)	223 (100%)	0	100	100
1	D	223/224 (100%)	219 (98%)	4 (2%)	59	55
2	E	10/10 (100%)	8 (80%)	2 (20%)	1	0
2	F	10/10 (100%)	10 (100%)	0	100	100
All	All	915/916 (100%)	905 (99%)	10 (1%)	73	73

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	21	ASN
1	A	35	LEU
1	B	170	GLU
1	B	277	GLU
1	D	69	ILE
1	D	86	GLU
1	D	144	GLN
1	D	261	GLU
2	E	5	ARG
2	E	8	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	71	GLN
1	A	163	ASN
1	A	205	ASN
1	A	253	ASN

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Mol	Chain	Res	Type
1	A	270	GLN
1	A	272	GLN
1	B	21	ASN
1	B	89	GLN
1	B	253	ASN
1	C	29	GLN
1	C	270	GLN
1	C	272	GLN
1	D	43	ASN
1	D	85	ASN
1	D	127	ASN
1	D	169	ASN
1	D	197	GLN
1	D	211	ASN
1	D	247	ASN
1	D	280	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

14 ligands 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
3	EDO	C	303	-	3,3,3	0.55	0	2,2,2	0.30	0
3	EDO	E	101	-	3,3,3	0.75	0	2,2,2	0.05	0
3	EDO	B	301	-	3,3,3	0.60	0	2,2,2	0.30	0
3	EDO	F	101	-	3,3,3	0.60	0	2,2,2	0.29	0
3	EDO	B	303	-	3,3,3	0.48	0	2,2,2	0.37	0
3	EDO	C	302	-	3,3,3	0.44	0	2,2,2	0.30	0
3	EDO	C	304	-	3,3,3	0.59	0	2,2,2	0.24	0
3	EDO	C	301	-	3,3,3	0.55	0	2,2,2	0.33	0
3	EDO	A	302	-	3,3,3	0.58	0	2,2,2	0.32	0
3	EDO	A	301	-	3,3,3	0.51	0	2,2,2	0.35	0
3	EDO	B	302	-	3,3,3	0.44	0	2,2,2	0.34	0
3	EDO	D	301	-	3,3,3	0.53	0	2,2,2	0.39	0
3	EDO	D	303	-	3,3,3	0.54	0	2,2,2	0.38	0
3	EDO	D	302	-	3,3,3	0.58	0	2,2,2	0.30	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
3	EDO	C	303	-	-	0/1/1/1	-
3	EDO	E	101	-	-	0/1/1/1	-
3	EDO	B	301	-	-	0/1/1/1	-
3	EDO	F	101	-	-	1/1/1/1	-
3	EDO	B	303	-	-	0/1/1/1	-
3	EDO	C	302	-	-	0/1/1/1	-
3	EDO	C	304	-	-	0/1/1/1	-
3	EDO	C	301	-	-	0/1/1/1	-
3	EDO	A	302	-	-	0/1/1/1	-
3	EDO	A	301	-	-	0/1/1/1	-
3	EDO	B	302	-	-	0/1/1/1	-
3	EDO	D	301	-	-	0/1/1/1	-
3	EDO	D	303	-	-	0/1/1/1	-
3	EDO	D	302	-	-	0/1/1/1	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	F	101	EDO	O1-C1-C2-O2

There are no ring outliers.

4 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	303	EDO	1	0
3	B	301	EDO	1	0
3	C	302	EDO	1	0
3	D	302	EDO	1	0

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.

W O R L D W I D E
PDB
PROTEIN DATA BANK

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(Å²)	Q<0.9
1	A	280/286 (97%)	0.33	22 (7%)	12	14	32, 42, 80, 97	0
1	B	280/286 (97%)	0.30	10 (3%)	42	45	29, 44, 74, 100	0
1	C	279/286 (97%)	0.30	27 (9%)	7	9	32, 47, 91, 126	0
1	D	279/286 (97%)	0.94	49 (17%)	1	1	31, 50, 96, 113	36 (12%)
2	E	10/10 (100%)	1.34	1 (10%)	7	8	43, 51, 80, 86	0
2	F	10/10 (100%)	0.92	0	100	100	47, 55, 82, 87	0
All	All	1138/1164 (97%)	0.48	109 (9%)	8	9	29, 46, 87, 126	36 (3%)

All (109) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	23	PRO	9.8
1	D	26	GLN	8.9
1	C	13	LEU	7.5
1	D	69	ILE	7.4
1	D	287	LEU	6.1
1	D	27	GLU	6.1
1	C	30	SER	5.9
1	D	243	TRP	5.7
1	C	16	MET	5.5
1	D	16	MET	5.2
1	D	286	ALA	5.1
1	D	24	ASP	5.0
1	A	21	ASN	5.0
1	D	284	GLN	5.0
1	C	12	GLU	4.8
1	C	15	GLN	4.7
1	D	252	GLY	4.6
1	D	290	LEU	4.5
1	C	18	GLN	4.5

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Mol	Chain	Res	Type	RSRZ
1	D	288	GLU	4.5
1	D	254	GLU	4.4
1	C	26	GLN	4.4
1	A	16	MET	4.3
1	D	68	GLN	4.3
1	D	21	ASN	4.3
1	D	259	VAL	4.1
1	A	291	GLN	4.1
1	B	16	MET	4.1
1	D	283	ALA	4.1
1	D	282	GLU	4.0
1	D	65	PRO	4.0
1	C	23	PRO	4.0
1	D	279	ILE	3.9
1	D	15	GLN	3.8
1	B	12	GLU	3.8
1	D	30	SER	3.8
1	C	27	GLU	3.8
1	D	31	ALA	3.8
1	D	253	ASN	3.7
1	C	33	ARG	3.7
1	C	21	ASN	3.6
1	C	34	LYS	3.6
1	C	28	LEU	3.6
1	A	14	PRO	3.6
1	C	243[A]	TRP	3.5
1	A	23	PRO	3.4
1	A	28	LEU	3.4
1	A	15	GLN	3.3
1	B	44	GLU	3.3
1	A	17	VAL	3.3
1	D	285	GLU	3.3
1	D	280	GLN	3.2
1	A	13	LEU	3.2
1	D	66	ASN	3.2
1	D	272	GLN	3.1
1	D	251	GLY	3.1
1	A	27	GLU	3.1
1	D	289	LYS	3.1
1	D	281	LYS	3.1
1	C	24	ASP	3.0
1	A	24	ASP	3.0

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Mol	Chain	Res	Type	RSRZ
1	D	19	GLN	3.0
1	A	243[A]	TRP	2.9
1	C	17	VAL	2.9
1	D	275	GLU	2.9
1	C	29	GLN	2.8
1	C	14	PRO	2.8
1	C	22	SER	2.8
1	C	25	GLN	2.8
1	B	13	LEU	2.8
1	D	250	SER	2.8
1	D	28	LEU	2.7
1	D	257	GLN	2.7
1	B	159	TRP	2.7
1	B	14	PRO	2.7
1	C	31	ALA	2.7
1	A	20	LEU	2.7
1	B	51	ASP	2.7
1	C	51	ASP	2.7
1	D	25	GLN	2.7
1	A	18	GLN	2.6
1	D	269	GLU	2.6
1	C	19	GLN	2.6
1	A	30	SER	2.5
1	C	20	LEU	2.5
1	C	48	ALA	2.5
1	A	26	GLN	2.4
1	D	270	GLN	2.4
1	D	260	LYS	2.4
1	D	271	LEU	2.4
1	D	278	LYS	2.4
1	A	288	GLU	2.4
1	C	288	GLU	2.4
1	A	287	LEU	2.3
1	A	25	GLN	2.3
1	D	67	GLU	2.3
1	B	26	GLN	2.3
1	D	274	HIS	2.3
1	D	34	LYS	2.2
1	D	22	SER	2.2
1	D	255	GLN	2.2
1	B	275	GLU	2.2
1	D	256	LYS	2.2

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Mol	Chain	Res	Type	RSRZ
2	E	8	ARG	2.0
1	B	201	TRP	2.0
1	A	34	LYS	2.0
1	A	12	GLU	2.0
1	A	31	ALA	2.0
1	C	38	ILE	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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
3	EDO	E	101	4/4	0.71	0.45	58,61,65,67	0
3	EDO	C	303	4/4	0.74	0.32	71,71,72,74	0
3	EDO	D	303	4/4	0.76	0.35	63,64,68,71	0
3	EDO	A	302	4/4	0.78	0.24	77,77,77,78	0
3	EDO	C	301	4/4	0.80	0.15	75,77,77,78	0
3	EDO	C	304	4/4	0.80	0.17	73,74,75,75	0
3	EDO	F	101	4/4	0.82	0.34	63,64,65,67	0
3	EDO	D	302	4/4	0.85	0.28	63,65,66,67	0
3	EDO	B	301	4/4	0.85	0.23	66,66,66,67	0
3	EDO	B	303	4/4	0.86	0.16	51,52,52,53	0
3	EDO	D	301	4/4	0.87	0.10	65,65,66,66	0
3	EDO	B	302	4/4	0.90	0.14	59,61,61,62	0
3	EDO	C	302	4/4	0.91	0.20	51,53,56,58	0
3	EDO	A	301	4/4	0.92	0.24	76,76,77,78	0

6.5 Other polymers ⓘ

There are no such residues in this entry.