Full wwPDB X-ray Structure Validation Report (i)

Feb 19, 2024 – 01:20 AM EST

PDB ID	:	4IGM
Title	:	2.39 Angstrom X-ray Crystal structure of human ACMSD
Authors	:	Liu, F.; Liu, A.
Deposited on	:	2012-12-17
Resolution	:	2.39 Å(reported)

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

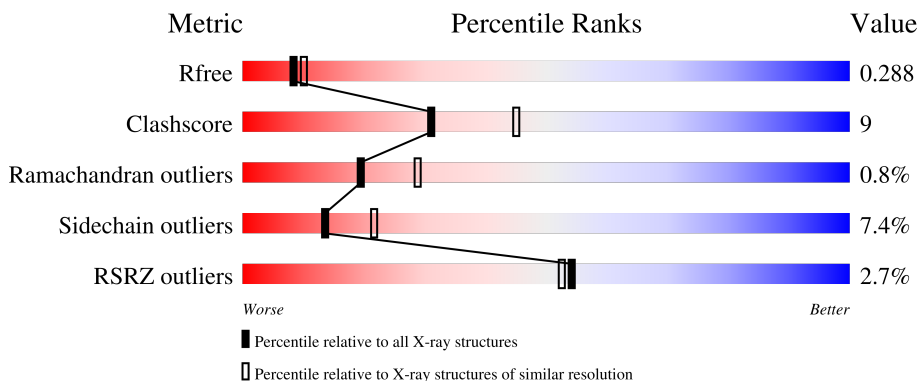|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation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

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.39 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		0.288
Clashscore		9
Ramachandran outliers		0.8%
Sidechain outliers		7.4%
RSRZ outliers		2.7%

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	3907 (2.40-2.40)
Clashscore	141614	4398 (2.40-2.40)
Ramachandran outliers	138981	4318 (2.40-2.40)
Sidechain outliers	138945	4319 (2.40-2.40)
RSRZ outliers	127900	3811 (2.40-2.40)

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	332	2% / 75% 21% •
1	B	332	2% / 77% 21% ••
1	C	332	2% / 81% 17% •
1	D	332	% / 77% 20% ••
1	E	332	3% / 74% 23% •

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	F	332	7% 72% 23% 5%

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 16294 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 2-amino-3-carboxymuconate-6-semialdehyde decarboxylase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	332	Total	C	N	O	S	0	0	0
			2635	1703	443	468	21			
1	B	332	Total	C	N	O	S	0	0	0
			2635	1703	443	468	21			
1	C	332	Total	C	N	O	S	0	0	0
			2635	1703	443	468	21			
1	D	332	Total	C	N	O	S	0	0	0
			2635	1703	443	468	21			
1	E	332	Total	C	N	O	S	0	0	0
			2635	1703	443	468	21			
1	F	332	Total	C	N	O	S	0	0	0
			2635	1703	443	468	21			

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

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

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	78	Total 78	O 78	0	0
3	B	101	Total 101	O 101	0	0
3	C	79	Total 79	O 79	0	0
3	D	93	Total 93	O 93	0	0
3	E	73	Total 73	O 73	0	0
3	F	54	Total 54	O 54	0	0

3 Residue-property plots ⓘ

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: 2-amino-3-carboxymuconate-6-semialdehyde decarboxylase

Chain A:

• Molecule 1: 2-amino-3-carboxymuconate-6-semialdehyde decarboxylase

Chain B:

• Molecule 1: 2-amino-3-carboxymuconate-6-semialdehyde decarboxylase

Chain C:

M129 E130 R131 C132 V133 G140 V141 Q142 T145 H146 L152 P175 W176 D177 M178 W191 M195 P196 K214 H224 Q249 K256 D265 I287 T290 L296 G297 E309 E313 K316 L319 K320 A321 E331 R332

• Molecule 1: 2-amino-3-carboxymuconate-6-semialdehyde decarboxylase

Chain D:

M1 K2 I3 D4 K12 E13 W14 P15 D16 K19 R20 W26 S33 D42 G43 W54 V58 R59 E62 M63 K66 G67 V70 S74 W83 P86 N91 N98 R109 R110 F111 M119 Q120 A121 P122 E123 K127 R131 Q142

T145 W150 D151 L152 L157 K168 F172 P175 W176 D177 W188 L189 P190 M195 I203 M206 I207 H224 R235 M253 N254 P255 K256 K257 Y258 Y263 P271 L274 K275 L276 K285 G289 T290 D291 Y292 P295 I296 L299 E300 P301

L304 M308 E314 A321 L328 R332

• Molecule 1: 2-amino-3-carboxymuconate-6-semialdehyde decarboxylase

Chain E:

M1 D4 K12 E13 W14 V27 Q30 H31 H32 S33 K34 G35 E36 A37 K38 L39 L40 G43 E51 W54 D55 P56 R59 I60 R61 E62 M63 K66 T69 V70 S74 W83 E87 L100 V105 R109 R110 E123 K127 E128 M129 E130

R131 Q142 W150 D151 L152 Q155 E156 L157 F158 P159 W176 D177 M178 M184 A185 K186 Y187 W188 L189 P190 W191 M195 P196 C204 S205 M206 I207 M208 G209 G210 K214 V220 R235 D245 L246 Q249 M253 N254 P255 K256 K257 Y258 S261 D265 A266

L272 L276 I281 K285 V286 I287 T290 D291 Y292 L296 L299 E300 E309 E310 E314 N317 A324 R332

• Molecule 1: 2-amino-3-carboxymuconate-6-semialdehyde decarboxylase

Chain F:

M1 K2 I3 D4 H8 K12 E13 W14 P15 D16 L17 K18 K19 R20 F21 G22 Y23 G24 G25 W26 V27 Q28 H31 H32 S33 K34 G35 E36 L40 K41 D42 G43 K44 V45 F46 R47 E51 W54 E57 V58 R59 I60 M63 K66 V76 P77 K85 L95

N98 D99 L100 Y107 F111 L117 P122 V126 K127 E128 M129 E130 R131 H146 E149 W150 D151 L152 N153 F158 P159 V173 H174 P175 W176 D177 K186 Y187 W188 L189 P190 W191 L192 V193 G194 M195 P196 A197 E198 K214 K217 H224 R235 L246

Q249 D250 M253 N254 P255 K256 K257 D265 L276 K283 L288 G289 T290 D291 Y292 P293 F294 P295 L296 G297 E298 L299 E300 P301 G302 K303 E309 D312 T315 K318 A321 R332

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	89.11Å　101.88Å　233.46Å 90.00°　90.00°　90.00°	Depositor
Resolution (Å)	45.00　–　2.39 36.15　–　2.39	Depositor EDS
% Data completeness (in resolution range)	94.8 (45.00-2.39) 94.9 (36.15-2.39)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.93 (at 2.39Å)	Xtriage
Refinement program	REFMAC 5.6.0117	Depositor
R, R_{free}	0.208　,　0.289 0.207　,　0.288	Depositor DCC
R_{free} test set	4033 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å²)	27.8	Xtriage
Anisotropy	0.229	Xtriage
Bulk solvent k_{sol}(e/Å³), B_{sol}(Å²)	0.31 , 32.0	EDS
L-test for twinning [2]	$< |L| > = 0.49, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	16294	wwPDB-VP
Average B, all atoms (Å²)	28.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.43% 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: 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	0.83	3/2706 (0.1%)	0.91	5/3662 (0.1%)
1	B	0.85	5/2706 (0.2%)	0.89	3/3662 (0.1%)
1	C	0.81	5/2706 (0.2%)	0.87	4/3662 (0.1%)
1	D	0.80	6/2706 (0.2%)	0.82	3/3662 (0.1%)
1	E	0.77	4/2706 (0.1%)	0.84	2/3662 (0.1%)
1	F	0.74	5/2706 (0.2%)	0.79	1/3662 (0.0%)
All	All	0.80	28/16236 (0.2%)	0.85	18/21972 (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	B	0	1
1	C	0	1
All	All	0	2

All (28) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	54	TRP	CD2-CE2	7.41	1.50	1.41
1	B	26	TRP	CD2-CE2	7.09	1.49	1.41
1	A	54	TRP	CD2-CE2	7.05	1.49	1.41
1	E	54	TRP	CD2-CE2	6.68	1.49	1.41
1	D	26	TRP	CD2-CE2	6.25	1.48	1.41
1	A	175	PRO	C-O	6.19	1.35	1.23
1	C	83	TRP	CD2-CE2	6.18	1.48	1.41
1	D	150	TRP	CD2-CE2	6.00	1.48	1.41
1	D	14	TRP	CD2-CE2	5.80	1.48	1.41
1	F	176	TRP	CD2-CE2	5.73	1.48	1.41

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	150	TRP	CD2-CE2	5.70	1.48	1.41
1	F	54	TRP	CD2-CE2	5.68	1.48	1.41
1	F	150	TRP	CD2-CE2	5.60	1.48	1.41
1	E	150	TRP	CD2-CE2	5.54	1.48	1.41
1	C	176	TRP	CD2-CE2	5.52	1.48	1.41
1	D	188	TRP	CD2-CE2	5.50	1.48	1.41
1	E	14	TRP	CD2-CE2	5.50	1.48	1.41
1	E	83	TRP	CD2-CE2	5.36	1.47	1.41
1	C	14	TRP	CD2-CE2	5.27	1.47	1.41
1	F	188	TRP	CD2-CE2	5.27	1.47	1.41
1	C	54	TRP	CD2-CE2	5.25	1.47	1.41
1	D	54	TRP	CD2-CE2	5.25	1.47	1.41
1	C	191	TRP	CD2-CE2	5.17	1.47	1.41
1	F	26	TRP	CD2-CE2	5.15	1.47	1.41
1	D	83	TRP	CD2-CE2	5.09	1.47	1.41
1	B	150	TRP	CD2-CE2	5.08	1.47	1.41
1	B	14	TRP	CD2-CE2	5.03	1.47	1.41
1	B	176	TRP	CD2-CE2	5.02	1.47	1.41

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	131	ARG	NE-CZ-NH2	-10.31	115.14	120.30
1	A	131	ARG	NE-CZ-NH1	9.76	125.18	120.30
1	D	131	ARG	NE-CZ-NH2	-7.57	116.52	120.30
1	C	100	LEU	CA-CB-CG	7.55	132.66	115.30
1	B	131	ARG	NE-CZ-NH2	-7.03	116.79	120.30
1	D	131	ARG	NE-CZ-NH1	6.59	123.59	120.30
1	C	4	ASP	CB-CG-OD1	6.40	124.06	118.30
1	B	20	ARG	NE-CZ-NH2	-6.33	117.14	120.30
1	E	131	ARG	NE-CZ-NH1	5.99	123.30	120.30
1	A	42	ASP	CB-CG-OD2	5.79	123.52	118.30
1	D	296	LEU	CB-CG-CD2	5.67	120.64	111.00
1	C	4	ASP	CB-CG-OD2	-5.54	113.31	118.30
1	B	296	LEU	CB-CG-CD2	5.52	120.39	111.00
1	E	131	ARG	NE-CZ-NH2	-5.36	117.62	120.30
1	C	131	ARG	NE-CZ-NH2	-5.20	117.70	120.30
1	F	131	ARG	NE-CZ-NH2	-5.18	117.71	120.30
1	A	177	ASP	N-CA-C	-5.16	97.06	111.00
1	A	40	LEU	CB-CG-CD2	-5.08	102.37	111.00

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	1	MET	Peptide
1	C	1	MET	Peptide

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	2635	0	2643	47	0
1	B	2635	0	2643	45	0
1	C	2635	0	2643	37	0
1	D	2635	0	2643	59	0
1	E	2635	0	2643	60	0
1	F	2635	0	2643	59	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
2	E	1	0	0	0	0
2	F	1	0	0	0	0
3	A	78	0	0	5	0
3	B	101	0	0	0	0
3	C	79	0	0	1	0
3	D	93	0	0	5	0
3	E	73	0	0	3	0
3	F	54	0	0	2	0
All	All	16294	0	15858	287	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 9.

All (287) 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:C:1:MET:SD	1:C:2:LYS:NZ	2.32	1.03
1:C:12:LYS:HD3	1:C:12:LYS:H	1.19	1.02

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:317:ASN:HB2	3:E:568:HOH:O	1.61	0.99
1:A:42:ASP:HA	3:A:506:HOH:O	1.63	0.97
1:D:195:MET:CE	1:E:235:ARG:NH2	2.30	0.94
1:E:290:THR:HG22	1:E:292:TYR:H	1.32	0.92
1:C:63:MET:HE1	1:C:111:PHE:HE1	1.42	0.84
1:D:63:MET:HE1	1:D:111:PHE:HE1	1.43	0.81
1:F:175:PRO:HG2	1:F:195:MET:CE	2.12	0.80
1:B:1:MET:SD	1:B:2:LYS:NZ	2.53	0.79
1:B:12:LYS:HE3	1:B:12:LYS:H	1.48	0.79
1:D:195:MET:HE2	1:E:235:ARG:HH21	1.49	0.78
1:A:254:ASN:H	1:A:257:LYS:NZ	1.81	0.78
1:C:12:LYS:HD3	1:C:12:LYS:N	2.00	0.77
1:F:253:MET:HG3	1:F:257:LYS:HD2	1.64	0.76
1:D:195:MET:HE2	1:E:235:ARG:NH2	1.99	0.76
1:E:309:GLU:H	1:E:309:GLU:CD	1.90	0.75
1:B:2:LYS:HB2	1:B:321:ALA:HB2	1.68	0.75
1:C:63:MET:HE1	1:C:111:PHE:CE1	2.23	0.74
1:B:63:MET:HE1	1:B:111:PHE:HE1	1.53	0.74
1:F:98:ASN:OD1	1:F:131:ARG:NH2	2.20	0.73
1:F:4:ASP:OD2	1:F:290:THR:HB	1.88	0.73
1:B:2:LYS:CB	1:B:321:ALA:HB2	2.19	0.73
1:F:175:PRO:HG2	1:F:195:MET:HE2	1.72	0.71
1:D:109:ARG:HG2	3:D:588:HOH:O	1.91	0.71
1:C:1:MET:O	1:C:68:VAL:HA	1.89	0.71
1:E:74:SER:HB2	1:E:142:GLN:NE2	2.05	0.70
1:B:270:ASP:OD2	1:C:256:LYS:NZ	2.24	0.70
1:D:12:LYS:H	1:D:12:LYS:HD3	1.57	0.70
1:B:1:MET:HG2	1:B:67:GLY:O	1.92	0.69
1:E:290:THR:CG2	1:E:292:TYR:HB2	2.22	0.69
1:D:63:MET:HE1	1:D:111:PHE:CE1	2.27	0.69
1:E:290:THR:HG22	1:E:292:TYR:N	2.08	0.67
1:F:117:LEU:HD11	1:F:129:MET:HE2	1.77	0.67
1:D:253:MET:HG3	1:D:257:LYS:HD2	1.76	0.67
1:F:41:LYS:O	1:F:42:ASP:HB3	1.95	0.66
1:D:195:MET:CE	1:E:235:ARG:HH22	2.08	0.66
1:C:12:LYS:H	1:C:12:LYS:CD	1.99	0.66
1:F:290:THR:HG22	1:F:292:TYR:H	1.61	0.66
1:F:51:GLU:HG2	1:F:58:VAL:HG21	1.77	0.66
1:D:1:MET:O	1:D:67:GLY:O	2.14	0.65
1:A:290:THR:HG22	1:A:292:TYR:H	1.61	0.64
1:A:254:ASN:HB3	1:A:257:LYS:HE3	1.80	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:254:ASN:H	1:A:257:LYS:HZ2	1.44	0.64
1:A:4:ASP:OD2	1:A:290:THR:HB	1.98	0.64
1:C:175:PRO:HG2	1:C:195:MET:HE3	1.81	0.63
1:B:63:MET:HE1	1:B:71:GLN:OE1	1.98	0.63
1:B:12:LYS:H	1:B:12:LYS:CE	2.11	0.63
1:E:290:THR:HG21	1:E:292:TYR:HB2	1.81	0.62
1:E:299:LEU:HD23	1:E:299:LEU:H	1.65	0.61
1:F:122:PRO:O	1:F:126:VAL:HG23	2.01	0.60
1:F:300:GLU:HB2	1:F:303:LYS:HB2	1.83	0.60
1:F:63:MET:HE1	1:F:111:PHE:CE1	2.36	0.60
1:E:33:SER:OG	1:E:34:LYS:N	2.33	0.60
1:E:309:GLU:CD	1:E:309:GLU:N	2.53	0.59
1:C:195:MET:CE	1:C:224:HIS:NE2	2.66	0.59
1:A:298:GLU:OE1	1:A:301:PRO:HA	2.03	0.58
1:A:15:PRO:HG2	1:A:20:ARG:HH21	1.68	0.58
1:A:278:THR:HG22	1:A:286:VAL:HG21	1.85	0.58
1:E:128:GLU:OE1	1:E:131:ARG:HD3	2.02	0.58
1:F:290:THR:HG22	1:F:292:TYR:N	2.19	0.57
1:D:271:PRO:HD3	1:D:304:LEU:HD11	1.87	0.57
1:F:2:LYS:HB3	1:F:321:ALA:HB2	1.85	0.57
1:F:28:GLN:HB2	1:F:40:LEU:HD11	1.87	0.57
1:F:265:ASP:OD1	1:F:265:ASP:C	2.42	0.57
1:B:265:ASP:C	1:B:265:ASP:OD1	2.43	0.57
1:C:195:MET:HE2	1:C:224:HIS:NE2	2.19	0.57
1:B:284:ASP:OD1	1:B:318:LYS:HE3	2.04	0.56
1:E:30:GLN:CG	1:E:40:LEU:HD11	2.35	0.56
1:F:63:MET:HE1	1:F:111:PHE:HE1	1.69	0.56
1:A:38:LYS:HE2	1:A:48:VAL:HG22	1.86	0.56
1:C:175:PRO:HG2	1:C:195:MET:CE	2.35	0.56
1:E:156:GLU:O	1:E:159:PRO:HD2	2.06	0.56
1:A:80:PHE:HE1	3:A:507:HOH:O	1.89	0.56
1:A:176:TRP:O	1:A:177:ASP:HB3	2.05	0.55
1:A:253:MET:HB3	1:A:257:LYS:HD2	1.88	0.55
1:D:263:TYR:CZ	1:D:285:LYS:HE3	2.41	0.55
1:F:176:TRP:O	1:F:177:ASP:CB	2.54	0.55
1:C:4:ASP:OD2	1:C:290:THR:HB	2.07	0.55
1:B:59:ARG:HB3	1:B:63:MET:CE	2.37	0.55
1:D:59:ARG:HB3	1:D:63:MET:HE2	1.89	0.55
1:F:41:LYS:O	1:F:42:ASP:CB	2.55	0.55
1:A:102:SER:OG	1:B:102:SER:HB3	2.07	0.55
1:A:63:MET:HE1	1:A:111:PHE:HE1	1.71	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:12:LYS:HG2	1:D:13:GLU:HG3	1.88	0.54
1:F:31:HIS:CD2	1:F:31:HIS:H	2.26	0.54
1:F:1:MET:N	1:F:288:LEU:CD2	2.71	0.54
1:F:175:PRO:HG2	1:F:195:MET:HE3	1.86	0.54
1:E:253:MET:SD	1:E:253:MET:N	2.81	0.54
1:F:12:LYS:HG2	1:F:13:GLU:N	2.22	0.54
1:F:128:GLU:OE1	1:F:131:ARG:HD3	2.07	0.54
1:D:16:ASP:OD2	1:D:19:LYS:HG3	2.07	0.54
1:B:59:ARG:HB3	1:B:63:MET:HE3	1.89	0.53
1:E:184:MET:O	1:E:190:PRO:HD3	2.08	0.53
1:A:195:MET:HE2	1:F:235:ARG:HH22	1.74	0.53
1:E:210:GLY:O	1:E:214:LYS:HD3	2.07	0.53
1:E:191:TRP:HA	1:E:195:MET:HG3	1.91	0.53
1:A:41:LYS:O	1:A:42:ASP:C	2.46	0.53
1:B:63:MET:CE	1:B:111:PHE:HE1	2.20	0.53
1:E:254:ASN:OD1	1:E:256:LYS:HB2	2.09	0.53
1:A:87:GLU:OE1	1:A:87:GLU:HA	2.09	0.53
1:C:53:CYS:HB2	3:C:527:HOH:O	2.08	0.53
1:D:295:PRO:HD2	3:D:501:HOH:O	2.09	0.52
1:D:195:MET:HE1	1:E:235:ARG:HH22	1.74	0.52
1:E:12:LYS:HE2	1:E:13:GLU:H	1.74	0.52
1:A:284:ASP:HB2	3:A:518:HOH:O	2.10	0.52
1:B:204:CYS:HB3	1:B:208:MET:CE	2.40	0.52
1:C:290:THR:O	1:C:297:GLY:HA3	2.10	0.52
1:D:58:VAL:O	1:D:62:GLU:HG3	2.09	0.52
1:F:46:PHE:O	1:F:47:ARG:HB2	2.09	0.52
1:D:4:ASP:OD2	1:D:290:THR:HB	2.10	0.52
1:D:254:ASN:H	1:D:257:LYS:HZ1	1.58	0.52
1:E:204:CYS:HB3	1:E:208:MET:CE	2.40	0.52
1:C:2:LYS:HB3	1:C:321:ALA:HB2	1.92	0.51
1:F:1:MET:N	1:F:288:LEU:HD21	2.24	0.51
1:D:176:TRP:CG	1:D:177:ASP:N	2.78	0.51
1:D:235:ARG:HH22	1:E:195:MET:HE2	1.75	0.51
1:A:187:TYR:OH	1:F:153:ASN:ND2	2.44	0.51
1:C:86:PRO:HB3	1:C:121:ALA:HB2	1.91	0.51
1:A:178:MET:HG3	1:A:198:GLU:HG3	1.92	0.50
1:B:174:HIS:ND1	1:B:175:PRO:HD2	2.27	0.50
1:D:15:PRO:HG2	1:D:20:ARG:HH21	1.76	0.50
1:D:274:LEU:HD22	1:D:304:LEU:HD23	1.94	0.50
1:A:252:PRO:HG2	1:A:253:MET:SD	2.52	0.50
1:D:188:TRP:CD1	1:E:246:LEU:HD13	2.47	0.50

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:325:LEU:HD13	1:B:332:ARG:HG3	1.94	0.50
1:A:290:THR:HG22	1:A:292:TYR:N	2.26	0.50
1:C:1:MET:SD	1:C:2:LYS:HG2	2.51	0.50
1:C:74:SER:HB2	1:C:142:GLN:NE2	2.25	0.50
1:D:74:SER:HB2	1:D:142:GLN:OE1	2.12	0.50
1:E:176:TRP:CG	1:E:177:ASP:N	2.80	0.50
1:B:4:ASP:OD2	1:B:290:THR:HB	2.12	0.49
1:B:189:LEU:N	1:B:190:PRO:CD	2.75	0.49
1:D:304:LEU:O	1:D:308:MET:HG2	2.12	0.49
1:D:189:LEU:N	1:D:190:PRO:CD	2.76	0.49
1:D:290:THR:HG22	1:D:292:TYR:N	2.27	0.49
1:E:109:ARG:NH2	3:E:508:HOH:O	2.46	0.49
1:D:86:PRO:HB3	1:D:121:ALA:HB2	1.94	0.48
1:F:15:PRO:HD2	1:F:95:LEU:HD11	1.95	0.48
1:F:41:LYS:HA	1:F:46:PHE:HE2	1.79	0.48
1:A:86:PRO:HB3	1:A:121:ALA:HB2	1.94	0.48
1:D:299:LEU:O	1:D:301:PRO:HD3	2.13	0.48
1:F:57:GLU:HG3	1:F:107:TYR:OH	2.13	0.48
1:F:254:ASN:H	1:F:257:LYS:HZ2	1.61	0.48
1:A:193:VAL:C	1:A:196:PRO:HD2	2.34	0.48
1:B:12:LYS:H	1:B:12:LYS:CD	2.26	0.48
1:E:30:GLN:HG3	1:E:40:LEU:HD11	1.95	0.48
1:B:63:MET:CE	1:B:111:PHE:CE1	2.96	0.48
1:E:62:GLU:O	1:E:66:LYS:HG2	2.13	0.47
1:C:145:THR:O	1:C:146:HIS:HB3	2.14	0.47
1:B:51:GLU:HG2	1:B:58:VAL:HG21	1.95	0.47
1:E:265:ASP:OD1	1:E:265:ASP:C	2.53	0.47
1:B:63:MET:HE1	1:B:111:PHE:CE1	2.42	0.47
1:F:23:TYR:OH	1:F:85:LYS:HB2	2.14	0.47
1:F:283:LYS:HD3	1:F:315:THR:CG2	2.43	0.47
1:B:206:MET:CE	1:B:211:VAL:HG11	2.45	0.47
1:C:8:HIS:HA	1:C:74:SER:O	2.15	0.47
1:E:287:ILE:HG23	1:E:324:ALA:HB2	1.97	0.47
1:A:270:ASP:OD2	1:F:256:LYS:NZ	2.37	0.47
1:E:30:GLN:CG	1:E:40:LEU:CD1	2.92	0.47
1:E:195:MET:HB2	1:E:196:PRO:HD3	1.97	0.47
1:E:266:ALA:HB2	1:E:286:VAL:CG1	2.45	0.47
1:D:12:LYS:HD3	1:D:12:LYS:N	2.26	0.46
1:E:30:GLN:HG3	1:E:40:LEU:CD1	2.45	0.46
1:C:20:ARG:NH1	1:C:91:ASN:OD1	2.44	0.46
1:F:127:LYS:NZ	3:F:538:HOH:O	2.47	0.46

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:332:ARG:HD2	1:D:332:ARG:C	2.35	0.46
1:E:70:VAL:HA	1:E:110:ARG:O	2.15	0.46
1:F:146:HIS:ND1	1:F:198:GLU:OE1	2.47	0.46
1:F:158:PHE:N	1:F:159:PRO:CD	2.79	0.46
1:D:254:ASN:H	1:D:257:LYS:NZ	2.13	0.46
1:C:316:LYS:O	1:C:320:LYS:HG3	2.15	0.46
1:C:129:MET:O	1:C:133:VAL:HG23	2.16	0.46
1:D:203:ILE:O	1:D:207:ILE:HG13	2.15	0.46
1:E:4:ASP:OD2	1:E:290:THR:HB	2.15	0.46
1:F:31:HIS:CD2	1:F:31:HIS:N	2.83	0.46
1:F:176:TRP:O	1:F:177:ASP:HB2	2.16	0.46
1:B:206:MET:HE3	1:B:211:VAL:HG11	1.97	0.46
1:B:207:ILE:HG23	1:B:258:TYR:CD2	2.51	0.46
1:F:191:TRP:HA	1:F:195:MET:HG3	1.98	0.46
1:F:186:LYS:O	1:F:189:LEU:HG	2.16	0.46
1:A:8:HIS:HD2	1:A:75:THR:O	2.00	0.45
1:A:253:MET:HA	1:A:257:LYS:HZ2	1.82	0.45
1:C:114:LEU:HA	1:C:140:GLY:O	2.16	0.45
1:D:20:ARG:NH1	1:D:91:ASN:OD1	2.48	0.45
1:C:95:LEU:HD23	1:C:95:LEU:C	2.36	0.45
1:D:276:LEU:HD11	1:E:272:LEU:HB3	1.97	0.45
1:B:332:ARG:CD	1:B:332:ARG:H	2.30	0.45
1:D:207:ILE:HG23	1:D:258:TYR:CD2	2.52	0.45
1:E:258:TYR:O	1:E:261:SER:HB2	2.17	0.45
1:D:235:ARG:NH2	1:E:195:MET:HE2	2.32	0.45
1:A:2:LYS:HB3	1:A:321:ALA:HB2	1.99	0.44
1:D:70:VAL:HA	1:D:110:ARG:O	2.17	0.44
1:D:224:HIS:HD2	3:D:503:HOH:O	2.00	0.44
1:E:51:GLU:HA	1:E:54:TRP:CE2	2.51	0.44
1:A:70:VAL:HA	1:A:110:ARG:O	2.17	0.44
1:C:33:SER:OG	1:C:34:LYS:N	2.50	0.44
1:E:290:THR:CG2	1:E:292:TYR:H	2.16	0.44
1:B:281:ILE:HG22	1:B:285:LYS:HB2	1.99	0.44
1:D:98:ASN:OD1	1:D:131:ARG:NH2	2.26	0.44
1:A:213:GLU:HB3	1:A:214:LYS:NZ	2.32	0.44
1:D:2:LYS:HB2	1:D:321:ALA:HB2	1.99	0.44
1:D:195:MET:HE3	1:E:235:ARG:NH2	2.25	0.44
1:B:195:MET:CE	1:B:224:HIS:NE2	2.80	0.44
1:A:219:LYS:HE2	1:A:219:LYS:HB3	1.90	0.44
1:F:76:VAL:HA	1:F:77:PRO:HD3	1.85	0.44
1:F:193:VAL:O	1:F:196:PRO:HD2	2.18	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:12:LYS:HE3	1:B:12:LYS:N	2.25	0.44
1:C:63:MET:CE	1:C:111:PHE:CE1	2.99	0.44
1:E:254:ASN:HB3	1:E:257:LYS:HE3	1.99	0.44
1:F:12:LYS:HG2	1:F:13:GLU:H	1.82	0.44
1:B:63:MET:HE1	1:B:71:GLN:CD	2.39	0.44
1:D:63:MET:CE	1:D:111:PHE:CE1	2.98	0.44
1:D:224:HIS:HE1	3:D:591:HOH:O	2.00	0.44
1:A:62:GLU:O	1:A:66:LYS:HG2	2.18	0.43
1:A:134:LYS:HA	1:A:134:LYS:HD3	1.85	0.43
1:F:224:HIS:CE1	3:F:554:HOH:O	2.70	0.43
1:C:176:TRP:CG	1:C:177:ASP:N	2.85	0.43
1:D:119:MET:HE3	1:D:157:LEU:HD22	2.01	0.43
1:F:332:ARG:H	1:F:332:ARG:NE	2.16	0.43
1:A:193:VAL:O	1:A:196:PRO:HD2	2.18	0.43
1:C:41:LYS:C	1:C:43:GLY:H	2.22	0.43
1:E:128:GLU:OE1	1:E:128:GLU:HA	2.18	0.43
1:D:152:LEU:HB3	1:D:206:MET:HG3	2.00	0.43
1:E:290:THR:CG2	1:E:292:TYR:N	2.79	0.43
1:B:186:LYS:HD2	1:B:187:TYR:CD1	2.54	0.43
1:C:195:MET:N	1:C:196:PRO:CD	2.82	0.43
1:D:42:ASP:HB2	3:D:526:HOH:O	2.18	0.43
1:E:310:GLU:HB2	3:E:551:HOH:O	2.19	0.43
1:B:1:MET:SD	1:B:2:LYS:HG2	2.58	0.42
1:D:276:LEU:HD22	1:E:276:LEU:HD22	2.00	0.42
1:F:1:MET:H2	1:F:288:LEU:CD2	2.31	0.42
1:C:59:ARG:HB3	1:C:63:MET:CE	2.49	0.42
1:D:145:THR:CG2	1:D:175:PRO:HA	2.49	0.42
1:B:5:ILE:HG13	1:B:5:ILE:O	2.18	0.42
1:F:4:ASP:CG	1:F:290:THR:HB	2.40	0.42
1:F:8:HIS:CD2	1:F:294:PHE:HE1	2.36	0.42
1:B:294:PHE:HB3	1:B:295:PRO:HD2	2.01	0.42
1:D:254:ASN:HB3	1:D:257:LYS:HE3	2.02	0.42
1:E:32:HIS:CE1	1:E:38:LYS:HG3	2.54	0.42
1:B:155:GLN:O	1:B:158:PHE:HB2	2.19	0.42
1:E:281:ILE:HG22	1:E:285:LYS:HB2	2.01	0.42
1:F:44:LYS:O	1:F:45:VAL:O	2.38	0.42
1:B:76:VAL:HG12	1:B:78:VAL:HG12	2.02	0.42
1:F:128:GLU:OE1	1:F:128:GLU:HA	2.20	0.42
1:B:275:LYS:HE2	1:B:310:GLU:HB3	2.02	0.42
1:A:102:SER:CB	1:B:102:SER:HB3	2.50	0.41
1:B:32:HIS:CE1	1:B:36:GLU:HB2	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:142:GLN:HA	1:D:172:PHE:O	2.20	0.41
1:D:328:LEU:HD23	1:D:328:LEU:HA	1.90	0.41
1:A:147:VAL:O	1:A:148:ASN:HB2	2.19	0.41
1:B:287:ILE:HG23	1:B:324:ALA:HB2	2.00	0.41
1:D:4:ASP:OD1	1:D:289:GLY:HA2	2.19	0.41
1:D:253:MET:CG	1:D:257:LYS:HD2	2.47	0.41
1:A:1:MET:O	1:A:2:LYS:HG2	2.20	0.41
1:A:15:PRO:HG2	1:A:20:ARG:NH2	2.34	0.41
1:A:93:CYS:SG	1:A:116:THR:HG23	2.61	0.41
1:A:189:LEU:N	1:A:190:PRO:CD	2.83	0.41
1:C:265:ASP:HA	1:C:287:ILE:O	2.20	0.41
1:F:193:VAL:C	1:F:196:PRO:HD2	2.41	0.41
1:A:276:LEU:HD22	1:F:276:LEU:HD22	2.01	0.41
1:D:188:TRP:C	1:D:190:PRO:HD2	2.41	0.41
1:F:298:GLU:OE1	1:F:301:PRO:HA	2.20	0.41
1:A:276:LEU:HD22	1:F:276:LEU:CD2	2.51	0.41
1:B:55:ASP:HA	1:B:56:PRO:HD3	1.95	0.41
1:C:56:PRO:HG3	1:C:103:THR:HG23	2.02	0.41
1:E:55:ASP:HA	1:E:56:PRO:HD2	1.89	0.41
1:A:29:LEU:HD13	1:A:39:LEU:CD2	2.50	0.41
1:C:290:THR:O	1:C:290:THR:HG22	2.20	0.41
1:D:296:LEU:CD1	1:E:235:ARG:NH2	2.84	0.41
1:E:40:LEU:HD12	1:E:40:LEU:N	2.36	0.41
1:E:155:GLN:O	1:E:158:PHE:HB2	2.21	0.41
1:F:66:LYS:HD3	1:F:66:LYS:HA	1.73	0.41
1:F:100:LEU:HD12	1:F:100:LEU:HA	1.94	0.41
1:D:66:LYS:HD3	1:D:66:LYS:HA	1.93	0.40
1:E:59:ARG:O	1:E:63:MET:HE2	2.21	0.40
1:A:224:HIS:HD2	3:A:563:HOH:O	2.04	0.40
1:B:304:LEU:O	1:B:308:MET:HG2	2.21	0.40
1:C:2:LYS:CB	1:C:321:ALA:HB2	2.51	0.40
1:C:63:MET:HB3	1:C:68:VAL:HB	2.04	0.40
1:A:50:ARG:CD	3:A:572:HOH:O	2.68	0.40
1:A:51:GLU:HA	1:A:54:TRP:CE2	2.55	0.40
1:B:63:MET:CE	1:B:71:GLN:CD	2.90	0.40
1:E:4:ASP:CG	1:E:290:THR:HB	2.42	0.40
1:E:66:LYS:HD2	1:E:300:GLU:OE2	2.21	0.40
1:E:206:MET:HE1	1:E:220:VAL:HG21	2.04	0.40
1:F:13:GLU:HG2	1:F:14:TRP:N	2.36	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	330/332 (99%)	312 (94%)	15 (4%)	3 (1%)	17	25
1	B	330/332 (99%)	316 (96%)	11 (3%)	3 (1%)	17	25
1	C	330/332 (99%)	309 (94%)	20 (6%)	1 (0%)	41	55
1	D	330/332 (99%)	318 (96%)	11 (3%)	1 (0%)	41	55
1	E	330/332 (99%)	312 (94%)	17 (5%)	1 (0%)	41	55
1	F	330/332 (99%)	305 (92%)	19 (6%)	6 (2%)	8	10
All	All	1980/1992 (99%)	1872 (94%)	93 (5%)	15 (1%)	19	29

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	44	LYS
1	D	42	ASP
1	F	45	VAL
1	B	34	LYS
1	F	42	ASP
1	F	250	ASP
1	A	42	ASP
1	A	187	TYR
1	B	2	LYS
1	B	269	HIS
1	F	47	ARG
1	F	309	GLU
1	F	43	GLY
1	A	2	LYS
1	E	187	TYR

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	285/285 (100%)	261 (92%)	24 (8%)	11	16
1	B	285/285 (100%)	262 (92%)	23 (8%)	11	18
1	C	285/285 (100%)	270 (95%)	15 (5%)	22	37
1	D	285/285 (100%)	270 (95%)	15 (5%)	22	37
1	E	285/285 (100%)	259 (91%)	26 (9%)	9	14
1	F	285/285 (100%)	262 (92%)	23 (8%)	11	18
All	All	1710/1710 (100%)	1584 (93%)	126 (7%)	13	22

All (126) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	MET
1	A	12	LYS
1	A	27	VAL
1	A	40	LEU
1	A	44	LYS
1	A	60	ILE
1	A	61	ARG
1	A	70	VAL
1	A	105	VAL
1	A	123	GLU
1	A	130	GLU
1	A	151	ASP
1	A	152	LEU
1	A	166	ARG
1	A	178	MET
1	A	214	LYS
1	A	219	LYS
1	A	249	GLN
1	A	256	LYS
1	A	261	SER
1	A	296	LEU
1	A	309	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	313	GLU
1	A	314	GLU
1	B	1	MET
1	B	2	LYS
1	B	12	LYS
1	B	34	LYS
1	B	42	ASP
1	B	57	GLU
1	B	81	SER
1	B	100	LEU
1	B	109	ARG
1	B	123	GLU
1	B	149	GLU
1	B	152	LEU
1	B	178	MET
1	B	186	LYS
1	B	188	TRP
1	B	253	MET
1	B	256	LYS
1	B	265	ASP
1	B	296	LEU
1	B	303	LYS
1	B	314	GLU
1	B	319	LEU
1	B	332	ARG
1	C	1	MET
1	C	12	LYS
1	C	27	VAL
1	C	30	GLN
1	C	42	ASP
1	C	70	VAL
1	C	131	ARG
1	C	152	LEU
1	C	178	MET
1	C	214	LYS
1	C	249	GLN
1	C	296	LEU
1	C	313	GLU
1	C	319	LEU
1	C	332	ARG
1	D	1	MET
1	D	12	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	33	SER
1	D	70	VAL
1	D	123	GLU
1	D	127	LYS
1	D	131	ARG
1	D	151	ASP
1	D	152	LEU
1	D	168	LYS
1	D	255	PRO
1	D	296	LEU
1	D	299	LEU
1	D	314	GLU
1	D	332	ARG
1	E	1	MET
1	E	12	LYS
1	E	13	GLU
1	E	27	VAL
1	E	36	GLU
1	E	40	LEU
1	E	54	TRP
1	E	60	ILE
1	E	69	THR
1	E	87	GLU
1	E	100	LEU
1	E	105	VAL
1	E	123	GLU
1	E	127	LYS
1	E	130	GLU
1	E	152	LEU
1	E	177	ASP
1	E	178	MET
1	E	186	LYS
1	E	188	TRP
1	E	253	MET
1	E	290	THR
1	E	296	LEU
1	E	299	LEU
1	E	309	GLU
1	E	332	ARG
1	F	1	MET
1	F	2	LYS
1	F	13	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	F	19	LYS
1	F	27	VAL
1	F	31	HIS
1	F	34	LYS
1	F	40	LEU
1	F	60	ILE
1	F	100	LEU
1	F	149	GLU
1	F	151	ASP
1	F	152	LEU
1	F	177	ASP
1	F	214	LYS
1	F	217	LYS
1	F	249	GLN
1	F	296	LEU
1	F	300	GLU
1	F	303	LYS
1	F	312	ASP
1	F	318	LYS
1	F	332	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	8	HIS
1	A	142	GLN
1	B	32	HIS
1	D	8	HIS
1	D	142	GLN
1	D	155	GLN
1	D	224	HIS
1	E	32	HIS
1	E	249	GLN
1	F	31	HIS
1	F	153	ASN
1	F	224	HIS
1	F	249	GLN

5.3.3 RNA (i)

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 ⓘ

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 ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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	332/332 (100%)	0.12	6 (1%)	68	66	12, 23, 46, 61	0
1	B	332/332 (100%)	-0.01	5 (1%)	73	72	9, 21, 40, 68	0
1	C	332/332 (100%)	-0.01	7 (2%)	63	61	12, 23, 47, 88	0
1	D	332/332 (100%)	0.01	3 (0%)	84	82	12, 22, 43, 63	0
1	E	332/332 (100%)	0.14	9 (2%)	54	52	14, 27, 51, 75	0
1	F	332/332 (100%)	0.44	23 (6%)	16	15	14, 32, 65, 96	0
All	All	1992/1992 (100%)	0.11	53 (2%)	54	52	9, 24, 51, 96	0

All (53) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	1	MET	8.8
1	A	1	MET	7.9
1	D	1	MET	7.8
1	F	35	GLY	6.5
1	E	43	GLY	5.6
1	A	32	HIS	5.5
1	B	1	MET	5.1
1	F	43	GLY	5.0
1	F	32	HIS	4.9
1	A	176	TRP	4.9
1	E	1	MET	4.7
1	C	1	MET	4.7
1	F	42	ASP	4.5
1	F	249	GLN	3.5
1	F	24	GLY	3.5
1	F	21	PHE	3.4
1	A	313	GLU	3.3
1	E	317	ASN	3.3
1	F	25	GLY	3.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	F	34	LYS	3.2
1	A	181	ASP	3.1
1	D	43	GLY	3.0
1	F	250	ASP	2.9
1	B	173	VAL	2.9
1	F	33	SER	2.8
1	F	16	ASP	2.8
1	F	54	TRP	2.7
1	F	246	LEU	2.7
1	C	32	HIS	2.5
1	C	35	GLY	2.5
1	B	332	ARG	2.5
1	E	314	GLU	2.5
1	E	32	HIS	2.5
1	C	313	GLU	2.4
1	E	246	LEU	2.4
1	F	23	TYR	2.3
1	F	45	VAL	2.3
1	F	26	TRP	2.3
1	C	309	GLU	2.3
1	E	249	GLN	2.3
1	F	36	GLU	2.2
1	F	31	HIS	2.2
1	F	17	LEU	2.2
1	F	173	VAL	2.2
1	D	177	ASP	2.2
1	E	245	ASP	2.2
1	B	42	ASP	2.2
1	F	40	LEU	2.2
1	C	43	GLY	2.1
1	C	331	GLU	2.1
1	B	32	HIS	2.0
1	E	332	ARG	2.0
1	A	42	ASP	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
2	ZN	A	401	1/1	0.99	0.11	21,21,21,21	0
2	ZN	B	401	1/1	0.99	0.12	21,21,21,21	0
2	ZN	C	401	1/1	0.99	0.09	23,23,23,23	0
2	ZN	E	401	1/1	0.99	0.07	27,27,27,27	0
2	ZN	F	401	1/1	0.99	0.07	30,30,30,30	0
2	ZN	D	401	1/1	1.00	0.06	27,27,27,27	0

6.5 Other polymers ⓘ

There are no such residues in this entry.