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

wwPDB X-ray Structure Validation Summary Report (i)

Aug 29, 2023 – 06:34 PM EDT

PDB ID	:	3N4D
Title	:	Crystal structure of Cg10062 inactivated by(R)-oxirane-2-carboxylate
Authors	:	Guo, Y.; Robertson, B.A.; Hackert, M.L.; Whitman, C.P.
Deposited on	:	2010-05-21
Resolution	:	2.54 Å(reported)

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

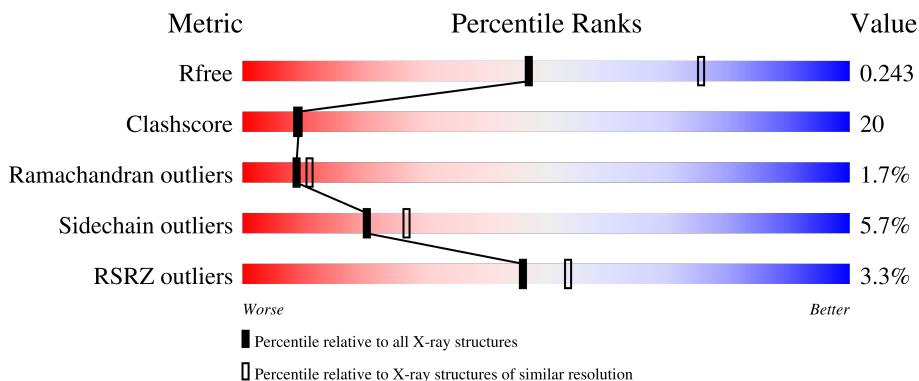|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.54 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		0.243
Clashscore		20
Ramachandran outliers		1.7%
Sidechain outliers		5.7%
RSRZ outliers		3.3%

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	1284 (2.56-2.52)
Clashscore	141614	1332 (2.56-2.52)
Ramachandran outliers	138981	1315 (2.56-2.52)
Sidechain outliers	138945	1315 (2.56-2.52)
RSRZ outliers	127900	1272 (2.56-2.52)

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	148	8% / 59% 33% 5% ··
1	B	148	3% / 57% 36% ···
1	C	148	% / 68% 30% ···
1	D	148	10% / 55% 39% 5% ·
1	E	148	% / 58% 36% ···

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	F	148	57% 36%
1	G	148	5% 55% 41%
1	H	148	58% 33% 5%
1	I	148	67% 26% 5%

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
1	PR4	B	1	-	-	X	-
1	PR4	C	1	-	-	X	-
1	PR4	E	1	-	-	X	-
1	PR4	F	1	-	-	X	-

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 11026 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 Putative tautomerase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	145	Total 1179	C 746	N 204	O 226	S 3	0	0	0
1	B	145	Total 1190	C 753	N 204	O 230	S 3	0	0	0
1	C	146	Total 1196	C 756	N 205	O 232	S 3	0	0	0
1	D	145	Total 1182	C 749	N 204	O 226	S 3	0	0	0
1	E	145	Total 1154	C 732	N 199	O 220	S 3	0	0	0
1	F	145	Total 1186	C 751	N 204	O 228	S 3	0	0	0
1	G	145	Total 1171	C 740	N 203	O 225	S 3	0	0	0
1	H	140	Total 1122	C 712	N 197	O 210	S 3	0	0	0
1	I	145	Total 1166	C 740	N 203	O 220	S 3	0	0	0

- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	53	Total 53	O 53	0	0
2	B	48	Total 48	O 48	0	0
2	C	50	Total 50	O 50	0	0
2	D	43	Total 43	O 43	0	0
2	E	55	Total 55	O 55	0	0

Continued on next page...

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

Continued from previous page...

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	F	59	Total 59	O 59	0	0
2	G	49	Total 49	O 49	0	0
2	H	49	Total 49	O 49	0	0
2	I	74	Total 74	O 74	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: Putative tautomerase

Chain A:

- Molecule 1: Putative tautomerase

Chain B:

- Molecule 1: Putative tautomerase

Chain C:

- Molecule 1: Putative tautomerase

Chain D:

N97 E98 E99 I104 I107 M112 T113 E114 R117 L118 L119 M120 E121 P122 G123 E124 E125 E126 K127 W128 F129 N130 S131 L132 P133 E134 G135 L136 R137 E138 R139 L140 L143 E144 G145 SER SER GLU
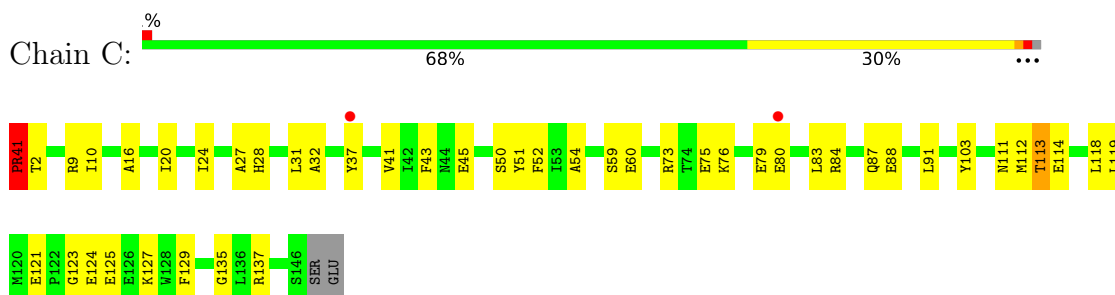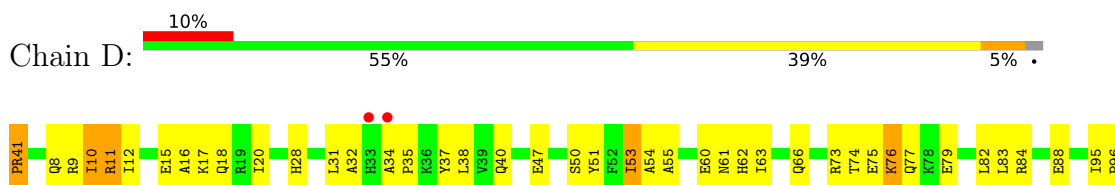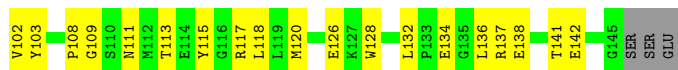
• Molecule 1: Putative tautomerase

Chain E:

PR41 T4 R9 I10 R11 I12 I20 I24 T25 D26 H29 E30 L31 A32 H33 Y37 L38 E47 P48 D49 S50 Y51 F52 I53 A54 N61 H62 I63 W64 V65 Q66 R70 R73 T74 E75 K76 Q77 K78 E79 E80 L81 L82 L83 T86 I95 E99

V102 Y103 P108 G109 S110 N111 M112 T113 E114 Y115 G116 R117 L118 L119 M120 E126 K127 W128 L132 P133 E134 G135 L136 R137 E138 T141 E142 G145 SER SER GLU

• Molecule 1: Putative tautomerase

Chain F:

PR41 T2 Q8 R9 I10 R11 I12 A16 K17 Q18 R19 I20 A21 E22 H28 H29 E30 L31 K36 Y37 L38 V39 E45 D49 S50 Y51 F52 I53 A54 A58 S59 E60 N61 H62 I63 W64 V65 Q66 A67 R73 Q77 K78 E79 E80 L81 L82 L83 R84 L85 T86 Q87

E88 I92 E98 V102 Y103 I104 S110 N111 M112 T113 E114 L118 E121 E126 K127 N130 S131 L132 P133 L136 R137 E138 L143 E144 G145 SER SER GLU

• Molecule 1: Putative tautomerase

Chain G:

PR41 T2 Y3 T4 C5 W6 S7 Q8 R9 I10 R11 E15 R19 H28 H29 E30 L31 A32 H33 A34 Y37 L38 V39 Q40 E45 V46 E47 P48 D49 S50 Y51 F52 I53 A54 A58 S59 E60 N61 H62 I63 A67 T68 I69 R73 T74 E75 K76 Q77 K78 E79 E80 L81

L82 I92 L93 G94 I95 P96 N97 E98 E99 V100 W101 I104 N111 M112 T113 R117 L118 L119 M120 E121 P122 E125 F129 N130 P133 E134 G135 L136 R137 E138 R139 L140 T141 E142 L143 E144 G145 SER SER GLU

• Molecule 1: Putative tautomerase

Chain H:

PR41 T4 C5 W6 S7 Q8 R9 I10 R11 E15 R19 H28 H29 E30 L31 A32 H33 A34 P35 K36 Y37 L38 V39 Q40 N44 P48 D49 S50 Y51 F52 I53 A54 H62 I63 W64 V65 Q66 R70 R73 T74 E75 K76 Q77 K78 E79 E80 T86 Q87 E88

I92 P108 G109 S110 N111 M112 T113 R117 L118 L132 P133 E134 G135 L136 R137 L140 THR GLU LEU GLU GLY SER SER GLU

• Molecule 1: Putative tautomerase

Chain I:

PR41 T2 Y3 R9 I10 Q18 E22 H28 H29 E30 H33 A34 P35 K36 Y37 L38 V39 Q40 V41 I42 F43 Y51 F52 I53 A54 N61 Q66 A67 R70 R73 K78 R84 E88 I92 N97 E98 E99 G109 M112 G116 R117 L118

L119 M120 E121 P122 L132 P133 E134 G135 L136 R137 L143 E144 G145 SER SER GLU

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	57.10Å 131.00Å 179.39Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.00 – 2.54 45.21 – 2.02	Depositor EDS
% Data completeness (in resolution range)	100.0 (45.00-2.54) 99.8 (45.21-2.02)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.32 (at 2.01Å)	Xtriage
Refinement program	REFMAC 5.2.0005	Depositor
R, R_{free}	0.223 , 0.243 0.224 , 0.243	Depositor DCC
R_{free} test set	4473 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	34.8	Xtriage
Anisotropy	0.013	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 51.6	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	0.94	EDS
Total number of atoms	11026	wwPDB-VP
Average B, all atoms (Å^2)	36.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 63.44 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 9.6669e-06. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

---

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

5   Model quality ⓘ

5.1   Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: PR4

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	0.61	0/1191	0.67	0/1616
1	B	0.57	0/1202	0.61	0/1630
1	C	0.41	0/1208	0.59	0/1638
1	D	0.48	0/1194	0.62	0/1620
1	E	0.58	1/1166 (0.1%)	0.69	1/1587 (0.1%)
1	F	0.49	0/1198	0.63	0/1625
1	G	0.48	0/1183	0.65	0/1607
1	H	0.44	0/1134	0.64	0/1543
1	I	0.64	2/1178 (0.2%)	0.68	0/1601
All	All	0.53	3/10654 (0.0%)	0.64	1/14467 (0.0%)

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
1	E	0	1
1	G	0	1
1	I	0	1
All	All	0	5

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	I	51	TYR	CD2-CE2	-5.89	1.30	1.39
1	I	51	TYR	CD1-CE1	-5.04	1.31	1.39
1	E	115	TYR	CD1-CE1	-5.02	1.31	1.39

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	73	ARG	NE-CZ-NH2	-5.62	117.49	120.30

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	1	PR4	Mainchain
1	C	1	PR4	Mainchain
1	E	1	PR4	Mainchain
1	G	1	PR4	Mainchain
1	I	1	PR4	Mainchain

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	1179	0	1150	46	0
1	B	1190	0	1167	54	0
1	C	1196	0	1172	47	0
1	D	1182	0	1159	54	0
1	E	1154	0	1107	52	0
1	F	1186	0	1163	49	0
1	G	1171	0	1127	52	0
1	H	1122	0	1083	47	0
1	I	1166	0	1136	47	0
2	A	53	0	0	10	0
2	B	48	0	0	10	0
2	C	50	0	0	11	0
2	D	43	0	0	11	0
2	E	55	0	0	7	0
2	F	59	0	0	8	0
2	G	49	0	0	10	0
2	H	49	0	0	9	0
2	I	74	0	0	11	0
All	All	11026	0	10264	413	0

WORLDWIDE
wwPDB
PROTEIN DATA BANK

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 20.

The worst 5 of 413 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:H:4:THR:HB	2:H:504:HOH:O	1.32	1.29
1:F:1:PR4:HABA	1:F:112:MET:HE3	1.32	1.10
1:A:113:THR:HG22	2:C:161:HOH:O	1.58	1.03
1:C:1:PR4:HDA	1:C:1:PR4:CAD	1.81	1.03
1:G:9:ARG:HG3	1:G:10:ILE:HG12	1.43	1.00

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	143/148 (97%)	132 (92%)	5 (4%)	6 (4%)	3	1
1	B	143/148 (97%)	136 (95%)	4 (3%)	3 (2%)	7	7
1	C	144/148 (97%)	137 (95%)	6 (4%)	1 (1%)	22	30
1	D	143/148 (97%)	137 (96%)	5 (4%)	1 (1%)	22	30
1	E	143/148 (97%)	138 (96%)	3 (2%)	2 (1%)	11	15
1	F	143/148 (97%)	138 (96%)	3 (2%)	2 (1%)	11	15
1	G	143/148 (97%)	136 (95%)	5 (4%)	2 (1%)	11	15
1	H	138/148 (93%)	126 (91%)	10 (7%)	2 (1%)	11	15
1	I	143/148 (97%)	135 (94%)	5 (4%)	3 (2%)	7	7
All	All	1283/1332 (96%)	1215 (95%)	46 (4%)	22 (2%)	9	11

5 of 22 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	124	GLU
1	B	10	ILE
1	B	32	ALA
1	D	10	ILE
1	E	10	ILE

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	123/129 (95%)	115 (94%)	8 (6%)	17	23
1	B	126/129 (98%)	118 (94%)	8 (6%)	18	23
1	C	127/129 (98%)	121 (95%)	6 (5%)	26	35
1	D	124/129 (96%)	116 (94%)	8 (6%)	17	23
1	E	117/129 (91%)	109 (93%)	8 (7%)	16	20
1	F	125/129 (97%)	117 (94%)	8 (6%)	17	23
1	G	120/129 (93%)	115 (96%)	5 (4%)	30	40
1	H	114/129 (88%)	108 (95%)	6 (5%)	22	30
1	I	120/129 (93%)	115 (96%)	5 (4%)	30	40
All	All	1096/1161 (94%)	1034 (94%)	62 (6%)	20	27

5 of 62 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	127	LYS
1	H	51	TYR
1	E	51	TYR
1	H	38	LEU
1	I	51	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 35 such sidechains are listed below:

Mol	Chain	Res	Type
1	H	29	HIS
1	H	77	GLN
1	I	62	HIS
1	D	111	ASN
1	D	66	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
1	PR4	D	1	1	12,13,14	0.88	0	15,17,19	2.69	6 (40%)
1	PR4	E	1	1	12,13,14	1.33	1 (8%)	15,17,19	2.31	2 (13%)
1	PR4	A	1	1	12,13,14	1.21	1 (8%)	15,17,19	2.78	6 (40%)
1	PR4	C	1	1	12,13,14	0.79	0	15,17,19	1.67	5 (33%)
1	PR4	B	1	1	12,13,14	1.26	1 (8%)	15,17,19	1.83	3 (20%)
1	PR4	H	1	1	12,13,14	0.88	0	15,17,19	2.05	5 (33%)
1	PR4	I	1	1	12,13,14	1.24	0	15,17,19	1.99	3 (20%)
1	PR4	F	1	1	12,13,14	1.12	0	15,17,19	1.70	3 (20%)
1	PR4	G	1	1	12,13,14	1.13	1 (8%)	15,17,19	2.32	4 (26%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PR4	D	1	1	-	3/8/20/22	0/1/1/1

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

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PR4	E	1	1	-	3/8/20/22	0/1/1/1
1	PR4	A	1	1	-	6/8/20/22	0/1/1/1
1	PR4	C	1	1	-	5/8/20/22	0/1/1/1
1	PR4	B	1	1	-	7/8/20/22	0/1/1/1
1	PR4	H	1	1	-	3/8/20/22	0/1/1/1
1	PR4	I	1	1	-	5/8/20/22	0/1/1/1
1	PR4	F	1	1	-	5/8/20/22	0/1/1/1
1	PR4	G	1	1	-	5/8/20/22	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	E	1	PR4	CAC-CAD	3.29	1.57	1.52
1	G	1	PR4	CAC-CAD	3.00	1.56	1.52
1	B	1	PR4	CAC-CAD	2.97	1.56	1.52
1	A	1	PR4	OAE-CAD	-2.05	1.23	1.30

The worst 5 of 37 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	1	PR4	C-CA-N	-7.36	105.66	112.32
1	D	1	PR4	C-CA-N	-6.86	106.11	112.32
1	A	1	PR4	OAE-CAD-CAC	6.43	126.83	112.72
1	G	1	PR4	C-CA-N	-5.87	107.00	112.32
1	I	1	PR4	C-CA-N	-5.55	107.29	112.32

There are no chirality outliers.

5 of 42 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1	PR4	CAC-CAB-N-CD
1	A	1	PR4	N-CAB-CAC-OAG
1	B	1	PR4	CAC-CAB-N-CD
1	B	1	PR4	N-CAB-CAC-OAG
1	C	1	PR4	CAC-CAB-N-CD

There are no ring outliers.

9 monomers are involved in 46 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	D	1	PR4	3	0
1	E	1	PR4	7	0
1	A	1	PR4	1	0
1	C	1	PR4	13	0
1	B	1	PR4	7	0
1	H	1	PR4	1	0
1	I	1	PR4	4	0
1	F	1	PR4	7	0
1	G	1	PR4	3	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data (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(Å²)	Q<0.9
1	A	144/148 (97%)	0.22	12 (8%)	11	13	13, 31, 77, 79	0
1	B	144/148 (97%)	-0.03	5 (3%)	44	51	18, 37, 66, 83	0
1	C	145/148 (97%)	-0.10	2 (1%)	75	81	13, 35, 59, 65	0
1	D	144/148 (97%)	0.22	15 (10%)	6	8	11, 31, 87, 92	0
1	E	144/148 (97%)	-0.29	1 (0%)	87	90	16, 34, 48, 56	0
1	F	144/148 (97%)	-0.18	0	100	100	16, 33, 53, 61	0
1	G	144/148 (97%)	0.06	7 (4%)	29	35	14, 30, 67, 70	0
1	H	139/148 (93%)	-0.22	0	100	100	15, 34, 58, 62	0
1	I	144/148 (97%)	-0.30	0	100	100	10, 28, 56, 62	0
All	All	1292/1332 (96%)	-0.07	42 (3%)	46	53	10, 33, 67, 92	0

The worst 5 of 42 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	123	GLY	4.7
1	D	136	LEU	4.7
1	A	120	MET	4.5
1	D	129	PHE	4.2
1	A	140	LEU	4.1

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, 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(Å²)	Q<0.9
1	PR4	C	1	13/14	0.69	0.27	28,30,40,41	0
1	PR4	A	1	13/14	0.86	0.22	27,29,40,43	0
1	PR4	F	1	13/14	0.86	0.21	27,28,34,38	0
1	PR4	D	1	13/14	0.89	0.19	30,31,36,36	0
1	PR4	G	1	13/14	0.89	0.20	29,30,36,36	0
1	PR4	B	1	13/14	0.90	0.16	27,29,34,38	0
1	PR4	I	1	13/14	0.90	0.15	24,25,28,30	0
1	PR4	E	1	13/14	0.91	0.17	23,25,33,36	0
1	PR4	H	1	13/14	0.92	0.15	26,28,33,33	0

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.

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