Full wwPDB X-ray Structure Validation Report ⓘ

Jun 15, 2024 – 07:41 PM EDT

PDB ID	:	4MOA
Title	:	Crystal structure of CRY4BA-R203Q TOXIN
Authors	:	Thamwiriyasati, N.; Angsuthanasombat, C.; Chen, C.-J.
Deposited on	:	2013-09-11
Resolution	:	2.00 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:

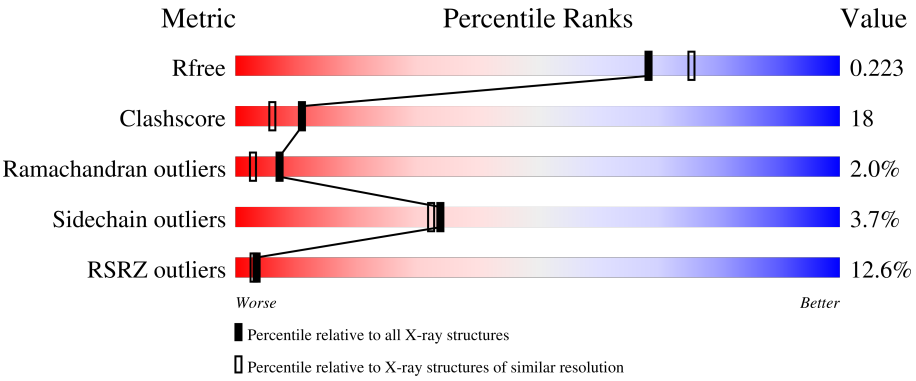
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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	602	13% 74% 22% .

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 5056 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 Pesticidal crystal protein cry4Ba.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	602	Total	C	N	O	S	0	0	0
			4774	3034	803	927	10			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	203	GLN	ARG	engineered mutation	UNP P05519

- Molecule 2 is water.

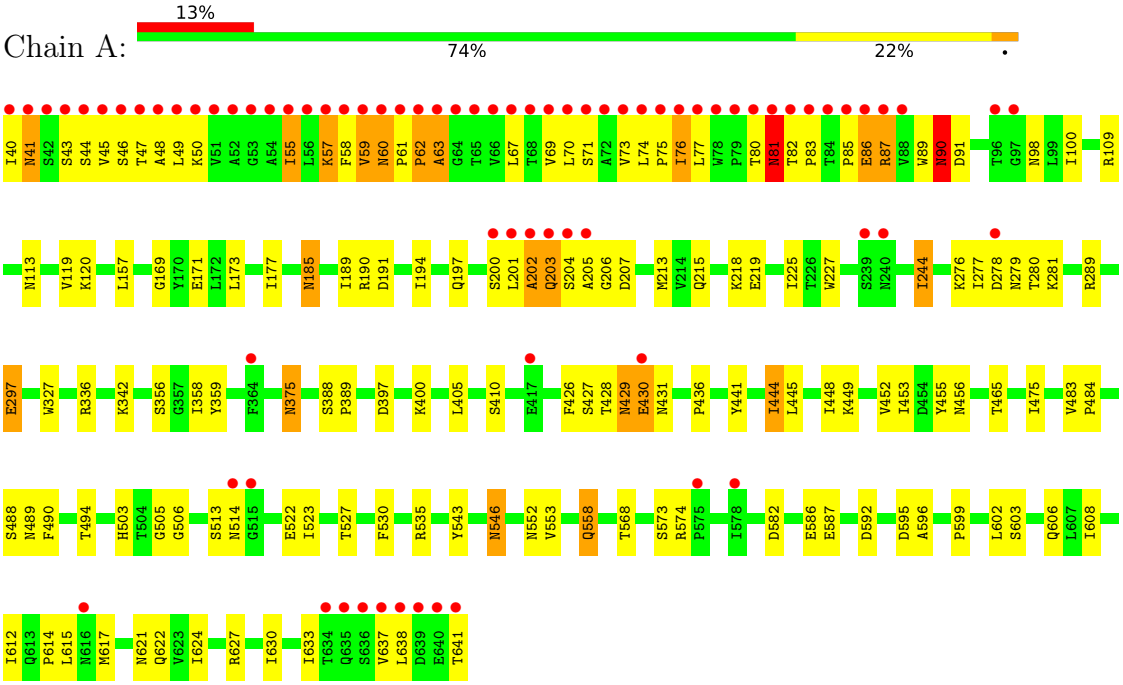
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	282	Total	O	0	0
			282	282		

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: Pesticidal crystal protein cry4Ba

Chain A:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	H 3 2	Depositor
Cell constants a, b, c, α, β, γ	184.62Å 184.62Å 187.36Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	30.00 – 2.00 26.21 – 2.00	Depositor EDS
% Data completeness (in resolution range)	95.2 (30.00-2.00) 99.9 (26.21-2.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.29 (at 1.99Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.216 , 0.237 0.222 , 0.223	Depositor DCC
R_{free} test set	4126 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	19.6	Xtriage
Anisotropy	0.006	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.39 , 59.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	5056	wwPDB-VP
Average B, all atoms (Å^2)	30.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.22% 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

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	0.35	0/4878	0.63	0/6656

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	4774	0	4737	172	0
2	A	282	0	0	2	0
All	All	5056	0	4737	172	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 18.

All (172) 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:55:ILE:HA	1:A:59:VAL:HG21	1.54	0.87
1:A:60:ASN:HD22	1:A:60:ASN:N	1.73	0.86
1:A:60:ASN:CG	1:A:278:ASP:HB2	1.95	0.85
1:A:171:GLU:HG3	1:A:227:TRP:CZ2	2.11	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:475:ILE:HG12	1:A:630:ILE:HD13	1.60	0.83
1:A:55:ILE:HD13	1:A:55:ILE:H	1.41	0.83
1:A:81:ASN:HD21	1:A:113:ASN:HB3	1.43	0.83
1:A:80:THR:HG23	1:A:81:ASN:H	1.45	0.81
1:A:60:ASN:N	1:A:60:ASN:ND2	2.30	0.80
1:A:60:ASN:CB	1:A:278:ASP:HB2	2.14	0.77
1:A:60:ASN:HB2	1:A:278:ASP:HB2	1.66	0.76
1:A:89:TRP:O	1:A:90:ASN:ND2	2.18	0.73
1:A:171:GLU:HG3	1:A:227:TRP:CE2	2.24	0.72
1:A:617:MET:HG3	1:A:621:ASN:HB2	1.74	0.70
1:A:67:LEU:HA	1:A:71:SER:OG	1.92	0.69
1:A:444:ILE:H	1:A:444:ILE:HD13	1.58	0.69
1:A:57:LYS:HG3	1:A:58:PHE:CD2	2.28	0.69
1:A:203:GLN:HA	1:A:206:GLY:HA3	1.72	0.69
1:A:573:SER:O	1:A:574:ARG:HD3	1.93	0.69
1:A:289:ARG:CG	1:A:506:GLY:HA2	2.22	0.68
1:A:278:ASP:OD1	1:A:281:LYS:HE3	1.94	0.67
1:A:87:ARG:HB3	1:A:109:ARG:NH2	2.10	0.67
1:A:61:PRO:HB3	1:A:70:LEU:HG	1.75	0.67
1:A:40:ILE:HG21	1:A:89:TRP:HB3	1.77	0.66
1:A:62:PRO:HG2	1:A:279:ASN:H	1.58	0.66
1:A:89:TRP:CE3	1:A:90:ASN:HB3	2.31	0.66
1:A:444:ILE:HD13	1:A:465:THR:O	1.95	0.65
1:A:429:ASN:ND2	1:A:431:ASN:H	1.95	0.65
1:A:552:ASN:HB2	1:A:615:LEU:HD23	1.78	0.65
1:A:297:GLU:HG2	1:A:453:ILE:HD13	1.78	0.64
1:A:289:ARG:HG2	1:A:506:GLY:HA2	1.78	0.64
1:A:60:ASN:HB3	1:A:280:THR:HG23	1.78	0.64
1:A:375:ASN:HD21	1:A:400:LYS:NZ	1.97	0.63
1:A:81:ASN:ND2	1:A:113:ASN:HB3	2.13	0.63
1:A:55:ILE:HG12	1:A:55:ILE:O	1.99	0.62
1:A:490:PHE:HB3	1:A:522:GLU:HB2	1.81	0.62
1:A:76:ILE:HD13	1:A:76:ILE:O	1.99	0.62
1:A:638:LEU:O	1:A:638:LEU:HD13	2.00	0.61
1:A:574:ARG:NH1	1:A:582:ASP:OD1	2.34	0.61
1:A:475:ILE:HG12	1:A:630:ILE:CD1	2.30	0.59
1:A:483:VAL:HG12	1:A:523:ILE:HD11	1.83	0.59
1:A:297:GLU:HG2	1:A:453:ILE:CD1	2.33	0.59
1:A:80:THR:HG23	1:A:81:ASN:N	2.17	0.58
1:A:427:SER:HB2	1:A:436:PRO:HB3	1.85	0.58
1:A:244:ILE:HD13	1:A:244:ILE:O	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:375:ASN:H	1:A:375:ASN:HD22	1.51	0.58
1:A:203:GLN:C	1:A:206:GLY:H	2.07	0.57
1:A:494:THR:HG21	1:A:514:ASN:HB2	1.87	0.57
1:A:203:GLN:O	1:A:205:ALA:N	2.36	0.56
1:A:225:ILE:HD11	1:A:503:HIS:CD2	2.40	0.56
1:A:289:ARG:HG3	1:A:506:GLY:HA2	1.86	0.56
1:A:599:PRO:HB3	1:A:633:ILE:CD1	2.35	0.56
1:A:46:SER:HB2	1:A:428:THR:C	2.26	0.56
1:A:89:TRP:C	1:A:90:ASN:HD22	2.07	0.56
1:A:546:ASN:HD21	1:A:622:GLN:H	1.52	0.56
1:A:60:ASN:HD22	1:A:60:ASN:H	1.50	0.55
1:A:61:PRO:HD3	1:A:70:LEU:HD21	1.89	0.55
1:A:596:ALA:HA	1:A:633:ILE:HD13	1.89	0.55
1:A:614:PRO:HB2	1:A:617:MET:HE2	1.89	0.55
1:A:225:ILE:CD1	1:A:503:HIS:HD2	2.20	0.55
1:A:397:ASP:HB3	1:A:405:LEU:HD11	1.88	0.55
1:A:43:SER:HB3	1:A:430:GLU:OE2	2.07	0.54
1:A:617:MET:CG	1:A:621:ASN:HB2	2.36	0.54
1:A:55:ILE:HD13	1:A:55:ILE:N	2.17	0.54
1:A:617:MET:HG3	1:A:621:ASN:CB	2.36	0.54
1:A:169:GLY:N	1:A:171:GLU:OE1	2.40	0.54
1:A:60:ASN:HB2	1:A:62:PRO:HD2	1.89	0.54
1:A:61:PRO:CD	1:A:62:PRO:HD3	2.37	0.54
1:A:70:LEU:H	1:A:70:LEU:HD22	1.73	0.54
1:A:189:ILE:HG21	1:A:213:MET:HB2	1.89	0.54
1:A:444:ILE:HD13	1:A:444:ILE:N	2.23	0.53
1:A:624:ILE:HD12	1:A:624:ILE:N	2.23	0.53
1:A:475:ILE:CG1	1:A:630:ILE:HD13	2.35	0.52
1:A:60:ASN:ND2	1:A:278:ASP:OD1	2.43	0.52
1:A:45:VAL:HG22	1:A:45:VAL:O	2.10	0.51
1:A:608:ILE:N	1:A:608:ILE:HD12	2.26	0.51
1:A:40:ILE:CG2	1:A:89:TRP:HB3	2.39	0.51
1:A:327:TRP:CH2	1:A:358:ILE:HD12	2.46	0.51
1:A:74:LEU:HD12	1:A:74:LEU:N	2.26	0.51
1:A:574:ARG:HH11	1:A:574:ARG:HG3	1.76	0.51
1:A:47:THR:HG22	1:A:50:LYS:HD3	1.91	0.51
1:A:119:VAL:HG13	1:A:157:LEU:CD2	2.41	0.51
1:A:637:VAL:O	1:A:641:THR:N	2.40	0.51
1:A:74:LEU:N	1:A:75:PRO:HD2	2.25	0.50
1:A:552:ASN:HB2	1:A:615:LEU:CD2	2.41	0.50
1:A:61:PRO:HD3	1:A:70:LEU:CG	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:77:LEU:HG	1:A:120:LYS:HD3	1.93	0.50
1:A:225:ILE:HD11	1:A:503:HIS:HD2	1.76	0.50
1:A:455:TYR:O	1:A:456:ASN:HB2	2.12	0.50
1:A:553:VAL:HG13	1:A:612:ILE:CD1	2.42	0.50
1:A:276:LYS:NZ	1:A:276:LYS:H	2.10	0.49
1:A:87:ARG:HH12	1:A:177:ILE:CG1	2.25	0.49
1:A:89:TRP:CZ3	1:A:90:ASN:HB3	2.47	0.49
1:A:203:GLN:O	1:A:204:SER:HB2	2.13	0.49
1:A:70:LEU:H	1:A:70:LEU:CD2	2.24	0.49
1:A:484:PRO:HA	1:A:627:ARG:HB3	1.95	0.49
1:A:59:VAL:HB	1:A:69:VAL:HG21	1.95	0.48
1:A:546:ASN:ND2	1:A:622:GLN:H	2.11	0.48
1:A:60:ASN:HA	1:A:70:LEU:HD21	1.96	0.48
1:A:87:ARG:HB3	1:A:109:ARG:HH21	1.74	0.48
1:A:119:VAL:HG13	1:A:157:LEU:HD21	1.96	0.48
1:A:215:GLN:O	1:A:219:GLU:HG3	2.13	0.48
1:A:483:VAL:CG1	1:A:523:ILE:HD11	2.43	0.48
1:A:553:VAL:HG13	1:A:612:ILE:HD13	1.96	0.48
1:A:76:ILE:HD13	1:A:76:ILE:C	2.33	0.48
1:A:74:LEU:HD12	1:A:74:LEU:H	1.80	0.47
1:A:43:SER:HA	1:A:430:GLU:HB3	1.96	0.47
1:A:197:GLN:HG3	1:A:202:ALA:HB2	1.97	0.47
1:A:62:PRO:HB2	1:A:277:ILE:O	2.13	0.47
1:A:70:LEU:HD22	1:A:70:LEU:N	2.29	0.47
1:A:225:ILE:HD11	1:A:503:HIS:HB3	1.97	0.47
1:A:171:GLU:HG3	1:A:227:TRP:CH2	2.49	0.47
1:A:488:SER:HB3	1:A:522:GLU:O	2.15	0.47
1:A:69:VAL:O	1:A:73:VAL:HB	2.14	0.47
1:A:603:SER:OG	1:A:606:GLN:HG3	2.15	0.47
1:A:109:ARG:HG2	1:A:173:LEU:HD11	1.97	0.46
1:A:558:GLN:HE21	1:A:558:GLN:HB2	1.45	0.46
1:A:60:ASN:HB3	1:A:280:THR:CG2	2.42	0.46
1:A:218:LYS:HE2	1:A:586:GLU:HB3	1.97	0.46
1:A:276:LYS:H	1:A:276:LYS:HZ3	1.63	0.46
1:A:452:VAL:HG12	2:A:852:HOH:O	2.15	0.46
1:A:55:ILE:HG22	1:A:59:VAL:CG2	2.45	0.46
1:A:530:PHE:CD1	1:A:535:ARG:HD3	2.51	0.46
1:A:87:ARG:O	1:A:109:ARG:CZ	2.64	0.46
1:A:61:PRO:O	1:A:63:ALA:N	2.48	0.46
1:A:87:ARG:HH12	1:A:177:ILE:HG12	1.80	0.46
1:A:426:PHE:O	1:A:441:TYR:HA	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:190:ARG:O	1:A:194:ILE:HG12	2.17	0.45
1:A:200:SER:O	1:A:202:ALA:N	2.49	0.45
1:A:60:ASN:CG	1:A:278:ASP:CB	2.79	0.45
1:A:375:ASN:HD21	1:A:400:LYS:HZ1	1.65	0.45
1:A:46:SER:HB2	1:A:428:THR:HA	1.99	0.45
1:A:225:ILE:CD1	1:A:503:HIS:CD2	3.00	0.45
1:A:595:ASP:HB2	1:A:641:THR:OXT	2.17	0.44
1:A:530:PHE:CE1	1:A:535:ARG:HD3	2.52	0.44
1:A:289:ARG:HG3	1:A:505:GLY:O	2.18	0.44
1:A:185:ASN:O	1:A:189:ILE:HG12	2.17	0.44
1:A:46:SER:HB2	1:A:428:THR:CA	2.48	0.44
1:A:61:PRO:N	1:A:62:PRO:CD	2.81	0.44
1:A:429:ASN:C	1:A:429:ASN:HD22	2.20	0.44
1:A:203:GLN:NE2	1:A:206:GLY:HA3	2.33	0.44
1:A:44:SER:O	1:A:48:ALA:HB2	2.18	0.43
1:A:527:THR:HG23	1:A:608:ILE:HD13	2.01	0.43
1:A:375:ASN:H	1:A:375:ASN:ND2	2.16	0.43
1:A:513:SER:HB2	1:A:617:MET:HG2	2.01	0.43
1:A:61:PRO:HD2	1:A:62:PRO:HD3	2.00	0.43
1:A:80:THR:O	1:A:81:ASN:HB2	2.19	0.43
1:A:278:ASP:OD2	1:A:281:LYS:HD2	2.18	0.43
1:A:98:ASN:HD21	1:A:100:ILE:HB	1.84	0.43
1:A:574:ARG:NH2	1:A:587:GLU:OE1	2.52	0.43
1:A:388:SER:HA	1:A:389:PRO:C	2.39	0.43
1:A:336:ARG:HD3	1:A:410:SER:O	2.19	0.42
1:A:82:THR:N	1:A:83:PRO:HD3	2.34	0.42
1:A:543:TYR:CE2	1:A:568:THR:HB	2.54	0.42
1:A:85:PRO:O	1:A:86:GLU:HB3	2.19	0.42
1:A:602:LEU:HD22	1:A:608:ILE:HG12	2.01	0.42
1:A:74:LEU:H	1:A:74:LEU:CD1	2.33	0.42
1:A:61:PRO:HD3	1:A:70:LEU:CD2	2.49	0.42
1:A:342:LYS:HE3	1:A:356:SER:O	2.20	0.42
1:A:61:PRO:HG2	1:A:62:PRO:HD3	2.02	0.42
1:A:173:LEU:C	1:A:173:LEU:HD13	2.41	0.41
1:A:98:ASN:ND2	1:A:100:ILE:HB	2.35	0.41
1:A:359:TYR:CE1	1:A:449:LYS:HE3	2.56	0.41
1:A:445:LEU:HD21	1:A:448:ILE:HD11	2.03	0.41
1:A:513:SER:HB2	1:A:617:MET:HE3	2.03	0.41
1:A:289:ARG:HD2	2:A:723:HOH:O	2.19	0.41
1:A:91:ASP:OD2	1:A:91:ASP:C	2.59	0.40
1:A:67:LEU:HA	1:A:71:SER:HG	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:429:ASN:HD21	1:A:431:ASN:HB2	1.85	0.40
1:A:61:PRO:CB	1:A:70:LEU:HG	2.47	0.40
1:A:475:ILE:CD1	1:A:630:ILE:HD13	2.51	0.40
1:A:203:GLN:HA	1:A:206:GLY:CA	2.46	0.40

There are no symmetry-related clashes.

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	600/602 (100%)	560 (93%)	28 (5%)	12 (2%)	7 3

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	201	LEU
1	A	57	LYS
1	A	62	PRO
1	A	63	ALA
1	A	81	ASN
1	A	87	ARG
1	A	202	ALA
1	A	203	GLN
1	A	41	ASN
1	A	86	GLU
1	A	90	ASN
1	A	59	VAL

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	539/539 (100%)	519 (96%)	20 (4%)	34 32

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	41	ASN
1	A	49	LEU
1	A	55	ILE
1	A	60	ASN
1	A	76	ILE
1	A	81	ASN
1	A	90	ASN
1	A	185	ASN
1	A	191	ASP
1	A	207	ASP
1	A	244	ILE
1	A	297	GLU
1	A	375	ASN
1	A	429	ASN
1	A	430	GLU
1	A	444	ILE
1	A	489	ASN
1	A	546	ASN
1	A	558	GLN
1	A	592	ASP

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	81	ASN
1	A	98	ASN
1	A	102	GLN
1	A	180	GLN
1	A	185	ASN

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Mol	Chain	Res	Type
1	A	203	GLN
1	A	215	GLN
1	A	349	ASN
1	A	375	ASN
1	A	377	ASN
1	A	391	ASN
1	A	429	ASN
1	A	474	GLN
1	A	489	ASN
1	A	524	GLN
1	A	531	ASN
1	A	546	ASN
1	A	558	GLN
1	A	606	GLN
1	A	622	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

There are no ligands in this entry.

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, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	602/602 (100%)	0.96	76 (12%)	3	3	11, 19, 136, 149	0

All (76) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	70	LEU	23.3
1	A	64	GLY	23.3
1	A	68	THR	20.1
1	A	47	THR	19.7
1	A	74	LEU	19.4
1	A	79	PRO	19.2
1	A	83	PRO	19.0
1	A	42	SER	18.9
1	A	51	VAL	18.4
1	A	73	VAL	18.4
1	A	56	LEU	16.4
1	A	77	LEU	15.9
1	A	43	SER	15.8
1	A	69	VAL	15.8
1	A	52	ALA	15.7
1	A	84	THR	15.2
1	A	76	ILE	15.1
1	A	80	THR	14.4
1	A	63	ALA	13.8
1	A	55	ILE	13.7
1	A	45	VAL	13.7
1	A	58	PHE	13.6
1	A	71	SER	13.2
1	A	61	PRO	12.6
1	A	85	PRO	12.3
1	A	75	PRO	12.3
1	A	54	ALA	12.1

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Mol	Chain	Res	Type	RSRZ
1	A	49	LEU	12.0
1	A	72	ALA	11.8
1	A	65	THR	11.8
1	A	78	TRP	11.7
1	A	66	VAL	11.6
1	A	62	PRO	11.4
1	A	41	ASN	11.4
1	A	640	GLU	11.4
1	A	46	SER	11.2
1	A	67	LEU	11.2
1	A	82	THR	11.0
1	A	59	VAL	10.8
1	A	53	GLY	10.6
1	A	48	ALA	10.6
1	A	81	ASN	10.1
1	A	202	ALA	10.1
1	A	40	ILE	9.9
1	A	57	LYS	9.8
1	A	641	THR	9.7
1	A	50	LYS	9.4
1	A	87	ARG	9.2
1	A	44	SER	9.2
1	A	638	LEU	8.9
1	A	203	GLN	8.6
1	A	86	GLU	8.4
1	A	60	ASN	7.0
1	A	639	ASP	7.0
1	A	636	SER	6.9
1	A	637	VAL	6.7
1	A	201	LEU	6.6
1	A	364	PHE	6.4
1	A	635	GLN	6.2
1	A	88	VAL	4.7
1	A	205	ALA	4.2
1	A	515	GLY	3.6
1	A	417	GLU	3.4
1	A	239	SER	3.3
1	A	200	SER	3.3
1	A	240	ASN	3.3
1	A	514	ASN	3.0
1	A	97	GLY	2.9
1	A	204	SER	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	634	THR	2.8
1	A	430	GLU	2.7
1	A	278	ASP	2.5
1	A	575	PRO	2.2
1	A	616	ASN	2.2
1	A	96	THR	2.1
1	A	578	ILE	2.1

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)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.