Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 03:09 AM UTC

PDB ID	:	6UL6 / pdb_00006ul6
Title	:	Crystal Structure of BoNT/A-LCHn domain in complex with VNA ciA-D12/11/ciA-B5 and VHH ciA-H7
Authors	:	Lam, K.; Jin, R.
Deposited on	:	2019-10-07
Resolution	:	2.02 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:

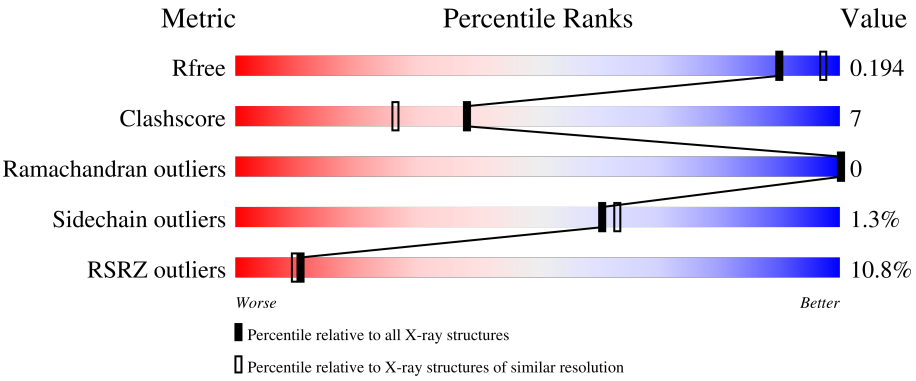
MolProbity	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

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 2.02 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}	180053	13299 (2.04-2.00)
Clashscore	190562	1022 (2.02-2.02)
Ramachandran outliers	187476	1014 (2.02-2.02)
Sidechain outliers	187428	1014 (2.02-2.02)
RSRZ outliers	180081	13314 (2.04-2.00)

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	873	7% 86% 11% ·
2	B	265	26% 72% 18% 10%
3	C	123	4% 81% 11% · 7%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 10407 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 BoNT/A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	855	Total	C	N	O	S	0	7	0
			6918	4451	1115	1332	20			

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP Q7B8V4
A	0	PRO	-	expression tag	UNP Q7B8V4
A	224	GLN	GLU	conflict	UNP Q7B8V4
A	363	ALA	ARG	conflict	UNP Q7B8V4
A	366	PHE	TYR	conflict	UNP Q7B8V4

- Molecule 2 is a protein called ciA-D12/11/ciA-B5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	239	Total	C	N	O	S	0	0	0
			1826	1149	318	349	10			

- Molecule 3 is a protein called ciA-H7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	114	Total	C	N	O	S	0	1	0
			864	537	152	170	5			

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	619	Total	O	0	0
			619	619		
4	B	98	Total	O	0	0
			98	98		

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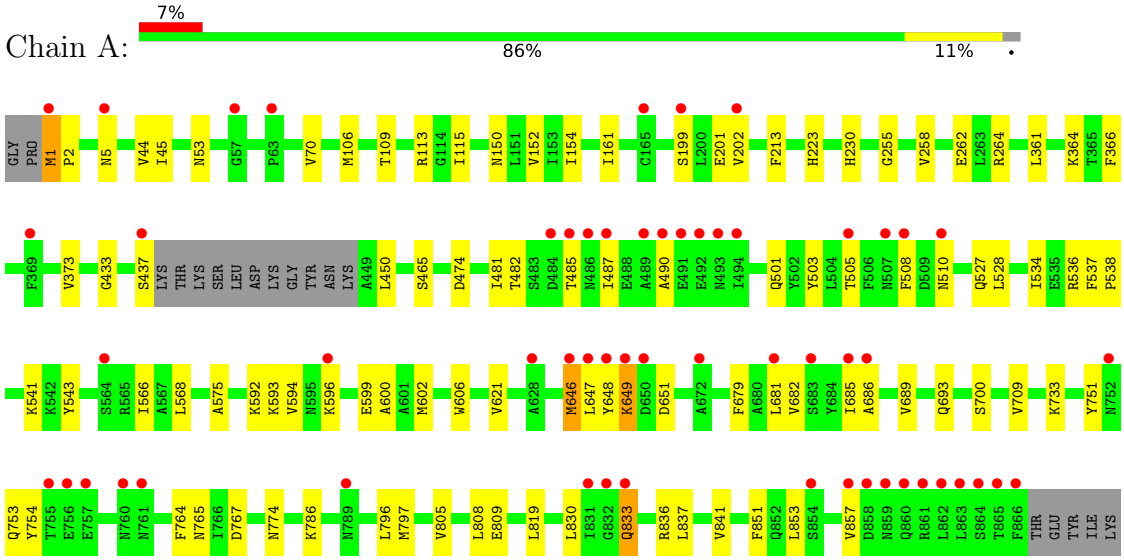
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	C	82	Total	O	0	0
			82	82		

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.

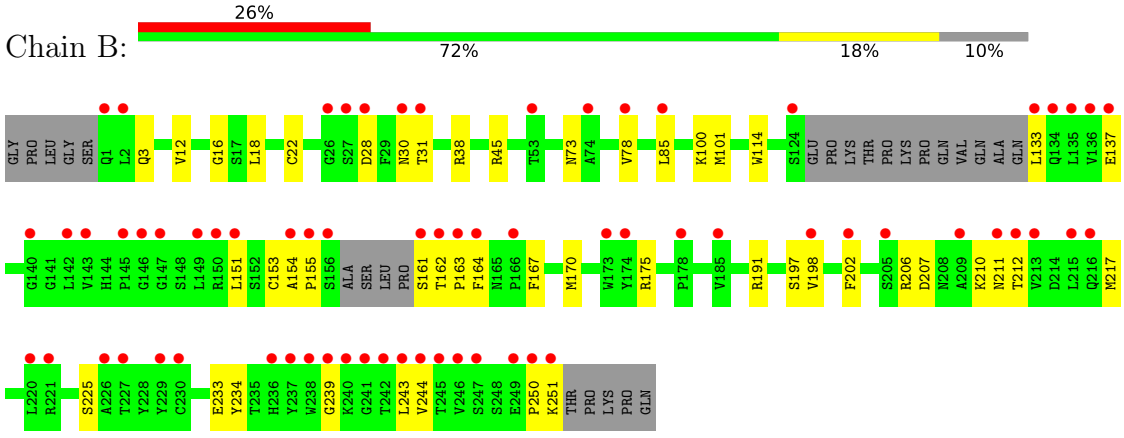
• Molecule 1: BoNT/A

Chain A:



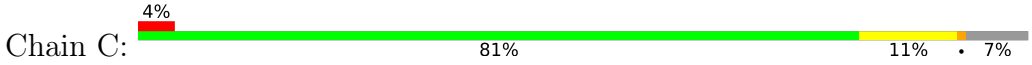
• Molecule 2: ciA-D12/11/ciA-B5

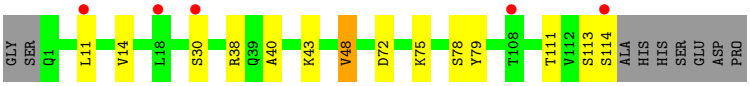
Chain B:



• Molecule 3: ciA-H7

Chain C:




GLY
SER
Q1
L11
V14
L18
S30
R38
Q39
A40
K43
V48
D72
K75
S78
Y79
T108
T111
V112
S113
S114
ALA
HIS
HIS
SER
GLU
ASP
PRO

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	141.29Å 90.25Å 144.77Å 90.00° 119.04° 90.00°	Depositor
Resolution (Å)	47.21 – 2.02 47.21 – 2.02	Depositor EDS
% Data completeness (in resolution range)	99.7 (47.21-2.02) 99.7 (47.21-2.02)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.00 (at 2.01Å)	Xtriage
Refinement program	PHENIX 1.9_1692	Depositor
R, R_{free}	0.183 , 0.194 0.185 , 0.194	Depositor DCC
R_{free} test set	5185 reflections (4.97%)	wwPDB-VP
Wilson B-factor (Å^2)	26.9	Xtriage
Anisotropy	0.095	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 48.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.016 for h,-k,-h-l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	10407	wwPDB-VP
Average B, all atoms (Å^2)	37.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.61% 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	0.89	1/7082 (0.0%)	0.96	5/9597 (0.1%)
2	B	0.87	2/1868 (0.1%)	0.93	2/2532 (0.1%)
3	C	0.90	0/882	0.93	0/1188
All	All	0.89	3/9832 (0.0%)	0.95	7/13317 (0.1%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	154	ALA	C-O	-5.25	1.19	1.24
1	A	44	VAL	CA-CB	5.08	1.60	1.54
2	B	154	ALA	N-CA	-5.03	1.41	1.45

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1	MET	CA-C-N	-7.10	112.68	119.85
1	A	1	MET	C-N-CA	-7.10	112.68	119.85
1	A	465	SER	CA-C-N	-6.03	113.48	119.99
1	A	465	SER	C-N-CA	-6.03	113.48	119.99
1	A	490	ALA	N-CA-C	5.56	117.34	111.28
2	B	212	THR	CA-C-N	-5.44	116.04	123.12
2	B	212	THR	C-N-CA	-5.44	116.04	123.12

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	6918	0	6819	84	0
2	B	1826	0	1764	38	0
3	C	864	0	844	10	0
4	A	619	0	0	12	0
4	B	98	0	0	4	0
4	C	82	0	0	0	0
All	All	10407	0	9427	131	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 7.

All (131) 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:596:LYS:HZ1	1:A:606:TRP:CD1	1.57	1.22
1:A:485:THR:HG22	1:A:487:ILE:HG13	1.24	1.15
2:B:12:VAL:HG11	2:B:85:LEU:CD2	1.83	1.06
1:A:485:THR:HG22	1:A:487:ILE:CG1	1.90	1.01
2:B:12:VAL:HG11	2:B:85:LEU:HD23	1.46	0.96
2:B:137:GLU:OE2	2:B:239:GLY:HA3	1.71	0.89
2:B:12:VAL:HG21	2:B:85:LEU:HD22	1.58	0.85
1:A:596:LYS:NZ	1:A:606:TRP:CD1	2.45	0.83
2:B:12:VAL:HG11	2:B:85:LEU:HD22	1.61	0.81
2:B:251:LYS:C	4:B:342:HOH:O	2.24	0.80
2:B:198:VAL:HG13	2:B:202:PHE:CD2	2.17	0.78
2:B:18:LEU:HD12	2:B:85:LEU:HD21	1.65	0.77
2:B:28:ASP:HB3	2:B:31:THR:OG1	1.84	0.77
1:A:797:MET:HE1	1:A:851:PHE:CE2	2.19	0.77
1:A:481:ILE:HB	1:A:681:LEU:HD23	1.67	0.77
2:B:198:VAL:CG1	2:B:202:PHE:CD2	2.70	0.75
1:A:485:THR:HG22	1:A:487:ILE:CD1	2.21	0.70
1:A:70:VAL:CG1	1:A:373:VAL:HG23	2.24	0.67
1:A:599:GLU:HG2	1:A:602:MET:HE2	1.77	0.66
1:A:481:ILE:HD12	1:A:681:LEU:CD2	2.26	0.66
2:B:198:VAL:HG13	2:B:202:PHE:CG	2.30	0.65
1:A:481:ILE:HD11	1:A:679:PHE:CD2	2.31	0.65
1:A:481:ILE:HD12	1:A:681:LEU:HD21	1.81	0.63
2:B:207:ASP:OD2	2:B:210:LYS:HD2	1.98	0.63
1:A:649:LYS:HE3	4:A:957:HOH:O	1.96	0.62
2:B:38:ARG:NH1	4:B:302:HOH:O	2.33	0.62
2:B:16:GLY:O	2:B:85:LEU:HD13	1.99	0.62
1:A:258:VAL:HG21	1:A:366:PHE:CE1	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2:PRO:O	1:A:5:ASN:ND2	2.34	0.60
1:A:1:MET:N	4:A:904:HOH:O	2.29	0.59
1:A:501:GLN:O	1:A:505:THR:HG23	2.02	0.59
1:A:649:LYS:HG2	4:A:1358:HOH:O	2.02	0.58
2:B:133:LEU:HD11	2:B:161:SER:OG	2.04	0.58
2:B:12:VAL:CG2	2:B:85:LEU:HD22	2.33	0.58
3:C:78:SER:O	3:C:79[B]:TYR:HD1	1.87	0.58
1:A:70:VAL:CG1	1:A:373:VAL:CG2	2.83	0.57
1:A:786:LYS:NZ	4:A:909:HOH:O	2.35	0.57
1:A:113:ARG:NH2	1:A:510:ASN:O	2.38	0.57
1:A:487:ILE:HD11	4:A:1022:HOH:O	2.03	0.57
1:A:681:LEU:HD11	1:A:819:LEU:HD23	1.87	0.56
1:A:648:TYR:CD2	1:A:648:TYR:N	2.73	0.56
1:A:685:ILE:O	1:A:686:ALA:HB3	2.06	0.56
1:A:109:THR:O	1:A:113:ARG:HG3	2.05	0.55
3:C:14:VAL:HG23	3:C:113:SER:O	2.07	0.55
1:A:481:ILE:HD11	1:A:679:PHE:CG	2.42	0.54
1:A:568:LEU:HD12	1:A:594:VAL:HG11	1.89	0.54
2:B:30:ASN:HB3	2:B:73:ASN:ND2	2.23	0.53
1:A:508:PHE:N	4:A:903:HOH:O	2.27	0.53
2:B:198:VAL:CG1	2:B:202:PHE:CG	2.92	0.53
2:B:197:SER:OG	2:B:198:VAL:HG23	2.09	0.52
1:A:833:GLN:HG2	1:A:836:ARG:HH21	1.73	0.52
1:A:482:THR:HG22	1:A:682:VAL:HG21	1.92	0.52
1:A:647:LEU:CB	1:A:648:TYR:CE2	2.92	0.52
1:A:115:ILE:HD13	1:A:150:ASN:OD1	2.09	0.52
1:A:437:SER:HB3	1:A:450:LEU:HG	1.92	0.52
3:C:78:SER:O	3:C:79[B]:TYR:CD1	2.63	0.52
2:B:151:LEU:HG	2:B:217:MET:HE2	1.92	0.51
1:A:45:ILE:HB	1:A:154:ILE:HG22	1.93	0.51
1:A:733:LYS:NZ	4:A:924:HOH:O	2.44	0.51
1:A:161:ILE:HD13	1:A:373:VAL:HG22	1.93	0.50
2:B:100:LYS:HG3	4:B:374:HOH:O	2.10	0.50
2:B:12:VAL:CG1	2:B:85:LEU:HD22	2.36	0.50
2:B:170:MET:HE3	2:B:233:GLU:CB	2.41	0.50
1:A:70:VAL:HG12	1:A:373:VAL:CG2	2.42	0.50
2:B:170:MET:HE3	2:B:233:GLU:HB2	1.93	0.50
3:C:11:LEU:HD13	3:C:111:THR:HB	1.94	0.50
1:A:796:LEU:HG	1:A:797:MET:HE2	1.93	0.49
2:B:198:VAL:HG11	2:B:202:PHE:CD2	2.47	0.49
2:B:250:PRO:O	2:B:251:LYS:C	2.55	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:830:LEU:O	1:A:833:GLN:N	2.38	0.49
3:C:14:VAL:HG23	3:C:114:SER:HA	1.94	0.49
1:A:481:ILE:HD12	1:A:681:LEU:HD23	1.94	0.49
1:A:541:LYS:HG3	1:A:543:TYR:CE2	2.48	0.48
1:A:201:GLU:OE2	1:A:364:LYS:NZ	2.43	0.48
2:B:45:ARG:HD3	2:B:114:TRP:CZ3	2.48	0.48
1:A:199:SER:O	1:A:202:VAL:HG22	2.14	0.47
2:B:22:CYS:HB3	2:B:78:VAL:HG12	1.95	0.47
2:B:210:LYS:O	2:B:211:ASN:HB3	2.14	0.47
1:A:648:TYR:O	1:A:651:ASP:HB2	2.15	0.47
1:A:2:PRO:HB2	1:A:5:ASN:ND2	2.30	0.47
1:A:487:ILE:CD1	4:A:1022:HOH:O	2.62	0.47
2:B:137:GLU:CD	2:B:239:GLY:HA3	2.40	0.47
1:A:152:VAL:HG12	1:A:154:ILE:HG23	1.97	0.47
1:A:255:GLY:HA3	1:A:537:PHE:CD1	2.49	0.46
1:A:53:ASN:HB2	1:A:528:LEU:HD12	1.97	0.46
1:A:106:MET:SD	1:A:503:TYR:HA	2.55	0.46
1:A:593:LYS:O	1:A:596:LYS:HG2	2.16	0.46
1:A:485:THR:CG2	1:A:487:ILE:CD1	2.91	0.46
2:B:170:MET:HE1	2:B:234:TYR:CE2	2.50	0.46
1:A:485:THR:CG2	1:A:487:ILE:HD12	2.46	0.45
1:A:487:ILE:HD13	1:A:700:SER:CB	2.46	0.45
1:A:685:ILE:H	1:A:685:ILE:HD12	1.81	0.45
1:A:709:VAL:HB	1:A:808:LEU:HD11	1.98	0.45
2:B:137:GLU:HG3	2:B:153:CYS:HB2	1.98	0.45
3:C:72:ASP:OD2	3:C:75:LYS:HD2	2.16	0.45
1:A:115:ILE:HD13	1:A:150:ASN:HD21	1.80	0.45
2:B:170:MET:HE1	2:B:234:TYR:HE2	1.81	0.45
1:A:647:LEU:C	1:A:648:TYR:CD2	2.95	0.45
2:B:225:SER:HB3	4:B:336:HOH:O	2.17	0.44
1:A:527:GLN:HB2	4:A:1466:HOH:O	2.16	0.44
2:B:162:THR:HB	2:B:163:PRO:HA	1.98	0.44
3:C:40:ALA:HB3	3:C:43:LYS:HD2	2.00	0.44
1:A:681:LEU:CD1	1:A:819:LEU:HD23	2.48	0.43
1:A:765:ASN:OD1	1:A:767:ASP:HB2	2.19	0.43
1:A:213:PHE:CG	1:A:361:LEU:HD23	2.53	0.43
1:A:537:PHE:HB2	1:A:538:PRO:HD2	2.01	0.43
2:B:198:VAL:HG12	2:B:202:PHE:HB2	2.01	0.43
1:A:230:HIS:CE1	1:A:264:ARG:HD3	2.54	0.43
2:B:243:LEU:HD12	2:B:244:VAL:N	2.34	0.43
1:A:223:HIS:NE2	1:A:262:GLU:OE2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:485:THR:O	1:A:487:ILE:HG13	2.19	0.42
1:A:837:LEU:O	1:A:841:VAL:HG23	2.19	0.42
1:A:258:VAL:HG21	1:A:366:PHE:CD1	2.54	0.42
1:A:433:GLY:HA3	1:A:450:LEU:O	2.19	0.42
1:A:646:MET:HB3	1:A:651:ASP:HB3	2.00	0.42
1:A:689:VAL:HG22	1:A:693[B]:GLN:HE21	1.84	0.42
1:A:853:LEU:HD11	1:A:857:VAL:HG11	2.02	0.42
1:A:774:ASN:HB3	4:A:1082:HOH:O	2.19	0.42
1:A:689:VAL:O	1:A:693[B]:GLN:HG3	2.20	0.41
1:A:474:ASP:OD2	3:C:30:SER:HB3	2.20	0.41
2:B:155:PRO:HD3	2:B:167:PHE:CZ	2.56	0.41
1:A:689:VAL:HG22	1:A:693[B]:GLN:NE2	2.35	0.41
1:A:751:TYR:CZ	1:A:764:PHE:HB3	2.55	0.41
1:A:805:VAL:O	1:A:809:GLU:HG3	2.21	0.41
3:C:38:ARG:HD3	3:C:48:VAL:HG21	2.02	0.41
1:A:575:ALA:O	4:A:901:HOH:O	2.22	0.40
1:A:600:ALA:HA	1:A:754:TYR:CZ	2.56	0.40
1:A:481:ILE:HD11	1:A:679:PHE:HB3	2.04	0.40
1:A:592:LYS:HG3	4:A:1225:HOH:O	2.21	0.40
1:A:536:ARG:H	1:A:536:ARG:HG2	1.71	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	858/873 (98%)	839 (98%)	19 (2%)	0	100	100
2	B	233/265 (88%)	231 (99%)	2 (1%)	0	100	100
3	C	113/123 (92%)	113 (100%)	0	0	100	100
All	All	1204/1261 (96%)	1183 (98%)	21 (2%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	769/786 (98%)	762 (99%)	7 (1%)	70	73
2	B	194/219 (89%)	188 (97%)	6 (3%)	35	31
3	C	92/98 (94%)	91 (99%)	1 (1%)	65	68
All	All	1055/1103 (96%)	1041 (99%)	14 (1%)	61	63

All (14) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	534	ILE
1	A	566	ILE
1	A	621	VAL
1	A	646	MET
1	A	649	LYS
1	A	753	GLN
1	A	833	GLN
2	B	3	GLN
2	B	101	MET
2	B	164	PHE
2	B	175	ARG
2	B	191	ARG
2	B	206	ARG
3	C	48	VAL

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	5	ASN
1	A	26	ASN
1	A	86	ASN
1	A	205	ASN

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Mol	Chain	Res	Type
1	A	246	ASN
1	A	377	ASN
1	A	400	ASN
1	A	402	ASN
1	A	573	ASN
1	A	722	ASN
2	B	181	GLN
2	B	211	ASN
3	C	39	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 oligosaccharides 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	855/873 (97%)	0.07	57 (6%) 24 23	13, 31, 62, 106	7 (0%)
2	B	239/265 (90%)	1.40	68 (28%) 1 1	29, 51, 81, 125	0
3	C	114/123 (92%)	-0.22	5 (4%) 39 38	17, 30, 44, 76	1 (0%)
All	All	1208/1261 (95%)	0.31	130 (10%) 11 10	13, 34, 69, 125	8 (0%)

All (130) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	133	LEU	7.2
1	A	165	CYS	6.4
2	B	156	SER	5.7
1	A	647	LEU	5.3
2	B	136	VAL	5.3
2	B	137	GLU	5.0
2	B	198	VAL	4.9
1	A	493	ASN	4.8
1	A	490	ALA	4.6
1	A	686	ALA	4.6
2	B	149	LEU	4.5
1	A	486	ASN	4.4
1	A	437	SER	4.3
2	B	243	LEU	4.3
2	B	251	LYS	4.3
1	A	485	THR	4.3
2	B	31	THR	4.3
2	B	1	GLN	4.2
1	A	866	PHE	4.2
2	B	249	GLU	4.2
1	A	831	ILE	4.1
2	B	163	PRO	4.0
1	A	865	THR	3.9

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Mol	Chain	Res	Type	RSRZ
1	A	5	ASN	3.9
2	B	250	PRO	3.9
2	B	230	CYS	3.9
2	B	147	GLY	3.9
2	B	135	LEU	3.8
1	A	864	SER	3.8
2	B	85	LEU	3.8
2	B	227	THR	3.8
2	B	140	GLY	3.8
2	B	242	THR	3.7
2	B	124	SER	3.7
1	A	860	GLN	3.5
2	B	226	ALA	3.5
2	B	162	THR	3.5
1	A	648	TYR	3.4
1	A	646	MET	3.4
2	B	27	SER	3.3
1	A	681	LEU	3.3
1	A	685	ILE	3.3
1	A	859	ASN	3.3
1	A	487	ILE	3.2
1	A	854	SER	3.2
1	A	489	ALA	3.2
2	B	209	ALA	3.2
2	B	161	SER	3.2
1	A	510	ASN	3.2
2	B	145	PRO	3.2
1	A	832	GLY	3.1
2	B	151	LEU	3.1
2	B	53	THR	3.1
2	B	2	LEU	3.0
2	B	244	VAL	3.0
2	B	30	ASN	3.0
1	A	756	GLU	2.9
3	C	108	THR	2.9
3	C	114	SER	2.9
1	A	862	LEU	2.9
1	A	63	PRO	2.9
2	B	174	TYR	2.9
2	B	247	SER	2.9
2	B	240	LYS	2.9
1	A	833	GLN	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	507	ASN	2.9
2	B	154	ALA	2.9
2	B	155	PRO	2.8
1	A	491	GLU	2.8
2	B	229	TYR	2.7
2	B	202	PHE	2.7
2	B	211	ASN	2.7
1	A	858	ASP	2.7
1	A	494	ILE	2.6
2	B	185	VAL	2.6
2	B	166	PRO	2.6
2	B	246	VAL	2.6
2	B	26	GLY	2.5
1	A	564	SER	2.5
2	B	142	LEU	2.5
2	B	236	HIS	2.5
1	A	760	ASN	2.5
1	A	761	ASN	2.5
2	B	74	ALA	2.5
1	A	650	ASP	2.5
2	B	245	THR	2.5
2	B	220	LEU	2.5
2	B	239	GLY	2.5
1	A	484	ASP	2.4
2	B	241	GLY	2.4
1	A	202	VAL	2.4
2	B	150	ARG	2.4
1	A	199	SER	2.4
1	A	505	THR	2.4
2	B	146	GLY	2.3
2	B	78	VAL	2.3
1	A	492	GLU	2.3
2	B	28	ASP	2.3
1	A	861	ARG	2.3
1	A	1	MET	2.3
2	B	143	VAL	2.3
2	B	237	TYR	2.3
3	C	30	SER	2.2
1	A	369	PHE	2.2
1	A	508	PHE	2.2
2	B	212	THR	2.2
1	A	752	ASN	2.2

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Mol	Chain	Res	Type	RSRZ
2	B	173	TRP	2.2
2	B	238	TRP	2.2
1	A	683	SER	2.2
1	A	596	LYS	2.2
1	A	649	LYS	2.2
2	B	178	PRO	2.2
1	A	757	GLU	2.2
2	B	205	SER	2.2
2	B	221	ARG	2.2
2	B	216	GLN	2.2
3	C	18	LEU	2.2
1	A	789	ASN	2.2
1	A	755	THR	2.2
2	B	164	PHE	2.1
1	A	857	VAL	2.1
1	A	672	ALA	2.1
1	A	863	LEU	2.1
2	B	215	LEU	2.1
2	B	134	GLN	2.1
1	A	628	ALA	2.1
1	A	57	GLY	2.0
2	B	213	VAL	2.0
3	C	11	LEU	2.0

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 oligosaccharides 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.