Full wwPDB X-ray Structure Validation Report (i)

Oct 28, 2024 – 06:07 PM EDT

PDB ID	:	3HNQ
Title	:	Crystal Structure of Virulence protein STM3117 from Salmonella typhimurium. Northeast Structural Genomics Consortium target id StR274
Authors	:	Seetharaman, J.; Su, M.; Sahdev, S.; Janjua, H.; Xiao, R.; Ciccosanti, C.; Foote, E.L.; Acton, T.B.; Rost, B.; Montelione, G.T.; Tong, L.; Hunt, J.F.; Northeast Structural Genomics Consortium (NESG)
Deposited on	:	2009-05-31
Resolution	:	2.10 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 (i) 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 (i)) were used in the production of this report:

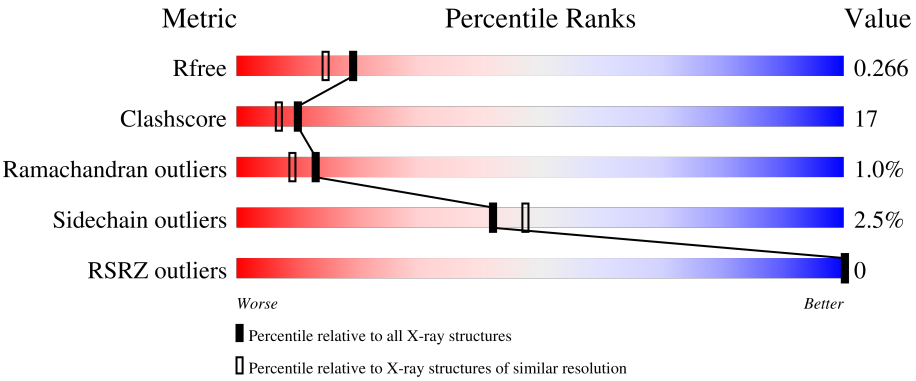
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

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 2.10 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}	164625	6234 (2.10-2.10)
Clashscore	180529	6893 (2.10-2.10)
Ramachandran outliers	177936	6839 (2.10-2.10)
Sidechain outliers	177891	6840 (2.10-2.10)
RSRZ outliers	164620	6234 (2.10-2.10)

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	144	65% 22% 12%
1	B	144	58% 29% • 12%
1	C	144	64% 22% • 12%
1	D	144	51% 31% • • 12%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 4133 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 Virulence protein STM3117.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	126	Total	C	N	O	S	Se	0	0	0
			982	623	162	193	1	3			
1	B	126	Total	C	N	O	S	Se	0	0	0
			968	613	162	189	1	3			
1	C	126	Total	C	N	O	S	Se	0	0	0
			982	623	162	193	1	3			
1	D	126	Total	C	N	O	S	Se	0	0	0
			982	623	162	193	1	3			

- Molecule 2 is water.

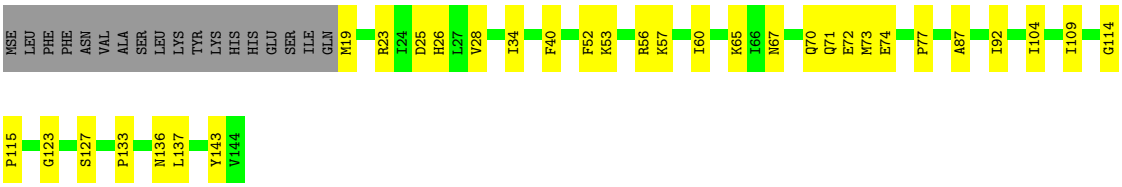
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	60	Total	O	0	0
			60	60		
2	B	55	Total	O	0	0
			55	55		
2	C	63	Total	O	0	0
			63	63		
2	D	41	Total	O	0	0
			41	41		

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.

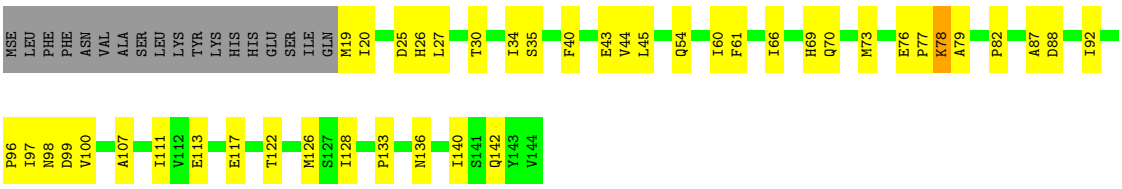
• Molecule 1: Virulence protein STM3117

Chain A:



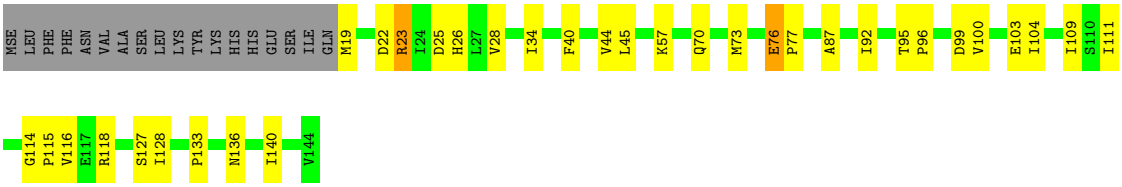
• Molecule 1: Virulence protein STM3117

Chain B:



• Molecule 1: Virulence protein STM3117

Chain C:



• Molecule 1: Virulence protein STM3117

Chain D:


P84
A87
D88
I92
I97
V100
V101
S102
Q106
E113
G114
P115
V116
E117
T122
G123
E124
I125
M126
S127
I128
D132
P133
N136
V144

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	39.95Å 134.62Å 51.36Å 90.00° 112.71° 90.00°	Depositor
Resolution (Å)	47.37 – 2.10 47.37 – 2.10	Depositor EDS
% Data completeness (in resolution range)	92.9 (47.37-2.10) 93.3 (47.37-2.10)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	0.08	Depositor
$< I/\sigma(I) >$ [1]	2.22 (at 2.00Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.215 , 0.251 0.232 , 0.266	Depositor DCC
R_{free} test set	2068 reflections (7.60%)	wwPDB-VP
Wilson B-factor (Å^2)	23.1	Xtriage
Anisotropy	0.144	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 22.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.156 for h,-k,-h-l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	4133	wwPDB-VP
Average B, all atoms (Å^2)	27.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.94% 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	0.42	0/996	0.65	0/1346
1	B	0.39	0/981	0.64	0/1327
1	C	0.40	0/996	0.63	0/1346
1	D	0.70	4/996 (0.4%)	0.67	1/1346 (0.1%)
All	All	0.49	4/3969 (0.1%)	0.65	1/5365 (0.0%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	51	THR	C-O	-9.42	1.05	1.23
1	D	57	LYS	CE-NZ	-7.42	1.30	1.49
1	D	57	LYS	C-O	-6.57	1.10	1.23
1	D	57	LYS	CG-CD	-6.28	1.31	1.52

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	74	GLU	N-CA-C	5.96	127.08	111.00

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	982	0	986	24	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	968	0	971	37	3
1	C	982	0	986	30	0
1	D	982	0	986	61	3
2	A	60	0	0	0	0
2	B	55	0	0	2	0
2	C	63	0	0	1	0
2	D	41	0	0	3	0
All	All	4133	0	3929	133	3

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 17.

All (133) 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:114:GLY:HA2	1:C:116:VAL:HG23	1.52	0.90
1:D:101:VAL:HG22	1:D:128:ILE:HG12	1.64	0.77
1:D:55:ASN:O	1:D:56:ARG:HD3	1.85	0.76
1:B:34:ILE:H	1:B:70:GLN:HE21	1.35	0.74
1:A:19:MSE:HE2	1:B:100:VAL:HG13	1.68	0.74
1:C:19:MSE:HE2	1:D:100:VAL:HG13	1.68	0.74
1:B:111:ILE:HD13	1:B:128:ILE:HD11	1.72	0.71
1:C:118:ARG:HH12	1:D:75:PHE:HE2	1.38	0.71
1:A:65:LYS:HE2	1:A:67:ASN:OD1	1.90	0.70
1:D:115:PRO:HG3	1:D:128:ILE:HD11	1.72	0.69
1:A:87:ALA:H	1:A:136:ASN:HD22	1.41	0.69
1:A:53:LYS:HB2	1:A:56:ARG:HD2	1.75	0.68
1:C:25:ASP:OD2	1:C:26:HIS:HD2	1.78	0.67
1:D:70:GLN:O	1:D:73:MSE:HB2	1.96	0.66
1:C:76:GLU:HG3	1:C:77:PRO:HA	1.77	0.65
1:D:53:LYS:O	1:D:54:GLN:CG	2.44	0.65
1:C:87:ALA:H	1:C:136:ASN:HD22	1.45	0.65
1:D:38:ILE:O	1:D:42:GLU:HG3	1.97	0.65
1:A:25:ASP:OD2	1:A:26:HIS:HD2	1.80	0.64
1:A:23:ARG:NH1	1:B:92:ILE:HG13	2.12	0.64
1:D:22:ASP:HB3	2:D:164:HOH:O	1.97	0.64
1:A:87:ALA:H	1:A:136:ASN:ND2	1.94	0.64
1:A:92:ILE:HG12	1:B:25:ASP:HB2	1.80	0.64
1:C:87:ALA:H	1:C:136:ASN:ND2	1.96	0.62
1:D:55:ASN:O	1:D:56:ARG:CD	2.47	0.62
1:D:53:LYS:O	1:D:54:GLN:HG2	2.03	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:74:GLU:HG2	2:C:168:HOH:O	2.01	0.59
1:B:61:PHE:HE2	1:B:66:ILE:HG12	1.68	0.58
1:D:53:LYS:O	1:D:54:GLN:NE2	2.35	0.58
1:B:87:ALA:H	1:B:136:ASN:HD22	1.50	0.57
1:C:76:GLU:CG	1:C:77:PRO:HA	2.34	0.57
1:D:34:ILE:HG13	1:D:70:GLN:NE2	2.19	0.57
1:A:70:GLN:NE2	1:A:73:MSE:HE1	2.20	0.56
1:D:115:PRO:HA	1:D:128:ILE:HD12	1.88	0.56
1:D:34:ILE:N	1:D:70:GLN:HE22	2.03	0.55
1:C:44:VAL:HG12	1:C:45:LEU:HD12	1.88	0.55
1:D:70:GLN:HE21	1:D:70:GLN:HA	1.72	0.55
1:B:34:ILE:HG13	1:B:70:GLN:CG	2.36	0.54
1:C:25:ASP:HB2	1:D:92:ILE:HG12	1.89	0.54
1:A:123:GLY:H	1:A:143:TYR:HE2	1.54	0.54
1:B:87:ALA:H	1:B:136:ASN:ND2	2.06	0.54
1:C:22:ASP:HB3	1:C:23:ARG:HH11	1.73	0.53
1:A:28:VAL:HB	1:B:88:ASP:HB3	1.90	0.53
1:B:25:ASP:OD2	1:B:26:HIS:HD2	1.92	0.53
1:B:117:GLU:HB2	1:B:126:MSE:HE1	1.89	0.53
1:A:137:LEU:HD22	1:B:78:LYS:HA	1.92	0.52
1:C:100:VAL:HG13	1:D:19:MSE:HE2	1.92	0.51
1:C:115:PRO:HA	1:C:127:SER:O	2.11	0.51
1:D:42:GLU:O	1:D:46:GLY:HA2	2.09	0.51
1:C:104:ILE:HG23	1:C:109:ILE:HB	1.93	0.51
1:A:25:ASP:HB2	1:B:92:ILE:HG12	1.94	0.50
1:A:77:PRO:HD3	1:B:113:GLU:OE2	2.11	0.50
1:D:34:ILE:H	1:D:70:GLN:HE22	1.60	0.50
1:D:97:ILE:O	1:D:101:VAL:HG23	2.12	0.50
1:C:111:ILE:HD12	1:C:111:ILE:N	2.27	0.49
1:D:45:LEU:HD23	1:D:47:PHE:CZ	2.48	0.48
1:B:44:VAL:HG12	1:B:45:LEU:HD12	1.94	0.48
1:D:97:ILE:CG1	1:D:128:ILE:HD13	2.43	0.48
1:B:27:LEU:CD1	1:B:66:ILE:HD12	2.43	0.48
1:B:97:ILE:HG23	1:B:98:ASN:N	2.28	0.48
1:C:25:ASP:HB2	1:D:92:ILE:CG1	2.43	0.48
1:D:25:ASP:OD2	1:D:26:HIS:HD2	1.96	0.48
1:D:53:LYS:O	1:D:54:GLN:CD	2.51	0.48
1:D:127:SER:O	1:D:128:ILE:HD12	2.14	0.48
1:B:96:PRO:HA	1:B:142:GLN:HE22	1.77	0.48
1:B:27:LEU:HG	1:B:66:ILE:CD1	2.44	0.48
1:D:71:GLN:O	1:D:72:GLU:CB	2.60	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:97:ILE:HG13	1:D:128:ILE:HD13	1.95	0.47
1:C:128:ILE:HG22	1:C:140:ILE:O	2.13	0.47
1:C:23:ARG:N	1:C:23:ARG:HD3	2.30	0.47
1:B:27:LEU:HD11	1:B:66:ILE:HD12	1.96	0.47
1:B:79:ALA:O	1:B:82:PRO:HD3	2.15	0.47
1:B:35:SER:HB3	2:B:179:HOH:O	2.13	0.47
1:C:95:THR:HG22	1:C:96:PRO:HD2	1.97	0.46
1:C:77:PRO:HD3	1:D:113:GLU:OE1	2.15	0.46
1:D:102:SER:O	1:D:106:GLN:HG3	2.15	0.46
1:B:111:ILE:CG2	1:B:128:ILE:HD11	2.46	0.46
1:A:34:ILE:HG21	1:A:57:LYS:HG3	1.96	0.46
1:B:76:GLU:N	1:B:77:PRO:HD2	2.31	0.46
1:D:122:THR:HG22	1:D:122:THR:O	2.16	0.46
1:D:76:GLU:O	1:D:78:LYS:HG2	2.16	0.45
1:B:122:THR:HG22	1:B:122:THR:O	2.15	0.45
1:D:124:GLU:HG2	2:D:166:HOH:O	2.15	0.45
1:A:23:ARG:HH12	1:B:92:ILE:HG13	1.81	0.45
1:D:23:ARG:NE	2:D:150:HOH:O	2.49	0.45
1:C:34:ILE:HG21	1:C:57:LYS:HG3	1.99	0.45
1:A:115:PRO:HA	1:A:127:SER:O	2.17	0.45
1:D:76:GLU:O	1:D:78:LYS:N	2.50	0.45
1:D:115:PRO:HA	1:D:128:ILE:CD1	2.47	0.45
1:D:132:ASP:HB2	1:D:133:PRO:CD	2.47	0.45
1:D:40:PHE:CG	1:D:133:PRO:HD3	2.52	0.44
1:A:104:ILE:HG23	1:A:109:ILE:HB	1.99	0.44
1:B:128:ILE:CG2	1:B:140:ILE:HB	2.47	0.44
1:C:70:GLN:NE2	1:C:73:MSE:HE1	2.33	0.44
1:D:71:GLN:C	1:D:73:MSE:H	2.21	0.44
1:A:70:GLN:NE2	1:A:73:MSE:CE	2.81	0.44
1:D:52:PHE:C	1:D:54:GLN:N	2.71	0.44
1:C:92:ILE:HG13	1:D:23:ARG:NH1	2.32	0.44
1:C:96:PRO:O	1:C:99:ASP:HB2	2.18	0.44
1:B:111:ILE:HD13	1:B:128:ILE:CD1	2.44	0.43
1:B:111:ILE:HG23	1:B:128:ILE:HD11	2.00	0.43
1:D:101:VAL:HG21	1:D:115:PRO:HG3	1.99	0.43
1:C:128:ILE:CG2	1:C:140:ILE:HB	2.49	0.43
1:D:52:PHE:C	1:D:54:GLN:H	2.22	0.43
1:A:52:PHE:HD1	1:A:53:LYS:HG3	1.84	0.43
1:B:30:THR:HA	1:B:69:HIS:O	2.18	0.43
1:C:40:PHE:CG	1:C:133:PRO:HD3	2.54	0.42
1:D:114:GLY:HA2	1:D:115:PRO:C	2.40	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:40:PHE:CG	1:B:133:PRO:HD3	2.55	0.42
1:C:25:ASP:HB2	1:D:92:ILE:HD11	2.00	0.42
1:D:44:VAL:HG12	1:D:45:LEU:HD12	2.01	0.42
1:D:71:GLN:O	1:D:72:GLU:HB3	2.19	0.42
1:A:71:GLN:O	1:A:72:GLU:HB2	2.20	0.42
1:D:76:GLU:N	1:D:77:PRO:HD2	2.35	0.41
1:D:117:GLU:HB2	1:D:126:MSE:HE1	2.03	0.41
1:A:60:ILE:HD13	1:A:65:LYS:HB2	2.03	0.41
1:B:34:ILE:HG13	1:B:70:GLN:HG3	2.02	0.41
1:B:60:ILE:HG23	2:B:152:HOH:O	2.20	0.41
1:D:31:VAL:HG23	1:D:70:GLN:NE2	2.36	0.41
1:D:52:PHE:O	1:D:54:GLN:N	2.54	0.41
1:D:87:ALA:H	1:D:136:ASN:ND2	2.19	0.41
1:B:34:ILE:HG13	1:B:70:GLN:HG2	2.03	0.41
1:D:53:LYS:C	1:D:55:ASN:H	2.24	0.41
1:D:132:ASP:HB2	1:D:133:PRO:HD2	2.02	0.41
1:A:40:PHE:CG	1:A:133:PRO:HD3	2.56	0.40
1:D:53:LYS:HD2	1:D:53:LYS:HA	1.31	0.40
1:C:28:VAL:HB	1:D:88:ASP:HB3	2.03	0.40
1:D:115:PRO:CG	1:D:128:ILE:HD11	2.47	0.40
1:D:71:GLN:NE2	1:D:84:PRO:HG2	2.36	0.40
1:B:45:LEU:HD12	1:B:45:LEU:N	2.36	0.40
1:C:25:ASP:HB2	1:D:92:ILE:CD1	2.51	0.40
1:C:103:GLU:OE1	1:D:19:MSE:HB2	2.21	0.40
1:B:19:MSE:O	1:B:20:ILE:HD13	2.21	0.40

All (3) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:107:ALA:O	1:D:54:GLN:O[2_556]	2.05	0.15
1:B:43:GLU:OE1	1:D:56:ARG:NH1[2_556]	2.14	0.06
1:B:43:GLU:OE2	1:D:56:ARG:NH2[2_556]	2.15	0.05

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	124/144 (86%)	121 (98%)	2 (2%)	1 (1%)	16 13
1	B	124/144 (86%)	119 (96%)	3 (2%)	2 (2%)	8 4
1	C	124/144 (86%)	119 (96%)	5 (4%)	0	100 100
1	D	124/144 (86%)	117 (94%)	5 (4%)	2 (2%)	8 4
All	All	496/576 (86%)	476 (96%)	15 (3%)	5 (1%)	13 9

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	114	GLY
1	B	73	MSE
1	B	54	GLN
1	D	75	PHE
1	D	77	PRO

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	111/124 (90%)	111 (100%)	0	100 100
1	B	108/124 (87%)	106 (98%)	2 (2%)	52 59
1	C	111/124 (90%)	109 (98%)	2 (2%)	54 61
1	D	111/124 (90%)	104 (94%)	7 (6%)	15 13
All	All	441/496 (89%)	430 (98%)	11 (2%)	42 47

All (11) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	78	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	99	ASP
1	C	23	ARG
1	C	76	GLU
1	D	22	ASP
1	D	27	LEU
1	D	53	LYS
1	D	54	GLN
1	D	70	GLN
1	D	72	GLU
1	D	75	PHE

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	26	HIS
1	A	136	ASN
1	B	26	HIS
1	B	70	GLN
1	B	136	ASN
1	B	142	GLN
1	C	26	HIS
1	C	136	ASN
1	D	26	HIS
1	D	70	GLN
1	D	71	GLN
1	D	136	ASN
1	D	142	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides 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

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	123/144 (85%)	-1.64	0	100	100	15, 23, 32, 37	0
1	B	123/144 (85%)	-1.49	0	100	100	16, 28, 45, 65	0
1	C	123/144 (85%)	-1.59	0	100	100	15, 23, 40, 46	1 (0%)
1	D	123/144 (85%)	-1.53	0	100	100	16, 27, 42, 62	0
All	All	492/576 (85%)	-1.56	0	100	100	15, 25, 42, 65	1 (0%)

There are no RSRZ outliers to report.

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

There are no ligands in this entry.

6.5 Other polymers

There are no such residues in this entry.