Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 11:27 AM UTC

PDB ID	:	1QCB / pdb_00001qcb
Title	:	ESCHERICHIA COLI HEAT LABILE ENTEROTOXIN TYPE IIB B-PENTAMER
Authors	:	Merritt, E.A.; Hol, W.G.J.
Deposited on	:	1999-04-30
Resolution	:	2.20 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:

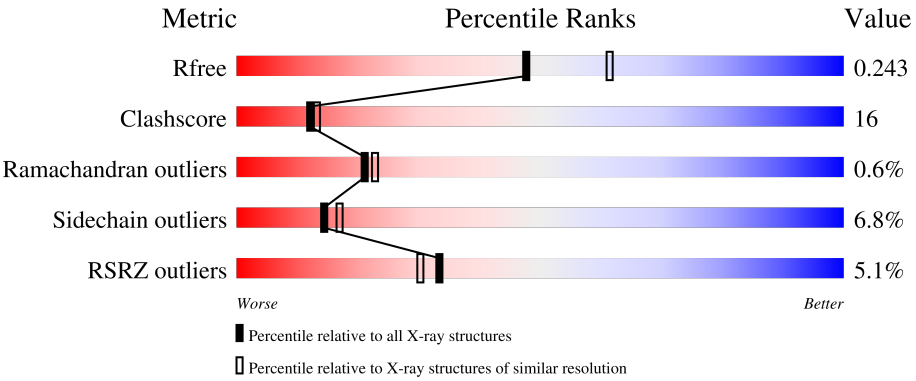
MolProbity	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
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 2.20 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	6164 (2.20-2.20)
Clashscore	190562	6851 (2.20-2.20)
Ramachandran outliers	187476	6768 (2.20-2.20)
Sidechain outliers	187428	6769 (2.20-2.20)
RSRZ outliers	180081	6166 (2.20-2.20)

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	D	99	6% 60% 31% 9%
1	E	99	3% 67% 30% .
1	F	99	3% 64% 33% .
1	G	99	6% 75% 18% 7%
1	H	99	7% 70% 24% 6%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 3901 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 PROTEIN (HEAT LABILE ENTEROTOXIN TYPE IIB B-PENTAMER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	D	99	Total	C	N	O	S	0	0	0
			750	463	129	150	8			
1	E	99	Total	C	N	O	S	0	0	0
			750	463	129	150	8			
1	F	99	Total	C	N	O	S	0	0	0
			750	463	129	150	8			
1	G	99	Total	C	N	O	S	0	0	0
			750	463	129	150	8			
1	H	99	Total	C	N	O	S	0	0	0
			750	463	129	150	8			

- Molecule 2 is water.

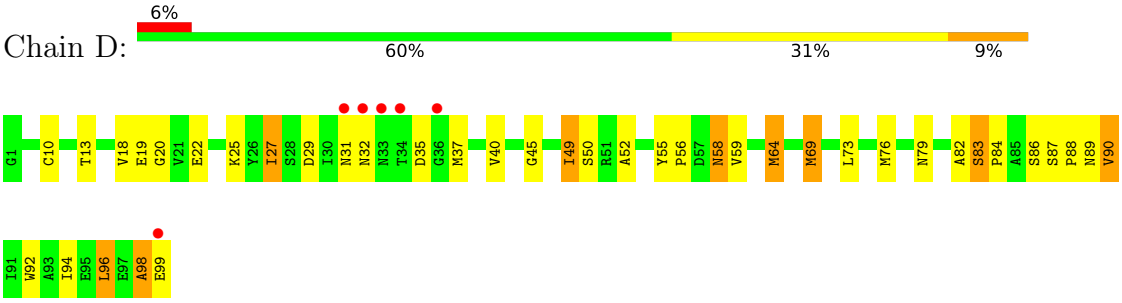
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	D	47	Total	O	0	0
			47	47		
2	E	26	Total	O	0	0
			26	26		
2	F	23	Total	O	0	0
			23	23		
2	G	31	Total	O	0	0
			31	31		
2	H	24	Total	O	0	0
			24	24		

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.

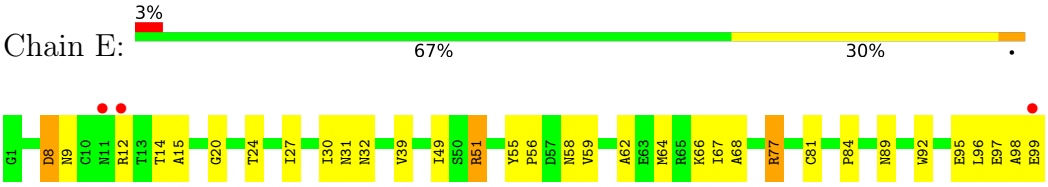
• Molecule 1: PROTEIN (HEAT LABILE ENTEROTOXIN TYPE IIB B-PENTAMER)

Chain D:



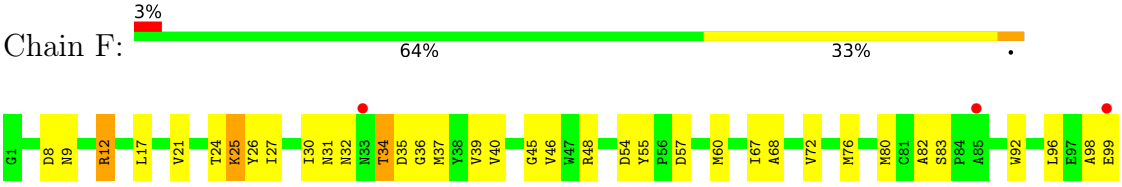
• Molecule 1: PROTEIN (HEAT LABILE ENTEROTOXIN TYPE IIB B-PENTAMER)

Chain E:



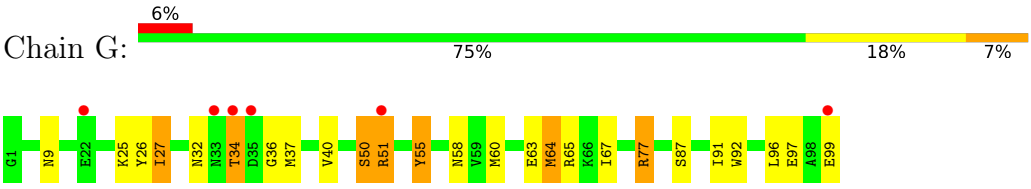
• Molecule 1: PROTEIN (HEAT LABILE ENTEROTOXIN TYPE IIB B-PENTAMER)

Chain F:



• Molecule 1: PROTEIN (HEAT LABILE ENTEROTOXIN TYPE IIB B-PENTAMER)

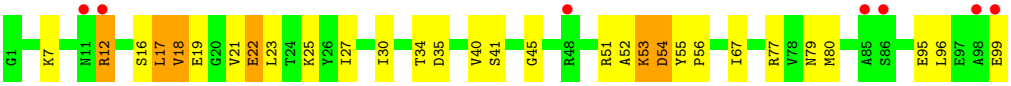
Chain G:



• Molecule 1: PROTEIN (HEAT LABILE ENTEROTOXIN TYPE IIB B-PENTAMER)

Chain H:




G1
K7
N11
R12
S16
L17
V18
E19
G20
V21
E22
L23
T24
K25
Y26
I27
I30
T34
D35
V40
S41
G45
R48
R51
A52
K53
D54
Y55
P56
I67
R77
V78
N79
M80
A85
S86
E95
L96
E97
A98
E99

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	48.70Å 69.00Å 155.00Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 2.20 20.00 – 2.20	Depositor EDS
% Data completeness (in resolution range)	86.0 (20.00-2.20) 82.5 (20.00-2.20)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.11 (at 2.20Å)	Xtriage
Refinement program	X-PLOR 3.851	Depositor
R, R_{free}	0.193 , 0.259 0.189 , 0.243	Depositor DCC
R_{free} test set	1568 reflections (6.88%)	wwPDB-VP
Wilson B-factor (Å^2)	24.8	Xtriage
Anisotropy	0.259	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 77.6	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	0.95	EDS
Total number of atoms	3901	wwPDB-VP
Average B, all atoms (Å^2)	35.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.03% 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 (i)

5.1 Standard geometry (i)

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	D	0.89	3/761 (0.4%)	1.17	7/1029 (0.7%)
1	E	0.74	0/761	1.09	6/1029 (0.6%)
1	F	0.72	0/761	1.09	4/1029 (0.4%)
1	G	0.84	1/761 (0.1%)	1.07	3/1029 (0.3%)
1	H	0.81	0/761	1.05	3/1029 (0.3%)
All	All	0.80	4/3805 (0.1%)	1.09	23/5145 (0.4%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	G	64	MET	CG-SD	-9.24	1.57	1.80
1	D	64	MET	CG-SD	8.38	2.01	1.80
1	D	64	MET	SD-CE	-6.07	1.64	1.79
1	D	69	MET	SD-CE	-5.78	1.65	1.79

All (23) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	98	ALA	N-CA-C	-8.17	103.45	113.41
1	G	27	ILE	N-CA-C	7.70	119.94	108.46
1	G	36	GLY	N-CA-C	7.24	120.66	110.38
1	F	54	ASP	N-CA-C	6.68	119.57	110.55
1	D	27	ILE	N-CA-C	6.55	117.92	108.48
1	D	83	SER	CA-C-N	6.29	126.83	120.04
1	D	83	SER	C-N-CA	6.29	126.83	120.04
1	F	36	GLY	N-CA-C	6.24	119.86	110.75
1	E	32	ASN	N-CA-C	5.93	118.50	111.33
1	H	79	ASN	N-CA-C	-5.89	100.11	109.59
1	G	55	TYR	N-CA-C	-5.84	102.41	109.83
1	D	98	ALA	N-CA-C	-5.82	106.02	113.23
1	H	27	ILE	N-CA-C	5.74	116.75	108.48
1	E	27	ILE	N-CA-C	5.74	116.74	108.48
1	D	73	LEU	N-CA-C	5.70	117.57	111.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	49	ILE	N-CA-C	-5.68	100.23	108.87
1	E	8	ASP	N-CA-C	5.51	117.29	111.28
1	H	19	GLU	N-CA-C	5.43	118.58	109.95
1	D	82	ALA	N-CA-C	5.30	118.04	109.40
1	F	82	ALA	N-CA-C	5.26	118.14	109.72
1	D	49	ILE	N-CA-C	-5.25	100.85	108.36
1	F	55	TYR	N-CA-C	-5.06	103.40	109.83
1	E	81	CYS	N-CA-C	-5.03	99.21	108.02

There are no chirality outliers.

There are no planarity outliers.

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	D	750	0	735	37	0
1	E	750	0	735	26	0
1	F	750	0	735	28	0
1	G	750	0	735	22	0
1	H	750	0	735	25	0
2	D	47	0	0	5	0
2	E	26	0	0	0	0
2	F	23	0	0	3	0
2	G	31	0	0	1	0
2	H	24	0	0	1	0
All	All	3901	0	3675	116	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 16.

All (116) 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:D:64:MET:CG	1:D:64:MET:SD	2.01	1.47
1:G:51:ARG:HH11	1:G:65:ARG:HH12	1.20	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:37:MET:HE2	2:F:113:HOH:O	1.77	0.85
1:E:12:ARG:NH2	1:F:34:THR:HG23	2.03	0.73
1:G:51:ARG:HD3	1:G:65:ARG:NH1	2.02	0.73
1:D:86:SER:OG	1:D:90:VAL:HG22	1.89	0.72
1:F:9:ASN:CG	1:G:34:THR:HG21	2.15	0.71
1:D:10:CYS:SG	2:D:137:HOH:O	2.48	0.70
1:H:53:LYS:H	1:H:53:LYS:HE2	1.58	0.69
1:G:67:ILE:HG23	1:G:96:LEU:HB2	1.78	0.66
1:G:51:ARG:NH1	1:G:65:ARG:HH12	1.92	0.65
1:H:53:LYS:H	1:H:53:LYS:CD	2.10	0.64
1:D:64:MET:CG	1:D:64:MET:CE	2.73	0.64
1:D:49:ILE:HG23	1:D:64:MET:HE2	1.80	0.63
1:D:55:TYR:OH	1:E:51:ARG:HD2	1.99	0.63
1:G:51:ARG:HD3	1:G:65:ARG:HH12	1.61	0.63
1:F:8:ASP:O	1:F:12:ARG:HG2	1.99	0.62
1:E:95:GLU:CD	1:F:25:LYS:HD2	2.25	0.62
1:G:25:LYS:HB2	1:G:40:VAL:HB	1.81	0.62
2:D:122:HOH:O	1:H:99:GLU:HB3	1.99	0.61
1:E:9:ASN:CG	1:F:34:THR:HG21	2.26	0.60
1:D:58:ASN:HD22	1:D:58:ASN:N	1.99	0.60
1:E:84:PRO:HA	1:E:89:ASN:OD1	2.01	0.60
1:F:37:MET:HB2	2:F:113:HOH:O	2.00	0.59
1:H:53:LYS:H	1:H:53:LYS:CE	2.16	0.59
1:E:12:ARG:HH21	1:F:34:THR:HG23	1.68	0.56
1:H:21:VAL:HG21	1:H:80:MET:HE2	1.87	0.56
1:H:7:LYS:HG2	1:H:17:LEU:HD11	1.87	0.55
1:D:20:GLY:H	1:D:79:ASN:ND2	2.05	0.54
1:F:67:ILE:HG23	1:F:96:LEU:HB2	1.90	0.54
1:F:21:VAL:HG21	1:F:80:MET:CE	2.37	0.54
1:E:97:GLU:HB3	1:F:25:LYS:HD3	1.88	0.53
1:H:53:LYS:HD2	1:H:54:ASP:H	1.74	0.53
1:F:40:VAL:HA	1:F:45:GLY:O	2.10	0.52
1:D:52:ALA:HB2	2:D:145:HOH:O	2.09	0.52
1:D:64:MET:HE1	2:D:106:HOH:O	2.09	0.52
1:D:25:LYS:HB2	1:D:40:VAL:HB	1.92	0.51
1:D:84:PRO:HA	1:D:89:ASN:ND2	2.25	0.51
1:D:76:MET:HE3	1:D:98:ALA:HA	1.92	0.50
1:E:55:TYR:CD1	1:E:56:PRO:HA	2.46	0.50
1:H:52:ALA:HA	1:H:53:LYS:HE2	1.94	0.50
1:G:65:ARG:HD3	2:G:100:HOH:O	2.11	0.50
1:E:92:TRP:HB3	1:F:31:ASN:OD1	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:76:MET:HE3	1:F:98:ALA:HA	1.94	0.50
1:D:83:SER:HB3	1:D:90:VAL:HG23	1.92	0.50
1:G:92:TRP:O	1:H:30:ILE:HG12	2.11	0.49
1:G:51:ARG:HH11	1:G:65:ARG:NH1	1.99	0.49
1:D:64:MET:HG2	1:D:94:ILE:HG22	1.94	0.49
1:E:62:ALA:O	1:E:66:LYS:HG3	2.13	0.49
1:F:57:ASP:HA	1:F:60:MET:HE2	1.95	0.48
1:D:20:GLY:H	1:D:79:ASN:HD22	1.62	0.48
1:E:64:MET:HE1	1:F:30:ILE:HG12	1.94	0.48
1:G:64:MET:HE3	1:H:30:ILE:HG23	1.95	0.48
1:D:31:ASN:O	1:D:35:ASP:HB3	2.13	0.48
1:E:95:GLU:OE1	1:F:27:ILE:HD11	2.14	0.48
1:D:58:ASN:HD22	1:D:59:VAL:H	1.61	0.48
1:H:22:GLU:HG3	1:H:77:ARG:CZ	2.44	0.48
1:D:76:MET:HE2	1:D:96:LEU:HD22	1.96	0.47
1:D:37:MET:N	2:D:104:HOH:O	2.26	0.47
1:F:9:ASN:OD1	1:G:34:THR:HG21	2.14	0.47
1:H:25:LYS:HB2	1:H:40:VAL:HB	1.96	0.47
1:D:87:SER:HA	1:D:88:PRO:C	2.40	0.47
1:H:34:THR:O	1:H:35:ASP:C	2.58	0.47
1:G:60:MET:O	1:G:64:MET:HG3	2.16	0.46
1:D:40:VAL:HA	1:D:45:GLY:O	2.15	0.46
1:H:40:VAL:HA	1:H:45:GLY:O	2.16	0.46
1:G:51:ARG:HA	1:G:51:ARG:HD2	1.37	0.46
1:D:92:TRP:O	1:E:30:ILE:HG12	2.16	0.46
1:D:99:GLU:HG3	1:E:24:THR:HG21	1.98	0.46
1:E:20:GLY:C	1:E:77:ARG:HG2	2.40	0.46
1:F:48:ARG:NH1	2:F:111:HOH:O	2.48	0.46
1:H:23:LEU:HA	1:H:41:SER:HA	1.97	0.46
1:H:67:ILE:HG23	1:H:96:LEU:HB2	1.98	0.46
1:D:83:SER:HA	1:D:84:PRO:HD3	1.68	0.46
1:D:55:TYR:CG	1:D:56:PRO:HA	2.51	0.45
1:D:55:TYR:HA	1:D:58:ASN:ND2	2.32	0.45
1:G:97:GLU:HB2	1:G:99:GLU:OE2	2.16	0.45
1:F:39:VAL:HG11	1:F:68:ALA:HB1	1.99	0.45
1:F:26:TYR:HB2	1:F:72:VAL:HG21	1.98	0.45
1:H:55:TYR:CD1	1:H:56:PRO:HA	2.52	0.45
1:H:12:ARG:HA	1:H:12:ARG:HD2	1.84	0.44
1:F:83:SER:HB2	1:F:92:TRP:CH2	2.52	0.44
1:G:55:TYR:HA	1:G:58:ASN:OD1	2.17	0.44
1:E:67:ILE:HG23	1:E:96:LEU:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:18:VAL:HG21	1:H:80:MET:HE3	1.99	0.44
1:H:21:VAL:HG21	1:H:80:MET:CE	2.47	0.44
1:E:99:GLU:HB3	1:F:24:THR:CG2	2.47	0.44
1:E:39:VAL:HG11	1:E:68:ALA:HB1	1.99	0.43
1:E:8:ASP:O	1:E:12:ARG:HG3	2.19	0.43
1:H:18:VAL:HG23	1:H:80:MET:HB2	1.99	0.43
1:D:19:GLU:HA	1:D:79:ASN:HD22	1.84	0.43
1:D:58:ASN:HD22	1:D:59:VAL:N	2.16	0.43
1:G:9:ASN:CG	1:H:34:THR:HG21	2.44	0.43
1:E:58:ASN:OD1	1:E:59:VAL:HG23	2.19	0.43
1:G:27:ILE:O	1:G:37:MET:HA	2.19	0.43
1:D:29:ASP:O	1:D:35:ASP:HA	2.18	0.42
1:H:55:TYR:HA	1:H:56:PRO:HA	1.81	0.42
1:D:69:MET:HE2	2:H:107:HOH:O	2.20	0.42
1:E:55:TYR:CG	1:E:56:PRO:HA	2.55	0.42
1:E:99:GLU:HB3	1:F:24:THR:HB	2.02	0.42
1:G:77:ARG:H	1:G:77:ARG:NE	2.18	0.42
1:D:58:ASN:ND2	1:D:59:VAL:N	2.68	0.42
1:F:17:LEU:HD12	1:F:80:MET:O	2.20	0.42
1:D:58:ASN:HD22	1:D:58:ASN:H	1.68	0.41
1:E:96:LEU:O	1:F:25:LYS:HA	2.20	0.41
1:G:63:GLU:O	1:G:67:ILE:HG13	2.20	0.41
1:G:26:TYR:OH	1:G:37:MET:HE2	2.21	0.41
1:F:9:ASN:O	1:F:12:ARG:HG3	2.20	0.41
1:G:50:SER:OG	1:G:91:ILE:O	2.38	0.41
1:H:21:VAL:O	1:H:77:ARG:HA	2.21	0.41
1:D:27:ILE:HG12	1:H:95:GLU:HB2	2.02	0.41
1:D:13:THR:HG21	1:E:31:ASN:CG	2.47	0.40
1:D:64:MET:HG2	1:D:94:ILE:CG2	2.50	0.40
1:D:55:TYR:CD2	1:D:56:PRO:HA	2.56	0.40
1:E:9:ASN:ND2	1:F:34:THR:HG21	2.37	0.40
1:E:15:ALA:HB2	1:E:92:TRP:CE3	2.55	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	D	97/99 (98%)	95 (98%)	1 (1%)	1 (1%)	12 11
1	E	97/99 (98%)	96 (99%)	1 (1%)	0	100 100
1	F	97/99 (98%)	95 (98%)	0	2 (2%)	5 3
1	G	97/99 (98%)	95 (98%)	2 (2%)	0	100 100
1	H	97/99 (98%)	95 (98%)	2 (2%)	0	100 100
All	All	485/495 (98%)	476 (98%)	6 (1%)	3 (1%)	21 23

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	F	35	ASP
1	D	32	ASN
1	F	32	ASN

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	D	82/82 (100%)	76 (93%)	6 (7%)	13 15
1	E	82/82 (100%)	79 (96%)	3 (4%)	30 41
1	F	82/82 (100%)	77 (94%)	5 (6%)	17 20
1	G	82/82 (100%)	76 (93%)	6 (7%)	13 15
1	H	82/82 (100%)	74 (90%)	8 (10%)	7 8
All	All	410/410 (100%)	382 (93%)	28 (7%)	14 17

All (28) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	18	VAL

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Mol	Chain	Res	Type
1	D	22	GLU
1	D	50	SER
1	D	58	ASN
1	D	90	VAL
1	D	96	LEU
1	E	14	THR
1	E	51	ARG
1	E	77	ARG
1	F	12	ARG
1	F	25	LYS
1	F	34	THR
1	F	46	VAL
1	F	99	GLU
1	G	32	ASN
1	G	34	THR
1	G	50	SER
1	G	51	ARG
1	G	77	ARG
1	G	87	SER
1	H	12	ARG
1	H	16	SER
1	H	17	LEU
1	H	18	VAL
1	H	22	GLU
1	H	51	ARG
1	H	53	LYS
1	H	54	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	D	58	ASN
1	D	79	ASN
1	D	89	ASN
1	E	9	ASN
1	E	11	ASN
1	E	79	ASN
1	F	9	ASN
1	F	11	ASN
1	G	9	ASN
1	G	11	ASN

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	D	99/99 (100%)	-0.02	6 (6%)	27	24	14, 25, 55, 95	0
1	E	99/99 (100%)	0.14	3 (3%)	52	49	13, 34, 61, 90	0
1	F	99/99 (100%)	0.32	3 (3%)	52	49	18, 37, 67, 91	0
1	G	99/99 (100%)	0.05	6 (6%)	27	24	14, 29, 59, 89	0
1	H	99/99 (100%)	0.18	7 (7%)	22	19	16, 28, 64, 95	0
All	All	495/495 (100%)	0.13	25 (5%)	33	30	13, 31, 64, 95	0

All (25) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	99	GLU	4.0
1	G	99	GLU	3.4
1	G	51	ARG	3.3
1	D	32	ASN	3.2
1	D	33	ASN	3.1
1	E	11	ASN	2.9
1	D	36	GLY	2.8
1	H	85	ALA	2.7
1	G	33	ASN	2.6
1	G	22	GLU	2.5
1	H	12	ARG	2.5
1	D	31	ASN	2.5
1	D	34	THR	2.4
1	H	99	GLU	2.4
1	D	99	GLU	2.4
1	G	34	THR	2.3
1	F	99	GLU	2.3
1	H	98	ALA	2.3
1	H	86	SER	2.3
1	G	35	ASP	2.2

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Mol	Chain	Res	Type	RSRZ
1	F	33	ASN	2.2
1	E	12	ARG	2.1
1	F	85	ALA	2.1
1	H	48	ARG	2.1
1	H	11	ASN	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 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.