Full wwPDB X-ray Structure Validation Report ⓘ

Jul 1, 2025 – 12:11 PM EDT

PDB ID	:	9NZB / pdb_00009nzb
Title	:	Crystal Structure of acyl-CoA lyase subunit beta from Pseudomonas aeruginosa PAO1
Authors	:	Minasov, G.; Shukla, S.; Shuvalova, L.; Brunzelle, J.S.; Warwzak, Z.; Satchell, K.J.F.; Center for Structural Biology of Infectious Diseases (CSBID)
Deposited on	:	2025-03-31
Resolution	:	1.85 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:

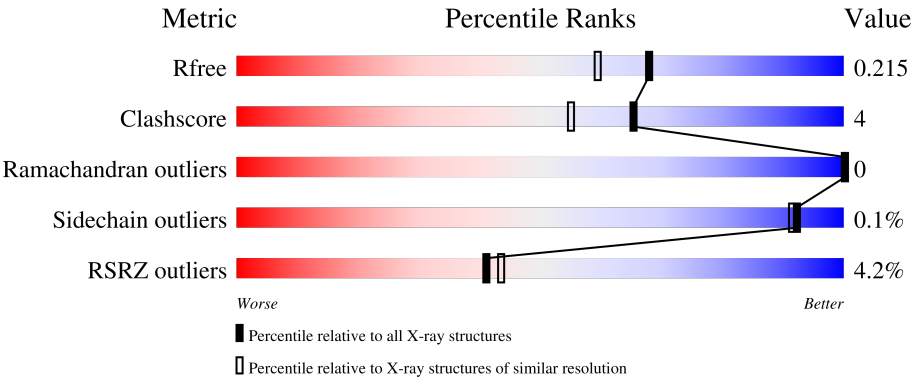
MolProbity	:	4-5-2 with Phenix2.0rc1
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

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 1.85 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	3097 (1.86-1.86)
Clashscore	180529	3359 (1.86-1.86)
Ramachandran outliers	177936	3335 (1.86-1.86)
Sidechain outliers	177891	3335 (1.86-1.86)
RSRZ outliers	164620	3097 (1.86-1.86)

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	278	5% 86% 10% ·
1	B	278	4% 84% 8% 8%
1	C	278	4% 85% 9% 6%
1	D	278	3% 85% 10% 5%
1	E	278	5% 84% 7% 9%

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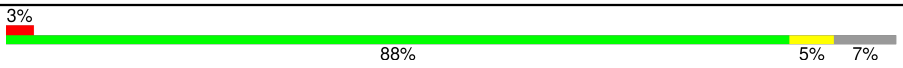
Mol	Chain	Length	Quality of chain
1	F	278	

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 13310 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 Acyl-CoA lyase beta chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	268	Total	C	N	O	S	0	3	0
			2035	1275	382	372	6			
1	B	257	Total	C	N	O	S	0	3	0
			1956	1224	369	358	5			
1	C	261	Total	C	N	O	S	0	9	0
			2034	1274	385	370	5			
1	D	263	Total	C	N	O	S	0	7	0
			2032	1269	385	372	6			
1	E	253	Total	C	N	O	S	0	7	0
			1957	1230	367	356	4			
1	F	259	Total	C	N	O	S	0	3	0
			1964	1229	374	357	4			

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	SER	-	expression tag	UNP Q9I562
A	-1	ASN	-	expression tag	UNP Q9I562
A	0	ALA	-	expression tag	UNP Q9I562
B	-2	SER	-	expression tag	UNP Q9I562
B	-1	ASN	-	expression tag	UNP Q9I562
B	0	ALA	-	expression tag	UNP Q9I562
C	-2	SER	-	expression tag	UNP Q9I562
C	-1	ASN	-	expression tag	UNP Q9I562
C	0	ALA	-	expression tag	UNP Q9I562
D	-2	SER	-	expression tag	UNP Q9I562
D	-1	ASN	-	expression tag	UNP Q9I562
D	0	ALA	-	expression tag	UNP Q9I562
E	-2	SER	-	expression tag	UNP Q9I562
E	-1	ASN	-	expression tag	UNP Q9I562
E	0	ALA	-	expression tag	UNP Q9I562
F	-2	SER	-	expression tag	UNP Q9I562
F	-1	ASN	-	expression tag	UNP Q9I562

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Chain	Residue	Modelled	Actual	Comment	Reference
F	0	ALA	-	expression tag	UNP Q9I562

- Molecule 2 is water.

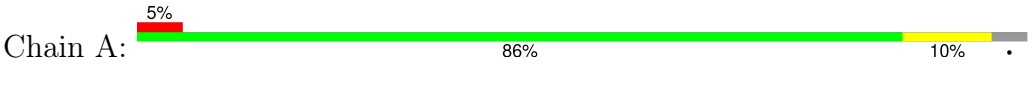
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	266	Total O 273 273	0	9
2	B	248	Total O 252 252	0	7
2	C	174	Total O 179 179	0	7
2	D	187	Total O 189 189	0	5
2	E	204	Total O 209 209	0	9
2	F	224	Total O 230 230	0	7

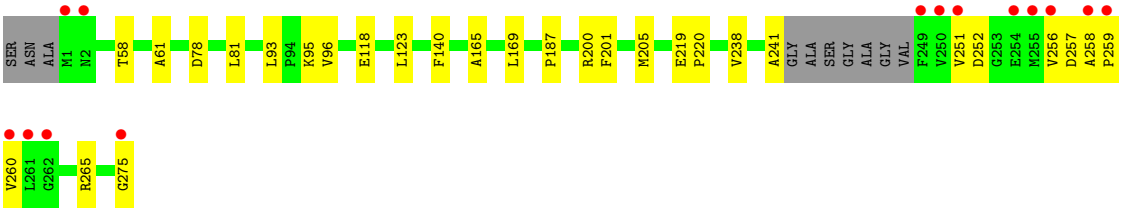
3 Residue-property plots (i)

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: Acyl-CoA lyase beta chain

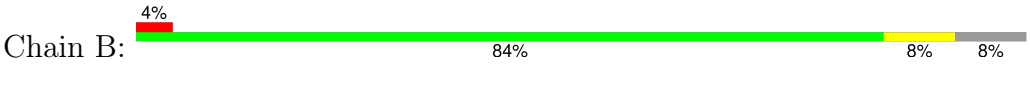
Chain A:

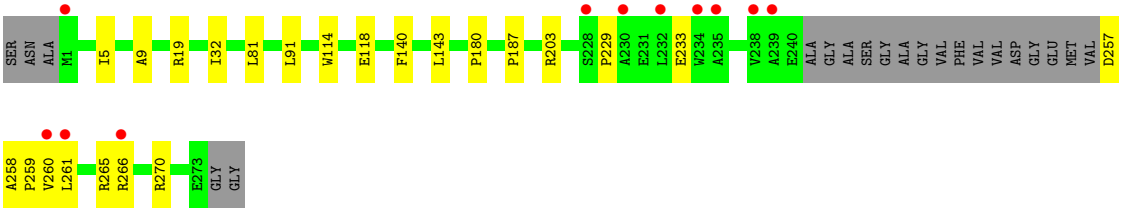




• Molecule 1: Acyl-CoA lyase beta chain

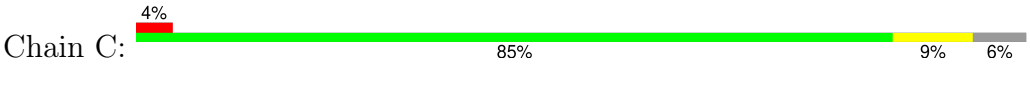
Chain B:

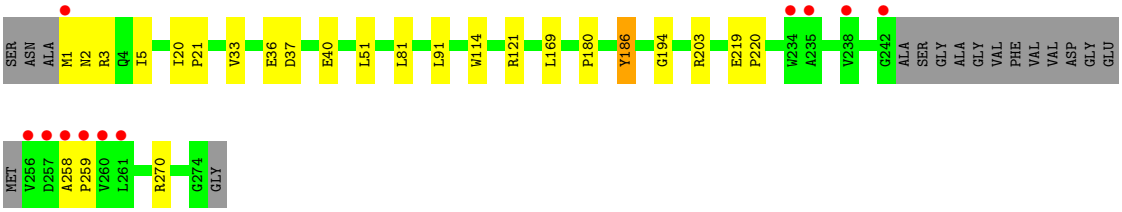




• Molecule 1: Acyl-CoA lyase beta chain

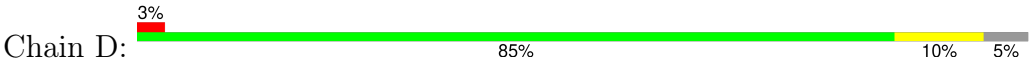
Chain C:

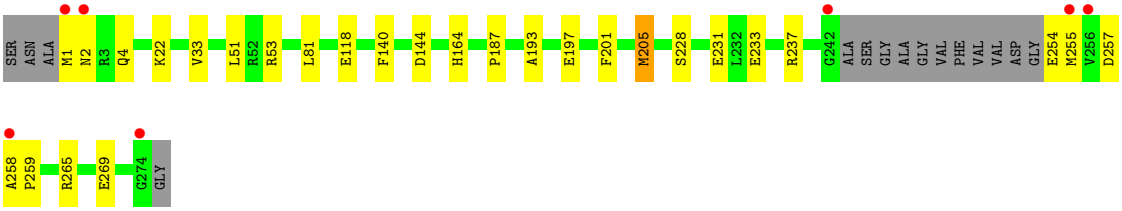




• Molecule 1: Acyl-CoA lyase beta chain

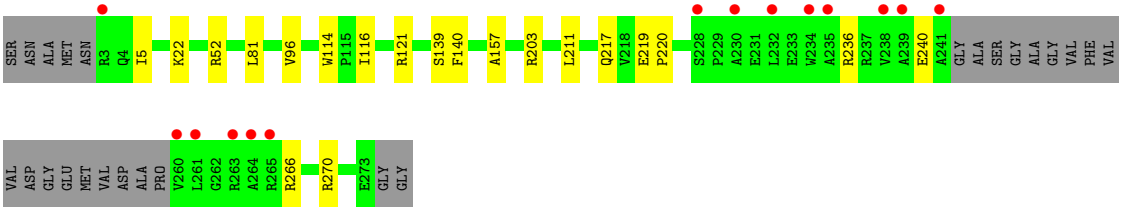
Chain D:





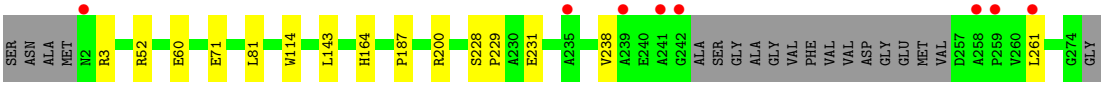
• Molecule 1: Acyl-CoA lyase beta chain

Chain E:



• Molecule 1: Acyl-CoA lyase beta chain

Chain F:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	64.83Å 198.04Å 65.35Å 90.00° 91.33° 90.00°	Depositor
Resolution (Å)	29.48 – 1.85 29.48 – 1.85	Depositor EDS
% Data completeness (in resolution range)	95.4 (29.48-1.85) 95.4 (29.48-1.85)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	0.08	Depositor
$< I/\sigma(I) >$ [1]	2.54 (at 1.85Å)	Xtriage
Refinement program	REFMAC 5.8.0425	Depositor
R, R_{free}	0.172 , 0.209 0.179 , 0.215	Depositor DCC
R_{free} test set	7030 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	24.5	Xtriage
Anisotropy	0.406	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 40.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.012 for l,k,-h 0.064 for h,-k,-l 0.025 for l,-k,h	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	13310	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 3.68% 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	0.57	0/2068	1.06	2/2806 (0.1%)
1	B	0.54	0/1988	1.03	3/2700 (0.1%)
1	C	0.51	0/2066	1.01	1/2804 (0.0%)
1	D	0.52	0/2064	1.07	4/2801 (0.1%)
1	E	0.54	0/1988	1.06	3/2701 (0.1%)
1	F	0.56	0/1996	1.06	6/2712 (0.2%)
All	All	0.54	0/12170	1.05	19/16524 (0.1%)

There are no bond length outliers.

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	140	PHE	N-CA-CB	-7.55	98.72	110.57
1	A	187	PRO	N-CA-C	6.71	122.25	113.86
1	D	140	PHE	N-CA-CB	-6.46	100.49	110.62
1	B	140	PHE	N-CA-CB	-6.43	100.47	110.57
1	F	52	ARG	CB-CA-C	-6.18	100.53	110.79
1	B	187	PRO	N-CA-C	6.01	121.37	113.86
1	D	187	PRO	N-CA-C	5.92	121.27	113.86
1	F	187	PRO	N-CA-C	5.87	121.20	113.86
1	A	78	ASP	CA-CB-CG	5.79	118.39	112.60
1	E	211	LEU	N-CA-C	-5.68	102.49	110.50
1	D	205	MET	CB-CA-C	-5.62	99.90	110.01
1	B	118	GLU	CB-CA-C	-5.46	100.62	110.35
1	F	3	ARG	N-CA-CB	5.40	119.10	110.73
1	C	186	TYR	CB-CA-C	5.36	115.48	110.17
1	F	52	ARG	N-CA-CB	5.16	117.70	110.12
1	F	52	ARG	CG-CD-NE	-5.06	100.87	112.00
1	F	60	GLU	CB-CG-CD	5.04	121.17	112.60
1	E	52	ARG	N-CA-CB	5.03	117.51	110.12
1	D	53	ARG	CB-CA-C	-5.02	102.93	110.92

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	A	2035	0	2073	16	0
1	B	1956	0	1993	16	0
1	C	2034	0	2079	19	0
1	D	2032	0	2068	16	0
1	E	1957	0	2003	15	0
1	F	1964	0	2004	10	0
2	A	273	0	0	1	0
2	B	252	0	0	4	0
2	C	179	0	0	3	0
2	D	189	0	0	2	0
2	E	209	0	0	4	0
2	F	230	0	0	3	0
All	All	13310	0	12220	90	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 4.

All (90) 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:E:116[B]:ILE:CD1	1:E:139[B]:SER:HB2	2.09	0.83
1:C:258:ALA:HB3	1:C:259:PRO:HD3	1.62	0.80
1:E:116[B]:ILE:HD12	1:E:139[B]:SER:HB2	1.65	0.77
1:C:1:MET:SD	1:C:1:MET:N	2.69	0.66
1:A:201:PHE:CE2	1:A:205:MET:HE3	2.34	0.63
1:F:71:GLU:H	1:F:71:GLU:CD	2.07	0.63
1:D:254:GLU:HG2	1:D:255:MET:H	1.63	0.63
1:E:203:ARG:HD2	1:E:270:ARG:NH1	2.15	0.62
1:D:201:PHE:CE2	1:D:205:MET:HE3	2.35	0.61
1:D:193:ALA:O	1:D:197[A]:GLU:HG2	2.01	0.60
1:E:236:ARG:O	1:E:240:GLU:N	2.34	0.59
1:D:258:ALA:HB3	1:D:259:PRO:HD3	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:81:LEU:HD23	1:C:81:LEU:C	2.28	0.59
1:C:203:ARG:HD2	1:C:270:ARG:NH2	2.18	0.58
1:F:238:VAL:HG12	1:F:261:LEU:HD13	1.87	0.57
1:E:22:LYS:NZ	2:E:304:HOH:O	2.37	0.57
1:D:81:LEU:C	1:D:81:LEU:HD23	2.29	0.57
1:C:114:TRP:HB3	2:C:401:HOH:O	2.04	0.56
1:E:219:GLU:HB3	1:E:220:PRO:HD3	1.88	0.55
1:A:93:LEU:O	1:A:96[A]:VAL:HG23	2.06	0.55
1:B:5:ILE:HD13	1:B:180:PRO:HG2	1.88	0.54
1:E:116[B]:ILE:HD13	1:E:139[B]:SER:HB2	1.87	0.54
1:D:265:ARG:O	1:D:269:GLU:HG3	2.08	0.53
1:B:143:LEU:C	1:B:143:LEU:HD23	2.34	0.53
1:A:258:ALA:HB3	1:A:259:PRO:HD3	1.92	0.52
1:B:19:ARG:NH1	2:B:308:HOH:O	2.43	0.51
1:B:266:ARG:NH1	2:B:302:HOH:O	2.24	0.51
1:C:258:ALA:HB3	1:C:259:PRO:CD	2.37	0.51
1:B:261:LEU:O	1:B:265:ARG:HG2	2.11	0.51
1:B:229:PRO:O	1:B:233:GLU:HG3	2.11	0.50
1:B:114:TRP:HB3	2:B:367:HOH:O	2.10	0.50
1:E:81:LEU:C	1:E:81:LEU:HD23	2.37	0.50
1:D:1:MET:HB3	1:D:4:GLN:HG3	1.93	0.50
1:C:169[A]:LEU:C	1:C:169[A]:LEU:HD23	2.37	0.50
1:E:5:ILE:HD11	1:E:266:ARG:HG3	1.93	0.50
1:C:33:VAL:HG11	1:C:51:LEU:HD13	1.93	0.50
1:E:114:TRP:HB3	2:E:368:HOH:O	2.10	0.50
1:B:258:ALA:HB3	1:B:259:PRO:HD3	1.95	0.49
1:D:228:SER:HG	1:D:231:GLU:HG3	1.77	0.49
1:D:2:ASN:HB3	2:D:413:HOH:O	2.12	0.49
1:C:2:ASN:O	1:C:3:ARG:HD2	2.12	0.49
1:B:203:ARG:HD2	1:B:270:ARG:NH1	2.28	0.48
1:B:257:ASP:O	1:B:261:LEU:HG	2.14	0.47
1:F:81:LEU:C	1:F:81:LEU:HD23	2.39	0.47
1:B:9:ALA:HB1	1:B:32:ILE:HD11	1.97	0.47
1:A:265:ARG:NH1	1:A:275:GLY:OXT	2.48	0.46
1:B:81:LEU:C	1:B:81:LEU:HD23	2.41	0.46
1:A:58:THR:HG22	1:A:61:ALA:HB2	1.96	0.46
1:E:121:ARG:NH1	2:E:309:HOH:O	2.48	0.46
1:B:257:ASP:HB2	1:B:260:VAL:CG2	2.47	0.45
1:B:91:LEU:C	1:B:91:LEU:HD12	2.42	0.45
1:A:200:ARG:NH1	2:A:301:HOH:O	2.25	0.45
1:F:114:TRP:HB3	2:F:390:HOH:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:118:GLU:HB2	1:D:144:ASP:HB2	1.98	0.45
1:F:228:SER:OG	1:F:231:GLU:HG3	2.17	0.45
1:F:71:GLU:CD	1:F:71:GLU:N	2.74	0.44
1:C:219:GLU:HB3	1:C:220:PRO:HD3	2.00	0.44
1:A:81:LEU:C	1:A:81:LEU:HD23	2.42	0.44
1:C:91:LEU:C	1:C:91:LEU:HD12	2.43	0.44
1:A:95:LYS:HG3	1:A:118:GLU:OE1	2.18	0.44
1:B:19:ARG:NE	2:B:308:HOH:O	2.51	0.44
1:D:33:VAL:HG11	1:D:51:LEU:HD13	2.00	0.44
1:C:258:ALA:CB	1:C:259:PRO:HD3	2.43	0.43
1:A:165:ALA:O	1:A:169:LEU:HD13	2.17	0.43
1:C:5:ILE:HD13	1:C:180:PRO:HG2	1.99	0.43
1:E:121:ARG:HG3	2:E:349:HOH:O	2.18	0.43
1:A:238:VAL:HG11	1:A:260:VAL:HG12	2.00	0.43
1:C:20:ILE:N	1:C:21:PRO:CD	2.81	0.43
1:A:219:GLU:HB3	1:A:220:PRO:CD	2.49	0.42
1:D:233:GLU:O	1:D:237:ARG:HG3	2.19	0.42
1:E:217:GLN:C	1:E:220:PRO:HD2	2.44	0.42
1:F:200:ARG:NH1	2:F:309:HOH:O	2.43	0.42
1:B:143:LEU:HD23	1:B:143:LEU:O	2.20	0.42
1:A:257:ASP:OD2	1:A:259:PRO:HD2	2.20	0.42
1:E:96:VAL:HG12	1:E:116[A]:ILE:O	2.19	0.42
1:A:219:GLU:HB3	1:A:220:PRO:HD3	2.02	0.41
1:A:251:VAL:O	1:A:252:ASP:HB2	2.20	0.41
1:A:241:ALA:C	1:A:256:VAL:HG11	2.45	0.41
1:D:22:LYS:HB2	2:D:344:HOH:O	2.20	0.41
1:A:123:LEU:HD11	1:A:165:ALA:HA	2.02	0.41
1:D:205:MET:HG3	1:E:157:ALA:HB1	2.02	0.41
1:C:186:TYR:OH	1:C:194:GLY:HA3	2.20	0.41
1:D:164:HIS:CE1	1:F:164:HIS:HA	2.56	0.41
1:D:257:ASP:OD1	1:D:259:PRO:HD2	2.21	0.41
1:F:229:PRO:HD2	2:F:441:HOH:O	2.21	0.41
1:C:36:GLU:HG2	1:C:37:ASP:N	2.35	0.41
1:F:143:LEU:C	1:F:143:LEU:HD23	2.46	0.41
1:C:40:GLU:HG3	2:C:430:HOH:O	2.20	0.40
1:C:36:GLU:CG	1:C:37:ASP:N	2.83	0.40
1:C:121:ARG:HD3	2:C:317:HOH:O	2.20	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	267/278 (96%)	258 (97%)	9 (3%)	0	100	100
1	B	256/278 (92%)	252 (98%)	4 (2%)	0	100	100
1	C	266/278 (96%)	260 (98%)	6 (2%)	0	100	100
1	D	266/278 (96%)	259 (97%)	7 (3%)	0	100	100
1	E	256/278 (92%)	252 (98%)	4 (2%)	0	100	100
1	F	258/278 (93%)	252 (98%)	6 (2%)	0	100	100
All	All	1569/1668 (94%)	1533 (98%)	36 (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	204/205 (100%)	203 (100%)	1 (0%)	86	84
1	B	197/205 (96%)	197 (100%)	0	100	100
1	C	204/205 (100%)	204 (100%)	0	100	100
1	D	204/205 (100%)	204 (100%)	0	100	100
1	E	197/205 (96%)	197 (100%)	0	100	100
1	F	196/205 (96%)	196 (100%)	0	100	100
All	All	1202/1230 (98%)	1201 (100%)	1 (0%)	92	91

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	140	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	2	ASN
1	A	4	GLN
1	B	104	HIS
1	D	104	HIS
1	D	164	HIS
1	F	104	HIS

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	268/278 (96%)	-0.01	14 (5%)	34	35	11, 24, 89, 122	3 (1%)
1	B	257/278 (92%)	0.01	11 (4%)	40	43	10, 26, 85, 114	3 (1%)
1	C	261/278 (93%)	0.12	11 (4%)	41	43	10, 30, 73, 120	9 (3%)
1	D	263/278 (94%)	0.00	7 (2%)	56	59	10, 28, 72, 126	7 (2%)
1	E	253/278 (91%)	0.13	14 (5%)	32	33	11, 29, 94, 119	7 (2%)
1	F	259/278 (93%)	0.01	8 (3%)	51	54	11, 27, 79, 99	3 (1%)
All	All	1561/1668 (93%)	0.04	65 (4%)	41	43	10, 27, 83, 126	32 (2%)

All (65) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	249	PHE	5.1
1	D	2	ASN	4.4
1	C	256	VAL	4.3
1	D	258	ALA	4.3
1	F	261	LEU	4.2
1	E	234	TRP	4.0
1	B	234	TRP	3.8
1	A	258	ALA	3.8
1	C	1	MET	3.8
1	A	275	GLY	3.8
1	E	239	ALA	3.8
1	A	261	LEU	3.6
1	B	230	ALA	3.5
1	E	232	LEU	3.4
1	E	235	ALA	3.3
1	F	258	ALA	3.3
1	A	256	VAL	3.3
1	B	261	LEU	3.2
1	B	235	ALA	3.2

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Mol	Chain	Res	Type	RSRZ
1	C	242	GLY	3.2
1	E	261	LEU	3.1
1	A	2	ASN	3.0
1	E	238	VAL	3.0
1	A	259	PRO	3.0
1	E	263	ARG	2.9
1	F	259	PRO	2.9
1	C	238	VAL	2.9
1	D	274	GLY	2.9
1	C	235	ALA	2.8
1	A	1	MET	2.8
1	A	250	VAL	2.8
1	C	258	ALA	2.8
1	D	256	VAL	2.8
1	D	1	MET	2.8
1	C	257	ASP	2.7
1	A	260	VAL	2.7
1	B	1	MET	2.7
1	F	242	GLY	2.7
1	E	260	VAL	2.6
1	A	254	GLU	2.6
1	F	241	ALA	2.6
1	E	230	ALA	2.6
1	C	259	PRO	2.6
1	D	242	GLY	2.5
1	E	264	ALA	2.5
1	E	3	ARG	2.5
1	F	2	ASN	2.5
1	E	265	ARG	2.4
1	C	261	LEU	2.4
1	E	228	SER	2.4
1	A	262	GLY	2.4
1	B	232	LEU	2.4
1	A	251	VAL	2.4
1	D	255	MET	2.3
1	B	260	VAL	2.3
1	C	260	VAL	2.3
1	E	241	ALA	2.2
1	B	238	VAL	2.2
1	B	239	ALA	2.2
1	F	239	ALA	2.2
1	C	234	TRP	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	266	ARG	2.1
1	F	235	ALA	2.0
1	A	255	MET	2.0
1	B	228	SER	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.