Full wwPDB X-ray Structure Validation Report ⓘ

Apr 21, 2024 – 11:48 am BST

PDB ID	:	4D7K
Title	:	Crystal structure of N,N-8-amino-8-demethyl-D-riboflavin dimethyltransferase (RosA) from Streptomyces davawensis
Authors	:	Uhl, M.K.; Gruber, K.
Deposited on	:	2014-11-25
Resolution	:	2.22 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:

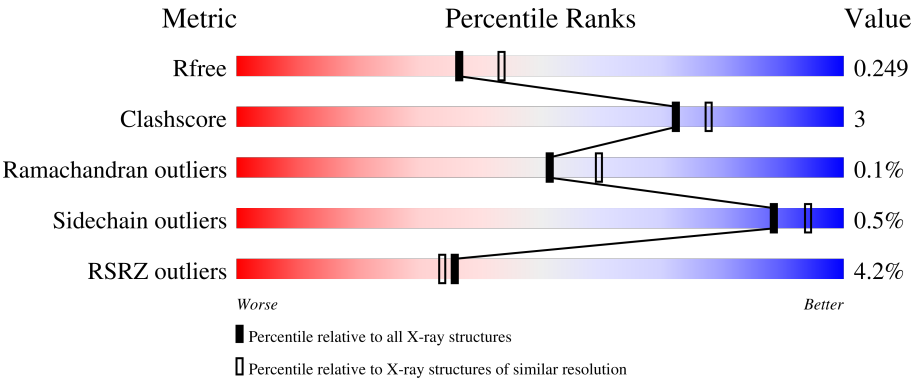
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.36.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

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 2.22 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	5912 (2.24-2.20)
Clashscore	141614	6646 (2.24-2.20)
Ramachandran outliers	138981	6543 (2.24-2.20)
Sidechain outliers	138945	6544 (2.24-2.20)
RSRZ outliers	127900	5797 (2.24-2.20)

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	A	353	88% 7% 5%
1	B	353	2% 86% 8% 5%
1	C	353	81% 13% 5%
1	D	353	8% 88% 6% • 5%
1	E	353	11% 83% 12% 5%

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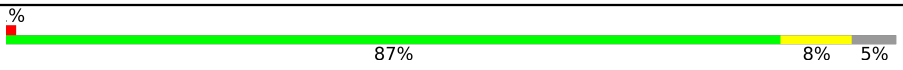
Mol	Chain	Length	Quality of chain
1	F	353	

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 15787 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 SAM-DEPENDENT METHYLTRANSFERASES.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	335	Total	C	N	O	S	0	1	0
			2590	1640	461	481	8			
1	B	335	Total	C	N	O	S	0	0	0
			2582	1635	458	481	8			
1	C	335	Total	C	N	O	S	0	0	0
			2582	1635	458	481	8			
1	D	336	Total	C	N	O	S	0	0	0
			2591	1640	459	484	8			
1	E	335	Total	C	N	O	S	0	0	0
			2582	1635	458	481	8			
1	F	337	Total	C	N	O	S	0	0	0
			2591	1640	460	483	8			

There are 36 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	348	HIS	-	expression tag	UNP K4RFM2
A	349	HIS	-	expression tag	UNP K4RFM2
A	350	HIS	-	expression tag	UNP K4RFM2
A	351	HIS	-	expression tag	UNP K4RFM2
A	352	HIS	-	expression tag	UNP K4RFM2
A	353	HIS	-	expression tag	UNP K4RFM2
B	348	HIS	-	expression tag	UNP K4RFM2
B	349	HIS	-	expression tag	UNP K4RFM2
B	350	HIS	-	expression tag	UNP K4RFM2
B	351	HIS	-	expression tag	UNP K4RFM2
B	352	HIS	-	expression tag	UNP K4RFM2
B	353	HIS	-	expression tag	UNP K4RFM2
C	348	HIS	-	expression tag	UNP K4RFM2
C	349	HIS	-	expression tag	UNP K4RFM2
C	350	HIS	-	expression tag	UNP K4RFM2
C	351	HIS	-	expression tag	UNP K4RFM2
C	352	HIS	-	expression tag	UNP K4RFM2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	353	HIS	-	expression tag	UNP K4RFM2
D	348	HIS	-	expression tag	UNP K4RFM2
D	349	HIS	-	expression tag	UNP K4RFM2
D	350	HIS	-	expression tag	UNP K4RFM2
D	351	HIS	-	expression tag	UNP K4RFM2
D	352	HIS	-	expression tag	UNP K4RFM2
D	353	HIS	-	expression tag	UNP K4RFM2
E	348	HIS	-	expression tag	UNP K4RFM2
E	349	HIS	-	expression tag	UNP K4RFM2
E	350	HIS	-	expression tag	UNP K4RFM2
E	351	HIS	-	expression tag	UNP K4RFM2
E	352	HIS	-	expression tag	UNP K4RFM2
E	353	HIS	-	expression tag	UNP K4RFM2
F	348	HIS	-	expression tag	UNP K4RFM2
F	349	HIS	-	expression tag	UNP K4RFM2
F	350	HIS	-	expression tag	UNP K4RFM2
F	351	HIS	-	expression tag	UNP K4RFM2
F	352	HIS	-	expression tag	UNP K4RFM2
F	353	HIS	-	expression tag	UNP K4RFM2

- Molecule 2 is water.

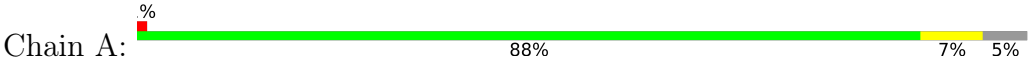
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	78	Total O 78 78	0	0
2	B	64	Total O 64 64	0	0
2	C	52	Total O 52 52	0	0
2	D	19	Total O 19 19	0	0
2	E	27	Total O 27 27	0	0
2	F	29	Total O 29 29	0	0

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.

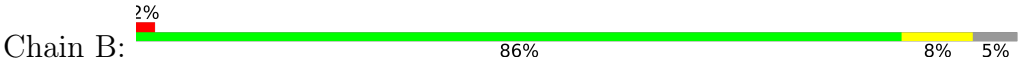
• Molecule 1: SAM-DEPENDENT METHYLTRANSFERASES

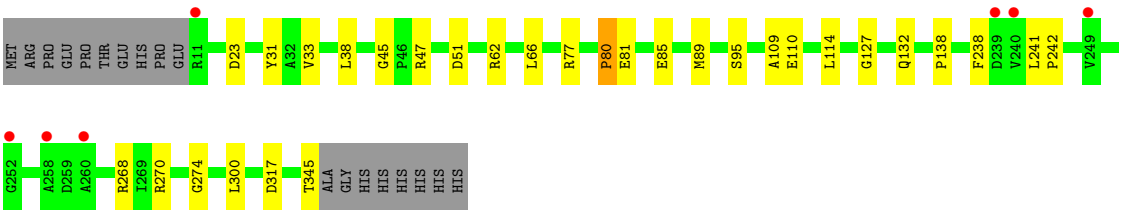
Chain A:



• Molecule 1: SAM-DEPENDENT METHYLTRANSFERASES

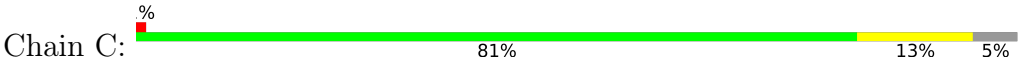
Chain B:

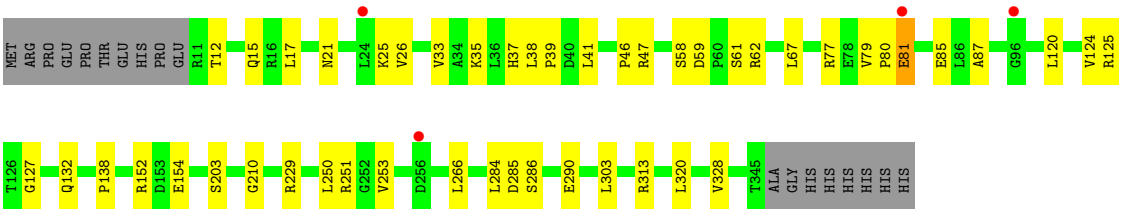




• Molecule 1: SAM-DEPENDENT METHYLTRANSFERASES

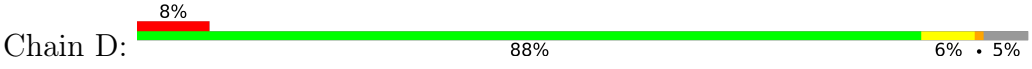
Chain C:

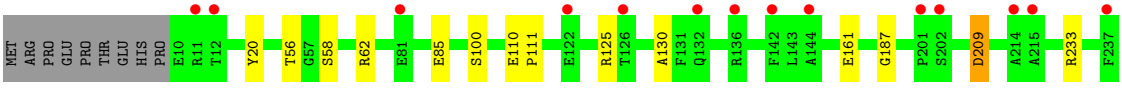


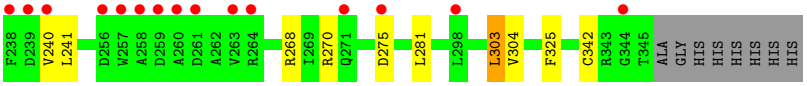


• Molecule 1: SAM-DEPENDENT METHYLTRANSFERASES

Chain D:

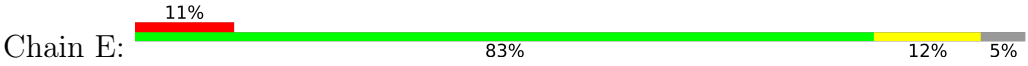


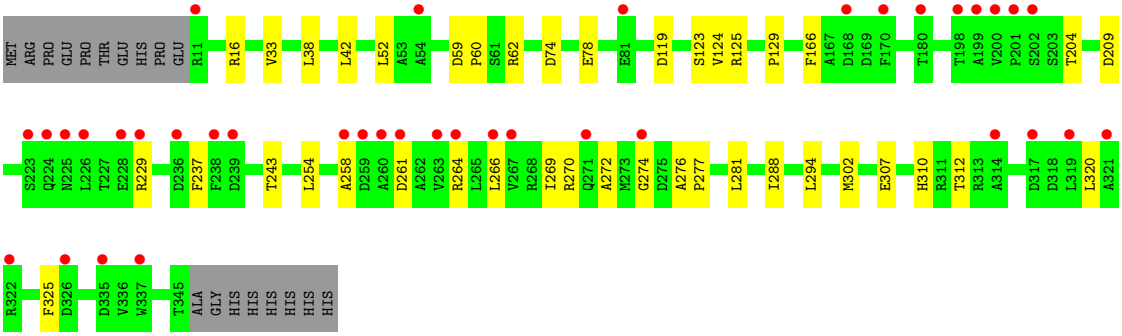




• Molecule 1: SAM-DEPENDENT METHYLTRANSFERASES

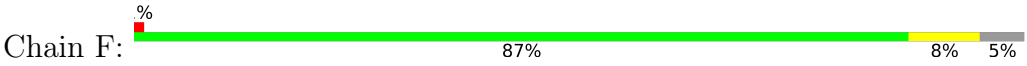
Chain E:

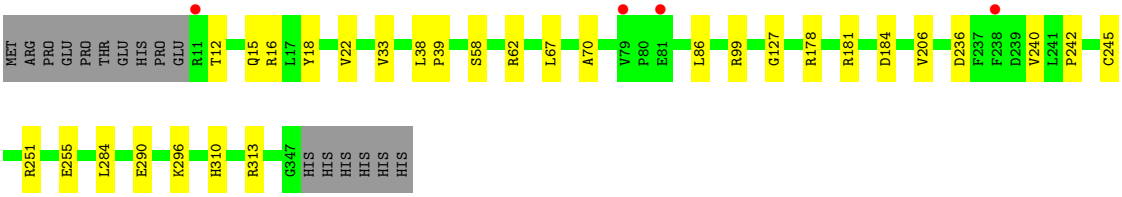




• Molecule 1: SAM-DEPENDENT METHYLTRANSFERASES

Chain F:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	82.72Å 82.76Å 96.45Å 95.08° 98.67° 114.53°	Depositor
Resolution (Å)	34.77 – 2.22 34.77 – 2.22	Depositor EDS
% Data completeness (in resolution range)	77.4 (34.77-2.22) 74.9 (34.77-2.22)	Depositor EDS
R_{merge}	0.03	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.60 (at 2.22Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.195 , 0.248 0.198 , 0.249	Depositor DCC
R_{free} test set	4387 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å^2)	41.0	Xtriage
Anisotropy	0.184	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 50.7	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.025 for -k,-h,-l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	15787	wwPDB-VP
Average B, all atoms (Å^2)	65.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.99% 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	0.24	0/2646	0.40	0/3592
1	B	0.24	0/2635	0.40	0/3578
1	C	0.23	0/2635	0.39	0/3578
1	D	0.21	0/2644	0.37	0/3590
1	E	0.21	0/2635	0.37	0/3578
1	F	0.22	0/2644	0.39	0/3590
All	All	0.23	0/15839	0.39	0/21506

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	2590	0	2557	17	0
1	B	2582	0	2544	20	0
1	C	2582	0	2544	31	0
1	D	2591	0	2550	16	0
1	E	2582	0	2544	25	0
1	F	2591	0	2552	22	0
2	A	78	0	0	1	0
2	B	64	0	0	1	0
2	C	52	0	0	3	0
2	D	19	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	E	27	0	0	1	0
2	F	29	0	0	3	0
All	All	15787	0	15291	106	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 3.

All (106) 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:F:99:ARG:NH1	2:F:2008:HOH:O	2.24	0.70
1:A:119:ASP:OD2	1:A:134:ARG:NH1	2.26	0.68
1:D:233:ARG:HD3	1:D:240:VAL:HG12	1.76	0.67
1:C:127:GLY:HA2	1:D:62:ARG:HD2	1.75	0.66
1:C:62:ARG:NH2	1:D:303:LEU:O	2.27	0.66
1:B:85:GLU:OE1	1:C:313:ARG:NH2	2.29	0.65
1:B:51:ASP:OD2	2:B:2015:HOH:O	2.15	0.64
1:C:152:ARG:NH1	2:C:2016:HOH:O	2.30	0.64
1:A:85:GLU:OE1	1:F:313:ARG:NH2	2.31	0.63
2:A:2017:HOH:O	1:B:23:ASP:OD2	2.16	0.61
1:C:41:LEU:HB3	1:C:47:ARG:HH21	1.65	0.61
1:E:78:GLU:OE1	1:F:296:LYS:NZ	2.31	0.61
1:C:58:SER:HA	1:D:125:ARG:HA	1.82	0.60
1:A:124:VAL:HG21	1:B:66:LEU:HD22	1.83	0.60
1:E:74:ASP:HB2	1:F:16:ARG:HH12	1.68	0.59
1:B:77:ARG:NH1	1:B:85:GLU:OE2	2.36	0.58
1:C:210:GLY:O	2:C:2029:HOH:O	2.17	0.58
1:F:184:ASP:OD2	2:F:2017:HOH:O	2.17	0.58
1:C:124:VAL:HG12	1:D:58:SER:HB3	1.87	0.57
1:C:37:HIS:ND1	2:C:2006:HOH:O	2.33	0.57
1:E:124:VAL:HG12	1:F:58:SER:HB3	1.85	0.57
1:C:285:ASP:OD1	1:C:286:SER:N	2.31	0.57
1:E:62:ARG:HD2	1:F:127:GLY:HA2	1.87	0.56
1:C:21:ASN:OD1	1:C:25:LYS:NZ	2.37	0.56
1:E:302:MET:SD	1:E:310:HIS:NE2	2.79	0.56
1:E:129:PRO:HG2	1:E:307:GLU:HG2	1.88	0.55
1:F:38:LEU:HD13	1:F:67:LEU:HD21	1.89	0.55
1:E:123:SER:OG	1:F:62:ARG:NH2	2.39	0.55
1:E:270:ARG:NH1	1:E:274:GLY:O	2.40	0.55
1:A:62:ARG:HD2	1:B:127:GLY:HA2	1.88	0.54
1:E:294:LEU:HD11	1:F:22:VAL:HG11	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:288:ILE:HB	1:E:312:THR:HG22	1.89	0.54
1:A:127:GLY:HA2	1:B:62:ARG:HD2	1.90	0.53
1:C:46:PRO:HB3	1:C:85:GLU:HB3	1.89	0.53
1:C:12:THR:HG23	1:C:15:GLN:H	1.74	0.53
1:A:209:ASP:OD1	1:A:210:GLY:N	2.40	0.53
1:C:250:LEU:HD22	1:C:253:VAL:HG21	1.92	0.52
1:D:281:LEU:HB3	1:D:342:CYS:HB2	1.92	0.52
1:C:125:ARG:HA	1:D:58:SER:HA	1.91	0.51
1:C:35:LYS:NZ	1:C:154:GLU:OE2	2.44	0.51
1:E:125:ARG:HA	1:F:58:SER:HA	1.92	0.51
1:A:319:LEU:HD12	1:A:322:ARG:HH21	1.75	0.50
1:D:130:ALA:HB3	1:D:304:VAL:HG13	1.93	0.50
1:C:38:LEU:HD13	1:C:67:LEU:HD21	1.93	0.50
1:B:238:PHE:HD1	1:B:268:ARG:HG3	1.77	0.50
1:A:238:PHE:HD1	1:A:268:ARG:HG3	1.76	0.50
1:A:259:ASP:HB3	1:A:322:ARG:HH22	1.76	0.50
1:E:261:ASP:OD1	1:E:264:ARG:NH2	2.45	0.49
1:C:132:GLN:HG2	1:C:138:PRO:HA	1.94	0.49
1:E:204:THR:HG22	1:E:229:ARG:HB2	1.94	0.49
1:A:29:VAL:HG23	1:B:300:LEU:HD22	1.94	0.49
1:B:270:ARG:NH1	1:B:274:GLY:O	2.40	0.49
1:D:110:GLU:HG3	1:D:111:PRO:HD2	1.95	0.48
1:B:109:ALA:HA	1:B:114:LEU:HD13	1.95	0.48
1:B:80:PRO:O	1:B:81:GLU:HG2	2.12	0.48
1:B:132:GLN:HG2	1:B:138:PRO:HA	1.96	0.48
1:F:255:GLU:OE2	1:F:310:HIS:NE2	2.44	0.48
1:A:25:LYS:HB3	1:B:300:LEU:HD23	1.95	0.48
1:A:137:GLU:OE2	1:A:145:ARG:NH2	2.40	0.47
1:C:59:ASP:OD2	1:C:61:SER:OG	2.29	0.47
1:C:33:VAL:HG12	1:C:39:PRO:HD3	1.97	0.47
1:E:320:LEU:HB3	1:E:325:PHE:HB2	1.96	0.47
1:E:166:PHE:HZ	1:F:18:TYR:HH	1.63	0.47
1:C:203:SER:O	1:C:229:ARG:NH1	2.47	0.46
1:D:270:ARG:HB2	1:D:325:PHE:CE2	2.50	0.46
1:B:270:ARG:HE	1:B:345:THR:H	1.64	0.46
1:A:313:ARG:NH2	1:D:85:GLU:OE1	2.47	0.46
1:C:290:GLU:OE1	1:C:313:ARG:NH1	2.49	0.46
1:C:251:ARG:HA	1:C:284:LEU:HB2	1.98	0.46
1:F:206:VAL:HG11	1:F:242:PRO:HG3	1.96	0.46
1:F:290:GLU:OE1	1:F:313:ARG:NH1	2.48	0.46
1:F:181:ARG:HB2	1:F:245:CYS:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:42:LEU:HD21	1:E:52:LEU:HD11	1.99	0.45
1:C:79:VAL:O	1:C:81:GLU:N	2.50	0.45
1:A:78:GLU:HG2	1:A:84:PHE:CE2	2.52	0.44
1:E:258:ALA:HB3	1:E:261:ASP:HB2	2.00	0.44
1:E:269:ILE:HG21	1:E:281:LEU:HD13	1.98	0.44
1:C:266:LEU:HD13	1:C:320:LEU:HD23	2.00	0.44
1:E:33:VAL:HG13	1:E:38:LEU:HB2	1.99	0.44
1:B:241:LEU:HD12	1:B:242:PRO:HD2	2.01	0.43
1:D:187:GLY:N	1:D:209:ASP:OD2	2.51	0.43
1:B:45:GLY:HA2	1:C:328:VAL:O	2.19	0.43
1:A:250:LEU:HD13	1:A:254:LEU:HD11	2.01	0.42
1:F:178:ARG:NH1	2:F:2014:HOH:O	2.51	0.42
1:E:276:ALA:HA	1:E:277:PRO:HD3	1.90	0.42
1:E:254:LEU:HD11	1:E:266:LEU:HD21	2.01	0.42
1:A:237:PHE:O	1:A:241:LEU:HG	2.19	0.42
1:F:251:ARG:HA	1:F:284:LEU:HB2	2.01	0.42
1:B:31:TYR:OH	1:B:110:GLU:OE2	2.33	0.42
1:D:241:LEU:HB3	1:D:268:ARG:HH21	1.85	0.42
1:E:16:ARG:NH1	2:E:2003:HOH:O	2.34	0.42
1:D:100:SER:O	1:D:161:GLU:HG2	2.20	0.42
1:A:13:ALA:HB1	1:B:89:MET:HA	2.02	0.41
1:C:17:LEU:HD23	1:C:17:LEU:HA	1.86	0.41
1:C:26:VAL:HG11	1:D:20:TYR:CZ	2.56	0.41
1:C:125:ARG:NH1	1:D:56:THR:O	2.53	0.41
1:E:59:ASP:HA	1:E:60:PRO:HD3	1.89	0.41
1:E:209:ASP:HA	1:E:237:PHE:HE1	1.85	0.41
1:F:39:PRO:HA	1:F:86:LEU:HD21	2.02	0.41
1:B:33:VAL:HA	1:B:38:LEU:HD12	2.03	0.41
1:F:12:THR:HG23	1:F:15:GLN:H	1.85	0.41
1:E:243:THR:HG22	1:E:272:ALA:HA	2.02	0.41
1:F:33:VAL:HG21	1:F:70:ALA:HB2	2.03	0.41
1:C:77:ARG:HG3	1:C:87:ALA:HB2	2.03	0.40
1:C:120:LEU:HD11	1:C:303:LEU:HD23	2.03	0.40
1:F:236:ASP:O	1:F:240:VAL:HG22	2.22	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	334/353 (95%)	326 (98%)	8 (2%)	0	100 100
1	B	333/353 (94%)	326 (98%)	6 (2%)	1 (0%)	41 45
1	C	333/353 (94%)	324 (97%)	7 (2%)	2 (1%)	25 25
1	D	334/353 (95%)	324 (97%)	10 (3%)	0	100 100
1	E	333/353 (94%)	322 (97%)	11 (3%)	0	100 100
1	F	335/353 (95%)	324 (97%)	11 (3%)	0	100 100
All	All	2002/2118 (94%)	1946 (97%)	53 (3%)	3 (0%)	51 60

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	81	GLU
1	C	80	PRO
1	B	80	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	263/278 (95%)	262 (100%)	1 (0%)	91 95
1	B	262/278 (94%)	259 (99%)	3 (1%)	73 84
1	C	262/278 (94%)	262 (100%)	0	100 100
1	D	263/278 (95%)	260 (99%)	3 (1%)	73 84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	E	262/278 (94%)	261 (100%)	1 (0%)	91 95
1	F	262/278 (94%)	262 (100%)	0	100 100
All	All	1574/1668 (94%)	1566 (100%)	8 (0%)	88 94

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	119	ASP
1	B	47	ARG
1	B	95	SER
1	B	317	ASP
1	D	209	ASP
1	D	275	ASP
1	D	303	LEU
1	E	119	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 monosaccharides 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	335/353 (94%)	-0.20	2 (0%) 89 88	27, 51, 88, 136	0
1	B	335/353 (94%)	-0.14	7 (2%) 63 61	29, 51, 88, 133	0
1	C	335/353 (94%)	-0.10	4 (1%) 79 77	32, 58, 99, 166	0
1	D	336/353 (95%)	0.32	29 (8%) 10 9	40, 71, 115, 170	0
1	E	335/353 (94%)	0.54	38 (11%) 5 4	41, 80, 141, 165	0
1	F	337/353 (95%)	-0.12	4 (1%) 79 77	33, 59, 94, 144	0
All	All	2013/2118 (95%)	0.05	84 (4%) 36 34	27, 60, 115, 170	0

All (84) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	264	ARG	9.0
1	D	240	VAL	7.8
1	E	260	ALA	6.3
1	C	256	ASP	5.9
1	E	224	GLN	5.2
1	E	259	ASP	5.1
1	F	11	ARG	5.1
1	A	202	SER	4.9
1	E	226	LEU	4.8
1	E	238	PHE	4.6
1	E	228	GLU	4.4
1	E	271	GLN	4.4
1	D	238	PHE	4.3
1	D	144	ALA	4.2
1	D	260	ALA	4.1
1	D	275	ASP	4.0
1	E	202	SER	3.9
1	E	168	ASP	3.7
1	D	11	ARG	3.7

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Mol	Chain	Res	Type	RSRZ
1	D	259	ASP	3.6
1	E	201	PRO	3.5
1	B	240	VAL	3.5
1	D	256	ASP	3.5
1	D	237	PHE	3.4
1	E	263	VAL	3.3
1	E	170	PHE	3.3
1	E	81	GLU	3.2
1	D	257	TRP	3.2
1	E	322	ARG	3.1
1	D	263	VAL	3.1
1	E	258	ALA	3.1
1	E	239	ASP	3.1
1	E	319	LEU	3.0
1	E	11	ARG	3.0
1	E	314	ALA	3.0
1	E	274	GLY	2.9
1	D	239	ASP	2.9
1	D	258	ALA	2.9
1	D	215	ALA	2.8
1	E	267	VAL	2.8
1	D	264	ARG	2.8
1	B	252	GLY	2.7
1	E	261	ASP	2.7
1	A	201	PRO	2.6
1	F	238	PHE	2.6
1	D	136	ARG	2.5
1	D	214	ALA	2.5
1	E	266	LEU	2.5
1	E	317	ASP	2.5
1	D	142	PHE	2.5
1	B	258	ALA	2.5
1	E	321	ALA	2.5
1	E	225	ASN	2.5
1	B	239	ASP	2.5
1	D	12	THR	2.4
1	D	271	GLN	2.4
1	D	122	GLU	2.4
1	E	337	TRP	2.4
1	D	261	ASP	2.3
1	F	81	GLU	2.3
1	E	236	ASP	2.3

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Mol	Chain	Res	Type	RSRZ
1	E	326	ASP	2.3
1	C	24	LEU	2.2
1	E	229	ARG	2.2
1	D	126	THR	2.2
1	D	132	GLN	2.2
1	D	201	PRO	2.2
1	B	11	ARG	2.2
1	C	81	GLU	2.2
1	D	344	GLY	2.2
1	B	260	ALA	2.1
1	E	199	ALA	2.1
1	F	79	VAL	2.1
1	E	335	ASP	2.1
1	B	249	VAL	2.1
1	C	96	GLY	2.1
1	D	202	SER	2.1
1	E	223	SER	2.1
1	E	200	VAL	2.1
1	D	298	LEU	2.0
1	E	54	ALA	2.0
1	D	81	GLU	2.0
1	E	180	THR	2.0
1	E	198	THR	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 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.