



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 19, 2022 – 02:12 PM JST

PDB ID : 7W7I
Title : Crystal Structure of shaft pilin PitB from pilus islet-2 of Streptococcus oralis
Authors : Yadav, R.K.; Krishnan, V.
Deposited on : 2021-12-05
Resolution : 3.59 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 : 2.31.2
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) : 2.31.2

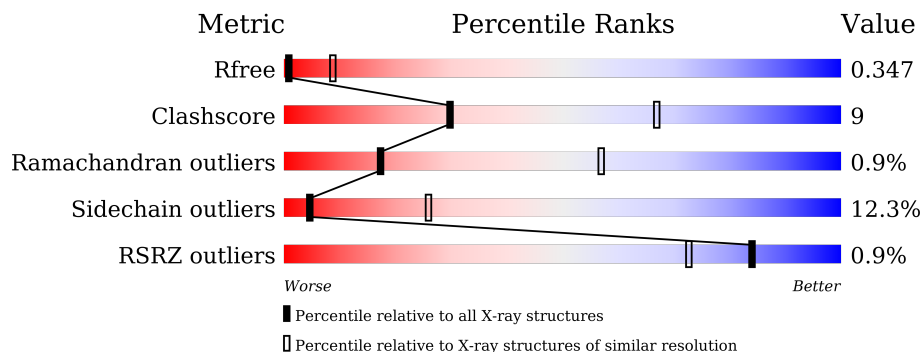
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.59 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.



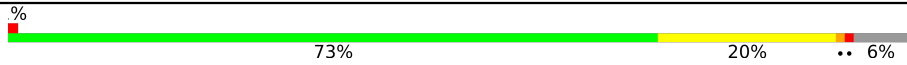
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1257 (3.70-3.50)
Clashscore	141614	1353 (3.70-3.50)
Ramachandran outliers	138981	1307 (3.70-3.50)
Sidechain outliers	138945	1307 (3.70-3.50)
RSRZ outliers	127900	1161 (3.70-3.50)

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 $\leq 5\%$. 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	355	 72% 22% . .
1	B	355	 74% 22% . .
1	C	355	 74% 20% . .
1	D	355	 74% 20% . 5%
1	E	355	 75% 19% . 5%
1	F	355	 71% 24% . .

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Mol	Chain	Length	Quality of chain
1	G	355	 <p>A horizontal bar chart representing the quality of chain. The bar is divided into three segments: a green segment labeled '73%', a yellow segment labeled '20%', and a red segment labeled '6%'. A small red square is positioned at the start of the bar, and two small black dots are positioned at the end of the bar.</p>

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 16659 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 FctA domain-containing protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	341	2384	1487	384	511	2	0	0	0
1	B	342	2410	1506	389	513	2	0	0	0
1	C	341	2409	1502	393	512	2	0	0	0
1	D	339	2379	1482	385	510	2	0	0	0
1	E	338	2362	1476	381	503	2	0	0	0
1	F	340	2378	1486	384	506	2	0	0	0
1	G	334	2321	1449	373	497	2	0	0	0

There are 63 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	22	ALA	-	expression tag	UNP D4FSQ5
A	23	MET	-	expression tag	UNP D4FSQ5
A	24	ALA	-	expression tag	UNP D4FSQ5
A	25	ASP	-	expression tag	UNP D4FSQ5
A	26	ILE	-	expression tag	UNP D4FSQ5
A	27	GLY	-	expression tag	UNP D4FSQ5
A	28	SER	-	expression tag	UNP D4FSQ5
A	29	GLU	-	expression tag	UNP D4FSQ5
A	30	PHE	-	expression tag	UNP D4FSQ5
B	22	ALA	-	expression tag	UNP D4FSQ5
B	23	MET	-	expression tag	UNP D4FSQ5
B	24	ALA	-	expression tag	UNP D4FSQ5
B	25	ASP	-	expression tag	UNP D4FSQ5
B	26	ILE	-	expression tag	UNP D4FSQ5
B	27	GLY	-	expression tag	UNP D4FSQ5

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Chain	Residue	Modelled	Actual	Comment	Reference
B	28	SER	-	expression tag	UNP D4FSQ5
B	29	GLU	-	expression tag	UNP D4FSQ5
B	30	PHE	-	expression tag	UNP D4FSQ5
C	22	ALA	-	expression tag	UNP D4FSQ5
C	23	MET	-	expression tag	UNP D4FSQ5
C	24	ALA	-	expression tag	UNP D4FSQ5
C	25	ASP	-	expression tag	UNP D4FSQ5
C	26	ILE	-	expression tag	UNP D4FSQ5
C	27	GLY	-	expression tag	UNP D4FSQ5
C	28	SER	-	expression tag	UNP D4FSQ5
C	29	GLU	-	expression tag	UNP D4FSQ5
C	30	PHE	-	expression tag	UNP D4FSQ5
D	22	ALA	-	expression tag	UNP D4FSQ5
D	23	MET	-	expression tag	UNP D4FSQ5
D	24	ALA	-	expression tag	UNP D4FSQ5
D	25	ASP	-	expression tag	UNP D4FSQ5
D	26	ILE	-	expression tag	UNP D4FSQ5
D	27	GLY	-	expression tag	UNP D4FSQ5
D	28	SER	-	expression tag	UNP D4FSQ5
D	29	GLU	-	expression tag	UNP D4FSQ5
D	30	PHE	-	expression tag	UNP D4FSQ5
E	22	ALA	-	expression tag	UNP D4FSQ5
E	23	MET	-	expression tag	UNP D4FSQ5
E	24	ALA	-	expression tag	UNP D4FSQ5
E	25	ASP	-	expression tag	UNP D4FSQ5
E	26	ILE	-	expression tag	UNP D4FSQ5
E	27	GLY	-	expression tag	UNP D4FSQ5
E	28	SER	-	expression tag	UNP D4FSQ5
E	29	GLU	-	expression tag	UNP D4FSQ5
E	30	PHE	-	expression tag	UNP D4FSQ5
F	22	ALA	-	expression tag	UNP D4FSQ5
F	23	MET	-	expression tag	UNP D4FSQ5
F	24	ALA	-	expression tag	UNP D4FSQ5
F	25	ASP	-	expression tag	UNP D4FSQ5
F	26	ILE	-	expression tag	UNP D4FSQ5
F	27	GLY	-	expression tag	UNP D4FSQ5
F	28	SER	-	expression tag	UNP D4FSQ5
F	29	GLU	-	expression tag	UNP D4FSQ5
F	30	PHE	-	expression tag	UNP D4FSQ5
G	22	ALA	-	expression tag	UNP D4FSQ5
G	23	MET	-	expression tag	UNP D4FSQ5
G	24	ALA	-	expression tag	UNP D4FSQ5

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Chain	Residue	Modelled	Actual	Comment	Reference
G	25	ASP	-	expression tag	UNP D4FSQ5
G	26	ILE	-	expression tag	UNP D4FSQ5
G	27	GLY	-	expression tag	UNP D4FSQ5
G	28	SER	-	expression tag	UNP D4FSQ5
G	29	GLU	-	expression tag	UNP D4FSQ5
G	30	PHE	-	expression tag	UNP D4FSQ5

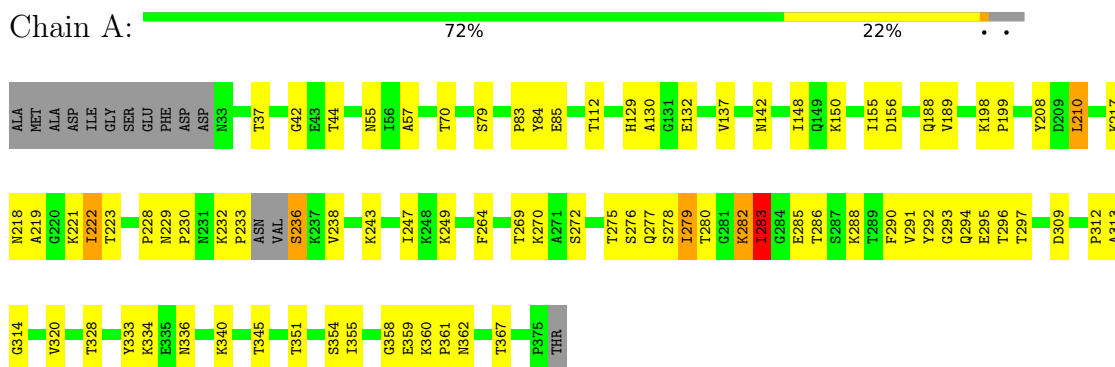
- Molecule 2 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	2	Total O 2 2	0	0
2	B	2	Total O 2 2	0	0
2	C	2	Total O 2 2	0	0
2	D	4	Total O 4 4	0	0
2	E	1	Total O 1 1	0	0
2	F	2	Total O 2 2	0	0
2	G	3	Total O 3 3	0	0

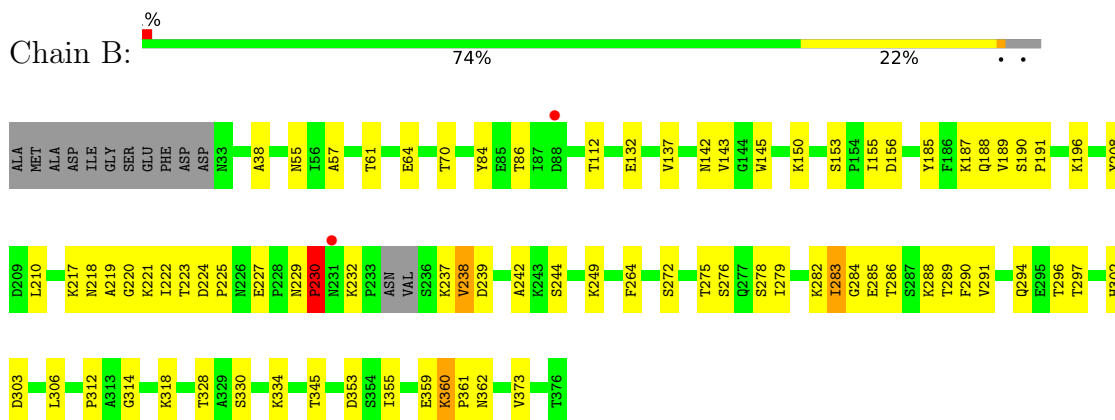
3 Residue-property plots

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.

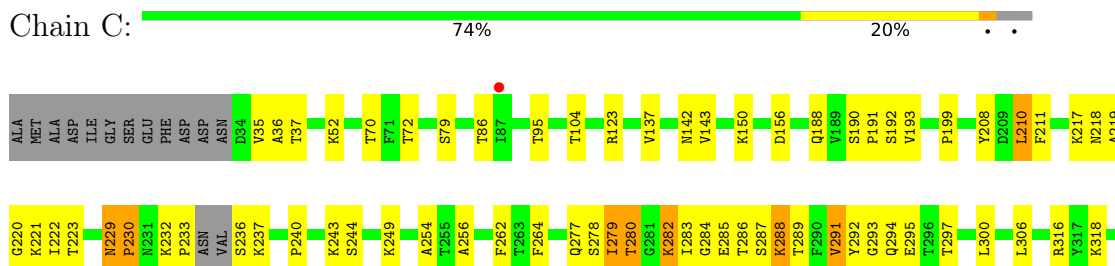
- Molecule 1: FctA domain-containing protein

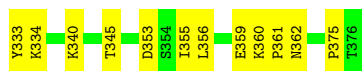


- Molecule 1: FctA domain-containing protein

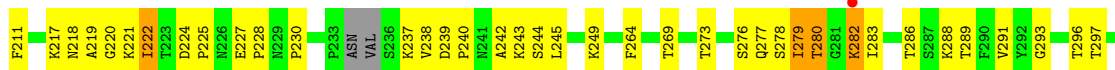
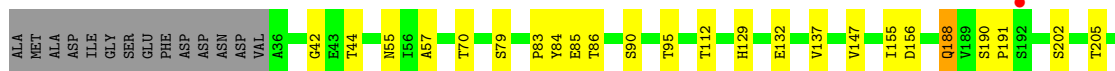
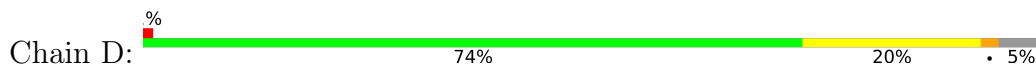


- Molecule 1: FctA domain-containing protein

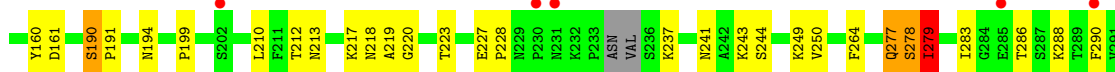
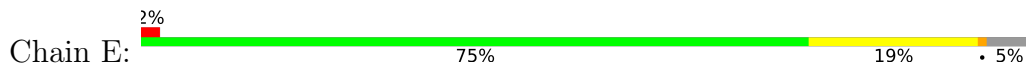




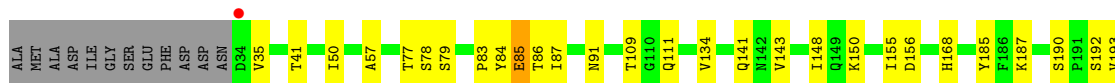
- Molecule 1: FctA domain-containing protein



- Molecule 1: FctA domain-containing protein

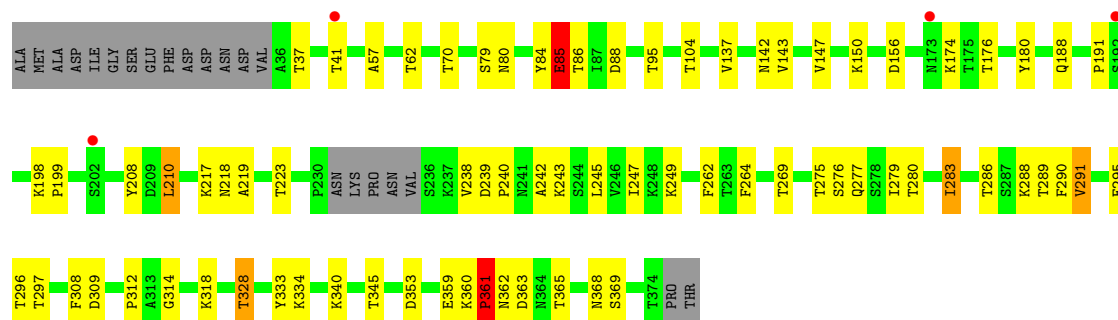


- Molecule 1: FctA domain-containing protein



- Molecule 1: FctA domain-containing protein





4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	200.63Å 34.53Å 207.52Å 90.00° 92.92° 90.00°	Depositor
Resolution (Å)	49.60 – 3.59 49.55 – 3.59	Depositor EDS
% Data completeness (in resolution range)	56.1 (49.60-3.59) 56.1 (49.55-3.59)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.96 (at 3.57Å)	Xtrriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.320 , 0.358 0.312 , 0.347	Depositor DCC
R_{free} test set	939 reflections (4.78%)	wwPDB-VP
Wilson B-factor (Å ²)	50.4	Xtrriage
Anisotropy	0.616	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 143.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.42$, $\langle L^2 \rangle = 0.24$	Xtrriage
Estimated twinning fraction	0.033 for l,k,-h 0.046 for h,-k,-l 0.040 for l,-k,h	Xtrriage
F_o, F_c correlation	0.76	EDS
Total number of atoms	16659	wwPDB-VP
Average B, all atoms (Å ²)	70.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.60% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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	A	0.37	0/2424	0.74	0/3288
1	B	0.38	0/2453	0.75	0/3326
1	C	0.38	0/2450	0.78	0/3319
1	D	0.37	0/2419	0.76	0/3280
1	E	0.39	0/2402	0.73	0/3256
1	F	0.37	0/2419	0.74	0/3280
1	G	0.38	0/2359	0.73	0/3198
All	All	0.38	0/16926	0.75	0/22947

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 [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	2384	0	2063	37	0
1	B	2410	0	2094	42	0
1	C	2409	0	2107	50	0
1	D	2379	0	2067	40	0
1	E	2362	0	2048	42	0
1	F	2378	0	2067	50	0
1	G	2321	0	1995	45	0
2	A	2	0	0	1	0
2	B	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	C	2	0	0	0	0
2	D	4	0	0	0	0
2	E	1	0	0	0	0
2	F	2	0	0	1	0
2	G	3	0	0	0	0
All	All	16659	0	14441	291	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 9.

All (291) 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:249:LYS:NZ	1:F:368:ASN:CG	1.68	1.43
1:G:249:LYS:NZ	1:G:368:ASN:CG	1.80	1.34
1:G:188:GLN:CD	1:G:191:PRO:HG3	1.60	1.20
1:E:87:ILE:HG21	1:E:135:TYR:CE2	1.80	1.16
1:A:155:ILE:HD12	1:A:222:ILE:HG21	1.26	1.11
1:G:249:LYS:HZ1	1:G:368:ASN:CG	1.45	1.07
1:E:373:VAL:HG23	1:G:79:SER:HB3	1.42	1.01
1:F:249:LYS:HZ3	1:F:368:ASN:CG	1.42	1.01
1:A:155:ILE:HD12	1:A:222:ILE:CG2	1.91	0.99
1:G:188:GLN:HG3	1:G:191:PRO:CG	1.92	0.99
1:B:190:SER:OG	1:B:191:PRO:HD3	1.61	0.99
1:E:87:ILE:CG2	1:E:135:TYR:CE2	2.46	0.98
1:D:84:TYR:O	1:D:86:THR:HG23	1.63	0.97
1:E:160:TYR:HA	1:E:213:ASN:OD1	1.68	0.93
1:G:188:GLN:HG3	1:G:191:PRO:HG2	1.50	0.90
1:G:249:LYS:HZ3	1:G:368:ASN:CG	1.69	0.89
1:G:188:GLN:CG	1:G:191:PRO:CG	2.55	0.85
1:G:188:GLN:CD	1:G:191:PRO:CG	2.45	0.83
1:E:73:PRO:HB3	1:E:87:ILE:HB	1.60	0.83
1:F:134:VAL:HG22	1:F:168:HIS:HD2	1.44	0.81
1:D:217:LYS:HG2	1:D:219:ALA:HB2	1.63	0.80
1:C:52:LYS:HD2	1:C:211:PHE:O	1.83	0.79
1:E:52:LYS:HE2	1:E:67:PHE:CG	2.18	0.78
1:D:79:SER:HB2	1:F:373:VAL:HG23	1.67	0.76
1:B:217:LYS:HG2	1:B:219:ALA:HB2	1.68	0.76
1:B:155:ILE:HD11	1:B:238:VAL:HG11	1.67	0.76
1:G:217:LYS:HG2	1:G:219:ALA:HB2	1.67	0.75
1:E:52:LYS:NZ	1:E:213:ASN:CG	2.40	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:188:GLN:CG	1:G:191:PRO:HG3	2.15	0.72
1:F:249:LYS:CE	1:F:368:ASN:CG	2.58	0.71
1:F:87:ILE:CG1	2:F:401:HOH:O	2.37	0.71
1:B:150:LYS:HG3	1:B:238:VAL:HG12	1.74	0.69
1:B:190:SER:HG	1:B:191:PRO:HD3	1.55	0.69
1:F:134:VAL:HG22	1:F:168:HIS:CD2	2.28	0.69
1:E:160:TYR:CA	1:E:213:ASN:OD1	2.41	0.68
1:F:150:LYS:HD3	1:F:240:PRO:HD3	1.76	0.67
1:E:52:LYS:HZ2	1:E:213:ASN:CG	1.98	0.66
1:B:225:PRO:HG3	1:B:237:LYS:HD3	1.78	0.66
1:C:249:LYS:HE3	1:C:262:PHE:CD2	2.31	0.65
1:G:223:THR:HA	1:G:238:VAL:HG12	1.79	0.64
1:F:249:LYS:NZ	1:F:368:ASN:OD1	2.22	0.64
1:C:190:SER:HB3	1:C:191:PRO:HD3	1.80	0.63
1:F:150:LYS:HD3	1:F:240:PRO:CD	2.29	0.62
1:C:188:GLN:HB2	1:C:191:PRO:HD2	1.81	0.62
1:G:280:THR:HA	1:G:291:VAL:HA	1.79	0.62
1:C:232:LYS:HB3	1:C:233:PRO:HD2	1.82	0.62
1:C:35:VAL:HG12	1:C:36:ALA:N	2.14	0.62
1:C:37:THR:HB	1:C:199:PRO:HD3	1.81	0.62
1:E:87:ILE:HG21	1:E:135:TYR:CD2	2.34	0.62
1:F:143:VAL:HG12	1:F:143:VAL:O	2.00	0.61
1:A:333:TYR:CE1	1:A:340:LYS:HB2	2.36	0.61
1:D:147:VAL:HG12	1:D:147:VAL:O	2.01	0.61
1:F:249:LYS:HD3	1:F:264:PHE:HZ	1.66	0.61
1:G:223:THR:HB	1:G:359:GLU:O	2.02	0.60
1:F:134:VAL:CG2	1:F:168:HIS:HD2	2.12	0.60
1:A:282:LYS:HB3	1:A:292:TYR:HB2	1.84	0.60
1:E:73:PRO:HB3	1:E:87:ILE:CB	2.31	0.60
1:G:283:ILE:HG22	1:G:289:THR:HB	1.84	0.59
1:E:147:VAL:HG12	1:E:147:VAL:O	2.02	0.59
1:C:217:LYS:HG2	1:C:219:ALA:HB2	1.85	0.59
1:D:155:ILE:HD11	1:D:238:VAL:HG11	1.84	0.59
1:E:87:ILE:HG23	1:E:135:TYR:CE2	2.35	0.59
1:C:278:SER:HA	1:C:293:GLY:HA2	1.83	0.59
1:E:190:SER:OG	1:E:191:PRO:HD3	2.02	0.58
1:F:230:PRO:HD2	1:F:233:PRO:HA	1.84	0.58
1:D:245:LEU:HB3	1:D:308:PHE:CG	2.39	0.58
1:F:245:LEU:HB3	1:F:308:PHE:CG	2.39	0.57
1:C:86:THR:HG23	1:C:86:THR:O	2.03	0.57
1:B:196:LYS:NZ	1:D:376:THR:HA	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:221:LYS:HG3	1:B:361:PRO:HA	1.86	0.57
1:E:52:LYS:HZ1	1:E:213:ASN:CG	2.07	0.57
1:E:87:ILE:CG2	1:E:135:TYR:HE2	2.16	0.57
1:G:147:VAL:HG12	1:G:147:VAL:O	2.05	0.57
1:D:155:ILE:HD11	1:D:238:VAL:CG1	2.34	0.57
1:D:227:GLU:HB2	1:D:230:PRO:HD3	1.87	0.56
1:E:219:ALA:HB1	1:E:359:GLU:HA	1.87	0.56
1:F:218:ASN:HA	1:F:312:PRO:HA	1.87	0.56
1:A:148:ILE:HG12	1:A:232:LYS:HE3	1.88	0.55
1:A:37:THR:HB	1:A:199:PRO:HD3	1.88	0.55
1:D:190:SER:HB3	1:D:191:PRO:HD3	1.88	0.54
1:D:129:HIS:HB3	1:F:259:SER:OG	2.07	0.54
1:B:155:ILE:HD11	1:B:238:VAL:CG1	2.38	0.54
1:A:155:ILE:CD1	1:A:222:ILE:CG2	2.77	0.54
1:B:208:TYR:HB3	1:B:210:LEU:CD1	2.38	0.54
1:G:37:THR:HB	1:G:198:LYS:HA	1.88	0.54
1:D:222:ILE:HG23	1:D:240:PRO:HA	1.90	0.54
1:E:143:VAL:HG12	1:E:143:VAL:O	2.08	0.54
1:G:174:LYS:HE2	1:G:180:TYR:HB3	1.90	0.54
1:B:218:ASN:HA	1:B:312:PRO:HA	1.89	0.54
1:A:219:ALA:HB3	1:A:313:ALA:HB2	1.90	0.53
1:F:222:ILE:HG23	1:F:240:PRO:HA	1.88	0.53
1:D:188:GLN:HB2	1:D:191:PRO:HD2	1.90	0.53
1:A:79:SER:HB3	1:B:373:VAL:HG13	1.91	0.53
1:A:336:ASN:OD1	1:A:358:GLY:HA3	2.09	0.53
1:B:150:LYS:O	1:B:153:SER:OG	2.27	0.53
1:C:222:ILE:HG23	1:C:240:PRO:HA	1.90	0.53
1:C:229:ASN:N	1:C:230:PRO:HD2	2.24	0.52
1:F:283:ILE:HG22	1:F:289:THR:HA	1.91	0.52
1:C:284:GLY:H	1:C:289:THR:HA	1.74	0.52
1:D:218:ASN:HA	1:D:312:PRO:HA	1.90	0.52
1:F:225:PRO:HD3	1:F:361:PRO:HG3	1.91	0.52
1:G:37:THR:HB	1:G:199:PRO:HD3	1.90	0.52
1:C:221:LYS:HG3	1:C:361:PRO:HA	1.91	0.52
1:F:57:ALA:HB1	1:F:314:GLY:HA3	1.92	0.52
1:C:375:PRO:CB	1:F:35:VAL:HG11	2.40	0.51
1:E:52:LYS:HE2	1:E:67:PHE:CD2	2.45	0.51
1:E:73:PRO:CB	1:E:87:ILE:HB	2.35	0.51
1:A:270:LYS:HA	1:A:279:ILE:HD11	1.92	0.51
1:C:232:LYS:CB	1:C:233:PRO:HD2	2.39	0.51
1:D:57:ALA:HB1	1:D:314:GLY:HA3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:218:ASN:HA	1:G:312:PRO:HA	1.92	0.51
1:A:129:HIS:O	1:A:130:ALA:HB3	2.10	0.51
1:A:221:LYS:HA	1:A:361:PRO:HA	1.92	0.51
1:B:64:GLU:O	1:B:145:TRP:HB2	2.11	0.51
1:E:73:PRO:HB3	1:E:87:ILE:CG2	2.41	0.50
1:B:284:GLY:HA3	1:B:306:LEU:HD11	1.92	0.50
1:A:218:ASN:HA	1:A:312:PRO:HA	1.93	0.50
1:A:221:LYS:HB2	1:A:243:LYS:O	2.11	0.50
1:C:280:THR:HA	1:C:291:VAL:HB	1.92	0.50
1:G:174:LYS:HB2	1:G:176:THR:O	2.11	0.50
1:C:219:ALA:HB1	1:C:359:GLU:HA	1.94	0.50
1:A:233:PRO:HA	1:A:236:SER:HA	1.94	0.50
1:B:208:TYR:HB3	1:B:210:LEU:HD12	1.93	0.49
1:B:61:THR:HG21	1:B:230:PRO:HB3	1.94	0.49
1:C:188:GLN:HB2	1:C:191:PRO:CD	2.42	0.49
1:E:87:ILE:CG2	1:E:135:TYR:CZ	2.96	0.49
1:B:360:LYS:HB3	1:B:361:PRO:HD2	1.95	0.49
1:E:360:LYS:HB3	1:E:361:PRO:HD2	1.95	0.49
1:F:83:PRO:O	1:F:85:GLU:N	2.46	0.49
1:E:220:GLY:O	1:E:244:SER:HA	2.12	0.49
1:G:84:TYR:O	1:G:85:GLU:C	2.51	0.49
1:E:371:PRO:O	1:G:80:ASN:HB3	2.13	0.48
1:G:57:ALA:HB1	1:G:314:GLY:HA3	1.96	0.48
1:G:188:GLN:HG3	1:G:191:PRO:CD	2.43	0.48
1:C:233:PRO:HG3	1:C:237:LYS:H	1.78	0.48
1:A:360:LYS:HB3	1:A:361:PRO:HD2	1.96	0.48
1:C:220:GLY:O	1:C:244:SER:HA	2.14	0.48
1:D:220:GLY:O	1:D:244:SER:HA	2.13	0.48
1:F:141:GLN:O	1:F:143:VAL:HG23	2.13	0.48
1:C:282:LYS:HE3	1:C:292:TYR:HB2	1.95	0.48
1:E:58:GLU:OE1	1:E:356:LEU:HD13	2.14	0.48
1:A:132:GLU:OE1	1:B:373:VAL:HG11	2.13	0.48
1:F:150:LYS:CD	1:F:240:PRO:HD3	2.42	0.48
1:D:279:ILE:H	1:D:279:ILE:HG12	1.49	0.48
1:B:57:ALA:HB1	1:B:314:GLY:HA3	1.95	0.47
1:C:35:VAL:CG1	1:C:36:ALA:N	2.78	0.47
1:E:161:ASP:N	1:E:213:ASN:OD1	2.47	0.47
1:C:232:LYS:HB3	1:C:233:PRO:CD	2.45	0.47
1:F:220:GLY:O	1:F:244:SER:HA	2.15	0.47
1:G:245:LEU:HB3	1:G:308:PHE:CG	2.50	0.47
1:G:360:LYS:HB3	1:G:361:PRO:HD2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:150:LYS:HD2	1:G:240:PRO:HD3	1.97	0.47
1:B:220:GLY:O	1:B:244:SER:HA	2.15	0.46
1:G:143:VAL:HG23	1:G:143:VAL:O	2.15	0.46
1:G:150:LYS:CD	1:G:240:PRO:HD3	2.46	0.46
1:B:132:GLU:OE1	1:D:373:VAL:HG11	2.15	0.46
1:C:375:PRO:HB3	1:F:35:VAL:HG11	1.98	0.46
1:D:224:ASP:HB2	1:D:237:LYS:HB3	1.97	0.46
1:B:239:ASP:HB3	1:B:242:ALA:HB2	1.97	0.46
1:A:57:ALA:HB1	1:A:314:GLY:HA3	1.97	0.46
1:A:283:ILE:HD11	2:A:401:HOH:O	2.16	0.46
1:B:38:ALA:HB2	1:D:376:THR:HG21	1.96	0.46
1:B:55:ASN:HA	1:B:112:THR:O	2.16	0.46
1:D:333:TYR:CE2	1:D:340:LYS:HB2	2.50	0.46
1:A:55:ASN:HA	1:A:112:THR:O	2.16	0.46
1:C:229:ASN:O	1:C:230:PRO:C	2.54	0.46
1:C:282:LYS:HB2	1:C:282:LYS:HE2	1.56	0.46
1:D:55:ASN:HA	1:D:112:THR:O	2.16	0.46
1:B:219:ALA:O	1:B:359:GLU:HA	2.16	0.45
1:F:237:LYS:HA	1:F:237:LYS:HD3	1.61	0.45
1:G:333:TYR:CE2	1:G:340:LYS:HB2	2.51	0.45
1:C:333:TYR:CE2	1:C:340:LYS:HB2	2.52	0.45
1:C:360:LYS:HB3	1:C:361:PRO:HD2	1.99	0.45
1:C:375:PRO:HB2	1:F:35:VAL:HG11	1.99	0.45
1:G:208:TYR:HB3	1:G:210:LEU:HD12	1.97	0.45
1:B:224:ASP:HB2	1:B:225:PRO:HD3	1.99	0.45
1:C:35:VAL:HG12	1:C:36:ALA:H	1.80	0.45
1:A:360:LYS:HE3	1:A:360:LYS:HB2	1.62	0.45
1:B:190:SER:OG	1:B:191:PRO:CD	2.49	0.45
1:A:229:ASN:HB2	1:A:230:PRO:HD3	1.99	0.44
1:E:373:VAL:CG2	1:G:79:SER:HB3	2.31	0.44
1:C:219:ALA:O	1:C:359:GLU:HA	2.18	0.44
1:C:254:ALA:O	1:C:256:ALA:N	2.50	0.44
1:D:280:THR:HG21	1:D:293:GLY:N	2.33	0.44
1:D:282:LYS:HE3	1:D:282:LYS:HB2	1.57	0.44
1:G:249:LYS:HZ1	1:G:368:ASN:CB	2.26	0.44
1:F:233:PRO:HB2	1:F:237:LYS:HB3	1.99	0.44
1:B:156:ASP:HA	1:B:217:LYS:HA	2.00	0.43
1:C:288:LYS:HA	1:C:288:LYS:HD2	1.85	0.43
1:F:280:THR:O	1:F:283:ILE:HG23	2.18	0.43
1:F:309:ASP:OD1	1:F:309:ASP:N	2.39	0.43
1:B:334:LYS:O	1:B:362:ASN:HA	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:294:GLN:O	1:C:295:GLU:HG3	2.18	0.43
1:D:221:LYS:HB3	1:D:243:LYS:O	2.17	0.43
1:F:239:ASP:HB3	1:F:242:ALA:HB2	2.01	0.43
1:A:37:THR:HG21	1:A:198:LYS:HA	2.00	0.43
1:D:280:THR:HG21	1:D:293:GLY:CA	2.48	0.43
1:E:37:THR:HB	1:E:199:PRO:HD3	1.99	0.43
1:F:220:GLY:C	1:F:222:ILE:H	2.22	0.43
1:C:316:ARG:HG2	1:C:356:LEU:HD12	2.00	0.43
1:D:190:SER:CB	1:D:191:PRO:HD3	2.48	0.43
1:E:318:LYS:HA	1:E:353:ASP:O	2.18	0.43
1:F:334:LYS:O	1:F:362:ASN:HA	2.18	0.43
1:G:249:LYS:HD3	1:G:264:PHE:HZ	1.82	0.43
1:D:360:LYS:HE2	1:D:360:LYS:HB2	1.57	0.43
1:F:318:LYS:HA	1:F:353:ASP:O	2.19	0.43
1:C:86:THR:O	1:C:86:THR:CG2	2.67	0.43
1:C:249:LYS:HD3	1:C:264:PHE:HZ	1.84	0.43
1:E:277:GLN:H	1:E:277:GLN:HG3	1.59	0.43
1:G:156:ASP:HA	1:G:217:LYS:HA	2.01	0.43
1:A:156:ASP:HA	1:A:217:LYS:HA	2.01	0.43
1:A:249:LYS:HD3	1:A:264:PHE:HZ	1.83	0.43
1:B:196:LYS:HZ2	1:D:376:THR:HA	1.84	0.43
1:B:225:PRO:HG3	1:B:237:LYS:CD	2.45	0.43
1:C:318:LYS:HA	1:C:353:ASP:O	2.19	0.43
1:C:334:LYS:O	1:C:362:ASN:HA	2.19	0.43
1:E:51:ASN:HA	1:E:117:ASP:HA	2.00	0.43
1:A:208:TYR:HB3	1:A:210:LEU:HD12	2.01	0.42
1:A:334:LYS:O	1:A:362:ASN:HA	2.19	0.42
1:F:50:ILE:HD13	1:F:210:LEU:HD12	2.01	0.42
1:B:185:TYR:HE2	1:B:187:LYS:HD2	1.84	0.42
1:D:156:ASP:HA	1:D:217:LYS:HA	2.01	0.42
1:E:52:LYS:HE2	1:E:67:PHE:CB	2.49	0.42
1:F:168:HIS:ND1	1:F:185:TYR:CE1	2.85	0.42
1:F:279:ILE:H	1:F:279:ILE:HG12	1.66	0.42
1:B:84:TYR:HD1	1:B:84:TYR:HA	1.73	0.42
1:D:300:LEU:HD21	1:D:306:LEU:HG	2.00	0.42
1:D:224:ASP:HB3	1:D:225:PRO:HD2	2.00	0.42
1:D:334:LYS:O	1:D:362:ASN:HA	2.19	0.42
1:E:359:GLU:O	1:E:360:LYS:HB2	2.19	0.42
1:E:141:GLN:O	1:E:143:VAL:HG23	2.19	0.42
1:F:156:ASP:HA	1:F:217:LYS:HA	2.01	0.42
1:G:249:LYS:HZ2	1:G:368:ASN:CG	2.04	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:156:ASP:HA	1:C:217:LYS:HA	2.00	0.42
1:D:42:GLY:C	1:D:44:THR:H	2.23	0.42
1:E:249:LYS:HD3	1:E:264:PHE:HZ	1.84	0.42
1:E:278:SER:O	1:E:279:ILE:C	2.58	0.42
1:G:318:LYS:HA	1:G:353:ASP:O	2.19	0.42
1:A:42:GLY:C	1:A:44:THR:H	2.23	0.42
1:B:359:GLU:O	1:B:360:LYS:HB2	2.20	0.42
1:C:208:TYR:HB3	1:C:210:LEU:HD12	2.01	0.42
1:E:55:ASN:HA	1:E:112:THR:O	2.20	0.42
1:E:70:THR:O	1:E:137:VAL:HA	2.20	0.42
1:F:155:ILE:HD11	1:F:238:VAL:HG11	2.01	0.42
1:A:150:LYS:CG	1:A:238:VAL:HG12	2.50	0.42
1:A:223:THR:O	1:A:361:PRO:HD3	2.19	0.42
1:A:233:PRO:HB3	1:A:236:SER:HA	2.01	0.42
1:A:309:ASP:OD1	1:A:309:ASP:O	2.37	0.42
1:D:132:GLU:OE1	1:F:373:VAL:HG21	2.20	0.42
1:E:156:ASP:HA	1:E:217:LYS:HA	2.00	0.42
1:F:316:ARG:CG	1:F:356:LEU:HD13	2.50	0.42
1:A:70:THR:O	1:A:137:VAL:HA	2.20	0.41
1:B:318:LYS:HA	1:B:353:ASP:O	2.20	0.41
1:C:35:VAL:CG1	1:C:36:ALA:H	2.33	0.41
1:A:83:PRO:O	1:A:84:TYR:C	2.58	0.41
1:C:233:PRO:HB3	1:C:236:SER:N	2.35	0.41
1:D:83:PRO:HD2	1:D:85:GLU:OE2	2.20	0.41
1:D:249:LYS:HD3	1:D:264:PHE:HZ	1.84	0.41
1:E:147:VAL:O	1:E:147:VAL:CG1	2.66	0.41
1:G:288:LYS:HD2	1:G:288:LYS:HA	1.82	0.41
1:B:70:THR:O	1:B:137:VAL:HA	2.21	0.41
1:F:227:GLU:HA	1:F:228:PRO:HD3	1.82	0.41
1:F:288:LYS:HA	1:F:288:LYS:HD2	1.95	0.41
1:B:283:ILE:H	1:B:283:ILE:HG12	1.53	0.41
1:C:221:LYS:HB3	1:C:243:LYS:O	2.21	0.41
1:C:359:GLU:O	1:C:360:LYS:HB2	2.20	0.41
1:A:219:ALA:CB	1:A:359:GLU:HA	2.50	0.41
1:B:229:ASN:O	1:B:230:PRO:C	2.58	0.41
1:B:249:LYS:HD3	1:B:264:PHE:HZ	1.85	0.41
1:F:187:LYS:HG2	1:F:193:VAL:HG11	2.03	0.41
1:G:249:LYS:HE3	1:G:262:PHE:CD1	2.56	0.41
1:E:334:LYS:O	1:E:362:ASN:HA	2.20	0.41
1:C:70:THR:O	1:C:137:VAL:HA	2.21	0.41
1:C:254:ALA:C	1:C:256:ALA:N	2.74	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:223:THR:O	1:F:360:LYS:HA	2.21	0.41
1:F:283:ILE:HA	1:F:290:PHE:H	1.86	0.41
1:F:333:TYR:CE2	1:F:340:LYS:HB2	2.56	0.41
1:F:143:VAL:O	1:F:143:VAL:CG1	2.68	0.41
1:G:147:VAL:O	1:G:147:VAL:CG1	2.68	0.41
1:D:70:THR:O	1:D:137:VAL:HA	2.21	0.40
1:D:239:ASP:HB3	1:D:242:ALA:HB2	2.02	0.40
1:A:320:VAL:HG12	1:A:351:THR:HG22	2.03	0.40
1:B:188:GLN:HB2	1:B:191:PRO:HD2	2.03	0.40
1:G:328:THR:HG23	1:G:369:SER:HB3	2.03	0.40
1:C:220:GLY:C	1:C:222:ILE:H	2.24	0.40
1:C:300:LEU:HD21	1:C:306:LEU:HG	2.02	0.40
1:G:334:LYS:O	1:G:362:ASN:HA	2.20	0.40
1:G:239:ASP:HB3	1:G:242:ALA:HB2	2.03	0.40
1:B:302:HIS:CD2	1:B:303:ASP:N	2.89	0.40
1:D:318:LYS:HA	1:D:353:ASP:O	2.22	0.40
1:G:70:THR:O	1:G:137:VAL:HA	2.21	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	337/355 (95%)	285 (85%)	47 (14%)	5 (2%)	10	47
1	B	338/355 (95%)	287 (85%)	50 (15%)	1 (0%)	41	75
1	C	337/355 (95%)	287 (85%)	47 (14%)	3 (1%)	17	57
1	D	335/355 (94%)	286 (85%)	47 (14%)	2 (1%)	25	64
1	E	334/355 (94%)	291 (87%)	39 (12%)	4 (1%)	13	51
1	F	336/355 (95%)	292 (87%)	41 (12%)	3 (1%)	17	57
1	G	330/355 (93%)	288 (87%)	39 (12%)	3 (1%)	17	57

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	2347/2485 (94%)	2016 (86%)	310 (13%)	21 (1%)	17	57

All (21) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	E	279	ILE
1	A	283	ILE
1	D	228	PRO
1	F	84	TYR
1	A	228	PRO
1	B	230	PRO
1	D	211	PHE
1	G	85	GLU
1	G	361	PRO
1	A	85	GLU
1	A	293	GLY
1	A	354	SER
1	C	218	ASN
1	E	218	ASN
1	F	111	GLN
1	G	142	ASN
1	F	109	THR
1	E	92	GLY
1	C	230	PRO
1	C	279	ILE
1	E	228	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	235/305 (77%)	205 (87%)	30 (13%)	4	24
1	B	241/305 (79%)	210 (87%)	31 (13%)	4	24
1	C	240/305 (79%)	214 (89%)	26 (11%)	6	32
1	D	233/305 (76%)	209 (90%)	24 (10%)	7	34

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	E	229/305 (75%)	199 (87%)	30 (13%)	4	23
1	F	233/305 (76%)	201 (86%)	32 (14%)	3	22
1	G	222/305 (73%)	194 (87%)	28 (13%)	4	24
All	All	1633/2135 (76%)	1432 (88%)	201 (12%)	4	26

All (201) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	142	ASN
1	A	188	GLN
1	A	189	VAL
1	A	210	LEU
1	A	222	ILE
1	A	236	SER
1	A	247	ILE
1	A	269	THR
1	A	272	SER
1	A	275	THR
1	A	276	SER
1	A	277	GLN
1	A	278	SER
1	A	279	ILE
1	A	280	THR
1	A	282	LYS
1	A	283	ILE
1	A	285	GLU
1	A	286	THR
1	A	288	LYS
1	A	290	PHE
1	A	291	VAL
1	A	294	GLN
1	A	295	GLU
1	A	296	THR
1	A	297	THR
1	A	328	THR
1	A	345	THR
1	A	355	ILE
1	A	367	THR
1	B	86	THR
1	B	142	ASN
1	B	143	VAL

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Mol	Chain	Res	Type
1	B	189	VAL
1	B	222	ILE
1	B	223	THR
1	B	227	GLU
1	B	230	PRO
1	B	232	LYS
1	B	238	VAL
1	B	272	SER
1	B	275	THR
1	B	276	SER
1	B	278	SER
1	B	279	ILE
1	B	282	LYS
1	B	283	ILE
1	B	285	GLU
1	B	286	THR
1	B	288	LYS
1	B	289	THR
1	B	290	PHE
1	B	291	VAL
1	B	294	GLN
1	B	296	THR
1	B	297	THR
1	B	328	THR
1	B	330	SER
1	B	345	THR
1	B	355	ILE
1	B	360	LYS
1	C	72	THR
1	C	79	SER
1	C	95	THR
1	C	104	THR
1	C	123	ARG
1	C	142	ASN
1	C	143	VAL
1	C	150	LYS
1	C	192	SER
1	C	193	VAL
1	C	210	LEU
1	C	223	THR
1	C	229	ASN
1	C	277	GLN

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Mol	Chain	Res	Type
1	C	279	ILE
1	C	280	THR
1	C	282	LYS
1	C	283	ILE
1	C	285	GLU
1	C	286	THR
1	C	287	SER
1	C	288	LYS
1	C	291	VAL
1	C	297	THR
1	C	345	THR
1	C	355	ILE
1	D	90	SER
1	D	95	THR
1	D	188	GLN
1	D	202	SER
1	D	205	THR
1	D	222	ILE
1	D	269	THR
1	D	273	THR
1	D	276	SER
1	D	277	GLN
1	D	278	SER
1	D	279	ILE
1	D	280	THR
1	D	282	LYS
1	D	283	ILE
1	D	286	THR
1	D	288	LYS
1	D	289	THR
1	D	291	VAL
1	D	296	THR
1	D	297	THR
1	D	345	THR
1	D	355	ILE
1	D	360	LYS
1	E	78	SER
1	E	84	TYR
1	E	85	GLU
1	E	86	THR
1	E	88	ASP
1	E	90	SER

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Mol	Chain	Res	Type
1	E	91	ASN
1	E	95	THR
1	E	136	THR
1	E	190	SER
1	E	194	ASN
1	E	210	LEU
1	E	212	THR
1	E	223	THR
1	E	227	GLU
1	E	237	LYS
1	E	241	ASN
1	E	243	LYS
1	E	250	VAL
1	E	277	GLN
1	E	278	SER
1	E	279	ILE
1	E	283	ILE
1	E	286	THR
1	E	288	LYS
1	E	290	PHE
1	E	292	TYR
1	E	295	GLU
1	E	296	THR
1	E	355	ILE
1	F	41	THR
1	F	77	THR
1	F	78	SER
1	F	79	SER
1	F	85	GLU
1	F	86	THR
1	F	91	ASN
1	F	148	ILE
1	F	190	SER
1	F	192	SER
1	F	200	SER
1	F	201	GLU
1	F	223	THR
1	F	236	SER
1	F	237	LYS
1	F	247	ILE
1	F	272	SER
1	F	275	THR

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Mol	Chain	Res	Type
1	F	276	SER
1	F	279	ILE
1	F	282	LYS
1	F	283	ILE
1	F	285	GLU
1	F	291	VAL
1	F	292	TYR
1	F	295	GLU
1	F	296	THR
1	F	297	THR
1	F	328	THR
1	F	330	SER
1	F	355	ILE
1	F	369	SER
1	G	41	THR
1	G	62	THR
1	G	85	GLU
1	G	86	THR
1	G	88	ASP
1	G	95	THR
1	G	104	THR
1	G	210	LEU
1	G	243	LYS
1	G	247	ILE
1	G	269	THR
1	G	275	THR
1	G	276	SER
1	G	277	GLN
1	G	279	ILE
1	G	283	ILE
1	G	286	THR
1	G	290	PHE
1	G	291	VAL
1	G	295	GLU
1	G	296	THR
1	G	297	THR
1	G	309	ASP
1	G	328	THR
1	G	345	THR
1	G	361	PRO
1	G	363	ASP
1	G	365	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	229	ASN
1	B	302	HIS
1	G	229	ASN

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, 95th 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	341/355 (96%)	-0.42	0 100 100	32, 52, 96, 155	0
1	B	342/355 (96%)	-0.37	2 (0%) 89 81	29, 44, 87, 113	0
1	C	341/355 (96%)	-0.37	1 (0%) 94 88	31, 49, 97, 188	0
1	D	339/355 (95%)	-0.28	2 (0%) 89 81	32, 59, 115, 158	0
1	E	338/355 (95%)	-0.01	6 (1%) 68 53	48, 73, 146, 174	0
1	F	340/355 (95%)	-0.06	6 (1%) 68 53	43, 80, 132, 172	0
1	G	334/355 (94%)	-0.01	4 (1%) 79 66	69, 100, 149, 175	0
All	All	2375/2485 (95%)	-0.22	21 (0%) 84 73	29, 65, 127, 188	0

All (21) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	285	GLU	4.1
1	F	226	ASN	3.5
1	F	285	GLU	3.3
1	E	231	ASN	3.2
1	D	192	SER	3.2
1	G	192	SER	2.9
1	F	34	ASP	2.8
1	G	202	SER	2.7
1	E	230	PRO	2.6
1	E	290	PHE	2.4
1	G	173	ASN	2.3
1	G	41	THR	2.2
1	F	221	LYS	2.2
1	B	231	ASN	2.2
1	B	88	ASP	2.1
1	E	202	SER	2.1
1	D	282	LYS	2.1

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Mol	Chain	Res	Type	RSRZ
1	F	345	THR	2.1
1	E	138	ALA	2.1
1	C	87	ILE	2.0
1	F	322	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.