Full wwPDB X-ray Structure Validation Report ⓘ

Sep 3, 2023 – 11:39 AM EDT

PDB ID	:	3T41
Title	:	1.95 Angstrom Resolution Crystal Structure of Epidermin Leader Peptide Processing Serine Protease (EpiP) S393A Mutant from Staphylococcus aureus
Authors	:	Minasov, G.; Kuhn, M.; Ruan, J.; Halavaty, A.; Shuvalova, L.; Dubrovska, I.; Winsor, J.; Bagnoli, F.; Falugi, F.; Bottomley, M.; Grandi, G.; Anderson, W.F.; Center for Structural Genomics of Infectious Diseases (CSGID)
Deposited on	:	2011-07-25
Resolution	:	1.95 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:

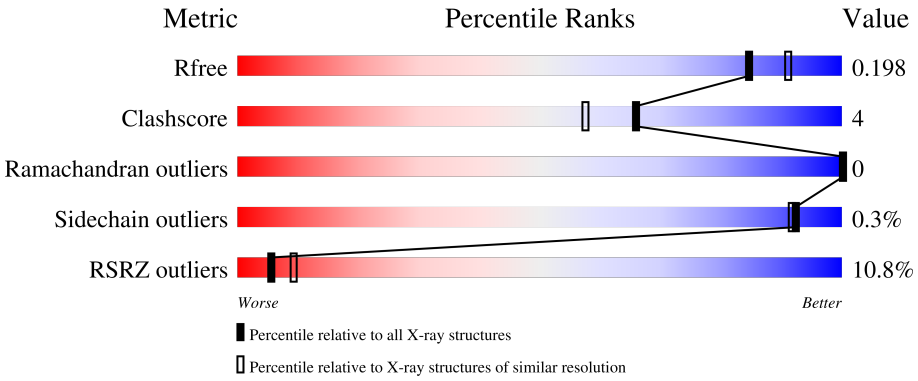
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

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 1.95 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	2580 (1.96-1.96)
Clashscore	141614	2705 (1.96-1.96)
Ramachandran outliers	138981	2678 (1.96-1.96)
Sidechain outliers	138945	2678 (1.96-1.96)
RSRZ outliers	127900	2539 (1.96-1.96)

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	471	11% 83% 7% 10%
1	B	471	9% 81% 8% 11%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 7353 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 Epidermin leader peptide processing serine protease EpiP.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	423	Total	C	N	O	S	0	18	0
			3484	2182	611	679	12			
1	B	420	Total	C	N	O	S	0	9	0
			3370	2116	583	659	12			

There are 84 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-13	MET	-	expression tag	UNP Q5HEV5
A	-12	HIS	-	expression tag	UNP Q5HEV5
A	-11	HIS	-	expression tag	UNP Q5HEV5
A	-10	HIS	-	expression tag	UNP Q5HEV5
A	-9	HIS	-	expression tag	UNP Q5HEV5
A	-8	HIS	-	expression tag	UNP Q5HEV5
A	-7	HIS	-	expression tag	UNP Q5HEV5
A	-6	SER	-	expression tag	UNP Q5HEV5
A	-5	SER	-	expression tag	UNP Q5HEV5
A	-4	GLY	-	expression tag	UNP Q5HEV5
A	-3	VAL	-	expression tag	UNP Q5HEV5
A	-2	ASP	-	expression tag	UNP Q5HEV5
A	-1	LEU	-	expression tag	UNP Q5HEV5
A	0	GLY	-	expression tag	UNP Q5HEV5
A	1	THR	-	expression tag	UNP Q5HEV5
A	2	GLU	-	expression tag	UNP Q5HEV5
A	3	ASN	-	expression tag	UNP Q5HEV5
A	4	LEU	-	expression tag	UNP Q5HEV5
A	5	TYR	-	expression tag	UNP Q5HEV5
A	6	PHE	-	expression tag	UNP Q5HEV5
A	7	GLN	-	expression tag	UNP Q5HEV5
A	8	SER	-	expression tag	UNP Q5HEV5
A	9	ASN	-	expression tag	UNP Q5HEV5
A	10	ALA	-	expression tag	UNP Q5HEV5
A	11	MET	-	expression tag	UNP Q5HEV5

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Chain	Residue	Modelled	Actual	Comment	Reference
A	12	GLY	-	expression tag	UNP Q5HEV5
A	13	SER	-	expression tag	UNP Q5HEV5
A	14	SER	-	expression tag	UNP Q5HEV5
A	15	HIS	-	expression tag	UNP Q5HEV5
A	16	HIS	-	expression tag	UNP Q5HEV5
A	17	HIS	-	expression tag	UNP Q5HEV5
A	18	TYR	-	expression tag	UNP Q5HEV5
A	19	HIS	-	expression tag	UNP Q5HEV5
A	20	HIS	-	expression tag	UNP Q5HEV5
A	21	GLU	-	expression tag	UNP Q5HEV5
A	22	ASN	-	expression tag	UNP Q5HEV5
A	23	LEU	-	expression tag	UNP Q5HEV5
A	24	TYR	-	expression tag	UNP Q5HEV5
A	25	PHE	-	expression tag	UNP Q5HEV5
A	26	GLN	-	expression tag	UNP Q5HEV5
A	27	GLY	-	expression tag	UNP Q5HEV5
A	393	ALA	SER	engineered mutation	UNP Q5HEV5
B	-13	MET	-	expression tag	UNP Q5HEV5
B	-12	HIS	-	expression tag	UNP Q5HEV5
B	-11	HIS	-	expression tag	UNP Q5HEV5
B	-10	HIS	-	expression tag	UNP Q5HEV5
B	-9	HIS	-	expression tag	UNP Q5HEV5
B	-8	HIS	-	expression tag	UNP Q5HEV5
B	-7	HIS	-	expression tag	UNP Q5HEV5
B	-6	SER	-	expression tag	UNP Q5HEV5
B	-5	SER	-	expression tag	UNP Q5HEV5
B	-4	GLY	-	expression tag	UNP Q5HEV5
B	-3	VAL	-	expression tag	UNP Q5HEV5
B	-2	ASP	-	expression tag	UNP Q5HEV5
B	-1	LEU	-	expression tag	UNP Q5HEV5
B	0	GLY	-	expression tag	UNP Q5HEV5
B	1	THR	-	expression tag	UNP Q5HEV5
B	2	GLU	-	expression tag	UNP Q5HEV5
B	3	ASN	-	expression tag	UNP Q5HEV5
B	4	LEU	-	expression tag	UNP Q5HEV5
B	5	TYR	-	expression tag	UNP Q5HEV5
B	6	PHE	-	expression tag	UNP Q5HEV5
B	7	GLN	-	expression tag	UNP Q5HEV5
B	8	SER	-	expression tag	UNP Q5HEV5
B	9	ASN	-	expression tag	UNP Q5HEV5
B	10	ALA	-	expression tag	UNP Q5HEV5
B	11	MET	-	expression tag	UNP Q5HEV5

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Chain	Residue	Modelled	Actual	Comment	Reference
B	12	GLY	-	expression tag	UNP Q5HEV5
B	13	SER	-	expression tag	UNP Q5HEV5
B	14	SER	-	expression tag	UNP Q5HEV5
B	15	HIS	-	expression tag	UNP Q5HEV5
B	16	HIS	-	expression tag	UNP Q5HEV5
B	17	HIS	-	expression tag	UNP Q5HEV5
B	18	TYR	-	expression tag	UNP Q5HEV5
B	19	HIS	-	expression tag	UNP Q5HEV5
B	20	HIS	-	expression tag	UNP Q5HEV5
B	21	GLU	-	expression tag	UNP Q5HEV5
B	22	ASN	-	expression tag	UNP Q5HEV5
B	23	LEU	-	expression tag	UNP Q5HEV5
B	24	TYR	-	expression tag	UNP Q5HEV5
B	25	PHE	-	expression tag	UNP Q5HEV5
B	26	GLN	-	expression tag	UNP Q5HEV5
B	27	GLY	-	expression tag	UNP Q5HEV5
B	393	ALA	SER	engineered mutation	UNP Q5HEV5

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	3	Total Ca 3 3	0	0
2	B	3	Total Ca 3 3	0	0

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	B	1	Total Cl 1 1	0	0

- Molecule 4 is water.

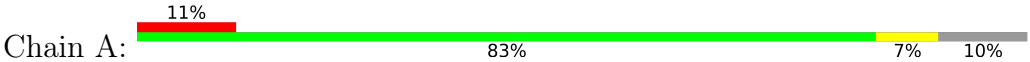
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	255	Total O 257 257	0	5
4	B	232	Total O 235 235	0	3

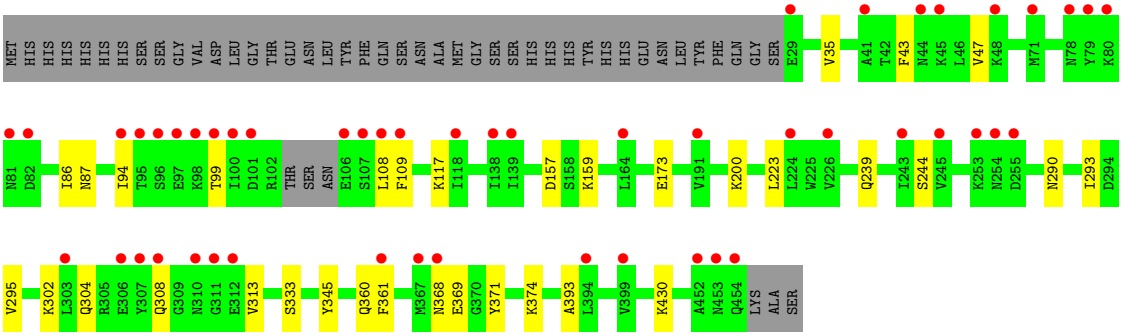
3 Residue-property plots (i)

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: Epidermin leader peptide processing serine protease EpiP

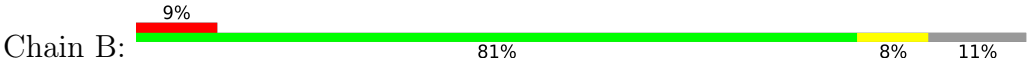
Chain A:

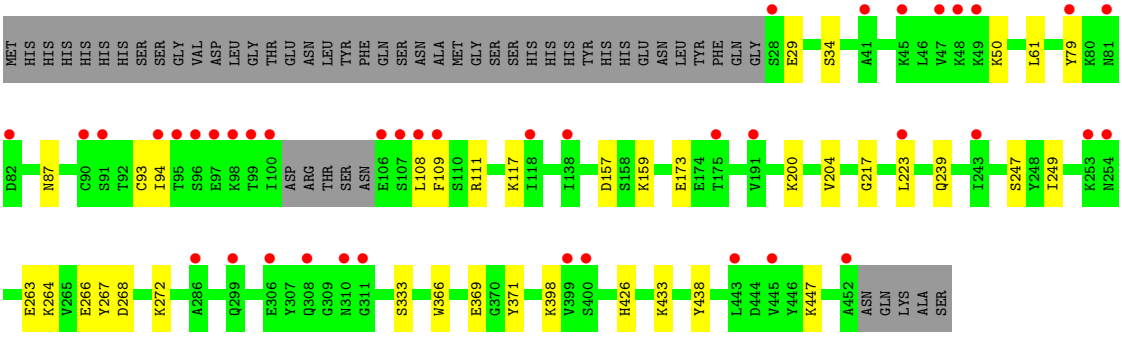




• Molecule 1: Epidermin leader peptide processing serine protease EpiP

Chain B:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	71.23Å 68.47Å 97.72Å 90.00° 91.66° 90.00°	Depositor
Resolution (Å)	29.94 – 1.95 29.41 – 1.95	Depositor EDS
% Data completeness (in resolution range)	98.0 (29.94-1.95) 98.0 (29.41-1.95)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.66 (at 1.95Å)	Xtriage
Refinement program	REFMAC 5.5.0102	Depositor
R, R_{free}	0.166 , 0.195 0.171 , 0.198	Depositor DCC
R_{free} test set	3416 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å^2)	32.7	Xtriage
Anisotropy	0.424	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 50.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.007 for k,h,-l 0.010 for -k,-h,-l 0.020 for h,-k,-l	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	7353	wwPDB-VP
Average B, all atoms (Å^2)	46.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.70% 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

Bond lengths and bond angles in the following residue types are not validated in this section: CA, CL

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	0.52	0/3547	0.69	0/4785
1	B	0.50	0/3431	0.64	1/4633 (0.0%)
All	All	0.51	0/6978	0.67	1/9418 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	217	GLY	N-CA-C	-5.12	100.29	113.10

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	3484	0	3409	29	0
1	B	3370	0	3310	25	0
2	A	3	0	0	0	0
2	B	3	0	0	0	0
3	B	1	0	0	1	0
4	A	257	0	0	4	0
4	B	235	0	0	3	0
All	All	7353	0	6719	54	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 (54) 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:B:94:ILE:HD11	1:B:223:LEU:HG	1.64	0.79
1:B:369:GLU:HB2	1:B:371[A]:TYR:CE2	2.24	0.73
1:B:109:PHE:CZ	1:B:200:LYS:HG2	2.29	0.68
1:A:430[B]:LYS:HE3	4:A:582[B]:HOH:O	1.93	0.67
1:B:108:LEU:HD12	1:B:109:PHE:H	1.59	0.66
1:A:360[B]:GLN:HB3	1:A:361[B]:PHE:CD2	2.33	0.64
1:A:117:LYS:NZ	1:A:333:SER:OG	2.32	0.63
1:A:94:ILE:HD11	1:A:223:LEU:HG	1.84	0.60
1:A:108:LEU:HD12	1:A:109:PHE:N	2.16	0.60
1:A:99:THR:O	1:A:99:THR:HG22	2.05	0.56
1:A:360[B]:GLN:HE21	1:A:360[B]:GLN:HA	1.70	0.56
1:A:173:GLU:H	1:A:173:GLU:CD	2.10	0.55
1:B:61:LEU:HD22	1:B:272:LYS:HG2	1.89	0.54
1:B:117:LYS:HE2	1:B:333:SER:OG	2.08	0.53
1:B:173:GLU:H	1:B:173:GLU:CD	2.12	0.53
1:A:430[B]:LYS:NZ	4:A:709:HOH:O	2.37	0.53
1:A:293:ILE:HD11	1:A:304:GLN:NE2	2.26	0.51
1:A:295:VAL:HG21	1:A:345:TYR:CD1	2.46	0.50
1:A:108:LEU:HD12	1:A:109:PHE:H	1.76	0.50
1:A:109:PHE:CZ	1:A:200[B]:LYS:HG2	2.47	0.50
1:A:368[A]:ASN:OD1	1:A:369:GLU:HG3	2.11	0.49
1:B:108:LEU:HD12	1:B:109:PHE:N	2.26	0.49
1:A:430[B]:LYS:CE	4:A:582[B]:HOH:O	2.57	0.49
1:A:360[B]:GLN:HB3	1:A:361[B]:PHE:CE2	2.48	0.49
1:B:111:ARG:HD3	3:B:461:CL:CL	2.49	0.48
1:A:371[B]:TYR:CE1	1:A:374:LYS:HD2	2.50	0.47
1:A:35:VAL:HG22	1:A:86:ILE:HG12	1.97	0.47
1:A:308[A]:GLN:N	1:A:308[A]:GLN:OE1	2.48	0.47
1:B:426:HIS:O	1:B:447:LYS:HB3	2.15	0.46
1:A:290[B]:ASN:N	1:A:290[B]:ASN:HD22	2.14	0.46
1:B:29[A]:GLU:HA	1:B:29[A]:GLU:OE2	2.16	0.45
1:A:43:PHE:O	1:A:47:VAL:HG23	2.17	0.45
1:B:111:ARG:NH1	4:B:627:HOH:O	2.49	0.45
1:A:360[B]:GLN:HE21	1:A:360[B]:GLN:CA	2.27	0.45
1:B:249[A]:ILE:HD13	1:B:267:TYR:HB2	1.98	0.45
1:B:433:LYS:HB3	1:B:438:TYR:CD2	2.52	0.44
1:B:264:LYS:NZ	1:B:268:ASP:OD2	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:34:SER:OG	1:B:266:GLU:OE2	2.26	0.43
1:A:368[A]:ASN:OD1	1:A:369:GLU:N	2.51	0.43
1:B:157:ASP:O	1:B:159:LYS:HG3	2.18	0.43
1:B:239[A]:GLN:HG2	4:B:579:HOH:O	2.18	0.43
1:A:293:ILE:HD11	1:A:304:GLN:HE21	1.84	0.43
1:A:157:ASP:O	1:A:159:LYS:HG3	2.19	0.42
1:A:239[B]:GLN:HG2	4:A:561:HOH:O	2.20	0.42
1:B:50:LYS:HZ1	1:B:79:TYR:HE2	1.66	0.42
1:A:302:LYS:HA	1:A:313:VAL:HG21	2.02	0.41
1:B:433:LYS:NZ	4:B:600:HOH:O	2.39	0.41
1:A:368[A]:ASN:OD1	1:A:368[A]:ASN:C	2.59	0.41
1:B:366:TRP:HA	1:B:371[A]:TYR:HD2	1.86	0.41
1:B:204:VAL:HG21	1:B:398:LYS:HA	2.03	0.41
1:B:249[B]:ILE:HG23	1:B:263:GLU:HB2	2.03	0.41
1:B:93:CYS:O	1:B:247:SER:HB2	2.21	0.40
1:A:244:SER:HB3	1:A:393:ALA:HB1	2.02	0.40
1:B:173:GLU:OE2	1:B:173:GLU:N	2.50	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	437/471 (93%)	422 (97%)	15 (3%)	0	100	100
1	B	425/471 (90%)	412 (97%)	13 (3%)	0	100	100
All	All	862/942 (92%)	834 (97%)	28 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains

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	379/403 (94%)	378 (100%)	1 (0%)	92	92
1	B	367/403 (91%)	366 (100%)	1 (0%)	92	92
All	All	746/806 (93%)	744 (100%)	2 (0%)	92	92

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	87	ASN
1	B	87	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	44	ASN
1	A	304	GLN
1	A	454	GLN
1	B	74	ASN
1	B	304	GLN

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 monosaccharides in this entry.

5.6 Ligand geometry

Of 7 ligands modelled in this entry, 7 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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	423/471 (89%)	0.51	50 (11%) 4 7	22, 40, 80, 92	0
1	B	420/471 (89%)	0.44	41 (9%) 7 12	22, 42, 81, 114	0
All	All	843/942 (89%)	0.48	91 (10%) 5 9	22, 41, 81, 114	0

All (91) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	99	THR	6.5
1	A	454	GLN	6.4
1	B	98	LYS	6.1
1	A	107	SER	5.7
1	B	308	GLN	5.3
1	B	109	PHE	5.1
1	A	109	PHE	4.8
1	A	96	SER	4.8
1	A	310	ASN	4.5
1	A	99	THR	4.4
1	A	100	ILE	4.3
1	B	28	SER	4.2
1	A	453	ASN	4.1
1	A	254	ASN	4.0
1	A	71	MET	3.8
1	A	311	GLY	3.8
1	A	106	GLU	3.8
1	B	108	LEU	3.8
1	B	49	LYS	3.7
1	A	253	LYS	3.7
1	A	79	TYR	3.6
1	B	452	ALA	3.6
1	A	308[A]	GLN	3.6
1	B	96	SER	3.4

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Mol	Chain	Res	Type	RSRZ
1	A	45	LYS	3.3
1	B	107	SER	3.3
1	B	82	ASP	3.2
1	B	95	THR	3.2
1	A	368[A]	ASN	3.2
1	A	306	GLU	3.2
1	A	361[A]	PHE	3.2
1	B	79	TYR	3.1
1	A	94	ILE	3.1
1	A	80	LYS	3.1
1	A	191	VAL	3.0
1	B	306	GLU	3.0
1	B	91	SER	3.0
1	B	299	GLN	2.9
1	A	452	ALA	2.9
1	A	138	ILE	2.9
1	B	45	LYS	2.9
1	B	81	ASN	2.9
1	B	310	ASN	2.9
1	B	399	VAL	2.8
1	B	100	ILE	2.8
1	B	175	THR	2.8
1	A	98	LYS	2.8
1	A	307	TYR	2.8
1	A	226	VAL	2.8
1	B	191	VAL	2.8
1	A	101	ASP	2.8
1	A	41	ALA	2.7
1	B	223	LEU	2.7
1	A	29	GLU	2.7
1	B	48	LYS	2.7
1	B	253	LYS	2.7
1	B	254	ASN	2.7
1	A	394	LEU	2.6
1	B	41	ALA	2.6
1	A	44	ASN	2.6
1	A	139	ILE	2.6
1	B	106	GLU	2.6
1	B	94	ILE	2.5
1	B	47	VAL	2.5
1	A	48	LYS	2.4
1	A	303	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	286	ALA	2.4
1	A	78	ASN	2.3
1	A	164	LEU	2.3
1	B	311	GLY	2.3
1	A	118	ILE	2.3
1	A	243	ILE	2.3
1	A	81	ASN	2.3
1	A	108	LEU	2.3
1	A	367	MET	2.2
1	B	243	ILE	2.2
1	B	97	GLU	2.2
1	A	245	VAL	2.2
1	B	445	VAL	2.2
1	A	312	GLU	2.2
1	A	95	THR	2.2
1	B	90	CYS	2.2
1	A	82	ASP	2.2
1	A	255	ASP	2.2
1	A	224	LEU	2.2
1	A	399	VAL	2.1
1	B	138	ILE	2.1
1	B	443	LEU	2.1
1	B	118	ILE	2.1
1	B	400	SER	2.0
1	A	97	GLU	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)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	CA	B	460	1/1	0.92	0.13	41,41,41,41	1
2	CA	A	459	1/1	0.94	0.05	41,41,41,41	1
2	CA	A	460	1/1	0.95	0.12	50,50,50,50	1
2	CA	B	459	1/1	0.97	0.05	34,34,34,34	1
2	CA	A	458	1/1	0.98	0.10	30,30,30,30	0
3	CL	B	461	1/1	0.99	0.05	36,36,36,36	0
2	CA	B	458	1/1	1.00	0.10	30,30,30,30	0

6.5 Other polymers (i)

There are no such residues in this entry.