



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 10:33 AM UTC

PDB ID : 5AMS / pdb_00005ams
Title : Crystal structure of Sqt1
Authors : Frenois, F.; Legrand, P.; Fribourg, S.
Deposited on : 2015-08-31
Resolution : 3.35 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

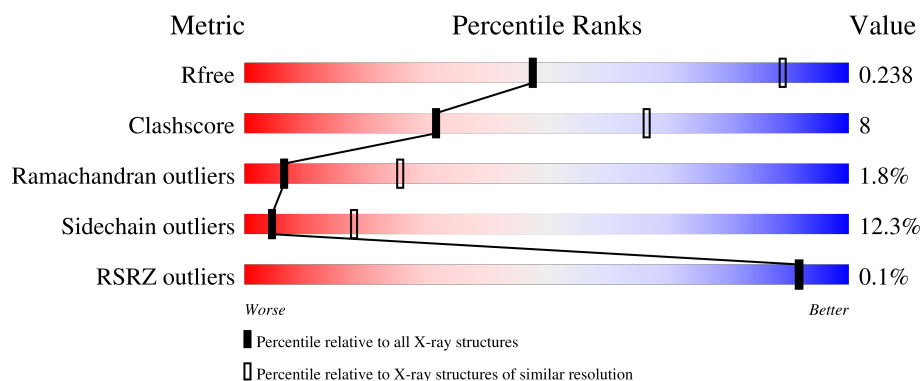
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.35 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1099 (3.40-3.32)
Clashscore	190562	1116 (3.40-3.32)
Ramachandran outliers	187476	1101 (3.40-3.32)
Sidechain outliers	187428	1101 (3.40-3.32)
RSRZ outliers	180081	1099 (3.40-3.32)

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	431	 64% 22% 9%
1	B	431	 57% 27% 12%

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 5880 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 RIBOSOME ASSEMBLY PROTEIN SQT1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	392	Total	C	N	O	S	0	0	0
			2990	1887	495	588	20			
1	B	379	Total	C	N	O	S	0	0	0
			2889	1826	481	562	20			

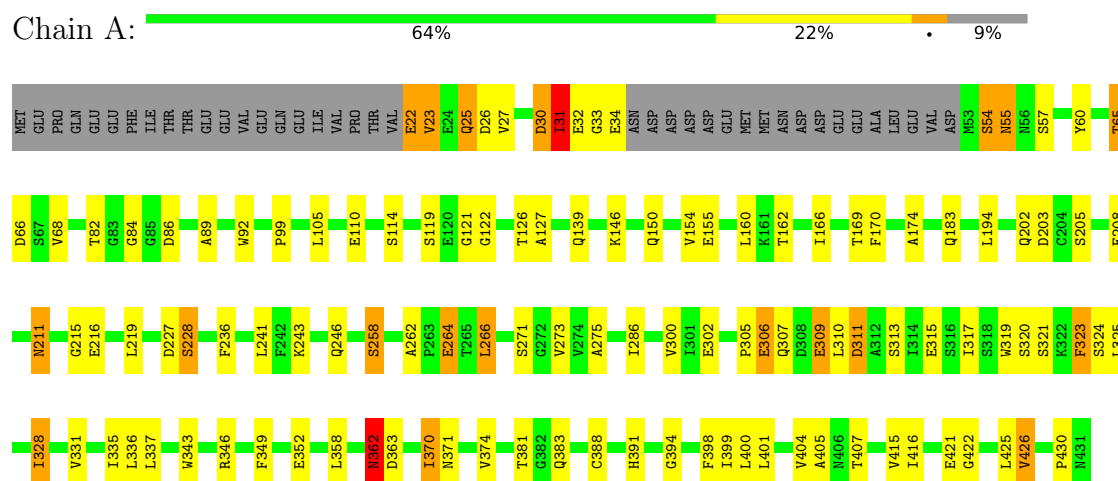
- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	B	1	Total	O	0	0
			1	1		

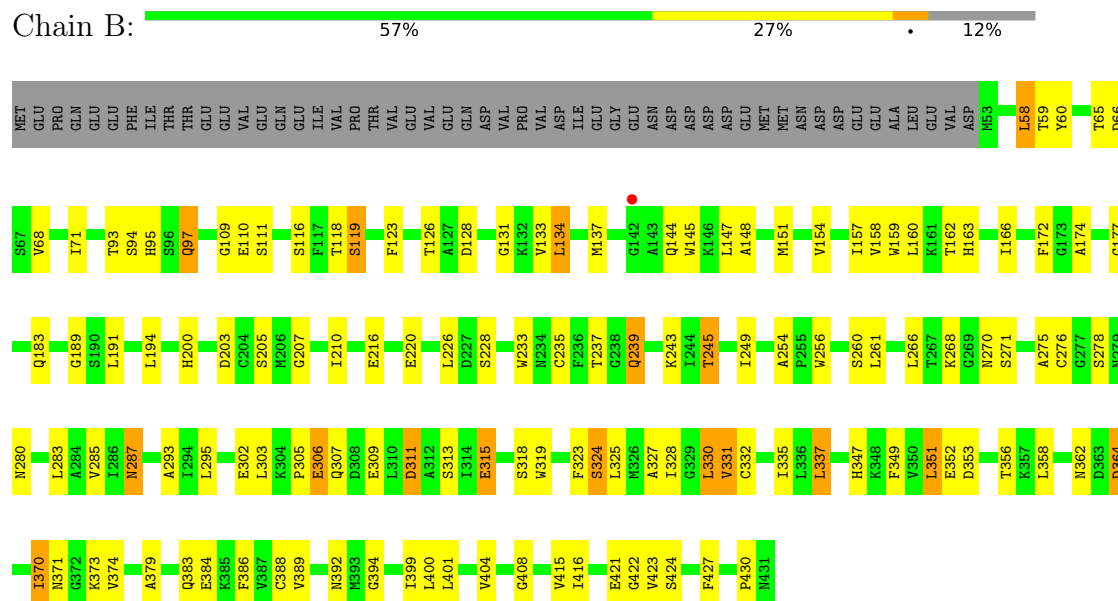
3 Residue-property plots

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: RIBOSOME ASSEMBLY PROTEIN SQT1



• Molecule 1: RIBOSOME ASSEMBLY PROTEIN SQT1



4 Data and refinement statistics

Property	Value	Source
Space group	P 32 2 1	Depositor
Cell constants a, b, c, α , β , γ	166.00Å 166.00Å 95.35Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	36.37 – 3.35 36.37 – 3.35	Depositor EDS
% Data completeness (in resolution range)	99.2 (36.37-3.35) 99.1 (36.37-3.35)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.93 (at 3.33Å)	Xtriage
Refinement program	BUSTER 2.10.0	Depositor
R, R_{free}	0.171 , 0.222 0.194 , 0.238	Depositor DCC
R_{free} test set	1101 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å ²)	117.1	Xtriage
Anisotropy	0.766	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 138.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.35$	Xtriage
Estimated twinning fraction	0.018 for -h,-k,l	Xtriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	5880	wwPDB-VP
Average B, all atoms (Å ²)	157.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.59% 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

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	0.92	2/3051 (0.1%)	1.47	43/4140 (1.0%)
1	B	0.83	0/2950	1.41	23/4003 (0.6%)
All	All	0.88	2/6001 (0.0%)	1.44	66/8143 (0.8%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	362	ASN	CA-C	6.92	1.59	1.53
1	A	22	GLU	C-N	5.42	1.40	1.33

All (66) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	30	ASP	CA-C-N	8.83	137.59	121.70
1	A	30	ASP	C-N-CA	8.83	137.59	121.70
1	A	323	PHE	N-CA-C	8.72	125.14	113.97
1	A	23	VAL	N-CA-C	7.93	119.63	108.93
1	A	405	ALA	N-CA-C	7.83	121.77	107.99
1	A	205	SER	N-CA-C	7.78	119.76	111.28
1	B	386	PHE	CA-CB-CG	7.59	121.39	113.80
1	A	60	TYR	N-CA-C	7.33	119.31	108.60
1	A	309	GLU	CA-C-N	7.14	129.72	120.44
1	A	309	GLU	C-N-CA	7.14	129.72	120.44
1	A	305	PRO	CA-C-N	6.92	129.78	120.65
1	A	305	PRO	C-N-CA	6.92	129.78	120.65
1	B	430	PRO	CA-C-N	6.64	133.65	121.70
1	B	430	PRO	C-N-CA	6.64	133.65	121.70
1	A	84	GLY	N-CA-C	6.56	120.68	110.91
1	B	205	SER	N-CA-C	6.41	118.27	111.28
1	B	315	GLU	N-CA-C	6.41	120.36	112.54
1	A	430	PRO	CA-C-N	6.38	133.19	121.70
1	A	430	PRO	C-N-CA	6.38	133.19	121.70
1	A	22	GLU	CA-C-N	6.28	129.94	120.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	22	GLU	C-N-CA	6.28	129.94	120.77
1	B	364	ASP	CA-CB-CG	6.25	118.85	112.60
1	B	287	ASN	CA-CB-CG	6.25	118.85	112.60
1	A	321	SER	CA-C-N	6.24	129.15	120.29
1	A	321	SER	C-N-CA	6.24	129.15	120.29
1	A	86	ASP	CA-CB-CG	6.22	118.82	112.60
1	B	93	THR	N-CA-C	6.07	119.37	109.59
1	A	381	THR	N-CA-C	6.07	120.85	112.90
1	A	227	ASP	N-CA-C	-6.04	106.56	112.97
1	A	66	ASP	CA-C-N	6.00	130.24	121.31
1	A	66	ASP	C-N-CA	6.00	130.24	121.31
1	A	320	SER	CA-C-N	5.98	128.30	120.28
1	A	320	SER	C-N-CA	5.98	128.30	120.28
1	B	305	PRO	CA-C-N	5.98	128.21	120.44
1	B	305	PRO	C-N-CA	5.98	128.21	120.44
1	A	215	GLY	N-CA-C	5.82	117.97	112.04
1	A	54	SER	CA-C-N	5.78	132.10	121.70
1	A	54	SER	C-N-CA	5.78	132.10	121.70
1	A	31	ILE	N-CA-CB	5.76	121.29	111.50
1	A	286	ILE	N-CA-C	5.75	116.88	108.53
1	A	82	THR	CB-CA-C	5.72	119.68	109.38
1	A	211	ASN	CA-C-N	5.68	128.16	120.44
1	A	211	ASN	C-N-CA	5.68	128.16	120.44
1	A	315	GLU	N-CA-C	5.64	118.19	111.71
1	A	114	SER	N-CA-C	5.56	117.10	107.93
1	A	23	VAL	CA-C-N	5.50	132.05	121.54
1	A	23	VAL	C-N-CA	5.50	132.05	121.54
1	B	118	THR	CB-CA-C	5.44	118.70	109.84
1	A	26	ASP	CA-CB-CG	5.37	117.97	112.60
1	B	379	ALA	CA-C-N	5.35	127.71	120.65
1	B	379	ALA	C-N-CA	5.35	127.71	120.65
1	B	66	ASP	CA-C-N	5.31	129.84	121.56
1	B	66	ASP	C-N-CA	5.31	129.84	121.56
1	B	118	THR	CA-C-N	5.30	131.67	121.54
1	B	118	THR	C-N-CA	5.30	131.67	121.54
1	B	174	ALA	CA-C-N	5.28	128.09	120.38
1	B	174	ALA	C-N-CA	5.28	128.09	120.38
1	A	65	THR	CA-C-N	5.25	131.56	121.54
1	A	65	THR	C-N-CA	5.25	131.56	121.54
1	B	394	GLY	N-CA-C	5.23	118.08	112.33
1	A	398	PHE	N-CA-C	5.20	116.71	108.96
1	A	241	LEU	N-CA-C	-5.19	105.54	111.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	94	SER	CA-C-N	5.15	127.13	120.44
1	B	94	SER	C-N-CA	5.15	127.13	120.44
1	A	25	GLN	N-CA-C	5.11	117.29	109.07
1	B	95	HIS	N-CA-C	5.07	116.49	111.07

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	2990	0	2897	40	0
1	B	2889	0	2810	54	0
2	B	1	0	0	0	0
All	All	5880	0	5707	94	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 8.

All (94) 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:116:SER:HB3	1:B:162:THR:HG23	1.57	0.87
1:A:264:GLU:H	1:A:264:GLU:CD	1.90	0.80
1:A:313:SER:HB3	1:A:331:VAL:HG23	1.64	0.80
1:A:68:VAL:HG23	1:A:422:GLY:HA2	1.64	0.79
1:A:362:ASN:CG	1:A:363:ASP:H	1.94	0.74
1:A:30:ASP:HA	1:A:31:ILE:HG23	1.68	0.72
1:A:258:SER:HB2	1:A:317:ILE:HD12	1.73	0.70
1:B:287:ASN:HB2	1:B:295:LEU:HD11	1.74	0.68
1:A:391:HIS:CD2	1:A:425:LEU:HD12	2.31	0.65
1:B:352:GLU:HG2	1:B:371:ASN:HD22	1.64	0.63
1:A:55:ASN:OD1	1:A:57:SER:HB3	1.99	0.62
1:A:313:SER:HB3	1:A:331:VAL:CG2	2.29	0.62
1:A:374:VAL:HB	1:A:388:CYS:HB2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:330:LEU:HD23	1:B:332:CYS:SG	2.43	0.58
1:B:373:LYS:HG2	1:B:389:VAL:HG12	1.85	0.57
1:B:285:VAL:HG12	1:B:295:LEU:HB2	1.88	0.56
1:B:356:THR:HG21	1:B:370:ILE:HD13	1.87	0.55
1:B:203:ASP:HB2	1:B:226:LEU:HD12	1.88	0.55
1:A:362:ASN:CG	1:A:363:ASP:N	2.64	0.54
1:B:58:LEU:HD23	1:B:59:THR:HG22	1.88	0.54
1:B:183:GLN:HG3	1:B:194:LEU:HD11	1.89	0.54
1:A:219:LEU:HB2	1:A:236:PHE:CE2	2.43	0.53
1:B:287:ASN:HB3	1:B:293:ALA:HB3	1.91	0.52
1:B:261:LEU:HD11	1:B:271:SER:O	2.11	0.51
1:B:374:VAL:HB	1:B:388:CYS:HB2	1.92	0.50
1:A:162:THR:HG22	1:A:170:PHE:HB3	1.93	0.50
1:B:151:MET:HE2	1:B:191:LEU:HD13	1.93	0.50
1:A:374:VAL:HG11	1:A:415:VAL:HG11	1.93	0.50
1:B:59:THR:HB	1:B:97:GLN:HG2	1.93	0.49
1:B:303:LEU:HD22	1:B:307:GLN:HB3	1.94	0.49
1:B:401:LEU:HD11	1:B:416:ILE:HD12	1.94	0.49
1:A:166:ILE:HG12	1:A:216:GLU:HA	1.95	0.49
1:B:275:ALA:HB2	1:B:319:TRP:CZ2	2.48	0.49
1:B:254:ALA:HA	1:B:280:ASN:HD21	1.78	0.49
1:A:211:ASN:HA	1:A:271:SER:HB2	1.95	0.49
1:B:123:PHE:HA	1:B:145:TRP:HZ3	1.77	0.49
1:A:264:GLU:CD	1:A:264:GLU:N	2.66	0.48
1:B:352:GLU:CG	1:B:371:ASN:HD22	2.26	0.48
1:B:148:ALA:HB1	1:B:189:GLY:HA3	1.94	0.48
1:B:335:ILE:HD11	1:B:351:LEU:HD11	1.95	0.48
1:A:183:GLN:HG3	1:A:194:LEU:HD11	1.95	0.48
1:A:127:ALA:HB2	1:A:160:LEU:HD13	1.94	0.48
1:B:210:ILE:HG22	1:B:261:LEU:HD13	1.97	0.47
1:A:335:ILE:HG12	1:A:358:LEU:HD21	1.95	0.47
1:A:262:ALA:HB3	1:A:273:VAL:HB	1.97	0.47
1:B:58:LEU:HG	1:B:97:GLN:HG3	1.95	0.47
1:A:352:GLU:HG2	1:A:371:ASN:HD22	1.81	0.46
1:A:92:TRP:HE3	1:A:99:PRO:HB3	1.80	0.46
1:A:328:ILE:HD11	1:A:336:LEU:HD12	1.98	0.46
1:A:335:ILE:HB	1:A:349:PHE:HB2	1.98	0.45
1:B:123:PHE:CE2	1:B:137:MET:HG3	2.51	0.45
1:A:399:ILE:HD12	1:A:401:LEU:HD21	1.97	0.45
1:B:266:LEU:HD22	1:B:324:SER:HA	1.99	0.44
1:A:416:ILE:HG12	1:A:426:VAL:HG13	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:370:ILE:HG13	1:A:394:GLY:HA3	1.99	0.44
1:A:266:LEU:HD13	1:A:324:SER:HA	2.00	0.44
1:B:71:ILE:HD11	1:B:416:ILE:HG22	2.00	0.44
1:A:169:THR:HG21	1:A:219:LEU:HD11	1.99	0.43
1:A:89:ALA:HB3	1:A:105:LEU:HB2	2.00	0.43
1:A:306:GLU:H	1:A:306:GLU:HG3	1.54	0.43
1:B:256:TRP:HA	1:B:278:SER:HA	2.01	0.43
1:B:325:LEU:HD13	1:B:337:LEU:HD21	2.01	0.43
1:A:300:VAL:HG11	1:A:328:ILE:HD13	2.01	0.43
1:A:343:TRP:HA	1:A:343:TRP:CE3	2.54	0.43
1:B:210:ILE:HA	1:B:261:LEU:HD22	2.00	0.43
1:B:315:GLU:HG3	1:B:331:VAL:HG23	2.00	0.43
1:B:327:ALA:HB1	1:B:358:LEU:HD13	2.00	0.43
1:B:159:TRP:CH2	1:B:207:GLY:HA3	2.54	0.42
1:B:370:ILE:HD12	1:B:370:ILE:HA	1.82	0.42
1:A:139:GLN:HG3	1:A:146:LYS:HB2	2.02	0.42
1:A:154:VAL:HG21	1:A:174:ALA:HB2	2.01	0.42
1:B:68:VAL:HG23	1:B:422:GLY:HA2	2.01	0.42
1:B:133:VAL:HB	1:B:151:MET:HG2	2.02	0.42
1:B:134:LEU:HD23	1:B:147:LEU:HD13	2.01	0.41
1:A:323:PHE:O	1:A:324:SER:HB3	2.20	0.41
1:A:325:LEU:HD22	1:A:346:ARG:HD3	2.02	0.41
1:B:158:VAL:HG12	1:B:159:TRP:HD1	1.85	0.41
1:B:177:GLY:O	1:B:200:HIS:HB2	2.20	0.41
1:B:306:GLU:H	1:B:306:GLU:HG3	1.63	0.41
1:B:237:THR:OG1	1:B:239:GLN:HB3	2.21	0.41
1:A:228:SER:HB2	1:A:246:GLN:HG3	2.03	0.41
1:B:60:TYR:CD1	1:B:60:TYR:C	2.98	0.41
1:B:163:HIS:ND1	1:B:166:ILE:N	2.62	0.41
1:A:275:ALA:HB2	1:A:319:TRP:CZ2	2.55	0.41
1:B:160:LEU:HG	1:B:172:PHE:HB3	2.03	0.41
1:B:243:LYS:HG2	1:B:245:THR:HG22	2.03	0.41
1:B:415:VAL:HB	1:B:427:PHE:HB2	2.03	0.41
1:B:347:HIS:HB2	1:B:349:PHE:HE1	1.86	0.40
1:B:311:ASP:HA	1:B:331:VAL:HG12	2.03	0.40
1:B:109:GLY:N	1:B:128:ASP:OD2	2.54	0.40
1:B:275:ALA:HB2	1:B:319:TRP:HZ2	1.87	0.40
1:B:347:HIS:HB2	1:B:349:PHE:CE1	2.57	0.40
1:B:131:GLY:HA2	1:B:157:ILE:HG13	2.02	0.40
1:B:131:GLY:HA3	1:B:154:VAL:O	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	388/431 (90%)	343 (88%)	38 (10%)	7 (2%)	6	26
1	B	377/431 (88%)	336 (89%)	34 (9%)	7 (2%)	6	25
All	All	765/862 (89%)	679 (89%)	72 (9%)	14 (2%)	6	26

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	270	ASN
1	B	324	SER
1	A	31	ILE
1	A	33	GLY
1	B	323	PHE
1	B	408	GLY
1	A	55	ASN
1	A	54	SER
1	B	119	SER
1	B	362	ASN
1	A	121	GLY
1	A	122	GLY
1	A	311	ASP
1	B	404	VAL

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	332/370 (90%)	295 (89%)	37 (11%)	6	21
1	B	320/370 (86%)	277 (87%)	43 (13%)	4	15
All	All	652/740 (88%)	572 (88%)	80 (12%)	4	18

All (80) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	GLU
1	A	23	VAL
1	A	25	GLN
1	A	27	VAL
1	A	31	ILE
1	A	32	GLU
1	A	34	GLU
1	A	65	THR
1	A	110	GLU
1	A	119	SER
1	A	126	THR
1	A	150	GLN
1	A	155	GLU
1	A	202	GLN
1	A	203	ASP
1	A	208	GLU
1	A	228	SER
1	A	243	LYS
1	A	258	SER
1	A	264	GLU
1	A	266	LEU
1	A	302	GLU
1	A	306	GLU
1	A	307	GLN
1	A	309	GLU
1	A	310	LEU
1	A	311	ASP
1	A	328	ILE
1	A	337	LEU
1	A	362	ASN
1	A	370	ILE
1	A	383	GLN
1	A	400	LEU
1	A	404	VAL
1	A	407	THR

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Mol	Chain	Res	Type
1	A	421	GLU
1	A	426	VAL
1	B	58	LEU
1	B	65	THR
1	B	97	GLN
1	B	110	GLU
1	B	111	SER
1	B	119	SER
1	B	126	THR
1	B	134	LEU
1	B	144	GLN
1	B	216	GLU
1	B	220	GLU
1	B	228	SER
1	B	233	TRP
1	B	235	CYS
1	B	239	GLN
1	B	245	THR
1	B	249	ILE
1	B	260	SER
1	B	268	LYS
1	B	276	CYS
1	B	283	LEU
1	B	302	GLU
1	B	306	GLU
1	B	309	GLU
1	B	311	ASP
1	B	313	SER
1	B	318	SER
1	B	328	ILE
1	B	330	LEU
1	B	331	VAL
1	B	337	LEU
1	B	351	LEU
1	B	353	ASP
1	B	364	ASP
1	B	370	ILE
1	B	383	GLN
1	B	384	GLU
1	B	392	ASN
1	B	399	ILE
1	B	400	LEU

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Mol	Chain	Res	Type
1	B	421	GLU
1	B	423	VAL
1	B	424	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	25	GLN
1	A	193	GLN
1	A	202	GLN
1	A	378	ASN
1	A	406	ASN
1	B	187	GLN
1	B	234	ASN
1	B	239	GLN
1	B	290	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 oligosaccharides 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

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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	392/431 (90%)	-0.46	0	100	100	118, 155, 198, 241	0
1	B	379/431 (87%)	-0.52	1 (0%)	90	84	127, 153, 190, 238	0
All	All	771/862 (89%)	-0.49	1 (0%)	92	92	118, 154, 193, 241	0

All (1) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	142	GLY	2.2

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.