



Full wwPDB X-ray Structure Validation Report ⓘ

May 13, 2020 – 01:33 pm BST

PDB ID : 5BV0
Title : Crystal Structure of a Complex Between the SNARE Nyv1 and the HOPS Vps33-Vps16 subcomplex from *Chaetomium thermophilum*
Authors : Baker, R.W.; Jeffrey, P.D.; Hughson, F.M.
Deposited on : 2015-06-04
Resolution : 3.10 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 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	:	2.11
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)	:	2.11

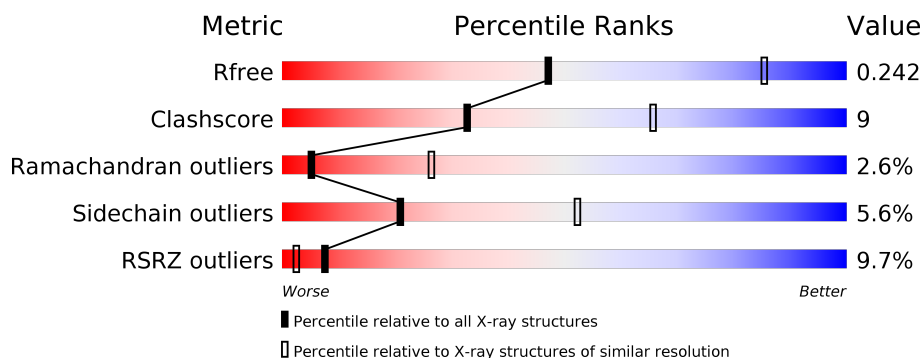
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 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	1094 (3.10-3.10)
Clashscore	141614	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)
RSRZ outliers	127900	1067 (3.10-3.10)

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 on 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	669	<div> <div>10%</div> <div> <div>68%</div> <div>19%</div> <div>•</div> <div>10%</div> </div> </div>
2	B	229	<div> <div>%</div> <div> <div>69%</div> <div>18%</div> <div>•</div> <div>10%</div> </div> </div>
3	C	45	<div> <div>29%</div> <div> <div>58%</div> <div>20%</div> <div>22%</div> </div> </div>

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 6659 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 SM (Sec1/Munc18-like) protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	604	Total	C	N	O	S	0	0	0
			4771	3021	841	898	11			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP G0SCM5

- Molecule 2 is a protein called Vps16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	207	Total	C	N	O	S	0	0	0
			1657	1046	294	312	5			

- Molecule 3 is a protein called SNARE domain.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
3	C	35	Total	C	N	O	0	0	0
			231	141	45	45			

There are 15 discrepancies between the modelled and reference sequences:

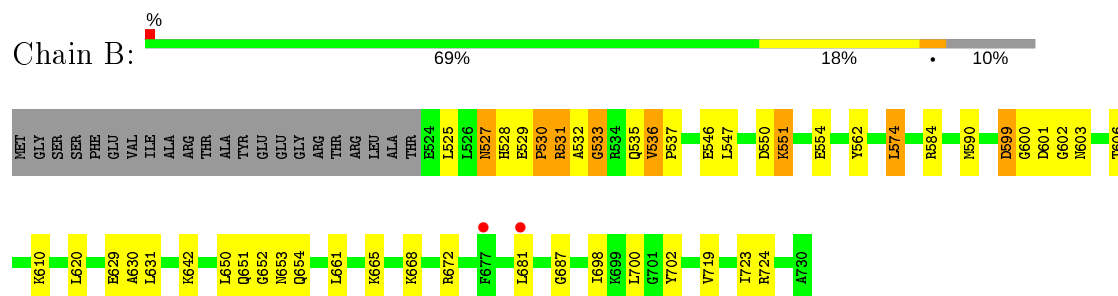
Chain	Residue	Modelled	Actual	Comment	Reference
C	165	UNK	-	see remark 999	UNP G0S5G3
C	166	UNK	-	see remark 999	UNP G0S5G3
C	167	UNK	-	see remark 999	UNP G0S5G3
C	168	UNK	-	see remark 999	UNP G0S5G3
C	169	UNK	-	see remark 999	UNP G0S5G3
C	170	UNK	-	see remark 999	UNP G0S5G3
C	171	UNK	-	see remark 999	UNP G0S5G3
C	172	UNK	-	see remark 999	UNP G0S5G3
C	173	UNK	-	see remark 999	UNP G0S5G3

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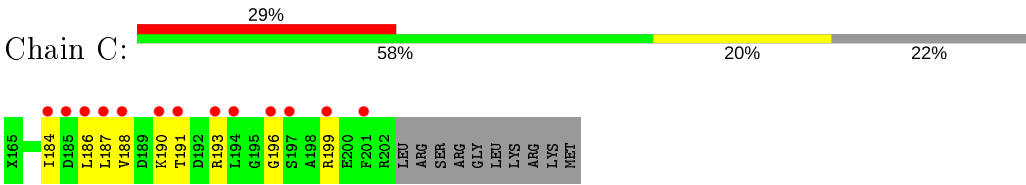
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Chain	Residue	Modelled	Actual	Comment	Reference
C	174	UNK	-	see remark 999	UNP G0S5G3
C	175	UNK	-	see remark 999	UNP G0S5G3
C	176	UNK	-	see remark 999	UNP G0S5G3
C	177	UNK	-	see remark 999	UNP G0S5G3
C	178	UNK	-	see remark 999	UNP G0S5G3
C	179	UNK	-	see remark 999	UNP G0S5G3

- Molecule 1: SM (Sec1/Munc18-like) protein



● Molecule 3: SNARE domain



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α , β , γ	101.03 Å 258.94 Å 75.27 Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.47 – 3.10 49.47 – 3.20	Depositor EDS
% Data completeness (in resolution range)	99.9 (49.47-3.10) 94.1 (49.47-3.20)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.10 (at 3.19 Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.195 , 0.246 0.197 , 0.242	Depositor DCC
R_{free} test set	1697 reflections (5.09%)	wwPDB-VP
Wilson B-factor (Å ²)	80.6	Xtriage
Anisotropy	0.757	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 82.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	6659	wwPDB-VP
Average B, all atoms (Å ²)	116.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.76% 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	0.29	0/4846	0.53	1/6536 (0.0%)
2	B	0.31	0/1683	0.65	1/2268 (0.0%)
3	C	0.22	0/156	0.59	0/207
All	All	0.29	0/6685	0.56	2/9011 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	574	LEU	CA-CB-CG	8.09	133.91	115.30
1	A	207	ARG	NE-CZ-NH1	6.52	123.56	120.30

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	4771	0	4829	85	0
2	B	1657	0	1673	33	0
3	C	231	0	173	5	0
All	All	6659	0	6675	116	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 (116) 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)
2:B:599:ASP:H	2:B:600:GLY:HA2	1.39	0.87
1:A:434:LYS:H	1:A:434:LYS:HD2	1.48	0.78
1:A:322:SER:O	1:A:326:THR:OG1	2.08	0.70
1:A:207:ARG:HH11	1:A:207:ARG:HG2	1.56	0.69
1:A:654:ALA:HB1	2:B:631:LEU:HB3	1.75	0.68
1:A:188:ARG:NH1	1:A:578:ASP:OD2	2.27	0.67
1:A:131:ASP:N	1:A:131:ASP:OD1	2.26	0.67
1:A:31:LYS:NZ	1:A:55:TYR:O	2.26	0.65
1:A:74:ASN:ND2	1:A:106:ASP:OD1	2.30	0.64
1:A:336:GLU:OE2	1:A:339:HIS:NE2	2.26	0.63
1:A:32:ASN:ND2	1:A:71:SER:OG	2.32	0.63
1:A:499:LEU:O	1:A:527:ARG:HD3	1.99	0.63
1:A:496:ARG:HA	1:A:501:LEU:HB2	1.81	0.63
1:A:497:LYS:HE3	1:A:498:GLN:NE2	2.15	0.62
1:A:372:GLU:OE2	3:C:193:ARG:NH2	2.33	0.61
1:A:426:TYR:OH	1:A:437:GLU:OE2	2.18	0.60
1:A:68:THR:OG1	1:A:93:GLN:OE1	2.18	0.60
1:A:97:ILE:O	1:A:101:SER:HB3	2.02	0.59
2:B:584:ARG:HG2	2:B:584:ARG:HH11	1.67	0.59
1:A:382:ILE:HD13	1:A:414:THR:HG22	1.86	0.58
1:A:497:LYS:HE3	1:A:498:GLN:HE21	1.69	0.58
2:B:599:ASP:N	2:B:600:GLY:HA2	2.11	0.57
1:A:343:THR:O	1:A:345:ALA:N	2.38	0.57
1:A:494:TYR:CE2	1:A:498:GLN:HG3	2.39	0.56
2:B:531:ARG:O	2:B:533:GLY:N	2.38	0.56
1:A:73:ARG:O	1:A:105:HIS:ND1	2.37	0.56
1:A:526:ILE:HD12	1:A:620:LEU:HG	1.88	0.55
1:A:472:PRO:HG2	1:A:473:LEU:HD22	1.89	0.55
2:B:530:PRO:HD2	2:B:535:GLN:HB3	1.88	0.54
1:A:162:LEU:HD13	1:A:463:LEU:HG	1.88	0.54
2:B:550:ASP:O	2:B:554:GLU:HG3	2.07	0.54
1:A:654:ALA:HB3	2:B:631:LEU:HD13	1.88	0.54
3:C:190:LYS:O	3:C:193:ARG:HG2	2.09	0.53
1:A:535:LYS:NZ	1:A:563:LYS:O	2.34	0.53
1:A:499:LEU:HD13	1:A:527:ARG:HG2	1.91	0.53
2:B:599:ASP:OD2	2:B:603:ASN:ND2	2.42	0.52
1:A:33:LEU:HD12	1:A:76:VAL:HB	1.92	0.52
2:B:536:VAL:HG13	2:B:537:PRO:HD3	1.92	0.52
1:A:220:ASP:O	1:A:222:ALA:N	2.39	0.51
1:A:161:TYR:CE1	1:A:239:GLU:HB3	2.46	0.51
2:B:546:GLU:HB3	2:B:584:ARG:HH21	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:525:LEU:HG	2:B:527:ASN:HB3	1.94	0.50
1:A:207:ARG:HH11	1:A:207:ARG:CG	2.22	0.50
1:A:324:LEU:HB3	3:C:191:THR:CG2	2.42	0.50
1:A:85:ARG:HD3	2:B:601:ASP:OD2	2.13	0.49
1:A:409:LEU:O	1:A:414:THR:HG23	2.13	0.49
1:A:8:ASP:OD1	1:A:10:GLU:HB2	2.13	0.49
1:A:485:GLY:HA3	1:A:488:GLN:HG3	1.94	0.49
1:A:191:GLY:HA3	1:A:577:PHE:CZ	2.48	0.48
1:A:181:LYS:HE2	1:A:210:LEU:HD11	1.94	0.48
1:A:66:LYS:HD2	1:A:93:GLN:HE21	1.79	0.48
1:A:90:ILE:O	1:A:94:ILE:HG13	2.14	0.48
1:A:501:LEU:HD22	1:A:522:ALA:O	2.13	0.47
2:B:698:ILE:HD13	2:B:724:ARG:HD3	1.97	0.47
1:A:32:ASN:HD21	1:A:71:SER:HG	1.57	0.46
2:B:719:VAL:O	2:B:723:ILE:HG13	2.15	0.46
1:A:331:LEU:HA	1:A:331:LEU:HD23	1.80	0.46
1:A:647:MET:O	1:A:651:ILE:HG13	2.15	0.46
1:A:386:LEU:HD23	1:A:422:LEU:HD11	1.97	0.46
2:B:551:LYS:HD2	2:B:551:LYS:HA	1.54	0.46
2:B:562:TYR:HB2	2:B:590:MET:HE1	1.98	0.46
3:C:187:LEU:HD23	3:C:187:LEU:HA	1.81	0.46
2:B:630:ALA:HB2	2:B:642:LYS:HB2	1.98	0.45
2:B:665:LYS:HA	2:B:665:LYS:HD2	1.68	0.45
2:B:546:GLU:HB3	2:B:584:ARG:NH2	2.32	0.45
1:A:317:PHE:HA	1:A:320:VAL:HG23	1.99	0.45
2:B:650:LEU:HB2	2:B:661:LEU:HD21	1.97	0.45
1:A:268:ASP:OD1	1:A:299:LYS:HG2	2.17	0.45
1:A:57:VAL:HG11	1:A:60:PHE:CE1	2.52	0.45
1:A:620:LEU:HD13	1:A:635:ILE:HG12	1.98	0.45
2:B:562:TYR:HB2	2:B:590:MET:CE	2.46	0.45
1:A:15:LYS:NZ	1:A:19:ASP:OD2	2.50	0.44
2:B:606:THR:HG21	2:B:629:GLU:OE2	2.17	0.44
1:A:340:ASN:O	1:A:342:LYS:N	2.50	0.44
1:A:108:HIS:CE1	1:A:133:ASN:HD22	2.35	0.44
1:A:231:GLU:HB3	1:A:604:VAL:HG22	1.98	0.44
2:B:681:LEU:HD22	2:B:702:TYR:CE2	2.53	0.44
1:A:562:TRP:CE3	1:A:569:VAL:HG21	2.52	0.44
1:A:341:THR:HB	1:A:346:GLU:HB2	2.00	0.44
1:A:499:LEU:HA	1:A:499:LEU:HD23	1.80	0.44
1:A:517:VAL:HG23	1:A:518:TYR:CD2	2.53	0.44
1:A:83:SER:HB3	1:A:86:ASN:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:95:LYS:C	1:A:97:ILE:H	2.22	0.43
2:B:529:GLU:HA	2:B:530:PRO:HA	1.64	0.43
1:A:348:LYS:O	1:A:352:LYS:HG2	2.18	0.43
1:A:385:LYS:O	1:A:389:VAL:HG23	2.18	0.43
1:A:455:LEU:HD12	1:A:652:GLU:HG2	2.00	0.43
2:B:606:THR:HG22	2:B:610:LYS:HE3	2.00	0.43
1:A:190:ILE:O	1:A:234:ILE:HA	2.18	0.42
1:A:124:GLU:C	1:A:126:ALA:H	2.22	0.42
2:B:550:ASP:OD1	2:B:584:ARG:NH1	2.52	0.42
1:A:20:LEU:HD13	1:A:137:LEU:HD11	2.01	0.42
1:A:31:LYS:O	1:A:57:VAL:HA	2.20	0.42
1:A:606:VAL:HG11	1:A:620:LEU:HD11	2.01	0.42
1:A:307:SER:O	1:A:310:SER:OG	2.38	0.42
1:A:354:LEU:N	1:A:355:PRO:HD2	2.35	0.42
2:B:584:ARG:HG2	2:B:584:ARG:NH1	2.34	0.42
2:B:700:LEU:HB3	2:B:702:TYR:CE1	2.54	0.42
1:A:302:LEU:HD22	1:A:309:TYR:CZ	2.55	0.42
1:A:421:ARG:CZ	1:A:643:GLY:HA3	2.49	0.42
1:A:172:LEU:CD2	1:A:609:VAL:HG22	2.50	0.41
2:B:530:PRO:HB2	2:B:531:ARG:H	1.56	0.41
1:A:655:THR:HG23	1:A:657:GLU:H	1.85	0.41
1:A:66:LYS:HD2	1:A:93:GLN:NE2	2.35	0.41
1:A:112:VAL:HA	1:A:113:PRO:HA	1.72	0.41
2:B:668:LYS:O	2:B:672:ARG:HG3	2.21	0.41
1:A:657:GLU:HG2	2:B:687:GLY:HA3	2.01	0.41
1:A:185:LEU:HB2	1:A:226:PRO:HA	2.03	0.41
1:A:389:VAL:HG13	1:A:402:GLN:HB3	2.02	0.41
1:A:424:CYS:HA	1:A:465:MET:O	2.21	0.41
2:B:620:LEU:HA	2:B:620:LEU:HD23	1.89	0.41
1:A:84:VAL:HG12	1:A:118:PHE:CE2	2.55	0.41
1:A:385:LYS:HB3	1:A:409:LEU:HD21	2.03	0.41
1:A:324:LEU:HB3	3:C:191:THR:HG21	2.01	0.41
1:A:616:GLU:O	1:A:620:LEU:HB2	2.21	0.41
1:A:7:PHE:CZ	1:A:149:LEU:HD11	2.56	0.41

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	596/669 (89%)	545 (91%)	39 (6%)	12 (2%)	7	31
2	B	205/229 (90%)	183 (89%)	14 (7%)	8 (4%)	3	18
3	C	18/45 (40%)	12 (67%)	5 (28%)	1 (6%)	2	11
All	All	819/943 (87%)	740 (90%)	58 (7%)	21 (3%)	5	26

All (21) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	97	ILE
1	A	340	ASN
1	A	344	THR
1	A	506	VAL
2	B	530	PRO
2	B	532	ALA
2	B	602	GLY
2	B	653	ASN
2	B	654	GLN
1	A	341	THR
1	A	505	GLU
2	B	652	GLY
1	A	105	HIS
1	A	219	SER
3	C	196	GLY
1	A	71	SER
1	A	96	ARG
1	A	221	ARG
2	B	527	ASN
1	A	485	GLY
2	B	533	GLY

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	517/564 (92%)	489 (95%)	28 (5%)	22	53
2	B	177/194 (91%)	169 (96%)	8 (4%)	27	60
3	C	16/26 (62%)	12 (75%)	4 (25%)	0	2
All	All	710/784 (91%)	670 (94%)	40 (6%)	21	52

All (40) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	11	GLN
1	A	31	LYS
1	A	33	LEU
1	A	38	ASP
1	A	64	GLU
1	A	86	ASN
1	A	97	ILE
1	A	106	ASP
1	A	117	LEU
1	A	131	ASP
1	A	137	LEU
1	A	146	ARG
1	A	162	LEU
1	A	207	ARG
1	A	326	THR
1	A	329	ARG
1	A	331	LEU
1	A	338	ARG
1	A	339	HIS
1	A	346	GLU
1	A	426	TYR
1	A	452	GLN
1	A	454	LEU
1	A	527	ARG
1	A	533	LEU
1	A	560	GLN

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Mol	Chain	Res	Type
1	A	603	THR
1	A	615	THR
2	B	528	HIS
2	B	531	ARG
2	B	536	VAL
2	B	547	LEU
2	B	551	LYS
2	B	574	LEU
2	B	599	ASP
2	B	651	GLN
3	C	184	ILE
3	C	186	LEU
3	C	188	VAL
3	C	199	ARG

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

Mol	Chain	Res	Type
1	A	74	ASN
1	A	133	ASN
1	A	498	GLN

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 carbohydrates 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](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
3	C	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	179:UNK	C	183:ARG	N	7.51

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	604/669 (90%)	0.46	66 (10%) 5 2	46, 100, 224, 311	0
2	B	207/229 (90%)	0.01	2 (0%) 82 67	63, 94, 177, 264	0
3	C	20/45 (44%)	2.60	13 (65%) 0 0	138, 207, 256, 263	0
All	All	831/943 (88%)	0.40	81 (9%) 7 2	46, 98, 224, 311	0

All (81) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	75	ILE	6.2
1	A	557	GLY	5.8
1	A	335	TYR	5.2
1	A	220	ASP	5.2
1	A	33	LEU	4.9
3	C	186	LEU	4.8
3	C	185	ASP	4.8
3	C	184	ILE	4.7
1	A	338	ARG	4.5
1	A	358	GLN	4.5
1	A	221	ARG	4.4
1	A	68	THR	4.3
1	A	107	PHE	4.2
3	C	199	ARG	4.2
1	A	128	VAL	4.0
1	A	98	GLN	4.0
1	A	342	LYS	3.9
1	A	110	PHE	3.9
1	A	350	PHE	3.9
1	A	77	PHE	3.9
1	A	102	GLN	3.7
1	A	222	ALA	3.7
1	A	109	ILE	3.7

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Mol	Chain	Res	Type	RSRZ
1	A	97	ILE	3.7
1	A	30	LYS	3.6
3	C	187	LEU	3.6
1	A	32	ASN	3.5
1	A	219	SER	3.5
1	A	341	THR	3.5
1	A	348	LYS	3.5
1	A	344	THR	3.5
1	A	354	LEU	3.4
1	A	340	ASN	3.3
3	C	194	LEU	3.3
1	A	76	VAL	3.1
1	A	108	HIS	3.1
1	A	104	SER	3.1
1	A	343	THR	3.1
1	A	558	GLY	3.0
1	A	599	GLY	3.0
1	A	69	GLY	2.9
1	A	361	GLN	2.9
1	A	78	ILE	2.9
3	C	197	SER	2.9
1	A	351	VAL	2.9
1	A	28	ARG	2.9
1	A	365	LYS	2.8
1	A	123	LEU	2.8
3	C	201	PHE	2.8
2	B	681	LEU	2.7
1	A	29	GLY	2.7
1	A	556	GLY	2.7
1	A	99	ARG	2.7
1	A	122	VAL	2.7
3	C	193	ARG	2.7
1	A	34	VAL	2.6
1	A	27	VAL	2.6
1	A	25	GLU	2.6
3	C	188	VAL	2.6
1	A	74	ASN	2.5
1	A	214	GLU	2.5
1	A	329	ARG	2.5
1	A	31	LYS	2.5
1	A	339	HIS	2.4
1	A	106	ASP	2.4

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Mol	Chain	Res	Type	RSRZ
3	C	196	GLY	2.3
1	A	94	ILE	2.3
1	A	131	ASP	2.3
1	A	55	TYR	2.3
3	C	191	THR	2.3
1	A	218	GLU	2.3
1	A	61	PHE	2.2
2	B	677	PHE	2.2
3	C	190	LYS	2.2
1	A	103	THR	2.2
1	A	346	GLU	2.1
1	A	336	GLU	2.1
1	A	129	LEU	2.1
1	A	100	GLU	2.0
1	A	96	ARG	2.0
1	A	347	LEU	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 carbohydrates 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.